March 23, 2025

HARMONY
DESIGN & ENGINEERING

Mr. Joshua Chase
Teton County Planning Administrator
Teton County, Idaho
150 Courthouse Drive, Suite 107
Driggs, ID 83422

RE: Eddyline Ranch subdivision Planning and Zoning preliminary plat hearing

Dear Mr. Chase,

Please see below the applicant's response in red to the recommended CONDITIONS OF APPROVAL from the Planning and Zoning Commission provided at the March 11, 2025 hearing:

1. Building Envelopes

a. For lots 1 through 6 need to take the guidelines of LDC Section 5-4-3 into consideration. Building envelopes must allow for the development of all principal structures to be located within two hundred (200) feet of the primary public roadway.

The applicant has had preliminary conversations with the Fire Marshal regarding their requirements to meet the 2018 International Fire Code. The fire marshal has indicated that if the design meets the 2018 International Fire Code then the fire department's requirements can be met. These applicant can meet the 2018 International Fire Code requirements without meeting the requirements of LDC 5-4-3, however, the applicant asserts that 5-4-3 can be met by extending the primary access roadway to the building envelopes where they are currently located at the time of building permit application for each individual lot.

b. Building envelopes should also be placed to avoid steep slopes (LDC 5-2-5).

All building envelopes are located on slopes that do not exceed 30%, therefore, steep slopes are avoided per LDC 5-2-5. Please see attachment A.

2. Receive preliminary approvals from EIPH prior to the BoCC Preliminary Hearing.

The applicant has received preliminary approval from EIPH upon their initial test pit observation. Please see attachment B.

3. Receive final approvals from Teton County Fire Marshal and Teton County Public Works Director prior to the Preliminary BoCC Hearing.

The applicant is working with Teton County planning staff to obtain the initial approvals from the Fire Marshal and Public Works Director.

4. IDWR permits will be required for constructing bridges over Packsaddle Creek. Applicant is to provide these permits before the BoCC Preliminary Hearing.

The applicant has received documentation from IDWR that no permits are required for the proposed creek improvements along Packsaddle Creek. Please see attachment C.

5. The cost estimate needs to be stamped prior to the BoCC Preliminary Hearing.

Stamped cost estimate is provided. Please see attachment D

6. Financial surety of 125% of the cost estimate is required when the Development Agreement and Improvement Plans are recorded (which is after Preliminary Plat approval under the LDC).

The applicant has provided a letter of intent from the Bank of Jackson Hole which will provide the Letter of Credit at the time of the Development Agreement and Improvement Plan recording.

7. Address all public works comments:

a. An access permit for the two access points from W 4000 N and N 7000 W is required before improvements can begin.

The access permit application will be submitted to Public Works after the BoCC preliminary plat hearing but before BoCC issues written approval of the plat.

b. Any crossing of Packsaddle Creek would require permits from IDWR. Please submit with the preliminary plat application.

The applicant has received documentation from IDWR that no permits are required for the proposed creek improvements along Packsaddle Creek. Please see attachment C.

c. GIS slope analysis suggests proposed road grades exceed 10% in places. Maximum vertical grade for Local Road classification is 10%.

The improvement plans submitted with the preliminary plat application provide a grading plan and road profile that shows no road section exceeds 10% slope.

d. Interior road design incorporates a significant amount of fill. Public Works will be referencing the Improvement Plans for inspection of infrastructure. Improvements will need to be constructed per the Improvement Plans and meet County road standards in order to receive final approval.

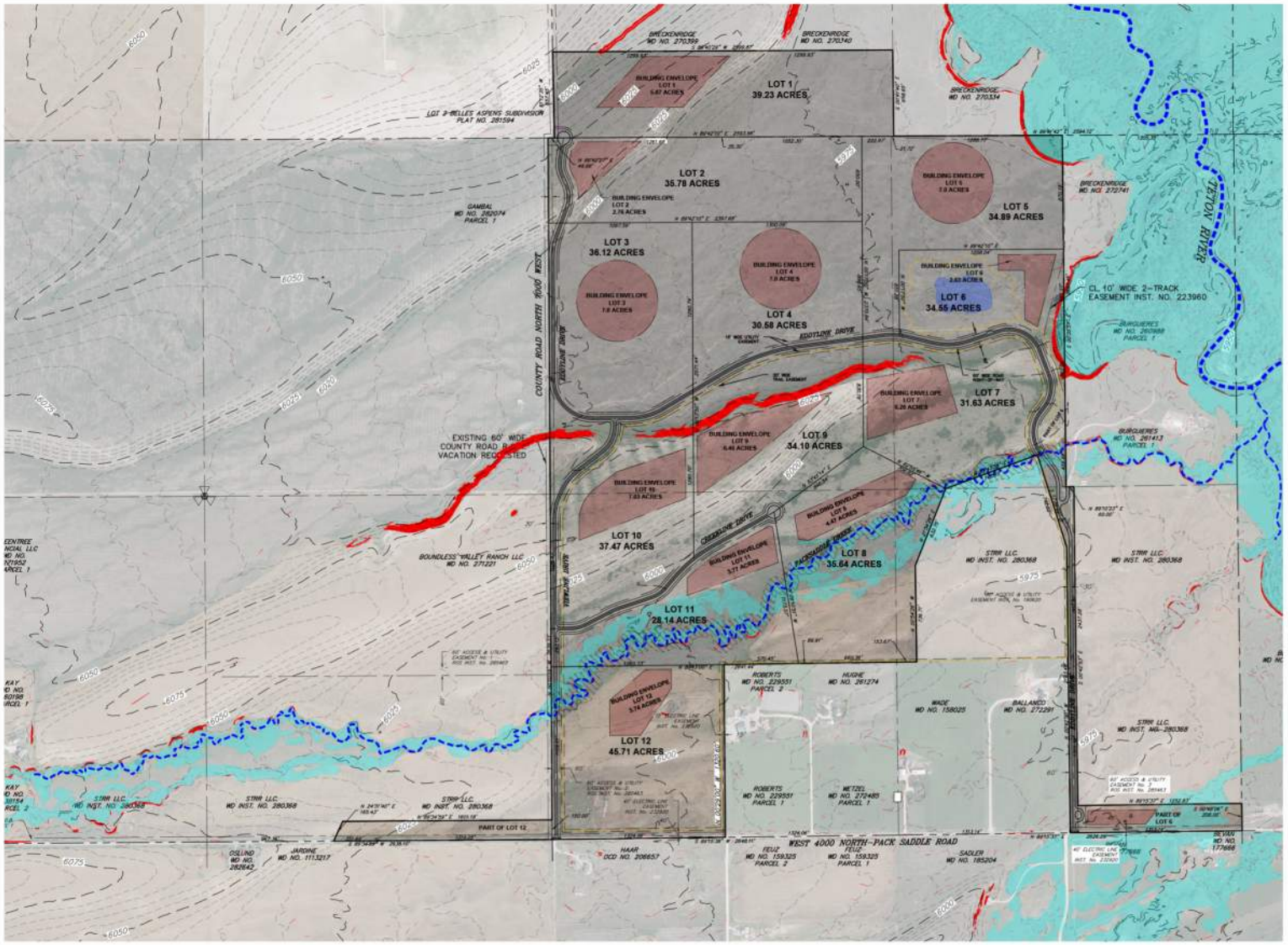
The applicant has revised the Improvement plans to reduce the amount of fill in areas where road grade had previously exceeded 2 feet above existing grade. Two feet above existing grade provides for adequate road drainage with a road crown of 4% per Teton County road standards.

8. Recreational trails should be seen on the master plan and incorporated into any improvement plans. All riparian setbacks must be met.

Recreational trails are indicated on the masterplan submitted with the preliminary plat application outside of riparian setbacks except at stream crossings where the trails join the proposed bridge crossings. Please see updated improvement plans for trail locations.

9. Address building envelopes #1 and #2 as they appear to be in the wildlife migration corridor.

Building envelopes #1 and #2 were located upslope of the wildlife migration corridors. Attachment E shows the location of migration corridors as mapped in the WHA prepared by Biota which traverse along the toe of the slope on those lots.



SITE DATA:

ZONE– RA 35
TOTAL ACREAGE– 423 ACRES TO BE SUBDIVIDED
NUMBER OF PROPOSED LOTS– 12
PROPOSED LOT SIZES – 28.14–45.71 ACRES (35 ACRE AVERAGE DENSITY)

PROPOSED ROADS:
- PRIVATELY OWNED AND MAINTATINED
- MEET COUNTY LOCAL ROAD STANDARDS
- DESIGNED WITH 22' TRAVELWAY
- 10% MAXIMUM GRADE
- 100' DIAMETER CUL-DE-SACS
- LOCATED WITHIN 60' MINIMUM ACCESS EASEMENTS
- 15' WIDE UTILITY EASEMENT ADJACENT TO EACH SIDE OF 60' ROAD EASEMENT
- 20' TRAIL EASEMENT

REQUIRED MINIMUM SETBACKS:
FRONT – 30'
SIDE – 30'
REAR – 40'
STREAM OR CREEK – 50'
LAKE OR POND – 50'
TETON RIVER – 100'
DELINEATED WETLAND – 50'

PROPOSED BUILDING ENVELOPES MEET OR EXCEED COUNTY MINIMUM SETBACKS

SEE PRELIMINARY PLAT FOR LOT DIMENSIONS, EASEMENTS AND RIGHT-OF-WAYS

LEGEND:

- EXISTING PROPERTY BOUNDARY LINE
- 5' CONTOURS
- TETON RIVER
- PACKSADDLE CREEK
- 50' CREEK SETBACK
- PROPOSED LOT LINES
- PROPOSED ROAD RIGHT-OF-WAY
- PROPOSED 15' UTILITY EASEMENT
- PROPOSED 20' TRAIL EASEMENT
- PROPOSED TRAIL
- PROPOSED BUILDING ENVELOPE
- DRAFT AREA OF HIGH FLOOD RISK FLOOD ZONE A (1% ANNUAL CHANCE)
- 30% SLOPES

N

400' 200' 0 400' 800'
SCALE: 1" = 400'
(22x34 SHEET)

HARMONY
DESIGN & ENGINEERING
18 N MAIN STE 305 • DRIGGS ID 83422
208.354.1331 • www.harmonydesigninc.com

DRAWING IS TO SCALE IF BAR MEASURES 3" – HALF SCALE

DATE: 1/08/2025

PROJ #: 23047

REVISIONS:

PROJECT NAME
EDDYLINE RANCH
W 4000 N TETON COUNTY, ID

PRELIMINARY PLAT MASTER PLAN

SHEET #
S 1.1

ATTACHMENT A

Eastern Idaho Public Health
Prevent. Promote. Protect.

ENVIRONMENTAL HEALTH
1250 Hollipark Drive
Idaho Falls, ID 83401
OFFICE (208) 523-5382
FAX (208) 528-0857

March 13, 2025

Brandon Darnton
P.O. Box 698
Victor, ID 83455

RE: Eddyline Ranch (Parcel #RP05N44E020700)

Brandon,

An onsite evaluation was performed for a newly proposed 12 lot subdivision on Parcel #RP05N44E020700, on the 12th of March 2025. No limiting layers (bedrock, ground water, etc.) were observed, at the time of the evaluation, to be within the top 10 feet of the soil profile. Surface water is present to the east of the property, Teton River. Surface water was also observed running through the property, Packsaddle Creek. The proposed lots have sufficient area to meet the setbacks to these surface water areas. Slope was present throughout the entirety of the proposed subdivision. Each lot has areas with minor to no slope for their septic systems.

A variety of soil types were seen at this evaluation. As the representative for Eastern Idaho Public Health, I am requiring monitoring wells be placed in test holes that had the potential for groundwater coming within 10 feet of the surface. These specific test holes were in lower portions of the property and slightly moist soil was observed towards the bottom portion of the test holes. These test holes were #6 (Lot 4), #9 (Lot 5), #10 (Lot 3), and #11 (Lot 6). Groundwater must be monitored in these wells until seasonal and normal high groundwater levels can be determined.

It appears that basic septic systems in accordance with IDAPA 58.01.03 should be able to be placed on a portion of the proposed lots, with the possible exception of the above-mentioned lots. After groundwater monitoring, this office can provide determination of what type of system can be used for these 4 lots. Monitoring must be done weekly by someone representing the subdivision and results provided to EIPH once seasonal and normal high ground water elevations are determined.

Deleted:

ATTACHMENT B

Eastern Idaho Public Health
Prevent. Promote. Protect.

ENVIRONMENTAL HEALTH
1250 Hollipark Drive
Idaho Falls, ID 83401
OFFICE (208) 523-5382
FAX (208) 528-0857

Before final signature, a pdf of the final plat should be sent to EIPH to ensure the correct language certificate is present. Please contact EIPH for an appointment to obtain final plat signature. At time of signature a **FULL-SIZE** copy of the final plat needs to be given to EIPH and the remaining balance of subdivision fees need to be paid.

Regards

Katarina Whitson
Environmental Health Specialist
kwhitson@eiph.idaho.gov
(208) 522-8066

ATTACHMENT B

IDAHO DEPARTMENT OF
WATER RESOURCES

322 E Front Street, Suite 648, Boise ID 83702 • PO Box 83720, Boise ID 83720-0098
Phone: 208-287-4800 • Fax: 208-287-6700 • Email: idwrinfo@idwr.idaho.gov • Website: idwr.idaho.gov

Governor Brad Little Director Mathew Weaver

September 17, 2024

Brandon Darnton
STRR LLC
PO Box G
Aspen, CO 81612

RE: Joint Application for Permit No. S22-20363
Packsaddle Creek – Habitat Improvement and Stream Restoration

Dear Mr. Darnton,

The Idaho Department of Water Resources (IDWR) has reviewed your attached Joint Application for Permits, received June 20, 2024, including diagrams. Project activities include the construction of a variety of stream restoration treatments to improve fish habitat and maximize aquatic habitat in Packsaddle Creek. Stream restoration treatments include bioengineered bank stabilization treatments, channel narrowing with inset floodplain benches, sod mats, and plantings. Your proposed project is located in Section 02, Township 05 North, Range 44 East, Teton County, Idaho. It has been determined that an IDWR Stream Channel Alteration Permit will not be required for this activity as provided for within Section 42-3802(d), Idaho Code.

