404 Permit Training Workshop State Projects with Mitigation

Joan Lindley, MLA, ASLA Environmental Project Manager

State Projects with 404 Permits Requiring Mitigation

- Permit Requiring Mitigation
 - We need documented proof of our attempts for Avoidance and Minimization
 - Nationwide with Mitigation
 - Does not require Public Comments
 - Individual Permit, usually has Mitigation
 - Public Comment Period (30 Days) is required, this allows private citizens and State (DEQ) and Federal Agencies to comment on the Proposed Mitigation Plan
 - We try to avoid these types of Mitigation Projects as much as possible

Types of Impacts Requiring Mitigation

- Aquatic Resources In-Kind Rehabilitation
- Aquatic Resources Enhancement
- Aquatic Resources Preservation, (10:1 or Higher)
 Sufficient to replace lost aquatic resource FUNCTIONS
- Riparian Zone
- Stream Relocation and Channel Re-Alignment

What Conditions Increase Mitigation Ratios

- Increased distance between impact site and mitigation site
- High biological diversity at impact site
- Physical or structural complexity of the impact site
- Ecological uniqueness of the impact site
- Length of time necessary to achieve functional maturity at the mitigation site
- Mitigation site in different watershed than impact site
- Mitigation site in different ecoregion than impact site
- Increased lag time between impacts and completion of mitigation activities
- Herbivory, predation, surrounding land use, etc......
- Inconsistent source of hydrology for mitigation site
- Pre-existing easements, utilities
- Significant soil amendments or replacement
- Reliance on enhancement or creation as opposed to restoration
- Reliance on preservation
- Use of out-of-kind mitigation for impacts
 - Aquatic Resources Sites are based on Acres
 - Streams Impacts are based on Linear Feet and Acres

Map of 8 Digit HUC

- What is a HUC?
 - HUC- is a Hydrological Unit Code, a sequence of numbers or letters that identify a hydrological feature like a river, river reach, lake or area such as a drainage basin (watershed).
 - Region has 2 digits
 - Subregion has 4 digits
 - Basin has 6 digits
 - Subbasin has 8 digits
 - Watershed has 10 digits
 - Subwatershed has 12 digits



Design Engineer's Role and Responsibilities for Avoidance and Minimization

Design Engineer Role

- Aware of Possible Wetland/Stream Impacts during Project Initiation Site Visit from Recon Data, best place to start thinking about existing site conditions and discuss Avoidance and Minimization. Add to Project Initiation Report because 2 yrs from now when we need the Avoidance and Minimization statement we may not remember or there have been changes in staff.
- At 30% PIH, Potential Jurisdictional Waters and Wetlands Evaluation has been completed the EPD PM will notify PIH attendees of possible impacts to Aquatic Resources within the NEPA Footprint and discuss design strategies for Avoidance and Minimization.
- At R/W & UT Meeting, the EPD PM will remind meeting attendees of possible impacts to Aquatic Resources and discuss design strategies for Avoidance and Minimization.

Continued Design Engineer's Role and Responsibilities for Avoidance and Minimization

Design Engineer Role

 A meeting will be set to discuss the construction impacts to the Aquatic Resources, this meeting will include the Division Engineer, Design Engineers, EPD PM, EPD 404 Permit Liaison and the Corps Regulatory Transportation Manager.

- At this meeting a decision will be made for On-Site or Off-Site Mitigation
- A Round Robin will be sent around for Signatures.

Round Robin Distribution List



Oklahoma Department of Transportation Environmental Programs Division

Office 521-3050 Fax 522-5193

DATE: July 3, 2012

TO: Distribution List in the Document

FROM: **Environmental Programs Division Engineer**

SUBJECT: DRAFT Mitigation Measures

TIME SENSITIVE MATERIAL - PLEASE FORWARD TO THE NEXT PERSON WITHIN 3 WORKING DAYS OF RECEIPT. DUE BACK IN ENVIRONMENTAL PROGRAMS DIVISION BY: July 27, 2012

Project Management Division - Division 2

Field Division Engineer – Division 2

Construction Engineer

Roadway Design Division

Bridge Design Division

Chief of Right-of-Way

Director of Engineering

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Round Robin Proposed Mitigation Measures



Oklahoma Department of Transportation

Environmental Programs Division

Office 521-3050 Fax 522-5193

DATE:	July 3, 2012			
TO:	Distribution List in the Document			
FROM:	Environmental Programs Division Engineer			
SUBJECT:	Round Robin for Proposed Mitigation Measures			
Project No :	SSP-130C(055)SS			
Compr.	Latimar/Laflara			
Job Piece No ·	21735(04)			
Highway No :	State Highway 1			
Description:	Bridge and Approaches on SH 1 over 2 Rock Creeks approximately 16 miles west of			
	Leflore C/L and 0.16 miles east of the Latimer C/L			
Division:	FIELD DIVISION 1			
Let Date:	May 2013 (May be moved to emergency project July 2012)			

Project Background: The proposed project involves construction of a new two-lane facility on an offset of the existing SH-1alignment. Two new bridges will be constructed over Rock Creek. In accordance with the Clean Water Act (CWA) and the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual, a jurisdictional waterbody identification and delineation was completed by PBS&J in January 2010 and further refined by Enercon. Enercon is developing the proposed mitigation requirements based upon the impacted stream and wetland resources identified in the report, and with guidance from the USACE.

Reason for Mitigation: The purpose of this wetland mitigation proposal is to satisfy ODOT CWA Section 404 Permit requirements by developing a mitigation design that will maintain the chemical, physical and biological functions of aquatic resources that will be impacted as a result of construction of this project. The goal is to develop a mitigation design that is more representative of the impacted waters' natural conditions. The proposed project is 0.965 miles long and involves direct impacts to approximately 1.26 acres of wetlands and 228 linear feet of stream. As a result, this construction project will require an Individual Permit and mitigation of impacts to the affected resources. This process will take 6 to 12 months.

