

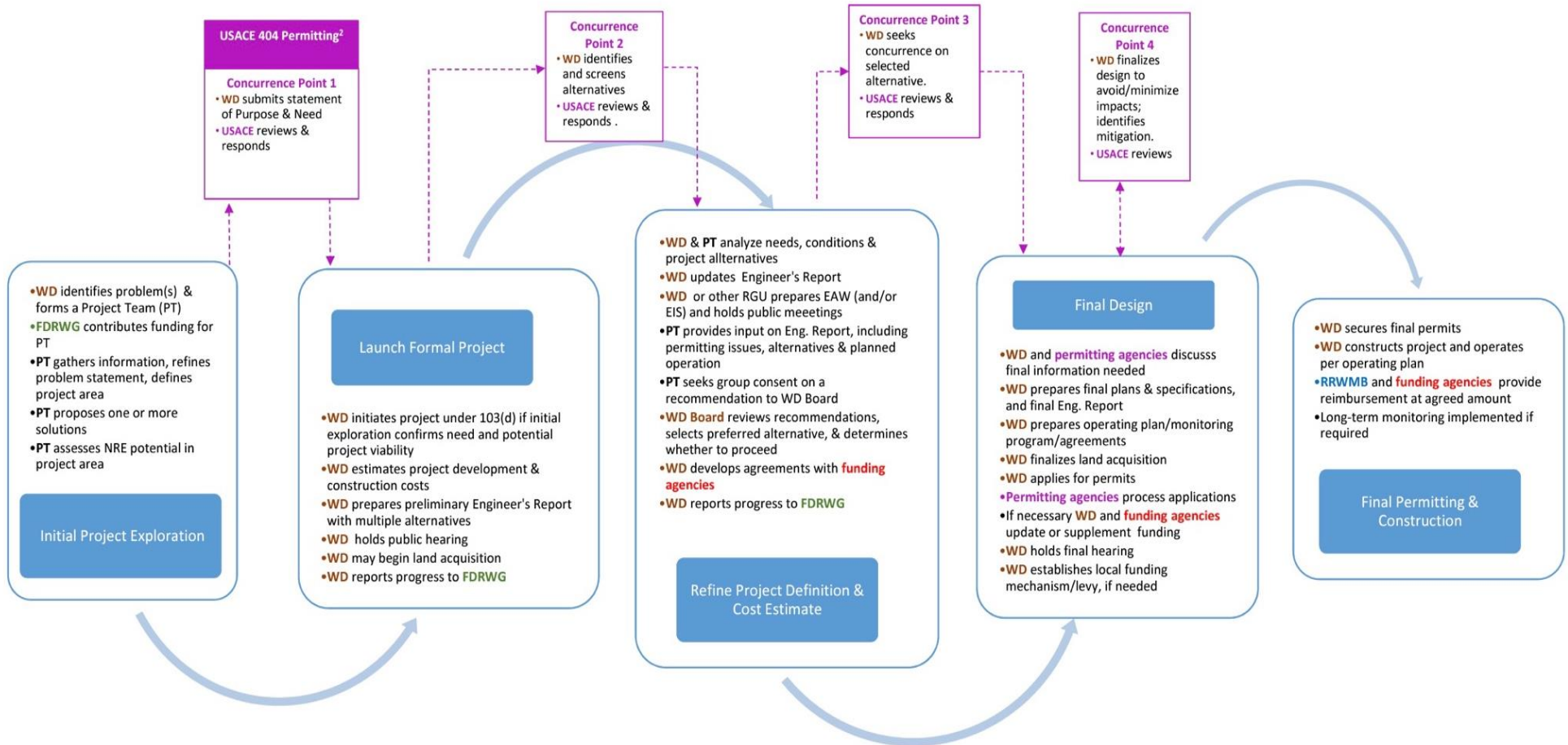
## Appendix

### Appendix A. Key Materials Reviewed

Documents and Other Materials Reviewed
<a href="#">1998 Mediation Agreement</a>
<a href="#">Collaboration on Surface Water Management Northwest Minnesota: The Red River Basin Model</a>
Addendum to the 1998 Mediation Agreement
2021 Partner Recommitment
Flood Damage Reduction Work Group FAQ Document
Flood Damage Reduction Work Group Mission, Principles, and Practices
Project Team Handbook & Appendices
Technical Papers 1-16
Flood Damage Reduction Work Group Overview and Projects Videos
Flood Damage Reduction Work Group Newsletters (November 2022, May & November 2023, May 2024)
Flood Damage Reduction Work Group Annual Reports (2019-2022)
Flood Damage Reduction Work Group Budget (2021-2022)
Red River Basin's Red River Watershed Management Board and Flood Damage Reduction Work Group—How do they differ?
Flood Damage Reduction Work Group Enhancing Resources Brochure
Overview: Flood Damage Reduction Work Group Brochure
Flood Damage Reduction Benefits to the Red River Basin Brochure
Key Websites
Red River Watershed Management Board ( <a href="https://www.rrwmb.us">https://www.rrwmb.us</a> )
Flood Damage Reduction Work Group ( <a href="https://www.rrwmb.us/fdrwg">https://www.rrwmb.us/fdrwg</a> )

Note. Documents available online have hyperlinks included in the table.