This does not relieve you of the responsibility to obtain any other local, state or federal permits that may be required, such as those required under the Clean Water Act or local ordinances required to meet federal flood insurance guidelines.

Please contact Katie Gibble or katie.gibble@idwr.idaho.gov if you have any questions regarding this matter.

Sincerely,

Katie Gibble
Stream Channel Protection
Idaho Department of Water Resources

cc: Ryan Colyer, Biota Research & Consulting, Jackson
Wendy Danielson, Teton County
Alex Bell, Idaho Department of Environmental Quality, Idaho Falls
Eric Anderson, Idaho Department of Fish and Game, Idaho Falls
Heath Hancock, Idaho Department of Lands, Idaho Falls
U.S. Army Corps of Engineers, Idaho Falls
Aaron Golart, Idaho Department of Water Resources, Boise

ATTACHMENT C

RECEIVED
Jun 20, 2024
DEPARTMENT OF WATER RESOURCES

JOINT APPLICATION FOR PERMITS

U.S. ARMY CORPS OF ENGINEERS - IDAHO DEPARTMENT OF WATER RESOURCES - IDAHO DEPARTMENT OF

Authorities: The Department of Army Corps of Engineers (Corps), Idaho Department of Water Resources (IDWR), and Idaho Department of Lands (IDL) established a joint process for activities impacting jurisdictional waterways that require review and/or approval of both the Corps and State of Idaho. Department of Army permits are required by Section 10 of the Rivers & Harbors Act of 1899 for any structure(s) or work in or affecting navigable waters of the United States and by Section 404 of the Clean Water Act for the discharge of dredged or fill materials into waters of the United States, including adjacent wetlands. State permits are required under the State of Idaho, Stream Protection Act (Title 42, Chapter 38, Idaho Code and Lake Protection Act (Section 58, Chapter 13 et seq., Idaho Code). In addition the information will be used to determine compliance with Section 401 of the Clean Water Act by the appropriate State, Tribal or Federal entity.

Joint Application: Information provided on this application will be used in evaluating the proposed activities. Disclosure of requested information is voluntary. Failure to supply the requested information may delay processing and issuance of the appropriate permit or authorization. **Applicant will need to send a completed application, along with one (1) set of legible, black and white (8½"x11"), reproducible drawings that illustrate the location and character of the proposed project / activities to both the Corps and the State of Idaho.**

See Instruction Guide for assistance with Application. Accurate submission of requested information can prevent delays in reviewing and permitting your application. Drawings including vicinity maps, plan-view and section-view drawings must be submitted on 8-1/2 x 11 papers.

Do not start work until you have received all required permits from both the Corps and the State of Idaho

FOR AGENCY USE ONLY

USACE NWW-	Date Received:	☐ Incomplete Application Returned	Date Returned:
Idaho Department of Water Resources No. 22- 20363	Date Received: 06/20/2024	☐ Fee Received DATE:	Receipt No.:
Idaho Department of Lands No.	Date Received:	☐ Fee Received DATE:	Receipt No.:

INCOMPLETE APPLICANTS MAY NOT BE PROCESSED

1. CONTACT INFORMATION - APPLICANT Required:			2. CONTACT INFORMATION - AGENT:		
Name: Brandon Darnton			Name: Ryan Colyer		
Company: STRR LLC			Company: Biota Research & Consulting		
Mailing Address: PO Box G			Mailing Address: PO Box 8578		
City: Aspen	State: CO	Zip Code: 81612	City: Jackson	State: WY	Zip Code: 83002
Phone Number (include area code): 231-330-8738	E-mail: bdarnton@gmail.com		Phone Number (include area code): 307-733-4216	E-mail: rcolyer@biotaresearch.com	

3. PROJECT NAME or TITLE: Ecological Enhancement Project - Packsaddle Crk			4. PROJECT STREET ADDRESS: Eddyline Drive, Tetonia, ID	
5. PROJECT COUNTY: Teton	6. PROJECT CITY: Tetonia		7. PROJECT ZIP CODE: 83452	8. NEAREST WATERWAY/WATERBODY: Packsaddle Creek
9. TAX PARCEL ID#: RP05N44E020600, RP05N44E024800, RP	10. LATITUDE: 43.789330 LONGITUDE: -111.226527		11a. 1/4: SE / 11b. 1/4: SE / 11c. SECTION: 2	11d. TOWNSHIP: 5N / 11e. RANGE: 44E
12a. ESTIMATED START DATE: 10/1/24	12b. ESTIMATED END DATE: 12-31-25		13a. IS PROJECT LOCATED WITHIN ESTABLISHED TRIBAL RESERVATION BOUNDARIES? ☒ NO ☐ YES Tribe:	
13b. IS PROJECT LOCATED IN LISTED ESA AREA? ☒ NO ☐ YES			13c. IS PROJECT LOCATED ON/NEAR HISTORICAL SITE? ☒ NO ☐ YES	

14. DIRECTIONS TO PROJECT SITE: Include vicinity map with legible crossroads, street numbers, names, landmarks.

Travel north from Driggs, ID on Highway 33. Turn left (west) onto W 4000 N and travel for approximately 4 miles. Turn right (north) onto N 4500 W and travel for approximately 0.2 miles.

15. PURPOSE and NEED: ☐ Commercial ☐ Industrial ☐ Public ☒ Private ☐ Other

Describe the reason or purpose of your project; include a brief description of the overall project. Continue to Block 16 to detail each work activity and overall project.

The primary focus of the project is to develop restoration treatments to improve Yellowstone cutthroat trout (YCT) habitat, recreation, and aesthetic values, and maximize aquatic habitat quality in Packsaddle Creek on the STRR LLC property.

ATTACHMENT C

16. DETAILED DESCRIPTION OF EACH ACTIVITY WITHIN OVERALL PROJECT. Specifically indicate portions that take place within waters of the United States, including wetlands: Include dimensions; equipment, construction, methods; erosion, sediment and turbidity controls; hydrological changes: general stream/surface water flows, estimated winter/summer flows; borrow sources, disposal locations etc.:

Proposed Packsaddle Creek treatments include bioengineered bank stabilization treatments, channel narrowing with inset floodplain benches, sod mats, and vegetation plantings. There are three types of bank stabilization treatments: Treatment A would be implemented on eroding banks and include the excavation and regrading of a floodplain bench and installation of sod mats, willow cuttings, clumps, and/or woody debris; Treatment B would include narrowing the channel by constructing floodplain benches in over-widened areas, installing willow cuttings, clumps, and/or woody debris, and capping with sod mats; Treatment C would include regrading of vertical banks to a 2H:1V slope and installation of toe wood logs, willow cuttings, clumps, and/or woody debris. Bank Treatment A covers 6,943 ft of bank (right and left side combined) resulting in the excavation of 3,755 cy of material. Bank Treatment B covers 2,058 ft of bank (right and left side combined) and requires 972 cy of native alluvium fill material. Bank Treatment C covers 1,539 ft of bank and requires the excavation of 475 cy of material. Project activities include the placement of 308 logs with a total volume of 269 cy. 5,116 willow cuttings, and two boulder cross vanes with a total volume of 293 cy.

17. DESCRIBE ALTERNATIVES CONSIDERED to AVOID or MEASURES TAKEN to MINIMIZE and/ or COMPENSATE for IMPACTS to WATERS of the UNITED STATES, INCLUDING WETLANDS: See Instruction Guide for specific details.

Alternatives were considered that involved realignment of the entire channel but that was deemed too costly and unnecessary for this setting.

18. PROPOSED MITIGATION STATEMENT or PLAN: If you believe a mitigation plan is not needed, provide a statement and your reasoning why a mitigation plan is NOT required. Or, attach a copy of your proposed mitigation plan.

Mitigation is not required because this is a stream restoration project that will increase the amount of high functioning wetlands, increase the density of native riparian vegetation, and improve aquatic habitat conditions for Yellowstone cutthroat trout and other aquatic species. Project activities would not result in permanent wetland impacts. Project activities include sloping of vertical eroding stream banks and installation of floodplain benches in areas that are currently open water.

19. TYPE and QUANTITY of MATERIAL(S) to be discharged below the ordinary high water mark and/or wetlands:

Dirt or Topsoil:		cubic yards
Dredged Material:		cubic yards
Clean Sand:		cubic yards
Clay:		cubic yards
Gravel, Rock, or Stone:	293	cubic yards
Concrete:		cubic yards
Other (describe): alluvium	972	cubic yards
Other (describe: wood	269	cubic yards
TOTAL:	1,534	cubic yards

20. TYPE and QUANTITY of impacts to waters of the United States, including wetlands:

Filling:	0.39 acres	16,958 sq ft.	1,241 cubic yards
Backfill & Bedding:	acres	sq ft.	cubic yards
Land Clearing:	acres	sq ft.	cubic yards
Dredging:	acres	sq ft.	cubic yards
Flooding:	acres	sq ft.	cubic yards
Excavation:	0.26 acres	11,134 sq ft.	206 cubic yards
Draining:	acres	sq ft.	cubic yards
Other:	acres	sq ft.	cubic yards
TOTALS:	0.65 acres	28,092 sq ft.	1,447 cubic yards

ATTACHMENT C

21. HAVE ANY WORK ACTIVITIES STARTED ON THIS PROJECT? ☒ NO ☐ YES If yes, describe ALL work that has occurred including dates.

22. LIST ALL PREVIOUSLY ISSUED PERMIT AUTHORIZATIONS:

none.

23. ☐ YES, Alteration(s) are located on Public Trust Lands, Administered by Idaho Department of Lands

24. SIZE AND FLOW CAPACITY OF BRIDGE/CULVERT and DRAINAGE AREA SERVED: 10.7 Square Miles

25. IS PROJECT LOCATED IN A MAPPED FLOODWAY? ☒ NO ☐ YES If yes, contact the floodplain administrator in the local government jsrisdiction in which the project is located. A Floodplain Development permit and a No-rise Certification may be required.

26a WATER QUALITY CERTIFICATION: Pursuant to the Clean Water Act, anyone who wishes to discharge dredge or fill material into the waters of the United States, either on private or public property, must obtain a Section 401 Water Quality Certification (WQC) from the appropriate water quality certifying government entity.
See Instruction Guide for further clarification and all contact information.

The following information is requested by IDEQ and/or EPA concerning the proposed impacts to water quality and anti-degradation:

☐ NO ☒ YES Is applicant willing to assume that the affected waterbody is high quality?
☒ NO ☐ YES Does applicant have water quality data relevant to determining whether the affected waterbody is high quality or not?
☒ NO ☐ YES Is the applicant willing to collect the data needed to determine whether the affected waterbody is high quality or not?

26b. BEST MANAGEMENT PRACTICTES (BMP's): List the Best Management Practices and describe these practices that you will use to minimize impacts on water quality and anti-degradation of water quality. All feasible alternatives should be considered - treatment or otherwise. Select an alternative which will minimize degrading water quality

Project implementation would occur during a seasonal period of low or no instream flow. A tracked excavator will be used to excavate and place construction materials; materials will not be pulled, dragged, or pushed across the channel bottom. Construction will primarily occur with equipment located on the top of channel banks and river crossings will be minimized. All equipment will be stored in upland areas within the project area, and will access project treatment locations via established equipment routes.

Through the 401 Certification process, water quality certification will stipulate minimum management practices needed to prevent degradation.

27. LIST EACH IMPACT to stream, river, lake, reservoir, including shoreline: Attach site map with each impact location.

Activity	Name of Water Body	Intermittent Perennial	Description of Impact and Dimensions	Impact Length Linear Feet
Restoratoin treatments	Packsaddle Creek	Intermittent	Bank stabilization, floodplain bench, and pool construction	13,200
			TOTAL STREAM IMPACTS (Linear Feet):	13,200

28. LIST EACH WETLAND IMPACT include mechanized clearing, fill excavation, flood, drainage, etc. Attach site map with each impact location.

Activity	Wetland Type: Emergent, Forested, Scrub/Shrub	Distance to Water Body (linear ft)	Description of Impact Purpose: road crossing, compound, culvert, etc.	Impact Length (acres, square ft linear ft
	n/a			
			TOTAL WETLAND IMPACTS (Square Feet):	

ATTACHMENT C

29. ADJACENT PROPERTY OWNERS NOTIFICATION REQUIREM: Provide contact information of ALL adjacent property owners below.

Name: Burguieres, Philip Martial Mailing Address: 2248 Stanmore Dr City: Houston State: TX Zip Code: 77019 Phone Number (include area code): E-mail:	Name: Roberts, Brittain Mailing Address: 6678 W 4000 N City: Tetonia State: ID Zip Code: 83452 Phone Number (include area code): E-mail:
Name: Hughe, Lawrence E AP Mailing Address: 6616 W 4000 N City: Tetonia State: ID Zip Code: 83452 Phone Number (include area code): E-mail:	Name: Wade, Don R Mailing Address: PO Box 37 City: Tetonia State: ID Zip Code: 83452 Phone Number (include area code): E-mail:
Name: Ballanco, Jeremy Mailing Address: 1591 Fischer Ln City: Tetonia State: ID Zip Code: 83452 Phone Number (include area code): E-mail:	Name: Breckenridge, David Mailing Address: 4940 N 5000 W City: Tetonia State: ID Zip Code: 83452 Phone Number (include area code): E-mail:
Name: Oslund, Peter R Mailing Address: PO Box 762 City: Driggs State: ID Zip Code: 83422 Phone Number (include area code): E-mail:	Name: Kay, Susan E Mailing Address: 4133 N 8000 W City: Tetonia State: ID Zip Code: 83452 Phone Number (include area code): E-mail:

30. SIGNATURES: STATEMENT OF AUTHORIAZATION / CERTIFICATION OF AGENT / ACCESS

Application is hereby made for permit, or permits, to authorize the work described in this application and all supporting documentation. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein; or am acting as the duly authorized agent of the applicant (Block 2). I hereby grant the agencies to which this application is made, the right to access/come upon the above-described location(s) to inspect the proposed and completed work/activities.

