U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION AND OKLAHOMA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

STATE HIGHWAY 28: FROM US 69/SH 28 INTERSECTION IN ADAIR TO SH 28/SH 82 INTERSECTION IN LANGLEY MAYES COUNTY

Project Numbers SSP-149C(107)SS, J2-3270(004), and BRFY-149C(076) State J/P Numbers 24382(04), 23270(04), and 21909(094)



Prepared by:

The Benham Companies, LLC, an SAIC Company 3700 W. Robinson, Ste. 200 Norman, OK 73072 405-321-3895



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The proposed project is described as improving existing SH 28 from the US 69/SH 28 intersection in Adair, proceeding east approximately 12 miles to the SH 28/SH 82 intersection in Langley.

This highway project is proposed for funding under Title 23, United States Code (USC). This statement for the improvement has been developed in consultation with the Federal Highway Administration and is submitted pursuant to 42 USC-4332(2) (c) and 49 USC 303.

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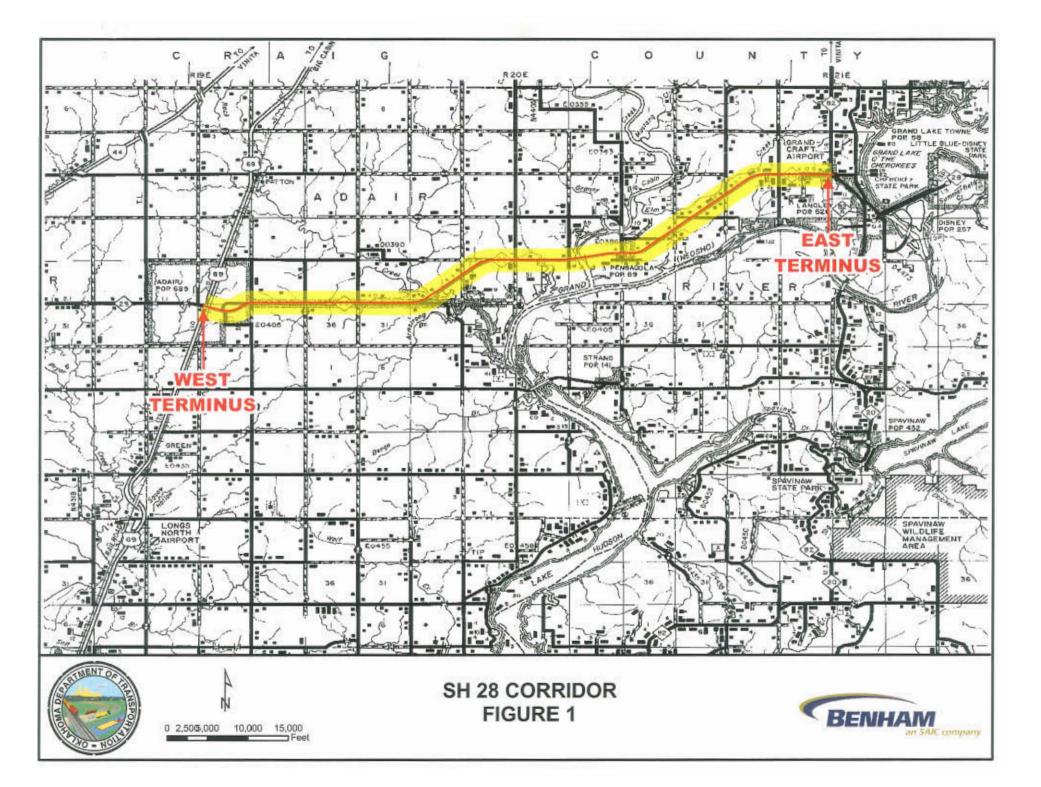
1.0 INTRODUCTION

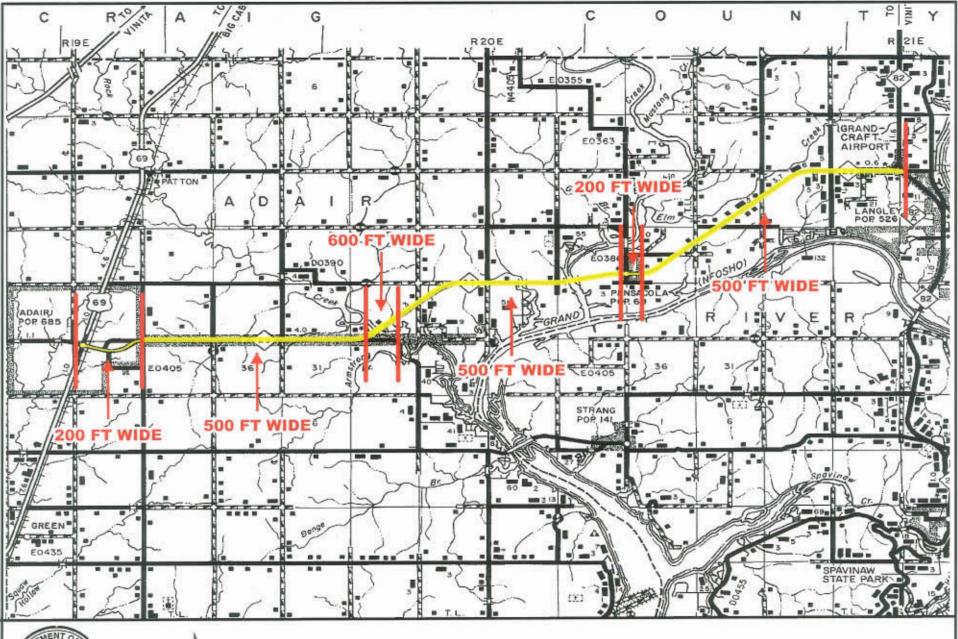
The Oklahoma Department of Transportation (ODOT) proposes to improve SH 28 in Mayes County, Oklahoma between the communities of Adair and Langley. The project proposes to improve safety by the addition of shoulders in some segments and additional lanes in some segments.

This Environmental Assessment (EA) has been prepared to comply with the National Environmental Policy Act of 1969 (NEPA), as amended. The Federal Highway Administration (FHWA), U.S. Department of Transportation, is the lead federal agency and has developed environmental regulations for highway projects. These regulations, Title 23 of the Code of Federal Regulations, Part 771, provide instructions for assessing environmental impacts specific to federally-funded transportation projects. This document has been developed pursuant to 452 U.S. Code (USC) 4332 92(9C) and 49 USC 303. This EA provides appropriate information regarding the project's social, economic, and environmental impacts.

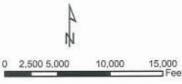
The initial improvements will result in an improved two-lane facility throughout the majority of the project area. However, as construction projects are implemented, adequate right-of-way (ROW) will be acquired to accommodate four lanes. This EA addresses the environmental impacts associated with widening the entire facility to four lanes so that when future traffic supports widening the facility to four lanes and funding is available, the environmental process will have already been completed, allowing such future projects to proceed in a timely manner.

The project study area is located within a rural setting and is generally undeveloped. Land use along this roadway is primarily agricultural with widely dispersed residences and commercial/business development. The project study area corridor is 500 feet wide and centered about existing SH 28, narrowing to 200 feet through the towns of Adair and Pensacola, and widening to 600 feet across Rock Creek. **Figure 1** depicts the project location, and **Figure 2** depicts the project study area.









PROJECT STUDY AREA FIGURE 2



For ease of discussion, the proposed project area has been broken into six (6) segments depicted in **Figure 3**. All of the existing roadway segments are two-lane facilities having atgrade intersections with no control of access.

- Segment 1 begins at the junction of US 69 and SH 28 in Adair and extends east approximately 0.5 miles to Chouteau Street (a.k.a. Warrior Road). Land use in Segment 1 is primarily residential, with some commercial use through Adair.
- Segment 2 begins at Chouteau Street and extends east approximately 3.5 miles to just west of Rock Creek Bridge, near the junction of SH 28 and E0400. Land use in Segment 2 is residential and agricultural.
- Segment 3 begins just west of the SH 28/E0400 junction and extends east approximately 3.5 miles to Rogers Avenue in Pensacola. Land use in Segment 3 is agricultural with scattered residential.
- Segment 4 begins at Rogers Avenue and extends east approximately 0.25 miles to McClinock Avenue in Pensacola. Land use in Segment 4 is residential and commercial.
- Segment 5 begins at McClinock Avenue and extends east approximately 3.5 miles
 to NS 4455. Land use in Segment 5 is agricultural with scattered residential.
- Segment 6 begins at NS 4455 and extends east approximately 0.6 miles feet to the junction of SH 28 and SH 82 in Langley. Land use in Segment 6 is agricultural and scattered residential, with some commercial use near Langley.

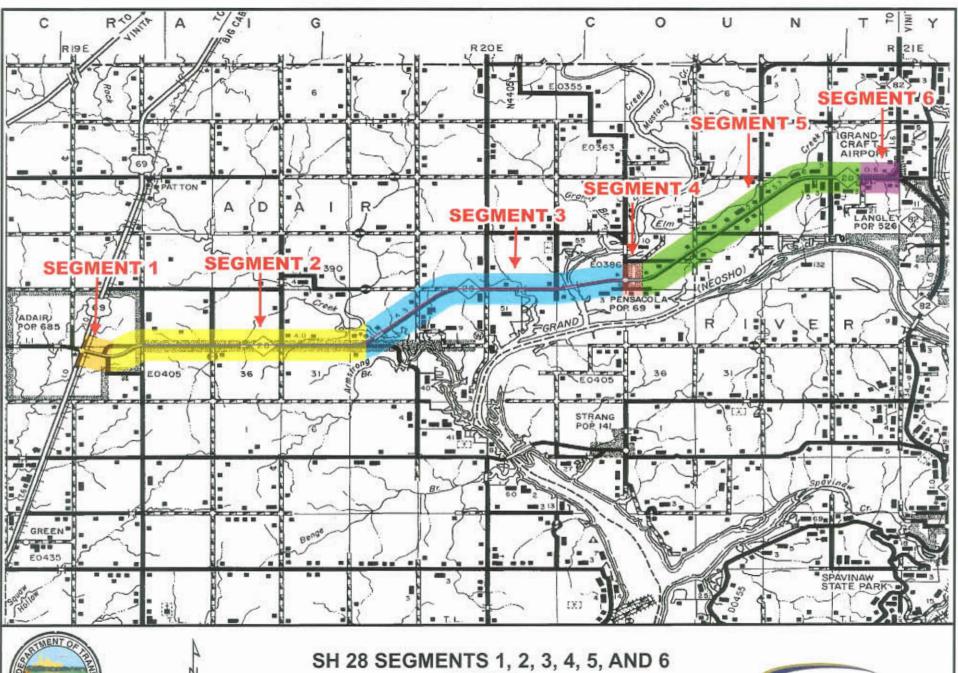






FIGURE 3



2.0 PURPOSE AND NEED FOR THE PROJECT

2.1 Introduction

SH 28 is an important transportation corridor serving northeastern Oklahoma and the Grand Lake recreational area and communities. It begins in the west near Nowata, Oklahoma and extends eastward, ending near Jay, Oklahoma. This roadway serves as a vital link between US 169, Interstate 44, and Grand Lake; thus, SH 28 is economically important to this area of the state.

SH 28 is classified as a major collector, which is defined as an important intra-county route collecting traffic from local roads and providing feeder service to arterial highways. This portion of existing SH 28 is a two-lane facility with 12-foot lanes. Shoulder widths are typically four (4) feet throughout the project area, with one (1) section of 8-foot shoulders occurring within Segment 2.

2.2 Grand Lake Area Transportation Study

Due to the consistent, strong growth pattern in the Grand Lake Area, ODOT completed a transportation study in late 2003 (*Grand Lake Area Transportation Study*, September 2003). The study analyzed the existing conditions, projected the future conditions, and developed short-term and long-term transportation improvements. The study recognized SH 28 as the "east-west corridor to serve the south Grand Lake area", and recommended improving SH 28 by constructing a new 2-lane roadway section and acquiring right-of-way for a future 4-lane divided section.

2.3 Safety

2.3.1 Sufficiency Ratings

The Needs and Sufficiency Rating Report, 2007 evaluates roadways based on their existing geometric design and physical condition. The majority of this segment of SH 28 is rated as "tolerable", indicating some deficiencies in design and/or condition of the roadway. Only one short section of Segment 2 is rated as "adequate". Both the Rock Creek and the Big Cabin Creek Bridges are rated as Structurally Deficient. The Rock Creek Bridge

replacement is part of this SH 28 improvement project, while the Big Cabin Creek Bridge replacement is a separate project.

2.3.2 Collision History

Collision data recorded over a five-year period from July 1, 2004 through June 30, 2009 showed the project area had 103 overall collisions, with 41 resulting in injuries and 2 resulting in fatalities. The overall rates (crashes per 100 million vehicle miles travelled) for collisions, injuries, and fatalities are 82.5, 32.9, and 1.6, respectively. These rates are less than the statewide rates of 86.29 for collisions, 41.47 for injuries, and 3.15 for fatalities. The types of crashes along most of the segments included fixed objects, rear end, angle, and animals. Also noted were several side-swipe type incidents involving same direction as well as opposite direction of travel for the vehicles. These types of accidents could be related to narrow roadways, with obstructions close to the roadway. Collision data is included in **Appendix A**.

2.4 Transportation Demand

Existing (2008) and future (2028) annual average daily traffic (AADT) along this section of SH 28, as measured by ODOT traffic counts, is 5,300 and 8,500, respectively. It was determined that 12 percent of all vehicles traveling along this stretch of SH 28 are trucks, and that 7 percent of the AADT are considered heavy trucks.

2.5 Purpose and Need Summary

As indicated by the previous discussion, improvements to SH 28 are needed to improve safety and provide improved traffic services to citizens living along and near the route, as well as to recreational traffic bound for the Grand Lake Area. The proposed improvements are discussed by Segment in the following section of text.

3.0 ALTERNATIVES

Segments 1, 4, and 6 are considered urban segments and the remaining segments are rural. For the urban segments, a No-Build Alternative and only one (1) Build Alternative were considered. The Build Alternative was construction of two (2) additional lanes symmetrically about existing SH 28, with minimal right-of-way acquisition. Because the No-Build Alternative does not meet the purpose and need of the project, the Build Alternative is the preferred alternative for Segments 1, 4, and 6.

For the remaining rural segments of SH 28 (i.e., Segments 2, 3, and 5), a No-Build Alternative and several Build Alternatives were considered. One Build Alternative considered construction of two (2) new lanes with 10-foot shoulders to the north of the existing facility in Segments 2, 3, and 5, while another Build Alternative was to construct two (2) new lanes with 10-foot shoulders to the south of the existing facility in Segments 2, 3, and 5. A third Build Alternative, that of building two (2) new lanes symmetrically, or outside, of the existing lanes was considered but dismissed due to the fact that it would require construction of the new lanes, removal of the old lanes, and possible construction of two (2) additional lanes between the new lanes when future travel supports widening the facility to four (4) lanes. Based upon the inefficiencies of construction and disruption of traffic associated with this alternative, it was not carried forward for consideration. Because the No-Build Alternative does not meet the purpose and need of the project, it can be eliminated from consideration for Segments 2, 3, and 5. Therefore, the potential impacts associated with the North and South Construction Alignments were compared as indicated in **Table 1**, and the Preferred Alternative was selected on the basis of that impact comparison.

Comparison of the North and South Alignments for Segment 2 indicated that the South Alignment would have fewer total displacements, fewer wetlands impacts, a lower likelihood of hazardous waste sites, and no utility impacts. Impacts to the single historic property along the South Alignment can be avoided and/or minimized. Therefore, the South Alignment is the Preferred Alignment for Segment 2.

TABLE 1: ALIGNMENT COMPARISON MATRIX						
Parameter	Segment 2 Alignment		Segment 3 Alignment		Segment 5 Alignment	
	North	South	North	South	North	South
Residential Displacements	9	3	5	4	11	3
Commercial Displacements	3	0	1	4	0	5
Estimated ROW and Utilities	Not Available	Not Available	Not Available	Not Available	\$5.0 M	\$3.8 M
Historic Properties	0	0	0	0	0	0
Wetlands (acres)	10.72	6.03	7.84	18.25	2.47	2.33
Underground Storage Tank	1	0	0	1	0	2
Potential Hazardous Waste Sites	2	0	0	2	0	0
City Water	Yes	No	No	No	No	No
Rural Water N		No	No	1 mile of 4" line; 1.5 mile of 10" line	3.5 miles of 4" line	3.5 miles of 8" line
1 mile electric line; 1.5 mile of electric 3.5 miles 3.5 miles 3.5 miles		3.5 miles of electric line				

Comparison of the North and South Alignments for Segment 3 indicated that the North Alignment would have fewer total displacements, fewer wetlands impacts, a lower likelihood of hazardous waste sites, and fewer utility impacts. Therefore, the North Alignment is the Preferred Alignment for Segment 3.

Comparison of the North and South Alignment for Segment 5 indicated very similar impacts associated with both Alignments. Therefore, ODOT's Right-of-Way & Utilities Division prepared right-of-way and utility cost estimates for both Alignments. Because the estimated costs for the South Alignment were significantly less than for the North Alignment, the South Alignment is the Preferred Alignment for Segment 5. Right-of-way and utility cost estimate documentation is included as **Appendix B**.

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SH 28 – Adair to Langley Environmental Assessment

The Preferred Alternative for SH 28 can be summarized as follows:

Segment 1: The existing facility will be utilized from the junction of US 69 and SH 28 in

Adair east approximately 0.5 miles to Chouteau Street. Due to utility and space

constraints, two additional lanes will be constructed symmetrically about existing SH 28 to

complete the four-lane undivided roadway section through Adair. The symmetrical

placement of two additional lanes about the existing roadway was selected because it

requires minimal new right-of way.

Segment 2: Two new lanes with 10-foot shoulders will be built offset to the south of

existing SH 28. This southern alignment will extend approximately 3.5 miles, ending near

the curve just west of Rock Creek.

Segment 3: The alignment will then shift to the north near the curve just west of the Rock

Creek Bridge. The two new lanes will remain north of SH 28 for approximately 3.5 miles

and will transition back to the existing alignment as SH 28 enters Pensacola at Rogers

Avenue. The existing SH 28 roadway will be used as a detour until new construction is

complete, and then will be removed.

Segment 4: The existing facility will be utilized through Pensacola from Rogers Avenue to

McClinock Avenue, with two additional lanes being built symmetrically about the existing

alignment providing an undivided four-lane facility. The symmetrical placement of two

additional lanes about the existing roadway was selected because it requires minimal new

right-of way.

Segment 5: Two new lanes with 10-foot shoulders will be built offset to the south of

existing SH 28 for approximately 3.5 miles from McClinock Avenue to NS 4455. The

existing SH 28 roadway will be used as a detour until new construction is complete, and

then will be removed.

10

Segment 6: The existing facility will be utilized with two additional lanes being built symmetrically about the existing alignment providing an undivided four-lane facility. The exact extent of this improvement to the west of Langley will be determined at a later date. Turn lanes on SH 28 west of Langley will be added to improve safety as needed.

4.0 SOCIAL, ECONOMIC AND ENVIRONMENTAL EFFECTS

Appendix C contains a list of the social, economic and environmental factors studied by ODOT in the development of this project. Based on this examination, the following areas are the major environmental issues associated with constructing the Preferred Alternative for SH 28. Because the final design of the Preferred Alternative will likely require less than the entire corridor width studied (i.e., 500 feet, and 200 feet through the cities), the actual impacts of this project may be less than described in this assessment.

As indicated in Section 3.0, the environmental impacts associated with adding the new lanes to the north and to the South in Segments 2, 3, and 5 were compared in a matrix (i.e., **Table 1**) to select the Preferred Alternative.

4.1 Land Use

Land use throughout the SH 28 corridor was evaluated through visual observations and phone conversations. The existing land use is primarily agricultural, with some commercial at the west end of the project area in Adair, the east end in Langley, and mid-point in Pensacola. Homes are also scattered throughout the study area. School districts partially located in the study corridor include Adair and Ketchum Public Schools. One church is located within the study area.

4.2 Farmland Impacts

The SH 28 project study area includes soil types designated as prime farmlands. All designated prime farmlands in Oklahoma are monitored under the Farmland Protection Policy Act (FPPA) administered by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). In accordance with the FPPA, Parts I and II of a Farmland Conversion Impact Rating Form (AD-1006) were completed and submitted to the NRCS. The NRCS completed the appropriate sections and returned the Form AD-1006, which indicated that approximately 641 acres of unique and prime farmland are located within the SH 28 project study area. Completion of the remaining portions of Form AD-1006 resulted in a total score of 120, which is below the 160 points required for further coordination with

the NRCS. Hence, the FPPA does not apply. A copy of the completed form, the submittal letter, and the NRCS response letter is provided in **Appendix D.**

4.3 Relocation Impacts

Impacts to properties will be minimized as much as possible as long as the final design plan meets all state and federal standards to improve safety. The number of residential and commercial structures that might be displaced by the Preferred Alternative was estimated for the project using aerial photos and the proposed preliminary right-of-way requirements, which are subject to change once final plans are prepared.

Based upon consideration of the likely right-of-way requirements of the Preferred Alternative, it is estimated that six (6) commercial businesses, (two (2) of which are currently inactive), one (1) barn associated with a residence outside the project area, and eleven (11) single family homes will be displaced.

The residences to be displaced are brick and/or wood-style single family residences. Commercial displacements include two (2) convenience stores, one (1) manufacturing facility, one (1) retail facility, and two (2) abandoned commercial buildings. Based on visual observation, these businesses employ approximately 10 to 30 employees. No additional impacts to businesses were recorded from closer proximity to the roadway.

Using a Multiple Listing Service (MLS), May 2009, 28 homes were identified near the proposed project area. The homes for sale ranged in price from \$49,900 to \$850,000. Seven (7) of the homes were located in Adair, Oklahoma and 21 homes were located in Langley, Oklahoma. No MLS data for Mayes County was available for business properties. While this MLS search provides possible housing opportunities for relocation, this data does not comprise all available housing where a potentially impacted owner could relocate. The final location of the impacted residence or business will be decided between OOOT and each individual owner during the right-of-way acquisition phase.

According to 2000 Census data, the median rent for Mayes County was \$316, and there were 319 rental units vacant in the county. Based upon the number of available residential

rental units and the small number of residential displacements (i.e., 11), replacement rental units at a cost comparable to existing rent should be available to any displaced tenants.

Right-of-way acquisition will be in accordance with the Uniform Relocation and Real Property Acquisition Policies of 1970, as amended. ODOT's Relocation and Assistance program provides financial assistance for relocation expense and advisory assistance in relocation resources available within the area. Relocation resources are available to all residential and business displacements without discrimination.

Last Resort Housing consideration ensures that comparable decent, safe, and sanitary replacement housing is made available to displaced person when such housing cannot otherwise be provided within the person's financial means. If necessary, this option will be available and accommodated.

4.4 Social and Economic Impacts including Environmental Justice

4.4.1 Population Characteristics

The SH 28 project area is located in Mayes County, Oklahoma. According to the 2000 Census, the population of Mayes County is 38,369. US Census data for Mayes County indicates that 72.1% of the population is White (including Hispanic or Latino identified as White), 0.3% is Black, 19.1% is American Indian, 0.3% is Asian, and all of the remaining races comprise another 8.2%.

4.4.2 Economic Profile of Mayes County

Mayes County is a rural county located in northeastern Oklahoma. Information from the Regional Economic Information System, Bureau of Economic Analysis indicates that the major sources of income in the county are manufacturing, government employment, retail trade, and farming. Manufacturing and retail business will be affected by the proposed project.

As discussed in Section 4.3, commercial displacements include two (2) convenience stores, one (1) manufacturing facility, one (1) retail facility, and two (2) abandoned

commercial buildings. Based on visual observation, these businesses employ approximately 10 to 30 employees and adequate unoccupied property exists adjacent to these businesses on which they can relocate, if they so choose.

Access to businesses may change during and after construction, but all properties will remain accessible. When construction is completed, permanent signage for retail, commercial, and industrial facilities, as well as places of worship, will be considered in accordance with ODOT signage policy and guidelines.

Short-term construction-related impacts may affect the community as well. Impacts could include occasional traffic congestion on or surrounding SH 28, noise and dust associated with construction activity, and restricted access to homes and businesses. Any access restriction will be short term and coordinated with the property owners to minimize hardships. Mitigation will include temporary signage that directs traveling customers and clients to their destinations. During the construction plan development stage, a detailed traffic control plan will be developed in accordance with ODOT requirements.

Long-term community and economic benefits will likely occur to area residents and businesses as unsafe conditions are eliminated, easing travel in and out of the project area.

4.4.3 Environmental Justice

In February 1994, Executive Order 12898 was issued requiring federal agencies to incorporate consideration of environmental justice into the NEPA evaluation process. The purpose of this order was to ensure that minority and low-income populations and minority-owned businesses did not receive disproportionately high and adverse human health or environmental impacts as a result of federal actions.

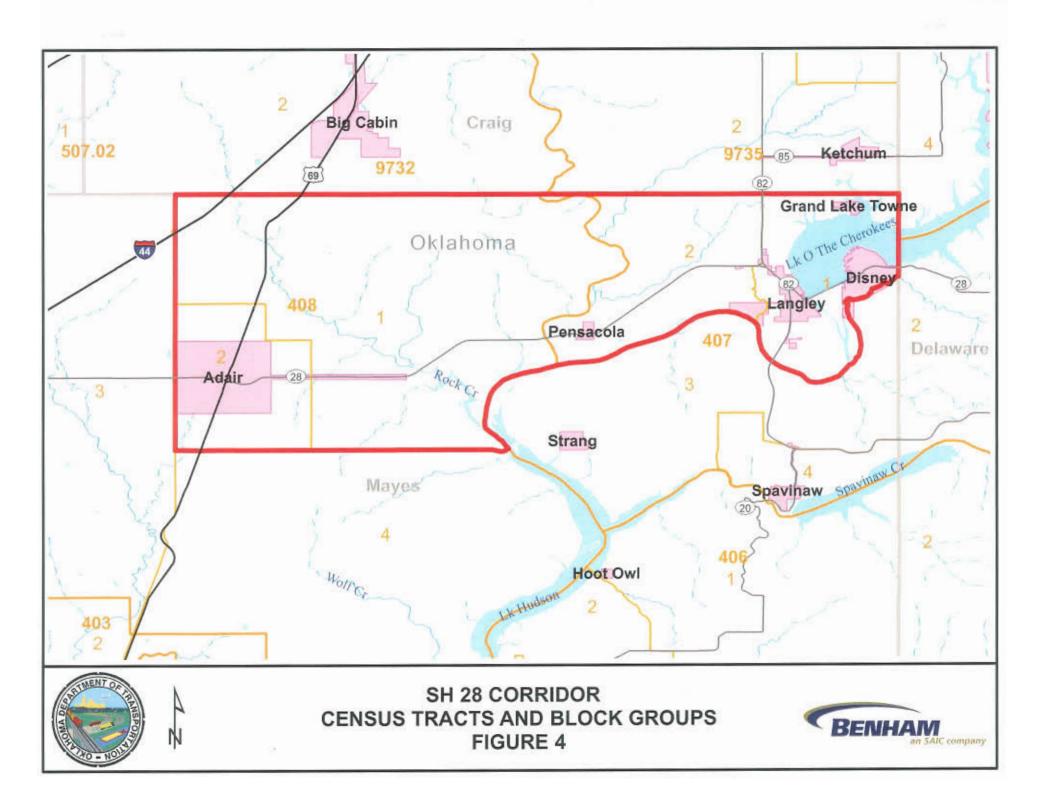
Consideration of Minority Populations

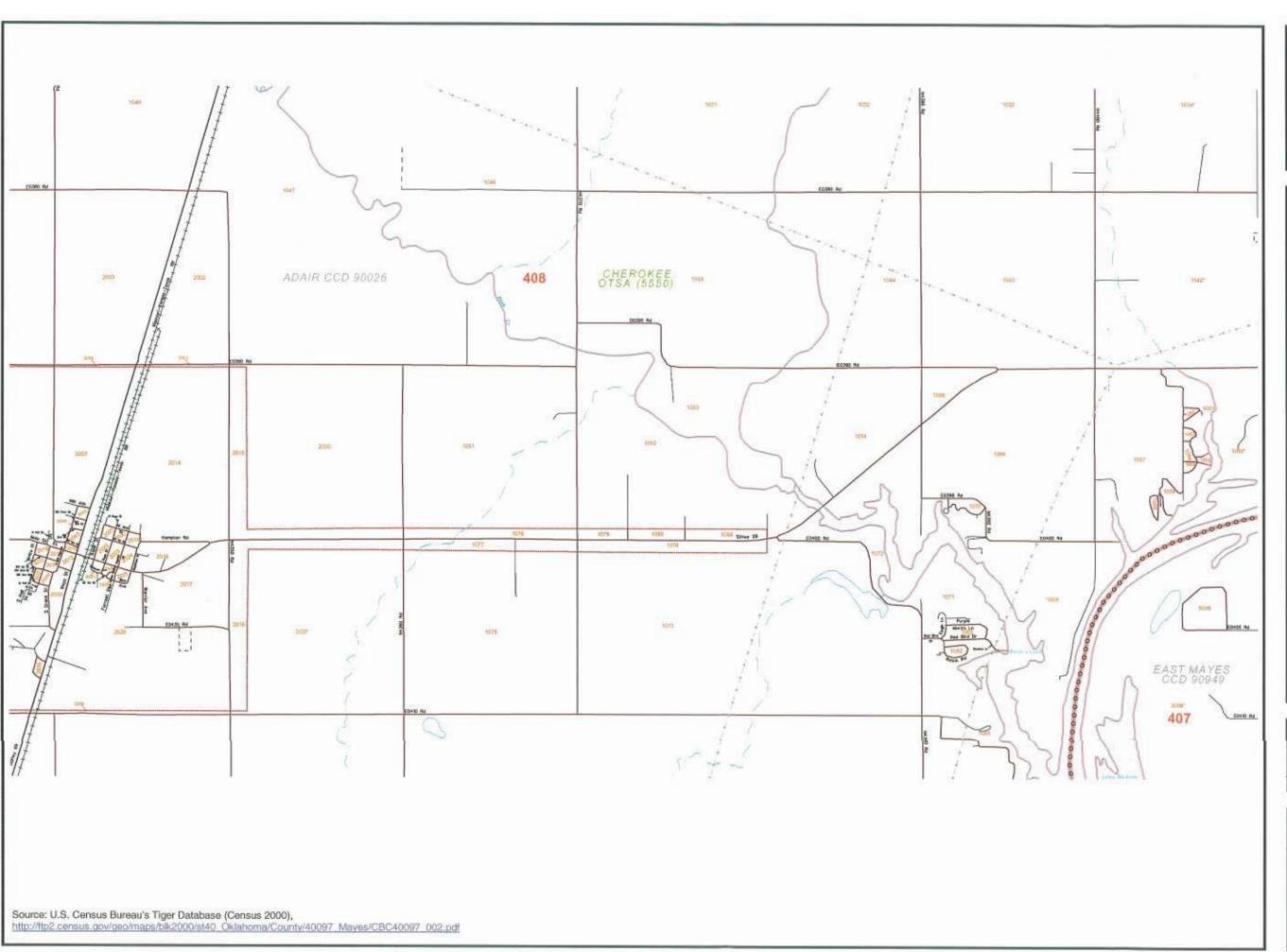
This portion of SH 28 is located in Census Tracts 407 and 408, as indicated in **Figure 4**, and population information is available at the census block level. In all cases, SH 28 is located along a census block boundary, and does not lie within any census block. The census blocks located along this portion of SH 28 are presented in **Figures 5** and **6**. For Segments 1, 4, and 6, in which the Preferred Alternative will be centered about the existing facility with minimal additional right-of-way and no displacements, the population information for the census blocks abutting on both the north and south was considered in an additive fashion. Therefore, population information was added from the following blocks for Segments 1, 4, and 6:

SH 28 Segment	Census Tract	Census Blocks
1	408	2014, 2018, 2022, 2023, 2024, 2025, 2026, 2027, and 2028
4	407	2036, 2041, 2042, 2043, 2044, and 2047
6	407	1035, 1036, 1037, 2008, 2009, 2010, 2011, 2012, and 2015

For Segments 2, 3, and 5, SH 28 will be realigned either to the north or the south. While people on both sides of SH 28 will be temporarily inconvenienced by construction, people residing on the side from which new right-of-way will be taken will be permanently affected. Therefore, it was determined that minority data will be considered from only those census blocks abutting the segment. The following census block data was considered for Segments 2, 3, and 5:

SH 28 Segment	Side of SH 28	Census Tract	nsus Tract Census Blocks	
2	North	408	1076, 1076, 1088, 1089, 2014, 2015, and 2018	
	South	408	1074, 1077, 2016, and 2017	
	North	408	1042, 1043, 1052, 1054, 1055, and 1068	
	Norui	407	2029 and 2045	
3	South	408	1056, 1057, 1061, 1066, 1067, 1069, 1072, and 1073	
		407	2046, 2050, and 2051	
E	North	407	2007, 2008, 2024, 2026, 2027, 2037, and 2038	
5	South	407	2013, 2014, 2022, 2023, 2039, 2040, and 2051	





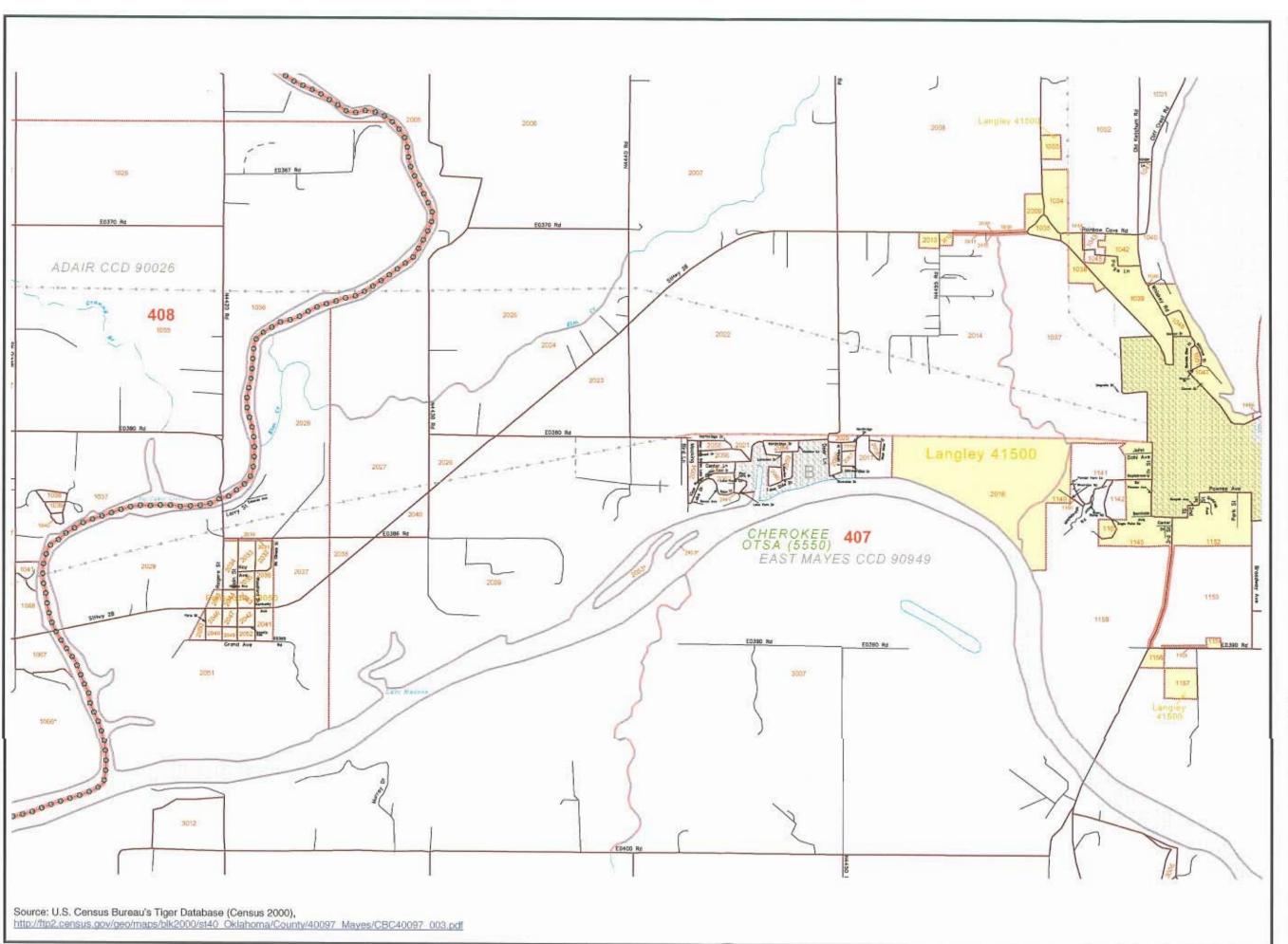


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FIGURE TITLE CENSUS BLOCKS ALONG THE WESTERN END OF THE SH 28 PROJECT AREA DOCUMENT TITLE SH 28 ENVIRONMENTAL ASSESSMENT CLENT ODOT	OF THE SH 28 PROJECT AREA
LOCATION MAYES COUNTY, OKLAHOMA	

DATE	05/04/2010
SCALE	8774
DESIGNED BY	DA
APPROVED BY	DA
DRAWN BY	TS

PROJECT NUMBER
4050700301
FIGURE NUMBER
5
3





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FROURE TITLE CENSUS BLOCKS ALONG THE EASTERN END OF THE SH 28 PROJECT AREA	ODOT	DOCUMENT TITLE SH 28 ENVIRONMENTAL ASSESSMENT
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DATE	05/04/2010
SCALE	ME
DESIGNED BY	DA
APPROVED BY	DA
DRAWNBY	TS

PROJECT NUMBER
4050700301
FIGURE NUMBER
6

The resulting population information for both a north and south alignment in Segments 2, 3, and 5 is presented in **Table 2**. The Preferred Alternative for each segment is the side with the lower minority percentage of population, i.e., the south sides for Segments 2 and 5, and the north side for Segment 3.

TABLE 2: CENSUS BLOCK POPULATION DATA - SEGMENTS 2, 3, AND 5											
SH 28 Segment	Side of SH 28	Total Population	White	Black	American Indian	Asian	Hawaiian	Other	Two or More Races	Total Minority	% Minority
	North	218	145	1	62	0	0	0	10	73	33
2	South	18	16	0	2	0	0	0	0	2	11
3	North	81	71	0	9	0	0	1	0	10	12
3	South	155	120	0	11	0	0	0	19	30	19
5	North	103	84	0	13	0	0	0	10	23	22
5	South	215	180	2	21	0	0	8	4	35	16

The census block population information for the SH 28 Preferred Alternative is presented in **Table 3** by SH 28 segment. The percentage of minorities in all blocks in which the Preferred Alternative lies or abuts has a minority composition of 22%, while the Mayes County minority composition is 28%. Therefore, the minority composition of the population impacted by the project as a whole is less than the minority composition of Mayes County. Further, a review of the locations of the 11 residences to be displaced indicates the following distribution: 3 residences in Segment 2, 5 residences in Segment 3, and 3 residences in Segment 5. None of the displaced residence are located in the SH 28 segments with higher minority percentages than the Mayes County minority percentage of 28%, i.e., Segments 1 and 4. These observations support a conclusion that the project is highly unlikely to result in disproportionately high and adverse impacts to minority populations.

TABLE 3: CENSUS BLOCK POPULATION DATA - PREFERRED ALTERNATIVE										
SH 28 Segment	Total Population	White	Black	American Indian	Asian	Hawaiian	Other	Two or More Races	Total Minority	% Minority
1	283	194	1	74	0	0	0	14	89	31
2	18	16	0	2	0	0	0	0	2	11
3	81	71	0	9	0	0	1	0	10	12
4	44	29	0	8	0	0	0	7	15	34
5	215	180	2	21	0	0	8	4	35	16
6	5	4	0	0	0	0	0	1	1	20
Total	646	494	3	114	0	0	9	26	152	24
Source:	Source: US Census Bureau, 2000.									

Consideration of Low-Income Populations

The 2000 U. S. Census poverty status data was reviewed to evaluate the potential for the SH 28 project to have disproportionately high and adverse impacts to low-income populations. Poverty status data is available at the census block group level. The percentage of households below the poverty level and the median household income in the project area census block groups is shown in **Table 4**.

TABLE 4: HOUSEHOLD POVERTY LEVEL AND MEDIAN HOUSEHOLD INCOME DATA							
Census Tract and Block Group #	% Below Poverty Level	Median Household Income (1999 \$)					
Block Group 1, Census Tract 407	16	\$29,241					
Block Group 2, Census Tract 407	18	\$26,563					
Block Group 1, Census Tract 408	7	\$36,083					
Block Group 2, Census Tract 408	14	\$33,750					

Based upon the 2000 U. S. Census, the percentage of households below poverty level in Mayes County was 14% and the median household income for Mayes County was \$31,125. As indicated by **Table 4**, all of the block groups in the project area have a percentage of households in poverty greater than or equal to the Mayes County percentage of 14%, with the exception of Block Group 1 of Census Tract 408, which has 7% living in poverty. Block Groups 1 and 2 of Census Tract 407 have a lower median household income than the Mayes County median household income of \$31,125. However, the overall effect of a safer and more efficient highway in the project area will be beneficial to all communities and, hence, would not be considered a significantly high or adverse disproportionate impact to low income populations in the area.

4.5 Noise Impacts

A traffic noise assessment was prepared in accordance with ODOT's Highway Noise Abatement Policy Directive C-201-3 (ODOT Noise Policy) and FHWA's Noise Abatement Criteria (NAC) 23 CFR 772. The complete traffic noise assessment report is included in **Appendix E** of the EA. See Appendix A of the noise report for a copy of the ODOT Noise Policy.

The traffic noise analysis consists of a comparison of physically-measured or modeled noise levels for existing conditions, with projected noise levels for future conditions. Traffic data, roadway geometry, and receptor site locations were input into the model to determine existing and future noise levels. A receptor is a location, usually representing one or more dwelling units, where exterior human activity occurs. The chosen receptors are modeled for noise levels and evaluated for noise impacts from the proposed action. ODOT considers an impact when, at a given receptor, future noise levels approach by one decibel on the A-weighted scale (dBA), meet, or exceed the FHWA NAC for its activity category. An impact also occurs when the future noise levels exceed existing noise levels by 15 dBA at a given receptor. Once an impact is identified, then noise abatement is considered for the impacted receivers(s). Only those areas for which mitigation is determined to be feasible and reasonable as defined by the ODOT Noise Policy will be recommended for noise abatement.

Noise sensitive sites were identified within the project area and modeled to determine if noise impacts result from the Preferred Alternative. The noise analysis was performed by using the currently-approved FHWA Traffic Noise Model. A total of 33 residential receivers within the study area were modeled under existing and future conditions. Under current conditions, no receivers approach, meet or exceed 67 dBA L_{eq}(h) for the NAC Category B. Based on proposed SH 28 improvements and the projected traffic growth (design year 2028), ten (10) residential receivers will approach, meet, or exceed the 67 dBA Leq(h) for the NAC Category B. The noise levels of the near receivers are expected to increase an average of 3.4 decibels over current conditions. No receivers will experience a 15-decibel increase in noise levels over current conditions, which is considered to be a substantial increase for noise impact determination.

It is noted that 7 of the 10 residential receivers estimated to experience future noise impacts may be within the proposed right-of-way limits depending upon final design. No preliminary right-of-way plans were available in the preparation of the noise assessment, which would have provided a more accurate number of impacted receivers. As such, these receivers were included in the noise analysis.

The ODOT Noise Policy was used as the traffic noise impact guideline for this assessment. This policy states that predicted noise levels attributed to roadway modifications resulting in increased traffic levels require an evaluation of measured noise impact and possible mitigation measures including alternation of the vertical alignment of the roadway, noise buffers by acquisition of undeveloped land, traffic management, and noise barriers. The impacted receivers that have been identified have direct access onto SH 28. In considering noise mitigation, implementing control measures such as a noise wall would impede driveway access, and maintaining this access would render a noise wall ineffective. Therefore, noise mitigation is not recommended for this project, primarily due to the isolated nature of the receptors and property access requirements.

ODOT will conduct further evaluation of the noise assessment during the final design stage of the SH 28 project development to determine the actual future impacts that would

ultimately be involved. In addition, ODOT will coordinate with local officials regarding noise compatible land use planning for this corridor.

4.6 Biological Evaluation

A biological field review was performed for the referenced project (see **Appendix F**). ODOT has determined that the project, as proposed, will have no effect on the federally-listed Arkansas Darter. The project, as proposed, is unlikely to adversely affect the Gray Bat, Interior Least Tern, Ozark Cavefish, and Piping Plover. The United States Fish and Wildlife Service (USFWS) has concurred with ODOT's findings, provided that surveys for the Gray Bat, Interior Least Tern, and Piping Plover are performed within a year prior to start of any construction, and that best management practices for karst features are implemented during construction. The project, as proposed, is likely to adversely affect the American Burying Beetle (ABB). This project has been incorporated into a programmatic biological assessment for the ABB, and the USFWS has concurred with ODOT's effects determination based on ODOT's and FHWA's implementation of the USFWS July 17, 2008 biological opinion. Prior to right-of-way submittal, plan notes for mitigation of karst features, Gray Bat, Interior Least Tern, and Piping Plover will be added to the project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2).

In addition, to accommodate USFWS's concerns over impacts of the proposed construction on riparian zones, the right-of-way for the proposed project will be minimized as much as reasonably consistent with the needs of public mobility and safety to accommodate the design of the project to meet current design standards and accommodate any utility relocations.

USFWS has noted the project could potentially affect species protected by the Migratory Bird Treaty Act (MBTA). To the extent determined appropriate and biologically sound by ODOT biologists, ODOT will consider appropriate measures to minimize such impacts on this project. ODOT and FHWA are also committed to development of a programmatic understanding with USFWS which balances broad consideration of the MBTA with the needs of transportation improvement in Oklahoma.

4.7 Waters and Wetland Impacts

The Clean Water Act of 1972 (CWA) gives the U.S. Army Corps of Engineers (USACE) authority over activities involving Waters of the United States, which includes jurisdictional wetlands and other special aquatic sites. Further, Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States. A field survey was conducted to identify potential jurisdictional wetlands and waterways, per the protocols outlined in the *US Army Corps of Engineers (USACE) Wetlands Delineation Manual*. A copy of the wetlands finding report is contained in **Appendix F**. The project may involve work in Rock Creek, Big Cabin Creek, 28 other drainages, and 33 ponds exhibiting the characteristics of a jurisdictional waterway, and 38 potentially jurisdictional emergent and forested wetlands. When plans are finalized such that the linear extent and volume of dredge and/or fill operations below the ordinary high water mark of the channel may be determined, the proposed construction activities will be evaluated to ensure that the appropriate CWA Section 404 permit application is made.

4.8 Floodplain Issues

Elevations which have a 1% chance of flooding in any given year are called 100-year floodplains. Protection of floodplains and floodways is mandated by Executive Order 11988 Floodplain Management and is implemented under 23 CFR 650, Subpart A. The intent of these regulations is to avoid or minimize highway encroachments within the 100-year floodplain, where practicable, and to avoid supporting land use development that is incompatible with floodplain values.

The project does fall within the 100-year floodplain as shown in Flood Insurance Rate Maps 40097C0135D, 145D, 155D, 160D, 165D, 180D, and 181D, dated September 26, 2003 (see **Appendix G**). All work in the floodplain will conform to applicable State or local floodplain protection standards.

4.9 Cultural Resources

A cultural resources study has been conducted by ODOT and accepted by the Oklahoma Archeological Survey in consultation with the Oklahoma State Historic Preservation Office (SHPO) and appropriate Native American Tribes. This action involves a determination of no adverse effect by the SHPO. One (1) property (i.e., the residence at 102 Warrior Road, Adair) eligible for the National Register of Historic Places (NRHP) was identified within the project study area. See **Appendix H**. Although the project is not expected to impact this property, further coordination with the SHPO is required prior to the bid solicitation process or construction. Further, prior to right-of-way submittal, plan notes requiring avoidance of cultural resources in off-project areas will be added to the project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2).

4.10 Hazardous Waste/Petroleum Issues

An Initial Site Assessment (ISA) for hazardous waste impacts was conducted in June 2008 to evaluate the potential for historic releases of hazardous substances into the ground, groundwater, or surface water within the vicinity of the proposed project. The ISA consisted of a database search for known environmental issues as reported by Federal, State and/or local regulatory agencies, and a field review of the project area. **Appendix I** contains the *SH28 ISA Report*. The ISA indicated several sites with potentially hazardous materials and/or leaking underground storage tanks to be located within the SH 28 study area with the potential to be impacted from historical activities. These sites are summarized by SH 28 segment in **Table 5**.

The Preferred Alternative was selected so as to minimize the potential for exposure to impacted sites. However, if any of these sites will be involved in ROW acquisition, utility relocations, or construction activities, ODOT will determine if further investigation is necessary.

Table 5: Sites with Potential for Impacts from Historic Activities							
Segment	Concern	# of Sites and Location					
	Potential UST/AST	1 South; 1 North					
1	Documented UST	1 South					
	Documented AST	1 North					
2	Documented UST	1 South					
	Chemical Usage Potential	2 North					
3	Chemical Usage Potential	2 South					
	Documented AST	1 North					
4	Chemical Usage Potential	1 South					
	Potential UST/AST	1 South					
	Potential UST/AST	1 South					
5	Documented UST	1 South					
6	Documented UST	1 North					

4.11 Effects on Public Parks, Wildlife and Waterfowl Refuges, and Historic Sites

Section 4(f) of the Department of Transportation Act of 1966 requires special consideration if land from any publicly owned park, wildlife or waterfowl refuge, recreation area or significant historic site is to be used in federally-funded transportation projects. One (1) property (i.e., the residence at 102 Warrior Road, Adair) eligible for the NRHP was identified within the project study area. Based on preliminary engineering, the project is not expected to impact this property. Therefore, no Section 4(f) properties will be affected by the proposed improvements to SH 28. No properties purchased, acquired, or enhanced using Land and Water Conservation Funds were identified within or immediately adjacent to the study area.

4.12 Airport Impacts

The action may require notifying the Federal Aviation Administration (FAA) of proposed construction via FAA Form 7460-1 prior to construction, in accordance with 14 CFR 77.13-77.17, due to the presence of Grandcraft Landing Strip Airport in Langley, located within four (4) miles of the project location.

5.0 COMMENTS AND COORDINATION

5.1 Solicitation Letters

On May 12, 2008, a scoping letter soliciting comments relating to the social, economic, and environmental effects of this project was mailed to 70 local, county, state, and federal agencies, organizations, and individuals. A copy of this letter and its recipients is provided in **Appendix J**. Fourteen (14) replies were received and are also attached in **Appendix J**. The following summarizes the responses received from the scoping letters:

<u>Comment</u>: The Oklahoma Tourism & Recreation Department provided a list of projects in Mayes County that have utilized federal funds under the Land and Water Conservation Fund program.

Response: None of the projects are located within the Project Area.

<u>Comment</u>: The State Historic Preservation Office (SHPO) requested documentation of any structures to be affected by the project.

Response: A cultural resources survey was performed by ODOT. ODOT determined that one historical property (i.e., the residence at 102 Warrior Road, Adair) is located within the project area, and SHPO concurred with ODOT's determination during the Section 106 process. Please see **Appendix H** for associated documentation.

Comment: The United States Coast Guard responded that a Coast Guard bridge permit is not required for this project.

Response: This comment is noted.

Comment: The Oklahoma Conservation Commission (OCC) expressed concerns that wetlands and riparian areas may be disturbed during the project, and recommended that impacts to these resources be avoided or minimized. The OCC also suggested contacting the United States Army Corps of Engineers for a wetlands determination.

Response: A wetlands determination was conducted for the project. Please see Section 4.8 for discussion of the resulting document, and **Appendix F** for associated documentation.

<u>Comment</u>: The Bureau of Land Management, New Mexico State Office, responded that they own mineral estate in a portion of the project area, and that they have mineral responsibilities for land held by other surface managing agencies.

Response: This comment is noted.

<u>Comment</u>: The Bureau of Land Management, Oklahoma Field Office, responded that no BLM interested would be affected by the proposed action.

Response: This comment is noted.

<u>Comment</u>: The National Park Service responded that no parks would be affected by the proposed action.

Response: This comment is noted.

<u>Comment</u>: The Oklahoma Archeological Survey responded that an archaeological field inspection is necessary prior to project construction.

Response: A cultural resources survey was performed by ODOT and accepted by the Oklahoma State Archaeologist in consultation with the State Historic Preservation Officer. Associated documentation is included in **Appendix H**. The project, as proposed, will have no impact to archeological resources.

<u>Comment</u>: Representative Doug Cox responded that he is in favor of the proposed project, and believes that the project is likely to enhance tourism access to the area and, therefore, be of an economic benefit to the area.

Response: This comment is noted.

Comment: The United Keetoowah Band of Cherokees had no objection to the proposed project. However, if any remains, artifacts, or other items are inadvertently discovered, construction is to cease immediately and the Band is to be contacted.

Response: In compliance with ODOT policy should remains or artifacts be discovered during construction, construction in the area will cease until permission to proceed is received from ODOT's Archeologist. ODOT's Archeologist will determine parties that may need to be contacted.

<u>Comment</u>: The Oklahoma Department of Wildlife Conservation (ODWC) stated that the Arkansas Darter, a federal candidate species and a state Species of Special Concern Category II (SS2), is known to occur in the Grand River System in Mayes County. The ODWC also provided a list of suggested measures to reduce the impact of highway construction on local wildlife populations through alteration or loss of habitat.

Response: A habitat assessment was conducted and determined that habitat for the American Burying Beetle, Gray Bat, Interior Least Tern, Ozark Cavefish, and Piping Plover is located within the Project Area. The USFWS determined that the Arkansas Darter was not anticipated in the Project Area. Section 4.7 discusses the actions to minimize impacts to wildlife and their habitat, and Appendix F contains associated documentation.

<u>Comment</u>: The Federal Aviation Administration responded that the project will have no adverse impacts to the nearest public-use airport or airspace.

Response: Comment is noted.

<u>Comment</u>: The United States Army Corps of Engineers requested that finalized plans be submitted for their review of the project impacts to tributary crossings in the Project Area.

<u>Response</u>: When final design is complete, an appropriate Section 404 permit package will be submitted for review.

<u>Comment</u>: The Oklahoma Aeronautics Commission responded that no significant impacts to the flying public are anticipated. However, if any structure constructed in this

project exceeds 200 feet in height, a Form 7460-1 will need to be completed and submitted.

Response: Comment is noted.

5.2 Public Meeting

A public meeting was held at the Pensacola Community Center on August 12, 2008. The purpose of the meeting was to solicit public input on the proposed project. The meeting attendance roster was signed by 135 people. A total of 25 written comments were received and are included in **Appendix K**, along with the minutes of the public meeting.

6.0 SUMMARY OF ENVIRONMENTAL COMMITMENTS

- Further evaluation of the noise assessment will be conducted during the final design phase.
- The USFWS has concurred with the ODOT Biologist's determination of the presence of the following Federally-listed endangered, threatened, or protected species in this project:
 - American Burying Beetle, Arkansas Darter, Gray Bat, Interior Least Tern,
 Ozark Cavefish, Piping Plover

Surveys for the Gray Bat, Interior Least Tern, and Piping Plover will be performed within a year prior to the start of any construction. Prior to right-of-way submittal, plan notes for surveys for the Gray Bat, Interior Least Tern, and Piping Plover will be added to the project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). In addition, best management practices for karst features will be added to the project plans.

- The project may involve work in Rock Creek, Big Cabin Creek, 28 other drainages, and 33 ponds exhibiting the characteristics of a jurisdictional waterway, as well as 38 potentially jurisdictional emergent and forested wetlands. When plans are finalized such that the linear extent and volume of dredge and/or fill operations below the ordinary high water mark of the channel may be determined, the proposed construction activities will be evaluated to ensure that the appropriate CWA Section 404 permit application is made.
- The project does fall within the 100-year floodplain as shown in Flood Insurance Rate Maps 40097C0135D, 145D, 155D, 160D, 165D, 180D, and 181D, dated September 26, 2003 (see **Appendix G**). All work in the floodplain will conform to applicable State or local floodplain protection standards.
- One (1) property (i.e., the residence at 102 Warrior Road, Adair) eligible for the NRHP was identified within the project study area. Further coordination with the SHPO is required prior to right-of-way submittal, bid solicitation process, or

construction related to the section of SH 28 adjacent to the NRHP property. The SHPO file #00862-10 shall be referenced in all related correspondence.

- There are potentially significant historical/archeological sites within the general vicinity of the project. Prior to right-of-way submittal, plan notes requiring avoidance of cultural resources in off-project areas will be added to project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2).
- ODOT's Hazardous Coordinator has determined that the notes identified in the memo dated March 25, 2009 should be added to the plans.
- The action may require notifying the FAA of proposed construction via FAA Form 7460-1 prior to construction, in accordance with 14 CFR 77.13-77.17, due to the presence of Grandcraft Landing Strip Airport in Langley, located within four (4) miles of the project location.

7.0 LIST OF PREPARERS

Diane Abernathy, P.E. – The Benham Companies, LLC, 3700 West Robinson, Suite 200, Norman, Oklahoma. Senior Project Manager. M.S. Environmental Health – University of Oklahoma Health Sciences Center. B.S. Chemical Engineering – University of Oklahoma. 20 years of experience (project management, engineering, NEPA report preparation and data collection)

Robert Bartlett - Oklahoma Department of Transportation, 111 E. Chesapeake, Norman, Oklahoma. Director, Cultural Resources Program. M.A. Anthropology – University of Oklahoma. 16 years of experience (Section 106, cultural resources studies, Section 4(f) analysis, NEPA report preparation, and document review)

Renee' Ellis - The Benham Companies, LLC, 3700 West Robinson, Suite 200, Norman, Oklahoma. Environmental Professional. B.S. Biology – West Virginia State College. 12 years of experience (wetlands, biological field studies, noise modeling and assessment, NEPA report preparation)

Terry McFall - The Benham Companies, LLC, 3700 West Robinson, Suite 200, Norman, Oklahoma. Environmental Professional. B.S. Computer Science/Math - University of Central Oklahoma. 50 years of experience (management, planning, public involvement, NEPA quality control)

APPENDICES

APPENDIX A SH 28 COLLISION DATA



Program Provided by:

Traffic Engineering Division Collision Analysis and Safety Branch

(405) 522-0985

Created: 07/22/2009 by Ginger Miller

Collision Rate Analysis

SH-28 FROM US-69 IN PRYOR, EXTENDING E. TO SH-82 N. IN LANGLEY, MAYES COUNTY

07-01-2004 to 06-30-2009 Time Period:

Rates per 100 Million Vehicle Miles

Rate Type	Location Rates *	Statewide	Rates **
		Non-Int.	Total
Overall Collision:	82.5	65.31	86.29
Fatal Collision:	1.6	2.66	3.15
Injury Collision:	32.9	31.20	41.47
			F 61

^{*} Compare Location Rates to Statewide Total Rates

Collision History Summary (Number of Years = 5)

# Collisions		#Pe	ople
Involving Fatality:	2	Killed:	2
Involving Injury:	41	Injured:	71
Property Damage Only:	60		
TOTAL:	103		

Road Characteristics

		700000	2227 2011177102
	Roadway Length (miles):		12.99
	Roadway width (feet):		24
	Avg. Daily Traffic (Veh/Day):		5265
	Number of Lanes *:		TWO-LANES
	Access Control *:		NONE
	Urban Area Type *:		RURAL
ari	Rural or Municipal *:		RURAL
	Median Type *:		UNDIVIDED
	Median Width (feet):		0

^{*} Predominate value.

100,000,000 VEHICLE MILES x NO. OF COLLISIONS RATE = 365 DAYS x ADT x LENGTH x NO. OF YEARS

^{**} Statewide rates are computed based on similiar roadways pertaining to number of lanes, divided or undivided, rural or urban, and access control.



QUERY CRITERIA RAN 07-01-2004 Thru 06-30-2009 SH-28 FROM US-69 IN PRYOR, EXTENDING E. TO SH-82 N. IN LANGLEY, MAYES COUNTY

\$50(2 min

Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

Query Number	Query on	Query By	Range	Date Range
1	County: 49-MAYES	Control Section: 16 - SH-28	00.00-MAYS to	07-01-2004 to 06-30-2009
	54時之前起	The Court of the C	12.99-(NORTH)LANGLEY TEE	

FILTER DATA BY:		
Severity	All Selected	
Special Feature	All Selected	
Unsafe Unlawful	All Selected	
Type of Collision	All Selected	
Harmful Event for Collision	All Selected	
Roadway Departure	All Selected	
ROADWAY CRITERIA:		
Average Daily Traffic	All Selected	
National Functional Class	All Selected	
Number of Lanes	All Selected	
Access Control	All Selected	
Median Type	All Selected	
Median Width	All Selected	of Others
Outer Shoulder Type	All Selected	158' Hill -15881h
Outer Shoulder Width	All Selected	1887 197 1981
Traffic Control	All Selected	THE PERSON NAMED IN COLUMN
		1500 1500 may 150
Intersection Related Only	Unchecked	- Th
Terminal Locations Only Within Interchanges	Unchecked	2484
CMV Collisions Only	Unchecked	

UNIT CRITERIA:	P/76/04-
Unit Type	All Selected
Vehicle Type	All Selected
Vehicle Cond	All Selected
Vehicle Action	All Selected
Direction of Travel_1	All Selected
Direction of Travel_2	All Selected
	TOTAL AND
PERSON CRITERIA:	H
Restraint Used	All Selected
Person Conditions	All Selected
Age	All Selected
Sex	All Selected
ENVIROMENT CRITERIA:	
Manner of Coll.	All Selected
Agency	All Selected
Road Conditions	All Selected
Light	All Selected
Weather	All Selected
Relation Junction	All Selected
Hour	All Selected

Abernathy, Jeanna D.

From:

Abernathy, Jeanna D.

Sent:

Wednesday, July 22, 2009 2:31 PM

To:

'LEffinger@ODOT.ORG'

Subject: RE: Draft SH 28 EA, Displacements and Enviro Justice Sections

Oh good-glad you're sticking with this one to the end!

As soon as I get some collision data from Ginger, I'll forward you the purpose & need section. Hopefully in about a week!

Di

From: LEffinger@ODOT.ORG [mailto:LEffinger@ODOT.ORG]

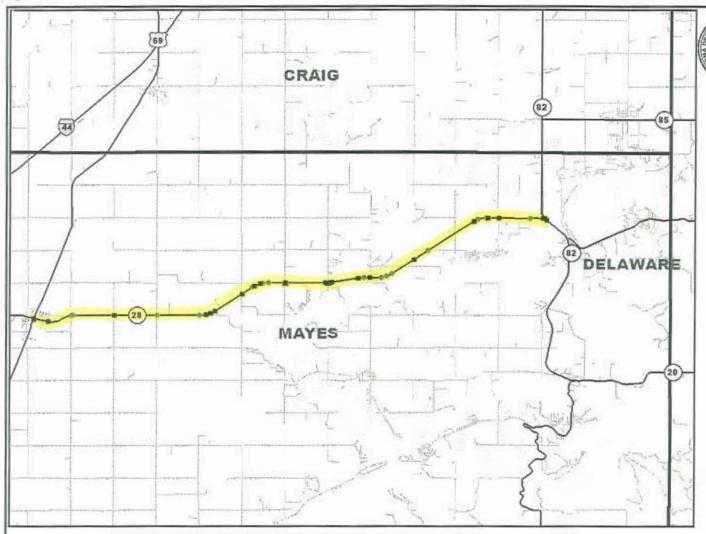
Sent: Wednesday, July 22, 2009 1:35 PM

To: Abernathy, Jeanna D.

Subject: Fw: Draft SH 28 EA, Displacements and Enviro Justice Sections

Hi, You're not rid of me yet! Siv sent me your draft R/W relocation report. She asked that I see if you have a purpose and need statement written yet so that I could send it along with your report to FHWA for their review. I checked with Caleb A. to see if he was far enough along to discuss the R/W impact to the popular 'old' church in Adair. He didn't have anything for us but I emphasized that when he gets started please try to avoid the church. Laurie

Laurie Effinger, Environmental Project Manager Environmental Programs Division Oklahoma Dept. of Transportation 200 N.E. 21st, Oklahoma City, OK 73105 office: 405-521-2535 fax: 405-522-5193



Program Traffic Collisio

Program Provided by:

Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985

Created: 07/22/2009 by Ginger Miller

Collision Analysis

Legend

- Fatality
- Injury
- Property Damage



Remarks:

SH-28 FROM US-69 IN PRYOR, EXTENDING E. TO SH-82 N. IN LANGLEY, MAYES COUNTY

Date Range: 07-01-2004 thru 06-30-2009

											OIIISIO	n Seve	erity											
		20	004	100	Ford	20	005	- SUST 15		20	006	annan.		20	007			20	*80			20	09*	
4.77.222222	Fat	Inj	PD	Tot	Fat	Inj	PD	Tot	Fat	Inj	PD	Tot	Fat	Inj	PD	Tot	Fat	Inj	PD	Tot	Fat	Inj	PD	To
Collisions	- 24	8	7	15	1	6	11	18	1	8	11	20		8	16	24	1111111	7	12	19	- 11111	4	3	7
Persons		19		19	1	10	Distance of	11	1	14		15		15		15		9		9		4		4

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

	Study Total									
	Fatal	Injury	Property Damage	Total						
Collisions	2	41	60	103						
Persons	2	71		73						

TOTALS REFLECT HIGHWAY COLLISIONS ONLY.



Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

Collisions By Type Of Collision

Torse Of Callinian	KINDSHIP .	20	04	2511451	Protection .	20	05				006			2	007			20	*80	
Type Of Collision	Fat	Inj	PD	Tot	Fat	Inj	PD	Tot	Fat	lnj	PD	Tot	Fat	Inj	PD	Tot	Fat	Inj	PD	Tot
Rear-End (front-to-rear)		3	2	5	-	2	2	4	BHILL	1	2	3		1	1	1	-	1.7 (6.1)		
Head-On (front-to-front)			_	Liniting	Dir.	1227	diff.	1250		dH1=1	1 1	2								
Right Angle		1	1	2		475	1200	100	(E)	E211	姚 等	Rigger			1	1		1		1
Angle Turning		2	4	6	1	3	5	9	17-11	2	3	5	31130	m. 1	4	5		2	5	7
Other Angle									1514 Ta	1	No.	111	Sir	700	d331	_1_				
Sideswipe Same Direction										THE	1	1 1	J. J	-/11	H	ristin.				
Sideswipe Opposite Direction		1	E	1								512	班里	1	(MET 1/22)	111	1200	150-00		
Fixed Object		1		. 1		1	1	2	1	2	2	5	87 3	16. 1	3	3	1	2	2	4
Pedestrian						7-	-				15			1111	111		.37	17	111/1115	111 2
Pedal Cycle			-												740	THE STATE OF THE S	125		Sim.	35
Animal							1	1		1		1			2	2	5117	- 1	1	1 1/10
Overturn/Rollover							1	1	7.	1	1	2		2	4	6	-47	2	4	6
Vehicle-Train											1	1							SHIELD.	HI.
Other Single Vehicle Crash							1	1	1	1	UE.			1		1				10000
Other														1	1	2				
Total	3	8	7	15	1	6	11	18	1	8	11	20		8	16	24		7	12	19
Percent		7.8	6.8	14.6	1.0	5.8	10.7	17.5	1.0	7.8	10.7	19.4		7.8	15.5	23.3		6.8	11.7	18.4

Collisions By Type Of Collision

T 010	Comar		09°	7 001113	F		Total	## £	
Type Of Collision	Fat	Inj	PD	Tot	Fat	Inj H	PD /	Tot	Pct
Rear-End (front-to-rear)		1	1	2		8	7.	15	14.6
Head-On (front-to-front)						1	1	2	1.9
Right Angle						2	2	4	3.9
Angle Turning					1	10	21	32	31.1
Other Angle							1	1	1.0
Sideswipe Same Direction						1	1	2	1.9
Sideswipe Opposite Direction						2		2	1.9
Fixed Object		1	1	2	1	7	9	17	16.5
Pedestrian									
Pedal Cycle							-		
Animal			1	1		1	5	6	5.8
Overturn/Rollover		2		2		7	10	17	16.5
Vehicle-Train							1	1	1.0
Other Single Vehicle Crash						1	1	2	1.9
Other						1	1	2	1.9
Total		4	3	7	2	41	60	103	100
Percent		3.9	2.9	6.8	1.9	39.8	58.3	100	





Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

Units By Unit Type

Helt Tons	Comment of the Commen	20	004		¥21	20	005	Julius.	ilita:	20	06	1700-		20	007			20	*800	COLOR TO
Unit Type	Fat	Inj	PD	Tot	Fat	lnj	PD	Tot	Fat	- Inj	PD	Tot	Fat	lnj	PD	Tot	Fat	Inj	PD	Tot
Train							7332	A STATE OF THE PARTY OF THE PAR		. 7900	. 1	## 1	TEME	itti.				(9)		
Pedestrian								1.44175	TOTAL S	i i		127	1111	1197	2011					
Animal						-	1	1		1	0	1	102240112	200457	2	2	12		1	- 1
Pedal Cycle									4		12	#	HE T	D	15 45	12	1 神道	District		
Parked Vehicle		-										1	170	11 1	FHE	1	185	23 -167	GINE CO	i
CMV						1	3	4		1	4	5		1550.1 /H	2	3	1 55	1 1	111 1	2
Other Single Vehicle		1		1		1	4	5	1	4	2	7		3	9	12	10:0	3	7	10
Other Multi-Vehicle		16	14	30	2	10	11	23		7	13	20		8	12	20	123	6	9	15
Total		17	14	31	2	12	19	33	1	13	20	34		13	25	38		10	18	28
Percent		9.9	8.1	18.0	1.2	7.0	11.0	19.2	0.6	7.6	11.6	19.8	()	7.6	14.5	22.1		5.8	10.5	16.3

Units By Unit Type

Unit Toma			009*	1111	Total							
Unit Type	Fat	Inj	PD	Tot	Fat	Inj	PD	Tot	Pct			
Train		Per la	100		1771 552		1	55.1	0.6			
Pedestrian			ditteles	1000	181:			进行 点	Hiller			
Animal		4	1	111	-191	1	5	6	3.5			
Pedal Cycle					55542	- 1		17	ditta.			
Parked Vehicle						1	Children.	155	0.6			
CMV		7				4	10	14	8.1			
Other Single Vehicle		2		2	1	11	14	26	15.1			
Other Multi-Vehicle		1	4	5	2	51	71	124	72.1			
Total		3	5	8	3	68	101	172	100			
Percent		1.7	2.9	4.7	1.7	39.5	58.7	100				





Percent

TABULATION OF COLLISIONS 07-01-2004 Thru 06-30-2009 SH-28 FROM US-69 IN PRYOR, EXTENDING E. TO SH-82 N. IN LANGLEY, MAYES COUNTY

Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

Vehicles By Vehicle Type 2006 2007 2008* 2004 Vehicle Type Ini PD Ini PD Fat Inj PD Tot Fat Inj. PD Tot Fat Ini PD Tot Fat Tot Fat Tot 4 Passenger Vehicle-2 Door 4 1 3 4 Passenger Vehicle-4 Door 5 7 14 10 17 3 5 8 4 8 13 7 20 2 6 4 1 Passenger Vehicle-Convertible 10 3 10 3 8 Pickup Truck 6 10 6 7 13 5 5 7 5 4 Single-Unit Truck (2 axles) Single-Unit Truck (3 or more axles) 1 1 School Bus Truck/Trailer Truck-Tractor (bobtail) 1 2 3 1.5 Truck-Tractor/Semi-Trailer 1 3 4 1 4 5 -1 Truck-Tractor/Double Truck-Tractor/Triple Bus/Large Van (9-15 seats) Bus (16+ seats) Motorcycle 1 1 Motor Scooter/Moped Motor Home Farm Machinery 4 3 7 1 3 4 Sport Utility Vehicle (SUV) Passenger Van 1 1 2 1 1 Truck More Than 10,000 lbs. Van (10.000 lbs. or less) Other 1.1 17 14 31 2 12 18 32 1 12 19 32 13 23 36 10 17 27 Total 10.3 8.5 18.8 1.2 7.3 10.9 19.4 0.6 7.3 11.5 19.4 7.9 13.9 21.8 6.1 10.3 16.4



TABULATION OF COLLISIONS 07-01-2004 Thru 06-30-2009

SH-28 FROM US-69 IN PRYOR, EXTENDING E. TO SH-82 N. IN LANGLEY, MAYES COUNTY

Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

Fife	Veh	icles B	y Vehic	le Type	Mildle .				
Vehicle Type	Fat	Ini	09*	Tot	Fat	Inj	Total	Tot	Pct
Passenger Vehicle-2 Door	rat		1	2	rat	2	8	10	6.1
Control of the Contro			da-1	1000 P	3	31	33	67	40.6
Passenger Vehicle-4 Door			-	- 110000	3	1000	41.000	1955933	- Commercial Commercia
Passenger Vehicle-Convertible				-		-1111	315	1000	****
Pickup Truck		1		1		22	30	52	31.5
Single-Unit Truck (2 axles)							1	- capital	0.6
Single-Unit Truck (3 or more axles)						1		1	0.6
School Bus									
Truck/Trailer								1	
Truck-Tractor (bobtail)						7		居三	
Truck-Tractor/Semi-Trailer						3	10	13	7.9
Truck-Tractor/Double	=4.								
Truck-Tractor/Triple									
Bus/Large Van (9-15 seats)									
Bus (16+ seats)								1	
Motorcycle						_ 1		1	0.6
Motor Scooter/Moped									
Motor Home			. 173	ile-					
Farm Machinery			45	7555	+1500m		b = ==		
ATV				dif t	BETH				
Sport Utility Vehicle (SUV)		1	3	4	197 (197)	6	9	15	9.1
Passenger Van			1500000	100000000000000000000000000000000000000	7632	1	2	3	1.8
Truck More Than 10,000 lbs.			41039	₩ ₩	1773	- 1	(E	HF II	F T
Van (10,000 lbs. or less)				*1	Marin,	701	3 4	B. A	133/2
Other	- 1						2	2	1.2
Total		3	4	7	3	67	95	165	100
Percent		1.8	2.4	4.2	1.8	40.6	57.6	100	1147224





Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985

Created: 07/22/2009 by Ginger Miller

Day And Time Of Occurrence Of Collisions

1000								444	- 1	SPP 4	250	Hour Of	The Day	y	773) 0	110			ev -							
Day	-	2-10EG	u - 5/2-1	A 15 1-0	100	A	.M	TO THE REAL PROPERTY.		777	1111	AEE TO	CERT.	illi.	TILE O	411110165	120	P	M					7.7.	0.000	
	1	2	3	4	5	6	7	- 8	9	10	111	12	1	2	3	4	5	6	7	8	9	10	11	12	Tot	Pont
Sunday		1		1		1				1	1	2	n 199	100	B	1111	2	3	1				1		15	14.6
Monday						2	1	1	3	1		1	e T	Tec. 1-27	1	2	1916		1567	3	Che,		-		16	15.5
Tuesday						1					1	2	1	11222	2	1	2	2	335	ALC:	104/1	ilimo.			12	11.7
Wednesday									1	1	-			ÿ Ŀ	1	1	Sir	2	12127	2	1922	720	High	and the same	8	7.8
Thursday							1	2	1		2			1	3		7	THE	483	13.15		3111	1	133	12	11.7
Friday							3	1					1	1	3		1	1	(112)	Who.	3	1	100	in in the second	15	14.6
Saturday		3	1					1	2	1	1	1			3	1	1	6	2	1	12	1000	127	1994	25	24.3
		Early	y Morni	ng - Sui	nrise		Mo	rning P	eak		Mic	Mornin	g/Aftern	oon			PM Pea	k		Ε١	ening -	Late Ni	ght		Tot	100
Total			- 1	0				17				3	3	177			27					16		(Single)	103	2.5
Percent			9.	.7				16.5				32	2.0				26.2				- 1	5.5		214777	100	(E)

Roadway/Lighting

HIS CONTRACTOR OF THE			ghting Condition	ons		300509	select select
Roadway Conditions	Daylight	Darkness	Twilight	Lighted	Unknown	Total	Percent
Dry	1	- AU 911	41111000	25		1	1.0
Wet (Water)	55	18	3	rs2	E.,	78	75.7
Ice, Snow, or Slush	7	6	2	HEY E	di-	15	14.6
Mud, Dirt, Gravel, or Sand	7	THE PART OF	in In	/EEE /EE	diffillia.	8	7.8
Other	1		The dist	.HF (H)	Tip, Til	.entima.	1.0
Total	71	24	6	2	44614	103	100
Percent	68.9	23.3	5.8	1.9	1011	100	

Weather Conditions

Total	Percent
48	46.6
36	35.0
12	11.7
7	6.8
103	100
	48 36 12 7



Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

Drivers By Driver Conditions

	Anna	rently N	lormal		NE !	Alcohol	Involve	d f	7	Class	p Suspe	natad	Drug	Use Inc	lleated	Unkar	own Cor	ndition		Calli	sion Se	arnelly.	
Unsafe/Unlawful	Appa	renuy r	tormai	Abil	ity Impa	aired	Od	or Dete	cted	Siee	p Suspe	cteu	Drug	use inc	ncateu	Ulikin	JWII COI	naition		Com	S1011 36	verity	
	Fat	Inj	P-D	Fat	Inj	P-D	Fat	inj	P-D	Fat	Inj	P-D	Fat	Inj	P-D	Fat	Inj	P-D	Fat	Inj	P-D	Total	Pent
Falled to Yield		9	4					TEET	1939	(355)	- All	7777	DO.	33	PARK	loni		V		9	4	13	7.9
Failed to Stop		1	2					1	- Unit	-7117(8)	ilion.	Tillo	William.	111	1	13140	81	1		3	3	6	3.7
Failed to Signal											443559	THE.	0.222	1233	i	10/	H0 :	127	e change	1			
Improper Turn			5									-115	ELF.	JIEF.	- 6	7980	977 H	10	BP TO	h itte	5	5	3.0
Improper Start					,								-	44	- 31	THE		F. 31F	- 4	100	Hillist	1-20	
Improper Stop			1													121	1 20	276			1111	1511	0.6
Improper Backing																	C 401	1711	. ifti	1	137	9327	
Improper Parking					1 ==													793	STEP S	1	11	APPRE	Street.
Improper Passing		3	3				1													3	3	6	3.7
Improper Lane Change		2	2			£5														2	2	4	2.4
Left of Center		2	6															1		2	7	9	5.5
Following Too Close	2	8	5							V									2	8	5	15	9.1
Unsafe Speed		13	20						1							1		3	1	13	24	38	23.2
DWI		1	1		3	1								1						5	2	7	4.3
Inattention		3	10			Etz.						2					1			4	12	16	9.8
Negligent Driving			2		162	HIR II	Willes.							-		-					2	2	1.2
Defective Vehicle		4	3		141	351	5600		file			5								4	3	7	4.3
Wrong Way			1 - 3		offile.		·田村"	t	-5557	dip												10 1	
No Improper Action		10	17	1	täliin.	4 527	1117		137	1215	49746	81.					1	1		11	17	28	17.1
Other		1	3			150	100	- 1	1 1	HIF	773	35	-03/610			1 1 5	1	1		2	5	7	4.3
Total	2	57	84		3	1	1	1	2	MES .	74//6	2	2	101		1	4	6	3	66	95	164	100
Percent	1.2	34.8	51.2		1.8	0.6		0.6	1.2	Pr - 25	12	1.2	1	0.6		0.6	2.4	3.7	1.8	40.2	57.9	100	

Collisions By Special Feature

Caralal Frances	12 52 30 5	To	tal	1000
Special Feature	Fat	Inj	PD	Tot
Bridge	5-17		1	1
Work Zone		1		1
Cross Median				
Train Collision			1	1



Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

	-		1000	T	100000000	H 44 7515 455	120	140000	Children Co.	System	_	-	_	1	- 4			1	Te .		
Cnty	City	CS	Int.	Mile	-42000	Location	4年間	Feat	ures	Int.	Dir.	1	#	#	#	Type of Collision	Unsafe	Lighting	100000000000000000000000000000000000000	Severity	Date
		#	#	Post		100000000000000000000000000000000000000			125	Related	Rit:	2	Veh.	Inj.	Fat.		Unlawful	Cond.	Cond.		
	_	LANG			HWY: SH-28	11/2/25	film:	AT: SH-82	100	422		-	-	NGLEY	TEE						
49	20	16	01	12.99		(NORTH)LANGLEY TEE		232	3111	YES	N	S	2	100	133114	ANGLE-TURNING	F-YIELD	DYLGT	DRY	INJ	05-07-200
49	20	16	01	12.99		(NORTH)LANGLEY TEE			1242	YES		-11	2	1		ANGLE-TURNING	F-YIELD	DARK	DRY	INJ	08-22-200
	_	ANG	_		HWY: SH-82,	SH-82 NORTH		AT: SH-28		or think	TITE .	CHI.	111	ST.	310	410 Section	Dia				
49	20	36	01	00.00		SH-28				YES	•	Tiell	2		4555	ANGLE-TURNING	OTHER	DYLGT	DRY	PDO	07-02-200
49	20	36	01	00.00		SH-28				YES	N	N	2		1205	ANGLE-TURNING	FOL-CLOSE	DYLGT	DRY	PDO	07-08-200
49	20	36	01	00.00		SH-28				YES	-	-	2		-44	ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	03-22-200
49	20	36	01	00.00		SH-28				YES	E	N	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	INJ	05-05-200
49	20	36	01	00,00		SH-28				YES			2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	08-14-200
	(05) /	ADAIR			HWY: US-69,	MAYS ST.		AT: SH-28				MAIN	ST.				4100	- 11	計 共		(11)
49	05	04	03	09.43		MAIN ST.				YES	N	W	2	5		RIGHT-ANGLE	UNSAF-SPD	DYLGT	DRY	INJ	10-19-200
49	05	04	03	09.43		MAIN ST.				YES	N	E	2			RIGHT-ANGLE	F-STOP	DYLGT	DRY	PDO	10-25-200
49	05	04	03	09.43		MAIN ST.				YES	S	S	2			REAR-END	DEF-VEH	DYLGT	DRY	PDO	02-28-200
49	05	04	03	09.43		MAIN ST.				YES		35	2	2		REAR-END	IMP-LN-CHG	DYLGT	DRY	INJ	05-25-200
49	05	04	03	09.43		MAIN ST.				YES	N	NE	2		-	ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	06-24-200
49	05	04	03	09.43		MAIN ST.				YES	E	W	2			ANGLE-TURNING	UNSAF-SPD	DUSK	WET	PDO	07-23-200
49	05	04	03	09.43		MAIN ST.				YES	N	E	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	08-18-200
49	05	04	03	09.43		MAIN ST.	HIP/HIS			YES	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	10-01-2006
49	05	04	03	09.43		MAIN ST.	HU	- 2	107	YES	N	S	2	-		HEAD-ON	NEG-DRVING	DARK	DRY	PDO	12-23-2006
49	05	04	03	09,43		MAIN ST.	455	- 1	iii	YES	E	N	2			RIGHT-ANGLE	UNSAF-SPD	DYLGT	SNOW	PDO	01-31-2007
49	05	04	03	09.43		MAIN ST.	1 222	315		YES	W	S	2	1		OTHER	F-YIELD	DYLGT	DRY	INJ	11-13-2007
49	05	04	03	09.43		MAIN ST.	WHIP!	- 117	- 5	YES	200	85	2	Hilita		ANGLE-TURNING	OTHER	DUSK	DRY	PDO	02-24-2008
49	05	04	03	09,43		MAIN ST.		116	h [5]	YES	Fig.		12	112	1	REAR-END	F-STOP	DYLGT	DRY	PDO	05-24-2009
	(05) A	DAIR			HWY: SH-28,	MAIN ST.		AT: US-69	PARTER	1111	15	MAYS	ST.			ALLE.					
49	05	14	03	09.16		MAYS ST.				YES	N.	N.	2	2		REAR-END	FOL-CLOSE	DYLGT	DRY	INJ	03-25-2006
	(05) /	DAIR			HWY: SH-28,	MAIN ST.					AT:	MKT	R #	113546	D	SHE HE THE	ID ID TO				
49	05	16		00.04		MKT RR #413546D		RR GRG	X-ING	NO	W		1			VEH-TRAIN	IMP-STOP	DYLGT	DRY	PDO	05-03-2006
	(05) A	DAIR			HWY: SH-28,	MAIN ST.					AT:	ROSS	ST.	10		1557 155	STATES				
49	05	16		00.16		ROSS ST.				YES	W	W	3	1		REAR-END	F-STOP	DYLGT	DRY	INJ	10-25-2004
	-	DAIR	á		HWY: SH-28,	MAIN ST.					AT:	FORE	ST/HA	RLEY /	AVE.		19622227				
49	05	16		00.24		FOREST/HARLEY AVE.				YES	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	04-21-2006
	-	DAIR		7 - 7 - 7 - 7 - 7	HWY: SH-28,	MAIN ST.						_	THAM	ST.							
49	05	16		00.32		CHEATHAM ST.				YES	E	E	3	2		REAR-END	FOL-CLOSE	DYLGT	DRY	INJ	06-15-2005
49	05	16		00.32		CHEATHAM ST.				YES			2	1		ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	03-29-2007
-	-	DAIR	0		HWY: SH-28,	MAIN ST.		0 - 1			AT:	00.02	after P	OPLIN	RD.						
49	05	16		00.92		A-1000 T-100		DRIVE	WAY	NO	-		2			ANGLE-TURNING	INATT	DYLGT	DRY	PDO	08-12-2004
40	(05) A		2		HWY: SH-28,	MAIN ST.				11.4				OPLIN	RD.						
49	05	15		00.96					_	NO	E		1			OTH-SINGLE-VEH	UNSAF-SPD	DYLGT	DRY	PDO	03-25-2005
-10	-	DAIR	-	17.5	HWY: SH-28,	MAIN ST.				100000	- C.	-	-	NS 43							



Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985

Created: 07/22/2009 by Ginger Miller

Cnty	City	CS	Int.	Mile		Location	Features	Int.	Dir.	Dir.	#	#	#	Type of Collision	Unsafe	Lighting	Roadway	Severity	Date
	-3	#	#	Post		115000 THE PARTY NAMED IN COLUMN TWO IS NOT THE	THE STREET	Related	1	2:	Veh.	Inj.	Fat.		Unlawful	Cond	Cond.	ASSUMPTION OF STREET	10040200
49	05	16		01.70		796	1107 TER	NO	E	1535	13	5 5	Tire.	ROLLOVER	OTHER	DYLGT	DRY	PDO	04-09-200
-	(05)	ADAIR	8		HWY: SH-28,	MAIN ST.	111	(22)	AT:	80.00	before	NS 43	6	TENED OF THE PARTY		-			
49	05	16		01.82				NO	ı,E	E.	1	1	1111	F-O DITCH	INATT	DYLGT	DRY	INJ	07-16-2005
	(05)	ADAIR	1		HWY: SH-28,	MAIN ST.			AT:	00.28	after Bi	R.	HIP	Silver 250	TO WELL				
49	05	16		02.50				NO	W	W	2		Hell.	ANGLE-TURNING	IMP-PASS	DYLGT	DRY	PDO	05-13-2000
	(05)	ADAIR	Ÿ		HWY: SH-28,	MAIN ST.			AT:	NS 43	7		HM.	1000	111 217	1000		Territor	
49	05	16		02.90		NS 437		YES	E	E	2			ANGLE-TURNING	FOL-CLOSE	DARK	WET	PDO	11-10-2004
	(05)	ADAIR			HWY: SH-28,	MAIN ST.			AT:	00.30	after NS	S 437		6	Transacti	17 /	1	123	ALC: U
49	05	16		03.20				NO	W		1			ROLLOVER	UNSAF-SPD	DYLGT	ICE	PDO	01-14-2007
	(05)	ADAIR	ś		HWY: SH-28,	MAIN ST.			AT:	00.50	before l	NS 438	3			120	.00		All
49	05	16		03.60				NO	W		1			F-O DITCH	INATT	DARK	DRY	PDO	11-15-2008
	(05)	ADAIR			HWY: SH-28,	MAIN ST.			AT:	00.03	before l	NS 438	3						41036775
49	05	16		04.07				NO	E	*	1			ROLLOVER	INATT	DARK	DRY	PDO	02-25-2008
	(05)	ADAIR	-		HWY: SH-28,	MAIN ST.			AT:	NS 438	8					30 F			
49	05	16		04.10		NS 438		YES	NW	E	2	5		ANGLE-TURNING	F-YIELD	DARK	WET	INJ	11-21-2004
	(00)				HWY: SH-28	/#######			AT:	00.10	after NS	5 438				7.0			
49		16		04.20		AF APAN		NO	E		1			F-O GUARDRL-FACE	SLEEPY	DARK	DRY	PDO	03-27-2005
49		16		04.20	1	-50223° - 1227	2632	NO	W		1	1		ROLLOVER	NO-IMP-ACT	DYLGT	DRY	INJ	11-04-2008
	(00)				HWY: SH-28	SHIP THE	12 TO	1928	AT:	00.25	after RC	OCK C	R.						
49		16		04.60		THE PERSON	1221	NO	TE.	D:	1	1		F-O TREE	OTHER	DARK	DRY	INJ	12-20-2004
	(00)	_			HWY: SH-28	"Hilli	- H		AT:	00.35 8	after RC	OCK C	R.						
49		16		04.70			WKZONE	NO	W	5	1	2	9:	ROLLOVER	D-W-I	DYLGT	DRY	INJ	07-19-2008
	(00)				HWY: SH-28			46	AT:	00.30	efore F	FREE	RAMP	RD/NS439	1211				
49	1	16		04.80				NO	E	-	%1 -	(1111)		ROLLOVER	D-W-I	DARK	WET	PDO	08-27-2006
49		16		04.80				NO	E		1	2		ROLLOVER	UNSAF-SPD	DYLGT	DRY	INJ	08-18-2007
	(00)				HWY: SH-28				AT:	00.30 E	pefore F	FORDS	DAIR	Y/NS440	H Whellis				
49		16		05.40				NO	E	E	2			ANGLE-OTHER	D-W-L	DARK	DRY	PDO	07-13-2007
	(00)	-			HWY: SH-28				AT:	00.20 b	pefore F	ORDS	DAIR	Y/NS440	WHITE				
49		16		05.50				NO	E		1	1		ROLLOVER	UNSAF-SPD	DARK	DRY	INJ	06-05-2009
	(00)				HWY: SH-28			-	AT:	00.02 8	oefore F	ORDS	DAIR	Y/NS440					
49		16	A	05.68				NO	E		1	1		F-O FENCE-POLE	UNSAF-SPD	DYLGT	DRY	INJ	07-16-2006
	(00)				HWY: SH-28				AT:	FORDS	DAIR	Y/NS4	40						-
49		16		05.70		FORDS DAIRY/NS440	1	YES	W	-	1			F-O EMBANKMENT	UNSAF-SPD	DARK	DRY	PDO	05-31-2008
	(00)				HWY: SH-28				AT:	00.20 a	fter FO	RDS	AIRY	NS440					
49	-	16		05.90				NO	W	-	1			ROLLOVER	UNSAF-SPD	DYLGT	ICE	PDO	12-15-2008
	(00)				HWY: SH-28				AT:	00.20 b	offore L	EISU	RELAN	ND RD.					
49		16		05.00				NO	W	_	1			ROLLOVER	UNSAF-SPD	DARK	DRY	PDO	04-16-2005
		0.000																	



Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

Cnty	City	CS #	Int.	Mile Post		Location		Features	Int. Related	Dir.	Dir.	# Veh.	# Inj.	# Fat.	Type of Collision	Unsafe Uniawful	Lighting Cond.	Roadway Cond.	Severity	Date
49		16		06.19			1777	200 193	NO	W	100	1		din.	ANIMAL	DOM-ANIMAL	DARK	WET	PDO	11-24-2007
-	(00)				HWY: SH-28			1111	HE	AT:	LEISU	IRE LA	ND RI	D.	Per distance					
49	1	16		06.20		LEISURE LAND	RD.		YES	w	.₩	2	1	255	ANGLE-TURNING	L-CENTER	DYLGT	DRY	PDO	12-11-2004
49		16		06.20		LEISURE LAND	RD.		YES	E	VE:	2		1337	ANGLE-TURNING	UNSAF-SPD	DARK	WET	PDO	04-06-2005
	(00)				HWY: SH-28					AT:	00.01	after L	EISUF	ELAN	D RD.	ATT - 4000 "	With the	Del	-	-
49		16		06.21				DRIVEWAY	NO	E	E	2		1	ANGLE-TURNING	FOL-CLOSE	DYLGT	WET	FAT	02-07-2005
	(00)				HWY: SH-28					AT:	00.05	after L	EISUR	E LAN	D RD.	EF HE		100		111
49		16		06.25					NO	W		.1			ANIMAL	OTH-ANIMAL	DYLGT	WET	PDO	11-18-2005
	(00)				HWY: SH-28					AT:	00.50	after L	EISUR	E LAN	D RD.	7771117	13	1 12	1201012000	1717
49		16		06.70	Lateral Systems 1970				NO	E	E	2	1		REAR-END	D-W-I	DYLGT	DRY	INJ	12-11-2004
	(00)			3	HWY: SH-28					AT:	00.40	before	NS 44	11			W	*111	HIMM	1107
49		16		06.80					NO	E	-	1	1		ANIMAL	DEER	DARK	DRY	INJ	01-14-2006
	(00)				HWY: SH-28					AT:	00.30	before	NS 44	11					_	
49		16		06.90					NO	W		1	1		F-O TREE	NO-IMP-ACT	DYLGT	DRY	INJ	11-08-2008
	(00)				HWY: SH-28					AT:	00.20	before	NS 44	11						
49		18		07.00		20	111111		NO	E	W	2	3		HEAD-ON	UNSAF-SPD	DYLGT	ICE	INJ	02-18-2006
49		16		07.00			即曲曲		NO	E	-	1			ANIMAL	DEER	DYLGT	DRY	PDO	04-21-2007
	(00)				HWY: \$H-28	- 47	STRY THE	310		AT:	NS 44	1		1						
49		16		07.20		NS 441	-41	4111	YES	E	E	2			ANGLE-TURNING	UNSAF-SPD	DYLGT	DRY	PDO	08-27-2004
49		16		07.20		NS 441	班 班 型	1111	YES	E	2.E	2			ANGLE-TURNING	L-CENTER	DYLGT	WET	PDO	06-09-2005
49		16		07.20		NS 441	"Military	1555 17	YES	N	-E	200	Hillia		ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	06-30-2008
	(00)				HWY: SH-28			Tith	100	AT:	00.01	after N	S 441							
49		16		07.21				.+4153365.	NO	W	22 10	-	1	1	F-O TRAFF-SIGN	UNSAF-SPD	DARK	DRY	FAT	11-04-2006
	(00)				HWY: SH-28				1215	AT:	_	before	_	ABIN (101				
49	1	16		07.30					NO	W	E	2	2		SIDESWIPE-OPP	D-W-I	DARK	DRY	INJ	02-10-2007
49		16		07.30					NO	W		1			ROLLOVER	UNSAF-SPD	DAWN	ICE	PDO	02-11-2008
49		16		07,30					NO	W	-	1	1		ROLLOVER	UNSAF-SPD	DYLGT	DRY	INJ	04-21-2009
	(00)				HWY: SH-28					-	_	ABIN C	R.		THE PARTY OF	F 32 43				
49		16		07.34		BIG CABIN CR		BRIDGE	NO	W	-	1			F-O BR-CURB	INATT	DYLGT	DRY	PDO	01-17-2006
	(05) A	_			HWY: SH-28					_		after B		BIN CR						
49	05	16		07.40					NO	_	•	1	2		OTH-SINGLE-VEH	DEF-VEH	DYLGT	SLUSH	INJ	01-12-2007
	(00)				HWY: SH-28					_		before	-	AVE.						*****
49		16		07.80					NO	E		1	1		ROLLOVER	UNSAF-SPD	DYLGT	DRY	INJ	08-25-2006
	(00)	_			HWY: SH-28					MARKET THE PARTY NAMED IN	-	before	_	AVE.						
49		16		07.84					NO	W		1	1		F-O FENCE	INATT	DYLGT	DRY	INJ	06-02-2009
	(00)				HWY: SH-28					_	_	before	_	AVE.						
49		16		07.90					NO	-		11.5.1	1		F-O TREE	OTH-ANIMAL	DARK	DRY	INJ	01-01-2006
	(00)				HWY: SH-28					AT:	00.04	before	PARIS	AVE.						



Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985

Created: 07/22/2009 by Ginger Miller

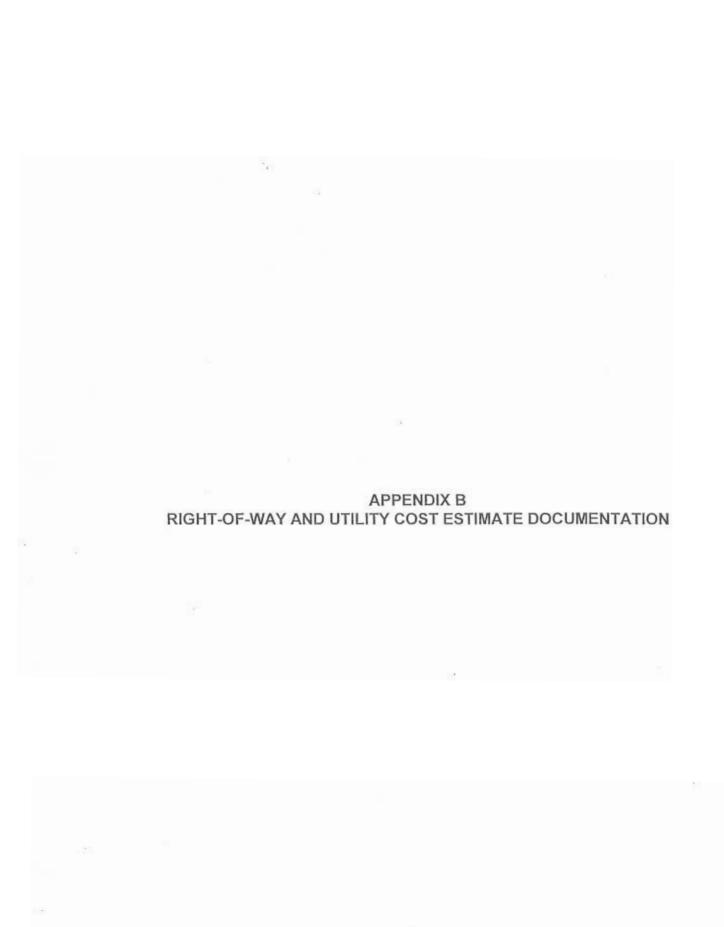
Cnty	City	cs	int. Mile		Location	Features	15000	Dir I	1377	# #	O LOSSIA	Type of Collision	Unsafe	Lighting	Roadway	Severity	Date
		#	# Post		77 Table 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	St. Attition.	Related	1	2	Veh. In	. Fat.		Unlawful	Cond.	Cond.		
49		16	08.10		- 111	EE 195	NO	E	20	138	100	ANIMAL	DOM-ANIMAL	DARK	DRY	PDO	05-11-200
	(30) P	ENSA	COLA	HWY: SH-28,	KENTUCKY AVE.	782	112	AT: R	OGE	RS AVE.		Matth William					
49	30	16	08.20		ROGERS AVE.		YES	SE	E	2 1	1725	ANGLE-TURNING	DEF-VEH	DYLGT	DRY	INJ	07-12-200
	(30) P	ENSA	COLA	HWY: SH-28,	KENTUCKY AVE.			AT: M	AIN S	ST.	1777	Hills	10071	44			
49	30	16	08.28		MAIN ST.		YES	E	W	2 3	422	ANGLE-TURNING	F-YIELD	DARK	DRY	INJ	10-05-200
	(00)			HWY: \$H-28				AT: 00).14 a	fter WOOI	FORD	AVE.	337 (1)7	RANK 14-2	7874(9)	Maria	12.00
49		16	08.50				NO	W	-	1		ANIMAL	DOM-ANIMAL	DYLGT	DRY	PDO	02-21-200
49		16	08.50				NO	W	-	1		F-O FENCE	SLEEPY	DYLGT	DRY	PDO	04-09-200
	(00)			HWY: SH-28				AT: 00	.24 a	fter WOOI	FORD	AVE.	4411151	155	1 13	PARTIE	333
49		16	08.60				NO	E	-	1		ROLLOVER	UNSAF-SPD	DYLGT	ICE	PDO	01-14-200
	(00)		0	HWY: SH-28				AT: 00	.30 b	efore CO.	RD.				- 449	F111071111	1007
49		16	08.80			DRIVEWAY	NO	E	E	2		ANGLE-TURNING	IMP-PASS	DUSK	DRY	PDO	01-12-200
	(00)			HWY: SH-28				AT: 00	.01 a	fter CO. R	D.						
49		16	09.51				NO	W	-	1		F-O FENCE	UNSAF-SPD	DYLGT	ICE	PDO	01-12-200
49		16	09.51				NO	W	-	1 1		F-O TRAFF-SIGN	UNSAF-SPD	DYLGT	WET	INJ	09-13-200
	(00)			HWY: SH-28	2835-200170			AT: 00	.06 a	fter SMOK	E SHOP	RD/EW38					1
49		16	09.96		THE SHARE		NO	N	N	2		REAR-END	INATT	DARK	DRY	PDO	11-03-200
	(00)			HWY: SH-28	1859 ASS	(11)		AT: 00	.20 a	fter SMOK	E SHOP	RD/EW38					
49		16	10.10		ALIEN PRE	(755)	NO	W	-	1		F-O FENCE	UNSAF-SPD	DAWN	WET	PDO	06-06-200
	(00)			HWY: SH-28	10011120000 100 100		F	AT: 00	.40 b	efore NS 4	44						
49		16	10.30		4114197	100 S	NO	E	E	2		REAR-END	UNSAF-SPD	DYLGT	DRY	PDO	07-15-200
	(00)			HWY: SH-28		Who III	1770	AT: 00	.10 b	efore NS 4	44.						
49		16	10.60			"学育十世纪年"	NO	E	- 4	1		F-0 FENCE	DEF-VEH	DYLGT	WET	PDO	05-07-2007
	(00)			HWY: SH-28			9411	AT: NS	444	71		-dF10 400	7557				
49		16	10.70		NS 444	4	YES	W	W	2 2		REAR-END	UNSAF-SPD	DYLGT	DRY	INJ	09-26-2004
49		16	10.70		NS 444		YES	E	E	2 2		ANGLE-TURNING	IMP-PASS	DYLGT	DRY	INJ	06-23-2008
49		16	10.70		NS 444		YES	E	E	2		REAR-END	UNSAF-SPD	DYLGT	WET	PDO	07-23-2005
49		16	10.70		NS 444		YES	W	w	2 2		ANGLE-TURNING	IMP-PASS	DUSK	DRY	INJ	11-11-2008
49		16	10.70		NS 444		YES		-	3 1		REAR-END	140000	DYLGT		INJ	06-30-2009
	(00)			HWY: SH-28				AT: 00	.40 a	fter NS 444							
49		16	11.10	T			NO	E	w	2 2		SIDESWIPE-OPP	L-CENTER	DYLGT	DRY	INJ	11-15-2004
	(00)			HWY: SH-28					_	efore NS 4	45				2355		
49		16	11.40				NO	E	E	2		REAR-END	UNSAF-SPD	DYLGT	WET	PDO	07-09-2004
-	(00)			HWY: SH-28			2000	-		efore NS 4	45			- 1,44			
49		16	11.60				NO		_	1	T	ROLLOVER	INATT	DYLGT	DRY	PDO	07-01-2008
	(00)	-		HWY: SH-28				_	_	efore NS 4	45		835.5				
49	T	16	11.70			DRIVEWAY	NO		W	3 2		ANGLE-TURNING	FOL-CLOSE	DYLGT	DRY	INJ	07-30-2004
		4.00	7 7 7 7 9														



Program Provided by: Traffic Engineering Division Collision Analysis and Safety Branch (405) 522-0985 Created: 07/22/2009 by Ginger Miller

Cnty	City	CS #	Int.	Mile Post	Locatio	n ili	Features	Int. Related	Dir.	Dir.	# Veh.	# Ini.	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
49		16	- "	11.70		1111100000	DRIVEWAY	NO	SE	E	2	E .	Hillian	ANGLE-TURNING	INATT	DYLGT	DRY	PDO	05-17-2007
49		16		11.70			755	NO	E		11	1	127	ROLLOVER	UNSAF-SPD	DYLGT	DRY	INJ	11-29-2007
	(00)				HWY: \$H-28			WHILE	AT:	00.10	before	NS 44	5	THE PLANE.	la.	17			
49		16		11.80				NO	E	481	1		1,000	F-O FENCE	UNSAF-SPD	DYLGT	WET	PDO	07-12-2007
	(00)				HWY: SH-28				AT:	NS 44	5		1111	ALTERNATION OF THE PERSON OF T	# #5	Win die	44		
49		16		11.90	NS 445			YES	W	W	3		.ast	ANGLE-TURNING	L-CENTER	DYLGT	DRY	PDO	01-31-2006
49	7	15		11.90	NS 445			YES	E	W	2			ANGLE-TURNING	F-YIELD	DARK	DRY	PDO	08-27-2006
49	5-1	16		11.90	NS 445			YES	W	W	2	1		ANGLE-TURNING	D-W-I	DARK	DRY	INJ	07-04-2008
	(00)				HWY: SH-28				AT:	00.20	after N	S 445			-255515	进	F 48	2001412012	1510
49		16		12.10				NO	E		1			ROLLOVER	UNSAF-SPD	DARK	WET	PDO	12-08-2007
	(20) L	ANG	EY		HWY: SH-28				AT:	00,20	before	NS 44	5.5				4777	ililia:	1822
49	20	16		12.20				NO	E		2	1		SIDESWIPE-SAME	OTHER	DARK	DRY	INJ	10-05-2007
	(20) L	ANG	EY		HWY: SH-28				AT:	NS 44	5.5				72				
49	20	16		12.40	NS 445.	5		YES	-		2			OTHER	INATT	DYLGT	DRY	PDO	04-02-2007
	(20) L	ANGL	EY		HWY: SH-28				AT:	00.10	before	(NOR	TH)LAN	NGLEY TEE					
49	20	16		12.89		101999	DRIVEWAY	NO	E	E	2	2		ANGLE-TURNING	INATT	DYLGT	DRY	INJ	06-22-2005
		-				THE TELEVISION										-	Location N	lear But N	ot At Mile Pol





OKLAHOMA DEPARTMENT OF TRANSPORTATION

Right-of-Way & Utilities Division

Room C3 Third Floor

Office 521-2661 Fax 522-1858

Date:

April 15, 2009

To:

Raul Gutierrez, Project Management Division

PROJECT MANAGEMENT

From:

Tekia M. Statton, Manager, Project Management Branch

APR 15 2009

Subject:

Mayes County, SH-28, Approximately 5.33 miles East of Jct. SH-28/US-69 & extend East 8.0 miles.

