CE & SUPPORTING DOCUMENTATION

PROJECT FOR SH-48 BEGINNING 1 MILE SOUTH OF THE JOHNSTON COUNTY LINE AND EXTENING NORTH 6 MILES

PROJECT ON SH-48 OVER DELAWARE CREEK AND WALNUT CREEK, BEGINNING 2.2 MILES NORTH OF JCT SH-7

PROJECT ON SH-48 OVER ELM CREEK AND TELL CREEK, BEGINNING 2.1 MILES NORTH OF THE JOHNSTON COUNTY LINE

JOHNSTON AND COAL COUNTIES, OKLAHOMA

ODOT PROJECT NUMBER: J3-1047(004), J3-1053(004), and J3-1054(004)
ODOT JOB/PIECE NUMBERS: 31047(04), 31053(04), and 31054(04)
Guernsey Project No.: OK70333003

Prepared For:

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Prepared by:

guernsey ENGINEERS ARCHITECTS CONSULTANTS

Guernsey
5555 North Grand Blvd.
Oklahoma City, OK
405.416.8100

Oklahoma Department of Transportation

Environmental Programs Division Office 521-3050 Fax 522-5193

Programmatic/Individual Categorical Exclusion

	PCE	X	ICE

Date	**3/31/2020**	Project Number	**J3-1047(004) J3-1053(004) J3-1054(004)**
County	**Johnston and Coal**	State Job Piece No:	**31047(04) 31053(04) 31054(04)**
NEPA Project Manager	**Amanda Alexander**	Phone Number	**405.521.2312**
ODOT Field Division	**3**	Bridge NBI No. *(For County & State Projects)* & Location No. *(County Projects Only)*	**JP31053(04): Bridge A: 15121 Bridge B: 14958 JP31054(04) Bridge A: 14955 Bridge B: 14959**
Project Description from JPINFO	**JP31047(04), Johnston County: Widen and Resurfacing SH-48: Beginning 1 mile south of Johnston county line, extending north 6 miles JP31053(04), Johnston County: SH-48: Over Delaware Creek and Walnut Creek, beginning 2.2 miles north of JCT SH-7 JP31054(04), Coal County: SH-48: Over Elm Creek and Tell Creek, beginning 2.1 miles north of Johnston county line**		

This project is included in: *(Check all applicable ones)*	**X**	**State 8 Year Construction Program**
		County 5 Year Construction Program
		State Transportation Improvement Program
This project is in the Metropolitan Transportation Improvement Program (If applicable) *(Check applicable one)*		**YES**
	X	**NOT APPLICABLE**

The Oklahoma Department of Transportation (ODOT) has completed the environmental analysis and review of the referenced project. ODOT has determined that this project does not individually or cumulatively have a significant impact of the environment as defined by the National Environmental Policy Act (NEPA) or involve unusual circumstances as defined in 23 CFR 771.117(b) and is therefore excluded from the requirements to prepare an Environmental Assessment or Environmental Impact Assessment.

Existing Conditions *(Describe existing bridge width, approach roadway width, etc., traffic (current and projected), Existing Problems such as sufficiency rating):*
SH-48 from 1 mile south of Johnston County Line extending north 6 miles just past EW-174 has 2 – 12 ft. driving lanes with poor pavement quality and narrow 1 ft. asphalt shoulders. This project includes eight bridges on SH-48 however, only four bridges will be replaced or have improvements. Bridge NBI No. 15121 over Delaware Creek is a 28 ft. wide span bridge and is considered "at risk of becoming structurally deficient" with a sufficiency rating of 70.6. Bridge NBI No. 14958 over Walnut Creek is a 48 ft. long

reinforced concrete box (RCB) and does not meet clear zone with a sufficiency rating of 92.9. Bridge NBI No. 14955 over Elm Creek is a 32 ft. long RCB and does not meet clear zone with a sufficiency rating of 78.4. Bridge NBI No. 14959 over Tell Creek is a 32 ft. long RCB and does not meet clear zone with a sufficiency rating of 78.4. The current Annual Average Daily Traffic (AADT) is 2,346 vehicles per day (vpd) with a future 20-year AADT of 3,366 vpd.

Purpose & Need *(Why the project is needed such as structural deficiency or bridge does not meet current state/federal standards for width or vertical clearance or the roadway has sharp horizontal curves or sight distance problems or narrow shoulders which do not meet current standards):*

To correct a roadway with narrow shoulders and poor pavement quality, and bridge boxes which do not meet clear zone and span bridges which are at risk of becoming structurally deficient.

Alternatives considered & Proposed Improvement *(Provide reason why an offset alignment to one side is selected vs the other side, Proposed construction such as roadway and bridge widths, AND mention whether the road will be open to traffic during construction.):*

For JP 31047(04), the proposed improvements consist of resurfacing and widening SH-48 from 1 mile south of Johnston County Line extending north 6 miles just past EW-174 to have 2-12 ft. wide paved driving lanes and 8 ft. wide paved shoulders. For JP 31053(04), the proposed improvements consist of removing the Bridge "A" (NBI No.: 15121) and constructing a new 40 ft. wide bridge on the existing alignment. A shoofly will be constructed to the west with a minimum offset to avoid the county road and pond on the east side of the bridge. Bridge "B" (NBI No. 14958) is an RCB that will be extended to a clear roadway width of 84 ft on existing alignment. For JP 31054(04), the proposed improvements consist of extending Bridge "A" (NBI No.: 14955), an RCB, to the length of 99.3 ft on existing alignment. Bridge "B" (NBI No.: 14959) is an RCB that will be extended to the length of 86 ft on existing alignment. The roadway will be open to traffic during construction. Additional right-of-way will be needed for construction.

Did the project have public involvement *(Check the applicable items and include public involvement summary and supporting documents in the appendix)*

X	Property Owner Notification			Road Closure Letter			Public/Stakeholder Meeting
	Legal Notice/Website Posting			Small City Letter			None

All documentation, analyses, and agency coordination regarding this Categorical Exclusion are attached to this document and maintained in the project file at the Oklahoma Department of Transportation, Environmental Programs Division.

Criteria Identified in Section III.b.3. of the 2011 FHWA/ODOT Programmatic Agreement for Processing Categorical Exclusions that would require Individual Review and Approval by FHWA:

Check Yes or No below. If the answer to any of the questions below is Yes, an Individual CE will be required.

Description/Question	**Yes**	**No**
Item(a)		
1. Does the project involve residential or commercial relocation?	**X**	
2. Does the project involve acquisition of right-of-way not adjacent to the existing facility?		**X**
3. Does the project involve property in which another Federal Agency or Federally Recognized Tribe has ownership, oversight or any other encumbrance?		**X**
Item(b)		
Does the project involve a determination of adverse effect by Oklahoma State Preservation Office (SHPO) or a designated Tribal Historic Preservation (THPO) in accordance with Section 106? An exception to this would apply if adverse effects are addressed programmatically as part of a previously executed general Section 106 Programmatic Agreement with SHPO, FHWA and others, and a project-specific MOA will not be required.		**X**

Criteria Identified in Section III.b.3. of the 2011 FHWA/ODOT Programmatic Agreement for Processing Categorical Exclusions that would require Individual Review and Approval by FHWA: **Check Yes or No below. If the answer to any of the questions below is Yes, an Individual CE will be required.**		
Description/Question	**Yes**	**No**
Item (c)		
Does the project involve a Programmatic Section 4(f) or *de minimis* finding which has not been previously approved by FHWA?		**X**
Item (d)		
Does the project involve a Section 6(f) property?		**X**
Item (e)		
Does the project involve any impact on Noise Abatement Criteria (NAC) Category A, B, C or D receptors?		**X**
Item (f)		
1. Does the project involve a finding of "may effect, likely to adversely affect" to a federally listed endangered or threatened species or its critical habitat determined during the Section 7 Informal Consultation Process? The exception to this is the American Burying Beetle or any other species which has been addressed under a separate formal programmatic agreement.		**X**
2. Does the project involve a Section 7 Formal Consultation Process?		**X**
Item (g)		
Does the project require an Individual Section 404 Permit (This is for major River Crossings, waters or wetlands impact greater than 0.5 AC, Projects with Formal Consultation, or others as determined by USACE)?		**X**
Item (h)		
Does the project require a Coast Guard Permit?		**X**
Item (i)		
Does the project involve construction across or adjacent to a river designated as a component in the National System of Wild and Scenic Rivers?		**X**
Item (j)		
Does the project involve an adverse impact on prime farmland where Natural Resources Conservation Agency (NRCS) has required consideration of alternatives and measures to avoid and minimize impacts?		**X**
Item (k)		
Does the project involve increase to the base 100 Year floodplain in a regulatory floodway (Zone A-E in a FEMA Map) that will require a flood map revision as determined by the appropriate state or local authority?		**X**
Item (l)		
Does the project involve any known Superfund site?		**X**
Item (m)		
Does the project involve any permanent changes to the operation of an Interstate highway, associated interchanges or ramps?		**X**
Item (n)		
Does the project have potential for disproportionately high and adverse impact on minority or low income populations, based on known demographics in the project vicinity, extent of R/W, relocations, and other identified impacts?		**X**
Item (o)		
Does the project have any substantial or public controversy on environmental grounds?		**X**
Item (p)		
If the project involves road closure or ramp closure, do any of the following conditions apply*? (Check the boxes ONLY if the project involves road closure)*		

Criteria Identified in Section III.b.3. of the 2011 FHWA/ODOT Programmatic Agreement for Processing Categorical Exclusions that would require Individual Review and Approval by FHWA:

Check Yes or No below. If the answer to any of the questions below is Yes, an Individual CE will be required.

Description/Question	Yes	No
i. No Access will be provided to local traffic or posted		
ii. Through traffic dependent businesses will be affected		
iii. The detour closure will interfere with special events or activities		
iv. The detour or closure will substantially alter the environmental consequences of the action, such as by creating unsafe conditions on the detour route or requiring additional work or expansion to detour routes to carry the additional traffic.		
v. There is a public controversy associated with the detour or closure		

Explanation for Individual CE (If any of the answers above are YES):

Item for which the answer is YES	**Item (a)1**

Explanation that CE Classification is appropriate

The Relocation Plan based on 65% Plans identified one potential residential relocation. According to the Relocation Plan, there are several comparable properties available at this time.

An Environmental Justice Report, created using data from the U.S. Census Bureau, found that the study and surrounding areas contain 28% (Coal County) and 26.4% (Johnston County) minority populations and that there are 16.7% (Coal County) and 12% (Johnston County) of the population in the census block groups whose average income is below $25,750 (poverty line for household of four (4) per Health and Human Services Poverty (HHS) Guidelines for 2019). With only one potential relocation, no minority or low-income populations have been identified that could suffer disproportionately or be adversely affected by the proposed project. In accordance with the provisions of E.O. 12898 and FHWA Order 6640.23A, no further EJ analysis is required.

Item for which the answer is YES	

Explanation that CE Classification is appropriate

Commitments *(Check Applicable ones)*

X	Plan notes requiring avoidance of cultural resources in off-project areas will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). **Locations outside the project area in the following area must not be utilized for borrow, equipment staging, haul roads, spoil dumps or any off-site project-related activity.** **T1S R8E:** **Section 24: NE1/4 of NW1/4 of NW1/4** **T2S R8E:** **Section 2: SE1/4 of NE1/4 of SE1/4**
	Properties eligible for the National Register of Historic Places (NRHP) have been identified within the project area. Plans need to be submitted to Environmental Programs Division by the Designer for further coordination with the State Historic Preservation Office (SHPO) prior to the bid solicitation process or construction.
X	Properties eligible for the National Register of Historic Places (NRHP) have been identified within the project area. The State Historic Preservation Office (SHPO)'s approval is based on the project as currently proposed. The following Plan notes will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). **Temporary fencing will be used to demarcate the project R/W from Stations: 1194+70 LT to 1198+50 LT. No equipment staging, borrow, haul roads, spoil dumps, vehicle parking, or any other project related off-site facilities or use should occur beyond the fencing in this area during construction**

Commitments *(Check Applicable ones)*	
	activities. **ODOT-Cultural Resources Program staff should be invited to all pre-work conferences to discuss these measures and the State Archaeologist's recommendation for archaeological monitoring between Stations 1194+70 LT to 1198+50 LT, per Policy Directive C-201-2E(1). If you have any questions, please contact the Cultural Resources Program at 405-325-7201.**
	(Only for Special Projects) Properties eligible for the National Register of Historic Places (NRHP) have been identified within the project area. Further coordination with the State Historic Preservation Office (SHPO) is required by the ODOT Project Management's Special Projects Branch prior to the bid solicitation process or construction. The SHPO letter which cites the information needed to proceed is included in the Appendix. The file number from the SHPO letter should be referenced in all correspondence with SHPO. Copies of such coordination should be provided to the Environmental Programs Division for the project record.
	(Only for Special Projects) Properties eligible for the National Register of Historic Places (NRHP) have been identified within the project area. The State Historic Preservation Office (SHPO)'s approval is based on the project as currently proposed. The following Plan notes will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). **If there are any changes to the project plans, further coordination with the SHPO will be required by the ODOT Project Management's Special Projects Branch prior to the bid solicitation process or field changes during construction. Please reference the SHPO letter which cites the conditions of approval and reference the file number from SHPO letter in all correspondence. Copies of such coordination should be provided to the Environmental Programs Division for the project record.**
	The project occurs in an area where the American burying beetle (ABB) occurs. Special Provision 656-4 for ABB will be added to the final project plans/contract per policy Directive C-201-2D(2).
X	Survey for the following species need to be completed prior to constructions and plan notes will be provided after the completion of the survey*(List species survey requirements below)* The American Burying Beetle is protected by the Endangered Species Act. Suitable habitat for this species occurs within the immediate vicinity of the proposed project. In order to avoid adverse impacts to the ABB, the Designer needs to submit Microstation or shapefiles to the ODOT Biologist immediately. ODOT can either purchase mitigation credits, or the ODOT Biologist will survey the proposed project construction footprint within one year prior to initial ground disturbance as currently listed in the 8 Year Construction Program. The survey season is May 26 – July 27 for projects with ground disturbance during the active season (May 26-September 14) and it is July 28- September 14 for projects with ground disturbance during the inactive season (September 15 –May 25). If required, native seed mix will be planted in areas of ABB habitat in an area outside of clear zone as a separate project after the construction is complete. The ODOT biologist will determine if re-vegetation with natives is necessary. <u>If the project schedule should change, it is the responsibility of the Project Manager to contact the ODOT Biologist in writing to request a survey in time for the let date.</u> <u>**Bald Eagle Note**</u>**: Suitable nesting, roosting or foraging habitat for the Bald Eagle occurs within the project's action area. The Bald Eagle nesting season in Oklahoma extends from September 16, through May 31. The Resident Engineer shall contact the ODOT Biologist to schedule a nest survey. Nest search surveys can only be conducted when leaves are not on the trees typically between December 1st and February 28th. No work may occur within suitable Bald Eagle habitat, located at two locations in 1) Johnston County: BOP to 600 feet north of the Coal County line (includes Walnut and Delaware Creeks); and 2) Coal County: from 800 feet south of EW-177 to 0.5 mile north of EW-176 (includes Elm and Tell Creeks) during the nesting season (September 16, through May 31) until the completion of the survey by the ODOT Biologist. If nests are observed, a no-work buffer up to a distance of 660 feet shall be placed around the nest. The exact distance of the buffer zone shall be established by the ODOT Biologist in consultation with US Fish and Wildlife Services. If the buffer cannot be maintained, all clearing, external construction and landscaping activities, within the**

Commitments *(Check Applicable ones)*	
	buffer, shall be conducted between June 1 and September 15 (outside the nesting season).
	Plan notes requiring construction season restrictions for the following species will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). *(List species or notes below)*
	Plan notes requiring avoidance and minimization of impacts for the following species will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). *(List species below)*
X	**<u>American Burying Beetle Note</u>: The American Burying Beetle is a large carrion burying beetle that occurs within the project limits. No artificial lighting shall be used during construction without prior consultation with USFWS thru ODOT Environmental Programs Division. <u>DO NOT PROCEED WITH ANY USE OF ARTIFICIAL LIGHTING WITHOUT WRITTEN CONSENT FROM ODOT ENVIRONMENTAL PROGRAMS DIVISION.</u> Carcasses and all food trash shall be removed from the permanent and temporary right-of-way throughout the duration of project activities.** **<u>Water Quality Conservation</u>: Hazardous materials, chemicals, fuels, lubricating oils, and other such substances shall be stored at least 100 feet outside of the ordinary high water mark (OHWM). Refueling of construction equipment shall also be conducted outside 100 feet outside of the OHWM. Sediment and erosion controls shall be installed around these staging areas to prohibit discharge of materials from these sites. Construction waste materials and debris shall be stockpiled at least 25 feet outside of the OHWM, and these materials shall be removed and disposed of properly following completion of the project. Appropriate Best Management Practices to minimize impacts from storm water discharges, as established by the Oklahoma Department of Environmental Quality, shall be conscientiously implemented throughout the proposed construction periods. The effectiveness of erosion controls shall be maintained for the duration of construction activities.** **<u>Non-Compliance</u>: Failure to implement the commitments specified in the Plan Notes can result in non-compliance issues on the project. Work activities may be suspended on the project, for an undetermined duration, while working with regulators to bring the project back into compliance. The contractor will not be compensated for time lost.**
	The following Plan notes requiring construction season restrictions for the migratory birds will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). *(List notes below)*
X	**<u>Migratory Bird Note</u>: Migratory birds are protected by the federal Migratory Bird Treaty Act. Many birds commonly use bridges and culverts for nesting. The nesting season for most migratory bird species extends from March 1 to August 31. Migratory bird nesting use of the Delaware Creek bridge (NBI:15121), Walnut Creek bridge (NBI:14958), Elm Creek bridge (NBI:14955), Tell Creek bridge (NBI:14959), and three RCBs (STA.1247+74.95, 1325+06.28, 1336+52.02) was observed. Painting, repair, retrofit, rehabilitation or demolition of the existing bridges and culverts shall be conducted between September 1, and February 28, when migratory bird nests are not occupied. If painting, repair, retrofit, rehabilitation or demolition cannot be completed between September 1 and February 28, the bridges and culverts shall be protected from new nest establishment prior to March 1, by means that do not result in bird death or injury. Options include the exclusion of adult birds from suitable nest sites on or within a structure by the placement of weather-resistant polypropylene netting with 0.25-inch or smaller openings, prior to March 1. Methods other than netting must be pre-approved by the ODOT Biologist.** **Although no nests were observed on all other structures, the birds may occupy the structures in the future. The Resident Engineer shall contact the ODOT Biologist if any bird use of these structures is**

	Commitments *(Check Applicable ones)*
	observed. If birds are observed then painting, repair, retrofit, rehabilitation or demolition of the existing bridges and culverts shall be conducted between September 1, and February 28 (when migratory bird nests are not occupied).
X	The action may involve work in potentially jurisdictional waters and potentially jurisdictional wetlands. For State Projects, the 404 permit application form needs to be submitted by the Designer through Project Management Division to Environmental Programs Division at the time of Right-of-Way submittal for evaluation and determination of the appropriate Clean Water Act Section 404 permit application for the project. For Local Government Projects or Special Projects, a copy of the 404 permit obtained by the County/City should be submitted by Local Government Division or Special Projects to Environmental Programs Division for the Project File.
	The action involves work in Critical Resource Waters and requires Pre Construction Notification (PCN) to USACE regardless of the area of impact. For Local Government Projects or Special Projects, a copy of the PCN by the County should be submitted by Local Government Division or Special Projects Branch to Environmental Programs Division for the Project File.
	The action will require a FEMA Map revision.
	Plan notes requiring avoidance of potential hazardous materials remains areas will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2).
	The Department's Hazardous Coordinator has determined that a Preliminary Site Investigation (PSI) is required for this project. Construction Plans need to be submitted by the Designer to Environmental Programs Division at the time of Right-of-Way submittal for the PSI.
	The following plan note regarding Road Closure will be added to the plans *(Add plan notes restricting road closure).*
	(Only for Local Government Projects) The roadway will be closed to traffic during construction. The County or City will be responsible for notifying all local residential and commercial property owners, schools, and emergency services providers prior to construction. The County or City will be responsible for posting the detour routes. The Contractor will provide access to local property owners at all times during construction.
	(Only for Local Government Projects) The Local Government Project Manager shall coordinate any required species surveys with Environmental Programs Division prior to letting the project. Note the seasonal restrictions for surveys in the biological studies summary.
	The following Airport/Airfield located within 4 miles of this project. This action may require notifying the Federal Aviation Administration (FAA) of proposed construction via FAA Form 7460-1 prior to construction. *(List the name of the Airport below)*
X	Other *(List Commitment below)*
	All operators, employees, and contractors will be made aware of all environmental commitments.
	Other *(List Commitment below)*

The mitigation measures above should be discussed at all Pre-work conferences per Policy Directive C-201-2E(1). The Designer shall provide a **copy of the final plans with the mitigation notes** to Environmental Programs Division for the project Records.

Development of the project including coordination and assessment of potential social, economic and environmental impacts has been considered in accordance with DOT ORDER 5610.1C, and CEQ REGULATIONS 40 CFR 1500 -1508 as amended, 23 CFR 771.117 and the 2011 FHWA/ODOT Programmatic Agreement for processing of categorical exclusions. Implementation of this action as a "Categorical Exclusion" will satisfy the requirements of the National Environmental Policy Act.

Preparer/Reviewer Signatures

Angela Aikman	4/10/2020
Environmental Consultant Project Manager (If Applicable)	Date
C. H. Guernsey & Company	
Environmental Consultant Firm Name (If Applicable)	Date
County Commissioner or City Manager (For Local Government Projects)	Date
Amanda Alexander Digitally signed by Amanda Alexander Date: 2020.04.10 13:56:35 -05'00'	
ODOT Environmental Project Manager	Date
Assistant Environmental Programs Division Engineer	Date
Sivanuja Sundaram Digitally signed by Sivanuja Sundaram Date: 2020.04.10 14:45:49 -05'00'	
Environmental Programs Division Engineer	Date

CONCLUSION:

ODOT has reviewed the conditions identified in Section IIIb.3 of Federal Highway Administration (FHWA)/ODOT Programmatic Agreement for Processing Categorical Exclusions (CE) and determined that an Individual CE must be submitted to FHWA for approval.	**X**	**YES**
		NO

For Individual CEs requiring FHWA Approval:
Concurrence that this project qualifies for a Categorical Exclusion:

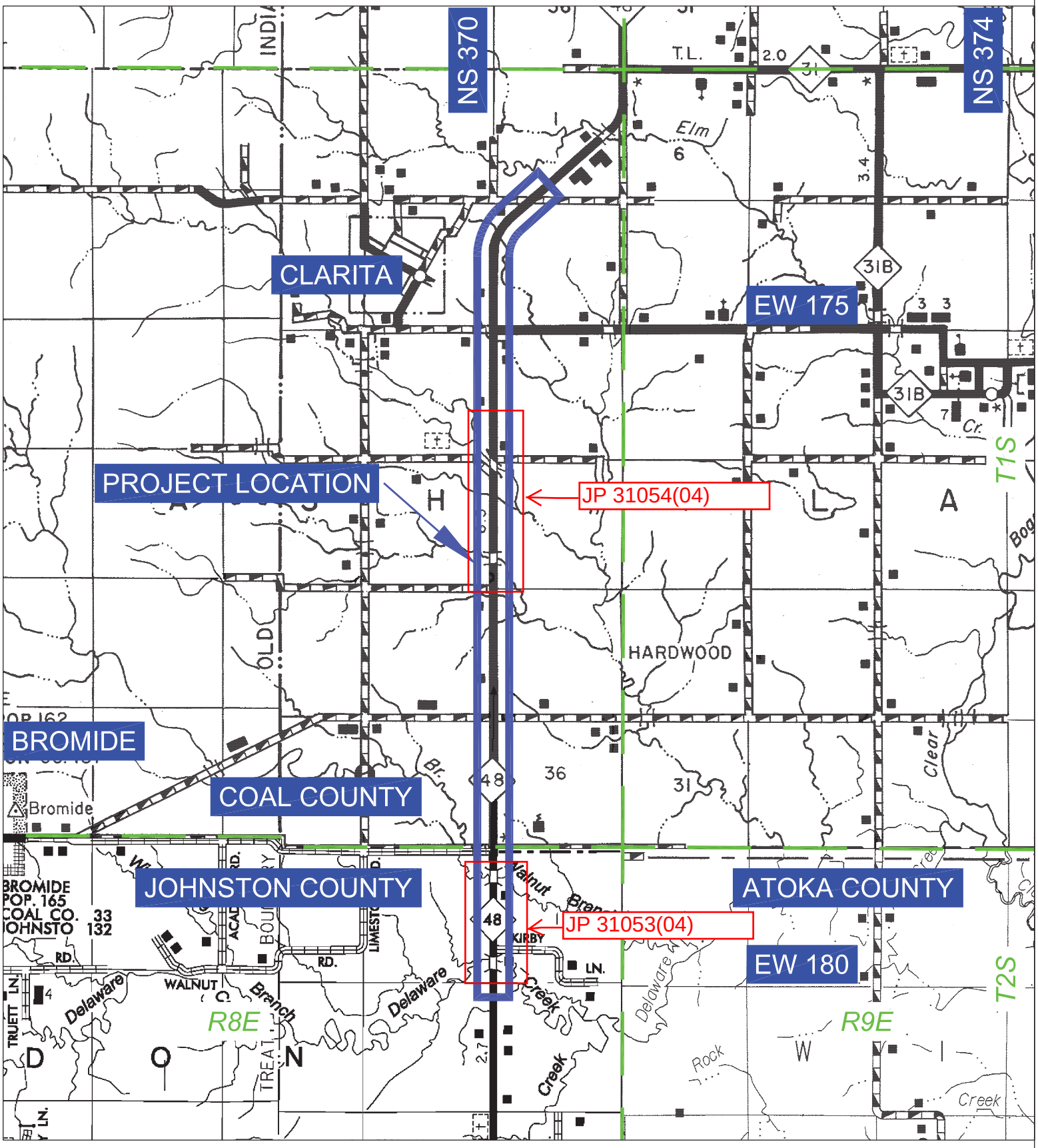
Ralph N Guyen	04/14/2020
Environmental Programs Manager, FHWA	Date

Attachments: Location Map; Memos with Plan Notes; Studies; NEPA On Hold Memo if applicable; Plans and Footprint; NEPA Status Report

Distribution List (Check Applicable Ones)

X	Project Management Division (All State Projects)
X	Roadway Design Division (All State projects with the exception of projects from Traffic Division and Special Projects)
X	Bridge Division (All State Bridge Projects)
	Traffic Division (For projects from Traffic Division)
	Local Government Division (County or City Projects)
	Special Projects (Special Projects Only)
	Safe Routes to School Coordinator (SRTS Projects Only)
X	Field Division Engineer (All Projects)
X	Right-of-Way Division (All Projects)
X	Office Engineer Division (All Projects)
X	FHWA (All Projects. Place Copy of Complete Document on FHWA's Directory)

Copy to: Reading File



NEPA Project Location Map

Roadway improvements on SH-48 Begin 1.0 Mile South of Coal C/L, Extend North 6.0 Mi. in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004), JP 31053(04), J3-1053(004), JP 31054(04), J3-1054(004)

0 1MI 2MI

Oklahoma Department of Transportation

PLANS OR FOOTPRINTS

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROPOSED
R/W
02-03-20

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED

STATE HIGHWAY

FEDERAL AID PROJECT NO. J3-1047(004)
WIDEN & RESURFACE
STATE HIGHWAY 48

JOHNSTON & COAL COUNTY

CONTROL SECTION NO. 48-35-20, 48-15-16
STATE JOB NO. 31047(04)

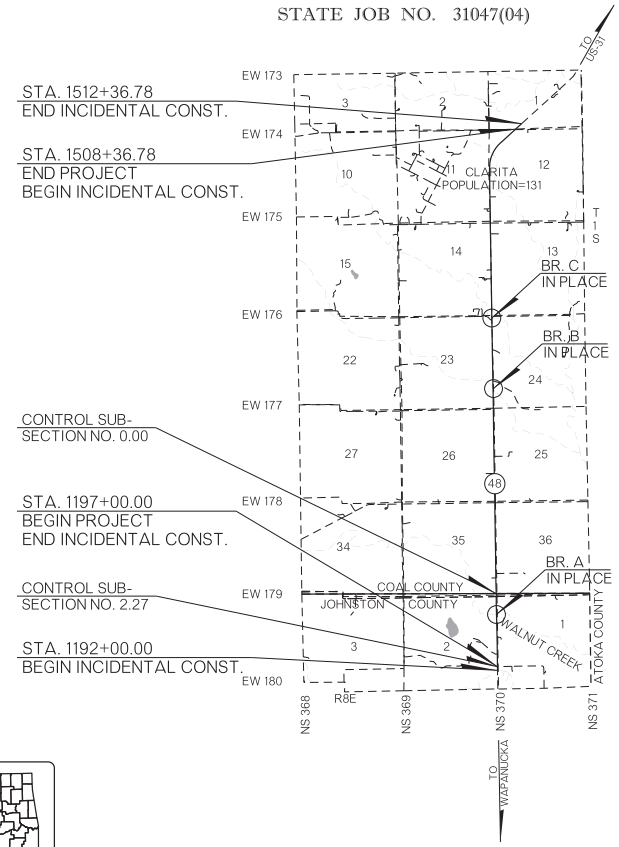
FOR SURVEY CONTROL DATA,
SEE SURVEY DATA SHEETS

FOR INDEX OF SHEETS
AND STANDARDS

TRAFFIC DESIGN
PROJECT ENGINEER: T. MAAROUF, P.E.
SQUAD SUPERVISOR: R. SOLIZ

ROADWAY DESIGN
ENGINEERING MANAGER: MOHAMED ELYAZGI, PE
SQUAD SUPERVISOR: JAMES JONES
ENGINEER: C. HENSON, P.E.
T. ABRAHAM, P.E.
SQUAD MEMBERS: J. CUMMINGS, T. HERMAN, H. PHAM,
R. JOHNSON, R. WOMACK, K. HANEY, K. KILE, M. SMITHSON

P.E. NO. 31047(01)



NOTE: STATIONING BASED ON ℄ OF SURVEY

ROADWAY LENGTH	30,599.18'	FT.	5.795	MI.
BRIDGE LENGTH	0.00	FT.	0.000	MI.
PROJECT LENGTH			5.795	MI.

EXCEPTIONS : BRIDGE "C" STA. 1389+62.40 TO STA. 1395+00.00, TOTAL EXCEPTION = 537.60'

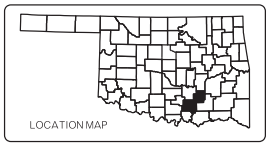
DESIGN DATA

ADT 2019	= 2,346
ADT 2039	= 3,366
DHV (2-WAY)	= 404
K (DHV/ADT)	= 12%
D	= 58%
T (% DHV)	= 22%
T (% ADT)	= 25%
T³(% ADT)	= 18%
V	= 65MPH
20 YR FLEX ESALS	= 5.18M

SCALES 1"
PLAN 1" = 100'
PROFILE HOR. 1" = 100'
VER. 1" = 10'
LAYOUT MAP 1" = 3,520'

CONVENTIONAL SYMBOLS

- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- EXISTING FENCE
- PROPOSED FENCE
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- OILWELL
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING
- RIGHT-OF-WAY LINES - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE



2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
DESIGN DIVISION

MOHAMED ELYAZGI, P.E.
OKLA. LIC. NO. 30510
DATE

LICENSED PROFESSIONAL ENGINEER
MOHAMED ALI ELYAZGI
30510
OKLAHOMA

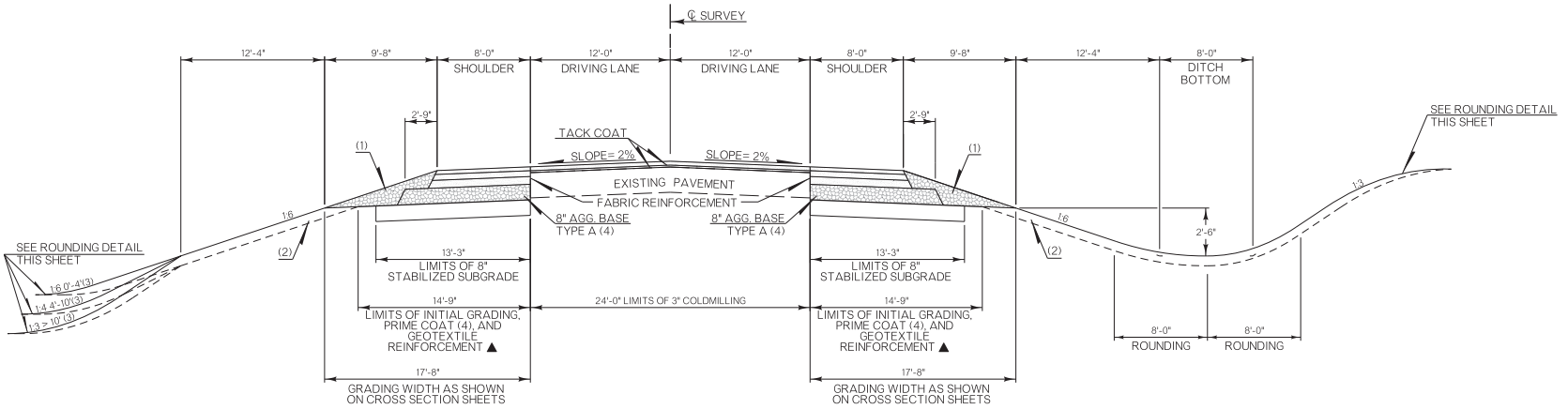
OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY	BY
CHIEF ENGINEER	DIVISION ADMINISTRATOR

SWO 5159(1) PROJECT NO. J3-1047(004)
COUNTY JOHNSTON HIGHWAY SH-48 SHEET NO. 001

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROPOSED R/W

02-03-20



TYPICAL NO. 1

STA. 1197+00.00 TO STA. 1389+62.40

STA. 1395+00.00 TO STA. 1508+36.78

PAVEMENT REQUIREMENT		
9" PAVT. STRUCTURE	12'-0" DRIVING LANES	8'-0" PAVED SHOULDERS
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG 70-28 OK)	2" SUPERPAVE TYPE S4 (PG 70-28 OK)
BASE COURSE	1" SUPERPAVE TYPE S5 (PG 70-28 OK)	3" SUPERPAVE TYPE S3 (PG 70-28 OK)
		4" SUPERPAVE TYPE S3 (PG 64-22 OK)
		8" AGGREGETE BASE TYPE A

▲ USE RS380i OR APPROVED EQUAL

(1) BACKFILL NOTE:
TO BE BACKFILLED AND COMPACTED AS PART OF THE FINISHING OPERATIONS. QUANTITY IS MEASURED IN TBSC TYPE E.

(2) TOPSOIL NOTE:
THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATIONS. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATIONS SHALL BE INCLUDED IN THE PAY ITEM FOR SALVAGED TOPSOIL, LUMP SUM.

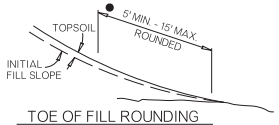
THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS IS TO THE TOP OF THE TOPSOIL. EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITY IS INCLUDED IN THE MASS LINE BALANCE.

(3) DISTANCE MEASURED VERTICALLY FROM EDGE OF FINISHED GRADE SHOULDER.

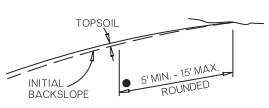
(4) PRIME COAT ON TOP OF AGGREGATE BASE.

ROUNDING DETAIL

● INTERSECTION OF CUT AND/OR FILL SLOPES WITH GROUND LINE TO BE ROUNDED AS PART OF FINISHING OPERATIONS. ROUNDING SHALL BE 5' MINIMUM FOR SMALLER CUTS AND FILLS TO 15' MAXIMUM FOR LARGER CUTS AND FILLS OR AS DESIGNATED BY THE ENGINEER. COST OF ROUNDING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.



TOE OF FILL ROUNDING



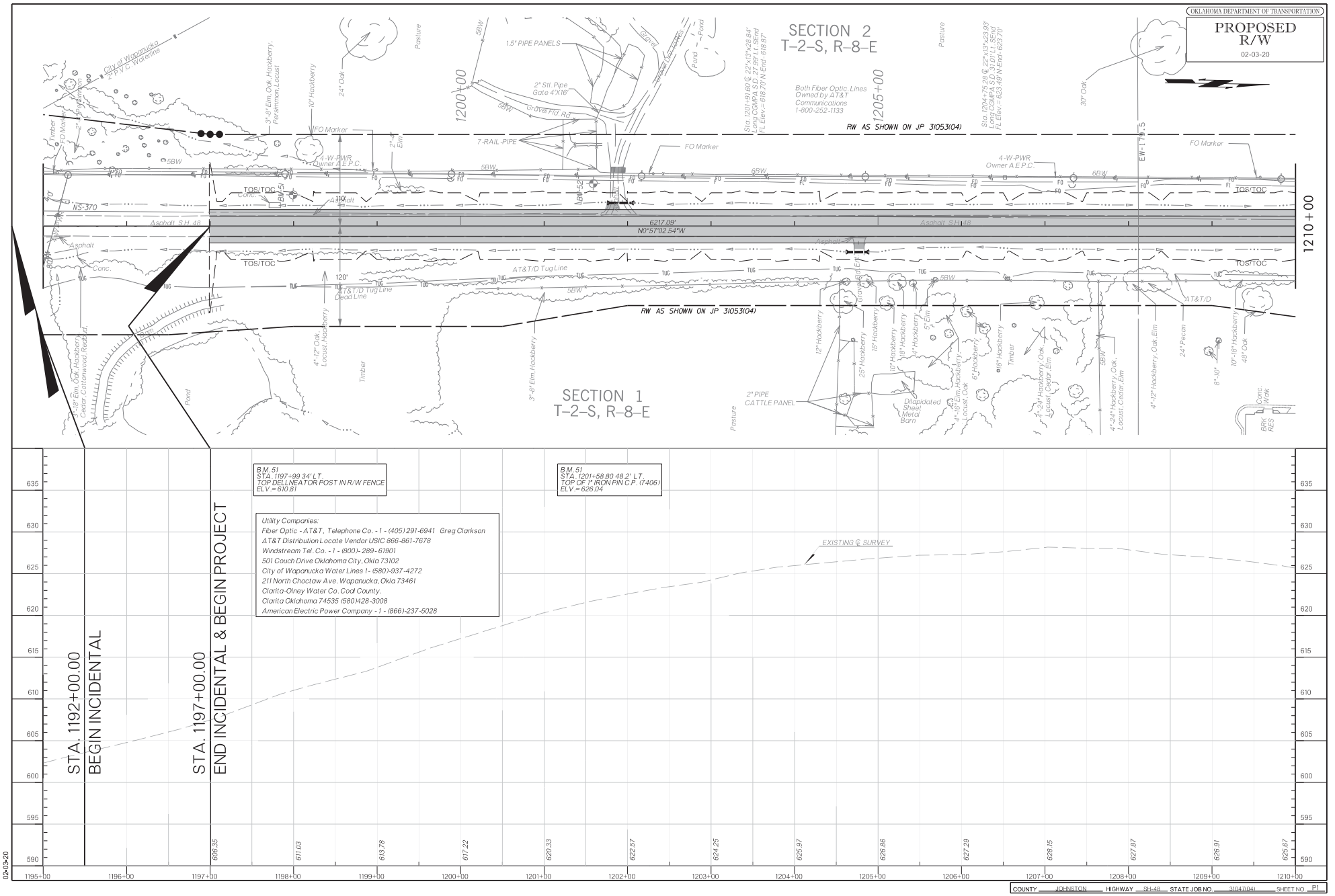
TOP OF CUT ROUNDING

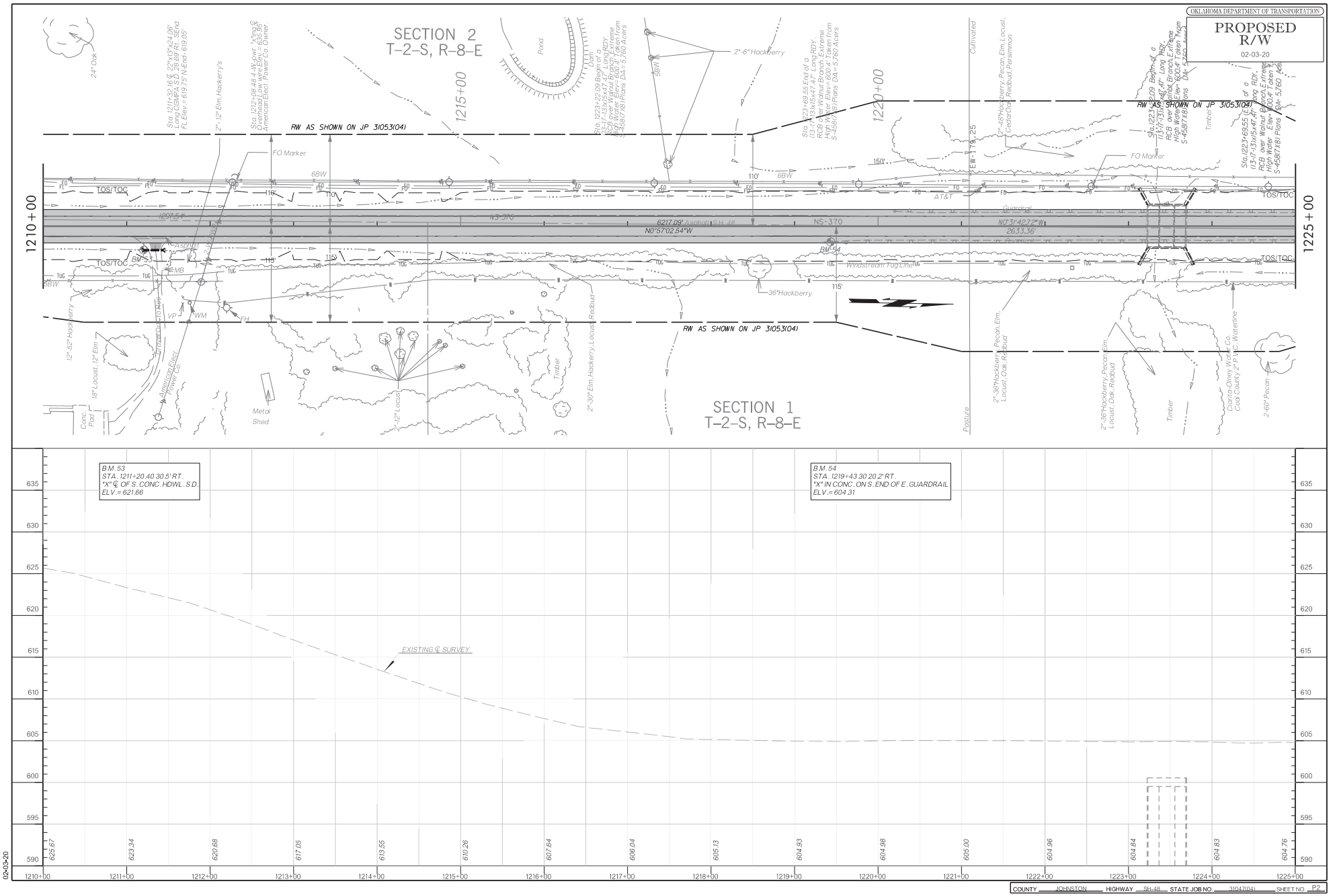
DESIGN			OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION
DRAWN	KRH	KRH	
CHECKED			TYPICAL SECTION
APPROVED			
SQUAD	JONES		

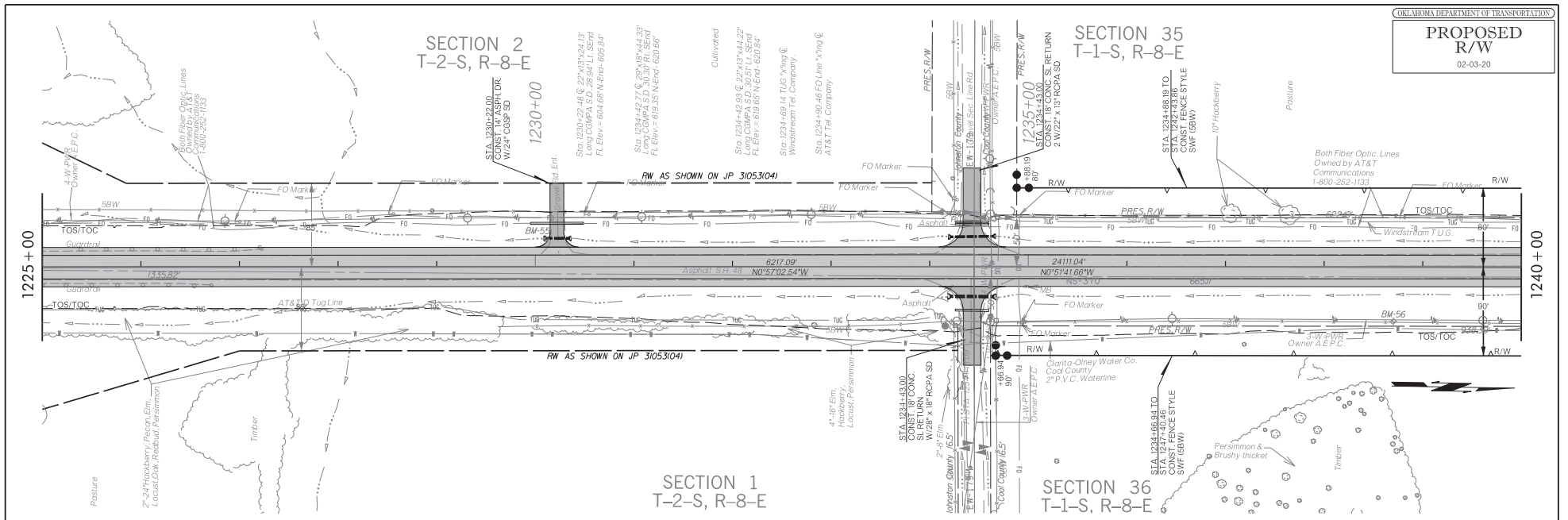
COUNTY JOHNSTON/COAL HIGHWAY SH-48 STATE JOB NO. 31047(04) SHEET NO. 002

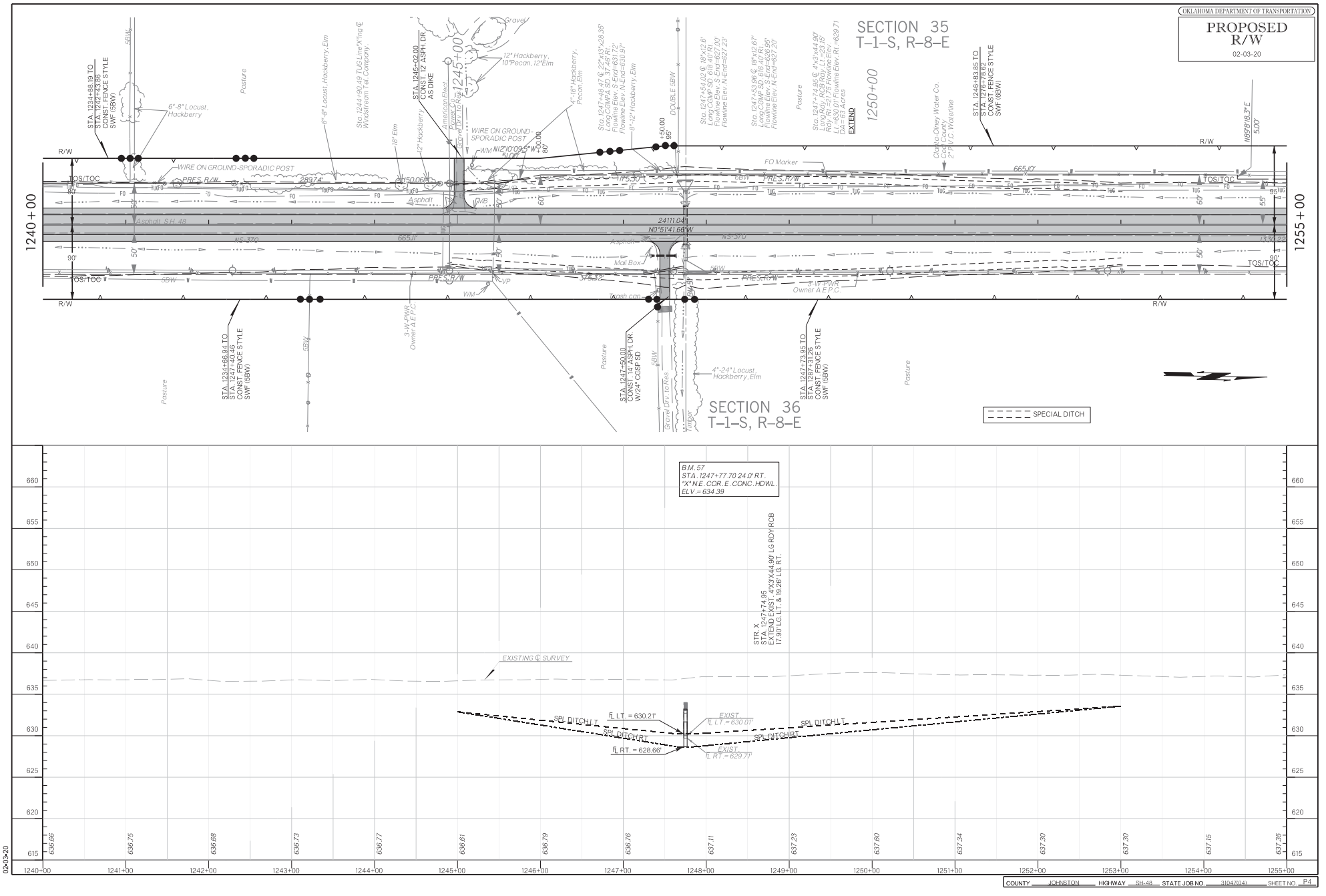
pw:\APP-PWS05-345.agency:OKJocal:ODOTProjects\Documents\Projects\Division 3\JP31047-04\Roadway\Plan Sheets\31047(04)-Typical.dgn

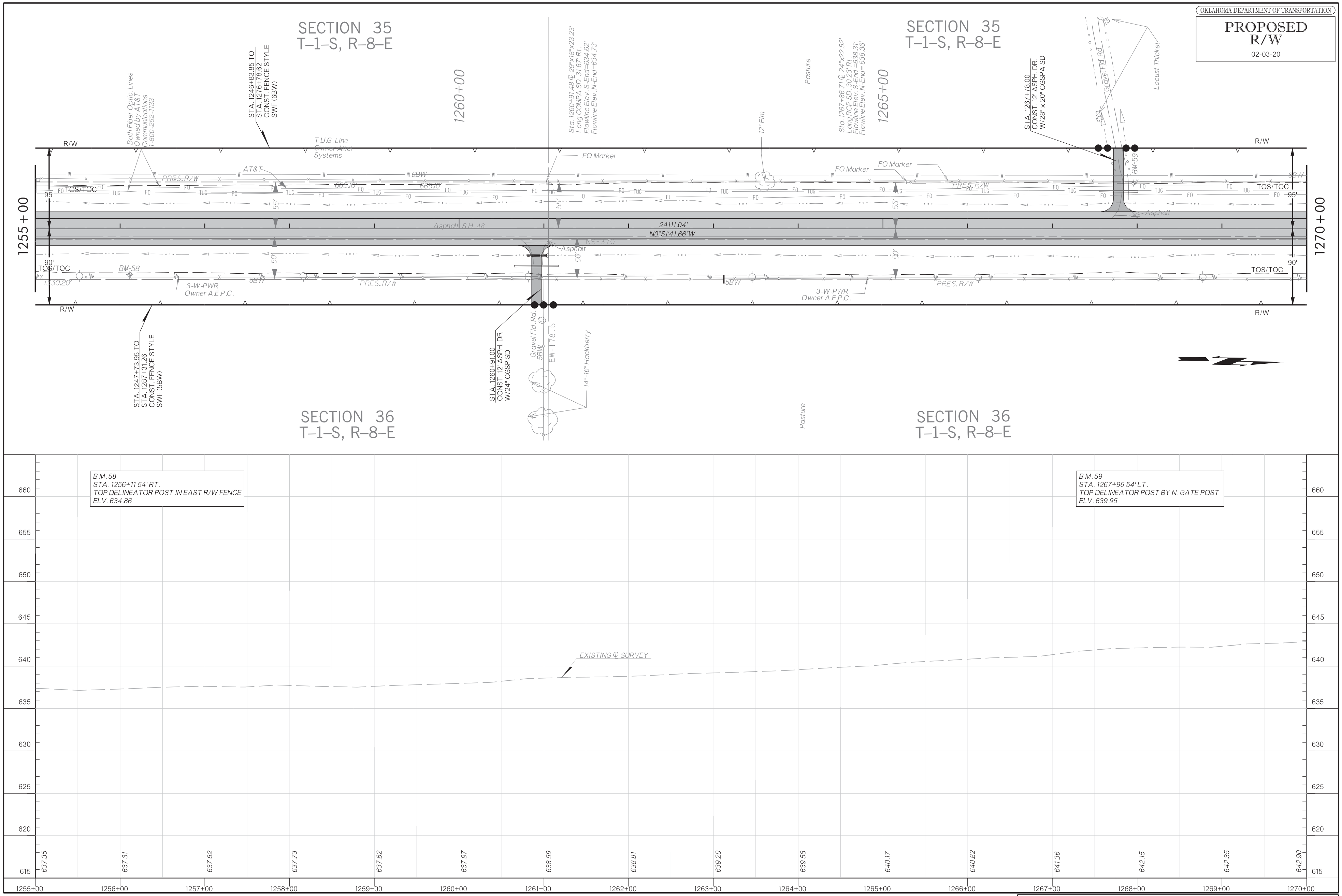
02-03-20


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 2
T–2–S, R–8–E
SECTION 1
T–2–S, R–8–E
RW AS SHOWN ON JP 31053(04)
6217.09'
N0°57'02.54"W
Asphalt SH 48
TOS/TOC
AT&T/D Tug Line
AT&T/D Tug Line Dead Line
7-RAIL-PIPE
1.5" PIPE PANELS
2" Stl. Pipe Gate 4'X16'
Gravel Rd.
Pond
FO Marker
4-W-PWR Owner A.E.P.C.
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
2" PIPE CATTLE PANEL
Dilapidated Sheet Metal Barn
Timber
Pasture
1200+00
1205+00
1210+00
B.M. 51
STA. 1197+99.34' LT.
TOP DELINEATOR POST IN R/W FENCE
ELV.= 610.81
B.M. 51
STA. 1201+58.80 48.2' LT.
TOP OF 1" IRON PIN C.P. (7406)
ELV.= 626.04
Utility Companies:
Fiber Optic - AT&T, Telephone Co. - 1 - (405) 291-6941 Greg Clarkson
AT&T Distribution Locate Vendor USIC 866-861-7678
Windstream Tel. Co. - 1 - (800)- 289 - 61901
501 Couch Drive Oklahoma City, Okla 73102
City of Wapanucka Water Lines 1- (580)-937-4272
211 North Choctaw Ave. Wapanucka, Okla 73461
Clarita-Olney Water Co. Coal County.
Clarita Oklahoma 74535 (580)428-3008
American Electric Power Company - 1 - (866)-237-5028
EXISTING ℄ SURVEY
STA. 1192+00.00
BEGIN INCIDENTAL
STA. 1197+00.00
END INCIDENTAL & BEGIN PROJECT
606.35
611.03
613.78
617.22
620.33
622.57
624.25
625.97
626.86
627.29
628.15
627.87
626.91
625.67
635
630
625
620
615
610
605
600
595
590
1195+00
1196+00
1197+00
1198+00
1199+00
1200+00
1201+00
1202+00
1203+00
1204+00
1205+00
1206+00
1207+00
1208+00
1209+00
1210+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047(04) SHEET NO. P1


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 2
T–2–S, R–8–E
SECTION 1
T–2–S, R–8–E
1210+00
1215+00
1220+00
1225+00
RW AS SHOWN ON JP 31053(04)
FO Marker
TOS/TOC
6BW
N3°37'E
1697.54'
6217.09' Asphalt U.S.H. 48
N0°57'02.54"W
NS-370
N0°31'42.72"W
2633.36'
BM 53
BM 54
Windstream Tel Line
36"Hackberry
AT&T
Guardrail
Fire Hydrant
Asphalt
MB
VP
WM
FH
Timber
Posture
Cultivated
Pond
Dam
Metal Shed
Conc. Pad
American Elec. Power Co
Ormond Dr. to Kee
2"-12" Locust
2"-30" Elm, Hackberry, Locust, Redbud
2"-36"Hackberry, Pecan, Elm, Locust, Cedar, Oak, Redbud
2"-36"Hackberry, Pecan, Elm, Locust, Oak, Redbud
2-60" Pecan
Clarita-Olney Water Co.
Cold County 2" P.V.C. Waterline
B.M. 53
STA. 1211+20.40 30.5' RT.
"X" @ OF S. CONC. HDWL. S.D.
ELV.= 621.66
B.M. 54
STA. 1219+43.30 20.2' RT.
"X" IN CONC. ON S. END OF E. GUARDRAIL
ELV.= 604.31
EXISTING @ SURVEY
635
630
625
620
615
610
605
600
595
590
625.67
623.34
620.68
617.05
613.55
610.26
607.64
606.04
605.13
604.93
604.98
605.00
604.96
604.84
604.83
604.76
1210+00
1211+00
1212+00
1213+00
1214+00
1215+00
1216+00
1217+00
1218+00
1219+00
1220+00
1221+00
1222+00
1223+00
1224+00
1225+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047(04) SHEET NO. P2


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 2
T–2–S, R–8–E
SECTION 35
T–1–S, R–8–E
SECTION 1
T–2–S, R–8–E
SECTION 36
T–1–S, R–8–E
1225+00
1230+00
1235+00
1240+00
RW AS SHOWN ON JP 31053(04)
PRES. R/W
R/W
FO Marker
TOS/TOC
Asphalt SH 48
6217.09'
N0°57'02.54"W
24111.04'
N0°51'41.66"W
1335.82'
665.0'
938.2'
Guardrail
Gravel Rd. Ent.
Cultivated
Posture
Timber
Windstream T.U.G.
Clanita-Olney Water Co.
Coal County
2"P.V.C. Waterline
Owner A.E.P.C.
Johnston County
Coal County
BM-55
BM-56
B.M. 55
STA. 1230+10.8 27.5' RT.
"TJ" S.E. COR. S. CONC. HDWL
ELV.= 606.53
B.M. 56
STA. 1238+70 55' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV.= 637.81
EXISTING ℄ SURVEY
640
635
630
625
620
615
610
605
600
595
604.76
604.85
604.74
605.01
605.95
607.54
609.79
613.32
617.40
621.76
625.68
629.39
632.15
634.60
636.21
636.66
1225+00
1226+00
1227+00
1228+00
1229+00
1230+00
1231+00
1232+00
1233+00
1234+00
1235+00
1236+00
1237+00
1238+00
1239+00
1240+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047(04) SHEET NO. P3

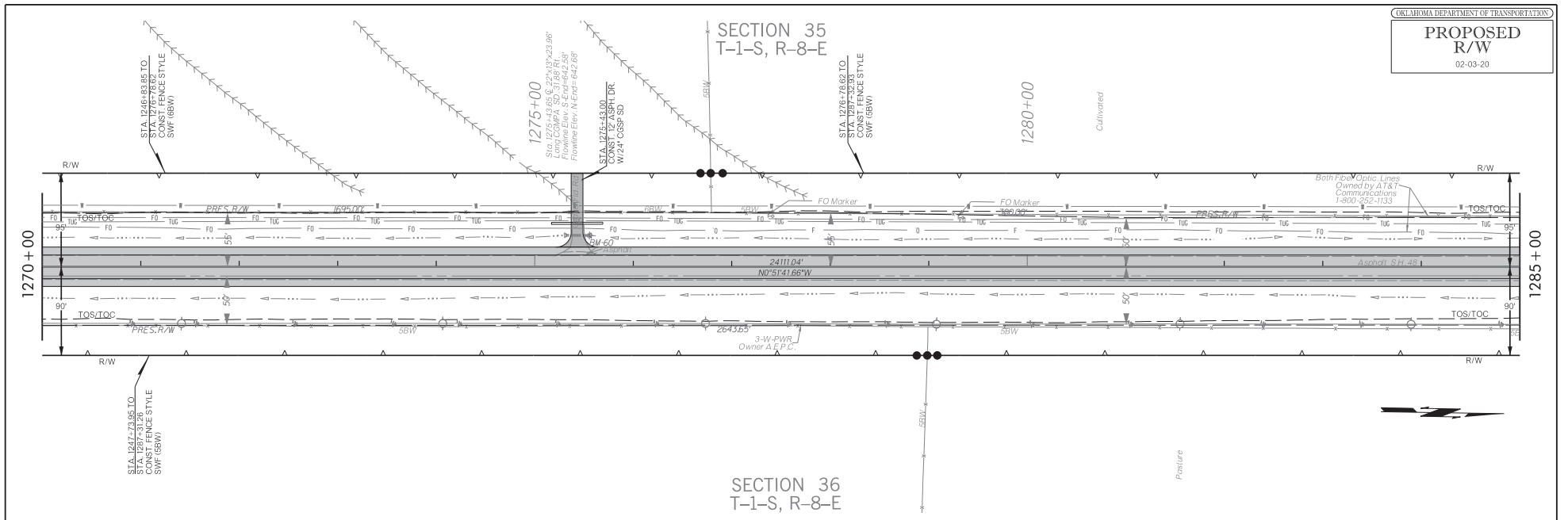

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 35
T–1–S, R–8–E
SECTION 36
T–1–S, R–8–E
1240+00
1245+00
1250+00
1255+00
EXTEND
SPECIAL DITCH
EXISTING ℄ SURVEY
B.M. 57
STA. 1247+77.70 24.0' RT.
"X" N.E. COR. E. CONC. HDWL.
ELV. = 634.39
SPL DITCH LT
SPL DITCH RT
fl LT. = 630.21'
fl RT. = 628.66'
EXIST. fl LT. = 630.01'
EXIST. fl RT. = 629.71'
636.66
636.75
636.68
636.73
636.77
636.61
636.79
636.76
637.11
637.23
637.60
637.34
637.30
637.30
637.15
637.35
1240+00
1241+00
1242+00
1243+00
1244+00
1245+00
1246+00
1247+00
1248+00
1249+00
1250+00
1251+00
1252+00
1253+00
1254+00
1255+00
660
655
650
645
640
635
630
625
620
615
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P4

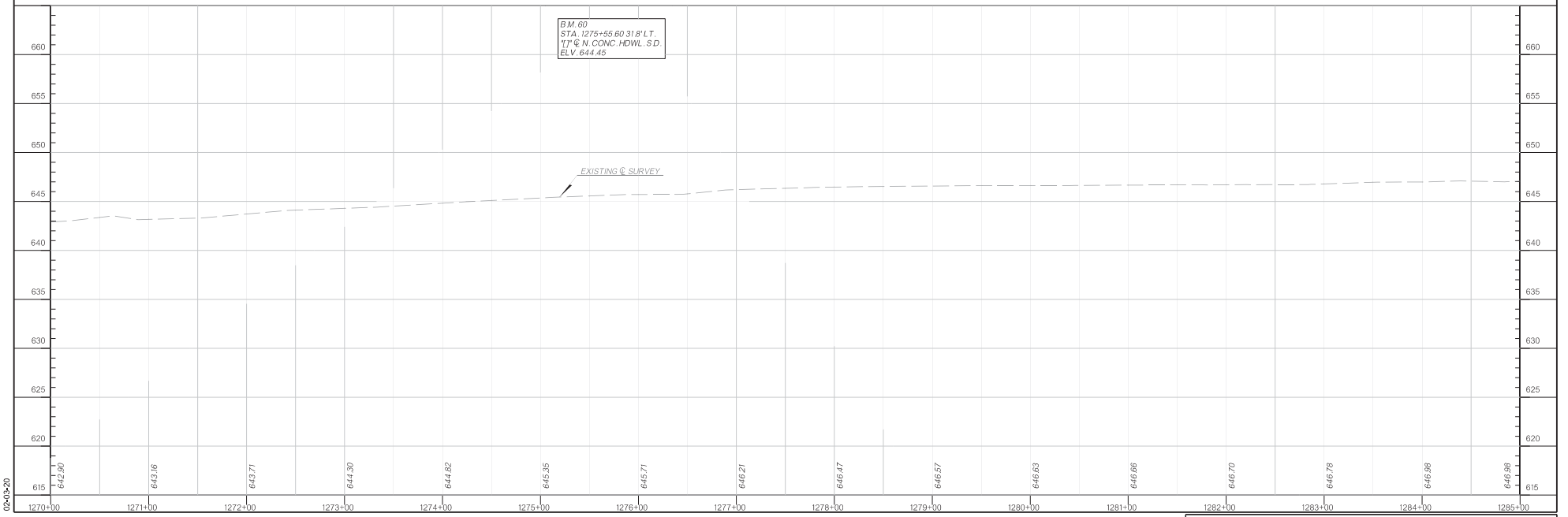

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 35
T–1–S, R–8–E
SECTION 36
T–1–S, R–8–E
1255+00
1260+00
1265+00
1270+00
R/W
TOS/TOC
STA. 1246+83.85 TO
STA. 1276+78.62
CONST. FENCE STYLE
SWF (6BW)
STA. 1247+73.95 TO
STA. 1287+31.26
CONST. FENCE STYLE
SWF (5BW)
STA. 1260+91.00
CONST. 12' ASPH. DR.
W/24" CGSP SD
STA. 1267+78.00
CONST. 12' ASPH. DR.
W/28" x 20" CGSPA SD
Both Fiber Optic Lines
Owned by AT&T
Communications
1-800-252-1133
T.U.G. Line
Owner Atlex
Systems
FO Marker
Pasture
12" Elm
Locust Thicket
Gravel Fld. Rd.
14"-16" Hackberry
3-W-PWR
Owner A.E.P.C.
PRES. R/W
Asphalt S.H. 48
24111.04'
N0°51'41.66"W
Asphalt
BM-58
BM-59
B.M. 58
STA. 1256+11.54' RT.
TOP DELINEATOR POST IN EAST R/W FENCE
ELV. 634.86
B.M. 59
STA. 1267+96.54' LT.
TOP DELINEATOR POST BY N. GATE POST
ELV. 639.95
EXISTING ℄ SURVEY
637.35
637.31
637.62
637.73
637.62
637.97
638.59
638.81
639.20
639.58
640.17
640.82
641.36
642.15
642.35
642.90
1255+00
1256+00
1257+00
1258+00
1259+00
1260+00
1261+00
1262+00
1263+00
1264+00
1265+00
1266+00
1267+00
1268+00
1269+00
1270+00
02-03-20

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROPOSED R/W

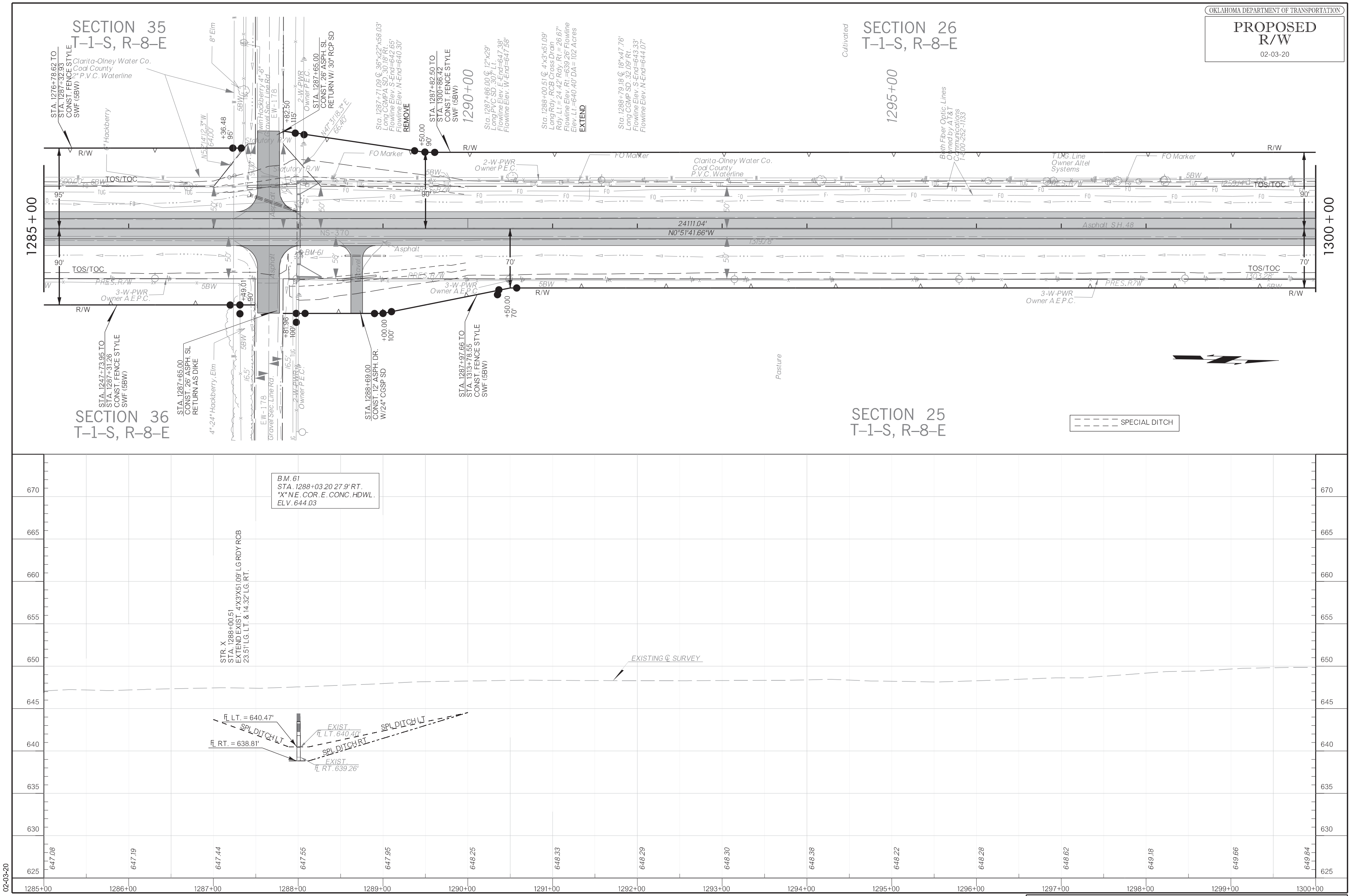
02-03-20





02-03-20

COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P6


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 35
T-1-S, R-8-E
SECTION 26
T-1-S, R-8-E
SECTION 36
T-1-S, R-8-E
SECTION 25
T-1-S, R-8-E
1285+00
1290+00
1295+00
1300+00
STA. 1276+78.62 TO
STA. 1287+32.93
CONST. FENCE STYLE
SWF (5BW)
STA. 1287+65.00
CONST. 26' ASPH. SL
RETURN W/ 30" RCP SD
STA. 1287+82.50 TO
STA. 1300+86.42
CONST. FENCE STYLE
SWF (5BW)
STA. 1247+73.95 TO
STA. 1287+31.26
CONST. FENCE STYLE
SWF (5BW)
STA. 1287+65.00
CONST. 26' ASPH. SL
RETURN AS DIKE
STA. 1288+69.00
CONST. 12' ASPH. DR.
W/24" CGSP SD
STA. 1287+97.66 TO
STA. 1313+78.55
CONST. FENCE STYLE
SWF (5BW)
Clarita-Olney Water Co.
Coal County
P.V.C. Waterline
R/W
TOS/TOC
24111.04'
N0°51'41.66"W
Asphalt S.H. 48
NS-370
EW-178
Gravel Sec. Line Rd.
Cultivated
Pasture
3-W-PWR
Owner A.E.P.C.
2-W-PWR
Owner P.E.C.
FO Marker
SPECIAL DITCH
B.M. 61
STA. 1288+03.20 27.9' RT.
"X" N.E. COR. E. CONC. HDWL.
ELV. 644.03
STR. X
STA. 1288+00.51
EXTEND EXIST. 4'X3'X51.09' LG RDY RCB
23.51' LG. LT. & 14.32' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH LT
SPL DITCH RT
fl. LT. = 640.47'
fl. RT. = 638.81'
EXIST fl. LT. 640.40'
EXIST fl. RT. 639.26'
670
665
660
655
650
645
640
635
630
625
647.08
647.19
647.44
647.55
647.95
648.25
648.33
648.29
648.30
648.38
648.22
648.28
648.62
649.18
649.66
649.84
1285+00
1286+00
1287+00
1288+00
1289+00
1290+00
1291+00
1292+00
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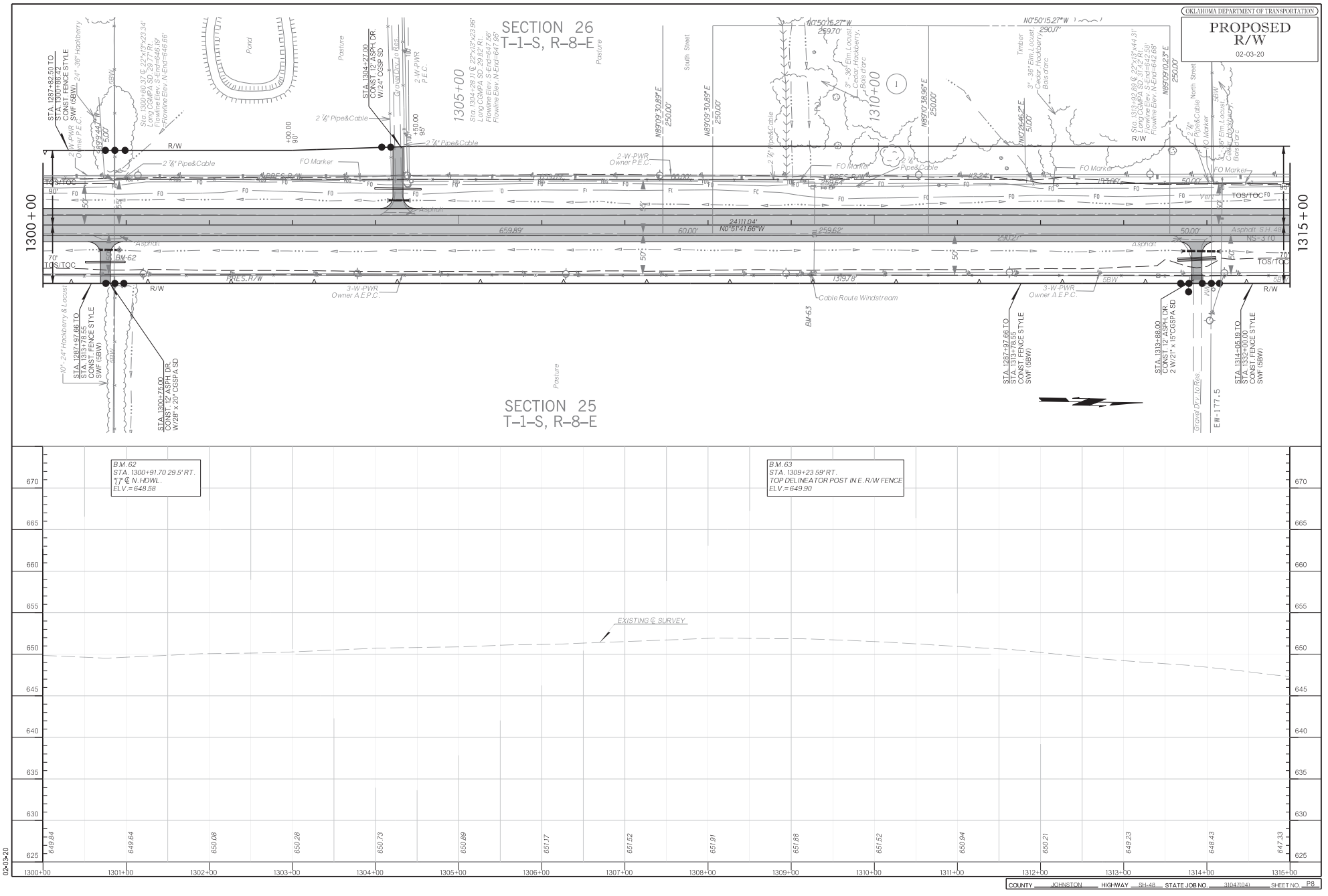
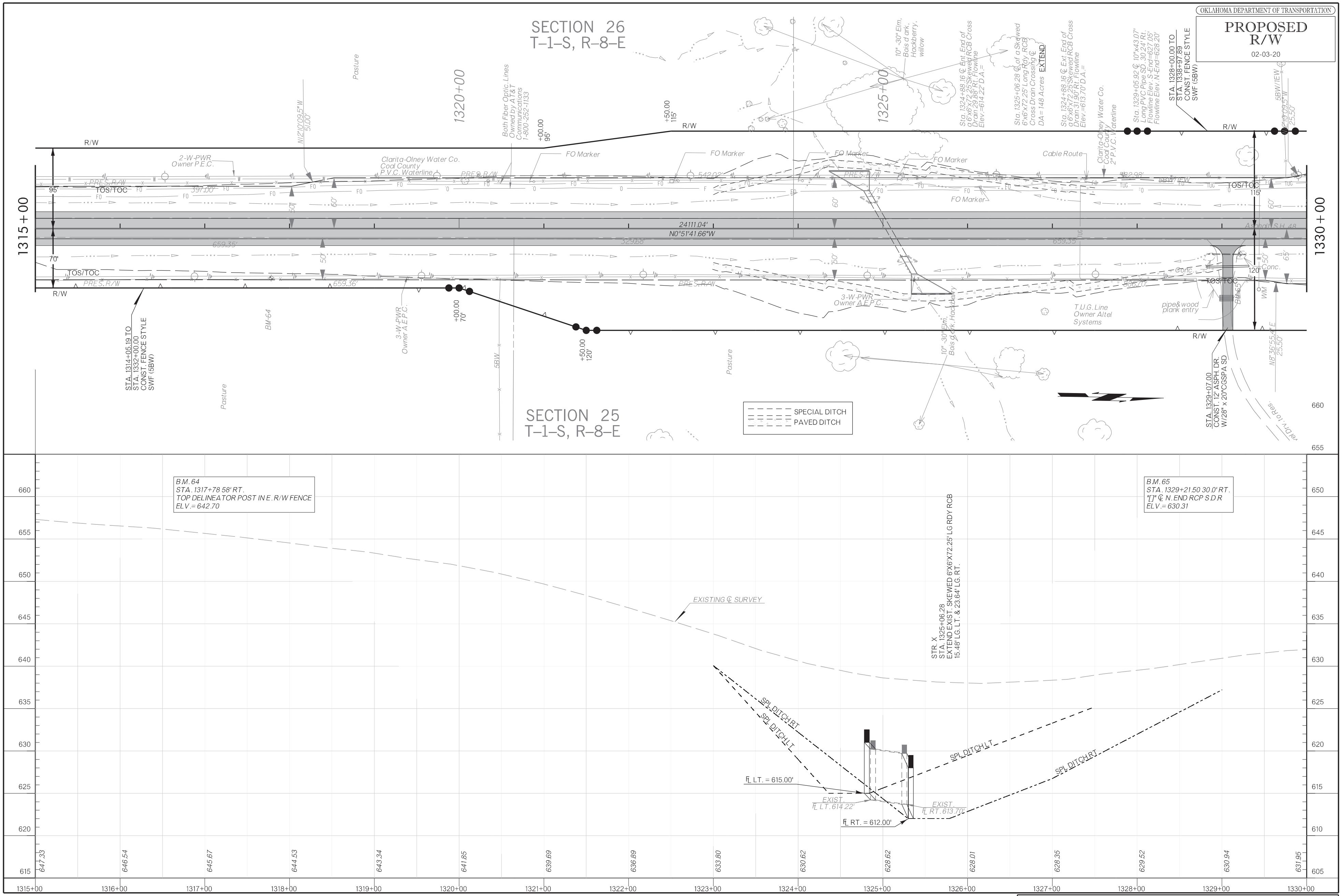
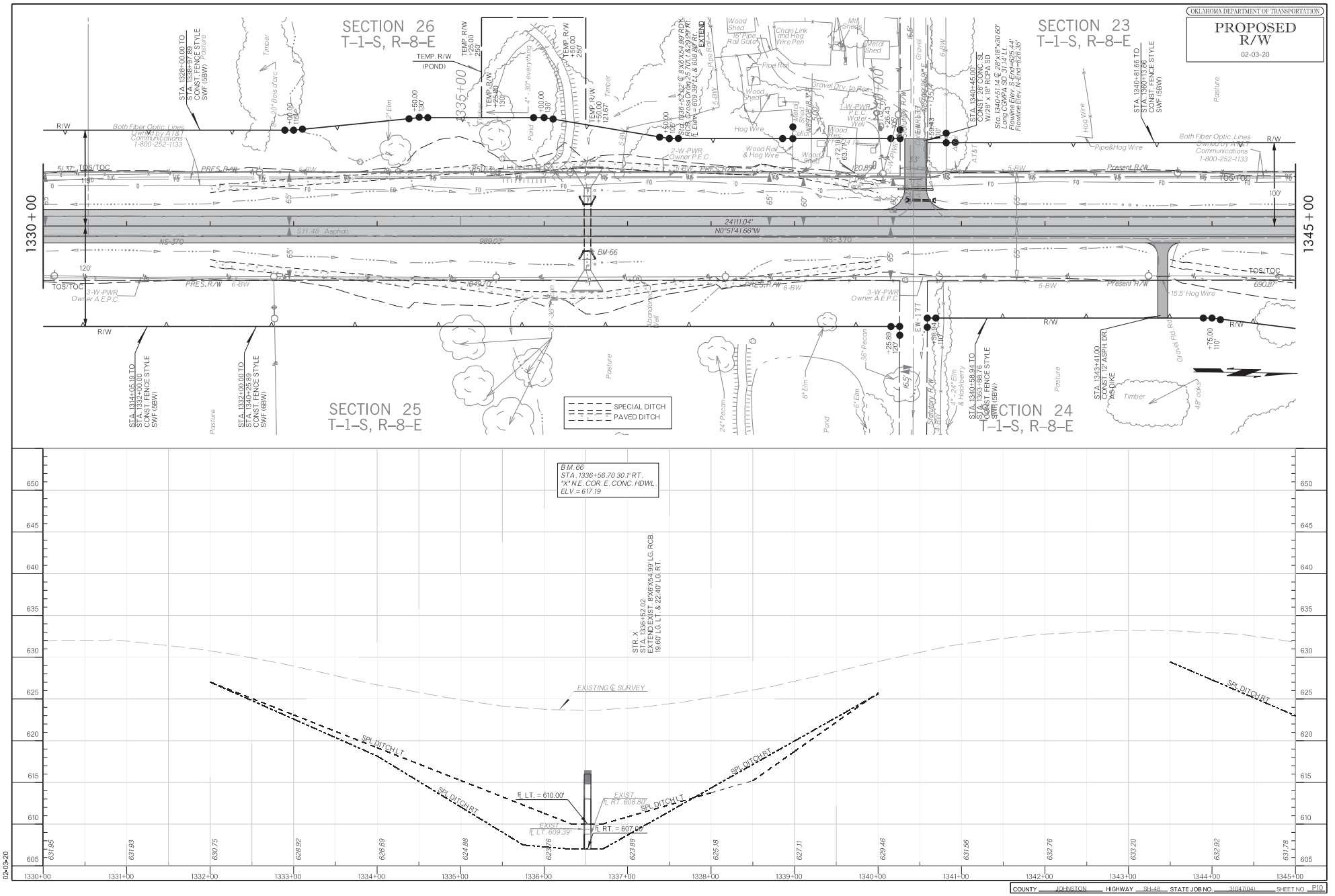
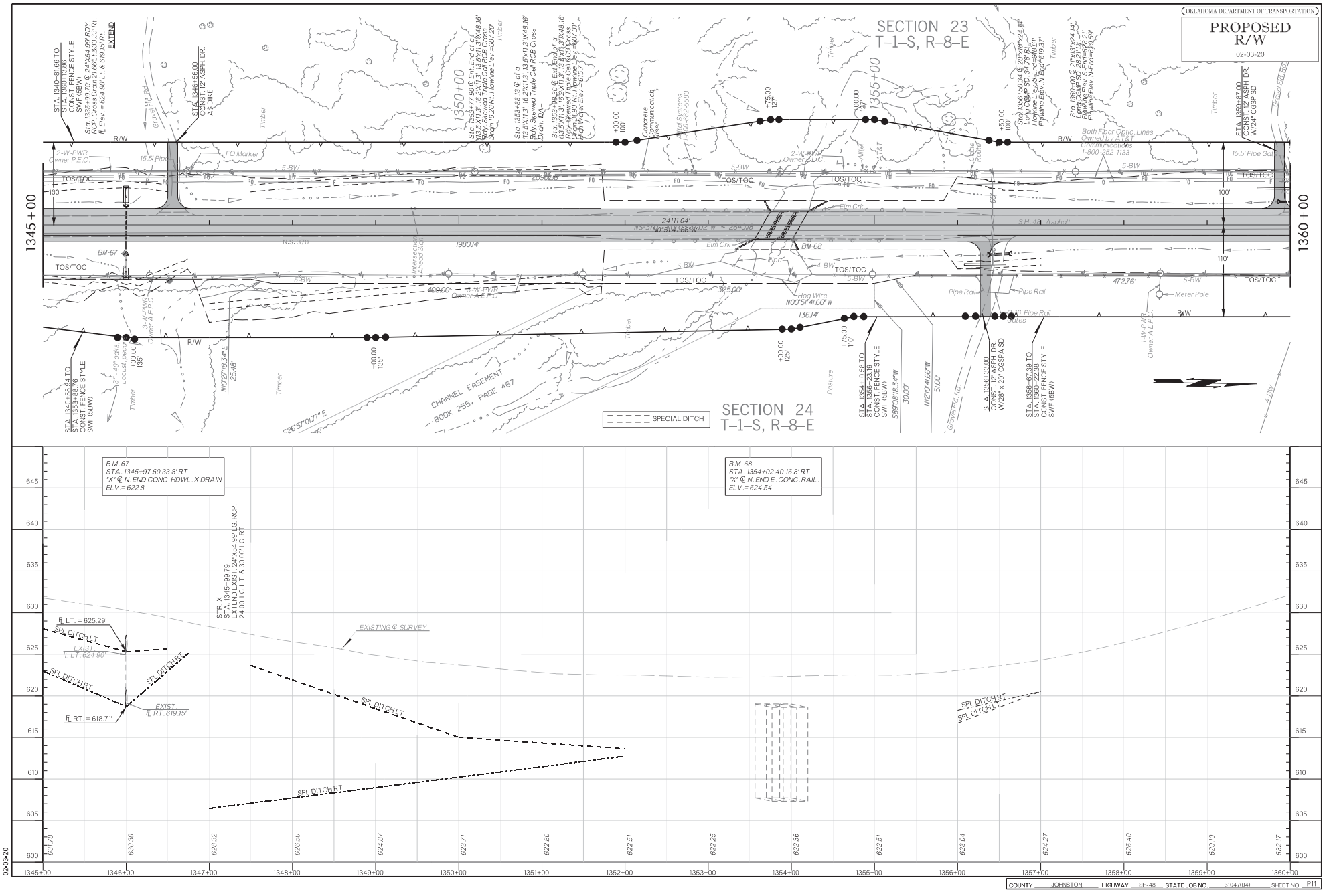
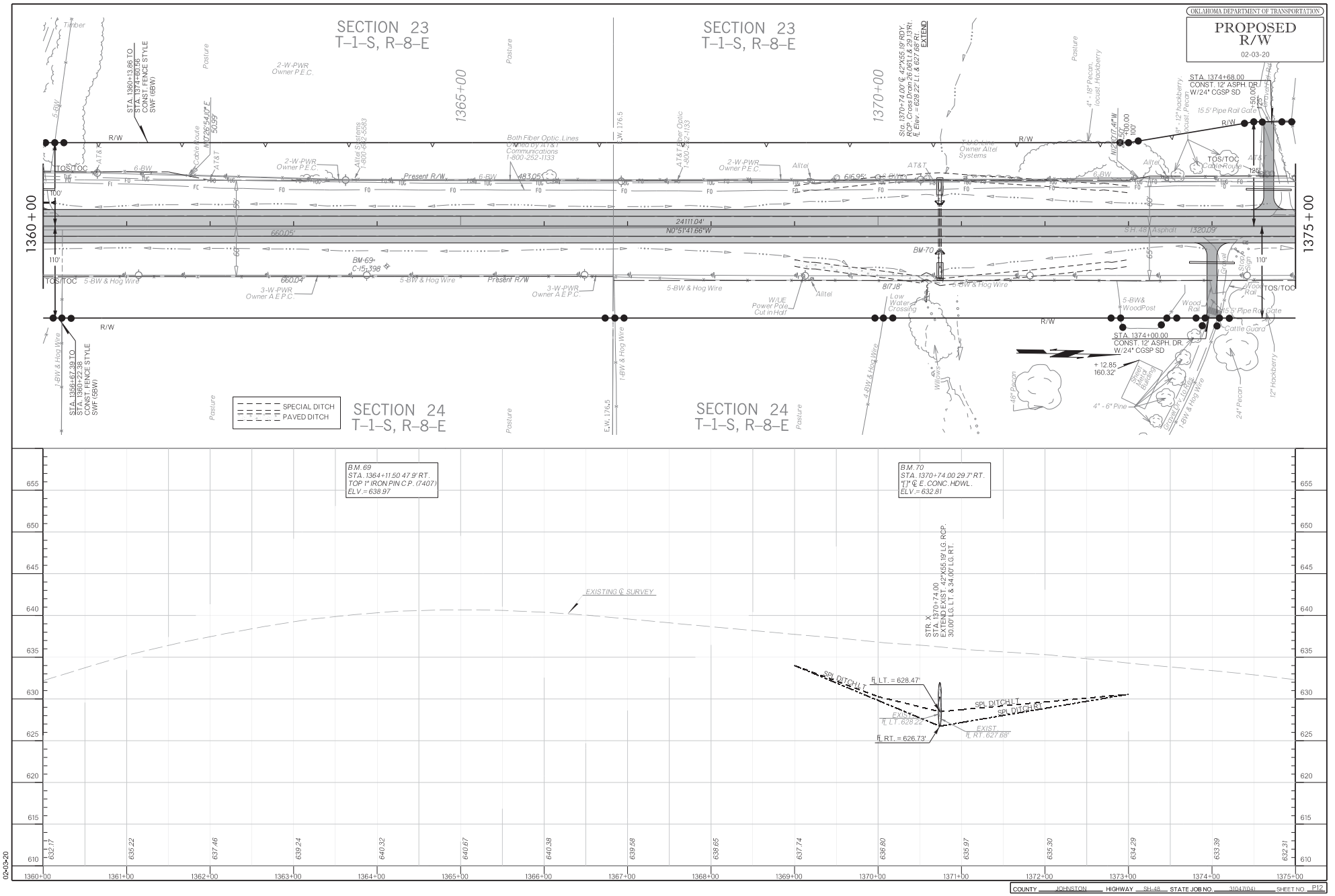
1298+00
1299+00
1300+00
02-03-20

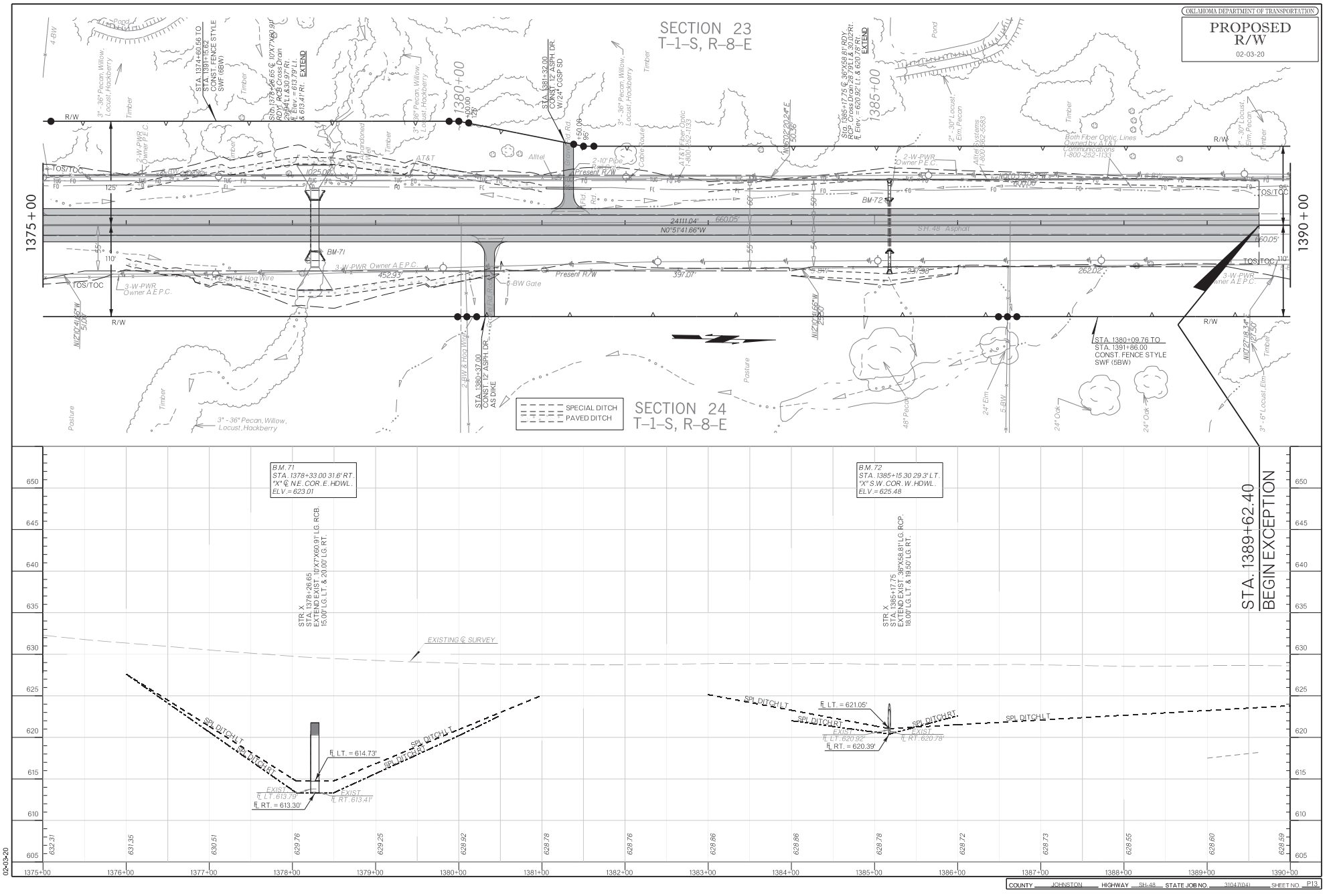

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 26
T-1-S, R-8-E
SECTION 25
T-1-S, R-8-E
1300+00
1315+00
1305+00
1310+00
STA. 1287+82.50 TO STA. 1300+86.42 CONST. FENCE STYLE SWF (GBW)
STA. 1304+27.00 CONST. 12' ASPH. DR. W/24' CGSP SD
STA. 1287+97.66 TO STA. 1313+78.55 CONST. FENCE STYLE SWF (GBW)
STA. 1300+75.00 CONST. 12' ASPH. DR. W/28' x 20' CGSPA SD
STA. 1313+98.00 CONST. 12' ASPH. DR. 2 W/21' x 15' CGSPA SD
STA. 1314+06.19 TO STA. 1332+00.00 CONST. FENCE STYLE SWF (GBW)
B.M. 62
STA. 1300+91.70 29.5' RT.
"T" @ N. HDWL.
ELV.= 648.58
B.M. 63
STA. 1309+23.59' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV.= 649.90
EXISTING ℄ SURVEY
649.84
649.64
650.08
650.28
650.73
650.89
651.17
651.52
651.91
651.88
651.52
650.94
650.21
649.23
648.43
647.33
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P8

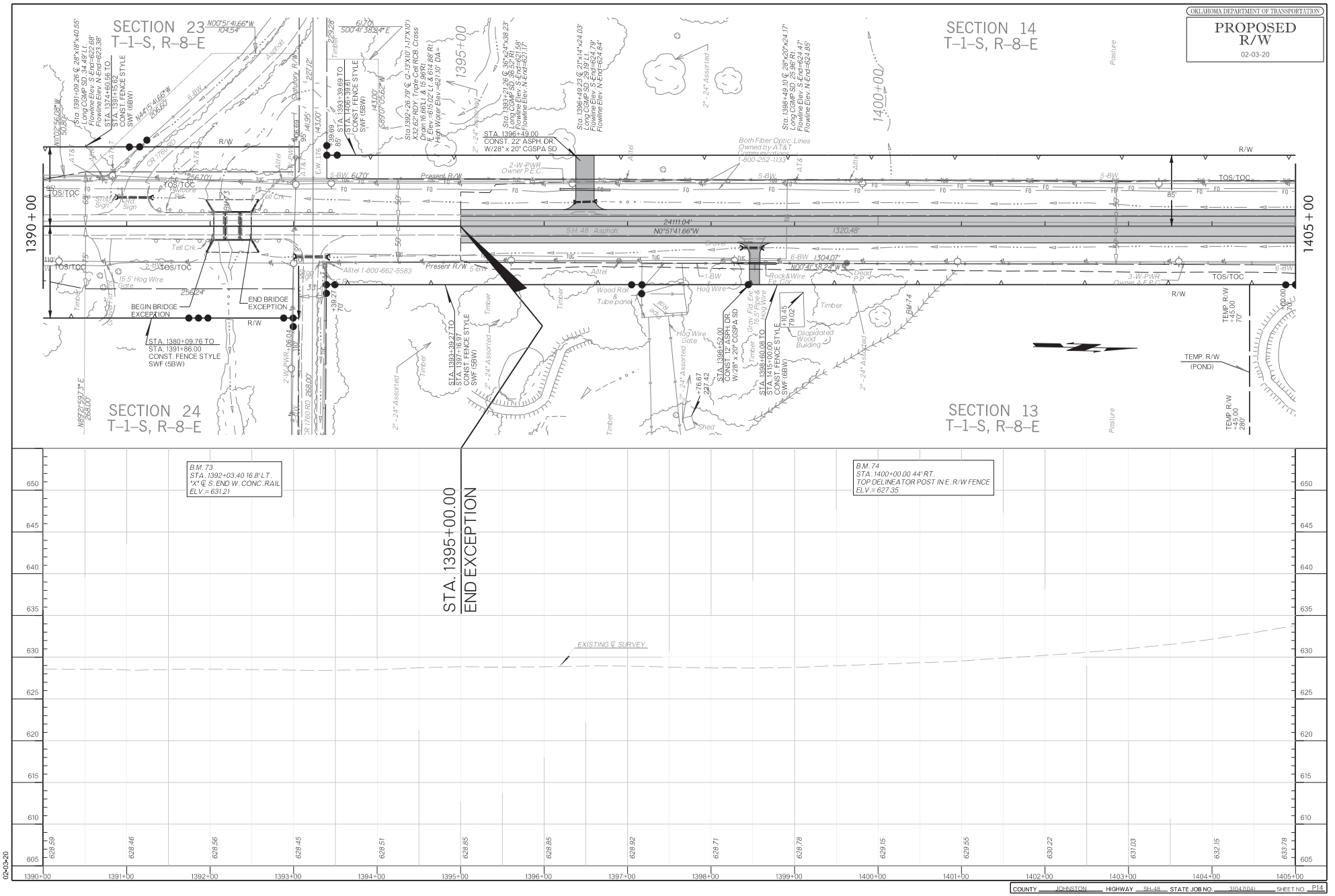

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 26
T-1-S, R-8-E
SECTION 25
T-1-S, R-8-E
1315+00
1320+00
1325+00
1330+00
R/W
TOS/TOC
PRES. R/W
2-W-PWR Owner P.E.C.
Clarita-Olney Water Co. Coal County P.V.C. Waterline
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
FO Marker
Cable Route
24111.04'
N0°51'41.66"W
3-W-PWR Owner A.E.P.C.
T.U.G. Line Owner Altel Systems
pipe&wood plank entry
STA. 1314+05.19 TO STA. 1332+00.00 CONST. FENCE STYLE SWF (5BW)
STA. 1328+00.00 TO STA. 1338+97.89 CONST. FENCE STYLE SWF (5BW)
STA. 1329+07.00 CONST. 12' ASPH. DR. W/28" x 20"CGSPA SD
Sta. 1324+88.16 ℄ Ext. End of a 6'x6'x72.25'Skewed RCB Cross Drain 29.88' Rt. Flowline Elev.=614.22' D.A.=
Sta. 1325+06.28 ℄ of a Skewed 6'x6'x72.25' Long Rdy. RCB Cross Drain Crossing ℄ DA = 148 Acres EXTEND
Sta. 1329+05.92 ℄ 10"x43.07' Long PVC Pipe SD 30.24' Rt.
10"-30" Elm, Bois d'ark, Hackberry, willow
Pasture
SPECIAL DITCH
PAVED DITCH
B.M. 64
STA. 1317+78 58' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 642.70
B.M. 65
STA. 1329+21.50 30.0' RT.
"[]" ℄ N. END RCP S.D.R
ELV. = 630.31
EXISTING ℄ SURVEY
STR. X
STA. 1325+06.28
EXTEND EXIST. SKEWED 6'X6'X72.25' LG RDY RCB
15.48' LG. LT. & 23.64' LG. RT.
SPL DITCH RT
SPL DITCH LT
FL LT. = 615.00'
EXIST FL LT. 614.22'
FL RT. = 612.00'
EXIST FL RT. 613.70'
647.33
646.54
645.67
644.53
643.34
641.85
639.69
636.89
633.80
630.62
628.62
628.01
628.35
629.52
630.94
631.95
1315+00
1316+00
1317+00
1318+00
1319+00
1320+00
1321+00
1322+00
1323+00
1324+00
1325+00
1326+00
1327+00
1328+00
1329+00
1330+00