Mitigation Measures: The mitigation measures proposed focus on the 1.26 acres of wetlands and 228 linear feet of stream that will be impacted by the project. The mitigation strategy proposed is based upon a reasonable expectation of what the USACE is likely to accept. It is possible the USACE may require more or different mitigation actions for this project. This process will take approximately 6 months from time of submittal to USACE.

Mitigation Strategy: Since the proposed project is on an offset alignment, wetlands mitigation will be completed by creating 4.13 acres of forested wetlands within the existing R/W where the existing road lies. The creation of the 4.13 acres will include construction of a ditch a water Round Robin Proposed Mitigation Measures control structure to provide hydrology, critical area plantings over excavated areas, and reforestation plantings to include 1,270 trees including 3-gallon size and bare root trees and shrubs. Installation and maintenance of the proposed mitigation project will be conducted by outside contractors in a scenarae project let by ODOT through Procurement after the completion of the new bridge construction. Upon successful establishment of the mitigation project, long-term management of the site will be ODOT's responsibility. The property is already owned by ODOT, so no R/W costs will be associated with this project. The cost of mitigation is approximately \$60,000 which does not include monitoring.

If you have any questions regarding the mitigation proposal, please contact ODOT 404 Permits/Mitigation Engineer, Kristi Weigl at 405-522-0734.

The draft mitigation proposal has been presented to USACE for their approval as part of the CWA Section 404 Permit application and is currently under review. Should any comments dictate a change in the current concept, a revision package will be submitted to the USACE.

This document should be returned to Environmental Programs Division no later than: (July 27, 2012). Please forward it to the next person on the list within three days of receipt.

Page 2 of 5

Round Robin Proposed Mitigation Measures control structure to provide hydrology, critical area plantings over excavated areas, and reforestation plantings to include 1,270 trees including 3-gallon size and bare root trees and shrubs. Installation and maintenance of the proposed mitigation project will be conducted by outside contractors in a scenarae project let by ODOT through Procurement after the completion of the new bridge construction. Upon successful establishment of the mitigation project, long-term management of the site will be ODOT's responsibility. The property is already owned by ODOT, so no R/W costs will be associated with this project. The cost of mitigation is approximately \$60,000 which does not include monitoring.

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Off-Site Mitigation

- Off-site Mitigation Projects
 - Nationwide Permit and Individual Permit
- Main Advantage is the Mitigation Site in not in ODOT Right-of-Way
- Mitigation Banks
 - Corps preferred method purchase credits from banks but currently there is only one established bank in Oklahoma. Several entities are in the process of creating Mitigation Banks but this is a long and complicated process.
- Off-site Mitigation Projects are difficult. We must have a willing seller with property suitable for the type of mitigation improvements required by the Corps.
- It may take years to find and purchase the appropriate site, example Powers Property, started searching for property in 2009
- Currently we are partnering with The Nature Conservancy
 - Oka` Yanahli Preserve in Pontotoc County

Off-Site Mitigation

- Off-site Mitigation requires the Division to pay for the property/easement, implementation, maintenance and monitoring.
- If for some reason the project fails the Division will have to pay for any design modifications and re-planting.
- Design Engineers Role and Responsibilities in Off-Mitigation – Avoidance and Minimization, 404
 Permit Application, funding Off-Site Project.

Examples of Off –Site Mitigation Projects

- Excel Mitigation Bank, only for project in the Deep Fork 8 HUC, purchase credits, no stream credits available
- Oka` Yanahli Preserve approximately 490 acres
- Mayes County, currently using a 134 acre site for 3 projects in Division 8
- Powers Property in Division 2 for impacts to a Bog

Conceptual Off –Site Mitigation Partnering with The Nature Conservancy



Protecting nature. Preserving life."

OKA' YANAHLI PRESERVE Restoration Planning



Disclaimer: Stream assessment by David Bidelspach (Stantec) and restoration design work is not complete. This is a draft.

On-Site Mitigation

- On-site Mitigation Projects

 Both Nationwide and Individual Permit
- May save some time, if we don't need additional ROW
- May need to coordinate efforts with the Acquisition Branch and UT if we need additional ROW for the Mitigation Project. Need to start early in Right-of-Way process.
- Main Disadvantage the Mitigation Site cannot be altered by removing wetland/riparian vegetation, no channel changes, no construction activities, etc..... into perpetuity. This includes routine ODOT Maintenance. This is the reason for fencing the Mitigation Project area.

Engineers Role and Responsibilities for On-Site Mitigation

Designer Engineer Role

- After the Round Robin is signed EPD or a Consultant will begin gathering detailed information to develop the Mitigation Plan
- There are 2 ways to approach On-Site Mitigation
 - 1. The rough construction of the wetland and or stream can be included in the ODOT Construction Project. The vegetation installation, maintenance and monitoring would then be on a separate contract, through Purchasing and EPD would manage this separate contract.
 - 1. Advantages are working closely with the Design Engineer to include the Mitigation Project on ODOT Construction Plans
 - 2. Advantage reduces cost of Constructing Mitigation Project.
 - 3. Disadvantages working closely with the Design Engineer to include the Mitigation Project on ODOT Construction Plans
 - 4. Requires working closely with the Division and Resident Engineer. EPD will need to be included in Pre-Construction and Pre-Bid Conferences. Notified when Construction of Mitigation Project starts and when completed so a landscape contractor can begin installing the next phase of the Mitigation Project.
 - 1. The second method is to design, construct, install plant material, maintain and monitor under separate contract.
 - 1. Advantages do not have to work closely with Design Engineer to include the Mitigation Project on ODOT Construction Plans.
 - 2. Disadvantage will more than likely significantly increase the cost of constructing the Mitigation Project.

