RED LAKE WATERSHED DISTRICT
Monday, June 24, 2019
Agenda
9:00 a.m.

9:00 a.m.	Call to Order	Action
	Review and approve agenda	Action
	Requests to appear	Information
	June 13, 2019 Minutes	Action
	Financial Report dated June 21, 2019 HDR Engineering, Inc.-Invoice	Action Action
9:10 a.m.	East Polk SWCD-Funding Request	Info./Action
9:30 a.m.	Continuation Hearing for Thief River Falls Westside FDR Project, RLWD Project No. 178	Info./Action
	Capital Projects Budget	Information
	Black River Impoundment, RLWD Project No. 176	Information
	Ditch 16, RLWD Project No. 177	Information
	Improvement to Polk County Ditch 39, RLWD Project No. 179 Viewers Contract	Action
	Managers Fees	Info./Action
	Non-Permitted Work-Red Lake County Update	Information
	Permits: No. 19057-19058, 19060-19063	Action
	Loren Sanderson Retirement Letter	Action
	Administrators Update	Information
	Legal Counsel Update	Information
	Managers' updates	Information
	Adjourn	Action

UPCOMING MEETINGS

June 26-28, 2019	2019 MAWD Summer Tour
July 4, 2019	Office Closed-Independence Day
July 11, 2019	RLWD Board Meeting, 9:00 a.m.
July 25, 2019	RLWD Board Meeting, 9:00 a.m.

DRAFT

RED LAKE WATERSHED DISTRICT
Board of Manager's Minutes
June 13, 2019

President Dale M. Nelson called the meeting to order at 9:00 a.m. at the Red Lake Watershed District Office, Thief River Falls, MN.

Present were: Managers Dale M. Nelson, Gene Tiedemann, Terry Sorenson, LeRoy Ose, Brian Dwight and Les Torgerson. Absent: Allan Page. Staff Present: Myron Jesme and Tammy Audette and Legal Counsel Delray Sparby.

The Board reviewed the agenda. A motion was made by Ose, seconded by Tiedemann, and passed by unanimous vote that the Board approve the agenda. Motion carried.

The Board reviewed the May 23, 2019 minutes. Motion by Sorenson, seconded by Tiedemann, to approve the May 23, 2019 Board meeting minutes as presented. Motion carried.

The Board reviewed the June 6, 2019 Special Board meeting minutes. Motion by Tiedemann, seconded by Sorenson, to approve the June 6, 2019 Special Board meeting minutes as presented. Motion carried.

The Board reviewed the Financial Report dated June 12, 2019. Motion by Tiedemann, seconded by Torgerson, to approve the Financial Report dated June 12, 2019 as presented. Motion carried.

Staff member Arlene Novak presented information regarding the renewal of the District's League of Minnesota Cities Property and Casualty Liability insurance and Excess Liability Coverage. Motion by Torgerson, seconded by Ose, to renew the Property and Casualty Liability Coverage with the League of Minnesota Cities, and waive the monetary limits on municipal tort liability to the extent of applicable liability insurance coverage and purchase excess liability coverage in the amount of $2 million. Motion carried.

Discussion was held on the MAWD Summer Tour conflicting with the June 27, 2019 Board meeting date. Motion by Tiedemann, seconded by Ose, to change the June 27, 2019 Board meeting to June 24, 2019 at 9:00 a.m. at the District office. Motion carried. Managers Ose and Dwight indicated that they would be absent on June 24, 2019.

President Nelson stated that the appraisal has not been completed for the Thief River Falls Westside FDR Project, RLWD Project No. 178, therefore the Board will need to continue the hearing after today's hearing. Engineer Nate Dalager, HDR Engineering, Inc., discussed two options for alignment of the project.

The Board reviewed a Petition for Drainage System Modification and Partial Abandonment to be submitted to the Pennington County Board of Commissioners, the legal drainage authority for Pennington County Ditches 1 and 70 for construction of the Thief River Falls Westside FDR Project, RLWD Project No. 178. Motion by Ose, seconded by Dwight, to approve the Petition

for Drainage System Modification and Partial Abandonment for the Thief River Falls Westside FDR Project, RLWD Project No. 178. Motion carried.

Engineer Tony Nordby, Houston Engineering, Inc. stated that he has completed the Final Plan for the Black River Impoundment, RLWD Project No. 176, which will be submitted to the MnDNR-Dam Safety. Nordby discussed working with members of the Technical Evaluation Panel which consists of various permit agencies that administer Wetland Conservation Act. Nordby is assisting in addressing their concerns to wetland impacts, in addition to submitting additional information for potential wetland banking site design. Once the permits are in hand, the District can request funding from the RRWMB.

Administrator Jesme stated that he is working with Staff member Arlene Novak to prepare a Capital Fund Project spreadsheet to present to the Board at the next meeting.

At 9:30 a.m. President Nelson recessed the regular Board meeting and reconvened the Continuation Hearing for the Thief River Falls Westside Flood Damage Reduction, RLWD Project No. 178 Hearing from May 23, 2019 to order. Nelson stated that the hearing was continued to allow the District to Order the Establishment of the Project, establish the Watershed Management District (WMD) fees, and meet with landowners regarding the land appraisal. Nelson stated that the District did not receive the land appraisals as we had expected, therefore it would be proposed that today's hearing be continued to June 24, 2019 at 9:30 a.m. at the District office. President Nelson called upon District Engineer Nate Dalager, HDR Engineering, Inc., to discuss the Water Management District (WMD) boundary. Dalager indicated his recommendation that a certain area will remain in the WMD but will not be assessed as the property in question drains east to the river. Legal Counsel Sparby stated that Legal Counsel John Kolb representing the District, recommended that the Board not take action with the landowners until the Appraisal Report is filed with the Board and presented to the landowners. Sparby indicated that after filing of the appraisal report, the Board will meet with the landowners for negotiation, if they do not meet resolution and agree with the terms or the damage amounts that may be ordered by the Board, the landowner has the right to appeal the damages award. Motion by Ose, seconded by Sorenson to adopt the Findings and Order for Establishment of the Thief River Falls Westside FDR Project, RLWD Project No. 178, and approve the adopting the Water Management District charges and that the Board reserve a decision on the award of damages pending receipt of the appraiser's recommendation, supplemental notice to affected landowners, if necessary, and further public comment on the damage award. Motion carried. Legal Counsel Sparby stated that by adopting this today, this starts the appeal process timeline to the Board for the project establishment and water management district. Motion by Tiedemann, seconded by Torgerson, that the hearing be continued to the Board's regular meeting on June 24, 2019 at 9:30 a.m. at the Red Lake Watershed District office, 1000 Pennington Avenue South, Thief River Falls, MN 56701, for the limited purpose of reviewing and considering the appraiser's report of damage values for permanent and temporary right-of-way, to take public comment on proposed damages award, and to consider a supplemental order adopting and awarding damages. Motion carried.

President Nelson reconvened the regularly scheduled Board meeting.

Administrator Jesme stated that the Red River Retention Authority submitted a letter to the NRCS on May 31, 2019, to end the RCPP process for the Four-Legged Lake Project, RLWD Project No. 102A.

Manager Torgerson discussed the lack of drainage on the Judicial Ditch 5, RLWD Project No. 102 system. Administrator Jesme indicated that we have had concerns raised about water levels and that District staff are working with Engineer, Dan Sauve, Clearwater County Highway Department, regarding the removal of beaver and beaver dams at the inlet of the culvert under the old railroad grade. Staff has been completing weekly monitoring of the staff gage at the outlet end of the system. Sauve has indicated that the township is complaining that the water is too high on the township road.

The Board reviewed a letter from landowner Dennis Ptacek, regarding the Thief River Falls Westside FDR Project, RLWD Project No. 178. Administrator Nelson stated that he will contact Mr. Ptacek.

Administrator Jesme stated the he will be meeting with Engineer, Jerry Pribula, Pribula Engineering, Inc., and the Viewers, for the Improvement to Polk County Ditch 39, RLWD Project No. 179, on June 17th, in order to begin the process of the Viewer's Report.

Administrator Jesme noted that CenturyLink has been contacted by Pribula Engineering for the construction of RLWD Ditch 16, RLWD Project No. 177, but due to the lack of staff and timing, we are really not satisfied with them in addressing the timeline or interest in working with us concerning their fiber optic cable located within the ditch system right-of-way. Jesme stated that it is still hoped that the culvert through Highway 220 will be installed by August.

Manager Sorenson excused himself from the meeting.

Staff member Loren Sanderson discussed the release of water from the Brandt Impoundment and Euclid East Impoundment after storing water from the spring flood event. Gates were closed on both impoundments on April 6th with the release of water starting on April 22nd. Sanderson indicated that due to downstream conditions, the release of water was extremely slow, with water being stored for approximately 10 weeks. Discussion was held on the possibility of obtaining flowage easements or installation of berms to allow for a quicker release of water. Manager Tiedemann suggested the possibility of portions of real property participating in RIM or CRP. The District would need to determine downstream trigger points when releasing water. Discussion was held on paying for crop damage for downstream landowners for the release of water this spring. Motion by Torgerson, seconded by Dwight, to authorize staff to survey the downstream area that received crop damage for the Euclid East Impoundment, RLWD Project No. 60C and the Brandt Impoundment, RLWD Project No. 60D, and report back to the Board with the amount of acreage damaged to determine a per acre value for damages. Motion carried, with Manager Tiedemann abstaining. Manager Tiedemann stated that he would like to investigate an area downstream of the Brandt Impoundment, near the Lois Glass property, where water can possibly leave the outlet channel. Sanderson stated that the Brandt Impoundment has been drained, and the Euclid East Impoundment is close. Local contractors are in the process of clearing debris from the spring flood.

Staff member Loren Sanderson stated that he has been working with several landowners for ring dike assistance. Administrator Jesme stated that the RRWMB has available funding from the State of Minnesota.

Administrator Jesme discussed the possibility of incorporating additional Viewers into Northern Minnesota. Jesme stated that the Roseau River Watershed District have a few individuals that would be interested in learning the viewing process. Jesme requested the hiring of an additional viewer as a trainee. The trainee wages would be $30 per hour but would not be billed to the project being viewed. Rob Wagner who will be the lead viewer for the Improvement to Polk County Ditch 39, RLWD Project No. 179, is willing to mentor the additional viewer. Motion by Tiedemann, seconded by Ose, to authorize the hiring of a trainee viewer at an hourly rate of $30.00, to be paid from the District's Capital Funds. Motion carried.

The Board reviewed a quote in the amount of $1,268.05 from Engineer Supply for the purchase of 20 – 4' wide unnumbered stream gauges. Motion by Ose, seconded by Tiedemann, to authorize the purchase of stream gauges in the amount of $1,268.05 from Engineer Supply. Motion carried.

Administrator Jesme requested the purchase of an iPad to assist staff for culvert inventory. Motion by Tiedemann, seconded by Dwight, to authorize staff to purchase an iPad in the amount of $560.00. Motion carried.

Administrator Jesme stated that after further reviewing RLWD Permit No. 19103, Dan Johnson, Huntsville Township, Polk County, that was previously denied, staff is recommending approval of the permit with conditions. Motion by Tiedemann, seconded by Dwight, to rescind the motion to deny RLWD Permit No. 19103 at the May 9, 2019, authorizing the approval of the permit with conditions stated on the permit. Motion carried.

The Board reviewed the permits for approval. Motion by Ose, seconded by Torgerson, to approve the following permits with conditions stated on the permit: No. 19042, Polk County Highway Department, Andover Township; No. 19043, Polk County Highway Department, Fanny Township; No. 19044, Dennis Schulz, Euclid Township, Polk County; No. 19046, Kevin Lien, Roome Township, Polk County; No. 19047, Noel Joppru, North Township, Pennington County; No. 19048, John McDonald, Nesbit Township, Polk County; No. 19049, Grove Park/Tilden Township, Polk County; No. 19050 and 19051, Red Lake County Highway Department, Terrebonne Township; No. 19052, Chad Lian, Moylan Township, Marshall County; 19053, Minnesota Department of Natural Resources, Moylan Township, Marshall County; No. 19054, John Jeffrey, Huntsville Township, Polk County; No. 19055, Moylan Township, Marshall County; and No. 19056, Gary Roisland, Kratka Township, Pennington County. Motion carried.

Staff member Tammy Audette requested revising the internal office permitting process after the Board has acted on a permit. Audette stated that with the current permit data base the District is using, the database generates a status report that could be given to the applicant once the permit is acted on by the Board, which would save staff time not to have to manually type up the report.

The revision would require some additional programming on the District's permit data base from Houston Engineering, Inc. Motion by Torgerson, seconded by Tiedemann, to approve the request presented to update the District's permit database. Motion carried.

Administrator Jesme stated that it is the 50th Anniversary of the District. The District was contacted by BWSR, inquiring if the District was planning any event to celebrate the milestone. It was the consensus of the Board, to give the item some consideration and to discuss the matter at a later meeting. At a minimum, a Public Announcement would be made stating the accomplishments of the District.

Administrators Report:

- Jesme and Manager Ose will attend the RRWMB meeting in Ada on June 18th and a RRWMB Budget and salary Committee meeting in Moorhead on June 26th.
- Included in the packet was a January 2019 Water Quality Report.

Discussion was held on the hearing Pennington County will hold for the partial abandonment and relocation of ditches as it relates to the Thief River Falls Westside FDR Project, RLWD Project No. 178. Discussion was held on the permitting process with Corps and FAA.

Legal Counsel Sparby stated that the Four-Legged Lake, RLWD Project No. 102A hearing has been rescheduled for July 24, 2019.

Discussion was held on forming a committee to review the Appraisal for the Thief River Falls Westside FDR Project, RLWD Project No. 178, prior to the June 24, 2019 continuation hearing. Motion by Dwight, seconded by Tiedemann, to appoint Managers Nelson and Ose, Administrator Jesme and Engineer, Nate Dalager, to work with the landowners on the alignment and appraisal, once the appraisal is received, and report back to the Board with a recommendation. Motion carried.

Administrator Jesme stated that the four new computers were recently installed for District staff.

Discussion was held on the review of the Thief River 1W1P Plan. Administrator Jesme stated that the Planning Work Group is currently reviewing the document. Once the review is complete the document will be submitted the Policy and Advisory Committees, with a potential meeting date of July 31st.

Manager Ose discussed items presented to the RRWMB Human Resources committee.

Manager Torgerson expressed his gratitude on the NRCS grant extension for the Pine Lake Area Project, RLWD Project No. 26.

Manager Torgerson discussed irrigation pumps in the Oklee area.

Motion by Tiedemann, seconded by Torgerson, with motion carried to recess to a scheduled meeting date and time on June 24, 2019 at 9:00 a.m. at the Red Lake Watershed District office with the continued public hearing starting at 9:30 am. Motion carried.

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Terry Sorenson, Secretary

RED LAKE WATERSHED DISTRICT
Financial Report for June 23, 2019

Ck#	Check Issued to:	Description	Amount
online	EFTPS	Withholding for FICA, Medicare, and Federal taxes	4,186.38
online	MN Department of Revenue	Withholding taxes	771.98
online	Public Employees Retirement Assn.	PERA contributions	2,766.98
online	EFTPS	Withholding for FICA, Medicare, and Federal taxes	308.20
online	MN Department of Revenue	Withholding taxes	50.00
37541	Eazy Pack N Ship	Shipment of water quality equipment	27.92
37542	Martin Audette	Mow lawn in May	560.00
37543	Tammy Audette	Reimburse for 5 Black office tables	268.02
37544	Cenex	Gas for vehicles	232.17
37545	Crookston Times Printing	Amendment for inclusion of Water Management Districts ad	75.30
37546	Exponent	Amendment for inclusion of Water Management Districts ad	120.84
37547	Further	FSA account fees	8.85
37548	HDR, Inc.	Engineering fees for Pine Lake FDR Project	3,569.87
37549	Landman Publishing, LLC	Amendment for inclusion of Water Management Districts ad	27.60
37550	League of Minnesota Cities	Workers Compensation premium for 2019-2020	3,216.00
37551	Marco	*See below	6,618.09
37552	Oil Boyz Express Lube	Oil change on 2015 Ford pickup	48.32
37553	RMB Environmental Laboratories	Lab analysis of water quality samples	3,658.00
37554	TrueNorth Steel	4 Waterman gates for Brandt Channel Project	3,850.00
direct	Blue Cross Blue Shield	Health insurance premium	4,703.00
online	Cardmember Services	**See below	2,914.65
online	Les Torgerson	Mileage	278.98
online	Further	Medical FSA	20.00
	Payroll		
	Check #11686-11695		13,535.47
	Total Checks		$ 51,816.62

*** Marco**

3 HP desktop computers & freight	3,064.65
1 HP laptop computer,6 monitors & ca	2,363.44
Setup 3 desktops and 1 laptop compu	1,190.00
Total	6,618.09

**** Cardmember Services**

Onset-Replace sensor cap on wq equ	461.60
AT&T-cell phone bill	303.31
Forestry Supplies-3 water level logger	1,382.33
Pennington Square-10 prepaid car wa	106.66
Sundance/Quality Inn-TRWestside he	560.75
MN NDR-Permit fee-TRF Westside	100.00
Total	2,914.65

Banking

Northern State Bank

Balance as of June 12, 2019	$ 2,365,978.26
Total Checks Written	(51,816.62)
Balance as of June 23, 2019	$ 2,314,161.64

Border State Bank

Balance as of April 30, 2019	$ 18,231.98
Receipt #414560 Border State Bank-Monthly interest	9.26
Balance as of May 31, 2019	$ 18,241.24

American Federal Bank-Fosston

Balance as of June 12, 2019	$ 2,569,124.25
Receipt #414563 Roseau County-Current tax settlement	250.04
Receipt #414564 Marshall County-Delinquent taxes	3,572.59
Receipt #414565 Marshall County-Special assessments	13,464.28
Balance as of June 23, 2019	$ 2,586,411.16

INSPECTION PLAN
WATER & SEDIMENT BASINS
for
David Landsverk - Brandsvold 26

A. GENERAL

The work to be accomplished on this project consists of:

1. common excavation
2. construction of earthen berm and earthfill
3. pipe installation

A preconstruction conference will be held prior to the start of work to review the drawings and specifications, staking, materials, inspections, safety, utilities, and issues that need clarification. The owner, contractor, inspectors and engineer should attend. The RRVCSA staff and East Polk SWCD staff shall be notified a minimum of 3 days prior to preconstruction meeting.