Federal Aid Project No. SSP-149C(093)SS, State Job No. 23270(04)Const (05)RW (06)UT

DIVISION

The following estimates are for cost estimating and project scheduling for right-of-way and utility projects.

REVISED ALTERNATE A

23270(05)

Right-of-Way

c.)	\$40,000.00
	\$1,640,000.00
or Addenda, Parcels)	\$37,500.00
	\$7,500.00
ated 60%@ 29% tural)	\$580,560.00
20 @ \$2,500.00	\$50,000.00
establishment Expenses)	\$276,250.00
	\$82,474.00
	\$129,180.00
	\$75,614.00
40 @ \$400,00	\$16,000.00
ubtotal)	\$2,935,078.00 \$293,507.80 \$3,229,000.00
	ated 60%@ 29% tural) 20 @ \$2,500.00 establishment Expenses)

23270(06)

Utilities

Utility Relocation Costs	\$1,500,000.00
Utility Service Provider Fee	\$28,000.00
Subtotal Administrative & Contingency Costs	\$1,528,000.00 \$229,200.00
Total Utilities Costs	\$1,757,200.00

Kevin Stout Central Files

Oklahoma Department of Transportation - Right-of-Way Division Mapping Branch Room B4, Third Floor Office 521-2655 FAX 522-1858

March 25, 2009

TO:

Tekia Statton, Branch Manager, Project Management Branch

FROM:

Gregory W. Massey, Manager, Mapping Branch

SUBJECT: Preliminary Estimate Alternate A

23270(05)(06)(04), SSP-149C(094)SS,

Mayes County, SH-28 from Pensacola to Langley

Mapping Branch is requesting that funding be set up in the amount of \$40,000.00 for the above referenced project J/P 23270(05). This amount will cover fees to prepare right-ofway plans, documents and associated materials for approximately 20 ownerships and 40 parcels.

GWM/kbl

Oklahoma Department of Transportation - Right-of-Way & Utilities Division Relocation Branch Room C7 Third Floor Office 521-2648 Fax 522-1858

March 25, 2009

To:

Tekia Statton, Manager, Project Management Branch

From:

Diana Barlow, Manager, Relocation Branch

Subject:

Revised Scoping Estimate - J/P 23270(05)(04) Mayes County - SH-28 From

Pensacola east to Langley. Alternate A (Left offset alignment)

The following estimate was made using aerial furnished by the Project Management Branch on March 24, 2009.

The relocation estimate is as follows:

8 - Replacement Housing Payments 8 - Residential Moves	\$ 230,000.00 26,250.00
Commercial Total Takes Commercial Partial Takes (Personal Property Only)	\$ 10,000.00
1 - Commercial Reestablishment Expenses	\$ 10,000.00
Sub Total	\$ 276,250.00
Demolition (Includes Neshap)	\$ 129,180.00
Abatement	\$ 70,614.00
Erosion Control	\$ 5,000.00
Service Provider Fee	\$ 82,474.00
Sub Total	\$ 287,268.00
Total Estimated Relocation Cost	\$ 563,518.00

Demolition includes 6 - wood frame houses, 2 - mobile homes, 1 - Hair Salon, 8 - billboards & various signs. Relocation may require an additional 6-8 months for new construction because of the limited availability of housing.

DB/jcl

cc: Joel C. Law, Relocation Agent Jay Herbert, Supervisor Oklahoma Department of Transportation

Right-of-Way Division - Appraisal Branch Room C4 Third Floor Office(405)521-2665 Fax(405)522-4230

REVISED:

March 31, 2009

To:

Tekia M. Statton, Branch Manager, Project Management Branch, Right-of-Way Division

Thru:

Jared Sahlsteen, Appraisal Branch Manager JRS

From:

Gary Gorman, Staff Appraiser

Subject:

Scoping of Proposed Right-of-Way, Aerial photo of SH-28 from Pensacola to Langley.

Job Piece Number:

R/W -left (Alternate A) 150' north of center line.

Project Number:

N/A SH-28

Highway Number: County:

Mayes

As requested, I am providing you with a scoping of probably right-of-way cost for the above project complete on March 30, 2009.

Right-of Way

65 acres @ \$3,500 per acre (rural)

\$227,000

Improvements:

\$990,000

Damages:

\$324,000

Miscellaneous Improvements

\$99,000

Total

\$1,640,000

Appraisal Cost

\$45,000

Total Estimated Cost

\$1,685,000

Approximately:

Appraisals

15

Waivers

Seconds

Owners

Parcels

Right-of-Way

R/W Engineering Service Provider Fee (Plans, Title, Etc.)	
R/W Costs (Land, Improvements, Damages)	\$1,640,000
Appraisal Service Provider Fee (Includes Master Addenda, Appraisals, Determination of Appraisal Waiver Parcels)	\$37,500
Appraisal Review Service Provider Fee	\$7,500
Admin. Settlement/Condemnation Costs (Estimated @ 30% of R/W Costs)	
Acquisition Service Provider Fee	
Relocation Costs (Residential, Commercial)	
Relocation Service Provider Fee	
Demolition Costs	
Staking Costs	
Subtotal	
Administrative & Contingency Costs (20% of Subtotal)	
Total Right-of-Way Costs	

Oklahoma Department of Transportation - Right-of-Way Division

Utilities Branch Room C1 Third Floor Office 521-2641 Fax 522-3105

Date:

April 13, 2009

To:

Tekia M. Statton, Manager, Project Management Branch, Right-of-Way Division

From: Marvin L. Bright II, Manager, Utilities Branch, Right-of-Way Division

Subject:

J/P XXXXX(XX) Construction, XXXXX J/P XXXXX(XX) Utilities, XXXXX

Mayes County, State Highway 28 (Alternate A) Left

Scoping Estimate

This scoping estimate is based on an aerial photo and Visidata.

The following information is provided for cost estimating and project scheduling purposes.

JP # XXXXX(XX) Utilities

Utility Relocation Costs - ODOT	\$1,500,000.00
Utility Service Provider Fee	\$28,000.00
Subtotal	\$1,528,000.00
Administrative & Contingency Costs (15% of Subtotal)	\$229,200.00
Total Utility Costs to ODOT (Rounded)	\$1,757,200.00

CC:

Kevin Stout, Assistant Chief, Right-of-Way Division Utilities Branch Manager Project General File Correspondence File (Records Center)

APPENDIX C ITEMS CONSIDERED DURING PROJECT DEVELOPMENT

ITEMS CONSIDERED DURING PROJECT DEVELOPMENT

- Purpose and Need for Project
- Alternates
- Affected Environment
- Possible Environmental Consequences:
 - Land Use Impacts
 - Farmland Impacts
 - Relocation Impacts/Right-of-way Acquisition
 - Social Impacts
 - Economic Impacts
 - Environmental Justice
 - Noise Impacts
 - Threatened or Endangered Species
 - Wetland Impacts
 - Floodplain Issues
 - Cultural Resources and Archeological Sites
 - Hazardous Waste/Underground Storage Tanks
 - Effects on Public Parks, Wildlife and Waterfowl Refuges and Historic Sites
 - Airport Impacts
- Comments and Coordination/Public Involvement
 - State/Federal Agencies
 - Local/City Officials
 - Tribal Coordination
 - Interested Citizens
- Engineering/Design/Drainage Concerns
- Accidents/Safety Concerns

APPENDIX D
NRCS PRIME FARMLAND DOCUMENTATION



an SAIC company

The Benham Companies, LLC

3700 West Robinson, Suite 200 Norman, OK 73072

Telephone 405.321.3895 Fax 405.364.1708

info@benham.com www.benham.com www.saic.com

April 25, 2008

Mr. Kenneth Hitch, District Conservationist USDA Natural Resources Conservation Service Pryor Service Center PO Box 36 Pryor, OK 74362-0036

RE:

Site Assessments for Farmland Protection Policy Act (FFPA)

State Highway 28, Mayes County

PROJECT NO. STPY-155E(581)EC; Job Piece No. 21910(04), 23270(04), & 24382(04)

Dear Mr. Hitch,

On behalf of the Oklahoma Department of Transportation, The Benham Companies, LLC is completing the environmental analysis of the widening of State Highway 28 from Adair to the intersection of State Highway 82 and State Highway 28 near Langley, Oklahoma. The project will include bridge replacements over Rock Creek and Big Cabin Creek in Mayes County, OK. The project will also include the realignment of existing access roads and drives.

Please find attached two copies of USDA Form AD-1006 and maps for the project in Mayes County, Oklahoma. In accordance with the current 7 CFR Part 658 – Farmland Protection Policy Act, Parts I and III of Form AD-1006 have been completed. The acreages in Part III are based on our preliminary estimations of construction and right-of-way design. Please complete the NRCS portions of this form within the next 45 days and return one copy to:

Diane Abernathy, P. E. The Benham Companies, LLC 3700 W. Robinson, Suite 200 Norman, OK 73072

Your assistance is greatly appreciated. Please feel free to call me at 405-701-3167 if you have any questions.

Sincerely,

The Benham Companies, LLC

iane Abernathy

Diane Abernathy, P. E.

Senior Project Manager

Enclosures: Topographic Map, Aerial Map, and Form AD-1006

CC: Laurie Effinger, ODOT Environmental Division

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 4/25/08					
Name Of Project SH-28 over Rock & Big Cabin Creeks & Widening		Federal Ag	Federal Agency Involved Federal Highway Administration				
A The state of the			County And State Mayes County, Oklahoma				
PART II (To be completed by NRCS)		Date Requ	est Received B	By NRCS	5/5	108	
Does the site contain prime, unique, statewic (If no, the FPPA does not apply do not co			Yes	No A		led Average Fa	rm Size
Major Crop(s)	Farmable Land In Go	vt. Jurisdictio	n	A	mount Of	Farmland As Defi	ned in FPPA
MEAT	Acres: 307	011	% 70.	ZA	cres: 2	13,214	48.8%
Name Of Land Evaluation System Used	Name Of Local Site A	ssessment S	System			Evaluation Return	ed By NRCS
CALES	NONE				Constitution		
PART III (To be completed by Federal Agency)			Site A		Alternativ Site B	e Site Rating Site C	Site D
A. Total Acres To Be Converted Directly			46.4		ORG D	One o	Old D
B. Total Acres To Be Converted Indirectly							
C. Total Acres In Site		30-5	46.4 745.5	8 0.0		0.0	0.0
PART IV (To be completed by NRCS) Land E	valuation Information						
A. Total Acres Prime And Unique Farmland			641.4	esobbieing			
B. Total Acres Statewide And Local Importa	SOLD THE RESERVE OF THE PROPERTY OF THE PROPER	Contract of	041.4	Ser Asset	er er er		
C. Percentage Of Farmland In County Or L	AND ASSESSMENT OF THE PARTY OF	opunded					
		CONTRACTOR OF THE PARTY OF THE	53.8				
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)			Ø 74.7	See Carrie		0	0
PART VI (To be completed by Federal Agency, Site Assessment Criteria (These criteria are explained		Maximum Points					
Area In Nonurban Use		15	15				-
Perimeter In Nonurban Use		10	10	- 1			
3. Percent Of Site Being Farmed		20	10				
4. Protection Provided By State And Local	Government	20	0				71
5. Distance From Urban Builtup Area		_					
6. Distance To Urban Support Services							1
7. Size Of Present Farm Unit Compared To	Average	10	0				
8. Creation Of Nonfarmable Farmland		25	0				No.
9. Availability Of Farm Support Services		5	5				
10. On-Farm Investments		20	5				
11. Effects Of Conversion On Farm Support	Services	25	0				
12. Compatibility With Existing Agricultural U		10	0				
		160	0 45	0		0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	0 75.	0	93,	0	0
The Paris of the P		160	0 45			0	0
TOTAL POINTS (Total of above 2 lines)		260	0 120	0 (0	0
Site Selected: Date Of Selection				Was		Site Assessment ('es 🔲	Jsed? No 🔲

Reason For Selection

SH 28 NRCS AD-1006 Corridor-Type Assessment

	Criterion	Notes	Points
1.	How much land in nonurban use within 1-mile radius of project?	Assume >90%	15
2.	How much of the site perimeter borders on nonurban land?	Assume >90%	10
3.	How much of the site has been farmed more than 5 of the last 10 years?	Assume 50%	10
4.	Is the site subject to farmland protection policies or programs?	No	0
5.	Distance from Urban Builtup Area	NA	0
3.	Distance to Urban Support Services	NA	0
7.	Is the farm unit containing the site as large as the average size farming unit in the County, i.e., 194 acres?	Assume 50%	0
8.	How much of the remaining farm land will be nonfarmable due to land pattern interference?	<5%	0
9.	Does site have adequate supply of farm support services and markets?	Yes	5
10.	Does site have a high amount of on-farm investments like barns, fruit trees, terraces, drainage, irrigation, waterways?	Assume 25%	5
11.	Will the project reduce demand for farm support services?	No	0
12.	Is proposed use of site cause conversion of surrounding farmland to nonagricultural use?	No	0
		Total Points	45

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor-type site or design alternative for protection as farmland along with the land evaluation information

For Water and Waste Programs, corridor analyses are not applicable for distribution or collection networks. Analyses are applicable for transmission or trunk lines where placement of the lines are flexible

(1)	How much land is in nonurban	use within a radius of 1.0 mile	e form where the project is intended?
-----	------------------------------	---------------------------------	---------------------------------------

(2)	More than 90 percent	(3)	15 points
(4)	90 to 20 percent	(5)	14 to 1 point(s)
(6)	Less than 20 percent	(7)	0 points

(2) How much of the perimeter of the site borders on land in nonurban use?

(3)	More than 90 percent	(4)	10 point(s)
(5)	90 to 20 percent	(6)	9 to 1 points
(7)	less than 20 percent	(8)	0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?

(4)	More than 90 percent	(5)	20 points
(6)	90 to 20 percent	(7)	19 to 1 point(s)
(8)	Less than 20 percent	(9)	-

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

Site is protected	20 points
Site is not protected	0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County? (Average farm sizes in each county are available from the NRCS field offices in each state Data are from the latest available Census of Agriculture, Acreage of Farm Units in Operation with \$1,000 or more in sales.)

As large or larger 10 points
Below average deduct 1 point for each 5 9 to 0 points
percent below the average, down to 0 points if
50 percent or more below average

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acreage equal to more than 25 percent of acres directly converted by the project
Acreage equal to between 25 and 5 percent of the acres directly convened by the project
Acreage equal to less than 5 percent of the acres directly converted by the project

Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

> All required services are available Some required services are available No required services are available

5 points 4 to 1 point(s) 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

> High amount of on-farm investment Moderate amount of on-farm investment

20 points 19 to 1 point(s)

No on-farm investment

0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support

25 points

0 points

services if the site is convened Some reduction in demand for support

services if the site is convened

1 to 24 point(s)

No significant reduction in demand for support

services if the site is converted

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural

> Proposed project is incompatible to existing agricultural use of surrounding farmland Proposed project is tolerable to existing agricultural use of surrounding farmland Proposed project is fully compatible with existing agricultural use of surrounding farmland

10 points

9 to 1 point(s)

0 points

United States Department of Agriculture



Natural Resources Conservation Service, PO Box 36, Pryor, OK 74362-0036

918.825.3392

May 6, 2008

Dianne Abernathy Senior Project Manager The Benham Companies, LLC 3700 W, Robinson, Suite 200 Norman, OK 73072

RE: Site Assessment for FFPA State Highway 28 Mayes County, Oklahoma, Project # STPY-155E(581)EC

Dear Ms. Abernathy:

I have reviewed your proposed project SSP-149C(082)SS Road/Bridge Replacement for impacts to prime farmland. Based on this review I have determined that prime farmland is present in the proposed project area and is therefore subject to the provisions of the farmland Protection Policy Act. I have completed the appropriate portions of form AD-1006 as requested.

If I can be of further assistance, please contact me at (918) 825-3392, Ext. 106.

Sincerely,

Kenneth L. Hitch

District Conservationist

APPENDIX E NOISE STUDY

TRAFFIC NOISE ASSESSMENT REPORT

STATE HIGHWAY 28: ADAIR TO LANGLEY MAYES COUNTY, OKLAHOMA

Federal Aid Project Numbers: SSP-149C(107)SS, BRFY-149C(076) & J2-3270(004) State J/P Numbers: 24382(04), 21909(04), & 23270(04)

Prepared for:
Oklahoma Department of Transportation
Environmental Programs Division
200 NE 21st Street
Oklahoma City, Oklahoma 73105
405/521-3050
405/522-5193 (fax)

Submitted by: The Benham Companies, LLC Infrastructure and Environment 3700 West Robinson, Suite 200 Norman, OK 73072 405/321-3895 405/364-1708 (fax)

> Report Date: May 6, 2010 Prepared By: Renee' Ellis

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Appendix C	TNM Computer Model Case Results Output

TRAFFIC NOISE ASSESSMENT REPORT SH 28: Adair to Langley, Mayes County, Oklahoma

1.0 INTRODUCTION

Benham Infrastructure & Environment Consultants (Benham) performed a traffic noise analysis and prepared a traffic noise assessment for the Oklahoma Department of Transportation (ODOT) as part of the SH 28 / Adair to Langley Environmental Assessment (EA). This Noise Assessment Report investigates the noise impacts that could result from the proposed improvements to SH 28 in bringing this facility up to current design standards, and will include widening, resurfacing, adding shoulders, correcting horizontal and vertical alignments, and replacing substandard bridges. Additionally, the facility will be widened to four lanes through the cities of Adair, Pensacola, and Langley. The purpose of this report is to determine the noise impacts and possible mitigation of these impacts from the project.

This assessment was achieved by reviewing aerial photographs and computer noise modeling. The evaluation of the project was determined by reviewing aerial photography, preliminary design, windshield surveys, and design traffic as provided by ODOT's Planning & Research Division. The noise analysis was performed by using Traffic Noise Model Look-Up Tables Program (TNM Look-up), a computer program based on the Federal Highway Administration's (FHWA) TNM version 2.5 and complies with ODOT's Highway Noise Abatement Policy Directive C-201-3 (ODOT Noise Policy – See Appendix A).

2.0 FUNDMENTALS OF SOUND AND NOISE TERMINOLOGY

Noise, defined as unwanted or excessive sound, is an undesirable by-product of our modern way of life. It can be annoying, can interfere with sleep, work, or recreation, and in extremes may cause physical and psychological damage. Highway traffic noise is a major contributor to overall transportation noise and is considered to be a line source of energy from which the energy levels dissipate vertically and laterally from the roadway. Traffic noise is not constant. It varies as each vehicle passes a point. The time-varying characteristics of environmental noise are analyzed statistically to determine the duration and intensity of noise exposure. In an urban environment, noise is made up of two distinct parts. One is ambient or background noise. Wind noise and distant traffic noise make up the acoustical environment surrounding the project. These sounds are not readily recognized, but combine to produce a nonirritating ambient sound level. This background sound level varies throughout the day, being lowest at night and highest during the day. The other component of urban noise is intermittent and louder than the background noise. Transportation noise and local industrial noise are examples of this type of noise. It is for these reasons that environmental noise is analyzed statistically.

Decibels (dB) are logarithmic units, as opposed to the more common linear units. For example, temperature units of Fahrenheit and Celsius are linear. A 2-degree increase is twice as much as a one degree increase. However, in decibels, a three dB noise increase results in a doubling of sound energy, but not in the human perception of sound. Research indicates that, to an average listener, a 10 dB increase is perceived as twice as loud. One dBA is the smallest change in sound level an average person can detect. Usually an observer cannot perceive an increase in noise of three to four dB if the increase takes place over several years.

This noise analysis will discuss noise levels as $L_{eq}(h)$. L_{eq} is defined as the steady-state sound level which, in a stated period of time, contains the same acoustic energy as the time-varying sound level during the same period. $L_{eq}(h)$ is the hourly value of L_{eq} and is based on the dB and the "A-weighted" decibel unit (dBA). Sound comprises different frequencies, each of which is perceived differently by the human ear. Since human hearing is not sensitive to low and very high frequencies, the A-weighted scale is used to approximate the response of the human ear by compensating for high and low end frequency insensitivity and renders noise level readings more meaningfully. The A-weighted decibel (dBA) unit measures perceptible sound energy and factors out the fringe frequencies.

3.0 METHODOLOGY

Traffic noise analysis consists of a comparison of physically measured or modeled noise levels for existing conditions with projected noise levels for future conditions. FHWA's software, TNM Look-up, was used to model noise levels that provide a reference of pre-calculated TNM v2.5 results for simple highway geometries. Simple highway geometries entail sound levels propagated from an infinitely-long, straight roadway over flat ground to receivers at selected offset distances. A receiver is a location, usually representing a dwelling unit, where exterior human activity occurs. The chosen receiver is modeled for noise levels and evaluated for noise impacts. As with the EA, the noise analysis for this corridor was divided into six segments as follows:

- Segment One begins at the junction of US 69 and SH 28 in Adair and extends east approximately 2,100 feet to Chouteau Street (ie, Warrior Road);
- Segment Two begins at Chouteau Street and extends east approximately 3 1/2 miles to just west of Rock Creek, near the junction of SH 28 and E0400;
- Segment Three begins just west of the SH 28/E0400 junction and extends east approximately 3 1/2 miles to Rogers Avenue in Pensacola;
- Segment Four begins at Rogers Avenue and extends east approximately 1,300 feet to McClinock Avenue in Pensacola;
- Segment Five begins at McClinock Avenue and extends east approximately 3.5 miles to NS 4455; and,

Segment Six begins at NS 4455 and extends east approximately 2,900 feet to the junction of SH 28 and SH 82 in Langley.

The FHWA noise regulations are contained in Title 23 of the Code of Federal Regulations, Part 772 (23 CFR 772). These regulations stipulate that noise impacts occur when noise levels are 1) unacceptably high, or 2) will "substantially" increase. Unacceptable predicted exterior noise levels for three land-use categories are defined within the regulations. A noise impact occurs when predicted noise levels "approach or exceed" the noise abatement criteria (NAC) for each land use category. The NAC categories are listed in **Table 1**. ODOT's Noise Policy states that a noise level "approaches" a NAC when it is one dBA less than the NAC; therefore, noise impacts occur at 56 dBA Leq(h) for Category A land-use, 66 dBA Leq(h) for Category B land-use, and 71 dBA Leq(h) for Category C land-use. A "substantial increase" in existing noise levels is not defined in 23 CFR 772; rather, the regulations permit the state highway administrations to assign their own definition of a "substantial increase". ODOT's Noise Policy states "Impacts occur when predicted exterior Leq noise levels exceed existing exterior Leq noise levels by fifteen (15) decibels or more". Once an impact is identified, then noise abatement is considered for the impacted area. Only those areas for which mitigation is determined to be feasible and reasonable as defined by ODOT's Noise Policy will be recommended.

Activity Category	Noise Level (Leq)	Description of Activity Category
Á	57 (Exterior)	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of these qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions or parks, open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
В	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals.
С	72 (Exterior)	Developed lands, properties or activities not included in Categories A or Eabove.
D		Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches libraries, hospitals, and auditoriums.

4.0 TRAFFIC DATA

The unit of measure for traffic on a highway is the average daily traffic (ADT), which is the total volume of traffic during a given time period, greater than one day and less than one year, divided by the number of days in that time period. The design year ADT for this segment of SH 28 is 8,500 vehicles per day in the year 2028.

Noise analysis should model the "worst hour" for noise which occurs when the highest volume for an hour is combined with the highest speeds. The highest hourly traffic for this facility in the year 2028 predicted to flow at design speed is 935 vehicles per hour (vph). This volume of traffic was used to model the "worst hour" of the day traffic noise levels. This volume of traffic is then divided according to the vehicle type and speed. For this study, most of the vehicles were modeled as cars in the peak hour. Nineteen percent (19%) of the vehicles were modeled as heavy trucks. Vehicle speeds were assumed to be traveling on average for both existing and future conditions ranging from 45 miles per hour (mph) within the urban limits of Adair and Pensacola to 65 mph within the rural extent. The traffic data sheets can be found in **Appendix B**.

5.0 IDENTIFICATION OF RECEIVERS

The project extent was examined to identify areas that may be affected by traffic noise. Based on aerials and windshield survey conducted on June 18, 2008, there are scattered residences, churches, and businesses along the SH 28 corridor. The residences and churches were identified as noise sensitive and classified as NAC Category B. The businesses scattered along the corridor fall under NAC Category C. It was determined that no Category A land use areas exist within the project limits. For purposes in comparing existing and future noise levels, 33 residential receivers were selected for modeling purposes and are depicted on the Map Panels provided with this report.

6.0 EXISTING NOISE LEVELS

Using the 2008 traffic data, the existing noise levels were modeled for the selected receivers for each of the corridor's six segments. In addition, the modeling established the noise impact zone, which is defined as that distance from the roadway centerline in which traffic noise levels are 66 decibels or greater for NAC-B receivers. The current 66 dBA contour line occurs at 48 feet within the urban limits of Adair and Pensacola, and at 82 feet within the rural extent. No existing residential receivers fall within this zone (see Map Panels 1 - 8). Table 2 includes the existing noise level for the modeled receivers.

7.0 FUTURE NOISE LEVELS

Using the future noise levels and proposed new 2-lane roadway, future noise levels were modeled for the same receivers and summarized in **Table 2**. The future 66 dBA contour line occurs at 61 feet within the urban limits of Adair and Pensacola, and at 99 feet within the rural extent. Accordingly, each segment of SH 28 was reviewed to identify receivers that will exceed the 66 dBA levels along the new SH 28 alignment. Segment 1 has no residences that will fall within the 66 dBA contour (see Map Panel 1). Segment 2 has four (4) residences that fall within the 66 dBA contour, i.e., R-11, R-16, R-20, and R-28 (see Map Panels 1, 2, and 3). Segment 3 has three (3) residences that fall within the 66 dBA contour, i.e., R-35, R-38, and R-39 (see Map Panels 3, 4, and 5). Segment 4 has no residences that fall within the 66 dBA contour (see Map Panel 5). Segment 5 has three (3) residences that fall within the 66 dBA contour, i.e., R-46, R-50, and R-53 (see Map Panels 6 and 7). Segment 6 has no residences that fall within the 66 dBA contour (see Map Panel 8). In summary, a total of 10 modeled residential receivers along the proposed new SH 28 alignment will experience noise impacts due to noise levels of 66 dBA or greater. It is noted that 7 of these 10 modeled receivers may be within the proposed right-of-way limits depending upon final design. No preliminary right-of-way plans were available in the preparation of this noise assessment and would have provided for a more accurate number of impacted receivers. As such, these receivers were included in the noise analysis.

			ary of Existing and			
Modeled Receiver	Description	Location	Existing (2008) Noise Level (dBA)	Future (2028) Noise Level (dBA)	Change in dBA (+/-)	Noise Impact?
C-01 (45 mph)	church (Adair)	Segment 1	59.0	61.0	+2.0	No
R-02 (45 mph)	residence (Adair)		62.4	64.5	+2.1	No
R-04 (45 mph)	residence (Adair)		60.6	62.6	+2.0	No
S-01 (45 mph)	school (Adair)		58.7	60.7	+2.0	No
R-06 (45 mph)	residence (Adair)		62.7	64.7	+2.0	No
R-10 (45 mph)	residence (Adair)		58.9	60.1	+1.2	No
R-11	residence	Segment 2	59.7	67.3	+7.6	Yes
R-16	residence		61.2	69.7	+8.5	Yes
R-17	residence		59.0	65.6	+6.6	No
R-20*	residence	(4)	61.4	69.9	+8.5	Yes
R-22*	residence	Segment 2	56.5	61.8	+5.3	No
R-23	residence		60.9	59,4	-1.5	No
R-27	residence	н	59.9	58.7	-1.2	No
R-28*	residence		61.2	69.7	+8.5	Yes
R-29	residence	4	62.6	60.4	-2.2	No
R-30*	residence	Segment 3	57.1	62.5	+5.4	No

Modeled Receiver	Description	Location	Existing (2008) Noise Level (dBA)	Future (2028) Noise Level (dBA)	Change in dBA (+/-)	Noise Impact?
R-34	residence	"	61.6	59.9	-1.7	No
R-35*	residence		60.5	68.2	+7.7	Yes
R-36*	residence	a	58.8	65.3	+6.5	No
R-37	residence	•	64.3	61.5	-2.8	No
R-38*	residence		61.2	69.7	+8.5	Yes
R-39*	residence	*	61.2	69.7	+8.5	Yes
R-40 (45 mph)	residence (Pensacola)	Segment 4	58.5	60.5	+2.0	No
R-41 (45 mph)	residence (Pensacola)	и	62.5	64.6	+2.1	No
R-43 (45 mph)	residence (Pensacola)		58.9	60.9	+2.0	No
R-45	residential	Segment 5	61.8	60.0	-1.8	No
R-46	residential		60.4	68.1	+7.7	Yes
R-50*	residence		59.6	66.6	+7.0	Yes
R-52	residence		63.2	60.9	-2.3	No
R-53*	residence		60.6	68.4	+7.8	Yes
R-55	residence		65.1	62.0	-3.1	No
R-62	residence		55.5	60.3	+4.8	No
R-63*	residence	Segment 6	56.2	58.2	+2.0	No

^{*} Potential relocation pending final design and right-of-way.

8.0 NOISE ABATEMENT CONSIDERATION

If the predicted noise levels for NAC category B receptors approach, equal, or exceed the criteria of 67 dBA or there is a significant increase (15 dBA) over existing noise levels, noise abatement must be considered. ODOT Noise Policy does not consider mitigation for commercial or industrial areas or those areas trending to commercial or industrial land uses. As shown in **Table 2**, an estimated 10 modeled residential receivers would experience future noise impacts. Noise abatement measures were considered to mitigate the adverse impacts described as follows:

Alteration of the vertical or horizontal roadway alignment: The proposed highway will be
reconstructed in a manner to provide safe travel for the road users while minimizing right-ofway. The vertical alignment adjustments will be incorporated where needed to enhance safe
sight and/or stopping distances and other design reasons in accordance with current design
standards. Shifting the horizontal alignment substantially north or south just for noise benefits

would increase right-of-way costs beyond what normally be required for ultimate design purposes, and therefore, would be considered unreasonable.

- <u>Buffer zones</u>: Acquiring undeveloped land for buffer zones would not be reasonable and feasible for individual noise sensitive receptors.
- <u>Traffic management</u>: SH 28 is a regional highway used for intrastate commerce. Restriction of heavy trucks, which could reduce overall noise levels, would not be a reasonable mitigation measure due to the fact that there are no other highway facilities to reroute such traffic near the SH 28 corridor. Control devises could be used to reduce the traffic speeds resulting in a minor noise level reduction benefit of one dBA per five mph reduction in speed. The use of signalized intersections in controlling traffic speeds throughout the project corridor is not reasonable and/or feasible due to the SH 28 functional classification and network characteristics.
- Noise barriers: Noise barriers are solid obstructions built between the roadway and the homes along the highway's right-of-way. The construction of a noise barrier is the mitigation measure most often associated with the concept of noise abatement. Barriers can be formed from earth mounds along the road (usually called earth berms) or from high, vertical walls. Earth berms have a very natural appearance and are usually attractive. However, an earth berm, if very high, can require a large portion of land. Walls take less space and can be built out of wood, stucco, concrete, masonry, metal, and other materials. However, the impacted receivers have direct access to SH 28 and there are numerous driveways, county roads and side streets which would cause gaps in the barriers and diminish the effectiveness. Therefore, noise barriers are not recommended for this project due to primarily the isolated nature of receptors and property access requirements.

The previously-described noise abatement measures were considered; however, mitigation is not recommended for this project, primarily due to the isolated nature of receptors and property access requirements.

9.0 INFORMATION FOR LOCAL OFFICIALS

Traffic noise approaching and exceeding sound levels specified in the ODOT Noise Policy resulting from the proposed project have been identified. To aid in noise compatible land use planning, the noise modeling determined that the approximate distance of the future 66 dBA line along SH 28 will occur 61 feet from the proposed roadway's centerline within the urban limits of Adair and Pensacola,

and 99 feet from the proposed roadway's centerline in the rural extent. Development within these zones either side of the proposed new SH 28 highway facility should be compatible with elevated traffic noise levels. Residential land use is discouraged within these impact zones due to anticipated future noise levels.

10.0 CONSTRUCTION NOISE

ODOT's Noise Policy states that any special noise sensitive land uses or activities which may be affected by noise from construction should be identified. Any special measures which are reasonable and feasible will be added to the plans and specifications. Dependent upon the type of construction equipment and activities and their distance from these special sensitive land use activities, ODOT will incorporate noise mitigation measures into project plans as appropriate. This assessment identified no special noise sensitive land uses or activities in proximity to the project that may be affected by construction noise.

11.0 CONCLUSIONS

Utilizing the FHWA's Traffic Noise Model, an analysis was conducted to determine the traffic-induced noise impacts potentially generated as a result of the proposed reconstruction of SH 28 beginning at the US-69 in Adair and extending east approximately 12.0 miles to Langley in Mayes County, Oklahoma. Under current conditions, no receivers approach, meet or exceed 67 dBA L_{eq}(h) for the NAC Category B. Based on proposed SH 28 improvements and the projected traffic growth (design year 2028), ten (10) modeled residential receivers will approach, meet, or exceed the 67 dBA L_{eq}(h) for the NAC Category B. The noise levels of the near receivers are expected to increase an average of 3.4 decibels over current conditions. No receivers will experience a 15-decibel increase in noise levels over current conditions; which is considered to be a substantial increase for noise impact determination.

For the entire extent of the SH 28 noise study area, 7 of the 10 residential receivers may fall within the proposed right-of-way limits depending upon final design. No preliminary right-of-way plans were available in the preparation of this noise assessment which would have provided for a more accurate number of impacted receptors. As such, these receptors were modeled and included in the noise analysis. The Department will conduct further evaluation of the noise assessment during the final design stage of project development to determine the actual future impacts that would ultimately be involved. In addition, the Department will coordinate with local officials regarding noise compatible land use planning for this corridor.

The ODOT Noise Policy was used as the traffic noise impact guideline for this assessment. This policy states that predicted noise levels attributed to roadway modifications resulting in increased

traffic levels require an evaluation of measured noise impact and possible mitigation measures. The impacted receivers that have been identified have direct access onto SH 28. In considering noise mitigation, implementing control measures such as a noise wall would impede driveway access, and maintaining this access would render a noise wall ineffective. Noise mitigation is not recommended for this project, primarily due to the isolated nature of receptors and property access requirements.

Figures





The Benham Companies, LLC

3700 W. Roberson, Surte 200 Norman, OK 73072 (405) 321-3895 www.bertham.com

Мар		no	
Proposed Alignment Noise Analysis Map	Document Title Environmental Assessment	Client Oklahoma Department of Transportation	Lecelon SH 28, Adair to Langley

Date	8/5/2009
Scale	As Shown
Designed By	DA
Approved By	DA
Drawn By	RE

Project Number	
4050700301	
Figure Number	
1 OF 8	





The Benham Companies, LLC

3700 W. Robinson, Suite 200 Norman, OK. 73072 (405) 321-3805 www.banham.com

Map		on	
Proposed Alignment Noise Analysis Map	Decument Title Environmental Assessment	Oklahoma Department of Transportation	Location SH 28, Adair to Langley
-	Date	8/5/2	2009

Date	8/5/2009
Scale	As Shown
Designed By	DA
Approved By	DA
Drawn By	RE

Project Number	
4050700301	
Figure Number	





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CO.			
Proposed Alignment Noise Analysis Map	Environmental Assessment	Oklahoma Department of Transportation	Location SH 28, Adair to Langley

Date	8/5/2009
Scale	As Shown
Designed By	DA
Approved By	DA
Drawn By	RE

	Project Number
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Proposed Alignment Noise Analysis Map ment Title Environmental Assessment Collaboration Department of Transportation

Date	8/5/2009
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Designed By	DA
Approved By	DA
Drawn By	RE

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Figure Tiffe Proposed Alignment Noise Analysis Map	Document 1786 Environmental Assessment	Ollert Oklahoma Department of Transportation	Location SH 28, Adair to Langley
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Proposed Alignment Noise Analysis Map
Document Title Environmental Assessment
ctent Oklahoma Department of Transportation
Location Addition Company

Date	8/5/2009
Scale	As Shown
Designed By	DA
Approved By	DA
Drawn By	RE

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The Benham Companies, LLC 3700 W, Roberson, Suite 200 Norman, OK 73072 (405) 321-3805 www.besham.com

Date 8/5/200	Proposed Alignment Noise Analysis Map Environmental Assessment Oklahoma Department of Transportation
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Date	8/5/2009
Scale	As Shown
Designed By	DA
Approved By	DA
Drawn By	RE

Ī	Project Number
	4050700301
Ī	Figure Number



SH 28, Adair to Langley

Appendix A ODOT Highway Noise Abatement Policy Directive C-201-3

POLICY DIRECT	IVE			NO. <u>C-201-3</u>
SUBJECT HIGH	IWAY NOISE	ABATEMENT		PAGE NO. 1 of 6 DATED 08-01-96
EFFECTIVE DATE 08-01	-96	ISSUED BY DIRECTOR	APPROVED	s/s Neal A. McCaleb
POLICY REPLACED None	POLICY NO.	C-201-3	PAGE NO.	DATED 08-01-96

POLICY

PLANNING DIVISION IS RESPONSIBLE FOR CONDUCTING NOISE STUDIES FOR FEDERALLY ASSISTED HIGHWAY CONSTRUCTION PROJECTS AND SHALL DEVELOP, REVIEW AND APPROVE ANY SPECIAL MITIGATION MEASURES DEEMED NECESSARY FOR HIGHWAY CONSTRUCTION PROJECTS.

APPLICABILITY

Planning Division will conduct noise studies on federal-aid projects involving the construction of a highway on new location, when an existing highway is significantly changed by horizontal or vertical realignment, or when the number of through-traffic lanes is increased. These noise studies will be conducted in conformance with 23 CFR 772, *Procedures for Abatement of Highway Traffic Noise*.

DEFINITIONS

- (a) Design Year: The future year used to estimate the probable traffic volume for which a highway is designed.
- (b) Existing Noise Levels: The noise, resulting from the natural and mechanical sources and human activity, considered normally present in a particular area.
- (c) L_{eq}: The L_{eq} is the constant, average sound level, which over a period of time (usually hourly) contains the same amount of sound energy as the varying levels of traffic noise.
- (d) Receptors: The locations studied for noise impacts and abatement, such as a single family residence or school. Each unit in a multifamily residence shall be considered a separate receptor.

POLICY DIRECT	IVE				NO. C-201-3		
SUBJECT HIGH	JBJECT HIGHWAY NOISE ABATEMENT				PAGE NO. 2 of 6 DATED 08-01-96		
EFFECTIVE DATE 08-01	1-96	ISSUED BY DIRECTOR	APPROVED	s/s	Neal A. McCaleb		
POLICY REPLACED POLICY NO. None		C-201-3	PAGE NO.		DATED 08-01-96		

(e) Traffic Noise Impacts:

- Impacts which occur when the future predicted exterior L_{eq} traffic noise levels approach or exceed the Federal Highway Administration (FHWA) Noise Abatement Criteria (see attached table).
- Impacts which occur when the future predicted exterior L_{eq} traffic noise levels exceed the existing exterior L_{eq} noise levels by 15 decibels or more.
- In those cases where there are no frequent exterior human activities present, impacts
 occur when interior noise levels approach by one (1) decibel or exceed the Federal
 Highway Administration Leq Noise Abatement Criteria Category E interior criterion
 level (see attached table).
- (f) Date of Public Knowledge: The date of FHWA environmental clearance for any given project after which local governments are responsible for noise compatible land use planning.

IMPLEMENTATION (SPECIFIC)

Noise studies will consist of the following:

A. Analysis of Traffic Noise Impacts

The Department will determine and analyze expected traffic noise impacts and alternative noise abatement measures to mitigate these impacts after considering the feasibility and reasonableness of the measures. The traffic noise analysis will include the following steps for each viable alternative under study:

- Identification of existing activities, developed lands, and those areas for which development of this type is planned, designed, and programmed with local authorities (i.e., an officially filedplat) which may be affected by noise.
- Determination of existing noise levels.
 - a. The existing exterior L_{eq} noise level will be either modeled using a Federal Highway Administration approved noise model or determined by actual noise measurement. Noise levels should reflect the noisiest hour of the day affecting a given receptor.

POLICY DIRECT	TVE				NO. C-201-3
SUBJECT HIGI	HWAY NOISE	ABATEMENT			PAGE NO. 3 of 6 DATED 08-01-96
EFFECTIVE DATE 08-0	1-96	ISSUED BY DIRECTOR	APPROVED	s/s	Neal A. McCaleb
POLICY REPLACED None	POLICY NO.	C-201-3	PAGE NO.		08-01-96

- 3. Prediction of traffic noise levels.
 - The predicted exterior L_{eq} traffic noise levels will be determined using a Federal Highway Administration approved noise model.
 - The design year traffic volume will be used for prediction of future traffic noise levels.
- 4. Determination of traffic noise impacts.
 - Impacts occur when exterior noise levels approach by one (1) decibel or exceed the Federal Highway Administration L_{cc} Noise Abatement Criteria.
 - exceed the Federal Highway Administration L_{eq} Noise Abatement Criteria.
 Impacts occur when predicted exterior L_{eq} noise levels exceed existing exterior L_{eq} noise levels by fifteen (15) decibels or more.
 - c. In those cases where no frequent exterior human activities occur, the interior criterion of the Federal Highway Administration L_{eq} Noise Abatement Criteria shall be used. Impacts occur when interior noise levels approach by one (1) decibel or exceed this interior criterion level.
- Examination of alternative noise mitigation measures.
 - Noise mitigation measures which are reasonable and feasible and noise impacted areas for which no apparent solution is available will be identified.
 - Commercial and industrial areas or those areas trending to commercial or industrial land use are not considered noise sensitive locations and are not eligible for mitigation.

B. Noise Mitigation

In determining and abating traffic noise impacts, primary consideration will be given to exterior areas. Mitigation will usually be considered only where frequent human use occurs and lowered noise levels would be of benefit. The following will guide consideration of mitigation measures:

Feasibility

Mitigation measures must be feasible. "Feasibility" refers to engineering considerations that determine if the following can be achieved.

 Mitigation measures should result in at least a seven (7) decibel reduction in design year highway traffic noise when compared to the design year traffic noise levels without mitigation for first row receptors. Some factors that may limit the ability to achieve noise reduction include topography, access requirements for driveways and cross-streets, and other noise sources in the area.

POLICY DIRECT	ΓIVE			NO. <u>C-201-3</u>
SUBJECT HIG	HWAY NOISE	ABATEMENT		PAGE NO. 4 of 6 DATED 08-01-96
EFFECTIVE DATE 08-0	1-96	ISSUED BY DIRECTOR	APPROVED S/	s Neal A. McCaleb
POLICY REPLACED None	POLICY NO.	C-201-3	PAGE NO.	08-01-96

- Mitigation measures must be constructable without using extraordinary construction techniques as identified by the Department.
- Mitigation measures must not create a drainage, maintenance, access or safety problem that cannot be accommodated by appropriate design as determined by the Department.

Reasonableness

Mitigation measures must be reasonable. This reasonableness criteria shall include:

- The area's residents desire for mitigation. Higher consideration will be given to first row residents adjacent to a transportation facility.
- 2. The overall magnitude of the future noise levels without mitigation.
- The magnitude of the future noise levels compared to existing noise levels.
- The date of development or construction of the residential area compared to the date of initial highway construction.
- The cost not to exceed \$30,000.00 perbenefitted residential receptor. A benefitted
 residential receptor receives at least a five (5) decibel reduction when compared
 to no mitigation and includes all residential receptors (not only first row receptors).
- The existing land use zoning, potential for land use change in the area, and actions taken by local officials to control incompatible growth and development adjacent to highways.

All these reasonableness criteria will be used to evaluate the reasonableness of mitigation. No one factor would guarantee or deny mitigation absolutely, but all would be considered by the Department to determine if mitigation is reasonable.

Mitigation at institutions such as churches, schools, and hospitals will be considered by the Department on a case-by-case basis.

Mitigation will not be considered for commercial or industrial areas or for those areas that are trending to commercial or industrial land use, and measures not authorized for federal-aid participation in 23 CFR 772.13(c)(1) through (6) will not be considered on Department projects. The Department will not consider insulation of privately-owned residences.

POLICY DIRECT	IVE				NO. <u>C-201-3</u>
SUBJECT HIGH	WAY NOISE	ABATEMENT			PAGE NO. 5 of 6 DATED 08-01-96
EFFECTIVE DATE 08-01	-96	DIRECTOR	APPROVED	s/s I	Neal A. McCaleb
POLICY REPLACED None	POLICY NO.	C-201-3	PAGE NO.		08-01-96

The Oklahoma Department of Transportation is not responsible for mitigation of noise impacts that occur in developments platted after the Date of Public Knowledge.

C. INFORMATION FOR LOCAL OFFICIALS

The Department will make the results of the noise analyses and any proposed mitigation measures available to local officials within whose jurisdiction the highway project is located. This will include expected noise levels as found in the National Environmental Policy Act (NEPA) document or in separate documentation. This information is provided to assist local officials to protect future land development from becoming incompatible with anticipated highway noise levels.

D. CONSTRUCTION NOISE

The Department will identify any special noise sensitive land uses or activities which may be affected by noise from construction of a project. Any special measures which are feasible and reasonable will be added to the project plans and specifications.

E. DESIGN

- The Design Division will incorporate noise mitigation measures recommended by Planning Division in project plans. The Planning Division Engineer must be notified in writing of any deviations prior to completion of final construction plans.
- Mitigation measures not covered in the manual of "Standard Specifications for Highway Construction" will be discussed at the Plan-in-Hand and detailed in the Plan-in-Hand report.
- Pay items will be established for mitigation measures not covered in the manual of "Standard Specifications for Highway Construction."

F. CONSTRUCTION

- Mitigation measures not covered in the manual of "Standard Specifications for Highway Construction" will be discussed at the pre-work conference and documented in the report of the meeting.
- The Planning Division Engineer must approve any deviation of mitigation measures from the final construction plans.

POLICY DIRECT	IVE				NO. <u>C-201-3</u>	
SUBJECT HIGHWAY NOISE ABATEMENT					PAGE NO. 6 of 6	
EFFECTIVE DATE 08-01	-96	DIRECTOR	APPROVED	s/s	Neal A. McCaleb	
POLICY REPLACED POLICY NO. None		C-201-3	PAGE NO.		DATED 08-01-96	

FEDERAL HIGHWAY ADMINISTRATION NOISE ABATEMENT CRITERIA

Activity Category	Leq Design Noise Level	Description of Activity Category
A	57 (Exterior)	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of these qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
В	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals.
С	72 (Exterior)	Developed lands, properties or activities not included in Categories A or B above.
D		Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Appendix B Design Traffic Data

NOISE INPUT TRAFFIC WORKSHEET

PROJECT DESCRIPTION: SH-28, ADAIR TO LANGLEY, MAYES COUNTY, OK

ENTER DESIGN TRAFFIC DATA (yellow cells only):

Assigned ADT =

5,300

2008

2028

Projected ADT =

8,500

K (dhv/adt-two way) =

0.11

D (% directional distribution) =

0.55

T (% of DHV) =

0.07

T (% of ADT) =

0.12

T3 (% of ADT) =

0.07

Posted Speed Limit (Existing) =

65 mph

Posted Speed Limit (Future) =

65 mph

RESULTS! DO NOT EDIT AREA BELOW. THESE ARE THE INPUTS FOR NOISE MODEL.

2008	ELECTION TO A FELO	0.2012/02/02/02
2000	FUTURE TRAFFIC	2028
542	DHV Cars =	870
17	DHV Med. Trucks =	27
24	DHV Heavy Trucks =	38
mph	SPEED = 6	35 mph
	17	DHV Med. Trucks = DHV Heavy Trucks =



DATE:

March 12, 2008

TO:

Roadway Design Division

FROM:

Planning and Research Division

SUBJECT: Design Traffic on SH-28, Mayes County

In response to your request, we are transmitting the attached design traffic information.

DJ:ph

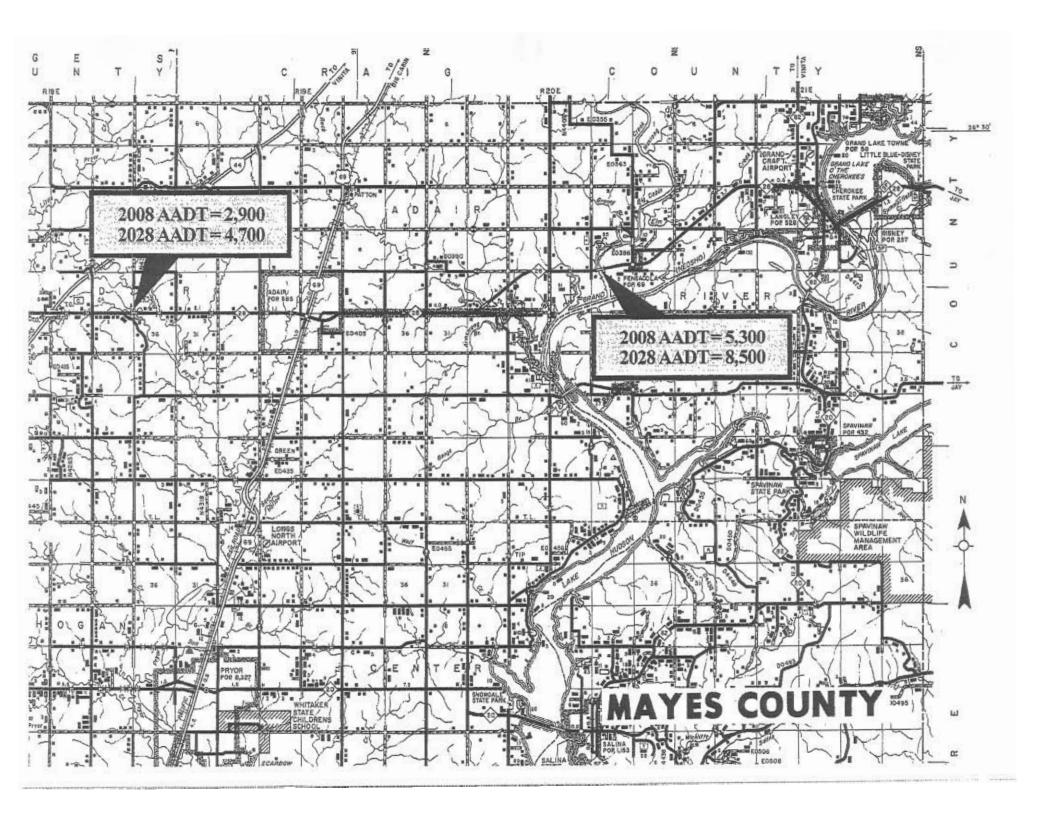
DESIGN TRAFFIC DATA

Highway/Street SH-	28	_ City	Adair/Pensa	icola	County	Mayes	
Description of Location From Rogers County line, east to Pensacola							
Additional Information							
Assigned AADT_200			Attachment				
Projected AADT 202	8 = _	See	Attachment				
K(dhv/aadt-two way)	-		11%				
D(Directional dist.)	=		55%				
T (% of DHV)	w		7%				
T (% of AADT)	= _		12%				
T3 (% of AADT)	=		7%				
T3 Overloads	= _		15 axles				
Compiled by Paul	Hagar		Date	3/12/08	Checker	(Dy D)	
Engr. Mgr. Russell						,	

T Includes all trucks with 6 or more tires

T3 Trucks with 3 or more axles

T3 Overloads: Number of overloaded axles per 100 T3 trucks



Appendix C TNM Computer Model Case Results Output

```
Existing Alignment 2008 Segment 1.txt
                      * CASE INFORMATION * *
       * * * * Results calculated with TNM Version 2.5 * * * *
Existing Alignment, 2008 Traffic, Segment 1
    * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
                                                          542.0
Automobile volume (v/h):
Average automobile speed (mph):
                                                          45.0
Medium truck volume (v/h):
Average medium truck speed (mph):
Heavy truck volume (v/h):
Average heavy truck speed (mph):
                                                          17.0
                                                          45.0
                                                          24.0
                                                          45.0
Bus volume (v/h):
                                                          0.0
Average bus speed (mph):
                                                          0.0
Motorcycle volume (v/h):
                                                          0.0
Average Motorcycle speed (mph):
                                                          0.0
       * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                         soft
           * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER #
                              1
C-01 - Church
Distance from center of 2-lane roadway (ft):
                                                                           107.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                           59.0
DESCRIPTION OF RECEIVER # 2
R-02 - Residence
Distance from center of 2-lane roadway (ft):
                                                                            74.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            62.4
DESCRIPTION OF RECEIVER # 3
R-04 - Residence
Distance from center of 2-lane roadway (ft):
                                                                            90.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            60.6
DESCRIPTION OF RECEIVER # 4
S-01 - School
Distance from center of 2-lane roadway (ft):
                                                                            111.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            58.7
DESCRIPTION OF RECEIVER #
R-06 - Residence
Distance from center of 2-lane roadway (ft):
                                                                            72.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            62.7
DESCRIPTION OF RECEIVER #
                                        Page 1
```

Existing Alignment 2008 Segment 1.txt

R-10 - Residence

Distance from center of 2-lane roadway (ft): 109.0 A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 58.9

```
Existing Alignment 2008 Segment 2.txt
* * CASE INFORMATION * * * *
       * * * * Results calculated with TNM Version 2.5 * * * *
Existing Alignment, 2008 Traffic, Segment 2
    * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
                                                        542.0
Automobile volume (v/h):
Average automobile speed (mph):
                                                        65.0
Medium truck volume (v/h):
Average medium truck speed (mph):
                                                        17.0
                                                         65.0
Heavy truck volume (v/h):
                                                         24.0
Average heavy truck speed (mph):
                                                         65.0
Bus volume (v/h):
                                                        0.0
Average bus speed (mph):
                                                        0.0
                                                        0.0
Motorcycle volume (v/h):
                                                        0.0
Average Motorcycle speed (mph):
       * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                        soft
          * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER #
                             1
R-11 - Residence
Distance from center of 2-lane roadway (ft):
                                                                          156.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                          59.7
DESCRIPTION OF RECEIVER # 2
R-16 - Residence
Distance from center of 2-lane roadway (ft):
                                                                          132.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                          61.2
DESCRIPTION OF RECEIVER # 3
R-17 - Residence
Distance from center of 2-lane roadway (ft):
                                                                          168.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                          59.0
DESCRIPTION OF RECEIVER #
R-20 - Residence
Distance from center of 2-lane roadway (ft):
                                                                          130.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                          61.4
DESCRIPTION OF RECEIVER #
                            5
R-22 - Residence
Distance from center of 2-lane roadway (ft):
                                                                          220.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                          56.5
DESCRIPTION OF RECEIVER #
                                       Page 1
```

Existing Alignment 2008 Segment 2.txt	
R-23 - Residence	
Distance from center of 2-lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	138.0 60.9
DESCRIPTION OF RECEIVER # 7	
R-27 - Residence	
Distance from center of 2-lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	153.0 59.9
DESCRIPTION OF RECEIVER # 8	
R-28 - Residence	
Distance from center of 2-lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	132.0 61.2
DESCRIPTION OF RECEIVER # 9	
R-29 - Residence	
Distance from center of 2-lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	116.0 62.6

```
Existing Alignment 2008 Segment 3.txt
                 * * * * CASE INFORMATION * * * *
        * * * * Results calculated with TNM Version 2.5 * * * *
Existing Alignment, 2008 Traffic, Segment 3
     * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
                                                           542.0
 Automobile volume (v/h):
                                                           65.0
 Average automobile speed (mph):
 Medium truck volume (v/h):
                                                           17.0
 Average medium truck speed (mph):
                                                           65.0
Heavy truck volume (v/h):
Average heavy truck speed (mph):
Bus volume (v/h):
Average bus speed (mph):
Motorcycle volume (v/h):
                                                           24.0
                                                           65.0
                                                           0.0
                                                           0.0
                                                           0.0
                                                           0.0
 Average Motorcycle speed (mph):
         * * * * TERRAIN SURFACE INFORMATION * * * *
 Terrain surface:
                                          soft
            * * * * RECEIVER INFORMATION * * * *
 DESCRIPTION OF RECEIVER #
 R-30 - Residence
 Distance from center of 2-lane roadway (ft):
                                                                             207.0
 A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                             57.1
 DESCRIPTION OF RECEIVER #
                               2
 R-34 - Residence
                                                                             127.0
 Distance from center of 2-lane roadway (ft):
 A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                             61.6
 DESCRIPTION OF RECEIVER #
 R-35 - Residence
 Distance from center of 2-lane roadway (ft):
                                                                             144.0
 A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                             60.5
 DESCRIPTION OF RECEIVER #
 R-36 - Residence
 Distance from center of 2-lane roadway (ft):
                                                                             172.0
 A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                             58.8
 DESCRIPTION OF RECEIVER # 5
 R-37 - Residence
                                                                             96.0
 Distance from center of 2-lane roadway (ft):
 A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                             64.3
 DESCRIPTION OF RECEIVER #
                                         Page 1
```

Existing Alignment 2008 Segment 3.txt

R-38 - Residence

Distance from center of 2-lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	132.0 61.2
DESCRIPTION OF RECEIVER # 7	20
R-39 - Residence	
Distance from center of 2-lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	132.0 61.2

```
Existing Alignment 2008 Segment 4.txt
* * * CASE INFORMATION * * * *
          * * * * Results calculated with TNM Version 2.5 * * * *
Existing Alignment, 2008 Traffic, Segment 4
      * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
Automobile volume (v/h):
                                                                          542.0
Average automobile speed (mph):
                                                                          45.0
Average automobile speed (mph):
Medium truck volume (v/h):
Average medium truck speed (mph):
Heavy truck volume (v/h):
Average heavy truck speed (mph):
Bus volume (v/h):
Average bus speed (mph):
Motorcycle volume (v/h):
Average Motorcycle speed (mph):
                                                                          17.0
                                                                          45.0
                                                                          24.0
                                                                          45.0
                                                                          0.0
                                                                          0.0
                                                                          0.0
Average Motorcycle speed (mph):
                                                                          0.0
          * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                                    soft
              * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER #
                                      1
R-40 - Residence
Distance from center of 2- lane roadway (ft):
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                                114.0
                                                                                                58.5
DESCRIPTION OF RECEIVER #
R-41 - Residence
Distance from center of 2- lane roadway (ft):
                                                                                                73.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                                 62.5
DESCRIPTION OF RECEIVER #
 R-43 - Residence
 Distance from center of 2- lane roadway (ft):
                                                                                                 109.0
```

A-weighted Hourly Equivalent Sound Level without Barrier (dBA):

58.9

```
Existing Alignment 2008 Segment 5.txt
                       * CASE INFORMATION * * * *
        * * * * Results calculated with TNM Version 2.5 * * * *
Existing SH-28 Alignment, 2008 Traffic, Segment 5
    * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
Automobile volume (v/h):
                                                             542.0
Average automobile speed (mph):
                                                             65.0
Medium truck volume (v/h):
Average medium truck speed (mph):
Heavy truck volume (v/h):
Average heavy truck speed (mph):
                                                             17.0
                                                             65.0
                                                             24.0
                                                             65.0
Bus volume (v/h):
Average bus speed (mph):
                                                             0.0
                                                             0.0
Motorcycle volume (v/h):
                                                             0.0
Average Motorcycle speed (mph):
                                                             0.0
        * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                           soft
           * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER #
                               1
R-45 - Residence
Distance from center of 2- lane roadway (ft):
                                                                               125.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                               61.8
DESCRIPTION OF RECEIVER #
                               2
R-46 - Residence
Distance from center of 2- lane roadway (ft):
                                                                               145.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                               60.4
DESCRIPTION OF RECEIVER # 3
R-50 - Residence
Distance from center of 2- lane roadway (ft):
                                                                               158.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                               59.6
DESCRIPTION OF RECEIVER # 4
R-52 - Residence
Distance from center of 2- lane roadway (ft):
                                                                               108.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                63.2
DESCRIPTION OF RECEIVER #
R-53 - Residence
Distance from center of 2- lane roadway (ft):
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                143.0
                                                                                60.6
DESCRIPTION OF RECEIVER #
```

Page 1

Existing Alignment 2008 Segment 5.txt

R-55 - Residence

Distance from center of 2- lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	89.0 65.1
DESCRIPTION OF RECEIVER # 7	
R-62 - Residence	
Distance from center of 2- lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	247.0

```
Existing Alignment 2008 Segment 6.txt
* * * * CASE INFORMATION * * * *
           * * * * Results calculated with TNM Version 2.5 * * * *
Existing SH-28 Alignment, 2008 Traffic, Segment 6
      * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
Automobile volume (v/h):
                                                                                 542.0
Average automobile speed (mph):
                                                                                 65.0
Average automobile speed (mph):
Medium truck volume (v/h):
Average medium truck speed (mph):
Heavy truck volume (v/h):
Average heavy truck speed (mph):
Bus volume (v/h):
Average bus speed (mph):
Motorcycle volume (v/h):
Average Motorcycle speed (mph):
                                                                                 17.0
                                                                                 65.0
                                                                                 24.0
                                                                                 65.0
                                                                                 0.0
                                                                                 0.0
                                                                                 0.0
Average Motorcycle speed (mph):
                                                                                 0.0
           * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                                         soft
               * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER # 1
R-63 Residence
Distance from center of 2-lane roadway (ft):
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                                          228.0
                                                                                                          56.2
```

```
New Alignment Future Traffic_Segment 1.txt
                * * * * CASE INFORMATION * * * *
       * * * * Results calculated with TNM Version 2.5 * * * *
New SH-28 Alignment, Future Traffic, Segment 1
    * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
                                                          870.0
Automobile volume (v/h):
Average automobile speed (mph):
                                                          45.0
Medium truck volume (v/h):
Average medium truck speed (mph):
                                                          27.0
                                                          45.0
Heavy truck volume (v/h):
Average heavy truck speed (mph):
Bus volume (v/h):
                                                          38.0
                                                          45.0
                                                          0.0
Average bus speed (mph):
Motorcycle volume (v/h):
                                                          0.0
                                                          0.0
                                                          0.0
Average Motorcycle speed (mph):
       * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                         soft
           * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER #
C-01 - Church
Distance from center of 2-lane roadway (ft):
                                                                            107.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            61.0
DESCRIPTION OF RECEIVER # 2
R-02 - Residence
Distance from center of 2-lane roadway (ft):
                                                                            74.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            64.5
DESCRIPTION OF RECEIVER # 3
R-04 - Residence
Distance from center of 2-lane roadway (ft):
                                                                            90.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            62.6
DESCRIPTION OF RECEIVER #
5-01 - School
Distance from center of 2-lane roadway (ft):
                                                                            111.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            60.7
DESCRIPTION OF RECEIVER # 5
R-06 - Residence
Distance from center of 2-lane roadway (ft):
                                                                            72.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                            64.7
DESCRIPTION OF RECEIVER #
                                        Page 1
```

New Alignment Future Traffic_Segment 1.txt

R-10 - Residence

Distance from center of 2-lane roadway (ft): 120.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 60.1

```
New Alignment Future Traffic_Segment 2.txt
                 * * * * CASE INFORMATION * * *
        * * * * Results calculated with TNM Version 2.5 * * * *
New SH-28 Alignment, Future Traffic, Segment 2
    * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
Automobile volume (v/h):
                                                               870.0
Average automobile speed (mph):
                                                               65.0
Medium truck volume (v/h):
Average medium truck speed (mph):
Heavy truck volume (v/h):
Average heavy truck speed (mph):
Bus volume (v/h):
Average bus speed (mph):
Motorcycle volume (v/h):
                                                               27.0
65.0
                                                               38.0
                                                               65.0
                                                               0.0
                                                               0.0
                                                               0.0
Average Motorcycle speed (mph):
                                                               0.0
        * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                            soft
            * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER #
                                 1
R-11 - Residence
Distance from center of 2-lane roadway (ft):
                                                                                  88.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                  67.3
DESCRIPTION OF RECEIVER # 2
R-16 - Residence
Distance from center of 2-lane roadway (ft):
                                                                                  68.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                  69.7
DESCRIPTION OF RECEIVER # 3
R-17 - Residence
Distance from center of 2-lane roadway (ft):
                                                                                  104.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                  65.6
DESCRIPTION OF RECEIVER # 4
R-20 - Residence
Distance from center of 2- lane roadway (ft):
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                  66.0
                                                                                  69.9
DESCRIPTION OF RECEIVER # 5
R-22 - Residence
Distance from center of 2-lane roadway (ft):
                                                                                  156.0
 A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                  61.8
DESCRIPTION OF RECEIVER # 6
```

New Alignment Future Traffic_Segment 2.txt

R-23 - Residence

K 25 Residence	
Distance from center of 2- lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	202.0 59.4
DESCRIPTION OF RECEIVER # 7	
R-27 - Residence	
Distance from center of 2-lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	217.0 58.7
DESCRIPTION OF RECEIVER # 8	
R-28 - Residence	
Distance from center of 2- lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	68.0 69.7
DESCRIPTION OF RECEIVER # 9	
R-29 - Residence	
Distance from center of 2- lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	180.0 60.4

```
New Alignment Future Traffic_Segment 3.txt
                 * * * * CASE INFORMATION * * *
        * * * * Results calculated with TNM Version 2.5 * * * *
New SH-28 Alignment, Future Traffic, Segment 3
     * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
Automobile volume (v/h):
                                                             870.0
Average automobile speed (mph):
                                                             65.0
Medium truck volume (v/h):
Average medium truck speed (mph):
Heavy truck volume (v/h):
Average heavy truck speed (mph):
Bus volume (v/h):
Average bus speed (mph):
Motorcycle volume (v/h):
                                                             27.0
                                                             65.0
                                                             38.0
                                                             65.0
                                                             0.0
                                                             0.0
                                                             0.0
Average Motorcycle speed (mph):
                                                             0.0
        * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                           soft
            * * * * RECEIVER INFORMATION * * * *
                                1
DESCRIPTION OF RECEIVER #
R-30 - Residence
Distance from center of 2-lane roadway (ft):
                                                                                145.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                62.5
DESCRIPTION OF RECEIVER #
R-34 - Residence
Distance from center of 2-lane roadway (ft):
                                                                                191.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                59.9
DESCRIPTION OF RECEIVER #
R-35 - Residence
Distance from center of 2- lane roadway (ft):
                                                                                80.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                68.2
 DESCRIPTION OF RECEIVER # 4
 R-36- Residence
Distance from center of 2- lane roadway (ft):
                                                                                108.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                65.3
DESCRIPTION OF RECEIVER # 5
R-37 - Residence
 Distance from center of 2- lane roadway (ft):
                                                                                160.0
 A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                61.5
 DESCRIPTION OF RECEIVER #
```

New Alignment Future Traffic_Segment 3.txt

R-38 - Residence

Distance from center of 2- lane roadway (ft):	68.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	69.7
DESCRIPTION OF RECEIVER # 7	
R-39 - Residence	
Distance from center of 2- lane roadway (ft):	68.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	69.7

New Alignment Future Traffic_Segment 4.txt * * * * CASE INFORMATION * * * * * * * Results calculated with TNM Version 2.5 * * * * New SH-28 Alignment, Future Noise, Segment 4 * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * * 870.0 Automobile volume (v/h): Average automobile speed (mph): 45.0 Medium truck volume (v/h): Average medium truck speed (mph): Heavy truck volume (v/h): Average heavy truck speed (mph): Bus volume (v/h): Average bus speed (mph): Metansysla volume (v/h): 27.0 45.0 38.0 45.0 0.0 0.0 Motorcycle volume (v/h): 0.0 Average Motorcycle speed (mph): 0.0 * * * * TERRAIN SURFACE INFORMATION * * * * Terrain surface: soft * * * * RECEIVER INFORMATION * * * * DESCRIPTION OF RECEIVER # 1 R-40 - Residence Distance from center of 2-lane roadway (ft): 114.0 A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 60.5 DESCRIPTION OF RECEIVER # R-41 - Residence 73.0 Distance from center of 2-lane roadway (ft): A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 64.6 DESCRIPTION OF RECEIVER # R-43 - Residence

109.0

60.9

Distance from center of 2-lane roadway (ft):

A-weighted Hourly Equivalent Sound Level without Barrier (dBA):

```
New Alignment Future Traffic_Segment 5.txt
                    * * CASE INFORMATION * * * *
       * * * * Results calculated with TNM Version 2.5 * * * *
New SH-28 Alignment, Future Traffic, Segment 5
    * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
Automobile volume (v/h):
                                                           870.0
Average automobile speed (mph):
                                                           65.0
Medium truck volume (v/h):
                                                           27.0
Average medium truck speed (mph):
                                                           65.0
Heavy truck volume (v/h):
                                                            38.0
Average heavy truck speed (mph):
Bus volume (v/h):
Average bus speed (mph):
Motorcycle volume (v/h):
                                                           65.0
                                                           0.0
                                                           0.0
                                                           0.0
Average Motorcycle speed (mph):
                                                           0.0
        * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                          soft
           * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER #
                               1
R-45 - Residence
Distance from center of 2-lane roadway (ft):
                                                                             189.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                             60.0
DESCRIPTION OF RECEIVER #
                               2
R-46 - Residence
Distance from center of 2- lane roadway (ft):
                                                                              81.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                              68.1
DESCRIPTION OF RECEIVER #
R-50 - Residence
Distance from center of 2-lane roadway (ft):
                                                                              94.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                              66.6
DESCRIPTION OF RECEIVER #
R-52- Residence
Distance from center of 2- lane roadway (ft):
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                              172.0
                                                                              60.9
DESCRIPTION OF RECEIVER #
R-53 - Residence
Distance from center of 2-lane roadway (ft):
                                                                              79.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                              68.4
DESCRIPTION OF RECEIVER #
```

Page 1

New	Alignment Future	Traffic_Se	egment 5.	txt	
R-55 - Residence					
Distance from center of A-weighted Hourly Equiv	2-lane roadway (valent Sound Leve	(ft): without	Barrier (dBA):	153.0 62.0
DESCRIPTION OF RECEIVER	t # 7				
R-62 - Residence					
Distance from center of A-weighted Hourly Equiv	2- lane roadway valent Sound Leve	(ft): without	Barrier ((dBA):	183.0 60.3
	Tri.				

```
New Alignment Future Traffic_Segment 6.txt
* * * * CASE INFORMATION * * * *
         * * * * Results calculated with TNM Version 2.5 * * * *
New SH-28 Alignment, Future Traffic, Segment 6
     * * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *
Automobile volume (v/h):
                                                                      870.0
Average automobile speed (mph):
                                                                      65.0
Medium truck volume (v/h):
Average medium truck speed (mph):
Heavy truck volume (v/h):
Average heavy truck speed (mph):
Bus volume (v/h):
Average bus speed (mph):
Motorsycle volume (v/h):
                                                                      27.0
65.0
                                                                      38.0
                                                                      65.0
                                                                      0.0
                                                                      0.0
                                                                      0.0
Motorcycle volume (v/h):
Average Motorcycle speed (mph):
                                                                      0.0
         * * * * TERRAIN SURFACE INFORMATION * * * *
Terrain surface:
                                                 soft
             * * * * RECEIVER INFORMATION * * * *
DESCRIPTION OF RECEIVER # 1
R-63 - Residence
Distance from center of 2-lane roadway (ft):
                                                                                           228.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):
                                                                                           58.2
```

APPENDIX F
HABITAT ASSESSMENT AND JURISDICTIONAL
WATERS & WETLANDS EVALUATION

HABITAT ASSESSMENT AND JURISDICTIONAL WATERS AND WETLANDS EVALUATION

JP Numbers 24382(04); 21909(04); 23270(04); 21910(04) Project Number SSP-155E(581)EC SH-28 Improvements, Adair to Langley Mayes County, Oklahoma

Prepared for:
Oklahoma Department of Transportation
Planning and Research Division
200 NE 21st Street
Oklahoma City, Oklahoma 73105

Prepared by: The Benham Companies, LLC Infrastructure and Environment 3700 West Robinson, Suite 200 Norman, OK 73072 405/321-3895 405/364-1708 (fax)

August 26, 2008

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OKLAHOMA DEPARTMENT OF TRANSPORTATION JP's 24382(04); 21909(04); 23270(04); 21910(04) HABITAT ASSESSMENT AND JURISDICTIONAL WATERS & WETLAND REPORT AUGUST 2008

1.0 LOCATION AND DESCRIPTION OF THE PROPOSED ACTION

ODOT is proposing improvements along SH-28 from the town of Adair to the town of Langley, OK. The improvements will address safety, as well as bridge replacements over Rock Creek and Big Cabin Creek. Total project length is approximately 13-miles. The project area is located in Sections 36, 35, 34, 26, and 25 of Township 23 North, Range 19 East; Sections 30, 31, 32, 29, 28, 27, 26, 23, 24, 22, and 21 of Township 23 North, Range 20 East; and Sections 19, 18, 17, 19, and 9 of Township 23 North, Range 21 East in Mayes County, Oklahoma. The coordinates of the project centroid are 36.454331 N, -95.159502 W (GCS NAD83). The project begins at the intersection of SH-28 and US-69 in Adair, OK and extends easterly to the SH-28 and SH-82 intersection near Langley, OK.

The proposed project area is located within two ecoregions. The western portion of the project area is located within the Osage Cuestas ecoregion. This ecoregion is an irregular to undulating plain that is underlain by interbedded, westward-dipping sandstone, shale, and limestone. East-facing cuestas and low hills occur. Topography is distinct from the nearby Flint Hills, Ozark Highlands, and Cherokee Plains. Natural vegetation is mostly tall grass prairie, but a mix of tall grass prairie and oak-hickory forest is native to eastern areas. Today, rangeland, cropland, riparian forests, and on rocky hills, oak woodland or oak forest occur. The far eastern portion of the project area is located within the Springfield Plateau of the Ozark Highlands ecoregion. This ecoregion is underlain by cherty limestone of the Mississippian Boone Formation. Karst features, such as sink holes and caves are common. Cool, perennial, spring-fed streams occur. Prior to the 19th century, uplands were dominated by oak-hickory forest; savannas and tall grass prairies also occurred and were maintained by fire. Today, much of the forest, and nearly all the prairie, has been replaced by agriculture or expanding residential areas. Poultry and livestock farming are the main land uses. Application of poultry litter to agricultural fields and cattle farming have impaired downstream water quality. Streams in the Springfield Plateau have lower gradients, contain more clay, and are less clogged with gravel from bank erosion than in the Dissected Springfield Plateau-Elk River Hills ecoregion.

According to Duck and Fletcher, the project area is located within the Tallgrass Prairie Game Type.

The Tallgrass Prairie Game Type occupies most of the best agricultural soils of Oklahoma and, with
the exception of the Arbuckle Mountains and Osage areas, is characterized by clean cultivation and
low game potentiality. For the most part the natural vegetation consists of a mixture of such species

as big bluestem (Andropogon gerardii), little bluestem (Schizachyrium scoparium), Indian grass (Sorghastrum nutans), switch grass (Panicum virgatum), and silver beard grass (Bothriochloa saccharoides), in the eastern portions of the type, with a gradual increase of such species as buffalo grass (Buchloë dactyloides), blue grama (Bouteloua gracilis) and side oats grama (Bouteloua curtipendula). Continued grazing has removed the tall grass species from the composition of the western portion of the type leaving only the short grasses. The topography of this type is from flat to gently rolling. The soils of the Tallgrass Prairie Game Type, west of the central cross timbers, have their origin from shales and clays of the permian Red Beds and range from light sandy loams to heavier silt loams and clays. In northeastern Oklahoma the type is supported mostly by residual soils formed from weathering of limestones, fine grained sandstones and shales. As a result of fertile soils, generally sufficient rainfall for small grains and favorable topography, the Tallgrass Prairie Game Type is essentially an agricultural game condition. With the exception of the mountainous areas, the Tallgrass Prairie Game Type west of the cross timbers is approximately 80 percent cultivated. Throughout this portion of the Tallgrass Prairie Game Type, wheat is the principal crop in the north, while cotton ranks first in the south. Corn is a ranking crop in the northeastern portion with hay a close second. The Osage grasslands are used very little for crop production, but largely for pasture. Throughout the intensively farmed areas, seasonal floods overflow the bottomlands of this condition, forcing game to seek the sparsely covered uplands. Continued erosion has silted in many stream beds and, along with trampling by cattle, the game cover in many areas is seriously reduced. The project site investigation revealed little to no similarity between the current vegetation and the historical vegetation found within the Tallgrass Prairie Game Type. This lack of similarity is likely due to the natural areas being converted to cropland and pasture. The far eastern tip of the project boundary borders the Oak-Hickory Forest Game Type (dominants including blackjack oak (Quercus marilandica), post oak (Quercus stellata), red oak (Quercus rubra), pin oak (Quercus palustris), black oak (Carya texana), scaly bark hickory (Carya laciniosa), pignut hickory (Carya glabra), and winged elm (Ulmus alata). The far eastern edge of the project area reflected the historical vegetation found within the Oak-Hickory forest.

The area surrounding the project site was generally characterized as pasture fenced for livestock grazing, upland forest and riparian forest. Tree species observed during the site visit include green ash (Fraxinus pennsylvanica), black hickory (Carya texana), American elm (Ulmus americana), sugarberry (Celtis laevigata), pecan (Carya illinoensis), black walnut (Juglans nigra), redbud (Ceris canadensis), persimmon (Diospyros virginiana), red cedar (Juniperus virginiana), red mulberry (Morus rubra), chinkapin oak (Quercus muehlenbergii), black oak (Carya texana), blackjack oak (Quercus marilandica), post oak (Quercus stellata), short-leaf pine (Pinus echinata), Osage-orange (Maclura pomifera), winged elm (Ulmus alata), honey locust (Gleditsia triacanthos), black willow

(Salix nigra), cottonwood (Populus deltoides), box elder (Acer negundo), sycamore (Platanus occidentalis), silver maple (Acer saccharinum), winged sumac (Rhus copallina), and smooth sumac (Rhus glabra). Woody shrubs and vines present included blackberry (Rubus sp.), buttonbush (Cephalanthus occidentalis), roughleaf dogwood (Cornus drummondii), skunkbush (Rhus aromatica), elderberry (Sambucus canadensis), green hawthorn (Crataegus viridis), multiflora rose (Rosa multiflora), Japanese honeysuckle (Lonicera japonica), trumpet vine (Campsis radicans), greenbrier (Smilax bona-nox), Virginia creeper (Parthenocissus quinquefolia), and poison ivy (Rhus radicans). Herbaceous species included Johnsongrass (Sorghum halapense), Japanese brome (Bromus japonicus), splitbeard bluestem (Andropogon ternarius), cheatgrass (Bromus tectorum), Canada wildrye (Elymus canadensis), inland sea oats (Chasmanthium latifolium), rice cutgrass (Leersia oryzoides), rescuegrass (Bromus catharticus), soft brome (Bromus hordeacus), tall fescue (Festuca arundinacea), bermudagrass (Cynodon dactylon), garden coreopsis (Coreopsis tinctoria), black medic (Medicago lupulina), great ragweed (Ambrosia trifida), purple coneflower (Echinacea paradoxa), English plantain (Plantago lanceolata), dogbane (Apocynum cannabinum), cowbane (Oxypolis rigidior), rattlesnake master (Eryngium yuccifolium), black-eyed susan (Rudbeckia hirta), night shade (Solanum sp.), bee balm (Monarda fistulosa), tall thistle (Cirsium altissimum), prairie acacia (Acacia angustissima), false indigo (Amorpha fruticosa), beggar-ticks (Desmodium canadense), slender woodoats (Chasmanthium laxum), Indian currant (Symphoricarpos orbiculatus), cocklebur (Xanthium strumarium), creeping milkweed (Asclepias asperula), pokeberry (Phytolacca americana), may-apple (Podophyllum peltatum), henbit (Lamium amplexicaule), white clover (Trifolium repens), sensitive fern (Onoclea sensibilis), swamp buttercup (Ranunculus hispidus), jewelweed (Impatiens capensis), water hemlock (Cicuta maculata), curly dock (Rumex crispus), water plantain (Alisma subcordatum), American water willow (Justicia americana), water primrose (Ludwigia peploides), swamp smartweed (Polygonum hydropiperoides), frogfruit (Lippia lanceolata), slim-pod rush (Juncus diffusissiumus), grass-leaf rush (Juncus marginatus), knot-leaf rush (Juncus acuminatus), taper-leaf flat sedge (Cyperus acuminatus), yellow nut-grass (Cyperus esculentus), large-tip spikerush (Eleocharis palustris), and Carex species.

2.0 THREATENED AND ENDANGERED SPECIES EVALUATION

The Endangered Species Act of 1973 prohibits any person from taking (harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, relocating, or collecting or attempting to engage in any such conduct) any federally-listed threatened or endangered species. Significant habitat modification or degradation that results in death or injury to federally protected species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering is also prohibited. Administration and enforcement of the Endangered Species Act (ESA) are the responsibility of the U.S. Department of the Interior Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. The USFWS has regulations under the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA) that enable the agency to continue honoring authorizations for "take" of Bald Eagles previously granted under the Endangered Species Act (ESA). The USFWS developed National Bald Eagle Management Guidelines to advise landowners, land managers, and others who share public and private lands with Bald Eagles when and under what circumstances the protective provisions of the Eagle Act may apply to their activities. The Guidelines are intended to help minimize impacts to bald eagles, particularly where they may constitute "disturbance," which is prohibited by the Eagle Act.

In order to evaluate the proposed construction site for the potential presence of protected species, The Benham Companies, LLC (Benham) reviewed the USFWS list of threatened and endangered species and designated critical habitat areas (Table 1). Benham reviewed these resources to determine if the proposed project has the potential for adverse impacts to listed species. Based upon the habitat descriptions of those species that were indicated to occur in Mayes County, a qualitative comparison to the habitat present within the proposed construction area was made during the site inspection. The qualitative comparison was based upon regional and local ecological characteristics including soils, terrain, hydrology and vegetation.

Table 1
Federally Protected Threatened and Endangered Species
Potentially Present in Mayes County, Oklahoma

Species	Federal Status
American Burying Beetle (Nicrophorus americanus)	E
Gray Bat (Myotis grisescens)	E
Interior Least Tern (Sterna antillarum)	E
Piping Plover (Charadrius melodus)	Т
Ozark Cavefish (Amblyopsis rosae)	Т
Arkansas Darter (Etheostoma cragini)	С

Notes: E = Endangered, T = Threatened, C = Candidate species

None of the above listed species were observed at the time of the site inspection. No habitat for the Ozark Cavefish was observed. Potential habitat for the American Burying Beetle, Gray Bat, Interior Least Tern, Piping Plover, Arkansas Darter, and Bald Eagle may be present within the project area. Construction personnel should be aware of the potential presence of listed threatened and/or endangered species within the county, be able to recognize them, and report their presence if discovered on the project site.

The American burying beetle (Nicrophorus americanus) (ABB) is an endangered species that has been found recently in Oklahoma, Arkansas, Nebraska, Kansas, and Rhode Island. They are found in 22 counties in eastern Oklahoma. An additional 8 counties lie in the historic range of the ABB. The ABB feeds on a variety of small carrion items. The ABB is an annual, nocturnal species which generally reproduces only once, and is active when nighttime temperatures are consistently above 60 degrees Fahrenheit (in Oklahoma, typically between May 20 and September 20). During the inactive season, (September 20 to May 20), the ABB remains inactive underground. Habitat requirements for the ABB include areas with loose, well-drained soils with a well-formed litter layer from oak-pine and oak-hickory forests, as well as open native grassland and open native fields along forest edges. Reproductive habitat must contain soils that are conducive to excavation as well as appropriately sized (small) carrion items. Therefore, habitat present at the proposed construction site was characterized as potential ABB habitat. The proposed project site lies within the documented historical range of the ABB. Approximately 150 acres of suitable habitat for the ABB is located within the environmental study area. These areas are located in the forests, open fields along the forest edges, and within the pastures in the project area. The project has been incorporated into the programmatic biological assessment for the ABB and the USFWS has concurred with ODOT's effects determination for the ABB, based upon ODOT's and Federal Highway Administration's implementation of the USFWS' July 16, 2008 biological opinion.

The gray bat (Myotis grisescens) is a medium-sized bat which roosts in caves year-round. Gray bat distribution is limited to limestone cave areas of the southeastern United States, including the limestone region of Northeastern Oklahoma. The gray bat has been found in only four counties in northeastern Oklahoma, i.e., Adair, Cherokee, Delaware, and Ottawa. Gray bats may occur in caves in other counties, but there have been no recent sightings. No hibernation caves are known in Oklahoma. No bats were observed during the survey. The project area was examined for karst features such as cave openings, passages and sinkholes; no such features were observed on the survey date(s). To our knowledge, the project site is not located within the recharge area of any cave harboring a federally-listed species. Due to high water at the time of survey, the existing Rock Creek and Big Cabin Creek bridges were not inspected for the presence of features indicating that the structure may be used as a summer roost site and/or day-roosting site by the gray bat. The existing

bridge structures consist of a concrete deck (smooth on the lower surface). Since both of the bridges were located over deep water and could not be visually inspected during the site visit; it is recommended that a more comprehensive examination of the bridge (by boat) be conducted prior to bridge construction to determine the bridge's suitability for gray bat roosting. Therefore, Benham recommends conducting a bridge suitability survey for gray bat roosting. If the bridge is determined unsuitable for roosting, this project is expected to have no effect on the gray bat in regard to roosting habitat. If, during the bridge surveys, the bridge(s) is determined suitable for roosting, then a gray bat survey should be conducted in consultation with the USFWS within 1 year prior to construction. If no gray bats are found during the survey, this project may affect, but is unlikely to adversely affect, the gray bat. If the gray bat is found during the survey, then further consultation with the USFWS will be required.

However, suitable foraging habitat (such as floodplain forest and wetlands) was present in the project area. The project area is located within a USFWS Federally-Listed Aquatic Dependant Species Watershed. The USFWS has record of a cave used by gray bats and the project area is located within the known 20 kilometer foraging radius. If the project will involve removal of native woody riparian vegetation, ODOT will need to minimize, to the maximum extent practical, the removal of riparian vegetation outside the actual limits of construction. Additionally, any woody riparian vegetation unavoidably lost, outside of the clear zone and within ODOT's final permanent right-of-way, should be replaced with native riparian tree species. ODOT will attempt to maintain a wooded corridor of riparian vegetation similar to what was present prior to construction. It is recommended that ODOT consult with the USFWS and assess the amount of foraging habitat that will be disturbed.

The Interior Least Tern (Sterna antillarum) is a small migratory shorebird that breeds in small colonies on exposed salt flats, river sandbars, or reservoir beaches with little vegetation. In Oklahoma, they nest along the major rivers and at the Salt Plains National Wildlife Refuge and winter in South America. No sighting records of the Interior Least Tern in Mayes County have been recorded in the ONHI database. Mayes County is within the probable migratory pathway between breeding and winter habitat and contains sites that could provide stopover habitat during migration. During the site visit, Rock Creek and Big Cabin Creek were flooded. According to 2003 aerial photography, Rock Creek does not appear to provide sandbar habitat or shallow water suitable for Interior Least Tern foraging. However, according to aerial photography, sandbar habitat occurs within the overflow area of Big Cabin Creek and immediately south of the bridge during lower water levels. Since terns would only be possibly migrating through the area in spring and fall, it is unlikely that they would be in the vicinity during low water levels. Since the project area is not within a watershed that supports breeding Interior Least Tern, and is only along the probable migratory path for this species, this project may affect, but is unlikely to adversely affect, the Interior Least Tern.

The Piping Plover (Charadrius melodus), a migratory shorebird species, generally occupies drier portions of broad sandy expanses along rivers and reservoirs with sparse vegetation. While sparse clumps of grass or herbaceous vegetation are important, encroachment of woody vegetation is detrimental to this species. The Piping Plover migrates through Oklahoma in the spring and fall. Sight records of migratory Piping Plovers exist for many central and eastern Oklahoma counties. No record of sightings of the Piping Plover in Mayes County is recorded in the ONHI database. Mayes County is within the probable migratory pathway between breeding and winter habitats and contains sites that could provide stopover habitat during migration. During the site visit, Rock Creek and Big Cabin Creek were flooded. According to 2003 aerial photography, Rock Creek does not appear to provide sandbar habitat or shallow water suitable for Piping Plover foraging. However, according to aerial photography, sandbar habitat occurs within the overflow area of Big Cabin Creek and immediately south of the bridge during lower water levels. Since plovers would only be possibly migrating through the area in spring and fall, it is unlikely that they would be in the vicinity during low water levels. Since there are no known piping plover records for the project area, and Mayes County is only along the probable migratory path for this species; this project may affect, but is unlikely to adversely affect, the Piping Plover. Any effects to the Piping Plover would be discountable.

The Ozark cavefish (Amblyopsis rosae) lives only in caves which have a relatively large source of nutrients, such as bat guano or blown leaf litter and high water quality. Ozark cavefish tend to occur in flowing cave streams as opposed to quiet pools. The Ozark cavefish is native to the Springfield Plateau of the Ozark Highlands of southwestern Missouri, northwestern Arkansas, and northeastern Oklahoma. Currently, 15 caves in this area have verified cavefish populations. In Oklahoma, populations are known to occur in Delaware County. There are historical records for Ottawa and Mayes Counties. The project area is located within a USFWS Federally-Listed Aquatic Species Watershed. The USFWS lists the project site as being within the aquifer that supports Ozark cavefish. No caves or karst features were observed within the project area; however, a survey was not conducted to determine the presence or absence of underwater caves. To our knowledge, the project area is not located within a recharge area of a cave harboring Ozark cavefish. Therefore, this project is expected to have no effect on the Ozark cavefish. If the project is discovered to be in a recharge area, then the project may affect, but is unlikely to adversely affect the Ozark cavefish if karst BMPs are implemented. If the Ozark cavefish is discovered or suitable caves are encountered at any point prior to or during construction, then consultation with the USFWS will be required.

The Arkansas darter (Etheostoma cragini) occurs most often in sand or pebble-bottomed pools of small spring-fed streams and marshes, with cool water and abundant rooted aquatic vegetation. It has been found to inhabit the mainstream Cimarron River in Kansas and Oklahoma, and has occurred in northeastern Oklahoma where there are 10 historic localities from the eastern tributaries

of the Neosho River and one (1) from the Big Cabin Creek drainage. Several drainages throughout the project area flow through emergent/forested wetland areas providing rooted aquatic vegetation. However, the project area is not within the watersheds known to support Arkansas darters. Therefore, though habitat may exist for the Arkansas darter, the project is outside the known range of the species. With the implementation of appropriate Best Management Practices (BMPs) for storm water, erosion and sediment control, and chemical/fuel handling measures dictated by Federal Regulation and the ODOT's Standard Specifications for Highway Construction, the project may affect, but is not likely to adversely affect, the Arkansas darter. Since the project is not connected to waters that have been known to support Arkansas darters, any effects would be discountable.

The Bald Eagle (Haliaeetus leucocephalus) is a large predatory bird that occupies large trees along major rivers and streams during their winter distribution (December through March) in Oklahoma. Bald eagles nest in tall trees usually within one or two miles from large rivers and streams where fish are abundant. Although nesting eagles are concentrated in eastern Oklahoma, their range appears to be expanding and are known to occur in central Oklahoma. Large trees were present within the project area along Rock Creek and Big Cabin Creek which may provide suitable forage/resting habitat for the Bald Eagle. However, no Bald Eagles or Bald Eagle nests were observed during the site visit. Therefore, this project is not expected to impact the Bald Eagle. If Bald Eagles are encountered at any point prior to or during construction, the National Bald Eagle Management Guidelines should be implemented.

3.0 JURISDICTIONAL WATERS EVALUATION

Section 404 of the federal Clean Water Act (CWA) applies to "Waters of the United States." Section 404 of the Clean Water Act (33 USC 1344) regulates the discharge of dredged or fill material into waters of the United States. "Waters of the United States" are defined to include non-wetland "Waters" (waterways and streams) and wetlands that have a connection to navigable waters, and tributaries to these waters (Memorandum issued by the U.S. Army Corps of Engineers (USACE, 2001)). In tidal waters, USACE jurisdiction extends to the high tide line. In non-tidal waters, the limits of jurisdiction under the category of "Waters" are "ordinary high water marks" (OHWM) that are identified through field observation of features such as shelving and debris deposits. Where wetlands occur above high tide or high water marks, they are considered "adjacent wetlands", and are included within USACE jurisdiction, as long as such features are connected to navigable waters or their tributaries.

For this field investigation, wetlands were determined in accordance with the US Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual, associated policy statements and field indicator interpretation guidance. The scientific criteria specified in the wetland delineation manual require positive identification of three on-site parameters. The criteria for verification of wetlands are a dominance of hydrophytic vegetation, presence of hydric soils, and verification of wetland hydrology as specified below.

- Hydrophytic vegetation are plant species that have a wetland indicator status of facultative (FAC), facultative wetland (FACW), or obligate (OBL). The wetland indicator status of the observed vegetation was identified with the National List of Plant Species That Occur in Wetlands: Region 6: South Plains (U.S. Fish and Wildlife Service, 1996).
- Wetland hydrology implies a hydrologic regime involving periodic inundation or soil saturation to the surface for some period during the growing season. Evidence of hydrology includes various parameters such as saturation in the upper 12 inches of the soil profile; inundation; sediment deposition; and drift lines or water marks.
- Hydric soils to a depth of 16 inches determine whether soils are hydric are based on criteria established by the Soil Conservation Service (USDA 2000) and described in the USACE manual (Environmental Laboratory 1987). Hydric soil indicators include soil color, mottles, oxidized root channels, and concretions of iron or manganese. Soil color during the survey was identified with the Munsell Soil Color Chart (Kollmorgen Instruments Corp. 1992).

Benham reviewed available material such as topographic maps, National Wetlands Inventory Maps, Natural Resource Conservation Service (NRCS) soil maps and hydric soil lists for indications of jurisdictional waters in the proposed project area (See Figures 1 through 3). In addition, field reconnaissance was conducted on June 24, 25 and 26, 2008 to visually evaluate the potential presence of wetland characteristics in the project area. Field photographs are included in Appendix A.

Types of vegetation, soils, and hydrology were recorded on routine data forms for each sampling point (**Appendix B**). Wetland / upland boundary determinations were established based on changes in vegetation and/or topography between the wetland and upland points. The delineation boundaries represent the outer limits of potentially jurisdictional waters of the US. Wetlands are distinguished from other waters of the US in mapping (**Figure 4**).

For the purpose of the onsite investigation, the criteria used for identification of waters of the U.S. (except for wetlands) included: any drainage areas mapped on the US Geological Survey (USGS) 7.5-Minute Series Topographic Map, any natural or man-made reservoirs, ponds, etc., or any other drainage path with a visibly defined stream bed and banks.

3.1 RESULTS

Field Site 1: Emergent Wetland(s)

(0.30 acre) These small wetland areas are located along ditches on the north and south sides of SH-28 in a residential area in the town of Adair. The total acreage of this field site consists of the total of each individual wetland area. These emergent ditches may be considered isolated by the USACE and therefore not jurisdictional. The sites are displayed in the site photographs and identified on the site map as FS-1 (Appendix A and Figure 4). The dominant plant species were large-spike spikerush, frog fruit, swamp buttercup, taper-leaf flat sedge, Montevideo's spikerush, and curly dock. The soil complex was mapped as Taloka silt loam. Hydric soils were confirmed by the matrix coloration of 10YR 3/1 with a mottle of 10YR 5/6 from 0 to 12 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation, saturation, and oxidized root channels. These wetlands are classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 2: Drainage

This drainage is located south of SH-28 in a residential area just east of Adair. This site is displayed in the site photographs and identified on the site map as FS-2 (Appendix A and Figure 4). The canopy for the area included American elm, sugarberry and mimosa trees. The estimated ordinary high water marks were approximately 3 feet wide. Approximately 72 linear feet of the channel is

located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.01 acre.

Field Site 3: Emergent Wetland

(0.10 acre) This wetland is located north of SH-28, along a ditch in a residential area just east of Adair. This site is displayed in the site photographs and identified on the site map as FS-3 (Appendix A and Figure 4). The dominant plant species were taper-leaf flat sedge, swamp buttercup, Montevideo's spikerush, and Frank's sedge. The soil complex was mapped as Taloka silt loam. Hydric soils were confirmed by the matrix coloration of 5Y 3/1 with a mottle of 5Y 3/2 from 0 to 6 inches and 5Y 3/1 with a mottle of 2.5Y 4/2 from 6 to 16 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation, saturation and oxidized root channels. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 4: Drainage

This drainage is located south of SH-28. The drainage begins at SH-28 and flows southward into a pasture. This site is displayed in the site photographs and identified on the site map as FS-4 (Appendix A and Figure 4). The canopy for the area included persimmon trees and shrubs. The estimated ordinary high water marks were approximately 2 feet wide. Approximately 155 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.01 acre.

Field Site 5: Pond

(1.15 acre) This pond is located in a pasture north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-5 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed. The soil complex was mapped as Taloka silt loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 6: Pond

(0.16 acre) This pond is located south of SH-28 and east of the pond noted as FS-5. This site is displayed in the site photographs and identified on the site map as FS-6 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed. The soil complex was mapped as Summit silty clay loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 7: Emergent Wetland

(0.05 acre) This wetland is located south of SH-28, adjacent to the pond noted as FS-6. This site is displayed in the site photographs and identified on the site map as FS-7 (Appendix A and Figure 4). The dominant plant species were large-spike spikerush, grass-leaf rush, slim-pod rush, and Frank's sedge. The soil complex was mapped as Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 from 0 to 2 inches and 5Y 4/1 with a mottle of 5Y 4/2 from 2 to 12 inches. The soils were classified as gravelly clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 8: Pond

(0.04acre) This pond is located in a pasture north of SH-28 and east of the pond noted as FS-6. The majority of this pond is outside the environmental study area. This site is displayed in the site photographs and identified on the site map as FS-8 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed. The soil complex was mapped as Summit silty clay loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 9: Emergent Wetland

(0.02 acre) This small wetland is located south of the pond noted as FS-8. It appears to be a portion of an old channel bed that used to run through the pasture. This site is displayed in the site photographs and identified on the site map as FS-9 (Appendix A and Figure 4). The dominant plant species was large-spike spikerush. The soil complex was mapped as Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 from 0 to 12 inches. The soils were classified as silty clay. Wetland hydrology is evidenced by inundation and saturation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 10: Unnamed Creek

This drainage enters the project area from a pond located to the north of the project area. The drainage flows southeast through the project area until its confluence with the drainage noted as FS-12. The canopy for the area included American elm and sugarberry trees. The estimated ordinary high water marks ranged from 7 to 10 feet wide. Approximately 2,334 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.46 acre. Site photographs are included in **Appendix A**. The stream is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 11: Pond

(0.02 acre) This pond is located in a pasture south of SH-28 and south of the unnamed creek noted as FS-10. The majority of this pond is outside the environmental study area. This site is displayed in the site photographs and identified on the site map as FS-11 (Appendix A and Figure 4). Black willow trees surrounded a portion of the pond with other vegetation consisting of grazed grasses. The soil complex was mapped as Summit silty clay loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 12: Unnamed Creek

This drainage enters the project area from the south and flows northeast through the project area. The portion of drainage north of SH-28 has been trampled by cattle and exhibits highly eroded banks with an over-widened channel. The portion of the drainage located south of SH-28 has riparian vegetation with stable banks. The canopy for the area included American elm, sugarberry, and roughleaf dogwood trees and shrubs. The estimated ordinary high water marks ranged from 15 to 25 feet wide. Approximately 1,449 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.67 acre. Site photographs are included in **Appendix A**. The stream is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 13: Pond

(0.37acre) This pond is located in a pasture north of SH-28. A portion of this pond is located outside the environmental study area. This site is displayed in the site photographs and identified on the site map as FS-13 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed. The soil complex was mapped as Summit silty clay loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 14: Emergent Wetland

(0.03 acre) This small wetland is located north of SH-28 and southwest of the pond noted as FS-13. This site is displayed in the site photographs and identified on the site map as FS-14 (Appendix A and Figure 4). The dominant plant species was swamp smartweed. The soil complex was mapped as Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 4/2 with a mottle of 2.5Y 4/4 from 0 to 6 inches and 5Y 3/1 with mottles of 10YR 3/2 and 10YR 5/6 from 6 to 12 inches. The soils were classified as silty clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 15: Emergent Wetland

(0.52 acre) This wetland is located north of SH-28 and southeast of the pond noted as FS-13. This site is displayed in the site photographs and identified on the site map as FS-15 (Appendix A and Figure 4). The dominant plant species included large-spike spikerush, frogfruit, swamp smartweed, and swamp buttercup. The soil was mapped as Eram-Verdigris complex. Hydric soils were confirmed by the matrix coloration of 2.5Y 4/2 with a mottle of 2.5Y 4/4 from 0 to 6 inches and 5Y 3/1 with mottles of 10YR 3/2 and 10YR 5/6 from 6 to 12 inches. The soils were classified as silty clay. Wetland hydrology is evidenced by inundation and saturation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 16: Drainage

This small drainage is located in the pasture north of SH-28 and east of the wetland noted as FS-15. The drainage connects FS-15 to the unnamed creek noted as FS-12. This site is displayed in the site photographs and identified on the site map as FS-16 (**Appendix A and Figure 4**). The estimated ordinary high water marks were approximately 2 feet wide. Approximately 507 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.02 acre.

Field Site 17: Open Water

(0.02 acre) This small open water area is located in a pasture north of SH-28 and is likely only used as a watering hole for livestock. This site is displayed in the site photographs and identified on the site map as FS-17 (Appendix A and Figure 4). The area is located in a pasture and therefore the surrounding vegetation was grazed. The soil complex was mapped as Summit silty clay loam. This pond is classified as POWF (palustrine, open water, semi-permanent), following the Cowardin classification system.

Field Site 18: Pond

(0.21 acre) This pond is located in a pasture south of SH-28 and south of the drainage noted as FS-12. The majority of this pond is located outside the environmental study area. This site is displayed in the site photographs and identified on the site map as FS-18 (Appendix A and Figure 4). Scattered black willow trees, swamp buttercup, and swamp smartweed were observed around the pond's perimeter. The soil complex was mapped as Summit silty clay loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 19: Emergent Wetland

(0.05 acre) This wetland is located in a ditch along the south side of SH-28. This site is displayed in the site photographs and identified on the site map as FS-19 (Appendix A and Figure 4). The dominant plant species was knot-leaf rush. The soil complex was mapped as Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 4/1 from 0 to 12 inches. The soils were classified as gravelly clay. Wetland hydrology is evidenced by inundation and oxidized root channels. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 20: Unnamed Creek

This small drainage enters the project area from the south and flows northward until its confluence with FS-12 north of the project area. The portion of drainage north of SH-28 has been trampled by cattle and exhibits eroded banks with an over-widened channel. The portion of the drainage located south of SH-28 has grassy riparian vegetation with stable banks. The vegetation for the area south of SH-28 included grasses with scattered sugarberry and redcedar trees. The estimated ordinary high water marks ranged from 6 to 10 feet wide. Approximately 930 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.17 acre. Site photographs are included in **Appendix A**. The stream is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 21: Emergent Wetland

(0.03 acre) This wetland is located in a ditch along the north side of SH-28. This site is displayed in the site photographs and identified on the site map as FS-21 (Appendix A and Figure 4). The dominant plant species were large-spike spikerush and taper-leaf flat sedge. The soil complex was mapped as Parsons silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 with a mottle of 5YR 4/6 from 0 to 12 inches. The soils were classified as gravelly clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 22: Drainage

This small drainage is located south of SH-28 and terminates immediately north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-22 (Appendix A and Figure 4). The vegetation surrounding the drainage consisted of mixed grasses and forbs. The estimated ordinary high water marks were approximately 5 feet wide. Approximately 644 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.07 acre.

