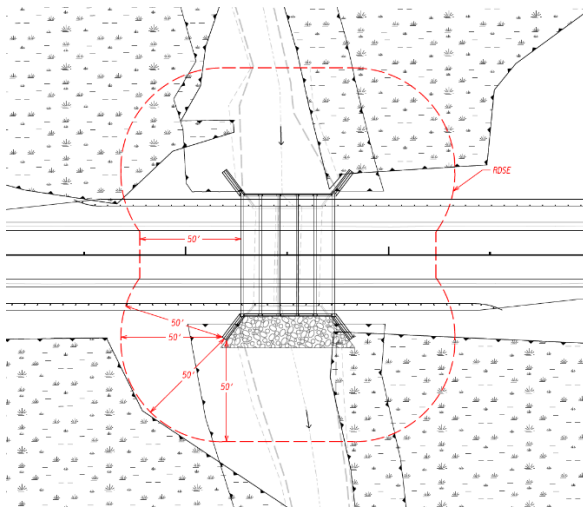


Impact Example Plan Sheets

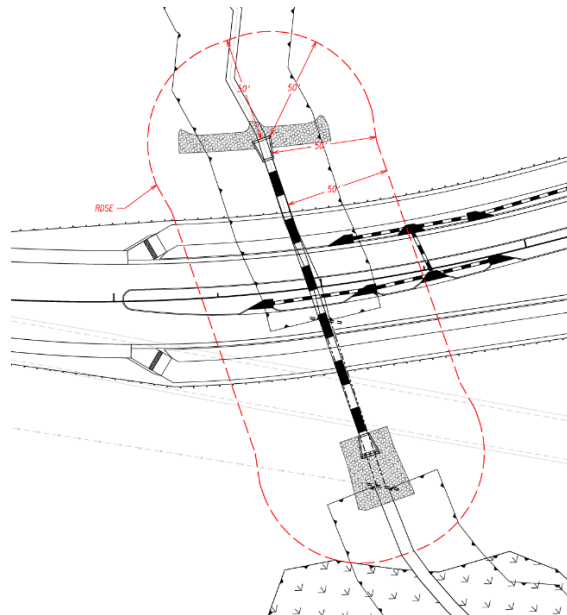
The intent of the Impact Plan Sheet Toolkit is to provide guidance on how impacts to waters of the U.S. (WOTUS) and state-mandated buffers should be measured, classified, highlighted, and labeled on plan sheets submitted with Georgia Department of Transportation (GDOT) Ecology Resource Survey and Assessment of Effects Reports (ERS AOE), ERS AOE Addenda, U.S. Army Corps of Engineers (USACE) Section 404 Clean Water Act Pre-Construction Notifications (PCNs) and Individual Permit applications, and Georgia Environmental Protection Division (EPD) buffer variance applications to facilitate agency review, as well as GDOT QA/QC review, of such documents. The Impact Plan Sheet Toolkit also shows how orange barrier fencing (OBF) should typically be drawn to avoid or minimize impacts to WOTUS and state-mandated buffers where practicable.

In addition, the Impact Plan Sheet Toolkit demonstrates how roadway drainage structure exemption (RDSE) areas--applicable to state-mandated buffer encroachments--should be drawn for bridges and culverts on GDOT projects. RDSE areas should be buffered 50 feet around the entire culvert (including wing walls) and 100 feet around bridge structures, as shown in the following examples.

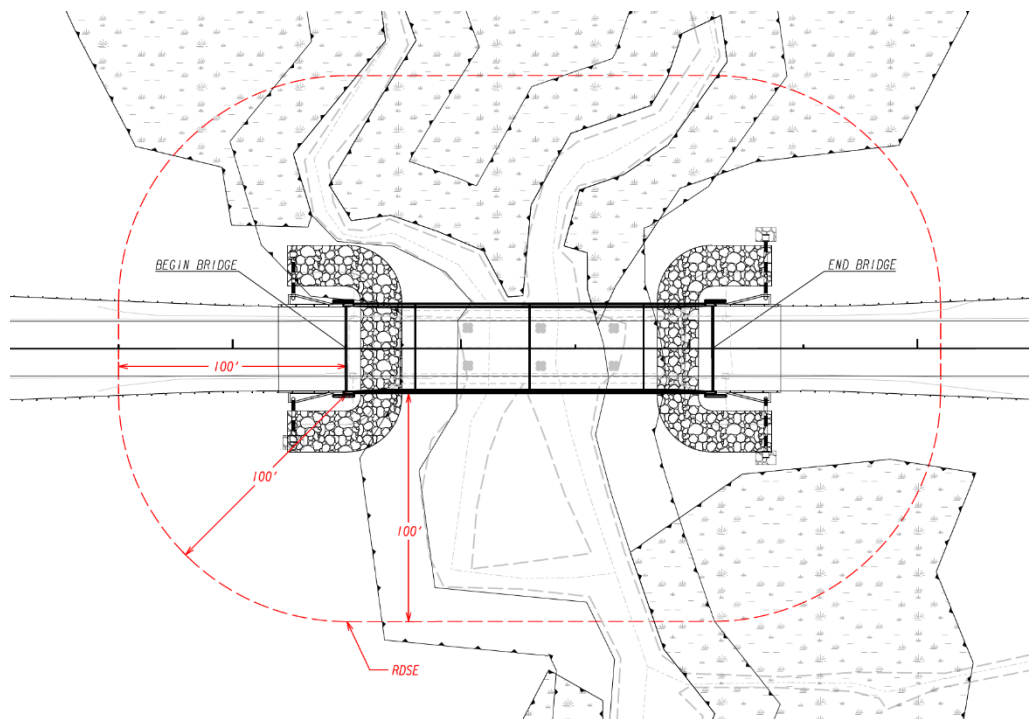
Example 1. Box Culvert RDSE Area



Example 2. Pipe Culvert RDSE Area



Example 3. Bridge RDSE Area



Please note that non-exempt disturbances to state-mandated buffers are not to be highlighted on plans submitted with an ERS AOE, Addendum, or USACE permit applications. The highlighted and labeled non-exempt buffer disturbances provide examples of how plan sheets should be submitted with an EPD buffer variance application. Please refer to the Buffer Variance Guidebook for more information regarding determining non-exempt buffer disturbances and buffer variance exemptions (e.g., RDSE).