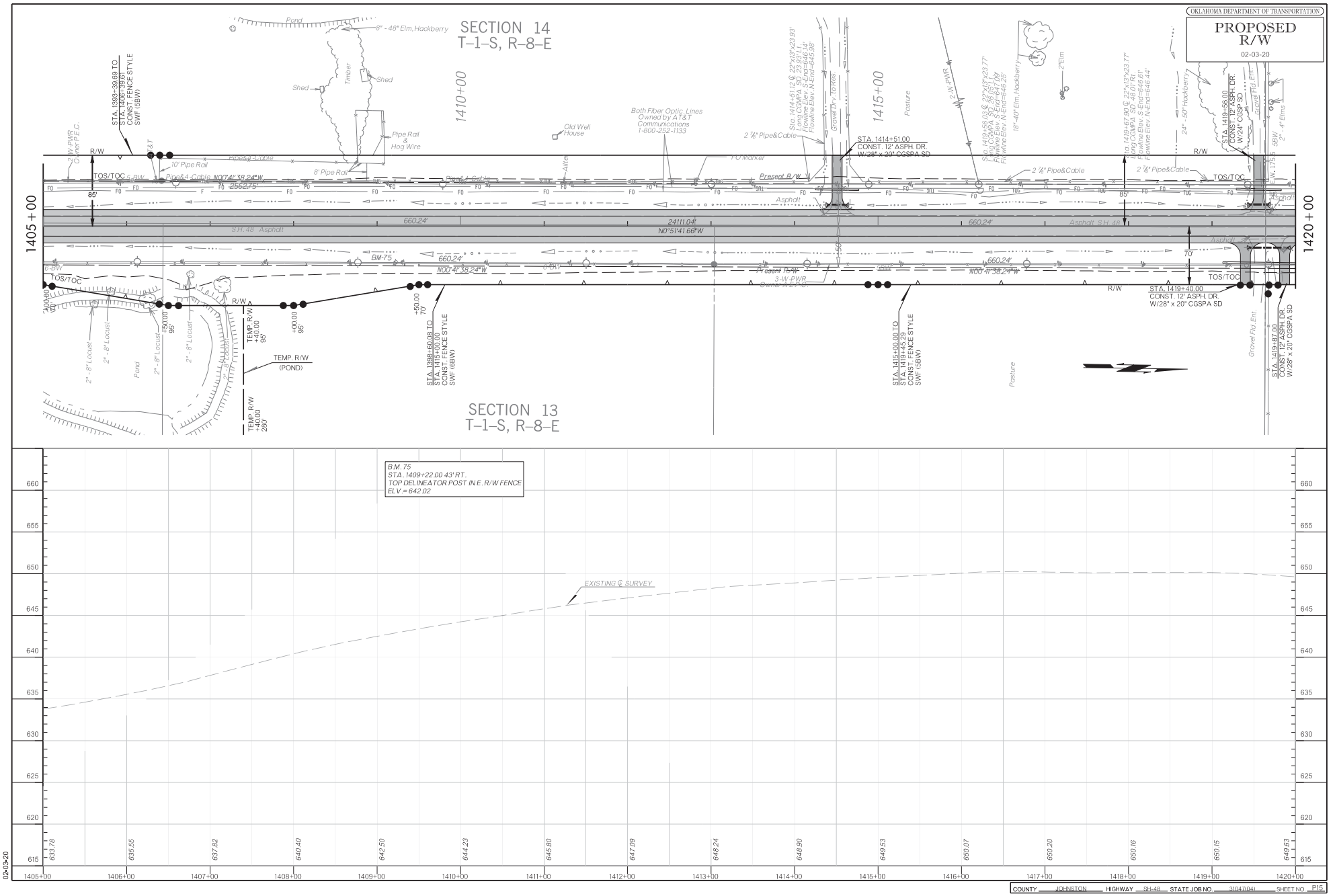

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 26 T–1–S, R–8–E
SECTION 23 T–1–S, R–8–E
SECTION 25 T–1–S, R–8–E
SECTION 24 T–1–S, R–8–E
1330 + 00
1335+00
1340+00
1345 + 00
SPECIAL DITCH
PAVED DITCH
B.M.66
STA. 1336+56.70 30.1' RT.
"X" N.E. COR. E. CONC. HDWL.
ELV.= 617.19
STR. X
STA. 1336+52.02
EXTEND EXIST. 8'X6'X54.99' L.G. RCB.
19.60' LG. LT & 22.40' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH LT.
SPL DITCH RT.
EXIST. ℄ LT. = 610.00'
EXIST. ℄ RT. = 607.00'
EXIST. ℄ LT. 608.80'
EXIST. ℄ LT. 609.39'
631.95
631.93
630.75
628.92
626.69
624.88
623.16
623.89
625.18
627.11
629.46
631.56
632.76
633.20
632.92
631.78
650
645
640
635
630
625
620
615
610
605
1330+00
1331+00
1332+00
1333+00
1334+00
1335+00
1336+00
1337+00
1338+00
1339+00
1340+00
1341+00
1342+00
1343+00
1344+00
1345+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P10

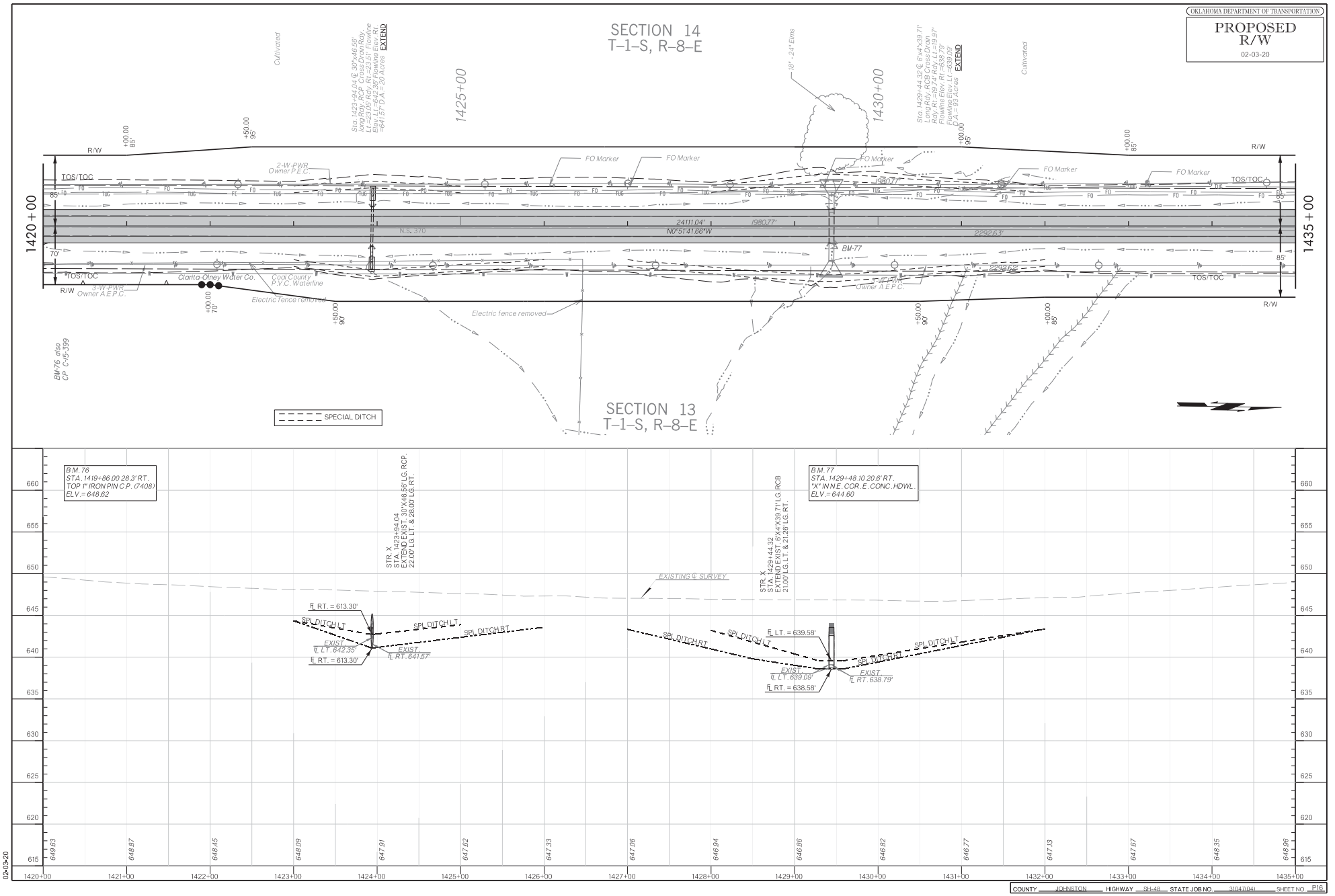

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 23
T–1–S, R–8–E
SECTION 24
T–1–S, R–8–E
1345+00
1360+00
1350+00
1355+00
SPECIAL DITCH
B.M. 67
STA. 1345+97.60 33.8' RT.
"X" ℄ N. END CONC. HDWL. X DRAIN
ELV. = 622.8
B.M. 68
STA. 1354+02.40 16.8' RT.
"X" ℄ N. END E. CONC. RAIL.
ELV. = 624.54
STR. X
STA. 1345+99.79
EXTEND EXIST. 24"X54.99" LG. RCP.
24.00' LG. LT. & 30.00' LG. RT.
EXISTING ℄ SURVEY
Fl. LT. = 625.29'
SPL DITCH LT.
EXIST. Fl. LT. 624.90'
SPL DITCH RT.
SPL DITCH RT.
EXIST. Fl. RT. 619.15'
Fl. RT. = 618.71'
SPL DITCH LT.
SPL DITCH RT.
SPL DITCH RT.
SPL DITCH LT.
631.78
630.30
629.32
626.50
624.87
623.71
622.80
622.51
622.25
622.36
622.51
623.04
624.27
626.40
629.10
632.17
600
605
610
615
620
625
630
635
640
645
1345+00
1346+00
1347+00
1348+00
1349+00
1350+00
1351+00
1352+00
1353+00
1354+00
1355+00
1356+00
1357+00
1358+00
1359+00
1360+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P11

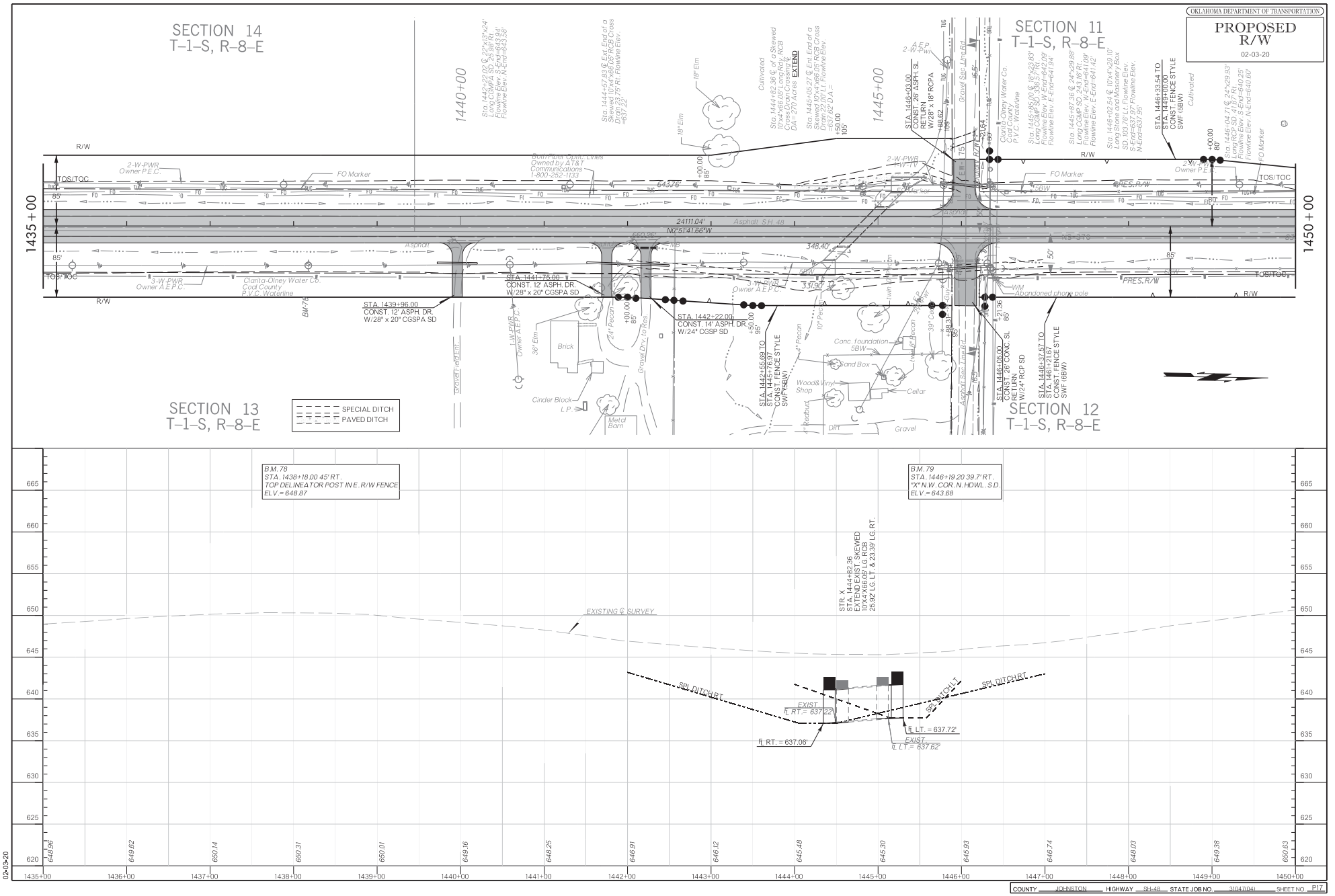

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 23
T–1–S, R–8–E
SECTION 24
T–1–S, R–8–E
1360+00
1365+00
1370+00
1375+00
SPECIAL DITCH
PAVED DITCH
B.M. 69
STA. 1364+11.50 47.9' RT.
TOP 1" IRON PIN C.P. (7407)
ELV. = 638.97
B.M. 70
STA. 1370+74.00 29.7' RT.
T.T.@ E. CONC. HDWL.
ELV. = 632.61
EXISTING ℄ SURVEY
SPL DITCH LT
fl LT. = 628.47'
fl RT. = 626.73'
EXIST fl LT. 628.26'
EXIST fl RT. 627.88'
632.17
635.22
637.46
639.24
640.32
640.67
640.38
639.58
638.65
637.74
636.80
635.97
635.30
634.29
633.39
632.31
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P12

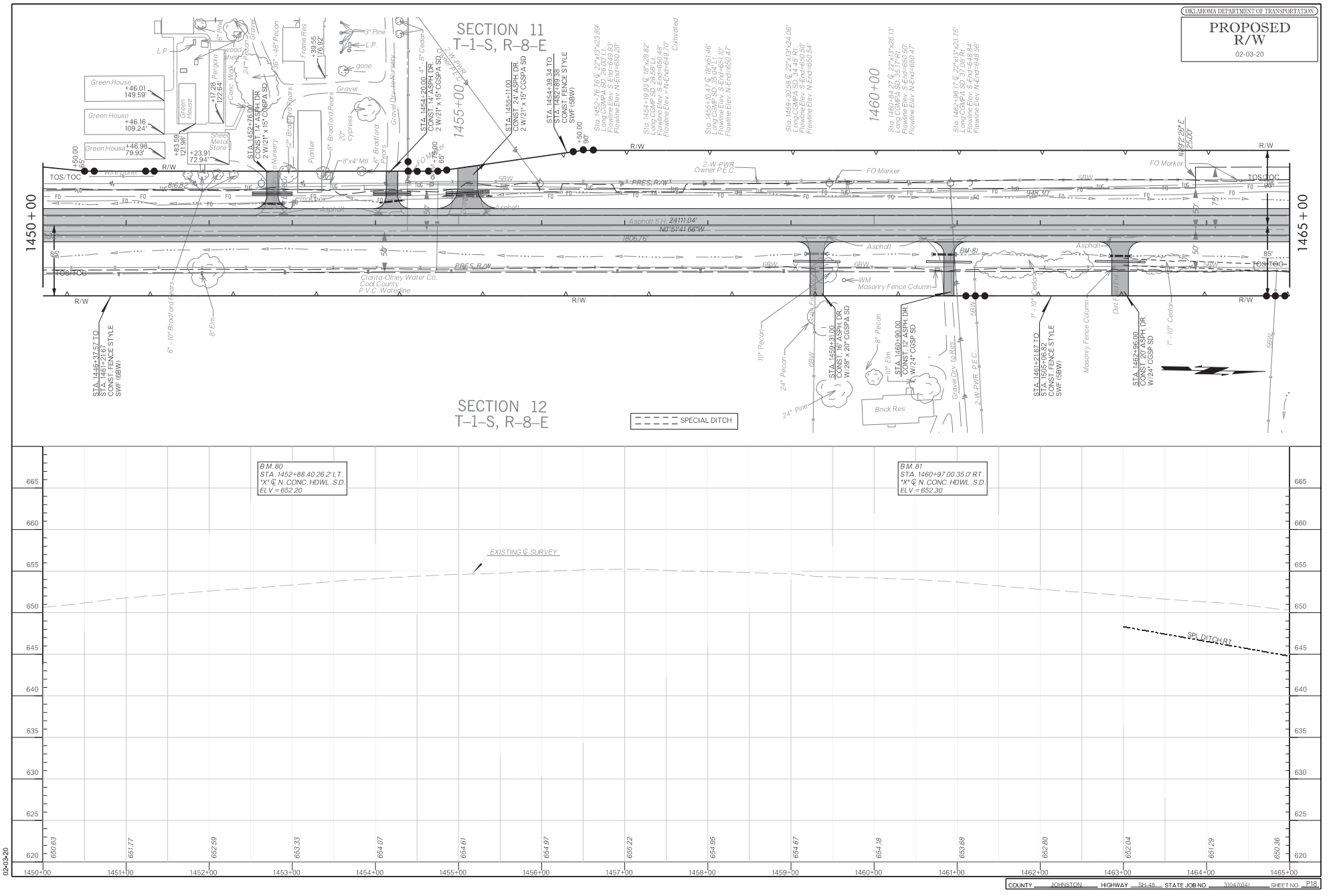

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 23
T-1-S, R-8-E
SECTION 24
T-1-S, R-8-E
1375+00
1380+00
1385+00
1390+00
R/W
TOS/TOC
BM-71
BM-72
24111.04'
N0°51'41.66"W
660.05'
SH 48 Asphalt
3-W-PWR Owner A.E.P.C.
2-W-PWR Owner P.E.C.
Present R/W
6-BW Gate
STA. 1374+60.56 TO STA. 1391+15.62 CONST. FENCE STYLE SWF (6BW)
STA. 1380+37.00 CONST. 12' ASPH. DR. AS DIKE
STA. 1381+32.00 CONST. 12' ASPH. DR. W/24" CSSP SD
STA. 1380+09.76 TO STA. 1391+86.00 CONST. FENCE STYLE SWF (5BW)
SPECIAL DITCH
PAVED DITCH
B.M. 71
STA. 1378+33.00 31.6' RT.
"X" @ N.E. COR. E. HDWL.
ELV. = 623.01
B.M. 72
STA. 1385+15.30 29.3' LT.
"X" S.W. COR. W. HDWL.
ELV. = 625.48
STR. X
STA. 1378+26.65
EXTEND EXIST. 10'X7'X60.91' LG. RCB.
15.00' LG. LT. & 20.00' LG. RT.
STR. X
STA. 1385+17.75
EXTEND EXIST. 36"X58.81' LG. RCP.
18.00' LG. LT. & 19.50' LG. RT.
EXISTING @ SURVEY
SPL DITCH LT.
SPL DITCH RT.
fl. LT. = 614.73'
fl. RT. = 613.30'
EXIST. fl. LT. 613.79'
EXIST. fl. RT. 613.41'
fl. LT. = 621.05'
fl. RT. = 620.39'
EXIST. fl. LT. 620.92'
EXIST. fl. RT. 620.78'
STA. 1389+62.40
BEGIN EXCEPTION
650
645
640
635
630
625
620
615
610
605
632.31
631.35
630.51
629.76
629.25
628.92
628.78
628.76
628.86
628.86
628.78
628.72
628.73
628.55
628.60
628.59
1375+00
1376+00
1377+00
1378+00
1379+00
1380+00
1381+00
1382+00
1383+00
1384+00
1385+00
1386+00
1387+00
1388+00
1389+00
1390+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P13

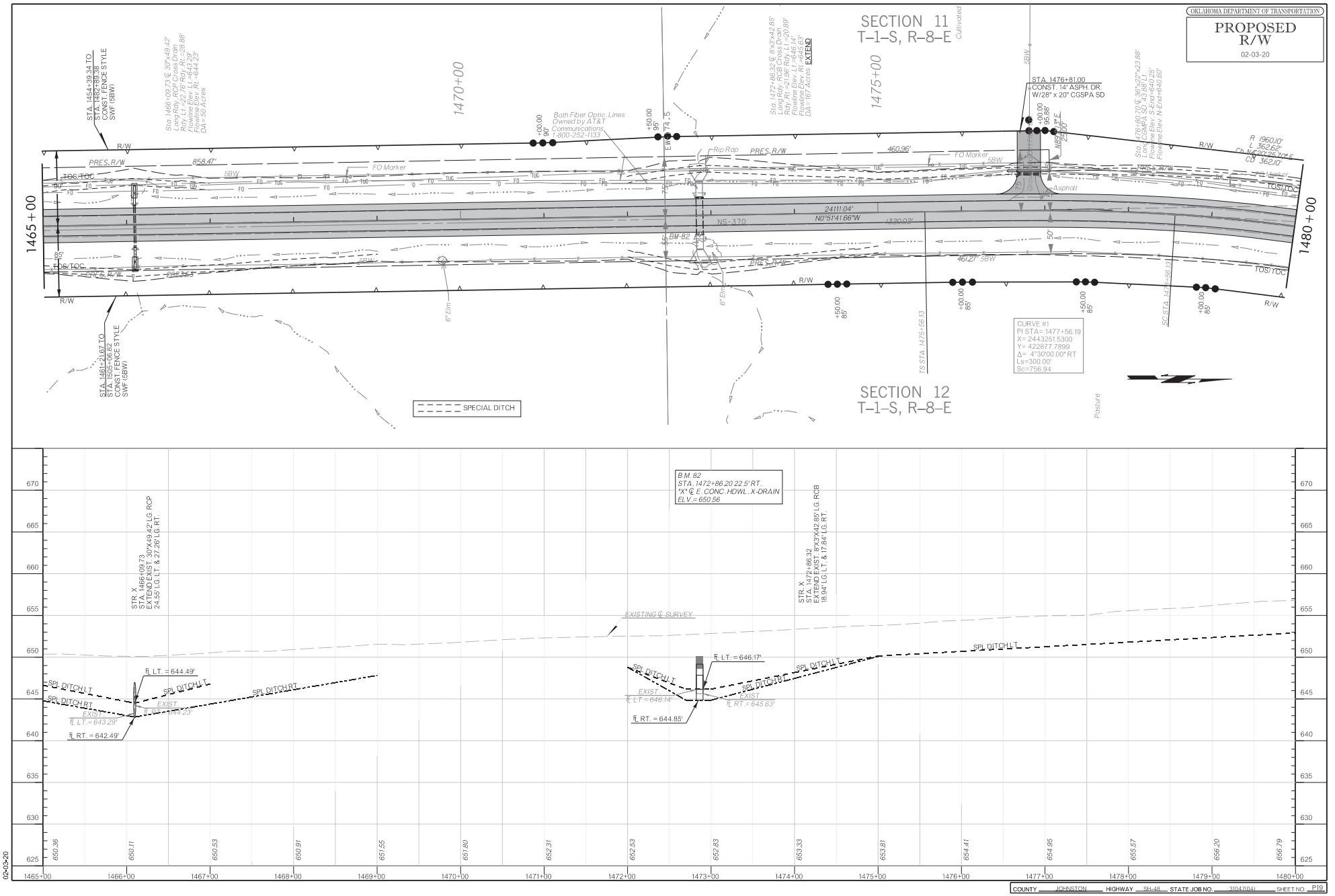

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 23 T–1–S, R–8–E
SECTION 14 T–1–S, R–8–E
SECTION 24 T–1–S, R–8–E
SECTION 13 T–1–S, R–8–E
1390+00
1395+00
1400+00
1405+00
BEGIN BRIDGE EXCEPTION
END BRIDGE EXCEPTION
STA. 1380+09.76 TO STA. 1391+86.00 CONST. FENCE STYLE SWF (5BW)
STA. 1396+49.00 CONST. 22' ASPH. DR. W/28" x 20" CGSPA SD
STA. 1398+60.08 TO STA. 1415+00.00 CONST. FENCE STYLE SWF (6BW)
STA. 1399+52.00 CONST. 12' ASPH. DR. W/28" x 20" CGSPA SD
SH. 48 Asphalt
Present R/W
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
Alltel 1-800-662-5583
2-W PWR Owner P.E.C.
3-W PWR Owner A.E.P.C.
Tell Crk
Hog Wire
Rock & Wire Fence
Dilapidated Wood Building
Shed
Timber
Pasture
TEMP. R/W (POND)
TEMP. R/W +45.00 70'
TEMP. R/W +45.00 280'
B.M. 73
STA. 1392+03.40 16.8' LT.
"X" ℄ S. END W. CONC. RAIL
ELV.= 631.21
B.M. 74
STA. 1400+00.00 44' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV.= 627.35
STA. 1395+00.00 END EXCEPTION
EXISTING ℄ SURVEY
650
645
640
635
630
625
620
615
610
605
628.59
628.46
628.56
628.45
628.51
628.85
628.85
628.92
628.71
628.78
629.15
629.55
630.22
631.03
632.15
633.78
1390+00
1391+00
1392+00
1393+00
1394+00
1395+00
1396+00
1397+00
1398+00
1399+00
1400+00
1401+00
1402+00
1403+00
1404+00
1405+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P14

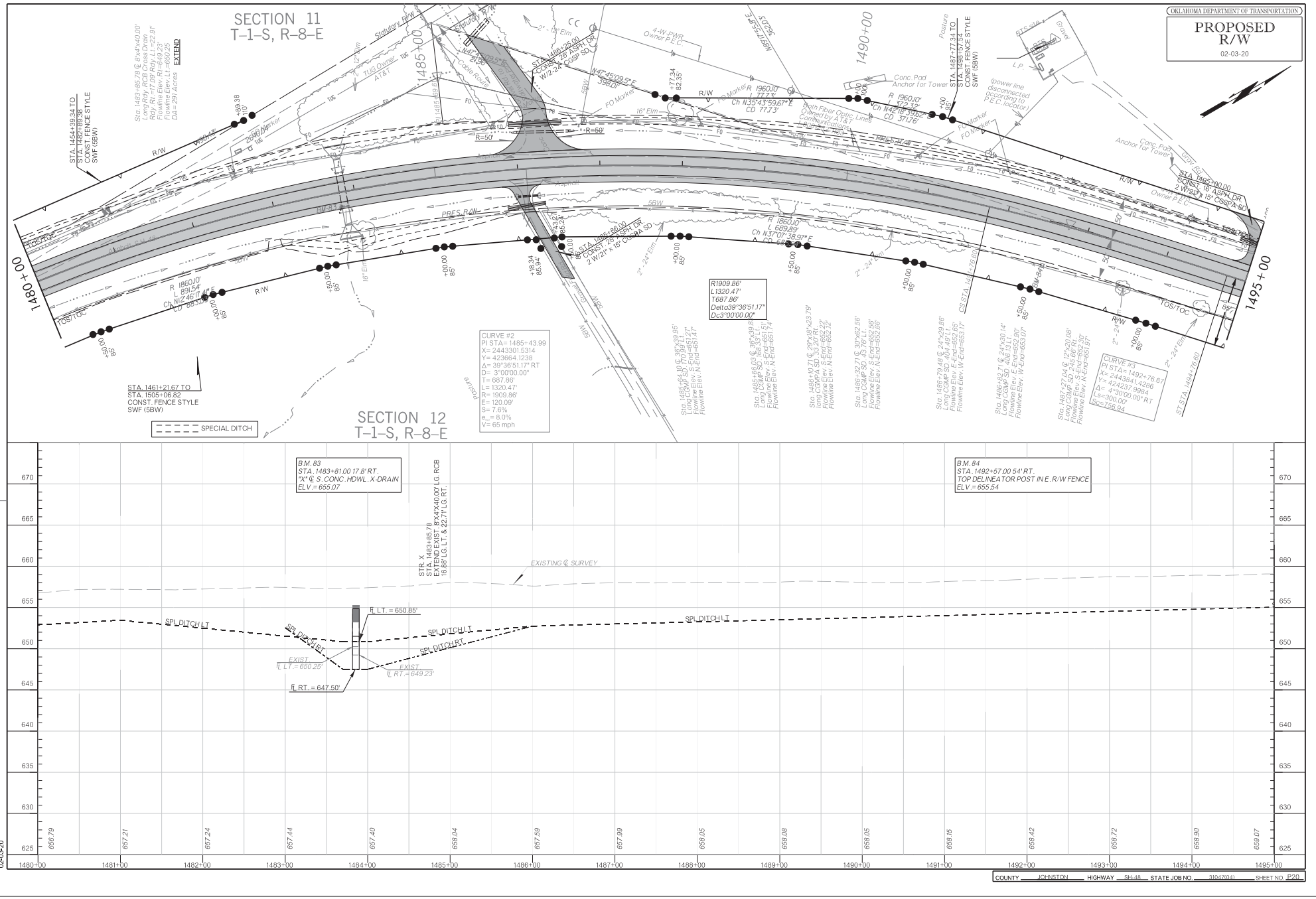

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 14
T–1–S, R–8–E
SECTION 13
T–1–S, R–8–E
1405+00
1410+00
1415+00
1420+00
STA. 1393+39.69 TO STA. 1406+39.61 CONST. FENCE STYLE SWF (5BW)
STA. 1414+51.00 CONST. 12' ASPH. DR. W/28" x 20" CGSPA SD
STA. 1419+56.00 CONST. 12' ASPH. DR. W/24" CGSP SD
STA. 1419+40.00 CONST. 12' ASPH. DR. W/28" x 20" CGSPA SD
STA. 1419+87.00 CONST. 12' ASPH. DR. W/28" x 20" CGSPA SD
STA. 1388+60.00 TO STA. 1405+00.00 CONST. FENCE STYLE SWF (6BW)
STA. 1415+00.00 TO STA. 1419+45.29 CONST. FENCE STYLE SWF (5BW)
Pond
8" - 48" Elm, Hackberry
Timber
Shed
Pipe Rail & Hog Wire
Old Well House
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
Gravel Dr. To Kies
Pasture
2-W. PWR
18"-40" Elm, Hackberry
24" - 50" Hackberry
2" Elm
2" - 41" Elms
Gravel Fld. Ent.
10' Pipe Rail
8' Pipe Rail
Pipe&4 Cable
2 7/8" Pipe&Cable
FO Marker
Present R/W
Asphalt
S.H. 48 Asphalt
660.24'
2411.04'
N0°51'41.66"W
N00°41'38.24"W
BM-75
TOS/TOC
R/W
TEMP. R/W (POND)
TEMP. R/W +40.00 95'
TEMP. R/W +40.00 280'
2" - 8" Locust
Pond
B.M. 75
STA. 1409+22.00 43' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 642.02
EXISTING © SURVEY
633.78
635.55
637.82
640.40
642.50
644.23
645.80
647.09
648.24
649.90
649.53
650.07
650.20
650.16
650.15
649.63
660
655
650
645
640
635
630
625
620
615
1405+00
1406+00
1407+00
1408+00
1409+00
1410+00
1411+00
1412+00
1413+00
1414+00
1415+00
1416+00
1417+00
1418+00
1419+00
1420+00
02-03-20

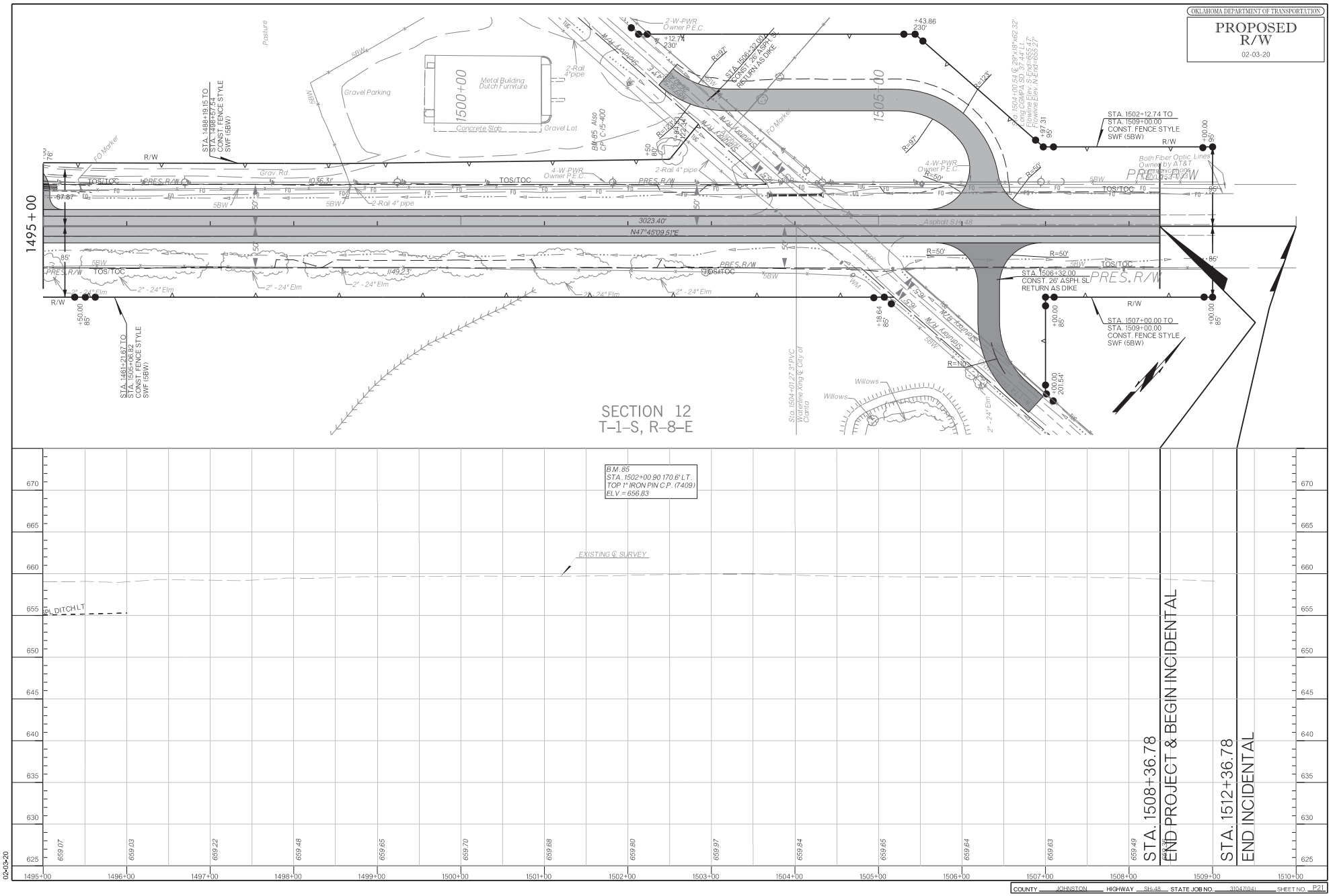

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 14
T–1–S, R–8–E
SECTION 13
T–1–S, R–8–E
1420+00
1425+00
1430+00
1435+00
R/W
TOS/TOC
2-W PWR Owner P.E.C.
3-W PWR Owner A.E.P.C.
FO Marker
Clarita-Olney Water Co.
Coal County P.V.C. Waterline
Electric fence removed
Cultivated
18" - 24" Elms
BM-77
BM-76 also CP C-15-399
SPECIAL DITCH
B.M. 76
STA. 1419+86.00 28.3' RT.
TOP 1" IRON PIN C.P. (7408)
ELV. = 648.62
B.M. 77
STA. 1429+48.10 20.6' RT.
"X" IN N.E. COR. E. CONC. HDWL.
ELV. = 644.60
STR. X
STA. 1423+94.04
EXTEND EXIST. 30'X46.66' LG. RCP.
22.00' LG. LT. & 26.00' LG. RT.
STR. X
STA. 1429+44.32
EXTEND EXIST. 6'X4'X39.71' LG. RCB
21.00' LG. LT. & 21.26' LG. RT.
EXISTING ℄ SURVEY
fl. RT. = 613.30'
SPL. DITCH LT.
SPL. DITCH RT.
EXIST. fl. LT. 642.35'
EXIST. fl. RT. 641.57'
fl. LT. = 639.58'
EXIST. fl. LT. 639.09'
EXIST. fl. RT. 638.79'
fl. RT. = 638.58'
649.63
648.87
648.45
648.09
647.91
647.62
647.33
647.06
646.94
646.86
646.82
646.77
647.13
647.67
648.35
649.96
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P16


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 14
T–1–S, R–8–E
SECTION 11
T–1–S, R–8–E
SECTION 13
T–1–S, R–8–E
SECTION 12
T–1–S, R–8–E
SPECIAL DITCH
PAVED DITCH
1435+00
1440+00
1445+00
1450+00
R/W
TOS/TOC
PRES. R/W
2-W-PWR Owner P.E.C.
FO Marker
Bell/Post Optic Lines Owned by AT&T Communications 1-800-252-1133
Clarita-Olney Water Co. Coal County P.V.C. Waterline
3-W-PWR Owner A.E.P.C.
2-W-PWR P.W.-TV
Gravel Sec. Line Rd.
Asphalt
Asphalt S.H. 48
24111.04'
N0°51'41.66"W
643.76'
660.26'
348.40'
319.97'
STA. 1439+96.00
CONST. 12' ASPH. DR. W/28" x 20" CGSPA SD
STA. 1441+75.00
CONST. 12' ASPH. DR. W/28" x 20" CGSPA SD
STA. 1442+22.00
CONST. 14' ASPH. DR. W/24" CGSP SD
STA. 1442+55.69 TO STA. 1445+76.97
CONST. FENCE STYLE SWF-(6BW)
STA. 1446+03.00
CONST. 26' ASPH. SL RETURN W/28" x 18" RCPA
STA. 1446+05.00
CONST. 26' CONC. SL RETURN W/24" RCP SD
STA. 1446+33.54 TO STA. 1449+00.00
CONST. FENCE STYLE SWF-(6BW)
STA. 1446+67.67 TO STA. 1449+00.00
CONST. FENCE STYLE SWF-(6BW)
Sta. 1444+57.83 ℄ Ext. End of a Skewed 10'x4'x66.05' RCB Cross Drain 23.75' Rt. Flowline Elev. =637.22
Sta. 1444+82.36 ℄ of a Skewed 10'x4'x66.05' Long RCB Cross Drain Crossing Rt. EXTEND
DA - 270 Acres
Sta. 1445+05.27 ℄ Ent. End of a Skewed 10'x4'x66.05' RCB Cross Drain 22.70' Lt. Flowline Elev. =637.62' DA =
Sta. 1445+85.00 ℄ 18"x23.63" Long CSMP SD, 36.67' Rt. Flowline Elev. W-End=642.09' Flowline Elev. E-End=641.94'
Sta. 1445+87.36 ℄ 24"x29.88" Long CSMP SD, 243.16' Rt. Flowline Elev. W-End=642.09' Flowline Elev. E-End=641.42'
Sta. 1446+02.54 ℄ 10'x4'x29.10' Long Stone and Masonery Box SD, 163.76' Lt. Flowline Elev. S-End=637.21' Flowline Elev. N-End=637.95'
Sta. 1446+04.71 ℄ 24"x29.93' Long RCP SD, 41.5' Rt. Flowline Elev. S-End=640.25' Flowline Elev. N-End=640.60'
FO Marker
Cultivated
Brick
Cinder Block
L.P.
Metal Barn
Gravel Dry Ice Pens
Gravel
Dirt
Wood&Vinyl Shop
Cellar
Sand Box
Conc. foundation 5BW
Abandoned phone pole
WM
Asphalt Sec. Line Rd.
Gravel Rd.
Redbud
24" Pecan
10" Pecan
39" Cedar
36" Elm
18" Elm
BM 76
BM. 78
STA. 1438+18.00 45' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 648.87
BM. 79
STA. 1446+19.20 39.7' RT.
"X" N.W. COR. N. HDWL. S.D.
ELV. = 643.68
STR. X
STA. 1444+82.36
EXTEND EXIST. SKEWED 10'X4'X66.05' LG. RCB
25.92' LG. LT. & 23.39' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH RT.
SPL DITCH LT.
EXIST. fL RT. = 637.22'
fL RT. = 637.06'
fL LT. = 637.72'
EXIST. fL LT. = 637.62'
665
660
655
650
645
640
635
630
625
620
648.96
649.62
650.14
650.31
650.01
649.16
648.25
646.91
646.12
645.48
645.30
645.93
646.74
648.03
649.38
650.63
1435+00
1436+00
1437+00
1438+00
1439+00
1440+00
1441+00
1442+00
1443+00
1444+00
1445+00
1446+00
1447+00
1448+00
1449+00
1450+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047(04) SHEET NO. P17


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 11
T–1–S, R–8–E
SECTION 12
T–1–S, R–8–E
1450+00
1455+00
1460+00
1465+00
R/W
TOS/TOC
SPECIAL DITCH
B.M. 80
STA. 1452+88.40 26.2' LT.
"X" ℄ N. CONC. HDWL. S.D.
ELV. = 652.20
B.M. 81
STA. 1460+97.00 35.0' RT.
"X" ℄ N. CONC. HDWL. S.D.
ELV. = 652.30
EXISTING ℄ SURVEY
SPL DITCH RT
650.63
651.77
652.59
653.33
654.07
654.61
654.97
655.22
654.95
654.67
654.18
653.68
652.80
652.04
651.29
650.36
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P18


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 11
T–1–S, R–8–E
SECTION 12
T–1–S, R–8–E
1465+00
1470+00
1475+00
1480+00
STA. 1454+39.34 TO STA. 1462+88.38 CONST. FENCE STYLE SWF (6BW)
STA. 1461+21.67 TO STA. 1505+06.22 CONST. FENCE STYLE SWF (6BW)
Sta. 1466+09.73 @ 30"x49.42" Long Rdy, RCP Cross Drain Rdy, Lt -24.55', Rdy, Rt -27.26' Flowline Elev. Lt.=643.29' Flowline Elev. Rt.=644.23' DA=50 Acres
Sta. 1472+86.32 @ 8'x3'x42.85' Long Rdy, RCB Cross Drain Rdy, Rt -18.94', Rdy, Lt -20.69' Flowline Elev. Lt.=645.63' Flowline Elev. Rt.=645.63' DA= 167 Acres EXTEND
Sta. 1476+80.70 @ 36"x22"x23.88' Long CSPAPA SD 43.88' Lt. Flowline Elev. Lt.=640.25' Flowline Elev. N-End=640.60'
STA. 1476+81.00 CONST. 14' ASPH. DR. W/28" x 20" CGSPA SD
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
Rip Rap
PRES. R/W
858.47'
460.96'
461.27'
24111.04'
N0°51'41.66"W
4329.02'
NS-370
BM-82
FO Marker
5BW
TOS/TOC
R/W
6" Elm
Asphalt
Cultivated
Pasture
SPECIAL DITCH
CURVE #1
PI STA.= 1477+56.19
X= 2443251.5300
Y= 422877.7899
Δ= 4°30'00.00" RT
Ls=300.00'
Sc=756.94
TS STA. 1475+56.13
SC STA. 1478+56.13
R 1960.00'
L 362.62'
Ch N62°26'20"E
CD 362.00'
B.M. 82
STA. 1472+86.20 22.5' RT.
"X" @ E. CONC. HDWL. X-DRAIN
ELV.= 650.56
STR. X
STA. 1466+09.73
EXTEND EXIST. 30"X49.42" LG. RCP
24.55' LG. LT. & 27.26' LG. RT.
STR. X
STA. 1472+86.32
EXTEND EXIST. 8'X3'X42.85' LG. RCB
18.94' LG. LT. & 17.84' LG. RT.
EXISTING ℄ SURVEY
SPL. DITCH LT
SPL. DITCH RT
fl. LT. = 644.49'
fl. RT. = 642.49'
EXIST. fl. LT. = 643.29'
EXIST. fl. RT. = 644.23'
fl. LT. = 646.17'
fl. RT. = 644.85'
EXIST. fl. LT. = 646.14'
EXIST. fl. RT. = 645.63'
650.36
650.11
650.53
650.91
651.55
651.80
652.31
652.53
652.83
653.33
653.81
654.41
654.95
655.57
656.20
656.79
670
665
660
655
650
645
640
635
630
625
1465+00
1466+00
1467+00
1468+00
1469+00
1470+00
1471+00
1472+00
1473+00
1474+00
1475+00
1476+00
1477+00
1478+00
1479+00
1480+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P19


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 11
T–1–S, R–8–E
SECTION 12
T–1–S, R–8–E
1480+00
1485+00
1490+00
1495+00
STA. 1454+39.34 TO
STA. 1482+89.38
CONST. FENCE STYLE
SWF (5BW)
STA. 1461+21.67 TO
STA. 1505+06.82
CONST. FENCE STYLE
SWF (5BW)
STA. 1477+77.34 TO
STA. 1498+57.54
CONST. FENCE STYLE
SWF (5BW)
STA. 1492+90.00
CONST. 16" ASPH. DR.
2 W/21' x 15" CoSPA SD
SPECIAL DITCH
R/W
PRES. R/W
EXTEND
CURVE #2
PI STA= 1485+43.99
X= 2443301.5314
Y= 423664.1238
Δ= 39°36'51.17" RT
Dc= 3°00'00.00"
T= 687.86'
L= 1320.47'
R= 1909.86'
E= 120.09'
e= 7.6%
e_n= 8.0%
V= 65 mph
R1909.86'
L1320.47'
T687.86'
Delta39°36'51.17"
Dc3°00'00.00"
CURVE #3
PI STA= 1492+76.67
X= 2443841.4286
Y= 424237.9984
Δ= 4°30'00.00" RT
Ds=300.00'
Rc=756.94
B.M. 83
STA. 1483+81.00 17.8' RT.
"X" ℄ S. CONC. HDWL. X-DRAIN
ELV. = 655.07
B.M. 84
STA. 1492+57.00 54' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 655.54
STR. X
STA. 1483+65.78
15" CMP SD, 5:1 SLT, 8'Wx4'Hx40.00' LG. RCB
16.88' LG. LT. & 22.71' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH LT
SPL DITCH RT
SPL DITCH LT
SPL DITCH RT
SPL DITCH LT
fl. LT. = 650.85'
fl. RT. = 647.50'
EXIST. fl. LT. = 650.25'
EXIST. fl. RT. = 649.23'
656.79
657.21
657.24
657.44
657.40
658.04
657.59
657.99
658.05
658.08
658.05
658.15
658.42
658.72
658.90
659.07
670
665
660
655
650
645
640
635
630
625
1480+00
1481+00
1482+00
1483+00
1484+00
1485+00
1486+00
1487+00
1488+00
1489+00
1490+00
1491+00
1492+00
1493+00
1494+00
1495+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO P20


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
1495+00
1500+00
1505+00
Pasture
Gravel Parking
Metal Building Dutch Furniture
Concrete Slab
Gravel Lot
Grav. Rd.
2-W-PWR Owner P.E.C.
4-W-PWR Owner P.E.C.
2-Rail 4" pipe
W.M.U. Waterline
FO Marker
R/W
TOS/TOC
PRES. R/W
5BW
3023.40'
N47°45'09.51"E
1036.31'
1149.23'
67.87'
2" - 24" Elm
Asphalt St. Rd. 48
STA. 1488+19.15 TO STA. 1498+57.14 CONST. FENCE STYLE SWF (5BW)
STA. 1481+21.67 TO STA. 1505+06.82 CONST. FENCE STYLE SWF (5BW)
STA. 1502+12.74 TO STA. 1509+00.00 CONST. FENCE STYLE SWF (5BW)
STA. 1506+32.00 CONST. 26' ASPH. SL RETURN AS DIKE
STA. 1507+00.00 TO STA. 1509+00.00 CONST. FENCE STYLE SWF (5BW)
BM-85 Also CP C-15-400
Sta. 1504+01.27 3" PVC Waterline Xing'd. City of Clarita
Sta. 1504+00.54 @ 29"x18"x62.32" Horizontal Elliptical RCP Flowline Elev. S-End=655.47' Flowline Elev. N-End=655.27'
Both Fiber Optic Lines Owned by AT&T
Willows
Elm
Ditch
R=97'
R=122'
R=50'
R=100'
+43.86 230'
+12.74 230'
+18.64 85'
+50.00 85'
+00.00 85'
+00.00 201.54'
+97.31 85'
B.M. 85
STA. 1502+00.90 170.6' LT.
TOP 1" IRON PIN C.P. (7409)
ELV. = 656.83
EXISTING ℄ SURVEY
659.07
659.03
659.22
659.48
659.65
659.70
659.68
659.80
659.97
659.84
659.65
659.64
659.63
659.49
1495+00
1496+00
1497+00
1498+00
1499+00
1500+00
1501+00
1502+00
1503+00
1504+00
1505+00
1506+00
1507+00
1508+00
1509+00
1510+00
670
665
660
655
650
645
640
635
630
625
STA. 1508+36.78
END PROJECT & BEGIN INCIDENTAL
STA. 1512+36.78
END INCIDENTAL
SECTION 12
T–1–S, R–8–E
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047041 SHEET NO. P21

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROPOSED
R/W
05-15-19

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED

STATE HIGHWAY

FEDERAL AID PROJECT NO. J3-1053(004)
BRIDGE & APPROACHES
STATE HIGHWAY 48

JOHNSTON COUNTY

CONTROL SECTION NO. 48-35-20
STATE JOB NO. 31053(04)
BRIDGE "A" LOCATION NO. 3520-0218X
EXISTING NBIS NO. 15121; NEW NBI NO. XXXXX
BRIDGE "B" LOCATION NO. 3520-0277X
EXISTING NBIS NO. 14958; NEW NBI NO. XXXXX

FOR SURVEY CONTROL DATA,
SEE SURVEY DATA SHEETS

FOR INDEX OF SHEETS
AND STANDARDS

BEGIN STA. 1191+80.17
LENGTH = 191'-8"
END STA. 1193+71.83
BRIDGE "A"

℄ STA. 1223+46.00
13'-17'-13' x 15' R.C.B.
BRIDGE "B"

DESIGN DATA	
ADT 2019	= 2,244
ADT 2039	= 3,162
DHV (2-WAY)	= 348
K (DHV/ADT)	= 11%
D	= 57%
T (% DHV)	= 22%
T (% ADT)	= 25%
T³(% ADT)	= 20%
V	= 65 MPH
20 YR FLEX ESALS	= 5.35M

SCALES 1"
PLAN 1" = 100'
PROFILE HOR. 1" = 100'
VER. 1" = 10'
LAYOUT MAP 1" = 1,760

CONVENTIONAL SYMBOLS

- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- EXISTING FENCE
- PROPOSED FENCE
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- OILWELL
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING
- RIGHT-OF-WAY LINES - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE

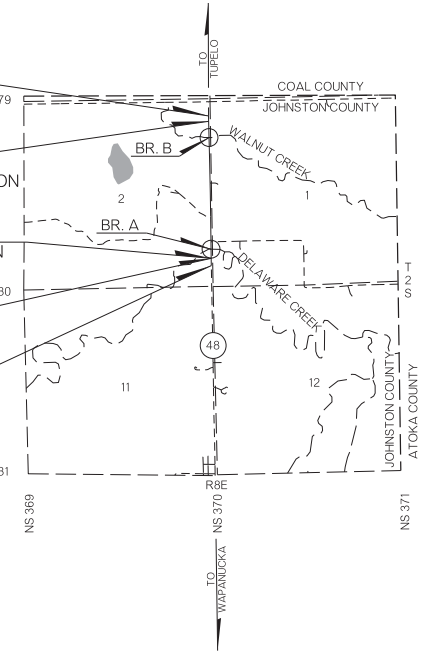
STA. 1233+00.00
END INCIDENTAL
CONSTRUCTION

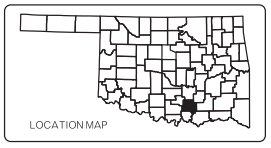
STA. 1228+00.00
END PROJECT
BEGIN INCIDENTAL CONSTRUCTION

STA. 1188+00.00
END INCIDENTAL CONSTRUCTION
BEGIN PROJECT

CONTROL SUB-
SECTION NO. 2.10

STA. 1183+00.00
BEGIN INCIDENTAL
CONSTRUCTION





NOTE: STATIONING BASED ON ℄ SURVEY

ROADWAY LENGTH	3,808.34	FT.	.721 MI.
BRIDGE LENGTH	191.66	FT.	.036 MI.
PROJECT LENGTH			.757 MI.

EQUATIONS : NONE
EXCEPTIONS : NONE

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
DESIGN DIVISION
MOHAMED ELYAZGI, P.E.
OKLA. LIC. NO. 30510
DATE

LICENSED PROFESSIONAL ENGINEER
MOHAMED ALI ELYAZGI
30510
OKLAHOMA

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY	BY
CHIEF ENGINEER	DIVISION ADMINISTRATOR

SWO 5257(1) PROJECT NO. J3-1053(004)
COUNTY JOHNSTON HIGHWAY SH-48 SHEET NO. 0001

TRAFFIC DESIGN
PROJECT ENGINEER: T. MAAROUF, P.E.
SQUAD SUPERVISOR: R. SOLIZ

BRIDGE DESIGN
PROJECT ENGINEER: R. SISSON, P.E.
SQUAD SUPERVISOR: N. SHAO

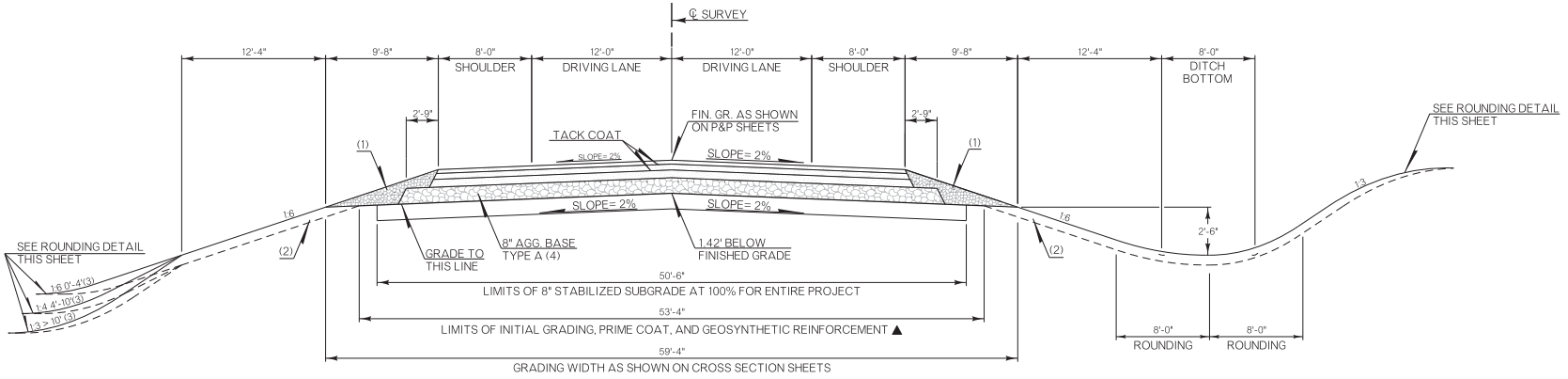
ROADWAY DESIGN
ENGINEERING MANAGER: M. ELYAZGI, P.E.
SQUAD SUPERVISOR: JAMES JONES
SQUAD MEMBERS: J. CUMMINGS; T. HERMAN; K. NORMAN; H. PHAM; R. JOHNSON; R. WOMACK; K. HANEY; K. KILE
ENGINEERING: C. HENSON, P.E.
ENGINEERING: T. ABRAHAM, E.I.

P.E. NO. 31053(01)

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROPOSED R/W

05-15-19



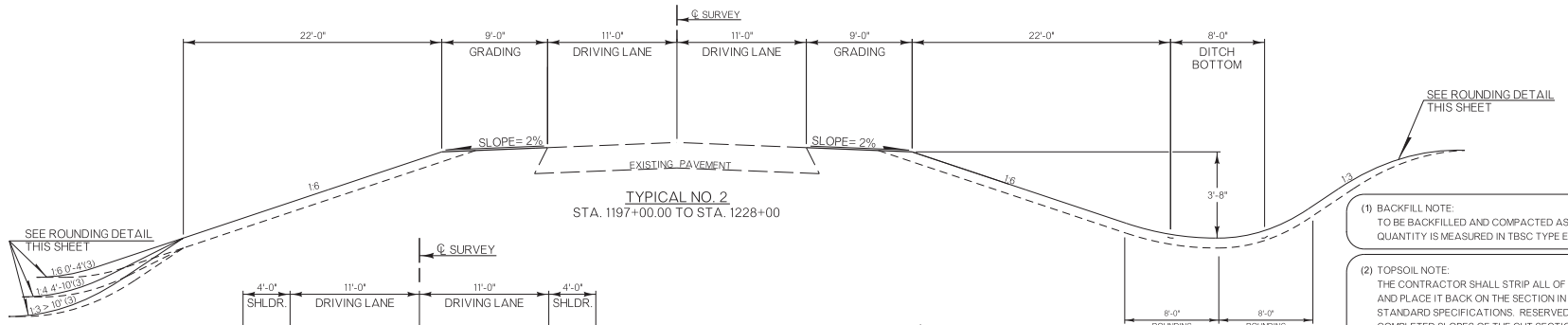
PAVEMENT REQUIREMENT		
9" PAVT. STRUCTURE	12'-0" DRIVING LANES	8'-0" PAVED SHOULDERS
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG 70-28 OK)	2" SUPERPAVE TYPE S4 (PG 70-28 OK)
BASE COURSE	3" SUPERPAVE TYPE S3 (PG 70-28 OK)	3" SUPERPAVE TYPE S3 (PG 70-28 OK)
	4" SUPERPAVE TYPE S3 (PG 64-22 OK)	4" SUPERPAVE TYPE S3 (PG 64-22 OK)

TYPICAL NO. 1

STA. 1188+00.00 TO STA. 1191+50.27

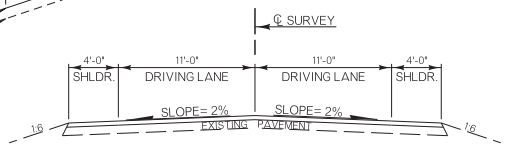
STA. 1194+01.84 TO STA. 1197+00.00

▲ USE RS380i OR APPROVED EQUAL



TYPICAL NO. 2

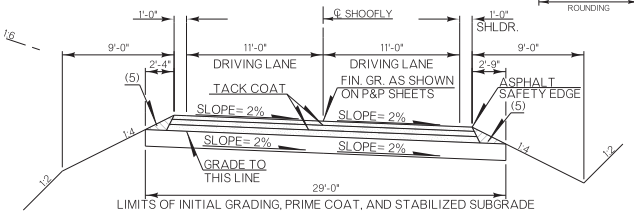
STA. 1197+00.00 TO STA. 1228+00



MILL & OVERLAY TYPICAL

STA. 1185+00.00 TO STA. 1188+00.00

STA. 1197+27.59 TO STA. 1200+00.00



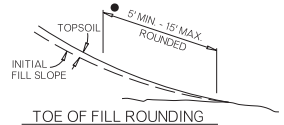
SHOOFLY TYPICAL

STA. 1185+00.00 TO STA. 1200+09.64

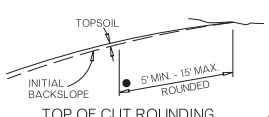
DESIGN SPEED 45 MPH

ROUNDING DETAIL

- INTERSECTION OF CUT AND/OR FILL SLOPES WITH GROUND LINE TO BE ROUNDED AS PART OF FINISHING OPERATIONS. ROUNDING SHALL BE 5' MINIMUM FOR SMALLER CUTS AND FILLS TO 15' MAXIMUM FOR LARGER CUTS AND FILLS OR AS DESIGNATED BY THE ENGINEER. COST OF ROUNDING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.



TOE OF FILL ROUNDING



TOP OF CUT ROUNDING

PAVEMENT REQUIREMENT		
7.5" PAVT. STRUCTURE	11'-0" DRIVING LANES	1'-0" PAVED SHOULDERS
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG 64-22 OK)	2" SUPERPAVE TYPE S4 (PG 64-22 OK)
BASE COURSE	2.5" SUPERPAVE TYPE S3 (PG 64-22 OK)	2.5" SUPERPAVE TYPE S3 (PG 64-22 OK)
	3" SUPERPAVE TYPE S3 (PG 64-22 OK)	3" SUPERPAVE TYPE S3 (PG 64-22 OK)

(1) BACKFILL NOTE:
TO BE BACKFILLED AND COMPACTED AS PART OF THE FINISHING OPERATIONS. QUANTITY IS MEASURED IN TBSC TYPE E.

(2) TOPSOIL NOTE:
THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATIONS. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATIONS SHALL BE INCLUDED IN THE PAY ITEM FOR SALVAGED TOPSOIL, LUMP SUM.

THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS IS TO THE TOP OF THE TOPSOIL. EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITY IS INCLUDED IN THE MASS LINE BALANCE.

(3) DISTANCE MEASURED VERTICALLY FROM EDGE OF FINISHED GRADE SHOULDER.

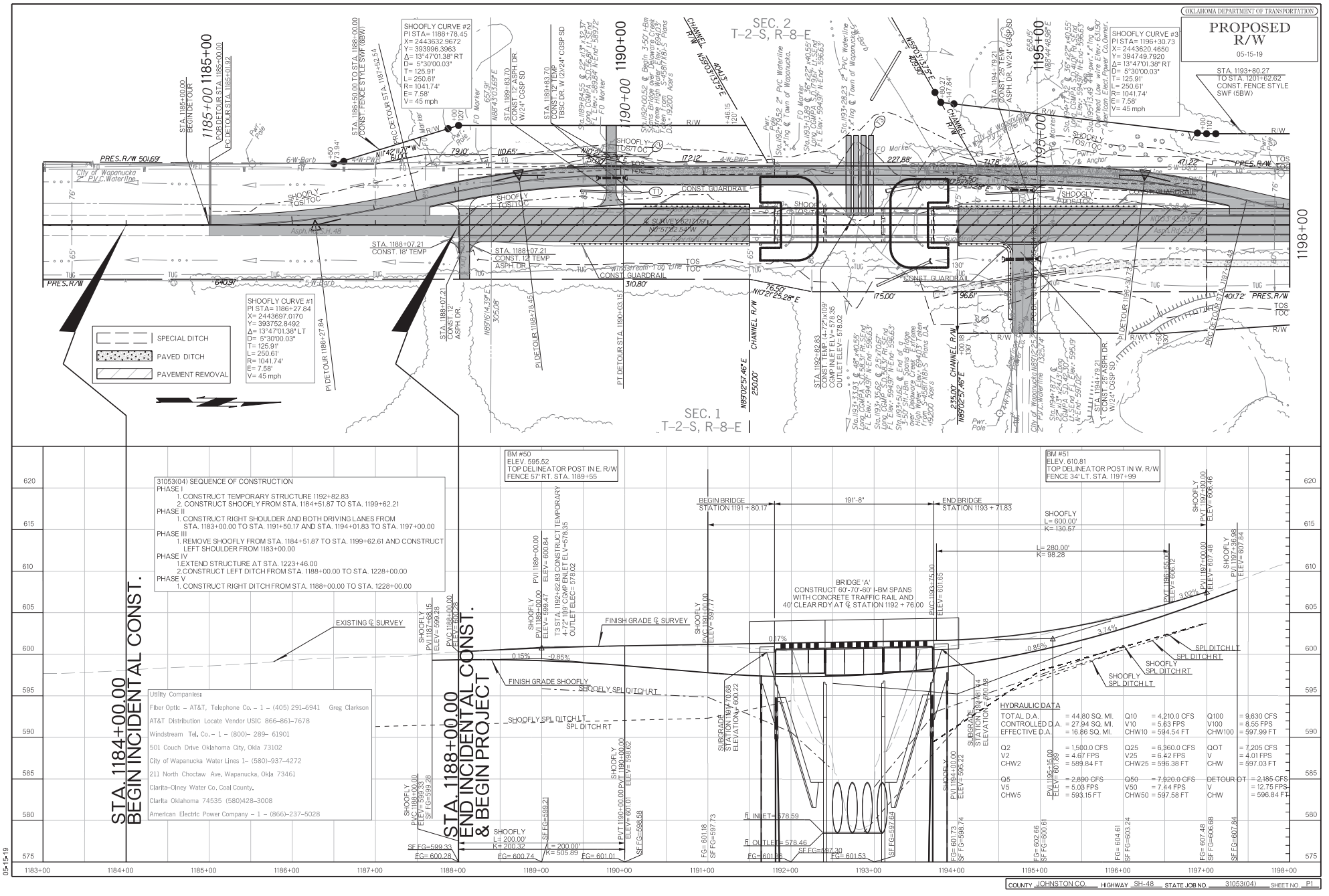
(4) PRIME COAT ON TOP OF AGGREGATE BASE.

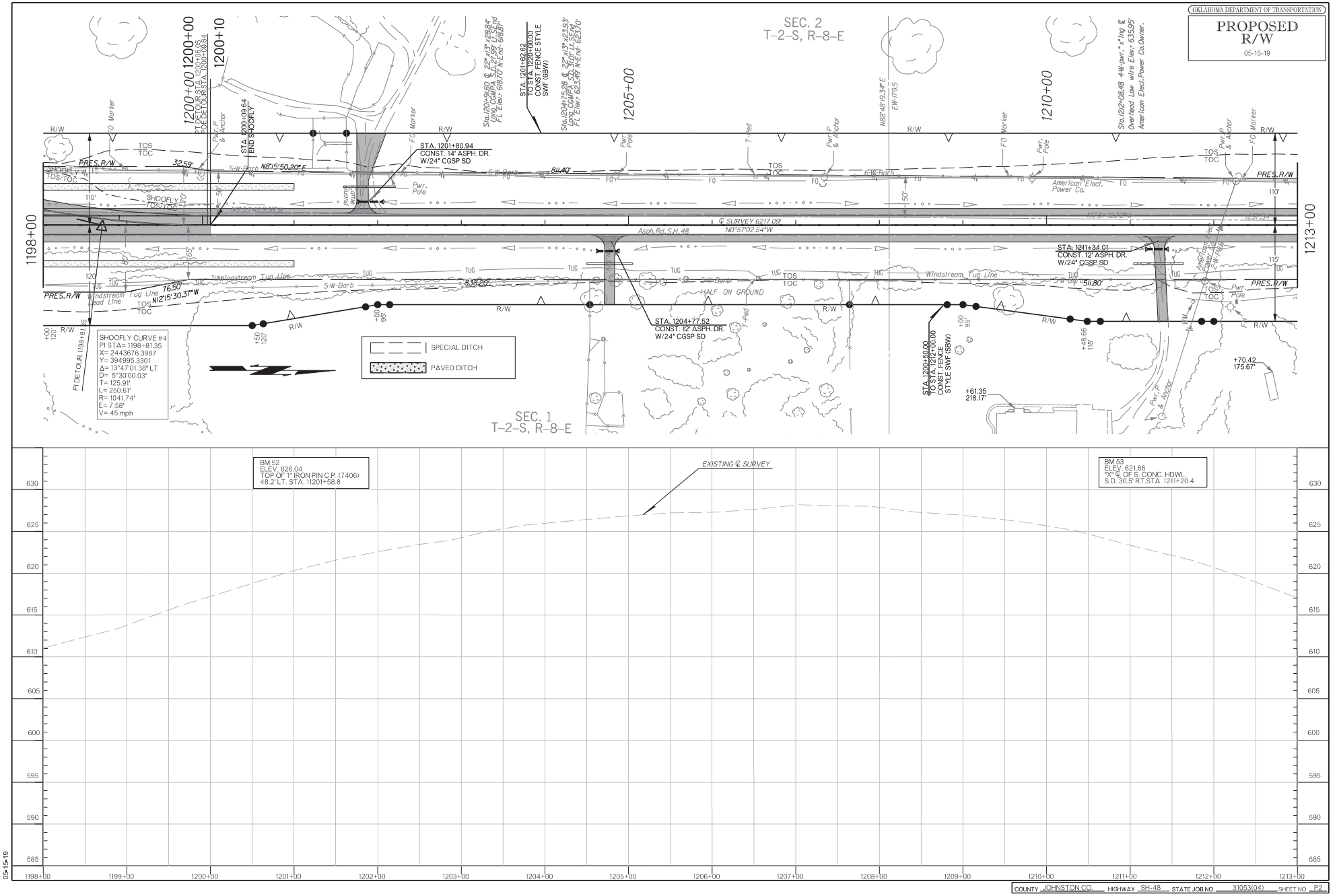
(5) BACKFILL NOTE:
TO BE BACKFILLED AND COMPACTED AS PART OF THE FINISHING OPERATIONS. QUANTITY IS MEASURED IN UNCLASSIFIED BORROW.

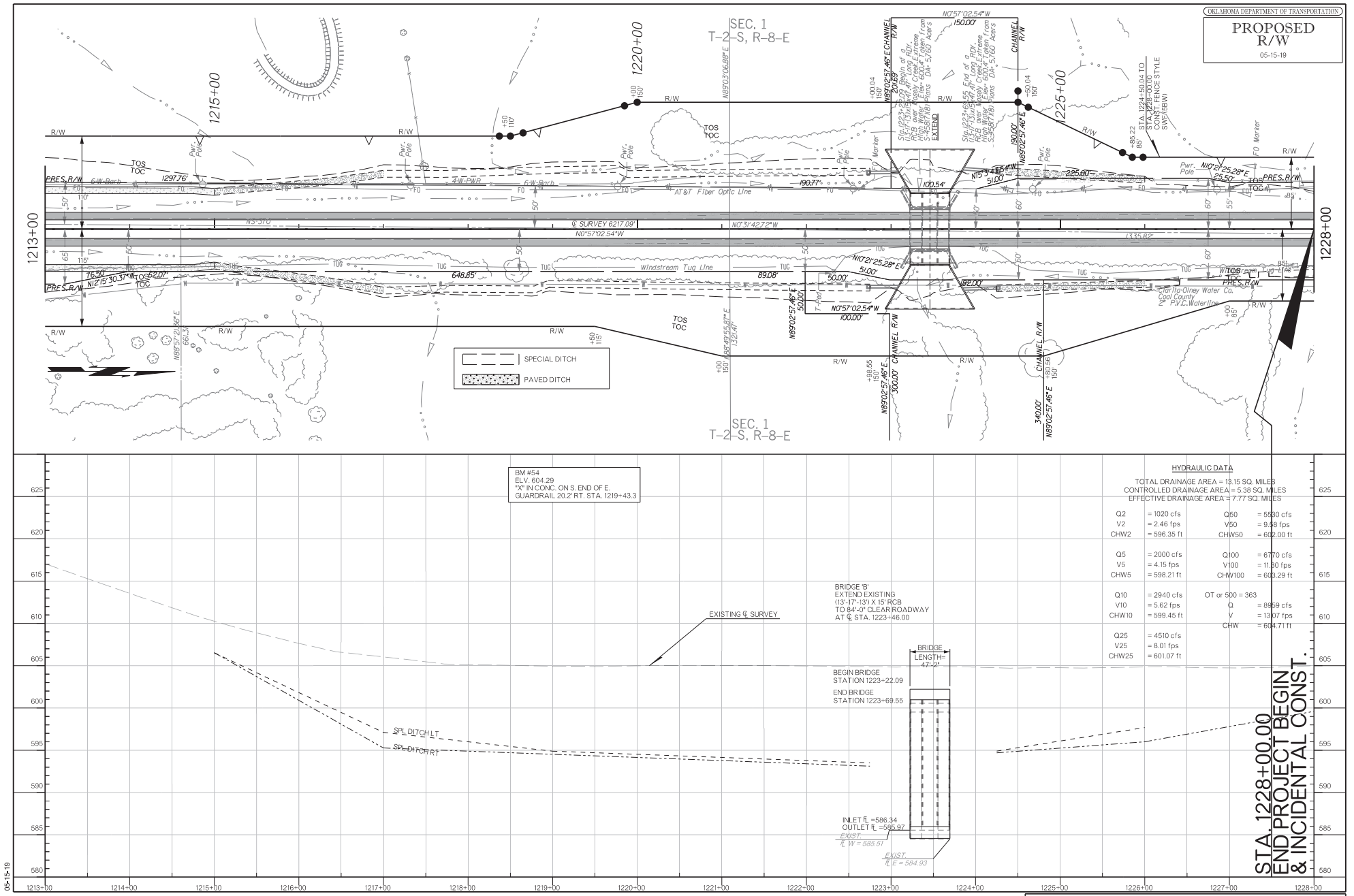
DESIGN		OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION
DRAWN	KRH	
CHECKED		TYPICAL SECTION
APPROVED		
SQUAD	JONES	

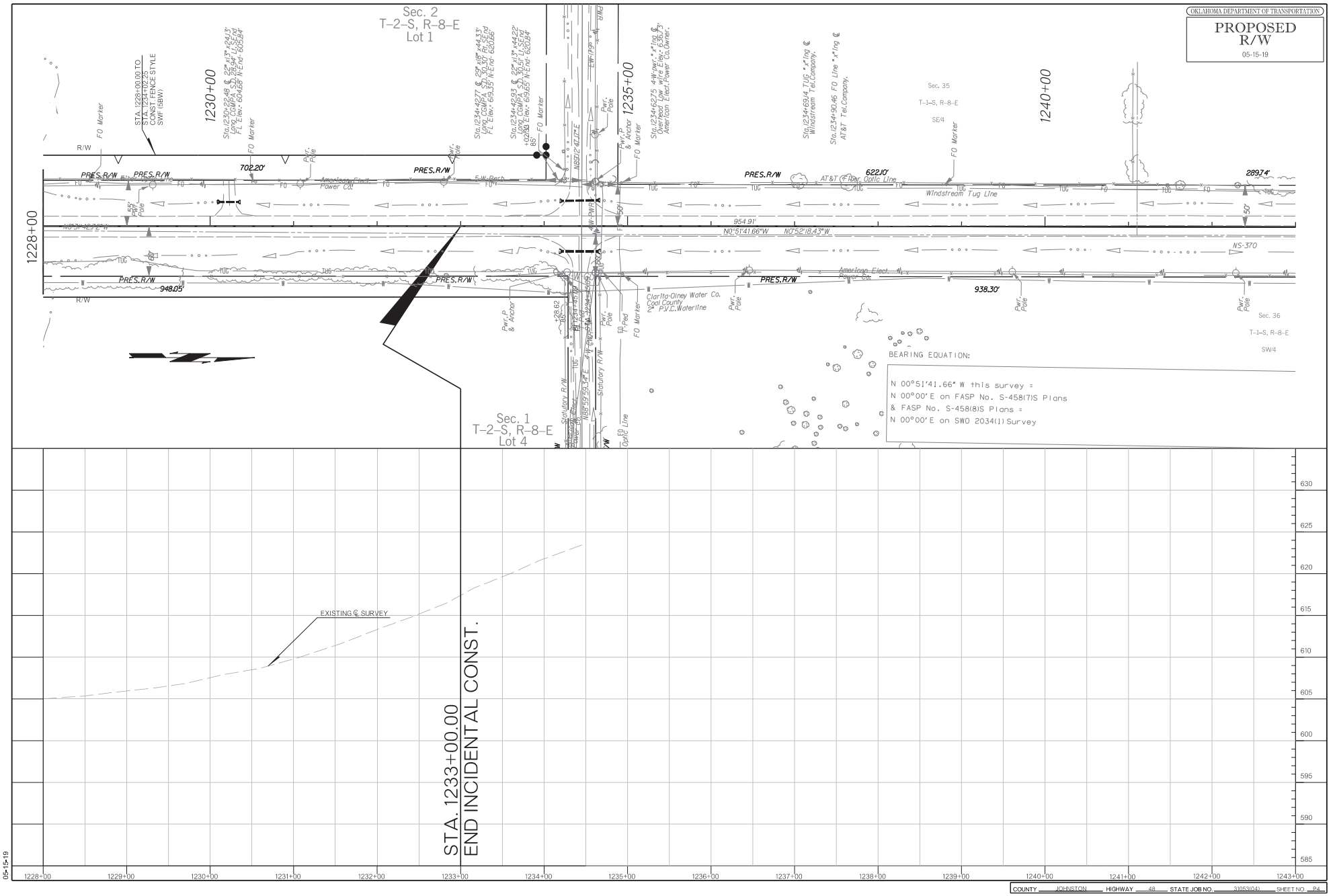
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31053(04) SHEET NO. 0002

05-15-19 pw:\\app-pws01-345.agency.OK.local:ODOTProjects\Documents\Projects\Division 3\JP31053-04\Roadway\Plan Sheets\31053(04)-TypicalJ.dgn

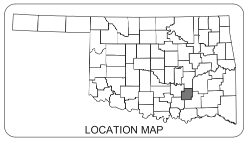

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
05-15-19
SHOOFLY CURVE #1
PI STA= 1186+27.84
X= 2443697.0170
Y= 393752.8492
Δ= 13°47'01.38" LT
D= 5°30'00.03"
T= 125.91'
L= 250.61'
R= 1041.74'
E= 7.58'
V= 45 mph
SHOOFLY CURVE #2
PI STA= 1188+78.45
X= 2443632.9672
Y= 393996.3963
Δ= 13°47'01.38" RT
D= 5°30'00.03"
T= 125.91'
L= 250.61'
R= 1041.74'
E= 7.58'
V= 45 mph
SHOOFLY CURVE #3
PI STA= 1196+30.73
X= 2443620.4650
Y= 394749.7920
Δ= 13°47'01.38" RT
D= 5°30'00.03"
T= 125.91'
L= 250.61'
R= 1041.74'
E= 7.58'
V= 45 mph
SPECIAL DITCH
PAVED DITCH
PAVEMENT REMOVAL
SEC. 2 T-2-S, R-8-E
SEC. 1 T-2-S, R-8-E
STA. 1185+00.00 BEGIN DETOUR
POB DETOUR STA. 1185+00.00
POC DETOUR STA. 1185+01.92
STA. 1186+50.00 TO STA. 1188+00.00 CONST. FENCE STYLE SWF (6BW)
POC DETOUR STA. 1187+52.54
STA. 1193+80.27 TO STA. 1201+82.62 CONST. FENCE STYLE SWF (5BW)
P.I. DETOUR 1186+27.84
P.T. DETOUR STA. 1190+03.15
P.I. DETOUR STA. 1188+78.45
CONST. 18' TEMP
CONST. 12' ASPH. DR.
CONST. GUARDRAIL
PRES. R/W 501.69'
PRES. R/W
TOS
TOC
TUG
FO Marker
Pwr. Pole
6-W-Barb
4-W-PWR
Asph. Rd. to U.H. 48
City of Wapanucka 2" P.V.C. Waterline
2" Pvc Waterline
Windstream Fiber Optic Line
CHANNEL R/W
EXISTING ℄ SURVEY
FINISH GRADE ℄ SURVEY
FINISH GRADE SHOOFLY
SHOOFLY SPL DITCH RT
SHOOFLY SPL DITCH LT
SPL DITCH RT
SPL DITCH LT
BM #50
ELEV. 595.52
TOP DELINEATOR POST IN E. R/W
FENCE 57' RT. STA. 1189+55
BM #51
ELEV. 610.81
TOP DELINEATOR POST IN W. R/W
FENCE 34' LT. STA. 1197+99
BEGIN BRIDGE STATION 1191 + 80.17
END BRIDGE STATION 1193 + 71.83
191'-8"
BRIDGE 'A'
CONSTRUCT 60'-70'-60' I-BM SPANS WITH CONCRETE TRAFFIC RAIL AND 40' CLEAR RDY AT ℄ STATION 1192 + 76.00
SHOOFLY L= 600.00' K= 130.57
PVI 1189+00.00 ELEV= 600.84
PVI 1191+00.00 ELEV= 597.77
PVI 1193+75.00 ELEV= 601.65
PVI 1194+00.00 ELEV= 595.22
PVI 1196+50.00 ELEV= 606.12
PVI 1197+00.00 ELEV= 606.46
PVI 1197+36.98 ELEV= 607.84
PVI 1187+68.15 ELEV= 599.28
PVI 1188+00.00 ELEV= 599.28
PVI 1190+00.00 ELEV= 598.62
PVI 1190+00.00 ELEV= 601.01
PVI 1196+15.00 ELEV= 601.89
0.17%
0.15%
-0.85%
3.74%
3.02%
SUBGRADE STATION 1191+70.68 ELEVATION= 600.22
SUBGRADE STATION 1194+87.14 ELEVATION= 600.36
F. INLET= 578.59
F. OUTLET= 578.46
SF FG= 599.33
FG= 600.28
SF FG= 599.28
SF FG= 599.21
FG= 600.74
SF FG= 598.58
FG= 601.01
FG= 601.18
SF FG= 597.73
SF FG= 597.64
FG= 601.73
SF FG= 596.74
FG= 602.66
SF FG= 600.61
FG= 604.61
SF FG= 603.24
FG= 607.48
SF FG= 606.66
SF FG= 607.84
HYDRAULIC DATA
TOTAL D.A. = 44.80 SQ. MI.
CONTROLLED D.A. = 27.94 SQ. MI.
EFFECTIVE D.A. = 16.86 SQ. MI.
Q10 = 4,210.0 CFS
V10 = 5.63 FPS
CHW10 = 594.54 FT
Q100 = 9,630 CFS
V100 = 8.55 FPS
CHW100 = 597.99 FT
Q2 = 1,500.0 CFS
V2 = 4.67 FPS
CHW2 = 589.84 FT
Q25 = 6,360.0 CFS
V25 = 6.42 FPS
CHW25 = 596.38 FT
QOT = 7,205 CFS
V = 4.01 FPS
CHW = 597.03 FT
Q5 = 2,890 CFS
V5 = 5.03 FPS
CHW5 = 593.15 FT
Q50 = 7,920.0 CFS
V50 = 7.44 FPS
CHW50 = 597.58 FT
DETOUR QT = 2,185 CFS
V = 12.75 FPS
CHW = 596.84 FT
31053(04) SEQUENCE OF CONSTRUCTION
PHASE I
1. CONSTRUCT TEMPORARY STRUCTURE 1192+82.83
2. CONSTRUCT SHOOFLY FROM STA. 1184+51.87 TO STA. 1199+62.21
PHASE II
1. CONSTRUCT RIGHT SHOULDER AND BOTH DRIVING LANES FROM STA. 1183+00.00 TO STA. 1191+50.17 AND STA. 1194+01.83 TO STA. 1197+00.00
PHASE III
1. REMOVE SHOOFLY FROM STA. 1184+51.87 TO STA. 1199+62.61 AND CONSTRUCT LEFT SHOULDER FROM 1183+00.00
PHASE IV
1.EXTEND STRUCTURE AT STA. 1223+46.00
2.CONSTRUCT LEFT DITCH FROM STA. 1188+00.00 TO STA. 1228+00.00
PHASE V
1. CONSTRUCT RIGHT DITCH FROM STA. 1188+00.00 TO STA. 1228+00.00
Utility Companies:
Fiber Optic – AT&T, Telephone Co. – 1 – (405) 291-6941 Greg Clarkson
AT&T Distribution Locate Vendor USIC 866-861-7678
Windstream Tel. Co. – 1 – (800)– 289– 61901
501 Couch Drive Oklahoma City, Okla 73102
City of Wapanucka Water Lines 1– (580)–937–4272
211 North Choctaw Ave. Wapanucka, Okla 73461
Clarita–Olney Water Co. Coal County.
Clarita Oklahoma 74535 (580)428–3008
American Electric Power Company – 1 – (866)–237–5028
STA. 1184+00.00 BEGIN INCIDENTAL CONST.
STA. 1188+00.00 END INCIDENTAL CONST. & BEGIN PROJECT
05-15-19
COUNTY JOHNSTON CO. HIGHWAY SH-48 STATE JOB NO. 31053(04) SHEET NO. P1


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
05-15-19
SEC. 2
T-2-S, R-8-E
SEC. 1
T-2-S, R-8-E
1198+00
1200+00
1200+10
1205+00
1210+00
1213+00
PI DETOUR STA. 1200+06.05
POE DETOUR STA. 1200+09.64
STA. 1200+09.64
END SHOOFLY
STA. 1201+80.94
CONST. 14" ASPH. DR.
W/24" CGSP SD
STA. 1201+62.62
TO STA. 1201+00.00
CONST. FENCE STYLE
SWF (6BW)
STA. 1204+77.52
CONST. 12" ASPH. DR.
W/24" CGSP SD
STA. 1211+34.01
CONST. 12" ASPH. DR.
W/24" CGSP SD
STA. 1200+50.00
TO STA. 1212+00.00
CONST. FENCE
STYLE SWF (6BW)
Asph. Rd. S.H. 48
℄ SURVEY 6217.09'
N0°57'02.54"W
N8°49'19.34"E
EW-179.5
Windstream Tug Line
American Elect. Power Co.
HALF ON GROUND
5-W Barb
5-W Porch
Pwr. Pole
Pwr. P & Anchor
T-Ped
F.O. Marker
TOS
TOC
TUG
F.O.
R/W
PRES. R/W
SHOOFLY TOS/TOC
SHOOFLY CURVE #4
PI STA= 1198+81.35
X= 2443676.3987
Y= 394995.3301
Δ= 13°47'01.38" LT
D= 5°30'00.03"
T= 125.91'
L= 250.61'
R= 1041.74'
E= 7.58'
V= 45 mph
SPECIAL DITCH
PAVED DITCH
BM 52
ELEV. 626.04
TOP OF 1" IRON PIN C.P. (7406)
48.2' LT. STA. 11201+58.8
EXISTING ℄ SURVEY
BM 53
ELEV. 621.66
"X" ℄ OF S. CONC. HDWL.
S.D. 30.5' RT. STA. 1211+20.4
630
625
620
615
610
605
600
595
590
585
1198+00
1199+00
1200+00
1201+00
1202+00
1203+00
1204+00
1205+00
1206+00
1207+00
1208+00
1209+00
1210+00
1211+00
1212+00
1213+00
05-15-19
COUNTY JOHNSTON CO. HIGHWAY SH-48 STATE JOB NO. 31053(04) SHEET NO. P2


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
05-15-19
SEC. 1 T-2-S, R-8-E
1213+00
1215+00
1220+00
1225+00
1228+00
R/W
TOS
TOC
PRES. R/W
6-W Barb
4-W PWR
AT&T Fiber Optic Line
℄ SURVEY 6217.09'
N0°57'02.54"W
N1°31'42.72"W
N1°21'30.37"W
1297.76'
762.50'
662.07'
648.85'
190.77'
100.54'
285.60'
1335.82'
89.08'
Windstream Tug Line
Clarita-Olney Water Co.
Coal County
2" P.V.C. Water Line
N89°03'06.88"E
N89°02'57.46"E
N88°57'21.56"E
N88°49'55.87"E
1321.47'
665.31'
CHANNEL R/W
EXTEND
Sta. 1223+69.55 End of a 47' Long RCP, (13'-13"x15') RCB over Mosely Creek-Extreme High Water Elev. 600.4-Plans DA- 5,760 Acers
Sta. 1223+22.09 Beginning of a 47' Long RCP, (13'-13"x15') RCB over Mosely Creek-Extreme High Water Elev. 600.4-Plans DA- 5,760 Acers
STA. 1221+50.04 TO STA. 1221+90.00 CONST. FENCE STYLE SWF(4BW)
STA. 1226+85.22
SPECIAL DITCH
PAVED DITCH
BM #54
ELV. 604.29
"X" IN CONC. ON S. END OF E. GUARDRAIL 20.2' RT. STA. 1219+43.3
HYDRAULIC DATA
TOTAL DRAINAGE AREA = 13.15 SQ. MILES
CONTROLLED DRAINAGE AREA = 5.38 SQ. MILES
EFFECTIVE DRAINAGE AREA = 7.77 SQ. MILES
Q2 = 1020 cfs
V2 = 2.46 fps
CHW2 = 596.35 ft
Q5 = 2000 cfs
V5 = 4.15 fps
CHW5 = 598.21 ft
Q10 = 2940 cfs
V10 = 5.62 fps
CHW10 = 599.45 ft
Q25 = 4510 cfs
V25 = 8.01 fps
CHW25 = 601.07 ft
Q50 = 5530 cfs
V50 = 9.58 fps
CHW50 = 602.00 ft
Q100 = 6770 cfs
V100 = 11.80 fps
CHW100 = 603.29 ft
OT or 500 = 363
Q = 8959 cfs
V = 13.07 fps
CHW = 604.71 ft
EXISTING ℄ SURVEY
BRIDGE 'B'
EXTEND EXISTING
(13'-17'-13') X 15' RCB
TO 84'-0" CLEAR ROADWAY
AT ℄ STA. 1223+46.00
BRIDGE LENGTH= 47'-2"
BEGIN BRIDGE STATION 1223+22.09
END BRIDGE STATION 1223+69.55
SPL DITCH LT
SPL DITCH RT
INLET FL =586.34
OUTLET FL =585.97
EXIST. FL W = 585.51
EXIST. FL E = 584.93
STA. 1228+00.00
END PROJECT BEGIN & INCIDENTAL CONST.
625
620
615
610
605
600
595
590
585
580
1213+00
1214+00
1215+00
1216+00
1217+00
1218+00
1219+00
1220+00
1221+00
1222+00
1223+00
1224+00
1225+00
1226+00
1227+00
1228+00
05-15-19
COUNTY JOHNSTON CO. HIGHWAY SH-48 STATE JOB NO. 31053(04) SHEET NO. P3


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
05-15-19
Sec. 2
T-2-S, R-8-E
Lot 1
Sec. 1
T-2-S, R-8-E
Lot 4
Sec. 35
T-1-S, R-8-E
SE/4
Sec. 36
T-1-S, R-8-E
SW/4
1228+00
1230+00
1235+00
1240+00
PRES.R/W
R/W
FO Marker
Pwr. Pole
Pwr. P & Anchor
Pwr. Ped
Guy Pole
Guy Anchor
Telephone Pedestal
Telephone Manhole
Telephone Pole
Telephone Ped
Telephone Riser
Telephone Box
Telephone Vault
Telephone Marker
Water Valve
Water Meter
Water Marker
Gas Valve
Gas Marker
Gas Meter
Gas Vent
Gas Riser
Gas Box
Gas Vault
Gas Marker
Sign
Mail Box
Light Pole
Light Ped
Light Marker
Light Box
Light Vault
Light Riser
Light Meter
Light Marker
Traffic Signal Pole
Traffic Signal Ped
Traffic Signal Box
Traffic Signal Vault
Traffic Signal Riser
Traffic Signal Meter
Traffic Signal Marker
Traffic Signal Controller
Traffic Signal Cabinet
Traffic Signal Conduit
Traffic Signal Wire
Traffic Signal Loop
Traffic Signal Detector
Traffic Signal Camera
Traffic Signal Sensor
Traffic Signal Transformer
Traffic Signal Junction Box
Traffic Signal Pull Box
Traffic Signal Splice Box
Traffic Signal Vault
Traffic Signal Riser
Traffic Signal Meter
Traffic Signal Marker
Traffic Signal Controller
Traffic Signal Cabinet
Traffic Signal Conduit
Traffic Signal Wire
Traffic Signal Loop
Traffic Signal Detector
Traffic Signal Camera
Traffic Signal Sensor
Traffic Signal Transformer
Traffic Signal Junction Box
Traffic Signal Pull Box
Traffic Signal Splice Box
STA. 1228+00.00 TO STA. 1233+00.00 CONST. FENCE STYLE SWF (SBW)
Sta.1230+22.48 ℄ 22" W3" +24.13' Long COMPA SD 28.94' Lt.-End Fl. Elev.= 604.85' N.End= 605.84'
Sta.1234+42.77 ℄ 36" x18" +44.33' Long COMPA SD 28.94' Rt.-End Fl. Elev.= 619.35' N.End= 620.68'
Sta.1234+42.93 ℄ 27"x17" +44.22' Long COMPA SD 30.61' Lt.-End +0.00 Fl. Elev.= 619.65' N.End= 620.84'
Sta.1234+62.75 4-W-Pwr."x"ing ℄ Overhead Line w/re Elev.= 636.73' American Elect.Power Co.Owner.
Sta.1234+69.14 TUG "x"ing ℄ Windstream Tel.Company.
Sta.1234+90.46 FO Line "x"ing ℄ AT&T Tel.Company.
702.20'
622.10'
289.74'
954.91'
N0°51'41.66"W
N0°52'18.43"W
948.05'
938.30'
NS-370
AT&T Fiber Optic Line
Windstream Tug Line
American Elect. Power Co.
Clarita-Olney Water Co. Coal County P.V.C. Waterline
Statutory R/W
N89°59'59.54"E
BEARING EQUATION:
N 00°51'41.66" W this survey =
N 00°00'E on FASP No. S-458(7)S Plans
& FASP No. S-458(8)S Plans =
N 00°00'E on SWO 2034(1) Survey
EXISTING ℄ SURVEY
STA. 1233+00.00
END INCIDENTAL CONST.
630
625
620
615
610
605
600
595
590
585
1228+00
1229+00
1230+00
1231+00
1232+00
1233+00
1234+00
1235+00
1236+00
1237+00
1238+00
1239+00
1240+00
1241+00
1242+00
1243+00
05-15-19
COUNTY JOHNSTON HIGHWAY 48 STATE JOB NO. 31053(04) SHEET NO. P4

FOR SURVEY CONTROL DATA, SEE SURVEY DATA SHEET


LOCATION MAP

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY
PROJECT NO. J3-1054(004)
BRIDGE AND APPROACHES
(3R-SPOT IMPROVEMENT PROJECT)
STATE HIGHWAY 48
COAL COUNTY
STATE JOB PIECE NO. 31054(04)
CONTROL SECTION NO. 48-15-16
BRIDGE "A" LOCATION NO. 1516 0226 X (NBI NO. 14955)
BRIDGE "B" LOCATION NO. 1516 0300 X (NBI NO. 14959)

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROPOSED R/W
MARCH 2020

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FED. ROAD. DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	OKLA.	31054(04)	2024	0001	34

DESCRIPTION	REVISIONS	DATE

65% CONSTRUCTION PLANS
FOR REVIEW

(THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT)

DESIGN DATA

AADT 2019	=	2300
AADT 2040	=	3300
K	=	11%
D	=	56%
T (% DHV)	=	22%
T (% AADT)	=	25%
T3 (% AADT)	=	20%
V	=	65 mph
20 YR. FLEX. ESALS	=	5.72 M

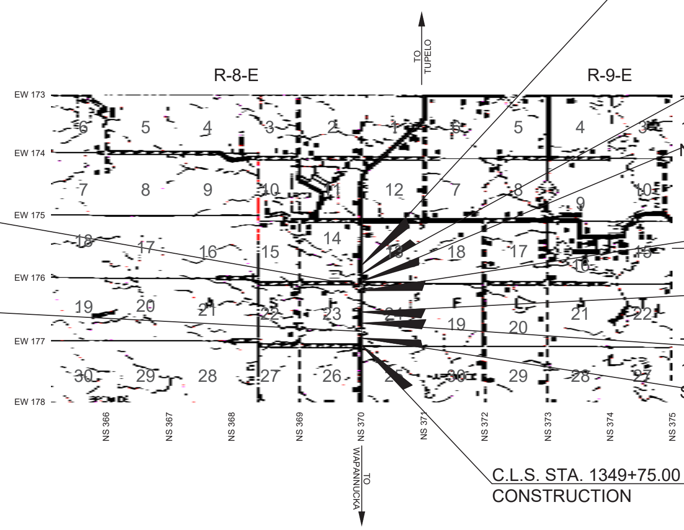
SCALES

PLAN	1" =	30'
PROFILE HOR.	1" =	30'
VER.	1" =	10'
LAYOUT MAP	1" =	5280'

LEVEL DATA IS MEAN SEA LEVEL (USC&GS) BEARINGS ARE FROM OBSERVATION OF POLARIS.