Field Site 23: Emergent Wetland

(0.01 acre) This wetland is located south of SH-28 and adjacent to the drainage noted as FS-22. This site is displayed in the site photographs and identified on the site map as FS-23 (Appendix A and Figure 4). The dominant plant species included slim-pod rush, triangular caric sedge, Frank's sedge, large-spike spikerush and swamp smartweed. The soil complex was mapped as Parsons silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 with a mottle of 5YR 4/6 from 0 to 12 inches. The soils were classified as silty clay. Wetland hydrology is evidenced by inundation and oxidized root channels. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 24: Unnamed Creek

This drainage enters the project area from the south and flows northeast through the project area. The vegetation for the area included mixed grasses. The estimated ordinary high water marks ranged from 2 to 4 feet wide. Approximately 712 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.05 acre. Site photographs are included in **Appendix A**. The stream is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 25: Pond

(0.002 acre) This pond is located in a pasture north of SH-28. The majority of this pond is located outside the environmental study area. This site is displayed in the site photographs and identified on the site map as FS-25 (Appendix A and Figure 4). Grazed grasses and forbs dominated the pond's perimeter. The soil complex was mapped as Summit silty clay loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 26: Emergent Wetland

(0.27 acre) This wetland is located south of SH-28. Wetland hydrology is linked to the wetland north of SH-28 noted as FS-27. This site is displayed in the site photographs and identified on the site map as FS-26 (Appendix A and Figure 4). The dominant plant species included grass-leaf rush, frogfruit, Torrey's rush, and large-spike spikerush. The soil complex was mapped as Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 5/1 with a mottle of 2.5Y 5/2 from 0 to 12 inches. The soils were classified as silty clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 27: Emergent Wetland

(1.63 acres) This wetland is located north of SH-28 and south of the City of Adair Water Works Plant. This site is displayed in the site photographs and identified on the site map as FS-27 (Appendix A and Figure 4). The dominant plant species included garden coreopsis, curly dock, frogfruit, tall fescue, caric sedge, and large-spike spikerush. The soil complex was mapped as Eram-Verdigris and Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 from 0 to 10 inches. Refusal was encountered at 10 inches. The soils were classified as clay. Wetland hydrology is evidenced by sediment deposits and portions of inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 28: Emergent Wetland / Drainage

(2.34 acres) This wetland is located north of SH-28 and east of the wetland noted as FS-27. The site is located within the floodplain of Rock Creek and most of the area was under water on the survey date. It is likely that a drainage is present through the center of the site under normal water conditions (as evidenced by mature American elm trees). This site is displayed in the site photographs and identified on the site map as FS-28 (Appendix A and Figure 4). The dominant plant species observed was garden coreopsis. A forested wetland fringe (consisting of American elm and buttonbush) was located along the embankment of the roadway and the wetland. The soil complex was mapped as Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 from 0 to 12 inches. The soils were classified as clay. Wetland hydrology is evidenced by drainage patterns, sediment deposits, and portions of inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 29: Pond

(0.31 acre) This pond is located in a pasture south of SH-28. This site is displayed in the site photographs and identified on the site map as FS-29 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed. The soil complex was mapped as Summit silty clay loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 30: Emergent Wetland / Pond

(0.28 acre) Wetland; (0.48 acre) Pond This site includes a pond with an emergent wetland fringe located south of SH-28 and immediately west of Rock Creek. This site is displayed in the site photographs and identified on the site map as FS-30 (Appendix A and Figure 4). The dominant plant species observed within the wetland fringe were large-spike spikerush, swamp buttercup, and

swamp smartweed. The soil complex was mapped as Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 5YR 4/1 from 0 to 12 inches. The soils were classified as clay. Wetland hydrology is evidenced by inundation and oxidized root channels. This wetland is classified as PEM/OW1A (palustrine, emergent, open water, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 31: Pond

(0.28 acre) This pond is located in a pasture north of SH-28. The site is located within the floodplain of Rock Creek and most of the area was under water on the survey date. Therefore, the approximate size of the pond was calculated using 2003 aerials. This site is displayed in the site photographs and identified on the site map as FS-31 (Appendix A and Figure 4). The vegetation surrounding the pond included mixed grasses and American elm trees. The soil complex was mapped as Dennis silt loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 32: Forested Wetland

(8.38 acres) This wetland is located north and south of SH-28 and west of Rock Creek. The site is located within the floodplain of Rock Creek and a large portion of the area was under water on the survey date and therefore could not be accessed. This site is displayed in the site photographs and identified on the site map as FS-32 (Appendix A and Figure 4). The dominant plant species included American elm, roughleaf dogwood, sugarberry, green hawthorn, green ash, and persimmon. The soil complex was mapped as Mayes silty clay loam and Summit silty clay loam. Hydric soils were confirmed by the matrix coloration of 7.5YR 3/1 with a mottle of 7.5YR 3/2 from 0 to 8 inches; 7.5YR 3/1 with mottles of 7.5YR 3/2 and 7.5YR 4/4 from 8 to 12 inches. The soils were classified as clay loam. Wetland hydrology is evidenced by drift lines with portions closer to Rock Creek being inundated. This wetland is classified as PFO1A (palustrine, forested, deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 33: Rock Creek

One of the bridges to be replaced crosses Rock Creek. The riparian vegetation included green ash, pecan, American elm, and cottonwood trees. The substrate characteristics could not be determined at the time of survey due to flooded state of the creek. Rock Creek was out of its banks on the survey date; therefore ordinary high water marks were estimated from 2003 aerial photography. The estimated ordinary high water marks for the main channel of Rock Creek were approximately 132 feet wide. Approximately 602 linear feet of the channel is located within the environmental study limits. The back channel of Rock Creek (south and west of bridge) had ordinary high water marks approximately 91 feet wide. Approximately 211 linear feet of the back channel is located within the

environmental study limits. The estimated total area of disturbance associated with Rock Creek is approximately 2.26 acres. Site photographs are included in **Appendix A**. The creek is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 34: Forested Wetland

(1.35 acres) This wetland is located north of SH-28 and immediately east of Rock Creek. The site is located within the floodplain of Rock Creek and a large portion of the area was under water on the survey date and therefore could not be accessed. This site is displayed in the site photographs and identified on the site map as FS-34 (Appendix A and Figure 4). The dominant plant species included American elm, sugarberry, and black walnut. The soil complex was mapped as Lula silt loam. Hydric soils were confirmed by the matrix coloration of 7.5YR 3/1 with a mottle of 7.5YR 3/2 from 0 to 8 inches; 7.5YR 4/1 with a mottle of 7.5YR 4/3 from 8 to 12 inches. The soils were classified as clay loam. Wetland hydrology is evidenced by saturation, drift lines, and portions closer to Rock Creek being inundated. This wetland is classified as PFO1A (palustrine, forested, deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 35: Forested Wetland

(9.90 acres) This wetland is located south of SH-28 and immediately east of Rock Creek. The site is located within the floodplain of Rock Creek and the majority of the area was under water on the survey date and therefore could not be accessed. This site is displayed in the site photographs and identified on the site map as FS-35 (Appendix A and Figure 4). The dominant plant species included American elm, persimmon, sugarberry, and poison ivy. The soil complex was mapped as Lula silt loam. Hydric soils were confirmed by the matrix coloration of 7.5YR 3/1 from 0 to 3 inches and 7.5YR 3/1 with mottles of 7.5YR 3/2, 7.5YR 4/6 and 7.5YR 1/1 from 3 to 16 inches. The soils were classified as silty clay. Wetland hydrology is evidenced by drift lines and inundation. This wetland is classified as PFO1A (palustrine, forested, deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 36: Pond

(0.06 acre) This pond is located in a pasture north of SH-28 and east of Rock Creek. The site is located within the floodplain of Rock Creek. The pond appeared larger on the survey date due to the flooding of Rock Creek. Therefore, the approximate size of the pond was calculated using 2003 aerials. The site is displayed in the site photographs and identified on the site map as FS-36 (Appendix A and Figure 4). The vegetation surrounding the pond included mixed grasses and forbs. The soil complex was mapped as Lula silt loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 37: Drainage

This drainage is located north of SH-28 and east of the pond noted as FS-36. The drainage is located within the floodplain of Rock Creek and was completely under water on the survey date. This site is displayed in the site photographs and identified on the site map as FS-37 (Appendix A and Figure 4). The ordinary high water marks were estimated to be approximately 3 feet wide. Approximately 264 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.02 acre.

Field Site 38: Forested Wetland

(1.44 acres) This wetland is located north of SH-28 and east of Rock Creek. The site is located within the floodplain of Rock Creek and the majority of the area was under water on the survey date and therefore could not be accessed. This site is displayed in the site photographs and identified on the site map as FS-38 (Appendix A and Figure 4). The dominant plant species included American elm and green ash. The soil complex was mapped as Lenapah silty clay loam. Due to the high water during the field survey, soils were not evaluated. Wetland hydrology is evidenced by inundation. Although hydric soils were not confirmed during the site visit, it is anticipated that this site is a wetland and would be classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 39: Unnamed Creek

This drainage is located in a pasture and wooded area north of SH-28. It enters the project area from the north and flows southwest through the project area until its convergence with the forested wetland noted as FS-38. The vegetation in the pasture portion included mixed grasses and wild indigo. The vegetation in the wooded portion included persimmon and sugarberry trees. The estimated ordinary high water marks ranged from 3 to 4 feet wide. Approximately 449 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.04 acre. Site photographs are included in **Appendix A**. The stream is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 40: Pond

(0.34 acre) This pond is located in a pasture south of SH-28. A large portion of this pond is located outside the environmental study area. This site is displayed in the site photographs and identified on the site map as FS-40 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed. The soil complex was mapped as Lenapah silty clay loam. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 41: Unnamed Creek

This unnamed creek enters the project area from the north and flows southeast through the project area until its convergence with Big Cabin Creek (south of the project area). The canopy for the area consisted of American elm, sugarberry, red mulberry and roughleaf dogwood. The estimated ordinary high water marks ranged from 10 to 12 feet wide. Approximately 676 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.17 acre. Site photographs are included in **Appendix A**. The stream is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 42: Forested Wetland

(3.23 acres) This wetland is located along the banks of the creeks noted as FS-41 and FS-43. This site is displayed in the site photographs and identified on the site map as FS-42 (Appendix A and Figure 4). The dominant species included American elm, sugarberry, roughleaf dogwood, and inland sea-oats. The soil complex was mapped as Eram-Verdigris and Dennis silt loam. Hydric soils were confirmed by the matrix coloration of 10YR 4/2 with a mottle of 10YR 4/1 from 0 to 4 inches; 10YR 3/2 with mottles of 10YR 4/3, 2.5Y 2.5/1 and 2.5Y 6/2 from 4 to 8 inches; and 5Y 2.1/1 with mottles of 7.5YR 4/6 and 7.5YR 4/3 from 8 to 12 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by saturation, watermarks, sediment deposits, and drift lines. This wetland is classified as PFO1A (palustrine, forested, deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 43: Drainage

This drainage is located north of SH-28 and terminates at its confluence with the unnamed creek noted as FS-41. This site is displayed in the site photographs and identified on the site map as FS-43 (Appendix A and Figure 4). The canopy for the area consisted of American elm, sugarberry, and roughleaf dogwood. The estimated ordinary high water marks ranged from approximately 4 to 6 feet wide. Approximately 1,957 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.23 acre.

Field Site 44: Drainage

This drainage begins south of SH-28 and flows south to a pond located outside the project area. This site is displayed in the site photographs and identified on the site map as FS-44 (Appendix A and Figure 4). The drainage is located within a pasture with sugarberry trees comprising the fence-line. The estimated ordinary high water marks ranged from approximately 2 feet wide. Approximately 245 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.01 acre.

Field Site 45: Drainage

This small roadside drainage is located north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-45 (Appendix A and Figure 4). The canopy for the area included sugarberry trees. The estimated ordinary high water marks ranged from approximately 2 to 3 feet wide. Approximately 182 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.01 acre.

Field Site 46: Pond

(0.25 acre) This pond is located south of SH-28. This site is displayed in the site photographs and identified on the site map as FS-46 (Appendix A and Figure 4). The vegetation surrounding the pond consisted of sugarberry, black willow, and roughleaf dogwood trees and shrubs. The soil complex was mapped as Lenapah rock outcrop. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 47: Emergent Wetland

(0.05 acre) This wetland is located south of SH-28 and east of the pond noted as FS-46. This site hydrologically connected to FS-46. It is displayed in the site photographs and identified on the site map as FS-47 (Appendix A and Figure 4). The dominant species included false nut-grass, swamp buttercup, fox sedge, knot-leaf rush, tall fescue, yellow nut-grass, and swamp smartweed. The soil complex was mapped as Lenapah rock outcrop. Hydric soils were confirmed by the matrix coloration of 2.5Y 2.5/1 with mottles of 5YR 3/3 and 2.5Y 5/6 from 0 to 12 inches. The soils were classified as clay. Wetland hydrology is evidenced by saturation and drainage patterns. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 48: Pond

(0.47 acre) This pond is located on a knoll north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-48 (Appendix A and Figure 4). The woody vegetation surrounding the pond consisted of sugarberry, sycamore, and black willow trees. The soil complex was mapped as Lenapah rock outcrop. This pond is classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 49: Unnamed Creek

This unnamed creek enters the project area from the north and flows southeast through the project area until its convergence with Big Cabin Creek (south of the project area). The canopy for the area consisted of American elm, sugarberry, black willow, and persimmon. The estimated ordinary high

water marks ranged from 12 to 18 feet wide. Approximately 850 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.29 acre. Site photographs are included in **Appendix A**. The stream is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 50: Forested Wetland

(3.17 acres) This wetland is located along the banks of the creek noted as FS-49. This site is displayed in the site photographs and identified on the site map as FS-50 (Appendix A and Figure 4). The dominant species included sugarberry, American elm, and black willow. The soil complex was mapped as Eram-Verdigris. Hydric soils were confirmed by the matrix coloration of 2.5Y 2.5/1 from 0 to 12 inches. The soils were classified as clay. Wetland hydrology is evidenced by drift lines and portions of inundation. This wetland is classified as PFO1A (palustrine, forested, deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 51: Drainage

This drainage is located north of SH-28 and flows westward until its confluence with the unnamed creek noted as FS-49. This site is displayed in the site photographs and identified on the site map as FS-51 (Appendix A and Figure 4). The canopy for the area included sugarberry and American elm trees. The estimated ordinary high water marks ranged from approximately 2 to 3 feet wide. Approximately 441 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.03 acre.

Field Site 52: Drainage

This drainage enters the project area from the north, crosses under SH-28 and flows southward until its confluence with the creek noted as FS-49 outside the project area. This site is displayed in the site photographs and identified on the site map as FS-52 (Appendix A and Figure 4). The canopy for the area included sugarberry and honey locust trees. The estimated ordinary high water marks ranged from approximately 4 to 5 feet wide. Approximately 509 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.05 acre.

Field Site 53: Pond

(0.09 acre) This pond is located in a pasture north of SH-28. The majority of the pond is located outside the environmental study limits. This site is displayed in the site photographs and identified on the site map as FS-53 (Appendix A and Figure 4). A woody fringe surrounded a portion of the pond consisting of sugarberry trees. The soil complex was mapped as Riverton gravelly loam. This pond is

classified as POWH (palustrine, open water, permanent), following the Cowardin classification system.

Field Site 54: Pond

(0.41 acre) This pond is located north of SH 28 and west of the bridge over Big Cabin Creek. This site is displayed in the site photographs and identified on the site map as FS-54 (Appendix A and Figure 4). Woody vegetation surrounding the pond consisted of sugarberry, red cedar, black willow and blackberry. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 55: Drainage

This drainage is located south of SH 28 and west of the bridge over Big Cabin Creek. The drainage flows east until its confluence with Big Cabin Creek (FS-57). This site is displayed in the site photographs and identified on the site map as FS-55 (Appendix A and Figure 4). The estimated ordinary high water marks were approximately 4 feet wide. The canopy for the area included sugarberry, green ash, chinkapin oak, black oak, American elm, and black walnut trees. Approximately 246 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.02 acre.

Field Site 56: Drainage

This drainage is located north of SH 28 and west of the bridge over Big Cabin Creek. The drainage flows from a small forested wetland (located north of the project area) and flows east, through a pasture, into Big Cabin Creek. This site is displayed in the site photographs and identified on the site map as FS-56 (Appendix A and Figure 4). The estimated ordinary high water marks ranged from approximately 1 to 5 feet wide. The canopy for the area included sugarberry, post oak, honey locust, green ash, chinkapin oak and red cedar trees. Approximately 579 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.04 acre.

Field Site 57: Big Cabin Creek

One of the bridges to be replaced crosses Big Cabin Creek. The substrate characteristics could not be determined at the time of survey due to flooded state of the creek. Big Cabin Creek was out of its banks on the survey date; therefore ordinary high water marks were estimated from 2003 aerial photography. The estimated ordinary high water marks for Big Cabin Creek were approximately 524 feet wide. Approximately 515 linear feet of the channel is located within the environmental study limits. The west bank of the Creek is composed of a rocky cliff and the east bank is gently sloping. The canopy for the area included green ash, black willow and sycamore on the east bank and

chinkapin oak, red cedar and honey locust trees on the west bank. The estimated total area of disturbance associated with this drainage is approximately 6.20 acres. Site photographs are included in **Appendix A**. The creek is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 58: Forested Wetland

(4.46 acres) This wetland is located south of SH-28 and immediately east of Big Cabin Creek. This site is displayed in the site photographs and identified on the site map as FS-58 (Appendix A and Figure 4). The dominant species included green ash, American elm, sugarberry, and silver maple. The soil complex was mapped as Verdigris silty clay loam and Dennis silt loam. Due to the high water during the field survey, soils were not evaluated. Wetland hydrology is evidenced by inundation and drift lines. Although hydric soils were not confirmed during the site visit, it is anticipated that this site is a wetland and would be classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 59: Forested Wetland

(0.49 acre) This wetland is located north of SH-28 and east of Big Cabin Creek. The wetland parallels SH-28 and is hydrologically connected to the overflow from Big Cabin Creek and adjacent roadway runoff. This site is displayed in the site photographs and identified on the site map as FS-59 (Appendix A and Figure 4). The site was underwater during the survey date. This site was identified in a previous report for Big Cabin Creek bridge replacement (dated October, 2007). Therefore, the wetland data form is duplicated in this report from the earlier report. Dominant plant species included silver maple, American elm, and green ash. The soil complex was mapped as Verdigris silty clay loam and Dennis silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 from 0 to 12 inches; 2.5Y 4/2 with a mottle of 2.5Y 4/1 from 12 to 15 inches; and 2.5Y 4/2 with a mottle of Gley 1 3/N from 15 to 16 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by drift lines. This wetland is classified as PFO1A (palustrine, forested, broadleaf deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 60: Drainage

This drainage is located north of SH-28 and east of the wetland noted as FS-59. The drainage flows from a small forested wetland (noted as FS-61) and flows west along the roadway before crossing into a culvert under SH-28. This site is displayed in the site photographs and identified on the site map as FS-60 (**Appendix A and Figure 4**). The estimated ordinary high water marks ranged from approximately 2 to 4 feet wide. The canopy for the area included sugarberry, green ash, American elm, and chinkapin oak trees. Approximately 554 linear feet of the channel is located within the

environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.04 acre.

Field Site 61: Forested Wetland

(0.03 acre) This small wetland is located north of SH-28 and east of the drainage noted as FS-60. The wetland parallels SH-28 and is hydrologically connected to the adjacent roadway runoff. This site is displayed in the site photographs and identified on the site map as FS-61 (Appendix A and Figure 4). This site was identified in a previous report for Big Cabin Creek bridge replacement (dated October, 2007). Therefore, the wetland data form is duplicated in this report from the earlier report. The dominant plant species was green ash. The soil complex was mapped as Dennis silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 with a mottle of 10YR 5/8 from 0 to 6 inches and 2.5Y 3/1 from 6 to 16 inches. The soils were classified as clay loam. Wetland hydrology is evidenced by drift lines. This wetland is classified as PFO1A (palustrine, forested, broad-leaf deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 62: Forested Wetland

(0.05 acre) This small wetland is located in a pasture north of SH-28 immediately west of the town of Pensacola. This site is displayed in the site photographs and identified on the site map as FS-62 (Appendix A and Figure 4). This site was identified in a previous report for Big Cabin Creek bridge replacement (dated October, 2007). Therefore, the wetland data form is duplicated in this report from the earlier report. The dominant plant species was common persimmon with scattered swamp smartweed. The soil complex was mapped as Taloka silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 from 0 to 3 inches and 2.5Y 4/1 with a mottle of 7.5YR 4/6 from 3 to 5 inches. Refusal was encountered at 5 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PFO1A (palustrine, forested, broad-leaf deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 63: Emergent Wetland / Pond

(0.08 acre) This wetland is located south of SH-28 and immediately west of the town of Pensacola. The wetland occurs on the fringe of the pond which is located just to the south of the environmental study limits. This site is displayed in the site photographs and identified on the site map as FS-63 (Appendix A and Figure 4). The dominant plant species included rice cut grass, large-spike spikerush, water hemlock, and swamp smartweed. The soil complex was mapped as Eram-Verdigris. Hydric soils were confirmed by the matrix coloration of 5Y 6/1 with a mottle of 7.5YR 4/4 from 0 to 6 inches and 5Y 6/1 with mottles of 7.5YR 4/4 and 10YR 5/6 from 6 to 16 inches. The soils were classified as silty clay. Wetland hydrology is evidenced by saturation. This wetland is classified as

PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 64: Emergent Wetlands

(0.22 acre) These small wetlands are located north of SH-28 within the town of Pensacola. The site is displayed in the site photographs and identified on the site map as FS-64 (Appendix A and Figure 4). The dominant plant species included swamp buttercup, large-spike spikerush, taper-leaf flat sedge, and yellow nut-grass. The soil complex was mapped as Taloka silt loam. Hydric soils were confirmed by the matrix coloration of 10YR 3/1 with a mottle of 10YR 3/3 from 0 to 12 inches. The soils were classified as clay loam. Wetland hydrology is evidenced by saturation and inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 65: Emergent Wetland

(0.02 acre) This small wetland is located in a drainage ditch south of SH-28 within the town of Pensacola. This emergent ditch may be considered isolated by the USACE and therefore not jurisdictional. The site is displayed in the site photographs and identified on the site map as FS-65 (Appendix A and Figure 4). The dominant plant species included large-spike spikerush, taper-leaf flat sedge, and yellow nut-grass. The soil complex was mapped as Taloka silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 4/1 with a mottle of 10YR 4/3 from 0 to 12 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 66: Emergent Wetland

(0.05 acre) This small wetland is located in a drainage ditch north of SH-28 within the town of Pensacola. This emergent ditch may be considered isolated by the USACE and therefore not jurisdictional. The site is displayed in the site photographs and identified on the site map as FS-66 (Appendix A and Figure 4). The dominant plant species included large-spike spikerush, swamp buttercup, and swamp smartweed. The soil complex was mapped as Taloka silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 4/1 with a mottle of 10YR 4/3 from 0 to 12 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 67: Pond

(0.64 acre) This pond is located in a pasture north of SH-28, east of the town of Pensacola. This site is displayed in the site photographs and identified on the site map as FS-67 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed. The soil complex was mapped as Dennis silt loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 68: Drainage

This drainage connects the ponds noted as FS-67 and FS-70. This site is displayed in the site photographs and identified on the site map as FS-68 (**Appendix A and Figure 4**). The estimated ordinary high water marks were approximately 5 feet wide. The canopy for the area included sugarberry, American elm, pecan, and persimmon trees. Approximately 298 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.03 acre.

Field Site 69: Forested Wetland

(0.17 acre) This small wetland is located south of SH-28 and northwest of the pond noted as FS-70. The wetland is located in a pasture, therefore cattle has trampled the emergent vegetation. The site is displayed in the site photographs and identified on the site map as FS-69 (Appendix A and Figure 4). The dominant plant species included sugarberry, American elm, and swamp smartweed. The soil complex was mapped as Riverton gravelly loam. Hydric soils were confirmed by the matrix coloration of 7.5YR 3/1 from 0 to 4 inches; 2.5Y 5/2 with mottles of 2.5Y6/2 and 7.5YR 4/6 from 4 to 12 inches; and 10YR 3/1 with a mottle of 10YR 6/2 from 12 to 16 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 70: Pond

(0.14 acre) This pond is located in a pasture south of SH-28 and south of the drainage noted as FS-68. This site is displayed in the site photographs and identified on the site map as FS-70 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed with the exception of a forested wetland (FS-69) located on the northwest boundary of the pond. The soil complex was mapped as Riverton gravelly loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 71: Pond

(0.41 acre) This pond is located in a pasture north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-71 (Appendix A and Figure 4). The pond is located in a pasture and therefore the vegetation surrounding the pond was grazed. The soil complex was mapped as Dennis silt loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 72: Drainage

This drainage is located in a pasture and connects the ponds noted as FS-71 and FS-73. This site is displayed in the site photographs and identified on the site map as FS-72 (Appendix A and Figure 4). The estimated ordinary high water marks were approximately 1 to 2 feet wide. Approximately 376 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.01 acre.

Field Site 73: Pond

(0.03 acre) This pond is located in a pasture south of SH-28. The majority of the pond is located outside the environmental study limits. This site is displayed in the site photographs and identified on the site map as FS-73 (Appendix A and Figure 4). Vegetation surrounding the southeastern portion of the pond included black willow trees and saplings. The soil complex was mapped as Dennis silt loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 74: Pond

(0.10 acre) This pond is located north of SH-28 on a knoll. This site is displayed in the site photographs and identified on the site map as FS-74 (Appendix A and Figure 4). The pond is located in a wooded area comprised of American elm, green ash and black hickory trees. The soil complex was mapped as Riverton loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 75: Drainage

This drainage flows from the pond noted as FS-74 and continues southward until its confluence with an unnamed creek located immediately outside the project area. This site is displayed in the site photographs and identified on the site map as FS-75 (**Appendix A and Figure 4**). The canopy for the area consisted of pecan trees. The estimated ordinary high water marks were approximately 1 to 2 feet wide. Approximately 391 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.01 acre.

Field Site 76: Emergent Wetland/Ox-bow

(0.11 acre) This site is located south of SH-28 and is comprised of an emergent wetland and a remnant channel of an unnamed creek located immediately outside the southern project area boundary. The ox-bow is located along the southern project boundary. The site is displayed in the site photographs and identified on the site map as FS-76 (Appendix A and Figure 4). The dominant plant species included swamp smartweed, water willow, large-spike spikerush, and frogfruit. Tree species along the remnant channel included green ash, black willow, and persimmon. The soil complex was mapped as Dennis silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 from 0 to 12 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 77: Emergent Wetland

(0.31 acre) This wetland is located in a south of SH-28. The site is displayed in the site photographs and identified on the site map as FS-77 (Appendix A and Figure 4). The dominant plant species included large-spike spikerush, tall fescue, slim-pod rush, Frank's sedge, and round-head rush. The soil complex was mapped as Riverton loam. Hydric soils were confirmed by the matrix coloration of 5Y 4/1 from 0 to 12 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation and oxidized root channels. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 78: Pond

(0.22 acre) This pond is located in a pasture north of SH-28. A large portion of this pond is located outside the environmental study limits. This site is displayed in the site photographs and identified on the site map as FS-78 (Appendix A and Figure 4). Vegetation surrounding the pond consisted of grazed grasses. The soil complex was mapped as Riverton gravelly loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 79: Pond

(0.61 acre) This pond is located in a pasture south of SH-28. This site is displayed in the site photographs and identified on the site map as FS-79 (Appendix A and Figure 4). Vegetation surrounding the pond consisted of mixed grasses. The soil complex was mapped as Riverton gravelly loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 80: Emergent Wetland

(0.04 acre) This wetland is located in a south of SH-28 and north of the pond noted as FS-79. The site is displayed in the site photographs and identified on the site map as FS-80 (Appendix A and Figure 4). The dominant plant species included Frank's sedge and swamp smartweed. The soil complex was mapped as Riverton loam. Hydric soils were confirmed by the matrix coloration of 10YR 3/1 from 0 to 4 inches and 10YR 3/1 with a mottle of 7.5YR 3/4 from 4 to 12 inches. The soils were classified as clay loam. Wetland hydrology is evidenced by inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 81: Drainage

This drainage flows from the pond noted as FS-79 and continues northward out of the project area. This site is displayed in the site photographs and identified on the site map as FS-81 (Appendix A and Figure 4). The canopy for the area consisted of pecan, black willow, American elm, and green ash trees. The estimated ordinary high water marks were approximately 3 to 4 feet wide. Approximately 389 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.03 acre.

Field Site 82: Pond

(0.04 acre) This pond is located in a pasture north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-83 (Appendix A and Figure 4). Vegetation surrounding the pond consisted of mixed grasses with American elm trees. The soil complex was mapped as Riverton gravelly loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 83: Pond

(0.15 acre) This pond is located in a pasture south of SH-28. This site is displayed in the site photographs and identified on the site map as FS-82 (Appendix A and Figure 4). Vegetation surrounding the pond consisted of mixed grasses. The soil complex was mapped as Riverton gravelly loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 84: Emergent Wetland

(0.09 acre) This wetland is located along a drainage north of the pond noted as FS-83; crosses SH-28 and connects to a pond located immediately north of the project area. The site is displayed in the site photographs and identified on the site map as FS-84 (Appendix A and Figure 4). The dominant plant species included Frank's sedge, water primrose, and curly dock. The soil complex was mapped

as Riverton gravelly loam. Hydric soils were confirmed by the matrix coloration of 10YR 3/1 from 0 to 4 inches and 10YR 3/1 with a mottle of 7.5YR 3/4 from 4 to 12 inches. The soils were classified as clay loam. Wetland hydrology is evidenced by saturation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 85: Drainage

This drainage is located north of SH-28 and flows northwest out of the project area. This site is displayed in the site photographs and identified on the site map as FS-85 (Appendix A and Figure 4). The canopy for the area consisted of American elm, persimmon, and sugarberry trees. The estimated ordinary high water marks were approximately 2 to 3 feet wide. Approximately 270 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.02 acre.

Field Site 86: Emergent Wetland

(0.25 acre) This linear wetland is located north and south of SH-28. The site is displayed in the site photographs and identified on the site map as FS-86 (Appendix A and Figure 4). The dominant plant species included Frank's sedge, swamp smartweed, large-spike spikerush, water hemlock, and water plantain. The soil complex was mapped as Riverton gravelly loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 2.5/1 from 0 to 12 inches. The soils were classified as clay loam. Wetland hydrology is evidenced by saturation and inundation. This wetland is classified as PEM1A (palustrine, emergent, persistent, temporarily flooded), following the Cowardin classification system.

Field Site 87: Pond

(0.06 acre) This pond is located in a wooded portion of a pasture south of SH-28. This site is displayed in the site photographs and identified on the site map as FS-87 (Appendix A and Figure 4). The canopy surrounding the pond consisted of American elm and sugarberry. The soil complex was mapped as Riverton gravelly loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 88: Forested Wetland

(0.11 acre) This small wetland is located south of SH-28 and west of the pond noted as FS-87. The site is displayed in the site photographs and identified on the site map as FS-88 (Appendix A and Figure 4). The dominant plant species included American elm and sugarberry. The soil complex was mapped as Riverton gravelly loam. Hydric soils were confirmed by the matrix coloration of 7.5YR 3/1 with a mottle of 7.5YR 3/2 from 0 to 12 inches. The soils were classified as clay loam. Wetland hydrology is evidenced by saturation and inundation. This wetland is classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 89: Pond

(0.12 acre) This pond is located in a pasture north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-89 (Appendix A and Figure 4). Vegetation surrounding the pond consisted of grazed grasses. The soil complex was mapped as Riverton loam, This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 90: Pond

(0.14 acre) This pond is located in a wooded area north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-90 (Appendix A and Figure 4). The canopy surrounding the pond consisted of sycamore, American elm, honey locust and pecan trees. The soil complex was mapped as Riverton gravelly loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 91: Drainage

This drainage is located north of SH-28 and flows into the pond noted as FS-90. This site is displayed in the site photographs and identified on the site map as FS-91 (Appendix A and Figure 4). The canopy for the area consisted of American elm and pecan trees. The estimated ordinary high water marks were approximately 4 to 5 feet wide. Approximately 156 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.02 acre.

Field Site 92: Pond

(0.24 acre) This pond is located in a pasture south of SH-28. This site is displayed in the site photographs and identified on the site map as FS-92 (Appendix A and Figure 4). The vegetation surrounding the pond consisted of grazed grasses with a canopy consisting of sugarberry and pecan trees next to the roadway. The soil complex was mapped as Riverton gravelly loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 93: Forested Wetland

(0.71 acre) This wetland is located north of SH-28. The site is displayed in the site photographs and identified on the site map as FS-93 (Appendix A and Figure 4). The dominant plant species included green ash and American elm with swamp smartweed and large-spike spikerush in the herbaceous layer. The soil complex was mapped as Riverton gravelly loam and Mayes silty clay loam. Hydric soils were confirmed by the matrix coloration of 10YR 3/1 with a mottle of 7.5YR 3/3 from 0 to 12 inches. The soils were classified as loamy clay. Wetland hydrology is evidenced by inundation and water marks. This wetland is classified as PFO1A (palustrine, forested, broad-leaved deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 94: Drainage

This drainage is located north of SH-28 and flows northwest outside the project area. This site is displayed in the site photographs and identified on the site map as FS-94 (Appendix A and Figure 4). The canopy for the area consisted of winged elm, black hickory, and persimmon trees. The estimated ordinary high water marks were approximately 4 feet wide. Approximately 340 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.03 acre.

Field Site 95: Pond

(0.27 acre) This pond is located south of SH-28. This site is displayed in the site photographs and identified on the site map as FS-95 (Appendix A and Figure 4). The vegetation surrounding the pond consisted of mixed grasses with a canopy consisting of black willow and American elm trees. The soil complex was mapped as Dennis silt loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 96: Emergent/Shrub Wetland

(0.66 acre) This wetland is located south of SH-28. The site is displayed in the site photographs and identified on the site map as FS-96 (Appendix A and Figure 4). The dominant plant species included crow-foot caric sedge, blackberry shrubs, and persimmon saplings. The soil complex was mapped as Dennis silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 3/1 with a mottle of 2.5Y 4/1 from 0 to 12 inches. The soils were classified as clay. Wetland hydrology is evidenced by saturation. This wetland is classified as PEM/SS1A (palustrine, emergent/shrub, broad-leaved deciduous, temporarily flooded), following the Cowardin classification system.

Field Site 97: Pond

(0.05 acre) This pond is located in a wooded area north of SH-28. This site is displayed in the site photographs and identified on the site map as FS-97 (Appendix A and Figure 4). The canopy consisted of Osage-orange, blackjack oak, box elder, and American elm trees. The soil complex was mapped as Dennis silt loam. This site is classified as a POWHh (palustrine, open-water, permanent, impounded), following the Cowardin classification system.

Field Site 98: Unnamed Creek

This unnamed creek begins at the pond noted as FS-97 and flows southward, crossing SH-28 and exits the project area. The canopy for the area consisted green ash and box elder. The estimated

ordinary high water marks were approximately 3 to 4 feet wide. Approximately 359 linear feet of the channel is located within the environmental study limits. The estimated total area of disturbance associated with this drainage is approximately 0.03 acre. Site photographs are included in **Appendix A**. The stream is mapped on the US Geological Survey (USGS) 7.5-Minute Topographic Map and Site Map (**Figures 1 and 4**).

Field Site 99: Forested Wetland

(0.23 acre) This wetland is located north and south of SH-28. The wetland is located west of the pond noted as FS-97 and along the unnamed creek noted as FS-98. The site is displayed in the site photographs and identified on the site map as FS-99 (Appendix A and Figure 4). The dominant plant species included green ash with green sprangletop, foxtail sedge, and Long's caric sedge in the herbaceous layer. The soil complex was mapped as Dennis silt loam. Hydric soils were confirmed by the matrix coloration of 2.5Y 4/1 with a mottle of 2.5Y 5/1 from 0 to 12 inches. The soils were classified as silty clay. Wetland hydrology is evidenced by saturation, drainage patterns, water marks, and oxidized root channels. This wetland is classified as PFO1A (palustrine, forested, broadleaved deciduous, temporarily flooded), following the Cowardin classification system.

4.0 PERMITTING

The jurisdictional waters evaluation identified 60.16 acres of possible jurisdictional waters of the US within the project area, which is the maximum amount of impacts that would have to be permitted under Section 404 of the Clean Water Act. This total includes 41.23 acres of wetlands, 7.88 acres of ponds/open water, and 11.05 acres of waterway within the ordinary high water marks. Projects that do not exceed 0.5 acre of disturbance within non-tidal waters may be completed under coverage of Nationwide Permit #14. If the proposed impacts to Rock Creek (2.26 acres), Big Cabin Creek (6.20 acres), associated drainages (2.59 acres), associated wetlands (41.23 acres), and ponds/open water areas (7.88 acres) exceed 0.50 acre, this project will likely need to be processed as an Individual Permit through the U.S. Army Corps of Engineers.

5.0 CONCLUSIONS

The Oklahoma Department of Transportation (ODOT) proposes the improvement of SH-28 from Adair to Langley, Oklahoma. Bridge replacements over Rock Creek and Big Cabin Creek will be incorporated into the improvements. Rock Creek's channel was estimated to be approximately 132 feet wide; Rock Creek's back-channel (southwest of the bridge) was approximately 110 feet wide. Big Cabin Creek's channel was estimated to be approximately 524 feet wide. Both creeks were in a flooded state and out of their banks on the survey date(s). The proposed project area in Mayes County was investigated to determine the presence of jurisdictional waterways and wetlands in the project area. The project area was also surveyed to investigate and describe the existing habitat types and determine if any habitat is currently or potentially used by the federally listed threatened or endangered species in Mayes County.

According to the USFWS, three endangered, two threatened, and one candidate species were listed in Mayes County, Oklahoma. Potential ABB habitat was present in the project area. The project has been incorporated into the biological assessment for the ABB and the USFWS has concurred with ODOT's effects determination based upon ODOT's and Federal Highway Administration's implementation of the USFWS' July 16, 2008 biological opinion.

Potential gray bat roosting and foraging habitat may be present in the project area. recommended that a more comprehensive examination of the bridges (by boat) be conducted prior to construction to determine the bridge's suitability for gray bat roosting. If the bridge(s) are determined unsuitable for roosting, this project is expected to have no effect on the gray bat in regard to roosting habitat. However, suitable foraging habitat (such as floodplain forest and wetlands) was present in the project area. The USFWS has record of a cave used by gray bats and the project area is located within the known 20 kilometer foraging radius. If the project involves removal of native woody riparian vegetation, ODOT will need to minimize, to the maximum extent practical, the removal of riparian vegetation outside the actual limits of construction. Additionally, any woody riparian vegetation unavoidably lost, outside of the clear zone and within ODOT's final permanent right-of-way, should be replaced with native riparian tree species. ODOT will attempt to maintain a wooded corridor of riparian vegetation similar to what was present prior to construction. It is recommended that ODOT consult with the USFWS and assess the amount of foraging habitat that will be disturbed. If, during the bridge surveys, the bridge(s) are determined suitable for roosting, then a gray bat survey should be conducted in consultation with the USFWS within 1 year prior to construction. If no gray bats are found during the survey, this project may affect, but is unlikely to adversely affect, the gray bat. If the gray bat is found during the survey, then further consultation with the USFWS will be required.

Preferred habitat for the Interior Least Tern and Piping Plover was not observed within the proposed project area on the survey date. However, according to 2003 aerial photography, sandbar habitat may be present in the project area along Big Cabin Creek during normal flow. There are no known records of the Interior Least Tern or Piping Plover occurring in the immediate project vicinity; therefore this project may affect, but is unlikely to adversely affect, the Interior Least Tern and Piping Plover

It is unknown at this time if suitable habitat for the Ozark cavefish is present in the project area. The USFWS lists the project site as being within the aquifer that supports Ozark cavefish. No caves or karst features were observed during the site visit; however, a survey was not conducted to determine the presence or absence of underwater caves. To our knowledge, the project area is not located within a recharge area of a cave harboring Ozark cavefish. Therefore, this project is expected to have no effect on the Ozark cavefish. If the project is discovered to be in a recharge area, then the project may affect, but is unlikely to adversely affect the Ozark cavefish if karst BMPs are implemented. If the Ozark cavefish is discovered or suitable caves are encountered at any point prior to or during construction, then consultation with the USFWS will be required.

Suitable habitat for the Arkansas darter may be present in the project area. Though habitat may exist for the Arkansas darter, the project is outside the known range of the species. With the implementation of appropriate BMP's for storm water, erosion and sediment control, and chemical/fuel handling measures dictated by Federal Regulation and the ODOT's Standard Specifications for Highway Construction, the project may affect, but is not likely to adversely affect, the Arkansas darter.

Although the Bald Eagle is no longer listed as a federally threatened species, it is still offered protection under the Eagle Act and MBTA. Large trees were present along Rock Creek and Big Cabin Creek in the project area which may provide suitable forage/resting habitat for the Bald Eagle. However, no Bald Eagles or Bald Eagle nests were observed during the site visit. Therefore, this project is not expected to impact the Bald Eagle. If Bald Eagles are encountered at any point prior to or during construction, the National Bald Eagle Management Guidelines should be implemented.

The jurisdictional waters evaluation associated with the SH-28 improvements identified 60.16 acres of possible jurisdictional waters of the U.S. within the project area, including 41.23 acres of wetlands, 11.05 acres of waterway, and 7.88 acres of pond/open water within the ordinary high water marks. Projects that do not exceed 0.5 acre of disturbance within non-tidal waters may be completed under coverage of Nationwide Permit #14. If the proposed impacts to Rock Creek (2.26 acres), Big Cabin Creek (6.20 acres), associated drainages (2.59 acres), associated wetlands (41.23 acres), and

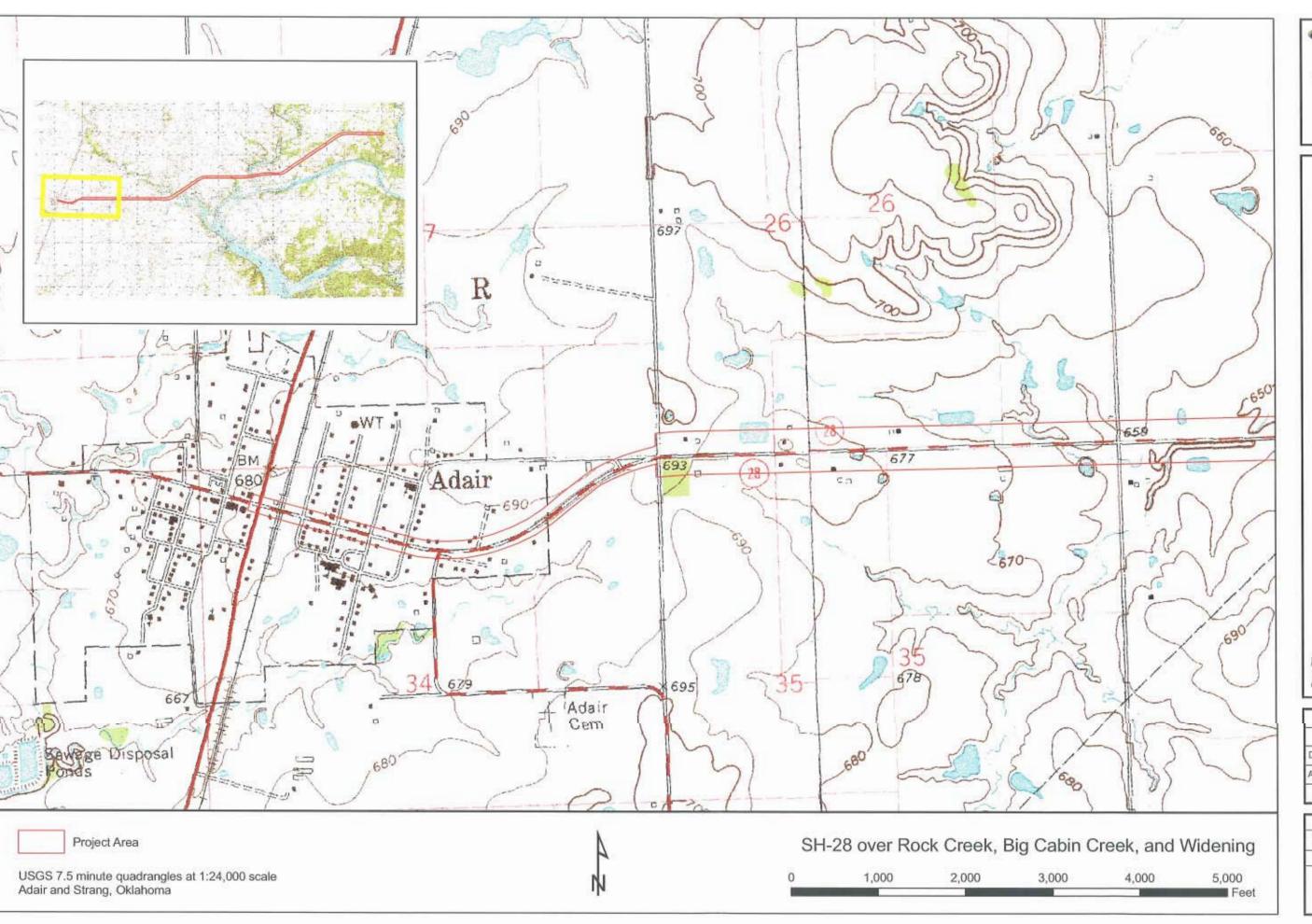
ponds/open water areas (7.88 acres) exceed 0.50 acre, this project will likely need to be processed as an Individual Permit through the U.S. Army Corps of Engineers.

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FIGURES



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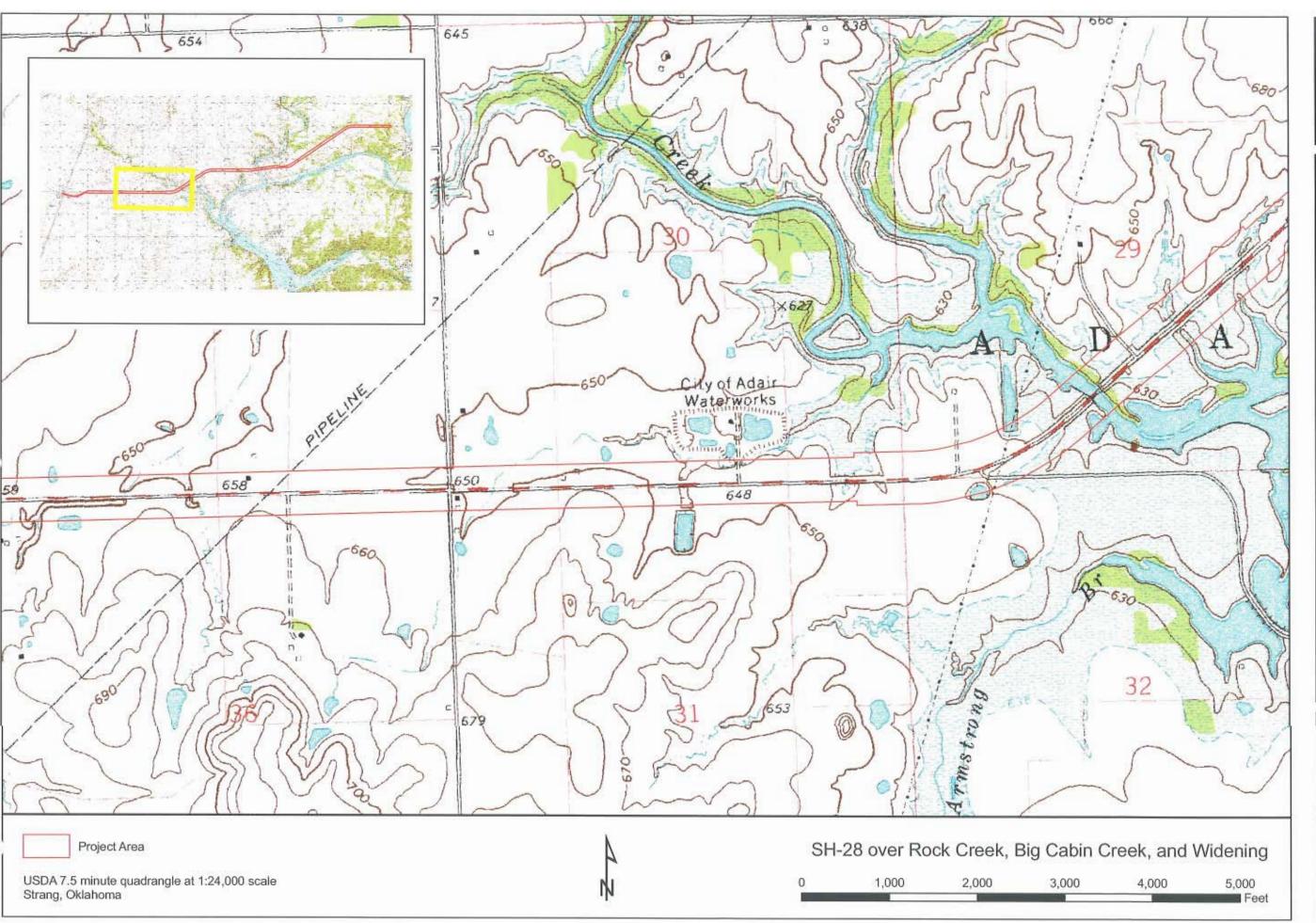
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Location Mayes County, OK

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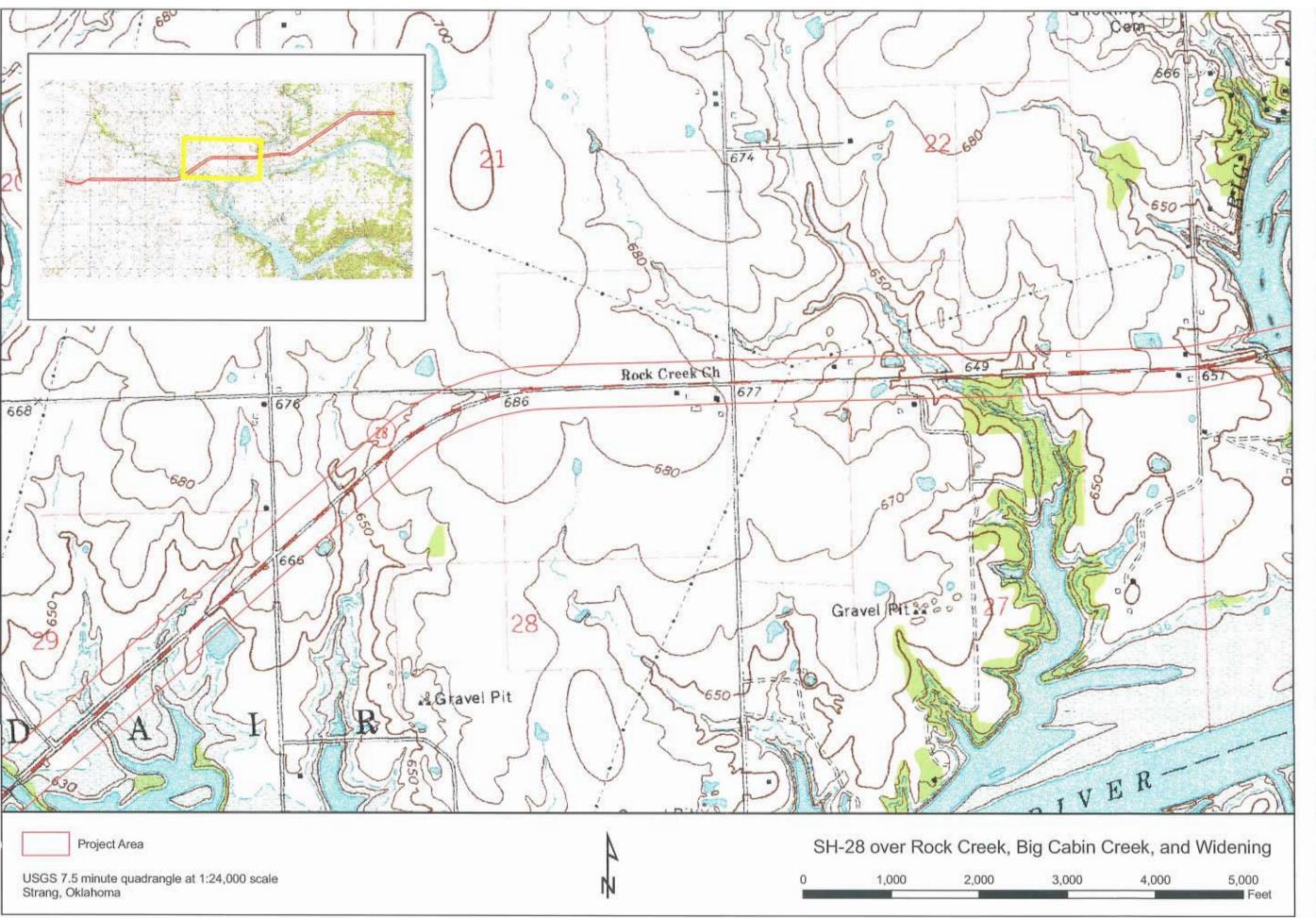
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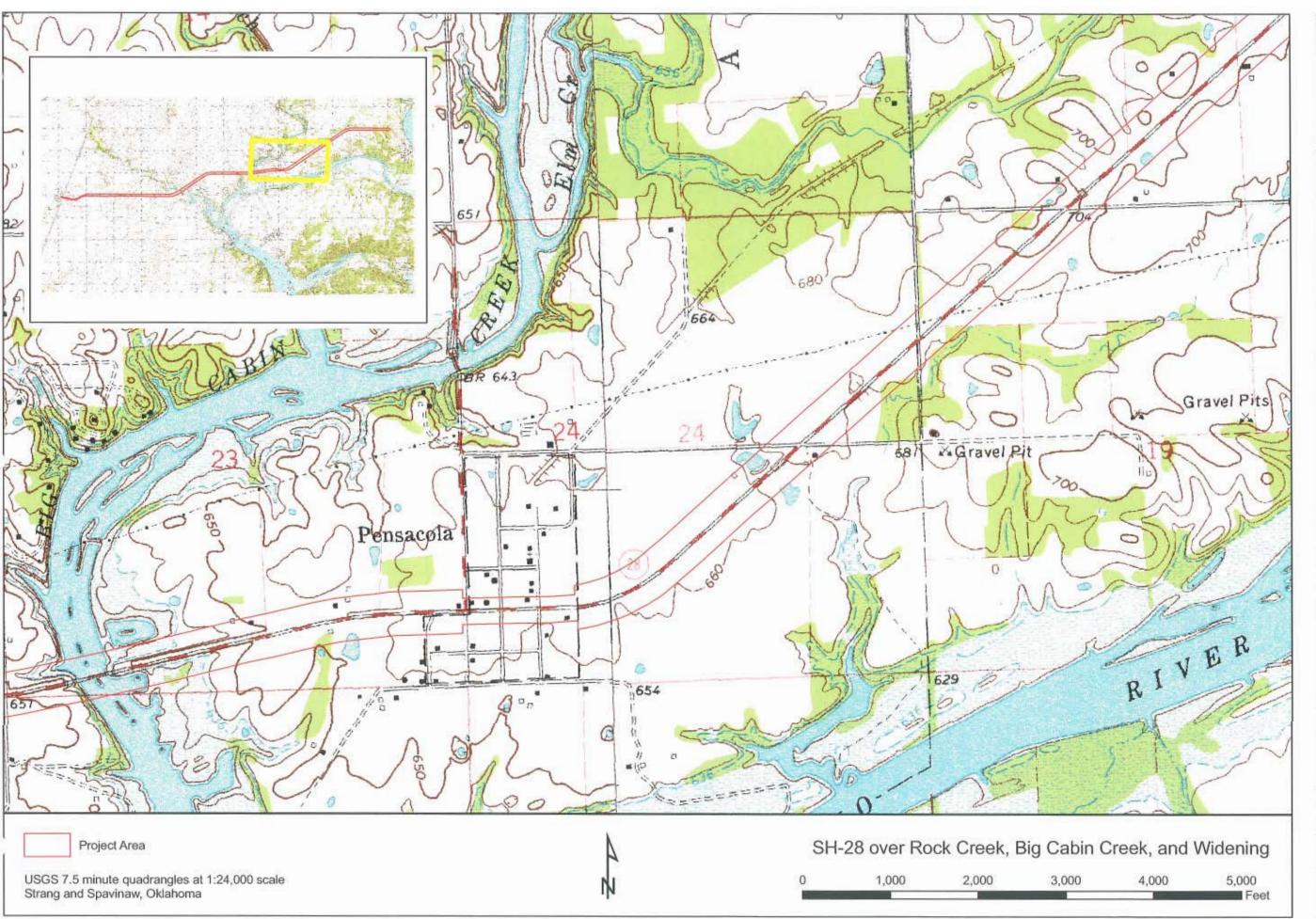
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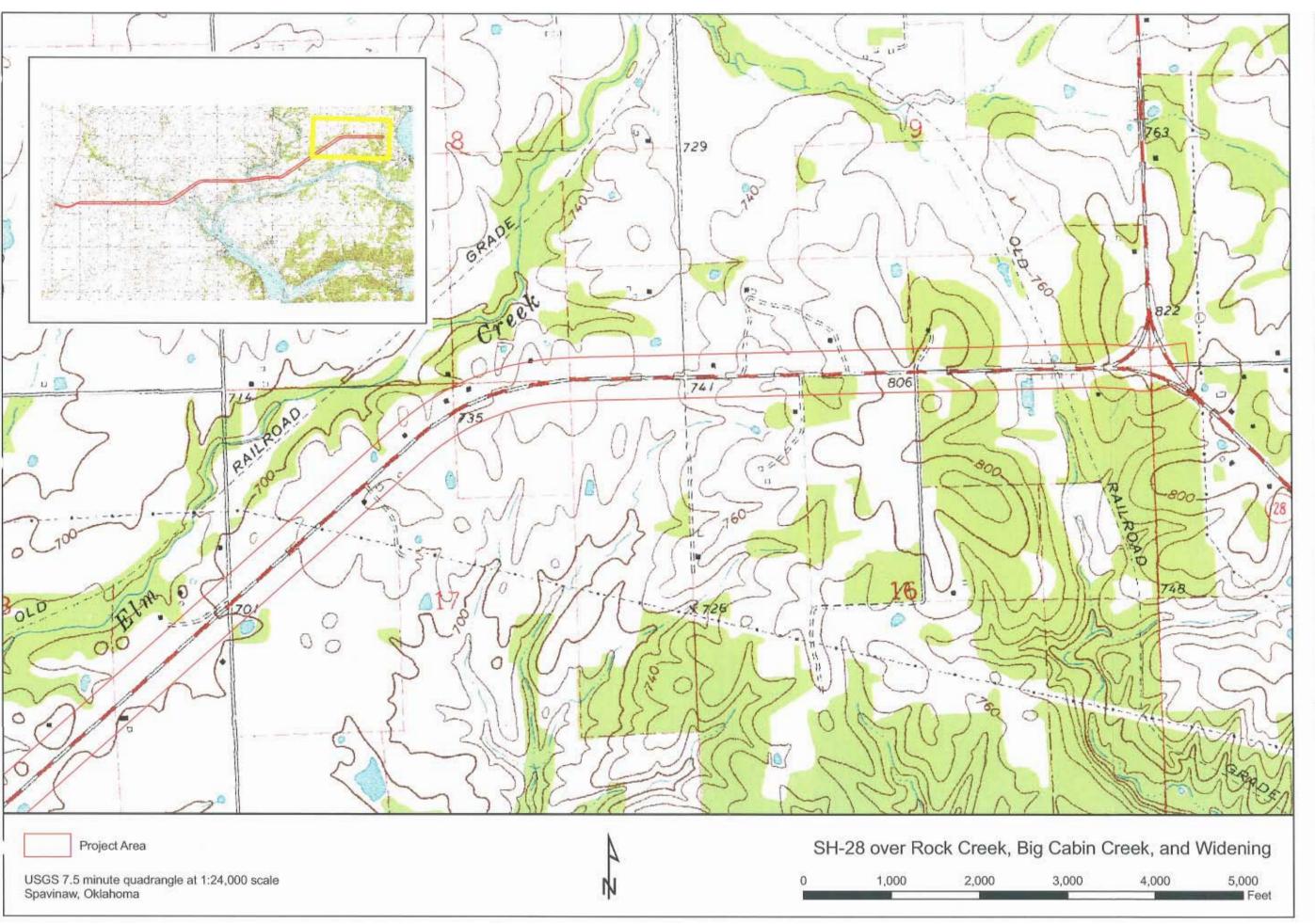
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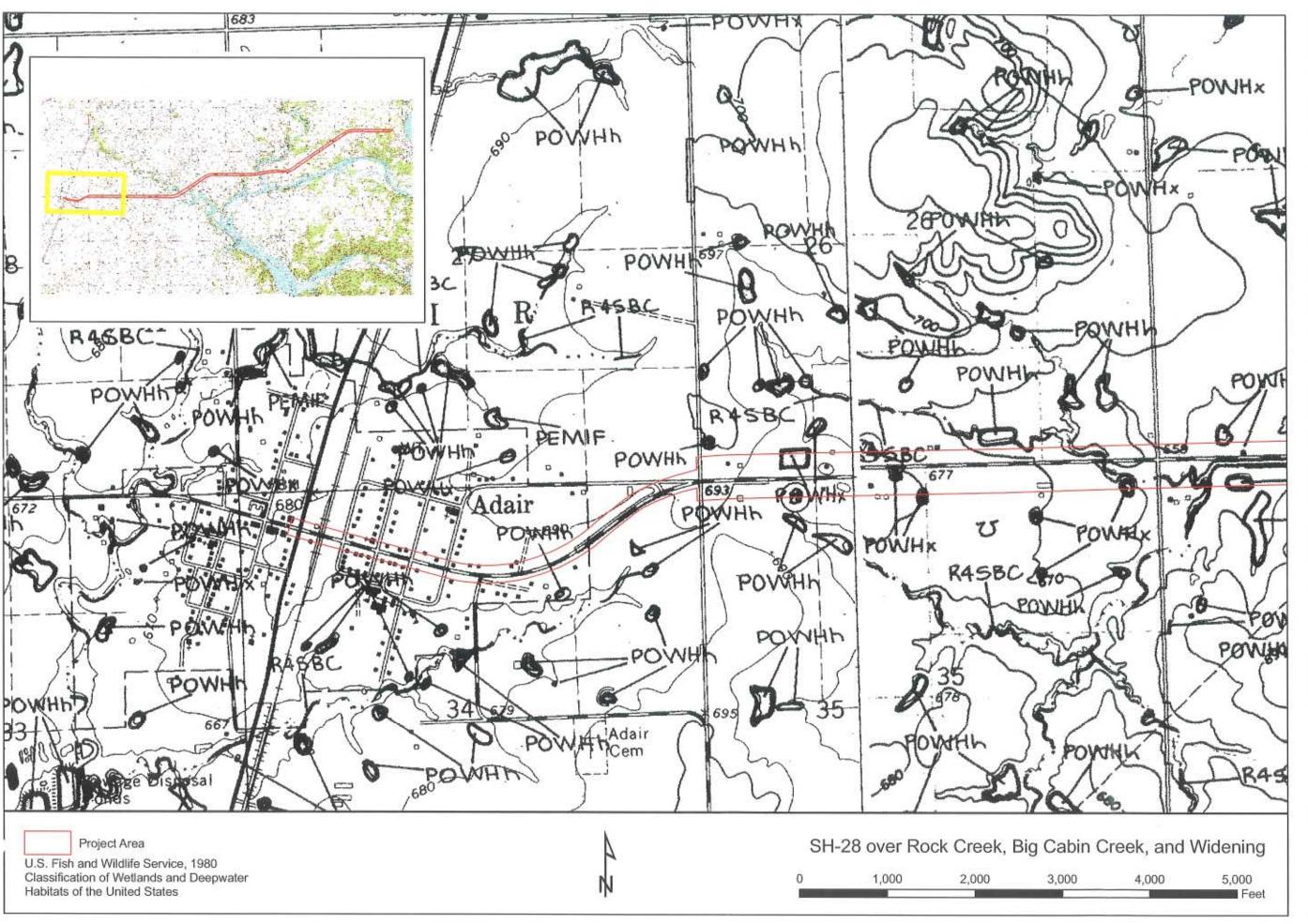
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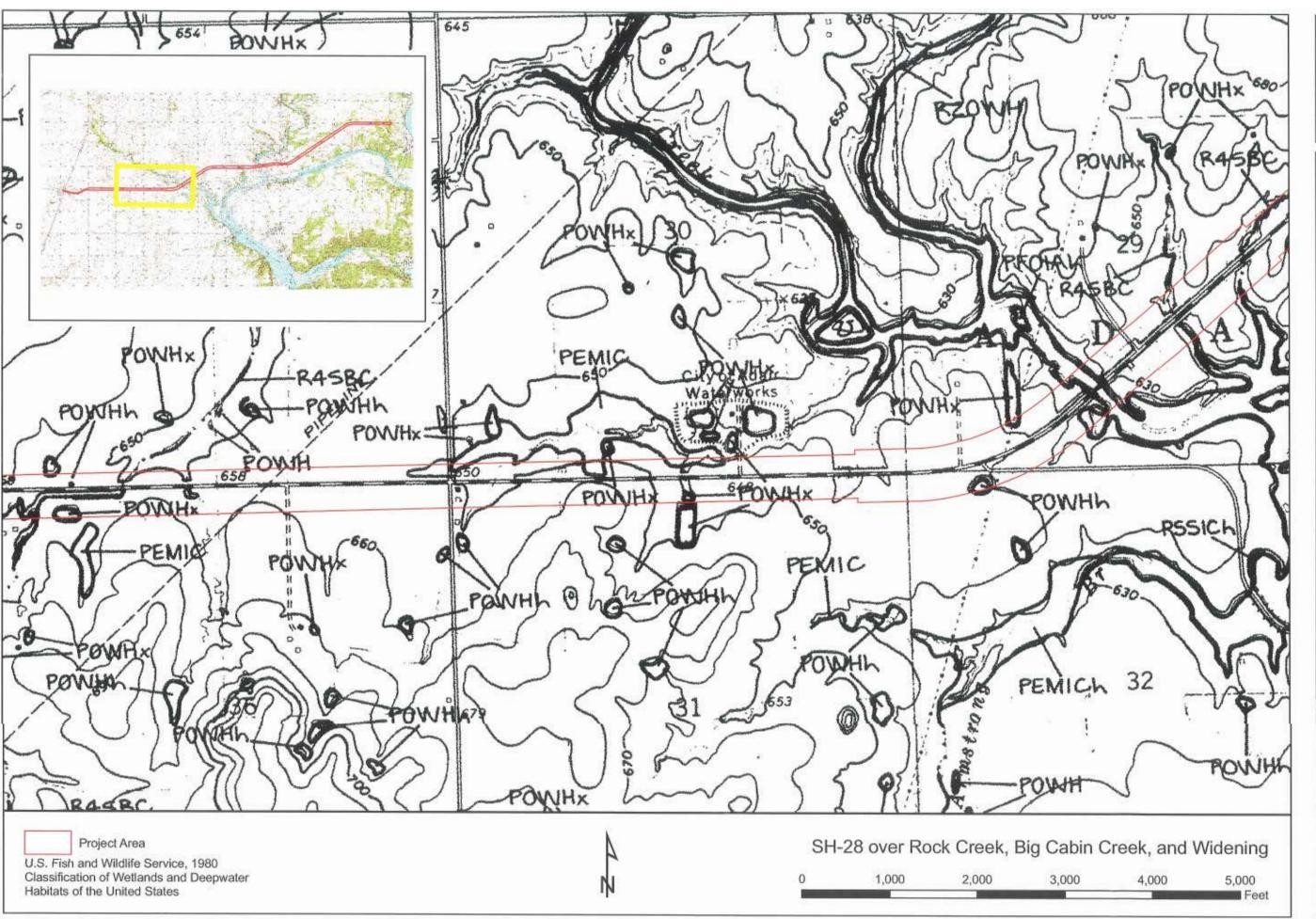
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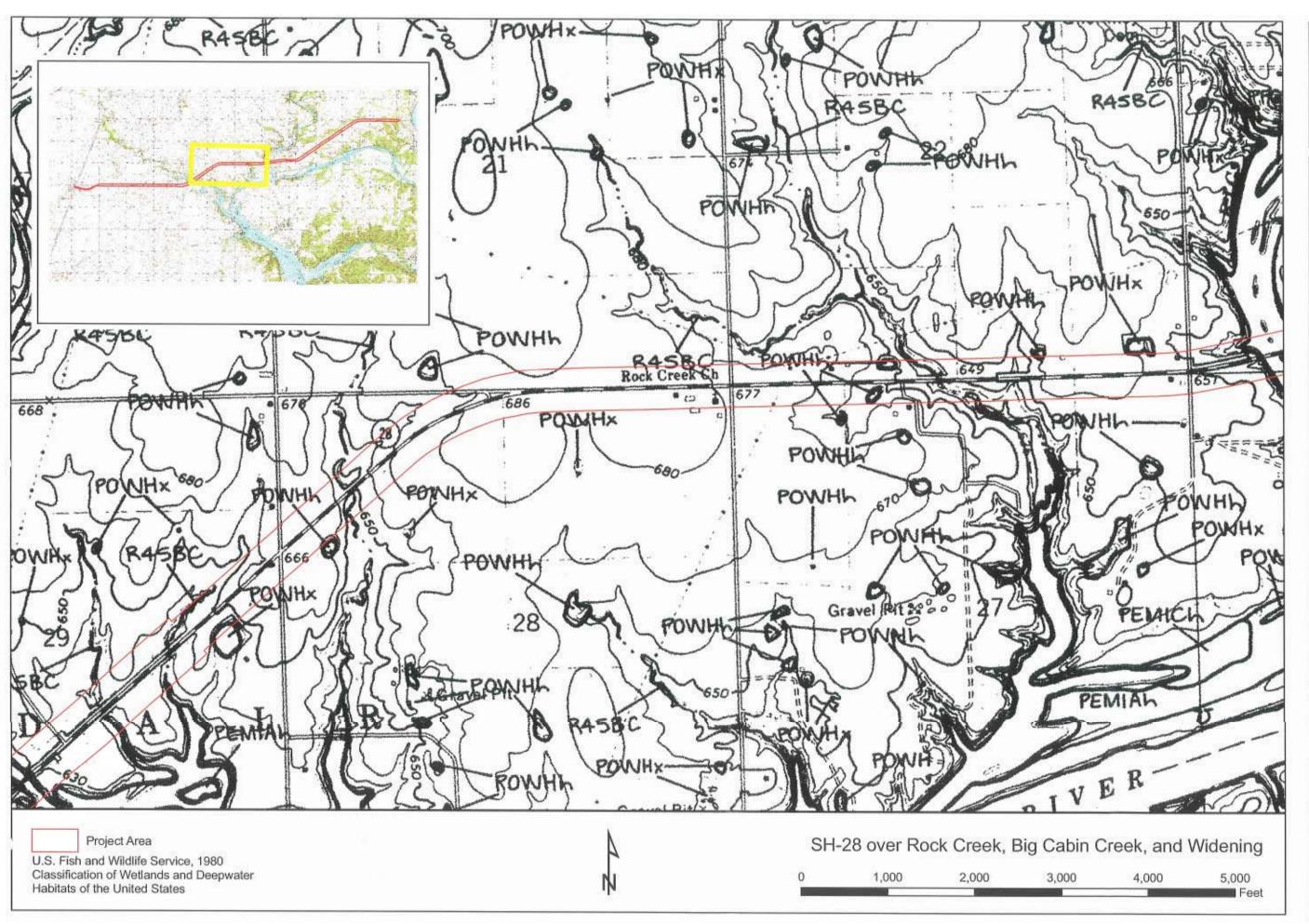
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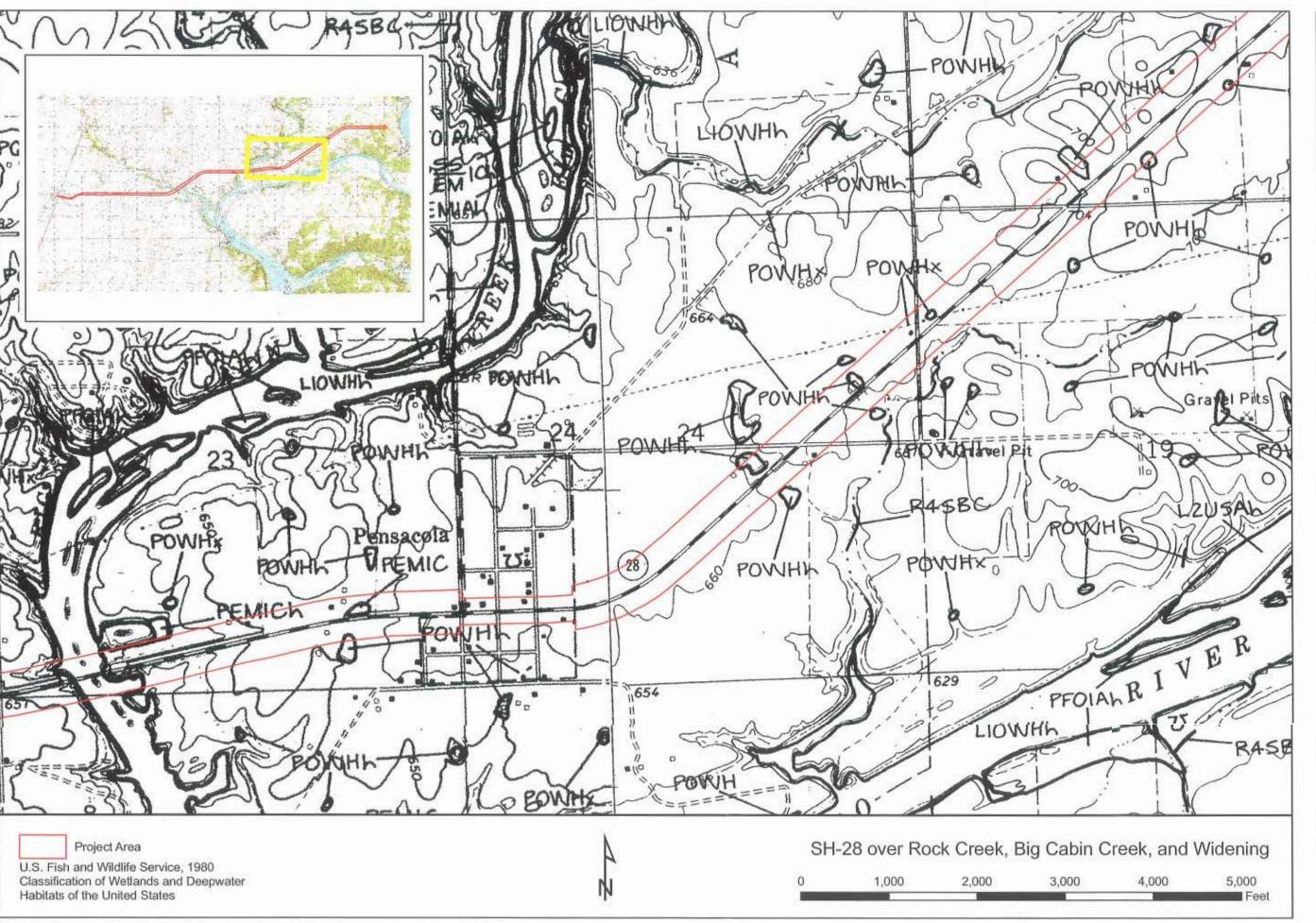
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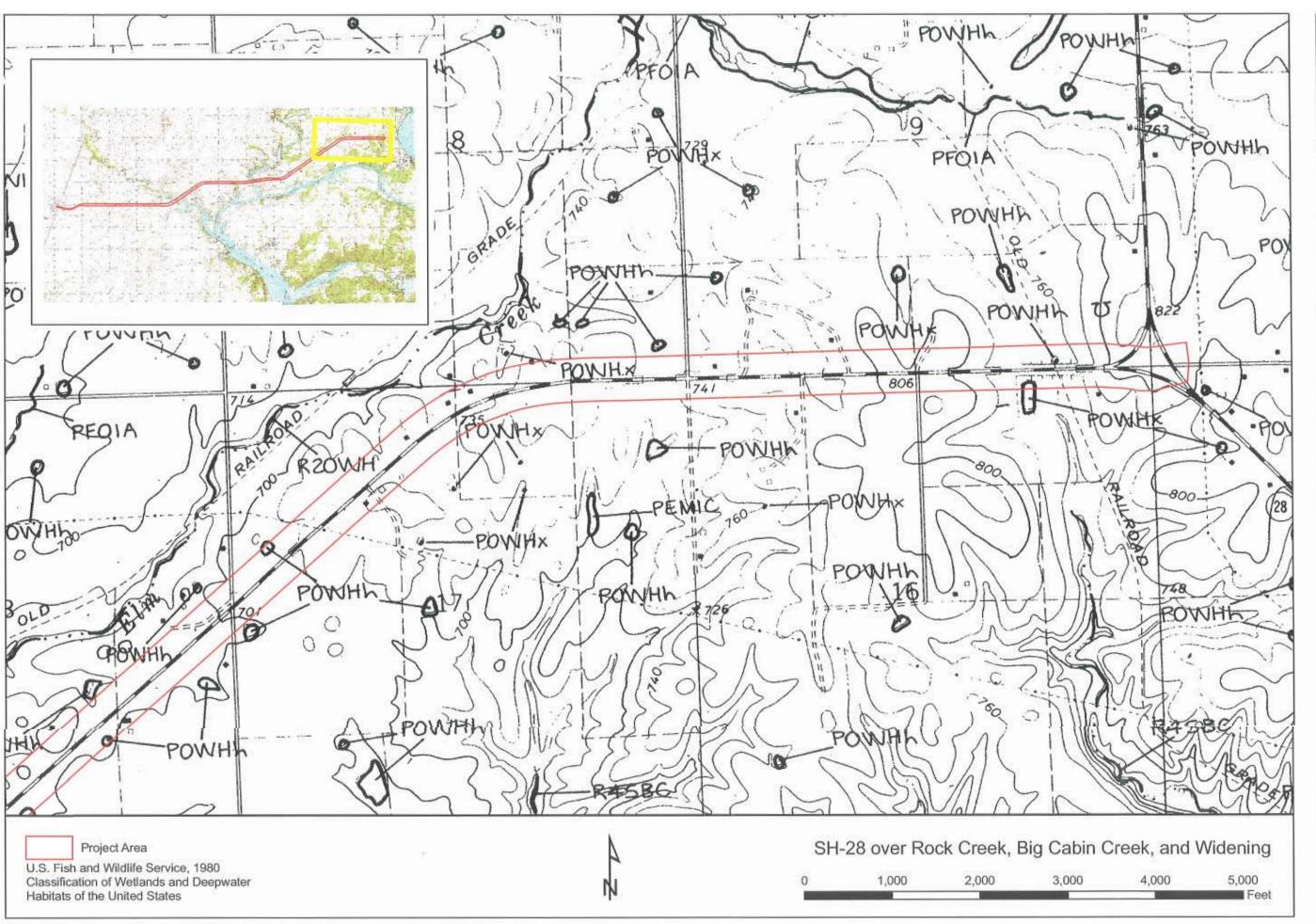
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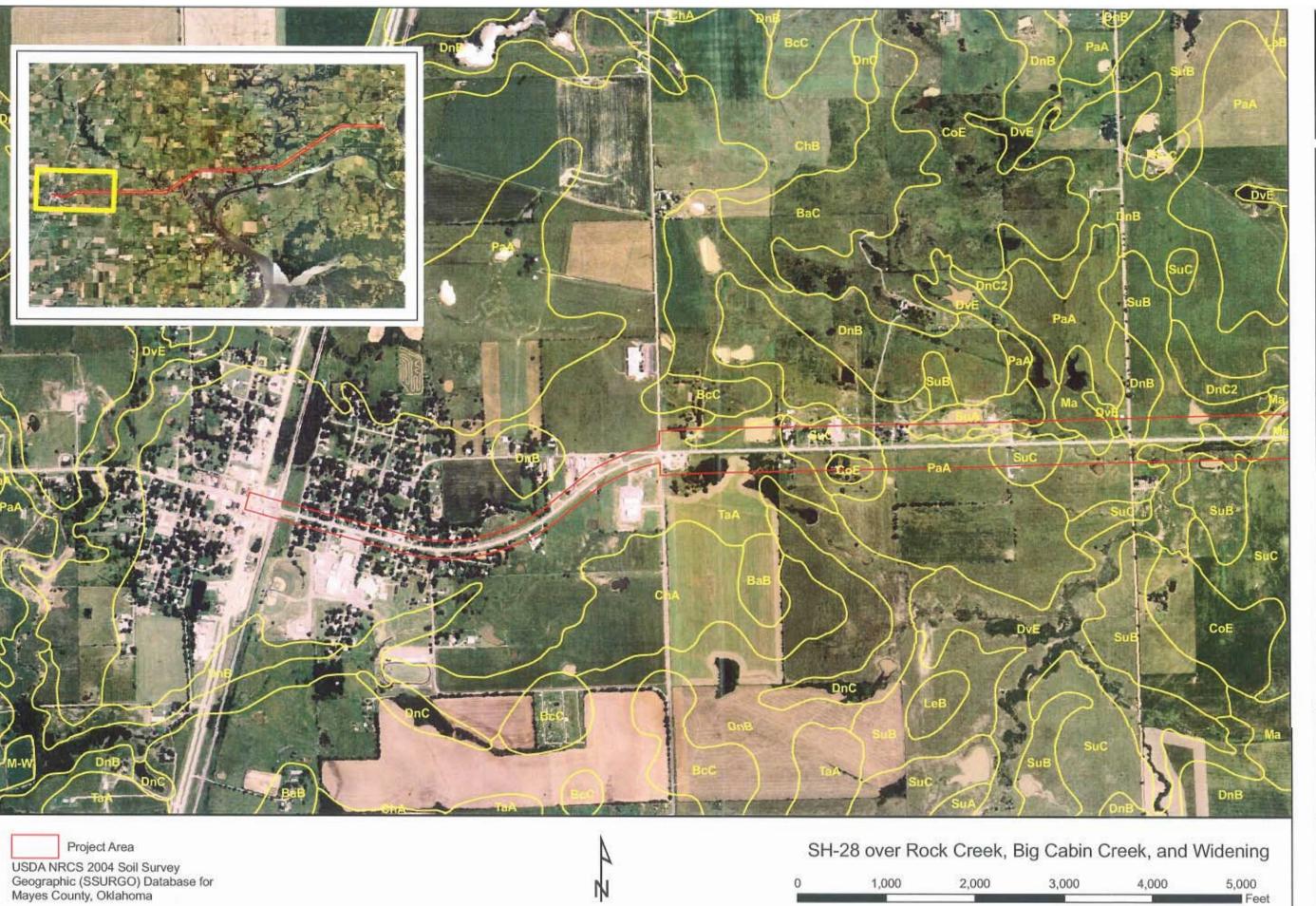
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Scale	As Shown
Designed By	RE
Approved By	RE
Drawn By	CML

Project Number 4050700301/0900 Figure Number

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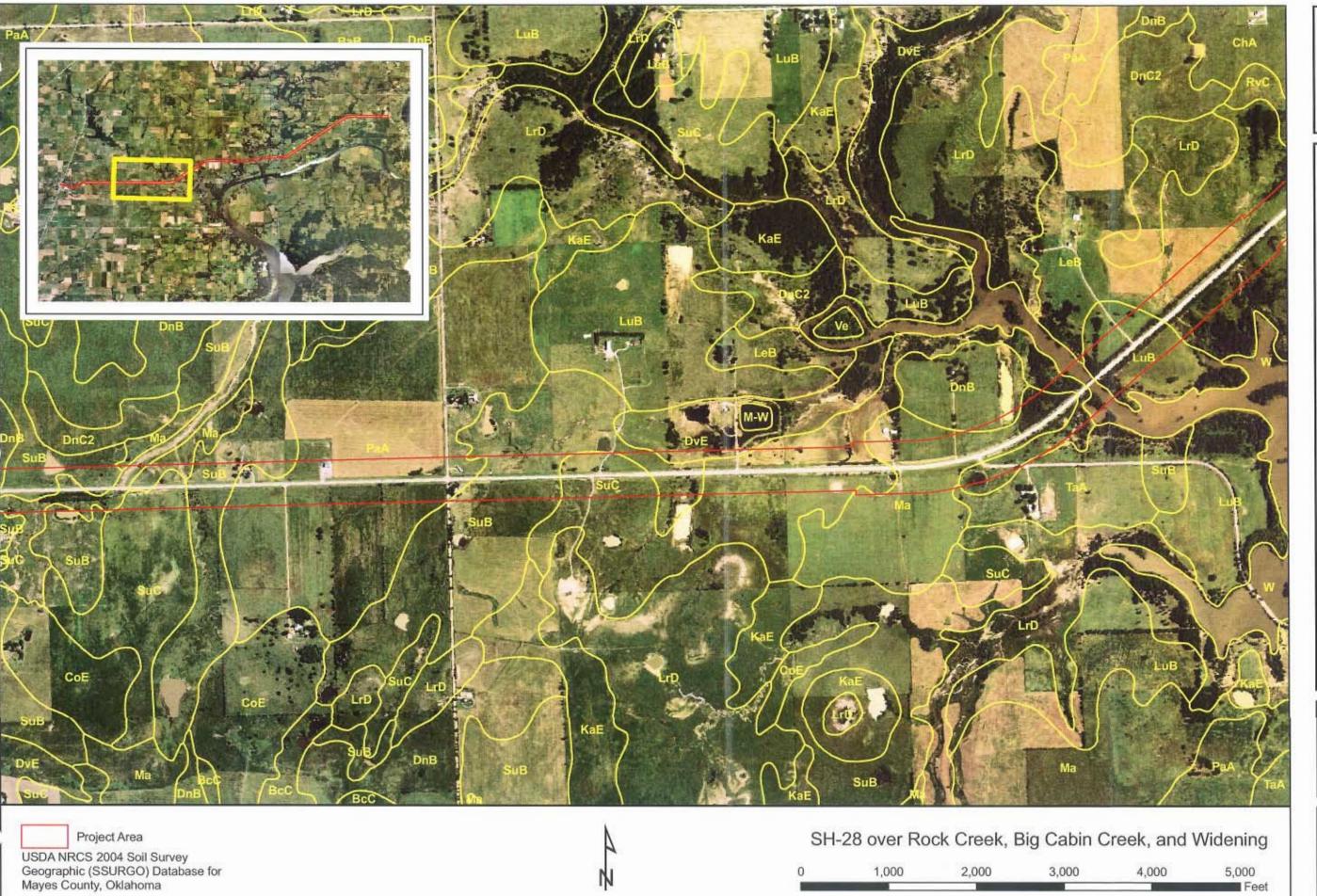
3790 W. Robinson, Suite 200 Norman, OK 73072 (405) 321-3895 www.benham.com

	al Waters and Wetlands Evaluation		
NRCS Soil Survey Map	Decument Title Habitat Assessment and Jurisdictional Waters and Wetlands Evaluation	Crient	Locaton Mayes County, OK

Date	6/27/2008
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Scale	As Shown
Designed By	RE
Approved By	RE
Drawn By	CML

Project Number 4050700301/0900 Figure Number

3-b



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Figure Tate NRCS Soil Survey Map	
Document Title Habitat Assessment and Jurisdictional Waters and Wetlands Evaluation	
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Mayor County OK	

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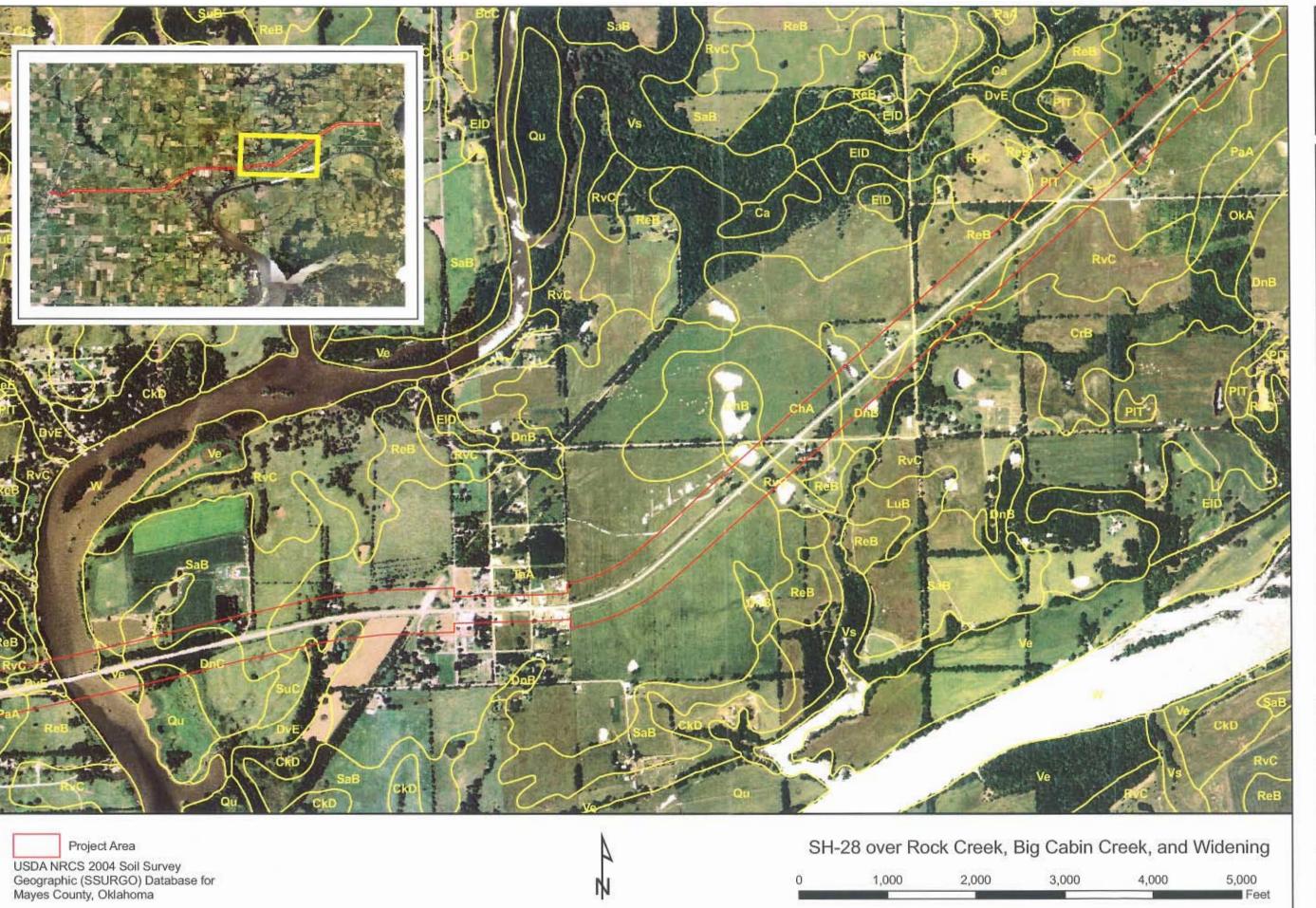
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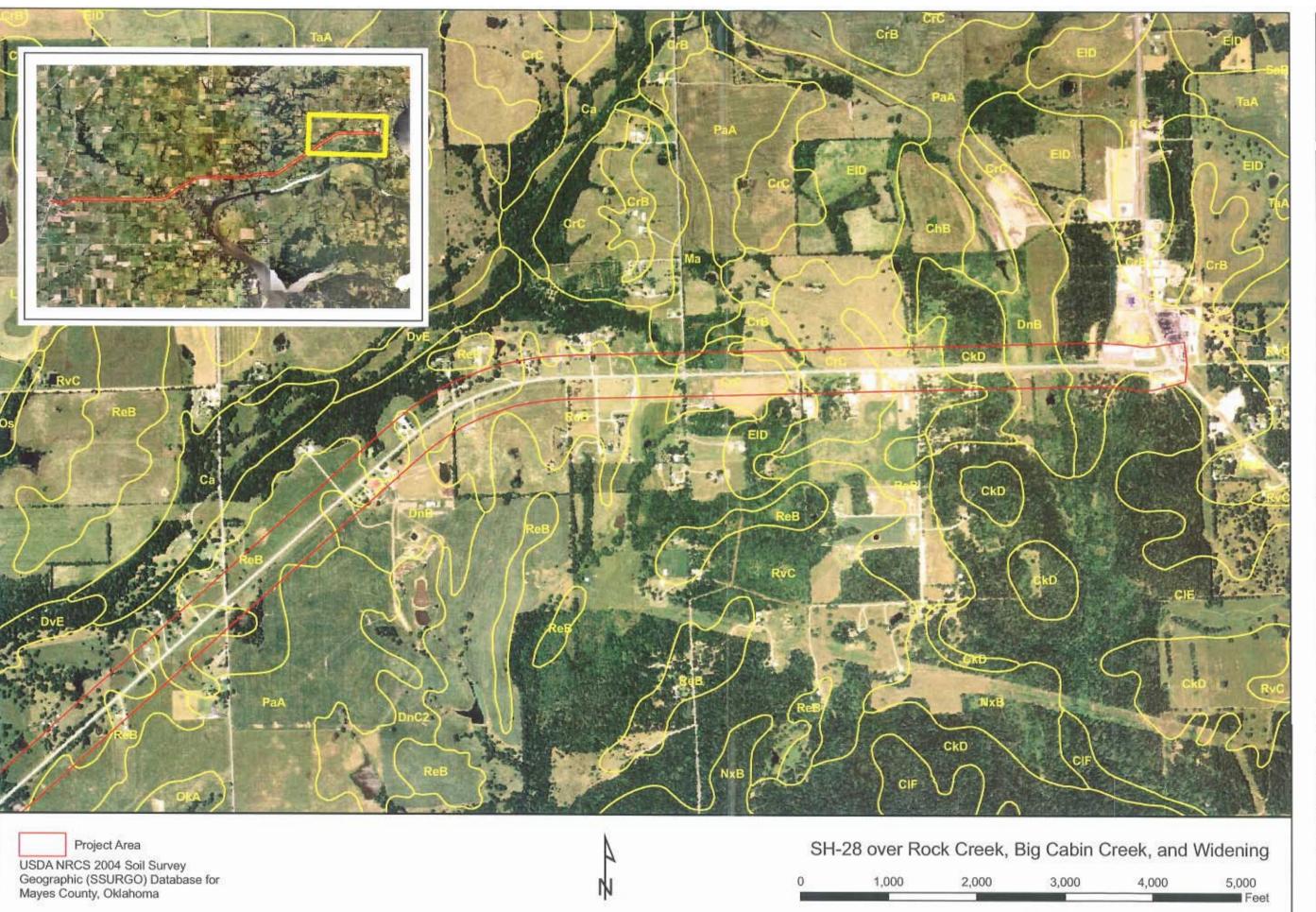
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NRCS Soil Survey Map	
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Location	

Date	6/27/2008
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Approved By	RE
Drawn By	CML

Project Number 4050700301/0900 Figure Number

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NRCS Soil Survey Map	
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USDA-APFO National Agriculture Imagery Program 2003 Digital Orthophotography

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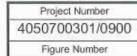


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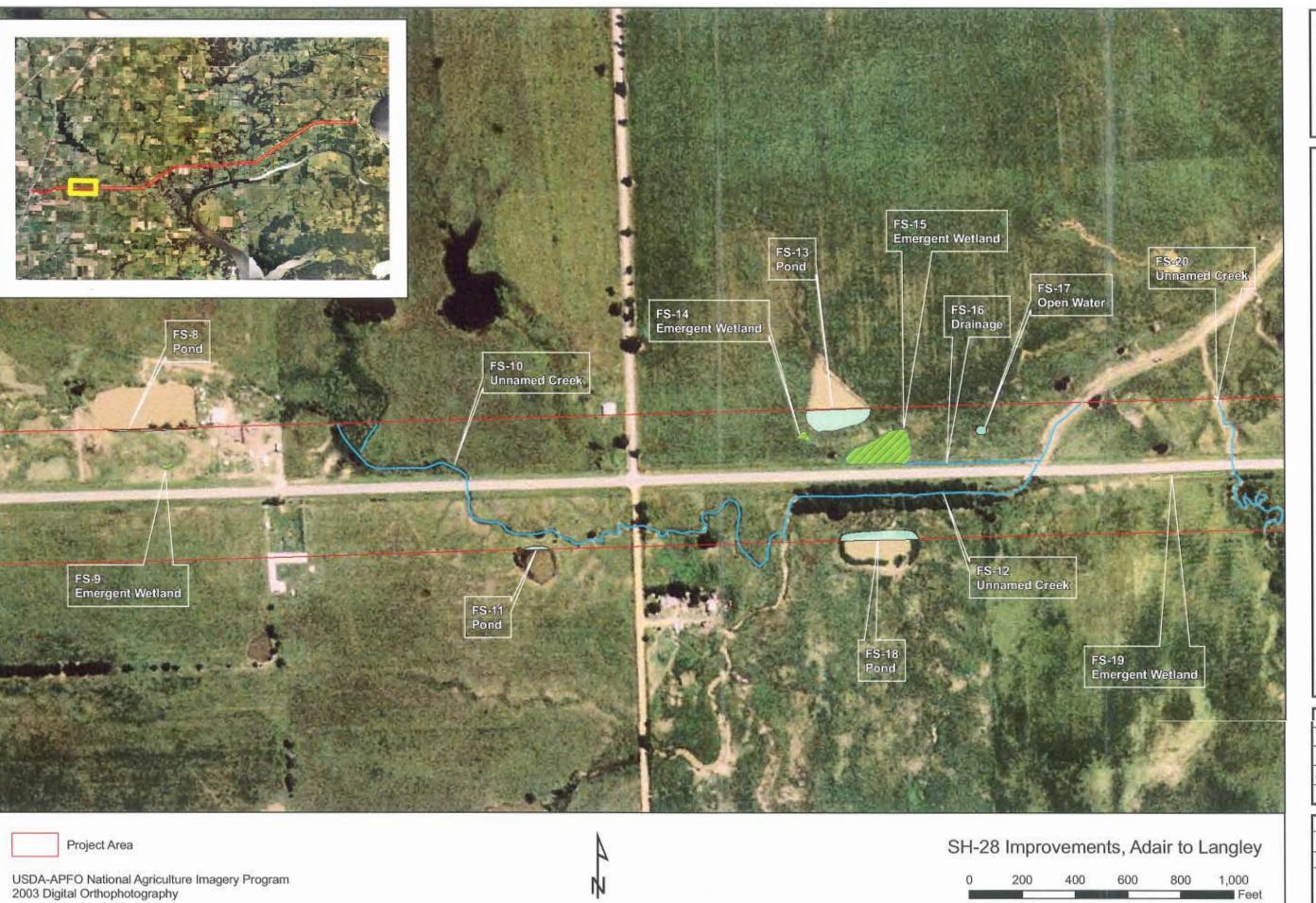
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4-b



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Habitat Assessment and Jurisdictional Waters and Wetlands Evaluation tent ODOT

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The Benham Companies, LLC infrastructure & environment

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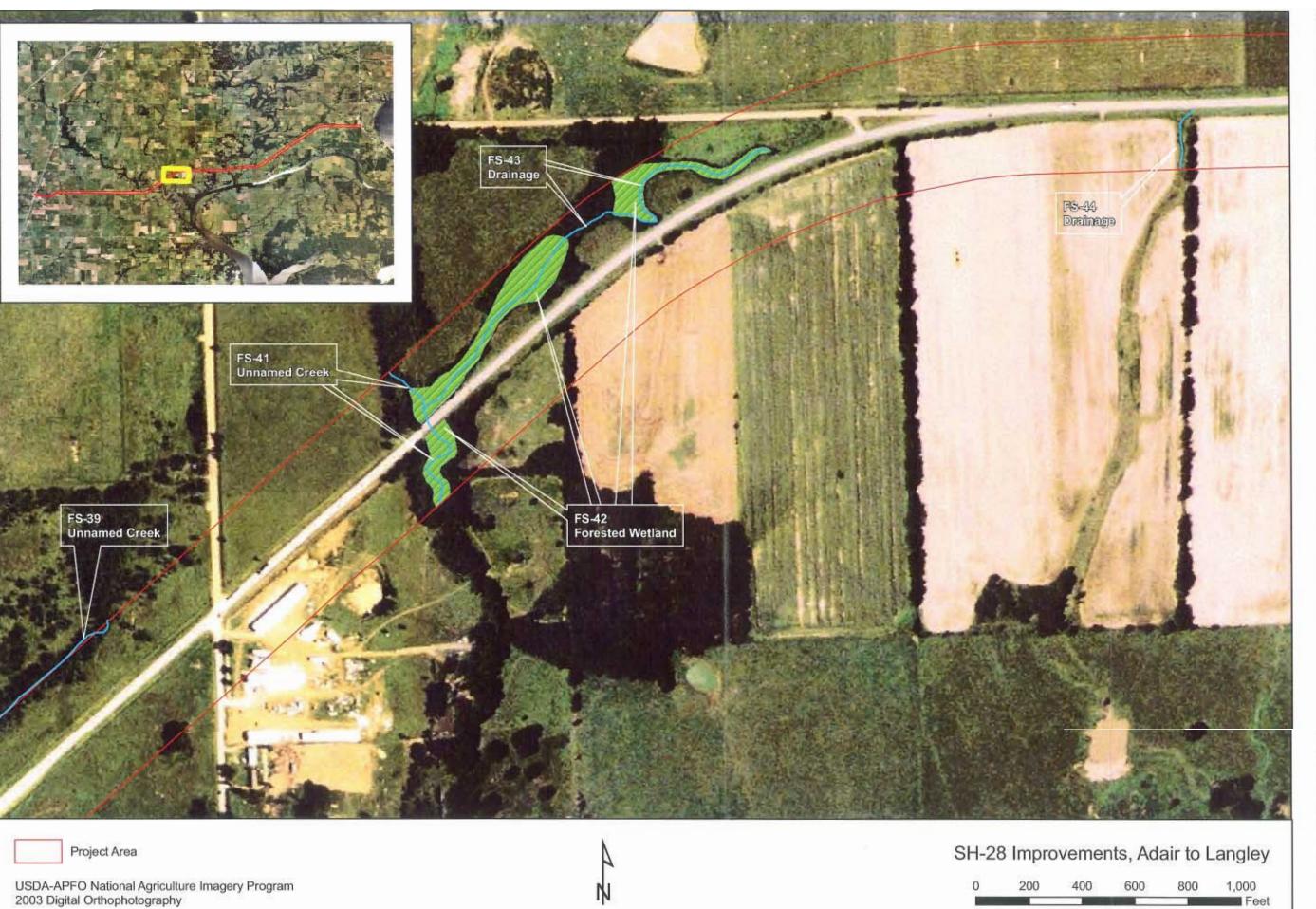
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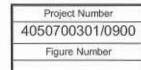
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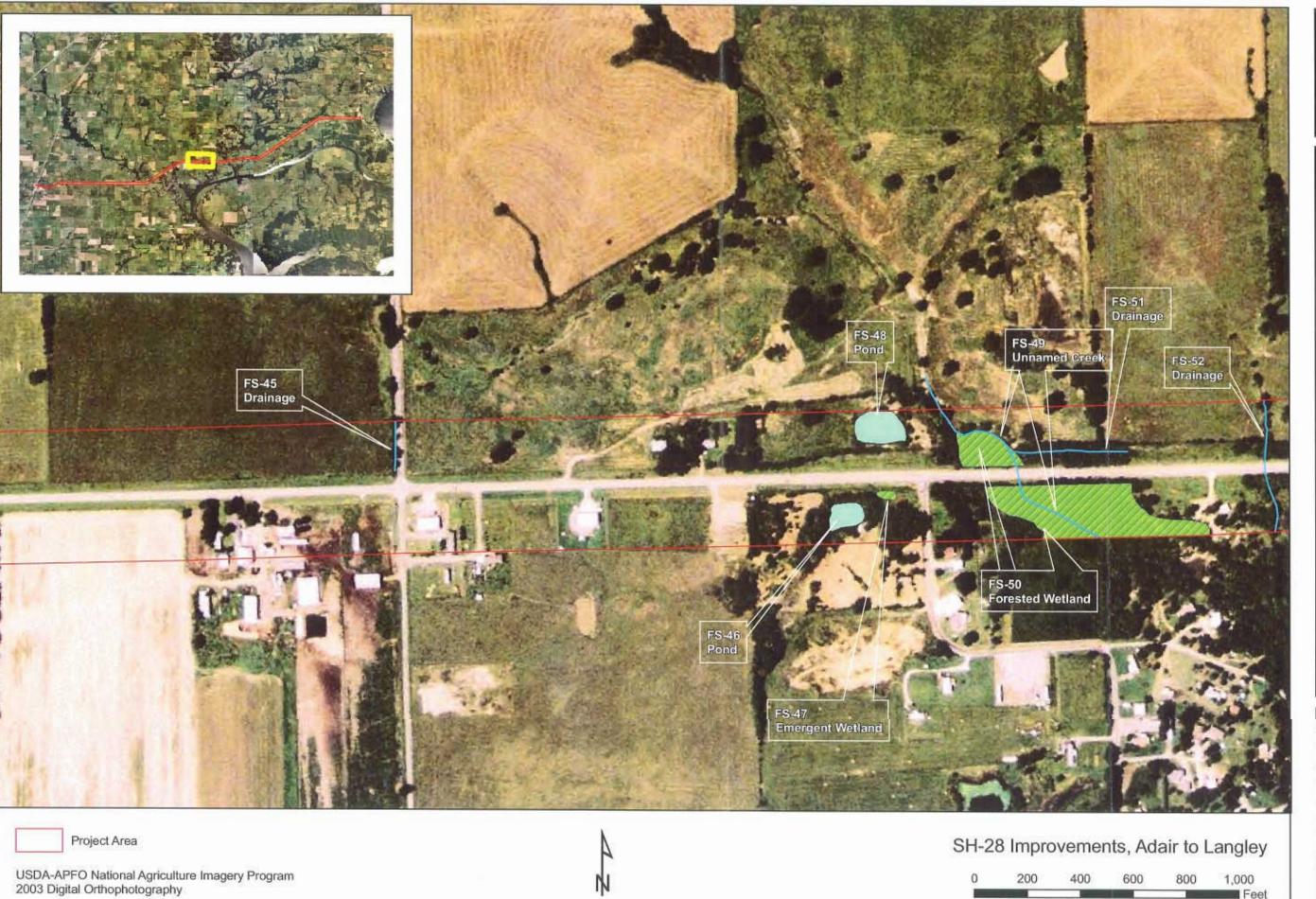
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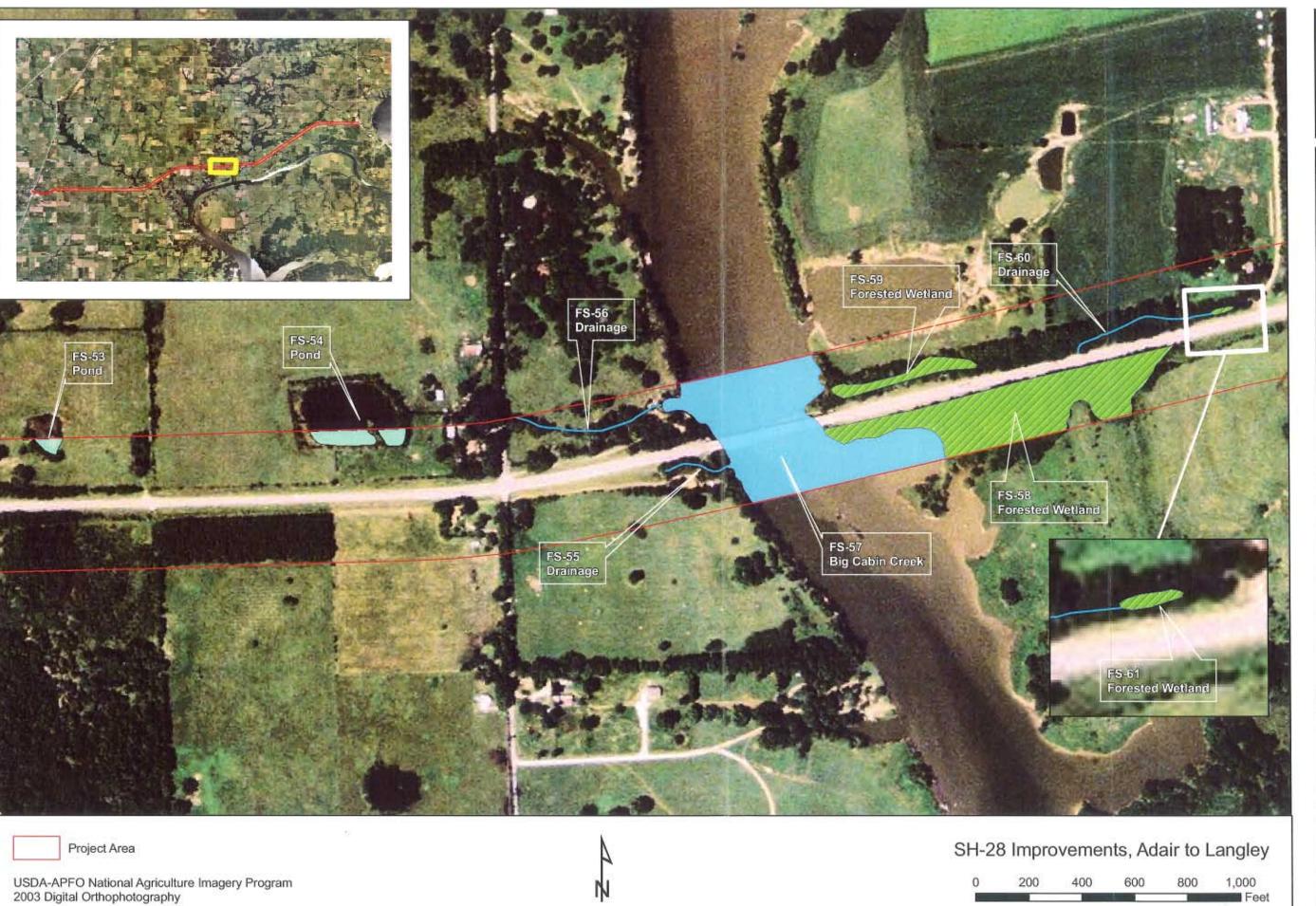
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USDA-APFO National Agriculture Imagery Program 2003 Digital Orthophotography

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Decument Title
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Mayor County OK

Date	7/17/2008
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USDA-APFO National Agriculture Imagery Program 2003 Digital Orthophotography BENHAM

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Site Map
Document Title Habitat Assessment and Jurisdictional Waters and Wetlands Evaluation
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Date	7/17/2008
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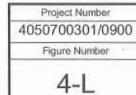
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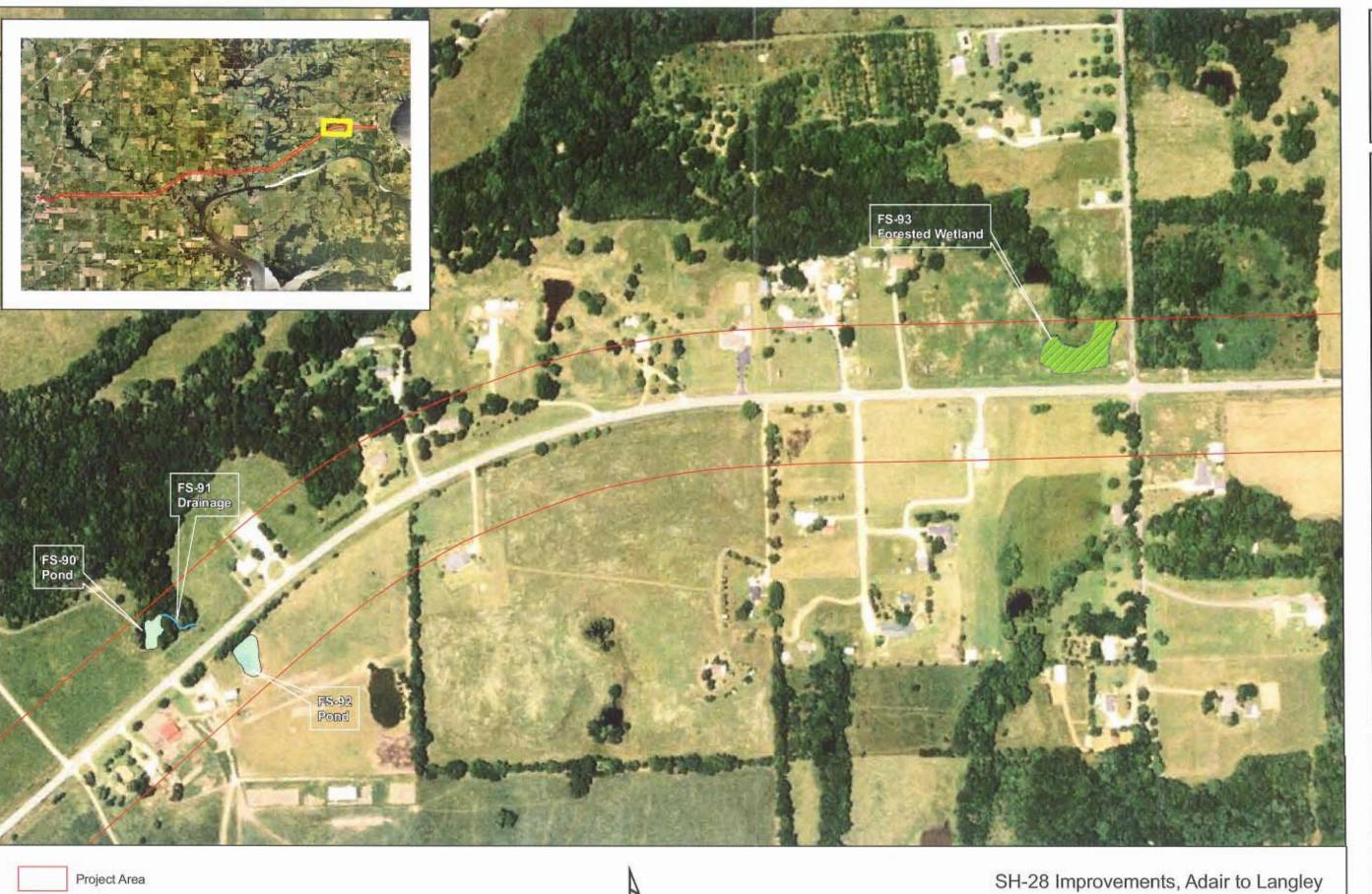
Figure Title Site Map

Date	7/17/2008
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Approved By	RE
Drawn By	RE

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	Florence Microshop

Figure Number

4-m



USDA-APFO National Agriculture Imagery Program 2003 Digital Orthophotography

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Project Number 4050700301/0900 Figure Number

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APPENDICES

Appendix A Site Photographs



FS-1: Emergent Wetland(s). Photo location south of SH-28 facing east.



