

# Welcome!

## Buffalo Flats Floodplains Restoration Project Focus Group Meeting 2

February 23, 2023

Members of the public will remain in observer/listen-only mode.

If you are a focus group member who has joined through the livestream link, please email Tess Wendel at [twendel@rossstrategic.com](mailto:twendel@rossstrategic.com) for Zoom instructions.



# Buffalo Flats Floodplain Planning Project Focus Group Meeting #2



**BUFFALO FLATS HABITAT IMPROVEMENT PROJECT**  
LITTLE CREEK - GRANDE RONDE RIVER SUBBASIN  
30% DESIGN DRAWINGS  
DECEMBER 31, 2022

**BUREAU OF RECLAMATION**

**Buffalo Flats Project: Little Creek**  
**Design report**  
Little Creek, Oregon  
Columbia Pacific Northwest Region

**BUREAU OF RECLAMATION**

**Buffalo Flats Project**  
**Hydraulic Modeling: Basis of Design Report- 30% Design**  
Little Creek, Union County, Oregon  
Columbia Pacific Northwest Region

*Little Creek existing channel, looking upstream, August 2020.*

**BUREAU OF RECLAMATION**  
ALWAYS THINK SAFETY  
GRANDE RONDE RIVER SUBBASIN  
BUFFALO FLATS HABITAT IMPROVEMENT PROJECT

CONTRACTOR  
ACCEPTED  
DATE: 2022-12-21  
COVER, SHEET INDEX & VICINITY MAPS  
C-1  
SHEET 1 OF 26

February 23, 2023

# Purpose of the Focus Group

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*To engage a diverse group of people in focused project-specific discussions, and individually and collectively provide insight, input, values, and feedback to the project sponsor.*

*Members also serve as a conduit for information to and from affiliated organizations and community members to help ensure community issues, concerns, and/or needs are shared during meetings.*

*(from Buffalo Flats Public Outreach Plan, March 2021)*

# Purpose for the Meeting

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1. Provide an overview of the 30% Conceptual Design for the Little Creek portion of the Buffalo Flats Floodplain Restoration Project and enable Q&A and feedback
2. Provide an update on the Catherine Creek portion of the project and enable Q&A and feedback
3. Share the next steps for the process, including future opportunities for Focus Group engagement, and Q&A and feedback

# Agenda

6:30 PM	Welcome, Purpose, and Introductions	Jim Webster, Project Sponsor
6:40 PM	Meeting Framing	Susan Hayman, Facilitator
6:50 PM	Overview: Little Creek's 30% Conceptual Design	Jim Webster Matt Cox, Inter-Fluve
7:40 PM	Break (light refreshments)	
7:50 PM	Update: Catherine Creek	Jim Webster
8:15 PM	Project Next Steps and Closing Remarks	Jim Webster, Focus Group
8:30 PM	Adjourn	

# For Tonight

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1. Actively listen to and appreciate the diversity of views and opinions
2. Focus on issues and assume positive intent
3. Participate constructively
4. Behave respectfully
5. Enable the facilitator to guide the group process

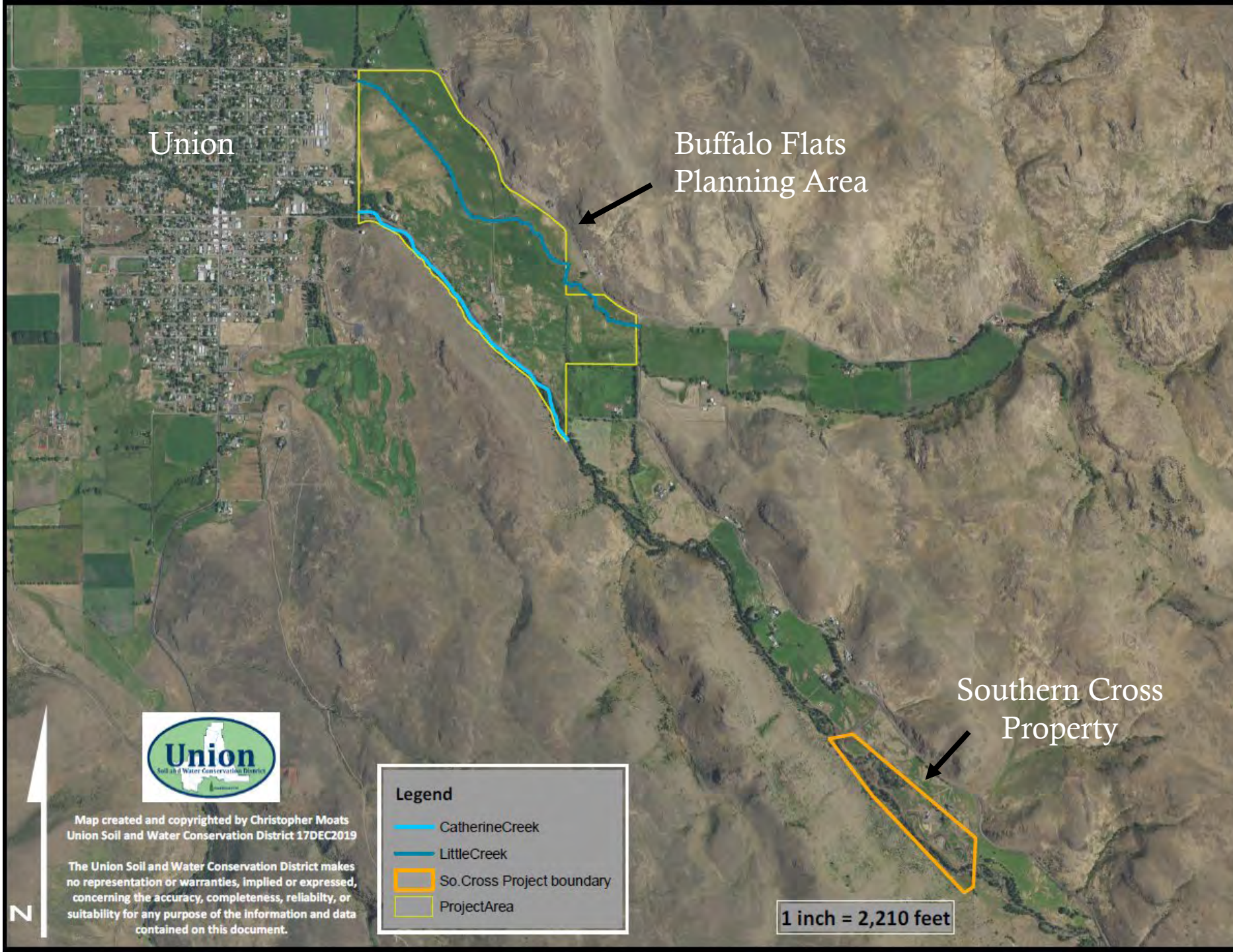


# Overview: Little Creek's 30% Conceptual Design

# Project Context

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Union

Buffalo Flats  
Planning Area





Southern Cross  
Property



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Union Soil and Water Conservation District 17DEC2019

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concerning the accuracy, completeness, reliability, or  
suitability for any purpose of the information and data  
contained on this document.

**Legend**

-  CatherineCreek
-  LittleCreek
-  So. Cross Project boundary
-  ProjectArea

1 inch = 2,210 feet






# Buffalo Flats



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**Legend**

-  CatherineCreek
-  LittleCreek
-  ProjectArea

1 inch = 873 feet

## 268 Acres of meadow

- Historic floodplain
- Irrigated pasture

## Over 3 miles of stream channel

- Catherine Creek
- Little Creek

## Water Quality Concerns

- Stream Temperature
- Sediment composition

## Fish Species of Concern

- Summer steelhead
- Spring Chinook salmon
- Bull trout

# Buffalo Flats Project Goals

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Enhance and restore aquatic and floodplain habitat conditions and increase habitat diversity and complexity for salmonids;



Improve water quality conditions (temperature and sediment) for salmonids, other native fish, and wildlife;



Promote conditions for restoring ecological function and improving soil health within the project area;



Improve riparian corridor and floodplain vegetative diversity and function within the project area;



Reconnect both Catherine Creek and Little Creek with their associated floodplains and expand quality floodplain habitat availability for salmonids within the project boundaries;



Increase streambank and floodplain storage of water and ice; thereby, increasing the potential for attenuating flows, and reducing ice formation within the project reach.

