

# ***The Use of Nationwide Permit 27 for Stream Restoration and Enhancement***

**Albert Frohlich**

Project Manager

US Army Corps of Engineers – Rock Island  
District – Regulatory Branch – Iowa Section

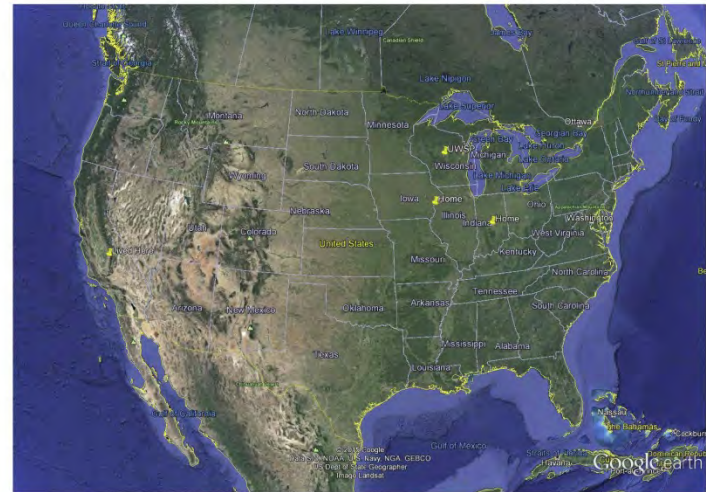
February 10, 2015



US Army Corps of Engineers  
**BUILDING STRONG**®

# About me

- 17 Years in USACE
- Park Ranger
- Natural Resource Specialist
- Regulatory Project Manager
- BS from UW-Stevens Point



# Outline

- What NWP 27 Covers
- What NWP 27 Does Not Cover
- Reporting Requirements
- NWP 27 Follow up (Should monitoring be required)
- Questions



# What is NWP 27

- Nationwide Permit 27 covers **restoration, enhancement and establishment** of tidal and non-tidal wetlands and riparian areas
- Also includes stream restoration and enhancement
- Activities must result in a net increase in aquatic functions and values





# NWP 27

## Restoration

## Establishment

## Enhancement

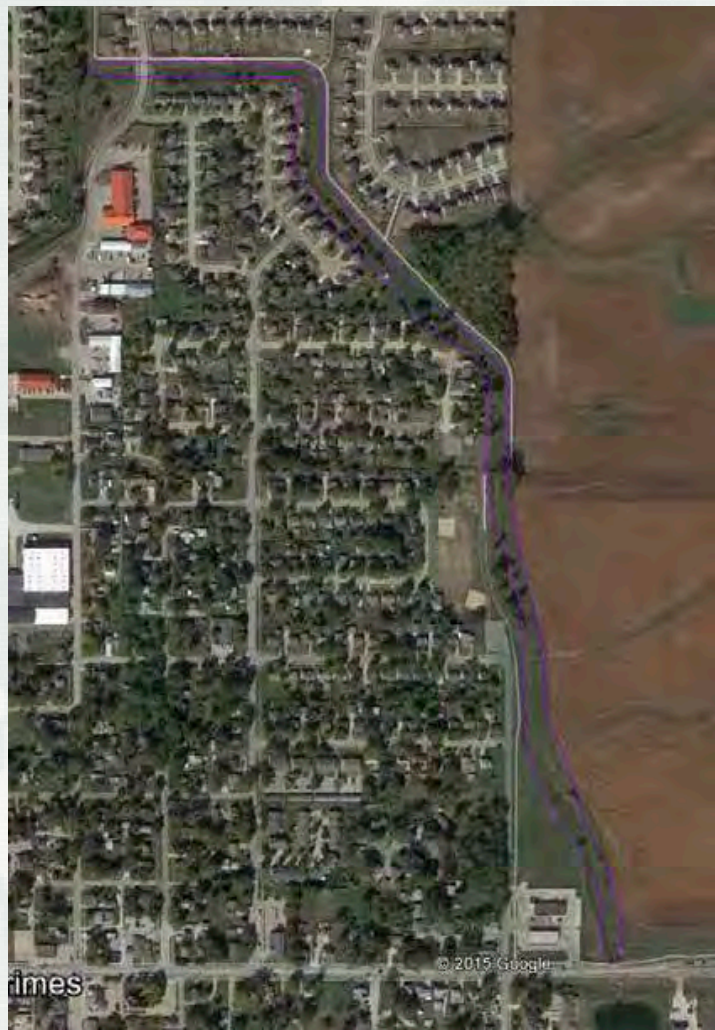
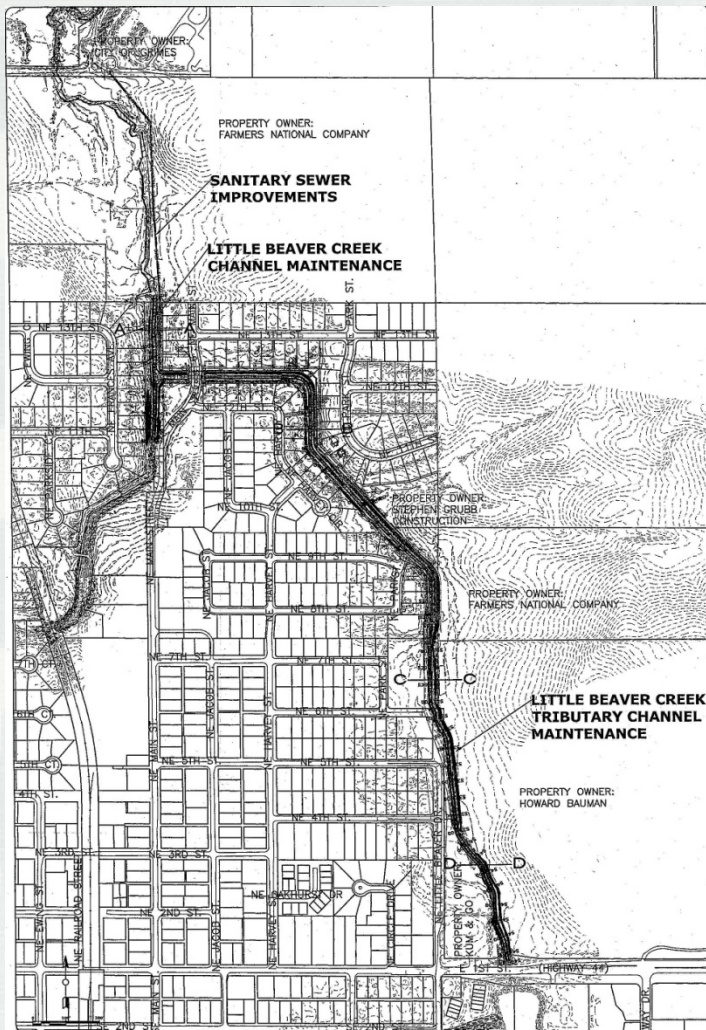