## Appendix B. Project Development Process



*Note.* Depicts a typical process at a high level and variations are permitted. From Addendum 1 to the 1998 Mitigation Agreement, by the Flood Damage Reduction Work Group, Wild Rice River Watershed, 2020. ([https://mfiles.wildricewatershed.org/mfiles\\_rrwmb/#CC774983-AC09-4666-81D9-8B8AAA310342/views/V102/V107](https://mfiles.wildricewatershed.org/mfiles_rrwmb/#CC774983-AC09-4666-81D9-8B8AAA310342/views/V102/V107))

Appendix for Kirkpatrick, S. (2024). *Understanding Flood Mitigation Implementation Activities in Minnesota's Red River Basin*. (Natural Hazards Center Mitigation Matters Research Report Series, Report 20). Natural Hazards Center, University of Colorado Boulder. <https://hazards.colorado.edu/mitigation-matters-report/understanding-flood-mitigation-implementation-activities-in-minnesotas-red-river-basin>

## Appendix C. Detailed Description of Overarching Factors of Influence

Factor	Influences
<p><b>Legislated Agency Commitment</b></p>	<p>With the signing of the 1998 Mediation Agreement, representatives committed their agencies and entities to actively supporting the agreement and its implementation. Given that the direction for this agreement came from the state legislature added weight to the assurances being made, especially for state agencies. The structures put into place by the agreement—specifically the institution of the Flood Damage Reduction Work Group and the planning, reviewing, and permitting procedures—have provided regular and ample opportunities for agencies and entities to act on their commitment. The regular revisiting, revising, and signing of addendums and updates to the agreement attempts to ensure that changes in key agency personnel or priorities do not result in neglecting promises made to flood mitigation efforts. The state legislature’s continued funding of the Flood Damage Reduction Work Groups rewards the continued shared commitment. And, the co-chairing the Flood Damage Reduction Work Groups between the Red River Watershed Management Board and Department of Natural Resources, while also co-funding its coordinator position, further cements the commitment and ties between the local and state levels. There can undoubtedly still be feelings that not every agency is equally invested, particularly at the federal level, that certain agency representatives do not pull their weight, so to speak, or that agency leaders signing in the state capital are too far removed to influence local agency actions. However, having the signed mediation agreement and its successor documents offers a strong foundation from which to encourage, and cajole, if necessary, stakeholder participation.</p>
<p><b>Existence of Organized Regional Water Management Agency</b></p>	<p>Seven of the 11 watershed districts in Minnesota’s Red River basin are members of the Red River Watershed Management Board with each member district being represented by a board member and alternate. Through pooled property tax dollars from member districts, the Red River Watershed Management Board provides crucial funding both for basin-wide initiatives and for individual watershed projects—its funding proving a more flexibility source than many state and federal programs and offering a critical component to a local match when needed. The Red River Watershed Management Board can also leverage its position as a regional entity to seek additional agency grants and other outside funding sources. Given the flexibility and importance of the Red River Watershed Management Board funding, care must be taken to ensure that what is meant to be a joint member benefit does not become unfairly distributed based on board politics or power structures. In addition, the Red River Watershed Management Board plays a critical role in advocating and lobbying for water management issues in the basin. The watershed districts can develop joint approaches and speak with one strong voice instead of many smaller ones, a strong voice that is amplified by a Red River Watershed Management Board hired lobbyist working to address funding and regulatory concerns at the state level. A full-time executive director of the Red River Watershed Management Board serves as leader and champion of flood mitigation efforts in the basin—keeping flood mitigation efforts “on the radar” at all levels—while also acting as a lynchpin between local watershed districts and state agencies on flood mitigation</p>