Signature of Applicant: _____ *Date:* 6/19/24

Signature of Agent: _____ *Date:* 6/19/24

This application must be signed by the person who desires to undertake the proposed activity AND signed by a duly authorized agent (see Block 1, 2, 30). Further, 18 USC Section 1001 provides that: "*Whoever, in any manner within the jurisdiction of any department of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both*".

ATTACHMENT C

TECHNICAL MEMORANDUM

P. O. Box 8578, 140 E. Broadway, Suite 23, Jackson, Wyoming 83002; voice: (307) 733-4216

To: Brandon Darnton
Date: June 20, 2024
Re: Packsaddle Creek Enhancement Project, STRR LLC Property

INTRODUCTION

The content of this technical memorandum outlines the findings and recommendations made by Biota Research and Consulting, Inc. (Biota) regarding site assessment, analyses, and development of restoration design plan for Packsaddle Creek on the STRR LLC property in Teton County, Idaho. The project area is located approximately 7 miles west of Driggs, ID, as shown on Sheet 1 of the attached design plans. The project is located entirely on the STRR LLC property (RP05N44E024800, RP05N44E020600, RP05N44E036600) in Township 5N, Range 44E, Section 27.

BACKGROUND

The reach of Packsaddle Creek on the STRR LLC property is laterally and vertically unstable as evidenced by incised channel conditions and vertical eroding cut banks along much of its length within the project area. The bank material is composed of alluvial fan deposits of fine-grained silt/sand layers with gravel lenses and is highly erodible.

The project is intended to restore the natural channel characteristics and geomorphic functions of Packsaddle Creek as well as improve fish habitat conditions. The design plan for this project was informed by field observations and survey data collected in 2023.

The following project objectives were identified based upon existing site conditions, land use constraints, and restoration potential.

1. Increase bank stability and reduce bank erosion related sediment inputs
2. Increase cover and holding water for wild salmonids (especially during seasonal periods of instream flow when migrating adult Yellowstone cutthroat are present)
3. Construct inset floodplain benches to narrow excessively wide sub-reaches
4. Improve riparian vegetation characteristics (presence, distribution, diversity, structure)
5. Identify self-maintaining treatments that maximize the ecological values of Packsaddle Creek.

The primary strategy to meet project objectives is to restore channel conditions through the application of established stream restoration treatments that incorporate well-established bioengineering techniques and revegetation strategies.

ATTACHMENT C

Figure 1. Photograph showing the ford crossing of Packsaddle Creek at the downstream end of the property.

Figure 2. Photograph showing the ford crossing over Packsaddle Creek at N 7000 W.

ATTACHMENT C

Figure 3. Photograph showing relative heights of steep eroding bank and inset floodplain/bankfull bench.

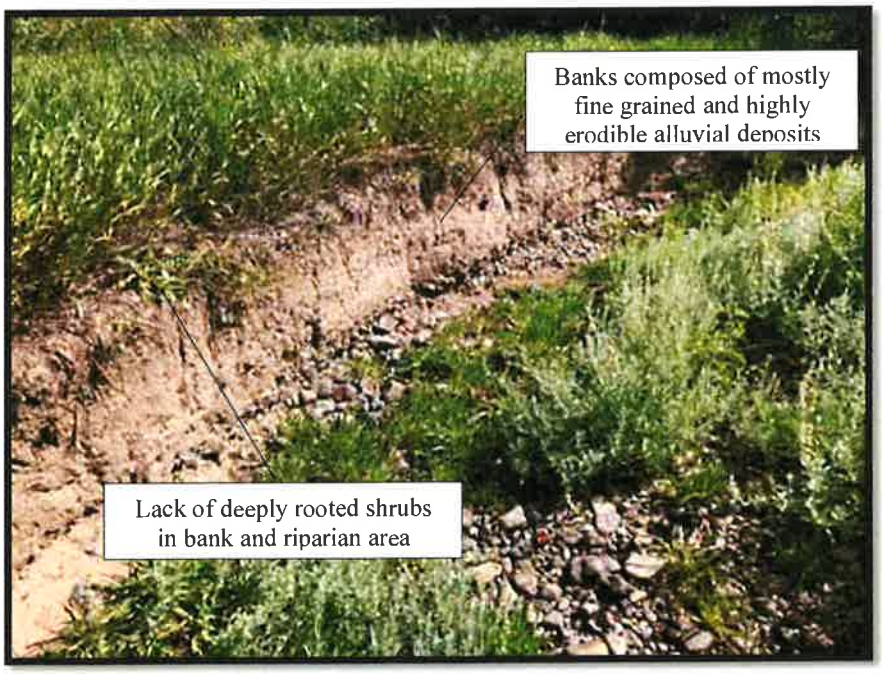


Figure 4. Photograph showing steep eroding bank material and shallow root mass.

ATTACHMENT C

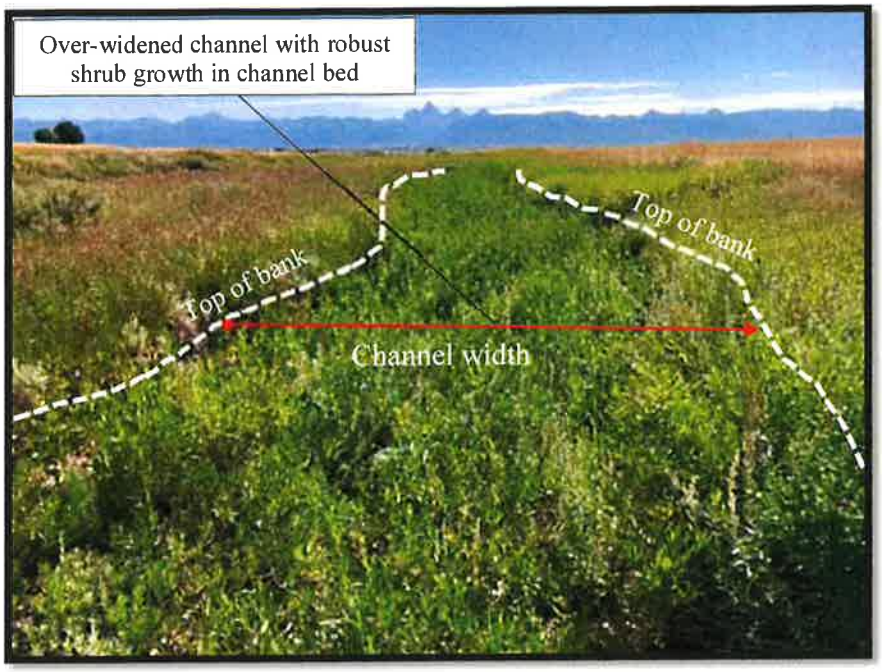


Figure 5. Photograph showing over-widened reach with robust vegetation growth within the channel.

Figure 6. Photograph showing cottonwood grove in channel and riparian area.

ATTACHMENT C

2.6 HYDROLOGY

The hydrologic regime within the project area was investigated using multiple analytical techniques that incorporate gauge data analysis, hydrologic modeling, channel morphology, and hydraulics. Fundamental investigations involved identification of bankfull discharge. Bankfull discharge is the flow rate, and bankfull stage is the corresponding water surface elevation, at which instream water escapes the active channel and inundates the floodplain (when incipient flooding occurs). There is natural variability in the recurrence interval of bankfull discharge between sites that, according to Shields et al. (2003), ranges from 1 to 2.5 years. Professional experience in this region suggests that a reasonable estimation of bankfull discharge recurrence interval is 1.0-1.5 years.

Packsaddle Creek Hydrology

The hydrologic regime within the project area was analyzed using a combination of local stream gauge data, USGS StreamStats software, and hydraulic analysis of topographic survey data. The hydrology of Packsaddle Creek within the project area is heavily influenced by irrigation activities which occur upstream during the irrigation season and effectively reduce natural flow within the project area. The project area the drainage basin is 10.7 square miles, mean annual precipitation is 29.1 inches. Packsaddle Creek, within the project area, receives intermittent flow related to upstream irrigation diversions and timing of snowmelt runoff. Biota operated a stream gauge within the project reach and performed calibration flow measurements during the 2023 season. The peak flow measured during the 2023 gauging effort was 61.3 cfs, and instream flows were present from late April until mid-July. The 2023 Packsaddle Creek hydrograph is presented below in Figure 7. Peak flow estimates (from StreamStats) within the project area are presented in Figure 8.

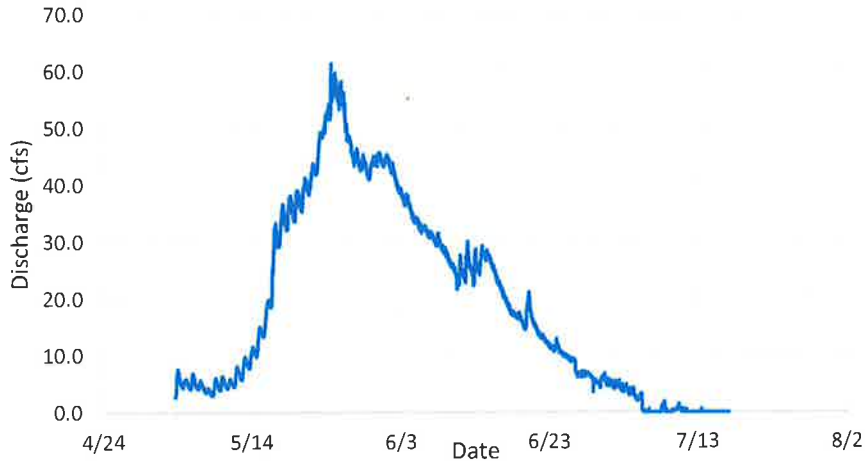


Figure 7. 2023 hydrograph for Packsaddle Creek within the project area.

ATTACHMENT C

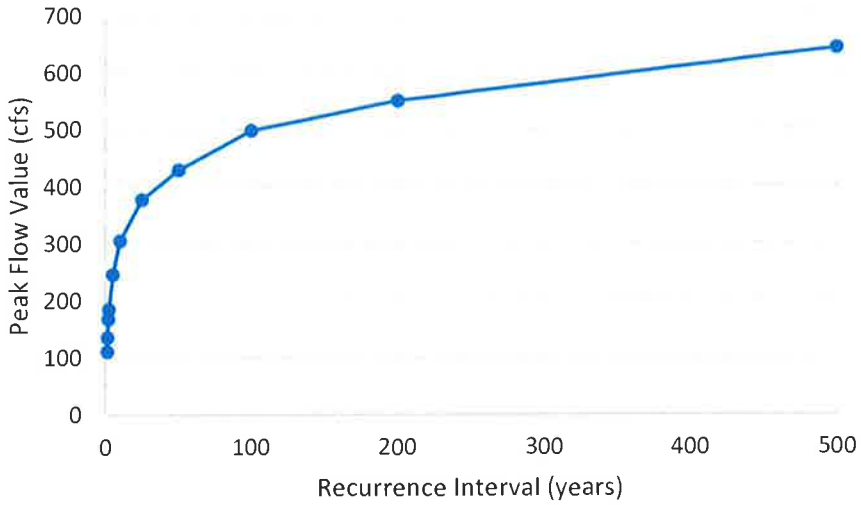


Figure 8. Peak flow statistics from USGS StreamStats software for Packsaddle Creek at the downstream end of the project area.

Peak flow characteristics within the project reach were quantified in order to inform analysis of channel function and hydraulic conditions. The closest stream flow gauging station to the project area is a historic (inactive) gauge that was operated by the USGS from 1946 to 1950 upstream of the project area (gauge ID #13053000). However, this gauge only has 4.5 years of peak flow data so is not suitable for calculating the recurrence interval of larger magnitude flow events. It is worth noting that the peak flows recorded at the historic USGS gauge site ranged from 24 cfs to 50 cfs.

The USGS online program StreamStats (USGS 2019) was also used to estimate peak flows at the Packsaddle Creek project area. The program uses regression equations developed in the publication *Estimating Peak-Flow Frequency Statistics for Selected Gaged and Ungaged Sites in Naturally Flowing Streams and Rivers in Idaho* (Wood et al 2016). Project area peak flows (from StreamStats) associated with the 1.5-yr and the 100-yr recurrence interval events are presented in Table 1.

Several riffle cross sections were surveyed in the field along with bankfull indicators and channel slope. This data was used to estimate the average bankfull flow at 47 cfs (results ranged from 21-88 cfs). The estimated 1.5-year flow using the regression methods from StreamStats software is 136 cfs, which is almost three times the magnitude of the site specific bankfull. The ratio of the bankfull flow at the site was used to adjust the regression equation derived 100-year flow and identify a project specific estimated 100-year flow of 172 cfs. Project specific peak flows associated with the 1.5-yr and the 100-yr recurrence interval events are presented in Table 1.