Engineers Role and Responsibilities for On-Site Mitigation

- Coordinate with Maintenance Division, remember the Mitigation Site cannot be altered unless approved by the Corps.
- Monitoring Period, varies per Mitigation Project type. The monitoring period comes to a close if the project was successful and we have satisfied all aspects of the Mitigation Plan we submitted.
- If during the monitoring period there are problems resulting in design failures. We modify where necessary and continue to monitor until the Corps signs off.

On-Site Mitigation

Examples







GENERAL CONSTRUCTION NOTES

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

MAINTENANCE OF THROUGH TRAFFIC INCLUDES THE MAINTENANCE OF THE EXISTING ROAD IN CLOSE PROXIMITY TO THE NEW CONSTRUCTION AS SHOWN ON THE PLANS.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING SECTION LINE ROADS TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER, ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY RIGHT-OF-WAY FENCE AS REQUIRED. WHEN THE THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY FIGHTOFTWAT FERE AS RECORDED. THE TEMPORARY FERCE SHALL PORTION OF THE PROJECT THAT REQUIRED THIS FERCE IS COMPLETED. THE TEMPORARY FERCE SHALL BE REMOVED, AND PERMANENT RIGHT-OF-WAY FENCING SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ALL COST TEMPORARY FENCING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

PRIME COAT SHALL BE APPLIED TO THE SUBGRADE IMMEDIATELY AFTER FINAL COMPACTION AND SHAPING TO RETAIN MOISTURE FOR PROPER CHEMICAL REACTION OF THE SOIL ADDITIVE.

THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK .

TEMPORARY SEEDING MIX SHALL BE AS FOLLOWS:	
KINDS OF SEED TO BE FUNISHED	QUANTITY PER ACRE
PERENNIAL RYE GRASS (LODIUM PERENNE)	20 LB
CRIMSON CLOVER (TRIFOLUM INCARNATUM)	15 FB

VEGETATIVE MECHING. THE VEGETATIVE MECH SHALL BE ANCHORED IN ACCORDANCE WITH THE "ADHESIVE SPRAY METHOD", AS SPECIFIED IN 233.048(1) OF THE STANDARD SPECIFICATIONS.

THE PLANTING OF TEMPORARY SEEDS SHALL BE RESTRICTED TO THE PERIOD FROM 9-1 TO 11-15 AND 3-15 TO 5-30.

AREAS ON WHICH SALVAGED TOPSOIL IS TO BE REPLACED SHALL HAVE 18 - 46 - 0 FERTILIZER APPLIED, AT THE RATE OF 150 POUNDS PER ACRE. JUST PRIOR TO THE REPLACEMENT OF SALVAGED TOPSOIL.

THE CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AS NECESSARY, MAILBOXES ARE TO BE MAINTAINED IN ALL UPRIGHT POSITION AND ACCESSIBLE TO MAIL CARRIER'S CAR DURING CONSTRUCTION. ANY DAMAGE TO BOXES OR SUPPORT SHALL BE REPAIRED BY THE CONTRACTOR. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

SURFACING OF RETURNS, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE OF THE SAME MATERIAL (BASE AND SURFACE) AS THAT OF THE ABUTTING SHOULDER OF THE MAINLINE. BASE AND SURFACE THICKNESS SHALL BE THE THICKNESS SHOWN ON PLANS.

T.B.S.C. SURFACES SHALL BE SPRINKLED WITH WATER AND ROLLED WITH A PNEUMATIC ROLLER IN A MANNER APPROVED BY THE ENGINEER.

IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 48 HOURS PRIOR TO

ENVIRONMENTAL MITIGATION NOTES

IN CONSULTATION WITH THE OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION (ODWC), THE IN CORSLATION WITH THE URLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION GOWE, THE TEXAS HORDED LIZARD DYNYRHOMOLA COMMITANA & SPECIES OF GREATEST CONSERVATION NEED. IS NORM TO OCCUR IN THIS AREA. IN THE EVENT THAT THIS SPECIES IS SIGHTED DURING ANY PHASE OF THIS PROJECT THE CONTRACTOR SHALL NOTITY THE RESISTENT BUSIERET IMAGENETING ODDE SIGHTING FORM CAN BE COMPLETED, LOCATED AT THE FRILDENTIME RESISTE ADDRESS INTEL //WWW.XIIII/GOOPTIMET.COM/DUDIOED/SIGHT FOR LOAN BE COTAT AN

CLIFF SWALLOWS AND DARN SWALLOWS ARE SWALL COLONIAL NESTING BIRDS PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. THESE SPECIES COMMONAY USE BRIDGS AND CULVERITS FOR NESTING. THE EXISTING BRIDGEISAND OTHER PRAINAGE STRUCTURES IF ANY MITTINI THE PROJECT SITE SHALL BE SURVEYED FOR THE PRESENCE OF SWALLOW NESTS PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITES. IF A SWALLOW REST IS FOND OTHER TO THE INITIATION OF CONSTRUCTION CONTINUES. THE ADVISION OF A SWALLOW RESTS PRIOR TO THE INITIATION OF DEFICIENT OF THE PRESENCE OF SWALLOW NESTS PRIOR TO THE INITIATION OF DEFICIENT OF THE PRESENCE OF SWALLOW RESTS AND THE SOLUTION OF THE FOLLOWING PROTOCOL. IN ORDER TO AVOID INFO DI REV 31, WEEN KESTS ARE NOT OCCUPIED. IF REMOVAL BRIDGE MUST BE COMPLETED CONTENTEMENT OF TO APRIL 31, WEENS TARE NOT OCCUPIED. IF REMOVAL OF INJERTO THESE BIRDS. OF TOOS INCLUDE THE EXCUPIENCE AND THE RESTS ARE NOT OCCUPIED. THE FOLLOWING MEST ESTABLISHEMENT PRIOR TO APRIL 1 BY WEARS THAT DO NOT RESULT IN DEATH OF INJERTO THESE BIRDS. OF TOOS INCLUDE THE EXCUPIENCE FOR SUITAIDE RESULT IN DEATH PROTECTED FROM NEW NEW NEW CONTAINS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST OR INJURY TO THESE BIRDS. OPTIONS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST SUITES ON OR WITHIN A STRUCTURE BY THE PLACEMENT OF NETTING PRIOR TO APRIL 1. METHODS OTHER THAN NETTING MUST BE PREAPPROVED BY THE DEPARTMENT'S BIOLOGIST.

