

## ADDENDUM NO. 1

TO: PLANS AND SPECIFICATIONS FOR STATE OF MISSOURI

Streambank Restoration Phase I  
Castlewood State Park  
Ballwin, Missouri  
Project No.: X2002-01

Bid Opening Date is UNCHANGED: 1:30 PM, Thursday, June 4, 2020

Bidders are hereby informed that the Construction Plans and/or Specifications are modified as follows:

### SPECIFICATION CHANGES:

#### 1. Section: 004322 Unit Prices Form

- a. Replace Section 004322 in its entirety and use the revised section 004322 in the attachment.

#### 2. Section: 012200 Unit Prices

- a. Replace Section 012200 in its entirety and use the revised section 012200 in the attachment. Explanation of changes made:
  - A. Channel Excavation, Base Bid Quantity – 1330
  - B. Fill, Base Bid Quantity – 830
  - C. Insert NEW UNIT PRICE as follows:
    - a. Unit Price No. 3 – Topsoil
    - b. Description: Topsoil sourced from off-site, material and hauling, according to Division 31 Section 312000 Earthwork
    - c. Unit of Measurement: CY
    - d. Base Bid Quantity - 330
  - D. Straw Mulch becomes Unit Price No. 4, Base Bid Quantity – 72
  - E. Temporary Construction Entrance becomes Unit Price No. 5
  - F. Live Brush Layering becomes Unit Price No. 6
  - G. Boulder Toe with Root Wads becomes Unit Price No. 7
  - H. Temporary Seeding becomes Unit Price No. 8
  - I. Permanent Seeding becomes Unit Price No. 9
  - J. Trees and Shrubs becomes Unit Price No. 10, Base Bid Quantity – 235
  - K. Live Stakes becomes Unit Price No. 11

### PLAN CHANGES:

#### 1. Sheet Number : G-002

- a. REVISE Project Quantities as follows:
  - A. Line Item No. 9, Section 312500, Item Straw Mulch, Unit – Bale, Quantity – 71
  - B. Line Item No. 10, Section 313501.2, Item Live Brush Layering (Includes 3 Lifts Per Running LF), Unit – LF, Quantity - 530
  - C. Line Item No. 17, Section 329300, Item Trees & Shrubs, Unit – Each, Quantity - 235

**GENERAL:**

1. The Pre-Bid Meeting was held May 21, 2020 followed by a walk-thru of the site. The Pre-Bid Meeting sign-in sheet is attached.
2. Please contact Mandy Roberson, Contract Specialist, at 573-522-0074 or [mandy.roberson@oa.mo.gov](mailto:mandy.roberson@oa.mo.gov) for questions regarding bidding procedures and MBE/WBE/SDVE goals and submittal requirements.
3. Changes to, or clarification of, the bid documents are only made as issued in the addenda.
4. The deadline for technical questions was Wednesday, March 4, 2020 at noon.
5. All correspondence with respect to this project must include the State of Missouri project number as indicated above.
6. Current Plan-holders list is available at: <https://www.oafmdcplanroom.com/jobs/501/details/x2002-01-castlewood-state-park-streambank-restoration-ph-i>
7. Prospective bidders contact American Document Solutions at 573-446-7768 to order official plans and specifications.
8. Bid Forms on Missouri Buys have not been revised.
9. Bidders needing additional site inspection should contact David Meeker at 314-952-7013.

**ATTACHMENTS:**

1. Revised Section 004322 Unit Prices Form - **Use this Procurement Form**
2. Revised Section 012200 Unit Prices
3. Revised Plan G-002 General Notes
4. Pre-Bid Meeting Sign-In Sheet/May 21, 2020
- 5.

**May 28, 2020**

**END ADDENDUM NO. 1**

1.0 Description

REVISED PER ADDENDUM 1

- A. For changing specified quantities of work from those indicated by the contract drawings and specifications, upon written instructions of Owner, the following unit prices shall prevail. The unit prices include all labor, overhead and profit, materials, equipment, appliances, bailing, shoring, shoring removal, etc., to cover the finished work of the several kinds of work called for. Only a single unit price shall be given and it shall apply for either MORE or LESS work than that shown on the drawings and called for in the specifications or included in the Base Bid. In the event of more or less units than so indicated or included during construction the total contract price shall be decreased as appropriate or increased by contract change in accordance with General Conditions Article 4.1.

