# Union Reservoir Recreational Master Plan

March 2012

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# Acknowledgements

Acknowledgement is made to the many groups and individuals who discussed and provided input and direction on the Union Reservoir Master Plan. The process extended over several years, so those representing the Council and Boards at the time of presentation are listed.

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- Doug Brown
- Roger Lange
- Fred Wilson

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## Executive Summary

The Union Reservoir Recreational Master Plan process began in 2007 as a complete update to the original work done in 1989. The impetus for the project began with the West Union PUD – a multi-use mixed use development plan along the western edge of the reservoir. The plan proposed recreational sites and opportunities; however, City Council directed that a city-conducted master planning process proceed to determine needed recreational amenities rather than through a response to the developers proposal. The planning process was conducted in 2007 which included a series of public meetings over 5 months that defined goals, reviewed plans and solicited public opinion through a variety of efforts. That plan was presented to the Parks and Recreation Advisory Board in November 2007 resulting in their approval. However, prior to Council adoption, it became evident that conditions were changing and a potential for open space purchase of lands included in the West Union PUD were possible.

Changes to the recreational master plan study area included:

- City purchase of the Adrian property in 2009 and the Bogott property in 2010
- Cessation of the West Union Annexation process
- Expansion of the Firestone planning area including annexation of Union and Firelight properties (south of Union Reservoir)
- A large special events policy considered for adoption by Council.
- St. Vrain State Park campground enhancements
- Reduction in camping at Union Reservoir
- An Open Space bond sale with listed projects including the looped trail around Union Reservoir

To conclude the master planning process, staff revised previous plans to remove references to the West Union PUD as well as some minor graphic edits. A new public process was held with a PRAB hearing and approval at their October 2011 meeting. Council was presented the plan in January, with formal adoption on February 14, 2012. See Appendix A for City Council communication, minutes and Resolution.

## Background

Union Reservoir is 745 surface acres in size with a capacity of 12,000 acre feet of storage. It is surrounded by a combination of private, public and leased lands. The existing Union Reservoir Recreation Area is located on property leased from the Union Reservoir Company with some facilities on City owned open space and water properties. The City became the surface rights lease holder of the reservoir in 1990 and since that time has operated a variety of water based recreational activities at the site including fishing, wakeless boating, swimming, picnicking and camping.

*Kayaking at Union Reservoir*

## *History*

Formally known as Calkin's lake, the reservoir was carved out during the last glacial age and is one of only a few natural lakes in Colorado. In 1903, the Union Ditch Company began drilling a tunnel to release water into the St. Vrain River. According to Colorado water law, that made Union a true reservoir. It is located approximately 3 miles east of Longmont on Weld County Road 26. Like most reservoirs along the front range of Colorado, Union Reservoir was built to supplement irrigation water supplies. Water from the reservoir is primarily used to irrigate farms along the South Platte River south of Greeley, Colorado. The Union Reservoir Company, a private irrigation company, owns the land inundated by the reservoir along with additional dry land surrounding the Reservoir. Included in the surrounding land is a perimeter buffer that is an average of 50 foot in width. See Appendix B for a land ownership map and key relating to the Union Reservoir expansion.

Through the purchase of shares in Union Reservoir and through the transfer of shares to the City as a result of the Raw Water Requirement Policy, the City has become the majority owner of the shares of Union Reservoir. As of 2011 the City owns 85% of the shares in the Union Reservoir Company.

A timeline of other key dates and decisions relating to Union Reservoir include:

**1986**

- City bond issue passed to purchase controlling interest in the reservoir

- Conditional enlargement decree obtained from Water Court
- City begins land acquisition to protect enlargement plans

**1989**

- Original recreational master plan completed by HOH Associates

**1990**

- City obtains surface recreational rights to Union reservoir – leases to Water Sports West (private entity) for one year

**1991**

- City begins recreational use of the reservoir

**1995**

- Council formalized a land use and buffering plan for the reservoir enlargement

**1996**

- Interim land management plan for buffering properties approved by Council

**1997**

- Weld County Mixed Use Development (MUD) adopted for the portion of the county including Union Reservoir (and West Union PUD)

**2002**

- Longmont and Weld County entered into an Intergovernmental Agreement allowing the City the opportunity to annex properties prior to County development approval for proposals within the MUD

**2005**

- Council approves the reservoir expansion study (includes several options for enlargement)
- West Union PUD property owners request City annexation. Council approved the referral.
- City Council directs staff to commence a joint planning effort for the recreational use of the reservoir.

**2006**

- City Council approves a boundary expansion of the West Union PUD to include an additional 70 acres of land.
- City Council puts the West Union annexation on hold until the conclusion of the City master planning process

**2007**

- Reservoir enlargement feasibility study revisions and update complete.
- Design Concepts LLC hired to conduct the City recreational master planning process for Union Reservoir. Process runs from July to November.

**2009**

- Adrian property purchased for open space, water, storm drainage and streets purposes

**2010**

- Bogott property purchased for open space, water and streets purposes

**2011**

- City staff updates previous draft master plan to reflect land use changes since 2007. Updates PRAB in February and Council in May on proposed master planning effort. Public process runs from June to October.

**2012**

- City Council study session meeting

### *Reservoir Enlargement*

In 1986, the Citizens of Longmont approved a bond issue allowing the City of Longmont to purchase controlling interest (52%) in the Union Reservoir Company. The City Council also directed that the City file in Water Court for an enlargement decree to increase storage in the reservoir. The proposed enlargement would increase the reservoir from its current 12,000 acre feet capacity to a maximum total of 32,000 acre feet. The increased capacity in the Reservoir would provide the City with additional water storage capacity, better water exchange possibilities, and storage space for reuse water. Local area residents would benefit by having a reservoir that will have a greater surface area and there will be less water fluctuation per acre foot of water released along with providing additional recreational opportunities.

After receiving the conditional storage decree, Longmont initiated a land acquisition program to protect the ability of the City to enlarge the reservoir by minimizing development on land surrounding the reservoir. The initial land purchase was made in 1992, with subsequent purchases made as willing sellers have made property available to the City.

City Council formalized a land use and buffering plan for Union Reservoir in December 1995. In early 1996, Council then approved an interim land management plan for these properties until time of enlargement of the reservoir. Since that time, the City has made significant progress in acquiring land necessary for eventual enlargement of the reservoir.

In 2005, City Council reviewed and approved a study titled "Union Reservoir Enlargement Alternatives Analysis and Feasibility Study". This study reviewed a number of alternatives for enlargement of the reservoir. Among those alternatives were a raise of the water surface elevation of 19 feet, 13 feet and 5 feet. The original Water Court filing was for a 20.5 foot raise in the water surface elevation. City Council directed staff to preserve the option to complete up to a 13 foot raise when planning in the West Union neighborhood area. Currently, the possibility of up to a 13 foot raise option is being used for both the comprehensive plan amendment purpose and for preparation of the current update to the Union Reservoir Recreational Master Plan. The current capacity is 12,768 acre-feet (10,868 owned by Longmont). A 13 foot raise adds a possibility of an additional 11,420 to 12,280 acre-feet of additional capacity. Prior to enlargement, a detailed environmental impact review would need to be completed.

In 2007 TetraTech RMC was hired to do revisions and an update to the previous analysis of the enlargement and feasibility study. They looked at three potential water surface elevation rise conditions: 5'; 13' and 19' and also both baseline and shoreline conditions. The baseline condition considered the best topographic fit for the area and the smallest dam size. The shoreline option focused on keeping the dam on Union Reservoir property and minimizes impact to lands on the west side of the reservoir. All options were analyzed for issues relating to each and costs. See Appendix C for excerpts from the 2007 Enlargement study.

The City has no immediate plans for the enlargement; however the recreational plan must consider impacts from this future use if anything is to be built prior to the expansion. In 2011, it is estimated that the enlargement may happen in 15 to 20 years. Nonetheless the importance of the enlargement is central to long term water resource planning for the community. This issue will directly affect any near or long term recreational planning.

### *Surrounding Land Use*

In 1997, Weld County adopted the Mixed Use Development (MUD) plan for an area of southwest Weld County along the Interstate 25 corridor and west along Hwy 119 to County Road 1. MUD policies allow for urban level development in this portion of unincorporated southwest Weld County. As a result, there have been numerous development projects at various stages of approval in the MUD area with many of these developments already approved by Weld County. The MUD, in combination with the expansion of several municipalities in southwest Weld County, has led to a rapidly urbanizing southwest Weld County.

In 2002, the City entered into an Intergovernmental Agreement (IGA) with Weld County. This IGA defines a coordinated planning area (CPA) between the City of Longmont and Weld County. Among the many provisions of this IGA is a provision that specifies the City has an opportunity to consider annexing properties prior to the county approving development within the CPA. In early 2005, several property owners within southwest Weld County and the CPA approached the City to request an annexation and Longmont Planning Area (LPA) amendment. This request covered approximately 350 acres between County Line Road and Union Reservoir and between Highway 66 and Highway 119. Council authorized this referral. In early 2006, several other property owners requested that Council authorize an annexation and LPA amendment referral for approximately 70 acres. These properties were located directly north of the original 350 acres that were originally brought to Council in 2005. Council approved this referral as well.

In November of 2005, Council agreed that the City, as a property owner, would participate in the comprehensive planning for the area given its ownership of

land in this area and because of the City's management interests in Union Reservoir. Since the original referrals were approved, the property owners, consultants, and City staff have considered a variety of land use alternatives for this area. In August of 2006, staff briefed Council on the status of the West Union planning efforts. This included a discussion on the preliminary land use master plan, the multi modal transportation plan, the status of the City owned properties, and the future enlargement of Union Reservoir. At that time, City Council directed not to move forward with the LPA amendment until after the Union Reservoir Recreation Master Plan was updated.

### *Transportation*

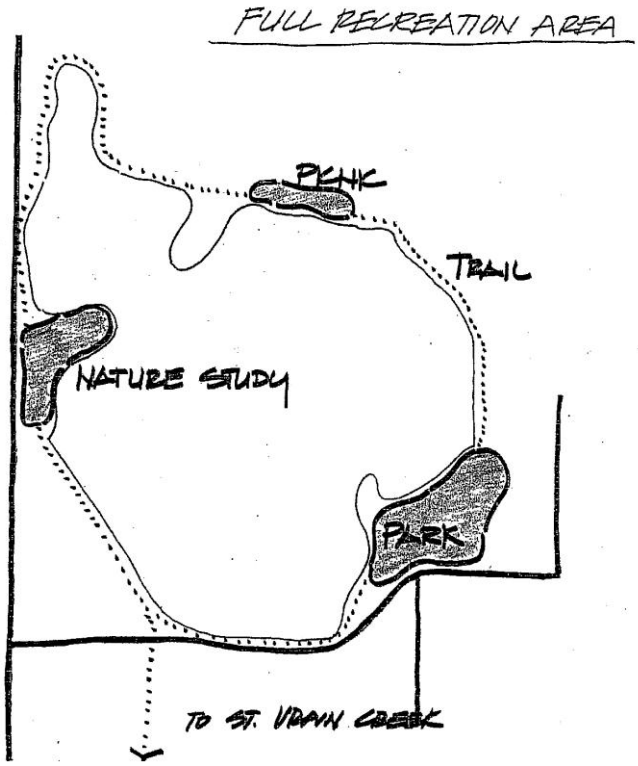
Access to Union Reservoir is provided primarily from County Line Road and Weld County Road 26. County Line Road is designated as an arterial roadway on the Longmont Area Comprehensive Plan. The current 5 year Capital Improvement Program includes projects to improve County Line Road to full arterial improvement from the Spring Gulch Crossing north of 9th Avenue, south through the SH 119 intersection.

Weld County Road 26 is designated as an arterial roadway on the Weld County Transportation Plan. The long range plans call for Weld County Road 26 to ultimately be realigned to connect to County Line Road at the 9th Avenue intersection making that a 4 way intersection. It is anticipated that intersection would ultimately be signalized. These improvements would not necessarily be required for the recreation use at Union Reservoir, but would be triggered by development in the surrounding area.

The Spring Gulch Primary Greenway would provide additional pedestrian and bicycle access with a grade separated crossing of County Line Road north of the 9th Avenue intersection.

### *Original Master Plan*

In 1989 an original recreational master plan for the reservoir was completed by HOH Associates, Phillip Flores Associates, Coley/Forrest and McLaughlin Water Engineers. Done just after the reservoir enlargement decree was obtained and recreational lease was purchased, this study reflected early City plans for a major water based recreational area. The consultant's recommendations ranged from 'do nothing' to a full recreation area plan. The full recreational area concept reflected active park amenities in the southeastern corner of the reservoir with some amenities placed around the reservoir. Other plans reflected continued use at the existing location at the southwestern section of the reservoir. See Appendix D for excerpts from the Full Master Plan concept.




*HOH Full Recreational Area Plan, 1986*

## 2007 Master Plan Process

Prompted by development activity in the surrounding Weld County Mixed Use Development area (MUD), and most particularly by the West Union PUD annexation application to the City of Longmont, Council directed staff to begin a recreational master planning effort starting in 2005.

Work in 2007 and again in 2011 began with Council providing staff with a list of project assumptions. Those assumptions were to:

- Assume a 13' water level raise for the expanded reservoir
- Wakeless boating would continue

Another 2007 assumption was to:

- Assume the West Union properties would urbanize under City (vs Weld County) control – for purposes of the recreational master plan only

Related work shown on the master plan included transportation elements for Weld County 26 and 28 realignments and Spring Gulch #2 primary greenway. These elements were not directly part of the master plan but would impact any future park developments due to their potential location and alignments. Therefore, they were shown on the plan to clarify conceptual alignments for the

facilities. Trail connection to and from the reservoir along the Spring Gulch trail was also considered an important recreational amenity.

At the time of the 2007 master planning work, the activities at the reservoir include:

- Wakeless boating
- Fishing (boat, shoreline & at accessible fishing pier)
- Picnicking
- Camping (RV and tent)
- Swim beach (lifeguard for enclosure & weekly open water swim times)
- Dog swim beach
- Playground
- Concessions (boat rental, refreshments, ice & fishing bait)
- Boat storage
- Sail club lease
- BMX lease (south of WCR 26)
- Remote control airplane lease (south of WCR 26)

Patronage of the existing facility is significant. Attendance and revenue has consistently increased in the past several years since the City took over the recreational lease for the reservoir as summarized below:

| | Visitors | Revenue |
|---|---|---|
| 2003 | 93,956 | $125,142 |
| 2004 | 107,226 | $145,941 |
| 2005 | 128,464 | $171,744 |
| 2006 | 153,644 | $203,263 |
| 2007 | 158,129 | $195,292 |
| 2008 | 156,081 | $199,632 |
| 2009 | 158,847 | $228,505 |
| 2010 | 167,320 | $246,995 |
| 2011 | 177,289 | $250,684 |

*Season pass holder visitation is tracked on a per visit basis, but paid at the beginning of the year.

### *West Union PUD*

West Union PUD developers came to the City as part of an annexation request in 2005. The land use plan proposed lake front homes with open space and mixed use commercial uses along a marina and peninsula on approximately 350 acres

of land along the reservoir's western edge. The land was comprised of both privately held parcels and City-owned lands. After annexation referral approval and extensive staff discussion, City Council put the annexation request on hold and directed staff to conduct its own public process to determine the best recreational uses for the reservoir. As one of the landowners within the PUD and because of the extensive management interests in the reservoir it felt this separate process would have more integrity. The plan results would then become a requirement of the developers. This direction allowed the public to lead the process rather than simply reacting to a proposal by developers.

By the time the public process was concluded it became clear that instead of development, there was a potential to acquire some of the West Union properties for open space and other City needs. The plan for this development dissolved with City purchase of the Adrian and Bogott properties in 2009 and 2010.


*West Union PUD Land Use Plan, 2006*

***Environmental***

Key to the development of a recreational master plan includes a thorough understanding of the existing site. In the 2007 master planning effort, environmental work previously done for the West Union development was utilized with updating and inclusion of reservoir areas also included in a summary report. ERO Resources Corp., a sub consultant to Design Concepts, led this portion of the project work. Collaboration with Colorado Division of Wildlife (CDOW) staff was done, including with a boat survey of the reservoir perimeter in the summer of 2007.

A report with summary of impacts to wetlands as well as to threatened and endangered species was prepared along with a list of recommendations and concerns from the CDOW. CDOW concerns at that time included:

- The wetlands on portions of the western and on the entire northwestern side of the reservoir are the most sensitive wildlife areas.
- Wildlife at the reservoir have adapted to existing wakeless boating activity and the CDOW sees no benefit from having a closure on open water along the wetlands.
- CDOW is concerned about the speed of boats and type of boating activity -wake vs. wakeless.
- CDOW recommends the following wildlife buffers:
    - Development (including active/passive parks) - 300 feet from future high water mark
    - Trails - 300 feet from future high water mark
- CDOW recommends minimizing human access to northwestern and northern shore areas, having one, maybe two, observation blinds that are setback from the shoreline.
- CDOW supports the idea of incorporating interpretation/education facilities.
- CDOW agrees with the proposed locations of campground, picnic areas, and dog beach.

Work done in 2007 led both City and CDOW staff to believe that cottonwood trees in the southwestern part of the reservoir were utilized by Bald Eagles as winter night time roosts. As part of the recommendation by the Parks and Recreation Advisory Board (PRAB), staff and CDOW personnel conducted site observations starting in 2008. Both concluded that the trees were not roosts, but instead were used as hunting perches. While this is a seemingly minor distinction, Bald Eagles roost sites require a ¼ mile buffer zone around those trees while a hunting perch requires no specific setback.

When the master planning effort reactivated in 2011, Walsh Environmental was contracted by the City to complete and update to the previous assessments. Their work included habitat assessments for any species of special interest, and a review of the draft recreational master plan along with recommendations from an environmental point of view. Their work found:

- Habitats or potential habitat for 4 state listed species of concern or threatened species:
    - Bald Eagle – Species of concern with potential habitat
    - Burrowing Owl – Threatened species with potential habitat
    - Black-tailed Prairie Dog – Species of concern with known habitat
    - Northern Leopard Frog – Species of concern with potential habitat
- 199 bird species that visit the area including 40 that live or nest near or on the reservoir
- An active Osprey nest on the eastern shoreline of the reservoir.

Recommendations from Walsh Environmental for improvements to the recreational master plan were:

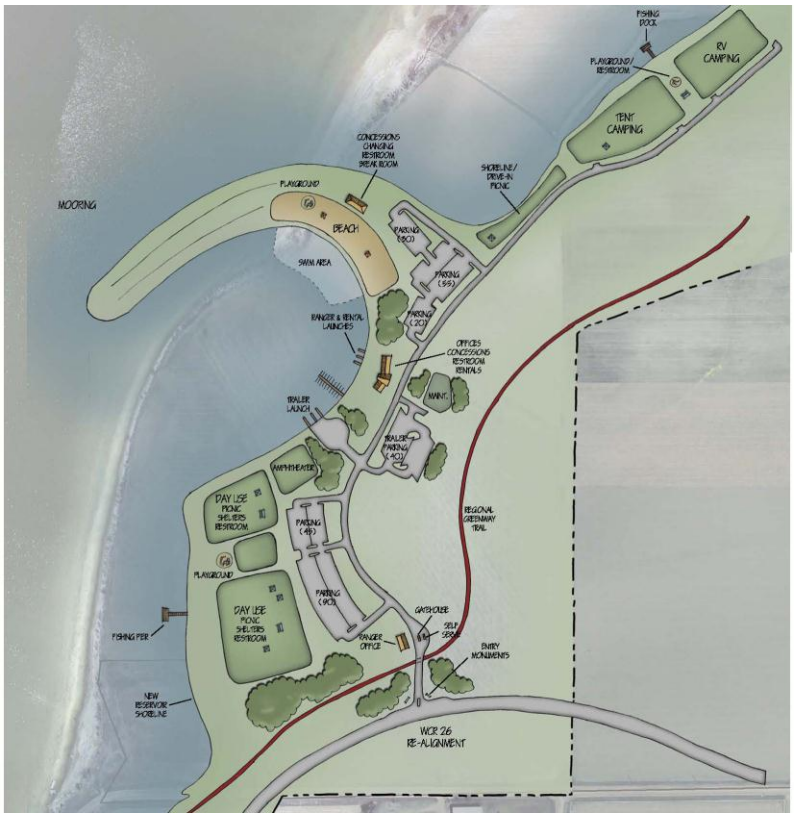
- Use fencing and signs to control people and dogs from habitat on the western perimeter
- Add a bird viewing blind
- Use native plants for landscaping
- Develop a site specific prairie dog management plan for the south perimeter
- Protect the osprey nest or move it when unoccupied
- Mitigate wave damage to the eroding northeastern shoreline
- Develop overall site specific wildlife protection guidance

See Appendix E for the environmental work including two Natural Resources Site Reviews and two Habitat Assessments done in 2006, and an Environmental Issues Memo from 2007.

### *Public Process and Planning*

The 2007 planning effort included a five month public process with strong community participation. Design Concepts, LLC was hired to provide master planning and environmental reviews for the area. A stakeholder meeting was held at Union reservoir for landowners directly affected by the project in July. This was followed by four public meetings from July through October 2007 including a visioning charette, review of three concept plans, and a final draft master plan review. The concepts explored a variety of program types and arrangements on the site.

The project was presented to the Parks and Recreation Advisory Board in November who approved the plan with some comments. Attendance was solicited by newspaper press releases and over 900 direct mailed invitations. Input was also taken via plan displays at five public buildings (The Civic Center, Library, Senior Center, Recreation Center and Memorial Building) along with comment cards and an on-line survey. See Appendix F for the 2007 public process minutes and comments summary.




*East Recreational Area Concept, August 2007*

Staff then met with design consultants to analyze operation, maintenance and wildlife issues and the balance of providing recreational experiences while also protecting wildlife and sensitive habitat. A draft master plan was then refined to better express the balance of recreation and environmental goals. The draft plan was presented to the public along with a summary memo of environmental qualities at the reservoir.

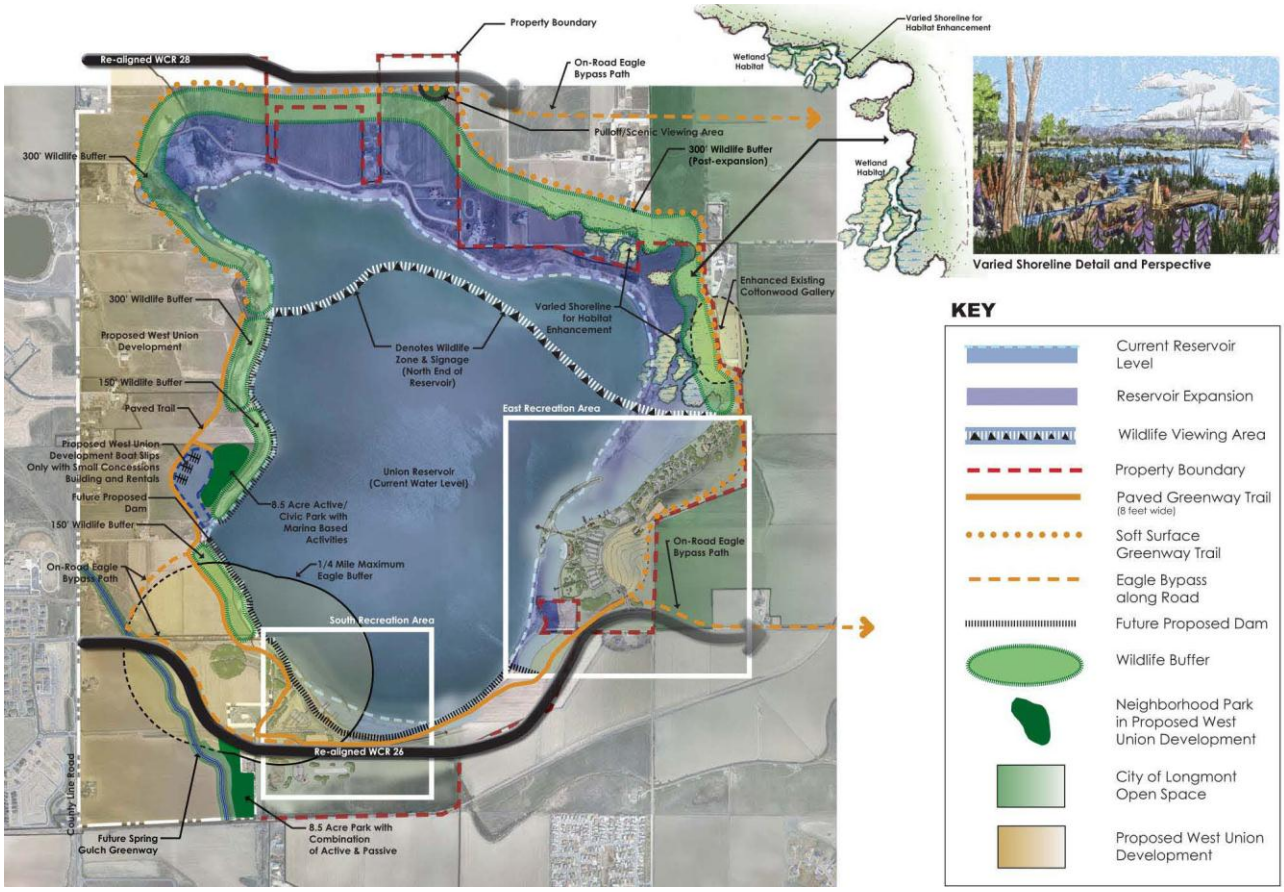
Revisions to the plan were made to address public comment and additional staff concerns. The resulting plan was presented to PRAB at their November 14, 2007 meeting for their consideration. Concerns focused around the Bald Eagle habitat and in particular the assumed 'roost' trees along the southwestern reservoir edge.

Highlights of the 2007 master plan included the following features:

***Overall Area***

- A permanent Primary Greenway loop trail around reservoir and linked to the future Spring Gulch greenway trail. The trail is shown as paved between the use areas and soft surface for the remainder of the loop.
- 2 neighborhood park sites within the West Union PUD to meet park standards for this neighborhood.

- Main day use recreational area to relocate to southeastern corner of the reservoir. Day use would continue at the existing southwestern area, but be used primarily by clubs and lease holders.
- A public marina and concessions would be located within the West Union PUD without boat ramps. Rental slips would be allowed but all public use would be through the Union Reservoir recreational area.
- Wildlife zones would include buffers to separate the trail from the high water line by 300' in sensitive areas and have 'no harassment' messages within the area. A ¼ mile eagle roost buffer would be provided at the southwest area.
- Eroded shoreline in the northeast section of the reservoir would be mitigated by shoreline treatments, wetlands and island development.




*Overall Plan – Union Reservoir Recreational Master Plan, October 2007*

***East Area***

- This would become the primary day use area. Picnicking, fishing, boating, swimming and camping are the primary activities in this area.
- A breakwater is shown to protect boats and swimmers from winds.

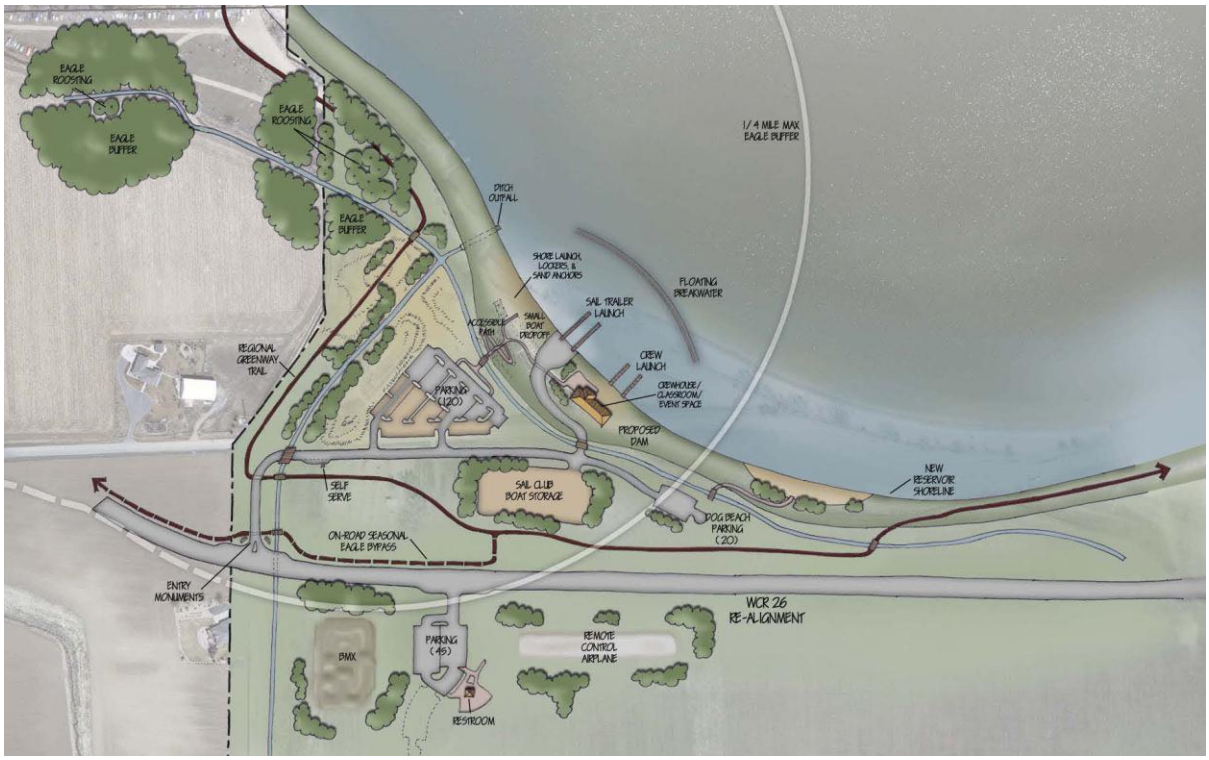
- Picnic facilities include a large group picnic day use area and a shoreline drive-in area. Shelters, individual picnic sites and restrooms are also provided.
- Fishing piers and accessible fishing areas are provided on the breakwater and picnic area.
- An outdoor classroom would be developed for environmental education and small entertainment venues.
- The swim area would include concessions, beach, changing rooms and parking.
- The boat area includes small boat launch and storage lockers, boat slips, rental launches, ranger launch and boathouse, and trailer launches. A rental and storage building is also in the vicinity.
- Parking for day use, trailers and maintenance as well as a boat storage area are provided off the entry drive served by an entry gate to collect use fees.
- Camping area includes RV, tent and group camping areas. Scout circle (previously located at Roosevelt Park and then moved to the west side of Union Reservoir) is at the group camping area. A waste disposal area is provided at the exit of the RV camping area.

*East Plan – Union Reservoir Recreational Master Plan, October 2007*

### ***Southwest Area***

- Club use is the main focus of this area. A self-serve fee bollard is located at the area entry to collect fees from day use visitors.

- A floating breakwater is north of the launch areas.
- Small boat storage, sail club storage and parking are shown. A crew house with classroom and event space is provided on the reservoir side of the future dam with accessible trails and roads down to that location.
- The dog beach remains in its approximate existing location at the east side of the recreational area. A dog beach parking lot is found nearby.
- The ¼ mile buffer zone is shown with the possible eagle roosting trees identified.
- BMX and remote control airplane activity areas are shown south of the relocated Weld County Road 26 along with parking and a restroom.




*Southwest Plan – Union Reservoir Recreational Master Plan, October 2007*

The five month process concluded with the PRAB presentation and approval with the following recommendations:

- Determine exact boundaries of existing wetlands and riparian vegetation along the shoreline to determine ultimate specific buffer distances.
- Determine specific eagle use of cottonwood trees and frequencies of use to help determine appropriate buffer zone distance per CDOW guidelines
- Cooperate in a regional bald eagle management study with CDOW leadership and surrounding city / county involvement to determine most appropriate protections.

### *Cost Estimate*

A cost estimate was prepared by Design Concepts for each use area. The costs are approximate based on the conceptual assumptions typical with a master plan level of design. The total cost for the project including overall, east and southwest improvements, including a construction contingency is just over $9.5 million. See Appendix G.

## 2011 Master Plan

After resolution of land issues along the western side of the reservoir staff reinitiated the master planning process.

### *Environmental 2011*

Work began with hiring Walsh Environmental to conduct an update to the previous environmental work and a baseline condition survey. They also provided comment on the previous master plan work with recommendations for enhancements.

Walsh environmental staff found four State of Colorado Species of Special Concern or Threatened: Bald Eagle (potential habitat / Species of Concern); Northern Leopard Frog (potential habitat / Species of Concern); Black Tailed Prairie Dog (present habitat / Species of Concern); and Burrowing Owl (potential habitat / State Threatened). 199 raptors or migratory birds are found on a data list for the Union Reservoir area, of which 40 species regularly nest at Union. An Osprey is the only raptor that has an active nest at the reservoir (on a constructed perch at the northeastern side.

Recommendations made for master plan enhancements included the following suggestions:

- West perimeter - signs / fence for protection, bird blind for viewing
- South perimeter - Use native plants, develop a site specific PD management plan
- East perimeter - Osprey nest needs ¼ mile buffer or relocate
- North perimeter - protect shoreline from waves
- Overall - Develop site specific wildlife protection recommendations

See Appendix H for full Natural Resources and Habitat Assessment Update and Master Plan recommendations report.

### *Public Process and Planning 2011*

After environmental work concluded, the master planning work began by updating the draft plan approved by the PRAB in 2007 as a starting point for discussion. PRAB and City Council were updated on the plans and the proposed process. Staff reconfirmed the design goals with both entities in February and May 2011. A public meeting was held on June 16, 2011 followed by on-line

surveys and plan displays with paper surveys through July. Spanish surveys were promoted through a La Ley Radio interview done on July 13, 2011. August and September were used to vet facility designs with lease holders, city staff and technical experts, and to update the draft master plan. The plan was taken to PRAB at their October 10, 2011 meeting where a unanimous vote for Council approval was taken. A summary of the 2011 public process is found in Appendix I.

Referral review was sent to Firestone and Weld County, consistent with the intergovernmental agreements with those jurisdictions. Comments included:

- Firestone Board of Trustees review of final draft master plan – 10/26/11 – 'Plan looks good and don't have any comments to add". **Kristi Ritter** *Communications & Community Outreach Coordinator*
- Weld County provided a memo of general development conditions and comments. The memo is also provided in Appendix I.

Council reviewed the project at a study session meeting on January 3, 2012, with a vote to move forward to a resolution. The resolution and a presentation were again provided at the February 14, 2012 Council meeting where approval of the master plan was obtained. See Appendix A for Council Communication, Minutes and Resolution accepting the Master Plan. Concerns expressed during the Council meetings related specifically to the interim trail, a separate Phase 1 project. Meetings with adjacent neighbors began prior to the Council meetings, and a commitment to continue those meetings during the Phase 1 design project was given.

### *Union Reservoir Recreational Master Plan - approved*

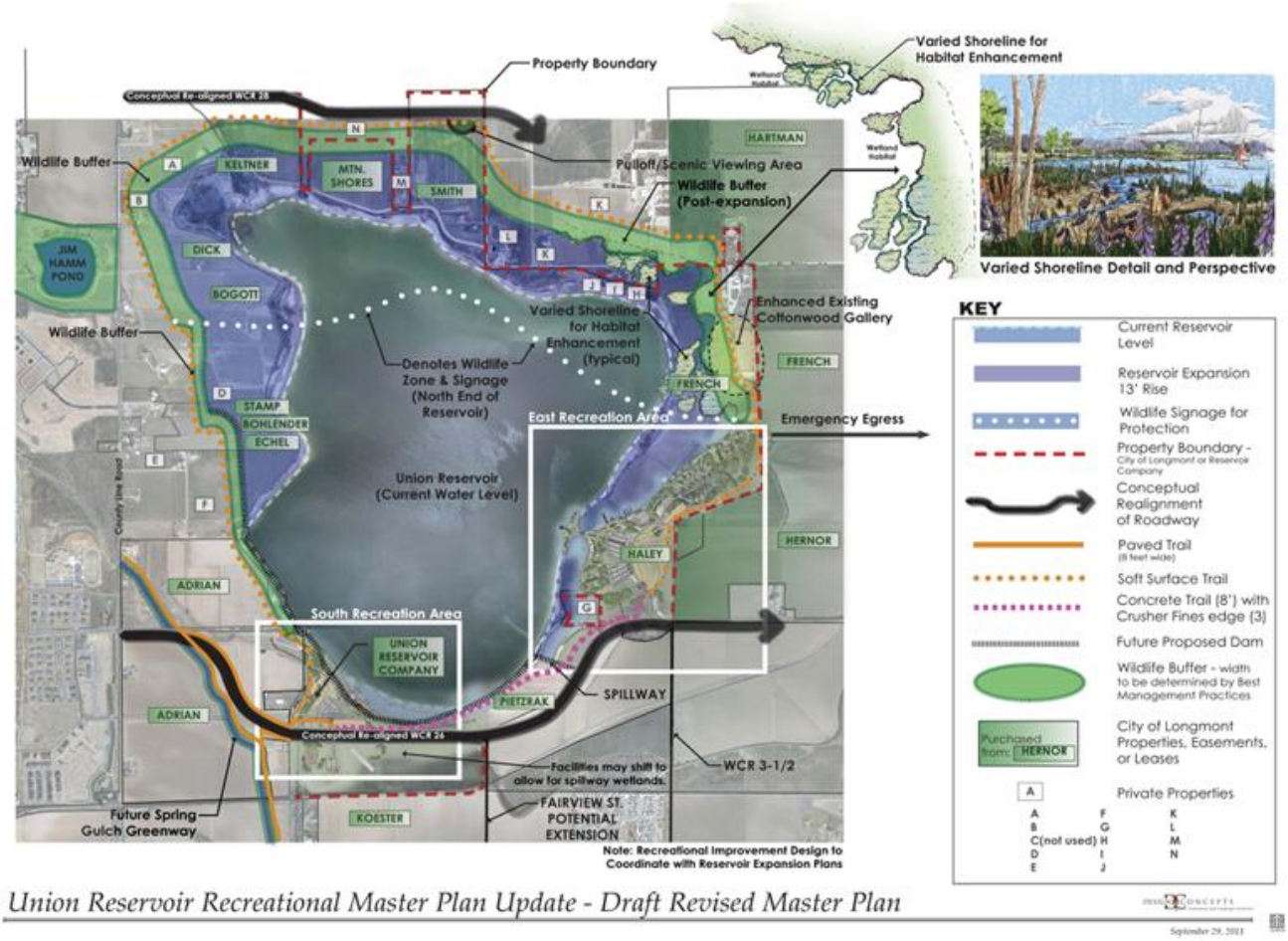
Highlights of the master plan include the following features:

#### *Overall Area*

- Primary Greenway loop trail around reservoir with links to the future Spring Gulch greenway trail. The trail is proposed to be paved with concrete and include a crusher fines edge on one side between the use areas. It is proposed to be soft surface for the remainder of the loop.
- Main day use recreational area is to relocate to southeastern corner of the reservoir. Day use would continue at the existing southwestern area, but be used primarily by clubs and lease holders.
- The prime "Wildlife Zone" along the northern portion of the reservoir would include a 300' buffer to separate the trail from the high water line and include 'no harassment' messages within the area. The buffer area would reduce to 150', consistent with the Longmont Wildlife Management

Plan, south of this zone as shown on the plan. At the recreational use areas and along the future dam, there is no buffer shown.

- Eroded shoreline in the northeast section of the reservoir would be mitigated by shoreline treatments, wetlands and island development.
- The plan reflects a conceptual realignment of WCR 26 & 28 to reflect our best current information on these future plans.
- Added an emergency access to the north end of the southeast recreational area.




*Overall Plan – Union Reservoir Recreational Master Plan, September 2011*

***East Area***

- This site becomes the primary day use area. All existing program uses currently in the southwest (existing) use area are moved to this location.
- Main program elements include picnicking; fishing; swim beach; boat launches and rentals; camping for RVs and tents; and scout circle.
- Added a primary greenway trailhead off the entry road for the looped trail just outside a gate house (for fee transactions) and ranger office.

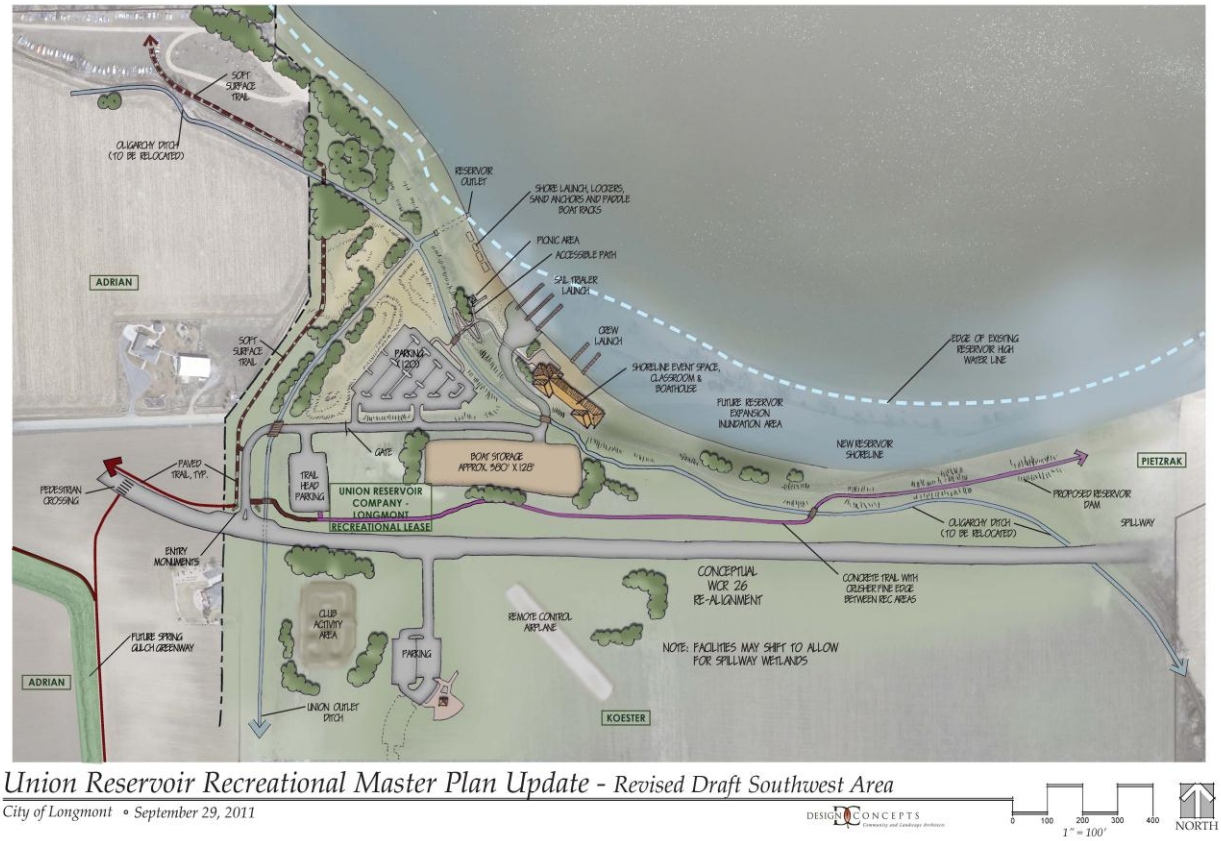
- Shifted the entry road east from previous plans and added additional parking. Clarified where overflow event parking will be located near a larger maintenance building for operations use. Moved the conceptual alignment of WCR 26 to the property line.
- Added another drop off for the group picnic area from the main parking lot. Group picnicking includes a looped walkway now moved further away from the adjacent private lot (noted as G on the plan); restrooms; shelters; a multi-use platform (previously shown as a fishing pier – now intended to provide an area for outdoor education and small event venues); and a small playground.
- Moved the dog beach to this plan from the southwest use area. A separate crusher fines trail will connect from the recreation area to the dog beach just beyond the end of the dam.
- Includes a breakwater (now smaller in size on the boating side of the bridge) and added an off-shore mooring area. The breakwater includes picnic shelters, a pier and ADA fishing access areas. A fish cleaning station is now included between the boating area and the breakwater.
- The swim beach and swim area are to the south of the breakwater and larger than the existing area. The plans have clarified there will be a divided swim area for kids vs. adults (lap). Beach lockers, concessions, a lifeguard building and an open shower and changing screen structure at the edge of the beach have been included along with more shade trees.
- A boating area is shown north of the breakwater for paddle boats (including shore racks and lockers) boat slips, rental and ranger launches and three trailer launches (one more was added) for high volume times. Trailer parking and a drop off for the paddle boat area are also shown.
- A shoreline picnic area is north of the boating area and includes 21 pull in spots for day use.
- The camping area includes a 34 RV full hook up spots along with a restroom, shower and fish cleaning area and waste stop at the entry / exit. An ADA fishing area is adjacent to this campground. The group camping area including scout circle is now to the east of the road for more separation. There is a 32 space tent camping area include 2 pull through spaces. This camp area also includes a restroom, shower and fish cleaning station as well as a fishing pier.
- Added other minor adjustments to previously shown facility sizes and orientations.


*East Area Plan – Union Reservoir Recreational Master Plan, September 2011*

## ***Southwest Area***

- This use area is shown to be used primarily for lease holders / club use except for the event rental building. Boat storage and parking are provided for these functions.
- The primary greenway trail is now moved to the perimeter of the property to maximize the recreational use area and the plan has added a trailhead off the entry road and outside the gate.
- The dog beach and its associated parking lot and access roadway are now moved from this area to the east side to minimize operational issues with a day use function within the club use area.
- A driveway to the shore launch area has been added to better serve the paddle boats and shore launch area. The shore launch area includes storage for hand launch boats and paddle boat storage for ease of access directly onto the reservoir. A picnic area has also been added to this area.

- A trailer launch area is provided for larger boats which now includes a third launch for high use times (such as regattas).
- This area previously had a floating breakwater which is now removed due to public request.
- The existing remote control use areas south of WCR 26 remain (moved south due to the road shift). Parking and a restroom are also shown in this area. The plan has rotated the remote control airplane runway to NW/SE orientation with an improved clear zone, and adjusted parking lot.
- The plan now reflects a conceptual connection to the future Spring Gulch #2 greenway (specific location of that trail is to be adjusted to match the Spring Gulch greenway plans when complete).
- And other minor adjustments to sizes of facilities previously shown and for specific use needs (e.g. removing trees from sail boat storage and launch areas to not conflict with masts).




*Southwest Area Plan – Union Reservoir Recreational Master Plan, September 2011*

## *Appendix A*
## *Council Communication and Minutes*

***Council Communication – 1/3/2012***

***Council Minutes – 1/3/2012***

***Council Communication – 2/14/2012***

***Council Minutes – 2/14/2012***

***Council Resolution – 2/14/2012***

# CITY COUNCIL COMMUNICATION

**MEETING DATE:** January 3, 2012 **ITEM NUMBER:** 5C

**TYPE OF ITEM:** **Study Session**

**PRESENTED BY:** Dale Rademacher, Director of Public Works & Natural Resources, 303-651-8355
Kim Shugar, PWNR Natural Resources Manager, 303-651-8992
Paula Fitzgerald, Parks & Open Space Project Manager, 303-651-8448

**SUBJECT/AGENDA TITLE: Union Reservoir Recreational Master Plan**

**EXECUTIVE SUMMARY:** A recreational master planning process has been underway since 2007. Significant site conditions changed since the time of that early work. A revised draft master plan has been prepared, sent to the Parks and Recreation Advisory Board for their recommendation, and is now ready for Council review. The Parks and Recreation Advisory Board completed their review and comments and unanimously recommended approval of the plan at their October 10th meeting.

**COUNCIL OPTIONS:** Review the draft plan and provide staff direction and input. Staff will then make the needed plan adjustments and return to Council for your formal approval at a future regular session.

**RECOMMENDED OPTIONS:** N/A

**FISCAL IMPACT & FUND SOURCE FOR RECOMMENDED ACTION:** The 2011 master planning work was conducted by staff and did not include updates to earlier cost estimates provided by a consultant. However, the previous estimate should be reasonably close for a master plan level of detail. The previous estimate for development of the entire recreational master plan project was $9.5 million dollars. Cost estimating will be included with continued design work proposed in the 2012 PR-10, Union Reservoir Master Planned Improvements CIP.

***(Discuss the phases including estimated costs that are currently funded from the OS Bond proceeds.)*** The 2012-16 CIP includes in PR-10, a Phase 1 project for the interim loop trail around the reservoir. Project costs for the phase 1 project are budgeted at $60,000 for design (to be rolled over from 2011) and $752,500 for construction. All funds are to come from Open Space Bond funds.

**BACKGROUND AND ISSUE ANALYSIS:**

The Union Reservoir Recreational Master plan update underwent an extensive public process, staff review and consultant revision process in 2011. Staff began the project by bringing it to the Parks and Recreation Advisory Board (PRAB) in February 2011 and Council in May 2011 for input on the public process. At those meetings the following information was provided:

- History of the reservoir and surrounding area
- Changed conditions since the 2007 planning process

Council confirmed with staff to move into the process with the goals to maintain wakeless boating and to maintain the natural feel of the reservoir (see attachment 1).

A public involvement process began in May 2011 and concluded at the end of July 2011 (see attachment 2 for process summary). In August, meetings were held with staff and various user groups to verify needs, dimensions of facilities and other project details. Revisions to the draft recreational master plan were made in September 2011 to reflect the changes.

Highlights of the plan, including changes to the plan since the presentation to Council and PRAB earlier in 2011 include:

**Overall plan**

- Includes a loop trail around the entire reservoir – most of the trail surface will be crusher fines soft surface. Between recreational areas (southwest and east) will be concrete with crusher fines edge.
- Shore line enhancements to the northeast side of the reservoir to mitigate wave erosion and provide habitat.
- The plan reflects a conceptual realignment of WCR 26 & 28 to reflect our best current information on these future plans.
- Added an emergency access to the north end of the southeast recreational area.
- Changed the wildlife buffer to a 150 feet to be consistent with the City's Wildlife Management Plan for areas south of the white dotted "wildlife zone" area. Areas north of that zone remain at 300 feet.

**East area**

- This site becomes the primary day use area. All existing program uses currently in the southwest (existing) use area are moved to this location.
- Main program elements include picnicking; fishing; swim beach; boat launches and rentals; camping for RVs and tents; and scout circle.
- Added a primary greenway trailhead off the entry road for the looped trail just outside a gate house (for fee transactions) and ranger office.
- Shifted the entry road east from previous plans and added additional parking. Clarified where overflow event parking will be located near a larger maintenance building for operations use. Moved the conceptual alignment of WCR 26 to the property line.
- Added another drop off for the group picnic area from the main parking lot. Group picnicking includes a looped walkway now moved further away from the adjacent private lot (noted as G on the plan); restrooms; shelters; a multi-use platform (previously shown as a fishing pier – now intended to provide an area for outdoor education and small event venues); and a small playground.
- Moved the dog beach to this plan from the southwest use area. A separate crusher fines trail will connect from the recreation area to the dog beach just beyond the end of the dam.
- Includes a breakwater (now smaller in size on the boating side of the bridge) and added an off-shore mooring area. The breakwater includes picnic shelters, a pier and ADA fishing access areas. A fish cleaning station is now included between the boating area and the breakwater.
- The swim beach and swim area are to the south of the breakwater and larger than the existing area. The plans have clarified there will be a divided swim area for kids vs.

adults (lap). Beach lockers, concessions, a lifeguard building and an open shower and changing screen structure at the edge of the beach have been included along with more shade trees.

- A boating area is shown north of the breakwater for paddle boats (including shore racks and lockers) boat slips, rental and ranger launches and three trailer launches (one more was added) for high volume times. Trailer parking and a drop off for the paddle boat area are also shown.
- A shoreline picnic area is north of the boating area and includes 21 pull in spots for day use.
- The camping area includes a 34 RV full hook up spots along with a restroom, shower and fish cleaning area and waste stop at the entry / exit. An ADA fishing area is adjacent to this campground. The group camping area including scout circle is now to the east of the road for more separation. There is a 32 space tent camping area include 2 pull through spaces. This camp area also includes a restroom, shower and fish cleaning station as well as a fishing pier.
- Added other minor adjustments to previously shown facility sizes and orientations.

**Southwest area**

- This use area is shown to be used primarily for lease holders / club use except for the event rental building. Boat storage and parking are provided for these functions.
- The primary greenway trail is now moved to the perimeter of the property to maximize the recreational use area and the plan has added a trailhead off the entry road and outside the gate.
- The dog beach and its associated parking lot and access roadway are now moved from this area to the east side to minimize operational issues with a day use function within the club use area.
- A driveway to the shore launch area has been added to better serve the paddle boats and shore launch area. The shore launch area includes storage for hand launch boats and paddle boat storage for ease of access directly onto the reservoir. A picnic area has also been added to this area.
- A trailer launch area is provided for larger boats which now includes a third launch for high use times (such as regattas).
- This area previously had a floating breakwater which is now removed due to public request.
- The existing remote control use areas south of WCR 26 remain (moved south due to the road shift). Parking and a restroom are also shown in this area. The plan has rotated the remote control airplane runway to NW/SE orientation with an improved clear zone, and adjusted parking lot.
- The plan now reflects a conceptual connection to the future Spring Gulch #2 greenway (specific location of that trail is to be adjusted to match the Spring Gulch greenway plans when complete).
- And other minor adjustments to sizes of facilities previously shown and for specific use needs (e.g. removing trees from sail boat storage and launch areas to not conflict with masts).

**Initial Work**

Staff prepared CIP project PR-10, Union Reservoir Master Planned Improvements, with a funding request for the design and construction of Phase 1 - interim loop trail improvements

beginning in 2012, as well as continued design for the overall master planned project to a preliminary level. This project is to be funded from the Open Space Bond funds. During development of the design for the overall recreational area, interim projects may be identified that can be constructed prior to reservoir expansion. More detailed cost estimates will also be generated during the design.

**PRAB Action**

Staff took the draft recreational master plan to the October 10, 2011 Parks and Recreation Advisory Board meeting. There were 23 members of the public at the meeting. The Parks and Recreation Advisory Board unanimously voted to "approve the master plan as presented".

Staff is available to answer any questions.

**ATTACHMENTS:**

Council Minutes Excerpt May 31, 2011
Public Process Summary
Draft - Union Reservoir Recreational Master Plan (overall, east and southwest)

# CITY COUNCIL PROCEEDINGS

## January 3, 2012

**Civic Center**
**350 Kimbark Street**
**Longmont, CO 80501**

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### STUDY SESSION

### 1. MEETING CALLED TO ORDER

The January 3, 2012, Study Session of the Longmont City Council was called to order at 7:00 p.m. by Mayor Coombs in the City Council Chambers.