Please note that these plan sheets are only examples and do not cover all possible scenarios of impacts, OBF usage, and RDSE areas that may occur on GDOT projects. Please contact the GDOT Ecologist or Ecology Team Leader if unsure of how impacts should be measured, classified, highlighted or labeled; or how OBF or RDSE areas should be drawn on plan sheets.

User notes included in blue font on the Impact Example Plan Sheets are intended only to provide guidance and/or clarification, and should not be included in plans submitted with an ecology document, Section 404 PCN or permit application, or buffer variance application. Notes in black font are examples of typical plan notes included on GDOT project plans by Design for use by the construction or maintenance contractor. However, as warranted, the Ecologist shall coordinate with Design to ensure all such plan notes are accurate and sufficient as they pertain to ecological resources of concern, or to activities affecting (or, having a potential to affect) ecological resources of concern. The Ecologist shall also coordinate with the Design Engineer, as needed, to ensure that Environmentally Sensitive Area (ESA) labels and line types are properly depicted on project plans.

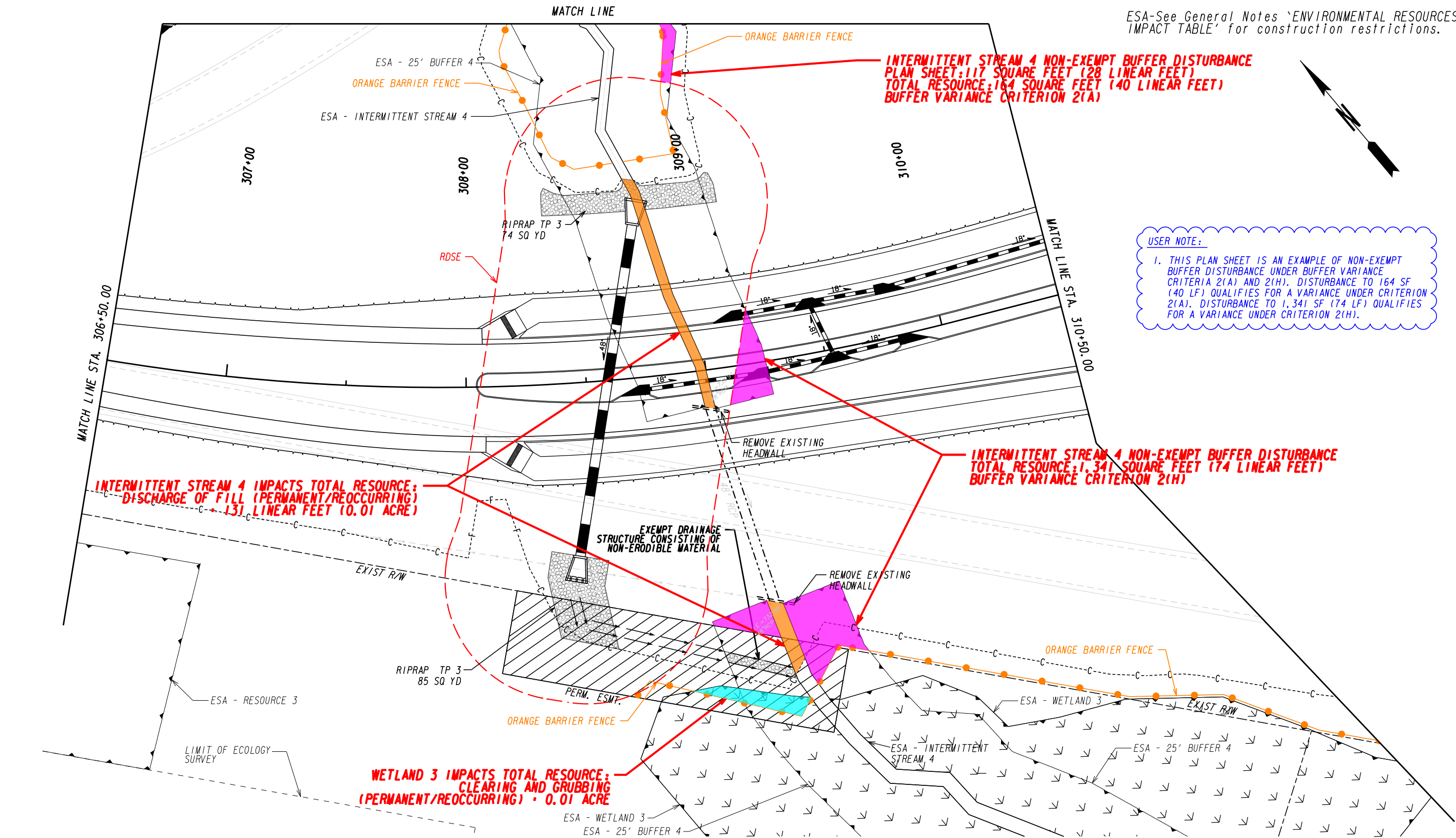


ORANGE BARRIER FENCE

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EX-001

EXAMPLE IMPACT SHEET FOR PERMITTING GUIDANCE
NOT FOR CONSTRUCTION



ESA-See General Notes 'ENVIRONMENTAL RESOURCES IMPACT TABLE' for construction restrictions.