FS-2: Drainage. Photo location south of SH-28 facing north.



FS-1: Emergent Wetland(s). Photo location north of SH-28 facing east.



FS-3: Emergent Wetland. View facing west.



FS-4: Drainage. View from south of SH-28 facing south.



FS-6: Pond. View facing southeast.



FS-5: Pond. View facing northeast.



FS-7: Emergent Wetland. View facing east.



FS-8: Pond. View facing northeast.



FS-10: Unnamed Creek. View facing northwest.



FS-9: Emergent Wetland. View facing west.



FS-11: Pond. View facing southwest.



FS-12: Unnamed Creek. Photo location north of SH-28 facing northeast.



FS-13: Pond. View facing north.



FS-12: Unnamed Creek. Photo location south of SH-28 facing southwest.



FS-14: Emergent Wetland. View facing west.



FS-15: Emergent Wetland. View facing east.



FS-17: Open Water. View facing northeast.



FS-16: Drainage



FS-18; Pond. View facing west.



FS-19: Emergent Wetland. View facing east.



FS-20: Drainage. View from south of SH-28 facing south.



FS-20: Drainage. View from north of SH-28 facing north.



FS-21: Emergent Wetland. View facing east.



FS-22: Drainage. View facing southwest.



FS-24: Unnamed Creek. View facing north.



FS-23: Emergent Wetland. View facing east.



FS-25: Pond. View facing north.



FS-26: Emergent Wetland. View facing south.



FS-28: Emergent Wetland/Open Water. View from road facing north.



FS-27: Emergent Wetland. View facing northeast.



FS-28: Alternate view from wetland facing northeast.



FS-29: Pond. View facing south.



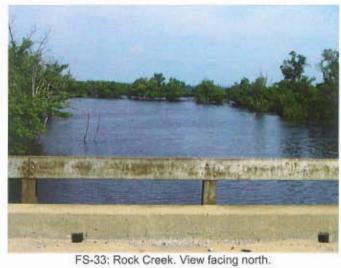
FS-31: Pond. View facing south.



FS-30: Emergent Wetland/Pond. View facing south.



FS-32; Forested Wetland. View from west of bridge facing east.





FS-35: Forested Wetland. View facing east.



FS-34: Forested Wetland. View facing west.



FS-36: Pond. View facing northeast.



FS-37: Drainage. (On survey date was under water). View facing northeast.



FS-38: Forested Wetland. View facing north from road.



FS-39: Drainage. View facing northeast.



FS-40: Pond. View facing south.



FS-41: Unnamed Creek. View facing south.



FS-43: Drainage. View facing east.



FS-42: Forested Wetland. View facing southwest.



FS-44: Drainage. View facing south.



FS-45: Drainage. View facing north.



FS-47: Emergent Wetland. View facing south.



FS-46: Pond. View facing southwest.



FS-48; Pond. View facing north.



FS-49: Unnamed Creek. View facing northwest.



FS-50; Forested Wetland. View from south of SH-28 facing southwest.



FS-50: Forested Wetland. View from north of SH-28 facing east.



FS-51: Drainage. View facing east.



FS-52: Drainage. View facing north.



FS-54: Pond. View facing north.



FS-53; Pond. View facing north.



FS-55: Drainage. View facing east.



FS-56: Drainage. View facing east.



FS-57: Big Cabin Creek. View facing south from bridge.



FS-57: Big Cabin Creek. View from north of SH-28 facing west.



FS-58: Forested Wetland. View facing south.



FS-59: Forested Wetland. View facing west.



FS-61: Forested Wetland. View facing west.



FS-60: Drainage. View facing west.



FS-62: Forested Wetland. View facing east.



FS-63: Emergent Wetland. View facing south.



FS-65: Emergent Wetland.



FS-64: Emergent Wetland. View facing northeast.



FS-66: Emergent Wetland. View facing west.



FS-67: Pond. View facing northwest.



FS-69: Forested Wetland. View facing east.



FS-68: Drainage. View facing northeast.



FS-70: Pond. View facing east.



FS-71: Pond. View facing north.



FS-73: Pond. View facing southeast.



FS-72: Drainage. View facing southwest.



FS-74: Pond. View facing northeast.



FS-75: Drainage. View facing south.



FS-77: Emergent Wetland. View facing east.



FS-76: Emergent Wetland/Oxbow. View facing south.



FS-78: Pond. View facing northwest.



FS-79: Pond. View facing southeast.



FS-81: Drainage. View facing northwest.



FS-80: Emergent Wetland. View facing northwest.



FS-82: Pond. View facing north.





FS-85: Drainage. View facing northwest.



FS-84: Emergent Wetland. View facing northeast.



FS-86: Emergent Wetland. View facing south.



FS-87: Pond. View facing east.



FS-89: Pond. View facing north.



FS-88: Forested Wetland. View facing south.



FS-90: Pond. View facing northeast.



FS-91: Drainage. View facing west.



FS-93: Forested Wetland. View facing north.



FS-92: Pond. View facing southeast.



FS-94: Drainage. View facing northwest.



FS-95: Pond. View facing south.



FS-97: Pond. View facing east.



FS-96: Emergent/Shrub Wetland. View facing west.



FS-98: Unnamed Creek. View from north of SH-28 facing southeast.



FS-99: Forested Wetland. View from north of SH-28 facing southeast.



Typical pasture present throughout project area.



FS-98 and FS-99: Drainage and Forested Wetland. View from south of SH-28 facing south.



View of SH-28 from Langley facing west.

Appendix B Wetland Data Sheets



Applicant / Owner: ODO nvestigator: Renee El	T			Date: <u>6/24/08</u> County: <u>Mayes</u> State: <u>OK</u>
Oo normal circumstances e s the site significantly distu s the area a potential proble (explain on reverse if need	urbed (Atypica em area?		YesX_No on)? YesNo_X_ YesNo_X_	Community ID: Emergent Wetland Transect ID: Pit 1 Plot ID: Field Site 1
VEGETATION				Stratum Indicator
Dominant Plant Species	esta.	dicator	100	
. Eleocharis palustris	_ <u>H</u> _	OBL	9	
2. Lippia lanceolata	_ H]	OBL	11	
Cyperus acuminatus Eleocharis montevidensis	- н т	FACW+	12	
5. Ranunculus hispidus	H -	FAC	13.	
6. Rumex crispus	H F	FACW	14.	
7			15	
8			16	
Percent of Dominant Specie Remarks:	es triat are Ob	SL, FACY	v, or FAC excluding FAC	-)100%
	es triat are Ob	SL, FACY	v, or FAC excluding FAC	-)100%
Remarks: HYDROLOGY Recorded Data (Descr	ibe In Remark	ks):	Wetland Hydrology In	
Remarks: HYDROLOGY Recorded Data (Descring Stream, Lake, o	ibe In Remark or Tide Gauge	ks):	Wetland Hydrology In	dicators
Remarks: HYDROLOGY Recorded Data (Descr	ibe In Remark or Tide Gauge	ks):	Wetland Hydrology In Primary Indicators _X_Inundated	dicators s:
Remarks: HYDROLOGY Recorded Data (Descr Stream, Lake, o Aerial Photogr	ibe In Remark or Tide Gauge aphs	ks):	Wetland Hydrology In Primary Indicators _X_ Inundated _X_ Saturated i Water Mar	dicators s: n Upper 12" ks
Remarks: HYDROLOGY Recorded Data (Descr Stream, Lake, of the control of	ibe In Remark or Tide Gauge aphs	ks):	Wetland Hydrology In Primary Indicators _X_ Inundated _X_ Saturated i Water Mar Drift Lines Sediment	dicators s: n Upper 12" ks
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Remarks: HYDROLOGY Recorded Data (Descrean, Lake, of Aerial Photogram, Contered) Other No Recorded Data Averaged Contered Contentered Conten	ibe In Remark or Tide Gauge aphs vailable	(s): e (in.)	Wetland Hydrology In Primary Indicators _X_ Inundated _X_ Saturated i Water Mar Drift Lines Sediment Drainage I Secondary Indicators Oxidized F Water-Stai	dicators s: n Upper 12" ks i Deposits Patterns in Wetlands
Remarks: HYDROLOGY Recorded Data (Descring Stream, Lake, or Aerial Photogring) Other No Recorded Data Averaged D	ibe In Remark or Tide Gauge aphs vailable :: 4	(s): e (in.)	Wetland Hydrology In Primary Indicators X Inundated X Saturated i Water Mar Drift Lines Sediment Drainage I Secondary Indicators X Oxidized I Water-Staitocal Soil FAC-Neutr	dicators s: n Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data
Remarks: HYDROLOGY Recorded Data (Descring Stream, Lake, or Aerial Photogram, Other Other No Recorded Data Aversield Observations: Depth of Surface Water in the Aerial Photogram, Depth to Free Water in the Aerial Photogram, Depth	ibe In Remark or Tide Gauge aphs vailable :: 4	(s): 9 (in.)	Wetland Hydrology In Primary Indicators X Inundated X Saturated i Water Mar Drift Lines Sediment Drainage I Secondary Indicators X Oxidized I Water-Staitocal Soil FAC-Neutr	dicators s: n Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data ral Test
Remarks: HYDROLOGY Recorded Data (Descress Stream, Lake, or Aerial Photogration) Other No Recorded Data Average Stream Stream, Lake, or Aerial Photogration Stream Strea	ibe In Remark or Tide Gauge aphs vailable :: 4	(s): 9 (in.)	Wetland Hydrology In Primary Indicators X Inundated X Saturated i Water Mar Drift Lines Sediment Drainage I Secondary Indicators X Oxidized I Water-Staitocal Soil FAC-Neutr	dicators s: n Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data ral Test

Taxonom	y (Subgro	oup):		Confirm Mappe	d Type? Yes_X_ No
(C. 100 Sec.)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	
0-12		10YR 3/1	10YR 5/6	Few/Prominant	loamy clay
			-	_	-
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Hydric S	oil IndicateHistoso Histic E	1		oncretions gh Organic Content in S	urface Layer in Sandy Soils
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Hydric S	Histoso Histic E Sulfidic Aquic N Reducii Gleyed	ol Epipedon Odor Moisture Regime Ing Conditions	Hi Oi Li:	gh Organic Content in So ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S	y Soils ils List Soils List
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Project / Site: SH-28 Improver Applicant / Owner: ODOT nvestigator: Renee Ellis	pero Minore who to the house of section 425-80 ft. I		Date: 6/24/08
Do normal circumstances exists the site significantly disturbent in the area a potential problem (explain on reverse if neede	bed (Atypical situation area?	YesX_ No on)? Yes NoX_ Yes NoX_	Community ID: Emergent Wetland Transect ID: Pit 1 Plot ID: Field Site 3
VEGETATION Dominant Plant Species			Stratum Indicator
1. Cyperus acuminatus 2. Carex frankii 3. Ranunculus hispidus 4. Eleocharis montevidensis 5. 6. 7. 8.	H OBL H FAC H FACW+	10	
Percent of Dominant Species Remarks:	and the same of th	A CONTRACTOR OF THE PARTY OF TH	
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Describe Stream, Lake, or Aerial Photograp Other No Recorded Data Available of Surface Water: Depth of Surface Water in Pit Depth to Saturated Soil:	e In Remarks): Tide Gauge ohs Ilable	Wetland Hydrology Indicators X Inundated X Saturated in Water Mark Drift Lines Sediment Drainage F Secondary Indicators X Oxidized F Water-Stai Local Soil	dicators s: n Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data

Taxonon	ny (Subgro	oup):		Confirm Mappe	d Type? YesNo X_
	Horizon -	Matrix Colors (Munsell Moist) 5Y 3/1	5Y 3/2	Few/Faint	Texture, Concretions, Structure, etc. clay loamy gravelly clay
Hudric C	oil Indicat	ore:			
Hydric S	Sulfidic Aquic N Reducii Gleyed	d pipedon	Hig Org List	ncretions In Organic Content in Su anic Streaking in Sandy and On Local Hydric Soi and On National Hydric S aer (Explain in Remarks)	ls List soils List
Remarks	Histoso Histic E Sulfidic Aquic N Reducii Gleyed	ol Epipedon Odor Moisture Regime ng Conditions	Hig Org List	h Organic Content in Su anic Streaking in Sandy ed On Local Hydric Soil ed on National Hydric S	/ Soils ls List soils List



o normal circumstances exist on the site? In the site significantly disturbed (Atypical situation of the area a potential problem area? (explain on reverse if needed) //EGETATION - Eleocharis palustris	YesNo_X Plot ID: Field Site 7 Dominant Plant Species Stratum Indicator 9 10
- Eleocharis palustris H OBL - Juncus marginatus H FACW - Juncus diffusissimus H FACW - Carex frankii H OBL	9
. Eleocharis palustris H OBL . Juncus marginatus H FACW . Juncus diffusissimus H FACW . Carex frankii H OBL	9
Juncus marginatus H FACW Juncus diffusissimus H FACW Carex frankii H OBL	10
Juncus marginatus H FACW Juncus diffusissimus H FACW Carex frankii H OBL	10
. Juncus diffusissimus H FACW . Carex frankii H OBL	
- HOUSE OF THE PARTY OF THE PAR	
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HYDROLOGY	
Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other	Wetland Hydrology Indicators Primary Indicators: _X_Inundated
X No Recorded Data Available	X_ Saturated in Upper 12" Water Marks Drift Lines
Field Observations:	Sediment Deposits Drainage Patterns in Wetlands
Depth of Surface Water:2(in.)	Oxidized Roots Channels in Upper 12"
Depth to Free Water in Pit:n/a(in.	Water-Stained Leaves Local Soil Survey Data
Depth to Saturated Soil: <u>surf</u> (in.)	FAC-Neutral Test Other (Explain in Remarks)
Remarks:	

Profile Descrip Depth (inches) H		up):				
Depth (inches) H	ntion:			Confirm Mapped Type? Yes_X_ No		
2-12	Horizon	5Y 4/1	5Y 4/2		Texture, Concretions, Structure, etc. loamy clay gravelly clay	
Hydric Soil	_Histoso _Histic E _Sulfidic _Aquic N _Reducii	l pipedon	Hig Orç Lis	ncretions h Organic Content in Si janic Streaking in Sand ted On Local Hydric Soi ted on National Hydric S her (Explain in Remarks	ils List Soils List	
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Remarks:				15		



Applicant / Owner: ODO nvestigator: Renee El		γ	Date: 6/24/08
Do normal circumstances e is the site significantly distu is the area a potential proble (explain on reverse if need	urbed (Atypical situati em area?	Yes_X_No ion)? YesNo_X_ YesNo_X_	Community ID: Emergent Wetland Transect ID: Pit 1 Plot ID: Field Site 9
VEGETATION			
1. Eleocharis palustris 2. 3. 4. 5. 6. 7. 8. Percent of Dominant Species	H OBL	9	
Remarks:	es that are ODL, PAC	w, or the excluding the	-j- 10070
Remarks: HYDROLOGY Recorded Data (Descrited Data (Descrited Data (Descrited Data Photograted Data Avenue) Other X No Recorded Data Avenue Depth of Surface Water Depth to Free Water in Depth to Saturated Soil	ibe In Remarks): or Tide Gauge aphs vailable :4(in.) Pit:n/a(in.)	Wetland Hydrology Indicators X Inundated X Saturated i Water Mark Drift Lines Sediment I Drainage F Secondary Indicat Oxidized R Water-Stai Local Soil	dicators : n Upper 12" cs Deposits Patterns in Wetlands ors: coots Channels in Upper 12" ned Leaves Survey Data

Profile Des	cription:					
Depth (inches)	Horizon	Matrix Colors (Munsell Moist)	200,000,000	Colors ell Moist)	Mottle Abundance/Contrast	to the second se
0-12	+0	2.5Y 3/1			S (2)	silty clay
2	200-07					E
					-	(
	-					
	9-	-	_			9
Hydric S	oil Indicat Histoso Histic E	ol Epipedon		Hig	cretions n Organic Content in St anic Streaking in Sandy	urface Layer in Sandy Soils y Soils
-	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon	olors	High	n Organic Content in St	y Soils Is List Soils List
Hydric S	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	olors	High	n Organic Content in St anic Streaking in Sand ed On Local Hydric Soi ed on National Hydric S	y Soils Is List Soils List
Remark	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	olors	High	n Organic Content in St anic Streaking in Sand ed On Local Hydric Soi ed on National Hydric S	y Soils Is List Soils List
Remarks VETLAI	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	Epipedon Codor Moisture Regime ng Conditions or Low-Chroma Co	∕es _X	HiglOrgListOth	n Organic Content in St anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S er (Explain in Remarks Is the Sampl	y Soils Is List Soils List)
Remarks VETLAI Hydroph Wetland	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	Epipedon Codor Moisture Regime ng Conditions or Low-Chroma Co		Hig Org List Oth No	n Organic Content in St anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S er (Explain in Remarks Is the Sampl	y Soils Is List Soils List)



Project / Site: SH-28 Improvements, Adair to Langley Applicant / Owner: ODOT nvestigator: Renee Ellis	0 1 11
Oo normal circumstances exist on the site? s the site significantly disturbed (Atypical situation s the area a potential problem area? (explain on reverse if needed)	Yes_X_No Community ID: Emerger Wetland Yes No_X Transect ID: Pit 1 Yes No_X Plot ID: Field Site 14
VEGETATION	
Dominant Plant Species Stratum Indicator 1. Polygonum hydropiperoides H OBL 2. 3. 4. 5. 5. 5. 5. 5. 7. 8. Percent of Dominant Species that are OBL, FACW	Dominant Plant Species Stratum Indicator 9.
Remarks:	, or FAC excluding FAC-)

A CONTRACTOR OF THE PARTY OF TH	ny (Subgro				
0-6	Horizon	2.5Y 4/2 5Y 3/1	2.5Y 4/4 10YR 3/2 10YR 5/6	few/distinct	silty clay silty clay
			-		
Hydric S	Sulfidio Aquic I Reduci Gleyed	ol Epipedon	Hi Or Lis	oncretions gh Organic Content in S ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S ther (Explain in Remarks	ils List Soils List
Remark	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hi Or Lis	gh Organic Content in S ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S	y Solls ils List Solls List



Applicant / Owner: ODOT nvestigator: Renee Ellis	
Oo normal circumstances exist on the site? is the site significantly disturbed (Atypical situation is the area a potential problem area? (explain on reverse if needed)	Yes_X_No on)? YesNo_X YesNo_X YesNo_X Plot ID: Emergent Wetland Transect ID:Pit 1 Plot ID: Field Site 15
/EGETATION	
Dominant Plant Species Stratum Indicator I. Eleocharis palustris H OBL H OBL H ACC Eleocharis palustris H OBL H FAC Eleocharis palustris H OBL FAC Eleocharis palustris H OB	Dominant Plant Species Stratum Indicator 9.
HYDROLOGY Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water:4-10_(in.) Depth to Free Water in Pit:n/a(in.)	Wetland Hydrology Indicators Primary Indicators: _X_ Inundated _X_ Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test
Depth to Saturated Soil: surf_(in.)	Other (Explain in Remarks)

axonomy (Subgroup):				Confirm Mappe	ed Type? YesNo _X_
Profile Des Depth (inches) 0-6 6-12		2.5Y 4/2 5Y 3/1	Mottle Colors (Munsell Moist) 2.5Y 4/4 10YR 3/2 10YR 5/6	Few/Prominent	Texture, Concretions, Structure, etc. silty clay silty clay
-	Sulfidio Aquic N Reduci Gleyed	ors:	Con Hig Org Lis Lis	ncretions	ils List Soils List
Remarks	5:				
	ND DETE	RMINATION			



Project / Site: SH-28 Improvements, Adair to Langley Applicant / Owner: ODOT nvestigator: Rence Ellis	Date: 6/24/08 County: Mayes State: OK
Do normal circumstances exist on the site? s the site significantly disturbed (Atypical situations the area a potential problem area? (explain on reverse if needed)	YesX_ No Community ID: Emergent Wetland On)? Yes NoX Transect ID: Pit 1 Yes No_X Plot ID: Field Site 19
POMINANT Plant Species Stratum Indicator	Dominant Plant Species Stratum Indicator
Percent of Dominant Species that are OBL, FACW	9
HYDROLOGY	
HYDROLOGY Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: 5 (in.) Depth to Free Water in Pit: n/a (in.) Depth to Saturated Soil: surf (in.)	Wetland Hydrology Indicators Primary Indicators:X_ InundatedX_ Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators:X_ Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)

Taxonom	y (Subgro	up):		Confirm Mappe	Confirm Mapped Type? Yes_X_No	
Profile Des Depth (inches) 0-12		Matrix Colors (Munsell Moist) 2.5Y 4/1	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc. gravelly clay	
Remarks	Sulfidic Aquic N Reducir Gleyed	pipedon	Hi Oi Li Li	oncretions gh Organic Content in S ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S ther (Explain in Remarks	ils List Soils List	
VETLAN	ID DETE	RMINATION				
		ation Present? Y	es X No_	Is the Samp	ling Point	



Applicant / Owner: OD nvestigator: Rence			Date: 6/24/08
Do normal circumstances s the site significantly dis s the area a potential prot (explain on reverse if ne	turbed (Atypical situati blem area?	YesX_ No on)? Yes No_X_ Yes No_X_	Community ID: Emergent Wetland Transect ID: Pit 1 Plot ID: Field Site 21
/EGETATION			
Dominant Plant Species 1. Eleocharis palustris 2. Cyperus acuminatus 3. 4. 5. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	H OBL OBL	9	Stratum Indicator
HYDROLOGY			
HYDROLOGY Recorded Data (Descondence) Stream, Lake, Aerial Photogone Other X No Recorded Data And Photogone Field Observations: Depth of Surface Water in Depth to Free Water in Depth to Saturated Science	or Tide Gauge graphs Available er: 3-7 (in.) n Pit:(in.)	Secondary Indicate Oxidized Re Water-Stai Local Soil FAC-Neutr	Upper 12" Seposits Seposits Seposits Setterns in Wetlands Sors: Soots Channels in Upper 12" Seed Leaves Survey Data

Map Unit (Series a		Parsons silt loam		Drainage Class:	Somewhat poorly drained
Taxonon	ny (Subgro	up):		Confirm Mappe	d Type? YesNo _X_
Profile Des Depth (inches) 0-12	- TO. V	Matrix Colors (Munsell Moist) 2.5Y 3/1	Mottle Colors (Munsell Moist) 5YR 4/6	Mottle Abundance/Contrast Few/Prominant	
Hydric S	Reducin	l pipedon	High Orga Liste	cretions n Organic Content in St anic Streaking in Sand ed On Local Hydric So ed on National Hydric S er (Explain in Remarks	ils List Soils List
Hydroph Wetland	ytic Vegeta Hydrology	Present Y	es X No es X No		ing Point tland? Yes _X_ No
Remarks:	oils Presen	it? Y	es X No		



Project / Site: SH-28 Improve Applicant / Owner: ODOT nvestigator: Renee Elli			Date:
Do normal circumstances exi s the site significantly distur s the area a potential probler (explain on reverse if neede	bed (Atypical situati m area?	Yes_X_No	Community ID: Emergent Wetland Transect ID: Pit 1 Plot ID: Field Site 23
VEGETATION	2		
Dominant Plant Species	Stratum Indicator		Stratum Indicator
1. Eleocharis palustris	H OBL	9	
2. Carex triangularis	H OBL	10	
3. Juncus diffusissimus		11	
4. Polygonum hydropiperoides		12	
5	-	14	
6 7		15	
8		16	
Percent of Dominant Species Remarks:	s that are OBL, FAC	N, or FAC excluding FAC	C-)100%
	s that are OBL, FAC	N, or FAC excluding FAC	-)100%
Remarks:	pe In Remarks): r Tide Gauge	Wetland Hydrology In Primary Indicators _X_Inundated	dicators s:
Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photograp	pe In Remarks): r Tide Gauge phs	Wetland Hydrology In Primary Indicators _X_ Inundated _X_ Saturated Water Mar Drift Lines	dicators s: in Upper 12" ks
Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photograp Other X No Recorded Data Ava	pe In Remarks): r Tide Gauge phs	Wetland Hydrology In Primary Indicators _X_ Inundated _X_ Saturated Water Mar Drift Lines Sediment	dicators s: in Upper 12" ks
Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photograp Other X No Recorded Data Ava Field Observations: Depth of Surface Water:	pe In Remarks): r Tide Gauge phs iilable	Wetland Hydrology In Primary Indicators _X_ Inundated _X_ Saturated Water Mar Drift Lines Sediment Drainage I	dicators s: in Upper 12" ks in Deposits Patterns in Wetlands
Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photograp Other No Recorded Data Ava Field Observations: Depth of Surface Water: Depth to Free Water in P	pe In Remarks): r Tide Gauge phs iilable4(in.) it:n/a(in.)	Wetland Hydrology In Primary Indicators X Inundated X Saturated Water Mar Drift Lines Sediment Drainage I Secondary Indicators X Oxidized I Water-Statocal Soil	dicators s: in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data
Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photograp Other X No Recorded Data Ava Field Observations: Depth of Surface Water:	pe In Remarks): r Tide Gauge phs illable4(in.)	Wetland Hydrology In Primary Indicators X Inundated X Saturated Water Mar Drift Lines Sediment Drainage I Secondary Indicators X Oxidized I Water-Statocal Soil FAC-Neut	dicators s: in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data
Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photograp Other No Recorded Data Ava Field Observations: Depth of Surface Water: Depth to Free Water in P	pe In Remarks): r Tide Gauge phs iilable4(in.) it:n/a(in.)	Wetland Hydrology In Primary Indicators X Inundated X Saturated Water Mar Drift Lines Sediment Drainage I Secondary Indicators X Oxidized I Water-Statocal Soil FAC-Neut	dicators s: in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves I Survey Data ral Test

Taxonomy (Subgroup):				Confirm Mappe	d Type? Yes_X_ No
Profile Des Depth (inches) 0-12	Horizon				
Hydric S		pipedon	Hig Org Lis Lis	ncretions ih Organic Content in Su ganic Streaking in Sandy ted On Local Hydric Soi ted on National Hydric S her (Explain in Remarks)	ls List Goils List
Remark	Gleyed o	y con oniona oc			
WETLAI	Gleyed o	RMINATION	Yes X No_		
WETLAI Hydroph Wetland	Gleyed o	RMINATION ation Present?	Yes _X No Yes _X No Yes _X No	Is the Sampl	



Project / Site: SH-28 Imp Applicant / Owner: O Investigator: Renec	DOT		V	Date:
Do normal circumstances Is the site significantly di Is the area a potential pro (explain on reverse if no	sturbed (Aty oblem area?		Yes_X_No ion)? YesNo_X_ YesNo_X_	Community ID: Emerger Wetland Transect ID: Pit 1 Plot ID: Field Site 26
VEGETATION				
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum Indicator
1. Juncus marginatus	Н	FACW	9.	
2. Lippia lanceolata			10.	
3. Juncus torreyi			11.	
4. Eleocharis palustris	Н	OBL	12	
5			13	
6			14	
7			15	
8			16	
Percent of Dominant Spe Remarks:		OBL, FAC	N, or FAC excluding FAC	
Percent of Dominant Spe Remarks:		OBL, FAC	N, or FAC excluding FAC	
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des	ecies that are	narks):	W, or FAC excluding FAC	-)100%
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des	ecies that are	narks):	Wetland Hydrology Inc	dicators
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo	ecies that are	narks):	Wetland Hydrology Ind	dicators
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des	ecies that are	narks):	Wetland Hydrology Ind Primary Indicators	dicators
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo	ecies that are scribe In Rem e, or Tide Ga graphs	narks):	Wetland Hydrology Ind Primary Indicators X_ Inundated X_ Saturated in Water Mark	dicators :
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data	ecies that are scribe In Rem e, or Tide Ga graphs	narks):	Wetland Hydrology Ind Primary Indicators X Inundated X Saturated in Water Mark Drift Lines Sediment I	dicators ::
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data	ecies that are scribe In Rem e, or Tide Ga ographs Available	narks):	Wetland Hydrology Ind Primary Indicators _X_ Inundated _X_ Saturated in Water Mark Drift Lines Sediment II Drainage P	dicators :: n Upper 12" s Deposits Patterns in Wetlands ors;
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations:	ecies that are scribe In Rem e, or Tide Ga ographs Available ter:	narks): luge	Wetland Hydrology Ind Primary Indicators X Inundated X Saturated ir Water Mark Drift Lines Sediment I Drainage P Secondary Indicat Oxidized R Water-Stai	dicators Upper 12" Seposits Patterns in Wetlands ors: coots Channels in Upper 12" ned Leaves
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface Water	ecies that are scribe In Rem e, or Tide Ga egraphs Available ter:	narks): nuge 5 (in.) n/a (in.)	Wetland Hydrology Inc Primary Indicators X Inundated X Saturated in Water Mark Drift Lines Sediment In Drainage P Secondary Indicate Oxidized R Water-Stai	dicators dicators Upper 12" Seposits Patterns in Wetlands ors: coots Channels in Upper 12" ned Leaves Survey Data
Percent of Dominant Special Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface War	ecies that are scribe In Rem e, or Tide Ga egraphs Available ter:	narks): luge	Wetland Hydrology Ind Primary Indicators X Inundated X Saturated ir Water Mark Drift Lines Sediment I Drainage P Secondary Indicat Oxidized R Water-Stai Local Soil FAC-Neutr	dicators dicators Upper 12" Seposits Patterns in Wetlands ors: coots Channels in Upper 12" ned Leaves Survey Data
Percent of Dominant Spe Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface Water	ecies that are scribe In Rem e, or Tide Ga egraphs Available ter:	narks): nuge 5 (in.) n/a (in.)	Wetland Hydrology Ind Primary Indicators X Inundated X Saturated ir Water Mark Drift Lines Sediment I Drainage P Secondary Indicat Oxidized R Water-Stai Local Soil FAC-Neutr	dicators dicators Upper 12" Seposits Patterns in Wetlands ors: coots Channels in Upper 12" ned Leaves Survey Data ral Test

	ny (oubgre	oup):			John Mappe	d Type? Yes_X_No
Profile Des Depth (inches)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moi		le ndance/Contrast	Texture, Concretions, Structure, etc.
0-12	- 4	2.5Y 5/1	2.5Y 5/2		mmon/faint	silty clay
	-		-			
		STREET, STREET				
	1	10.			7	
	5	1000				
01 = 1 110	A 1000.					
,	Soil Indicat			Concretion		
-	Histoso Histic E Sulfidio Aquic II	ol Epipedon	olors	Organic St Listed On Listed on	·-	y Soils ils List Soils List
Remark	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	lors	High Orga Organic Si Listed On Listed on	nic Content in St reaking in Sand Local Hydric Soi National Hydric S	ils List Soils List
-	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	olors	High Orga Organic Si Listed On Listed on	nic Content in St reaking in Sand Local Hydric Soi National Hydric S	y Soils ils List Soils List
-	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	olors	High Orga Organic Si Listed On Listed on	nic Content in St reaking in Sand Local Hydric Soi National Hydric S	y Soils ils List Soils List
Remark	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	olors	High Orga Organic Si Listed On Listed on	nic Content in St reaking in Sand Local Hydric Soi National Hydric S	y Soils ils List Soils List
Remark	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions or Low-Chroma Co	/es_X_ N	High Orga Organic Si Listed On Listed on Other (Exp	nic Content in St reaking in Sand Local Hydric Soi National Hydric S	y Soils ils List Soils List)
Remark VETLA Hydroph Wetland	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	Epipedon Codor Moisture Regime ng Conditions or Low-Chroma Co	/es_X_N /es_X_N	High Orga Organic St Listed On Listed on Other (Exp	nic Content in Sureaking in Sandy Local Hydric Soi National Hydric Solain in Remarks	y Soils ils List Soils List)



Applicant / Owner: ODO Investigator: Renee El			Date: 6/24/08
Do normal circumstances ex s the site significantly distu s the area a potential proble (explain on reverse if need	rbed (Atypical situation area?	YesX_ No on)? Yes No_X_ Yes No_X_	Community ID: Emergent Wetland Transect ID: Pit 1 Plot ID: Field Site 27
VEGETATION			
1. Coreopsis tinctoria 2. Eleocharis palustris 3. Rumex crispus 4. Lippia lanceolata 5. Festuca arundinacea 6.	H FAC H OBL H FAC H FACW H FAC-	9. 10. 11. 12. 13.	Stratum Indicator
	es that are OBL, FACV	, or FAC excluding FAC	-)80%
Remarks:	es that are OBL, FACV	v, or FAC excluding FAC	-)80%
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descri Stream, Lake, of Aerial Photogra Other X No Recorded Data Av Field Observations: Depth of Surface Water Depth to Free Water in I Depth to Saturated Soil	ibe In Remarks): or Tide Gauge aphs railable :n/a(in.) Pit:n/a(in.)	Wetland Hydrology In Primary Indicators X Inundated Saturated Water Mar Drift Lines X Sediment Drainage Secondary Indica Oxidized I Water-Sta Local Soil	dicators s: in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data

	ny (Subgro				ed Type? YesNo X
Profile Des Depth (inches)		Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10	-	2.5Y 3/1	-		clay
	-			100 mm 10	
	1				
	-	74.			
	-				
		-			
Hydric S		ors: ol Epipedon			Surface Layer in Sandy Soils
Hydric S	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ors: ol Epipedon	(! ! lors!	Concretions	Surface Layer in Sandy Soils ly Soils oils List Soils List
Remarks	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ors: Epipedon Codor Moisture Regime ing Conditions or Low-Chroma Co	(! ! lors!	Concretions ligh Organic Content in S Organic Streaking in Sand Listed On Local Hydric So Listed on National Hydric	Surface Layer in Sandy Soils ly Soils oils List Soils List
Remarks	Histoso Histic E Sulfidio Aquic I Reduci Gleyed S: Refusa	tors: Epipedon Codor Moisture Regime ing Conditions or Low-Chroma Co	lors	Concretions ligh Organic Content in S Organic Streaking in Sand Listed On Local Hydric So Listed on National Hydric Other (Explain in Remark	Surface Layer in Sandy Soils ly Soils oils List Soils List s)
NETLA! Hydroph Wetland	Histoso Histic E Sulfidio Aquic I Reduci Gleyed S: Refusa	cors: Display the property of	lors	Concretions ligh Organic Content in Sorganic Streaking in Sand Listed On Local Hydric Soc Listed on National Hydric Other (Explain in Remark	Surface Layer in Sandy Soils ly Soils oils List Soils List s)



Do normal circumstances exist on the site? s the site significantly disturbed (Atypical situation)? s the area a potential problem area? (explain on reverse if needed) VEGETATION Dominant Plant Species Stratum Indicator 1. Coreopsis tinctoria H FAC 2. 10. 11. 12. 12. 13. 14. 15. 15. 16. 16. 16. 16. 16. 16. 16. 16. 16. 16	Applicant / Owner: OI nvestigator: Renee		ý.	Date: <u>6/24/08</u> County: <u>Mayes</u> State: <u>OK</u>
Dominant Plant Species Stratum Indicator 1. Coreopsis tinctoria H FAC 2. 10. 11. 12. 13. 12. 13. 15. 16. 16. 17. 18. 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	s the site significantly dis s the area a potential pro	sturbed (Atypical situat blem area?	ion)? Yes No_X_	Community ID: Emergen Wetland Transect ID: Pit 1 Plot ID: Field Site 28
I. Coreopsis tinctoria H FAC 2. 10. 11. 12. 13. 14. 15. 16. 16. 16. 16. 16. 17. 18. 16. 17. 18. 18. 16. 16. 17. 18. 18. 16. 16. 18. 16. 16. 18. 16. 16. 18. 16. 16. 18. 16. 16. 18. 16. 16. 18. 18. 18. 18. 18. 18. 18. 18. 18. 18			In	
2.				
11.			9	
12. 13. 14. 15. 16. Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-). 100% Remarks: HYDROLOGY Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: 1-12 (in.) Depth to Saturated Soil: 1-12 (3.		11.	
13.			12	
Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	5		13	
B			14	
Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)			16.	
Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Depth to Saturated Soil: Mater Marks Drift Lines X Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12 Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	Remarks:			P
Drift Lines Sediment Deposits X Drainage Patterns in Wetlands Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Depth to Saturated Soil: Drift Lines X Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12 Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo	cribe In Remarks): e, or Tide Gauge	Wetland Hydrology Inc	licators
Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: May Sediment Deposits X Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12 Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo	cribe In Remarks): e, or Tide Gauge	Wetland Hydrology Inc Primary Indicators Inundated Saturated in	dicators : n Upper 12"
Depth to Free Water in Pit:	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other	cribe In Remarks): e, or Tide Gauge graphs	Wetland Hydrology Inc Primary Indicators Inundated Saturated in Water Mark	dicators : n Upper 12"
Depth to Free Water in Pit:	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X_ No Recorded Data	cribe In Remarks): e, or Tide Gauge graphs	Wetland Hydrology Inc Primary Indicators X Inundated Saturated in Water Mark Drift Lines X Sediment D	dicators : n Upper 12" :s
Depth to Saturated Soil:(in.) FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other No Recorded Data	cribe In Remarks): e, or Tide Gauge graphs Available	Wetland Hydrology Inc Primary Indicators	dicators : n Upper 12" is Deposits atterns in Wetlands
Remarks: A large portion of the site was inundated from Rock Creek overbank flooding; depth unknown (>12").	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other No Recorded Data (Des) Field Observations: Depth of Surface Wat	cribe In Remarks): e, or Tide Gauge graphs Available ter: <u>1-12</u> (in.)	Wetland Hydrology Inc Primary Indicators X Inundated Saturated in Water Mark Drift Lines X Sediment D X Drainage Post	dicators : n Upper 12" :s Deposits atterns in Wetlands ors: oots Channels in Upper 12"
The state of the s	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other No Recorded Data Field Observations: Depth of Surface Water in the control of the contro	cribe In Remarks): e, or Tide Gauge graphs Available ter: 1-12 (in.)	Wetland Hydrology Inc Primary Indicators X Inundated Saturated in Water Mark Drift Lines X Sediment D X Drainage Poly Secondary Indicate Oxidized R Water-Stain Local Soil FAC-Neutr	dicators : n Upper 12" :s Deposits atterns in Wetlands ors: oots Channels in Upper 12" ned Leaves Survey Data al Test
	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other No Recorded Data (Deservations) Field Observations: Depth of Surface Water in the Depth to Free Water in the Depth to Saturated Section (Deservations)	cribe In Remarks): e, or Tide Gauge graphs Available ter:1-12(in.) in Pit:n/a(in.) oil:n/a(in.)	Wetland Hydrology Inc Primary Indicators X Inundated Saturated in Water Mark Drift Lines X Sediment D X Drainage Primary Indicate Oxidized R Water-Stair Local Soil FAC-Neutr Other (Exp	dicators : n Upper 12" :s Deposits atterns in Wetlands ors: oots Channels in Upper 12" ned Leaves Survey Data al Test lain in Remarks)

raxonom	y (Subgro	oup):			_ commin mapped	Type? YesNo X_
Profile Desc Depth (inches)		Matrix Colors (Munsell Moist)	Mottle Co (Munsell I		Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		2.5Y 3/1	_			clay
-	-					
	Liver and the second					
	\$6	-		-		2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
Hydric So	oil Indicat			Concre	tions	
=	Histoso Histic E Sulfidio Aquic M Reduci Gleyed	ol Epipedon Odor Moisture Regime ng Conditions or Low-Chroma C	STATE OF THE STATE	High Organic		s List oils List
Hydric So	Histoso Histic E Sulfidio Aquic M Reduci Gleyed	ol Epipedon Odor Moisture Regime Ing Conditions	STATE OF THE STATE	High Organic	rganic Content in Su c Streaking in Sandy On Local Hydric Soil on National Hydric S	Soils s List oils List
Remarks	Histoso Histic E Sulfidio Aquic M Reducii Gleyed	ol Epipedon Odor Moisture Regime ng Conditions or Low-Chroma C	STATE OF THE STATE	High Organic	rganic Content in Su c Streaking in Sandy On Local Hydric Soil on National Hydric S	Soils s List oils List
=	Histoso Histic E Sulfidio Aquic M Reduci Gleyed	ol Epipedon Odor Moisture Regime ng Conditions or Low-Chroma C	STATE OF THE STATE	High Organic	rganic Content in Su c Streaking in Sandy On Local Hydric Soil on National Hydric S	Soils s List oils List



Applicant / Owner: ODO nvestigator: Renee E	TC			Date:
Oo normal circumstances on the site significantly dist is the area a potential probaction (explain on reverse if nee	urbed (Atylliem area?		Yes No On)? Yes No_X Yes No_X	Community ID: Forested Wetland Transect ID: Pit 1 Plot ID: Field Site 32
/EGETATION	,			
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum Indicator
L. Ulmus americana	T	FAC	9.	
2. Celtis laevigata	T	FAC	10.	
3. Cornus drummondii			11	
1. Crataegus viridis			12	
5. Fraximus pennsylvanica	T	FACW-	13	
3. Diospyros virginiana	T	FAC	14	
7		-	15	
B		-	16	
Percent of Dominant Speci	ies that are	OBL, FACW	I, or FAC excluding FAC	-)100%
er promision (1944 1956 1950 1950 1955 1950 1950 1950 1950 1950	ies that are	OBL, FACW	I, or FAC excluding FAC	-)100%
Remarks:			V, or FAC excluding FAC	
Remarks: HYDROLOGY Recorded Data (Desci	ribe In Rem or Tide Ga	narks):	Wetland Hydrology Inc	dicators
Remarks: HYDROLOGY Recorded Data (Description of the content	ribe In Rem or Tide Ga	narks):	Wetland Hydrology Ind	dicators
Remarks: HYDROLOGY Recorded Data (Desci	ribe In Rem or Tide Ga	narks):	Wetland Hydrology Ind Primary Indicators	dicators
Remarks: HYDROLOGY Recorded Data (Description of the content	ribe In Rem or Tide Ga raphs	narks):	Wetland Hydrology Ind Primary Indicators	dicators :: n Upper 12"
Remarks: HYDROLOGY Recorded Data (Description of the content	ribe In Rem or Tide Ga raphs	narks):	Wetland Hydrology Indicators X Inundated Saturated i Water Mark X Drift Lines	dicators :: in Upper 12"
Remarks: HYDROLOGY Recorded Data (Description of the content	ribe In Rem or Tide Ga raphs	narks):	Wetland Hydrology Ind Primary Indicators Inundated Saturated i Water Mark Drift Lines Sediment D	dicators :: in Upper 12"
Remarks: HYDROLOGY Recorded Data (Description of the content	ribe In Rem or Tide Ga raphs vailable	narks):	Wetland Hydrology Ind Primary Indicators X Inundated Saturated i Water Mark X Drift Lines Sediment D Drainage P	dicators i: in Upper 12" is Deposits ratterns in Wetlands iors:
Remarks: HYDROLOGY Recorded Data (Description of the context of	ribe In Rem or Tide Ga raphs vailable r: see	narks): uge	Wetland Hydrology Ind Primary Indicators X Inundated Saturated i Water Mark X Drift Lines Sediment D Drainage P Secondary Indicat Oxidized R Water-Stai	dicators :: n Upper 12" cs Deposits ratterns in Wetlands cors: Roots Channels in Upper 12"
Remarks: HYDROLOGY Recorded Data (Descing Stream, Lake, Aerial Photogrother X No Recorded Data Artificial Observations: Depth of Surface Water	ribe In Rem or Tide Ga raphs vailable r: see	narks): uge below (in.)	Wetland Hydrology Indicators X Inundated Saturated i Water Mark X Drift Lines Sediment Desirated P Secondary Indicated Oxidized R Water-Stai Local Soil	dicators :: n Upper 12" cs Deposits Patterns in Wetlands cors: Roots Channels in Upper 12" ined Leaves Survey Data
Remarks: HYDROLOGY Recorded Data (Description of Surface Water in Stream, Lake, Aerial Photogription of Surface Water in Stream of Surface Water in Surfac	ribe In Rem or Tide Ga raphs vailable r: see Pit:	below (in.) n/a (in.)	Wetland Hydrology Ind Primary Indicators X Inundated Saturated i Water Mark X Drift Lines Sediment D Drainage P Secondary Indicat Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	dicators In Upper 12" In Upp

Taxonomy (Sub				
Profile Description: Depth (inches) Horizo		Mottle Colors (Munsell Moist		
0-8		7.5YR 3/2	Common/Faint	clay loam
8-12	7.5YR 3/1		Common/Faint	clay loam
		7.5YR 4/4	Few/Distinct	Section Control
	26 - 27			6
	- No			<u> </u>
		_		
- 11 DAV	_		(4)	
— His — His — Sul	cators: osol c Epipedon dic Odor ic Moisture Regime		Concretions ligh Organic Content in S Organic Streaking in Sand Listed On Local Hydric So	Surface Layer in Sandy Soils dy Soils oils List
His Sul Aqu Rec Gle	cators: osol c Epipedon dic Odor	Colors	Concretions ligh Organic Content in S Organic Streaking in San	Surface Layer in Sandy Soils dy Soils oils List Soils List
His His His Sul Aqu Rec Gle	cators: csol c Epipedon dic Odor c Moisture Regime ucing Conditions ed or Low-Chroma	Colors	Concretions ligh Organic Content in S Organic Streaking in Sand Listed On Local Hydric So Listed on National Hydric	Surface Layer in Sandy Soils dy Soils oils List Soils List
His His Sul Aqu Rec Gle Remarks: Ref	cators: csol c Epipedon dic Odor dic Moisture Regime ucing Conditions ed or Low-Chroma disal encountered at 10 TERMINATION getation Present?	Colors inches. Yes _X No	Concretions digh Organic Content in Solution Organic Streaking in Sandisted On Local Hydric Solutional Hydric Other (Explain in Remark	Surface Layer in Sandy Soils dy Soils bils List Soils List s)
His His Sul Aqu Rec Gle	cators: osol c Epipedon dic Odor ic Moisture Regime ucing Conditions ed or Low-Chroma isal encountered at 10 TERMINATION getation Present? ogy Present	Colors	Concretions digh Organic Content in Solution of Sanda Streaking in Sanda Streaking in Sanda Streak On Local Hydric Other (Explain in Remark Other	Surface Layer in Sandy Soils dy Soils bils List Soils List s)



Applicant / Owner: OD	OT	ey	Date:
Do normal circumstances s the site significantly dis s the area a potential prot (explain on reverse if ne	turbed (Atypical situa olem area?	YesX_ No ation)? Yes NoX_ Yes NoX_	Community ID: Forested Wetland Transect ID: Pit 1 Plot ID: Field Site 34
/EGETATION	i Sir	-	100 mm - 100
Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
1. Ulmus americana	T FAC	9.	
2. Celtis laevigata		10	
3		11	
4		12	
5		13	
6 7		14	
8		16	
Percent of Dominant Spec Remarks:	cies that are OBL, FA	CW, or FAC excluding FAC	-)100%
	cies that are OBL, FA	CW, or FAC excluding FAC	-)100%
Remarks: HYDROLOGY Recorded Data (Desc	cribe In Remarks):	Wetland Hydrology Inc	
Remarks: HYDROLOGY Recorded Data (Desc Stream, Lake	cribe In Remarks): , or Tide Gauge	Wetland Hydrology Inc	dicators
Remarks: HYDROLOGY Recorded Data (Desc	cribe In Remarks): , or Tide Gauge	Wetland Hydrology Ind Primary Indicators	dicators
Remarks: HYDROLOGY Recorded Data (Desconded Lake, Lake	cribe In Remarks): , or Tide Gauge graphs	Wetland Hydrology Inc Primary Indicators _X_ Inundated _X_ Saturated in Water Mark	dicators s: n Upper 12"
Remarks: HYDROLOGY Recorded Data (Desconded Data (Descon	cribe In Remarks): , or Tide Gauge graphs Available	Wetland Hydrology Ind Primary Indicators _X_ Inundated _X_ Saturated in Water Mark _X_ Drift Lines Sediment D Drainage P	dicators :: n Upper 12"
Remarks: HYDROLOGY Recorded Data (Desconded Data (Descon	cribe In Remarks): , or Tide Gauge graphs	Wetland Hydrology Ind Primary Indicators _X_Inundated _X_Saturated in Water Mark _X_ Drift Lines Sediment E Drainage P	dicators :: n Upper 12" ks Deposits ratterns in Wetlands ors:
Remarks: HYDROLOGY Recorded Data (Desconded Data (Descon	cribe In Remarks): , or Tide Gauge graphs Available er: <u>see below</u> (in	Wetland Hydrology Inc Primary Indicators _X_Inundated _X_Saturated in Water Mark _X_ Drift Lines Sediment E Drainage P Secondary Indicat Oxidized R Water-Stai	dicators i: n Upper 12" ks Deposits ratterns in Wetlands cors: coots Channels in Upper 12" ined Leaves
Remarks: HYDROLOGY Recorded Data (Desconded Data (Depth of Surface Water)	cribe In Remarks): , or Tide Gauge graphs Available er: <u>see below</u> (in n Pit: <u>n/a</u> (in.	Wetland Hydrology Indicators X Inundated X Saturated in Water Mark X Drift Lines Sediment Drainage P Secondary Indicat Oxidized R Water-Stai Local Soil	dicators i: n Upper 12" ks Deposits Patterns in Wetlands cors: coots Channels in Upper 12" ined Leaves Survey Data
Remarks: HYDROLOGY Recorded Data (Descond Lake) Aerial Photogon Lake) Other No Recorded Data And Lake Lake) Stream, Lake Lake Lake Lake Lake Lake Lake Lake	cribe In Remarks): , or Tide Gauge graphs Available er: <u>see below</u> (in n Pit: <u>n/a</u> (in.	Wetland Hydrology Ind Primary Indicators _X_ Inundated _X_ Saturated in Water Mark _X_ Drift Lines Sediment D Drainage P Secondary Indicat Oxidized R Water-Stai Local Soil FAC-Neutr Other (Exp	dicators I Upper 12" Seposits Patterns in Wetlands Ors: Coots Channels in Upper 12" Ined Leaves Survey Data I Test Iolain in Remarks)
Remarks: HYDROLOGY Recorded Data (Descond Lake) Aerial Photogon Lake) Other No Recorded Data And Lake Lake) Stream, Lake Lake Lake Lake Lake Lake Lake Lake	cribe In Remarks): , or Tide Gauge graphs Available er: <u>see below</u> (in n Pit: <u>n/a</u> (in.	Wetland Hydrology Indicators X Inundated X Saturated in Water Mark X Drift Lines Sediment Drainage P Secondary Indicat Oxidized R Water-Stai Local Soil	dicators I Upper 12" Seposits Patterns in Wetlands Ors: Coots Channels in Upper 12" Ined Leaves Survey Data I Test Iolain in Remarks)

Taxonor	ny (Subgro	up):		A	Confirm Mappe	Confirm Mapped Type? YesNo _X_		
Profile Des Depth (inches)		Matrix Colors (Munsell Moist)	Mottle Col (Munsell M		Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.		
0-8	-	7.5YR 3/1	7.5YR	3/2	Many/Faint	clay loam		
8-12		7.5YR 4/1	7.5YR	4/3	Many/Faint	loamy clay		
			-					
	-		_					
31 25-75-7								
Hydric S	Soil Indicate			Concr	etions			
	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	l pipedon	lors	High C Organ Listed Listed		ls List Soils List		
Hydric S	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	l pipedon Odor loisture Regime ng Conditions	lors	High C Organ Listed Listed	Organic Content in So ic Streaking in Sand On Local Hydric Soi on National Hydric S	y Soils Is List Soils List		
Remark	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	l pipedon Odor loisture Regime ng Conditions	lors	High C Organ Listed Listed	Organic Content in So ic Streaking in Sand On Local Hydric Soi on National Hydric S	/ Soils ls List Soils List		
Remark VETLA Hydroph Wetland	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	pipedon Odor loisture Regime ng Conditions or Low-Chroma Co		High C Organ Listed Listed	Organic Content in So ic Streaking in Sandy On Local Hydric So on National Hydric S (Explain in Remarks	y Soils Is List Soils List)		



Applicant / Owner: Ol nvestigator: Renee				County: Mayes State: OK
Do normal circumstances s the site significantly di s the area a potential pro (explain on reverse if no	sturbed (Atypoblem area?		Yes_X_No (on)? YesNo_X_ YesNo_X_	Community ID: Forested Wetland Transect ID: Pit 1 Plot ID: Field Site 35
VEGETATION			**************************************	
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum Indicator
1. Ulmus americana	T	FAC	9.	
2. Diospyros virginiana			10.	
3. Celtis laevigata			11	
4. Rhus radicans			12	
5			13	
6			14	
7				
8			16	
Percent of Dominant Spe Remarks:	cies that are	OBL, FAC	N, or FAC excluding FAC	-)100%
Remarks:	cies that are	OBL, FAC	N, or FAC excluding FAC	-)100%
Remarks: HYDROLOGY Recorded Data (Des	cribe In Rem	arks):	W, or FAC excluding FAC	
Remarks: HYDROLOGY Recorded Data (Des	cribe In Rema	arks):	Wetland Hydrology In	dicators
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo	cribe In Rema	arks):	Wetland Hydrology In	dicators
Remarks: HYDROLOGY Recorded Data (Des	cribe In Rema	arks):	Wetland Hydrology In	dicators s:
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo	cribe In Rema e, or Tide Gau graphs	arks):	Wetland Hydrology In Primary Indicators _X_ Inundated Saturated i Water Mari	dicators s: n Upper 12"
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data	cribe In Rema e, or Tide Gau graphs	arks):	Wetland Hydrology In Primary Indicators _X_ Inundated Saturated i Water Mari _X_ Drift Lines Sediment I	dicators s: n Upper 12" ks
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data	ccribe In Rema e, or Tide Gau graphs Available	arks):	Wetland Hydrology In Primary Indicators _X_ Inundated Saturated i Water Mari _X_ Drift Lines Sediment I Drainage F	dicators s: n Upper 12" ks Deposits Patterns in Wetlands tors:
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations:	ccribe In Rema e, or Tide Gau graphs Available ter: <u>see</u>	arks): uge	Wetland Hydrology In Primary Indicators _X_ Inundated Saturated i Water Mari _X_ Drift Lines Sediment I Drainage F Secondary Indicat Oxidized F Water-Sta	dicators s: n Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface War	scribe In Rema e, or Tide Gau graphs Available ter: <u>see</u> in Pit:	arks): uge below (in.)	Wetland Hydrology In Primary Indicators _X_ Inundated Saturated i Water Mari _X_ Drift Lines Sediment I Drainage F Secondary Indicat Oxidized F Water-Stat Local Soil FAC-Neut	dicators s: n Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data
HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface Water Depth to Free Water Depth to Saturated S	cribe In Rema e, or Tide Gau graphs Available ter: see in Pit:	arks): uge below (in.) n/a (in.)	Wetland Hydrology In Primary Indicators _X_ Inundated Saturated i Water Mari _X_ Drift Lines Sediment I Drainage F Secondary Indicat Oxidized F Water-Sta Local Soil FAC-Neut Other (Exp	dicators in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data ral Test plain in Remarks)
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface Water	cribe In Rema e, or Tide Gau graphs Available ter: see in Pit:	arks): uge below (in.) n/a (in.)	Wetland Hydrology In Primary Indicators _X_ Inundated Saturated i Water Mari _X_ Drift Lines Sediment I Drainage F Secondary Indicat Oxidized F Water-Sta Local Soil FAC-Neut Other (Exp	dicators in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data ral Test plain in Remarks)

Taxonon	y (Subgro	up):		Confirm Mappe	d Type? YesNo X_
Profile Des Depth (inches) 0-3 3-16	Horizon -		Mottle Colors (Munsell Moist) 7.5YR 3/2 7.5YR 4/6 7.5YR 1/1	Many/Faint Few/Prominent Few/Prominent	loam silty clay
Hydric S	Reducir Gleyed	l pipedon	H 0 L	oncretions igh Organic Content in S organic Streaking in Sand isted On Local Hydric So isted on National Hydric S Other (Explain in Remarks	ils List Soils List
Remarks	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	l pipedon Odor loisture Regime ng Conditions	H 0 L	igh Organic Content in S rganic Streaking in Sand isted On Local Hydric So isted on National Hydric S	y Soils ils List Soils List



Community ID:				,	Date: <u>6/25/08</u>
1. Ulmus americana T FAC 2. Fraximus pennsylvanica T FACW- 3. 4. 10. 11. 12. 13. 13. 14. 15. 16. 16. 16. 16. 16. 16. 16. 16. 16. 16	s the site significantly distu s the area a potential probl	urbed (Atyr em area?		on)? Yes No_X_	Community ID: Forested Wetland Transect ID: Pit 1 Plot ID: Field Site 38
L. Ulmus americana		#7750 NA	y 170 (12 mm)	es additional properties	11.2.0000000000000000000000000000000000
2. Fraximus pennsylvanica T FACW- 11	Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum Indicator
2. Fraximus pennsylvanica T FACW- 3.	1. Ulmus americana	T	FAC	9.	
11.	2. Fraximus pennsylvanica	T	FACW-	10	The second secon
12.	3		Stratute (Site Scripture Ser	11	
Arial Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	4		-	12	
Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)				13	
Remarks: HYDROLOGY Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: No Recorded Saturated Soil: Depth to Saturated Soil: No Recorded Data Available Field Observations: Depth to Saturated Soil: Na (in.) 16. Wetland Hydrology Indicators Primary Indicators: X Inundated Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	7			15	
Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	0				
HYDROLOGY Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Metland Hydrology Indicators Frimary Indicators: X Inundated Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)				-	
Stream, Lake, or Tide GaugeAerial PhotographsOther X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Depth to Saturated Soil: Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY				
Aerial Photographs Other				Wetland Hydrology In-	dicators
Other _XNo Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil:			uge	Primary Indicators	
X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)		apiis			(1) 1 (1)
Tield Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Depth to Saturated Soil: Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)				Saturated i	
Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: See below (in.) Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	X No Recorded Data Av	vailable			
Depth of Surface Water: see below (in.) Depth to Free Water in Pit: n/a (in.) Depth to Saturated Soil: n/a (in.) Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	Field Observations:			Sediment I	Deposits
Depth to Free Water in Pit:(in.) Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	Depth of Surface Water	r: see	below (in.)	Secondary Indicat	tors:
Depth to Saturated Soil:(in.) FAC-Neutral Test Other (Explain in Remarks)	Depth to Free Water in	Pit:	n/a (in.)	Water-Stai	ned Leaves
Remarks: The site was inundated from Rock Creek overbank flooding; depth unknown.	Depth to Saturated Soil	l:	n/a (in.)	FAC-Neutr	ral Test
remarks. The site was multidated from Rock Creek overbank thoughts, depth unknown.	4694 A 600 COURT BENEFIT HES STREET STEEL (1920)				
	Figure • 600 (100 August 100 Augu	ted from D -	ok Creak ave	rhank floodings double unknow	un.
	7004 • 600 004 600 604 0 1005 0 14 42 60 6 14 42 60 6 14 42 60 6 14 42 60 6 14 42 60 6 14 42 60 6 14 42 60 6 1	ated from Ro	ck Creek ove	rbank flooding; depth unknow	wn.

	exture, Concretions, tructure, etc.
Hydric Soil Indicators: HistosolConcretionsHigh Organic Content in Surface Layer in Sail Organic Streaking in Sandy SoilsAquic Moisture RegimeListed On Local Hydric Soils ListReducing ConditionsListed on National Hydric Soils ListGleyed or Low-Chroma ColorsOther (Explain in Remarks)	oils ist



Applicant / Owner: ODO nvestigator: Renee El			Date: 6/25/08 County: Mayes State: OK
Do normal circumstances ex s the site significantly distu s the area a potential proble (explain on reverse if need	urbed (Atypical situati em area?	YesX_ No on)? Yes No_X_ Yes No_X_	Community ID: Forested Wetland Transect ID: Pit 1 Plot ID: Field Site 42
VEGETATION Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
1. Ulmus americana 2. Celtis laevigata 3. Cornus drummondii 4. Chasmanthium latifolium 5. 6. 7. 8.	T FAC S FAC H FAC	10	
Remarks: Also present: Can	nada wildrye, poison ivy,	and virginia creeper.	
Remarks: Also present: Can	ada wildrye, poison ivy,	and virginia creeper.	
	ibe In Remarks): or Tide Gauge aphs vailable :(in.) Pit:(in.)	Wetland Hydrology In Primary Indicator Inundated X Saturated X Water Mar X Drift Lines X Sediment Drainage Secondary Indicator Water-State Local Soil	in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data

Depth	cription: Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	-	10YR 4/2	10YR 4/1	Many/Faint	loamy clay
4-8		10YR 3/2	10YR 4/3	Many/Faint	loamy clay
		1323	2.5Y 2.5/1	Few/Prominent	
Sect A Service			2.5Y 6/2	Few/Prominent	
8-12		5 Y 2.5/1	7.5YR 4/6		loamy clay
	GUE		7.5YR 4/3	Few/Prominent	
Hydric S	Sulfidio	ol Epipedon : Odor Moisture Regime	Hig Or Lis	ganic Streaking in Sand ted On Local Hydric So	ils List
Hydric S	Histoso Histic E Sulfidio Aquic M Reduci Gleyed	ol Epipedon : Odor	Hig On Lis	h Organic Content in S ganic Streaking in Sand	y Soils ils List Soils List
Remark	Histoso Histic E Sulfidio Aquic M Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hig On Lis	h Organic Content in S panic Streaking in Sand ted On Local Hydric So ted on National Hydric	y Soils ils List Soils List



Project / Site: SH-28 Improve Applicant / Owner: ODOT nvestigator: Renee Ell	Γ	o Langley		Date:
Oo normal circumstances ex s the site significantly distu s the area a potential proble (explain on reverse if need	rbed (Atypica m area?		YesX_No on)? YesNo_X_ YesNo_X_	Community ID: Emergen Wedland Transect ID: Pit 1 Plot ID: Field Site 47
/EGETATION	98.27786 N. S. CO.	Sales and	1	Pactor Communication Communica
Dominant Plant Species	Stratum Ind	licator	Dominant Plant Species	Stratum Indicator
1. Cyperus strigosus	H F	FACW	9	
2. Ramunculus hispidus		FAC	10	
3. Carex vulpinoidea		OBL	11	
4. Juncus acuminatus	H(OBL	12	
5. Cyperus esculentus	H F	ACW	13	
6. Festuca arundinacea	H I	FAC	14	
7. Polygonum hydropiperoides	_H(OBL_	15	
B		7	16	
Percent of Dominant Specie	s that are OB	BL, FACV	V, or FAC excluding FAC	S-)86%
	s that are OB	BL, FACV	V, or FAC excluding FAC	S-)86%
Remarks:	be In Remark	es):	Wetland Hydrology In	
Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra	be In Remark or Tide Gauge	es):	Wetland Hydrology In	dicators
Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o	be In Remark or Tide Gauge	es):	Wetland Hydrology In Primary Indicators	dicators s:
Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra	be In Remark or Tide Gauge uphs	es):	Wetland Hydrology In	dicators s: n Upper 12"
HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other	be In Remark or Tide Gauge uphs	es):	Wetland Hydrology In Primary Indicators — Inundated —X Saturated i — Water Mark — Drift Lines — Sediment D	dicators s: n Upper 12"
HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other X No Recorded Data Ava	be In Remark or Tide Gauge aphs ailable	es):	Wetland Hydrology In Primary Indicators InundatedX Saturated i Water Mark Drift Lines Sediment EX Drainage P	dicators s: n Upper 12" ts Deposits ratterns in Wetlands
Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other X_ No Recorded Data Ava	be In Remark or Tide Gauge uphs ailable 	(in.)	Wetland Hydrology In Primary Indicators InundatedX Saturated i Water Mark Drift Lines Sediment DX Drainage P Secondary Indicat Oxidized F Water-Sta	dicators s: n Upper 12" s Deposits ratterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves
Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other X No Recorded Data Ava Field Observations: Depth of Surface Water:	be In Remark or Tide Gauge uphs ailable 	(in.)	Wetland Hydrology In Primary Indicators Inundated _X Saturated i Water Mark Drift Lines Sediment II _X Drainage P Secondary Indicators Oxidized F Water-Statocal Soil FAC-Neut	dicators s: n Upper 12" s Deposits ratterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data
HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other X No Recorded Data Ava Field Observations: Depth of Surface Water in F	be In Remark or Tide Gauge uphs ailable 	(in.)	Wetland Hydrology In Primary Indicators Inundated _X Saturated i Water Mark Drift Lines Sediment II _X Drainage P Secondary Indicators Oxidized F Water-Statocal Soil FAC-Neut	dicators s: n Upper 12" cs Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves I Survey Data ral Test

Taxonon	ny (Subgro	oup):	2	Confirm Mapped Type? YesNo X		
Profile Des Depth (inches)		Matrix Colors (Munsell Moist) 2.5Y 2.5/1	Mottle Colors (Munsell Moist) 5YR 3/3 2.5Y 5/6	Mottle Abundance/Contrast Few/Prominent Few/Prominent	clay	
Hydric S	oil Indicat	ors:			-	
Hydric S	Histoso Histic I Sulfidio Aquic I Reduci Gleyed	ol Epipedon	Hi Or Lis	oncretions gh Organic Content in S ganic Streaking in Sand sted On Local Hydric So sted on National Hydric ther (Explain in Remarks	ils List Soils List	
Remark	Histoso Histic I Sulfidio Aquic I Reduci Gleyed	ol Epipedon C Odor Woisture Regime ng Conditions	Hi Or Lis	gh Organic Content in S ganic Streaking in Sand sted On Local Hydric So sted on National Hydric	y Soils ils List Soils List	



Project / Site: SH-28 Impro Applicant / Owner: OD Investigator: Renee			Date: <u>6/25/08</u> County: <u>Mayes</u> State: <u>OK</u>
Do normal circumstances is the site significantly dis is the area a potential probect (explain on reverse if nec	turbed (Atypical situati olem area?	YesX_ No on)? Yes NoX_ Yes NoX_	Community ID: Forested Wetland Transect ID: Pit 1 Plot ID: Field Site 50
VEGETATION			344
1. Celtis laevigata 2. Ulmus americana 3. Salix nigra 4. 5. 6.	T FAC T FAC T FACW+	9	Stratum Indicator
	ies that are OBL, FACV	N, or FAC excluding FAC	-)100%
		N, or FAC excluding FAC	-)100%
	cribe In Remarks): cribe In Rema	Wetland Hydrology Indicators X Inundated Saturated in Water Mark X Drift Lines Sediment D Drainage Parallel Secondary Indicate Oxidized Re Water-Stair Local Soil S FAC-Neutra	dicators : n Upper 12" s eposits atterns in Wetlands ors: oots Channels in Upper 12" ned Leaves Survey Data

		: Eram-Verdigris cor				
Taxonor	ny (Subgro	oup):	Confirm Mappe	Confirm Mapped Type? YesNo X		
Profile Des Depth (inches) 0-12		Matrix Colors (Munsell Moist) 2.5Y 2.5/1	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.	
Undein 6	Soil Indicat					
,	Histoso					
	Histic E Sulfidio Aquic N Reduci	pipedon	Hi Or Lis	oncretions gh Organic Content in Si ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S ther (Explain in Remarks	ils List Soils List	
Remark	Histic E Sulfidic Aquic N Reducii Gleyed	pipedon Odor Noisture Regime ng Conditions	Hi Or Lis	gh Organic Content in S ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S	y Soils ils List Soils List	
WETLA Hydroph Wetland	Histic E Sulfidic Aquic M Reducic Gleyed	Epipedon Odor Moisture Regime ng Conditions or Low-Chroma Col ERMINATION ation Present? Y Present Y	Hiy Or Lis	gh Organic Content in Siganic Streaking in Sand sted On Local Hydric So sted on National Hydric S ther (Explain in Remarks	y Soils ils List Soils List s)	



Project / Site: SH-28 Impro Applicant / Owner: OD nvestigator: Renee I	OT	у	Date: 6/25/08 County: Mayes State: OK
Do normal circumstances s the site significantly dist s the area a potential prob (explain on reverse if nee	turbed (Atypical situat olem area?	Yes_X_No tion)? YesNo_X_ YesNo_X_	Community ID: Forested Wetland Transect ID: Pit 1 Plot ID: Field Site 58
VEGETATION			
Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
1. Fraxinus pennsylvanica	T FACW-	9	
2. Ulmus americana	T FAC	10.	
3. Celtis laevigata	T FAC	11.	
4. Acer saccharinum	T FAC	12	
5		13	
6		14	
7		15	
8		16	
Percent of Dominant Spec Remarks:	ies that are OBL, FAC	W, or FAC excluding FAC	C-)100%
Remarks:	ies that are OBL, FAC	W, or FAC excluding FAC	C-)100%
		W, or FAC excluding FAC	
Remarks: HYDROLOGY Recorded Data (Desc	ribe In Remarks): or Tide Gauge	Wetland Hydrology In	dicators
Remarks: HYDROLOGY Recorded Data (Desc Stream, Lake, Aerial Photog	ribe In Remarks): or Tide Gauge	Wetland Hydrology In	dicators
Remarks: HYDROLOGY Recorded Data (Desc	ribe In Remarks): or Tide Gauge	Wetland Hydrology In Primary Indicators _X_Inundated	dicators s:
Remarks: HYDROLOGY Recorded Data (Desconder) Stream, Lake, Aerial Photog Other	ribe In Remarks): or Tide Gauge raphs	Wetland Hydrology In Primary Indicators _X_Inundated	dicators s: in Upper 12"
Remarks: HYDROLOGY Recorded Data (Desc Stream, Lake, Aerial Photog	ribe In Remarks): or Tide Gauge raphs	Wetland Hydrology In Primary Indicators X Inundated Saturated in Water Mar	dicators s: in Upper 12" ks
Remarks: HYDROLOGY Recorded Data (Desc Stream, Lake, Aerial Photog Other No Recorded Data A	ribe In Remarks): or Tide Gauge raphs	Wetland Hydrology In Primary Indicators X Inundated Saturated Water Mar X Drift Lines Sediment	dicators s: in Upper 12" ks
Remarks: HYDROLOGY Recorded Data (Desc Stream, Lake, Aerial Photog Other No Recorded Data A	ribe In Remarks): or Tide Gauge raphs	Wetland Hydrology In Primary Indicators X Inundated Saturated Water Mar X Drift Lines Sediment Drainage I	edicators s: in Upper 12" ks in Deposits Patterns in Wetlands tors:
Remarks: HYDROLOGY Recorded Data (Desconded Data (Desconded Data (Desconded Data (Desconded Data (Desconded Data Aderial Photogon) Other X_ No Recorded Data Aderial Observations:	ribe In Remarks): or Tide Gauge raphs vailable er: <u>see below</u> (in.	Wetland Hydrology In Primary Indicators X Inundated Saturated Water Mar X Drift Lines Sediment Drainage I	edicators s: in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12"
Remarks: HYDROLOGY Recorded Data (Desconder Lake, Aerial Photog Other X No Recorded Data Aerial Observations: Depth of Surface Water	ribe In Remarks): or Tide Gauge raphs vailable er: see below (in.)	Wetland Hydrology In Primary Indicators X Inundated Saturated Water Mar X Drift Lines Sediment Drainage In Secondary Indica Oxidized In Water-Sta Local Soil	dicators s: in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves
HYDROLOGY Recorded Data (Desconded Data (Desconded Data (Desconded Photogon) Other X No Recorded Data A Field Observations: Depth of Surface Water in Depth to Saturated So	ribe In Remarks): or Tide Gauge raphs vailable er: see below (in.) n Pit:n/a(in.)	Wetland Hydrology In Primary Indicators X Inundated Saturated Water Mar X Drift Lines Sediment Drainage I Secondary Indica Oxidized I Water-Sta Local Soil FAC-Neut Other (Ex	dicators s: in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves I Survey Data tral Test
Remarks: HYDROLOGY Recorded Data (Desconder Lake,	ribe In Remarks): or Tide Gauge raphs vailable er: see below (in.) n Pit:n/a(in.)	Wetland Hydrology In Primary Indicators X Inundated Saturated Water Mar X Drift Lines Sediment Drainage I Secondary Indica Oxidized I Water-Sta Local Soil FAC-Neut Other (Ex	idicators s: in Upper 12" ks Deposits Patterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves I Survey Data tral Test

	ny (Subgro	up):	Confirm Mappe	d Type? YesNo X	
Profile Des Depth (inches)	-	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
Hydric S	Sulfidic Aquic N Reducir	l pipedon	Con High Org: List: List:	cretions	ls List Golls List
Remark	RCIOSOESSIOS	COURT IN THE BUILDING TO SEE	200	t evaluated on the survey	<u> </u>
22.10(2.14(2.2)		RMINATION ation Present? Y	es X No	_ Is the Sampli	ing Point



Project / Site: SH 28 Improvemer Applicant / Owner: ODOT nvestigator: Renee Ellis		The state of the s	Date: 10/16/07 County: <u>Mayes</u> State: OK
Do normal circumstances exist s the site significantly disturbed s the area a potential problem a (explain on reverse if needed)	d (Atypical situation erea?	YesX_No on)? YesNo_X_ YesNo_X_	Community ID: Forested Wetland Transect ID: Plot ID: Field Site 59
/EGETATION			•
1. Acer saccharinum 2. Fraxinus pennsylvanica 3. Ulmus americana 4. 5. 6. 7.	T FACW- T FAC	10	
Percent of Dominant Species th Remarks: HYDROLOGY	at are OBL, FACV	I, or FAC excluding FAC)100%

-	scription:	TE 010 E00	7/200 No. 12: 15:	122 YEAR	
Depth (inches)	Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	A	2.5Y 3/1	- 33	- 1	Loamy clay
12-15	A	2.5Y 4/2	2.5Y 4/1	40%	Loamy clay
15-16	A	2.5Y 4/2	Gley 1 3/N	30%	Loamy clay
					P
		+			
Hydric S	oil Indicat	ors:			
Hydric S	Histoso Histic E Sulfidio	ol Epipedon : Odor Moisture Regime	Hig Org List	anic Streaking in Sandy ed On Local Hydric Soi	y Soils Is List
	Histoso Histic E Sulfidio Aquic I Reduci	ol Epipedon : Odor	Hig Org List	n Organic Content in St anic Streaking in Sandy	ls List Soils List
	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hig Org List	n Organic Content in St anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S	y Soils Is List Soils List
	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hig Org List	n Organic Content in St anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S	y Soils Is List Soils List
Remark	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions or Low-Chroma Co	Hig Org List	n Organic Content in St anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S	y Soils Is List Soils List
Remark	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hig Org List	n Organic Content in St anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S	y Soils Is List Soils List
WETL/ Hydropl Wetland	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	ol Epipedon Codor Moisture Regime ng Conditions or Low-Chroma Co ERMINATION tation Present?	Hig Org List	n Organic Content in Su anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric So Other (Explain in Reman	y Soils Is List Soils List ks)



Applicant / Owner: ODOT nvestigator: Renee Ell				County: Mayes State: OK
Do normal circumstances ex is the site significantly distur- is the area a potential proble (explain on reverse if need	rbed (Atypem area?		YesX_ No on)? Yes NoX_ Yes NoX_	Community ID: Forested Wetland Transect ID: Plot ID: Field Site 61
VEGETATION				
1. Fraxinus pennsylvanica 2. 3. 4. 5.		_FACW-	9. 10. 11. 12. 13.	Stratum Indicator
Percent of Dominant Specie:				
8 Percent of Dominant Species Remarks:				
8 Percent of Dominant Specie	be In Remair Tide Gau	OBL, FACV	Wetland Hydrology Ind Primary Indicators:InundatedSaturated inWater MarksX Drift LinesSediment DeDrainage Par	icators Upper 12" posits tterns in Wetlands ors: ots Channels in Upper 12" ed Leaves Survey Data

(Series a	t Name and Phase)	: Dennis silt loam		Drainage Class	: Somewhat poorly drained
Taxonor	ny (Subgro	oup):		Confirm Mappe	d Type? Yes_X_No
Profile Des Depth (inches)		Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	2.5Y 3/1	10YR 5/8	10%	Loam
6-16	_A	2.5Y 3/1			Clay loam
			300 13 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Hydric S	Soil Indicat				
	Histoso Histic E Sulfidio Aquic N	ol Epipedon	Hig Org List	cretions h Organic Content in S anic Streaking in Sand ted On Local Hydric So ted on National Hydric S ter (Explain in Remarks	ils List Soils List
	Histoso Histic E Sulfidio Aquic M Reduci X Gleyed	ol Epipedon Odor Moisture Regime ng Conditions	Hig Org List	h Organic Content in S anic Streaking in Sand ted On Local Hydric So ted on National Hydric S	y Soils ils List Soils List
Remark	Histoso Histic E Sulfidio Aquic N Reduci X Gleyed	ol Epipedon Odor Moisture Regime ng Conditions	Hig Org List	h Organic Content in S anic Streaking in Sand ted On Local Hydric So ted on National Hydric S	y Soils ils List Soils List
WETL. Hydropl Wetland	Histoso Histic E Sulfidio Aquic M Reducio X Gleyed S:	ol Epipedon Odor Moisture Regime ng Conditions or Low-Chroma Co ERMINATION tation Present?	Hig Org List	h Organic Content in Signic Streaking in Sand ted On Local Hydric So ted on National Hydric So ter (Explain in Remarks Is the Samplir Within a Wetla	y Soils ils List Soils List)
WETL. Hydrop	Histoso Histic E Sulfidio Aquic N Reduci X Gleyed S: AND DET hytic Veget I Hydrolog Soils Prese	ol Epipedon Odor Moisture Regime ng Conditions or Low-Chroma Co ERMINATION tation Present?	Yes X No Yes X No No	h Organic Content in Signic Streaking in Sand ted On Local Hydric So ted on National Hydric So ter (Explain in Remarks Is the Samplir Within a Wetla	y Soils ils List Soils List)
WETL/ Hydropl Wetland Hydric S	Histoso Histic E Sulfidio Aquic N Reduci X Gleyed S: AND DET hytic Veget I Hydrolog Soils Prese	ol Epipedon Odor Moisture Regime ng Conditions or Low-Chroma Co ERMINATION tation Present?	Yes X No Yes X No Yes X No Yes X No	h Organic Content in Signic Streaking in Sand ted On Local Hydric So ted on National Hydric So ter (Explain in Remarks Is the Samplir Within a Wetla	y Soils ils List Soils List)



Do normal circumstances exist on the site? St the site significantly disturbed (Atypical situation)? St the area a potential problem area? (explain on reverse if needed) VEGETATION Dominant Plant Species Stratum Indicator 1. Diospyros virginiana 2. 10. 11. 12. 13. 13. 14. 12. 15. 15. 16. 16. 16. 16. 16. 16. 16. 16. 16. 16	Do normal circumstances exist on the site? s the site significantly disturbed (Atypical situation)? s the area a potential problem area? (explain on reverse if needed) VEGETATION Dominant Plant Species Stratum Indicator 1. Diospyros virginiana T FAC 10. 3.	Applicant / Owner: ODO nvestigator: Renee Ell			Date:
Dominant Plant Species Stratum Indicator 1. Diospyros virginiana T FAC 9. 10. 11. 12. 13. 14. 15. 15. 16. Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	Dominant Plant Species Stratum Indicator 1. Diospyros virginiana T FAC 2	s the site significantly distu s the area a potential proble (explain on reverse if need	rbed (Atypical situat em area?	ion)? Yes No_X_	Community ID: Forested Wetland Transect ID: Plot ID: Field Site 62
Dispyros virginiana	Dispyros virginiana		Stratum Indicator	Dominant Plant Species	Stratum Indicator
10.	10.			No.	
11.	11.			9	
12. 13. 14. 15. 16. 17. 16. 18.	12. 13. 14. 15. 16. 17. 18. 18.			10	
13.	13.			111	
Acrial Photographs Cher Aerial Photographs Cher Cother X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Scattered smartweed was present (Polygonum hydropiperoides). Wetland Hydrology Indicators Primary Indicators: X Inundated X Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	Acrial Photographs — Aerial Photographs — Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Scattered smartweed was present (Polygonum hydropiperoides). Wetland Hydrology Indicators Wetland Hydrology Indicators Primary Indicators: — X Inundated — X Saturated in Upper 12" — Water Marks — Drift Lines — Sediment Deposits — Drainage Patterns in Wetlands Secondary Indicators: — Oxidized Roots Channels in Upper 12" — Water-Stained Leaves — Local Soil Survey Data — X FAC-Neutral Test — Other (Explain in Remarks)	f		13	
Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	3.		14.	
Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	7.		15.	
Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)	Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)			16	
Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Stream, Lake, or Tide Gauge Aerial Photographs X Inundated X Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X Inundated X Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Stream, Lake, or Tide Gauge Aerial Photographs X Inundated X Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	- A			
Aerial Photographs Other	Aerial Photographs Other	Remarks: Scattere			
Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: X InundatedX Saturated in Upper 12"Water MarksDrift LinesSediment DepositsDrainage Patterns in Wetlands Secondary Indicators:Oxidized Roots Channels in Upper 12"Water-Stained LeavesLocal Soil Survey DataX FAC-Neutral TestOther (Explain in Remarks)	Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X Inundated X Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	Remarks: Scattere HYDROLOGY Recorded Data (Descri	d smartweed was present	t (Polygonum hydropiperoides).
X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: X Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X Saturated in Upper 12" Water Marks Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: X Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X Saturated in Upper 12" Water Marks Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	Remarks: Scattere HYDROLOGY Recorded Data (Descri	d smartweed was present be In Remarks): or Tide Gauge	t (Polygonum hydropiperoides Wetland Hydrology Ind	icators
		HYDROLOGY Recorded Data (Descri Stream, Lake, o	d smartweed was present be In Remarks): or Tide Gauge	t (Polygonum hydropiperoides Wetland Hydrology Ind Primary Indicators:	icators
Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY Recorded Data (Descri Stream, Lake, o	d smartweed was present be In Remarks): or Tide Gauge	Wetland Hydrology Ind Primary Indicators: X InundatedX Saturated in	icators Upper 12"
Depth to Free Water in Pit: N/A (in.) Depth to Saturated Soil: Surface (in.) Depth to Saturated Soil: Surface (in.) Secondary indicators. Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	Depth to Free Water in Pit: N/A (in.) Depth to Saturated Soil: Surface (in.) Depth to Saturated Soil: Surface (in.) Secondary indicators. Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY Recorded Data (Descri Stream, Lake, of Aerial Photogra Other	d smartweed was present the In Remarks): or Tide Gauge aphs	Wetland Hydrology Ind Primary Indicators:X InundatedX Saturated in Water Marks	icators Upper 12"
Depth to Free Water in Pit:N/A(in.) Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	Depth to Free Water in Pit:N/A(in.) Water-Stained Leaves Local Soil Survey Data X FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY Recorded Data (Descri Stream, Lake, of Aerial Photogra Other X No Recorded Data Av.	d smartweed was present the In Remarks): or Tide Gauge aphs	Wetland Hydrology Ind Primary Indicators: X Inundated X Saturated in Water Marks Drift Lines Sediment De	icators Upper 12"
Depth to Saturated Soil:surface (in.) X FAC-Neutral Test Other (Explain in Remarks)	Depth to Saturated Soil:surface (in.)x FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY Recorded Data (Descri Stream, Lake, o Aerial Photogra Other X No Recorded Data Av.	d smartweed was present the In Remarks): or Tide Gauge aphs	Wetland Hydrology Ind Primary Indicators: X Inundated X Saturated in Water Marks Drift Lines Sediment De Drainage Pa	icators Upper 12" sposits tterns in Wetlands
	Remarks:	HYDROLOGY Recorded Data (Descri Stream, Lake, o Aerial Photogra Other X_ No Recorded Data Averaged Data Averaged Data Averaged Data Averaged Data Averaged Data Averaged Depth of Surface Waters	d smartweed was present the In Remarks): or Tide Gauge aphs ailable	Wetland Hydrology Ind Primary Indicators:X InundatedX Saturated inWater MarksDrift LinesSediment DeDrainage Pa Secondary Indicators:Oxidized Ro	icators Upper 12" sposits tterns in Wetlands ors: oots Channels in Upper 12"
Remarks:	Tomano,	HYDROLOGY Recorded Data (Descri Stream, Lake, o Aerial Photogra Other X No Recorded Data Av. Field Observations: Depth of Surface Water in F	d smartweed was present the In Remarks): or Tide Gauge aphs ailable :	Wetland Hydrology Ind Primary Indicators: X Inundated X Saturated in Water Marks Drift Lines Sediment De Drainage Pa Secondary Indicators: Oxidized Ro Water-Stain Local Soil S X FAC-Neutra	icators Upper 12" seposits tterns in Wetlands ors: oots Channels in Upper 12" ded Leaves Survey Data

Taxonon	ny (Subgro	up):		Confirm Mapped Type? YesNo X		
Profile Des Depth (inches) 0-3 3-5	Horizon A	2.5Y 3/1	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast Few/Distinct	Texture, Concretions, Structure, etc. Loamy clay Loamy clay	
	-		-83-			
Hydric S	Sulfidio	ors: I pipedon Odor	Con High Org	cretions n Organic Content in St anic Streaking in Sandy		
	Histoso Histic E Sulfidic Aquic M Reducii X Gleyed	ors: I pipedon	Con High Org: List List lorsOth	cretions n Organic Content in St	urface Layer in Sandy Soils / Soils Is List Soils List	
Remark	Histoso Histic E Sulfidic Aquic N Reducii X Gleyed	ors: I Epipedon Odor Moisture Regime ng Conditions or Low-Chroma Co	Con High Org: List List lorsOth	cretions n Organic Content in St anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S	urface Layer in Sandy Soils / Soils Is List Soils List	
Remark	Histoso Histic E Sulfidic Aquic M Reducit X Gleyed S: Refusal c	ors: I Epipedon Odor Moisture Regime ng Conditions or Low-Chroma Co	Con High Org; List List Oth	cretions n Organic Content in St anic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S er (Explain in Remarks)	urface Layer in Sandy Soils y Soils Is List Soils List	
WETL/ Hydropl Wetland	Histoso Histic E Sulfidic Aquic M Reducin X Gleyed S: Refusal c	ors: I Epipedon Odor Moisture Regime ng Conditions or Low-Chroma Co	Con High Org: List List lorsOth	cretions n Organic Content in Stanic Streaking in Sandy ed On Local Hydric Soi ed on National Hydric S er (Explain in Remarks) Is the Samplin Within a Wetla	urface Layer in Sandy Soils y Soils Is List Soils List	



Project / Site: SH-28 Improve Applicant / Owner: ODOT nvestigator: Rence Ell	Γ			Date: 6/25/08 County: Mayes State: OK
Do normal circumstances ex s the site significantly distur s the area a potential proble (explain on reverse if need	rbed (Atypi m area?		Yes_X_ No on)? Yes No_X_ Yes No_X_	Community ID: Emergen Wetland Transect ID: Pit 1 Plot ID: Field Site 63
/EGETATION				
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum Indicator
1. Leersia oryzoides	Н	OBL	9	
2. Eleocharis palustris			10.	
3. Conium maculatum	Н	FACW	11.	
4. Polygonum hydropiperoides			12	
5			13	
6			14	
7 8			15	
0.			10	
Percent of Dominant Species	s that are (OBL, FACV	N, or FAC excluding FAC	-)100%
Percent of Dominant Species	s that are C	OBL, FACV	N, or FAC excluding FAC	-)100%
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Descril Stream, Lake, o	be In Rema r Tide Gau	arks):	Wetland Hydrology Inc	dicators
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Describ	be In Rema r Tide Gau	arks):	Wetland Hydrology Ind	dicators
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Descril Stream, Lake, o Aerial Photogra	be In Rema or Tide Gau uphs	arks):	Wetland Hydrology Inc	dicators :: n Upper 12"
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Descril Stream, Lake, o Aerial Photogra Other No Recorded Data Ava	be In Rema or Tide Gau uphs	arks):	Wetland Hydrology Inc Primary Indicators InundatedX Saturated inWater MarkDrift LinesSediment D	dicators :: n Upper 12" s
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Descril Stream, Lake, o Aerial Photogra Other X No Recorded Data Ava	be In Rema or Tide Gau ophs ailable	arks):	Wetland Hydrology Inc Primary IndicatorsInundatedX Saturated inWater MarkDrift LinesSediment DDrainage Pa	dicators : n Upper 12" s eposits atterns in Wetlands ors:
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Descril Stream, Lake, o Aerial Photogra Other X_ No Recorded Data Ava Field Observations:	be In Rema r Tide Gau phs ailable	arks): ge	Wetland Hydrology Inc Primary Indicators Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage Paragram Secondary Indicate Oxidized R Water-Stai	dicators Upper 12" s eposits atterns in Wetlands
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Descril Stream, Lake, o Aerial Photogra Other No Recorded Data Ava Field Observations: Depth of Surface Water:	be In Rema r Tide Gau iphs ailable	n/a (in.)	Wetland Hydrology Inc Primary Indicators Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage Paters Secondary Indicate Oxidized R Water-Stai Local Soil FAC-Neutr	dicators "Upper 12" s eposits atterns in Wetlands ors: toots Channels in Upper 12" ned Leaves Survey Data
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Descril Stream, Lake, o Aerial Photogra Other No Recorded Data Ava Field Observations: Depth of Surface Water: Depth to Free Water in P	be In Rema r Tide Gau iphs ailable	n/a (in.)	Wetland Hydrology Inc Primary Indicators Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage Paters Secondary Indicate Oxidized R Water-Stai Local Soil FAC-Neutr	dicators Upper 12" s eposits atterns in Wetlands ors: toots Channels in Upper 12" ned Leaves Survey Data

Taxonom	y (Subgro	oup):	Confirm Mapped	Type? YesNo X_	
Profile Desc Depth (inches)	BELLET	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		5Y 6/1	7.5YR 4/4	Common/Prominent	silty clay
6-12		5Y 6/1	7.5Y 4/4	Common/Prominent	silty clay
	1-		10YR 5/6	Common/Prominent	10-
			_	_	
	·	- N			-
			_	-0	
Hydric S		ol Epipedon	Hig		rface Layer in Sandy Soils Soils
Hydric S	Histoso Histic E Sulfidio Aquic I Reduci	ol Epipedon	Hiç Or Lis		Soils s List oils List
Hydric So	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hiç Or Lis	gh Organic Content in Su ganic Streaking in Sandy sted On Local Hydric Soil sted on National Hydric S	Soils s List oils List
	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hiç Or Lis	gh Organic Content in Su ganic Streaking in Sandy sted On Local Hydric Soil sted on National Hydric S	Soils s List oils List
	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hiç Or Lis	gh Organic Content in Su ganic Streaking in Sandy sted On Local Hydric Soil sted on National Hydric S	Soils s List oils List
Remarks	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	Hiç Or Lis	gh Organic Content in Su ganic Streaking in Sandy sted On Local Hydric Soil sted on National Hydric S	Soils s List oils List
Remarks VETLAN Hydrophy Wetland I	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	Epipedon Codor Moisture Regime ng Conditions or Low-Chroma Co	Hig —Or —Lis —Lis olors — Of	gh Organic Content in Su ganic Streaking in Sandy sted On Local Hydric Soil sted on National Hydric S her (Explain in Remarks) Is the Sampli Within a Wetl	Soils s List oils List



Project / Site: SH-28 Improvemen Applicant / Owner: ODOT nvestigator: Renee Ellis			Date:
Do normal circumstances exist on s the site significantly disturbed s the area a potential problem and (explain on reverse if needed)	l (Atypical situati	YesX_ No on)? Yes No_X_ Yes No_X_	Community ID: Emergen Wetland Transect ID: Pit 1 Plot ID: Field Site 64
/EGETATION Dominant Plant Species Str			Stratum Indicator
. Cyperus acuminatus 2. Cyperus esculentus 3. Ranunculus hispidus 4. Eleocharis palustris 5.	H FACW H FAC H OBL	10 11 12 13 14	
Percent of Dominant Species the Remarks:			
Percent of Dominant Species that Remarks: HYDROLOGY Recorded Data (Describe In Stream, Lake, or Tic Aerial Photographs Other X No Recorded Data Availab Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil:	at are OBL, FACV n Remarks): de Gauge	Wetland Hydrology In Primary Indicators X Inundated X Saturated is Water Mark Drift Lines Sediment Desirated is Drainage Posterondary Indicated is Water-Stain Local Soil FAC-Neutr	dicators S: In Upper 12" S Deposits atterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data

Taxonon	ny (Subgro	oup):		Confirm Mapped Type? Yes_X_ No		
Profile Des Depth (inches)					Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	-	10YR 3/1	10Y	R 3/3	Few/Faint	clay loam
	10					
			8			-
Hydric S	oil Indicat			Conc	retions	
-	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	l pipedon	olors .	High Orgai Listed		ls List Soils List
	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	l pipedon Odor loisture Regime ng Conditions	olors	High Orgai Listed	Organic Content in Sonic Streaking in Sand d On Local Hydric Soi d on National Hydric S	y Soils Is List Soils List
Remarks	Histoso Histic E Sulfidic Aquic N Reducii Gleyed	l pipedon Odor loisture Regime ng Conditions	olors	High Orgai Listed	Organic Content in Sonic Streaking in Sand d On Local Hydric Soi d on National Hydric S	y Soils Is List Soils List
VETLA! Hydroph Wetland	Histoso Histic E Sulfidic Aquic N Reducin Gleyed	I spipedon Odor Moisture Regime or Low-Chroma Co		High Organ Listed Listed Othe	Organic Content in Si nic Streaking in Sand d On Local Hydric So d on National Hydric S r (Explain in Remarks Is the Sampl Within a We	y Soils Is List Soils List)



Applicant / Owner:O nvestigator:Renee	provements, Adair to Langley DOT e Ellis		Date: 6/25/08
Do normal circumstances is the site significantly di is the area a potential pro (explain on reverse if no	sturbed (Atypical situation	YesX_ No on)? Yes No_X_ Yes No_X_	Community ID: Emergen Wetland Transect ID: Pit 1 Plot ID: Field Site 65
VEGETATION			
Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
	H FACW H OBL	10. 11. 12. 13. 14.)100%
		12 12	
HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other No Recorded Data Field Observations: Depth of Surface Water Depth to Free Water	e, or Tide Gauge ographs Available ter:3(in.) in Pit:n/a(in.)	Secondary Indicate Oxidized Re Water-Stain Local Soil S FAC-Neutra	Upper 12" pposits tterns in Wetlands ors: pots Channels in Upper 12" led Leaves Survey Data

Taxonon	ny (Subgro	oup):		Confirm Mapped Type? Yes_X_ No		
Profile Des Depth (inches)	Cription: Horizon	Matrix Colors (Munsell Moist)	Mottle C (Munsell		Mottle Abundance/Contrast	
0-12	-	2.5Y 4/1	10YF	R 4/3	Many/Distinct	loamy clay
					E	
						· · ·
	-12-		-			***
Hydric S	oil Indicate	1			eretions	urface Laver in Sandy Soils
1.5 (1.5 (1.5 (1.5)	Histoso Histic E Sulfidio Aquic N Reducii Gleyed	l pipedon	olors	High Orga Liste Liste		ils List Soils List
Hydric S	Histoso Histic E Sulfidio Aquic N Reducii Gleyed	l pipedon Odor loisture Regime ng Conditions	olors	High Orga Liste Liste	Organic Content in Sonic Streaking in Sand d On Local Hydric Soi d on National Hydric S	y Soils ils List Soils List
Remarks	Histoso Histic E Sulfidic Aquic N Reducii Gleyed	l pipedon Odor loisture Regime ng Conditions	olors	High Orga Liste Liste	Organic Content in Sonic Streaking in Sand d On Local Hydric Soi d on National Hydric S	y Soils ils List Soils List
NETLAI Hydroph Wetland	Histoso Histic E Sulfidio Aquic N Reducii Gleyed	I spipedon Odor Moisture Regime ng Conditions or Low-Chroma Co		High Orga Liste Liste Othe	Organic Content in Sonic Streaking in Sandy d On Local Hydric Sonid on National Hydric Son (Explain in Remarks Is the Sampl Within a Wei	y Soils ils List Soils List :)



Project / Site: SH-28 Improvements, Adair to Langley Applicant / Owner: ODOT nvestigator: Rence Ellis	0 1 1
Oo normal circumstances exist on the site? s the site significantly disturbed (Atypical situations the area a potential problem area? (explain on reverse if needed)	Yes_X_No
/EGETATION	
I. Eleocharis palustris H OBL 2. Ranunculus hispidus H FAC 3. Polygonum hydropiperoides H OBL 4.	9. 10. 11. 12. 13. 14. 15. 16.
Percent of Dominant Species that are OBL, FACW	
Percent of Dominant Species that are OBL, FACW	
Percent of Dominant Species that are OBL, FACW	

axonon	ny (Subgro	oup):	<u> </u>	Confirm Mappe	Confirm Mapped Type? Yes_X_ No		
Profile Des Depth (inches)		Matrix Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.			
0-12	-	2.5Y 4/1	10YR 4/3	Many/Distinct	loamy clay		
		3 25111					
			191		100		
				<u> </u>			
Hydric S		ol Epipedon	Hig	ncretions h Organic Content in St panic Streaking in Sand	urface Layer in Sandy Soils		
Hydric S	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon	Hig Org Lis		ils List Soils List		
	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon c Odor Moisture Regime ing Conditions	Hig Org Lis	h Organic Content in Si ganic Streaking in Sand ted On Local Hydric So ted on National Hydric S	y Soils ils List Soils List		
Remark	Histoso Histic E Sulfidio Aquic I Reduci Gleyed	ol Epipedon c Odor Moisture Regime ing Conditions	Hig Org Lis	h Organic Content in Si ganic Streaking in Sand ted On Local Hydric So ted on National Hydric S	y Soils ils List Soils List		
Remarks WETLAI Hydroph Wetland	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	Epipedon c Odor Moisture Regime ing Conditions or Low-Chroma Co	Hig Org Lis	th Organic Content in Signal of Streaking in Sandy ted On Local Hydric Solted on National Hydric Sher (Explain in Remarks	y Soils ils List Soils List ;)		



s the site significantly disturbed (Atypical situation)? YesNoX sthe area a potential problem area? (explain on reverse if needed) ### Plot ID: Field Site ### Plot ID: Fiel Site ### Plot ID: Field Site ### Plot ID: Field Site ### Plot	Applicant / Owner: ODO' nvestigator: Rence Ell			Date:
1. Celtis laevigata T FAC 2. Ulmus americana T FAC 3. Polygonum hydropiperoides H OBL 4. 12. 13. 14. 15. 16. 16. 16. 17. 18. 17. 18. 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	s the site significantly distu s the area a potential proble	rbed (Atypical situati em area?	on)? YesNo_X_	Community ID: Forester Wetland Transect ID: Pit 1 Plot ID: Field Site 69
1. Celtis laevigata T FAC 2. Ulmus americana T FAC 3. Polygonum hydropiperoides H OBL 4. 12. 13. 14. 15. 16. 16. 16. 17. 18. 17. 18. 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	VEGETATION			
Stream, Lake, or Tide Gauge Aerial Photographs Other No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Na (in.) Primary Indicators: Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Uppe Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test	2. Ulmus americana 3. Polygonum hydropiperoides 4. 5. 6. 7. 8. Percent of Dominant Specie	T FAC OBL	10	
Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Na (in.) Primary Indicators: Naturated in Upper 12" Water Marks Drift Lines Sediment Deposits Naturated Secondary Indicators: Oxidized Roots Channels in Upper Stained Leaves Local Soil Survey Data FAC-Neutral Test				
	HYDROLOGY			
Remarks:	Recorded Data (Descri Stream, Lake, o Aerial Photogra Other X No Recorded Data Ava Field Observations: Depth of Surface Water:	or Tide Gauge aphs ailable	Primary Indicators Inundated Saturated in Water Marks Drift Lines Sediment D X Drainage Pa Secondary Indicat Oxidized R Water-Stain Local Soil FAC-Neutr	n Upper 12" s eposits atterns in Wetlands ors: coots Channels in Upper 12" ned Leaves Survey Data ral Test