### 2. ROLL CALL

Sara Rusher, Assistant City Clerk, called the roll. Those present were: Mayor Dennis Coombs and Council Members Brian Bagley, Bonnie Finley, Sarah Levison, Alex Sammoury, Gabe Santos, and Katie Witt.

### 3. PUBLIC INVITED TO BE HEARD

Michael Coccoli, 420 N. Parkside Drive, Unit B, asked the Council to give returning war veterans a 90-day pass to the City's recreation centers to show support and appreciation.

Steve Donnellan, 2437 Tyrrhenian Drive, commented on the possible seismic investigations happening in Longmont, suggesting that the City not allow investigations on land that it does not own the mineral rights to. He also cautioned Council against enhancing recreational opportunities at Union Reservoir if there is going to be drilling there; and suggested the City perhaps focus on Lake McIntosh instead.

The following citizens spoke in opposition of allowing seismic surveys and exploration by the Oil and Gas Industry in the City:

Joe Bassman, 3414 Lakeview Drive,
David Pelster, 1574 Goshawk Drive,
Marilyn Belchinsky, 1703 Whitehall Drive,
Teresa Foster, 712 Thornwood Way,
Kate Johnson, 11227 66th Street,
Judith Balckbyrn, 3724 Oakwood Drive,
Joe Kelliher, 12628 Weld County Road

Deb McCabe, 3470 22nd Street, Boulder, manager of Sculling Club at Union Reservoir, thanked Paula Fitzgerald for her efforts at the Reservoir, and urged Council to approve the master plan as presented this evening.

Larry French, 1676 Weld County Road (WCR); Gayle Kelley, 1670 WCR 28; and Tammy Waycott, 1450 WCR 28; voiced concerns about a trail looping around the Reservoir that is included in the master plan and suggested that the money instead should be put toward existing road improvements.

Jeff Thompson, 1616 Sumner Street, shared his concerns about the City's plans for Union Reservoir and the Windy Gap project, urging Council to educate them on the facts.

Strider Benston, 951 W. 17th Avenue, thanked the City for scraping some of the snow and ice out of the bike lanes and commented on international concerns regarding oil drilling.

**Mayor Coombs moved, seconded by Finley, to direct staff to pursue a recreational pass program for returning veterans. Motion carried: 7-0.**

## 4. SPECIAL REPORTS AND PRESENTATIONS

There were no Special Reports or Presentations

## 5. STUDY SESSION ITEMS

**A.** Northwest Rail Corridor Update

Phil Greewald, Transportation Planner, presented this item, providing background and financial information.

Council discussed the options being provided by the Regional Transportation District (RTD), their frustration at the lack of progress, increased costs, and apparent lack of commitment by the District; as well as the inability for Longmont to opt out of this special district and viable alternative non-rail transportation solutions.

After reflecting on the lack of options put before Council by RTD, Council choose to support Option 1, to revise FasTracks schedule assumptions, as the least detrimental option for the City.

**B.** Spring Gulch #2 Conceptual Trail and Drainage Design

Dale Rademacher, Director of Public Works and Natural Resources, briefly introduced the next two study session items, providing Council a short history of these development projects.

Steve Ransweiler, Public Works and Natural Resources Project Manager, reviewed the Spring Gulch #2 Conceptual Trail and Drainage Design as outlined in the Council Communication.

Mr. Ransweiler and Nick Wolfrum, Engineering Services Manager, spoke with Council about future property acquisition, water quality, the possibility of an under grade railroad crossing, and collaboration with the Regional Transportation District.

**Council Member Santos moved, seconded by Witt, to set the width of the Spring Gulch #2 trail at ten feet with a three foot crusher path directly adjacent. Motion carried: 7-0.**

**C.** Union Reservoir Recreational Master Plan

Paula Fitzgerald, Parks and Open Space Projects Manager, presented this item to Council, recognized those that have helped with this project, and reviewed highlights of the new master plan.

Council Member Bagley voiced concerns about the master plan, including the recent land annexation battles with the Town of Firestone and the viability of property acquisition needed for the plan.

Dale Rademacher, Director of Public Works and Natural Resources, explained that the water quality at the Reservoir is adequate and sufficient for swimming; work is constantly being done to continue to improve the quality.

Ms. Fitzgerald discussed with Council the ongoing operations and maintenance costs associated with the new building structures included in the plan, traffic patterns and accessibility issues, the phased approach City staff is expecting to take with this project, and existing neighbor and wildlife concerns.

**Council Member Santos moved, seconded by Finley, to direct staff to bring the Union Reservoir Master Plan, as presented, to Council for formal adoption. Motion carried: 7-0.**

## 6. MAYOR AND COUNCIL COMMENTS

**Council Member Witt moved, seconded by Finley, to cancel Council's Study Session on February 7th, to accommodate the upcoming Republican and Democratic caucuses.**

**At the request of Council Member Levison, Council Member Witt amended her motion to also cancel the March 6th Study Session.**

**Council Member Sammoury offered a friendly amendment to start Council's meetings earlier in order to make this accommodation, instead of cancelling the meetings.**

**Council Member Witt accepted the amendment.**

**Council Member Levison moved, seconded by Coombs, to call the question. Motion failed: 4-3 (Finley, Sammoury, and Santos dissenting).**

# CITY COUNCIL COMMUNICATION

**MEETING DATE:** February 14, 2012 **ITEM NUMBER:** 9F

**TYPE OF ITEM:** **Consent** R-2012-03

**PRESENTED BY:** Dale Rademacher, Director of Public Works & Natural Resources, 303-651-8355
Kim Shugar, PWNR Natural Resources Manager, 303-651-8992
Paula Fitzgerald, Parks & Open Space Project Manager, 303-651-8448

**SUBJECT/AGENDA TITLE: Resolution to approve and support the Union Reservoir Recreational Master Plan**

**EXECUTIVE SUMMARY:** The Union Reservoir Recreational Master Plan was presented to City Council at the January 3, 2012 meeting. At that meeting, Council directed staff to prepare a resolution for Council's consideration adopting the Master Plan. At the January 24, 2012 meeting that resolution was presented, but Council action was to table the item until all members of Council could be at the meeting. At their February 1, 2012 annual meeting, the Board of Directors of the Union Reservoir Company and stockholders voted to support the installation of the interim trail around the reservoir as well as the overall conceptual master recreation plan.

**COUNCIL OPTIONS:**
1. Approve the Resolution approving and supporting the Master Plan
2. Deny the Resolution
3. Approve the Resolution, but provide staff with additional direction to delay work on the interim loop trail pending decisions regarding the timing of the enlargement of the Union Reservoir or other associated issues

**RECOMMENDED OPTIONS:** Option 1

**FISCAL IMPACT & FUND SOURCE FOR RECOMMENDED ACTION:** PR-10, Union Reservoir Master Planned Improvements is included in the 2012-16 CIP with $752,500 approved for the Phase 1 loop trail funded from the Open Space Bond fund, with work including both design and construction. The 2007 master plan work provided a cost estimate for the overall project of $9.5 million. Design development will also be done in 2012, which will provide information on any projects in addition to the loop trail that might be done prior to the reservoir enlargement. This design work will also include a new cost estimate for the project.

**BACKGROUND AND ISSUE ANALYSIS:**
The Union Reservoir Recreational Master plan includes major improvements to Longmont's largest water-based recreational area. Development of the facility will provide recreational activities to serve the entire community, as well as provide a tourism draw. A master plan is inherently a conceptual document and should be viewed as the approved vision. Refinements and changes to the plan are typical with any master plan. Any significant change is brought back to Council for review.

As discussed at the January 3 and 24, 2012 Council meetings, CIP project PR-10 provides funding for an interim loop trail with design and initial construction planned to begin in 2012. This trail will not be installed in the final alignment as shown on the recreational master plan, as that would significantly impact agricultural operations and be unnecessarily close to residents in advance of the reservoir expansion. The loop trail design will attempt to balance master plan concerns with interim issues. The loop trail alignment will be brought back to Council for review prior to final design and construction.

Issues discussed at the January 24, 2012 meeting included concerns regarding the interim loop trail including the timing of the trail construction, life cycle of the trail, costs associated with the trial and other potential design and operational questions related to the interim trail. Staff understands that several members of Council expressed concerns regarding the construction of the interim trail and the potential for the trail to be inundated with the future enlargement of Union Reservoir. As staff reported at your January 31st meeting, the timing of the future enlargement of Union Reservoir is linked with the City's decision to participate in the Windy Gap Firming project. The next decision point for the City regarding Windy Gap Firming could be as soon as the end of this year when the City will be asked to decide the level of participation it chooses for the design of the project. Staff anticipates the City's final decision on participation in the construction of the Windy Gap Firming project will occur following the completion of the design phase, which is currently planned to commence in 2013 and be completed at the soonest in late 2015.

Below is additional information provides more information related to the issues raised at the January 24th meeting:

- The loop trail design work will begin with environmental surveys and resident meetings. Attempts to balance the adjacent homeowner concerns with protection of wildlife will be a goal of the project. Staff will commit to this process.

- An outside water tap was recently granted to the Willis family on the western side of the reservoir in exchange for a trail easement that would be utilized for the interim loop trail.

- The Windy Gap water project is nearing a decision point within the next six months. At the time of that Council decision, more information will be known as to the level of participation in that project. The amount of participation will have a bearing on the timing of the future Union Reservoir expansion. To enable Council to have all information prior to work and a final decision on the interim trail, Option 4 allows for this information to be made available.

- The interim trail was identified as a potential CIP project using Open Space Bond Funds as an outcome from the 2011 Council retreat where a balanced approach between open space acquisition and access to those lands was desired. Completing trails and trail connections was also identified in the Focus on Longmont project under Policy Direction 3, Enhance the Natural Environment.

- A public open house was held on February 1, 2010, regarding the 'missing links' and desired trails in Longmont. The most requested trail was the Spring Gulch #2 trail from Stephen Day Park to Sandstone Ranch, but also included trail access to Union Reservoir.

- The extensive Union Reservoir Recreational Master Plan public process has been underway since 2007, with the loop trail being shown as a recreational amenity. Until very recently, there has only been support expressed for this trail amenity. The typical lifespan for a soft surface trail is approximately 15 to 20 years. If delayed, an entire generation would miss the opportunity to use this recreational amenity.

- The interim trail along the northeastern and eastern shorelines of the reservoir is proposed to be on existing Union Reservoir property. There is one small section that might cross onto a leased parcel that is not currently being farmed due to prairie dogs. The Union Reservoir property is part of the overall recreational lease to the City of Longmont. The Union Reservoir company is also offering funding towards the trail as a means to improve the property.

- The width of the interim trail is currently proposed at an 8 ft width and made from crusher fines material. The width could be narrowed to 5 ft, but patrol and maintenance work would then need to be done from a smaller cart vehicle. The savings to the trail construction project would be approximately $4 per lineal foot, or $107,000 for the project.

A resolution has been prepared for Council's approval. Approval of the resolution provides staff direction to proceed with the preliminary design work on the project as shown in the City's Capital Improvement Plan.

**ATTACHMENTS:**
Resolution

# CITY COUNCIL PROCEEDINGS

## February 14, 2012

**Civic Center**
**350 Kimbark Street**
**Longmont, CO 80501**

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## REGULAR SESSION

The February 14, 2012, Regular Session of the Longmont City Council was called to order at 7:00 p.m. by Mayor Dennis Coombs in the City Council Chambers.

### 1. ROLL CALL – PLEDGE OF ALLEGIANCE

Valeria Skitt, City Clerk, called the roll. Those present were Mayor Coombs and Council Members Brian Bagley, Bonnie Finley, Sarah Levison, Alex Sammoury, Gabe Santos, and Katie Witt.

Mayor Coombs led the assembly in reciting the Pledge of Allegiance.

### 2. CHAIR REMINDER TO THE PUBLIC:

The Mayor reviewed the procedures for Public Invited to be Heard and Public Hearings.

### 3. APPROVAL OF MINUTES

Council Member Levison moved, seconded by Witt, to approve the minutes of the January 24, 2012, meeting as printed. Motion carried: 7-0.

### 4. AGENDA REVISIONS AND SUBMISSION OF DOCUMENTS

Gordon Pedrow, City Manager, indicated that a copy of House Bill 1277 was placed on Council desks and will be reviewed by staff during the discussion of legislative issues.

### 5. CITY MANAGER'S REPORT

Ken Huson, Water Resources Administrator, provided an update on the Windy Gap firming project. He then introduced Jeff Drager with the Northern Colorado Water Conservancy District (NCWCD).

Jeff Drager, Deputy Manager, Engineering Services, gave a brief overview of the project and explained that the Bureau of Reclamation (BOR) is the lead agency in preparing the Environmental Impact Statement for this project and they determine the sequence and

order of things to complete the process. Mr. Drager noted that NCWCD had anticipated a Record of Decision in January or February but the BOR has since changed the order. BOR wants the Carriage Contract negotiated and in place before issuing the Record of Decision. Due to this change, NCWCD anticipates that the Carriage Contract will be finalized this summer and hopes to enter into the design phase for the project by the end of the year.

## 6. SPECIAL REPORTS AND PRESENTATIONS

**A.** A Proclamation Designating February 2012 As "National Teen Dating Violence Awareness & Prevention Month" In Longmont, Colorado

Mayor Coombs read into the record a proclamation designating February 2012 as "National Teen Dating Violence Awareness and Prevention Month" in Longmont, Colorado.

Kim Heard, project coordinator for Longmont Ending Violence Initiative (LEVI), Courtney McAllister, Safe Shelter of St. Vrain Valley, and Michele Dusenbary, Defense Awareness Response Training (DART), accepted the proclamation and indicated they appreciate the recognition from Council.

**B.** LiveWell Longmont Worksite Wellness Collaboration (City of Longmont, Longmont United Hospital and St Vrain Valley School District) Presentation

Leslie Feuerborn, Worksite Wellness Coordinator, explained the LiveWell holiday weight maintenance challenge between Longmont United Hospital, City of Longmont, and St. Vrain Valley School District employees, noting that 92 percent of the teams who started the challenge finished. As part of the challenge, employees voluntarily donated $5 to specific non-profit agencies in the City.

## 7. FIRST CALL – PUBLIC INVITED TO BE HEARD

Steve Donnellan, 2437 Tyrrhenian Drive, reminded Council that Colorado Springs has put a six month moratorium on fracking and suggested that Longmont do the same..

Tammy Waycott, 1450 Weld County Road 28, spoke on behalf of those concerned about Union Reservoir and the proposed loop trail around the reservoir, encouraging Council to choose Option two and deny the Resolution. She suggested that the City should, instead, put in a partial trail that will complete trail connections, reduce the City's cost substantially, and minimize the impact on wildlife, wetlands, agricultural operations and current residents. She further indicated that rather than spending $170,000 on a temporary perimeter trail, the funds could be used to upgrade existing substandard recreational facilities.

Sharon O'Leary, 534 Emery Street, Chair of Parks and Recreation Advisory Board, strongly urged Council to adopt the resolution approving the Union Reservoir Recreation Master Plan, noting that the board listened to citizens and Council and tweaked the plan on several occasions.

Judy Bigger, 810 Megan Court, expressed sincere appreciation to Mayor Coombs for speaking out on the Marriage Equality Act.

Teresa Lichti, 740 Brookside Drive, thanked Mayor Coombs for signing the Marriage Equality Act noting that he is proud have such a brave individual as Mayor.

John Bigger, 810 Megan Court, also lent his support to Mayor Coombs for his courageous and passionate stance on marriage equality.

Jake Marsing, 949 Pasque Drive, thanked Mayor Coombs for standing up for what he believes in and by signing in support of marriage equality, has demonstrated courage, passion, and understanding.

Joan Peck, 1935 Spruce Avenue, encouraged Council to put a six month moratorium on surface permits for the oil and gas drilling industry, noting that at the open house on oil and gas regulations, she was disappointed to find that there was no option included for a moratorium. Ms. Peck indicated that the City Attorney has said there is no risk of being sued by the State if the City puts a six month moratorium in place. She further indicated that the well on the Bogott property has been leaking and was in place long before the LifeBridge development proposal. She also noted that City staff needs to be directed to thoroughly research all city owned land to determine who owns the mineral rights.

Camille Accountius, 2027 Creekside Drive, spoke about the Union Reservoir Master Plan and encouraged Council to have confidence in staff to include the public in the process as they implement the master plan.

Rick Accountius, 2027 Creekside Drive, Vice Chair of the Parks and Recreation Advisory Board, indicated he was speaking as a private citizen and encouraged Council to approve the Union Reservoir Master Plan, including the interim trail.

David Pelster, 1574 Goshawk Drive, supported a six month extension to the current oil and gas drilling moratorium, indicating that he has read the City's proposed gas regulations requiring a closed loop system and likes it. Additionally, he indicated he would like to see a requirement for oil and gas companies to pay for third party air quality monitoring around their wells.

John Cody, 528 Main Street, President of the Longmont Area Economic Council (LAEC), distributed flash drives to Council containing LAEC's new electronic brochure which is currently being sent to site selection companies throughout the country.

Chris Porzuczek, 12624 Weld County Road 1, supported a six month extension on the oil and gas moratorium reiterating health and safety concerns raised in the past regarding oil and gas drilling 350 feet from his house and 50 feet from his property line. He also stated that the Union Reservoir master plan and interim trail is a luxury item when there are much bigger issues at Union Reservoir.

**E.** **O-2012-13,** A Bill For An Ordinance Authorizing The City Of Longmont To Lease The Real Property Known As 103 Main Street (The Premises) To White Trading Corp, dba Cheese Importers, (Tenant) (Removed from Consent Agenda)

**F.** **R-2012-03,** A Resolution Of The Longmont City Council Approving The Union Reservoir Recreational Master Plan (Removed from Consent Agenda)

**G.** **R-2012-05,** A Resolution Of The Longmont City Council Supporting The Application For A River Corridor Initiative Grant From The State Board Of The Great Outdoors Colorado Trust Fund For The St. Vrain Greenway Phase 11 Project (Removed from Consent Agenda)

**H.** **R-2012-06,** A Resolution Of The Longmont City Council Approving The Intergovernmental Agreement Between The City And The State Of Colorado For Its Fuels Mitigation Grant Program (Resolution adopted)

**I.** **R-2012-07,** A Resolution Of The Longmont City Council Approving The Intergovernmental Agreement Between The City And The Municipal Subdistrict Of The Northern Colorado Water Conservancy District Windy Gap Firming Project Water Activity Enterprise For The Fifth Amendment To The Fourth Interim Agreement For Participation In The Windy Gap Firming Project (Resolution adopted)

**J.** **R-2012-08,** A Resolution Of The Longmont City Council Approving An Intergovernmental Agreement Between The City And Douglas County For Participation In The Sex Offender Tracking And Registration System (Resolution adopted)

**K.** **State Legislation**

**1.** Support HB 12-1032, Concerning Continuation Of Forestry-Related Programs

**2.** Support SB 12-026, Concerning A State Agency Rule That Creates A State Mandate On A Local Government, And

**3.** Oppose SB 12-081, Concerning A Prohibition On A Local Government Requiring The Installation Of Sprinklers In A Single-Family Dwelling Begins To Take Away The Right Of The City Council To Determine Local Building Codes
(Removed from Consent Agenda)

**L.** Approve And Authorize Mayor To Sign City Manager Employment Contract (Contract approved and Mayor authorized to sign)

**M.** Accept Public Improvements For Blue Vista, Phase 1B (Public improvements accepted)

Gordon Pedrow, City Manager, read the titles of the ordinances into the record and reviewed all of the items on the Consent Agenda.

**Council Member Levison moved, seconded by Witt, to adopt the Consent Agenda with the exception of Items E, F, G, and K which were pulled for additional discussion. Motion carried: 7-0.**

## 10. ITEMS REMOVED FROM CONSENT AGENDA

**E.** **O-2012-13,** A Bill For An Ordinance Authorizing The City Of Longmont To Lease The Real Property Known As 103 Main Street (The Premises) To White Trading Corp, dba Cheese Importers, (Tenant)

David Starnes, Redevelopment Program Manager, provided an overview of this item and stated that 103 Main Street is currently the City's museum storage which will be relocated once the lease is approved.

**Council Member Santos moved, seconded by Levison, to adopt Ordinance O-2012-13 on first reading. Motion carried: 7-0.**

**F.** **R-2012-03,** A Resolution Of The Longmont City Council Approving The Union Reservoir Recreational Master Plan

Paula Fitzgerald, Parks and Open Space Project Manager, was present to address questions posed by Council. Ms. Fitzgerald indicated that Kim Shugar, Parks and Open Space Director met with residents around Union Reservoir on a couple of occasions and staff will meet with them again once Council renders a decision on the master plan.

**Council member Santos moved, seconded by Levison, to adopt Resolution R-2012-03 approving and supporting the Union Reservoir Master Plan with the following caveates: 1) staff is to start meeting on the plan with the neighbors immediately; 2) staff will run the interim trail alignment and design work through the Parks and Recreation Advisory Board; and 3) the interim trail alignment and design will be brought back to City Council for final approval.**
General discussion ensued. Some Council members expressed concern about spending $1 million on an interim trail which will eventually be under water once the reservoir is expanded.

Gordon Pedrow, City Manager, noted that it is necessary to have options to go into the future. There are two potential major projects that will help the City be viable in the future. One of those is Windy Gap and the other is expansion of Union Reservoir. The City has been working on the Windy Gap project in excess of ten years and it may take another six years to get that ready to go. Reality is that maybe in 25 to 30 years Windy Gap may go forward. If that is the case, Union Reservoir may not need to be expanded. However, these are both contingencies that the City needs to keep available. If the City needs more water storage than what it will get out of Windy Gap, Union Reservoir expansion is the next major project that will provide that. However, that won't be decided for many years and an interim trail will have reached its useful life by then.
**Vote was taken on the motion and it carried: 5-2 (Bagley and Finley dissenting)**

RESOLUTION R-2012-03

A RESOLUTION OF THE LONGMONT CITY COUNCIL APPROVING THE UNION RESERVOIR RECREATIONAL MASTER PLAN

---

WHEREAS, the City Council of the City of Longmont has been advised of the completion of the Union Reservoir Recreational Master Plan, and the desired outcome in the form of trail construction, and the creation of boating, picnicking; fishing; swimming; and camping facilities, among others; and

WHEREAS, a public involvement process was conducted between May 2011 and the end of July 2011, and recommended changes from the public were incorporated into the plan; and

WHEREAS, at its October 10, 2011 meeting, the Longmont Parks and Recreation Advisory Board, following input from members of the public at the meeting, voted unanimously to recommend approval of the master plan as presented;

NOW THEREFORE, THE COUNCIL OF THE CITY OF LONGMONT, COLORADO, RESOLVES:

Section 1

The Longmont City Council approves and supports the Union Reservoir Recreational Master Plan as presented.

Section 2

The Council repeals all resolutions or parts of resolutions in conflict with this resolution, but only to the extent of such inconsistency.

Passed and adopted this 14th day of February, 2012.

Dennis L Coombs

MAYOR

ATTEST:


CITY CLERK

APPROVED AS TO FORM

DEPUTY CITY ATTORNEY — DATE 12/28/11

PROOFREAD — DATE 12/28/11

APPROVED AS TO FORM AND SUBSTANCE:

ORIGINATING DEPARTMENT — DATE 1/11/11

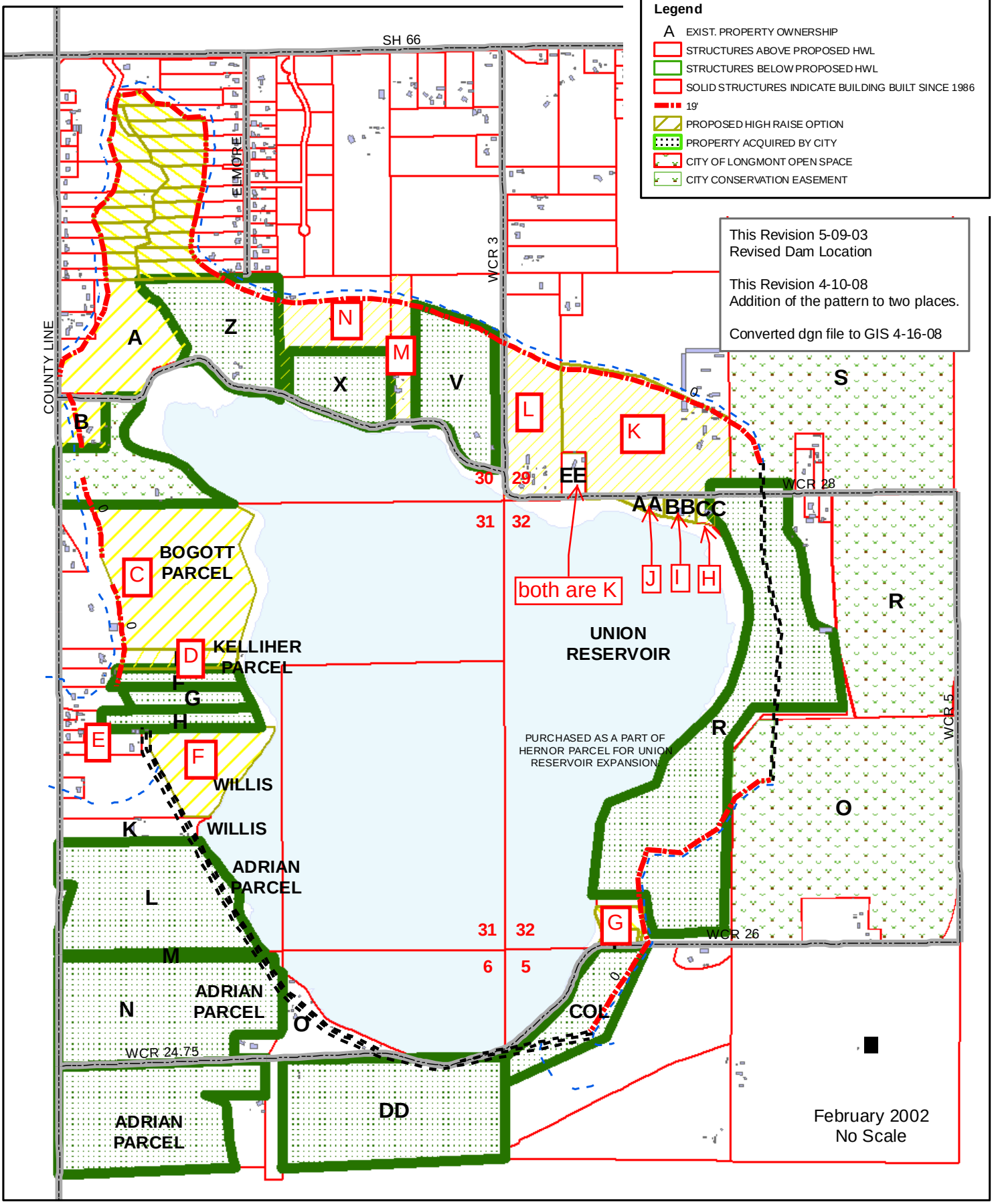
CA File: 8669

***Appendix B***
***Land Owner Map***
***Union Reservoir Expansion***

# Property Map

Appendix B
**PROPOSED PROPERTY ACQUISITION**

Key revised for Recreational Master Plan



# UNION RESERVOIR – PROPERTY MAP KEY – Revised for Rec Master Plan

A - Docheff
B - Flores
C - Bogott
D - Kelliher
E - Brash
F - Willis
G - Lindberg , et al
H - Welsch
I -Ryan
J - Waycott
K – Docheff
L- Felton
M - mock
N- Sweeney

***Appendix C***
***Union Reservoir Enlargement Study Excerpts***

Appendix C

# UNION RESERVOIR ENLARGEMENT
# ALTERNATIVES ANALYSIS AND FEASIBILITY STUDY

Excerpts

*Prepared for:*

CITY OF LONGMONT
1100 South Sherman Street
Longmont, Colorado 80501

*Prepared by:*

TETRA TECH RMC
1900 South Sunset Street, Suite 1-F
Longmont, Colorado 80501

Tetra Tech RMC Job No. 19-0033.283.00

March 2007

# TABLE OF CONTENTS

***List of Tables***

***List of Figures***

***List of Appendices***

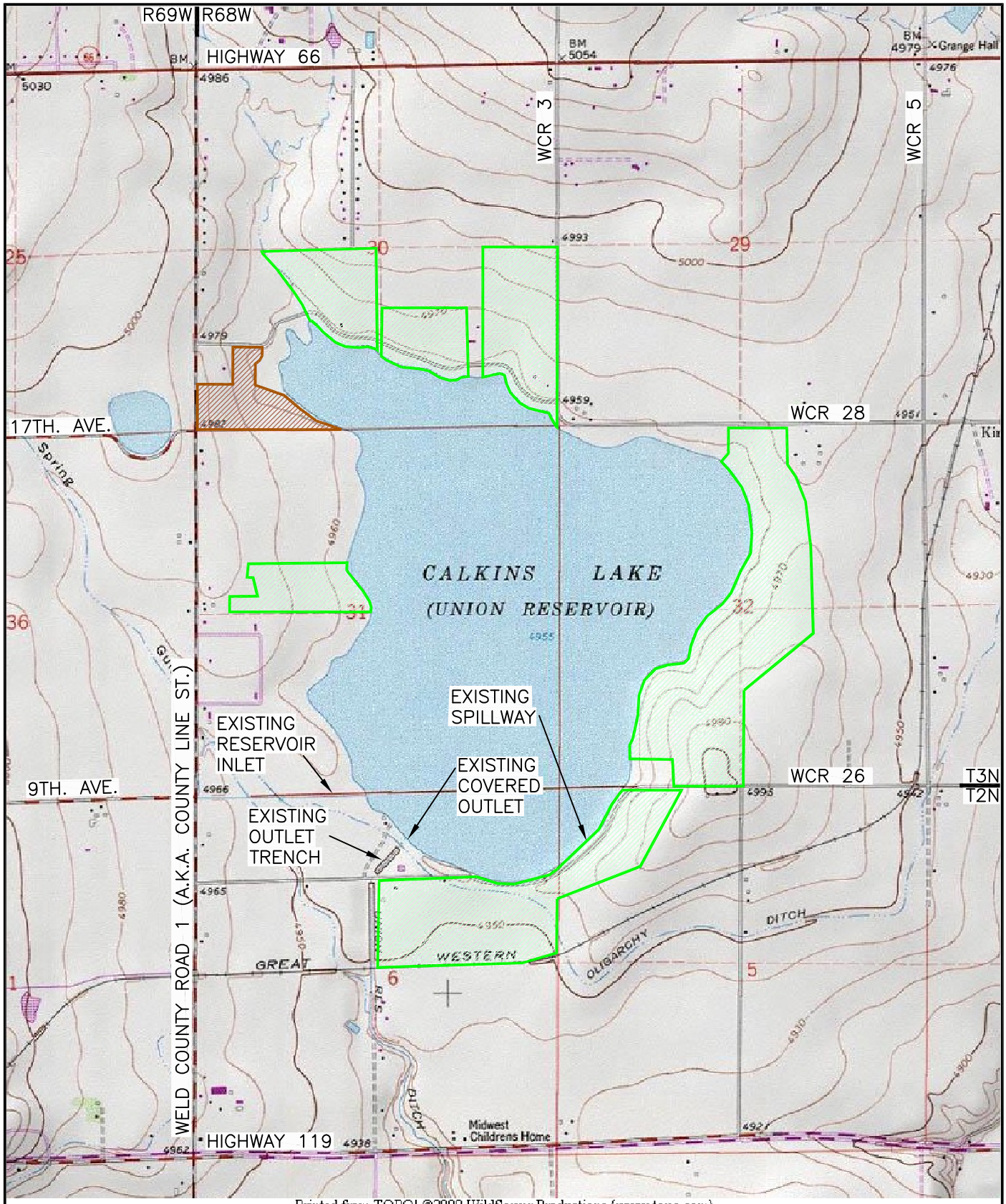
## *1.0 INTRODUCTION*

This report has been prepared to document our alternatives analyses and feasibility investigations of a proposed enlargement of Union Reservoir located east of the City of Longmont in Weld County, Colorado. Tetra Tech RMC (formerly Rocky Mountain Consultants, Inc. [RMC]) previously prepared a feasibility study for a proposed enlargement of the reservoir in 1986 (RMC, 1986). The 1986 study has been used as a planning document by the City's Union Reservoir Land Management Program. The City has since acquired additional land around the reservoir to make way for future expansion (**Figure 1.1**). However, a few key parcels west of the reservoir have not been purchased and are now proposed for development. The alternatives under consideration in this study focus on reservoir layouts which will not inundate the areas proposed for development.

The work performed in this study consisted of eight tasks outlined in our proposal of June 29, 2004. The tasks performed were:

- Task 1 - Topographic Mapping
- Task 2 - Geotechnical Investigation
- Task 3 - Flood Hydrology
- Task 4 - Raw Water Master Plan Update
- Task 5 - Wetlands and Threatened and Endangered Species Assessment
- Task 6 - Reservoir Alternatives Evaluation
- Task 7 - Pipeline and Pump Station Alternatives Evaluation
- Task 9 - Report Preparation and Presentations

Draft summary information for this report was presented to the public in December 2004. The Longmont City Council also received draft summary information in November and December 2004, and a summary of public comments in January 2005.




LEGEND

- CITY OF LONGMONT PROPERTY, APPROXIMATELY LOCATED
- CITY OF LONGMONT CONSERVATION EASEMENT, APPROXIMATELY LOCATED

0 1000 2000

SCALE IN FEET

JOB NO. 43-0033.283.00

UNION RESERVOIR VICINITY MAP

RMC

FIGURE: 1.1

R:\0033_283 Union Reservoir Dams\dwg\VICINITY-REPORT-2_05.dwg, 3/8/2005 8:46:20 AM

## *2.0 SITE DESCRIPTION*

Union Reservoir is located in a topographic depression immediately east of the City of Longmont (**Figure 1.1**). The reservoir and surrounding properties are partially framed by Weld County Road (WCR 1, aka County Line Road) on the west, WCR 28 on the north, and WCR 26 on the south. Most of the properties surrounding the reservoir are agricultural and rural residential properties commonly used as irrigated crop and pasture land.

A natural drainage basin is located on the northwest side of the reservoir and broad ridges are on the west and east sides of the reservoir. The reservoir drainage basin covers an area of approximately 6.5 square miles (including the reservoir water surface). Spring Gulch lies west of the ridge on the west side of the reservoir. The Spring Gulch valley extends southeastward past the south side of the reservoir.

The reservoir was constructed in 1905 by building an inlet from the Oligarchy Ditch on the southwest side of the reservoir. An outlet was also constructed in an excavation on the south side of the reservoir. The outlet consists of a pipe which was backfilled. The pipe leads to an excavated trench of approximately 16 to 18 feet in depth that connects to Spring Gulch south of the site. The spillway is on the southeast side of the reservoir and is a small concrete training wall structure. Because of the natural depression, the only dam at the site is the backfill embankment over the outlet pipe and a small berm providing freeboard storage on the south side of the reservoir.

### *2.1 Topographic Mapping and Surveying*

The 1986 study utilized topography from USGS topographic quadrangle maps. For the current study, topography with two-foot contour intervals was mapped. Aerial photography for topographic mapping was performed on July 21, 2004 by IntraSearch, Inc. Tetra Tech RMC provided ground control for the aerial flight. The surveying and mapping was performed to the City of Longmont datum. The area mapped included the current reservoir, as well as surrounding areas which would be inundated by the maximum reservoir considered in this investigation. In addition, an aerial orthographic color photo of the entire reservoir area was prepared.

The new, more detailed, topographic data was utilized for evaluating borrow areas; potential reservoir, dam, and spillway designs; and hydrologic modeling. In addition, the mapping and aerial photos were utilized to assist in wetlands mapping at the site.

Horizontal and vertical survey control for this project was established using GPS methods. The horizontal coordinate basis is Colorado State Plane Coordinates (North Zone) NAD 83/92 adjusted to ground and the vertical datum is NGVD 1929 (City of Longmont datum).

The project benchmark used for ground control was the City of Longmont Benchmark No. 139 located at the south end of Union Reservoir on the west side of the boat ramp. It is a brass cap stamped No. 28, which represents the reservoir staff gauge elevation 28. The actual elevation is 4955.87 feet (NGVD 1929) with coordinates: Northing = 1,306,007.023’ and Easting = 3,128,093.298.

The northwest corner of Section 6, Township 2 North, Range 68 West (intersection of County Line Road and 9th Avenue) was also surveyed by GPS. The coordinates and elevation are: Northing = 1,307,124.0049, Easting = 3,125,150.8838, Elevation = 4967.639.

The spillway training wall structure was surveyed at 17 locations. The elevation ranges from 4958.21 to 4961.25 feet. The average elevation is 4958.5 or gauge height 30.6.

## *2.2 Reservoir Capacity Information*

A 1986 survey by Rocky Mountain Consultants, Inc. established an elevation-capacity relationship for the existing Union Reservoir up to gage height 28 feet. The resulting elevation capacity table and curve are provided in **Table 2.1** and **Figure 2.1**. As provided in the 1986 RMC report, gage height 28 was considered to be elevation 4957. The work for this project as presented in Section 5.0 is also based on that premise and used the IntraSearch 2004 mapping for lands above elevation 4957.

Upon completion of the alternatives analysis and preparation of the draft feasibility report, it was concluded that reservoir gage height 28 feet is actually at elevation 4955.87 on the City of Longmont datum, a difference of 1.13 feet from the 1986 RMC work. Based on measurement of the existing topography from the IntraSearch mapping, 846 acre-feet of additional storage would be contained between 4955.87 and 4957. Thus, the five-foot, 13-foot, and 19-foot raises described in Section 5 of this report (raising the high water line to 4962, 4970, and 4976) would actually be raises of 6.13 feet, 14.13 feet, and 20.13 feet, respectively, to those elevations with incremental added storage of 846 acre-feet greater than presented in Section 5 (and with subsequently lower costs per acre-foot of new storage). In all the alternatives, the additional storage volumes presented in Section 5 could in fact be obtained at lower dam elevations and at lower costs per acre-foot than presented. Adjusted elevation capacity data for the potential range of reservoir enlargements (including the 846 acre-feet discussed above) are included in **Table 2.1** and **Figure 2.1**.

## *5.0 ALTERNATIVES ANALYSIS*

### *5.1 Reservoir Enlargements*

Three reservoir enlargement sizes were evaluated, a small enlargement raising the water surface five feet, a mid-size enlargement raising the water surface 13 feet, and a maximum enlargement raising the water surface 19 feet. We also considered two options for each enlargement size, a baseline case and a shoreline case. The baseline option utilizes the best topographic alignment for a future dam and minimizes dam embankment volumes. The shoreline option keeps the dam embankment located on Union Reservoir Company property and minimizes the land required for acquisition along the western side of the reservoir. Thus, a total of six dam raise alternatives were evaluated in our studies.

As mentioned in Section 2.2, the five-foot, 13-foot, and 19-foot raises described in this section are relative to elevation 4957, the full reservoir water surface elevation presented in the 1986 RMC report. However, with the conclusion that the existing reservoir high water line is at elevation 4955.87, the raises described in this section are actually 1.13 feet higher than presented. Likewise, the incremental storage increase for each raise option would be approximately 846 acre-feet more than the storage increases discussed later in this section. Finally, the cost per acre-foot of increased storage would be less than what is presented in this section.

### *5.2 Dam Type*

Given the topography and geology of the site, an earth dam is considered the most appropriate dam type. Any size enlargement requires a very long main dam, between 6,000 feet long for the five-foot raise and 12,000 feet long for the 19-foot raise. An earth dam is the most economical method to construct a dam of this length. Abundant borrow soils are available on-site for an earth dam. Foundation conditions also strongly favor earth dam construction because they consist of soft to stiff clayey soils with some settlement potential that would be compatible with a flexible earth dam. An earth dam is also easily enlarged if planned for ahead of time. Thus, the City could build a smaller raise first and enlarge it further in the future.

Other dam types, such as roller compacted concrete (RCC) could be considered for say a 1,000-foot section of the dam. RCC is overtoppable forming an emergency spillway during the design flood event. Thus, some cost savings might be effected by reducing the required size of a service spillway. This was evaluated and proposed by RMC in their 1986 study and should be considered during design.

Since a primary purpose of this study was to perform a comparative evaluation of various enlargement alternatives, an earth dam was used consistently for each alternative. All earth dam alternatives assumed five feet of freeboard to pass the design flood with one-foot of residual freeboard. Thus, the dam crest would be five feet above the reservoir enlargement height. A 400-foot wide concrete labyrinth spillway and similar outlet improvements were also used throughout all the alternatives.

support an addition of 8 vertical feet. Hydraulic information for the spillway design is included in **Appendix F**.

### *5.7 Storm Drain Line*

All alternatives include a storm drainage line along the western side of the reservoir. The purpose of this drain is two-fold. First, the 48-inch diameter pipe would carry low flows for the unnamed gulch that flows into the reservoir on the northwest around the reservoir. This would enhance the water quality of the reservoir. Secondly, the storm drain would carry storm flows that would have originally flowed easterly into the reservoir which would now be impounded by the dams.

### *5.8 Five-Foot Enlargement Alternative*

The general plan for the five-foot baseline enlargement is shown on **Figure 5.5**. This option would result in 4,090 acre-feet of additional storage. The plan for the five-foot shoreline option is presented on **Figure 5.6**. A total of 3,870 acre-feet would be grained under this scenario. The figures show the required hydraulic improvements in red and required earthwork in orange. The normal high water line is shown in solid blue and the flood stage (four feet higher) is shown with a dashed blue line. A small berm is shown in the northeast part of the reservoir that would prevent the existing houses from future inundation. Also shown are the drainage improvements that will collect storm water north of the reservoir and carry it east away from the reservoir.

### *5.9 Thirteen-Foot Enlargement Alternative*

The 13-foot raise options are shown on **Figures 5.7 and 5.8**. These options provide 12,280 acre-feet of additional storage under the baseline option and 11,420 acre-feet under the shoreline option.

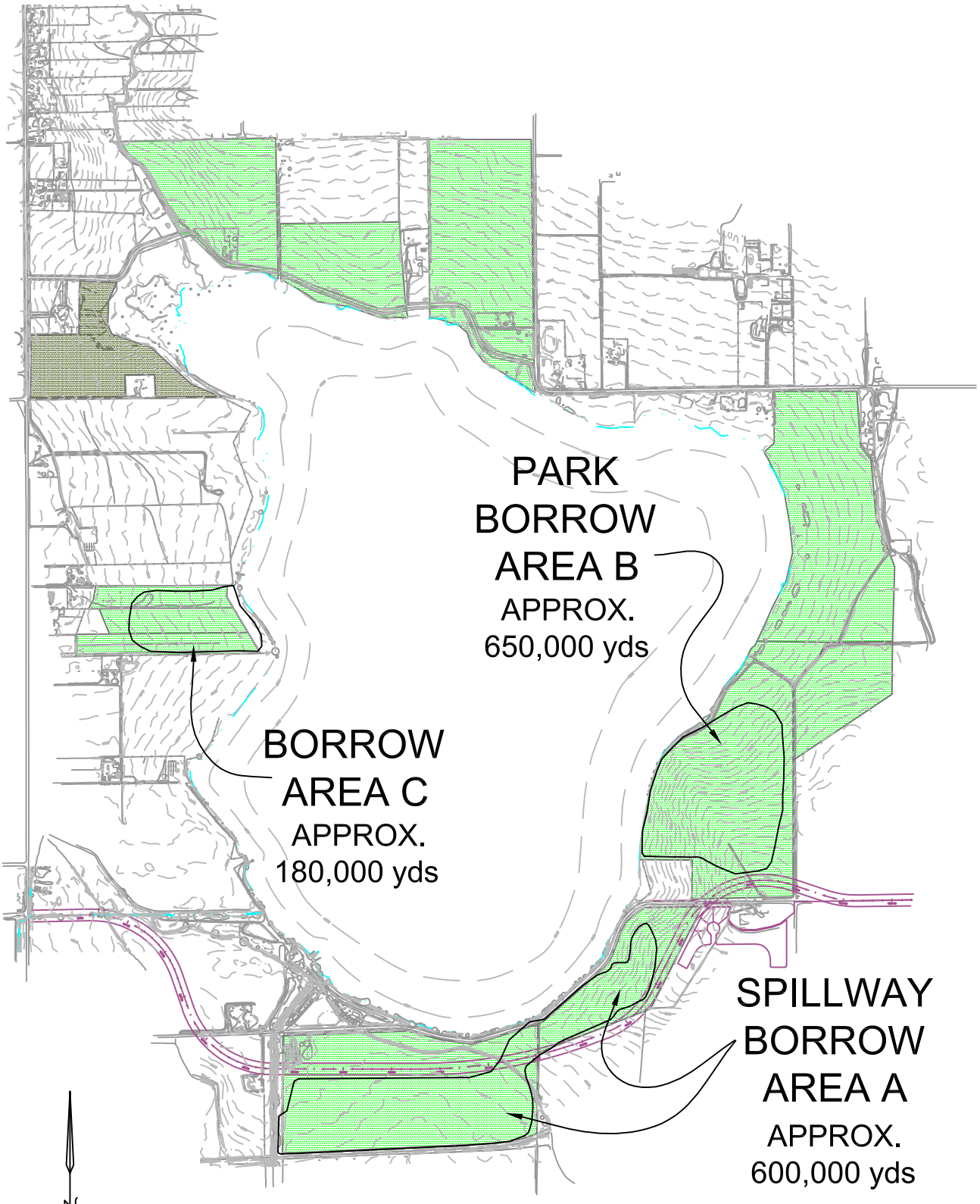
These options have similar required improvements as the five-foot alternative, except: 1) no berm is constructed on the northeast side of the reservoir and the existing houses are inundated, 2) a small saddle dam is required on the far western part of the reservoir, and 3) the current City park and recreation area would need to be located to the southwestern shoreline area (Section C-C').

### *5.10 Nineteen-Foot Enlargement Alternative*

The 19-foot raise option is shown in plan view on **Figure 5.9 and 5.10**. This alternative has similar improvements required for the lower raises, except: 1) the saddle dam on the west becomes larger and extends over 2,000 feet to the north, and 2) complete filling of the reservoir would require pumping from the Oligarchy Ditch.

### *5.11 Reservoir Deepening and Filling of Properties West of the Reservoir*

In order to reduce inundation of lands proposed for future development west of the reservoir, filling could be performed. Material could be borrowed from along the shoreline below the proposed future high water line providing reservoir storage. For example, much of the acreage that would be inundated under the 13-foot baseline alignment west of the reservoir could be raised above the flood

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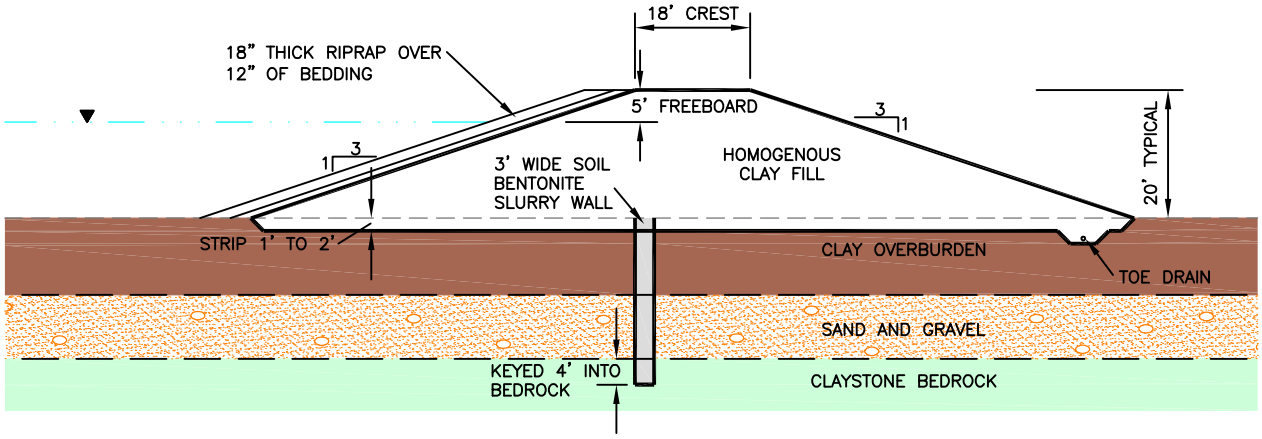
UNION RESERVOIR
BORROW AREA LOCATION MAP

RMC

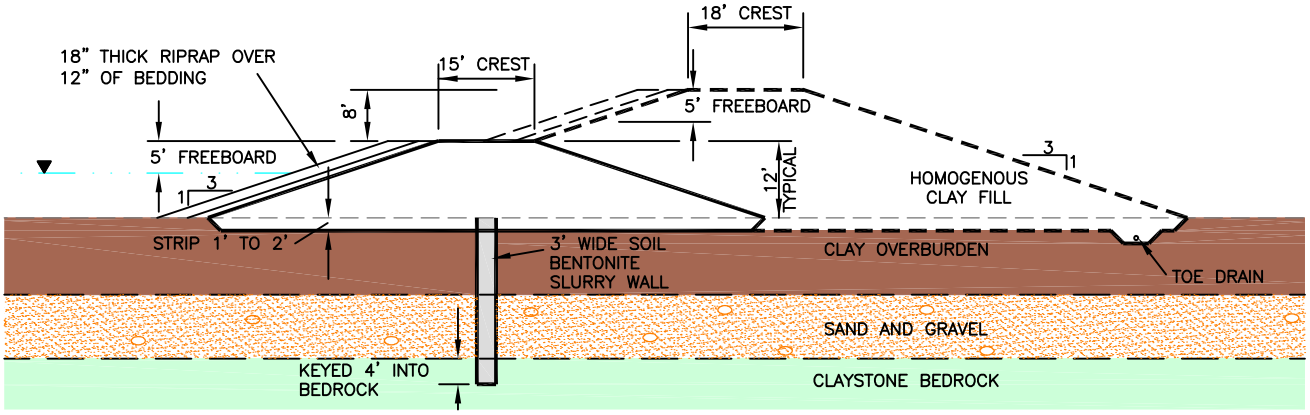
FIGURE:
5.1




## 13 FOOT RESERVOIR RAISE

0 15 30

SCALE IN FEET




## 5 FOOT RESERVOIR RAISE WITH FUTURE DOWNSTREAM ENLARGEMENT TO 13 FEET

0 15 30

SCALE IN FEET

JOB NO. 19-0033.283.00

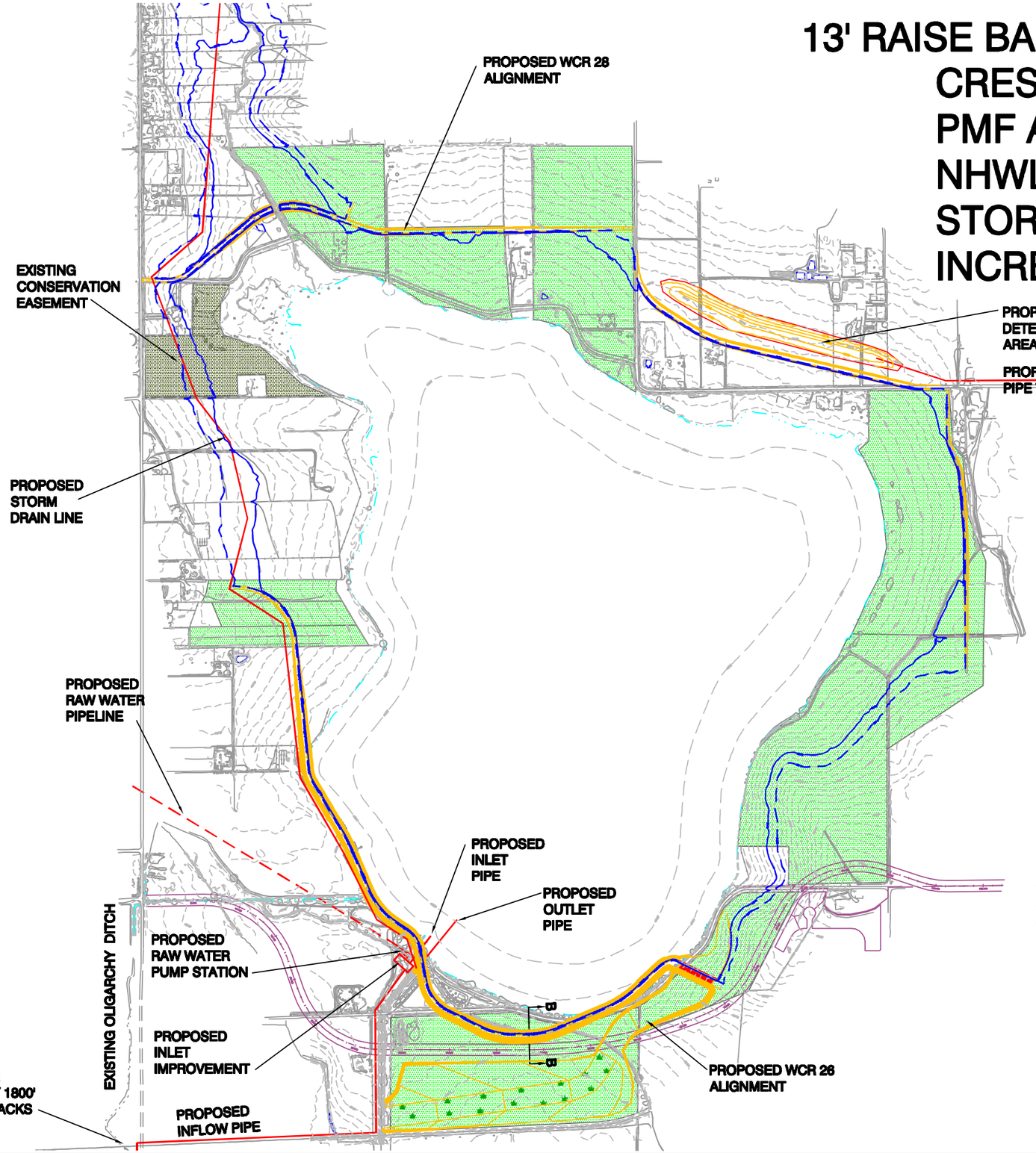
UNION RESERVOIR
TYPICAL DAM SECTIONS

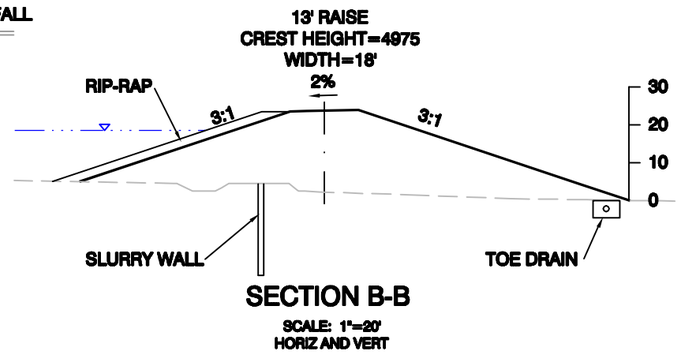
RMC

FIGURE:
5.2

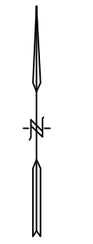
R:\0033_283 Union Reservoir Dams\TYPXSECT.dwg, 3/8/2005 10:22:07 AM