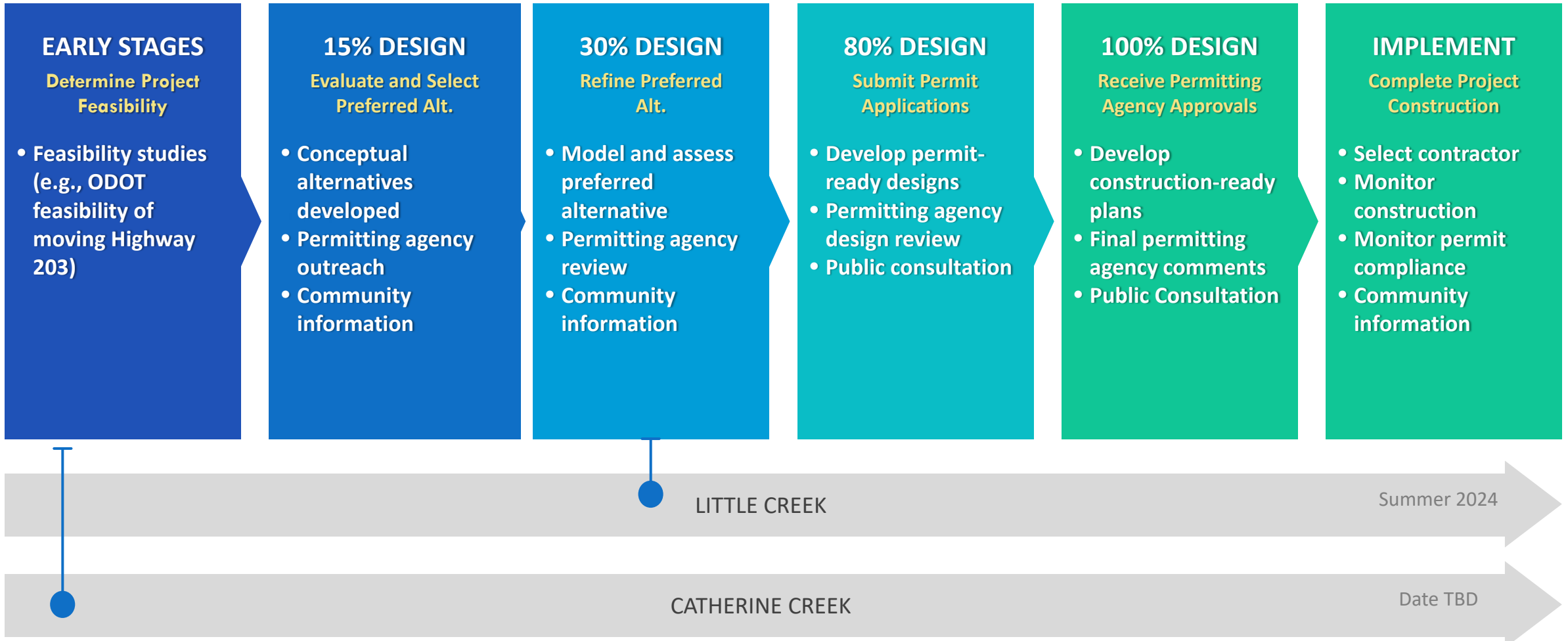


# Southern Cross, Spring 2017









Project Sponsor: Union Soil & Water Conservation District

Updated December 2022

# 30% Conceptual Design Package

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# Regulatory Requirements

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- **Federal Emergency Management Agency (FEMA)**
  - Defined flood hazard zone in project area and City of Union
  - FEMA review for base flood conditions
- **Risk-Based Design Guidelines (Reclamation 2014)** for Large Wood Design
- **Union County Planning Department** - Land Use Regulations
- **City of Union** – Submit data for watercourse and floodplain alterations (Ord. 153.30 – 153.34)
- **State** – Division of State Lands (DSL), Dept of Environmental Quality (DEQ)
- **Federal** – Endangered Species Act (ESA), National Historic Preservation Act Sec 106, National Enviro Policy Act (NEPA), Clean Water Act 401 & 404







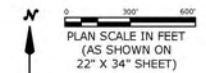
1

2

3

4

5

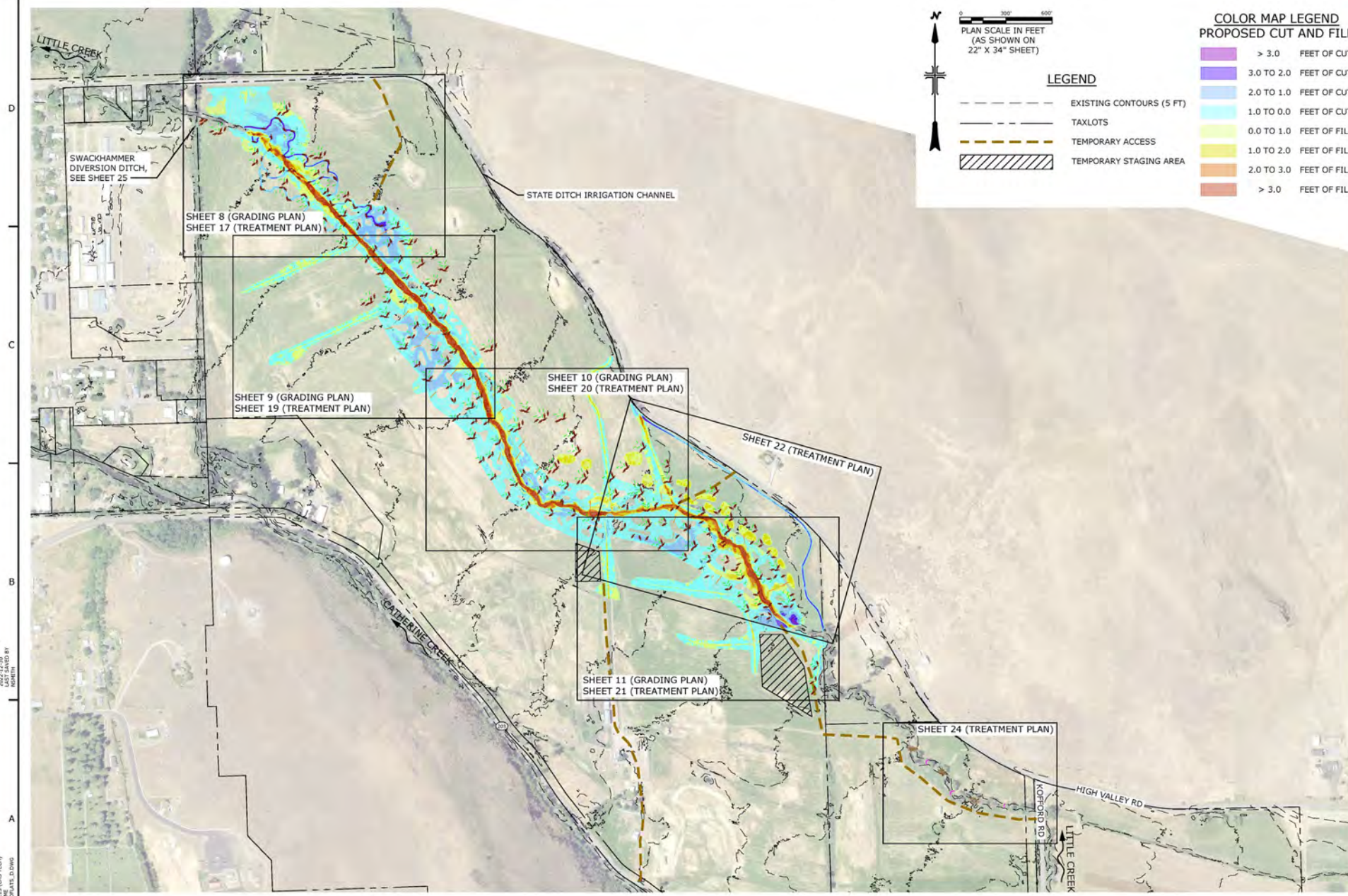


COLOR MAP LEGEND  
PROPOSED CUT AND FILL

Dark Purple	> 3.0 FEET OF CUT
Light Purple	3.0 TO 2.0 FEET OF CUT
Blue	2.0 TO 1.0 FEET OF CUT
Cyan	1.0 TO 0.0 FEET OF CUT
Light Green	0.0 TO 1.0 FEET OF FILL
Yellow	1.0 TO 2.0 FEET OF FILL
Orange	2.0 TO 3.0 FEET OF FILL
Red	> 3.0 FEET OF FILL