USER NOTE:
1. THIS PLAN SHEET IS AN EXAMPLE OF NON-EXEMPT BUFFER DISTURBANCE UNDER BUFFER VARIANCE CRITERIA 2(A) AND 2(H). DISTURBANCE TO 164 SF (40 LF) QUALIFIES FOR A VARIANCE UNDER CRITERION 2(A). DISTURBANCE TO 1,341 SF (74 LF) QUALIFIES FOR A VARIANCE UNDER CRITERION 2(H).

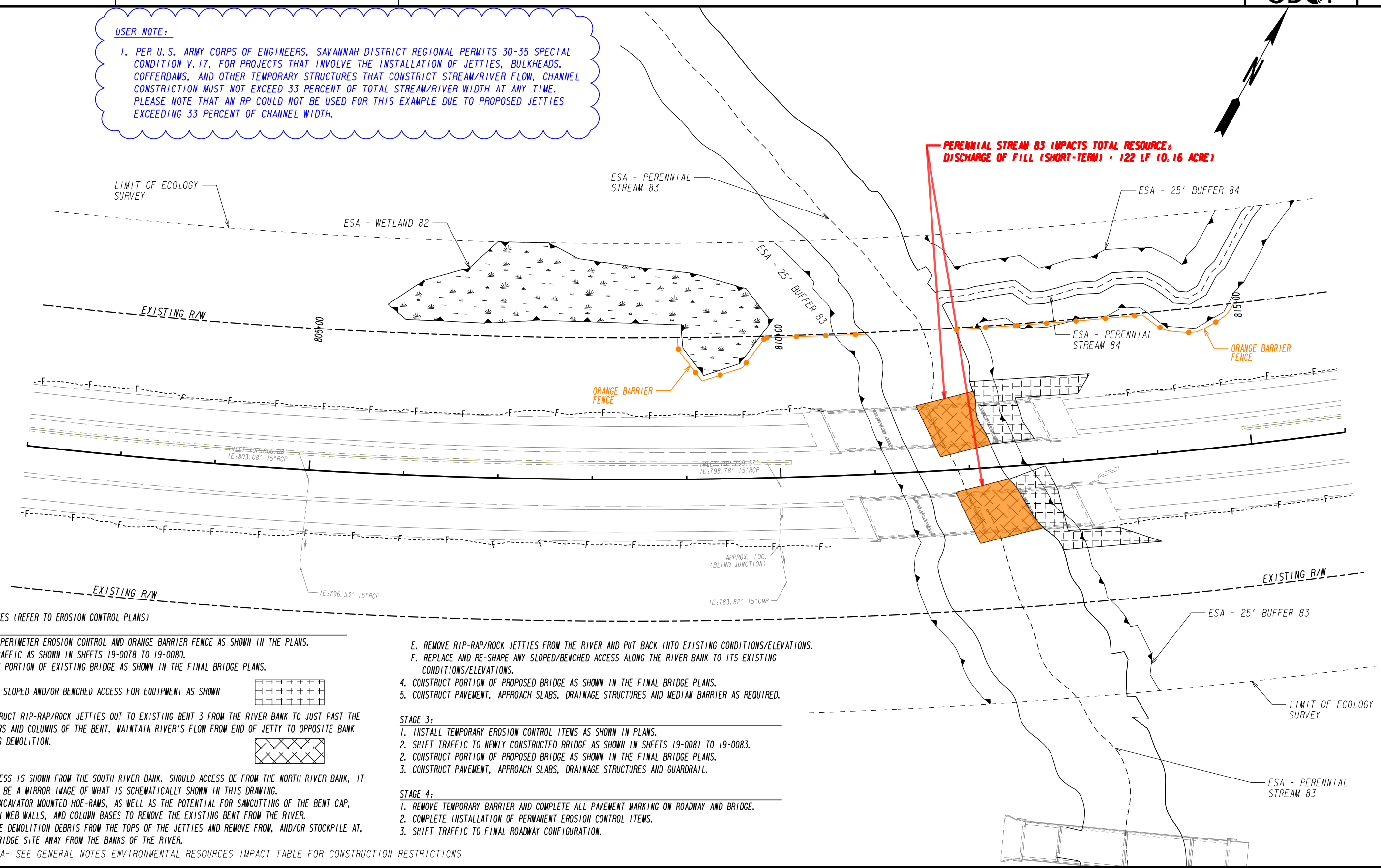
PROPERTY AND EXISTING R/W LINE REQUIRED R/W LINE CONSTRUCTION LIMITS EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES EASEMENT FOR CONSTR OF SLOPES EASEMENT FOR CONSTR OF DRIVES		ORANGE BARRIER FENCE ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE) LIMIT OF ECOLOGY SURVEY RDSE - ROADWAY DRAINAGE STRUCTURE EXEMPTION AREA		DISCHARGE OF FILL IMPACTS CLEARING AND GRUBBING IMPACTS NON-EXEMPT BUFFER DISTURBANCE		REVISION DATES		INTERMITTENT STREAM CULVERT REPLACEMENT			
								CHECKED: BACKCHECKED: CORRECTED: VERIFIED:	DATE: DATE: DATE: DATE:	DRAWING No. EX-002	

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EXAMPLE IMPACT SHEET FOR PERMITTING GUIDANCE
NOT FOR CONSTRUCTION

USER NOTE:

1. PER U.S. ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT REGIONAL PERMITS 30-35 SPECIAL CONDITION V.17, FOR PROJECTS THAT INVOLVE THE INSTALLATION OF JETTIES, BULKHEADS, COFFERDAMS, AND OTHER TEMPORARY STRUCTURES THAT CONSTRICT STREAM/RIVER FLOW, CHANNEL CONSTRUCTION MUST NOT EXCEED 33 PERCENT OF TOTAL STREAM/RIVER WIDTH AT ANY TIME. PLEASE NOTE THAT AN RP COULD NOT BE USED FOR THIS EXAMPLE DUE TO PROPOSED JETTIES EXCEEDING 33 PERCENT OF CHANNEL WIDTH.



