

AGENDA

Red Run Intercounty Drain Drainage Board Macomb and Oakland Counties

November 20, 2025 – 10:00 a.m.

Office of the Macomb County Public Works Commissioner
21777 Dunham Road, Clinton Township, Michigan, and Microsoft Teams

1. Call meeting to order

Board Members:

Joe Brezvai, Chair, Michigan Department of Agriculture and Rural Development
Candice Miller, Macomb County Public Works Commissioner
Jim Nash, Oakland County Water Resources Commissioner

2. Approval of the meeting agenda for November 20, 2025
3. Approval of Drainage District Board Meeting Minutes from August 20, 2025
4. Public Comment
5. 2025 Update and Comprehensive Action Plan – Phase I - (HRC)
6. Present HRC Account of Project Standing
7. Present Macomb County Public Works Communication – Henry Graham Flow Restrictions
8. Present 2026 Meeting Dates
9. Present trial balance
10. Present approval for payment of invoices in the amount of \$89,714.56
11. Other business
12. Adjourn

Agenda Item No. 3

Board Meeting Minutes from
August 20, 2025

Minutes of the Meeting
of the Intercounty Drainage Board for the
Red Run Drain

August 20, 2025

Minutes of the regular meeting of the Drainage Board of the Red Run Drain Drainage District held at the office of the Macomb County Public Works Commissioner, 21777 Dunham Road, Clinton Township, Michigan on the 20th day of August 2025 at 10:30 a.m. Eastern Standard Time and via Microsoft Teams.

Present: Joe Brezvai, Chairperson and Deputy for Dr. Tim Boring, Director of the Michigan Department of Agriculture and Rural Development; Candice Miller, Member and Macomb County Public Works Commissioner; and Anne Vaara for Jim Nash, Acting Secretary and Chief Deputy Oakland County Water Resources Commissioner.

Also Present: Representing the office of the Macomb County Public Works Commissioner; Brian Baker, Jeff Bednar, Alex Aprile and John Caron. Representing the office of the Oakland County Water Resources Commissioner: Steve Korth, Meg Koss, George Nichols, Evans Bantios, Jay Blenkhorn and Mel Todd. Others in attendance: Jamie Burton and Nancy Kolinski (Hubbell, Roth & Clark), Brandon Williams (MDARD), Jessica Johnston (City of Sterling Heights) and Heidi Grunwald (OC Fiscal Services).

1. Call meeting to order.

Chairperson Brezvai called the meeting to order at 10:48 a.m.

2. Agenda.

Motion by Miller, supported by Vaara, to approve the August 20, 2025, agenda as presented.

Adopted: YEAS – 3
NAYS – 0

3. Minutes.

Motion by Vaara, supported by Miller, to approve the minutes of the July 9, 2025, meeting.

Adopted: YEAS – 3
NAYS – 0

4. Public Comment.

None.

5. Present Hubbell Roth and Clark Project Task Summary / Account of Project Standing

Jamie Burton of Hubbell Roth and Clark (HRC) presented the Project Task Summary and Account of Project Standing to the Board. Mr. Burton reviewed the project tasks included under phases 1 and 2 of the Summary and advised that a large focus will be comparing 2025 data to 2019 data to help identify areas of progression in drain bank erosion.

Motion by Miller, supported by Vaara, to receive and file the HRC Project Task Summary and Account of Project Standing as presented.

Adopted: YEAS – 3
NAYS – 0

6. Trial Balance

George Nichols presented the Trial Balance report dated August 20, 2025, indicating an available cash balance of \$721,284.25.

Motion by Vaara, supported by Miller, to receive and file the Trial Balance as provided.

Adopted: YEAS – 3
NAYS – 0

7. Invoices and/or Reimbursement of the Drain Revolving Fund

A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$7,221.90 was presented.

Motion by Miller, supported by Vaara, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$7,221.90 as presented.

Adopted: YEAS – 3
NAYS – 0

8. Other Business.

George Nichols shared an update on his communication with the Army Corps; they now have funding available to complete a site visit. Dates were reviewed; Mr. Nichols will schedule the site visit for September 4, 2025.

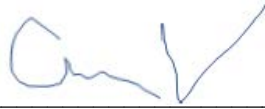
Chairperson Brezvai requested the November 19, 2025, meeting be rescheduled due to a scheduling conflict with MDARD. All in attendance agreed to reschedule the meeting to November 20, 2025, at 10:00 a.m.

9. Adjourn.

Motion by Vaara, supported by Miller, to adjourn the August 20, 2025, meeting at 11:06 a.m.

Adopted: YEAS – 3
NAYS – 0

Next Regular Meeting: *Office of the Macomb County Public Works Commissioner, 21777 Dunham Road, Clinton Township, Michigan* and electronically at 10:30 a.m., Eastern Standard Time on September 17, 2025.



Anne Vaara for Jim Nash, Acting Secretary
Red Run Intercounty Drain Drainage Board

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I hereby certify that the foregoing is a true and complete copy of the minutes of the Red Run Intercounty Drain Drainage Board, at a meeting held on the 20th day of August 2025, and that the meeting was conducted and public notice was given in compliance with the Open Meetings Act being Act 267, Public Acts of Michigan, 1976, as may be amended from time to time and that the minutes were kept and will be or have been made available to the public as required by the Act.

IN WITNESS WHEREOF, I have hereunto affixed my official signature on this 20th day of August 2025.



Anne Vaara for Jim Nash, Acting Secretary
Red Run Intercounty Drain Drainage Board

Agenda Item No. 4

Public Comment

Agenda Item No. 5

2025 Update and Comprehensive Action Plan – Phase I
HRC

**Red Run Intercounty Drain Drainage Board
2025 Update and Comprehensive Action Plan
Account of Project Standing**



HRC Project # 20250308.02

APS #: 4

Time Period: October 1, 2025, through October 31, 2025

Date Issued: November 1, 2025

Prepared By: Jamie Burton

Project Task Summary:

Phase 1: Conditions and Priorities

Task 1- Merge all available data sets into comprehensive and centralized GIS platform - *Complete*

- Warren & Sterling Heights storm utility data
 - Includes available outfall locations, which are also present in other datasets
- 2019 inspection data (points, lines, and images. This is the “700 photos” data)
- HRC invasive species point data with images
- Army Corp of Engineer site walk points with photos (2017, 2022, 2023, 2024)
- Open and enclosed drains that are tributary to Red Run drain (or other larger drains that are tributary)
- Larger drains that are tributary to Red Run drain
- FEMA floodplain data
- 2022 SEMCOG Landcover data (vector data derived from imagery)
- Red Run Bank stabilization data (20180678 job number)
- Location of 7 soil boring sample points (data is just south of Metro Parkway)
- Flow Guage locations
- Red Run flow data
 - Flow, Section, 2YR_WS, 10YR_WS, 100YR_WS
 - *The *YR_WS are all yes/no values*
- 2019 “Condition Snake” data
- 2025 Drone slight imagery & 3D model
- ROW limits added this reporting period