LEGEND

- - - - - EXISTING CONTOURS (5 FT)
- - - - - TAXLOTS
- - - - - TEMPORARY ACCESS
- ▨ TEMPORARY STAGING AREA



LAST SALES DATE  
2022-12-30  
DESIGNED BY  
MOSBY

CAD SYSTEM  
AUGUST 24, 2015 (LMS TECH)  
BY: JEFFREY D. DAVIS

ALWAYS THINK SAFETY

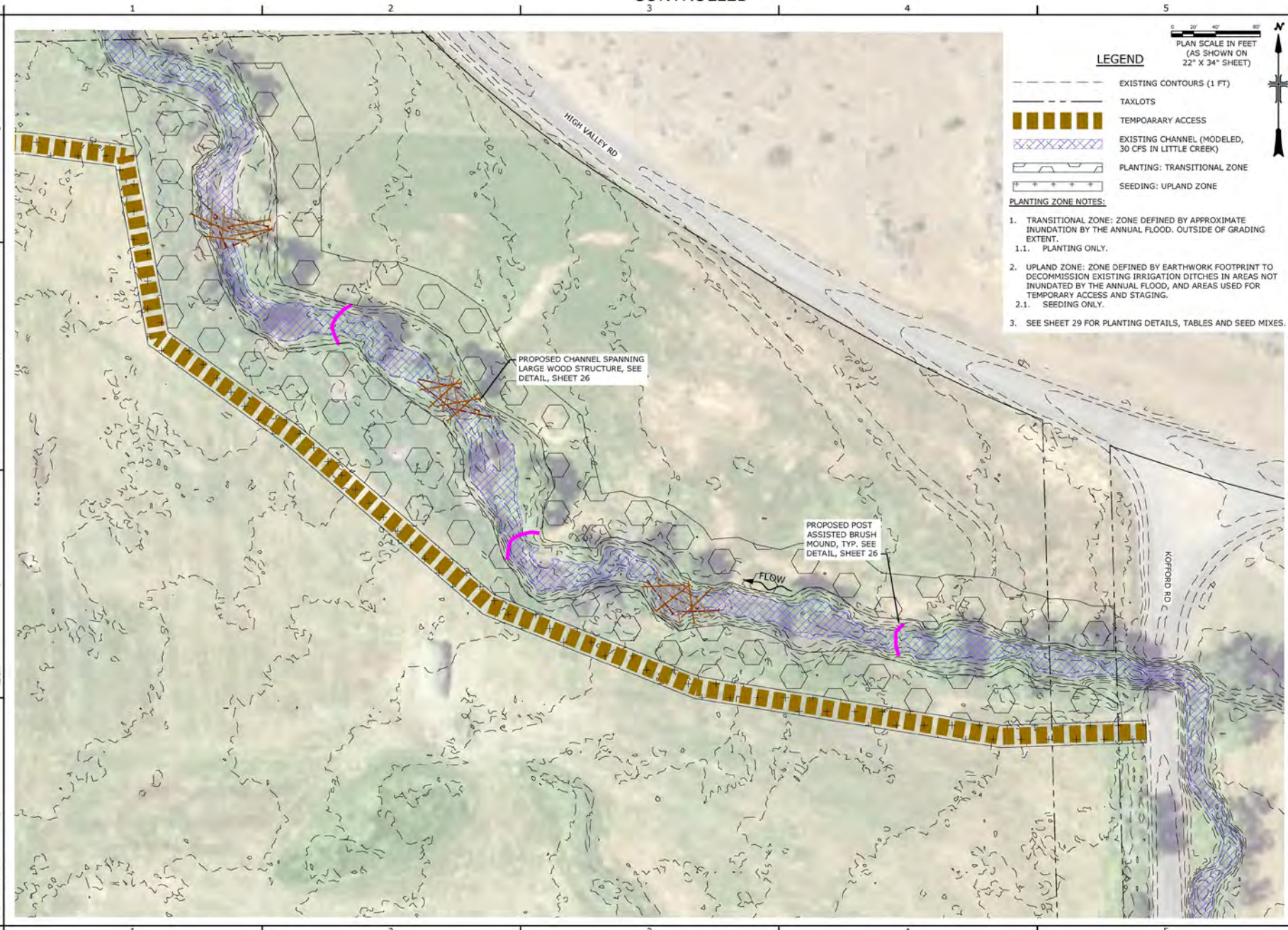
for the development of the  
COLUMBIA-RIVER SALMON RECOVERY PROGRAM  
FISH HABITAT IMPROVEMENT PROGRAM - OREGON  
GRANDE RONDE RIVER SUBBASIN  
BUFFALO FLATS HABITAT IMPROVEMENT  
PROJECT

CONTRACTOR  
DOWN  
ACCEPTED  
UNION, OR 2022-12-30

PROPOSED CONDITIONS  
& SHEET INDEX

C-7  
SHEET 7 OF 29





0 20' 40' 80'

PLAN SCALE IN FEET  
(AS SHOWN ON  
22" X 34" SHEET)

**LEGEND**

- - - - - EXISTING CONTOURS (1 FT)
- — — TAXLOTS
- ▨▨▨▨▨ TEMPORARY ACCESS
- ▨▨▨▨▨ EXISTING CHANNEL (MODELED, 30 CFS IN LITTLE CREEK)
- ▨▨▨▨▨ PLANTING: TRANSITIONAL ZONE
- ▨▨▨▨▨ SEEDING: UPLAND ZONE

**PLANTING ZONE NOTES:**

1. TRANSITIONAL ZONE: ZONE DEFINED BY APPROXIMATE INUNDATION BY THE ANNUAL FLOOD, OUTSIDE OF GRADING EXTENT.
  - 1.1. PLANTING ONLY.
2. UPLAND ZONE: ZONE DEFINED BY EARTHWORK FOOTPRINT TO DECOMMISSION EXISTING IRRIGATION DITCHES IN AREAS NOT INUNDATED BY THE ANNUAL FLOOD, AND AREAS USED FOR TEMPORARY ACCESS AND STAGING.
  - 2.1. SEEDING ONLY.
3. SEE SHEET 29 FOR PLANTING DETAILS, TABLES AND SEED MIXES.



ALWAYS THINK SAFETY

By the Department of Transportation  
BUREAU OF RECLAMATION  
COLUMBIA RIVER SALMON RECOVERY PROGRAM  
FISH HABITAT IMPROVEMENT PROGRAM - OREGON  
**GRANDE RONDE RIVER SUBBASIN  
BUFFALO FLATS HABITAT IMPROVEMENT  
PROJECT**

CONTRACTOR  
DATE

ACCEPTED  
UNION, OR 2021-06-17

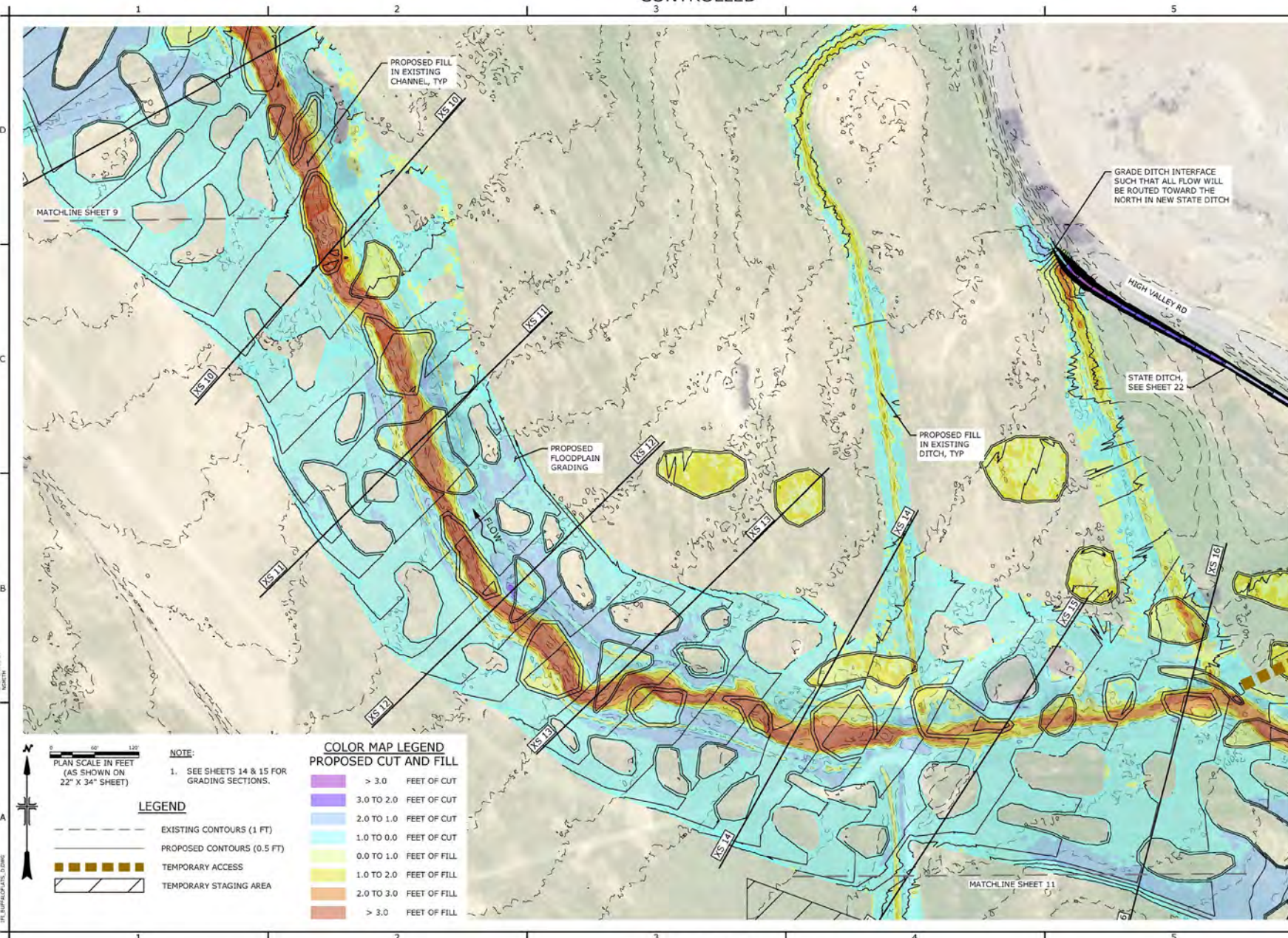
**PROPOSED TREATMENT  
PLAN - UPSTREAM  
CHANNEL**

C-24  
SHEET 24 OF 29

DATE PLOTTED: 06/17/2021 11:53 AM  
PLOT SCALE: 1" = 40'