B. ITEMS OF WORK TO BE INSPECTED

Common Excavation

Periodic inspection will be required for site preparation.

Earthen Berm

Periodic inspection will be required for construction of earthen berm.

Pipe Installation

Periodic inspection will be required for pipe installation. No backfilling of pipe will be allowed until construction inspection personnel have documented pipe placement and elevations.

C. PERSONNEL RECOMMENDATIONS

It is recommended that the RRVCSA staff and/or East Polk SWCD staff be responsible for construction inspection.

Prepared and recommended by:

Date _____

_____
James Hest, PE
Conservation Engineer
RRVCSA

Bid Sheet

Producer: David Landsverk

County: East Polk

Township: Brandsvold

Section: 26

Engineering Practices: Water & Sediment Control Basin - PS 638
Subsurface Drain - PS 606
Underground Outlet - PS 620

ITEM	QUANTITY	UNIT COST		TOTAL COST
Embankment Earthfill	1300		cu yd	
8" Riser	3		each	
12" Riser	1		each	
24" CMP w/Animal Guard	1		ls	
8" Dual Wall Tile NP Tile	20		ln ft	
10" Dual Wall PF/NP Tile	210		ln ft	
12" Dual Wall NP Tile	10		ln ft	
12" Dual Wall PF/NP Tile	500		ln ft	
15" Dual Wall NP Tile	600		ln ft	
15" Dual Wall PF/NP Tile	1100		ln ft	

Total

Cost Estimate

Producer: David Landsverk
County: East Polk
Township: Brandsvold
Section: 26
Engineering Practices: Water & Sediment Control Basin - PS 638
Subsurface Drain - PS 606
Underground Outlet - PS 620

ITEM	QUANTITY	UNIT COST		TOTAL COST
Embankment Earthfill	1300	$5.00	cu yd	$6,500.00
8" Riser	3	$350.00	each	$1,050.00
12" Riser	1	$500.00	each	$500.00
24" CMP w/Animal Guard	1	$520.00	ls	$520.00
8" Dual Wall Tile NP Tile	20	$8.00	ln ft	$160.00
10" Dual Wall PF/NP Tile	210	$10.00	ln ft	$2,100.00
12" Dual Wall NP Tile	10	$15.00	ln ft	$150.00
12" Dual Wall PF/NP Tile	500	$15.00	ln ft	$7,500.00
15" Dual Wall NP Tile	600	$25.00	ln ft	$15,000.00
15" Dual Wall PF/NP Tile	1100	$25.00	ln ft	$27,500.00
			Subtotal:	$60,980.00
			20%	$12,196.00
			Total	$73,176.00

RED RIVER VALLEY CONSERVATION SERVICE AREA

CONSTRUCTION SPECIFICATIONS

FOR

DAVID LANDSVERK

WATER & SEDIMENT BASINS

SEC 26 T 148 N R 40 W

BRANSVOLD TOWNSHIP

EAST POLK SOIL AND WATER CONSERVATION DISTRICT

David Landsverk – Brandsvold 26

Water & Sediment Basins

CONSTRUCTION SPECIFICATIONS

Minnesota Construction Specifications

MN-5	Pollution Control
MN-44	Corrugated Polyethylene Tubing
MN-51	Corrugated Metal Pipe
MN-254	Water and Sediment Control Basin

Minnesota Material Specifications

MN-548	Corrugated Polyethylene Tubing
MN-551	Coated Corrugated Steel Pipe

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

JAMES HEST

_____

Signature

Date: April 8, 2019 Registration No. 24511

Minnesota Construction Specification 5—Pollution Control

1. Scope

The work consists of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air from construction activities.

2. Material specification

All material furnished shall meet the requirements of the material specifications listed in section 7 of this specification.

3. Erosion and sediment control measures and works

The measures and works shall include, but are not limited to, the following:

Staging of earthwork activities—The excavation and moving of soil materials shall be scheduled to minimize the size of areas disturbed and unprotected from erosion for the shortest reasonable time.

Seeding—Seeding to protect disturbed areas shall occur as soon as reasonably possible following completion of that earthwork activity.

Mulching—Mulching to provide temporary protection of the soil surface from erosion.

Diversions—Diversions to divert water from work areas and to collect water from work areas for treatment and safe disposition. They are temporary and shall be removed and the area restored to its near original condition when the diversions are no longer required or when permanent measures are installed.

Stream crossings—Culverts or bridges where equipment must cross streams. They are temporary and shall be removed and the area restored to its near original condition when the crossings are no longer required or when permanent measures are installed.

Sediment basins—Sediment basins collect, settle, and eliminate sediment from eroding areas from impacting properties and streams below the construction site(s). These basins are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

Sediment filters—Straw bale filters or geotextile sediment fences trap sediment from areas of limited runoff. Sediment filters shall be properly anchored to prevent erosion under or around them. These filters are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

Waterways—Waterways for the safe disposal of runoff from fields, diversions, and other structures or measures. These works are temporary and shall be removed and the area restored to its original condition when they are no longer required or when permanent measures are installed.

Other—Additional protection measures as specified in section 7 of this specification or required by Federal, State, or local government.

4. Chemical pollution

The contractor shall provide watertight tanks or barrels or construct a sump sealed with plastic sheets to dispose of chemical pollutants, such as drained lubricating or transmission fluids, grease, soaps, concrete mixer washwater, or asphalt, produced as a by-product of the construction activities. At the completion of the construction work, sumps shall be removed and the area restored to its original condition as specified in section 7 of this specification. Sump removal shall be conducted without causing pollution.

Sanitary facilities, such as chemical toilets, or septic tanks shall not be located next to live streams, wells, or springs. They shall be located at a distance sufficient to prevent contamination of any water source. At the completion of construction activities, facilities shall be disposed of without causing pollution as specified in section 7 of this specification.

5. Air pollution

The burning of brush or slash and the disposal of other materials shall adhere to state and local regulations.

Fire prevention measures shall be taken to prevent the start or spreading of wildfires that may result from project activities. Firebreaks or guards shall be constructed and maintained at locations shown on the drawings.

All public access or haul roads used by the contractor during construction of the project shall be sprinkled or otherwise treated to fully suppress dust. All dust control methods shall ensure safe construction operations at all times. If chemical dust suppressants are applied, the material shall be a commercially available product specifically designed for dust suppression and the application shall follow manufacturer's requirements and recommendations. A copy of the product data sheet and manufacturer's recommended application procedures shall be provided to the engineer 5 working days before the first application.

6. Maintenance, removal, and restoration

All pollution control measures and temporary works shall be adequately maintained in a functional condition for the duration of the construction period. All temporary measures shall be removed and the site restored to near original condition.

7. Construction details

Locate topsoil or other temporary stockpiles of soil in locations where they will not be subject to erosion from concentrated flow.

When permanent vegetation must be disturbed, limit the area of disturbance to the minimum required for the project.

Minnesota Construction Specification 44—*Corrugated Polyethylene Tubing*

1. Scope

The work consists of furnishing and installing tubing and the necessary fittings and appurtenances as shown on the drawings and as outlined in this specification.

2. Material specifications

Corrugated polyethylene tubing and fittings shall conform to the material requirements as outlined in Material Specification 548, Corrugated Polyethylene Tubing.

When perforations are specified, the water inlet area shall be a minimum of 1 square inch per lineal foot of tubing. The inlets either shall be circular perforations or slots equally spaced along the length and circumference of the tubing. Unless otherwise specified, circular perforations shall not exceed 3/16 inch in diameter, and slot perforations shall not be more that 1/8 inch wide.

Geotextile filter socks, when required, shall meet the material requirements outlined in section 8 of this specification.

Granular bedding material, when specified, shall conform to the requirements specified in section 8 of this specification.

The tubing shall be appropriately marked with ASTM or AASHTO designation.

3. Handling and storage

Tubing shall be delivered to the job site and handled by means that provide adequate support to the tubing and do not subject it to undue stresses or damage. When handling and placing corrugated polyethylene tubing, care shall be taken to prevent impact blows, abrasion damage, and gouging or cutting (by metal edges and/or surface or rocks). The manufacturer's special handling requirements shall be strictly observed. Special care shall be taken to avoid impact when the pipe must be handled at a temperature of 40 degrees Fahrenheit or less.

Tubing shall be stored on a relatively flat surface so that the full length of the tube is evenly supported. Unless the tube is specifically manufactured to withstand exposure to ultraviolet radiation, it shall be covered with an opaque material when stored outdoors for 15 days or longer.

4. Excavation

Unless otherwise specified or approved by the engineer, excavation for and subsequent installation of each tube line shall begin at the outlet end and progress upgrade. The trench or excavation for the tubing shall be constructed to the lines, depths, cross sections, and grade shown on the drawings.

Trench shields, shoring and bracing, or other suitable methods necessary to safeguard the contractor's employees and the works of improvement and to prevent damage to the existing improvements shall be furnished, placed, and subsequently removed by the contractor.

5. Preparing the tubing bed and blinding the tubing

When a filter or envelope is specified, the shape of the bottom of the trench, gradation, and the thickness of the filter or envelope material to be placed around the tubing shall be as shown on the drawings or as specified in this specification. The filter or envelope material shall be placed in the bottom of the trench just prior to the laying of the tubing. The tubing shall then be laid and the filter

or envelope material placed over the tubing as shown in Figures 4-6a, 4-6b or 4-6c. Unless otherwise specified in Section 10 or on the drawings, the gradation of the envelope material shall be:

Sieve Size	% Passing
1 ½"	100
No. 60	= 30
No. 200	= 5

Aggregates meeting the requirements for MNDOT 3126, Fine Aggregate for Portland Cement Concrete or ASTM C33, Fine Aggregate for concrete are acceptable.

When a granular filter or envelope is not specified, the bottom of the trench shall be shaped to form a semicircular or trapezoidal groove in its center. This groove shall provide support for not less than a fourth of the outside circumference of the tubing. After the tubing is placed in the excavated groove, it shall be capped with friable material from the sides of the trench. The friable material shall be placed around the tubing, completely filling the trench to a depth of at least 3 inches over the top of the tubing. For material to be suitable, it must not contain hard clods, rocks, frozen soil, or fine material that will cause a silting hazard to the drain.

Tubing shall not be laid on rock foundation. In the event that boulders, rocks or ledge rock, or cemented materials that prevent satisfactory bedding are encountered at the required grade, the trench shall be excavated to a depth of at least 6 inches below grade and backfilled to grade with a sand-gravel mixture or other approved material. The bedding material shall be compacted and shaped to grade.

"Mole" type installation of corrugated tubing is an acceptable method. The bedding requirements shall be met.

Tubing placed during any day shall be blinded (place required soil material around and over pipe) and temporarily capped before construction activities are completed for that day.

6. Placement and joint connections

All tubing shall be installed to grade as shown on the drawings. After the tubing is placed in the trench and blinded, allow sufficient time for the tubing to adapt to the soil temperature before backfilling.

Maximum allowable stretch of the tubing is 5 percent. Special precautions must be implemented on hot, bright days to ensure that the stretch limit is not exceeded and excessive deflection does not occur as a result of installation procedures, including backfill operations.

Unless otherwise specified in section 8 of this specification or shown on the drawings, connections are made with manufactured junctions comparable in strength with the specified tubing. All split fittings shall be securely fastened with nylon cord or plastic zip ties before any backfill is placed. All buried ends shall be supplied with end caps unless otherwise approved by the engineer.

Where existing tile lines not shown on the drawings are crossed, they shall be bridged across the new trench or they shall be connected into the new tile lines, as directed by the engineer.

7. Backfilling

Unless otherwise specified in section 8 of this specification, the backfilling of the trench shall be as shown on the drawings and completed as rapidly as is consistent with the soil conditions. Automatic backfilling machines may be used only when approved by the engineer. Backfill shall extend above the ground surface and be well rounded and centered over the trench.

Unless otherwise specified, where tubing is laid under roads, terraces, and at other designated locations shown on the drawings, the backfill shall be placed in successive layers of not more than 6 inches and each layer shall be tamped before the next layer is placed.

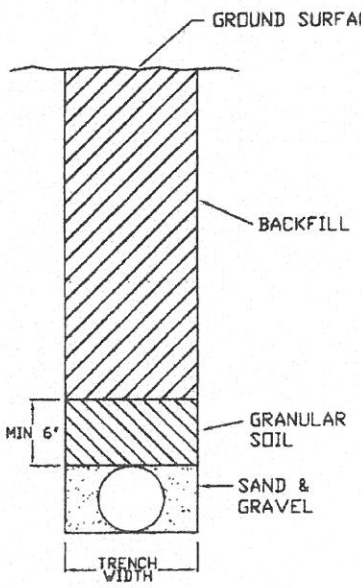


Figure 4-6a. Tubing Encased in Sand and Gravel Envelope for Support.

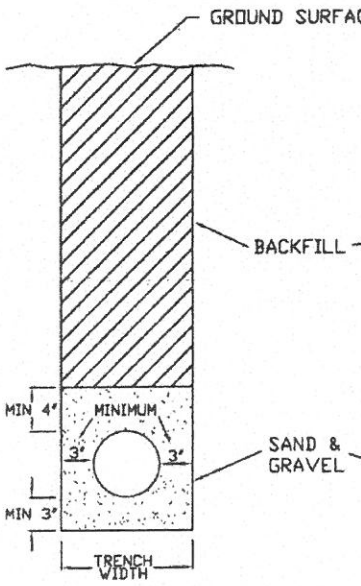


Figure 4-6b. Tubing Encased in Sand and Gravel Envelope Designed as a Filter.

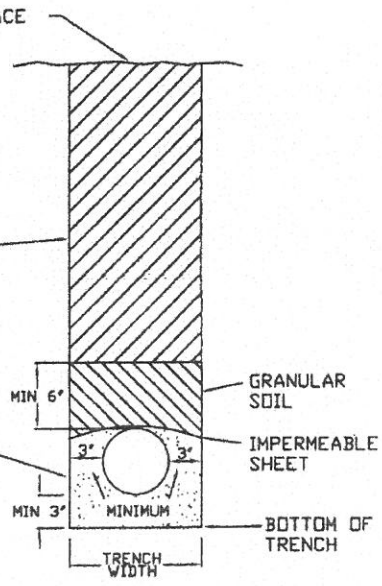


Figure 4-6c. Tubing Encased in Sand and Gravel Envelope Designed as a Filter with an Impermeable Sheet such as Plastic.

8. Construction details

The corrugated polyethylene tubing shall be heavy-duty tubing. The upper end of each drain line shall be capped with a manufactured polyethylene cap.

The tubing trench under the basin ridge shall be sloped to a 1.5 to 1 vertical side slopes or flatter. After tubing has been installed, the trench shall be compacted to it original density. Manual tamping will be required until adequate cover is attained to prevent damage to the tubing.

The minimum depth of cover over the tubing shall be 2.5 feet.

Minnesota Construction Specification 51—Corrugated Metal Pipe

1. SCOPE

The work shall consist of furnishing and placing circular, arched or elliptical corrugated metal pipe and the necessary fittings.

2. MATERIAL SPECIFICATIONS

Pipe and fittings shall conform to the requirements of Material Specification 551 or Material Specification 552, whichever is specified.

Unless otherwise specified in Section 10 of this specification or as shown on the construction drawings, perforated pipe furnished shall meet the requirements for Class I perforations as described in ASTM A 760 or A 762.

3. COUPLING BANDS AND HARDWARE

Pipe joint coupling bands shall be provided meeting the requirements specified in Section 10 or as shown on the construction drawings.

Hardware consisting of coupling bands and band fastening devices such as connecting bolts, rods, lugs and angles used in conjunction with zinc-coated iron or steel pipe shall be galvanized by the hot-dip method. Hardware used in conjunction with aluminum pipe and aluminum or aluminum-zinc alloy-coated iron and steel pipe shall be of the same material as the pipe except that hot-dip galvanized or cadmium plated fasteners may be used. The surface of all band-fastening devices for pipe specified with bituminous or polymer coating shall be coated with asphalt mastic materials meeting the requirements of ASTM A 849. The coupling band shall be coated similar to that specified for the pipe unless otherwise specified in Section 10 or as shown on the construction drawings.

Coupling bands shall be installed to provide straight alignment of the connecting pipe ends. Unless otherwise specified in Section 10 or as shown on the construction drawings, the band width shall be as specified in ASTM A 760 and A 762. The bands shall be positioned to overlap adjacent pipe ends equally. The coupling bands shall be corrugated to match the corrugations of the connecting pipe ends.

4. FABRICATION

Fabrication of appurtenant sections shall be done as shown on the construction drawings and described in Section 10 of this specification. The items may consist of inlet sections, outlet sections, end sections, elbows, skew or beveled sections, rod reinforced ends, cut-off collars, or headwalls. Fabrication of these appurtenant sections shall be made from metallic-coated materials identical to those from which the attached pipe is fabricated. Fabrication shall be of a quality and finished workmanship equal to that required for the pipe.

5. HANDLING THE PIPE

The Contractor shall furnish equipment as necessary to place the pipe without damaging the pipe or coatings. The pipe shall be transported and handled in a manner to prevent damage to the pipe or coating.

6. LAYING AND BEDDING THE PIPE

Unless otherwise specified, the pipe shall be installed in accordance with the manufacturer's recommendations. The pipe shall be laid with the outside laps of circumferential joints pointing upstream and with longitudinal laps at the sides at about the vertical midheight of the pipe.

Field welding of corrugated galvanized iron or steel pipe will not be permitted. The pipe sections shall be joined with fabricator-supplied coupling bands meeting the specified joint requirements. The coupling shall be made as recommended by the fabricator.

The pipe shall be firmly and uniformly bedded throughout its entire length to the depth and in the manner specified on the drawings.

Perforated pipe shall be laid with the perforations down and oriented symmetrically about a vertical center line. Perforations shall be clear of any obstructions at the time the pipe is laid.

The pipe shall be loaded sufficiently during backfilling around the sides to prevent its being lifted from the bedding.