Task 2 – Scan and categorize all Red Run files into one central location - *Complete*

- On going as material is located
- SharePoint Drive has been created and available

Task 3 – Develop a consistent rating system for banks – *Complete*

- Met with staff to go over ranking system
- Found representative sites for field review
- Meeting on 9/4/25 to field verify the preliminary ranking criteria
- Decided on a numerical ranking system to fall more in line with a conventional AMP type classification and processing matrix

Task 4 – Evaluate conditions in drain conditions from 2018-2025 – *Complete*

- To be complete immediately after field verification of ranking matrix

Task 5 – Overlay and comment on ROW/easement availability or encroachments – *Complete*

**Red Run Intercounty Drain Drainage Board
2025 Update and Comprehensive Action Plan
Account of Project Standing**



Task 6- Identify any areas that should be addressed immediately with recommended stabilization measures – *In process*

Task 7- Review existing modeling and flow data to estimate sheer stress concerns over a variety of flows - *In process*

Task 8- Establish a repeatable prioritization metric - *Complete*

Task 9- Prepare a comprehensive but dynamic map of the conditions and priorities for repair and improvement – *In Process*

Task 10- Preliminary report memo and presentation to the Board – *In Process*

Task 11- Normal administrative tasks including biweekly team calls and monthly reports to the Board – *Ongoing*

Phase 2- Restoration and Improvement Recommendations – ALL FUTURE TASKS

Task 1- Review previous project designs and current field conditions to see what worked well and why

○

Task 2- Field Data Collections

○

Task 3- Generate design cross sections and stabilization means per conditions

○

Task 4- Provide planning level estimates of probable project costs and run costs through the current apportionment rolls

○

Task 5- Comment on other recommendations

○

Task 6- Normal administrative tasks including biweekly team calls and monthly reports to the Board

○

Task 7- Preliminary report memo and presentation to the Board

○

Task 8- Final report memo and presentation to the Board

○

Work Completed Since Last Account of Project Standing (APS):

- More data entered into the GIS
- Ranking efforts and prioritization
- Map creations
- Team update meetings
- Document library in SharePoint created with stakeholder access

**Red Run Intercounty Drain Drainage Board
2025 Update and Comprehensive Action Plan
Account of Project Standing**



Focus of Efforts in Next Period:

- Adding additional information from the existing model
- Determination prioritization areas and anticipated scope
- Preliminary conceptual cost opinions
- Finalizing final memo
- Identification of field data needed i.e. soil borings, topographical survey, boundary survey

Critical Decisions Made:

- Using conventional (grey infrastructure asset management practices) for this open channel work

Outstanding Critical Questions:

- None at this time

Client Assistance Needed:

- None at this time

Schedule Concerns

- None at this time

Scope and/or Budget Concerns:

- None at this time

Agenda Item No. 6

HRC Account of Project Standing

Red Run Drain Freedom Hill Restoration



APS #: 51

Time Period: October 01, 2025 thru October 31, 2025

Prepared By: Nancy Kolinski

Date Issue: November 07, 2025

Red Run Drain Supplemental Services:

Miscellaneous:

- **USACE Freedom Hill Phase 2 Coordination-** Red Run South bank (AEI): 95% plans complete. Project on hold until funds are available
- **USACE GWK Outfall project (KZF):** Final documents submitted to USACE. Waiting for funds to be allocated for implementation.
- **Red Run Resilience Study (DAR2v2):** Coordination ongoing. Topography of drain bottom for modeling ongoing by USACE subcontractor.
- **Red Run Spill Response:** Sensors installed and staff is setting up the communications and operation
- **Red Run 2025 Update:** see separate APS

Agenda Item No. 7

Macomb County Public Works Communication
Henry Graham Flow Restrictions



November 20, 2025

Joe Brezvai, Chair, Red Run Intercounty Drain Drainage Board
Michigan Department of Agriculture and Rural Development
525 West Allegan
Lansing, MI 48933

RE: Henry Graham Flow Restrictions

Dear Mr. Brezvai,

As a follow up to recent communications between Macomb and Oakland County (attached), we request the following issue be discussed at the November Red Run Drain Board meeting:

During the period of 1969 to 1982, there is extensive documentation regarding the necessity of restricting additional flow into the Red Run Drain. These concerns stemmed from the acknowledged lack of sufficient capacity to handle increased volume, which pose a significant flooding risk in downstream communities.

Starting in 1971, as the Henry Graham Drain was being built to channel stormwater from Madison Heights and Troy into the Red Run Drain, the Army Corps of Engineers recommended limiting the inflow to 480 cubic feet per second (cfs). After a series of meetings over the next few years, the Red Run Drainage Board negotiated an agreement permitting a higher flow rate of 800 cfs. To accommodate this, the Red Run Drain was widened by five feet from Dequindre to Mound Road, with the project finalized in 1977.

As part of the agreement, a flow control mechanism was required at the Henry Graham outlet to regulate the flow into the Red Run Drain, limiting it to 800 cfs. At the time, the Macomb County Public Works and the City of Warren were given assurances that the mechanism would be an automated, fluctuating gate that would respond to preset conditions. As late as 1981, the Oakland Drain Commissioner communicated that the gate operation was required to limit flows to 800 cfs. Without the gate, flows from the Henry Graham could be as high as 2,000 cfs.

At an unspecified time, the gate ceased to be functional and was subsequently removed from the structure. Documentation regarding the date the gate became inoperable is not currently available.

To mitigate increased erosion from elevated flows, Macomb County Public Works formally requests the Red Run Drainage Board to enforce the previous agreement limiting Henry Graham's discharge to 800 cfs, a restriction originally established by the Army Corps of Engineers. This enforcement requires the Henry Graham Drain Board to reinstall the control gate and related equipment.

Sincerely,

Candice S. Miller
Macomb County Public Works Commissioner

From: Candice Miller <Candice.Miller@macombgov.org>
Sent: Wednesday, October 15, 2025 2:59 PM
To: James H Nash <nashj@oakgov.com>
Cc: Brian Baker <Brian.Baker@macombgov.org>; Anne M Vaara <vaaraa@oakgov.com>
Subject: 800 cfs Restriction of Henry Graham Drain

Dear Commissioner Nash:

With the cooperation of your personnel, my staff have been reviewing past documents to better understand long existing erosion concerns within the Red Run.

During the period of 1969 to 1982, there is extensive documentation regarding the necessity of restricting additional flow into the Red Run Drain. These concerns stemmed from the acknowledged lack of sufficient capacity to handle increased volume, which posed a significant risk of flooding in downstream communities.

