

Findings on Hardwood Creek/JD 2 Repair Petition

The Board of Managers makes the following findings, on the basis of the repair report and the other evidence in the record:

Background

- 1. The Minnesota Water Resources Board established the Rice Creek Watershed District by Order on January 18, 1972. The District possesses all powers and authorities of a watershed district under Minnesota Statutes Chapters 103B and 103D and other applicable laws.**
- 2. In 1974, Washington County transferred to the District all powers as ditch authority to repair, maintain and improve all County and Judicial Ditches, including Washington County Judicial Ditch (JD) 2.**
- 3. On April 12, 1909, the Washington County District Court established JD 2, authorizing its construction and assessing its costs to benefited properties.**
- 4. JD 2 lies within or closely follows the natural watercourse of Hardwood Creek, which is situated in a broad, low-lying, groundwater-fed wetland corridor. The main channel of JD 2 follows the original channel of Hardwood Creek. It begins within the Rice Lake basin in the City of Hugo and flows north, then west-southwest, about 9.6 miles through the City of Forest Lake to 165th Street North, again in Hugo. It continues 2.4 miles within the Hardwood Creek channel to a confluence with Rice Creek. Branches 1 and 2 begin south of and flow into Rice Lake. Branch 3 (Judicial Ditch 7) joins JD 2 just downstream of Harrow Avenue in Forest Lake. Branch 4 joins JD 2 about 4500 feet downstream of Highway 61. JD 2 is a low-velocity channel, with an average slope between Rice Lake and Highway 61 of 0.03 percent.**
- 5. The JD 2 corridor contains wetland communities of significant natural resource value, including tamarack swamp, sedge meadow, hardwood seepage swamp, and rich fen. The Corrie's Swamp Wildlife Management Area (WMA) lies within the corridor. At least 50 percent of the water budget for the upper portion of JD 2 is from groundwater.**
- 6. Hardwood Creek outlets into Rice Creek upstream of Peltier Lake, which lies in the Cities of Lino Lakes and Centerville. Hardwood Creek is listed by the Minnesota Pollution Control Agency as impaired for aquatic life, due to a low fish Index of Biotic Integrity and low dissolved oxygen. Peltier Lake is listed as impaired due to excessive nutrients. Studies to date, as follows, indicate that 30 percent or more of phosphorus load to Peltier Lake comes from Hardwood Creek: "Diagnostic and Feasibility Study of Centerville and Peltier Lakes" (Montgomery Watson, July 1993); "Special Study -- Hardwood Creek" (Montgomery Watson,**

1993) (2 studies); “Hardwood Creek Outlet Treatment System -- Option Analysis” (EOR, August 7, 2002).

7. Rice Lake is owned by the State of Minnesota and managed by the Department of Natural Resources. It is inventoried as a public water and lies within the Paul Hugo Farms WMA. The ordinary high water level of Rice Lake was set in 1991 by the MnDNR at elevation 922.5 feet.

8. Before 2001, the District did not have an as-built profile for JD 2 to guide permit decisions and actions related to the ditch. After a review of available historical evidence, soil borings and other information, on April 25 and May 9, 2001, the Board adopted as the as-built profile for JD 2 a set of plans prepared by GGG Engineering titled “Washington County -- Judicial Ditch #2 Ditch Profile (November 17, 2000; revised April 10, 2001). The as-built profile ranges from 5 ½ to eight feet below the adjacent vegetated floodplain.

9. District inspections and proceedings of the Board of Managers determined JD 2 to be out of repair due to obstruction by accumulated sediment and vegetation, improperly located or sized road crossing structures, beaver dams and generally poor maintenance.

Repair Proceedings

10. On April 10, 2002, the Board accepted its own petition under Minnesota Statutes §103E.715 to determine: (a) whether a repair should be conducted; (b) if a repair is ordered, the extent of the repair; and (c) what measures should be taken to avoid or minimize environmental impacts. The Board directed the District engineer to prepare a report. The Board’s findings in accepting the petition are incorporated herein.

11. The Board’s intent in these proceedings is to identify work on JD 2 that not only fulfills the District’s responsibilities as ditch authority, but also uses the District’s broader watershed district authority to maintain and improve regional storm water conveyance capacity, water quality, wetlands, plant and animal habitat and other water resource values within the Hardwood Creek corridor.

12. Since the Board accepted the repair petition, the culverts at 157th, 165th and 170th Streets and Harrow Avenue have been replaced and reset by the road authorities, in concert with the District, so that they no longer are hydraulic obstructions of the main channel of JD 2.

13. In Spring 2004, the District performed minor maintenance from south of the 157th Street culvert to the cattail mat obstructing the Rice Lake outlet. Up to six feet of accumulated sediment was removed, with deposited spoils centered 15 feet from the east side of the ditch bank, seeded and mulched. Also, in an area about 1,400

feet north of the 170th Street culvert, up to six feet of sediment was excavated and placed about six feet from the east side of the ditch bank.

14. Presently, sediment is accumulated within JD 2 such that the effective ditch elevation is three to five feet higher than the as-built profile; in addition, beaver dams, deadfall, vegetation growth and similar localized obstructions affect the hydraulic profile of JD 2, or parts thereof, from time to time. Apart from a minor and localized effect upstream of the Highway 61 culvert, there are no structures within the JD 2 system that are controlling the hydraulic profile above that associated with the as-built ditch profile, with the exception of potential indirect impacts at 170th, 165th and/or 157th Street.

15. The potential flow obstruction at 170th, 165th and/or 157th Street is not a channel obstruction at the culvert, but an obstruction to surface and subsurface sheet flow created by subsurface and road base fill lying across the landscape perpendicular to regional flow.