SUBSURFACE ARCHAEOLOGICAL MATERIALS SUCH AS BONE, POTTERY, OR CHIPPED STONE ARE IF SUBSUPFACE ARCHAECLOGICAL MATERIALS SUCH AS BORE, POTERY, OR CHIPPED SIDNE AND EXPOSED DURING CONSTRUCTION. THE CONTRACTOR AND RESIDENT BEGINEER SHALL NOTIFY THE DEPARTMENT ARCHAECLOGIST IN ACCORDANCE WITH SECTION 202, ORIAISTANDARD SECTIFICATION OF THE FINDS IN ACCORDANCE WITH SECTION 202, ORIAISTANDARD SECTIFICATION OF THE FINDS IN ACCORDANCE WITH SECTION 100 CPT THE ANTIONIC PRESENT AND THE ARCHOOL, THE ANTIVE AMERICAN ORAVES PROTECTION AND AND THE ANTIONIC PRESENT AND THE ORLAHOAM BURIAL DESCRATION LAM. THE DEPARTMENT ANALANS REGADING SHOCH HADVERTENT WITH ALL APPORTATE NATURE AMERICAN THEORY SUBTRICTS PARTIES. FINDS AND ASSESSMENTS, AND FACILITATE SITE VISITATION BY INTERESTED PARTIES.

THIS PROJECT IS IN CLOSE PROXIMITY TO AREAS THAT HAVE HISTORICALLY BEEN USED FOR THE TO ENCOUNTER EXPLORATION AND EXTRACTION OF CURDE DIL. AS A RESULT, THERE IS A POTENTIAL TO ENC CRUDE DIL PRODUCTS AND RELATED WASTES. IF SUCH MATERIALS ARE FOUND, THE RESIDENT ENGINEER SHOLLD BE NOTIFIED IMMEDIATELY.

IN ADDITION, THERE IS A POTENTIAL TO ENCOUNTER GATHERING LINES AND OTHER PIPING, AND ABANDONED DIL, GAS OR SALTWATER DISPOSAL WELLS. ANY WELLS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES MUST BE PLUGGED, BY PROPERLY LICENSED PERSONNEL, IN ACCORDANCE WITH ALL APPLICABLE OSAGE NATION RULES AND REGULATIONS

OILFIELD PIPING, WELL CASINGS, OR GATHERING LINES ENCOUNTERED IN THE PROJECT MAY BE CONTAMINATED BY NATURALLY OCCURENTING RADIOACTIVE MATERIALS INDRM. THE CONTRACTOR WILL NOTIFY THE RESIDENT ENGINEER OF ANY MATERIALS FOUND TO CONTAIN ELEVATED LEVELS OF RADIOACTIVITY AND WILL HANDLE SUCH MATERIALS AS DIRECTED BY THE RESIDENT ENGINEER.

THE ENTRY TO OSAGE HILLS STATE PARK (US-60 AND SH-35 JUNCTION IS A HISTORIC PROPERTY ELIGIBLE THE ENTRY TO CSAGE HILLS STATE PARK US-60 AND BH-35 JUNCTION IS A HISINGLE PARAPENT FELIDE FOR INCLUSION IN THE NATIONAL REGISTER OF HISTORIC PLACES MORPH, NO CONSTRUCTION WORK, OTHER THAN THAT REQUIRED FOR CONNECTION TO THE KIEW CONSTRUCTION TO THE EXISTING ENTRY AND REMABLICATION PAYMEMENT ON THE EXISTING ENTRY FOR THE COAGE HILLS STATE PARK SH-35 JUNCTION, WILL BE ALLOWED, CONSTRUCTION SHALL NOT DISTURE THE MASONRY SIGNS AND FEALURES OF THE CONFIGURATION OF THE EXISTING ENTRY FOR THE SUBJECT FACILITIES OF ACTIVITIES SHALL OCCUR BETWEEN STATIONS 1290+00 RT. AND I300+00 RT.

THE STATE HISTORIC PRESERVATION OFFICE (SHPOP'S APPROVAL OF THE PROJECT DESIGN IS BASED ON THE PROJECT AS CURRENTLY PROPOSED. IF THEER ARE ANY CHARGES TO THE PROJECT FLANS, FURTHER COORDINATION WITH THE SHPO WILL BE REQUIRED THOUGH THE DEPARTMENT'S ENVIRONMENTAL PROGRAMS DIVISION PRIOR TO THE BID SOLICIATION PROCESS OR FIELD CHANGES DURING CONSTRUCTION



HARVEST SPOIL SEED BANK (TOPSOIL) PRIOR TO CONSTRUCTION ACTIVITY

AT STA. 1081+00-1082+00 THE TOPSOIL SHALL BE EXCAVATED 15'EITHER SIDE OF THE EXISTING CHANNEL. FROM 20'SOUTH OF THE EXISTING BRIDGE STRUCTURE, EXTENDING NORTH APPROXIMATELY 50'TO A DEPTH OF 1'-0".

A FEW LARGE NATURAL BOULDERS AND ROCKS SHALL BE EXCAVATED AND RELOCATED THE STREAMBANK MODIFICATION SITE.