7. STRUTTING

When required, struts or horizontal ties shall be installed in the manner specified on the drawings. Struts and ties shall remain in place until the backfill has been placed above the top of the pipe to a height of 5 feet or the pipe diameter, whichever is the greater, or has been completed if the finished height is less than 5 feet above the top of the pipe; at which time struts or ties used shall be removed by the Contractor.

8. EMBEDMENT IN CONCRETE

Special treatment shall be provided to pipe embedded in or attached to concrete when the pipe is aluminum or aluminum-coated and aluminum-zinc alloy-coated. Potential contact surfaces shall be insulated. All aluminum, aluminum-coated, and aluminum-zinc alloy-coated pipe surfaces in contact with concrete and masonry surfaces shall be coated with two coats of a bituminous paint of the cut-back type. Placement of the pipe shall be such that direct metal-to-metal contact with other metallic materials, such as embedded steel reinforcement or water control gates, is prevented.

9. REPAIR OF DAMAGED COATINGS

Any damage to the metallic coating shall be repaired by cleaning the damaged surface area by sand blasting, power disk sanding or wire brushing. All loose and cracked coating, dirt, and any products of corrosion shall be removed prior to application of two (2) coats of paint. Oil and grease materials shall be removed by use of a solvent. The surface shall be clean and dry during the painting period and until the coating has dried.

Painting shall be by use of one of the following options based upon installed exposure of the pipe as determined by the Engineer:

Normal exterior or interior atmospheric exposure:

a. Zinc dust - zinc oxide primer, Federal Specification TT-P-641, Type I or Type II, or

b. Single-package, moisture-cured urethane primer in silver metallic color, or

c. Zinc-rich cold galvanizing compound, brush, or aerosol application.

Submergence in water exposure:

a. Zinc dust - zinc oxide primer, ASTM D 79 and D 520
b. Zinc dust paint, ASTM D 4146

If the metallic coating is damaged in any individual area larger than 12 square inches, or if more than 0.2 percent of a total surface area of a length of pipe is damaged, the length will be rejected.

Breaks or scuffs in bituminous coatings that are less than 36 square inches in area shall be repaired by the application of two coats of hot asphaltic paint or a coating of cold-applied bituminous mastic. The repair coating shall be at least 0.05 inches thick after hardening and shall bond securely and permanently to the pipe. The material shall meet the physical requirements for bituminous coatings contained in ASTM A 849 and A 885. Whenever individual breaks exceed 36 square inches in area or when the total area of breaks exceeds 0.5 percent of the total surface area of a length of pipe, the pipe length will be rejected.

Bituminous coating damaged by welding of coated pipe or pipe fittings shall be repaired as specified in this Section for breaks or scuffs in bituminous coatings.

Breaks or scuffs in polymer coatings that are less than 36 square inches in area shall be repaired by the application of two coats of a polymer material similar to and compatible with the durability, adhesion and appearance of the original polymer coating, not as described in ASTM A 762, paragraph 11.5.1. The repair coating shall be a minimum thickness of 0.010 inches (10 mils) after drying. Whenever individual breaks exceed 36 square inches in area or when the total area of breaks exceeds 0.5 percent of the total surface area of a length of pipe, the pipe length will be rejected.

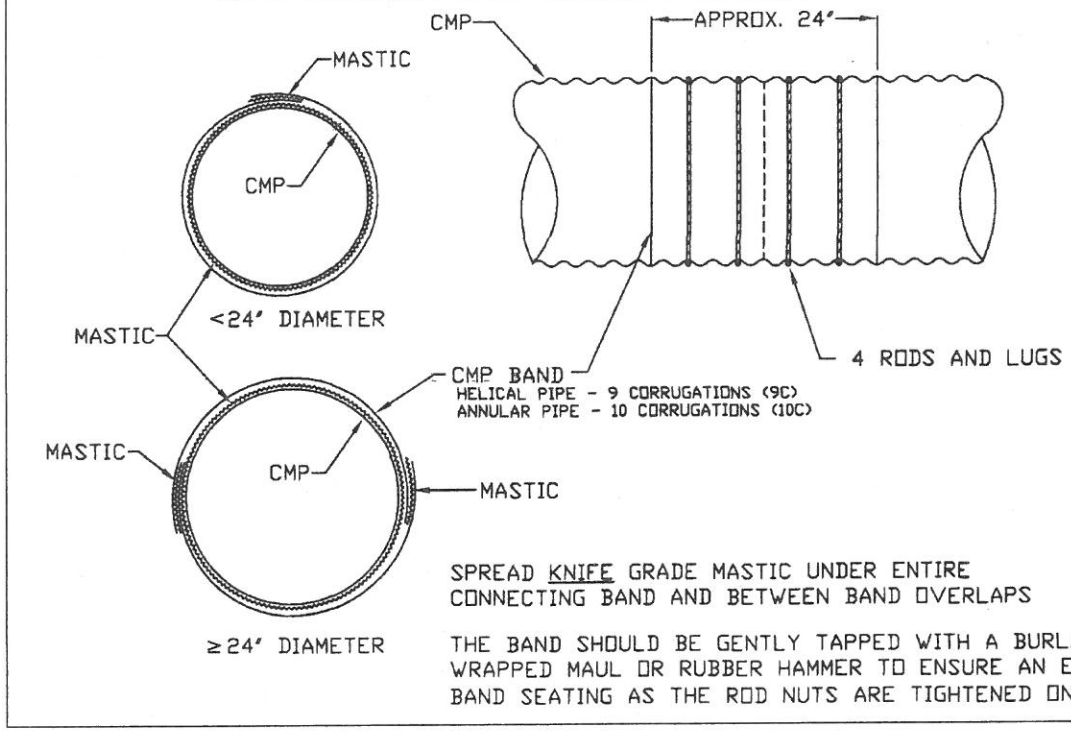
10. CONSTRUCTION DETAILS

A corrugated metal pipe shall be installed on the outlet end of the tile line. It shall have a minimum length of 12 feet, a minimum thickness of 0.064 inches (16 gauge) and conform to the requirements of Material Specification MN-551. At least 2/3 the length of the pipe shall be covered by soil.

The tubing shall be inserted into the corrugated metal pipe outlet section a minimum of 2 feet and the joint shall be mortared to form a watertight seal unless a factory type fitting is used to join the tubing and the corrugated metal pipe.

A hinged rodent guard shall be installed at the downstream end of the corrugated metal pipe.

CMP CONNECTING BAND DETAIL



SPREAD KNIFE GRADE MASTIC UNDER ENTIRE CONNECTING BAND AND BETWEEN BAND OVERLAPS

THE BAND SHOULD BE GENTLY TAPPED WITH A BURLAP WRAPPED MAUL OR RUBBER HAMMER TO ENSURE AN EVEN BAND SEATING AS THE ROD NUTS ARE TIGHTENED ON THE LUGS.

Minnesota Construction Specification 254—Water and Sediment control Basin

1. Scope

The work shall consist of constructing a ridge and channel to form a water and sediment control basin at the locations shown on the drawings or staked in the field.

2. Site preparation

The base of the ridge shall be scarified and excessive trash and vegetation removed before the ridge is built. All old dead furrows and ditches to be crossed shall be filled before construction.

3. Ridge Height

The top of the constructed ridge shall be built to the design height plus an overfill for settlement as shown on the drawings, as listed in section 9, or as staked in the field.

The basin should be built to the grade specified. The channel shall be finished without depressions which will trap water. On tile outlet basins, the channel should lead the flows without depressions to the intake.

5. Borrow

Topsoil shall be stockpiled and replaced where heavy cuts expose unfavorable subsoil. Generally, borrow should be taken to improve the topography. Borrow from depression areas will not be permitted unless approved by the technician.

6. Cuts and fills

When cuts and fills are required to improve alignment, cuts should be made on the ridges and high areas or as directed by the technician.

7. Ridge compaction

The thickness of each layer of fill compacted by heavy equipment shall not exceed 9 inches before compaction. Each layer of fill shall be compacted by either: (1) routing of hauling and spreading equipment over the fill in such a manner that every point on the surface of each layer of fill will be traversed by not less than one tread track of the loaded equipment traveling in a direction parallel to the main axis of the fill; or (2) an equivalent method approved by the technician.

All earthfill adjacent to conduits and structures shall be placed in layers not more than 6 inches thick before compaction. Such fill shall be compacted to a density equivalent to that of the surrounding soil matrix (natural ground or fill) by means of hand tamping or manually directed power tamper.

Unless otherwise specified, heavy equipment including backhoe mounted power tampers or vibrating compactors, and manually directed vibrating rollers, shall not be operated within 2 feet of any conduit. The passage of heavy equipment will not be allowed over any type of conduit until backfill has been placed above the top of the surface of the conduit to a height of two feet.

Moisture content of fill material shall be such that when kneaded in the hand, the soil will form a ball which does not readily separate. Moisture content of fill material shall be maintained within the limits required to: (a) prevent bulking of fill material under the action of hauling or compacting equipment; (b) prevent adherence of fill material to treads and tracks of hauling or compacting equipment; and (c) insure blending of soil and rock into a reasonably homogeneous mass.

8. Tile outlet

The intake shall be built as shown on the drawings or as staked. The openings shall extend down to ground level or below to remove all surface water from the basin channel. The trench beneath the basin ridge must be sloped before or during backfilling. Backfill material must have adequate moisture to permit compaction and be sufficiently compacted to prevent undue settlement.

9. Construction details

Borrow area shall be areas approved by the owner and RRVCSA representative.

Material Specification 548—Corrugated Polyethylene Tubing

1. Scope

The specification covers the quality of corrugated polyethylene tubing and fittings.

2. Tubing

Corrugated polyethylene tubing shall conform to the requirements of ASTM F 405, ASTM F 667, ASTM F 2306, ASTM F 894, AASHTO M 252, ASTM F 477, ASTM D 3212, or AASHTO M 294 for the appropriate tubing sizes and fittings.

3. Fittings

ASTM F 405	3-6 inch diameter pipe and fittings
ASTM F 667	8-, 10-, 12-, 15-, 18-, and 24-inch diameter pipe and fittings
ASTM F 894	18- to 120-inch diameter pipe and fittings
AASHTO M 252	3- to 10-inch diameter N12 pipe and fittings
AASHTO M 294	12- to 36-inch diameter N12 pipe and fittings
ASTM F 477	elastomeric seals (gaskets)

Material Specification 551—Coated Corrugated Steel Pipe

1. Scope

This specification covers the quality of zinc-coated, aluminum-coated, aluminum-zinc alloy-coated, and polymer-coated corrugated steel pipe and fittings.

2. Pipe

All pipe shall be metallic zinc-coated, aluminum-coated, or aluminum-zinc alloy-coated corrugated steel pipe and fittings conforming to the requirements of ASTM A 742, A 760, A 761, A 762, A 849, A 875, A 885, and A 929 for the specified type, class, fabrication of pipe and coating, and to the following additional requirements:

a. When closed riveted pipe is specified:

   (1) Pipe shall be fabricated with circumferential seam rivet spacing that does not exceed 3 inches except that 12 rivets are sufficient to secure the circumferential seams in 12-inch pipe.

   (2) Longitudinal seams that will be within the coverage area of a coupling band, the rivets shall have flat heads or the rivets and holes shall be omitted and the seams shall be connected by welding to provide a minimum of obstruction to the seating of the coupling bands.

b. Double riveting or double spot welding for pipe less than 42 inches in diameter may be required. When double riveting or double spot welding is specified, the riveting or welding shall be performed in a manner specified for pipe 42 inches or greater in diameter.

3. Coatings

Coatings described herein, unless otherwise specified, equally refer to the inside and outside pipe surfaces.

When coatings in addition to metallic coatings are specified, they shall conform to the requirements of ASTM A 742, A 760, A 761, A 762, A 849, A 875, A 885, and A 929 for the specified type.

Polymer-coated pipe, unless otherwise specified on the drawings or in the construction specifications, shall be coated on each side with a minimum thickness of 0.01 inches (10 mils), designated as grade 10/10 in ASTM A 762.

4. Coupling bands

Coupling bands are to be provided for each section of pipe. The hardware for fastening the coupling band tightly to the connecting pipe shall be fabricated to permit tightening sufficiently to provide the required joint tensile strength and, if required, watertightness without failure of its fastening.

Gaskets, if specified, are to be provided for each coupling band. The fabrication of coupling bands and fastening hardware, in addition to the above, shall be sufficient to provide the required gasket seating without warping, twisting, or bending.

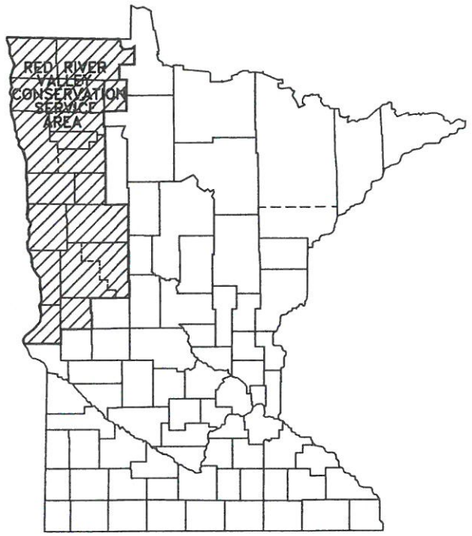
5. Fittings

Fittings shall be fabricated from steel conforming to ASTM A 742, A 849, A 875, A 885, and A 929. The coating of fittings shall be the same as that specified for the contiguous corrugated coated pipe.

Welded surfaces and adjacent surfaces damaged during welding shall be treated by removing all flux residue and weld splatter. The affected surfaces shall be cleaned to bright metal by sand blasting, power disk sanding, or wire brushing. The cleaned area shall extend at least 0.5 inch into the undamaged section of the coated area. Repair and coating application of damaged and uncoated pipe surface areas shall be in accordance with ASTM A 780.

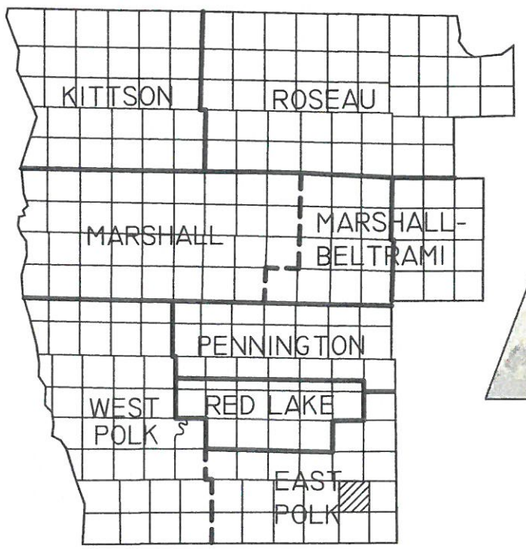
DAVID LANDSVERK

WATER & SEDIMENT BASINS



T 148 N R 40 W
SEC. 26
BRANDSVOLD TWP.

LOCATION MAP



BEFORE START OF CONSTRUCTION, THE OWNERS OF ANY UTILITIES INVOLVED MUST BE NOTIFIED. THE EXCAVATOR IS RESPONSIBLE FOR GIVING THIS NOTICE BY CALLING "GOPHER STATE ONE-CALL" AT (651) 454-0002 (TWIN CITIES METRO AREA) OR (800) 252-1166 (ALL OTHER LOCATIONS) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

THE OWNER IS RESPONSIBLE FOR OBTAINING LAND RIGHTS AND ALL PERMITS OR OTHER PERMISSION NECESSARY TO PERFORM AND MAINTAIN THE PROJECT.

-- GOVERNING SPECIFICATIONS --

THE CONSTRUCTION AND MATERIALS SPECIFICATIONS PREPARED FOR THIS PROJECT SHALL GOVERN. THESE SPECIFICATIONS ARE PART OF THE PLAN.

CHANGES IN THE DRAWINGS OR SPECIFICATIONS MUST BE AUTHORIZED BY THE OWNER AND THE RESPONSIBLE ENGINEER.