16. The District engineer completed a preliminary overview document on November 17, 2003; a draft repair report in January 2004; and a repair report on October 29, 2004 (together, referred to as the “repair report”). The repair report has examined several repair options:

- (a) “Traditional Repair”: repair to the as-built profile, with 1:1 sideslopes;
- (b) “Meandered Channel”: repair to the as-built profile, with shallower sideslopes and restoration of Hardwood Creek/JD 2 channel meanders;
- (c) “Stable Stream Rehabilitation”: realignment of JD 2 with a substantial portion of new channel excavated more shallowly, more narrowly and with nearly vertical side slopes and including a lower floodplain; and
- (d) “Ongoing Minor Maintenance”: removal of deadfall, vegetation management, beaver dam removal, and isolated sediment removal; sediment removal is performed to maintain the existing profile and slope with the removal of high spots to maintain a positive grade through the system; the work will not involve significant profile adjustment or produce significant adverse wetland impacts or water quality concerns, and generally will not require any individual permit from the MnDNR or USACOE or wetland replacement under the Wetland Conservation Act.

17. The repair report and a subsequent concept report by the District engineer also discuss other elements that could be combined with one of the four options. These include restoring surface and subsurface flow through the 170th, 165th and/or 157th Street road base; water quality basins in the downstream portion of Hardwood Creek; Best Management Practices; and water/riparian resource enhancements in the downstream portion of Hardwood Creek.

18. The Board of Managers held a public hearing on the repair report and the project on November 10, 2004. Open public workshops occurred on January 15, 2004; April 22, 2004; September 29, 2004; October 8, 2004; October 22, 2004; and November 10, 2004. The Board has further discussed and received public input on the project at a number of its regular meetings over the course of the past three years. Governmental bodies and interested members of the public also have submitted a number of written comments. The record on which these findings are based is incorporated as Attachment A to these findings.

Scope and Effect Analysis

19. The District engineer performed a “scope and effect” analysis to determine the lateral drainage effect resulting from the Traditional Repair. The methodology for this analysis is described in Appendix G to the October 29, 2004 report. The Board has had previous experience with the use of this methodology in approving the Comprehensive Wetland Management Plan for Anoka County Ditch 53-62, and finds the methodology sound.

20. The District engineer finds that the analysis is complicated by the strong groundwater input present within the corridor. Through field work, the engineer obtained hydraulic conductivity data that could be used to calibrate the scope and effect modeling with actual conditions. This improves the reliability of the analysis.

21. The analysis indicates that the drawdown effect of the Traditional Repair would be to drain presently wet lands adjacent to JD 2 to a distance of 30 to 50 feet. The engineer notes that this narrow band of drainage would continue to exist within a broader groundwater-fed wetland corridor, and therefore would result at most in a small, fragmented increase in pasture land. This lateral effect works in conjunction with sheet flow and subsurface flow within the floodplain of JD2, parallel to the ditch channel, to provide drainage.

22. The Board accepts the engineer’s findings, and concludes that the lateral drainage benefit from the Traditional Repair would be very small. It concludes that the primary benefit to adjacent land would be to mitigate surface flooding.

Soil Stability Constraints

23. On the basis of the repair report and other information in the record, the Board concludes that there is a significant question as to whether JD 2 can be repaired and maintained to the as-built profile as contemplated by the Traditional Repair and Meandered Channel options. The evidence indicates that excavation in the peat in which JD 2 is located will not be stable below the vegetative root structure (i.e., about 3.5 feet below the adjacent ground elevation), but will begin to slump nearly immediately and over the course of weeks or months will return to a state of disrepair. As a result of this slumping, the channel will become overly wide over

time and will be unable to transport water or sediments effectively, making it yet more susceptible to sediment deposition.

24. Specifically, the District engineer reaches this conclusion, based largely on analyses by Dr. Sandy Verry. Dr. Verry, an expert on the subject of channel behavior in peat soils, was retained by the District and has prepared memoranda and given testimony that are a part of the record.

25. This conclusion also is supported by memoranda submitted by Ed Mathiessen of Wenck Associates and soil scientist David Grigal, and comments submitted by the Minnesota Department of Natural Resources and the Minnesota Pollution Control Agency. In addition, the engineer extensively documents the results of maintenance conducted in Spring 2004 that are consistent with this conclusion. The engineer conducted a careful post-maintenance inspection and found that within one month of completing maintenance, the channel bottom had risen back halfway to the pre-excavation elevation as a result of sideslope slumping. The record indicates that staff of Washington and Anoka Counties and the City of Hugo generally concur in the technical feasibility problems associated with the Traditional Repair.

26. At the November 10, 2004 public hearing and in written comments, interested parties suggested that peat soils are shallow at many places along the JD 2 channel, and therefore that soil stability beneath the vegetation root zone is not a concern. A commenter suggested that the fact that the channel has not widened from the as-built dimension is evidence that slumping has not occurred. It has been suggested that soil saturation has reduced soil stability, and that with the effective drainage of a repair to the as-built profile, soil stability would improve. Finally, it has been suggested that sediment accumulation since the Spring 2004 maintenance is the result of settling due to a failure to remove hydraulic blockage further downstream, and not the result of slumping.

27. The District engineer has reviewed existing soil borings and obtained further borings to determine the peat depth along the floodplain of the JD 2 channel. The engineer's memorandum is a part of the record. The data show more than 35 of 40 borings with peat to a depth of at least five feet. In half of the borings, the boring ended in peat between five and 10 feet and could not be continued due to heavy slumping.

28. The record further shows that the Traditional Repair would involve excavation in groundwater extensively along JD 2. This suggests that soils will be unstable whether or not they are peat soils.

