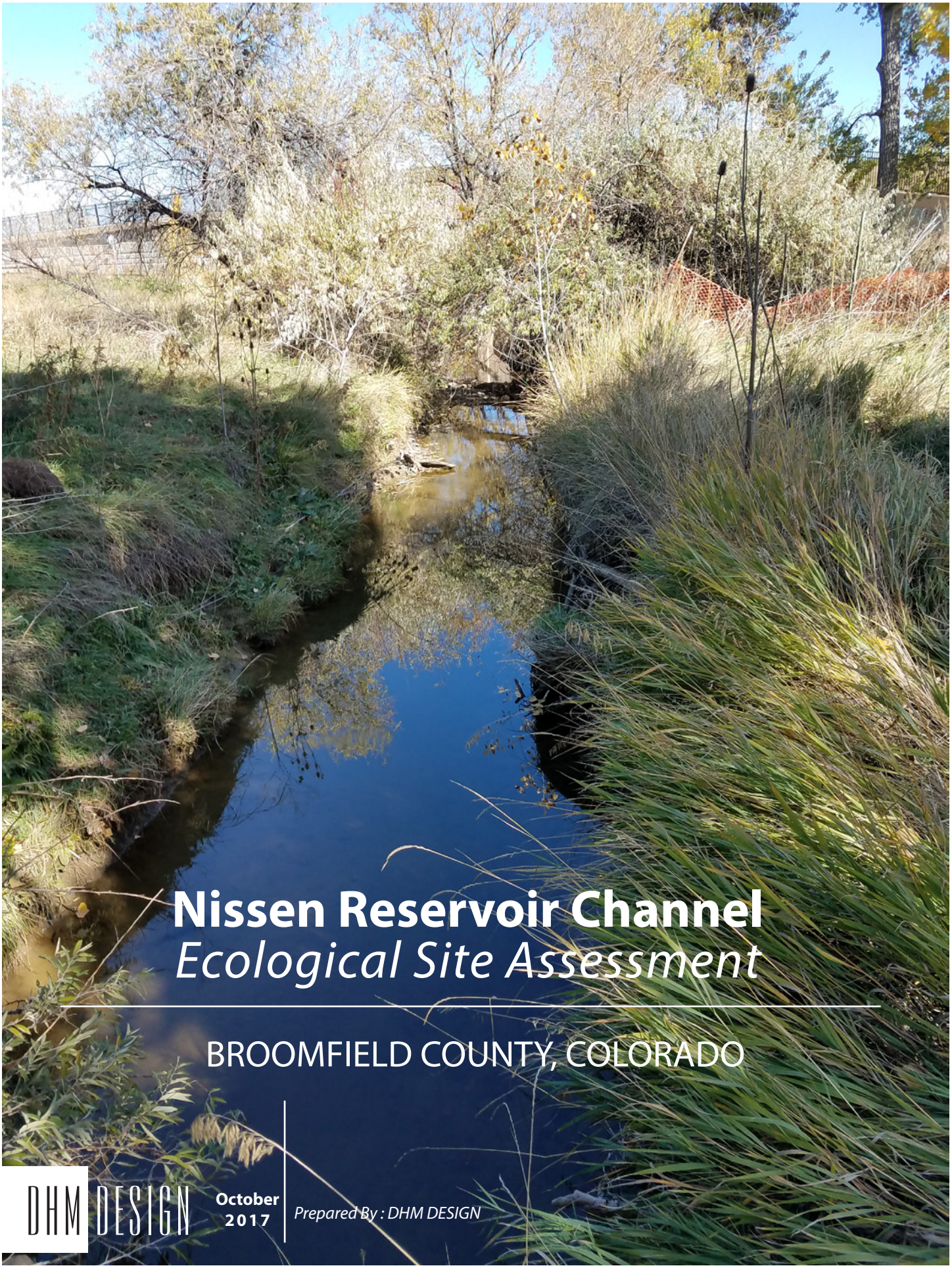

Nissen Reservoir Channel
Ecological Site Assessment

BROOMFIELD COUNTY, COLORADO

DHM DESIGN

October
2017

Prepared By : DHM DESIGN

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1.0 Executive Summary

The following ecological site assessment (ESA) report is intended to provide a qualitative assessment for current ecological conditions and function associated with Nissen Reservoir Channel Improvements Project; Lowell Boulevard to Tennyson Street (Project Area). The purpose of this report is to assist the Urban Drainage and Flood Control District, the City and County of Broomfield, and Icon Engineering with the planning, design and restoration of proposed channel improvements and adjacent riparian corridor associated with the Project Area.