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5. PROJECT DESCRIPTION AND REMARKS:

Project includes installation of 5,000-LF of sanitary sewer and removal and replacement of 2,600-LF of pedestrian trail. Ground and trail elevations will be restored to pre-construction conditions. Project will also involve urban channel maintenance at Little Beaver Creek and tributary including: accumulated sediment removal; cattail removal, repair and protection for erosive channel banks; and channel low flow and gradient repairs.

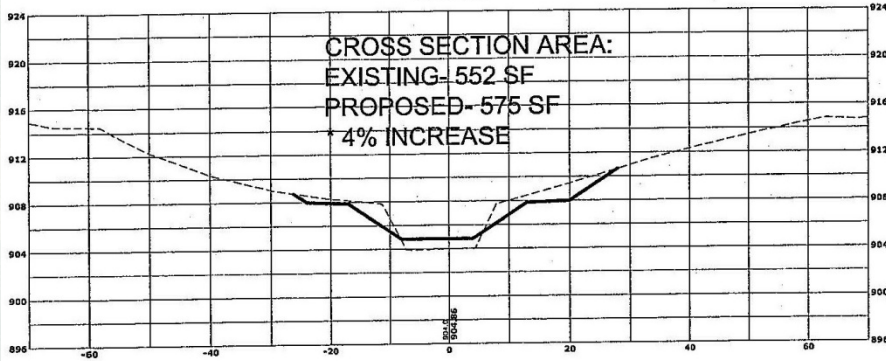


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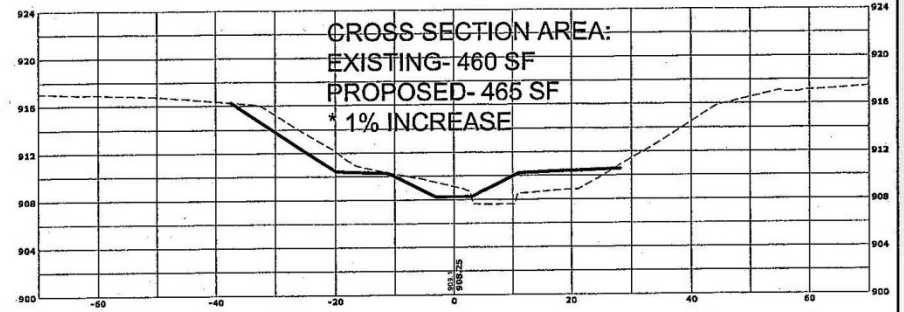
CROSS SECTION A-A

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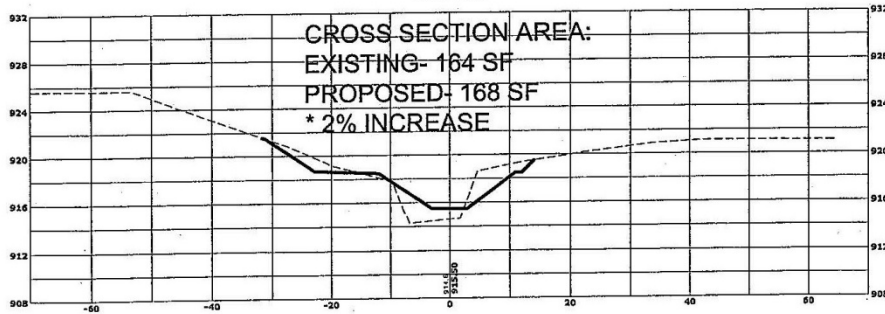
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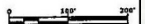
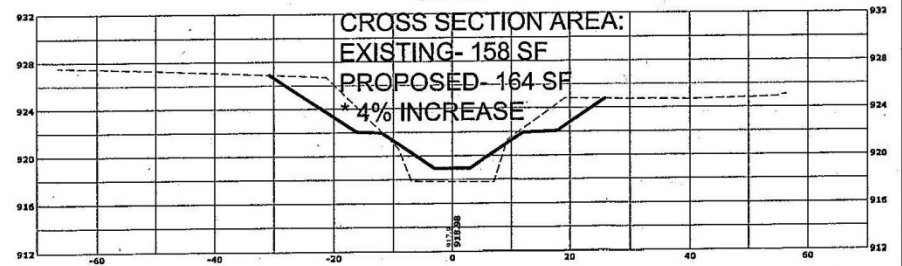
CROSS SECTION C-C

