

Dam Mitigation Projects 2022

Glenn Harman
Land and Waters Bureau
Updated January 2023



Iowa DNR's Lowhead Dams Project Map

Dams Modified or Removed:

33

Last update: 2 minutes ago

Completed Projects:

★ Klondike Rapids

★ Blanchard Rapids

★ Warner's Ford

★ Lincolnway Gaging

Last update: 2 minutes ago

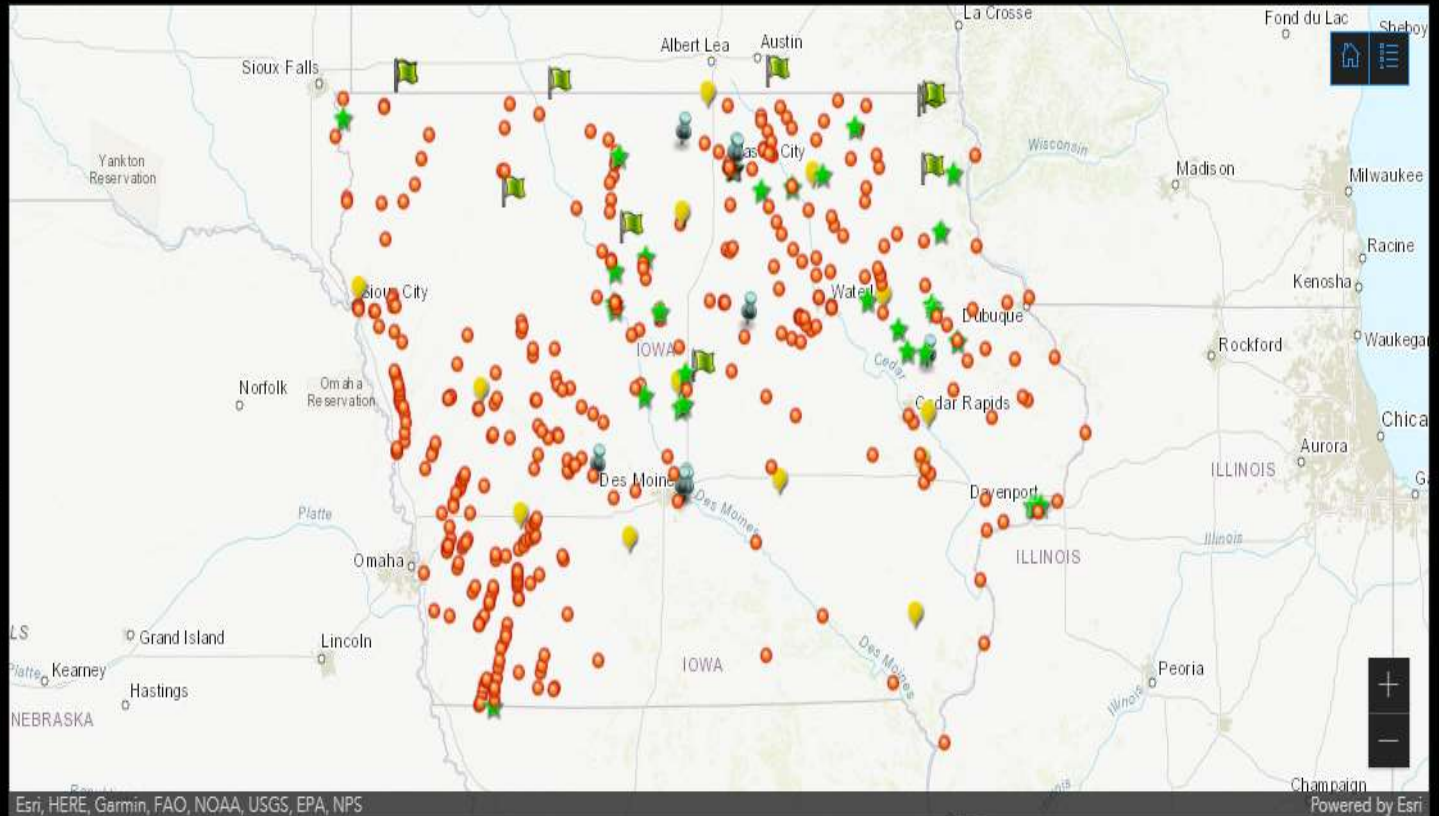
Iowa DNR Dam Projects

Status

● Other Dams Remaining

🚩 Exploratory

👤 Design



<https://iowadnr.maps.arcgis.com/apps/dashboards/378fda56d7ec428db5112639e1aa0148>

Statewide dam mitigation program goals

- First and foremost, reduce drowning by eliminating “roller” currents below dams.
- Encouraging reliable fish passage possible where there are barrier structures.
- Any community willing to fold those two things into a project can receive project and funding assistance.