In regards to site ecology and function, it was determined that the majority of Project Area currently is functioning at a moderate level, with some sections functioning at a low level. The major observed issues detracting from proper ecological function included:

- Overall lack of channel sinuosity
- Significantly incised channels, bank erosion and sedimentation
- Minimal Aquatic Habitat
- Quantity and composition of non-native and noxious vegetation
- Lack of native vegetation
- Areas of minimal wildlife habitat

An incised channel and lack of floodplain connectivity are the main constraints for this reach. High densities of noxious and non-native species are contributing to a lack of native plant biodiversity which lessens habitat and forage for wildlife and insects.

2.0 Introduction

In order to evaluate the current ecological site conditions and function of the Project Area, a site assessment was performed by Jeff Kerber, DHM Design Natural Resources Technician, on October 17th, 2017. The Project Area was walked on foot and observations were made for vegetation, noxious vegetation, wildlife and wildlife habitat, arboriculture analysis, and general stream and site conditions.

This report documents those findings and provides baseline documentation for the Project Area prior to proposed channel improvements. This information in this report is intended to be utilized for determining areas that could benefit from channel improvements, streambank restoration, and identify potential constraints.

3.0 Site Description

The portion of the Nissen Reservoir Channel that was evaluated is located in Section 31, Township 1 South, Range 68 west in southeast Broomfield, Colorado in Broomfield County. The channel reach located in the Project Area extends from Lowell Boulevard to Tennyson Street and the entire Nissen Channel flows southeast from Nissen Reservoir to Big Dry Creek. The elevation of the Project Area is approximately 5,420 feet. The City of Broomfield averages 14.36 inches of precipitation per year. The

average high temperature is 68°F and the average low temperature is 37°F. The City of Broomfield is classified in USDA plant hardiness zone 6a.

The channel and riparian corridor reach that was evaluated started at the east end of Country Vista Park and extended east to Lowell Boulevard, see *Appendix A, Ecosystem Function Map*. Included in the Project Area is a narrow channel accompanied by a riparian corridor that is fairly typical for the geography and urban environment. The adjacent surrounding upland areas consist of typical urban development including residential and commercial areas, and open space. The majority of adjacent open space is occupied by prairie dog colonies that have degraded the vegetation.

4.0 Existing Conditions

Qualitative observations were made to evaluate existing conditions and determine ecological function within the Project Area and evaluated on a high, medium and low scale. For the purpose of this report ecosystem function is a term that relates to the structural components of an ecosystem (e.g. vegetation, water, soil, and biota) and how they interact with each other, within ecosystems and across ecosystems. In order to assist in the qualitative assessment, an ecological function rating of high, moderate, and low was assigned to different sections of the reach based off observations within the Study Area. Also for the purpose of this report ratings are representative of the existing ecosystem location and setting and definitions for rating are as follows:

- **High** – In-tact and fully functioning ecosystem with a sinuous stream channel that is connected to the floodplain, minimally incised, and contains minimal areas of active erosion and sedimentation. Includes a highly diverse matrix and population of plant/animal species, aquatic macroinvertebrates, and has minimal noxious and non/native vegetation.

- **Moderate** – Semi-intact and moderately functioning ecosystem where the stream channel contains some sinuosity, is moderately incised, moderate to low bank erosion and sedimentation, and has connectivity to the floodplain in areas. Includes a moderate diverse matrix and population of plant/animal species, aquatic macroinvertebrates, and has moderate to low populations of noxious and non/native vegetation.

- **Low –** Low functioning ecosystem where the stream channel is highly incised and has significant areas of active bank erosion, sedimentation and no connectivity to the floodplain and lacks diversity and populations of plant/animal species, macroinvertebrates, and has high populations and densities of noxious and non-native vegetation.