531+00



CROSS SECTION D-D

542+00



7. PROJECT DESCRIPTION (Include all features): The project involves bank stabilization along one side of Duck Creek that adjoins the City of Bettendorf's bike path. Due to the increase in flow intensity and water elevation during heavy rain events, bank erosion has become a concern. The City will be focusing on two general site location areas that further break down into five separate steeply sloped stretches, which will total ~1450' of bank reinforcement/stabilization. Reference attached detailed diagrams of the proposed stabilization methods proposed (Type B , Type C, Type D, and Type E).



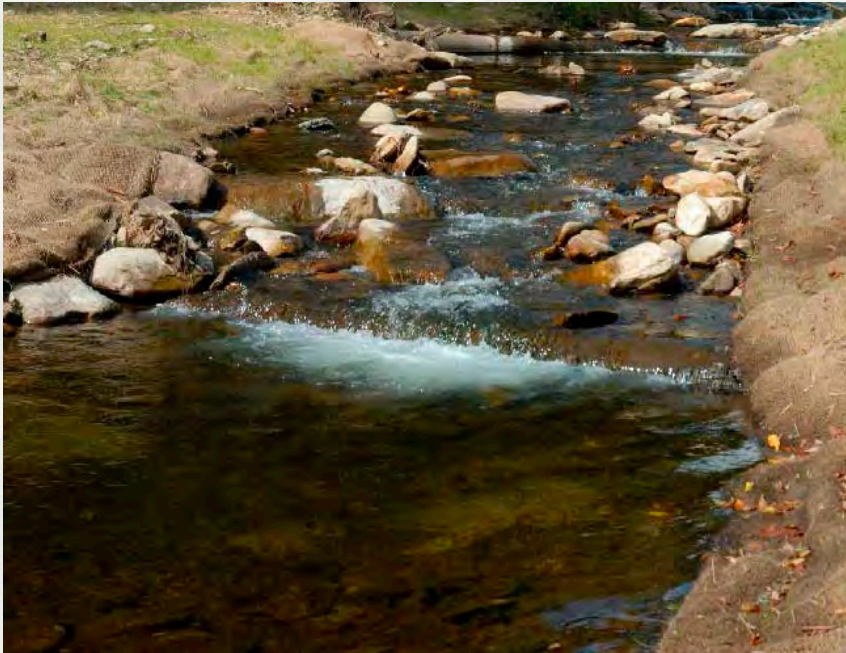
# Stream bank Stabilization





# What does NWP 27 Authorize

**Grade Stabilization**



**In-stream habitat work**



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# What does NWP 27 Authorize

**LWD**



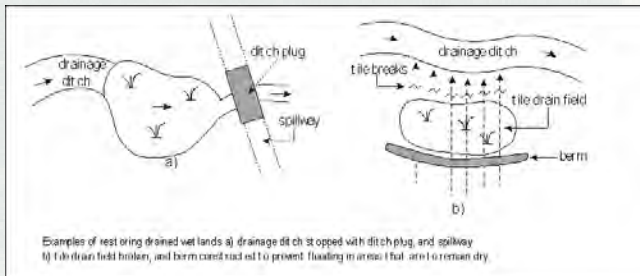
**Re-meandering**





# What does NWP 27 Authorize

Structures to restore hydrology



Shallow excavations

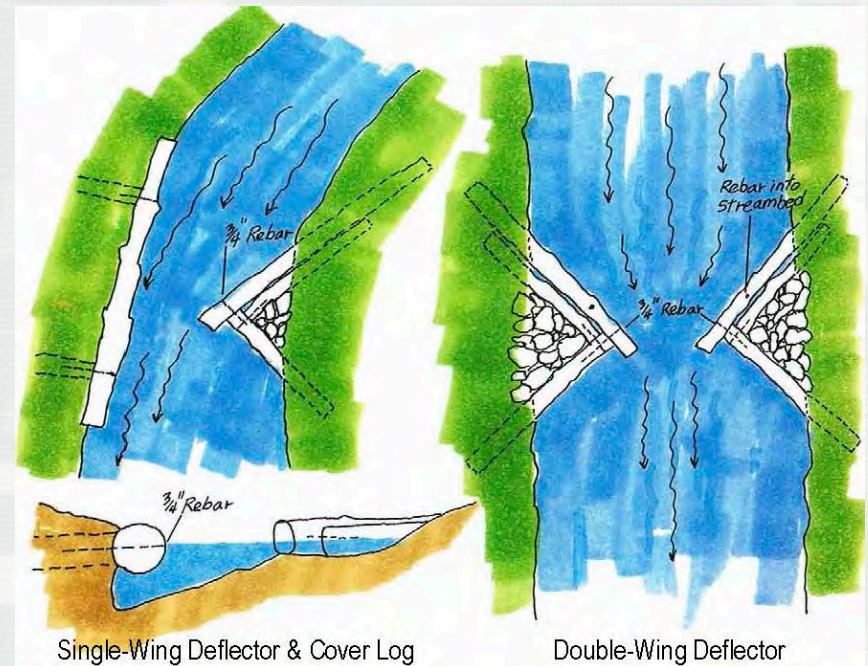


# What does NWP 27 authorize

## Drain tile modification



## Current deflectors





# What does NWP 27 authorize

## Removal of structures



## Much more

- J-Hooks
- Weirs
- Vanes
- Barbs
- Mine reclamation
- All projects must improve aquatic habitat