Iowa DNR Main Mitigation Goals

- **Safety**: Eliminate recirculating currents across the entire width of the river.
- **Fish Passage**: Ensure biological movement at the widest range of flows possible.
- Additionally, we encourage leaving the site friendly for local recreation, such as angling, trail uses, navigation of the river by various types of craft, with the idea of supporting local economic development and quality of life.
- FY 2021 Budget for dam mitigation was \$1 million. The rivers program has been very successful at leveraging other moneys form other sources such as Federal Fish Passage Money and MFT to complete projects.
- Iowa's program is getting national attention
- Federal fish passage from the infrastructure bill is going to be massive for the Midwest and there is additional money in the water quality bills in congress.

THE BIG STORY FOR 2022

35 Dams Mitigated or
Modified Since 2008



Otranto at High water

- Otranto Dam - Gone



Otranto Dam Modification – Cedar River

West side of W-Weir



East Side of W-Weir



Cross Vane



Otranto Cross Vane Final Photo



Masson City

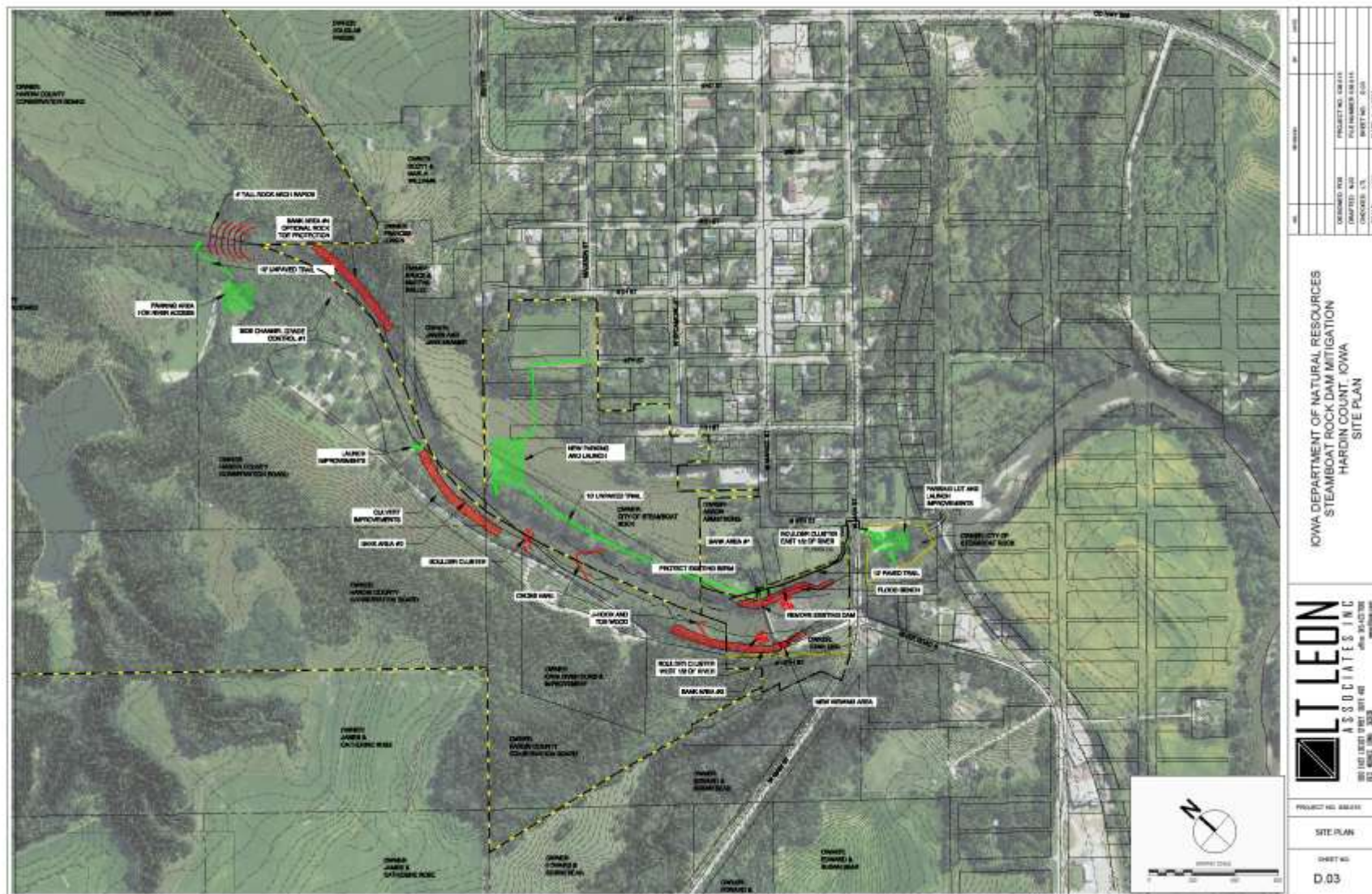


PROJECTS UNDER DEVELOPMENT

State has applied for Federal Infrastructure to modify 3 State owned dams. Steamboat Rock, Lennon Mills and the Upper Iowa – Upper and Lower Dams



Steam Boat Plan View



Lake Panorama Lennon Mills
Dam. Currently developing a
plan for a Rock Arch Rapids and
Cross Vane.



