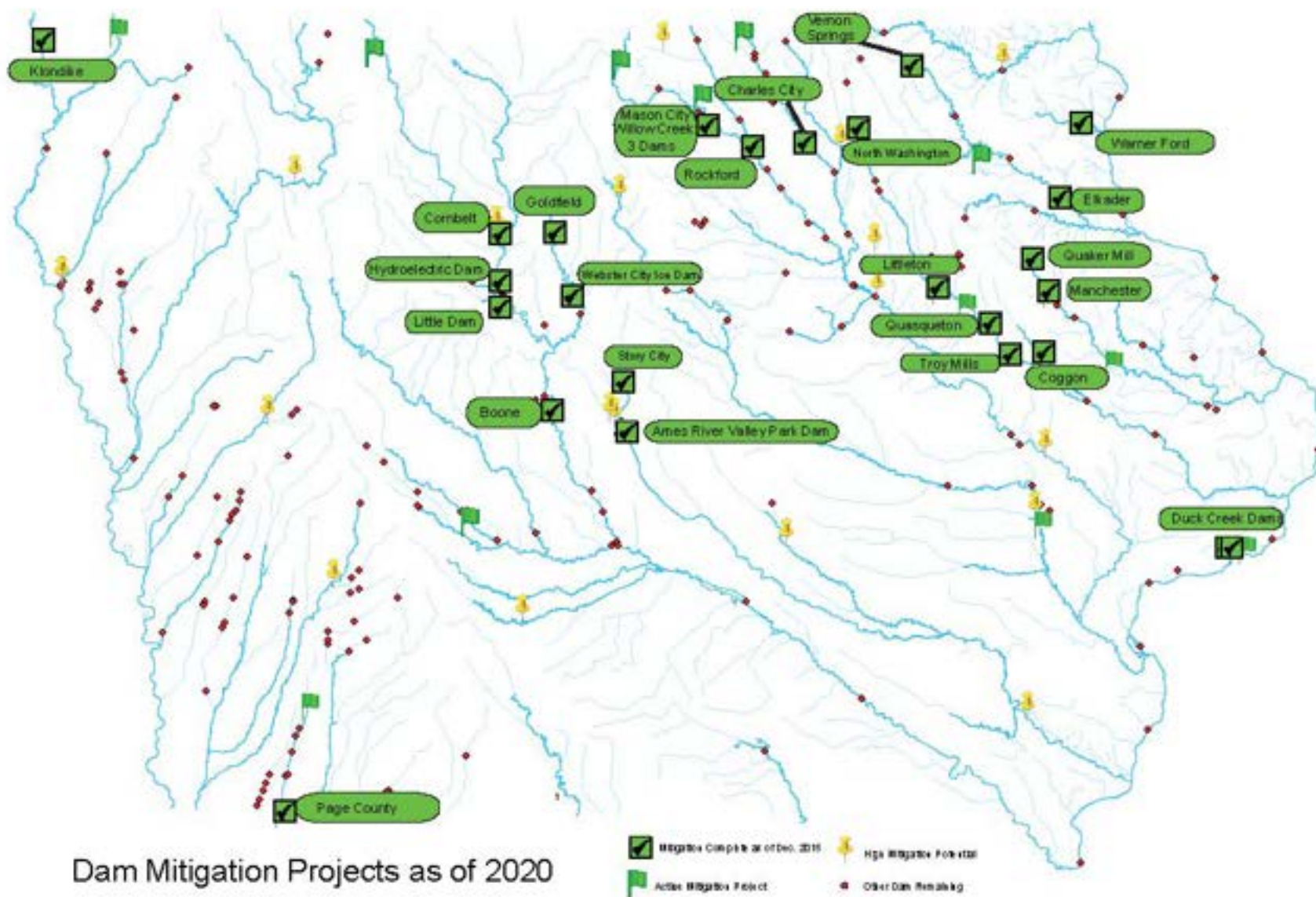


Dam Mitigation Projects 2021

Glenn Harman
Land and Waters Bureau
Updated February 2022





Dam Mitigation Projects as of 2020

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

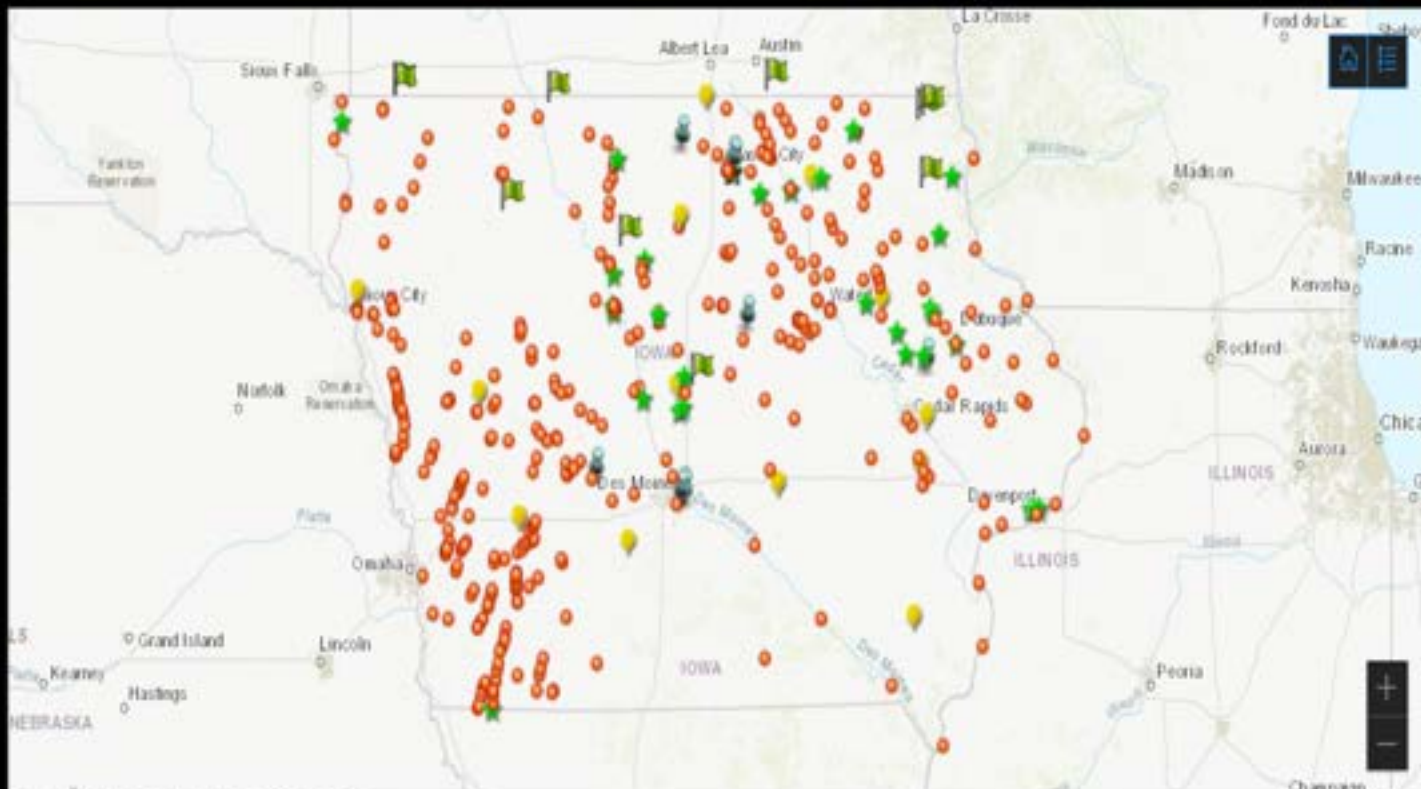
Lincolnway Gaging

Last update: 2 minutes ago

Iowa DNR Dam Projects

Status

- Other Dams Remaining
- Exploratory
- Design



Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

Powered by Esri

<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 2021

33 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

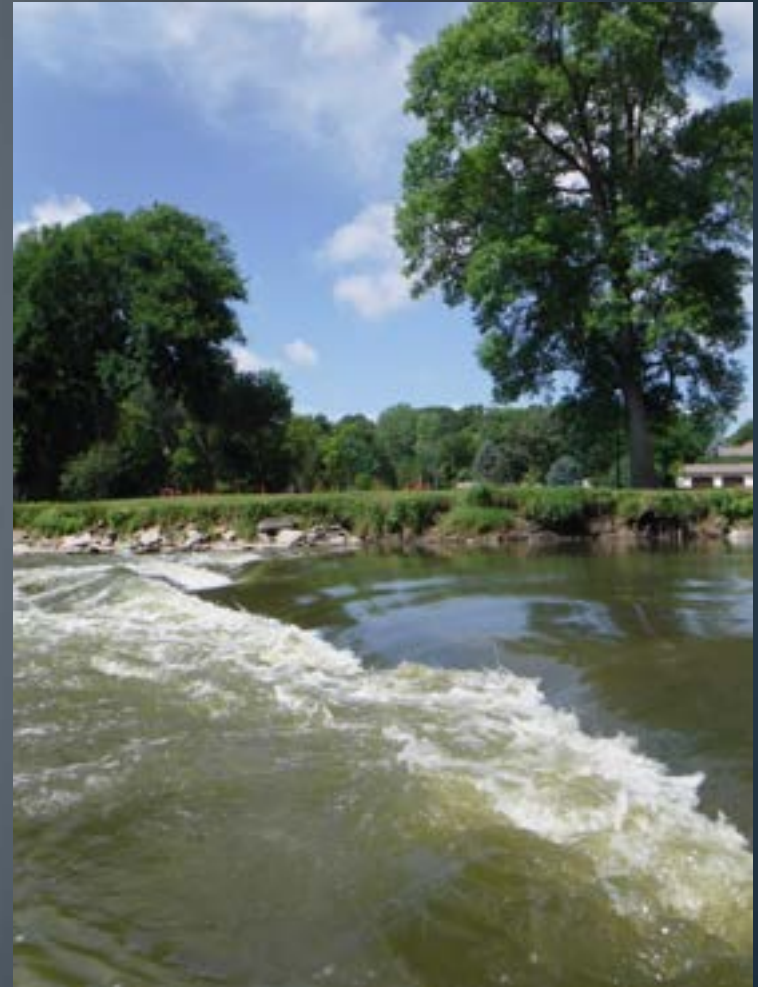


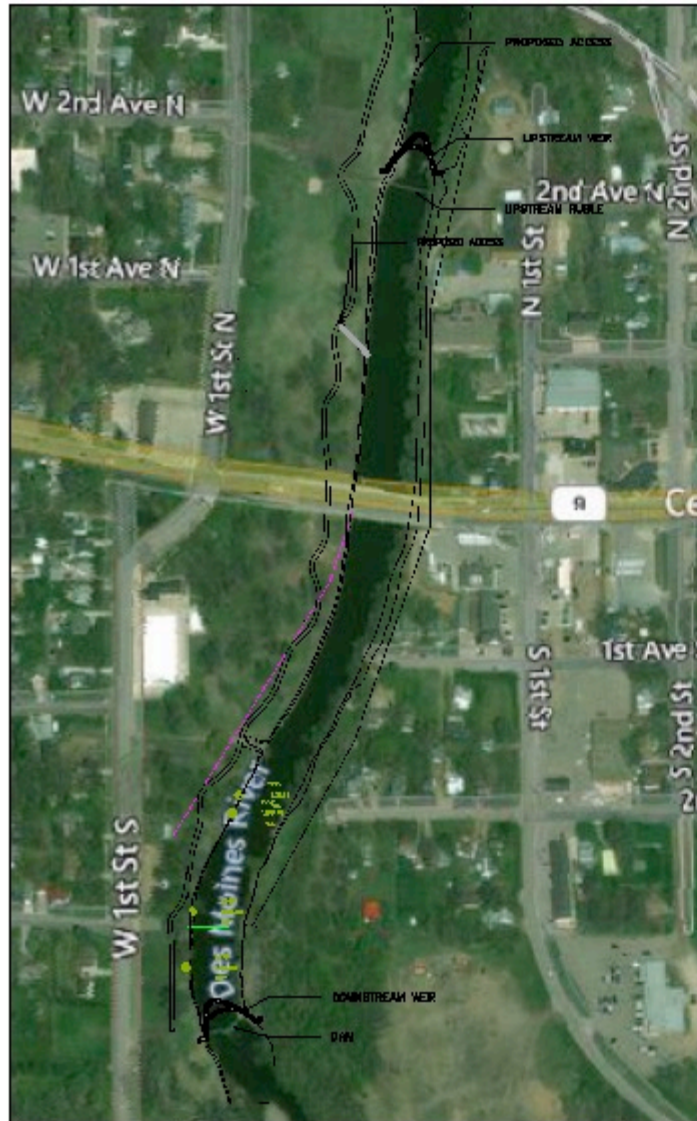
Masson City



PROJECTS UNDER DEVELOPMENT

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





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.
9. THE ENTIRE STRUCTURE WILL BE HELD TO A .1' TOLERANCE ON THE ELEVATION AND WILL BE INSPECTED BY IOWA DNR THROUGHOUT THE CONSTRUCTION.
10. ROCK SIZING SHOULD BE APPROVED BY IOWA DNR ENGINEER.
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	3977698.90	4563903.0990	1257.95

Herrman

ESTHERVILLE/WEST FORK DES MOINES RIVER

SHEET NUMBER 0,1

PLAN VIEW

Forest City





NOTES:

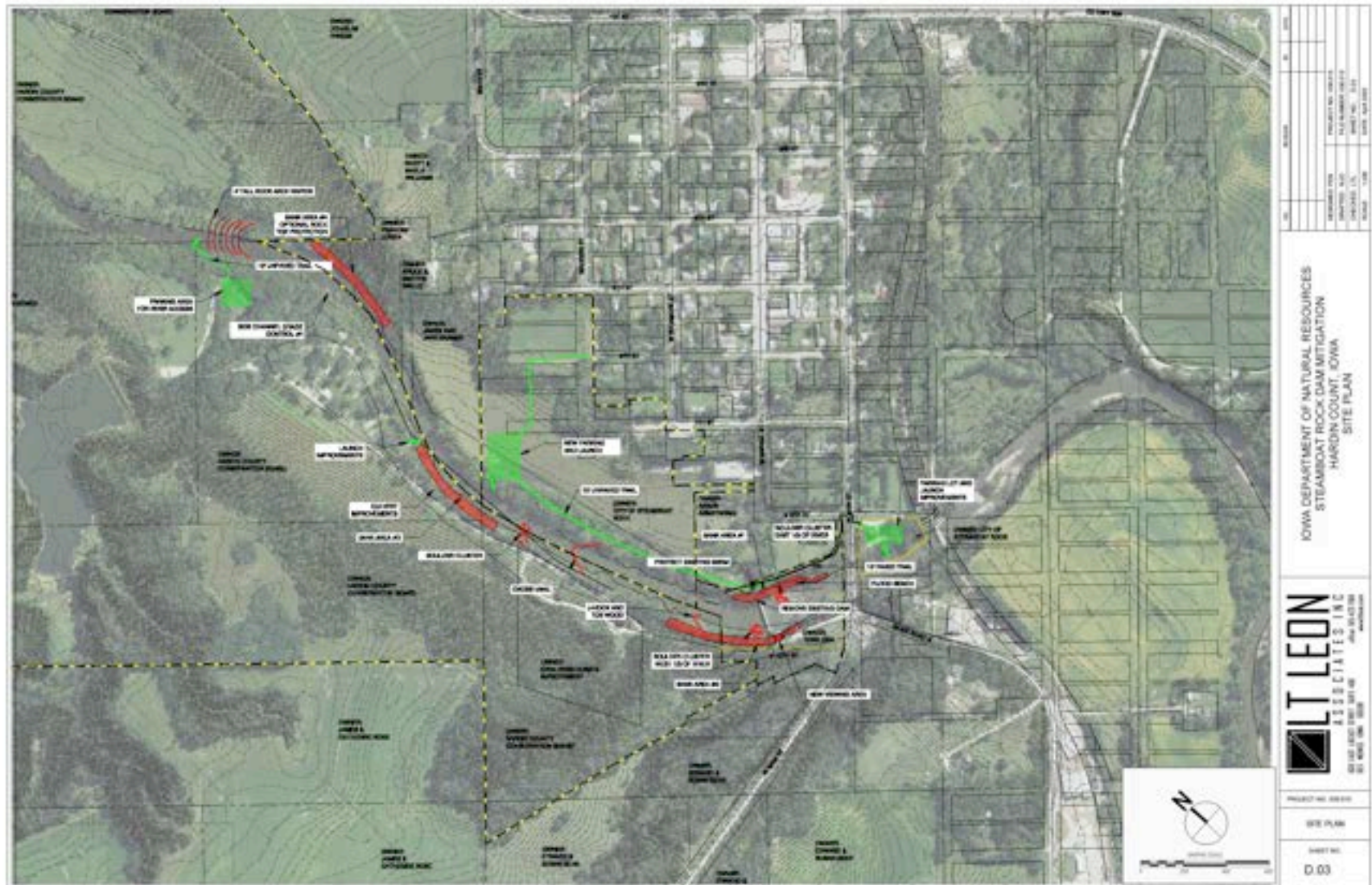
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13. REFER TO PROFILE VIEW FOR STATION ELEVATION WITH RESPECT TO DISPLAYED ALIGNMENTS - EAST, CENTER AND WEST ALIGNMENTS.
14. IOWA DNR WILL PROVIDE ADDITIONAL BENCHMARKS AT CONTRACTORS REQUEST.