# NWP 27

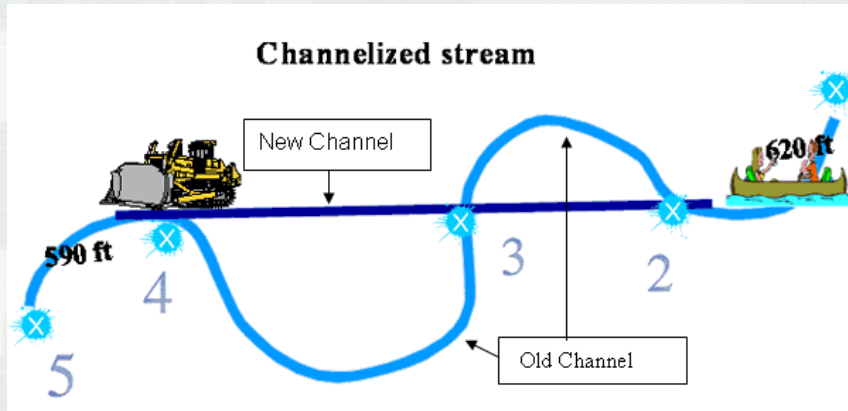
- Projects must result in **NET INCREASE** in aquatic functions and values
- Functions and values differ for habitats – you must tell us what will improve
- Must identify methodology used to measure current and anticipated results





# NWP 27 Does Not Authorize

## Channelization



## Bank Paving/Armoring



# NWP 27 Does Not Authorize

## Conversion of habitat



## Impoundments

- Stream to large lake would result in a conversion of habitat





# Project Purpose

- What is the true project purpose?
- Restoration can be a component
- Spirit of NWP 27 is to restore habitat, not protect structures (We have other permits for that)

JOINT APPLICATION FORM FOR IOWA		
PERMIT AND 2023 AGENCY USE		
1. Application Number	2. Date Received	
3. and 4. (SEE SPECIAL INSTRUCTIONS) NAME, MAILING ADDRESS AND TELEPHONE NUMBERS		
5a. Applicant's Name Company Name (if any) Address Email Address	5b. Co-Applicant/Property Owner Name (if needed or if different from applicant) Company Name (if any) Address Email Address	5c. Authorized Agent (an agent is not required) Company Name (if any) Address Email Address
Applicant's Home/Bus. address code: Business Residence Cell Fax	Applicant's Home/Bus. address code: Business Residence Cell Fax	Agent's Home/Bus. address code: Business Residence Cell Fax
STATEMENT OF AUTHORIZATION		
I hereby authorize _____ to act in my behalf as my agent in the processing of this application and to accept (upon receipt) supplements/alterations in support of this permit application.		
Applicant's Signature _____ Date _____		
6. ALL OWNING PROPERTY OWNERS (Upstream and Downstream of the abutment)		
Name	Mailing Address	Please list address code
1.		
2.		
3.		
4.		
7. PROJECT TITLE		
7. PROJECT DESCRIPTION (include all features)		
8. PURPOSE AND NEED OF PROJECT		



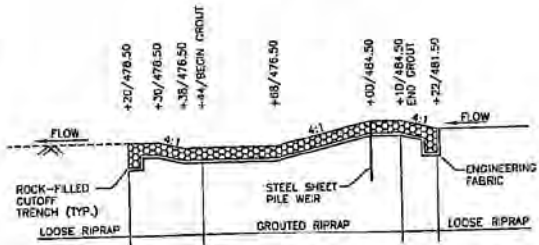
# Streambed Stabilization

- Project Purpose was to stabilize stream and protect bridge
- Arrest a head cut
- Does this meet the definition of Restoration in the Federal Register?