Overall, the Project Area is currently functioning at a low to moderate level for the majority of the reach and no areas are considered to be highly functional. An incised channel and lack of floodplain connectivity are the main constraints for this reach. Significant portions of the stream channel within the Project Area have active erosion occurring causing sedimentation and contributing to lower water quality in the stream. Overall, vegetation within the Project Area consisted of typical species and type found within this type of ecosystem. High density of noxious vegetation was observed within the Project

Area which can negatively affect overall ecological health. This report provides an evaluation of the Project Area as a whole and then breaks it into six distinct sections determined by similar characteristics and function for a more in detailed review. Locations for each section are shown in *Appendix A, Eco System Function Map.*

5.0 Vegetation

Vegetation observed within the Project Area included an overstory composed of plains cottonwood *(Populus deltoids)*, narrowleaf cottonwoods *(Populus angustifolia),* and coyote willow *(Salix exigua)* is the primary shrub in the riparian corridor. Understory is dominated by noxious vegetation in some areas and a mixture of native and non-native grasses in other areas. Little aquatic vegetation was observed with cattails (*Typha sp.)* and soft-stem bulrush (*Schoenoplectus tabernaemontani)* occurring most frequently. General observations of vegetation distribution and species is included in table 1 below.

Table 1. General Observations for Vegetative Species Within Project Area
-Dominant overstory species include plains cottonwood and narrowleaf cottonwood. Most of these trees are medium aged to mature with little natural recruitment observed likely due to a lack of flooding and habitat required for cottonwood regeneration.
-One stand of non-native silver poplar (*Populus alba*) was observed west of Perry St. in section 3 where there is a natural floodplain and a generally more diverse, moderate quality reach (Images 13 and 14).
-Siberian elm (*Ulmus pumila*), Russian-olive (*Elaeagnus angustifoilia*), and crack willow (*Salix fragilis*) are non-native/invasive tree species of concern that were observed. All three species are more prevalent from Perry St. to Lowell Blvd.
-Coyote willow (*Salix exigua*) is the dominant shrub occurring along most of this reach of stream.
-Chokecherry (*Prunus virginiana*) and Rocky Mountain maple (Acer glabrum) were observed less frequently.
-The understory was observed to either be dominated by noxious vegetation or grasses. Where dominated by grasses, both native and non-native grasses were observed with smooth brome (*Bromus inermis*), western wheatgrass (*Pascopyrum smithii*), and Kentucky bluegrass (*Poa pratensis*) occurring the most frequently. Bluejoint grass (*Calamagrostis canadensis*) was observed along the streambank where the channel was less incised. Showy milkweed (*Asclepias speciosa)* was observed with the highest frequency in Section 3.
-Aquatic vegetation was limited with soft-stem bulrush and cattails most frequently observed. One small patch of a shorter rush, likely Baltic rush (*Juncus balticus)* and bittercress (*Cardimine sp.*) were observed together in section 2 (Images 8 and 8.1). A moss or algae was observed on many of the rocks in the channel.
***This is not a complete list of vegetation. Other riparian species were observed with less frequency.**

6.0 Noxious Vegetation

Noxious and non-native/nuisance vegetation within the Project Area was documented and is shown in Table 2 below. Additional photo documentation is included in *Appendix B, Photopoint Locations.*

TABLE 2. NOXIOUS/ NON-NATIVE / NUISANCE VEGETATION OBSERVATIONS	
Species Name (Common/Scientific)	**State Classification**
Common Teasel (*Dipsacus fullonum*)	Noxious-List B
Canada Thistle (*Cirsium arvense*)	Noxious-List B
Scotch Thistle (*Onopordum acanthium*)	Noxious-List B
Musk Thistle (*Carduus nutans*)	Noxious-List B
Houndstongue (*Cynoglossum officinale*)	Noxious-List B
Cheatgrass (*Bromus tectorum*)	Noxious-List C
Field Bindweed (*Convolvulus* arvensis)	Noxious-List C
Common Burdock (*Arctium minus*)	Noxious-List C
Poison Hemlock (*Conium maculatum*)	Noxious-List C
Chicory (*Cichorium intybus*)	Noxious-List C
Russian-olive (*Elaeagnus angustifoilia*)	Noxious-List B
Siberian Elm (*Ulmus pumila*)	Non-Native
Crack Willow (*Salix fragilis*)	Non-Native
Silver Poplar (*Populus alba*)	Non-Native
Lambsquarters (*Chenopodium album*)	Non-Native
Prickly Lettuce (*Lactuca serriola*)	Non-Native
Kocia (*Kochia scoparia*)	Non-Native
Curly Dock (*Rumex crispus*)	Non-Native
Common Mallow (*Malva neglecta*)	Non-Native
White Sweet Clover (*Melilotus albus)*	Non-Native
Red Clover *(Trifolium pratense*)	Non-Native
Black Medick (*Medicago lupulina*)	Non-Native
Alfalfa (*Medicago sativa)*	Non-Native

