Public Notice

US ARMY CORPS OF ENGINEERS
St. Louis District
Gateway to Excellence

Reply To:
U.S. Army Corps of Engineers
Attn: CEMVS-OD-F
1222 Spruce Street

Public Notice No.
MVS-2019-586
Public Notice Date
May 6, 2020
Expiration Date
June 4, 2020

Postmaster Please Post Conspicuously Until:

File Number: MVS-2019-586

Interested parties are hereby notified that the Land Learning Foundation (Sponsor) has requested under their In-Lieu-Fee (ILF) Program Instrument and corresponding amendment; approval for an ILF mitigation project pursuant to 33 CFR 332 and 40 CFR 230 Compensatory Mitigation for Losses of Aquatic Resource; Final Rule (Federal Register / Vol. 73, No. 70 Pages 19594-19705, April 10, 2008).

COMMENTS AND ADDITIONAL INFORMATION: All comments related to this ILF mitigation project and/or requests for public hearing must reach this office no later than the expiration date of the Public Notice to become part of the record and be considered in the decision. Comments should be mailed to the following address:

U.S. Army Corps of Engineers
Regulatory Branch
1222 Spruce Street
St. Louis, Missouri 63103-2833
ATTN: Mr. David Meyer

IN-LIEU FEE SPONSOR: Land Learning Foundation
P.O.C. Mr. Larry Pollard
P.O. Box 55
Keytesville, MO 65261

LOCATION: The Sponsor proposes this ILF mitigation project (Indian Creek Site) within the Ozark/Meramec Ecological Drainage Unit (EDU). The subject site consists of approximately 41.6+/- acres and contains both sides of Indian Creek. The proposed mitigation site is located on Indian Creek, which originates in Washington County, Missouri and flows north to join the Meramec River, less than one mile downstream of the proposed mitigation site. Indian Creek is a 4th order stream, and its watershed area is approximately 100,000 acres. Indian Creek's watershed area represents about 7% of the total watershed of the Meramec River. The site is located at 38°15'39.5"N 90°56'29.7"W just south of St. Clair, MO in Franklin County.

PROJECT DESCRIPTION: The Sponsor seeks approval from the U.S. Army Corps of Engineers (the Corps) and the Interagency Review Team (IRT); which is composed of representatives from the U.S. Environmental Protection Agency, U.S. Fish & Wildlife Service, Missouri Department of Natural Resources, and Missouri Department of Conservation; to establish the Indian Creek project as an

authorized source of stream mitigation credit. The Sponsor would make the stream mitigation credit available to Department of the Army permittees seeking to fulfill requirements to purchase compensatory mitigation credit, to offset losses of aquatic functions and services. The mitigation project includes the preservation and restoration of forested riparian corridor, as well as the stabilization of highly eroded and incised channel bank.

The Sponsor proposes to restore, protect, and maintain 6,880 linear feet of perennial stream channel with wooded corridor. The restored and preserved corridor will generally extend 100-150 feet perpendicular from the channel banks. This consists of tree plantings and the removal of any invasive species.

The project consists of bank stabilization and riparian restoration and preservation. Three locations along Indian Creek exhibit active erosion, totaling over 4,700 linear feet in length. Bank stabilization will use a combination of bank shaping, rock vanes, longitudinal peaked stone toe protection, brush layering, and vegetative staking. A full technical description can be found in the attached stabilization plan.

The property owners will record a perpetual conservation easement on the mitigation site. The conservation easement will protect this reach of Indian Creek and its forested corridors from future clearing and other disturbances. The Sponsor will assume responsibility for long-term monitoring of the requirements of the conservation easement.

If approved by the Corps, the Indian Creek project will create a total potential credit release of 28,258.25 stream credits. Mitigation credits generated by this project will be released for debiting on an incremental basis, determined by the project's successful achievement of performance criteria as set forth in the ILF Program Instrument.

This ILF mitigation program does not preclude the requirement for any Section 404 permit applicant, who intends or is required to use stream credits generated by this mitigation project, to comply with Clean Water Act Section 404(b)(1) Guidelines; the National Environmental Policy Act; and our evaluation of probable impacts on public interest.

LOCATION MAPS AND DRAWINGS: See attached.

ADDITIONAL INFORMATION: Additional information may be obtained by contacting Mr. David Meyer, Project Manager, U.S. Army Corps of Engineers, at (314) 331-8810. Your inquiries may also be sent by e-mail to david.p.meyer@usace.army.mil.

AUTHORITY: This permit will be processed under Section 404 of the Clean Water Act (33 U.S.C. 1344).

ENDANGERED SPECIES: The proposed project is within the range of the federally endangered Indiana bat (***Myotis sodalis***), Gray bat (***Myotis grisescens***) and the Northern Long-eared bat (***Myotis septentrionalis***) that currently is a threatened species and is a proposed candidate for endangered status. Also, according to the Missouri Department of Conservation, there are occurrences of Spectaclecase (***Margaritifera monodonta***), (federally endangered) immediately downstream of the confluence of Indian Creek with the Meramec. There are additional occurrences throughout the reach in the Meramec River, both up- and downstream, as well as occurrences of Sheepnose (***Plethobasus cyphyus)***, federally endangered. A preliminary determination, in compliance with the Endangered Species Act, as amended, has been made that the work that is proposed would not affect species designated as threatened or endangered, or adversely affect

critical habitat. The Corps is coordinating with the U.S. Fish and Wildlife Service and the applicant is taking measures to minimize potential effects of the project during construction. In order to further complete our evaluation, written comments are solicited by this public notice from the U.S. Fish and Wildlife Service and other interested agencies and individuals.

CULTURAL RESOURCES: The ILF mitigation project will be evaluated for compliance with the National Historic Preservation Act of 1966 and 36 CFR 800. The St. Louis District will consider information provided by the State Historic Preservation Office, Federally-recognized tribes, and the public in response to the proposed mitigation project.

PUBLIC INTEREST REVIEW: The purpose of this public notice is to advise all interested parties of the proposed ILF project and to solicit comments. The decision to allow or deny the Sponsor to proceed with the mitigation project will be based on an evaluation of all comments received, and all relevant factors to the proposal, including the cumulative effects thereof. These factors include: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and the general needs and welfare of the people. The Corps is soliciting comments from the public; Federal, state, and local agencies and officials; Native American tribes; and other interested parties in order to consider and evaluate the proposed mitigation project.