	NORTHING	EASTING	ELEVATION
BM1	3922779.825	4886433.598'	1202.17'

Steam Boat Rock



Steam Boat Plan View



Linn Grove Before the Flood





PLAN VIEW

 		 SCALE: 1" = 40' (PLAN, 2000)	SUBMITTER DATE: 10/20/2020 ESTIMATED SUBMITTER: 10/20/2020 SUBMITTER: 10/20/2020	 RIVER CONSULTING, LLC 10000 10th Avenue, Suite 100 Des Moines, IA 50319 515.281.1111 www.riverconsulting.com		LINN GROVE DAM 90% FINAL DESIGN BLUESIA VETTA COUNTY, IOWA	0.4 - IN-CHANNEL IMPROVEMENTS OVERVIEW
SHEET 22 OF 30 SHEETS							

PINICON RIDGE DAM MODIFICATION PROJECT



Des Moines Water Trails Projects

ICON

80 projects over 150 miles of
access and dam modification
projects

PROJECTS COMPLETED 2021/2020

Riverside Park Ames



Littleton Dam – Wapsipinicon River



Littleton

Construction:



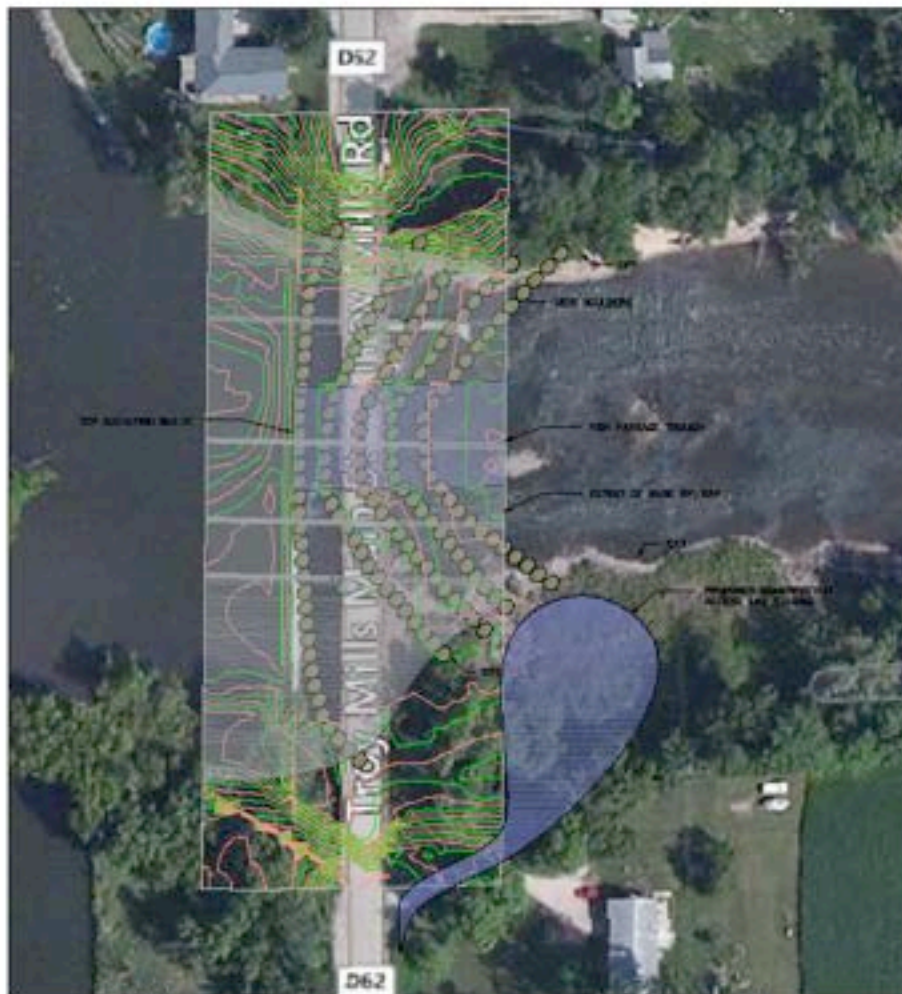
Littleton – Final Result



Troy Mills - Before



TROY MILLS PLAN VIEW



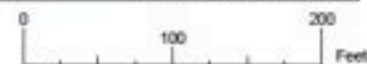
NOTES:

1. BASIS OF SURVEY: IOWA STATE PLANES, NORTH, US FT. NAD83
VERTICAL DATUM: NAVD83
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	5413125.008	843.60
CP2	3573285.521	5413037.452	842.16
CP3	3573337.875	5413160.818	838.85

—	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



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



AFTER



ROCKFORD DAM - BEFORE



AFTER



BUCK CREEK CULVERT PROJECT - BEFORE



BUCK CREEK CULVERTS - AFTER



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