STOCKPILE THE HARVESTED SPOIL SEED BANK AND LARGE BOULDERS INTO 2 SEPARATE STOCKPILES LOCATED JUST SOUTH OF THE NORTH RIGHT-OF-WAY FENCE NEAR THE STREAM.

STREAMBANK MODIFICATION

THE STREAMBARK MODIFICATION SITE AT STA. 1186+00 WILL BE RECONTOURED PER ROADWAY PLANS. THE NEW FINISM GRADE ELEVATION MEXT TO THE STREAM SHALL BE A MAXIMAM OF 1/ABOVE THE TYPICAL FLOW ELEVATION OF THE STREAM, STREAM BENCHES WILL BE CREATED PER THE PLANG WITH THE TOTAL AREA NOT BE LESS THAN 0.25 ACRES. SPREAD THE HARVESTED GPOIL SEED BANK EVENLY OVER THE NEWLY CREATED STREAM BENCH UP TO THE SODDED AREA.

OVERSEED THIS AREA WITH WINTER WHEAT (70 LBS PER ACRE) IF CONSTRUCTION IS COMPLETED IN THE FALL OR WINTER MONTHS OR GERMAN MILLET (20 LBS PER ACRE) IF THE CONSTRUCTION IS COMPLETED IN THE SPRING OR SUMMER MONTHS.

NATIVE BOULDERS AND ROCKS

PLACE THE NATIVE BOULDERS AND ROCK NEAR THE STREAM EDGE.

EARTHWORK

UNCLASSIFIED EXCAVATION REQUIRED TO CONSTRUCT CHANNEL INCLUDED IN NOTE 11 OF THE ROADWAY PAY DUANTITIES SHEET. PRYMENT

AREAS OF WORK

CHANNEL RESTORATION DETAIL AT & SURVEY STA 1185-157.13 SEE PLAN SHEET 150 FOR ADDITIONAL INFORMATION. ALL ITEMS NOT SPECIFIED STATUL BI INCLUDED IN ANTE: THE PRICE RID FOR OTHED ITEMS - THENES



SUGGESTED SEQUENCE OF CONSTRUCTION

PHASE I

A.CONSTRUCT MAINLINE US-60 FROM CRL STA. 1008+00.00 TO CRL STA. 1063+00.00.

B.CONSTRUCT MAINLINE US-60 FROM CRL STA. 1073+00.00 TO CRL STA. 1131+00.00.

NOTE: CONSTRUCT TEMPORARY 1:3 FORESLOPE IN FILL, AND TEMPORARY 1:3 BACKSLOPE IN LUT, FRAM EDE OF BACKFILL, FRAM CR. STA. 1073-00.00 RT 10 CR. STA. 1131-00.00 RT, AD CONSTRUCT TEMPORARY FOR EDEC OF FRAM RT EDEC OF CASTEDAND ON THE STATE AND A CONSTRUCTION OF A TO CR. STA. 111-10-00 RT FRAM RT EDEC OF CASTEDAND ON THE STATE AND A CONSTRUCTION OF A TO CR. STA. 111-10-00 RT FOR TRAFFIC SHIFT DETAIL FROM CRL STA 1100+52.64 TO CRL STA 1111+79.24 SEE SHEET 95.

C.CONSTRUCT MAINLINE US-60 FROM CRL STA. 1139+00.00 TO CRL STA. 1270+00.00.

CONSTRUCT TEMPORARY 1:3 FORESLOPE FROM EDGE OF BACKFILL FROM CRL STA. 1139+00.00 LT TO CRL RULEL CURRENTEL I LEWEUMART LI 3 FUERSIONE FORM EDGE DE BACEFILL FROM CRL STA. 11399-00.00 LT TO CRL. STA. 1140-50.00 LT, TEMPORART I 3 BACSEQUE FROM CRL STA. 11310-00.01 LT (LE STA. 1170-00.00 LT, TEMPORART 12.75 BACSEQUE FROM CRL STA. 1190-00.00 LT TO CRL STA. 1020-00.00 LT, LEWENDRAFT 13 BACSEQUE FROM CRE STA. 1190-00.00 LT TO CRL STA. 1020-00.00 LT LT. TEMPORART 13 BACSEQUE FROM CRE DEG DE BACEFILL FROM CRL STA. 1217-00.00 LT TO CRL STA. 1020-00.00 LT, TEMPORART 1229+00.00 LT, TEMPORARY 1:3 BACKSLOPE FROM EDGE OF BACKFILL FROM CRL STA. 1231+00.00 LT TO CRL STA. 1238+50.00 LT.

D.CONSTRUCT MAINLINE US-60 FROM CRL STA. 1281+50.00 TO CRL STA. 1293+50.00.

NOTE: CONSTRUCT TEMPORARY 1:3 FORESLOPE IN FILL, AND TEMPORARY 1:3 BACKSLOPE IN CUT, FROM EDGE OF BACKFILL FROM CRL STA. 1281+50.00 RT TO CRL STA. 1293+50.00 RT.

CONSTRUCT ALL FIVE DETOURS.

PHASE 111

SHIFT TRAFFIC TO NEWLY CONSTRUCTED DETOURS 2, 3, 4, AND 5. DO NOT UTILIZE DETOUR 1 IN THIS PHASE.

PHASE IV

A.CONSTRUCT MAINLINE US-60 FROM CRL STA. 1063+00.00 TO CRL STA. 1073+00.00.

NOTE: CONSTRUCT TEMPORARY 1:3 BACKSLOPE FROM EDGE OF SHOULDER LT.

B.CONSTRUCT MAINLINE US-60 FROM CRL STA. 1131+00.00 TO CRL STA. 1139+00.00.

NOTE: CONSTRUCT MAINLINE LT UP TO INTERSECTION OF MAINLINE GRADING AND DETOUR 3 GRADING.