Beginning in 1971, as the Henry Graham Drain was being built to channel stormwater from Madison Heights and Troy into the Red Run Drain, the Army Corps of Engineers recommended limiting the inflow to 480 cubic feet per second (cfs). Following a series of meetings over the next few years, the Red Run Drainage Board negotiated an agreement permitting a higher flow rate of 800 cfs. To accommodate this, the Red Run Drain was widened by five feet from Dequindre to Mound Road, with the project finalized in 1977.

As part of the agreement, a flow control mechanism was required at the Henry Graham outlet to regulate the flow into the Red Run Drain, limiting it to 800 cfs. At the time, the Macomb County Public Works and the City of Warren were given assurances that the mechanism would be an automated, fluctuating gate that would respond to preset conditions.

As late as 1981, the Oakland County Drain Commissioner had communicated that the gate operation was required to limit flows to 800 cfs. Without the gate operational, flows from the Henry Graham could be as high as 2,000 cfs.

At an unspecified time, the gate ceased to be functional and was subsequently removed from the structure. Documentation regarding the date the gate became inoperable was not available within the documentation reviewed.

Based on this past agreement, we request that your office provide any plans to repair the control gate and related equipment which is needed to ensure discharges are limited to 800 cfs during heavy rain events, a restriction originally established by the Army Corps of Engineers.

Thank you,



Candice S. Miller

Commissioner
Macomb County Public Works
Office: 586-469-6101

[21777 Dunham Road, Clinton Township, MI 48036](https://www.macombgov.org/departments/public-works)

Web: <https://www.macombgov.org/departments/public-works>

From: Nash, James Holbrook <nashj@oakgov.com>
Sent: Monday, October 27, 2025 1:43:07 PM
To: Candice Miller <Candice.Miller@macombgov.org>
Subject: Henrey Graham Drain

Dear Commissioner Miller:

Thank you for your recent email regarding the Henry Graham Drain and its relationship to the Red Run Intercounty Drain. I was particularly pleased to hear about the collaborative efforts between our teams as we work together to examine this longstanding issue.

You noted the absence of documentation indicating when the gate at the Henry Graham Drain ceased functioning and was subsequently removed. I understand that despite a thorough search, my staff has not yet located any definitive records that clarify this matter. Nevertheless, they are currently preparing for an upcoming meeting with the City of Troy regarding the potential transfer of responsibility for several detention basins. My primary goal is focused on efficiently, maximizing the use of existing infrastructure, which could include the reactivation of the Henry Graham roller gate.

It's important to emphasize that the Henry Graham Drain is a separate stormwater system and does not contribute to increased wastewater flows into Macomb County. Moreover, a new pollution detection device was installed approximately a month ago at the same location as the former roller gate. This demonstrates our continued commitment to transparency and coordination with both Macomb County and the Army Corps of Engineers on matters involving the Henry Graham Drain.

The Army Corps, in partnership with the Great Lakes Water Authority, has initiated a feasibility study to analyze flooding dynamics, assess system vulnerabilities, and identify feasible, cost-effective, and environmentally acceptable solutions to mitigate future flood risks. Reactivating the Henry Graham gate could be a constructive step in that direction. Please don't hesitate to reach out if you have any further questions or insights. I appreciate your continued collaboration.

Best regards,
Jim



Jim Nash

Oakland County Water Resources Commissioner
One Public Works Drive | Waterford MI 48328
nashj@oakgov.com | M: 248-842-6185
www.oakgov.com/water

From: Candice Miller <Candice.Miller@macombgov.org>

Sent: Tuesday, October 28, 2025 1:08 PM

To: Brian Baker <Brian.Baker@macombgov.org>; Jeff Bednar <Jeff.Bednar@macombgov.org>; John Caron <John.Caron@macombgov.org>; Don Brown <Don.Brown@macombgov.org>; Emily Engelmann <Emily.Engelmann@macombgov.org>

Subject: Fw: Henrey Graham Drain

Just FYI

Get [Outlook for iOS](#)

From: Candice Miller <Candice.Miller@macombgov.org>

Sent: Tuesday, October 28, 2025 1:01:18 PM

To: Nash, James Holbrook <nashj@oakgov.com>

Subject: Re: Henrey Graham Drain

Thank you for your response regarding the restrictor gates on the Henry Graham stormwater pipe. You pointed out that this pipe does not release any additional wastewater into the Red Run Drain, which is true, it is a stormwater pipe as I had said. Our concern is additional stormwater flow into the Red Run drain, exceeding what was agreed to by the Red Run Drain Board, which is why many years ago the restrictor gates were required. Certainly ensuring those gates are functioning, as previously agreed to, does not need to wait for the South East Michigan regional study underway by GLWA and the USACOE. As we evaluate the significant erosion issues in the Red Run Drain, it is prudent to look at all the various sources of the flow. I think it's best for this issue to be placed on the next Red Run Drain Board meeting, I will appreciate you doing so, and look forward to discussing it. We will be sending all pertinent backup materials. Thanks you

Red Run Drain

March 1, 1971

City of Warren
Mr. Paul Van Den Branden, Director
Department of Public Services
29500 Van Dyke Avenue
Warren, Michigan 48093

RE: Henry-Graham Drain

Dear Mr. Van Den Branden:

Your letter to Mr. Welsh with respect to the Henry-Graham Drain makes reference in three parts to areas with which the city is concerned. The first is the basic criteria which has been used to establish the restricted discharge of the Henry-Graham Drain. This rate of flow, 800 cfs, has pretty much been agreed to by all parties and would remain in effect until the proposed Red Run-Clinton River improvement is undertaken by the Corps of Engineers.

The basic objective is to maintain the restricted discharge under any given condition. This office has made an extensive hydraulic study and it is felt that the only way to properly maintain this discharge is through the combination of two fixed orifices and one which would be controlled automatically. This type of system would provide the best protection to downstream communities. Operation of the fluctuating gate would not be left at the discretion of a third party. This gate would be operated automatically based on preset conditions of discharge. I have discussed briefly with your engineer this concept and believe that he is in concurrence.

The third item is one which this office and the City of Sterling Heights is involved. Although the regrading of the drains between Henry-Graham and Dequindre Road may not be possible, restrictions can be incorporated and all future development will be directed to the Henry-Graham Drain.

Should you have any further questions, please feel free to contact this office.

Very truly yours,

GEORGE E. WINN, P.E.
Drain Engineer

GEW:ajk
cc: K. Van Hoelst

APR 5 1971

MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE RED RUN DRAIN

March 30, 1971

A meeting of the Drainage Board for the Red Run Drain (An Inter-County Drain) was held in the office of the Macomb County Drain Commissioner, 115 Groesbeck Highway in the City of Mt. Clemens, Michigan, on the 30th day of March, 1971 at 11:45 o'clock A.M., Eastern Standard Time.

The meeting was called to order by the Chairman.