29. As to the other issues raised, the District engineer also reports that in fact the channel in many places is significantly wider than the original plans specify. The engineer also advises that because of groundwater inflow, absent a sustained period of unusually low precipitation the soils below the root zone will remain saturated and, further, that there is no practical, cost-effective way to "dry" the soils until a

repair to the as-built profile could be performed and vegetative root structure established along the ditch bottom and adjacent slope. Finally, the engineer advises that sediment settling and bank slumping can be readily distinguished from each other, and that significant bank slumping occurred within weeks to negate much of the result of the maintenance.

30. On the basis of all of the evidence provided, the Board finds that excavation below the vegetation root zone will not be stable, but is likely to be followed within weeks or months by slumping and the loss of much of the hydraulic capacity created. Accordingly, the lateral drainage and flood mitigation benefits to affected landowners will be short lived without the frequent repetition of substantial maintenance.

Benefits of Traditional Repair

31. In the October 29, 2004 repair report, at Appendix E, the District engineer uses “scope and effect” and hydraulic modeling for each repair option to determine how it will affect inundation and groundwater depth on adjacent land and estimate, on a parcel-by-parcel basis, the impact to land use that would result from each option. For the Traditional Repair, Stable Stream Rehabilitation and Ongoing Minor Maintenance options, the engineer determines the acreage that: (a) now is inundated by a two-year rain event, but would not be after repair; (b) now is wetland, but would be converted to upland; and (c) now is open water wetland that would be converted to saturated wetland. The report states that the first two categories represent land that would be improved for pasturing and some agriculture, while the third category represents land that would be marginally improved for pasturing. The report lists several reasons, both physical and regulatory, why none of the options would create developable land or otherwise allow for a more intensive land use.

32. The engineer also identifies several reasons why the local benefits of the repair options would be modest at best. The foremost reason, for the Traditional Repair and Meandered Channel and, to a lesser extent, for Ongoing Minor Maintenance, is that because of the unstable soils, the benefits will be transitory. Also, the land that is wholly or partially drained will tend to exist as thin strips surrounded by wetland. Finally, any peat soils that are drained will naturally decompose and subside, becoming wetter and less useable.

33. The Traditional Repair and Meandered Channel options would provide for adequate regional storm water conveyance capacity. The Traditional Repair would reduce the flood profile from existing by two to three feet for the two-year rain event, and by one to two feet for the 100-year rain event. However, within weeks or months much of this capacity would disappear.

34. Ongoing Minor Maintenance would provide for adequate regional storm water conveyance capacity under all expected full development scenarios of the City of

Hugo. Appendix E of the October 29, 2004 report shows that Ongoing Minor Maintenance -- at a profile approximating that shown in the January 2004 draft report (Figure 27) for Option 3 -- would reduce by about 65 acres the area along JD 2 currently inundated by a 2-year rain event. There would be no wetland impacts requiring replacement costs to be incurred and no additional property rights would need to be acquired.

35. The Board finds that the additional benefits to adjacent landowners from a Traditional Repair, as compared to Ongoing Minor Maintenance, would be very limited. Lateral drainage benefits would be minimal. Flood management benefits would be as shown in the October 29, 2004 report (Appendix E). As compared with Ongoing Minor Maintenance, for agricultural land, a Traditional Repair would remove 44 acres from the two-year floodplain, convert 62 acres of drained wetland to upland, and convert 56 acres of open water wetland to saturated wetland. On land that is now associated with low-density residential use or has been converted to a similarly passive use, these comparative differences would be 79, 39 and 21 acres, respectively.

36. In 2000, Sioux Engineering, Inc. was retained by the District to perform a preliminary analysis of the benefits of a repair and on August 29, 2000, submitted its "Preliminary Evaluation of Redetermined Benefits." This parcel-by-parcel analysis estimates that a repair would provide a total benefit to benefited properties of just \$36,000. The total acreage assumed to be benefited reasonably corresponds to the District engineer's most recent modeling. However, this figure assumes a 25-year life for the repair. On the basis of new analyses, the Board finds that the effectiveness of the repair will decline significantly within weeks or months, so that benefits are likely to be only a fraction of that estimated in the Sioux Engineering report. The Board finds that the Sioux Engineering report supports the finding that the additional benefit of the Traditional Repair, as compared with Ongoing Minor Maintenance, will be very small.

Cost of Traditional Repair

37. The engineer estimates the cost of the Traditional Repair to be \$1.1 million, not including wetland replacement costs. Wetland replacement costs are estimated to be an additional \$1.0 to \$1.6 million, depending on the degree to which Wetland Conservation Act replacement exemptions may apply.

38. The above cost does not include potentially significant costs under MnDNR protected waters requirements to replace up to 285 acres of Rice Lake Types 3, 4 and 5 wetland wholly or partially drained. In addition, there may be substantial costs related to wetland replacement under a Clean Water Act §404 permit issued by the United States Army Corps of Engineers or, conversely, expensive measures to remove excavated spoils out of USACOE jurisdiction. Also, it is likely that an Environmental Impact Statement would need to be prepared due to impacts to public waters, with an additional expense of perhaps \$100,000.

39. Ongoing Minor Maintenance would cost about \$75,000 per year, with no substantial cost uncertainties related to wetland replacement or acquiring additional easements.