C.CONSTRUCT MAINLINE US-60 FROM CRL STA. 1270+00.00 TO CRL STA. 1281+50.00.

NOTE: CONSTRUCT TEMPORARY 1:3 FORESLOPE IN FILL, AND TEMPORARY 1:3 BACKSLOPE IN CUT, FROM EDGE OF

D.CONSTRUCT MAINLINE US-60 FROM CRL STA. 1293+50.00 TO EDP.

NOTE: CONSTRUCT TEMPORARY 1:3 FORESLOPE IN FILL, AND TEMPORARY 1:3 BACKSLOPE IN CUT, FROM EDGE OF BACKFILL LT.

PHASE V

A.SHIFT TRAFFIC TO DETOUR 1 AND NEWLY CONSTRUCTED US-60.

B.REMOVE DETOUR 2, 3, 4, 5 & TEMPORARY STRUCTURES.

C.CONSTRUCT PERMANENT SLOPES FROM PREVIOUS PHASES.

PHASE VI

CONSTRUCT MAINLINE US-60 FROM BOP TO CRL STA. 1008+00.00.

NOTE: CONSTRUCT MAINLINE RT UP TO INTERSECTION OF MAINLINE GRADING AND DETOUR 1 GRADING. REMOVE DETOUR AFTER MAINLINE IS COMPLETE.

PHASE VIJ

A.SHIFT TRAFFIC TO NEWLY CONSTRUCTED US-60.

B.CONSTRUCT PERMANENT SLOPES FROM PREVIOUS PHASE AND REMOVE DETOUR 1.

NOTE: CONTRACTOR MAY SUBMIT, IN WRITING, AN ALTERNATE SEQUENCE OF CONSTRUCTION TO BE APPROVED BY THE ENGINEER

DESIGN			OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION
DRAWN	JSH	-	
CHECKED			PAY QUANTITIES & NOTES
APPROVED		-	(ROADWAY)
TEAM	JO	NES	STATE JOB NO SHEET NO
			OSAGE COUNTY US-BU



HARVEST SPOIL SEED BANK (TOPSOIL) PRIOR TO CONSTRUCTION ACTIVITY

AT STA. 1081+00 – 1082+00 THE TOPSOIL SHALL BE EXCAVATED 15' EITHER SIDE OF THE EXISTING CHANNEL, FROM 20' SOUTH OF THE EXISTING BRIDGE STRUCTURE, EXTENDING NORTH APPROXIMATELY 50' TO A DEPTH OF 1'-0".

A FEW LARGE NATURAL BOULDERS AND ROCKS SHALL BE EXCAVATED AND RELOCATED THE STREAMBANK MODIFICATION SITE.

STOCKPILE THE HARVESTED SPOIL SEED BANK AND LARGE BOULDERS INTO 2 SEPARATE STOCKPILES LOCATED JUST SOUTH OF THE NORTH RIGHT-OF-WAY FENCE NEAR THE STREAM.

STREAMBANK MODIFICATION

THE STREAMBANK MODIFICATION SITE AT STA. 1185+00 WILL BE RECONTOURED PER ROADWAY PLANS. THE NEW FINISH GRADE ELEVATION NEXT TO THE STREAM SHALL BE A MAXIMUM OF 1' ABOVE THE TYPICAL FLOW ELEVATION OF THE STREAM. STREAM BENCHES WILL BE CREATED PER THE PLANS WITH THE TOTAL AREA NOT BE LESS THAN 0.25 ACRES. SPREAD THE HARVESTED SPOIL SEED BANK EVENLY OVER THE NEWLY CREATED STREAM BENCH UP TO THE SODDED AREA.

SEEDING

OVERSEED THIS AREA WITH WINTER WHEAT (70 LBS PER ACRE) IF CONSTRUCTION IS COMPLETED IN THE FALL OR WINTER MONTHS OR GERMAN MILLET (20 LBS PER ACRE)IF THE CONSTRUCTION IS COMPLETED IN THE SPRING OR SUMMER MONTHS.

NATIVE BOULDERS AND ROCKS

PLACE THE NATIVE BOULDERS AND ROCK NEAR THE STREAM EDGE.

FENCING

THE AREA WIILL BE FENCE PER PLANS.

Woodward County, SH-15 over Turkey/Bull Creek **On-Site Stream &** Wetland Mitigation



Woodward County, SH-15 On-Site Stream & Wetland Mitigation







LeFlore County, US-59 over Cedar



LeFlore County, US-59 over Cedar Creek



GENERAL CONSTRUCTION NOTES

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC, SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC

ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR BHALL FRONDE ALL TEMPORTARY REGIT-OF-WAY FENCE AS REGURED. WHEN THE PORTINO OF IMP PROJECT THAT REGURED THE PIPCLE IS COMPUTED, THE TEMPORTARY FENCE SALL BE RENOVED, AND REMANDER RIGHT-OF-WAY FENCING BHALL BE RESTORED OR NETALLED IN A MANNER APPROVED BY THE NOMERER ALL CONT TEMPORARY FENCING BHALL BE RESTORED OR NETALLED IN A MANNER APPROVED BY THE NOMERER ALL CONT TEMPORARY FENCING BHALL BE RESTORED OR NETALLED IN A MANNER APPROVED BY THE NOMERER ALL CONT TEMPORARY FENCING BHALL BE RESTORED OR NETALLED IN A MANNER APPROVED BY THE NOMERER ALL CONT TEMPORARY FENCING BHALL BE RESTORED ON NETALLED IN THE NORTH

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINCLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER THEM OF WORK.

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING-TILLER METHOD", AS SPECIFIED IN 233.048(I) OF THE STANDARD SPECIFICATIONS.

AREAS ON WHICH SALVAGED TOPSOIL IS TO BE REPLACED SHALL HAVE 18-46-0 FERTILIZER APPLIED, AT THE RATE OF 150 POUNDS PER ACRE, JUST PRIOR TO THE REPLACEMENT OF SALVAGED TOPSOIL.