DATE: 06/17/2021 11:53 AM  
DRAWN BY: J. BROWN  
CHECKED BY: J. BROWN





LAST SAVED DATE: 11/15/2022 10:58:10 AM  
 LAST SAVED BY: JTB

CAD SYSTEM: LUS TRIM  
 CAD FILE: 220712-13-10.dwg  
 DWG PLOT: 220712-13-10.dwg

0 60' 120'

NOTE:  
 1. SEE SHEETS 14 & 15 FOR GRADING SECTIONS.

LEGEND

- EXISTING CONTOURS (1 FT)
- PROPOSED CONTOURS (0.5 FT)
- TEMPORARY ACCESS
- TEMPORARY STAGING AREA

**COLOR MAP LEGEND**  
**PROPOSED CUT AND FILL**

Color swatch	FEET OF CUT
Lightest purple	> 3.0
Light purple	3.0 TO 2.0
Medium purple	2.0 TO 1.0
Dark purple	1.0 TO 0.0
Lightest blue	0.0 TO 1.0
Light blue	1.0 TO 2.0
Medium blue	2.0 TO 3.0
Dark blue	> 3.0

BUREAU OF RECLAMATION

inter-fluve

351 Parkway Avenue, Suite 111  
 West Bend, OR 97141  
 541.326.9633  
 www.inter-fluve.com

ALWAYS THINK SAFETY

FOR AN INDEPENDENT REVIEW OF THE DESIGN, CONTACT THE BUREAU OF RECLAMATION'S DESIGN REVIEW PROGRAM OR OREGON COUNTY HEALTH DEPARTMENT'S DESIGN REVIEW PROGRAM.

GRANDE RONDE RIVER SUBBASIN  
 BUFFALO FLATS HABITAT IMPROVEMENT PROJECT

CONTRACTOR: \_\_\_\_\_

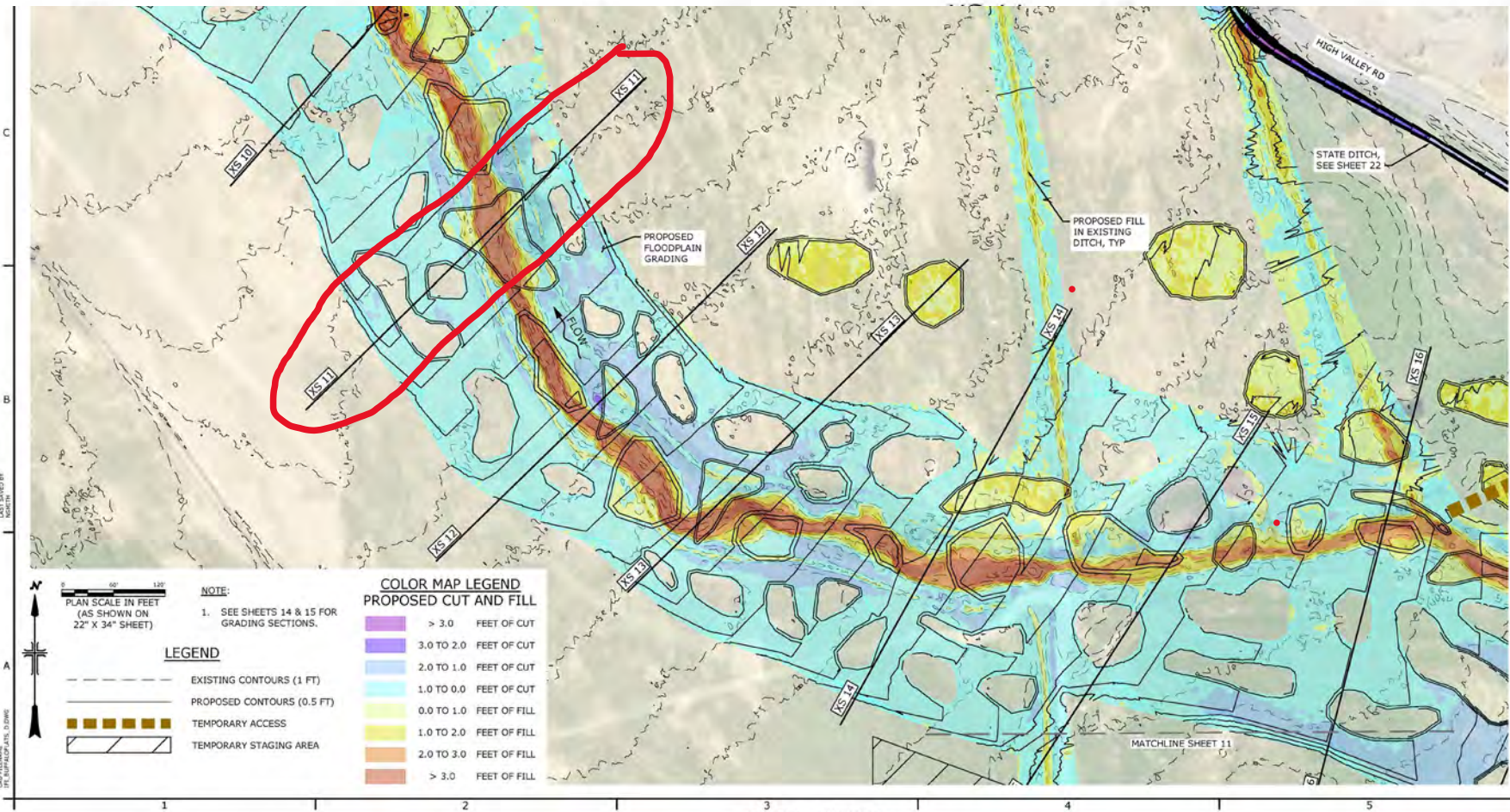
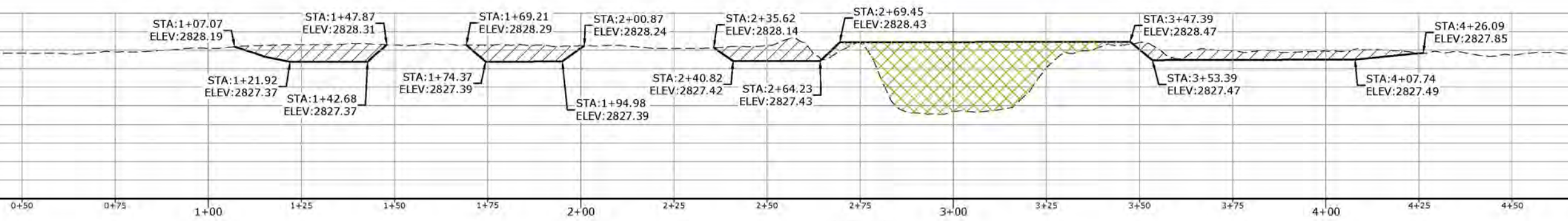
ACCEPTED: \_\_\_\_\_

UNION, OR 2022-12-30

PROPOSED GRADING PLAN (3 OF 4)

C-10  
 SHEET 10 OF 21





**ALWAYS THINK SAFETY**

FOR THE UNIVERSITY OF OREGON  
 STATE OF OREGON  
 COLUMBIA RIVER SALMON RECOVERY PROGRAM  
 FLOOD HAZARD MITIGATION PROGRAM - OREGON