PUBLIC HEARING: Any person may request, in writing, prior to the expiration date of this public notice, that a public hearing be held to consider this ILF mitigation proposal. Any request for a public hearing shall state, with particularity, the reason for the hearing, and must be based on issues that would warrant additional public review.

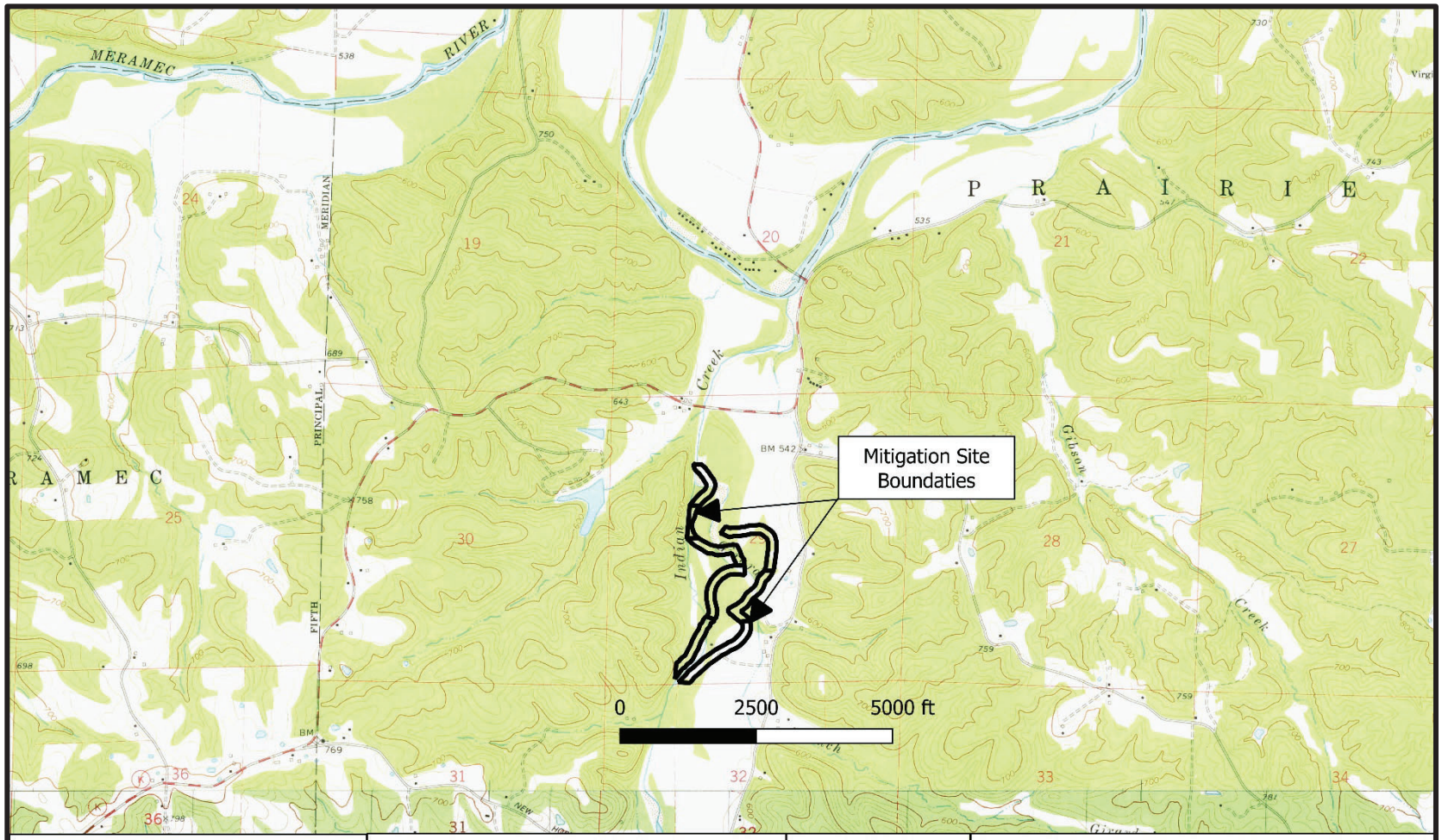
Robert S. Gramke

Robert S. Gramke
Chief, Regulatory Branch

Attachments

NOTICE TO POSTMASTERS:

The Corps requests that this notice be conspicuously and continually placed for 21 days from the date of this issuance of this notice.

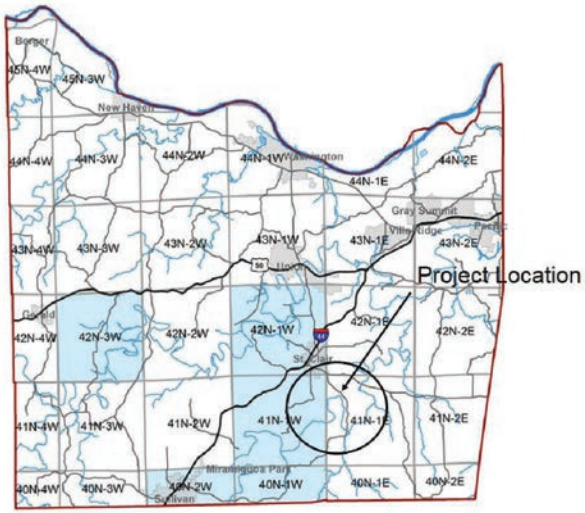


Indian Creek Mitigation Site Franklin County, MO	Figure 3 USGS Vicinity Map		Mitico, LLC Source: USGS