2.0 UNIT PRICES

A. Unit Price No. 1 – Channel Excavation

- 1. Description: Channel Excavation according to Division 31 Section 312000 Earthwork
- 2. Unit of Measurement: CY
- 3. Base Bid Quantity: 1330  
\$ \_\_\_\_\_ per cubic yard

B. Unit Price No. 2 – Fill

- 1. Description: Fill including channel and filling void space in boulder toe, according to Division 31 Section 312000 Earthwork
- 2. Unit of Measurement: CY
- 3. Base Bid Quantity: 830  
\$ \_\_\_\_\_ per cubic yard

C. Unit Price No. 3 – Topsoil

- 1. Description: Topsoil sourced from off-site, material and hauling, according to Division 31 Section 312000 Earthwork
- 2. Unit of Measurement: CY
- 3. Base Bid Quantity: 330  
\$ \_\_\_\_\_ per cubic yard

D. Unit Price No. 4 – Straw Mulch

- 1. Description: Straw mulch, material and installation, according to Division 31 Section 312500 Erosion and Sediment Controls
- 2. Unit of Measurement: Bales

REVISED PER ADDENDUM 1

3. Base Bid Quantity: 72  
\$ \_\_\_\_\_ per bale

E. Unit Price No. 5 – Temporary Construction Entrance

1. Description: Temporary Construction Entrance, material and installation, according to Division 31 Section 312510 Temporary Construction Entrance
2. Unit of Measurement: Each
3. Base Bid Quantity: 2  
\$ \_\_\_\_\_ each

F. Unit Price No. 6 – Live Brush Layering

1. Description: Live Brush Layering, material and installation for 3 lifts per running linear foot, according to Division 31 Section 313501.2 Live Brush Layering
2. Unit of Measurement: L.F.
3. Base Bid Quantity: 530  
\$ \_\_\_\_\_ per linear foot

G. Unit Price No. 7 – Boulder Toe with Root Wads

1. Description: Boulder Toe with Root Wads, material and installation, according to Division 31 Section 313502 Boulder Toe with Root Wads
2. Unit of Measurement: L.F.
3. Base Bid Quantity: 530  
\$ \_\_\_\_\_ per linear foot

H. Unit Price No. 8 – Temporary Seeding

1. Description: Temporary seeding, material and installation for all disturbed areas, according to Division 32 Section 329200 Turf and Grasses
2. Unit of Measurement: AC
3. Base Bid Quantity: 1.8  
\$ \_\_\_\_\_ per acre

I. Unit Price No. 9 – Permanent Seeding

1. Description: Permanent seeding, material and installation for all disturbed areas, according to Division 32 Section 329200 Turf and Grasses
2. Unit of Measurement: AC

NOTE: ALL PAGES OF THIS BID FORM (004113) MUST BE COMPLETED AND SUBMITTED OR THE BID MAY BE REJECTED FOR BEING NON-RESPONSIVE.

REVISED PER ADDENDUM 1

3. Base Bid Quantity: 1.8  
\$ \_\_\_\_\_ per acre

J. Unit Price No. 10 – Trees and Shrubs

1. Description: Trees and shrubs, material and installation, according to Division 32 Section 329300 Trees and Shrubs

2. Unit of Measurement: Each

3. Base Bid Quantity: 235

\$ \_\_\_\_\_ each

K. Unit Price No. 11 – Live Stakes

1. Description: Live stakes, material and installation for gravel bar live stakes only, according to Division 32 Section 329350.1 Live Stakes

2. Unit of Measurement: Each

3. Base Bid Quantity: 7623

\$ \_\_\_\_\_ each

## **REVISED SECTION 012200 UNIT PRICES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 1 Specification Sections apply to this Section.
- B. Quantities of Units to be included in the Base Bid are indicated in Section 004322 – Unit Prices.

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for Unit Prices.
- B. Related Sections include the following:
  - 1. Division 1 Section "Allowances" for procedures for using Unit Prices to adjust quantity allowances.
  - 2. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Contract Changes.

#### **1.3 DEFINITIONS**

- A. Unit Price is a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

#### **1.4 PROCEDURES**

- A. Unit Prices include all necessary material plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of Unit Prices.
- C. Owner reserves the right to reject Contractor's measurement of Work in-place that involves use of established Unit Prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A list of Unit Prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each Unit Price.