# 13' RAISE BASELINE OPTION
## CREST AT 4975
## PMF AT 4974
## NHWL AT 4970
## STORAGE = 25,080 AC-FT
## INCREASE = 12,280 AC-FT




SECTION B-B
SCALE: 1"=20'
HORIZ AND VERT




## LEGEND

- NORMAL HIGH WATER LINE
- MAXIMUM FLOOD LINE
- PROPOSED HYDRAULIC IMPROVEMENTS
- EXISTING CONTOUR
- DESIGN CONTOUR
- PROPOSED DITCH OR SWALE
- CITY OWNED PROPERTY
- CITY OWNED CONSERVATION EASEMENT
- PROPOSED WETLANDS

SEO FILE NO

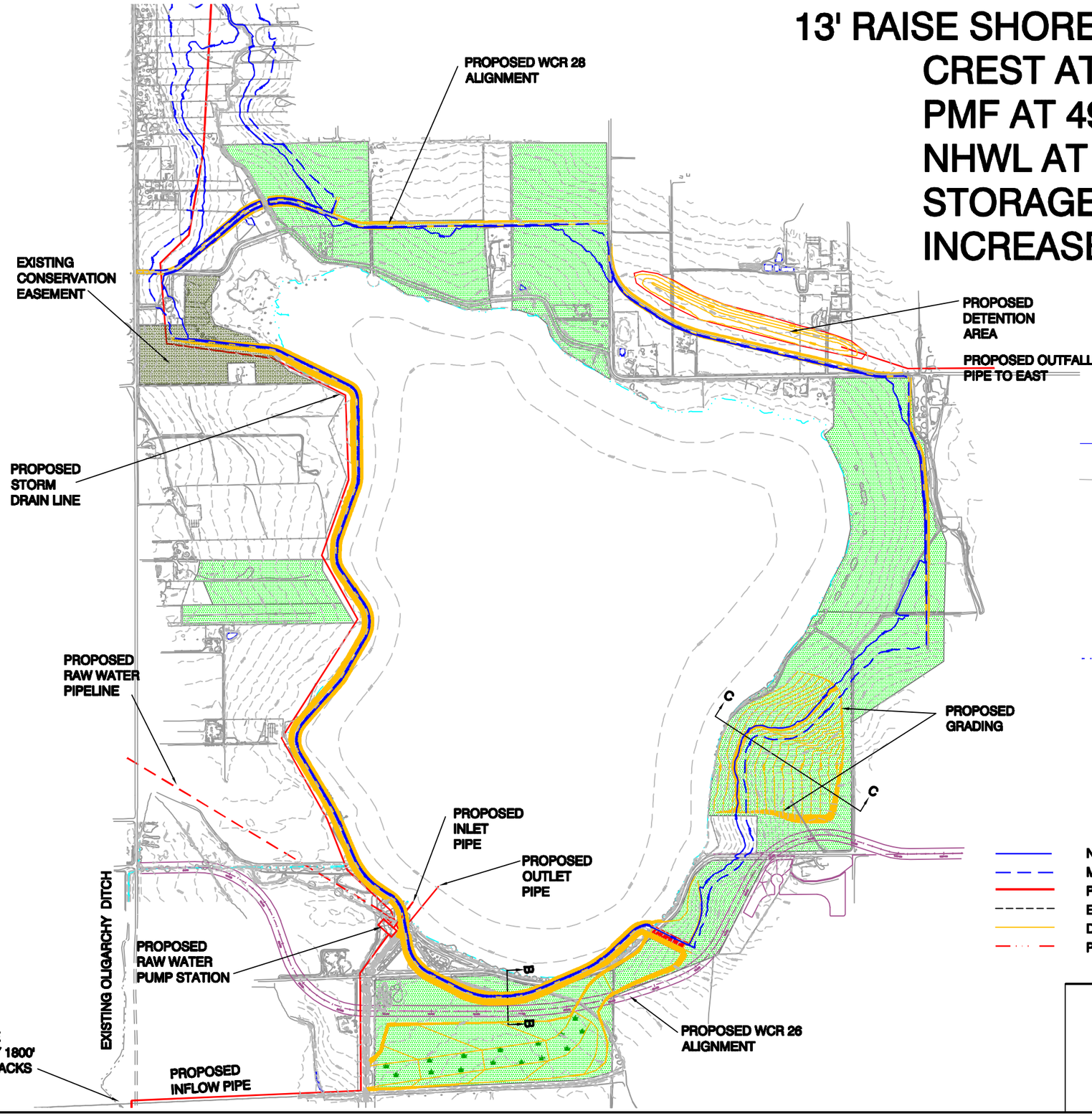
| NO. | REVISIONS DESCRIPTION | DATE | BY |
|---|---|---|---|
| 1 | ALIGNMENTS | 11/09/04 | DWD |

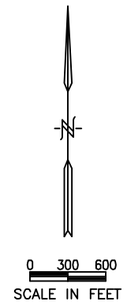
CITY OF LONGMONT
UNION RESERVOIR
DAM FEASIBILITY STUDY
13' RAISE - BASELINE OPTION

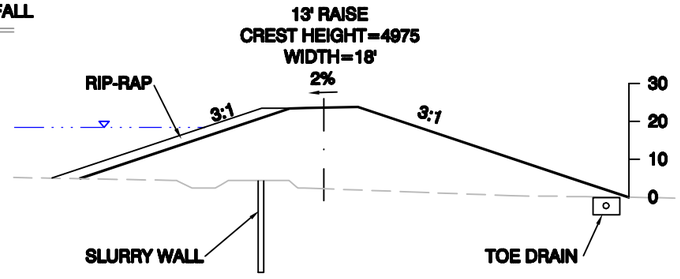
TETRA TECH RMC
1900 S. SUNSET ST., SUITE 1-F, LONGMONT, CO 80501
TEL 303.772.5282 METRO 303.665.6283 FAX 303.665.6959

| | | | |
|---|---|---|---|
| DESIGNED BY: XX | APPROVED BY: DWD | JOB NO. | DWG: |
| DRAWN BY: RP | DATE: 11-08-04 | 19-0033.283.00 | SHEET: 5.7 |
| CHECKED BY: DWD | SCALE: AS NOTED | | |

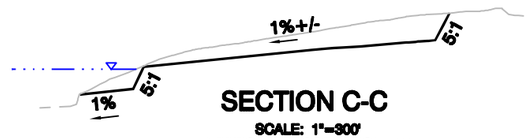
# 13' RAISE SHORELINE OPTION
# CREST AT 4975
# PMF AT 4974
# NHWL AT 4970
# STORAGE=24,220 AC-FT
# INCREASE=11,420 AC-FT




## SECTION B-B
SCALE: 1"=20'
HORIZ AND VERT




## SECTION C-C
SCALE: 1"=300'
VERTICAL EXAGGERATION=10

## LEGEND

- NORMAL HIGH WATER LINE
- MAXIMUM FLOOD LINE
- PROPOSED HYDRAULIC IMPROVEMENTS
- EXISTING CONTOUR
- DESIGN CONTOUR
- PROPOSED DITCH OR SWALE
- CITY OWNED PROPERTY
- CITY OWNED CONSERVATION EASEMENT
- PROPOSED WETLANDS

SEO FILE NO

| REVISIONS NO. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| 1 | ALIGNMENTS | 11/09/04 | DWD |

CITY OF LONGMONT
UNION RESERVOIR
DAM FEASIBILITY STUDY
13' RAISE - SHORELINE OPTION


TETRA TECH RMC
1900 S. SUNSET ST., SUITE 1-F, LONGMONT, CO 80501
TEL 303.772.5282 METRO 303.665.6283 FAX 303.665.6959


| | | | |
|---|---|---|---|
| DESIGNED BY: XX | APPROVED BY: DWD | JOB NO. | DWG: |
| DRAWN BY: RP | DATE: 11-08-04 | 19-0033.283.00 | SHEET: 5.8 |
| CHECKED BY: DWD | SCALE: AS NOTED | | |

swamps), emergent, saturated/semi-permanent/seasonals (PEMY). This area is saturated but not inundated.

Areas of the reservoir that are deeper than two meters are deepwater habitats rather than wetlands but are still under the jurisdiction of the Corps as Waters of the U.S. as they connect to the St. Vrain Creek via the outlet canal These are classified as lacustrine, open water, artificial, intermittently exposed/permanent (L1OWKZ). The ditches on the south side of the reservoir may or may not be under the jurisdiction of the Corps.

*Vegetation*

Vegetation identified during the field survey is listed in **Table 6.1**.

*Soils*

Soils within the project area according to the Soil Survey of Weld County (SCS 1980) include:

- Wiley-Colby-Weld
- Heldt silty clay
- Heldt silty clay, 3 to 5 percent slopes
- Nunn clay loam, 0 to 1 percent slopes
- Nunn clay loam, 1 to 3 percent slopes
- Weld loam, 0 to 1 percent slopes
- Weld loam, 1 to 3 percent slopes
- Wiley-Colby Complex, 1 to 3 percent slopes

**Figure 6.1** presents a conceptual plan for areas that could be studied for replacement of wetlands due to enlargement of Union Reservoir.

### *6.3.2 Wildlife*

We observed 19 species of wildlife during the field visit, 18 of which are birds (**Table 6.2**). Most of these species are wetland dependent. Species that feed on fish and other aquatic species include American coot, American white pelican, belted kingfisher, common carp, double-crested cormorant, great blue heron, great egret, killdeer, common snipe, and western grebe. Species that consume aquatic vegetation include blue-winged teal, common carp, and mallard. Red-winged blackbird, tree swallow, and yellow warbler are songbirds that usually nest adjacent to wetlands and feed on insects. No mammals were observed. However, common mammalian species that likely use the project area include white-tailed *(Odocoileus virginianus)* and mule deer *(O. hemionus)*, coyote *(Canis latrans)*, red fox *(Vulpes vulpes)*, deer mouse *(Peromyscus maniculatus)*, meadow vole (*Mircrotus pennsylvanicus)*, and fox squirrel *(Sciurus niger)*. Possible aquatic mammals include muskrat *(Ondatra zibethica)* and beaver *(Castor Canadensis)*. A variety of amphibians and a few reptiles are likely present as well.

### *6.3.3 Threatened and Endangered Species*

Fourteen species, which are federally listed as threatened or endangered or are candidates for listing, are known to occur, have historically occurred, or could be affected by activities in Weld and Boulder County (**Table 6.3**) (USFWS 2003a). Two species listed as threatened, the Preble's meadow jumping mouse (Preble's) and the Ute Ladies'-tresses orchid (orchid) could possibly, but are unlikely to occur in the project area.

*Preble's Meadow Jumping Mouse*

Typical Preble's habitat has been described as "*well-developed plains riparian vegetation with relatively undisturbed grassland and a water source in close proximity*," and "*dense herbaceous vegetation consisting of a variety of grasses, forbs and thick shrubs*" (Armstrong et al. 1997). USFWS recommends, "*projects within 300 feet of 100-year floodplains associated with rivers and creeks…be assessed as to their potential impact to Preble's and its habitat*" (USFWS 2004). The ditches in the project area exceed the minimum criteria for potential Preble's habitat.

*Ute Ladies'-Tresses Orchid*

This threatened orchid usually occurs in "*old stream channels, alluvial terraces, subirrigated meadows, and other sites where the soil is saturated to within 18 inches of the surface at least temporarily during the spring or summer growing seasons*" (USFWS 1992). The ditches in the project area meet the minimum requirements necessitating a survey.

*Bald Eagle*

No bald eagles or bald eagle nests were observed on the property. In winter bald eagles are transient, and they select areas that provide abundant food and roosting opportunities. Bald eagle use of the reservoir in winter is possible. It's unlikely but possible that bald eagles could someday nest at the reservoir.

*Platte River Depletions*

Interior least tern, piping plover, and whooping crane occur on the Platte River in Nebraska and can be affected by depletions from the South Platte River (USFWS 2003a). Union Reservoir is in the South Platte River Basin, and will most likely require coordination with the Platte River Recovery Program.

*Species Unlikely to Occur on Property*

The following threatened, endangered, and candidate species that could occur in Boulder and Weld Counties are unlikely to occur on the property: Mexican spotted owl, black-footed ferret, Canada lynx, boreal toad, greenback cutthroat trout, and Colorado butterfly plant.

Mexican spotted owl, Canada lynx, and boreal toad require forest, which is not present in the project area. Black-footed ferrets only occur in very large prairie dog colonies, which are not present in the project area, and the species has not been found in eastern Colorado for many years. Greenback cutthroat trout require cold-water streams or lakes, which are not present. Colorado butterfly plant has only been found in northern Larimer County in recent years (Colorado Native Plant Society 1997).

Mountain plover was proposed for listing in 1999, but this proposal was withdrawn in September 2003 (USFWS 2003b). Black-tailed prairie dog was a candidate species but this designation was withdrawn in August 2004. Eskimo curlew, a species that likely has been extirpated from Colorado, is no longer included on the USFWS Colorado species list.

## *6.4 Discussion and Recommendations*

Compliance with at least four federal environmental laws will be required to implement the proposed project. These are the Clean Water Act (CWA), Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and Migratory Bird Treaty Act (MBTA).

### *6.4.1 Section 404 of the Clean Water Act*

A Section 404 permit will most likely need to be obtained from the U.S. Army Corps of Engineers to authorize any filling of jurisdictional Waters of the United States such as placing materials for dam construction within wetlands or ditches. Although inundation of wetlands does not require a permit, once the 404 process is triggered via fill, inundation will be evaluated as an indirect impact to Waters of the U.S. A Nationwide Permit may cover the project if impacts are limited to 0.5 acres. More likely an Individual Permit will be required. With either permit, mitigation will be required to compensate for impacts most likely at a ratio of 1:1 (Franklin 2004). All alternatives would likely need an individual permit. As part of the application process, the Corps would be required to assess the effects of the action on threatened and endangered species under Section 7 of the Endangered Species Act, which requires federal agencies to consult with the U.S. Fish and Wildlife Service on all actions that may affect listed species. Issuing a 404 permit is a federal action. Threatened and endangered species are addressed in Section 5.4.2. The Corps will require the City of Longmont as the applicant to demonstrate that the project will not impact listed species. Issuance of the permit also triggers NEPA, which is addressed in Section 5.4.3.

Relatively intensive mitigation would be required at a 1:1 ratio for jurisdictional waters that were filled by construction of infrastructure for the reservoir expansion. This would involve constructing wetlands at or adjacent to the reservoir via grading, manipulation of hydrology, placement of appropriate soils, and planting wetland vegetation. This could be carried out in the spillway, detention areas, borrow areas, and along the lake shore. **Figure 6.1** shows preliminary proposed study areas for wetlands mitigation. Mitigation for wetlands that would be inundated and converted to deepwater habitats would also have to be mitigated at a 1:1 ratio. However, the intensity of the effort would be less. Designing the reservoir so that much of the shoreline has a shallow shelf would encourage wetlands to form. Increasing the size of the reservoir will also increase the length

of shoreline, which will at least partially and possibly totally compensate for the potential shallow areas lost by dam construction. The Corps may require seeding of these areas (Franklin 2004).

A delineation of jurisdictional Waters of the U.S. would need to be completed and approved by the Corps prior to or concurrently with applying for the 404 permit. Written details including figures can be sent to the Corps for a written response that would narrow down regulatory scenarios based on the specifics of the project (Franklin 2004).

### *6.4.2 Endangered Species Act*

*Preble's Meadow Jumping Mouse*

The ditches within the project area contains potential Preble's meadow jumping mouse habitat. Although it is unlikely that the species is present based on previous trapping results in the area and marginal habitat, the site clearly exceeds the minimum requirements for assessment (USFWS 2004). Thus, further work should be completed in order to obtain concurrence from USFWS that the project will not affect Preble's.

If a live trapping survey is necessary, based on USFWS recommendations, it should be conducted between June 1 and September 1. This survey takes approximately one week to complete. If no Preble's were captured, a report would be sent to USFWS requesting concurrence that the proposed project will not affect Preble's. This concurrence takes at least 30 days to receive. If Preble's are captured, no development of the site could legally take place within 300 feet of the 100-year floodplain of the ditch without obtaining an incidental take permit from USFWS. Obtaining this permit would require the preparation of a Biological Assessment under Section 7 of the Act.

On February 2, 2005, USFWS published a 12 month finding/proposal to delist Preble's in the Federal Register. This delisting proposal is likely to involve lawsuits and politics and is unlikely to be resolved quickly. Because this project may be years in the future, it is possible the species will be delisted by that time, but the uncertainty and timetable of a possible delisting are such that for now, Longmont should budget for Preble's surveys.

*Ute Ladies'-Tresses Orchid*

The ditches barely meet minimum criteria for conducting an orchid survey, but a survey would likely be required to obtain a Section 404 permit. This survey can be conducted between approximately July 20 and August 31, when the plant is in bloom. It is unlikely that the species would be found within the project area. If no orchids were found, a report would be sent to USFWS requesting concurrence that the proposed project will not affect the orchid. This concurrence takes at least 30 days to receive. A similar delisting petition finding for the orchid was published on November 4, 2004. The same recommendations apply.

*Bald Eagle*

No bald eagle nests are currently located at or adjacent to the reservoir. If one were constructed prior to project implementation, the nest tree could not be removed. If the nest was active at the time that construction was scheduled, it would be a significant constraint to development. USFWS generally enforces a one half mile disturbance buffer around bald eagle nests. Bald eagles frequently roosting or feeding at the reservoir in winter could also be a constraint.

The bald eagle was proposed for delisting in 1999, but this action has been delayed. It is possible that the species could be delisted prior to project implementation, but it would still receive significant protection from the Bald Eagle Protection Act and MBTA.

*Platte River Depletions*

If this project depletes water from the Platte River basin it would be subject to Section 7 consultation. This consultation would likely be covered by the Platte River Recovery Implementation Program, which is expected to be approved and will streamline consultations. The program would initiate large scale mitigation measures across the basin that would allow sufficient water to reach Nebraska via the Platte River. Expansion of reservoirs in the Front Range has already been factored into this program. Currently consultation over depletion issues generally involves financial payments to compensate for water depletions.

### *6.4.3 National Environmental Policy Act*

The Corps is responsible for NEPA compliance on all of their individual permits, and as such they draft an environmental assessment (EA) for most permits. For a project with substantial impacts, they can require the applicant to prepare the EA. The Corps speculated that for impacts greater than approximately five acres (including inundation), they would likely require the applicant (Longmont) to prepare the EA (Franklin 2004). Both the baseline and shoreline options of the 13-foot and 19-foot raises would likely trigger the need for Longmont to prepare an EA. Impacts from the five-foot raise alternatives may fall below this threshold. It is unlikely that an environmental impact statement (EIS) would be needed for this project. An EA of this scale generally is completed in one to two years depending on complexity, controversy, and changes in the proposed action.

In an EA the effects of the proposed action, alternative actions, and no action on all relevant resources are evaluated. Major issues for this project would likely include wildlife, recreation, and homeowner displacement. Other resources that are typically evaluated in a NEPA document include but are not limited to socioeconomics, environmental justice, water quality, wetlands, threatened and endangered species, plants, geology, soils, cultural resources, air quality, noise, visual resources, and hazardous waste. Mitigation would need to be built into the EA to avoid a "significant" impact that would trigger the need to prepare a larger EIS. Some of this mitigation would be covered in the 404 permit, but other mitigation such as compensating displaced homeowners, moving roads and recreational features will need to be addressed. Many of these mitigation measures can be built into the design of the proposed action.

Results of surveys such as the Preble's, orchid, and wetland delineation surveys addressed above would be incorporated into the EA. Additional studies could be needed for the EA such as an archaeological survey and a Phase I Environmental Site Assessment.

### *6.4.4 Migratory Bird Treaty Act*

The Migratory Bird Treaty Act prohibits direct killing of birds other than legal hunting and destruction of active nests. For this project compliance can be built into mitigation measures in the EA that would likely focus on not cutting down trees or inundating shorter vegetation or ground that could contain nests during the breeding season.

### *6.4.5 Summary*

The following actions would need to be carried out relative to the CWA, ESA, NEPA, and MBTA, prior to implementing this project:

- Contact the Corps with project details to get a written response, which spells out details of regulatory compliance;
- Conduct a delineation of jurisdictional Waters of the U.S. and submit to Corps;
- Conduct a Preble's meadow jumping mouse habitat assessment or possibly live trapping survey and submit to USFWS;
- Conduct a Ute ladies'-tresses orchid habitat assessment or survey and submit to USFWS;
- Prepare an EA for the Corps; and
- Prepare a Section 404 permit application and wetland mitigation plan and submit to Corps.

# TABLE 6.1

CITY OF LONGMONT, UNION RESERVOIR FEASIBILITY STUDY
PLANTS SPECIES IDENTIFIED DURING SITE VISIT

| *Common Name* | *Scientific Name* | *Wetland* | *Upland* |
|---|---|---|---|
| Alfalfa | *Medicago sativa* | X | X |
| Green ash | *Fraxinus pennsylvanica* | X | X |
| Barn yard grass | *Echinochloa oryzoides* | | X |
| Boxelder | *Acer negundo* | X | X |
| Canada thistle | *Cirsium arvense* | | X |
| Cocklebur | *Xanthium* sp. | | X |
| Common cattail | *Typha angustifolia* | X | |
| Common sunflower | *Helinathus annuus* | | X |
| Coyote willow | *Salix exigua* | X | |
| Crack willow | *Salix fragilis* | X | |
| Curly dock | *Rumex crispus* | X | |
| Sedge | *Cyperus* sp. | X | |
| Dandelion | *Taraxacum officinale* | | X |
| Hemp dogbane | *Apocynum cannabinum* | X | |
| Spike rush | *Eleocharis* sp. | X | |
| Field bindweed | *Convolvulus arvensis* | | X |
| Kochia | *Kochia scoparia* | | X |
| Showy milkweed | *Asclepias speciosa* | X | X |
| Nightshade | Solanaceae family | | X |
| Plains cottonwood | *Populus deltoides* | X | X |
| Prickly pear | *Opuntia* sp. | | X |
| Quackgrass | *Elytrigia repens* | | X |
| Rabbitbrush | *Chrysothamnus* sp. | | X |
| Rabbit foot grass | *Polypogon monspeliensis* | | X |
| Reed canary grass | *Phalaris arundinacea* | X | |
| Russian olive | *Elaeagnus angustifolia* | X | X |
| Siberian elm | *Ulmus pumila* | | X |
| Smartweed | *Polygonum* sp. | X | |
| Tamarisk | *Tamarix ramosissima* | X | |

TABLE 6.2

CITY OF LONGMONT, UNION RESERVOIR FEASIBILITY STUDY
WILDLIFE SPECIES IDENTIFIED DURING SITE VISIT

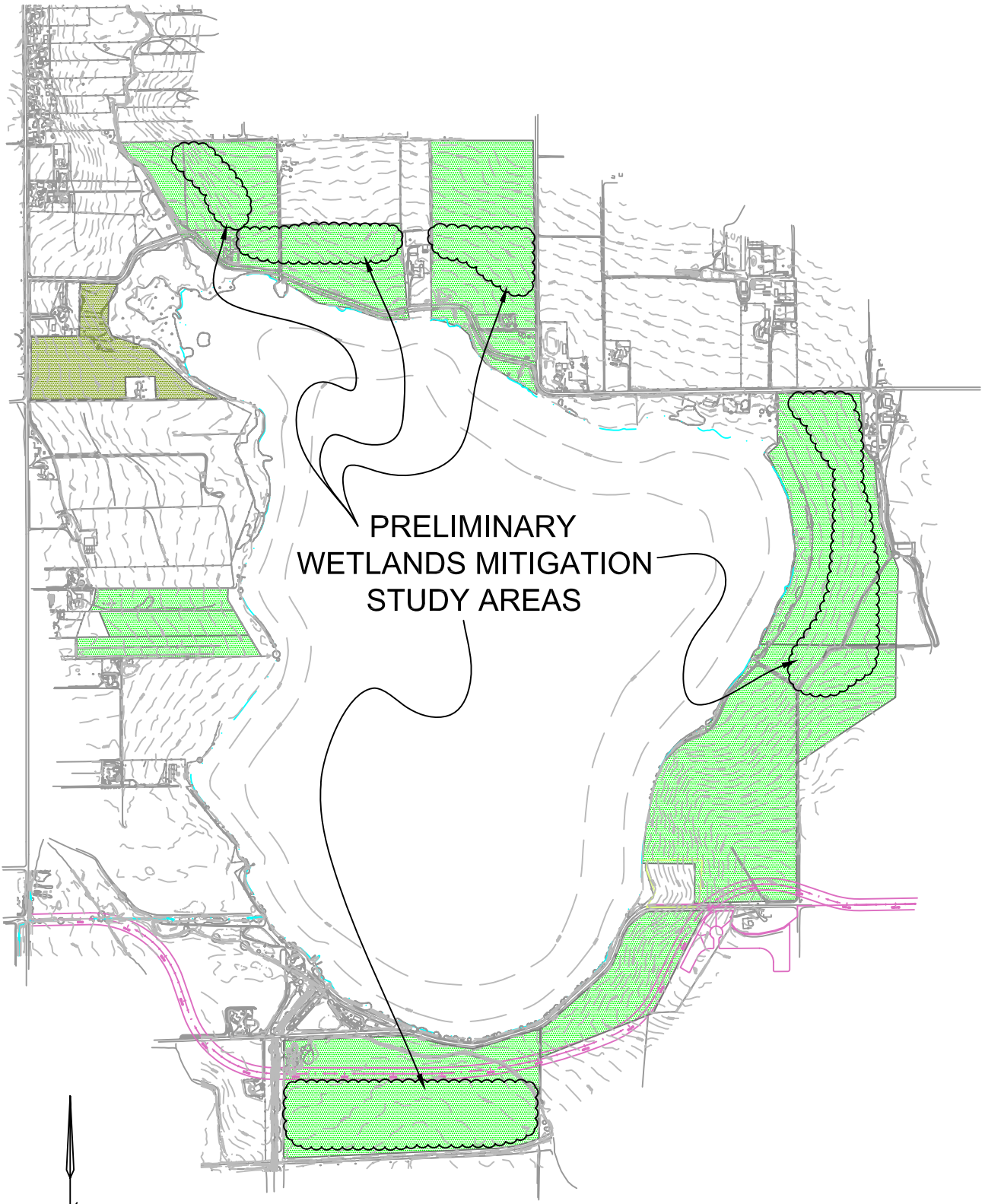
| *Common Name* | *Scientific Name* |
|---|---|
| American coot | *Fulica americana* |
| American white pelican | *Pelecanus erythrorhynchos* |
| Blue-winged teal | *Anas discors* |
| Belted kingfisher | *Ceryle alcyon* |
| Common carp | *Cyprinus carpio* |
| Common grackle | *Quiscalus quiscula* |
| Double-crested cormorant | *Phalacrocorax auritus* |
| Great blue heron | *Ardea herodias* |
| Great egret | *Ardea alba* |
| Killdeer | *Charadrius vociferus* |
| Mallard | *Anas platyrhynchos* |
| Red-tailed hawk | *Buteo jamaicensis* |
| Red-winged blackbird | *Agelaius phoeniceus* |
| Common snipe | *Gallinago gallinago* |
| Tree swallow | *Tachycineta bicolor* |
| Turkey vulture | *Cathartes aura* |
| Western grebe | *Aechmophorus occidentalis* |
| Western kingbird | *Tyrannus verticalis* |
| Yellow warbler | *Dendroica petechia* |

# TABLE 6.3

CITY OF LONGMONT, UNION RESERVOIR FEASIBILITY STUDY
FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES THAT OCCUR
OR HAVE HISTORICALLY OCCURRED IN WELD AND BOULDER COUNTIES, COLORADO

| *Common Name* | *Scientific Name* | *Status* |
|---|---|---|
| Birds | | |
| Bald eagle | *Haliaeetus leucocephalus* | T, PD |
| Mexican spotted owl | *Strix occidentalis lucida* | T |
| Whooping crane* | *Grus americana* | E |
| Interior least tern* | *Sterna antillarum athalassos* | E |
| Piping plover* | *Charadrius melodus* | T |
| Mammals | | |
| Black-footed ferret | *Mustela nigripes* | E |
| Preble's meadow jumping mouse | *Zapus hudsonius preblei* | T, PD |
| Canada lynx | *Lynx canadensis* | T |
| Amphibians | | |
| Boreal toad | *Bufo boreas* | C |
| Fish | | |
| Greenback cutthroat trout | *Oncorhynchus clarki* | T |
| Pallid sturgeon* | *Scaphirhynchus albus* | E |
| Plants | | |
| Ute ladies'-tresses | *Spiranthes diluvialis* | T |
| Colorado butterflyplant | *Gaura neomexicana coloradensis* | T |

Notes: E=Endangered, T=Threatened, PD=Proposed for Delisting, C=Candidate for Listing,
*Water depletions in the South Platte River drainage may affect these species in downstream reaches in other states.
Source: USFWS 2003a

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SCALE IN FEET

JOB NO. 43-0033.283.01

UNION RESERVOIR
PRELIMINARY WETLANDS
MITIGATION STUDY AREAS

RMC

FIGURE:
6.1

## *7.0 UNION RESERVOIR PUMP BACK PIPELINE*

### *7.1 Project Overview*

The City of Longmont Raw Water Mater Plan Update (Tetra Tech RMC January 2004) identified a municipal water supply benefit from moving water stored at Union Reservoir back upstream for Longmont's use. River exchanges, where water is released from Union Reservoir and a like amount is diverted at Longmont's municipal intakes near Lyons, are not reliable during droughts. Therefore, an off-stream alternative was examined.

The Union Reservoir Pump Back Pipeline concept involves constructing a pump station at Union Reservoir near the existing outlet works, constructing a new pipeline from Union Reservoir to Alpine Street and Highway 66, and utilizing an existing treated water transmission pipeline in Highway 66 from Alpine Street to the Nelson-Flanders Water Treatment Plant at Dowe Flats. The project would include a total of approximately 12 miles of pipe (3.6 miles of new pipe and 8.4 miles of existing pipe).

Benefits to Longmont occur in two ways: ditch company shares currently being used for raw water irrigation of parks, schools and golf courses are freed up for use at Longmont's water treatment plants; and Longmont's winter raw water supply is increased either by piping Union water directly to the water treatment plants or by exchanging with the Highland Ditch for water they would otherwise be diverting for storage. Two delivery capacities were examined in the 2004 Raw Water Master Plan Update and a 10 cfs pipeline was shown to have the best cost to firm yield ratio, or unit cost.

This project examined pipeline and pump station sizing, alternative routes, and potential for constructing the project in phases. Six route alternatives were examined for the portion of the project between Union Reservoir and the existing pipeline connection at Alpine Street/Highway 66. Four phases are identified for constructing the project in pieces as an alternative to immediately completing the pipeline to the Nelson-Flanders Water Treatment Plant.

### *7.2 Pipeline and Pump Station Sizing*

The 2004 Raw Water Master Plan Update examined pipeline capacities of 10 cfs and 20 cfs. The 10 cfs version contemplated a new 18-inch diameter pipeline from Union Reservoir to Alpine Street. From Alpine to Hover Street, a distance of 2.5 miles, an existing pipeline consisting of one-half mile of 20-inch and two miles of 18-inch would be utilized. The final 5.75 miles would use existing 36-inch pipe in Highway 66 from Hover Street to the Nelson-Flanders Water Treatment Plant. The 20 cfs version required new 24-inch pipe from Union Reservoir to Hover Street, replacing the existing 20-inch and 18-inch pipe. The pipeline concept plan as envisioned in the 2004 Raw Water Master Plan Update is duplicated herein as **Figure 7.1**.

Because of the effect it has on lowering total pumping head (less friction loss), and consequently reducing the pumping power required, we recommend that the project be constructed for a 10 cfs capacity while utilizing 24-inch pipe from Union Reservoir to Alpine Street rather than 18-inch.

This reduces the long-term cost of pumping and would also allow the possibility of increasing the project capacity in the future by having to replace only 2.5 miles of the existing pipe from Alpine to Hover rather than having to replace over six miles of pipe from Union Reservoir to Hover. It also provides the opportunity to have a dual delivery capacity, i.e. 20 cfs to Highway 66 and 10 cfs on to the West.

In order to provide 10 cfs capacity initially, while preserving the ability to enlarge the capacity in the future, the Union Reservoir pump station building and yard piping could be designed for 20 cfs, but initially equipped with pumps for 10 cfs. The capacity could then be enlarged in the future at reduced cost by adding additional pumps. Results of this analysis show that for 10 cfs the Union Reservoir pump station would require 185 to 505 horsepower. The pumping power required corresponds with delivery points which correspond to the project phasing described in the following section of this report. A second pump station of 100 horsepower capacity is recommended for placement near 81st Street and Highway 66 to provide lift to the Highland Ditch. Final design of the pipeline should include a detailed analysis of pump station placement and resulting pipeline pressures to make sure that the existing pipeline in Highway 66 is not pressurized beyond a safe operating pressure.

## *7.3 Pipeline Phasing*

Examination of the proposed pump back pipeline project shows that it could be constructed in up to four phases, as follows:

- Phase I - Union Reservoir to the Rough & Ready Ditch near Main Street
- Phase II - Rough & Ready Ditch to 81st Street with connections to the Highland, Rough & Ready, Longmont Supply, and Oligarchy Ditches
- Phase III - 81st Street to Burch Lake and the Wade Gaddis Water Treatment Plant
- Phase IV - Burch Lake to the Nelson-Flanders Water Treatment Plant

**Figure 7.2** shows the proposed Union Reservoir Pump Back Pipeline phasing plan. **Table 7.1** provides detailed data regarding the components, costs, and yields of the four phases which are described further below. **Tables 7.2 through 7.5** show construction cost estimates for the four phases and **Table 7.6** presents a summary cost estimate for the total project through Phase IV.

Phase I would provide the ability to pump water to the Rough & Ready Ditch for delivery to its users located east of Main Street. In exchange, Longmont could divert water at its intakes on St. Vrain Creek that Rough & Ready would have otherwise diverted. Phase I would provide the ability to exchange an average of approximately 1,060 acre-feet per year during the 100-year drought that would be used for irrigation under the Rough & Ready. It would also present the opportunity to exchange with the minority shareholders Pleasant Valley Reservoir water. The benefit would only occur during the irrigation season of April through October. The projected cost of Phase I is approximately $4.53 million. **The unit cost of Phase I is estimated to be $4,270 per acre-foot.**

Phase II would complete the project to 81st Street and connection with the four irrigation ditches in that area (Highland, Rough & Ready, Longmont Supply and Oligarchy). The location was selected because the four ditches mentioned above are in close proximity to each other and to Highway 66. Completing Phase II provides an average of 930 acre-feet per year of additional irrigation exchange opportunity by including the Oligarchy and Longmont Supply Ditches. More importantly for Longmont's water supply situation, it adds the ability to exchange an average of 3,230 acre-feet per year during the non-irrigation season with the Highland Ditch or Pleasant Valley Reservoir. The incremental yield of Phase II is approximately 4,160 acre-feet per year. The total 100-year drought benefit through Phase II is projected to be 5,220 acre-feet per year.[1] Completion of Phase II is projected to add $3.6 million to the project. For an incremental benefit of 4,160 acre-feet per year the unit cost is only $870 per acre-foot. The total cost through Phase II is estimated at $8.13 million. **The unit cost of completing the project through Phase II is approximately $1,560 per acre-foot.**

Phase III provides the benefit of being able to utilize the water from Union Reservoir at Longmont's Wade Gaddis Water Treatment Plant directly. Thus, the use would not be dependent on exchanges with area irrigation ditches. The addition of Phase III does not add any new yield to Longmont. As described in the 2004 Raw Water Master Plan Update, treatment upgrades may be necessary to utilize the Union Reservoir water directly rather than by exchange. The cost of Phase III is projected to be $15.16 million. The total cost through Phase III is estimated at $23.29 million. **The unit cost of completing the project through Phase III is approximately $4,460 per acre-foot.**

Phase IV has the same yields and benefits as Phase III and for very little cost allows direct treatment at the City of Longmont's Nelson-Flanders Water Treatment Plant. The cost of Phase IV is projected to be $1.0 million. The total cost through Phase III is estimated at approximately $24.3 million. **The unit cost of completing the project through Phase IV is approximately $4,660 per acre-foot.**

Because the greatest yield comes at the lowest price once Phase II is completed, we recommend completion of the pipeline project initially from Union Reservoir to 81st Street with connections with the Highland, Rough & Ready, Oligarchy, and Longmont Supply Ditches. Completion through Phase II would require a pump station capacity at Union Reservoir of approximately 310 horsepower. If available funding is limited, the work could be completed in two stages, the first being Phase I and the second being Phase II as described above. Negotiations and agreements with the ditch companies should be undertaken prior to initiation of Phase II of the project. Further analysis should be conducted regarding the treatment requirements and costs before completing the project through Phases III or IV.

## *7.4 Pipeline Routing Alternatives*

Six alternative pipeline routes were examined for completing the pipeline from Union Reservoir to the connection with the existing transmission pipeline at Alpine Street and Highway 66. The six alternatives are shown on **Figure 7.3**.

[1] 1,060 acre-feet irrigation season yield from Phase I, plus 4,160 acre-feet irrigation and non-irrigation season yield from Phase II.

All six alternatives share the first part of the route from Union Reservoir to County Line Road. The chosen alignment stays north of Spring Gulch, which will be improved in the future as a major drainage channel, to avoid the expense of crossing it twice. From there two major routes alternatives are proposed, Route 1 and Route 2, each with three sub-alternatives A, B and C. Route 1 generally proceeds north along the west side of County Line Road to Highway 66. Route 2 generally proceeds farther west along Spring Gulch maximizing the length of the route located within City of Longmont controlled rights-of-way and property. **Table 7.7** presents details regarding the various aspects of each of the six alternative routes.

Each of the alternative routes were assigned a rank of 1 to 6 in 13 categories including length, cost, type of ground, city control of route, major and minor crossings, traffic control and disruptions, benefits, and future right-of-way needs. The lowest ranking indicates the best option. Based on an unweighted ranking of the 13 aspects of the routes detailed in **Table 7.7,** Route 2a is the preferred alternative with a score of 30. Categories for which this alternative was top ranked include lowest cost, least construction impacting Boulder County Open Space or existing roads, and fewest major and minor crossings. Second rankings include amount of route through existing landscaped areas, and amount of traffic control and disruptions. The second best alternative is Route 2c with a score of 37.

Future right-of-way that should be reserved for Route 2a includes the initial portion from Union Reservoir to County Line Road, and a location in the south portion of the Highway 66 right-of-way from Ute Creek Golf Course to Alpine Street. Construction of the portion of the route through Ute Creek Golf Course should be planned for winter-time and coordinated with City of Longmont Golf.

## *8.0 CONCLUSIONS AND RECOMMENDATIONS*

Enlargement of Union Reservoir between five and 19 feet is technically feasible. The costs of enlargement are favorable (when compared to other Front Range reservoir projects) at a height of 13 feet or greater ($2,350 per acre-foot). Small enlargements are more costly per acre-foot due to the fixed costs of infrastructure improvements (spillway, inlet, outlet, and drainage).

***Appendix D***
***HOH Master Plan 1989 Excerpts***

Appendix D

3309.0001

*CALKINS LAKE RECREATION ASSESSMENT STUDY*
*LONGMONT, COLORADO*

# PRELIMINARY ASSESSMENT

September, 1989



HOH Associates, Inc.
Phillip E. Flores Associates, Inc.
Coley/Forrest, Inc.
McLaughlin Water Engineers, Ltd.

# PRELIMINARY ASSESSMENT

## TABLE OF CONTENTS

# EXECUTIVE SUMMARY

1. This interim report presents a preliminary assessment of the options available to the City of Longmont for taking advantage of the recreation potential offered at Union Reservoir (Calkins Lake). Three *options* were selected as feasible and worth considering:

   Union Park Concept - the re-development and expansion of the existing recreation facility owned by the Union Reservoir Company and currently leased to Water Sports West, located on the shoreline of the *existing* lake in its southwest corner;

   Partial Park Concept - a park with the program of activities as the proposed Union Park, but located in the southeast corner of the lake; this park concept is intended to work with an *enlarged* lake, but may be constructed prior to the enlargement of the lake;

   Full Recreation Area Concept - a park and other facilities which use the entire lake edge for a variety of recreation activities of a diverse nature; this concept depends upon an *enlarged* lake.

2. The following are the *recommendations* made at the conclusion of the analysis of each of the options:

   Union Park Concept - If the enlargement of the reservoir is at least ten years away, the City of Longmont should acquire the lease for this property, make improvements to the facilities and manage this area as a very special, City lakeside park.

   Partial Park Concept - The City should not consider this option until it knows whether Union Reservoir will be enlarged, the time frame involved and water elevation of the enlarged lake.

   Full Recreation Area Concept - If Union Reservoir is enlarged, the City should implement this concept. As land for the enlarged reservoir is purchased (for water storage purposes), the City should purchase the additional land needed for the park, nature study area, picnic area and trails.

3. The final selection of an alternative and its timing should be made with the advantage of full information, especially whether Calkins Lake will be enlarged for water supply purposes, how big the enlargement will be and the quality of the water in the lake. Unfortunately, the City does not anticipate knowing this information for some time to come.

# INTRODUCTION

## Introduction

This interim report examines the potential of three recreation developments associated with Union Reservoir (Calkins Lake). The three recreation concepts examined in this report are:

- Union Park - the re-development of the existing recreation facility owned by the Union Reservoir Company and currently leased to Water Sports West, located on the shoreline of the *existing* lake in its southwest corner;

- Partial Park - a park with the same program of activities as the proposed Union Park, but located in the southeast corner of the lake; this park concept is intended to work with an *enlarged* lake, but may be constructed prior to the enlargement of the lake;

- Full Recreation Area - a park and other facilities which use the entire lake edge for a variety of recreation activities of a diverse nature; this concept depends upon an *enlarged* lake.

The following pages describe the concepts for these facilities, contain conceptual drawings of their layouts, and contain a program/land needs analysis and a cost estimate for implementation.

## Three Important Assumptions

- Recreation Potential

The size and configuration of both the existing lake and the proposed enlargement of Union Reservoir offers *excellent recreation potential* for the City of Longmont. The setting of the lake is a natural bowl, but it is high enough around the edges to provide panoramic views of the Front Range. The current lake size of 750 acres makes Union Reservoir one of the larger lakes along the Front Range and its potential expansion to nearly 1300 acres doubles the recreational value of the lake, not only to Longmont, but also to the region. Recreation facilities adjacent the lake would make a valuable addition to the City of Longmont parks and recreation system.

- Market Demand

There is a *positive market demand* for lake oriented recreation, not only in and around Longmont, but also in the region. Both users and managers of existing Front Range lakes have said that the demand is strong and attendance statistics from other lakes in the area confirm this. Boating is a popular activity even in a region traditionally labeled as semi-arid and every lake, regardless of size, is seen by boaters as an important addition to a small inventory of usable water bodies.

- Management

The City will *manage such day use, non-revenue generating activities as picnic areas, sports fields, etc. In the case of marinas, food service and miniature golf (and ventures similar to that), the City will bid the development and operation of these facilities to concession operators.* In many recreation complexes, concessionaires or private operators manage activities or facilities which generate income and which offer the potential to make a profit. In many of these cases, the concessionaire not only manages the facility under lease from the overall public owner or manager, but often that concessionaire will build the facility. This is especially true in marina and miniature golf operations. The City can build and maintain an outdoor swimming facility itself because it has the experience to do so.

## Two Missing Factors

There are two principal factors which impact the examination and comparison of these alternatives. These are the unknown status of the enlargement of the lake and the unknown status of the water quality of the lake.

- Lake Enlargement

The City of Longmont, now a 52% owner of the Union Reservoir Company, has been studying the feasibility and need for enlarging Union Reservoir for water supply purposes. These studies have been part of larger and longer range studies concerning future water needs for Longmont and the best ways to fulfill them. At one point in these studies, Union Reservoir was declared the best available option for storing additional water. However, later this opinion has been modified. The result is that the studies are continuing with no decision about enlarging Union Reservoir due anytime soon.

- Water Quality

Because Union Reservoir has never hosted a public recreation facility, there has never been much concern about the quality of its water for human use, other than to ensure that algae blooms and the like did not occur. Recent water quality tests show mixed results in terms of whether the lake is safe for full body contact (swimming). Swimming is an important activity and must be included in the recreation program in some way. If swimming is not permitted in the lake, then some sort of outdoor pool or pond should be built. Also the water quality issue is tied directly to the enlargement issue. The quality of the source of additional water will determine the quality in the enlarged lake and thus, the kind of recreation experiences offered.

Precise knowledge about enlargement and water quality is integral to making a sound decision which will survive to the future. However, neither the City nor the consulting team has this information at this time. Therefore, the *absence* of definite information on enlargement and water quality becomes the basis for our deliberations and limits the perspicacity of our recommendations.

## Summary

Whichever decision is made and whichever concept is selected, the setting of Calkins Lake and its recreational value to the City offers only a positive position for the City of Longmont.

What specific water quality data would the consultants recommend be obtained in order to make a sound decision on recreational experiences offered.

# SUMMARY MATRIX

The matrix below summarizes the important features about each of the three proposed recreation alternatives.

| Character | Union Park | Partial Park | Full Recreation |
|---|---|---|---|
| **Site** | SW corner of existing lake - existing site. | SE corner of enlarged lake (and potential) of existing lake - new site. | SE corner and around the enlagred lake - new site. |
| **Program** | lake oriented day use in a park setting. | lake oriented day use in a park setting. | day use, much of it lake oriented in a park setting, but with other facilities around the lake. |
| **Improvements** | rehabilitate existing park, add simming lagoon. | new park construction. | new construction. |
| **Quality** | high visual quality; facility rehab vs new construction. | low visual quality at first; new construction. | low visual quality at first; lots of facilities offered. |
| **Management** | by City with small marina and food service by concession. | by City except for marina, miniature golf, and food service by concession. | by City except for marina, miniature golf, and food service by concession. |
| **Financing/ Implementation** | bond issue, City crews, City budgets; potential loss of some investment; Cost: $1.1-1.6 million. | bond issue backed by sales tax; Cost: $4-6 million. | bond issue (sales tax), some facilities can be built by City crews; Cost: $8.6-12.6 million or $4-6 million. |
| **Timing:** | excellent for immediate implementation; probably an interim solution. | must know about enlarged lake first. | depends upon an enlarged lake. |
| **Best Pro and Worst Con** | P: immediate, lakeside, quality recreation base; C: length of use unkown. | P: permanent installation; C: awkard transition period (from existing lake to enlarged lake). | P: offers wonderful facility; potential for economic development; C: large price tag and long wait. |

## OPTIONS AND DECISIONS

The following is a summary of the options and recommendations described in the detailed analysis of each alternative.

| Options | If Recommended | City Has Decided |
|---|---|---|
| **Do Nothing** | • no expansion; no lakeside recreation<br>• lost opportunity for 1990<br>• no expenditure of funds | • lake recreation is not an important nor desirable addition to the park system at this time<br>• does not have the money<br>• a decision about an enlarged lake is forthcoming within the year<br>• an enlarged lake is due soon, within five (+/-) years<br>• to renew WSW's lease annually to keep City's flexibility open |
| **Union Park** | • City takes over WSW lease<br>• immediate offering of lakeside facilities to citizens (1990)<br>• spend $1.1-1.6 million (with some recoverables) to improve quality of site | • lakeside recreation is an important and desirable addition to system<br>• a potenially interim solution is acceptable<br>• the money can be raised<br>• an enlarged lake is 10+/- years off |
| **Partial Park** | • close WSW facilities and site<br>• construction of new facilities in SE corner of lake<br>• a $4-6 million commitment | • lakeside recreation is an important and desirable addition to system<br>• a fully recoverable investment is is more important than a partially recoverable one<br>• City can commit soon to an enlarged lake and a final water elevation |
| **Full Recreation Area** | • consider construction of Partial Park today<br>• $8-12 million commitment over time | • lakeside recreation is an important and desirable addition to system<br>• money can be raised<br>• there will be an enlarged lake<br>• area has the potential to be something unique and help in economic development |

## FULL RECREATION AREA CONCEPT

### Site

Once the reservoir is enlarged, the length and character of its shoreline changes as does the suitability of the shoreline for lake-oriented recreation. The hillside in the southeast "corner" of the enlarged lake provides the most ideal site for both lake and landside access. It also offers panoramic views of both the lake and front range from a hillside vantage. In this concept, the new park is at located north of the existing county road from near the top of the hill down to the new shoreline of the lake. A small picnic area is located along the north shore, a nature study area is on the west shore of the lake and there is a trail system encircling the entire lake.

### Program

The program for this concept supplements the program previously described in the Partial Park concept by adding facilities to the Park and by adding new recreation areas around the lake:

- softball and soccer fields in the park
- equestrian area and trails in the park
- amphitheater in the park
- nature study area and wetlands on the northwest shore
- trails around the lake
- additional picnic area on the north shore

This program offers a complete recreation facility at the lake because it includes a variety of facilities at locations all around the lake. This concept also provides for æzoning" the boating activity on the lake, providing for a no wake, quiet zone in the shallow northwest part of the lake.

### Improvements

The improvements correspond to the activities mentioned above. If the Partial Park is completed, the improvements for the Full Recreation Area include the additional facilities mentioned above. If the Partial Park is not built, the improvements for the Full Recreation Area include everything.

Of importance here is the additional land requirement for the Full Recreation Area. Because this program encompasses the entire lake, the land area is several times larger than the Partial Park. It includes approximately 200+ *more* acres for a total of up to 285 acres.

### Quality

The visual and recreation quality of the park site is the same as previously described for the Partial Park. The park will develop a character of its own after the landscaping matures; in the beginning its newness and openness will not be as attractive as a mature park.

However, the recreation quality offered by this program is exciting to contemplate. The entire lake becomes a recreation area in lieu of only a piece of it. With picnic and nature study areas located across the lake and with trail systems encircling the lake, the opportunities for a truly varied recreation experience are great.

## Management

As with the Partial Park concept, there are four activities which are potential revenue centers and which could appeal to development and management by private operators: marina, miniature golf, food service and swimming lagoon. Because the City has successful experience at operating outdoor pools, it is recommended that the City construct and manage the lagoon. The development of the other facilities should be put out to bid for concessionaires.

## Financing/Implementation

If this recreation program is implemented without the advantage of having the Partial Build-Out Park completed, the costs will be large and financing must be done via bond issue/sales tax initiatives. Because the construction of the *new* park is on undeveloped ground with major grading and infrastructure work involved, it is assumed that park maintenance crews could not do much of the construction themselves. However, the development of the smaller picnic area, the nature study area and the trails are within the capabilities of City crews. While the full cost of this program ranges from $8,602,240 to $12,665,528, some savings can be effected by using park personnel with construction knowledge during the off-season.

If the Partial Park is already completed, the costs and construction methods for the additional facilities is greatly different. The additional costs run between $4,176,480 and $6,360,480. Because the additional facilities can be added incrementally and are not large and complicated facilities to construct, existing City personnel can be used during the off-season for their construction - thus reducing the overall cost.

On the three concepts analyzed in this report, the Full Recreation Area concept offers the most complete use of the lake for recreation. These facilities and the enlarged lake will probablymore people from outside the immediate City of Longmont area, thus acting as an *economic generator* or as a limited *econcomic development vehicle.*

## Timing

These facilities require that an enlarged lake be in place or be under construction. The construction of these recreational facilities will help create a new and positive perception of the larger lake, reducing the political "hang over" involved in the displacement of farms and lives and in the loss of the smaller lake setting.

## Pro's and Con's

The following is a list of advantages and disadvantages to the completion of this concept:

Pro's

- as with the Union Park concept, this concept will open the lake up to the citizens of Longmont, expand the recreation base of the City of Longmont and will offer a unique swimming lagoon and water feature, trails and lake access not now in the system
- *all* investment in this facility will be preserved
- the facilities offered under this concept are unusual and attractive enough to draw people from the region to this area, perhaps acting as an economic generator for the City

Con's

- it increases the City's law enforcement and safety liability outside the City's limits (policing could be difficult)
- requires a large investment upfront and a continuing O&M commitment from the City
- visual quality will be mediocre until the landscaping matures
- current proposed slaes tax increase does not generate sufficient revenues to finance this option

### Recommendation

If Union Reservoir is enlarged, the City should implement this concept. As land for the enlarged reservoir is purchased (for water storage purposes), the City should purchase the additional land needed for the park, nature study area, picnic area and trails.

## RECREATION PROGRAM SUMMARY OF SELECTED ACTIVITIES AND THEIR LAND REQUIREMENTS NEW FACILITIES, FULL BUILD-OUT

| Activity | Standard | Quantity Assump. | Size | Parking Assump. | Other |
|---|---|---|---|---|---|
| Water Oriented, Core Recreation Area: | | | | | |
| 1. Marina (with boat ramp, concession and) moorings | 25 slips/ac.+/-<br>25 boats/3ac. water (25'l) | 75 slips<br>25 moorings | 3 ac<br>6 ac. (water) | 1ac (includes trailer parking) | |
| 2. Swimming Lagoon | 475SF to 1350SF/swimmer use med. density @ 900SF | 300/- swimrs. | 6 ac | 1.2ac.<br>120 cars | (2.5 people/car) |
| 3. Water Park | slides and tubes, diving areas, spray areas, model boat basin, | combine with lagoon, add a 10% to 15% space premium | .5 ac | .2 ac | |
| 4. Beach | sand beach - sunbathing only | | 1ac | assumed to be an ancillary use to other activities | |
| 5. Lake | motorboating, skiing, ice skating, sailing, windsurfing | no land area | 0 ac | accounted for in marina parking | |
| Landside Recreation Activities: | | | | | |
| 6. Miniature Golf | 54 hole course is minimum for profitability | 54 holes | 1 ac | .6 ac<br>60 cars | |
| 7. Picnic and Day Camp Areas | 20 picnic units/ac is max<br>10 picnic units/ac is med. | 100 units | 10 ac | 1ac<br>100 cars | |
| 8. Group Picnic | 1 group area/ac + parking (also used for group camping) | 5 units | 5 ac | .5 ac | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9. | Amphitheater/ Outdoor Classroom | average size is 100SF/family | | 1ac | 1ac | |
| 10. | Open Space/Buffer and Circulation Space | open space fields, snowshoeing, cross country skiing, playgrnd, viewing areas, dogsledding, roads | 20% of other day use areas | 10 ac | no parking needs | |
| 11. | Ball Field Complex | regulation size fields and spectator areas | four fields and parking | 8 ac | 1 ac | |
| 12. | Equestrian Area | corral, staging area, storage area and buffer | one | 1 ac | .3 ac | needs lots of separate trails |
| 13. | Maintenance Area | building, staging area, yard storage | | .5 | NA | |
| | | SUBTOTAL PARK LAND | | 47 | 6.8 | assume multi- or shared use parking at 30% = 4.75 or 5 ac. |

**TOTAL LAND NEEDS FOR PARK: 50 - 55 acres**

| | | | | | | |
|---|---|---|---|---|---|---|
| 14. | Lake edge buffer and hiking/biking and equestrian trails | 200' to 250' wide | 6.5 to 7 miles around lake | 150 to 215 acres | | |
| 15. | Nature study/ interpretive area | at NW corner of lake | | 40 to 60 acres | .5 ac for trailhead | |
| 16. | Site access and small picnic area | N end of lake | | 5 to 10 ac. | .5 ac for trailhead | |

**TOTAL OFF-PARK SITE LAND NEEDS: 195 to 285 acres**

HOH Associates, Inc.