Taxonom	y (Subgro	oup):	Confirm Mapped Type? YesNo X		
Profile Dese Depth (inches) 0-4 4-12	Horizon	Matrix Colors (Munsell Moist) 7.5YR 3/1 2.5Y 5/2	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast Many/Faint	Texture, Concretions, Structure, etc. Joam loamy clay
			7.5YR 4/6 10YR 6/2	Few/Distinct Few/Prominent	-
Hydric So	Sulfidio	ol pipedon Odor Noisture Regime	High	anic Streaking in Sand ed On Local Hydric Soi	y Soils ils List
Remarks	Histoso Histic E Sulfidio Aquic N Reduci Gleyed	ol Epipedon Odor	Higi Org List	n Organic Content in S anic Streaking in Sand	ils List Soils List



Project / Site: SH-28 Improve Applicant / Owner: ODOT nvestigator: Rence Elli			Date:6/25/08
Do normal circumstances exist the site significantly distured the stream of the stream	bed (Atypical situati m area?	Yes_X_No ion)? YesNo_X_ YesNo_X_	Community ID: Emerger Wetland Transect ID: Pit 1 Plot ID: Field Site 76
VEGETATION			
Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
1. Eleocharis palustris	H OBL	9.	
2. Lippia lanceolata		10.	
3. Justica americana		11.	
4. Polygonum hydropiperoides		12.	
5		13	
6		14	
7		15	
0	100000000000000000000000000000000000000	16	
8 Percent of Dominant Species Remarks:		W, or FAC excluding FAC	-)100%
Percent of Dominant Species		W, or FAC excluding FAC	:-) 100%
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photogra Other No Recorded Data Ava	s that are OBL, FAC be In Remarks): r Tide Gauge phs	Wetland Hydrology Inc Primary Indicators X Inundated Saturated i Water Mark Drift Lines Sediment D	dicators s: n Upper 12"
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photogra Other No Recorded Data Ava	s that are OBL, FAC be In Remarks): r Tide Gauge phs ailable	Wetland Hydrology Inc Primary Indicators X Inundated Saturated i Water Mark Drift Lines Sediment D Drainage P	dicators s: n Upper 12" s Deposits atterns in Wetlands
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photogra Other X_ No Recorded Data Ava Field Observations:	be In Remarks): r Tide Gauge phs ailable	Wetland Hydrology Inc Primary Indicators X Inundated Saturated i Water Mark Drift Lines Sediment D Drainage Po	dicators s: n Upper 12" s Deposits atterns in Wetlands tors: Roots Channels in Upper 12"
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photogra Other No Recorded Data Ava Field Observations: Depth of Surface Water:	be In Remarks): r Tide Gauge phs ailable6(in.)	Wetland Hydrology Inc Primary Indicators X Inundated Saturated i Water Mark Drift Lines Sediment D Drainage Poly Secondary Indicate Oxidized F Water-Stai Local Soil FAC-Neutr	dicators s: n Upper 12" s Deposits atterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data
Percent of Dominant Species Remarks: HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photogra Other No Recorded Data Ava Field Observations: Depth of Surface Water: Depth to Free Water in P	be In Remarks): r Tide Gauge phs ailable6(in.)	Wetland Hydrology Inc Primary Indicators X Inundated Saturated i Water Mark Drift Lines Sediment D Drainage Poly Secondary Indicate Oxidized F Water-Stai Local Soil FAC-Neutr	dicators in Upper 12" is Deposits atterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data ral Test

Taxonom	ıy (Subgroi	ль):		Confirm Mappe	d Type? Yes_X_ No
10 10 10 10	Horizon	100	The Second Control of the Control		
0-12	-	2.5Y 3/1			loamy clay
		::(<u>-</u>			
	-				
			2003		
		·			
	-	G			
7	Histosol	pipedon	Hig	ncretions _I h Organic Content in Su	urface I aver in Sandy Soils
-	Sulfidic Aquic M Reducin		Lis	ganic Streaking in Sandy ted On Local Hydric Soil ted on National Hydric S her (Explain in Remarks)	/ Soils ls List soils List
Remarks	Sulfidic Aquic M Reducin Gleyed c	Odor oisture Regime g Conditions	Lis	ted On Local Hydric Soil ted on National Hydric S	/ Soils ls List soils List
Remarks	Sulfidic Aquic M Reducin Gleyed c	Odor oisture Regime g Conditions	Lis	ted On Local Hydric Soil ted on National Hydric S	/ Soils ls List soils List



Is the site significantly disturbed (Atypical situation)? Yes No X Plot ID: Field Site 77 Step area a potential problem area? No X Plot ID: Field Site 77	Project / Site: SH-28 Impr Applicant / Owner: OI nvestigator: Renee	TOC		Date:6/25/08 County:Mayes State:OK
Dominant Plant Species Stratum Indicator 1. Eleocharis palustris 1. Eleocharis palustris 2. Juncus diffusissimus 3. Carex frankii 4. OBL 10. 11.	s the site significantly dis s the area a potential pro	sturbed (Atypical situati blem area?	on)? Yes No_X_	Community ID: Emergent Wetland Transect ID: Pit 1 Plot ID: Field Site 77
1. Eleocharis palustris	VEGETATION			
## PACW 10 3 Carex frankii	Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
A Carex frankii H OBL 11. A	. Eleocharis palustris	H OBL	9	
A Carex frankii B OBL 11.	2. Juncus diffusissimus	H FACW	10	
12	3. Carex frankii	H OBL	11	
13.	l		12	
15.	5,			
B			14	
Percent of Dominant Species that are OBL, FACW, or FAC excluding FAC-)				
HYDROLOGY Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Depth to Saturated Soil: Depth to Saturated Soil: Description Wetland Hydrology Indicators Inundated Saturated in Upper 12" Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	3		16	
Stream, Lake, or Tide GaugeAerial PhotographsOther X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Depth to Saturated Soil: Oxidized Roots Channels in Upper 12' Oxidized Roots Channels in Upper 12' Oxidized Roots Channels in Upper 12'			V, or FAC excluding FAC	-)100%
Other	Remarks: Juncus validus p		V, or FAC excluding FAC	2-)100%
X No Recorded Data Available Field Observations: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: Mater Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators: Oxidized Roots Channels in Upper 12' Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	Remarks: Juncus validus p HYDROLOGY Recorded Data (Des	present. cribe In Remarks):		
Drainage Patterns in Wetlands Depth of Surface Water:	Remarks: Juncus validus p HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo	cribe In Remarks):	Wetland Hydrology In Primary Indicators	dicators s:
Depth to Free Water in Pit:n/a(in.)Oxidized Roots Channels in Upper 12' Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo	cribe In Remarks): e, or Tide Gauge graphs	Wetland Hydrology In Primary Indicators Inundated Saturated is Water Mark Drift Lines	dicators s: in Upper 12"
Depth to Free Water in Pit:	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photogother X No Recorded Data (The Aerial Photogother (The Aerial	cribe In Remarks): e, or Tide Gauge graphs Available	Wetland Hydrology In Primary Indicators X_ Inundated Saturated i Water Mark Drift Lines Sediment I	dicators s: in Upper 12" (s
Other (Explain in Remarks)	HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data (Tield Observations: Depth of Surface Wat	cribe In Remarks): e, or Tide Gauge graphs Available eer: 1-3 (in.)	Wetland Hydrology In Primary Indicators Inundated Saturated i Water Mark Drift Lines Sediment II Drainage P	dicators s: in Upper 12" cs Deposits atterns in Wetlands
	HYDROLOGY Recorded Data (Description Stream, Lake Aerial Photogother X No Recorded Data (Stream, Lake Aerial Photogother) X No Recorded Data (Stream, Lake Aerial Photogother) Depth of Surface Water in the Stream Str	cribe In Remarks): e, or Tide Gauge graphs Available er:1-3(in.) n Pit:n/a(in.)	Wetland Hydrology In Primary Indicators X_ Inundated Saturated i Water Mark Drift Lines Sediment II Drainage P Secondary Indica Oxidized F Water-Sta	dicators s: in Upper 12" cs Deposits ratterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves
Remarks:	HYDROLOGY Recorded Data (Description Stream, Lake Aerial Photogother X No Recorded Data (Stream, Lake Aerial Photogother) X No Recorded Data (Stream, Lake Aerial Photogother) Depth of Surface Water in the Stream Str	cribe In Remarks): e, or Tide Gauge graphs Available er: 1-3 (in.) n Pit: n/a (in.)	Wetland Hydrology In Primary Indicators X_ Inundated Saturated i Water Mark Drift Lines Sediment II Drainage P Secondary Indica Oxidized F Water-Sta Local Soil FAC-Neut	dicators s: in Upper 12" cs Deposits ratterns in Wetlands tors: Roots Channels in Upper 12" ined Leaves Survey Data ral Test

Taxonon	ny (Subgro	oup):			_ Confirm Mappe	d Type? Yes	_No_X_
Profile Des Depth (inches) 0-12		CA Very constant to the Care	Mottle Co (Munsell		Mottle Abundance/Contrast	Texture, Concre Structure, etc.	
Hydric S	Sulfidic Aquic N Reducir	l pipedon	Colors	High of Organ	retions Organic Content in Su nic Streaking in Sandy I On Local Hydric Soil I on National Hydric S r (Explain in Remarks)	Soils Is List Soils List	andy Soils
Remarks	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	I pipedon Odor loisture Regime ng Conditions or Low-Chroma (Colors	High of Organ	Organic Content in Su nic Streaking in Sandy I On Local Hydric Soil I on National Hydric S	Soils Is List Soils List	andy Soils
Remarks	Histoso Histic E Sulfidic Aquic N Reducir Gleyed	I pipedon Odor loisture Regime ng Conditions		High of Organ	Organic Content in Su nic Streaking in Sandy I On Local Hydric Soil I on National Hydric S r (Explain in Remarks)	y Soils ls List soils List	andy Soils



	State: OK
Do normal circumstances exist on the site? s the site significantly disturbed (Atypical situat s the area a potential problem area? (explain on reverse if needed)	YesX_No Community ID: Emergent Wetland Transect ID: Pit 1 YesNo_X Plot ID: Field Site 80
VEGETATION	
1. Carex frankii H OBL 2. Polygonum hydropiperoides H OBL 3	Dominant Plant Species Stratum Indicator 9
Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water:5(in.) Depth to Free Water in Pit:n/a(in.) Depth to Saturated Soil:n/a (in.)	Oxidized Roots Channels in Upper 12" Water-Stained Leaves Local Soil Survey Data
	The same and the s

raxonon	ny (Subgro	oup):		Confirm Mappe	ed Type? YesNo_X_
Profile Des Depth (inches)	Horizon		Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
4-12			7 5 VP 3/4	Many/Distinct	
		-	_		
Hydric S	oil Indicat	ors:			
Hydric S	Histoso Histic E Sulfidio Aquic I Reduci	ol Epipedon	H 0 Li	oncretions gh Organic Content in S rganic Streaking in Sand sted On Local Hydric So sted on National Hydric ther (Explain in Remark	ils List Soils List
Hydric S	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions	H 0 Li	gh Organic Content in S rganic Streaking in Sand sted On Local Hydric So sted on National Hydric	ly Soils bils List Soils List
Remark	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	ol Epipedon : Odor Moisture Regime ng Conditions or Low-Chroma Co	H 0 Li	gh Organic Content in S rganic Streaking in Sand sted On Local Hydric So sted on National Hydric	ly Soils bils List Soils List
Remark	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	ol Epipedon c Odor Moisture Regime ng Conditions or Low-Chroma Co	H O	gh Organic Content in S rganic Streaking in Sand sted On Local Hydric So sted on National Hydric ther (Explain in Remark	ly Soils ils List Soils List s)
Remark: WETLAI Hydroph Wetland	Histoso Histic E Sulfidio Aquic I Reduci X Gleyed	Epipedon Codor Moisture Regime ng Conditions or Low-Chroma Co	H O	gh Organic Content in S rganic Streaking in Sand sted On Local Hydric So sted on National Hydric ther (Explain in Remark	ly Soils ils List Soils List s)



Project / Site: SH-28 Imp Applicant / Owner: OI nvestigator: Renee	TOC	У	Date:
Do normal circumstances s the site significantly dis s the area a potential pro (explain on reverse if ne	sturbed (Atypical situat blem area?	Yes_X_No ion)? YesNo_X YesNo_X	Community ID: Emergen Wetland Transect ID: Pit 1 Plot ID: Field Site 84
VEGETATION			
Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
1. Ludwigia peploides	H OBL	9.	
2. Carex frankii	H OBL	10.	
3. Rumex crispus		11.	
4		12.	
5			
6			
7		15.	
8		16.	
	cies that are OBL, FAC	W, or FAC excluding FAC	-)100%
Remarks:	cies that are OBL, FAC	W, or FAC excluding FAC	-)100%
Remarks:	cribe In Remarks): e, or Tide Gauge graphs	Wetland Hydrology In-	dicators s: n Upper 12"
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data	cribe In Remarks): e, or Tide Gauge graphs	Wetland Hydrology Inc Primary IndicatorsInundatedX Saturated inWater MarkDrift LinesSediment D	dicators s: n Upper 12"
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface Wat	cribe In Remarks): e, or Tide Gauge graphs Available ter: <u>n/a</u> (in.)	Wetland Hydrology Inc Primary IndicatorsInundatedX Saturated irWater MarkDrift LinesSediment Drainage Part Secondary Indicators	dicators 3: 1 Upper 12" 15 Deposits atterns in Wetlands tors:
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface Water in	cribe In Remarks): e, or Tide Gauge graphs Available ter: <u>n/a</u> (in.)	Wetland Hydrology Inc Primary IndicatorsInundated X Saturated ir Water Mark Drift Lines Sediment Drainage Proceedings of the content of the co	dicators 3: 1 Upper 12" 15 Deposits 16 atterns in Wetlands 16 tors: 17 Roots Channels in Upper 12" 18 Roots Channels in Upper 12" 19 Roots Channels in Upper 12"
Remarks: HYDROLOGY Recorded Data (Des Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface Wat	cribe In Remarks): e, or Tide Gauge graphs Available ter: <u>n/a</u> (in.)	Wetland Hydrology Inc Primary Indicators Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage P Secondary Indicat Oxidized F Water-Stai Local Soil	dicators 3: 1 Upper 12" 15 Deposits 16 atterns in Wetlands 16 tors: 17 Roots Channels in Upper 12" 18 Roots Channels in Upper 12" 19 Roots Channels in Upper 12" 19 Roots Channels in Upper 12" 19 Roots Channels in Upper 12"
Stream, Lake Aerial Photo Other X No Recorded Data Field Observations: Depth of Surface Water of Depth to Free Water of Street Water of St	cribe In Remarks): e, or Tide Gauge graphs Available ter: <u>n/a</u> (in.)	Wetland Hydrology Inc Primary Indicators Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage P Secondary Indicat Oxidized F Water-Stai Local Soil	dicators 3: 1 Upper 12" 25 Deposits atterns in Wetlands 25 Boots Channels in Upper 12" 27 28 29 20 20 21 21 21 21 21 21 21 21 21 21 21 21 21

raxonon	iy (Subgro	oup):	Confirm Map	pped Type? YesNo X_	
Profile Des Depth (inches) 0-4 4-12	Horizon	10YR 3/1	Mottle Colors (Munsell Moist)	Mottle Abundance/Contra	loam
Hydric S	oil Indicat			operations	
Hydric S	Histoso Histic E Sulfidio Aquic M Reduci X Gleyed	l pipedon	H C L	oncretions igh Organic Content i rganic Streaking in Sa isted On Local Hydric isted on National Hydr other (Explain in Rema	Soils List ic Soils List
Remarks	Histoso Histic E Sulfidio Aquic N Reduci X Gleyed	l pipedon Odor Moisture Regime ng Conditions	H C L	igh Organic Content i rganic Streaking in Sa isted On Local Hydric isted on National Hydric	ndy Soils Soils List ic Soils List

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Applicant / Owner: ODOT nvestigator: Renee Ellis	ments, Adair to Langley		Date:
Do normal circumstances exist the site significantly disturbent the area a potential probler (explain on reverse if neede	bed (Atypical situati m area?	Yes_X_No on)? YesNo_X_ YesNo_X_	Community ID: Emergen Wetland Transect ID: Pit 1 Plot ID: Field Site 86
VEGETATION			
Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
1. Alisma subcordatum	H OBL	9.	
2. Conium maculatum	H FACW	10.	
3. Carex frankii	H OBL	11	
4. Eleocharis palustris	H OBL	12	
Polygonum hydropiperoides	H OBL	13	
6	-	14	
7			
8		16	
HYDROLOGY			
HYDROLOGY Recorded Data (Describ Stream, Lake, or Aerial Photograp Other	Tide Gauge	Wetland Hydrology Inc Primary Indicators X Inundated	:
Recorded Data (Describ Stream, Lake, or Aerial Photograp	r Tide Gauge phs	Primary Indicators _X_Inundated _X_Saturated inWater MarkDrift Lines	: 1 Upper 12" s
Recorded Data (Describ Stream, Lake, or Aerial Photograp Other	r Tide Gauge phs ilable	Primary Indicators _X_Inundated _X_Saturated inWater MarkDrift LinesSediment D	: 1 Upper 12" s
Recorded Data (Describ Stream, Lake, or Aerial Photograp Other X No Recorded Data Ava Field Observations: Depth of Surface Water:	Tide Gauge phs iilable	Primary Indicators X Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage Pa	: n Upper 12" es Deposits atterns in Wetlands
Recorded Data (Describ Stream, Lake, or Aerial Photograp Other X No Recorded Data Ava Field Observations: Depth of Surface Water: Depth to Free Water in Pi	r Tide Gauge phs illable 3-5(in.) it:n/a(in.)	Primary Indicators X Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage Parallel Secondary Indicat Water-Stai	tors: Roots Channels in Upper 12" Roots Channels in Upper 12" Roots Channels Survey Data
Recorded Data (Describ Stream, Lake, or Aerial Photograp Other X No Recorded Data Ava Field Observations: Depth of Surface Water:	Tide Gauge phs iilable	Primary Indicators X Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage Parallel Secondary Indicat Oxidized R Water-Stai Local Soil	tors: Roots Channels in Upper 12" Roots Channels in Upper 12" Roots Channels Survey Data
Recorded Data (Describ Stream, Lake, or Aerial Photograp Other X No Recorded Data Ava Field Observations: Depth of Surface Water: Depth to Free Water in Pi	r Tide Gauge phs illable 3-5(in.) it:n/a(in.)	Primary Indicators X Inundated X Saturated in Water Mark Drift Lines Sediment D Drainage Parallel Secondary Indicat Oxidized R Water-Stai Local Soil	tors: Roots Channels in Upper 12" Roots Channels in Upper 12"

Гахопоп	ıy (Subgro	up):	Confirm Mappe	d Type? YesNo_X_	
	Horizon	Matrix Colors (Munsell Moist) 2.5Y 2.5/1	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc. clay loam
		10 -	-		
	Sulfidic Aquic M Reducir X Gleyed	I pipedon	Hig Org Lis	ncretions h Organic Content in Si janic Streaking in Sand ted On Local Hydric So ted on National Hydric S her (Explain in Remarks	ils List Soils List
Remarks	Histoso Histic E Sulfidic Aquic N Reducir X Gleyed	l pipedon Odor loisture Regime ng Conditions	Hig Org Lis	h Organic Content in Si janic Streaking in Sand ted On Local Hydric Soi ted on National Hydric S	y Soils ils List Soils List



Project / Site: SH-28 Improve Applicant / Owner: ODO? nvestigator: Renee Ell	Γ	anaresen's Sanski		Date:
Oo normal circumstances ex s the site significantly distu s the area a potential proble (explain on reverse if need	rbed (Atypic em area?		Yes_X_No on)? YesNo_X_ YesNo_X_	Community ID: Forested Transect ID: Pit 1 Plot ID: Field Site 88
/EGETATION				
Dominant Plant Species	Stratum In	ndicator	Dominant Plant Species	Stratum Indicator
. Celtis laevigata	Т	FAC	9.	
2. Ulmus americana	T	FAC	10.	
3. Polygonum hydropiperoides	Н	OBL	11.	
4			12.	
5			13	
6			14	
7			15	
8			16	
Percent of Dominant Specie	s that are O	BL, FACV	V, or FAC excluding FAC	-)100%
Percent of Dominant Specie Remarks:	s that are O	BL, FACV	V, or FAC excluding FAC	-)100%
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descri	be In Remar	rks):	Wetland Hydrology Inc	
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descrit	be In Remar or Tide Gaug	rks):	Wetland Hydrology Inc	dicators
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descri	be In Remar or Tide Gaug	rks):	Wetland Hydrology Ind Primary Indicators	dicators
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o	be In Remar or Tide Gaug	rks):	Wetland Hydrology Ind Primary Indicators X_Inundated X_Saturated in	dicators :: n Upper 12"
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other No Recorded Data Avanta	be In Remar or Tide Gaug aphs	rks):	Wetland Hydrology Ind Primary Indicators X_Inundated X_Saturated in Water Mark Drift Lines	dicators :: n Upper 12" s
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other No Recorded Data Avanta	be In Remar or Tide Gaug aphs	rks):	Wetland Hydrology Ind Primary Indicators X InundatedX Saturated inWater MarkDrift LinesSediment D	dicators :: n Upper 12" s
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other No Recorded Data Avanta	be In Remar or Tide Gaug aphs ailable	rks):	Wetland Hydrology Ind Primary Indicators _X Inundated _X Saturated ir _ Water Mark _ Drift Lines _ Sediment D _ Drainage Pa	dicators : n Upper 12" s eposits atterns in Wetlands ors:
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other No Recorded Data Available of Surface Water: Depth of Surface Water in F	be In Remar or Tide Gaug aphs ailable	rks): ge	Wetland Hydrology Ind Primary Indicators X InundatedX Saturated irWater MarkDrift LinesSediment DDrainage Pa Secondary IndicatOxidized RWater-Stain	dicators : n Upper 12" s eposits atterns in Wetlands ors:
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other No Recorded Data Ava Field Observations: Depth of Surface Water:	be In Remar or Tide Gaug aphs ailable ————————————————————————————————————	rks): ge	Wetland Hydrology Ind Primary Indicators X_InundatedX_Saturated irWater MarkDrift LinesSediment DDrainage Pa Secondary IndicatOxidized RWater-StairLocal SoilFAC-Neutr	dicators : n Upper 12" s reposits atterns in Wetlands ors: coots Channels in Upper 12" ned Leaves Survey Data
Percent of Dominant Specie Remarks: HYDROLOGY Recorded Data (Descrit Stream, Lake, o Aerial Photogra Other No Recorded Data Available of Surface Water: Depth of Surface Water in F	be In Remar or Tide Gaug aphs ailable ————————————————————————————————————	rks): ge 4(in.) /a(in.)	Wetland Hydrology Ind Primary Indicators X_InundatedX_Saturated irWater MarkDrift LinesSediment DDrainage Pa Secondary IndicatOxidized RWater-StairLocal SoilFAC-Neutr	dicators : n Upper 12" s reposits atterns in Wetlands ors: coots Channels in Upper 12" ned Leaves Survey Data al Test

axonon	ıy (Subgro	oup):	Confirm Mappe	Confirm Mapped Type? YesNo X		
Profile Des Depth (inches)	cription: Horizon	Matrix Colors (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.	
0-12			7.5YR 3/2	Many/Faint	clay loam	
			-	_	-	
			-			
	-	15.				
Hydric S	oil Indicat			oncretions		
	Histoso Histic E Sulfidic Aquic N	l pipedon	H C L	oncretions igh Organic Content in S rganic Streaking in Sand isted On Local Hydric So isted on National Hydric S other (Explain in Remarks	ils List Soils List	
	Histoso Histic E Sulfidic Aquic N Reducii X Gleyed	l pipedon Odor loisture Regime ng Conditions	H C L	igh Organic Content in S rganic Streaking in Sand sted On Local Hydric So sted on National Hydric S	y Soils ils List Soils List	
Remarks	Histoso Histic E Sulfidic Aquic N Reducii X Gleyed	l pipedon Odor loisture Regime ng Conditions	H C L	igh Organic Content in S rganic Streaking in Sand sted On Local Hydric So sted on National Hydric S	y Soils ils List Soils List	
Remarks VETLAN Hydrophy Wetland	Histoso Histic E Sulfidic Aquic N Reducii X Gleyed	I Spipedon Odor Moisture Regime of Conditions Conditions Or Low-Chroma Conditions RMINATION ation Present?	lors C	igh Organic Content in S rganic Streaking in Sand sted On Local Hydric So sted on National Hydric S ther (Explain in Remarks Is the Sampl Within a We	y Solls ils List Soils List)	



Applicant / Owner: ODOT nvestigator: Renee Ellis	Date:6/26/08 County: _Mayes State:OK
Do normal circumstances exist on the site? s the site significantly disturbed (Atypical situations the area a potential problem area? (explain on reverse if needed)	Yes_X_No Community ID: Forested Wetland Transect ID: Pit 1 Yes No_X Plot ID: Field Site 93
VEGETATION	
1. Fraxinus pennsylvanica T FACW- 2. Ulmus americana T FAC 3	9
Remarks: Eleocharis palustris and Polygonum hydrop	iperoides also present.
Remarks: Eleocharis palustris and Polygonum hydropoly HYDROLOGY	iperoides also present.
	Wetland Hydrology Indicators Primary Indicators:
HYDROLOGY Recorded Data (Describe In Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other X No Recorded Data Available Field Observations: Depth of Surface Water:1-5(in.) Depth to Free Water in Pit:1/a(in.)	Wetland Hydrology Indicators Primary Indicators:

laxonon	ny (Subgro	oup):		Confirm Mapped Type? Yes_X_ No	
	Horizon		A STATE OF THE STA	Commence of the commence of th	
0-12		10YR 3/1		Many/Distinct	loamy clay
	-			1.0	
Hydric S	oil Indicat	ors:			
	Histoso Histic E Sulfidio Aquic N	ol Epipedon	Hi Oi Li Li	oncretions gh Organic Content in Si ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S ther (Explain in Remarks	ils List Soils List
	Histoso Histic E Sulfidio Aquic M Reduci X Gleyed	ol Epipedon Odor Moisture Regime ng Conditions	Hi Oi Li Li	gh Organic Content in S ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S	y Soils ils List Soils List
Remark	Histoso Histic E Sulfidio Aquic M Reduci X Gleyed	ol Epipedon Odor Moisture Regime ng Conditions	Hi Oi Li Li	gh Organic Content in S ganic Streaking in Sand sted On Local Hydric So sted on National Hydric S	y Soils ils List Soils List
NETLAI Hydroph Wetland	Histoso Histic E Sulfidio Aquic N Reduci X Gleyed	Epipedon Odor Moisture Regime or Conditions or Low-Chroma Co	In the second se	gh Organic Content in Siganic Streaking in Sandsted On Local Hydric Soleted on National Hydric Street (Explain in Remarks) Is the Sample Within a Wes	y Soils ils List Soils List)



Project / Site: SH-28 Impr Applicant / Owner: OD nvestigator: Renee	TOO		Date: 6/25/08 County: Mayes State: OK
Oo normal circumstances s the site significantly dis s the area a potential prol (explain on reverse if ne	sturbed (Atypical situati blem area?	Yes_X_No on)? YesNo_X_ YesNo_X_	Community ID: Wetland Transect ID: Pit 1 Plot ID: Field Site 96
VEGETATION			
Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
. Carex crus-corvi		9	
2. <u>Diospyros virginiana</u>	S FAC	10	
Rubus sp.		11	
1		12	
5 5		13	
7.		15.	
7 8		16.	
Percent of Dominant Spec Remarks:	cies that are OBL, FAC	N, or FAC excluding FAC-	-)66%
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Applicant / Owner: OD nvestigator: Renee I	OT	у	Date: 6/26/08 County: Mayes State: OK
Do normal circumstances s the site significantly dist s the area a potential prob (explain on reverse if nea	turbed (Atypical situati olem area?		Community ID: Forested Wetland Transect ID: Pit 1 Plot ID: Field Site 99
VEGETATION			
Dominant Plant Species	Stratum Indicator	Dominant Plant Species	Stratum Indicator
1. Fraxinus pennsylvanica	T FACW-	9.	
2. Leptochloa dubia		10.	
3. Carex vulpinoidea		11.	
4. Carex longii		12	
5		13	
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OKLAHOMA DEPARTMENT OF TRANSPORTATION

200 N. E. 21st Street Oklahoma City, OK 73105-3204

September 16, 2008

Mr. Jerry Brabander
U. S. Fish and Wildlife Service
Ecological Services
Oklahoma Field Office
9014 East 21st Street
Tulsa, Oklahoma 74129

Dear Mr. Brabander:

The Oklahoma Department of Transportation (ODOT) has contracted with The Benham Companies, LLC to assess potential impacts to federally-listed species as a result of proposed improvements to State Highway 28 in Mayes County - J/P numbers 24382(04), 21909(04) and 23270(04); Project Number SSP-155E(581)EC. The proposed project will involve widening existing SH-28 from a two-lane facility to four lanes. The improvements will address safety, as well as bridge replacements over Rock Creek and Big Cabin Creek. The 13-mile long project begins at the intersection of SH-28 and US-69 in Adair, OK, and extends east to the SH-28 and SH-82 intersection near Langley, OK. The project is located in Sections 25 - 26 and 34 - 36 of T23N R19E; Sections 21-24, 26-32 of T23N R20E; and Sections 9 and 17-19 of T23N R21E in Mayes County. The Benham Companies, LLC has submitted to ODOT a threatened and endangered species habitat assessment for this project. Please find a copy of this report enclosed.

The ODOT, acting as the duly authorized agent for the Federal Highway Administration, is hereby initiating Section 7 consultation for the above mentioned project as a component of the agency's implementation of the procedural provisions of the National Environmental Policy Act. The information contained in the enclosed document constitutes ODOT's biological assessment on of the proposed project site, and the following effect determinations are based upon this report.

The project area was examined for karst features such as cave openings, passages and sinkholes. But because of high water at the time of the field studies, the existing bridge structures at Rock and Big Cabin creeks were not inspected for the presence of gray bat summer and/or day-roosting features. No karst features were found, and the project area is not located within the recharge area of any known cave harboring a federally-listed species. Both existing bridge structures, at Rock and Big Cabin creeks, consist of a concrete deck (smooth on the lower surface). Because both bridges were located over deep water and could not be visually inspected from land, an additional inspection of the structure will be made by boat between April 1, and September 30, no more than one year prior to initiation of project construction. If evidence of use of these bridges by the gray bat is observed during this survey, or if the gray bat is observed at the bridge sites at any point prior to or during construction, ODOT will notify and further consult with the Service regarding this species.

Potential gray bat roosting and foraging habitat (floodplain forest and wetlands) is present within the project area. The project area is also within the 20-km foraging radius of a cave used by gray bats. By minimizing disturbance to areas outside of the required construction footprint whenever practicable and feasible, and by appropriately mitigating for unavoidable impacts to wetlands and riparian areas due to construction, this project should not result in a significant impact with regard to potential gray bat foraging areas. Given the

Mr. Jerry Brabander September 16, 2008 Re: J/P 24382(04), 21909(04), 23270(04) Page 2

implementation of the avoidance and impact minimization measures discussed above, the project may affect, not likely to adversely affect, the gray bat.

The project area is located within an aquifer that supports Ozark cavefish. No caves or karst features were observed within the project area and the project is not located within a recharge area of a known cave harboring Ozark cavefish. If caves or sinkholes are encountered at any point during project construction, a no-work buffer zone of approximately 300 feet will be established around the newly-discovered feature(s), and ODOT will contact the Service so the site may be evaluated with regard to the potential presence of federally-listed cave species. No fill materials will be placed into these features until the Service has the opportunity to thoroughly investigate the site. Given the implementation of these karst BMPs, this project may affect, not likely to adversely affect, the Ozark cavefish.

Suitable habitat for the Interior Least Tern and Piping Plover was not observed within the proposed project area during the field site investigation. Based on a 2003 aerial photo, however, sandbars occurred within the overflow area of Big Cabin Creek and immediately south of the bridge during lower water levels. Given that the project area is only within the probable migratory pathway of the Interior Least Tern and Piping Plover, it is unlikely either species would be in the project vicinity during low water levels. The ODOT biologist will examine the project site at Big Cabin Creek, during either the spring or fall migration period, within one-year prior to construction. If no terns or plovers are observed, the project can proceed without significantly impacting these species. If either species is observed, commencement of the Big Cabin Creek bridge will be scheduled outside of the migration periods, when terns and plovers would not be present. Given the implementation of the avoidance and impact minimization measures discussed above, the project may affect, not likely to adversely affect, the Interior Least Tern and Piping Plover.

Although several drainages within the project study area flow through emergent/forested wetlands that may provide suitable habitat for the Arkansas darter, the project site is not within a watershed known to support this species. Nor will it impact a waterbody that flows into waters known to harbor this species. Therefore, the proposed project will have no effect on Arkansas darter.

Suitable habitat for the American burying beetle occurs within the project study area. Therefore, the project has been incorporated into the programmatic biological assessment and the Service has concurred with ODOT's effects determination for the ABB, based on the ODOT's and FHWA's implementation of the Services's July 16, 2008 biological opinion.

Your concurrence in this matter is respectfully requested. If you have any questions or comments regarding this request or need additional information, please contact me at (405)521-2515.

Sincerely,

Julianne W. Hoagland

ODOT Natural Resources Biologist

Enclosures



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Division of Ecological Services 9014 East 21st Street Tulsa, Oklahoma 74129 918/581-7458 / (FAX) 918/581-7467

October 16, 2008



Ms. Julianne W. Hoagland Environmental Programs Division, Room 3D2a Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 73105-3204

Dear Ms. Hoagland:

Thank you for your September 9, 2008, letter requesting that the U.S. Fish and Wildlife Service (Service) provide comments regarding the proposed improvements to State Highway 28 [Project Number SSP-155E(581)EC; JP 24382(04), 21909(04), 23270(04)] in Mayes County, Oklahoma. The project begins at the intersection of SH-28 and US-69 in Adair, OK, and extends east to the SH-28 and SH-82 intersection near Langley, Oklahoma. Mayes County commissioners propose to widen the existing SH-28 from a two-lane facility to four lanes, in addition to bridge replacements over Rock Creek and Big Cabin Creek. Our comments are provided in accordance with section 7 of the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), and the National Environmental Policy Act (NEPA). In addition, the Service is providing comments with respect to wetlands and other important fish and wildlife resources.

Threatened and Endangered Species

The Service concurs with the Oklahoma Department of Transportation's (ODOT) effects determination for the American burying beetle *Nicrophorus americanus*. Our concurrence is based on the ODOT's and Federal Highway Administration's implementation of the Service's July 16, 2008, biological opinion.

Suitable foraging habitat and possible roosting sites for the federally-listed gray bat *Myotis grisescens* occur within the construction area. An inspection of the bridge structures should be made between April 1 and September 30, no more than one year prior to initiation of project construction. If evidence of use by the gray bat is observed during these surveys, if the gray bat is observed at the site at any point prior to or during construction, or if caves or sinkholes are encountered at any point during project construction, ODOT should notify and further consult with the Service. Additionally, disturbance to areas outside of the required construction footprint of this project should be minimized to reduce any impact to potential gray bat foraging areas. If no evidence of gray bat use of the existing bridge structures is found, the Service concurs that the proposed activities are not likely to adversely affect the gray bat.

Ms. Hoagland 2

Given the implementation of the karst Best Management Practices (BMPs) described in the Biological Evaluation (BE), the Service concurs that the proposed activities are not likely to impact the federally-listed Ozark cavefish Amblyopsis rosae. Given the implementation of the avoidance and impact minimization measures described in the BE regarding the piping plover Charadrius melodus and the interior least tern Sterna antillarum, the Service concurs that the proposed activities are not likely to impact the federally-listed piping plover or interior least tern.

Additionally, the Service concurs that the proposed activities would not impact the Arkansas darter *Etheostoma cragini*.

Migratory Birds

Migratory bird species are protected under the MBTA (16 U.S.C. 703-712: Ch. 128 as amended). The MBTA prohibits the take of any migratory bird without authorization from the Service. Because riparian areas often provide important breeding and nesting habitat for migratory birds, we recommend that construction be scheduled prior to or after the migratory bird nesting season. For most species in Oklahoma, nesting activity typically commences in April and continues through July. If proposed actions would occur during the nesting season, we recommend you survey for the presence of nesting migratory birds. If active nests are found, a buffer should be established around the nest and activities within the buffer cease until nesting activity concludes.

Wetlands and Other Important Fish and Wildlife Resources

According to the Service's National Wetland Inventory and findings provided in your BE, several wetlands occur within the project area. The Service recommends impacts to wetland areas be avoided or minimized to the greatest extent practicable. Wetlands, streams and riparian zone habitat provide cover, breeding and foraging areas for native species of birds, mammals, amphibians and reptiles. Riparian vegetation serves as a buffer to protect the watercourse from non-point source pollution by filtering sediments and capturing and breaking down nutrients and water pollutants, and increases soil strength and stability (FISRWG, 1998). Riparian areas also provide shade for the stream channel and serve as important movement corridors for wildlife.

We recommend you contact the U.S. Army Corps of Engineers (Corps) (918/669-7400) concerning any Section 404 permit requirements associated with these projects. Before submitting a 404 permit application to the Corps, we recommend that all practicable alternatives be assessed and included in any permit application. We strongly recommend any proposed project utilize the least environmentally damaging alternative. The Service likely will seek mitigation for unavoidable impacts to wetlands and other important fish and wildlife habitats.

The Service also recommends the ODOT specify in the project plans that the applicable standard environmental measures, as dictated by Federal regulation and ODOT's 1999 Standard Specifications for Highway Construction, be implemented. During our review of your proposed projects, the Service assumes that all applicable standard environmental measures will be utilized

Ms. Hoagland 3

during the construction process. Implementation of these measures often ensures that environmental impacts are avoided or minimized. For all future proposed projects submitted to the Service for review, reference to implementation of the applicable standard environmental measures should be stated in the project plans.

Please provide the Service with a copy of all final decision documents associated with this project. Final decision documents include the issued permit or license, final environmental impact statement, record of decision, and integrated natural resource management plan or similar document. These decision documents advise the Service of the final specifications of the proposed projects and should indicate which of the measures recommended for the protection of fish and wildlife resources are to be implemented. We also request that if any of the Service's recommended measures are not to be implemented, you provide us with a written narrative explaining why these measures were not implemented.

We appreciate the opportunity to provide comments. If you have any questions or need additional assistance with this project, please contact Angela Brown of this office at 918/581-7458.

Sincerely,

Jerry J. Brabander Field Supervisor

References

FISRWG. 1998. Stream Corridor Restoration: Principles, Processes, and Practices. By the Federal Interagency Stream Restoration Working Group (FISRWG) (15 Federal agencies of the U. S. Government). GPO item No. 0120.A; SupDocs No. A 57.6/2:EN 3/PT.653. ISBN-0-934213-59-3.

Oklahoma Department of Transportation Endangered Species Act Section 7 Biological Assessment **Bald Eagle Assessment**

Jurisdictional Waters and Wetlands Evaluation

County:

Mayes

Let Date:

2013

J/P Number:

24382(04), 21909(04) & 23270(04)

Project Number:

SSP-155E(581)EC

Prepared by:

The Benham Companies (report enclosed)

Report Date:

August 26, 2008 Concurrence Date: October 16, 2008

NEPA Coord: Laurie Effinger

1. Project Description

Project Name: State Highway 28 Adair to Langley a.

Work Description: Widen existing 13 miles of SH28 from 2-lane to 4-lane b.

C. Footprint acreage: 788

2. Federally Listed Species Effect Determinations

Species	Listing Status	Effect Determination & Concurrence	USFWS Concurrence Requirements
American Burying Beetle	Endangered	May affect, adversely affect	ABB BO
Gray Bat	Endangered	May affect, unlikely to adversely affect	bridge surveys, riparian vegetation mitigation & karst BMPs
Interior Least Tern	Endangered	May affect, unlikely to adversely affect	migration survey
Ozark Cavefish	Threatened	May affect, unlikely to adversely affect	Karst BMPs
Piping Plover	Threatened	May affect, unlikely to adversely affect	migration survey
Arkansas Darter	Candidate	no effect	none

- Acres of ABB suitable habitat: 150 acres 3.
- Bald Eagle Assessment: Project not expected to impact the Bald Eagle 4.
- 5. Plan Notes:
 - Include ABB Special Provision 656-4. a.
 - b. Karst Ecosystem Plan Note:

Karst ecosystems, that provide habitat for Ozark cavefish and gray bats, occur within Mayes

County. If caves, sinkholes or springs are encountered within the project limits at any point during project construction, a no-work zone extending 300 feet in all directions must be established around the newly discovered feature, and the Contractor and Resident Engineer will immediately contact the Department Natural Resources Biologist in the Environmental Programs Division at (405) 521-2515. Information regarding the conservation of karst ecosystems, including recommended best management practices for construction projects in karst areas, is available at the USFWS website at URL http://www.fws.gov/southwest/es/Oklahoma/sect7.htm

c. Gray Bat Plan Note:

Suitable gray bat foraging habitat and possible roosting sites exist within the project area. The existing bridge structures shall be surveyed for evidence of gray bat use (between April 1, and September 30) within 1 year prior to the initiation of construction activities. If bat use is observed, further consultation with the Service will be required. Disturbance to areas outside of the required construction footprint (normally the toe of slopes or top of cuts) shall be minimized. The removal of riparian vegetation shall be limited to what is necessary for project construction and restricted to the actual construction footprint. Woody riparian vegetation unavoidably lost due to construction, in areas outside the clear zone and within ODOT's final permanent right-of-way, will be replaced with native riparian tree species, if sufficient right of way exists. If the gray bat is observed at the project site at any point prior to or during construction, the Contractor and Resident Engineer shall immediately contact the Department Natural Resources Biologist in Environmental Programs Division at (405) 521-2515. Information regarding the gray bat, including photographic images and life history characteristics can be found a t URL http://www.fws.gov/southwest/es/Oklahoma/graybat.htm.

d. \ Interior Least Tern and Piping Plover Plan Note:

Suitable migratory loafing and foraging habitat exists during the spring and fall for Interior Least Tern and Piping Plover within and adjacent to the Big Cabin Creek Bridge project area. An Interior Least Tern and Piping Plover migration survey will be conducted between August 1, and September 30, or April 1, and May 31, within 1 year prior to initiation of construction activities. If either species is observed at the proposed project site during the survey, commencement of the Big Cabin Creek bridge will be scheduled outside of the migration periods listed above. If the Interior Least Tern or Piping Plover is observed at the project site at any point prior to or during construction, or evidence of use of the project site by either species is observed, the Contractor and Resident Engineer shall immediately contact the Department Wildlife and Natural Resources Biologist at (405)521-2515. Information regarding the Interior Least Tern and Piping Plover, including photographic images and life history characteristics can be found at URL http://www.fws.gov/southwest/es/Oklahoma/plover.htm

Waterbody	Type	Total number	Acres (within OHWM)	Linear Feet
Wetlands	Emergent	23	6.85	
Wetlands	Emergent/shrub	1	0.66	
Wetlands	Forested	14	33,72	
Total Wetlands	il i	38	41.23	
Pond/Open Water		31	7.88	
Perennial Stream	Rock Creek	1	2.26	813
Perennial Stream	Big Cabin Creek	1	6.20	515
Other Drainages		28	4.03	16,334
Total Drainages		30	12.49	17,662

Prepared by:

Julianne W. Hoagland

ODOT Wildlife and Natural Resources Biologist

Date:

October 30, 2008

cc;

Project Management Division 8

APPENDIX G FLOODPLAIN MAPS



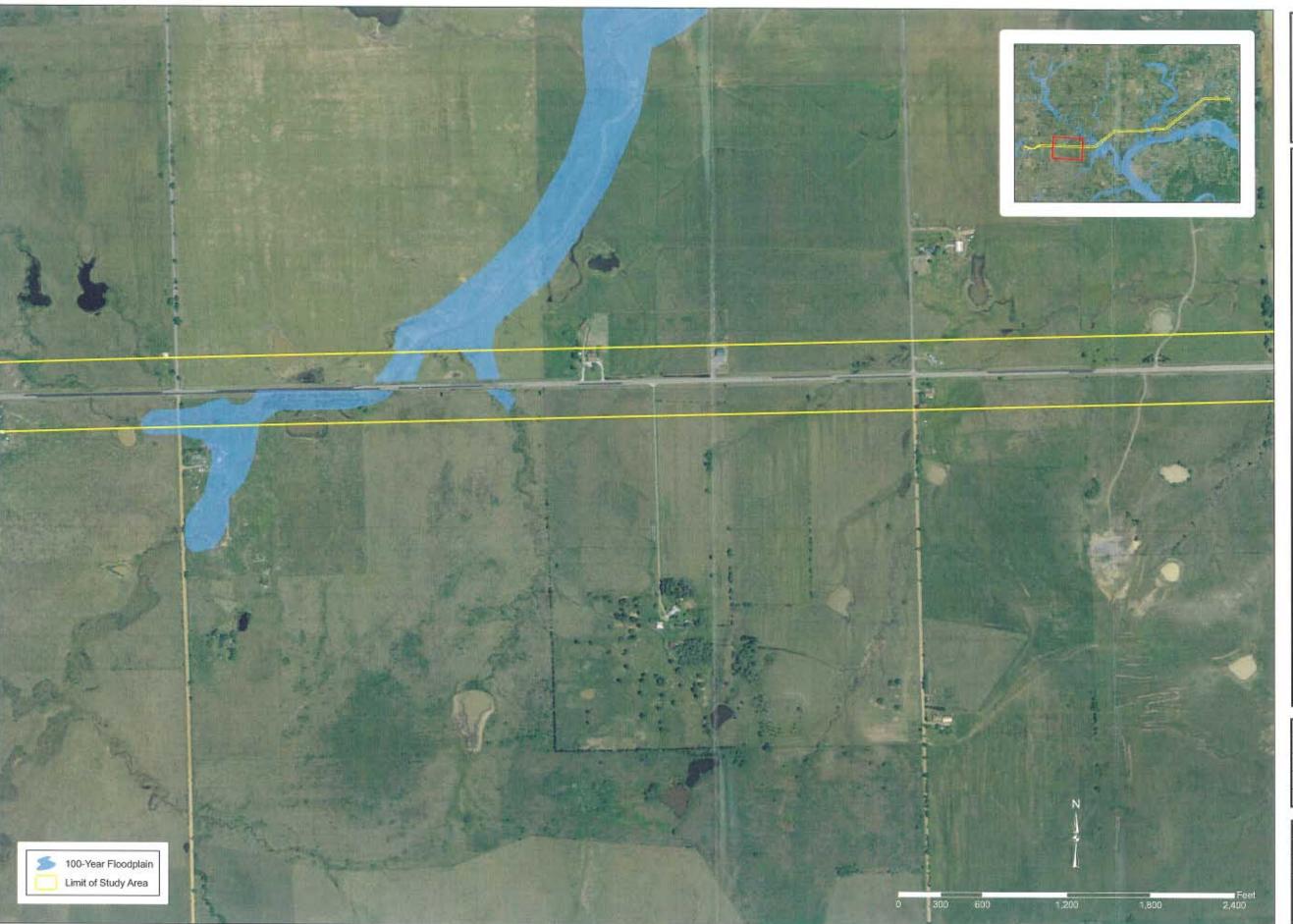


The Benham Companies, LLC 3700 W. Robinson, Sure 200 Norman, OK 73072 (405) 321-3885 www.benham.com

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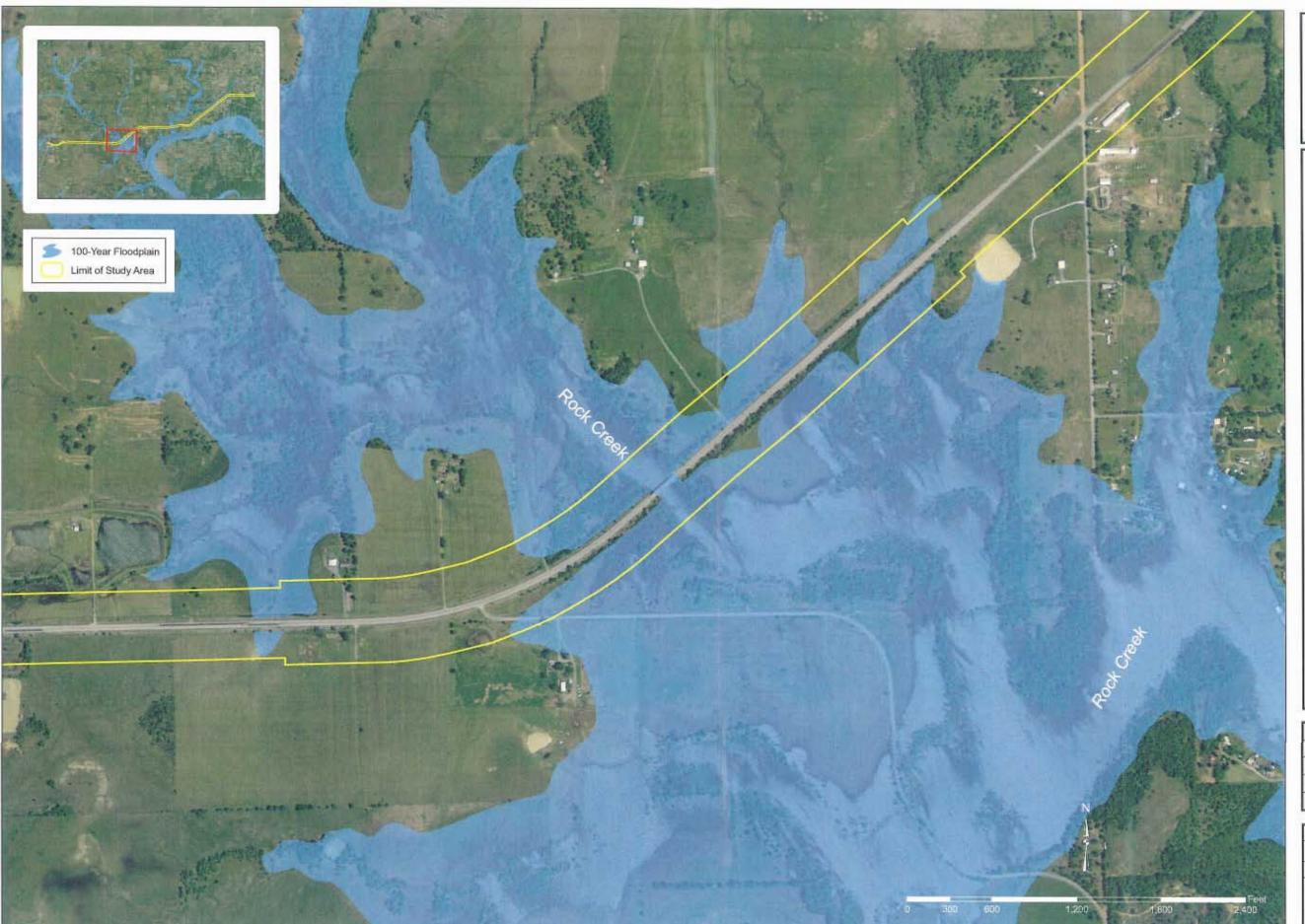


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The Benham Companies, LLC 3700 W. Robinson, Suite 200 Norman, OK 73072 (405) 221-3806 www.besham.com

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The Benham Companies, U.C 3700 W. Robinson, Sale 200 Norman, OK 73972 (405) 321-3850 www.binham.com

Figure Title

Document Title
Environmental Assessment

Client
Oklahoma Department of Transportation

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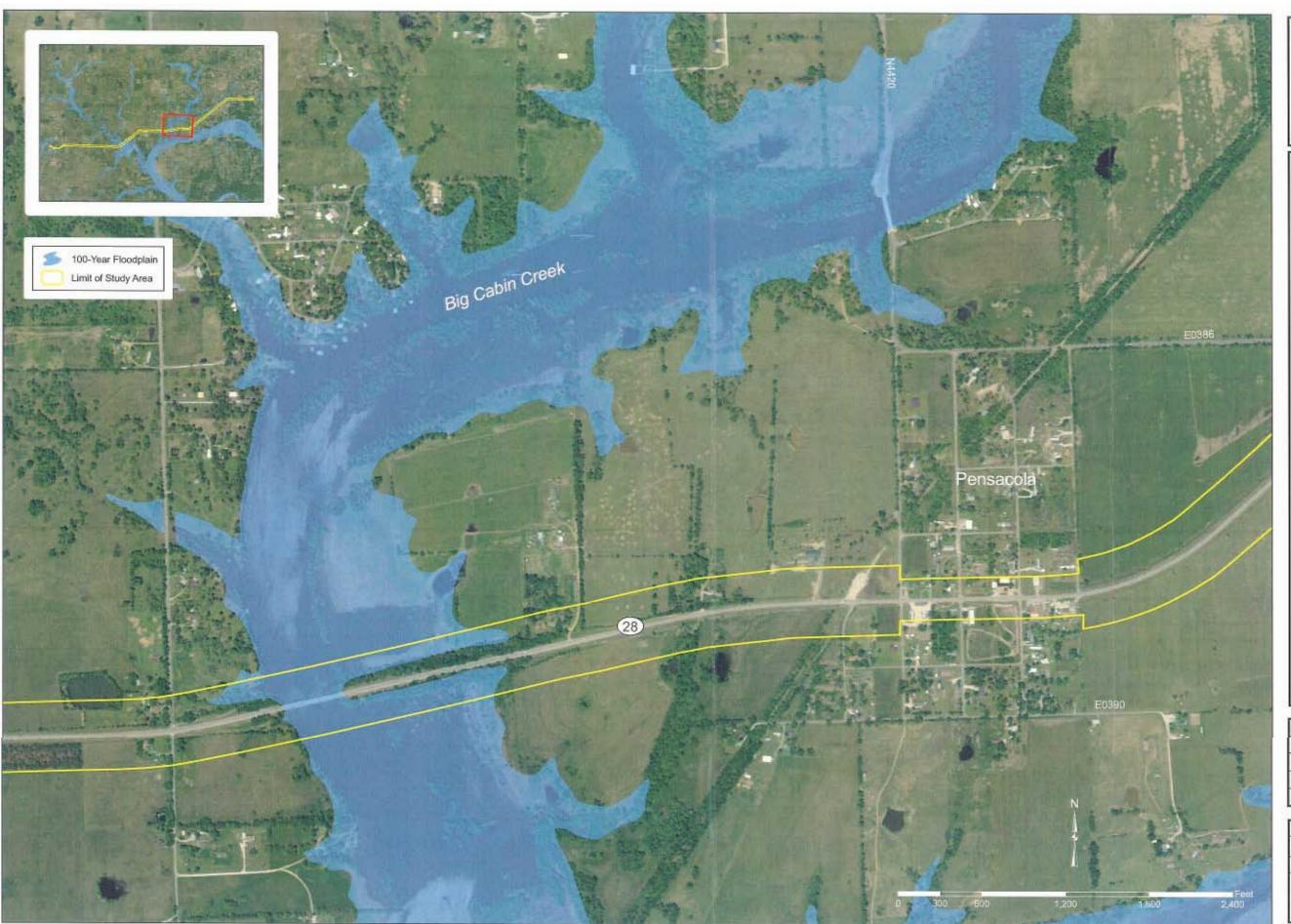
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The Benham Companies, LLC 3700 W. Robinson, Suite 200 Norman, OK 73072 (405) 321-3895 www.banham.com

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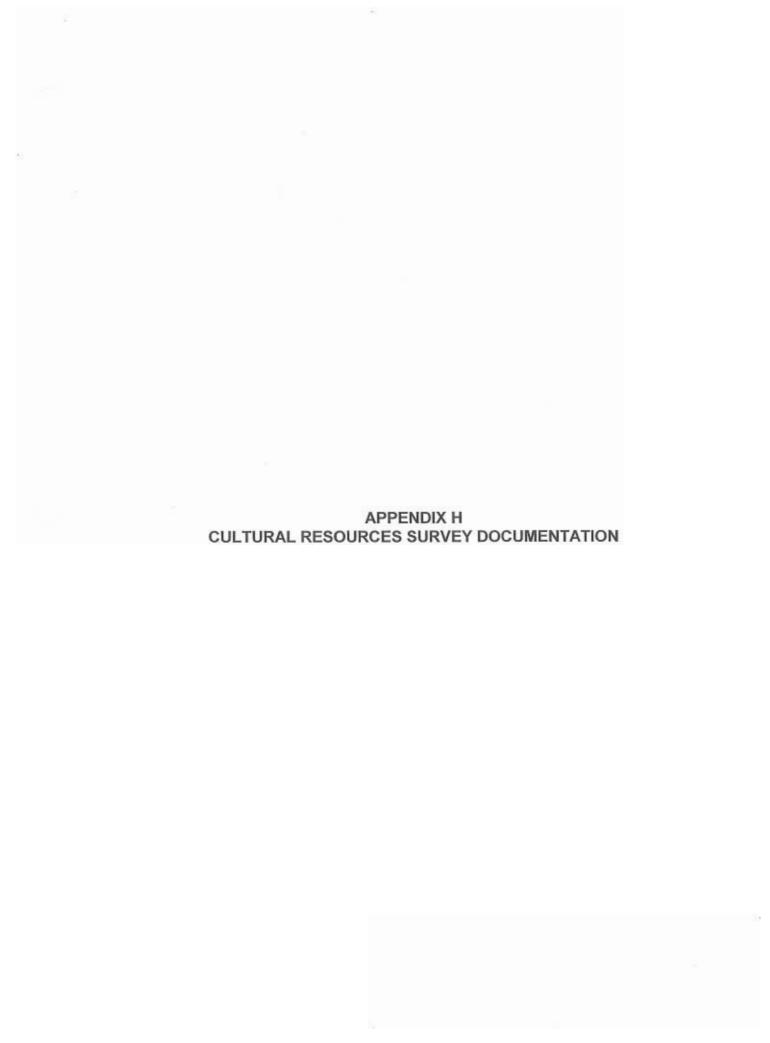


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CULTURAL RESOURCES SURVEY DOCUMENTATION

Information regarding the location, character, and ownership of cultural resources contained in this section is protected from general public disclosure by Section 304 of the National Historic Preservation Act. Prior authorization pertaining to release of this information must be obtained from the Oklahoma department of Transportation and the Federal Highway Administration.

Requests for the cultural resources study report prepared for this Environmental Assessment may be submitted in writing to:

Environmental Program Division Engineer
Oklahoma Department of Transportation
200 N.E. 21st Street
Oklahoma City, Oklahoma 73105-3204

APPENDIX I INITIAL SITE ASSESSMENT

SH 28 IMPROVEMENTS, ADAIR TO LANGLEY, MAYES COUNTY, OKLAHOMA

INITIAL SITE ASSESSMENT EC-1097A, TASK 9, JP 21909(04), 24382(04), and 23270(04)

> Prepared for: Oklahoma Department of Transportation 200 N.E. 21st Street Oklahoma City, Oklahoma 73105-3204

> > Prepared by: The Benham Companies, LLC Infrastructure and Environment 3700 West Robinson, Suite 200 Norman, OK 73072 405/321-3895 405/364-1708 (fax)

> > > December 2008

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ACRONYMS AND ABBREVIATIONS

EDR ISA Environmental Data Resources, Inc. Initial Site Assessment



OKLAHOMA DEPARTMENT OF TRANSPORTATION SH 28 IMPROVEMENTS MAYES COUNTY, OKLAHOMA INITIAL SITE ASSESSMENT EC-1097A, TASK 9, JP 20956(04) & 20957(04) DECEMBER 2008

1.0 INTRODUCTION

1.1 REPORT SUBJECT AND PURPOSE

ODOT is proposing to improve SH 28 from the town of Adair to the town of Langley, Oklahoma. The improvements will address safety issues, as well as bridge replacements over Rock Creek and Big Cabin Creek. The total project length is approximately 13 miles. The project area is located in Sections 36, 35, 34, 26, and 25 of Township 23 North, Range 19 East; Sections 30, 31, 32, 29, 28, 27, 26, 23, 24, 22, and 21 of Township 23 North, Range 20 East; and Sections 19, 18, 17, 19, and 9 of Township 23 North, Range 21 East in Mayes County, Oklahoma. The coordinates of the project centroid are 36.454331 N, -95.159502 W (GCS NAD83). The project begins at the intersection of SH 28 and US 69 in Adair, Oklahoma and extends easterly to the SH 28 and SH 82 intersection near Langley, Oklahoma.

This Initial Site Assessment (ISA) has been conducted to identify sites that may have the potential to adversely impact area soils, air, surface water, and/or groundwater. A Study Area was identified along the SH 28 corridor that was 500 feet wide and centered on the existing roadway. The Study Area narrowed to a width of 200 feet through the towns of Adair, Pensacola, and Langley. This ISA consisted of a database search by Environmental Data Resources, Inc. (EDR) located in Milford, Connecticut, for known environmental issues reported by Federal, State and/or Local regulatory agencies; a review of historic aerial photographs and historic oil/gas well mapping; and a field review of the Study Area. A site map of the project is provided in Figure 1.

1.2 REPORT ORGANIZATION

This ISA contains a summary of the EDR database search results (Section 2.0), a summary of the aerial photograph information (Section 3.0), a review of historic oil and gas well location mapping (Section 4.0), a summary of the field review results (Section 5.0), and a conclusions section (Section 6.0).

2.0 DATABASE SEARCH

EDR conducts reviews of available environmental records for known hazardous waste management sites, aboveground or underground storage tank sites, and similar potentially-impacted sites identified in the Study Area. Based on a review of available Federal and State environmental databases, the EDR database report obtained for this project identified three (3) sites within a 1/8th-mile radius of the Study Area. Several orphan sites were also listed in the report. Orphan sites are known environmentally-impacted sites which EDR has identified, but is unable to accurately locate or map. A copy of the EDR report, generated on May 20, 2006, is included as **Appendix A**.

A field review conducted on June 18, 2008 confirmed two of the three sites identified by the EDR report as being within 1/8th mile of the Study Area. These sites are identified as EDR Site 1, Speedy's, at the SH 82/SH 28 intersection, and EDR Site 2, Phillips 66, at the US 69/SH 28 intersection. EDR Site 3, the Town of Adair, was listed in the EDR report as having a drinking water system and a National Pollutant Discharge Elimination System (NPDES) permit. However, no environmental impacts are associated with either feature and, therefore, this site is not considered a concern. In addition to these two sites, the field review confirmed the location of two additional "orphan" sites. These sites are identified in the EDR report as Larry's Convenience Store and Mayes County Barn. Section 4.0 of this report discusses these sites, as well as others identified during the field review.

3.0 HISTORIC AERIAL PHOTOGRAPHS

The oldest aerial photograph readily available from Terraserver was dated 1995. A copy of that aerial photo is included in **Appendix B**. A review of the aerial photograph did not indicate any previous sites in the Study Area where hazardous materials may have been stored or managed.

4.0 HISTORIC OIL/GAS WELL MAPPING

A map of historic oil and gas well locations was obtained for the Study Area from IHS Energy. The map is included as **Appendix C**. A review of the map did not indicate any historic oil or gas wells in the Study Area. A review of the Oklahoma Corporation Commission's oil and gas well database confirmed no historic oil or gas wells in the Study Area.

5.0 FIELD REVIEW

5.1 INTRODUCTION

A field review of the Study Area was conducted June 18, 2008 by personnel from The Benham Companies, LLC. The purpose of the field review was to visually assess the Study Area for potential hazardous waste sites. Standardized Land Use Windshield Survey forms were completed for the field review, and are included in **Appendix D.** Photographs are included in **Appendix E**.

5.2 FIELD REVIEW OBSERVATIONS

5.2.1 Sites of Potential Environmental Concern

During the field review, a total of 15 sites were identified that have the potential to be impacted from historical activities. A list of these sites is included as **Table 1**, and the site locations are indicated in **Figure 2**. Each site is discussed briefly in the following text.

The following sites were listed in the EDR report as having documented underground storage tanks (USTs):

Site 2 Lake Land Auto Sales (formerly Phillips 66 and so-listed in EDR)

Site 4 Mayes County Maintenance Yard

Site 5 Speedy's Phillips 66

In addition, two (2) aboveground storage tanks (ASTs) are present at the Mayes County Maintenance Yard (Site 4). Mayes County personnel indicate that the ASTs are a 6,000-gallon road oil tank, a 2,000-gallon diesel tank, and a 550-gallon gasoline tank. Soil staining was observed near the road oil tank, located approximately 160 feet north of SH 28. The Oklahoma Geological Survey has documented depths to groundwater in this area ranging from 5 – 10 feet below ground surface. The groundwater gradient in the vicinity of the Mayes County Maintenance Yard is unknown.

The following sites were observed during the field review and were either active gas stations or inactive facilities which had the appearance of former gas stations. Based upon field observations, each of these sites has the potential for undocumented USTs or ASTs:

Site 1 Okie Dokie Phillips 66

Site 3 Luther's Drive-In

Site 10 Jim's General Store (Tire Store)

Site 12 DD&L Motors

Site 13 Inactive Store

Site 14 Lakesport Conoco

Sites 1 and 14 are active gas stations. Sites 3, 12, and 13, based upon the appearance of the facilities, may have formerly been gas stations. Site 10 is currently a tire and general store, but was formerly a gas station. Six (6) ASTs within a secondary containment structure are located

immediately east of the building at Site 10. These ASTs vary in size from 1,000 gallon to 4,000 gallon. The current owner indicates that those ASTs did historically contain gasoline and diesel when the facility functioned as a gas station, but are now empty. Additionally, a 300-gallon AST currently contains kerosene for sale. The ASTs are located approximately 80 feet north of SH 28, and show no signs of staining. The Oklahoma Geological Survey has documented depth to groundwater in this area as being approximately 20 feet below ground surface. Based upon general area topography, groundwater gradient is likely to the south.

The following sites observed during the field review are engaged in some type of commercial activity with the potential for chemical usage and/or storage:

Site 6	Henson Manufacturing and Sales
Site 7	Jeff's Auto Repair & Service
Site 8	Gary's Auto Repair
Site 9	Bo's Paint & Body
Site 11	Rickner's ATV and Jet Ski Service

5.2.2 Utilities

Several utilities were noted during the field review, and are listed in **Table 2** and presented on **Figure 3**. A communications tower and miscellaneous large dishes are located within the project area, just east of Adair and on the south side of SH 28. A TDS Telecom building is located within the project area, approximately 1.5 miles west of Pensacola and on the south side of SH 28. Overhead electric lines are located on both the north and south sides of SH 28 at various locations throughout the Study Area.

The City of Adair provided sewer and water maps, and those lines located within the Study Area are indicated on **Figure 3**. Other utilities identified through conversations with staff from the Cities of Adair and Langley, conversations with the public, and review of the Oklahoma Water Resources Board rural water district database are also included on **Figure 3**.

6.0 CONCLUSIONS

Based upon review of the EDR database report, historic aerial photographs, historic oil/gas well mapping, and a field review of the Study Area, several sites of potential environmental concern have been identified within the Study Area. The sites are listed in **Table 1** and the locations are presented on **Figure 2**. No LUSTs were documented within the area, but there are several sites which historically or currently have UST or AST fuel storage. Because these sites either currently or historically may have used and stored chemicals onsite, there is the potential to encounter impacted soils and/or groundwater if construction activities require soil disturbance in the vicinity of the sites. Avoidance of these sites is recommended.

Of particular concern are the Mayes County Maintenance Yard (Site 4) and Jim's General Store, due to the proximity of their ASTs to SH 28 (i.e., 160 feet and 80 feet, respectively). ODOT may wish to consider adding plan notes regarding the potential to encounter hydrocarbon-impacted groundwater in the vicinity of these sites.

Several utilities are present within the Study Area, as listed in Table 2 and presented in Figure 3.

TABLES

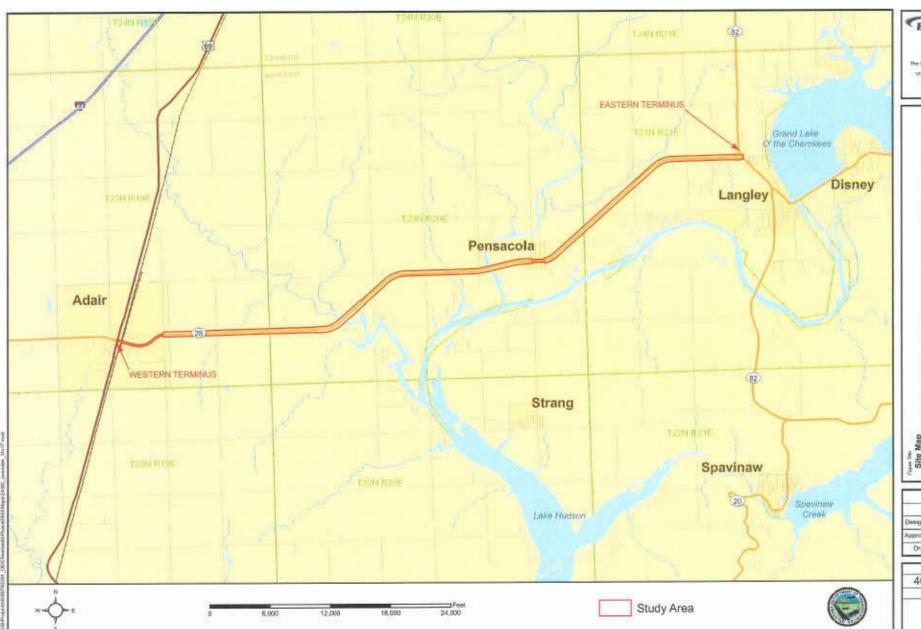
Table 1: Sites of Potential Environmental Concern, SH 28 Adair to Langley, Mayes County

Site Number	Site Name	Environmental Concern
1	Okie Dokie Phillips 66 SW corner of Main/US 69, Adair	Active Gas Station; Potential for USTs
2	Lake Land Auto Sales 205 S. Mayes, Adair, 918-785-6075	Former Gas Station; Five (5) documented closed USTs
3	Luther's Drive-In 310 E. Main, Adair 918-785-2733	Potentially Former Gas Station
4	Mayes County Maintenance Yard 107 E. Main, Adair 918-785-2449	Documented UST; Active AST
5	Larry's Convenience Store 601 E. Main, Adair 918-785-2357	Active Gas Station; Documented USTs
6	Henson Manufacturing and Sales 612-2 E. Main, Adair 918-785-2153	Potential for Chemical Usage/Storage
7	Jeff's Auto Repair & Service: AC Service & Repair 1727 Highway 28 E, Adair 918-785-3900	Auto Maintenance; Potential for Chemical Usage/Storage
8	Gary's Auto Repair Address Unavailable	Auto Maintenance; Potential for Chemical Usage/Storage
9	Bo's Paint & Body 5450 Highway 28 E, Adair 918-785-4747	Auto Maintenance; Potential for Chemical Usage/Storage
10	Jim's General Store Highway 28, Pensacola Jim Wilson at 918-782-3582	Former Gas Station; 3 Inactive UST Pumps Visible
11	Rickner's ATV and Jet Ski Repair 918-782-9898	Auto Maintenance; Potential for Chemical Usage/Storage
12	DD&L Motors 442285 Kentucky, Pensacola 918-782-0100	Potentially Former Gas Station
13	Inactive Store Address Unavailable	Potentially Former Gas Station
14	Lakesport Conoco Highway 28, Langley 918-782-3216	Active Gas Station; UST Pumps Visible
15	Speedy's Phillips 66 NE corner of SH 82/28, Langley 918-782-1125	Active Gas Station; UST Pumps Visible; Documented USTs

Table 2: Observed Utilities, SH 28 Adair to Langley, Mayes County

Utility Description	Notes	
Large Communication Antenna and Dishes	Utilities, South side of SH 28	
TDS Telecom Building	Utility; South side of SH 28	
Small Overhead Electric Lines	North side of SH 28 from Adair east to just past N/S 4390	
Big Overhead Electric Lines	North side of SH 28, at N/S 4400, approximately ½ mile	
Small Overhead Electric Lines	South side of SH 28 from just east of N/W 4400 to N/S 4440	
Small Overhead Electric Lines	North and south sides of SH 28 from N/S 4440 to Langley	

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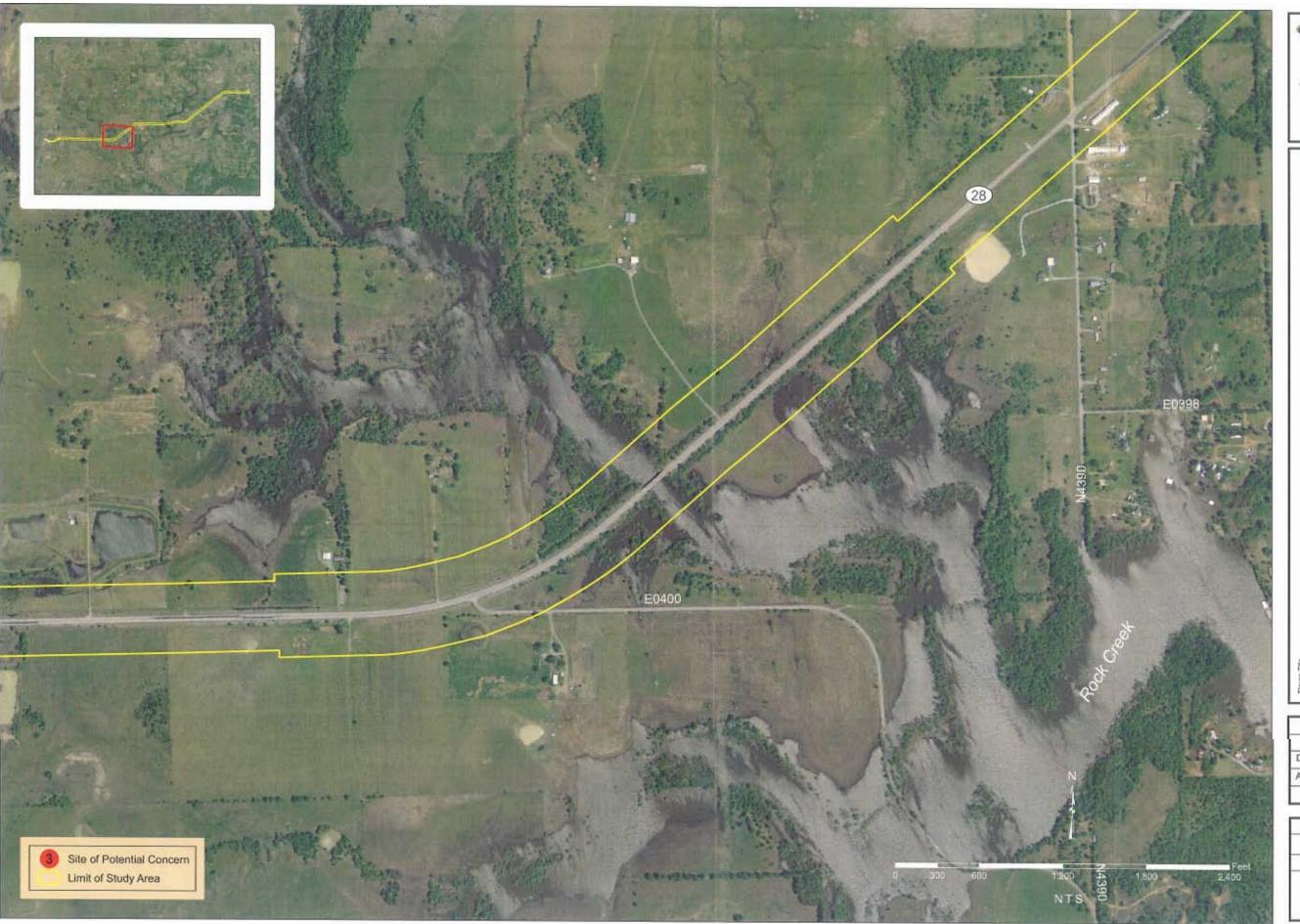


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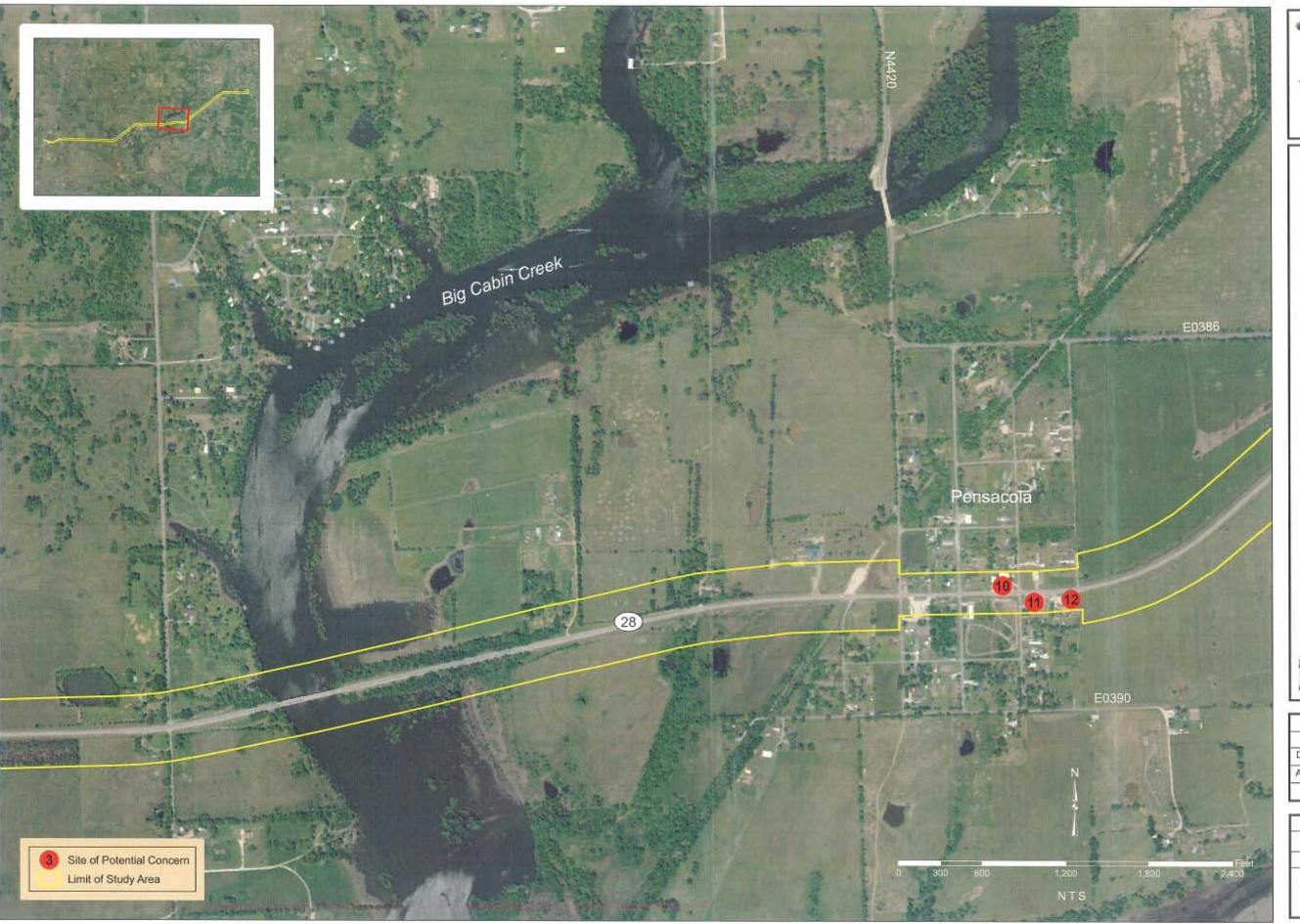
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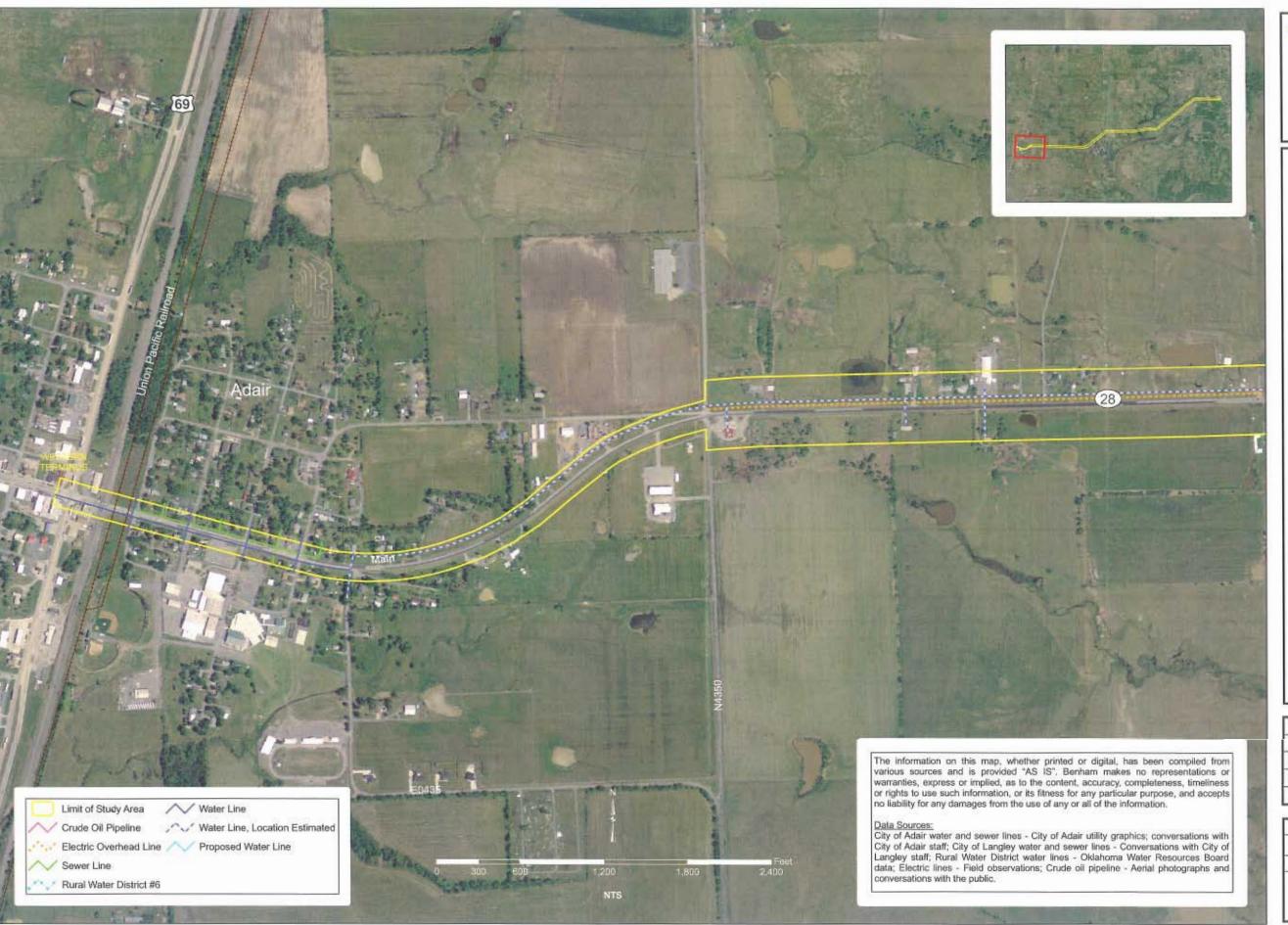


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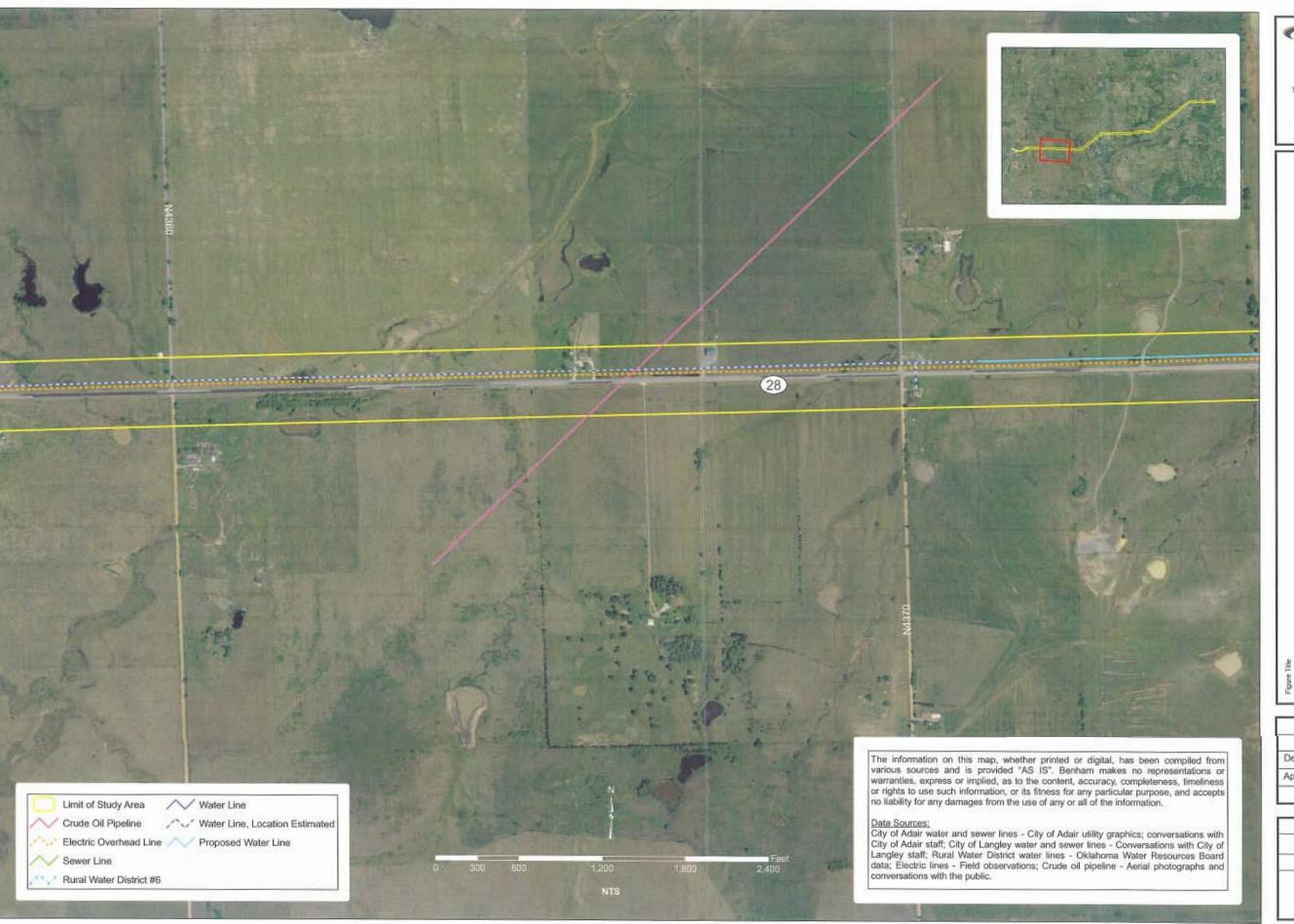


3700 W. Robinson, Suite 200 Norman, OK 73072 (405) 321-3895 sww.benham.com

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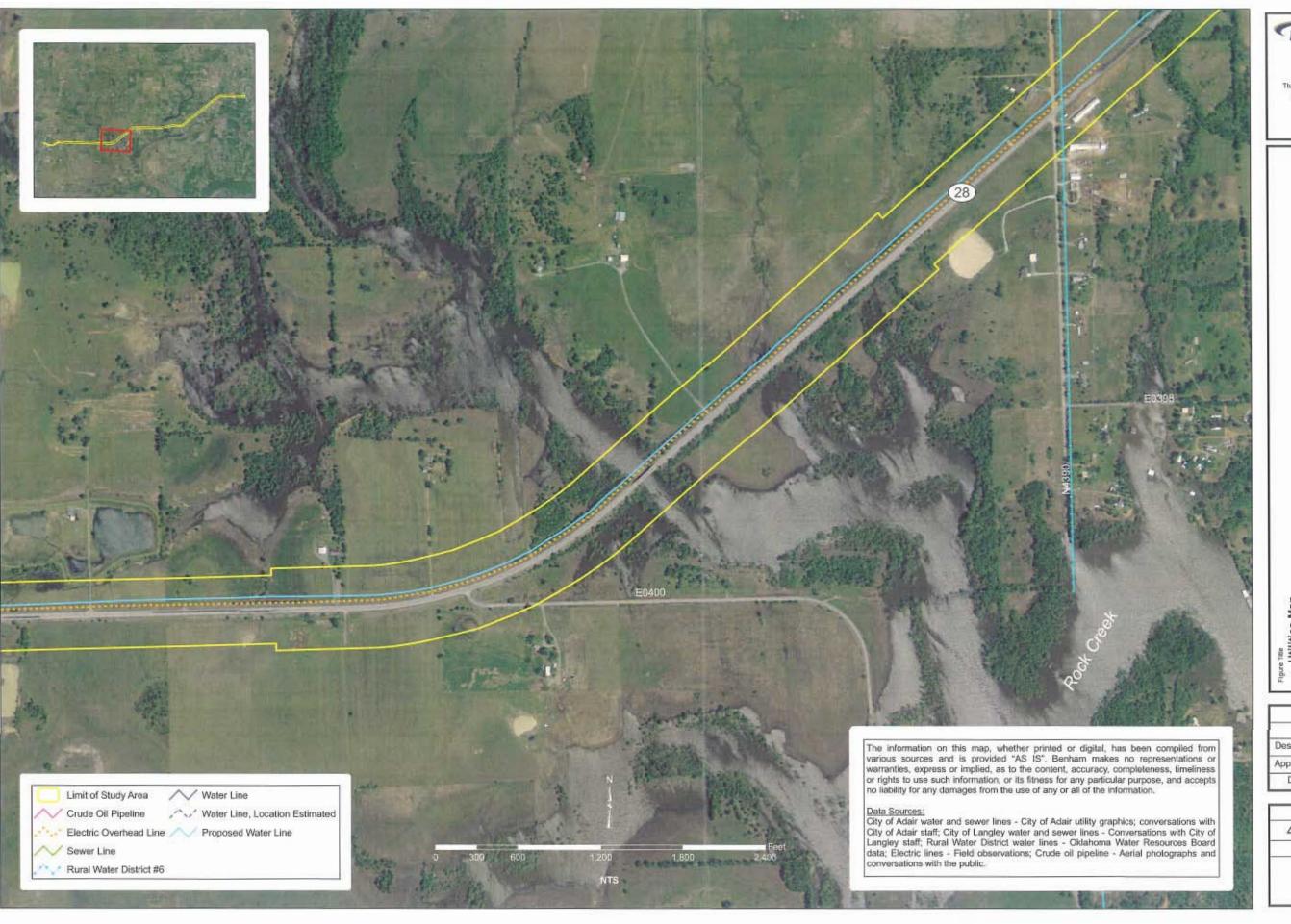


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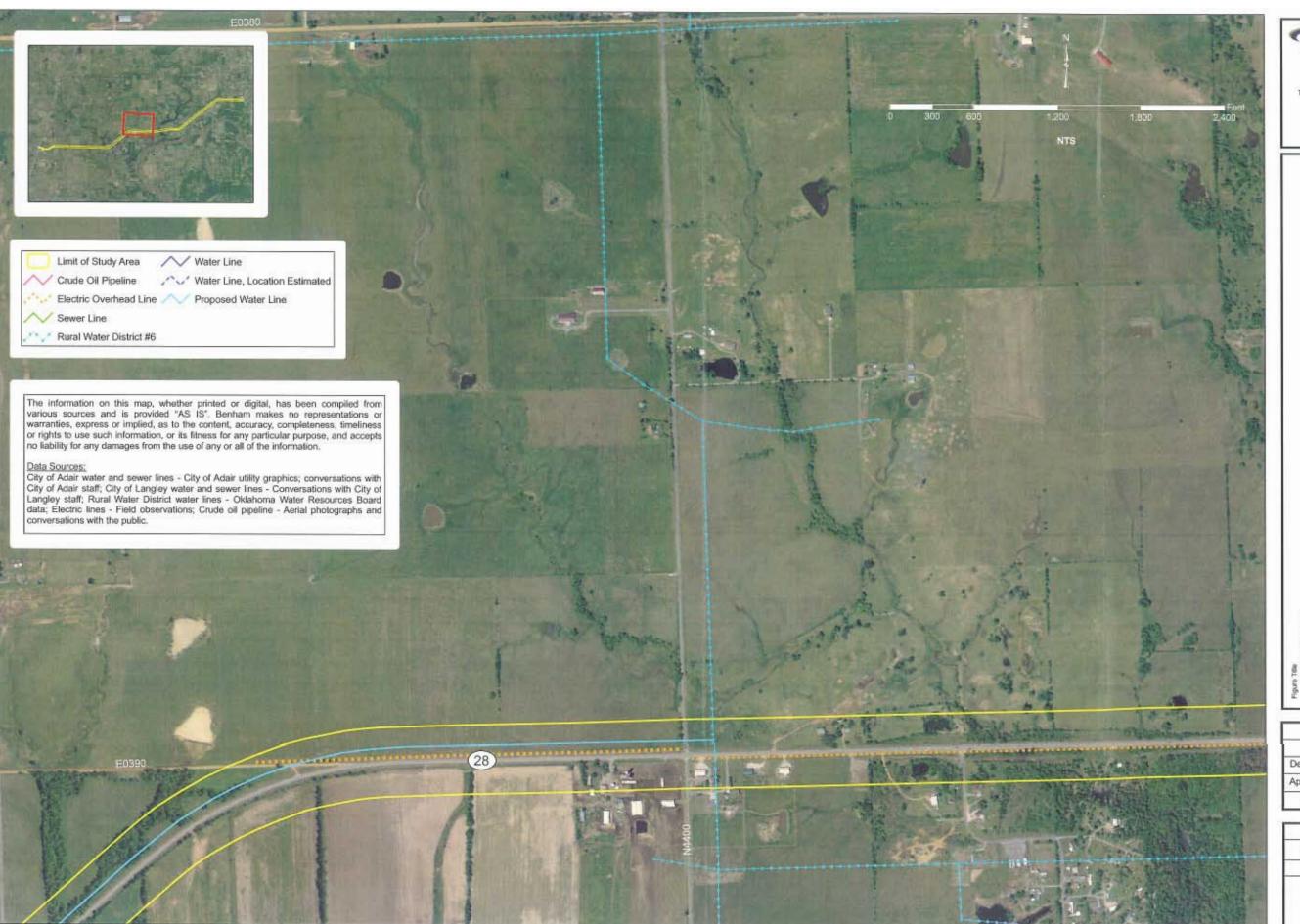


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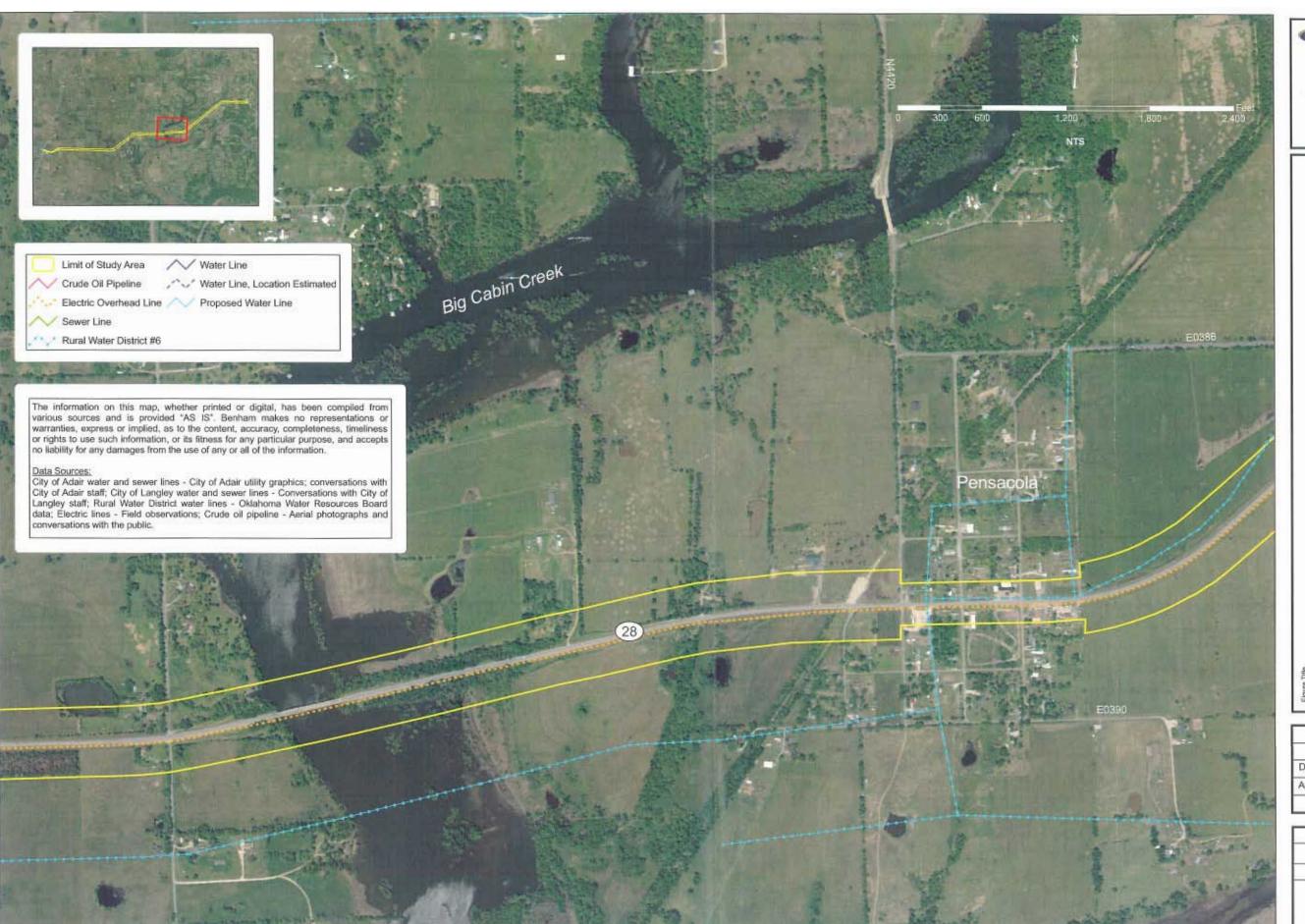


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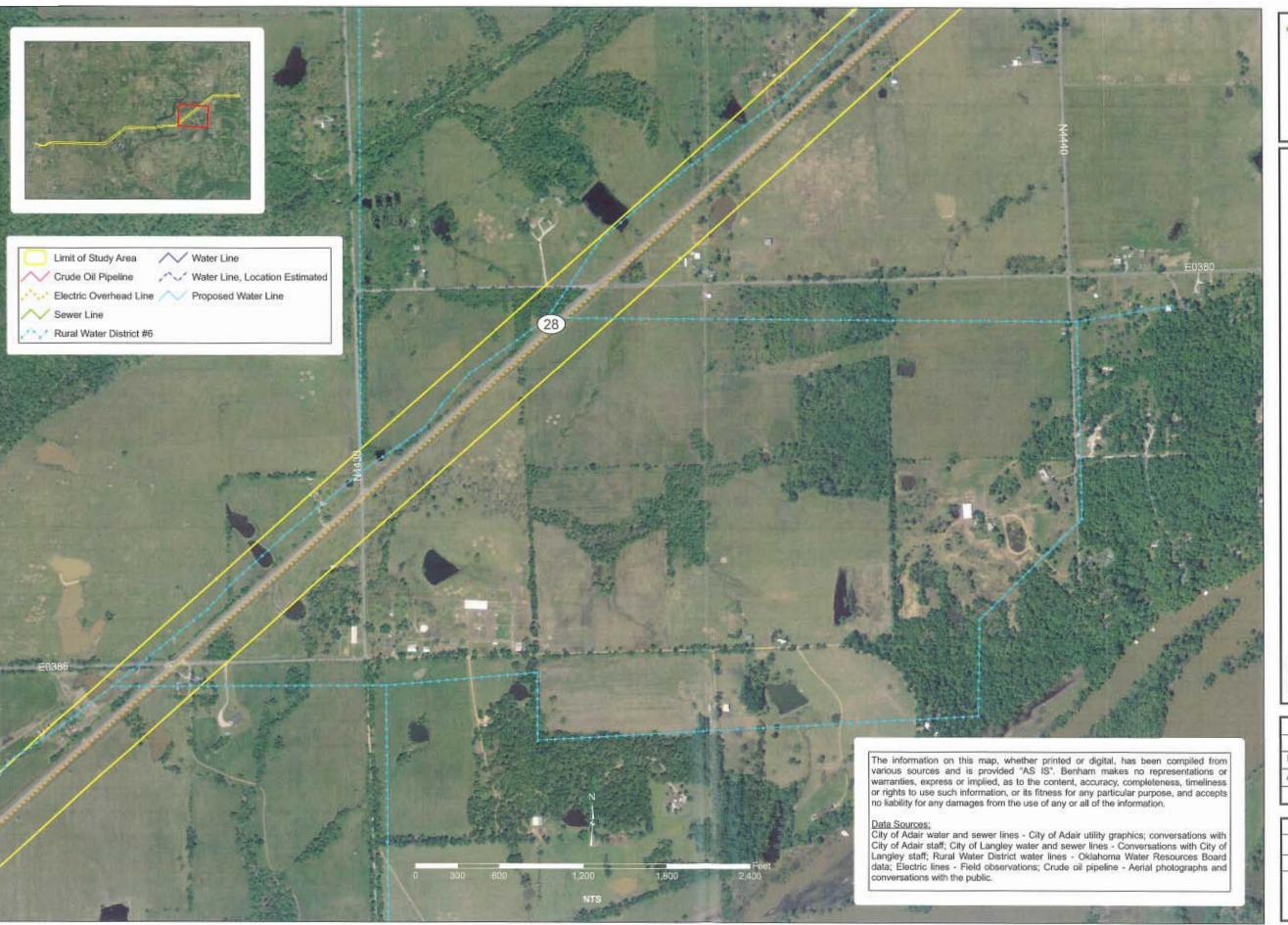


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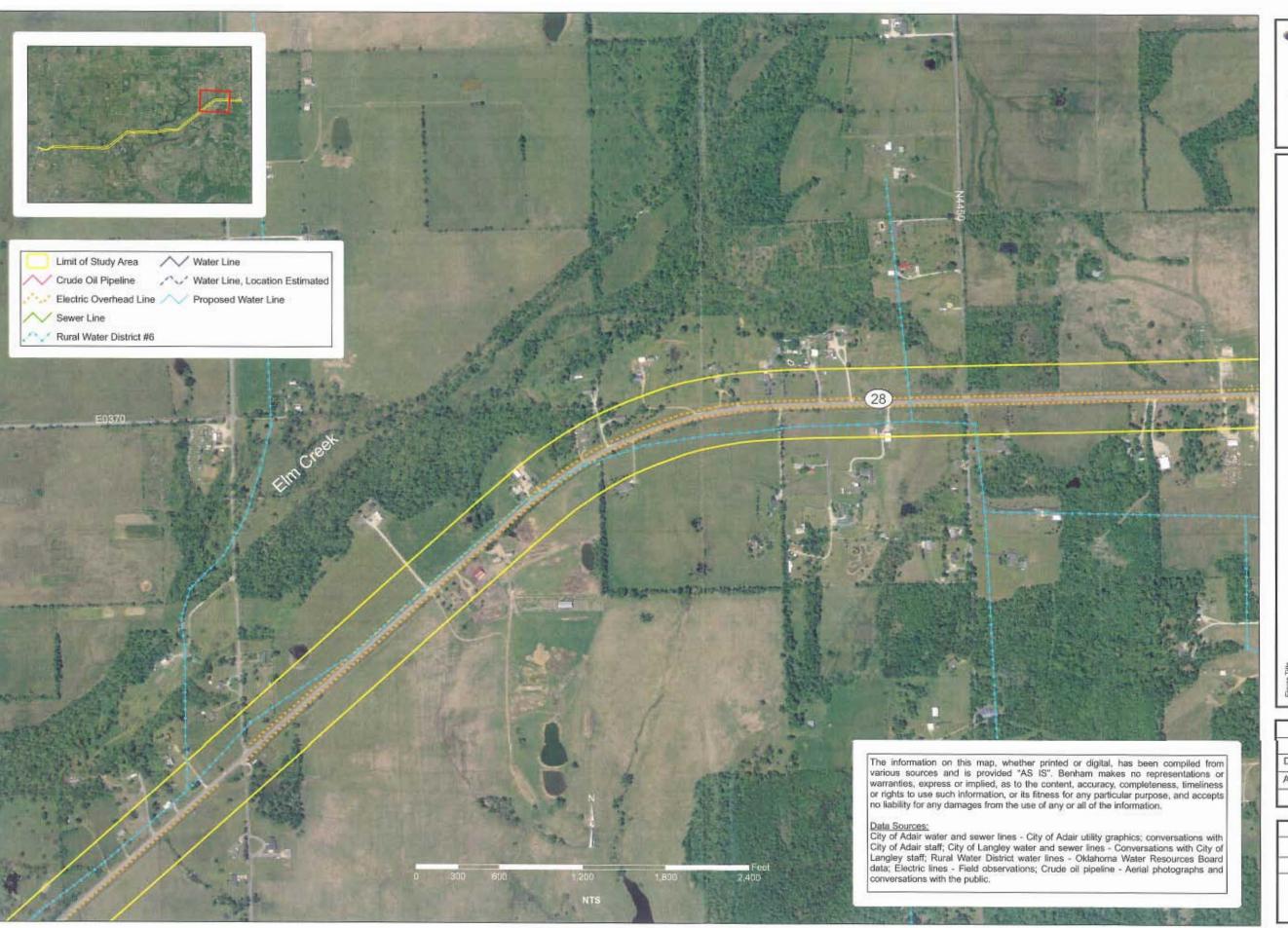


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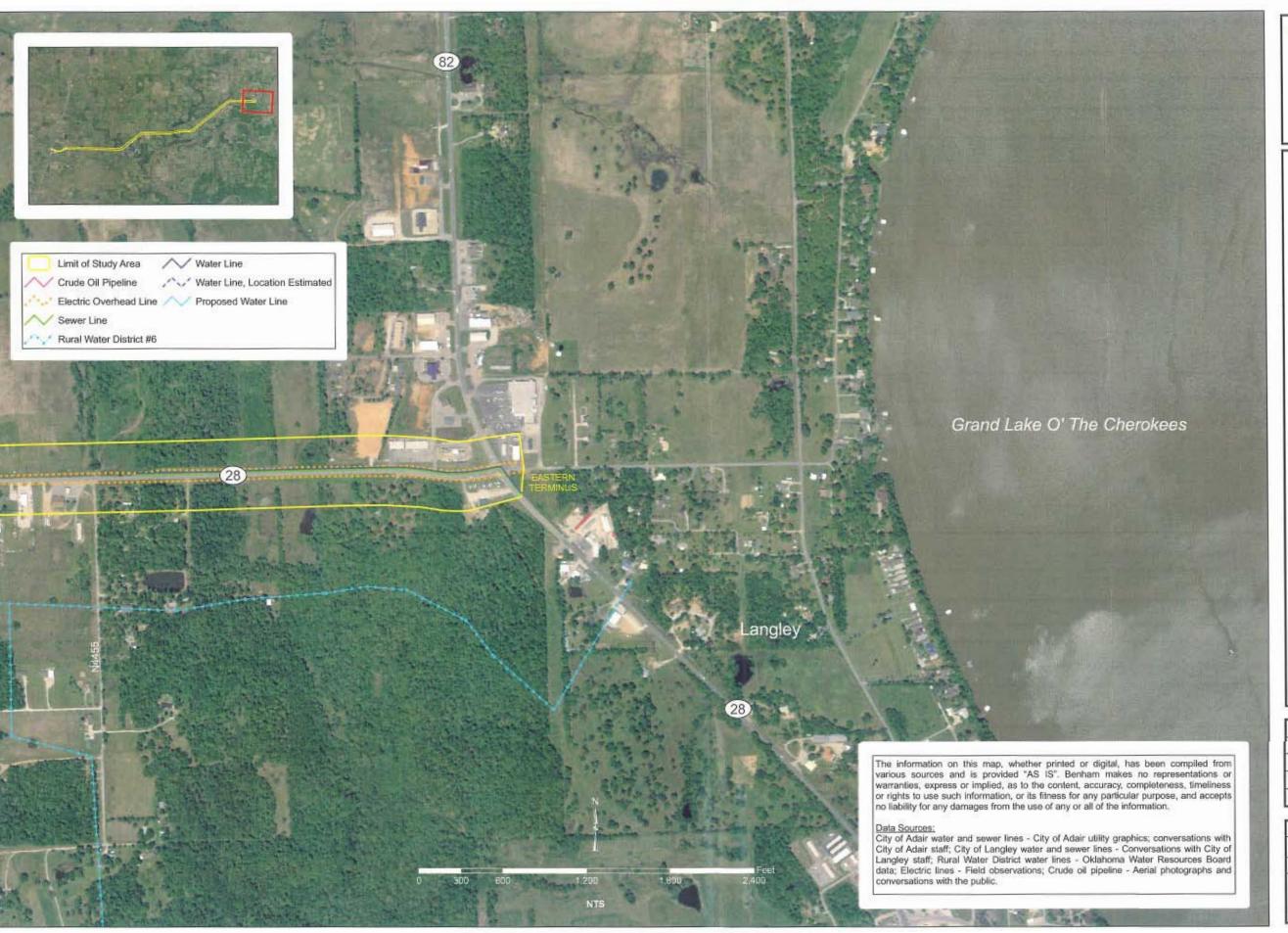


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APPENDICES

Appendix A EDR DataMap® Report, May 20, 2008 Highway 28 Mayes, OK

Inquiry number 02222334.1r May 20, 2008

EDR DataMap™ Environmental Atlas™



Thank you for your business.