Indian Creek

Franklin County, Missouri

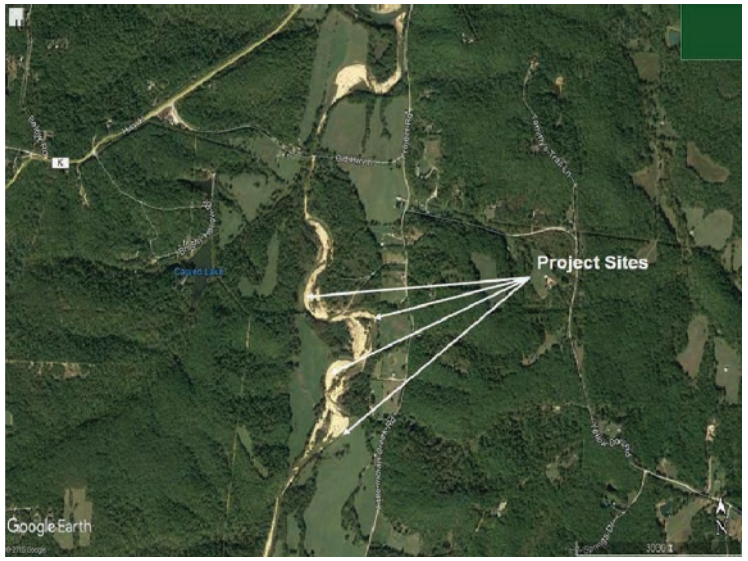
Sec. 29, T41N, R1E



Franklin County Map
NTS

Sheet Index

Sheet No.	Sheet Title
1	Cover Sheet
2	Overall Plan
3	Plan View – Site1
4	Plan View – Site 2
5	Plan View – Site 3
6	Plan View – Site 4
7–9	Cross Sections – Site 1
10	Cross Sections – Site 2
11–13	Cross Sections – Site 3
14	Cross Sections – Site 4
15–16	Details Sheet



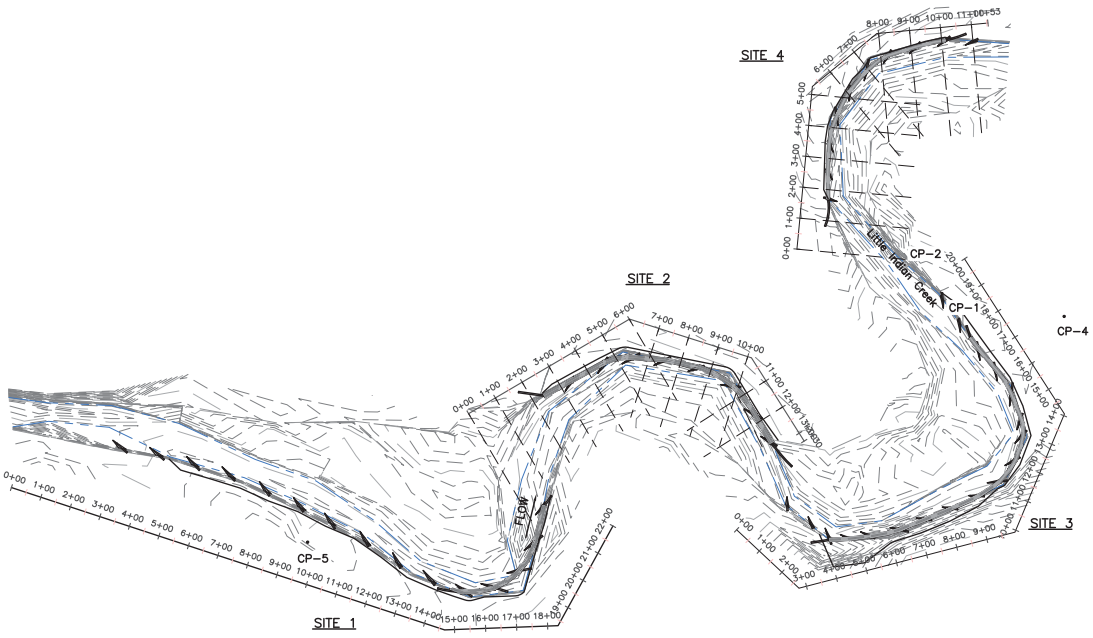
Site Location Map
NTS

Wildhorse Riverworks Inc.
11821 NW 13th Street – Topeka, Kansas 66615
785–213–3778

WRS WATER RESOURCES SOLUTIONS
3515 W. 75th St, Suite 208
Prairie Village, Kansas 66208
913–302–1030

STATE OF MISSOURI
DONALD [illegible]
NUMBER E-25867
REGISTERED PROFESSIONAL ENGINEER
9-19-2019

Not For Construction Without a Professional Engineer Seal.



GENERAL NOTES

1. Structure locations to be field located and staked by Mitco or the designate.
2. Before any construction activity, the contractor is responsible for calling Missouri One Call at 800-344-7483 (800-DIG-RITE) or 811.)
3. Accepted Erosion Control practices will be applied to all disturbed areas.
4. All applicable permits will be obtained by others prior to project construction.
5. The information shown in these plans concerning type and location of underground utilities is not guaranteed to be accurate or all inclusive. Existing utilities and their locations, as shown on the plans, represent the best information obtained for the design. Location information has been obtained from the various utility companies and is either from company record drawings or company provide field locations. The plans locations shown are not guaranteed. Additional existing utilities may also be encountered. The contractor is responsible for making the determinations as to the type and location of underground utilities as may be necessary to avoid damage thereto.
6. Contractor shall maintain construction limits within the existing and/or proposed rights-of-way and easements.
7. The engineer has not performed property or right-of-way surveys for any of the locations shown on this project. Right-of-way or property lines shown on the plans are approximate and are shown for general orientation only. Property corners or other survey markers have not been located, unless specifically called out on the plans.
8. Coordinates for this project are not associated with any known survey or coordinate system.
9. Do not remove any trees larger than 12" DBH or over 50' in height without permission of the Engineer.
10. Soil moving calculations are based on available information. Contractor shall inspect the site and make an evaluation of existing conditions.
11. Contractor shall shape top of bank such that the gradient slopes away from the graded bank.
12. Contractor is responsible for planting from top of LPSTP or water level to top of bank. Buffer field by others.
13. If construction is completed between July 1 and Feb. 1: Before leaving the site, contractor shall rip the entire 66' buffer area to a 20-inch depth.

