
USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE
Missouri River
Todd Valley
Lower Platte
Lower North Platte
Central Platte
Wetland Type
Playa
Pre-Site Engineering Visit
NRCS ENGINEERS
FARM PRODUCTION AND CONSERVATION
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1


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Aerial Imagery
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2


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GIS – LiDAR
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3

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GIS/NETS - Hydrology

- Linear systems
  - Streams
  - Ditches
  - Dikes & Water Control Structures

Watershed Characteristics

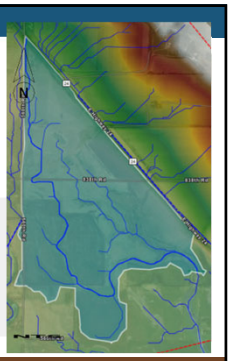
Weighted Curve Number 77

Watershed Length 11768 feet

Time of Concentration 4.42 hours (Lag method)

Drainage Area 395.25 acres

Rainfall Distribution Type NOAA Atlas 14 Site Specific



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4

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PURPOSE

This practice is used to accomplish one or more of the following purposes:

- Manage water retained on the landscape using a dike

Table 1 - Minimum Design Criteria for Dikes and Levees

Classification	Material[1]	Design High-Water Height (H) in feet[2]	Minimum Storm Design Frequency in years	Minimum Freeboard in feet	Minimum Top Width in feet	Minimum Side-Slope Ratio[3] (H:V)	Wave and Stability Berm Width in feet [4]
Class I	Mineral Soils	0–6	100	H/3	10	3:1	12
		> 6–12	100	2	10	Note[5]	Note[5]
		>12–25	100	3	12	Note[5]	Note[5]
		> 25	100	3	14	Note[5]	Note[5]
	Manufactured	0–8	100	H/4	N/A	N/A	Note[5]
		> 8–12	100	2	N/A	N/A	Note[5]
		> 12	100	3	N/A	N/A	Note[5]
Class II	Mineral Soils	0–6	25	H/3	6	3:1	12
		>6–12	25	2	8	3:1	15
	Manufactured	0–8	25	H/4	N/A	N/A	Note[5]
		> 8–12	25	2	N/A	N/A	Note[5]
Class III	Mineral Soils	0–3	10	H/3	4	3:1	8
		> 3–6	10	1	6	3:1	8
		> 6–12	25	2	8	3:1	8
	Organic Soils[6]–	0–2	10	H/2	4	3:1	10
		> 2–4	10	1	6	3:1	10
		> 4–6	10	2	8	3:1	15
	Manufactured	> 6–8	10	N/A	N/A	N/A	Note[5]
Class IV	Mineral Soils or Organic Soils[6]	< 6	10[8]	0.5[9]	4	3:1	N/A
	Manufactured	< 6	10[8]	0.5[7]	N/A	N/A	N/A

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5

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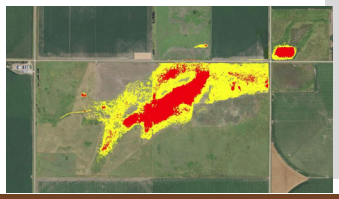
Hydrologic Data

- Water Budgets
  - Spreadsheets
  - SPAW (Soil, Plant, Atmosphere, and Water)
  - EFH-2
  - WETS Tables



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6

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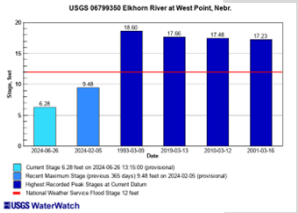
Hydraulic Analysis

- USGS stream gauge data
- HEC-RAS
  - Stream flow
  - Hazard class
- Mannings Equation
- Groundwater



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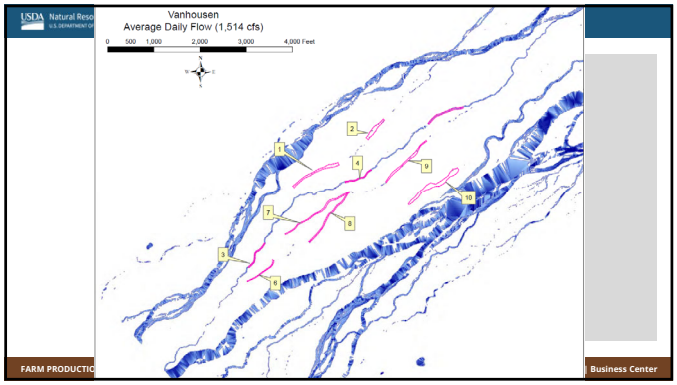