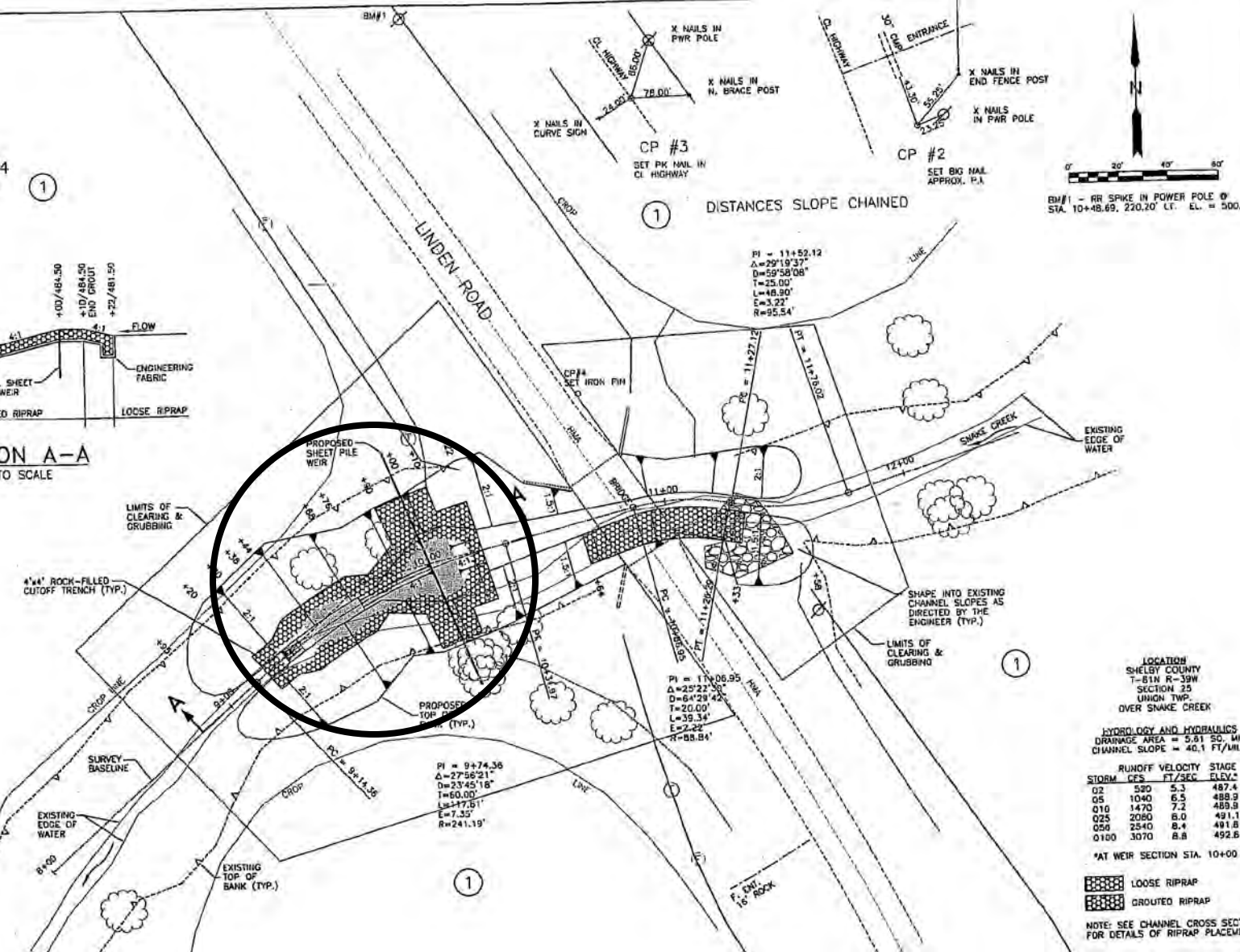


PARCEL NUMBER ① PROPERTY OWNER  
 ① ALLAN L & JOANNE E SCHABEN

SE1/4 NE1/4  
 25-81-39 ①



SECTION A-A  
 NOT TO SCALE



LOCATION  
 SHELBY COUNTY  
 T-81N R-39W  
 SECTION 25  
 UNION TWP.  
 OVER SNAKE CREEK

HYDROLOGY AND HYDRAULICS  
 DRAINAGE AREA = 5.81 SQ. MI.  
 CHANNEL SLOPE = 40.1 FT/MILE

STORM	CS	VELOCITY FT/SEC	STAGE ELEV.
02	580	5.3	487.4
05	1040	6.5	489.9
010	1470	7.2	489.9
025	2080	8.0	491.1
050	2540	8.4	491.8
0100	3070	8.8	492.6

\*AT WEIR SECTION STA. 10+00

- LOOSE RIPRAP
- GROUTED RIPRAP

NOTE: SEE CHANNEL CROSS SECTIONS FOR DETAILS OF RIPRAP PLACEMENT.



# NWP 27

- Restoration means (According to FR Vol. 77, No 34, 2/21/2012)
  - ▶ *“Restoration is the manipulation of the physical, chemical or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded historic resource”.*
  - ▶ *Restoration comes in two flavors*
    - *Re-establishment and Rehabilitation*



# Bridge Example

- What was improved?
  - ▶ Riffle – Aerates the stream and potentially provide some habitat
  - ▶ Curb soil loss
  - ▶ Protect bridge is the purpose, not to restore stream to a historic condition
  - ▶ There is no wrong answer