TO: PRELIM. DIAGRAM

FROM:

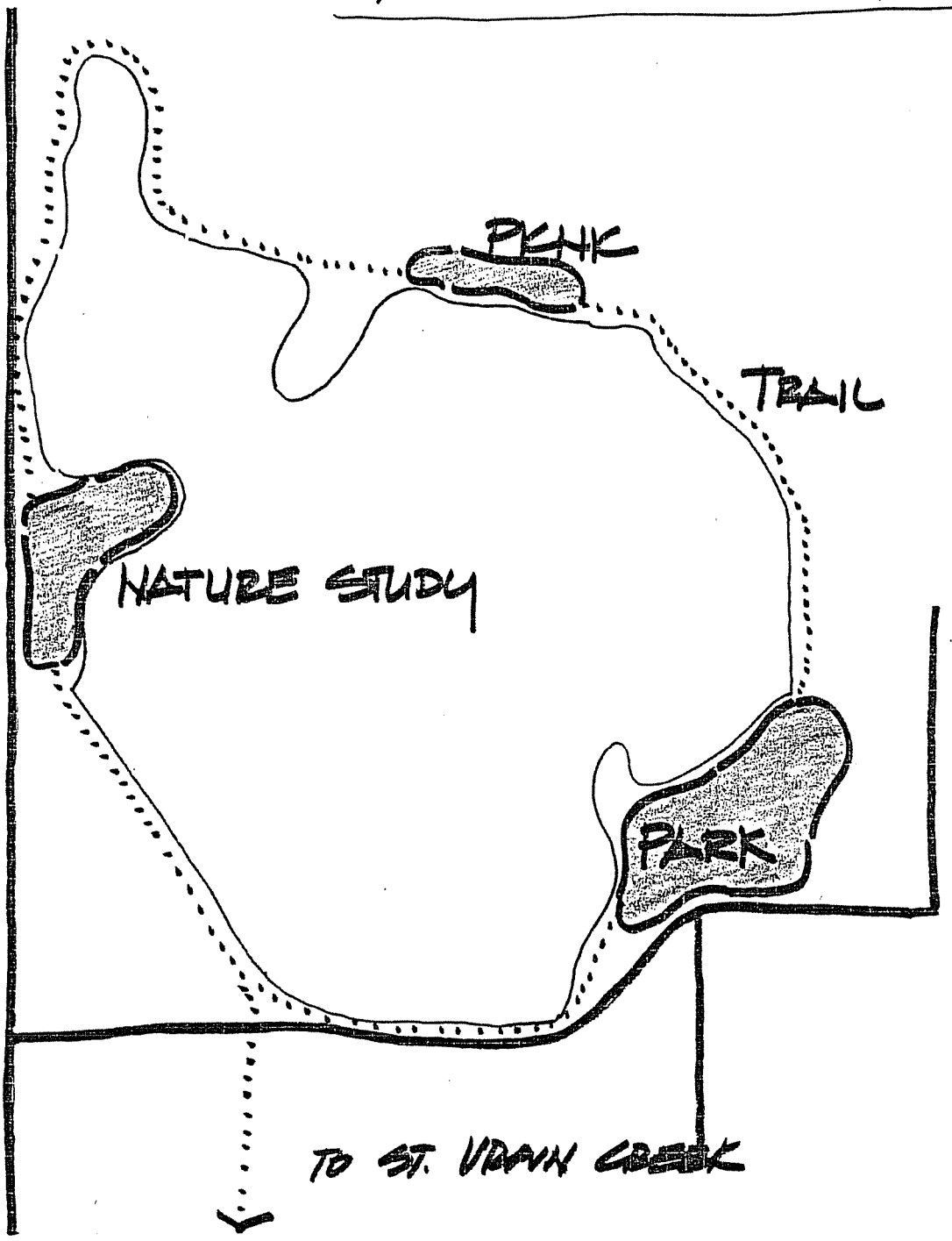
DATE: AUGUST 31, 1989

PROJECT: LAWKINS LAKE

CLIENT:

JOB #:

FULL RECREATION AREA




(NO SCALE)

## *Appendix E*
## *Environmental Studies 2006 & 2007*

***ERO Environmental Issues Memo 9/24/07***

***ERO Natural Resources Site Review – West Union 5/17/06***

***ERO T&E Habitat Assessment – West Union 8/30/06***

***ERO – Natural Resources Site Review – Union 11/22/06***

***ERO – T&E Habitat Assessment – Union 12/15/06***

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September 24, 2007

**To:** Kurt Munding (Design Concepts)

**From:** Steve Butler (ERO Resources)

**Re:** Union Reservoir Environmental Issues

The following is a summary of environmental issues for the Union Reservoir site based on past studies by ERO on neighboring properties, correspondence with the U.S. Fish and Wildlife Service (USFWS), correspondence and meetings with Colorado Division of Wildlife (CDOW), two brief site visits, and input from the park ranger.

Past studies by ERO on neighboring properties included:

- Natural Resource Site Review for West Union Reservoir, May 12, 2006
- Threatened and Endangered Species Habitat Assessment for West Union Reservoir, August 30, 2006
- Union Natural Resources Site Review, September 14, 2006 (Lifebridge property)
- Union Threatened and Endangered Species Habitat Assessment, September 14, 2006 (Lifebridge property)

Wetlands – Wetlands are present around the margins of the reservoir, especially in the northwest corner. Discharge of fill material into wetlands would require a permit from the U.S. Army Corps of Engineers (Corps). Expansion of the reservoir would also likely require a permit from the Corps. Corps regulations require that any project impacting wetlands must avoid and minimize impacts to wetlands to the greatest extent practicable, and wetlands that cannot be avoided must be replaced.

Threatened and Endangered Species – Three federally listed species potentially occur near Union Reservoir: Colorado butterfly plant, Ute ladies'-tresses orchid, and Preble's meadow jumping mouse. Previous habitat evaluations by ERO for the West Union Reservoir project have found that Colorado butterfly plant and Preble's meadow jumping mouse are unlikely to occur at the reservoir due to lack of suitable habitat. USFWS concurred with these findings. USFWS also concurred with ERO's conclusion that potential habitat for Ute ladies'-tresses orchid is present near the reservoir, and surveys should be conducted for this species if suitable habitat will be disturbed. Surveys should be conducted within three years prior to construction.

Bald Eagle – Bald eagles are no longer protected by the endangered species act, but continue to be protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Bald eagles are known to occur at the reservoir and a bald eagle nest occurs on the St. Vrain River a little more than one mile south of the reservoir. CDOW has mapped the reservoir a winter range, winter forage, and winter concentration area for bald eagles. Bald eagles have been observed roosting in several trees near the southwest corner of the reservoir during the winter months. Summer use of the reservoir by bald eagles is not as well known, but some foraging would be expected due to the presence of the nest one mile away when this nest site is occupied. The winter roost trees are currently located in a picnic area and boat storage area that receive moderate to heavy human use during the summer and light use during the winter. Bald eagles use of the trees occurs mostly during the winter when there is less human use of the area. The eagles apparently have become conditioned to the current level of activity at the reservoir. Mike Sherman with CODW has indicated to me that CDOW considers the trees at the reservoir to be an alternate winter night roost, with most roosting occurring along the St. Vrain River, but with eagles sometimes spending the night in the trees in the southwest corner of the reservoir. CDOW guidelines recommend a ¼ mile buffer around a winter night roost from November 15 to March 15. Based on our discussions with Mike Sherman and local raptor experts, ERO has developed the following mitigation approach:

Realizing that the Union Reservoir, Saint Vrain/Boulder Creek area east of the City of Longmont is an important regional bald eagle wintering and breeding area, long-term sustainability will need a regional approach. Additionally, the use and importance of this area by both wintering and breeding bald eagles is likely to increase as the entire region continues to develop. The best way to provide for the long-term sustainability of bald eagles in the region is to develop a regional management plan in cooperation with the Colorado Division of Wildlife and other potential stake-holders (Boulder and Weld Counties, Saint Vrain State Park, CDOT).

## BALD EAGLE MITIGATION PLAN OUTLINE

Goal: Develop an integrated management plan that provides year round habitat components for the long-term sustainability of local bald eagle populations.

Specific objectives of the plan relative to the Union Reservoir Master Plan could include:

1. Provide short-term protection of existing alternate roost trees, by not exceeding existing levels of human encroachment. That fact that eagles currently use the area in winter indicates that the eagles have habituated to existing levels of human use of the reservoir and surrounding area.

2. Start a volunteer winter eagle/roost watch program to improve our knowledge and understanding of eagle use of the reservoir. (This can be coordinated with CDOW or Rocky Mountain Bird Observatory).

3. Restrict human activity within ¼ mile from 3 pm until 9 am between November 15 and March 15, or until the Roost Watch program indicates that wintering eagles are no longer using the area.

4. Incorporate mitigation measures into the Master Plan:
   - Lessening the overall human use in the southwestern recreation area.
   - Plant evergreen and deciduous trees to increase visual buffering around the event / classroom space and parking lot.

5. Begin a cottonwood gallery planting on the N or NE side of the reservoir that would mimic ideal winter roost characteristics based on literature and consultation with CDOW. The gallery would be located in an area protected in perpetuity via fee title or conservation easement. This would provide suitable perch/roost habitat in 15 -20 years when the master plan is implemented.

6. Conduct a comprehensive assessment 2 years prior to development to determine potential impacts to bald eagles and other raptors. The findings of this assessment and the volunteer eagle/roost watch would be discussed with CDOW to adapt mitigation measures as environmental conditions change (existing trees naturally die, eagle shift use to other trees, surrounding development degrades the viability of the existing roost).

7. Monitor eagle use of the reservoir during construction and demolition activities.

This plan would also incorporate the draft National Bald Eagle Management Guidelines published in May 2007 by the USFWS. The guidelines do not provide a recommended buffer or set back at foraging areas and communal roost sites, but do provide the following recommendations for avoiding disturbance:

- Minimize potentially disruptive activities and development in the eagles' direct flight path between their nest and roost sites and important foraging areas.
- Locate long-term and permanent all-season water-dependent facilities, such as boat ramps and marinas, away from important eagle foraging areas or limit them to the restricted hours of 3 pm to 9 am during roosting seasons.
- Avoid recreational and commercial boating and fishing near critical eagle foraging areas during peak feeding times (usually early to mid-morning and late afternoon), except where eagles have demonstrated tolerance to such activity.
- Do not use explosives within ½ mile (or within 1 mile in open areas) of communal roosts when eagles are congregating, without prior coordination with the U.S. Fish and Wildlife Service and your state wildlife agency.
- Locate new aircraft corridors no closer than 1,000 feet vertical or horizontal distance from communal roost sites.

General wildlife – The reservoir and surrounding wetlands support a variety of waterfowl and other migratory birds. The reservoir seasonally supports geese, ducks, and shorebirds. The fish community at the reservoir provides food for wintering eagles, herons, and waterfowl. The following is a list of wildlife concerns raised by CDOW biologists during a site meeting with the City:

- The wetlands on the west and northwest side of the reservoir are the most sensitive wildlife areas.
- Wildlife at the reservoir have adapted to existing wakeless boating activity and the CDOW sees no benefit from having a closure on open water along the wetlands.
- CDOW is are more concerned about the speed of boats and type of boating activity -wake vs. wakeless.
- CDOW recommends the following wildlife buffers:
    - Development (including active/passive parks) - 300 feet from future high water mark
    - Trails - 300 feet from future high water mark
- CDOW recommends minimizing human access to west and northern shore areas, having one, maybe two, observation blinds that are setback from the shoreline.
- CDOW supports the idea of incorporating interpretation/education facilities.
- CDOW agrees with the proposed locations of campground, picnic areas, and dog beach.

# NATURAL RESOURCES SITE REVIEW

## WEST UNION RESERVOIR
## WELD COUNTY, COLORADO

*Prepared for—*

Bruns Concrete and Construction, Inc.
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Longmont, Colorado 80504

*Prepared by—*

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May 17, 2006

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## TABLES



## FIGURES

# NATURAL RESOURCES SITE REVIEW

## WEST UNION RESERVOIR
## WELD COUNTY, COLORADO

## MAY 17, 2006

## Introduction

ERO Resources Corporation (ERO) was retained by Bruns Concrete and Construction to conduct a natural resource assessment for a 400-acre site in Longmont, Colorado. The study area contains 16 parcels of land along the west side of Union Reservoir and east of Weld County Road 1 between Highway 66 and Highway 119. The parcels have mixed-land uses such as rural residential homes, agricultural production, commercial nurseries, and recreational facilities associated with Union Reservoir.

On April 25, 2006, Jenelle Kreutzer, an ecologist with ERO, surveyed the area to review natural resources within the study area. During this site review, potential habitat for federally listed threatened and endangered species, and other potential natural resources was identified. Jurisdictional wetland delineations were not conducted during this site review. This report provides information on existing site conditions and resources, as well as current regulatory guidelines related to those resources. It is assumed that the project proponent is responsible for obtaining proper federal, state, or local permits for proposed project activities.

## Site Description

The study area is located in the southwestern quarter of Section 30 and western half of Section 31, Township 3 North, Range 68 West; and the northwestern quarter of Section 6, Township 2 North, Range 68 West, of the 6$^{th}$ Principal Meridian in Weld County, Colorado (Figure 1). The UTM coordinates of the approximate center of the property are 495696mE, 4447938mN, Zone 13.

Weld County Road 1 (WCR-1) forms the western boundary of the study area. Most of the homes and outbuildings within the study area are located near WCR-1. A narrow strip of upland vegetation dominated by smooth brome (*Bromus inermis*) is present

between the study area and Union Reservoir. Wetland vegetation, such as cattails (*Typha latifolia*) and sandbar willows (*Salix exigua*) was observed between the high and low water marks of Union Reservoir along a majority of the shoreline (Photo 1). All 16 parcels identified within the study area have undergone various levels of development, but overall a large majority of the parcels are currently or have previously been in agricultural production. Agricultural production includes both livestock grazing and land cultivation. For discussion purposes, each of the 16 parcels has been assigned a name based on the last name of the property owner (Figure 2).

Portions of the Doecheff, Dick, and Bogott Parcels contain irrigated pasture land dominated by introduced plant species such as smooth brome and intermediate wheatgrass (*Agropyron intermedium*) (Photo 2). The primary land uses in these parcels are hay production and cattle grazing. There is a small stock pond in the eastern portion of the Doecheff Parcel. Surface water is likely the source of water in the stock pond. The stock pond is surrounded by upland vegetation (Photo 3). The Flores Parcel contains a residential home, horse corrals, and several outbuildings. The Steinke Parcel is a triangular-shaped property bordered by the Bogott Parcel on three sides. A narrow irrigation ditch forms the northern boundary between the Steinke Parcel and the Bogott Parcel. There are sandbar willows in portions of this ditch (Photo 4).

The Keliher Parcel, Longmont Parcels #1, #2, and #3, and Willis Parcel #2 are characterized as abandoned agricultural fields dominated by smooth brome and intermediate wheatgrass (Photo 5). The western portion of Adrian Parcel #2, all of Adrian Parcels #3 and #4, and the northern portion of the Bogott Parcel had recently been cultivated and contain little to no vegetation cover (Photos 6 and 7). The Willis Parcel #1 is irrigated and planted with alfalfa (*Medicago sativa*) (Photo 8). The eastern portions of Adrian Parcels #1 and #2 were fallow, with corn stalk remnants (Photo 9).

Spring Gulch flows from northwest to southeast across the southern portion of the study area through Adrian Parcels #1, #2, and #3 (Photo 10). A drainage channel with a surface connection to Spring Gulch is present along the south side of Weld County Road 26 (WCR-26) within the Adrian Parcel #3 (Photo 11). The Oligarchy Ditch and a

diversion channel from the Oligarchy Ditch are also present in Adrian Parcel #1 (Photos 12 and 13). Union Reservoir Ditch flows from Union Reservoir along the eastern edge of Adrian Parcel #3 and into Spring Gulch at a location downstream of the study area. Wetland vegetation was observed along the drainage channel, ditches, and Spring Gulch.

An unnamed tributary flows along the eastern property line of the Doecheff Parcel just outside of the study area. The tributary flows through a culvert under Weld County Road 28 (WCR-28) and into Union Reservoir (Photo 14). Wetland vegetation is present along the unnamed tributary. There is a large cattail-dominated wetland associated with Union Reservoir located immediately south of WCR-28 and within the northern portion of the Dick Parcel (Photo 15). In addition, a small patch of wetland vegetation was observed in a low-lying area within the northeast corner of the Bogott Parcel.

Two roadside ditches flow along the north and south side of WCR-28. The northern roadside ditch flows into both the unnamed tributary and the cattail-dominated wetland via a culvert under WCR-28. The southern roadside ditch flows directly into the cattail-dominated wetland. Both of these roadside ditches and portions of the cattail-dominated wetland had recently been burned (Photo 16). Wetland vegetation is present in both of the roadside ditches.

## Potential Wetlands and Waters of the U.S.

The Clean Water Act was passed by the U.S. Congress in 1977 to protect the physical, biological, and chemical quality of waters of the U.S. The U.S. Army Corps of Engineers' (Corps) Regulatory Program administers and enforces Section 404 of the Clean Water Act. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into waters of the U.S. The Corps defines waters of the U.S. as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters.

Because of court challenges to the Corps' jurisdiction over wetlands and waters of the U.S., the Corps' regulatory guidance is in a state of flux. For example, as a result of the 2001 ruling by the Supreme Court in the matter of *Solid Waste Agency of Northern Cook County vs. U.S. Army Corps of Engineers*, No. 99-1179 (January 9, 2001), the Corps'

regulatory jurisdiction over isolated, non-navigable, intrastate waters has been eliminated if the sole nexus to interstate commerce was use of the waters by migratory birds.

In addition, 33 CFR Part 320.4 (l), *Floodplain Management*, which implements Executive Order 11988, requires that the Corps make significant efforts to avoid authorizing developments within floodplains. Floodplain protection has always been one of the many issues considered as part of the Corps' public interest review for Individual Permits, and some Nationwide Permits have restrictions on the discharge of fill into floodplains. Until recently, this order has not been strongly implemented in the Denver Regulatory Office of the Corps. Due to growth along the Colorado Front Range and an associated loss and shrinkage of natural drainages and floodplains, the Denver Regulatory Office of the Corps is now emphasizing floodplain protection.

Addressing floodplain management issues with the Corps would only be required if the activity otherwise involves the discharge of fill material in waters of the U.S., including wetlands, requiring authorization from the Corps (i.e., there is no requirement to address floodplain issues with the Corps for activities not requiring Corps authorization). Because the Corps is now considering avoidance of impacts to mapped 100-year floodplains as part of its review of activities involving a discharge of fill into jurisdictional waters of the U.S., project proponents should not expect to receive 404 permits for developments that significantly alter channels or place fill within the 100-year floodplain, particularly for the purposes of increasing developable land. If a practicable alternative exists for construction of a project outside of the mapped 100-year floodplain, this is the alternative for which a permit should be sought.

The Denver Regulatory Office of the Corps is also placing greater emphasis on avoidance and minimization of indirect effects to the aquatic ecosystem. The Corps is asking that project proponents avoid and minimize indirect effects to the aquatic ecosystem by establishing setbacks (50 feet minimum recommended) from waters and wetlands for protection from construction and long-term disturbances.

**Section 404 Permitting**

The recent emphasis on floodplain management as part of the permit process is particularly important to those involved in land development, review, and approval. Because the Corps continues to develop its guidance for the Section 404 regulatory program, if modifications to jurisdictional waters may occur as part of the proposed project, ERO recommends meeting with the Corps early in the site layout and planning process to fully understand the Corps' requirements and concerns before significant resources are invested in the project.

In the study area, wetland vegetation is associated with an unnamed tributary into Union Reservoir, Union Reservoir, a low-lying area in the northeast corner of the Bogott Parcel (Wetland 1), two roadside ditches along WCR-28, an irrigation ditch along the Steinke Parcel (Wetland 2), Spring Gulch, Oligarchy Ditch, a diversion channel from the Oligarchy Ditch, a drainage channel within the Adrian Parcel #3 (Wetland 3), and Union Reservoir Ditch.

If any of these wetland areas would be impacted by proposed project activities, wetlands and waters of the U.S. should be delineated following the 1987 *Corps of Engineers Wetland Delineation Manual* and submitted to the Corps for its review.

***Unnamed Tributary to Union Reservoir***

The unnamed tributary is shown on the USGS topographic map as an intermittent tributary with a surface connection via Union Reservoir and Union Reservoir Ditch to Saint Vrain Creek, a known water of the U.S. Wetland vegetation such as Emory sedge (*Carex emoryi*), saltgrass (*Distichlis spicata*), rabbitfoot grass (*Polypogon monspeleinsis)*, and curly dock (*Rumex crispus*) is present along the tributary. Because this tributary has wetland vegetation, a defined channel bed and bank, and a surface flow and connection to a known water of the U.S., it is likely under the jurisdiction of the Corps as a regulated water.

***Union Reservoir***

Wetland vegetation such as cattails, three-square (*Scirpus pungens*), and sandbar willows is present between the low and high water mark along most of the western edge of Union Reservoir. In addition, there is a large cattail-dominated wetland in the

northwestern portion of the reservoir that extends into the northern portion of the Dick Parcel. Other wetland species observed within the Dick Parcel include Baltic rush (*Juncus balticus*), spike rush (*Eleocharis* sp.), and three-square. Because the reservoir has a surface connection to Saint Vrain Creek via the Union Reservoir Ditch, the reservoir and associated wetlands would likely be under the jurisdiction of the Corps.

***Wetland 1***

A small patch of cattails, saltgrass, and three-square was observed in a low-lying area within the northeast corner of the Bogott Parcel. The water source supporting the establishment of these wetland species appears to be from surface water from the flood irrigation operations within this property. A narrow strip of upland vegetation separates Wetland 1 from Union Reservoir. Wetland 1 appears to be isolated because the area between the wetland vegetation and the reservoir contains upland species such as smooth brome, sweetclover (*Melilotus* sp.), and Canada thistle (*Cirsium arvense*). Isolated wetlands are not covered under Section 404 of the Clean Water Act as a result of the Supreme Court ruling (SWANC 2001). Because final determination of isolated waters and wetlands is a Corps decision subject to the Corps' discretion, ERO recommends obtaining verification from the Corps that it will not regulate this isolated wetland within the study area.

***Roadside Ditches***

Although portions of the roadside ditches had recently been burned, wetland species such as cattails, Emory sedge, Nebraska sedge (*Carex nebrascensis*), and three-square were identified in the bottom of the ditches. Evidence of surface flows and roadside ditch characteristics that could be considered evidence of an OHWM was observed along the two ditches. Because the two roadside ditches have evidence of an OHWM, are characterized by wetland vegetation, and have a surface connection to Union Reservoir, ERO recommends submitting a request for a preliminary jurisdictional determination from the Corps.

***Wetland 2***

Wetland 2 is a small isolated patch of sandbar willows within an irrigation ditch located between the Steinke and Bogott Parcels near WCR-1. The irrigation ditch is used

to flood irrigate the fields within the Bogott Parcel. Wetland vegetation was not present in the remainder of the irrigation ditch. The irrigation ditch does not have a surface connection to Union Reservoir. Because final determination of isolated waters and wetlands is a Corps decision subject to the Corps' discretion, ERO recommends obtaining verification from the Corps that it will not regulate this isolated wetland within the study area.

***Spring Gulch***

Spring Gulch is shown on the USGS topographic map as an intermittent tributary to Saint Vrain Creek. Wetland vegetation such as Emory sedge, meadow foxtail (*Alopecurus pratensis*), and patches of cattails were observed along Spring Gulch. Because Spring Gulch has wetland vegetation, a surface flow, and connection to the Saint Vrain Creek, which is a known water of the U.S., it would likely be under the jurisdiction of the Corps.

***Oligarchy Ditch and Diversion Channel***

The Oligarchy Ditch enters the study area from the west through a culvert under WCR-1. Most of the water is directed to the north; however, a small portion of the water spills into a diversion channel that flows directly into Union Reservoir. The Oligarchy Ditch and diversion channel contain narrow fringes of wetlands along the banks dominated by species such as Emory sedge and meadow foxtail. In addition, small patches of sandbar willows and cattails were observed in over bank areas along the diversion channel.

The Oligarchy Ditch originates in Foothills Reservoir in the Southwest quarter of Section 27, Township 3 North, Range 69 West, in the Hygiene Quadrangle. Oligarchy Ditch ends in an open area in the West half of Section 33, Township 3 North, Range 68 West, Longmont Quadrangle. Because the Oligarchy Ditch does not act as the sole conveyance to any streams prior to reaching the study area, it is unlikely that the Corps would take jurisdiction over Oligarchy Ditch and associated diversion channel. ERO recommends submitting a request for a preliminary jurisdictional determination from the Corps.

***Wetland 3***

Wetland 3 is characterized by wetland vegetation within a storm water drainage channel with a surface connection to Spring Gulch. Wetland vegetation observed in the channel includes cattails, softstem bulrush (*Scirpus validus*), American speedwell (*Veronica americana*), and three-square. Because the drainage channel has wetland vegetation, a surface flow, and connection to Saint Vrain Creek via Spring Gulch and Union Reservoir Ditch, it would likely be under the jurisdiction of the Corps.

***Union Reservoir Ditch***

Union Reservoir Ditch flows south from Union Reservoir along the eastern edge of the study area. Less than one-quarter mile downstream (south) of the study area, Spring Gulch flows into Union Reservoir where it is shown on the USGS topographic map as a perennial tributary to Saint Vrain Creek. Because Union Reservoir Ditch is shown as a perennial tributary to Saint Vrain Creek, which is a known water of the U.S., it would likely be under the jurisdiction of the Corps as a regulated water.

## Threatened, Endangered, and Candidate Species

Federally listed threatened and endangered species are protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The project area was assessed for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Significant adverse effects to a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the ESA.

Since the study area lies along the boundary between Boulder and Weld Counties, federally listed threatened, endangered, and candidate species potentially occurring in each of these counties are addressed in this report. Table 1 contains a list of the species potentially occurring in Boulder and Weld Counties (Service 2005). The table includes listing status and whether appropriate habitat is present in the project area. Currently, only one listed federal candidate species (slender moonwort) occurs within either of these counties. Although not afforded regulatory protection while a candidate, if the species were to become federally listed, and suitable habitat for that species was present in the

study area, consultation with the Service would be required. Species known to be present or with potential habitat as outlined in survey guidelines in the study area are discussed in the following sections.

**Table 1. Federal Threatened, Endangered, and Candidate Species Potentially Occurring in Boulder and Weld Counties.**

| Species | Common Name | Listing Status* | Habitat Present |
|---|---|---|---|
| **Birds** | | | |
| *Haliaeetus leucocephalus* | Bald eagle | FT | Potential |
| *Sterna antillarum athalassos*[1] | Interior least tern | FE | No |
| *Strix occidentalis lucida* | Mexican spotted owl | FT | No |
| *Charadrius melodus*[1] | Piping plover | FT | No |
| *Grus americana*[1] | Whooping crane | FE | No |
| | **Mammals** | | |
| *Lynx canadensis* | Canada Lynx | FT | No |
| *Mustela nigripes* | Black-footed ferret | FE | No |
| *Zapus hudsonius preblei* | Preble's meadow jumping mouse | FT | Potential |
| **Fish** | | | |
| *Oncorhynchus clarki stomias* | Greenback Cutthroat Trout | FE | No |
| *Scaphirhynchus albus*[1] | Pallid sturgeon | FE | No |
| **Plants** | | | |
| *Spiranthes diluvialis* | Ute ladies'-tresses orchid | FT | Potential |
| *Botrychium lineare* | Slender moonwort | FC | No |
| *Gaura neomexicana* spp. *coloradensis* | Colorado butterfly plant | FT | Potential |

*FT = Federally Threatened Species; FE = Federally Endangered Species; FC= Candidate Species for Federal Listing.

[1]Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.

*Source:* Service 2005.

The interior least tern, piping plover, whooping crane, and pallid sturgeon are species that rely heavily on habitat provided by the Platte River system. Alterations to rivers and lakes due to irrigation, canal construction, and dams have led to major declines of these species. Projects that result in depletions to the Platte River system, including the South Platte River and its tributaries, could potentially result in secondary impacts to these species or their habitat. These species are highly unlikely to occur in this portion of

Boulder and Weld counties. If activities associated with future use or development of the site would result in changes of flow velocities or evaporation rates, which could result in depletions to the Platte River system, the FWS may require consultation on potential adverse effects on the species.

Potentially suitable habitat for Canada lynx, black-footed ferret, Mexican spotted owl, and slender moonwort does not occur within the project area. There is no likelihood for any proposed project activities to affect these species.

Because of the association of the bald eagle, the Preble's meadow jumping mouse (Preble's), the Ute ladies'-tresses orchid (ULTO), and the Colorado butterfly plant (CBP) with wetland/riparian habitat, potentially suitable habitat for these species is more likely to occur within development sites across the Front Range. Because these species are more likely to be addressed by counties and regulatory agencies such as the Corps, a more detailed discussion of these species is provided below.

**Bald Eagle**

***Species Background***

The bald eagle is a large North American bird with an historical distribution throughout most of the U.S. The bald eagle was listed as an endangered species in 1978. Population declines are attributed to habitat loss, the use of organochlorine pesticides, and mortality from shooting. Since listing, the population trend for the bald eagle has been increasing. The bald eagle was downlisted from endangered to threatened in 1995 and the Service is proposing to delist the bald eagle due to population recovery. If the bald eagle is removed from the list of threatened and endangered species, it will continue to be protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act.

The bald eagle is primarily a winter resident in Colorado, although nesting along the Colorado Front Range has increased in recent years (CDOW 2001). Most nesting in Colorado occurs near lakes or reservoirs or along rivers. Typical bald eagle nesting habitat consists of forests or wooded areas that contain many tall, aged, dying, and dead trees (Martell 1992).

***Potential Habitat and Possible Effects***

According to the Colorado Natural Diversity Information Source database, the study area is located within an area identified as bald eagle winter range, and Union Reservoir is identified as an area containing potential winter foraging and a winter concentration of bald eagles (NDIS 2006). No bald eagle nests occur within the study area; however, a new active nest has been documented along Saint Vrain Creek, approximately one mile south of the study area. Currently in Colorado, the Service and/or Colorado Division of Wildlife (CDOW) policies and guidelines restrict activities within one-half mile of an active bald eagle nest. Since the study area is over one-half mile from the active nest, no action is necessary.

**Preble's Meadow Jumping Mouse**

***Species Background***

Preble's is listed as threatened under the ESA. Typically, Preble's habitat is located in low undergrowth consisting of grasses and forbs, in open wet meadows, riparian corridors near forests, or where tall shrubs and low trees provide adequate cover. Along Colorado's Front Range, Preble's is found at elevations below 7,500 feet, generally in lowlands with medium to high moisture along permanent or intermittent streams (Meaney et al. 1997).

On February 2, 2005, the Service published a 12-month finding on a petition to delist Preble's (70 Fed. Reg. 5404 (February 2, 2005)). The 12-month finding was issued in response to petitions filed by Coloradoans for Water Conservation and Development and the State of Wyoming Office of the Governor to remove Preble's from the list of threatened and endangered species. The petitions maintain that Preble's was listed in error because subsequent studies have shown that Preble's is not a valid subspecies. In its 12-month finding, the Service determined that delisting is warranted and proposed delisting Preble's based on the latest taxonomic data, which indicates that Preble's is genetically identical to the Bear Lodge jumping mouse (*Z. h. campestris*). The Service is currently evaluating whether the combined *Z. h. campestris* entity is threatened and whether the Preble's portion of *Z. h. campestris* qualifies as a Distinct Population Segment in need of protection. The proposed ruling will not be finalized until the Service

has completed this evaluation. The Service is not expected to make a final decision until sometime during 2006. Until the Service makes a final determination, Preble's will continue to be protected under the ESA.

***Potential Habitat and Possible Effects***

The project area was assessed for potential Preble's habitat. Suitable habitat for Preble's is not present within the study area; however, suitable habitat is present just outside of the study area along Union Reservoir Ditch. ERO recommends submitting a habitat assessment to the Service requesting that Spring Gulch, the unnamed tributary, and Oligarchy Ditch (within the study area) be excluded from a presence/absence survey. Habitat assessments are valid for one year and should be renewed annually if land development has not begun in that period. If the Service does not concur with some or all of the recommendations in the habitat assessment, the Service may require a trapping survey for these portions of the project area. Preble's surveys are conducted between June 1 and September 15, and trapping surveys are also valid for one year. If no Preble's are trapped during the survey, development plans would be allowed to proceed. If Preble's are trapped during the survey, the Service would likely request that a Biological Assessment (BA) be submitted.

**Ute Ladies'-Tresses Orchid**

***Species Background***

ULTO occurs at elevations below 6,500 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes. Occurrences of ULTO have been documented in Colorado, Wyoming, Idaho, Nevada, and Utah. Once thought to be fairly common in low elevation riparian areas in Colorado, Utah, and Nevada, currently only 16 populations are reported to occur in Colorado with most populations occurring along the Front Range. Generally, the vegetative cover is relatively open; dense, overgrown sites are not conducive to ULTO establishment. Where ULTO is found, soils are typically alluvial deposits of sandy, gravelly material that are saturated to within 18 inches of the surface for at least part of the growing season.

***Potential Habitat and Possible Effects***

Suitable habitat for ULTO in not present within a majority of the study area, including the cultivated fields and disturbed areas adjacent to the residential homes and outbuildings. Subirrigated and wet meadows, and wetlands associated with ephemeral streams including isolated wetlands, fall within the Service's guidelines for areas requiring a ULTO survey if suitable habitat is present. Suitable habitat for ULTO is present within portions of the Dick and Bogott Parcels. ERO recommends conducting a presence/absence survey for ULTO in these parcels. Because ULTO is difficult to locate unless it is flowering, the Service requires surveys to be conducted during the blooming season, which is typically between July 20 and August 31. The surveys are valid for three years.

**Colorado Butterfly Plant**

***Species Background***

The CBP is listed as a threatened species under the ESA (Federal Register, October 18, 2000). The CBP is a short-lived perennial herb found in moist areas of floodplains within a small area of southeastern Wyoming, western Nebraska, and north-central Colorado. It occurs on subirrigated, alluvial soils on level or slightly sloping floodplains and drainage bottoms at elevations of 5,000 to 6,000 feet. Colonies are often found in low depressions or along bends in wide, active, meandering stream channels a short distance upslope of the actual channel. Its historical and current distribution includes Boulder, Douglas, Larimer, and Weld Counties, Colorado. Agricultural activities within floodplains, as well as water diversion projects, channelization, and urban development threaten this species. Typical CBP habitat is relatively open without dense or overgrown vegetation.

***Potential Habitat and Possible Effects***

The Service has not established official survey guidelines for the CBP; however, the Service has provided guidance on areas that do not merit CBP surveys, which include ephemeral streams (Payson 2001; Long 2001). The majority of the study area is within uplands that are currently or have previously been in agricultural production. Because there are no active, meandering stream channels or associated floodplains within the

study area, it would be considered unsuitable habitat for the CBP. No action is necessary regarding the CBP.

## Other Species of Concern

### Raptors and Migratory Birds

***Background***

Migratory birds as well as their eggs and nests are protected under the MBTA. The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is prohibited under the MBTA (Migratory Bird Permit Memorandum, U.S. Fish and Wildlife April 15, 2003). In Colorado, all non-game birds except for European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and rock dove (*Columba livia*) are protected under the Act (16 U.S.C. §§ 703-712).

Under the MBTA, the Service may issue nest depredation permits, which allow a permittee to remove an active nest. The Service, however, issues few permits and only under specific circumstances, usually related to human health and safety. Obtaining a nest depredation permit is unlikely and is a process that takes from four to eight weeks. Nests or nest trees can be removed during the non-breeding season to preclude nesting.

The CDOW has published recommended setbacks for nesting and breeding raptors (hawks and eagles) in the state. There are no recommended setbacks for most other bird species.

***Potential Habitat and Possible Effects***

Riparian and grassland habitats, and the scattered trees and sandbar willows within the study area provide potential nesting habitat for a variety of migratory birds. Nests within grasslands are easily overlooked. It is recommended that vegetation be removed from the site outside of the breeding season to avoid harming any potential nests. If an active nest is identified within or near the project area, activities that would directly impact the nest, or that would encroach close enough to cause adult birds to abandon the

nest during the breeding season, should be restricted. It is important to note that any new breeding season is an opportunity for birds to build new nests.

**Other Wildlife**

No other unique or sensitive wildlife habitat occurs within the project area. Spring Gulch, the unnamed tributary, and the irrigation ditches and their associated riparian corridors likely provide a movement corridor for wildlife species, especially songbirds and small mammals. As with any human development or habitat alteration, wildlife species sensitive to human disturbance are likely to decline in abundance or abandon the area, while other wildlife species adapted to urban development are likely to increase in abundance. Species likely to decline would include some raptors and possibly coyotes. Species likely to increase would include red fox, raccoon, and great horned owl. Overall, ongoing development contributes to a decline in the number and diversity of wildlife species and to a change in species composition to favor species that adapt better to human disturbance.

## Regulations and Recommendations

- **Wetlands.** Wetlands are present on the property. Discharge of fill material into jurisdictional wetlands and other waters of the U.S. are regulated by the Corps and require a permit under Section 404 of the Clean Water Act. ERO recommends requesting a jurisdictional determination from the Corps to identify which wetlands and other waters are under Corps jurisdiction. For wetlands or other waters determined to be jurisdictional, ERO recommends submitting a wetland delineation report to the Corps to confirm the boundaries of jurisdictional areas. Before any activities occur within wetlands or waters of the U.S. that have been determined to be jurisdictional, the Corps should be notified to determine what type of permit is needed. If no activities are planned that would impact the creeks, ditches or associated wetlands within the study area, no action is necessary.
- **Floodplain management.** The Denver Regulatory Office of the Corps is placing greater emphasis on avoiding placement of fill in mapped 100-year floodplains and on avoidance and minimization of indirect effects to the aquatic ecosystem. If the Corps takes jurisdiction over any of the waterways or wetlands within the study area, ERO recommends that project proponents contact the Corps early in the planning process so that Corps' floodplain management concerns can be addressed and incorporated into the initial project design.

- **Bald eagle.** No bald eagle nests occur within the study area; however, a new nest has been documented along Saint Vrain Creek a little over one mile from the study area. Currently in Colorado, the Service and/or CDOW policies and guidelines restrict activities within one-half mile of an active bald eagle nest. Since the study area is over one-half mile from the active nest, no action is necessary.
- **Preble's meadow jumping mouse**. Because an intermittent tributary is present within the study area, ERO recommends submitting a habitat assessment to the Service requesting the study area be excluded from requiring a presence/absence trapping survey.
- **Ute ladies'-tresses orchid.** Most of the study area does not contain habitat for ULTO and does not require a survey. Suitable habitat for ULTO is present within portions of the Dick and Bogott Parcels; therefore, the site falls under the guidelines that require a survey. ERO recommends conducting a presence/absence survey prior to any potential development activities.
- **Colorado butterfly plant.** Suitable habitat for the CBP is not present within the project area and no action is necessary.
- **Raptors and migratory birds.** Prior to any potential development activity, vegetation, including any trees within the study area, should be removed outside of the breeding season (generally November through February) to avoid the unintentional destruction of a migratory bird or its nest with eggs or nestlings. Potential development activity should be restricted during the breeding season near any active migratory bird nest.
- **Other wildlife.** Any development in the study area will likely cause a change in wildlife use in the area with species adapted to urban development increasing. To some extent the wetland and riparian corridors and Union Reservoir will continue to provide wildlife habitat. Vegetated upland buffers between the water bodies, including associated wetlands and any potential development would help reduce negative impacts on wildlife.

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# THREATENED AND ENDANGERED SPECIES HABITAT ASSESSMENT

## WEST UNION RESERVOIR
## WELD COUNTY, COLORADO

*Prepared for—*

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August 30, 2006

# THREATENED AND ENDANGERED SPECIES HABITAT ASSESSMENT

## WEST UNION RESERVOIR WELD COUNTY, COLORADO

## AUGUST 30, 2006

## Introduction

Bruns Concrete and Construction retained ERO Resources to conduct a habitat assessment for threatened and endangered species on a 400-acre site in Longmont, Colorado. The purpose of this assessment is to determine the presence or absence of threatened and endangered species habitat within or adjacent to the project area.

The study area is located in the southwestern quarter of Section 30 and western half of Section 31, Township 3 North, Range 68 West; and the northwestern quarter of Section 6, Township 2 North, Range 68 West, of the 6th Principal Meridian in Weld County, Colorado (Figure 1). The UTM coordinates of the approximate center of the property are 495696mE, 4447938mN, Zone 13.

## Ecological and Other Features of the Assessment Area

The study area contains 16 parcels of land along the west side of Union Reservoir and east of Weld County Road 1 between Highway 66 and Highway 119 (Figure 2). The parcels have mixed land uses such as rural residential homes, agricultural production, commercial nurseries, and recreational facilities associated with Union Reservoir.

Weld County Road 1 (WCR-1) forms the western boundary of the study area. Most of the homes and outbuildings within the study area are located near WCR-1. A narrow strip of upland vegetation dominated by smooth brome (*Bromus inermis*) is present between the study area and Union Reservoir. Wetland vegetation, such as cattails (*Typha latifolia*) and sandbar willows (*Salix exigua*), was observed between the high and low water marks of Union Reservoir along a majority of the shoreline. All 16 parcels identified within the study area have undergone various levels of development, but overall a large majority of the parcels are currently or have previously been in

agricultural production. Agricultural production includes both livestock grazing and land cultivation.

The USGS topographic map shows four intermittent tributaries within or adjacent to the study area (Figure 2). Spring Gulch flows from northwest to southeast across the southern portion of the study area. Wetland vegetation such as cattails, Emory's sedge (*Carex emoryi*), and small scattered patches of sandbar willow are present along most of Spring Gulch.

The Oligarchy Ditch and a diversion channel from the Oligarchy Ditch are also present in the south portion of the study area. The Oligarchy Ditch enters the study area from the west through a culvert under WCR-1. Most of the water is directed to the north; however, a small portion of the water spills into a diversion channel that flows directly into Union Reservoir. The Oligarchy Ditch and diversion channel contain narrow fringes of wetlands along the banks dominated by species such as Emory sedge and meadow foxtail (*Alopecurus pratensis*). In addition, small patches of sandbar willows and cattails were observed in over bank areas along the diversion channel.

An unnamed tributary flows along the eastern property line within the northern portion of the study area. The tributary flows within a narrow (2-foot wide) channel through a culvert under Weld County Road 28 (WCR-28) and into Union Reservoir. Wetland vegetation is present along the unnamed tributary. This area has previously been heavily grazed by cattle. No sandbar willows or riparian shrubs are present along this tributary.

Union Reservoir Ditch flows from Union Reservoir along the extreme southeastern edge of the study area and into Spring Gulch at a location downstream of the site. Union Reservoir Ditch has a well established riparian corridor dominated by plains cottonwood (*Populus deltoides*), sandbar willows, and wetland vegetation.

## Federal Threatened, Endangered and Candidate Species

The project area was assessed for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Federally threatened and endangered species are protected under the Endangered Species Act of 1973 as amended

(16 U.S.C. 1531 et seq.). Significant adverse effects to a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the ESA. Because the study area lies along the boundary between Boulder and Weld Counties, federally listed threatened, endangered, and candidate species with potential habitat in Boulder and Weld County or with potential to be affected by projects in these two counties were addressed (Table 1).

The interior least tern, piping plover, whooping crane, and pallid sturgeon are species that rely heavily on habitat provided by the Platte River system. Alterations to rivers and lakes due to irrigation, canal construction, and dams have led to major declines of these species. Projects that result in depletions to the Platte River system, including the South Platte River and its tributaries, could potentially result in secondary impacts to these species or their habitat. Potential project elements that could result in depletions include detention facilities, dust abatement activities, and wetland mitigation. At this time it is unknown whether the proposed development project will result in depletions to the South Platte River, which could result in depletions to the Platte River system.

Potentially suitable habitat for Canada lynx, black-footed ferret, Mexican spotted owl, greenback cutthroat trout, and slender moonwort does not occur within the study area.

**Table 1. Federal threatened, endangered, and candidate species potentially found in Boulder and Weld Counties or with potential to be affected by projects in these counties.**

| Species | Common Name | Listing Status* | Habitat Present |
|---|---|---|---|
| **Birds** | | | |
| *Haliaeetus leucocephalus* | Bald eagle | FT | Potential |
| *Sterna antillarum athalassos*[1] | Interior least tern | FE | No |
| *Strix occidentalis lucida* | Mexican spotted owl | FT | No |
| *Charadrius melodus*[1] | Piping plover | FT | No |
| *Grus americana*[1] | Whooping crane | FE | No |
| | **Mammals** | | |
| *Lynx canadensis* | Canada Lynx | FT | No |
| *Mustela nigripes* | Black-footed ferret | FE | No |
| *Zapus hudsonius preblei* | Preble's meadow jumping mouse | FT | Potential |
| **Fish** | | | |
| *Oncorhynchus clarki stomias* | Greenback Cutthroat Trout | FE | No |
| *Scaphirhynchus albus*[1] | Pallid sturgeon | FE | No |
| **Plants** | | | |
| *Spiranthes diluvialis* | Ute ladies'-tresses orchid | FT | Potential |
| *Botrychium lineare* | Slender moonwort | FC | No |
| *Gaura neomexicana* spp. *coloradensis* | Colorado butterfly plant | FT | Potential |

*FT = Federally Threatened Species; FE = Federally Endangered Species; FC= Candidate Species for Federal Listing.

[1]Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.

*Source:* Service 2005.

Because of the association of the Preble's meadow jumping mouse (Preble's), bald eagle, Ute ladies'-tresses orchid, and Colorado butterfly plant to wetland/riparian habitat ERO evaluated the potential for these species habitat to be present in the study area.

### Bald Eagle

The bald eagle is primarily a winter resident in Colorado, although nesting along the Colorado Front Range has increased in recent years. Most nesting in Colorado occurs near lakes or reservoirs or along rivers. Typical bald eagle nesting habitat consists of forests or wooded areas that contain many tall, aged, dying and dead trees (Martell 1992).

According to the Colorado Natural Diversity Information Source (NDIS) database, the study area is located within an area identified as bald eagle winter range, and Union Reservoir is identified as an area containing potential winter foraging and a winter concentration of bald eagles (NDIS 2006). The Northern States Bald Eagle Recovery Plan identifies protection of significant wintering areas as an important component to the survival and recovery of the bald eagle. The Northern States Bald Eagle Recovery Plan has established a set of criteria defining essential winter habitat, the most relevant criterion being communal winter roost defined as "locations used annually by 15 or more eagles for two weeks or longer" (Service 1983). Union Reservoir is not defined as a communal winter roost (NDIS 2006). A long established communal roost exists approximately 1.5 miles southeast of Union Reservoir near the confluence with Bolder Creek (NDIS 2006).

In a phone conversation between Jenelle Kreutzer of ERO Resources and Dan Wolford of the City of Longmont, Mr. Wolford stated that his staff has noted over 100 bald eagles in the vicinity of Union Reservoir, of which approximately 75 percent were observed perched in trees adjacent to or within the southern portion of the project area. No bald eagle nests occur within the study area; however, a nest has been documented along Saint Vrain Creek, approximately one mile southwest of the study area. The nest was not successful this year.

***Potential Effects***

ERO Resources surveyed the site on April 25, 2006. The project area is located outside of the buffer areas recommended by both the Service and the Colorado Division of Wildlife for documented bald eagle nests and roost sites. However, the project area does occur within an area mapped as bald eagle winter concentration and foraging area and there are suitable trees for roosting and/or nesting along the eastern portion of the diversion channel from Oligarchy Ditch. Although no designated critical or essential bald eagle habitat would be impacted by the proposed project, certain project activities may affect the bald eagle through displacement of individuals and visual and noise disturbance to potential foraging and daytime perch and roost areas. ERO recommends further studies be completed to determine if the bald eagle will be impacted by the project.

**Preble's Meadow Jumping Mouse**

Preble's is listed as threatened under the ESA. Typically, Preble's habitat is located in low undergrowth consisting of grasses and forbs, in open wet meadows, riparian corridors near forests, or where tall shrubs and low trees provide adequate cover. Along Colorado's Front Range, Preble's is found below 7,500 feet in elevation, generally in lowlands with medium to high moisture along permanent or intermittent streams (Meaney et al. 1997).

ERO Resources evaluated the site on April 25, 2006 and determined that the proposed project will likely have no effect on Preble's or habitat because:

- Most of tributaries within the study area lack or have isolated patches of adequate shrub cover by sandbar willow and other shrubs typically associated with known Preble's habitat.
- Multiple trapping surveys in better habitat on St. Vrain Creek located about one mile south of the study area failed to capture any Preble's.
- The study area is dominated by pasture grasses and non-native vegetation not typically associated with Preble's.
- The area has been disturbed by human activity such as construction of roads, land cultivation, and residential development.

Given these facts, it is highly unlikely that the study area supports a population of Preble's mice. ERO recommends that the project be allowed to proceed without a trapping survey.

**Ute Ladies'-Tresses Orchid**

Ute ladies'-tresses orchid (ULTO) occurs at elevations below 6,500 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes. Occurrences of ULTO have been documented in Colorado, Wyoming, Idaho, Nevada, and Utah. Once thought to be fairly common in low elevation riparian areas in Colorado, Utah, and Nevada, currently only sixteen populations are reported to occur in Colorado with most populations occurring along the Front Range. Generally, the vegetative cover is relatively open; dense, overgrown sites are not conducive to ULTO establishment. Where ULTO is found, soils are typically alluvial deposits of sandy, gravelly material that are saturated to within 18 inches of the surface for at least part of the growing season.

***Potential Effects***

ERO Resources evaluated the site on April 25, 2006. Suitable habitat for ULTO is not present within a majority of the study area, including the cultivated fields and disturbed areas adjacent to the residential homes and outbuildings. Subirrigated and wet meadows, and wetlands associated with ephemeral streams including isolated wetlands, fall within the Service's guidelines for areas requiring a ULTO survey if suitable habitat is present. Suitable habitat for ULTO is present within portions of the Dick and Bogott Parcels (Figure 2). ERO recommended the client conduct a presence/absence survey for ULTO in these parcels.

**Colorado Butterfly Plant**

The Colorado butterfly plant (CBP) is listed as a threatened species under the ESA (Federal Register, October 18, 2000). The CBP is a short-lived perennial herb found in moist areas of floodplains within a small area of southeastern Wyoming, western Nebraska, and north-central Colorado. It occurs on sub-irrigated, alluvial soils on level or slightly sloping floodplains and drainage bottoms at elevations of 5,000 to 6,000 feet. Colonies are often found in low depressions or along bends in wide, active, meandering stream channels a short distance upslope of the actual channel. Its historical and current distribution includes Boulder, Douglas, Larimer, and Weld Counties, Colorado. Agricultural activities within floodplains as well as water diversion projects, channelization, and urban development threaten this species. Typical CBP habitat is relatively open without dense or overgrown vegetation.

***Potential Effects***

ERO Resources evaluated the site on April 25, 2006 and determined that the proposed project will likely have no effect on the CBP because:

- The majority of the study area is within uplands that are currently or have previously been in agricultural production. These areas are not considered suitable habitat for the CBP.
- No active, meandering stream channels or associated floodplains occur within the study area.

## Conclusions and Discussion

Since certain project activities may affect the bald eagle through displacement of individuals and disturbance to potential foraging and daytime perch and roost areas, ERO

recommends further studies be completed to determine if the bald eagle will be impacted by the project. Given the current site conditions, suitable habitat is not present in the project site for CBP. It is highly unlikely that the study area supports a population of Preble's. ERO recommends that the project be allowed to proceed without a survey for the Preble's. Potentially suitable habitat for ULTO is present within portions of the Dick and Bogott Parcels. ERO recommended that the client conduct a presence/absence survey for ULTO in these parcels.

## Qualifications of Surveyors

Qualifications of Clint R. Henke and Jenelle Kreutzer have been previously submitted to the U.S. Fish and Wildlife Service and are available upon request.

## Site Information

**Location:** Longmont 7½-minute USGS quad, Section 30 and 31, Township 3 North, Range 68 West; and Section 6, Township 2 North, Range 68 West, in Weld County, Colorado

**UTM Coordinates:** Zone 495696mE and 4447938mN.

**Elevation:** Approximately 4,950 to 4,980 feet above sea level

**Site Hydrology:** Ephemeral drainages.

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Consultants in
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# NATURAL RESOURCES SITE REVIEW

## UNION
## WELD COUNTY, COLORADO

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# NATURAL RESOURCES SITE REVIEW
# UNION RESERVOIR
# WELD COUNTY, COLORADO

## NOVEMBER 22, 2006

## Introduction

ERO Resources Corporation (ERO) was retained by 4 C Corporation to conduct a natural resources assessment for a 313-acre site near Longmont, Colorado. The study area consists of a parcel of land located south and east of Union Reservoir in western Weld County. The site is bound by County Road 26 to the north, State Highway 119 to the south, and private and residential areas to the east and west. The Great Western Railroad right-of-way bisects the northeastern portion of the study area. The study area is primarily used for agricultural production.