Of this non-native vegetation, common teasel and Canada thistle were observed in the highest densities and are currently negatively affecting the ability of native plant species to thrive. A significant portion of the understory is dominated by these species. Curly dock and lambsquarters also are dominant and outcompeting native species in other areas. Cheatgrass was largely observed in the adjacent upland areas; however it has crept into the riparian areas in some spots.

A long-term, aggressive integrated pest management program is recommended to shift the plant composition from non-native to more native species. Given the large number of non-native plants, a large seed bank is likely to exist in the soil. Even after a couple years of successful treatments, monitoring and adaptive management is recommended to ensure long term success in mitigation of

undesirable species. Planting and re-seeding native species to compete with noxious vegetation will help shift the trajectory of species composition toward native plants. In addition to planting and seeding efforts, herbicide and mechanical treatments are recommended. Given the current high density of noxious vegetation, herbicide control is recommended and should be implemented by a license/certified applicator according to species and season. Multiple treatments throughout the year are recommended. Rosettes should be targeted in spring; fall spraying would also be effective, especially for Canada thistle and field bindweed. Mechanical treatments, including weed whipping bolted plants in summer before seed is produced, is also recommended.

7.0 Arboriculture

Russian olive, Siberian elm, and crack willow should be removed from the corridor using the cut-stump method of cutting the trees and applying herbicide to the cambium layer of the stump to prevent regrowth. After removal, follow up treatment will be necessary to remove seedlings that grow from seeds in the soil or transported onsite by birds, water and wind vectors.

Most of the cottonwoods appeared healthy, however regeneration is low. Planting additional cottonwoods would increase the diversity of age classes of these trees which would help ensure longer term functionality of the riparian corridor. Additional planting of smaller species including chokecherry, wild plum (*Prunus virginiana*), and Rocky Mountain maple would increase diversity and habitat quality for wildlife.

8.0 Wildlife

Wildlife habitat throughout the reach varied in both quality and quantity. Sections 1, 3, 5 and 6 had areas of good quality habitat that included a diverse number of native forage plant species and densities. Wildlife including black tailed prairie dogs *(Cynomys ludovicianus)* and a coyote *(Canis latrans)* were observed in section 3. A potential trail utilized by wildlife was observed in both sections 2 and 4. These two sections contained minimal additional habitat.

Active Prairie Dog colonies are located in much of the adjacent property which are a likely food source for coyotes and predatory raptor species including the Red-tailed hawk *(Buteo jamaicensis)* and Swainsons hawk *(Buteo swainsoni)*. Additional Two potential raptor nests were observed within the Project Area, see image 20 in *Appendix A, Ecosystem Function Map*. No raptors were observed at the time of the site visit. It is recommended that seasonal nesting restrictions and monitoring protocol are reviewed prior to construction activities. The presence of narrow sections of riparian area and adjacent urban improvements make the corridor unlikely to be used by deer and other large mammals. Existing habitat would likely support raccoons, opossums, and squirrels but the stream is likely too small to be used by beaver or muskrats.

Songbirds could be heard in the dense willows just West of Perry St., but were not visually observed. No waterfowl was observed. Areas of dense willows provided good habitat for ground nesting birds.

9.0 Stream Channel

The stream channel was considered to be low to moderately functioning. It is channelized and incised through a majority of the Project Area which has disconnected the stream from the floodplain there are several areas where there is little floodplain and a rapid transition to upland habitat. Large portions of the stream channel have unstable banks with considerable erosion and visible exposed willow roots. The substrate mostly consists of silt and sand. A small portion of the channel has some large rocks and other areas have smaller rocks and pebbles. The area containing rock has riffle habitat where other areas containing silt and sand do not. Much of the stream is flat water that is quite turbid. Water striders were observed throughout (Appendix B, Image 28). Dragonflies were also observed. Minnows were observed in section 5.