LEGEND

- Benchmark
- Existing Edge of Water
- Existing 1' Contour
- Existing 5' Contour
- Proposed 5' Contour
- Proposed 1' Contour
- New Improvements

CONTROL POINTS

CP-1	CP-2	CP-3
IPC BFW	IPC BFW	IPC BFW
Site 3	Site 4	Site 3
Sta. 18+47.88	Sta. 0+33.97	Sta. 2+75.12
81.62 Lt.	363.87 Rt.	564.07 Rt.
N 884871.17	N 884809.91	N 883791.86
E 693170.66	E 692901.11	E 694207.07

CP-4	CP-5
IPC BFW	IPC BFW
Site 3	Site 1
Sta. 16+70.39	Sta. 9+60.89
169.28 Rt.	130.92 Lt.
N 885130.39	N 882657.95
E 693335.78	E 692747.26

100 200 400
SCALE: 1" = 200'-0"

Not For Construction Without a Professional Engineer Seal.

No.	Date	Comment	BY	CK	APP
4					
3					
2					
1					

Designed By: PGB
Drawn By: MEM
Checked By: DWB
Date: 8/11/19
Scale: 1"=200'

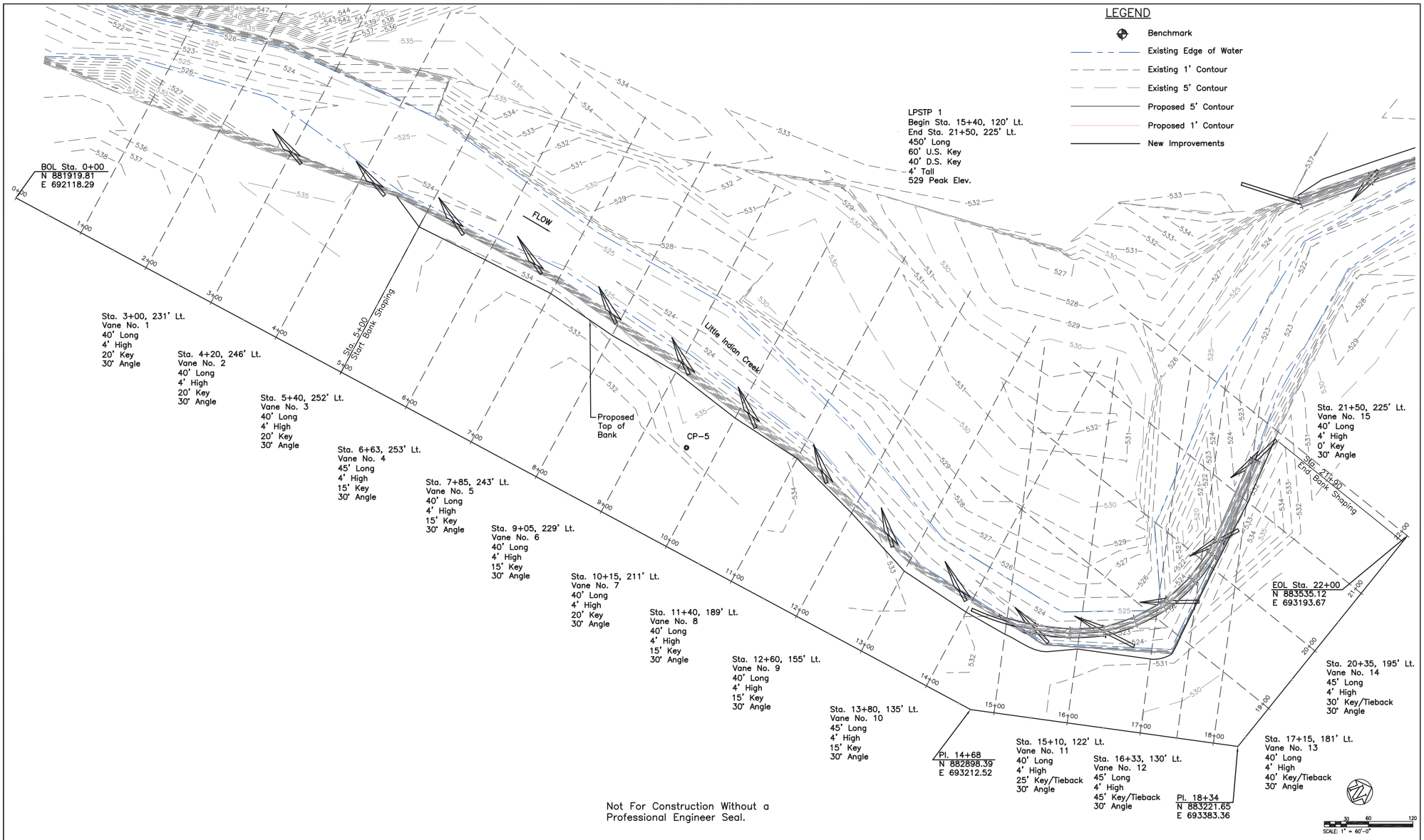
Wildhorse Riverworks Inc.
11821 NW 13th Street – Topeka, Kansas 66615
785-213-3778

STATE OF MISSOURI
DONALD W. BUTLER
NUMBER E-23857
REGISTERED PROFESSIONAL ENGINEER
9-19-2019

WRS WATER RESOURCES SOLUTIONS
3515 W. 75th St, Suite 208
Prairie Village, Kansas 66208
913-302-1030

Indian Creek
Franklin County, Missouri

Overall Plan View



Not For Construction Without a Professional Engineer Seal.

No.	Comment	Date	BY	CK	APP
4					
3					
2					
1					

Designed By: PGB
Drawn By: MEM
Checked By: DWB
Date: 8/11/19
Scale: 1"=60'

Wildhorse Riverworks Inc.
11821 NW 13th Street – Topeka, Kansas 66615
785-213-3778

STATE OF MISSOURI
DONALD W. BUTLER
NUMBER E-25857
REGISTERED PROFESSIONAL ENGINEER
9-19-2019

WRS WATER RESOURCES SOLUTIONS
3515 W. 75th St, Suite 208
Prairie Village, Kansas 66208
913-302-1030