- STAGING NOTES (REFER TO EROSION CONTROL PLANS)
- STAGE 2:
- 1. INSTALL PERIMETER EROSION CONTROL AND ORANGE BARRIER FENCE AS SHOWN IN THE PLANS.
 - 2. SHIFT TRAFFIC AS SHOWN IN SHEETS 19-0078 TO 19-0080.
 - 3. DEMOLISH PORTION OF EXISTING BRIDGE AS SHOWN IN THE FINAL BRIDGE PLANS.
- A. BUILD SLOPED AND/OR BENCHED ACCESS FOR EQUIPMENT AS SHOWN
- B. CONSTRUCT RIP-RAP/ROCK JETTIES OUT TO EXISTING BENT 3 FROM THE RIVER BANK TO JUST PAST THE FOOTERS AND COLUMNS OF THE BENT. MAINTAIN RIVER'S FLOW FROM END OF JETTY TO OPPOSITE BANK DURING DEMOLITION.
- *ACCESS IS SHOWN FROM THE SOUTH RIVER BANK. SHOULD ACCESS BE FROM THE NORTH RIVER BANK, IT WILL BE A MIRROR IMAGE OF WHAT IS SCHEMATICALLY SHOWN IN THIS DRAWING.
- C. USE EXCAVATOR MOUNTED HOE-RAMS, AS WELL AS THE POTENTIAL FOR SAWCUTTING OF THE BENT CAP, COLUMN WEB WALLS, AND COLUMN BASES TO REMOVE THE EXISTING BENT FROM THE RIVER.
- D. REMOVE DEMOLITION DEBRIS FROM THE TOPS OF THE JETTIES AND REMOVE FROM, AND/OR STOCKPILE AT, THE BRIDGE SITE AWAY FROM THE BANKS OF THE RIVER.
- ESA- SEE GENERAL NOTES ENVIRONMENTAL RESOURCES IMPACT TABLE FOR CONSTRUCTION RESTRICTIONS

- E. REMOVE RIP-RAP/ROCK JETTIES FROM THE RIVER AND PUT BACK INTO EXISTING CONDITIONS/ELEVATIONS.
- F. REPLACE AND RE-SHAPE ANY SLOPED/BENCHED ACCESS ALONG THE RIVER BANK TO ITS EXISTING CONDITIONS/ELEVATIONS.
4. CONSTRUCT PORTION OF PROPOSED BRIDGE AS SHOWN IN THE FINAL BRIDGE PLANS.
5. CONSTRUCT PAVEMENT, APPROACH SLABS, DRAINAGE STRUCTURES AND MEDIAN BARRIER AS REQUIRED.
- STAGE 3:
- 1. INSTALL TEMPORARY EROSION CONTROL ITEMS AS SHOWN IN PLANS.
 - 2. SHIFT TRAFFIC TO NEWLY CONSTRUCTED BRIDGE AS SHOWN IN SHEETS 19-0081 TO 19-0083.
 - 2. CONSTRUCT PORTION OF PROPOSED BRIDGE AS SHOWN IN THE FINAL BRIDGE PLANS.
 - 3. CONSTRUCT PAVEMENT, APPROACH SLABS, DRAINAGE STRUCTURES AND GUARDRAIL.
- STAGE 4:
- 1. REMOVE TEMPORARY BARRIER AND COMPLETE ALL PAVEMENT MARKING ON ROADWAY AND BRIDGE.
 - 2. COMPLETE INSTALLATION OF PERMANENT EROSION CONTROL ITEMS.
 - 3. SHIFT TRAFFIC TO FINAL ROADWAY CONFIGURATION.

PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR
& MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

ORANGE BARRIER FENCE

ESA - ENV. SENSITIVE AREA
(SEE ERIT TABLE)