Rice Lake

40. Landowners adjacent to Rice Lake assert that the water level of Rice Lake is being artificially maintained and that the repair action ordered by the Board should provide for the lake level to be lowered. These landowners have submitted evidence that Rice Lake has doubled in area in recent years. The record contains aerial photographs at intervals of about a decade, beginning in the 1930's. District engineer and staff conclude that Rice Lake has not appreciably increased in size over the period in question. The Board accepts the engineer's conclusion. It finds that references to the acreage of Rice Lake in historical documents are ambiguous due to the fact that Rice Lake is a shallow, unmeandered water body consisting of open water and a large emergent vegetation fringe. The Board finds that the evidence, particularly the aerial photos, shows that Rice Lake has not expanded. To the extent there has been variation in the size of the basin or the acreage of open water, the Board finds that the variation is more likely due to natural factors such as long-term precipitation patterns rather than any continuing artificial obstruction.

41. In Spring 2004, while performing maintenance on JD 2, the District excavated through a sand deposit within the JD 2 channel that some suggested was acting as the effective outlet control for Rice Lake. Within the past year or so, the MnDNR has removed cattail mats near the Rice Lake outlet that have acted as hydraulic obstructions. It indicates that, in accordance with its commitments during Blue Ribbon panel proceedings, it will continue to do so periodically. In December 2004, the District removed a submerged section of cofferdam previously abandoned near the 157th Street crossing. A commenting landowner has affirmed that a clogged fish screen installed by Paul Hugo Farms some years ago about 1000 feet downstream of the Rice Lake outlet has been removed. The Board finds that there are no other features or obstructions within JD 2 operating as an effective lake level control for Rice Lake.

42. The Board finds that the legal authority to manage Rice Lake rests with the MnDNR. MnDNR installation of a Rice Lake outlet control may require the District's approval as ditch authority. Otherwise, issues of lake level management and rights of affected landowners are matters to be determined between the MnDNR and landowners. Furthermore, the Board finds that Item #5 in the "Report of the Blue Ribbon Task Force on the Washington JD2/Hardwood Creek Subwatershed Management Plan" states that MnDNR will implement a voluntary acquisition program to acquire land surrounding Rice Lake.

Other Public Interests Affected

43. The repair report contains the engineer’s findings, pursuant to Minnesota Statutes §103E.015, subdivision 2, as to the impact of the Traditional Repair and other repair options on “other public interests affected,” including:

- **Water quality, including impact on Peltier Lake**
- **Wetland impacts, functions and values**
- **Biologic quality, aquatic and terrestrial habitat, plant habitat**
- **Recreational and aesthetic benefits**
- **City of Hugo land use plans and regional storm water management**
- **Public lands and lands with resource designation**
- **Public costs**

The repair report finds that the Traditional Repair will have the ability to accommodate regional storm water conveyance consistent with City of Hugo land use plans. The report finds that the Traditional Repair would have an adverse impact on each of the other listed public interests.

44. Public comments suggest that lowering the Rice Lake water level would have a beneficial impact on downstream water quality by reducing nutrient loading and transport from vegetation decomposition. The only means the District would have to lower the level of Rice Lake would be to perform a deeper repair, which the Board finds is not technically sustainable. Further, the District engineer and Dr. Verry have reviewed the water quality issue and conclude both that the additional nutrient contribution from a higher lake level is not likely to be significant and that the Traditional Repair would increase nutrient loadings and adversely affect water quality in other, more significant ways.

45. These comments also suggest that lowering the level of Rice Lake would improve its habitat, including wild rice habitat. Again, the Board finds that a deeper repair is not technically sustainable. Further, the Board defers to the MnDNR as the agency charged to manage Rice Lake for habitat. The District will work with the MnDNR, landowners and other interested parties on measures to improve Rice Lake aquatic and terrestrial habitat.

46. The Board adopts the findings of the District engineer pursuant to Minnesota Statutes §103E.015, subdivision 2. The Board finds that consideration of other affected public interests under this subdivision does not support the Traditional Repair.

47. On the basis of the recommendations of the District engineer, Dr. Verry and other commentors, the Board further finds that reconnecting surface and subsurface flows through the 170th 165th and/or 157th Street roadbed may have a beneficial impact on restoring the natural hydrology of the JD 2 corridor and alleviating wet conditions on some lands. The District would undertake this action

not as ditch authority, but under its general powers as a watershed district to undertake and cooperate in capital projects.

Project Funding

48. The District is authorized under watershed and ditch law to fund capital projects and programs using a watershed-wide *ad valorem* property tax levy, a subwatershed *ad valorem* tax levy, or a special assessment on benefited properties. In its Water Resource Management Plan (WRMP), Section 4, the District identifies funding policies it will apply, including:

- **Using the watershed-wide *ad valorem* levy as the primary project funding vehicle.**
- **Using special assessments or subwatershed-based funding for projects with highly localized benefits.**
- **Actively seeking grant funding.**
- **Give priority to projects that involve management of the trunk drainage system.**

49. In the WRMP, Section 5-15, the District identifies Hardwood Creek as a part of the watershed’s trunk drainage system. The purpose of the trunk drainage system designation is to identify the regionally significant elements of the watershed drainage system and facilitate “preserving the conveyance capacity of a stable channel.” The WRMP further states that “conveyance and [water] quality projects undertaken on the trunk system will be generally carried out on a Districtwide *ad valorem* basis.”

50. The WRMP, in Sections 5-2, 5-14 and 5-15, also states that due to the administrative cost of using special assessment, the watershed-wide *ad valorem* levy will be used to fund ongoing ditch inspection and minor maintenance. Ongoing Minor Maintenance as intended by the Board falls within the definition of “minor maintenance” as used in the WRMP.

51. The District has been awarded grants of \$800,000 from the Legislative Commission on Minnesota Resources and \$200,000 from the MPCA for resource enhancement work on Hardwood Creek.