On July 28, 2006, Clint Henke, an ecologist with ERO, surveyed the area to review natural resources within the study area. During this site review, potential habitat for federally listed threatened and endangered species, and other potential natural resources was identified. Jurisdictional wetland delineations were not conducted during this site review. This report provides information on existing site conditions and resources, as well as current regulatory guidelines related to those resources. It is assumed that the project proponent is responsible for obtaining proper federal, state, or local permits for proposed project activities.

## Site Description

The study area is located in the northern and eastern portions of Section 5, Township 2 North, and Range 68 West of the 6$^{th}$ Principal Meridian in Weld County, Colorado (Figure 1). The UTM coordinates of the approximate center of the property are 497991mE, 4446614mN, Zone 13.

The study area consists primarily of agricultural land. The northwestern and northeastern portions of the study area are dominated by fallow agricultural fields. Dominant species in the fallow fields include green foxtail (*Setaria viridis*), kochia

(*Kochia scoparia*), and curly dock (*Rumex crispus*). The eastern portion of the study area is dominated mostly by active corn and hayfields. The Oligarchy Ditch traverses the northeastern quarter of the study area. North of the ditch, and south of the Great Western Railroad, the land consists of an active corn crop. A hayfield and corn crops occur south of the Oligarchy Ditch (Figure 2).

## Potential Wetlands and Waters of the U.S.

The Clean Water Act was passed by the U.S. Congress in 1977 to protect the physical, biological, and chemical quality of waters of the U.S. The U.S. Army Corps of Engineers' (Corps) Regulatory Program administers and enforces Section 404 of the Clean Water Act. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into waters of the U.S. The Corps defines waters of the U.S. as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters.

Because of court challenges to the Corps' jurisdiction over wetlands and waters of the U.S., the Corps' regulatory guidance is in a state of flux. The Environmental Protection Agency (EPA) and the Corps will soon be issuing guidance to clarify the intent of the recent Supreme Court ruling on wetlands (No. 04-1034 *Rapanos et ux., et al. v. United States* and No. 04-1384 *Carabell et al. v. United States Army Corps of Engineers et al.*). Guidance will provide information regarding overall Corps authority in determining jurisdiction of wetlands and waterways located in Colorado and the United States. Until guidance from the EPA and Corps is released to the public, the Corps is not performing jurisdictional determinations on drainages and wetlands located in Colorado.

### *Oligarchy Ditch*

The Oligarchy Ditch enters the study area from the west. The Oligarchy Ditch contains a narrow fringe of wetlands along the banks dominated by species such as Emory's sedge (*Carex emoryi*), common dogbane (*Apocynum cannabinum*), and sandbar willow (*Salix exigua*). Canada thistle (*Cirsium arvense*), prickly lettuce (*Lactuca serriola*), bindweed (*Convolvulus arvensis*), and thick-spike wheatgrass (*Agropyron*

*dasystachyum*) are dominant in uplands adjacent to the ditch. A few Siberian elm (*Ulmus pumila*) and crack willow (*Salix fragilis*) also occur along the ditch.

The Oligarchy Ditch originates in Foothills Reservoir in the southwest ¼ of Section 27, Township 3 North, Range 69 West, in the Hygiene Quadrangle. The Oligarchy Ditch ends in an open area in the West ½ of Section 33, Township 3 North, Range 68 West, Longmont Quadrangle. In a letter dated March 15, 2002, the Corps determined that the Oligarchy Ditch did not fall under Corps' jurisdiction and no 404 permit or authorization by the Corps was necessary for work in the wetlands along the Ditch. No action is necessary regarding the Oligarchy Ditch.

## Threatened, Endangered, and Candidate Species

Federally listed threatened and endangered species are protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The study area was assessed for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Significant adverse effects to a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the ESA.

The study area is located in western Weld County. Federally listed threatened, endangered, and candidate species potentially occurring in Weld County are addressed in this report. Table 1 contains a list of the species potentially occurring in Weld County (Service 2005). The table includes listing status and whether appropriate habitat is present in the study area. Species known to be present or with potential habitat as outlined in survey guidelines in the study area are discussed in the following sections.

**Table 1. Federally threatened, endangered, and candidate species potentially occurring in Weld County.**

| Species | Common Name | Listing Status* | Habitat Present |
|---|---|---|---|
| **Birds** | | | |
| *Haliaeetus leucocephalus* | Bald eagle | FT | No |
| *Sterna antillarum athalassos*** | Interior least tern | FE | No |
| *Strix occidentalis lucida* | Mexican spotted owl | FT | No |
| *Charadrius melodus*** | Piping plover | FT | No |
| *Grus americana*** | Whooping crane | FE | No |
| | **Mammals** | | |
| *Mustela nigripes* | Black-footed ferret | FE | No |
| *Zapus hudsonius preblei* | Preble's meadow jumping mouse | FT | No |
| **Fish** | | | |
| *Scaphirhynchus albus*** | Pallid sturgeon | FE | No |
| **Plants** | | | |
| *Spiranthes diluvialis* | Ute ladies'-tresses orchid | FT | No |
| *Gaura neomexicana* spp. *coloradensis* | Colorado butterfly plant | FT | No |

*FT = Federally Threatened Species; FE = Federally Endangered Species;

**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.

*Source:* Service 2005.

The interior least tern, piping plover, whooping crane, and pallid sturgeon are species that rely heavily on habitat provided by the Platte River system. Alterations to rivers and lakes due to irrigation, canal construction, and dams have led to major declines of these species. Projects that result in depletions to the Platte River system, including the South Platte River and its tributaries, could potentially result in secondary impacts to these species or their habitat. These species are highly unlikely to occur in this portion of Weld County. If activities associated with future use or development of the site would result in changes of flow velocities or evaporation rates, which could result in depletions to the Platte River system, the Service may require consultation on potential adverse effects on the species.

Because of the association of the bald eagle, Preble's meadow jumping mouse (Preble's), Ute ladies'-tresses orchid (ULTO), and Colorado butterfly plant (CBP) with

wetland/riparian habitat, potentially suitable habitat for these species is more likely to occur within development sites across the Front Range. Because these species are more likely to be addressed by counties and regulatory agencies such as the Corps, a more detailed discussion of these species is provided below.

**Bald Eagle**

***Species Background***

The bald eagle is a large North American bird with an historical distribution throughout most of the U.S. The bald eagle was listed as an endangered species in 1978. Population declines are attributed to habitat loss, the use of organochlorine pesticides, and mortality from shooting. Since listing, the population trend for the bald eagle has been increasing. The bald eagle was downlisted from endangered to threatened in 1995 and the Service is proposing to delist the bald eagle due to population recovery. If the bald eagle is removed from the list of threatened and endangered species, it will continue to be protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act.

The bald eagle is primarily a winter resident in Colorado, although nesting along the Colorado Front Range has increased in recent years (CDOW 2001). Most nesting in Colorado occurs near lakes or reservoirs or along rivers. Typical bald eagle nesting habitat consists of forests or wooded areas that contain many tall, aged, dying, and dead trees (Martell 1992).

***Potential Habitat and Possible Effects***

According to the Colorado Natural Diversity Information Source (NDIS), Union Reservoir, which borders the extreme northwestern portion of the study area, is identified as an area containing potential winter foraging and a winter concentration of bald eagles (NDIS 2006). No bald eagle nests occur within the study area; however, a nest has been documented along St. Vrain Creek, approximately 1 mile south of the study area, on private property adjacent to SH 119 (Jones, 2006). A roosting area exists near the confluence of St. Vrain Creek and Boulder Creek approximately 0.25 mile southeast of the southern limits of the project area.

ERO evaluated the site on July 28, 2006 and believes that the proposed project will not adversely impact bald eagles for the following reasons.

- No trees suitable for nesting or roosting on the project site occur within the study area.
- The nearest known communal roost site is located approximately 0.25 mile south of the southernmost boundary of the study area along St. Vrain Creek.
- The nearest communal roost site is located closer to SH 119, a heavily traveled highway and an active gravel mine, residential development to the west than the study area.
- Portions of the study area are actively cultivated at the present time.
- No known winter night roost sites are known to occur near the project area.
- The site does not provide any high-quality foraging area for eagles. No prairie dogs or water bodies are located on the site.

**Preble's Meadow Jumping Mouse**

***Species Background***

Preble's is listed as threatened under the ESA. Typically, Preble's habitat is located in low undergrowth consisting of grasses and forbs, in open wet meadows, riparian corridors near forests, or where tall shrubs and low trees provide adequate cover. Along Colorado's Front Range, Preble's is found at elevations below 7,500 feet, generally in lowlands with medium to high moisture along permanent or intermittent streams (Meaney et al. 1997).

Recent studies have suggested that Preble's is not a distinct subspecies (*Zapus hudsonius preblei*), but is actually a disjunct population of two wider-ranging subspecies; one known as the Bear Lodge jumping mouse (*Z. h. campestris*) is native to Montana and the Dakotas, and the other (*Z. h. intermedius*) occurs in the upper Midwest (Ramey et al. 2005). The Service reviewed this study and historical data, and published a 12-month finding on a petition to delist Preble's as a threatened species (70 Fed. Reg. 5404 (February 2, 2005)). A subsequent study conducted by the U.S. Geological Survey (King et al. 2006) concluded that not only is Preble's a taxonomically valid subspecies, but the evidence suggests that there are two genetically distinct populations (distinct population segments) of Preble's. Based on the two conflicting studies, the Service has extended the

review period for the proposed delisting. The Service is not expected to make a final decision until sometime during fall of 2006. Following the review period, the Service will announce the official status of Preble's. Until the Service makes a final determination, Preble's will continue to be protected under the ESA.

***Potential Habitat and Possible Effects***

The project area was assessed for potential Preble's habitat. Suitable habitat for Preble's is not present within the study area; however, ERO recommends submitting a habitat assessment to the Service requesting that the Oligarchy Ditch (within the study area) be excluded from a presence/absence survey. Habitat assessments are valid for 1 year and should be renewed annually if land development has not begun in that period. If the Service does not concur with some or all of the recommendations in the habitat assessment, the Service may require a trapping survey for these portions of the project area. Preble's surveys are conducted between June 1 and September 15, and trapping surveys are also valid for 1 year. If no Preble's are trapped during the survey, development plans would be allowed to proceed. If Preble's are trapped during the survey, the Service would likely request that a Biological Assessment (BA) or Habitat Conservation Plan (HCP) be submitted.

**Ute Ladies'-Tresses Orchid**

***Species Background***

ULTO occurs at elevations below 6,500 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes. Occurrences of ULTO have been documented in Colorado, Wyoming, Idaho, Nevada, and Utah. Once thought to be fairly common in low elevation riparian areas in Colorado, Utah, and Nevada, currently only 16 populations are reported to occur in Colorado with most populations occurring along the Front Range. Generally, the vegetative cover is relatively open; dense, overgrown sites are not conducive to ULTO establishment. Where ULTO is found, soils are typically alluvial deposits of sandy, gravelly material that are saturated to within 18 inches of the surface for at least part of the growing season.

***Potential Habitat and Possible Effects***

Subirrigated and wet meadows, and wetlands associated with ephemeral streams including isolated wetlands, fall within the Service's guidelines for areas requiring a ULTO survey if suitable habitat is present. Suitable habitat for ULTO in not present within the study area, including the cultivated fields and along the Oligarchy Ditch. No action is necessary regarding ULTO.

**Colorado Butterfly Plant**

***Species Background***

The CBP is listed as a threatened species under the ESA (Federal Register, October 18, 2000). The CBP is a short-lived perennial herb found in moist areas of floodplains within a small area of southeastern Wyoming, western Nebraska, and north-central Colorado. CBP occurs on subirrigated, alluvial soils on level or slightly sloping floodplains and drainage bottoms at elevations of 5,000 to 6,000 feet. Colonies are often found in low depressions or along bends in wide, active, meandering stream channels a short distance upslope of the actual channel. Its historical and current distribution includes Boulder, Douglas, Larimer, and Weld counties, Colorado. Agricultural activities within floodplains, as well as water diversion projects, channelization, and urban development, threaten this species. Typical CBP habitat is relatively open without dense or overgrown vegetation.

***Potential Habitat and Possible Effects***

The Service has not established official survey guidelines for the CBP; however, the Service has provided guidance on areas that do not merit CBP surveys, which include ephemeral streams (Payson 2001; Long 2001). The majority of the study area is within uplands that are currently or have previously been in agricultural production. Because there are no active, meandering stream channels or associated floodplains within the study area, it would be considered unsuitable habitat for the CBP. No action is necessary regarding the CBP.

# Other Species of Concern

## Raptors and Migratory Birds

### *Background*

Migratory birds, including raptors, and any active nests are protected under the Migratory Bird Treaty Act (MBTA). The MBTA prohibits activities that may harm or harass migratory birds. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA (Migratory Bird Permit Memorandum, U.S. Fish and Wildlife April 15, 2003). The regulatory definition of a take under the MBTA means to pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect. Additionally, Executive Order 13186 direct federal agencies to take certain actions to implement the MBTA (86FR 3853). Compliance with the MBTA requires the following:

- While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA (Migratory Bird Permit Memorandum: Steve Williams, Director U.S. Fish and Wildlife Service, April 15, 2003). Thus the nest or nest trees cannot be removed or destroyed during the breeding season (generally March through July).
- Take of an active nest site requires obtaining a nest depredation permit from the Migratory Bird Office of the U.S. Fish and Wildlife Service.
- Nests or nest trees that will eventually be removed can be removed during the non-breeding season to preclude nesting.
- Habitat-disturbing activities (such as tree removal, grading, scraping, and grubbing) should be conducted in the non-breeding season (August through February) to avoid disturbing (or take) of a migratory bird nest, including ground-nesting species.

The CDOW has published recommended setbacks for nesting and breeding raptors (hawks and eagles) in the state. There are no recommended setbacks for most other bird species.

### *Potential Habitat and Possible Effects*

Cultivated fields within the study area provide potential nesting habitat for a variety of migratory birds. Common species such as killdeer, western meadowlark, and horned

lark may occur in the area. Nests within grasslands or cultivated fields are easily overlooked. It is recommended that vegetation be removed from the site outside of the breeding season (March through July) to avoid harming any potential nests. If an active nest is identified within or near the project area, activities that would directly impact the nest, or that would encroach close enough to cause adult birds to abandon the nest during the breeding season, should be restricted. It is important to note that any new breeding season is an opportunity for birds to build new nests.

No raptor nests or trees suitable for nesting raptors exist within the study area boundaries.

**Other Wildlife**

No other unique or sensitive wildlife habitat occurs within the study area. The Oligarchy Ditch and its associated riparian corridor likely provide a movement corridor for wildlife species, especially songbirds and small mammals such as American robin, yellow-headed blackbird, and deer mouse. As with any human development or habitat alteration, wildlife species sensitive to human disturbance are likely to decline in abundance or abandon the area. Species likely to decline would include sensitive raptors such as northern harrier, and ferruginous hawk, and predators such as coyote and badger. Overall, ongoing development contributes to a decline in the number and diversity of wildlife species and to a change in species composition to favor species that adapt better to human disturbance.

## Regulations and Recommendations

- **Wetlands.** In a letter dated April 19, 2002, the Corps determined that the Oligarchy Ditch and associated wetlands are isolated in nature and do not fall under their jurisdiction within the study area. No action is necessary regarding the Oligarchy Ditch.
- **Bald eagle.** No bald eagle nests occur within the study area; however, a new nest has been documented along St. Vrain Creek a little over 1 mile from the study area. Currently in Colorado, the Service and/or CDOW policies and guidelines restrict activities within ½ mile of an active bald eagle nest. Because the study area is over ½ mile from the active nest, no action is necessary.
- **Preble's meadow jumping mouse**. Because the Oligarchy Ditch is present within the study area, ERO recommends submitting a habitat assessment to

the Service requesting the study area be excluded from requiring a presence/absence trapping survey.

- **Ute ladies'-tresses orchid.** The study area does not contain habitat for ULTO and does not require a survey because the site contains no perennial streams or rivers that feed into the South Platte River, and the site is not located in Boulder or Jefferson counties.
- **Colorado butterfly plant.** Suitable habitat for the CBP is not present within the study area and no action is necessary.
- **Raptors and migratory birds.** Prior to any potential development activity, vegetation, including any trees within the project footprint, should be removed outside of the breeding season (generally November through February) to avoid the unintentional destruction of a migratory bird or its nest with eggs or nestlings. Potential development activity should be restricted during the breeding season for any active migratory bird nest located within the construction footprint.
- **Other wildlife.** Any development in the study area will likely cause a change in wildlife use in the area with species adapted to urban development increasing. To some extent the wetland and riparian corridors and Union Reservoir will continue to provide wildlife habitat. Vegetated upland buffers between the water bodies, including associated wetlands and any potential development would help reduce negative impacts on wildlife.

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# UNION
# THREATENED AND ENDANGERED SPECIES
# HABITAT ASSESSMENT

WELD COUNTY, COLORADO

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December 15, 2006

# UNION
# THREATENED AND ENDANGERED SPECIES HABITAT ASSESSMENT

## WELD COUNTY, COLORADO

## DECEMBER 15, 2006

## Introduction

ERO Resources Corporation (ERO) was retained by 4C Corporation (4C) to conduct a threatened and endangered species habitat assessment for a 313-acre site near Longmont, Colorado. The study area consists of a parcel of land located south and east of Union Reservoir in western Weld County. The site is bounded by County Road (CR) 26 to the north, State Highway (SH) 119 to the south, and private land and residential areas to the east and west. The Great Western Railroad right-of-way bisects the northeastern portion of the study area. Union Reservoir is located northwest of the study area The study area is primarily used for agricultural production.

In April 3, 2002, a threatened and endangered species habitat assessment report for this site was submitted to the Service. The Service concurred that the site did not contain habitat for any threatened or endangered species at that time. Since the site is over 4 years old, it was requested by the Client that ERO prepare this threatened and endangered species report for submittal to the Service. Site conditions have not significantly changed since 2002. Rational for exclusion of the site as threatened or endangered species habitat is provided in this report. The previous response letter issued from the Service has been attached to this report.

The study area is primarily located in the northern and eastern portions of Section 5, Township 2 North, and Range 68 West of the 6$^{th}$ Principal Meridian in Weld County, Colorado (Figure 1). The UTM coordinates of the approximate center of the property are 497991E, 4446614N, Zone 13.

## Ecological and Other Features of the Assessment Area

The study area consists primarily of agricultural land. The northwestern and northeastern portions of the study area are dominated by fallow agricultural fields.

Dominant vegetation in the fallow fields consists of weedy species including green foxtail (*Setaria viridis*), kochia (*Kochia scoparia*), and curly dock (*Rumex crispus*). The eastern portion of the study area is dominated mostly by active corn and hayfields.

The Oligarchy Ditch traverses the northeastern quarter of the study area. The Oligarchy Ditch contains a narrow fringe of wetlands along the banks dominated by Emory's sedge (*Carex emoryi*), and common dogbane (*Apocynum cannabinum*). Canada thistle (*Cirsium arvense*), prickly lettuce (*Lactuca serriola*), bindweed (*Convolvulus arvensis*), and thick-spike wheatgrass (*Agropyron dasystachyum*) are dominant in uplands adjacent to the ditch. A few sandbar willow (*Salix exigua*), small Siberian elm (*Ulmus pumila*) and crack willow (*Salix fragilis*) trees and shrubs also occur along the ditch. North of the ditch and south of the Great Western Railroad, the land consists of an active corn crop. Hayfields and cornfields occur south of Oligarchy Ditch (Figure 2). The confluence between Boulder Creek and St. Vrain Creek is located approximately 0.5 mile southeast of the study area (Figure 1).

## Federal Threatened and Endangered Species

The study area was assessed for potential habitat for threatened and endangered species which are protected under the Endangered Species Act (ESA) of 1973 as amended (16 U.S.C. 1531 et seq.). Significant adverse effects to a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the ESA. Table 1 lists federal threatened and endangered species with potential habitat which may be affected by projects occurring in Weld County.

The interior least tern, piping plover, whooping crane, and pallid sturgeon are species that rely heavily on downstream habitat in the Platte River system. Alterations to rivers and lakes due to irrigation, canal construction, and dams have led to major declines of these species. Projects that result in depletions to the Platte River system, including the South Platte River and its tributaries, could potentially result in secondary impacts to these species or their habitat. Potential project elements that could result in depletions include detention facilities, dust abatement activities, and wetland mitigation or removal. At this time it is unknown whether the proposed development project will result in

depletions to the St. Vrain River or Boulder Creek, which could result in depletions to the Platte River system.

No prairie dog colonies to support black-footed ferrets occurs within the study area. Additionally, Potentially suitable habitat for the Mexican spotted owl does not occur within the study area.

**Table 1. Federal Threatened and Endangered Species Potentially Occurring in Weld County.**

| Species | Common Name | Listing Status* | Habitat Present |
|---|---|---|---|
| **Birds** | | | |
| *Haliaeetus leucocephalus* | Bald eagle | FT | No |
| *Sterna antillarum athalassos*[1] | Interior least tern | FE | No |
| *Strix occidentalis lucida* | Mexican spotted owl | FT | No |
| *Charadrius melodus*[1] | Piping plover | FT | No |
| *Grus americana*[1] | Whooping crane | FE | No |
| | **Mammals** | | |
| *Mustela nigripes* | Black-footed ferret | FE | No |
| *Zapus hudsonius preblei* | Preble's meadow jumping mouse | FT | No |
| **Fish** | | | |
| *Scaphirhynchus albus*[1] | Pallid sturgeon | FE | No |
| **Plants** | | | |
| *Spiranthes diluvialis* | Ute ladies'-tresses orchid | FT | No |
| *Gaura neomexicana* spp. *coloradensis* | Colorado butterfly plant | FT | No |

*FT = Federally Threatened Species; FE = Federally Endangered Species;
[1]Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.
*Source:* Service 2005.

Because of the association of the bald eagle, Preble's meadow jumping mouse (Preble's), Ute ladies'-tresses orchid, and Colorado butterfly plant to wetland/riparian habitat along the Front Range, ERO evaluated the potential for these species to occur in the study area.

### Bald Eagle

The bald eagle is primarily a winter resident in Colorado, although nesting along the Colorado Front Range has increased in recent years. Most nesting in Colorado occurs

near lakes or reservoirs or along rivers. Typical bald eagle nesting habitat consists of forests or wooded areas that contain many tall, aged, dying and dead trees (Martell 1992).

According to the Colorado Natural Diversity Information Source (NDIS) database, the study area is located within an area identified as bald eagle winter range, and Union Reservoir is identified as winter foraging and a winter concentration area for bald eagles (NDIS 2006). A communal roost site exists along St. Vrain Creek approximately 0.25 miles from the southern limits of the project area along SH 11 (NDIS 2006). The Northern States Bald Eagle Recovery Plan identifies protection of significant wintering areas as an important component to the survival and recovery of the bald eagle. The Northern States Bald Eagle Recovery Plan has established a set of criteria defining essential winter habitat, the most relevant criterion being communal winter roost defined as "locations used annually by 15 or more eagles for two weeks or longer" (Service 1983). Union Reservoir is not defined as a communal winter roost on the NDIS website, although City of Longmont officials have apparently seen several bald eagles perched in adjacent trees (NDIS 2006). A long established communal roost exists approximately 1.5 miles southeast of Union Reservoir near the confluence of St. Vrain Creek with Boulder Creek (NDIS 2006).

No bald eagle nests occur within the study area; however, a nest has been documented along Saint Vrain Creek, approximately one mile southwest of the study area (Jones, 2006). The nest was not successful this year.

***Potential Effects***

According to the Colorado Natural Diversity Information Source, Union Reservoir, which borders the extreme northwestern portion of the study area, is identified as an area containing potential winter foraging and a winter concentration of bald eagles (NDIS 2006). No bald eagle nests occur within the study area; however, a nest has been documented along Saint Vrain Creek, approximately 1 mile south of the study area, on private property adjacent to SH 119 (Jones 2006). A roosting area exists near the confluence of St. Vrain Creek and Boulder Creek approximately 0.25 miles southeast of the southern limits of the project area. Residential development and Highway 119 exist between the site and this roost site

ERO Resources evaluated the site on July 28, 2006 and determined that the proposed project will not likely adversely affect the bald eagle or habitat because:

- No trees suitable for nesting or roosting on the project site occur within the study area.
- The nearest known communal roost site is located approximately 0.25 miles south of the southernmost boundary of the study area along St. Vrain Creek.
- The nearest communal roost site is located closer to SH 119, a heavily traveled highway, existing residential development, and an active gravel mine, to the west than the study area.
- Portions of the study area are actively cultivated at the present time.
- No known winter night roost sites are known to occur near the project area.
- The site does not provide any high quality foraging area for eagles. No prairie dogs or water bodies are located on the site.

**Preble's Meadow Jumping Mouse**

Preble's is listed as threatened under the ESA. Typically, Preble's habitat is located in low undergrowth consisting of grasses and forbs, in open wet meadows, riparian corridors near forests, or where tall shrubs and low trees provide adequate cover. Along Colorado's Front Range, Preble's is found at elevations below 7,500 feet, generally in lowlands with medium to high moisture along permanent or intermittent streams (Meaney et al. 1997).

Recent studies have suggested that Preble's is not a distinct subspecies (*Zapus hudsonius preblei*), but is actually a disjunct population of two wider-ranging subspecies; one known as the Bear Lodge jumping mouse (*Z. h. campestris*) is native to Montana and the Dakotas, and the other (*Z. h. intermedius*) occurs in the upper Midwest (Ramey et al. 2005). The Service reviewed this study and historical data, and published a 12-month finding on a petition to delist Preble's as a threatened species (70 Fed. Reg. 5404 (February 2, 2005)). A subsequent study conducted by the U.S. Geological Survey (King et al. 2006) concluded that not only is Preble's a taxonomically valid subspecies, but the evidence suggests that there are two genetically distinct populations (distinct population segments) of Preble's. Based on the two conflicting studies, the Service has extended the review period for the proposed delisting. The Service is not expected to make a final decision until sometime during fall 2006. Following the review period, the Service will

announce the official status of Preble's. Until the Service makes a final determination, Preble's will continue to be protected under the ESA.

ERO Resources evaluated the site on July 28, 2006 and determined that the proposed project will not likely adversely affect Preble's or habitat because:

- The Oligarchy Ditch lacks patches of adequate shrub cover by sandbar willow and other shrubs typically associated with known Preble's habitat.
- Multiple trapping surveys in better habitat on St. Vrain Creek located about one mile south of the study area failed to capture any Preble's.
- The study area is dominated by pasture grasses and non-native vegetation not typically associated with Preble's.
- The area has been disturbed by human activity such as construction of roads, land cultivation, and residential development.

Given these facts, it is highly unlikely that the study area supports a population of Preble's mice. ERO recommends that the project be allowed to proceed without a trapping survey.

**Ute Ladies'-Tresses Orchid**

Ute ladies'-tresses orchid (ULTO) occurs at elevations below 6,500 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes. Occurrences of ULTO have been documented in Colorado, Wyoming, Idaho, Nevada, and Utah. Once thought to be fairly common in low elevation riparian areas in Colorado, Utah, and Nevada, currently only sixteen populations are reported to occur in Colorado with most populations occurring along the Front Range. Generally, the vegetative cover is relatively open; dense, overgrown sites are not conducive to ULTO establishment. Where ULTO is found, soils are typically alluvial deposits of sandy, gravelly material that are saturated to within 18 inches of the surface for at least part of the growing season.

ERO Resources evaluated the site on July 28, 2006 and determined that the proposed project will not likely adversely affect ULTO or habitat because:

- The project site is not on a perennial tributary to the South Platte River.
- The area has been disturbed by human activity such as construction of roads, land cultivation, and residential development.
- The site consists primarily of dry, upland habitat.

- The nearest known population of ULTO occur approximately 12 miles southwest of the site on Boulder Creek near east 75th Street.

**Colorado Butterfly Plant**

The Colorado butterfly plant (CBP) is listed as a threatened species under the ESA (Federal Register, October 18, 2000). The CBP is a short-lived perennial herb found in moist areas of floodplains within a small area of southeastern Wyoming, western Nebraska, and north-central Colorado. It occurs on sub-irrigated, alluvial soils on level or slightly sloping floodplains and drainage bottoms at elevations of 5,000 to 6,000 feet. Colonies are often found in low depressions or along bends in wide, active, meandering stream channels a short distance upslope of the actual channel. Its historical and current distribution includes Boulder, Douglas, Larimer, and Weld Counties, Colorado. Agricultural activities within floodplains as well as water diversion projects, channelization, and urban development threaten this species. Typical CBP habitat is relatively open without dense or overgrown vegetation.

***Potential Effects***

ERO Resources evaluated the site on July 28, 2006 and determined that the proposed project will not likely adversely affect the CBP because:

- The majority of the study area is within uplands that are currently or have previously been in agricultural production. These areas are not considered suitable habitat for the CBP.
- No active, meandering stream channels or associated floodplains occur within the study area.
- The nearest known population of CBP occur approximately 50 miles north of the area along the Wyoming border on private property.

**Migratory Birds and Raptors**

In addition to species listed as threatened or endangered, ERO also assessed the area for the presence of species protected by the Migratory Bird Treat Act (MBTA). Migratory birds as well as their eggs and active nests are protected under the MBTA. The project area was assessed for potential migratory bird nesting habitat. Potential habitat typically includes trees and shrubs, but upland grasslands are also used for nesting. The site was also assessed for the presence of black-tailed prairie dog burrows, which are used for nesting by burrowing owls.

Cultivated fields within the study area provide potential nesting habitat for a variety of migratory birds. Common species such as killdeer, western meadowlark, and horned lark may occur in the area. Black-tailed prairie dog burrows are not present on or adjacent to the parcel. No nests were observed during the reconnaissance-level survey, but they are likely to be present. In order to avoid impacting migratory birds or their active nests, clearing and grubbing would occur either during the non-nesting season (March through August) or following a nest survey by a qualified biologist.

## Conclusions and Discussion

The site is located near Union Reservoir, which has been designated as potential winter foraging and winter concentration habitat for the bald eagle although, no eagle nests or roost sites occur on the site. It is unlikely that the proposed project will adversely affect bald eagles. It is highly unlikely that the study area supports a population of Preble's. ERO recommends that the project be allowed to proceed without a survey for the Preble's. No suitable habitat for ULTO or CBP exists within the study area.

## Qualifications of Surveyors

Qualifications of Clint R. Henke have been previously submitted to the U.S. Fish and Wildlife Service and are available upon request.

## Site Information

**Location:** Section 5, Township 2 North, and Range 68 West of the 6$^{th}$ Principal Meridian in Weld County, Colorado.

**UTM Coordinates:** Zone 13 497991mE, 4446614mN.

**Elevation:** Approximately 4,900 to 4,950 feet above sea level.

**Site Hydrology:** Irrigation ditch.

## References

Jones, S. Boulder County Audubon Society. 2006. Personal Communication w/ R. Beane (ERO Resources) October 24, 2006

Martell, M. 1992. Bald Eagle Winter management guidelines. USFWS, Reg. 3, Minneapolis, MN. 14pp.

Meaney, C.A., A. Deans, N.W. Clippenger, M. Rider, N. Daly, and M. O'Shea-Stone. 1997. Third year survey for Preble's meadow jumping mouse (*Zapus hudsonius preblei*) in Colorado. Boulder, Colorado. Under contract to Colorado Division of Wildlife.

NDIS. 2006. Colorado Natural Diversity Information Source. <http://ndis.nrel.colostate.edu/maps/default.asp?cmd=INIT&MapLinksID=1172&VisibleDataID=40,41,42&Topic=Wildlife>. August 15.

U.S. Fish and Wildlife Service. 2005. Federally Listed and Proposed Endangered, Threatened, Experimental, and Candidate Species and Habitat in Colorado by County, updated January 2005. http://www.r6.fws.gov/endspp/countylists/COLORADO.htm

U.S. Fish and Wildlife Service. 1983. Northern States Bald Eagle Recovery Plan. U.S. Fish Wildlife Service, Washington, DC.

## *Appendix F*
## *Public Process 2007*

***Stakeholder meeting minutes – 7/17/07***

***Public Meeting #1 (Visioning) – 7/26/07***

***Public Meeting #2 (Concepts) – 8/28/07***

***Public Meeting #3 (Draft Master Plan) – 9/24/07***

***Public Meeting #4 (Revised Master Plan) – 10/10/07***

***Public Comment Summary***

***Public Meeting #5 (PRAB Communication & Minutes) – 11/14/07***

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# Meeting Notes

## Union Reservoir Master Plan Update
**Stakeholders Meeting**

LOCATION: Union Reservoir, City of Longmont

DATE: July 17, 2007

ATTENDEES (City Staff & Consultants)
Dan Wolford, City of Longmont Parks & Open Space
Paula Fitzgerald, City of Longmont Parks & Open Space
Steve Ransweiler, City of Longmont Parks & Open Space
John Brim, City of Longmont – Union Reservoir
Erin Fosdick, City of Longmont Planning & Dev. Svcs
Ken Huson, City of Longmont Water Resources
Karen Charles, City of Longmont Recreation Services
Kurt Munding, Design Concepts
Emily Patterson, Design Concepts
Todd Bjerkaas, Design Concepts
*List of Attending Stakeholders is attached*

*Public Comments & Discussion*

**I. How long have you lived in the Longmont Area?** *To be compiled from comments*

**II. Do you live directly adjacent to the reservoir?** *To be compiled from comments*

**III. How many times have you visited the reservoir in the last 12 months?**
*To be compiled from comments*

**IV. What do you like best about the reservoir as it is today?**

1. Peaceful & quiet
2. When you live on it – enjoy it all day, everyday
3. Water recreation
4. Wakeless is a good rule
5. No noise from water skiers or speed boats
6. Even when motor boats were permitted, they were responsible and not a problem
7. Would like to see water skiing
8. Enjoy watching the sailors while flying electric airplanes – sailors retrieve planes gone astray
9. Natural areas
10. Habitats
11. Policy on dogs – on leash, except for dog park area

## V. What would you most like to see changed at the reservoir?

1. Water quality – for recreational purposes
    a. Ken – The Public Works / Water Utilities Department has started a program to take water quality samples once a month
    b. Project scope may have a conceptual approach to water quality, but not the technical engineering
    c. City maintains health standards – consistent testing – for swimming areas
    d. Same water quality at McIntosh and down the Oligarchy
2. Parks & Rec board recommendations – from letter (4 bullet points)
    a. Continuous public access around lake – uninterrupted publicly owned property around the perimeter of the reservoir; continuous walking path around the lake
    b. Public recreation stays programmatically intact – fishing, camping, bird watching, other day use activities
    c. Design consideration for controlled access – no privately owned parts of the shoreline – no disembarkment; don't want people bothering cattle or animals
    d. Wildlife and ecological concerns; must be maintained or enhanced
3. Parking should be provided nearby facilities so you don't have to hike so far
4. More pavement past parking area
5. More control of stray dogs
6. Add more fish
7. A lot of public use along the shoreline

## VI. What amenities would you like to have in and around the reservoir?

1. Dredging to the south provides opportunity for:
    a. deep areas for artificial fish habitats
    b. pier extending into new water body to fish from
    c. other habitat opportunities
2. Closer parking to facilities
3. Educational kiosks
    a. Interpretative signage (birds, hydrology, mountain peaks)
    b. Activities to engage – physical interaction
4. Fishing pier into reservoir – could double as pumping station
5. Restaurant with higher end food (concessions)
6. Separate paths for different uses – soft for pedestrian / joggers, paved for bicycles
7. Band shell
8. Fireworks (from a barge)
9. Symphony
10. Group camping areas for church, scouts, other groups
11. Sailboat slips
12. Improve fish habitat
13. A designated, gated dog park area where kids are not swimming

14. RV parking/camping
    a. Maybe keep a little rustic – not full hook-up
15. More wintertime recreation – ice fishing, ice skating, snowmobiles on lake, ice hockey
16. A new adjacent pond opportunity:
    a. summer - fly fishing teaching,
    b. winter - skating instruction (may be limited due to winter sun)
17. Maintain a consistent recreational water level/minimum pool level
18. Multiple use water/shoreline
19. See something for senior citizens

**VII. What features would you prefer not to have in and around the reservoir?**

1. Gangs
2. Not restricted to one specific use/group
3. Shooting range
4. An open, off-leash dog area
5. Water quality concerns with dog swimming area
6. A monolithic buffer of set width around entire reservoir – should be a Varied buffer edge

**VIII. What else do you think we need to know as we prepare the plan?**

1. Some physical recreation area existing right now will be gone when Union Reservoir expands
    a. Drawing to clarify what expansion will look like and what facilities will be impacted
    b. What will habitat adjacent to it look like
    c. Impacts of a higher embankment – understand the scale of the improvements
    d. Possible realignment of WCR 28
2. Life cycle of materials – durability aspect. Some improvements could go in now since the expansion project is so far off – these improvements may be at the end of their life cycle by then.
3. Fight/alcohol problems at reservoir
4. Municipal police jurisdiction comes out to the reservoir
5. Phasing will be an integral part of this plan – do not only what is good now and but also prepares for the future
6. List of priorities from which city can formulate budgets and plan accordingly
7. Complete plan by end of the year – can be determined for the next budget approval
8. Provide costs of recreational improvements to compare next to costs of enlargement (which are already determined)
9. Get legal staff involved – hunting, fishing, and water rec. rights
    a. Within legal agreement with Reservoir company
    b. Check back to make sure legal with existing agreements

*Overview Comments & Discussion*

**Regarding Scope**

1. This master plan will refer back to the 1989 Master Plan as a foundation, but so much has changed since then to the west and east. Need to show original master plan though.
2. After inundation – will master plan address habitat and perimeter engineering of lake (walls)?
    a. Paula – not the perimeter in detail; master plan will have basic footprint of expansion plan. The habitat mitigation that will be required by the expansion plan has already identified where these mitigation sites could be located. We can include those on the masterplan so we work around them – or can modify them a bit to fit the plan.
3. There will be habitat shifts and mitigation, but the master plan goal is more for recreation facilities and related programming, including those proposed adjacent developments. Regarding limiting commercial use around the lake –
    a. Paula - regulating adjacent land uses falls outside the scope of this process – but comments can definitely be passed on to Planning Dept.
    b. Erin - City can guide and regulate development around the reservoir:
    c. Reservoir is within the City's planning area; can use tools such as the Comprehensive Plan, public review process, city council approvals
    d. Buffers between development and reservoir recreation
    e. Can have soft objectives which could be interlaced: "encouraging complimentary adjacent uses: bike, fishing, etc. facilities", as they relate to the recreational component
4. Keep focus on recreational aspects – revise bullet 4 on 'Givens' to include "except for recreational component adjacent to the reservoir"
5. Permitting for the reservoir enlargement from the Corps of Engineers and other regulatory bodies will be handled by the Reservoir Company outside of this process
    a. Environmental impact statements – will show impacts to natural resources
6. Realignment of WCR 28 is conceptually aligned in West Union master plan
    a. May need to occur anyway with Union Reservoir expansion
    b. Was a part of the enlargement process
    c. Need to show it on the mapping
7. Definite potential for phasing which is critical to budget proposals for the reservoir; establish short term vs. long term priorities; important to know what could change in 25 years when the reservoir expands
8. Establish line between 'park coming into development' vs. 'development coming into park'

**Miscellaneous**

1. Concern regarding the dating of certain improvements when the expansion occurs 20 years from now
2. Project the future shoreline and start planting trees now, so they are mature amenities after enlargement in the new areas of activity
3. Is it a given that the shoreline will be owned by the city after expansion?
   Ken – the reservoir company will own the property from the new high water line to a point approximately 50' above the high water line. The City (or other property owners) will own to property above that point.
4. Question regarding reservoir's original purpose for irrigation
   a. The original decree was indeed for irrigation. In 1987 Longmont filed a change of water right application with the Colorado Water Court to also include municipal, augmentation and other uses, as well as an alternate point of diversion.
   b. This change has resulted in more reservoir water being used in the winter; November – calls come in from Platte River – water exchange
   c. Ken – not a lot of difference in water level since when augmentation occurred
5. If the Union Reservoir minority share holders don't participate in the master planning process – the city will take it to them to build a consensus/response from an important stakeholder.
6. Habitat improvements can be approached through phasing also
7. There is concern of disengaging West Union from process
   a. Work in hand with West Union, looking at its recreational aspects. Inform West Union so that the development/design can move forward in some state, be it with refinements, as it is, or complete redesign
   b. Change will occur and development does have an impact (and vice versa)
   c. Looking to add value to neighbors' property and add value to the City's property
8. What if West Union doesn't happen – This master plan must test all parts of the Reservoir's edge as West Union is only one of several components. If West Union is not annexed it may then lead to another update of the master plan.
9. Certain master plan aspects may cause shift in operation practices
10. Why is the reservoir being raised?
    To provide additional water storage for the ultimate build-out of Longmont's LPA.

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# Meeting Notes

## Union Reservoir Master Plan Update
**Public Meeting #1**

LOCATION: Parks Administration Building (Sunset), City of Longmont

DATE: July 26, 2007

ATTENDEES (City Staff & Consultants)
Paula Fitzgerald, *City of Longmont Parks & Open Space*
Steve Ransweiler, *City of Longmont Parks & Open Space*
John Brim, *City of Longmont – Union Reservoir*
Erin Fosdick, *City of Longmont Planning & Dev. Svcs*
Ken Huson, *City of Longmont Water Resources*
Rob Layton, *Design Concepts*
Emily Patterson, *Design Concepts*
Scott Hodson, *Design Concepts*
Todd Bjerkaas, *Design Concepts*
*List of Attending Stakeholders is attached*

***General Comments & Discussion***

1. There exist a series of annexations pending approval east of WCR 1
2. There are four improvement projects in water resources master planning to accommodate the city population at build-out. Currently the city uses ~18,000 acre/feet of water. At full build-out, it is estimated that Longmont will require ~35,000 acre/feet of water resources. This total volume can be achieved through:
    a. Water rights
    b. Windy Gap Firming Project
    c. Union Reservoir Enlargement
    d. Ralph Price Reservoir Enlargement
3. WCR 26 is proposed as aligned for two reasons: 1) to line-up with an extended 9th Avenue and 2) smooth out some of the tighter curves that currently exist
4. West Union Development is required to have 10 acres worth of park per the City's park land benchmark. These ten acres are proposed to be split into three areas along the western edge of Union Reservoir
5. The City's 'Primary Greenway' classification includes the purposes of stormwater management and recreational activities
6. The buffer zone around the reservoir would likely consist of the wildlife management plan's required minimum 150' setback from edge of riparian vegetation and an additional 50' trail corridor as the Primary Greenway

7. The design session for the night allows citizens to view the reservoir as three general zones for potential recreational activities: The West Union zone, the existing recreational area zone and the entire reservoir area zone.
8. The master plan update will include in its scope cost estimates for improvements and phasing schedules

**Design Session Presentations**

***Presentation A***

*General*

1. Create bicycle path and multi-use paved trail around the circumference of the reservoir
2. Allow water uses such as canoeing, kayaking, windsurfing, and sailing

*Zone 1*

3. **SW -** On the southwestern edge of the reservoir will include:
    a. Concessions
    b. Entry
    c. Development facilities
    d. Boat rental
    e. Trailer parking
    f. Boat storage
    g. Boat ramp
    h. Changing rooms
    i. Public art
    j. Group camping
    k. RV camping
    l. Remote control airplane – this area should be moved further from the reservoir than it currently exists
    m. Information kiosk
    n. Water play feature
    o. Swimming
    p. Ranger facilities
    q. Skating
    r. Rock climbing
4. **W** - Just to the north and west should be a fishing pier, performance area, and community garden
5. There should be no private marina with public control. A private development should not regulate access to the reservoir. A purely public marina is OK.

*Zone 2*

6. **NE** – more primitive forms of activity:
    a. Dirt ramp for small boats
    b. Primitive camp sites
    c. No septic or water – use port-a-lets
    d. Staging for wildlife viewing/walk
    e. Parking
    f. Unregulated swimming

*Zone 3*

7. **NW** – reserved for wildlife:
    a. No solid development
    b. Too much variation in water flow/level
    c. Natural areas, wetlands, and wildlife viewing

***Presentation B1***

*General*

1. Concept: low impact activities
2. Enhance natural areas and wildlife
3. Berm along reservoir western shore can be used as a turf area in the summer and sledding or sliding hill during the winter
4. No remote control airplanes

*Zone 1*

5. No trail along the northwestern edge: habitat
6. Buffer between the habitat and park to the south
7. No marina within the park
8. All kids play on the west side - swings
9. Fenced dog park

*Zone 2*

10. Fishing, swimming, and boats on the south
11. Parking restrooms, concession, tent camping, RV camping, group camping, and boat storage on the southeast.

***Presentation B2***

*Zone 1*

1. Protect eagle winter roost site in southwest portion of reservoir
2. Canoeing in West Union development

*Zone 2*

3. Include scout circle
4. Large amphitheater at the highest area to the east-southeast of reservoir
5. Protect and create prairie dog habitat for wintering raptors
6. Protect eagle roost site in southwest portion of reservoir
7. Fishing, swimming and boating located at the entrance
8. General uses of wildlife areas, wildlife viewing areas, and restrooms

*Zone 3*

9. Protect and create prairie dog habitat
10. Create wetlands
11. Create eagle habitat on east side
12. Incorporate interpretive signs for natural resources, plants, and wildlife
13. Unpaved trail

***Presentation C***

*General*

1. Water surface: sailing, crew, kayaking, wind surfing, canoeing
2. Water surface is a wildlife area

3. Accessibility to all areas
4. Bike trail around entire zone

*Zone 2*

5. On the east and northeast: natural areas with eagle nesting, habitat and wetlands
6. Primitive tent camping, wildlife viewing of birds and insects, interpretive signage
7. To the southeast is a community garden that acts as an entrance to the wildlife area.
8. An unpaved path would connect these areas to the south
9. The southeast and southwest would be for more active uses
10. The southern edge of the reservoir would include uses such as:
    a. Boating & boat storage
    b. Beach
    c. Concession building with outdoor patio
    d. Water play feature
    e. Distance swimming
    f. Triathlon
11. A boardwalk, lined with public sculptures, art and ornamental/display gardens would connect this active area to:
    a. Changing rooms
    b. Restrooms
    c. Parking
    d. Information kiosk
    e. Marina
    f. Dock
    g. Boat ramp
    h. Boat storage
    i. Sailing club
12. Result: separate bare feet from hooks

***Presentation D***

*General*

1. Paved bike/hike trail circumnavigating entire reservoir
2. Fitness course along paved trail
3. Soft surface along trail for joggers
4. Wildlife viewing walkways or boardwalks that extend into marsh/wetlands
5. Restrooms (varying styles) scattered around the lake
6. Picnic tables all around lake
7. Nesting platforms and boxes
8. Expand covered picnic/pavilions
9. Benches around lake
10. Water fountains/pumps around lake besides picnic/swim area
11. Additional trash receptacles around entire property
12. $5,000 fine & 1 yr jail for littering; $10,000 and 2 yr in jail for discarding monofilament lines

*Zone 1*

13. Marina should have:
    a. Largest buffer possible between reservoir and West Union development
    b. No shops or restaurants, but yes to concessions

*Zone 2*

14. Playgrounds and other related sports (basketball, volleyball, etc)
15. Camping – and some sites with electricity
16. Picnic area
17. Dog area
18. Restrooms/changing rooms
19. Boat rental and/or bike rental
20. Boat storage

*Reservoir*

21. Sailing, canoeing, windsurfing, boating, belly/kickboating, pontoon boats
22. Fishing
23. Dock/pier in each zone
24. Beach/swimming
25. Distance swimming docks (boat exclusion zone)

***Presentation E***

*General*

1. Viewed lake as 1 unit/1 large facility – 730 acres – larger than Boulder Reservoir
2. Reservoir is drawing more rowers – City should help facilitate these uses
3. Wakeless aspect has opportunity for reservoir to:
    a. Embrace clubs and organizations such as rowing, triathletes, etc.
    b. Support/Nurture/Propagate these clubs
4. 'Fishing is Fun' aspect where multiple generations within a family enjoy the reservoir. Fishing is the common denominator, and should be allowed/promoted on the lake, rather then only on the edge of the lake. Opportunities for grant funding from Fishing is Fun program.

*Zone 1*

5. A marina-like facility; will have different needs and serve the local population more than the east-side marina which has regional service
6. Ability to affect the direction of the West Union marina, not simply throwing it out
7. Facilities can include:
    a. Ranger facilities
    b. Performance space
    c. Public art
    d. Marina
    e. Changing room
    f. Boat ramp
    g. Playground
    h. Dock

i. Barge for fireworks
j. Boat rental – including for fishing
k. Boat storage

*Zone 2*

8. The park on the south is very functional the way it is – it only needs augmentation
9. Include:
    a. Changing areas
    b. Distance swimming
    c. Information kiosk – announcing reservoir events and information for local clubs
    d. Bus stop with bike rack resulting from the 9th street extension into WCR 26
    e. Beach
    f. Swimming
    g. Dog swimming area
10. On the southeast, include a breakwater for two purposes
    a. Calm water around the sailboat marina
    b. Provide ADA fishing pier
11. Keep sailing club in its current location.
12. Southeast could include:
    a. Ranger facilities
    b. Information kiosk
    c. Boat ramp
    d. Sailing & rowing clubs
    e. Bus stop and bike rack
    f. restrooms
13. On the east, include a grassy knoll on the French property
    a. Excellent views
    b. Double as a sledding hill in winter
14. East can include:
    a. Boardwalk from the south to an outdoor classroom or amphitheater
15. On the northeast, no set hard paths. Earthen paths instead. Include Port-a-lets
16. Northeast and northwest should have wildlife habitats, wetlands, wildlife viewing and interpretive signs

***Presentation F***

*General*

1. Don't raise the lake. It seems to makes sense to dredge the lake instead. There is 100 years of silt build-up that should be removed
2. With 6.5 miles of trails, big opportunity for many types of trails
3. Keep trails back from wildlife habitats
4. Phase the development of Union Reservoir re: rise of water
5. Plan on low water mark as temporary
6. Plan for the high water level as permanent

*Zone 1 – The urban edge*

7. Design as an urban edge with water deep enough to easily get boats out of the marina.
8. Mixed use trail with a hard surface – boardwalk
9. Facilities include:
    a. Marina
    b. Retail opportunities for those who want to view the lake but not participate/pay the fee - think "cocktails and ice cream"
    c. Dock
    d. Public art
    e. Wildlife viewing area
    f. Large fishing pier

*Zone 2 – The beach edge*

10. Facilities include
    a. Ranger facilities
    b. Parking
    c. Information kiosk
    d. Boat ramp
    e. Wildlife viewing
    f. Beach
    g. Camping
    h. Restrooms

*Zone 3 – The agricultural edge*

11. Soft trail
12. Facilities include wildlife habitat
13. Boat ramp

*Reservoir*

14. Surface should include canoeing, wildlife, kayaking and wind surfing

***Closing Comments & Discussion***

1. Photoshop in the dam structures onto the site map to show where the hard edge will be
2. Future edges allow opportunities for different types of dam structures, including stepping plateaus up
3. Fluctuation in the reservoir will be minimized with reservoir enlargement
4. Existing house sites are not grandfathered in. There are not currently any homes with permitted direct access to the reservoir
5. The Union Reservoir Company is committed to the recreation opportunities as much as the storage and functional aspects of the reservoir
6. The dam along the southwest edge of the reservoir in future expansion is planned to be located on the Reservoir side of the line of cottonwoods so that they are preserved. The east side is planned to have a soft edge and the City has already started reestablishment of that tree line.

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# Meeting Notes

## Union Reservoir Master Plan Update
### Public Meeting #2

LOCATION: Parks Administration Building (Sunset), City of Longmont

DATE: August 28, 2007

ATTENDEES (City Staff & Consultants)
Paula Fitzgerald, *City of Longmont Parks & Open Space*
Steve Ransweiler, *City of Longmont Parks & Open Space*
Dan Wolford, *City of Longmont Parks & Open Space*
John Brim, *City of Longmont – Union Reservoir*
Karen Charles, *City of Longmont*
Erin Fosdick, *City of Longmont Planning & Dev. Svcs*
Ken Huson, *City of Longmont Water Resources*
Joe Olson, *City of Longmont Transportation*
Rob Layton, *Design Concepts*
Kurt Munding, *Design Concepts*
Todd Bjerkaas, *Design Concepts*
*List of Attending Stakeholders is attached*

***General Comments & Discussion***

1. A public forum should be established for understanding water fowl and ecological aspects in and around Union Reservoir. The public should be made award of roost sites
2. Question was raised: Why aren't members of the public invited to participate in the Division of Wildlife tour and other meetings.
    a. When inviting or asking other public organizations to tour the lake with city staff and consultants, their availability is limited along with the resources to invite the entire public and accommodate those numbers during a tour.
    b. A public process is established with meetings such as the one tonight to accommodate public input. To select one special interest group or individual over others for participation in tours etc is not fair to the general public.
    c. The public can also participate in discussions and provide input on September 13 from 5:30-7:30 at the 'Tamales and Talk' event. This is scheduled to reach out to the minority Latino community.
3. The next public meeting will be moved from Tuesday, September 25 to Monday, September 24 at 6:00 pm to accommodate those attending City Council meetings on the 25. The meeting will still be held at the Parks Administration Building.

4. September 14 will be the end of public comments. All concepts (with a brief narrative) along with comment cards will be displayed around town as well as on the City of Longmont's website.