Table 1. StreamStats ungauged frequency analysis results (cfs)

Recurrence Interval (Years)	StreamStats Flood Discharge (cfs)	Project Specific Flood Discharge (cfs)
1.5	136	47
100	498	172

The project site is not currently located in a Federal Emergency Management Agency (FEMA) mapped Special Flood Hazard Area. Therefore, FEMA does not have any established hydrology or baseflood flow magnitude for the project site and there is no regulatory floodplain.

ATTACHMENT C

DESIGN PLANS

PROPOSED DESIGN TREATMENTS

The restoration design approach for Packsaddle Creek includes the construction of inset floodplain benches, bank stabilization treatments, woody vegetation plantings, cross vane construction, and pool construction. Sheets 4 to 12 show the proposed treatment types and areas for Packsaddle Creek. The actively eroding banks of Packsaddle Creek would be reconstructed utilizing a suite of bioengineered bank stabilization design treatments.

Packsaddle Creek Bank Stabilization Treatments

Treatments A and B include the establishment of a bench at an elevation corresponding to bankfull discharge. The floodplain bench width would be approximately 5 to 10 ft with the surface of the bench vegetated with salvaged topsoil and sod mats harvested from nearby salvage areas. Most of the Packsaddle Creek inset floodplain benches will be constructed through excavation of perched topography adjacent to the incised channel. The excavation of floodplain benches on Packsaddle Creek will occur in areas where the channel is incised and the creek is disconnected from the floodplain. In over-widened areas of Packsaddle Creek that have been damaged by livestock, floodplain bench construction would occur by placing fill materials (salvaged sod mats) to construct floodplain benches and streambanks. Bank treatment C includes the installation of woody material below the bankfull elevation to provide structural cover, maintain scour pool features, and bolster bank stability.

The bank stabilization would include reconstructing channel banks at a 2:1 to 3:1 slope that would be vegetated with salvaged sod mats and dormant willow cutting bundles. The willow cuttings would be installed butt end down to a depth of 1 ft below the lowest water table of the year and protrude 12 to 18 inches above the existing bank grades. Willow cutting bundles (3 cuttings per bundle) would be placed at a 4 to 6 lineal ft spacing along the channel banks. This treatment is designed to maximize shade and cover with dense woody vegetation components.

Packsaddle Creek Pool Construction

The restoration approach for the Packsaddle Creek pools includes channel grading to excavate self-sustaining pools. The proposed pool construction would be comprised of natural channel bed material and designed to mimic conditions that would be found in the absence of land use impacts.

Cross Vane Construction

Boulder cross vane structures will be constructed around channel crossing structures to provide vertical channel stability and structure protection.

SEEDING SPECIFICATIONS

A site-specific, native transitional seed mix will be broadcast throughout the disturbed areas (including temporary haul routes and equipment and material storage areas) and new streambanks, and a native wetland seed mix will be broadcast throughout the wetland creation areas after construction has been completed. Seed will be applied by hand after October 1 and prior to the onset of season-long snow cover. Seed will be applied to a properly prepared, firm seed bed, and will not be broadcast on snow-covered ground. The seed mix in Table 2 will be applied at the specified rate (pounds of pure live seed per acre) in the wetland creation areas.

ATTACHMENT C

The seed mix in Table 3 will be applied at the specified rate (pounds of pure live seed per acre) in the transitional areas. Sterile triticale has been added to the seed mix as a nurse crop to provide fast-growing, short-term vegetative growth to assist with erosion control, add standing mulch, provide weed competition, and to facilitate establishment of the slower growing native perennial species. The triticale is sterile and will not produce viable seed. Therefore, it will only be present during the initial growing season. After application of the transitional seed, the seeded areas will be rolled, harrowed, or raked to ensure maximum seed-to-soil contact. Certified weed-free straw will then be distributed over the seeded transitional areas.

Table 2. Wetland revegetation seed mix specifications.

Common Name	Scientific Name	Pounds Pure Live Seed Per Acre
american sloughgrass	*Beckmannia syzigachne*	8.4
bluejoint reedgrass	*Calamagrostis canadensis*	0.8
slender wheatgrass	*Elymus trachycaulus*	8.4
fowl bluegrass	*Poa palustris*	0.6
arctic rush	*Juncus arcticus*	0.2
creeping spikerush	*Eleocharis palustris*	1.1
	Total	**19.5**

Table 3. Transitional reclamation seed mix specifications.

Common Name	Scientific Name	Pounds Pure Live Seed Per Acre
Rough bentgrass	*Agrostis scabra*	0.2
American sloughgrass	*Beckmannia syzigachne*	0.5
Mountain brome	*Bromus marginatus*	6.0
Bluejoint reedgrass	*Calamagrostis canadensis*	0.3
Sandberg bluegrass	*Poa sandbergii*	0.8
Slender wheatgrass	*Elymus trachycaulus*	8.4
Fowl bluegrass	*Poa palustris*	0.3
Arctic rush	*Juncus arcticus*	0.1
Quickguard sterile triticale		30.0
	Total	**46.6**

PROJECT IMPLEMENTATION PLAN

Project implementation should occur in an environmentally sensitive manner, and any incidental damage to the site should be reclaimed. Construction activities should be performed by an experienced contractor under the supervision and direction of the design consultant. Project implementation will occur using a tracked excavator working with support vehicles (loader and haul trucks). Implementation would involve sequential completion of consecutive treatments through the project area during a period of low or no flow to minimize impacts. Every reasonable effort should be made to complete the proposed restoration and enhancement design plans in a manner that minimizes the potential for adverse impacts to water quality,

ATTACHMENT C

fish, wildlife, and the environment. Construction activities should comply with all permit conditions and be conducted using industry standard Best Management Practices.

Construction Quantities

Treatment quantities associated with proposed design treatments are summarized in Table 4.

Table 4. Final design treatment quantities.

Treatment Type	Quantity
Bank Treatment A	6,943 ft
Bank Treatment B	2,058 ft
Bank Treatment C	1,539 ft
Total Cut for Bank Treatments	4,230 cy
Total Fill for Bank Treatments	972 cy
Sod Harvest Areas (Wetland Creation)	61,512 ft^2
Bank Treatment Area Sod Placement	55,693 ft^2
Pool Creation	979 ft, n=16
Total Cut for Pool Excavation	206 cy
Boulder Cross Vanes	n = 2, 293 cy
Total Cut for Channel Realignment	185 cy
Bank Treatment A Cuttings	3,472
Bank Treatment B Cuttings	1,029
Bank Treatment C Cuttings	616
Total Willow Cuttings	5,116
Total Cottonwood Plantings	264
Treatment C Logs	n = 308, 270 cy

GRAZING MANAGEMENT

Livestock exclusion is an important component of river and floodplain restoration. Livestock can trample and cause damage to newly constructed river and floodplain restoration treatments. Exclusion fencing, or temporary fencing, is proposed to limit access to treatment areas in order to allow for the establishment of revegetation treatments if the area is to be grazed.

SUMMARY AND CONCLUSIONS

The restoration of the Packsaddle Creek on the STRR LLC property provides an opportunity for restoration of geomorphic functions and fish habitat improvements. The design plan was developed to achieve objectives of increased instream channel complexity and channel stability while improving aquatic and riparian habitat conditions. The project design treatments, materials quantities, and design specifications are included in the design plans.

ATTACHMENT C

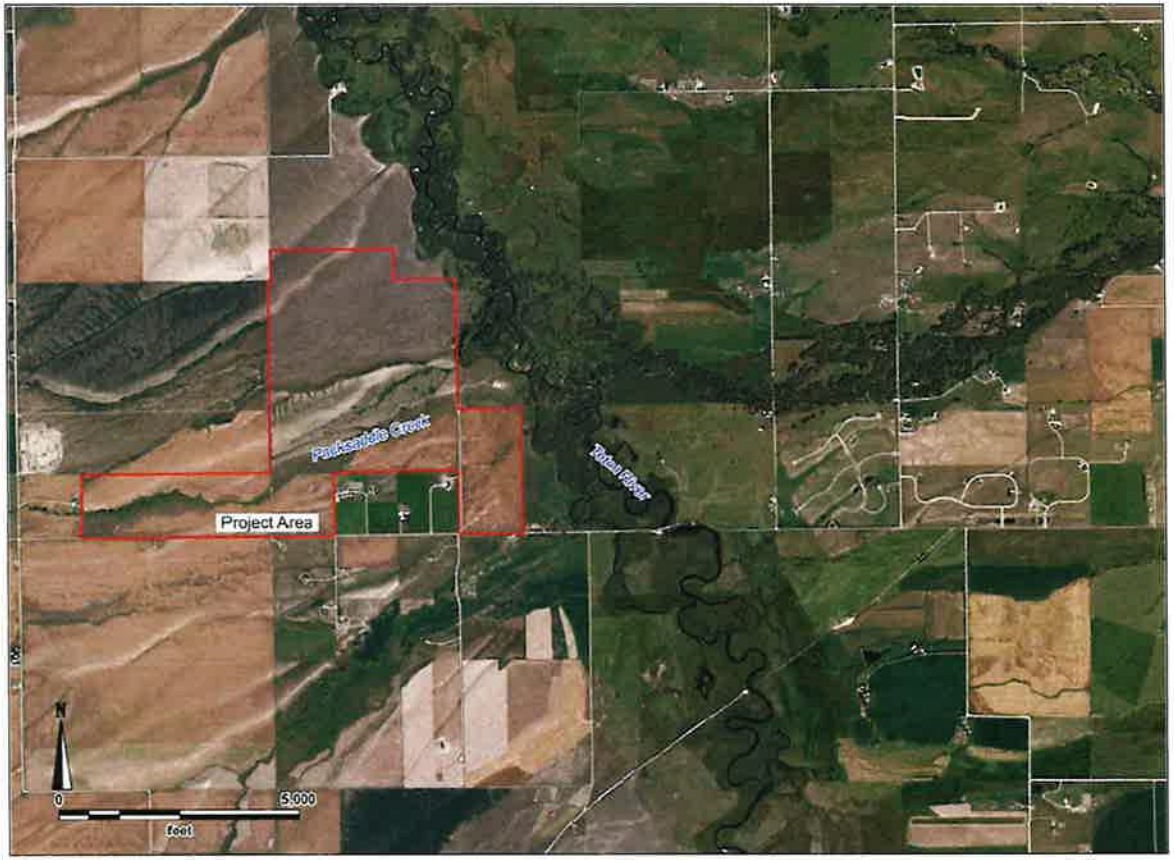
ECOLOGICAL ENHANCEMENT PROJECT
PACKSADDLE CREEK

PREPARED FOR:
STRR LLC

SHEET INDEX

PROJECT LOCATOR MAP

Teton County, Idaho



POBOX 8578 140 E. BROADWAY STE 23
JACKSON WY, 83002 307-733-4216

TITLE SHEET

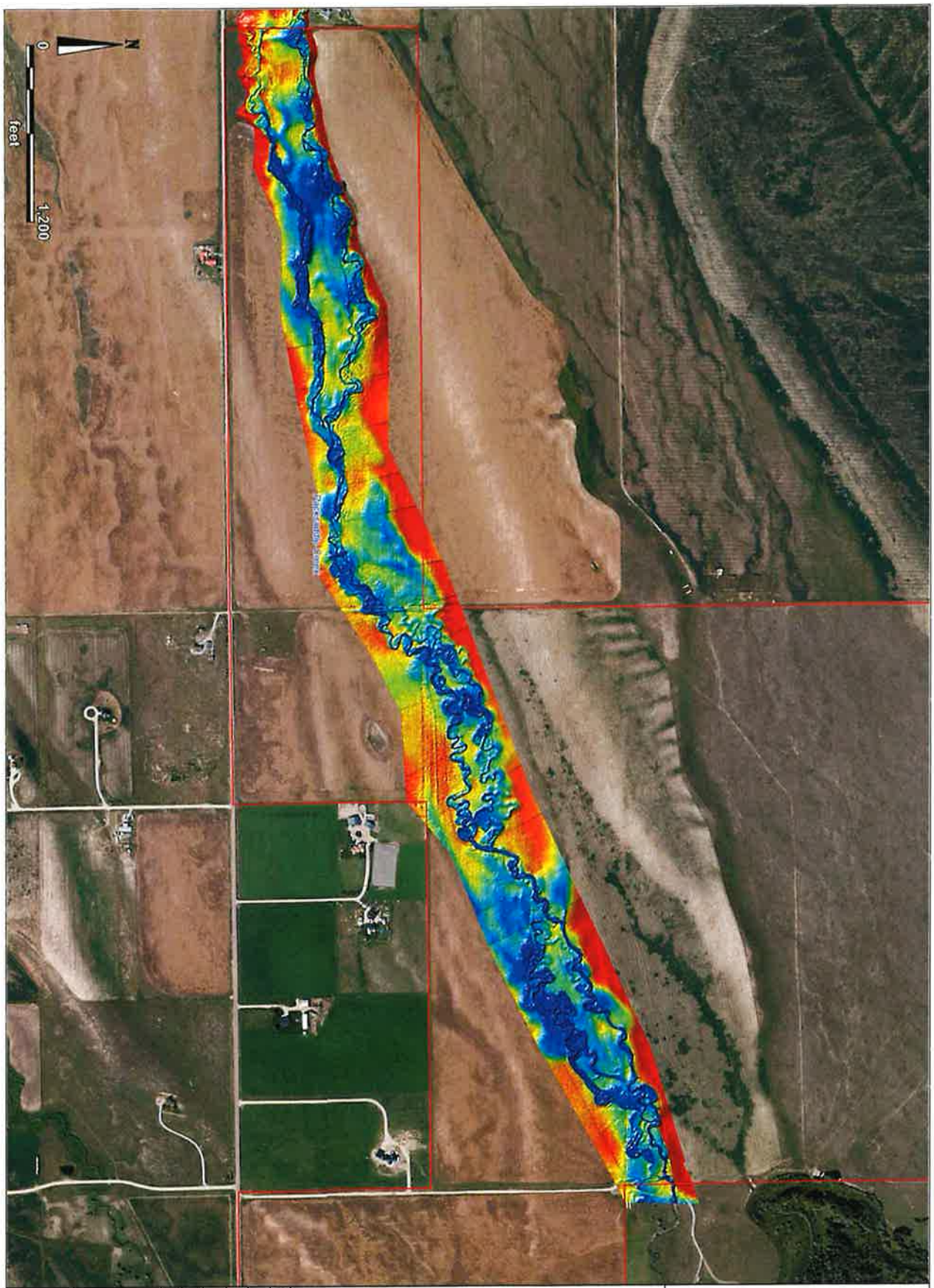
STRR LLC
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