52. The Board finds that Ongoing Minor Maintenance, combined with work on 170th, 165th and/or 157th Street hydrologic connectivity and downstream water quality or resource enhancements as may be ordered, provided they are not mitigation for specific upstream impacts, should be funded using watershed-wide *ad valorem* levy funds and, where applicable, LCMR and MPCA grant funds. The District also may utilize funds from other external sources should they become available.

Minnesota Statutes §103E.715 Findings

53. The repair report shows the necessary repairs and the estimated cost of the repairs, and is complete in all other respects necessary for the Board to determine the repair petition.

54. It is not necessary for the repair report to include all details, plans and specifications necessary to prepare and award a contract for the repair, since no specific repair is to be undertaken at this time.

55. The repair petition and report have been filed and hearings have been noticed and held in accordance with legal requirements.

56. The Board finds from the repair report and the other evidence in the record that neither the Traditional Repair nor the Meandered Channel is necessary for the best interests of the affected property owners, because lateral drainage benefits are slight; the excavated profile for those options is not stable; maintaining the profile would require essentially continuous, costly maintenance; the costs for those options far outweigh the incremental benefits to affected property owners beyond those afforded by Ongoing Minor Maintenance; and for the other reasons stated herein.

57. The Board finds from the repair report and the other evidence that the public interest within the meaning of Minnesota Statutes §103E.015, subdivision 2, does not support the Traditional Repair or the Meandered Channel.

58. The Board finds that the Stable Stream Rehabilitation would accommodate regional storm water conveyance needs for the indefinite future. The Board also adopts the findings of the District engineer, in the October 29, 2004 report, Appendix E, that this option would provide a somewhat greater extent of surface flooding control than Ongoing Minor Maintenance. However, this option would require the District to acquire or exchange a number of easements, which at this time the Board foresees doing only on a voluntary landowner basis. A number of landowners whose cooperation would be needed have commented in opposition to this option. The Washington and Anoka County Boards of Commissioners also have adopted resolutions disfavoring this option, which by statute only could proceed with the approval of each County Board. Accordingly, the Board finds that the option is not feasible and therefore is not necessary for the best interests of the affected property owners.

59. The Board finds that Ongoing Minor Maintenance will accommodate regional storm water conveyance requirements for the indefinite future, will provide landowners with a reasonable degree of surface water flood management, is legally supportable, is consistent with the WRMP and District policies, and does not face legal or regulatory obstacles.

60. The “JD 2/Hardwood Creek Subwatershed Management Plan” that was the product of the Blue Ribbon panel suggests the following District commitments:

- **Annually inspect and perform routine maintenance on JD 2/Hardwood Creek.**
- **Implement a voluntary program for flood storage/buffer/greenway easements along the JD 2/Hardwood Creek corridor.**
- **Assess the feasibility of, and implement, project(s) to improve water quality in Hardwood Creek.**

The Board finds that Ongoing Minor Maintenance, combined with further District efforts to implement projects to improve Hardwood Creek water quality and enhance riparian resources, accords with the Blue Ribbon plan.

61. The Board directs staff to prepare for Board review a proposed plan for minor maintenance on JD 2 to be accomplished in 2005.

62. The Board finds that its decision does not in any respect alter the drainage rights of any benefited property pursuant to ditch law. The Board simply finds that at this time, the statutory requirements for a repair to the as-built profile are not met at this time.


Capital Project Findings

63. The Board directs staff to pursue appropriate procedures under applicable laws and District policies to assess the cost and feasibility of, and allow the District to implement, the restoration of hydrologic connectivity at 170th, 165th and/or 157th Street and the construction of water quality and resource enhancement measures on lower Hardwood Creek. The Board further directs that these efforts be coordinated with all interested resource agencies, grant agencies and other interested parties.

64. Several commentors have suggested that as an element of this action, the District install a ferric chloride injection system upstream of Peltier Lake as described at pages 7-5 and 7-6 of the WRMP. The commentors rely on the \$50,000 capital cost referenced in the WRMP for the suggestion that this system would be a cost-effective way to remove nutrients generated by JD 2 repair. However, on January 9, 2002, the District engineer presented to the Board a thorough written analysis of Hardwood Creek outlet treatment options, finding such a system to be far less cost-effective than constructed wetland treatment systems. The engineer determined that the WRMP estimate did not include the considerable cost of a required sedimentation basin or the high operation and maintenance costs of a dosing system, and recommended that such a system not be pursued.

65. The Board declares the Meandered Channel project to be terminated, and directs staff to terminate the environmental review process for that project in accordance with Minnesota Rules 4410.2100, subpart 11.

Adopted December 15, 2004

 *12/16/2004*
Roger Aiken, Secretary
Rice Creek Watershed District

Attachment A

**Hardwood Creek Repair Petition
Record of Proceedings**

| <u>DATE</u> | <u>DESCRIPTION</u> |
|--------------------|---|
| 8/19/09 | Map, Judicial Ditch No. 2 (as originally located and relocated). |
| 5/03/74 | Letter, John E. Schuna to Hugo Mayor and City Council, “White Bear Rod & Gun Club Special Permit Application.” |
| 9/26/74 | “A Summary of the Rice Lake (84-146, Washington Co.) Game Lake Survey” (Dep’t of Natural Resources). |
| 9/26/74 | “Game Lake Survey” (Minnesota Division of Game and Fish). |
| 10/03/75 | Minnesota Division of Game and Fish Lake Survey. |
| 6/15/76 | “Project Proposal (Wildlife Land Acquisition),” Minnesota Department of Conservation. |
| 1985 | Map, Washington County, “Protected Waters and Wetlands,” (DNR Division of Waters) |
| 11/27/91 | Letter, Steven Woods, RCWD, to Shaun Gufstason, BRA and Associates, “RCWD Project Review No. 91R20: Forest Lake Township.” |
| 8/7/02 | “Hardwood Creek Outlet Treatment System -- Option Analysis” (EOR) |
| 7/93 | “Diagnostic and Feasibility Study of Centerville and Peltier Lakes” (Montgomery Watson) |
| 1993 | “Special Study -- Hardwood Creek” (2 studies) |
| 12/02/96 | Metropolitan Agriculture Preserves Restrictive Covenant (Document 915028). |
| 4/09/97 | Letter, John Waller to RCWD Board of Managers. |
| 7/21/98 | Email communication, Dale Homuth & Joe Richter, Dep’t of Natural Resources, “Outlet of Rice Lake.” |
| 7/31/98 | Memorandum, Joe Richter to Molly Shodeen, DNR “Proposed Maintenance for JD #2 in Hugo.” |