### **PART 2 - PRODUCTS (Not Used)**

### **PART 3 - EXECUTION**

#### **3.1 LIST OF UNIT PRICES**

- A. Unit Price No. 1 – Channel Excavation

1. Description: Channel Excavation according to Division 31 Section 312000 Earthwork
  2. Unit of Measurement: CY
  3. Base Bid Quantity: 1330
- B. Unit Price No. 2 – Fill
1. Description: Fill including channel and filling void space in boulder toe, according to Division 31 Section 312000 Earthwork
  2. Unit of Measurement: CY
  3. Base Bid Quantity: 830
- C. Unit Price No. 3 – Topsoil
1. Description: Topsoil sourced from off-site, material and hauling, according to Division 31 Section 312000 Earthwork
  2. Unit of Measurement: CY
  3. Base Bid Quantity: 330
- D. Unit Price No. 4 – Straw Mulch
1. Description: Straw mulch, material and installation, according to Division 31 Section 312500 Erosion and Sediment Controls
  2. Unit of Measurement: Bales
  3. Base Bid Quantity: 72
- E. Unit Price No. 5 – Temporary Construction Entrance
1. Description: Temporary Construction Entrance, material and installation, according to Division 31 Section 312510 Temporary Construction Entrance
  2. Unit of Measurement: Each
  3. Base Bid Quantity: 2
- F. Unit Price No. 6 – Live Brush Layering
1. Description: Live Brush Layering, material and installation for 3 lifts per running linear foot, according to Division 31 Section 313501.2 Live Brush Layering
  2. Unit of Measurement: L.F.
  3. Base Bid Quantity: 530
- G. Unit Price No. 7 – Boulder Toe with Root Wads
1. Description: Boulder Toe with Root Wads, material and installation, according to Division 31 Section 313502 Boulder Toe with Root Wads
  2. Unit of Measurement: L.F.
  3. Base Bid Quantity: 530
- H. Unit Price No. 8 – Temporary Seeding
1. Description: Temporary seeding, material and installation for all disturbed areas, according to Division 32 Section 329200 Turf and Grasses

2. Unit of Measurement: AC
  3. Base Bid Quantity: 1.8
- I. Unit Price No. 9 – Permanent Seeding
1. Description: Permanent seeding, material and installation for all disturbed areas, according to Division 32 Section 329200 Turf and Grasses
  2. Unit of Measurement: AC
  3. Base Bid Quantity: 1.8
- J. Unit Price No. 10 – Trees and Shrubs
1. Description: Trees and shrubs, material and installation, according to Division 32 Section 329300 Trees and Shrubs
  2. Unit of Measurement: Each
  3. Base Bid Quantity: 235
- K. Unit Price No. 11 – Live Stakes
1. Description: Live stakes, material and installation for gravel bar live stakes only, according to Division 32 Section 329350.1 Live Stakes
  2. Unit of Measurement: Each
  3. Base Bid Quantity: 7623

**END OF SECTION 012200**

Pre-Bid Meeting Attendance Sheet  
 Kiefer Creek Streambank Restoration  
 Castlewood State Park  
 Ballwin, MO

Project No. X2002-01  
 May 21, 2020 11AM

Name & Title	Company Name Type of Contracting	MBE/WBE/ SDVE Status	Phone	E-Mail Address
Charles Parisi Owner	Two Alpha Contracting	NA	636 262 6237	charles@twoalphacontracting.com
DAVE BUEKFL PRESIDENT	IDEAL LANDSCAPE CONSTRUCTION Inc	G/C	314-575-5530	BUEKFL.DAVE@ IDEALLANDSCAPE.COM
COLLEEN AUBRY ESTIMATOR	DJME ECOLOGICAL SERVICES INC	NA	314.586.6049	CAUBRY@DJMECOLOGICAL.COM
Zeke Kuehn	Wildscape Environmental	N/A	417-522 5007	ekuehn@Wildscape-environmental.com
Nick Gebel	Affiliated Services international	MBE	814-960-3946	nick@aservicesint.com
Bill Sullivan	SULLIVAN EXCAVATION	N/A	314-280-0505	SULLIVAN EXC@WINDSTREAM .NET

Pre-Bid Meeting Attendance Sheet  
 Kiefer Creek Streambank Restoration  
 Castlewood State Park  
 Ballwin, MO