SCALE 1 INCH = 2,500 FT
UNITS US FOOT
BASEMAP: 2023 IMAGERY

SHEET 1

ATTACHMENT C



SHEET 2

SCALE: 1 INCH = 600 FT
UNITS: US FOOT
BASEMAP: 2023 IMAGERY

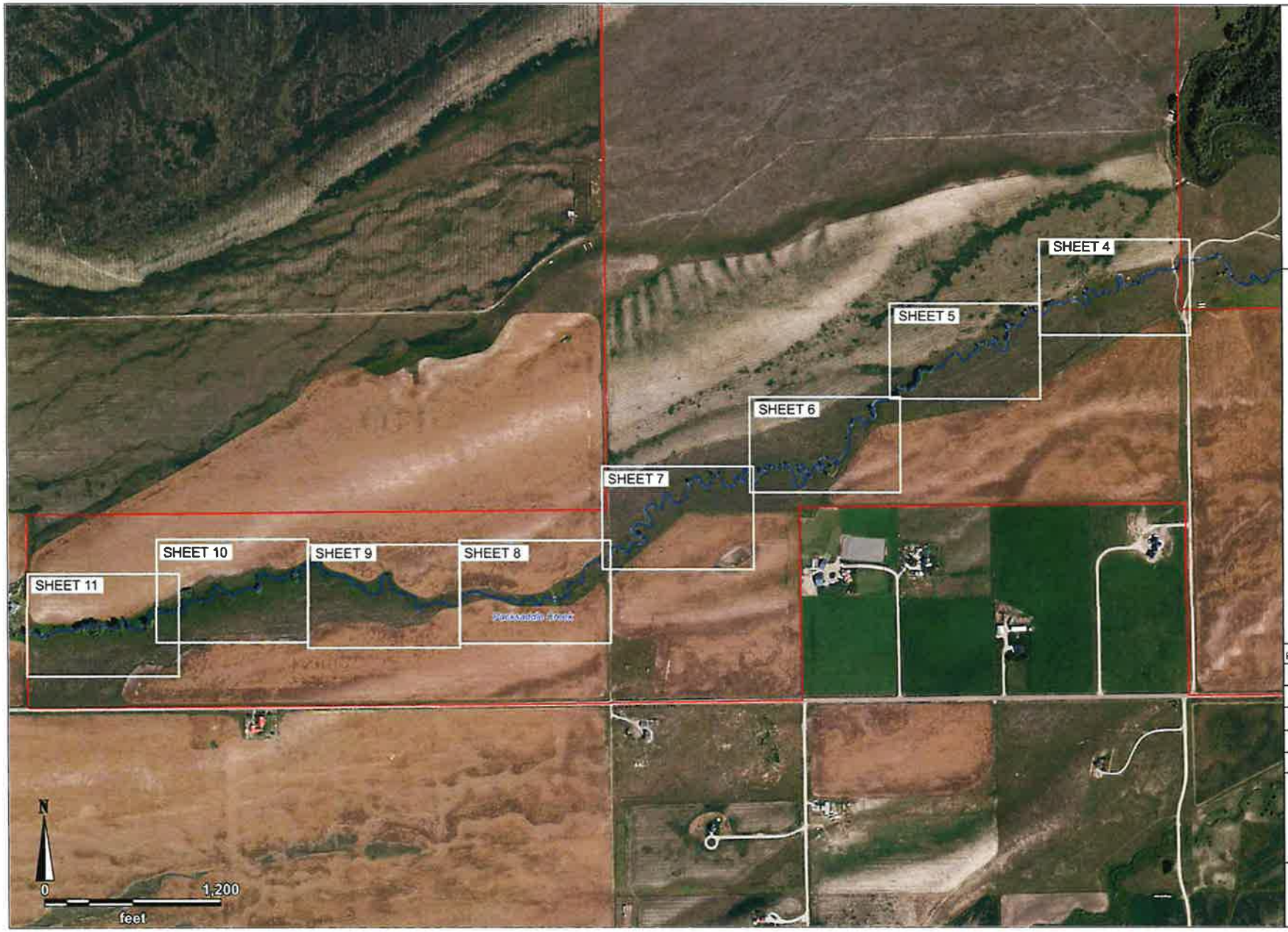
REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

PACKSADDLE CREEK
RELATIVE ELEVATION MODEL

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

resource & consulting inc
Biota
POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