- 2/10/99** Letter, Joe Richter, DNR, to Tony Brough, RCWD, “Inspection Report, Channel Maintenance Hardwood Creek (County Ditch 2), City of Hugo, Forest Lake Township, Washington County.”
- 2/17/99** Letter, Dale Homuth, DNR, to Kate Drewry, RCWD, “JD #2 Repair Proposal, DNR Position.”
- 4/27/99** “Field Review, Rice Lake in Washington County.”
- 6/05/00** Letter, Glen Olson, Kunde Company, to Edward Waller.
- 7/07/00** “A Complete Appraisal Summary Appraisal Report of Impact of Flooding From Judicial Ditch #2 on Various Properties, Hugo, Minnesota” (Michael Bettendorf, MAI) (excerpt).
- 7/28/00** “Potential Impacts of Repairing JD2 on Public Waters and Public Water Wetlands,” Dale Homuth, DNR (w/attachments): Attachment 1 - 7/12/99 letter, Homuth (DNR) to Drewry (RCWD); Attachment 2 – map, “Washington County Protected Waters and Wetlands”; Attachment 3 – 7/13/00 letter, Dale Homuth (DNR) to Kate Drewry (RCWD); Attachment 4 – DNR internal memorandum, John Scherek, Survey Crew Supervisor, to Dale Homuth; Attachment 5 – Hardwood Creek profile; Attachment 6 – 1997 map of Rice Lake; Attachment 7 – 1953 air photo; Attachment 8 – air photo; Attachment 9 –letter from Greg Spoden (DNR) to Dale Homuth (DNR); Attachment 10 – “Minnesota DNR Waters Filed Survey Report of Rice Lake” (4/24/00); Attachment 11 – “Minnesota DNR Division of Waters Hydrographic Work Report of Rice Lake” (7/8/91); Attachment 12 – chart showing Rice Lake recorded water levels from 1991 to 2001; Attachment 13 – “X-Section”; Attachment “14 – X-Sec”; Attachment 15 – 4/20/00 “Minnesota DNR Waters Field Survey Report”.
- 7/31/00** “Wildlife Lake Survey Report: Observations/Notes” (DNR).
- 7/31/00** “Evaluation of Washington County Judicial Ditch Number 2” Geoffrey Griffin, GGG Inc. (excerpt).
- 8/29/00** “JD2 Preliminary Evaluation of Re-determined Benefits,” Sioux Engineering, Inc.
- 11/17/00** “Washington County – Judicial Ditch #2, Ditch Profile” (GGG).
- 12/01** “Hardwood Creek Outlet Treatment System – Option Analysis” (EOR).
- 4/10/02** “Petition for Repair (Minnesota Statutes Section 103E.715).”

- 6/16/02** Memorandum, Jodi Polzin and Brett Emmons, EOR, to RCWD Board of Managers, “Washington Judicial Ditch #2 Technical Memorandum.”
- 1/28/03** Cooperative Agreement, “Culvert Replacement on Anoka/Washington Judicial Ditch 2,” Washington County, City of Hugo, City of Forest Lake and Rice Creek Watershed District.
- 5/09/03** “Hardwood Creek Rehabilitation Initial Feasibility Study” (EOR).
- 8/26/03** Letter, John Waller and Margaret Waller to RCWD Board of Managers, “Concerns with Hardwood Creek Rehabilitation Initial Feasibility Study.”
- 10/20/03** “Rehabilitation/Engineer’s Repair Report, Hardwood Creek/Washington County JD2” (EOR).
- 1/04** “Revision Rehabilitation/Engineer’s Repair Report for Hardwood Creek/Washington County JD2” (EOR).
- 1/22/04** Memorandum, Chuck Holtman, Smith Parker, to Steve Hobbs, RCWD, “Hardwood Creek Repair/Rehabilitation; WCA Exemptions.”
- 5/17/04** “Environmental Assessment Worksheet – Hardwood Creek/Judicial Ditch #2 Official Profile Repair and Corridor Restoration,” (EOR).
- 6/18/04** Letter, Juanita Voigt, MnDOT Transportation Planner, to Michele Lindau, Hugo Community Development Director, “Hardwood Creek Repair Mn/DOT Review #EAW04-013.”
- 6/22/04** Letter, Phyllis Hanson, Metropolitan Council, to Theresa Stasica, RCWD, “Rice Creek Watershed District Environmental Assessment Worksheet (EAW) Hardwood Creek/Judicial Ditch #2 Official Profile Repair and Corridor Restoration.”
- 6/23/04** Letter, Kathleen Wallace, DNR Regional Director, to Steve Hobbs, RCWD, “Hardwood Creek/Judicial Ditch #2 Official Profile Repair and Corridor Restoration Environmental Assessment Worksheet.”
- 6/23/04** James Sullivan, MPCA, to Theresa Stasica, RCWD, “Comments on the Hardwood Creek/Judicial Ditch #2 Official Profile Repair and Corridor Restoration Environmental Assessment Worksheet.”
- 6/23/04** Letter, Jyneen Thatcher, Washington Conservation District, to RCWD “Hardwood Creek/JD2 EAW.”
- 6/24/04** Memorandum, Henry Van Offelen, MCEA, to Janette Brimmer, “Hardwood Creek/JD2 repair.”