10.0 Corridor Sections

The assessment area generally had similar features and ecological types, for assessment and planning purposes the reach is broken into 6 individual sections to differentiate areas of varying ecological function. Each individual section is described below are depicted in Appendix A.

10.1 Section One

Section one is located at the far western extent of the Project Area, the stream flows in a north to south direction and is rated as being moderately functional. This section has more riffle habitat than most other sections (Appendix B, Images 1 and 3). Cattails are present in the stream channel (Image 4) and the west bank of the stream channel is comprised of dense coyote willows that occupy a steep bank leading into upland adjacent to a developed park (Country Vista) and concrete pathway. The eastern riparian corridor of this reach has a narrow floodplain bench before quickly transitioning to upland (Appendix B, Image 2). Smooth brome is the dominant vegetation within this section. There is not a significant amount of noxious vegetation located in this section with a few Canada thistle observed.

10.2 Section Two

Section two is located immediately downstream (east) and adjacent to section 1. This section is considered to be functioning at a low level due to its high degree of channelization, eroding banks, high prevalence of noxious vegetation, and lack of floodplain connecting it to upland (Appendix B, Image 8). The south side riparian corridor of this section is mostly lacking vegetation due to its steep bank that leads directly to upland (Appendix B, Images 6 and 9). Noxious and non-native vegetation including Common teasel, musk thistle, sweet clover, and plantain are present in high density on the south side of the stream channel. The north side of the stream channel in this section has a less abrupt transition to upland but the understory is dominated by noxious and non-native vegetation including common teasel, common mallow, plantains, and field bindweed. The north side of the riparian corridor includes plains and narrowleaf cottonwoods, with one patch of Siberian elms (Appendix B, Image 5). A potential wildlife game trail was observed on the south side of this section (Appendix B, Image 7).

A positive observed in this section is the presence of aquatic vegetation including more soft-stem bulrush than other reaches. Bittercress, cattails, and another rush were also observed (Images 8 and 8.1).

10.3 Section Three

This reach is rated as moderate functioning and is located adjacent and downstream of section two. The stream channel is more meandering and less incised, with a wider connected floodplain and multiple channels at high water present in the middle to eastern portion of this reach (Appendix B, Image 11). In stream habitat includes riffles in some areas and other portions include slow, turbid water.

There is less noxious vegetation than all other sections, with the exception of section 1. Canada thistle and common teasel are present in moderate density, but are less widespread and concentrated in certain areas. Russian olives is present in moderate density in this reach. This section has the highest diversity of vegetation with plains and narrowleaf cottonwoods as well as several poplars in the overstory (Images 10 and 13). Coyote willows, chokecherries, and rocky mountain maple were also present. Although smooth brome is still a dominant understory species, western wheatgrass is also abundant as are other native grasses and forbs in lower densities. Showy milkweed was observed in larger numbers in this reach, which is an important plant for monarch butterflies.

There are 3 concrete drop structures in this section with rock armoring downstream of them and to the north of the structures that are designed to divert water into the stream without causing gullying (Appendix B, Images 12, 14, and 15).

10.4 Section Four

This section is located adjacent to and downstream (east) of section three. It is the most heavily impacted by urban development and is the most channelized and incised section in the assessment area (Appendix B, Images 22, 23, and 24). It also has the highest density of noxious vegetation and is lacking native species within the understory for most of the reach (Appendix B, Image 21). A concrete driveway occupies the upland north of the riparian corridor (Appendix B, Image 22). It is because of these constraints that this section was rated as having low ecological function.

The south side of the channel has very little riparian area and abruptly transitions from stream channel to upland (Appendix B, Images 23 and 24). Bank erosion and exposed roots are present throughout this section on both sides of the stream channel. There is less noxious vegetation on the south side. A row of coyote willows provides the majority of vegetation on the south side of this reach with little understory. There is a healthy stand of plains cottonwoods on the north side of the reach providing habitat for birds and cover small mammals (Appendix B, Images 24 and 26). However, most of the understory in this area consists of noxious vegetation, primarily common teasel and Canada thistle. Russian olives and Siberian elms are also present.

Two nests were observed in this section and a game path was observed on the north side of the channel (Images 19 and 20). Near Perry St. is a dense stand of coyote willow that would provide good cover habitat.