ATTACHMENT C



POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
SHEET INDEX

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

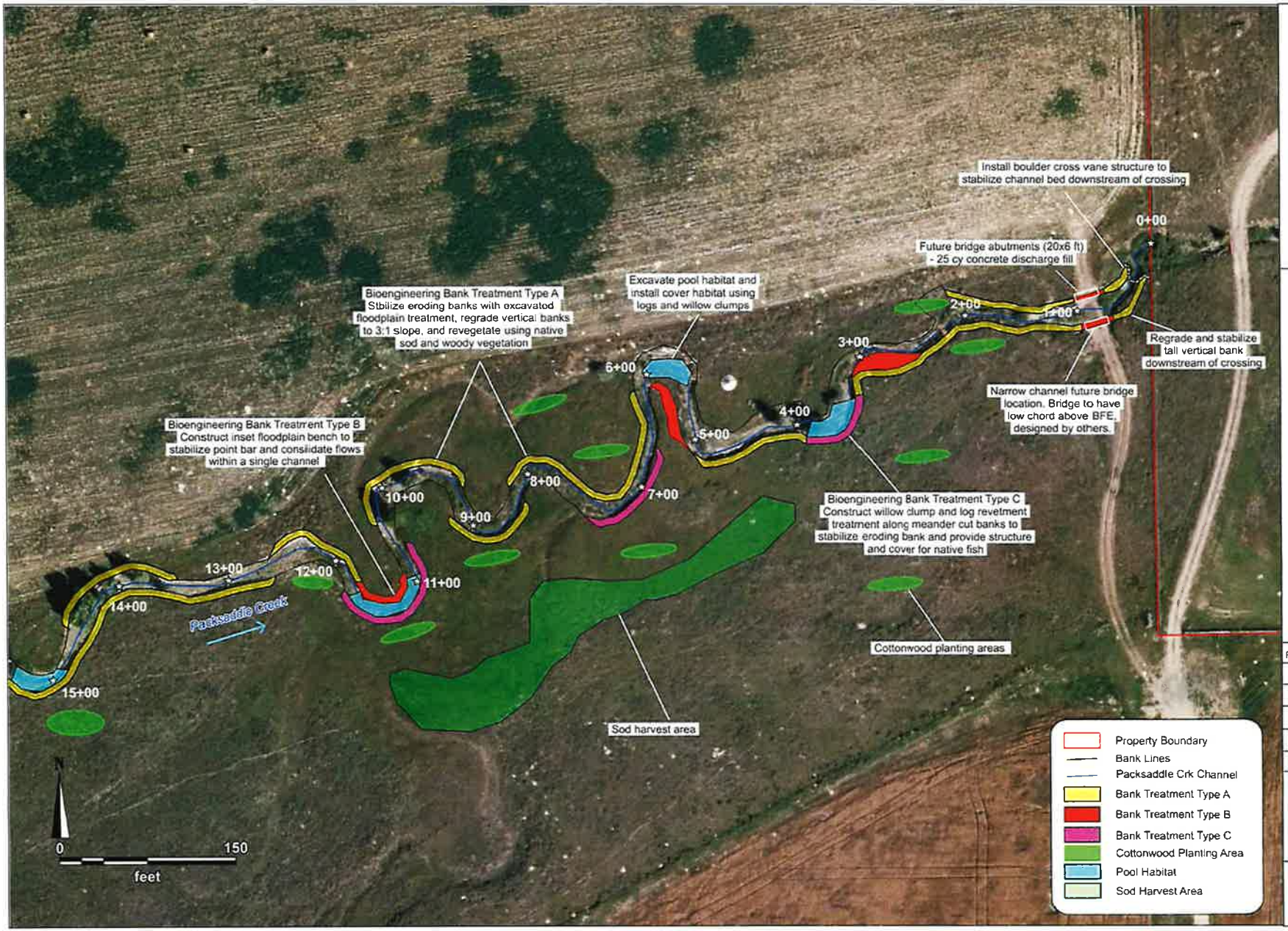
SCALE: 1 INCH = 600 FT

UNITS: US FOOT

BASEMAP: 2023 IMAGERY

SHEET 3

ATTACHMENT C



POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
PROPOSED CONDITION

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	6/5/24	PC	PERMIT

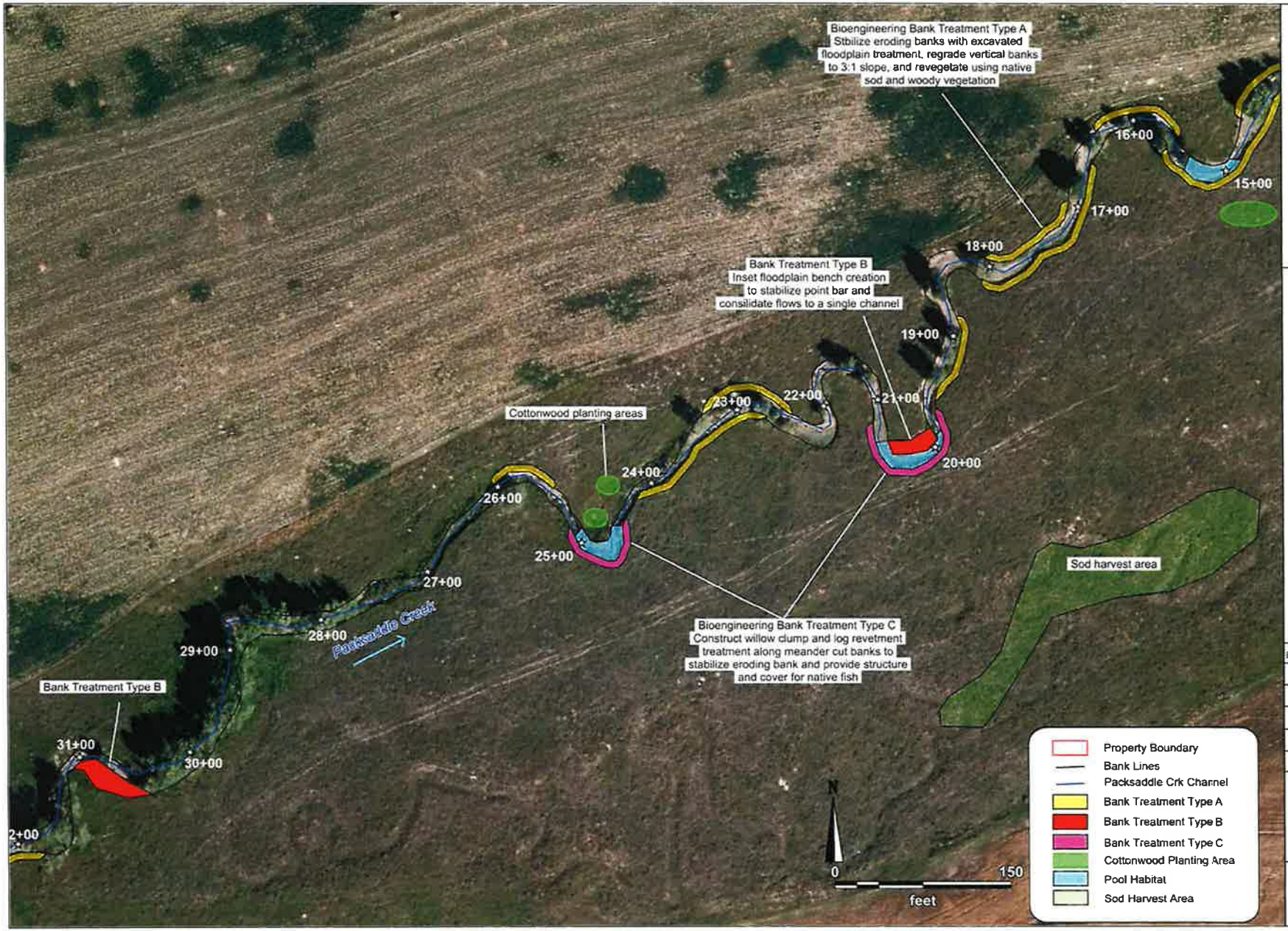
SCALE: 1 INCH = 75 FT

UNITS: US FOOT

BASEMAP: 2023 IMAGERY

SHEET 4

ATTACHMENT C



POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY; 83002 307-733-4216

PACKSADDLE CREEK
PROPOSED CONDITION

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

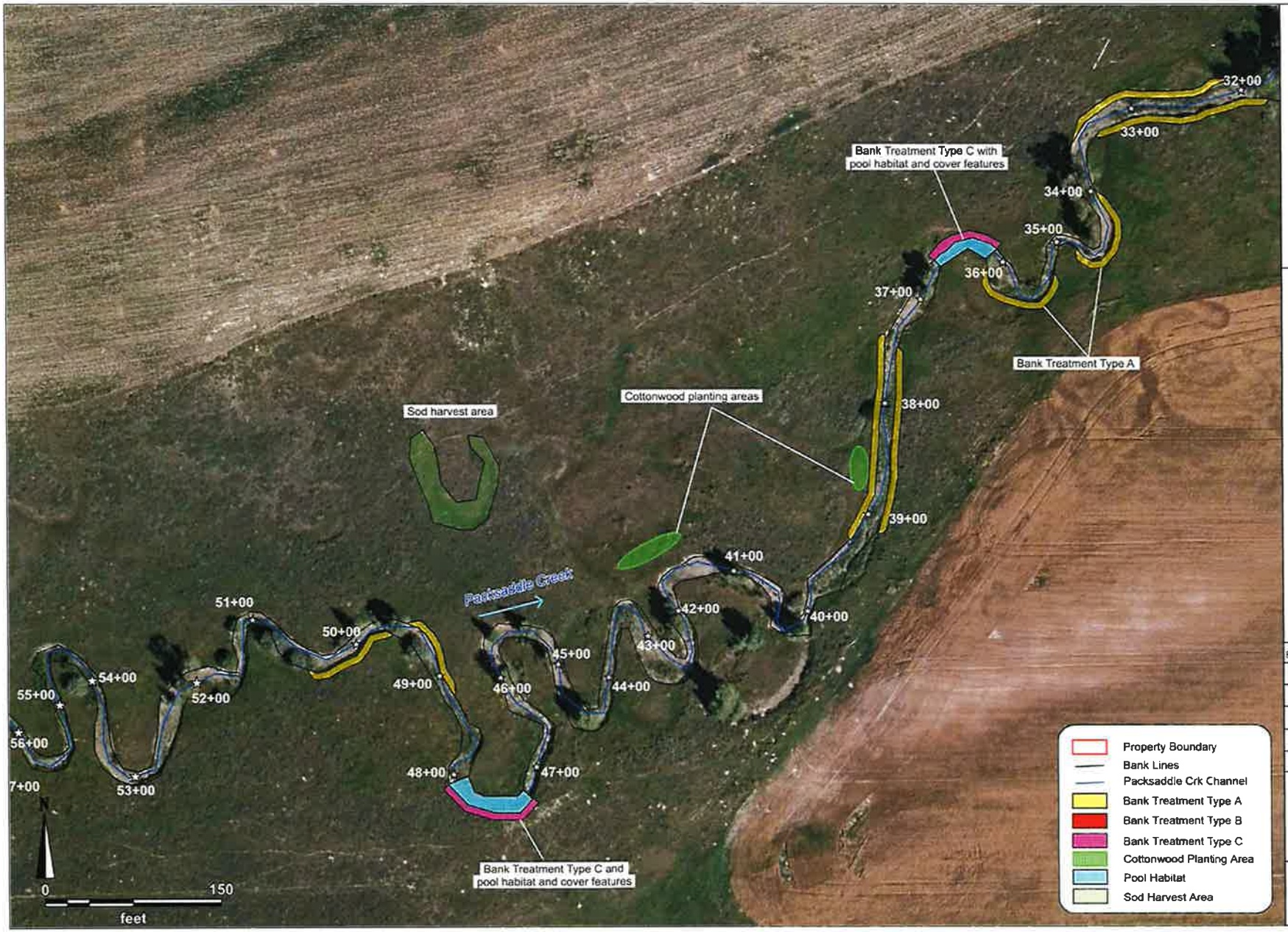
SCALE: 1 INCH = 75 FT

UNITS: US FOOT

BASEMAP: 2023 IMAGERY

SHEET 5

ATTACHMENT C



Biota
research & consulting inc
POBOX 8678 140 E. BROADWAY STE. 23
JACKSON WY. 83002 307-733-4216