**GRANDE RONDE RIVER SUBBASIN  
 BUFFALO FLATS HABITAT IMPROVEMENT  
 PROJECT**

CONTRACTOR: \_\_\_\_\_

ACCEPTED: \_\_\_\_\_

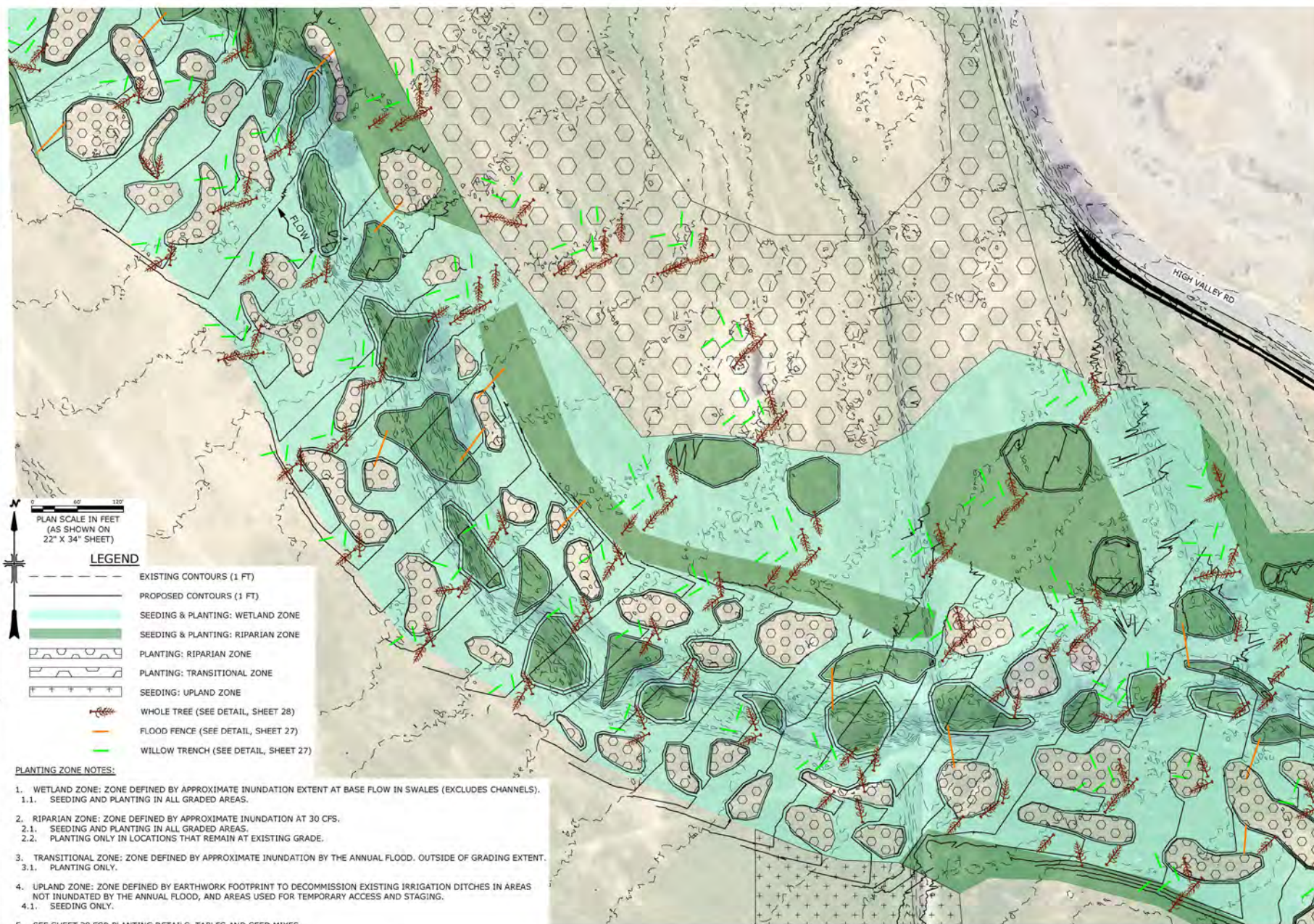
APPROVAL OR: \_\_\_\_\_ 2022-12-30

**PROPOSED GRADING  
 PLAN (3 OF 4)**

C-10  
 SHEET 10 OF 29

CONTROLLED





PLAN SCALE IN FEET  
(AS SHOWN ON  
22" X 34" SHEET)

- LEGEND**
- - - - - EXISTING CONTOURS (1 FT)
  - — — — PROPOSED CONTOURS (1 FT)
  - SEEDING & PLANTING: WETLAND ZONE
  - SEEDING & PLANTING: RIPARIAN ZONE
  - PLANTING: RIPARIAN ZONE
  - PLANTING: TRANSITIONAL ZONE
  - SEEDING: UPLAND ZONE
  - WHOLE TREE (SEE DETAIL, SHEET 28)
  - FLOOD FENCE (SEE DETAIL, SHEET 27)
  - WILLOW TRENCH (SEE DETAIL, SHEET 27)

- PLANTING ZONE NOTES:**
1. WETLAND ZONE: ZONE DEFINED BY APPROXIMATE INUNDATION EXTENT AT BASE FLOW IN SWALES (EXCLUDES CHANNELS).
    - 1.1. SEEDING AND PLANTING IN ALL GRADED AREAS.
  2. RIPARIAN ZONE: ZONE DEFINED BY APPROXIMATE INUNDATION AT 30 CFS.
    - 2.1. SEEDING AND PLANTING IN ALL GRADED AREAS.
    - 2.2. PLANTING ONLY IN LOCATIONS THAT REMAIN AT EXISTING GRADE.
  3. TRANSITIONAL ZONE: ZONE DEFINED BY APPROXIMATE INUNDATION BY THE ANNUAL FLOOD. OUTSIDE OF GRADING EXTENT.
    - 3.1. PLANTING ONLY.
  4. UPLAND ZONE: ZONE DEFINED BY EARTHWORK FOOTPRINT TO DECOMMISSION EXISTING IRRIGATION DITCHES IN AREAS NOT INUNDATED BY THE ANNUAL FLOOD, AND AREAS USED FOR TEMPORARY ACCESS AND STAGING.
    - 4.1. SEEDING ONLY.
  5. SEE SHEET 29 FOR PLANTING DETAILS, TABLES AND SEED MIXES.

LAST DATED DATE: 08/20/24 BY: JLS (JLS/TBY)  
 LAST SAVED BY: JLS (JLS/TBY)  
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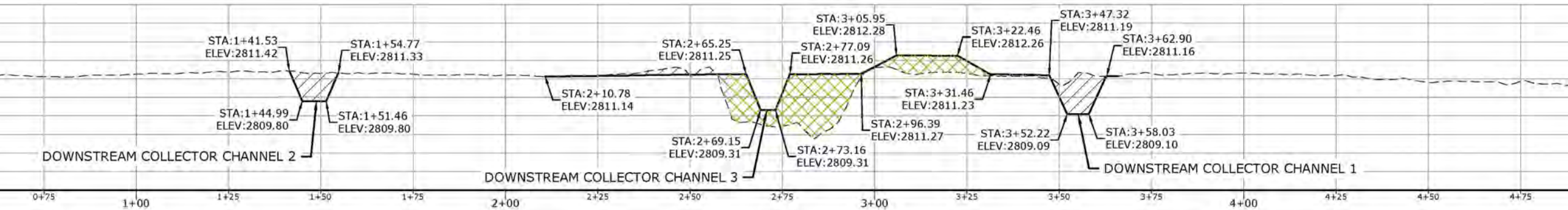


ALWAYS THINK SAFETY  
 for the safety of the riparian habitat  
 COLUMBIA RIVER SALMON RECOVERY PROGRAM  
 RIPARIAN HABITAT ENHANCEMENT PROGRAM - OREGON  
 GRANDE RONDE RIVER SUBBASIN  
 BUFFALO FLATS HABITAT IMPROVEMENT PROJECT