Upper and Lower Dam
and the river in between
is slated for stream
restoration and removal
on the Upper Iowa



Forest City In permitting and funds secured





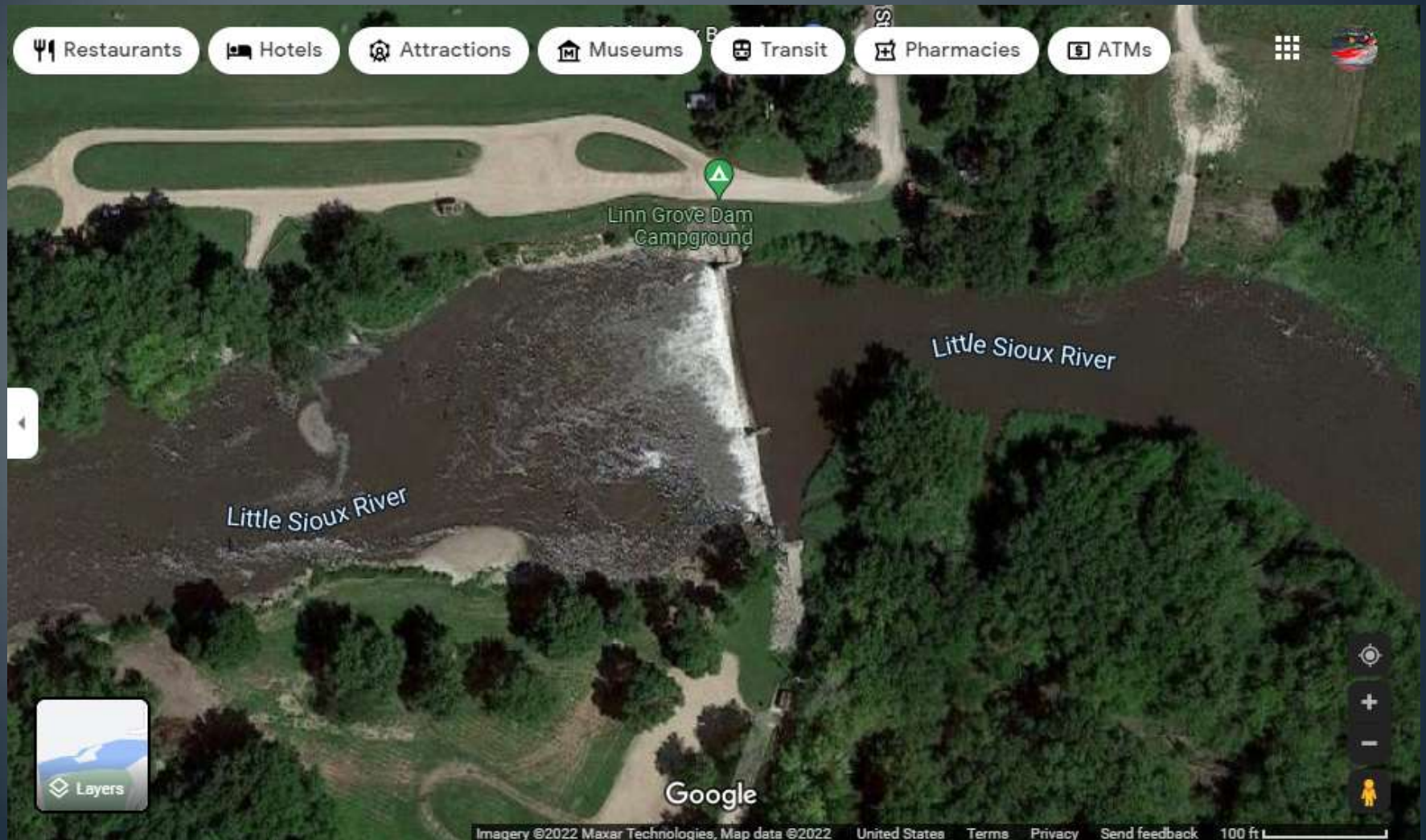
NOTES:

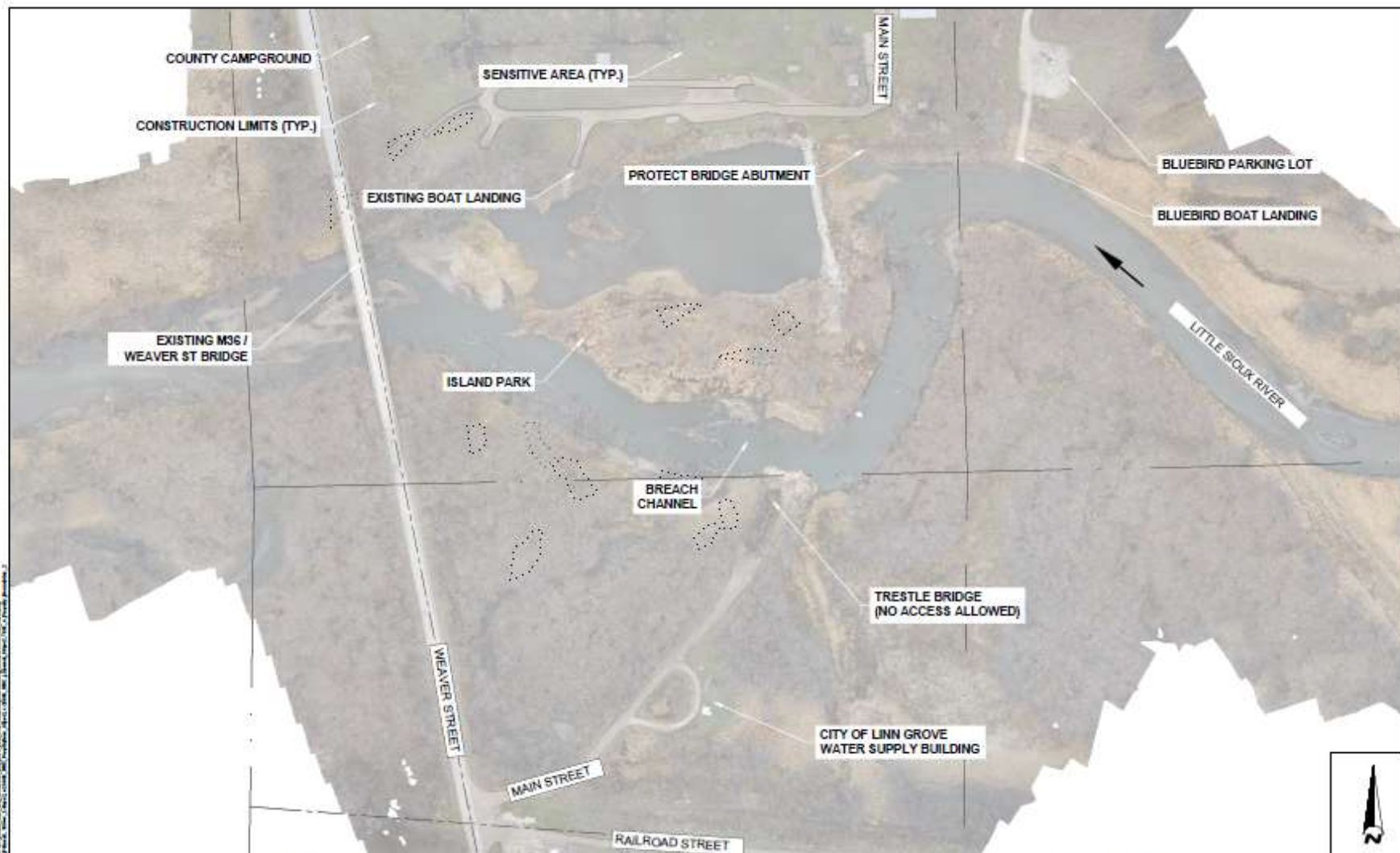
1. IOWA DNR ENGINEER WILL STAKE LOCATION OF WEIR STRUCTURES.
2. GAPS SHOWN IN TYPICAL DRAWING WILL BE INSPECTED BY IOWA DNR ENGINEER DURING CONSTRUCTION.
3. THE VANE AREA PORTION OF THE STRUCTURE IS 20'-30' MEASURED UPSTREAM FROM THE TANGENT LINE WHERE THE VANE INTERCEPTS THE BANK.
4. THE VANE SLOPE EXTENDING FROM THE INTERCEPT OF THE STRUCTURE WITH THE BANK SHOULD NOT EXCEED 5%.
5. THE STRUCTURE INTERCEPTS THE BANK AT AN ELEVATION OF 1201'.
6. THE ROCK SIZING FOR THE STRUCTURE HAS A MAXIMUM SIZING OF 4.0' AND A MINIMUM SIZING OF 3.5' IN MEDIAL DIAMETER.
7. THE FLATTEST STONES SHOULD BE USED FOR THE TOP OF THE STRUCTURE TO MAINTAIN A CONSISTENT SLOPE ON THE VANE ARM.
8. IRREGULAR STONES CAN BE USED FOR THE FOOTERS.
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11. SMALLER ROCK SIZING IN THE ORDER OF 2'-2.5' MEDIAL DIAMETER CAN BE USED FOR SILLED PORTION OF STRUCTURE, WHICH IS BURIED. REFER TO VANE TYPICAL FOR CLARIFICATION.
12. EXCESS RIP-RAP ALREADY ON SITE IS TO REMAIN IN PLACE UNLESS NECESSARY TO MOVE DURING CONSTRUCTION. THE BANKS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION AND CONTRACTOR SHALL WORK WITH DNR ENGINEER TO PROVIDE FISHING ACCESS TO CONSTRUCTED WEIR USING EXISTING ROCK ON SITE FOR STEPPING STONES.
13. REFER TO PROFILE VIEW FOR STATION ELEVATION WITH RESPECT TO DISPLAYED ALIGNMENTS - EAST, CENTER AND WEST ALIGNMENTS.
14. IOWA DNR WILL PROVIDE ADDITIONAL BENCHMARKS AT CONTRACTORS REQUEST.

