

Section 10

Implementation

10.1 Setting Priorities

A variety of methods are used to set priorities when deciding how to move forward with implementing long-term CIP programs and an integrated approach to watershed planning. Ranking systems are a common method used by numerous communities across the country. The ranking system can be designed to address each city department (i.e., wastewater, roads, stormwater) or general enough to apply to all departments. For stormwater programs specifically, priority ranking systems can be designed for each specific drainage basin, development stage (new development versus existing urban areas), or be comprehensive to address all situations.

As described in Section 9, the priority system used for this study was designed to address a rural watershed with planned future urban growth. However, as the City/County/NRD begin to implement the Stevens Creek CIP program, the priority of these projects will need to be weighted against other stormwater projects within the urbanized portion of the City and other urbanizing watersheds.

10.1.1 Evaluation Criteria

Following is a list of commonly used evaluation criteria when setting priorities for stormwater-related capital improvement projects. These criteria cover the broad range of potential screening criteria used in both rural and urban settings. The evaluation criteria are used to quantify the severity of the problem and the corresponding benefits the project would provide to the public.

- **Street Flooding** - This condition applies to floodwaters overtopping streets in such a manner that it slows vehicles or forces motorists to select an alternate route.
- **Habitable Structure Flooding** - This condition applies to the entry of floodwaters into habitable buildings.
- **Stream Instability** - This condition applies to streamflow or overland flow that is causing excessive scour of channels that can pose hazards to people, property, and infrastructure. Refer to Section 9.1.3 for additional detail regarding the types of stream instability categories.
- **Water Quality** - This condition applies to a degradation of water quality primarily caused by a release of sediment due to stream instability.
- **Infrastructure Condition** - This condition applies to existing drainage facilities such as culverts, curb inlets, culverts, bridges, and improved channels that need repaired or replaced.
- **Poor Drainage** - This condition applies to standing water in streets and on public and private property for extended periods.
- **Public Benefit** - This category is used to account for the number of properties that benefit from the project improvements.

- Ease of Implementation - This category is used to account for implementation issues including acquiring the necessary permits, disturbance of protected species, mitigation requirements, and project accessibility.
- Land Availability - This category is used to access the potential hardship of acquiring the necessary land and/or easements to construct the project.
- Public Acceptance - This category is used to account for stakeholder buy-in of the project.

10.1.2 Other Considerations

In addition to the evaluation criteria, the following issues are typically addressed to account for frequency, risk, economic impact, and land use type associated with the problem and the proposed improvement project.

- Frequency - This category takes into consideration the frequency the problem is occurring. For example, if flooding of a habitable building occurs every rainy season versus once every 5 years, the proposed improvement project to correct this problem will be given a higher priority.
- Degree of Risk - This category accounts for the degree of risk to persons or property associated with the problem continuing to occur. For example, a bridge that historically floods every year and could potentially cause the loss of life would receive a higher priority than a project that involves an icy sidewalk caused by isolated ponding that could result in a broken limb.
- Economic Impacts - This category accounts for the benefits of alleviating flooding to major commercial and/or industrial areas that would significantly impact the economy of the community if this business was halted or repairs were needed as a result of flooding.
- New Development versus Retrofit - This category evaluates the benefits of completing retrofit projects that solve flooding and erosion problems caused by a lack of sound land use planning, versus investing in undeveloped areas to avoid expensive problems in the future.

Once the evaluation criteria are selected, the next step in the process is to assign rating points and adjustment factors that reflect the community's goals and priorities. The estimated cost of the project is then used in conjunction with the point rating system to provide a cost-benefit ratio for each project. As a starting point for understanding which issues are the most important to the citizens of Lincoln, the Stevens Creek Citizen Advisory Committee listed the following categories (listed in order of importance) when asked to rank the screening criteria listed above.

- Degree of Risk
- Frequency
- Infrastructure Condition
- Stream Instability
- Public Benefit

10.2 Implementation Issues

While the Stevens Creek Watershed is predominately undeveloped, this area will be experiencing rapid growth in the coming years. Therefore, time is of the essence with respect to establishing the foundation for implementing the recommendations outlined in Sections 6 and 7. Specifically, the following list of items needs to be accomplished following the adoption of the study.