PACKSADDLE CREEK
PROPOSED CONDITION

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

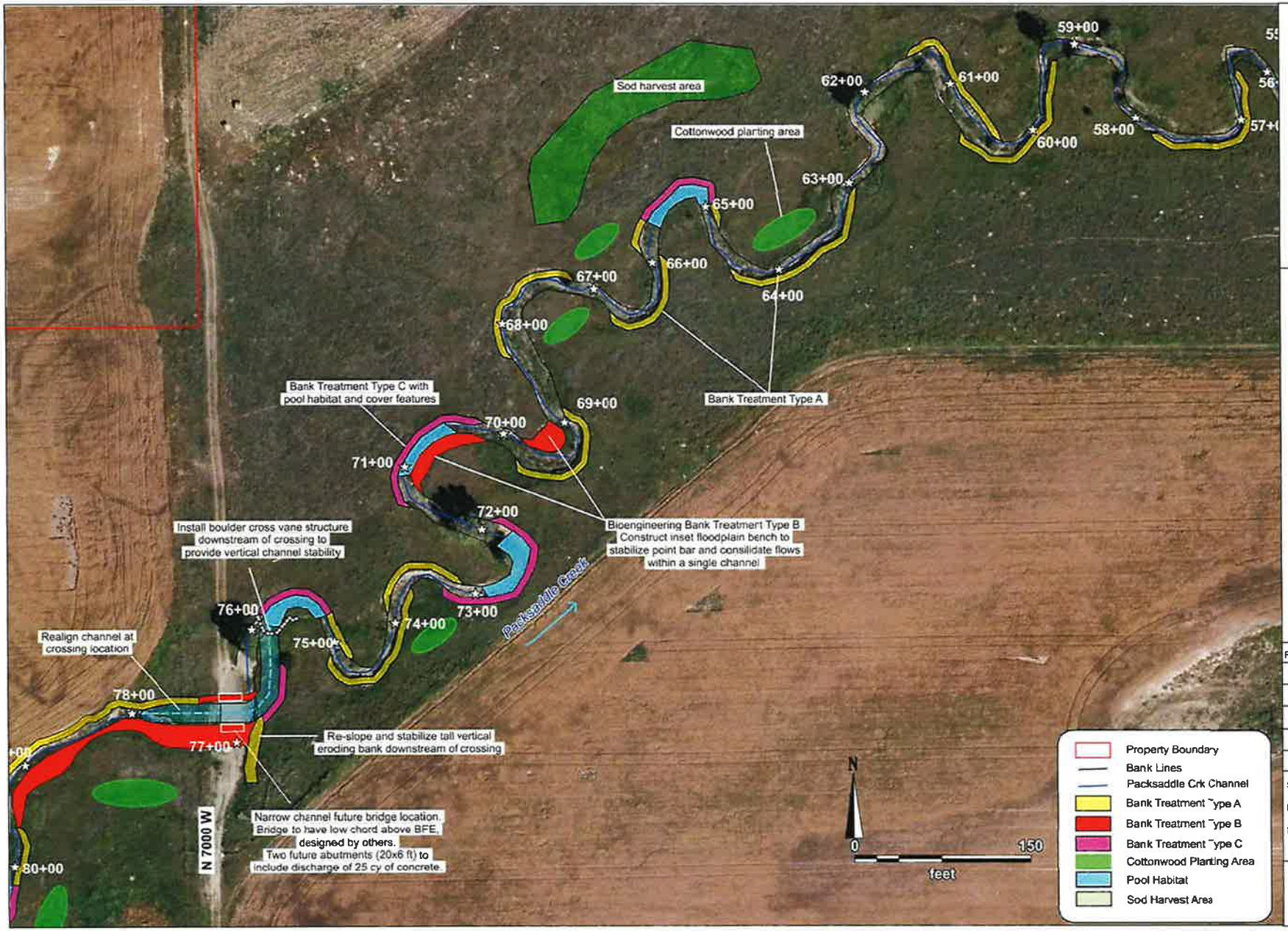
SCALE: 1 INCH = 75 FT

UNITS: US FOOT

BASEMAP: 2023 IMAGERY

SHEET 6

ATTACHMENT C



POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
PROPOED CONDITION

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	6/5/24	PC	PERMIT

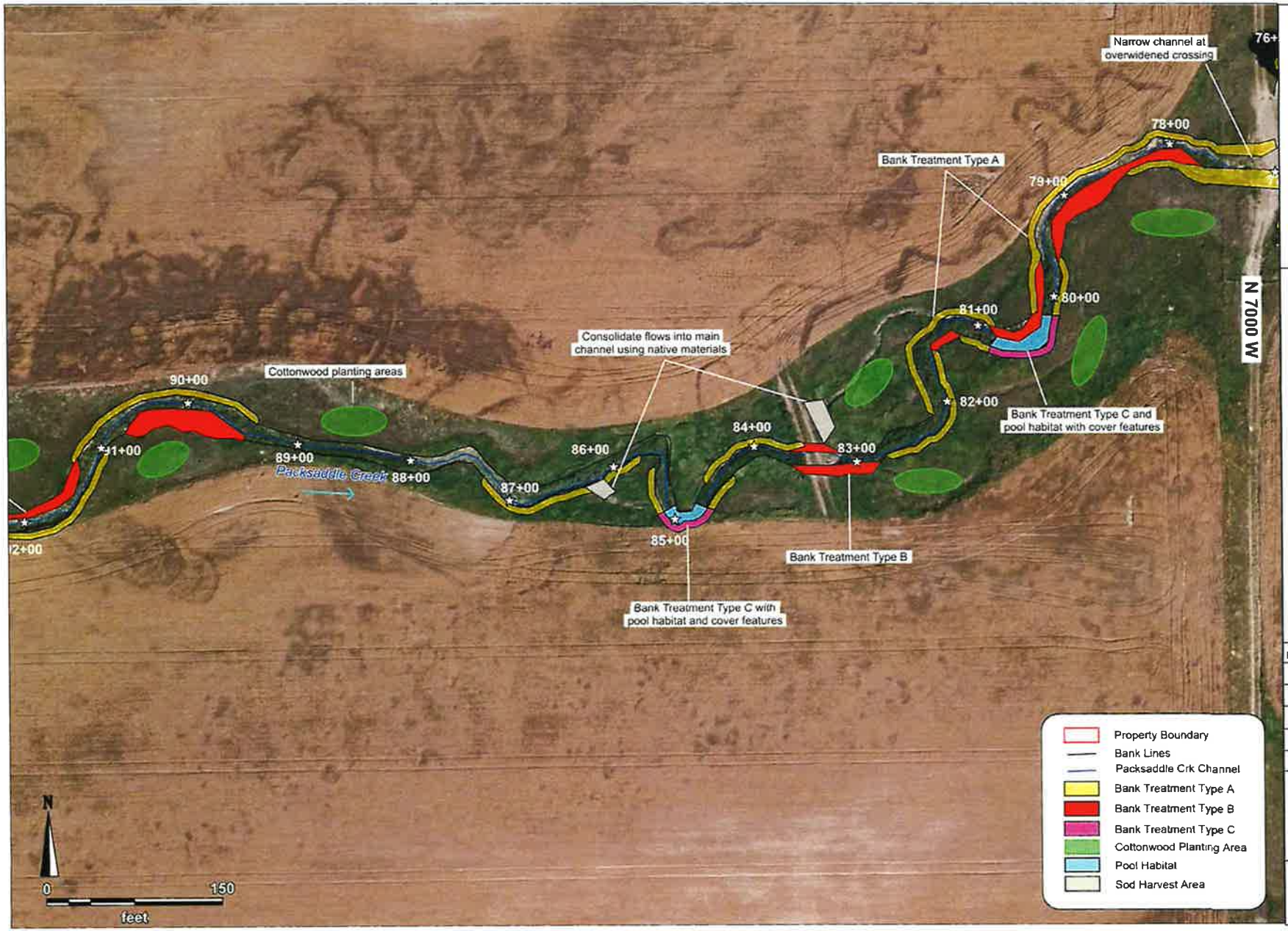
SCALE: 1 INCH = 75 FT

UNITS: US FOOT

BASEMAP: 2023 IMAGERY

SHEET 7

ATTACHMENT C



POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
PROPOSED CONDITION

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

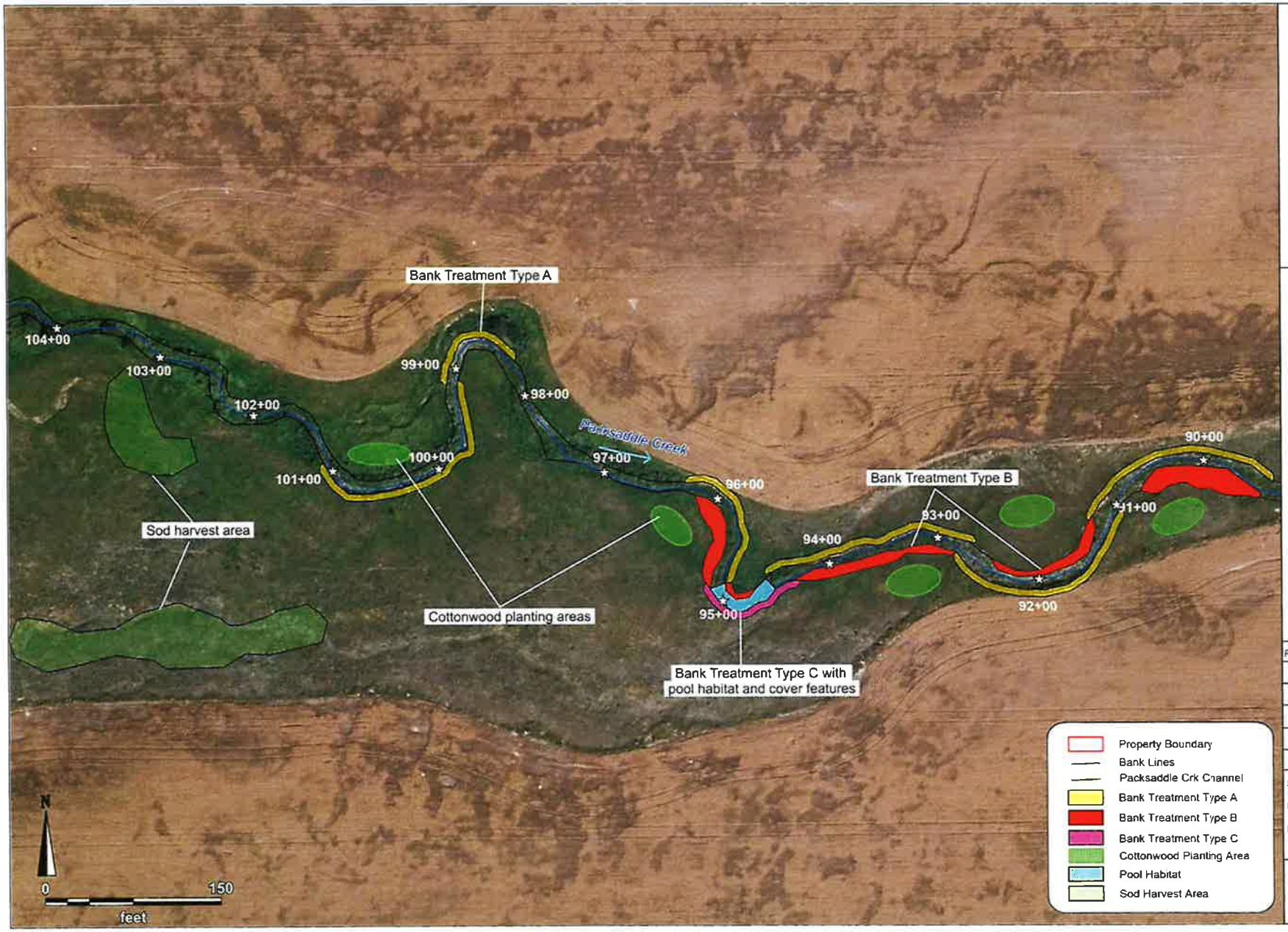
SCALE: 1 INCH = 75 FT

UNITS: US FOOT

BASEMAP: 2023 IMAGERY

SHEET 8

ATTACHMENT C



POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
PROPOSED CONDITION

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

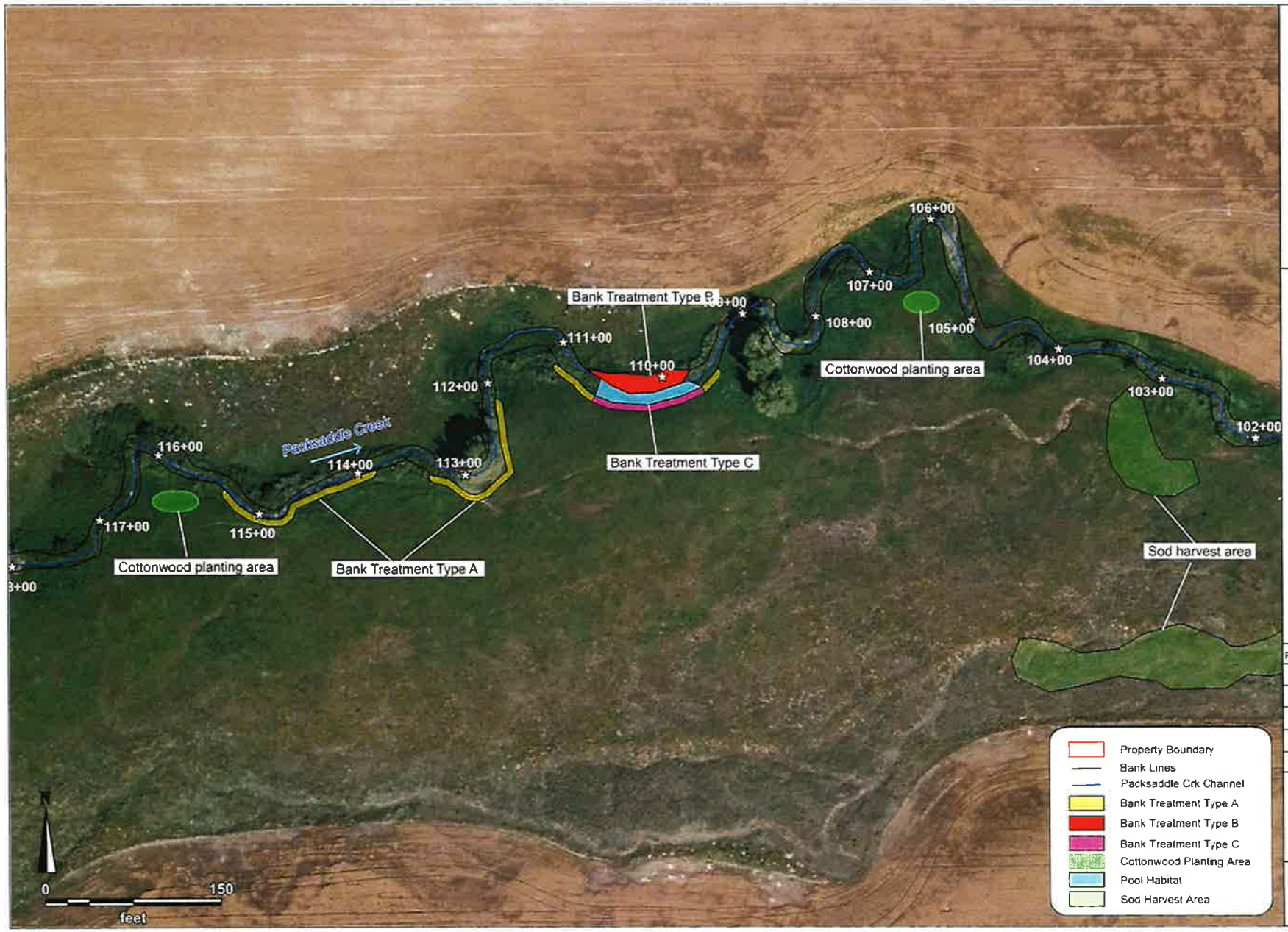
SCALE: 1 INCH = 75 FT

UNITS: US FOOT

BASEMAP: 2023 IMAGERY

SHEET 9

ATTACHMENT C



Biota
research & consulting inc
POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
PROPOSED CONDITION

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

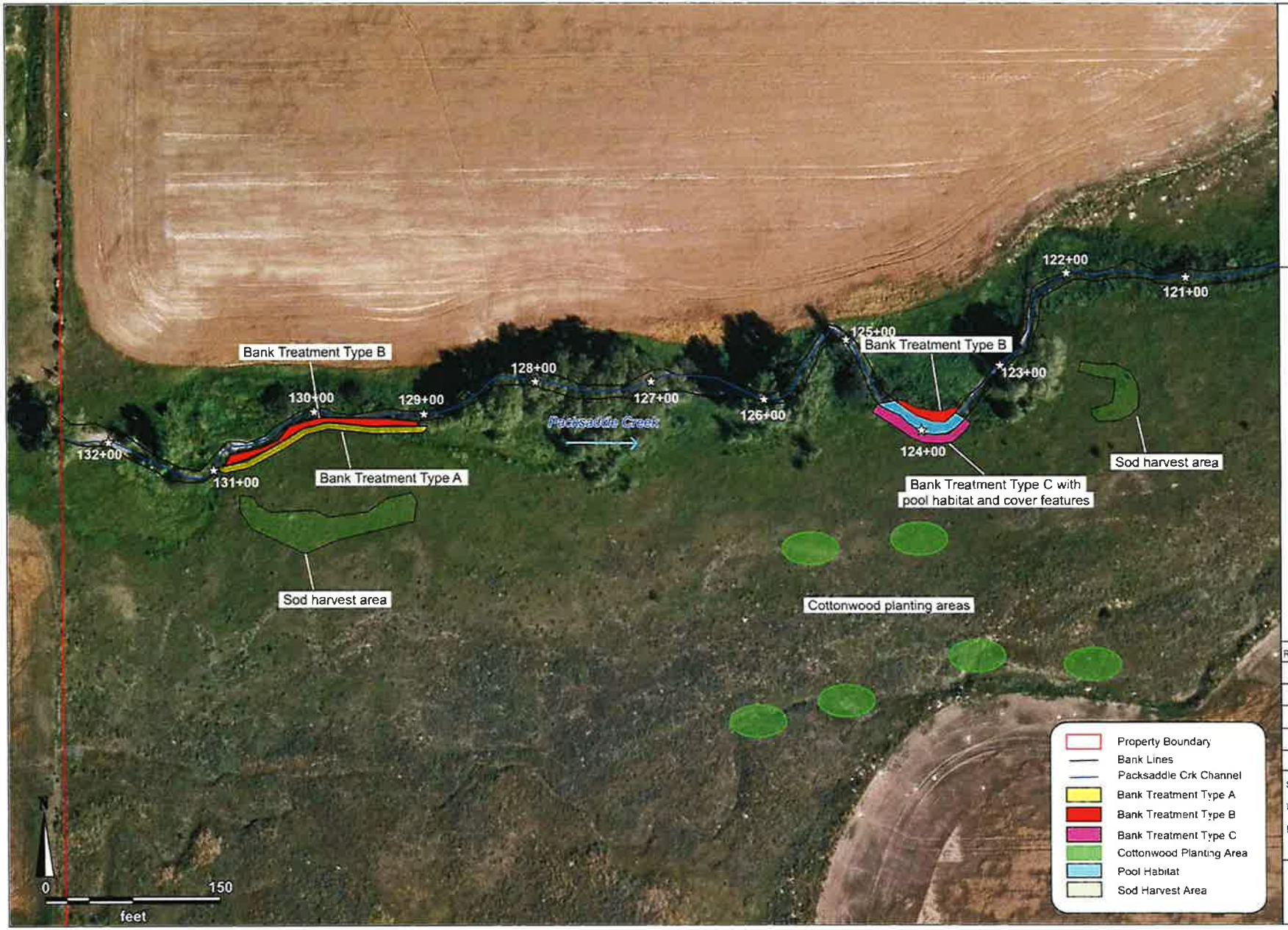
SCALE: 1 INCH = 75 FT

UNITS: US FOOT

BASEMAP: 2023 IMAGERY

SHEET 10

ATTACHMENT C



POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
PROPOSED CONDITION

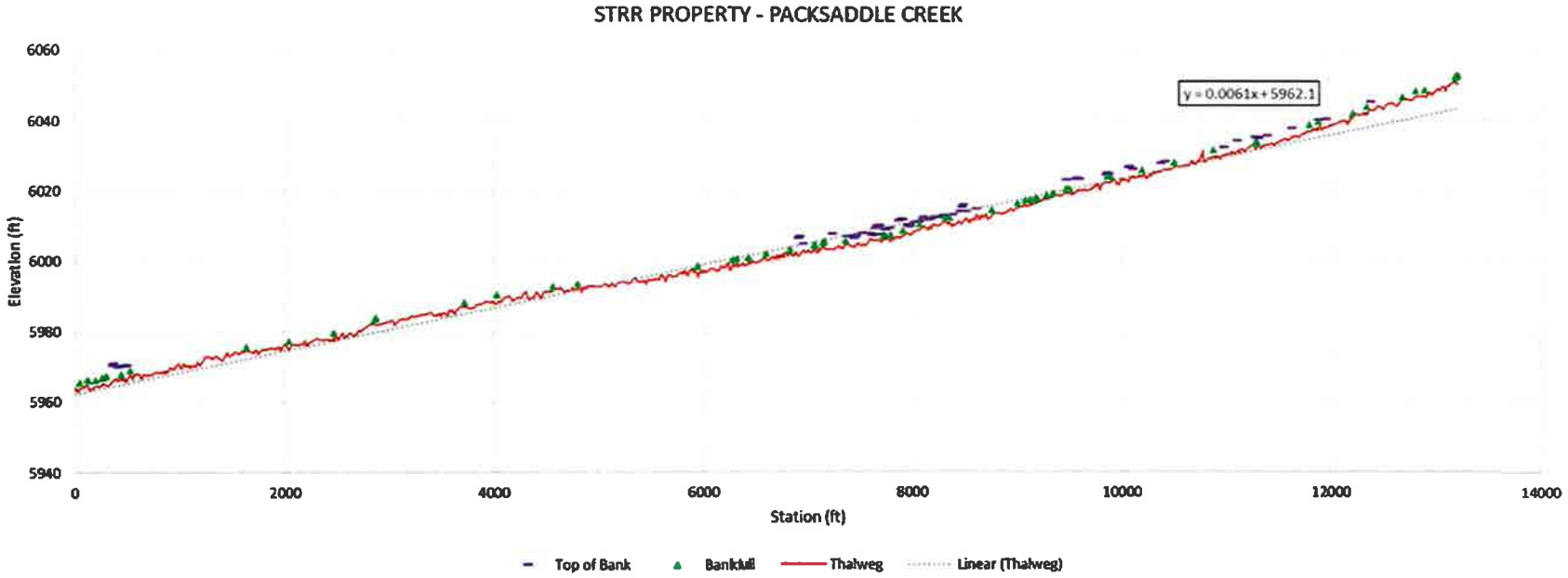
STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

SCALE: 1 INCH = 75 FT
UNITS: US FOOT
BASEMAP: 2023 IMAGERY

SHEET 11

ATTACHMENT C



ATTACHMENT C

Biota research & consulting inc
POBOX 8578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
LONG PROFILE