Please contact EDR at 1-800-352-0050
with any questions or comments.

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CORRACTS RCRA-TSDF RCRA-LSQG RCRA-SQG RCRA-SQG RCRA-CESQG RCRA-NonGen US ENG CONTROLS US INST CONTROL ERNS HMIRS DOT OPS US CDL US BROWNFIELDS DOD FUDS LUCIS CONSENT ROD UMTRA ODI DEBRIS REGION 9 MINES TRIS TRIS TRIS TRIS TRIS TRIS TRIS HIST FITTS SSTS ICIS PADS MLTS RADINFO FINDS 1 RAATS STATE AND LOCAL RECORDS STATE AND LOCAL RECORDS STATE SHWS SWF-LF LUST UST 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
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STATE AND LOCAL RECORDS			
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SWF/LF 0 LUST 0 UST 2	STATE AND LOCAL RE	CORDS	
SWF/LF 0 LUST 0 UST 2		SHWS	0
LUST 0 UST 2			
UST 2			
			2

FOCUS MAP SUMMARY

	Database	Total Plotted	
	LAST	0	
	AST	0	
	INST CONTROL	0 0 0 0	
	VCP	0	
	DRYCLEANERS	0	
	BROWNFIELDS	0	
	AIRS	0 0	
	TIER 2	0	
	OK COMPLAINT	0	
TRIBAL RECORDS			
	INDIAN RESERV	0	
	INDIAN ODI	0 0 0	
	INDIAN LUST	0	
	INDIAN UST	0	
EDR PROPRIETARY R	ECORDS		
	Manufactured Gas Plants	0	
NOTES:			
Sites may be listed in m	nore than one database		

TARGET PROPERTY INFORMATION

ADDRESS

MAYES, OK ADAIR, OK 74301

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

National Priority List
Proposed National Priority List Sites
National Priority List Deletions
Federal Superfund Liens
Comprehensive Environmental Response, Compensation, and Liability Information System
CERCLIS No Further Remedial Action Planned
CERCLA Lien Information
_ Corrective Action Report
RCRA - Transporters, Storage and Disposal
RCRA - Large Quantity Generators
RCRA - Small Quantity Generators
RCRA - Conditionally Exempt Small Quantity Generator
RCRA - Non Generators
- Engineering Controls Sites List
Sites with Institutional Controls
Emergency Response Notification System
Hazardous Materials Information Reporting System
Incident and Accident Data
Clardestine Drug Labs
Clandestine Drug Labs A Listing of Brownfields Sites
Department of Defense Sites
Formerly Used Defense Sites
Land Use Control Information System
Superfund (CERCLA) Consent Decrees
Records Of Decision
Uranium Mill Tailings Sites
Open Dump Inventory
Torres Martinez Reservation Illegal Dump Site Locations
Mines Master Index File
Toxic Chemical Release Inventory System
Toxic Substances Control Act
FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide
Act)/TSCA (Toxic Substances Control Act)
FIFRA/TSCA Tracking System Administrative Case Listing
Section 7 Tracking Systems

ICIS...... Integrated Compliance Information System

PADS...... PCB Activity Database System MLTS...... Material Licensing Tracking System RADINFO...... Radiation Information Database

STATE AND LOCAL RECORDS

LUST..... Leaking Underground Storage Tank List LAST..... Leaking Aboveground Storage Tanks List

AST..... Aboveground Storage Tanks DRYCLEANERS..... Drycleaner Facility Listing

BROWNFIELDS..... Brownfield Sites

AIRS..... Permitted AIRS Facility Listing

TIER 2..... Tier 2 Data Listing
OK COMPLAINT..... Oklahoma Complaint System Database

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations

INDIAN LUST.....Leaking Underground Storage Tanks on Indian Land INDIAN UST...... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

The Map ID column refers to the Map ID-Focus Map(s) of the listed site.

Sites listed in bold italics are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS): Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRATSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 04/03/2008 has revealed that there is 1

FINDS site within the searched area.

 Site
 Address
 Map ID

 ADAIR, TOWN OF
 106 W MAIN ST
 3-11

STATE AND LOCAL RECORDS

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Oklahoma Corporation Commission's State UST List, List II Version.

A review of the UST list, as provided by EDR, and dated 01/28/2008 has revealed that there are 2 UST sites within the searched area.

Site	Address	Map ID	
SPEEDY'S #3	HWY 82 / 28	1-3	
PHILLIPS 66 CO #002263	MAIN STR / HWY 69	2-11	

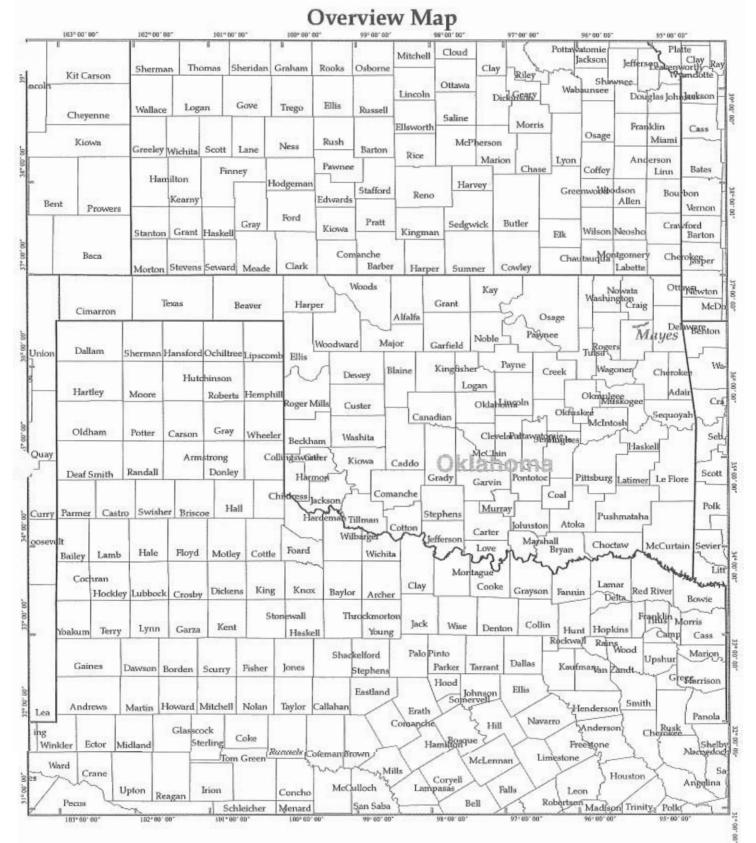
HIST UST: This underground storage tank listing includes tank information through March 2003. This listing is no longer updated by the Oklahoma Corporation Commission.

A review of the HIST UST list, as provided by EDR, and dated 03/21/2003 has revealed that there are 2 HIST UST sites within the searched area.

Site	Address	Map ID
SPEEDY'S #3	HWY 82 / 28	1-3
PHILLIPS 66 CO #002263	MAIN STR / HWY 69	2-11

Pl	ease refer to the end of the findi	ngs report for unmapped orp	ohan sites due to poor or inade	quate address informat	ion.
		#i			
				2	

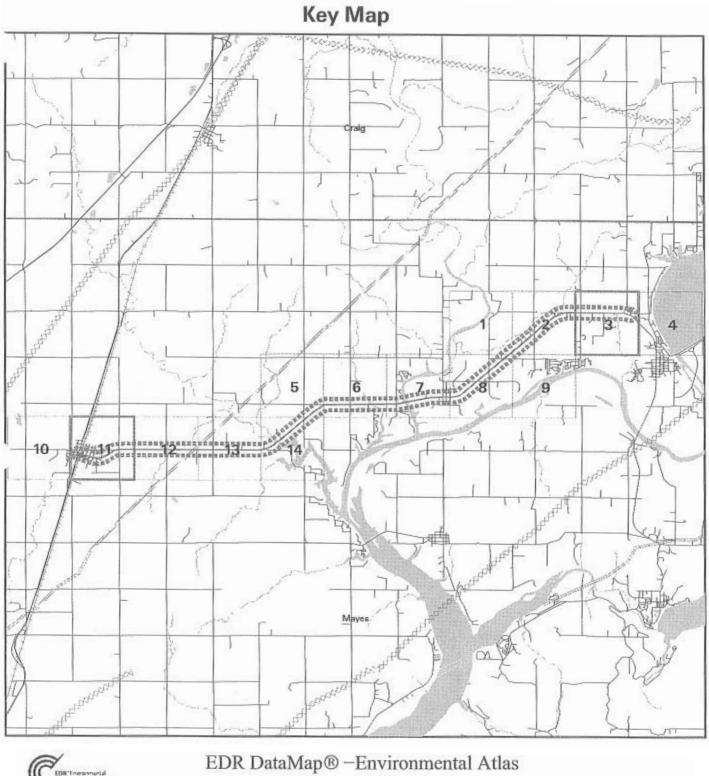
Section 1 Overview and Key Map

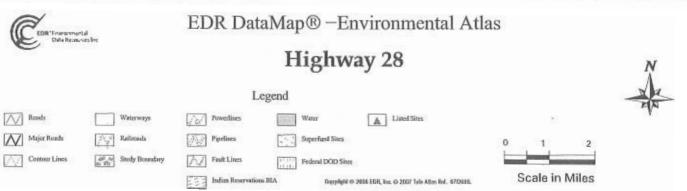


EDR DataMap® - Environmental Atlas





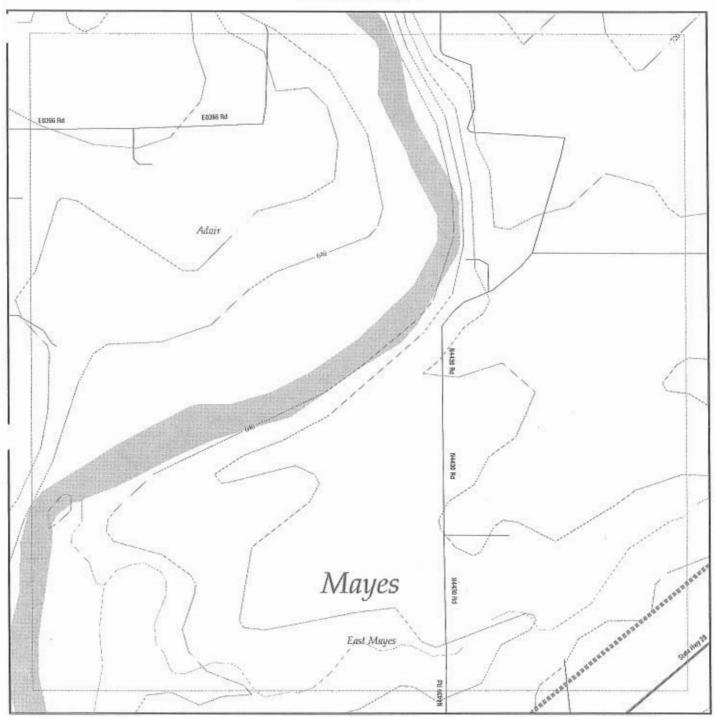


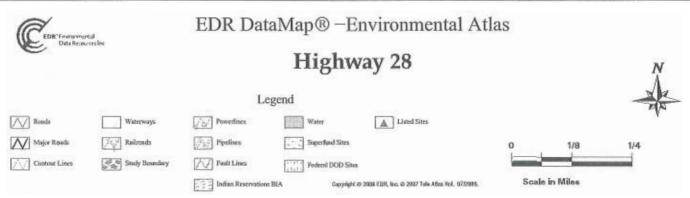


Section 2

Focus Maps and Findings

Focus Map 1

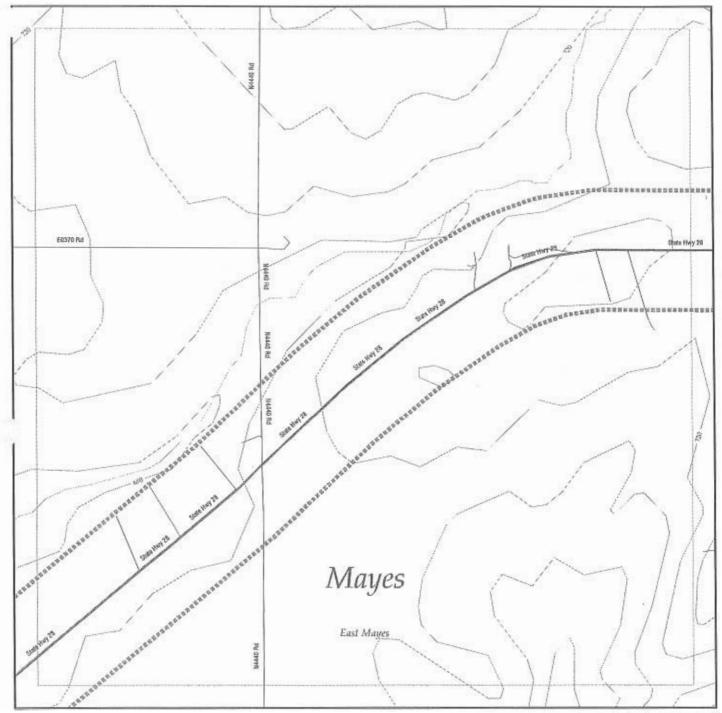


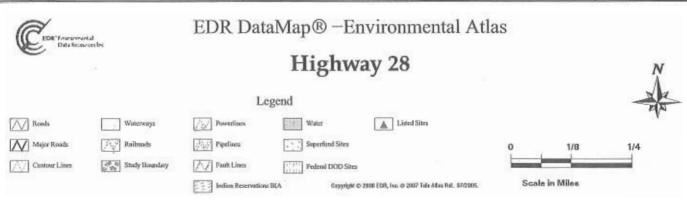


FOCUS MAP 1 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS	
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST	
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST	
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST	
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST	
ADAIR	\$107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2	

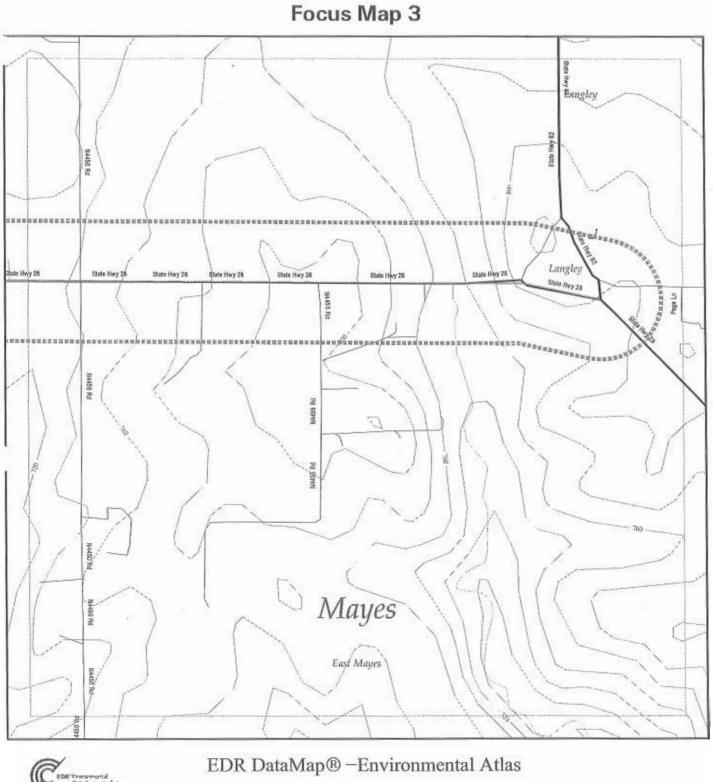
Focus Map 2

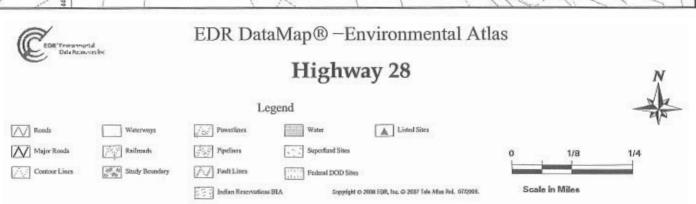




FOCUS MAP 2 ORPHAN SUMMARY					
City	EDR ID	Site Name	Site Address	Zip	Database(s)
		The second secon			

NO SITES FOUND





FOCUS MAP 3 SUMMARY

	Database	Total Plotted
FEDERAL RECORDS		
	NPL	0
	Proposed NPL	0
	Delisted NPL	0
	NPL LIENS	0
	CERCLIS	0
	CERC-NFRAP	0
	LIENS 2	0
	CORRACTS	0
	RCRA-TSDF	0
	RCRA-LQG	0
	RCRA-SQG	0
	RCRA-CESQG	0
	RCRA-NonGen US ENG CONTROLS	0
	US INST CONTROL	0
	ERNS	ő
	HMIRS	0
	DOT OPS	0
	US CDL	0
	US BROWNFIELDS	0
	DOD	0
	FUDS	0
	LUCIS	0
	CONSENT	0
	ROD	0
	UMTRA	0
	ODI	0
	DEBRIS REGION 9	0
	MINES TRIS	0
	TSCA	o o
	FTTS	Ö
	HIST FTTS	0
	SSTS	0
	ICIS	0
	PADS	0
	MLTS	0
	RADINFO	0
	FINDS	0
	RAATS	0
STATE AND LOCAL REC	ORDS	
	SHWS	0
	SWF/LF	0
	LUST	0
	UST	0 0 1
	HIST UST	1

FOCUS MAP 3 SUMMARY

	Database	Total Plotted	
	LAST	0	
	AST	0	
	INST CONTROL	0	
	VCP	0	
	DRYCLEANERS	0	
	BROWNFIELDS	0 0 0	
	AIRS	0	
	TIER 2	0	
	OK COMPLAINT	0	
TRIBAL RECORDS			
	INDIAN RESERV	0	
	INDIAN ODI	0	
	INDIAN LUST	0	
	INDIAN UST	0 0 0	
EDR PROPRIETARY RE	CORDS		
	Manufactured Gas Plants	0	
TES:			
ites may be listed in mo			

MAP FINDINGS FOCUS MAP 3

Site Map ID Database(s) EPA ID Number 1 SPEEDY'S #3 U003429090 UST HWY 82 / 28 HIST UST N/A LANGLEY, OK 74350 UST: 4908952 Facility ID: Tank ID: Tank Status: Currently in Use Tank Type: Private-Retail Date Installed: 5/6/1985 Tank Material Descr: Cathodically Protected Steel Fiberglass Reinforced Plastic Piping Material Descr: AST: False Substance Description: Gasoline Lat/Long (dms): 36 28 53.8897705078125 / 95 3 30.16845703125 Lat/Long: 36.481636047363281 / -95.058380126953125 Contact Name: Speedy's LLC Contact Address: 8336 E. 73rd Street, Suite 105 Contact City, St, Zip: Tulsa, OK 74133 Facility ID: 4908952 Tank ID: Tank Status: Currently in Use Private-Retail Tank Type: Date Installed: 5/6/1985 Tank Material Descr. Cathodically Protected Steel Piping Material Descr. Fiberglass Reinforced Plastic AST: False Substance Description: Gasoline Lat/Long (dms): 36 28 53.8897705078125 / 95 3 30.16845703125 Lat/Long: 36.481636047363281 / -95.058380126953125 Contact Name: Speedy's LLC Contact Address: 8336 E. 73rd Street, Suite 105 Contact City, St, Zip: Tulsa, OK 74133 Facility ID: 4908952 Tank ID: 3 Tank Status: Currently in Use Tank Type: Private-Retail Date Installed: 5/6/1985 Cathodically Protected Steel Tank Material Descr: Piping Material Descr: Fiberglass Reinforced Plastic AST: False Substance Description: Diesel 36 28 53.8897705078125 / 95 3 30.16845703125 Lat/Long (dms): Lat/Long: 36.481636047363281 / -95.058380126953125 Contact Name: Speedy's LLC Contact Address: 8336 E. 73rd Street, Suite 105 Contact City, St, Zip: Tulsa, OK 74133 HIST UST: 4908952

Facility ID: Owner Name:

Speedy's LLC

Owner Address:

8336 E. 73rd Street, Suite 105

Owner City, St, Zip: Tulsa, OK 74133

Tank ID:

Tank Status: Currently in Use 5/6/1985 0:00:00 Installed Date:

Tank Capacity: 10000 Map ID Site Database(s) EPA ID Number

SPEEDY'S #3 (Continued)

U003429090

Product:

Gasoline

Facility ID:

4908952 Speedy's LLC

Owner Name:

8336 E. 73rd Street, Suite 105

Owner Address: Owner City, St, Zip: Tulsa, OK 74133

Tank ID:

Tank Status: Installed Date: Currently in Use 5/6/1985 0:00:00

Tank Capacity:

10000

Product:

Gasoline

Facility ID:

4908952

Owner Name:

Speedy's LLC

Owner Address:

8336 E. 73rd Street, Suite 105

Owner City, St, Zip: Tulsa, OK 74133

Tank ID:

Tank Status:

Currently in Use

Installed Date:

5/6/1985 0:00:00

Tank Capacity:

4000

Product:

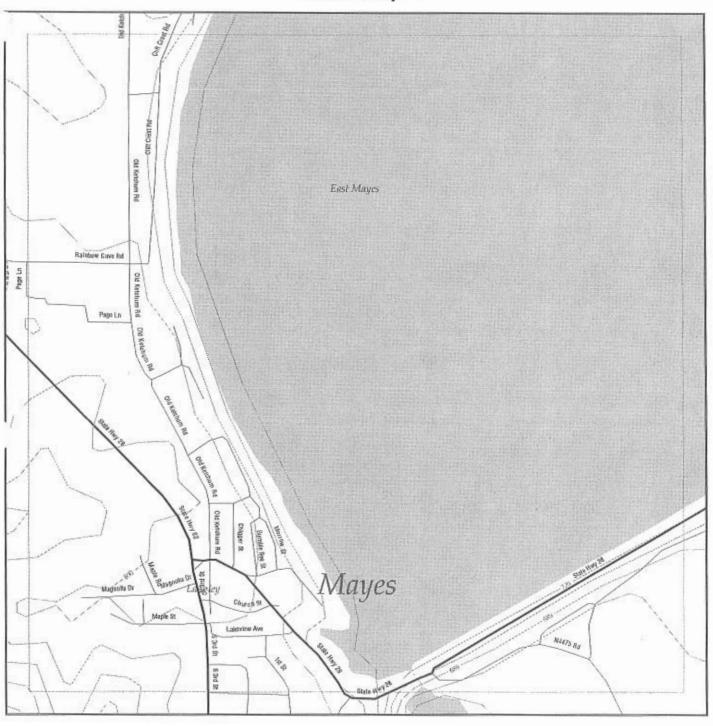
Diesel

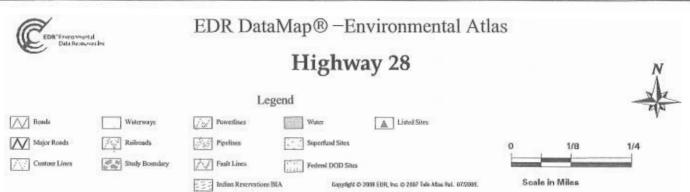
FOCUS MAP 3 ORPHAN SUMMARY

City EDR ID Site Name Site Address Zip Database(s)

NO SITES FOUND

Focus Map 4

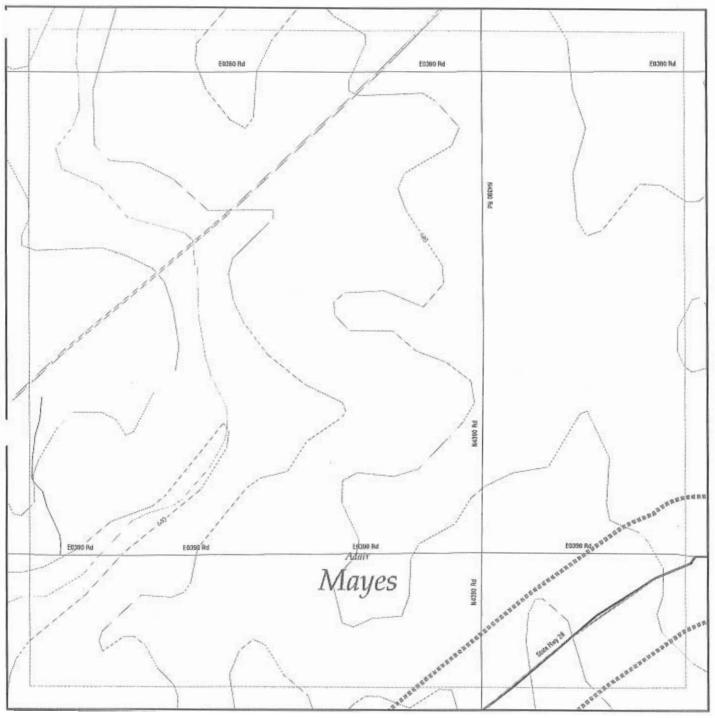


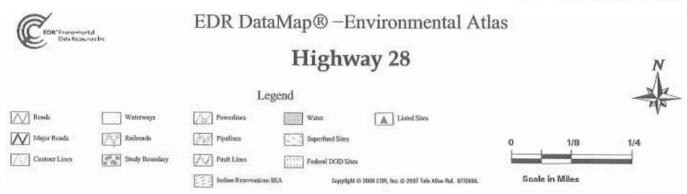


5.1.7						
City	EDR ID	Site Name	Site Address	Zip	Database(s)	
FOCUS MAP 4 ORPHAN SUMMARY			IMARY			

NO SITES FOUND

Focus Map 5

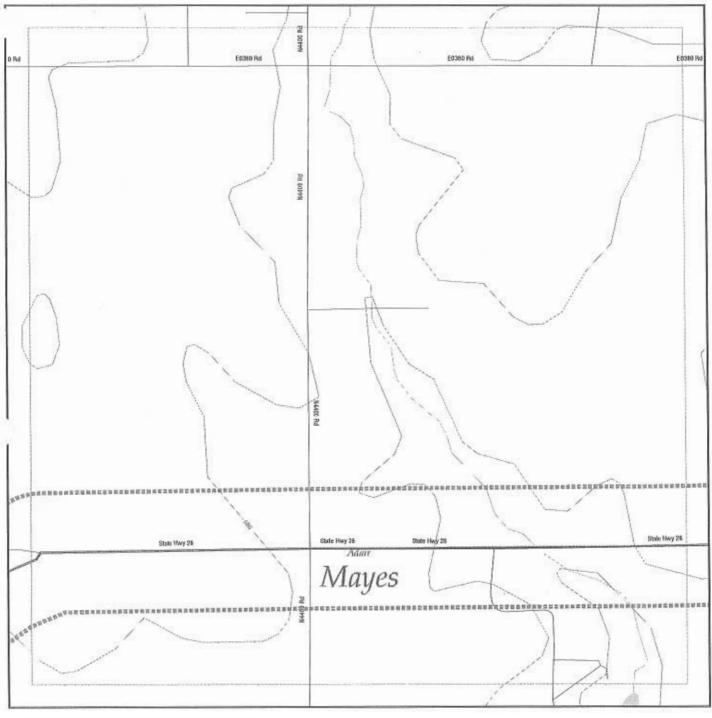


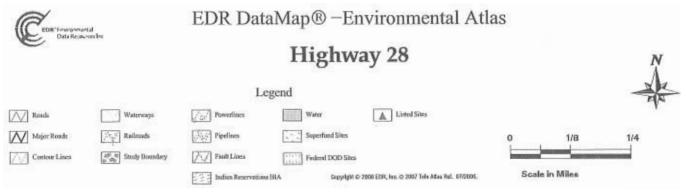


FOCUS MAP 5 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS	
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST	
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST	
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST	
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST	
ADAIR	\$107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2	

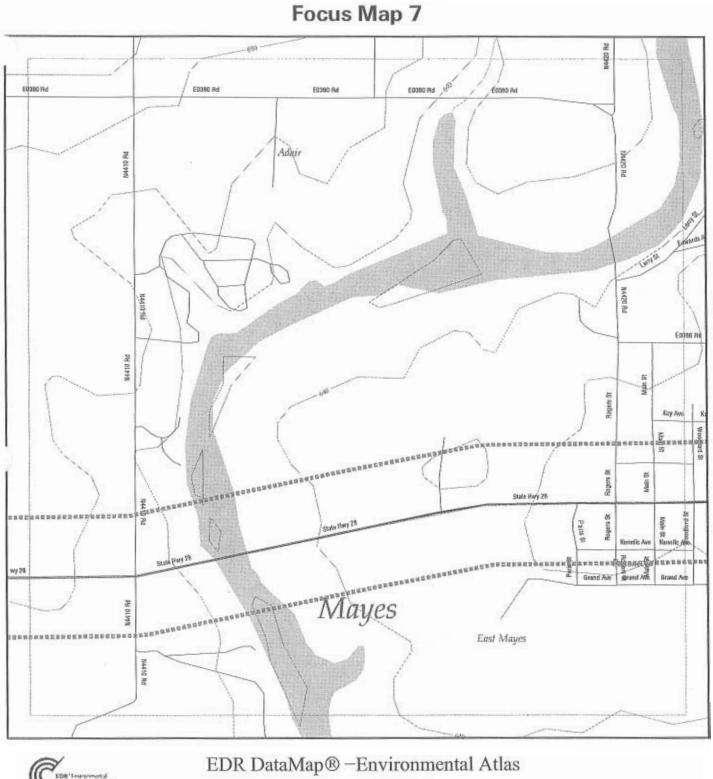
Focus Map 6

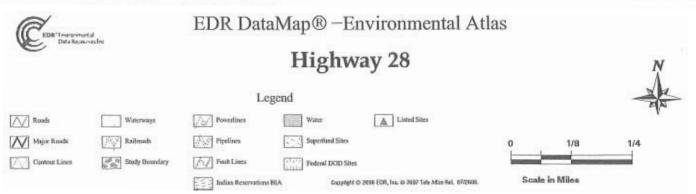




FOCUS MAP 6 ORPHAN SUMMARY

City	EDR ID	Site Name		Site Address	Zip	Database(s)	
ADAIR	1009307406	TRECE, INC.		7569 HWY 28 W.	74330	SSTS	
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC.		HWY 28 EAST	74330	UST, HIST UST	
ADAIR	A100144168	SKID-IN & PEEL OUT		N/S 428 & HWY 28	74330	AST	
ADAIR	U003580272	MITCH'S #7		HWY 69	74330	HIST UST	
ADAIR	U001228444	MAYES COUNTY		CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST	
ADAIR	\$107832629	MAYES COUNTY PROPANE	11+	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2	

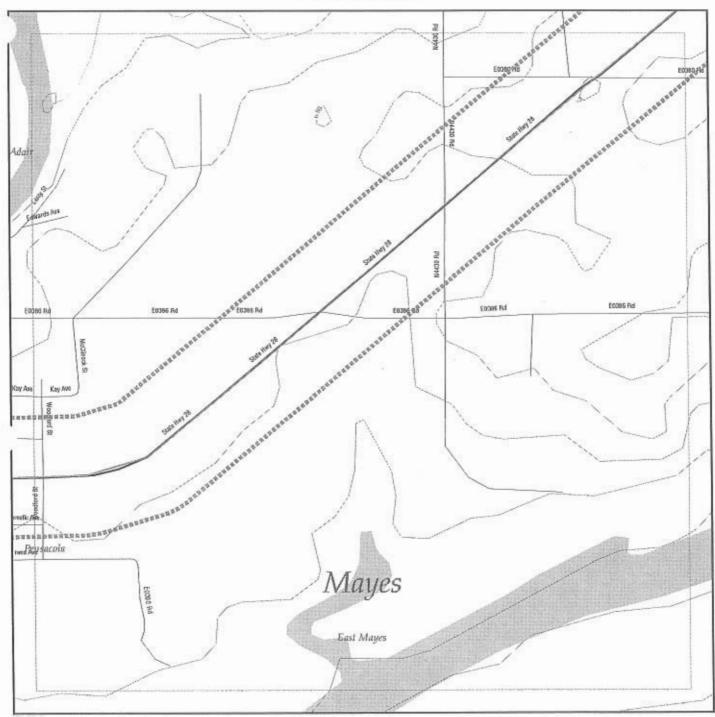


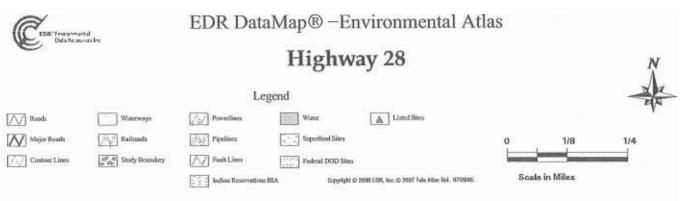


FOCUS MAP 7 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST
ADAIR	\$107831148	LARRY'S CONVENIENCE STORE	601 EAST MAIN	74330	TIER 2
ADAIR	U001228454	THE MAIN STORE	1 EAST MAIN	74330	UST, HIST UST
ADAIR	\$107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2

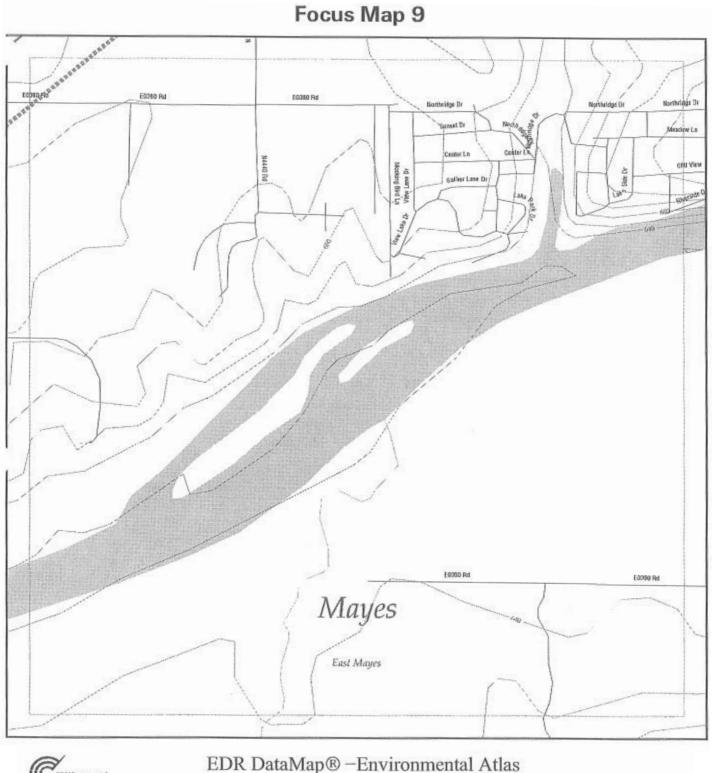
Focus Map 8

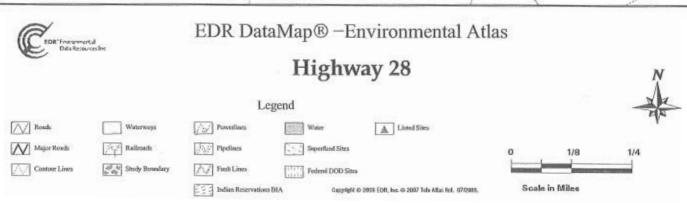




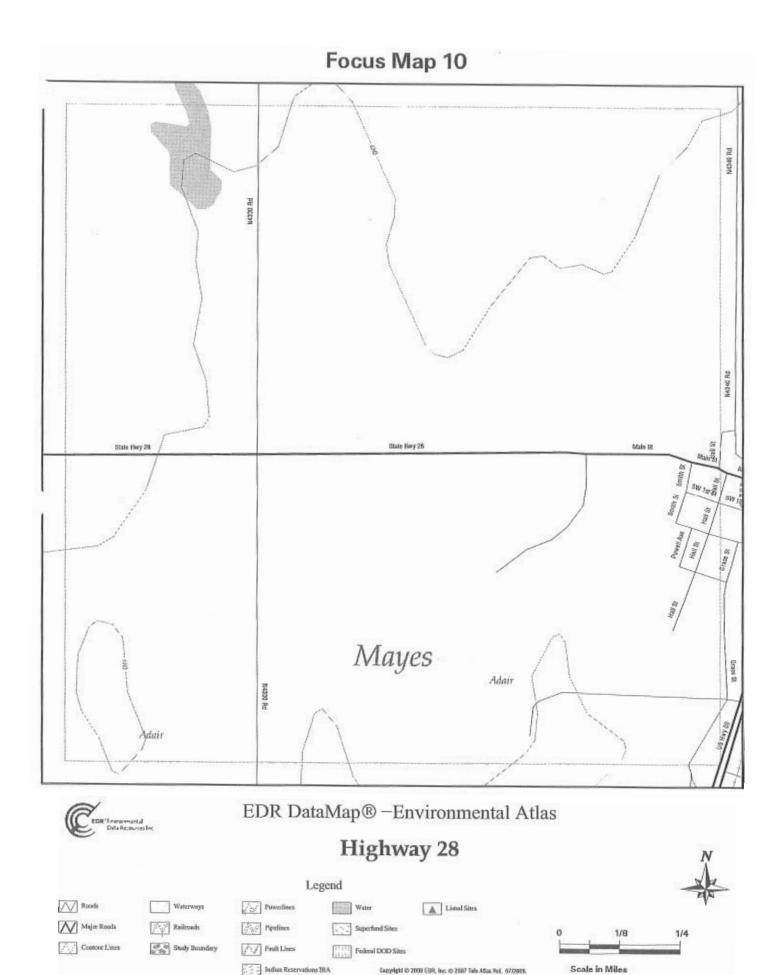
FOCUS MAP 8 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	_
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS	
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST	
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST	
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST	
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST	
ADAIR	S107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2	





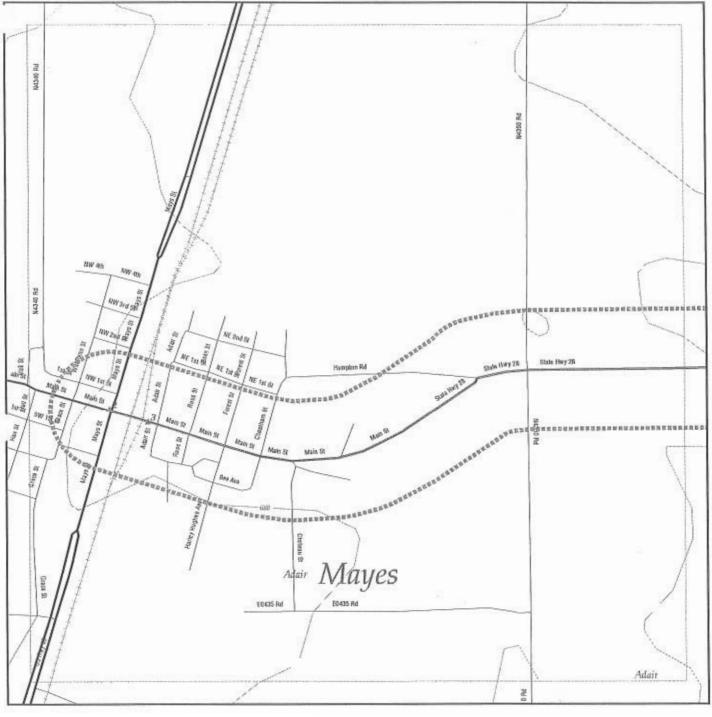
		FOCUS MAP 9 ORPHAN SUMM				
City	EDR ID	Site Name	Site Address	Zip	Database(s)	
		NO SITES EQUIND				

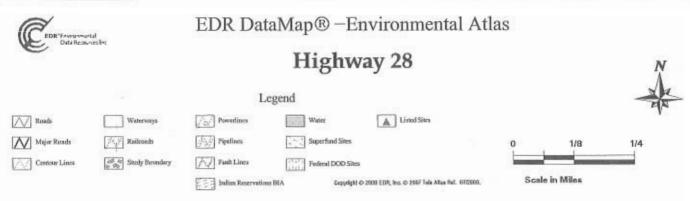


FOCUS MAP 10 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST
ADAIR	\$107831148	LARRY'S CONVENIENCE STORE	601 EAST MAIN	74330	TIER 2
ADAIR	U001228454	THE MAIN STORE	1 EAST MAIN	74330	UST, HIST UST
ADAIR	\$107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2

Focus Map 11





FOCUS MAP 11 SUMMARY

	Database	Total Plotted
FEDERAL RECORDS		
	NPL	0
	Proposed NPL	0
	Delisted NPL	0
	NPL LIENS	0
	CERCLIS	0
	CERC-NFRAP	ŏ
	LIENS 2	o o
	CORRACTS	0
	RCRA-TSDF	0
	RCRA-LQG	0
	RCRA-SQG	Õ
	RCRA-CESQG	0
	RCRA-NonGen	0
	US ENG CONTROLS	0
	US INST CONTROL	0
	ERNS	0
	HMIRS	0
	DOT OPS	0
	US CDL	0
	US BROWNFIELDS	0
	DOD	0
	FUDS	0
	LUCIS	0
	CONSENT	0
	ROD	0
	UMTRA	0
	ODI	0
	DEBRIS REGION 9	0
	MINES	0
	TRIS	0
	TSCA	0
	FTTS	0
	HIST FTTS	0
	SSTS	0
	ICIS	0
	PADS	0
	MLTS	
	RADINFO FINDS	0
	RAATS	ó
		U
STATE AND LOCAL REC	ORDS	
	SHWS	0
	SWF/LF	0
	LUST	0
	UST	1
	HIST UST	1

FOCUS MAP 11 SUMMARY

	Database	Total Plotted
	LAST	0
	AST	
	INST CONTROL	0 0 0
	VCP	0
	DRYCLEANERS	0
	BROWNFIELDS	
	AIRS	0
	TIER 2	0
	OK COMPLAINT	0
TRIBAL RECORDS		
	INDIAN RESERV	0
	INDIAN ODI	0
	INDIAN LUST	0 0 0
	INDIAN UST	0
EDR PROPRIETARY F	RECORDS	
	Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

MAP FINDINGS FOCUS MAP 11

Map ID Site Database(s) EPA ID Number 2 PHILLIPS 66 CO #002263 UST U001228395 MAIN STR / HWY 69 HIST UST N/A **ADAIR, OK 74330** UST: Facility ID: 4905042 Tank ID: Tank Status: Permanently Out of Use Private-Retail Tank Type: Date Installed: 4/19/1955 Asphalt Coated or Bare Steel Tank Material Descr: Piping Material Descr. Bare Steel AST: False Substance Description: Gasoline Lat/Long (dms): 36 14 32.891998291015625 / 95 20 12.947999954223633 Lat/Long: 36.24246999999997 / -95.33692999999995 Phillips 66 Company Contact Name: Contact Address: P.O. Box 2400 Contact City, St, Zip: Bartlesville, OK 74004 Facility ID: 4905042 Tank ID: Tank Status: Permanently Out of Use Tank Type: Private-Nonretail Date Installed: 4/18/1953 Tank Material Descr: Asphalt Coated or Bare Steel Piping Material Descr: Bare Steel AST: False Substance Description: Used Oil Lat/Long (dms): 36 14 32.891998291015625 / 95 20 12.947999954223633 Lat/Long: 36.242469999999997 / -95.33692999999999 Contact Name: Phillips 66 Company Contact Address: P.O. Box 2400 Contact City, St, Zip: Bartlesville, OK 74004 Facility ID: 4905042 Tank ID: 5 Tank Status: Permanently Out of Use Tank Type: Private-Retail Date Installed: 4/18/1953 Tank Material Descr: Asphalt Coated or Bare Steel Bare Steel Piping Material Descr: AST: False Substance Description: Gasoline 36 14 32.891998291015625 / 95 20 12.947999954223633 Lat/Long (dms): Lat/Long: 36.242469999999997 / -95.33692999999999 Contact Name: Phillips 66 Company Contact Address: P.O. Box 2400 Contact City,St,Zip: Bartlesville, OK 74004 Facility ID: 4905042 Tank ID: Tank Status: Permanently Out of Use Tank Type: Private-Retail Date Installed: 4/18/1953 Tank Material Descr: Asphalt Coated or Bare Steel Piping Material Descr. Bare Steel AST: False Substance Description: Gasoline

Map ID Site Database(s) EPA ID Number

PHILLIPS 66 CO #002263 (Continued)

U001228395

Lat/Long (dms):

36 14 32.891998291015625 / 95 20 12.947999954223633

Lat/Long:

36.242469999999997 / -95.33692999999999

Contact Name:

Phillips 66 Company

Contact Address: Contact City, St, Zip:

P.O. Box 2400

Bartlesville, OK 74004

Facility ID:

4905042

Tank ID:

3

Tank Status:

Permanently Out of Use Private-Retail

Tank Type:

4/18/1953

Date Installed: Tank Material Descr.

Asphalt Coated or Bare Steel

Piping Material Descr.

Bare Steel

AST:

False

Substance Description: Not Listed

36 14 32.891998291015625 / 95 20 12.947999954223633

Lat/Long (dms): Lat/Long:

Contact Name:

36.242469999999997 / -95.33692999999995 Phillips 66 Company

Contact Address:

P.O. Box 2400

Contact City, St, Zip:

Bartlesville, OK 74004

HIST UST:

Facility ID:

4905042

Owner Name: Owner Address:

Phillips 66 Company P.O. Box 2400 Owner City, St, Zip: Bartlesville, OK 74004

Tank ID:

Tank Status:

Permanently Out of Use

Installed Date: Tank Capacity: 4/18/1953 0:00:00

Product:

Used Oil

Facility ID:

4905042

Owner Name: Owner Address:

Phillips 66 Company P.O. Box 2400 Owner City, St, Zip: Bartlesville, OK 74004

Tank ID:

Tank Status: Installed Date:

Permanently Out of Use 4/18/1953 0:00:00

Tank Capacity:

4000

Product:

Gasoline

Facility ID:

4905042

Owner Name:

Phillips 66 Company

Owner Address:

P.O. Box 2400 Owner City, St, Zip: Bartlesville, OK 74004

Tank ID: Tank Status:

Permanently Out of Use Installed Date:

4/18/1953 0:00:00

Tank Capacity:

550

3

Product:

Not Listed

Facility ID:

4905042

Owner Name: Owner Address:

Phillips 66 Company P.O. Box 2400

Owner City, St, Zip: Bartlesville, OK 74004 Tank ID:

Map ID

Site

Database(s)

EPA ID Number

U001228395

PHILLIPS 66 CO #002263 (Continued)

Tank Status:

Permanently Out of Use 4/19/1955 0:00:00

Installed Date: Tank Capacity:

4000

Product:

Gasoline

Facility ID:

4905042

Owner Name:

Phillips 66 Company P.O. Box 2400

Owner Address:

Owner City, St, Zip: Bartlesville, OK 74004

Tank ID:

Tank Status:

Permanently Out of Use

Installed Date:

4/18/1953 0:00:00

Tank Capacity: Product:

4000 Gasoline

ADAIR, TOWN OF 3 106 W MAIN ST **ADAIR, OK 74330** FINDS 1005499224

110011008907

FINDS:

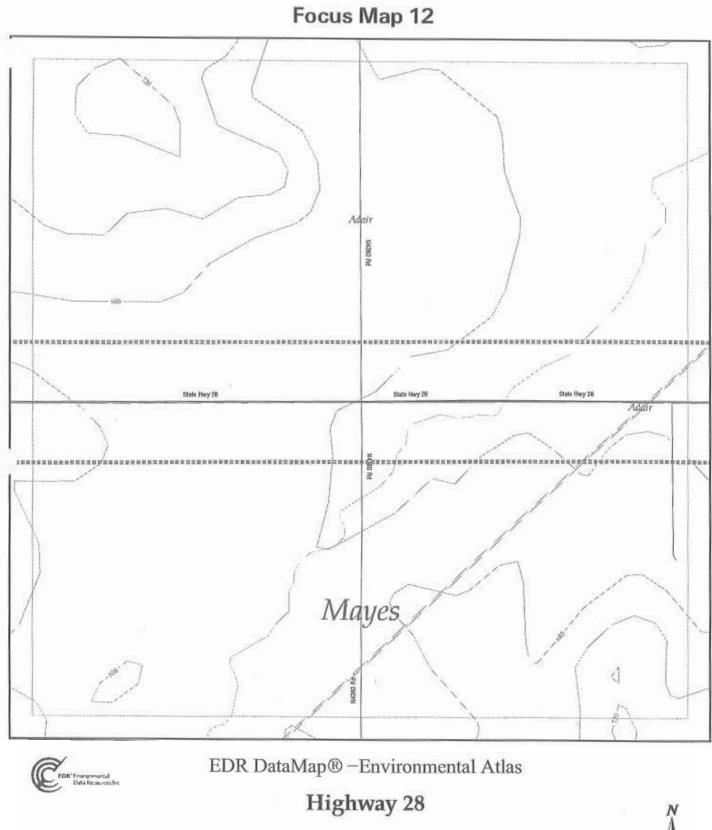
Other Pertinent Environmental Activity Identified at Site

SDWIS [WS] (Safe Drinking Water Information System (Water System)). Water Systems can have one or more water system facilities. The water system will purchase water from several facilities. Drinking water information is stored in EPA's SDWIS, which contains information about public water systems and their violations of EPA's regulations for safe drinking water. These statutes and accompanying regulations establish maximum contaminant levels (MCL), treatment techniques, and monitoring and reporting requirements to ensure that water provided to customers is safe for human consumption.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities, PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

FOCUS MAP 11 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST
ADAIR	U001883927	ADAIR PUBLIC SCHOOL	100 S FOREST	74330	UST, HIST UST
ADAIR	S107831148	LARRY'S CONVENIENCE STORE	601 EAST MAIN	74330	TIER 2
ADAIR	U001228454	THE MAIN STORE	1 EAST MAIN	74330	UST, HIST UST
ADAIR	\$107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2

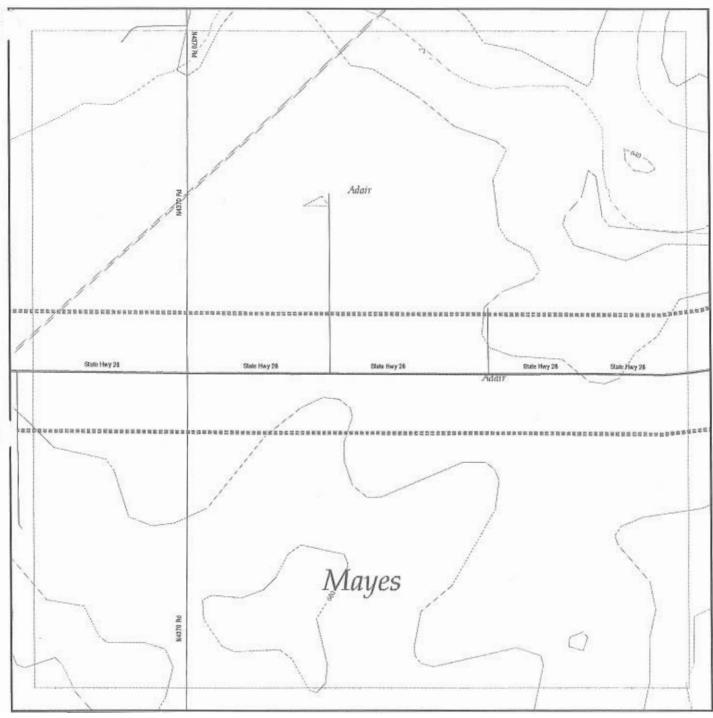


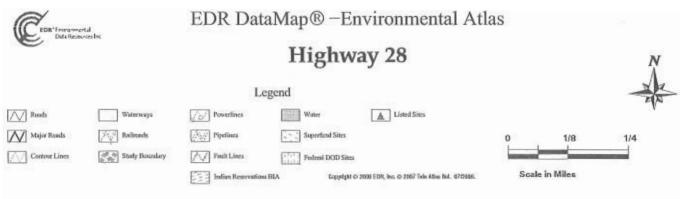


FOCUS MAP 12 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST
ADAIR	\$107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2

Focus Map 13

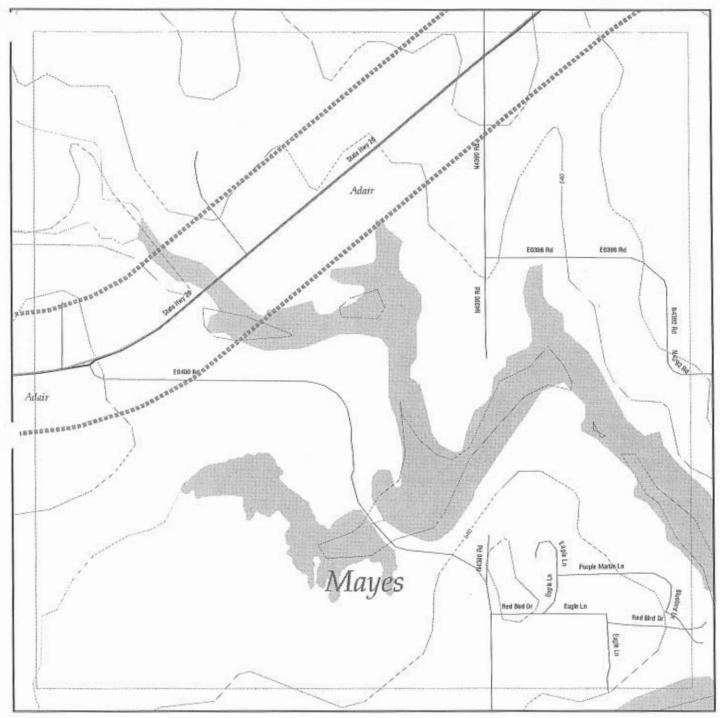


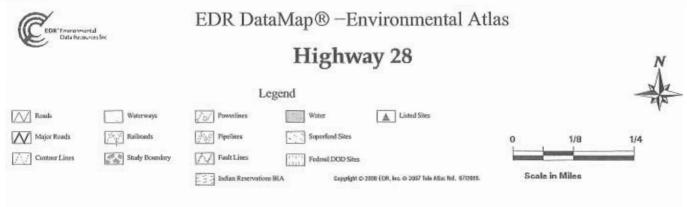


FOCUS MAP 13 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST
ADAIR	\$107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2

Focus Map 14





FOCUS MAP 14 ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	
ADAIR	1009307406	TRECE, INC.	7569 HWY 28 W.	74330	SSTS	
ADAIR	U001883940	LARRYS CONVENIENCE STORE INC	HWY 28 EAST	74330	UST, HIST UST	
ADAIR	A100144168	SKID-IN & PEEL OUT	N/S 428 & HWY 28	74330	AST	
ADAIR	U003580272	MITCH'S #7	HWY 69	74330	HIST UST	
ADAIR	U001228444	MAYES COUNTY	CO BARN ON 28 HWY EAST EDGE	74330	UST, HIST UST	
ADAIR	5107832629	MAYES COUNTY PROPANE	2 MILES SOUTH OF ADAIR ON HWY 69	74330	TIER 2	

Section 3

County Level Orphan Sites

MAYES COUNTY, OK - ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ADAIR	94385745	HWY 69 SOUTH OF ADAIR	HWY 69 SOUTH OF ADAIR		ERNS
BRIAR	2000551448	ON PRIOR INDUSTRIAL LEAD	ON PRIOR INDUSTRIAL LEAD	0	ERNS
CHOTEAU	94387163	HIGHWAY 412 TO LOCUST GROVE, 7 MILES SOUTHEAST OF CHOTEAU	HIGHWAY 412 TO LOCUST GROVE, 7 MILES SOUTHEAST OF CHOTEAU		ERNS
CHOTEAU	93329206	HWY 412 AND HWY 69 AT THE TRUCK STOP	HWY 412 AND HWY 69 AT THE TRUCK STOP		ERNS
CHOUTEAU	93326211	CAMP CHRISTIAN RD	CAMP CHRISTIAN RD		ERNS
CHOUTEAU	94393264	CHOUTEAU HWY 69	CHOUTEAU HWY 69		ERNS
CHOUTEAU	2001560864	WEST HARRISON	WEST HARRISON	0	ERNS
CHOUTEAU	2000100281		STATE HIGHWAY 412-B		HMIRS
CHOUTEAU	93385318	TOOLSHED IN CEMETERY, CHOUTEAU, OKLAHOMA	TOOLSHED IN CEMETERY, CHOUTEAU, OKLAHOMA		ERNS
DISNEY	93320783	HWY 28 CEDAR PORT	HWY 28 CEDAR PORT		ERNS
DISNEY	98465129	DOUBLE J COVE/LIGHTHOUSE #6 / ON GRAND LAKE O THE CHEROKEES	DOUBLE J COVE/LIGHTHOUSE #6 / ON GRAND LAKE O THE CHEROKEES		ERNS
KETCHUM	1009626402	34203 S 4505 RD	34203 S 4505 RD		US CDL
LOCUST GROVE	878442	HWY 33 4 MILES WEST	HWY 33 4 MILES WEST		ERNS
LOCUST GROVE	1009626403	612 W 412 HWY	612 W 412 HWY		US CDL
LOCUST GROVE	91200818	MARKHAM FERRY PROJECT ON THE GRAND RIVER	MARKHAM FERRY PROJECT ON THE GRAND RIVER		ERNS
LOCUST GROVE	874291	5 MILES EAST OF TOWN OH HWY 33	5 MILES EAST OF TOWN OH HWY 33		ERNS
LOCUST GROVE	94400393	OFF OF ROUTE 1	OFF OF ROUTE 1		ERNS
LOCUST GROVE	1009626398	405 E RADCLIFF	405 E RADCLIFF		US CDL
MAYES COUNTY	S106496727	INDUSTRIAL SERVICE, INC. TRANSFER STATIO	NE CORNER OF S9 T20N R19E		SWF/LF
MAYES COUNTY	8868416	1250 FT N AND 35 FT W OF SW QU OF SEC 34 T 21N R 19W	1250 FT N AND 35 FT W OF SW QU OF SEC 34 T 21N R 19W		ERNS
MAYES COUNTY	\$106496715	CITY OF PRYOR LANDFILL	N/2 N/2 SW/4 / S/2 NW/4 SW/4 & N/2 NW/4		SWF/LF
MAYES COUNTY	S106496724	NORIT AMERICAS INC.	NE/4 NE/4 NW/4 OF S9 T20N R19E		SWF/LF
MAYES COUNTY	\$106496720	NATIONAL GYPSUM COMPANY SLUDGE DISPOSAL	S/2 NE/4 NW/4 NW/4 / N/2 SE/4 NW/4 NW/4		SWF/LF
MAYES COUNTY	S106496718	KENNECOTT CORPORATION LANDFILL	NE/4 NE/4 NW/4 OF S9 T20N R19E		SWF/LF
MAYES COUNTY	S106496731	TOWN OF ADAIR DISPOSAL SITE	W/2 NW/4 SE/4 OF S33 T23N R19E		SWF/LF
MAYES COUNTY	S106496729	TOWN OF STRANG DISPOSAL SITE	W/2 NW/4 NW/4 OF S8 T22N R21E		SWF/LF
MAYES COUNTY	S106495728	TOWN OF CHOUTEAU DISPOSAL SITE	NW/4 NW/4 NE/4 OF S31 T20N R19E		SWF/LF
MAYES COUNTY	S108407655	PRYOR TRANSFER STATION	SW/4 OF NW/4 OF SW/4 OF S25, T21N, R18E		SWF/LF
MAYES COUNTY	\$106496725	OKLA, ORDINANCE WORKS AUTH, LANDFILL	SW/4 OF S9 T20N R19E		SWF/LF
MAYES COUNTY	\$106496723	GRDA C/D LANDFILL	E/2 OF S29 T20N R19E		SWF/LF
MAYES COUNTY	S106496721	PROTEIN TECHNOLOGIES SLUDGE APPLICATION	SE/4 OF S10 T20N R19E / NW/4 OF S15 T20N		SWF/LF
MAYES COUNTY	S106496714	GOLD BOND BUILDING PRODUCTS	SE/4 OF S34 T21N R19E		SWF/LF
MAYES COUNTY	\$107030586	GEORGIA PACIFIC CORP. LANDFILL	E/2 OF S34 T21N R19E		SWF/LF
MAYES COUNTY	S106496726	SUNSET DISPOSAL TRANSFER STATION	N/2 SW/4 SW/4 NW/4 OF S25 T21N R18E		SWF/LF
MAYES COUNTY	S107421018	MID-AMERICAN INDUSTRIAL DISTRICT LANDFIL	SE/4 SW/4 / W/2 SW/4 SE/4 OF S10 T20N R1		SWF/LF
MAYES COUNTY	\$107030587	TOWN OF LOCUST GROVE DISPOSAL SITE	SE/4 SW/4 OF S23 T20N R20E		SWF/LF
PRIOR	94405548	MID AMERICA IND PK	MID AMERICA IND PK		ERNS
PRYOR	92020608		RTE 3		HMIRS
PRYOR	91090807		HWY 69 SOUTH		HMIRS
PRYOR	2003129212		HWY 69 SOUTH		HMIRS

MAYES COUNTY, OK - ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PRYOR	93324368	HWY 59 SOUTH AND HWY 59 E	HWY 69 SOUTH AND HWY 69 E		ERNS
PRYOR	96484023	RT3 BOX 69-6	RT3 BOX 69-6		ERNS
PRYOR	96484408	PH CONTROLLER FAILED	PH CONTROLLER FAILED		ERNS
PRYOR	2001564661	HUDSON LAKE MARINA	HUDSON LAKE MARINA	0	ERNS
PRYOR	94120076		HUNT ST		HMIRS
PRYOR	90060838		HUNT ST		HMIRS
PRYOR	2005604625	5019 HUNT ST	5019 HUNT ST		ERNS
PRYOR	95090964		US HWY 69		HMIRS
PRYOR	93330750	69 HWY	69 HWY		ERNS
PRYOR	95040069		INDUSTRIAL PARK		HMIRS
PRYOR	94357382	JAP ROOFING HWY 414B	JAP ROOFING HWY 414B		ERNS
PRYOR	2000552299	MAIN LINE HWY 69	MAIN LINE HWY 69	0	ERNS
PRYOR	2000022962		MID AMERICA INDUSTRIAL PARK HW		HMIRS
PRYOR	2000022961		MID AMERICA INDUSTRIAL PARK HW		HMIRS
PRYOR	91206186	MID AMERICAN INDUSTRIAL PARK	MID AMERICAN INDUSTRIAL PARK		ERNS
PRYOR	2000534554	MIDAMERICAN INDUSTRIAL	MIDAMERICAN INDUSTRIAL	0	ERNS
PRYOR	90165723	MIDCONTINENT POWER CO. 6TH AND HUNT ST. (918)825-7615	MIDCONTINENT POWER CO. 6TH AND HUNT ST. (918)825-7615		ERNS
PRYOR	2001563971	MILE POST 472	MILE POST 472	0	ERNS
PRYOR	89129198	2 1/2 MILES SE OF PRYOR, OK OFF OF NIPAK RD	2 1/2 MILES SE OF PRYOR, OK OFF OF NIPAK RD		ERNS
PRYOR	98575148	NONE	NONE		ERNS
PRYOR	98575113	NONE	NONE		ERNS
PRYOR	92252424	PARK PARK	PARK PARK		ERNS
PRYOR	2000538197	PRYOR RAIL YARD	PRYOR RAIL YARD	0	ERNS
PRYOR	2007331077	RAILYARD	RAILYARD		ERNS
PRYOR	92010460		SOUTH WYE TRACK		HMIRS
SALINA	94405507	HWY 82	HWY 82		ERNS
SALINA	2005604022	OWEN WALTER BLVD	OWEN WALTER BLVD		ERNS
SALINA	974073431	UNKNOWN	UNKNOWN		ERNS
SALINA	974073430	UNKNOWN	UNKNOWN		ERNS
SHOUTEAU	2002625316	HWY 412 B	HWY 412 B	0	ERNS
WAGONER	984188581	HWY 69 / 9 MILES NORTH OF WAGONER	HWY 69 / 9 MILES NORTH OF WAGONER		ERNS
WAGONER	984188580	OVERTURNED	OVERTURNED		ERNS

Section 4

EPA Waste Code Addendum

SECTION 4 - EPA WASTE CODES

There are no epa codes to report for this search area.

Section 5

Databases Searched and Update Dates

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/31/2008 Date Data Arrived at EDR: 02/08/2008

Source: EPA Telephone: N/A

Date Made Active in Reports: 03/17/2008

Last EDR Contact: 04/28/2008

Number of Days to Update: 38

Next Scheduled EDR Contact: 07/28/2008 Data Release Frequency: Quarterly

NPL Site Boundaries

Sources

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1

EPA Region 6

Telephone 617-918-1143

Telephone: 214-655-6659

EPA Region 3

EPA Region 7

Telephone 215-814-5418

Telephone: 913-551-7247

EPA Region 4

EPA Region 8

Telephone 404-562-8033

Telephone: 303-312-6774

EPA Region 5

EPA Region 9

Telephone 312-886-6686

Telephone: 415-947-4246

EPA Region 10

Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 01/31/2008 Date Data Arrived at EDR: 02/04/2008 Date Made Active in Reports: 03/17/2008 Source: EPA Telephone: N/A

Number of Days to Update: 42

Last EDR Contact: 04/28/2008

Next Scheduled EDR Contact: 07/28/2008 Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 01/31/2008 Date Data Arrived at EDR: 02/08/2008 Date Made Active in Reports: 03/17/2008 Number of Days to Update: 38

Source: EPA Telephone: N/A

Last EDR Contact: 04/28/2008

Next Scheduled EDR Contact: 07/28/2008 Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994

Number of Days to Update: 56

Source: EPA

Telephone: 202-564-4267 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/09/2008 Date Data Arrived at EDR: 02/05/2008 Date Made Active in Reports: 02/20/2008

Number of Days to Update: 15

Source: EPA

Telephone: 703-412-9810 Last EDR Contact: 04/25/2008

Next Scheduled EDR Contact: 06/16/2008 Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007 Date Data Arrived at EDR: 12/06/2007 Date Made Active in Reports: 02/20/2008

Number of Days to Update: 76

Source: EPA

Telephone: 703-412-9810 Last EDR Contact: 05/20/2008

Next Scheduled EDR Contact: 06/16/2008 Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination, CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/08/2008 Date Data Arrived at EDR: 03/07/2008 Date Made Active in Reports: 03/20/2008

Number of Days to Update: 13

Source: Environmental Protection Agency

Telephone: 202-564-6023 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/26/2008 Date Data Arrived at EDR: 04/02/2008 Date Made Active in Reports: 05/06/2008

Number of Days to Update: 34

Source: EPA Telephone: 800-424-9346 Last EDR Contact: 03/03/2008

Next Scheduled EDR Contact: 06/02/2008 Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/06/2008 Date Data Arrived at EDR: 03/06/2008 Date Made Active in Reports: 04/18/2008

Number of Days to Update: 43

Source: Environmental Protection Agency

Telephone: 214-665-6444 Last EDR Contact: 03/06/2008

Next Scheduled EDR Contact: 05/19/2008 Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/06/2008 Date Data Arrived at EDR: 03/06/2008 Date Made Active in Reports: 04/18/2008 Number of Days to Update: 43

Source: Environmental Protection Agency Telephone: 214-665-6444 Last EDR Contact: 03/06/2008

Next Scheduled EDR Contact: 05/19/2008 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/06/2008 Date Data Arrived at EDR: 03/06/2008 Date Made Active in Reports: 04/18/2008

Number of Days to Update: 43

Source: Environmental Protection Agency

Telephone: 214-665-6444 Last EDR Contact: 03/06/2008

Next Scheduled EDR Contact: 05/19/2008 Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/06/2008 Date Data Arrived at EDR: 03/06/2008 Date Made Active in Reports: 04/18/2008

Number of Days to Update: 43

Source: Environmental Protection Agency

Telephone: 214-665-6444 Last EDR Contact: 03/06/2008

Next Scheduled EDR Contact: 05/19/2008

Data Release Frequency: Varies

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous

Date of Government Version: 03/06/2008 Date Data Arrived at EDR: 03/06/2008 Date Made Active in Reports: 04/18/2008

Number of Days to Update: 43

Source: Environmental Protection Agency

Telephone: 214-665-6444 Last EDR Contact: 03/06/2008

Next Scheduled EDR Contact: 05/19/2008

Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 04/04/2008 Date Data Arrived at EDR: 04/17/2008 Date Made Active in Reports: 05/15/2008 Number of Days to Update: 28

Telephone: 703-603-0695 Last EDR Contact: 03/31/2008

Next Scheduled EDR Contact: 06/30/2008 Data Release Frequency: Varies

Source: Environmental Protection Agency

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 04/04/2008 Date Data Arrived at EDR: 04/17/2008 Date Made Active in Reports: 05/15/2008

Telephone: 703-603-0695 Last EDR Contact: 03/31/2008

Number of Days to Update: 28

Next Scheduled EDR Contact: 06/30/2008

Source: Environmental Protection Agency

Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances

Date of Government Version: 12/31/2007 Date Data Arrived at EDR: 01/23/2008 Date Made Active in Reports: 03/17/2008 Number of Days to Update: 54

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180 Last EDR Contact: 04/22/2008

Next Scheduled EDR Contact: 07/21/2008 Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2007 Date Data Arrived at EDR: 04/16/2008 Date Made Active in Reports: 05/15/2008 Source: U.S. Department of Transportation

Telephone: 202-366-4555 Last EDR Contact: 04/16/2008

Number of Days to Update: 29

Next Scheduled EDR Contact: 07/14/2008 Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 02/14/2008 Date Data Arrived at EDR: 02/27/2008 Date Made Active in Reports: 03/20/2008 Number of Days to Update: 22

Source: Department of Transporation, Office of Pipeline Safety

Telephone: 202-366-4595 Last EDR Contact: 02/27/2008

Next Scheduled EDR Contact: 05/26/2008

Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 12/28/2007

Number of Days to Update: 25

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 03/28/2008

Next Scheduled EDR Contact: 06/23/2008 Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA, EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 01/03/2008 Date Data Arrived at EDR: 01/17/2008 Date Made Active in Reports: 02/20/2008

Number of Days to Update: 34

Source: Environmental Protection Agency

Telephone: 202-566-2777 Last EDR Contact: 04/30/2008

Next Scheduled EDR Contact: 07/14/2008 Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 11/10/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 62

Source: USGS

Telephone: 703-692-8801 Last EDR Contact: 05/09/2008

Next Scheduled EDR Contact: 08/04/2008 Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2006 Date Data Arrived at EDR: 08/31/2007 Date Made Active in Reports: 10/11/2007

Number of Days to Update: 41

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285 Last EDR Contact: 04/03/2008

Next Scheduled EDR Contact: 06/30/2008 Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005 Date Data Arrived at EDR: 12/11/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 31

Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 03/10/2008

Next Scheduled EDR Contact: 06/09/2008 Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/01/2007 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 12/28/2007

Number of Days to Update: 25

Source: Department of Justice, Consent Decree Library

Telephone: Varies

Last EDR Contact: 04/22/2008

Next Scheduled EDR Contact: 07/21/2008 Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/14/2008 Date Data Arrived at EDR: 01/22/2008 Date Made Active in Reports: 01/30/2008

Number of Days to Update: 8

Source: EPA

Telephone: 703-416-0223 Last EDR Contact: 03/31/2008

Next Scheduled EDR Contact: 06/30/2008 Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 07/13/2007 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 03/17/2008

Next Scheduled EDR Contact: 06/16/2008 Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004

Number of Days to Update: 39

Source: Environmental Protection Agency

Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 03/25/2008 Date Data Arrived at EDR: 04/17/2008 Date Made Active in Reports: 05/15/2008

Number of Days to Update: 28

Source: EPA, Region 9 Telephone: 415-972-3336 Last EDR Contact: 03/24/2008

Next Scheduled EDR Contact: 06/23/2008 Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/07/2008 Date Data Arrived at EDR: 03/26/2008 Date Made Active in Reports: 04/18/2008 Number of Days to Update: 23 Source: Department of Labor, Mine Safety and Health Administration

Telephone: 303-231-5959 Last EDR Contact: 03/26/2008

Next Scheduled EDR Contact: 06/23/2008 Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2006 Date Data Arrived at EDR: 02/29/2008 Date Made Active in Reports: 04/18/2008

Number of Days to Update: 49

Source: EPA

Telephone: 202-566-0250 Last EDR Contact: 02/29/2008

Next Scheduled EDR Contact: 06/16/2008 Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant

Date of Government Version: 12/31/2002 Date Data Arrived at EDR: 04/14/2006 Date Made Active in Reports: 05/30/2006

Number of Days to Update: 46

Source: EPA

Telephone: 202-260-5521 Last EDR Contact: 04/28/2008

Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/15/2008 Date Data Arrived at EDR: 01/22/2008 Date Made Active in Reports: 01/30/2008

Number of Days to Update: 8

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667 Last EDR Contact: 03/17/2008

Next Scheduled EDR Contact: 06/16/2008 Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version; 01/15/2008 Date Data Arrived at EDR: 01/22/2008 Date Made Active in Reports: 01/30/2008

Number of Days to Update: 8

Source: EPA

Telephone: 202-566-1667 Last EDR Contact: 03/17/2008

Next Scheduled EDR Contact: 06/16/2008 Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2007

Next Scheduled EDR Contact; 03/17/2008 Data Release Frequency; No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2008

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006 Date Data Arrived at EDR: 03/14/2008 Date Made Active in Reports: 04/18/2008

Number of Days to Update: 35

Source: EPA

Telephone: 202-564-4203 Last EDR Contact: 04/14/2008

Next Scheduled EDR Contact: 07/14/2008 Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/28/2008 Date Data Arrived at EDR: 03/18/2008 Date Made Active in Reports: 05/06/2008

Number of Days to Update: 49

Source: Environmental Protection Agency

Telephone: 202-564-5088 Last EDR Contact: 04/14/2008

Next Scheduled EDR Contact: 07/14/2008 Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/04/2007 Date Data Arrived at EDR: 02/07/2008 Date Made Active in Reports: 03/17/2008

Number of Days to Update: 39

Source: EPA

Telephone: 202-566-0500 Last EDR Contact: 05/09/2008

Next Scheduled EDR Contact: 08/04/2008 Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/15/2008 Date Data Arrived at EDR: 02/07/2008 Date Made Active in Reports: 03/17/2008

Number of Days to Update: 39

Source: Nuclear Regulatory Commission

Telephone: 301-415-7169 Last EDR Contact: 03/31/2008

Next Scheduled EDR Contact: 06/30/2008 Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/29/2008 Date Data Arrived at EDR: 01/31/2008 Date Made Active in Reports: 03/17/2008

Number of Days to Update: 46

Source: Environmental Protection Agency

Telephone: 202-343-9775 Last EDR Contact: 05/01/2008

Next Scheduled EDR Contact: 07/28/2008 Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System, FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/03/2008 Date Data Arrived at EDR: 04/08/2008 Date Made Active in Reports: 05/06/2008 Number of Days to Update: 28

Source: EPA Telephone: (214) 665-2200 Last EDR Contact: 03/31/2008

Next Scheduled EDR Contact: 06/30/2008 Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System, RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995

Number of Days to Update: 35

Source: EPA

Telephone: 202-564-4104 Last EDR Contact: 03/03/2008

Next Scheduled EDR Contact: 06/02/2008 Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 03/06/2007 Date Made Active in Reports: 04/13/2007

Number of Days to Update: 38

Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 03/13/2008

Next Scheduled EDR Contact: 06/09/2008 Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

SHWS: Voluntary Cleanup & Superfund Site Status Report Land restoration projects carried out in several DEQ programs.

Date of Government Version: 12/31/2006 Date Data Arrived at EDR: 04/10/2007 Date Made Active in Reports: 05/10/2007

Number of Days to Update: 30

Source: Department of Environmental Quality

Telephone: 405-702-5100 Last EDR Contact: 04/01/2008

Next Scheduled EDR Contact: 06/09/2008 Data Release Frequency: Varies

SWF/LF: Permitted Solid Waste Disposal & Processing Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/26/2007 Date Data Arrived at EDR: 11/27/2007 Date Made Active in Reports: 01/16/2008 Number of Days to Update: 50

Source: Department of Environmental Quality

Telephone: 405-702-5184 Last EDR Contact: 03/27/2008

Next Scheduled EDR Contact: 05/26/2008 Data Release Frequency: Semi-Annually

LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/28/2008 Date Data Arrived at EDR: 01/29/2008 Date Made Active in Reports: 02/21/2008

Number of Days to Update: 23

Source: Oklahoma Corporation Commission

Telephone: 405-521-3107 Last EDR Contact: 04/25/2008

Next Scheduled EDR Contact: 07/21/2008

Data Release Frequency: Varies

UST: Underground Storage Tank Listing

Registered Underground Storage Tanks, UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/28/2008 Date Data Arrived at EDR: 01/29/2008 Date Made Active in Reports: 02/29/2008

Number of Days to Update: 31

Source: Oklahoma Corporation Commission

Telephone: 405-521-3107 Last EDR Contact: 04/25/2008

Next Scheduled EDR Contact: 07/21/2008 Data Release Frequency: Varies

HIST UST: Underground Storage Tank List, List II Version

This underground storage tank listing includes tank information through March 2003. This listing is no longer updated by the Oklahoma Corporation Commission.

Date of Government Version: 03/21/2003 Date Data Arrived at EDR: 04/28/2003 Date Made Active in Reports: 05/27/2003

Number of Days to Update: 29

Source: Oklahoma Corporation Commission

Telephone: 405-521-3107 Last EDR Contact: 01/22/2008

Next Scheduled EDR Contact: 07/21/2008 Data Release Frequency: No Update Planned

LAST: Leaking Aboveground Storage Tanks List Leaking aboveground storage tank site locations.

> Date of Government Version: 01/28/2008 Date Data Arrived at EDR: 01/29/2008 Date Made Active in Reports: 02/21/2008 Number of Days to Update: 23

Source: Oklahoma Corporation Commission

Telephone: 405-522-4640 Last EDR Contact: 04/25/2008

Next Scheduled EDR Contact: 07/21/2008 Data Release Frequency: Varies

AST: Aboveground Storage Tanks Registered Aboveground Storage Tanks.

> Date of Government Version: 01/28/2008 Date Data Arrived at EDR: 01/29/2008 Date Made Active in Reports: 02/29/2008

Number of Days to Update: 31

Source: Oklahoma Corporation Commission

Telephone: 405-521-3107 Last EDR Contact: 04/25/2008

Next Scheduled EDR Contact: 07/21/2008 Data Release Frequency: Varies

INST CONTROL: Institutional Control Sites Sites with institutional controls in place.

> Date of Government Version: 02/28/2008 Date Data Arrived at EDR: 03/11/2008 Date Made Active in Reports: 04/09/2008

Number of Days to Update: 29

Source: Department of Environmental Quality

Telephone: 405-702-5100 Last EDR Contact: 03/03/2008

Next Scheduled EDR Contact: 06/09/2008 Data Release Frequency: Varies

VCP: Voluntary Cleanup Site Inventory

Investigations and cleanups by groups or individuals participating in the Voluntary Cleanup Program (VCP).

Date of Government Version: 02/28/2008 Date Data Arrived at EDR: 03/11/2008 Date Made Active in Reports: 04/09/2008

Number of Days to Update: 29

Source: Department of Environmental Quality

Telephone: 405-702-5100 Last EDR Contact: 03/03/2008

Next Scheduled EDR Contact: 06/09/2008 Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Facilities A listing of drycleaner facility locations.

> Date of Government Version: 04/07/2008 Date Data Arrived at EDR: 04/08/2008 Date Made Active in Reports: 05/08/2008 Number of Days to Update: 30

Source: Department of Environmental Quality

Telephone: 405-702-9100 Last EDR Contact: 04/07/2008

Next Scheduled EDR Contact: 07/07/2008 Data Release Frequency: Varies

BROWNFIELDS: Brownfield Sites

Brownfields are defined by Oklahoma law as abandoned, idled or under used industrial or commercial facilities or other real property at which expansion or redevelopment of the real property is complicated by environmental contamination caused by regulated substances. This program provides a means for private parties and government entities to voluntarily investigate and if warranted, clean up properties that may be contaminated with hazardous wastes. The formal Brownfields Program provides specific state liability relief and protects the property from federal Superfund actions.

Date of Government Version: 03/16/2007 Date Data Arrived at EDR: 03/16/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 25

Source: Department of Environmental Quality

Telephone: 405-702-5100 Last EDR Contact: 04/29/2008

Next Scheduled EDR Contact: 06/09/2008 Data Release Frequency: No Update Planned

BROWNFIELDS 2: Brownfields Public Record Listing

The Brownfields program provides a means for private parties and government entities to voluntarily investigate and if warranted, clean up properties that may be contaminated with hazardous wastes. The formal Brownfields Program provides specific state liability relief and protects the property from federal Superfund actions.

Date of Government Version: 06/25/2007 Date Data Arrived at EDR: 10/04/2007 Date Made Active in Reports: 10/16/2007

Number of Days to Update: 12

Source: Department of Environmental Quality

Telephone: 405-702-5100

Last EDR Contact; 03/14/2008

Next Scheduled EDR Contact: 06/09/2008

Data Release Frequency: Varies

AIRS: Permitted AIRS Facility Listing

A listing of permitted AIRS facility locations.

Date of Government Version: 05/02/2008 Date Data Arrived at EDR: 05/02/2008 Date Made Active in Reports: 05/08/2008

Number of Days to Update: 6

Source: Department of Environmental Quality

Telephone: 405-702-4100 Last EDR Contact: 02/01/2008

Next Scheduled EDR Contact: 04/21/2008 Data Release Frequency: Varies

TIER 2: Tier 2 Data Listing

A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 09/10/2007 Date Data Arrived at EDR: 09/11/2007 Date Made Active in Reports: 10/16/2007

Number of Days to Update: 35

Source: Department of Environmental Quality

Telephone: 405-702-1000 Last EDR Contact: 02/25/2008

Next Scheduled EDR Contact: 05/26/2008 Data Release Frequency: Varies

OK COMPLAINT: Oklahoma Complaint System Database

Environmental complaints reported to the Oklahoma Corporation Commission.

Date of Government Version: 03/27/2006 Date Data Arrived at EDR: 04/05/2006 Date Made Active in Reports: 05/12/2006 Number of Days to Update: 37

Source: Oklahoma Corporation Commission Telephone: 405-521-2384 Last EDR Contact: 05/19/2008 Next Scheduled EDR Contact: 06/30/2008 Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 12/08/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 34

Source: USGS

Telephone: 202-208-3710 Last EDR Contact: 05/09/2008

Next Scheduled EDR Contact: 08/04/2008 Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 703-308-8245 Last EDR Contact: 02/25/2008

Next Scheduled EDR Contact: 05/26/2008 Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/17/2008 Date Data Arrived at EDR: 03/27/2008 Date Made Active in Reports: 05/06/2008 Number of Days to Update: 40

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 02/20/2008 Date Data Arrived at EDR: 03/04/2008 Date Made Active in Reports: 03/17/2008

Number of Days to Update: 13

Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 02/28/2008 Date Data Arrived at EDR: 02/29/2008 Date Made Active in Reports: 03/17/2008 Number of Days to Update: 17

Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 03/17/2008 Date Data Arrived at EDR: 03/27/2008 Date Made Active in Reports: 05/06/2008 Number of Days to Update: 40

Source: EPA Region 4 Telephone: 404-562-8677 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008 Date Data Arrived at EDR: 03/14/2008 Date Made Active in Reports: 03/20/2008

Number of Days to Update: 6

Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/21/2008 Date Data Arrived at EDR: 02/26/2008 Date Made Active in Reports: 03/20/2008

Number of Days to Update: 23

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2008 Date Data Arrived at EDR: 02/26/2008 Date Made Active in Reports: 03/17/2008

Number of Days to Update: 20

Source: Environmental Protection Agency Telephone: 415-972-3372 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 03/17/2008 Date Data Arrived at EDR: 03/27/2008 Date Made Active in Reports: 05/06/2008 Number of Days to Update: 40

Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 06/01/2007 Date Data Arrived at EDR: 06/14/2007 Date Made Active in Reports: 07/05/2007 Number of Days to Update: 21

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land No description is available for this data

Date of Government Version: 02/28/2008 Date Data Arrived at EDR: 02/29/2008 Date Made Active in Reports: 03/17/2008

Number of Days to Update: 17

Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land A listing of underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008 Date Data Arrived at EDR: 03/14/2008 Date Made Active in Reports: 03/20/2008 Number of Days to Update: 6

Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 05/19/2008 Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 02/21/2008 Date Data Arrived at EDR: 02/26/2008 Date Made Active in Reports: 03/20/2008

Number of Days to Update: 23

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 12/21/2007 Date Data Arrived at EDR: 12/21/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 34

Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 02/25/2008 Date Data Arrived at EDR: 02/26/2008 Date Made Active in Reports: 03/20/2008

Number of Days to Update: 23

Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

No description is available for this data

Date of Government Version: 02/20/2008 Date Data Arrived at EDR: 03/04/2008 Date Made Active in Reports: 03/17/2008

Number of Days to Update: 13

Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 05/19/2008

Next Scheduled EDR Contact: 08/18/2008 Data Release Frequency: Quarterly

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through

transporters to a tsd facility.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 06/15/2007 Date Made Active in Reports: 08/20/2007

Telephone: 860-424-3375 Last EDR Contact: 03/14/2008

Next Scheduled EDR Contact: 06/09/2008 Data Release Frequency: Annually

Source: Department of Environmental Protection

Number of Days to Update: 66

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD

facility.

Date of Government Version: 02/15/2008 Date Data Arrived at EDR: 02/28/2008 Date Made Active in Reports: 04/09/2008

Source: Department of Environmental Conservation

Telephone: 518-402-8651 Last EDR Contact: 02/28/2008

Next Scheduled EDR Contact: 05/26/2008 Data Release Frequency: Annually

Number of Days to Update: 41

WI MANIFEST: Manifest Information Hazardous waste manifest information.

> Date of Government Version: 12/31/2006 Date Data Arrived at EDR: 04/27/2007 Date Made Active in Reports: 06/08/2007 Number of Days to Update: 42

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 04/07/2008

Next Scheduled EDR Contact: 07/07/2008 Data Release Frequency: Annually

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicald Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

ublic Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Centers

Source: Department of Human Services

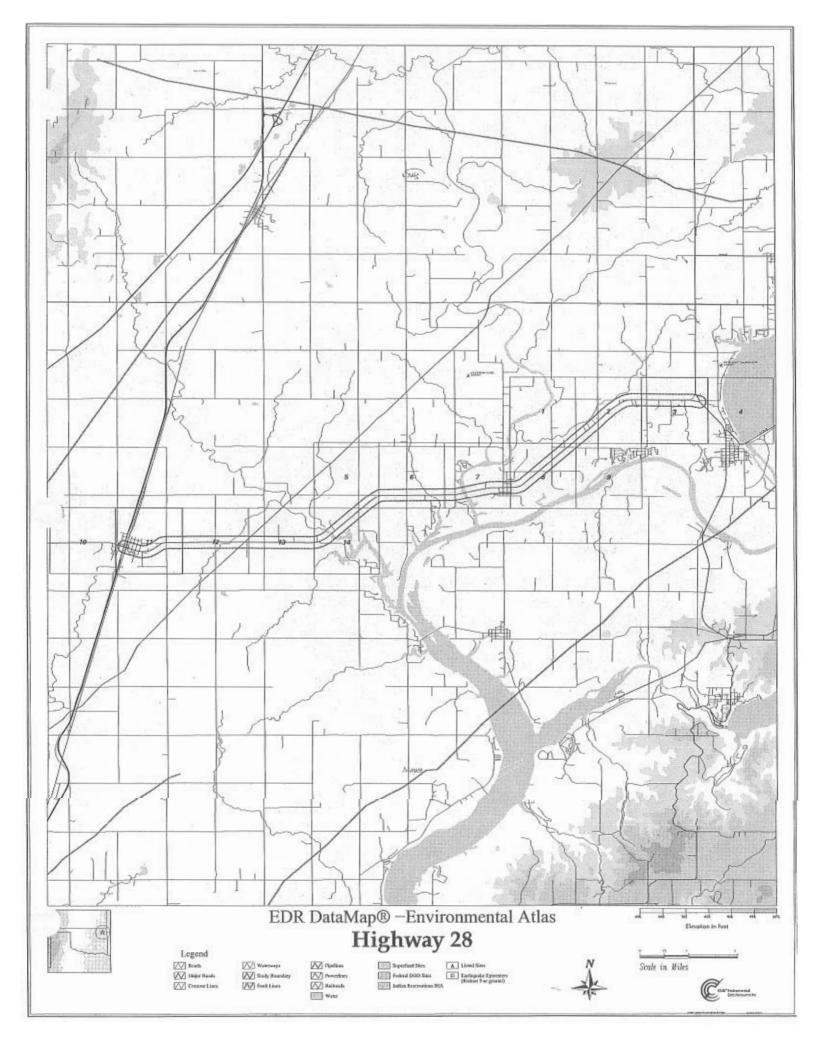
Telephone: 405-521-3561

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

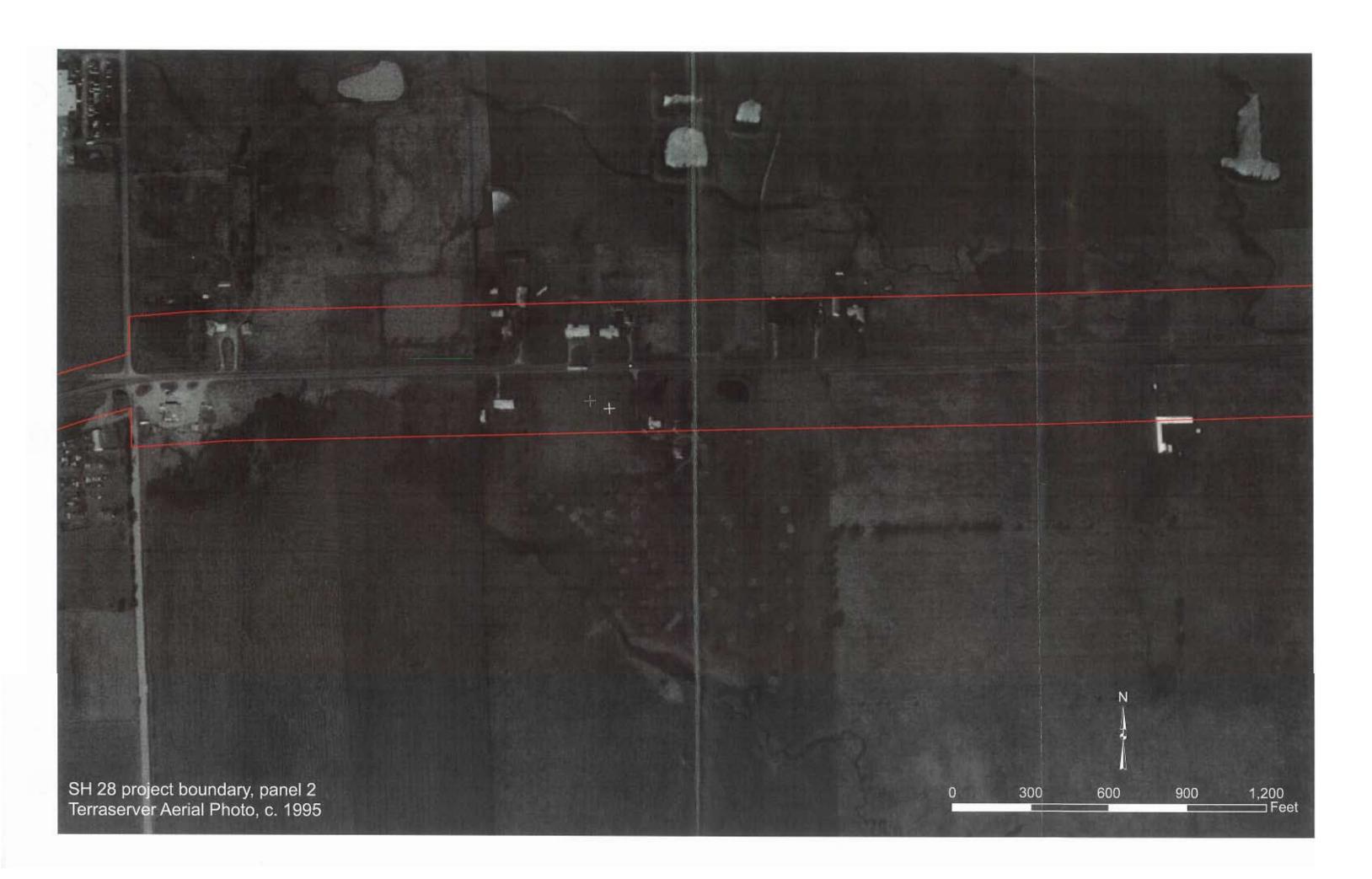
STREET AND ADDRESS INFORMATION

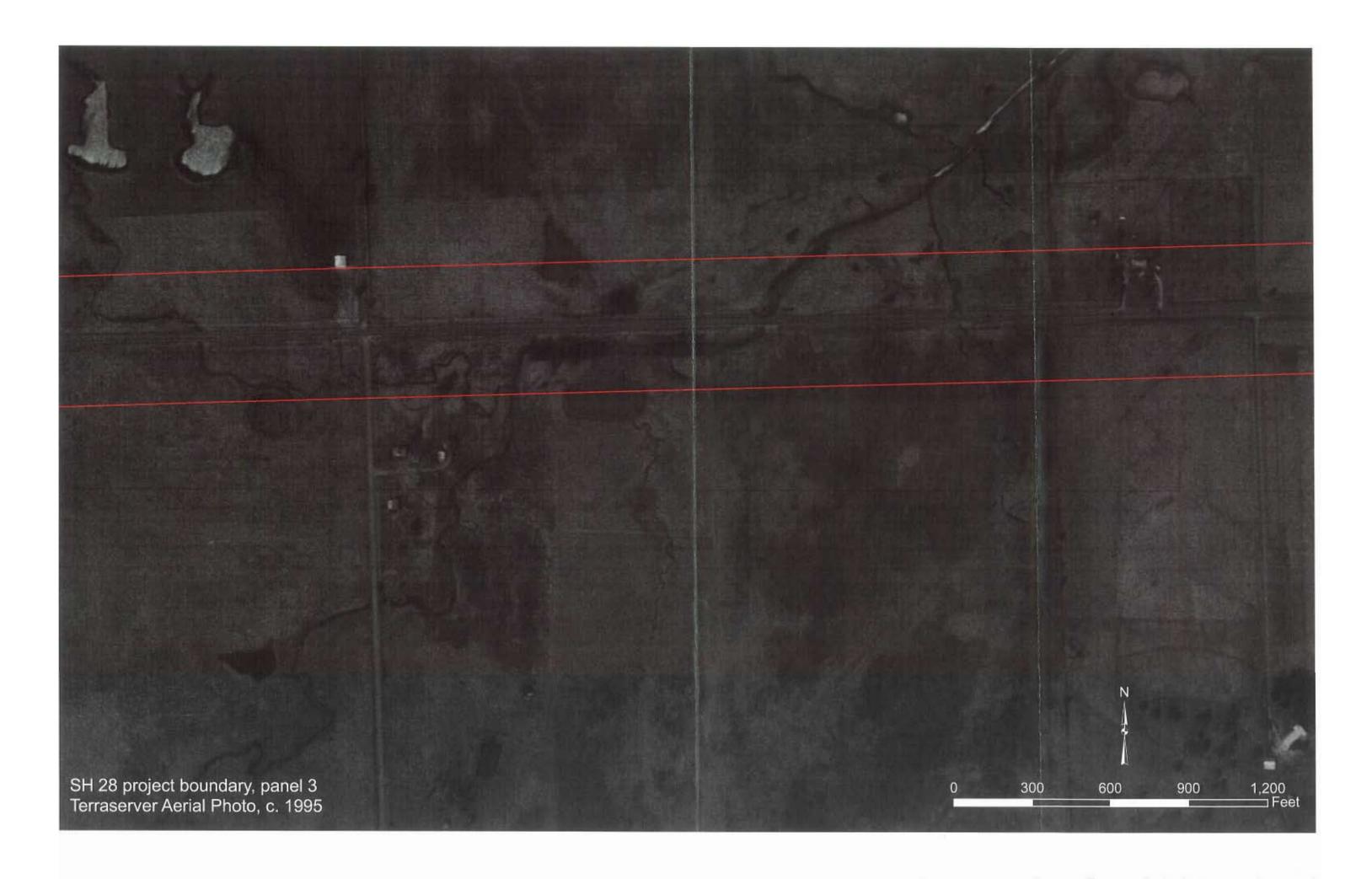
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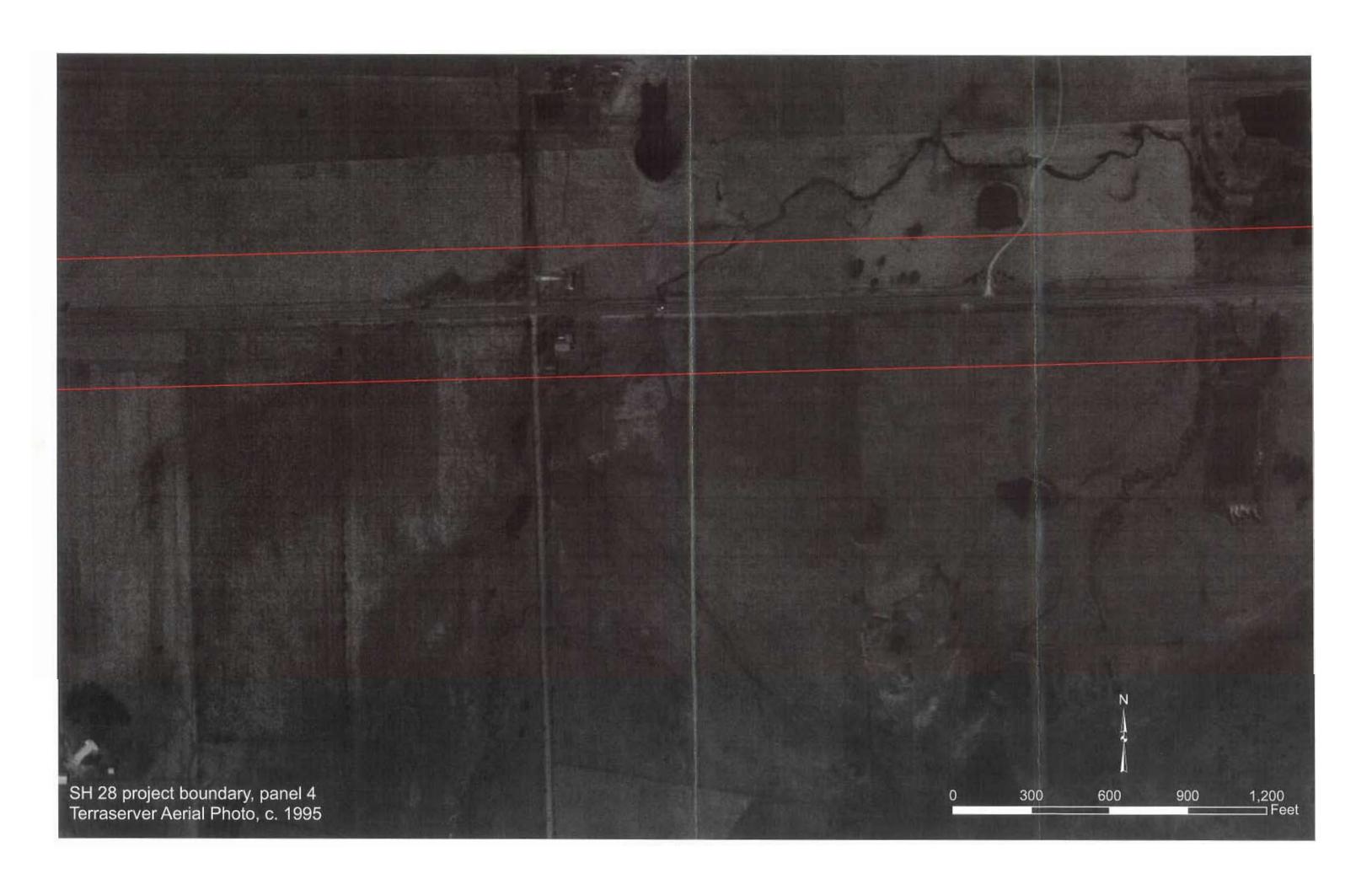