CONVENTIONAL SYMBOLS

PROPOSED ROAD
RAILROADS
RANGE & TOWNSHIP
SECTION LINES
QUARTER SECTION LINES
FENCES
GROUND LINE
EXISTING ROADS
BASE LINE
GRADE LINES
TELEPHONE & TELEGRAPH
POWER LINES
BUILDINGS
DRAINAGE STRUCTURES - IN PLACE
DRAINAGE STRUCTURES - NEW
PRES. R/W RIGHT-OF-WAY LINES - EXISTING
R/W RIGHT-OF-WAY LINES - NEW
RIGHT-OF-WAY MARKERS - IN PLACE
RIGHT-OF-WAY MARKERS - REMOVE & REPLACE
RIGHT-OF-WAY MARKERS - NEW
CONTROLLED ACCESS
RIGHT-OF-WAY FENCE



SUBMITTED FOR APPROVAL BY:

Cabbiness engineering, llc
333 12th Avenue SE, Suite 200
Norman, Oklahoma 73071
405.310.6435 Office 405.310.6495 Fax
www.CabbinessEngineering.com
Certificate of Authorization No. CA#3714 Expires June 30, 2020

REGISTERED PROFESSIONAL ENGINEER BRETT MORAN 27739 OKLAHOMA — PRELIMINARY NOT FOR CONSTRUCTION

BRETT MORAN
REGISTERED PROFESSIONAL ENGINEER NO. 27739 — DATE

ROADWAY LENGTH	933.81 FT.	0.177 MI.
BRIDGE LENGTH	95.50 FT.	0.018 MI.
PROJECT LENGTH		0.815 MI.

EQUATIONS: NONE

EXCEPTIONS: BETWEEN STA. 1356+00.00 TO STA. 1389+72.40 = 3,372.40 FT.

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY	BY
CHIEF ENGINEER	DIVISION ADMINISTRATOR

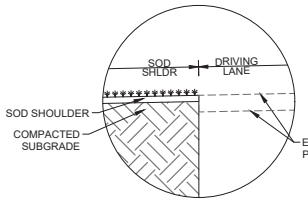
SWO 5256(1) PROJECT NO. J3-1054(004) SHEET NO. 0001

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ENGLISH GOVERN
APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

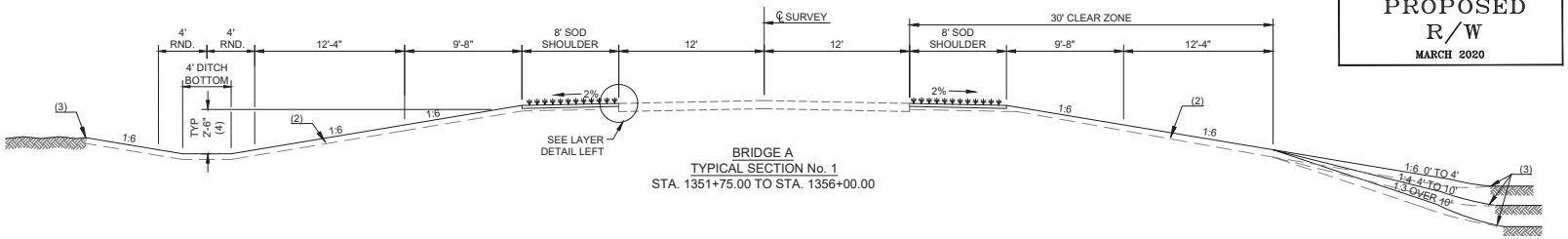
U:\Projects\288 - ODOT - EC-1823A - SH-48 Bridge and Approaches\DWG\JP31054(04)\JP31054(04) - Title Sheets.dwg Title Sheet 1 TITLE SHEET Colton 3/6/2020 5:53 PM

OKLAHOMA DEPARTMENT OF TRANSPORTATION

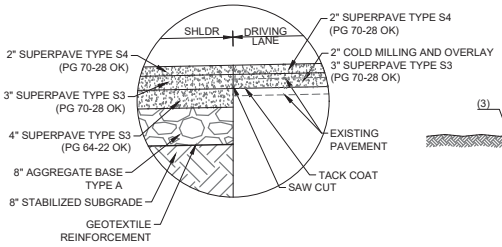
PROPOSED R/W
MARCH 2020



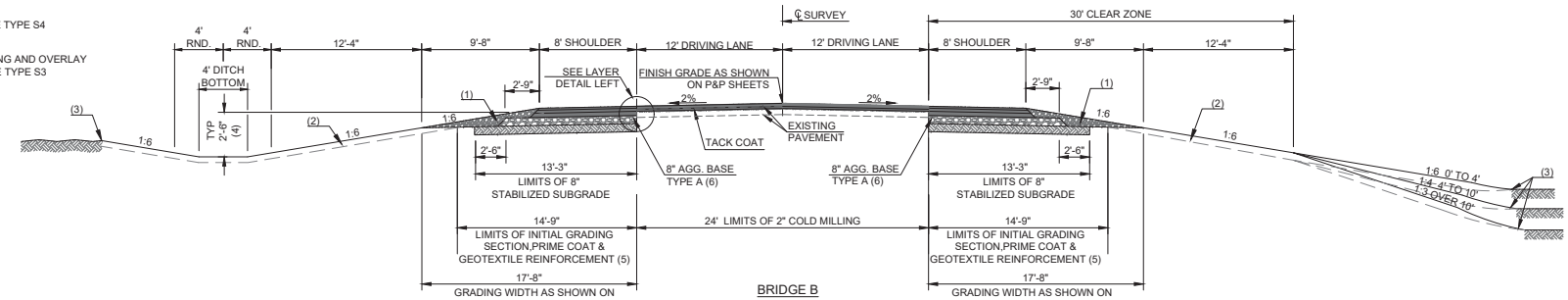
LAYER DETAIL
TYPICAL SECTION No.1



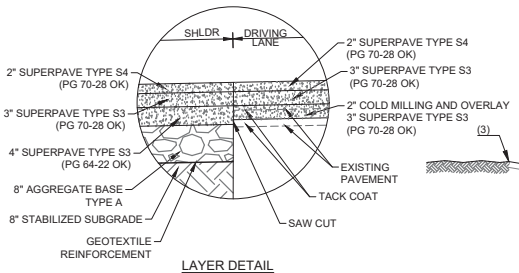
BRIDGE A
TYPICAL SECTION No. 1
STA. 1351+75.00 TO STA. 1356+00.00



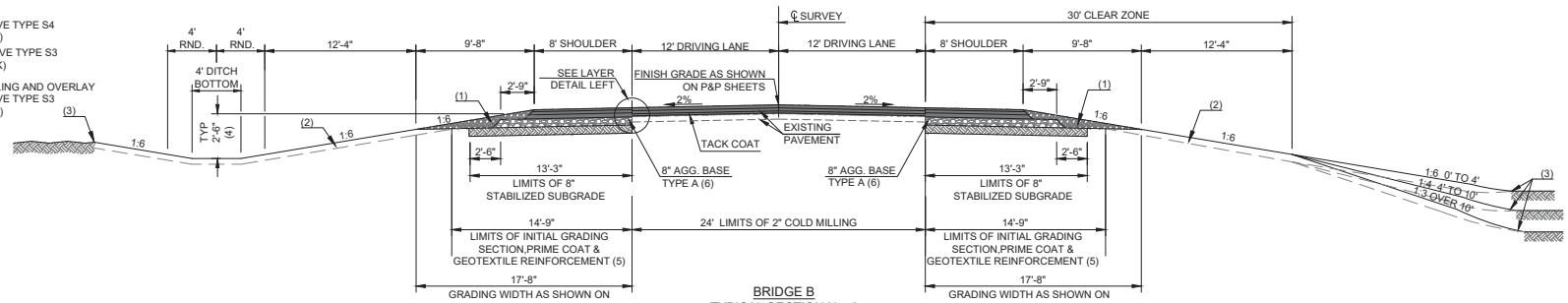
LAYER DETAIL
TYPICAL SECTION No. 2



BRIDGE B
TYPICAL SECTION No. 2
STA. 1389+72.40 TO STA. 1392+03.29
STA. 1392+50.29 TO STA. 1394+81.21



LAYER DETAIL
TYPICAL SECTION No. 3



BRIDGE B
TYPICAL SECTION No. 3
STA. 1392+03.29 TO STA. 1392+50.29

(1) BACKFILL NOTE:
THIS AREA TO BE BACKFILLED WITH TBSC TYPE E AND COMPACTED AS PART OF THE FINISHING OPERATIONS IN A MANNER APPROVED BY THE ENGINEER.

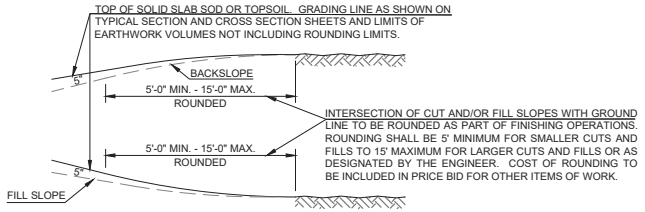
(2) TOPSOIL NOTE:
THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATIONS. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH THIS OPERATION SHALL BE INCLUDED IN THE PAY ITEM FOR SALVAGED TOPSOIL, LUMP SUM.

(3) SEE ROUNDING DETAIL THIS SHEET.

(4) DISTANCE ARE MEASURED VERTICALLY FROM THE EDGE OF THE FINISHED SHOULDER. MINIMUM DEPTH 2'-6".

(5) USE MIRAFI RS380i OR APPROVED EQUAL.

(6) PRIME COAT ON TOP OF AGGREGATE BASE.

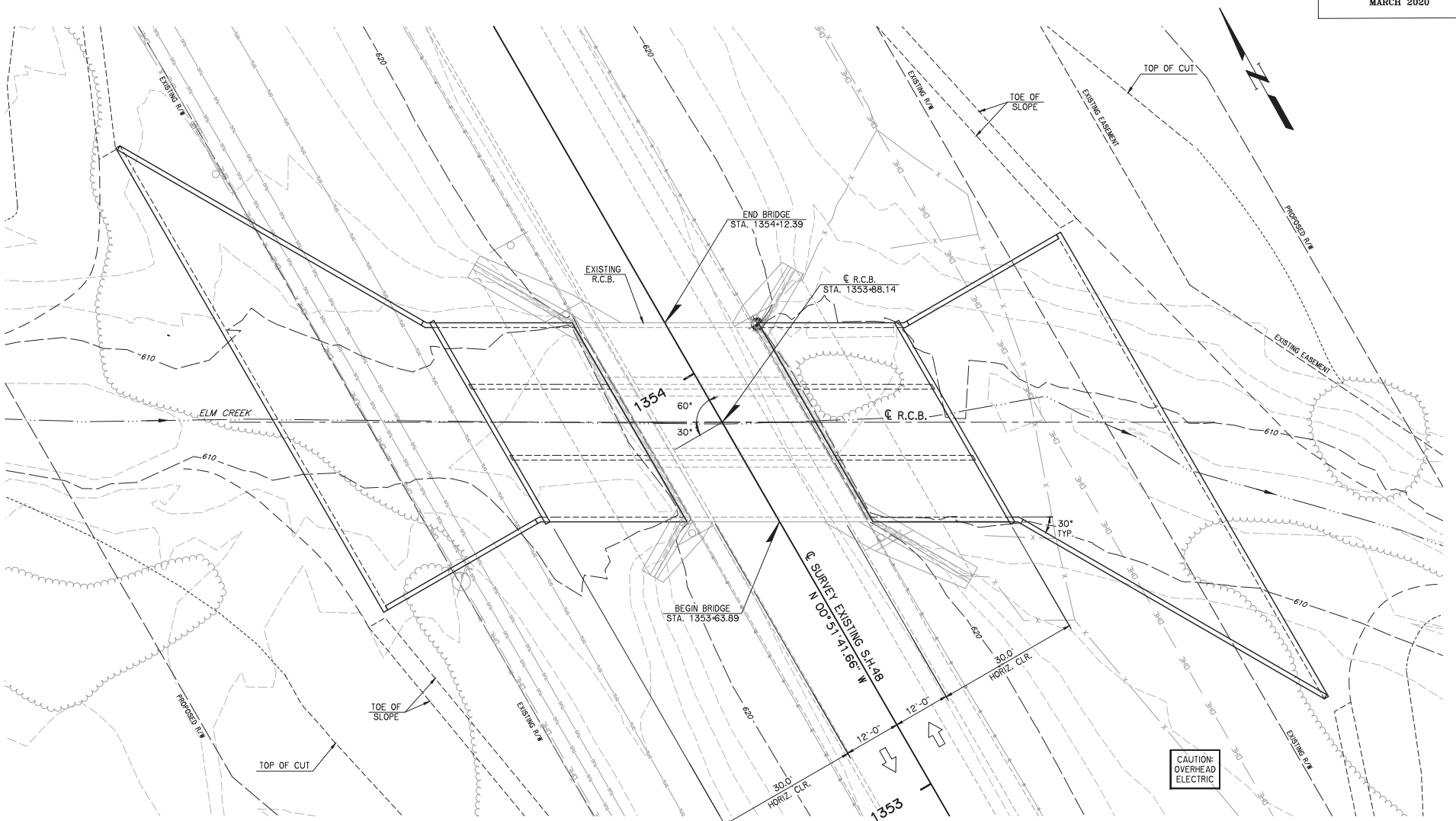


ROUNDING DETAIL

TYPICAL SECTION

STATE JOB NO. 31054(04) SHEET NO. 0002

PROPOSED R/W
MARCH 2020



BM #68
CUT "X" NORTH END OF EAST CONCRETE RAIL
STA. 1354+02.40, 16.8' RT. ELEV. = 624.54

PLAN
1"=10'

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

S.H.48 OVER ELM CREEK — COAL COUNTY
BRIDGE "A"
GENERAL PLAN AND ELEVATION (1 OF 2)
EXTEND EXISTING 12'-14'-12' x 11' x 39.3' LONG R.C.B.
TO 12'-14'-12' x 11' x 99.3' LONG R.C.B.
℄ STA. 1353+88.14, 30° SKEW

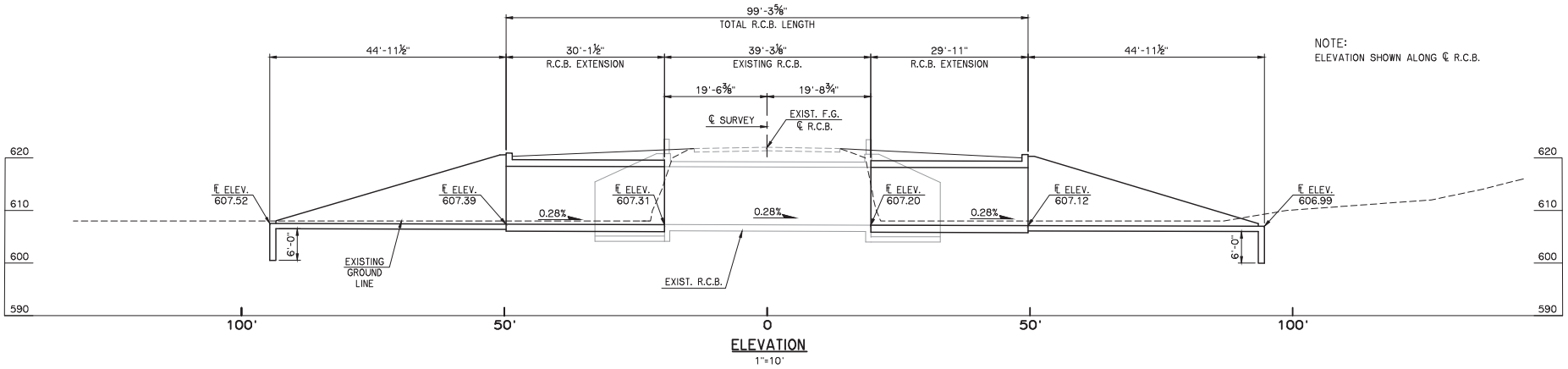
Design	CEG	
Detail	DRB	
Check		

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 31054(04) — SHEET NO. B001

I:\Active\1639A\Drawings\PE.dwg, 2/28/2020 11:12:14 AM, Deanne

PROPOSED R/W
MARCH 2020



NOTE:
ELEVATION SHOWN ALONG ℄ R.C.B.

ELEVATION
1"=10'

HYDRAULIC SUMMARY

TOTAL DRAINAGE AREA = 4.66 SQ. MILES
CONTROLLED DRAINAGE AREA = 0.00 SQ. MILES
EFFECTIVE DRAINAGE AREA = 4.66 SQ. MILES

FREQUENCY (YEARS)	DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT)	VELOCITY (FPS)
2	772	613.95	3.10
5	1,530	615.97	4.76
10	2,260	615.30	8.58
25	3,480	618.45	10.15
50	4,240	619.41	14.09
100	5,210	621.60	17.51
OT=244	6,000		

SUMMARY OF QUANTITIES - BRIDGE "A"

ITEM DESCRIPTION	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	C.Y.	
STRUCTURAL EXCAVATION UNCLASSIFIED	C.Y.	
CLSM BACKFILL	C.Y.	
CLASS AA CONCRETE	C.Y.	
REINFORCING STEEL	LB.	
REMOVAL OF BRIDGE ITEMS	L.SUM	

DESIGN DATA

LOAD AND RESISTANCE FACTOR DESIGN

CONCRETE CLASS AA f'c = 4 K.S.I.
REINFORCING STEEL (GRADE 60) fy = 60 K.S.I.

LOADING:
HL-93 OR OKLAHOMA OVERLOAD TRUCK

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION

HL93 INVENTORY RATING FACTOR: X.XX
HL93 OPERATING RATING FACTOR: X.XX

INDEX OF SHEETS

STANDARDS

SBI-4-2

PREPARED BY:

WHITE ENGINEERING ASSOCIATES, INC.

XXXXXXXX
OKLAHOMA LICENSE NO. XXXXX

DATE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

S.H.48 OVER ELM CREEK — COAL COUNTY
BRIDGE "A"

GENERAL PLAN AND ELEVATION (2 OF 2)

EXTEND EXISTING 12'-14'-12' x 11' x 39.3' LONG R.C.B.
TO 12'-14'-12' x 11' x 99.3' LONG R.C.B.
℄ STA. 1353+88.14, 30° SKEW

Design	CEG	
Detail	DRB	
Check		

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 31054(04) — SHEET NO. B002

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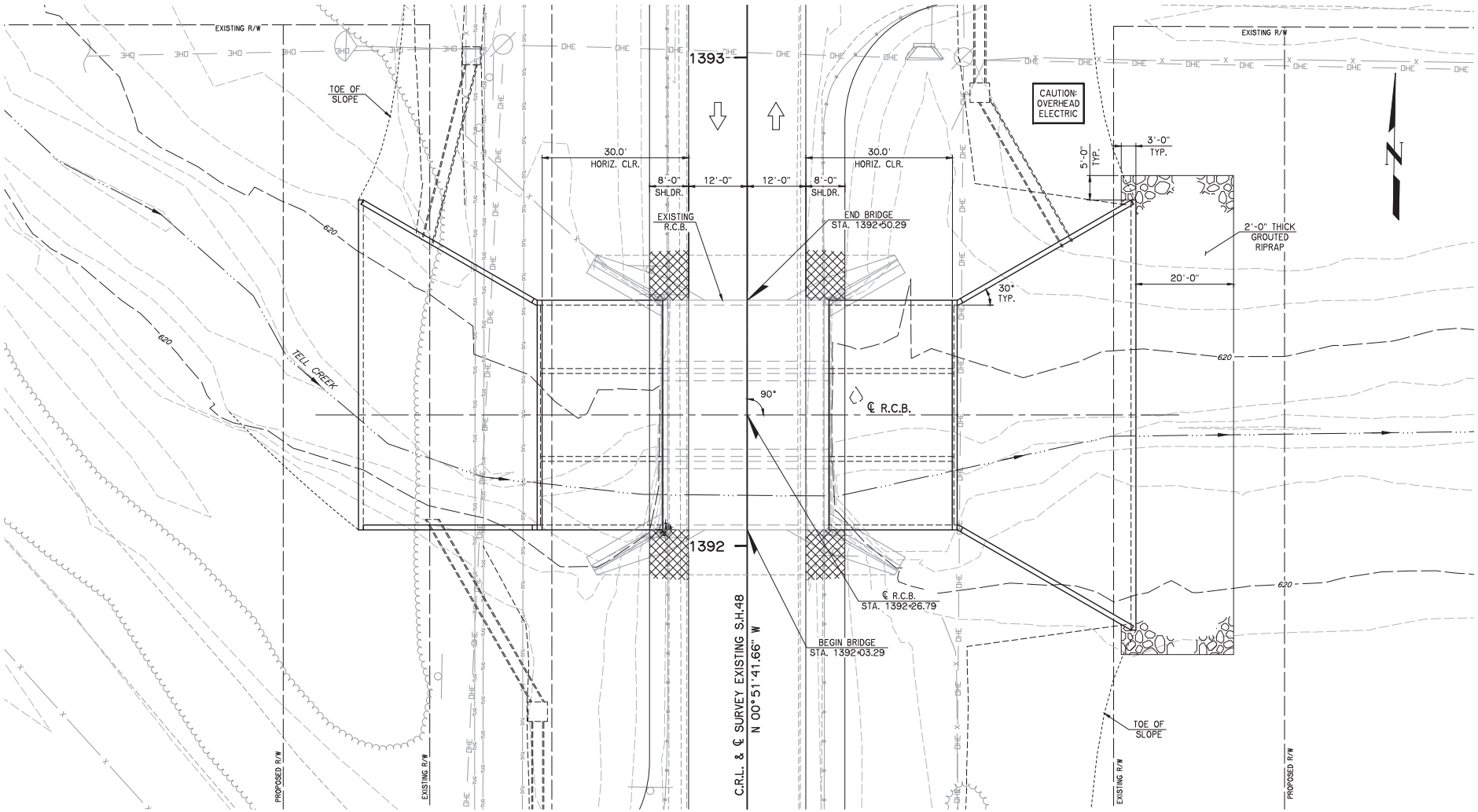
PROPOSED R/W
MARCH 2020



BM #73
CUT "X" SOUTH END OF WEST CONCRETE RAIL
STA. 1392+03.40, 16.8' LT. ELEV. = 631.21

PLAN
1"=10'

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

S.H.48 OVER TELL CREEK — COAL COUNTY
BRIDGE "B"

GENERAL PLAN AND ELEVATION (1 OF 2)

EXTEND EXISTING 13'-17'-13' x 10' x 34' LONG R.C.B.
TO 13'-17'-13' x 10' x 86' LONG R.C.B.
℄ STA. 1392+26.79, 0° SKEW

Design	CEG
Detail	DRB
Check	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 31054(04) — SHEET NO. B003

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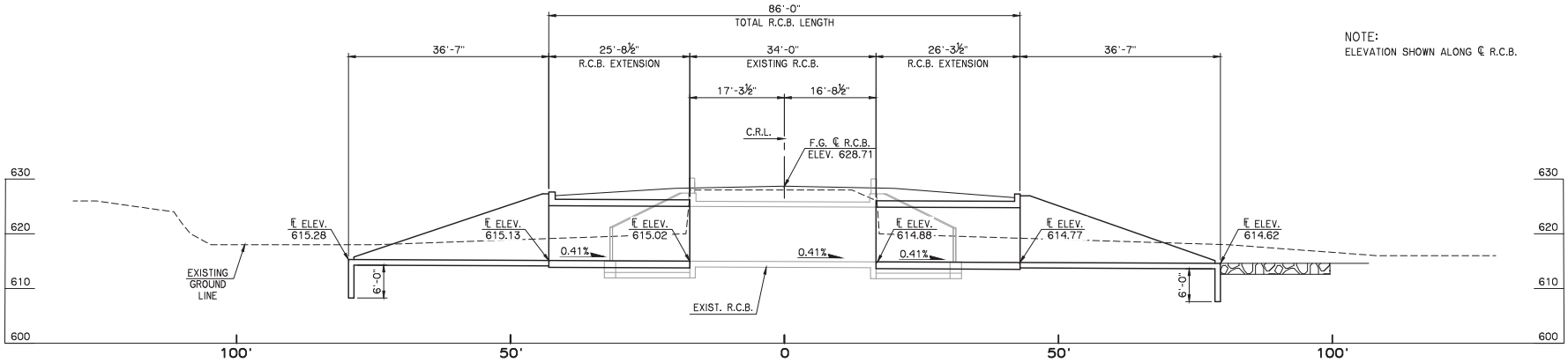
MARCH 2020



NOTE:
ELEVATION SHOWN ALONG ℄ R.C.B.

ELEVATION
1"=10'

HYDRAULIC SUMMARY			
TOTAL DRAINAGE AREA = 5.14 SQ. MILES CONTROLLED DRAINAGE AREA = 0.00 SQ. MILES EFFECTIVE DRAINAGE AREA = 5.14 SQ. MILES			
FREQUENCY (YEARS)	DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT)	VELOCITY (FPS)
2	760	621.59	2.55
5	1,490	623.04	4.18
10	2,180	624.78	5.40
25	3,320	625.80	8.35
50	4,080	627.08	9.95
100	5,020	628.86	12.25
OT=305	6,304		

SUMMARY OF QUANTITIES - BRIDGE "B"		
ITEM DESCRIPTION	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	C.Y.	
STRUCTURAL EXCAVATION UNCLASSIFIED	C.Y.	
CLSM BACKFILL	C.Y.	
CLASS AA CONCRETE	C.Y.	
REINFORCING STEEL	LB.	
PNEUMATICALLY PLACED MORTAR	S.Y.	
TYPE IX GROUTED RIPRAP	S.Y.	
REMOVAL OF BRIDGE ITEMS	L.SUM	

DESIGN DATA

LOAD AND RESISTANCE FACTOR DESIGN

CONCRETE CLASS AA f'c = 4 K.S.I.
REINFORCING STEEL (GRADE 60) fy = 60 K.S.I.

LOADING:
HL-93 OR OKLAHOMA OVERLOAD TRUCK

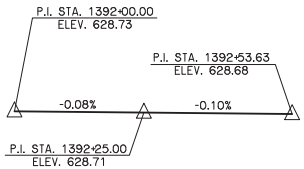
DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION

HL93 INVENTORY RATING FACTOR: (X.XX)
HL93 OPERATING RATING FACTOR: (X.XX)

INDEX OF SHEETS

STANDARDS

SBI-4-2



PROFILE GRADE DATA

PREPARED BY:

WHITE ENGINEERING ASSOCIATES, INC.

XXXXXXXX
OKLAHOMA LICENSE NO. XXXXX

DATE

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

S.H.48 OVER TELL CREEK COAL COUNTY
BRIDGE "B"
GENERAL PLAN AND ELEVATION (2 OF 2)
EXTEND EXISTING 13'-17'-13' x 10' x 34' LONG R.C.B.
TO 13'-17'-13' x 10' x 86' LONG R.C.B.
℄ STA. 1392+26.79, 0° SKEW

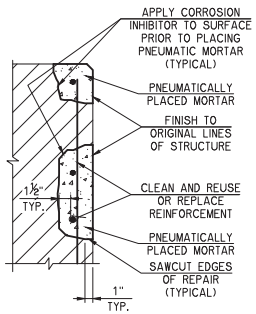
Design CEG
Detail DRB
Check

WHITE ENGINEERING ASSOCIATES

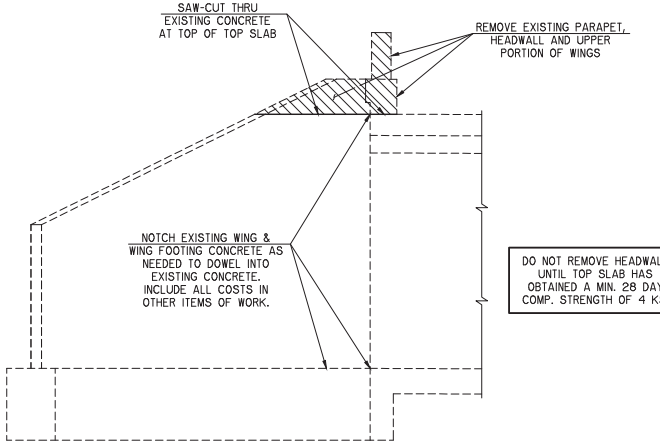
STATE OF OKLAHOMA DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 31054(04) SHEET NO. B004

I:\Active\1639A\Drawings\PE.dwg, 3/4/2020 9:47:38 AM, Deanne

PROPOSED R/W
MARCH 2020

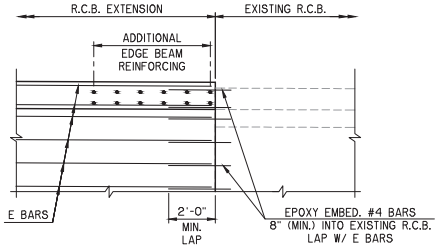


PNEUMATICALLY PLACED MORTAR REPAIR DETAIL

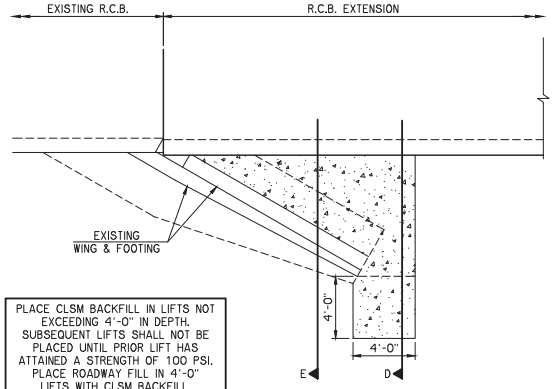


DO NOT REMOVE HEADWALL UNTIL TOP SLAB HAS OBTAINED A MIN. 28 DAY COMP. STRENGTH OF 4 KSI

REMOVAL DETAILS

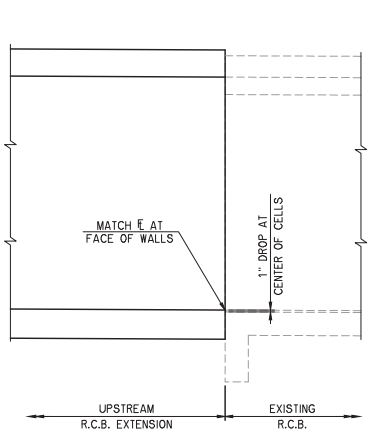


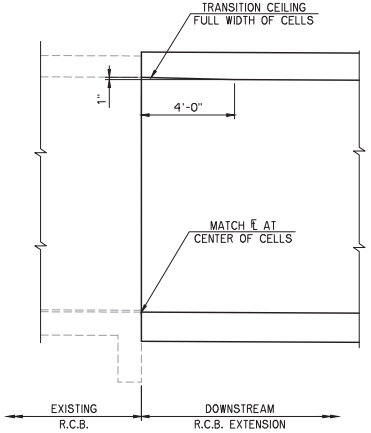
BARREL CONNECTION DETAIL



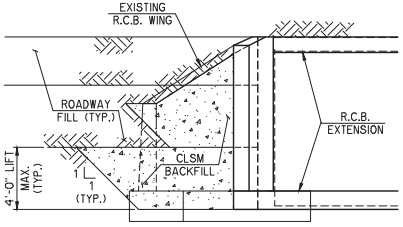
PLACE CLSM BACKFILL IN LIFTS NOT EXCEEDING 4'-0" IN DEPTH. SUBSEQUENT LIFTS SHALL NOT BE PLACED UNTIL PRIOR LIFT HAS ATTAINED A STRENGTH OF 100 PSI. PLACE ROADWAY FILL IN 4'-0" LIFTS WITH CLSM BACKFILL.

CLSM BACKFILL DETAIL
TYPICAL FOUR LOCATIONS

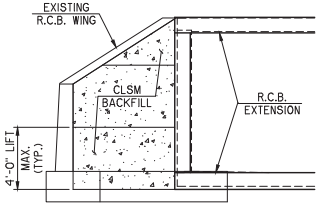




BARREL TRANSITION DETAILS



SECTION D



SECTION E

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

S.H.48 OVER ELM CREEK & TELL CREEK BRIDGES "A" & "B" — COAL COUNTY

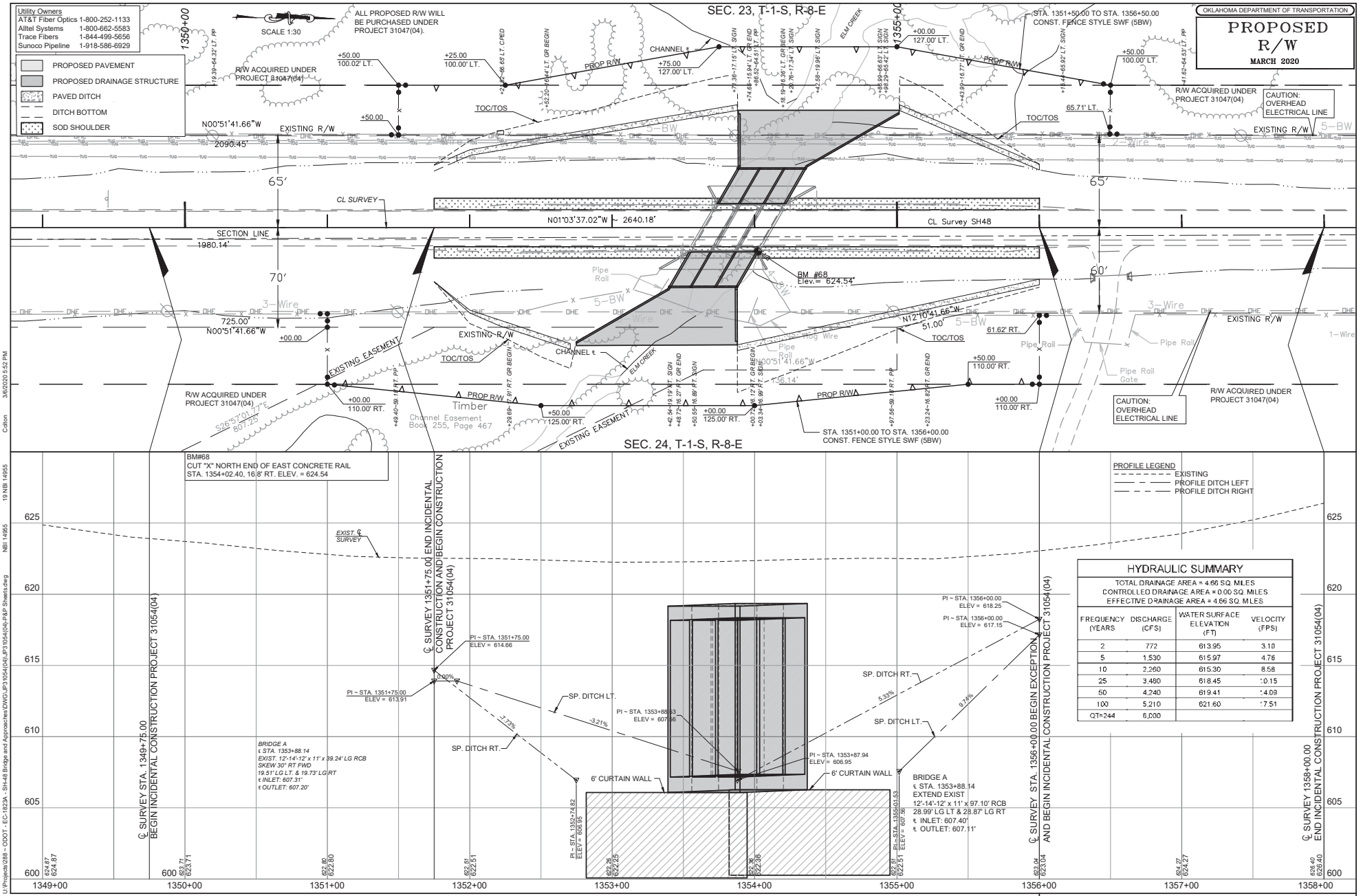
R.C.B. DETAILS

Design	CEG	
Detail	DRB	
Check		

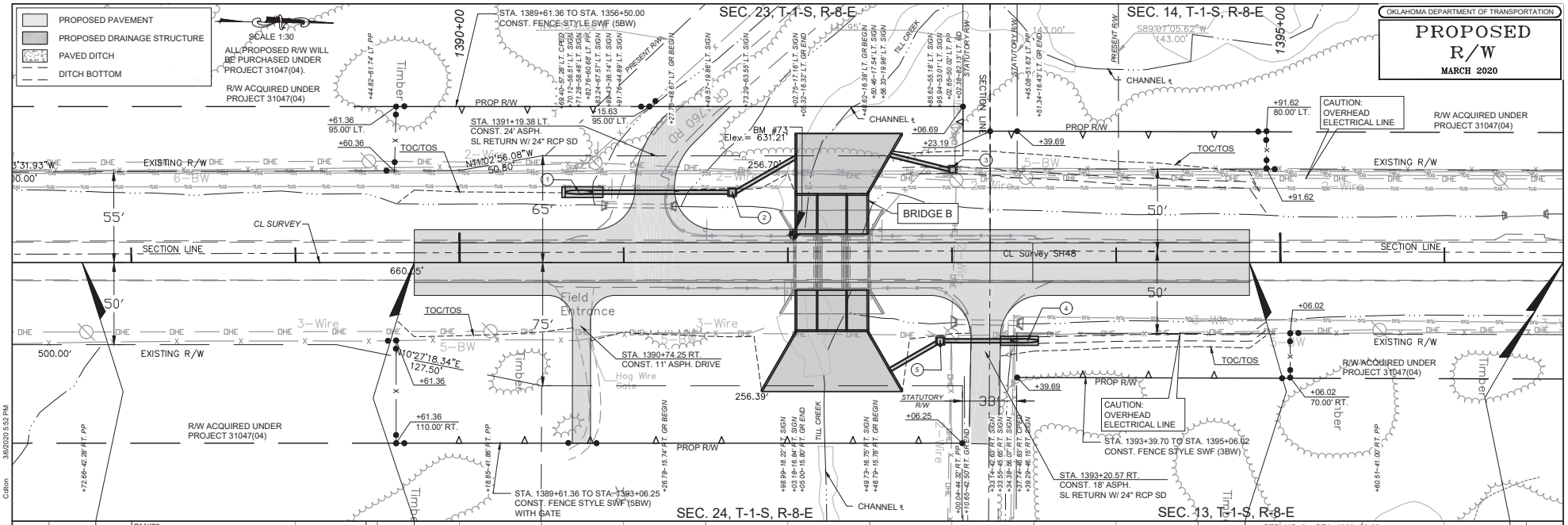
WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31054(04) — SHEET NO. B005



COUNTY COAL HIGHWAY SH-48 STATE JOB NO. 31054(04) SHEET NO. R002



BM#73
CUT "X" SOUTH END OF WEST CONCRETE RAIL
STA. 1392+03.40, 16.8' LT. ELEV. = 631.21

PROFILE LEGEND
EXISTING
PROFILE DITCH LEFT
PROFILE DITCH RIGHT
PROPOSED

HYDRAULIC SUMMARY

TOTAL DRAINAGE AREA = 4.66 SQ. MILES
CONTROLLED DRAINAGE AREA = 0.00 SQ. MILES
EFFECTIVE DRAINAGE AREA = 4.66 SQ. MILES

FREQUENCY (YEARS	DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT)	VELOCITY (FPS)
2	760	621.59	2.55
5	1,490	623.04	4.18
10	2,180	624.78	5.40
25	3,320	625.80	8.35
50	4,080	627.08	9.95
100	5,020	628.86	12.25
QT=305	6,304		

STR. NO. 1 ~ STA. 1390+62.38
CONST. 24"x102' RCP SIDE DRAIN, 35.08' LT.
w/TYPE B6 CET @ 6.75%
$\mathfrak{E}_{IN}$ = 624.15, $\mathfrak{E}_{OUT}$ = 618.49

STR. NO. 2 ~ STA. 1391+66.00
CONST. 4'x4' BLIND JUNCTION BOX
w/ 24"x46' RCP, 34.23' LT.@ 6.75%
$\mathfrak{E}_{IN}$ = 618.49, $\mathfrak{E}_{OUT}$ = 618.09

STR. NO. 3 ~ STA. 1393+00.00
CONST. 24"x40' RCP SIDE DRAIN, 40.64' LT.
w/ SMD TYPE 2 @ 6.75%
TG= 622.50
$\mathfrak{E}_{IN}$ = 620.375, $\mathfrak{E}_{OUT}$ = 615.13

STR. NO. 4 ~ STA. 1393+52.57
CONST. 24"x60' RCP SIDE DRAIN, 47.63' RT.
w/TYPE B6 CET @ 8.00%
$\mathfrak{E}_{IN}$ = 623.50, $\mathfrak{E}_{OUT}$ = 618.72

STR. NO. 5 ~ STA. 1392+92.78
CONST. 4'x4' BLIND JUNCTION BOX
w/ 24"x36' RCP, 47.63' LT.@ 8.83%
$\mathfrak{E}_{IN}$ = 617.92, $\mathfrak{E}_{OUT}$ = 615.24

PI ~ STA. 1391+04.40 ELEV = 628.44
PI ~ STA. 1392+00.00 ELEV = 628.73
PI ~ STA. 1392+25.00 ELEV = 628.71
PI ~ STA. 1392+53.63 ELEV = 628.68
PI ~ STA. 1393+53.63 ELEV = 628.44
PROPOSED ℄ OVERLAY PROFILE
0.31%
-0.10%
-0.10%
-0.24%
PI ~ STA. 1393+29.50 ELEV = 623.20
SP. DITCH RT.
SP. DITCH LT.
0.64%
9.00%
1.86%
-2.90%
PI ~ STA. 1394+91.21 ELEV = 624.08
PI ~ STA. 1394+91.21 ELEV = 623.95
PI ~ STA. 1392+69.70 ELEV = 621.27
PI ~ STA. 1393+00.00 ELEV = 620.39
Existing Ditch Profile Right
BRIDGE B
6' CURTAIN WALL

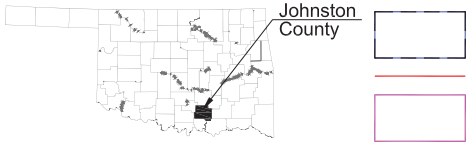
BRIDGE B
℄ STA. 1392+26.84
EXIST. 13'-17'-13' x 10' ± 34.28' LG RCB
17.44' LG LT. & 16.84' LG RT
℄ INLET: 615.018'
℄ OUTLET: 614.876'

BRIDGE B
℄ STA. 1392+26.84
EXTEND EXIST 13'-17'-13'
x 10' x 84' RCB
24.56' LG LT & 25.16 LG RT
℄ INLET: 615.132'
℄ OUTLET: 614.75'

℄ SURVEY STA. 1387+72.40
BEGIN INCIDENTAL CONSTRUCTION PROJECT 31054(04)
℄ SURVEY 1389+72.40
END EXCEPTION AND INCIDENTAL CONSTRUCTION
BEGIN CONSTRUCTION PROJECT 31054(04)
℄ SURVEY STA. 1394+81.21 ~ ELEV. = 628.85
END PROJECT 31054(04)
BEGIN INCIDENTAL CONSTRUCTION
℄ SURVEY 1396+81.21
END INCIDENTAL CONSTRUCTION PROJECT 31054(04)

635 630 625 620 615 610
1388+00 1389+00 1390+00 1391+00 1392+00 1393+00 1394+00 1395+00 1396+00

COUNTY COAL HIGHWAY SH-48 STATE JOB NO. 31054(04) SHEET NO. R003



SH-48 NEPA Study Area

Road Centerline

Township and Range Boundary

NEPA Study Area

Roadway improvements on SH-48 Begin 1.0 Mile South of Coal C/L, Extend North 6.0 Mi. in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004), JP 31053(04), J3-1053(004), JP 31054(04), J3-1054(004)

N

0 400' 800'

Oklahoma Department of Transportation

M:\7697\014\SH-7 NEPA\SH-48 Johnston County\SH-48 Johnston County.dwg

SH-48 NEPA Study Area

Road Centerline

Township and Range Boundary

NEPA Study Area

Roadway improvements on SH-48 Begin 1.0 Mile South of Coal C/L, Extend North 6.0 Mi. in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004), JP 31053(04), J3-1053(004), JP 31054(04), J3-1054(004)

N

0 400' 800'

Oklahoma Department of Transportation

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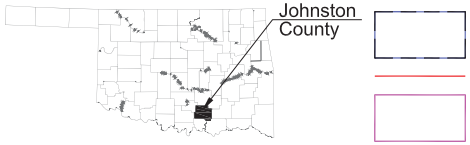

SH-48 NEPA Study Area

Road Centerline

Township and Range Boundary

NEPA Study Area

Roadway improvements on SH-48 Begin 1.0 Mile South of Coal C/L, Extend North 6.0 Mi. in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004), JP 31053(04), J3-1053(004), JP 31054(04), J3-1054(004)

N

0 400' 800'

Oklahoma Department of Transportation

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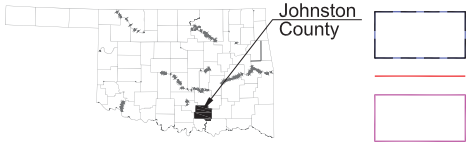

SH-48 NEPA Study Area

Road Centerline

Township and Range Boundary

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Roadway improvements on SH-48 Begin 1.0 Mile South of Coal C/L, Extend North 6.0 Mi. in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004), JP 31053(04), J3-1053(004), JP 31054(04), J3-1054(004)

N

0 400' 800'

Oklahoma Department of Transportation

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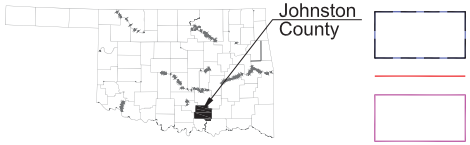

SH-48 NEPA Study Area

Road Centerline

Township and Range Boundary

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Roadway improvements on SH-48 Begin 1.0 Mile South of Coal C/L, Extend North 6.0 Mi. in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004), JP 31053(04), J3-1053(004), JP 31054(04), J3-1054(004)

N

0 400' 800'

Oklahoma Department of Transportation

M:\7697\014\SH-7 NEPA\SH-48 Johnston County\SH-48 Johnston County.dwg

SH-48 NEPA Study Area

Road Centerline

Township and Range Boundary

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Roadway improvements on SH-48 Begin 1.0 Mile South of Coal C/L, Extend North 6.0 Mi. in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004), JP 31053(04), J3-1053(004), JP 31054(04), J3-1054(004)

N

0 400' 800'

Oklahoma Department of Transportation

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RELOCATION

Oklahoma Department of Transportation – Right-of-Way Division

Relocation Branch Room C7 Third Floor Office 521-2648 Fax 522-1858

March 20, 2020

To: **Environmental Programs Division**

Thru: Project Management Branch

From: Diana Barlow, CPM, SRWA, R/W-RAC, Manager Relocation Branch Diana Barlow

Subject: Relocation Plan – J/P 31047(04)Const.(05)RW(06)Util., a.k.a. J3-1047(004), Johnston County, SH-48: Begin 1.0 Miles South of Johnston C/L, Extend North 6.0 Miles.

Attached is the Relocation Plan for the above referenced project to be included in the Environmental Document.

RELOCATION PLANNING
State Highway 48
Johnston / Coal County

This pre-planning information is provided to the Environmental Programs Division to be included in the Environmental Document to satisfy Pre-planning requirements of the Federal Regulations 49 CFR[i], § 24.205, relocation planning, advisory services and coordination.

The proposed study for constructing a widening and resurface of State Highway 48 in Johnston County is as follows:

A pre-planning drive out was conducted on February 10, 2020. Using 65% Plans, it was determined that one single family residence would be affected by the proposed widening and resurface.

The residence is anticipated to range between 1500 and 2000 sq. ft. of heated living space, and is anticipated to have three bedrooms, two baths, living room, kitchen, dining, and utility room. The residential property site is anticipated to have a storm cellar, water well and septic system. The location of the Residential property being displaced is marked on plans provided by the ODOT Environmental Branch dated 02-03-2020.

"Estimated" Residential Relocation Cost Table:		
Location A (Station 1339+50L)	RHP & Move Payment:	$35,000.00 to $40,000.00 $10,000.00 to $12,000.00

Local realtors[ii] contacted for a survey of available comparable properties in the area are listed in the Relocation Plan Resources Summary (RPRS). Web based real estate search engines, such as: Realtors.com[iii] indicates there are several comparable properties (with some duplication of listings), available at this time, ranging in price of $76,000.00 to $149,900.00. The address of these properties are: 1416S. Walker Dr., Atoka, Ok. 74525, MLS# 1940388; $76,000.00, 3 bed, 2 bath, 1512 SF; 401 W. Main St., Tushka, Ok. 74525, MLS #2004759; $95,000.00, 3 bed, 2 bath, 1568 SF; 14602 County Rd. 3590, Ada, Ok. 74820, MLS #1934568; $109,000.00, 2 bed, 2 bath, 1722 SF; 18108 County Rd. 3588, Ada, Ok. 74820, MLS #2006423; $119,500.00, 3 bed, 2 bath, 1650 SF; 18160 County Rd. 3588, Ada, Ok. 74820, MLS #1943238, $124,500.00, 4 bed, 2 bath, 1650 SF; 8300 OK Highway 48 S, Coleman, Ok. 73432, MLS#2004688, $149,900.00, 3 bed, 2 bath, 1528 SF. At this time there appears to be adequate comparable properties available for purchase near the project area.

There was nothing that indicated low income or minority considerations were prevalent in the community or being impacted by the project requiring special advisory services.

RHP & Move payments are estimated from current activity experienced by the planning agent.

If a residential or commercial property is occupied when this project begins, full relocation benefits and relocation advisory assistance will be offered to all affected displacees.

The Code of Federal Regulations (CFR) 49, Part 24, limits a payment not to exceed $7,200.00 for rental assistance (RAP) or down payment assistance; and homeowner-occupant (RHP) payment may not exceed $31,000.00. Last Resort Housing (LRH) allows for these amounts to be exceeded and will most likely be necessary to relocate persons affected by the proposed plans.

ODOT Relocation Planning Agent:
Nicholas Granko, 3/20/20

Relo Plan Resources Summary:

---

[i] **Relocation Acronyms**
CFR = Code of Federal Regulations
DSS = Decent Safe and Sanitary
LRH = Last Resort Housing
MLS = Multiple Listing Service
PPO = Personal Property Only
RAP = Rental Assistance Payment
DPA = Down Payment Assistance
RHP = Relocation Housing Payment

[ii] **Realtors solicited in the Clarita, Ok. 74535 zip code area:**
Texoma Agency Real Estate, 1105 Hwy 70 N., Kingston, Ok 73439
Crystal Pierce, (580) 564-2346 office; (580) 564-5636 cell
Email Crystal@TexomaAgency.com

Active Real Estate, LLC., 509 N. 1st, Madill, Ok 73446
Clarice Smith, (580) 795-5386 office; (580) 564-0811 cell
Email clarice@activerealestateok.com

[iii] **Web based Realtor sites:**
Realtor.com
Zillow.com
Trulia.com

Source: www.census.gov
American Community Survey 2017

Legend

- AOI
- 1.3%
- 0.6%

N

guernsey ENGINEERS ARCHITECTS CONSULTANTS

ENVIRONMENTAL JUSTICE

LIMETED ENGLISH PROFICIENCY
INITIAL SITE ASSESSMENT
JOHNSTON AND COAL COUNTIES, OKLAHOMA

Prepared by: MJE
Approved by: ALA
Date: MARCH 2020
Job No: OK70333003

FIGURE 1

Source: www.census.gov
American Community Survey 2017

Legend

- AOI
- $51,680
- $56,668

N

guernsey ENGINEERS ARCHITECTS CONSULTANTS

ENVIRONMENTAL JUSTICE

MEAN HOUSEHOLD INCOME

INITIAL SITE ASSESSMENT

JOHNSTON AND COAL COUNTIES, OKLAHOMA

Prepared by: MJE
Approved by: ALA
Date: MARCH 2020
Job No: OK70333003

FIGURE 2

Source: www.census.gov
American Community Survey 2017

Legend

- AOI
- 28%
- 26.4%

N

guernsey ENGINEERS ARCHITECTS CONSULTANTS

ENVIRONMENTAL JUSTICE
MINORITY POPULATION
INITIAL SITE ASSESSMENT
JOHNSTON AND COAL COUNTIES, OKLAHOMA

Prepared by: MJE
Approved by: ALA
Date: MARCH 2020
Job No: OK70333003

FIGURE 3

Source: www.census.gov
American Community Survey 2017

Legend

- AOI
- 16.7%
- 12%

N

guernsey ENGINEERS ARCHITECTS CONSULTANTS

ENVIRONMENTAL JUSTICE

PERCENT BELOW THE POVERTY LINE

INITIAL SITE ASSESSMENT

JOHNSTON AND COAL COUNTIES, OKLAHOMA

Prepared by: MJE
Approved by: ALA
Date: MARCH 2020
Job No: OK70333003

FIGURE 4

Source: svi.cdc.gov 2018

Legend

- AOI
- 0.610
- 0.646

Scores range from 0 (lowest vulnerability) to 1 (highest vulnerability)

N

guernsey ENGINEERS ARCHITECTS CONSULTANTS

ENVIRONMENTAL JUSTICE

SOCIAL VULNERABILITY INDEX

INITIAL SITE ASSESSMENT

JOHNSTON AND COAL COUNTIES, OKLAHOMA

Prepared by: MJE

Approved by: ALA

Date: MARCH 2020

Job No: OK70333003

FIGURE 5

TRAFFIC DESIGN
PROJECT ENGINEER : T. MAAROUF, P.E.
SQUAD SUPERVISOR : R. SOLIZ

ROADWAY DESIGN
ENGINEERING MANAGER: MOHAMED ELYAZGI, P.E.
SQUAD SUPERVISOR: JAMES JONES
SQUAD MEMBERS: J. CUMMINGS, T. HERMAN, H. PHAM, R. JOHNSON, R. WOMACK, K. HANEY, K. KILE, M. SMITHSON
ENGINEER: C. HENSON, P.E.
T. ABRAHAM, P.E.

P.E. NO.: 31047(04)

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20

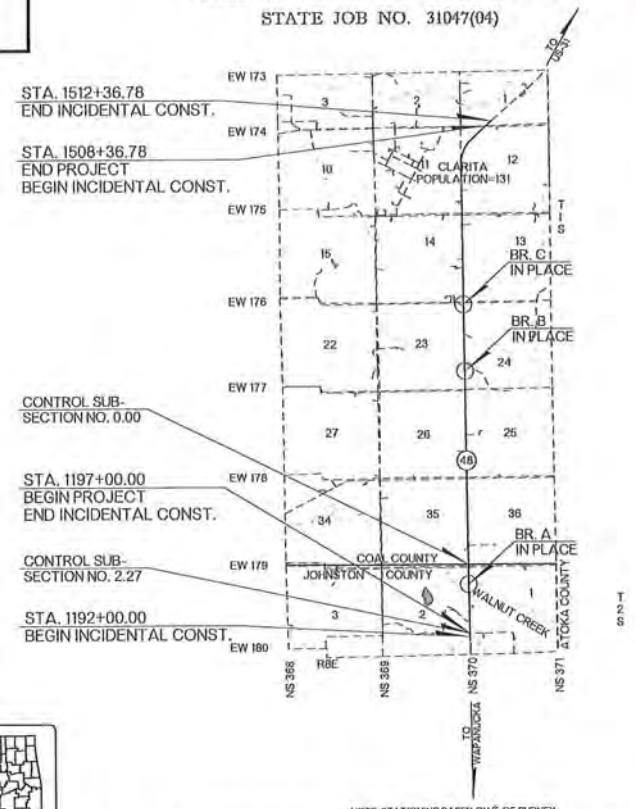
STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY
FEDERAL AID PROJECT NO. J3-1047(004)
WIDEN & RESURFACE
STATE HIGHWAY 48
JOHNSTON & COAL COUNTY
CONTROL SECTION NO. 48-35-20, 48-15-16
STATE JOB NO. 31047(04)

R/W Color Key
Blue = Present R/W
Red = Proposed New R/W
Yellow = Utility Easement
Green = Construction Temporary Easement
Orange = Channel Easement

RELOCATION PLAN PLANS
"MARKED - UP" PLAN SHEETS
Relocation Planning Agent:
Nicholas Granko, ODOT R/W Relocation Branch
3/20/2020

65% Plans

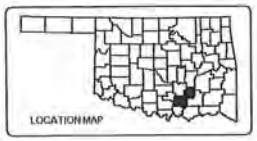


DESIGN DATA

ADT 2019	= 2,346
ADT 2039	= 3,366
DHV (2-WAY)	= 404
K (DHV/ADT)	= 12%
D	= 58%
T (% DHV)	= 22%
T (% ADT)	= 25%
T*(% ADT)	= 18%
V	= 65MPH
2018 ESALS	= 5.10M

SCALES
PLAN 1" = 100'
PROFILE HOR. 1" = 100'
VER. 1" = 10'
LAYOUT MAP 1" = 3,520'

CONVENTIONAL SYMBOLS
PROPOSED ROAD
RAILROADS
RANGE & TOWNSHIP
SECTION LINES
QUARTER SECTION LINES
EXISTING FENCE
PROPOSED FENCE
GROUND LINE
EXISTING ROADS
BASE LINE
GRADE LINES
TELEPHONE & TELEGRAPH
POWER LINES
BUILDINGS
OIL WELL
DRAINAGE STRUCTURES - IN PLACE
DRAINAGE STRUCTURES - NEW
RIGHT-OF-WAY LINES - EXISTING
RIGHT-OF-WAY LINES - NEW
CONTROLLED ACCESS
RIGHT-OF-WAY FENCE



2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

NOTE: STATIONING BASED ON ℄ OF SURVEY

ROADWAY LENGTH	30,599.18'	FT.	5.795 MI.
BRIDGE LENGTH	0.00	FT.	0.000 MI.
PROJECT LENGTH			5.795 MI.

EXCEPTIONS : BRIDGE "C" STA. 1389+62.40 TO STA. 1395+00.00, TOTAL EXCEPTION = 537.60'

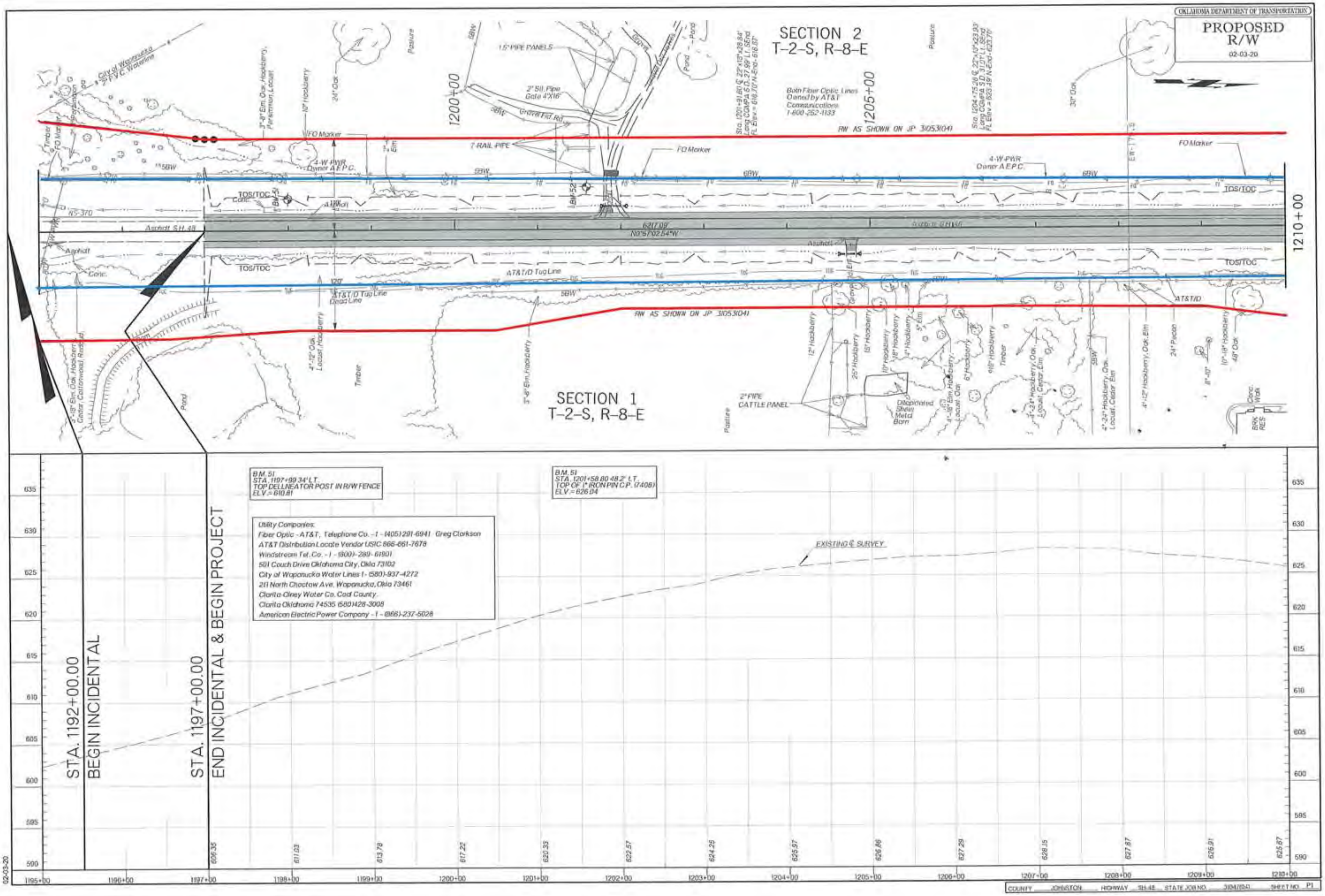
PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
DESIGN DIVISION
MOHAMED ELYAZGI, P.E.
OKLA. LIC. NO. 30510
DATE

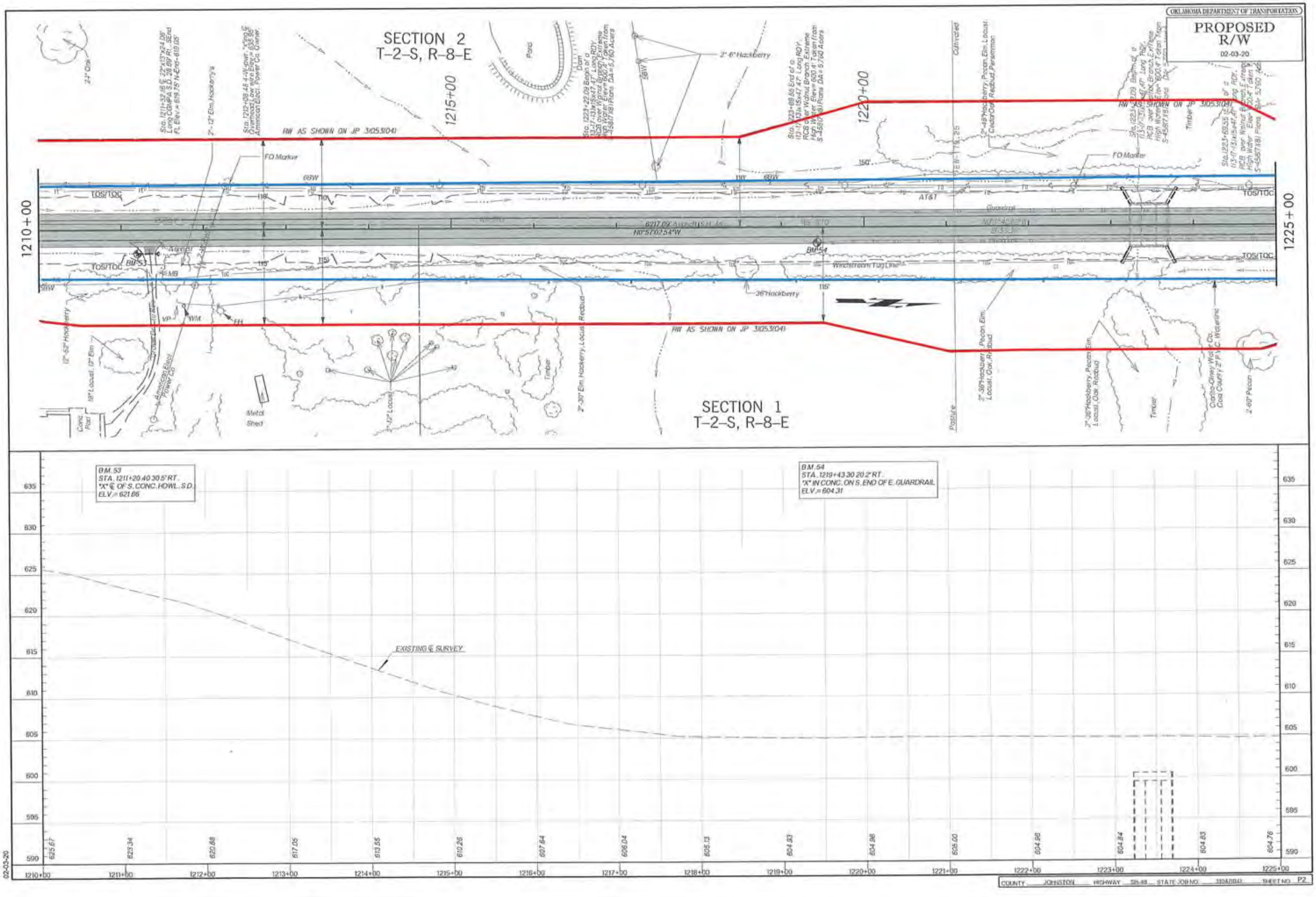
LICENSED PROFESSIONAL ENGINEER
MOHAMED ALI ELYAZGI
30510
OKLAHOMA

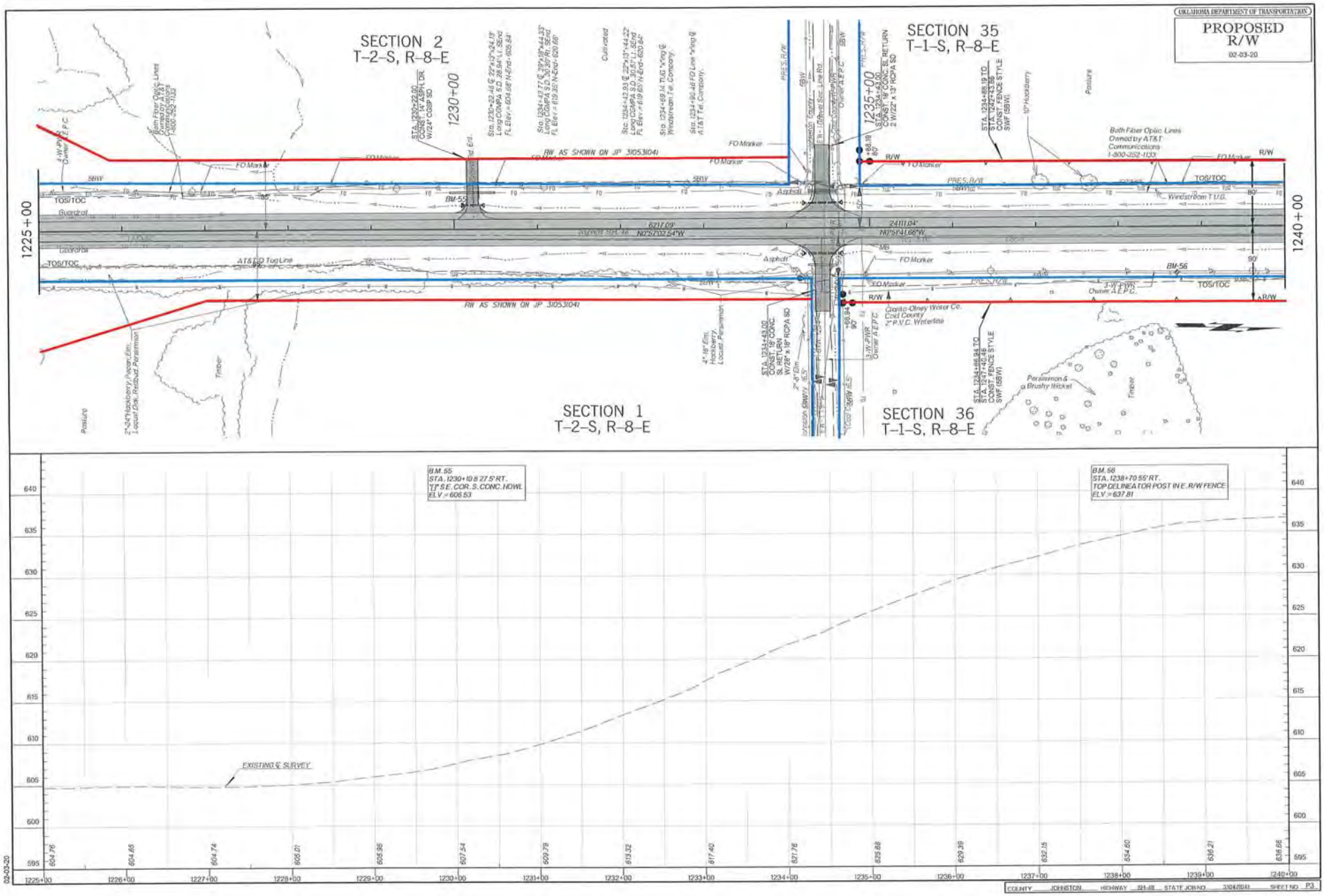
OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY CHIEF ENGINEER	BY DIVISION ADMINISTRATOR

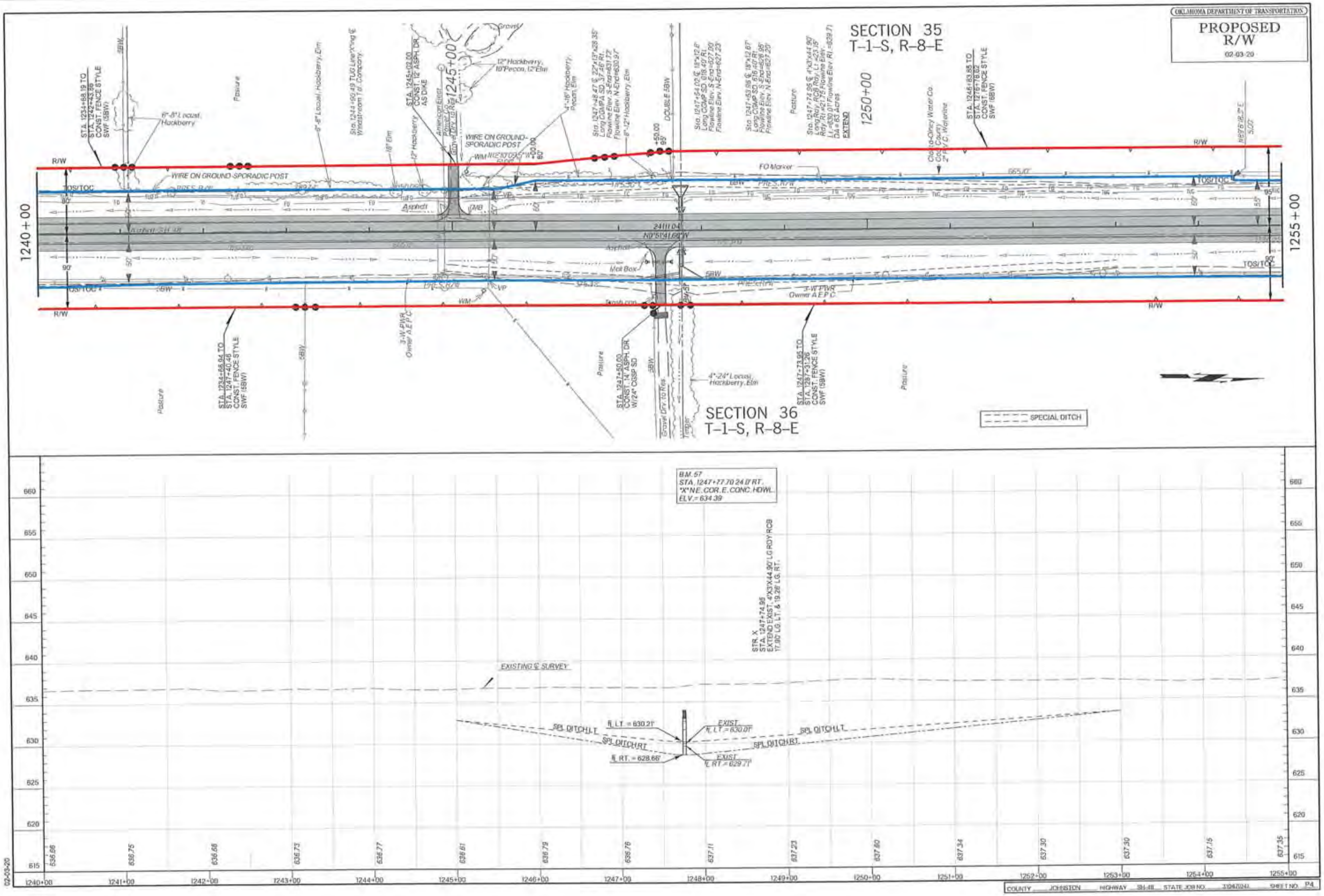
SWO 515910 PROJECT NO. J3-1047(004)
COUNTY JOHNSTON HIGHWAY SH-48 SHEET NO. 001

02-03-20 pw:\\APP-PW605-345.agency.OK.local:ODOT\Projects\Documents\Projects\Division 3\J3\31047-04\Roadway\Plan Sheets\31047(04)-Title.dgn

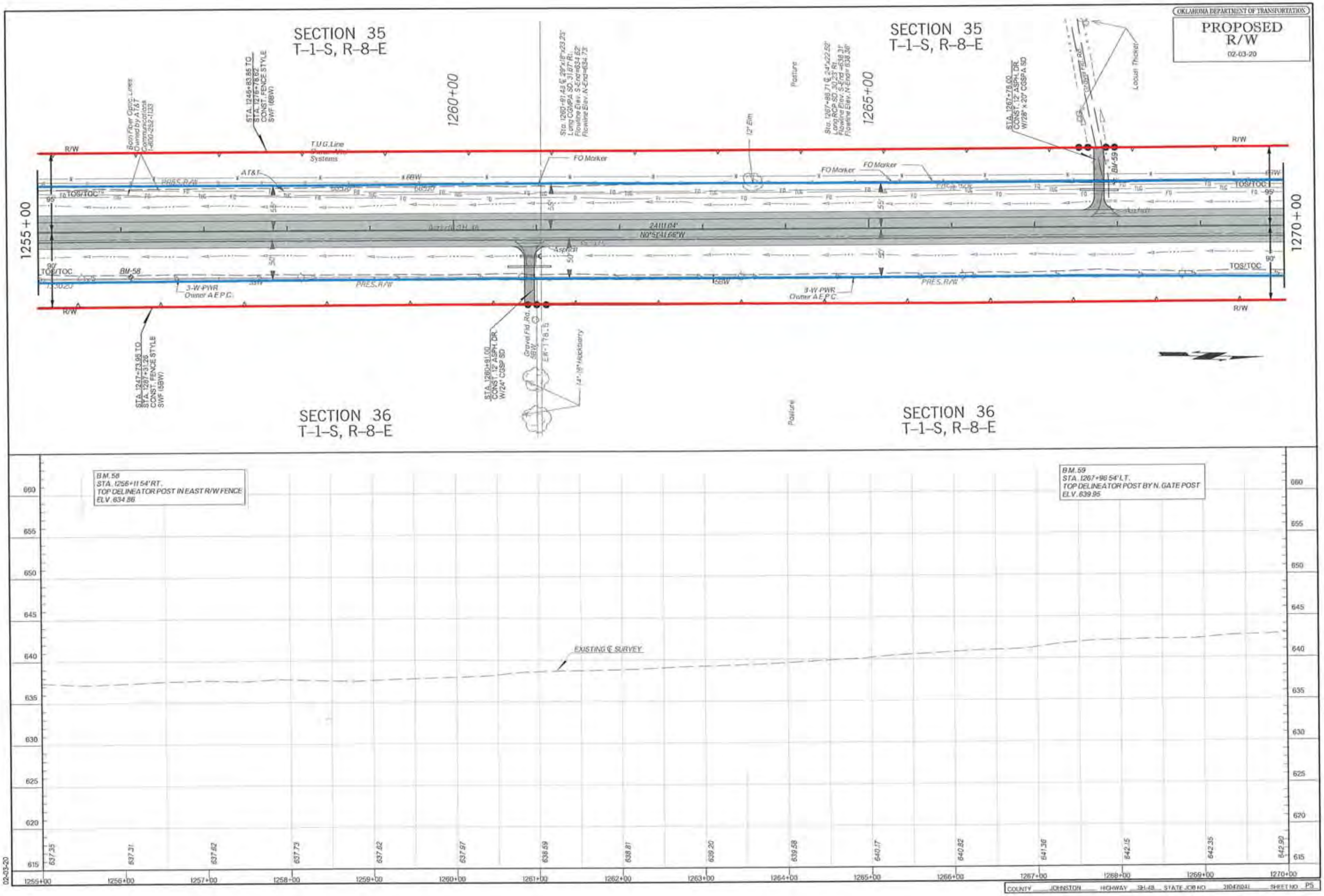

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 2
T-2-S, R-8-E
SECTION 1
T-2-S, R-8-E
1200+00
1205+00
1210+00
RW AS SHOWN ON JP 31053(04)
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
FO Marker
4-W PWR Owner A.E.P.C.
TOS/TOC
Asphalt S.H. 48
AT&T/D Tug Line
Pasture
Timber
Pond
2" PIPE CATTLE PANEL
Dilapidated Sheet Metal Barn
B.M. 51
STA. 1197+99 34' LT.
TOP DELLNEATOR POST IN R/W FENCE
ELV.= 610.81
B.M. 51
STA. 1201+58.80 48.2' LT.
TOP OF 1" IRON PIN C.P. (7408)
ELV.= 626.04
Utility Companies:
Fiber Optic - AT&T, Telephone Co. - 1 - (405) 291-6941 Greg Clarkson
AT&T Distribution Locate Vendor USIC 866-661-7678
Windstream Tel. Co. - 1 - (800)- 289- 61901
501 Couch Drive Oklahoma City, Okla 73102
City of Wapanucka Water Lines 1- (580)-937-4272
211 North Choctaw Ave, Wapanucka, Okla 73461
Clarita-Olney Water Co. Coal County.
Clarita Oklahoma 74535 (580)428-3008
American Electric Power Company - 1 - (866)-237-5028
EXISTING ℄ SURVEY
STA. 1192+00.00
BEGIN INCIDENTAL
STA. 1197+00.00
END INCIDENTAL & BEGIN PROJECT
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31047(04) SHEET NO. P1


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED
R/W
02-03-20
SECTION 2
T-2-S, R-8-E
SECTION 1
T-2-S, R-8-E
1210+00
1215+00
1220+00
1225+00
RW AS SHOWN ON JP 31053(04)
FO Marker
TOS/TOC
AT&T
Guardrail
Windstream Tug Line
36" Hackberry
2"-6" Hackberry
Pond
Cultivated
Pasture
Timber
Metal Shed
B.M.53
STA. 1211+20.40 30.5' RT.
"X" ℄ OF S. CONC. HDWL. S.D.
ELV.=621.86
B.M.54
STA. 1219+43.30 20.2' RT.
"X" IN CONC. ON S. END OF E. GUARDRAIL
ELV.=604.31
EXISTING ℄ SURVEY
625.67
623.34
620.88
617.05
613.55
610.26
607.64
606.04
605.13
604.93
604.96
605.00
604.86
604.84
604.83
604.76
1210+00
1211+00
1212+00
1213+00
1214+00
1215+00
1216+00
1217+00
1218+00
1219+00
1220+00
1221+00
1222+00
1223+00
1224+00
1225+00
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31042(04) SHEET NO. P2


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED
R/W
02-03-20
SECTION 2
T-2-S, R-8-E
SECTION 35
T-1-S, R-8-E
SECTION 1
T-2-S, R-8-E
SECTION 36
T-1-S, R-8-E
1225+00
1230+00
1235+00
1240+00
RW AS SHOWN ON JP 31053(04)
FO Marker
R/W
TOS/TOC
BM-55
BM-56
Asphalt
Guardrail
Pasture
Timber
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
Clanton-Olney Water Co. Cod County 2" P.V.C. Waterline
Persimmon & Brushy thicket
Windstream T.U.O.
EXISTING ℄ SURVEY
B.M. 55
STA. 1230+10.8 27.5' RT.
"T" S.E. COR. S. CONC. HDWL
ELV. = 606.53
B.M. 56
STA. 1238+70.55' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 637.81
604.76
604.85
604.74
605.01
605.95
607.54
609.79
613.32
617.40
621.78
625.68
629.39
632.15
634.60
636.21
636.56
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31053(04) SHEET NO. P3
02-03-20



OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 35
T-1-S, R-8-E
SECTION 36
T-1-S, R-8-E
1240+00
1245+00
1250+00
1255+00
R/W
TOS/TOC
WIRE ON GROUND-SPORADIC POST
Pasture
DOUBLE SBW
FO Marker
SPECIAL DITCH
B.M. 57
STA. 1247+77.70 24.0' RT.
"X" NE. COR. E. CONC. HDWL.
ELV. = 634.39
EXISTING ℄ SURVEY
SPL DITCH LT
SPL DITCH RT
COUNTY JOHNSTON HIGHWAY SH-48
SHEET NO. P4

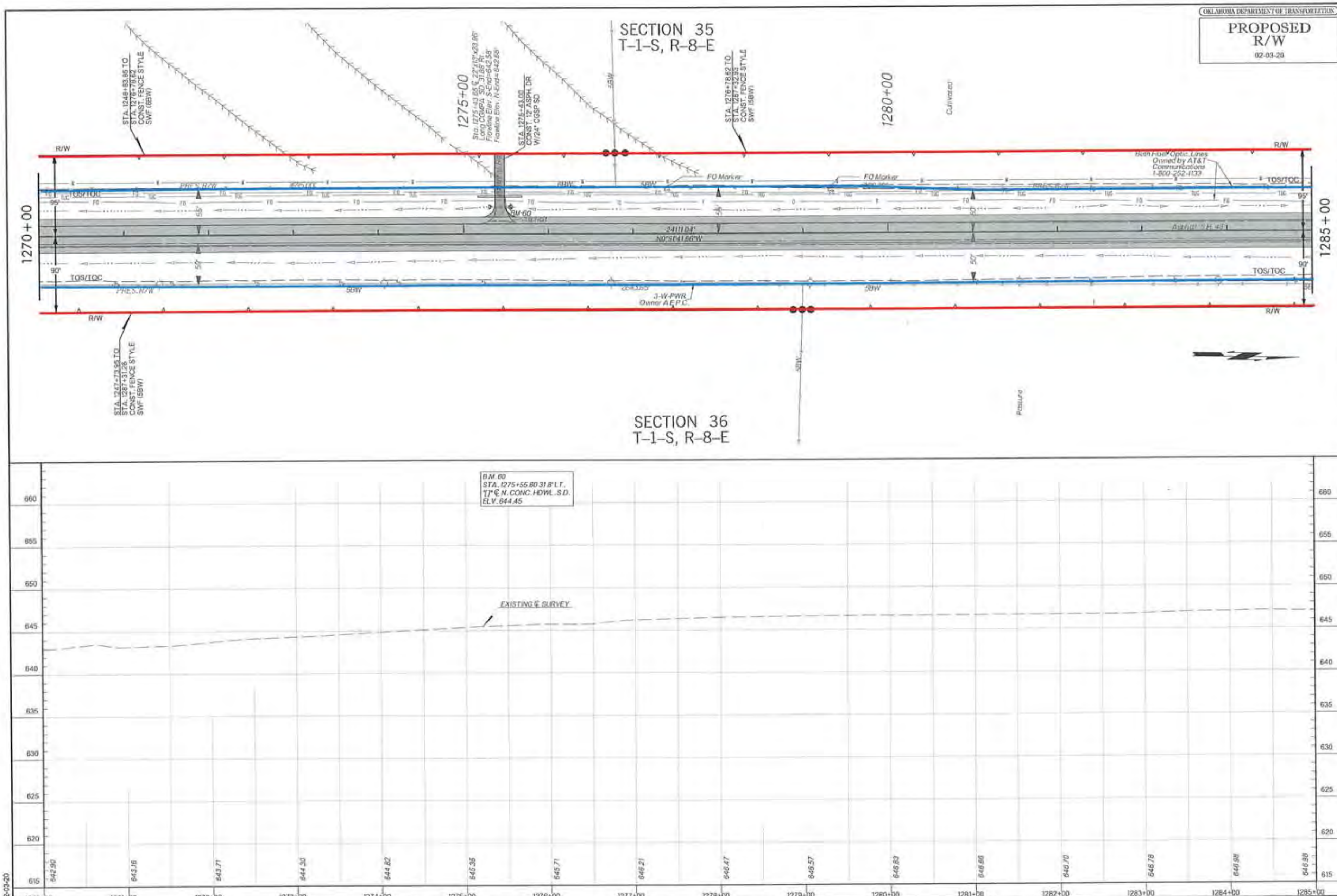


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 35
T-1-S, R-8-E
SECTION 36
T-1-S, R-8-E
1255+00
1260+00
1265+00
1270+00
R/W
TOS/TOC
PRES. R/W
AT&T
FO Marker
T.U.G. Line
3-W-PWR
Owner A.E.P.C.
BM-58
BM-59
Asphalt
Pasture
12" Elm
Locust Thicket
STA. 1246+83.85 TO
STA. 1276+78.62
CONST. FENCE STYLE
SWF (6BW)
STA. 1247+73.95 TO
STA. 1261+31.26
CONST. FENCE STYLE
SWF (5BW)
STA. 1260+91.00
CONST. 12' ASPH. DR.
W/24" CGSP SD
STA. 1267+78.00
CONST. 12' ASPH. DR.
W/28" x 20" CGSPA SD
2411.04'
N0°51'41.66"W
B.M. 58
STA. 1256+11 54' RT.
TOP DELINEATOR POST IN EAST R/W FENCE
ELV. 634.86
B.M. 59
STA. 1267+96 54' LT.
TOP DELINEATOR POST BY N. GATE POST
ELV. 639.95
EXISTING ℄ SURVEY
660
655
650
645
640
635
630
625
620
615
637.35
637.31
637.62
637.73
637.62
637.97
638.59
638.81
639.20
639.58
640.17
640.82
641.36
642.15
642.35
642.90
1255+00
1256+00
1257+00
1258+00
1259+00
1260+00
1261+00
1262+00
1263+00
1264+00
1265+00
1266+00
1267+00
1268+00
1269+00
1270+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO.
SHEET NO. P5

OKLAHOMA DEPARTMENT OF TRANSPORTATION

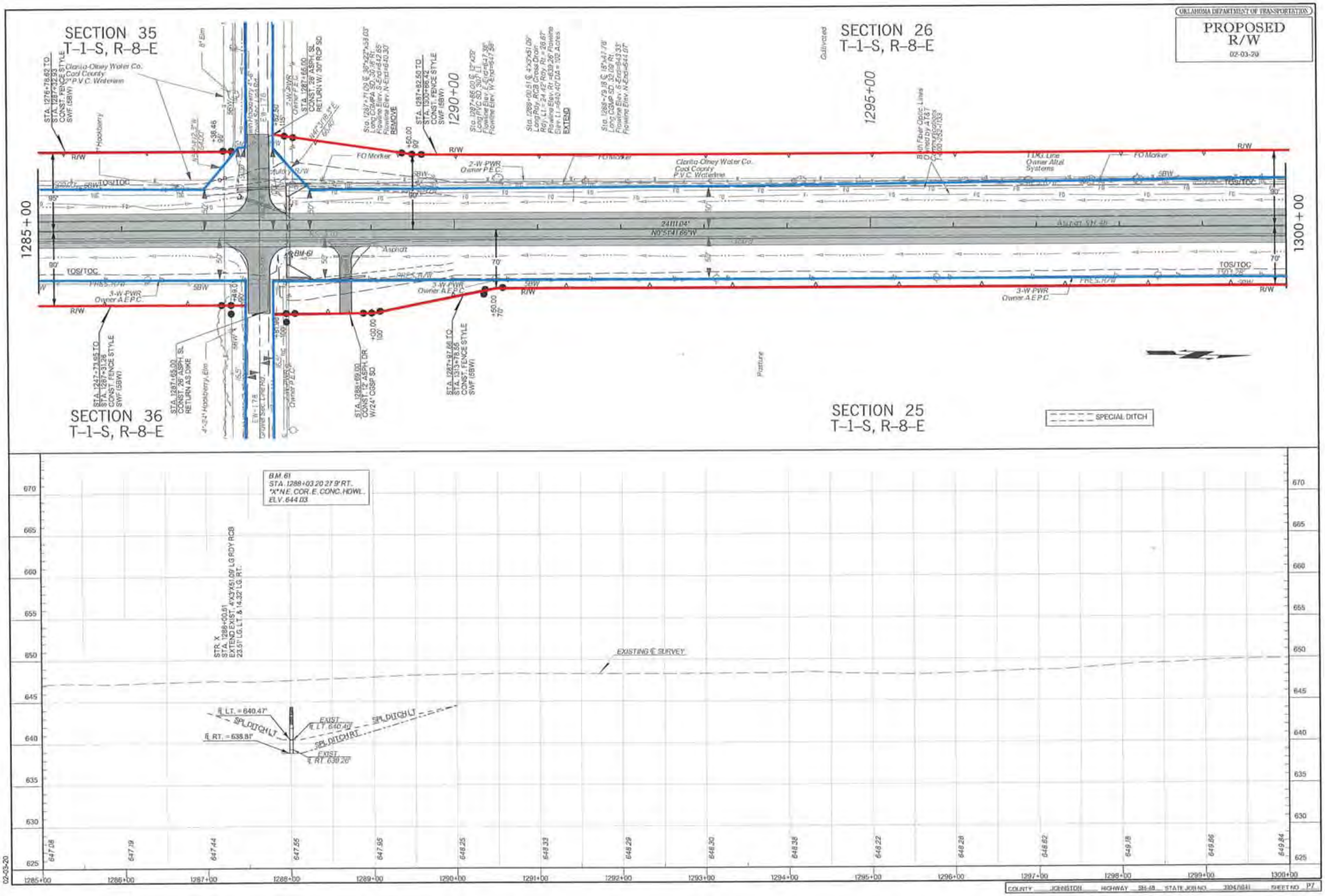
PROPOSED R/W

02-03-20

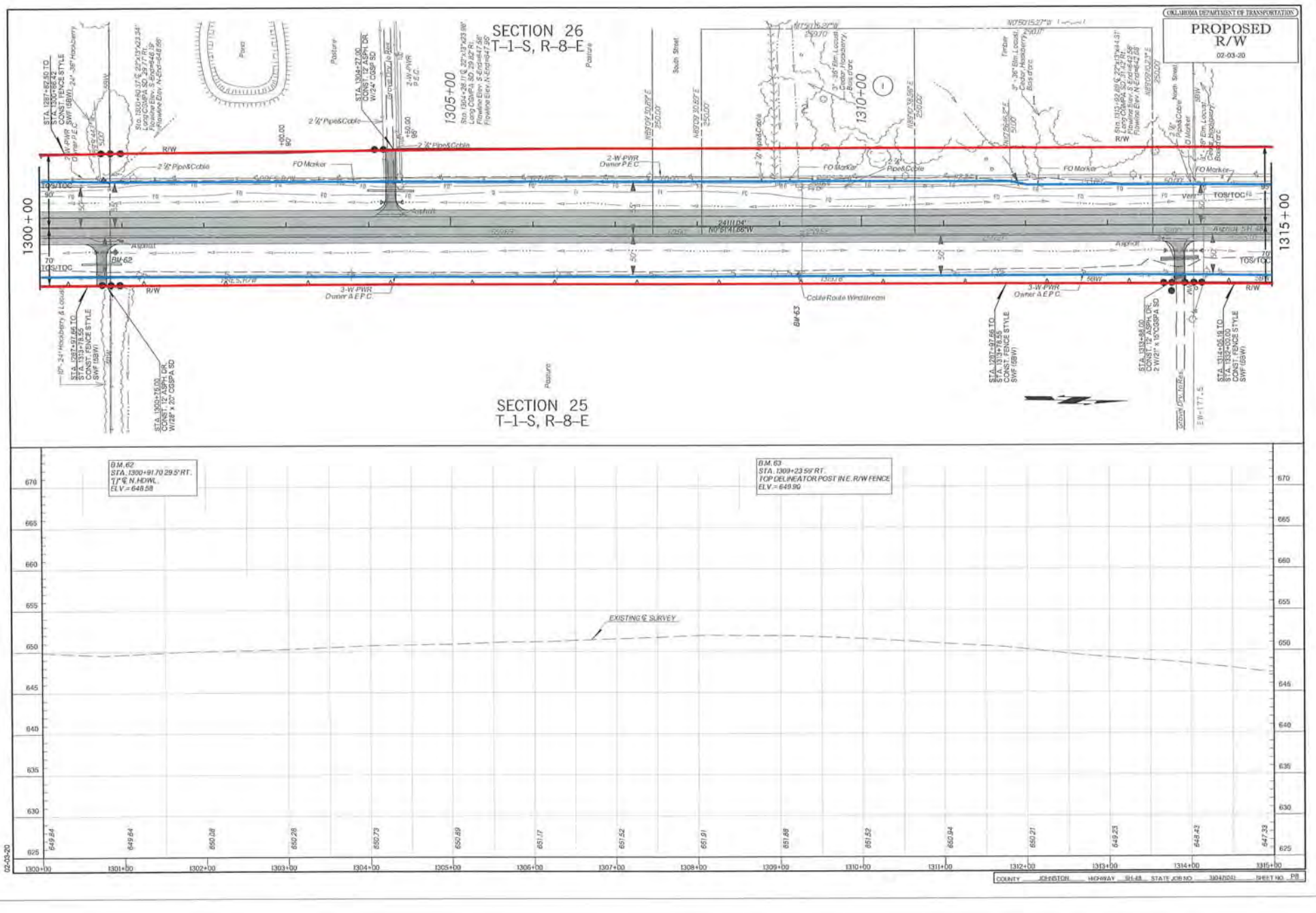


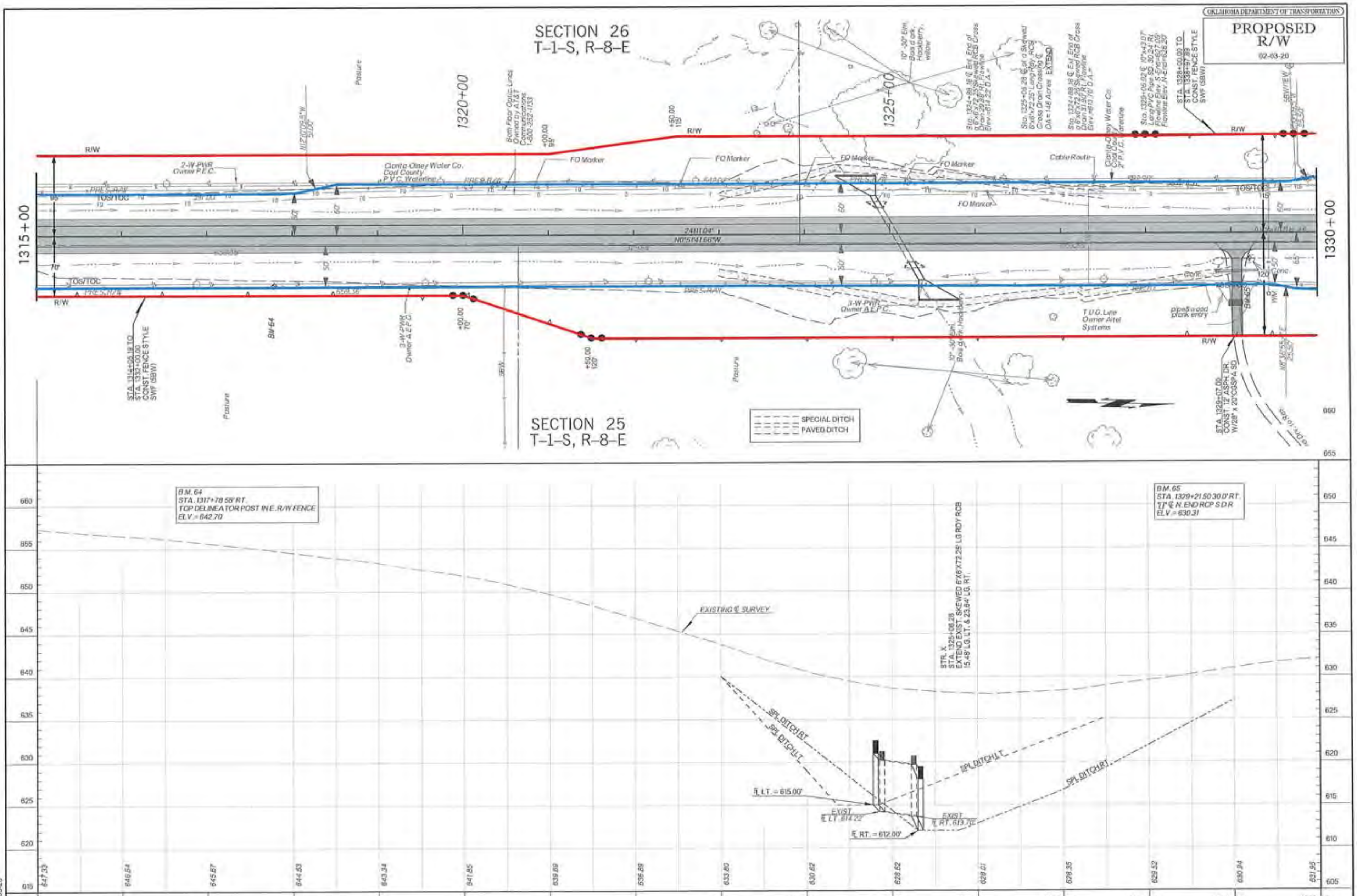
SECTION 35
T-1-S, R-8-E
SECTION 36
T-1-S, R-8-E
1270+00
1275+00
1280+00
1285+00
R/W
TOS/TOC
PRES. R/W
SBW
FO Marker
B.M. 60
2411.04'
N0°50'41.66"W
Asphalt S.H. 48
3-W-PWR
Owner A.E.P.C.
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
STA. 1248+83.85 TO STA. 1276+78.62 CONST. FENCE STYLE SWF (5BW)
STA. 1276+78.62 TO STA. 1287+32.93 CONST. FENCE STYLE SWF (5BW)
STA. 1247+73.95 TO STA. 1287+31.26 CONST. FENCE STYLE SWF (5BW)
STA. 1275+43.00 CONST. 12' ASPH. DR. W/24" CGSP SD
Cultivated
Pasture
B.M. 60
STA. 1275+55.60 31.8' LT.
T/ ℄ N. CONC. HDWL. S.D.
ELV. 644.45
EXISTING ℄ SURVEY

COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 3104(04) SHEET NO. P6



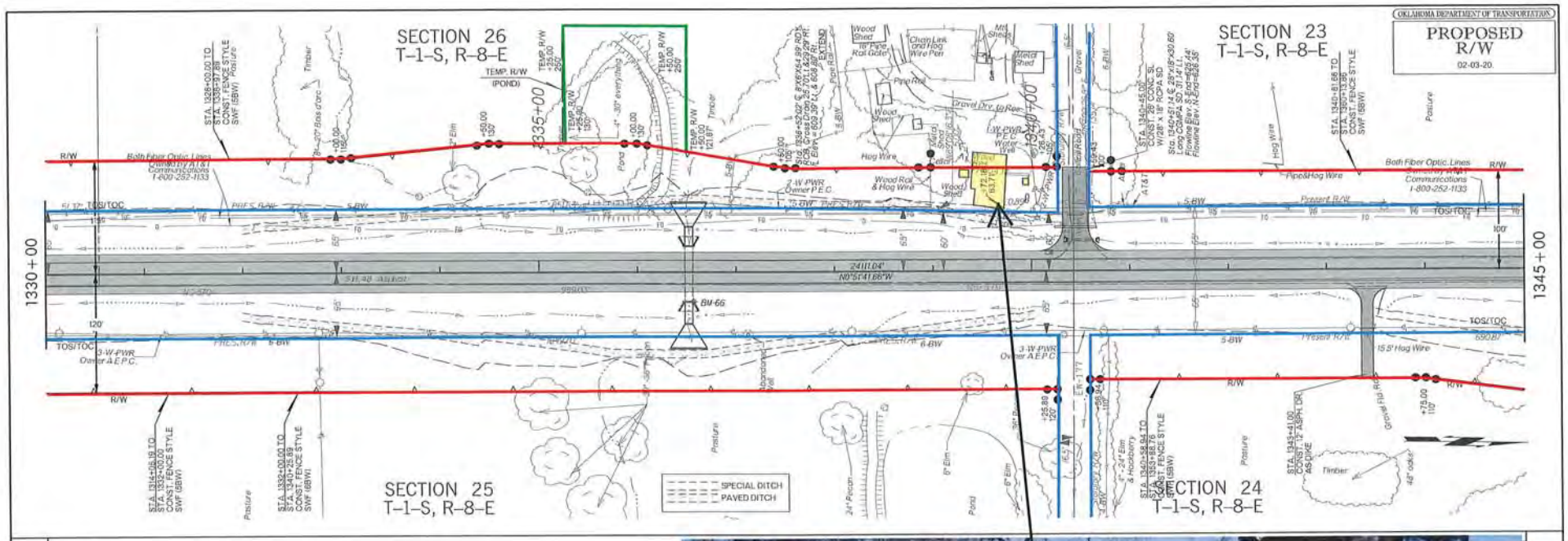
OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED
R/W
02-03-20
SECTION 35
T-1-S, R-8-E
SECTION 26
T-1-S, R-8-E
SECTION 36
T-1-S, R-8-E
SECTION 25
T-1-S, R-8-E
1285+00
1290+00
1295+00
1300+00
R/W
TOS/TOC
FO Marker
2-W PWR
Owner P.E.C.
3-W PWR
Owner A.E.P.C.
Clarita-Olney Water Co.
Coal County
P.V.C. Waterline
SBW
Asphalt
BM-61
SPECIAL DITCH
B.M. 61
STA. 1288+03.20 27.9' RT.
"X" N.E. COR. E. CONC. HDWL.
ELV. 644.03
EXISTING ℄ SURVEY
SPL DITCH LT
SPL DITCH RT
670
665
660
655
650
645
640
635
630
625
1285+00
1286+00
1287+00
1288+00
1289+00
1290+00
1291+00
1292+00
1293+00
1294+00
1295+00
1296+00
1297+00
1298+00
1299+00
1300+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 33047(04) SHEET NO. P7

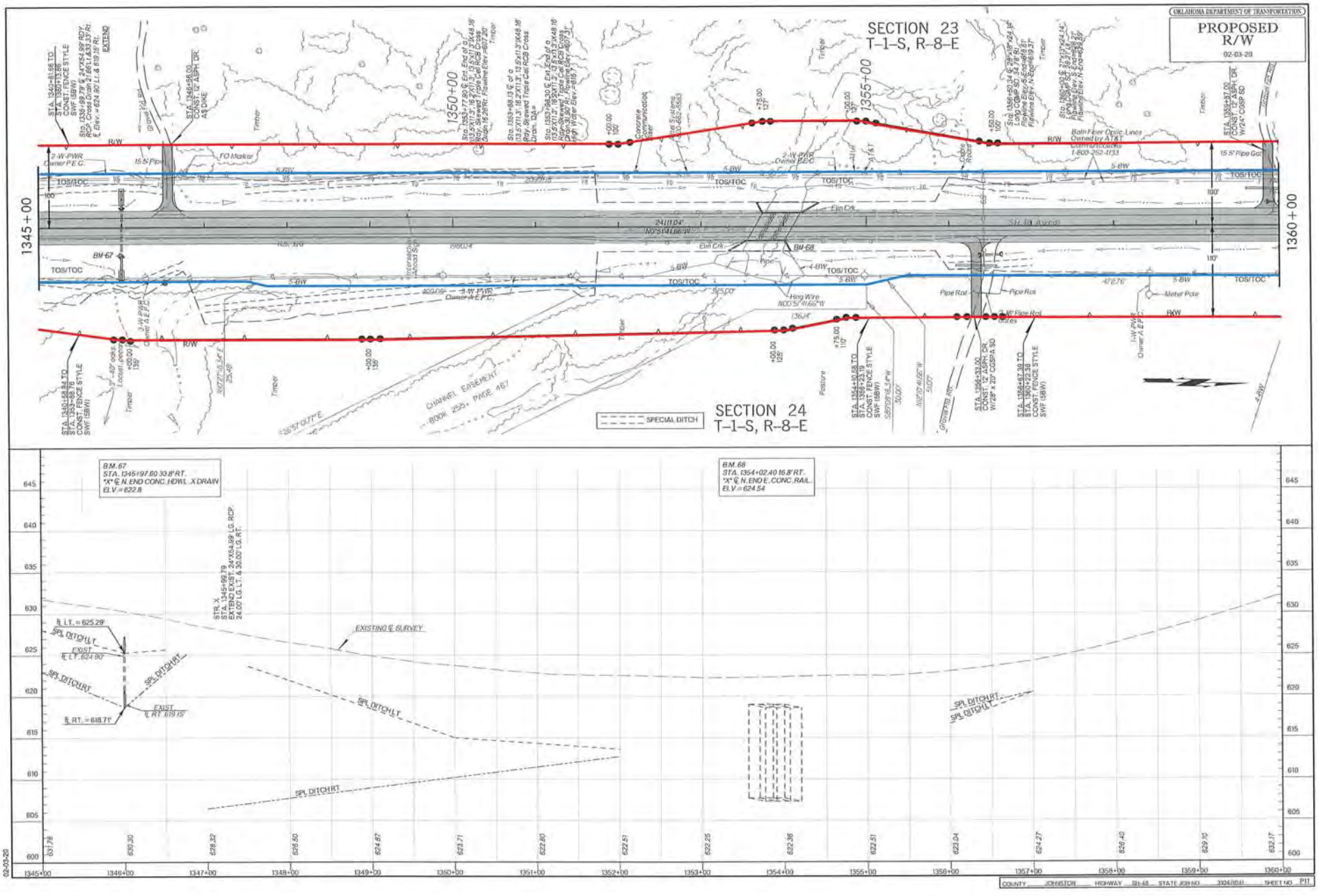

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 26
T-1-S, R-8-E
SECTION 25
T-1-S, R-8-E
1300+00
1305+00
1310+00
1315+00
R/W
FO Marker
2-W PWR Owner P.E.C.
3-W PWR Owner A.E.P.C.
Asphalt
TOS/TOC
BM-62
BM-63
Cable Route Windstream
EXISTING ℄ SURVEY
B.M. 62
STA. 1300+91.70 29.5' RT.
1" ℄ N. HDWL.
ELV.= 648.58
B.M. 63
STA. 1309+23.59' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV.= 649.99
649.84
649.64
650.08
650.28
650.73
650.89
651.17
651.52
651.91
651.88
651.52
650.94
650.21
649.23
648.42
647.33
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31042(02) SHEET NO. 28

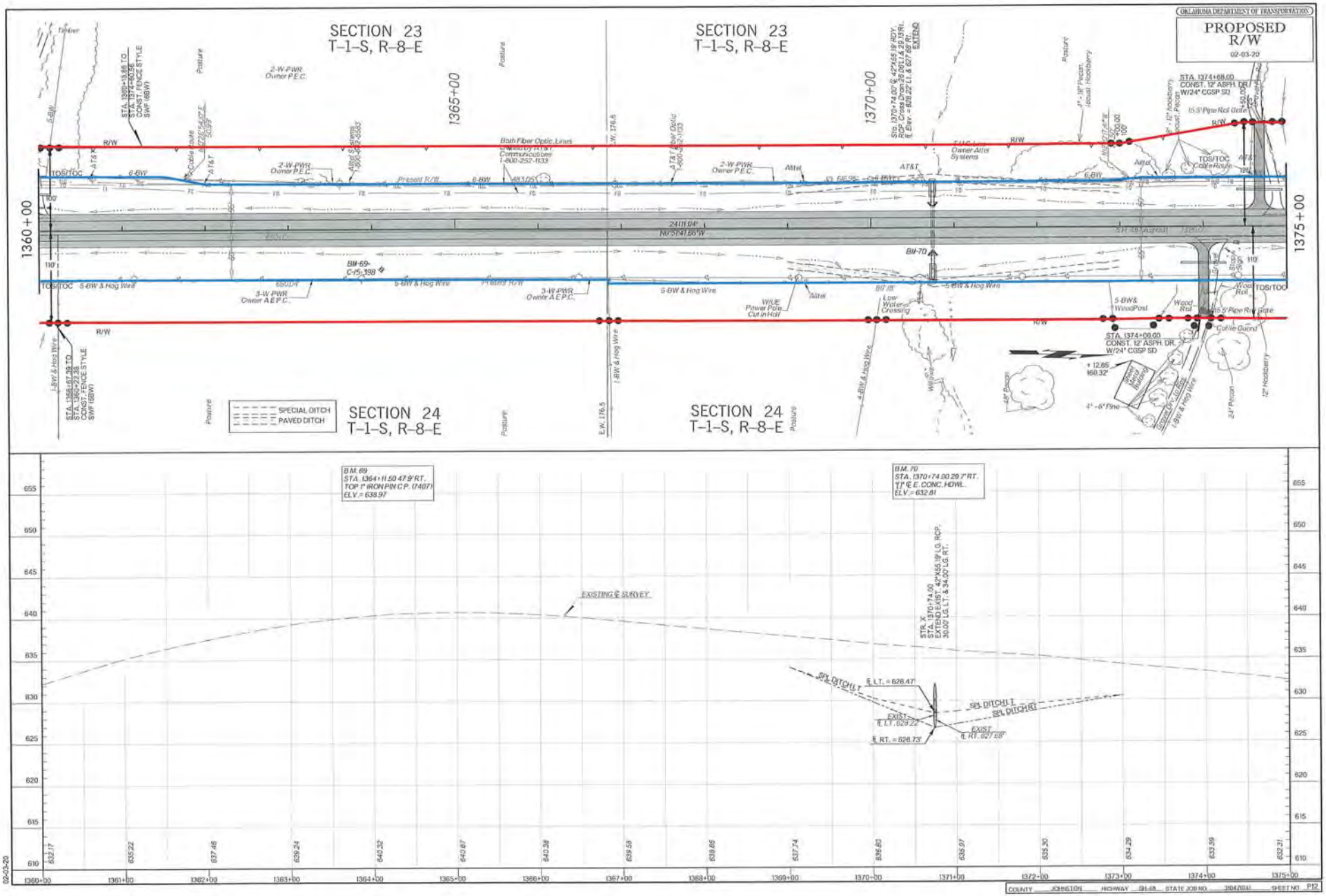


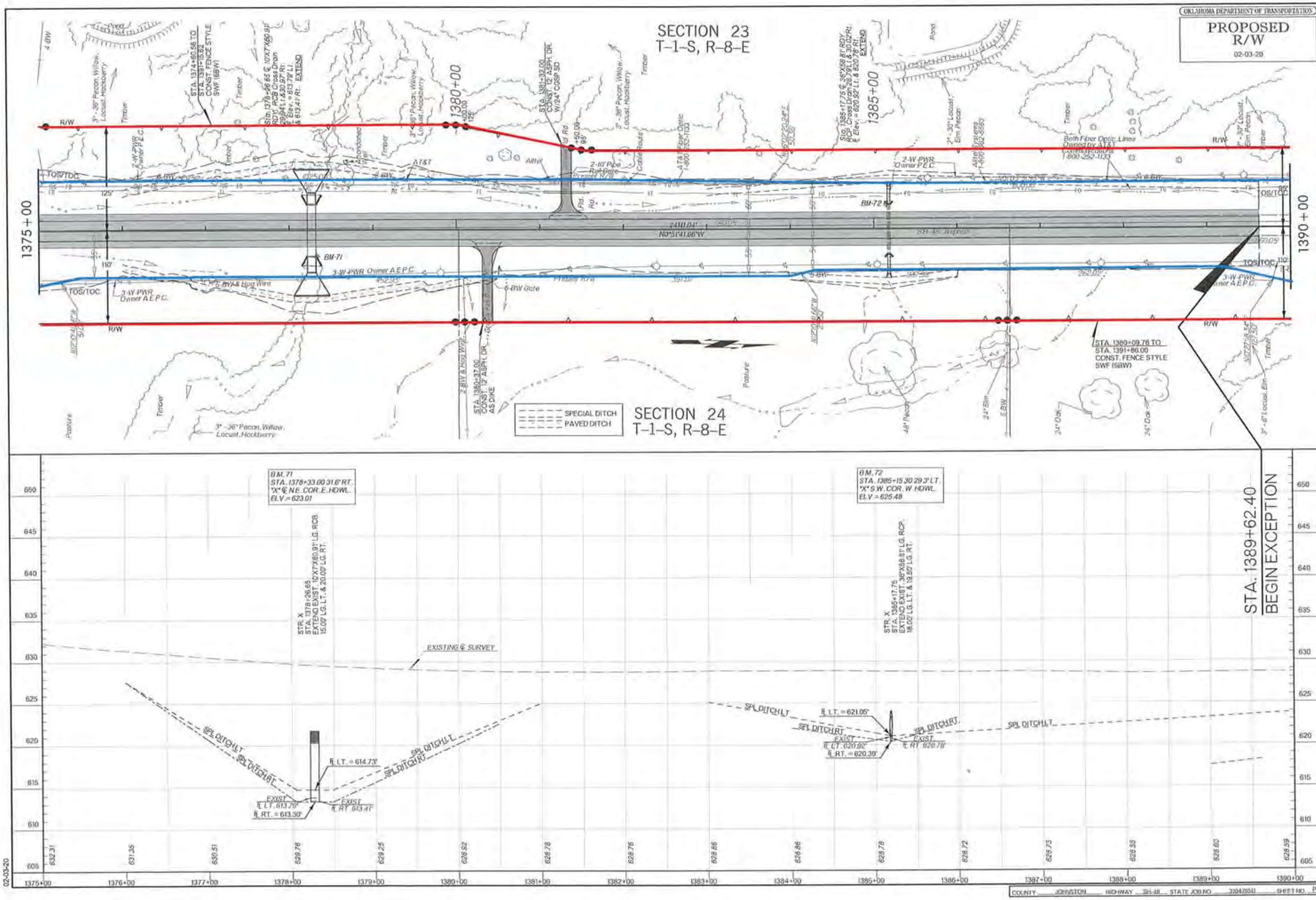
OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 26
T-1-S, R-8-E
SECTION 25
T-1-S, R-8-E
1315+00
1320+00
1325+00
1330+00
R/W
Pasture
FO Marker
Cable Route
STA. 1328+00.00 TO
STA. 1338+97.89
CONST. FENCE STYLE
SWF (5BW)
STA. 1329+07.00
CONST. 12' ASPH. DR.
W/28" x 20"CGSPA SD
SPECIAL DITCH
PAVED DITCH
B.M. 64
STA. 1317+78 58' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 642.70
B.M. 65
STA. 1329+21.50 30.0' RT.
ELV. = 630.31
EXISTING ℄ SURVEY
SPL DITCH RT.
SPL DITCH LT.
STR. X
STA. 1325+06.28
EXTEND EXIST. SKEWED 6'X6'X72.28' LG RDY RCB
15.48' LG. LT. & 23.84' LG. RT.
FL LT. = 615.00'
FL RT. = 612.00'
EXIST. FL LT. 614.22'
EXIST. FL RT. 613.70'
02-03-20

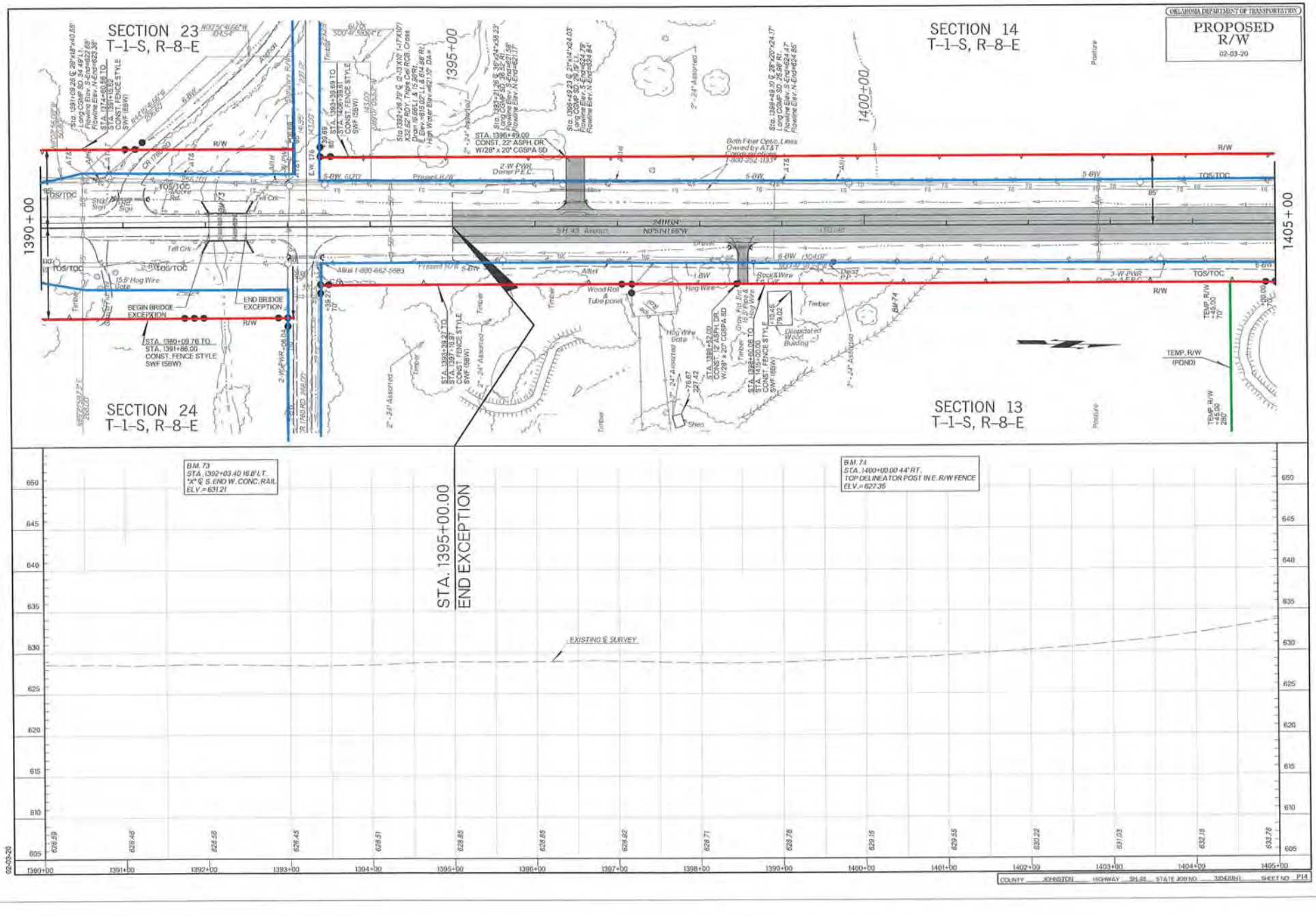
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO 31042(04) SHEET NO P9

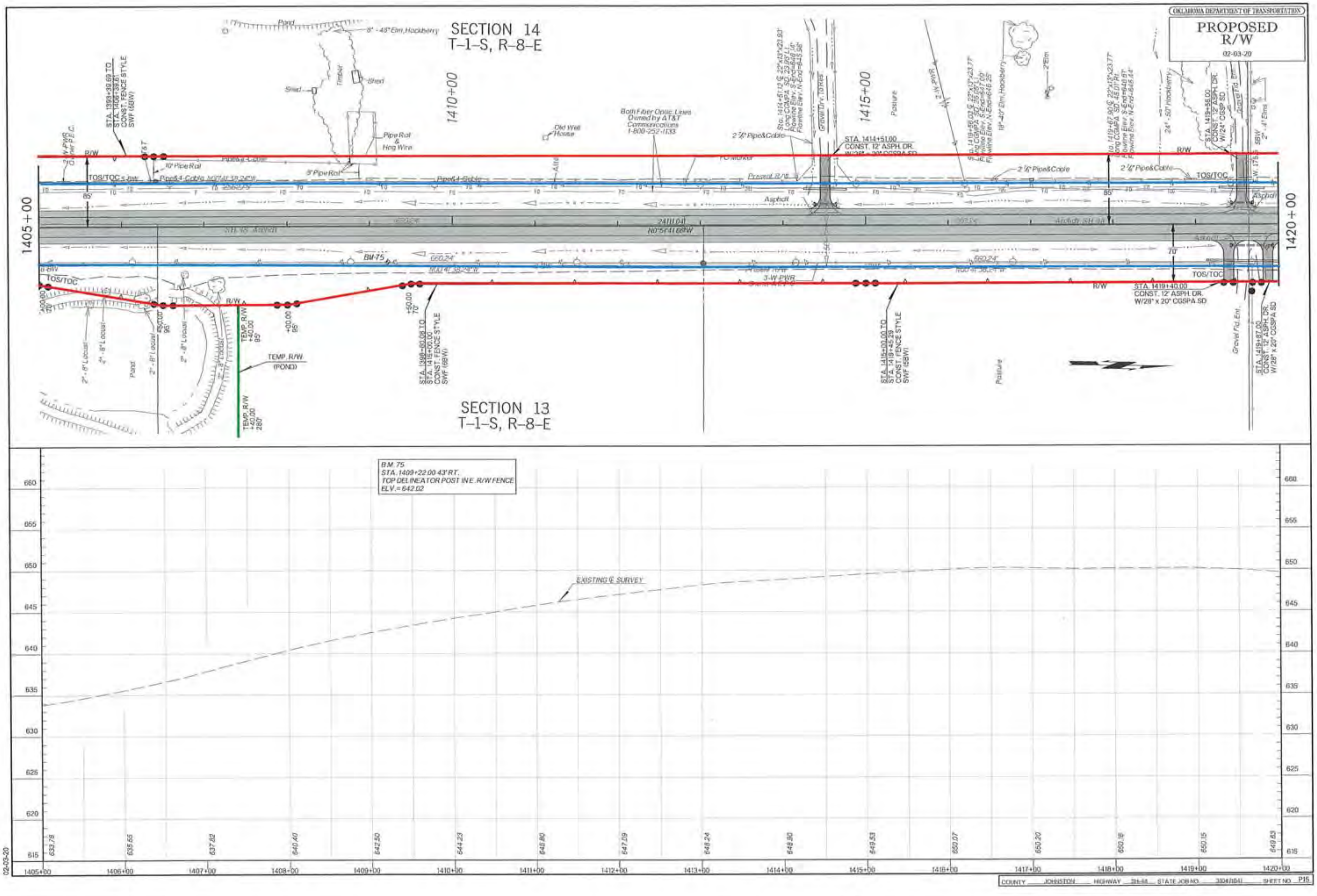

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20.
SECTION 26
T-1-S, R-8-E
SECTION 23
T-1-S, R-8-E
SECTION 25
T-1-S, R-8-E
SECTION 24
T-1-S, R-8-E
1330+00
1335+00
1340+00
1345+00
SPECIAL DITCH
PAVED DITCH
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
3-W PWR Owner A E P C.
BM-66
Present R/W
Hog Wire
Pipe&Hog Wire
15.5° Hog Wire
Pasture
Timber
Pond
Gravel Dry to Rec
Wood Shed
Chain Link and Hog Wire Pen
Pipe Rail
Wood Rail & Hog Wire
Gravel Road
Mtl Shed
Yield Shed
Water Well
Abandoned Well
Grave Flag Rock
24" Pecan
48" oaks
Ex. Pond
Ex. Pond Bank
STA. 1336+00.00 TO STA. 1339+50.00 CONST. FENCE STYLE SWF (5BW)
STA. 1344+06.19 TO STA. 1345+00.00 CONST. FENCE STYLE SWF (5BW)
STA. 1332+00.00 TO STA. 1340+25.89 CONST. FENCE STYLE SWF (6BW)
STA. 1340+45.00 CONST. 28' CONC. SL W/28" x 18" RCPA SD.
Sta. 1340+51.14 E 28'x18"x30.60' Long CSAPA SD. 31.14 L.T. Flowline Elev. N.E.=626.36' Flowline Elev. N.E.=626.36'
STA. 1340+61.66 TO STA. 1350+13.96 CONST. FENCE STYLE SWF (6BW)
STA. 1340+58.94 TO STA. 1353+88.76 CONST. FENCE STYLE SWF (6BW)
STA. 1343+41.00 CONST. 12' ASPH DR. APRON
241'11.04' N0°51'41.66"W
SPL DITCH LT
SPL DITCH RT
Rt. L.T. = 610.00'
EXIST. Rt. L.T. 609.39'
Rt. RT. = 607.00'
Location A: Station 1339+50L
Residential Relocation
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31048(034) SHEET NO. P10

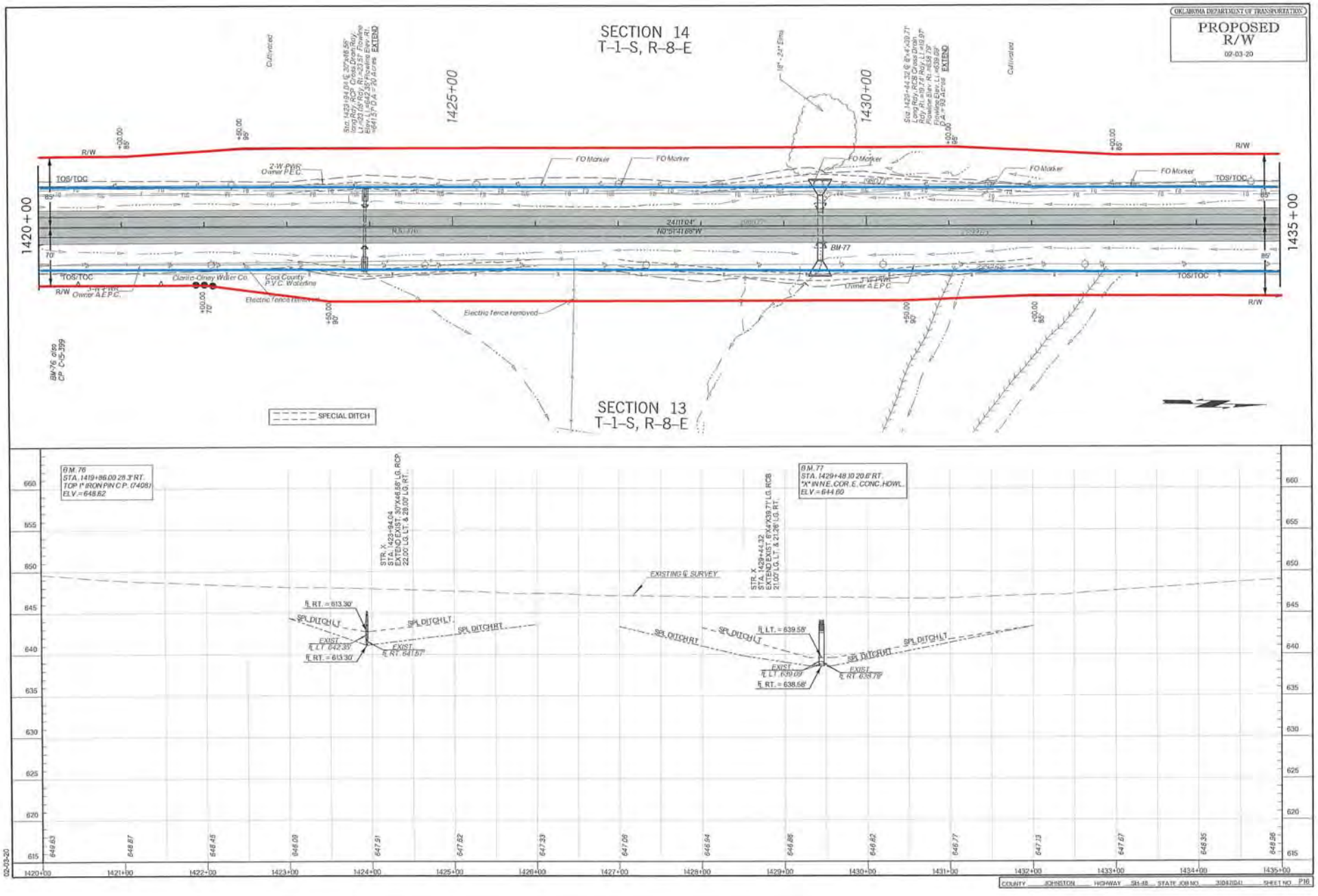

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 23
T-1-S, R-8-E
SECTION 24
T-1-S, R-8-E
1345+00
1350+00
1355+00
1360+00
SPECIAL DITCH
CHANNEL EASEMENT
BOOK 255, PAGE 467
Elm Crk.
S.H. 99 Access
BM-67
BM-68
TOS/TOC
R/W
5-BW
2-W-PWR Owner P.E.C.
Ball Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
Hog Wire
Pipe Rail
Meter Pole
Timber
Posture
Orchard
BM.67
STA. 1345+97.80 33.8' RT.
"X" ℄ N.END CONC. HDWL. "X" DRAIN
ELV.= 622.8
BM.68
STA. 1354+02.40 16.8' RT.
"X" ℄ N.END E. CONC. RAIL.
ELV.= 624.54
STR. X
STA. 1345+98.79
24.0' LG. RT. & 30.00' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH LT
SPL DITCH RT
EXIST. ℄ LT. 624.90'
EXIST. ℄ RT. 619.15'
℄ LT. = 625.29'
℄ RT. = 618.71'
645
640
635
630
625
620
615
610
605
600
1345+00
1346+00
1347+00
1348+00
1349+00
1350+00
1351+00
1352+00
1353+00
1354+00
1355+00
1356+00
1357+00
1358+00
1359+00
1360+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31041(04) SHEET NO. P11

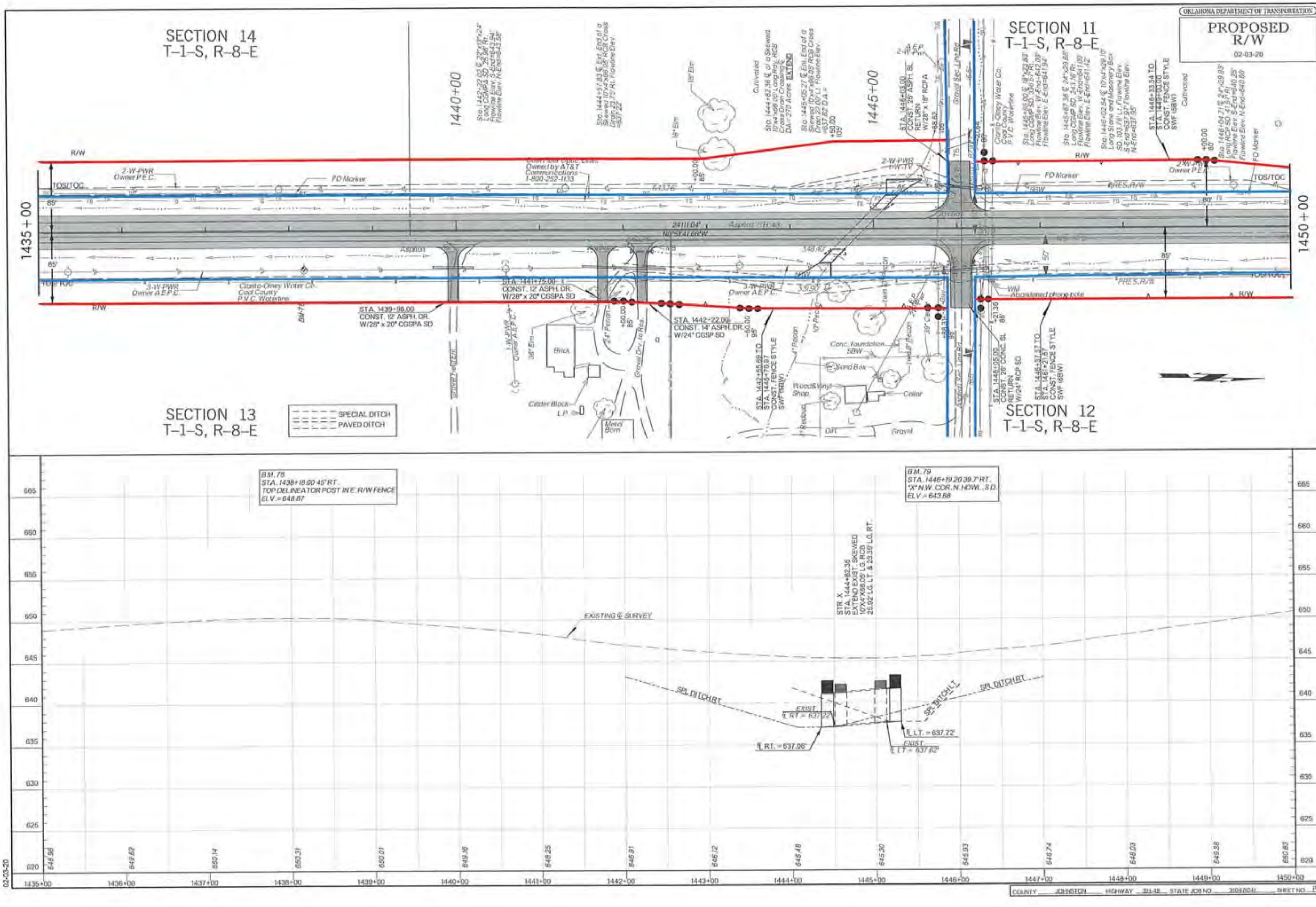

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 23
T-1-S, R-8-E
SECTION 23
T-1-S, R-8-E
SECTION 24
T-1-S, R-8-E
SECTION 24
T-1-S, R-8-E
1360+00
1365+00
1370+00
1375+00
R/W
TOS/TOC
5-BW & Hog Wire
Present R/W
2-W PWR Owner P.E.C.
3-W PWR Owner A.E.P.C.
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
AT&T Fiber Optic 1-800-252-1133
Sta. 1370+74.00' @ 42°45'55.19" RDY. RCP Cross Drain 26.06' Lt. & 29.19' Rt. Elev. = 628.22' Lt. & 627.88' Rt.
EXTEND
STA. 1374+68.00 CONST. 12' ASPH. DR. W/24" CGSP SD
STA. 1374+00.00 CONST. 12' ASPH. DR. W/24" CGSP SD
15.5' Pipe Rail Gate
Cattle Guard
Wood Rail
5-BW & Wood Post
Low Water Crossing
W/UE Power Pole Cut in Half
BM-69 C-15-398
BM-70
2411.04'
N0°51'41.86"W
SPECIAL DITCH
PAVED DITCH
BM 69
STA. 1364+11.50 47.9' RT.
TOP 1" IRON PIN C.P. (7407)
ELV. = 638.97'
BM 70
STA. 1370+74.00 29.7' RT.
"T" @ E. CONC. HDWL.
ELV. = 632.81
EXISTING @ SURVEY
SPL DITCH LT
SPL DITCH RT
EXIST. @ LT. 629.22'
EXIST. @ RT. 627.88'
E LT. = 626.47'
E RT. = 626.73'
STR. X
STA. 1370+74.00
42°45'55.19" LG. RCP.
90.00' LG. LT. & 94.00' LG. RT.
655
650
645
640
635
630
625
620
615
610
632.17
635.22
637.46
639.24
640.32
640.67
640.38
639.58
638.65
637.74
636.80
635.97
635.30
634.29
633.59
632.31
1360+00
1361+00
1362+00
1363+00
1364+00
1365+00
1366+00
1367+00
1368+00
1369+00
1370+00
1371+00
1372+00
1373+00
1374+00
1375+00
02-03-20
COUNTY WASHINGTON HIGHWAY SH-48 STATE JOB NO. 31042(04) SHEET NO. P12

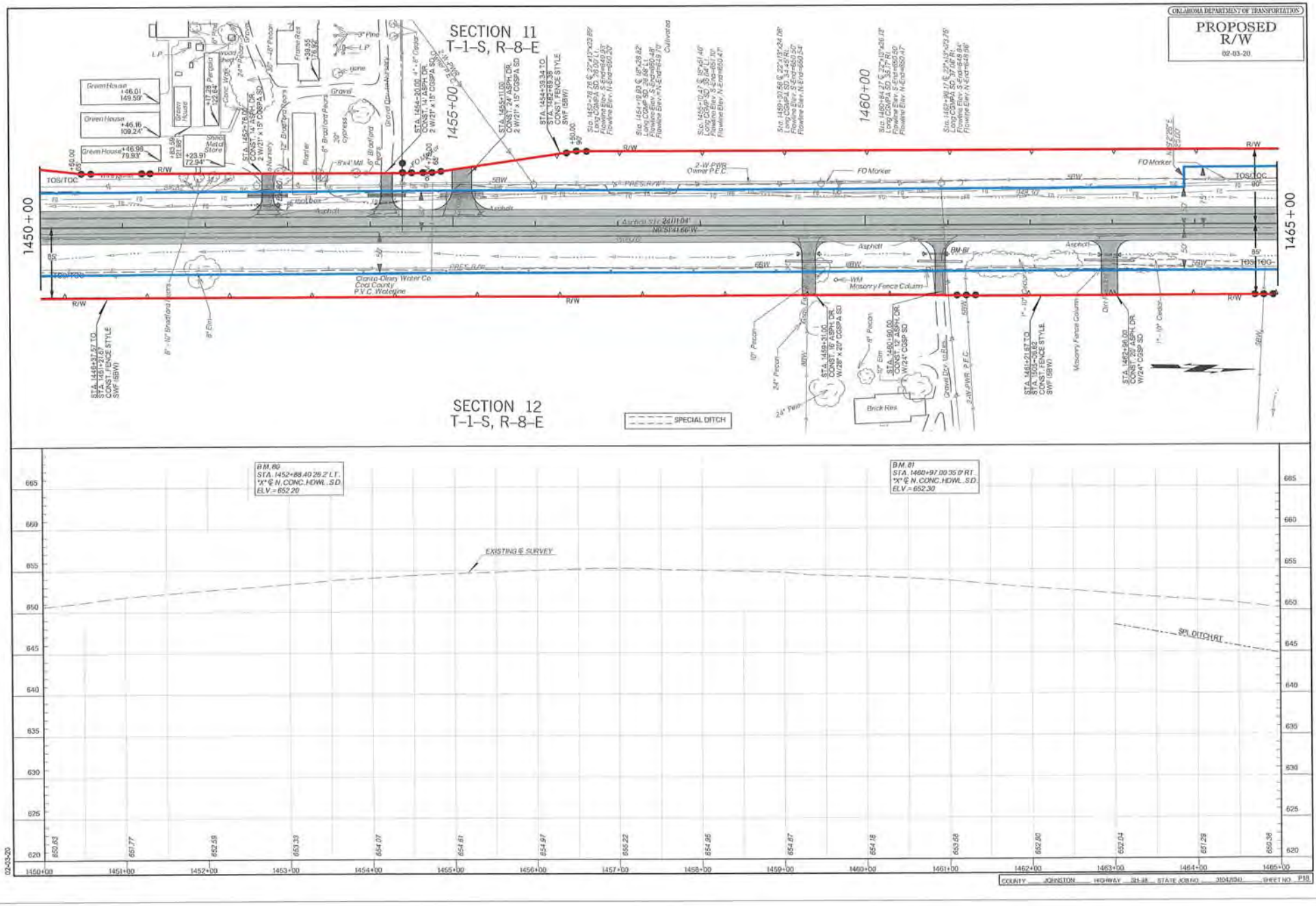

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED
R/W
02-03-20
SECTION 23
T-1-S, R-8-E
SECTION 24
T-1-S, R-8-E
SPECIAL DITCH
PAVED DITCH
1375+00
1380+00
1385+00
1390+00
STA. 1389+62.40
BEGIN EXCEPTION
R/W
TOS/TOC
BM-71
BM-72
3-W PWR Owner A E P C
STA. 1374+60.56 TO
STA. 1391+15.62
CONST. FENCE STYLE
SWF (6BW)
STA. 1380+09.76 TO
STA. 1391+86.00
CONST. FENCE STYLE
SWF (5BW)
Both Fiber Optic Lines
Owned by AT&T
1-800-252-1133
Pasture
Timber
Pond
BM.71
STA. 1378+33.00 31.6' RT.
"X" ℄ N.E. COR. E. HDWL.
ELV = 623.01
BM.72
STA. 1385+15.30 29.3' LT.
"X" S.W. COR. W. HDWL.
ELV = 625.48
STR. X
STA. 1378+26.65
EXTEND EXIST. 10'X7'X60.91' LG. RCB.
15.00' LG. LT. & 20.00' LG. RT.
STR. X
STA. 1385+17.75
EXTEND EXIST. 36"X58.81' LG. RCP.
18.00' LG. LT. & 19.50' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH LT.
SPL DITCH RT.
℄ LT. = 614.73'
EXIST.
℄ LT. 613.79'
℄ RT. = 613.30'
EXIST.
℄ RT. 613.41'
℄ LT. = 621.05'
EXIST.
℄ LT. 620.92'
℄ RT. = 620.39'
EXIST.
℄ RT. 620.78'
632.31
631.35
630.51
629.76
629.25
628.92
628.78
628.75
628.86
628.86
628.78
628.72
628.73
628.55
628.60
628.59
1375+00
1376+00
1377+00
1378+00
1379+00
1380+00
1381+00
1382+00
1383+00
1384+00
1385+00
1386+00
1387+00
1388+00
1389+00
1390+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31042(04) SHEET NO. P13

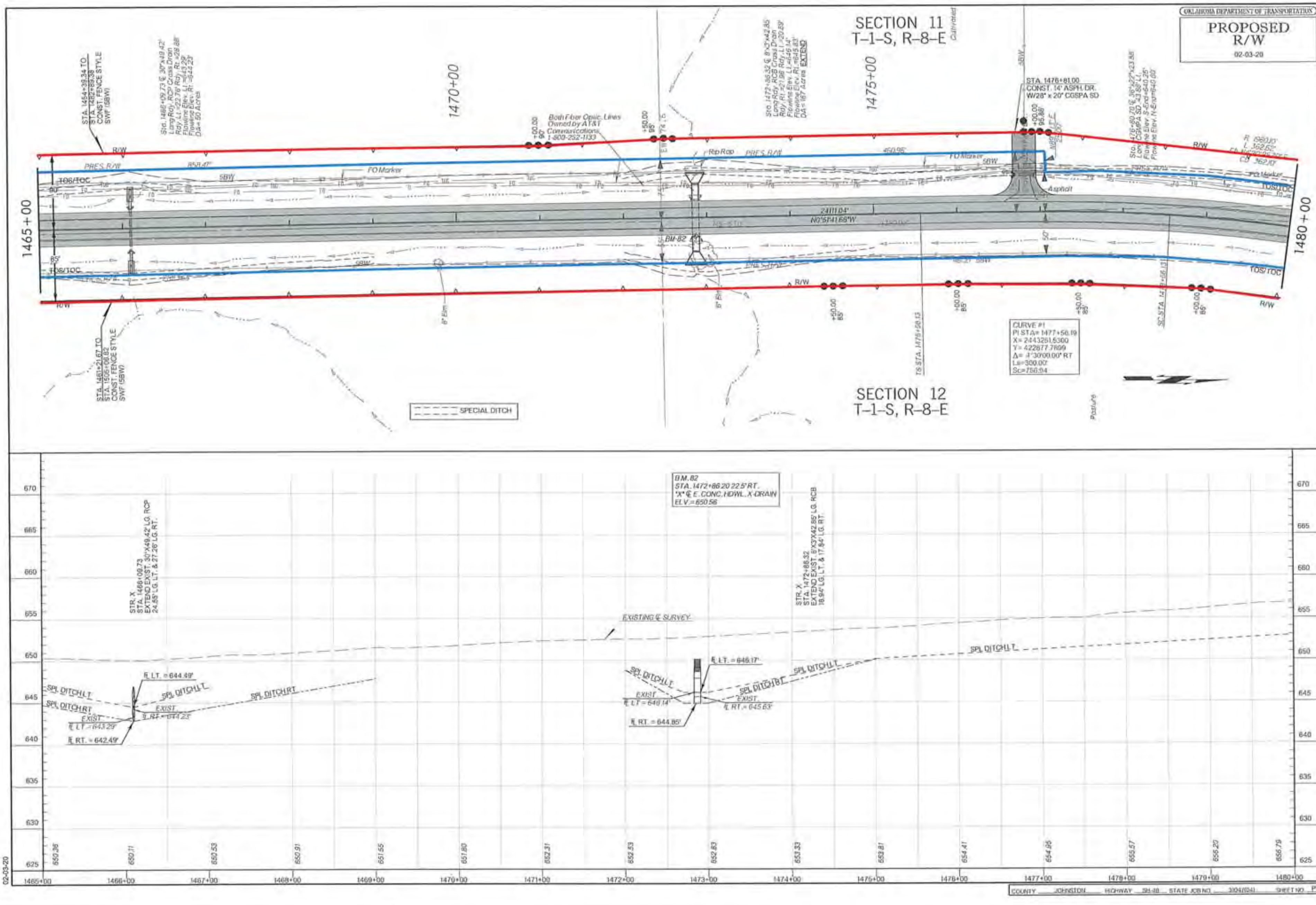

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 23
T–1–S, R–8–E
SECTION 14
T–1–S, R–8–E
SECTION 24
T–1–S, R–8–E
SECTION 13
T–1–S, R–8–E
1390+00
1395+00
1400+00
1405+00
STA. 1396+49.00
CONST. 22' ASPH. DR.
W/28' x 20' CGSPA SD
BEGIN BRIDGE EXCEPTION
END BRIDGE EXCEPTION
STA. 1380+09.76 TO
STA. 1391+86.00
CONST. FENCE STYLE
SWF (5BW)
Present R/W
Alltel 1-800-662-5583
Both Fiber Optic Lines
Owned by AT&T
Cross-ref phone
1-800-252-1133
TOS/TOC
R/W
5-BW
Tell Crk.
Hog Wire Gate
Wood Rail & Tube panel
Timber
Dilapidated Wood Building
TEMP. R/W (POND)
TEMP. R/W
45.00
70'
B.M. 73
STA. 1392+03.40 16.8' LT.
"X" @ S. END W. CONC. RAIL
ELV. = 631.21
B.M. 74
STA. 1400+00.00 44' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 627.35
STA. 1395+00.00
END EXCEPTION
EXISTING @ SURVEY
650
645
640
635
630
625
620
615
610
605
626.59
628.46
626.56
626.45
628.51
628.65
628.65
628.92
628.71
628.78
629.15
629.55
630.22
631.03
632.18
633.78
1390+00
1391+00
1392+00
1393+00
1394+00
1395+00
1396+00
1397+00
1398+00
1399+00
1400+00
1401+00
1402+00
1403+00
1404+00
1405+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 33042(04) SHEET NO. P14


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED
R/W
02-03-20
SECTION 14
T-1-S, R-8-E
SECTION 13
T-1-S, R-8-E
1405+00
1410+00
1415+00
1420+00
Both Fiber Optic Lines Owned by AT&T Communications 1-800-252-1133
STA. 1414+51.00
CONST. 12" ASPH. DR.
STA. 1419+40.00
CONST. 12" ASPH. DR.
W/28" x 20" CGSPA SD
STA. 1398+60.08 TO
STA. 1415+00.00
CONST. FENCE STYLE
SWF (6BW)
STA. 1415+00.00 TO
STA. 1419+45.29
CONST. FENCE STYLE
SWF (6BW)
STA. 1393+39.69 TO
STA. 1406+39.61
CONST. FENCE STYLE
SWF (6BW)
STA. 1419+58.00
CONST. 12" ASPH. DR.
W/24" CGSP SD
STA. 1419+87.00
CONST. 12" ASPH. DR.
W/28" x 20" CGSPA SD
TEMP. R/W
(POND)
TEMP. R/W
+40.00
95'
TEMP. R/W
+40.00
280'
Pond
Pasture
Timber
Shed
Old Well House
Pipe Rail & Hog Wire
Gravel Drv. To Res.
Gravel Fd. Ent.
B.M. 75
STA. 1409+22.00 43' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV.= 642.02
EXISTING ℄ SURVEY
633.78
635.55
637.82
640.40
642.50
644.23
645.80
647.09
648.24
648.90
649.53
650.07
650.20
650.18
650.15
649.83
1405+00
1406+00
1407+00
1408+00
1409+00
1410+00
1411+00
1412+00
1413+00
1414+00
1415+00
1416+00
1417+00
1418+00
1419+00
1420+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 33047(04) SHEET NO. P15

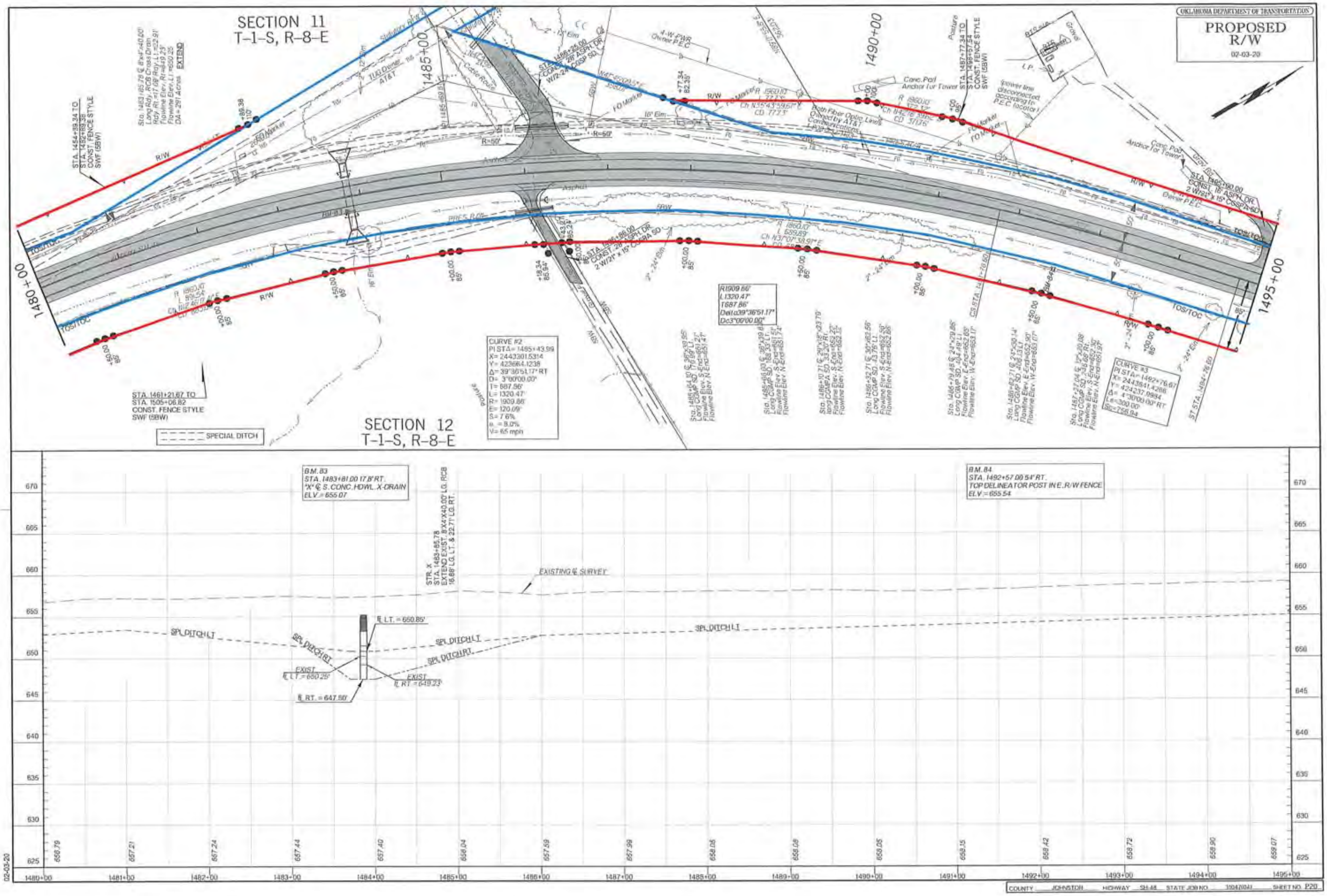

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 14
T-1-S, R-8-E
SECTION 13
T-1-S, R-8-E
1420+00
1425+00
1430+00
1435+00
R/W
TOS/TOC
FO Marker
2-W PVC Owner P.E.C.
Clarita-Olney Water Co.
Cox County P.V.C. Waterline
Electric fence removed
Owner A.E.P.C.
BM-77
BM-76 disp CP C-15-399
SPECIAL DITCH
EXISTING ℄ SURVEY
℄ RT. = 613.30'
℄ LT. 642.35'
EXIST ℄ RT. 641.57'
℄ LT. = 639.58'
℄ LT. 639.09'
EXIST ℄ RT. 638.79'
℄ RT. = 638.58'
SPL DITCH LT
SPL DITCH RT
B.M. 76
STA. 1419+86.00 28.3' RT.
TOP 1" IRON PIN C.P. (7408)
ELV. = 648.82
B.M. 77
STA. 1429+48.10 20.6' RT.
"X" IN NE. COR. E. CONC. HDWL.
ELV. = 644.60
STR. X
STA. 1423+94.04
EXTEND EXIST. 30"X46.58" LG. RCP
22.00' LG. LT. & 28.00' LG. RT.
STR. X
STA. 1429+44.32
EXTEND EXIST. 6'X4'X39.71' LG. RCB
21.00' LG. LT. & 21.00' LG. RT.
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31042(04) SHEET NO. P16

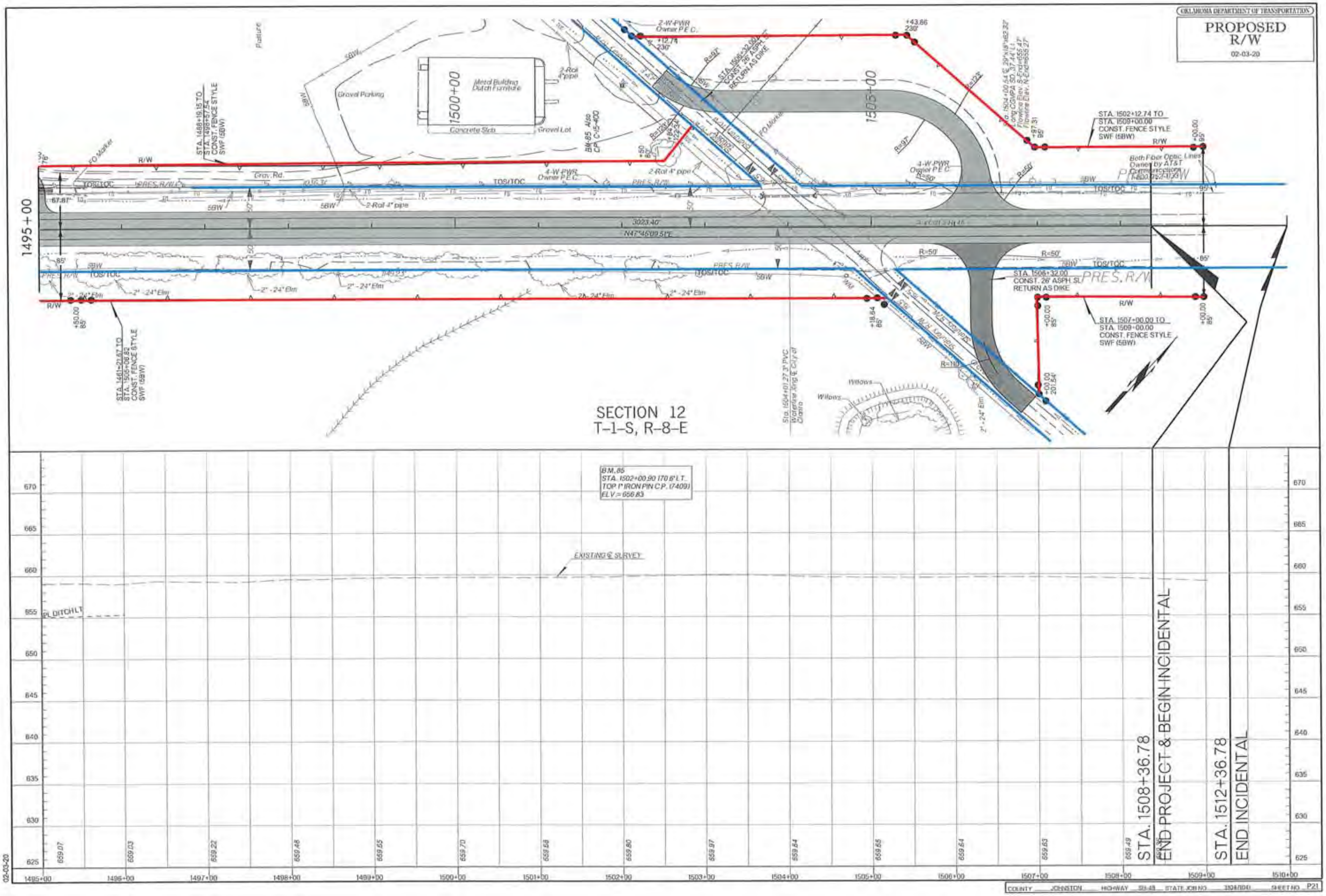

OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED
R/W
02-03-20
SECTION 14
T-1-S, R-8-E
SECTION 11
T-1-S, R-8-E
SECTION 13
T-1-S, R-8-E
SECTION 12
T-1-S, R-8-E
1435+00
1440+00
1445+00
1450+00
R/W
TOS/TOC
FO Marker
SPECIAL DITCH
PAVED DITCH
STA. 1439+98.00
CONST. 12' ASPH. DR.
W/28" x 20" CGSPA SD
STA. 1441+75.00
CONST. 12' ASPH. DR.
W/28" x 20" CGSPA SD
STA. 1442+22.00
CONST. 14' ASPH. DR.
W/24" CGSP SD
STA. 1446+03.00
CONST. 26' ASPH. SL
RETURN
W/28" x 18" RCPA
STA. 1446+05.00
CONST. 26' CONC. SL
RETURN
W/24" RCP SD
STA. 1446+33.54 TO
CONST. FENCE STYLE
SWF (6BW)
Cultivated
Brick
Cinder Block
Gravel
Abandoned phone pole
B.M. 78
STA. 1438+18.00 45' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 648.87
B.M. 79
STA. 1446+19.20 39.7' RT.
"X" N.W. COR. N. HDWL. S.D.
ELV. = 643.88
STR. X
STA. 1444+82.36
EXTEND EXIST. SKEWED
10'X4'X66.05' LG. RCB
25.92' LG. LT. & 23.39' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH RT.
SPL DITCH LT.
℄ RT. = 637.06'
℄ L.T. = 637.72'
665
660
655
650
645
640
635
630
625
620
648.96
649.62
650.14
650.31
650.01
649.16
648.25
646.91
646.12
645.48
645.30
645.93
646.74
648.03
649.38
650.83
1435+00
1436+00
1437+00
1438+00
1439+00
1440+00
1441+00
1442+00
1443+00
1444+00
1445+00
1446+00
1447+00
1448+00
1449+00
1450+00
02-03-20
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. SHEET NO. P17


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 11
T-1-S, R-8-E
SECTION 12
T-1-S, R-8-E
1450+00
1455+00
1460+00
1465+00
SPECIAL DITCH
Clarita-Olney Water Co.
Coal County
P.V.C. Waterline
Asphalt
Masonry Fence Column
Brick Res.
BM.80
STA. 1452+88.40 26.2' LT.
"X" @ N. CONC. HDWL. S.D.
ELV. = 652.20
BM.81
STA. 1460+97.00 35.0' RT.
"X" @ N. CONC. HDWL. S.D.
ELV. = 652.30
EXISTING @ SURVEY
SPL DITCH RT
650.83
651.77
652.59
653.33
654.07
654.81
654.97
656.22
654.85
654.87
654.18
653.58
652.80
652.04
651.29
650.36
1450+00
1451+00
1452+00
1453+00
1454+00
1455+00
1456+00
1457+00
1458+00
1459+00
1460+00
1461+00
1462+00
1463+00
1464+00
1465+00
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 3104(034) SHEET NO. P18
02-03-20



OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED R/W
02-03-20
SECTION 11
T-1-S, R-8-E
SECTION 12
T-1-S, R-8-E
1465+00
1470+00
1475+00
1480+00
STA. 1476+81.00
CONST. 14' ASPH. DR.
W/28" x 20' CGSPA SD
STA. 1454+39.34 TO
CONST. FENCE STYLE
SWF (5BW)
STA. 1461+21.67 TO
STA. 1506+06.82
CONST. FENCE STYLE
SWF (5BW)
Both Fiber Optic Lines
Owned by AT&T
Communications
1-800-252-1133
CURVE #1
PI STA= 1477+56.19
X= 2443261.5300
Y= 422877.7899
Δ= 4°30'00.00" RT
Ls=300.00'
Sc=750.94
SPECIAL DITCH
B.M. 82
STA. 1472+86.20 22.5' RT.
"X" ℄ E. CONC. HDWL. X-DRAIN
ELV.=650.56
STR. X
STA. 1466+09.73
EXTEND EXIST. 30"X49.42' LG. RCP
24.85' LG. LT. & 27.26' LG. RT.
STR. X
STA. 1472+86.32
EXTEND EXIST. 8'X3'X42.85' LG. RCB
18.94' LG. LT. & 17.84' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH LT.
SPL DITCH RT.
℄ LT. = 644.49'
℄ LT. = 643.29'
℄ RT. = 642.49'
℄ RT. = 644.23'
℄ LT. = 646.17'
℄ LT. = 646.14'
℄ RT. = 645.63'
℄ RT. = 644.85'
650.36
650.11
650.53
650.91
651.55
651.80
652.31
652.53
652.83
653.33
653.81
654.41
654.95
655.57
656.20
656.79
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31042(04) SHEET NO. P19


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED
R/W
02-03-20
SECTION 11
T-1-S, R-8-E
SECTION 12
T-1-S, R-8-E
1480+00
1485+00
1490+00
1495+00
STA. 1461+21.67 TO
STA. 1505+06.82
CONST. FENCE STYLE
SWF (5BW)
SPECIAL DITCH
CURVE #2
PI STA= 1485+43.99
X= 2443301.5314
Y= 423664.1238
Δ= 39°36'51.17" RT
D= 3°00'00.00"
T= 687.86'
L= 1320.47'
R= 1909.86'
E= 120.09'
S= 7.6%
e. = 8.0%
V= 65 mph
CURVE #3
Sc=766.94
B.M. 83
STA. 1483+81.00 17.8' RT.
"X" ℄ S. CONC. HDWL. X-DRAIN
ELV. = 655.07
B.M. 84
STA. 1492+57.00 54' RT.
TOP DELINEATOR POST IN E. R/W FENCE
ELV. = 655.54
STR. X
STA. 1483+85.78
EXTEND EXIST. 8'X4'X40.00' LG. RCB
16.68' LG. LT. & 22.71' LG. RT.
EXISTING ℄ SURVEY
SPL DITCH LT
SPL DITCH RT
℄ LT. = 650.85'
℄ RT. = 647.50'
EXIST ℄ LT. = 650.25'
EXIST ℄ RT. = 649.23'
COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31042(04) SHEET NO. P20


OKLAHOMA DEPARTMENT OF TRANSPORTATION
PROPOSED
R/W
02-03-20
1495+00
1500+00
1505+00
SECTION 12
T-1-S, R-8-E
Metal Building
Dutch Furniture
Concrete Slab
Gravel Lot
Gravel Parking
Pasture
BM-85 Also CP C-15-400
STA. 1488+19.15 TO
STA. 1498+57.54
CONST. FENCE STYLE
SWF (5BW)
STA. 1481+21.67 TO
STA. 1505+08.82
CONST. FENCE STYLE
SWF (5BW)
STA. 1502+12.74 TO
STA. 1509+00.00
CONST. FENCE STYLE
SWF (5BW)
STA. 1507+00.00 TO
STA. 1509+00.00
CONST. FENCE STYLE
SWF (5BW)
STA. 1506+32.00
CONST. 26' ASPH. SL
RETURN AS DIKE
Both Fiber Optic Lines
Owned by AT&T
Communications
PRES.R/W
TOS/TOC
R/W
N47°46'09.51"E
3023.40'
4-W-PWR
Owner P.E.C.
2-W-PWR
Owner P.E.C.
2-Rol 4" pipe
Sta. 1504+01 27.3" PVC
Waterline Xing & City of
Coalgate
Willows
B.M. 85
STA. 1502+00.90 170.6' LT.
TOP 1" IRON PIN C.P. (7409)
ELV.= 656.83
EXISTING ℄ SURVEY
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COUNTY JOHNSTON HIGHWAY SH-48 STATE JOB NO. 31048(04) SHEET NO. P21

CULTURAL RESOURCES STUDIES

Oklahoma Department of Transportation
Environmental Programs Division, Office 405.521.3050 / Fax 405.522.5193

DATE: February 28, 2020

TO: Angela Aikman, Environmental Project Manager

FROM: Greg Maggard, Cultural Resources Program

SUBJECT: Coal and Johnston County Project JP 31047(04) 31053(04) 31054(04): Proposed Improvements to SH-48 beginning 1.0 Miles South of Coal C/L and Extending North 6.0 Miles.

The Oklahoma Department of Transportation (ODOT) completed Section 106 consultation on behalf of the Federal Highway Administration (FHWA) for proposed roadway and bridge improvements to beginning north of Wapanucka in Johnston County and extending north approximately 6.0 miles to Clarita in Coal County, Oklahoma; 311.76 acres were surveyed. ODOT determined the proposed project will have **no adverse effect on historic properties**.

During the investigation of the approximately 6.43-mile study area, three previously unrecorded archeological sites (34JN216, 34JN217, and 34CO217), six building complexes (containing a total of 52 buildings), one structure, and one object were identified and documented. Sites 34JN217 and 34CO217 are recommended **not eligible** for the National Register of Historic Places (NRHP). Each of the six building complexes, one structure, and one object are recommended as **not eligib**le for NRHP listing.

Site 34JN216 is a multicomponent site containing an early to mid-twentieth century component and a prehistoric component suggestive of both Late Archaic and Late Prehistoric occupations. The presence of diagnostic materials suggestive of multiple prehistoric occupations, combined with a relative high density of other prehistoric lithic materials suggests that Site 34JN216 may contain the potential to provide information significant to understanding the prehistory of the region. Based on this information and pursuant to 36 CFR 60.4, it is our assessment that the prehistoric component at site 34JN216 has the potential to provide additional information significant to understanding regional prehistory and is recommended **eligible** for NRHP listing under Criterion D.

The project study area crosses the eastern one-half of Site 34JN216. Based on the shovel test and artifact distribution data, ODOT recommended that these portions of the site have a low likelihood of containing intact prehistoric deposits. The portions of the site most likely to contain significant prehistoric deposit—the flat hilltop and western portion—are located outside of the project study area and will not be impacted by the proposed improvements to SH-48. Although Site 34JN216 is considered eligible for NRHP listing, the portions of the site within the project study area are unlikely to contain significant prehistoric deposits. As such, ODOT determined that the proposed project will have **no adverse effect** to Site 34JN216.

ODOT stipulated that an Avoidance Note requiring temporary fencing along the proposed right-of-way in

the area of the Site 34JN216 and prohibiting construction activities, equipment staging, or any other off-site facility or use within the boundaries of Site 34JN216 will be added to the final construction plans to avoid impacts to those portions of the site that contain the most significant potential to yield significant data. ODOT Cultural Resources Program staff will also be invited the project pre-work meeting to discuss these avoidance measures.

Consultation with the State Historic Preservation Office (File #0636-20) and the State Archaeologist (OAS FY20-547) resulted in concurrence with our assessment and determination. In addition to ODOT's avoidance measures, the State Archaeologist's office also recommended **archaeological monitoring of all construction activities in the vicinity of Site 34JN216**. The request for archaeological monitoring will be discussed at the project pre-work meeting and is pending review of the final construction plans.

Four existing bridges (Bridges 1-4) are located within the study area on SH-48. Bridge 1 (ODOT Structure No. 3520 0218X /NBI 15121) over Delaware Creek is a steel stringer/multi-beam structure constructed in 1960. This bridge was identified as a type listed in the Advisory Council on Historic Preservation (ACHP) Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

Bridge 2 (ODOT Structure No. 3520 0277X /NBI 14958) over Walnut Creek is a bridge-class, reinforced concrete box (RCB) culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

Bridge 3 (ODOT Structure No. 1516 0226X /NBI 14955) over Elm Creek is a bridge-class, reinforced concrete box (RCB) culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

Bridge 4 (ODOT Structure No. 1516 0300X /NBI 14959) over Tell Creek is a bridge-class, reinforced concrete box (RCB) culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

ODOT-CRP also consulted with the following tribes: Caddo Nation, Chickasaw Nation, Choctaw Nation, Osage Nation, Wichita and Affiliated Tribes.

An avoidance memo is included for historic properties and other cultural resources in the project vicinity.

GJM

Oklahoma Department of Transportation
Environmental Programs Division, Office 405.521.3050 / Fax 405.522.5193

DATE: February 28, 2020

TO: Project Management Division

FROM: Environmental Programs Division

SUBJECT: Coal and Johnston County: JP 31047(04) 31053(04) 31054(04); Proposed Improvements to SH-48 beginning 1.0 Miles South of Coal C/L and Extending North 6.0 Miles.

The National Register of Historic Places (NRHP)-eligible archaeological Site 34JN216 is located within and immediately adjacent to the proposed right-of-way of the referenced project. Impact to any portion of the site located outside of the project area must be avoided. In order to avoid effects to this property, the following notes should be added the plans to ensure that construction or construction-related activities do not impact Site 34JN216. Please have the following note added to a section of the project plans entitled "Environmental Mitigation Notes" per Policy Directive C-201-2D(2):

Temporary fencing will be used to demarcate the project R/W from Stations: 1194+70 LT to 1198+50 LT. No equipment staging, borrow, haul roads, spoil dumps, vehicle parking, or any other project related off-site facilities or use should occur beyond the fencing in this area during construction activities.

ODOT-Cultural Resources Program staff should be invited to all pre-work conferences to discuss these measures and the State Archaeologist's recommendation for archaeological monitoring between Stations 1194+70 LT to 1198+50 LT, per Policy Directive C-201-2E(1). If you have any questions, please contact the Cultural Resources Program at 405-325-7201.

In addition, the following locations outside the project area must not be utilized for borrow, equipment staging, haul roads, spoil dumps or any off-site project-related activity.

T1S R8E:
Section 24: NE ¼ of NW ¼ of NW ¼

T2S R8E:
Section 2: SE ¼ of NE ¼ of SE ¼

SAS

Oklahoma Historical Society *Founded May 27, 1893*
State Historic Preservation Office
Oklahoma History Center • 800 Nazih Zuhdi Drive • Oklahoma City, OK 73105-7917
(405) 521-6249 • Fax (405) 522-0816 • www.okhistory.org/shpo/shpom.htm

January 2, 2020

Mr. Scott Sundermeyer, Director
ODOT Cultural Resources Program
111 East Chesapeake, Rm. 102, OU
Norman, OK 73019

RE: File #0636-20; SH-48 Proposed Improvements Project in Coal and Johnston Counties, #JP-31047(04), #31053(04), & #31054(04) [Properties Listed on Attachment]

Dear Mr. Sundermeyer:

We have received and reviewed the documentation on the referenced project. We concur with your opinion that the structures numbered #1-51 on the attached list are not eligible for the National Register of Historic Places (NRHP). Further, we concur with your opinion that the two historic period archaeological sites, 34CO217 and 34JN217, and the historic-period component of 34JN216 are not eligible for the NRHP. We defer opinion on the NRHP eligibility and project effect of the prehistoric period component of 34JN216 to Dr. Kary Stackelbeck, State Archaeologist with the Oklahoma Archeological Survey (OAS).

Should the OAS conclude that there are no prehistoric archaeological sites or other types of "historic properties," as defined in 36 CFR Part 800.16(l), which are eligible for inclusion in the National Register of Historic Places within the project area and that such sites are unlikely to occur, we concur with that opinion.

The OAS may conclude that an additional on-site investigation of all or part of the project impact area is necessary to determine the presence of archaeological resources. In the event that such an investigation reveals the presence of prehistoric archaeological sites, we will defer to the judgment of the OAS concerning whether or not any of the resources should be considered "historic properties" under the Section 106 review process. If sites dating from the historic period are identified during the survey or are encountered during implementation of the project, additional assessments by the State Historic Preservation Office will be necessary.

If you have any questions, please contact Ms. Catharine M. Wood, Historical Archaeologist at (405) 521-6381. Please reference the above underlined file number when responding. Thank you.

Sincerely,

Lynda Ozan
Deputy State Historic
Preservation Officer

LO:pm

Attachment

cc: Dr. Kary Stackelbeck, State Archaeologist, Oklahoma Archeological Survey

FILE # LIST OF PROPERTIES

0636-20 SH-48 PROPOSED IMPROVEMENTS IN
COAL & JOHNSTON COUNTIES

STRUCTURES IN COAL COUNTY,
COALGATE VICINITY:
1-4. #1A/E/F/G HOUSE, TANKS, &
GARAGE, 16037 US-75
5. #1B GATEPOST, 16037 US-75
6. #1C GATEPOST, 16037 US-75
7. #1D LOAFING SHED, 16037 US-75
8. #1H SHED, 16037 US-75
CLARITA VICINITY:
9-23. #2A/B/C/D/E/F/G/H/I/J/K/L/
M/N/O HOUSE, SIGN, SHACK,
STORE, GREENHOUSES, SHEDS, &
WAREHOUSE, SEC11 T1S R8E
24. #2P SHED, SEC11 T1S R8E
25. OBJECT #3 HIGHWAY MARKER,
E1750 ROAD AT SH-48,
SEC13 T1S R8E
26-28. #4A/B/C HOUSE, STORM SHELTER,
& GARAGE, SEC13 T1S R8E
29. #4D STORM SHELTER, SEC13
T1S R8E
COALGATE VICINITY:
30-31. #5A+#5C, HOUSE & SHED,
17551 CR-3730
32. #5D SHED, 17551 CR-3730
33. #5E SHED, 17551 CR-3730
34. #5F SHED, 17551 CR-3730
CLARITA VICINITY:
35. #6A HOUSE, SEC13 T1S R8E
36. #6B CHICKEN COOP,
SEC13 T1S R8E
37-41. #7A/D/G/I/J HOUSE, SHEDS, &
FEEDER, SEC26 T1S R8E
42. #7B SHED, SEC26 T1S R8E
43. #7C STORM SHELTER, SEC26 T1S R8E
44. #7E SHED, SEC26 T1S R8E
45. #7F SHED, SEC26 T1S R8E
46. #7H BARN, SEC26 T1S R8E
47. #7K SHED, SEC26 T1S R8E
48. #7L OUTHOUSE, SEC26 T1S R8E
49. #7M SHED, SEC26 T1S R8E
50. #7N PUMP SHACK, SEC26 T1S R8E
STRUCTURE IN JOHNSTON COUNTY,
WAPANUCKA VICINITY:
51. #8 CORRAL, EAST OF SH-48,
SEC1 T2S R8E

Oklahoma Archeological Survey
THE UNIVERSITY OF OKLAHOMA

February 11, 2020

Scott Sundermeyer, Director
ODOT Cultural Resources Program
111 E. Chesapeake, Rm 102
University of Oklahoma
Norman, OK 73019-5111

Re: OAS FY20-547: FHWA Project JP 31047(04), 31053(04), and 31054(04): Proposed Improvements to SH-48
Legal Location: Sections 1, 11-14, 23-26, 35, and 36, T1S, R8E; and Sections 1, 2, 11, and 12, T2S, R8E
Johnston and Coal Counties

Dear Mr. Sundermeyer,

This agency received the submitted ODOT cultural resources survey report of investigations regarding the above-referenced undertaking for review and comment. From the information provided, I understand that Cox-McClain Environmental Consulting staff surveyed the 311.76-acre study area on November 6-15 and 27-28, 2018. Two historic archaeological sites (34JN217 and 34CO217), one multicomponent archaeological site (34JN216), and a variety of historic structures, bridges, and buildings were documented within the study area. ODOT recommends that all of the historic resources and historic archaeological sites 34JN217 and 34CO217 are not eligible for inclusion in the National Register of Historic Places (NRHP). Regarding the multicomponent archaeological site (34JN216), ODOT recommends that the site is NRHP-eligible based on his prehistoric component only.

From the information provided, I understand that the eastern and southern portions of the Site 34JN216 contain very limited potential to contribute to the site's significance, in part because the integrity of the deposits has been impacted by erosion and they have been overprinted by the late 19th-early 20th-century component. From your letter, I further understand "(t)he portions of the site most likely to contain significant prehistoric deposit—the flat hilltop and western portion—are located outside of the project study area and will not be impacted by the proposed improvements to SH-48." ODOT proposes to implement protective measures "requiring temporary fencing along the proposed right-of-way in the area of Site 34JN216 and prohibiting construction activities, equipment staging, or any other off-site facility or use within the boundaries of Site 34JN216... to avoid impacts to those portions of the site that contain the most significant potential to yield significant data." As such, ODOT recommends a determination of **No Adverse Effect** to Site 34JN216.

I concur with the findings and recommendations as they pertain to the prehistoric component of 34JN216. I further concur that the above-referenced proposed protective measures are appropriate. However, I recommend that construction activities in the vicinity of Site 34JN216 be monitored by a qualified archaeologist in the event that there is a post-review discovery that would otherwise require further consultation.

I defer opinion on the eligibility of 34JN217, 34CO217, and the historic component of 34JN216 and other historic resources to the Historical Archaeologist with the State Historic Preservation Office.

This review has been conducted in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. You must also have a letter from that office to document your consultation pursuant to Section 106 of the National Historic Preservation Act.

Sincerely,

Kary L. Stackelbeck, Ph.D.
State Archaeologist

cc: SHPO

OKLAHOMA DEPARTMENT OF TRANSPORTATION
CULTURAL RESOURCES PROGRAM
111 E. Chesapeake, Room 102, University of Oklahoma
Norman, OK 73019-5111
Phone: 405-325-7201/325-8665; FAX: 405-325-7604

December 5, 2019

Ms. Lynda Ozan
Deputy State Historic Preservation Officer
State Historic Preservation Office
Oklahoma Historical Society
800 Nazih Zuhdi Drive
Oklahoma City, Oklahoma 73105-7917

Dear Ms. Ozan:

Re: Johnston and Coal Counties Federal Highway Administration Project: JP 31047(04), 31053(04), and 31054(04); Proposed Improvements to SH-48 in Johnston and Coal Counties, Oklahoma; submittal for comment under Section 106 of the National Historic Preservation Act.

Attached is a cultural resources survey report for the referenced project prepared by Cox McClain Environmental Consulting. The proposed undertaking includes improvements to SH-48 beginning north of Wapanucka in Johnston County and extending north approximately 6.43 miles to Clarita in Coal County, Oklahoma. The existing SH-48 facility consists of two 12-foot driving lanes with 1-foot paved outside shoulders. The proposed improvements include the addition of 8-foot paved outside shoulders to the existing 12-foot driving lanes to obtain a 40-foot clear roadway and resurfacing of the existing roadway. In addition, four bridge structures (Bridges 1-4) are being considered for replacement or extension; 8-foot outside shoulders will be added to the bridges and bridge approaches. The area of potential effect as defined by 36 CFR 800.16(d) is the NEPA study area, which is described in the report.

Four bridges (Bridges 1-4) are located within the study area on SH-48. Bridge 1 (ODOT Structure No. 3520 0218X /NBI 15121) over Delaware Creek is a steel stringer/multi-beam structure constructed in 1960. This bridge was identified as a type listed in the Advisory Council on Historic Preservation (ACHP) Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

Bridge 2 (ODOT Structure No. 3520 0277X /NBI 14958) over Walnut Creek is a bridge-class, reinforced concrete box (RCB) culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

Bridge 3 (ODOT Structure No. 1516 0226X /NBI 14955) over Elm Creek is a bridge-class, reinforced concrete box (RCB) culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

Bridge 4 (ODOT Structure No. 1516 0300X /NBI 14959) over Tell Creek is a bridge-class, reinforced concrete box (RCB) culvert that was constructed in 1960. This bridge was identified as a type listed in the

ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

During the investigation of the approximately 6.43-mile study area, three previously unrecorded archeological sites (34JN216, 34JN217, and 34CO217), six building complexes (containing a total of 52 buildings), one structure, and one object were identified and documented.

Site 34JN216 is a multicomponent site containing a sparse early to mid-twentieth century artifact scatter and a relatively large scatter of prehistoric lithic materials overlooking Middle Delaware Creek. The site is concentrated on the top of a flat hill overlooking the creek, though the majority of artifacts were identified on the surface of the eroded eastern and southern slopes of the hill. A total of 31 shovel tests units were excavated to define the site boundary and document subsurface deposition; 9 shovel tests were positive for prehistoric cultural materials. No features were identified at the site.

All historic-era artifacts were located on the surface and are generally diagnostic to the late 19th- to early 20th-century. Review of historical maps and aerial images do not show any buildings or structures at the site location. In general, the historic-era component of the site is sparse, lacks features, and appears confined entirely to disturbed surface contexts. Based on these factors, it is unlikely that the historic component will yield any additional significant information.

Prehistoric artifacts identified at the site included diagnostic projectile points (Palmillas, Gary, Talco, and Fresno) suggestive of both Late Archaic and Late Prehistoric occupations at the site. The presence of diagnostic materials suggestive of multiple occupations, combined with a relative high density of other prehistoric lithic materials (including both chipped and ground stone artifacts) suggests that Site 34JN216 may contain the potential to provide additional information significant to understanding the prehistory of the region.

Although no features or intact deposits were identified, ODOT recognizes that intact, subsurface deposits may be present in some portions of the site. Based on the shovel test data and artifact distributions, the relatively flat hilltop and western portions of the site appear to be the most intact portions of the landform and represent the settings most likely to contain intact prehistoric features. The eroded eastern and southern slopes of the hill do not appear to retain enough intact sediment to have preserved features or subsurface deposits. The eastern and southern slopes have also been overprinted by the late 19th–early 20th-century component, which has further compromised the integrity of the prehistoric deposits in this portion of the site. Based on this information and pursuant to 36 CFR 60.4, it is our assessment that the prehistoric component at site 34JN216 has the potential to provide additional information significant to understanding regional prehistory and is, therefore, determined **eligible** for NRHP listing under Criterion D.

The project study area crosses the eroded eastern and southern sloped portions of the Site 34JN216. As noted above and based on the shovel test and artifact distribution data, these portions of the site have a low likelihood of containing intact prehistoric deposits. Additionally, these areas have been overprinted and mixed with the late 19th–early 20th-century component. The portions of the site most likely to contain significant prehistoric deposit—the flat hilltop and western portion—are located outside of the project study area and will not be impacted by the proposed improvements to SH-48. Although Site 34JN216 is considered eligible for NRHP listing, the portions of the site within the project study area are unlikely to contain significant prehistoric deposits. As such, it is our opinion that the proposed project will have **no adverse effect** to Site 34JN216.

In addition to not impacting the significant portions of the prehistoric components at Site 34JN216, a plan

note requiring temporary fencing along the proposed right-of-way in the area of the Site 34JN216 and prohibiting construction activities, equipment staging, or any other off-site facility or use within the boundaries of Site 34JN216 will be added to the final construction plans to avoid impacts to those portions of the site that contain the most significant potential to yield significant data. ODOT Cultural Resources Program staff will also attend the project pre-work meeting to discuss these avoidance measures.

Site 34JN217 represents the remains of a mid-20th-century barn. The site consists of a collapsed barn and associated metal corral. Shovel tests conducted across the site failed to document any cultural materials or subsurface features. The site lacks integrity, lacks significant cultural materials, possesses no known associations with significant persons or events, and has limited potential for providing data significant to local, regional, or national research. As such, and pursuant to 36 CFR 60.4, Site 34JN217 is determined **not eligible** for NRHP listing.

Site 34CO217 represents the remains of an early- to mid-20th-century occupation or trash dump. The site consists of a light scatter of historic-era artifacts. Thirteen shovel tests were excavated across the site, with two containing cultural materials. Artifacts in the shovel tests were confined to the upper 10 cm in each positive shovel test. No features were identified at the site. Site 34CO217 has limited integrity, lacks significant cultural materials, and has no known associations with persons or events of historical significance. As such, and pursuant to 36 CFR 60.4, Site 34JN217 is determined **not eligible** for NRHP listing.

Resources of the built environment within the study area include six building complexes (with a total of 52 resources), one stand-alone structure (a corral), and one object (1940 Highway Marker). In all, 27 pre-1974 resources were documented on Historic Preservation Resources Identification (HPRI) forms; an additional 27 resources constructed after 1973 were also included because of their association with documented pre-1974 buildings. The 27 resources documented on HPRI forms primarily include rural single-family dwellings and associated outbuildings and agricultural outbuildings. In general, the documented building complexes are common examples of residential, secondary, and agricultural buildings with few distinguishing characteristics. No associations were identified linking the buildings to events or persons of historic importance. The buildings do not embody distinctive characteristics of a type, period, or method of construction, nor do they represent the work of a master or possess high artistic value. All buildings, structures, and objects are recommended as **not eligible** for NRHP listing.

Pursuant to 36 CFR 800.4(d)(1), and based on the results of this study, it is our opinion that the project, as proposed, will have **no adverse effect** on historic properties. We respectfully request your concurrence or comments to our opinion.

If you have any questions regarding this project, please contact me at 325-7201.

Sincerely,

Scott Sundermeyer
Director, ODOT Cultural Resources Program

cc: State Archaeologist

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

December 9, 2019

Caddo Nation
Attn: Chairman Tamara Francis
P.O. Box 487
Binger, OK 73009

Dear Chairman Francis:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma;
JP# 31047(04), 31053(04), and 31054(04)

Pursuant to 36 CFR Part 800.2(c)(2), the Oklahoma Department of Transportation is consulting on behalf of the Federal Highway Administration regarding historic properties that may be affected by the following project.

County	Coal & Johnston	**Job Piece #**	31047(04) 31053(04) 31054(04)	**Anticipated Let Date**	2025
Project description	Roadway improvements on SH-48 from 1.0 mile south of the Coal County line extending north 6.0 miles, including bridge improvements over Delaware Creek, Walnut Creek, Elk Creek, & Tell Creek				

In accordance with 36 CFR Part 800.4, the proposed project area was surveyed for cultural resources in order to identify historic properties that may be affected by the undertaking. A copy of this report is enclosed.

This investigation identified and documented three previously unrecorded archaeological sites, six building complexes, one structure, and one object. Pursuant to 36 CFR 60.4, our assessment is that the prehistoric component at 34JN216 is eligible for National Register of Historic Places listing under Criterion D. However, the portions of the site within the project study area are unlikely to contain significant prehistoric deposits, and our opinion is that the proposed project will have no adverse effect to 34JN216. Our opinion is that the other cultural resources documented by the investigation are considered not eligible for the NRHP. Pursuant to 36 CFR 800.4(d)(1), and based on the results of this study, our opinion is that the project, as proposed, will have no adverse effect on historic properties.

If this undertaking may affect properties of religious and cultural significance to your tribe or tribal trust land, please notify me as soon as possible. In order to provide the most thorough consideration of these properties in the planning process, we appreciate receiving your response to this request within 30 days. Please rest assured that we will respect your wishes regarding the confidentiality of any information that you provide.

If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or by email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

cc: Tribal Historic Preservation Office

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

May 2, 2018

Caddo Nation
Attn: Chairman Tamara Francis
Post Office Box 487
Binger, OK 73009

Dear Chairman Francis:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma

Pursuant to 36 CFR Part 800.2(c)(2), the Oklahoma Department of Transportation is initiating consultation on behalf of the Federal Highway Administration regarding historic properties that may be affected by the following project.

County	Coal & Johnston	**Job Piece #**	31047(04) 31053(04) 31054(04)	**Anticipated Let Date**	2024
Project description	Roadway improvements on State Highway 48 from 1 mile south of the Coal County line extending north 6 miles, including improvements to bridges over Delaware Creek, Walnut Creek, Elk Creek, & Tell Creek				
Location	Sec 1 & 2 T2S R8E and Sec 1, 11, 12, 13, 14, 23, 24, 25, 26, 35, & 36 T1S R8E. See enclosed map.				
Additional information	This project is on a new alignment: ☐ yes ☒no This project will require new or temporary right of way: ☒ yes ☐no This project involves ground disturbance: ☒ yes ☐no				

If this undertaking may affect burials, cemeteries, or properties of religious and cultural significance to your tribe, please notify me as soon as possible. Likewise, if this undertaking occurs on land held in trust for the tribe and the tribe has 101(d)(2) status from the National Park Service, please make this office aware of the location of the trust property. In order to provide the most thorough consideration of these properties in the planning process, we appreciate receiving your response to this request within 30 days. Please rest assured that we will respect your wishes regarding the confidentiality of any information that you provide.

The proposed project area will be subject to a cultural resources survey. The goal of this survey is to make a reasonable and good faith effort to identify historic properties within the area of potential effect, in accordance with 36 CFR Part 800.4. The survey will be performed in consultation with the Oklahoma State Historic Preservation Office and other consulting parties as appropriate. You will be provided a copy of the cultural resources report upon its completion.

If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

cc: Tribal Historic Preservation Office

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

December 9, 2019

Chickasaw Nation
Attn: Governor Bill Anoatubby
P.O. Box 1548
Ada, OK 74821

Dear Governor Anoatubby:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma;
JP# 31047(04), 31053(04), and 31054(04)

Pursuant to 36 CFR Part 800.2(c)(2), the Oklahoma Department of Transportation is consulting on behalf of the Federal Highway Administration regarding historic properties that may be affected by the following project.

County	Coal & Johnston	**Job Piece #**	31047(04) 31053(04) 31054(04)	**Anticipated Let Date**	2025
Project description	Roadway improvements on SH-48 from 1.0 mile south of the Coal County line extending north 6.0 miles, including bridge improvements over Delaware Creek, Walnut Creek, Elk Creek, & Tell Creek				

In accordance with 36 CFR Part 800.4, the proposed project area was surveyed for cultural resources in order to identify historic properties that may be affected by the undertaking. A copy of this report is enclosed.

This investigation identified and documented three previously unrecorded archaeological sites, six building complexes, one structure, and one object. Pursuant to 36 CFR 60.4, our assessment is that the prehistoric component at 34JN216 is eligible for National Register of Historic Places listing under Criterion D. However, the portions of the site within the project study area are unlikely to contain significant prehistoric deposits, and our opinion is that the proposed project will have no adverse effect to 34JN216. Our opinion is that the other cultural resources documented by the investigation are considered not eligible for the NRHP. Pursuant to 36 CFR 800.4(d)(1), and based on the results of this study, our opinion is that the project, as proposed, will have no adverse effect on historic properties.

If this undertaking may affect properties of religious and cultural significance to your tribe or tribal trust land, please notify me as soon as possible. In order to provide the most thorough consideration of these properties in the planning process, we appreciate receiving your response to this request within 30 days. Please rest assured that we will respect your wishes regarding the confidentiality of any information that you provide.

If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or by email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

cc: Historic Preservation Office

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

May 2, 2018

Chickasaw Nation
Attn: Governor Bill Anoatubby
Post Office Box 1548
Ada, OK 74821

Dear Governor Anoatubby:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma

Pursuant to 36 CFR Part 800.2(c)(2), the Oklahoma Department of Transportation is initiating consultation on behalf of the Federal Highway Administration regarding historic properties that may be affected by the following project.

County	Coal & Johnston	**Job Piece #**	31047(04) 31053(04) 31054(04)	**Anticipated Let Date**	2024
Project description	Roadway improvements on State Highway 48 from 1 mile south of the Coal County line extending north 6 miles, including improvements to bridges over Delaware Creek, Walnut Creek, Elk Creek, & Tell Creek				
Location	Sec 1 & 2 T2S R8E and Sec 1, 11, 12, 13, 14, 23, 24, 25, 26, 35, & 36 T1S R8E. See enclosed map.				
Additional information	This project is on a new alignment: ☐ yes ☒no This project will require new or temporary right of way: ☒ yes ☐no This project involves ground disturbance: ☒ yes ☐no				

If this undertaking may affect burials, cemeteries, or properties of religious and cultural significance to your tribe, please notify me as soon as possible. Likewise, if this undertaking occurs on land held in trust for the tribe and the tribe has 101(d)(2) status from the National Park Service, please make this office aware of the location of the trust property. In order to provide the most thorough consideration of these properties in the planning process, we appreciate receiving your response to this request within 30 days. Please rest assured that we will respect your wishes regarding the confidentiality of any information that you provide.

The proposed project area will be subject to a cultural resources survey. The goal of this survey is to make a reasonable and good faith effort to identify historic properties within the area of potential effect, in accordance with 36 CFR Part 800.4. The survey will be performed in consultation with the Oklahoma State Historic Preservation Office and other consulting parties as appropriate. You will be provided a copy of the cultural resources report upon its completion.

If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

cc: Historic Preservation Office

Rhonda Fair

From: Madison D. Currie <mcurrie@choctawnation.com>
Sent: Tuesday, January 7, 2020 11:50 AM
To: Rhonda Fair
Cc: Lindsey Bilyeu
Subject: [External] Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma; JP# 31047(04), 31053(04), and 31054(04)

Halito Dr. Fair,

The Choctaw Nation of Oklahoma thanks you for the correspondence regarding the above referenced project. Coal and Johnston Counties, Oklahoma are within our area of historic interest. The Choctaw Nation Historic Preservation Department concurs with the finding of "no effect". However, we ask that work be stopped and our office contacted immediately in the event that Native American artifacts or human remains are encountered.

If you have any questions, please contact me.

Yakoke,

Maddie Danielle Currie
Compliance Review Officer
Historic Preservation Department
Choctaw Nation of Oklahoma
P.O. Box 1210
Durant, OK 74702
580-924-8280 ext. 2727

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

December 9, 2019

Choctaw Nation
Attn: Dr. Ian Thompson, THPO
Tribal Historic Preservation Office
P.O. Drawer 1210
Durant, OK 74702

Dear Dr. Thompson:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma; JP# 31047(04), 31053(04), and 31054(04)

Pursuant to 36 CFR Part 800.2(c)(2), the Oklahoma Department of Transportation is consulting on behalf of the Federal Highway Administration regarding historic properties that may be affected by the following project.

County	Coal & Johnston	**Job Piece #**	31047(04) 31053(04) 31054(04)	**Anticipated Let Date**	2025
Project description	Roadway improvements on SH-48 from 1.0 mile south of the Coal County line extending north 6.0 miles, including bridge improvements over Delaware Creek, Walnut Creek, Elk Creek, & Tell Creek				

In accordance with 36 CFR Part 800.4, the proposed project area was surveyed for cultural resources in order to identify historic properties that may be affected by the undertaking. A copy of this report is enclosed.

This investigation identified and documented three previously unrecorded archaeological sites, six building complexes, one structure, and one object. Pursuant to 36 CFR 60.4, our assessment is that the prehistoric component at 34JN216 is eligible for National Register of Historic Places listing under Criterion D. However, the portions of the site within the project study area are unlikely to contain significant prehistoric deposits, and our opinion is that the proposed project will have no adverse effect to 34JN216. Our opinion is that the other cultural resources documented by the investigation are considered not eligible for the NRHP. Pursuant to 36 CFR 800.4(d)(1), and based on the results of this study, our opinion is that the project, as proposed, will have no adverse effect on historic properties.

If this undertaking may affect properties of religious and cultural significance to your tribe or tribal trust land, please notify me as soon as possible. In order to provide the most thorough consideration of these properties in the planning process, we appreciate receiving your response to this request within 30 days. Please rest assured that we will respect your wishes regarding the confidentiality of any information that you provide.

If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or by email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

May 2, 2018

Choctaw Nation
Attn: Dr. Ian Thompson, THPO
Tribal Historic Preservation Office
Post Office Drawer 1210
Durant, OK 74702

Dear Dr. Thompson:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma

Pursuant to 36 CFR Part 800.2(c)(2), the Oklahoma Department of Transportation is initiating consultation on behalf of the Federal Highway Administration regarding historic properties that may be affected by the following project.

County	Coal & Johnston	**Job Piece #**	31047(04) 31053(04) 31054(04)	**Anticipated Let Date**	2024
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Location	Sec 1 & 2 T2S R8E and Sec 1, 11, 12, 13, 14, 23, 24, 25, 26, 35, & 36 T1S R8E. See enclosed map.				
Additional information	This project is on a new alignment: ☐ yes ☒no This project will require new or temporary right of way: ☒ yes ☐no This project involves ground disturbance: ☒ yes ☐no				

If this undertaking may affect burials, cemeteries, or properties of religious and cultural significance to your tribe, please notify me as soon as possible. Likewise, if this undertaking occurs on land held in trust for the tribe and the tribe has 101(d)(2) status from the National Park Service, please make this office aware of the location of the trust property. In order to provide the most thorough consideration of these properties in the planning process, we appreciate receiving your response to this request within 30 days. Please rest assured that we will respect your wishes regarding the confidentiality of any information that you provide.

The proposed project area will be subject to a cultural resources survey. The goal of this survey is to make a reasonable and good faith effort to identify historic properties within the area of potential effect, in accordance with 36 CFR Part 800.4. The survey will be performed in consultation with the Oklahoma State Historic Preservation Office and other consulting parties as appropriate. You will be provided a copy of the cultural resources report upon its completion.

If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

December 9, 2019

Osage Nation
Attn: Principal Chief Geoffrey Standing Bear
627 Grandview
Pawhuska, OK 74056

Dear Principal Chief Standing Bear:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma;
JP# 31047(04), 31053(04), and 31054(04)

Pursuant to 36 CFR Part 800.2(c)(2), the Oklahoma Department of Transportation is consulting on behalf of the Federal Highway Administration regarding historic properties that may be affected by the following project.

County	Coal & Johnston	**Job Piece #**	31047(04) 31053(04) 31054(04)	**Anticipated Let Date**	2025
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In accordance with 36 CFR Part 800.4, the proposed project area was surveyed for cultural resources in order to identify historic properties that may be affected by the undertaking. A copy of this report is enclosed.

This investigation identified and documented three previously unrecorded archaeological sites, six building complexes, one structure, and one object. Pursuant to 36 CFR 60.4, our assessment is that the prehistoric component at 34JN216 is eligible for National Register of Historic Places listing under Criterion D. However, the portions of the site within the project study area are unlikely to contain significant prehistoric deposits, and our opinion is that the proposed project will have no adverse effect to 34JN216. Our opinion is that the other cultural resources documented by the investigation are considered not eligible for the NRHP. Pursuant to 36 CFR 800.4(d)(1), and based on the results of this study, our opinion is that the project, as proposed, will have no adverse effect on historic properties.

If this undertaking may affect properties of religious and cultural significance to your tribe or tribal trust land, please notify me as soon as possible. In order to provide the most thorough consideration of these properties in the planning process, we appreciate receiving your response to this request within 30 days. Please rest assured that we will respect your wishes regarding the confidentiality of any information that you provide.