	NORTHING	EASTING	ELEVATION
BM1	3922779.825	4886433.598'	1202.17'

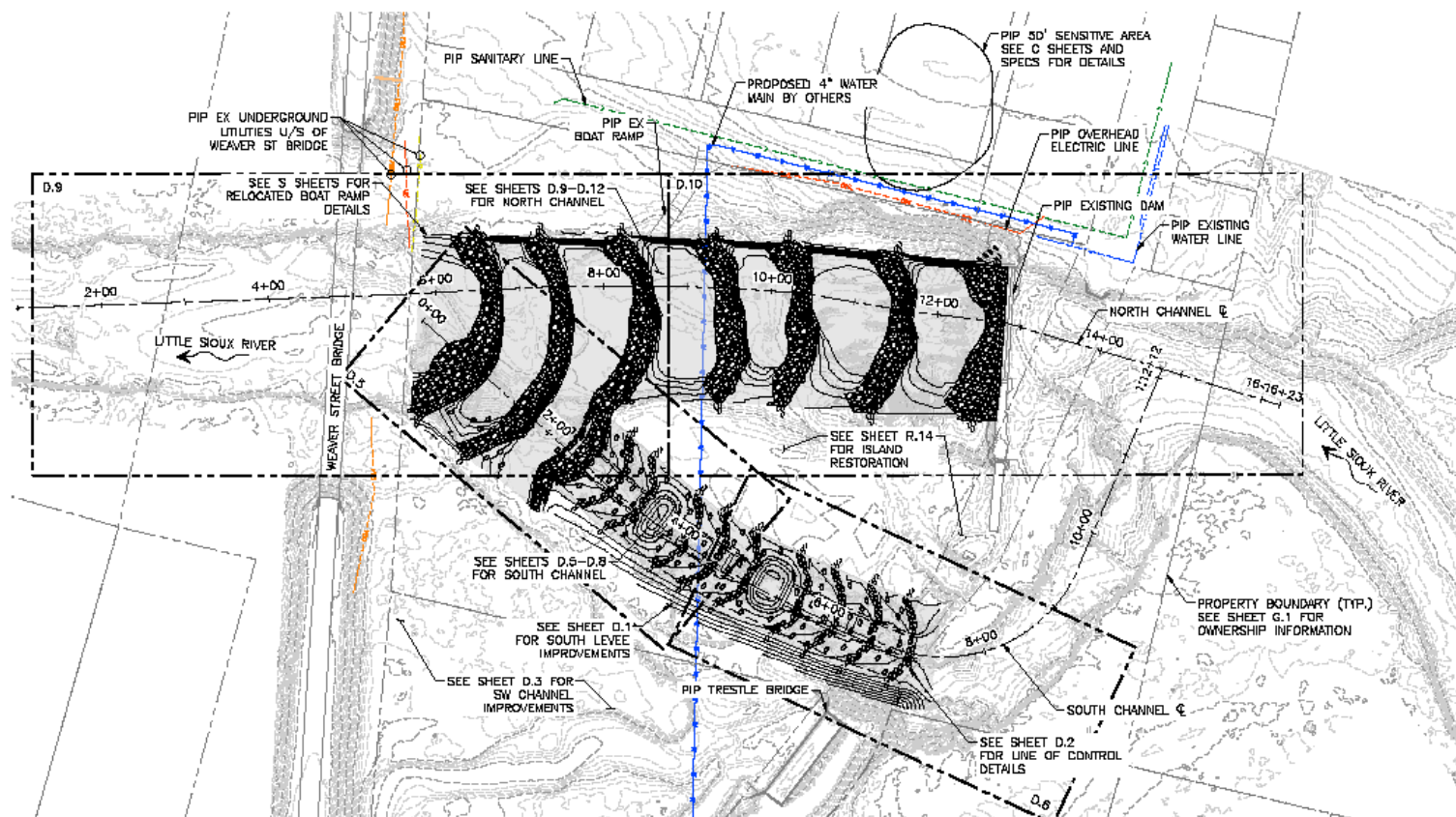
FILE NO.	ENGLISH	DESIGN TEAM	Harman	FOREST CITY/WINNEBEGO	COUNTY	PROJECT NUMBER	B.1	SHEET NUMBER	PLAN VIEW
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Linn Grove:





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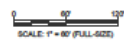


PLAN VIEW



NO. DATE BY REVISION

6			
5			
4			
3			
2			
1			



SUBMISSION DATE: 10-6-2021		
DESIGN BY: DRAMIN BY: CHECKED BY: QLD	AKM	AKM
EOR PROJECT NO.: 01869-0001		



RiverRestoration.org, LLC
8181 Industry Place
Cedarvale, CO 81623
P: 970.947.0588
www.riverrestoration.org



LINN GROVE DAM
90% FINAL DESIGN
BUENA VISTA COUNTY, IOWA

STATE PROJECT NO. — CITY PROJECT NO. 888

D.4 - IN-CHANNEL IMPROVEMENTS
OVERVIEW

SHEET 22 OF 93 SHEETS

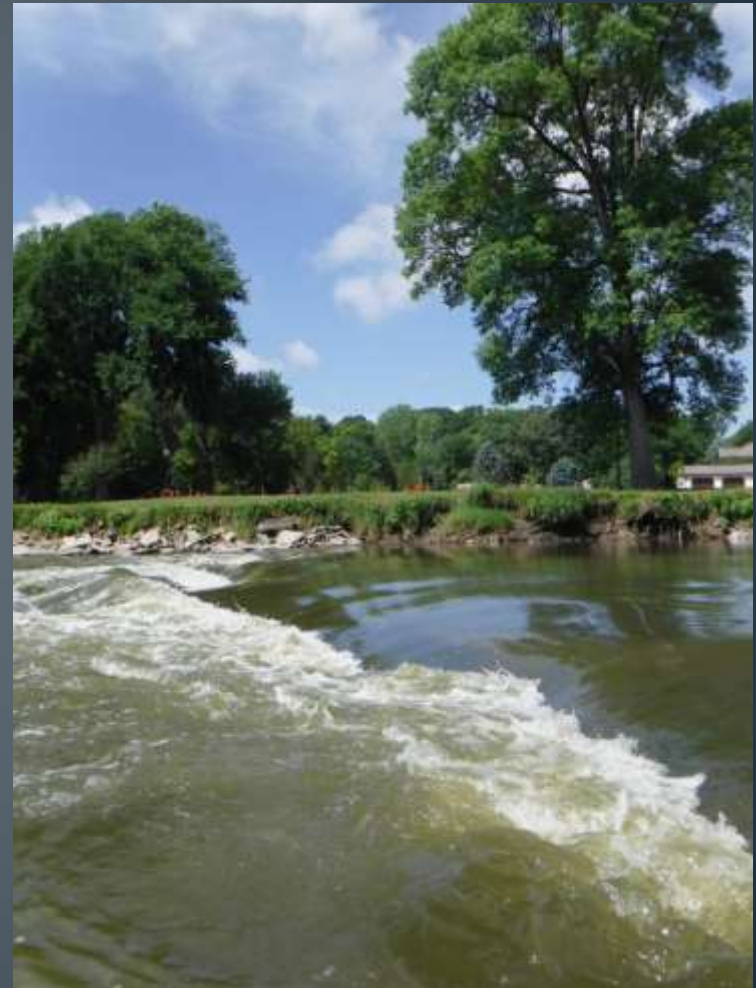
Central City construction has begun

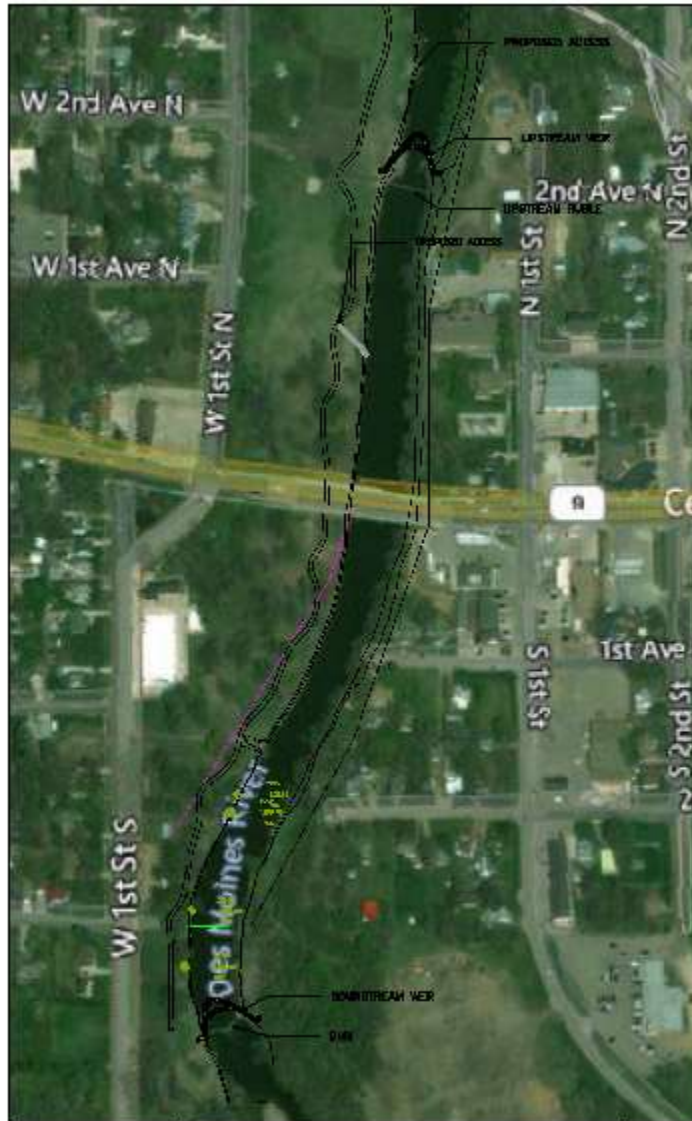


PINICON RIDGE DAM MODIFICATION PROJECT