Project No. X2002-01  
 May 21, 2020 11AM

John Whitney President	Stormwater Erosion Specialties	N/A	618-779-2842	john.w@erosionexpert.com
Nick Uhl	Stantec		502-396-0056	nick.uhl@stantec.com
Oakes Routt	Stantec	N/A Designer	270-763-7299	oakes.routt@stantec.com
Don Stier	DNR - Parks P&D		573-522-9525	Don.Stier@DNR.MO.GOV
Don Fink	DNR / State Parks Route 66 State Park		314-420-0911	don.fink@dnr.mo.gov
David Meeker	DNR Castlewood State Park		314-952-7013	david.meeker@dnr.mo.gov



10309 Timberwood Circle, Suite 100  
Louisville, Kentucky 40223-3301  
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawings - any errors or omissions shall be reported to Stantec without delay. Stantec is not responsible for any errors or omissions that may occur during construction or use for any purpose other than that authorized by Stantec's fabrication.

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
NATURAL RESOURCES

CASTLEWOOD STATE PARK  
STREAMBANK RESTORATION  
PHASE I

BALLWIN, MO

PROJECT # X2002-01  
SITE # 5205  
ASSET # 7815205028

REVISION: A  
DATE: 05/27/2020  
REVISION:  
DATE:  
REVISION:  
DATE:  
ISSUE DATE: 03/24/2020

CAD DWG FILE: G-002.dwg  
DRAWN BY: DLH  
CHECKED BY: OKR  
DESIGNED BY: MAS

SHEET TITLE:  
GENERAL NOTES

REVISED SHEET NUMBER:

G-002

2 OF 16 SHEETS  
03/24/2020

GENERAL NOTES

1. DEFINITIONS - WHENEVER THE FOLLOWING TERMS ARE USED IN THESE PLANS FOR CONSTRUCTION, IT IS UNDERSTOOD THAT THEY REPRESENT THE FOLLOWING:
  - 1.1. **CONSTRUCTION DOCUMENTS:** PLANS FOR CONSTRUCTION, CONSTRUCTION SPECIFICATIONS, COST ESTIMATE, AND ANY OTHER REFERENCED SPECIFICATIONS OR STANDARDS CONSTITUTE THE COMPLETE CONSTRUCTION DOCUMENTS FOR THIS PROJECT.
  - 1.2. **CONTRACTOR:** ENTITY RESPONSIBLE FOR CONSTRUCTION.
  - 1.3. **ENGINEER:** STANTEC CONSULTING SERVICES INC. (STANTEC)
  - 1.4. **OWNER:** CASTLEWOOD STATE PARK
  - 1.5. **RESPONSIBLE PARTY:** THE NATURE CONSERVANCY, MISSOURI CHAPTER
  - 1.6. **STORM WATER POLLUTION PREVENTION PLAN (SWPPP):** A PLAN REQUIRED BY THE LAND DISTURBANCE GENERAL PERMIT NO. MO-R100038 THAT INCLUDES SITE MAP(S), AN IDENTIFICATION OF CONSTRUCTION/CONTRACTOR ACTIVITIES THAT COULD CAUSE POLLUTANTS IN THE STORM WATER, AND A DESCRIPTION OF MEASURES OR PRACTICES TO CONTROL THESE POLLUTANTS.
  - 1.7. **BEST MANAGEMENT PRACTICES (BMP):** ANY PROGRAM, TECHNOLOGY, PROCESS, SITING CRITERIA, OPERATING METHOD, MEASURE, OR DEVICE THAT CONTROLS, PREVENTS, REMOVES, OR REDUCES POLLUTION.
  - 1.8. **DISTURBANCE LIMITS:** THE BOUNDARY WITHIN WHICH ALL CONSTRUCTION, MATERIALS STORAGE, AND ALL OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR.
  - 1.9. **BANKFULL ELEVATION:** THE POINT OF INCIPENT FLOODING IN AN ALLUVIAL CHANNEL.
  - 1.10. **THALWEG:** THE LOWEST POINT OF THE BANKFULL CHANNEL. THIS ELEVATION IS THE REFERENCE FOR ALL ELEVATIONS ON OR ALONG THE CHANNEL AND HYDRAULIC STRUCTURES DESCRIBED IN THIS SECTION AND THROUGHOUT THE CONSTRUCTION DOCUMENTS.
  - 1.11. **ROOT WADS:** THE ROOT MASS OF A TREE AND ATTACHED TRUNK. ROOT WADS AND LOGS MAY BE HARVESTED FROM THE SITE AS APPROVED BY THE LAND OWNER. ROOT WADS OR LOGS MAY BE BROUGHT IN FROM OFF-SITE. HARVESTING SHALL BE EXECUTED IN A MANNER AS NOT TO LEAVE SIGNIFICANT VOIDS IN THE EXISTING RIPARIAN CORRIDOR.
2. THESE DRAWINGS WERE PREPARED BY STANTEC USING PUBLICLY AVAILABLE LIDAR DATED 2011 AND AERIAL IMAGERY DATED 2016. THE MAJOR DISCREPANCIES BETWEEN THE TWO FORMS OF DATA IS DUE TO LATERAL BANK EROSION. STANTEC PERFORMED A GEOMORPHIC ASSESSMENT OF THE PROJECT AREA IN APRIL 2016. THE GEOMORPHIC ASSESSMENT INCLUDED A GROUND SURVEY OF THE TOP OF BANK AND THALWEG OF PORTIONS OF KIEFER CREEK IN AND/OR NEAR THE PROJECT AREA.
3. FOR DESIGN PURPOSES, THE LIDAR WAS ADJUSTED TO AGREE WITH THE MORE RECENT AERIAL IMAGERY WITHIN THE PROPOSED WORK AREAS.
4. SURVEY COORDINATES REFERENCES TO MISSOURI STATE PLAN EAST COORDINATE SYSTEM NAD83. ELEVATIONS ARE BASED ON NAVD88.
5. ALL EXISTING TOPOGRAPHIC, DRAINAGE, ROADWAY, AND ANY OTHER EXISTING PLANIMETRIC DATA SHOWN ON THE PLANS ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL VERIFICATION AND LOCATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HEALTH AND SAFETY OF ITS PERSONNEL. THE CONTRACTOR SHALL ADHERE TO REQUIREMENTS FOR SAFETY AND CONSTRUCTION FROM OSHA UNLESS OTHER REGULATORY REQUIREMENTS ARE MORE STRINGENT AND/OR SUPERSEDE OSHA REQUIREMENTS.
7. THE CONTRACTOR SHALL CONDUCT ALL OPERATIONS IN ACCORDANCE WITH APPLICABLE ENVIRONMENTAL PERMITS, RULES, LAWS, AND REGULATIONS.