AT THE BEGINNING OF TURFING OPERATIONS, ANY AREAS INCLUDED IN PLANNED QUANTITIES THAT HAVE GROWN A BATEFACTORY VOLUNTEER TURF OF PERENNAL GRASS, AS DETERNINED BY THE ENGINEER, SHALL BE FERTILIZED AND WATERED AS CALLED FOR ON THE PLANS, BUT SHALL NOT BE SEEDS, SOODED, OR SPRIGED.

THE CONTRACTOR BHALL REMOVE AND REBET MALBOXES AS NECESSARY. MALBOXES ARE TO BE MAINTAINED IN AN UPROINT PORTION AND ACCEBBILE TO MAIL CARREER'S CAR DURING CONSTRUCTION. ANY DAMAGE TO BOXES OR SUPPORTS BALL BE REPARADE BY THE CONTRACTOR. ALL COST TO BE INCLUDED IN OTHER TREB OF WORK.

AGGREGATE BASE ON DETOUR ROADS, REMOVED AND RELAID FOR SHOULDERS, DRIVEWAYS AND/OR RETURNS ON MAIN ROADWAY, SHALL MEET THE SPECIFICATIONS FOR "AGGREGATE BASE" WHEN RELAID, NO PLANT MIDING WILL BE REQUIRED FOR THIS MATERIAL.

SURFACING OF RETURNS, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE OF THE SAME MATERIAL (BASE AND SURFACE) AS THAT OF THE ABUTING SHOULDER OF THE MAINLINE. BASE AND SURFACE THICKNESS SHALL BE THE THICKNESS SHOWN ON PLANS.

T.B.S.C. SURFACES SHALL BE SPRINKLED WITH WATER AND ROLLED WITH A PNEUMATIC ROLLER IN A MANNER APPROVED BY THE ENGINEER

IN ACCORDANCE WITH OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 44 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA OME-CALL SYSTEM, INC. "CALL LONG" 1406-022-0445 OK 811.

ENVIRONMENTAL MITIGATION NOTES

LOCATIONS OUTSIDE THE PROJECT AREA IN THE FOLLOWING AREA NUST NOT BE UTILIZED FOR BORROW, EQUINENT STABNE, HAUL RADAB, BFOLL DUMPS OR ANY OTHER OFF-SITE PROJECT-KELATED ACTIVIT. TIN, RTIEL SECTION 2: BEFORD THE SHILL OF THE BHILL OF THE BHILL OF THE BHILL OF THE BHILL OF

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BETWEEN STATION 705+00 AND 705+00

ROADWAY PAY QUANTITY NOTES

- (R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD
- (R-4) INCLUDES 300 CU. YDS. FOR DRIVEWAYS, RETURNS, DIKES, AND MISCELLANEOUS EARTHWORK
- (R-6) AN ESTIMATED COMMITTY OF 1458 C 21, YOPSCIL, TO BE RESERVED FOR REVLACEMENT OF APPRICAMENT OF ON COMPLETE FOREIDES, DITCHES, AND EXACLIDED AT ELEMENTHY IS INCLUDED IN THE EARTHWORK BALANCE. ANY ADDITIONAL EXCAVATION REQUERED IN CUT SECTIONS TO ALLOW FOR PLACEMENT OF TOPSCIL TO FINAL GRADE, SHALL BE INCLUDED IN THE PARCE BID.
- (R-7) FOR TYPE A SALVAGED TOPSOIL PRICE BID TO INCLUDE COST OF 18-48-0 FERTILIZER, ESTIMATED AT 150 POLIMON PER ACOF
- (R-8) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE THE COST OF WATERING, ESTIMATED AT 80 GALLONS PER 8.1
- (R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 22 28 ACRES
- (R-25) ESTIMATED AT 120 LBS. PER CU. FT.
- (R-39) PRIME COAT SHALL BE APPLIED AT AM ESTMATED RATE OF 0.55 GAL. PER 8Q. YO. WHEN APPLIED TO SUDGRADE, AND 0.35 GAL. PER 8Q. YO. WHEN APPLIED TO AGGREGATE BABE. HIE ACTUAL CUTBACK PRIME COAT REQUEST FOR FACEBENT OPERATIONS WILL BE CETEMBED BY THE CONTRACTOR, AND SHALL CONSIDER THE RESOUL FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 788.03 OF THE STANDARD SPECIFICATIONS.
- (R-32) ESTIMATED AT 112 LBS. PER. SQ. YD. PER 1" THICK
- (R-41) QUANTITY INCLUDES AN ESTIMATED 10 C.Y. TO BE USED AS DIRECTED BY THE ENGINEER.
- (R-48) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISI SPECIFIED), INLETS, FENCES, AND OTHER STRUCTURES WITH THE RIGHT OF WAY.
- (R-49) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE
- (R-50) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIE EXCAVATION
- (R-52) INCLUDES 2% FOR GROUND MEASUREMENT.
- (R-53) ALL GATES AND GATE END POSTS FOR STRANDED WIRE FENCE (SWF) SHALL BE CONSTRUCTED AT THE SAME WIDTH AS THE EXISTING, UNLESS OTHERWISE DIRECTED BY THE EXGINEER.
- QUANTITY INCLUDES 210 TONS FOR TEMPORARY ACCESS TO DRIVEWAYS.
- INCLUDES 1 G.E.T. TO BE USED TEMPORARILY ON EAST SHOOFLY DURING PHASED CONSTRUCTION
- INCLUDES 50 LF. OF W-BEAM GUARDRAIL CONNECTED TEMPORARILY TO EXISTING GUARDRAIL ON EAST
- CONTRACTOR SHALL INSTALL RIGHT OF WAY FENCE FROM STA. 704+58.19 TO STA. 707+98.34 LT., PRIOR TO
- TO BE USED AS BACKFILL INSIDE PLUGGED 4'x3' RCB AT STA, 714+59,91
- 6) COST TO INCLUDE TEMPORARY SEDIMENT REMOVAL. REMOVE SEDIMENT WHEN 50% FULL.
- 7) TRACKLESS TACK COAT SHALL BE REQUIRED FOR THIS PROJECT.
- ITEMS TO BE INCLUDED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIC CONDITION STATION DESCRIPTION
 - 703+00 LT 130" CL 8H-1 120 SF WOOD SHED 703+30 LT 110" CL SH-1 120 SF WOOD SHED
- 5 C.Y. OF EXCESS EXCAVATION TO REMAIN ON-SITE AND STOCKPILED IN A LOCATION AS DIRECTED BY THE