LIMIT OF ECOLOGY
SURVEY

DISCHARGE OF FILL IMPACTS

SCALE IN FEET

050100200

REVISION DATES

SHORT-TERM WORK JETTIES

STAGING DETAILS

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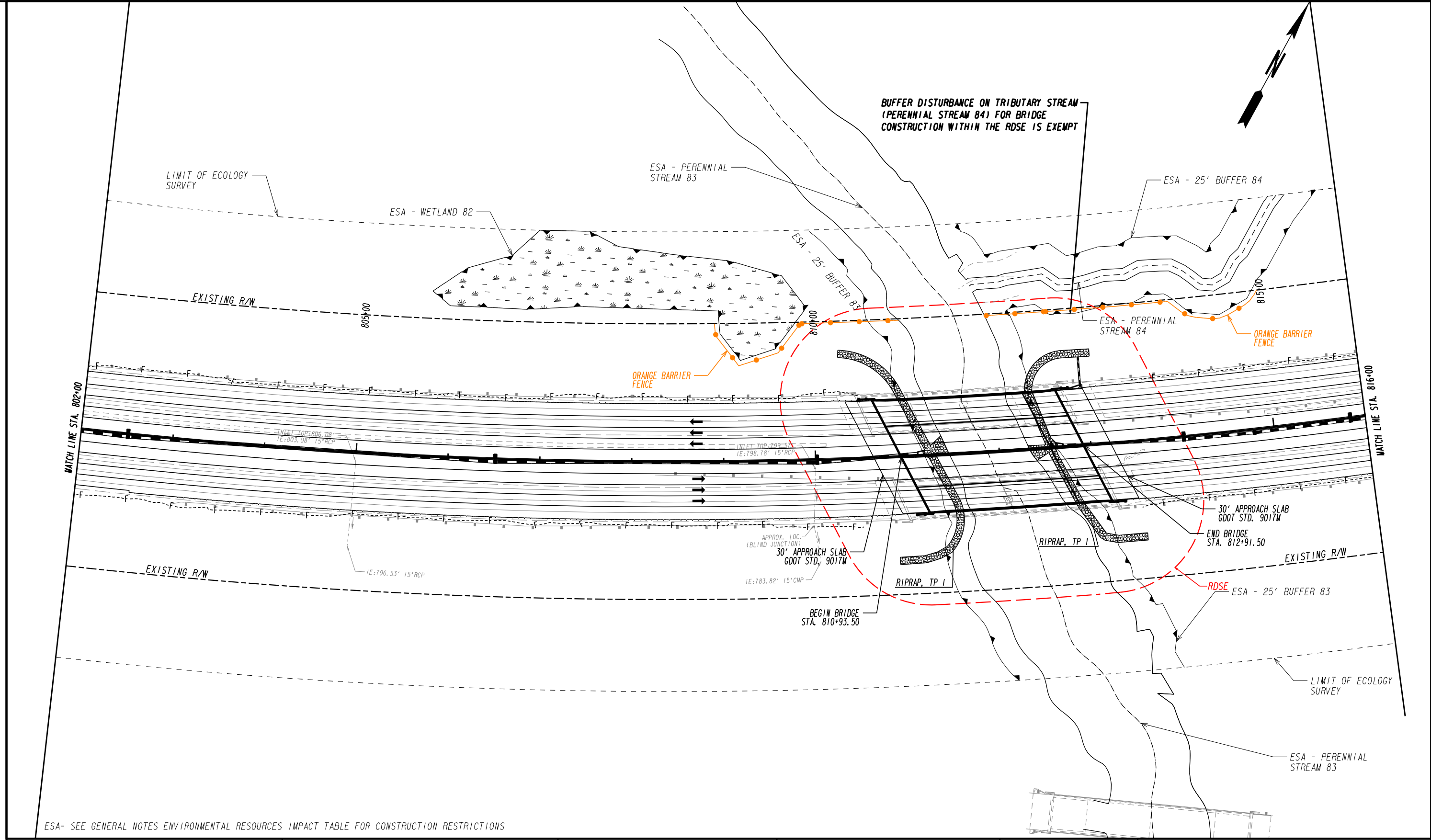
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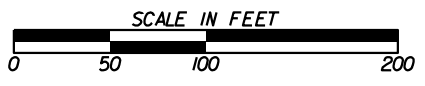
EX-004

EXAMPLE IMPACT SHEET FOR PERMITTING GUIDANCE
NOT FOR CONSTRUCTION



ESA- SEE GENERAL NOTES ENVIRONMENTAL RESOURCES IMPACT TABLE FOR CONSTRUCTION RESTRICTIONS

PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	---
EASEMENT FOR CONSTR OF SLOPES	---
EASEMENT FOR CONSTR OF DRIVES	---
ORANGE BARRIER FENCE	---
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	---
LIMIT OF ECOLOGY SURVEY	---
RDSE - ROADWAY DRAINAGE STRUCTURE EXEMPTION AREA	---