10.5 Section Five

This section is located adjacent to and downstream (east) from section four. It is differentiated from section four to the east by a more meandering stream channel with sections of riffles and a lack of willows which are only present west of and near the confluence. There are some mature cottonwoods, including a downed cottonwood and a standing cottonwood that is dying (Appendix B, Image 27).

This section has moderate channel incision and connection to the floodplain (Appendix B, Image 30). The north side has a wider floodplain and more gradual connection to the upland with the understory dominated by smooth brome. The south side has a more abrupt transition to upland and has more noxious vegetation than the north side. Common teasel and Canada thistle are both dense in this transition zone and cheatgrass is dominant in the upland area which is home to a prairie dog colony (Appendix B, Image 30.1).

This reach does have a more Russian olives and Siberian elm than other reaches (Appendix B, Images 27 and 29). Siberian elms are dense near the confluence and are contributing to a lack of plant biodiversity, choking out the understory.

10.6 Section Six

This section is at the far eastern extent of the assessment area near Lowell Boulevard and is only approximately 25 meters in length. This section appears to have been restored at some point and it included wetland plantings, native grasses, and plains cottonwood plantings (Appendix B, Images 31 and 32). It could be a higher functioning reach, but the high density of noxious vegetation is likely to outcompete many of these native species so it is rated as moderately functioning. This section has a wider, braided stream channel with a good sized floodplain and transition to upland. The riparian transition from channel to upland is lacking shrubs, which should be incorporated into future plantings to provide a better mix of canopy and understory. The width and openness of this reach increases the likelihood of waterfowl occupying this habitat.

Native understory plant diversity was observed to be the highest in this section with more wetland plants and native grasses than other sections. This was the only section where crested wheatgrass (*Agropyron* cristatum) was observed in high density. Noxious vegetation is still very dense in this area and is the primary threat to the success of this restoration effort. Curly dock, Canada thistle, poison hemlock, lambsquarters, and kocia are present in high densities.

11.0 Planting and Seeding Recommendations

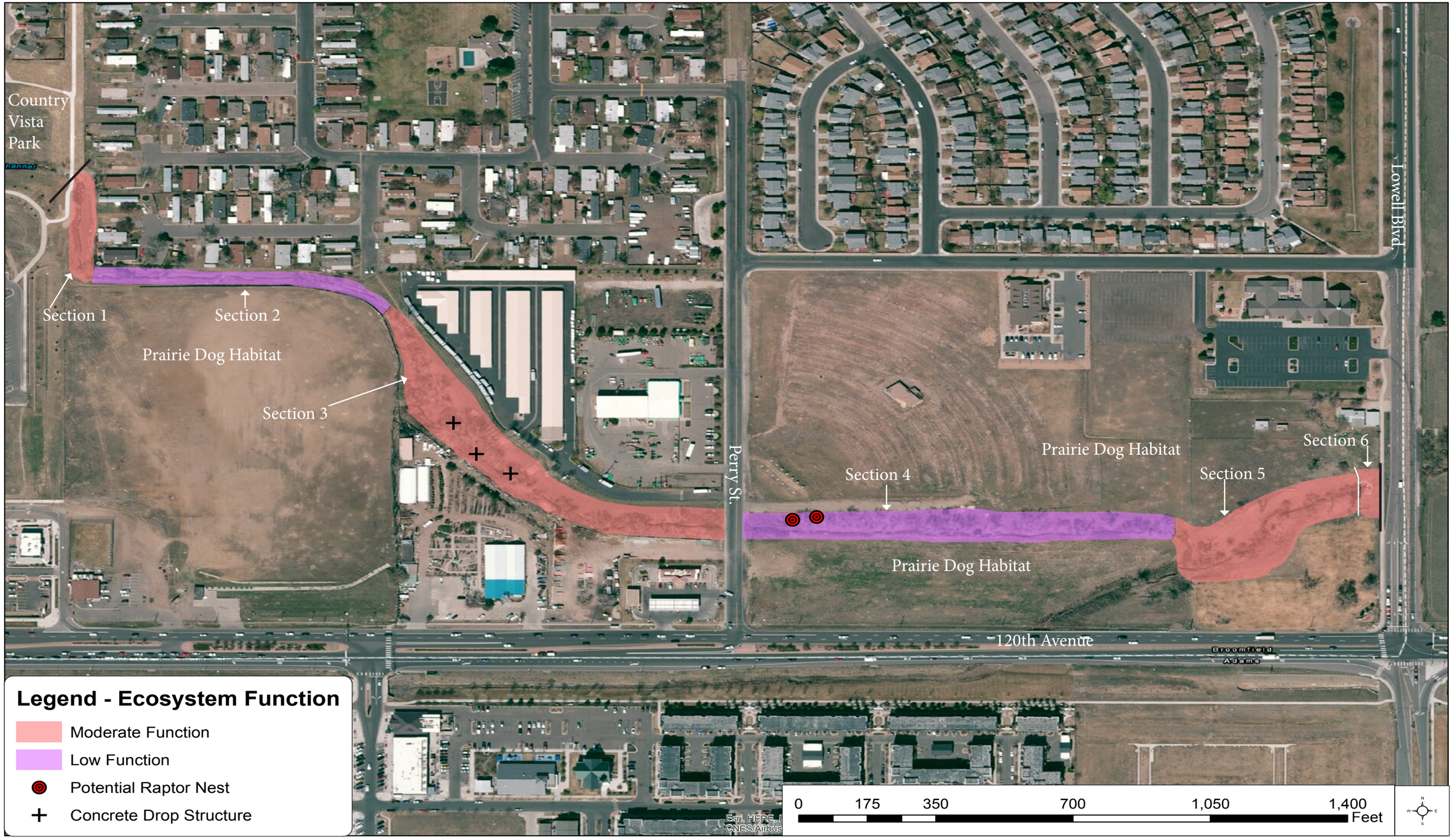
Increasing plant biodiversity will increase the functionality of the riparian corridor. Plains and narrowleaf cottonwoods, and peachleaf willow (*Salix amygdaloides*) are tree species that would be