THE OWNER IS RESPONSIBLE FOR CONTACTING THE RED RIVER VALLEY CONSERVATION SERVICE AREA AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

N

SHEET INDEX

LEGEND

SURVEY POINT	△ INST.#1
SOIL BORING	● TH#1
BUILDING	▭
WELL	○ WELL
BENCH MARK, TEMPORARY	✦ TBM#1
ORIGINAL GROUND	- · - · - · -
CONTOUR, INDEX	—90—
FENCE, EXISTING	—x—x—
FENCE TO BE CONSTRUCTED	—I—I—
FENCE TO BE REMOVED	—⊗—⊗—
DIVERSION	^^^^^^^^^^^^
STREAM	~~~~
MARSH	
COMMON EXCAVATION	EE
EARTHFILL, CLASS C COMPACTION	C
EXISTING TILE LINE	—o—o—
PLANNED TILE LINE	— — — —
CENTERLINE OF IMPROVEMENTS	—— ℄ ——
BASE LINE	———
DECIDUOUS TREE	
CONIFEROUS TREE	
IRON PIPE	
EMBANKMENT	
RIPRAP	
UTILITY POLE	

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGMENT AND BELIEF, THESE PLANS MEET APPLICABLE NRCS STANDARDS AND SPECIFCATIONS.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

JAMES HEST

Signature: _____

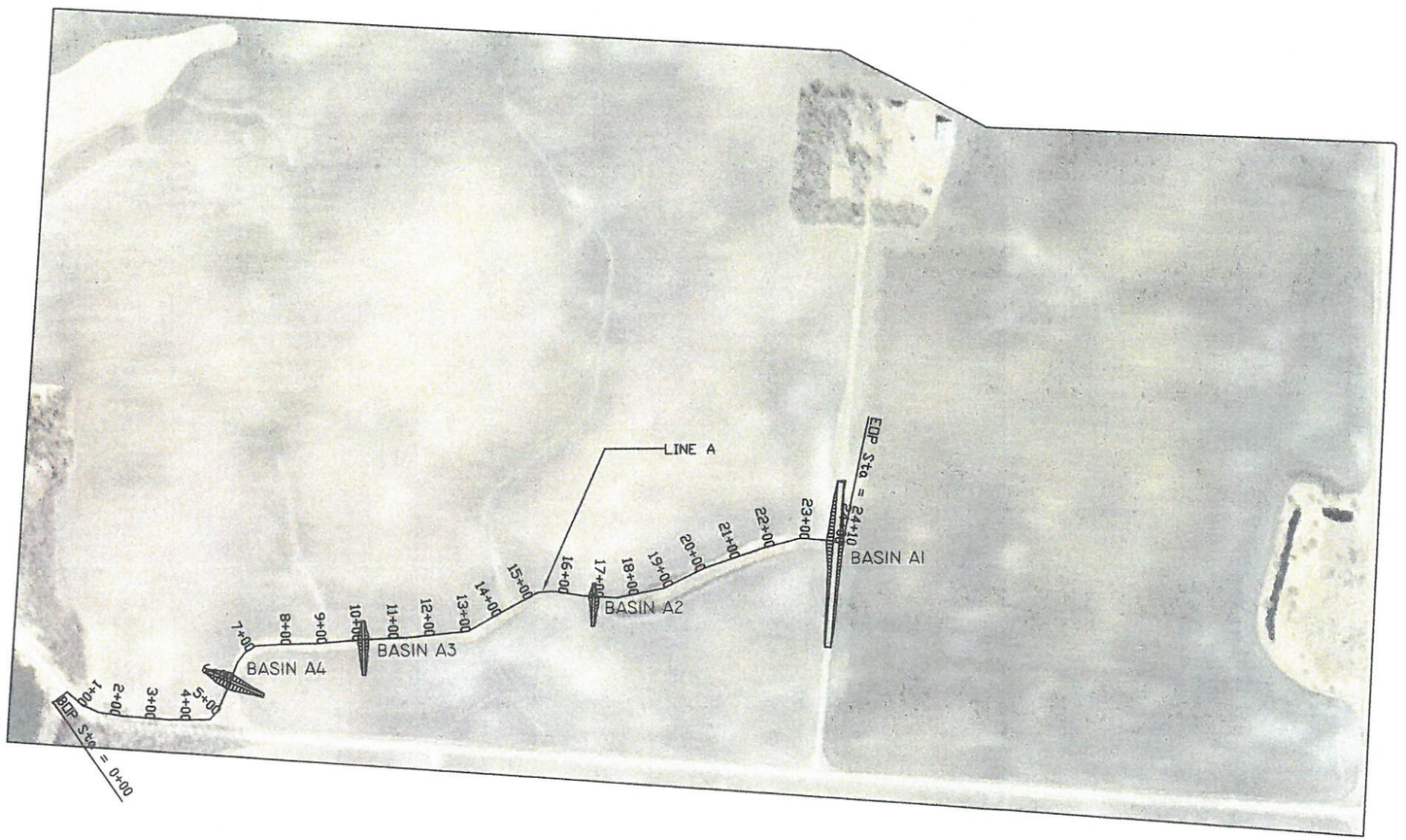
Date _____ Reg. No. 24511

SHEET INDEX, LEGEND AND LOCATION MAP

East Polk Soil & Water Conservation District
Polk County, Minnesota

PREPARED BY
RED RIVER VALLEY CONSERVATION SERVICE AREA
P.O. Box 16 GRYGLA, MINNESOTA 56727 (218) 294-6142

Drawn by JAH	Checked by JAH	Date 4-08-19	Sheet 1 of 7



PLAN VIEW

200 0 200 400 600 800

SCALE IN FEET

ESTIMATED QUANTITIES

Quantities are measured in place according to neat–line shown on the plans. No allowance is made for shrinkage, overlapping, connecting bands, joints, etc.

ITEM	QUANTITY	UNIT
Compacted Earth Fill (Class C)	1300	Cu. Yd.
Salvage and Spreading Topsoil	1	Job
Seed, Fertilize, and Mulch	1	Acre
8" Hickenbottom (top and bottom)	3	Each
12" Hickenbottom (top and bottom)	6	Each
24" CMP With Rodent Guard	1	Each
Tees, Reducers and Couplers	1	Job
Corrugated thermoplastic tubing, 8" Dia. Dual–Wall, Non–Perforated	20	Lin. Ft.
Corrugated thermoplastic tubing, 10" Dia. Dual–Wall, Perforated (Narrow–Slot)	210	Lin. Ft.
Corrugated thermoplastic tubing, 12" Dia. Dual–Wall, Non–Perforated	10	Lin. Ft.
Corrugated thermoplastic tubing, 12" Dia. Dual–Wall, Perforated (Narrow–Slot)	500	Lin. Ft.
Corrugated thermoplastic tubing, 15" Dia. Dual–Wall, Non–Perforated	600	Lin. Ft.
Corrugated thermoplastic tubing, 15" Dia. Dual–Wall, Perforated (Narrow–Slot)	1100	Lin. Ft.

DAVID LANDSVERK - BRANDSVOLD 26
WATER & SEDIMENT BASINS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

JAMES HEST

SIGNATURE: _____

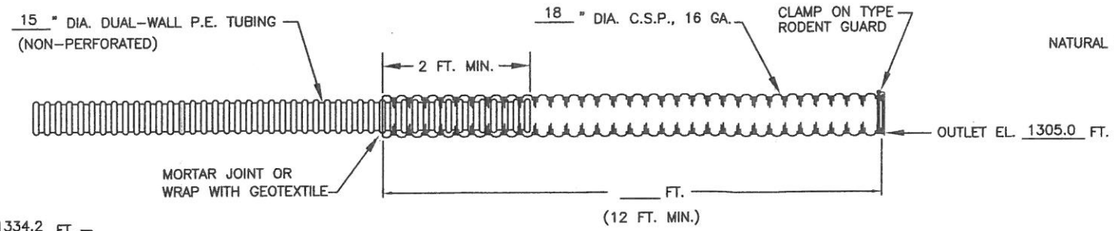
Date _____ Reg. No. 24511

PLAN AND QUANTITIES

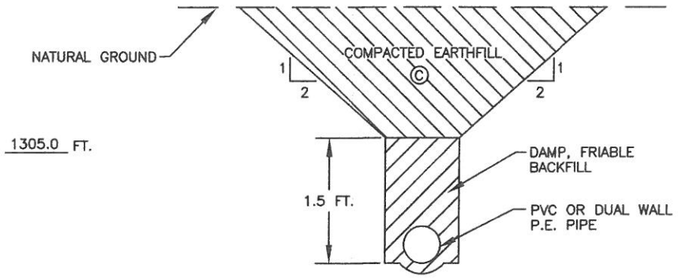
East Polk Soil & Water Conservation District
Polk County, Minnesota

PREPARED BY
RED RIVER VALLEY CONSERVATION SERVICE AREA
P.O. BOX 16 GRYGLA, MINNESOTA 56727 (218) 294–6142

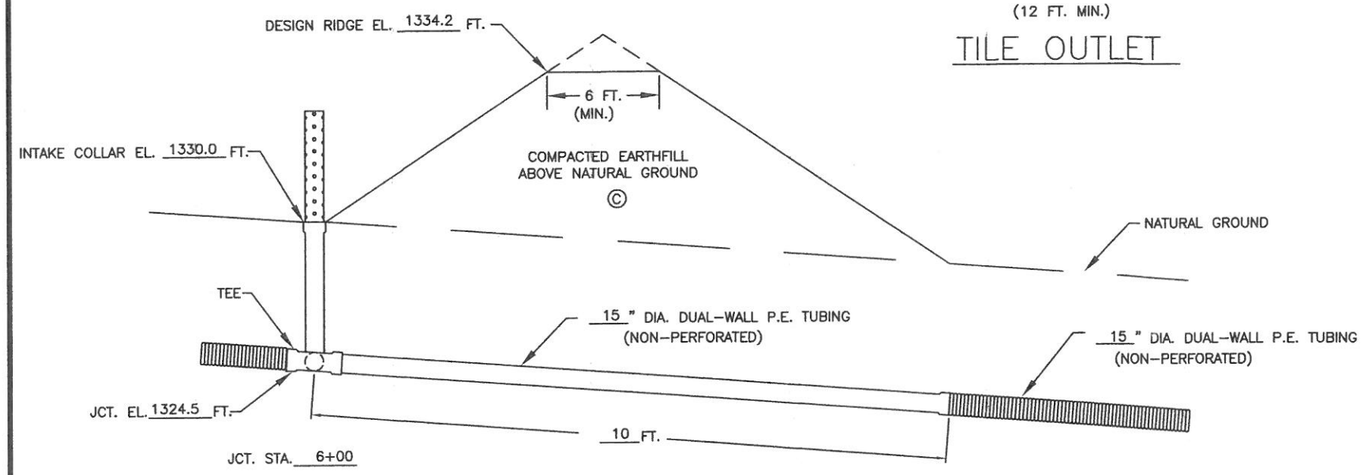
Drawn by JAH | Checked by JAH | Date 4–08–19 | Sheet 2 of 7



TILE OUTLET

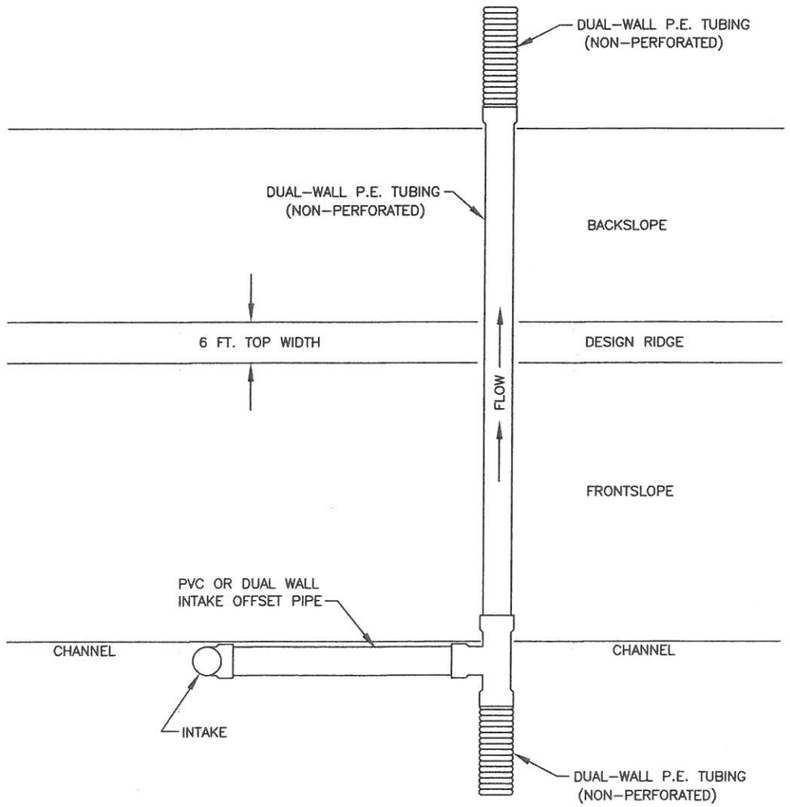


TRENCH UNDER EARTHFILL

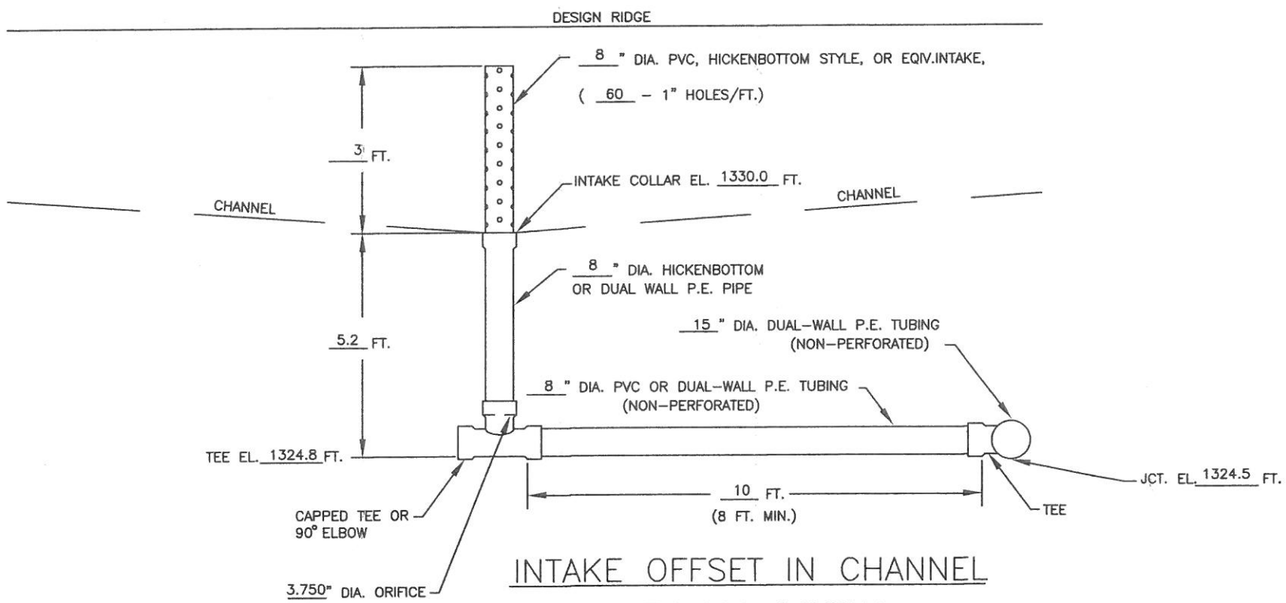


PIPE UNDER EARTHFILL

NOTE: SEE PROFILE SHEETS FOR TILE SIZES/GRADES



PLAN VIEW



INTAKE OFFSET IN CHANNEL

PLAN VIEW

DAVID LANDSVERK - BRANDSVOLD 26
WATER & SEDIMENT BASINS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

JAMES HEST

SIGNATURE: _____

Date _____ Reg. No. 24511

BASIN A4

East Polk Soil & Water Conservation District
Polk County, Minnesota

PREPARED BY
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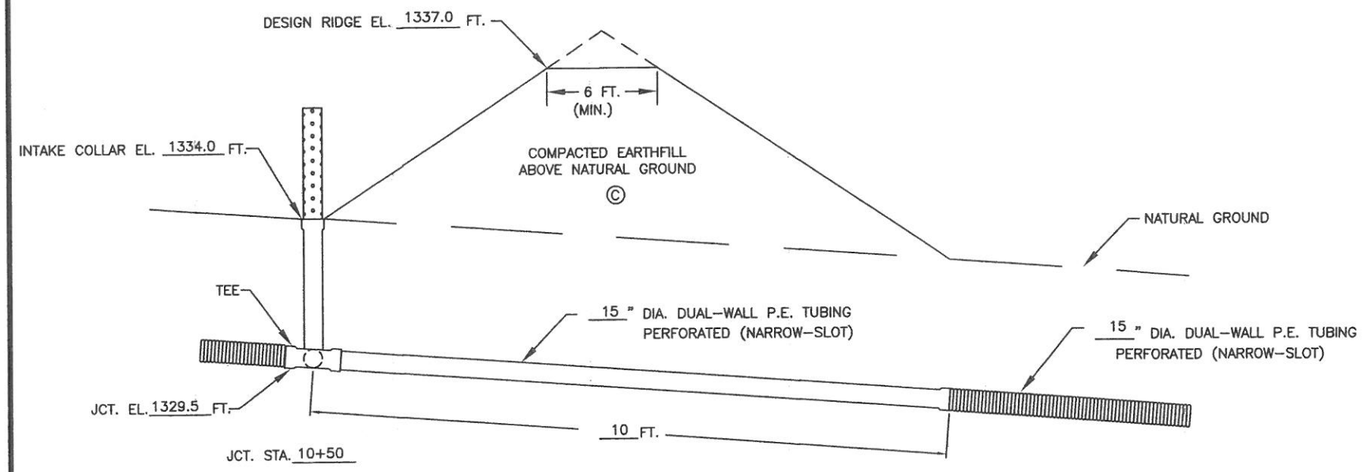
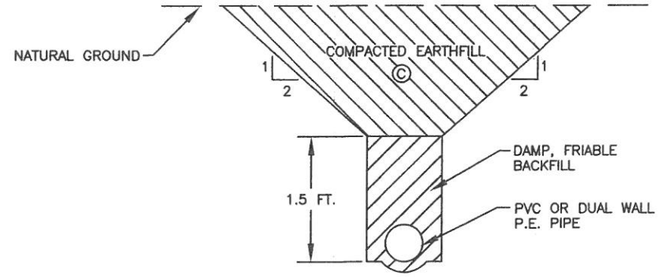
P.O. BOX 16 GRYGLA, MINNESOTA 56727 (218) 294–6142