10.2.1 Maintenance/Funding

- **Maintenance Agreements** - The drainage standards should be revised to establish uniform criteria for the development of a maintenance plan to be submitted with the preliminary plat and referenced in the subdivision agreement. A good maintenance plan will not only provide a guide for future owners but will help ensure that maintenance responsibilities are clear when ownership is transferred from the developer. The facility owner should be required to perform inspections at a specified frequency and submit inspection forms to the regulatory agency. Penalties for breach of agreement should be clearly stated. The City/NRD should obtain legally binding agreements with property owners stating that the stormwater facilities for the site will not be altered and will be maintained as needed to achieve their original design intent.
- **Cost-Share Program** - A cost-share program needs to be implemented to address both construction and maintenance of site-specific structural BMPs. A public-private cost-share concept was developed where the City and NRD share in the cost of constructing the BMP portion of the facility, jointly providing funding for \$100 of the \$210 cost estimated per acre of drainage area. City/NRD funding is anticipated to be provided on a first-come, first-serve basis and be contingent upon City/NRD approval of the proposed cost-share program. In addition, the cost-share program would be subject to yearly budget approvals, voter approval of general obligation bonds, and NRD board approval.

10.2.2 Policy and Ordinances

- **Drainage Criteria Manual Revisions** - The City's manual will need to be updated to reflect the recommendations outlined in Section 7. These revisions include redefining the WQCV and adding design criteria for extended wet and dry detention basins to include outlet structure details and necessary maintenance activities.
- **Ordinances** - The implementation of site-specific structural BMPs and required maintenance activities may require modifications to City ordinances.

10.2.3 Education Program

- **Water Quality Education** - A proactive education program focusing on water quality issues should be developed to educate homeowners associations and private facility owners. The program may include a water quality seminar to address the primary sources of stormwater pollution, the methods for pollution reduction and removal, including both nonstructural and structural BMPs, and the proposed new maintenance requirements.

- **Demonstration Project** - Designing, constructing, and maintaining a demonstration project that incorporates water quality and flood control features will provide the City/NRD valuable knowledge that can be passed along to the developer and engineering community. The demonstration project could also be used as an education tool for the general public.
- **Structural BMP Design Workshop** - A structural BMP design workshop should be held to educate engineers and developers on designing and constructing structural BMPs. Providing this education will ensure proper BMP design, which will streamline the plan review process. The workshop would primarily focus on design guidance for extended wet and dry detention basins.
- **Natural Stream Design Workshop** - A natural stream design workshop should be held for engineers and developers focused on using bioengineering and geomorphic techniques for stream stabilization. The workshop would include proper design techniques for grade control structures and streambank stabilization materials.