8. THE CONTRACTOR SHALL PERFORM REQUIRED UTILITY LOCATION SERVICES, SURVEY AND DOCUMENT THOSE LOCATIONS. AT THE TIME THESE PLANS FOR CONSTRUCTION WERE PREPARED THERE WERE NO KNOWN EXISTING UNDERGROUND OR ABOVE GROUND UTILITIES WITHIN THE PROJECT'S DISTURBANCE LIMITS. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UTILITIES. IF ANY, NOT SHOWN AND SHALL PROVIDE NECESSARY MEASURES TO PROTECT UTILITIES FROM DAMAGE DUE TO CONSTRUCTION ACTIVITIES. SHOULD CONDUITS OR OTHER UTILITIES THAT ARE NOT SHOWN ON THE DRAWINGS BE ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE OWNER IMMEDIATELY.
9. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER TO IDENTIFY DISTURBANCE LIMITS, HAUL ROUTES, AND STAGING AREAS AS SHOWN IN THESE PLANS FOR CONSTRUCTION. THE CONTRACTOR SHALL COOPERATE AT ALL TIMES WITH THE OWNER, ANY OTHER CONTRACTORS, AND ENGINEER TO HELP RESOLVE ANY SCHEDULING OR OTHER CONFLICTS THAT MIGHT ARISE.
10. ALL EQUIPMENT, GAS TANKS, DUMPSTERS, AND PORTABLE RESTROOMS SHALL BE STORED WITHIN THE STAGING AREAS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL HAUL ROUTES AND STAGING AREAS USED DURING CONSTRUCTION. THE CONTRACTOR SHALL RESTORE THESE AREAS TO THEIR ORIGINAL CONDITION OR BETTER, UNLESS THE OWNER GIVES WRITTEN PERMISSION TO THE CONTRACTOR TO RETAIN THE AREA "AS-IS".
12. THE CONTRACTOR SHALL UTILIZE NATIVE MATERIAL FROM THE SITE WHERE AVAILABLE WITHIN THE DISTURBANCE LIMITS AND ALLOWED BY THE OWNER. NATIVE MATERIAL THAT CAN BE FOUND ON SITE INCLUDES TREES THAT CAN PROVIDE LIVE STAKES, TREES THAT CAN BE USED FOR ROOT WADS, AND EXISTING BED MATERIAL FOR ROCK SILT SCREENS AND THE NATIVE ROCK RIFFLE.
  - ALL AREAS TO RECEIVE FILL
  - ALL AREAS WHICH WILL BE EXCAVATED
- ALL MATERIAL STRIPPED SHALL BE REMOVED FROM WITHIN THE LIMITS OF EXCAVATION OR AREAS TO BE FILLED AND SHALL BE TEMPORARILY STOCKPILED FOR USE AS FINAL DRESSING OF THE SITE OR PLACED IN THE TOPSOIL STOCKPILE. STOCKPILING AND PLACEMENT OF STRIPPED MATERIAL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
11. TO MINIMIZE IMPACTS TO INDIANA AND NORTHERN LONG-EARED BATS DURING THE SUMMER AND FALL, ALL CLEARING OF TREES GREATER THAN 3 INCHES DIAMETER AT BREAST HEIGHT IS PROHIBITED BETWEEN APRIL 1ST AND OCT. 14TH, UNLESS APPROVED BY U.S. FISH AND WILDLIFE SERVICES (USFWS).
12. THE CONTRACTOR SHALL STAKE THE PROPOSED BANK STABILIZATION FOR REVIEW BY THE ENGINEER BEFORE INITIATING EXCAVATION. DEPENDING ON ENCOUNTERED CONDITIONS SOME SHIFTING OF THE PROPOSED BANK LOCATIONS MAY BE NECESSARY. ANY COST ASSOCIATED WITH CHANGING STRUCTURE LOCATIONS OR ALIGNMENT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
13. THE CONTRACTOR SHALL NOTIFY ENGINEER 72 HOURS PRIOR TO INSTALLING ANY STRUCTURES. PLACEMENT AND ELEVATION OF STRUCTURES SHALL BE DIRECTED BY THE ENGINEER
14. THE CONTRACTOR SHALL NOT CONSTRUCT MORE THAN 500 FEET OF BANK AND CHANNEL WITHOUT EROSION CONTROL BLANKET IN PLACE.
15. THE PROPOSED BANK STABILIZATION SHALL BE CONSTRUCTED BY FIRST EXCAVATING TO THE PROPER DEPTHS INDICATED IN THE DETAIL AND CROSS SECTIONS TO PLACE BOULDER TOE. THIS SHALL BE DONE AS CHANNEL EXCAVATION AND IS TYPICALLY ACCOMPLISHED WITH A TRACKED EXCAVATOR. THE DETAILS AND CROSS SECTIONS SHOWN PROVIDE WIDTHS AND SLOPES FOR AID IN CONSTRUCTING THE CHANNEL TO THE APPROPRIATE DIMENSIONS. THE SLOPING OF THE CROSS SECTIONS SHALL THEN BE PERFORMED AS SHOWN ON THE CROSS SECTIONS. ANY STOCKPILING OF MATERIALS OR "DOUBLE HANDLING" NECESSARY TO BUILD THE CHANNEL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
16. THE PROPOSED GRADE SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES AND CROSS SECTIONS OR ELEVATIONS SHOWN ON THE DRAWINGS. THE DEGREE OF FINISH FOR ELEVATIONS SHALL BE WITHIN 0.1 FEET OF THE GRADES AND ELEVATIONS INDICATED.