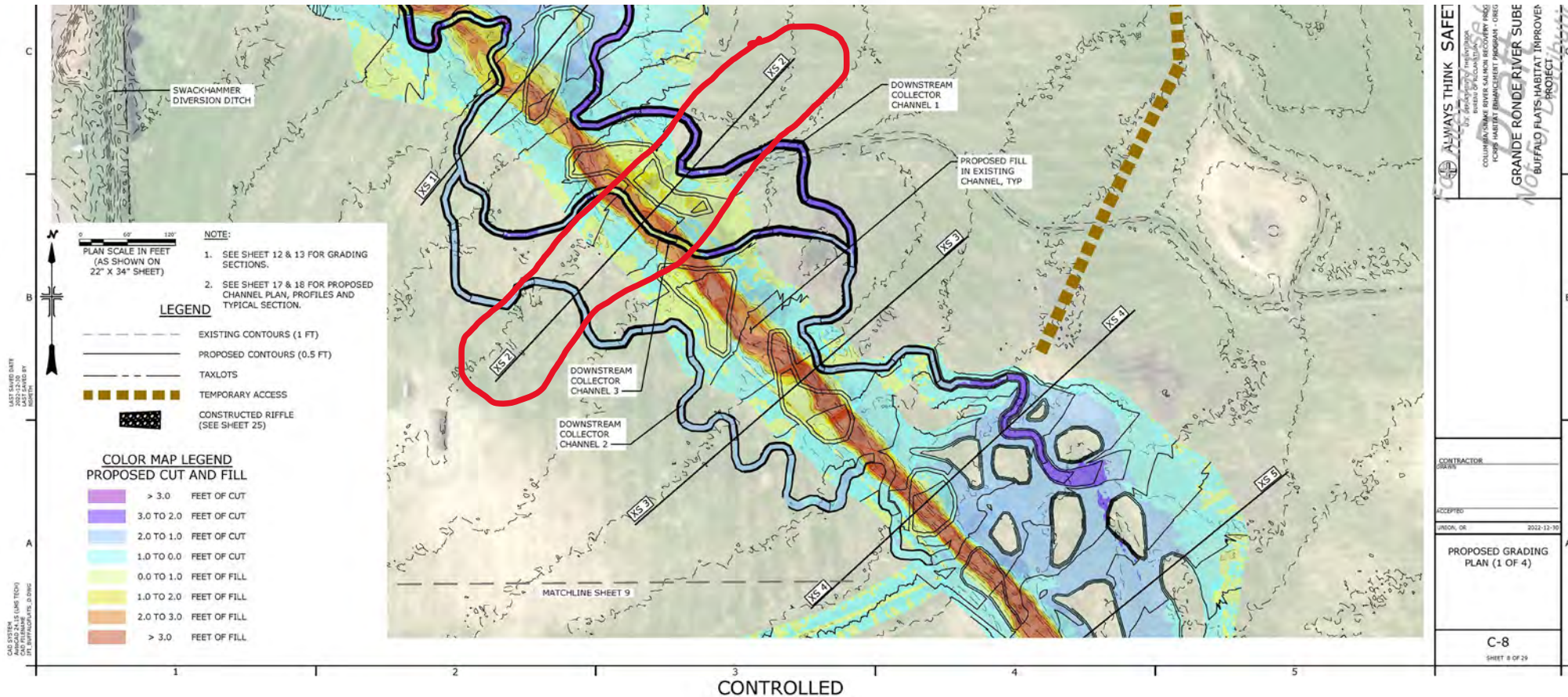
CONTRACTOR: \_\_\_\_\_  
 DRAWN: \_\_\_\_\_  
 ACCEPTED: \_\_\_\_\_  
 UNION, OR 2021-08-17

**PROPOSED TREATMENT PLAN - FLOODPLAIN GRADING (2 OF 3)**





XS 2



CONTROLLED

ALWAYS THINK SAFE

GRANDE RONDE RIVER SUBE BUFFALO PLAYS HABITAT IMPROVEMENT PROJECT

CONTRACTOR: \_\_\_\_\_

ACCEPTED: \_\_\_\_\_

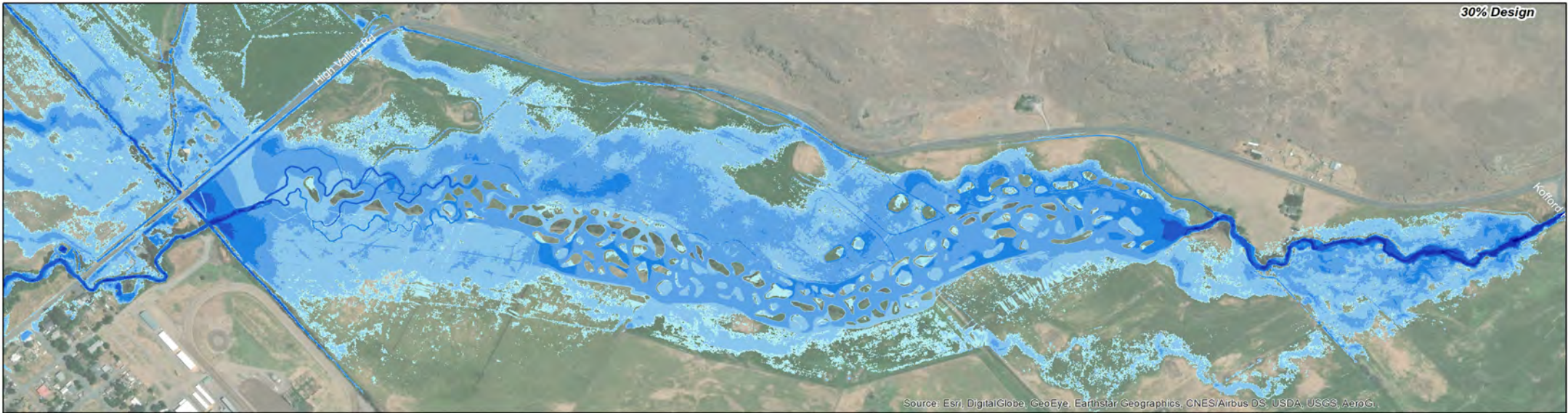
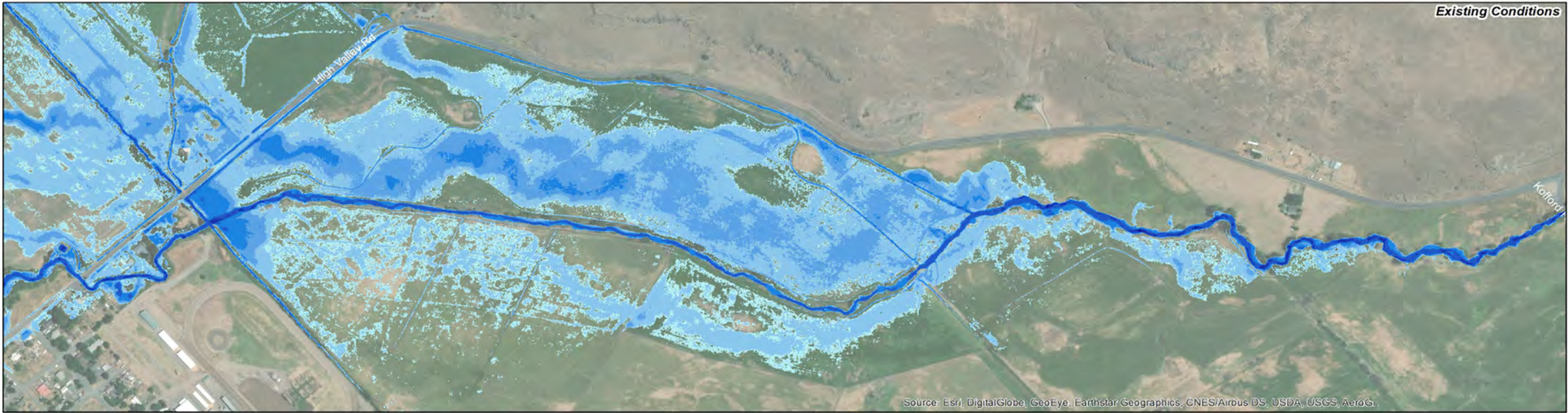
PROJ. NO. 2022-12-30

PROPOSED GRADING PLAN (1 OF 4)

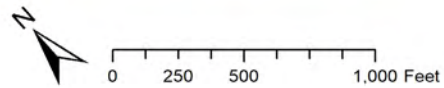
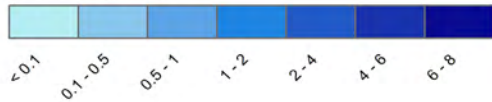
C-8

SHEET 8 OF 25





Modeled Depth (ft)




**Buffalo Flats**  
30% Design

Modeled Depth: Existing and Proposed Conditions  
100-year Flood (514 cfs)

Questions/Feedback





We'll begin  
again at  
7:54pm

T  
I  
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!