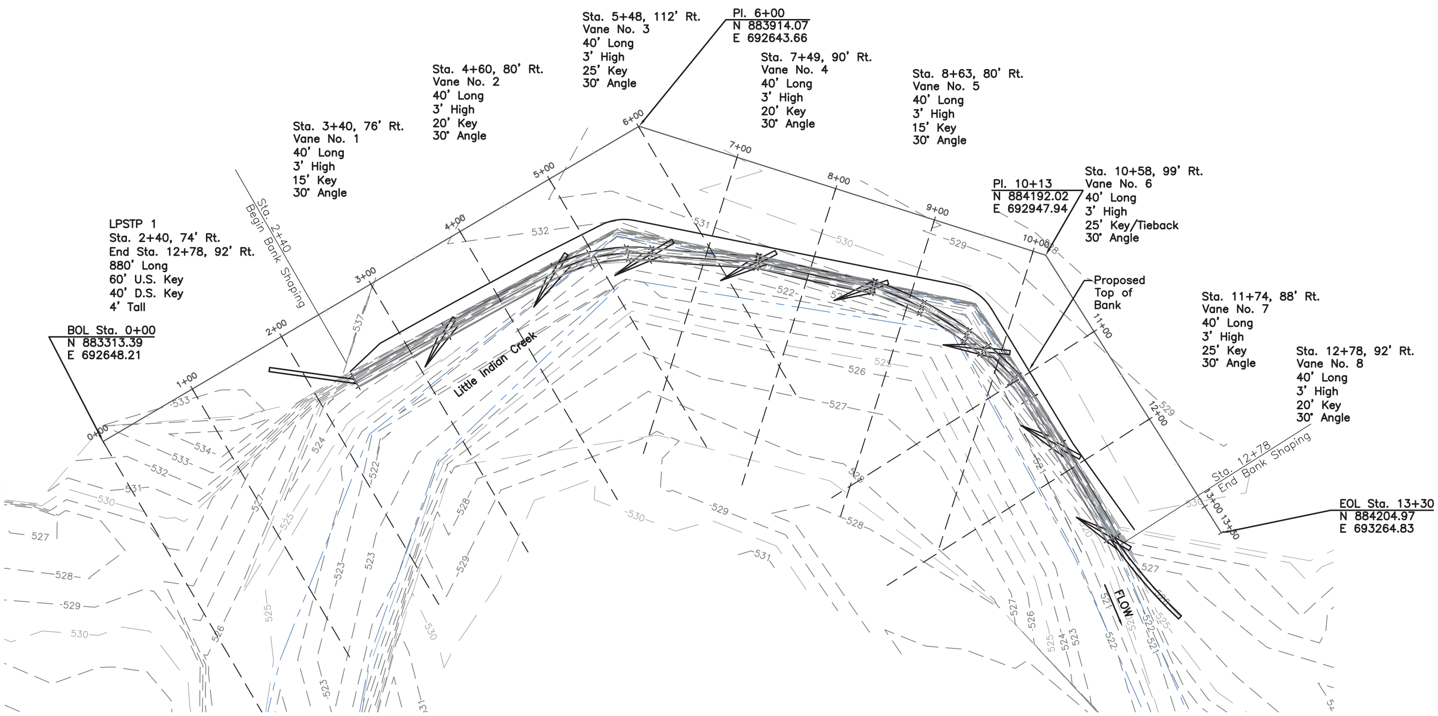
Indian Creek

Franklin County, Missouri

Site 1
Plan View

LEGEND

- Benchmark
- Existing Edge of Water
- Existing 1' Contour
- Existing 5' Contour
- Proposed 5' Contour
- Proposed 1' Contour
- New Improvements



LPSTP 1
Sta. 2+40, 74' Rt.
End Sta. 12+78, 92' Rt.
880' Long
60' U.S. Key
40' D.S. Key
4' Tall
BOL Sta. 0+00
N 883313.39
E 692648.21
Sta. 2+40
Begin Bank Shaping
Sta. 3+40, 76' Rt.
Vane No. 1
40' Long
3' High
15' Key
30' Angle
Sta. 4+60, 80' Rt.
Vane No. 2
40' Long
3' High
20' Key
30' Angle
Sta. 5+48, 112' Rt.
Vane No. 3
40' Long
3' High
25' Key
30' Angle
Pl. 6+00
N 883914.07
E 692643.66
Sta. 7+49, 90' Rt.
Vane No. 4
40' Long
3' High
20' Key
30' Angle
Sta. 8+63, 80' Rt.
Vane No. 5
40' Long
3' High
15' Key
30' Angle
Pl. 10+13
N 884192.02
E 692947.94
Sta. 10+58, 99' Rt.
Vane No. 6
40' Long
3' High
25' Key/Tieback
30' Angle
Proposed
Top of
Bank
Sta. 11+74, 88' Rt.
Vane No. 7
40' Long
3' High
25' Key
30' Angle
Sta. 12+78, 92' Rt.
Vane No. 8
40' Long
3' High
20' Key
30' Angle
Sta. 12+78
End Bank Shaping
EOL Sta. 13+30
N 884204.97
E 693264.83
Little Indian Creek
FLOW

SCALE: 1" = 60'-0"

Not For Construction Without a Professional Engineer Seal.

Date	Comment	No.	BY	CK	APP
		4			
		3			
		2			
		1			

Designed By: PGB
Drawn By: MEM
Checked By: DWB
Date: 8/11/19
Scale: 1"=60'

Wildhorse Riverworks Inc.
11821 NW 13th Street – Topeka, Kansas 66615
785-213-3778