17. CONTRACTOR SHALL USE AN EXCAVATOR WITH A HYDRAULIC THUMB TO CONSTRUCT BOULDER TOE WITH ROOT WADS AND LIVE BRUSH LAYERING.
18. THE BID ITEMS, BOULDER TOE WITH ROOT WADS, LIVE BRUSH LAYERING, OR ANY OTHER WORK NOTED HEREIN SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY TO CONSTRUCT. BID ITEMS INCLUDE SEEDING, PLANTING AND MULCH, AND EROSION CONTROL BLANKETS NECESSARY TO RESTORE AREAS DISTURBED DURING CONSTRUCTION OF STRUCTURES.
19. CONSTRUCTION SPECIFICATIONS FOR CROSS SECTIONS WILL BE HELD TO THE TOLERANCES SHOWN ON SHEET C-104.
20. BANK STABILIZATION AREAS SHALL BE RE-VEGETATED AS SOON AS POSSIBLE BY SEEDING IN ACCORDANCE WITH THE PLANTING TABLE AND BY INSTALLING EROSION CONTROL BLANKET. ALL SEEDING AND INSTALLATION OF EROSION CONTROL BLANKET SHALL BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS.
21. PERMANENT SEED MIX IS TYPICALLY INSTALLED IN THE FALL, AND IF THE TIMING OF PROJECT IS SUCH THAT THE PERMANENT SEED MIX CANNOT BE PLACED IN THE FALL, THEN THE CONTRACTOR SHALL SEED WITH THE PERMANENT SEED MIX TO PROVIDE TEMPORARY COVER UNTIL PERMANENT MIX CAN BE SEED. HOWEVER, FOR THIS PROJECT ALL PERMANENT SEEDING SHALL OCCUR DURING CONSTRUCTION WITH THE ANTICIPATION OF A LOW SUCCESS RATE. THE CLIENT ANTICIPATES HAVING TO RE-SEED WITH PERMANENT SEED MIX IN THE FALL.
22. TYPICALLY ANY HARVESTING AND INSTALLATION OF LIVE STAKES AND LIVE BRUSH IS PERFORMED ONLY DURING THE DORMANT SEASON, TYPICALLY BETWEEN NOVEMBER 1 AND MARCH 31. HOWEVER, FOR THIS PROJECT ALL HARVESTING AND INSTALLATION OF LIVE STAKES AND LIVE BRUSH SHALL BE PERFORMED DURING CONSTRUCTION WITH THE ANTICIPATION OF A HIGH MORTALITY RATE. THE CLIENT ANTICIPATES HAVING TO RE-INSTALL LIVE STAKES AND LIVE BRUSH DURING DORMANT SEASON.
23. LIVE STAKES SHALL BE INSTALLED WHERE INDICATED ON THE DRAWINGS AND DETAILS. LIVE STAKES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS AND CONSTRUCTION SPECIFICATIONS.
24. TOPSOIL SHALL BE REMOVED FROM EXCAVATION AND SPOIL AREAS PRIOR TO CUT OR FILL AND RE-APPLIED TO AREAS AFTER ROUGH GRADING IS COMPLETE. FOUR INCHES OF TOPSOIL SHALL BE PLACED ON DISTURBED AREAS TO MEET GRADE. STOCKPILING AND PLACEMENT OF TOPSOIL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
25. THE CONTRACTOR WILL LIKELY HAVE TO SOURCE ADDITIONAL TOPSOIL FROM OFF-SITE.
26. SPOIL AREAS SHALL BE SEEDED WITH THE TEMPORARY MIX WITHIN 14 DAYS FOLLOWING PLACEMENT.
27. THE PLACEMENT OF STRAW MULCH SHALL OCCUR A MAXIMUM 48 HOURS AFTER PLANTING. MULCH WILL BE SPREAD TO COVER THE INSTALLED AREAS AT A MINIMUM RATE OF 40 BALES PER ACRE.
28. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE OWNER 72 HOURS BEFORE FINISH GRADING AND SEEDING ANY STAGING AREAS ON SITE.
29. THE CONTRACTOR SHALL GRADE ALL CONFLUENCES IN SUCH A WAY TO PROVIDE SMOOTH TRANSITIONS.
30. BANK STABILIZATION PROJECTS THAT UTILIZE NATURAL CHANNEL DESIGN RELY ON VEGETATION TO MINIMIZE EROSION. IF VEGETATION IS NOT ESTABLISHED PRIOR TO WINTER MONTHS OR PRIOR TO LARGE FLOWS SOME EROSION MAY OCCUR WHICH MAY REQUIRE ADDITIONAL SITE WORK, PLANTINGS, SEEDING, AND EROSION CONTROL BLANKET INSTALLATION. CONTRACTOR SHALL MAKE EVERY EFFORT TO SECURE EROSION CONTROL BLANKET QUICKLY AND RE-VEGETATE THE SITE QUICKLY.
31. THE CONTRACTOR SHALL COMMUNICATE CONSTRUCTION ISSUES, PROBLEMS OR DISCREPANCIES IN THE CONSTRUCTION DOCUMENTS TO THE ENGINEER IMMEDIATELY UPON BECOMING AWARE OF SUCH ISSUES. ANY REQUESTS FOR INFORMATION OR CLARIFICATION OF THE CONSTRUCTION DOCUMENTS SHALL BE IN ACCORDANCE TO SECTION 012600 OF THE CONSTRUCTION SPECIFICATIONS.
32. ANY PROPOSED MODIFICATION TO DESIGN FEATURES AS SHOWN (OR DESCRIBED) IN THE CONSTRUCTION DOCUMENTS SHALL BE CONTINGENT UPON ENGINEER APPROVAL. THE ENGINEER SHALL PROVIDE SUPPLEMENTAL INSTRUCTIONS FOR ANY DESIGN CHANGES IN ACCORDANCE WITH SECTION 012600 OF THE CONSTRUCTION SPECIFICATIONS.