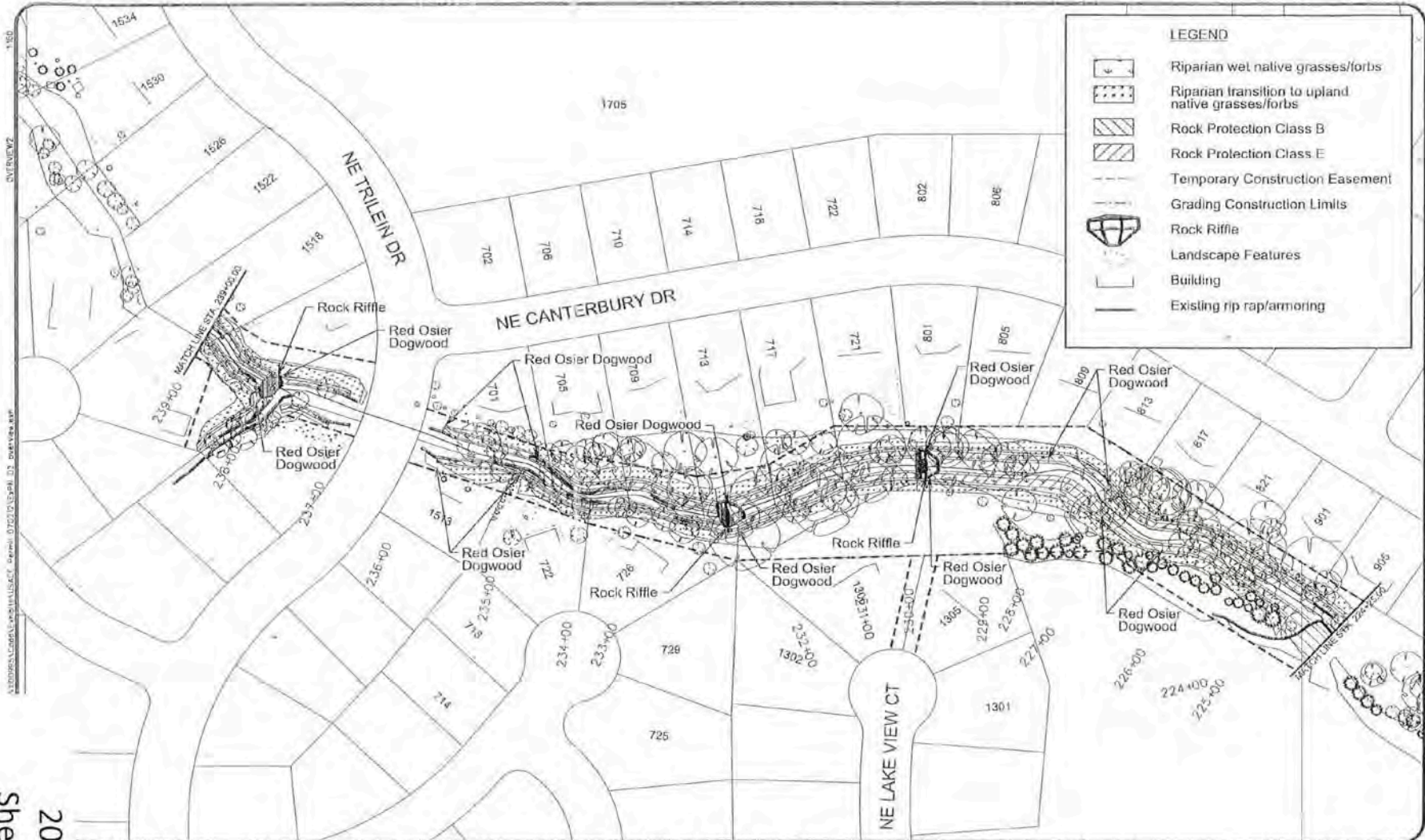


# Stabilization Example

7. PROJECT DESCRIPTION (Include all features): Stabilization of approximately 5,148 ft of an urban intermittent stream between NE 18th St. and I-35 to improve the stream, increase safety, and reduce accelerated bank erosion and stream degradation, particularly due to the 2008 and 2010 floods. Approximately 2 square miles of near full urban development drains to the project area. Stream improvements include bank shaping stable slopes, providing rock toe protection, establishing rock riffle grade controls, and establishing native vegetation buffers and other plantings and trees. Improvements include installing Red-Osier Dogwood stakes to enhance stream corridor quality and bank stability. See plans for more details. At the request of the property owners, the City of Ankeny is leading this project, which since 2008 has been developing a corridor-wide plan with extensive public involvement through resource group, public, and individual meetings. The 2010 wet year accelerated bank erosion, increasing the areas to be improved and stabilized to practically the whole stream length; trees continue to be undercut and topple. The project is planned in three construction phases due to funding.

8. PURPOSE AND NEED OF PROJECT: The purpose is to improve the urban stream corridor shaping stable slopes to establish native vegetation buffers and bank toe revetment stone protection to reestablish a stable and enhanced stream habitat that also protects infrastructure. The extremely wet years of 2008 and 2010 (high runoff volume) accelerated stream bank erosion and degradation, leaving the banks unprotected and eroding during each runoff event.





**LEGEND**

- Riparian wet native grasses/forbs
- Riparian transition to upland native grasses/forbs
- Rock Protection Class B
- Rock Protection Class E
- Temporary Construction Easement
- Grading Construction Limits
- Rock Riffle
- Landscape Features
- Building
- Existing rip rap/armoring