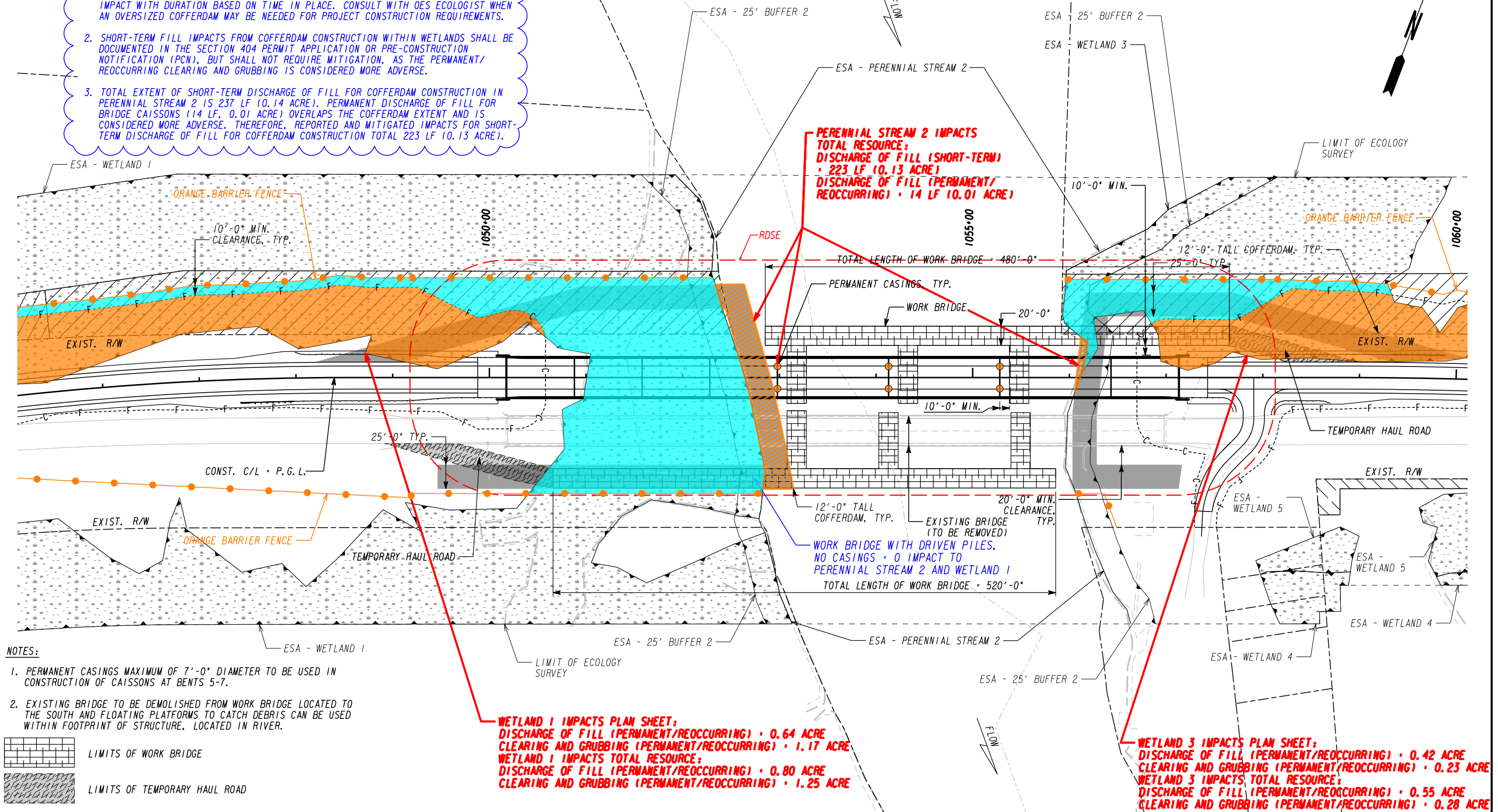


REVISION DATES				BRIDGE REPLACEMENT - PERENNIAL STREAM			
				CONSTRUCTION PLAN			
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VERIFIED:		DATE:					

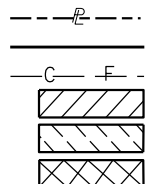
USER NOTES:

1. THIS IS AN EXAMPLE OF AN OVERSIZED COFFERDAM THAT MAY BE NEEDED TO CREATE A LARGER DRY WORK AREA. COFFERDAM PLACEMENT WOULD BE CONSIDERED A TEMPORARY IMPACT WITH DURATION BASED ON TIME IN PLACE. CONSULT WITH OES ECOLOGIST WHEN AN OVERSIZED COFFERDAM MAY BE NEEDED FOR PROJECT CONSTRUCTION REQUIREMENTS.
2. SHORT-TERM FILL IMPACTS FROM COFFERDAM CONSTRUCTION WITHIN WETLANDS SHALL BE DOCUMENTED IN THE SECTION 404 PERMIT APPLICATION OR PRE-CONSTRUCTION NOTIFICATION (PCN), BUT SHALL NOT REQUIRE MITIGATION, AS THE PERMANENT/ REOCCURRING CLEARING AND GRUBBING IS CONSIDERED MORE ADVERSE.
3. TOTAL EXTENT OF SHORT-TERM DISCHARGE OF FILL FOR COFFERDAM CONSTRUCTION IN PERENNIAL STREAM 2 IS 237 LF (0.14 ACRE). PERMANENT DISCHARGE OF FILL FOR BRIDGE CAISSONS (14 LF, 0.01 ACRE) OVERLAPS THE COFFERDAM EXTENT AND IS CONSIDERED MORE ADVERSE. THEREFORE, REPORTED AND MITIGATED IMPACTS FOR SHORT-TERM DISCHARGE OF FILL FOR COFFERDAM CONSTRUCTION TOTAL 223 LF (0.13 ACRE).

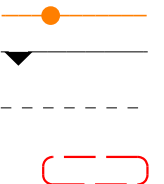
ESA - SEE ENVIRONMENTAL RESOURCES IMPACT TABLE
IN GENERAL NOTES FOR CONSTRUCTION RESTRICTIONS



PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR
& MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES



ORANGE BARRIER FENCE
ESA - ENV. SENSITIVE AREA
(SEE ERIT TABLE)
LIMIT OF ECOLOGY
SURVEY
RDSE - ROADWAY DRAINAGE STRUCTURE
EXEMPTION AREA



DISCHARGE OF FILL IMPACTS
CLEARING AND GRUBBING IMPACTS
UP TO 12' TALL 25' WIDE
COFFERDAM



REVISION DATES

BRIDGE REPLACEMENT - PERENNIAL STREAM
AND WETLANDS
CONSTRUCTION STAGING DETAILS
CAISSON ALTERNATIVE NO. 1

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EX-006

EXAMPLE IMPACT SHEET FOR PERMITTING GUIDANCE
NOT FOR CONSTRUCTION

USER NOTES:

-

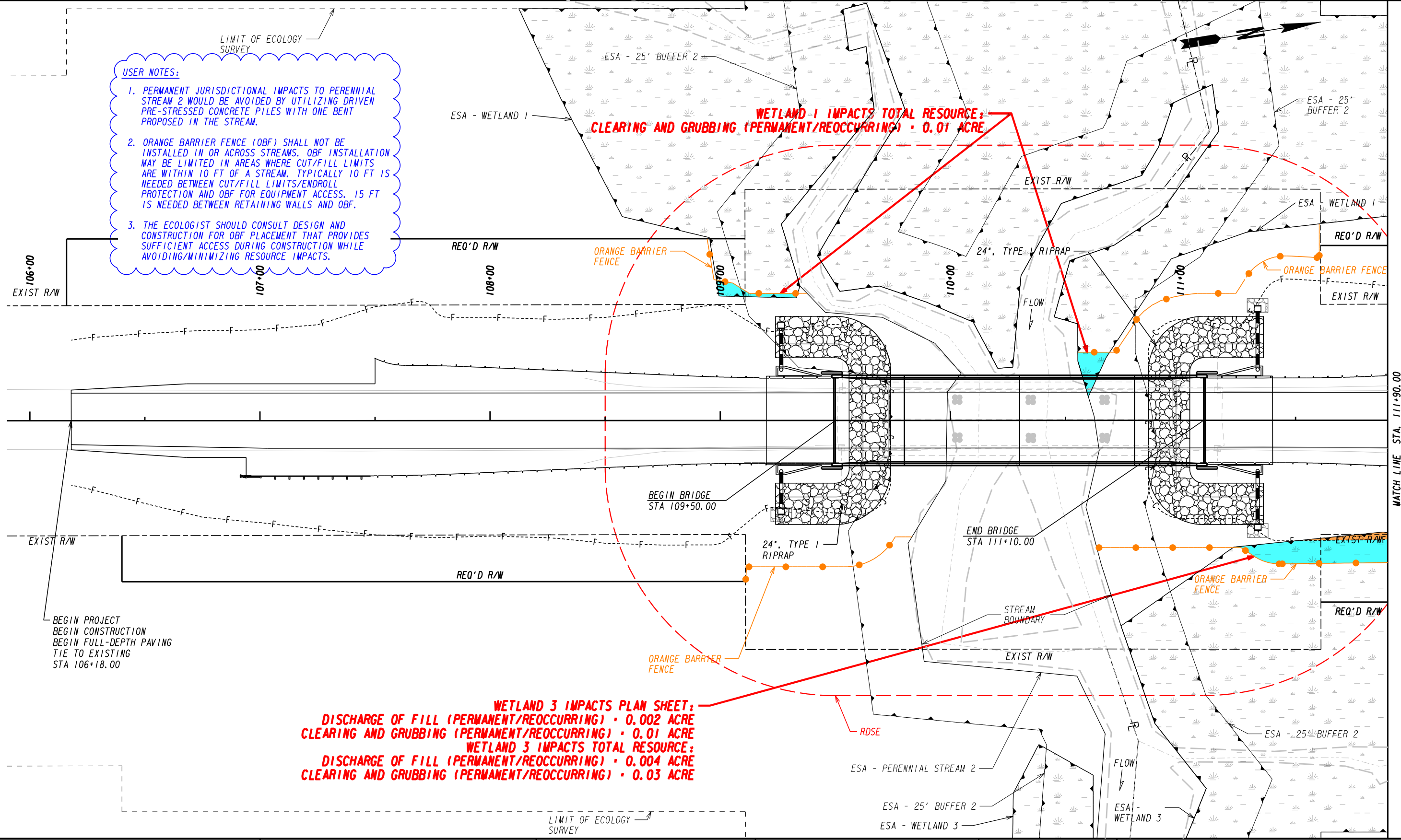


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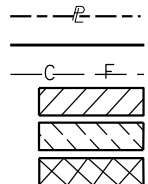
EXAMPLE IMPACT SHEET FOR PERMITTING GUIDANCE
NOT FOR CONSTRUCTION

USER NOTES:

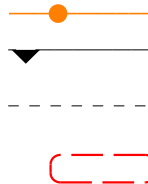
1. PERMANENT JURISDICTIONAL IMPACTS TO PERENNIAL STREAM 2 WOULD BE AVOIDED BY UTILIZING DRIVEN PRE-STRESSED CONCRETE PILES WITH ONE BENT PROPOSED IN THE STREAM.
2. ORANGE BARRIER FENCE (OBF) SHALL NOT BE INSTALLED IN OR ACROSS STREAMS. OBF INSTALLATION MAY BE LIMITED IN AREAS WHERE CUT/FILL LIMITS ARE WITHIN 10 FT OF A STREAM. TYPICALLY 10 FT IS NEEDED BETWEEN CUT/FILL LIMITS/ENDROLL PROTECTION AND OBF FOR EQUIPMENT ACCESS. 15 FT IS NEEDED BETWEEN RETAINING WALLS AND OBF.
3. THE ECOLOGIST SHOULD CONSULT DESIGN AND CONSTRUCTION FOR OBF PLACEMENT THAT PROVIDES SUFFICIENT ACCESS DURING CONSTRUCTION WHILE AVOIDING/MINIMIZING RESOURCE IMPACTS.



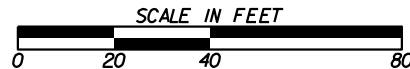
PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR
& MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES



ORANGE BARRIER FENCE
ESA - ENV. SENSITIVE AREA
(SEE ERIT TABLE)
LIMIT OF ECOLOGY
SURVEY
RDSE - ROADWAY DRAINAGE STRUCTURE
EXEMPTION AREA