PRESENT: Stanley R. Quackenbush, Chairman
Michigan Department of Agriculture

Frank Kirk, Deputy Drain Commissioner
Macomb County

James E. Pemberton, Acting Secretary &
Chief Engineer & Deputy Drain Commissioner
Oakland County

ABSENT: Daniel W. Barry, Secretary &
Oakland County Drain Commissioner

Thomas S. Welsh, Member &
Macomb County Drain Commissioner

ALSO
PRESENT: Richard Doherty
Chief Engineer & Deputy Drain Commissioner
Macomb County

Mr. Quackenbush announced that Messrs. Barry and Welsh were unable to attend this meeting because of a conflict in schedules.

The Minutes of the last meeting of the Board held on January 26, 1971, were presented and upon motion by Pemberton, supported by Kirk and unanimously adopted the Minutes were approved as presented.

ADOPTED: Yeas _ All
Nays _ None

The following list of invoices in the amount of \$11,599.83 were presented to the Board for review and approval.

<u>Payable To</u>	<u>For</u>	<u>Amount</u>
Oakland County Board of Auditors	Payroll 1-1 thru 3-19-71	\$ 9,692.78
Oakland County Drain Commissioner - Equipment Fund	January, February, March 1971 Mileage	<u>1,907.05</u>
	TOTAL	\$11,599.83

A breakdown of the mileage charges prepared by Mr. Howard V. Rummell, Finance Officer - Oakland County, is attached to these Minutes.

It was moved by Kirk and supported by Pemberton that the above listed invoices in the total amount of \$11,599.83 be approved for payment.

ADOPTED: Yeas All
 Nays None

A request to reimburse the Oakland County Drain Revolving Fund for the following maintenance charges incurred from January 4 thru March 16, 1971.

<u>Date</u>	<u>Vo.No.</u>	<u>Paid To</u>	<u>For</u>	<u>Amount</u>
1-4-71	1-15	Michigan Tractor & Machinery Co.	D-7 Dozer parts	\$ 10.03
1-19-71	1-48	Oakland County Drain Commissioner Equipment Fund	Engine Oil	16.20
1-19-71	1-49	Warren Co-Operative Co.	Fuel & Supplies for Lorain Crane & D-7 Dozer-Nov. 1970	94.61
1-22-71	1-58	Oakland County Drain Commissioner Imprest Cash	Miscellaneous Parts for Equipment	10.74
2-8-71	2-16	Genesee Welding Supply	Oxygen & Acetylene	22.12
2-11-71	2-18	Sennett Steel Corp.	Engineering Supplies	10.03
2-11-71	2-19	Brown-Darnell Co.	Engineering Supplies	27.10
2-11-71	2-20	Business Forms Service	Office Supplies	21.65
2-11-71	2-21	Oakland County Laundry	January 1971 Charges	27.66
2-11-71	2-25	Michigan Tractor & Machinery Co.	Parts for D-7 Dozer	196.68
2-11-71	2-26	W.E. Phillips Equipment Sales, Inc.	Parts for Lorain Crane	56.60
2-11-71	2-27	Warren Co-Operative Co.	Fuel & Supplies for Lorain Crane & D-7 Dozer-January 1971	12.29
2-11-71	2-28	Sennett Steel Corp.	Maintenance Supplies	45.53
3-16-71	3-33	Oakland County Drain Commissioner Equipment Fund	Xerox Charges for: Oct., Nov., Dec. 1970	116.30
3-16-71	3-35	Oakland County Drain Commissioner Imprest Cash	Miscellaneous Supplies	2.04
3-16-71	3-39	Tupes of Saginaw, Inc.	D-7 Dozer Parts	44.63
			TOTAL	\$ 714.21

It was moved by Pemberton and supported by Kirk that the Oakland County Drain Revolving Fund be reimbursed in the total amount of \$714.21 for charges incurred from January 4, 1971 thru March 16, 1971.

ADOPTED: Yeas _ All
 Nays _ None

Under old business, Mr. Pemberton pointed out that plans and specifications of the Henry-Graham Drain had been presented to this Drainage Board at their meeting of October 4, 1970 and also in response to the Boards direction given at their meeting of December 14, 1970 the Henry-Graham Drain engineers (Hubbell, Roth & Clark, Inc.) have met with the Macomb County Drain Commissioner's Engineering Department to resolve certain questions relative to the proposed outlet gate hydraulics. In addition the City of Warren has been contacted to advise them of this proposed project and to assure them only restricted flow would be allowed until such time as the Corps of Engineers Red Run-Clinton River Project has provided additional capacity.

A copy of correspondence directed to Mr. Thomas S. Welsh, under date of January 25, 1971, from Paul Van Den Branden, Director - Department of Public Services, City of Warren and a letter under date of March 1, 1971 to the City of Warren from George E. Winn, P.E., Drain Engineer are attached to copies of these Minutes.

§ After discussion the following motion was made by Pemberton.

"The Red Run Drainage Board herewith approves the plans and specifications of the Henry-Graham Drain, it being understood this acceptance is contingent on the resolution of outlet gate hydraulics with the City of Warren; further upon such resolution these plans and specifications shall be submitted to the Corps of Engineers for approval".

ADOPTED: Yeas _ All
 Nays _ None

Mr. Quackenbush

GEORGE E. HUBBELL
THEODORE G. BIEHL
JAMES W. HUBBELL
FRANK M. BARNES
GEORGE S. ROTH
FRANKLIN A. BURN
M. DAVID WARING
DONALD R. MCCORNACK
CLARENCE W. HUBBELL

**HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS**

2323 Franklin Road, Bloomfield Hills, Michigan 48013

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JAMES E. BEUERLE
FRANK M. BIEHL
DAVID BRODY
RAMA RAO V. CHERUKURI
GERALD F. KNAPP
MYKOLA LAWREN
ORLYN C. LEWIS
DAVID MCPHEE
CLARENCE W. MYROLD
VERON W. RAYMOURE
THOMAS H. RITCHIE
FREDERICK A. SYNK

Principals

Associates

February 19, 1973

Memo Re: Henry-Graham Drain
Meeting with U. S. Corps of Engineers
At Corps Office - Detroit

Present:

- Mr. Carl Argiroff United States Corps of Engineers
- Mr. Mike Davanich United States Corps of Engineers
- Mr. Tom Nuttle United States Corps of Engineers
- Mr. P. Mills United States Corps of Engineers
- Mr. David Snyder Oakland County Drain Commissioner's Office
- Mr. David Waring Hubbell, Roth & Clark, Inc.

Purpose of Meeting:

In accordance with the January 31, 1973 letter from Mr. Myron Snoke, Colonel, Corps of Engineers, Detroit District Engineer, a meeting was held to discuss on a technical level the affect of the construction of the Henry-Graham Drain on the functioning of the existing Red Run Drain.

Together we briefly reviewed the method of operating the Henry-Graham Drain and pertinent points relative to analyzing the affect of the Henry-Graham Drain on the Red Run Drain.