beneficial to the overstory. Thin-leaf alder (*Alnus tenuifolia*), water birch (*Betula occidentalis*), chokecherry, wild plum, and Rocky Mountain Maple are small trees that would add diversity between the upper canopy and ground cover. Snowberry (*Symphoricarpos albus*), red-osier dogwood (*Cornus sericea*), and wood's rose (*Rosa woodsii*) would be beneficial shrubs to plant. Multiple species of sedges and rushes could be planted in the wettest portion including in the channel.

Bluejoint reedgrass, tufted hairgrass (*Deschampsia caespitosa*), and fowl mannagrass (*Glyceria striata*) would be desirable wetland grass species to include in a seed mix. Western wheatgrass, crested wheatgrass, blue wildrye (*Elymus glaucus*), and slender wheatgrass (*Elymus trachycaulus*) would be good species to include in a riparian/upland transition seed mix.

12.0 Conclusion

The Nissen Reservoir Channel baseline condition was evaluated as ecologically functioning at a low to moderate level and would benefit greatly from improvements to the existing channel and riparian corridor. Dedicated noxious vegetation control coupled with proper planting and seeding after channel improvements are completed would increase overall ecological function and have significant improvements to wildlife habitat.



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Appendix A: Ecosystem Function Map

NISSEN RESERVOIR CHANNEL IMPROVEMENTS-LOWELL BLVD TO TENNYSON STREET
October 17, 2017

Legend - Photopoint Locations

(#) Photopoints

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Appendix B: Photopoint Locations

NISSEN RESERVOIR CHANNEL IMPROVEMENTS-LOWELL BLVD TO TENNYSON STREET
October 17th, 2017

Image 1 Looking southeast at the stream channel in moderately functioning section 1. Algae is covering the rocks in the stream. Coyote willow, showy milkweed, and soft-stem bulrush are present.

Image 2 Looking south at the riparian corridor of moderately functioning section 1. Coyote willows line the west (right) bank which rises steeply to a turfgrass park and a walkway. Smooth brome and western wheatgrass are the dominant grass species on the east (left).

Image 3 Looking down and north at the narrow stream channel in section 1.

Image 4 Looking south at the riparian corridor in section 1.. Cattails are present in the channel.

Image 5 Looking east at a patch of Siberian elms in low functioning section 2. The high percentage of non-native vegetation is a major issue for this section.

Image 6 Looking southeast in low functioning section 2 at an area that has plains cottonwoods saplings. The north (left) bank has an understory of grasses and the south (right) bank is lacking undersory below coyote willows and is unstable.