DISCHARGE OF FILL IMPACTS
CLEARING AND GRUBBING IMPACTS

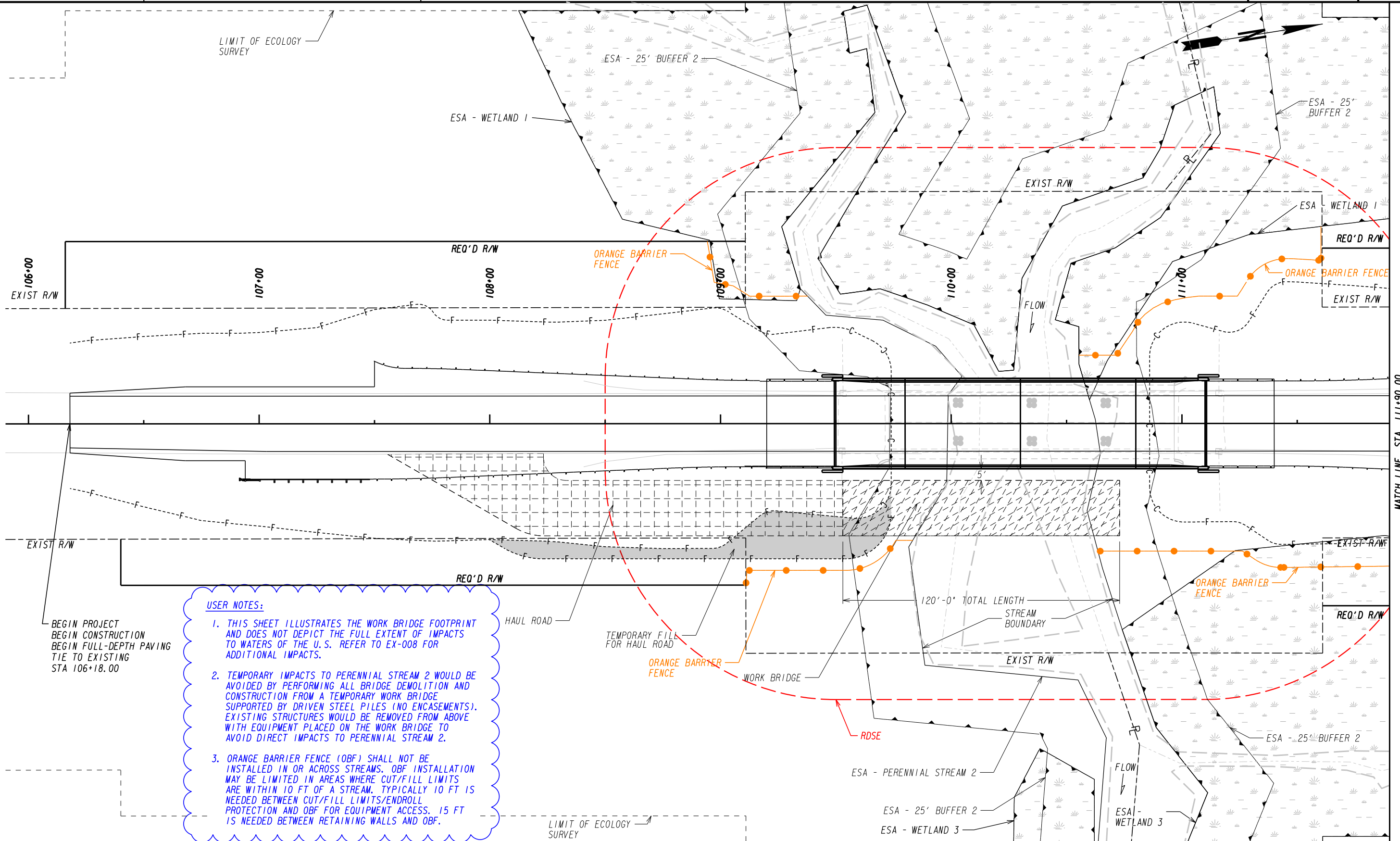


REVISION DATES

BRIDGE REPLACEMENT

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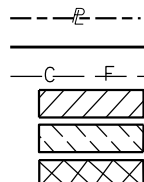
EXAMPLE IMPACT SHEET FOR PERMITTING GUIDANCE
NOT FOR CONSTRUCTION



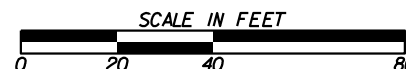
USER NOTES:

1. THIS SHEET ILLUSTRATES THE WORK BRIDGE FOOTPRINT AND DOES NOT DEPICT THE FULL EXTENT OF IMPACTS TO WATERS OF THE U.S. REFER TO EX-008 FOR ADDITIONAL IMPACTS.
2. TEMPORARY IMPACTS TO PERENNIAL STREAM 2 WOULD BE AVOIDED BY PERFORMING ALL BRIDGE DEMOLITION AND CONSTRUCTION FROM A TEMPORARY WORK BRIDGE SUPPORTED BY DRIVEN STEEL PILES (NO ENCASEMENTS). EXISTING STRUCTURES WOULD BE REMOVED FROM ABOVE WITH EQUIPMENT PLACED ON THE WORK BRIDGE TO AVOID DIRECT IMPACTS TO PERENNIAL STREAM 2.
3. ORANGE BARRIER FENCE (OBF) SHALL NOT BE INSTALLED IN OR ACROSS STREAMS. OBF INSTALLATION MAY BE LIMITED IN AREAS WHERE CUT/FILL LIMITS ARE WITHIN 10 FT OF A STREAM. TYPICALLY 10 FT IS NEEDED BETWEEN CUT/FILL LIMITS/ENDROLL PROTECTION AND OBF FOR EQUIPMENT ACCESS. 15 FT IS NEEDED BETWEEN RETAINING WALLS AND OBF.

PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR
& MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES



ORANGE BARRIER FENCE
ESA - ENV. SENSITIVE AREA
(SEE ERIT TABLE)
LIMIT OF ECOLOGY
SURVEY
RDSE - ROADWAY DRAINAGE STRUCTURE
EXEMPTION AREA



REVISION DATES

BRIDGE REPLACEMENT

STAGING DETAILS

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