**PROJECT OVERVIEW**  
**NE TRIBUTARY A STREAM STABILIZATION PROJECT**  
**ANKENY, IOWA**



COORDINATE REFERENCE SYSTEM (CRS): POLK COUNTY COORDINATE SYSTEM



EXHIBIT 3



**G & ASSOCIATES**  
 neers and Planners  
 #: 110.0995

2012-599

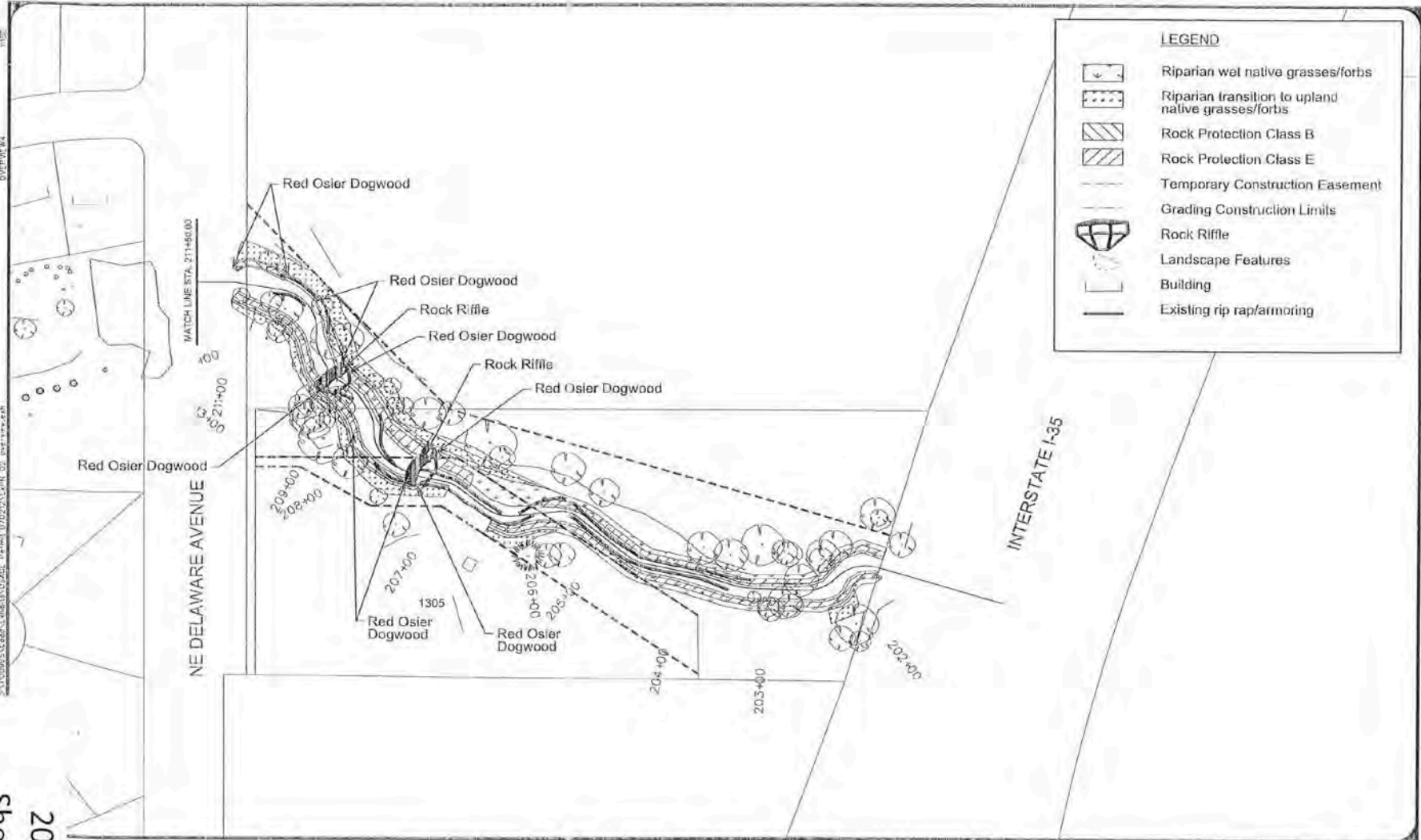
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DATE: 01/11/11  
DRAWN BY: JAC  
CHECKED BY: JAC  
SCALE: AS SHOWN  
PROJECT: NE TRIBUTARY A STREAM STABILIZATION PROJECT  
SHEET: 5 OF 6



LEGEND	
	Riparian wet native grasses/forbs
	Riparian transition to upland native grasses/forbs
	Rock Protection Class B
	Rock Protection Class E
	Temporary Construction Easement
	Grading Construction Limits
	Rock Riffle
	Landscape Features
	Building
	Existing rip rap/armoring

**2012-599**  
**Sheet 5 of 6**  
  
**G R & ASSOCIATES**  
Engineers and Planners  
#: 110.0995

**PROJECT OVERVIEW**  
**NE TRIBUTARY A STREAM STABILIZATION PROJECT**  
**ANKENY, IOWA**



COORDINATE REFERENCE SYSTEM (CRS): POLK COUNTY COORDINATE SYSTEM



EXHIBIT 5



# Stabilization

- Not a 27 because the stream is locked in place
- No room to meander
- Establish a stable channel
- Purpose was protect homes and infrastructure (Restoration was a component, but not enough to warrant NWP 27)
- Also there was  $>1/2$  acre wetland impact



# How to Apply – What we Need

- When is notification necessary?
- Reporting requirements
- What will the Corps want?
- Can I do it without notification?
- Will monitoring be required?