9-19-2019

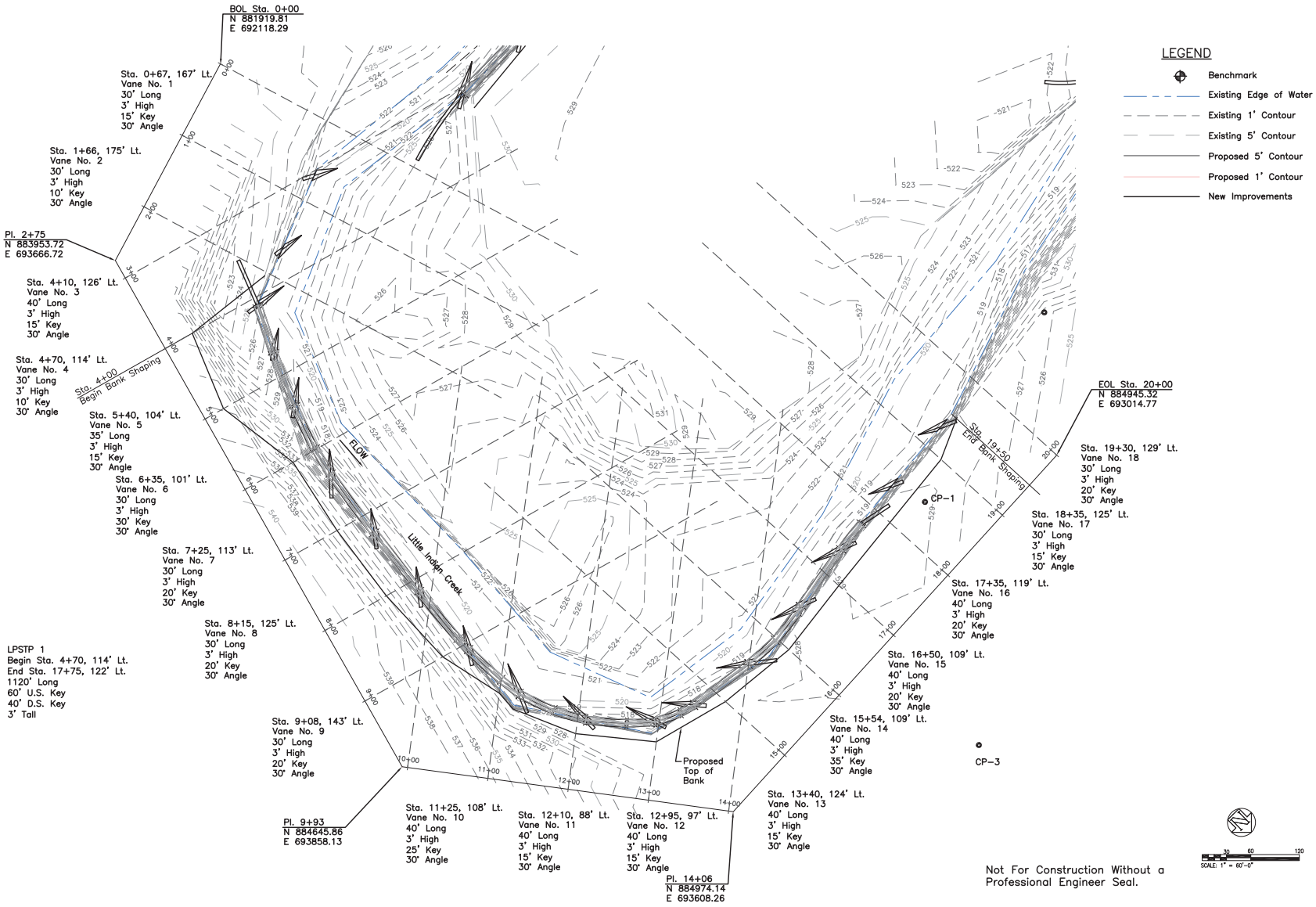
WRS WATER RESOURCES SOLUTIONS
3515 W. 75th St, Suite 208
Prairie Village, Kansas 66208
913-302-1030

Indian Creek

Franklin County, Missouri

Site 2
Plan View

4 SHEET OF 16



Not For Construction Without a Professional Engineer Seal.

No.	Comment	Date	BY	CK	APP
4					
3					
2					
1					

Designed By: PGB
Drawn By: MEM
Checked By: DWB
Date: 8/11/19
Scale: 1"=60'

Wildhorse Riverworks Inc.
11821 NW 13th Street – Topeka, Kansas 66615
785-213-3778

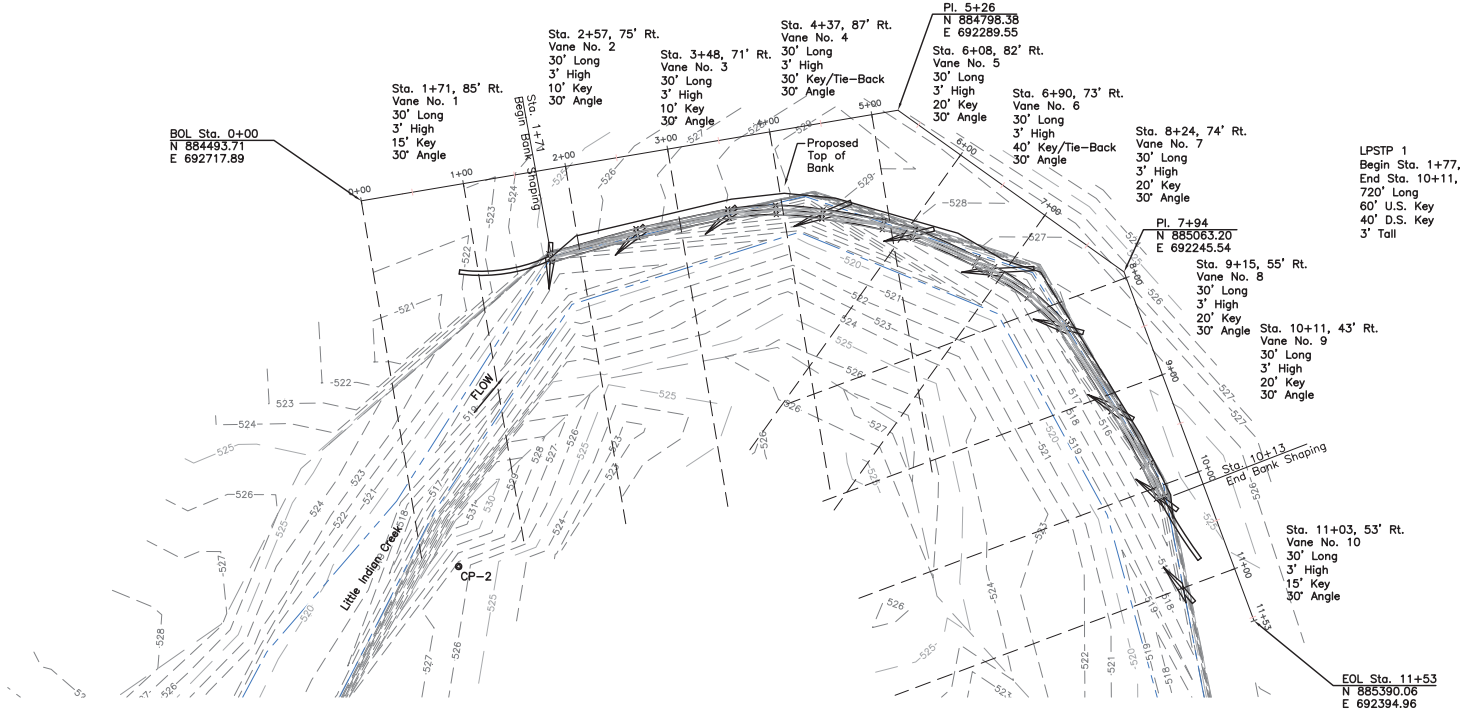
DONALD W. [illegible] NUMBER E-23857 REGISTERED PROFESSIONAL ENGINEER
9-19-2019