If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or by email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

cc: Tribal Historic Preservation Office

Osage Nation Historic Preservation Office

Date: June 19, 2018 **File: 1718-2725OK-5**

RE: ODOT, 31047(04), 31053(04), 31054(04), Roadway Improvements on SH-48 including improvements to bridges over Delaware Creek, Walnut Creek, Elk Creek, and Tell Creek, Coal and Johnston Counties, Oklahoma

Oklahoma Department of Transportation
Rhonda Fair
200 NE 21st Street, Room 3A8
Oklahoma City, OK 73105-3204

Dear Dr. Fair,

The Osage Nation Historic Preservation Office has received notification and accompanying information for the proposed project **ODOT, 31047(04), 31053(04), 31054(04), Roadway Improvements on SH-48 including improvements to bridges over Delaware Creek, Walnut Creek, Elk Creek, and Tell Creek, Coal and Johnston Counties, Oklahoma**. The northern terminus of the APE is located approximately one mile southeast of the Illinois-White River Trace. Expedient graves and temporary hunting camps may be located along this trail. I understand that the cultural resources survey is scheduled to be performed in the near future. This office looks forward to reviewing the final report.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S.C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d) (6) (A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources, which are protected under the NHPA, NEPA, the Native American Graves Protection and Repatriation Act, and Osage law, and appreciates your consideration of the provided information in the planning process.

Should you have any questions or need any additional information, please feel free to contact me at the number listed below. Thank you for consulting with the Osage Nation on this matter.

Sincerely,

James Munkres
Archaeologist

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

May 2, 2018

Osage Nation
Attn: Principal Chief Geoffrey Standing Bear
627 Grandview
Pawhuska, OK 74056

Dear Principal Chief Standing Bear:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma

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Additional information	This project is on a new alignment: ☐ yes ☒no This project will require new or temporary right of way: ☒ yes ☐no This project involves ground disturbance: ☒ yes ☐no				

If this undertaking may affect burials, cemeteries, or properties of religious and cultural significance to your tribe, please notify me as soon as possible. Likewise, if this undertaking occurs on land held in trust for the tribe and the tribe has 101(d)(2) status from the National Park Service, please make this office aware of the location of the trust property. In order to provide the most thorough consideration of these properties in the planning process, we appreciate receiving your response to this request within 30 days. Please rest assured that we will respect your wishes regarding the confidentiality of any information that you provide.

The proposed project area will be subject to a cultural resources survey. The goal of this survey is to make a reasonable and good faith effort to identify historic properties within the area of potential effect, in accordance with 36 CFR Part 800.4. The survey will be performed in consultation with the Oklahoma State Historic Preservation Office and other consulting parties as appropriate. You will be provided a copy of the cultural resources report upon its completion.

If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

cc: Tribal Historic Preservation Office

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

December 9, 2019

Wichita & Affiliated Tribes
Attn: President Terri Parton
P.O. Box 729
Anadarko, OK 73005

Dear President Parton:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma;
JP# 31047(04), 31053(04), and 31054(04)

Pursuant to 36 CFR Part 800.2(c)(2), the Oklahoma Department of Transportation is consulting on behalf of the Federal Highway Administration regarding historic properties that may be affected by the following project.

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If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or by email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

cc: Mary Botone, THPO

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Tribal Coordination
200 N.E. 21st Street, Room 3A8
Oklahoma City, OK 73105-3204
www.odot.org

May 2, 2018

Wichita and Affiliated Tribes
Attn: President Terri Parton
Post Office Box 729
Anadarko, OK 73005

Dear President Parton:

Re: Section 106 consultation for proposed Federal-Aid undertaking in Coal and Johnston Counties, Oklahoma

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Additional information	This project is on a new alignment: ☐ yes ☒no This project will require new or temporary right of way: ☒ yes ☐no This project involves ground disturbance: ☒ yes ☐no				

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If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.521.3632 or email at rfair@odot.org.

Sincerely,

Rhonda S. Fair, Ph.D.
Director
ODOT Tribal Coordination

cc: Gary McAdams, THPO

Oklahoma Department of Transportation Project: JP 314047(04); Proposed improvements to the existing SH-48 roadway from north of Wapanucka in Johnston County and extending north approximately 6.43 miles (10.34 kilometers) to Clarita in Coal County. Properties documented and submitted for comment.

Resource	Date	NRHP Determination	Description	Address
Single-family dwelling / Building 1A	c. 1970	Not Eligible	Single-story rectangular plan Ranch-style house.	East side of SH-48 approximately 1477 feet north of E1750 Rd.
Gate post / Object 1B	c. 1938	Not Eligible	Gatepost of sandstone masonry construction.	East side of SH-48 approximately 1477 feet north of E1750 Rd.
Gate post / Object 1C	c. 1938	Not Eligible	Gatepost of sandstone masonry construction.	East side of SH-48 approximately 1477 feet north of E1750 Rd.
Barn/ Building 1D	c. 1970	Not Eligible	Single story loafing shed.	East side of SH-48 approximately 1477 feet north of E1750 Rd.
Shed / Building 1H	c. 1970	Not Eligible	Single story shed.	East side of SH-48 approximately 1477 feet north of E1750 Rd.
House / Building 2A	c. 1938	Not Eligible	Single story T-plan Ranch-style house.	Rt. 5 Box 980, Clarita, OK
Shed / Building 2P	c. 1938	Not Eligible	Single story shed.	Rt. 5 Box 980, Clarita, OK
Highway marker / Object 3	1940	Not Eligible	Marker of cast concrete construction.	E1750 Rd. at SH-48, southeast corner
Garage / Building 4C	c. 1960	Not Eligible	Single story garage on concrete slab.	Rt. 5 Box 960, Clarita, OK
Storm shelter / Building 4D	c. 1966	Not Eligible	Partially below-ground storm shelter of concrete construction.	Rt. 5 Box 960, Clarita, OK
Shed / Building 5C	c. 1970	Not Eligible	Single story shed on slab.	17551 CR 3730, Coalgate, OK
Shed / Building 5D	c. 1966	Not Eligible	Single story shed on slab.	17551 CR 3730, Coalgate, OK
Barn / Building 5E	c. 1966	Not Eligible	Single story shed.	17551 CR 3730, Coalgate, OK
Barn / Building 5F	c. 1970	Not Eligible	Single story shed.	17551 CR 3730, Coalgate, OK
House / Building 6A	c. 1933	Not Eligible	Single story rectangular plan Craftsman-style house.	Rt. 5 Box 950, Clarita, OK
Chicken coop / Building 6B	c. 1933	Not Eligible	Rectangular plan chicken coop.	Rt. 5 Box 950, Clarita, OK
House / Building 7A	c. 1945	Not Eligible	Single story rectangular plan Minimal Traditional style house.	Rt. 5 Box 988, Clarita, OK
Shed / Building 7B	c. 1945	Not Eligible	Single story shed.	Rt. 5 Box 988, Clarita, OK
Storm shelter / Building 7C	c. 1945	Not Eligible	Substantially below-ground storm shelter of concrete construction.	Rt. 5 Box 988, Clarita, OK
Shed / Building 7E	c. 1945	Not Eligible	Single story shed.	Rt. 5 Box 988, Clarita, OK
Barn / Building 7F	c. 1945	Not Eligible	Double height barn.	Rt. 5 Box 988, Clarita, OK
Barn / Building 7H	c. 1945	Not Eligible	Two story barn.	Rt. 5 Box 988, Clarita, OK
Shed / Building 7K	c. 1955	Not Eligible	Single story shed.	Rt. 5 Box 988, Clarita, OK
Outhouse / Building 7L	c. 1945	Not Eligible	Square-plan outhouse.	Rt. 5 Box 988, Clarita, OK
Shed / Building 7M	c. 1955	Not Eligible	Single bay shed.	Rt. 5 Box 988, Clarita, OK

Oklahoma Department of Transportation Project: JP 314047(04); Proposed improvements to the existing SH-48 roadway from north of Wapanucka in Johnston County and extending north approximately 6.43 miles (10.34 kilometers) to Clarita in Coal County. Properties documented and submitted for comment.

Resource	Date	NRHP Determination	Description	Address
Pump shack / Building 7N	c. 1955	Not Eligible	Quarter-height well pump shack.	Rt. 5 Box 988, Clarita, OK
Corral / Structure 8 (34JN217)	c. 1970	Not Eligible	L-plan corral of tubular metal construction.	East side SH-48, approximately 286 meters north of Kirby Lane
Archeological Site 34JN216		Historic Component is Not Eligible Prehistoric Component is Eligible	Multicomponent site; early to mid-twentieth century artifact scatter and prehistoric activity area	West side of SH-48, 30 meters north of SH-48 and Kirby Lane intersection
Archeological Site 34JN217 (Structure 8)		Not Eligible	Collapsed mid-twentieth century barn	East side of SH-48, 286 meters north of Kirby Lane
Archeological Site 34CO217		Not Eligible	Early to mid-twentieth century artifact scatter	West side of SH-48, 488 meters south of SH-48 and E1750 Road Intersection

OKLAHOMA DEPARTMENT OF TRANSPORTATION

CULTURAL RESOURCES SURVEY REPORT

JP 31047(04) 31053(04) 31054(04): Proposed Improvements to SH-48 in Johnston and Coal Counties, Oklahoma

Prepared By:
Hannah Pottage, David Sandrock, Haley Rush, Nicole Cerimele, Marcus Huerta, and Ann Keen

Principal Investigator(s):
Haley Rush and David Sandrock (Archeology)
Ann Keen (History)

April 24, 2019

Lead Federal Agency: Oklahoma Department of Transportation

County:	Johnston and Coal
J/P#:	31047(04) 31053(04) 31054(04)
Surveyed by:	Hannah Pottage, David Sandrock, Edgar Vasquez, Tom Barrett, Andrew Bryant, Craig Cosby, Austin Blase, Haley Rush, Brett Lang, Ann Keen, and Marcus Huerta
Survey Date:	November 6, 2018
Prime Consultant:	Cox|McLain Environmental Consulting, Inc.

MANAGEMENT SUMMARY:
The Oklahoma Department of Transportation (ODOT) proposes roadway improvements to State Highway (SH) 48 beginning north of Wapanucka in Johnston County and extending north to Clarita in Coal County, Oklahoma. The project requires environmental studies as part of compliance with National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) regulations that apply to all ODOT projects funded by the Federal Highway Administration (FWHA). Cox|McLain was contracted by ODOT to perform a cultural resources study for the NEPA study area.

The NEPA study area is 6.43 miles (10.34 kilometers) long and 400 feet (122 meters) wide and covers 311.76 acres (126.16 hectares).

Cultural resources fieldwork was conducted October 23 to November 1, November 6 to 15, and November 27 to 28, 2019. Field studies included an archeological survey and a built environment survey. All field studies conformed to the standards in the ODOT Cultural Resources Program (CRP) Manual (October 2017). For archeology the survey consisted of four survey transects (i.e., two on each side of the roadway) and shovel test units excavated every 30 meters (98 feet). Additional shovel test units were excavated at newly recorded sites 34JN216, 34JN217, and 34CO217.

Site 34JN216 is a multicomponent site with an early to mid-twentieth-century artifact scatter and a prehistoric activity area. The historic component of the site is recommended not eligible for listing on the National Register of Historic Places (NRHP). The prehistoric portion of the site is recommended eligible for listing on the NRHP under Criterion D. However, the portion of the site within the NEPA study area is eroded and sloped and has a low likelihood of containing intact deposits. Therefore, the proposed project will have no adverse effect on the portion of the site with the most potential to contain significant prehistoric cultural deposits.

Site 34JN217 is the remains of a collapsed mid-twentieth-century barn and associated features. This site is recommended not eligible for listing on the NRHP.

Site 34CO217 is an early to mid-twentieth-century artifact scatter. This site is recommended not eligible for listing on the NRHP.

The results of the Built Environment Historic Resources Survey include six building complexes (with a total of 52 resources), one roadside object, and one stand-alone structure.

All built environment resources are recommended not eligible for listing on the NRHP.

1. PROJECT DESCRIPTION:

ODOT proposes roadway improvements on SH-48 beginning north of Wapanucka in Johnston County and extending north to Clarita in Coal County, Oklahoma. The proposed project consists of the addition of 8-foot-wide paved asphalt shoulders to the existing 12-foot-wide driving lanes. The project area will extend along 6.43 miles (10.34 kilometers) of SH-48.

Four bridges are located within the NEPA study area: SH-48 over Delaware Creek (ODOT Structure No. 3520 0218X /NBI 15121), SH-48 over Walnut Creek (ODOT Structure No. 3520 0277X /NBI 14958), SH-48 over Elm Creek (ODOT Structure No. 1516 0226X /NBI 14955), and SH-48 over Tell Creek (ODOT Structure No. 1516 0300X /NBI 14959). The proposed work would improve the bridges to match the improvements to the roadway. These bridges are summarized below.

The SH-48 bridge over Delaware Creek (ODOT Structure No. 3520 0218X /NBI 15121) is a steel stringer/multi-beam or girder that was constructed in 1960. This bridge was identified as a type listed in the Advisory Council on Historic Preservation (ACHP) Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Walnut Creek (ODOT Structure No. 3520 0277X /NBI 14958) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Elm Creek (ODOT Structure No. 1516 0226X /NBI 14955) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Tell Creek (ODOT Structure No. 1516 0300X /NBI 14959) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The NEPA study area is approximately 6.43 miles (10.34 kilometers) long. The southern terminus of the NEPA study area is approximately 1.83 miles (2.9 kilometers) north of SH-7 in Johnston County (roughly 1 mile south of the Johnston-Coal county line), and the northern terminus is just east of the town of Clarita. The NEPA study area is 200 feet (61 meters) wide on each side of the existing SH-48 center line and covers approximately 311.76 acres (126.16 hectares).

Legal Location:	Sections 1, 11, 12, 13, 14, 23, 24, 25, 26, 35, 36 T1S R8E Sections 1, 2, 11, 12 TS2 R8E
U.S.G.S. Quadrangle:	Wapanucka North (1969)

2. ENVIRONMENTAL SETTING:

Geomorphic/Physiographic Region:

The NEPA study area is mapped within the Arbuckle Plains, which is characterized as a landscape with rolling hills and plains with many spring-fed streams and scattered sinkholes and caves. The region is predominantly drained by Clear Boggy Creek and its associated tributaries.

Geology and Soils:

According to U.S. Geological Survey (USGS) and Natural Resources Conservation Service (NRCS) data, the majority of the NEPA study area is underlain by Mississippian-age Goddard Shale and Pleistocene-age Terrace Deposits; a small portion of the southern end of the study area is underlain by Pennsylvanian-age Atoka Formation

and Holocene-age Alluvium (USGS 2018a). Flooded soils include Verdigris silty clay loam on 0 to 1 percent slopes, Gowton loam on 0 to 1 percent slopes, Kaufman clay on 0 to 1 percent slopes, Dela and Wynona soils on 0 to 1 percent slopes, and Wynona silty clay loam on 0 to 1 percent slopes. Other soils include Steedman clay loam on 5 to 15 percent slopes, Wilson silt loam on 0 to 1 percent slopes, Wilson silt loam on 0 to 1 percent slopes, Steedman-Coweta complex on 2 to 20 percent slopes, and Burleson clay on 0 to 1 and 1 to 3 percent slopes (NRCS 2018).

Vegetation:

The NEPA study area is mapped in the Arbuckle Uplift ecoregion, which is composed of tallgrass prairie and cross timbers on rolling plains and hills. Today, the Arbuckle Uplift is used mostly for grassland and rangeland, and cropland is generally limited to floodplains.

According to the USGS Land Cover map, the study area is almost entirely agricultural vegetation. A small area of introduced/semi-natural vegetation is also present, and small scattered forested areas are found throughout the study area (USGS 2018b). Review of Google Earth™ imagery dating to 2018 corroborates this information and shows that wooded areas are confined to drainage locations. Agricultural fields with some pastureland are noted throughout the study area. Sodded right-of-way is also present throughout the study area.

Various disturbances are present throughout the study area, including agricultural and residential development as well as roadway, drainage, and driveway construction and maintenance. Seven domestic occupations, one agricultural complex, one commercial structure, and one cell tower are noted within the study area.

Surface Visibility:

XXX	0-25%	Pastures and woodlands, sodded right-of-way
XXX	25-50%	Agricultural fields
_____	50-75%	
_____	75-100%	

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3. CULTURAL BACKGROUND:

Background Research:

XXX State Site Files at Oklahoma Archeological Survey (OAS)

XXX SHPO NRHP and DOE, and OLI Files

According to a review of OAS records there are no previously recorded sites within the NEPA study area, and only one previously recorded site (34CO69h) is located within one mile of the study area. Additionally, an archeological data recovery project (34CO29) was conducted within five miles of the study area.

In 2011, an archeological data recovery project was conducted at ODOT's behest at 34CO29, a prehistoric site in Coal County, Oklahoma. Site 34CO29 is roughly 5 miles north of the NEPA study area on an unnamed tributary of Clear Boggy Creek. Deposits at the multicomponent site ranged from the Late Archaic through the Woodland and Late Prehistoric periods. Artifacts found at the site included 22,462 flaked stone artifacts, 1 ground stone artifact, 1 apparent hammerstone, 47 faunal bone specimens, and 5 possibly modified fossils; only one intact feature was discovered at the site. Based on the findings at 34CO29, the site was determined eligible for inclusion on the NRHP under Criterion D due to its potential to provide additional information on Woodland occupations of the area.

Site 34CO65h is a Historic-age farm complex first recorded by Jeff Homburg in 1980. The site consists of a relatively undisturbed standing house, a nearby well, and a scatter of Historic-age artifacts. The house is wired for electricity, and its foundation is composed of sandstone blocks and brick and mortar. Artifacts from the site include glass bottle fragments, a tin can, and a plastic molded figurine. The location of the structure is marked on the 1899 and 1900 Atoka 30' topographic maps and the 1969 Wapanucka North 7.5' topographic map. The site is unassessed for NRHP eligibility.

A review of historic General Land Office (GLO) maps, historic aerial photographs, topographic maps, highway maps, and other supplementary map resources was undertaken to determine how the NEPA study area has been utilized over time. Sources include Google Earth™, the Nationwide Environmental Title Research (NETR) website, and the USGS Historical Topographic Map Explorer (NETR 2018; USGS 2018c).

There have been significant changes to the study area between 1895 and 1969, as indicated on the GLO and topographic maps from this period. The 1895 GLO and the 1899 and 1900 topographic maps do not show the SH-48 roadway, indicating that it was not constructed prior to 1900. Six roads crossing the study area are mapped on the 1895 GLO; one in the SE ¼ of the NE ¼ of Section 14, two in the SE ¼ of Section 14, one in the SE ¼ of Section 23, one in the SE ¼ of Section 35, and one in the NW ¼ of Section 1. The 1895 GLO map shows a roadway in the NW of Section 1 that is not shown on the subsequent 1899 and 1900 maps, indicating that it may have been destroyed or fallen out of use. Three roads shown on the 1895 map within the study area are also shown on the 1899 and 1900 topographic maps: one road each in Sections 14, 24, and 35. Strangely, two additional roads represented on the 1895 and 1900 maps are not shown on the 1899 map; these two roads are both located in Section 14. Finally, three roads were constructed in the study area between 1899 and 1900, two of which are mapped in Section 26 and one in Section 35. None of these roads are shown on any maps from the 1969 topographic map onwards.

There are two structures mapped within the study area on the 1895 GLO map. The first is indicated in the SE/SE of Section 14, and the second in the SW ¼ of NW ¼ of Section 24. The structure in Section 14 does not appear on the 1899 map, nor does it appear on any subsequent maps, indicating that it was likely demolished between 1895 and 1899. The structure in Section 24 appears on the 1899 and 1900 topographic maps and is marked on the 1969 map as an unoccupied structure. Aerial photos indicate that the structure may have been demolished between 2006 and 2010. One structure was constructed between 1895 and 1899 in the NE ¼ of the SE ¼ of Section 26 and is indicated on the 1899 and 1900 topographic maps. Two structures constructed between 1899 and 1900 are marked on the 1900 map in the NE ¼ of the NE ¼ of Section 23. None of these three structures appear on the subsequent 1969 topographic map, indicating that they were demolished between 1900 and 1969. The Moore cemetery is mapped 330 feet or 100 meters west of the project area (SW ¼ of the SE ¼ of the SE 1/4); FindAGrave.com (2018) indicates that one of the earliest graves present dates to 1897.

The earliest available topographic map showing the current alignment of SH-48 dates to 1957; however, the scale of this map is too large, and it does not show whether any structures existed around SH-48 at the time. The earliest topographic map that depicts structures (1969) shows seven structures. Of these, three structures marked on the 1969 topographic map are still extant and are mapped in the NW/NW and SW/SW of Section 13 and the NE ¼ of the NE ¼ of Section 26. Two additional extant structures may exist today, although their current locations are slightly off from their 1969 mapped locations. One is found in the NW/SW of Section 12 and the other in the NW ¼ of NW ¼ of Section 13. Two structures marked on the 1969 map have been demolished. The first, also indicated on the 1899 and 1900 maps in the SW/NW of Section 24, was demolished between 2006 and 2010, and the second is located in the NE ¼ of NE ¼ of Section 23 and was demolished at some point between 1969 and 1995.

Aerial imagery indicates that the project area is mostly utilized for agricultural purposes, although isolated residences, a commercial building, a cell tower, and occasional pastures are also present. The earliest aerial photographs indicate that, other than the construction of a few additional isolated residences, land use within and around the study area has remained relatively unchanged since 1995, and most of the agricultural fields, roads, and driveways are in their present locations. Of note is one structure seen on the 1995 aerial that is unmarked on any topographic maps. The structure was apparently abandoned at some point between 1995 and 2003, although it appears to be partially standing. This structure was recorded during the survey as site 34JN217.

Review of the ODOT state highway map archive indicates that the portion of SH-48 between Tupelo and Clarita first appears in 1941 as an untreated gravel road. This is consistent with the 1938 archival document Plan and Profile of Proposed State Highway Federal Aid Secondary Project No. F.A.S. 458-B(1) & F.A.S. 458-A(2) (1938), which details the specifications for the highway's construction. The roadway was improved in 1940.

Four existing bridges are within the NEPA study area.

The SH-48 bridge over Delaware Creek (ODOT Structure No. 3520 0218X /NBI 15121) is a steel stringer/multi-beam or girder that was constructed in 1960. This bridge was identified as a type listed in the Advisory Council on Historic Preservation (ACHP) Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Walnut Creek (ODOT Structure No. 3520 0277X /NBI 14958) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Elm Creek (ODOT Structure No. 1516 0226X /NBI 14955) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Tell Creek (ODOT Structure No. 1516 0300X /NBI 14959) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The review of the Oklahoma SHPO database for NRHP and DOE properties and the Oklahoma OLI did not indicate that any NRHP-listed or eligible properties are present within the NEPA study area.

Based on the presence of sites near creeks and drainages in the wider area, there is high potential for prehistoric archeological material to occur within the study area, particularly around Delaware Creek and the Walnut Branch of Delaware Creek in the southern end of the study area, and around seven unnamed drainage crossings throughout the study area. Based on reviewed historic topographic maps and aerial photographs, there is moderate potential for historic archeological sites with associated structures or buildings or remnants adjacent to or within the NEPA study area.

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4. METHODOLOGY:

Field Investigation Methodology: (must outline STP interval used in the project area and on sites)

The NEPA study area was subjected to an archeological pedestrian survey that included the excavation of shovel tests. For the archeological pedestrian survey, transects were set at a distance not to exceed 30 meters apart with two transects along each side of the existing roadway. Shovel tests were typically excavated at 30-meter intervals along transects. Particular attention was paid to the areas with the highest archeological potential: the areas surrounding the unnamed drainages and the areas near Elm Creek that cross the existing SH-48 roadway. Holocene-age Alluvium mapped in these areas has the potential to contain buried stable soils or paleosols that could contain buried prehistoric sites. Survey and shovel testing in these areas were supplemented with the excavation of bucket auger units. Auger test units were planned at each drainage, Any recorded historic archeological sites that have intact features required deed research at the Coal County Clerk office; this deed research is detailed in the results section below.

A reconnaissance survey of the built environment was conducted for resources that are at least 45 years of age or older. All identified resources of the built environment were documented on the Oklahoma SHPO Historic Preservation Resource Identification form (HPRI).

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5. RESULTS OF INVESTIGATION:

_____ No archeological sites or buildings recorded in study area.

XXX Resources recorded in study area assessed as **not eligible** for the NRHP. Forms being submitted for agency review.

XXX Oklahoma Archeological Site Survey Form(s) for State Archeologist files.

XXX Historic Preservation Resource Identification Form(s) for SHPO files.

_____ Oklahoma Bridge Survey and Inventory Form.

XXX **NRHP-eligible properties** recorded in study area.

Forms being submitted for agency review.

XXX Oklahoma Archeological Site Survey Form(s) for State Archeologist files.

_____ Historic Preservation Resource Identification Form(s) for SHPO files.

_____ Oklahoma Bridge Survey and Inventory Form.

_____ Archeological sites requiring further assessment (i.e. evaluative testing)

COMMENTS AND DESCRIPTION OF FINDINGS:

Three new archeological sites were recorded during this investigation: 34JN216, 34JN217, and 34CO217 (detailed below).

Much of the NEPA study area has been utilized for agricultural practices for many decades, and sparse rural domestic development is present throughout the study area. The dominant land use within the NEPA study area is open cattle pastures containing short grasses and sparse tree cover. The cattle pastures were typically on relatively level, grassy uplands. Observed disturbances in the NEPA study area include the construction and maintenance of SH-48 and its right-of-way, construction of stock ponds, buried and overhead utility line installations, residential development, limited industrial development, and natural erosion.

Ground visibility was typically low (approximately 0 to 25 percent) within much of the NEPA study area, primarily in pastureland and wooded areas near drainages where short and high grasses and leaf litter obscured most of the ground surface. In recently tilled agricultural fields and eroded hillslopes, ground surface visibility was typically higher (approximately 40 to 80 percent).

The 400-foot-wide NEPA study area included the existing roadway, utility, and roadside ditch corridor along with agricultural fields, residential development, and limited industrial development on both the east and west sides of SH-48. Areas outside the existing right-of-way had only limited disturbance and had a high potential to contain archeological materials; therefore, four transects were surveyed, two transects on each side of SH-48. Along each transect, shovel tests were excavated at intervals of 30 meters; locations were selected based on ground surface visibility, previous disturbances, and probability for buried archeological deposits.

Observed soil conditions throughout the NEPA study area were relatively consistent; typical shovel test units contained friable, dark brown to brown to grayish-yellowish brown (10YR 3/4 to 10YR 4/2) silty clay loam with few rootlets, roots, gravels (10 to 70%) from 0 to between 20 and 50 centimeters below the ground surface. These sediments were underlain by firm to very firm brownish-black to yellowish-brown (10YR 3/1 to 10YR 5/6) clay or clay loam with gravels and occasional redox mottling. Shovel test depths varied depending on the geographic settings (i.e., uplands, flat agricultural fields, etc.), but soil colors remained relatively consistent. Shovel test units were terminated at bedrock, heavy roots, subsoil, and/or very compact soils. More

detailed information is provided below about shovel tests units excavated at sites.

In addition to shovel tests, bucket auger units were excavated to determine whether a buried paleosol or A horizon was present. The locations of bucket auger units are detailed below, in order from south to north in the NEPA study area.

Along the north and south banks of Delaware Creek, eight bucket auger units were excavated. North of Delaware Creek, east and west of SH-48, bucket auger units contained brownish-black (7.5YR 3/2) clay from 0 centimeters to 35 centimeters below surface. These sediments were underlain by brownish-black (5YR 5/6) clay mottled with brown (7.5YR 4/3 and 7/5YR 4/6) clay between 35 and 65 centimeters below ground surface. These sediments were underlain by dark brown (7.5YR 3/3) compact sandy clay from 65 to 80 centimeter below ground surface. These bucket auger units were terminated at very compact clay. Deposits on the south bank of the creek, east and west of SH-48, contained brownish-black (7.5YR 3/2) clay from 0 to 30 centimeters below ground surface underlain by dark brown (7.5YR 3/3) clay 30 to 65 centimeters below ground surface. These sediments were underlain by grayish-brown (7.5YR 4/2) sandy clay loam mottled with brown (7.5YR 4/6) clay from 65 to 95 centimeters below surface. These sediments were underlain by brown (7.5YR 4/3) sandy loam extending to 140 centimeters below the surface. These bucket auger units were terminated due to reaching the maximum effective depth of the bucket auger (ca. 150 cm). No buried paleosol, A horizons, or cultural materials were encountered in any of the bucket auger test units.

Along the north and south banks of Walnut Branch, eight bucket auger units were excavated. North of Walnut Branch, east and west of SH-48, bucket auger units contained brownish-black (7.5YR 3/2) clay from 0 centimeters to between 30 and 55 centimeters below surface, underlain by brownish-black (7.5YR 3/2) clay mottled with brown (7.5YR 4/6) clay extending to 135 centimeters below ground surface. These bucket auger units were terminated at very compact clay or at the limit of the effective depth of the bucket auger. Deposits on the south bank of the creek, east and west of SH-48, contained brownish-black (7.5YR 3/2) clay from 0 to 30 or 35 centimeters below ground surface, underlain by dark brown (7.5YR 3/3) clay 135 centimeters below ground surface. These bucket auger units were terminated due very dense, compact clay. No buried paleosol, A horizons, or cultural materials were encountered in any of the bucket auger test units.

Along the north bank of an unnamed drainage located roughly 120 meters south of E1770 Road, four bucket auger units were excavated. North of the unnamed drainage, east and west of SH-48, bucket auger units contained grayish-yellow brown (10YR 4/2) clay from 0 centimeters to 50 or 60 centimeters below surface, underlain by brownish-black (10YR 2/2) dense clay extending 70 to 90 centimeters below ground surface. These bucket auger units were terminated at very compact clay or at dense gravels. Bucket auger units south of the drainage were not excavated due to lack of soil deposition, slope, and gravels at surface.

Along the north and south banks of Elm Creek, five bucket auger units were excavated. North of the creek, east and west of SH-48, bucket auger units contained brownish-black (10YR 2/2) clay from 0 centimeters to 50 or 60 centimeters below surface, underlain by grayish-yellow brown (10YR 4/2) dense clay extending 65 to 80 centimeters below ground surface. These bucket auger units were terminated at very compact clay. Only one bucket auger unit was excavated south of the drainage; this unit also revealed brownish-black (10YR 2/2) clay from 0 centimeters to 20 centimeters below surface, underlain by grayish-yellow brown (10YR 4/2) dense clay extending 70 centimeters below ground surface. This bucket auger unit was terminated at very dense clay. No auger units were placed in the south bank of the drainage (east of SH-48), as the bank had been severely eroded and disturbed.

Along the north bank of an unnamed drainage, two bucket auger units were excavated. East and west of SH-48, both auger units revealed brownish-black (7.5YR 3/2) clay mottled with yellowish-gray (2.5Y 5/4) clay with more than 40 percent gravels; these sediments extended 35 to 40 centimeters below the ground surface. Bucket auger units were terminated due to the high percentage of gravel. Bucket auger units were not excavated south of the drainage due to steep slopes and lack of soil deposition.

Along the north and south banks of Tell Creek, seven bucket auger units were excavated. North of Tell Creek, east and west of SH-48, bucket auger units contained brownish-black (10YR 2/2) clay from 0 centimeters to 50 or 60 centimeters below surface, underlain by brownish-black (10YR 3/2) clay with 80 percent gravels

extending from 50 to 110 centimeters below ground surface. These bucket auger units were terminated at dense gravels. Deposits on the south bank of the creek, east and west of SH-48, contained brownish-black (10YR 2/2) clay from 0 to 25 centimeters below ground surface. Bucket auger units were terminated due to dense gravel and rocks. No buried paleosol, A horizon, or cultural materials were encountered in any of the bucket auger test units.

In addition to the auger tests, the exposed cut banks of all drainages were examined for evidence of buried deposits that could contain archaeological features or materials. No evidence of buried paleosols or A horizons was observed, and profiles were consistent with deposits revealed in shovel tests and auger test units.

Archaeological Sites

34JN216

Newly recorded site 34JN216 is west of the SH-48 right-of-way, roughly 30 meters (98 feet) north of the intersection of SH-48 and Kirby Lane. The site is predominantly situated on a small hilltop 70 meters north of Delaware Creek. The area surrounding the site is currently used as a cattle pasture. Ground surface visibility was low to moderate (between 10 and 40 percent), and vegetation included short grasses and a few small trees. The only soil series mapped at the site was Steedman clay loam on 5 to 15 percent slopes, which is a fine, smectitic, thermic Udertic Haplustalfs formed in sandstone and shale.

Site 34JN216 is a multicomponent site containing a sparse early to mid-twentieth century Historic-age artifact scatter and prehistoric activity area overlooking Middle Delaware Creek and its associated floodplain to the south. The site is concentrated on the top of the hill, though the vast majority of the artifacts found at the site come from a surface scatter located along the more eroded eastern and southern slopes of the hill. This area generally had higher ground surface visibility (above 50% in these areas) since grass cover was sparser on the eroded slopes. No features were evidenced on the ground surface or in any of the shovel test or bucket auger test units excavated at and near the site.

In all, 31 shovel tests units were excavated at the site: 16 within the site boundary, and 15 in the area surrounding the site. Of the 16 shovel test units excavated within the site, 9 contained cultural materials. All of which was from the prehistoric component (discussed below). Typical soil profiles encountered at the site included dull yellowish-brown (10YR 4/2) sandy clay from 0 to 20 centimeters below ground surface underlain by dull orange (7.5YR 6/4) clay with few gravels; shovel test units were terminated at clay.

The majority of artifacts recorded at the site were found on the surface, and many artifacts were eroding down the hillslope toward the existing SH-48 roadway. All historic artifacts were on the surface and include undecorated refined earthenware, aqua glass, and a metal watch frame. The diagnostic ceramic and glass found at the site generally suggest a late nineteenth to early twentieth-century occupation. For example, the single-color-glazed pottery observed at the site reached peak popularity in the later portion of the 1920s. The colorless glass observed at the site was uncommon prior to the 1870s but became ubiquitous after the use of automatic bottle machines in the mid-to late-1910s.

Topographic maps and aerial photographs were reviewed to determine the age of the historic component of the site. None of the topographic maps from 1899, 1900, 1957, and 1963 show buildings or structures in this location. Aerials from the early to mid-twentieth century were reviewed along with post-1995 aerial images. Aerial images dating as early as 1940 do not show any buildings at the site and the location has remained consistently wooded over time (Oklahoma Aerial Photo Inventory 2019). Based on the material composition of the artifacts and topographic map and aerial photograph information, the historic component of the site probably represents a limited occupation or surficial trash scatter that dates from late nineteenth to early or mid-twentieth century.

In general, the historic component of the site is sparse, lacks features, and appears confined entirely to disturbed surface contexts. Based on these factors, it is unlikely that the historic component will yield any additional significant information. Pursuant to 36 CFR 60.4, it is our assessment that the historic component of site 34JN216 does not rise to the level necessary to convey historic significance and is recommended as not

eligible for NRHP listing.

The prehistoric artifacts observed at the site included 7 biface fragments (typology discussed below); 50 pieces of primary, secondary, and tertiary lithic debitage; 1 ground stone, 1 mussel shell, and burned rocks. Prehistoric artifacts were the only artifacts recovered from shovel tests and were typically found 0–20 cm below surface. Subsurface prehistoric artifacts included primary, secondary and tertiary lithic debitage; mussel shell; burned rocks; and one possible Palmillas projectile point. Temporally diagnostic lithic tools included one Palmillas-like point fragment, two possible Gary point fragments, and one Talco- or Fresno-like point fragment. Palmillas projectile points are known in Oklahoma and seem to be present across a large part of the eastern United States; these points are known to occur in the Late Archaic Period and possibly as early as the Middle Archaic (Bell 1960a). Gary points are a widely distributed projectile point form that expresses a large amount of regional variation (Bell 1960b; Turner et al. 2011). Gary points are commonly noted across eastern Oklahoma and are typically considered representative of the Late Archaic Period (Turner et al. 2011). Talco points are found in the southeastern part of Oklahoma in the Caddoan area and typically are associated with Late Prehistoric occupations (Bell 1960b. Fresno points are found in eastern and southeastern Oklahoma and are associated with Mississippian occupations (Bell 1960a).

The presence of diagnostic materials indicative of multiple site occupations, combined with the relatively high density of identified prehistoric materials (including both chipped and ground stone artifacts) suggest that Site 34JN216 contains the potential to provide information significant to understanding the prehistory of the region. Although no features were encountered in the generally shallow sloped and upland shovel tests, the site has not been thoroughly explored and may contain features. The recent (2011) data recovery at the nearby site of 34CO29, which was in a similar setting, suggests that features would likely be small and ephemeral and may be difficult to locate with shovel testing alone. Based on the shovel test data, the relatively flat hilltop and western portions of the site are the most intact portions of the landform and are the settings most likely to contain intact prehistoric features. The eroded eastern and southern slopes of the hill do not appear to retain enough intact sediment to have preserved any features that may have been located in these areas. The eastern and southern slopes have also been overprinted by the late nineteenth–early twentieth-century component at this site which has further compromised the integrity of the prehistoric deposits in this portion of the site.

Based on this information and pursuant to 36 CFR 60.4, it is our assessment that the prehistoric component at site 34JN216 has the potential to provide additional information significant to understanding regional prehistory and is, therefore, recommended as eligible for NRHP listing under Criterion D. However, the portion of the site within the NEPA study area is limited to the eroded eastern and southern slopes of the hill. Based on the shovel test and artifact distribution data, these areas of the site are believed to have a low likelihood of containing any intact prehistoric deposits. Additionally, these areas have been overprinted and mixed with the late nineteenth–early twentieth-century component of the site, which is recommended as not eligible for listing on the NRHP. Although Site 34JN216 is considered eligible for NRHP listing, the portions of the site within the NEPA study area do not contribute to the significance of the site. The most significant areas of the site are located on the hilltop and in the western portion of the site. As such, it is our opinion that the proposed project will have no adverse effect to any significant cultural deposits within the portions of the site included in the NEPA study area.

34JN217

Newly recorded site 34JN217 is located east of the SH-48 right-of-way, roughly 286 meters (938 feet) north of the intersection of SH-48 and Kirby Lane; this site was the structure noted on the 1995 aerial photograph and not present on topographic maps. The site is the remains of a mid-twentieth-century barn located east of SH-48 in a slightly wooded area with additional high grasses. The site consists of a collapsed, dilapidated barn and a metal corral. The remnants of the barn consist of a pile of wood pillars, corrugated metal, and various other metal scraps.

The general outline of the barn is still observable and measures roughly 55 feet north-south and 66 feet east-west. The southern boundary of the metal corral that remains in place (Structure 8) is 40 feet directly south of the barn. The corral runs east to west and is approximately 60 meters (197 feet) long. Although features were observed at the site, no artifacts were observed in subsurface or surface contexts.

Nine shovel tests were placed throughout the site to assess whether subsurface features might be present: four near the corners of the barn, three south of the corral, and two north of the site. All nine shovel tests were negative for cultural material. Typical soil profiles encountered at the site included saturated brownish-black (10YR 3/1) clay with few rootlets, roots, and gravel from 0 to 40 centimeters below ground surface; shovel test units were terminated at heavy roots or heavily saturated clay.

Although no artifacts were recovered, based on the construction materials used in the barn and corral fence, the age of site 34JN217 is likely mid to late twentieth century. One structure is visible on the 1940 and 1949 aerial at the location of the site, but this structure has been demolished by 1963. The location remains devoid of a structure through the 1968 aerial. A new structure is erected in the same location by 1977 (Oklahoma Aerial Photo Inventory 2019). Based on aerial photographs, CMEC estimates that the site dates between 1969 and 1977. The building appears to be intact on the 1995 aerial; the structure falls into ruin sometime between 1995 and 2003 (Google Earth Pro 2019).

As features were present at the site, deed research was performed at the Johnston County Clerk Office. The following is a list of individuals who have been granted this parcel of land during the assumed time of occupation:

Grantor	Grantee	Type	Book/Page	Date
Margaret H. Burchfield	C.M. Starks	Release from mortgage	Mortgages 42/462	October 2, 1935
Perry L.J. Crill, Nelle Richards Crill, Margaret Burchfield, and Hollis F. Burchfield	Thomas N. Evans	Warranty deed	Deeds 47/225	November 8, 1937
Thomas N. Evans	Perry L.J. Crill and Nelle Richards Crill	Mortgage	Mortgages 30/438	February 17, 1938
Thomas N. Evans	Perry L.J. Crill, and Margaret Burchfield	Mineral deed	Deeds 47/255	November 17, 1937
Thomas N. Evans and Jesse E. Evans	Grady Irene Jemison	Warranty deed	Deeds 54/374	May 18, 1943
1st Street Bank of Tishomingo	Thomas N. Evans	Release from mortgage	Mortgages 47/106	September 14, 1943
Grady Irene Jemison	Grady Irene Jemison	Joint tenancy warranty	Deeds 73/475	August 6, 1959
Grady Irene Jemison	Thomas Mack Jemison	Warranty deed	Photostat Misc. Records 3/644	January 20, 1969
Thomas Mack Jemison	Thomas Jemison and Linda Jemison	Quit claim deed	Photostat Misc. Records 291/136	February 9, 2012

Research on these individuals did not indicate that any of the people were significant, and none were associated with historically significant events.

Overall, the site does not possess integrity, nor does it possess significant research potential due to lack of cultural materials. Pursuant to 36 CFR 60.4, it is our assessment that site 34JN217 does not rise to the level necessary to convey historic significance for NRHP eligibility under Criteria A, B, and D due to the lack of significant cultural materials or associated persons or events. Therefore, the site is recommended not eligible for NRHP listing.

34CO217

Newly recorded site 34CO217, is immediately west of the SH-48 roadway 488 meters (1,601 feet) south of the intersection of SH-48 and E1750 Rd. The site is an early to mid-twentieth-century surface scatter and measures roughly 24 by 25 meters. Based on materials found at the site, 34CO217 dates to the early to mid-twentieth century; it likely represents a relatively short-term occupation or trash dump, as no features were present. The area surrounding the site is currently an active, plowed agricultural field, and the nearby ground surface has short grasses and a cluster of large trees.

Thirteen shovel tests were excavated at the site to determine whether the surface scatter extended to the subsurface; two contained cultural material within the top 10 centimeters, which is within the local plow zone, and the others were sterile. The only soil series mapped at the site was Burleson clay on 1 to 3 percent slopes. Typical soil profiles encountered at the site included friable, grayish-yellow brown (10YR 4/2) silty clay loam with few rootlets and gravels from 0 to 30 centimeters below ground surface. These sediments were underlain by firm, brownish-black (10YR 3/1) clay loam with few rootlets and greater than 5 percent redox mottling to 30 or 40 centimeters below ground surface; shovel test units were terminated at compact subsoil.

Items recorded at the site include milk glass (opaline), aqua glass, blue Fiestaware, solarized (amethyst) glass, colorless glass, unrefined earthenware sherds (including a plate rim sherd), one “Boyd’s Genuine” round milk glass jar liner sherd, one cobalt blue shard, one lightly patinated colorless bottle finish, brick fragments, and multiple small unidentifiable metal items. Artifacts were concentrated in the area immediately southwest of a cluster of trees. Materials suggest an early to mid-twentieth-century occupation.

Most of the glass artifacts observed have temporally diagnostic features or characteristics. Colorless glass turns amethyst (i.e., solarized) when manganese, which was added to glass to neutralize impurities, is exposed to sunlight. The addition of manganese to glass occurred as early as 1850 but was most prevalent in bottle glass between 1870 and 1920. Generally, colorless glass was uncommon prior to the 1870s but became ubiquitous after the use of the automatic bottle machines in the mid-to late-1910s. Opaline, or milk glass, was most commonly used for cosmetic and toiletry bottles and containers and occasionally used for food containers. Opaline glass was rarely used for bottles prior to the 1870s. Boyd’s jar lid liners were patented in 1869.

Undecorated refined earthenware is not significantly temporally diagnostic due to its long period of production that continues today. Solid-color glazed ware became popular in the United States in the 1920s. The most well-known of this type of ware is “Fiestaware,” which was produced by the Homer Laughlin Ceramic Company. Fiestaware produced by Homer Laughlin was the most accessible and mass-produced type of the solid-color-glazed dinnerware and is still available today. The remaining artifacts observed at the site are not temporally diagnostic but are suggestive of a domestic occupation.

Topographic maps and aerial photographs were also reviewed to determine the age of the site. Aerials from the early to mid-twentieth century were reviewed along with post-1995 aerial images. The 1940 aerial shows a building at the location of the site. By 1949, the structure has been demolished and by 1955 the location has become forested (Oklahoma Aerial Photo Inventory 2019). The 1900 and subsequent 1957 topographic map do not show a building at this location.

Overall, the historic component of the site is sparse, insignificant, and lacks integrity as no features were present. The historic material observed lacks research value and will likely not yield additional information for the represented timeframe.

Pursuant to 36 CFR 60.4, it is our assessment that the historic component of recorded archeology site 34CO217 does not rise to the level necessary to potentially convey historic significance for NRHP eligibility due to the lack of features and significant material. Therefore, the site is recommended not eligible for NRHP listing; the site was assessed under Criteria A, C, and D.

Built Environment

The results of the Built Environment Historic Resources Survey include six building complexes (with a total of 52 resources), one roadside object, and one standalone structure. In all, 27 pre-1974 resources were documented on HPRI forms, and 27 resources constructed after 1973 were included in the survey because of their association with documented pre-1974 buildings. The table below summarizes these results.

All six building complexes have been extant since the early to mid-twentieth century and appear on the original Oklahoma Department of Highways 1938 plan and profile documents proposing the highway's construction. Except for Building Complex 4, all the building complexes are primarily agricultural or ranching in nature. All building complexes are either currently in use or retain elements of their former use. The complexes have clearly changed over time, and the locations of some structures belie their apparent age. Resources 4C, 5F, and 7L, for instance, have either been moved or were constructed using materials salvaged from earlier buildings since the structures are much older than the dates at which they appear in their current locations in historic aerial photographs. Building 4C, for example, has been modified with the addition of its current windows and vinyl siding applied over the original wood cladding, and the structure appears to predate the poured concrete foundation. The 1966 aerial photo does not depict this structure in its current location.

In general, the documented building complexes and buildings within the NEPA study area are common examples of residential, secondary, and agricultural buildings with few distinguishing characteristics. No associations were identified linking the buildings to events or persons of historic importance. Although there is an Amish community centered around the Clarita area (one of only two such communities in Oklahoma), the Amish America website reports that the community was not founded until 1978. Furthermore, Brad A. Bays' 2014 *Thematic Survey of Historic Barns in Southeast Oklahoma* identified that this community prefers prefabricated metal buildings over traditional Amish barns.

Although none of the surveyed resources were specifically identified in the Bays study, the observed resources are consistent with the area's defining characteristics as identified in the report. Specifically, the report discusses the prevalence of the "loafing shed" type that appears both as a stand-alone building (Building 1D) and as an add-on (Buildings 7F and 7H). The loafing shed is an agricultural building within a paddock or corral area; it is open on one side, is typically small, and has a shed roof that provides dry feeding areas and animal shelter during inclement weather. It is prevalent in this area due to the relatively wet climate.

The study also identifies the prevalence of wood and corrugated sheet metal cladding. This area of southeast Oklahoma was previously heavily forested with hardwood and pine trees, which provided ample construction materials. The application of corrugated sheet metal skin to roofs and exteriors (see buildings 7E and 7K) to preserve functionality was widespread in the area; when this treatment was applied to structures prior to 1960, it did not reduce their integrity. Although Structure 8 is constructed of metal it was never clad and is otherwise devoid of character-defining features.

Object 3, a highway marker, dates from the original improvement of this section of the highway. The section of SH-48 between Tupelo and Clarita was constructed in 1940 as part of the Federal Aid Secondary Highway Program (F.A.S.P.). The plaque indicates that this section was Federal Aid Project 458, Section B; it is 5.432 miles in length; and was constructed in 1940. This section of highway first appears on Oklahoma state highway maps in 1941 as an untreated gravel highway. The F.A.S.P. addressed principal, secondary, and feeder routes including farm-to-market roads, rural mail routes, public school bus routes, and county roads.

None of the resources have been listed either individually or in part in the NRHP, and none have been determined eligible for the NRHP. The buildings do not embody distinctive characteristics of a type, period, or method of construction, nor do they represent the work of a master or possess high artistic value. Therefore, they are recommended **not eligible** for NRHP listing.

Within the study area are four bridges (NBIs 14955, 14958, 14959, and 15121) and 14 culverts (no associated NBI data). All four bridges are a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and were not documented. Each of the 14 culverts was visually inspected for WPA stamps, and no stamps were observed.

Resource Name/ID	Address/Parcel	Date of Construction	Stylistic Influence	NRHP Recommendation
Building Complex 1	East side of SH-48 approximately 1477 feet north of E1750 Rd.			
Single-family dwelling / Building 1A		c. 1970	Ranch	Not eligible
Gate post / Object 1B		c. 1938	No style	Not eligible
Gate post / Object 1C		c. 1938	No style	Not eligible
Barn/ Building 1D		c. 1970	No style	Not eligible
Raised tanks / Structure 1E		c. 2003	No style	Not eligible
Garage / Building 1F		c. 1990	No style	Not eligible
Tank / Structure 1G		c. 1995	No style	Not eligible
Shed / Building 1H		c. 1970	No style	Not eligible
Hopper / Structure 1I		c. 2005	No style	Not eligible
Building Complex 2	Rt. 5 Box 980, Clarita, OK			
House / Building 2A		c. 1938	Ranch	Not eligible
Sign / Object 2B		c. 2013	No style	Not eligible
Shack / Structure 2C		c. 2018	No style	Not eligible
Store / Building 2D		c. 2006	No style	Not eligible
Greenhouse / Building 2E		c. 2006	No style	Not eligible
Greenhouse / Building 2F		c. 2006	No style	Not eligible
Greenhouse / Building 2G		c. 2010	No style	Not eligible
Greenhouse / Building 2H		c. 2006	No style	Not eligible
Greenhouse / Building 2I		c. 2006	No style	Not eligible
Shed / Building 2J		c. 2010	No style	Not eligible
Shed / Building 2K		c. 2010	No style	Not eligible
Warehouse / Building 2L		c. 2015	No style	Not eligible
Shed / Structure 2M		c. 2015	No style	Not eligible
Shed / Building 2N		c. 2003	No style	Not eligible
Barn / Building 2O		c. 1995	No style	Not eligible
Shed / Building 2P		c. 1938	No style	Not eligible
Object 3	E1750 Rd. at SH-48, southeast corner			
Highway marker / Object 3		1940	No style	Not eligible
Buildings Complex 4	Rt. 5 Box 960, Clarita, OK			
House / Building 4A		c. 1990	Ranch	Not eligible
Storm shelter / Building 4B		c. 1990	No style	Not eligible
Garage / Building 4C		c. 1960	No style	Not eligible
Storm shelter / Building 4D		c. 1966	No style	Not eligible
Carport / Building 4E		2018	No style	Not eligible
Building Complex 5	17551 CR 3730, Coalgate, OK			
House / Building 5A		c. 1980	No style	Not eligible
Birdbath / Object 5B		c. 1980	No style	Not eligible
Shed / Building 5C		c. 1970	No style	Not eligible
Shed / Building 5D		c. 1966	No style	Not eligible
Barn / Building 5E		c. 1966	No style	Not eligible
Barn / Building 5F		c. 1970	No style	Not eligible

Resource Name/ID	Address/Parcel	Date of Construction	Stylistic Influence	NRHP Recommendation
Building Complex 6	Rt. 5 Box 950, Clarita, OK			
House / Building 6A		c. 1933	Craftsman	Not eligible
Chicken coop / Building 6B		c. 1933	No style	Not eligible
Building Complex 7	Rt. 5 Box 988, Clarita, OK			
House / Building 7A		c. 1945	Minimal Traditional	Not eligible
Shed / Building 7B		c. 1945	No style	Not eligible
Storm shelter / Building 7C		c. 1945	No style	Not eligible
Shed / Building 7D		c. 1980	No style	Not eligible
Shed / Building 7E		c. 1945	No style	Not eligible
Barn / Building 7F		c. 1945	No style	Not eligible
Shed / Building 7G		c. 1980	No style	Not eligible
Barn / Building 7H		c. 1945	No style	Not eligible
Feeder / Structure 7I		c. 1980	No style	Not eligible
Shed / Building 7J		c. 1980	No style	Not eligible
Shed / Building 7K		c. 1955	No style	Not eligible
Outhouse / Building 7L		c. 1945	No style	Not eligible
Shed / Building 7M		c. 1955	No style	Not eligible
Pump shack / Building 7N		c. 1955	No style	Not eligible
Structure 8	East side SH-48, approximately 286 meters north of Kirby Lane			
Corral / Structure 8		c. 1970	No style	Not eligible

6. RECOMMENDATIONS:

XXX **Plan Notes** requiring avoidance of cultural resources in off-project areas

XXX **Approval Recommended** with the proposed project as planned with no additional research. If subsurface archaeological materials are exposed during construction, the Contractor and Resident Engineer shall notify the Department Archaeologist in accordance with Section 202.04(a), Standard Specifications for Highway Construction.

_____ **Approval NOT Recommended,** until one or more of the following measures are completed.

_____ **Additional consultation with SHPO** regarding NRHP-eligible Properties

_____ **Revise design** to avoid/protect resources

_____ **NRHP Eligibility Archaeological Test Excavations**

_____ **Implementation of MOA** with SHPO regarding Mitigation of Adverse Effects to Historic Properties

SUMMARY AND COMMENTS REGARDING RECOMMENDATIONS:

In summary, the proposed improvements to SH-48 include bridge improvements and the addition of 8-foot-wide paved asphalt shoulders to the existing 12-foot-wide driving lanes. The NEPA study area is approximately 6.43 miles long and covers 311.76 acres. The NEPA study area was subject to an archeological

survey, which included the excavation of shovel and bucket auger test units. The survey was conducted along four transects, two on each side of the roadway, and shovel test units were excavated at 30-meter intervals as appropriate. Three new archaeological sites (34JN216, 34JN217, and 34CO217) were documented in the archaeological survey. Six building complexes and one roadside object were identified, with a combined total of 26 historic-age resources documented in the built environment historic resources survey.

The presence of diagnostic materials indicative of multiple site occupations, combined with the relatively high density of identified prehistoric materials (including both chipped and ground stone artifacts) suggest that Site 34JN216 likely contains information that may be significant to understanding the prehistoric occupation of the region. Although no features were encountered in the generally shallow sloped and upland shovel tests, features may be present at the site. The recent (2011) data recovery at the nearby site of 34CO29, which was in a similar setting, suggests that any features would likely be small and ephemeral and may be difficult to locate with shovel testing alone. Based on the shovel test data, the relatively flat hilltop and western portion of the site are the most intact portions of the landform and are the settings most likely to contain intact prehistoric features. The heavily eroded eastern and southern slopes of the hill do not appear to retain enough intact sediment to have preserved features that may have been located in these areas. The eastern and southern slopes have also been overprinted by the late nineteenth–early twentieth-century component at this site.

Based on this information and pursuant to 36 CFR 60.4, it is our assessment that the prehistoric component at site 34JN216 has the potential to provide additional information significant to understanding regional prehistory, and the site is recommended as eligible for NRHP listing under Criterion D. However, the portion of the site within the NEPA study area comprises the eroded eastern and southern slopes of the hill. Based on the shovel test data, these areas of the site are believed to possess a low likelihood of containing any intact prehistoric deposits and have been overprinted and mixed with the late nineteenth–early twentieth-century component of the site, which is recommended not eligible for the NRHP. Although Site 34JN216 is considered eligible for NRHP listing, the portions of the site within the NEPA study area do not contribute to the significance of the site deposits. The most significant areas of the site are located on the hilltop and in the western portion, which are outside of the NEPA study area. It is our opinion that the proposed project will have no adverse effect on any significant cultural deposits within the portions of the site included in the NEPA study area.

Pursuant to 36 CFR 60.4, it is our assessment that site 34JN217 does not rise to the level necessary to convey historic significance for NRHP eligibility under Criteria A, B, or D due to the lack significant cultural materials or associated persons or events. Therefore, the site is recommended not eligible for NRHP listing.

Pursuant to 36 CFR 60.4, it is our assessment that site 34CO217 does not rise to the level necessary to convey historic significance for NRHP eligibility as the site has little integrity and the artifacts that remain are not remarkable. Therefore, the site is recommended not eligible for NRHP listing; the site was assessed under Criteria A, C, and D.

It is also our assessment that the resources of the built environment constructed prior to 1974 within the NEPA study area do not rise to the level necessary to convey historic significance for NRHP eligibility. Those resources are recommended not eligible for NRHP listing.

The four bridges in the study area included:

The SH-48 bridge over Delaware Creek (ODOT Structure No. 3520 0218X /NBI 15121) is a steel stringer/multi-beam or girder that was constructed in 1960. This bridge was identified as a type listed in the Advisory Council on Historic Preservation (ACHP) Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Walnut Creek (ODOT Structure No. 3520 0277X /NBI 14958) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Elm Creek (ODOT Structure No. 1516 0226X /NBI 14955) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

The SH-48 bridge over Tell Creek (ODOT Structure No. 1516 0300X /NBI 14959) is a bridge-class, reinforced concrete box culvert that was constructed in 1960. This bridge was identified as a type listed in the ACHP Program Comment for post-1945 concrete and steel bridges and required no additional documentation.

Avoidance Areas:

In order to avoid non-NRHP-assessed cultural resources during off-project activities such as fill borrowing or staging, it is recommended that the following area be avoided:

T1S R8E
Section 24 – NE ¼ of NW ¼ of NW ¼

T2S R8E
Section 2 – SE ¼ of NE ¼ of SE ¼

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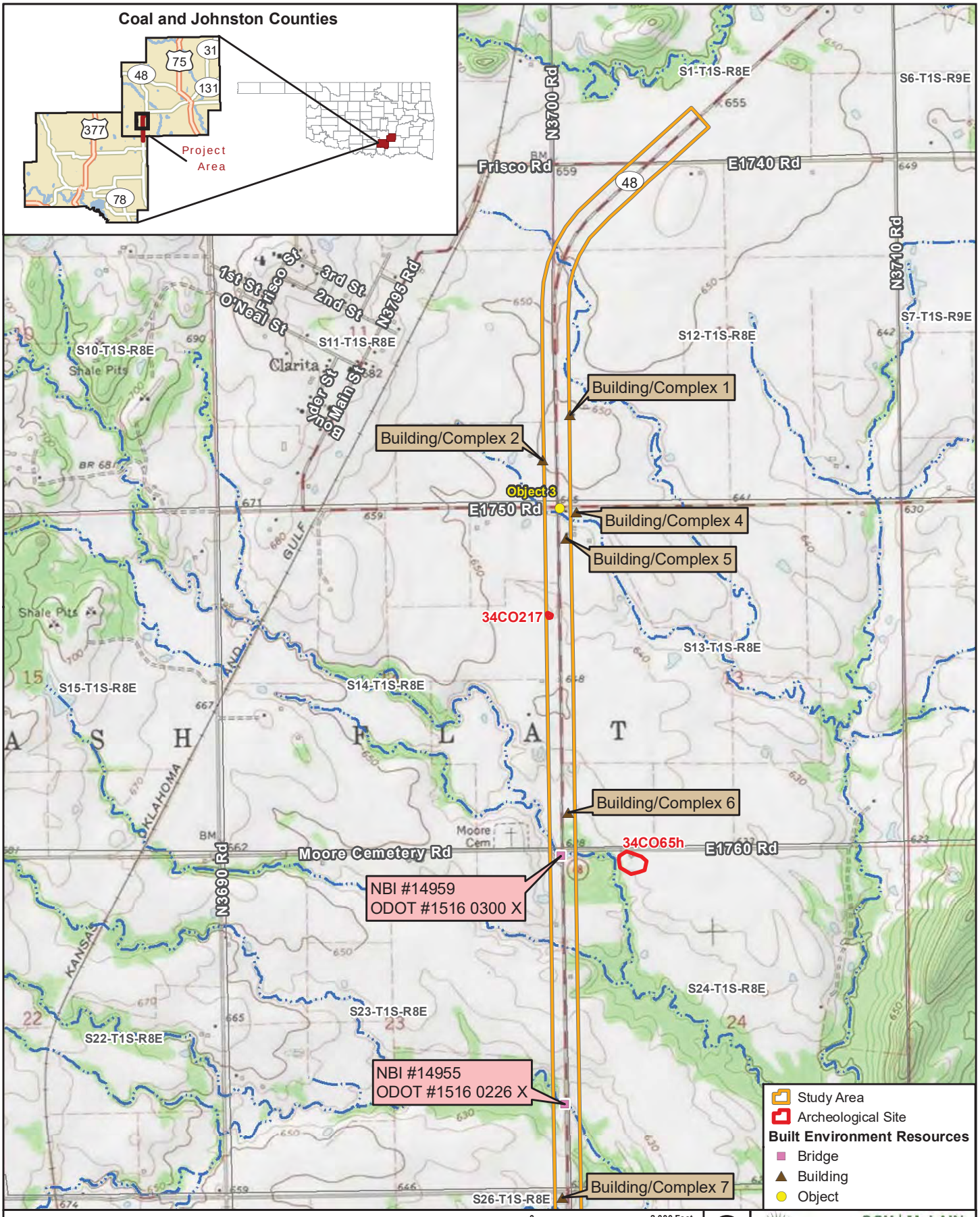

Figure 1a. Documented Cultural Resources
JP 31047(04)
SH 48: Clarita to Wapanucka
Coal and Johnston Counties

0 2,000 Feet
0 600 Meters

Data Sources: CMEC (2018), OU CSA (2017), NBI (2018), OAS (2018)
Topographic Source: USGS Wapanucka North 7.5' Quadrangle (1969)

COX | McLAIN Environmental Consulting

Prepared for: ODOT	1 inch = 2,000 feet
	Scale: 1:24,000
Prepared by: TLS	Date: 10/25/2019

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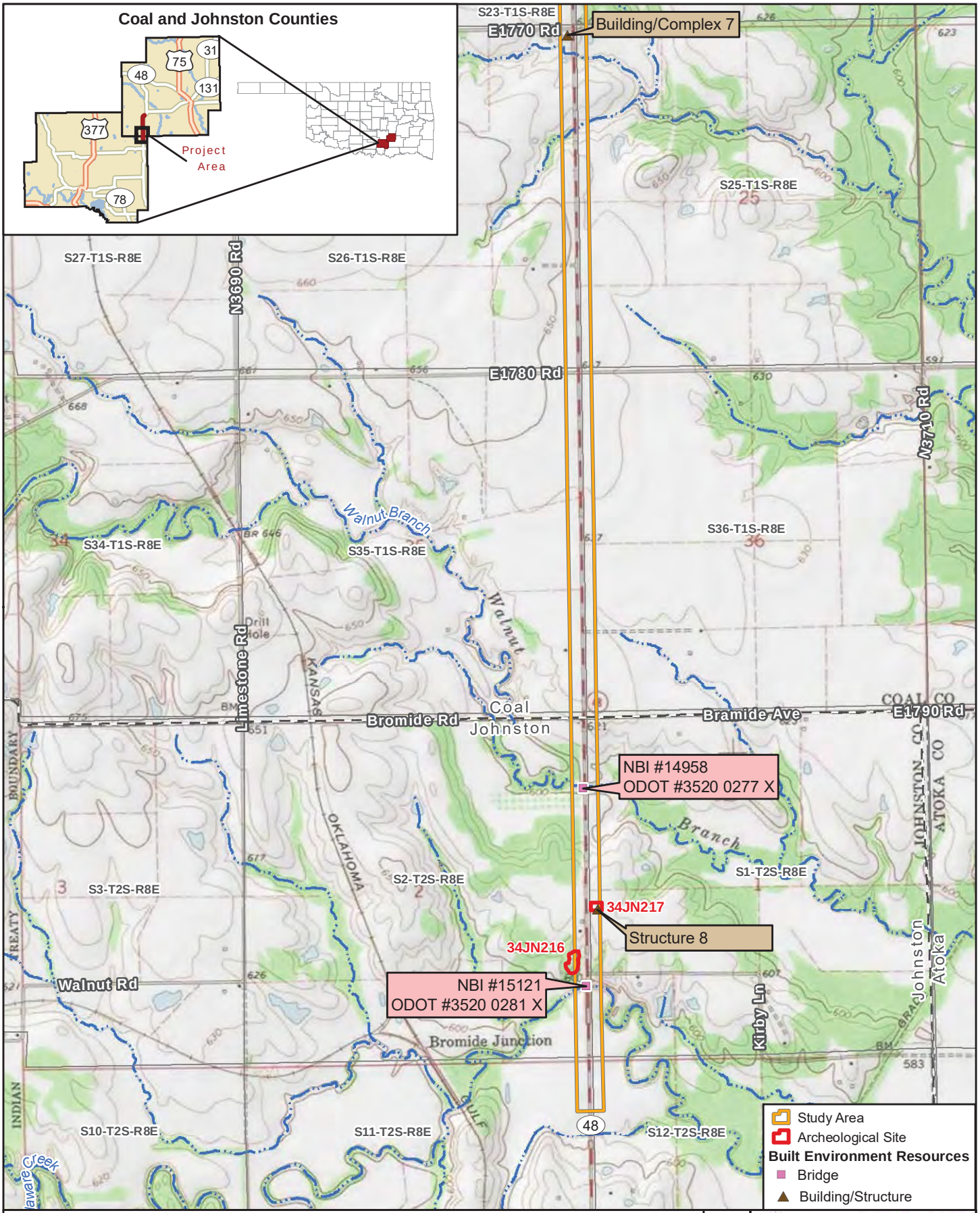

Figure 1b. Documented Cultural Resources

JP 31047(04)
SH 48: Clarita to Wapanucka
Coal and Johnston Counties

0 2,000 Feet
0 600 Meters

Data Sources: CMEC (2018), OU CSA (2017), NBI (2018), OAS (2018)
Topographic Source: USGS Wapanucka North 7.5' Quadrangle (1969)

COX | McLAIN Environmental Consulting

Prepared for: ODOT	1 inch = 2,000 feet
	Scale: 1:24,000
Prepared by: TLS	Date: 10/25/2019

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BIOLOGICAL STUDIES

BIOLOGICAL STUDIES TRACKING FORM

NEPA Project Manager	Angela Aikman / Amanda Alexander
State or Local Government Project	State
USFWS TAILS #	**02EKOK00-2018-SLI-2036**
Original IPaC List	7/3/2018
Email used to request IpaC official species list	cmporter@pldi.net
Last Updated Species List Date	3/24/2020
ROW	Click here to enter a date.
Let Date	2024
90 Day Prior to Let IpaC List	Click here to enter a date.
Duration expected	Click here to enter text.
Original Biological Assessment and Waters and Wetlands Report Prepared By:	Guernsey / Blackbird
Most Recent Field Date:	7/10/2018
Original Report Date:	7/16/2018
USFWS Consultation Submittal:	ABB Only
USFWS Concurrence:	None required
Original Tracking Form Prepared by :	Elizabeth Nichols
Original Tracking Form date:	7/23/2018
Update Reason	Updated Plan Notes
Tracking Form Updated By Whom:	Elizabeth Nichols
Tracking Form Updated Date:	3/24/2020
Amended USFWS Consultation Submittal:	Click here to enter a date.
Amended USFWS Concurrence:	Click here to enter a date.
Tracking Form Updated By Whom:	Click here to enter text.
Tracking Form Updated Date:	Click here to enter a date.
ADD MORE LINES AS NEEDED FOR EACH TIME PROJECT IS UPDATED	

Form Date: May 2018

Project Name from Oracle

Roadway Improvements on SH-48 from 1.0 mile south of the Coal County line, extending north 6.0 miles, including improvements to bridges over Delaware, Walnut, Elm and Tell Creeks.

Project Description

Widen, Resurface and Bridge

Check if any of the following is expected as part of the proposed action

- Work within the OHWM is expected ☒
- Project is OFF-SET alignment ☐ or NEW alignment ☐
- Project involves **NO OFF EXISTING PAVEMENT** work ☐
- Project requires new ROW (permanent &/or temporary) ☒

2. FEDERALLY LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Species	Listing Status	IPaC Check if Yes	Effect Determination for IPaC listed species
Interior Least Tern	Endangered	☒	No Effect
Red-cockaded Woodpecker	Endangered	☐	Choose an item.
Whooping Crane	Endangered	☒	No Effect
Gray Bat	Endangered	☐	Choose an item.
Indiana Bat	Endangered	☐	Choose an item.
Ozark Big-eared Bat	Endangered	☐	Choose an item.
Neosho Mucket	Endangered	☐	Choose an item.
Ouachita Rock Pocketbook	Endangered	☐	Choose an item.
Scaleshell Mussel	Endangered	☐	Choose an item.
Winged Mapleleaf	Endangered	☐	Choose an item.
American Burying Beetle	Endangered	☒	Final Effect Analysis and Determination covered in the Programmatic BA&BO
Harperella	Endangered	☐	Choose an item.
Piping Plover	Threatened	☒	No Effect
Red Knot	Threatened	☒	No Effect
Northern Long-eared Bat	Threatened	☐	Choose an item
Arkansas River Shiner	Threatened	☐	Choose an item.
Leopard Darter	Threatened	☐	Choose an item.
Neosho Madtom	Threatened	☐	Choose an item.
Ozark Cavefish	Threatened	☐	Choose an item.
American Alligator	Threatened	☐	Choose an item.
Rabbitsfoot Mussel	Threatened	☐	Choose an item.
Rattlesnake-master Borer Moth	Candidate	☐	Choose an item.
Whooping Crane Critical Habitat	Designated	☐	Choose an item.
Arkansas River Shiner Critical Habitat	Designated	☐	Choose an item.
Leopard Darter Critical Habitat	Designated	☐	Choose an item.
Neosho Mucket Critical Habitat	Designated	☐	Choose an item.
Rabbitsfoot Critical Habitat	Designated	☐	Choose an item.

	NEPA Footprint	Construction Footprint
Number of acres within the NEPA Study Footprint & Construction Footprint (if known)	314	Click here to enter text.
Number of acres of perennial plant vegetation (ABB habitat) within the NEPA Footprint & Construction Footprint (if known)	214	Click here to enter text.
Number of acres of forested/wooded area (Ibat and NLEB habitat) within the NEPA Footprint & Construction Footprint (if known)	N/A	Click here to enter text.

Bald Eagle Assessment	May impact
Migratory Bird Assessment of Transportation Structures	Migratory birds found nesting on transportation structures
Migratory bird habitat assessment	nesting habitat for migratory birds will be impacted
Birds of Conservation Concern	No impacts to listed BCC

Species	**Seasonal Restriction Period**
Bald Eagle	September 16 – May 31
Migratory Birds: Swallows and Phoebes	March 1 – August 31

Conservation Commitments

ODOT Commitment: All operators, employees, and contractors will be made aware of all environmental commitments, including the following Plan Notes.

American Burying Beetle Commitment: The American Burying Beetle is protected by the Endangered Species Act. Suitable habitat for this species occurs within the immediate vicinity of the proposed project. In order to avoid adverse impacts to the ABB, the Designer needs to submit Microstation or shapefiles to the ODOT Biologist immediately. ODOT can either purchase mitigation credits, or the ODOT Biologist will survey the proposed project construction footprint within one year prior to initial ground disturbance as currently listed in the 8 Year Construction Program. The survey season is May 26 – July 27 for projects with ground disturbance during the active season (May 26-September 14) and it is July 28- September 14 for projects with ground disturbance during the inactive season (September 15 –May 25). If required, native seed mix will be planted in areas of ABB habitat in an area outside of clear zone as a separate project after the construction is complete. The ODOT biologist will determine if re-vegetation with natives is necessary. If the project schedule should change, it is the responsibility of the Project Manager to contact the ODOT Biologist in writing to request a survey in time for the let date.

Species Plan Notes

Non-Compliance: Failure to implement the commitments specified in the Plan Notes can result in non-compliance issues on the project. Work activities may be suspended on the project, for an undetermined duration, while working with regulators to bring the project back into compliance. The contractor will not be compensated for time lost.

Water Quality Conservation: Hazardous materials, chemicals, fuels, lubricating oils, and other such substances shall be stored at least 100 feet outside of the ordinary high water mark (OHWM). Refueling of construction equipment shall also be conducted outside 100 feet outside of the OHWM. Sediment and erosion controls shall be installed around these staging areas to prohibit discharge of materials from these sites. Construction waste materials and debris shall be stockpiled at least 25 feet outside of the OHWM, and these materials shall be removed and disposed of properly following completion of the project. Appropriate Best Management Practices to minimize impacts from storm water discharges, as established by the Oklahoma Department of Environmental Quality, shall be conscientiously implemented throughout the proposed construction periods. The effectiveness of erosion controls shall be maintained for the duration of construction activities.

American Burying Beetle Note: The American Burying Beetle is a large carrion burying beetle that occurs within the project limits. No artificial lighting shall be used during construction without prior consultation with USFWS thru ODOT Environmental Programs Division. DO NOT PROCEED WITH ANY USE OF ARTIFICIAL LIGHTING WITHOUT WRITTEN CONSENT FROM ODOT ENVIRONMENTAL PROGRAMS DIVISION. Carcasses and all food trash shall be removed from the permanent and temporary right-of-way throughout the duration of project activities.

Bald Eagle Note: Suitable nesting, roosting or foraging habitat for the Bald Eagle occurs within the project's action area. The Bald Eagle nesting season in Oklahoma extends from September 16, through May 31. The Resident Engineer shall contact the ODOT Biologist to schedule a nest survey. Nest search surveys can only be conducted when leaves are not on the trees typically between December 1st and February 28th. No work may occur within suitable Bald Eagle habitat, located at two locations in 1) Johnston County: BOP to 600 feet north of the Coal County line (includes Walnut and Delaware Creeks); and 2) Coal County: from 800 feet south of EW-177 to 0.5 mile north of EW-176 (includes Elm and Tell Creeks) during the nesting season (September 16, through May 31) until the completion of the survey by the ODOT Biologist. If nests are observed, a no-work buffer up to a distance of 660 feet shall be placed around the nest. The exact distance of the buffer zone shall be established by the ODOT Biologist in consultation with US Fish and Wildlife Services. If the buffer cannot be maintained, all clearing, external construction and landscaping activities, within the buffer, shall be conducted between June 1 and September 15 (outside the nesting season).

Migratory Bird Note: Migratory birds are protected by the federal Migratory Bird Treaty Act. Many birds commonly use bridges and culverts for nesting. The nesting season for most migratory bird species extends from March 1 to August 31. Migratory bird nesting use of the Delaware Creek bridge (NBI:15121), Walnut Creek bridge (NBI:14958), Elm Creek bridge (NBI:14955), Tell Creek bridge (NBI:14959), and three RCBs (STA.1247+74.95, 1325+06.28, 1336+52.02) was observed. Painting, repair, retrofit, rehabilitation or demolition of the existing bridges and culverts shall be conducted between September 1, and February 28, when migratory bird nests are not occupied. If painting, repair, retrofit, rehabilitation or demolition cannot be completed between September 1 and February 28, the bridges and culverts shall be protected from new nest establishment prior to March 1, by means that do not result in bird death or injury. Options include the exclusion of adult birds from suitable nest sites on or within a structure by the placement of weather-resistant polypropylene netting with 0.25-inch or smaller openings, prior to March 1. Methods other than netting must be pre-approved by the ODOT Biologist.

Although no nests were observed on all other structures, the birds may occupy the structures in the future. The Resident Engineer shall contact the ODOT Biologist if any bird use of these structures is observed. If birds are observed then painting, repair, retrofit, rehabilitation or demolition of the existing bridges and culverts shall be conducted between September 1, and February 28 (when migratory bird nests are not occupied).

Waters and Wetlands Delineation Status

Original delineation

Wetlands and Ponds

Total Number of Sites	Water Body Type	Potential Jurisdiction Status	Acres within the NEPA Footprint
1	Herbaceous Wetland	Likely Jurisdictional	0.008
3	Herbaceous Wetland	Unlikely Jurisdictional	0.238
		Total Wetlands	**0.246**
4	Pond	Unlikely Jurisdictional	1.229
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Streams and Drainages

Total Number of sites	Water body name	USGS Designation	Potential Jurisdictional Status	Acres within the NEPA Footprint	Liner Feet within the NEPA Footprint
1	Delaware Creek	mapped perennial	Likely Jurisdictional	0.366	402
1	Walnut Branch	mapped perennial	Likely Jurisdictional	0.266	560
6	Tributaries to Delaware Creek	mapped intermittent	Likely Jurisdictional	0.618	2,907
1	Elm Creek	mapped intermittent	Likely Jurisdictional	0.349	594
1	Tell Creek	mapped intermittent	Likely Jurisdictional	0.429	660
Total Likely Jurisdictional				**2.028**	**5,123**
4	drainages	unmapped ephemeral drainages	Unlikely Jurisdictional	0.215	1,406
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ENDANGERED, THREATENED AND CANADATE SPECIES, DESIGNATED CRITICAL HABITAT, BALD EAGLE AND SWALLOW ASSESSMENT

For

USFWS TAILS #		**02EKOK00-2018-SLI-2036**			
Email used to request IPaC official species list			cmporter@pldi.net		
County	Johnston Coal	JP Number	31047(04) 31053(04) 31054(04)	Project Number	J3-1047(004) J3-1053(004) J3-1054(004)
Road Number	State Highway 48 (SH-48)	Waterbody Name			
ROW Date		Let Date		Project Length	Approximately 34,160 Feet
Project General Location		SH-48 beginning 1.0 miles south of Johnston county line and extending north 6.0 miles; SH-48 beginning 2.2 miles north of Junction SH-7; SH-48 beginning 2.1 miles north of Johnston county line.			
Project Statement From Oracle		Widen and Resurface SH-48; Bridge and Approaches over Delaware Creek and Walnut Branch; Bridge and Approaches over Elm Creek and Tell Creek			

Prepared for:
Oklahoma Department of Transportation
Environmental Programs Division
200 NE 21st Street
Oklahoma City, OK 73105

Prepared by:

Biologist Name	Clint M. Porter
Company/Agency Name	Blackbird Environmental, LLC
Address	PO Box 720100
City, State Zip	Norman, OK 73070

Report Date:	July 16, 2018
Field Survey Date	July 9 and 10, 2018
Field Survey Biologist(s)	Clint M. Porter

1. PROJECT OVERVIEW

1.1 Federal Nexus

This biological assessment, prepared by the above named Company/Agency for the Oklahoma Department of Transportation (ODOT), addresses the above named project in compliance with Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended. Section 7 of the ESA requires that, through consultation with the U.S. Fish and Wildlife Service (Service), federal actions do not jeopardize the continued existence of any threatened, endangered, or proposed species or result in the destruction or adverse modification of critical habitat. This assessment evaluates the potential effects of the proposed transportation project on species that are federally listed under the ESA. Specific project design elements are identified that avoid or minimize adverse effects of the proposed project on listed species and designated critical habitat.

1.2. Project Description

Bridge and Approaches or bridge widening/structure extension

Description of the **existing** bridge/roadway facility and reason for proposed project

The typical section included two (2) 12-foot wide paved lanes with two (2)-foot wide asphalt shoulders. Four (4) bridges and 11 reinforced concrete box (RCB) culverts were included within the study area. NBI: 15121 [N 34.40691, W 96.42447, NAD83] included three (3) 50-foot spans and was constructed in 1960. NBI: 14958 [N 34.41529, W 96.42466, NAD83] included two (2) 13-foot by 15-foot by 48-foot and one (1) 17-foot by 15-foot by 48-foot RCB culverts and was constructed in 1960. NBI: 14955 [N 34.451186, W 96.424471, NAD83] included two (2) 12-foot by 11-foot by 32-foot and one (1) 14-foot by 11-foot by 32-foot RCB culverts and was constructed in 1960. NBI: 14959 [N 34.46171, W 96.42454, NAD83] included two (2) 13-foot by 10-foot by 32-foot and one (1) 17-foot by 10-foot by 32-foot RCB culverts and was constructed in 1960. NBI: 14958 and 15121 are included within the bridge and approaches replacement associated with JP 31053(04). NBI: 14955 and 14959 are included within the bridge and approaches replacement associated with JP 31054(04). The present traffic ADT (vehicles per day) was estimated at 1,400. The future ADT (20-year projection) was not available. The proposed action will improve driver safety by adding eight (8)-foot wide asphalt shoulders and replace and/or extend existing bridges to correct narrow bridges.

Description of **proposed** improvements

The proposed action includes activities associated with widen and resurface and bridge and approaches construction projects. The project will entail symmetrical widening. One-way traffic signals may be used to complete construction half-at-a-time. Wide loads will be detoured as necessary. The new typical section will include two (2), 12-foot wide, paved lanes with eight (8)-foot wide paved shoulders. Information associated with the proposed new bridges was not provided.

Check if any of the following is expected s part of the proposed action

Work within OHWM is expected			X
Project is OFF-SET alignment	☐	or NEW alignment	☐
Project involves **NO OFF EXISTING PAVEMENT** work			☐
Project requires new ROW (permanent &/or temporary)			X

Tree removal is expected 0-100' from edge of existing pavement ☐
0-300' from edge of existing pavement X
0 to >300' from edge of existing pavement ☐

1.3. Project Area and Setting

Project Location		Environmental Study Footprint		Ecoregion & Game Type	
Section Range & Township	Lat/Long NAD 83)	Dimensions	Acreage	Level IV Ecoregion (Woods et al. 2005)	Game Type (Duck and Fletcher 1943)
S 1, 2, 11 & 12, T2S, R8E; S 1, 11 to 14, 23 to 26, 35 & 36, T1S, R8E	south end: N 34.40165, W 96.42451; north end: N 34.49302, W 96.41697	The study area included 200 feet east and west of the centerline and included approximately 34,160 feet of SH-48	314 Acres	Arbuckle Uplift of the Cross Timbers Ecoregion	Tall Grass Prairie

Action Area:
The action area includes the NEPA study area.

2. FEDERALLY LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Species Range and Occurrence Evaluation (Check √ all that apply)

Species	IPaC[1]	Watershed[2]	Water Body[3]	Records[4]
	Check if Yes	Check if YES	Check if Yes	Check if Yes
Black-capped Vireo	☐			☐
Interior Least Tern	X	☐	☐	☐
Red-cockaded Woodpecker	☐			☐
Whooping Crane	X	☐		☐
Gray Bat	☐	☐		☐
Indiana Bat	☐			☐
Ozark Big-eared Bat	☐			☐
Neosho Mucket	☐	☐	☐	☐
Ouachita Rock Pocketbook	☐	☐	☐	☐
Scaleshell Mussel	☐	☐	☐	☐
Winged Mapleleaf	☐	☐	☐	☐
American Burying Beetle	X			☐

Species	IPaC[1]	Watershed[2]	Water Body[3]	Records[4]
	Check if Yes	Check if YES	Check if Yes	Check if Yes
Harperella	☐			☐
Piping Plover	X			☐
Red Knot	X			☐
Northern Long-eared Bat	☐			☐
Arkansas River Shiner	☐	☐	☐	☐
Leopard Darter	☐	☐	☐	☐
Neosho Madtom	☐	☐	☐	☐
Ozark Cavefish	☐	☐		☐
American Alligator	☐			☐
Rabbitsfoot Mussel	☐	☐	☐	☐
Rattlesnake-master Borer Moth	☐			☐

[1]Species is on the Proposed Project's IPaC List
[2]Action Area is within a watershed associated with occupied water bodies
[3]Action Area includes an occupied water body
[4]Project site within 5 miles of known records

Designated or Proposed Critical Habitat	Action Area includes Designated Critical Habitat (Check √ if Yes)
Whooping Crane	☐
Arkansas River Shiner	☐
Leopard Darter	☐
Neosho Mucket	☐
Rabbitsfoot	☐

All or part of the action area is within an **American Burying Beetle** Conservation Priority Area ☐

All of part of the action area is within the 10 mile **gray bat** buffer zone (ODOT will check) ☐
All of part of the action area is within the 2 mile **gray bat** priority area (ODOT will check) ☐

IPaC Special Conditions Identified (wind energy projects or cell towers) for **Interior Least Terns** X
IPaC Special Conditions Identified (wind energy projects or cell towers) for **Piping Plovers** ☐

Action area is within which **Whooping Crane** migratory corridor percentage zone **5%**
Action area is within 15 miles of Salt Plains NWR, Hackberry Flat, or Foss Reservoir. ☐

Action area is within the historic range of the **Red-cockaded Woodpecker** ☐
Action area is within 10 miles of the McCurtain County Wilderness Area ☐
Action area is within 10 miles of the Pushmataha Wildlife Management Area ☐

3. ENVIRONMENTAL BASELINE

3.1. Ecological Processes and Conditions

Soils (Use Soil Map of Oklahoma by Carter and Gregory 2008)

Soil Class	Grand Prairie
Soil Name	Chigley-Durant-Charita-Heiden-Ferris-Burleson
Soil Type	Alfisols, Mollisols and Vertisols
Soil Characteristics	Dee, Clayey and Humus-Rich Soils on Gentle Slopes (7%);

Climate (Use Woods et al. 2005)

Precipitation	Mean annual inches (Arbuckle Uplift)	38 to 43
Growing Season	Number of days (Arbuckle Uplift)	215 to 235
Mean Temperatures	Summer min/max (Arbuckle Uplift)	71/93
	Winter min/max (Arbuckle Uplift)	26/49

River System

Delaware Creek (perennial), Walnut Branch to Delaware Creek (perennial), seven (7) intermittent tributaries to Delaware Creek and three (3) lentic waterbodies were mapped within the study area. Delaware Creek is a tributary to Clear Boggy Creek. Clear Boggy Creek is a tributary to Muddy Boggy Creek. Muddy Boggy Creek is a tributary to Red River; therefore, part of the Red River drainage basin.

Land Use and Land Ownership

From Woods et al. 2005	According to Woods et al. (2005), the Arbuckle Uplift is mostly grassland and rangeland with woodland on slopes and within draws. Cropland is limited to floodplains and level uplands. Alfalfa, small grains and grain sorghum are the main crops produced. Dolomite, limestone, granite and sandstone quarries occur with this region.
From Field investigation	Habitat within the general vicinity of the study area included hayland, rangeland, mature forest and cropland. The study area appeared to contain privately owned lands and right-of-way. Live stock grazing was evident within and around the study area.

Terrestrial and Aquatic Community Descriptions (based on field site visit)

The study area was dominated by three (3) general habitat types – upland forest, mixed grass field and cropland. Upland forest included elm (*Ulmus* spp.), hackberry (*Celtis* spp.), green ash (*Fraxinus*

pennsylvanica), pecan (*Carya illinoinensis*), post oak (*Quercus stellata*), eastern red cedar (*Juniperus virginiana*) and American sycamore (*Platanus occidentalis*). Other common species along the open edges and understory included wood oats (*Chasmanthium latifolium*), honey suckle (*Lonicera* sp.), green briar (*Smilax* spp.), poison ivy (*Toxicodendron radicans*), coral berry (*Symphoricarpos orbiculatus*), bristle grass (*Setaria* sp.) and panic grasses (*Panicum* spp.).

Common grass species within the mixed grass field included bermuda (*Cynodon dactylon*), little bluestem (*Schizachyrium scoparium*), Johnson grass (*Sorghum halepense*), silver bluestem (*Bothriochloa saccharoides*), fescue (*Lolium* spp.), paspalum grasses (*Paspalum* spp.), switch grass (*Panicum virgatum*), brome grasses (*Bromus* spp.) and bristle grasses (*Setaria* spp.). Annual ragweed (*Ambrosia artemisiifolia*), nightshade (*Solanum* spp.), green briar (*Smilax* spp.), goldenrod (*Solidago* sp.), poison ivy (*Toxicodendron radicans*), trumpet creeper (*Campsis radicans*) and great ragweed (*Ambrosia trifida*) were also common within these areas. The mixed grass field was primarily maintained right-of-way, maintained lawn and mixed pasture/hayland.

Cropland included recently cut wheat and soybeans.

Delaware Creek (FS-1) was not elevated during field reconnaissance. The water was slightly turbid and the substrate was difficult to assess in some segments of the channel. The presence of silt, clay and some cobble were likely based on adjacent stream morphology and visible substrates. The stream embeddedness was difficult to estimate in the absence of visible cobble or boulder. However, some loose silt accumulation was observed along the lower banks. The stream was dominated by a forested riparian corridor within the study area. The stream flow was low with no visible break in the water surface. The water was shallow beneath the existing bridge. *Gambusia affinis* and *Notropis* spp. were observed within the study area. *Lepomis* spp. are likely to occur within pool habitat; however, none were observed. The stream exhibited characteristics of a perennial waterbody.

Walnut Branch to Delaware Creek (FS-4) was dominated by gravel, silt and clay substrates with a mature, forested riparian corridor. Isolated pools were observed within the stream channel. No indicators (sediment bars/islands) of significant sediment accumulation were observed. Some wetland vegetation was growing within the gravel sediment of the stream bed. The stream exhibited characteristics of an intermittent waterbody.

An intermittent tributary to Delaware Creek (FS-12) was listed as Elm Creek within the ODOT provided documents. Elm Creek was not listed on the USGS 7.5-minute topographic map. FS-12 exhibited a channel very similar to Walnut Branch to Delaware Creek (FS-4). The isolated, shallow, pools supported *Gambusia affinis*.

A second intermittent tributary to Delaware Creek (FS-15) was listed as Tell Creek within the ODOT provided documents. Tell Creek was not listed on the USGS 7.5-minute topographic map. FS-15 exhibited a channel very similar to FS-4 and FS-12. The isolated, shallow, pools supported *Gambusia affinis* and *Lepomis* spp.

The remaining intermittent tributaries to Delaware Creek (FS-6, FS-9, FS-14, FS-18 and FS-19) were relatively narrow and shallow compared to FS-12 and FS-15. The channels were dominated

by silt, clay and gravel substrates with some cobbles. The stream embeddedness was estimated at five (5) to eight (8) percent. No significant sediment accumulation was observed within the stream channels. Isolated pools within the channel supported *Gambusia affinis* and indicated some accumulation of water for extended periods perennially.

FS-18 was divided into two (2) distinct segments within the study area. A short reach (FS-18a) was delineated within the corner between north/south SH-48 and an east/west county road. FS-18a contained standing pools with *Notropis* spp., *Gambusia affinis* and *Lepomis* spp. FS-18b was narrow and dry.

Several non-mapped drainage features (FS-3, FS-5, FS-17 and FS-20) were delineated within the study area. These features appear to convey storm water (surface run off) from SH-48 and the adjacent agricultural land. The features were dominated by silt and clay substrates with limited gravel and cobble. The features exhibited characteristics of ephemeral, upland drainages.

Three (3) emergent wetlands (FS-11, FS-13 and FS-21) were delineated within topographic lows and road-side depressions. The features appear to collect storm water (surface run off) from SH-48 and the adjacent agricultural land. The small depressions were generally dominated by *Eleocharis palustris* and *Phyla lanceolata.* The wetlands were likely seasonally inundated for short periods.

One (1) emergent wetland (FS-7) was delineated within an intermittent stream. The small wetland was dominated by *Lugwigia peploides*.

Several agricultural ponds (FS-2, FS-8, FS-10 and FS-16) were delineated within the study area. The features appeared to be excavated uplands created to provide water for livestock. The relatively small features likely support a common warm water aquatic community.

3.2 Species Habitat Analysis

Pedestrian survey of entire NEPA study footprint (including 300-foot work zone buffer in karst areas) X
Bridge/Structure inspected for bat use (Complete the Bridge Inspection Form) ☐

SPECIES	HABITAT	
Interior Least Tern	Sparsely vegetated islands or sandbars along large rivers, with nearby areas of shallow water, occur within the **0.25 miles of the NEPA Environmental Study Footprint**.	☐
American Burying Beetle	Number of acres of native perennial plant vegetation (where native perennial vegetation is the dominant vegetation) within the **NEPA Environmental Study Footprint** (include shapefiles).	214 Acres

SPECIES	HABITAT	
Piping Plover	Sparsely vegetated sandy or gravelly shorelines and islands associated with the major river systems occur within the **0.25 miles of the NEPA Environmental Study Footprint.**	☐
	Salt flats and mudflats associated with reservoirs occur within the **0.25 miles of the NEPA Environmental Study Footprint.**	☐
Red Knot	Mudflats associated with reservoirs occur within the **0.25 miles of the NEPA Environmental Study Footprint.**	☐
Whooping Crane	Shallowly-submerged sandbars in large river channels occur within the **0.25 miles of the NEPA Environmental Study Footprint**.	☐
	If within the 75% migration corridor, provide the number of acres of emergent wetlands that occur within the **NEPA Environmental Study Footprint**.	enter acres.
	Croplands suitable for foraging occur within the **0.25 miles of the NEPA Environmental Study Footprint** and are within 15 miles of Salt Plains National Wildlife Refuge, Hackberry Flat, or Foss Reservoir.	☐

4. ANALYSIS OF EFFECTS

4.1 Direct Effects

Species/ Resource	Habitat impacts expected from project activities	Describe specific ACTIONS of the project and the results of those actions on species habitats, including indirect impacts to prey or drinking water, as well as improvements to habitat as a result of specific actions. If habitat within the action area identified above will not be impacted, describe why.
American Burying Beetle	X	The proposed construction could occur within potentially suitable reproductive and foraging habitat. The placement of fill material (gravel and/or soil) or construction equipment on suitable habitat could result in direct loss of habitat.

4.2 Indirect Effects

Long-term habitat alterations

Species/ Resource	Identify long-term, permanent changes in habitat
American Burying Beetle	Most habitat disturbance will likely be temporary. However, any permanent conversion of mixed grass field and/or forest to road and/or shoulder could be considered permanent habitat loss.

Indirect land use impacts

None

4.3 Interrelated and Interdependent Actions and Activities

The proposed action involves road improvements, with no capacity expansion, and the proposed action will not likely impact current land use in the area; therefore, no interrelated and interdependent actions are expected.

USFWS TAILS Number:	**02EKOK00-2018-SLI-2036**
ODOT Project JP Number:	**JP 31047(04); JP 31053(04) and JP 31054(04)**

Species Conclusion Table (Check √ which apply)

SPECIES / DESIGNATED CRITICAL HABIT	CONCLUSION		ESA SECTION 7			NOTES AND DOCUMENTATION Check √ all that apply			
	Species Habitat present within the action area	Project Activities expected to impact habitat	No Effect	May affect, unlikely to adversely affect	May affect, Likely to adversely affect	Field Studies	database review[1]	USFWS Review[2]	Other[3]
American Burying Beetle	X	X	Final Effect Analysis and Determination covered in the Programmatic BA&BO			X	☐	☐	☐
Least Interior Tern	☐	☐	X	☐	☐	X	☐	X	☐
Piping Plover	☐	☐	X	☐	☐	X	☐	☐	☐
Red Knot	☐	☐	X	☐	☐	X	☐	☐	☐
Whooping Crane	☐	☐	X	☐	☐	X	☐	X	☐

[1]ONHI rare species / ABB
[2]USFWS occupied water bodies and associate watershed maps
[3]Whooping Crane Migration Corridor Map; LPC Habitat Model

CONCLUSIONS

No Effect	Interior Least Tern, Piping Plover, Whooping Crane and Red Knot
May affect, unlikely to adversely affect	
May affect, likely to adversely affect	
Not likely to jeopardize the continued existence of the species – Candidate species only	
Appropriate Effect Determination has been made for the ABB in the Programmatic BA & BO	

RECOMMENDED AVOIDANCE AND MINIMIZATION MEASURES

A survey to detect the presence of the **American Burying Beetle** will be conducted within one year prior to construction. If the survey is negative, the project will proceed with restriction of the use of artificial lighting and requirement to remove all trash and carcasses from within the ROW. If the survey is positive,

1. The areas of suitable habitat will be field mapped and verified.
2. The amount of ground disturbance to suitable ABB habitat within the construction footprint will be minimized to only what is necessary for project construction,
3. Construction requiring artificial lighting will be minimized. If night construction is necessary, direct light will be shielded to the work area and prevent light from projecting upwards.
4. Carcasses and trash will continuously be removed from the new permanent, and any construction temporary, ROW.
5. Following construction, areas of ground disturbance – outside of the safety clear zone - will have the soil ripped and then be re-vegetated with native plant species.
6. The final acreage of suitable ABB habitat impacts will be categorized as temporary, permanent cover change or permanent. Mitigation ratios for impacts to ABB habitat will be as follows:

Impact duration	Within the Consultation Range but not within a conservation priority area
Temporary	1:0.25
Permanent Cover Change	1:0.5
Permanent	1:1

5. BALD EAGLE AND SWALLOW ASSESSMENT

5.1. Bald Eagle Assessment

The Bald Eagle (*Haliaeetus leucocephalus*) is a large predatory bird protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Activities that would disturb eagles are prohibited under the Bald and Golden Eagle Protection Act. "Disturb" means to agitate an eagle to the degree that causes or is likely to (1) cause injury, (2) interfere with breeding, feeding or sheltering behavior, or (3) nest abandonment.

Potential Bald Eagle Habitat Present	w/in NEPA Footprint	w/in 1000 ft Buffer of NEPA Footprint	DO NOT LEAVE BLANK
Presence of Cottonwood, Sycamore, Pecan or Pine	X	X	Large pecan (Carya illinoinensis) and American sycamore (Platanus occidentalis) trees were observed within the study area.
Open foraging areas with large trees	X	X	Large areas of open hayland and rangeland were observed along large pecan (Carya illinoinensis) and American sycamore (Platanus occidentalis) trees.
Distance to closest perennial water body	River or Lake	Within 4 Miles of Study Area	Delaware Creek was located within the study area. A mature, forested riparian corridor was observed along the stream. In addition, several small agricultural ponds were observed within, and within the vicinity of, the study area. Clear Boggy Creek is located three (3) to four (4) miles north/east of the study area.
	Stream or Pond	Within Study Area	
Potential Bald Eagle Nests Observed	☐	☐	None observed within 1,000 feet of the study area during field reconnaissance.
Bald Eagles Observed in the general vicinity	☐	☐	None observed within vicinity during field reconnaissance.
General Description of Bald Eagle Nesting Habitat and Impact Determination, within the NEPA Footprint and within 1,000-ft of the NEPA Footprint	The only areas supporting potential Bald Eagle habitat were observed along Delaware Creek, Walnut Branch, Tell Creek and Elm Creek. These mature riparian corridors were adjacent to rangeland and hayland creating a preferred nesting site with optimal viewing along the forest edge.		

Station #s for Buffered Bald Eagle Habitat	Estimated south end of Delaware Creek/Walnut Branch buffered habitat N 34.39894, W 96.42451 and estimated north end of Delaware Creek/Walnut Branch buffered habitat N 34.41994, W 96.4246, NAD83. Estimated south end of Elm Creek/Tell Creek buffered habitat N 34.445, W 94.42431 and estimated north end of Elm Creek/Tell Creek buffered habitat N 34.46984, W 96.42461, NAD83.
In order to avoid impacts to Bald Eagles, if Bald Eagles or their habitat are observed during the biological assessment, a survey for eagles and their nests will be conducted within 1,000 feet of the work zone, during the winter prior to, and within one year of, the start of construction. If a nest is found, appropriate conservation measures based on the National Bald Eagle Management Guidelines will be implemented.	

5.2 Migratory Bird Assessment

Cliff Swallows (*Petrochelidon pyrrhonota*) and Barn Swallows (*Hirundo rustica*) are small colonial and semi-colonial nesting birds protected by the federal Migratory Bird Treaty Act. Barn Swallows use man-made structures for nesting and live in close association with humans. Both species commonly use bridges and culverts in Oklahoma for nesting. Other migratory birds can also nest on transportation structures.