1. The Henry-Graham Drain District is composed of area which has always drained to the Red Run either by way of Big Beaver Creek or as part of the Wilson Drain. When Oakland County paid their share of the cost of improving the Red Run Drain their share was based upon flowage rights at Dequindre Road.
2. Oakland County and the City of Troy have flowage rights in Big Beaver Creek from Dequindre Road to the Red Run Drain. These flowage rights have not been relinquished by the construction of the Henry-Graham Drain.
3. The connection of the Henry-Graham Drain to the Red Run Drain and the method of controlling the flow of the Henry-Graham into the Red Run was approved by the City of Warren and the Red Run Drainage Board on March 30, 1971. The approval by the Red Run Drainage Board was unanimous. The Board consists of the Oakland County Drain Commissioner, the Macomb County Drain Commissioner and a representation of the Michigan Department of Agriculture, Mr. Stanley Quackenbush. Based upon this approval the Oakland County Drain Commissioner has proceeded with the construction of the \$12,000,000 drain.
4. The approved method of operating the Henry-Graham Drain is as follows:
 - a. The water level in the Red Run Drain immediately downstream from the Henry-Graham Drain will be automatically measured and monitored.

Meeting with Corps of Engineers
February 19, 1973, Page 2

- b. When this water level in the Red Run Drain rises to the design elevation of 613.30 the automatically controlled gate on the Henry-Graham Drain will incrementally start to close to reduce the flow from the Henry-Graham. The flow from the Henry-Graham is reduced to hold the Red Run water level to 613.3 or down to a minimum flow of 800 cfs from the Henry-Graham.
 - c. Because of this limitation on flow from the Henry-Graham the Cities of Troy and Madison Heights must require retention basins in the new developments to limit the flow into the Henry-Graham Drain. Troy is doing this.
5. The Corps of Engineers has analyzed the functioning of the Red Run under "existing conditions" before the Henry-Graham is constructed and "proposed conditions" after the Henry-Graham is constructed and their computation showed that a flow of 800 cfs from the Henry-Graham Drain during the 50 year frequency run-off would result in 0.6 foot higher water level at Dequindre Road. We discussed their computations and the following specific items which we calculate will show that the water level at Dequindre Road using the Corps of Engineers method of computations will be the same for both "existing conditions" and "proposed conditions."
- a. Under "proposed conditions" the remaining 8.1 square mile Big Beaver Drainage area has a peak flow of 1157 cfs in 3.5 hours and 653 cfs at peak flow in the Red Run at 5.0 hours time.
 - b. Under "existing conditions" the Big Beaver Creek with a drainage area of 25 square miles has only 142 cfs at 3.5 hours and 273 cfs at 5.0 hours.
 - c. The flows from Big Beaver Creek under the two conditions are not consistent. When the Big Beaver Creek peaks at 1157 cfs in 3.5 hours with 8.1 square miles drainage area it will do the same or have a higher flow at the same time with 25 square miles drainage area. The shape of the 25 square mile area as compared to the 8.1 square mile area is such that the peak of 1157 cfs would continue at that same rate or higher rate at 5.0 hours time.
 - d. During the peak flows in the Red Run when the water level at Dequindre Road is at or above 613.3 (which is the Corps of Engineers design elevation for the existing Red Run with 4000 cfs flow) the Henry-Graham Drain will be restricted to 800 cfs and not the higher figure as shown in the Corps of Engineers computations.
 - e. A listing of the flows at critical points from the Corps of Engineers computations are as follows:

<u>Location</u>	<u>Existing Conditions</u>	<u>Proposed Conditions</u>
12 Towns Outlet	5958 cfs	5958 cfs
Henry-Graham (Wilson) at Dequindre	284 cfs	825 cfs
Downstream from Dequindre	6242 cfs	6783 cfs
Upstream from Big Beaver Creek	7530 cfs	8071 cfs
Big Beaver Creek	273 cfs	653 cfs
Downstream Big Beaver	7803 cfs	8724 cfs

Meeting with Corps of Engineers
February 19, 1973, Page 3

- f. A revised listing of flows at critical points using flows of 800 cfs from the Henry-Graham and 1169 from Big Beaver Creek in accordance with Items a, b & c listed above is as follows:

<u>Location</u>	<u>Existing Conditions</u>	<u>Proposed Conditions</u>
12 Towns Outlet	5958 cfs	5958 cfs
Henry-Graham (Wilson) at Dequindre	284 cfs	800 cfs
Downstream from Dequindre	6242 cfs	6758 cfs
Upstream from Big Beaver	7530 cfs	8046 cfs
Big Beaver Creek	1169 cfs	653 cfs
Downstream from Big Beaver	8699 cfs	8699 cfs

- g. The Corps of Engineers profiles of water levels in the Red Run Drain show that under these flow conditions the water level in the Red Run is determined by the total flow and resulting water level downstream from Big Beaver Creek. The same flow at this point under these conditions would result in the same water level at Dequindre i.e., the construction of the Henry-Graham Drain will not adversely affect the functioning of the Red Run Drain.
- h. The Corps offered to re-analyze their computations and review this aspect of the computations and to do this by April 15, 1973. Mr. Tom Nuttle would be involved in this re-analysis and will contact Mr. David Waring as they proceed so that we may be in agreement on the resulting computations.

M. David Waring

MDW/mm

ORIG → GWK → HENRY GRAHAM FILE

cc JEP
BUNW
DJS

THEODORE G. BIEHL
JAMES W. HUBBELL
FRANK M. BARNES
GEORGE S. ROTH
FRANKLIN A. BURN
M. DAVID WARING
DONALD R. MCCORMACK
CLARENCE W. HUBBELL

Principals

GEORGE E. HUBBELL

Consultant

HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS

2323 Franklin Road, P.O. Box 824, Bloomfield Hills, Michigan 48013

(313) 338-9241

JAMES E. BEUERLE
FRANK M. BIEHL
DAVID BRODY
RAMA RAO V. CHERUKURI
GERALD F. KNAPP
MYKOLA LAWWIN
ORLYN C. LEWIS
DAVID MCPHEE
CLARENCE W. MYROLD
THOMAS H. RITCHIE

Associates

March 14, 1975

Mr. George W. Kuhn
Oakland County Drain Commissioner
No. 1 Public Works Drive
Pontiac, Michigan 48054

Re: Henry-Graham Drain
Red Run Widening

Attention: Mr. David Snyder
Assistant Chief Engineer

Gentlemen:

I will be unable to attend the Red Run Drainage Board Meeting of March 25th, but as discussed with Mr. Snyder, I am enclosing herewith a copy of Hubbell, Roth & Clark, Inc.'s letter of May 9, 1974 and the Corps of Engineers letter of August 7, 1974. The construction plan for the subject project which you are submitting to the Red Run Drainage Board is in accordance with the above listed letters.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.

M. D. Waring
M. D. Waring

MDW/jk
encl.