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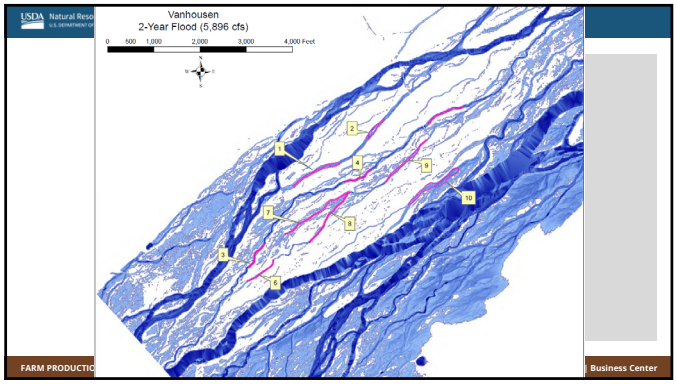

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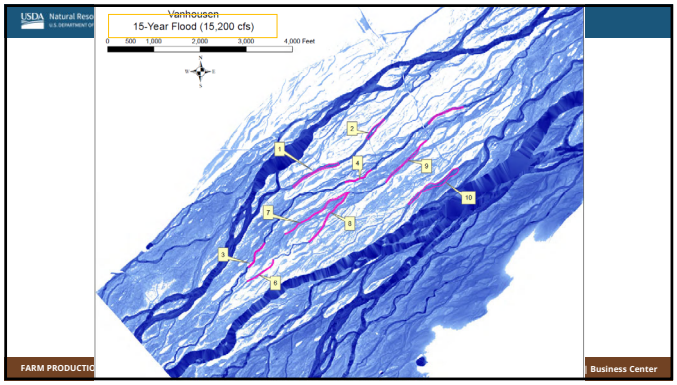

10

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Permitting – USACE

- Perennial streams and adjacent wetlands
  - Sackett Decision
    - USACE Jurisdictional Determination
  - Individual permits – Infeasible?
  - Nationwide 27 permits
    - Functional assessments when placing fill in wetland

Reporting. For those activities that do not require pre-construction notification, the permittee must submit to the district engineer a copy of: (1) the binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement, or a project description, including project plans and location map; (2) the NRCS or USDA Technical Service Provider documentation for the voluntary stream enhancement or restoration action or wetland restoration, enhancement, or establishment action; or (3) the SMCRA permit issued by OSMRE or the applicable state agency. The report must also include information on baseline ecological conditions on the project site, such as a delineation of wetlands, streams, and/or other aquatic habitats. These documents must be submitted to the district engineer at least 30 days prior to commencing activities in waters of the United States authorized by this NWP.

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Permitting - No-Rise

- Floodways
  - FEMA
- Community boundaries
- Infeasible?

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12

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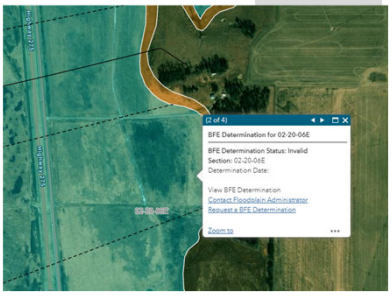
Permitting – Floodplain

- County Floodplain Administrators



13

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Permitting – DNR

- Storage permit for dikes that store > 15 acre-feet of permanent water

DNR SW Form AP1-001
April 2022
Page 1 of 2

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
APPLICATION FOR A PERMIT TO IMPOUND WATER

INSTRUCTIONS	For Department Use Only
Refer to second page of this form for fees, plans and filing requirements. Complete Items 1 through 11 by typing or printing in ink the appropriate information required. This form must be completed in full. An incomplete or defective application will be returned with 90 days being allowed for resubmission. Failure to resubmit a corrected application within this time period shall cause	Filed in the office of the Department of Natural Resources at _____a.m./p.m. on _____, 20_____ Application No._____

14

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Wetland Progression – 2010, 2016, & 2023

15