Update:  
Catherine Creek Project

# Draft Sketch

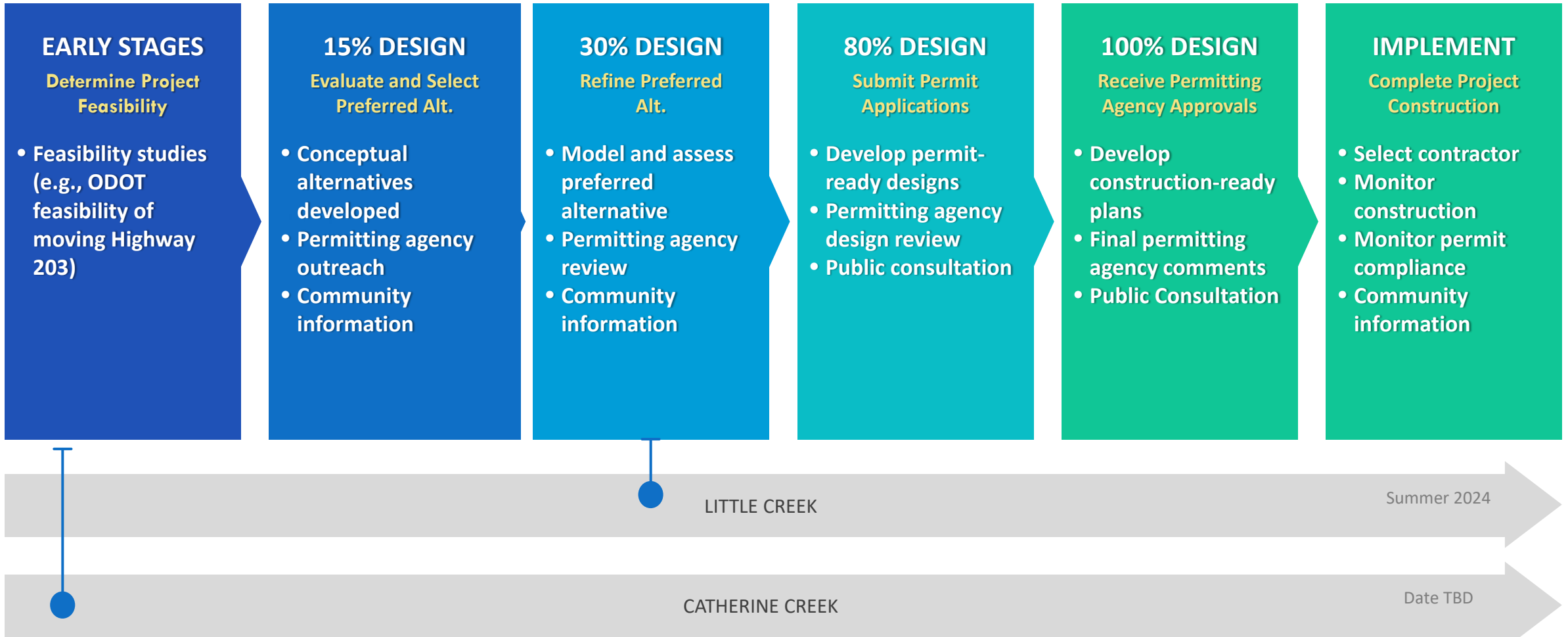
Road alignment concepts

For discussion only



# Project Next Steps and Closing Remarks





Project Sponsor: Union Soil & Water Conservation District

Updated December 2022

# Thank you for attending!

---

- Project website: <http://buffalo-flats.org>
- Project Contact: Jim Webster [jwebster@unionswcd.org](mailto:jwebster@unionswcd.org)





Backup Slides (if  
needed)

# Looking Northwest

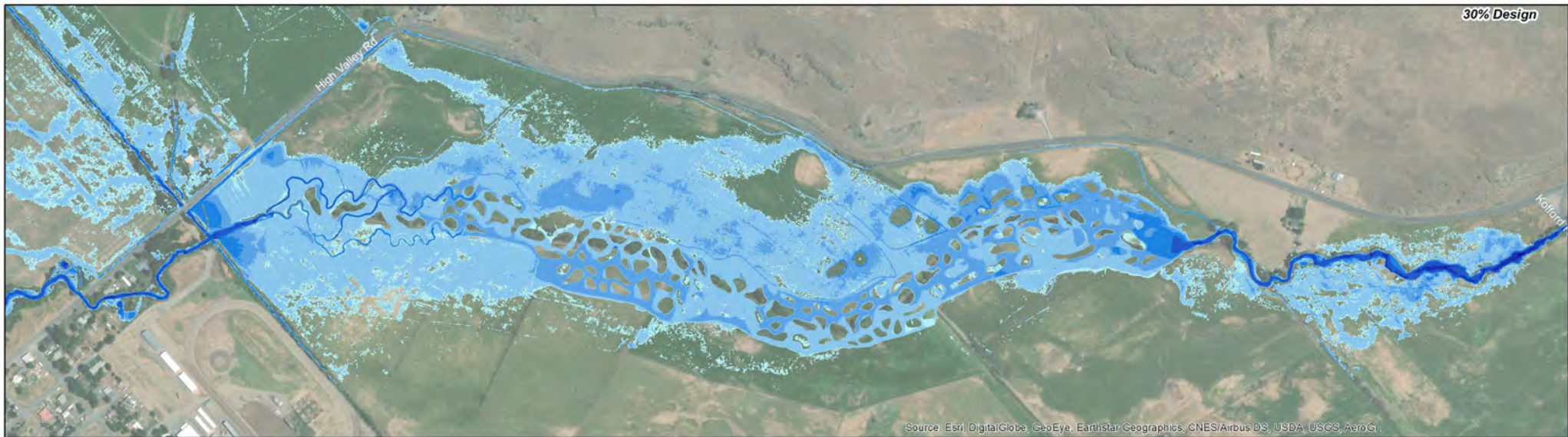




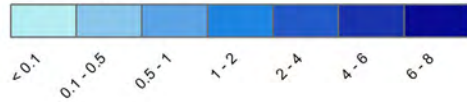
# Looking Southeast







Modeled Depth (ft)



0 250 500 1,000 Feet

**Buffalo Flats**  
30% Design

Modeled Depth: Existing and Proposed Conditions  
2-year Flood (218 cfs)



1937

Little Creek

Catherine  
Creek

1971

Little Creek

Catherine  
Creek

# Limiting Factors for Floodplain and Fish

1. Limited instream structural complexity, lack of wood and diverse habitat
2. High summer stream temperatures and lower winter temperatures (anchor ice)
3. Lack of peripheral habitats including side channels, connected floodplain area
4. Poor riparian conditions and lack of a healthy riparian vegetation community
5. Reduced instream flows





# Community Benefits

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1. Flood water detention; ice and wood storage
2. Reduce ice formation in the project reach
3. Leverage funds for addressing other problems
4. Economic income to Union City and County
5. Employment opportunities
6. Increased opportunities for agritourism



# Union Soil & Water Conservation District

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## **Mission:**

Assist and educate interested landowners in the development, protection, and conservation of natural resources

## **Values:**

1. Balance agricultural production with conservation.
2. Local people making local decision to achieve conservation.
3. Voluntary initiatives over regulatory mandates.
4. Efficient and effective use of public resources.
5. Partnerships where everyone contributes, and everyone benefits.

The Advocate for Agriculture since 1946

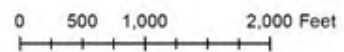
# Maps



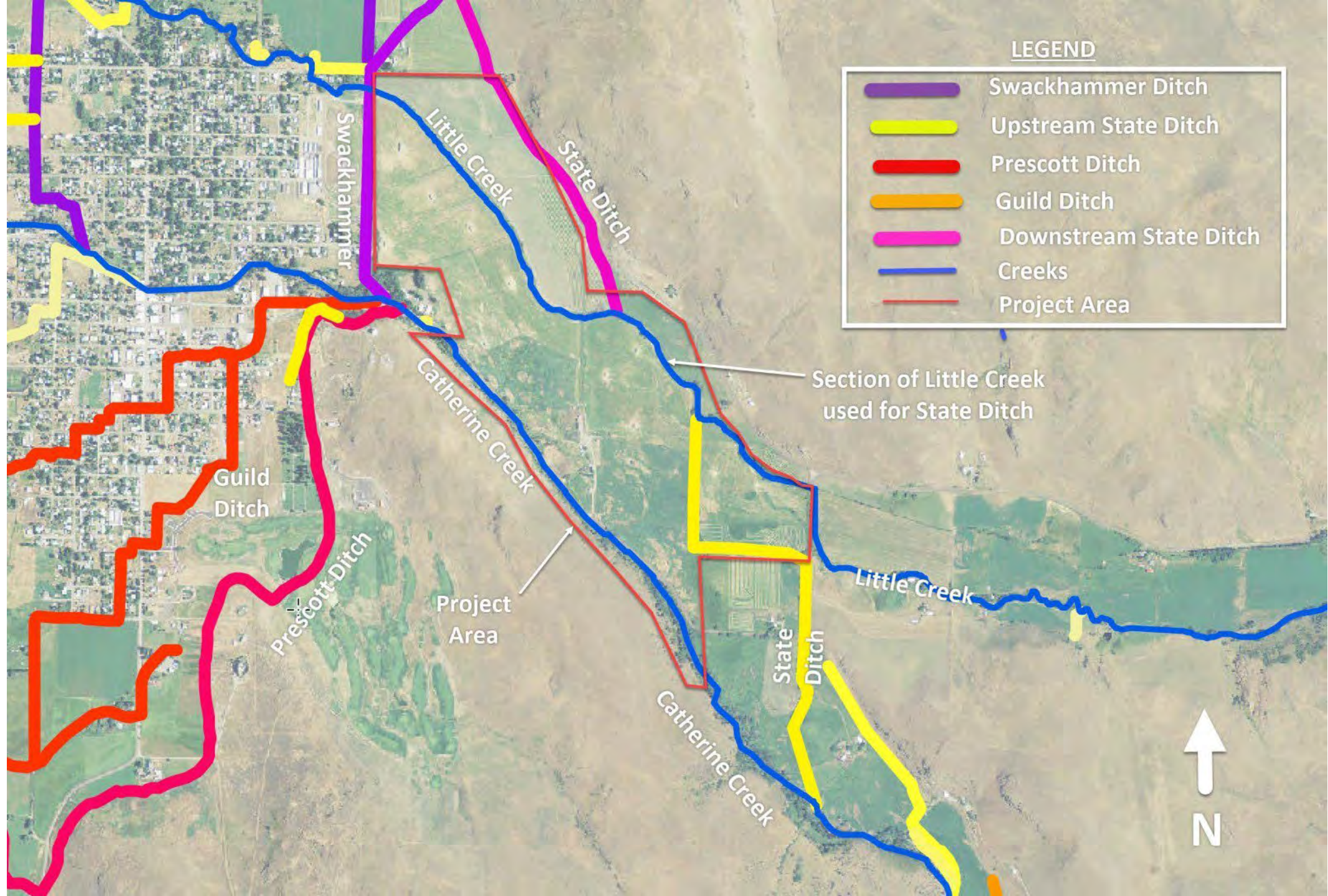


- Project Area
- River
- Ditch
- ◆ River Mile Marker (relative to D/S model boundary)
- Tax Lot (Union County GIS)
- Water Level Logger