- 6/28/04 Letter, Janette Brimmer, MCEA, to Theresa Stasica, RCWD, “Environmental Assessment Worksheet, Hardwood Creek/Judicial Ditch No. 2, Official Profile Repair and Corridor Restoration.”**
- 7/28/04 Memorandum, Lee Daleiden, RCWD Inspector, to RCWD Board of Managers, “Hardwood Creek/JD#2 Inspection.”**
- 8/12/04 Letter, Brad Moore, DNR, to RCWD Board of Managers.**
- 8/17/04 Memorandum, Pete Willenbring, WSB, to Steve Hobbs, RCWD, “Review of Environmental Assessment Worksheet for Hardwood Creek/Judicial Ditch No. 2 Official Profile Repair and Corridor Restoration.”**
- 8/20/04 Memorandum, EOR, “Response to Comments on EAW for Hardwood Creek/Judicial Ditch #2 Official Profile Repair and Corridor Restoration.”**
- 8/25/04 Rice Creek Watershed District Board of Managers Resolution No. 04-11, “Resolution Ordering Preparation of an Environmental Impact Statement, Initiation of the EIS Scoping Process, and Completion of the Repair Report.”**
- 8/25/04 “RCWD Hardwood Creek/JD2 Project – Additional Findings of Fact as to Need for Environmental Impact Statement (Proposed).”**
- 9/01/04 Letter, James Leroux, RCWD Manager, to Brad Moore, DNR.**
- 9/08/04 Memorandum, Lee Daleiden, RCWD, to Board of Managers and Steve Hobbs, “Branch 2 of Judicial Ditch #2/Hardwood Creek.”**
- 9/16/04 Letter, Steve Hobbs, RCWD, to Brad Moore, DNR.**
- Fall 2004 “Cattails” newsletter (excerpt).**
- 9/28/04 Memorandum, Jason Naber, EOR, to Brett Emmons, “Hardwood Creek Wetland Lateral Effect Calculations and Wetland Impact Analysis Methodology.”**
- 9/28/04 Letter, Fran Miron, Mayor, City of Hugo, to Steve Hobbs, RCWD, “Updated Comments on Position of Hugo City Council Regarding JD2 Restoration Project and Review of Environmental Assessment Worksheet” (attaching 9/28/04 memorandum from WSB & Associates to Hugo City Council).**
- 9/29/04 Notice, “RCWD Board of Managers EIS Scoping Meeting, Hardwood Creek Repair, Restoration and Rehabilitation Project.”**

- 9/30/04** Memorandum, David Grigal to Jason Naber, EOR, “Issues at Hardwood Creek.”
- 10/04/04** Letter, Janette Brimmer, MCEA, to Steve Hobbs, RCWD, “Hardwood Creek Official Profile Restoration and Corridor Rehabilitation; Draft EIS Scoping Decision Document.”
- 10/04/04** Letter, Michael and Teresa Bredahl to Steve Hobbs and RCWD Board of Managers.
- 10/05/04** Letter, Brad Moore, DNR, to Steve Hobbs, RCWD.
- 10/13/04** Letter, Tim Larson, Hydrologist and Joe Magner, Senior Hydrologist, MPCA, to Steve Hobbs, RCWD, “Washington County Judicial Ditch #2 -- Hardwood Creek.”
- 10/29/04** “Washington County Judicial Ditch # 2 Repair Report” (EOR).
- 11/09/04** Letter, Michael Grochala, City of Lino Lakes, to Steve Hobbs, RCWD, “JD2/Hardwood Creek Rehabilitation Project” (enclosing City of Lino Lakes Resolution No. 04-173).
- 11/09/04** Letter, R. H. Stafford, Chair, Washington County Board of Commissioners, to Steve Hobbs, RCWD, “Public Hearing addressing the Washington County Judicial Ditch #2 Repair Report” (enclosing County Board Resolution 2004-127).
- 11/10/04** Memorandum. Ed Matthiesen, Wenck Associates, to Steve Hobbs, “Washington County Judicial Ditch 2 Repair.”
- 11/10/04** Letter, Brad Moore, DNR, to Andrew Cardinal, RCWD, “Hardwood Creek/Judicial Ditch 2 Engineers Report & Hearing.”
- 11/14/04** Letter, Margaret Waller, Edward Waller and John Waller to RCWD Board of Managers, “Comments on Rice Creek Watershed District Hardwood Creek/Judicial Ditch No. 2 Rehabilitation and Repair Report, and Engineer’s Repair Report Public Hearing of November 10, 2004.”
- 11/15/04** Letter, Michael Ericson, Hugo City Administrator, to Steve Hobbs, RCWD, “Review of Washington County JD2 Repair Report dated October 29, 2004” (enclosing City Resolution 2004-83 and 2/25/04 letter from Hobbs to Willenbring).
- 11/16/04** Memorandum, Wayne LeBlanc, Peltier Lake Association Chairman, to Rice Creek Watershed District, “Stable Stream Rehabilitation Comments.”