Estherville Water Trails Project – West Fork of the Des Moines River





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14. IOWA DNR WILL PROVIDE ADDITIONAL BENCHMARKS AT CONTRACTORS REQUEST.

	NORTHING	EASTING	ELEVATION
BM1	3977698.90	4563903.0990	1257.95

Herman

ESTHERVILLE/WEST FORK DES MOINES RIVER

SHEET NUMBER D.1

PLAN VIEW

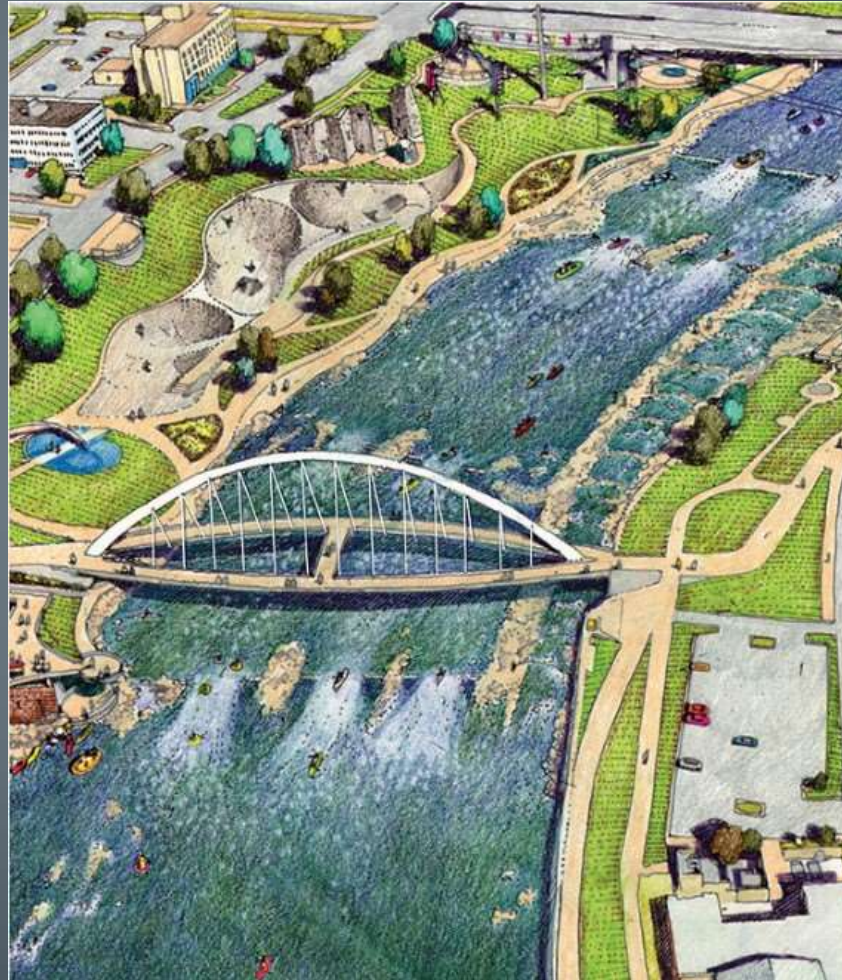
Des Moines Water Trails Projects

ICON

80 projects over 150 miles of
access and dam modification
projects

A bid has been accepted

Phase 1 of the Des Moines River Water Trails Projects is scheduled to begin in the Spring of 2023. A single bid was accepted in November of 2022. The first set of projects will include the in water features and modification of the Scott Avenue Dam.