# Reporting Requirements of NWP 27

- For activities that do not require PCN, permittee must submit
  - ▶ Binding Agreement (stream or wetland)
  - ▶ NRCS/USDA Service Provider documentation
  - ▶ SMCRA permit
  - ▶ Baseline conditions of the project site (delineation)
  - ▶ 30 days in advance of project





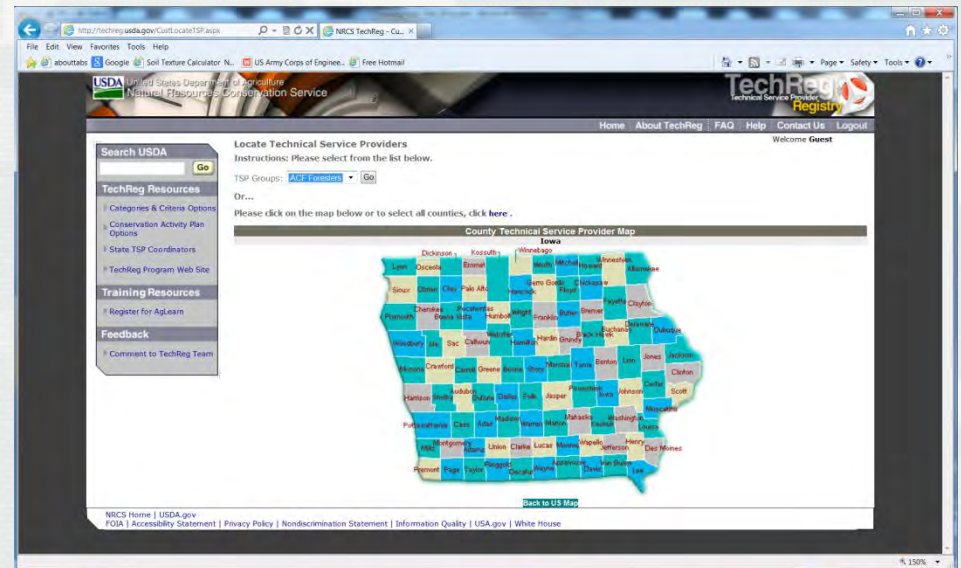
# Pre-Construction Notification

- PCN is required except for
  - ▶ Project on non-Federal public lands and private lands in accordance with conditions of binding agreement with FWS, NRCS, USDA



# Pre-Construction Notification

- PCN is required except for
  - ▶ Voluntary restoration documented by a NRCS or USDA Technical Service Provider pursuant to NRCS FOTG



# Pre-Construction Notification

- PCN is required except for
  - ▶ Reclamation of surface coal mines in accordance with SMCRA permit





# Pre-Construction Notification

- If you fall into one of those categories you still must submit required documents
- It is assumed that if you are getting assistance from another agency, NEPA, Section 7 and Section 106 will be handled by them



# Pre-Construction Notification

- If you are doing a project on your own (without agency assistance) be prepared to look at General Condition 31 in NWP
- Contents of a PCN



# PCN

- Description of project, its purpose, direct and indirect adverse environment effects
- Loss of Waters of U.S.
- Sketches, Maps and Drawings
- Wetland delineation (stream info also)
- Mitigation plan (maybe)
- T and E Discussion
- Historic Properties





# Follow up (Monitoring)

- This is up to discretion of project manager
- Not always required, but appreciated
- If the NWP 27 is used to authorize compensatory mitigation, then monitoring is required

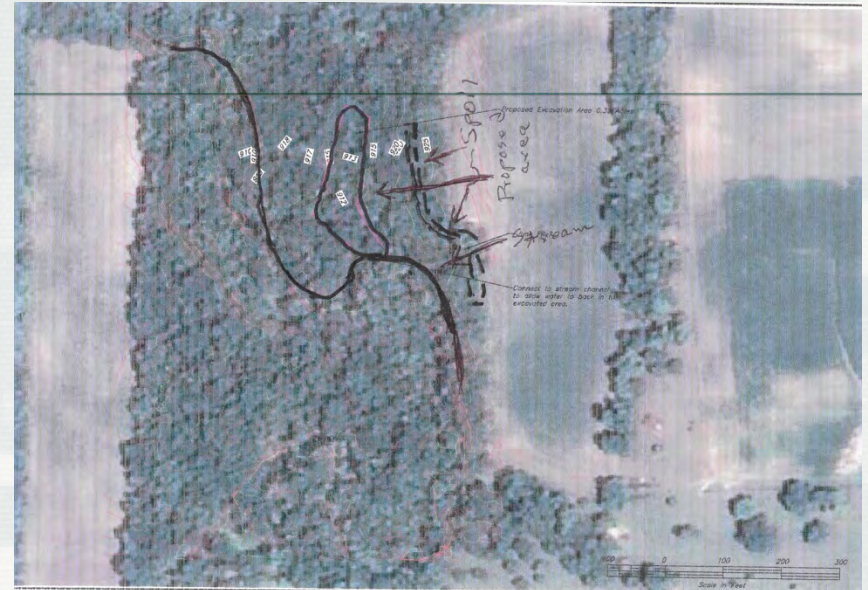


# Don't Do This

- No delineation
- Poor maps
- No photos of site
- No info on habitat
- Decision was delayed

## 7. PROJECT DESCRIPTION (Include all features):

Construction of an excavated wetland approximately  $\frac{1}{4}$  to  $\frac{1}{2}$  acre in size. Depths will vary from 4 to 10 feet. Excavated soil will be spread to North and East of the site.



# Conclusion

- Get us involved early
- Pre-Application Consultation
- Site visits = out of the office!
- We want to make it easy, but we must use the process
- QUESTIONS?