***Concept Presentation by Design Concepts***

***Closing Comments & Discussion***

1. Question: Is the West Union Bay & Marina on city-owned property and why is it not included as open space in the concepts.
    a. The West Union development will proceed through its own public planning process. The location, shape, size, and orientation of the marina are very conceptual.
    b. The city does own property on which a northern portion of the conceptual marina is located. This land is not owned by Open Space, but rather by the Reservoir Company for use as inundation and increased reservoir water capacity. Since a marina would increase reservoir capacity, it would be an appropriate use for the property if City Council supports the plan.
2. Question: How much will each of these concepts cost in construction and what funds are available?
    a. The City has not asked the consultants to provide cost estimates for these three concepts. Following this meeting, where public comment is incorporated either positively or negatively into each design, a single preferred concept or Draft Master Plan will be presented at the third public meeting. At this time, Design Concepts will provide a cost estimate of the proposed design.
    b. While large funds are not immediately available, a major purpose of the Master Plan Update is to understand the short-term, mid-term, and long-term needs of recreation and ecology at the reservoir within the context of an overall, all-inclusive plan. Once this plan is established, it can serve as a tool to take forward and begin capital improvement funding assessments and expand or adapt programs over the next several years.
3. Comment: The surface of the water should remain wakeless. Motor boats and waves would have a major impact on wildlife in and around the reservoir.
4. Question: Why is the west side city property not included as open space
    a. See comment 1b above.
    b. Open space does not own property west of Union Reservoir. Open Space properties are on the east side. Water Resources has purchased several properties out of a special enterprise fund set up for Union Expansion (and other expansion projects). Water owns properties on the West, North, East and South sides of Union.
5. Question: Are the concept plans mutually exclusive? And are we selecting the final plan as it is presented here?

   a. The southwest plan and east plan for each concept work together and are dependent on each other.
   b. However, for the preferred concept presented at the third public meeting, any of tonight's plans can be mixed, adjusted, and re-located based on public comment and preference to create the single preferred concept. New suggestions could also be incorporated.
6. Comment: the swim beach and boat docks don't mix when in close proximity in the marina. Not everyone boating on the lake have good enough control for that configuration.
7. Comment: But canoes and kayak boating/rentals do mix with the beach and swim area. It is nice for families to spend time swimming and walk right over to rent a canoe to take around the cove.
8. Comment: Kayaks and canoes are fine in close proximity to the swim area, but the larger boats should be distanced from the beach.
9. When a preferred alternative is drafted, phasing of the facilities will be a next step. Locating permanent facilities that work with current shoreline and also a future shoreline are critical to capital improvements. Also, the city can begin planting trees in locations that would greatly benefit from mature tree stands following the reservoir expansion.
10. In all plans, the existing mature cottonwoods which are eagle roosts are preserved. But in reality they are very mature trees and steps should be taken plant new cottonwoods which would mature in twenty years and replace the current cottonwoods once they die.
11. Each plan shows sailing facilities separated from the boat/trailer launch and boat storage. These two uses have very different launch and storage facility requirements.
12. Multiple boat ramps are shown for large events and getting boats off the water in fast moving inclement weather.

***Dot-ocracy Exercise on Three Concept Plans***

# Union Reservoir
# Master Plan Update

Public Meeting #3
September 24, 2007 6pm-8pm

## A G E N D A

I. Welcome and Introductions/Project Overview (15 min)

II. Environmental Issues Presentation (30 min)

III. Presentation of Draft Master Plan (30 min)

IV. Questions and Comments (30 min)

V. Wrap-Up/What's Next (15 min)

| | Comment | Number Concurring | Design Concepts Notes |
|---|---|---|---|
| 1 | Good distribution of activities and layout | 9 | |
| 2 | Anchored/low-key breakwater at the sail/crew area | 3 | There are durable, yet cheap alternatives to landforms: logs, large tires, floating plastics or concrete, etc. |
| 3 | Stricter Bald Eagle protection | 2 | |
| 4 | Animal/habitat protection other then eagle | 2 | |
| 5 | Trailer launches at sail club | 2 | Are already included in draft MP |
| 6 | Better wetland protection needed | 2 | |
| 7 | Put MP on fast track for construction | 2 | |
| 8 | Maintain the winds at the lake - no shoreline bldgs | 2 | Dense development around the reservoir could impact the currently uninterrupted winds - valuable for sailing |
| 9 | A path on the west side - concern for wildlife | 2 | |
| 10 | Great views from lake and east | 2 | |
| 11 | Trail around the entire lake | 2 | What is the impact of a hard surface trail around the entire lake? |
| 12 | West marina is too urban | 1 | |
| 13 | Likes camping lcoated away from day use | 1 | |
| 14 | Potable water should be included (drinking & shower) | 1 | |
| 15 | Birds appear to have been taken care of | 1 | |
| 16 | Wakeless reservoir | 1 | |
| 17 | Ramp at West Union marina would appeal more | 1 | |
| 18 | Boat storage should be away from camping | 1 | |
| 19 | Need a defined time line for improvements | 1 | Phasing plan? |
| 20 | Dislike for WCR 28 alignment | 1 | |
| | | out of 11 total | |

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# Meeting Notes

## Union Reservoir Master Plan Update
**Public Meeting #4**

LOCATION: Parks Administration Building (Sunset), City of Longmont

DATE: October 10, 2007

ATTENDEES (City Staff & Consultants)
Paula Fitzgerald, *City of Longmont Parks & Open Space*
Steve Ransweiler, *City of Longmont Parks & Open Space*
Dan Wolford, *City of Longmont Parks & Open Space*
John Brim, *City of Longmont – Union Reservoir*
Erin Fosdick, *City of Longmont Planning & Dev. Svcs*
Ken Huson, *City of Longmont Water Resources*
Kurt Munding, *Design Concepts*
Todd Bjerkaas, *Design Concepts*
*List of Attending Citizens is attached*

***General Introduction & Comments***

1. October 8th was originally selected as the date for presentation of the draft master plan to the Parks & Recreation Advisory Board (PRAB). Following the 3rd public meeting of September 24th at which a draft master plan was presented, some citizens asked for another public meeting to further discuss habitat impacts and proposed recreational activities. The city responded to the desires for another public meeting and scheduled this October 10th meeting.
2. Since the 3rd public meeting, the ERO environmental summary memo has been amended and updated. Also, the draft master plan has been updated to better illustrate environmental and habitat recommendations conceived during the public process, included in the ERO memo, and voiced by citizenry as well as some additional requested changes by staff.

***Concept Presentation by Design Concepts***
***Overall plan***

1. Many of the current recreational uses at the southwest portion of the reservoir are shown as being relocated to the east side in this draft master plan. Existing and previously proposed recreational uses beneath the Cottonwoods, identified as Eagle winter roosts, have been removed and will help create a more natural area. The east area is the preferred location for recreation as identified by the Division of Wildlife.
2. Seasonal bypass trails are shown as far as possible from the edge of or outside of the ¼ mile maximum eagle buffer designation, without crossing any proposed roadways. Portions of the trail in closer proximity to the existing

roosts in the southwest and the enhanced roost gallery in the northeast could be closed during winter roosting months as needed. Individuals would take these alternate routes to bypass the roost sites and still be able to circle the reservoir year around. The trail is now shown as concrete between the northern portion of the West Union Annexation (at a future secondary greenway connection point to be determined), and south along the reservoir to the East area entry gate. The remainder of the Primary Greenway trail would be soft surface (crusher fines).

3. Design Concepts showed the location of two current prairie dog colonies at Union Reservoir as identified in the city's 2006 Prairie Dog Survey & Habitat Assessment. In the plan, the consultant (Roe Ecological Services, LLC) identified the south area should be classified as Actively Manage/ Exclude due to its moderately low habitat qualities and future plans for spillway use. The southeast prairie dog colony was classified as Actively Manage/ Replace but also noted as having moderately low habitat and a replacement site only if the adjacent agricultural area could be converted to native prairie grasses. As this conversion is not planned, and with the addition of the recreational area in close proximity, the City will likely re-classify the area as Actively Manager/ Exclude in any upcoming Prairie Dog Assessment surveys.
4. A more continuous wildlife buffer has been expanded in the overall plan. A conceptual 300' wide buffer, as recommended by the Colorado Division of Wildlife (CDOW), is shown along the shoreline where the approximate extents of critical wetlands currently exist. These extents were roughly identified on site visits by the city, consultants, and CDOW. This 300' buffer extends along the entire north shoreline and along a portion of the west and east shorelines. Actual on-site wetlands delineations would be required along the west shoreline (West Union Annexation area) to determine extents of the 300' buffer area requirement. Also, a 150' buffer is shown along the western boundary, south of the 300' buffer, and continues along the shoreline south to the existing cottonwoods. Although CDOW stated that the hypothetical construction of a seawall treatment to the western edge would mean a buffer would then no longer be required, the master plan still shows a 150' buffer to enhance the western edge of the reservoir, creating a more natural edge environment and allow potential for future habitats.
5. A varied shoreline is shown as typical along the northern and northeastern edge of the reservoir. Earth forms such as small islands, shallow wetlands, and coves will enhance the future habitats along the northern shoreline as well as lengthen its linear frontage. This will be a good refuge area for wildlife.
6. The reservoir company planted 20 Cottonwoods along the northeast portion of the reservoir in 2002-2003 (where the enhanced cottonwood gallery is identified in the draft master plan). Although only two of trees took because of the following drought, city staff has witnessed eagles occupying these northeast gallery trees as well as the adjacent winter ice on reservoir's surface. *Clarification by staff: the reservoir company planted 6 trees, of which 2 survived the following drought.*

7. The southern West Union neighborhood park south of WCR 26 is slightly relocated to better serve the area.

***Southwest Plan***

8. As in the previous plan, recreational use has been lessened in this area which will be a benefit to the existing eagle roost. It will serve primarily as a leased use area, but there will be a self serve fee area for day use activities, such as the dog beach.
9. The crew / classroom / event building has been relocated further east, closer to the edge of the ¼ mile maximum eagle buffer zone in the southwest while remaining useful to the boating uses proposed. It also shows the recommended vegetative buffer on the west of the building to screen it during winter roosting.
10. Many citizens at the 3rd public meeting recommended a breakwater for the southwest recreational area. A floating breakwater is now shown.
11. All currently leased uses are shown south of Weld County Road 26 and are located outside of the maximum eagle buffer. The remote control boating has been removed.
12. The four cottonwood trees identified as roosting sites were examined by the City Forester for life expectancy. The western most tree was assessed to have a probable life expectancy of less than 20 years. The next tree to the east (just east of the boat storage) was assessed to have a probable life expectancy of greater than 20 years. A third tree could not be exactly identified as it was among a stand of 15 trees, but the forester identified that 14 of the 15 would not live past 20 years. The fourth tree (in the existing Union picnic area) is expected to have a life span of greater than 20 years.

***East Plan***

13. The beach and small boat drop-offs have been moved closer to the water's edge (to lessen walking & carrying distance);
14. The length of the pedestrian bridge to the breakwater is shortened, but still allows water to flow through for water quality in the marina and cove;
15. The greenway path north of the gatehouse and recreation area entrance is now shown as crusher fines.

***Open Discussion & Comments***

(Public Comments are underlined; City & Consultant responses follow)

1. NDIS has identified on an eagle foraging map for Colorado that the area shown as breakwater in the east draft master plan is actively foraged.
    a. While on a site visit with city staff and consultants, the Colorado Division of Wildlife did not identify this area as a habitat area or foraging area.
    b. This southeastern edge is beaten by the waves and wind coming across the reservoir. The edge treatment is somewhat eroded and consists of large sandstone or other large rocks, assumingly incompatible with foraging areas

c. In another report, a habitat biologist from CDOW stated that habitat along the southeast shoreline does not exist and is not a concern.
d. Nevertheless, the city will follow up and check the validity of the foraging map to ensure that no critical habitat or foraging area is displaced by the proposed recreational activities.

(City staff has confirmed that the NDIS maps are very generalized and site assessments by field biologists and CDOW rangers would be more specific in this case).

2. With the assumption that the proposed West Union development will be annexed, where and how close to the reservoir shoreline would its lakeshore drive be located?
    a. Although CDOW stated that a buffer would not be required given the construction of a seawall, the master plan still shows a 150' to 300' buffer along the reservoir's western edge. The closest the road could get to the reservoir would be at the edge of this buffer, either 150' or 300'. The actual location would be determined as part of the West Union Annexation process and platting that will be lead by the City Planning Division.
3. Although several of the cottonwoods have life expectancies less than 20 years, the citizen has never seen an eagle roosting in a tree with leaves. Why can't the dead trees be left in place and still serve as roosts?
    a. Roosting at Union Reservoir occurs during winter, a time when trees such as cottonwoods would no longer have leaves
    b. Dead cottonwoods can pose a significant safety hazard with limbs and trunks breaking and falling – safety issues will need to be assessed to determine if tree removal of dead trees or branches on public property is warranted.
4. With the reservoir expansion, the wetlands to the north will expand and regenerate in a few years following inundation. Migratory birds are very adept at change and will have no problem reestablishing themselves in the new wetlands.
5. The Division of Wildlife report requires a ½ mile buffer from the trees at Union Reservoir.
    a. The recommendations from CDOW and published reports are ½ mile minimum buffer for eagle nest sites and ¼ mile max for roost sites. The sites at Union Reservoir may be roosts and if verified as such would fall under the max ¼ mile buffer. An eagle nest, such as the one located along the St. Vrain Greenway, is generally recommended for ½ mile buffer but even this nest site is allowed to have a trail closer than ½ mile due to existing development in the nearby area.
    b. The ¼ mile buffer discussed at the 7-3 kick-off meeting was based on general conversation between staff and consultants.
    c. When trails, parks and activities are designed in more detail in the future (the master plan is conceptual), the ¼ mile max buffer will be again reviewed to determine health of roost trees and other mitigating circumstances in the area, if any.

6. The reservoir enlargement study shows two 13' raise options. Why is the 13' raise with the seawall chosen as the edge treatment for the master plan?
    a. A 13' baseline option and a 13' shoreline option are shown in the enlargement feasibility study. In both cases, dams are shown on the southern and western edges of the reservoir. The baseline option shows the dam ending more towards the middle of the West Union property, while the shoreline option shows the dam more closely following the reservoir's current shoreline.
    b. The draft master plan shows the shoreline option except in the West Union area where the seawall was proposed by the developers. It is better to master plan for the shoreline option and be prepared for this scenario than to master plan for the baseline option and be under-prepared. If the proposed West Union development with the seawall is approved as proposed by federal, state, and local government agencies then this master plan will not need to be revised. If any other condition is approved, not only by West Union, but by the Reservoir Expansion project, then the master plan may need to be revised to accommodate those changes.
7. There is concern that even with all these public meetings, public comment, and respective changes to the master plan, City Council will change the master plan for the benefit of the developers and funds will conveniently run out for certain improvements like trees and wildlife.
    a. Master plans have historically been respected and built as proposed in the plan, however, plans can be revised as needed.
8. Other types of trees besides Cottonwoods should be planted around Union Reservoir (i.e. Black Walnuts).
    a. Cottonwoods are very fast growing trees and suitable for the water edge – however a more diverse 'forest' could be planted.
9. The city should complete a study that measures the maximum occupancy of the reservoir surface and the surrounding areas. Also compare the current usage numbers to those generated from this plan.
    a. There has been a 3-4x increase in activity at the reservoir since its first recreational use +/-15 years ago.
    b. Some activities, such as camping, have either the same or even less quantity in the master plan than what is currently at the reservoir. In many cases, it is not the intent to increase use, but rather accommodate the already increased but underserved uses (such as boats and ramps) and enhance other uses (such as camping) with improved facilities and separation/ vegetation between sites.
    c. Studies such as this, if needed, are typically done at the Design Development phase of planning.
10. The ERO memo states that the reservoir is projected to enlarge in 15 years and that a thorough habitat study should commence 2 years prior to development. It seems like what we don't know about the habitats around Union Reservoir is greater than what we do know. Why adopt the plan now, when expansion is

projected as 15 years away or more and there hasn't been a complete survey of wild flora and fauna?

   a. One of the several goals of the commissioning of the master plan update at this time was to examine the recreational aspects of the proposed West Union development. West Union will most likely apply for development approval prior to reservoir expansion.
   b. Wildlife can change much over the span of 15 years. When the majority of this master plan is implemented with the reservoir expansion, the wildlife can be very much different. The survey should occur closer to these improvements as supported by the ERO recommendation of conducting studies 2 years prior to development.
   c. Some recreational improvements could occur prior to reservoir expansion. These might include greater number of boat ramps, relocation of boat storage areas onto city land, and relocation of camping activities off leased lands. A master plan allows the city to invest in these improvements, if desired, knowing they won't be torn out because of incompatible location for future improvements.

11. Will West Union require Army Corps of Engineers approval?
   a. A West Union seawall would trigger a Corps permit if located in a wetlands jurisdiction and if it requires filling or dredging.
   b. Union Reservoir expansion would also require Corps permit if filling or dredging in wetlands.
   c. The recreation proposed as part of the Union Reservoir project in this draft master plan would not require 404 permits.
   d. All required permits will be obtained by either the City or adjacent development.
12. Will the implementation of these plans only occur in 15-20 years?
   a. There are several factors that will affect the timeline for improvements that exist outside of recreation. Some upgrades shown in the master plan can occur in the existing recreation areas
   b. The master plan allows for incremental changes or phasing to achieve the overall plan. A master plan guides short term improvements that will complement long term vision/improvements.
13. There is a family of foxes that live right across County Line Road. Are there any accommodations being made for them?
   a. Foxes are not as sensitive a species to human contact as other animals. They many times live in urban areas and have boroughs in backyards.
   b. The city will survey for foxes, as with all wildlife, in any future improvements to the reservoir, and mitigate their habitat as needed and as possible.
14. What are allowable uses in the buffer zones?
   a. Pedestrian access will not be encouraged in these areas.
   b. The trail is located outside of the buffered area to limit access through them.

   c. The CDOW was not concerned with people accessing buffer areas from the water, as people fishing are generally quiet and have not posed a problem in the past.

15. <u>There is concern over traffic along County Line Road with developments such as West Union.</u>
    a. The city's proposed capital improvement plan shows a widening of County Line Road over the next 4+ years to 5 lanes, much like the recent improvements of Airport Road.
    b. Weld County Road 26 is proposed to become a 2-lane arterial and be realigned to tie into 9th Ave. at County Line Rd.
    c. All improvements may occur sooner or later, particularly depending on the housing market trends and demands on the road system.
16. <u>What does the "Wildlife Zone" on the northern end of the reservoir mean? Asking people to voluntarily not boat in an area usually does not work.</u>
    a. The master plan is not asking people to stay out of this habitat area. Instead, the buoys and their signs remind boaters (typically fishermen) of the habitat area and to keep noise and disturbance down. The north end will not be a restricted area.
    b. The Division of Wildlife has no concern over boaters being in this northern reservoir area. DOW is more concerned with pedestrians along a trail adjacent to the wetlands edge. The master plan addresses the trail by provided the recommended 300' buffer along the water's edge and locating the trail outside this buffer.
17. <u>The City says that its citizens are partners in determining the direction of development in the City, but developments like Lifebridge and West Union show that it doesn't listen to its citizens during public commenting.</u>
    a. Private property owners have a right to ask to be annexed into the City.
    b. Council asked for a recreational master plan for the entire Union Reservoir area to ensure that any proposed development would mesh with the city's established open space and recreation plans.
18. <u>The master plan addresses recreational uses. The shortfall with the plan is the dependence on the reservoir expansion. Improved facilities will be needed in 5 years, not 15-20. The reservoir is already swamped with users. Consider decreasing the number of campers now to improve the camping experience in the near future.</u>
    a. With camping improvements at St. Vrain State Park, it is the hope that the overload at Union Reservoir can be accommodated at the state park area. Union Reservoir will focus more on the quality of experience than accommodating the highest number of users.
19. <u>Can the city dig out part of east side earlier than reservoir expansion?</u>
    a. The conceptual borrow area for enlargement is on the east side of the reservoir where the recreational area is master planned. Earlier earth moving is a possibility.
    b. Tree planting can occur fairly soon around the reservoir.

   c. Water company is excited about the completion of the master plan, so it can incorporate the concepts into expansion plans, including the varied shoreline for habitat enhancement along the north.

20. The city should run numbers comparing the percentage of "developed" shoreline to that which remains natural according to this master plan.
21. City Council should enter negotiations with West Union, Lifebridge, and other potential development to purchase these properties for open space and create conservation easements within a ½ mile of the reservoir.
    a. The ½ mile buffer distance is a designation for eagle nests – none exist at Union Reservoir.
    b. A ½ mile would buffer would cross west over County Line road and would require purchase of several existing homes and a school. The open space tax is up for citizen consideration next month – which could provide a funding source for possible open space purchases of all kinds from willing sellers.
22. The city should hire another consultant other than ERO as it is a conflict of interests.
    a. The City attorney has reviewed the concern and has found no conflict of interest exists.
23. Why does the ERO memo say the Division of Wildlife is very protective of the northwest corner of the reservoir?
    a. There is a rich and wide variety of water fowl in this area. One of the reservoir ditch inlets is located there, creating a high nutrient area. The reservoir bottom is very shallow here, accommodating a fairly wide set of wetlands and waterfowl feeding, as this corner is protected from wind by the land to the west
24. The ERO report should state that the recommended study required 2 years prior to development include dredging that will occur for the seawall at West Union.
    a. Dredging and building of the dam are included as types of "development." Before either could occur, a study would commence two years prior according to ERO's recommendations.
    b. Dredging would likely be an enhancement to wildlife at the reservoir, as the varied depths of water would attract a greater variety of species.
25. Union Reservoir is described as a moderate size eagle habitat. It is a corner of a triangle of three identified areas of roosts and nests at Boulder Creek Estates and the St Vrain Creek, E of 119th Street.
26. The city should begin its regional study of eagle habitats now.
    a. The City concurs with ERO's suggestion for a regional bald eagle study, however that study would best be led by the CDOW as it would extend beyond Longmont's jurisdiction. Longmont would be a willing partner. Boulder County, Weld County and some of the smaller jurisdictions would also likely be players.
    b. Volunteers would need to be a large part of any successful monitoring process in this area.

27. Boulder Reservoir is an excellent example of eagle nesting accommodations. The reservoir is drained every 5 years or so for dam inspection.
28. Great plan – can't wait for it to be implemented.

***Closing Remarks***

Next meeting is likely to be with the Parks & Recreation Advisory Board, please look for meeting updates on the City webpage and in the newspaper.

| # | Category | Received via | Date | Comment |
|---|---|---|---|---|
| 1 | Use/facility | email | 7/16/2007 | It would be nice to see the reservoir's anticipated expansion, continued no wake, improved ramps and docks. |
| 2 | Use/facility | email | 7/16/2007 | I've been sailing on Union Res. for the past 2 years. What an incredible place to enjoy the peace, quiet and wildlife that abounds near and at the Res. As a resident of Boulder, I gave up trying to enjoy myself with all the jetboats, over-powered boats, water-skiers and the like all churning the Boulder facility into a froth. Fishermen, kayakers, canoeists, sailors, swimmers, picnickers, campers and others really enjoy recreating by quiet Union Reservior and get a real sense of having gotten away from the craziness of life by enjoying nature at it's finest. I applaud your wonderful gift to your citizens and to people like me in search of that gift. Pls maintain the concept of a quiet retreat & wakeless water sports. An additional boating ramp should be added exclusively for sailboats - to the east of the present ramp on the other side of the trees. Weekends are very busy and traffic problems could be alleviated. I would pay more for a boat pass and even volunteer to have that happen. |
| 3 | Use/facility | email | 7/16/2007 | There has been explicit concerns from the Parks and Rec Advisory board that there be continuous access around the lake, existing public recreation stays programmatically intact, wildlife & ecological concerns are clearly addressed and keep the lease fiscally viable. See letter dated 12/6/06. |
| 4 | Use/facility | email | 7/19/2007 | I've been windsurfing at Union Reservoir for a little over ten years now and it's my favorite local place to go. Some of the great features of the Reservoir for windsurfers are: Close parking (designated parking), Minimum wake rule for power boats (makes it much easier and SAFER for windsurfers), Low cost, Launch point is on south side. With predominately westerly winds, upwind (west side) or down wind (east side) launch points make it very difficult, Close to town. |
| 5 | Use/facility | phone | 7/23/2007 | Keep water level up; parking is a problem for kayak/ canoe boaters - used by swimmers; parking spaces limited for trailers & people w/out trailers use them; WCR 26 is noisy and dusty; likes no wake boating; water quality concerns |
| 6 | Use/facility | email | 7/27/2007 | with the proposed expansion and possibility of activities occurring around the lake rather than all in one end as it is more-less now....addt'l access/parking should be considered. I was recently at west lake in red feathers and they have multiple day-use only parking areas. this allows easy access to many parts of the lake and people won't be jammed in one area because they don't want to walk far to get to a spot. it would allow birders to reach the far end where the wetlands maybe. if there's a paved trail or boardwalk in a specific area it would allow those who are disabled to reach it or a fishing/boating pier/dock. Also, you could also have self-pay stations as the national forest campgrounds and day-use areas do. |

Attachment 2

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| 7 | Use/facility | phone | 7/31/2007 | I think Union is the best. It has the best layout for windsurfing in the state as it currently is. The parking is right next to the put in and you can gear and rig your boats right there without carrying the boat through crowds of fishermen. It's best to have a designated sport for windsurfers to access the water. |
| 8 | facility | phone | 8/10/2007 | * I've completed several masterplans in NY and think we should include a for-profit artist's institute in the masterplan. |
| 9 | facility | mtg comment card | 8/28/2007 | We really enjoy sailing at Union. The trail around the reservoir is essential. Why give some of the best beach area to the dogs? They don't appreciate it. The functions on activities at the reservoir are currently in balance. It would seem to be appropriate to maintain that balance and add activities that increase the attractiveness of the park while not upsetting the current balance. Specifically, separating the activities of the "sailing club" from the activities of the regular sailors at the reservoir is good. Providing moorings and slips for lease is a great idea whose time has come. Sign me up for a.slip right now. Thanks! |
| 10 | facility | mtg comment card | 8/28/2007 | I strongly feel that this will destroy the very thing that makes this area special. The concepts are a planning tool, but with too much activities, that will take away from the area's special buffer from the development to the east. |
| 11 | facility | mtg comment card | 8/28/2007 | Too much. Too busy. Like to see more open spaces. I don't really see how you can have an eagle nesting area with all the proposed recreation projects next door. There needs to be more wildlife areas and less recreation. |
| 12 | use | mtg comment card | 8/28/2007 | No camping |
| 13 | facility | mtg comment card | 8/28/2007 | All 3 plans are too high impact. This is too small a body of water to support all these activities. More emphasis should be placed on wildlife preservation! Thanks. |
| 14 | facility | mtg comment card | 8/28/2007 | I do not like any of the concepts. They are all too high impact and do not take into consideration our eagle habitat. |
| 15 | facility | mtg comment card | 8/28/2007 | In all of these plans I mourn the loss with the swimming/canoe over on the shady south side which is currently the most protected from sun and wind - this configuration is not only the most used by paddled boats and swimmers - it is also the most used by the Hispanic population - Don't forget them in the plan. The wonderful sense of family and community they bring to this area should not be lost. They would love to see small boat rentals, I'm sure with canoes, kayaks and paddle boats. Don't add activities which aren't water related (BMX, etc.) - these only bring more cars, and can be done elsewhere. *I like small boat use next to swimming as it is the best to support family picnics on the water's edge. |
| 16 | facility | mtg comment card | 8/28/2007 | All of the plans have BMX and remote control airplanes added to the reservoir because of the road relocation. I feel that these should not be included because they are not water related activities. Same reason for excluding the soccer fields. |

Attachment 2

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| 17 | plans | email | 9/5/2007 | *I still like Concept #1 east activities the best. The cove making the beach faces south seems better to me. People using the beach area would be more protected. I also like Concept 1 east activities as the RV Camping is toward the northeast of most all of the activities. With a fishing dock close-by, this would appeal to us. We have an RV and would like to come to the reservoir to camp; provided they have 30 amp. electricity in the campground. Sometimes seniors need electricity for sleep actinia machines, oxygen pumps, other devices for the oldies. With a dump station by the campground, we wouldn't need water at each site or sewer; we can go to other campgrounds for that. The thing we are the least interested in is the model airplanes and BMX activities. However, you have that in a separate area of the park, so shouldn't bother Concept 1 east. We have camped at Chatfield State Park where they had the model airplanes and they even put in a new campground with water, electric, and sewer close to the area where they fly the model airplanes, but unless you were there for the airplanes, this campground can drive you crazy |
| 18 | Use/facility | email | 8/29/2007 | *Open it up on a limited basis for power boats. Union could be a great local place to boat. If only residents are allowed to boat - during the week (no weekends) - 2 to 3 days at either annual fee of 4500 - $750 or gate fee of $10 - $15 it could work out. Expanding Union would be a wise move for the future. |
| 19 | Use | email | 8/29/2007 | You remarked (at the meeting) that the sailing club might be looking elsewhere down the road. Let me tell you, we are delighted with Union, its layout, sail friendly neighbors, our partnership with the 'City'...its a wonderful home. The comments from sailors around the region whom have visited for the various regattas have all been positive! Its an outstanding sailing venue, so don't write us off! We'd like to stay a part for years to come. |
| 20 | facility | email | 9/5/2007 | I am a frequent user (annual pass) of the swim beach at Union and looked over the plans at the rec center. I'm not sure which plan I prefer, but these are the things I feel are important to include: Swim beach at least as large as the current one (and NON-SMOKING), separate dog beach, changing room/showers, NO WAKE BOATING, Would be nice to have boat storage, rental and a wildlife center. Also would like to see the beach open weekends in May and September, weather permitting. |
| 21 | facility | mtg comment card | 9/11/2007 | Would these plans be this extensive if Lifebridge development hadn't been annexed? What are the cost of each plan? How are we paying for this? Please respond. Thanks |
| 22 | facility | email | 9/13/2007 | The one thing I would love to see is a limited permit system that would allow waterskiing and wakeboarding similar to what Windsor has done. I don't see that in the concept plans, so I'm just throwing it out to you. |
| 23 | facility | email | 9/13/2007 | Does the Master Plan include the installation of trash and recycling containers? |

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| 24 | facility | email | 9/13/2007 | As a disabled senior citizen, my concern is having pathways for wheelchairs/scooters so we who are unable to walk can perhaps join family events. I've lived here for 6 years and have not been to this facility because there has been no need for it, You already may have these pathways, but in the event that you don't, perhaps this would be a consideration for the future. |
| 25 | facility | email | 9/13/2007 | I really like plan B for the full trail around the res. Well done, I like the design and either would be an asset to the community. |
| 26 | facility | email | 9/14/2007 | As an avid sailor, volunteer for venture crew 464 of Longmont and sailing instructor, I have a request to make regarding the facility at union reservoir. It would be greatly appreciated if another dock would be installed on the west side of the boat launch area. In addition, a floating pier attached at a 90 degree angle headed east from the existing pier would be wonderful! Most of the time, there is a traffic back up when boaters are launching or retrieving their vessels. Not only that, but when the wind picks up, it is dangerous having only one place to go that is packed with boats! The new pier(s) would alleviate congestion and facilitate better safety at our favorite lake. We love Longmont, Union Reservoir and particularly the no wake rule |
| | process | email | 10/1/2007 | * Pleae clarify which environmental studies on the web were paid for by developers and which were paid for by the City. |
| 27 | facility | email | 10/2/2007 | *Park needs to go back to the drawing board. I have property and plan to build 2 executative homes next year. This plan shows my land underwater. |
| 28 | facility | email | 10/23/2007 | *Can we launch windsurfers from E shore? Need to be upwind of launch point. Want to be able to launch from anywhere. |
| 29 | facility | email | 10/24/2007 | Thanks for your reply but unfortunately that small boat launch on the east side will not work for windsurfers. That boat launch is tucked back in the farthest corner of that man made cove. It could take a lot of tacking to get into and out of that bay and that is not easy on a windsurfer. Also, we'd have to cross all boat slip, boat rental and trailer boat traffic...twice. In low to moderate westerly winds we wouldn't make it back to the launch. We currently have a perfect launch point. Dedicated close parking. We're not by a boat ramp or a peninsula of fishermen. With westerly winds we have a direct tack out into the reservoir and can tack up-wind from the launch and if winds die, we can slowly sail back down wind to the launch point. Please plan on an open policy for where windsurfers can set-up launch. There are a lot of large grassy areas on the east side plan that aren't blocked by that man made island: The picnic, RV, tent camping and scout circle areas would work |

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| 30 | facility | email | 11/15/2007 | Thank you for allowing the public opinion session for the master plan for Union Reservoir. I appreciate all of the efforts that the Parks and Rec has put into this plan. I want to re-iterate one consideration as the plans move forward. Please ensure that the plans and drawings include an area for open water swimming. This important recreational activity is a key part of open water swimmers and triathletes training. It is very difficult to find appropriate venues for this activity. Union is the only area in Longmontwhere open water swimming is supported. With the proposed three boating access points I am concerned that the South end of the reservoir will be crowded. I would like to ask you to designate an area on the plan specifically for open water swimming that would be out of boat traffic lanes. For planning purposes, typically the open water swim course is a triangular shaped course with a total distance of at least 750M or greater (about a half mile). |
| | | | | |
| | * denotes comment that has been abbreviated | | | |

Attachment 2

Attachment 2

# Union Reservoir Master Plan

## Results Overview

Date: 9/14/2007 4:18 PM PST
Responses: Completes
Filter: No filter applied

**1.** What is your favorite activity or facility at Union Reservoir currently?

| | | |
|---|---|---|
| Swim Beach | 10 | 43% |
| Dog beach | 6 | 26% |
| Sailing | 8 | 35% |
| Small boating (kayaks, canoes, wind surfing) | 8 | 35% |
| Fishing | 5 | 22% |
| Camping | 4 | 17% |
| Bird Watching | 7 | 30% |
| Other | 0 | 0% |
| Picnicking | 8 | 35% |
| Other, please describe | 1 | 4% |

**2.** Which plan shows improvements to your favorite activity or facility in the best Overall plan way?

| | | |
|---|---|---|
| Concept plan A | 4 | 17% |
| Concept plan B | 17 | 71% |
| Other, please describe | 3 | 12% |
| Total | 24 | 100% |

**3.** Which plan shows improvements to your favorite activity or facility in the best Site specific plan way?

| | | |
|---|---|---|
| Concept plan 1 | 8 | 36% |
| Concept plan 2 | 6 | 27% |
| Concept plan 3 | 6 | 27% |
| Other, please describe | 2 | 9% |
| Total | 22 | 100% |

**4.** Which Primary Greenway trail route do you prefer?

| | | |
|---|---|---|
| Partial trail around southern half of reservoir – Concept plan A? | 4 | 17% |

Attachment 2

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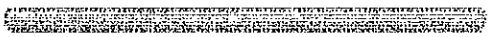
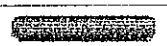
|---|---|---|---|
| Full trail – northern soft surface, southern hard surface – Concept plan B? |  | 19 | 79% |
| Other, please describe |  | 1 | 4% |
| | Total | 24 | 100% |

**5.** Which neighborhood park concept in the proposed West Union development area (west shoreline) do you prefer?

| | | | |
|---|---|---|---|
| 3 sites – Concept plan A? |  | 10 | 42% |
| 2 sites – Concept plan B? |  | 14 | 58% |
| Other, please describe | | 0 | 0% |
| | Total | 24 | 100% |

**6.** Which is your favorite Overall Concept plan?

| | | | |
|---|---|---|---|
| Concept plan A? |  | 5 | 21% |
| Concept plan B? |  | 18 | 75% |
| Other, please describe |  | 1 | 4% |
| | Total | 24 | 100% |

**7.** Which is your favorite Site Specific Concept plan?

| | | | |
|---|---|---|---|
| Concept plan 1? |  | 7 | 32% |
| Concept plan 2? |  | 7 | 32% |
| Concept plan 3? |  | 6 | 27% |
| Other, please describe |  | 2 | 9% |
| | Total | 22 | 100% |

Attachment 2

TO: The Parks and Recreation Board
City of Longmont, Colorado

FROM: Kaye Fissinger

RE: Union Reservoir Master Plan

The Union Reservoir Master Plan should move to the City Council with the firm recommendation that it be tabled until such time as a comprehensive study of the entire ecosystem surrounding the Union Reservoir can be conducted.

The Master Plan began from the assumption that the LifeBridge, West Union and Fairview annexations would be authorized. There is more than ample reason to believe that Longmont will not annex these developments.

During the public meetings on the Union Reservoir Master Plan, Longmont residents were not permitted to discuss any of the proposed annexations in spite of the severe impact they would have on the area.

The previous City Council failed to take seriously the concerns of Longmont citizens about the benefit to Longmont of LifeBridge/Union annexation. Consequently, a signature-gathering campaign was launched to place the issue before the voters of Longmont. That campaign produced over 6,000 signatures. On January 29, 2008, a special ballot election will take place to determine whether this annexation will be ratified or repealed.

The environmental analyses used to determine the risk to wildlife and its habitats were performed by ERO Resources. Two of these reports were solicited by the development arm of LifeBridge Church and the property owners of the West Union proposed development, respectively. The City of Longmont engaged this same organization to perform an environmental assessment for the Union Reservoir Master Plan.

I submit that it is erroneous to assume that an organization can serve both the agenda of these developments and the best interests of the City of Longmont.

I have carefully reviewed these reports and they are seriously lacking. Among other issues, they fail to consider the entire ecosystem that the bald eagle depends on. The Union Reservoir and the surrounding area provide a winter range and winter concentration for these protected species. There is a winter eagle roost site on the southwest portion of the reservoir and the bald eagle depends on the open space for foraging. Southeast of the reservoir is a communal bald eagle roost that is located along the St. Vrain River near the confluence with Boulder Creek. This communal roost is one of the most

significant eagle roost sites in the State of Colorado. Additionally, there is a documented eagle's nest located along the St. Vrain River.

City staff has operated from the assumption that any habitat destruction to the west, southwest and south of Union Reservoir can be mitigated by habitat restoration on land to the north and east already controlled by Longmont. I contend that this is mostly wishful thinking.

The City of Longmont should arrange for the Colorado Department of Wildlife to perform a thorough evaluation of the impact of development in and around the Union Reservoir and along the St. Vrain River near Boulder Creek.

I believe that it is also advisable to engage the expertise of the Boulder and Colorado chapters of the Nature Conservancy, the Audubon Society, and other environmental organizations to assure the most current and most accurate information about the impact of habitat fragmentation and urbanization on vital wildlife.

I urge you in the strongest possible terms to recommend further study of the environmental impact on this area. It is my hope that this area will ultimately be preserved as open space and as a low-impact park as was originally intended.

I thank you for your consideration and respectfully request that a written version of my presentation be included in the documentation that is submitted to the City Council for review and analysis.

Kaye Fissinger

Kaye Fissinger
[redacted]

Agenda Item:_____

# Parks & Recreation Advisory Board Meeting

## Staff Cover Memo

## Meeting Date: Nov 14, 2007

## Agenda Topic: Union Reservoir Recreation Master Plan Update

Presenter: Paula Fitzgerald
Phone to call for questions: 303-651-8448
Type of Item:

- ❑ Information
- ✓ Action
- ❑ Discussion

## Background Information:

PR-138, Union Reservoir Master Plan was approved for funding by Council to provide a comprehensive review of this important City resource and make recommendations for the future Parks, Open Space and Recreation uses surrounding the reservoir. Several related projects were tied to the Master Plan study: the future Union Reservoir expansion project being planned by the Public Works / Water Utilities Department – Water Resources Division; and the proposed West Union Annexation along the western shoreline of the reservoir.

The reservoir expansion project has been a CIP project (MUW-137) for several years. Previous studies have determined the projected depth of the reservoir to a maximum 13' water surface raise (from existing). The projected expansion project is 15- 20 years in the future, but that timeline could change depending on other northern Colorado water storage project status and priorities.

The West Union Annexation was most recently brought to City Council for discussion in August 2006 after being first referred by Council for staff review in 2005. Council recommended that the Longmont Area Comprehensive Plan amendments and annexation be put on hold until the Union Reservoir Recreation Master Plan project could review the recreational components of the entire area in a comprehensive manner.

Givens to the project per the above Council direction were to:

- Assume a 13' water surface elevation rise for the reservoir and plan recreational facilities based on that expansion footprint
- Assume for the purposes of this recreational study that the proposed West Union development would be annexed to allow for review of the recreational components proposed by that project and see if they are consistent with the goals of the overall reservoir master plan
- Wake less boating would be continued
- Weld County roads 26 and 28 would be realigned because of reservoir expansion, transportation needs and planned improvement projects
- West Union Annexation would be the location of a neighborhood park site(s) totaling 17 acres to accommodate the neighborhood park needs of the larger neighborhood (including West Union, Fairview and Union (Lifebridge) annexations

## Project Beginnings:

A Request for Proposals (RFP) was issued on March 5, 2007 and the City received several highly qualified proposals. Design Concepts – a Lafayette, CO based Landscape Architectural firm, was selected for the project.
This consultant has an extensive list of prior projects related to recreational facilities within natural areas. Kurt Munding is the Project Manager with principal Robby Layton and LA - Todd Bjerkaas assisting. ERO Resources Corp (Denver) is a sub consultant to Design Concepts, working on the environmental information for the project.

As is typically the case, a multi-disciplined City staff team was assembled to provide design guidance to the consultants. This team had representatives from Planning, Public Works, Water Resources, Recreation and Parks & Open Space.

Other agency involvement included primarily the Colorado Division of Wildlife. CDOW rangers met with the staff and consultant team at the reservoir for a visit of the existing facilities, including a reservoir boat tour. CDOW comments and concerns were noted and discussed.

## Public Process:

The public process for this project included a series of meetings including:

- Stakeholder meeting (7/17/07) – An informal meeting at Union Reservoir to get comments from Landowners and key visitor group stakeholders
- Meeting 1 (7/26/07) – Project overview and visioning charette
- Meeting 2 (8/28/07) – Three concept plans presentation and comments
- Tamales & Talk (9/13/07) – Latino outreach was done with over 300 postcards sent or distributed. Unfortunately, this meeting had no attendees.
- Meeting 3 (9/25/07) – Draft Master plan presentation and comments

- Meeting 4 (10/10/07) – Revised Draft Master plan presentation and comments. This meeting was added to allow for additional public comment and to address concerns from staff and citizens.

A mail list of over 900 individuals was compiled from landowners and visitors to the facility. All were sent meeting invitation postcards.

During the entire process, public comments were taken and recorded (see attached comment spreadsheet). Additional comments were taken at the various public meetings. After concept plans were produced, boards were placed at a variety of public buildings illustrating the 3 plans with brief descriptions of each and comment cards or contact information. The venues for the boards were:

- Longmont Public Library
- Senior Center
- Recreation Center
- Civic Center Mall
- Union Reservoir

A voicemail hotline and email were also available for comments. Finally, a web based survey was put together for additional public comment opportunity. Parks and Recreation Advisory Board and City Council will be the final two opportunities for public comment.

## Design:

From the visioning charette, comments received were assembled into 3 concept plans. Ranging from a more intensive to a least intensive programming continuum, the plans explored a variety of program types and arrangements on the site.

After the public comment period was closed, staff met with the design consultants to discuss the components of a Draft master plan. Public comment, operation / maintenance and wildlife concerns were analyzed together to help create a meaningful recreational experience while protecting sensitive habitat and minimizing operations and maintenance concerns and costs. The Draft plan was presented to the public along with a summary memo of environmental qualities at the reservoir. A vigorous discussion made clear that an additional meeting and refinement of the memo would be appropriate.

To address the comments received as well as additional staff concerns, a revised draft master plan was produced. This plan was presented at the October 10 public meeting and discussed.

The revised Draft Master plan reflects the environmental amenities of the site but also reflects the proposed plans for the reservoir expansion and West Union annexation, as directed by Council. Protection of those amenities is believed by staff to be appropriate for the site.

## Environmental:

A summary memo was prepared by sub consultant ERO Resources utilizing previously prepared studies done for the area and also reflecting on-site meetings with the CDOW and City staff. The memo was revised to include improved references to past studies and expanded information on both the existing conditions and the proposed mitigations suggested. (See the attached memo).

In general, according to a limited site observation by CDOW staff, there are 4 trees that MAY be being used by bald eagles for winter night roosts in the existing campground (RV) and boat storage area of the existing recreation area (both City and private (leased) land). Staff has had recent telephone discussion with CDOW staff and reconfirmed that these trees have not been confirmed to be roost trees; they could be hunting perch trees. CDOW will begin a Union Reservoir eagle observation study starting in early December, which will provide more site specific information on these trees and the appropriate buffer distance from them. If it is found that the trees are hunting perches, then no buffer may need to be established. If they are confirmed to be night roosts, then up to the ¼ mile buffer may be recommended.

The area around the possible roost trees, as well as the reservoir's perimeter wetlands and associated wildlife, are areas of concern and should be protected to the appropriate level.

Site specific investigations should be done to:

- Determine exact boundaries of existing wetlands and riparian vegetation along the shoreline. This site specific mapping will help determine the ultimate specific buffer distances. (Timing: This should be done prior to preliminary platting by West Union Development, or by City prior to any final design).
- Determine specific eagle use of cottonwood trees in the southwest corner of the recreation area. Confirm use of trees as roost sites (or other) and frequency of use. Confirmation will help determine appropriate buffer zone distance per USFWS and CDOW guidelines. (Timing: This should be done as soon as possible – CDOW plans to begin this in December 2007).
- City cooperation in regional bald eagle management study with CDOW leadership and including surrounding town and county (Weld and Boulder) involvement. This study would assist the City and wildlife biologist efforts

to appropriately protect this important species. (Timing: TBD based on CDOW schedule).

## Proposed Draft Master Plan:

The revised Draft Master Plan is attached with the following description of the proposed amenities:

**Overall plan**

- Primary greenway trail encircling the entire reservoir. The trail would be hard surface from near the north end of the West Union development south and east to the eastern Union Reservoir fee area entry. A soft surface trail would complete the loop. The primary trail would run on the outside of the 150 – 300' buffer zones around the north, west and east shorelines. Additional bypass routes are provided to maintain a loop trail experience during the potential Bald Eagle roosting season (November 15 – March 15) if roosts are confirmed. The bypass would move away from "roost" trees to the furthest extent possible or to the recommended ¼ mile maximum offset if proposed by CDOW without crossing any arterial roads.
- An on-road pull off area is provided on WCR 28 for wildlife viewing opportunities. No boardwalks or trailhead would be provided at this location.
- West Union neighborhood parks are located central to the development near the proposed public marina, and south of WCR 26 along Spring Gulch to better serve other areas east of WCR 1. These parks would be located outside the proposed buffer zones and be connected to the recreation area via the primary greenway. (West Union had previously proposed 3 sites – see attached West Union Concept plan).
- A wildlife zone with signage is located near the northern end of the reservoir to remind boaters to not harass wildlife and to respect the environment – per CDOW request.
- A 300' buffer is provided along the entire northern shoreline of the expanded reservoir, and along portions of the eastern and western shorelines. The extent of the 300' buffer running south along the West Union shoreline would be refined after wetlands delineation is completed and after a final determination is made regarding the West Union proposed 'sea wall' treatment of a portion of this shoreline. Where a sea wall would be constructed (if approved and permitted) and existing riparian vegetation removed, then a reduced buffer zone may be allowed.
- The recreational activity around the existing "roost" trees in the Union recreational fee area would not exceed the current level of activity within the buffer, per the CDOW recommendations. Where the buffer is located within the West Union development, that project would need to work with

CDOW to see if mitigation or other protection could be put in place to modify the buffer extents.
- A cottonwood gallery, already planted by City crews in a previously existing cottonwood grove northeast of the reservoir, would be enhanced with additional plantings to provide a long term habitat as replacement roost and perch sites.

**Southwest plan**
- A reduced overall use is proposed in this area
- Primary greenway trail would be on the outside of the fee area
- A self serve station (with Ranger drop-in visits to confirm) is provided for day use.
- Lease and season pass use is the primary function of this area – Sail club, crew club and associated facilities such as ramps, a floating breakwater, boat launch and parking is provided. Storage lockers for small boats and a larger area for big boats are provided. Paved parking is limited to typical projected needs with gravel overflow parking available for larger events.
- A small classroom/ public event building is located as far east as possible while still functional for the lessee use. Eagle concerns are mitigated by a tree buffer to the west of the building.
- Dog beach (in close to its present location) is provided with a separate parking area provided.
- Existing BMX and remote control airplane uses remain south of WCR 26 (in new location due to road realignment). A restroom, paved and overflow parking are shown.

**East plan**
- Entry area has two lanes for faster entry – a self serve area is provided for low use times. The ranger offices are located nearby.
- The day use area is found near the entry with parking (including overflow expansion area), fishing, picnic, outdoor classroom and playground uses.
- A large central parking area serves the majority of day use and includes drop off areas for small boats (kayaks, canoes, windsurfers) and another for the swim beach.
- A large permanent breakwater is accessed via a bridge – the breakwater is important for boaters, as this is the windward side of the reservoir, as well as swimmers. The bridge allows water flow under it to maintain water quality. The breakwater also includes a fishing pier, fishing access points (ADA accessible) and a picnic area and shelter.
- The swim beach includes a concessions building with changing rooms and lifeguard break / first aid room.
- The boating zone includes a small boat beach launch area with nearby rental lockers for storage. Boat slips are provided for the Boat rental

building use (adjacent) with a rental launch. A ranger launch and on-water boathouse separates the rental use area from the trailer launch area. A specific trailer parking area is provided nearby. Boat storage for off-season use is nearby.
- Ranger maintenance area and building.
- A shoreline picnic area along the water edge is provided. Parking is included to prevent shoreline erosion.
- A waste dump site is located at the entry to the camping zone of the site.
- An RV camping area with 25 sites including a restroom and buffering between sites is proposed. Electric service is proposed to be included in this area.
- Tent camping with 30 sites is proposed at the northern end of the area with a restroom, parking and a group camping area with a scout circle and outdoor classroom proposed nearby.

## Recommendation:

Staff is requesting that the PRAB take action on this master plan. Staff has continued to review and discuss the plan among the referral agencies and consultants, as well as with the landowners of the proposed West Union development. Refinements to the plan are considered appropriate per the staff recommendation:

- Approval of the Union Reservoir Master plan (revised 10/10/07) with the following additional changes to the West Union portion of the master plan:
    - Remove the Wildlife Buffer distances to allow for more site specific studies to guide the final recommendation
    - Clarify that the neighborhood primary greenway trail, park sites and the marina shown may be modified to become more consistent with the West Union Master Plan concept – with staff approval once site specific environmental studies clarify concerns.
        - Size of parks will be determined to meet the needs of the overall neighborhood park requirement for the Union neighborhood.
        - The intent of the Primary Greenway trail will be to locate it on the interface between development and buffer areas.
        - Commercial uses could be compatible with the marina and co- located on the peninsula.
        - Clarify that the small concessions area in the proposed West Union marina area is denoting City run facilities only and does not reflect any potential private land use on nearby lands.
    - Modify the eagle buffer and bypass zones to reflect both minimum and maximum buffer areas and that the specific zone would be

established once a site specific determination is made of roost vs. perch site and frequency of use.

Staff will be available for discussion and to answer any questions. Contact Paula Fitzgerald at 303-651-8448 or email paula.fitzgerald@ci.longmont.co.us with any questions.

# MINUTES
# PARKS & RECREATION ADVISORY BOARD
# NOVEMBER 14, 2007

The November meeting of the Parks & Recreation Advisory Board was called to order by Committee Chair Sharon O'Leary at 7:00 pm at the Parks Maintenance Facility, 7 So Sunset St, Longmont, Co.

I. Roll Call
Cathy Diesing, Recording Secretary, called the roll. Those present were committee members Sharon O'Leary, Mike Swedbergh, Heather Ogle, Ginny Hayden, Jim Wardell, and Doug Golliher. Member Jerry Seguin was absent.

II. Approval of Agenda
Member Heather Ogle made a motion to approve the agenda and to move New Business a) Recognition- Councilman Brown, to after Approval of Minutes, this was seconded by Jim Wardell, and the motion passed 6-0

III. Approval of Minutes from the October 2007 meeting. A motion by Doug Golliher to approve the minutes was seconded by Heather Ogle. The motion passed 6-0.

V. Old Business

a) Action Item: Update Union Reservoir Recreation Master Plan – Public Hearing- Paula Fitzgerald introduced staff and design consultants who have helped with the project, including the Colorado Division of Wildlife (CDOW) who were not present at the meeting. The Recreational Master Plan Update was designed with five different assumptions. 1) An expansion of Union Reservoir as part of a Water Resources project resulting in a 13' rise to the existing water level. 2). that the proposed West Union Annexation would be assumed as a given for the purposes of this recreational study. This would allow review of the recreational components proposed by that project and see if they are consistent with the goals of the overall reservoir master plan. (The Annexation itself must go through its own separate public process and ultimately before council for annexation approval. This annexation has been put on hold until this recreational master plan update is completed). 3). Wake-less boating would be continued on the reservoir, 4) Weld County roads 26 and 28 would be realigned because of reservoir expansion, transportation needs and planned improvement projects. And 5) the West Union Annexation would be the location of a neighborhood park site(s) totaling 17 acres to accommodate the neighborhood park needs of the larger neighborhood (including West Union, Fairview and Union (Life

bridge) annexations) of the area between Highway 119 and Highway 66, east of Weld County Road 1.

Fitzgerald also explained that the trees indicated as eagle roosts on the draft master plan have not been verified to be actual roost trees. The CDOW has had only one early morning siting of eagles in these trees which MAY indicate they are being used as winter night roosts. The CDOW will start a watch of the area in December to determine if they meet the criteria of being roost trees or if they are hunting perches instead. If they are not classified as roost trees, the need for a buffer could be reduced or eliminated.

Fitzgerald also explained that the buffers shown along the western shoreline are conceptual, based on the understanding that significant wetlands exist in those areas. Once specific wetlands mapping is completed in the future (by a developer or the City), the buffer lengths and widths can be adjusted as appropriate.

Lastly, Fitzgerald explained that the CDOW acknowledges that a comprehensive view of eagles for this portion of the Front Range is needed, including the area around Union Reservoir. Such a study would be led by the CDOW, with assistance and participation from the City and surrounding communities.

Kurt Munding (Design Concepts) reviewed with the Board the proposed draft master plan.

Board Discussion:

- Conflict between active and passive uses was discussed. Golliher was concerned that we were trying to get 2 conflicting uses out of 1 reservoir. Hayden brought up the success at Lake McIntosh. Fitzgerald clarified that McIntosh has an exclusion zone to protect wildlife, but the Union master plan only shows an area where users would be warned not to disturb that wildlife. John Brim, Union Park Ranger, acknowledged that this approach has been successful in the past. This approach is supported by the CDOW along with the proposed buffers around the reservoir.
- Ogle had concerns about the proposed marina on the west side. How did the CDOW rate the area in terms of wildlife sensitivity? Fitzgerald explained that the marina area doesn't yet exist (would need to be excavated), so it would be rated along with the other proposed West Union recreational amenities at the time of the West Union development. West Union has proposed these amenities, so

they would be responsible for permitting and further studies to evaluate the area.

- Golliher was concerned about the eagle buffer competing with uses southwest of the reservoir. Fitzgerald reiterated that the buffer needs are not yet known and that, if these trees were determined to be roosts, the City is already proposing reducing public use in the area with the proposed master plan. The proposed uses have been reviewed by the CDOW who were comfortable with the draft master plan.
- Ogle wondered why a 300' buffer is required along the northern shore, but not along the West Union shore. Fitzgerald clarified that the 300' is based on a CDOW recommendation and the extent to where it impacts West Union would be determined after wetlands mapping is completed. The City's minimum buffer per the Wildlife Management Plan is 150'. Any seawall at West Union would need to get the proper permits from all local, state and federal agencies and any buffer adjustments would be determined at that time.