AS-BUILT DRAWINGS

DURING CONSTRUCTION, THE CONTRACTOR AND THE ENGINEER SHALL WORK TOGETHER TO MAINTAIN A SET OF PRINTS SHOWING ANY CHANGES OR CORRECTIONS IN RED. THESE PRINTS SHALL BE SUBMITTED TO THE ENGINEER AT THE COMPLETION OF THE WORK.

INDEX OF SHEETS

SHEET NO.	TITLE	SHEET NO.	TITLE
<b>GENERAL</b>			
G-001	COVER SHEET	C-106	PROPOSED CROSS SECTIONS REACH 1
G-002	GENERAL NOTES	C-107	PROPOSED CROSS SECTIONS REACH 2
<b>CIVIL</b>			
C-101	ALIGNMENT LAYOUT & CONTROL POINT	C-108	PROPOSED CROSS SECTIONS REACH 3
C-102	ALIGNMENT LAYOUT TABLES	C-109	PROPOSED CROSS SECTIONS REACH 3
C-103	KIEFER CREEK PROPOSED PLAN	C-110	PLANTING PLAN
C-104	TYPICAL CROSS SECTIONS	C-111	DETAILS
C-105	PROPOSED CROSS SECTIONS REACH 1	C-112	DETAILS
		C-113	DETAILS
		C-114	EROSION PREVENTION & SEDIMENT CONTROL PLAN

PROJECT QUANTITIES *				
LINE ITEM NO.	SECTION	ITEM	UNIT	QUANTITY
1	310516	MODOT TYPE 4 ROCK DITCH LINER	TONS	1060
2	310516	MODOT TYPE 1 ROCK DITCH LINER	TONS	240
3	310516	MODOT TYPE 7 AGGREGATE FOR BASE	TONS	180
4	312000	EXCAVATION	CY	1330
5	312000	FILL (INCLUDES CHANNEL AND FILLING VOID SPACE IN BOULDER TOE)	CY	830
6	312000	TOPSOIL (SOURCED FROM OFF-SITE)	CY	330
7	312500	WOVEN EROSION CONTROL BLANKET	SY	1220
8	312500	SILT FENCE	LF	2054
9	312500	STRAW MULCH	Bale	72
10	313501	LIVE BRUSH LAYERING (INCLUDES 3 LIFTS PER RUNNING LF)	LF	530
11	313501.2	CONTINUOUS WEAVE EROSION CONTROL BLANKET	SY	610
12	313502	ROOT WAD	EACH	46
13	313502	BOULDER TOE WITH ROOT WADS	LF	530
14	314000	GEOTEXTILE FABRIC	SY	310
15	329200	TEMPORARY SEEDING (TOTAL DISTURBED AREA ON SITE)	AC	1.8
16	329200	PERMANENT SEEDING (DISTURBED AREAS WITHIN RIPARIAN)	AC	1.8
17	329300	TREES & SHRUBS	EACH	235
18	329350.1	LIVE STAKES (LBL & GRAVEL BAR)	EACH	11108
19	329350.1	LIVE BRANCHES (LBL)	EACH	15892

\* NOT FOR BIDDING PURPOSES - FOR CONTRACTOR INFORMATION ONLY.

PLAN LEGEND	
	100 PROPOSED INDEX CONTOURS
	100 PROPOSED INTERIM CONTOURS
	100 EXISTING INDEX CONTOURS
	EXISTING INTERIM CONTOURS
	EXISTING STREAM CENTERLINE
	LIMITS OF DISTURBANCE
	SF SILT FENCE
	BOULDER TOE WITH ROOT WADS AND LIVE BRUSH LAYERING
	GRAVEL BAR LIVE STAKING
	STAGING AREAS
	TEMPORARY CONSTRUCTION ENTRANCE
PROFILE & SECTION LEGEND	
	EXISTING GROUND
	PROPOSED GRADE
	PROPOSED BANKFULL ELEVATION
	PROPOSED INNER BERM ELEVATION