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

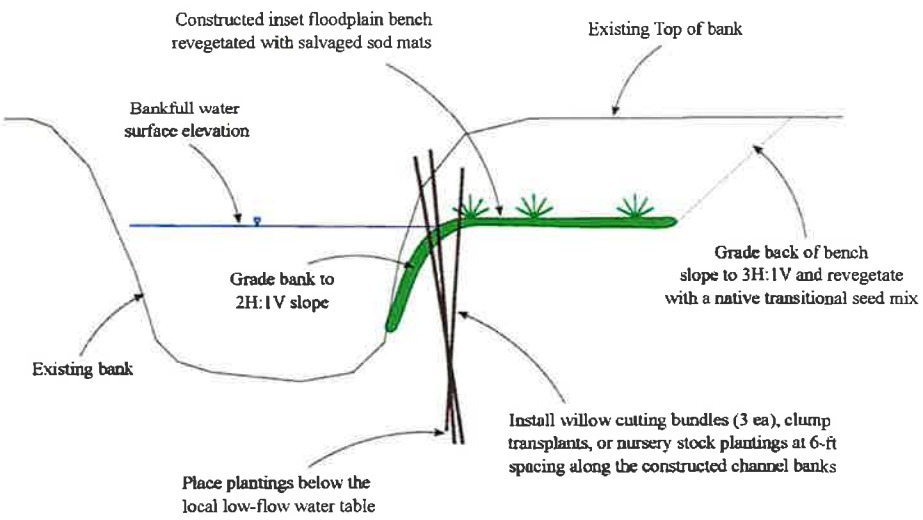
SCALE: 1 INCH = NA

UNITS: US FOOT

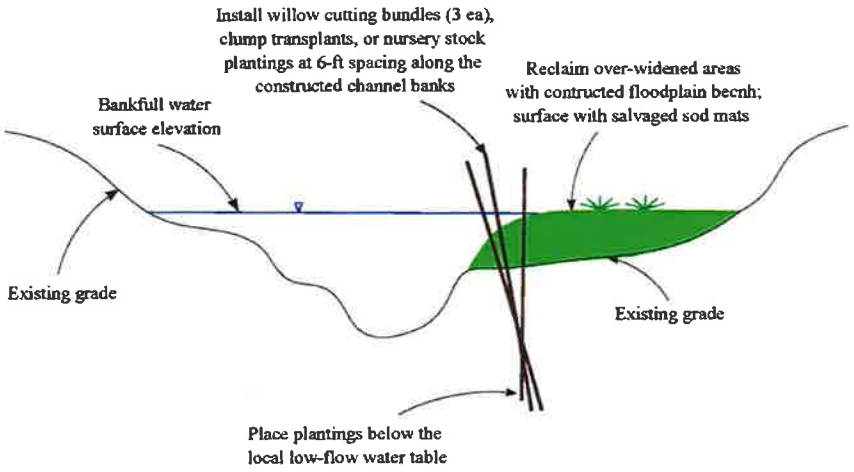
BASEMAP: NA

SHEET 12

BANK TREATMENT A



BANK TREATMENT B



Construction Notes:

The Packsaddle Creek bank stabilization treatments include the construction of a floodplain bench stabilized with sod mats. The sod mats will be transplanted from a nearby area, identified by the design consultatnt. The primary method for bench construction will be excavation salvage areas to be identified prior to construction. The bench construction in relatively narrow, incised sections will occur through excavation (Bank Treatment A). The slope from the constructed bench to existing will be at 3H:1V gradient and revegetated with a transitional native seed mix. Bench construction through the placement of sod mats (fill) will occur in over-widened areas (Bank Treatment B). The bench width shall vary from 3 to 10 ft depending on site conditions. Constructed channel banks will be at 2H:1V slope.

The Packsaddle Creek bank stabilization treatments shall include the installation of dormant willow cuttings, clump transplants, or containerized nursery stock plantings. The willow cuttings shall be harvested from healthy vigorous plants during the dormant season. Cuttings shall have an approximate bottom diameter of 1-inch, and length of 7 ft. Cuttings shall be soaked in water for 7+ days prior to installation. Cutting bundles (3 each) shall be placed at a 5-10 ft spacing along the channel lbanks with butt ends down to below the local groundwater table and extending 1 to 2 ft above the ground surface.

POBOX 8578 140 E. BROADWAY STE 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
BANK TREATMENT TYPE A & B

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

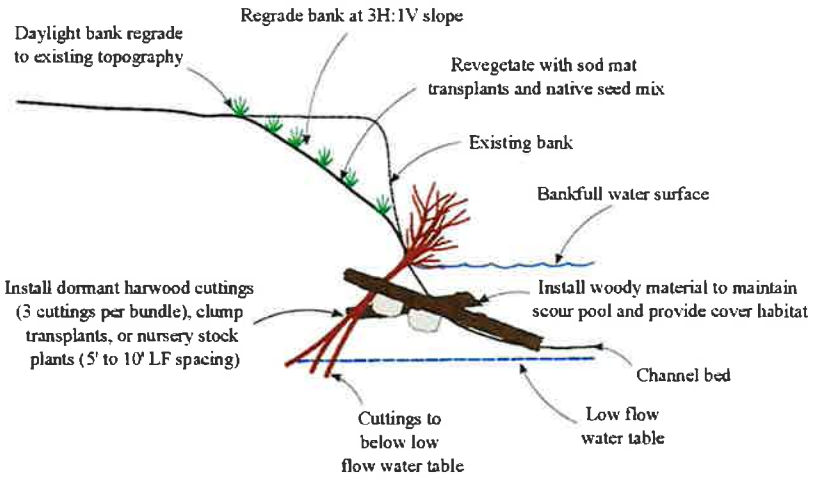
REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

SCALE: 1 INCH = NA
UNITS: US FOOT
BASEMAP: NA

SHEET 13

ATTACHMENT C

BANK TREATMENT C



EXAMPLE PHOTOS - BANK TREATMENT C

POBOX 6578 140 E. BROADWAY STE. 23
JACKSON WY, 83002 307-733-4216

PACKSADDLE CREEK
BANK TREATMENT TYPE C

STRR LLC PROPERTY
PACKSADDLE CREEK
TETON COUNTY, ID

REV	DATE	BY	DESC
0	2/28/24	PC	PERMIT

SCALE: 1 INCH = NA
UNITS: US FOOT
BASEMAP: NA

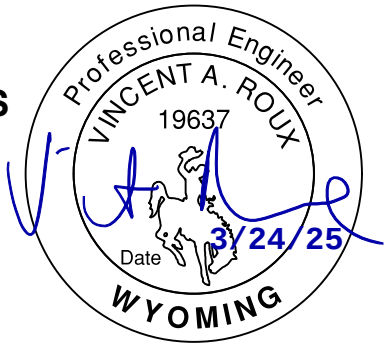
SHEET 14

ATTACHMENT C

EDDYLINE RANCH IMPROVEMENTS

ENGINEER'S OPINION OF PROBABLE COST

Monday, March 24, 2025



Prepared for: STRR
Prepared by Harmony Design & Engineering
Project # 23047

Line Item	Description	Quantity	Unit	Unit Price (Labor + Materials)	Total
1	Equipment Mobilization & Demobilization	1	LS	$20,000.00	$20,000.00
2	Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
3	Construction Traffic Control	1	LS	$10,000.00	$10,000.00
4	Construction Staking Survey	1	LS	$15,000.00	$15,000.00
5	Clearing and Grubbing	11	AC	$5,000.00	$55,000.00
6	Strip topsoil/Road excavation/Replace topsoil	18,575	CY	$25.00	$464,375.00
7	18" Storm CMP with excavation, bedding, backfill	720	LF	$100.00	$72,000.00
8	Crushed 3/4" minus aggragate road base, provide, place, shape, compact (6")	6,489	CY	$20.00	$129,780.00
9	Compacted granular subbase (16")	19,391	CY	$10.00	$193,910.00
10	Fire pond liner and backfill	100,000	SF	$4.00	$400,000.00
11	Dry hydrant assembly and piping	1	LS	$10,000.00	$10,000.00
12	Fire pond well	1	LS	$20,000.00	$20,000.00
13	Power and fiber lines - trenching, conduit, transformers, pedestals.	15,928	LF	$20.00	$318,560.00
14	Revegetation	1	LS	$15,000.00	$15,000.00
15	Traffic signs, stop and street names	10	EA	$750.00	$7,500.00
16	Bridges	1	LS	$160,000.00	$160,000.00
17	Bridge abutments	1	LS	$50,000.00	$50,000.00
				Total	**$1,946,125.00**

25% of Total for surety	$486,531.25
TOTAL SURETY	$2,432,656.25

Assumptions:

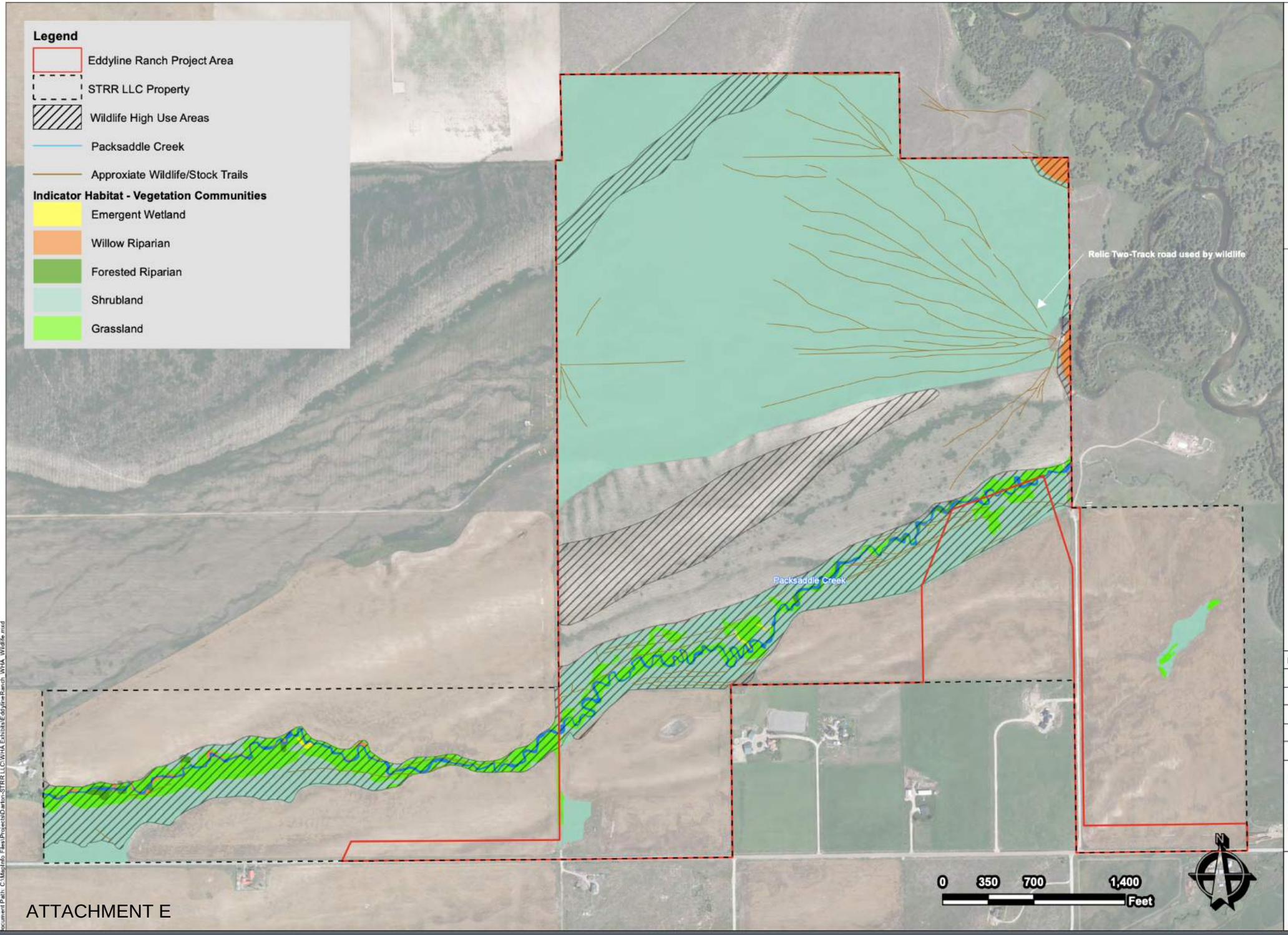
1. *Crushed aggregate and granular subbase materials are excavated from the pond and generated onsite.*
2. *Excavated spoils will not be exported - all excess soil will be distributed onsite.*

NOTICE:

This opinion of probable cost has been prepared solely as a general reference document for the information of the Client listed above. This opinion of probable cost has not been prepared by a cost estimator or contractor opinion of probable cost has been fashioned in part to help meet the unique needs of the Client. Reliance on this opinion by any party other than Client is expressly forbidden, except with the express written permission of the Client and Harmony Design, Inc.

ATTACHMENT D

HARMONY DESIGN & ENGINEERING



research & consulting inc.
Biota
PO Box 8578, 140 E. Broadway, Suite 23 Jackson, WY 83002

Priority Habitat and Species Mapping

Eddyline Ranch Project Area
Teton County, Idaho

REV.	DATE	BY	DESC
A	03-28-2024	CK	WHA

SCALE: 1" = 700'

UNITS: US FOOT

BASEMAP SOURCE:
2021 NAIP Imagery

EXHIBIT 6

ATTACHMENT E

Document Path: C:\MacInfo Files\Projects\Darton-STRR LLC\WHA Exhibits\EddylineRanch_WHA_Wildlife.mxd