VI. Public Invited to be Heard

- Jim Docheff, 1441 WCR 28, Longmont, CO: He lives on the north side of the reservoir. The proposed buffers would take part of his farm and he hasn't been approached by the City for land purchase. Also, the Board members are all from Boulder County. What representation do the Weld County residents have on the board? (Fitzgerald clarified that the Weld County commissioners appointed Tina Bogott to represent Weld County residents for them. Don, Bessler clarified that the City of Longmont's Open Space program is predicated on working with willing sellers; if the City were interested in his property for Open Space or district parks purposes, that philosophy would apply.)
- Jay Lockhead, 2257 Mannor Dr, Longmont, CO: Has concern about the 3 separate boating areas, as they will create cross traffic of boats. Suggests combining boat launching to one place. Please make sure that open water swim times are accommodated in the master plan, as he swims it 3 times per week. He also expressed concern with the water quality behind the eastern breakwater.
- Dale Bruns, 1425 Onyx Circle, Longmont, CO: He distributed additional information from Downing, Thorpe & James concerning the proposed West Union Annexation which he represents and the future reservoir expansion plans. He listed all of the landowners that are part of the proposed West Union Annexation. They want the land developed properly with the best possible land plan since they are all long time residents. If the water level rises by 13', all of the existing wildlife habitat would be inundated. What would be

the purpose of the buffer? The same would happen if a dike were built at a 15' height along the western shore. There are too many variables in this plan for hard and fast buffers at this time. The proposed West Union seawall would accomplish the same thing as a dike by raising the land elevation west of the reservoir. Fill material may be gathered from dredging a portion of the reservoir which is a benefit to both the reservoir project and the West Union development.

- Ruby Bowman, 1512 Lefthand Dr., Longmont, CO: Requested PRAB to not make a recommendation to adopt the plan – table it until we have more environmental information. The marina is proposed on City owned land – will tax dollars go toward this? The ultimate shoreline after expansion is not determined, but is shown on the plan. The plan should show both options for the reservoir expansion to see which will minimize impact to wildlife. The CDOW wants to shield the trail from the habitat along the reservoir, so there should be a 300' buffer along the western shore too. The City's environmental assessment doesn't provide sufficient analysis on the existing resources in and around the reservoir. The proposed dredging could also have an adverse impact on wildlife. The City wants to remove the existing prairie dogs around the reservoir. The bald eagles need them. The City should preserve them at their current location or relocate them nearby. The prairie dog assessment done by Roe Environmental for the City was not valid. Also, ERO, the environmental consultant for this project, has a conflict of interest by doing work for surrounding private developers. The City should hire an independent firm to do a long term environmental study before adopting the master plan.
- Chris Boardman, 1512 Lefthand Dr., Longmont, CO: Please don't adopt the master plan in its current form. The City is a development partner with West Union, so there is a conflict between preserving the environment and maximizing development. No extensive independent environmental study has been done. At public meetings, citizens have been restricted in the questions they could ask about West Union. Why? The adoption of this master plan would be an enabler for the West Union Annexation, so it should not be adopted.
- Kaye Fissinger, 2199 Creekside Dr., Longmont, CO: Please table the Board's recommendation on this master plan until the entire surrounding ecosystem is fully studied. No discussion on the proposed annexation was permitted at the public meetings for the master plan. The ERO report is lacking in detail and information. Kay provided written remarks for inclusion in the PRAB minutes.
- Ivan Andrade, 2660 Bainbridge St., Ft Collins, CO: Union Reservoir is a family destination. He is a sailing instructor who spends a lot

of time on the water and talks with a lot of users. People need to be able to enjoy the water's edge some from afar and some from up close. The master plan is of "wishful thinking, "or what we all want to see. It is a best effort to hold on to what is good at Union without obliterating the fringes of the reservoir. The recreational areas need more space for expansion, as they are under pressure from too many users right now.

- Jeff Thompson, 1616 Sumner St., Longmont, CO: This master plan won't be implemented for 15-20 years, so there is no urgency to get it adopted now. This timeframe could be accelerated if the Windy Gap Water Storage project changes its timing. He requests that the Board not adopt the draft master plan, as there are too many unknowns. The plan has been rushed through without gathering appropriate information. The City would do better if they were to hold off for a while until more information on the surrounding land uses (the proposed Union and West Union Annexations) and environmental information can be gathered.
- Doug Brown, 1448 Hilltop Dr., Longmont, CO: The City acquired the recreational rights to Union reservoir after it acquired the water rights. Before, motor boating and water skiing were used on the reservoir. Improvements have been made since then. If the Union (Life Bridge) Annexation is voted down, then the land will develop in Weld County. The need for the reservoir improvements won't go away. The City needs to cooperate with the West Union landowners, as the land will likely develop in or out of Longmont. The City needs to have a management plan and master plan for the land around the reservoir first – before development. This way, we will have a vision to get what we want as a City, rather than reacting to development.

Staffs recommendation to the Board was for approval of the master plan with the following changes:

- Remove the Wildlife Buffer distances to allow for more site specific studies to guide the final recommendation
- Clarify that the neighborhood primary greenway trail, park sites and the marina shown may be modified to become more consistent with the West Union Master Plan concept – with staff approval once site specific environmental studies clarify concerns.
    - Size of parks will be determined to meet the needs of the overall neighborhood park requirement for the Union neighborhood.
    - The intent of the Primary Greenway trail will be to locate it on the interface between development and buffer areas.

        - Commercial uses could be compatible with the marina and co- located on the peninsula.
        - Clarify that the small concessions area in the proposed West Union marina area is denoting City run facilities only and does not reflect any potential private land use on nearby lands.
    - Modify the eagle buffer and bypass zones to reflect both minimum and maximum buffer areas and that the specific zone would be established once a site specific determination is made of roost vs. perch site and frequency of use.

Additional Board Discussion:

Swedbergh said that the Union reservoir master plan has been a high priority for the Board for the last 2 years and that the draft plan fulfills the 4 points that the Board requested in their December 6, 2006 letter to City Council and the Planning Director. Hayden agreed, but expressed concern that people are so far apart on this master plan. Consensus was not attained through the process but has driven people further apart. Ogle agreed with Swedbergh, but felt that the wildlife comment set by the Board had not been met. She felt the plan was too fuzzy as presented. Golliher suggested that fuzziness is only flexibility needed to work the plan amongst possible future development adjacent to the site. O'Leary asked if public comment on the West Union plan was limited during the previous public meetings. Ms. Fitzgerald responded that the discussions related to Land use in the West Union area were indeed limited as that was not the purpose of the recreational master plan project and would be discussed in full detail during the upcoming Annexation process that will be led by the Planning Division. Discussions were focused on the recreational amenities.

Sharon O'Leary made a motion to accept the Master Plan as presented by staff; with the provision of making sure the intent in the final document is there to preserve wildlife according to best practices. This was seconded by Mike Swedbergh. Members O'Leary, Swedbergh, Ogle, Golliher and Wardell voting for the Master Plan and Member Hayden voting against the Master Plan. The Motion passes 5-1.

Meeting extended by a motion by Heather Ogle, extending the meeting by 30 minutes to make it end at 10:30 pm was seconded by Doug Golliher and the motion passed 6-0.

# *Appendix G*
# *Cost Estimate 2007*

***Southwest Area***

***Eastern Edge***

***Overall Area***

***Total Costs***

# Union Reservoir

Longmont, Colorado
Estimate of Probable Costs
Prepared by: Design Concepts, November 9, 2007
**Southwest Area**

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| **SOUTHWEST ACTIVITIES** | | | | |
| **Earthwork** | | | | |
| Earthwork (does not include embankment) | 315,000 | SF | $0.25 | $78,750.00 |
| Stockpiling and Respread Topsoil | 315,000 | SF | $0.05 | $15,750.00 |
| | | | **Subtotal** | **$94,500.00** |
| **Greenway Path** | | | | |
| Concrete Flatwork, 6" depth, 4000 psi (8' wide) | 25,700 | S.F. | $4.50 | $115,650.00 |
| | | | **Subtotal** | **$115,650.00** |
| **Remote Control/BMX Area** | | | | |
| 6" Asphalt Parking Lot | 24,000 | S.F. | $3.70 | $88,800.00 |
| Curb and Gutter (Parking Lot) | 860 | L.F. | $13.67 | $11,756.20 |
| Striping (Parking Lot) | 1 | L.S. | $5,000.00 | $5,000.00 |
| 20' x 20' Shelter | 1 | L.S. | $40,000.00 | $40,000.00 |
| Model Airplane Runway (by volunteer club) | 1 | L.S. | $0.00 | $0.00 |
| | | | **Subtotal** | **$145,556.20** |
| **Sailing Club Parking Lot** | | | | |
| Resurface Existing Asphalt Parking Lot | 31,900 | S.F. | $2.70 | $86,130.00 |
| Overflow Gravel Parking Lot | 21,500 | S.F. | $2.00 | $43,000.00 |
| Curb and Gutter (Parking Lot) | 1,300 | L.F. | $13.67 | $17,771.00 |
| Striping (Parking Lot) | 1 | L.S. | $6,000.00 | $6,000.00 |
| | | | **Subtotal** | **$152,901.00** |
| **Dog Beach** | | | | |
| 6" Asphalt Parking Lot | 7,550 | S.F. | $3.70 | $27,935.00 |
| Curb and Gutter (Parking Lot) | 410 | L.F. | $13.00 | $5,330.00 |
| Striping (Parking Lot) | 1 | L.S. | $5,000.00 | $5,000.00 |
| Pedestrian Bridge (25' Long) | 1 | L.S. | $30,000.00 | $30,000.00 |
| Crusher Fines Path (8' wide) | 2,400 | S.F. | $1.25 | $3,000.00 |
| Sand Beach | 4,600 | S.F. | $1.50 | $6,900.00 |
| Pick-up Station | 3 | E.A. | $50.00 | $150.00 |
| Benches | 6 | E.A. | $425.00 | $2,550.00 |
| Trash Receptacles | 3 | E.A. | $325.00 | $975.00 |
| Picnic Tables | 4 | E.A. | $600.00 | $2,400.00 |
| 10' X 10' Shelter | 1 | L.S. | $25,000.00 | $25,000.00 |
| | | | **Subtotal** | **$109,240.00** |
| **Boat Access and Amenities** | | | | |
| Asphalt Drive | 13,000 | S.F. | $3.70 | $48,100.00 |
| Concrete Boat Ramp | 3,000 | S.F. | $7.00 | $21,000.00 |
| Boat Storage, Gravel Lot | 40,000 | S.F. | $0.54 | $21,600.00 |
| Boat Storage, Fence (Post and Wire) | 840 | L.F. | $11.00 | $9,240.00 |
| Boat Storage, 12' Swing Gate | 1 | L.S. | $2,500.00 | $2,500.00 |
| Boat Docks | 2 | E.A. | $50,000.00 | $100,000.00 |
| Crew House/Classroom Building | 2,000 | S.F. | $200.00 | $400,000.00 |
| Sand Beach Launch | 3,000 | S.F. | $1.50 | $4,500.00 |
| Small Boat Lockers (Prefab) | 1 | L.S. | $25,000.00 | $25,000.00 |
| Floating Breakwater | 1 | L.S. | $165,000.00 | $165,000.00 |
| | | | **Subtotal** | **$796,940.00** |

# Union Reservoir

Longmont, Colorado
Estimate of Probable Costs
Prepared by: Design Concepts, November 9, 2007
**Southwest Area**

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| **Landscape** | | | | |
| Deciduous Trees (2") | 150 | E.A. | $384.00 | $57,600.00 |
| Evergreen Trees (6'-8') | 50 | E.A. | $411.00 | $20,550.00 |
| Native Seed and Soil Prep | 300,000 | S.F. | $0.14 | $42,000.00 |
| Plantings Areas (plants, mulch, & fabric) | 500 | S.F. | $1.00 | $500.00 |
| Landscape Bed Drip Irrigation | 500 | S.F. | $0.30 | $150.00 |
| | | | **Subtotal** | **$120,800.00** |
| **General Site Amenities** | | | | |
| Kiosk | 1 | L.S. | $10,000.00 | $10,000.00 |
| Concrete Walk, 6" depth (8' wide, 4,000psi) | 6,240 | S.F. | $4.50 | $28,080.00 |
| Pedestrian Bridge (25' Long) | 2 | L.S. | $30,000.00 | $60,000.00 |
| Benches | 12 | E.A. | $425.00 | $5,100.00 |
| Trash Receptacles | 12 | E.A. | $325.00 | $3,900.00 |
| Picnic Tables | 20 | E.A. | $600.00 | $12,000.00 |
| | | | **Subtotal** | **$119,080.00** |
| | | | **Total** | **$1,654,667.20** |
| Estimating Contingency - 15% | | | | $248,200.08 |
| | | | **GRAND TOTAL*** | **$1,902,867.28** |
| ***Optional Items*** | | | | |
| *Greenway Path - Crusher Fines (3' wide)* | *9,400* | *S.F.* | *$1.50* | *$14,100.00* |
| *Remote Control/BMX Overflow Parking Lot - Gravel* | *9,700* | *S.F.* | *$2.00* | *$19,400.00* |
| | | | ***Subtotal*** | ***$33,500.00*** |
| | | | | |
| **Total does not include construction contingency, bonding, or mobilization.* | | | | |

# Union Reservoir

Longmont, Colorado
Estimate of Probable Costs
Prepared by: Design Concepts, November 9, 2007

**Eastern Edge**

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| **EASTERN EDGE ACTIVITIES** | | | | |
| **Earthwork** | | | | |
| Earthwork (entire area of work on east side) | 1,630,000 | SF | $0.25 | $407,500.00 |
| Stockpiling and Respread Topsoil | 1,730,000 | SF | $0.05 | $86,500.00 |
| | | | **Subtotal** | **$494,000.00** |
| **Utility Service** | | | | |
| Water Main (8" PVC from south to RV camping) | 2,400 | LF | $40.00 | $96,000.00 |
| Water Main (4" PVC from RV to tent camping) | 500 | LF | $30.00 | $15,000.00 |
| Water Services (1 1/2" copper from main to activity areas) | 1,500 | LF | $35.00 | $52,500.00 |
| Fire Hydrants | 3 | E.A. | $5,000.00 | $15,000.00 |
| Sewer | 4,000 | LF | $50.00 | $200,000.00 |
| Electric | 4,000 | LF | $30.00 | $120,000.00 |
| Phone | 2,200 | LF | $20.00 | $44,000.00 |
| | | | **Subtotal** | **$542,500.00** |
| **Greenway Path** | | | | |
| Crusher Fines Path, (8' wide; connect to north loop) | 21,400 | S.F. | $1.25 | $26,750.00 |
| Concrete Flatwork, 6" depth, 4,000 psi (8' wide) | 8,900 | S.F. | $4.50 | $40,050.00 |
| | | | **Subtotal** | **$66,800.00** |
| **Tent Camping** | | | | |
| Gravel Surfacing - Drive and Parking Spaces | 47,200 | S.F. | $2.00 | $94,400.00 |
| Timber Edging around each Parking Space | 30 | E.A. | $150.00 | $4,500.00 |
| Scout Circle / Outdoor Classroom | 1 | L.S. | $30,000.00 | $30,000.00 |
| Concrete Flatwork up to and around restroom | 2,000 | S.F. | $4.50 | $9,000.00 |
| Shower / Restroom (with Electricity, Water, & Sewer) | 1 | L.S. | $200,000.00 | $200,000.00 |
| Tent Pad with Crusher Fines, Grill, Picnic Table | 31 | E.A. | $2,500.00 | $77,500.00 |
| Group Tent Sites with Grill, Picnic Table, Spur | 14 | E.A. | $1,800.00 | $25,200.00 |
| Loop Gate (stock gate) | 1 | L.S. | $2,500.00 | $2,500.00 |
| | | | **Subtotal** | **$443,100.00** |
| **RV Camping** | | | | |
| Gravel Drive and Spurs | 72,000 | S.F. | $2.00 | $144,000.00 |
| Concrete Flatwork up to and around restroom | 4,000 | S.F. | $4.50 | $18,000.00 |
| Dumpster Enclosure at dump station | 1 | E.A. | $10,000.00 | $10,000.00 |
| Facility Pad with CF, Grill, Picnic Table | 23 | E.A. | $2,500.00 | $57,500.00 |
| Dump Station | 1 | L.S. | $8,000.00 | $8,000.00 |
| Stock Gate | 1 | L.S. | $2,500.00 | $2,500.00 |
| | | | **Subtotal** | **$240,000.00** |
| **Drive-in Picnic Area** | | | | |
| Gravel Drive and Parking Spaces with timber curb | 15,500 | S.F. | $2.00 | $31,000.00 |
| Trash Receptacles | 6 | E.A. | $800.00 | $4,800.00 |
| Facility Pad with CF, Grill, Picnic Table | 15 | E.A. | $2,000.00 | $30,000.00 |
| | | | **Subtotal** | **$65,800.00** |
| **Boat Storage and Maintenance Area** | | | | |
| 6" Asphalt Drive | 5,500 | S.F. | $3.70 | $20,350.00 |
| Gravel Overflow Lot | 40,000 | S.F. | $2.00 | $80,000.00 |
| Boat Storage, Fence (post and wire) | 900 | L.F. | $11.00 | $9,900.00 |
| Boat Storage, 12' Stock Gate | 1 | L.S. | $2,500.00 | $2,500.00 |
| Maintenance Building | 1,800 | S.F. | $125.00 | $225,000.00 |
| Maintenance Lot & Outside Storage - Gravel | 5,000 | S.F. | $2.00 | $10,000.00 |
| | | | **Subtotal** | **$347,750.00** |

# Union Reservoir

Longmont, Colorado
Estimate of Probable Costs
Prepared by: Design Concepts, November 9, 2007

**Eastern Edge**

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| **EASTERN EDGE ACTIVITIES** | | | | |
| **Boat Parking and Ramp Area** | | | | |
| 6" Asphalt Parking Lot | 47,500 | S.F. | $3.70 | $175,750.00 |
| Curb and Gutter (Parking Lot) | 1,700 | L.F. | $13.67 | $23,239.00 |
| Striping (Parking Lot) | 1 | L.S. | $5,000.00 | $5,000.00 |
| Concrete Boat Ramp | 3,000 | S.F. | $7.00 | $21,000.00 |
| Boat Docks | 2 | L.S. | $50,000.00 | $100,000.00 |
| | | | **Subtotal** | **$324,989.00** |
| **Ranger Area** | | | | |
| Concrete Boat Ramp w/ Boat Cover | 1 | L.S. | $30,000.00 | $30,000.00 |
| Gravel Drive | 3,500 | S.F. | $2.00 | $7,000.00 |
| Boat Dock | 1 | L.S. | $15,000.00 | $15,000.00 |
| | | | **Subtotal** | **$52,000.00** |
| **Walk-in Boat Launch Area and Multi-Purpose Building** | | | | |
| Multi-purpose Building (finished space) | 1,250 | S.F. | $200.00 | $250,000.00 |
| Multi-purpose Building (unfinished space) | 1,250 | S.F. | $125.00 | $156,250.00 |
| Concrete Flatwork, 6" depth, 4,000 psi, 8' wide | 6,000 | S.F. | $4.50 | $27,000.00 |
| Boat Slips | 1 | L.S. | $10,000.00 | $10,000.00 |
| Sand Beach | 4,000 | S.F. | $1.50 | $6,000.00 |
| Small Boat Storage Lockers (prefab) | 1 | L.S. | $25,000.00 | $25,000.00 |
| | | | **Subtotal** | **$474,250.00** |
| **Breakwater** | | | | |
| Bridge (40' Long) | 1 | L.S. | $50,000.00 | $50,000.00 |
| Concrete Flatwork, 6" depth, 4,000 psi, 8' wide | 9,600 | S.F. | $4.50 | $43,200.00 |
| Shelter (20'x20') | 1 | L.S. | $40,000.00 | $40,000.00 |
| Accessible Fishing Area, Crusher Fines | 4,800 | S.F. | $1.25 | $6,000.00 |
| Sets of Stabilized Boulders at Accessible Fishing Areas | 3 | L.S. | $1,000.00 | $3,000.00 |
| Pier | 1 | L.S. | $100,000.00 | $100,000.00 |
| Picnic Tables | 3 | E.A. | $600.00 | $1,800.00 |
| | | | **Subtotal** | **$244,000.00** |
| **Day Use Area** | | | | |
| 6" Asphalt Parking Lots | 48,500 | S.F. | $3.70 | $179,450.00 |
| Curb and Gutter (Parking Lots) | 2,575 | L.F. | $13.67 | $35,200.25 |
| Striping (Parking Lot) | 2 | L.S. | $5,000.00 | $10,000.00 |
| Concrete Flatwork, 6" depth, 4,000 psi, 8' wide | 19,200 | S.F. | $4.50 | $86,400.00 |
| Restroom | 1 | L.S. | $150,000.00 | $150,000.00 |
| Fishing Dock | 1 | L.S. | $25,000.00 | $25,000.00 |
| Shelter (30'x30') | 1 | L.S. | $55,000.00 | $55,000.00 |
| Shelter (20'x20') | 2 | L.S. | $40,000.00 | $80,000.00 |
| Shelter (10'x10') | 2 | L.S. | $25,000.00 | $50,000.00 |
| Outdoor Classroom | 1 | L.S. | $20,000.00 | $20,000.00 |
| Playground incl equipment & surfacing | 1 | L.S. | $150,000.00 | $150,000.00 |
| Benches | 12 | E.A. | $425.00 | $5,100.00 |
| Trash Receptacles | 6 | E.A. | $325.00 | $1,950.00 |
| Picnic Tables | 10 | E.A. | $600.00 | $6,000.00 |
| Sod and Irrigation - core area | 80,000 | S.F. | $2.00 | $160,000.00 |
| Seed and Irrigation - remainder | 115,300 | S.F. | $1.40 | $161,420.00 |
| | | | **Subtotal** | **$1,175,520.25** |

# Union Reservoir

Longmont, Colorado
Estimate of Probable Costs
Prepared by: Design Concepts, November 9, 2007

**Eastern Edge**

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| **EASTERN EDGE ACTIVITIES** | | | | |
| **Swim Beach Area** | | | | |
| 6" Asphalt Parking Lots | 83,260 | S.F. | $3.70 | $308,062.00 |
| Curb and Gutter (Parking Lots) | 5,000 | L.F. | $13.67 | $68,350.00 |
| Striping (Parking Lot) | 2 | L.S. | $5,000.00 | $10,000.00 |
| Concrete Flatwork, 6" depth, 4,000 psi, 8' wide | 4,160 | S.F. | $4.50 | $18,720.00 |
| Sand Beach | 16,500 | S.F. | $1.50 | $24,750.00 |
| Floating Dock | 1 | L.S. | $50,000.00 | $50,000.00 |
| Multipurpose building (Restroom/Concession/Changing) | 1,500 | S.F. | $200.00 | $300,000.00 |
| Benches | 12 | E.A. | $425.00 | $5,100.00 |
| Trash Receptacles | 6 | E.A. | $325.00 | $1,950.00 |
| Picnic Tables | 10 | E.A. | $600.00 | $6,000.00 |
| Sod and Irrigation | 50,500 | S.F. | $2.00 | $101,000.00 |
| | | | **Subtotal** | **$893,932.00** |
| **Entry Amenities** | | | | |
| Site Signage- entry ID, directional, use area, rules & regs | 1 | L.S. | $10,000.00 | $10,000.00 |
| 6" Asphalt Drive | 100,000 | S.F. | $3.70 | $370,000.00 |
| Entry Station incl Self Serve | 2 | EA | $20,000.00 | $40,000.00 |
| Ranger Building | 700 | S.F. | $125.00 | $87,500.00 |
| Concrete Walk, 6" depth (8' wide) | 4,160 | S.F. | $4.25 | $17,680.00 |
| Ranger Building 6" Asphalt Parking | 3,200 | S.F. | $3.70 | $11,840.00 |
| | | | **Subtotal** | **$537,020.00** |
| **Landscape** | | | | |
| Deciduous Trees - 2-1/2" cal | 300 | EA | $385.00 | $115,500.00 |
| Evergreen Trees - 8' | 100 | EA | $411.00 | $41,100.00 |
| Native Seed and Soil Prep | 1,528,570 | S.F. | $0.14 | $213,999.80 |
| Plantings Areas (shrubs, mulch, & fabric) | 20,000 | S.F. | $3.00 | $60,000.00 |
| Landscape Bed Drip Irrigation | 20,000 | S.F. | $0.30 | $6,000.00 |
| | | | **Subtotal** | **$436,599.80** |
| | | | **Total** | **$6,338,261.05** |
| Estimating Contingency - 15% | | | | $950,739.16 |
| | | | **GRAND TOTAL*** | **$7,289,000.21** |
| | | | | |
| ***Optional Items*** | | | | |
| *Greenway Path - Crusher Fines (3' wide)* | *2,650* | *S.F.* | *$1.50* | *$3,975.00* |
| *Day Use - Gravel Overflow Parking* | *21,301* | *S.F.* | *$2.00* | *$42,602.00* |
| *Day Use - Overflow Curb and Gutter* | *1,100* | *L.F.* | *$13.67* | *$15,037.00* |
| | | | ***Subtotal*** | ***$61,614.00*** |
| | | | | |
| **Total does not include construction contingency, bonding, or mobilization.* | | | | |

# Union Reservoir

Longmont, Colorado
Estimate of Probable Costs
Prepared by: Design Concepts, November 9, 2007

**Overall**

| ITEM | QUANTITY | UNIT | UNIT COST | TOTAL COST |
|---|---|---|---|---|
| **OVERALL SITE** | | | | |
| **Greenway Path (outside of SW & E rec areas)** | | | | |
| Crusher Fines Path (8' wide; total loop around the north) | 91,800 | S.F. | $1.25 | $114,750.00 |
| Concrete Flatwork, 6" depth, 4,000 psi, (8' wide) | 46,300 | S.F. | $4.50 | $208,350.00 |
| Crusher Fines Path in West Union (pd by developer) | 25,600 | S.F. | $1.25 | ($32,000.00) |
| Concrete Flatwork in West Union (pd by developer) | 33,600 | S.F. | $4.50 | ($151,200.00) |
| | | | **Subtotal** | **$139,900.00** |
| **Wildlife Amenities** | | | | |
| Scenic Wildlife Pull-off (asphalt pull off) | 800 | S.F. | $3.70 | $2,960.00 |
| Wildlife Buffer Landscaping | 3,600,000 | S.F. | $0.05 | $180,000.00 |
| Cottonwood Gallery/Eagle Relocation Site | 75 | E.A. | $100.00 | $7,500.00 |
| | | | **Subtotal** | **$190,460.00** |
| | | | **Total** | **$330,360.00** |
| Estimating Contingency - 15% | | | | $49,554.00 |
| | | | **GRAND TOTAL*** | **$379,914.00** |
| ***Optional Items*** | | | | |
| *Greenway Path - Crusher Fines (3' wide)* | *17,350* | *S.F.* | *$1.25* | *$21,687.50* |
| | | | ***Subtotal*** | ***$21,687.50*** |
| **Total does not include construction contingency, bonding, or mobilization.* | | | | |

# Union Reservoir

Longmont, Colorado
Estimate of Probable Costs
Prepared by: Design Concepts, November 9, 2007

**Park Total Costs**

**ESTIMATE OF TOTAL COSTS**

| | | | | |
|---|---|---|---|---|
| Southwest Recreation Area | | | Subtotal | $1,654,667.20 |
| Eastern Recreation Area | | | Subtotal | $6,338,261.05 |
| Overall Union Reservoir | | | Subtotal | $330,360.00 |
| | | | **Total** | **$8,323,288.25** |
| Estimating Contingency - 15% | | | | $1,248,493.24 |
| | | | **GRAND TOTAL** | **$9,571,781.49** |

***Optional Items***

| | | | | |
|---|---|---|---|---|
| *Southwest Recreation Area* | | | *Subtotal* | *$33,500.00* |
| *Eastern Recreation Area* | | | *Subtotal* | *$61,614.00* |
| *Overall Union Reservoir* | | | *Subtotal* | *$21,687.50* |
| | | | ***Total*** | ***$116,801.50*** |

**Total does not include construction contingency, bonding, or mobilization.*

| | | | |
|---|---|---|---|
| **CIP updates:** | | | |
| Updates to costs: | % ENR | Year | $330,360.00 |
| Including Contingency 15% | | | *$379,914.00* |
| **Overall UR - trail** | 2.57% | 2008 | $389,677.79 |
| | 1.85% | 2009 | $396,886.83 |
| | 0.84% | 2010 | **$400,220.68** |
| **SW Recreation area** | | | $1,654,667.00 |
| Including Contingency 15% | | | *$1,902,867.05* |
| | 2.57% | 2008 | $1,951,770.73 |
| | 1.85% | 2009 | $1,987,878.49 |
| | 0.84% | 2010 | **$2,004,576.67** |
| **Eastern Recreation Area** | | | $6,338,261.00 |
| Including Contingency 15% | | | *$7,289,000.15* |
| | 2.57% | 2008 | $7,476,327.45 |
| | 1.85% | 2009 | $7,614,639.51 |
| | 0.84% | 2010 | **$7,678,602.48** |

***Appendix H***
***Environmental Update 2011***

***Walsh Engineering Report***

# UNION RESERVOIR
# WELD COUNTY, COLORADO

## NATURAL RESOURCES AND HABITAT ASSESSMENT UPDATE

## REVIEW OF MASTER PLAN ACTIONS AND RECOMMENDATIONS

May 17, 2011

*Prepared for:*

City of Longmont Natural Resources Division
7 South Sunset St.
Longmont, CO 80501

*Prepared by:*

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# INTRODUCTION

Union Reservoir is a 736 acre body of water managed by the City of Longmont Natural Resources Division. The Reservoir provides many outdoor recreational activities including fishing, swimming, wakeless boating, camping, windsurfing, and picnicking. The Union Reservoir site also supports natural habitats such as open water, shoreline, wetlands, stands of cottonwood trees, and grassland areas, all of which provide wildlife habitat that is otherwise limited in the general vicinity. Originally called Calkins Lake, the reservoir basin was carved and filled during the last glacial age. It is one of a few natural lakes in eastern Colorado. In 1903, the Union Ditch Company drilled a tunnel to release water from the lake into the nearby St. Vrain River. According to Colorado water law, this action made the lake a legal reservoir (Longmont 2011b).

Walsh Scientists and Engineers, LLC (Walsh) has undertaken this study with several objectives. The first is to update previously assessed habitat conditions at Union Reservoir. This update also includes changes in adjacent land ownership, land use, jurisdiction, and potential programming (Longmont 2011b). In addition, proposed recreation improvements per the 2011 Draft Recreational Master Plan were reviewed in terms of potential impacts to natural resources and habitat at Union Reservoir. Finally, Walsh has made recommendations for the Union Reservoir 2011 Draft Recreational Master Plan, in terms of mitigating ecological concerns. Public meetings to discuss the recreational master plan are scheduled for late spring 2011 (Longmont 2011b).

# HABITAT ASSESSMENT UPDATE

## Site Description

Union Reservoir is located in Weld County, Colorado, approximately seven miles west of Interstate 25. The environmental study area is described with Weld County Road 1 forming the western boundary, City open space east of the reservoir as the eastern boundary, Highway 66 is one-half mile north of the northern boundary, and Highway 119 is one- half mile south of the southern boundary.

The Reservoir is located on the Longmont 7.5 minute U.S. Geological Survey quadrangle map, Sections 30 and 31of Township 3 North, Range 68 West; and Section 6, Township 2 North, Range 68 West. Parcels surrounding and adjacent to Union Reservoir range in elevation from 4,950 to 4,980 feet.

## Methods

Walsh reviewed a habitat assessment for Union Reservoir conducted by ERO in 2006 as part of the previously proposed West Union development, on behalf of Bruns Concrete and Construction, Inc. This included a natural resource site review in May (ERO 2006a), and a habitat assessment in August (ERO 2006b) of a 400-acre area immediately west and northwest of Union Reservoir (Figure 1). Walsh ecologists conducted three visits to the Union Reservoir site in the spring of 2011 including a site reconnaissance on April 19; an assessment of two black-tailed prairie dog colonies, and a burrowing owl call survey south and east of the reservoir on April 26; and a qualitative tour of Union Reservoir's perimeter via boat on May 2. During all site visits, the results of the previous assessment were compared to current conditions and ecological features of note were recorded, including use by raptors and other birds, bird nests, and potential or occupied habitat for special status species. In addition, Walsh ecologists procured a current Google Earth image of the area (Google Earth, 2010) to compare against aerial images integrated into the 2006 ERO assessment.

The following background information was provided by the City of Longmont and referenced for this report:

**Table 1. Background Information**

| Author | Title |
|---|---|
| City of Longmont | http://www.ci.longmont.co.us/parks/comm_involve/board/agendas/ documents/UnionResSPECIALEVENTPOLICY.prab1-10-11pdf.pdf. 2011. |
| City of Longmont | http://www.ci.longmont.co.us/parks/park_list/overview/union.htm. 2011 |
| City of Longmont | Union Reservoir Cottonwood Inspection. 2008. |
| City of Longmont | Ranger Bald Eagle Sitings. 2007-2008 |
| City of Longmont | Special Event Policy and Event Guidelines for City-Owned Regional Event Site South of Union Reservoir. 2011. |
| Colorado Division of Wildlife | http://wildlife.state.co.us/Fishing/MandatoryBoatInspections.htm. 2011. |
| Colorado Division of Wildlife | Letter from Area Wildlife Manager, Larry Rogstad: Heaven Fest Use of Public Places Special Events Application. March 5, 2010. |
| Colorado Division of Wildlife | Bald Eagle Winter Nighttime Roost Watch data--Union Reservoir 2007-2008. Letter from Mike Sherman (Wildlife Conservation Biologist) to Paula Fitzgerald, City of Longmont. July 1, 2008. |
| Colorado Division of Wildlife | West Union Longmont Planning Area Amendment. January, 2007. |

**Table 1. Background Information**

| | |
|---|---|
| Design Concepts | Union Reservoir Recreational Master Plan Update – Draft Revised Master Plan. March 23, 2011. |
| ERO Resources Corporation | Natural Resources Site Review, West Union Reservoir, Weld County, Colorado. May 17, 2006. |
| ERO Resources Corporation | Threatened and Endangered Species Habitat Assessment, West Union Reservoir, Weld County, Colorado. August 30, 2006. |
| ERO Resources Corporation | Summary Memo: Union Reservoir Environmental Issues. October 4, 2007. |

## Habitat and Land Use Assessment

ERO identified 16 parcels based on the last name of the property owner (Figure 2). These lands are either privately-owned, controlled by or owned by the City of Longmont (City). The parcels comprise rural residential homes, agricultural production, commercial nurseries, and recreational facilities associated with Union Reservoir (ERO, 2006a). Land use under private ownership is mainly historic or active agricultural production including livestock grazing, hay production, land cultivation, and associated ditches. ERO noted and delineated native wetland vegetation occurred between the reservoir high and low waterlines, dominated by cattails (*Typha latifolia*) and sandbar willows (*Salix exigua*).

The majority of land use in the vicinity of Union Reservoir is still agriculture but ownership and land use on some parcels has changed. City of Longmont now owns Adrian parcels #1, #2, and #3 as well as the Bogott parcel which includes Wetland 1 (Figure 2). Primary land use on portions of the Doecheff and Dick parcels remains in active agriculture with irrigated pasture dominated by introduced pasture grass species including smooth brome (*Bromopsis inermis*) and intermediate wheatgrass (*Agropyron intermedium*) used for hay production and cattle grazing. The Flores' home, corrals, and outbuilding use appears unchanged. No water was observed in the Steinke parcel irrigation ditch in May 2011. The Steinke parcel is now surrounded by a City-owned parcel to the north, east, and south (formerly the Bogott parcel).

The Kelliher parcel east of the home is still an inactive agricultural field. Although the area west of the home supported little or no vegetation in June 2010, the land appears actively cultivated. Land use on the Braesch parcel, Willis parcel #2, and Longmont parcels #1, #2, and #3 is still inactive agricultural fields. Willis parcel #1 irrigated and planted with alfalfa (*Medicago sativa*) in 2006 is still in active use.

Adrian parcel #1 and eastern portions of Adrian #2 were fallow in 2006 and the western portion of Adrian #2 and all of Adrian #3 were being cultivated. As mentioned previously, these three parcels are now owned by the City. Adrian parcel #4 was cultivated in 2006 but currently appears inactive. A large active construction zone north of 9$^{th}$ St. on the former Adrian parcel #1 was observed this year as part of the County Line Road widening project.

A stand of mature cottonwood trees on City land (formerly Adrian parcel #2) on the western side of the Reservoir was identified by ERO in 2006 (Figure 2). It has been verified by Colorado Division of Wildlife (CDOW) that bald eagles were not using these trees for a nighttime roost at the reservoir (CDOW 2008a). Additional surveys by Union Reservoir rangers concurrent with CDOW surveys documented foraging activities but not roosting behavior.

### *Potential Wetlands and Waters of the U.S.*

Extent of wetland vegetation observed along Spring Gulch and drainage channel, the Oligarchy Ditch and diversion channel, and the Union Reservoir Ditch in the southern portions of the study area has not changed notably since 2006. In northern reaches of the previous assessment area, wetland vegetation along an unnamed tributary flowing through a culvert under Weld County Road 28 and into Union Reservoir looks similar in extent. Vegetation in the large cattail marsh wetland associated with Union Reservoir east of the Doecheff and Dick parcels also appears similar in extent. Flow in the two roadside

ditches along Weld County Road 28 is unchanged; the northern ditch flows into the unnamed tributary and the cattail-dominated wetland and the southern ditch flows into the cattail-dominated wetland.

### *Section 404 Permitting*

As discussed by ERO, under Section 404 of the Clean Water Act (CWA) administered by U.S. Army Corps of Engineers (USACE), a permit is required for discharge of dredged or fill material into wetlands and other waters of the U.S. (i.e., all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to the these waters, and all impoundments of these waters). In addition, due to growth along the Colorado Front Range and associated decreases in natural drainages and floodplains, the Denver Regulatory office of USACE is now focusing on floodplain protection. The Denver USACE office emphasizes avoidance and minimization of indirect effects to aquatic ecosystems. They now require project proponents establish setbacks (50 feet minimum recommended) from wetlands and waters of the U.S. for protection from construction and long-term disturbances.

If any potential wetlands and waters of the U.S. would be impacted by proposed project activities, they should be delineated following the *1987 Corps of Engineers Wetland Delineations Manual* and a request for a Jurisdictional Determination of such be submitted to USACE for confirmation. In the previous assessment, several potential wetlands and waters of the US were identified. An additional area was identified in 2011. These areas are delineated in Figure 2 and described below. Photographs of these areas are included in the attachment to this report.

### Unnamed Tributary to Union Reservoir

In 2006, emory sedge (*Carex emoryi*), saltgrass (*Distichlis spicata*), rabbitfoot grass (*Polypogon monspeliensis*), and curly dock (*Rumex crispus*) were observed along the tributary (ERO 2006a). The same wetland conditions and vegetation were observed in 2011 (Photo 1).

Because this tributary has wetland vegetation, a defined channel bed and bank, and a surface flow and connection to waters of the U.S., it is likely under jurisdiction of USACE.

### Union Reservoir

Wetland vegetation between the low and high water marks along the western edge of Union Reservoir consists of cattails, three-square (*Schoenoplectus pungens*), and sandbar willows (Photo 2). In the large cattail-dominated wetland marsh in the northwestern portion of the reservoir, species observed included Baltic rush (*Juncus balticus*), spike rush (*Eleocharis* sp.), and three-square (ERO 2006a). In 2011, bulrushes (*Schenoplectus* spp.) were also observed in this area (Photo 2).

Because Union Reservoir has a surface connection to Saint Vrain Creek via the Union Reservoir Ditch, the reservoir and associated wetlands would likely be under the jurisdiction of USACE.

### Wetland 1

Wetland 1, occurring in a low-lying area on what is now City property, was not assessed during 2011 surveys. In 2006, cattails, saltgrass, and three-square were observed in this area (ERO 2006a). Surface water associated with the Bogott property flood irrigation practices was thought to support this area (ERO 2006a). Now under City management, wetland vegetation extent may have shifted as a result of changes in land use practices.

Because suitable habitat for Ute ladies'-tresses orchid, a federally threatened species (USFWS 2010), was present within portions of the Dick and formerly Bogott parcels in 2006 (ERO, 2006b), a presence/absence survey for its presence should be conducted within these parcels. USACE jurisdiction should be verified before conducting surface disturbing activities.

### Roadside Ditches

Wetland characteristics including an ordinary high water mark (OHWM), wetland vegetation, and a surface connection to Union Reservoir observed by ERO in 2006 were also present in 2011. As such, these areas should be confirmed for USACE jurisdiction before disturbance.

## Wetland 2

Wetland 2 occurs in the northwestern portion of on the Steinke parcel and is associated with a shallow, actively-managed irrigation ditch with surface connection to Union Reservoir. The extent of wetland vegetation appears to have contracted since 2006. Sandbar willow stems in the ditch channel have been cut. The ditch was dry in 2011 with stands of saltgrass and dead sandbar willow shoots along the edges (Photo 3). This ditch may no longer be used to flood irrigate the former Bogott property now that the City owns this parcel.

Walsh concurs with ERO (ERO 2006a) in the recommendation that USACE be requested to conduct a jurisdictional determination of these geographically isolated waters and wetlands, should the area be potentially impacted by future development decisions. In addition, a presence/absence survey for Ute ladies'-tresses should be conducted.

## Spring Gulch

Spring Gulch flows from northwest to southeast across the southern portion of the Union Reservoir area. (Figure 2) and appears on the U.S. Geological Survey (USGS) topographic map as an intermittent tributary to Saint Vrain Creek.

A drainage channel with a surface connection to Spring Gulch is present along the south side of Weld County Road 26. Because Spring Gulch has wetland vegetation, a surface flow, and connection to the Saint Vrain Creek, it is likely jurisdictional to USACE.

## Oligarchy Ditch and Diversion Channel

The Oligarchy Ditch enters the study area from Boulder County to the west through a culvert under Weld County Road 1. The water is mainly directed southeast, but a small amount flows into a diversion channel flowing into Union Reservoir (ERO 2006a). This ditch and diversion channel support narrow fringes of herbaceous wetland plants along their banks. In 2006, ERO observed emory sedge and meadow foxtail as well as small patches of sandbar willows and cattails in overbank areas along the diversion channel.

Because the Oligarchy Ditch does not act as the sole conveyance to any streams prior to reaching the study area, it is unlikely that USACE would claim jurisdiction over the ditch and diversion channel but this should still be verified with USACE.

Twenty-five cottonwood trees north of the ditch and around the sail boat storage area and the campground were inspected in late 2007 and early 2008 by City foresters (Paula Fitzgerald, personal communication, May 2011; Longmont 2008a). Of these, 17 had an estimated life expectancy of less than 20 years. Eight trees had a life expectancy of more than 20 years. Three trees were recommended for removal due to hazard potential.

## Wetland 3

In 2006, vegetation in the channel included cattails, softstem bulrush (*Schoenoplectus lacustris* subsp. *acutus*), American speedwell (*Veronica americana*), and three-square. In 2011, the area was observed to have been burned. The extent of this cattail-dominated wetland has changed from an east-west linear extent to a L-shape with branches extending west as well as south. Wetland 3 no longer extends as far toward the west (Photos 4 and 5).

Because the drainage channel has wetland vegetation, a surface flow, and connections to St. Vrain Creek via Spring Gulch and Union Reservoir Ditch, it would likely be under USACE jurisdiction (ERO 2006a).

## Union Reservoir Ditch

Union Reservoir Ditch flows south from Union Reservoir adjacent to the southeastern edge of the previous habitat assessment boundary. In 2011, whitetop or hoary cress (*Cardaria draba*) was observed growing on the upper slopes near the metal outlet structure at the northeast portion of Union Reservoir Ditch (Photo 6). Whitetop is listed for control on the Colorado Noxious Weed List B (CDA 2011) and the Weld County Control Weed Species- List B (Weld County 2011).

Spring Gulch flows into this ditch at the southeast corner of the previous habitat assessment boundary. Because Spring Gulch appears as a perennial tributary to the St. Vrain on the USGS topographic map, it would likely be under USACE jurisdiction (ERO 2006a).

## Additional Assessment: South, East, and North Reservoir Areas

The following sections provide information and an assessment of ecological resources not addressed in the previous habitat assessment by ERO.

### *South Perimeter*

A prairie dog colony occurs on City property near the south perimeter of the reservoir site (Photo 7). During a single burrowing owl call survey conducted on April 26, 2011 in accordance with protocol recommended by CDOW (CDOW 2008), Walsh did not detect burrowing owls in the active prairie dog colony.

### *East Perimeter*

The eastern shoreline is mainly City-owned, with the exception of the Lindberg parcel (Figure 2). A black-tailed prairie dog colony near the east perimeter and sail club area appears to occur on both City land as well as the Lindberg parcel. The prairie dogs are concentrated in the western portion of this space but appear to be expanding eastward where the land is tilled and looks to be in active agriculture (Photo 8).

Near a constructed osprey (*Pandion haliaetus*) platform, the eastern shoreline supports a band of wetland vegetation dominated by cattails. In May 2011, a nesting pair of ospreys was utilizing the platform and nearby willow trees (Photo 9).

Mature cottonwoods occur on the former French property. These trees were also surveyed in late 2007 and early 2008 for hazard trees by City foresters (Longmont 2008). Data showed 36 mature cottonwoods, none of which were considered hazardous. Twelve additional mature cottonwoods occur around the farmhouse property.

Along much of the eastern shoreline herbaceous wetland vegetation is well established and serves as a buffer between the open water and the adjacent City-owned agricultural fields. North of the osprey platform, the shoreline consists of a sandbar willow shrub layer, deadfall, herbaceous wetland vegetation including cattails and bulrushes, and rip rap. The structure, shade, and insects associated with this vegetation provide good aquatic and marsh habitat for wildlife as well as a good area for fishing (Photo 10).

### *North Perimeter*

The northern shoreline is a mix of privately-owned and City-owned parcels. These parcels are mostly agricultural fields, former agricultural fields, or residential backyards. Between the reservoir's high and low watermarks, the northern shoreline (between the Unnamed Tributary and the Docheff Dairy) and northeast shoreline (near the Welsch and Walter properties) supports a wide swath of wetland vegetation extending away from the open water toward residential backyards along its shoreline and agriculture parcels on adjacent land (Photo 11). These cattails and bulrushes are intermittent. In some places through here, agriculture and residential land use extends directly to the edge of the reservoir. In these areas, a wetland vegetation buffer is absent and wave action with resulting erosion is apparent along the shoreline (Photo 12).

**Wetland 4** was identified along the north shoreline, south of Weld County Road 28. This small wetland scrape supports cattails and other herbaceous wetland vegetation (Photo 13) and appears to have a surface connection to Union Reservoir and may receive sustaining hydrology via a pipe under the road, as well as road surface runoff.

Because it has wetland vegetation and appears to have a surface connection to Union Reservoir, it would need to be verified by USACE to determine jurisdiction before disturbing the site.

### *Potential Special Status Species*

Federally threatened, endangered, and candidate wildlife and plants under the Endangered Species Act (ESA) with potential habitat in the 2011 Draft Recreational Master Plan area were considered for this report. Significant adverse effects to a federally listed species or its habitat requires consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the ESA. The USFWS deemed several species as not likely to occur at the reservoir due to lack of preferred habitat in a letter to ERO dated September 20, 2006 (USFWS 2006). These species include Mexican spotted owl (*Strix occidentalis lucida*), Canada lynx (*Lynx canadensis*), black-footed ferret (*Mustela nigripes*), greenback cutthroat trout (*Oncorhynchus clarki stomias*), and Colorado butterfly plant (*Gaura neomexicana* spp. *Coloradensis*). Additionally slender moonwort (*Botrychium lineare*), a federal candidate species for listing in 2006 (ERO, 2006b) was not observed. Slender moonwort is no longer listed in Colorado by the USFWS.

Five additional endangered or threatened species, including the interior least tern (*Sterna antillarum athalassos*), piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), pallid sturgeon (*Scaphirhynchus albus*), and western prairie fringed orchid (*Platanthera praeclara*) rely on habitat provided by the Platte River system. These species are not present at the reservoir. However, changes to rivers and lakes due to irrigation, canal construction, and dams have led to decline of these species. Thus, projects that result in depletions to the Platte River system, including the South Platte River and its tributaries, could potentially result in secondary impacts to these species or habitat. Potential activities that could result in depletions include but are not limited to water diversion; storage and use activities; and land use activities such as detention facilities, dust abatement, and wetland mitigation. It is unknown whether activities associated with the 2011 Draft Recreational Master Plan would cause depletions to the Platte River system. For all activities in the Platte River basin, the USFWS has developed guidance, including the 'de minimus depletions threshold.' This guidance states that water-related activities resulting in less than 0.1 acre-foot per year of depletions in flow to the nearest surface water tributary to the Platte River system do not affect the Platte River target species, and thus do not require consultation with the USFWS for potential effects on those species (USFWS 2009).

Walsh biologists evaluated CDOW state endangered, threatened and species of special concern when potential habitat was detected. Five species fit these criteria and are listed in Table 2 and discussed further below.

**Table 2. Special Status Species with Potential to Occur in Weld County, Colorado.**

| Common Name | Scientific Name | Listing Status* | Habitat Present |
|---|---|---|---|
| bald eagle | *Haliaeetus leucocephalus* | DL, SC | Potential |
| burrowing owl | *Athene cunicularia* | ST | Potential |
| black-tailed prairie dog | *Cynomys ludovicianus* | SC | Present |
| northern leopard frog | *Rana pipiens* | SC | Potential |
| Ute ladies'-tresses orchid | *Spiranthes diluvialis* | FT | Potential |

*DL = Delisted, ST = State Threatened, SC = Special Concern (non-statutory), FT = Federally Threatened.
*Source:* USFWS 2010, CDOW 2010a.

## Bald Eagle

*Current Status*

On August 9, 2007, the bald eagle was removed from the federal list of threatened and endangered species however it continues to be protected under the Migratory Bird Treaty Act (MBTA) and the Bald

and Golden Eagle Protection Act (BGEPA). It was removed from the Colorado State Endangered List in 2009 (CDOW 2011) but it continues to be a state species of special concern (a non-statutory status).

*Potential Habitat*

CDOW has documented Union Reservoir as within the overall winter range, winter foraging and winter concentration areas for bald eagles (CDOW 2009). Wintering eagles use large trees around the reservoir as hunting perches. CDOW conducted a winter roost assessment for Union Reservoir from December 20, 2007 to March 7, 2008 and concluded that no overnight roosting occurred by bald eagles (CDOW 2008a). Concurrent with the CDOW survey, City of Longmont maintained a list of bald eagle counts from November 27, 2007 to March 9, 2008. These counts documented foraging individuals generally ranging from zero to ten individuals. During a period of fish die off from February 24 – March 1, 2008, foraging birds ranged from eight to 28 individuals. Similar to the CDOW study, City of Longmont found no indication of any of these large groups using the Reservoir as nighttime roosts; rather they were exploiting the area's food resources (Longmont 2008b).

A communal winter roost of bald eagles is documented along the Saint Vrain Creek approximately 1.3 miles southeast of Union Reservoir in portions of Sections 8 and 9, Township 2 North, Range 68 West. The CDOW also documents Saint Vrain Creek as roosting habitat in areas of tall trees along an eight mile stretch of the riparian corridor starting at North 119$^{th}$ Street in Boulder County and continuing east into Weld County ending 1.5 miles east of Interstate 25 (NDIS 2009). CDOW recommends a 0.25 mile buffer around active roosts of both type and Union Reservoir lies well outside the recommended buffer (CDOW 2008b).

An active bald eagle nest is located 1.6 miles to the southwest of Union Reservoir in the southeast quarter of Section 12, Township 2 North, Range 69 West. The reservoir is well within the average territory size reported for nesting bald eagles in the west (Buehler 2000). Fish stocking programs, waterfowl concentrations, and the presence of black-tailed prairie dogs on the eastern side of the reservoir provide multiple foraging opportunities for the pair associated with this nest. CDOW recommends a 0.25 mile buffer around active nests and the reservoir lies well outside that buffer (CDOW 2008b).

**Burrowing Owl**

*Current Status*

The burrowing owl is currently a state listed threatened species due to the loss of preferred habitat, black-tailed prairie dog colonies. It receives federal protection under the MBTA.

*Potential Habitat*

Active prairie dog towns that occur to the south and the southeast of the reservoir could host burrowing owls in the future. No burrowing owls were detected in 2011.

**Black-tailed Prairie Dog**

*Current Status*

The black-tailed prairie dog is a state species of special concern due to habitat loss, disease, poisoning and recreational shooting.

*Potential Habitat*

As noted, two active colonies occur within the area contained within the 2011 Draft Recreational Master Plan. This species has adapted from preferred native grassland habitat to disturbed open habitats.

**Northern Leopard Frog**

*Current Status*

The northern leopard frog is state species of special concern due to habitat loss, introduced species, and climatic conditions (Hammerson 1999).

*Potential Habitat*

Potential habitat occurs along the banks of irrigation ditches and reservoir edges.

## Ute ladies'-tresses orchid

*Current Status*

Ute ladies'-tresses is a federally threatened species (USFWS 2010). As was recommended by ERO and concurred upon by the USFWS in 2006, Walsh recommends that surveys be conducted for the orchid in suitable habitat within the Dick and the former Bogott parcels.

*Potential Habitat*

In Colorado, the Ute ladies'-tresses orchid occurs in sub-irrigated alluvial soils along streams and in open meadows in floodplains, and around springs and lakes ranging in elevations between 4,800 and 6,800 feet (CNHP 2011). The habitat is generally open vegetation cover. This species does not typically establish in dense or overgrown sites.

## Raptors and Migratory Birds

The water, wetlands and trees provide foraging, roosting and nesting habitat for a diversity of bird species. Data submitted to the Cornell Laboratory of Ornithology (2011) documents 199 species occurring at Union Reservoir. Many of these are transitory in nature only pausing to rest at the reservoir in migration. Another 40 or so species or so regularly nest in the varied habitats of the Reservoir including marsh, field, riparian trees and human-made structures (buildings, culverts, etc.). All native birds are afforded protection under the MBTA.

During the site reconnaissance visits, Walsh biologists observed a variety of water and wetland dependant migratory birds including but not limited to American white pelican (*Pelecanus erythrorhynchos*), white-faced ibis (*Plegadis chihi*), Franklin's gull (*Leucophaeus pipixcan*), and willet (*Tringa semipalmata*). Several probable breeding birds observed in wetland habitat at the reservoir included western grebe (*Aechmophorus occidentalis*), pied-billed grebe (*Podilymbus podiceps*), marsh wren (*Cistothorus palustris*), red-winged blackbird (*Agelaius phoeniceus*), and yellow-headed blackbird (*Xanthocephalus xanthocephalus*). During the 2.5 hour survey period, a total of 36 species were observed representing 14 families of birds and highlighting the diversity of birdlife utilizing Union Reservoir.