ORIG → GAYLE
cc
DJS
JEP
ERB

BEFORE FILING		
Give to	Initial	Date
<i>Dwp</i>	<i>DK</i>	<i>3-17</i>

GEORGE E. HUBBELL
THEODORE G. BIEHL
JAMES W. HUBBELL
FRANK M. BARNES
GEORGE S. ROTH
FRANKLIN A. BURN
M. DAVID WARING
DONALD R. MCCORMACK
CLARENCE W. HUBBELL

Principals

HUBBELL, ROTH & CLARK, INC.
CONSULTING ENGINEERS

2323 Franklin Road, Bloomfield Hills, Michigan 48013

TELEPHONE • 338-9241 • 566-2690

JAMES E. BEUERLE
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GERALD F. KNAPP
MYKOLA LAWREN
ORLYN C. LEWIS
DAVID MCPHEE
CLARENCE W. MYROLD
VERON W. RAYMOURE
THOMAS H. RITCHIE
FREDERICK A. SYNK

Associates

May 9, 1974

Mr. George W. Kuhn, Chairman
Henry-Graham Drainage Board
No. 1 Public Works Drive
Pontiac, Michigan 48054

Dear Mr. Kuhn:

As you know the Henry-Graham Drain will soon be completed and the allowable flow from this drain into the Red Run Drain has not yet been resolved with the U. S. Army Corps of Engineers. The Red Run Drainage Board approved a restricted flow of 800 cfs and the Corps of Engineers has stated that only 480 cfs can be discharged during high flows in the Red Run Drain. Holloway Sand & Gravel Co. within a few months should be installing the control devices at the Henry-Graham Drain outlet to control the flow into the Red Run. Will you please advise us as to which flow to restrict the discharge, i.e. 800 cfs or 480 cfs.

We are also forwarding herewith hydraulic computations regarding widening the Red Run Drain from Dequindre Road downstream to Mound Road. These calculations have been prepared as a result of the meeting of November 9, 1973 at the Corps of Engineers Detroit Office and based upon further telephone discussions with Mr. T. Nuttle of that office.

Based upon the parameters discussed with Mr. Nuttle, the calculations show that a five foot widening of the Red Run Drain from Dequindre Road east to Mound Road would improve the capacity of the Red Run Drain such that 320 cfs flow, added to the Red Run at Dequindre Road over and above the 480 cfs stated by the Corps of Engineers, would not add to the possibility of flooding upstream. At all flows above 4800 cfs at Dequindre Road the possibility of flooding would be reduced.

We recommend that this five foot widening of the drain from Dequindre Road to Mound Road be pursued as a method to eliminate the Corps of Engineers objection to discharging 800 cfs from the Henry-Graham Drain into the Red Run Drain during periods of high flows in the Red Run.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.


M. David Waring

MDW/mm

cc: Mr. Frank Gerstenecker, Troy City Manager

8 AUG 1974

NCECO-A

Mr. Stanley R. Quackenbush, Chairman
Red Run Drainage Board
Lewis Cass Building
Lansing, Michigan 48913

Dear Mr. Quackenbush:

This is in further response to your letter dated 6 June 1974 to me requesting review of hydraulic computations for Red Run Drain and advice concerning recommendations by the consulting engineering firm of Hubbell, Roth and Clark, Incorporated.

As you requested, we have completed our review of the data you furnished. We are in accord with the Red Run backwater computations and related water surface profiles. Copies of our computations and profiles prepared are inclosed. You will notice that the data closely agrees with the study findings by Hubbell, Roth and Clark, Incorporated. Accordingly, we concur with the consultant's recommendations that Red Run Drain be widened five feet from Dequindre Road to Mound Road. It is calculated that the recommended channel enlargement will lower the water surface elevations of Red Run Drain at Dequindre Road approximately one-half foot when Red Run and Henry Graham Drains are discharging 4,000 cfs and 800 cfs respectively.

It is my understanding that the construction contract for the Henry Graham Drain is nearing completion. Even though the Drainage Board should initiate action to widen Red Run Drain below Dequindre Road at once, there will be a considerable interval of time before completion of the proposed widening could be accomplished.

NCMCO-A

Mr. Stanley R. Quackenbush

7 AUG 1974

Our letter of 20 June 1973 requested that you furnish us plans of a flow-control means that will limit the discharge from Henry Graham Drain to 480 cfs when Red Run Drain is at or above the design water-surface profile of Elev. 613.3 (U.S.G.S. Datum). Your cooperation in furnishing revised plans for our review and approval will be appreciated.

Connection of the Henry Graham Drain to Red Run will not be permitted before either (a) a flow-control mechanism capable of limiting the flow to 480 cfs has been approved, installed and operating, or, (b) widening of Red Run Drain as proposed is complete in conjunction with an approved and operational flow-control mechanism capable of limiting discharge to Red Run to 800 cfs.

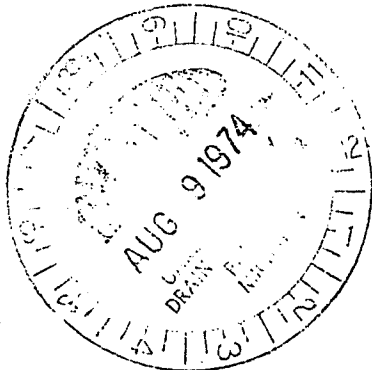
Sincerely yours,

2 Encls
As Stated

JAMES E. HAYS
Colonel, Corps of Engineers
District Engineer

Copy Furnished:

Mr. George W. Kuhn
Mr. Thomas S. Welsh



ORIG → GAYLE

cc: JEP 2 copies

DJS
ERB



GEORGE W. KUHN
OAKLAND COUNTY DRAIN COMMISSIONER
PUBLIC WORKS DRIVE
PONTIAC, MICHIGAN 48054
858-0958

EMERSON R. BUNN
Chief Deputy Commissioner

JAMES E. PEMBERTON
Deputy and Chief Engineer

MEMO TO: Mr. George W. Kuhn, Secretary
Red Run Inter-County Drain

FROM: Mr. David J. Snyder, Assistant
Chief Engineer

DATE: March 20, 1975

REFERENCE: Henry-Graham Drain
Red Run Widening

Attached are plans, specifications and a cost estimate numbered 71077 entitled "Henry-Graham Drain Red Run Widening." These were prepared by Hubbell, Roth & Clark, Inc., consulting engineers for the Henry-Graham Drain Drainage Board.

The project involves a five foot widening of the Red Run Drain from Dequindre Road to Mound Road in the City of Warren, to accommodate an increase of 320 cfs in the restricted discharge from the nearly-completed Henry-Graham Drain. This will permit utilization of the internal drainage systems in Troy and Madison Heights which were planned and are partly constructed, based upon a discharge of 800 cfs from the Henry-Graham Drain. It would also enable Sterling Heights and Warren to construct more reasonably sized facilities in the Big Beaver Drain.

Review of the plans indicates that no adverse effect upon the operation and maintenance of the Red Run Drain would result should the project be approved. Its approval is therefore recommended and the adoption of the following resolution is proposed.