Drawn by JAH	Checked by JAH	Date 4–08–19	Sheet 7 of 7

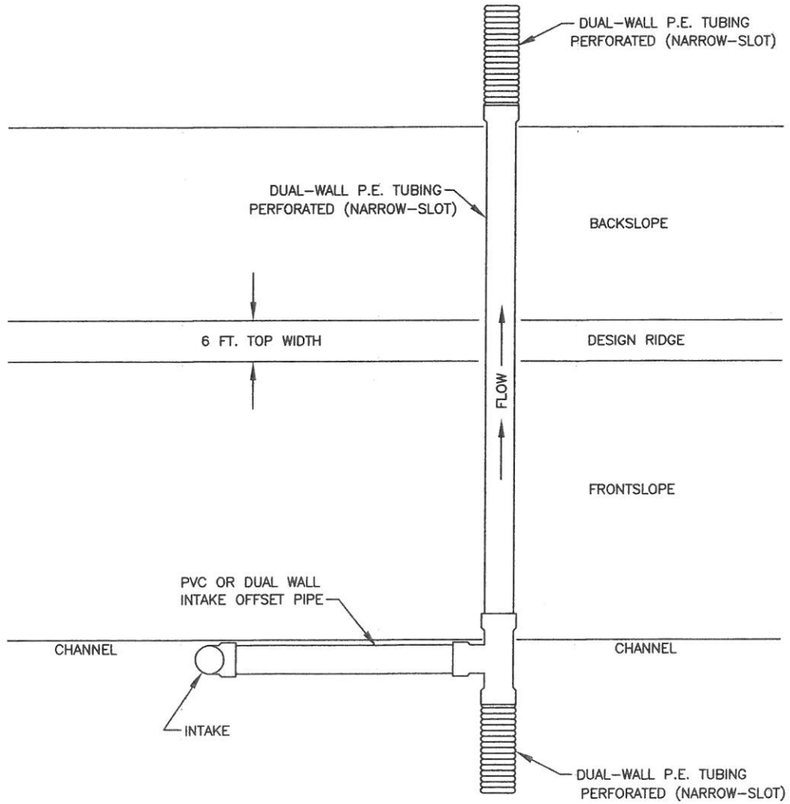


PIPE UNDER EARTHFILL

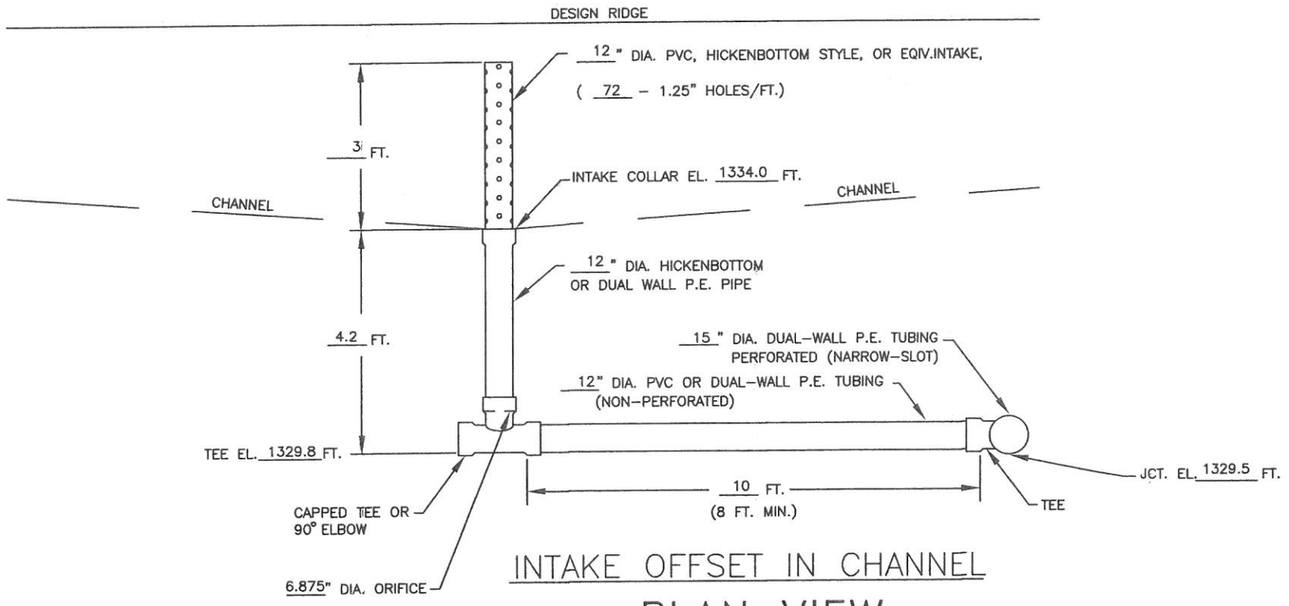


TRENCH UNDER EARTHFILL

NOTE: SEE PROFILE SHEETS FOR TILE SIZES/GRADES



PLAN VIEW



INTAKE OFFSET IN CHANNEL

PLAN VIEW

DAVID LANDSVERK - BRANDSVOLD 26
WATER & SEDIMENT BASINS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

JAMES HEST

SIGNATURE: _____

Date _____ Reg. No. 24511

BASIN A3

East Polk Soil & Water Conservation District
Polk County, Minnesota

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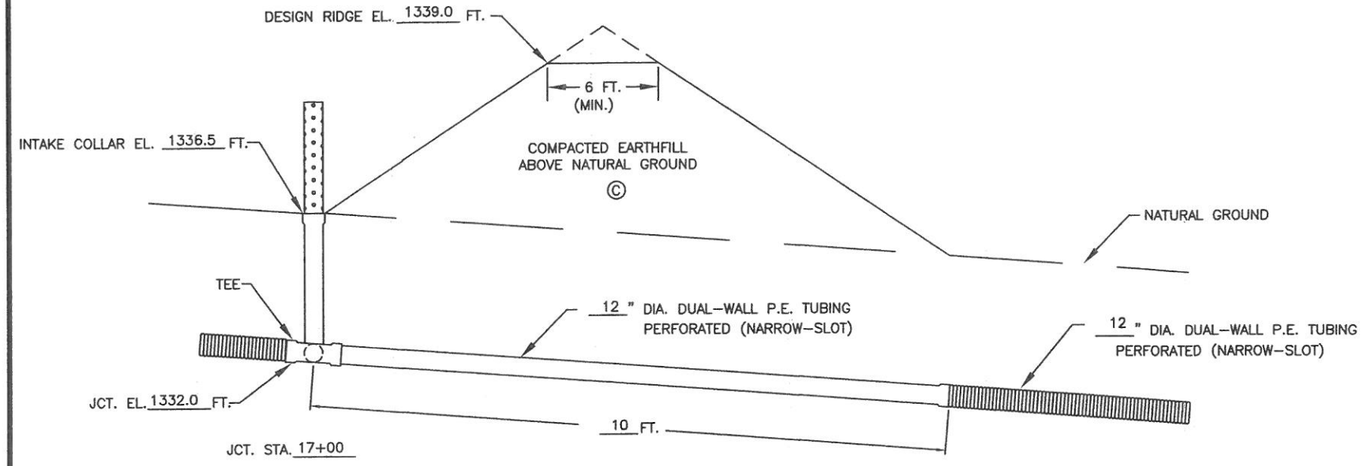
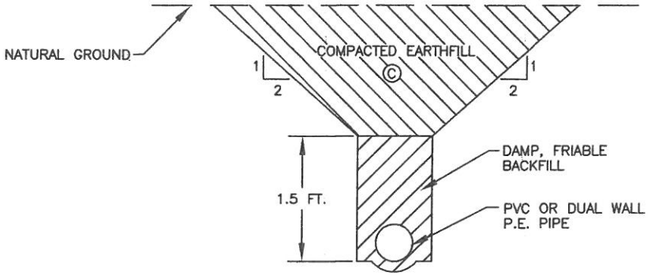
RED RIVER VALLEY CONSERVATION SERVICE AREA
P.O. BOX 16 GRYGLA, MINNESOTA 56727 (218) 294–6142

Drawn by JAH	Checked by JAH	Date 4–08–19	Sheet 6 of 7

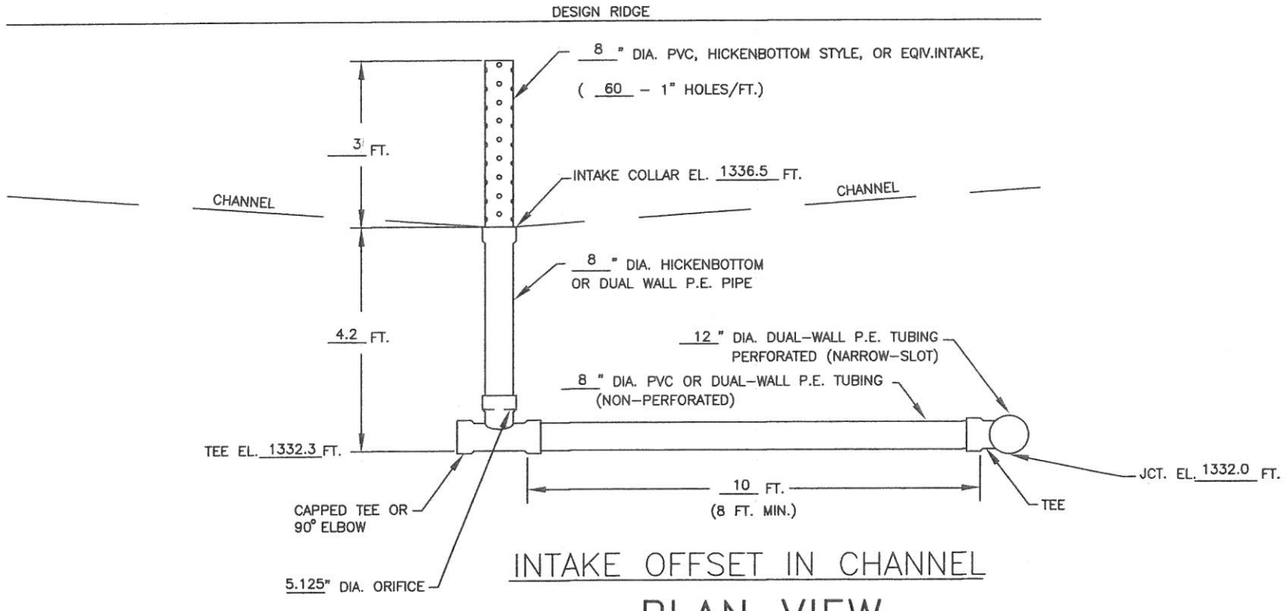


PIPE UNDER EARTHFILL



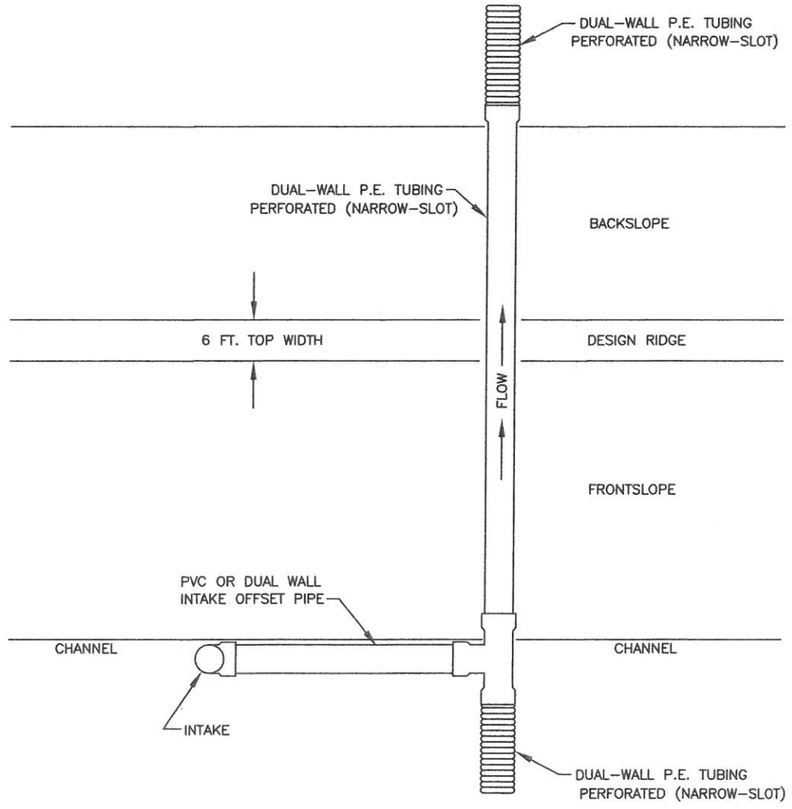
TRENCH UNDER EARTHFILL

NOTE: SEE PROFILE SHEETS FOR TILE SIZES/GRADES



INTAKE OFFSET IN CHANNEL

PLAN VIEW



PLAN VIEW

DAVID LANDSVERK - BRANDSVOLD 26
WATER & SEDIMENT BASINS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

JAMES HEST

SIGNATURE: _____

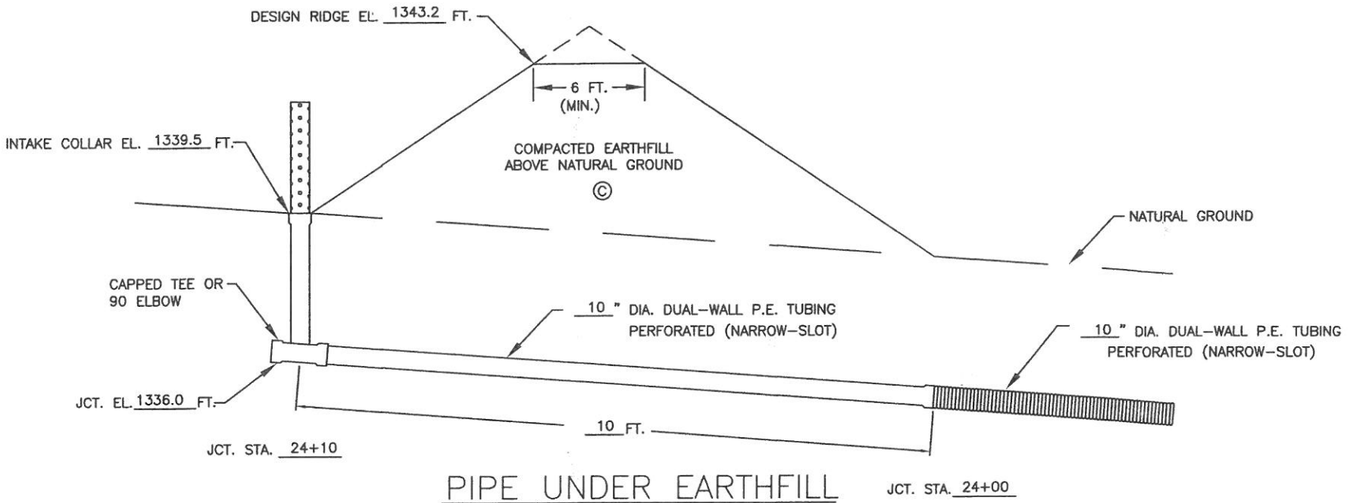
Date _____ Reg. No. 24511

BASIN A2

East Polk Soil & Water Conservation District
Polk County, Minnesota

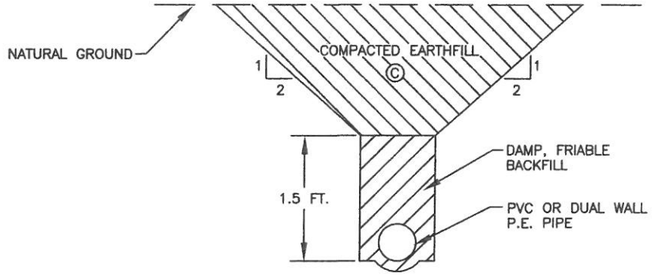
PREPARED BY
RED RIVER VALLEY CONSERVATION SERVICE AREA
P.O. BOX 16 GRYGLA, MINNESOTA 56727 (218) 294-6142