Appendix B Historic Aerial Photograph, 1995

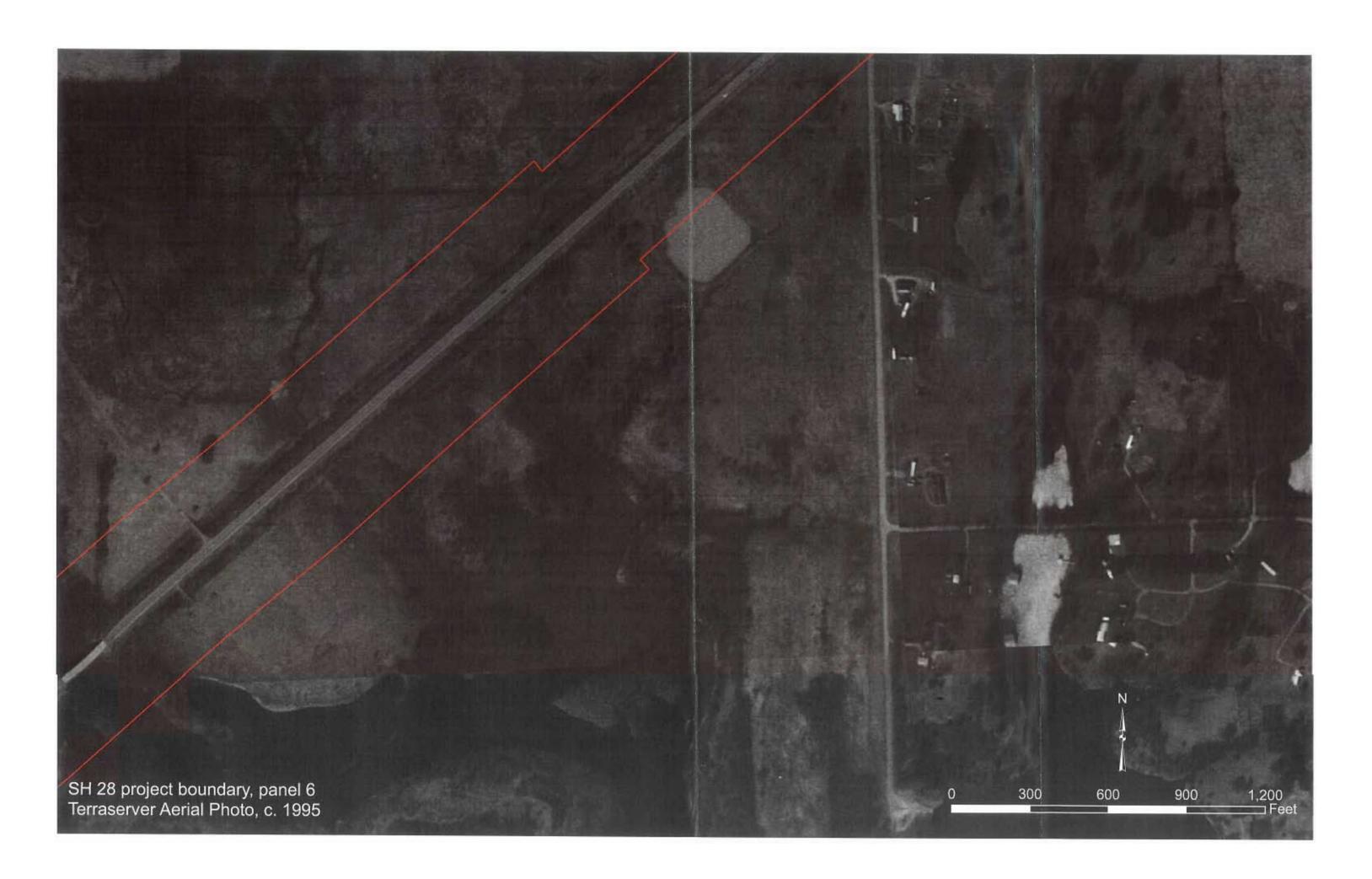


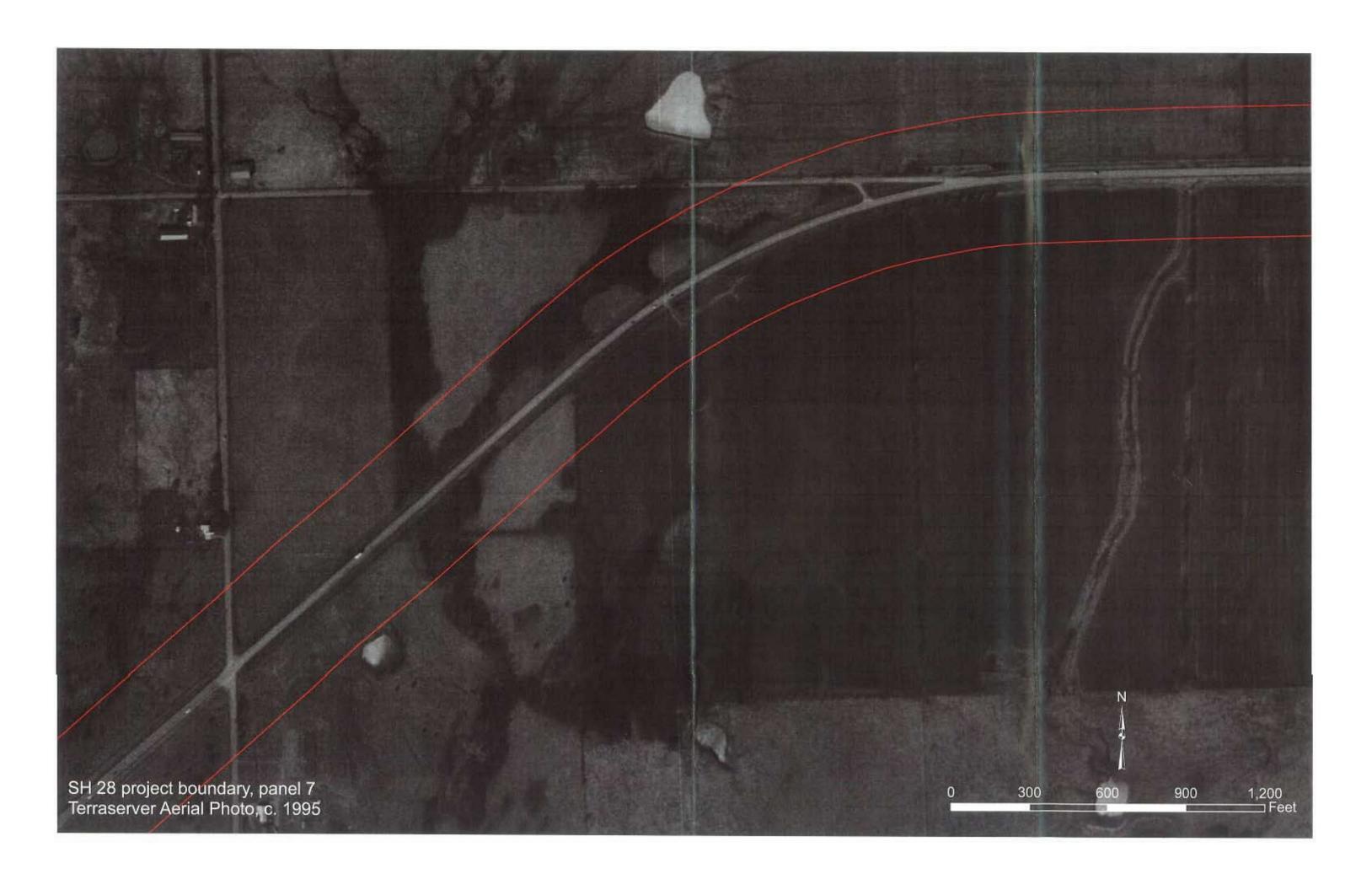


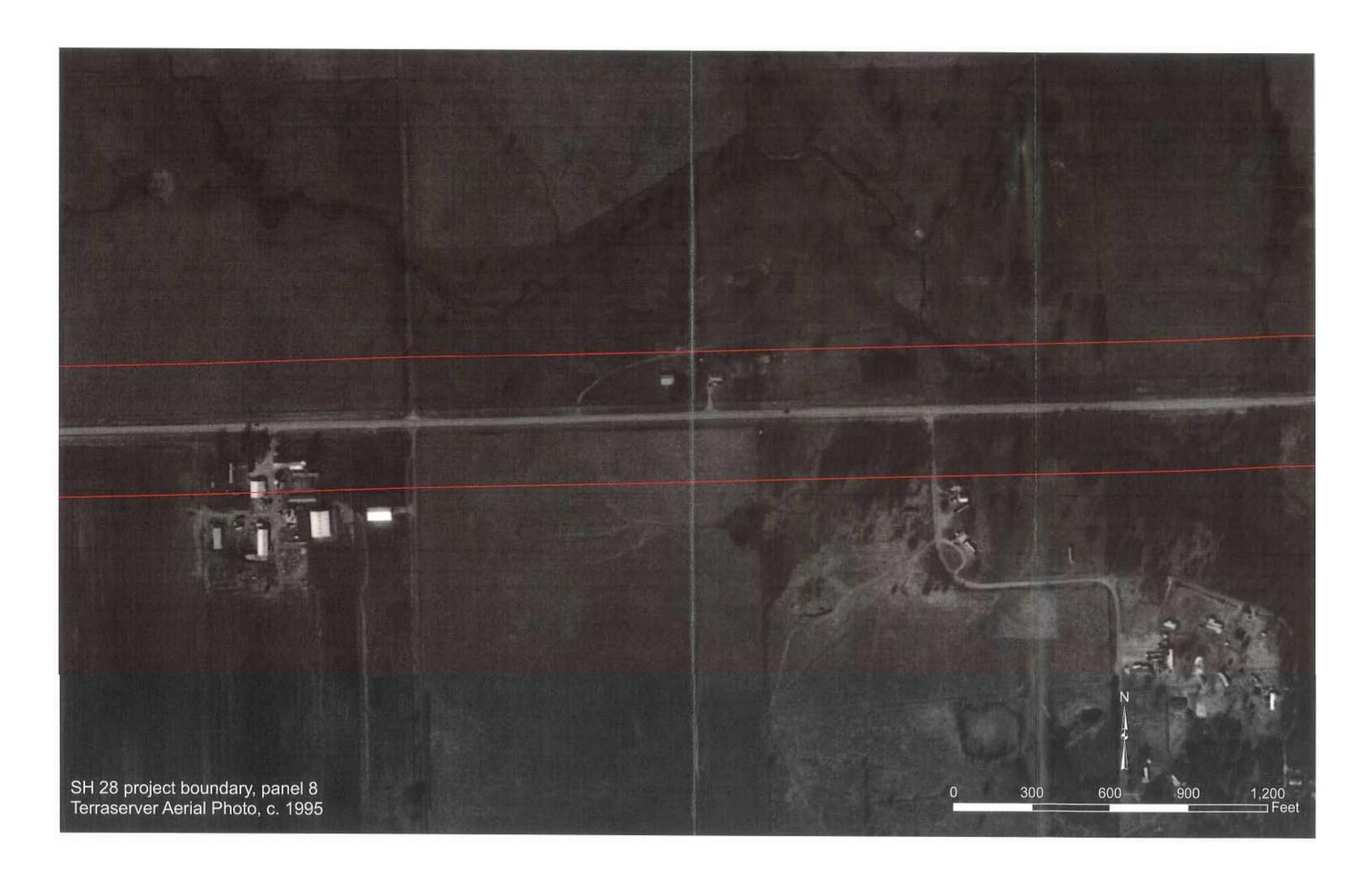


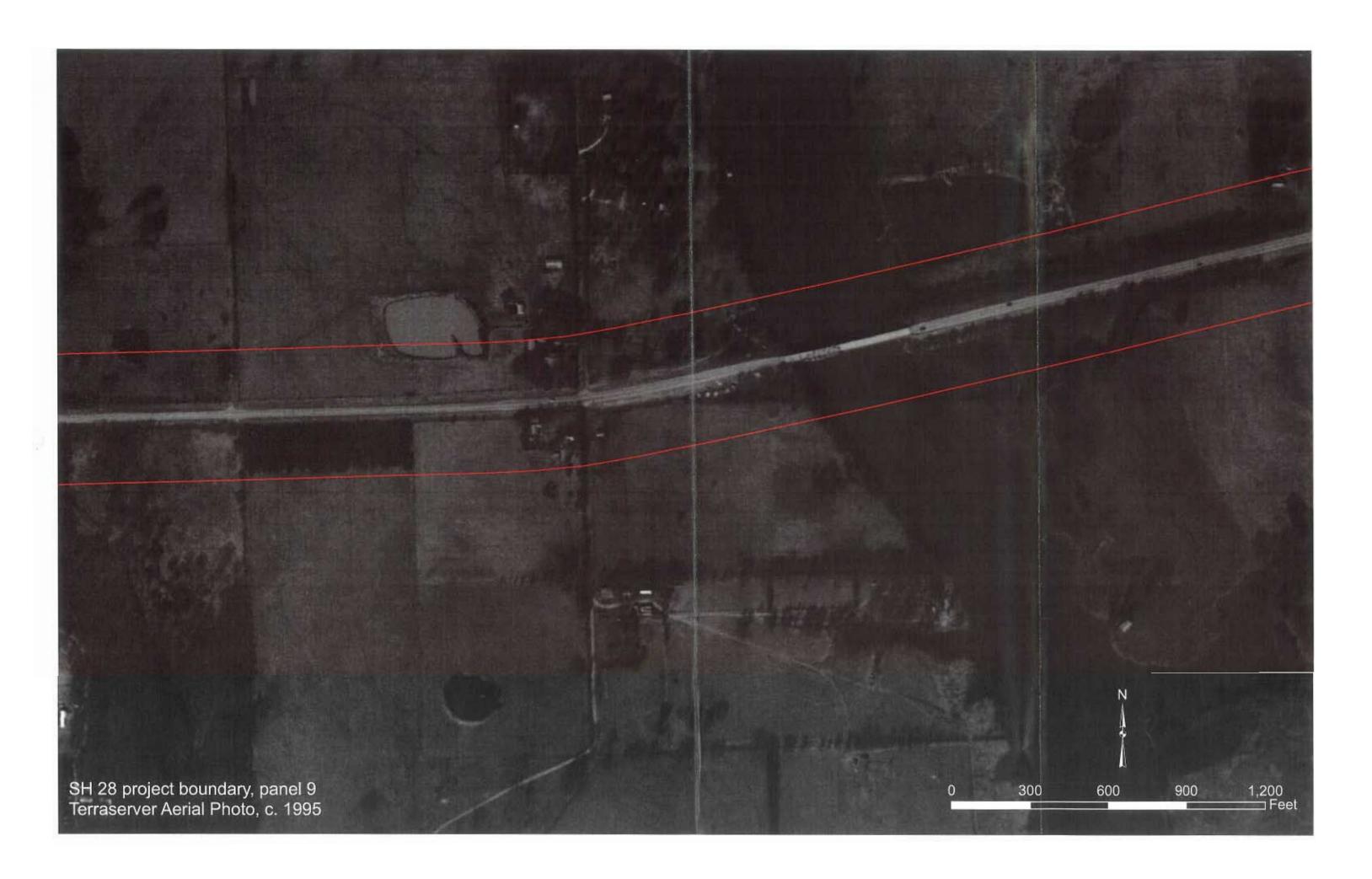








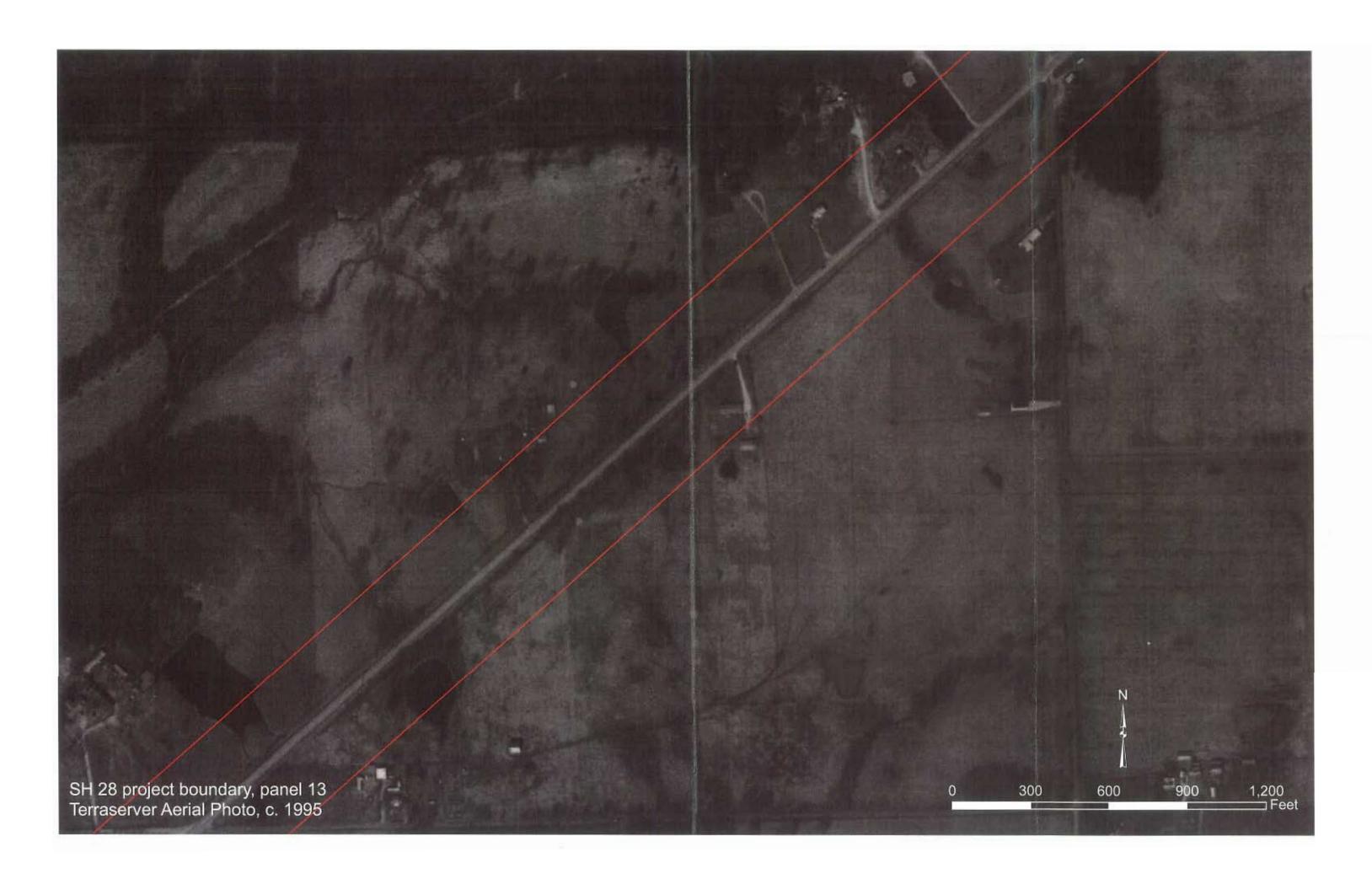


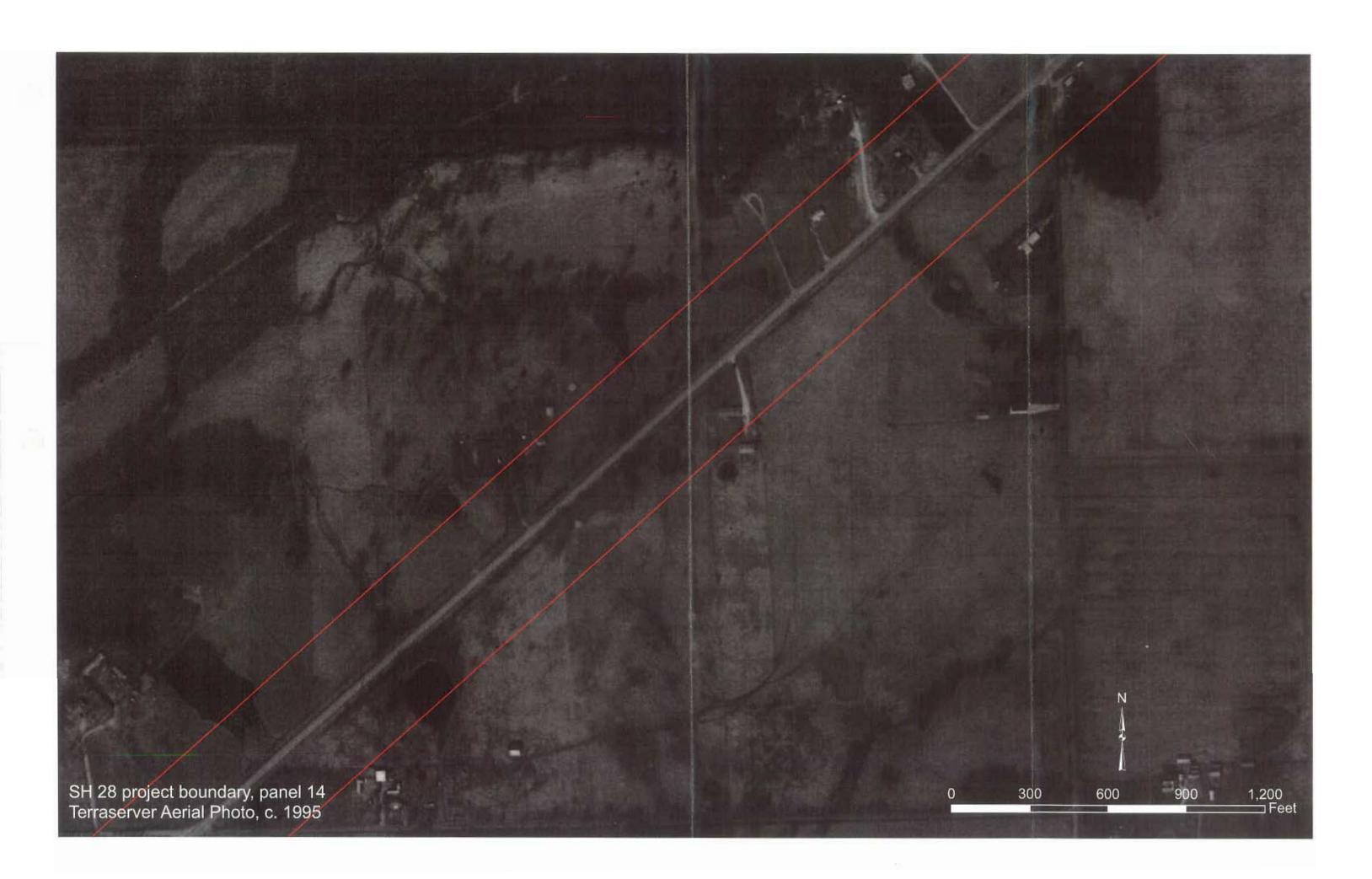








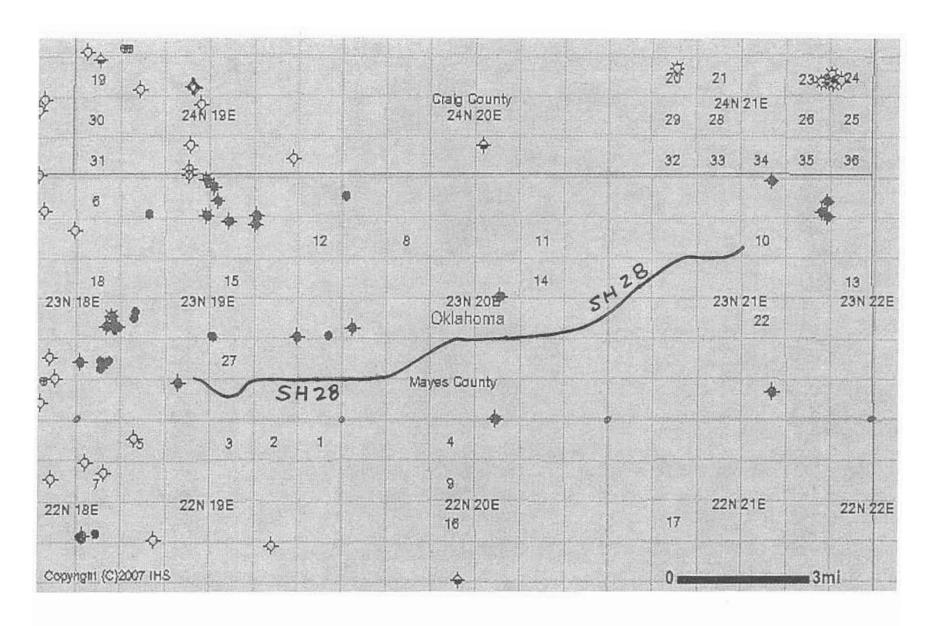




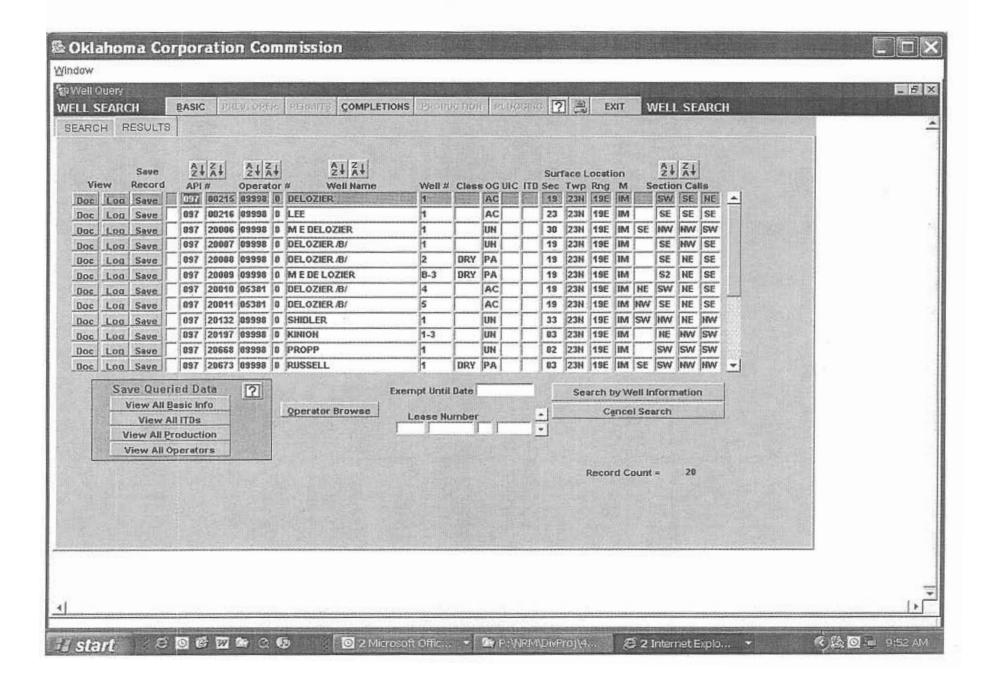


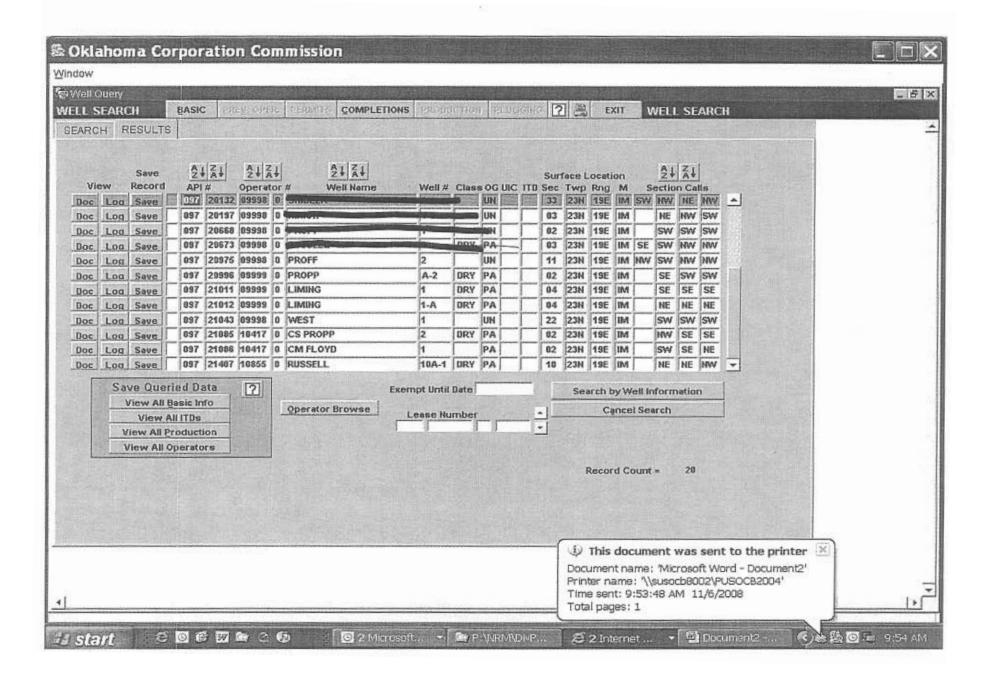


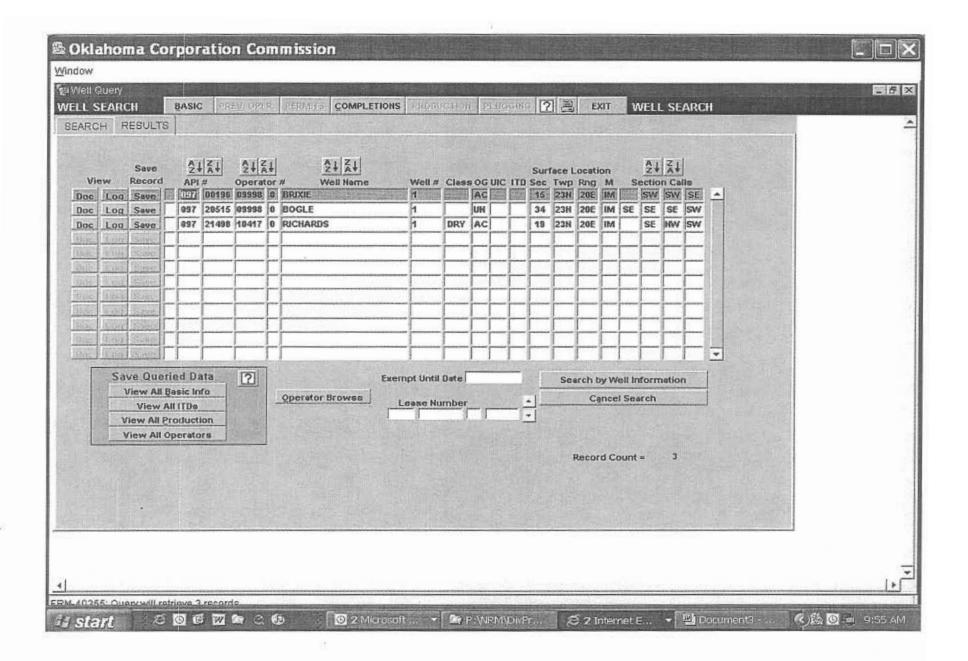
Appendix C IHS Energy Map Historic Oil and Gas Well Locations

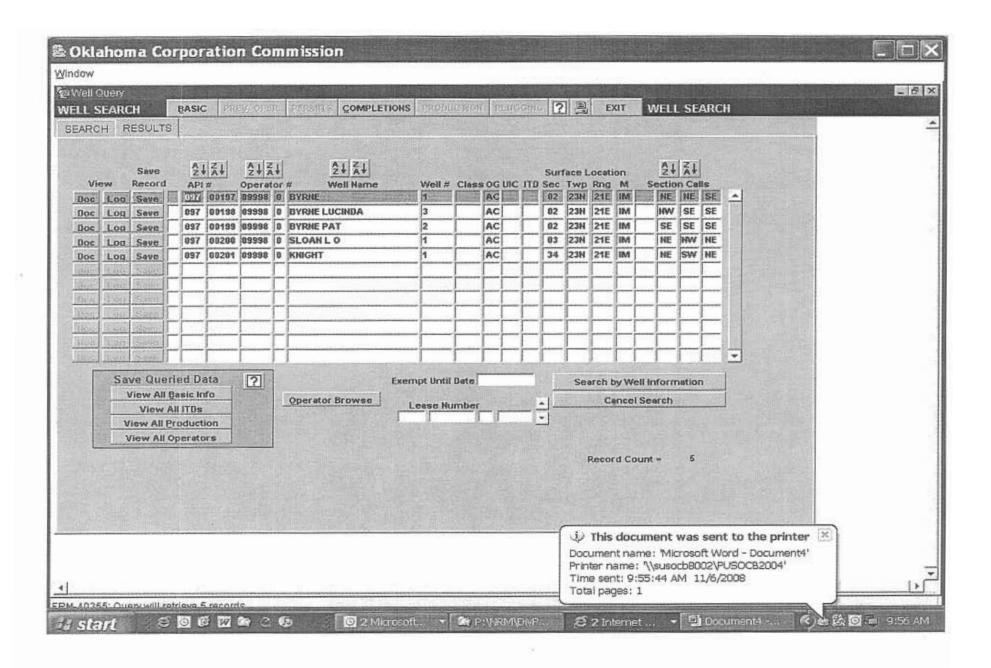


MAP OF HISTORIC OIL AND GAS WELLS
Township 23 North, Range 19 East, Mayes County
Township 23 North, Range 20 East, Mayes County
Township 23 North, Range 21 East, Mayes County
Source: IHS Energy, US Data Online Application, August 2008









Appendix D Land Use Windshield Survey Forms

		Land	Use Windshield Surve	ey			
No.	10000000000000000000000000000000000000	J/P 21909(04)					
ODOT Proje	ect No.:	24382(04), 23270(04)	Parcel ID:				
County:		Mayes	Site Name:	SH 28			
Nearest City	y:	Adair	Site Address/Legals:	10			
					Et .		
AND USE	CHARACTER		DIVO Decidential feeting	-ti-fi-ol-bottoit-affi			
	_ Vacant Lan	The state of the s	Oil/Gas Production (well	site/tank battery); otner			
	_	Agricultural	Industrial (describe)				
		Wooded	Commercial (describe)				
		Cleared Lot	Government (describe):				
X	Residential		Utility (describe)	THE REPORT OF			
	X	Single Family	Other (describe)	V2 - 1			
	9	Multi-Unit					
EVIDENCE	OF OIL OR H	AZARDOUS MATERIALS:					
USTs		Fill cap(s) (indicate #)	Fuel Dispe	nsers (indicate #)			
	(A)	Vent pipe(s) (indicate #)	-	Product Types (Ga	soline/diesel/other:		
ASTs		Pedestal (#, size, contents below)					
1010		At grade (#, size, contents below)	(#, type, size, contents below)				
		Out Countries of Others					
	0	2nd Containment? (Y/N) Other:					
	Sanitary wa Natural gas	lic - cap/meter/valve box)(private - wellhe aste (public - cap/manhole)(private - sept s (public - cap/meter/valve box)(private - verhead/below grade)	tic tank/vent/lagoon) other: propane tank) other;	nerator	b/u fuel tank (describe)		
		Transformers (pole/pad)	backup ge		bru idel talik (describe)		
EVIDENCE	OF ENVIROR	Transformers (pole/pad) NMENTAL INVESTIGATIONS/RELEAS		nerator	bru luei talik (uescilbe)		
EVIDENCE				TIETALUI	ord idei tank (describe)		
EVIDENCE	Monitoring	MENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations)	ES:		ord idei tank (describe)		
EVIDENCE	Monitoring	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/public	ES:		ord idei tank (describe)		
EVIDENCE	Monitoring Remedial s	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/publi Remedial system active? (Y/N)	ES: ic notice) other:		bro ider tank (describe)		
EVIDENCE	Monitoring Remedial s	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/public	ES: ic notice) other:		ord idei tank (describe)		
FIELD INTE	Monitoring Remedial s Other overt	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/publi Remedial system active? (Y/N) t evidence of a release (ex. Dumping, bu	ic notice) other:	d vegetation, etc.):			
FIELD INTE	Monitoring Remedial s Other overt	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/publi Remedial system active? (Y/N)	ic notice) other:	d vegetation, etc.):			
FIELD INTE	Monitoring Remedial s Other overt ERVIEW: COOPERATIV	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/publi Remedial system active? (Y/N) t evidence of a release (ex. Dumping, bu	ic notice) other:	d vegetation, etc.):			
FIELD INTE NOTE: IF (Contact Na	Monitoring Remedial s Other overt ERVIEW: COOPERATIV me:	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/publi Remedial system active? (Y/N) t evidence of a release (ex. Dumping, bu	ic notice) other:	d vegetation, etc.):			
FIELD INTE NOTE: IF (Contact Na Title/Organ	Monitoring Remedial s Other overtex: COOPERATIVE: CITE COOPERATIVE: CO	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/publi Remedial system active? (Y/N) t evidence of a release (ex. Dumping, bu	ic notice) other:	d vegetation, etc.):			
FIELD INTE NOTE: IF (Contact Na Title/Organi Phone Num	Monitoring Remedial s Other overtex: COOPERATIVE: CITE COOPERATIVE: CO	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/publicatem (trailer/shed/extraction wells/publicatem) Remedial system active? (Y/N) sevidence of a release (ex. Dumping, but /E, CONTACT MAY ASSIST IN COMPL	ic notice) other:	d vegetation, etc.):			
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FIELD INTE NOTE: IF (Contact Na Title/Organi Phone Num Comments/	Monitoring Remedial s Other overtex ERVIEW: COOPERATIVE me: ization: nber:	NMENTAL INVESTIGATIONS/RELEAS wells (indicate #, locations) system (trailer/shed/extraction wells/publicatem (trailer/shed/extraction wells/publicatem) Remedial system active? (Y/N) sevidence of a release (ex. Dumping, but /E, CONTACT MAY ASSIST IN COMPL	ic notice) other:	d vegetation, etc.):			

			Land U	se Windsh	ield Surve	у	
		J/P 21909(04),		1960			
ODOT Project No.	:	24382(04), 23270(04)		Parcel ID:		011 00	
County:		Mayes		Site Name:		SH 28	
Nearest City:		Adair		Site Address	s/Legals:		
LAND USE CHAR	PACTEDI	STICS					
	ant Land	31103.		Oil/Gas Prod	duction (wells)	te/tank battery); other	r
7 6 6 6	ant Land	Agricultural		Industrial (de		to to the bottom party	-
_		Wooded	Х	Commercial		Okie Dokie	e Phillips 66
-		Cleared Lot		Government		OTTE DOTTE	D I III I I I D D O O
Resi	idential	Cidal Cu Lot		Utility (descr			
	in distribution	Single Family	3	Other (desc			
× -		Multi-Unit		_ Carer (desc	1007		
	IL OR HA	ZARDOUS MATERIALS:		2	Fuel Disco	sees (ladie-t- 40	
JSTs		Fill cap(s) (indicate #)		3		nsers (indicate #)	
		Vent pipe(s) (indicate #)	333			e1Product Types (Ga	
ASTs		Pedestal (#, size, contents l		Container/Drum Storage (interior/exterior - covered/uncovered)			
(****	-	At grade (#, size, contents below)		(#, type, size, contents below) Other:			
		2nd Containment? (Y/N)		Other			
		c - cap/meter/valve box)(priva					
		public - cap/meter/valve box	Total Control of the			-	
		rhead/below grade)	Mbuvare - hi	opane tank) of	nor.	-	
Elec	cinc (ove				backup gen	perator	b/u fuel tank (describe)
_		Transformers (pole/pad)		\$ 	_ backup gen		bru luel tank (describe)
		MENTAL INVESTIGATIONS	/RELEASES	S:			
		ells (indicate #, locations)		-			
Ren	nedial sy	stem (trailer/shed/extraction		notice) other:			
·		Remedial system active? (\		VI DE 62	10,000	7/5203 - 10/200	
Othe	er overt e	evidence of a release (ex. Du	mping, buria	al pits, stained	soil, stressed	vegetation, etc.):	
FIELD INTERVIE	W:						
NOTE: IF COOPE	ERATIVE	CONTACT MAY ASSIST I	N COMPLET	TION ABOVE	CHECKLIST (INTERVIEWER'S DIS	SCRETION)
Contact Name:					-11		
Title/Organization	i.						
Phone Number:		10					
Comments/Addition	onal Deta	ils:					
		+.					
	Contract to						

	Lar	nd Use Windshield Surv	еу			
	J/P 21909(04),					
ODOT Project No.:	24382(04), 23270(04)	Parcel ID:	CIT 20			
County:	Mayes	Site Name:	SH 28			
Nearest City:	Adair	Site Address/Legals:	9			
LAND USE CHARACT	TERISTICS:					
Vacant L	and	Oil/Gas Production (well	Isite/tank battery); other:			
	Agricultural	Industrial (describe)				
	Wooded	X Commercial (describe)	Lakeland Auto Sales			
	Cleared Lot	Government (describe):				
Residen	tial	Utility (describe)	17 a Transport and the same and			
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Single Family	Other (describe)				
-	Multi-Unit					
EVIDENCE OF OIL O	R HAZARDOUS MATERIALS:	Notice to the				
USTs	Fill cap(s) (indicate #)	Fuel Disp	ensers (indicate #)			
	Vent pipe(s) (indicate #)		Product Types (Gasoline/diesel/other:)			
ASTs	Pedestal (#, size, contents below)	-	Container/Drum Storage (Interior/exterior - covered/uncovered)			
	At grade (#, size, contents below)		(#, type, size, contents below)			
	2nd Containment? (Y/N)	Other: Appea	rance of former gas station			
Sanitary Natural	oublic - cap/meter/valve box)(private - w waste (public - cap/manhole)(private - : gas (public - cap/meter/valve box)(prival (overhead/below grade) Transformers (pole/pad)	septic tank/vent/lagoon) other:	eneratorb/u fuel tank (describe)			
EVIDENCE OF ENVIS	RONMENTAL INVESTIGATIONS/RELE	ASES:				
	ng wells (indicate #, locations)	LAGES.				
	al system (trailer/shed/extraction wells/p	public notice) other:				
ronda	Remedial system active? (Y/N)					
Other or	vert evidence of a release (ex. Dumping	, burial pits, stained soil, stresse	ed vegetation, etc.):			
Other bi	tare endence of a release text bumping	ound proj ouritor our, arreade	- Togothory Story			
FIELD INTERVIEW:						
	TIVE, CONTACT MAY ASSIST IN COM	MPLETION ABOVE CHECKLIST	(INTERVIEWER'S DISCRETION)			
Contact Name:						
Title/Organization:	-					
Phone Number:	D ()					
Comments/Additional	Details:					
7						

	7/0 01000/513				
ODOT Project No.:	J/P 21909(04), 24382(04), 23270(04)	Parcel ID:			
County:	Mayes	Site Name:	SH 28		
learest City:	Adair	Site Address/Legals:			
AND USE CHARAC	TERISTICS:				
Vacant	Land	Oil/Gas Production (wells	site/tank battery); other:		
_	Agricultural	Industrial (describe)			
_	Wooded	X Commercial (describe)	Luther's Drive-In		
	Cleared Lot	Government (describe):	<u></u>		
Resider	AND THE RESIDENCE TO SERVICE TO S	Utility (describe)			
·	Single Family	Other (describe)			
-	Multi-Unit				
	R HAZARDOUS MATERIALS:	V/8/1/4/1/4000-14	AND SECTION AND SE		
JSTs	Fill cap(s) (indicate #)	Fuel Dispe	nsers (indicate #)		
	Vent pipe(s) (indicate #)	1/20	Product Types (Gasoline/diesel/other:)		
ASTs	Pedestal (#, size, contents below) Container/I	Container/Drum Storage (interior/exterior - covered/uncovered)		
	The second secon		HT 14. THE PERSON TO THE PERSON OF THE PERSON OF PERSON TO THE PERSON T		
-	At grade (#, size, contents below	(#, type, siz	ze, contents below)		
	2nd Containment? (Y/N)	(#, type, siz	HOLE REPORT HE TO THE STATE OF THE SHOP SHOWS IN THE SHOP TO SHOW THE SHOP TO SHOP THE SHOP		
Water (Sanitar Natural		(#, type, siz Other: May have wellhead/wellhouse) other: septic tank/vent/lagoon) other:	ze, contents below) ave been historic gas station		
Water (Sanitar Natural Electric	2nd Containment? (Y/N) public - cap/meter/valve box)(private - w y waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(private) (overhead/below grade)	(#, type, siz Other: May have rellhead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other:backup gen	ze, contents below) ave been historic gas station		
Water (Sanitary Natural Electric	2nd Containment? (Y/N) public - cap/meter/valve box)(private - v y waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(private) (overhead/below grade)	(#, type, siz Other: May have rellhead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other:backup gen	ze, contents below) ave been historic gas station		
Water (Sanitary Natural Electric EVIDENCE OF ENVI	2nd Containment? (Y/N) public - cap/meter/valve box)(private - v y waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(private (overhead/below grade)Transformers (pole/pad)	(#, type, siz Other: May have lihead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other: backup ger EASES:	ze, contents below) ave been historic gas station		
Water (Sanitary Natural Electric EVIDENCE OF ENVI	2nd Containment? (Y/N) public - cap/meter/valve box)(private - v y waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(private (overhead/below grade)Transformers (pole/pad) RONMENTAL INVESTIGATIONS/RELI ing wells (indicate #, locations)	(#, type, siz Other: May have lihead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other: backup ger EASES:	ze, contents below) ave been historic gas station		
Sanitary Natural Electric EVIDENCE OF ENVI Monitor Remed	2nd Containment? (Y/N) public - cap/meter/valve box)(private - v v waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(private (overhead/below grade)Transformers (pole/pad) RONMENTAL INVESTIGATIONS/RELI ing wells (indicate #, locations) al system (trailer/shed/extraction wells/	(#, type, siz Other: May ha vellhead/wellhouse) other: septic tank/vent/lagoon) other: tte - propane tank) other: backup ger EASES: public notice) other:	ze, contents below) ave been historic gas station nerator b/u fuel tank (describe)		
Water (Sanitary Natural Electric EVIDENCE OF ENVI Monitor Remed Other of	2nd Containment? (Y/N) public - cap/meter/valve box)(private - v y waste (public - cap/meter/valve box)(private - gas (public - cap/meter/valve box)(private (overhead/below grade)Transformers (pole/pad) RONMENTAL INVESTIGATIONS/RELI ing wells (indicate #, locations) al system (trailer/shed/extraction wells/	(#, type, siz Other: May ha vellhead/wellhouse) other: septic tank/vent/lagoon) other: tte - propane tank) other: backup ger EASES: public notice) other:	ze, contents below) ave been historic gas station nerator b/u fuel tank (describe)		
Water (Sanitary Natural Electric VIDENCE OF ENVI Monitor Remed Other of	2nd Containment? (Y/N) public - cap/meter/valve box)(private - v y waste (public - cap/meter/valve box)(private - gas (public - cap/meter/valve box)(private (overhead/below grade)Transformers (pole/pad) RONMENTAL INVESTIGATIONS/RELI ing wells (indicate #, locations) al system (trailer/shed/extraction wells/	(#, type, siz Other: May have Pellhead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other: backup gent EASES: public notice) other:	neratorb/u fuel tank (describe)		
Water (Sanitary Natural Electric EVIDENCE OF ENVI Monitor Remed Other of FIELD INTERVIEW: NOTE: IF COOPERA Contact Name:	2nd Containment? (Y/N) public - cap/meter/valve box)(private - v y waste (public - cap/meter/valve box)(private - gas (public - cap/meter/valve box)(private (overhead/below grade)	(#, type, siz Other: May have Pellhead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other: backup gent EASES: public notice) other:	neratorb/u fuel tank (describe)		
Water (Sanitary Natural Electric EVIDENCE OF ENVI Monitor Remed Other of FIELD INTERVIEW: NOTE: IF COOPERA Contact Name: fitle/Organization:	2nd Containment? (Y/N) public - cap/meter/valve box)(private - v y waste (public - cap/meter/valve box)(private - gas (public - cap/meter/valve box)(private (overhead/below grade)	(#, type, siz Other: May have Pellhead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other: backup gent EASES: public notice) other:	neratorb/u fuel tank (describe)		
Water (Sanitary Natural Electric EVIDENCE OF ENVI Monitor Remed Other of FIELD INTERVIEW: NOTE: IF COOPERA Contact Name: Citle/Organization: Phone Number:	2nd Containment? (Y/N) public - cap/mcter/valve box)(private - v y waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(private gas (public - cap/meter/valve box)(private (overhead/below grade)	(#, type, siz Other: May have Pellhead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other: backup gent EASES: public notice) other:	neratorb/u fuel tank (describe)		
Water (Sanitary Natural Electric EVIDENCE OF ENVI Monitor Remed Other of FIELD INTERVIEW: FOTE: IF COOPERA Contact Name: Fitte/Organization: Phone Number:	2nd Containment? (Y/N) public - cap/mcter/valve box)(private - v y waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(private gas (public - cap/meter/valve box)(private (overhead/below grade)	(#, type, siz Other: May have Pellhead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other: backup gent EASES: public notice) other:	neratorb/u fuel tank (describe)		
Water (Sanitary Natural Electric EVIDENCE OF ENVI Monitor Remed Other of	2nd Containment? (Y/N) public - cap/mcter/valve box)(private - v y waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(private gas (public - cap/meter/valve box)(private (overhead/below grade)	(#, type, siz Other: May have Pellhead/wellhouse) other: septic tank/vent/lagoon) other: te - propane tank) other: backup gent EASES: public notice) other:	neratorb/u fuel tank (describe)		

	L	and U	lse Windshield Surve	у	
ODOT Project No.: County:	J/P 21909(04), 24382(04), 23270(04) Mayes		Parcel ID: Site Name:	SH 28	
Nearest City:	Adair		Site Address/Legals:		
LAND USE CHARAC	TERISTICS:				
Vacant			Oil/Gas Production (wells	ite/tank battery): other:	
	Agricultural		Industrial (describe)		
	Wooded		Commercial (describe)		
	Cleared Lot	X	Government (describe):	Mayes County Maintenance Yard	
Reside	ntial		Utility (describe)		
	Single Family	15-31	Other (describe)		
	Multi-Unit				
EVIDENCE OF OIL O	OR HAZARDOUS MATERIALS:				
USTs	Fill cap(s) (indicate #)		Fuel Disper	nsers (indicate #)	
	Vent pipe(s) (indicate #)	1.0	-	Product Types (Gasoline/diesel/other:)	
ASTs	Pedestal (#, size, contents below)		Container/Drum Storage (interior/exterior - covered/uncovered)		
	At grade (#, size, contents below)		(#, type, size, contents below)		
_	2nd Containment? (Y/N)		Other:		
Sanitar Natural	public - cap/meter/valve box)(private - y waste (public - cap/manhole)(private gas (public - cap/meter/valve box)(private (overhead/below grade) Transformers (pole/pad)	- septic	tank/vent/lagoon) other:	neratorb/u fuel tank (describe)	
EVIDENCE OF ENVI	RONMENTAL INVESTIGATIONS/REL	EASE	S:		
Monitor	ring wells (indicate #, locations)				
Remed	lial system (trailer/shed/extraction wells	/public	notice) other:		
	Remedial system active? (Y/N)				
Other	overt evidence of a release (ex. Dumpin	ng, buria	al pits, stained soil, stressed	vegetation, etc.):	
Contact Name: Title/Organization:	ATIVE, CONTACT MAY ASSIST IN CO		TION ABOVE CHECKLIST ((INTERVIEWER'S DISCRETION)	
Phone Number: Comments/Additiona	918-785-2 I Details:	449			
6.000-gall	on road oil tank no) Se	condary contai	nment, soil staining observed	
	gasoline tank, soil				
	on diesel tank, soil				
a, ooo gall	on areaer cann, sorr	. 200	zm roz beconda	a J Common of the Common of th	

			Land U	se Windsl	nield Surve	У	
	107-	J/P 21909(04),		20.000000000000000000000000000000000000			
ODOT Project No.	:	24382(04), 23270(04)		Parcel ID:		CIT OO	
County:		Mayes		Site Name:		SH 28	
Nearest City:		Adair		Site Addres	ss/Legals;		
LAND USE CHAR	ACTERI	STICS:					
Vaca	ant Land			Oil/Gas Pro	oduction (wells	ite/tank battery);	other:
		Agricultural		Industrial (describe)		
		Wooded	X	Commercia	al (describe)	Larry's	Convenience Store
		Cleared Lot		Governme	nt (describe):		
Resi	idential			Utility (des	cribe)		
		Single Family	111111111111111111111111111111111111111	Other (des	cribe)		
		Multi-Unit		-0.9			
USTs USTS	L OR HA	ZARDOUS MATERIALS:		1	Fuel Diener	nsers (indicate #)	
0018		Fill cap(s) (indicate #) Vent pipe(s) (indicate #)					
ASTs —		Pedestal (#, size, contents below) At grade (#, size, contents below) 2nd Containment? (Y/N)				sel Product Types (Gasoline/diesel/other:) Drum Storage (interior/exterior - covered/uncovered)	
A015				(#, type, size, contents below) Other:			
_		2nd Containments (1714)		Out			
UTILITIES:							
Wat	er (public	- cap/meter/valve box)(private	- wollhea	d/wellhouse)	other:	_	
Sani	itary was	te (public - cap/manhole)(priva	te - septic	tank/vent/lag	oon) other:		
Natu	ural gas (public - cap/meter/valve box)(p	orivate - pr	ropane tank) o	other:		
Elec	tric (ove	rhead/below grade)					
1	000000000000000000000000000000000000000	Transformers (pole/pad)			backup ger	nerator _	b/u fuel tank (describe
EVIDENCE OF EN	NVIRON	MENTAL INVESTIGATIONS/R	ELEASES	S:			
		ells (indicate #, locations)		E(1)			
	C-100	stem (trailer/shed/extraction we	ells/public	notice) other:			
	,	Remedial system active? (Y/N		, , , , , , , , , , , , , , , , , , , ,		-	
Othe	er overt e	vidence of a release (ex. Dum		al pits, stained	soil, stressed	vegetation, etc.):	
		(20000	3
FIELD INTERVIE	W:						
NOTE: IF COOPE	ERATIVE	CONTACT MAY ASSIST IN	COMPLE	TION ABOVE	CHECKLIST	INTERVIEWER'S	S DISCRETION)
Contact Name:							
Title/Organization:	:		4 19				
Phone Number:				-			
Comments/Addition	onal Deta	ils:					
	_						

	Lan	nd Use Windshield Surve	ey .			
ODOT Delevin	J/P 21909(04),	December 1				
ODOT Project No.: County:	24382(04), 23270(04) Mayes	Parcel ID: Site Name:	SH 28			
Nearest City:	Adair	Site Address/Legals:	5H 20			
vocarear ony.	Audil	One rata con Logara.	-			
AND USE CHARACT	ERISTICS:					
Vacant L	and	Oil/Gas Production (wells	ite/tank battery); other:			
	Agricultural	Industrial (describe)	50-1 F			
3	Wooded	X Commercial (describe)	Henson Manufacturing*			
	Cleared Lot	Government (describe):				
Resident	ial	Utility (describe)	Specification of the second se			
	Single Family	Other (describe)				
	Multi-Unit		0.27.2			
EVIDENCE OF OIL OF	R HAZARDOUS MATERIALS:					
USTs	Fill cap(s) (indicate #)	Fuel Disper	nsers (indicate #)			
4	Vent pipe(s) (indicate #)		Product Types (Gasoline/diesel/other:)			
ASTs	Pedestal (#, size, contents below)	Container/D	Container/Drum Storage (interior/exterior - covered/uncovered)			
	At grade (#, size, contents below)	(#, type, siz	(#, type, size, contents below)			
201 == =	2nd Containment? (Y/N)	Other:				
UTILITIES:		10 11 10 1 - 10				
	ublic - cap/meter/valve box)(private - we		-			
	waste (public - cap/manhole)(private - s					
	pas (public - cap/meter/valve box)(privati	e - propane tank) otner:				
Electric	(overhead/below grade)		66.6.16.161.41			
1 1	Transformers (pole/pad)	backup ger	neratorb/u fuel tank (describe)			
	ONMENTAL INVESTIGATIONS/RELEA	ASES:				
	ng wells (indicate #, locations)	10. 1				
Remedia	l system (trailer/shed/extraction wells/pu	ublic notice) other:				
· ·	Remedial system active? (Y/N)		10 11			
Other ov	ert evidence of a release (ex. Dumping,	burial pits, stained soil, stressed	vegetation, etc.):			
FIELD INTERVIEW:						
	TIVE, CONTACT MAY ASSIST IN COM	PLETION ABOVE CHECKLIST ((INTERVIEWER'S DISCRETION)			
Contact Name:						
Title/Organization:	-					
Phone Number:						
Comments/Additional (Details:					

^{*}No chemical storage observed. Site is clean and orderly.

		Land l	Jse Windshield Surve	у		
ODOT Project No.: County:	J/F 21909(04), 24382(04), 23270(04) Mayes		Parcel ID; Site Name:	SH 28		
Nearest City:	Adair		Site Address/Legals:	511 20		
AND USE CHARACT			DESCRIPTION OF THE PROPERTY OF			
Vacant L	*** *** *** *** *** *** *** *** *** **		Oil/Gas Production (wells	ite/tank battery); other		
	Agricultural	3.5	Industrial (describe)	T-661- 700	- Danadask	
Sterilla Ste	Wooded	X	Commercial (describe)	Jeff's Aut	to Repair*	
Resident	Cleared Lot		Government (describe): Utility (describe)			
resident	Single Family		Other (describe)			
	Multi-Unit		Other (describe)			
B	Multi-Onit					
	R HAZARDOUS MATERIALS:		TOTAL CONTRACTOR			
JSTs	Fill cap(s) (indicate #)		Fuel Disper	nsers (indicate #)		
_	Vent pipe(s) (indicate #)	1923	Product Types (Gasoline/diesel/other:)			
ASTs	Pedestal (#, size, contents below) At grade (#, size, contents below)		Container/Drum Storage (interior/exterior - covered/uncovered)			
-			(#, type, size, contents below)			
-	2nd Containment? (Y/N)		Other:			
Sanitary Natural g	ublic - cap/meter/valve box)(private waste (public - cap/manhole)(privat as (public - cap/meter/valve box)(p (overhead/below grade) Transformers (pole/pad)	le - septi	c tank/vent/lagoon) other:	nerator	b/u fuel tank (describe)	
EVIDENCE OF ENVIR	ONMENTAL INVESTIGATIONS/R	ELEASE	S:			
Monitorin	ng wells (indicate #, locations)					
Remedia	l system (trailer/shed/extraction we	lls/public	notice) other:			
	Remedial system active? (Y/N	1)		10		
Other ov	ert evidence of a release (ex. Dump	ping, bur	al pits, stained soil, stressed	vegetation, etc.):		
FIELD INTERVIEW:	-					
	TIVE, CONTACT MAY ASSIST IN	COMPLE	TION ABOVE CHECKLIST (INTERVIEWER'S DIS	SCRETION)	
Contact Name:			WARCH			
Title/Organization:	NA-0					
Phone Number:	27		_			
Comments/Additional I	Details:					
<u></u>						

^{*}No chemical storage observed. Site is clean and orderly.

	La	nd Use Windshield Surve	е у		
	J/P 21909(04),				
ODOT Project No.:	24382(04), 23270(04)	Parcel ID:	CII 20		
County:	Mayes	Site Name:	SH 28		
Nearest City:	Adair	Site Address/Legals;	-		
AND USE CHARACT	TERISTICS:				
Vacant L	and	Oil/Gas Production (wells	site/tank battery); other:		
	Agricultural	Industrial (describe)	Secretaria de maria de esta ordina de la compansión		
	Wooded	X Commercial (describe)	Gary's Auto Repair		
	Cleared Lot	Government (describe):			
Resident	tial	Utility (describe)			
	Single Family	Other (describe)			
	Multi-Unit				
EVIDENCE OF OIL OF	R HAZARDOUS MATERIALS:				
USTs	Fill cap(s) (indicate #)	Fuel Disper	nsers (indicate #)		
Maria Parama	Vent pipe(s) (indicate #)	Maria Cara	Product Types (Gasoline/diesel/other:)		
ASTs	Pedestal (#, size, contents below)	Container/I	Container/Drum Storage (interior/exterior - covered/uncovered)		
Rich William	At grade (#, size, contents below)	(#, type, siz	(#, type, size, contents below)		
and desired the	2nd Containment? (Y/N)	Other:			
Natural g	waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(priva (overhead/below grade) Transformers (pole/pad)		nerator b/u fuel tank (describe)		
	ONMENTAL INVESTIGATIONS/RELE	EASES:			
	ng wells (indicate #, locations)				
Remedia	al system (trailer/shed/extraction wells/p Remedial system active? (Y/N)	public notice) other:			
Other ov	ert evidence of a release (ex. Dumping	, burial pits, stained soil, stressed	vegetation, etc.):		
FIELD INTERVIEW:					
	TIVE, CONTACT MAY ASSIST IN COM	MPLETION ABOVE CHECKLIST	(INTERVIEWER'S DISCRETION)		
Contact Name:					
Title/Organization:					
ritierOrganization.					
Phone Number:	Details:				
Phone Number:	Details:				
Phone Number: Comments/Additional I	Details:				
Phone Number:	Details:				
Phone Number:	Details:				

^{*}No chemical storage observed. Site is clean and orderly.

		Land U	lse Windshield Surve	у			
ODOT Project No.:	J/P 21909(04), 24382(04), 23270(04)		Parcel ID: Site Name:	SH 28			
County:	Mayes			SH 20			
Nearest City:	Adair		Site Address/Legals:	3-			
LAND USE CHARAC	TERISTICS:	_					
Vacant	Land		Oil/Gas Production (wells	ite/tank battery); other:			
	Agricultural		Industrial (describe)				
	Wooded	X	Commercial (describe)	Bo's Paint & Body*			
19	Cleared Lot		Government (describe):				
Resider	ntial	62.530	Utility (describe)				
	Single Family	200	Other (describe)				
	Multi-Unit						
EVIDENCE OF OIL O	OR HAZARDOUS MATERIALS:						
USTs	Fill cap(s) (indicate #)		Fuel Disper	nsers (indicate #)			
	Vent pipe(s) (indicate #)		Product Types (Gasoline/diesel/other:)				
ASTs	Pedestal (#, size, contents below)		Container/Drum Storage (interior/exterior - covered/uncovered)				
	At grade (#, size, contents below)		(#, type, size, contents below)				
-	2nd Containment? (Y/N)		Other:				
Sanitar Natural	(public - cap/meter/valve box)(private y waste (public - cap/manhole)(private gas (public - cap/meter/valve box)(p (overhead/below grade) Transformers (pole/pad)	te - septic	tank/vent/lagoon) other:	neratorb/u fuel tank (describe)			
EVIDENCE OF ENVI	RONMENTAL INVESTIGATIONS/R	RELEASE	S: None noted.				
Monitor	ring wells (indicate #, locations)						
Remed	lial system (trailer/shed/extraction we	ells/public	notice) other:				
	Remedial system active? (Y/II	N)					
Other o	overt evidence of a release (ex. Dum		al pits, stained soil, stressed	vegetation, etc.):			
FIELD INTERVIEW:							
NOTE: IF COOPERA	ATIVE, CONTACT MAY ASSIST IN	COMPLE	TION ABOVE CHECKLIST ((INTERVIEWER'S DISCRETION)			
Contact Name:							
Title/Organization:							
Phone Number:							
Comments/Additiona	I Details:						

^{*}No chemical storage observed. Site is clean and orderly.

		Land	Use Windshield Surve	еу .
70				
000FD	Part & Property	J/P 21909(04),		
ODOT Pro	ject No.:	24382(04), 23270(04)	Parcel ID:	SH 28
County:	thur.	Mayes	Site Name:	SH 28
Nearest Ci	ny:	Pensacola	Site Address/Legals:	3
LAND USE	E CHARACTE	RISTICS:		
	Vacant Lan	d	Oil/Gas Production (wells	site/tank battery); other:
		Agricultural	Industrial (describe)	1000 CANDARAS 190 AND
	25-10-10-10-10-10-10-10-10-10-10-10-10-10-	Wooded	Commercial (describe)	
		Cleared Lot	Government (describe):	
X	Residential	T	Utility (describe)	
	_ x	Single Family	Other (describe)	
		Multi-Unit		
EVIDENCI	E OF OIL OR H	HAZARDOUS MATERIALS:		
USTs		Fill cap(s) (indicate #)	Fuel Dispe	ensers (indicate #)
	-	Vent pipe(s) (indicate #)		Product Types (Gasoline/diesel/other:)
ASTs	10	Pedestal (#, size, contents below)	Container/	Drum Storage (interior/exterior - covered/uncovered)
rio i a		At grade (#, size, contents below) (#, type, size, contents below)		
	17	2nd Containment? (Y/N)	CIL	
		2nd Containments (17/4)	Other.	
	Sanitary wa Natural gas	ulic - cap/meter/valve box)(private - wellt este (public - cap/manhole)(private - sep s (public - cap/meter/valve box)(private - verhead/below grade) Transformers (pole/pad)	tic tank/vent/lagoon) other:	neratorb/u fuel tank (describe)
EVIDENC	E OF ENVIRO	NMENTAL INVESTIGATIONS/RELEAS	SES:	
	Monitoring	wells (indicate #, locations)		
	Remedial s	system (trailer/shed/extraction wells/pub Remedial system active? (Y/N)	lic notice) other:	
	Other over	t evidence of a release (ex. Dumping, b	urial pits, stained soil, stressed	d vegetation, etc.):
FIELD INT	rerview.			
		/E, CONTACT MAY ASSIST IN COMPI	ETION ABOVE CHECKLIST	(INTERVIEWER'S DISCRETION)
Contact N		LI SOMMON MANAGEMENT		
Title/Orga		0		
Phone Nu				
	s/Additional De	tails:		

	La	and Us	e Windshield Surve	у		
	J/P 21909(04),		-			
ODOT Project No.:	24382(04), 23270(04)		Parcel ID:	CH 20		
County:	Mayes		Site Name:	SH 28		
Nearest City:	Pensacola		Site Address/Legals:			
LAND USE CHARACT	ERISTICS:					
Vacant L	and		Oil/Gas Production (wells	ite/tank battery); other:		
	Agricultural		Industrial (describe)			
	Wooded	X	Commercial (describe)	Jim's General Store		
25-	Cleared Lot		Government (describe):			
Resident	ial		Utility (describe)			
	Single Family		Other (describe)			
A STEEL	Multi-Unit					
EVIDENCE OF OIL OF	R HAZARDOUS MATERIALS:					
USTs	Fill cap(s) (indicate #)		Fuel Disper	nsers (indicate #)		
23	Vent pipe(s) (indicate #)		Product Types (Gasoline/diesel/other:)			
ASTs	Pedestal (#, size, contents below	v)	Container/Drum Storage (interior/exterior - covered/uncovered)			
	At grade (#, size, contents below)		(#, type, size, contents below)			
	2nd Containment? (Y/N)		Other:	Enter the second		
Natural g	waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(priva (overhead/below grade) Transformers (pole/pad)			neratorb/u fuel tank (describe)		
		51050				
	ONMENTAL INVESTIGATIONS/REL	EASES				
	ng wells (indicate #, locations) al system (trailer/shed/extraction wells/	for shift or o	all and to the are			
Remedia		rpublic n	once) other.			
Otherau	Remedial system active? (Y/N) rert evidence of a release (ex. Dumping	a burial	nite stained call atracaed	vegetation, etc.):		
Other ov	ert evidence of a release (ex. Dumpin	ig, buriai	pits, stallied soil, stressed	vegetation, etc.).		
FIELD INTERVIEW:	THE CONTACT MAY ACCIOT IN CO	MDLET	ION ABOVE CHECKINET	INTERVIEWED REPORTIONS		
	TIVE, CONTACT MAY ASSIST IN CO	MPLETI	ON ABOVE CHECKLIST ((INTERVIEWER'S DISCRETION)		
Contact Name:	Jim Wilson		-			
Title/Organization:	Owner 918-782-3	502	-			
Phone Number:		302	-			
Comments/Additional	Details.					
Six ASTs, s	secondary containmer	nt, r	now empty but	historically stored qasoline		
	per current owner.					

	Lai	nd Use Windshield Surve	э у		
	J/P 21909(04),	D. C. LIBO			
ODOT Project No.:	24382(04), 23270(04)	Parcel ID:	SH 28		
County:	Mayes	Site Name: Site Address/Legals:	5H 28		
Nearest City:	Pensacola	Site Address/Legals,	8		
LAND USE CHARACT	TERISTICS:				
Vacant Land		Oil/Gas Production (well:	Oil/Gas Production (wellsite/tank battery); other:		
<u></u>	Agricultural	Industrial (describe)			
	Wooded	X Commercial (describe)	Rickner's ATV & Jet Ski Repair		
74	Cleared Lot	Government (describe):			
Residenti	ial	Utility (describe)			
	Single Family	Other (describe)			
	Multi-Unit				
EVIDENCE OF OIL OF	R HAZARDOUS MATERIALS:				
USTs	Fill cap(s) (indicate #)	Fuel Dispensers (indicate #)			
	Vent pipe(s) (indicate #)	19	Product Types (Gasoline/diesel/other:)		
ASTs	Pedestal (#, size, contents below)	Container/	Container/Drum Storage (interior/exterior - covered/uncovered)		
-	At grade (#, size, contents below)	(#, type, si	(#, type, size, contents below)		
9	2nd Containment? (Y/N)	Other: Appea	Other: Appearance of former gas station		
Natural ç	waste (public - cap/manhole)(private - gas (public - cap/meter/valve box)(priva (overhead/below grade) Transformers (pole/pad)		enerator b/u fuel tank (describe)		
	Transformers (poterpad)				
	CONMENTAL INVESTIGATIONS/RELE ng wells (indicate #, locations)	EASES:			
	al system (trailer/shed/extraction wells/p	public notice) other:			
Reffledia	Remedial system active? (Y/N)	oublic floude) other.			
Other ov	rert evidence of a release (ex. Dumping	, burial pits, stained soil, stressed	d vegetation, etc.):		
FIELD INTERVIEW:					
	TIVE, CONTACT MAY ASSIST IN COM	APLETION ABOVE CHECKLIST	(INTERVIEWER'S DISCRETION)		
Contact Name:	The state of the s		The state of the s		
Title/Organization:	-				
Phone Number:					
Comments/Additional	Details:				
			The second secon		

		Land U	lse Windshield Surve	y	
DDOT Project No.:	J/P 21909(04), 24382(04), 23270(04)		Parcel ID:		
County:	Pensacola		Site Name:	SH 28	
Nearest City:			Site Address/Legals:	-	
AND USE CHARAC	TERISTICS:				
Vacant	1979 1971 III		Oil/Gas Production (wells	ite/tank battery); other:	
	Agricultural		Industrial (describe)		
<u> </u>	Wooded	X	Commercial (describe)	DD&L Motors*	
_	Cleared Lot		_ Government (describe):		
Resider	102701.1h		Utility (describe)		
	Single Family		Other (describe)		
1000	Multi-Unit				
	R HAZARDOUS MATERIALS:		2246072447791	10.000 miles and a section of	
USTs	Fill cap(s) (indicate #)		Fuel Disper	Dispensers (indicate #)	
	Vent pipe(s) (indicate #)		Product Types (Gasoline/diesel/other:)		
ASTs		Pedestal (#, size, contents below)		Container/Drum Storage (interior/exterior - covered/uncovered)	
	At grade (#, size, contents below)		(#, type, size, contents below)		
	2nd Containment? (Y/N)		Other:		
Sanitary Natural	public - cap/meter/valve box)(priva y waste (public - cap/manhole)(priv gas (public - cap/meter/valve box) (overhead/below grade) Transformers (pole/pad)	ate - septic	tank/vent/lagoon) other:	neratorb/u fuel tank (describe	
EVIDENCE OF ENVI	RONMENTAL INVESTIGATIONS	RELEASE	S:		
Monitor	ing wells (indicate #, locations)				
Remed	ial system (trailer/shed/extraction v	vells/public	notice) other:		
	Remedial system active? (Y	100			
Other o	vert evidence of a release (ex. Du	mping, buri	al pits, stained soil, stressed	vegetation, etc.):	
FIELD INTERVIEW:					
NOTE: IF COOPERA	ATIVE, CONTACT MAY ASSIST IN	COMPLE	TION ABOVE CHECKLIST ((INTERVIEWER'S DISCRETION)	
Contact Name:			_		
Title/Organization:					
Phone Number:	Para de la companya della companya della companya della companya de la companya della companya d		_		
Comments/Additional	Details:				

^{*}No chemical storage observed. May have been historic gas station.

		Land (Jse Windshield Surve	ру				
ODOT Project No.: County:	and the first of t		Parcel ID;	GH-20				
Nearest City:	Mayes Langley		Site Name: Site Address/Legals:	SH 28				
5.50,000,000,000,000								
LAND USE CHARA	CTERISTICS:							
Vacan			Oil/Gas Production (wells	site/tank battery); other:				
	Agricultural	2	Industrial (describe)	Name and the second sec				
1	Wooded	ACTIVITY OF	Commercial (describe)	Market and the second s				
1	Cleared Lot		Government (describe):					
Reside			Utility (describe)					
	Single Family Multi-Unit	X	Other (describe)	Inactive store				
EVIDENCE OF OIL	OR HAZARDOUS MATERIALS							
USTs	Fill cap(s) (indicate #)		Fuel Disner	nsers (indicate #)				
0015	Vent pipe(s) (indicate #)		Fuel Dispensers (indicate #) Product Types (Gasoline/diesel/other:)					
ASTs				Container/Drum Storage (interior/exterior - covered/uncovered)				
	Pedestal (#, size, contents below) At grade (#, size, contents below)		(#, type, size, contents below)					
(In-100 m)	2nd Containment? (Y/N)	3 50,011	Other: May have been historic gas station					
52			201017 220	are some made and some some				
Sanita Natura	(public - cap/meter/valve box)(pi iry waste (public - cap/manhole)(al gas (public - cap/meter/valve b ic (overhead/below grade) Transformers (pole/pad)	private - septi	c tank/vent/lagoon) other:	neratorb/u fuel tank (describe)				
EVIDENCE OF ENV	/IRONMENTAL INVESTIGATION	NS/RELEASE	S: None noted.					
Monito	oring wells (indicate #, locations)							
Reme	dial system (trailer/shed/extraction		notice) other:					
	Remedial system active?							
Other	overt evidence of a release (ex.	Dumping, buri	ial pits, stained soil, stressed	d vegetation, etc.):				
FIELD INTERVIEW:		T IN COMBLE	TION ADOVE CHECKLIST	(INTERVIEWER'S DISCRETION)				
Contact Name:	ONTIVE, CONTACT MAT ASSIS	I IN COMPLE	TION ABOVE CHECKERS!	(INTERVIEWER'S DISORETION)				
Title/Organization:	-							
Phone Number:								
Comments/Additiona	al Details:							
Sommonia Addition	ui Dottuid,							

			Land U	se Windshield Surve	y			
ODOT Project N	lo:	J/P 21909(04),		Parcel ID:				
County:	10	24382(04), 23270(04) Mayes		Site Name:	SH 28			
Nearest City:		Langley		Site Address/Legals:	511 20			
		zangzoy						
LAND USE CHA	ARACTER	ISTICS:						
Va	acant Land	1		Oil/Gas Production (wellsi	ite/tank battery); other:			
10		Agricultural	6	Industrial (describe)	STATE OF THE STATE			
		Wooded	X	Commercial (describe)	Lakesport Conoco			
		Cleared Lot		Government (describe):	Control of the Contro			
Re	esidential			Utility (describe)	AA777 FEET			
		Single Family		Other (describe)				
		Multi-Unit		_ azzus hanzazast.s				
EVIDENCE OF	OIL OR H	AZARDOUS MATERIALS:						
USTs		Fill cap(s) (indicate #)		2 Fuel Disper	nsers (indicate #)			
7.		Vent pipe(s) (indicate #) Pedestal (#, size, contents below)		Gas & Diesel Product Types (Gasoline/diesel/other:				
ASTs				Container/Drum Storage (interior/exterior - covered/uncovered)				
		At grade (#, size, contents beld		(#, type, size, contents below)				
		2nd Containment? (Y/N)		Other:				
	111-2	7		0.00000000				
UTILITIES:								
		ic - cap/meter/valve box)(private						
		ste (public - cap/manhole)(privat						
	0 00000 70000	(public - cap/meter/valve box)(post-	rivate - pri	opane tank) other:				
E	lectric (ov	erhead/below grade)		Lastina and				
1.5	0.27	_Transformers (pole/pad)		backup gen	neratorb/u fuel tank (describe)			
70.00		MENTAL INVESTIGATIONS/RI	ELEASES	: None noted.				
		wells (indicate #, locations)		Carl VIII				
R	emedial sy	stem (trailer/shed/extraction we Remedial system active? (Y/N		notice) other:				
	ther overt	evidence of a release (ex. Dump		l pits, stained soil, stressed	vegetation, etc.):			
FIELD INTERV	IFW-			·				
		E. CONTACT MAY ASSIST IN (COMPLET	TON ABOVE CHECKLIST ((INTERVIEWER'S DISCRETION)			
Contact Name:				I CONTENT (and the same of th			
Title/Organization		-		- (i)				
Phone Number:				- 100				
Comments/Add		ails:		10				
. 16 VIGO CON SESS. PT V.								

			Land U	lse Windsl	nield Surve	у		
						- W		
		7/0 03000(04)						
ODOT Projec	t No.:	J/P 21909(04), 24382(04), 23270(04)		Parcel ID:				
County:		Mayes		Site Name:		SH 28		
Nearest City:		Langley		Site Address/Legals:		A second		
LAND USE C	HARACTER	USTICS:						
	Vacant Land	1		Oil/Gas Pro	duction (wellsi	ite/tank battery); other:		
		Agricultural		Industrial (describe)			
		Wooded X Cleared Lot ential Single Family		Commercial (describe) Government (describe): Utility (describe) Other (describe)		Speedy's Phillips 66		
6	Residential							
	3 3 3							
		Multi-Unit						
EVIDENCE C	F OIL OR H	AZARDOUS MATERIALS:			12.010/2			
USTs		Fill cap(s) (indicate #)		3	Fuel Disper	nsers (indicate #)		
0010		Vent pipe(s) (indicate #)		Gas		Product Types (Gasoline/diesel/other:)		
ASTs		Pedestal (#, size, contents be	low)		-	Drum Storage (interior/exterior - covered/uncovered)		
_		At grade (#, size, contents below) 2nd Containment? (Y/N)		(#, type, size, contents below) Other:				
				1000000				
UTILITIES:								
	Water (publi	ic - cap/meter/valve box)(private	e - wellhea	d/wellhouse)	other:	Special Committee of Committee		
	Sanitary wa	ste (public - cap/manhole)(priva	te - septic	tank/vent/lag	oon) other:			
(Natural gas	(public - cap/meter/valve box)(p	orivate - pr	ropane tank) o	other:			
	Electric (ov	erhead/below grade)	20					
	Transformers (pole/pad)			b/u fuel tank (describe)				
EVIDENCE C	F ENVIRON	IMENTAL INVESTIGATIONS/R	RELEASE	S:				
	Monitoring v	vells (indicate #, locations)						
		ystem (trailer/shed/extraction we	ells/public	notice) other:	17			
	8	Remedial system active? (Y/I						
- 8	Other overt	evidence of a release (ex. Dum		al pits, stained	soil, stressed	vegetation, etc.):		
111			1 11					
FIELD INTER								
		E, CONTACT MAY ASSIST IN	COMPLE	TION ABOVE	CHECKLIST (INTERVIEWER'S DISCRETION)		
Contact Nam								
Title/Organiza				-				
Phone Numb								
Comments/A	dditional Det	ails:				¥		

Appendix E Photographs



Photo 1: Site 1, Okie Dokie Phillips 66, looking southwest



Photo 2: Site 2, Lake Land Auto Sales, looking south



Photo 3: Site 3, Luther's Drive-In, looking northwest

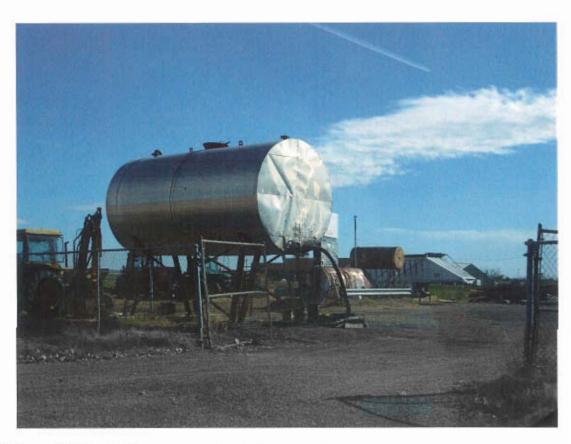


Photo 4: Site 4, Mayes County Maintenance Yard, aboveground storage tanks, looking southeast



Photo 5: Site 4, Mayes County Maintenance yard, looking west



Photo 6: Site 5, Larry's Convenience Store, looking south



Photo 7: Site 6, Henson Manufacturing and Sales, looking north



Photo 8: Site 7, Jeff's Auto Repair & Service, looking north



Photo 9: Site 8, Gary's Auto Repair, looking south



Photo 10: Site 9, Bo's Paint & Body, looking southeast



Photo 11: Site 10, Jim's General Store, looking northwest



Photo 12: Site 10, Jim's General Store, aboveground storage tanks, looking southwest



Photo 13: Site 11, Rickner's ATV and Jet Ski Repair, looking southeast



Photo 14: Site 12, DD&L Motors, looking southeast



Photo 15: Site 13, Inactive Store, looking southwest



Photo 16: Site 14, Lakesport Conoco, looking southeast



Photo 17: Site 15, Speedy's Phillips 66, looking northeast



Oklahoma Department of Transportation

Environmental Programs Division

Office 521-2927 Fax 522-5193

DATE:

March 25, 2009

TO:

Roadway Design Division

FROM:

Environmental Programs Division

SUBJECT:

Improvements to SH-28 from Adair to Langley, Mayes County. J/P Nos.

21909(04), 24382(04) and 23270(04)

An Initial Site Assessment has been done for the subject corridor to identify potential impacts pertaining to hazardous materials and/or leaking underground storage tank (LUST) sites. The potential environmental concerns are listed by geographical segment.

Segment 1 - from US-69 to Cheatham Street (Adair):

- A) LUST site at SW/4 of US-69 & SH-28
- B) Lake Land Auto Sales (205 S. Mayes, Adair) is a former gas station with six (6) USTs
- C) Luther's Drive-In (310 E. Main, Adair) is potentially a former gas station.

An Environmental Mitigation Note is required for the LUST site (A). If the former gas stations (B,C) will be involved in ROW acquisition, utility relocations or construction activities, the Environmental Programs Division must be notified and further investigation may be necessary.

Segment 2 - from Cheatham Street (Adair) to Rock Creek, near NS-439:

- A) Mays Co. Maintenance Yard (407 E. Main, Adair) with 3 ASTs and former UST
- B) Henson Manufacturing & Sales (612 E. Main, Adair)
- C) Jeff's Auto Repair & Service (1727 SH-28 E, Adair)

If these facilities will be involved in ROW acquisition, utility relocations or construction activities, the Environmental Programs Division must be notified and further investigation may be necessary.

SH-28 from Adair to Langley, Mayes Co. March 25, 2009 Page 2 of 2

Segment 3 - from Rock Creek, west of NS-439, to Big Cabin Creek, east of NS-441:

- A) Gary's Auto Repair (SE/4 of NS-440 & SH-28)
- B) Bo's Paint & Body (5450 SH-28 E, Adair)

If theses facilities will be involved in ROW acquisition, utility relocations or construction activities, the Environmental Programs Division must be notified and further investigation may be necessary.

Segment 4 - from Rogers Street to 1 block east of Woodward Street in Pensacola:

- A) Jim's General Store (NW/4 of Woodward St. & SH-28, Pensacola) ASTs, gas pumps
- B) Rickner's ATV and Jet Ski Repair (442217 Kentucky, Pensacola)
- C) DD&L Motors (442285 Kentucky, Pensacola)

If these facilities will be involved in ROW acquisition, utility relocations or construction activities, the Environmental Programs Division must be notified and further investigation may be necessary.

Segment 5 - from 1 block east of Woodward Street (Pensacola) to NS-4455:

A) Possible former gas station (1/4 mi East of NS-4450 on south of SH-28)

If this facility will be involved in ROW acquisition, utility relocations or construction activities, the Environmental Programs Division must be notified and further investigation may be necessary.

Segment 6 - NS-4455 to SH-82 Junction (Langley):

No environmental concerns have been identified.

If you have any questions, please contact Greg Worrell at (405) 521-2673.

GAW

Xc: Division 8 Engineer
NEPA Project Manager
Bridge Division
Right-of-Way Division
Project Management Division

OKLAHOMA DEPARTMENT OF TRANSPORTATION HAZARDOUS WASTE & LUST REPORT

Prepared By: Greg Survey Date: Ben Project No.:		County:	March 25, 2009 Mayes 21909(04), 24382(04) & 23270(04)				
1. PROJECT DESCRIPTION: SH-28 improvements from Adair to Langley.							
The rural are		al (pasture & und	leveloped), scattered commercial, light and residential properties are in towns.				
3. PROJECT ME	THODOLOGY:						
A. Records	Search:						
XXX	LUST List						
	XXX Files at Oklah	noma Corporatio	on Commission Reviewed				
XXX	CERCLA List (incl.	DEQ's Voluntar	y Cleanup Program)				
	Files at DEQ	reviewed					
XXX	Landfill List						
XXX	✓ Database Search: EI	OR (05-20-2008)) in Benham's ISA				
XXX	C Other: Oil/Gas Wel	ls, Aerial Photos	s				
B. Field Inv	estigation Methodology	y: (by Consultar	nt)				
<u></u>	_ Site not Visited						
XXX	K Site Visited (06-18	-2008 by Benha	m)				
VV	V Interviews Cities of	FI angley & Ade	nie.				

C. Results of Field Investigation: Physical Features In Immediate Project Area (USTs, AST, Others): USTs & ASTs at active & former gas stations & a county maintenance vard Contamination (Vegetation Damage, Staining, Sheen, Other): Staining at maintenance yard AST (road oil) 4. RESULTS OF INVESTIGATION: No Hazardous Waste / LUST site(s) identified in project area. XXX Suspected Hazardous Waste / LUST site (s) identified in project area. XXX Known LUST site(s) identified in project area. 5. RECOMMENDATIONS: Approval to Proceed XXX Approval to Proceed, Pending: Avoidance of Described Site(s) (See Section 6. Mitigation Notes). XXX Plan Notes regarding LUST Site(s) XXX Completion of Preliminary Site Investigations (to be determined) Approval NOT Recommended.

6. MITIGATION NOTES:

Besides LUST Note, more may be necessary pending Project Development/Plans.

7. GENERAL COMMENTS:

PSI(s) may be necessary if sites of concern are involved in R/W acquisition, utility relocations or construction activities. See attached Memo. Benham's ISA is sufficient.

This ISA is based solely upon the interpretation of the available information and documents reviewed, and when indicated, visual observations of the proposed project and its vicinity. This ISA is intended for the sole use of ODOT. It should be recognized that this ISA was not intended to be a definitive investigation of contamination on any proposed project. Given the scope of the limited services undertaken, it is possible that currently unrecognized contamination may exist at any property and that the levels of this potential contamination may vary. Opinions and recommendations presented therein apply to existing conditions and those reasonably foreseeable.

APPENDIX J SOLICITATION LETTERS

May 12, 200	08			
«AddressBlo	ock»			
Dear	_;			

The Oklahoma Department of Transportation (ODOT) is soliciting comments on possible improvements to SH 28 from the intersection of US 69/SH 28 near Adair, east approximately 13 miles to the intersection of SH 82/SH 28 near Langley, Mayes County, Oklahoma. See the enclosed set of five (5) figures of the environmental study area associated with the SH 28 improvements.

The purpose of this project is to improve traffic flow, reduce congestion, and improve safety. The Grand Lake Area Transportation Study completed by the Department with input from public and Grand Lake Area stakeholders in 2003 recognizes SH 28 as an east-west corridor to serve south Grand Lake Area and recommends a 4 lane section for this portion of SH 28.

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 Programs Division Engineer, Oklahoma Department of Transportation, 200 N. E. 21st Street, Oklahoma City, Oklahoma 73105.

We sincerely appreciate your cooperation in this matter. ODOT has contracted with The Benham Companies, Inc. (Benham) on this project. For further information or if you have any questions, please contact any of the following:

Ms. Diane Abernathy, Benham
Ms. Laurie Effinger, ODOT

405-701-3167
diane.abernathy@benham.com
leffinger@odot.org

Sincerely,

Dawn R. Sullivan, P.E. Environmental Programs Division Engineer

DRS:LE:Benham

Enclosures: 1 set of 5 figures

Adair Fire Department
102 North Mays Street
4 i, OK 74330

Mr. Larry Ramsey Board of Mayes County Commissioners 1 Court Place, Suite 120 Pryor, OK 74361

Ms. Linda Rundell Bureau of Land Management P. O. Box 27115 Santa Fe, NM 87502-0115

Mr. James Allard Bureau of Reclamation 5924 NW 2nd Street, Ste 200 Oklahoma City, OK 73127

Mayor Steve Hall City of Adair P. O. Box 198 A ir, OK 74330

Mr. Greg Duffy
Department of Wildlife
Conservation
P. O. Box 53465
Oklahoma City, OK 73152-8804

Federal Railroad Administration 4100 International Plaza, Ste 450 Fort Worth, TX 76109-4820

Langley Police Department P. O. Box 70 Langley, OK 74350

Mayes County Sheriff One Court Place, #150 Pryor, OK 74361

I obert L. Brooks
Okiahoma Archaeological Survey,
University of Oklahoma
111 East Chesapeake, Bldg 134
Norman, OK 73019-5111

Adair Police Department 106 West Main Street Adair, OK 74330

Ms. Jeanette Hanna Bureau of Indian Affairs P. O. Box 8002 Muskogee, OK 74402-8002

Ms. Mary Lou Drywater Bureau of Land Management 221 North Service Road Moore, OK 73160-4946

Mr. Michael J. Ryan Bureau of Reclamation P. O. Box 36900 Billings, MT 59107

Mayor Margaret Rutherford City of Langley P. O. Box 760 Langley, OK 74350

Ms. Margaret M. Graham DEQ Customer Assistance Program P. O. Box 1677 Oklahoma City, OK 73101-1677

Mr. Edward Crone Grand Gateway Economic Development Assoc. P. O. Drawer B Big Cabin, OK 74332-0502

Langley Volunteer Fire Department P. O. Box 760 Langley, OK 74350

Mr. Mike Snyder National Park Service, Planning & Environmental Quality 12795 W. Alameda Parkway Denver, CO 80225

Ms. Trish Weeden Oklahoma Association of Regional Councils 429 NE 5th Street Oklahoma City, OK 73105-1815 Superintendent Tom A. Linahan Adair Public Schools P. O. Box 197 Adair, OK 74330

Mr. Phillip Keasling Bureau of Land Management 221 North Service Road Moore, OK 73160-4946

Mr. John Melholf Bureau of Land Management 7906 E. 33rd Street, Suite 101 Tulsa, OK 74145-1352

Chief Chad Smith Cherokee Nation P. O. Box 948 Tahlequah, OK 74465

Mayor Bob McDavis City of Pensacola 442122 Higgins Avenue Vinita, OK 74301

Mr. Gary Corino Federal Highway Administration 300 North Meridian, Room 105S Oklahoma City, OK 73107-6560

Superintendent Mark Alexander Ketchum Public Schools P. O. Box 720 Ketchum, OK 74349

Mayes County Medical Center 111 Bailey Street Pryor, OK 74361

Mr. Victor N. Bird Oklahoma Aeronautics Commission 3700 North Classen Blvd, Ste 240 Oklahoma City, OK 73118

Mr. Mike Thralls
Oklahoma Conservation
Commission
2800 North Lincoln Blvd, Ste 160
Oklahoma City, OK 73105

Ms. Lori Wrotenberry
Oklahoma Corporation Commission

— С & Gas Conservation Division

2 North Lincoln Boulevard
Oklahoma City, OK 73105

Mr. Gary Collins
Oklahoma Department of
Environmental Quality
P. O. Box 1677
Oklahoma City, OK 73101-1677

Mr. Bob Blackburn Oklahoma Historical Society 2401 North Laird Avenue Oklahoma City, OK 73105

Representative Doug Cox Oklahoma House of Representatives 2300 North Lincoln Blvd, Rm 334 Oklahoma City, OK 73105

Senator Mary Easley Oklahoma State Senate 2300 North Lincoln Blvd, Rm 429 O''nhoma City, OK 73105

Ms. Kristina Marek Oklahoma Tourism & Recreation Department, Conservation & Planning 120 North Robinson, Suite 600 Oklahoma City, OK 73102-5403

Ms. Sandy Garrett State Department of Education 2500 North Lincoln Blvd, Room 121 Oklahoma City, OK 73105-4599

Mr. David Manning Tulsa District Corps of Engineers, ATTN: Environmental Analysis Section 1645 South 101 East Avenue Tulsa, OK 74128-4629

Bridge Management U.S. Coast Guard 500 Poydras Street New Orleans, LA 70130

Mark Agnew
L Department of Transportation FAA, Southwest Region,
Arkansas/OK Airport Development
Office, ASW-630
2601 Meachum Blvd

Mr. Terry Peach Oklahoma Department of Agriculture 2800 North Lincoln Boulevard, P. O. Box 54298 Oklahoma City, OK 73105-4298

Mr. Gary Ridley Oklahoma Department of Transportation 200 N.E. 21st Street Oklahoma City, OK 73105-3204

Representative Chuck Hoskin Oklahoma House of Representatives 2300 North Lincoln Blvd, Rm 510B Oklahoma City, OK 73105

Senator John W. Ford Oklahoma State Senate 748 Brookhollow Lane Bartlesville, OK 74006

Senator Sean Burrage Oklahoma State Senate 2300 North Lincoln Blvd, Rm 529B Oklahoma City, OK 73105

Mr. Guy L. Berry Oklahoma Transportation Commission P. O. Box 66 Earlsboro, OK 74840

Mr. Steve Nolen Tulsa District Corps of Engineers 1645 South 101 East Avenue Tulsa, OK 74128-4629

Mr. Jerry Brabander U. S. Fish & Wildlife Service 9014 East 21st Street Tulsa, OK 74129-1428

Mr. Ronald Miles U.S. Department of Housing and Urban Development William Center Tower II, 2 West Second Street, Suite 400 Tulsa, OK 74103

Chief George Wickcliffe United Keetoowah Band of Cherokees P. O. Box 189 Tahlequah, OK 74651 Mr. Clayton Robinson Oklahoma Department of Commerce 900 North Stiles Oklahoma City, OK 73104

Dr. G. Randy Keller Oklahoma Geological Survey 100 East Boyd, Room N-131 Norman, OK 73019-0628

Representative Doug Cox Oklahoma House of Representatives 33471 South 595 Road Grove, OK 74344

Senator Mary Easley Oklahoma State Senate 106 South Cherokee Lane Ketchum, OK 74349

Senator John W. Ford Oklahoma State Senate 2300 North Lincoln Blvd, Rm 413A Oklahoma City, OK 73105

Mr. Gavin Brady Oklahoma Water Resources Board 3800 North Classen Oklahoma City, OK 73118

Colonel Anthony Funkhouser Tulsa District Corps of Engineers 1645 South 101 East Avenue Tulsa, OK 74128-4629

Commanding Officer U.S. Coast Guard 1222 Spruce Street, Ste 7103 St. Louis, MO 63103

Mr. Steve Spencer U.S. Department of the Interior P.O. Box 26567 Albuquerque, NM 87125-6567

Representative Daniel Boren United States House of Representatives 431 West Broadway Muskogee, OK 74401 Representative Daniel Boren United States House of Representatives 2 Jannon HOB Washington , DC 20515-0001

United States Post Office Vinita, OK 74301

Senator James M. Inhofe United States Senate 1900 N.W. Expressway, Ste 1210 Oklahoma City, OK 73118

Ms. Cathy Gilmore USEPA Region 6, Compliance Assurance & Enforcement 1445 Ross Avenue Dallas, TX 75202-2733 United States Post Office Langley, OK 74350

Senator Tom A. Coburn United States Senate 100 North Broadway, Ste 1820 Oklahoma City, OK 73102

Senator James M. Inhofe United States Senate 453 Russell – Senate Office Building Washington, DC 20510-3603 United States Post Office Adair, OK 74330

Senator Tom A. Coburn United States Senate 172 Russell – Senate Office Building Washington, DC 20510-3603

Mr. Kenneth Hitch USDA, Natural Resources Conservation Service, Pryor Service Center P. O. Box 36 Pryor, OK 74362-0036



OKLAHOMA TOURISM & RECREATION DEPARTMENT June 16, 2007

120 NORTH ROBINSON SUITE 600 OKLAHOMA CITY, OK 73102

P.O. BOX 52002 OKLAHOMA CITY, OK 73152-52002

465-230-8300

Ms. Dawn R. Sullivan, P.E. Planning and Research Division Oklahoma Department of Transportation 200 N.E. 21st Oklahoma City, OK 73105

RE: SH 28 Improvements

Dear Ms. Sullivan:

We have examined our records regarding park and recreation areas near the project area. Attached is a list of projects in Mayes County that have utilized federal funds under the Land and Water Conservation Fund program. This list also includes Disney/Little Blue State Park.

RECEIVED

JUN 18 2008

ENVIRONMENTAL PROGRAMS DIV.

If there will be no permanent impact on these federal project locations and State Parks, then there will be no negative impact. If additional right-of-way will be needed that would affect any of these locations, a conversion may result, in that this land is protected under Section 6F of the Land and Water Conservation Act.

Thank you for the opportunity to review this project proposal. If you have any questions, please give me a call at 405-230-8490.

Sincerely,

Susan Henry, Grants

Conservation and Planning

Alternate State Liaison Officer for the Land and Water Conservation Fund

MATIVE AMERICA

Attachments: 2

STATE PARKS

Oklahoma

LWCF PROJECTS:

MAYES

COUNTY

OKLAHOMA

RECEIVED

JUN 18 2008

PROGRAMS DIV.

PROJECT:

40-00230

CONNORS PARK IMPROVEMENT

SPONSOR:

CITY OF ADAIR

FUNDING \$4,795.50

APPROVED 9/25/73

LOCATION:

CONNORS PARK - EAST EDGE OF TOWN

COMPLETED 6/3/78

SCOPE:

CONSTRUCT GROUP SHELTER, CONCESSION STAND, RESTROOM, WITH LANDSCAPING.

PROJECT: SPONSOR: 40-00447

WITHDRAWN

FUNDING

APPROVED

LOCATION: 1

NA

COMPLETED

SCOPE:

NA

PROJECT:

40-00229.1 MASTER PLANNING & DEV.-CHEROKEE REC. AREA

SPONSOR:

TOURISM & RECREATION DEPT.

FUNDING \$2,250.00

APPROVED

LOCATION:

CHEROKEE REC. AREA

COMPLETED

SCOPE:

PICNIC TABLES AND GRILLS, AREA LIGHTING, CONSTRUCT BOAT RAMP, SIX RV HOOKUPS, GRAVEL RV PADS AND INSTALL ELECTRIC HOOKUPS PLANTING AND RECLAMATION OF ERODED AREAS.

RV PADS AND INSTALL ELECTRIC HOOKUPS PLANTING AND RECLAMATION OF ERODED ARE

ROJECT:

40-00229.1 MASTER PLANNING & DEV.-DISNEY-LITTLE BLUE STATE PARK

TOURISM & RECREATION DEPT.

FUNDING \$750.00

APPROVED

SPONSOR: LOCATION:

DISNEY-LITTLE BLUE STATE PARK

COMPLETED

SCOPE:

INSTALL PICNIC TABLES AND GRILLS

PROJECT:

40-00229.2 MASTER PLANNING & DEV.-DISNEY - LITTLE BLUE STATE PARK

SPONSOR:

TOURISM & RECREATION DEPT.

FUNDING \$700.00

APPROVED

LOCATION:

DISNEY-LITTLE BLUE STATE PARK

COMPLETED

SCOPE:

SIGN CONSTRUCTION, RESTROOM FACILITY INSTALLATION

PROJECT:

40-00229.4 MASTER PLANNING & DEV.-SPAVINAW REC. AREA

SPONSOR:

TOURISM & RECREATION DEPT.

FUNDING \$12,000,00

APPROVED

LOCATION:

SPAVINAW SP - 1 MILE SOUTH OF SPAVINAW ON HW 20 IN MAYES CO.

COMPLETED

SCOPE:

RECLAMATION OF PICNIC AND CAMPING AREA ROADS

LWCF PROJECTS:

MAYES

COUNTY

OKLAHOMA

PROJECT:

40-00900.4 SPAVINAW NORTHEAST REGION PARKS IMPROVEMENTS

SPONSOR:

TOURISM & RECREATION DEPT.

FUNDING

APPROVED 8407.18

LOCATION:

SPAVINAW SP - 1 MILE SOUTH OF SPAVINAW ON HW 20 IN MAYES CO.

COMPLETED 9212.31

SCOPE:

SPAVINAW - CAMPGROUND - ADD ROAD AND PADS W/ UTILITIES, LANDSCAPE AND SIGNS. ADD H.C. ACCESS TO FACILITIES AND SUPPORTS FACILITIES WHICH APPEAR IN ORIGINAL SCOPE OF

PROJ.

PROJECT:

40-00320

LANGLEY CITY PARK IMPROVEMENT PROJ

SPONSOR:

TOWN OF LANGLEY

FUNDING \$4,840.00

APPROVED 12/27/74

LOCATION:

CITY PARK - S.W. CORNER OF CHEROKEE AVE. & 2ND ST. PRJ. AREA 325' X

COMPLETED 12/31/78

240' ALONG STATE HIGHWAY 82

SCOPE:

DEVELOP CITY PARK INCLUDING: SITE PREPARATION, ADDITION OF TOT LOT, RESTROOMS AND

PICNIC SHELTER.

PROJECT:

40-00794

LOCUST GROVE PARK IMPROVEMENT

SPONSOR:

TOWN OF LOCUST GROVE

FUNDING \$10,334.00

APPROVED 6/3/80

LOCATION:

GORDA PARK LOCATED AT CORNER OF PARK BLVD. & BRYAN ST.

COMPLETED 12/31/84

SCOPE:

TENNIS COURTS: PARKING AREA, CABLE BARRIERS, REPAIR COURT LIGHTING, RETAINING WALL, FENCE FOR COURT, TENNIS COURT NET, 2 BASKETBALL GOALS. PICNIC AND PLAYGROUND:

INSTALL SWING SET, SLIDE, CLIMBER, WHIRL, HORSE-SHOE PIT, 4 TRASH RECEPTICLES, 4 PICNIC TA

PROJECT:

40-00339

PRYOR TENNIS COURTS

SPONSOR:

CITY OF PRYOR

FUNDING \$71,590.00

APPROVED 2/19/75

LOCATION:

TENNIS COURTS LOCATED AT CITY PARK, SOUTH OF PARK AVE. BETWEEN

COMPLETED 12/31/78

LOCKE ST. AND ELLIOT ST.

SCOPE:

EXPAND PARK AND CONSTRUCT LIGHTED AND FENCED TENNIS COURTS, STORAGE AND

RESTROOMS, PAVED PARKING AREA, SITE PREP. AND IMPROVEMENTS.

PROJECT:

40-00867

PRYOR TENNIS COURTS

SPONSOR:

CITY OF PRYOR

FUNDING \$18,624.00

APPROVED 8/18/83

LOCATION:

PARK ST. AND LOCKE ST.

COMPLETED 9/15/84

SCOPE:

RENOVATE EXISTING 8 TENNIS COURTS.

PROJECT:

40-00229.3 MASTER PLANNING & DEV. SALINA REC. AREA

SPONSOR:

CITY OF SALINA

FUNDING \$750.00

APPROVED

LOCATION:

SALINA REC. AREA

COMPLETED

SCOPE:

SIGN CONSTRUCTION

16-Jun-08

Page 2 of 3

LWCF PROJECTS:

MAYES

COUNTY

OKLAHOMA

PROJECT:

40-00226

SALINA RECREATION PROJECT

SPONSOR:

SALINA PUBLIC SCHOOLS

FUNDING \$13,366.34

APPROVED 9/3/73

LOCATION:

SCOPE:

SALINA CITY PARK IN THE N.E. SECTION OF TOWN

COMPLETED 6/3/76

DEVELOP CITY PARK BY CONSTRUCTING TENNIS COURTS, SHUFFLEBOARD COURTS, MULTI-PURPOSE COURT, HORSESHOE PITS, RESTROOM-STOREROOM, ACCESS ROAD, PARKING SPACES. INSTALL CHAIN LINK FENCE, GYMNASTIC APPARATUS, TRAMPOLINE PITS, & ARCHERY TARGETS.

ALSO INCLUDED

PROJECT:

40-00229.4 MASTER PLANNING & DEV.-SNOWDALE REC. AREA

SPONSOR:

TOURISM & RECREATION DEPT.

FUNDING \$3,200.00

APPROVED

LOCATION:

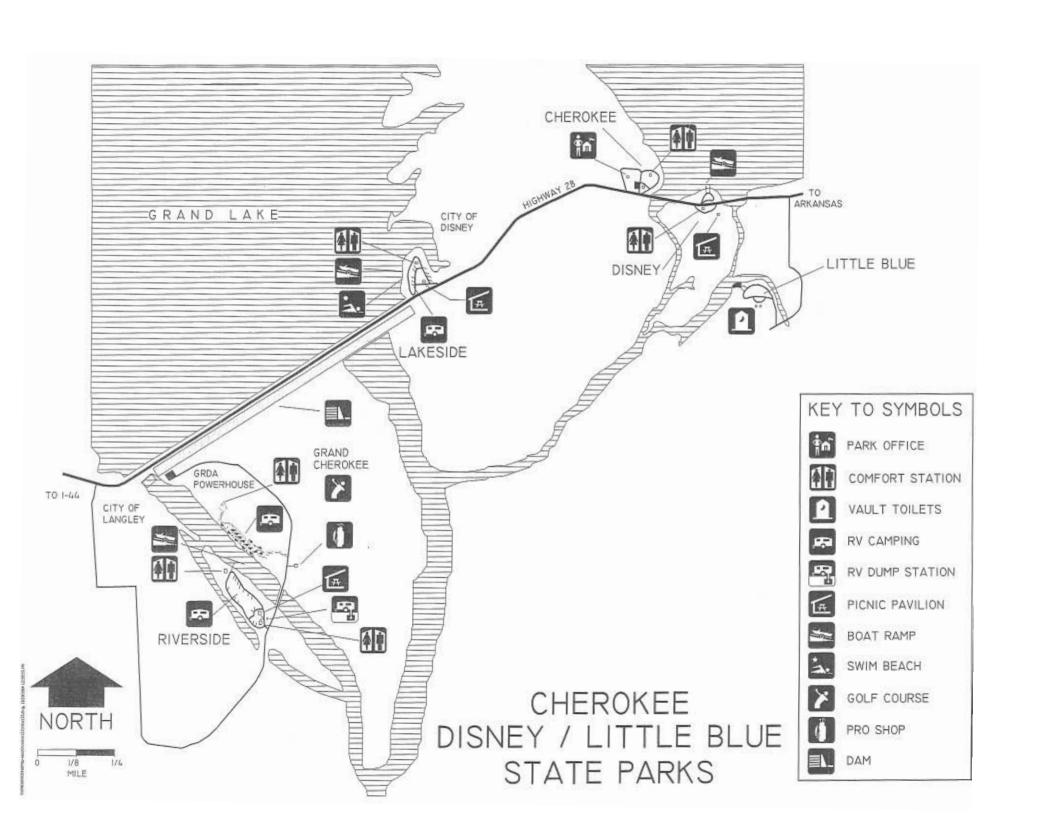
SNOWDALE REC. AREA

COMPLETED

SCOPE:

DEVELOP POTABLE WATER SYSTEM, SIGN CONSTRUCTION, 10 WOODEN TABLES AND GRILLS,

GRAVEL RV PADS.





Oklahoma Historical Society

Founded May 27, 1893

State Historic Preservation Office

Oklahoma History Center * 2401 North Laird Ave. * Oklahoma City, OK 73105-7914 (405) 521-6249 * Fax (405) 522-0816 * www.okhistory.org/shpo/shpom.htm

June 10, 2008

RECEIVED

HIN 12 2008

Ms. Dawn Sullivan, Div. Engineer ODOT Environmental Programs Division 200 N.E. 21st Street Oklahoma City, OK 73105

ENVIRONMENTAL PROGRAMS DIV.

RE: File #1754-08; SH-28 Proposed Improvements from Jct. of US-69/SH-28 near Adair to Jct. of SH-82/SH-28 near Langley

Dear Ms. Sullivan:

We have received the documentation submitted concerning the above referenced project in Mayes County.

We are unable to process your request for review at this time and ask that you supply a completed Historic Preservation Resource Identification Form and appropriate photographs for each of the structures to be affected by the project.

NOTE: If these properties are <u>less than 45 years old</u>, Historic Preservation Resource Identification Forms and photos are <u>not required</u>. However, your review request must include the <u>address</u> and date (or year) of construction of each property.

If these properties are 45 years old or older, and you have not received Historic Preservation Resource Identification Forms and the Review and Compliance Manual which is necessary to complete the forms, you may call or write to request hard copies from our office, or go directly on line at www.okhistory.org and select "SHPO," then "Programs," then "Section 106," then click on "Review & Compliance (Section 106 Process) Manual" which includes instructions and the form.

If you have any questions regarding this request, you may reach me at 405/521-6381. Your response must reference the above underlined file number. Thank you.