WHEREAS, the Red Run Drain, an Inter-County Drain, serves as the outlet for a legally established Oakland County Drain known as the Henry-Graham Drain, and

WHEREAS, the City of Troy and Madison Heights have on October 23, 1974, petitioned the Oakland County Drain Commissioner for the improvement and extension of the Henry-

OAKLAND COUNTY DRAINAGE COMMISSIONER

MEMO TO: Mr. Kuhn

(2)

March 20, 1975

Graham Drain consisting of a widening of the Red Run Drain by approximately five feet from Dequindre Road to Mound Road in order to provide additional outlet capacity, and

WHEREAS, the Drainage Board for the Henry-Graham Drain on December 11, 1974 resolved that the said petition was sufficient and that it had become necessary for the public health to construct the project and that a second final order of determination was authorized and executed and apportionments of cost were fixed and confirmed, and

WHEREAS, the Drainage Board for the Henry-Graham Drain on March 12, 1975, adopted and approved of the plans, specifications, and cost estimate for the said improvements, and

WHEREAS, the Easement Deeds relative to the said Red Run Drain conveyed a perpetual and assignable easement and right-of-way to the United States of America, and

WHEREAS, the Quit Claim Deed between the United State of America and the Drainage Board for the Red Run Drain transferred all rights in the lands from the United States of America to the said Red Run Drainage Board, and

WHEREAS, the rights originally granted to the United States of America have been assigned to and are now held by the Red Run Drainage Board, and

WHEREAS, in order to construct the said Henry-Graham Drain Red Run Widening Project it becomes necessary for the Red Run

OAKLAND COUNTY DRAINAGE COMMISSIONER

MEMO TO: Mr. Kuhn

(3)

March 20, 1975

Drainage Board to grant permission to the Henry-Graham Drainage District to occupy such easements and rights-of-way for the purpose of constructing said project

NOW THEREFORE BE IT RESOLVED BY THE RED RUN DRAINAGE BOARD, as follows:

- 1) That this Drainage Board hereby accepts and approves the plans, specifications and estimate of costs of the proposed Henry-Graham Drain Red Run Widening Project as submitted by the Engineers for the Henry-Graham Drain Drainage District.
- 2) That permission to occupy those easements and rights-of-way presently held by the Red Run Drainage Board and required for the purpose of constructing and maintaining the proposed Henry-Graham Drain Red Run Widening Project, be granted to the Henry-Graham Drain Drainage District.
- 3) That the subject plans and specifications be forwarded to the United States Army Corps of Engineers for their review and approval.
- 4) That the Red Run Drainage Board be saved harmless in every respect from any and all damages or liabilities arising out of the construction of the proposed Henry-Graham Drain Red Run Widening Project.
- 5) And that the United States of America be saved harmless in every respect from any and all damages or

OAKLAND COUNTY DRAINAGE COMMISSIONER

MEMO TO: Mr. Kuhn

(4)

March 20, 1975

liabilities arising out of the construction of the proposed Henry-Graham Drain Red Run Widening Project and that the maintenance and operation of the Project after completion shall be in accordance with regulations prescribed by the Secretary of the Army.

Respectfully submitted,



David J. Snyder

Attachments

DJS:dp

Red Run Fed



GEORGE W. KUHN
OAKLAND COUNTY DRAIN COMMISSIONER
PUBLIC WORKS DRIVE
PONTIAC, MICHIGAN 48054

ROBERT H. FREDERICKS
Chief Deputy Commissioner
858-0970

December 14, 1981

RICHARD L. CASTLE
Chief Engineer
Water and Sewer Engineering
858-1075

Mr. Daniel H. Morgan, P.E.
Chief, Technical Programs Unit
Water Management Division
State of Michigan Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48909

Reference: Henry-Graham Drain
Red Run Federal Drain

Dear Mr. Morgan:

Mr. Mark S. Grazioli, Chief, Construction-Operations Division of the Detroit District Corps of Engineers has forwarded to us your inquiry dated December 7, 1981 regarding regulation of Henry-Graham Drain discharges.

The outlet of the Henry-Graham Drain is restricted at times of high flow in the Red Run by a mechanism which automatically controls a gate such as to allow no more than 800 cubic feet per second to discharge to the Red Run. No deviation from this policy took place during the September 30, October 1, 1981 storm.

If you need further information, please contact this office.

Very truly yours,

OAKLAND COUNTY DRAIN COMMISSIONER

By: David J. Snyder
David J. Snyder
Chief Engineer

DJS/lf

cc: Mark S. Grazioli

Inter Office:

Red Run Federal Drain File ✓
Henry-Graham Drain File
C. McKinnon

COPY

BEFORE FILING		
Give to	Initial	Date
	DJK	12-15



DEPARTMENT OF THE ARMY

DETROIT DISTRICT, CORPS OF ENGINEERS
BOX 1027
DETROIT, MICHIGAN 48231

REPLY TO
ATTENTION OF

0 4 DEC 1981

NCECO-O

Mr. James E. Pemberton, Chief Engineer
Oakland County Drain Commission
Public Works Drive
Pontiac, Michigan 48054

Dear Mr. Pemberton:

Inclosed for your reply is an inquiry from the Michigan Department of Natural Resources concerning the regulation policy of the Henry Graham Drain.

I would appreciate receiving a copy of your reply to the State in this matter.

If you have any questions please contact Mr. Douglas Kamien at (313) 226-2200.

Incl

1. Ltr from MDNR
2. Corps reply to MDNR.

Sincerely

MARK S. GRAZIOLI
Chief, Construction-Operations
Division



STATE OF MICHIGAN



WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
HOWARD A. TANNER, Director

NATURAL RESOURCES COMMISSION

JACOB A. HOEFER
E. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

October 7, 1981

Mr. Urban W. Boresch, Chief
Construction-Operations Division
U. S. Corps of Engineers
P. O. Box 1027
Detroit, Michigan 48231

Dear Mr. Boresch:

Enclosed is a copy of your 14 December 1979 letter to this office in regards to the regulation policy of the Henry Graham Drain.

How was the Henry Graham Drain regulated in last week's storm event? The Flood Insurance Study for the City of Troy is based on regulation as indicated in your 14 December 1979 policy letter.

We anticipate many questions on the regulation of the Henry Graham Drain. It is vital to know the operating procedure of the discharge facility, particularly in this event.

If you have any questions, please feel free to call me at (517) 373-3930.

Sincerely,

Daniel H. Morgan, P.E., Chief
Technical Programs Unit

Suzanne Elms

by: Suzanne Elms, Hydrologic Engineer
Water Management Division

DHM/SE:cjs

Enclosure

0 4 DEC 1981

NCECO-0

Mr. Daniel H. Morgan
Water Management Division
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48901

Dear Mr. Morgan:

I reference your letter of 7 October 1981 (copy inclosed) concerning the regulation policy of the Henry Graham Drain. The operation and regulation of the Henry Graham Drain is the responsibility of the Drainage Board for the Red Run Federal Drain. Your letter is being forwarded to Mr. James E. Pemberton, Chief Engineer and Deputy Drain Commissioner, County of Oakland for reply.