Drawn by JAH	Checked by JAH	Date 4-08-19	Sheet 5 of 7

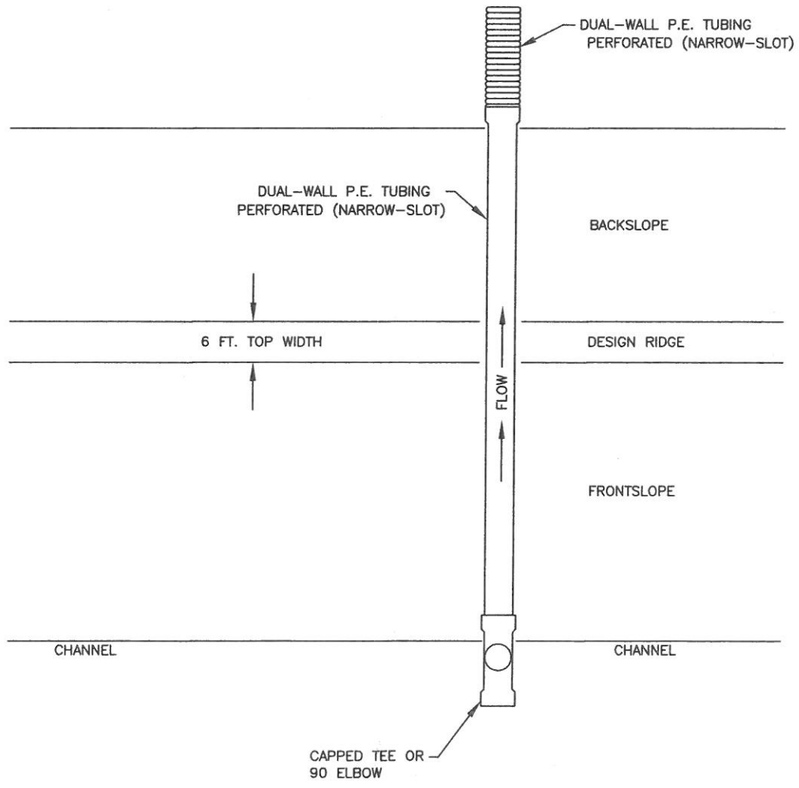


PIPE UNDER EARTHFILL

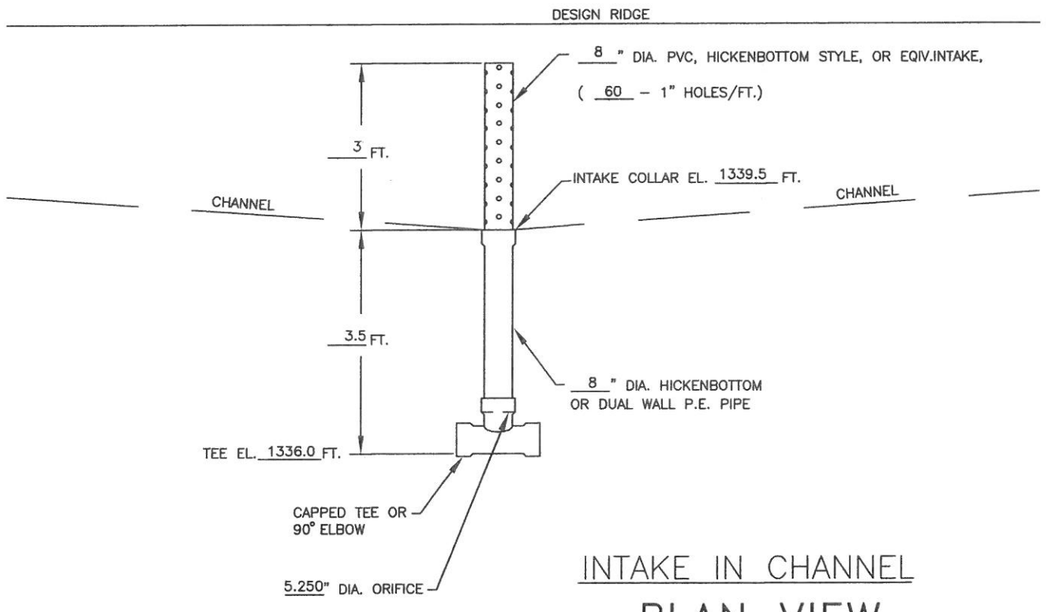
NOTE: SEE PROFILE SHEETS FOR TILE SIZES/GRADES



TRENCH UNDER EARTHFILL



PLAN VIEW



INTAKE IN CHANNEL

PLAN VIEW

DAVID LANDSVERK - BRANDSVOLD 26
WATER & SEDIMENT BASINS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

JAMES HEST

SIGNATURE: _____

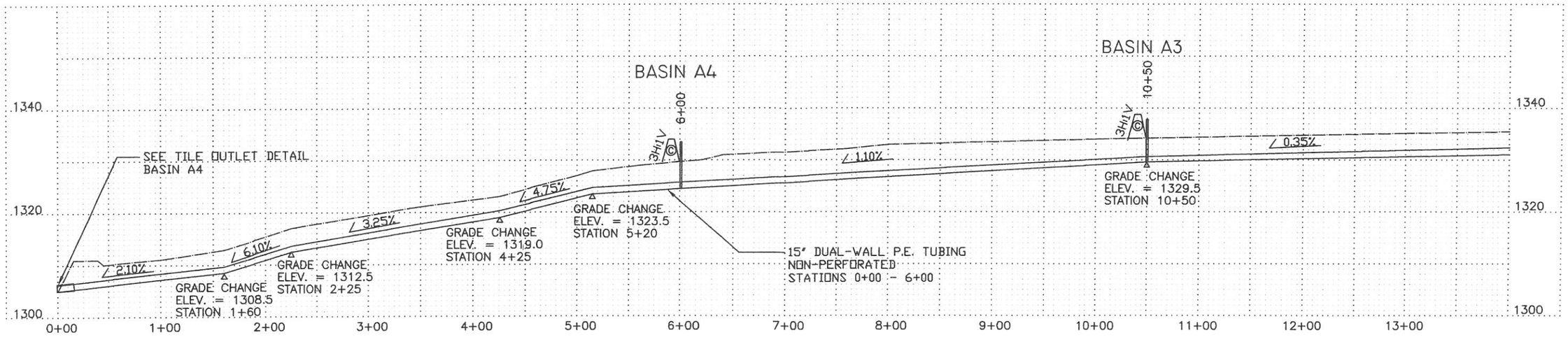
Date _____ Reg. No. 24511

BASIN AI

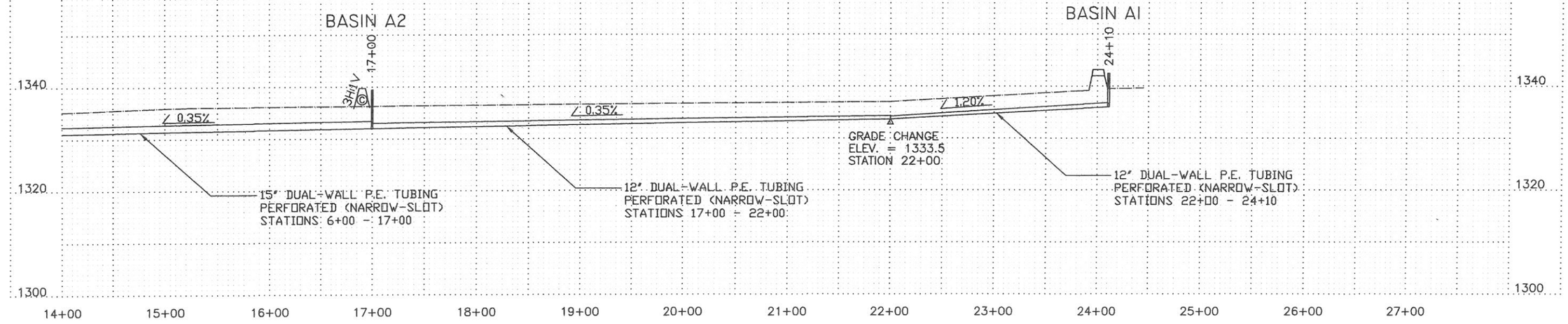
East Polk Soil & Water Conservation District
Polk County, Minnesota

PREPARED BY
RED RIVER VALLEY CONSERVATION SERVICE AREA
P.O. BOX 16 GRYGLA, MINNESOTA 56727 (218) 294-6142

Drawn by JAH	Checked by JAH	Date 4-08-19	Sheet 4 of 7



LINE A



LINE A

NOTES:
1.THE CONSTRUCTED HEIGHT OF EACH BERM SHALL BE AT LEAST 5% GREATER THAN THE DESIGNED HEIGHT TO ALLOW FOR SETTLEMENT.

2. A MINIMUM SOIL DEPTH COVER OF 2.5 FEET MUST BE MAINTAINED OVER THE TOP OF THE P.E. TUBING.

0+00–6+00	MIN. GRADE	= 0.70%
6+00–10+50	MIN. GRADE	= 0.50%
10+50–22+00	MIN. GRADE	= 0.15%
22+00–24+10	MIN. GRADE	= 0.40%

DAVID LANDSVERK - BRANDSVOLD 26
WATER & SEDIMENT BASINS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

JAMES HEST

Signature: _____

Date _____ Reg. No. 24511

PROFILE
LINE A

East Polk Soil & Water Conservation District
Polk County, Minnesota

PREPARED BY
RED RIVER VALLEY CONSERVATION SERVICE AREA
P.O. BOX 16 GRYGLA, MINNESOTA 56727 (218) 294-6142

Drawn by JAH	Checked by JAH	Date 4-08-19	Sheet 3 of 7

Capital Projects Budget-UNAUDITED EDITION

Year 2019

		3	4	5		6	=Column 5-6	
	Project Name	Beg. Balance	Projected	Projected	Last years exp.	Expenses	(over) under	Fund Balance
		1/1/2019	Revenue	Exp. (Budget)		to 5-31-19	budget	5/31/2019
15	RRWMB/Admin. Const.	7,413,118.16	2,099,629.87	-				7,617,014.73
001E	Web Page Development	(1,455.92)	1,455.92	4,000.00	2,933.27	1,344.37	2,655.63	(1,344.37)
9	RRWMB Levy	-	2,099,629.87	2,099,629.87	2,022,419.01	0.00	2,099,629.87	203,896.53
13	Moose River	-		20,000.00	15,601.74	8,826.03	11,173.97	(8,826.03)
16	Baird-Beyer Dam	-		1,000.00	-	45.98	954.02	(45.98)
17	Lost River Impoundment	-		3,000.00	96.14	0.00	3,000.00	0.00
21	Stream Gages	-		40,000.00	20,805.84	28,570.10	11,429.90	(28,570.10)
24	Culvert Sizing	-		10,000.00	8,581.79	1,762.55	8,237.45	(1,762.55)
25	Schirrick Dam	-		5,000.00	1,054.59	4,427.58	572.42	(4,427.58)
26	Pine Lake PWT	(351,877.70)		20,000.00	193,814.21	17,109.66	2,890.34	(368,987.36)
26A	Little Pine Lake WMA	-		3,000.00	157,964.63	249.45	2,750.55	(249.45)
31	Hydrologic Analysis	-		35,000.00	8,727.55	8,874.97	26,125.03	(8,874.97)
32	Flood Control Studies	-		2,000.00	-	0.00	2,000.00	0.00
34	Bench Marks	-		500.00	-	0.00	500.00	0.00
37	Emergency Maintenance fund	112,229.47		-	-	0.00	0.00	112,229.47
40	RRWMB	-	500.00	15,000.00	1,915.36	10,010.16	4,989.84	(9,439.30)
43A	BR6	-		5,000.00	7,135.43	944.25	4,055.75	(944.25)
43C	Burnham Creek-Erosion	-		3,000.00		164.04	2,835.96	(164.04)
43D	Burnham Creek-Fish Habitat	-		3,000.00		164.04	2,835.96	(164.04)
46	Water Quality	-		150,000.00	141,166.76	42,610.08	107,389.92	(42,610.08)
50	Maint. On dams	-		5,000.00	840.96	929.30	4,070.70	(929.30)
50A	Odney Flaat	-		1,000.00	3,014.87	84.10	915.90	(84.10)
50B	Latendresse	-		1,000.00	574.64	30.65	969.35	(30.65)
50C	Miller Dam	-		1,000.00	204.21	61.30	938.70	(61.30)
50D	Seeger Dam	-		1,000.00	285.94	30.65	969.35	(30.65)
50E	Blackduck Lake	-		5,000.00	4,029.20	2,419.78	2,580.22	(2,419.78)
52	Elm Lake	-		2,000.00	631.77	472.94	1,527.06	(472.94)
60C	Euclid East Impoundment	-	3,000.00	20,000.00	15,348.11	8,534.99	11,465.01	(8,534.99)
60D	Brandt Impoundment	-	102.00	15,000.00	3,117.51	3,268.83	11,731.17	(3,166.83)
60E	Brandt Channel Restoration	-		20,000.00	3,292.25	1,032.00	18,968.00	(1,032.00)
60F	Grand Marais Creek Restoration	-		10,000.00	6,068.45	1,561.35	8,438.65	(1,561.35)
60FF	Grand Marais Cut Channel	-	0.00	2,000.00	83.29	25.05	1,974.95	(25.05)
67	Good Lake Impoundment	-		20,000.00	5,180.41	0.00	20,000.00	0.00
81	Parnell Impoundment	-	3,210.00	20,000.00	17,887.44	15,183.15	4,816.85	(10,939.35)
82F	Clearwater Nonpoint-Public Ed.	-		30,000.00	24,322.36	14,090.79	15,909.21	(14,090.79)
82G	Clearwater Nonpoint	-		500.00	-	0.00	500.00	0.00
82H	Gully 6/Lost River	-		500.00	-	0.00	500.00	0.00
84	Cemetery Site-St. Hilaire	-		-	-	0.00	0.00	0.00
86	Rocksbury Sec. 20 Erosion	-		300.00	-	0.00	300.00	0.00
90	Permit	-		100,000.00	93,693.48	23,551.43	76,448.57	(23,551.43)
92	Project Development			45,000.00	40,969.29	3,050.52	41,949.48	(3,050.52)
92A	RRB Long Term Flood Control	(1,810,413.79)	0.00	5,000.00	696,793.79	837.60	4,162.40	(1,811,251.39)
102A	Four Legged Lake PWT	(165,916.16)	0.00	1,000.00	92,525.40	263.41	736.59	(166,179.57)
121	Louisville Parnell	-	5,923.50	7,500.00	4,660.55	2,359.76	5,140.24	3,563.74
122A	Challenger Ditch Realignment	-	0.00	5,000.00	-	1,794.56	3,205.44	(1,794.56)
129	Ring dike	-		10,000.00	213.09	273.37	9,726.63	(273.37)
133C	BWSR Site 1	-		4,000.00	537.09	2,248.70	1,751.30	(2,248.70)
145	GIS	-		40,000.00	37,366.39	9,073.36	30,926.64	(9,073.36)
146	Land Use Practices	-		200.00	-	0.00	200.00	0.00
147	Wetland banking	-		5,000.00	3,414.02	970.31	4,029.69	(970.31)
149	Ten Year Overall Plan (RL1W1P)	337,858.00	338,776.00	350,000.00	14,777.31	6,252.92	343,747.08	331,605.08
149A	Ten Year Overall Plan (TR1W1P)	(19,629.82)	101,872.00	75,000.00	171,795.29	34,574.81	40,425.19	(54,204.63)
149AA	PTMApp	(28,848.01)	24,225.00	15,000.00	29,450.44	8,275.19	6,724.81	(37,123.20)
154	North Parnell Storage Site	-		2,000.00	83.29	920.00	1,080.00	(920.00)
157	TMDL's (new)	-		2,500.00	2,767.68	0.00	2,500.00	0.00

Capital Projects Budget-UNAUDITED EDITION

Year 2019

		3	4	5		6	=Column 5-6	
	Project Name	Beg. Balance	Projected	Projected	Last years exp.	Expenses	(over) under	Fund Balance
		1/1/2019	Revenue	Exp. (Budget)		to 5-31-19	budget	5/31/2019
157B	TR Water Assessment Project	-	1,000.00	2,500.00	6,455.11	1,477.80	1,022.20	(1,477.80)
157C	RL Rvr. WS Assessment	(6,056.89)	8,037.00	5,000.00	6,589.39	2,655.31	2,344.69	(675.20)
157D	Grand Marais WRAP	(1,045.55)	396.63	2,000.00	424.67	1,135.11	864.89	(1,591.16)
157E	Clearwater Rvr WRAP	(7,039.81)	23,502.50	40,000.00	25,667.31	28,696.95	11,303.05	(12,234.26)
157EE	Clearwater River SWAG	-	0.00	-	-	0.00	0.00	0.00
159	Red River Corridor	-		1,500.00	70.20	419.64	1,080.36	(419.64)
164	Erosion Control Projects	-		100,000.00	139,116.58	1,182.36	98,817.64	71,234.01
167	WS Drainage & Inventory	-	0.00	500.00	83.12	56.93	443.07	(56.93)
167A	Drainage Inventory	(21,081.35)	3,870.00	10,000.00	26,992.49	8,775.55	1,224.45	(25,986.90)
172	FEMA DFIRM Grant 2010	-	0.00	-	534.06	0.00	0.00	0.00
176	Black River Impoundment	(686,012.84)	28,529.00	200,000.00	384,920.11	81,514.72	118,485.28	(738,999.00)
178	TR Westside FDR	(370,308.12)	1,125,000.00	500,000.00	367,259.01	273,429.81	226,570.19	(319,503.63)
180	State/Local/Federal	-	0.00	2,000.00	1,012.07	601.98	1,398.02	(601.98)
180A	Agassiz Grant-Wetland	(25,769.77)	236,000.00	242,000.00	126,571.27	1,577.75	240,422.25	(3,565.98)
180B	Agassiz Grant-	-	50,000.00	52,000.00	-	482.56	51,517.44	(482.56)
	Totals	4,367,749.90	6,154,659.29	4,398,129.87	4,941,840.23	669,280.55	3,728,849.32	4,603,518.30
	Potential fund balance of Admin. Const. 12-31-18 (Columns 3, 4, and 5)							6,124,279.32

Estimated Capital Projects Fund Balance as of December 31, 2019: 6,124,279.32

VIEWERS CONTRACT

This Agreement for Viewers Services on, Red Lake Watershed District, Ditch No. 17, – Project 179, between Rob Wagner, Roger Beiswenger and Mike Baumgartner hereinafter referred to as the "Viewers", Jerry Bennett, Alternate Viewer and the Red Lake Watershed District, political subdivisions of the state of Minnesota (hereinafter referred to as the "Drainage Authority".

SCOPE OF DUTIES, the "Drainage Authority" appoints the "Viewers" to conduct a determination of benefits on Red Lake Watershed District Ditch No. 17, – Project 179.

"VIEWERS" shall provide its services as reasonably required to represent the "Drainage Authority" and shall take reasonable steps to keep the "Drainage Authority" informed of progress and to respond to "Drainage Authority" inquires. "Drainage Authority" and its representatives shall be truthful with "Viewers", cooperate and keep "Viewers" informed of developments and abide by this contract and pay bills on time.

FEES, the "Drainage Authority" agrees to pay each of the "Viewers" respectively named in this contract for their services at the rate of $50.00/hour with the exception of Mike Baumgartner, who will be paid at the rate of $30.00/hour.

COSTS AND EXPENSES, in addition to paying fees, the "Drainage Authority" shall reimburse "Viewers" for all costs and expenses incurred by "Viewers" including but not limited to postage, office photo copying and mileage at the Federal Allowable rate.

STATEMENTS, the "Viewers" shall send the "Drainage Authority" monthly billing statements for fees and costs incurred. Upon request "Viewers" will furnish statements within 10 days.

LEAD VIEWER, the "Viewers" are a member of a three viewer team identified in this contract. The team acknowledges and agrees to name a lead viewer to ensure unity and consistency of its effort in performing the viewing services. The lead viewer shall be the main point of contact for the "Drainage Authority" and/or its designee for the exchange of information and reporting to the Board.

POC, the Drainage Authority agrees to name a designated Point of Contact (POC) for the "Drainage Authority's exchange of information and to function as the primary point of contact with the Viewers.

INDEPENDENT CONTRACTOR, the "Viewers" relationship with the "Drainage Authority" during the term of this contract shall be that solely of an independent contractor and shall not be deemed to be the Drainage Authority's employees, agents or servants. The "Viewers" shall be responsible for its own acts during performance of its duties as "Viewers" as provided under MS 103E. Claims or legal actions arising out of the redetermination of benefits process under Minnesota law administered by the "Drainage Authority" including appeals over the Viewers findings, benefits and damages shall be the sole responsibility of the "Drainage Authority" The "Viewers" shall be responsible for payment of all federal, state and local taxes or contributions impose or required under workers compensation insurance, unemployment insurance, social security and income taxes with respect to the "Viewers" engaged in the performance of these services.

DISCHARGE OR WITHDRAW, the "Drainage Authority" may discharge "Viewers" at any time. "Viewers" may withdraw with "Drainage Authority" consent or for good cause. Good cause includes breach of this contract, "Drainage Authority" refusal to cooperate, provide data required to complete the viewing process (i.e. NWI maps, shape files, aerial maps, historic drainage records, ditch right-of-way, hydraulic data etc.) follow advice on a material matter or any fact circumstance that would render the "Viewers" to represent unlawful or unethical conduct.

CONTRACT TERM, this contract shall commence on the effective date of June 18, 2019 and continue thereafter until the determination of benefits is complete and the "Drainage Authority" finalized the proceedings including issued a final order, adopting the Viewers Report and statement of benefits and damages and until the proceedings are finalized and the order for determination of benefits is in full force and effect (the "Contract Term").

LEGAL NOTICE, the "Drainage Authority" will be responsible for the mailing of all legal notices including notices to property owners for informational meetings, final hearing notice in cooperation with the County Auditor(s) and preparation of property owners reports required under Minnesota Law.

DISCLAIMER OR GUARANTEE, nothing in this contract and nothing in the "Viewers" statement to "Drainage Authority" constitutes as a promise or guarantee about the outcome of the "Drainage Authorities" matter. "Viewers" comments about any outcomes to this matter are expression of opinion only.