An osprey platform with an active nest was noted by Walsh biologists at approximately N40.181630°, W105.028418°. No other raptors were observed nesting at the Union Reservoir site.

## *Components Associated with the Expanded Reservoir Acre Feet*

This report does not address the following components as they are associated with the expansion of the reservoir acreage:

- The 13 foot rise in the reservoir water level and the associated expansion of acreage;
- The proposed reservoir dam;
- The proposed relocation of Oligarchy ditch
- The proposed re-alignments of County Roads 26 and 28.

# REVIEW OF MASTER PLAN ACTIONS AND RECOMMENDATIONS

The following section present recommendation for implementation of improvements discussed in the current Union Reservoir Master Plan, organized and grouped by major geographical components to the reservoir site.

## Permitting

As noted by ERO, prior to implementing surface disturbing activities the City will need to obtain any required permits for wetland impacts from USACE and would need to provide the required mitigation for wetlands and wildlife as required by the City of Longmont, USACE, CDOW, and the USFWS (ERO 2006a, 2006b, 2007).

Because suitable habitat for Ute ladies'-tresses orchid was present within portions of the Dick and formerly Bogott parcels in 2006 (ERO, 2006b), a presence/absence survey for this species presence should be conducted within these parcels before carrying out surface disturbing activities.

## Special Events

Factors associated with large events have the potential to be inconsistent with open space criteria for low-impact recreational use. This is especially true when these events are planned to occur on properties such as Union Reservoir which is a major reservoir and contains lands identified as sensitive areas for wildlife (Longmont 2002). Potential impacts include surface disturbance and noise generated by the use of heavy equipment for event preparation and the potential for the introduction of noxious weeds. Noise and general commotion generated by large numbers of humans and pets and disturbing potential nesting, resting, hunting and night perches for a variety of raptors. In addition, costs associated with site reclamation, as seen in past events such as Heaven Fest in August 2010, is also an example of a potential impact to open space.

In the draft guidance entitled 'Special Event Policy and Event Guidelines for City-Owned Regional Event Site South of Union Reservoir,' the City has developed sound and comprehensive draft guidance addressing anticipated impacts to environmental resources (Longmont 2011a). Special events within the vicinity of Union Reservoir will only be held on land south of the reservoir, on land managed by City of Longmont Water Department and slated for future reservoir expansion. In the context of Union Reservoir resource management, as long as large events are conducted in compliance with the draft guidelines, events should not be inconsistent with City of Longmont environmental goals.

Applicable guidelines from the draft guidance document include:

1. Preserve and protect Union Reservoir and adjacent City-owned property from excess damage and overuse;
2. Protect the wildlife and environment at Union Reservoir by restricting access to sensitive wildlife habitat areas and limiting special events to between specific times of the year (July 1 through September);
3. Ensure that BMPs are utilized to prevent erosion on the site, ensure that drainage from the site does not impact water quality and that events do not interfere with the operation of irrigation ditches and gates utilized to control the flow of water;
4. Preserve and protect the environment by encouraging the use of recycling and composting efforts;
5. Preserve and protect the environment by encouraging the use of multiple modes of transportation;
6. In order to protect sensitive wildlife and environmental areas on the north end of Union Reservoir, hiking trails around Union Reservoir may be restricted during special events to prevent participants from accessing those areas;

7. Any request for use of the City-owned land south of Union Reservoir shall include a conceptual mitigation plan for environmental impacts (i.e. water quality, erosion, dust control, etc).

## West Perimeter (Previous Habitat Assessment Area)

- In order to minimize disruption and impacts to roosting and nesting birds in the cattail wetlands in the north and northwest, consider utilizing additional fencing or signage to keep people and dogs out. Minimize access to reservoir shoreline in all wetland vegetation habitat areas. This type of mitigation has been effective at Lake McIntosh.

- Consider constructing a bird blind near the northwest cattail marsh to minimize impacts but still allow limited human access for avian wildlife viewing.

- Any hazard trees considered for removal must be inspected for nesting raptors and songbirds and nesting allowed to complete under protections afforded by the MBTA.

## South Perimeter

- For the trail right-of-way (ROW) extending along the eastern edge of Union Reservoir Ditch, the City's 2011 Draft Recreational Master Plan design complies with the recommended minimum 100 foot buffer designed to protect wildlife from the construction and post-construction disturbance associated with the trail (CDOW 2007).

- If burrowing owls are found utilizing either the south or the east prairie dog colony, CDOW recommends two options to protect nesting owls (CDOW 2008c):

    1. Wait to initiate activities until after November 1 or until it can be confirmed that the owls have left the prairie dog town.

    2. Carefully monitor the activities of the owls, noting and marking which burrows are in use.

  The latter option is not easy to implement and will require considerable time, as the owls may use several burrows in a prairie dog town. When all active burrowing owl burrows have been located and marked, activity can proceed in areas greater than 150 feet from the burrows with little danger to the owls. Activity closer than 150 feet may endanger the owls.

- For any new plantings in and around proposed infrastructure, consider using native trees and shrubs.

- Develop Best Management Practices (BMPs) for weed control including an annual monitoring schedule during and after construction for the proposed southern recreational development area. Include weed management BMPs in 'revised draft southwest area' infrastructure (e.g. parking lots, trails, roads, boat storage, launch areas, etc.) development schedules (Colorado Natural Areas Program 2000, CDA 2001, Weld County 2011).

    - Weed BMPs should include control or eradication of established populations of noxious weeds such as the whitetop occurring near Union Reservoir Ditch. Noxious weed control guidance is available from the Weld County Public Works Department (Weld County 2011).

- Follow City of Longmont guidelines for run-off and sediment loading into the reservoir, ditches, and tributaries associated with construction and maintenance activities.

- Grading plans for parking lots should have positive drainage away from the reservoir. This is especially important at the sailboat trailer launch area.

- Consider constructing all impervious surfaces (parking lots and roads) with porous pavement to reduce run-off and erosion.

- Consider creating a swale or vegetation buffer along the east side of the 120-car parking area to serve as a receiving area for run-off.

- Develop BMPs for traffic control and emissions abatement during hottest daytime hours.

- Any hazard trees considered for removal must be inspected for nesting raptors and songbirds and nesting allowed to complete under protections afforded by the MBTA.

## East Perimeter

- An osprey platform with an active nest was noted by Walsh biologists at approximately N40.181630°, W105.028418. To remain compliant with the MBTA, CDOW recommends "no surface occupancy (beyond that which historically occurred in the area) within ¼ mile radius of active nests" and a "seasonal restriction to human encroachment within ¼ mile radius of active nests from April 1 through August 31."

  There are several options available for sections of the loop trail that fall within ¼ mile of the osprey platform. First, the trail could remain where it is but these sections should be marked for seasonal closure between April 1 and August 31 during nesting season. Second, the trail could be reconfigured here so that it falls outside the one quarter mile buffer zone. Finally, the osprey platform could be relocated. If the City opts to move the platform, this should be done outside of nesting season if occupied. It should be noted that the actual osprey nest material may not be moved without a permit from the USFWS under the regulations of the MBTA. The nest material may be dismantled outside nesting season without penalty and material left for the osprey pair to collect and rebuild the nest at a new platform location.

- The black-tailed prairie dog colony east of the sail club area is already extending east and appears to be affecting both City and private parcels. The 'draft revised east area' of the master plan update could further encroach on this prairie dog colony. Consider developing a colony and site specific management plan for these prairie dogs using the categories laid out on pages 40 though 43 of Longmont's Wildlife Management Plan (Walsh 2005), e.g., preserve, actively manage/replace, actively manage/exclude, remove/relocate, remove/euthanize, exterminate.

- Consider using native trees and shrubs for any new plantings in and around proposed infrastructure.

- Develop Best Management Practices (BMPs) for weed control including an annual monitoring schedule during and after construction for the proposed east recreational development area. Include weed management BMPs in 'revised draft east area' infrastructure (e.g. parking lots, trails, roads, campgrounds, other proposed facilities) development schedules. References: Colorado Natural Areas Program, 2000; Colorado Department of Agriculture, 2001; Weld County Department of Public Works, 2011.

- Follow City of Longmont guidelines for run-off and sediment loading into the reservoir, ditches, and tributaries associated with construction and maintenance activities.

- Grading plans for parking lots, roads, and turn around areas should have positive drainage away from the reservoir. This is especially important at the boat trailer launch area.

- Consider constructing all impervious surfaces (parking lots, roads, and turn around areas) with porous pavement to reduce run-off and erosion.

- Consider creating a swale or vegetation buffer east of the parking lots to serve as a receiving area for run-off. Depending on topography here, the swale or vegetation buffer could be either east or west of the entrance road.

- Use BMPs provided by CDOW to develop procedures for cleaning, drying, and draining watercraft (boats and trailers) before entering the water in order to prevent introducing invasive species, e.g., zebra mussels and quagga mussels, to Union Reservoir (CDOW 2011). This includes if out of state boaters are coming to use the reservoir, ensure green inspection seal is up to date and visible.

- Create a swale either between parking lots and the road that leads north from the ranger office to the camping areas (entrance road), or east of the road so run off from parking lots does not flow east across the road

- Having a vegetation screen between RV and tent camping areas is a good idea. Plant the screen with native shrub and trees species and maintain the area over the long term so that it can also serve as a noise buffer between the two areas.

- Consider setting the RV camping area back further away from the water's edge so that it is on the east side of the entrance road.

  Leaving this space undeveloped will provide an opportunity to create a "wild" space within the east recreational area between the RV camping and the shoreline. The "wild" area could consist of wetland vegetation along the shoreline (horizontal structure) and drier grasses, shrubs, and trees further upslope and away from the shoreline (vertical structure):

  - This area would help reduce noise pollution (idling engines, back up signaling, voices) both in the surrounding east recreation areas and especially across the surface of the reservoir for humans and wildlife,

  - The "wild" space would be an opportunity to create one to three isolated public access foot trails leading from the RV camping area through the "wild" area to the water's edge,

  - Because the "wild" space would create more wildlife habitat (both along the shoreline as well as in upland area), it would also create more opportunities for the public to view wildlife in the east recreation area.

- Develop BMPs for traffic control and emissions abatement during hottest daytime hours.

- Any hazard trees considered for removal must be inspected for nesting raptors and songbirds and nesting allowed to complete under protections afforded by the MBTA.

## North Perimeter

- Signage extending east-west along open water at north of the reservoir is well placed.

- City of Longmont signage should indicate protection of aquatic and marsh wildlife from boat, trail, and other recreational disturbance.

- The 2011 Draft Recreational Master Plan proposes creating varied shoreline enhancement in the northeast of the reservoir – a good solution for addressing erosion issues. In these places on City-owned or City-controlled properties where there is no vegetation break to absorb wave action and

prevent erosion, shoreline structure would be enhanced by planting native marsh species and using the local seed source available from the reservoir.

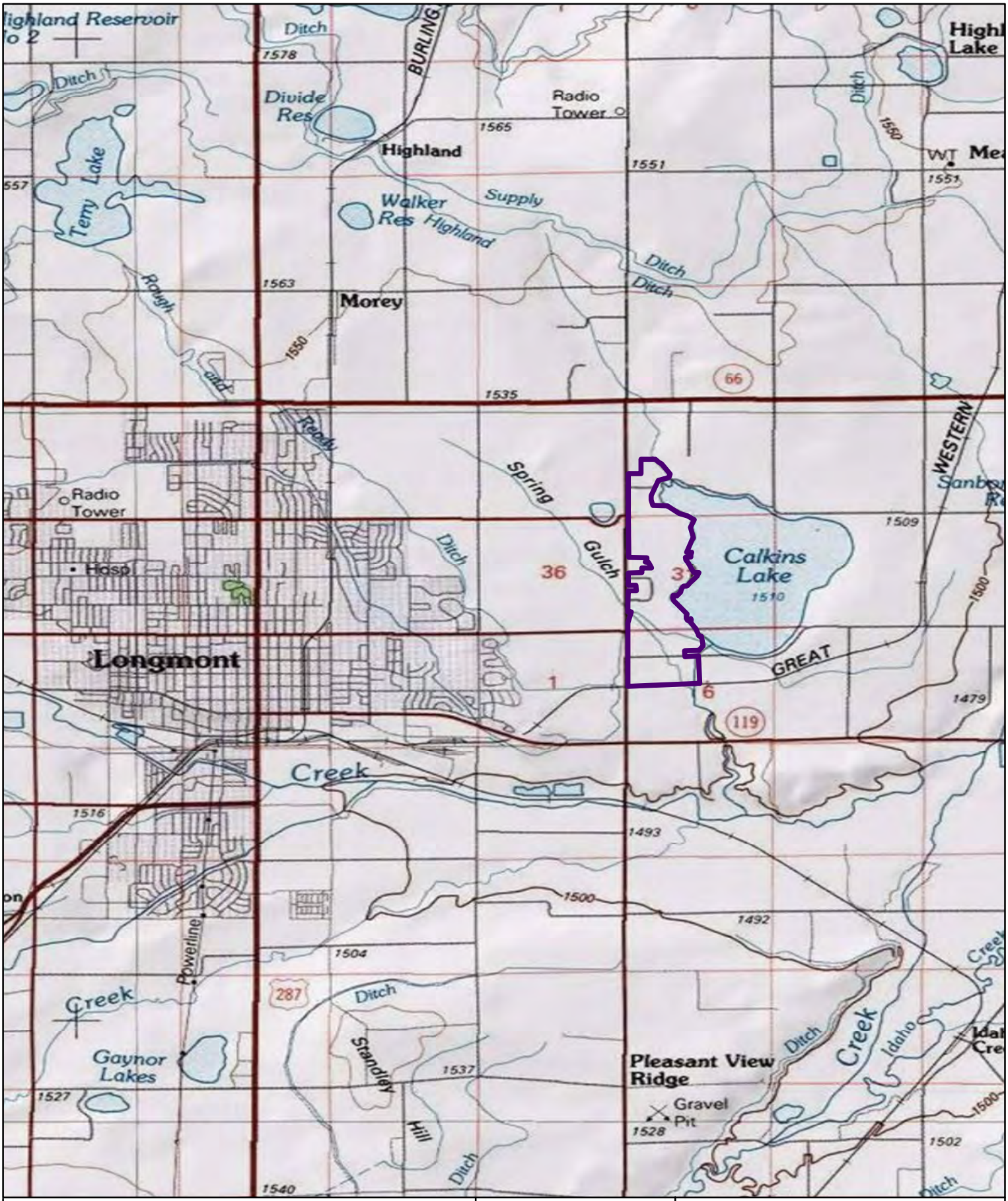
## Entire Union Reservoir Perimeter

- Agricultural lands surround the majority of the reservoir. Management of agricultural open spaces provides a buffer from surrounding communities and can help off-set the impacts of the proposed southwest and east recreational areas developments. Specifically, agricultural lands around the reservoir provide opportunities for education about local rural history, provide edge habitat for many generalist wildlife species, and provide wildlife travel corridors to adjacent areas. Now that the City has acquired the majority of these lands, long-term management of agricultural spaces, including working with adjacent land owners, should be the focus for the master plan (Longmont, 2002).

  Other than the platform with a nesting pair of ospreys, no raptor nests were observed in the vicinity of the loop trail in May 2011. Before trail construction begins, consider that should any nesting raptors be present in the vicinity of the planned trail right of way, Walsh recommends following CDOW buffer requirements and nesting timing limitations specified for particular species (CDOW 2008b).

- Develop Best Management Practices (BMPs) for weed control including an annual monitoring schedule during and after construction for the proposed loop trail. Include weed management BMPs in the loop trail construction schedule. References: Colorado Natural Areas Program, 2000; Colorado Department of Agriculture, 2001; Weld County Department of Public Works, 2011.

- Adopt general recommendations for protection of wildlife and habitat contained within the CDOW letter of January 17, 2007 (noting that several recommendations for certain special status species no longer apply due to further evaluation post letter submission) (CDOW 2007).




## Figure 1. Union Reservoir Vicinity Map

0 800 1,600 3,200 Feet

*1 Inch = 1600 Feet*

USGS Longmont, CO Quadrangle

Extent of Previous ERO Habitat Assessment and West Union Development

N

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**Figure 2. Natural Resources and Habitat Features**

Aerial Photograph: 2009 NAIP Imagery

0 800 1,600 3,200 Feet

*1 Inch = 1600 Feet*

- Wetlands 1 - 4
- Osprey Platform
- Mature Cottonwood Trees
- City-Owned or Controlled
- Previous Assessment Boundary
- Unnamed Tributary
- Cattail Wetland
- Prairie Dog Colony
- Ditches and Gulches

N

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# ATTACHEMENT

## SITE PHOTOGRAPHS 1 THROUGH 13

# Union Reservoir Habitat Photographs

Photo 1. May 2, 2011. Looking south at Unnamed Tributary from Weld County Road 28.

Photo 2. May 2, 2011. Looking west, northwest at wetland marsh vegetation between the high and low water marks of Union Reservoir. Roosting white-faced ibis (*Plegadis chihi*) in foreground.

Photo 3. May 2, 2011. Looking south at Wetland 2.

Photo 4. May 2, 2011. Wetland 3, looking west.

Photo 5. May 2, 2011. Wetland 3, looking south to the area of wetland vegetation that has expanded to the south since 2006.

Photo 6. May 2, 2011. Looking at the metal outlet structure at the northeast portion of Union Reservoir Ditch where water from Union Reservoir comes into the Ditch. Whiteop (*Cardaria draba*) was observed on the upper banks of this area.

Photo 7. May 2, 2011. Looking south at an active prairie dog colony south of the Reservoir. This old agricultural field is a City parcel. No burrowing owls were detected here in April, 2011.

Photo 8. May 2, 2011. Looking west at the active prairie dog colony southeast of the Reservoir. This barren agricultural field and prairie dog colony appear to be on both City-owned land and the Lindberg parcel. No burrowing owls were detected here in April, 2011.

Photo 9. May 2, 2011. Looking southeast at a pair of ospreys utilizing the platform and what appear to be willow trees along the east Reservoir shoreline. The shoreline looks like it is dominated by cattails, bulrushes, and willows.

Photo 10. May 2, 2011. Looking east at shoreline with good vertical and horizontal vegetation structure and agricultural land in the background. The native wetland vegetation, shade, and insects provide wildlife habitat and a good area for fishing.

Photo 11. May 2, 2011. Looking north an a wide swath of wetland vegetation adjacent to a residential backyard.

Photo 12. May 2, 2011. Looking north, northeast at wave action and resulting erosion along northern shoreline. Here there is no wetland vegetation edge to buffer the shoreline.

Photo 13. May 2, 2011. Looking south at a Wetland 4. This small scrape is located south of Weld County Road 28. This scrape supports cattails and other herbaceous wetland vegetation and appears to have a surface connection to Union Reservoir. It may receive sustaining hydrology via a pipe under the road, as well as road surface runoff.

# *Appendix I*
# *Public Process 2011*

***Public Process Summary***

***Postcard Invitation***

***Public Meeting #1 Minutes***

***On Line Survey Summary***

***Public Meeting #2 (PRAB) Minutes***

***Weld County Referral Comments***

# Union Reservoir Recreational Master Plan Update 2011
## Public Process Summary

| Type | Date | Location(s) / Notes | Quantity | Attendees | Notes |
|---|---|---|---|---|---|
| PRAB update | 2/14/11 | Parks Administration | | PRAB | Update |
| Council pre-taping | 5/26/11 | Channel 8 | | | Video |
| Postcards | 5/16/11 | 1000 to union, rec center, mem bldg, senior, library, civic, 150 El Comite, mail to surrounding owners, prab, council and past meeting invitees | 1350 | | Mailed |
| Poster | 5/20/11 | Union (gatehouse, 2 restrooms), library, rec center, mem bldg | 10 | | Plans & Narrative |
| Postcard email | 5/25/11 | To Union Res and Union Res 2011 email lists | 17 | | Emailed |
| Invitation Announcement | 5/27/11 | Longmont E news, City homepage, Union MP webpage and Park Dev webpage | n/a | | Media |
| Council meeting | 5/31/11 | History and project assumptions | | | Video |
| T Call article | 6/6/11 | Striking Camp' focus on camping | n/a | | Media |
| City Talk | 6/6/11 | Mtg invite - call for comments | | | Media |
| VM hotline | 6/8/11 | message to leave comments | | 0 | No msgs left |
| Website | 6/9/11 | Webpage update | n/a | | |
| Web Survey | 06/09/2011 - 6/30/11 | English Version | | 51 | 51 responses |
| E news | 6/10/11 | re: survey | | | |
| Display boards | 6-15 - 6-30 | Senior Center, Library and Rec Ctr and Union Res | | | |
| Paper Surveys | 6/15 - 6/30 | at Display board locations | 38 | | |
| Public meeting | 6/16/11 | Council chambers | | 35+ | |
| Public meeting | 6/16/11 | Council chambers - present plan | | 35 | |
| Website | 7/1/11 | Posted on web page, homepage etc | | | |
| Web Survey | 7/1/11 - 7/15/11 | Spanish version | 17 visits | | 0 responses |
| LaLey Radio | 7/13/11 | Radio show discussing project - translated | | | Wide audience |
| Display boards - Spanish | 7/1 - 7/22 | Library, Rec Center & Union Res | 0 | | |
| Paper Surveys | 7/1 - 7/22 | Spanish version | 0 | | 0 responses |
| City Talk | 9/26/11 | Meeting invite - PRAB | n/a | | |
| Longmont Alert | 9/23/11 | Meeting invite - PRAB | 0 | | |
| Longmont E news | 9/30/11 | Public Hearing / Presentation. | n/a | | |
| Parks and Rec Advisory Bd | 10/10/11 | Public Hearing / Presentation. | n/a | | |
| City Council - study session | 1/3/12 | Presentation to Council on project | n/a | | Update |
| City Council - resolution | 1/24/12 | Resolution and presentation to council | n/a | | Tabled |
| City Council - resolution | 2/14/12 | Resolution and presentation to council | n/a | | ?? |

# Public Meeting/Reunión Públicas

## Union Reservoir Recreational Master Plan

## Plan Maestro Recreacional del Union Reservoir

The Union Reservoir Recreational Master Plan update needs your input! Master plan work began in 2007 and many things have changed since that process. A proposed plan based on these changes has been drafted for public review. Please join us for a deliberative discussion of a revised plan. We will provide background and weigh recreational program elements and locations at the Reservoir.

¡El Plan Maestro Recreacional informativo sobre el Union Reservoir necesita su opinion!
El trabajo del plan maestro comenzó en el 2007 y muchas cosas han cambiado desde ese proceso. Un plan propuesto basado en estos cambios se ha elaborado para la revisión pública. Por favor acompañenos para una discusión deliberatoria del plan revisado. Nosotros ofreceremos a fondo y compararemos los elementos recreacionales del programa y localizaciones sobre el Union Reservoir.

**Thursday June 16, 2011**

**6 - 8 PM**
**Council Chambers**
**350 Kimbark Street**
**Longmont**

**If you need daycare at the meeting site, translation or other special assistance in order to participate in this meeting, please contact Maria Tostado at 303-651-8601 in advance of the meeting to make arrangements.**

**Si usted necesita cuidado de niños en el sitio de la reunión, traducción u otra ayuda especial para participar en esta reunión, por favor comuniquese con Maria Tostado al 303-651-8601 antes del 13 de Junio para hacer planes.**

**Questions? Contact Paula Fitzgerald at 303-651-8448 or email at** paula.fitzgerald@ci.longmont.co.us

**DEPARTMENT OF PUBLIC WORKS & NATURAL RESOURCES**
Natural Resources Division
Parks Development Services

**Meeting Notes**
**Date:** June 16, 2011
**Subject** Public Meeting #1 – Revised Draft Recreational Master Plan – Union Reservoir
**Attendees:** See sign in sheet

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1. Welcome and Introductions – Sandi Seader. Sandi as facilitator, Paula Fitzgerald – Project Manager, Steve Ransweiler – Engineering Services, Nick Wolfrum – Engineering Services Manager.
2. Ground Rules: Sandi went over meeting ground rules. Seek to understand; Speak your truth; Start and End on time; Have plenty of snacks; Don't dominate the discussion – be respectful of other points of view.
3. Desired Outcome – Sandi clarified the meeting intent is to collect public input for Parks and Recreation Advisory Board and City Council input. The Board will make a recommendation to Council, with Council being the final decision maker.
4. Paula Fitzgerald gave an overview of the project including: relevant historical background, changed conditions; Environmental work update; and a presentation of the revised draft master plan.
5. Clarifying questions were asked and answered:
   - Q - How much more water surface area is provided – 10%, 25%? A - Not known – will post on project webpage.
   - Q - Why change anything? A – The facility is run down and under utilized. Need a long term vision so it fits with the reservoir expansion and creates the facility the community desires.
   - Q – Why is the reservoir being expanded? A – Part of the Water Supply Master Plan.
   - Q – Is the boat storage higher than the reservoir? A – Per the MP drawing yes, but this is a very generalized plan at this point and will need more study to determine how much.
   - Q – Can you boat / row within the no-harassment zone? A – Yes. It won't be closed, just signed to reinforce the message.
   - Q – Is WCR 28 realigned? A – Yes per very preliminary City and Weld County planning as needed for the reservoir expansion. This is one of the least defined elements, but we know it will need to be relocated. Road realignment is not part of the Recreational Master Plan – but do need to show it in general. These will be separate planning efforts.
   - Q – Do we have all the land we need? A – for both the expansion and the master plan, no.
   - Q – Can the recreation plan move forward? A – Yes, some things may need to be temporary. Proposed in next year's CIP is the loop trail. Open Space Bond money is available for some improvements.
   - Q – Will there be RV hookups in the future? A – Yes it's shown on the plan.
   - Q – What is the timeline? A – After the master plan is approved by Council, we would start the next more detailed level of design and go into the construction documents for the phase 1 if City Council approves the proposed 2012 CIP.
   - Q – Has the RV area changed from the 2007 plan? A – No, this area is the same.
   - Q – How does future parking compare to existing parking? A – There is more parking, but not sure how much and subject to more detailed design.
   - Q – Do remote control areas need to move south? A – Yes, due to the new reservoir dam, relocation of WCR 26 and the spillway for the dam these areas will shift south and west.
   - Q – What is the dashed line east of the private land in the SE plan? A – A potential land swap area.

- Q – Is there a buffer between the private land and the park? A – Yes where there are active uses the City does try to buffer owners to the extent possible.
- Q – Would the work need to wait to happen until after the reservoir expansion? A – The loop trail is possible in 2012. After that the detailed design will inform us on what can be done in advance of the expansion, as well as costs. Likely will be phased over many years. Some facilities might be ok to build as temporary improvements, and others might be designed in such as way as to facilitate moving.
- Q – Is the 13' reservoir raise date a moving target? A – Yes, there is no specific date certain for this expansion to happen.
- Q – Can the adjacent property owners access the reservoir? An – Likely will need to be part of an access agreement or lease discussion.

6. Sandi asked the following specific questions and obtained comments from the audience:
   **Southwest area** – What recreational amenities would you like to see that you don't see?
   - Water and Electricity at the crew/ classroom building
   - More trees at the dog beach
   - Power and water (not for drinking) at the parking lot for the remote control (RC) area to recharge batteries (all electric RC vehicles) and wash off equipment.
   - Waste stations at the dog beach
   - Low growing plants at the dog beach
   - Hand launch area at the sailing area – use lightweight dollies so need 0 depth entry (also for handicapped and kids) and close to storage area. Need minimal grade change between the boat storage area and the hand launch area – must be easy to do manually.
   - Need storage area for boats (dingy) close to the water.
   - Sculling needs the same changes.
   - Grade from boathouse to water needs to be minimal and no stairs – hand carrying boats.
   - Docks need to be 4" off water surface
   - Open space and wildlife areas – can we maintain the eagle roost to encourage bald eagles to roost there without compromising the recreational use?
   - Current ramp at Union doesn't have enough grade – hard to float a boat off its trailer.
   - Sailing and rowing both need storage for their boats.
   - A permanent dock for rowing and sailing support boats / safety boats.
   - Would be nice to have a place for RC boats on the water. – wind driven
   - RC airplane area – the taxiway shouldn't have trees nearby. Also too close to the road for safety reasons. Runway should be realigned to the NW (as per the current one) for the prevailing winds.
   - Clubs would be ok with cost sharing utilities. Don't expect to get these things for free.

   What do you see there that you <u>don't</u> want there?
   - Trees at the RC runway area
   - Breakwater – it's not needed and saves some hassle.
   - Dog park – move to the SE area so it's part of the day use area
   - Overhead power lines – conflict with sail masts and ugly. Overhead power lines + masts = bad.

   **Southeast area** – What recreational amenities would you like to see that you don't see?
   - Additional buffering between the private land to the south and the park. – keep dogs away from the private land (like a mile). Also need noise and privacy abatement – berming is not enough. Need light control.
   - Horse access on loop trail would be good
   - Keep the swim beach at least as big (if not bigger than) as the existing beach. Make it enough distance between the beach to the outer limit of the swim area so adults can swim laps. Need shade for the swim beach.

- Pads for RV camping to accommodate even the 45' long rigs. Should be concrete. Keep water, electricity and the dump station for the RV camping area.
- Need ample parking for horse trailers to accommodate 32' long trailers. Use road base as surfacing for this horse parking area.
- Day use docs should be sized for peak use. The existing dock is too small and needs to be twice as long or have fingers to accommodate the use.
- Poop station for horses.
- Include crusher fines edge on the concrete trail between the use areas (SW and SE) for runners.
- Make sure there is an appropriate staffing level and include environmental education.
- Need buffer between RV and tent camping areas to mitigate light and noise from RVs. Also should have a quiet tent camping area.
- Like that there is not a large event / festival space.

**Overall plan** – The loop trail is shown to be approximately 5 miles in length. What surfacing should it be? (The following are counts of hands raised for these questions).
Concrete – 1
Crusher fines – 16
Concrete with Crusher fines edge – 4
Crusher fines around most of the loop trail with concrete between use areas - 3
Separate water-side crusher fines trail from a concrete path near WCR 26 with links between them – 17

Should the existing Osprey nest be relocated?
Relocate – 19
Seasonal closures – 5

What environmental enhancements should there be?
Fencing to keep people and dogs out of sensitive areas – 5
Signage to reinforce the no-harassment message – 15
No dogs on the loop trail – 6
Bird blind – 4
Interpretive signage on some of the birds found in the area – 13 (could be designed by high schools)
Kiosk with updated information on birds you might see that week – 11

7. Thanks to meeting participants.

8. Overall comments (after the meeting adjourned)
    - Some property owners are still in the annexation process (were part of the West Union process) and would like to know the status and have their land removed from water expansion, trail and buffer areas.
    - No more prairie dogs
    - Parking area is too close to dock – eliminate wait time and congestion at the dock.
    - Docks with ample space between for sailboats to dock from many places with different wind directions.
    - Make sure there is some place to put the boats during construction close to the water to accommodate hand launches.
    - Larger swim area and beach with shade trees and sand
    - Will the SW club area be for club members only? Currently the sailing club manages their area with little oversight from City staff. This works because we can restrict access (ask non-members to leave and go over to the main gate). Worried about security of the boat storage and possible public use of club assets. We currently have a locked gate.

# Union Reservoir Recreational Master Plan

## Results Overview

zoomerang

Date: 7/14/2011 4:20 PM PST
Responses: Completes
Filter: No filter applied

Thank you for participating in our survey. We would like to ask you a few questions to better understand our survey audience.This survey should take approximately 10 minutes to complete. Please make sure to complete your survey by Thursday, June 30th.

**1.** Please tell us about yourself (check all that apply).

| | | |
|---|---|---|
| Union Reservoir Season pass holder | 22 | 43% |
| Union Reservoir "club" member (sailing club, sculling club, remote control cars, remote control airplane) | 10 | 20% |
| Frequent visitor to Union Reservoir (weekly visits typical) | 16 | 31% |
| Infrequent visitor to Union Reservoir (1 – 4 times per season) | 20 | 39% |
| Concerned citizen but don't visit Union Reservoir recreational area | 5 | 10% |

**2.** Age

| | | |
|---|---|---|
| Less than 18 yrs | 0 | 0% |
| 18 – 30 | 4 | 8% |
| 30 – 45 | 19 | 37% |
| 45 – 60 | 23 | 45% |
| Over 60 | 5 | 10% |
| Total | 51 | 100% |

**3.** Where do you live?

| | | |
|---|---|---|
| Property owner adjacent to the reservoir, outside Longmont City limits | 0 | 0% |
| Inside City of Longmont limits, North of 9th Avenue and east of Main Street | 15 | 29% |
| Inside City of Longmont limits, North of 9th Ave and west of Main | 8 | 16% |
| Inside City of Longmont limits, South of 9th and east of Main | 6 | 12% |
| Inside City of Longmont limits, South of 9th and west of Main | 7 | 14% |
| Outside City of Longmont limits, but within 30 miles of Union Reservoir | 14 | 27% |
| Other, please specify | 1 | 2% |
| Total | 51 | 100% |

**4.** What activities do you typically engage in at Union Reservoir? (Check all that apply)

| | | |
|---|---|---|
| Sailing | 12 | 24% |
| Sculling | 5 | 10% |
| Windsurfing | 0 | 0% |
| Paddle boarding | 4 | 8% |
| Kayak/ canoeing | 10 | 20% |
| Swimming | 26 | 51% |
| Dog beach | 20 | 39% |
| Picnicking | 22 | 43% |
| Camping | 5 | 10% |
| Fishing from boat | 4 | 8% |
| Fishing from dock / shoreline | 2 | 4% |
| Bird watching | 17 | 33% |
| None of the above | 4 | 8% |
| Other, please specify | 3 | 6% |

The southeast area is proposed as the main day use recreational area. There is a breakwater along with fishing docks, picnic areas with shelters, boat launches and rentals, a concessions building, swim beach, parking and a new camping area for both RV and tents. Visit this link to view the plan. NOTE: A a new browser window will open up and your survey will not be lost. You can return to this window. http://www.ci.longmont.co.us/parks/survey/se_plan2011.pdf

**5.** Do the proposed improvements at this area provide amenities that you believe are important at the reservoir?

| | | |
|---|---|---|
| Yes | 40 | 83% |
| No | 8 | 17% |
| Total | 48 | 100% |

The southwest recreational area includes mostly club use areas. Sailing, sculling would be moved to this area. The day use dog beach would remain in this location as would the existing remote control use areas (RC Airplanes & Cars) south of County Road 26. Visit this link to view the plan. NOTE: A a new browser window will open up and your survey will not be lost. You can return to this window.
http://www.ci.longmont.co.us/parks/survey/sw_plan2011.pdf

**7.** Do the proposed improvements at this area provide amenities that you believe are important at the reservoir?

| | | |
|---|---|---|
| Yes | 40 | 85% |
| No | 7 | 15% |
| Total | 47 | 100% |

The reservoir is proposed to be surrounded by a trail that is offset from the shoreline by 300' where adjacent to sensitive wildlife areas. It would connect to the two recreational areas as well as to a future trail on Spring Gulch #2. Visit this link to view the plan. NOTE: A a new browser window will open up and your survey will not be lost. You can return to this window.
http://www.ci.longmont.co.us/parks/survey/unionres_plan2011.pdf

**9.** The loop trail around the reservoir would be approximately 5 miles in length. Do you feel a perimeter trail is important in the master plan?

| | | |
|---|---|---|
| Yes | 44 | 88% |
| No | 6 | 12% |
| Total | 50 | 100% |

**10.** If so, what surfacing do you feel is most appropriate?

| | | |
|---|---|---|
| Concrete | 8 | 18% |
| Crushed Gravel (Crusher Fine) | 37 | 82% |
| Total | 45 | 100% |

**11.** There is potential to link the Union Reservoir trail to other areas. Do you think it is important to link to: (Check all that apply)

| | | |
|---|---|---|
| Town of Mead | 3 | 7% |
| St Vrain State Park | 15 | 37% |
| Sandstone Ranch / St Vrain Greenway trail | 34 | 83% |
| Longmont east side via Spring Gulch future greenway | 26 | 63% |

**13.** Does the 2011 revised recreational draft master plan reflect what you believe are the main improvements needed?

| | | |
|---|---|---|
| Yes | 34 | 81% |
| No | 8 | 19% |
| Total | 42 | 100% |

**15.** There is an extensive bird population that frequently visits Union Reservoir with 199 species identified and 40 species that nest or live in or around the reservoir. Do you believe the proposed buffer area is sufficient to protect the birdlife at the reservoir?

| | | |
|---|---|---|
| Yes | 34 | 77% |
| No | 10 | 23% |
| Total | 44 | 100% |

17 Responses

There is an existing Osprey (water raptor bird) nest on the east shoreline. To protect the nest there are two options: seasonal closures of all or a portion of the trail to protect wildlife relocating the Osprey nest to an area further from the reservoir

**16.** Do you feel seasonal closures of all or a portion of the trail to protect wildlife is appropriate?

| | | |
|---|---|---|
| Yes | 30 | 62% |
| No | 18 | 38% |
| Total | 48 | 100% |

**17.** Do you feel relocating the Osprey nest to an area further from the reservoir is appropriate?

| | | |
|---|---|---|
| Yes | 20 | 42% |
| No | 28 | 58% |
| Total | 48 | 100% |

**18.** What additional environmental amenities would you like to see at Union Reservoir?

| | | |
|---|---|---|
| Fencing to keep people and dogs from nesting areas | 25 | 58% |
| Signage to reinforce no-harassment message | 28 | 65% |
| Bird blind for viewing | 19 | 44% |
| Interpretive signage to identify bird species | 30 | 70% |
| Kiosk with seasonal updates on birds | 28 | 65% |

| | | | |
|---|---|---|---|
| likely present |  | [illegible] | [illegible] |
| Other, please specify |  | 9 | 21% |

**DEPARTMENT OF PUBLIC WORKS & NATURAL RESOURCES**
Natural Resources Division
Parks Development Services

**Meeting Notes**
**Date:** October 10, 2011
**Subject: Union Reservoir Master Plan/PRAB Meeting**
**Attendees:** See attached sign in sheet (23 attendees)

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The meeting began with PRAB chairperson, Sharon O'Leary welcoming the public and asking for any comments. The following are those comments:

1. Paul Culnan, Boulder resident
   - Loves Master Plan and Process – likes opportunity for input
   - A member of the Union Sailing Club
2. Jim Davis, Boulder resident
   - Member of Union Sailing Club
   - Likes process
   - Would like to issue one response after meeting from Club
   - When will improvements occur?
     - Paula responded that the City budget under review calls for design of the loop trail in 2012 with construction in 2013.

Paula Fitzgerald presented the master plan with brief updates on past work done, the public process conducted from May through July 2011, and the staff follow up work with clubs and City staff to confirm facility needs. Sharon O'Leary then opened the discussion again for public comment:

1. Doug McKnight, Boulder resident, Union Sailing Club member
   - SW Plan – asked if the boat storage is close to water?
   - Paula clarified that the plan attempts to represent a situation similar to the shore launch area set up currently in use by the Sail club.
   - Mr. McKnight noted that moving dogs further from sailors is good.
2. Karen Kochanski, Longmont resident
   - Asked about the swim beach location and size.
   - Paula gave details on location and that the size had increased per previous public comments. The plan provides a larger swim beach with trees along the edge, shoreline showers with lockers & changing screens. The swim area has a rope divided area for kids and families from adults with flexibility in that space to meet program needs.
   - Karen asked how far from shore to land? Paula estimated 200 – 300'.
   - Karen commented regarding the need for distance swimming. Paula clarified how it is currently done and how the plan allows for that to continue.
3. Larissa Reed, Boulder resident
   - Asked about phasing – Which projects are 1st and why?
   - Paula explained that the loop trail would be done first as is proposed in the current budget request. Design work is scheduled in 2012 and will also include preliminary design for the entire reservoir to better understand if there are other improvements that can be made in advance of the reservoir enlargement.
4. Jim Davis
   - Asked if the City has all the right of way needed for the loop trail and if it will be outside the current sailing club fence?
   - Paula explained that if the trail were to be built in the final location it would be in the middle of agricultural fields – so much of the trail will be temporary and closer to the existing water line. The timeline given for the reservoir expansion is 10-20 years away, so that's still a long time and a valuable asset. The City is still working with land right of way issues and that the

trail will likely be outside club area. The City will need to work with property owners to find mutual agreement on the trail location.

5. Doug Moddowski (sp?)
   - Union Sailing Club & Sculler member
   - Asked if the club area will be separate from the day use area in the future. The separate areas work well now.
   - Paula clarified that the Southwest use area is envisioned to be a club use area primarily; however the event building would be used for a variety of purposes so rental use will also be allowed. Details of club leases and how the event building runs will need to be worked out in future agreements and leases.
6. Jim Davis
   - Expressed concerns about security if public have access to the club area in the future.
7. Gail Widger, Longmont resident
   - Commented that staff has listened to residents – good job.

PRAB chair Ms. O'Leary closed the public comment and asked for Board comments:

Doug Golliher
- Mr. Golliher asked if there was to be a public restroom at the event building.
- Ms. Fitzgerald confirmed that there would be a similar setup as with the Izaak Walton Park clubhouse which has one inside and one outside the building.

Sharon O'Leary
- Liked process.
- Made a motion "that the Park & Recreation Advisory Board accepts the Union Reservoir Recreational Master Plan as presented" (was seconded by Greg Braun). The Motion passed 7-0.

**DEPARTMENT OF PLANNING SERVICES**
1555 N. 17th Ave
Greeley, CO 80631
mmartin@co.weld.co.us
PHONE: (970) 353-6100, Ext. 3540
FAX: (970) 304-6498

December 7, 2011

Parks and Open Space Project Manager, RLA
7 south Sunset Street
Longmont, CO 80501

Subject:- Union Reservoir Master Plan

The Weld County Department of Planning Services has reviewed the request and has the following comments. The Union Reservoir Master Plan extends beyond the municipal limits of the City of Longmont therefore the City of Longmont shall work with the property owners of unincorporated Weld County to determine if they would like to part of the Union Reservoir Master Plan and have them participate in the development of the plan.

It is important for future residents to note that adjacent properties may be in unincorporated Weld County and that Weld County supports the Right to Farm Statement (Section 22-2-20.J. A.Goal.10, Weld County Code) and recommends it be noted in the master plan.

Weld County Right to Farm:

Weld County is one of the most productive agricultural counties in the United States, typically ranking in the top ten counties in the country in total market value of agricultural products sold. The rural areas of Weld County may be open and spacious, but they are intensively used for agriculture. Persons moving into a rural area must recognize and accept there are drawbacks, including conflicts with long-standing agricultural practices and a lower level of services than in town. Along with the drawbacks come the incentives which attract urban dwellers to relocate to rural areas: open views, spaciousness, wildlife, lack of city noise and congestion, and the rural atmosphere and way of life. Without neighboring farms, those features which attract urban dwellers to rural Weld County would quickly be gone forever.

Agricultural users of the land should not be expected to change their long-established agricultural practices to accommodate the intrusions of urban users into a rural area. Well-run agricultural activities will generate off-site impacts, including noise from tractors and equipment; slow-moving farm vehicles on rural roads; dust from animal pens, field work, harvest and gravel roads; odor from animal confinement, silage and manure; smoke from ditch burning; flies and mosquitoes; hunting and trapping activities; shooting sports, legal hazing of nuisance wildlife; and the use of pesticides and fertilizers in the fields, including the use of aerial spraying. It is common practice for agricultural producers to utilize an accumulation of agricultural machinery and supplies to assist in their agricultural operations. A concentration of miscellaneous agricultural materials often produces a visual disparity between rural and urban areas of the County. Section 35-3.5-102, C.R.S., provides that an agricultural operation shall not be found to be a public or private nuisance if the agricultural operation alleged to be a nuisance employs methods or practices that are commonly or reasonably associated with agricultural production.

Water has been, and continues to be, the lifeline for the agricultural community. It is unrealistic to assume that ditches and reservoirs may simply be moved "out of the way" of residential development. When moving to the County, property owners and residents must realize they cannot take water from irrigation ditches, lakes, or other structures, unless they have an adjudicated right to the water.

Weld County covers a land area of approximately four thousand (4,000) square miles in size (twice the size of the State of Delaware) with more than three thousand seven hundred (3,700) miles of state and County roads outside of municipalities. The sheer magnitude of the area to be served stretches available resources. Law enforcement is based on responses to complaints more than on patrols of the County, and the distances which must be traveled may delay all emergency responses, including law enforcement, ambulance, and fire. Fire protection is usually provided by volunteers who must leave their jobs and families to respond to emergencies. County gravel roads, no matter how often they are bladed, will not provide the same kind of surface expected from a paved road. Snow removal priorities mean that roads from subdivisions to arterials may not be cleared for several days after a major snowstorm. Services in rural areas, in many cases, will not be equivalent to municipal services. Rural dwellers must, by necessity, be more self-sufficient than urban dwellers.

People are exposed to different hazards in the County than in an urban or suburban setting. Farm equipment and oil field equipment, ponds and irrigation ditches, electrical power for pumps and center pivot operations, high speed traffic, sand burs, puncture vines, territorial farm dogs and livestock, and open burning present real threats. Controlling children's activities is important, not only for their safety, but also for the protection of the farmer's livelihood.

Thank you for the opportunity to respond to this proposal. This response addresses general requirements, concerns or issues and is intended to assist in your communities decision-making process regarding this Land use proposal. The county respectfully reserves the right to make further comment on information or issues as they are discovered.

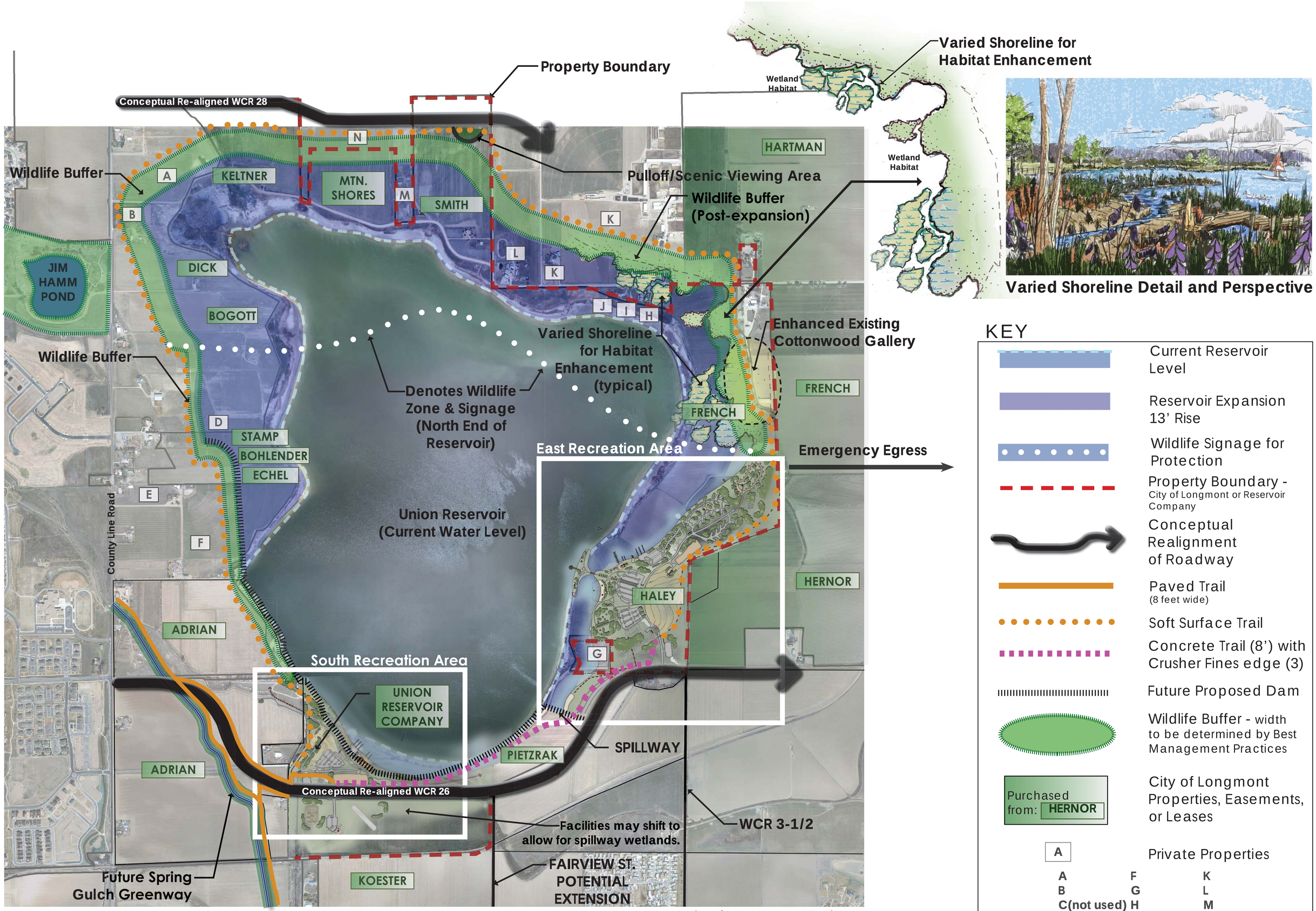
Sincerely,

Michelle Martin
Planner III

***Appendix J***
***Union Reservoir Recreational Master Plan***

***11x17" color plans:***

***Overall Plan***
***East Plan***
***Southwest Plan***




Note: Recreational Improvement Design to Coordinate with Reservoir Expansion Plans

## KEY

- Current Reservoir Level
- Reservoir Expansion 13’ Rise
- Wildlife Signage for Protection
- Property Boundary - City of Longmont or Reservoir Company
- Conceptual Realignment of Roadway
- Paved Trail (8 feet wide)
- Soft Surface Trail
- Concrete Trail (8’) with Crusher Fines edge (3)
- Future Proposed Dam
- Wildlife Buffer - width to be determined by Best Management Practices
- Purchased from: HERNOR — City of Longmont Properties, Easements, or Leases
- A — Private Properties

| | | |
|---|---|---|
| A | F | K |
| B | G | L |
| C(not used) | H | M |
| D | I | N |
| E | J | |

# *Union Reservoir Recreational Master Plan Update - Draft Revised Master Plan*

DESIGN CONCEPTS Community and Landscape Architects

*September 29, 2011*

NORTH

EDGE OF EXISTING RESERVOIR HIGH WATER LINE
TENT CAMPING (32)
REST ROOM / SHOWER W/ FISH CLEANING STATION
FISHING PIER
PULL THROUGH CAMP SPACES (2)
PARKING (10)
RV CAMPING (24)
REST ROOM / SHOWER W/ FISH CLEANING STATION
SCOUT CIRCLE AND GROUP CAMPING
FUTURE RESERVOIR EXPANSION INUNDATION AREA
ADA FISHING
TURN-AROUND
SHORELINE / DRIVE-IN PICNIC AREA (21)
RV CAMPING (10)
MOORING BUOYS
WASTE STOR
HALEY
REST ROOM OFFICES CONCESSIONS RENTALS AND RENTAL STORAGE
TRAILER LAUNCH
ADA FISHING
RENTAL LAUNCH
RANGER LAUNCH & BOATHOUSE
BOAT SLIPS
BOAT STORAGE APPROX. 192'-361'
PICNIC SHELTER
TRAILER PARKING (50)
FISH CLEANING STATION
SMALL BOAT BEACH LAUNCH, PADDLE BOAT RACKS & LOCKERS
OBSERVATION & FISHING PIER
PED BRIDGE
MAINTENANCE BUILDING
HERNOR
FAMILY SWIM AREA
PICNIC & SHELTER AREA
CONCESSIONS REST ROOM BREAK ROOM LIFEGUARDS
PARKING (160)
ADULT SWIM AREA
ADA FISHING
OVERFLOW EVENT PARKING
LOCKERS W/ OUTDOOR SHOWER/ CHANGING AREA
PLAYGROUND
REST ROOM & DAY USE PICNIC SHELTERS
PARKING (150)
PRIMARY GREENWAY TRAIL (SOFT SURFACE)
GATEHOUSE SELF SERVE
GROUP PICNIC
MULTI-USE PLATFORM
RANGER OFFICE
TRAIL HEAD PARKING WITH EQUESTRIAN SPACES
CRUSHER FINES TRAIL TO DOG BEACH
G
ENTRY MONUMENTS
NEW RESERVOIR SHORELINE
CONCEPTUAL WCR 26 RE-ALIGNMENT
DOG BEACH
CONCRETE W/ CRUSHER FINES EDGE BETWEEN USE AREAS
SPILLWAY
PIETZRAK

# *Union Reservoir Recreational Master Plan Update - Draft Revised East Area*

*City of Longmont • September 29, 2011*

DESIGN CONCEPTS Community and Landscape Architects

0 100 200 300 400

*1" = 100'*

NORTH

SOFT SURFACE TRAIL

OLIGARCHY DITCH (TO BE RELOCATED)

ADRIAN

RESERVOIR OUTLET

SHORE LAUNCH, LOCKERS, SAND ANCHORS AND PADDLE BOAT RACKS

PICNIC AREA

ACCESSIBLE PATH

SAIL TRIALER LAUNCH

CREW LAUNCH

SHORELINE EVENT SPACE, CLASSROOM & BOATHOUSE

EDGE OF EXISTING RESERVOIR HIGH WATER LINE

FUTURE RESERVOIR EXPANSION INUNDATION AREA

NEW RESERVOIR SHORELINE

SOFT SURFACE TRAIL

PARKING (120)

GATE

BOAT STORAGE APPROX. 380' X 128'

PAVED TRAIL, TYP.

PEDESTRIAN CROSSING

TRAIL HEAD PARKING

UNION RESERVOIR COMPANY - LONGMONT RECREATIONAL LEASE

PIETZRAK

PROPOSED RESERVOIR DAM

OLIGARCHY DITCH (TO BE RELOCATED)

SPILLWAY

ENTRY MONUMENTS

CONCEPTUAL WCR 26 RE-ALIGNMENT

CONCRETE TRAIL WITH CRUSHER FINE EDGE BETWEEN REC AREAS

CLUB ACTIVITY AREA

REMOTE CONTROL AIRPLANE

PARKING

NOTE: FACILITIES MAY SHIFT TO ALLOW FOR SPILLWAY WETLANDS

FUTURE SPRING GULCH GREENWAY

ADRIAN

UNION OUTLET DITCH

KOESTER

# *Union Reservoir Recreational Master Plan Update - Revised Draft Southwest Area*

*City of Longmont • September 29, 2011*

DESIGN CONCEPTS
Community and Landscape Architects

0 100 200 300 400

1" = 100'

NORTH