PROJECTS COMPLETED

2021/2020

Riverside Park Ames



Littleton Dam – Wapsipinicon River



Littleton

Construction:



Littleton – Final Result



Troy Mills - Before



TROY MILLS PLAN VIEW



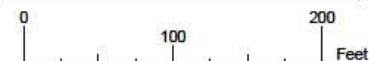
NOTES:

1. BASIS OF SURVEY: IOWA STATE PLANES, NORTH, US FT. NAD83. VERTICAL DATUM: NAVD88
2. LOCATIONS OF UNDERGROUND GAS LINES, OVERHEAD UTILITY LINES, POWER POLES, AND PROPERTY LINES WERE NOT INCLUDED IN THE SURVEY.
3. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO THE START OF CONSTRUCTION AND THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES.
4. TOPOGRAPHIC SURVEY WAS COMPLETED IN MARCH OF 2015.
5. DNR WILL BE RESPONSIBLE FOR SURVEY STAKING AND AS BUILT SURVEY.
6. CONTROL POINTS SHOWN ARE METAL SPIKES WITH PINK RIBBON INSTALLED MARCH 2015. IF ADEQUATE CONTROL POINTS ARE NOT IN PLACE WHEN THE CONTRACTOR BEGINS CONSTRUCTION, THE DNR SHALL FURNISH ADDITIONAL CONTROL POINTS FOR THE CONTRACTOR.
7. LOCATIONS OF STAGING/STOCKPILE AREA AND CONSTRUCTION LIMITS ARE APPROXIMATE AND EXACT LOCATIONS SHOULD BE COORDINATED IN THE FIELD WITH THE ENGINEER/PROJECT MANAGER AND DNR.
8. PROPOSED ACCESS IS ON THE SOUTH SIDE OF THE DAM. ACCESS TO THE ENTIRE DAM CAN BE ACCOMPLISHED DOWNSTREAM OF THE DAM AT LOW WATER.
9. PLACEMENT OF WEIR STONE FOR FISH PASSAGE WILL BE AT THE DIRECTION OF PROJECT MANAGER. STEP POOL SEQUENCE WITHIN THE RAPIDS WILL BE DIRECTED BY PROJECT MANAGER DURING CONSTRUCTION.
10. WEIR ROCK PLACEMENT IS TO MEET A VERTICAL TOLERANCE OF 0.1" AND WILL BE INSPECTED BY DNR/PROJECT MANAGER THROUGHOUT CONSTRUCTION

COORDINATE TABLE FOR CONTROL POINTS

	NORTHING	EASTING	ELEV.
CP1	357355.672	5413125.006	843.60
CP2	3573285.521	5413037.452	842.16
CP3	3573337.875	5413160.918	839.85

—	EG MAJOR CONTOURS
—	EG MINOR CONTOURS
—	DESIGN MAJOR CONTOURS
—	DESIGN MINOR CONTOURS



Iowa Department of Natural Resources
Lands and Waters Bureau
Conservation and Recreation Division

RAPIDS PLAN
C200

Glenn Harman

1-19-2017
AS SHOWN

Troy Mills Dam – After



PROJECTS COMPETED IN 2019

Grant Park: Final



Fort Dodge Hydroelectric Dam



- Now that the dams are out the focus on restoration is upstream to stabilize banks and provide new access. There are a number of projects in the works.

Fort Dodge Lower Dam



Ft. Dodge After



From Salorville Dam North to Humboldt we have removed or modified 4 dams with only the Fraser dam left. For the first time in over 100 years our fisheries biologist are catching flathead catfish in Humboldt.



Mason City – Willow Creek



There is an additional project at the 12th street dam in Mason City which will be similar to the Riverside Park whitewater project in Ames.



COMPLETED PROJECTS BEFORE AND AFTER

COGGON DAM - BEFORE



AFTER



VERNON SPRINGS - BEFORE



AFTER



Klondike Bank Project – Before/After

Before



After



After



KLONDIKE DAM - BEFORE



AFTER



Olson Stream Bank – Before and After



CORN BELT DAM – DES MOINES RIVER BEFORE



AFTER



BOONE WATERWORKS DAM - BEFORE



AFTER



GOLDFIELD - BEFORE



AFTER



ROCKFORD DAM - BEFORE



AFTER



BUCK CREEK CULVERT PROJECT - BEFORE



BUCK CREEK CULVERTS - AFTER



www.iowadnr.gov