Identify ALL structures including pipe culverts and whether positive or negative for migratory birds (identify named streams where possible rather than just FS#). Provide shapefiles and map of structures identifying pos/neg swallow structures.	Approx. Number of Cliff Swallow Nests	Approx. Number of Barn Swallow Nests	Approx. Number of Eastern Phoebe Nests
(NBI: 15121) Bridge over FS-1 [N 34.40691, W 96.42447, NAD83].	65	0	0
(NBI: 14958) Bridge over FS-4 [N 34.41529, W 96.42466, NAD83].	200	2	0
RCB [N 34.422010, W 96.424626, NAD83].	1	0	0
RCB over FS-5 [N 34.433064, W 96.424437, NAD83].	0	0	0
RCB over FS-6 [N 34.443302, W 96.424433, NAD83].	50	0	1
RCB over FS-9 [N 34.446403, W 96.424442, NAD83].	5	0	2
(NBI: 14955) Bridge over FS-12 [N 34.451186, W 96.424471, NAD83].	115	0	0
RCB over FS-4 [N 34.45787, W 96.42451, NAD83].	0	1	0
(NBI: 14959) Bridge over FS-15 [N 34.46171, W 96.42454, NAD83].	120	0	0
RCP [N 34.470414, W 96.424427, NAD83].	0	0	0
RCB [N 34.471945, W 96.424581, NAD83].	0	0	0
RCB over FS-18 [N 34.476087, W 96.424433, NAD83].	0	0	0
RCP [N 34.482015, W 96.424589, NAD83].	0	0	0
RCB over FS-19 [N 34.489887 W 96.424181, NAD83].	0	0	0

Identify ALL structures including pipe culverts and whether positive or negative for migratory birds (identify named streams where possible rather than just FS#). Provide shapefiles and map of structures identifying pos/neg swallow structures.	Approx. Number of Cliff Swallow Nests	Approx. Number of Barn Swallow Nests	Approx. Number of Eastern Phoebe Nests
RCB over FS-20 [N 34.483873, W 96.424585, NAD83].	0	0	0
Other MB Nests Observed on Transportation Structures	No other nests were observed on any ODOT structures.		
Based on existing plans, no work on suitable structures will occur			
In order to avoid impacts to migratory birds, if structures are being used by these birds, any activities that may destroy active nests, eggs or birds shall be completed between September 1, and March 31, when nests are not occupied. If seasonal avoidance cannot be accomplished, structures shall be protected from new nest establishment prior to April 1, by means that do not result in death or injury to these birds.			

6. REFERENCES:

Carter, B.J. and M.S. Gregory. 2008. Earth sciences and mineral resources of Oklahoma: educational publication 9. K.S. Johnson and K.V. Luza, Ed. Oklahoma Geological Survey, University of Oklahoma.

Duck, L. G., and J. B. Fletcher. 1945. A survey of the game and furbearing animals of Oklahoma; Chapter 2, The Game Types of Oklahoma. Oklahoma Game and Fish Commission, Division of Wildlife Restoration and Research. Oklahoma City.

Woods, A.J., Omernik, J.M., Butler, D.R., Ford, J.G., Henley, J.E., Hoagland, B.W., Arndt, D.S., and Moran, B.C. 2005. Ecoregions of Oklahoma (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,250,000).

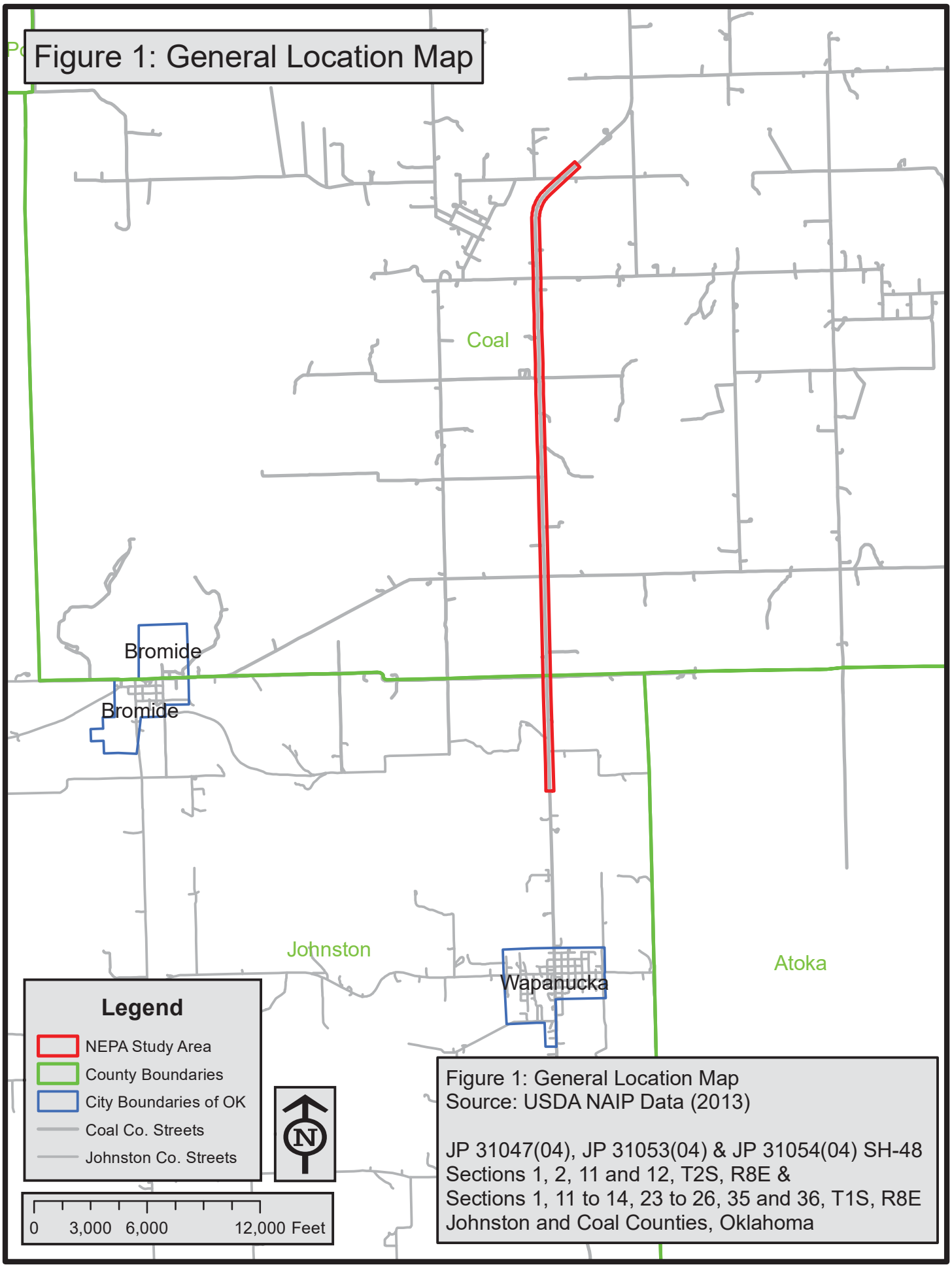


Figure 1: General Location Map
Source: USDA NAIP Data (2013)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma

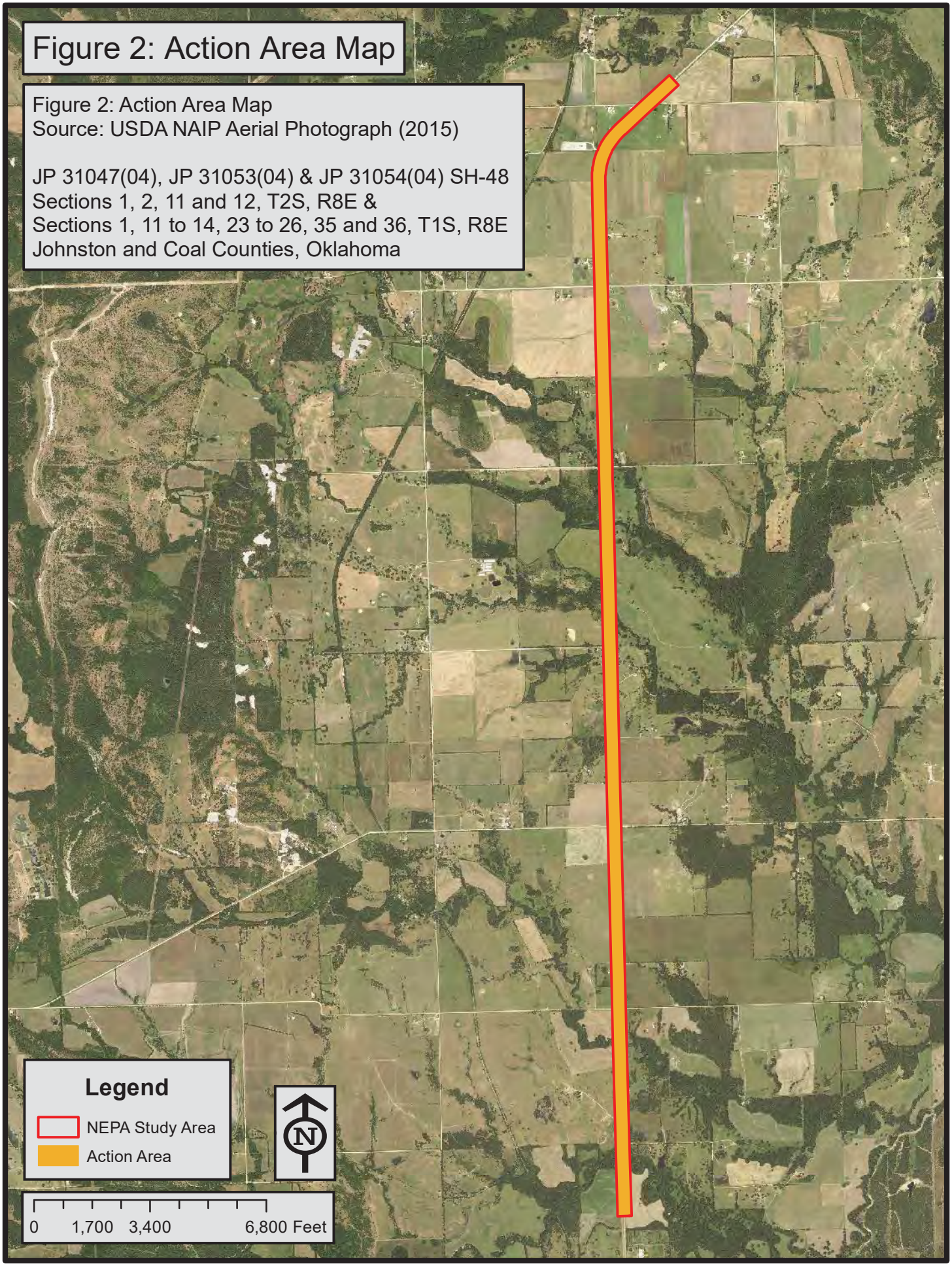
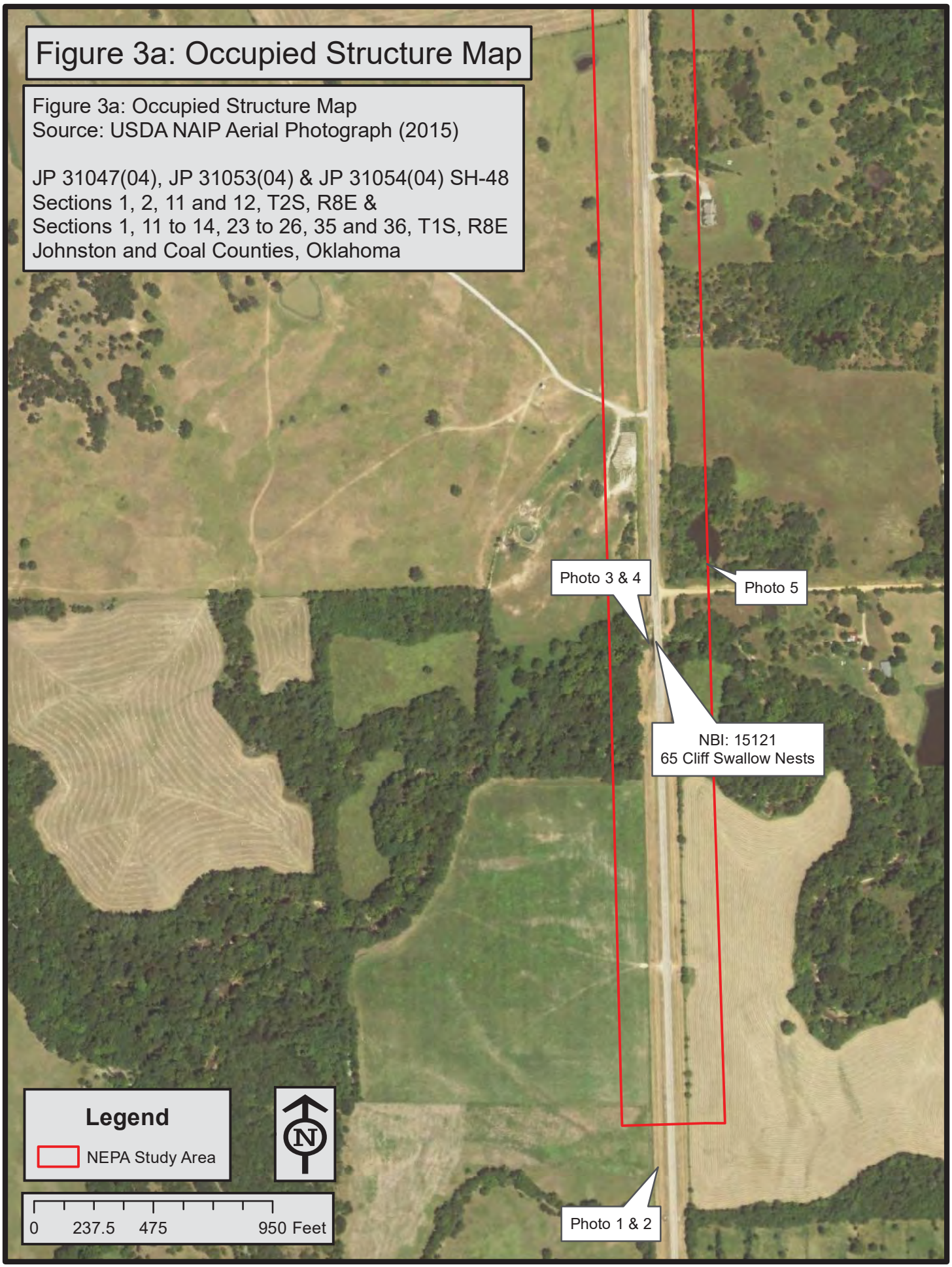


Figure 2: Action Area Map
Figure 2: Action Area Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Legend
NEPA Study Area
Action Area
N
0
1,700
3,400
6,800 Feet

Figure 3a: Occupied Structure Map

Figure 3a: Occupied Structure Map
Source: USDA NAIP Aerial Photograph (2015)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma



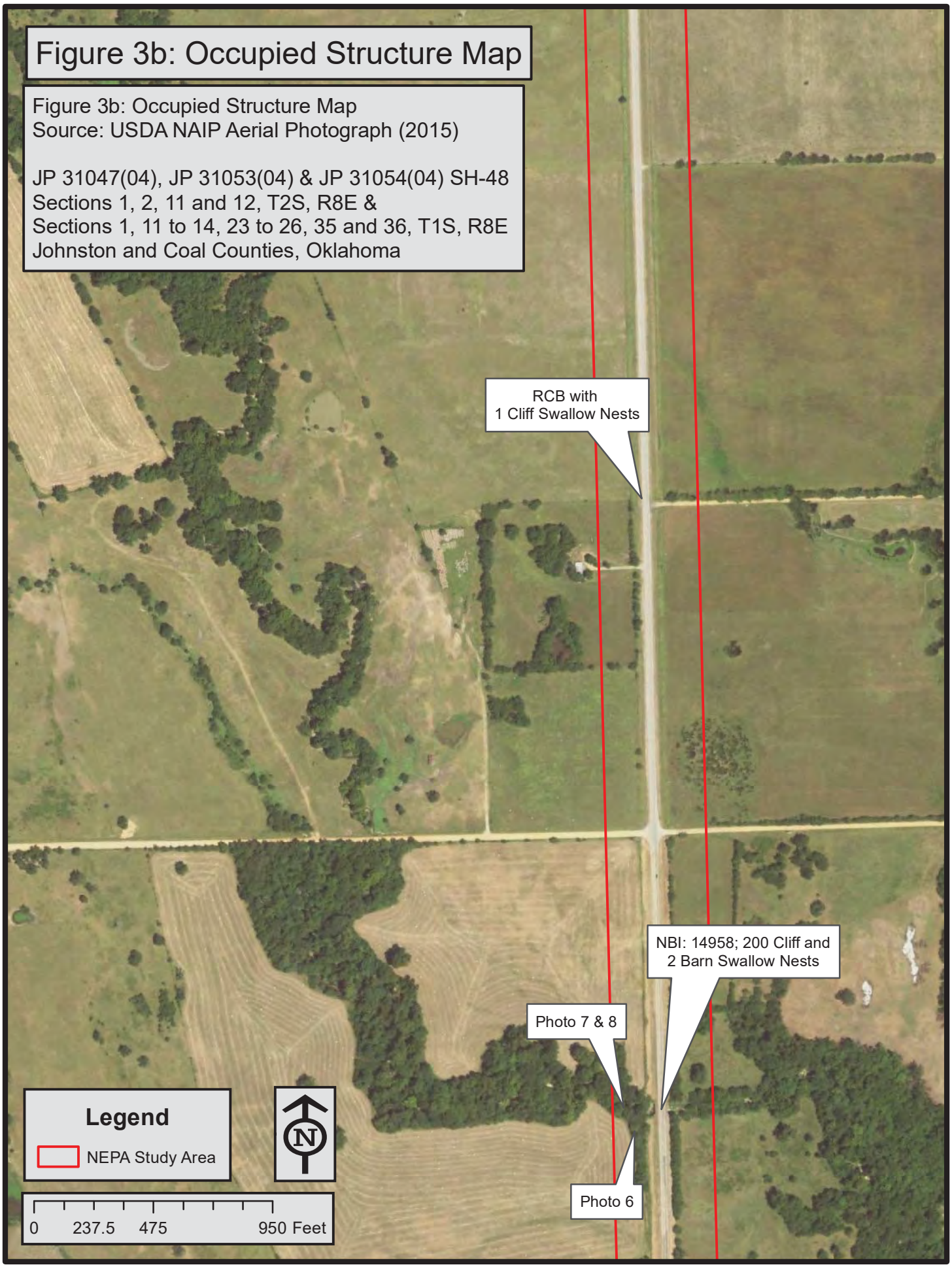


Figure 3b: Occupied Structure Map
Figure 3b: Occupied Structure Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
RCB with
1 Cliff Swallow Nests
NBI: 14958; 200 Cliff and
2 Barn Swallow Nests
Photo 7 & 8
Photo 6
Legend
NEPA Study Area
N
0
237.5
475
950 Feet

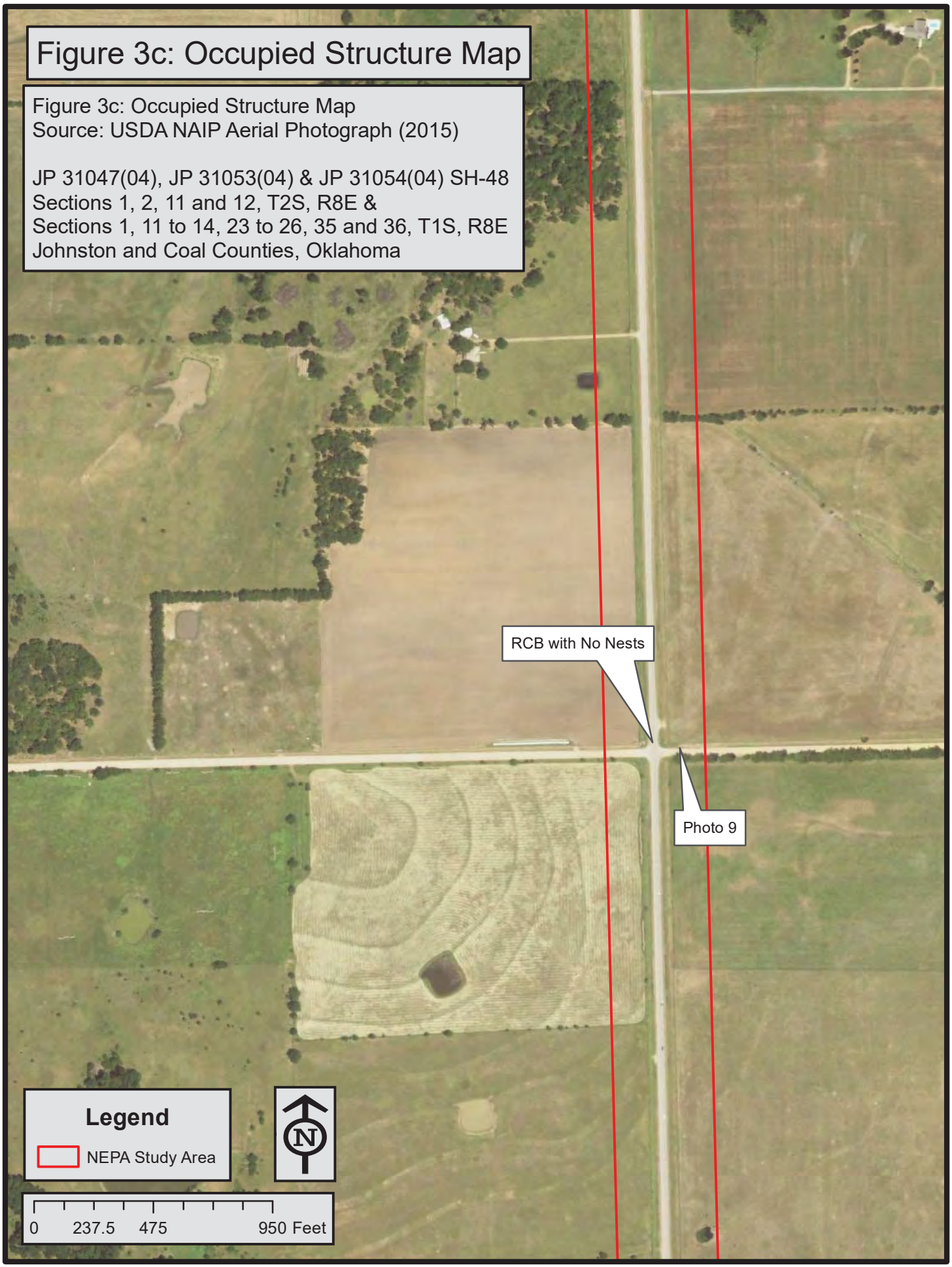


Figure 3c: Occupied Structure Map
Figure 3c: Occupied Structure Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
RCB with No Nests
Photo 9
Legend
NEPA Study Area
N
0
237.5
475
950 Feet

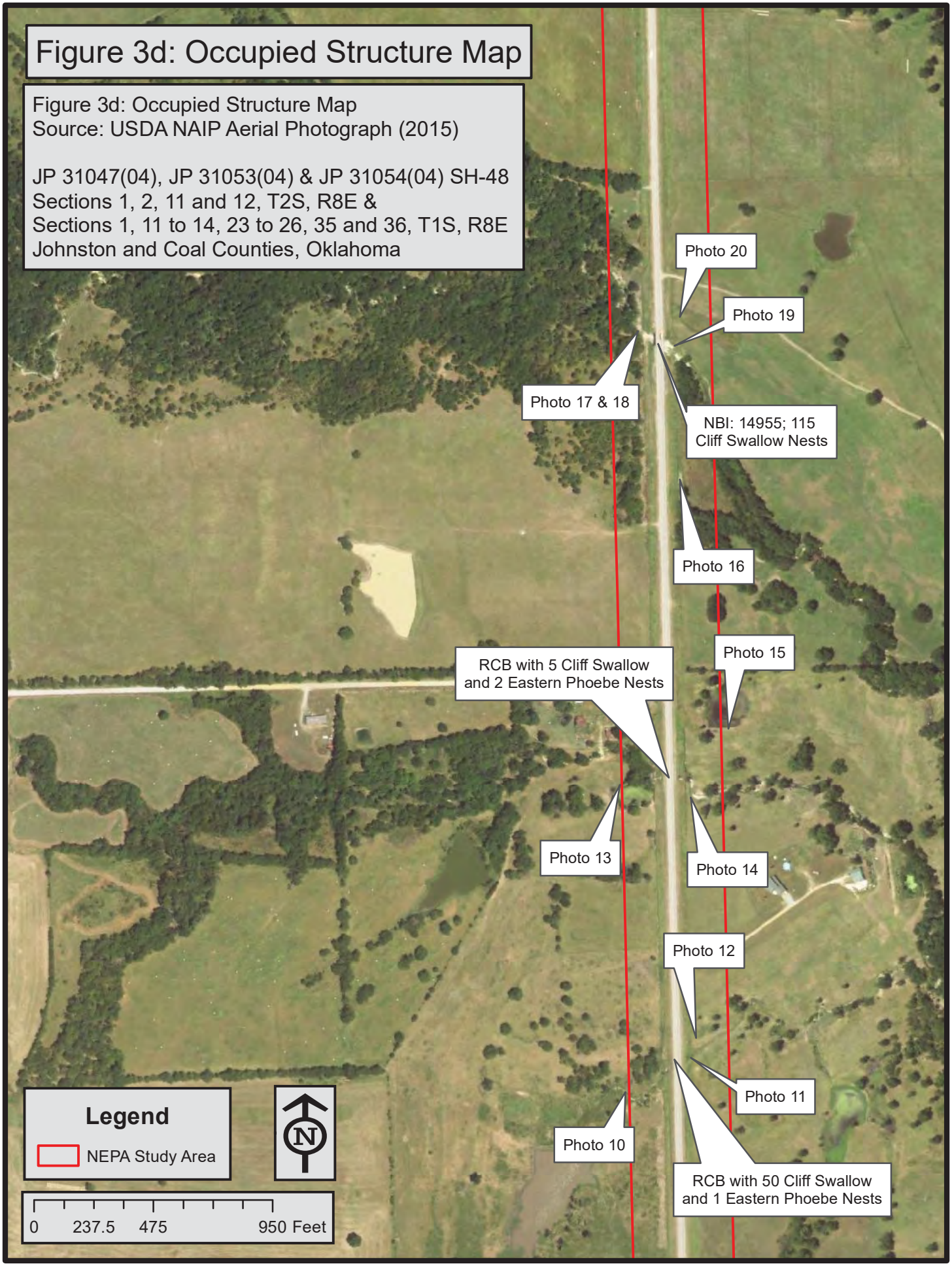


Figure 3d: Occupied Structure Map
Figure 3d: Occupied Structure Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Photo 20
Photo 19
Photo 17 & 18
NBI: 14955; 115
Cliff Swallow Nests
Photo 16
Photo 15
RCB with 5 Cliff Swallow
and 2 Eastern Phoebe Nests
Photo 13
Photo 14
Photo 12
Photo 11
Photo 10
RCB with 50 Cliff Swallow
and 1 Eastern Phoebe Nests
Legend
NEPA Study Area
N
0
237.5
475
950 Feet

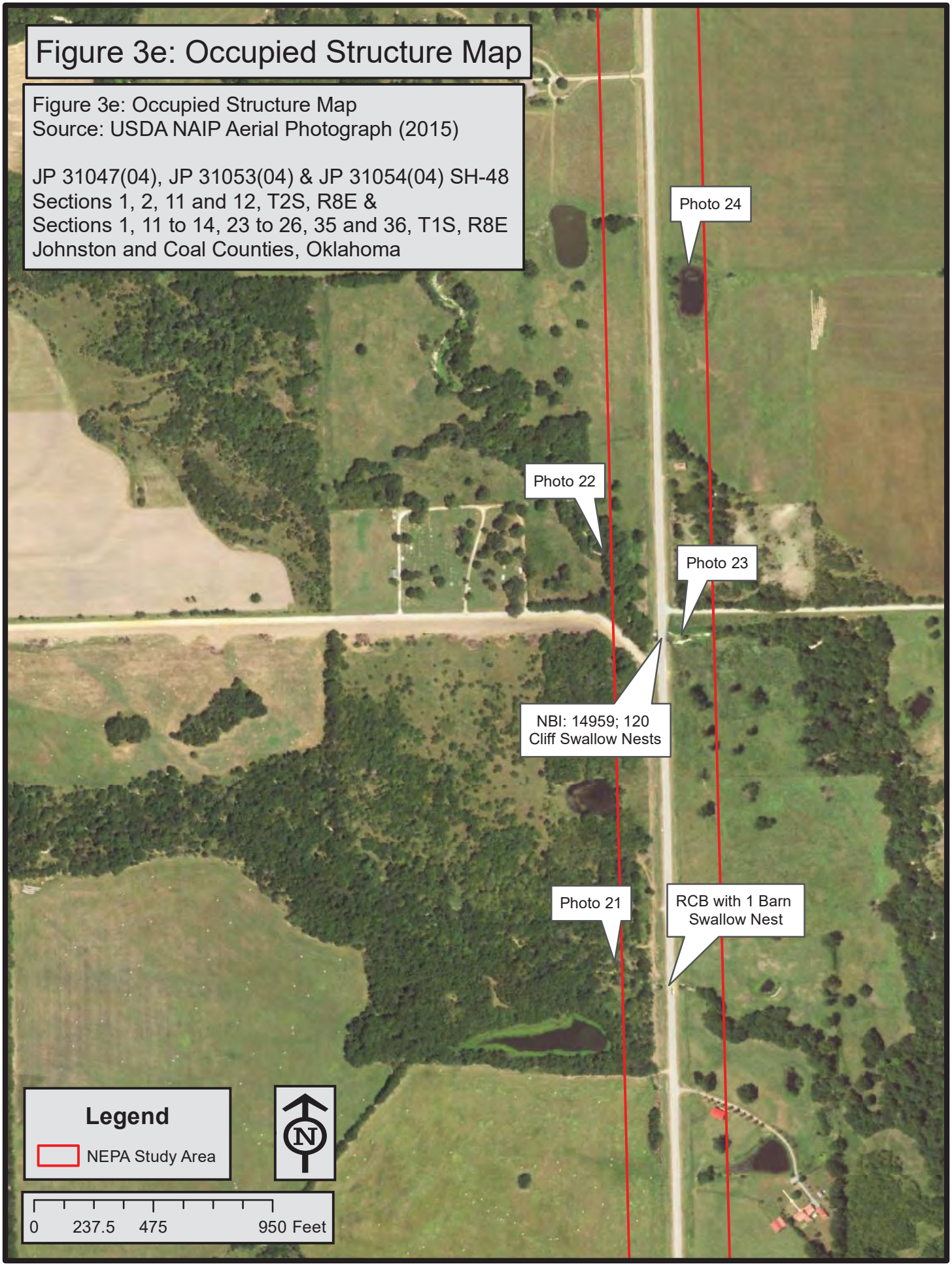
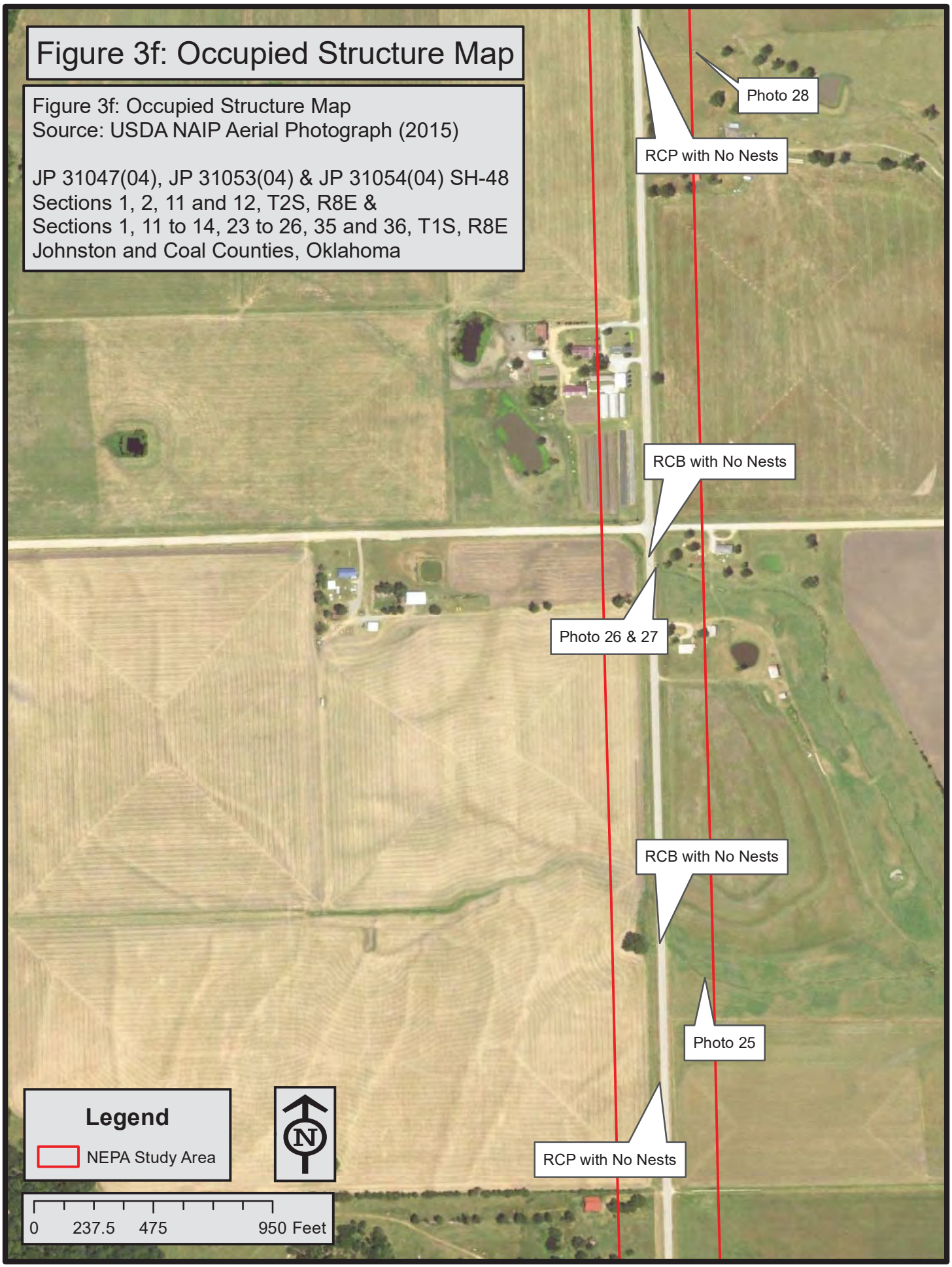


Figure 3e: Occupied Structure Map
Figure 3e: Occupied Structure Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Photo 24
Photo 22
Photo 23
NBI: 14959; 120
Cliff Swallow Nests
Photo 21
RCB with 1 Barn
Swallow Nest
Legend
NEPA Study Area
N
0
237.5
475
950 Feet

Figure 3f: Occupied Structure Map

Figure 3f: Occupied Structure Map
Source: USDA NAIP Aerial Photograph (2015)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma



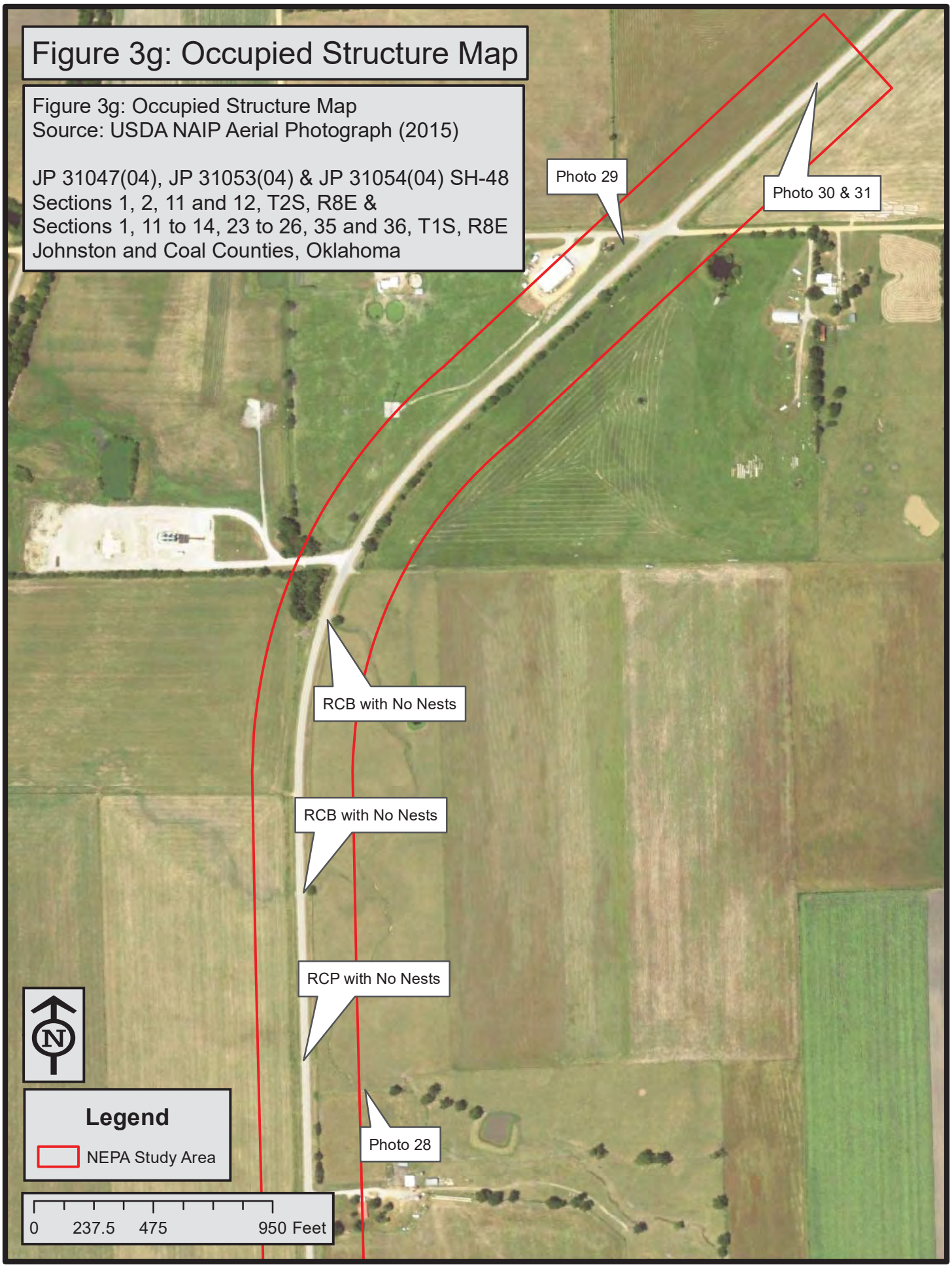


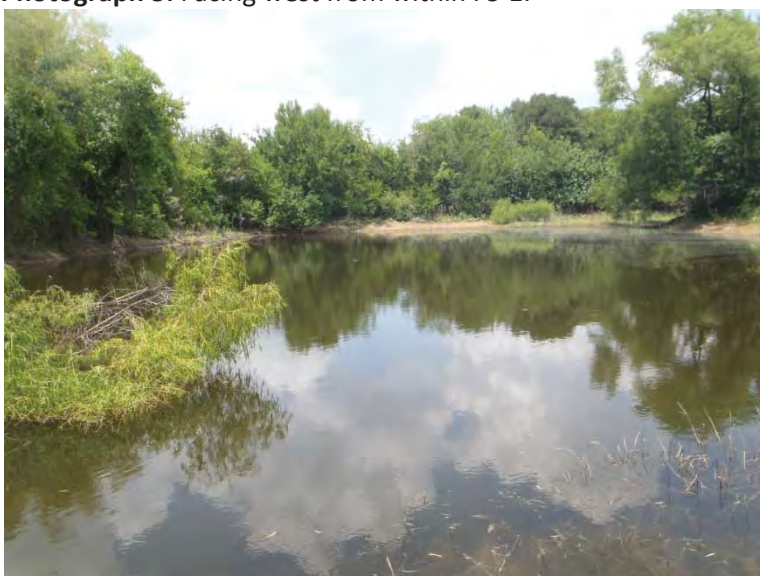
Figure 3g: Occupied Structure Map
Figure 3g: Occupied Structure Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Photo 29
Photo 30 & 31
RCB with No Nests
RCB with No Nests
RCP with No Nests
Photo 28
N
Legend
NEPA Study Area
0
237.5
475
950 Feet

Photograph 1: Facing south along SH-48 near southern edge of study area.

Photograph 2: Facing north along SH-48 near southern edge of study area.

Photograph 3: Facing west from within FS-1.

Photograph 4: Facing east from within FS-1.



Photograph 5: Facing north across FS-2.

Photograph 6: Facing north from within FS-3 toward FS-4.

Photograph 7: Facing west from within FS-4.

Photograph 8: Facing east from within FS-4.

Photograph 9: Facing west along FS-5.

Photograph 10: Facing east from within FS-6.

Photograph 11: Facing southwest across FS-7.

Photograph 12: Facing northeast from Upland data point toward FS-6.

Photograph 13: Facing east across FS-8.

Photograph 14: Facing north from within FS-9.

Photograph 15: Facing northwest across FS-10.

Photograph 16: Facing north from within FS-11.

Photograph 17: Facing northwest from within FS-12.

Photograph 18: Facing southeast from within FS-12.

Photograph 19: Facing northwest from within FS-12.

Photograph 20: Facing east from within FS-13.

Photograph 21: Facing east from within FS-14.

Photograph 22: Facing east from within FS-15.

Photograph 23: Facing west from within FS-15.

Photograph 24: Facing south across FS-16.

Photograph 25: Facing northwest along FS-17.

Photograph 26: Facing northwest along FS-18a.

Photograph 27: Facing southeast along FS-18a into FS-18b.

Photograph 28: Facing west along FS-19.

Photograph 29: Facing east from within FS-21.

Photograph 30: Facing southwest along SH-48 near northern edge of study area.

Photograph 31: Facing northeast along SH-48 near northern edge of study area.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467
http://www.fws.gov/southwest/es/Oklahoma/

In Reply Refer To: July 03, 2018
Consultation Code: 02EKOK00-2018-SLI-2036
Event Code: 02EKOK00-2018-E-04745
Project Name: JP 31047(04); SH-48; Johnston County, Oklahoma

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Non-federal entities conducting activities that may result in take of listed species should consider seeking coverage under section 10 of the ESA, either through development of a Habitat Conservation Plan (HCP) or, by becoming a signatory to the General Conservation Plan (GCP) currently under development for the American burying beetle. Each of these mechanisms provides the means for obtaining a permit and coverage for incidental take of listed species during otherwise lawful activities.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit through our Project Review step-wise process http://www.fws.gov/southwest/es/oklahoma/OKESFO%20Permit%20Home.htm.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
(918) 581-7458

Project Summary

Consultation Code: 02EKOK00-2018-SLI-2036

Event Code: 02EKOK00-2018-E-04745

Project Name: JP 31047(04); SH-48; Johnston County, Oklahoma

Project Type: TRANSPORTATION

Project Description: Proposed Road Construction Project

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/34.44647802507366N96.42322474313528W

Counties: Coal, OK | Johnston, OK

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Least Tern Sterna antillarum	Endangered
Population: interior pop. No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Towers (i.e. radio, television, cellular, microwave, meterological) ▪ Wind Turbines and Wind Farms Species profile: https://ecos.fws.gov/ecp/species/8505	
Piping Plover Charadrius melodus	Threatened
Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	
Red Knot Calidris canutus rufa	Threatened
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	
Whooping Crane Grus americana	Endangered
Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	

Insects

NAME	STATUS
American Burying Beetle Nicrophorus americanus	Endangered

Population: Wherever found, except where listed as an experimental population

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/66

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the

FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PFO1Ah

FRESHWATER POND

- PUBHh
- PUBH
- PUBHx

RIVERINE

- R4SBC
- R5UBF
- R2UBH

WATERS AND WETLANDS EVALUATION REPORT

For

County	Johnston Coal	JP Number	31047(04) 31053(04) 31054(04)	Project Number	J3-1047(004) J3-1053(004) J3-1054(004)
Road Number	State Highway 48 (SH-48)	Waterbody Name			
ROW Date		Let Date		Project Length	Approximately 34,160 Feet
Project General Location		SH-48 beginning 1.0 miles south of Johnston county line and extending north 6.0 miles; SH-48 beginning 2.2 miles north of Junction SH-7; SH-48 beginning 2.1 miles north of Johnston county line.			
Project Statement From Oracle		Widen and Resurface SH-48; Bridge and Approaches over Delaware Creek and Walnut Branch; Bridge and Approaches over Elm Creek and Tell Creek			

Prepared for:
Oklahoma Department of Transportation
Environmental Programs Division
200 NE 21st Street
Oklahoma City, OK 73105

Prepared by:

Biologist Name	Clint M. Porter
Company/Agency Name	Blackbird Environmental, LLC
Address	PO Box 720100
City, State Zip	Norman, OK 73070

Report Date:	July 16, 2018
Field Date:	July 9 and 10, 2018

PROJECT OVERVIEW

Project Type (Choose one)	**Check √**
Bridge and Approaches or bridge widening/structure extension	X
Grade, Drain, Surface and Bridge	
Grade, Drain and Surface	
Asphalt Overlay Resurfacing	
Widen and Resurface existing lanes	X
Pavement Reconstruction or rehabilitation	
Bridge Rehabilitation	
Safety Improvements (Cable Barrier, Guardrail, signage)	
Intersection Modifications	
Safe Routes to School (Describe)	
Enhancements (Describe)	
Other (Describe)	

Description of the **existing** bridge/roadway

The typical section included two (2) 12-foot wide paved lanes with two (2)-foot wide asphalt shoulders. Four (4) bridges and 11 reinforced concrete box (RCB) culverts were included within the study area. NBI: 15121 [N 34.40691, W 96.42447, NAD83] included three (3) 50-foot spans and was constructed in 1960. NBI: 14958 [N 34.41529, W 96.42466, NAD83] included two (2) 13-foot by 15-foot by 48-foot and one (1) 17-foot by 15-foot by 48-foot RCB culverts and was constructed in 1960. NBI: 14955 [N 34.451186, W 96.424471, NAD83] included two (2) 12-foot by 11-foot by 32-foot and one (1) 14-foot by 11-foot by 32-foot RCB culverts and was constructed in 1960. NBI: 14959 [N 34.46171, W 96.42454, NAD83] included two (2) 13-foot by 10-foot by 32-foot and one (1) 17-foot by 10-foot by 32-foot RCB culverts and was constructed in 1960. NBI: 14958 and 15121 are included within the bridge and approaches replacement associated with JP 31053(04). NBI: 14955 and 14959 are included within the bridge and approaches replacement associated with JP 31054(04). The present traffic ADT (vehicles per day) was estimated at 1,400. The future ADT (20-year projection) was not available. The proposed action will improve driver safety by adding eight (8)-foot wide asphalt shoulders and replace and/or extend existing bridges to correct narrow bridges.

Description of **proposed** improvements

The proposed action includes activities associated with widen and resurface and bridge and approaches construction projects. The project will entail symmetrical widening. One-way traffic signals may be used to complete construction half-at-a-time. Wide loads will be detoured

as necessary. The new typical section will include two (2), 12-foot wide, paved lanes with eight (8)-foot wide paved shoulders. Information associated with the proposed new bridges was not provided.

Project Environmental Study Footprint

Project Location		**Environmental Study Footprint**	
Section Range & Township	Lat/Long (NAD 83)	Dimensions	Acreage
S 1, 2, 11 & 12, T2S, R8E; S 1, 11 to 14, 23 to 26, 35 & 36, T1S, R8E	south end: N 34.40165, W 96.42451; north end: N 34.49302, W 96.41697	The study area included 200 feet east and west of the centerline and included approximately 34,160 feet of SH-48	314 Acres

Environmental Study Footprint Soils (NRCS Soil Survey Map) (NRCS, 2018a)

Map Unit Name	**Percent Slope**	**Drainage Class**	**Hydric Rating**		**Description (NRCS, 2018b)**
			YES	**NO**	
Gowton loam, occasionally flooded (26)	0 to 1	Well Drained		**X**	The Gowton series consists of very deep, well drained, moderately permeable soils. They formed in loamy sediments of Pleistocene Age.
Kaufman clay, occasionally flooded (30)	0 to 1	Moderately Well Drained	**X**		The Kaufman series consists of very deep, moderately well drained, very slowly permeable soils that formed in clayey alluvium derived from mudstone.
Steedman clay loam (40)	3 to 5	Well Drained or Moderately Well Drained		**X**	The Steedman series consists of moderately deep, well drained or moderately well drained, slowly permeable soils that formed in material weathered from shale containing thin strata of sandstone of Pennsylvanian age.
Steedman clay loam (41)	5 to 15			**X**	
Verdigris silty clay loam, occasionally flooded (45)	0 to 1	Well Drained		**X**	The Verdigris series consists of very deep, well drained soils that formed in silty alluvium on flood plains.

Map Unit Name	Percent Slope	Drainage Class	Hydric Rating		Description (NRCS, 2018b)
			YES	NO	
Wilson silt loam (46)	0 to 1	Moderately Well Drained		X	The Wilson series consists of very deep, moderately well drained, very slowly permeable soils that formed in calcareous clayey alluvium of Pleistocene age derived from mudstone.
Burleson clay (BuA)	0 to 1	Moderately Well Drained		X	The Burleson series consists of very deep to clayey alluvium, moderately well drained soils that formed in calcareous clayey alluvium of Pleistocene age derived from mixed sources.
Burleson clay (BuB)	1 to 3	Moderately Well Drained		X	
Pharoah silt loam (Ca)	0 to 1	Somewhat Poorly Drained		X	The Pharoah series consists of very deep somewhat poorly drained soils that were formed in fine textured residuum, on the uplands in the Cherokee Prairies .
Durant loam (CrB)	1 to 3	Moderately Well Drained		X	The Durant series consists of very deep, moderately well drained, very slowly permeable soils that formed in clayey residuum weathered from clayey deposits and shales of Cretaceous age.
Kaufman silty clay loam, occasionally flooded (Ka)	0 to 1	Moderately Well Drained	X		The Kaufman series consists of very deep, moderately well drained, very slowly permeable soils that formed in clayey alluvium derived from mudstone.
Wynona silty clay loam, occasionally flooded (Lc)	0 to 1	Moderately Well Drained	X		The Wynona series consists of very deep, somewhat poorly drained soils that formed in silty alluvium of Pleistocene age. The Dela series consists of very deep, moderately well drained, moderately rapidly permeable soils that formed in loamy and sandy alluvium.
Dela and Wynona soils, frequently flooded (Ra)	0 to 1	Moderately Well Drained	X		

Map Unit Name	Percent Slope	Drainage Class	Hydric Rating		Description (NRCS, 2018b)
			YES	NO	
Steedman clay loam (SdC)	3 to 5	Moderately Well Drained		X	The Steedman series consists of moderately deep, well drained or moderately well drained, slowly permeable soils that formed in material weathered from shale containing thin strata of sandstone of Pennsylvanian age. The Dela series consists of very deep, moderately well drained, moderately rapidly permeable soils that formed in loamy and sandy alluvium.
Steedman-Coweta complex (SeE)	2 to 20	Moderately Well Drained		X	
Steedman-Dela complex (SrE)	5 to 30	Moderately Well Drained	X		
Wilson silt loam (Ws)	0 to 1	Moderately Well Drained		X	The Wilson series consists of very deep, moderately well drained, very slowly permeable soils that formed in calcareous clayey alluvium of Pleistocene age derived from mudstone.

Environmental Study Footprint General Description and Vegetation Present

The study area was located within the Arbuckle Uplift of the Cross Timbers ecoregion of central Oklahoma. The localized general vicinity of the study area included agricultural land and single-family, rural residences. The study area exhibited characteristics of the tall grass prairie game type (Duck and Fletcher, 1945). The study area was dominated by three (3) general habitat types - upland forest, mixed grass field and cropland.

Upland forest included elm (*Ulmus* spp.), hackberry (*Celtis* spp.), green ash (*Fraxinus pennsylvanica*), pecan (*Carya illinoinensis*), post oak (*Quercus stellata*), eastern red cedar (*Juniperus virginiana*) and American sycamore (*Platanus occidentalis*). Other common species along the open edges and understory included wood oats (*Chasmanthium latifolium*), honey suckle (*Lonicera* sp.), green briar (*Smilax* spp.), poison ivy (*Toxicodendron radicans*), coral berry (*Symphoricarpos orbiculatus*), bristle grass (*Setaria* sp.) and panic grasses (*Panicum* spp.).

Common grass species within the mixed grass field included bermuda (*Cynodon dactylon*), little bluestem (*Schizachyrium scoparium*), Johnson grass (*Sorghum halepense*), silver bluestem (*Bothriochloa saccharoides*), fescue (*Lolium* spp.), paspalum grasses (*Paspalum* spp.), switch grass (*Panicum virgatum*), brome grasses (*Bromus* spp.) and bristle grasses (*Setaria* spp.). Annual ragweed (*Ambrosia artemisiifolia*), nightshade (*Solanum* spp.), green briar (*Smilax* spp.), goldenrod (*Solidago* sp.), poison ivy (*Toxicodendron radicans*), trumpet creeper (*Campsis radicans*), and great ragweed (*Ambrosia trifida*) were also common within these areas. The mixed grass field was primarily maintained right-of-way, maintained lawn and mixed pasture/hayland.

Cropland included recently cut wheat and soybeans.

According to review of the United States Geological Survey (USGS) 7.5-Minute Topographic Map, elevations within the study area varied between 590 and 660 feet. Delaware Creek (perennial), Walnut Branch to Delaware Creek (perennial), seven (7) intermittent tributaries to Delaware Creek and three (3) lentic waterbodies were mapped within the study area (Figure 2a and Figure 2b). Delaware Creek is a tributary to Clear Boggy Creek. Clear Boggy Creek is a tributary to Muddy Boggy Creek. Muddy Boggy Creek is a tributary to Red River; therefore, part of the Red River drainage basin.

Seventeen (17) soils were mapped by the Natural Resource Conservation Service (NRCS) within the study area (NRCS, 2018a) (Figure 3a to Figure 3b). Five (5) soils were mapped by the NRCS as hydric soils within the study area (NRCS, 2018a and NRCS, 2018c).

According to review of the USFWS National Wetland Inventory (NWI) map, one (1) palustrine, forested, broad-leaved deciduous, temporarily flooded, diked/impounded (PFO1Ah); eight (8) riverine, intermittent, stream bed, seasonally flooded (R4SBC); one (1) riverine, lower perennial, unconsolidated bottom, permanently flooded (R2UBH); two (2) palustrine, unconsolidated bottom, permanently flooded, dike/impounded (PUBHh) and one (1) palustrine, unconsolidated bottom, permanently flooded, excavated (PUBHx) features were mapped within the study area (Figure 4a to Figure 4b).

WATERS AND WETLANDS EVALUATION

Data Sources Reviewed (list)

USGS 7.5 minute Quad	NWI Map	USACE Wetland Regional Supplement	Additional Resources Reviewed
Wapanuka North, OK (1969)	Wapanuka North, OK (1990)	Great Plains	Additional resources cited within the text and listed within the Literature Cited.

Wetlands and Ponds Summary Table

Field Sites	Type of Wetland or Pond	Cowardin Classification	Potential Jurisdictional Status	Acres within Environmental Study Footprint
FS-2	Lentic Waterbody	Palustrine, Unconsolidated Bottom	Potentially Non-Jurisdictional	0.309
FS-7	Emergent Wetland	Palustrine, Emergent, Persistent	Likely Jurisdictional	0.008
FS-8	Lentic Waterbody	Palustrine, Unconsolidated Bottom	Potentially Non-Jurisdictional	0.217

Field Sites	Type of Wetland or Pond	Cowardin Classification	Potential Jurisdictional Status	Acres within Environmental Study Footprint
FS-10	Lentic Waterbody	Palustrine, Unconsolidated Bottom	Potentially Non-Jurisdictional	0.158
FS-11	Emergent Wetland	Palustrine, Emergent, Persistent	Potentially Non-Jurisdictional	0.055
FS-13	Emergent Wetland	Palustrine, Emergent, Persistent	Potentially Non-Jurisdictional	0.108
FS-16	Lentic Waterbody	Palustrine, Unconsolidated Bottom	Potentially Non-Jurisdictional	0.545
FS-21	Emergent Wetland	Palustrine, Emergent, Persistent	Potentially Non-Jurisdictional	0.075

Streams and Drainages Summary Table

Field Sites	Stream Name[A]	USGS Mapped Status[A]	Potential Jurisdictional Status	Acres within Environmental Study Footprint	Linear Feet within Environmental Study Footprint
FS-1	Delaware Creek	Perennial Stream	Likely Jurisdictional	40 wide at 4 deep (0.366 Acre)*	402 Linear Feet
FS-3	Unnamed Drainage	Non-Mapped Feature	Potentially Non-Jurisdictional	8 wide at 3 deep (0.085 Acre)	460 Linear Feet
FS-4	Walnut Branch to Delaware Creek	Perennial Stream	Likely Jurisdictional	23 wide at 4 deep (0.266 Acre)*	560 Linear Feet
FS-5	Unnamed Drainage	Non-Mapped Feature	Potentially Non-Jurisdictional	6 wide at 3 deep (0.041 Acre)	297 Linear Feet
FS-6	Unnamed Tributary to Delaware Creek	Intermittent Stream	Likely Jurisdictional	8 wide at 3 deep (0.071 Acre)	388 Linear Feet
FS-9	Unnamed Tributary to Delaware Creek	Intermittent Stream	Likely Jurisdictional	10 wide at 3 deep (0.116 Acre)	504 Linear Feet

Field Sites	Stream Name[A]	USGS Mapped Status[A]	Potential Jurisdictional Status	Acres within Environmental Study Footprint	Linear Feet within Environmental Study Footprint
FS-12	Unnamed Tributary to Delaware Creek (Elm Creek)	Intermittent Stream	Likely Jurisdictional	28 wide at 3 deep (0.349 Acre)*	594 Linear Feet
FS-14	Unnamed Tributary to Delaware Creek	Intermittent Stream	Likely Jurisdictional	12 wide at 3 deep (0.152 Acre)	550 Linear Feet
FS-15	Unnamed Tributary to Delaware Creek (Tell Creek)	Intermittent Stream	Likely Jurisdictional	28 wide at 4 deep (0.429 Acre)*	660 Linear Feet
FS-17	Unnamed Drainage	Non-Mapped Feature	Potentially Non-Jurisdictional	6 wide at 2 deep (0.056 Acre)	407 Linear Feet
FS-18a	Unnamed Tributary to Delaware Creek	Intermittent Stream	Likely Jurisdictional	12 wide at 3 deep (0.066 Acre)	240 Linear Feet
FS-18b	Unnamed Tributary to Delaware Creek	Intermittent Stream	Likely Jurisdictional	6 wide at 2 deep (0.036 Acre)	263 Linear Feet
FS-19	Unnamed Tributary to Delaware Creek	Intermittent Stream	Likely Jurisdictional	8 wide at 3 deep (0.177 Acre)	962 Linear Feet
FS-20	Unnamed Drainage	Non-Mapped Feature	Potentially Non-Jurisdictional	6 wide at 3 deep (0.033 Acre)	242 Linear Feet

[A] Waterbody Name and Map Status refer to the USGS 7.5-Minute Topographic Map.
* Surface area calculated from data collected with Trimble GEOXH.

Streams and Other Linear Aquatic Features

Blackbird characterized the lotic waterbodies within the study area as riverine, intermittent, stream bed (R4SB), riverine, lower perennial, unconsolidated bottom (R2UB) (Cowardin *et al.*, 1979) and non-mapped drainage feature (NDF). The locations of the lotic waterbodies are identified on Figure 5a through Figure 5h and described within the above table. Photographs of the delineated waterbodies are provided.

Delaware Creek (FS-1) (R2UB) was not elevated during field reconnaissance. The water was slightly turbid and the substrate was difficult to assess in some segments of the channel. The presence of silt, clay and some cobble were likely based on adjacent stream morphology and visible substrates. The stream embeddedness was difficult to estimate in the absence of visible cobble or boulder. However, some loose silt accumulation was observed along the lower banks. The stream was dominated by a forested riparian corridor within the study area. The stream flow was low with no visible break in the water surface. The water was shallow beneath the existing bridge. *Gambusia affinis* and *Notropis* spp. were observed within the study area. *Lepomis* spp. are likely to occur within pool habitat; however, none were observed. The stream exhibited characteristics of a perennial waterbody.

Walnut Branch to Delaware Creek (FS-4) (R4SB) was dominated by gravel, silt and clay substrates with a mature, forested riparian corridor. Isolated pools were observed within the stream channel. No indicators (sediment bars/islands) of significant sediment accumulation were observed. Some wetland vegetation was growing within the gravel sediment of the stream bed. The stream exhibited characteristics of an intermittent waterbody.

An intermittent tributary to Delaware Creek (FS-12) (R4SB) was listed as Elm Creek within the ODOT provided documents. Elm Creek was not listed on the USGS 7.5-minute topographic map. FS-12 exhibited a channel very similar to Walnut Branch to Delaware Creek (FS-4). The isolated, shallow, pools supported *Gambusia affinis*.

A second intermittent tributary to Delaware Creek (FS-15) (R4SB) was listed as Tell Creek within the ODOT provided documents. Tell Creek was not listed on the USGS 7.5-minute topographic map. FS-15 exhibited a channel very similar to FS-4 and FS-12. The isolated, shallow, pools supported *Gambusia affinis* and *Lepomis* spp.

The remaining intermittent tributaries to Delaware Creek (FS-6, FS-9, FS-14, FS-18 and FS-19) (R4SB) relatively narrow and shallow compared to FS-12 and FS-15. The channels were dominated by silt, clay and gravel substrates with some cobbles. The stream embeddedness was estimated at five (5) to eight (8) percent. No significant sediment accumulation was observed within the stream channels. Isolated pools within the channel supported *Gambusia affinis* and indicated some accumulation of water for extended periods perennially.

FS-18 was divided into two (2) distinct segments within the study area. A short reach (FS-18a) was delineated within the corner between north/south SH-48 and an east/west county road. FS-18a contained standing pools with *Notropis* spp., *Gambusia affinis* and *Lepomis* spp. FS-18b was narrow and dry.

Several non-mapped drainage features (FS-3, FS-5, FS-17 and FS-20) were delineated within the study area. These features appear to convey storm water (surface run off) from SH-48 and the adjacent agricultural land. The features were dominated by silt and clay substrates with limited gravel and cobble. The features exhibited characteristics of ephemeral, upland drainages.

The non-mapped drainage features (FS-3, FS-5, FS-17 and FS-20) exhibited characteristics of upland drainage features and are potentially non-jurisdictional.

According to review of the USGS Topographic Map, FS-1, FS-4, FS-6, FS-9, FS-12, FS-14, FS-15, FS-18 and FS-19 were directly connected to jurisdictional waterbodies. Therefore, the features are likely jurisdictional. The placement and/or redistribution of fill material into the lotic waterbodies will likely require a Clean Water Act, Section 404 Permit.

Wetlands and Other Lentic Waterbodies

Several sites within the study area exhibited hydric soils, hydrophytic vegetation and indicators of hydrology. Therefore, wetlands were delineated within the study area. Blackbird characterized the wetlands within the study area as palustrine, emergent, persistent (PEM1) (Cowardin *et al.*, 1979).

Three (3) emergent wetlands (FS-11, FS-13 and FS-21) were delineated within topographic lows and road-side depressions. The features appear to collect storm water (surface run off) from SH-48 and the adjacent agricultural land. The small depressions were generally dominated by *Eleocharis palustris* and *Phyla lanceolata.* The wetlands were likely seasonally inundated for short periods.

One (1) emergent wetland (FS-7) was delineated within an intermittent stream. The small wetland was dominated by *Lugwigia peploides*.

Blackbird characterized the lentic waterbodies within the study area as palustrine, unconsolidated bottom (PUB) (Cowardin *et al.*, 1979).

Several agricultural ponds (FS-2, FS-8, FS-10 and FS-16) were delineated within the study area. The features appeared to be excavated uplands created to provide water for livestock. The relatively small features likely support a common warm water aquatic community.

The locations of the wetlands and lentic waterbodies are identified on Figure 5a through Figure 5h and described within the above table. Photographs of the delineated waterbodies are provided.

FS-11, FS-13 and FS-21 were not associated with any mapped lotic waterbody. These features appear to be isolated or road-side wetlands within the upland and potentially non-jurisdictional.

FS-2, FS-8, FS-10 and FS-16 appeared to be excavated uplands created to provide water for livestock and potentially non-jurisdictional.

According to review of the USGS Topographic Map, FS-7 was directly connected to jurisdictional waterbodies. Therefore, the feature is likely jurisdictional. The placement and/or redistribution of fill material into the emergent wetland will likely require a Clean Water Act, Section 404 Permit.

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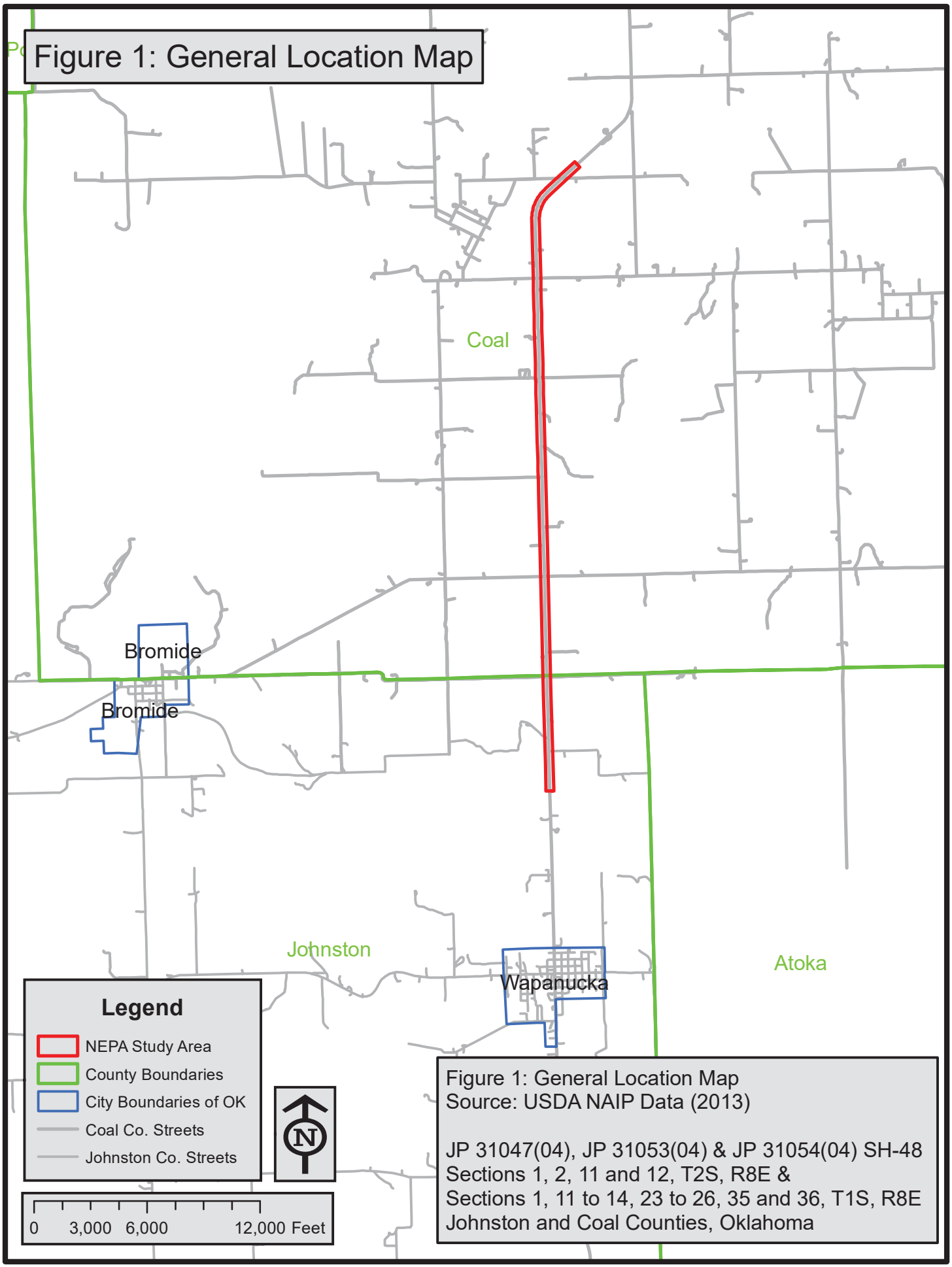


Figure 1: General Location Map
Source: USDA NAIP Data (2013)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma

Figure 2a: Topographic Map

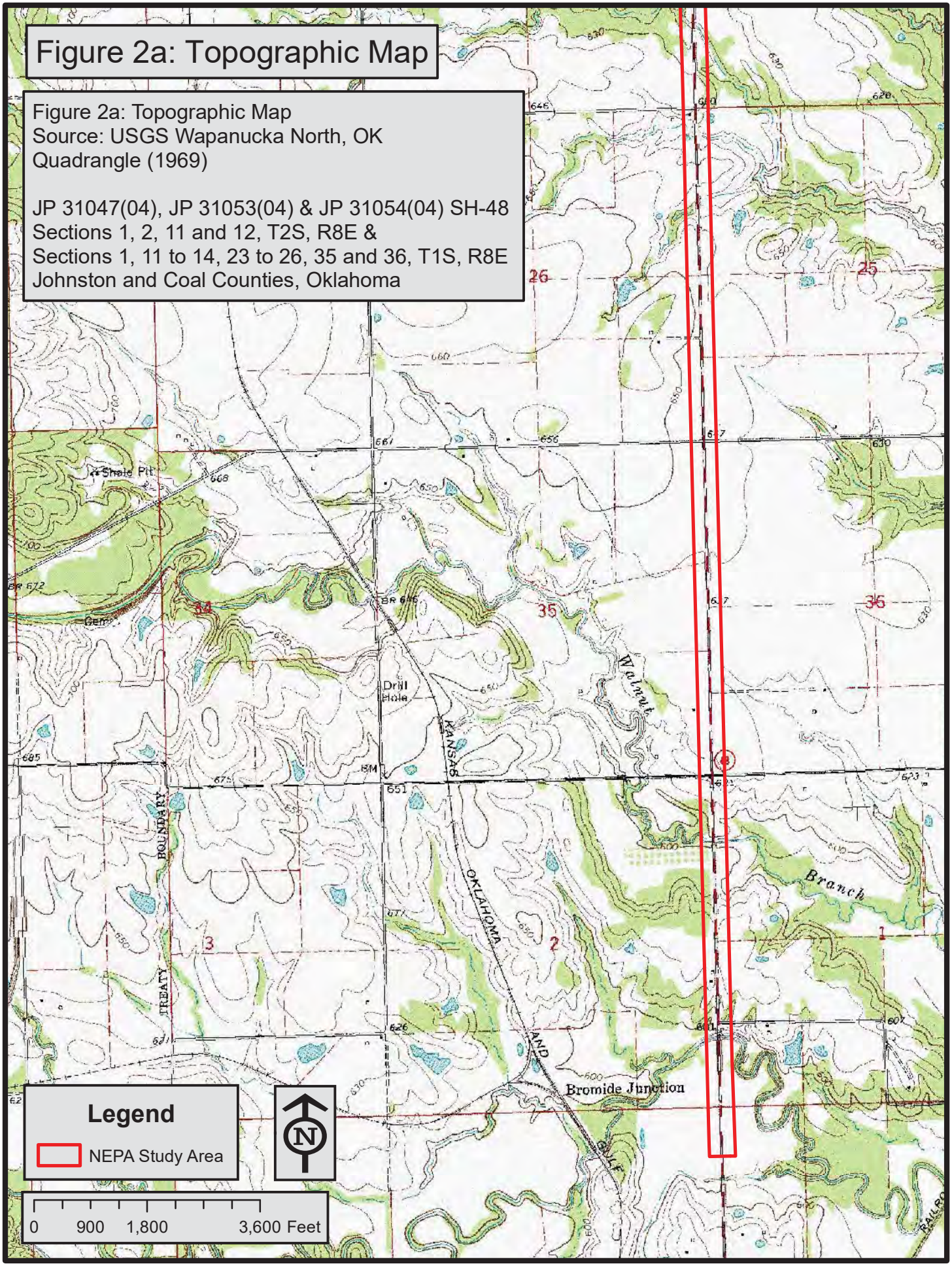
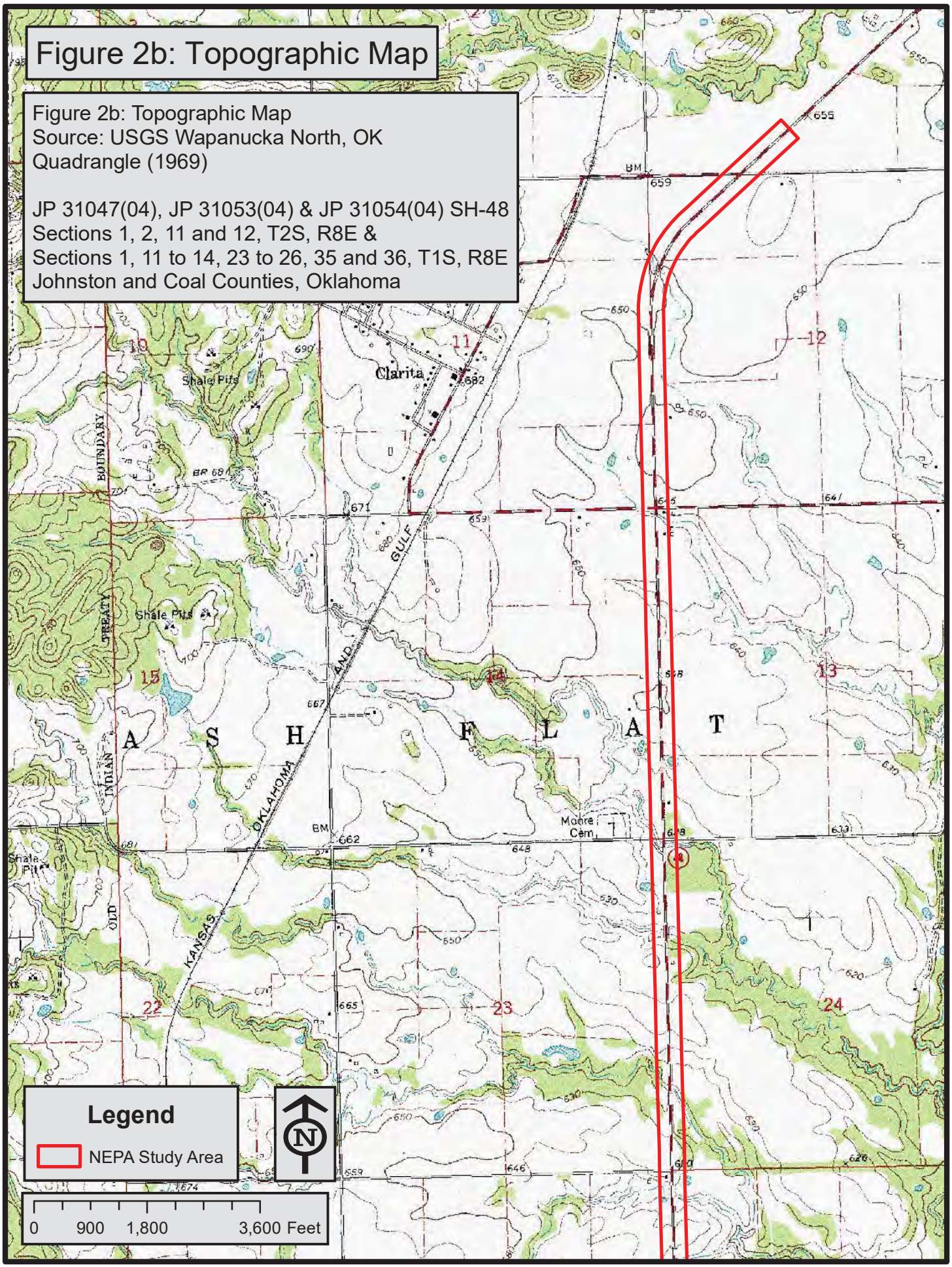


Figure 2b: Topographic Map

Figure 2b: Topographic Map
Source: USGS Wapanucka North, OK Quadrangle (1969)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma



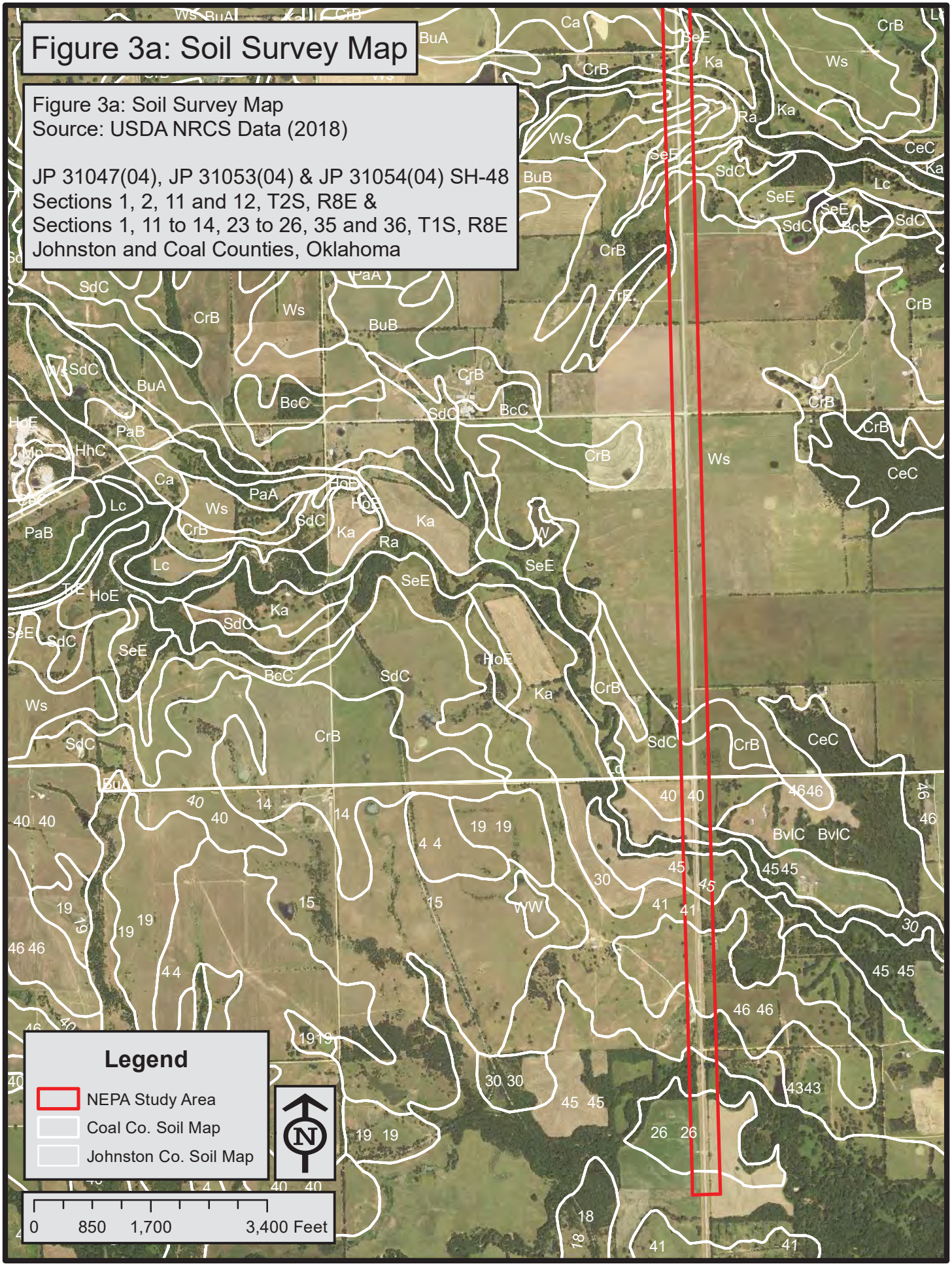


Figure 3a: Soil Survey Map
Figure 3a: Soil Survey Map
Source: USDA NRCS Data (2018)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Legend
NEPA Study Area
Coal Co. Soil Map
Johnston Co. Soil Map
N
0
850
1,700
3,400 Feet

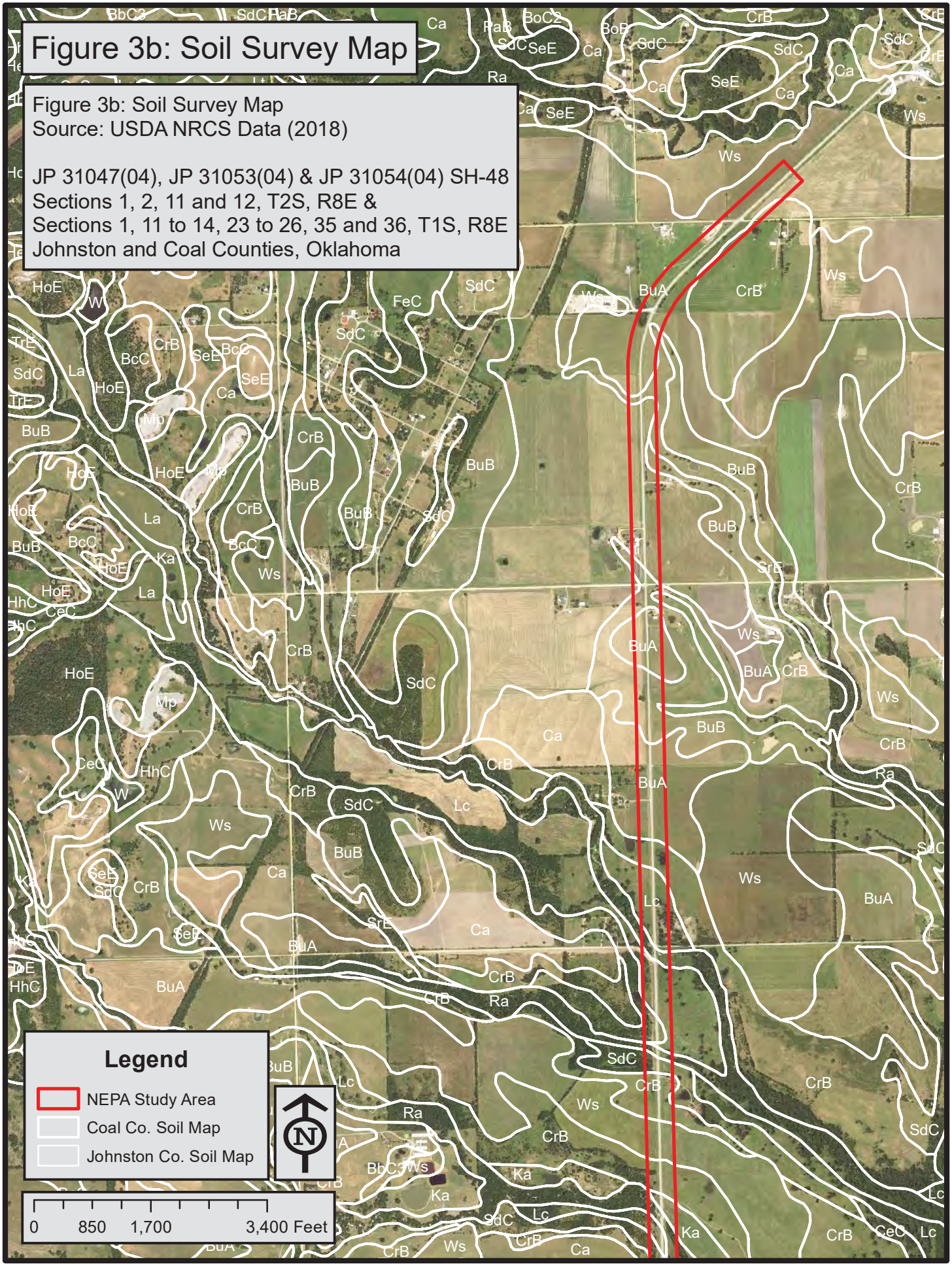
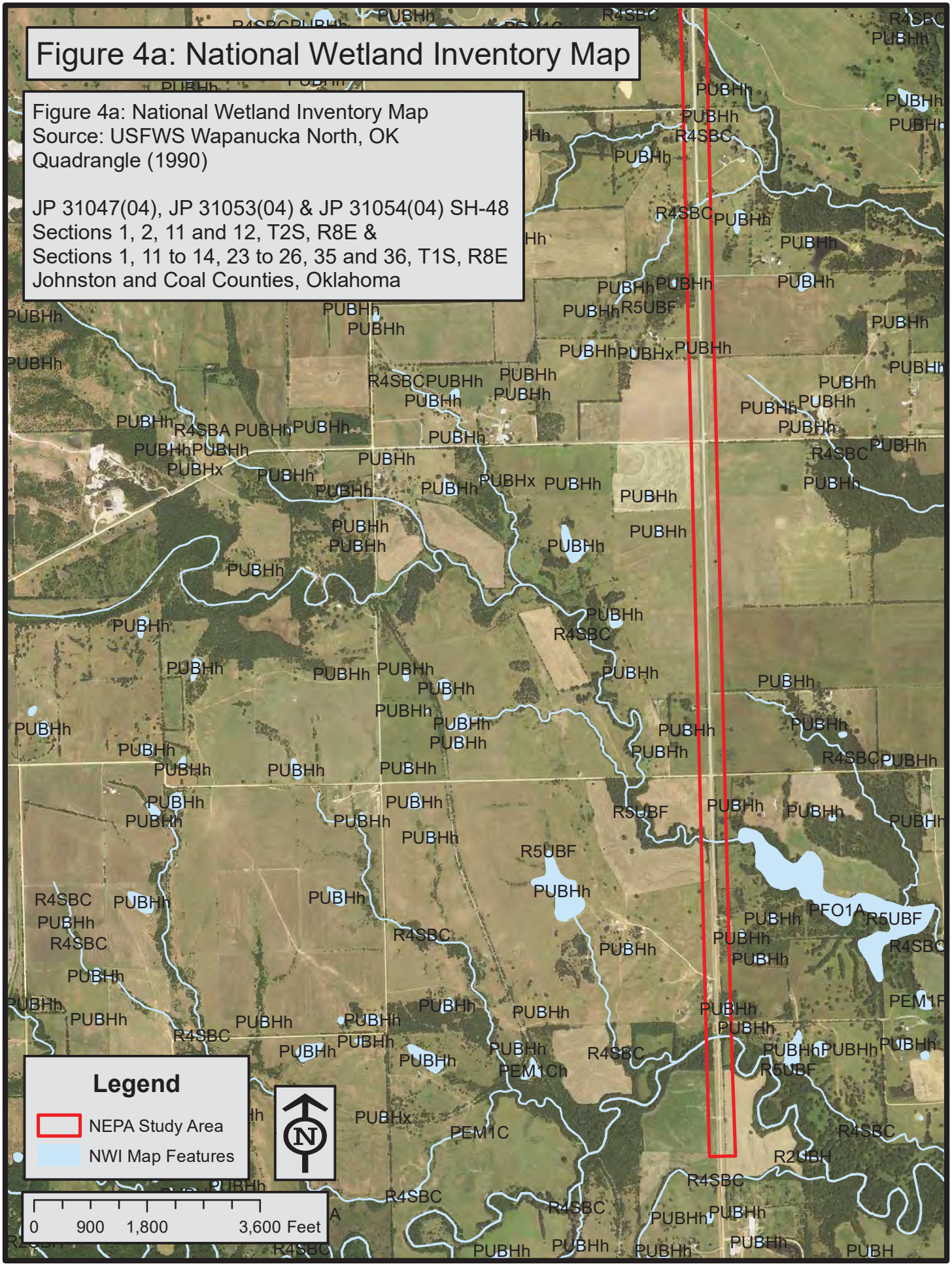


Figure 3b: Soil Survey Map
Figure 3b: Soil Survey Map
Source: USDA NRCS Data (2018)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Legend
NEPA Study Area
Coal Co. Soil Map
Johnston Co. Soil Map
N
0
850
1,700
3,400 Feet

Figure 4a: National Wetland Inventory Map



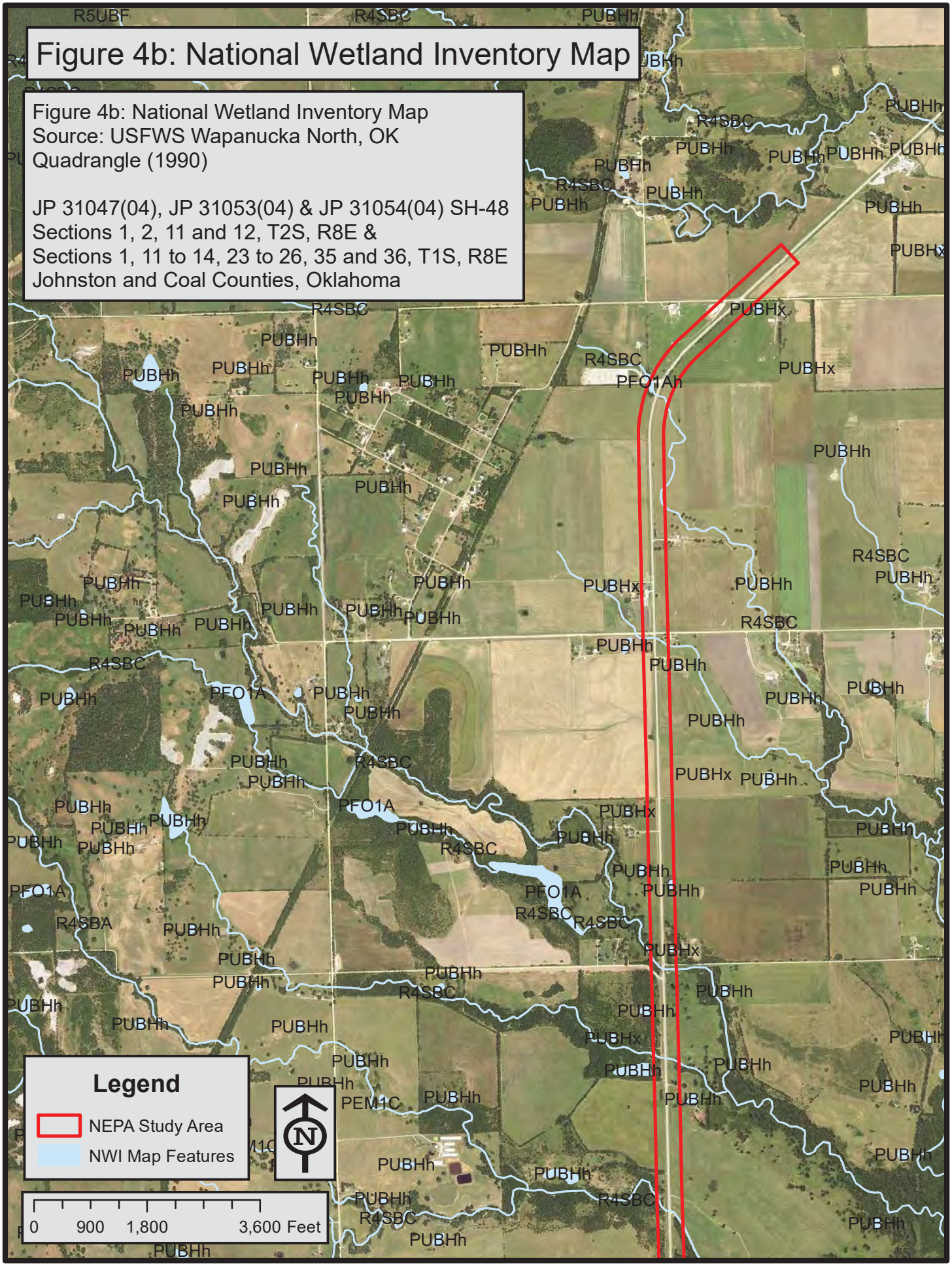
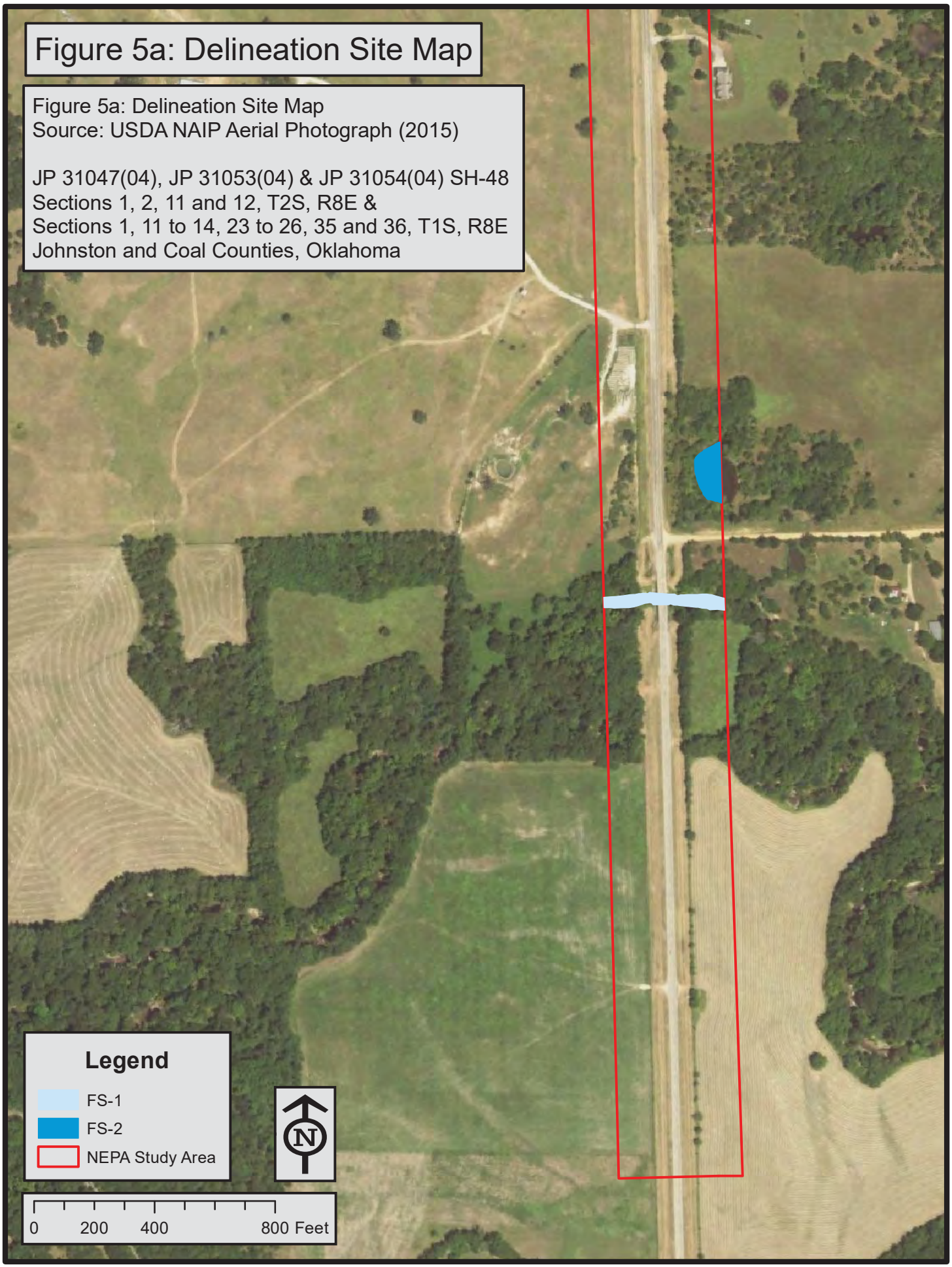


Figure 4b: National Wetland Inventory Map
Figure 4b: National Wetland Inventory Map
Source: USFWS Wapanucka North, OK
Quadrangle (1990)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Legend
NEPA Study Area
NWI Map Features
N
0 900 1,800 3,600 Feet
R5UBF
R4SBC
PUBHh
PUBHx
PFO1A
PFO1Ah
R4SBA
PEM1C

Figure 5a: Delineation Site Map

Figure 5a: Delineation Site Map
Source: USDA NAIP Aerial Photograph (2015)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma



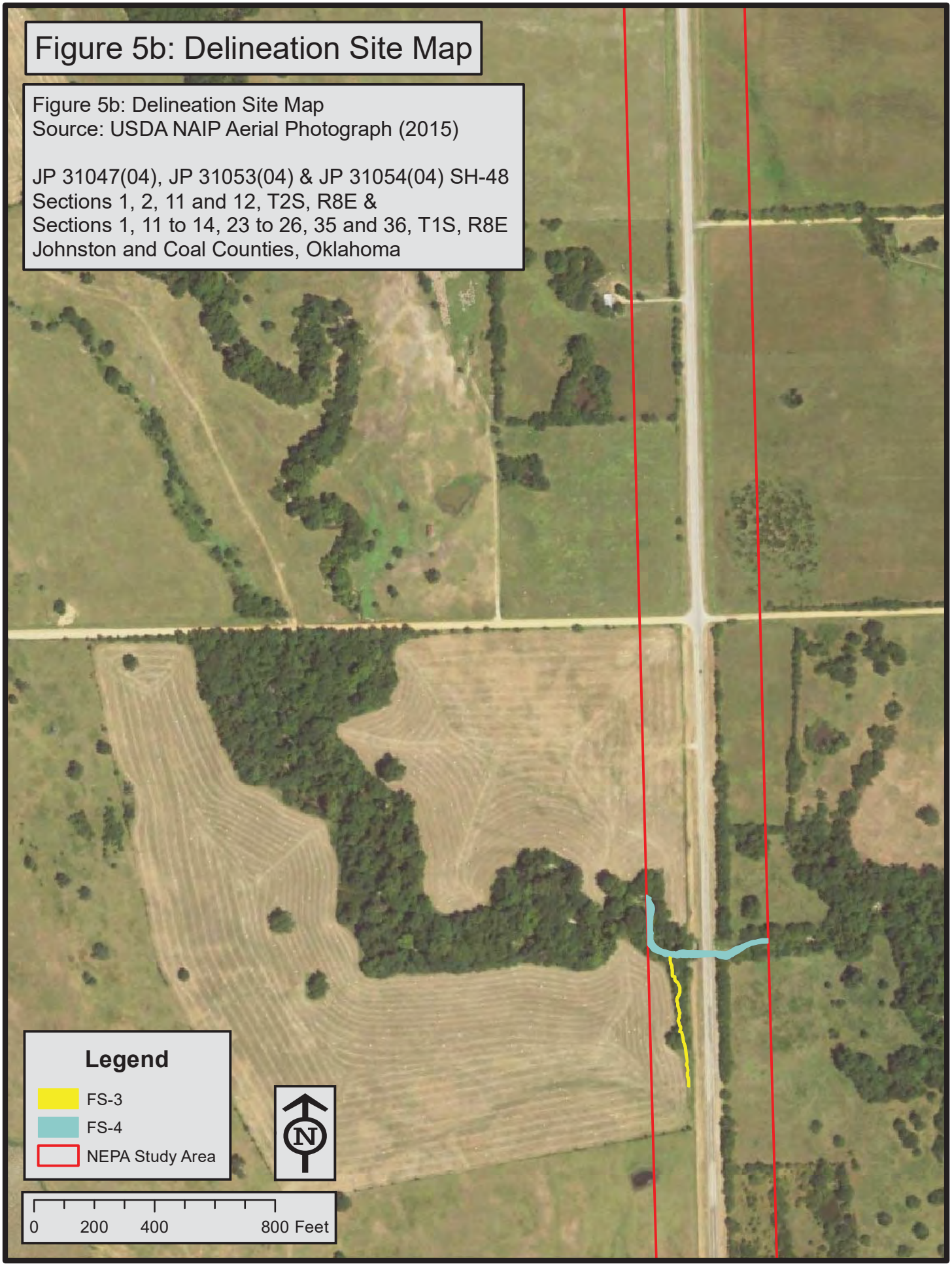
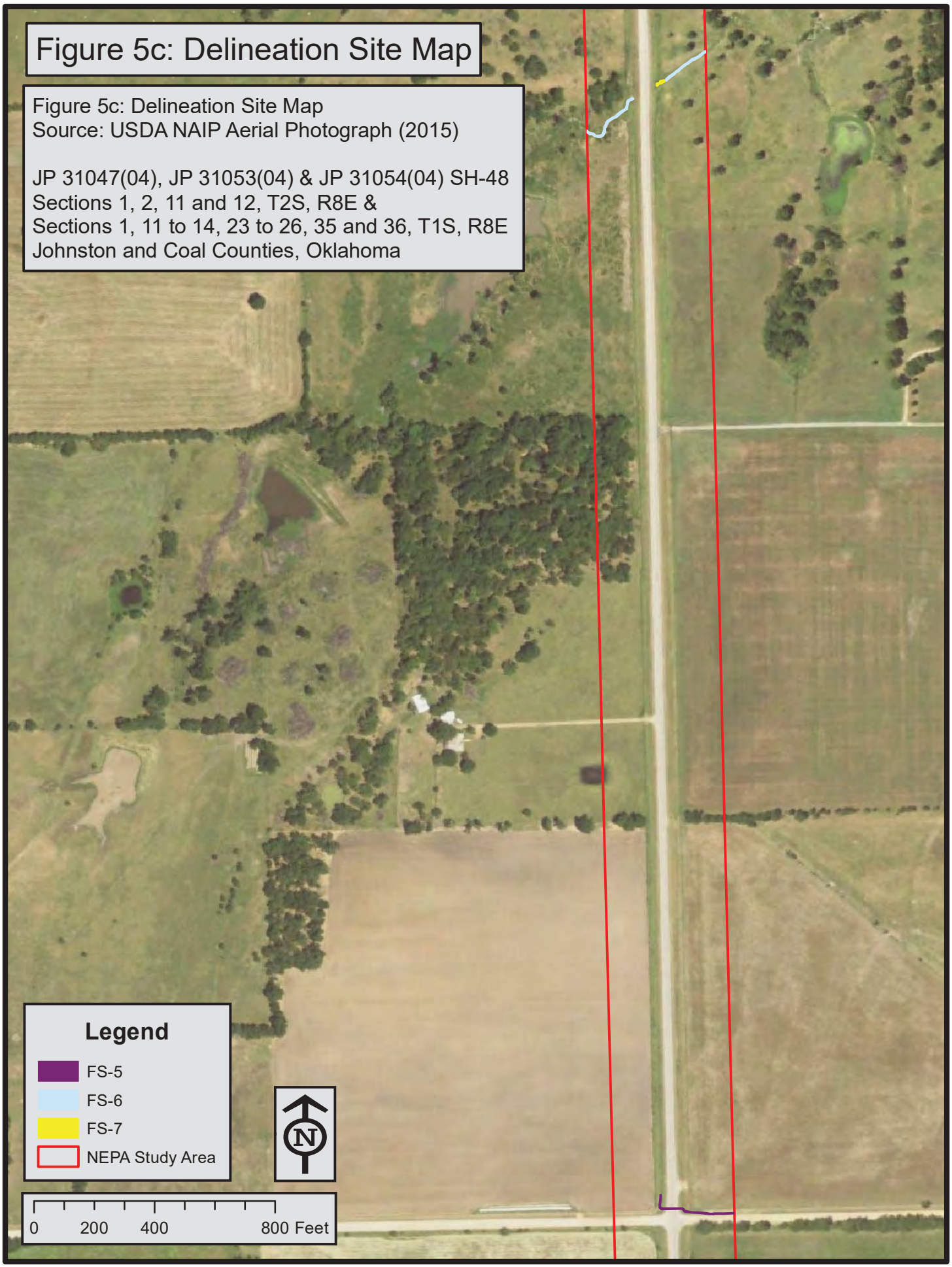


Figure 5b: Delineation Site Map
Figure 5b: Delineation Site Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Legend
FS-3
FS-4
NEPA Study Area
N
0
200
400
800 Feet

Figure 5c: Delineation Site Map

Figure 5c: Delineation Site Map
Source: USDA NAIP Aerial Photograph (2015)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma



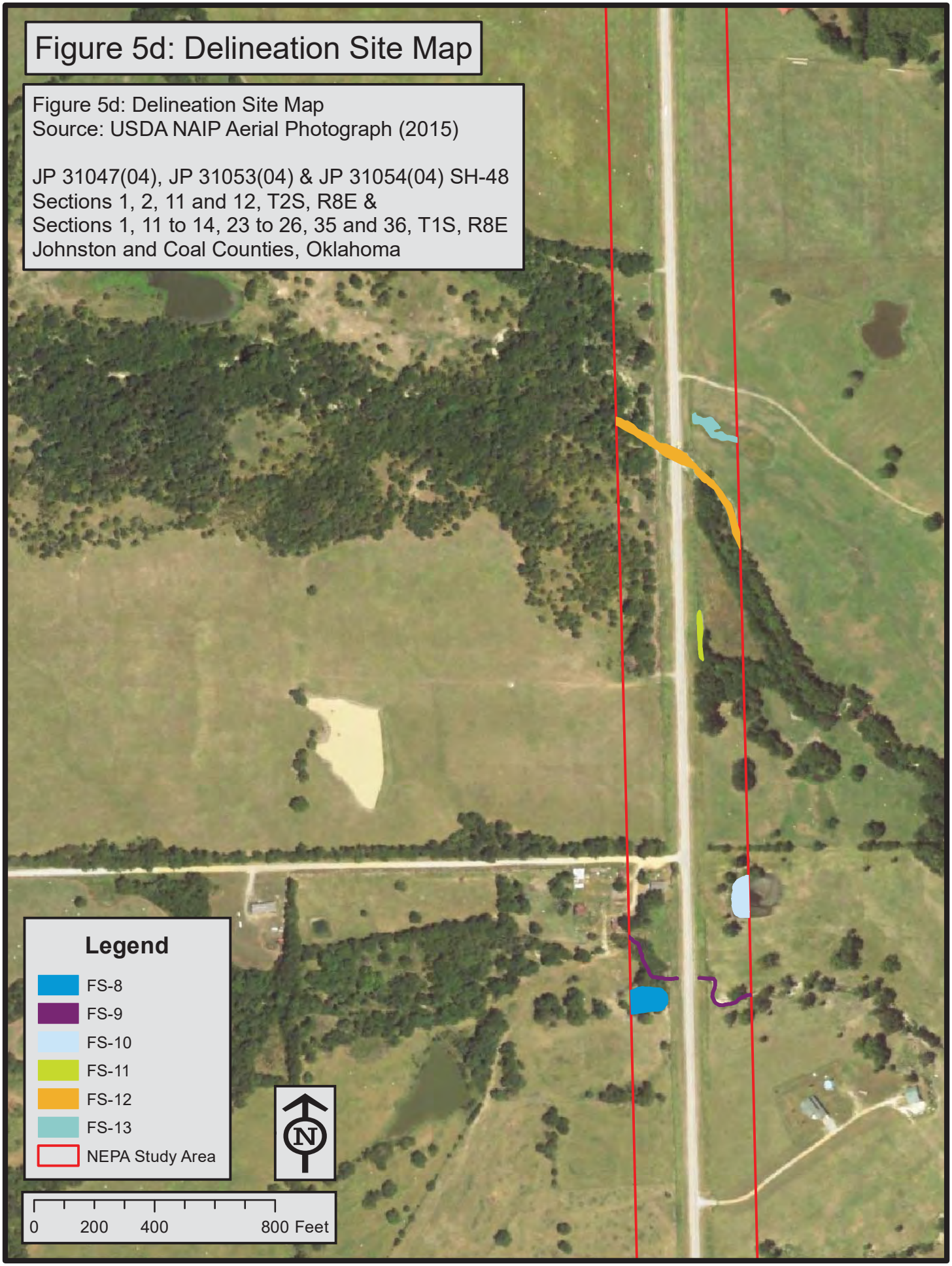
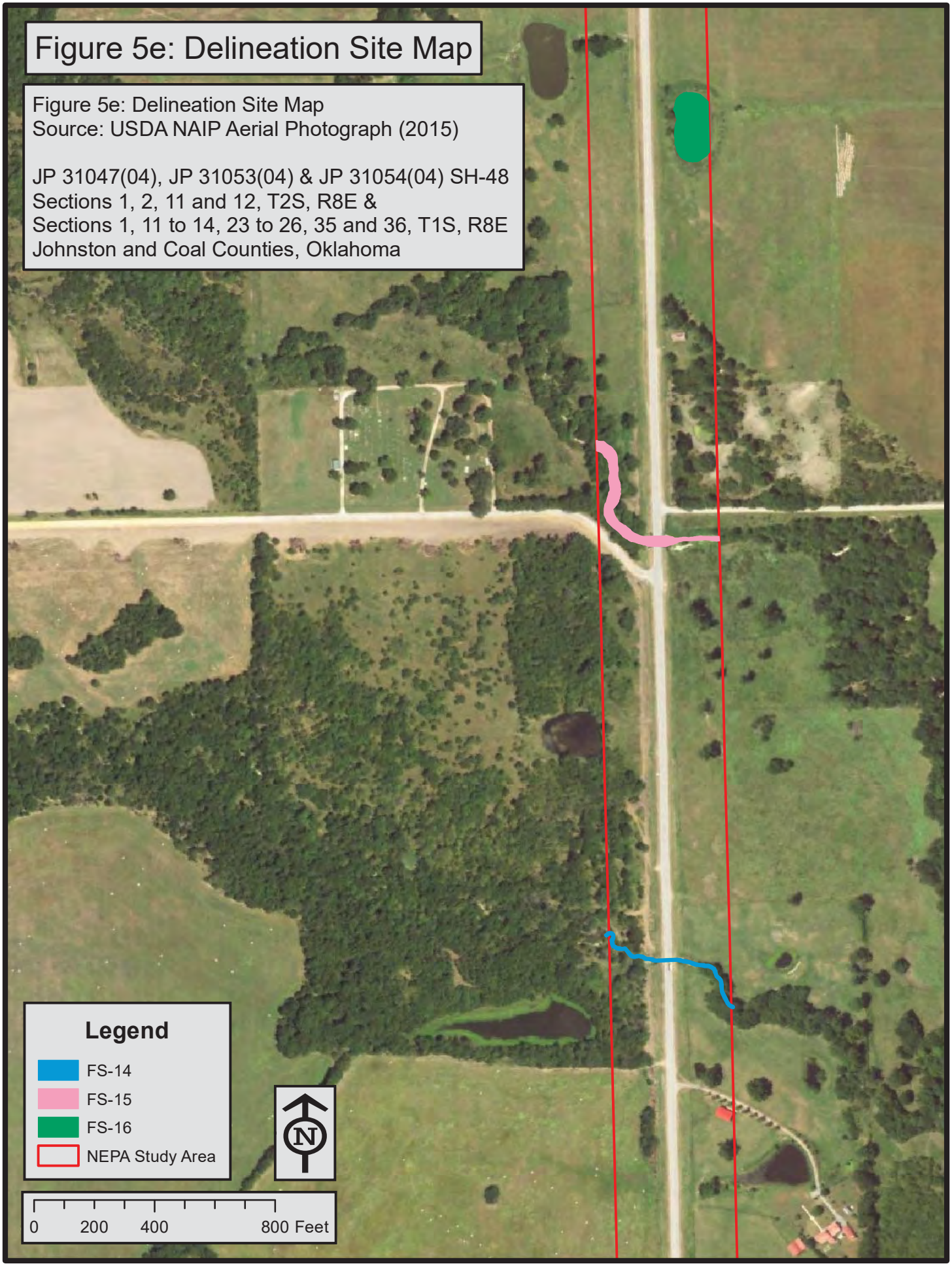


Figure 5d: Delineation Site Map
Figure 5d: Delineation Site Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Legend
FS-8
FS-9
FS-10
FS-11
FS-12
FS-13
NEPA Study Area
N
0
200
400
800 Feet

Figure 5e: Delineation Site Map

Figure 5e: Delineation Site Map
Source: USDA NAIP Aerial Photograph (2015)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma



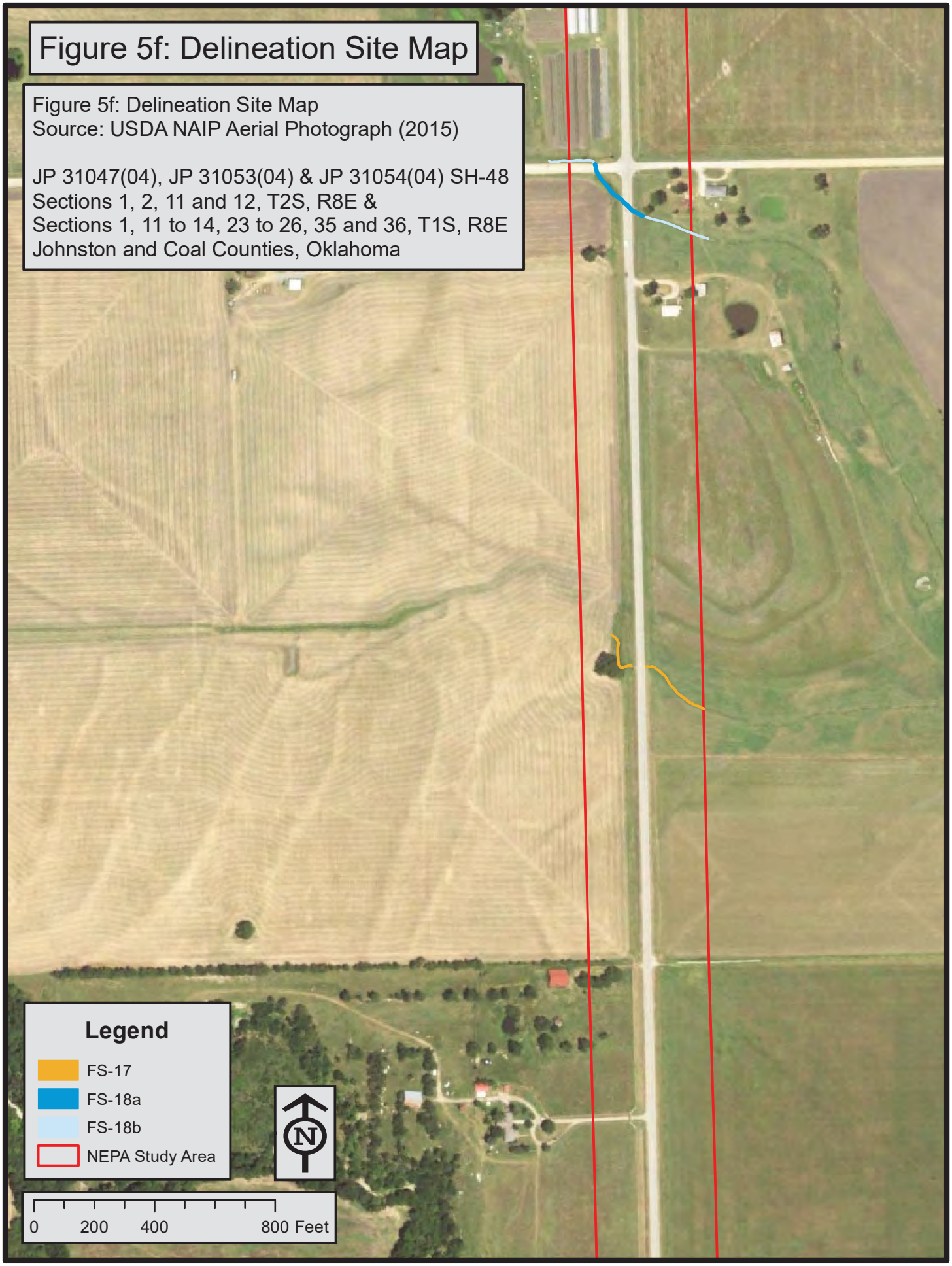


Figure 5f: Delineation Site Map
Figure 5f: Delineation Site Map
Source: USDA NAIP Aerial Photograph (2015)
JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma
Legend
FS-17
FS-18a
FS-18b
NEPA Study Area
N
0
200
400
800 Feet

Figure 5g: Delineation Site Map

Figure 5g: Delineation Site Map
Source: USDA NAIP Aerial Photograph (2015)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma

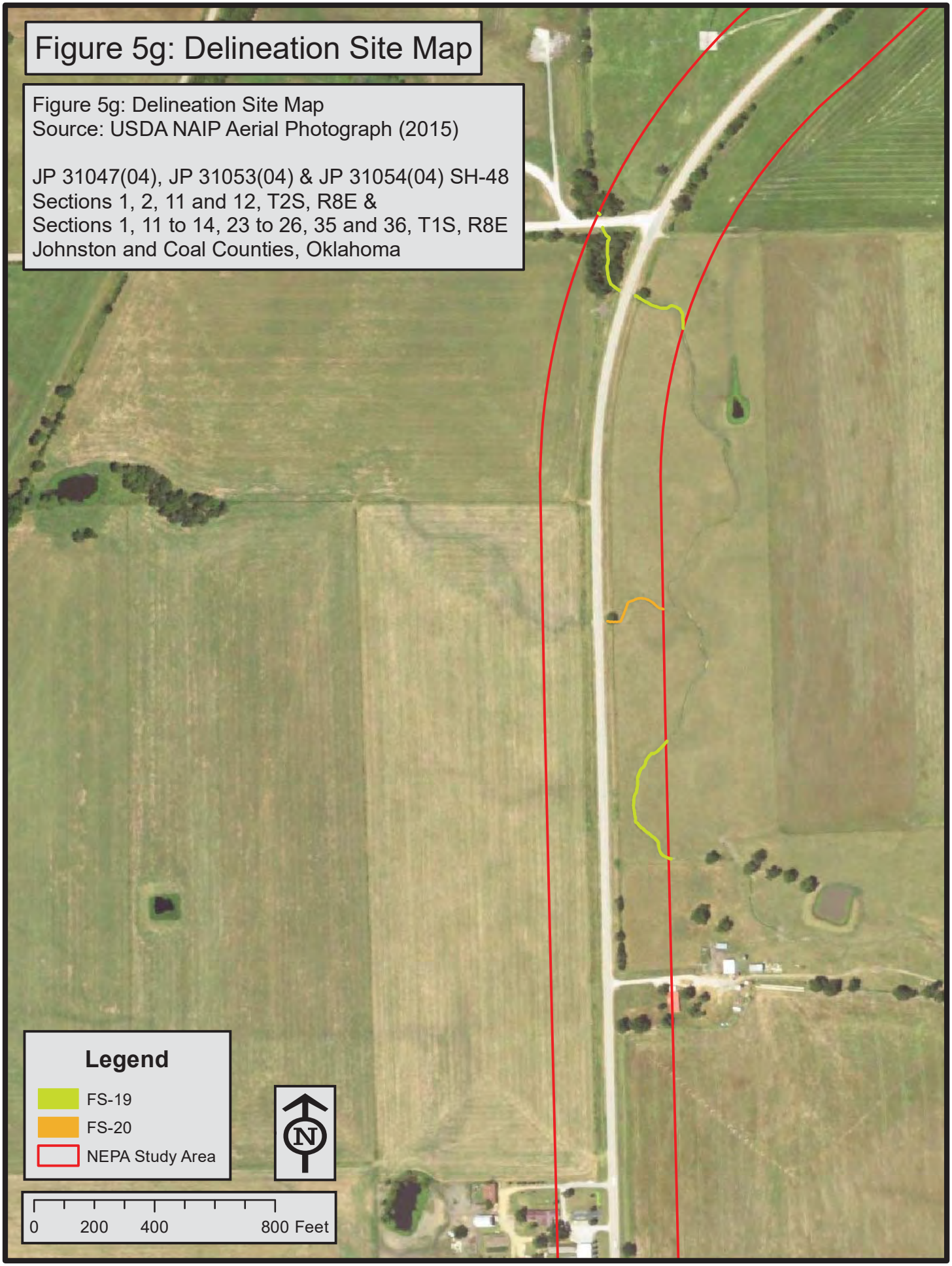
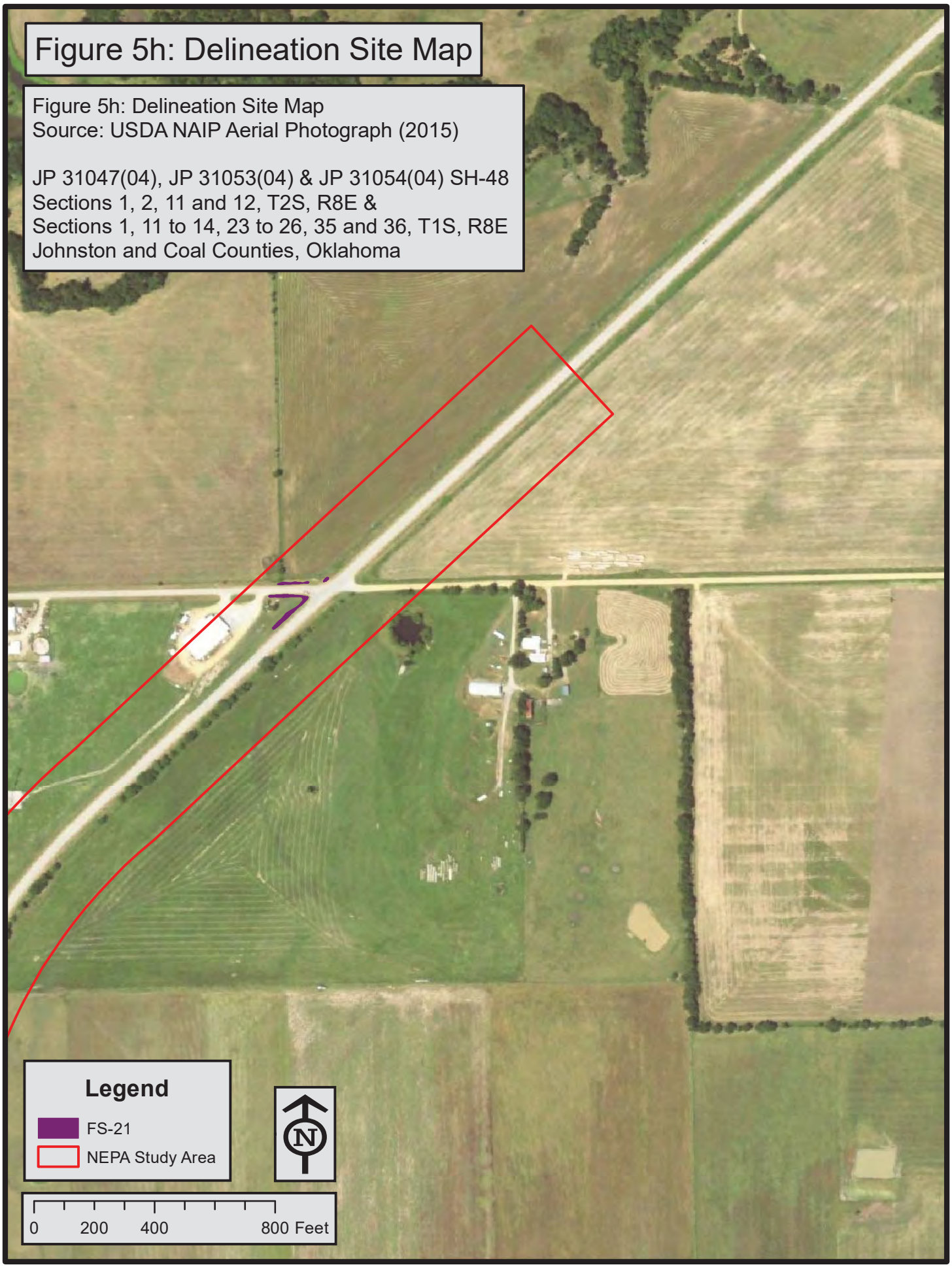


Figure 5h: Delineation Site Map

Figure 5h: Delineation Site Map
Source: USDA NAIP Aerial Photograph (2015)

JP 31047(04), JP 31053(04) & JP 31054(04) SH-48
Sections 1, 2, 11 and 12, T2S, R8E &
Sections 1, 11 to 14, 23 to 26, 35 and 36, T1S, R8E
Johnston and Coal Counties, Oklahoma

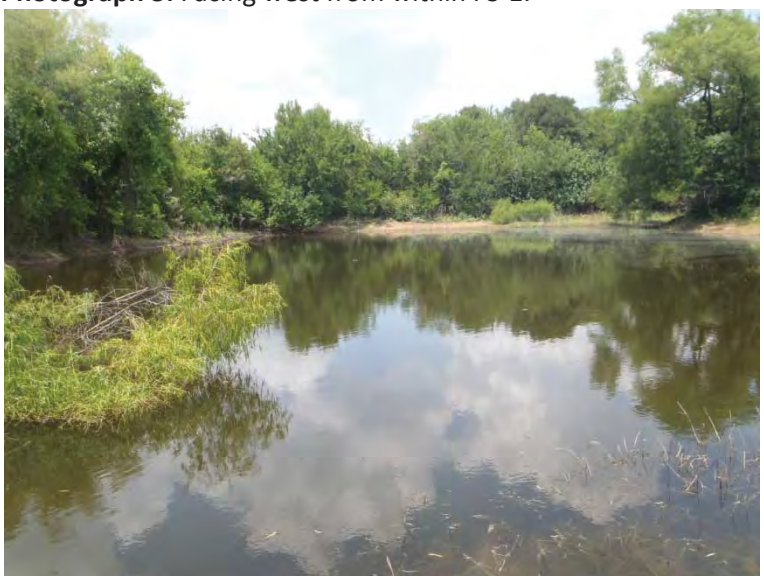


Photograph 1: Facing south along SH-48 near southern edge of study area.

Photograph 2: Facing north along SH-48 near southern edge of study area.

Photograph 3: Facing west from within FS-1.

Photograph 4: Facing east from within FS-1.



Photograph 5: Facing north across FS-2.

Photograph 6: Facing north from within FS-3 toward FS-4.

Photograph 7: Facing west from within FS-4.

Photograph 8: Facing east from within FS-4.

Photograph 9: Facing west along FS-5.

Photograph 10: Facing east from within FS-6.

Photograph 11: Facing southwest across FS-7.

Photograph 12: Facing northeast from Upland data point toward FS-6.

Photograph 13: Facing east across FS-8.

Photograph 14: Facing north from within FS-9.

Photograph 15: Facing northwest across FS-10.

Photograph 16: Facing north from within FS-11.

Photograph 17: Facing northwest from within FS-12.

Photograph 18: Facing southeast from within FS-12.

Photograph 19: Facing northwest from within FS-12.

Photograph 20: Facing east from within FS-13.

Photograph 21: Facing east from within FS-14.

Photograph 22: Facing east from within FS-15.

Photograph 23: Facing west from within FS-15.

Photograph 24: Facing south across FS-16.

Photograph 25: Facing northwest along FS-17.

Photograph 26: Facing northwest along FS-18a.

Photograph 27: Facing southeast along FS-18a into FS-18b.

Photograph 28: Facing west along FS-19.

Photograph 29: Facing east from within FS-21.

Photograph 30: Facing southwest along SH-48 near northern edge of study area.

Photograph 31: Facing northeast along SH-48 near northern edge of study area.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: JP 31047(04); SH-48 City/County: Coal County Sampling Date: 7-9-18

Applicant/Owner: Oklahoma Department of Transportation State: OK Sampling Point: FS-11

Investigator(s): Clint M. Porter Section, Township, Range: Section 24, T1S, R8E

Landform (hillslope, terrace, etc.): narrow depression Local relief (concave, convex, none): concave Slope (%): 0 to 2

Subregion (LRR): LRR H Lat: 34.4497 Long: -96.42432 Datum: NAD 83

Soil Map Unit Name: Dela and Wynona soils, 0 to 1 percent slopes, frequently flooded (Ra) NWI classification: not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Data point collected within narrow depression at base of elevated highway grade.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. None			
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 3 square feet)			
1. frogfruit (Phyla lanceolata)	60	yes	FACW
2. cocklebur (Xanthium strumarium)	20	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. None			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 60	x 2 = 120
FAC species 20	x 3 = 60
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 80 (A)	180 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

- ✓ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: FS-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 14	10 YR 4/1						silty clay loam	
	14" bottom of pit							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

Four (4) percent redox features within the top 12 inches of the soil matrix. Top 14 inches were hydric soils; therefore, a deeper soil pit not necessary.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ✓ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point collected within narrow depression at base of elevated highway grade.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: JP 31047(04); SH-48 City/County: Coal County Sampling Date: 7-9-18

Applicant/Owner: Oklahoma Department of Transportation State: OK Sampling Point: FS-13

Investigator(s): Clint M. Porter Section, Township, Range: Section 24, T1S, R8E

Landform (hillslope, terrace, etc.): shallow depression Local relief (concave, convex, none): concave Slope (%): 0 to 2

Subregion (LRR): LRR H Lat: 34.4515 Long: -96.42429 Datum: NAD 83

Soil Map Unit Name: Kaufman silty clay, 0 to 1 percent slopes, occasionally flooded (Ka) NWI classification: not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	Is the Sampled Area within a Wetland? Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Data point collected within shallow depression surrounded my mixed grass pasture.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. None			
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 3 square feet)			
1. common spikerush (Eleocharis palustris)	80	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. None			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 80	x 1 = 80
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 80 (A)	80 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- ✓ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: FS-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 14	10 YR 2/1						silty clay loam	
	14" bottom of pit							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR F)
- ___ 1 cm Muck (A9) (LRR F, G, H)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR I, J)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (LRR G)
- ___ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Four (4) percent redox features within the top 12 inches of the soil matrix. Top 14 inches were hydric soils; therefore, a deeper soil pit not necessary.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ✓ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point collected within shallow depression surrounded my mixed grass pasture. Area likely collecting storm water from the surrounding pasture.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: JP 31047(04); SH-48 City/County: Coal County Sampling Date: 7-10-18

Applicant/Owner: Oklahoma Department of Transportation State: OK Sampling Point: FS-21

Investigator(s): Clint M. Porter Section, Township, Range: Section 12, T1S, R8E

Landform (hillslope, terrace, etc.): road-side drainage Local relief (concave, convex, none): concave Slope (%): 0 to 2

Subregion (LRR): LRR H Lat: 34.4909 Long: -96.4199 Datum: NAD 83

Soil Map Unit Name: Burleson clay, 0 to 1 percent slopes (BuA) NWI classification: not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	Is the Sampled Area within a Wetland? Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Data point collected within road-side drainage feature.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. None			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. None			
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 3 square feet)			
1. common spikerush (Eleocharis palustris)	80	yes	OBL
2. paspalum (Paspalum sp.)	5	no	FAC
3. fescue (Lolium sp.)	5	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. None			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	_____	x 2 =	_____
FAC species	10	x 3 =	30
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	90 (A)		110 (B)

Prevalence Index = B/A = 1.22

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: FS-21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 14	10 YR 2/1						silty clay loam	
	14" bottom of pit							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR F)
- ___ 1 cm Muck (A9) (LRR F, G, H)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR I, J)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (LRR G)
- ___ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Four (4) percent redox features within the top 12 inches of the soil matrix. Top 14 inches were hydric soils; therefore, a deeper soil pit not necessary.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ✓ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point collected within road-side drainage feature.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: JP 31047(04); SH-48 City/County: Coal County Sampling Date: 7-9-18

Applicant/Owner: Oklahoma Department of Transportation State: OK Sampling Point: FS-7

Investigator(s): Clint M. Porter Section, Township, Range: Section 25, T1S, R8E

Landform (hillslope, terrace, etc.): intermittent stream Local relief (concave, convex, none): concave Slope (%): 0 to 2

Subregion (LRR): LRR H Lat: 34.443377 Long: -96.42431 Datum: NAD 83

Soil Map Unit Name: Dela and Wynona soils, 0 to 1 percent slopes, frequently flooded (Ra) NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	Is the Sampled Area within a Wetland? Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Data point collected within mapped intermittent stream channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. None			
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 3 square feet)			
1. water primrose (Ludwigia peploides)	80	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. None			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 80	x 1 = 80
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 80 (A)	80 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- ✓ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: FS-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 14	Gley 1 4N						silty clay loam	
	14" bottom of pit							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR F)
- ___ 1 cm Muck (A9) (LRR F, G, H)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ✓ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR I, J)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (LRR G)
- ___ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Four (4) percent redox features within the top 12 inches of the soil matrix. Top 14 inches gleyed soils; therefore, a deeper soil pit not necessary.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ✓ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ✓ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 0 to 6

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): at surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point collected within mapped intermittent stream channel.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: JP 31047(04); SH-48 City/County: Coal County Sampling Date: 7-9-18

Applicant/Owner: Oklahoma Department of Transportation State: OK Sampling Point: Upland

Investigator(s): Clint M. Porter Section, Township, Range: Section 25, T1S, R8E

Landform (hillslope, terrace, etc.): grass pasture Local relief (concave, convex, none): level Slope (%): 0 to 2

Subregion (LRR): LRR H Lat: 34.443430 Long: -96.42247 Datum: NAD 83

Soil Map Unit Name: Dela and Wynona soils, 0 to 1 percent slopes, frequently flooded (Ra) NWI classification: Not Mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

Data point collected within mixed grass pasture adjacent to mapped intermittent stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. None			
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 3 square feet)			
1. bermuda (Cynodon dactylon)	80	yes	FACU
2. brome (Bromus sp.)	5	no	FACU
3. annual ragweed (Ambrosia artemisiifolia)	5	no	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. None			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 90	x 4 =	360
UPL species _____	x 5 =	_____
Column Totals: 90 (A)		360 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 14	10 YR 3/1						silty clay loam	
	14" bottom of pit							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR F)
- ___ 1 cm Muck (A9) (LRR F, G, H)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR I, J)
- ___ Coast Prairie Redox (A16) (LRR F, G, H)
- ___ Dark Surface (S7) (LRR G)
- ___ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Four (4) percent redox features within the top 12 inches of the soil matrix. Top 14 inches hydric soils; therefore, a deeper soil pit not necessary.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ✓ Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point collected within mixed grass pasture adjacent to mapped intermittent stream.

RE UEST FOR WETLAND AND STREAM DELINEATION

Submit to Environmental Programs Division Permit oordinator

Requested by: ☒ Environmental Project Manager
☐ Other: _____

Name: Amanda Alexander Date: 11-18-19

Phone: 405 521 2312 Preliminary PIH Date: 11-20-19

Division: 3 Construction Let Date: 2025

County: Johnston State Highway or County Road No.: SH-48

Project Number: J3-1047(004) Job Piece No.: 3104704

Project Description: WIDEN & RESURFACE; SH-48: BEGIN 1.0 MI SOUTH OF JOHNSTON C/L, EXTEND NORTH 6.0 MI

WATERS WETLANDS IN PROJE T AREA:

☐ Streams exceed 0.5 acres of impact per structure (Channel Change and/or value from 404 Notification form)

☒ Wetlands exceed 0.1 acres total in biological report. Acres of wetlands:__.246 Acres_____

ATTA H:

☐ Preliminary (30%) Plans

☐ Biological Report (not necessary if on U drive)

Additional Pro ect Information:

ADDITIONAL PROJECT INFORMATION AS NEEDED.

The purpose of this form is to determine the appropriate Clean Water Act Section 404 permit application.

* Below 0.1 acres of impact for streams: Pre-construction Notice (PCN) to the USACE IS NOT required.

* Below 0.1 acres of impact for wetlands: PCN to the USACE IS required. Compensatory mitigation for wetland impacts may be required.

* 0.1 to 0.5 acres of impact: PCN to the USACE IS required. Compensatory mitigation for impact to wetlands IS required. Compensatory mitigation for stream impacts may be required.

* Above 0.5 acres of impact: An Individual Permit IS required. Compensatory mitigation IS required.

RE UIRED: PLEASE SU MIT THIS FORM TO ENVIRONMENTAL PROGRAMS DIVISION AT LEAST ___MONTHS _EFORE ONSTRU TION LET DATE OR AT THE TIME OF R W SU MITTAL(WHI HEVER IS EARLIEST) IF AN INDIVIDUAL PERMIT WILL MOST LI ELY E RE UIRED. THIS WILL PROVIDE SUFFI IENT TIME TO PRO ESS THE PERMIT AND RE EIVE APPROVAL FROM THE USA E EFORE THE TARGET LET DATE.

For Permit oordinator Use Only:

Determination ased on Preliminary (3) Plans

Wetlands:

☒ No PCN Required (No Wetlands within construction limits) PMD to submit 404 Permit calculations to EPD for Project File

☐ Wetlands: If wetlands cannot be avoided, PMD to submit R/W Plans, electronic files (Microstation), and 404 Permit Application to 404 Permit Coordinator for submittal to the USACE.

☐ Wetlands are within the stream OHWM (Impacts calculated as stream impacts) No PCN Required. PMD to provide 404 permit calculations to EPD for Project File

☐ Other:_____

Waters:

☒ No PCN Required (Stream Impacts < 0.1 acres) PMD to submit 404 Permit calculations to EPD for Project File

☐ Other:_____

☐ If Channel change or stream impact >0.1 acres and cannot be avoided, PMD to submit 404 Permit application, R/W Plans and electronic files to 404 Permit Coordinator for submittal to the USACE.

Type of Permit Application

☒ No PCN Required

☐ PCN with Mitigation

☐ PCN Only

☐ Individual Permit

omments: There are no jurisdictional wetlands or ponds in the project area. All impacts to streams look to be below 0.10 acre, even the parallel streams. This will likely be a No PCN NWP 14 404 permit.

- KMT 11/20/19

N R C S COORDINATION

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request May 7, 2018	
Name of Project SH-48		Federal Agency Involved FHWA/ODOT	
Proposed Land Use Roadway		County and State county and state Johnston and Coal County, Ok	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 5/16/18	Person Completing Form: Wright
Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☐ NO ☒	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %	
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly	293.09			
C. Total Acres In Site	293.09			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	124			
B. Total Acres Statewide Important or Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)				

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)				
2. Perimeter In Non-urban Use	(10)				
3. Percent Of Site Being Farmed	(20)				
4. Protection Provided By State and Local Government	(20)				
5. Distance From Urban Built-up Area	(15)				
6. Distance To Urban Support Services	(15)				
7. Size Of Present Farm Unit Compared To Average	(10)				
8. Creation Of Non-farmable Farmland	(10)				
9. Availability Of Farm Support Services	(5)				
10. On-Farm Investments	(20)				
11. Effects Of Conversion On Farm Support Services	(10)				
12. Compatibility With Existing Agricultural Use	(10)				
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐

Reason For Selection:
Area of concern is not agricultural No NRCS Structure
FPPA does not apply

Name of Federal agency representative completing this form: Russell Wright	Date:

(See Instructions on reverse side)

Form AD-1006 (03-02)

guernsey
ENGINEERS
ARCHITECTS
CONSULTANTS

May 7, 2018

Mr. Jami McVeigh
District Conservationist
Natural Resources Conservation Service
Tishomingo Service Center
1014 N Kemp Ave
Tishomingo, Oklahoma 73460

Mr. Russell Wright
District Conservationist
Natural Resources Conservation Service
Coalgate Service Center
106 E Post Ave
Coalgate, Oklahoma 74538

RE: Site Assessments for Farmland Protection Policy Act (FPPA) Roadway improvements on SH-48 from 1.0 mile south of Coal County line, extending north 6.0 miles in Coal and Johnston Counties and improvements to SH-48 bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004); JP 31053(04), J3-1053(004); JP 31054(04), J3-1054(004) and Identification of any NRCS Structures or Properties within the Study Area

Dear Mr. Jones & Mr. Wright:

The Oklahoma Department of Transportation is in the early developmental stages of the Roadway improvements on SH-48 from 1.0 mile south of Coal County line, extending north 6.0 miles in Coal and Johnston Counties and improvements to SH-48 bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek.

Please find attached two copies of USDA Form AD-1006 and plans/footprint for the following federal actions in Coal and Johnston County, Oklahoma.

In accordance with the current 7 CFR Part 658 - Farmland Protection Policy

5555 North Grand Boulevard
Oklahoma City, OK 73112-5507
405.416.8100
guernsey.us

Act, Parts 1 and III of Form AD-1006 have been completed. Please complete the NRCS portions of this form within the next 45 days and return one copy to:

Angela Aikman, CIE
Project Manager/Environmental Scientist
Guernsey
5555 N Grand Blvd
Oklahoma City, OK 73112

In addition, please let us know if the proposed project would impact any NRCS structures or properties such as flood control dams, wetlands, etc.

Your assistance is greatly appreciated. If you have any questions, please call me at 405.416.8294 or angela.aikman@guernsey.us.

Sincerely,

Angela Aikman, CIE
Guernsey

Enclosures: Plans and Form AD-1006

Copy to: Oklahoma Department of Transportation – Environmental Division

FLOOD PLAIN INFORMATION


Site
ZONE A
ZONE C
COUNTY BOUNDARY
OLD GOOSE LAKE
KEY TO MAP
*EXPLANATION OF ZONE DESIGNATIONS
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
COAL COUNTY, OKLAHOMA
UNINCORPORATED AREAS
PANEL 125 OF 150
COMMUNITY-PANEL NUMBER
400510 0125 B
MAP REVISED:
JANUARY 18, 1980
Federal Emergency Management Agency

HAZARDOUS WASTE STUDIES

OKLAHOMA DEPARTMENT OF TRANSPORTATION
CONSULTANT REPORT REVIEW – HAZARDOUS WASTE

Reviewed By: David Edwards
Review Date: 10/15/2018
Consultant: Guernsey
County: Johnston
Project No.: J3-1047(004), J3-1053(004), J3-1054(004),
J/P Number: 31047(04), 31053(04), 31054(04)

1. PROJECT DESCRIPTION: Widen & Resurface: SH-48: Begin 1.0 miles south of Johnston C/L, extend north 6.0 miles.

2. LEVEL OF INVESTIGATION: ☒ Assessment ☐ Sampling

3. SUMMARY OF INVESTIGATION

A. Relative risk of contamination in study footprint: ☒ Low ☐ Moderate ☐ High
B. Potential for contamination, if present, to affect project: ☒ Low ☐ Moderate ☐ High
C. Did Consultant recommend additional work? ☒ No ☐ Yes (describe below):

4. RECOMMENDATIONS*:

- ☒ Approval to Proceed (No Further Action)
- ☐ Approval to Proceed, Pending:
  - ☐ Avoidance of described site(s)
  - ☐ Plan Notes regarding described site(s) (See Section 5)
  - ☐ Additional investigation by ODOT
- ☐ Approval NOT Recommended

* - If different from Consultant, explain in Section 6 General Comments

5. PLAN NOTES: None needed.

6. GENERAL COMMENTS: Fiber-optic cable, overhead electric lines, pole-mounted transformers and the radio tower will be handled via standard ODOT ROW procedures, if necessary. The unmapped database sites were not observed during the site reconnaissance and, as such, they are not considered to be RECs. The identified oil and gas wells were not observed to have environmental impacts during the site reconnaissance, maintaining awareness of these sites was recommended in the ISA.

ATTACH EXCERPTS FROM REPORT, AS APPROPRIATE.*

*The full document is on file with ODOT's Environmental Programs Division. Please contact David Edwards at (405) 521-2673 or daedwards@odot.org for more information.

INITIAL SITE ASSESSMENT
PROJECT FOR ROADWAY IMPROVEMENTS ON SH-48
JOHNSTON COUNTY, OKLAHOMA

ODOT CONTRACT NUMBER: EC-1766D
ODOT PROJECT NUMBER: J3-1047 (004), J3-1053(004), and J3-1054(004)
ODOT JOB/PIECE NUMBER: 31047(04), 31053(04), and 31054(04)
GUERNSEY PROJECT NO.: OK70333003

Prepared For:

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Environmental Programs Division
Oklahoma City, OK

Prepared by:

Guernsey
5555 North Grand Blvd.
Oklahoma City, OK
405.416.8100

CERTIFICATION PAGE

FOR:

PROJECT FOR WIDENING AND RESURFACING ON SH-48
JOHNSTON COUNTY, OKLAHOMA

ODOT CONTRACT NUMBER: EC-1766D
ODOT PROJECT NUMBER: J3-1047(004) J3-1053(004), and J3-1054(004)
ODOT JOB/PIECE NUMBER: 31047(04), 31053(04), and 31054(04)
GUERNSEY PROJECT NO.: OK70333003

"We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312" and

"We have the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."

Angela Aikman

Angela Aikman, CIE
Project Manager

Ken Senour

Ken Senour, CEP, QEP
Manager, Engineering & Environmental

1 EXECUTIVE SUMMARY

The Oklahoma Department of Transportation (ODOT) requested that Guernsey complete an Initial Site Assessment (ISA) for bridge improvements, widening and resurfacing on SH-48, near the Town of Clarita, Johnston and Coal County, Oklahoma. The proposed work will include widening and resurfacing on SH-48 beginning 1 mile south of the Coal County line and extending north 6 miles, Section 11, 12, 13, 14, 23, 24, 25, 26, 35, and 36, Township 1 South; Range 8 East, and Section 1 and 2, Township 2 South, Range 8 East, Coal and Johnston County, Oklahoma. Figure 1, Site Location Map, depicts the general location of the AOI. ODOT has requested the ISA realizing the potential presence of hazardous waste or soil/groundwater contamination within or adjoining the proposed project area, could lead to project delays and escalated construction costs.

The purpose of the ISA is to identify potential environmental concerns by reviewing historical data and regulatory information, performing interviews, and conducting a visual inspection of the site and surrounding area.

The potential environmental concerns were developed from the available historical information and other data obtained during the site reconnaissance. A list of contacts is identified on Table 1. Site photographs are provided in Appendix A.

Eight potential environmental concerns were determined by this ISA and are listed below:

- Overhead electric lines were observed on the east and west sides and crossing the AOI
- Fiber-optic cables were observed on the west and east sides of the AOI; these cables are owned by Alltel and Trace
- Several pole-mounted transformers were observed throughout the AOI
- A radio tower was observed directly adjacent of the AOI; this radio tower is owned by American Tower Corporation
- According to the Solid Waste Landfill (SW/LF) sites database, there are two unmapped sites identified (Southern Oklahoma Waste Disposal Auth. Landfill, OK and City of Wapanucka Landfill, OK)
- According to the Petroleum Storage Tank (PST) database, there are unmapped 13 sites identified:

    1. Harolds Full Service, Wapanucka, OK
    2. Union Pacific Railroad Wapanuka, Wapanucka, OK
    3. Wapanucka Public School, P.O. Box 188, Wapanucka, OK
    4. Triple T’s, 1-1/2 miles South of Tupelo on HWY 48, Tupelo, OK
    5. Clarita Grocery & Station Apco, North Main St., Clarita, OK

6. Rick's Tank Truck Service, Rural Route 5, Clarita, OK
7. Hooper's Grocery & Station, ½ mile South Lula, HWY 48, Tupelo, OK
8. Chrissville General Store, RT 1, 2 miles South on HWY 48, Tupelo, OK
9. Eugene Smith Texaco, HWY 48, Wapanucka, OK
10. Dewberry Grocery & Station, Bromide, OK
11. Harold's Place, HWY 48, Wapanucka, OK
12. Cleta Gudgel Skelly, HWY 48, Wapanucka, OK
13. Clarita Grocery & Station Apco, North Main St., Clarita, OK

- According to the Emergency Response Notification System (ERNS) database, there is one unmapped site identified (NA, Tupelo, OK)

- According to BANKS, there are two oil/gas wells identified within the search radius

The recommendations to mitigate these possible concerns are listed below:

- The owners of the overhead electric lines, fiber-optic cable, and radio tower should be contacted regarding the upcoming activities

- The electric utility should be contacted to determine if the pole-mounted transformer contains Polychlorinated Biphenyls (PCBs)

- According to the BANKS SW/LF sites database, there are two unmapped sites identified. During the site reconnaissance on June 14, 2018, these sites were not observed. Maintaining awareness of the site is recommended

- According to the BANKS PST database, there are 13 unmapped sites identified. During the site reconnaissance on June 14, 2018, none of these sites were observed. The location needs to be determined of both Clarita Grocery & Station Apco and maintaining awareness of these sites is recommended. The other 11 sites have a status of "Inactive" or "Permanently Out of Use"; therefore, these sites should not be a concern

- According to the BANKS ERNS database, there is one unmapped site. During the site reconnaissance on June 14, 2018, this site was not observed. Maintaining awareness of this off-site facility is recommended

- According to BANKS, there are two oil/gas wells listed within the search radius. During the site reconnaissance on June 14, 2018, these wells were not observed. The Commerce Trust well has a status of "Plugged and Abandoned" in accordance with the Oklahoma Corporation Commission (OCC); therefore, should not be a concern. The H2OX LLC well has no information associated with it; therefore, maintaining awareness of this site is recommended

5 FINDINGS AND RECOMMENDATIONS

Based on the information contained within this ISA, there are eight potential environmental concerns associated with the AOI. These concerns and appropriate recommendations are as follows:

1. **Fiber-Optic Cable:**

   During the site reconnaissance on June 14, 2018, fiber-optic cables were observed on the west and east sides of the AOI; these cables are owned by Alltel and Trace.

   Recommendation: *These lines are located in the AOI; therefore, the owners/operators of these lines should be contacted regarding the upcoming activities.*

2. **Overhead Electric Lines:**

   During the site reconnaissance on June 14, 2018, overhead electric lines were observed on the east and west sides and crossing the AOI.

   Recommendation: *These lines are located in the AOI; therefore, the owner/operator of these lines should be contacted regarding the upcoming activities.*

3. **Pole-mounted Transformer:**

   During the site reconnaissance on June 14, 2018, several pole-mounted transformers were observed within the AOI.

   Recommendation: *These pole-mounted transformers are located in the AOI; therefore, the owners/operators of these transformers should be contacted regarding the upcoming activities and to determine if it contains PCBs.*

4. **Radio Tower:**

   During the site reconnaissance on June 14, 2018, a radio tower was observed directly adjacent of the AOI; this radio tower is owned by American Tower Corporation.

   Recommendation: *This radio tower is located in the AOI; therefore, the owner/operator of this radio tower should be contacted regarding the upcoming activities.*

5. **BANKS SW/LF Database Findings:**

   According to the Solid Waste Landfill (SW/LF) sites database, there are two unmapped sites identified (Southern Oklahoma Waste Disposal Auth. Landfill, OK and City of Wapanucka Landfill, OK)

Recommendation: *During the site reconnaissance on June 14, 2018, these sites were not observed. Maintaining awareness of these sites is recommended.*

6. BANKS PST Database Findings:

According to the BANKS PST database, there are 13 unmapped sites identified:

1. Harolds Full Service, Wapanucka, OK
2. Union Pacific Railroad Wapanuka Wapanucka, OK
3. Wapanucka Public School, P.O. Box 188, Wapanucka, OK
4. Triple T's, 1-1/2 miles South of Tupelo on HWY 48, Tupelo, OK
5. Clarita Grocery & Station Apco, North Main St., Clarita, OK
6. Rick's Tank Truck Service Rural Route 5, Clarita, OK
7. Hooper's Grocery & Station, ½ mile South Lula, HWY 48, Tupelo, OK
8. Chrissville General Store, RT 1, 2 miles South on HWY 48, Tupelo, OK
9. Eugene Smith Texaco, HWY 48, Wapanucka, OK
10. Dewberry Grocery & Station, Bromide, OK
11. Harold's Place, HWY 48, Wapanucka, OK
12. Cleta Gudgel Skelly, HWY 48, Wapanucka, OK
13. Clarita Grocery & Station Apco, North Main St., Clarita, OK

Recommendation: *During the site reconnaissance on June 14, 2018, none of these sites were observed. The location needs to be determined of both Clarita Grocery & Station Apco and maintaining awareness of these sites is recommended. The other 11 sites have a status of "Inactive" or "Permanently Out of Use" therefore, these sites should not be a concern.*

7. BANKS ERNS Findings:

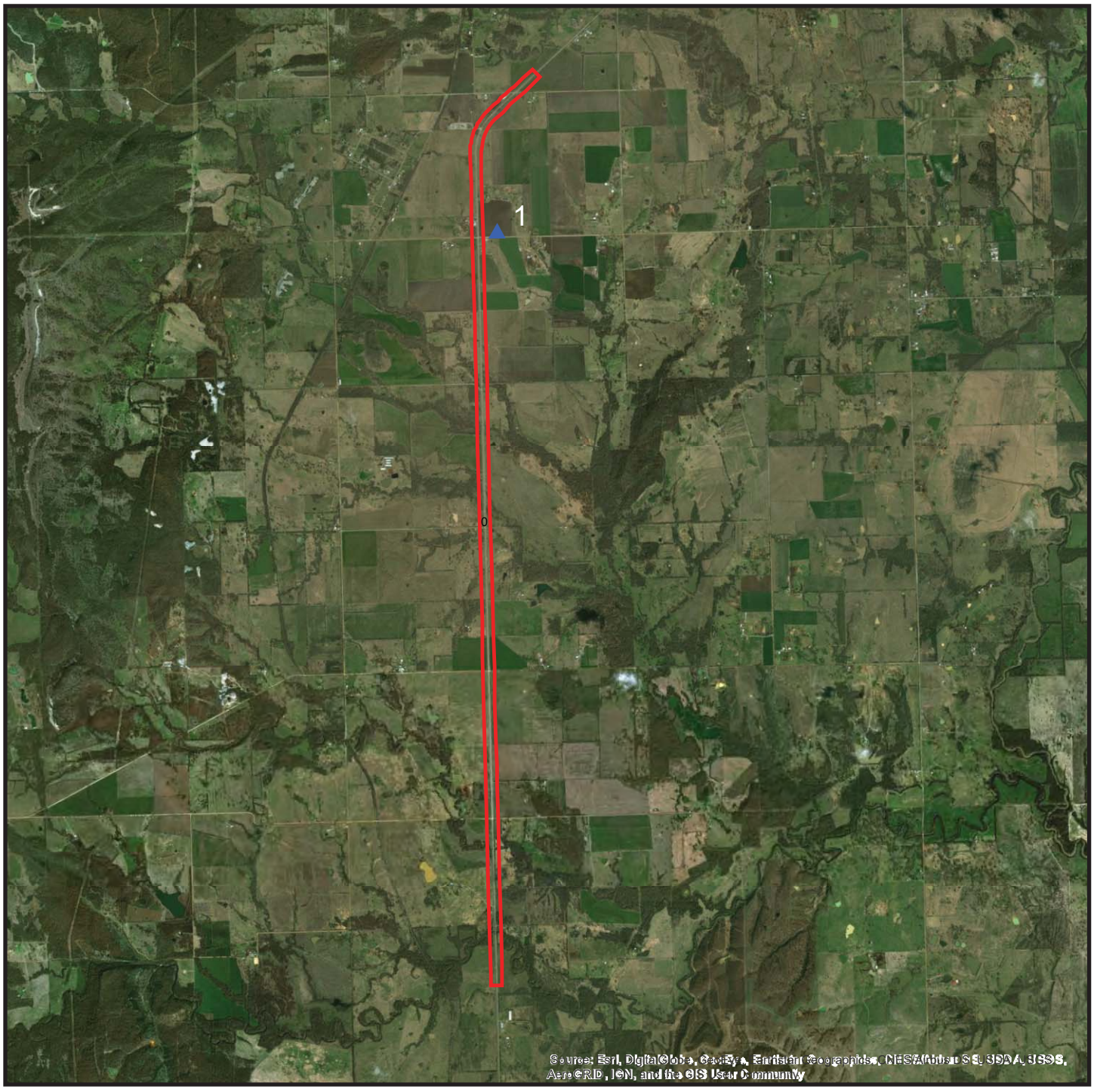
According to the BANKS ERNS database, there is one unmapped site identified (NA, Tupelo, OK)

Recommendation*: During the site reconnaissance on June 14, 2018, this site was not observed. Maintaining awareness of this off-site facility is recommended.*

8. Oil/Gas Well Findings:

According to the BANKS, there are two oil/gas well site identified

Recommendation: *During the site reconnaissance on June 14, 2018, these sites were not observed. The Commerce Trust well has a status of "Plugged and Abandoned" in accordance with the OCC; therefore, should not be a concern. The H2OX LLC well has no information associated with it, therefore maintaining awareness of this site is recommended.*



▲ REC

N
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guernsey
ENGINEERS
ARCHITECTS
CONSULTANTS

5555 North Grand Boulevard
Oklahoma City, OK 73112-5507
T 405.416.8100

RECOGNIZED ENVIRONMENTAL CONCERNS MAP

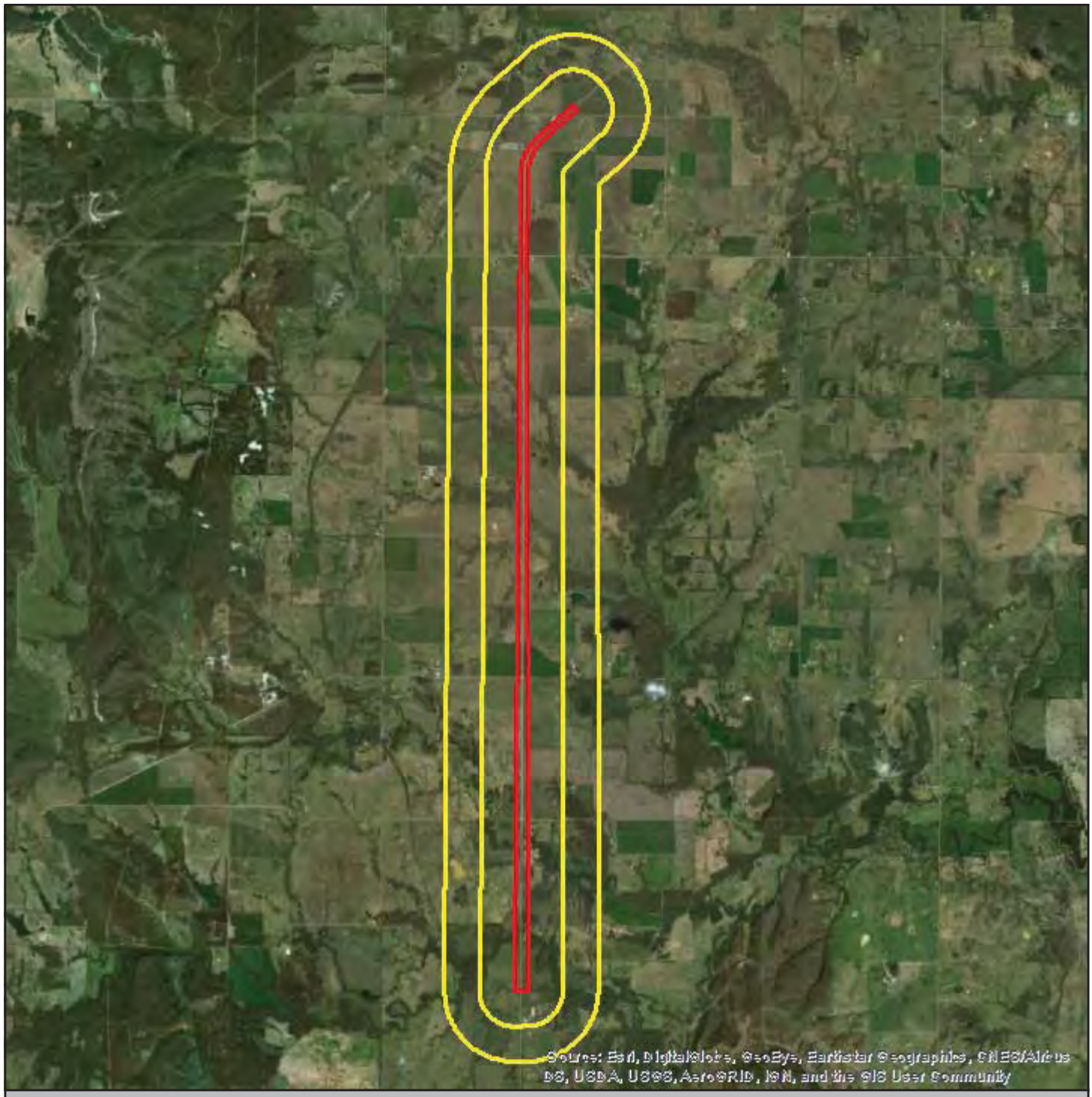
PROJECT FOR ROADWAY IMPROVEMENTS ON SH-48
INITIAL SITE ASSESSMENT
JOHNSTON COUNTY, OKLAHOMA

PREPARED BY: EEF
APPROVED BY: ALA
DATE: JULY 2018
JOB NO: Ok70333003

FIGURE
2

Current Imagery Overlay Map - 0.5 Mile Buffer

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



SH 48

Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract
RCRA COR, RCRA TSD, CER, LPST, NPL, ST NPL, SWLF

Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract
RCRA GEN, ST & FED BWN, ST & FED EC, ST & FED IC, DNPL, CER NFRAP, PST, VCP, ST CER

Single Site | Cluster Site | Large Tract | Cluster Site with Large Tract
ERNS, HW, RCRA, DRYC

Target Property

Search Buffer

1 : 65,000
1 inch = 1.026 miles
1 inch = 5417 feet
1 centimeter = 0.650 kilometers
1 centimeter = 650 meters

N

Lambert Conformal Conic Projection
1983 North American Datum
First Standard Parallel: 33 0' 00" North
Second Standard Parallel: 45 0' 00" North
Central Meridian: 96 0' 00" West
Latitude of Origin: 39 0' 00" North

OTHER

OKLAHOMA Transportation

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROJECT STATUS SYSTEM

Edit PROJECT

Cancel

Job Piece: 3104704

Status Report: ☑ AP Project: ☐ VE Project: ☐ Calculated Status: Prepare NEPA Document

Production Targets	Planned Finish	Actual Finish	Status	Cond
Reconnaissance Data	01/17/2017	09/14/2015	Completed	
Project Initiation	02/28/2017	02/16/2017	Completed	
Design Resource	In House			
EC Solicitation	07/31/2016			
EC Contract	02/28/2017	01/18/2017 EC No		
Survey	05/23/2017	08/14/2018	Completed	SWO 5159(1)
Hydraulics	05/23/2017	06/06/2016	Completed	
Preliminary Field Review	09/18/2017	06/06/2019	Completed	
RW & Utility Meeting	11/15/2019	11/20/2019	Completed	
Plans Submitted to R/W	01/20/2020	02/03/2020	Completed	
NEPA Document	05/18/2020		On-Time	
R/W Phase		Mapping		
Legal Entry	09/22/2021		On-Time	
Prepare Traffic Plans	06/04/2021		On-Time	
Final Field Review	07/02/2021		On-Time	
Utility Out	11/08/2021		On-Time	
404 Permit	08/30/2021		On-Time	
Plans Complete	11/16/2021		On-Time	
Ready to Let	12/19/2023		On-Time	

Edit Resource and Comments

Utility Information

Latest Utility Out Date
-

Project Information

JP No.	Proj. ID	County	Div.	Maint.	HWY	Work Desc
3104704	J3-1047(004)	35 JOHNSTON	3	3	SH048	21 WIDEN & RESURFACE

Project Legislative Districts

Ctrl.	Start	End	Lgth	Cong	Senate	House
020	1.980	2.980	6.000	2	06	022

Project Location

Location
SH-48: BEGIN 1.0 MI SOUTH OF JOHNSTON C/L, EXTEND NORTH 6.0 MI

Project Status

Status	8Year CWP	NHS Sys.	FHWA Oversight	Comm Appr.	Fhwa Auth	Auth FFY	Let Date	FFY	Award Date	RW JP No.	RW Let
Programmed	Yes			09/2014	-		NoDate	2025	NoDate	-	-

STIP & NEPA Information

STIP FY	STIP Page	Pub Date	ODOT Appr.	TIP FY	TIP Page	MPO Appr.	NEPA Type	NEPA Appr	NEPA Re-Eval
		-	-			-	-	-	//

Project Budget & Plan Resource

Advanced	Federal	State	Other	Total	Design Consultant	NEPA Consultant
$0	$6,889,428	$6,889,428	$0	$13,778,856	In House	C. H. Guernsey & Company

ODOT/FHWA Resources Assigned

PMD	Field	FHWA	NEPA	Survey	Materials	Roadway	Bridge	Traffic	RW	Rail
Hurst	Bloss	Vacant	Alexander	Dees	-	Elyazgi	Sison	Maarouf	Christie	-

Comments

COMMENTS
PROJECT MANAGEMENT: NBI#'s 14955, 14958, 14959, 15121 are exceptions and are included within JP 31053(04) and 31054(04), TAH.

Bridge Information

Proposed Bridge

NBI#	Status	Co	Ctl	Milept	Sd
14955	State Bridge	15	016	02260	
14958	State Bridge	35	020	02770	

14959	State Bridge	15	016	03000
15121	State Bridge	35	020	02180
1-4				

330756 en

OKLAHOMA Transportation

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROJECT STATUS SYSTEM

Edit PROJECT

Cancel

Job Piece: 3105304

Status Report: ☑ AP Project: ☐ VE Project: ☐ Calculated Status: Prepare NEPA Document

Production Targets	Planned Finish	Actual Finish	Status	Cond
Reconnaissance Data	09/20/2016	09/22/2015	Completed	
Project Initiation	12/16/2016	02/01/2016	Completed	
Design Resource	In House			
EC Solicitation	12/28/2016			
EC Contract	07/28/2017	EC No		
Survey	10/24/2017	08/03/2017	Completed	SWO 5257(1)
Hydraulics	01/31/2018	08/03/2017	Completed	
Preliminary Field Review	05/25/2018	01/23/2019	Completed	
RW & Utility Meeting	11/23/2018	01/23/2019	Completed	
Plans Submitted to R/W	01/31/2019	05/16/2019	Completed	
NEPA Document	03/29/2019		Behind	
R/W Phase	08/16/2019	Acquisition		
Legal Entry	08/24/2020		On-Time	
Prepare Traffic Plans	07/04/2020		On-Time	
Final Field Review	08/03/2020		On-Time	
Utility Out	12/15/2020		On-Time	
404 Permit	09/30/2020		On-Time	
Plans Complete	12/23/2020		On-Time	
Ready to Let	12/23/2020		On-Time	

Edit Resource and Comments

Utility Information

Latest Utility Out Date
-

Project Information

JP No.	Proj. ID	County	Div.	Maint.	HWY	Work Desc
3105304	J3-1053(004)	35 JOHNSTON	3	3	SH048	11 BRIDGE & APPROACHES

Project Legislative Districts

Ctrl.	Start	End	Lgth	Cong	Senate	House
020	1.980	2.870	0.890	2	06	022

Project Location

Location
SH-48: OVER DELAWARE CREEK AND WALNUT CREEK, BEGIN 2.2 MI NORTH OF JCT SH-7

Project Status

Status	8Year CWP	NHS Sys.	FHWA Oversight	Comm Appr.	Fhwa Auth	Auth FFY	Let Date	FFY	Award Date	RW JP No.	RW Let
Programmed	Yes			09/2014	-		NoDate	2023	NoDate	-	-

STIP & NEPA Information

STIP FY	STIP Page	Pub Date	ODOT Appr.	TIP FY	TIP Page	MPO Appr.	NEPA Type	NEPA Appr	NEPA Re-Eval
		-	-			-	-	-	//

Project Budget & Plan Resource

Advanced	Federal	State	Other	Total	Design Consultant	NEPA Consultant
$0	$2,180,000	$545,000	$0	$2,725,000	In House	C. H. Guernsey & Company

ODOT/FHWA Resources Assigned

PMD	Field	FHWA	NEPA	Survey	Materials	Roadway	Bridge	Traffic	RW	Rail
Hurst	Bloss	Vacant	Alexander	-	-	Elyazgi	Sison	Maarouf	Christie	-

Comments

no data found

Bridge Information

Proposed Bridge

NBI#	Status	Co	Ctl	Milept	Sd
14958	State Bridge	35	020	02770	
15121	State Bridge	35	020	02180	
1-2					

OKLAHOMA Transportation

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROJECT STATUS SYSTEM

Edit PROJECT

Cancel

Job Piece: 3105404

Status Report: ☑ AP Project: ☐ VE Project: ☐ Calculated Status: Prepare NEPA Document

Production Targets	Planned Finish	Actual Finish	Status	Cond	Consultant Evaluations
Reconnaissance Data	10/16/2017	09/09/2015	Completed		
Project Initiation	01/12/2018	02/01/2016	Completed		
Design Resource	Cabbiness Engineering LLC				
EC Solicitation	01/22/2018				
EC Contract	08/22/2018	04/05/2017 EC No 1823A			
Survey	11/19/2018	06/13/2018	Completed		SWO 5256(1)
Hydraulics	02/26/2019	04/10/2019	Completed		
Preliminary Field Review	06/20/2019	06/18/2019	Completed		
RW & Utility Meeting	12/18/2019	12/10/2019	Completed		
Plans Submitted to R/W	02/26/2020	03/06/2020	Completed		
NEPA Document	04/22/2020		On-Time		
R/W Phase					
Legal Entry	09/17/2021		On-Time		
Prepare Traffic Plans	07/27/2021		On-Time		
Final Field Review	08/26/2021		On-Time		
Utility Out	01/11/2022		On-Time		
404 Permit	10/26/2021		On-Time		
Plans Complete	01/20/2022		On-Time		
Ready to Let	01/20/2022		On-Time		

Edit Resource and Comments

Utility Information

Latest Utility Out Date
-

Project Information

JP No.	Proj. ID	County	Div.	Maint.	HWY	Work Desc
3105404	J3-1054(004)	15 COAL	3	3	SH048	11 BRIDGE & APPROACHES

Project Legislative Districts

Ctrl.	Start	End	Lgth	Cong	Senate	House
016	2.160	3.100	0.940	2	06	018

Project Location

Location
SH-48 OVER ELM CREEK AND TELL CREEK, BEGIN 2.1 MI NORTH OF JOHNSTON C/L

Project Status

Status	8Year CWP	NHS Sys.	FHWA Oversight	Comm Appr.	Fhwa Auth	Auth FFY	Let Date	FFY	Award Date	RW JP No.	RW Let
Programmed	Yes			09/2014	-		NoDate	2025	NoDate	-	-

STIP & NEPA Information

STIP FY	STIP Page	Pub Date	ODOT Appr.	TIP FY	TIP Page	MPO Appr.	NEPA Type	NEPA Appr	NEPA Re-Eval
		-	-			-	-	-	//

Project Budget & Plan Resource

Advanced	Federal	State	Other	Total	Design Consultant	NEPA Consultant
$0	$804,115	$804,115	$0	$1,608,230	Cabbiness Engineering LLC	C. H. Guernsey & Company

ODOT/FHWA Resources Assigned

PMD	Field	FHWA	NEPA	Survey	Materials	Roadway	Bridge	Traffic	RW	Rail
Hurst	Bloss	Vacant	Alexander	Dees	-	Murphy	Sison	Maarouf	Christie	-

Comments

no data found

Bridge Information

Proposed Bridge

NBI#	Status	Co	Ctl	Milept	Sd
14955	State Bridge	15	016	02260	
14959	State Bridge	15	016	03000	

1-2

OKLAHOMA Transportation

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PROJECT STATUS SYSTEM

Edit Original NEPA Document

Cancel | Save NEPA Document

Job Piece 3104704

Initial

Initiation Report from PMD	
Footprint Review Prior to Start of Studies	04/26/2018
Consultant Notice To Proceed	03/15/2018
Property Owner Notification	04/26/2018
BLM Notification	05/02/2018
BIA Notification	05/02/2018
Consultant CR/Tribal Initiation	

Studies

Farmland NRCS Requested	05/07/2018
Farmland NRCS Complete	06/08/2018
CR Studies Requested	04/28/2018
CR Studies Due	07/06/2018
CR Studies Recd	03/02/2020
Biological Studies Requested	06/01/2018
Biological Studies Due	07/06/2018
Biological Studies Recd	07/25/2018
Meeting with 404 Permit Coordinator for Delineation	
Haz Waste Studies Requested	06/01/2018
Haz Waste Studies Due	07/06/2018
Haz Waste Studies Recd	07/18/2018
Noise Studies Requested	

NEPA Document Preparation

NEPA On Hold Memo Sent Date	
R/W Submittal Plans Recd	
Draft Document Target Date	
Draft Document Actual Date	

CE Review

Draft CE Review by ODOT	
Comments To Consultant	
Revised CE from Consultant	
CE to FHWA (if applicable)	
Date of FHWA / ODOT Approval of CE	
CE Distribution	

EA Review

Draft EA Review by ODOT	
Draft EA Review by FHWA	
Comments to Consultant	
Revised EA from Consultant	
Draft EA to FHWA	
Draft EA Approval by FHWA	
Final EA from Consultant	
Final EA Reviewed	
Final EA to FHWA	
FONSI from FHWA	
FONSI Distribution	

NEPA Document Navigation

- Recon
- Section 4F
- Public Involvement
- Re-Evaluation

Noise Studies Due	
Noise Studies Recd	
Relo Studies Requested	
Relo Studies Due	
Relo Studies Recd	

330756 en

Oklahoma Department of Transportation
Project Management Division (405)522-7601 Fax (405) 522-7612 Room 1-C6

DATE: **February 16, 2017**

TO: **Distribution List**

FROM: **Project Management Division**

SUBJECT: **Project Initiation Report**

J/P Number: 31047(04) County: Johnston Highway: SH-48 Division: THREE
PS&E Date: 3/13/2020 R/W Date : 8/2018 Drive-out Date: January 18, 2017
Programmed Estimate: $ 14,000,000
Project Description: BEGIN 1.0 MI SOUTH OF COAL C/L, EXTEND NORTH 6.0 MI

EXISTING INFORMATION

Reconnaissance Information Available
□ Yes Location http://plansrv1/osd/JP####### ■ No

Functional Classification

Area Type:	□ Urban	□ Suburban	■ Rural	
Terrain Type:	□ Flat	■ Rolling	□ Mountainous	
Access Control:	□ Full	□ Partial	■ None	
Highway Type:	□ Freeway	□ Principal Arterial	□ Minor Arterial	■ Collector
	□ NHS	■ Non-NHS	□ STRAHNET	□ Scenic Hwy

Existing Condition
Current ADT: 1,400 % Trucks: Number of Lanes: 2 Lane Width: 12'
Outside Shoulder Width: 1' Inside Shoulder Width: 1'
■ Open Section □ Curb & Gutter □ Divided, median width:
□ Other (describe):
Pavement Type: Asphalt Pavement Condition: □ Good ■ Fair □ Poor
Shoulder Type: Asphalt Shoulder Condition: □ Good □ Fair ■ Poor
Storm Sewer ■ No □ Yes Storm Sewer Condition: □ Good □ Fair □ Poor
Sidewalks ■ No □ Left Width: ' □ Right Width: '

Bridges within Project extents: SEE ATTACHED INSPECTION REPORTS
Bridge NBI #'s: 14955, 14958, 14959, 15121

NOTE: Bridges are being designed separately under two (2) previous Design Contracts as follows: NBI #'s: 14958, 15121 = JP 31053(04), NBI #'s: 14955, 14959 = JP 31054(04)

CONSIDERATIONS

Environmental

x Historic Properties, list: (8) sites Low Potential NRHP
□ Archeological Sites, list:
x Cemeteries, list: Moore Cemetery located West of the project limits at the intersection of SH-48 and EW Co Rd 1760.
□ Hazardous Waste Sites/ AST's/ Coal Mines/LUST Sites, list:
x Threatened & Endangered Species, list with seasonal restrictions: Least Tern, Piping Plover, Red Knot, Whooping Crane, ABB, Bald Eagle
□ Aquatic Species, list with seasonal restrictions:
□ Section 4F or 6F Properties, list:
□ Farmland x Wetlands □ Scenic Rivers and Protected Aquifers □ Critical Resource/ Sensitive Waters/Impaired Waters (type of impairment), List: NBI#s 14959 & 14955: (8) potential jurisdictional wetlands. NBI#s 15121 & 14958: (5) potential ponds, Potential wetland east side of SH-48 southern unnamed tributary
□ FEMA Flood Zone □ A □ AE □ X
□ Compensatory Flood Storage
□ Indian/Tribal/Federal/Wetland Reserve Program Properties, List:
□ Scenic Byway/Route 66

Alternative Impacts

□ Other Agencies List:
□ Turnpike Involvement
□ Metropolitan Planning Organizations List:

Right-of Way/Utilities

■ Additional RW Anticipated Describe: As required for shoulder widening and Utility relocation needs.
■ Utility Conflicts Describe:

- Evidence of TUG lines exist on both sides of the Highway
- Overhead Power crossing at the B.O.P.
- At the B.O.P., Overhead power parallels West side and switches to the East Side at Kirby Road.
- North of EW Co. Rd. 1780 begins Overhead Power paralleling both sides
- Overhead Power crossing at the intersection of SH-48 and EW Co Rd 1760.

Permit Information

Design Exception Anticipated: ■ No □ As required by design □ Yes, type:
Maintenance Agreements (Lighting, Signals, etc.): ■ No □ Yes, type:
Permits required: □ FAA ■ USACE □ OWRB □ Railroad □ Other, type:
Comments for required permits: (Name and distance to airport, anticipated USACE permit type, Railroad owner, active or abandoned rail line, etc.)

Special Considerations:

- Bridges (4) are being designed separately under two (2) previous Design Contracts as follows:
  NBI #'s: 14958, 15121 = JP 31053(04), NBI #'s: 14955, 14959 = JP 31054(04)

- Moore Cemetery is located West of the project limits at the intersection of SH-48 and EW Co Rd 1760. No impacts are anticipated.
- There exists a Pipe Rail Fence paralleling the West side beginning at EW Co. Rd. 1760 that proceeds North approx. 500'.
- There exists a cell tower on the North end of the project, West side, just south of EW Co. Rd. 1740. While no impacts are anticipated, Design will make efforts to avoid impacting this facility.

PROPOSED IMPROVEMENT

Project Intent: Proposed Improvements to this Highway Segment include the addition of 8' Asphalt Paved Shoulders and resurfacing to provide for a safer driving and recovery condition for motorists.

Design Speed: 65 mph (Utilizing 3R Design Criteria)

Description of Proposed Improvements:

The Project Initiation Team recommends the addition of Paved Shoulders to this Highway extent. Four Bridges within the project limits are an exception to this work planned as they are under a previous Design Contract (as noted above in Special Considerations). This project will retain two 12' driving lanes and add 8' paved shoulder width with resurfacing to tie to the new 8' shouldered Bridge approaches.

There exist questionable vertical curves within the limits of this project (South of EW Co Rd 1780). Design will review the DTM to determine if these locations qualify for re-construction while utilizing 3R Criteria for Design.

At the E.O.P., the EW Co. Rd. 1740 approach alignment to SH-48 on the West side will be adjusted to minimize the angle of approach and improve sight distance conditions.

Project Termini

Beginning of Project: Begin 2.25 miles North of the SH-48/SH-7 Intersection in Wapanuka (just North of the Bridge at Kirby Road.
End of Project: Approx. 300' North of EW Co. Rd 1740

SURVEY NOTES:

- Some Survey was completed for the Bridge projects JP 31053(04) and 31054(04).
- Additional Survey will likely be required for the areas between the four bridges.
- Limits of Survey: Existing Survey extended 500' North of the E.O.P. at EW Co. Rd 1740. And South of the B.O.P. approx. 2,000'

Limits of NEPA Survey Area: Parallel 200'both left and right of SH-48 within the survey extents described above, except for the bridges within this project extent. The bridge environmental study widths are as defined in JP# 31053(04) and JP# 31054(04) Final Initiation Reports.

Potential to transfer steel bridge beams to County

□ No □ Yes ■ N/A Fully document specific reasons preventing transfer:

Typical Section

■ Open Section □ Curb & Gutter □ Divided, median width:
□ Other (describe):
Number of Lanes: 2 Lane Width: 12'
Outside Shoulder Width: 8' Inside Shoulder Width: 8'
Storm Sewer ■ No □ Yes
Sidewalks ■ No □ Left Width: ' □ Right Width: '
Sidewalk decision comments:
Overlay □ No ■ Yes, thickness: TBD per Final Pavement Design
Coldmill □ No ■ Yes, thickness: TBD per Final Pavement Design
Add Shoulders □ No ■ Yes, width: 8'
Bridge Width ': N/A

Alignment

■ Existing
□ New, located □ North or □ South or □ East or □ West of existing
□ Parallel Lanes, located □ North or □ South or □ East or □ West of existing
Alignment decision comments:
□ Spot Improvements
□ Horizontal, Description:
■ Vertical, Description: There exist questionable vertical curves within the limits of this project. Design will review the DTM to determine if these locations qualify for re-construction under a 3R Design Criteria.

Detour

□ Shoo-fly, located □ North or □ South or □ East or □ West of existing
■ Widening, located □ North or □ South or □ East or □ West of existing
□ Crossovers
□ Close Road □ Round Robin Approved
■ Signed Detour, Route Description: SEE COMMENTS BELOW
Anticipated duration of Detour: TBD
□ Public Meeting Required □ Agreement Required
■ Phased Construction, Description: Project will entail Symmetrical Widening. One-way Traffic Signals may be used to complete construction half-at-a-time. Truck Wide Loads will be detoured as necessary utilizing US-377, SH-33, SH-3 and SH-7.

Aesthetics ■ No □ Yes
Description of proposed aesthetic treatments:

Traffic Items

Traffic Management Plan ■ No □ Yes
Median Barrier □ No ■ Yes – TBD Temporary for Const. Sequencing
New Guardrail ■ No □ Yes
End Treatment ■ No □ Type:
Highway Lighting ■ No □ Outside or □ Median
Traffic Signals ■ No □ Location(s):

Miscellaneous

Channel Work ■ No □ Relocation □ Re-Alignment □ Cleanup

Public Involvement ■ No □ Road Closure Letters
□ Public Meeting
□ Stakeholder Meeting

PROGRAMMING INFORMATION

Initiation Estimate:

Roadway:	$ 12,150,000	Right-of-Way:	$ TBD
Traffic Control:	$ 35,000	Utility:	$ TBD
Signing and Striping:	$ 20,000		
Mobilization:	$ 553,200	Total Estimate:	$ TBD
Staking:	$ 255,164		
E & C:	$ 765,492		
Total Construction:	$ 13,778,856		

Pending Program Revisions:

Estimate: $ 13,778,856 Letting Date: Project Length: 5.85 miles

Work Type:

Description: Begin 2.25 miles North of the SH-48/SH-7 Intersection in Wapanuka, extending North 5.85 Miles

Attendee Name	Representing
Danny Dees	Survey Division
Roland Sison	Bridge Division
Derek McIntosh	Roadway Design Division
Robert Payao	Environmental Programs Division
Ron Brown	Field Division Three
Kevin Bloss	Field Division Three
Trent Hurst	Project Management Division

Attachments (Aerial with Preliminary RW)

Distribution List:

Director of Engineering
Director of Capital Programs
Bridge Division
Environmental Programs Division
FHWA
Field Division Three
Project Management Division
Right-of-Way Division
Roadway Design Division
Survey Division
Strategic Asset & Performance Management Division
Traffic Engineering Division

Project Management Division (405)522-7605 Fax (405) 522-7612 Room 1-C6

DATE: **February 25, 2016**

TO: **Distribution List**

FROM: **Gregory W. Massey, Project Management Division**

SUBJECT: **Final - Project Initiation**

J/P Number: 31053(04) County: Johnston Highway: 48 Division: 3
PS&E Date: 2022 R/W Date : 2019 Drive-out Date:
Programmed Estimate: $ 2,500,000.00
Project Description: SH-48: OVER DELAWARE CREEK AND WALNUT CREEK, BEGIN 2.2 MI NORTH OF JCT SH-7

EXISTING INFORMATION

Reconnaissance Information Available

■ Yes Location http://plansrv1/osd/JP3105304
□ No

Functional Classification

Area Type:	□ Urban	□ Suburban	■ Rural	
Terrain Type:	□ Flat	■ Rolling	□ Mountainous	
Access Control:	□ Full	□ Partial	■ None	
Highway Type:	□ Freeway	□ Principal Arterial	□ Minor Arterial	■ Collector
	□ NHS	■ Non-NHS	□ STRAHNET	□ Scenic Hwy

Existing Condition

Current ADT: 2000 % Trucks: 15% Number of Lanes: 2 Lane Width: 11'
Outside Shoulder Width: 4' Inside Shoulder Width:
■ Open Section □ Curb & Gutter □ Divided, median width:
□ Other (describe):
Pavement Type: Asphalt Pavement Condition: □ Good □ Fair □ Poor
Shoulder Type: Asphalt Shoulder Condition: □ Good □ Fair □ Poor
Storm Sewer ■ No □ Yes Storm Sewer Condition: □ Good □ Fair □ Poor
Sidewalks ■ No □ Left Width: ' □ Right Width: '

Bridge One Description: 3-50' I-BM. SPANS WITH 2- 18' SAFETY CURBS,
Bridge Two Description:(13'-17'-13')X 15'X 48' RDY RC Box

	Bridge One	Bridge Two
Feature Intersected:		
NBI Number:	15121	14958
Location Number:	3520 0218 X	3520 0277 X
Sufficiency Rating:	70.6	92.9
Year Built:	1960	1960
Bridge Width (Clr Rdwy):	28’	32’
Bridge Length:	150.9	46.9’
Posted Vertical Clearance:	N/A	N/A
Posted:	No	No
Sidewalk Width Lt.:	N/A	N/A
Sidewalk Width Rt.:	N/A	N/A
Health Index:	79.5	93.7
Steel Beam Bridge:	Yes	No

CONSIDERATIONS

Environmental/Right-of-Way

□ Historic Properties, list:
□ Archeological Sites, list:
□ Cemeteries, list:
□ Hazardous Waste Sites/ AST’s/ Coal Mines/LUST Sites, list:
■ Threatened & Endangered Species, list with seasonal restrictions: **Least Tern, Piping Plover, Red Knot, Whooping Crane, ABB**
□ Aquatic Species, list with seasonal restrictions:
□ Section 4F or 6F Properties, list:
□ Farmland ■ **Wetlands** □ Scenic Rivers and Protected Aquifers □ Critical Resource/ Sensitive Waters/Impaired Waters (type of impairment), List**: (5) Potential ponds, Potential wetland east side of SH-48 southern unnamed tributary**
□ FEMA Flood Zone □ A □ AE □ X
□ Compensatory Flood Storage
□ Indian/Tribal/Federal/Wetland Reserve Program Properties, List:
□ Scenic Byway/Route 66

Alternative Impacts

□ Other Agencies List:
□ Turnpike Involvement
□ Metropolitan Planning Organizations List:

Utilities

Utility	Location (Lt./Rt./Xing)	Utility Investigation Level
AT&T Fiber optic line	Length of project (Right)	Preliminary
AT&T Tug line	Length of project (Left)	Preliminary
PSO OH Power	Length of project (Right)	Preliminary
Wapanucka PWA Water line	Length of project (Left)	Preliminary

Permit Information
Design Exception Anticipated: □ No □ As required by design □ Yes, type:
Maintenance Agreements (Lighting, Signals, etc.): □ No □ Yes, type:
Permits required: □ FAA □ USACE □ OWRB □ Railroad □ Other, type:
Comments for required permits: (Name and distance to airport, anticipated USACE permit type, Railroad owner, active or abandoned rail line, etc.)
Special Considerations

.....

PROPOSED IMPROVEMENT

Project Intent: NBI#15121 Replace at risk 3-50' I-BM. Span structure.
NBI#14958 Extend (13'-17'-13')X 15'X 48' RDY RC Box

Description of Proposed Improvements:
NBI#15121 Replace the existing at risk structure with a new 3-span steel bridge on the existing alignment. The shoofly will be to the west of the existing with a minimum offset to avoid the county road and pond on the east side of the bridge. The new bridge is estimated to be a 3-70' I-Bm span. The roadway will consist of 2-12' lanes and 2-8' shoulders with "2" mill & fill at the beginning and end of the project to clean up striping areas where the shoo-fly ties in."

NBI#14958 The ends of the box have incurred some spalling and will have to be removed. The extent of spalling is approximately 3' from the end. Leaching on the sidewalls and minor spalling at the top slab were also observed and will have to be repaired. Overall, the structure is in good condition. Debris was also present on the upstream side but no scour was observed. The box will be extended to clear zone (30'). Traffic will remain on existing alignment utilizing barrier wall while box is being constructed

Required Project Construction Time: 240 days

Design Speed:65 mph

Potential to transfer steel bridge beams to County (Oklahoma Statute Title 69 subsection 1001)
Yes □
No □ Fully document specific reasons preventing transfer:

NA ■

Project Termini
Beginning of Project: Minimum extents to construct
End of Project: Minimum extents to construct

Limits of Survey: This survey will begin at a point approximately 2047 feet south of the Delaware Creek Bridge or 953 feet south of the EW 180.0 Section Line at Sta. 1172+28.0, FASP No. S-458(7)(8)S Plans and will continue north along S.H. 48 approximately 7172 feet to a point approximately 955 feet north of the EW 179.0 Section Line (Coal – Johnston County Line) or Plans Sta. 1244+00. The Limits of Survey will be 300 feet left and 200 feet right with the

exception of from Plans Station 1187+00 north 1100 feet to Sta. 1198+00 and from Plans Station 1218+00 north 1100 feet to Plans Sta. 1229+00 where the limits will be 500 feet left and right. Profiles of cross-drains will be taken to 1000 feet left and right from centerline of survey.

The two bridges mentioned above are both part of the SWO 5159(1) – J/P No. 31047(04) – SH 48 – Johnston County - Roadway Survey

Limits of NEPA Survey Area: Parallel 200' both left and right of SH-48 within the survey extents described above.

Typical Section

■ Open Section □ Curb & Gutter □ Divided, median width:
□ Other (describe):
Number of Lanes: 2 Lane Width: 12'
Outside Shoulder Width: ' Inside Shoulder Width: '
Storm Sewer ■ No □ Yes
Sidewalks ■ No □ Left Width: ' □ Right Width: '
Sidewalk decision comments:

Overlay □ No ■ Yes, thickness: 2"
Coldmill □ No ■ Yes, thickness: 2"
Add Shoulders □ No ■ Yes, width: 8 '
Bridge Width '

Alignment

■ Existing
□ New, located □ North or □ South or □ East or □ West of existing
□ Parallel Lanes, located □ North or □ South or □ East or □ West of existing
Alignment decision comments:
□ Spot Improvements
□ Horizontal, Description:
□ Vertical, Description:

Detour – NBI#15121

■ Shoo-fly, located □ North or □ South or □ East or ■ West of existing
□ Widening, located □ North or □ South or □ East or □ West of existing
□ Crossovers
□ Close Road
□ Signed Detour, Route Description:
Anticipated duration of Detour:
□ Public Meeting Required □ Agreement Required
□ Phased Construction, Description:

Detour – NBI#14958

□ Shoo-fly, located □ North or □ South or □ East or □ West of existing
□ Widening, located □ North or □ South or □ East or □ West of existing
□ Crossovers
□ Close Road

□ Signed Detour, Route Description:
Anticipated duration of Detour:
□ Public Meeting Required □ Agreement Required
■ Phased Construction, Description: **Under Traffic utilizing barrier wall**

Traffic Items

Traffic Management Plan	□ No	■ Yes		
Median Barrier	□ No	■ Yes		
New Guardrail	■ No	□ Yes		
End Treatment	■ No	□ Type:		
Highway Lighting	■ No	□ Outside or	□ Median	
Traffic Signals	■ No	□ Location(s):		

Miscellaneous

Channel Work	■ No	□ Relocation	□ Re-Alignment	□ Cleanup
Public Involvement	■ No	□ Road Closure Letters		
		□ Public Meeting		
		□ Stakeholder Meeting		

.....

PROGRAMMING INFORMATION

RW Project Needed	□ No	■ Yes
Utility Project Needed	□ No	■ Yes

Initiation Estimate

Roadway:	$ 685,000.00	Total Construction:	$ 2,636,816
Bridge:	$ 1,601,425.00		
Traffic Control:	$ 10,000.00	Right-of-Way:	$ 299,750
Signing and Striping:	$ 5,000.00	Utility:	$ 163,500
Highway Lighting:	$ 0		
Traffic Signals:	$ 0	Total Estimate:	$ 3,100,066.00
Mobilization:	$ 140,071.00		
Staking:	$ 48,830		
E & C:	$ 146,490		

Program Revisions

Estimate: $ Letting Date: Project Length:
Work Type:
Description:

Attendee Name	Representing
Kevin Bloss	Division Three
Ron Brown	Division Three
Shelly Williams	Division Three
Greg Massey	Project Mgmt. Division, Div. 3
Derek McIntosh	Roadway Design
Steven Bowen	Roadway Design
Roland Sisson	Bridge Division
Danny Dees	Survey Division
Mike Perrault	Right-of-Way & Utilities Division
Robert Payao	Environmental Programs Division

Attachments (Aerial with Preliminary RW & County Map)

Distribution List:

Director of Engineering
Director of Capital Programs
Bridge Division
Environmental Programs Division
FHWA
Field Division
Project Management Division
Right-of-Way Division
Roadway Design Division
Survey Division
Strategic Asset & Performance Management Division
Traffic Engineering Division

Project Management Division (405)522-7605 Fax (405) 522-7612 Room 1-C6

DATE: **February 25, 2016**

TO: **Distribution List**

FROM: **Gregory W. Massey, Project Management Division**

SUBJECT: **Final - Project Initiation**

J/P Number: 31054(04) County: Coal Highway: 48 Division: 3
PS&E Date: 2022 R/W Date : 2020 Drive-out Date: October 14, 2015
Programmed Estimate: $ 2,000,000.00
Project Description: SH-48: Over Elm Creek and Tell Creek Begin 2.1 Miles North of Johnston County Line

EXISTING INFORMATION

Reconnaissance Information Available

■ Yes Location http://plansrv1/osd/JP3105404
□ No

Functional Classification

Area Type:	□ Urban	□ Suburban	■ Rural	
Terrain Type:	■ Flat	□ Rolling	□ Mountainous	
Access Control:	□ Full	□ Partial	■ None	
Highway Type:	□ Freeway	□ Principal Arterial	□ Minor Arterial	■ Collector
	□ NHS	■ Non-NHS	□ STRAHNET	□ Scenic Hwy

Existing Condition

Current ADT: 1600 % Trucks: 15% Number of Lanes: 2 Lane Width: 12’
Outside Shoulder Width: Inside Shoulder Width:
■ Open Section □ Curb & Gutter □ Divided, median width:
□ Other (describe):
Pavement Type: Asphalt Pavement Condition: □ Good □ Fair ■ Poor
Shoulder Type: Asphalt Shoulder Condition: □ Good □ Fair ■ Poor
Storm Sewer ■ No □ Yes Storm Sewer Condition: □ Good □ Fair □ Poor
Sidewalks ■ No □ Left Width: ' □ Right Width: '

Bridge One Description: (13'-17'-13')X 10'X 32' RDY R.C.BOX WITH HANDRAILS
Bridge Two Description: (12'-14'-12')X 11'X 32' RDY R.C.BOX SK.60 DEG. WITH HANDRAILS

	Bridge One	Bridge Two
Feature Intersected:	(Tell Creek)	(Elm Creek)
NBI Number:	14959	14955
Location Number:	1516 0300 X	1516 0226 X
Sufficiency Rating:	78.4	78.4
Year Built:	1960	1960
Bridge Width (Clr Rdwy):	24’	24’
Bridge Length:	46.9	47.9’
Posted Vertical Clearance:	N/A	N/A
Posted:	No	No
Sidewalk Width Lt.:	N/A	N/A
Sidewalk Width Rt.:	N/A	N/A
Health Index:	94.2	97.7
Steel Beam Bridge:	No	No

CONSIDERATIONS

Environmental/Right-of-Way

■ Historic Properties, list: **(8) sites low potential NRHP**
□ Archeological Sites, list:
■ Cemeteries, list: **Moore Cemetery outside the western boundaries of recon corridor**
□ Hazardous Waste Sites/ AST’s/ Coal Mines/LUST Sites, list:
■ Threatened & Endangered Species, list with seasonal restrictions: **Least Termn, Piping Plover, Red Knot, Whooping Crane, ABB, Bald Eagle**
□ Aquatic Species, list with seasonal restrictions:
□ Section 4F or 6F Properties, list:
□ Farmland ■ Wetlands □ Scenic Rivers and Protected Aquifers □ Critical Resource/ Sensitive Waters/Impaired Waters (type of impairment), List: **(8) potential jurisdictional wetlands**
□ FEMA Flood Zone □ A □ AE □ X
□ Compensatory Flood Storage
□ Indian/Tribal/Federal/Wetland Reserve Program Properties, List:
□ Scenic Byway/Route 66

Alternative Impacts

□ Other Agencies List:
□ Turnpike Involvement
□ Metropolitan Planning Organizations List:

Utilities

Utility	Location (Lt./Rt./Xing)	Utility Investigation Level
Windstream “tug”	parallel Rt. Length of project	Preliminary
AT&T “tug”	parallel Lt. Length of project	Preliminary
PEC “OH Power”	parallel Rt. Length of project	Preliminary
American Energy Services “OH Power”	parallel Lt. Length of Project	Preliminary

Permit Information
Design Exception Anticipated: □ No □ As required by design □ Yes, type:
Maintenance Agreements (Lighting, Signals, etc.): □ No □ Yes, type:
Permits required: □ FAA □ USACE □ OWRB □ Railroad □ Other, type:
Comments for required permits: (Name and distance to airport, anticipated USACE permit type, Railroad owner, active or abandoned rail line, etc.)
Special Considerations
.....

PROPOSED IMPROVEMENT

Project Intent:
Extend (13'-17'-13')X 10'X 32' RDY R.C.BOX WITH HANDRAILS (NBI#14959)
Extend (12'-14'-12')X 11'X 32' RDY R.C.BOX SK.60 DEG. WITH HANDRAILS (NBI#14955)

Description of Proposed Improvements:
(NBI#14959) – Tell Creek
The box is structurally in good condition. Some debris and silting was observed around the box. A local ponding was observed on the east opening with approximately 1' deep. There was no evidence of head cut along the downstream end. The box will be extended to 30' clear zone. Add two 8' shoulders from approximately 200' south of the bridge and 200' north of the bridge between the 2 drives, also we will raise the grade with an overlay so that full asphalt depth can be constructed on shoulders.

(NBI#14955)- Elm Creek
The box is structurally in good condition. Some debris and local scour was observed on the west opening and will have to be removed. There was no evidence of head cut or scour other than near the debris. The box will be extended to 30' clear zone.