If you have any questions please contact Mr. Douglas Kamien at (313) 226-2200.

Incl
as

Sincerely,

MARK S. GRAZIOLI
Chief, Construction-Operations
Division

cc: Mr. James E. Pemberton ✓



Big drain purges rain

A 17-foot inside diameter reinforced pre-cast concrete storm drain, said to be the largest ever produced, will help solve a storm flooding problem in a 3500-acre area of Troy, Mich., a suburb of Detroit.

Part of the Henry-Graham Storm Drain, the big pipe was produced by the wet cast process by Superior Products Co., Southfield, Mich., using welded wire fabric reinforcement produced at the Joliet, Illinois plant, of U. S. Steel. An estimated one-year savings in construction time was realized by using the huge pre-cast pipe.

The mile-long 17-foot diameter sewer pipe has a designed outlet capacity of 2,000 cfs/sec.

The big pipe section of the \$12-million Henry-Graham Storm Drain originally was planned as a cast-in-place 14-foot, three-inch square concrete box culvert, according to M. David Waring, vice president of Hubbell, Roth & Clark, Inc., consulting engineers. But by switching to the pre-cast reinforced concrete pipe, George W. Kuhn, chairman of Oakland County's Henry-Graham Drainage District (the contracting agency) believes that at least one year in construction time was saved including reduced field labor and elimination of form work.

The pre-cast sections of pipe for C-76 Class II and Class III loadings were fabricated by placing inner and outer circular cages of USS welded wire fabric around the casting inner form. Required extra steel in the tension zones of the pipe was provided by overlapping the fabric 90 degrees and adding a 90-degree mat opposite the overlapped area. An outer retaining form was placed around the steel fabric rings and 6,000 psi concrete was fed into the cavity by conveyor to a thickness of 15 inches.

Some of the giant rolls of welded wire fabric measured 392 feet long, eight feet wide and were rolled to a diameter of about six feet for shipment.

The pre-cast pipe was delivered in eight-foot sections each weighing about 43 tons. Ten to 12 sections were delivered to the site daily. At the site, contractor Holloway Sand & Gravel Company of Wixom, Mich., placed the sections in a 21-foot wide, 27-foot deep trench on Class B bedding and at a grade of .06% and covered with six to 10 feet of fill. Another advantage of the pre-cast system was that less ground had to be disturbed, since a cast-in-place system would have dictated a larger trench width for form placement.

Agenda Item No. 8

2026 Meeting Dates



**Red Run Intercounty Drain 2026
Meeting Schedule**

The following meetings will convene at 10:30 a.m. in the office of the **Oakland County Water Resources Commissioner**, Public Works Building, One Public Works Drive, Waterford, Michigan and virtually:

January 21, 2026
February 18, 2026
March 18, 2026

April 15, 2026
May 20, 2026
June 17, 2026

The following meetings will convene at 10:30 a.m. in the office of the **Macomb County Public Works Office**, 21777 Dunham Road, Clinton Township, Michigan and virtually:

July 8, 2026
August 19, 2026
September 16, 2026

October 21, 2026
November 18, 2026
December 16, 2026



Agenda Item No. 9

Trial Balance



Trial Balance

Organization Oakland County
Periods FY2026 : Nov
Ledger Actuals
Accounting Worktag FND82902 Red Run Federal Drain Ch21
Book Operating
Company Currency USD
Translation Currency USD
Run 11/13/2025 11:44 PM

Consolidation Data

Ledger Account	Beginning Balance	Debit Amount	Credit Amount	Ending Balance
100100:Cash - Operating	732,549.63	2,248.27	22.72	734,775.18
104100:Accrued Interest on Investment	0.00	0.00	0.00	0.00
126100:Due from Municipalities	0.00	0.00	0.00	0.00
211100:Due to Primary Government	(18,172.71)	0.00	0.00	(18,172.71)
228100:Deposits Liability	(28,244.40)	0.00	0.00	(28,244.40)
230852:Accounts Payable	0.00	0.00	0.00	0.00
381350:FB Restricted Programs	(664,063.61)	0.00	0.00	(664,063.61)
655000:Investment Income	0.00	22.72	2,248.27	(2,225.55)
730000:Contractual Services	(27,761.32)	0.00	0.00	(27,761.32)
770000:Internal Support Expenditures	5,692.41	0.00	0.00	5,692.41
Total	0.00	2,270.99	2,270.99	0.00

Cash	\$734,775.18
DRF Reimbursement	(18,172.71)
Permit Held	(28,244.40)
Cash Available	\$688,358.07

Agenda Item No. 10

Invoices

MEMO TO: Mr. Jim Nash, Chairman
of the Intercounty Drainage Board for the RED RUN FEDERAL DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

 for Shawn Phelps

DATE: November 20, 2025

SUBJECT: Request for Approval of Invoices

Request for Board approval of payment of the following invoices:

Ref No.	Paid To	For	Amount
TBP	Applied Science Inc	Invoice # ASI Inv #9300 - Contracted Services - 6/1/25 - 6/28/25	\$ 6,241.00
SINV00369626	Applied Science Inc	Invoice # ASI Inv #9351 - Contracted Services - 6/29/25 - 7/26/25	7,161.00
TBP	Applied Science Inc	Invoice # ASI Inv #9382 - Contracted Services - 7/27/25 - 8/30/25	9,776.00
TBP	T & T Marine Salvage Inc	Invoice # INV4390-TTMS2 - Contracted Service	24,595.78
Total			\$ 47,773.78
SINV00369627	Hubbell, Roth, & Clark Inc	Inv # 0227189 - Contracted Services - 04/26/25 - Proj# 1-7494	\$ 4,770.71
SINV00368584	Hubbell, Roth, & Clark Inc	Inv # 0230328 - Contracted Services - 08/16/25 - Proj# 1-7494	626.43
TBP	Hubbell, Roth, & Clark Inc	Inv # 0231141 - Contracted Services - 09/12/25 - Proj# 1-7494	2,252.35
Project # 1-7494 Total			\$ 7,649.49
TBP	Hubbell, Roth, & Clark Inc	Inv # 0230329 - Contracted Services - 08/16/25 - Proj# 1-7982	\$ 12,525.38
TBP	Hubbell, Roth, & Clark Inc	Inv # 0231142 - Contracted Services - 09/13/25 - Proj# 1-7982	5,459.94
TBP	Hubbell, Roth, & Clark Inc	Inv # 0232232 - Contracted Services - 10/11/25 - Proj# 1-7982	16,305.97
Project # 1-7982 Total			\$ 34,291.29
Grand Total			\$ 89,714.56

Agenda Item No. 11

Other Business

Agenda Item No. 12

Adjourn