Image 7 Looking west at a potential game trail in section 2.

Image 8 Looking east at the corridor in section 2. The channel is incised and lacking connection to a floodplain which is another major issue in this low quality section. A high percentage of non-native vegetation is present both sides. Erosion is evident from the unstable bank on the south (right) side.

Image 8.1 Looking down at bittercress and rushes in section 2. The bank on the south (top of picture) has a high percentage of bare soil and is unstable.

Image 9 Looking south at narrowleaf cottonwoods in section 2 with an understory of bare soil and non-native plantain.

Image 10 Looking southeast at moderately functioning section 3 that has better diversity in both the overstory and understory. A floodplain is present on the north (left) side of this reach.

Image 11 Looking southeast within the riparian corridor in section 3. It is wider, with multiple channels that could fill at high water levels. More wildlife habitat is present within this wider corridor, however it is still bounded by urban development on both sides which may deter use by larger animals.

Image 12 Looking southeast while standing on a concrete structure in the channel in section 3. The channel widens after these structures and has a rockier bottom.

Image 13 Looking southeast in section 3 at a stand of silver poplars and a well connected floodplain.

Image 14 Looking northwest at the middle of three concrete drop structures in section 3. This is in the stand of silver poplars and a dense understory of native and non-native grasses is present.

Image 15 Looking southwest at a concrete drop structure in section 3. Depsite the presence of these man-made structures, this section is moderately functioning with more natural meanders, riffles, and better connectivity to a wider floodplain. This section also has the most diversity in the overstory and understory. It is bound by urban development on both sides of the riparian corridor.

Image 16 Looking southeast at a stretch of slow moving water in section 3 with an incised channel. Diverse vegetation is present in this section.

Image 17 Looking west at the dense riparian vegetation in section 3 from the culvert at Perry St.

Image 18 Looking northwest at a coyote near prairie dog holes in section 3.

Image 19 Looking east at a potential game trail in low functioning section 4. The understory, which consists of bare soil or organic matter and common teasel, is also in view. This section has a high percentage of non-native vegetation.

Image 20 Looking up at a potential raptor nest in a plains cottonwood.

Image 20.1 Looking up at a second potential raptor nest in section 4 near image 20.

Image 21 Looking east at the understory in section 4 which is lacking native vegetation. Much of this section has common teasel, Canada thistle, and other non-native species in its understory.

Image 22 Looking west at low functioning section 4. The overstory has many healthy plains cottonwoods, but Siberian elm and Russian olive are also present. The channel is straightened in this section and much of the understory is dominated by non-native vegetation. The north side of the corridor is bounded by concrete with a prairie dog colony north (right) of the concrete.

Image 23 Looking south at the straightened, incised channel that rises abrubtly to an upland in section 4. The bank is eroding and unstable. This is a main issue lowering the proper ecological function of section 4.

Image 24 Looking west at the riparian corridor and upland in section 4 which shows a lack of floodplain on the south (left side). The lack of connection to a floodplain is an issue lowering the proper ecological function of section 4.

Image 25 Looking east at the channel in section 4 which has cottonwoods and a small floodplain on the north (left) side, but a steep bank leading to upland on the south (right) side.

Image 26 Looking west at coyote willows lining the riparian corridor in section 4.

Image 27 Looking southwest at a standing plains cottonwood that appeared unhealthy and a downed plains cottonwood in moderately functioning section 5. In the background are dense Siberian elm and coyote willow at the confluence of the Nissen Resevoir Channel and a side channel.

Image 28 Looking down at a water strider in section 5. They were observed throughout the assessment area.

Image 29 Looking northwest in section 5 at Russian olive while standing in dense cheatgrass.

Image 30 Looking northeast at the stream channel in section 5. It is somewhat incised, but highly vegetated on both sides.

Image 30.1 Looking southeast at a dense stand of common teasel in section 5. Overall there is not a high percentage of non-native vegetation, but it is dense where it was observed.

Image 31 Looking southwest at the restored and moderately functioning section 6. This section has wetland planting and seeded grasses, but a high percentage of non-native vegetation is also present.

Image 32 Looking northwest at section 6. The channel is wider and braided in this outwash section and connected the floodplain on the south (right) side.