- 11/16/04 Letter, Sandy Verry, Ellen River Partners, to Brett Emmons, Emmons & Olivier Resources.
- 11/16/04 Email, Brett Emmons, Emmons & Olivier, to Chuck Holtman, Smith Parker, “HWC errata” (attaching 11/9/04 email communication between Kent Brander and Brett Emmons).
- 11/17/04 Memorandum, Steve Hobbs, RCWD, to Board of Managers, “Resolutions from Hugo and Washington County re. JD2” (attaching Washington County resolution).
- 11/17/04 Letter, Daniel Huff, Friends of the Mississippi River, to Andrew Cardinal, RCWD (with attachments).
- 11/17/04 Letter, Dale Homuth, DNR, to Andrew Cardinal, RCWD, “Hardwood Creek/Judicial Ditch 2 Engineers Report; Additional Testimony.”
- 11/17/04 Letter, Jeffrey A. Gruett to RCWD Board of Managers, “Branch #2 of JD2 -- South of Co. Rd. 8.”
- 11/17/04 Email, Connie Grundhofer to Harvey Karth, “Hardwood Creek/JD2.”
- 11/18/04 Letter, Michael Grochala, City of Lino Lakes, to Andrew Cardinal, RCWD, “JD2/Hardwood Creek Rehabilitation Project.”
- 11/19/04 Email, Sheryl Bolstad to Harvey Karth, “Please Restore Hardwood Creek.”
- 11/19/04 Letter; Les Lemm, BWSR, to Andrew Cardinal, RCWD, “Judicial Ditch 2 Engineer’s Report.”
- 11/19/04 Memorandum, Marcey Westrick and Brett Emmons, EOR, to RCWD Board of Managers, “Clarifications of the Repair of Judicial Ditch 2 downstream of Highway 61 and Lateral Branches.”
- 11/19/04 Memorandum, Marcey Westrick and Brett Emmons, EOR, to RCWD Board of Managers, “Ellen River Partners Memo (Sandy Verry).”
- 11/19/04 Letter, Beverly and Curtis Proud to RCWD, “Hardwood Creek/Judicial Ditch 2.”
- 11/20/04 Memorandum, Marcey Westrick and Brett Emmons, EOR, to RCWD Board of Managers, “Public Hearing Written Comment Clarifications.”
- 11/23/04 Letter, James Frost, Metropolitan Council, to Steve Hobbs, RCWD (unsigned).

- 11/23/04 Anoka County Board Resolution 2004-159.**
- 11/24/04 Letter, Scott Lund, City of Fridley, to Andrew Cardinal, RCWD.**
- 11/24/04 Letter, Jon Olson, Anoka County, to Steve Hobbs, RCWD.**
- 11/30/04 Memorandum, Brett Emmons, Elizabeth Keefner and John Barry, EOR, to Steve Hobbs, RCWD, “Summary of Soil Boring Findings for Hardwood Creek, Rice Lake to Highway 61” (with attachments).**
- 12/01/04 Letter, Brad Moore, DNR, to Andrew Cardinal, RCWD, “Hardwood Creek/Judicial Ditch 2 Engineers Report; Alternative 4.”**
- 12/02/04 Letter, Teresa Bender, City of Centerville, to RCWD Board of Managers.**
- 12/06/04 Agenda, Hugo City Council.**
- 12/08/04 Memorandum, Carl Almer and Marcey Westrick, EOR, to Board of Managers, “Concept Rehabilitation Plan for HWC/JD2 Downstream of U.S. Highway 61.”**
- 12/08/04 “Concept Rehabilitation Plan – Hardwood Creek Downstream of Highway 61” (EOR).**
- 12/08/04 Memorandum, Brett Emmons, Elizabeth Keefner and John Barry, EOR, to Steve Hobbs, “Summary of Soil Boring Findings for JD2 Hardwood Creek – Rice Lake to Highway 61.”**
- 12/09/04 Memorandum, Steve Hobbs, RCWD, to Board of Managers, “Draft Findings for Hardwood Creek/JD2 Repair Petition.”**
- 12/09/04 Letter, Michael Ericson, City of Hugo, to Steve Hobbs, RCWD.**
- 12/10/04 Letter, Les Lemm, BWSR, to Steve Hobbs, RCWD, “Judicial Ditch 2 alternatives.”**
- 12/13/04 Letter, Michael Ericson, City of Hugo, to Steve Hobbs, RCWD, “JD2/Hardwood Creek Project.”**
- 12/15/04 Email, Sandy & Ellen Verry to Brett Emmons, “Soil Boring Findings/Summary” (w/attachment).**

Various dates Minutes, RCWD Board of Managers Meetings.

Various dates Aerial photographs, Rice Lake, 1936-2003 (Historical Information Gatherers, Inc.).

- Undated** “Washington County Official Highway Maps” (Rice Lake, 1975 and 2001).
- Undated** “Significant Habitat Definition Considerations” (no author).
- Undated** “Potential Impacts of JD2 on Paul Hugo Farms & Hardwood Creek Wildlife Management Areas,” Bob Welsh, North Metro Area Wildlife Manager (with attachments).
- Undated** Letter, Dave Schumann to RCWD Board and Staff (w/attachments).
- Undated** “EQB Monitor 5 – Vol. 28, No. 24 – Notice of EIS Scoping Decision and EIS Preparation – Hardwood Creek Official Profile Restoration and Corridor Rehabilitation.”
- Undated** “Ditch Criteria for Decision Making” (no author).
- Undated** Steve McComas, Blue Water Science, “Comfort Lake, Chisago County Phase I Resource Investigation – A Clean Water Partnership Project” (excerpt).
- Undated** Minnesota Conservation Department list of lakes in Washington County.
- Undated** “JD 2/Hardwood Creek Subwatershed Management Plan.”