21735(04) 0100 ROAD	WAYITEM	PAY QUANTITIES			
ITEM		DESCRIPTION	PAY NOTES	UNIT	QUANTIT
201(A)	0102	CLEARING & GRUBBING		L SUM	1
202(A)	0183	UNCLASSIFIED EXCAVATION	9,R-1	C.Y.	67.29
202(D)	0184	UNCLASSIFIED BORROW	R-1.R-4	C.Y.	134.34
205(A)	4229	TYPE A - SALVAGED TOPSOIL	R-5,R-7	L. SUM	
221(C)	2801	TEMPORARY SILT FENCE	6	L.F.	8.26
221(F)	0100	TEMPORARY SILT DIKE	6	L.F.	1.17
230(A)	2806	SOLID SLAB SODDING	R-8	S.Y.	107.91
233(A)	2817	VEGETATIVE MULCHING	R-11	AC.	22.2
241	2832	MOWING		AC.	22.2
303(B)	2110	AGGREGATE BASE TYPE B		C.Y.	9.26
325	5271	SEPARATOR FABRIC		S.Y.	32.91
326(B)	0100	GEOGRID REINFORCEMENT		S.Y.	32.91
402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	1.R-25	TON	4 20
407(B)	0250	TACK COAT	7	GAL.	3.93
408	5774	PRIME COAT	R-28	GAL	11.91
411(B)	5935	SUPERPAVE, TYPE \$3(PG 78-28 OK)	R-32	TON	2 42
411(B)	5945	SUPERPAVE, TYPE S3(PG 64-22 OK)	R-32	TON	6.14
411(C)	5950	SUPERPAVE, TYPE \$4(PG 76-28 OK)	B-32	TON	1.61
411(C)	5960	SUPERPAVE, TYPE \$4(PG 64-22 OK)	R-32	TON	1.64
501(A)	0313	STRUCTURAL EXCAVATION UNCLASSIFIED	R-1	C.Y.	9
501(G)	6315	CLSM BACKFILL	5	CY.	2
509(A)	0319	CLASS AA CONCRETE	-	C.Y.	189.
509(D)	0325	CLASS C CONCRETE	R-41	C.Y.	58
511(A)	0332	REINFORCING STEEL		LB.	28.20
613(B)	0689	18" CORR. GALV. STEEL PIPE		LF.	220
613(M)	7188	TYPE A4 CULVERT END TREATMENT		EA.	
613(M)	7196	TYPE AS CULVERT END TREATMENT		EA.	
619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	8,R-48,R-49	L SUM	-
619(B)	4725	REMOVAL OF FENCE	R-49	L.F.	7.730
619(B)	4728	REMOVAL OF ASPHALT PAVEMENT	R-49.R-50	S.Y.	13.356
619(B)	4780	REMOVAL OF GUARDRAIL	R-49	L.F.	1,459
619(C)	0924	SAWING PAVEMENT		L.F.	213
623(A)	0932	BEAM GUARDRAIL W-BEAM SINGLE	3	L.F.	1,500.0
623(G)	8590	GUARDRAIL END TREATMENT (31")	2	EA.	9
623(1)	8700	GUARDRAIL BRIDGE CONN-THRIE BEAM (31")		EA.	8
624(B)	4464	GATES-STYLE WWF (4.5' HIGH X 14' LONG)		EA.	2
624(B)	4466	GATES-STYLE WWF (4.5' HIGH X 16' LONG)		EA.	1
624(C)	4458	FENCE-STYLE SWF (4 BARBED WIRE)	4,R-52	L.F.	1,160
624(C)	4459	FENCE-STYLE SWF (5 BARBED WIRE)	R-62	L.F.	4,818
624(E)	4292	FENCE-STYLE CLF (6' HIGH, CLASS A)	R-62	L.F.	301
624(F)	5966	GATES-STYLE CLE (6' HIGH X 18' LONG)	R-53	FA	

OLSOFTON

BATE

0600 STAK	NG	PAY QUANTITIE	S		
IT	EM	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
642(B)	0095	CONSTRUCTION STAKING LEVEL II		L. SUM	-

0640 CONS	TRUCTION	PAY QUANTITIES			
ITI	EM	DESCRIPTION	PAY NOTES	UNIT	QUANTITY
220	2800	SWPPP DOCUMENTATION AND MANAGEMENT		L. SUM	1
640(A)	1426	FIELD OFFICE		EA.	1 1
641	1552	MOBILIZATION		L SUM	1 1

21735/04

DESIGN	JMM	04/13	OKLAHOMA DEPARTMENT OF TRANSPORTATION		
DRAWN	KBG	04/13	OUT ENGINEERING SERVICES, INC.		
CHECKED	JEB	04/13	SUMMARY OF PAY QUANITIES		
PPROVED	JSG	04//3	& NOTES (ROADWAY)		
SOLIAD			STATE JOB NO		
			LATIMER & LEFLORE COUNTY SH-		



























Case Studies

Grant County, SH-11



Case Studies

• Grant County, SH-81