DATE: _____

RED LAKE RIVER WATERSHED DISTRICT

By_____

It's Chairman of the Board

By _____

It's Board Secretary

Rob Wagner, Viewer

Roger Beiswenger, Viewer

Mike Baumgartner, Viewer

Jerry Bennett, Alternate

Red Lake Watershed District

1000 Pennington Avenue South
Thief River Falls, MN 56701
218-681-5800
218-681-5839 FAX
e-mail: rlwd@redlakewatershed.org
www.redlakewatershed.org

June 24, 2019

Lynn Burman &
Daniel Burman
18112 340th Ave. SE
Trail, MN 56684

Re: Non-permitted work (NW ¼ sec. 23 – Equality Twp. – Red Lake Co.)

Gentlemen:

It has been several years since a letter was sent to Lynn (copy enclosed) concerning non permitted work at the above-mentioned location. Alternatives were given as to what is required to correct the problem.

Watershed District staff inspected the site after the 2019 spring runoff event, and found that no corrective work has been done.

As directed by the Red Lake Watershed Board of Managers, this letter is a final notice for you to address the problem and take corrective action. Work shall be completed before Wednesday, July 24, 2019. If the work is not completed by that date, the Red Lake Watershed District will hire a Contractor, and remove the existing 36 in. diameter culvert and the entrance. Upon completion, the District will submit a bill to you for all costs.

If you have any questions please contact our office.

Sincerely,

Myron Jesme
Administrator

Enclosure

Pc: Dale Nelson – Chairman - RLWD Board
Al Page – RLWD Board Manager – Red Lake County

Red Lake Watershed District

Permit # **19-057**

Status Report: **Approved**

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
	Minnesota Department of Transportation	**248 125th Avenue NE Thief River Falls, MN 56701**		tel:**218-683-8016** mobile: fax:

General Information

(1) The proposed project is a:

Culvert Installation / Removal / Modification

(2) Legal Description

(3) County: **Pennington** Township: **Smiley** Range: **42** Section: **28** 1/4: **SW1/4**

(4) Describe in detail the work to be performed. **Replace existing 24" driveway culvert, new culvert will be longer than existing culvert.**

(5) Why is this work necessary? Explain water related issue/problem being solved. **Culvert is rusted out and driveway is caving in.**

Status

Status	Notes	Date
Approved	**None**	**June 17, 2019**
Received	**None**	**June 13, 2019**

Conditions

Red Lake Watershed District (RLWD) approval to replace 24" diameter driveway culvert. -Approve. N.J.O. For proposed work on lands not owned by applicant, he/she must obtain, in writing, permission from the affected landowners to perform proposed work. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

Red Lake Watershed District

Permit # **19-058**

Status Report: **Approved**

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
	Polk County Highway Department	**820 Old Highway 75 South Crookston, MN 56716**		tel: mobile: **218-470-8263** fax:

General Information

(1) The proposed project is a:

Culvert Installation / Removal / Modification

(2) Legal Description

(3) County: **Polk** Township: **Johnson** Range: **39** Section: **27** 1/4: **SW1/4**

(4) Describe in detail the work to be performed. **Removing existing failing culvert and replace with new CMP arch culvert, 28' road top, 2:1 bevels. Culvert is in County Ditch 109, Branch 1.**

(5) Why is this work necessary? Explain water related issue/problem being solved. **Existing CMP is failing. Landowner needs access to property. Applicant requests recommendation for culvert size.**

Status

Status	Notes	Date
Approved	**None**	**June 24, 2019**
Received	**None**	**June 13, 2019**

Conditions

P.A. #19058 – Polk Co. Ditch Authority – Johnson Twp. sec. 27 – Br. #1; CD #109 Red Lake Watershed District (RLWD) approval to remove existing deteriorated 84 in. diameter cmp driveway culvert and install new 84 in. diameter pipe or equivalent arch pipe. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

Red Lake Watershed District

Permit # **19-060**

Status Report: **Approved**

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Scott Balstad		**33393 420th Street SE** **Fosston, MN 56542**		tel:**218-556-9315** mobile: fax:

General Information

(1) The proposed project is a:

Culvert Installation / Removal / Modification

(2) Legal Description

(3) County: **Pennington** Township: **Bray** Range: **45** Section: **34** 1/4: **NW1/4**

(4) Describe in detail the work to be performed. **Widen field approach.**

(5) Why is this work necessary? Explain water related issue/problem being solved. **Approach is too narrow.**

Status

Status	Notes	Date
Approved	**None**	**June 17, 2019**
Received	**None**	**June 12, 2019**

Conditions

Red Lake Watershed District (RLWD) approval to widen field access (18" diameter culvert), as per approval of Pennington County Highway Department; proposed work is within Pennington County Road 57 Right-of-Way. -Approve. N.J.O. For proposed work on lands not owned by applicant, he/she must obtain, in writing, permission from the affected landowners to perform proposed work. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

Red Lake Watershed District

Permit # **19-061**

Status Report: **Approved**

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Dean Peterson		**19597 US 75 North** **Warren, MN 56762**		tel: mobile: **218-201-0093** fax:

General Information

(1) The proposed project is a:

Culvert Installation / Removal / Modification

(2) Legal Description

(3) County: **Polk** Township: **Keystone** Range: **48** Section: **15** 1/4: **SE1/4**

(4) Describe in detail the work to be performed. **Remove old 18" pipe on the west side of the American Crystal piling site and install new 18" pipe with apron on north side and trap on south side.**

(5) Why is this work necessary? Explain water related issue/problem being solved. **Old pipe is rusted out and is washing out on the south side.**

Status

Status	Notes	Date
Approved	**None**	**June 18, 2019**
Received	**None**	**June 17, 2019**

Conditions

Red Lake Watershed District (RLWD) approval to remove a 18" diameter centerline pipe and replace with a 18" diameter pipe, with flap gate on the south/outlet end, as per approval of Keystone Township; proposed work is within Township Road Right-of-Way. -Approve. N.J.O. For proposed work on lands not owned by applicant, he/she must obtain, in writing, permission from the affected landowners to perform proposed work. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

Red Lake Watershed District

Permit # **19-062**

Status Report: **Approved**

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Dean Peterson		**19547 US Hwy 75 NW** **Warren, MN 56762**		tel: mobile: **218-201-0093** fax:

General Information

(1) The proposed project is a:

Culvert Installation / Removal / Modification

(2) Legal Description

(3) County: **Polk** Township: **Keystone** Range: **48** Section: **21** 1/4: **SE1/4**

(4) Describe in detail the work to be performed. **Plug existing 12" culvert and install 18" pipe on west side of existing culvert with an apron on the north side and trap on on the south side.**

(5) Why is this work necessary? Explain water related issue/problem being solved. **12" concrete culvert plugs too easy with debris from farm yard.**

Status

Status	Notes	Date
Approved	**None**	**June 18, 2019**
Received	**None**	**June 17, 2019**

Conditions

Red Lake Watershed District (RLWD) approval to install an 18" diameter centerline pipe, with flap gate on south/outlet end, adjacent of existing 12" diameter RCP centerline pipe, as per approval of Keystone Township; proposed work is within Township Road Right-of-Way. -Approve. N.J.O. For proposed work on lands not owned by applicant, he/she must obtain, in writing, permission from the affected landowners to perform proposed work. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

Red Lake Watershed District

Permit # **19-063**

Status Report: **Approved**

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Dale M. Nelson		**10367 140th Street NW** **Thief River Falls, MN 56701**		tel: mobile: **218-686-0032** fax:

General Information

(1) The proposed project is a:

Culvert Installation / Removal / Modification

(2) Legal Description

(3) County: **Pennington** Township: **Rocksbury** Range: **43** Section: **6** 1/4: **SE1/4**

(4) Describe in detail the work to be performed. **Add additional pipe to increase length of existing crossing.**

(5) Why is this work necessary? Explain water related issue/problem being solved. **Crossing is too narrow.**

Status

Status	Notes	Date
Approved	**None**	**June 18, 2019**
Received	**None**	**June 18, 2019**

Conditions

Red Lake Watershed District (RLWD) approval to lengthen field access (18" diameter) culvert, as per approval of Pennington County Highway Department; proposed work is within Pennington County Road 61 Right-of-Way. -Approve. N.J.O. For proposed work on lands not owned by applicant, he/she must obtain, in writing, permission from the affected landowners to perform proposed work. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

June 24, 2019

Board of Managers
Red Lake Watershed District
1000 Pennington Ave. South
Thief River Falls, MN 56701

Gentlemen:

This letter is to inform you that I have decided to retire from my position at the Red Lake Watershed District in October 2019. The specific day is yet to be determined.

It was 38 years ago when I first began at the Watershed as an 'intern' during my college days. At the time, I never envisioned that this would become my only job.

During my time here, I've thoroughly enjoyed the diversity of work duties, (not so much going to meetings), but including the constant challenges that go with the water world issues, performing "field" work, being outdoors, and the "work perks" of seeing a vast variety of wildlife and the beautiful sunrises and sunsets.

I consider myself fortunate to have been associated with various projects. Seeing them from start to finish and operating as designed for the betterment of the Red River Basin.

I have had many memorable moments during my career. Three that come to mind are my first full time inspection job on the Moose River Impoundment project, 2) flying over East Grand Forks/Grand Forks in April 1997 on the day the Red River overtopped the levees (Something I never thought I would witness). Since the '97' flood, it has been a positive to see the various flood protection projects that cities have implemented. 3) I also found it rewarding to build farmstead ring dikes for rural landowners. They are also a positive product of the 1997 flood.

I am grateful to have met many good people throughout the District. Including landowners and those representing townships, counties, state, and federal agencies, and my impoundment flood-gate operators for their diligent work.

I believe in the purpose of the Watershed and hope for successful projects in the future.

I wish to thank all of the past and present Board Managers and staff for their support, guidance, and help over the years. It has been a good journey, and in my eyes "a good run". Thanks to All of You, and thanks for letting me be a part of the Team!

Respectfully Submitted,

Loren Sanderson

Loren Sanderson

Red Lake Watershed District - Administrators Report

June 24, 2019

Red River Watershed Management Board – LeRoy and I attended the RRWMB meeting held 9:30 am on June 18, 2019 at the Community Center in Ada, Minnesota. Some of the highlights from the RLWD perspective was brief discussion on funding projects should future State funding be hard to predict. There was also a Strategic Planning meeting that followed the regular meeting which I have to say was very well done. Morrie Lanning is the mediator hired by the Red Board to see this through.

Red Lake River 1W1P – I attended a Red Lake River 1w1p Planning meeting on Monday June 10th in preparation for the Policy Committee meeting which was to be held at 9:30 June 19, 2019. Due to a lack of quorum on the 19th, the meeting could not be held. The only two Policy Committee members that showed up were Don Jenson and Grant Nelson. Meeting will be rescheduled for July 10th at 9:30 am. Gene is the Policy Committee member and Dale is the alternate.

Thief River 1W1P – Planning Committee comments for the draft 1w1p will be June 28, 2019. After questions are completed, the draft copy will be forwarded to Policy and Advisory Committee members for approval prior to going out for public comments.

Vacation – I will be taking off most of the week of the 4th of July. The actual days are yet to be determined.

Water Quality Report – Please find in your packet Corey's water quality report dated February 2019.

RED LAKE WATERSHED DISTRICT
MONTHLY WATER QUALITY REPORT

February 2019

By Corey Hanson, Red Lake Watershed District Water Quality Coordinator. 6/20/2019.

- ✓ River Watch Forum
- ✓ We Are Water
- ✓ Clearwater River Watershed Restoration and Protection Strategy

River Watch

Red Lake Watershed Natural Resource Specialist, Ashley Hitt, attended the 24th Annual River Watch Forum in Grand Forks, ND. Approximately 250 students and teachers participated in the event. River Watch schools from throughout the Red River Basin, along with five schools within the RLWD attended the event. Three RLWD schools participated in the forum challenge: "Data Driven Watershed Problem Solving." The students were challenged to identify a problem within the watershed and propose a solution by creating an ArcGIS Story Map. Red Lake County Central River Watch students won 1st Place. Their project focused on discharge that was entering the Hill River near Brooks. Other projects included "Less Trash, More Fish: A Biodegradable Future" by Sacred Heart River Watch Team and "Buffer Laws & You" by Red Lake Falls River Watch Team. Crookston and Clearbrook-Gonvick River Watch teams also attended the event. In addition to the team challenge, this year's River Watch Forum also included a college/career fair, Jeopardy-style quiz game, Keynote address by Natalie Warren, river design activity (mosaic painting), door prizes, and an awards ceremony.

Red Lake County Central River Watch students and advisor accept their 1st place award from RLWD staff Ashley Hitt

Mosaic painting: Each River watch team was given a canvas showing where to draw water and where to draw land. Each team was given creative freedom on how to draw their water and land.

To view all the ArcGIS Story Maps created by each River Watch team follow the link below: https://iwinst.org/mesmerize/watershed-education/river-watch/forum-resources/2019-river-watch-forum/

We Are Water, Crookston

The We Are Water traveling exhibit was on display in the Kiehle Building at the University of Minnesota, Crookston from January 21 through March 4th, 2019. The Crookston stop for this exhibit was made possible by local hosts like the West Polk SWCD, University of Minnesota Crookston, and the City of Crookston. Partnerships with the MPCA, Minnesota Humanities Center, and other local, federal, and state agencies, organizations, and groups. The displays filled the entry hall of the building and an adjacent room. It included stories from local people who talked about their connections to water. Visitors were encouraged to share a story about their connection to water. People could place a marker on a globe or a regional map to correspond with their story. Other displays included:

- Volunteer monitoring ("Be a Citizen Scientist")
- Minnesota Water Quality Certification Program for farms
- Interactive demonstration of land and soil management decisions that are needed in order to run a profitable farm.
- "What you flush matters" interactive display about chemicals and products that are difficult for wastewater treatment plants to remove.
- Local history and water-related issues
- Nitrate pollution in drinking water
- Wetlands
- Rivers
- Old plumbing
- Envisioning the future of water: water conservation, green infrastructure, farming practices that protect water, and living cover.
- What's in the Water – interactive display with backlit slides to describe pollutants
- Private wells
- And more…

RED LAKE WATERSHED DISTRICT
MONTHLY WATER QUALITY REPORT

February 2019

Severe winter weather in February caused multiple cancellations and postponements. Some of the events scheduled for the We Are Water exhibit, like the family night event and the Ag Water Quality Forum, needed to be rescheduled from their originally planned date.

Clearwater River Watershed Restoration and Protection Strategy (WRAPS) Project

- Objective 10 – Report Writing
  - A semi-annual progress report was completed and sent to the MPCA Project Manager.
  - TMDL Section 10 – Public Participation Completed a draft WRAPS Section 3.3 – Civic Engagement
  - TMDL Section 3.2 – Lakes (Watershed and Waterbody Characterization)
  - TMDL Section 4 - Pollutant Source Summary
    - Saved as a PDF and shared with the MPCA Project Manager for a preliminary review
  - TMDL Section 4.1 – Total Suspended Solids Sources
  - TMDL Section 4.2 – Sources of *E. coli* Bacteria
  - TMDL Section 4.3 – Sources of Total Phosphorus
  - TMDL Section 4.4 – Stressors to Aquatic Biology (introduction to the section)
  - TMDL Section 4.4.1 – 09020305-518, Poplar River, Fish Biological Integrity (stressors)
  - TMDL Section 4.4.2 – 09020305-518, Poplar River, Macroinvertebrate Biological Integrity (stressors)
  - TMDL Section 4.4.3 – 09020305-527, Silver Creek, Macroinvertebrate Biological Integrity (stressors)
  - TMDL Section 4.4.4 – 09020305-539, Hill River, Fish Biological Integrity (stressors)
  - TMDL Section 4.4.5 – 09020305-561, Tributary to the Poplar River Diversion, Fish Biological Integrity (stressors)
  - TMDL Section 4.4.6 – 09020305-645, Lost River, Fish Biological Integrity (stressors)
  - TMDL Section 4.4.7 – 09020305-652, Beau Gerlot Creek, Fish Biological Integrity (stressors)
  - TMDL Section 4.4.8 – 09020305-652, Beau Gerlot Creek, Macroinvertebrate Biological Integrity (stressors)
  - TMDL Section 4.4.9 – 09020305-656, Hill River, Fish Biological Integrity (stressors)
  - TMDL Section 4.4.10 – 09020305-658, Red Lake CD 23, Fish Biological Integrity (stressors)
  - TMDL Section 4.5 – Causes of Low Dissolved Oxygen Levels (introduction to the section)
  - TMDL Section 4.5.1 – Causes of Low Dissolved Oxygen Levels in 09020305-509, Walker Brook
  - TMDL Section 4.5.2 – Causes of Low Dissolved Oxygen Levels in 09020305-517, Clearwater River Headwaters
  - TMDL Section 4.5.3 – Causes of Low Dissolved Oxygen in AUID 09020305-518 of the Poplar River
    - Though much of the low dissolved oxygen levels could be attributed to natural landscape features, there was a significant increase in total phosphorus downstream of the Fosston wastewater treatment facility that was a concern and could be negatively influencing dissolved oxygen levels there. Evidence for and against writing a TMDL for Station S003-127 at CSAH 30, near Fosston, were

listed in this section of the TMDL.
    - Map of site-specific total phosphorus and orthophosphorus assessment statistics throughout the reach.
    - Map of dissolved oxygen assessment statistics throughout the reach
- TMDL Section 4.5.4 – Causes of Low Dissolved Oxygen Levels in 09020305-526, Clear Brook
- TMDL Section 4.5.5 – Causes of Low Dissolved Oxygen Levels in 09020305-529, Lost River
- TMDL Section ~~4.5.6~~ – Causes of Low Dissolved Oxygen Levels in 09020305-543, Poplar River Diversion (removed and saved as a separate document because the reach was removed from the 2018 Draft List of Impaired Waters)
- TMDL Section 4.5.6 – Causes of Low Dissolved Oxygen Levels in 09020305-545, Nassett Creek
- TMDL Section 4.5.7 – Causes of Low Dissolved Oxygen Levels in 09020305-550, Judicial Ditch 73
- TMDL Section 4.5.8 – Causes of Low Dissolved Oxygen Levels in 09020305-645, Lost River
- TMDL Section 4.5.9 – Causes of Low Dissolved Oxygen Levels in 09020305-656, Hill River
- TMDL Section 4.6 – Lake Nutrient Sources
- TMDL Section 5.4 – Phosphorus in Lakes (TMDL Development)
    - Installed and debugged the BATHTUB modeling program
- TMDL Section 7 – Reasonable Assurance
- District staff spoke with a landowner along Stony Lake to discuss the history of the lake, depths, pollutant sources and landowner concerns.
- District staff spoke with an employee of the City of Clearbrook to discuss the extent of the city's sanitary sewer system. There are some homes on the edge of town that are likely not hooked up to the city's sewer.
- Comments were received from the MPCA Project Manager on Draft Sections 1, 2, 5.2, and 5.3 of the TMDL.