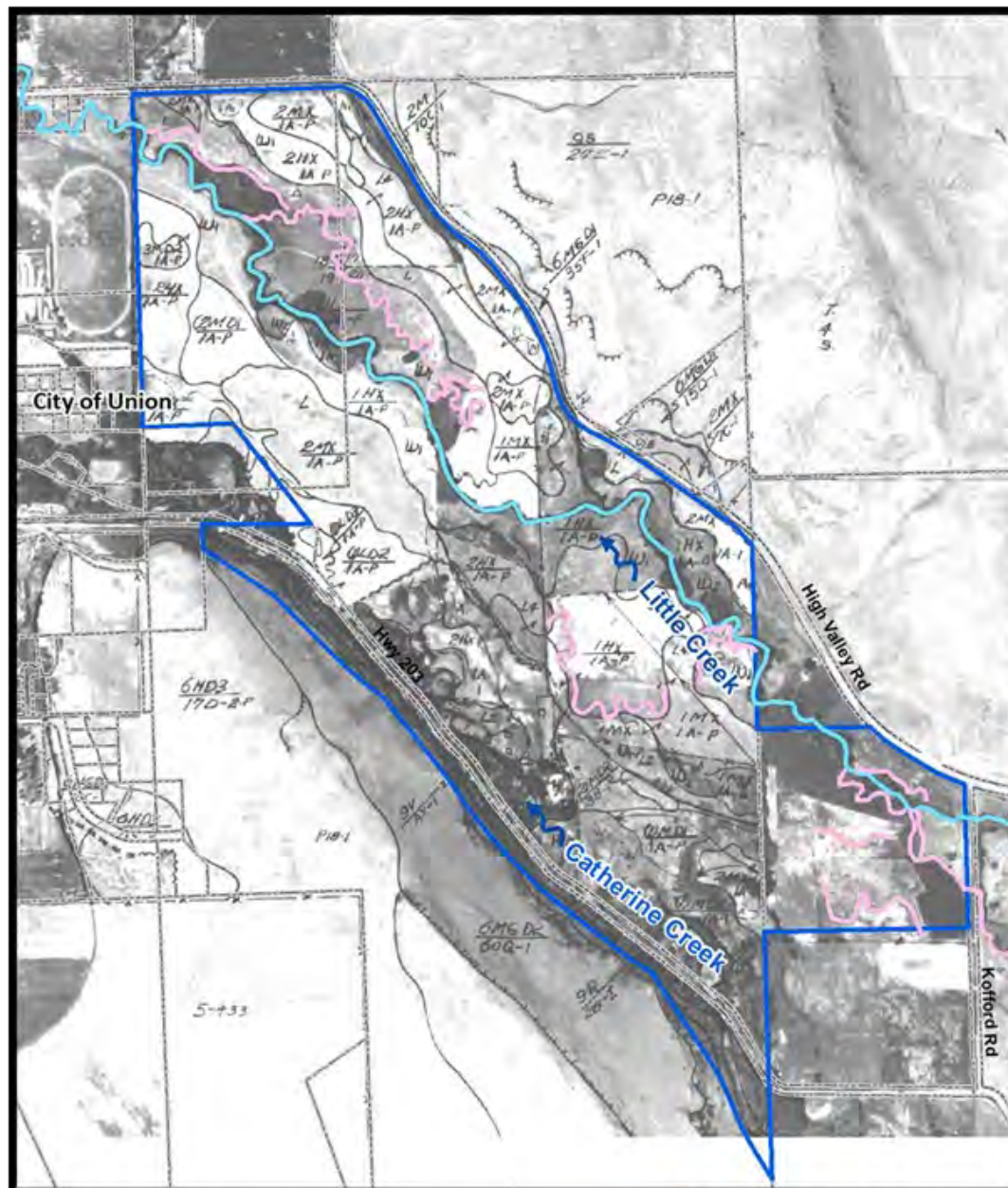
**Buffalo Flats  
Project Overview Map**











**Buffalo Flats**  
1937 Little Creek Channels



- Buffalo Flats project area
- Tax lots
- Historic Relic Channel Scars
- 1937 Main Channel





# Buffalo Flats



Map created and copyrighted by Christopher Moats  
Union Soil and Water Conservation District 17DEC2019

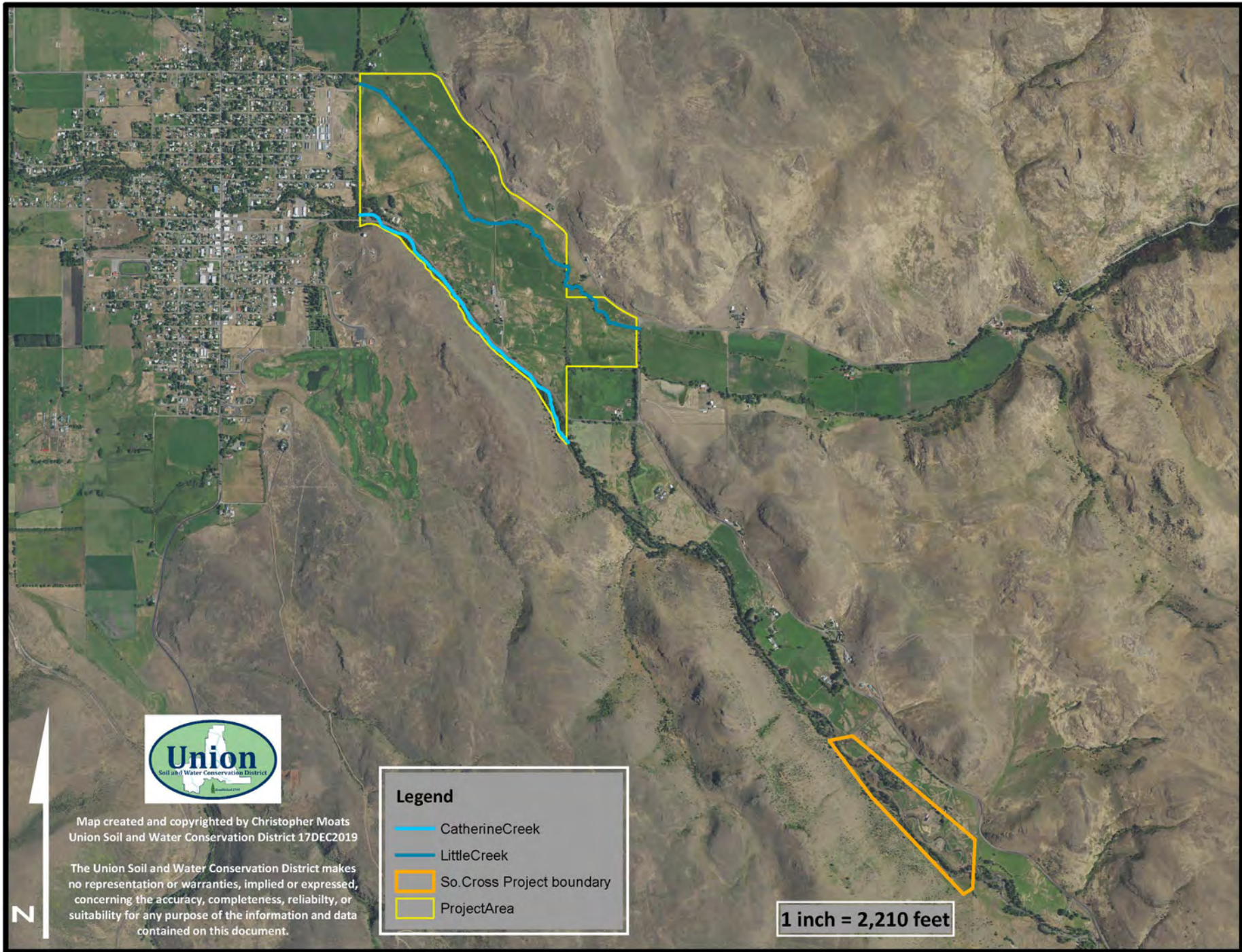
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**Legend**

- CatherineCreek
- LittleCreek
- ProjectArea

1 inch = 873 feet









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