Required Project Construction Time: 150 days

Design Speed: 65 mph

Potential to transfer steel bridge beams to County (Oklahoma Statute Title 69 subsection 1001)
Yes □
No □ Fully document specific reasons preventing transfer:

NA ■

Project Termini
Beginning of Project: Minimum distance to construct
End of Project: Minimum distance to construct

Limits of Survey: This survey will begin at a point approximately 2280 feet south of the Elm Creek Bridge or 941 feet south of the EW 177.0 Section Line at Sta. 1331+00, FASP No. S-458(7)(8)S Plans and will continue north along S.H. 48 approximately 8200 feet to a point approximately 1979 feet north of the EW 176.0 Section Line (Soukup Road) or Plans Sta. 1413+00. The Limits of Survey will be 200 feet left and 200 feet right from the beginning of the survey north 1700 feet to Plans Sta. 1348+00 where the limits will widen to 500 feet left and

right and thence north 1100 feet to Sta. 1359+00 where the survey limits will narrow to 300 feet left and 200 feet right and will continue north 2800 feet to Plans Station 1387+00 where the limits will widen to 500 feet left and right and then will continue north 1100 feet to Plans Sta. 1398+00 where the limits will narrow to 300 feet left and 200 feet right to end of survey. Profiles of cross-drains will be taken to 1000 feet left and right from centerline of survey.

The two bridges mentioned above are both part of the SWO 5159(1) – J/P No. 31047(04) – SH 48 – Johnston County - Roadway Survey.

Limits of NEPA Survey Area: Parallel 200' both left and right of SH-48 within the survey extents described above.

Typical Section

■ Open Section □ Curb & Gutter □ Divided, median width:
□ Other (describe):
Number of Lanes: 2 Lane Width: 12'
Outside Shoulder Width: ' Inside Shoulder Width: '
Storm Sewer ■ No □ Yes
Sidewalks ■ No □ Left Width: ' □ Right Width: '
Sidewalk decision comments:

Overlay □ No ■ Yes, thickness: 2"
Coldmill □ No ■ Yes, thickness: 2"
Add Shoulders □ No ■ Yes, width: 8 '
Bridge Width '

Alignment

■ Existing
□ New, located □ North or □ South or □ East or □ West of existing
□ Parallel Lanes, located □ North or □ South or □ East or □ West of existing
Alignment decision comments:
□ Spot Improvements
□ Horizontal, Description:
□ Vertical, Description:

Detour

□ Shoo-fly, located □ North or □ South or □ East or □ West of existing
□ Widening, located □ North or □ South or □ East or □ West of existing
□ Crossovers
□ Close Road
□ Signed Detour, Route Description:
Anticipated duration of Detour:
□ Public Meeting Required □ Agreement Required
■ Phased Construction, Description: Construct west portion of boxes to allow traffic to be maintained on the east side, after west portion is complete, then move traffic onto west side to build the east portion of the box.

Traffic Items

Traffic Management Plan □ No ■ Yes

Median Barrier	□ No	■ Yes	
New Guardrail	■ No	□ Yes	
End Treatment	■ No	□ Type:	
Highway Lighting	■ No	□ Outside or	□ Median
Traffic Signals	■ No	□ Location(s):	

Miscellaneous

Channel Work	□ No	□ Relocation	□ Re-Alignment	■ Cleanup
Public Involvement	■ No	□ Road Closure Letters		
		□ Public Meeting		
		□ Stakeholder Meeting		

PROGRAMMING INFORMATION

RW Project Needed	□ No	■ Yes
Utility Project Needed	□ No	■ Yes

Initiation Estimate

Roadway:	$ 435,000.00	Total Construction:	$ 1,617,148.00
Bridge:	$ 952,247.00		
Traffic Control:	$ 10,000.00	Right-of-Way:	$ 200,000.00
Signing and Striping:	$ 5,000.00	Utility:	$ 100,000.00
Highway Lighting:	$ 0.00		
Traffic Signals:	$ 0.00	Total Estimate:	$ 1,917,148.00
Mobilization:	$ 95,112.00		
Staking:	$ 29,947.00		
E & C:	$ 89,842.00		

Program Revisions

Estimate: $ Letting Date: Project Length:
Work Type:
Description:

Attendee Name	Representing
Kevin Bloss	Division Three
Ron Brown	Division Three
Shelly Williams	Division Three
Greg Massey	Project Mgmt. Division, Div. 3
Derek McIntosh	Roadway Design
Steven Bowen	Roadway Design
Roland Sisson	Bridge Division
Danny Dees	Survey Division
Mike Perrault	Right-of-Way & Utilities Division
Robert Payao	Environmental Programs Division

Attachments (Aerial with Preliminary RW & County Map)

Distribution List:

- Director of Engineering
- Director of Capital Programs
- Bridge Division
- Environmental Programs Division
- FHWA
- Field Division
- Project Management Division
- Right-of-Way Division
- Roadway Design Division
- Survey Division
- Strategic Asset & Performance Management Division
- Traffic Engineering Division

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **14955** Structure No.: 1516 0226 X Local ID:-1 Suff. Rating: 78.4 ND Health Index : 97.7

IDENTIFICATION

Description:
(12'-14'-12')X 11'X 32' RDY R.C.BOX SK.60 DEG. WITH HANDRAILS

1. State: Oklahoma
2. SHD District: Division 3
3. County Code: COAL
4. Place Code: Unknown

Admin. Area: Unknown

5. Inventory Route (Route On Structure) : 1 - 3 - 1 - 00048 - 0
6. Feature Intersected: ELM CREEK
7. Facility Carried: S.H. 48 S.H. 48
9. Location: 2.2 MI N JOHNSON CL
11. Mile Post: 2.259 mi
13. LRS Inv. Route./ Subroute.: -1 -1
16. Latitude: 34 27 04.57
17. Longitude: 096 25 28.47
98. Border Br. Code: Unknown (P) % Resp. : 0
99. Border Br. #: Unknown

INSPECTION

Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:
NBI:		Y	24	9/29/2016	9/29/2018
FC Freq.:	N	N	NA	**NA**	**NA**
UW Freq.:	N	N	NA	**NA**	**NA**
OS Freq.:	N	N	NA	**NA**	**NA**

CLASSIFICATION

12. Base Hwy Network : Not on Base Network
20. Toll Facility: 3 On free road
21. Custodian: 01 State Highway Agency
22. Owner: 01 State Highway Agency
26. Functional Class: 07 Rural Mjr Collecto
37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h
101. Parallel Structure: No || bridge exists
102. Dir. of Traffic: 2 2-way traffic
103. Temp. Structure: Not Applicable (P)
104. Highway System: 0 Not on NHS
105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na
112. NBIS Length: Long Enough

STRUCTURE TYPE AND MATERIALS

43. Main Span Material and Design Type
Concrete Culvert
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 3
46. No. of Approach Spans: 0
107. Deck Type: N N/A (NBI)
108A. Wearing Surface: N N/A (no deck (NBI))
108B. Membrane: 0 None
108C. Deck Protection: None

CONDITION

58. Deck: N N/A (NBI)
59. Super.: N N/A (NBI)
60. Sub.: N N/A (NBI)
62. Culvert: 7 Minor Deteriorati
61. Channel/Channel Protection: 5 Bank Prot Eroded

Flowline Notes:
CULVERT

AGE AND SERVICE

27. Year Built: 1960
106. Year Reconstructed: Unknown
28A. Lanes on: 2
28B. Lanes Under: 0
19. Detour Length: 34.2 mi
29. ADT: 1400
30. Year of ADT: 2014
109. Truck ADT %: 15
42A. Type of Service on: 1 Highway
42B. Type of Service under: 5 Waterway

LOAD RATING AND POSTING

31. Design Load: 5 MS 18 (HS 20)
41. Posting status: A Open, no restriction
63. Op. Rating Method: 2 AS Allow. Stress-To
Alt. Op. Rating Meth.: 2 AS Allow. Stress-T

64. Operating Rating (H / HS / 3-3):	33.0	49.0	-1.1
66. Inventory Rating (H / HS / 3-3) :	19.9	36.0	-1.1

65. Inv. Rating Method: 2 AS Allow. Stress-To
Alt. Inv. Rating Meth.: 2 AS Allow. Stress-To
70. Posting: 5 At/Above Legal Loads
Date Rated : 1/1/1901

GEOMETRIC DATA

10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 24.0 ft
Deck Area: 1,636.1 sq. ft
33. Median: 0 No median
34. Skew: 30
35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 24.0 ft
48. Length Maximum Span: 14.1 ft
49. Structure Length: 47.9 ft
50A. Curb/Sdwlk Wdth L: 0.0 ft
50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 24.0 ft
52. Width Out to Out: 24.0 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : N Feature not hwy or RR 0.0 ft

	N/E			S/W		
Meas.	-1	-1	-1	-1	-1	-1
Post.	DO NOT U	DO NOT U	DO NOT U	DO NOT U	DO NOT U	-1

55A/55B. Minimum Lateral Undrclearance R: N Feature not hwy or RR 0.0 ft
56. Minimum Lateral Undrclearance L: 0.0 ft

PROPOSED IMPROVEMENTS

94. Bridge Cost: $230,000
75. Type of Work: 33 Widen w/o Deck R
95. Roadway Cost: $379,500
76. Lgth. of Improvment: 47.9 ft
96. Total Cost: $644,000
114. Future ADT: 2240
97. Year of Cost Est.: 2009
115. Year of Future ADT: 2034

NAVIGATION DATA

38. Navigation Control: Permit Not Required
39. Vertical Clearance: 0.0 ft
40. Horizontal Clearance: 0.0 ft
111. Pier Protection: 1 Not Required
116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL

36A. Bridge Rail: 1 Meets Standards
36C. Approach Rail: 1 Meets Standards
36B. Transition: 1 Meets Standards
36D. Approach Rail Ends: 1 Meets Standards
67. Str. Evaluation: 7 Above Min Criteria
68. Deck Geometry: 4 Tolerable
69. Underclearance, Vertical and Horizontal: N Not applicable (NBI)
71. Waterway Adequacy: 7 Above Minimum
72. Approach Alignment: 8 Equal Desirable Crit
113. Scour Critical: 8 Stable Above Footing

200c. Temperature: 70
200d. Weather: CLEAR
201. Structural Steel ASTM Desig.: -1 -1
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Open Joint - No Device
-
204. Type of Handrail: Parapet Retrofit
205. Material and Quantity : -1.0
208. Type of Abutment : -
Type of Foundation : -
209. Type of Pier / Found.: - -
-
210. Foundation Elev. -1.0 6075.0
-1.0 -1.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : -1
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : NO
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
e. Navigation Lights : _
Working/Not Working : _
215. Overpass : B - State Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: 01
223. Appr. Slab/Rdwy Cond.: Excellent
225. Paint Type : -
Overcoat : Not Applicable
226. Date Painted: -1
227. Paint Coloring: -1
233. Deck Forming: -
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : -1.000
246. Type of Overlay : _
246. Overlay Thickness : -1.0
246. Overlay Date : 1/1/1901
246. Overlay Depth Changed > 1"? _
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: 30.0
256. Chan. Profile Up/Down Stream?: _
257a. OkiePROS Auto. Truck Routing Culv
258. Plans w/ found. are in file at ODOT:
259. Scour Eval. is in file at ODOT:
263. Interchange at Intersection: No Interchange
264. Interstate Milepoint: -1.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **14955** Structure No.: 1516 0226 X Local ID:-1 Suff. Rating: 78.4 ND Health Index : 97.7

Inspection Date: 9/29/2016 Reported By: UFD3012

Invoice No.: -1 Inspected With: Erik Cox

Agency :

Structure / Inspection Notes

< none >

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
241	1	Reinforced Concrete Culvert	(LF)	118	108	93 %	10	7 %	0	0 %	0	0 %	0	0 %
331	1	Reinforced Conc Bridge Railing	(LF)	95	71	75 %	24	25 %	0	0 %	0	0 %	0	0 %
970	1	Wing	(EA)	2	2	100 %	0	0 %	0	0 %	0	0 %	0	0 %

Additional Elements

Elem.	Element Notes (Include Size and Location of Deterioration
241	VERTICAL CRACKS W/ LEACHING & SOME STAINS.
331	SOME VERTICAL CRACKS, MINOR LEACHING.
970	FX- DIAG CRACK W/ LEACHING NEAR CTR OF E WINGS, N-E IS OPEN 1/16" VERTICALLY & LEANING OUT HORIZ. APPROX. 1/4" @ THE TOP.

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **14958** Structure No.: 3520 0277 X Local ID:-1 Suff. Rating: 92.9 ND Health Index : 93.7

IDENTIFICATION

Description:
(13'-17'-13')X 15'X 48' RDY RC BOX
1. State: Oklahoma 2. SHD District: Division 3
3. County Code: JOHNSTON 4. Place Code: Unknown
Admin. Area: Unknown
5. Inventory Route (Route On Structure) : 1 - 3 - 1 - 00048 - 0
6. Feature Intersected: WALNUT CREEK
7. Facility Carried: S.H. 48 S.H. 48
9. Location: 2.8 MI N JCT SH7 11. Mile Post: 2.769 mi
13. LRS Inv. Route./ Subroute.: -1 -1
16. Latitude: 34 24 55.44 17. Longitude: 096 25 28.64
98. Border Br. Code: Unknown (P) % Resp. : 0 99. Border Br. #: Unknown

INSPECTION

Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:
NBI:		Y	24	4/20/2016	4/20/2018
FC Freq.:	N	N	NA	**NA**	**NA**
UW Freq.:	N	N	NA	**NA**	**NA**
OS Freq.:	N	N	NA	**NA**	**NA**

STRUCTURE TYPE AND MATERIALS

43. Main Span Material and Design Type
Concrete Culvert
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 3 46. No. of Approach Spans: 0
107. Deck Type: N N/A (NBI)
108A. Wearing Surface: N N/A (no deck (NBI))
108B. Membrane: 0 None
108C. Deck Protection: None

CLASSIFICATION

12. Base Hwy Network : Not on Base Network 20. Toll Facility: 3 On free road
21. Custodian: 01State Highway Agency 22. Owner: 01State Highway Agency
26. Functional Class: 07 Rural Mjr Collecto 37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h 101. Parallel Structure: No || bridge exists
102. Dir. of Traffic:2 2-way traffic 103. Temp. Structure: Not Applicable (P)
104. Highway System: 0 Not on NHS 105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na 112. NBIS Length: Long Enough

CONDITION

58. Deck: N N/A (NBI) 59. Super.: N N/A (NBI) 60. Sub.: N N/A (NBI)
62. Culvert: 7 Minor Deteriorati 61. Channel/Channel Protection: 5 Bank Prot Eroded
Flowline Notes:
CULVERT

AGE AND SERVICE

27. Year Built: 1960 106. Year Reconstructed: Unknown
28A. Lanes on: 2 28B. Lanes Under: 0 19. Detour Length: 47.8 mi
29. ADT: 1600 30. Year of ADT: 2014 109. Truck ADT %: 15
42A. Type of Service on: 1 Highway
42B. Type of Service under: 5 Waterway

LOAD RATING AND POSTING

31. Design Load: 5 MS 18 (HS 20) 41. Posting status: A Open, no restriction
63. Op. Rating Method: 2 AS Allow. Stress-To Alt. Op. Rating Meth.: 2 AS Allow. Stress-T
64. Operating Rating (H / HS / 3-3): 33.0 49.0 -1.1
66. Inventory Rating (H / HS / 3-3) : 19.9 36.0 -1.1
65. Inv. Rating Method: 2 AS Allow. Stress-To Alt. Inv. Rating Meth.: 2 AS Allow. Stress-T
70. Posting: 5 At/Above Legal Loads Date Rated : 1/1/1901

GEOMETRIC DATA

10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 32.0 ft
Deck Area: 2,335.8 sq. ft 33. Median: 0 No median
34. Skew: 0 35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 24.0 ft
48. Length Maximum Span: 17.1 ft 49. Structure Length: 46.9 ft
50A. Curb/Sdwlk Wdth L: 0.0 ft 50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 32.0 ft 52. Width Out to Out: 49.9 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : N Feature not hwy or RR 0.0 ft

	N/E			S/W		
Meas.	-1	-1	-1	-1	-1	-1
Post.	DO NOT U	DO NOT U	DO NOT U	DO NOT U	DO NOT U	-1

55A/55B. Minimum Lateral Undrclearance R: N Feature not hwy or RR 0.0 ft
56. Minimum Lateral Undrclearance L: 0.0 ft

PROPOSED IMPROVEMENTS

94. Bridge Cost: $281,556 75. Type of Work: 31 Repl-Load Capacity
95. Roadway Cost: $464,567 76. Lgth. of Improvment: 46.9 ft
96. Total Cost: $788,357 114. Future ADT: 2560
97. Year of Cost Est.: 2009 115. Year of Future ADT: 2034

NAVIGATION DATA

38. Navigation Control: Permit Not Required
39. Vertical Clearance: 0.0 ft 40. Horizontal Clearance: 0.0 ft
111. Pier Protection: 1 Not Required 116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL

36A. Bridge Rail: 0 Substandard 36C. Approach Rail: 1 Meets Standards
36B. Transition: 1 Meets Standards 36D. Approach Rail Ends: 1 Meets Standards
67. Str. Evaluation: 7 Above Min Criteria 68. Deck Geometry: 5 Above Tolerable
69. Underclearance, Vertical and Horizontal: N Not applicable (NBI)
71. Waterway Adequacy: 6 Equal Minimum
72. Approach Alignment: 8 Equal Desirable Crit
113. Scour Critical: 7 Countermeasures

200c. Temperature: 68
200d. Weather: CLOUDY
201. Structural Steel ASTM Desig.: -1 -1
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Open Joint - No Device
-
204. Type of Handrail: N/A
205. Material and Quantity : -1.0
208. Type of Abutment : -
Type of Foundation : -
209. Type of Pier / Found.: - -
-
210. Foundation Elev. -1.0 5850.0
-1.0 -1.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : -1
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : N
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
Min. Measured Clearance : -1
Max. Measured Clearance : -1
e. Navigation Lights : _
Working/Not Working : _
215. Overpass : B - State Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: 03
223. Appr. Slab/Rdwy Cond.: Satisfactory
224. Critical Feature Type: -1
225. Paint Type : -
Overcoat : 0
226. Date Painted: -1
227. Paint Coloring: -1
233. Deck Forming: -
236. Deck Cleaning : -1
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : -1.000
246. Type of Overlay : _
246. Overlay Thickness : -1.0
246. Overlay Date : 1/1/1901
246. Overlay Depth Changed > 1"? _
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: 46.0
254. Thru Truss Type : _
256. Chan. Profile Up/Down Stream?: _
257a. OkiePROS Auto. Truck Routing Culv
258. Plans w/ found. are in file at ODOT
259. Scour Eval. is in file at ODOT
263. Interchange at Intersection N
264. Interstate Milepoint -1.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 92.9 ND

Health Index : 93.7

NBI No.: **14958** Structure No.: 3520 0277 X Local ID:-1

Inspection Date:	4/20/2016	Reported By:	UFD3012
Invoice No.:	-1	Inspected With:	Erik Cox
		Agency :	

Structure / Inspection Notes

EROS TO S. BANKS. DRIFT HUNG ON W. END. #214 FLEX ON STL POST IN FILL OVER STR NOT ATTACHED TO BOX.#223(FX)SOME SEALING NEEDED. HISTORY, WATER GAP ACROSS W. END CHAN & FENCE ACROSS E. END APPR 25' FROM STR.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
241	1	Reinforced Concrete Culvert	(LF)	151	125	83 %	23	15 %	3	2 %	0	0 %	0	0 %
965	1	Debris	(EA)	1	1	100 %	0	0 %	0	0 %	0	0 %	0	0 %

Additional Elements

Elem.	Element Notes (Include Size and Location of Deterioration
241	FX- SPALLS W/ EXP REBAR @ BOTH ENDS OF CTR BBL (UP TO 1.5' DIAM) REBAR HAS APPR 5-10% SEC LOSS
965	PX- DRIFT HUNG @ W. END, BBL'S # 2 & 3 & HAVE UP TO 4.0' SILT.

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 78.4 Health Index : 94.2

NBI No.: **14959** Structure No.: 1516 0300 X Local ID:-1 ND

IDENTIFICATION

Description:
(13'-17'-13')X 10'X 32' RDY R.C.BOX WITH HANDRAILS
1. State: Oklahoma 2. SHD District: Division 3
3. County Code: COAL 4. Place Code: Unknown
Admin. Area: Unknown
5. Inventory Route (Route On Structure) : 1 - 3 - 1 - 00048 - 0
6. Feature Intersected: TELL CREEK
7. Facility Carried: S.H. 48 S.H. 48
9. Location: 3.0 MI N JOHNSON CL 11. Mile Post: 2.999 mi
13. LRS Inv. Route./ Subroute.: -1 -1
16. Latitude: 34 27 42.43 17. Longitude: 096 25 28.46
98. Border Br. Code: Unknown (P) % Resp. : 0 99. Border Br. #: Unknown

INSPECTION

Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:
NBI:		Y	24	9/29/2016	9/29/2018
FC Freq.:	N	N	NA	**NA**	**NA**
UW Freq.:	N	N	NA	**NA**	**NA**
OS Freq.:	N	N	NA	**NA**	**NA**

STRUCTURE TYPE AND MATERIALS

43. Main Span Material and Design Type
Concrete Culvert
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 3 46. No. of Approach Spans: 0
107. Deck Type: N N/A (NBI)
108A. Wearing Surface: N N/A (no deck (NBI))
108B. Membrane: 0 None
108C. Deck Protection: None

CLASSIFICATION

12. Base Hwy Network : Not on Base Network 20. Toll Facility: 3 On free road
21. Custodian: 01State Highway Agency 22. Owner: 01State Highway Agency
26. Functional Class: 07 Rural Mjr Collecto 37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h 101. Parallel Structure: No || bridge exists
102. Dir. of Traffic:2 2-way traffic 103. Temp. Structure: Not Applicable (P)
104. Highway System: 0 Not on NHS 105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na 112. NBIS Length: Long Enough

AGE AND SERVICE

27. Year Built: 1960 106. Year Reconstructed: Unknown
28A. Lanes on: 2 28B. Lanes Under: 0 19. Detour Length: 34.2 mi
29. ADT: 1400 30. Year of ADT: 2014 109. Truck ADT %: 15
42A. Type of Service on: 1 Highway
42B. Type of Service under: 5 Waterway

CONDITION

58. Deck: N N/A (NBI) 59. Super.: N N/A (NBI) 60. Sub.: N N/A (NBI)
62. Culvert: 6 Deterioration 61. Channel/Channel Protection: 4 Protection Undermine
Flowline Notes:
CULVERT

LOAD RATING AND POSTING

31. Design Load: 5 MS 18 (HS 20) 41. Posting status: A Open, no restriction
63. Op. Rating Method: 2 AS Allow. Stress-To Alt. Op. Rating Meth.: 2 AS Allow. Stress-T

64. Operating Rating (H / HS / 3-3):	33.0	49.0	-1.1
66. Inventory Rating (H / HS / 3-3) :	19.9	36.0	-1.1

65. Inv. Rating Method: 2 AS Allow. Stress-To Alt. Inv. Rating Meth.: 2 AS Allow. Stress-T
70. Posting: 5 At/Above Legal Loads Date Rated : 1/1/1901

GEOMETRIC DATA

10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 24.0 ft
Deck Area: 1,603.8 sq. ft 33. Median: 0 No median
34. Skew: 0 35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 24.0 ft
48. Length Maximum Span: 17.1 ft 49. Structure Length: 46.9 ft
50A. Curb/Sdwlk Wdth L: 0.0 ft 50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 24.0 ft 52. Width Out to Out: 24.0 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : N Feature not hwy or RR 0.0 ft

	N/E			S/W		
Meas.	-1	-1	-1	-1	-1	-1
Post.	DO NOT U	DO NOT U	DO NOT U	DO NOT U	DO NOT U	-1

55A/55B. Minimum Lateral Undrclearance R: N Feature not hwy or RR 0.0 ft
56. Minimum Lateral Undrclearance L: 0.0 ft

PROPOSED IMPROVEMENTS

94. Bridge Cost: $230,000 75. Type of Work: 33 Widen w/o Deck R
95. Roadway Cost: $379,500 76. Lgth. of Improvment: 46.9 ft
96. Total Cost: $644,000 114. Future ADT: 2240
97. Year of Cost Est.: 2009 115. Year of Future ADT: 2034

NAVIGATION DATA

38. Navigation Control: Permit Not Required
39. Vertical Clearance: 0.0 ft 40. Horizontal Clearance: 0.0 ft
111. Pier Protection: Unknown (NBI) 116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL

36A. Bridge Rail: 1 Meets Standards 36C. Approach Rail: 1 Meets Standards
36B. Transition: 1 Meets Standards 36D. Approach Rail Ends: 1 Meets Standards
67. Str. Evaluation: 6 Equal Min Criteria 68. Deck Geometry: 4 Tolerable
69. Underclearance, Vertical and Horizontal: N Not applicable (NBI)
71. Waterway Adequacy: 6 Equal Minimum
72. Approach Alignment: 8 Equal Desirable Crit
113. Scour Critical: 7 Countermeasures

200c. Temperature: 70
200d. Weather: CLEAR
201. Structural Steel ASTM Desig.: -1 -1
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Open Joint - No Device
-
204. Type of Handrail: Parapet Retrofit
205. Material and Quantity : -1.0
208. Type of Abutment : -
Type of Foundation : -
209. Type of Pier / Found.: - -
-
210. Foundation Elev. -1.0 6150.0
-1.0 -1.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : -1
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : NO
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
e. Navigation Lights : _
Working/Not Working : _
215. Overpass : B - State Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: 01
223. Appr. Slab/Rdwy Cond.: Excellent
225. Paint Type : -
Overcoat : Not Applicable
226. Date Painted: -1
227. Paint Coloring: -1
233. Deck Forming: -
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : -1.000
246. Type of Overlay : _
246. Overlay Thickness : -1.0
246. Overlay Date : 1/1/1901
246. Overlay Depth Changed > 1"? _
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: 30.0
256. Chan. Profile Up/Down Stream?: _
257a. OkiePROS Auto. Truck Routing Culv
258. Plans w/ found. are in file at ODOT:
259. Scour Eval. is in file at ODOT:
263. Interchange at Intersection: No Interchange
264. Interstate Milepoint: -1.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 78.4 ND

Health Index : 94.2

NBI No.: **14959** Structure No.: 1516 0300 X Local ID:-1

Inspection Date:	9/29/2016	Reported By:	UFD3012
Invoice No.:	-1	Inspected With:	Erik Cox
		Agency :	

Structure / Inspection Notes

PX #61 ABC&D. UPSTREAM (W) CHAN HAS MOVED S. INTO S-W WING - RIP RAP HAS BEEN PLACED, MORE NEEDED. S-W BANK IS RAW & VERTICAL. MUCH SILTING TO N-W BANK. STREAM NEEDS TO BE OPENED & REDIRECTED.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
241	1	Reinforced Concrete Culvert	(LF)	102	88	87 %	8	8 %	5	5 %	0	0 %	0	0 %
331	1	Reinforced Conc Bridge Railing	(LF)	95	88	93 %	7	7 %	0	0 %	0	0 %	0	0 %
965	1	Debris	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %

Additional Elements

Elem.	Element Notes (Include Size and Location of Deterioration
241	FX- APPR 4.0' SILT IN 2 N. BBLS. MINOR DETERIORATION W/ LEACHING TO HDWLS. APPR 2'X3'X3" DEEP SPALL W/ EXP REBAR @ E. END OF CTR BBL. 1' DIAM. SPALL W/ EXP REBAR TO E. END OF S. INT WALL.
331	NEW PARAPET & APPR RAIL INSTALLED 2003.
965	N. & CTR. BBL'S HAVE UP TO 5.0' DEBRIS.

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 70.6 Health Index : 79.7

NBI No.: **15121** Structure No.: 3520 0218 X Local ID:-1 ND

IDENTIFICATION

Description:
3-50' I-BM. SPANS WITH 2- 18' SAFETY CURBS
1. State: Oklahoma 2. SHD District: Division 3
3. County Code: JOHNSTON 4. Place Code: Unknown
Admin. Area: Unknown
5. Inventory Route (Route On Structure) : 1 - 3 - 1 - 00048 - 0
6. Feature Intersected: DELAWARE CREEK
7. Facility Carried: S.H. 48 S.H. 48
9. Location: 2.2 MI N JCT SH7 11. Mile Post: 2.180 mi
13. LRS Inv. Route./ Subroute.: -1 -1
16. Latitude: 34 24 24.10 17. Longitude: 096 25 28.15
98. Border Br. Code: Unknown (P) % Resp. : 0 99. Border Br. #: Unknown

INSPECTION

Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:
NBI:		Y	24	4/20/2016	4/20/2018
FC Freq.:	N	N	NA	**NA**	**NA**
UW Freq.:	N	N	NA	**NA**	**NA**
OS Freq.:	N	N	NA	**NA**	**NA**

STRUCTURE TYPE AND MATERIALS

43. Main Span Material and Design Type
Steel Stringer/Girder
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 3 46. No. of Approach Spans: 0
107. Deck Type: 1 Concrete-Cast-in-Place
108A. Wearing Surface: 1 Monolithic Concrete
108B. Membrane: 8 Unknown
108C. Deck Protection: 8 Unknown

CLASSIFICATION

12. Base Hwy Network : Not on Base Network 20. Toll Facility: 3 On free road
21. Custodian: 01State Highway Agency 22. Owner: 01State Highway Agency
26. Functional Class: 07 Rural Mjr Collecto 37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h 101. Parallel Structure: No || bridge exists
102. Dir. of Traffic:2 2-way traffic 103. Temp. Structure: Not Applicable (P)
104. Highway System: 0 Not on NHS 105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na 112. NBIS Length: Long Enough

AGE AND SERVICE

27. Year Built: 1960 106. Year Reconstructed: Unknown
28A. Lanes on: 2 28B. Lanes Under: 0 19. Detour Length: 47.8 mi
29. ADT: 1600 30. Year of ADT: 2014 109. Truck ADT %: 15
42A. Type of Service on: 1 Highway
42B. Type of Service under: 5 Waterway

CONDITION

58. Deck: 6 Satisfactory 59. Super.: 6 Satisfactory 60. Sub.: 5 Fair
62. Culvert: N N/A (NBI) 61. Channel/Channel Protection: 6 Bank Slumping
Flowline Notes:
23' 6" TOP OF RAIL, E. SIDE, 1.5' DEEP

LOAD RATING AND POSTING

31. Design Load: 4 M 18 (H 20) 41. Posting status: A Open, no restriction

63. Op. Rating Method: 1 LF Load Factor-Ton	Alt. Op. Rating Meth.: 1 LF Load Factor-To		
64. Operating Rating (H / HS / 3-3):	41.4	53.7	93.9
66. Inventory Rating (H / HS / 3-3) :	24.9	32.2	56.3
65. Inv. Rating Method: 1 LF Load Factor-Ton	Alt. Inv. Rating Meth.: 1 LF Load Factor-To		

70. Posting: 5 At/Above Legal Loads Date Rated : 3/1/2008

GEOMETRIC DATA

10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 24.0 ft
Deck Area: 4,682.3 sq. ft 33. Median: 0 No median
34. Skew: 0 35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 24.0 ft
48. Length Maximum Span: 49.9 ft 49. Structure Length: 150.9 ft
50A. Curb/Sdwlk Wdth L: 0.0 ft 50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 28.0 ft 52. Width Out to Out: 31.0 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : N Feature not hwy or RR 0.0 ft

	N/E			S/W		
Meas.	-1	-1	-1	-1	-1	-1
Post.	DO NOT U	DO NOT U	DO NOT U	DO NOT U	DO NOT U	-1

55A/55B. Minimum Lateral Undrclearance R: N Feature not hwy or RR 0.0 ft
56. Minimum Lateral Undrclearance L: 0.0 ft

PROPOSED IMPROVEMENTS

94. Bridge Cost: $642,583 75. Type of Work: 31 Repl-Load Capacity
95. Roadway Cost: $1,060,262 76. Lgth. of Improvment: 254.2 ft
96. Total Cost: $1,799,232 114. Future ADT: 2560
97. Year of Cost Est.: 2009 115. Year of Future ADT: 2034

NAVIGATION DATA

38. Navigation Control: Permit Not Required
39. Vertical Clearance: 0.0 ft 40. Horizontal Clearance: 0.0 ft
111. Pier Protection: 1 Not Required 116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL

36A. Bridge Rail: 1 Meets Standards 36C. Approach Rail: 1 Meets Standards
36B. Transition: 1 Meets Standards 36D. Approach Rail Ends: 1 Meets Standards
67. Str. Evaluation: 5 Above Min Tolerable 68. Deck Geometry: 5 Above Tolerable
69. Underclearance, Vertical and Horizontal: N Not applicable (NBI)
71. Waterway Adequacy: 6 Equal Minimum
72. Approach Alignment: 8 Equal Desirable Crit
113. Scour Critical: 5 Stable w/in footing

200c. Temperature: 68
200d. Weather: CLOUDY
201. Structural Steel ASTM Desig.: -1 18
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Other Type
-
204. Type of Handrail: SFP-1
205. Material and Quantity : 638.0
208. Type of Abutment : Skeleton
Type of Foundation : Concrete Piling
209. Type of Pier / Found.: 2 Piers Yes
No Piling or Drilled Shaft
210. Foundation Elev. 5665.0 5625.0
5730.0 5745.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : Natural Gas
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : N
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
Min. Measured Clearance : -1
Max. Measured Clearance : -1
e. Navigation Lights : _
Working/Not Working : _
215. Overpass : B - State Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: -1
223. Appr. Slab/Rdwy Cond.: Good
224. Critical Feature Type: -1
225. Paint Type : Basic Lead Silico
Overcoat : 0
226. Date Painted: 9808
227. Paint Coloring: Gray
233. Deck Forming: -
236. Deck Cleaning : -1
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : -1.000
246. Type of Overlay : Chipseal
246. Overlay Thickness : 2.0
246. Overlay Date : 1/1/2001
246. Overlay Depth Changed > 1"? No
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: -1.0
254. Thru Truss Type : _
256. Chan. Profile Up/Down Stream?: _
257a. OkiePROS Auto. Truck Routing Yes
258. Plans w/ found. are in file at ODOT
259. Scour Eval. is in file at ODOT
263. Interchange at Intersection N
264. Interstate Milepoint -1.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 70.6 ND

Health Index : 79.7

NBI No.: **15121** Structure No.: 3520 0218 X Local ID:-1

Inspection Date: 4/20/2016 Reported By: UFD3012

Invoice No.: -1 Inspected With: Erik Cox

Agency :

Structure / Inspection Notes

FULL INSP. PERFORMED BY ARH & EWC ON 10/16/2014. SCOUR HAS STABILIZED WE CHANGED INSP. FREQ. BACK TO A 24-MTH CYCLE AND WILL CONTINUE TO MONITOR.

#61 A&J. EROS TO EDGES OF HEADERS UNDER DECK DRAINS & SOME EROS TO DITCHES. BRIDGE IS NOISY UNDER LOADS. SOME AREAS OF BEAMS DROPPING DOWN FROM DECK UP TO 1/4". D(FX) CLEARING NEEDED. HISTORY 2" UTILITY ATTACHED ALONG E. BEAM. #223 (FX) SOME SEALING NEEDED.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
12	4	Reinforced Concrete Deck	(SF)	4,650	4,185	90 %	465	10 %	0	0 %	0	0 %	0	0 %
107	4	Steel Open Girder Beam	(LF)	600	0	0 %	600	100 %	0	0 %	0	0 %	0	0 %
205	4	Reinforced Conc Column or Pile Extension	(EA)	5	2	40 %	1	20 %	2	40 %	0	0 %	0	0 %
215	4	Reinforced Conc Abutment	(LF)	62	43	68 %	20	32 %	0	0 %	0	0 %	0	0 %
234	4	Reinforced Conc Cap	(LF)	59	32	54 %	16	27 %	11	19 %	0	0 %	0	0 %
301	4	Pourable Joint Seal	(LF)	56	56	100 %	0	0 %	0	0 %	0	0 %	0	0 %
311	4	Moveable Bearing (roller, sliding, etc.)	(EA)	15	7	47 %	8	53 %	0	0 %	0	0 %	0	0 %
313	4	Fixed Bearing	(EA)	15	0	0 %	13	87 %	2	13 %	0	0 %	0	0 %
331	4	Reinforced Conc Bridge Railing	(LF)	302	292	97 %	10	3 %	0	0 %	0	0 %	0	0 %
510	4	Wearing Surfaces	(SF)	4,650	4,650	100 %	0	0 %	0	0 %	0	0 %	0	0 %
515	4	Steel (Superstructure) Protective Coating	(SF)	4,553	4,553	100 %	0	0 %	0	0 %	0	0 %	0	0 %
859	4	Soffit of Concrete Decks and Slabs	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
865	4	Steel Open Girder/Beam End (5 Ft.)	(LF)	151	0	0 %	143	95 %	8	5 %	0	0 %	0	0 %
909	4	Pourable Fixed Joint Seal	(LF)	56	0	0 %	56	100 %	0	0 %	0	0 %	0	0 %
961	4	Scour	(EA)	1	1	100 %	0	0 %	0	0 %	0	0 %	0	0 %
963	4	Steel Section Loss	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %

Additional Elements

Elem.	Element Notes (Include Size and Location of Deterioration
12	FX- NOTE CHIP SEAL DOESN'T COVER GUTTERS.
107	FX- PAINT & JT PROJ DONE 8-98 ON THIS STR. THE NOSINGS ON THE END JTS WERE CONSTRUCTED UNEVENLY FROM CONCRETE & IT IS BREAKING UP ALLOWING LEAKAGE THRU ONTO BEARINGS & ENDS CAUSING RUST TO START. MINOR SWELLING @ SOME DIAP CONN'S & OLD SEC LOSS UNDER JTS (APPR 10%) WAS PAINTED OVER, IT HAS STARTED TO RUST AGAIN.
205	FX- SMALL W/ EXP REBAR TO S-W & N-E COL'S.
215	FX- SOME MINOR DETERIORATION.
234	FX- A FEW MINOR SPALLS W/ EXP REBAR & SOME MINOR DETERIORATION & CRACKS.
301	SEE NOTE FOR #107, NOTE SEALER WAS NOT PLACED UNIFORMLY VERTICAL. SOME DEBRIS IN GUTTER AREAS. SOME NOSING FAILURES MOSTLY ON CONC. END JTS.
311	FX- SEE NOTE FOR #107.
313	PX- SEE NOTE FOR #107. SOME SHOES @ ABUTS WERE REPLACED BY DIV 3 BEFORE PAINTING. BEARING # 4 @ ABUT. # 1 , & BEARING # 3 @ ABUT. # 2 HAVE SEC. LOSS TO THE STIFFINERS, REPLACEMENT NEEDED. BEARING SIZE : 8" TALL X 11 1/2" WIDTH.
331	< none >
510	FX- NOTE CHIP SEAL DOESN'T COVER GUTTERS - THEY NEED CLEANOUT & HAVE SOME SPALLING & DELAM'S.
515	SEE NOTE FOR # 107.
859	FX- SPALLS W/ EXP. REBAR TO S-W BAY.
865	FX- SEE NOTE FOR #107
909	SEE NOTE FOR #107 & 301, NOTE THE LEAKAGE IS DUE TO THE NOSING.
961	FX-
963	FX- SEE NOTE FOR #107.

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **06292** Structure No.: 1516 0592 X Local ID:-1 Suff. Rating: 78.4 ND Health Index : 97.7

IDENTIFICATION

Description:
3-10'X 8'X 30' RDY R.C.BOX SK.30 DEG. WITH HANDRAILS

1. State: Oklahoma
2. SHD District: Division 3
3. County Code: COAL
4. Place Code: Unknown

Admin. Area: Unknown

5. Inventory Route (Route On Structure) : 1 - 3 - 1 - 00048 - 0
6. Feature Intersected: ELM CREEK
7. Facility Carried: S.H. 48 S.H. 48
9. Location: 6.0 MI N JOHNSON CL
11. Mile Post: 5.919 mi
13. LRS Inv. Route./ Subroute.: -1 -1
16. Latitude: 34 29 54.64
17. Longitude: 096 24 33.54
98. Border Br. Code: Unknown (P) % Resp. : 0
99. Border Br. #: Unknown

INSPECTION

Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:
NBI:		Y	24	9/29/2016	9/29/2018
FC Freq.:	N	N	NA	**NA**	**NA**
UW Freq.:	N	N	NA	**NA**	**NA**
OS Freq.:	N	N	NA	**NA**	**NA**

CLASSIFICATION

12. Base Hwy Network : Not on Base Network
20. Toll Facility: 3 On free road
21. Custodian: 01 State Highway Agency
22. Owner: 01 State Highway Agency
26. Functional Class: 07 Rural Mjr Collecto
37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h
101. Parallel Structure: No || bridge exists
102. Dir. of Traffic: 2 2-way traffic
103. Temp. Structure: Not Applicable (P)
104. Highway System: 0 Not on NHS
105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na
112. NBIS Length: Long Enough

STRUCTURE TYPE AND MATERIALS

43. Main Span Material and Design Type
Concrete Culvert
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 3
46. No. of Approach Spans: 0
107. Deck Type: N N/A (NBI)
108A. Wearing Surface: N N/A (no deck (NBI))
108B. Membrane: 0 None
108C. Deck Protection: None

CONDITION

58. Deck: N N/A (NBI)
59. Super.: N N/A (NBI)
60. Sub.: N N/A (NBI)
62. Culvert: 7 Minor Deteriorati
61. Channel/Channel Protection: 5 Bank Prot Eroded

Flowline Notes:
CULVERT

AGE AND SERVICE

27. Year Built: 1938
106. Year Reconstructed: Unknown
28A. Lanes on: 2
28B. Lanes Under: 0
19. Detour Length: 34.2 mi
29. ADT: 1400
30. Year of ADT: 2014
109. Truck ADT %: 15
42A. Type of Service on: 1 Highway
42B. Type of Service under: 5 Waterway

LOAD RATING AND POSTING

31. Design Load: 4 M 18 (H 20)
41. Posting status: A Open, no restriction
63. Op. Rating Method: 2 AS Allow. Stress-To
Alt. Op. Rating Meth.: 2 AS Allow. Stress-T

64. Operating Rating (H / HS / 3-3):	33.0	49.0	-1.1
66. Inventory Rating (H / HS / 3-3) :	19.9	36.0	-1.1

65. Inv. Rating Method: 2 AS Allow. Stress-To
Alt. Inv. Rating Meth.: 2 AS Allow. Stress-To
70. Posting: 5 At/Above Legal Loads
Date Rated : 1/1/1901

GEOMETRIC DATA

10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 24.0 ft
Deck Area: 1,227.1 sq. ft
33. Median: 0 No median
34. Skew: 30
35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 24.0 ft
48. Length Maximum Span: 9.8 ft
49. Structure Length: 38.1 ft
50A. Curb/Sdwlk Wdth L: 0.0 ft
50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 24.0 ft
52. Width Out to Out: 24.0 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : N Feature not hwy or RR 0.0 ft

	N/E			S/W		
Meas.	-1	-1	-1	-1	-1	-1
Post.	DO NOT U	DO NOT U	DO NOT U	DO NOT U	DO NOT U	-1

55A/55B. Minimum Lateral Undrclearance R: N Feature not hwy or RR 0.0 ft
56. Minimum Lateral Undrclearance L: 0.0 ft

PROPOSED IMPROVEMENTS

94. Bridge Cost: $230,000
75. Type of Work: 33 Widen w/o Deck R
95. Roadway Cost: $379,500
76. Lgth. of Improvment: 38.1 ft
96. Total Cost: $644,000
114. Future ADT: 2240
97. Year of Cost Est.: 2009
115. Year of Future ADT: 2034

NAVIGATION DATA

38. Navigation Control: Permit Not Required
39. Vertical Clearance: 0.0 ft
40. Horizontal Clearance: 0.0 ft
111. Pier Protection: 1 Not Required
116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL

36A. Bridge Rail: 1 Meets Standards
36C. Approach Rail: 1 Meets Standards
36B. Transition: 1 Meets Standards
36D. Approach Rail Ends: 1 Meets Standards
67. Str. Evaluation: 7 Above Min Criteria
68. Deck Geometry: 4 Tolerable
69. Underclearance, Vertical and Horizontal: N Not applicable (NBI)
71. Waterway Adequacy: 6 Equal Minimum
72. Approach Alignment: 7 Above Min Criteria
113. Scour Critical: 8 Stable Above Footing

200c. Temperature: 70
200d. Weather: CLEAR
201. Structural Steel ASTM Desig.: -1 -1
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Open Joint - No Device
-
204. Type of Handrail: Parapet Retrofit
205. Material and Quantity : -1.0
208. Type of Abutment : -
Type of Foundation : -
209. Type of Pier / Found.: - -
-
210. Foundation Elev. -1.0 6400.0
-1.0 -1.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : -1
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : NO
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
e. Navigation Lights : _
Working/Not Working : _
215. Overpass : B - State Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: 01
223. Appr. Slab/Rdwy Cond.: Excellent
225. Paint Type : -
Overcoat : Not Applicable
226. Date Painted: -1
227. Paint Coloring: -1
233. Deck Forming: -
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : -1.000
246. Type of Overlay : _
246. Overlay Thickness : -1.0
246. Overlay Date : 1/1/1901
246. Overlay Depth Changed > 1"? _
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: 28.0
256. Chan. Profile Up/Down Stream?: _
257a. OkiePROS Auto. Truck Routing Culv
258. Plans w/ found. are in file at ODOT:
259. Scour Eval. is in file at ODOT:
263. Interchange at Intersection: No Interchange
264. Interstate Milepoint: -1.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 78.4 ND

Health Index : 97.7

NBI No.: **06292** Structure No.: 1516 0592 X Local ID:-1

Inspection Date: 9/29/2016 Reported By: UFD3012

Invoice No.: -1 Inspected With: Erik Cox

Agency :

Structure / Inspection Notes

FX #61 ABC&D. EROS. @ N-W WING. HISTORY CURVE @ N. END. CATTLE PANELS ACROSS E. END OF BOX.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
241	1	Reinforced Concrete Culvert	(LF)	112	104	93 %	8	7 %	0	0 %	0	0 %	0	0 %
331	1	Reinforced Conc Bridge Railing	(LF)	75	75	100 %	0	0 %	0	0 %	0	0 %	0	0 %
970	1	Wing	(EA)	4	1	25 %	2	50 %	1	25 %	0	0 %	0	0 %

Additional Elements

Elem.	Element Notes (Include Size and Location of Deterioration
241	< none >
331	< none >
970	PX- SPALLING @ KEYED CONNECTIONS. WINGS ARE OUT OF HORIZ. ALIGNMENT UP TO 4".

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **06297** Structure No.: 1516 0797 X Local ID:-1 Suff. Rating: 75.7 ND Health Index : 99.1

IDENTIFICATION

Description:
3-10'X 6'X 30' RDY R.C.BOX WITH HANDRAILS
1. State: Oklahoma 2. SHD District: Division 3
3. County Code: COAL 4. Place Code: Unknown
Admin. Area: Unknown
5. Inventory Route (Route On Structure) : 1 - 3 - 1 - 00048 - 0
6. Feature Intersected: CREEK
7. Facility Carried: S.H. 48 S.H. 48
9. Location: 7.7 MI N JOHNSON CL 11. Mile Post: 7.968 mi
13. LRS Inv. Route./ Subroute.: -1 -1
16. Latitude: 34 31 39.13 17. Longitude: 096 24 25.37
98. Border Br. Code: Unknown (P) % Resp. : 0 99. Border Br. #: Unknown

INSPECTION

Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:
NBI:		Y	24	9/29/2016	9/29/2018
FC Freq.:	N	N	NA	**NA**	**NA**
UW Freq.:	N	N	NA	**NA**	**NA**
OS Freq.:	N	N	NA	**NA**	**NA**

STRUCTURE TYPE AND MATERIALS

43. Main Span Material and Design Type
Concrete Culvert
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 3 46. No. of Approach Spans: 0
107. Deck Type: N N/A (NBI)
108A. Wearing Surface: N N/A (no deck (NBI))
108B. Membrane: 0 None
108C. Deck Protection: None

CLASSIFICATION

12. Base Hwy Network : Not on Base Network 20. Toll Facility: 3 On free road
21. Custodian: 01State Highway Agency 22. Owner: 01State Highway Agency
26. Functional Class: 07 Rural Mjr Collecto 37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h 101. Parallel Structure: No || bridge exists
102. Dir. of Traffic:2 2-way traffic 103. Temp. Structure: Not Applicable (P)
104. Highway System: 0 Not on NHS 105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na 112. NBIS Length: Long Enough

CONDITION

58. Deck: N N/A (NBI) 59. Super.: N N/A (NBI) 60. Sub.: N N/A (NBI)
62. Culvert: 7 Minor Deteriorati 61. Channel/Channel Protection: 5 Bank Prot Eroded
Flowline Notes:
CULVERT.

AGE AND SERVICE

27. Year Built: 1938 106. Year Reconstructed: Unknown
28A. Lanes on: 2 28B. Lanes Under: 0 19. Detour Length: 34.2 mi
29. ADT: 1300 30. Year of ADT: 2014 109. Truck ADT %: 15
42A. Type of Service on: 1 Highway
42B. Type of Service under: 5 Waterway

LOAD RATING AND POSTING

31. Design Load: 4 M 18 (H 20) 41. Posting status: A Open, no restriction
63. Op. Rating Method: 2 AS Allow. Stress-To Alt. Op. Rating Meth.: 2 AS Allow. Stress-T

64. Operating Rating (H / HS / 3-3):	33.0	49.0	-1.1
66. Inventory Rating (H / HS / 3-3) :	19.9	36.0	-1.1

65. Inv. Rating Method: 2 AS Allow. Stress-To Alt. Inv. Rating Meth.: 2 AS Allow. Stress-To
70. Posting: 5 At/Above Legal Loads Date Rated : 1/1/1901

GEOMETRIC DATA

10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 24.0 ft
Deck Area: 1,097.9 sq. ft 33. Median: 0 No median
34. Skew: 0 35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 24.0 ft
48. Length Maximum Span: 9.8 ft 49. Structure Length: 34.1 ft
50A. Curb/Sdwlk Wdth L: 0.0 ft 50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 24.0 ft 52. Width Out to Out: 24.0 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : N Feature not hwy or RR 0.0 ft

	N/E			S/W		
Meas.	-1	-1	-1	-1	-1	-1
Post.	DO NOT U	DO NOT U	DO NOT U	DO NOT U	DO NOT U	-1

55A/55B. Minimum Lateral Undrclearance R: N Feature not hwy or RR 0.0 ft
56. Minimum Lateral Undrclearance L: 0.0 ft

PROPOSED IMPROVEMENTS

94. Bridge Cost: $230,000 75. Type of Work: 33 Widen w/o Deck R
95. Roadway Cost: $379,500 76. Lgth. of Improvment: 34.1 ft
96. Total Cost: $644,000 114. Future ADT: 2080
97. Year of Cost Est.: 2009 115. Year of Future ADT: 2034

NAVIGATION DATA

38. Navigation Control: Permit Not Required
39. Vertical Clearance: 0.0 ft 40. Horizontal Clearance: 0.0 ft
111. Pier Protection: 1 Not Required 116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL

36A. Bridge Rail: 0 Substandard 36C. Approach Rail: 0 Substandard
36B. Transition: 0 Substandard 36D. Approach Rail Ends: 0 Substandard
67. Str. Evaluation: 7 Above Min Criteria 68. Deck Geometry: 4 Tolerable
69. Underclearance, Vertical and Horizontal: N Not applicable (NBI)
71. Waterway Adequacy: 6 Equal Minimum
72. Approach Alignment: 8 Equal Desirable Crit
113. Scour Critical: 8 Stable Above Footing

200c. Temperature: 70
200d. Weather: CLEAR
201. Structural Steel ASTM Desig.: -1 -1
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Open Joint - No Device
-
204. Type of Handrail: Concrete Railing (other)
205. Material and Quantity : -1.0
208. Type of Abutment : -
Type of Foundation : -
209. Type of Pier / Found.: - -
-
210. Foundation Elev. -1.0 6095.0
-1.0 -1.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : -1
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : NO
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
e. Navigation Lights : _
Working/Not Working : _
215. Overpass : B - State Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: 01
223. Appr. Slab/Rdwy Cond.: Good
225. Paint Type : -
Overcoat : Not Applicable
226. Date Painted: -1
227. Paint Coloring: -1
233. Deck Forming: -
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : -1.000
246. Type of Overlay : _
246. Overlay Thickness : -1.0
246. Overlay Date : 1/1/1901
246. Overlay Depth Changed > 1"? _
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: 28.0
256. Chan. Profile Up/Down Stream?: _
257a. OkiePROS Auto. Truck Routing Culv
258. Plans w/ found. are in file at ODOT:
259. Scour Eval. is in file at ODOT:
263. Interchange at Intersection: No Interchange
264. Interstate Milepoint: -1.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **06297** Structure No.: 1516 0797 X Local ID:-1 Suff. Rating: 75.7 ND Health Index : 99.1

Inspection Date: 9/29/2016 Reported By: UFD3012

Invoice No.: -1 Inspected With: Erik Cox

Agency :

Structure / Inspection Notes

#36 (PX) APPR. GUARDRAIL PROJ. NEEDED.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
241	1	Reinforced Concrete Culvert	(LF)	95	92	98 %	3	2 %	0	0 %	0	0 %	0	0 %
331	1	Reinforced Conc Bridge Railing	(LF)	69	52	77 %	16	23 %	0	0 %	0	0 %	0	0 %
965	1	Debris	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
970	1	Wing	(EA)	2	2	100 %	0	0 %	0	0 %	0	0 %	0	0 %

Additional Elements

Elem.	Element Notes (Include Size and Location of Deterioration
241	
331	FX- CRACKING TO ALL POST & SOME RAIL
965	UP TO 4.0' SILT IN S. & CTR. BBL'S.
970	E. WINGS ARE SHOWING DETERIORATION, THESE ARE NON-INTEGRAL.

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **06562** Structure No.: 1516 0861 X Local ID:-1 Suff. Rating: 76.7 ND Health Index : 88.9

IDENTIFICATION

Description:
4-40' I-BM. SPANS
1. State: Oklahoma 2. SHD District: Division 3
3. County Code: COAL 4. Place Code: Unknown
Admin. Area: Unknown
5. Inventory Route (Route On Structure) : 1 - 3 - 1 - 00048 - 0
6. Feature Intersected: CREEK
7. Facility Carried: S.H. 48 S.H. 48
9. Location: 8.5 MI N JOHNSON CL 11. Mile Post: 8.608 mi
13. LRS Inv. Route./ Subroute.: -1 -1
16. Latitude: 34 32 13.33 17. Longitude: 096 24 27.93
98. Border Br. Code: Unknown (P) % Resp. : 0 99. Border Br. #: Unknown

INSPECTION

Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:
NBI:		Y	24	9/29/2016	9/29/2018
FC Freq.:	N	N	NA	**NA**	**NA**
UW Freq.:	N	N	NA	**NA**	**NA**
OS Freq.:	N	N	NA	**NA**	**NA**

STRUCTURE TYPE AND MATERIALS

43. Main Span Material and Design Type
Steel Stringer/Girder
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 4 46. No. of Approach Spans: 0
107. Deck Type: 1 Concrete-Cast-in-Place
108A. Wearing Surface: 1 Monolithic Concrete
108B. Membrane: 8 Unknown
108C. Deck Protection: None

CLASSIFICATION

12. Base Hwy Network : Not on Base Network 20. Toll Facility: 3 On free road
21. Custodian: 01State Highway Agency 22. Owner: 01State Highway Agency
26. Functional Class: 07 Rural Mjr Collecto 37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h 101. Parallel Structure: No || bridge exists
102. Dir. of Traffic:2 2-way traffic 103. Temp. Structure: Not Applicable (P)
104. Highway System: 0 Not on NHS 105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na 112. NBIS Length: Long Enough

CONDITION

58. Deck: 6 Satisfactory 59. Super.: 7 Good 60. Sub.: 7 Good
62. Culvert: N N/A (NBI) 61. Channel/Channel Protection: 9 No Deficiencies
Flowline Notes:
NO CHANNEL - DITCH DRAIN

AGE AND SERVICE

27. Year Built: 1938 106. Year Reconstructed: Unknown
28A. Lanes on: 2 28B. Lanes Under: 0 19. Detour Length: 26.1 mi
29. ADT: 1300 30. Year of ADT: 2014 109. Truck ADT %: 15
42A. Type of Service on: 1 Highway
42B. Type of Service under: 5 Waterway

LOAD RATING AND POSTING

31. Design Load: 4 M 18 (H 20) 41. Posting status: A Open, no restriction
63. Op. Rating Method: 1 LF Load Factor-Ton Alt. Op. Rating Meth.: 1 LF Load Factor-To

64. Operating Rating (H / HS / 3-3):	36.7	51.8	89.8
66. Inventory Rating (H / HS / 3-3) :	21.9	31.0	53.8

65. Inv. Rating Method: 1 LF Load Factor-Ton Alt. Inv. Rating Meth.: 1 LF Load Factor-Tor
70. Posting: 5 At/Above Legal Loads Date Rated : 2/4/2015

GEOMETRIC DATA

10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 24.0 ft
Deck Area: 4,337.9 sq. ft 33. Median: 0 No median
34. Skew: 0 35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 24.0 ft
48. Length Maximum Span: 40.0 ft 49. Structure Length: 161.1 ft
50A. Curb/Sdwlk Wdth L: 0.0 ft 50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 24.0 ft 52. Width Out to Out: 26.9 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : N Feature not hwy or RR 0.0 ft

	N/E			S/W		
Meas.	-1	-1	-1	-1	-1	-1
Post.	DO NOT U	DO NOT U	DO NOT U	DO NOT U	DO NOT U	-1

55A/55B. Minimum Lateral Undrclearance R: N Feature not hwy or RR 0.0 ft
56. Minimum Lateral Undrclearance L: 0.0 ft

PROPOSED IMPROVEMENTS

94. Bridge Cost: $661,971 75. Type of Work: 31 Repl-Load Capacity
95. Roadway Cost: $1,092,252 76. Lgth. of Improvment: 263.1 ft
96. Total Cost: $1,853,519 114. Future ADT: 2080
97. Year of Cost Est.: 2009 115. Year of Future ADT: 2034

NAVIGATION DATA

38. Navigation Control: Permit Not Required
39. Vertical Clearance: 0.0 ft 40. Horizontal Clearance: 0.0 ft
111. Pier Protection: 1 Not Required 116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL

36A. Bridge Rail: 1 Meets Standards 36C. Approach Rail: 1 Meets Standards
36B. Transition: 1 Meets Standards 36D. Approach Rail Ends: 1 Meets Standards
67. Str. Evaluation: 7 Above Min Criteria 68. Deck Geometry: 4 Tolerable
69. Underclearance, Vertical and Horizontal: N Not applicable (NBI)
71. Waterway Adequacy: 6 Equal Minimum
72. Approach Alignment: 7 Above Min Criteria
113. Scour Critical: 8 Stable Above Footing

200c. Temperature: 75
200d. Weather: CLEAR
201. Structural Steel ASTM Desig.: -1 16
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Pourable
-
204. Type of Handrail: SFP-1
205. Material and Quantity : 491.0
208. Type of Abutment : Skeleton
Type of Foundation : Concrete Piling
209. Type of Pier / Found.: Bent No
Concrete Piling
210. Foundation Elev. -1.0 -1.0
5805.0 -1.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : -1
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : NO
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
e. Navigation Lights : _
Working/Not Working : _
215. Overpass : B - State Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: -1
223. Appr. Slab/Rdwy Cond.: Satisfactory
225. Paint Type : Inorganic Zinc 3 Coat
Overcoat : Not Applicable
226. Date Painted: 1503
227. Paint Coloring: Gray
233. Deck Forming: -
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : 20.000
246. Type of Overlay : AC Overlay
246. Overlay Thickness : 2.0
246. Overlay Date : 12/19/2014
246. Overlay Depth Changed > 1"? No
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: -1.0
256. Chan. Profile Up/Down Stream?:
257a. OkiePROS Auto. Truck Routing Yes
258. Plans w/ found. are in file at ODOT:
259. Scour Eval. is in file at ODOT:
263. Interchange at Intersection: No Interchange
264. Interstate Milepoint: -1.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 76.7 ND

Health Index : 88.9

NBI No.: **06562** Structure No.: 1516 0861 X Local ID:-1

Inspection Date: 9/29/2016 Reported By: UFD3012

Invoice No.: -1 Inspected With: Erik Cox

Agency :

Structure / Inspection Notes

IN DEPTH INSPECTION DONE 09/07/2010. CONTRACT SSP-215F(011)SS COMPLETED 12/2014 / BEAM END REPAIR AND FULL DECK PATCHING WITH NEW 2" ASPH OVERLAY. J/P 23285(05) PAINTING CONTRACT COMPLETED 2015.

FX MINOR EROS. @ EACH ABUT. #214 CURVE SIGNS @ BOTH ENDS. # 223 (PX) RUTTING @ BOTH APPROACHES, SOUTH IS WORST.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
12	4	Reinforced Concrete Deck	(SF)	4,338	434	10 %	3,904	90 %	0	0 %	0	0 %	0	0 %
107	4	Steel Open Girder Beam	(LF)	719	719	100 %	0	0 %	0	0 %	0	0 %	0	0 %
205	4	Reinforced Conc Column or Pile Extension	(EA)	25	23	92 %	2	8 %	0	0 %	0	0 %	0	0 %
215	4	Reinforced Conc Abutment	(LF)	52	37	71 %	13	25 %	2	4 %	0	0 %	0	0 %
234	4	Reinforced Conc Cap	(LF)	75	69	92 %	5	7 %	1	1 %	0	0 %	0	0 %
301	4	Pourable Joint Seal	(LF)	72	0	0 %	72	100 %	0	0 %	0	0 %	0	0 %
311	4	Moveable Bearing (roller, sliding, etc.)	(EA)	24	24	100 %	0	0 %	0	0 %	0	0 %	0	0 %
313	4	Fixed Bearing	(EA)	24	24	100 %	0	0 %	0	0 %	0	0 %	0	0 %
331	4	Reinforced Conc Bridge Railing	(LF)	322	316	98 %	6	2 %	0	0 %	0	0 %	0	0 %
510	4	Wearing Surfaces	(SF)	4,338	4,338	100 %	0	0 %	0	0 %	0	0 %	0	0 %
515	4	Steel (Superstructure) Protective Coating	(SF)	7,438	7,438	100 %	0	0 %	0	0 %	0	0 %	0	0 %
859	4	Soffit of Concrete Decks and Slabs	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
865	4	Steel Open Girder/Beam End (5 Ft.)	(LF)	240	240	100 %	0	0 %	0	0 %	0	0 %	0	0 %
909	4	Pourable Fixed Joint Seal	(LF)	49	0	0 %	49	100 %	0	0 %	0	0 %	0	0 %
963	4	Steel Section Loss	(EA)	1	1	100 %	0	0 %	0	0 %	0	0 %	0	0 %

Additional Elements

Elem.	Element Notes (Include Size and Location of Deterioration
12	CLASS C PATCHING DONE ON CONTRACT. SEE NOTE FOR #510
107	BEAM REPAIRS DONE - SEE NOTE FOR #865
205	5 PILES EXP APPR 2.5' UNDER EACH ABUT.
215	FX MINOR SPALLS W/ EXP REBAR TO FACES.
234	FX SOME MINOR SPALLS W/ EXP REBAR.
301	JT'S COVERED W/ ASPH.
311	< none >
313	< none >
331	< none >
510	NEW 1.5" ASPH OVERLAY WAS COMPLETED ON CONTRACT.
515	PAINTING CONTRACT COMPLETED 2015.
859	FX- DETERIORATION @ OUTER PORTIONS.
865	ALL BEAM ENDS AND DIAPS WERE REPAIRED ON CONTRACT. 2014
909	FX- ASPH OVLY COVERS JOINTS. .
963	BEAM ENDS WERE REPAIRED ON CONTRACT 2014

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **13759** Structure No.: 1516 1117 X Local ID:-1 Suff. Rating: 76.8 ND Health Index : 98.7

IDENTIFICATION

Description:
3-10'X 9'X 32' RDY R.C.BOX WITH HANDRAILS
1. State: Oklahoma 2. SHD District: Division 3
3. County Code: COAL 4. Place Code: Unknown
Admin. Area: Unknown
5. Inventory Route (Route On Structure) : 1 - 3 - 1 - 00048 - 0
6. Feature Intersected: CREEK
7. Facility Carried: S.H. 48 S.H. 48
9. Location: 11.1 MI N JOHNSON CL 11. Mile Post: 11.168 mi
13. LRS Inv. Route./ Subroute.: -1 -1
16. Latitude: 34 34 24.44 17. Longitude: 096 24 24.89
98. Border Br. Code: Unknown (P) % Resp. : 0 99. Border Br. #: Unknown

INSPECTION

Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:
NBI:		Y	24	9/29/2016	9/29/2018
FC Freq.:	N	N	NA	**NA**	**NA**
UW Freq.:	N	N	NA	**NA**	**NA**
OS Freq.:	N	N	NA	**NA**	**NA**

STRUCTURE TYPE AND MATERIALS

43. Main Span Material and Design Type
Concrete Culvert
44. Approach Span Material and Design Type
Unknown (NBI) Unknown (P)
45. No. of Spans Main Unit: 3 46. No. of Approach Spans: 0
107. Deck Type: N N/A (NBI)
108A. Wearing Surface: N N/A (no deck (NBI))
108B. Membrane: 0 None
108C. Deck Protection: None

CLASSIFICATION

12. Base Hwy Network : Not on Base Network 20. Toll Facility: 3 On free road
21. Custodian: 01State Highway Agency 22. Owner: 01State Highway Agency
26. Functional Class: 07 Rural Mjr Collecto 37. Historical Sig.: 5 Not eligible for NRHP
100. Defense Highway: 0 Not a STRAHNET h 101. Parallel Structure: No || bridge exists
102. Dir. of Traffic:2 2-way traffic 103. Temp. Structure: Not Applicable (P)
104. Highway System: 0 Not on NHS 105. Fed. Land Hwy 0 N/A (NBI)
110. National Truck Network: 0 Not part of na 112. NBIS Length: Long Enough

CONDITION

58. Deck: N N/A (NBI) 59. Super.: N N/A (NBI) 60. Sub.: N N/A (NBI)
62. Culvert: 8 No Major Problen 61. Channel/Channel Protection: 5 Bank Prot Eroded
Flowline Notes:
CULVERT.

AGE AND SERVICE

27. Year Built: 1957 106. Year Reconstructed: Unknown
28A. Lanes on: 2 28B. Lanes Under: 0 19. Detour Length: 26.1 mi
29. ADT: 1300 30. Year of ADT: 2014 109. Truck ADT %: 15
42A. Type of Service on: 1 Highway
42B. Type of Service under: 5 Waterway

LOAD RATING AND POSTING

31. Design Load: 5 MS 18 (HS 20) 41. Posting status: A Open, no restriction
63. Op. Rating Method: 1 LF Load Factor-Ton Alt. Op. Rating Meth.: 1 LF Load Factor-To

64. Operating Rating (H / HS / 3-3):	34.2	61.5	97.2
66. Inventory Rating (H / HS / 3-3) :	20.5	36.9	58.3

65. Inv. Rating Method: 1 LF Load Factor-Ton Alt. Inv. Rating Meth.: 1 LF Load Factor-Tor
70. Posting: 5 At/Above Legal Loads Date Rated : 5/5/2016

GEOMETRIC DATA

10. Inv. Rte. Min. Vert. Clr.: 328.1 ft
32. Approach Roadway Width (W/ Shoulders): 34.0 ft
Deck Area: 1,162.5 sq. ft 33. Median: 0 No median
34. Skew: 0 35. Structure Flared: 0 No flare
47. Inv. Rte. Total Horiz. Clr.: 24.0 ft
48. Length Maximum Span: 9.8 ft 49. Structure Length: 34.1 ft
50A. Curb/Sdwlk Wdth L: 0.0 ft 50B. Curb/Sidewalk Width R: 0.0 ft
51. Width Curb to Curb: 24.0 ft 52. Width Out to Out: 24.0 ft
53. Minimum Vertical Clearance Over Bridge: 328.1 ft
54A/54B. Min. Vert. Underclearance : N Feature not hwy or RR 0.0 ft

	N/E			S/W		
Meas.	-1	-1	-1	-1	-1	-1
Post.	DO NOT U	DO NOT U	DO NOT U	DO NOT U	DO NOT U	-1

55A/55B. Minimum Lateral Undrclearance R: N Feature not hwy or RR 0.0 ft
56. Minimum Lateral Undrclearance L: 0.0 ft

PROPOSED IMPROVEMENTS

94. Bridge Cost: $230,000 75. Type of Work: 33 Widen w/o Deck R
95. Roadway Cost: $379,500 76. Lgth. of Improvment: 34.1 ft
96. Total Cost: $644,000 114. Future ADT: 2080
97. Year of Cost Est.: 2009 115. Year of Future ADT: 2034

NAVIGATION DATA

38. Navigation Control: Permit Not Required
39. Vertical Clearance: 0.0 ft 40. Horizontal Clearance: 0.0 ft
111. Pier Protection: 1 Not Required 116. Lift Bridge Vert. Clear.: 0.0 ft

APPRAISAL

36A. Bridge Rail: 0 Substandard 36C. Approach Rail: 0 Substandard
36B. Transition: 0 Substandard 36D. Approach Rail Ends: 0 Substandard
67. Str. Evaluation: 8 Equal Desirable Crit 68. Deck Geometry: 4 Tolerable
69. Underclearance, Vertical and Horizontal: N Not applicable (NBI)
71. Waterway Adequacy: 6 Equal Minimum
72. Approach Alignment: 7 Above Min Criteria
113. Scour Critical: 8 Stable Above Footing

200c. Temperature: 75
200d. Weather: CLEAR
201. Structural Steel ASTM Desig.: -1 -1
202. Waterproof Membrane : -1
Date Installed : 1/1/1901
203. Type Exp. Dev. : Open Joint - No Device
-
204. Type of Handrail: Concrete Railing (other)
205. Material and Quantity : -1.0
208. Type of Abutment : -
Type of Foundation : -
209. Type of Pier / Found.: - -
-
210. Foundation Elev. -1.0 6190.0
-1.0 -1.0 -1.0
211. Wear. Surf. Prot. System : None
Date Installed : 1/1/1901
213. Utilities Attached : -1
-1 -1 -1
-1 -1 -1

214a. Posted Weight Limit: NR
b. Posted Speed Limit : NR
c. Narrow/One Lane Bridge sign : NO
d. Vertical Clearance Sign: NO
Advanced Warning Sign : NO
e. Navigation Lights : _
Working/Not Working : _
215. Overpass : B - State Highway
221. Substructure Cond. (U/W) : -
222. Fill over RCB: 01
223. Appr. Slab/Rdwy Cond.: Good
225. Paint Type : -
Overcoat : Not Applicable
226. Date Painted: -1
227. Paint Coloring: -1
233. Deck Forming: -
238. School Bus Rte: Current and Desired Route
240. Appr. Roadway Type: Asphalt/Bituminous

243. Girder Spacing/Number : -1.0 / -1
244. Span Lengths :
-1 -1 -1
-1 -1 -1
-1 -1
245. Girder Depth : -1.000
246. Type of Overlay : _
246. Overlay Thickness : -1.0
246. Overlay Date : 1/1/1901
246. Overlay Depth Changed > 1"? _
247. Protective Systems : 1: _
2: _ 3: _
4: _ 5: _
248. No. of Field Splices w/ Corrosion : -1
249. Scour Crit. POA exists?: _
250. Culvert Headwall Dist.: 30.0
256. Chan. Profile Up/Down Stream?: _
257a. OkiePROS Auto. Truck Routing Culv
258. Plans w/ found. are in file at ODOT:
259. Scour Eval. is in file at ODOT:
263. Interchange at Intersection: No Interchange
264. Interstate Milepoint: -1.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **13759** Structure No.: 1516 1117 X Local ID:-1 Suff. Rating: 76.8 ND Health Index : 98.7

Inspection Date: 9/29/2016 Reported By: UFD3012

Invoice No.: -1 Inspected With: Erik Cox

Agency :

Structure / Inspection Notes

HISTORY PIPE FENCE ACROSS CHAN APPR 25' W. OF STR & WATER GAP 25' E. #214 CURVE JUST N. OF STR. APPR. FLEX RAIL NEEDS TO BE BROUGHT UP TO STANDARD.

FX #61 BC&D. MUCH SILT IN N. BBL., NEEDS TO BE CLEANED & RESHAPED.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
241	1	Reinforced Concrete Culvert	(LF)	102	98	96 %	4	4 %	0	0 %	0	0 %	0	0 %
331	1	Reinforced Conc Bridge Railing	(LF)	69	66	96 %	3	4 %	0	0 %	0	0 %	0	0 %
965	1	Debris	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %

Additional Elements

Elem.	Element Notes (Include Size and Location of Deterioration
241	
331	MINOR SPALLS TO THE TOP OF SOME POSTS.
965	3.5' OF SILT/DEBRIS IN WEST CHANNEL, AND IN CTR. & S. BBL'S.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Environmental Programs Division
200 N.E. 21st Street
Oklahoma City, OK 73105-3204
www.odot.org

April 11, 2018

Subject: Roadway improvements on SH-48 from 1.0 mile south of Coal County line, extending north 6.0 miles in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004); JP 31053(04), J3-1053(004); JP 31054(04), J3-1054(004)

Dear Property Owner:

The Oklahoma Department of Transportation (ODOT), in cooperation with the Federal Highway Administration (FHWA) will be preparing an environmental document on a proposal to resurface, add paved shoulders, and improve the subject bridges on SH-48 in Coal and Johnston Counties, Oklahoma. The project is scheduled for 2020 in the current 8 Year Construction Program and, ODOT is early in the project development process. The exact project scope and requirements will be clarified through the planning, environmental review, and design process; however, the improvements are considered necessary to correct narrow bridges and roadway. Issues that will be analyzed in the document include the project's effects to noise, water quality, cultural and natural resources, and other effects to the environment. In accordance with the National Environmental Policy Act, the National Historic Preservation Act, and FHWA policy, ODOT requests any information or specific concerns you have regarding this project's potential impact on the resources listed above. If you have reason to believe that there are resources such as underground oil or gas storage tanks, contaminated soil, archaeological or historic sites, human graves, places of religious or cultural importance to Native American tribes, or other sensitive resources, please respond to the contact provided below.

In accordance with Oklahoma Statute 69-702, employees or authorized agents of ODOT may enter your property for the purpose of surveying for the environmental considerations listed above. A copy of Oklahoma Statute 69-702 is provided with this letter. The results of the studies for cultural resources, biological resources, noise, and hazardous materials will be incorporated into the environmental document being prepared for this project. Minor hand digging on your property may be necessary as part of the survey. Any test holes will be filled in and cleaned up afterwards.

If you are currently leasing this property, please notify your lessee of our planned work.

Should you have any information or specific concerns, or if you have resources listed above that may be located on your property please contact our authorized agent Ms. Angela Aikman with Guernsey at 405.416.8294 or angela.aikman@guernsey.us. If your concerns are related to places of traditional cultural or religious importance to Native American tribes or to burials or cemeteries affiliated with tribes, please contact Dr. Rhonda Fair, ODOT Director of Tribal Coordination, at 405-517-5670 or rfair@odot.org. As always, your cooperation is greatly appreciated.

Respectfully,

Siv Sundaram, P.E.
Environmental Programs Division Engineer

SS/AA/Guernsey
Enclosures: Location Map, Copy of Statute 69-702
Copy to: Project Management
Field Division Engineer
Materials Division
Right-of-Way Division
Survey Division
ODOT Cultural Resources Specialist
Tribal Coordination Specialists

Mr. Doyle Nelson
P.O. Box 1
Clarita, OK 74535

Ms. Ettie Lou Baskett
RT 5 P.O. Box 950
Coalgate, OK 74535

Mr. & Ms. Randa & Craig Ables
P.O. Box 991
Tishomingo, OK 73460

C2R Cattle Partners
RT 5 P.O. Box 1390
Coalgate, OK 74538

Barringer Family Joint Trust
1634 Chris Lane SE
Jefferson, OR 97352

Mr. & Ms. Abe & Lydia Hershberger
Rt 5 P.O. Box 1000
Coalgate, OK 74538

Mr. & Ms. Krebs
RT 5 P.O. Box 345
Coalgate, OK 74538

Mr. & Ms. Roy & Helen Campbell
P.O. Box 22
Clarita, OK 74535

Mr. Scott Collins
Rt 5 P.O. Box 988
Coalgate, OK 74538

Eli & Dorothy Schrock
RT 5 P.O. Box 980
Coalgate, OK 74538

Mr. Eddie Campbell
P.O. Box 35
Clarita, OK 74535

Mr. Martin Callaghan
90 Scotch Pond Place
Quincy, MA 2169

Ms. Ava Nelson
P.O. Box 1
Clarita, OK 74535

Barnett Enterprises, LLC
104 West Ohio Ave
Coalgate, OK 74538

Mr. & Ms. Jimmy & Linda Collins
3549 South Park Ln
Atoka, OK 74525

Mr. John Miller
RT 5 P.O. Box 1225
Coalgate, OK 74538

L.A. Stutte
P.O. Box 85
Clarita, OK 74535

Ms. Kathy Angel Ms. Alice Migliorina
8305 South Project Ln
Milburn, OK 73450

Branch Communications, LLC
5156 S Boston Ave
Tulsa, OK 74119

Mr. Ralph Weiland
Rt 5 P.O. Box 940
Coalgate, OK 74538

Mr. & Ms. Emma & John Denson
RT 5 P.O. Box 920
Coalgate, OK 74538

Mr. Michael Nelson
RT 4 P.O. Box 1706
Coalgate, OK 74538

Mr. & Ms. Mark & Merilee Robinson
Rt 5 P.O. Box 1050
Coalgate, OK 74538

Mr. Charles Migliorino
P.O. Box 64
Bromide, OK 74530

Clarita 1-22 SWD Project, LLC
5727 S. Lewis Ave
Tulsa, OK 74105

Mr. & Mrs. Abe & Lydia Hershberger
RT 5 P.O. Box 1000
Coalgate, OK 74538

Mr. Adean Mathis
250 N. Pleasant Hill Road
Wapanucka, OK 73461

Samuel & Ramona Davis
RT 5 P.O. Box 1210
Coalgate, OK 74538

Mr. & Ms. Michael & Marty Wafford
P.O. Box 255
Wapanucka, OK 73461

Mr. & Ms. Larry & Victoria Treas
RT 5 P.O. Box 933
Coalgate, OK 74538

Mr. & Ms. Arthur & Mary White
P.O. Box 129
Wapanucka, OK 73461

Kirby Family Revocable Trust
4460 OK Hwy 48 N
Wapanucka, OK 73461

Mr. Thomas Jemison
P.O. Box 145
Wapanucka, OK 73461

Mr. John Holder
13150 E. Kirby Rd.
Wapanucka, OK 73461

Mr. Arnold Costiloe
19 Janice Ln
Shawnee, OK 74801

Mr. Joe Lambert
37948 Cr 1675
Coalgate, OK 74538

Ms. Kelly Albrecht
P.O. Box 95
Wapanucka, OK 73461

Mr. Arnold Costiloe
19 Janice Ln.
Shawnee, OK 74801

AA

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Oklahoma Field Office
201 Stephenson Parkway, Suite 1200
Norman, Oklahoma 73072-2037
www.blm.gov/nm

In Reply Refer To:
ODOT Proj Resp 180101c
1785

May 1, 2018

Mr. Siv Sundaram, P.E.
Environmental Programs Division Engineer
Oklahoma Department of Transportation
200 NE 21st Street
Oklahoma City, OK 73105-3204

Dear Mr. Sundaram:

Thank you for extending the opportunity to the Bureau of Land Management (BLM) Oklahoma Field Office to provide comments on the following proposed project:

Coal and Johnston Counties

Roadway improvements on SH-48 from 1.0 mile south of the Coal County line, extending north 6.0 miles including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek. JP # 31047(04), Proj. # J3 1047(004); JP # 31053(04), Proj. # J3 1053(004); JP # 31054(04), Proj. # J3 1054(004).

Our office has reviewed the information provided in your April 11, 2018, letter. A search of our files shows there are no BLM surface lands or Federal minerals within or near the project area. There are BLM administered Indian mineral interests near and within the project area. The project, as proposed, would not preclude the leasing and development of those mineral interests. Therefore, the BLM has no concerns or objection to the proposal.

Sincerely,

John Ledbetter

John Ledbetter
Realty Specialist
Oklahoma Field Office

RECEIVED
MAY 03 2018
ENVIRONMENTAL PROGRAMS
O.D.O.T.

cc:
NM (04410, Central File)

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Environmental Programs Division
200 N.E. 21st Street
Oklahoma City, OK 73105-3204
www.odot.org

April 11, 2018

Mr. John Ledbetter
Realty Specialist – Oklahoma Field Office
Bureau of Land Management
201 Stephenson Parkway, Suite 1200
Norman, Oklahoma 73072-2037

Subject: Roadway improvements on SH-48 from 1.0 mile south of Coal County line, extending north 6.0 miles in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004); JP 31053(04), J3-1053(004); JP 31054(04), J3-1054(004)

Dear Mr. Ledbetter:

The Oklahoma Department of Transportation (ODOT), in cooperation with the Federal Highway Administration (FHWA), will be preparing an environmental document on a proposal to resurface, add paved shoulders, and improve the subject bridges on SH-48 in Coal and Johnston Counties, Oklahoma. The project is scheduled for FFY 2020 in the current 8 Year Construction Program and ODOT is early in the project development process. The exact project scope and requirements will be clarified through the planning, environmental review, and design process; however, the improvements are considered necessary to correct narrow bridges and roadway. Issues that will be analyzed in the document include the project's effects to noise, water quality, cultural and natural resources, and other effects to the environment. In accordance with the National Environmental Policy Act, the National Historic Preservation Act, and FHWA policy, ODOT requests any information or specific concerns you have regarding this project's potential impact on the resources listed above. We have enclosed a location map and the environmental study area.

This project is in the early developmental stages and any comments relative to the social, economic, or environmental effects of this proposal will be appreciated. To allow adequate time for evaluation of your comments, we would appreciate receiving a response within **fifteen days** from the date of this letter. Your written comments should be directed to the Environmental Program Division Engineer, Oklahoma Department of Transportation, 200 N. E. 21st Street, Oklahoma City, Oklahoma 73105 or emailed to environment@odot.org.

We sincerely appreciate your cooperation in this matter. For further information or if you have any questions, please contact Ms. Amanda Alexander, Environmental Project Manager at (405) 521-2312 or AAlexander@odot.org or please contact our authorized agent Ms. Angela Aikman with Guernsey at 405.416.8294 or angela.aikman@guernsey.us.

Respectfully,

Siv Sundaram, P.E.
Environmental Programs Division Engineer

SS/AA/Guernsey

Enclosures: Location Map, Study Area Map
Copy to: Project Management Division
Right-of-Way Division
Field Division Engineer
ODOT Cultural Resources

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:

Division of Environmental and
Cultural Resources Management

MAY 14 2018

Siv Sundaram
Environmental Program Division Engineer
Oklahoma Department of Transportation
200 N.E. 21st Street
Oklahoma City, OK 73105

Dear Sir or Madam:

On May 1, 2018, the Bureau of Indian Affairs, Eastern Oklahoma Regional Office, received solicitation for information or comments from the Oklahoma Department of Transportation (ODOT), concerning resurfacing, adding paved shoulders, and improving the subject bridges on SH-48 in Coal and Johnston Counties, Oklahoma. This office has no comments regarding the project at this time.

Two Federally recognized Tribes have been provided the notice by copy of this letter. As the Tribes may have environmental and/or cultural resources concerns relating to this action, it is recommended that ODOT coordinate directly with the Tribes on any of their concerns. The contact addresses are enclosed.

If additional information is required, please contact Ms. Allison Ross, Acting Division Chief, Division of Environmental and Cultural Resources Management, at (918) 781-4660.

Respectfully,

ACTING Regional Director

Enclosure

RECEIVED
MAY 17 2018
ENVIRONMENTAL PROGRAMS
O.D.O.T.

Dr. Andrea Hunter
THPO, Osage Nation
627 Grandview Avenue
Pawhuska, OK 74056
Phone: (918) 287-5432
Fax: (918) 287-2257

Bill Anoatubby, Governor
The Chickasaw Nation
P.O. Box 1548
Ada, OK 74821
Phone: (580) 436-2603
Fax: (580) 436-4287

OKLAHOMA DEPARTMENT OF TRANSPORTATION

Environmental Programs Division
200 N.E. 21st Street
Oklahoma City, OK 73105-3204
www.odot.org

April 11, 2018

Mr. Eddie Streeter
Regional Director
Eastern Oklahoma Regional Office
Bureau of Indian Affairs
P.O. Box 8002
Muskogee, Oklahoma 74401-6201

Subject: Roadway improvements on SH-48 from 1.0 mile south of Coal County line, extending north 6.0 miles in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek and Tell Creek; JP 31047(04), J3-1047(004); JP 31053(04), J3-1053(004); JP 31054(04), J3-1054(004)

Dear Mr. Streeter::

The Oklahoma Department of Transportation (ODOT), in cooperation with the Federal Highway Administration (FHWA) will be preparing an environmental document on a proposal to resurface, add paved shoulders, and improve the subject bridges on SH-48 in Coal and Johnston Counties, Oklahoma. The project is scheduled for fiscal year 2020 in the current 8 Year Construction Program and ODOT is early in the project development process. The exact project scope and requirements will be clarified through the planning, environmental review, and design process, however the improvements are considered necessary to correct narrow bridges and roadway. Issues that will be analyzed in the document include the project's effects to noise, water quality, cultural and natural resources, and other effects to the environment. In accordance with the National Environmental Policy Act, the National Historic Preservation Act, and FHWA policy, ODOT requests any information or specific concerns you have regarding this project's potential impact on the resources listed above. We have enclosed a location map and the environmental study area.

This project is in the early developmental stages and any comments relative to the social, economic, or environmental effects of this proposal will be appreciated. To allow adequate time for evaluation of your comments, we would appreciate receiving a response within **fifteen days** from the date of this letter. Your written comments should be directed to the Environmental Program Division Engineer, Oklahoma Department of Transportation, 200 N. E. 21st Street, Oklahoma City, Oklahoma 73105 or emailed to environment@odot.org.

We sincerely appreciate your cooperation in this matter. For further information or if you have any questions, please contact Ms. Amanda Alexander, Environmental Project Manager at 405.521.2312 or aalexander@odot.org or please contact our authorized agent Ms. Angela Aikman with Guernsey at 405.416.8294 or angela.aikman@guernsey.us.

Respectfully,

Siv Sundaram, P.E.
Environmental Programs Division Engineer

SS/AA/Guernsey

Enclosures: Location Map, Study Area Map

Copy to: Project Management Division
Field Division Engineer
Right-of-Way Division
ODOT Cultural Resources

guernsey
ENGINEERS
ARCHITECTS
CONSULTANTS

April 26, 2018

Ms. Amanda Alexander:

RE: Letters for Bridge and Approaches on SH-48 from 1.0 mile south of Coal County Line, extending north 6.0 miles in Coal and Johnston Counties including improvements to bridges over Delaware Creek, Walnut Creek, Elm Creek, and Tell Creek; JP 31047(04), J3-1047(004); JP 31053(04), J3-1053(004); JP 31054(04), J3-1054(004)

Letters for JP 31047(04), 31053(04), and 31054(04) were mailed on April 26, 2018 to the following:

- Thirty-eight property owners
- Bureau of Land Management
- Bureau of Indian Affairs, Eastern Oklahoma Regional Office

All envelopes were checked to ensure that the enclosures identified on the letters were included.

Should you have any questions/concerns/comments, please contact me at 405.416.8294 or angela.aikman@guernsey.us.

Sincerely,
Guernsey

Angela Aikman

Angela Aikman
Project Manager

5555 North Grand Boulevard
Oklahoma City, OK 73112-5507
405.416.8100
guernsey.us

Monthly Status Report

NEPA Consultant: C.H. Guernsey Eng Contract/Task Order: EC 1766D TO 3

Project: JOHNSTON/COAL COUNTY, 31047(04), SH-48: BEGIN 1.0 MI SOUTH OF JOHNSTON C/L, EXTEND NORTH 6.0 MI – includes JOHNSTON COUNTY, 31053(04), SH-48: OVER DELAWARE CREEK AND WALNUT CREEK, BEGIN 2.2 MI NORTH OFJCT SH-7 and B. COAL COUNTY, 31054(04), SH-48 OVER ELM CREEK AND TELL CREEK, BEGIN 2.1 MI NORTH OF JOHNSTON C/L

Step ID		Duration in Calendar days	Target Start from Task Order	Target Completion Date from Task Order:	Actual Start Date:	Actual Completion	Responsible Party	Comments
1.1	Scope Clarifictaion	0	2/15/2018	2/15/2018			Contract Administrator	
1.2	Task Order Request	15	2/15/2018	3/2/2018			Contract Administrator	
1.3	Task Order Approval	15	3/2/2018	3/17/2018		3/13/2018	Contract Administrator	
1.4	Notice to Proceed Date	1	3/17/2018	3/18/2018		3/15/2018	Contract Administrator	
3.1	Provide NEPA Study Footprint	5	3/18/2018	3/23/2018	3/15/2018	3/31/2018	Designer	
3.2	Approved Study Footprint and Location Map	5	3/23/2018	3/28/2018	3/31/2018	4/26/2018	EPD	2 : received comments on the figures. 2 : revised figures were submitted.
4.1	Send out Property Owner Notification	10	3/28/2018	4/7/2018	3/29/2018	4/26/2018	Consultant	3 2 2 : submitted draft letters for review. 2 7: letters were approved. Waiting on signed letters
4.2	Tribal Property Notification	0	3/28/2018	3/28/2018	NA	NA	Consultant	
5.1	Cultural Resources Study by ODOT	10	3/28/2018	4/7/2018			Consultant	2 2 : CR request submitted
5.2	Tribal Coordination 30 Day Waiting Period prior to Start of Specialist Studies	45	4/7/2018	5/22/2018	5/2/2018	6/1/2018	Consultant	
6.1	Cultural Resources Study	45	5/22/2018	7/6/2018	4/28/2018	1/9/2019	Consultant	ODOT-CRP to conduct 2 : have been some landowner issues during field studies. 2 7 2 : Field studies are still occuring 3 2 : reviewing the draft report that was received on 1/9/2019 2 received revised site forms, report is in review
6.2	T&E & Wetland Studies	45	5/22/2018	7/6/2018	6/1/2018	7/18/2018	Consultant	
6.3	Hazardous Waste Studies	45	5/22/2018	7/6/2018	6/1/2018	7/18/2018	Consultant	
6.4.1	Receive Preliminary Plans	0	4/20/2018	4/20/2018			PMD	2 2 : received 30% plans for 31047(04) 2 : received 30% plans for 31054(04)
6.4.2	Review Plans with Footprint	15	4/20/2018	5/5/2018			Consultant	
6.5	NRCS coordination	60	4/7/2018	6/6/2018	5/7/2018	6/8/2018	Consultant	
7.1	ODOT Review of Cultural Resources Studies	60	7/6/2018	9/4/2018	1/9/2019	12/5/2019	ODOT Specialists	2 : consultant requested to submit final deliverables. 2 : received final deliverables on 11/4/2019
7.2	ODOT Review of Biological Studies	60	7/6/2018	9/4/2018	7/18/2018	7/25/2018	ODOT Specialists	
7.3	ODOT Review of Haz Waste Studies	60	7/6/2018	9/4/2018	7/18/2018	10/15/2018	ODOT Specialists	
8	USFWS	45	9/4/2018	10/19/2018	NA	NA	ODOT Specialists	
9	SHPO Coordination	45	9/4/2018	10/19/2018	12/5/2019	3/2/2020	ODOT Specialists	2 2 : received SHPO concurrence, waiting on OAS concerrence. 2 2 2 : received SHPO/OAS concerrence, preparing 106 packet
10.1	Receive R/W & Utility Meeting Plans	0	4/20/2018	4/20/2018	1/18/2019		PMD	2 : received 60% plans for 31053(04) 2 2 : received 60% plans for 31047(04) 2 2 : received 60% plans for 31054(04)
10.2	Review Revised Plans with Footprint	5	4/20/2018	4/25/2018	1/18/2019		Consultant	2 : received 60% plans for 31053(04) 2 2 : received 60% plans for 31047(04) 2 2 : received 60% plans for 31054(04)
10.3	Attend Plan In Hand	15	4/25/2018	5/10/2018	1/23/2019		Consultant	23 2 : attended PIH for 31053(04) 2 2 : attended PIH for 31047(04) 2 2 : 60% PIH for 31054(04)
11.1	Receive R/W Submittal Plans	0	5/24/2018	5/24/2018	5/17/2019: JP31053(04)	5/17/2019: JP31053(04)	PMD	7 2 :Received 65% plans for 31053(04). 2 2 2 : Received 65% plans for 31047(04)
11.2	Review R/W Submittal Plans with Footprint	5	5/24/2018	5/29/2018			Consultant	
12.1	Draft CE Preparation	10	10/19/2018	10/29/2018			Consultant	
12.2	ODOT Review	15	10/29/2018	11/13/2018			ODOT Environmental Contract Manager	
12.3	Final CE Preparation	5	11/13/2018	11/18/2018			Consultant	
12.4	FHWA Review of CE Document	5	11/18/2018	11/23/2018			FHWA	
12.5	Completion of CE Document	5	11/23/2018	11/28/2018			ODOT Environmental Contract Manager	

Aikman, Angela

From: Aikman, Angela
Sent: Monday, February 19, 2018 7:26 AM
To: Siv Sundaram (ssundaram@odot.org); Jared Schwennesen; 'aalexander@odot.org'
Subject: Meeting Minutes for 3104704, 3105504, & 3105604

JP 31047(04)

- JP 31053(04) and JP 31054(04) are within the alignment of JP 31047(04)
- One footprint that depicts the three projects (needs to be redone)
- One NEPA document that includes the three JPs
- Letters (property owners, BIA, BLM) need to be updated and mailed
- Don't need to obtain new property cards, the cards received are sufficient
- ODOT CRP (consultant) will conduct studies and report
- Guernsey to conduct Biological Studies and ISA

JP 31055(04)

- Need to prepare a Footprint and Location Map
- Start the footprint at the north end of JP31047(04) and extend to the south end of JP 20967(04)
- One NEPA document for JP 31055(04)
- Need to obtain property cards
- Need to mail out letters (property owners, BIA, BLM)
- ODOT CRP (consultant) will conduct studies and report
- Guernsey to conduct Biological Studies and ISA

JP 31056(04)

- Need to prepare a Footprint and Location Map
- Start the footprint at the north end of JP20967(04) and extend to the survey limits identified in the Initiation Report
- One NEPA document for JP 31056(04)
- Need to obtain property cards
- Need to mail out letters (property owners, BIA, BLM)
- ODOT CRP (consultant) will conduct studies and report
- Guernsey to conduct Biological Studies and ISA

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CE Document Checklist

Should be included in the Other Section of all projects

JP No:	31047(04), 31053(04), 31054(04)	Prepared by	M. Ederer
County:	Johnston & Coal	Checked by	A. Aikman
Date Checked:			
No	Description		Checked?
1	**Project Information**		
1.1	Project No (Check against Oracle info)		X
1.2	County (Oracle, plans, check list/initiation report)		X
1.3	JP No (Oracle)		X
1.4	NBI No. - Check against initiation report, oracle, and plans		X
1.5	Location No. for County projects only		NA
1.6	Correct Division		X
1.7	Project Description (Check against Oracle info and make sure it matches project extent on the plans. If it doesn't match, get the PM to fix the Oracle)		X
1.8	Construction Program/STIP/TIP Checked?		X
1.9	Are there Tribal properties (mark Item (a)3) and make document an "ICE.") For the explanation: "The action may involve acquisition of Indian Trust property. This will require approval by the Bureau of Indain Affairs (BIA) during the right-of-way process."		NA
2	**Existing Conditions**		
2.1	If it is a roadway project, is the roadway described first, then any bridges mentioned within the extent		X
2.2	Is the existing bridge type (box or span), width (or length), conditions for each bridge correct		X
2.3	Correct approach roadway width?		X

2.4	Any roadway geometric deficiencies?	NA
2.5	Traffic data from plans	X
3	**Purpose & Need**	
3.1	Why is the project needed (NEVER what is proposed – REPLACE BRIDGE or WIDEN ROADWAY or ADD SHOUDERS is NOT the Purpose & Need)	X
4	**Alternatives & Proposed improvement**	
4.1	Proposed roadway and bridge width	X
4.2	Existing or offset alignment – reason for offset	X
4.3	Replacement, Rehab, Removal or new bridge where there was none	X
4.4	Road open to traffic during construction (If there is a shoofly, it is considered open to traffic. Closed to traffic is only if there is a posted detour on a different route)	X
4.5	Mention if everthing is w ithin existing R/W	X
4	**Public Involvement**	
4.1	Check appropriate public involvement box. Include Road Closure letters in the "Public Involvement" section and Property Owner letters in the "Other Section".	X
5	**CE Questions & Studies**	
5.1	Are the R/W submittal or Final Plans with date stamp included in the Plans & Footprint Section?	X
5.2	Did the preparer verify that the plans were within study limits?	X
5.3	Are the studies arranged in the same order as the CE Questions?	X
5.4	Is the NEPA on Hold Memo included?	NA
5.5	Is the offset alignment far enough away so that R/W not immediately adjacent to existing R/W is needed?	NA
5.6	Are the federal properties identified (from plans and recon data)	NA

5.7	CR Report complete & arranged in the chrolnological order from latest to oldest- includes letter to and from SHPO & OAS, CR report, Initial letters to and responses from Tribes, Final letters to and responses from Tribes? Do the CR Notes match the report? Are the notes checked in commitment and included at the end of the CE	X
5.8	Have the 4(f) properties been identified (from Recon, county map, and plans)? If there are 4(f) properties, is the complete Section 4(f) coordination included in the Section 4(f) section?	NA
5.9	Was Section 6(f) properties verified with Dept. of Tourism for any parks?	NA
5.10	Is a noise study needed (offset alignments, capacity increase, or major vertical grade change)? If yes, is it included in the Noise Section and any commitments listed in the CE	NA
5.11	Is the biological studies included and any notes for species included in the commitments & at the end of the CE (Exception is swallows where we include the note itself in the CE under commitments)?	X
5.12	Was there a 404 permit type determination done by the 404 permit coordinator for any projects which had > 0.5 AC o wetlands in the initial study? Is the 404 permit box checked (should be yes for all projects involving a bridge crossing a blue line)	X
5.13	Does the project involve navigable waters (check USACE Section 10 waters and then verify wih Coastguard) and requires Coastguard coordination? If so, it it listed in the Commitment?	NA
5.14	Does the project involve one of the scenic rivers or streams (Check Oklahoma Scenic Rivers website)? Ifso, include coordination with Scenic Rivers in the "Other Section"	NA
5.15	Was there coordination done with NRCS for projects involving new R/W and not in an urban area? Letter to NRCS, AD-1066 Form completed partially (if no response from NRCS) or completely (if NRCS completed their portion), and statement of nor response from NRCS if applicable	X
5.16	Is the project location cirdled on the FEMA map or printout from FEMA site saying noa pam is available included? If theproject is in zone A-E, is the coordination with the Designer to determine the need for map revision included?	X
5.17	Is the haz waste note mentioned and included at the end of the CE if applicable? If the haz waste specialist required plans to complete studies, were the plans provided and a revised memo obtained?	X

5.18	Were the plans checked for road closure? Include sheets which say road will not be closed for bridge joint, paint, etc. projects. If there is road closure, were letters sent out and all the comments addressed by Field Division?	X
5.19	Does the "Other Section" include initiation report, property owner letters or letter from County Commissioner, additional project coordination, local govt. checklist (County), oracle information sheet with federal funding info for County projects, bridge infor from GRIP.	X
5.20	Any airports within 4 miles of the project location?	X - No