WRS WATER RESOURCES SOLUTIONS
3515 W. 75th St, Suite 208
Prairie Village, Kansas 66208
913-302-1030

Indian Creek

Franklin County, Missouri

Site 3
Plan View



Not For Construction Without a Professional Engineer Seal.

		4			
		3			
		2			
		1			
Date	Comment	No.	BY	CK	APP
Designed By:	PGB				
Drawn By:	MEM				
Checked By:	DWB				
Date:	8/11/19				
Scale:	1"=60'				

Wildhorse Riverworks Inc.
11821 NW 13th Street – Topeka, Kansas 66615
785-213-3778

STATE OF MISSOURI
DONALD W. BUTLER
NUMBER E-23857
REGISTERED PROFESSIONAL ENGINEER
9-19-2019

WRS WATER RESOURCES SOLUTIONS
3515 W. 75th St, Suite 208
Prairie Village, Kansas 66208
913-302-1030

Indian Creek
Franklin County, Missouri

Site 4
Plan View

Table 2. Riparian Corridor Net Benefit Methodology

	Net Benefit 1	Net Benefit 2	Net Benefit 3	Net Benefit 4	Net Benefit 5
Stream Type	**Perennial 0.4**	**Perennial 0.4**	**Perennial 0.4**	**Perennial 0.4**	**Perennial 0.4**
Priority Waters	**Tertiary 0.05**	**Tertiary 0.05**	**Tertiary 0.05**	**Tertiary 0.05**	**Secondary 0.2**
Side A (Left-Descending Bank)	**0.80 (150' restoration)**	**0.80 (150' restoration)**	**0.40 (150' enhancement)**	**0.70 (100' restoration)**	**0.20 (150' preservation)**
Side B (Right-descending bank)	**0.80 (150' restoration)**	**0.20 – (150' preservation)**	**0.40 (150' enhancement)**	**0**	**0**
Supplemental Credit Buffer	**0.80**	**0.50**	**0.40**	**0**	**0**
Site Protection	**0.2 – LLF Easement**	**0.2 – LLF Easement**	**0.2 – LLF Easement**	**0.2 – LLF Easement**	**0.2 – LLF Easement**
Credit Schedule	**0 - Schedule 3**	**0 - Schedule 3**	**0 - Schedule 3**	**0 - Schedule 3**	**0 - Schedule 3**
Temporal Lag	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**0**