<p><b>Formalized Regular Stakeholder Engagement</b></p>	<p>Evolving out of the Mediation Agreement in 1998, the Flood Damage Reduction Work Group is made up of representatives from the key stakeholders in flood mitigation projects including citizens, agricultural producers, members of the Red River Watershed Management Board, soil and water conservation districts, counties, four state agencies, and two federal agencies. After accomplishing its original charge of codifying how these disparate entities—with different missions and organizational structures—should work together on flood mitigation efforts, the Flood Damage Reduction Work Group has since functioned to uphold and improve these processes. Co-chaired by the Red River Watershed Management Board and Department of Natural Resources, funded at a base level by the state legislature, coordinated by a position jointly funded by the Department of Natural Resources and the Red River Watershed Management Board, and bolstered by a robust committee structure, the Flood Damage Reduction Work Group has supported coordinated project team efforts, sponsored conferences in conjunction with the Red River Watershed Management Board, created technical reports, developed communication and outreach materials, and refined governance documents. Through regular meetings, the Flood Damage Reduction Work Group has also sought to foster relationships between stakeholders; these relationships are intended to help initiate important dialogues, build trust across agencies, and create avenues to solving the identified challenges of flood mitigation projects. The work of the Flood Damage Reduction Work Group has not, and likely will never, entirely eliminate disagreement or erase interagency and intergovernmental tensions. However, the adversarial mindset characteristic of flood mitigation efforts prior to the establishment of the Flood Damage Reduction Work Group has transitioned to a more collaborative approach.</p>
<p><b>Availability of Technical Data/Expertise</b></p>	<p>Through a combination of funding and support from the Red River Watershed Management Board and Flood Damage Reduction Work Group, in partnership with water resource experts in engineering and scientific fields, a strong technical basis has been developed for shared use across the basin. This includes LiDAR data, surface-water modeling tools, water quality data, and a series of shared technical papers, among others. Especially noteworthy is a technical paper that identifies, categorizes, and discusses flood mitigation strategies, including outlining the pros, cons, and general recommendations for when to implement each to optimize flood mitigation benefits. Having access to these shared technical resources and expertise gives necessary tools—which would be expensive to pay for individually—to local watershed districts and their consultant engineers that allow for the development of data driven, technically sound projects most appropriate for meetings goals within their contexts. Having the technical tools available can also help provide project visualization to landowners, supply data in support of funding applications, and produce permittable solutions.</p>
<p><b>Codified Early Coordination Process</b></p>	<p>Called the Project Team Process, this is an agreed upon mechanism to get representatives of all stakeholders—citizens, landowners, watershed district staff, other local government entities, pertinent state agencies, and federal partners—to the table early in the project development process. This creates a forum to allow for two-way communication with landowners to address concerns, brainstorm ideas and alternatives that can incorporate different funding sources, flag potential permitting issues, and overall develop a project with buy-in from all parties. Guided by a Project Team Handbook developed by the Flood Damage Reduction Work Group, funded by the</p>

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	<p>Department of Natural Resources, and increasingly led by an unbiased facilitator trained to mediate discussions without having a stake in the outcome, project teams serve to help foster coordination, increase communication, and attempt to remove barriers critical to project success. Project teams are only as good as their representatives, however. To be successful, those involved—particular at the agency level—must be engaged, empowered by their agency, and committed to the process. It should also be recognized that using the project team process can feel like a delay in making progress towards project development. However, investing this time and energy early in the project can save time, money, and frustration later in the process as, ideally, significant issues are identified and addressed in the nascent stages.</p>
<p><b>Basin-Level Collective Goals and Principles</b></p>	<p>Initially established in the 1998 Mediation Agreement—and revised over time through a participatory process—members of the Flood Damage Reduction Work Group have united around a series of goals and principles that can help direct flood mitigation efforts and minimize potential for conflict. The original eight goals have been whittled down and refocused as much of the work protecting homes and communities to the 100-year flood levels has been completed. Efforts are now focused on providing protection against 10-year summer storm events for farmed agricultural land, reducing the peak flow on the mainstem of the Red River by 20%, reducing damage to water quality from flood contaminants, reducing damage to rural transportation networks, minimizing social and economic damage, and ensuring flood control projects are, at a minimum, environmentally neutral. As projects are developed, it has been agreed that solutions should not create problems upstream or downstream and that water should be managed as close as is practical to where it falls. Collective goals and consensus-driven principles serve to frame the flood mitigation efforts in the basin. Projects can be assessed as to the extent to which they are contributing to the goals while keeping within the principles—those evaluated strongly in these respects can leverage that status when applying for funding or craft it into a message for landowners about benefits. Projects that violate principles can be quickly judged as non-starters, thus working to maintain the collective approach to water management in the basin. The availability of technical data is important in generating these appraisals.</p>
<p><b>Coordinated Education and Outreach Efforts</b></p>	<p>It can be easier to sell flood mitigation efforts in cities and towns where pictures of flooded homes and main streets evoke emotion and empathy. And, there are clear and immediately identifiable benefits to mitigation strategies such as levees, dikes, and home buyouts. Telling the rural story is much more difficult. Flooded farm fields do not induce compassion. Distributed storage diffuses the benefits across larger geographic areas. Pictures of flood impoundments look like big earthen ponds. Tallying and explaining damages is more nuanced. In this context, explaining to both citizens and legislators alike the basin-wide approach to flood mitigation, its benefits for both flooding and natural resource enhancements, and how the efforts that have been to date have positively affected the basin becomes important for landowner buy-in and funding. The Flood Damage Reduction Work Group, in combination with Red River Watershed Management Board, has worked to develop a coordinated message, produce print and electronic materials sharing that message, and leverage its combined capacity to share that message through its entities and agencies.</p>

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