10.2.4 Coordination Efforts

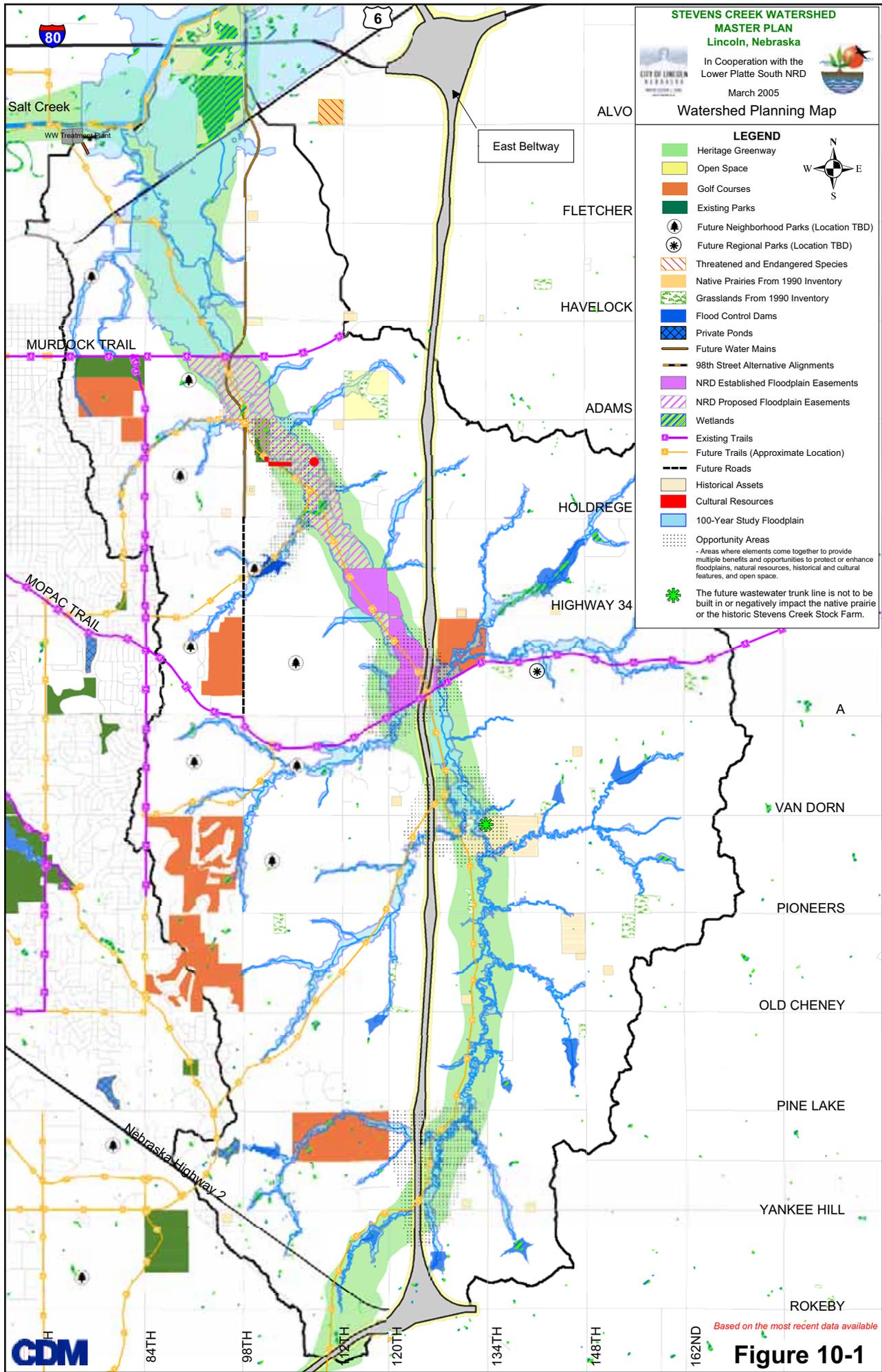
- **Agency Coordination** - A cooperative agreement between the City, NRD, and Lancaster County needs to be established to guide the implementation of the Master Plan. For example, as roadways are upgraded, the design data developed for stream crossings should be used during the design. In addition, the design, construction, and maintenance of structural BMPs need to be closely monitored and enforced by all agencies to make sure these facilities are properly managed. Lastly, many of the secondary problems can be addressed as part of ongoing County maintenance activities and/or combined with other City department or NRD projects.

Items that should be addressed initially include the Drainage Criteria Manual revisions, ordinance modifications, and establishing the maintenance agreements and cost-share program. Once these items are accomplished, the City should move forward with establishing the priority ranking system and conducting the education program.

10.3 Opportunity Areas

Figure 10-1 is a Watershed Planning Map that overlays a wide variety of natural and built elements to support an integrated approach to watershed planning in Stevens Creek. Opportunity Areas are very general planning locations within the watershed that highlight where natural elements and/or existing or future infrastructure come together. There are areas with the potential for multiple benefits and opportunities to protect or enhance features like floodplains, natural resources, historical and cultural features, and open space.

Four Opportunity Areas are highlighted on Figure 10-1 along the Salt Valley Heritage Greenway, which follows the main channel of Stevens Creek. These highlighted areas generally recognize where natural features like the floodplain and drainage corridors overlap or are in the vicinity of other elements such as the East Beltway corridor, existing or future trails, NRD conservation easements, open space, and stormwater or floodplain benefits.



Based on the most recent data available

Figure 10-1



Each opportunity area is described below:

- Area 1 - This area is located between Adams and Holdrege and contains cultural resources and existing parks. In addition, this area is within the future NRD floodplain easement.
- Area 2 - This area is located between Highway 34 and A Street. Multiple planning and infrastructure components converge at this location including existing golf courses, the MoPac trail, future trail alignments, the NRD floodplain easement, and the East Beltway alignment.
- Area 3 - This area is located in the vicinity of 134th and Van Dorn and contains historical landmarks and future trail alignments.
- Area 4 - This area is located between Pine Lake and Yankee Hill Road and contains future trails and is adjacent to the East Beltway alignment.

As future planning continues for Stevens Creek, these areas should be referenced as a guide by City and County departments and NRD, particularly with regard to opportunities to integrate parks, open space, and stormwater or floodplain benefits.