Figure 2. Net Benefit Map

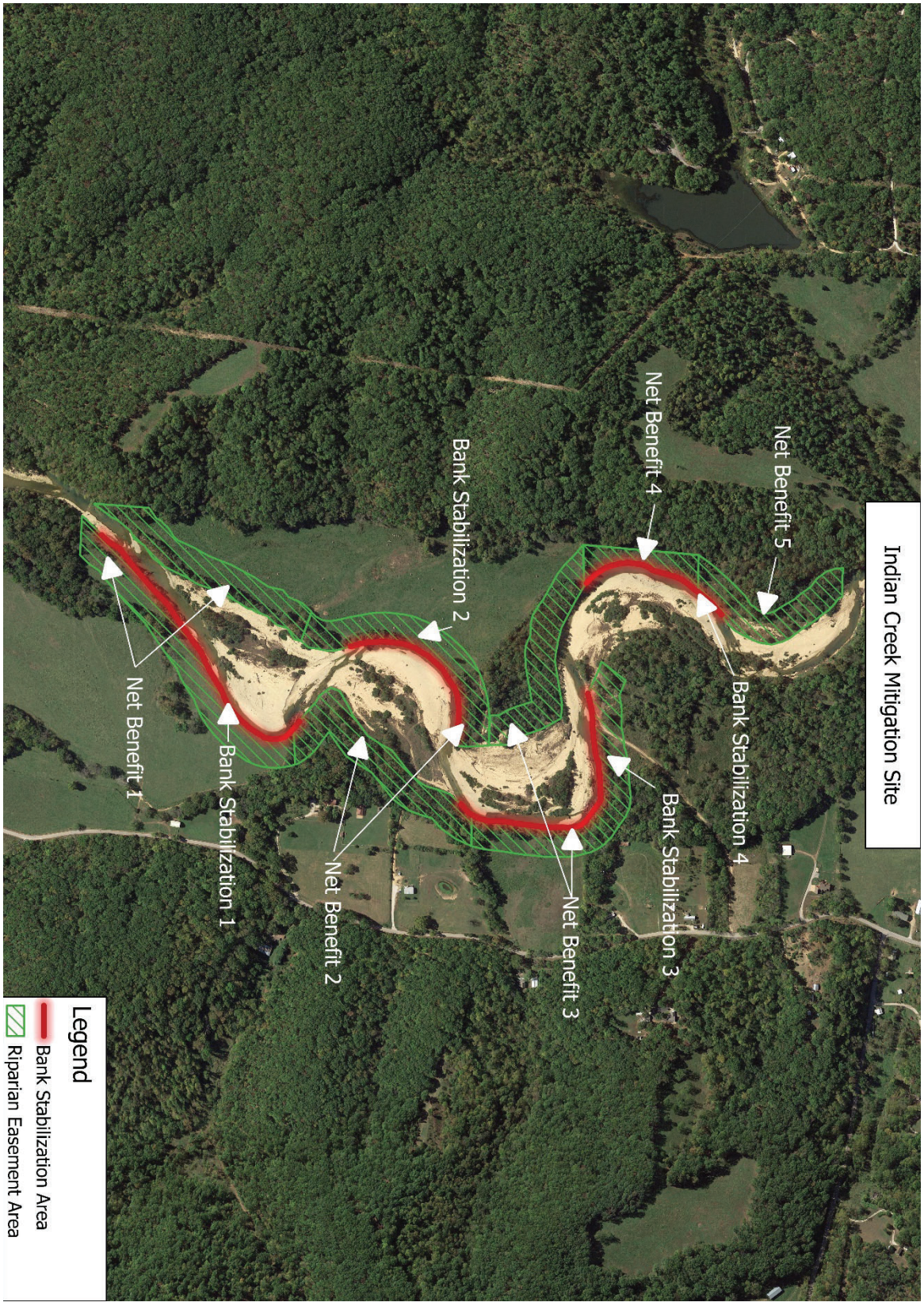


Table 3. In-Stream Net Benefit Methodology

Factors	Bank Stabilization 1	Bank Stabilization 2	Bank Stabilization 3	Bank Stabilization 4
Stream Type	Perennial **0.4**	Perennial **0.4**	Perennial **0.4**	Perennial **0.4**
Priority Waters	Tertiary – **0.05**	Tertiary – **0.05**	Tertiary – **0.05**	Secondary – **0.2**
Net Benefit	Good – restoring highly eroded areas by resloping and reshaping. Rock vanes and longitudinal peak stone toe protection will be used along with willow stakes harvested on site. **2.4**	Good – restoring highly eroded areas by resloping and reshaping. Rock vanes and longitudinal peak stone toe protection will be used along with willow stakes harvested on site. **2.4**	Good – restoring highly eroded areas by resloping and reshaping. Rock vanes and longitudinal peak stone toe protection will be used along with willow stakes harvested on site. **2.4**	Good – restoring highly eroded areas by resloping and reshaping. Rock vanes and longitudinal peak stone toe protection will be used along with willow stakes harvested on site. **2.4**
Site Protection	Land Learning Foundation will serve as the grantee of a conservation easement **0.4**	Land Learning Foundation will serve as the grantee of a conservation easement **0.4**	Land Learning Foundation will serve as the grantee of a conservation easement **0.4**	Land Learning Foundation will serve as the grantee of a conservation easement **0.4**
Credit Schedule	*In-Lieu Fee sites qualify for Schedule 3* **0**	*In-Lieu Fee sites qualify for Schedule 3* **0**	*In-Lieu Fee sites qualify for Schedule 3* **0**	*In-Lieu Fee sites qualify for Schedule 3* **0**

Table 4.
RIPARIAN BUFFER WORKSHEET

Stream Type	Ephemeral 0.15	Intermittent 0.2	Perennial 0.4	
Priority Waters	Tertiary 0.05	Secondary 0.2	Primary 0.4	
Net Benefit (for each side of stream)	Riparian Restoration/Establishment, Enhancement, and Preservation Factors (select values from Table 1) (also see Minimum Buffer Width (MBW) page 15)			
Supplemental Buffer Credit	Condition: Buffer established, enhanced or preserved on both streambanks To calculate:(Net Benefit Stream Side A + Net Benefit Stream Side B) / 2			
Site Protection	Corps approved site protection without third party grantee 0.05		Corps approved site protection recorded with third party grantee, or transfer of title to a conservancy 0.2	
Credit Schedule	Schedule 1 0.15		Schedule 2 0.05	Schedule 3 0
Temporal Lag (Years)	Over 20 -0.3	10 to 20 -0.2	5 to 10 -0.1	0 to 5 0

Factors		Net Benefit 1	Net Benefit 2	Net Benefit 3	Net Benefit 4	Net Benefit 5
Stream Type		0.4	0.4	0.4	0.4	0.4
Priority Waters		0.05	0.05	0.05	0.05	0.2
Net Benefit	Stream Side A	0.80 (150')	0.80 (150')	0.40 (150')	0.70 (100')	0.20 (150')
	Stream Side B	0.80 (150')	0.20 (150')	0.40 (150')	0	0
Supplemental Buffer Credit (Buffer on both sides)		0.80	0.50	0.40	0	0
Site Protection		0.2	0.2	0.2	0.2	0.2
Credit Schedule	Stream Side A	0	0	0	0	0
	Stream Side B	0	0	0	0	0
Temporal Lag		-0.2	-0.2	-0.2	-0.2	0
Sum Factors	(M)=	2.85	1.95	1.65	1.15	1.0
Linear Feet of Stream Buffered (LF)= (do not count each bank separately or count same channel segment twice)		1645	1780	1790	550	1115
Credits (C) =M X LF		4688.25	3471	2953.5	632.5	1115
Total Credits Generated C X LK Factor * =		----------				12,860.25

Total Riparian Credits Generated from all Columns = 12,860.25

* Location and Kind (LK) Factor only applies to permittee-responsible mitigation projects

Table 5.
IN-STREAM CREDIT WORKSHEET

Stream Type	Ephemeral 0.15		Perennial 0.4	
Priority Waters	Tertiary 0.05		Secondary 0.2	Primary 0.4
Net Benefit (for each side of stream)	Stream Relocation to Accommodate Authorized Project 0.5	Moderate 1.2	Good 2.4	Excellent 3.5
Site Protection	Corps approved site protection without third party grantee 0.1		Corps approved site protection recorded with third party grantee, or transfer of title to a conservancy 0.4	
Credit Schedule	Schedule 1 0.3		Schedule 2 0.1	Schedule 3 0

Factors	Bank Stabilization 1	Bank Stabilization 2	Bank Stabilization 3	Bank Stabilization 4
Stream Type	0.4	0.4	0.4	0.4
Priority Waters	0.05	0.05	0.05	0.2
Net Benefit	2.4	2.4	2.4	2.4
Site Protection	0.4	0.4	0.4	0.4
Credit Schedule	0	0	0	0
Sum Factors (M)=	3.25	3.25	3.25	3.4
Linear Feet of Stream Buffered (LF)= (do not count each bank separately or count same channel segment twice)	1600	880	1400	820
Credits (C) =M X LF	5200	2860	4550	2788
Total Credits Generated C X LK Factor * =	-----	-----	-----	15,398

Total Instream Credits Generated from all Columns = 15,398

* Location and Kind (LK) Factor only applies to permittee-responsible mitigation projects