Red Lake River Watershed Restoration and Protection Strategy (WRAPS) Project

A small number of easily addressed comments from an EPA review of the Red Lake River TMDL were received on February 25, 2019. The comments were mainly clarification-related questions and some issues with rounding-related issues in TMDL tables.
A semi-annual progress report was completed and sent to the MPCA Project Manager.

Grand Marais Creek Watershed Restoration and Protection Strategy (WRAPS)

The public notice period for the Grand Marais Creek TMDL and WRAPS ended on February 6, 2019. Most of the comments were minor questions/comments from the EPA. Most of the comments were clarification-related questions and some issues with rounding issues in TMDL tables. A semi-annual progress report was completed and sent to the MPCA Project Manager.

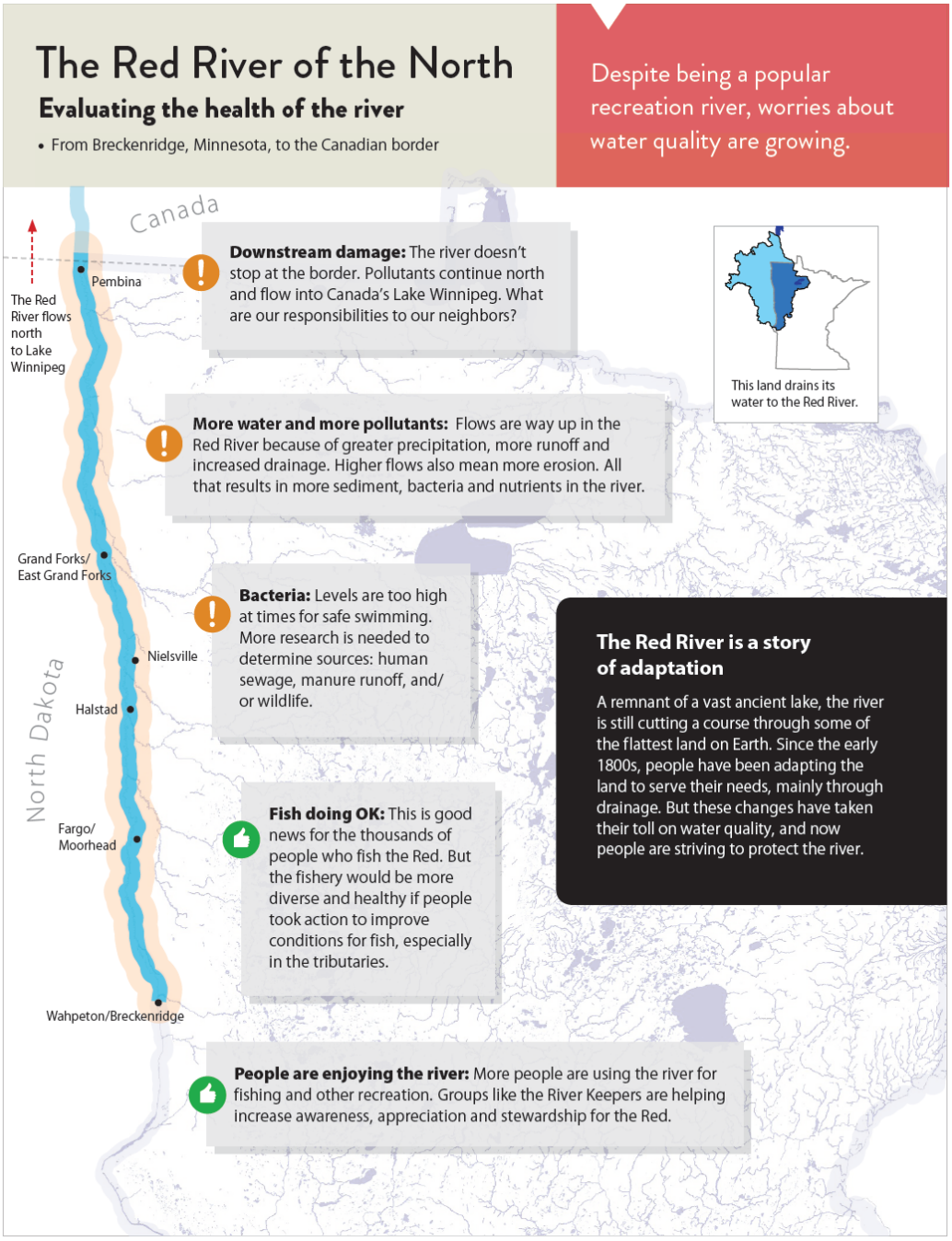
Thief River One Watershed One Plan (1W1P)

The Planning Work Group, including District staff, reviewed Section 4 of the Thief River 1W1P. The Planning Work Group discussed ways to objectively prioritize planning regions.

Other Notes

- Water quality related notes from the February 28, 2019 Red Lake Watershed District Board of Managers meeting:
    - Administrator Jesme stated that the $50,000 Conservation Partnership Grant the District applied for in partnership with Agassiz National Wildlife Refuge for the removal of sediment in Judicial Ditch 11 Main, RLWD Project No. 180B was awarded. Jesme noted that there are some special provisions in the grant that Agassiz National Wildlife Refuge must follow which include a requirement to close the gate at the outlet of JD 11, downstream of the construction site, which will allow for sediment to settle, prior to the release of any water.
    - The Board reviewed a Resolution to Adopt and Implement the Amended Red Lake River Comprehensive Watershed Management Plan, RLWD Project No. 149A. Motion by Tiedemann, seconded by Dwight, to authorize President Nelson to sign the Resolution to Adopt and Implement the Amended Red Lake River Comprehensive Watershed Management Plan, RLWD Project No. 149A. Motion carried.
    - Pennington SWCD submitted a request for a financial donation for the Area I Envirothon. The Area I Envirothon will be held on April 24, 2019, at Lake Bronson State Park. Motion by Dwight, seconded by Tiedemann, to donate $300 to the Area I Envirothon to promote education and awareness of water quality issues. Motion carried
    - Staff member Ashley Hitt stated that she attended the 24th Anniversary of River Watch at the River Watch Forum in Grand Forks, where approximately 250 students and teachers participated. Two schools that Hitt works with participated in the forum assignment, “Data Driven Watershed Problem Solving” where the students identify a problem within the watershed. Hitt announced that the Red Lake County River Watch Students won 1st Place. Their project focused on discharge entering the Hill River in Brooks. Red Lake Falls students presented a project on the Buffer Law. Manager Ose stated that students from Marshall County Central testified at the State Capitol, for increased funding for the River Watch program and a push to get the program statewide. Manager Page suggested providing River Watch student’s with matching pullover’s or shirts. Hitt will bring back recommendations to the Board. Manager Dwight requested that Hitt visit with the Blackduck, Kelliher and Northome School District’s regarding River Watch.
    - Included in the Board packet was a letter from Lauri Fairchild, USFWS, stating that she will be retiring.
    - Jesme attended the MPCA Waters and Watershed meeting held on February 6, 2019 in Brainerd. LGU’s gathered in a roundtable group to discuss partnerships, while developing and constructing projects. Jesme presented information on the Grand Marais Outlet Restoration and Cut Channel project.

- Red River of the North – Evaluating the Health of the River
  - The MPCA released a report about declining water quality in the Red River of the North
    - Article: https://www.mprnews.org/story/2019/02/26/farm-caused-pollution-worsening-on-the-red-river
    - Website: https://www.pca.state.mn.us/water/red-river-north-evaluating-its-health
    - Report Document (8 pages): https://www.pca.state.mn.us/sites/default/files/wq-swm1-05.pdf



Meetings and Events from February 2019

- **February 6, 2019** – End of the Grand Marais Creek WRAPS/TMDL Public Notice/Comment Period
- **February 11, 2019** – Red Lake River Corridor Enhancement meeting at the University of Minnesota, Crookston
    - Signage purchases are all that is left to complete for the current Northwest Minnesota Foundation grant. Signage needs have been reviewed, signage placement rules have been reviewed, installation has been organized, and a Google Earth map and spreadsheet have been created to plan and track the installations. A signage plan will need to be written and submitted to the Minnesota Department of Transportation.
    - The group reviewed lists of projects that have been approved for funding from the Greater Minnesota Regional Parks and Trails Commission.
        - River Mile 116A St. Hilaire Access Point - $28,000
        - River Mile 98 County of Red Lake Access Point - $20,000 (New access at Highway 32, Shannon Stassen is working on the paperwork)
        - River Mile 52A City of Crookston Rock Rapid Portage - $22,613
        - River Mile 52A City of Crookston Access Point - $14,213
        - River Mile 53 City of Crookston Access Point - $14,213
        - River Mile 58 City of Crookston Access Point - $9,525
        - River Mile 67 City of Crookston Access Point - $63,022 (New access at the Gentilly Bridge)
        - River Mile 128 City of Thief River Falls Access Point - $3,900 (Finsbury Park)
        - River Mile 124 City of Thief River Falls Access Point - $3,900 (Hartz Park)
        - River Mile 125 City of Thief River Falls Access Point - $3,900 (Oakland Park)
        - Corridor Signage for Red Lake River Corridor - $17,500
        - Greenway Parks, La Fave Park, and Folson Park in East Grand Forks
        - Central Park in Crookston
        - Oakland Park in Thief River Falls
    - Project ideas for future grant applications were discussed
        - Potential for a new access point south of Thief River Falls in conjunction with a Westside Flood Damage Reduction outlet stabilization project
        - Find more access points between Crookston and East Grand Forks
        - The city of St. Hilaire would like to repair its trail that has been rutted by four wheelers. The city would like to add primitive camping sites, link parks with trails, along with improving the accessibility of the trail along the river.
        - MNDOT is focusing on intracommunity funding instead of funding projects that try to connect communities.
        - There was a suggestion that an app could be created to replace fold-out maps of accesses along the Red Lake River.
        - Fat tire bike trails were mentioned.
        - Bike trail improvements in Oakland Park and Finsbury Park in Thief River Falls were mentioned. There was also discussion about making cities more bike-friendly with “bicycle friendly parallel corridors.” Separate bike paths are usually more expensive.
        - Could the location of the old Mallory Bridge be used as an access?

        - The six-member Executive Committee will take the lead on the 2019 grant application
    - The Greater Minnesota Regional Parks and Trails Commission is looking for better proposals for connecting people to nature. These projects should be something new that hasn't been proposed/funded in the past.
        - Youth Summit?
        - Involve other organizations in developing programs (Early Childhood and Family Education, Mental Health Center, University of Minnesota Crookston, Polk County Health)
    - A Red Lake River Nibi Walk is scheduled for Saturday, June 27, 2019 through Tuesday, July 30, 2019. The Indigenous People's Task Force will be leading a walk from the headwaters of the Red Lake River at the outlet of Lower Red Lake to the mouth of the river in East Grand Forks. The walk will take place on roads that parallel the river as closely as possible. Following the Red Lake River walk, a Red River Nibi Walk is scheduled to follow the Red River of North from Grand Forks to Winnipeg.
    - The DNR completed an inventory to put together a database of public water accesses.
    - Meeting attendees had an opportunity to tour the We Are Water exhibit after the meeting.
- **February 12, 2019** – Thief River One Watershed One Plan Planning Work Group phone conference
    - Criteria used to distinguish between the moderate and high funding levels in the action table
    - How to distribute the baseline funding among the planning regions
    - Potential to pursue NACD funding for adding technical capacity for the watershed
- **February 25, 2019** – Agricultural Water Quality Forum at the University of Minnesota, Crookston Bede Ballroom

Ag Water Quality Forum
(Photo Source: West Polk SWCD)

- Science of Vegetated Buffers – Brenda Chaplinski (Miller), University of Minnesota Crookston Environmental Science Instructor
    - This presentation touched the use of the web soil survey, "snirt" from winter wind erosion, benefits of buffers for mourning doves, pollinators, trapping efficiencies of varying buffer widths, and bank stabilization.
    - Conservation tillage practices also help prevent soil loss.
    - A "Buffer Builder" program has shown that a smaller buffer could be effective if the draws and inlets are well-buffered.
    - There were a few points of debate during the presentation about the level of impact that tile drainage can have upon water tables and aquifers, studies that have examined dissolved reactive phosphorus concentrations in runoff from vegetated buffers, and a comment about silt in Parnell Impoundment. An article from Grain News was mentioned as evidence that buffers aren't effective. The basis for that conclusion was that buffers have a limited potential for filtering nutrients from snowmelt runoff due to dormant vegetation and frozen (less permeable) soil. The research was conducted in Canada, where the vast majority of runoff occurs during snowmelt. Near the end of the article there is one sentence that acknowledges an often-overlooked function of buffers: stabilizing the soil and stream/ditch banks. A couple of research papers, related to this topic, were reviewed to verify the points that were made in the article (including research by Dr. David Lobb, who was cited in the article).
        - Research conducted by the University of Manitoba, *Determining the Effective Use of Riparian Buffer Areas to Filter Sediments and Nutrients,* was the basis of an article that has been shared by buffer opponents. The findings of the research were largely influenced by snowmelt runoff, when infiltration is limited by frozen ground and the vegetation is not growing (limiting uptake of water and nutrients). This study noted evidence (thicker soil) that the buffer was filtering sediment and particulates from runoff but was not able to measure this significant aspect of buffer effectiveness. Some limitations on buffer efficiency were noted. A higher percentage of runoff from snowmelt would mean that a higher percentage of runoff is passing through the buffer while it is not actively growing, and soils are nearly impermeable. This study also recommended harvesting vegetation (haying). The study recommended the shaping and smoothing buffer zones to promote dispersed flow for greater retention of sediment and nutrients.
            - The study only measured the filtering potential of buffers for dissolved nutrients and failed to acknowledge the importance of buffers for stabilizing streambanks, ditch banks, and shoreline. The prevention of gully erosion and mass wasting is an all-too-often overlooked benefit of permanent, preferably deep-rooted in buffers along waterways. Several of the key components of streambank stability are surface protection, root density, and root depth.
        - Another Canadian study, *Seasonality of Phosphorus and Nitrate Retention in Riparian Buffers,* found that soil uptake of dissolved

reactive phosphorus decreases as soil become saturated with phosphorus. The study observed that buffers were likely to retain dissolved nutrients (nitrates and dissolved reactive phosphorus) during the summer but are more likely to release nutrients during snowmelt runoff. Studies like this one have been misinterpreted as evidence that buffers are ineffective. However, this study's report began by acknowledging that "riparian buffers can be effective in the retention of sediment and particulate bound nutrients." The study focused on a very specific aspect of phosphorus retention – the uptake potential for dissolved nutrients. The study did not conclude in a dismissal of the effectiveness of buffers, but rather recommended management practices to improve the effectiveness of buffers like reduction of upland sources of phosphorus, soil testing to identify phosphorus saturation, and vegetation harvesting to remove nutrients.

- Glen Kjaweski talked about the Agricultural Water Quality Certification Program
- Cost share is available through the West Polk SWCD for side water inlets, grade stabilization structures, field windbreaks, filter strips, and diversions.
- Several good presentations and testimonials from Minnesota Ag Water Quality Certification Program certified landowners
    - Trinity Creek Ranch near Red Lake Falls (Miller/Tabert Farm)
        - Utilize not till, strip till, cover crop, interseeding cover crops, and integration of livestock.
        - Improving soil health through BMPs to reduce input costs and increase profits.
        - The landowner discussed the rainfall simulator educational tool, which demonstrates the effects that conventional tillage and overgrazing have upon sediment and nutrient runoff.
        - Cereal rye cover crops help warm the soil in the spring and keep it from getting too hot in the summer.
        - Soil health can be improved by doing things throughout the year that benefit micro-organisms.
        - They have utilized bio strip-till, which combines the benefits of cover crops with the benefits of strip tilling.
        - An obstacle to the use of cover crops can be the cost of planting them. Livestock benefits and increased soybean yields are ways to recoup the costs of planting cover crops.
    - Skaug Farm
        - Research is attempting to find a species of mustard that can be used as a cover crop and help reduce crop damage from nematodes. The mustard would fool nematodes into hatching before there is a host crop so they die-off before planting.
    - Folland Farm
        - Discussed the use of pollinator plants and cover crops.

- Nordick Farm (a.k.a Discovery Farm)
    - Drainage Water Management is being studied separately from the Discovery Farms work.
    - He has tried saturated buffers and has found them to be very effective at reducing nitrate runoff where they fit. The right conditions are needed in order to install saturated buffers, including the right topography and a waterway that can receive outflow from the buffer.
    - 1,300 samples were collected on the farm in 2018.
    - He discussed Minnesota's nitrogen rule and how leaching of nitrogen is not happening in the clay soils of the Red River Valley. The clay soil stops nitrogen from seeping into groundwater, almost like the lining of a lagoon.
- **February 27, 2019** – Thief River One Watershed One Plan Planning Work Group phone conference
- **February 28, 2019** – Snow sampling found that there was approximately 5 inches of moisture in snow in the Clearwater River watershed.

Red Lake Watershed District Monthly Water Quality Reports are available online: http://www.redlakewatershed.org/monthwq.html.

Learn more about the Red Lake Watershed District at www.redlakewatershed.org.

Learn more about the watershed in which you live (Red Lake River, Thief River, Clearwater River, Grand Marais Creek, or Upper/Lower Red Lakes) at www.rlwdwatersheds.org.

"Like" the Red Lake Watershed District on Facebook to stay up-to-date on RLWD reports and activities.