Sincerely,

Charles Wallis, RPA

Historical Archaeologist

CW:pm

cc: Mr. Robert Bartlett, ODOT/OU



Commander Eighth Coast Guard District

> JUN 1 2 2000 ENVIRONMENTAL PROGRAMS DIV.

1222 Spruce Street St. Louis, MO 63103-2832 Staff Symbol: dwb Phone: (314)269-2378 Fax: (314)269-2737 Email:

16591.1/HWY 28 June 4, 2008

Ms. Dawn Sullivan Oklahoma Department of Transportation 200 N.E. 21st Street Oklahoma City, OK 73105

Subj: STATE HIGHWAY 28 IMPROVEMENT PROJECT, MAYES COUNTY

Dear Ms. Sullivan:

Please refer to your correspondence of May 12, 2008. We have determined that the proposed improvements may involve work over Rock and Big Cabin Creeks. Pursuant to the Coast Guard Authorization Act of 1982, the subject project does not involve bridges over navigable waters of the United States. Therefore, a Coast Guard bridge permit is not required for this project.

We appreciate the opportunity to comment on the project.

Sincerely,

ROGER K. WIEBUSCH Bridge Administrator

By direction of the District Commander

BRAD HENRY GOVERNOR

JARI ASKINS LIEUTENANT GOVERNOR



MIKE THRALLS EXECUTIVE DIRECTOR

BEN POLLARD ASSISTANT DIRECTOR

Responsible Care For Oklahoma's Natural Resources RECEIVED

JUN 0 4 2008

June 3, 2008

ENVIRONMENTAL PROGRAMS DIV.

Dawn Sullivan, P.E. Planning & Research Division Engineer Oklahoma Dept. of Transportation 200 NE 21st St. Oklahoma City, OK 73105

RE: SH 28 Improvements, Mayes County

Dear Ms. Sullivan:

Your request for comments for the referenced project, as described in your letter of May 12, 2008 has been reviewed. Several possible hydric soils and stream crossings exist in the project area. The Oklahoma Conservation Commission (OCC) has concerns that wetlands and riparian areas may be disturbed during this project. OCC recommends that all impacts to wetland and riparian resources be avoided and any unavoidable impacts be minimized. OCC also recommends that any impacts to wetland and riparian resources be mitigated through the use of a mitigation bank in the watershed. If this method cannot be used OCC recommends mitigation to be implemented in an appropriate area of the watershed.

Due to the potential impact on wetland resources, an on-site investigation may be needed. Consequently, you will need to contact the U.S. Army Corps of Engineers for a determination. They can be contacted at:

U.S. Army Corps of Engineers Mr. David Manning Chief of Regulatory Branch 1645 South 101st East Avenue Tulsa, OK 74128-4629 918/669-7400

If you have any questions or concerns, I can be contacted at 405/522-4733 or chris.dubois@conservation.ok.gov.

Sincerely,

Christopher R. DuBois

Wetlands Frogram Coordinator

CRD/

Dan Butler, Water Quality Director
 U.S. Army Corps of Engineers

STATE OF OKLAHOMA . OKLAHOMA CONSERVATION COMMISSION



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

New Mexico State Office 1474 Rodeo Rd. P.O. Box 27115 Santa Fe, New Mexico 87502-0115 www.nm.blm.gov



RECEIVED

May 30, 2008

ENVIRONMENTAL PROGRAMS DIV.

Ms. Dawn R. Sullivan Environmental Programs Division Engineer Oklahoma Department of Transportation 200 N. E. 21st Street Oklahoma City, OK 73105-3204

Dear Ms. Sullivan:

We received your letter dated May 12, 2008, requesting input on proposed improvements to a section of SH 28 in Mayes County, Oklahoma. According to our records, the Bureau of Land Management does not administer any public surface holdings in the environmental study area associated with this project.

However, we do own mineral estate in a portion of the project area (sec. 24, T. 23 N., R. 20 E.); see enclosed exhibit. We also have mineral responsibilities for lands held by other surface managing agencies. If you could provide us with a precise legal description of the land in question, we may be able to help you identify agencies with surface management responsibilities in the area. We may also be able to address any minerals-related questions you may have.

Our Oklahoma Field Office can assist you with any further matters relating to this request.

Oklahoma Field Office 7906 E. 33rd Street Suite 101 Tulsa, OK. 74145

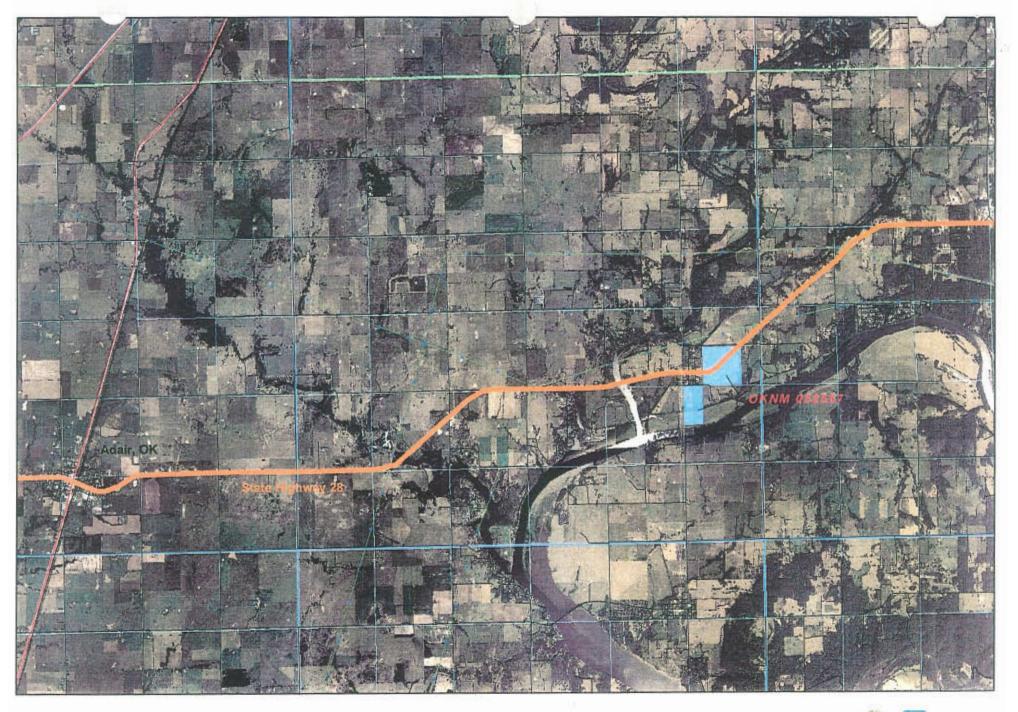
The point of contact is Lisa Fretz and she can be reached at 918-621-4100 or at the above address.

Sincerely,

Linda S.C. Rundell

State Director

Enclosure









OKLAHOMA DEPARTMENT OF TRANSPORTATION

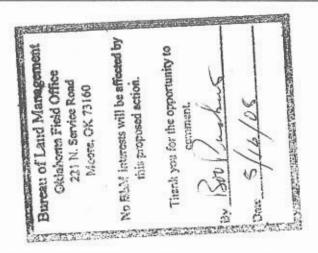
200 N. E. 21st Street Oklahoma City, OK 73105-3204

ZCG UN 14 7 3:52

May 12, 2008

Ms. Mary Lou Drywater Field Station Manager Bureau of Land Management 221 North Service Road Moore, OK 73160-4946

Dear Ms. Drywater:



The Oklahoma Department of Transportation (ODOT) is soliciting comments on possible improvements to SH 28 from the intersection of US 69/SH 28 near Adair, east approximately 13 miles to the intersection of SH 82/SH 28 near Langley, Mayes County, Oklahoma. See the enclosed set of five (5) figures of the environmental study area associated with the SH 28 improvements.

The purpose of this project is to improve traffic flow, reduce congestion, and improve safety. The Grand Lake Area Transportation Study completed by the Department with input from public and Grand Lake Area stakeholders in 2003 recognizes SH 28 as an east-west corridor to serve south Grand Lake Area and recommends a 4 lane section for this portion of SH 28.

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 Programs Division Engineer, Oklahoma Department of Transportation, 200 N. E. 21st Street, Oklahoma City, Oklahoma 73105.

We sincerely appreciate your cooperation in this matter. ODOT has contracted with The Benham Companies, Inc. (Benham) on this project. For further information or if you have any questions, please contact any of the following:

Ms. Diane Abernathy, Benham

405-701-3167

diane.abernathy@benham.com leffinger@odot.org

Ms. Laurie Effinger, ODOT

405-521-2535

Sincerely,

Dawn R. Sullivan, P.E.

Environmental Programs Division Engineer

DRS:LE:Benham

Enclosures: 1 set of 5 figures



OKLAHOMA DEPARTMENT OF TRANSPORTATION

200 N. E. 21st Street Oklahoma City, OK 73105-3204 RECEIVED MAY 22 2008

ENVIRONMENTAL PROGRAMS DIV.

May 12, 2008

Mr. Mike Snyder Regional Director, Intermountain Region Office National Park Service Planning & Environmental Quality 12795 W. Alameda Parkway Denver, CO 80225

Dear Mr. Snyder:

The Oklahoma Department of Transportation (ODOT) is soliciting comments on possible improvements to SH 28 from the intersection of US 69/SH 28 near Adair, east approximately 13 miles to the intersection of SH 82/SH 28 near Langley, Mayes County, Oklahoma. See the enclosed set of five (5) figures of the environmental study area associated with the SH 28 improvements.

The purpose of this project is to improve traffic flow, reduce congestion, and improve safety. The Grand Lake Area Transportation Study completed by the Department with input from public and Grand Lake Area stakeholders in 2003 recognizes SH 28 as an east-west corridor to serve south Grand Lake Area and recommends a 4 lane section for this portion of SH 28.

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We sincerely appreciate your cooperation in this matter. ODOT has contracted with The Benham Companies, Inc. (Benham) on this project. For further information or if you have any questions, please contact any of the following:

Ms. Diane Abernathy, Benham

405-701-3167

diane.abernathy@benham.com leffinger@odot.org

Ms. Laurie Effinger, ODOT

405-521-2535

Sincerely,

Dawn R. Sullivan, P.E.

Environmental Programs Division Engineer

DRS:LE:Benham

Enclosures: 1 set of 5 figures

margoran.

The National Park Service reviewed this project, and determined that no parks will be affected;

therefore, we have no comments.
Signed: Date:



Oklahoma Archeological Survey

THE UNVERSITY OF OKLAHOMA

May 15, 2008

Dawn R. Sullivan Oklahoma Department of Transportation 200 N.E. 21St Street Oklahoma City, OK 73105-3204 RECEIVED MAY 19 2008

ENVIRONMENTAL PROGRAMS DIV.

Re: Oklahoma Department of Transportation: SH 28 Improvements- proposed improvements to SH28 from US69/SH28 near Adair to SH82/SH28 near Langley. Legal Description: Start NW ¼ NW ¼ NW ¼ of Section 34 T23N R19E and end in Section 9 T23N R21E, Mayes County, Oklahoma.

Dear Ms. Sullivan:

The above referenced project has been reviewed by the Community Assistance Programstaff of this agency to identify potential areas that may contain prehistoric or historic archaeological materials (historic properties). The location of your project has been cross-checked with the state site files containing approximately 18,000 archaeological sites which are currently recorded for the state of Oklahoma MY 306 and 1898 GLO Structure are listed in your project area and based on the topographic and hydrologic setting of your project, archeological materials are likely to be encountered An archaeological field inspection is therefore considered necessary prior to project construction in order to identify significant archaeological resources that may exist in your area. Please contact this office at (405) 325-7211 if you require additional information on this project.

This environmental review and evaluation is performed in order to locate, record, and preserveOklahoma's prehistoric and historic cultural heritage in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. In addition to our review comments, under 36CFR Part 800.3 you are reminded of your responsibility to consult with the appropriate Native American tribe/groups to identify any concerns they may have pertaining to this undertaking and potential impacts to properties of traditional and/or ceremonial value. Thank you for your cooperation.

Sincerely,

Elsbeth Dowd [/ Staff Archaeologist Robert L. Brooks State Archaeologist

THE THE THE

:cy

cc: SHPO

Doug Cox, M. D.

State Representative, District 5 Delaware and Mayes Counties

_ME: 59877 E. 333 Road Grove, OK 74344 (918) 786-5381 Capitol: 2300 N. Lincoln Blvd., Rm. 334 Oklahoma City, OK 73105



House of Representatives

STATE OF OKLAHOMA

May 16, 2008

Chairman
Public Health Committee

Committees

Education Committee Tourism and Recreation Environment and Wildlife

RECEIVED MAY 19 2008

ENVIRONMENTAL PROGRAMS DIV.

Dawn Sullivan, P.E.
Environmental Programs Division Engineer
Oklahoma Dept. of Transportation
R.A. Ward Transportation Building
200 N.E.21 St.
Oklahoma City, OK 73105

Dear Ms. Sullivan:

Thank you for requesting input on the proposed improvements to State Highway 28 from the intersection of U.S. 69/SH 28 near Adair east approximately 13 miles to the intersection of SH 82/SH 28 near Langley, Mayes County, Oklahoma.

I would like to take this opportunity to speak in favor of the above proposed project. This will be an economic shot in the arm for the south Grand Lake area. The economy of my district is highly dependent upon tourism dollars. Anything we can do to improve access to that area by both the tourists and those who live in my district and commute to more metropolitan areas to work will be an economic benefit.

As far as the social effects of this proposal, anything that helps economic development helps improve the social situation in my district. With the increased economic development brought about by this road improvement we will have fewer people on the government dole for assistance.

Your last request was that I comment on the environmental effects of the proposal. I am not a tree hugger and tend to think that the minor temporary environmental effects of this road would probably be overrated by those folks. I would recommend bulldozing, digging, blasting, clearing trees, do whatever you need to do to get this project done.

Sincerely.

Rep. Doug Cox M.D

DC/jem

CC: Margaret Rutherford, Mayor

Town of Langley P.O. Box 760

Langley, OK 74350-0760



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

24 April 2008

United Keetoowah Band of Cherokees P.O. Box 746 Tahlequah, OK 74465

Dear Chief Wickcliffe:

The United Kestoowah Band of Cherokee Indians in Oklahoma has no objection to the referenced project. However, if any remains, artifacts or other items are inadvertnest, discovered, please cease construction immediately and contact us at 918-456-6533 or by letter.

isa C. Stopp, Tribal NAGPRA POC Date

Re: Mayes County widening of State Highway 28 from US 69 / State Highway 28 east 13.55 miles to State Highway 82 / State Highway 28 and bridge replacement on State Highway 28 over Rock Creek; Project # SSP-149C(077)SS, SSP-149C(107)SS, SSP-149C(093)SS, J/P# 21909(04), 24382(04), 23270(04)

Pursuant to Section 800.2(c)(3) of the 1999 Rules and Regulations implementing Section 106 of the National Historic Preservation Act, the Department of Transportation is initiating consultation on behalf of the Federal Highway Administration regarding places of traditional cultural value which may be affected by the above referenced Federal-Aid undertaking.

In order to provide the most thorough consideration of traditional cultural properties, we would appreciate your response to this request within 30 days. When responding, please include the county in which the project is taking and the project number on all correspondence.

On behalf of the Oklahoma Department of Transportation, an independent consulting firm will perform a cultural resources survey in consultation with the Oklahoma State Historic Preservation Office and/or the Oklahoma State Archaeologist. You will be provided a copy of the cultural resources report to review upon its completion.

If this project is likely to affect individual Native American allotments, tribally owned land, tribal cemeteries, cultural or religious sites, or lands held in trust for Native tribes by the United States government, please notify me as soon as possible. Rest assured that the Oklahoma Department of Transportation will respect all wishes regarding the confidentiality of information provided in response to this request.

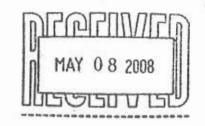
If you have any questions or would like to meet regarding this project, please contact me by telephone at 405.325.8665 or by email at rsfair@ou.edu.

Sincerely

Rhonda S. Fair Tribal Liaison

ODOT Cultural Resources Program

cc: Lisa Stopp



WILDLIFE CONSERVATION COMMISSION

M. David Riggs CHAIRMAN Harland Stonecipher VICE CHAIRMAN John D. Groendyke SECRETARY Mike Bloodworth MEMBER Bruce Mabrey MEMBER Mac Maguire MEMBER Bill Phelps MEMBER Mart Tisdal MEMBER



BRAD HENRY, GOVERNOR
GREG D. DUFFY, DIRECTOR

DEPARTMENT OF WILDLIFE CONSERVATION

P.O. Box 53465

Oklahoma City, OK 73152

PH. (405) 521-3851

July 25, 2008

Dawn R. Sullivan, P.E. Environmental Programs Division Engineer Oklahoma Department of Transportation 200 N.E. 21st Street Oklahoma City, OK 73105-3204

RE: SH28 from US69/SH28 near Adair east to SH82/SH28 near Langley, Mayes Co.

Dear Ms Sullivan,

This responds to your letter of May 12, 2008 requesting information on environmental impacts with respect to the above referenced project. This project involves improving SH 28 from US 69/SH 28 near Adair east to SH 82/SH 28 near Langley, Mayes County, Oklahoma. The purpose of this project is to improve traffic flow, reduce congestions, and improve safety,

Please understand that, due to financial and a personnel constraint, the Oklahoma Department of Wildlife Conservation has not conducted an actual field survey of the proposed project to determine its impacts on species. Based on an intensive map review, several state or federally listed threatened or endangered species are associated with the proposed site. One (1) T&E species is most likely to be impacted by your proposed. The Arkansas Darter, *Etheostoma cragini*, is known to occur in the Grand River System in Mayes County. *E. cragini* is a federal candidate species and a state Species of Special Concern Category II (SS2). A SS2 is a species identified by technical experts as possibly threatened or vulnerable to extirpation but for which additional information is needed.

Additionally, we do have other concerns relating to fish and wildlife resources, particularly aquatic, that may be affected by highway construction. Few opportunities exist for meaningful wildlife habitat improvement or enhancement in association with highway construction or reconstruction projects. The best course of action is to minimize the impact of highway projects on local wildlife populations and to mitigate for habitat losses and degradations. As general guidelines, we recommend the following measures to reduce the impact of highway construction on local wildlife populations through the alteration or loss of habitat.

Search for the Scissortall on Your State Tax Form

- 1) Disturbance to the following habitat types should be avoided to the greatest extent possible during construction: streams, wetlands, springs, rock outcrops, caves, and old-growth deciduous forest (>70 years). These habitat types are usually limited in quantity and their loss is difficult to mitigate. Highway routes should be chosen which take advantage of previously disturbed lands such as crop fields, improved pastures and existing road or utility right-of-ways.
- 2) The wildlife-related impact of cement barriers between lanes of opposing traffic is still poorly understood. In general, we support the use of cement barriers for short distances (<700 feet) in the vicinity of stream crossings to reduce the overall width of disturbed right-of-way and stream bank. We do not, however, recommend cement barriers for extended lengths because of their potential to block the local movement of wildlife.
- 3) All wetland loses should be mitigated in accordance with the provisions of Sections 404 and 401 of the Clean Water Act. This includes losses of riparian forest/bottomland hardwood forest associated with stream and river crossings.
- 4) Erosion control measures should be installed and maintained throughout the construction phase of the project. This is especially important in the vicinity of streams and wetlands. At a minimum, this should involve the use of Best Management Practices for the control of erosion and storm water runoff and may include a combination of:
 - -vegetated buffer zones around the construction area and all streams or wetlands
 -silt fencing around the construction area,
 - -stabilization of disturbed ground using mulch, erosion control fabric or temporary vegetation during construction, or
 - -the construction of storm water retention or detention basins.
- 5) The existing bank stabilization within the proposed boundary may provide some benefits in terms of mitigating project-related disturbances. However, runoff from the construction area should be monitored on a regular basis to ensure minimum loss of fish and wildlife habitat and to maintain water quality of the adjacent river.

*We recommend that you contact your county office of the Natural Resources

Conservation Service for more information regarding these Best Management Practices.

6) Few opportunities exist for meaningful wildlife habitat improvement or enhancement in association with many dredge and fill projects. The best course of action is to avoid or minimize the impact on local wildlife populations and to mitigate for habitat losses and degradations. As general guidelines, we recommend the following measures to reduce the impacts as a result of the proposed project:

- 7) Disturbance to steams, wetlands and their associated riparian habitats should be avoided as much as possible. Design of the stream alteration including any retention or concrete structures should accommodate the natural drainage patterns and anticipated runoff volumes at the site. We recognize and appreciate the applicant's continual efforts to offset impacts to the aquatic environment through mitigation. The mitigation plan should reflect no net loss of in kind habitat where possible.
- 8) Design of the stream alteration should consider the existing riparian and aquatic habitat and should continue to meet the Oklahoma state standards for water quality and will be in violation of the Oklahoma Water Quality Standards if these water quality requirements are not maintained (OAC 785:45).
- 9) The clearing of vegetation along right-of-ways if any are required should be kept the minimum width needed to provide a workspace. Vegetation is important not only as source of food and cover for wildlife but also as an effective form of erosion control and a filter for storm water runoff. The use of native plants helps to reduce the impact of such projects on local wildlife populations and helps to reduce the spread of non-native or weedy plant species into relatively undisturbed areas adjacent to the right-of-way. Final revegetation of disturbed ground on highway right-of-ways should be accomplished using only native grasses and forbs. The use of exotic plant species should be avoided to minimize the spread of these species into undisturbed habitats. Attached with this letter is a list of recommended native plants which are suitable for right-of-way revegetation and a list of potential seed vendors. Riprap should be used only as needed to stabilize banks. Native vegetation should be used along banks where feasible.
- 10) Riparian areas have many functions. Most notably riparian areas can store water to reduce flooding, stabilizing stream banks improving water quality by trapping sediments and nutrients, shade streams and help maintain cooler temperatures and increasing dissolved oxygen thereby improving fish habitat, and provide shelter for birds and other animals. They also serve as travel corridors for numerous terrestrial species. Overhanging branches and roots provide cover for wildlife. Leaves, twigs, flowers, animals, and insects from the streamside forest provide the fundamental food source in the aquatic food chain. For these reasons riparian disturbance should be minimized and any loss of habitat should be replanted upon completion of the project.
- 11) To help insure the best quality of aquatic habitat and water quality in the streams being crossed, construction plans should included bioengineering methods wherever feasible, including choking riprap with soil and planting native vegetation. Additionally, and the use of longer presoaked poles such as willow or river birch (which can be collected on or adjacent to site) stakes should be incorporated into restored banks as they can add shade relatively quickly over the water thereby improving habitat.

- 12) Nonselective blanket-spraying of vegetation should be avoided as a means of vegetation control during routine right-of-way maintenance. We recommend brushhogging, mowing or other mechanical methods rather than the application of broadleaf herbicides. The non-selective used of broadleaf herbicides can reduce the diversity of forbs and shrubs on the right-of-way which are important sources of food and cover for wildlife species such as quail, rabbits and some songbirds.
- 13) In addition to mitigation in accordance with the section 404 and 401 of the Clean Water act, mitigation should be done for all habitat and natural resources that are lost or damage as a result of your project. Please feel free to contact one of our Wildlife Diversity Biologist to discuss mitigation options.

For additional information regarding the locations of sensitive species, we recommend that you contact the Oklahoma Natural Heritage Inventory, 111 E. Chesapeake Street, Norman, Oklahoma 73019. For information on federally listed threatened or endangered species, please contact the U.S. Fish and Wildlife Service, Ecological Services, 9014 E. 21st Street, Tulsa, Oklahoma 74129 or at http://www.fws.gov/southwest/es/oklahoma/endsp.htm.

We appreciate the opportunity to review this project and submit comments. If we can be of further assistance, please contact our Environmental Section at 405-424-6062.

Sincerely.

William Ray

Environmental Biologist

Attachment

Recommendations for the Revegetation of Land to Native Grasses in Eastern Oklahoma

A mixture of perennial grasses and forbs is recommended for revegetating disturbed areas to native grassland. The ratio of grasses to forbs can be varied. but should approximate 70% grass species to 30% perennial forbs. At a minimum, the forb mixture should contain several species of legumes (clovers and their relatives) and composites (sunflowers and their relatives). Seeds should be planted in a tilled seed bed or broadcast over and raked lightly into moist soil. Consult your seed distributor for the recommended amount of seed per acre for your planting area. The use of a culti-packer or other roller device on the seedbed after planting is beneficial for successful seedling establishment. For the best germination results, planting should be conducted shortly after a rainfall event of one-inch or more in spring, early summer or mid-fall. A light straw mulch is beneficial for retaining soil moisture and protecting seedlings from wind exposure. The plant list below is comprised primarily of perennial species adapted to the rainfall patterns and soil conditions of eastern Oklahoma. If soil disturbance occurs the winter or summer months, mulch or erosion control fabric should be applied over the area until planting can take place (after early March or mid-September).

Recommended Plant Species:

Grasses

Switchgrass (Panicum virgatum)
Indian Grass (Sorgastrum nutans)
Eastern Gammagrass (Trypisicum dactyloides)
Reed Canary Grass (Phalaris arundinacea)
Big Bluestem (Andropogon gerardi)
Little Bluestem (Schizachyrium scoparium)

Forbs & Legumes

Purple Prairie Clover (<u>Dalea purpurea</u>)
Leadplant (<u>Amorpha canescens</u>)
Illinois Bundleflower (<u>Desmanthus illinoensis</u>)
Birdsfoot Trefoil (<u>Lotus corniculantus</u>)
Yellow Sweet Clover (<u>Melilotus officinalis</u>)
Prairie Plum (<u>Astragalus crassicarpus</u>)
Blue Indigo (<u>Baptisia australis</u>)
White Indigo (<u>Baptisia leucantha</u>)
Sensitive Briar (<u>Schrankia uncinata</u>)
Partridge Pea (<u>Cassia fasiculata</u>)
Roundhead Bush Clover (<u>Lespedeza capitata</u>)
Slender Lespedeza (Lespedeza virginica)

Composites

Smooth Blue Aster (Aster laevis)

New England Aster (Aster novae-angliae)

Purple Coneflower (Echinacea purpurea)

Pale Purple Coneflower (Echinacea pallida)

Dotted Blazing Star (Liatris punctata)

Largeflowered Coreopsis (Coreopsis grandiflora)

Lanceleaf Coreopsis (Coreopsis lanceolata)

Tall Coreopsis (Coreopsis tripteris)

Plains Coreopsis (Coreopsis tinctoria)

Maximillian Sunflower (Helianthus maximiliani)

Swamp Sunflower (Helianthus angustifolia)

Ashy Sunflower (Helianthus mollis)

Stiff Sunflower (Helianthus rigidus)

Willow-leaf Sunflower (Helianthus salicifolius)

Ox-eye Sunflower (Heliopsis helianthoides)

Gray-headed Prairie Coneflower (Rudbeckia pinnata)

Perennial Blanketflower (Gaillardia aristata)

Compass Plant (Silphium laciniatum)

Rosinweed (Silphium integrifolium)

Stiff Goldenrod (Solidago rigida)

Showy Goldenrod (Solidago speciosa)

Wrinkle-leaf Goldenrod (Solidago rugosa)

Misc.

Standing Cypress (Ipomosis rubra)

Lemon Mint (Monarda citriodora)

Pitcher Sage (Salvia pitcheri)

Showy Milkweed (Asclepias speciosa)

Butterfly Milkweed (A. tuberosa)

Purple Poppy Mallow (Callirhoe involucrata)

Wild Bergamont (Monarda fistulosa)

Beardtongue (Penstemon cobea)

Praire Penstemon (Penstemon tubaflorus)

White Penstemon (Penstemon digitalis)

Large-flowering Penstemon (Penstemon grandiflorus)

Rose Verbena (Verbena canadensis)

Hoary Vervain (Verbena stricta)

Several shrub species are suitable for planting over pipelines. The species listed below typically remain under three feet in height and do not produce root masses that are difficult to remove if line repairs become necessary. Planting scattered clumps of small shrubs provides additional wildlife cover and provides nesting sites for many species of birds.

Recommended Shrubs

Fragrant Sumac (Rhus aromatica)
American Beautyberry (Callicarpa americana)
Golden Current (Ribes aureum)
Blackberry species (Rubus sp.)

For grass and forb seeds, plants, etc., contact a local commercial nursery or vendor. If they cannot provide the necessary species, Please contact the sources below.

Oklahoma

Grasslander Chuck Grimes Rt. 1, Box 56 Hennessey, OK 73742 (405) 853-2607

Guy's Seed Company Rodney Guy 2520 Main Street Woodward, OK 73801 (405) 254-2926

Out of State

Wild Flowers from the Ozarks Hi-Mountain Farm Seligman, MO 65745 (417) 662-2641

Plants of the Southwest 1812 Second Street Sante Fe, NM 87501 (505) 983-1548

Sharp Bros. Seed Co. P.O. Box 665 Clinton, MO 64735 1-800-451-3779 Jonhston Seed Company

Ed Shovanec P.O. Box 1392 Enid, OK 73702 (405) 233-5800

Lorenz OK Seed Fred Lorenz Rt. 2, Box 3 Okeene, OK 73763 1-800-826-3655

Browning Seed, Inc. Box 1836 Plainview TX 79072

Plainview, TX 79072 (806) 293-5271

Turner Seed Co. 211 CR 151 Breckenridge, TX 76424-0978 1-800-722-8616

Stock Seed Farms, Inc. RR 1, Box 112 Murdock, NE 68407 (402) 867-3771

Missouri Wildflower Nursery

Wildseed Farms

Route 2, Box 373 Jefferson City, MO 65109 (314) 496-3492

Wildlife Nurseries, Inc. P.O. Box 2724 Oshkosh, Wisconsin 54903-2734 Specializes in wetland plants

Taylor Creek Restoration Nursery Rt. 3, Smith Road P.O. Box 256 Broadhead, WI 53520 (608) 897-8641

1

Western Native Seed P.O. Box 1463-C Salida, CO 81201 (719) 539-1071 P.O. Box 308 Eagle Lake, TX 77434 1-800-848-0078

Grassland West P.O. Box 1604 Greeley, CO 80632 1-800-782-5947

Ion Exchange Nursery 1878 Old Mission Drive Harpers Ferry, IA 52146 1-800-291-2143

Prairie Moon Nursery Rt. 3, Box 163 Winona, MN 55987 (507) 452-1362





Federal Aviation Administration Southwest Region, Airports Division Arkansas/Oklahoma Airports Development Office Fort Worth, Texas 76193-0630

July 31, 2008

Ms. Laurie Effinger Environmental Division Oklahoma Department of Transportation 200 N.E. 21st Street Oklahoma City, OK 73105-3204

Dear Ms. Effinger:

Thank you for the notice of the public meetings regarding the proposed improvements to State Highway 28 from Adair to Langley in Mayes County, Oklahoma.

Our records indicate that the nearest public-use airport is Mid-America Industrial Airport (H71) in Pryor, Oklahoma. The geographic separation of this airport from the area of potential effect for the State Highway 28 project is such that no adverse impacts to the airport or airspace are expected.

Should the scope of the project change, or should you have any concerns regarding the impact of the project on any local airport, please do not hesitate to notify this office. You may reach me at (817) 222-5697.

Sincerely,

Peggy Wade

Environmental Specialist

Arkansas/Oklahoma Airport Development Office

RECEIVED

ALKS TO A SHORE

ENVIRONMENTAL PROGRAMS DIV.

Abernathy, Jeanna D.

From: Hyslop, Jamie R SWT [Jamie.R.Hyslop@SWT03.usace.army.mil]

Sent: Tuesday, September 02, 2008 10:58 AM

To: Abernathy, Jeanna D. Cc: leffinger@odot.org

Subject: SH 28 improvements

In reference to State Highway 28 improvements. After review of the submitted maps it does appear that there will be some tributary crossings. Once you have finalized your plans and the projected impacts of these crossings please submit them to this office for further review. I do apologize for this untimely response. I have just recently been placed as Project Manager for this project. During future correspondence concerning this project please refer to project ID 2008-302 and put to my attention. Feel free to contact me if you have any questions.

Thanks You,

Jamie Hyslop
Environmental Biologist
Regulatory Project Manager
Tulsa District U.S. Army Corps of Engineers
1645 S. 101 E. Ave., Tulsa, OK 74128-4609
(918) 669-7618 / Fax: (918) 669-4306
http://www.swt.usace.army.mil/permits/permits.cfm



OKLAHOMA AERONAUTICS COMMISSION

September 16, 2008

Ms. Dawn R. Sullivan, P.E. Environmental Programs Division Engineer 200 N.E. 21st Street Oklahoma City, OK 73105-3204

Subject: Improvements to SH 28 in Mayes County

Dear Ms. Sullivan,

The Commission has received your July 25, 2008 letter concerning the referenced subject. Based upon a cursory review and using the minimal details provided in your letter, it is estimated that there will not be any significant impact to the flying public. In the event that the height above ground of any structure constructed in this project exceeds 200 feet, form 7460-1 will need to be mailed to:

Mr. Edward N. Agnew Manager, Arkansas/Oklahoma ADO, ASW-630 Federal Aviation Administration 2601 Meacham Blvd. Fort Worth, TX 76137-4298

Please note that the Commissions review is based on information provided in your letter.

Sincerely,

Vivek Khanna, Ph.D., (Airport Engineer)

Enclosure: FAA's form 7460-1

3700 N. Classen Blvd., Suite 240 · Oklahoma City, OK 73118 · (405) 604-6900 (405) 604-6919 Fax

0	Failure To Provide All Requested Info	rmation May Delay Process	sing of Your Notice	FOR FAA USE ONLY Aeronautical Study Number
U.S. Department of Transportation Federal Aviation Administration	Notice of Proposed C	onstruction or	Alteration	OE
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Telephone:	Fax:	12. Nearest: City:		State:
2. Sponsor's Representative	e (if other than #1) :	13. Nearest Public-use (r	not private-use) or Milita	ry Airport or Heliport:
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3. Notice of: New C	construction	18. Overall height (#16.	+ #17.) (AMSL);	ft.
4. Duration: Perma	nent Temporary (months, days)	19. Previous FAA Aeron	autical Study Number	(if applicable):
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6. Type: ☐ Antenna Tower ☐ Landfill ☐ Water Ta	☐ Crane ☐ Building ☐ Power Line	20. Description of Locat Quadrangle Map with the		
☐ White - Medium Intensity ☐ White - High Intensity 8. FCC Antenna Structure F	☐ Dual - Red and High Intensity White ☐ Other Registration Number (if applicable):			
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Notice is required by 14 Code	e of Federal Regulations, part 77 pursuant to	49 U.S.C., Section 44718. F	ersons who knowingly	and willingly violate the notice
I hereby certify that all of t	subject to a civil penalty of \$1,000 per day unti the above statements made by me are true ture in accordance with established markir	, complete, and correct to	the best of my knowl	TOTAL TOTAL CONTRACTOR
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Date	Typed or Printed name and Title of Person Filing Notice Signature			

APPENDIX K
PUBLIC MEETING RECORDS

«Title» «FirstName» «LastName» «JobTitle» «Company» «Address2» «City», «State» «PostalCode»

Dear «Title» «LastName»:

The Oklahoma Department of Transportation is proposing to improve SH 28 from the intersection of US 69/SH 28 near Adair, east approximately 13 miles to the intersection of SH 82/SH 28 near Langley, Mayes County, Oklahoma. (See enclosed figure of study area.) It is anticipated that the near term construction projects on this highway will address safety issues and bridge replacements for an improved two (2) lane facility. This process will also include planning, evaluation, and possible purchase of right-of-way for a four (4) lane facility at an undetermined future date.

A public meeting to provide project information and solicit public input on the project will be held from 6:00 p.m. to 8:00 p.m., August 12, 2008, at the Pensacola Community Center, Pensacola, Oklahoma. The Community Center is located one block north of SH 28. Your participation is encouraged.

The meeting is further described in the enclosed public meeting notice. The local and surrounding media will be notified with a press release. Should you have any questions, please contact Ms. Laurie Effinger, ODOT, at (405) 521-2535, leffinger@odot.org or Mrs. Diane Abernathy, Benham, at (405) 701-3167, diane.abernathy@benham.com.

Sincerely,

Dawn R. Sullivan, P.E. Environmental Programs Division Engineer

DRS:jda

Enclosures

NOTICE OF PUBLIC MEETING

The Oklahoma Department of Transportation (ODOT) invites you to attend a public meeting to provide project information and solicit public input relative to proposed improvements to SH 28 from the intersection of US 69/SH 28 near Adair, east approximately 13 miles to the intersection of SH 82/SH 28 near Langley, Mayes County, Oklahoma. It is anticipated that the near term construction projects on this highway will address safety issues and bridge replacements for an improved two (2) lane facility. This process will also include planning, evaluation, and possible purchase of right-of-way for a four (4) lane facility at an undetermined future date.

ODOT has scheduled a public meeting from **6:00 p.m.** to **8:00 p.m.**, August **12**, **2008**, at the Pensacola Community Center, Pensacola, Oklahoma (located one block north of SH 28). Representatives from ODOT and The Benham Companies, the engineering firm retained by ODOT to prepare the environmental studies and documentation, will be on hand to present information regarding the improvements presently under consideration. Final design and right-of-way requirements for this proposal have not been determined. The purpose for the meeting is to present the results of the ongoing environmental data collection and to receive public input.

Questions prior to the meeting may be directed to Mrs. Diane Abernathy, Benham, at (405) 701-3167, diane.abernathy@benham.com, or Ms. Laurie Effinger, ODOT, at (405) 521-2535, leffinger@odot.org, or by writing the Environmental Programs Division, 200 Northeast 21st Street, Oklahoma City, Oklahoma 73105.

If you will be unable to attend the meeting, all handout materials will be posted after the meeting to the following ODOT project website:

http://www.okladot.state.ok.us/meetings/other.htm.

The Department strives to accommodate the needs of all citizens, including those who may be disabled. If you would like to attend this meeting but find it difficult due to disability, architectural barrier, or other special needs, or if you require a sign-language interpreter, please contact Mr. Craig Moody at (405) 522-1465 or in writing at the Oklahoma Department of Transportation, 200 Northeast 21st Street, Room 2A2, Oklahoma City, Oklahoma 73105, no later than August 5, 2008.

OKLAHOMA DEPARTMENT OF TRANSPORTATION

PUBLIC MEETING LELER MAILING LIST

Title	FirstName	LastName	JobTitle	Company	Address2	City	State	PostalCode
Mr.	James	Allard	Field Office Manager, OKC	Bureau of Reclamation	5924 NW 2nd Street, Suite 200	Oklahoma City	OK	73127
Mr.	Michael J.	Ryan	Regional Director	Bureau of Reclamation	P. O. Box 36900	Billings	MT	59107
Mr.	Phillip	Keasling	Oklahoma Resources Area	Bureau of Land Management	221 North Service Road	Moore	OK	73160-4946
Ms.	Mary Lou	Drywater	Field Station Manager	Bureau of Land Management	221 North Service Road	Moore	OK	73160-4946
Mr.	John	Melholf	Field Office Manager	Bureau of Land Management	7906 E. 33rd Street, Suite 101	Tulsa	OK	74145-1352
Ms.	Linda	Rundell	State Director	Bureau of Land Management	P. O. Box 27115	Santa Fe	NM	87502-0115
Commanding Officer	-		Integrated Support Command	U.S. Coast Guard	1222 Spruce Street, Suite 7103	St. Louis	MO	63103
Bridge Management			Eighth Coast Guard District	U.S. Coast Guard	500 Poydras Street	New Orleans	LA	70130
Mr.	Gary	Corino	Division Administrator	Federal Highway Administration	300 North Meridian, Room 105S	Oklahoma City	OK	73107-6560
Ms.	Cathy	Gilmore	NEPA Coordinator	USEPA Region 6, Compliance Assurance & Enforcement	1445 Ross Avenue	Dallas	TX	75202-2733
Мт.	David	Manning	Regulatory Branch Chief	Tulsa District Corps of Engineers, ATTN: Environmental Analysis Section	1645 South 101 East Avenue	Tulsa	OK	74128-4629
Colonel	Anthony	Funkhouser	District Engineer	Tulsa District Corps of Engineers	1645 South 101 East Avenue	Tulsa	OK	74128-4629
Mr.	Steve	Nolen	Planning & Environmental	Tulsa District Corps of Engineers	1645 South 101 East Avenue	Tulsa	OK	74128-4629
Ms.	Jeanette	Hanna	Regional Director	Bureau of Indian Affairs	P. O. Box 8002	Muskogee	OK	74402-8002
Mr.	Jerry	Brabander	Field Supervisor (ES)	U. S. Fish & Wildlife Service	9014 East 21st Street	Tulsa	OK	74129-1428
Mr.	Kenneth	Hitch.	District Conservationist	USDA, Natural Resources Conservation Service,	P. O. Box 36	Pryor	OK.	74362-0036
			Region 5	Federal Railroad Administration	4100 International Plaza, Suite 450	Fort Worth	TX	76109-4820
Mr.	Ronald	Miles	Field Office Director	U.S. Department of Housing and Urban Development	William Center Tower II, 2 West Second Street, Suite 400	Tulsa	OK	74103
Mr.	Mike	Snyder	Regional Director, Intermountain Region Office	National Park Service, Planning & Environmental Quality	12795 W. Alameda Parkway	Denver	co	80225
Mr.	Steve	Spencer	Regional Director	U.S. Department of the Interior	P.O. Box 26567	Albuquerque	NM	87125-6567
Mr.	Edward	Agnew	Manager	U.S. Department of Transportation - FAA, Southwest Region, Arkansas/OK Airport Development Office, ASW-630	2601 Meachum Blvd	Fort Worth	TX	76137-4298
Mr.	Victor N.	Bird	Director	Oklahoma Aeronautics Commission	3700 North Classen Boulevard, Suite 240	Oklahoma City	OK	73118
Ms.	Lori	Wrotenberry	Director	Oklahoma Corporation Commission - Oil & Gas Conservation Division	2101 North Lincoln Boulevard	Oklahoma City	OK	73105
Ms.	Margaret M.	Graham	Environmental Review Coordinator	DEQ Customer Assistance Program	P. O. Box 1677	Oklahoma City	OK	73101-1677
Mr.	Bob	Blackburn	Executive Director	Oklahoma Historical Society	2401 North Laird Avenue	Oklahoma City	OK	73105
Mr.	Clayton	Robinson	Energy Programs Manager	Oklahoma Department of Commerce	900 North Stiles	Oklahoma City	OK	73104
Mr.	Greg	Duffy	Director	Department of Wildlife Conservation	P. O. Box 53465	Oklahoma City	OK	73152-8804
Mr.	Mike	Thralls	Executive Director	Oklahoma Conservation Commission	2800 North Lincoln Boulevard, Suite 160	Oklahoma City	OK	73105
Mr.	Terry	Peach	Commissioner of Agriculture	Oklahoma Department of Agriculture	2800 North Lincoln Boulevard, P. O. Box 54298	Oklahoma City	OK	73105-4298
Mr.	Gavin	Brady		Oklahoma Water Resources Board	3800 North Classen	Oklahoma City	OK	73118
Dr.	G. Randy	Keller	Interim Director	Oklahoma Geological Survey	100 East Boyd, Room N-131	Norman	OK	73019-0628
Dr.	Robert L.	Brooks		Oklahoma Archaeological Survey, University of Oklahoma	111 East Chesapeake, Building 134	Norman	OK	73019-5111
Ms.	Sandy	Garrett	State Superintendent	State Department of Education	2500 North Lincoln Boulevard, Room 121	Oklahoma City	OK	73105-4599
Mr.	Gary	Ridley	Director	Oklahoma Department of Transportation	200 N.E. 21st Street	Oklahoma City	OK	73105-3204
Ms.	Kristina	Marek	Director, Planning & Development	Oklahoma Tourism & Recreation Department, Conservation & Planning	120 North Robinson, Suite 600	Oklahoma City	OK.	73102-5403
Mr.	Gary	Collins	Division Director	Oklahoma Department of Environmental Quality	D O D 1722	Oklahoma City	0.11	73101-1677

PUBLIC MEETING LET LER MAILING LIST

Mr.	Edward	Crone	Executive Director	Grand Gateway Economic Development Assoc,	P. O. Drawer B	Big Cabin	OK	74332-0502
Ms.	Trish	Weeden	Executive Director	Oklahoma Association of Regional Councils	429 NE 5th Street	Oklahoma City	OK	73105-1815
Mayor	Bob	McDavis	100000000000000000000000000000000000000	City of Pensacola	442122 Higgins Avenue	Vinita	OK	74301
				United States Post Office		Vinita	OK	74301
Mayor	Margaret	Rutherford		City of Langley	P. O. Box 760	Langley	OK	74350
				Langley Police Department	P. O. Box 70	Langley	OK	74350
				Langley Volunteer Fire Department	P. O. Box 760	Langley	OK	74350
				United States Post Office	NAME OF THE PARTY	Langley	OK	74350
Mayor	Steve	Hall		City of Adair	P. O. Box 198	Adair	OK	74330
1.376.30				Adair Police Department	106 West Main Street	Adair	OK	74330
		111111111111111111111111111111111111111		Adair Fire Department	102 North Mays Street	Adair	OK	74330
				United States Post Office		Adair	OK	74330
Superintendent	Tom A.	Linahan	Superintendent	Adair Public Schools	P. O. Box 197	Adair	OK	74330
Superintendent	Mark	Alexander	Superintendent	Ketchum Public Schools	P. O. Box 720	Ketchum	OK.	74349
Mr.	Larry	Ramsey	Chairman	Board of Mayes County Commissioners	1 Court Place, Suite 120	Pryor	OK	74361
				Mayes County Medical Center	111 Bailey Street	Pryor	OK	74361
				Mayes County Sheriff	One Court Place, #150	Pryor	OK.	74361
Senator	Sean	Burrage	District 002	Oklahoma State Senate	2300 North Lincoln Boulevard, Room 529B	Oklahoma City	OK	73105
Senator	John W.	Ford	District 029	Oklahoma State Senate	2300 North Lincoln Boulevard, Room 413A	Oklahoma City	OK	73105
Senator	John W.	Ford	District 029	Oklahoma State Senate	748 Brookhollow Lane	Bartlesville	OK	74006
Senator	Mary	Easley	District 018	Oklahoma State Senate	2300 North Lincoln Boulevard, Room 429	Oklahoma City	OK.	73105
Senator	Mary	Easley	District 018	Oklahoma State Senate	106 South Cherokee Lane	Ketchum	OK	74349
Representative	Chuck	Hoskin	District 006	Oklahoma House of Representatives	2300 North Lincoln Boulevard, Room 510B	Oklahoma City	OK	73105
Representative	Doug	Cox	District 005	Oklahoma House of Representatives	2300 North Lincoln Boulevard, Room 334	Oklahoma City	OK	73105
Representative	Doug	Cox	District 005	Oklahoma House of Representatives	33471 South 595 Road	Grove	OK.	74344
Senator	James M.	Inhofe		United States Senate	453 Russell - Senate Office Building	Washington	DC	20510-3603
Senator	James M.	Inhofe		United States Senate	1900 N.W. Expressway, Suite 1210	Oklahoma City	OK	73118
Senator	Tom A.	Coburn		United States Senate	172 Russell - Senate Office Building	Washington	DC	20510-3603
Senator	Tom A.	Coburn		United States Senate	100 North Broadway, Suite 1820	Oklahoma City	OK	73102
Representative	Daniel	Boren		United States House of Representatives	216 Cannon HOB	Washington	DC	20515-0001
Representative	Daniel	Boren		United States House of Representatives	431 West Broadway	Muskogee	OK.	74401
Mr.	Guy L.	Вепту	District 8 Commissioner	Oklahoma Transportation Commission	P. O. Box 66	Earlsboro	OK	74840
Chief	Chad	Smith	Principal Chief	Cherokee Nation	P. O. Box 948	Tahlequah	OK	74465
Chief	George	Wickcliffe	Chief	United Keetoowah Band of Cherokees	P. O. Box 189	Tahlequah	OK	74651

NOTICE OF PUBLIC MEETING - PLEASE TELL YOUR FRIENDS AND NEIGHBORS

The Oklahoma Department of Transportation (ODOT) invites you to attend a public meeting to provide project information and solicit public input relative to proposed improvements to SH 28 from the intersection of US 69/SH 28 near Adair, east approximately 13 miles to the intersection of SH 82/SH 28 near Langley, Mayes County, Oklahoma. It is anticipated that the near term construction projects on this highway will address safety issues and bridge replacements for an improved two (2) lane facility. This process will also include planning, evaluation, and possible purchase of right-of-way for a four (4) lane facility at an undetermined future date.

The public meeting is scheduled from 6:00 p.m. to 8:00 p.m., August 12, 2008, at the Pensacola Community Center, Pensacola, Oklahoma (located one block north of SH 28). Representatives from ODOT and The Benham Companies, the engineering firm retained by ODOT to prepare the environmental studies and documentation, will be on hand to present information regarding the improvements presently under consideration. Final design and right-of-way requirements for this proposal have not been determined. The purpose for the meeting is to present the results of the ongoing environmental data collection and to receive public input.

Questions prior to the meeting may be directed to Mrs. Diane Abernathy, Benham, at (405) 701-3167, diane.abernathy@benham.com, or Ms. Laurie Effinger, ODOT, at (405) 521-2535, leffinger@odot.org, or by writing the Environmental Programs Division, 200 Northeast 21st Street, Oklahoma City, Oklahoma 73105. If you will be unable to attend the meeting, all handout materials will be posted after the meeting to the following ODOT project website: http://www.okladot.state.ok.us/meetings/other.htm.

The Department strives to accommodate the needs of all citizens, including those who may be disabled. If you would like to attend this meeting but find it difficult due to disability, architectural barrier, or other special needs, or if you require a sign-language interpreter, please contact Mr. Craig Moody at (405) 522-1465 or in writing at the Oklahoma Department of Transportation, 200 Northeast 21st Street, Room 2A2, Oklahoma City, Oklahoma 73105, no later than August 5, 2008.

PUBLIC MEETING POSTCARD MAILING LIST

C. Jine & Robert W. Marling 9923 Okesa Rd. Bartlesville, OK 74003 Rose M. Moore P. O. Box 28 Adair, OK 74330 Richard T. & Paulette Knepper 11139 S. Hudson Ave. Tulsa, OK 74137

Mr. & Mrs. Lynn Mayfield P. O. Box 306 Adair, OK 74330 Jeff & Patricia Wardrip 5038 E. 420 Rd. Adair, OK 74330 Craig L. Cartwright P.O. Box 574 Adair, OK 74330

Janana R. Peper etal 11398 N. 429 Adair, OK 74330 Joanna & William Crofford, Jr. 606 E. Main St. Adair, OK 74330 Amanda Waters 610 E. Main St., Unit A Adair, OK 74330

William E. & Judy L. Henson P. O. Box 398 Adair, OK 74330 Stephen W. & Glenda Davenport P. O. Box 65 Adair, OK 74330 Donald B. Mitchell P. O. Box 26 Adair, OK 74330

Jackie D. Bostick (i. Main St. Auatr, OK 74330 Nail Enterprises, Inc. 403 E. Broadway Sand Springs, OK 74063 Jerry W. Usry P. O. Box 314 Adair, OK 74330

Melvin & Bonnie Gilpin Trust 441444 East 355 Rd. Big Cabin, OK 74332 Melva Hampton Living Trust P. O. Box 334 Adair, OK 74330

Gary Calvert P. O. Box 34 Adair, OK 74330

George L. & Alice G. Perritt P. O. Box 291 Adair, OK 74330

Donald R. Williams P. O. Box 58 Adair, OK 74330 Troy D. & Jennifer Bradley 312 Hampton Rd. Adair, OK 74330

Janana R. & Retha Bauser Peper and Clinton V. Peper 11398 N. 429 Adair, OK 74330

Mayes County County Barn D 1 Adair, OK 74330 Michael S. Lerner 6600 College Blvd., Suite 210 Overland Park, KS 66211

Roger & Mary Malchow P. O. Box 735 'ir, OK 74330 Charles & Diana Kennedy P. O. Box 553 Adair, OK 74330 John E. Kerr P. O. Box 1 Adair, OK 74330

Adair School P. O. Box 197 Adair, OK 74330 Charles R. & Diana C. Kennedy 444253 E. 380 Rd. Vinita, OK 74301 Wayne R. & Bette K. Schneider Trust Agreement 1373 E. 390 Adair, OK 74330 Danny Michael Mitchell 501 Grace Ave. A ; OK 74330

Lee Mitchell 305 S. Mayes Adair, OK 74330 Ricky Duane Wood 427454 E. 20 Rd. Welch, OK 74369

Kimbereley Risner P. O. Box 145 Adair, OK 74330 Delores Claudene Ward P. O. Box 100 Adair, OK 74330 Harold & Harriett Dunham 312 S. Mayes Adair, OK 74330

Therma Keller Rt. 1, Box 905 Big Cabin, OK 74332 Sam D. Vanover 6362 N. 433 Adair, OK 74330 Steven L. Hall P. O. Box 231 Adair, OK 74330

Adair School P. O. Box 197 Adair, OK 74330

Stanley A. & Lesa Crawford P. O. Box 31 Adair, OK 74330 Ella C. & Ralph W. Neice III P. O. Box 704 Adair, OK 74330

Arlie E. Potts P. O. Box 98 Adair, OK 74330 Robert M. Burtner 59 Leisure Land Drive Big Cabin, OK 74332 J. L. Stites P. O. Box 6 Adair, OK 74330

Samuel D. Vanover P. O. Box 85 Adair, OK 74330 Jack L. & Louella Rudd 111 Deadwood Dr. Adair, OK 74330 Clifford E. & Debra Burtner 107 Leisure Land Drive Big Cabin, OK 74332

R. G. & Vivian Kerr P. O. Box 95 Adair, OK 74330

Bonnie Jean Carpenter Rt. 1, Box 733 Big Cabin, OK 74332 Randall W. & Virginia F. Reed 60 Leisure Land Place Big Cabin, OK 74332

Church Of Christ Adair, OK 74330 Harold Leon & Loena C. Reed 642 Leisure Land Drive Big Cabin, OK 74332 F. Leon & G. Kay Koster P. O. Box 219 Salina, OK 74365

James & Sandra Mellette P. O. Box 757 Adair, OK 74330 Arlis & Terrie Anderson and Adam Charles Anderson P. O. Box 1403 Pryor, OK 74362

Daniel Lee Martin 488 Leisure Land Drive Big Cabin, OK 74332

B & B Funding, LLC 1025 16th Ave. S., Suite 202 Nashville, TN 37212 Franky & Marilyn Littlefield P. O. Box 626 Adair, OK 74330 Beverly & Robert G. Kerr, Jr. 9403 N. 429 Rd. Adair, OK 74330

Dean R. & Marti A. Schneider 43^^55 E. 360 Rd. A OK 74330	Mildred Lewis & Virginia Gilbert 333 S. Brewer	Rickey D. & Linda D. Nance P. O. Box 1004 Pryor, OK 74362
100000000000000000000000000000000000000	Vinita, OK 74301	, ,
Harold & Jane A. Oxford	Mary Elizabeth Hargis	Geneva Mary Etta Beaver 508 E. Main Street
5450 East Highway 28	Trust 4840 Roemer Rd.	Adair, OK 74330
Big Cabin, OK 74332	Columbia, MO 65202	508 E. Main St. Adair, OK 74330
Jonathan David Terry	Mary L. Necessary	Ron & Kim Green
and Tina J. Terry 202 Lindsey Ave.	5372 Highway 28 East	204 Lindsey Ave.
Adair, OK 74330	Big Cabin, OK 74332	Adair, OK 74330
James F. Necessary Trust	Ricky & Cindy L. Dunn	Ernest Dale Cannady
57 Leisure Land Point	518 E. Main St.	P. O. Box 164
Big Cabin, OK 74332	Adair, OK 74330	Big Cabin, OK 74332
Jerry L. & Amanda Vonschriltz	Marti A & Dean Schneider	Linda S. & Robert J. Looney
526 E. Main St. Adair, OK 74330	436355 E. 360 Rd. Adair, OK 74330	P. O. Box 595 Adair, OK 74330
Adair, OK 74330	Addir, OK 74550	Addii, OK 74550
Phillip & Janet K. Way	Rickey D. & Lisa L. Oxford	Howard B. & Sunnye D. Rogers
9292 North 440 Rd. Big Cabin, OK 74332	Rt. 1, Box 782 Big Cabin, OK 74332	P. O. Box 323 Adair, OK 74330
Martin Todd Potts	Roy G. & Carolyn C. Reed	James R. & Julie O. Trahern
1007 West 9 th Street South Claremore, OK 74017	P. O. Box 906 Chouteau, OK 74337	319 Hampton Rd. Adair, OK 74330
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Robert G. Kerr, Jr.	Scott Eugene Winfield and Judith Ann Winfield	Ahnawake Winfield etal
9403 N. 429 Rd. Adair, OK 74330	619 SE 3rd	112 Warrior Rd.
Audir, OK 14330	Adair, OK 74330	Adair, OK 74330
Robert Chell & Jamie D. Looney	Monty C. & Christi Littlefield	Bank Of Commerce
P. O. Box 671	Revo Family Trust 663 SE 3rd St.	P. O. Box 199
Adair, OK 74330	Adair, OK 74330	Adair, OK 74330

William & Shelly Sampson
2571 N. 427
Pryor, OK 74361
Bobbie M. Couch Revo Trust
2521 Hwy. 28 W.
Adair, OK 74330

Bobby Hendricks P. O. Box 832 Chouteau, OK 74337 Carol S. & James W. Fidler Ray & Shirley Pape Arkansas Valley State Bank P. ~ Box 229 P. O. Box 394 302 South Main OK 74330 Adair, OK 74330 Broken Arrow, OK 74012 Lickety Split, Inc David B. Schwartz Kenneth Ray Sholar Larry's Convenience P. O. Box 283 392 Leisure Land Place 601 E. Main SW City, MO 64863 Big Cabin, OK 74332 Adair, OK 74330 Charlotte Brenner Autumn Lands, Inc Kelly McLain 1007 West 9th Street South P. O. Box 12 P. O. Box 3669 Pryor, OK 74362 Tulsa, OK 74101 Claremore, OK 74017 Stanley A. & Lesa Crawford Don Littlefield Pastor P. O. Box 31 442018 Kentucky Avenue P. O. Box 97 Langley, OK 74350 Adair, OK 74330 Vinita, OK 74301 Tammie K. & Douglas B. Baisden Madella Stricklin White Mr. Jim Wilson 8900 N. 436 Rd. 594 Sappington Bridge Rd. 442180 Kentucky Ave. Sullivan, MO 63080 Vinita, OK 74301 Adair, OK 74330 Current Resident Wayne & Doris Helton John Martin Eddins et al P. O. Box 442 1646 Hwy. 28E 1567 Northridge Dr. Langley, OK 74350 Adair, OK 74330 Vinita, OK 74301 Pamela R. Medford Revo Trust Don & Susie Sumter Foline Bryan & Arliss Bryan & Barbara Bridge **Living Trust** 442840 Hwy. 28 443010 E. 386 Rd. 3010 E. 380 Rd. Vinita, OK 74301 Vinita, OK 74301 Adair, OK 74330 Floyd D. Wheeler Ina & Marie Kar Rogers Jason V. & Jessica R. Miller 442775 E. 386 Rd. 5161 E. 27th Pl. 442578 Hwy. 28 Vinita, OK 74301 Tulsa, OK 74114 Vinita, OK 74301

Shelly D. & Warren D. Lindsey 443009 E. 386 Rd. Vinita, OK 74301 Teresa G. Layersdorf 442835 E. 386 Rd. Vinita, OK 74301 Allen & Candy Rickner 38838 Woodford Ave. Pensacola, OK 74301

Mike M. Dean Rt. 1, Box 384 Big Cabin, OK 74332 Donna L. & Charles D. Crook, Sr. 441550 Hwy. 28 Vinita, OK 74301 Anthony Benton P. O. Box 198 Adair, OK 74330 Justin R. & Josi R. Morrison 110 N. Whitaker P , OK 74361

Kenneth Paul & Marie P. Webb 16905 E. 484 Rd. Claremore, OK 74019 Calvin & Sally Poling Trust 38774 S. 4410 Rd. Big Cabin, OK 74332

Rhonda Mizub 38769 Woodford Pensacola, OK 74301 Janis R. Blount and James Garland 1720 E. Reno St. Broken Arrow, OK 74012

Cassie Michael 441550 Hwy. 28 Vinita, OK 74301

Rick & Donna Smestad Trust 38500 S. 4410 Rd. Big Cabin, OK 74332 Mary Richardson 1400 W. Blue Starr Dr. Apt. E-2 Claremore, OK 74017

Dale Gordon Young Revo Trust 38548 S. 4410 Rd. Big Cabin, OK 74332

John A. & Donna J. Willis 12012 E. Maple Ct. Claremore, OK 74017 Christine Ann Malley 38821 S. 4415 Rd. Vinita, OK 74301

Sandra Lee & Gerald Malley II 441612 Hwy. 28 Vinita, OK 74301

Richard Ray Williams and Betty Sue Williams 6330 State Hwy. 28 Erraha, OK 74342

Jo Montana P. O. Drawer B Big Cabin, OK 74332 Paul R. Lanier 441808 Grand Ave. Vinita, OK 74301

Charles D. Crook (Trust) 441550 Hwy. 28 Vintia, OK 74301 Marvin Haltquist 1410 Prairie Creek Rogers, AR 72756 Todd Nolen 324 N. Crosby Tulia, TX 79088

Janelle Hayes 441608 Hwy. 28 Vinita, OK 74301 Grand Lake Land, LLC 25825 S. Hwy. 66 Claremore, OK 74019 Barbara Timmerman 442123 Martin Pensacola, OK 74301

Sandra Malley 441612 Hwy. 28 Vinita, OK 74301 The First Baptist Church of Pensacola 6330 State Hwy. 28 Eucha, OK 74342 Robert Pringle Adair Christian Church 305 2nd Street Adar, OK 74330

Charles & Patricia Fikes 9969 N. 441 Rd.

Billy M. & Terri York Rt 1, Box 298-1 Big Cabin, OK 74332 Jack Lawson 18055 S. 310 Rd. Morris, OK 74445

N...y Richardson 1400 W. Blue Starr Dr. Apt. E-2 Claremore, OK 74017

Lonnie & Brenda Midgley Rt 1, Box 374 Big Cabin, OK 74332 Jaime Dobbing 452393 E. 321 Afton, OK 74331

Robert L. & Frances F. Clapper 10 N. 439 B. Jbin, OK 74332	Anita Joan Churchwell & Terry Curtis Duke 10443 N. 440 Rd. Big Cabin, OK 74332	Michael & Jane McDonnell 3808 S. Coachman Rd. Edmond, OK 73013
Sam L. & Kathy Richardson	Raymond E. & Amanda L. Sisson	Bryan F. & Stephanie Jackson
10242 E. 420	10242 E. 420	3806 E. 39
Strang, OK 74367	Strang, OK 74367	Big Cabin, OK 74332
Merlin Lee Revo Living Trust	Cecil Leon Sumner	George & Patricia Ford
24900 S. 4106 Rd.	P. O. Box 70	5212 Hwy. 28 E.
Claremore, OK 74019	Vinita, OK 74301	Big Cabin, OK 74332
Timothy Mark Bostic	Grande Isle, LLC	Dale W. & Deborah J. Williams
P. O. Box 609	8120 N. 440 Rd.	9261 E. Hwy. 412
Locust Grove, OK 74352	Big Cabin, OK 74344	Locust Grove, OK 74352
Dennis Baks	Jason & Belinda Packard	Chad Brodsky
P. O. Box 101	5316 Oak Timber Dr.	610 E. Main
Langley, OK 74350	Tulsa, OK 74131	Adair, OK 74330
Gary R. & Diana W. Rott	Mike E. & Virginia Bayless	John Q. Neal Trust
P. O. Box 121	P. O. Box 726	9437 N. 439
Adair, OK 74330	Locust Grove, OK 74352	Big Cabin, OK 74332
Maxine Eby Cason etal Trust	John Loent	Robert & Roberta Kehler
Box 295	P. O. Box 1132	1425 E. 156th St. N.
Adair, OK 74330	Pryor, OK 74362	Skiatook, OK 74070
Randolph D. Burgess P. O. Box 111 Adair, OK 74330	R. Wayne Neal Joanne R. Neal 3115 S. Delaware Place Tulsa, OK 74105-2433	Ted E. & Ramona Dixon P. O. Box 398 Vinita, OK 74301
Paul T. & Shirley J. Caskey	Joey Johnston	Billy Wade Couch
2965 Hwy. 28E	P. O. Box 116	7941 N. 433 Rd.
Adair, OK 74330	Adair, OK 74330	Adair, OK 74330

Daniel Kelley 9158 N. 437 Adair, OK 74330 Vicki Richards 5210 N. 440 Rd. Adair, OK 74330 Sandra Lou McCrabb etal 8530 N. 437 Adair, OK 74330

Kenneth & Melinda Langston 43 ^{F7} 06 E. 370 Rd. A OK 74330	Larry Eby P. O. Box 357 Adair, OK 74330	Carl F. & Lena W. Downs 435457 E. 310 Rd. Vinita, OK 74301
Fannie Louise Osborn 9687 N. 436 Rd. Adair, OK 74330	Charles Stoner Revo Trust P. O. Box 129 Welch, OK 74369	Gary L. Simpson Gary's Auto Repair 5338 Hwy. 28 East Big Cabin, OK 74332
Craig Downs P. O. Box 236 Big Cabin, OK 74332	John G. Wandell 441249 E. 370 Rd. Big Cabin, OK 74332	Roger & Mary Ann Malchow P. O. Box 735 Adair, OK 74330
Billie Roger & Cindy K. Wright 827 E. Tahlequah St. Vinita, OK 74301	Joua Zong Vue and May Xiong Vue 901 Triplett Akron, OH 44306	John Q. Neal Trust 9437 N. 439 Big Cabin, OK 74332
Lucille M. Ford Trust 5212 Hwy. 28 E. Big Cabin, OK 74332	Forrest Green & Cotton Wood Green 9534 N. 439 Big Cabin, OK 74332	Terry & Ruthie Martin 9594 N. 439 Big Cabin, OK 74332
Ed & Louise Heidlage Trust 5201 Lake Rd. Ponca City, OK 74064	Stephen C. & Karen L. McMillan 608 N. Bristow Moore, OK 74106	George Ford etal Lucille M. Ford Revocable Trust 5212 Hwy. 28 E. Big Cabin, OK 74332
George R. & Patty S. Ford 5212 Hwy. 28 E. Big Cabin, OK 74332	Sherry D. Hayes 442268 Grand Ave. Vinita, OK 74301	Andy & Pam McKay 442005 Grand Ave. Vinita, OK 74301
Homer & Kimberly Mulanax 442191 Grand Ave. Vinita, OK 74301	Ina Mae & Marie Kar Rogers 5161 E. 27th PI. Tulsa, OK 74114	Don Minson 442283 Grand Ave. Vinita, OK 74301
Floyd D. Wheeler	Lake Valley Ranch & Resort	Mary Richardson

Floyd D. Wheeler 442775 E. 386 Rd. Vinita, OK 74301

6144 E. 392

Frankie L. & Vernie R. Scott

Big Cabin, OK 74332

c/o Marilyn Pruitt 1004 E. 41st Tulsa, OK 74105

Steven L. & Marsha L. Hall

1400 W. Blue Starr Dr. Apt. E-2 Claremore, OK 74017

P. O. Box 231 Adair, OK 74330

Gary N. & Clara L. Utter 9090 N. 440 Rd. Big Cabin, OK 74332

Bradley & Elizabeth L. Farrar 60°° E. 392 B abin, OK 74332

Christopher & Rebeka Carlson 9852 N. 441 Rd. Big Cabin, OK 74332 Mary Louise Bogdanoff Trust 7206 S. Gary PI. Tulsa, OK 74136

Ed Heidlage 9594 N. 439 Big Cabin, OK 74339 Talbot & Tammy Donley 9823 S. Rosewood Dr. Broken Arrow, OK 74014 Wayne S. White 7212 S. 72nd E. Ave. Tulsa, OK 74133

Keeling & Idella McGaughey Trust P. O. Box 266 Langley, OK 74350

Bob Williams & Robert Soden 10919 N. 177th E. Ave. Owasso, OK 74055 Jim Ellen Nipps 36701 S. 4465 Rd. Vinita, OK 74301

Melvin Denver Burns 36873 Whiskey Rd. Vinita, OK 74301 Charles H. Burns 7701 Wurzbach Rd., #1205 San Antonio, TX 78229 Doug Ray 38950 Main Street Vinita, OK 74301

Evelyn Baker P. O. Box 219 Langley, OK 74350 Charles Gray & Valerie Nieman P. O. Box 27 Langley, OK 74350 Boyd & Virginia Kinder Trust P. O. Box 545 Langley, OK 74350

Mary Jane Akin P. O. Box 58 Langley, OK 74350 Alma Joyce Couch and Joe Todd Ellis P. O. Box 218 Ketchum, OK 74349

Melvin Eugene & Shizuko Burns 36422 S. Hwy 82. Vinita, OK 74301

Turner Funeral Chapels, LLC P. O. Box 3669 Tulsa, OK 74101 Phil & Sharon Frazier 1424 Terrace Drive Tulsa, OK 74104 Billy Bryant 38884 Rogers Avenue Pensacola, OK 74301

Leonard S. Kauffman P. O. Box 250 Langley, OK 74350 Mary Etta Beaver 508 E. Main Street Adair, OK 74330 Barbara Conner P. O. Box 790 Langley, OK 74350

Big R Investment c/o Burke & Nickel 3336 E. 32nd St., #217 Tulsa, OK 74135 David Smith Jason Smith Arkansas Valley Petroleum, Inc 8336 E. 73rd St., #100 Tulsa, OK 74133

Kenneth D. Jungermann P. O. Box 917 Jay, OK 74346

Thomas & Sharon Moore Trusts 12982 Zeigler Lane Springdale, AR 72762 Jerry & Faith Bates Donahue 21250 E. 610 Rd. Inola, OK 74036 Jo Ellen Williams P. O. Box 142 Langley, OK 74350

Diana & Patrick Patterson Kenneth O. J. & Nancy Funk Jerry Leo Herndon 22° 'V. Victoria 6350 El Reno Lane P. O. Box 224 T. OK 74106 Joplin, MO 64804 Langley, OK 74350 Bobbie A. Green Bobby Ray Flock 444672 Hwy. 28 36835 S. 4450 Rd. Vinita, OK 74301 Vinita, OK 74301 Arthur D. & Elizabeth Henry Larry V. & Kimberly S. Boyce P. O. Box 370 1437 S. Clay Ave. Langley, OK 74350 Springfield, MO 65807 **Leonard Arnett** Virginia R. Henry Billy D. & Barbara Flock 37023 S. 4440 Rd. 36767 S. 4450 Rd. 444754 Hwy. 28 Vinita, OK 74301 Vinita, OK 74301 Vinita, OK 74301 Kendall A. & Sharon L. McKisick Marvin D. or Judy Lynn Gregory 37779 S. 4430 Rd. 37345 S. 4440 Rd. Vinita, OK 74301 Vinita, OK 74301 The Moody Family Trust UID 32945 S. 4430 Rd. Vinita, OK 74301 Leonard C. Arnett, Jr. and Connie Jean Gregory G. Y. & Betty Brown Randall Lee Arnett 443936 Hwy. 28 37465 S. 4440 Rd. 37023 S. 4440 Rd. Vinita, OK 74301 Vinita, OK 74301 Vinita, OK 74301 Patsy Coaly & Benny L. Long Donald E. Watt Vernie Ray & Annette Walker 37421 S. 4440 Rd. 443820 Hwy. 28 P. O. Box 636 Vinita, OK 74301 Vinita, OK 74301 Langley, OK 74350 James & Jenifer Satterwhite Rick & Linda Hamill Donald Watt

Donald Watt 442830 Hwy. 28 Vinita, OK 74301

K....oerly Ann Bryd and Jeffrey Douglas Carroll 32771 Wood Dr. Afton, OK 74331 James & Jenifer Satterwhite 443890 Hwy. 28 Vinita, OK 74301

Evelyn Bogdorff P. O. Box 37 Langley, OK 74350 Rick & Linda Hamill 37597 S. 4440 Rd. Vinita, OK 74301

James K. & Lori J. Wayne 37717 S. 4440 Rd. Vinita, OK 74301 Larry L. & Connie L. Coulston 37° - S. 4440 Rd. V. OK 74301 Lorna Dean Millikan etal 443570 Hwy. 28 Vinita, OK 74301

Kendall & Sharon L. McKisick 37779 S. 4430 Rd. Vinita, OK 74301 Suzanne U. Eddins 1567 Northridge Dr. Vinita, OK 74301 Marvin B. & Wilda Adams Trust 443260 E. 380 Rd. Vinita, OK 74301

Kenneth D. Chaney 443082 E. 380 Rd. Vinita, OK 74301

Helen Sue & Larry A. Hyams 443494 E. 380 Rd. Vinita, OK 74301

Jerome F. Campbell Family Trust 37420 S. 444 Rd. Vinita, OK 74301

Robert L. Post Living Trust P. O. Box 481 Legaley, OK 74350

Phillip Carroll 444452 Hwy. 28 Vinita, OK 74301 Craig L. & Debra L. Landrum 444290 Hwy. 28 Vinita, OK 74301

David & Bethany Harding 37191 S. 4450 Rd. Vinita, OK 74301 Lou Etta C. Robinson P. O. Box 786 Langley, OK 74350

Floyd Wayne Coulston 444568 Hwy. 28 Vinita, OK 74301 Betty R. Brautigan 37033 S. 4449 Road Vinita, OK 74301 Lari's Rescare, LLC P. O. Box 727 Langley, OK 74350

Socorro Splawn 37091 S. 4449 Rd. Vinita, OK 74301 Dean & Debra Hughes 37044 S. 4449 Rd. Vinita, OK 74301 Gordon Stanton 37087 S. 4450 Rd. Vinita, OK 74301

Albert J. Schaefer 37171 S. 4450 Rd. Vinita, OK 74301 James A. Hoyt 37329 S. 4450 Rd. Vinita, OK 74301 Dean & Debra Hughes 37044 S. 4449 Rd. Vinita, OK 74301

Gladys Carroll 444452 Hwy. 28 Vinita, OK 74301 Mark W. & Mary Kay Peerson P. O. Box 148 Langley, OK 74350 Charles & Wanda M. Toews P. O. Box 55 Ketchum, OK 74349 James R. & Glenda Satterwhite 37477 S. 4455 Rd. Vinita, OK 74301 TAK Enterprises P. O. Box 378 Vinita, OK 74301

Ronnie Crabtree N3474 943rd St. Hager City, WI 54014

Allen E. & Gayle L. Byrd P. O. Box 274 Ketchum, OK 74349 Betty Phillips 216 E.Oak Skiatook, OK 74070

Sam & Janie Parks

Jimmy L. Crabtree 445243 Hwy.28 Vinita, OK 74301

c/o Inez Martin 716 N. 1st Vinita, OK 74301

Stanford G. & Debbie S. Witt 445305 E. 372 Rd. Vinita, OK 74301 Gwane O. & Vivian L. Evans 37198 S. 4450 Rd. Vinita, OK 74301 Gary D. & Mary E. Carroll Trust 37130 S. 4450 Rd. Vinita, OK 74301

Theodore B. & Wanda L. Claes 37068 S. 4450 Rd. Vinita, OK 74301 Fellowship of Believers, Inc P. O. Box 97 Langley, OK 74350 Rosemary Morrow 37446 S. 4455 Rd. Vinita, OK 74301

Fred A. & Diana L. Rice P. O. Box 415 Langley, OK 74350 Bob Yeatts Trust 124 N. Peoria Ave. Tulsa, OK 74120

Harold & Maybelle Hollabaugh P. O. Box 622 Langley, OK 74350 Klaus Blueggel P. O. Box 487 Langley, OK 74350 Ricky G. & Jennifer A. Pool P. O. Box 414 Ketchum, OK 74349

Lawrence Vaughn P. O. Box 52 Langley, OK 74350 Joshua H. Hopper 445404 E. 372 Rd. Vinita, OK 74301

uua Henry Hopper and Kylee Hopper 445404 E. 372 Rd. Vinita, OK 74301

TAK Enterprises P. O. Box 378 Vinita, OK 74301 Jerry L. & Danny L. Herndon P. O. Box 224 Langley, OK 74350 Thurman Lee Rowe R. Ronald & Rose Linda Trimble Jacob John & Alisa D. Yancey Rt * Box 416 445437 E. 375 Rd. 7736 E. 104th St. Tulsa, OK 74133 Si /, OK 74073 Vinita, OK 74301 George C. Knotts Juanita C. & Thomas S. Faith Betty Lou (Lawson) Yeager 317 W. 4th St. P. O. Box 14 P. O. Box 368 Langley, OK 74350 Lamoni, IA 50140 Langley, OK 74350 David L. Henson Leonard S. Kauffman Gerald & Mary B. Satterwhite P. O. Box 842 P. O. Box 250 445592 E. 375 Rd. Langley, OK 74350 Vinita, OK 74301 Langley, OK 74350 Ray D. Long Katie Hendricks CDJ Enterprises, LLC P. O. Box 251 P. O. Box 95 P. O. Box 878 Langley, OK 74350 Langley, OK 74350 Langley, OK 74350 Floyd & Patricia Coulston KD&C's Venture, LLC C. Geneva Creekkiller Trust P. O. Box 475 37086 S. 4462 Rd. 444568 Hwy. 28 Langley, OK 74350 Vinita, OK 74301 Vinita, OK 74301 Howard Classic Boats, LLC Richard W. & Karen S. Bailey Gary D. Long P. O. Box 339 P. O. Box 113 37025 S. 4462 Rd. Langley, OK 74350 Langley, OK 74350 Vinita, OK 74301 Madeline E. Jones Dan & Patricia Legrant 36970 Cliff Crest P. O. Box 471886 Vinita, OK 74301 Tulsa, OK 74147 Glenda & William R. Olson, Jr. Peter M. Crow Revo Trust George C. Knotts Revo Trust P. O. Box 470423 317 W. 4th St. 12312 E. 370 Rd. Celebration, FI 34747 Lamoni, la 50140 Vinita, OK 74301 Lewis B. & Donna G. Tyner Jan Tyner Jeffery C. Remund etal

Jim L. & Inez Sands P. O. Box 730 Langley, OK 74350

Owasso, OK 74055

P. O. Box 1998

 Lewis B. & Donna G. Tyner
 Jan Tyner

 1418 N. 3rd
 1418 N 3rd

 Vinita, OK 74301
 Vinita, OK 74301

Windmill Run Marina, Inc. P. O. Box 9514 Tulsa, OK 74157 Timothy J. & Aimee Tyner 1422 N. 3rd St V. , OK 74301 Estle E. & Vondah C. Hunsucker Hunsucker Living Trust 7801 S. Louisville Ave. Tulsa, OK 74136

Bobby Coppedge P. O. Box 325 Langley, OK 74350

Evelyn Bogdanoff P. O. Box 37 Langley, OK 74350 Eddie M. & Barbara J. Northup P. O. Box 369 Langley, OK 74350

Jim L. Sands etal P. O. Box 730 Langley, OK 74350 Gary & Mary E. Long P. O. Box 113 Langley, OK 74350

Frederick E. & Mary J. Murray P. O. Box 421 Langley, OK 74350 Nora Bowers 1523 Old Ketchum Rd. Vinita, OK 74301 Gerald Stephens and C. Geneva Creekkiller 37086 S. 4462 Rd. Vinita, OK 74301

KD&C's Venture, LLC P. O. Box 422 Langley, OK 74350

Methodist Church 310 N. Cheatham Adair, OK 74330

GRDA P. O. Box 409 Vinita, OK 74301 Doris D. Mooney 38915 Davies St. Vinita, OK 74301 Rural Water District 5607 West 28 Highway Adair, OK 74330

Jack Elsey P. O. Box 734 Tahlequah, OK 74464 D. J. Peper 602 E. Main Adair, OK 74330

David & Margaret Allison 9968 North 431 Road Adair, OK 74330 Twilight Media LLC HC ²⁴, Box 22 Lc ah, OK 74042 Frances Faye Johnson P. O. Box 1651 Whitney, TX 76692 Bill M. & Billie R. Thomas 15125 Honore Ave. Harvey, IL 60426

Sturgeon H. Hawkins, Jr. and Annita A. Weathers P. O. Box 631 Oakland, OR 97462

Mr. Jack Russell 33685 Spruce Grouse Lane Afton, OK 74331 Dave & Lorna Driscoll 442285 E. Kentucky Ave. Vinita, OK 74301

Dovie A. Richards 9735 N. 437 Adair, OK 74330 Dale & LeeAnn Henry 444814 W. Highway 28 Vinita, OK 74301 Lisa Ash 38990 Woodford Avenue Pensacola, OK 74301

Teresa Arnett 38993 Woodford Avenue Pensacola, OK 74301-7219 Phyllis Graham 300 N. Eagle Lane Adair, OK 74330



Oklahoma Department of Transportation

Welcome to the SH 28 Public Meeting

August 12, 2008 Pensacola Community Center

ODOT is proposing improvements to SH 28 from the intersection of SH 69 / SH 28 near Adair, east approximately 13 miles to the intersection of SH 82 / SH 28 near Langley, Mayes County, Oklahoma. The near term construction projects on this highway will address safety issues and bridge replacement for an improved two (2) lane facility. This process will also include planning, evaluation, and possible purchase of right-of-way for a four (4) lane facility at an undetermined future date. This meeting is to present the results of the ongoing environmental data collection, and to solicit public input.

Primary Purposes of this Public Meeting

- Present SH 28 proposed improvements and project schedule
- Present results of ongoing environmental data collection
- Explain the opportunities for public involvement in the project
- Receive your input regarding critical social, economic, and environmental effects that may result from the project

Meeting Agenda

- 1. Welcome and Introductions
- 2. Project Overview
- 3. Question and Answer Session
- 4. Open Forum Session

Your input is valuable to this process. Please submit your questions or written comments to:

Dawn R. Sullivan, P.E. OK Department of Transportation Environmental Programs Division 200 Northeast 21st Street Oklahoma City, Oklahoma 73105

We must receive your comments no later than August 26, 2008.



Enclosure

A comment sheet is included with this handout for your convenience.



ITEMS CONSIDERED DURING PROJECT DEVELOPMENT

- Purpose and Need for Project
- Alternates
- Affected Environment
- Possible Environmental Consequences:
 - Air Quality Impacts
 - Community Impact Assessment
 - Consideration Relating to Pedestrians and Bicyclists
 - Construction Impacts
 - Cultural Resources and Archeological Sites
 - Economic Impacts
 - Effects on Public Parks, Wildlife and Waterfowl Refuges and Historic Sites
 - Energy
 - Environmental Justice
 - Farmland Impacts
 - Floodplain Issues
 - Hazardous Waste/Underground Storage Tanks
 - Irreversible and Irretrievable Commitment of Resources
 - Joint Development
 - Land Use Impacts
 - Noise Impacts
 - Permits
 - Relationship of Local Short-Term Uses vs. Long-Term Productivity
 - Relocation Impacts/Right-of-way Acquisition
 - Secondary and Cumulative Impacts
 - Social Impacts
 - Threatened or Endangered Species
 - Visual Impacts
 - Wetland Impacts
 - Wildlife Impacts
- Comments and Coordination/Public Involvement
 - State/Federal Agencies
 - Local/City Officials
 - Tribal Coordination
 - Interested Citizens
- Engineering/Design/Drainage Concerns
- Accidents/Safety Concerns



Oklahoma Department of Transportation

What is NEPA and the ODOT Decision Making Process?

NEPA is an acronym for the Federal law called the National Environmental Policy Act, enacted in 1969. In order to use federal funds, a decision-making process that balances the social, economic, environmental concerns must be conducted. Public involvement and comment are part of the NEPA process. The Department has solicited comments from State, Federal, Tribal and local agencies, and will continue to coordinate with them as necessary. Data is being collected on potential environmental issues such as noise, wetlands, cultural resources, historic resources, parks, displacements of homes or businesses etc. to evaluate potential impacts of the proposed improvements. Economic impacts such as construction costs, estimated rightof-way, and utility cost data will also be evaluated. This information is utilized to make sound decisions in transportation improvements.

What Happens Next?

The Department will review consider comments received from this public meeting, and will select a proposed improvement alternative. A draft environmental document (EA) will be prepared and submitted to the Federal Highway Administration (FHWA) for review and approval. Upon receiving FHWA's approval of the draft document, a public hearing will be scheduled. Comments received at the hearing will be evaluated and considered. The final environmental document will be prepared and submitted to FHWA for its approval. After this final approval is received, federal funds may be utilized for design, right-of-way and construction activities.

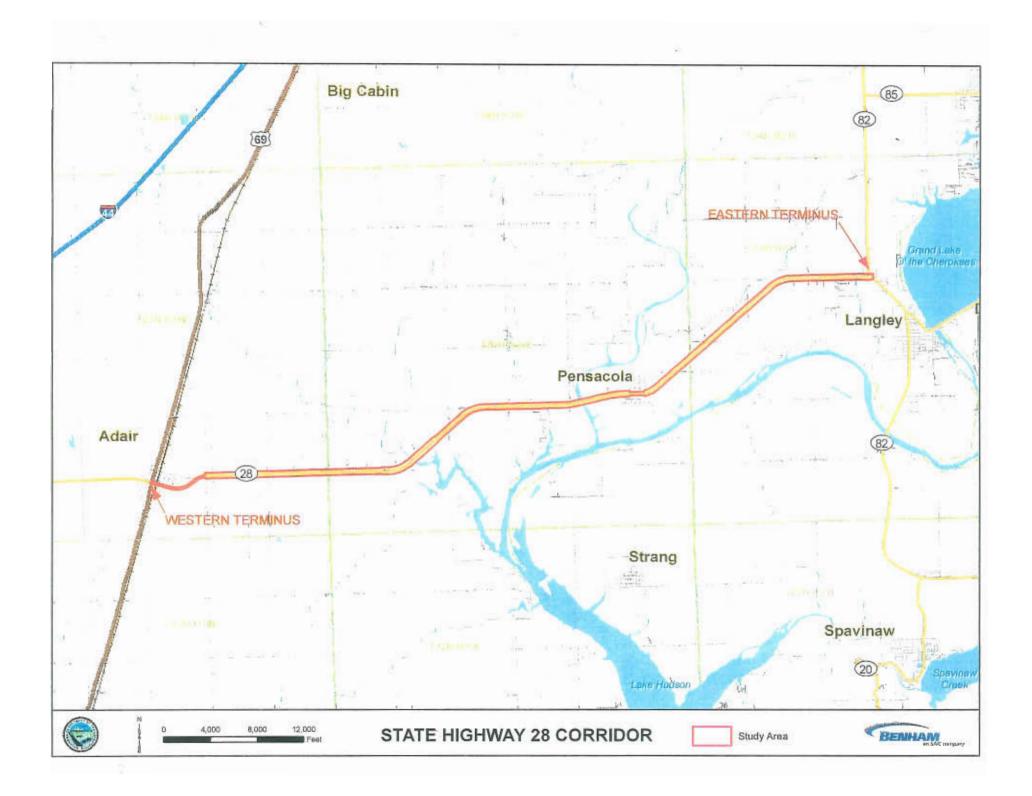
Project Development Process Schedule

Public Meeting

August 2008

Public Hearing

Winter 2008/2009



Dear Participants:

	car i artiolpanto.							
We would like to thank you for taking the comments. Putting your comments in writing addressed.	le would like to thank you for taking the time to attend this meeting and providing us with written omments. Putting your comments in writing is one of the most effective ways to have your concerns ddressed.							
	s about the Environmental Assessment of SH 28 from the t approximately 13 miles to the SH 82 / SH 28 intersection							
Name:	Environmental Programs Division Engineer Oklahoma Department of Transportation							
Address:	200 Northeast 21 st Street Oklahoma City, Oklahoma 73105 FAX: 405-522-5193							
City, State, Zip:(Above information is optional)	Please submit comments by August 26, 2008.							

	NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
	mr. Robert Pringle mrs. 1 ms.	305 Chilar 2nd Styled Odeily ok	Adaly Christian	Male White Hispanic Female Asian Black Native American Other
	2 Mrs. Charles EMrs. Patricia Fikes	9969 N441 Rd		□ Male →White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
;	3 Mrs. Jaine.	452393 E. 321 After	All American Dutologe	□ Male
	4 Mr. Janana Peper	602 EMain		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
(5) Mrs. Janul Mkoll	1443010 E 356 DO	Rancher Horse Boerding	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
0	6 Mrs. Barborre Briefs	443010 E 384 P.C		É Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
(7 Mrs. 4 lygwkles	VINITE 38600 VINITA	PD .	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
(8) Mrs. Ruttus martin	8.5 Colin 0 K7 1/33	Bout + RUSbigg	
(9 Mrs. Mx / New	9437 N-439		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
1	Mrs. Ms.	40/Email	\$30	□-Mate ☑ White □ Hispanic □-Female □ Asian □ Black □-Native American □ Othe

		NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
1	1	Mrs. Ed Heillage	9594 N439	Rin Cabin Boat XX	l Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
1	2	Mr. Mrs. Ms. Dank Carle and	2965 Hay28 E	25	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
1	3	Mrs. Mrs. Ms Suthony Barton	P.O. BOX 198 Adair, OR 74376	Aduse P.D.	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
1	4	□ Mr. □ Mrs. SANDRA MALLEY > Ms.	441612 HWY. 28 VINITA OK 74301		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
V	5	Mrs. Vernie Walker	Da Box (234		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
V	6	Mrs. 3 Bary Uttes	Langley UNZ 4 350 9000 N. 440 RD BIO CABINO OIL 7933	Z	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
1	7	Mrs. Mr charl Me Danvel	N.S. 439 Rd.		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
1	8	Mr. Mrs. Ms. Mentioner	P.O Dramas B Big Colin	GGEDA	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
/	9	o Mrs. Rhonda Mizuk	38769 Woodford		□ Male □ White □ Hispanic Female □ Asian □ Black Native American □ Other
/	10)	Mr. Mrs. Deveca Qurett	Rensacola, 74301 Rensacola, 74301		□ Male White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other

	NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
1	*Mrs. Wm. n. Cro Hord Fr. Ms.	606 E main St Adair, 018 74330		d' Male M'White □ Hispanic A'Female □ Asian □ Black □ Native American □ Othe
2	XMr. Allen Rickner Ms.	38838 Woodford Ave-	Efresident) - Ricknar's ATV Repair	Male White Hispanic Female Asian Black Native American Other
(3)	Mr. Charles 2n. Mrs. (2002	741550 Hwy 28 vinita 74301	France Dwy en	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
4	Mrs. Craig Landrum Mrs. Mrs.	444290 410 / 28 Vinita OK 24301	Fam	⊯ Male
5	Mrs. In a h Ray			□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
6	Mrs. Charles Crooks	441550Hwy25 ViniTa, OK-7430	Crook Kennel	■ Male
7	Mrs. Galedon			□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
8	Mr. Meslin Lu Mrs.	24900 5 4106 RE		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
9	o Mr. Ted Dixan	120 Westwood Vivita dk 2430/		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
√ 10	o Mr. o Mrs Mil M. Dla	Biz Calmi 743)2		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other

Ī		NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
1	1	DMr. DMrs. Sandra Mcrall	8530 N +37 Alair OR 74330		□ Male
1	2	Mrs. J. M. U. Lson	442180 Kienthery Aug Vinita OK 74301		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
	3	Mrs. Mrs. Ms. Ms. Ms. Ms. Ms. Ms. Ms. Ms. Ms. M	Pensacola	.*·	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
1	4	Mrs. David	8336 E 734 St. Tulsa, OK, 74133	Arkansas Valley Protoleum, Inc.	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
/	5	Mrs. DON SumTER	3010 E. 380 ADAIR OK	OKIE DOKIE	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
1	6	Mr. DALE Henry Mrs. Ms.	Vivita, ox,	Her 20 wrocker Hung 20 Salveyor Grandhake Konnal	
/	7	BMrs. Same of Kathy Ms. R. Chardson	10242 E 420 STrang OK 14367		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
/	8	□ Mr. Low m Caulate □ Mrs. □ Ms.	444568 HINY 28 VIRITH ON 74301	BUSIN 055	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
/	9	Mrs. Kfzirle	PO BOX 442 LANGLEY	BYSINOSS	□ Female □ Asian □ Black □ Native American □ Other
	10	XMr. Name & James	149285 EKENTUDE VINITA OK 74301	Business	B/Male DWhite DHispanic Female DAsian DBlack DNative American DOther

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DATE 8/4/402

	NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
1	Mr. Jeros A Mmrs. Cayerscore Ms. Was Thomas	447835 E 38670 Vinita, On 7430		☐ Male
2>	Mr. Mrs. Ms. Carl Down	8		☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Other
3	Mrs. Jennu Babes Ms.	po 101 Langley		☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Other
4	Mr. Chad Brook to	610 E. Main Ader		Male
5	□Mr. □Mrs. □Ms.		81,	☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Other
6	□Mr. □Mrs. □Ms.			☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Other
7	□Mr. □Mrs. □Ms.			☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Other
8	□Mr. □Mrs. □Ms.	* **		☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Other
9	□Mr. □Mrs. □Ms.		83	☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Aslan ☐ Black ☐ Native American ☐ Other
10	□Mr. □Mrs. □Ms.			☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Other

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	NAME	ADDRESS	BUSINESS OR ORGANIZATION		GENDER/RACE (OPTIONAL)
1	Mr. Dean Schneider Mrs. Ms.	436355 E 360 Rd Adair		⊠-Male ☐ Female	White ☐ Hispanic ☐ Asian ☐ Black ☐ Native American ☐ Other
2	DMr. Dean Hughes DMs.	37044 S. 4449 Vinita OK 74301	0.00	☐ Male	White Hispanic Asian Black Native American Other
3	Mr. Vernon Bayce Mrs. Ms.	1437 3. Clay Ave Sqf 110 65807	All American autocor Langles, DK	☐ Female	White
4	Mr. Mrs. John Loant Ms.	P.O. BOX 1132 Pryor OK 74362	JAJ Ornamental	∰Male ☐ Female	☐ White ☐ Hispanic ☐ Asian ☐ Black ☐ Native American ☐ Other
5	Mr. Joey Johnston Mrs.	PO Box 116 Ada 16 C/C74330		Male Female	☐ White ☐ Hispanic ☐ Asian ☐ Black ☐ Native American ☐ Other
6	Mr. Gary+Diana Mrs. Rott	P.O BOX 121 Adair OK 14330		☐ Male ☐ Female	☐ White ☐ Hispanic ☐ Asian ☐ Black ☐ Native American ☐ Other
7	☐Mr. ☐Mrs. ☐Ms.			☐ Male ☐ Female	☐ White ☐ Hispanic ☐ Asian ☐ Black ☐ Native American ☐ Other
8	□Mr. □Mrs. □Ms.			☐ Male ☐ Female	☐ White ☐ Hispanic ☐ Asian ☐ Black ☐ Native American ☐ Other
9	□Mr. □Mrs. □Ms.	72	EV	☐ Male ☐ Female	☐ White ☐ Hispanic ☐ Asian ☐ Black ☐ Native American ☐ Other
10	□Mr. □Mrs. □Ms.			☐ Male ☐ Female	☐ White ☐ Hispanic ☐ Asian ☐ Black

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	NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
1	Mrs. MANY Mrs. Richardson	1400 CE BLUP OK APT Star CLAREMON		□ Male □ White □ Hispanic È Female □ Asian □ Black Ĉ Native American □ Other
2	o Mr. Janelle o Mrs. Janelle o Ms. Hayes	441608 HWY. 23 VINITZIOIC74301		□ Male
3	Mr. Frankie Mrs. Scott	6144 & 392 Rd Big Calir, Ok 74332		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
4	Mrs. James Mrs. Satteratite	443890 W Hws 28 Vinita OK 79301		□_Male =-White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
5	Mrs. Lagu Wieht	827 E. TAHLEQUANST. VINITA ORLA 24301		p_Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
6	Mrs. Sach Neuto To	47730 c 12 492 Saletar, Oli 74365	Fellowhips of Believe Church	☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Othe
7	Mrs. Bette Denneider Ms.	1373 E 390 adair OK 74330	ERA John Nauson Klatow	□ Male □-White □ Hispanic □-Female □ Asian □ Black □ Native American □ Othe
8	Mr. Delbert Flock Mrs. Ms.	444754 HAY 28		■ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
9	Mrs. Eouch	7941 N 433 Rd. Adair OK 74336		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
10	omr. Vicki omrs. Richards	5210N440 Adaic, OK 74330		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe

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		NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
	1	Mrs. Perry McFall	CGOI Desiree DR. Norman, OK 73071	Benhom	Male
	2	Mrs. Diane Abernathy	23700 W. Robinson, Suite 200 Norman pok 73072	Benham	□ Male →White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
	3	□ Mr. □ Mrs. □ Ms. Fells Of Mark	MESSON OR	In Journey	□ Male p White □ Hispanic Female □ Asian □ Black □ Native American □ Other
	4	Mr. JACK Bostick	612 E MAIN ST Adame OK	Land/Home owner	Male White Hispanic Female Asian Black Native American Other
	5	□ Mr. □ Mrs. Leneva Eby	508 E Main ador	Home owner	□ Male □ White □ Hispanic ○ Female □ Asian □ Black □ Native American □ Other
	6	Mr. Bill Henson Mrs. Judy Henson Ms. Wenson	1 612-28. Main Adair 4.0. Box 398	Business Owner	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
	7	Mrs. Novce Richards Mrs. Vavid Richards	9735N 437 adair OK74330		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
(8	Mr. R. WAY DE NEAL Mrs. JOANNER, NEAL Ms.		3115 S. DELAWARE PL. TULSA, DK 14105-24:	Male
	9	Mr. LARRY EBY Mrs. Ms.	P.O. BOX 357 RDAIR, OK., 74330	BUSINESS THANS	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
	10	Mrs. FRY L. Sempser	5338 Hwy 28 15 Big Cabin	GARY'S Auto REPAIR	Male

	NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
1	□ Mr. HArold Oxfold □ Mrs. Janie Ox Fold □ Ms.	5450 HW4 28 ENST B. 9 CAb. 1, Ok. 7433 Z	Bo's Body shop 5450 HW4 28 EAST BigCAbin, Ok 7x332	
(2	Mr. Fred Rice MrsDiana Rice Ms.	445383 Hwy 28	Grand LAKE Sec CHO Fred + Diana Rice	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
3	Mrs. Doug han	38950 hain St Vinta QC 74301	RWD44	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
4	Mr. anliss K76/ineBryon Mrs.	442 840 H 428 Uinite OK 74301		s Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
(5	Mr. Do~ 4, 11/ef, all Mrs. Ms.	442018 Kentucky ANE		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
6	Mrs. Ms. Mar 4 Tane Akin	POBX 58 Lengles		□ Male □ White □ Hispanic pFemale □ Asian □ Black □ Native American □ Other Other Control Other Other Control Other Ot
7	Ms. Mary Jene Akin Mr. KENNY Laugston Mrs. Ms.	436706 E 370 Rd		Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
8	□ Mr. David Hunson □ Mrs. □ Ms.	P.O 842 LANGLEY, OK 74350		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
9	Mr Jack Lawson Mrs. Ms.	18055 5.310 Rd Morris, OK 14445	hand owner	
(10	Mr. Jou ash	Persaeda, Gh 74301	Landowner	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other



		NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
	1	Mr. Maurie Effinger Ms.	OKC	ODOT	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
	2	o Mrs. Kenna Withell	DN. 8	opot	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
	3	Mrs. Mrs.	Poursiloll		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
	4	Mrs. Betty Williams	Pensacola		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
2/	5	Mrs. John & Sherry Hayes	Pensacola	Hayes LP Gas	Female
	6	Mrs. Don + alina Mrs. Winson	Pensacola	Cilizena	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
/	7	Mr. LARRY & POLLY Mrs. FARLOW	601 E. MAIN ADAIR	HARRY'S C. STURE	Male White Hispanic Female Asian Black Native American Other
	8	Mrs. Jasa Miller Mrs.	442578Hwy 28 Vinite, ok 74301		
/	9	Mr. Jessica Miller	442578 Huy 28 Vinta, 0x 74301		□ Male ☑ White □ Hispanic ☐ Female □ Asian □ Black ☐ Native American □ Other
/	10	Mrs. Billy Bry Aut	36884 Rojeis Aug PensecolA	Town OF Reus. + colla-	Male

	NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
1	Mrs. Diana Barlow Ms.	200 NE 21st, 3rd Fieg	ODUT	□ Male White □ Hispanic ★Female □ Asian □ Black □ Native American □ Other
2	Mrs. Juzz law	u	11	
3	Mrs. ALEB AUSTR)	10	Todo	□ Male
4	Mrs PAIG	и	ODO!	■ Male ■ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
5	Mrs. John LAIRET	300 N. MERIDIAN, #105-5 OKC, OK 73107	FNWA	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
6	Mrs. Aby Ruge L	200 KB 719 9	ODOT	Male White Hispanic Female Asian Black Native American Other
7	Mrs. Mary Braver	503 Emain	Adair	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
8	Mrs. Paul GREEN		ODOT	d Male White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
9	DMS. MELVIN BURNS	36422 5. Hwy 82 VINITA 74301		□ Female □ Asian □ Black □ Native American □ Other
10	Mrs. Jem Lum	Po Bay To 2 troks	/L	□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other

Please Print

		/ NAME	ADDRESS	BUSINESS OR ORGANIZATION	GENDER/RACE (OPTIONAL)
J	1	Mrs. hip Lindsey	41300DE386		Male White Hispanic Female Asian Black Native American Other
7	2	Mr. Marvin Hultyn isd	Agens AR 7275	I G	
	3	Mrs Mrs Ms. Stephen Daven port	P.O. Box 65		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
	4	TMr De Allane	e) 443260 4.380 R. Vinita, Op 1430		☐ Male ☐ White ☐ Hispanic ☐ Female ☐ Asian ☐ Black ☐ Native American ☐ Other
	5	□Mr. □Mrs. VI VI an F-Kerr □Ms.	P.O. Box 95. Adeir, OK 94330		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
X	6	Mr. Mrs. Mrs. Ms. Ms. Ms.	V PENSAGOTO CH		□ Male White □ Hispanic □ Female □ Asian □ Black □ Native American □ Other
	7	Mrs. DoNALd WATT	4.42830 Amy 25	6	✓ Male
/	8	Mr. Esclyn Ragdauff	Hitchack TUZGI	POBAL37 LANGLEY OXTU30	□ Male □ White □ Hispanic XFemale X Asian □ Black □ Native American □ Othe
	9	Mrs. Andy Mokay	442005 Grand Ave Vinita, DK 7439		□ Male □ White □ Hispanic □ Female □ Asian □ Black □ Native American □ Othe
	10	Mrs. Jason Smith	Convenience store owner In Longley Speeding 66	8336 E 730 Stevet PTulsie, OK 74133	

RECEIVED FROM PAVILLEY

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written

comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.
I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley: As a landowner business owner along SH28 I am ToTally opposed
to the expansion of this hiway to four lanes. As a tempaying
concerned citizen I am ToTALLY against expanding this hiway
to four lanes.
I have no problem with improving 5HZ8 with wider
shoulders and fixing the existing bridges, But to think
and consider by expanding this road to four lanes will help
w/ truck traffic and safety is stupid. All it will do is INCREA
truck troffic and encourage car troffic to go faster which will
roduce safety. There are residents along this hiway who will
have to have access to it, either four ortholane of by
expanding to four this will increase their danger getting
onto the howay. The trucks are using this howay only
to bypass the tolls on I-44; consequently since the OK
Turnpike Authority has raised their tolls so high the truckers-
Name: Temela 11 led-lovd Environmental Programs Division Engineer Oklahoma Department of Transportation
Address: 443010 £ 386 160 200 Northeast 21st Street
Oklahoma City, Oklahoma 75105

City, State, Zip: Vinita, Ol 74301

FAX: 405-522-5193

(Above information is optional)

Please submit comments by August 26, 2008.

payers are having to shoulder this added burden. If the turnpike would decrease the folls so the truckers could offere on SH28. By The increased truck troffic on I-44 would help offset any losses by decreasing the tolls. Also, if DK DOT would put in a weigh station on Hiway 28 at the Adair and lower the speed limit for trucks only to 55, this would help and be alot cheaper. Other states have done this, Colef., Indiano, Illinois, to nome a few

OH DOT also needs to stop listening to the Tulsa people who have homes on Grand Lake and ore probably halping to push this. They don't live here 365 days of the year and they are part of the problem.

Quit wasting tax payer dollars on Politically motivated projects,

RECEIVED

AUG 22 2008

ENVIRONMENTAL
PROGRAMS DIV.

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

I have the fallowing account to a survey to	and the Confidence and Assessment of CUI OR form the					
	bout the Environmental Assessment of SH 28 from the proximately 13 miles to the SH 82 / SH 28 intersection					
near Langley:	**************************************					
Should start in Adam because of school children.						
Traffic in ted up 8-8:40 and 3-3:30, busin						
parents drapping of children, hear school drivers						
(many Deving this time if we have a fire run						
or ansulance oren we	0010					
need left turn sing	no tolged test - least on					
5) X - 10 4						
now that their res	surfaced 28 east they have					
piled fine gravel on the reght of way . all that arrow pleshes is make it hard to move in front of						
acron sleshes is make it hard to move in front or						
the houses						
Langley seems to al	breaken have a good corner					
To turn on to 28. wh	up not start in Adain!					
tion son upu had	a counter on 28 in adain					
no Loult housed + 9 :	just missed it. Woll & can					
Geneva Eby						
Name: + Mary letto-Blaver	Environmental Programs Division Engineer					
Address: 508 & Main St	Oklahoma Department of Transportation 200 Northeast 21 st Street					
200 C C C C C C C C C C C C C C C C C C	Oklahoma City, Oklahoma 73105					
City, State, Zip: adair ok. 74336	FAX: 405-522-5193					
(Above information is optional)	Please submit comments by August 26, 2008.					
ODOT Website: http://www.	akladat atata ak us/maatings/athor htm					

Count also T one Labor Day we had 418 care in one hover. Summer whends are really

Dernething

28. There is also of land & water on 28. They will agt out of your way the lion that showed up during the leo's probably died of old age, so we won't worry about him.

The lady in Langley doesn't want a 4 lane higher ay in front of her house. we do! So

start in adam.

you remained calm and Rept your smiles.

Were ready for you to begin - in

Adair

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley:

I would like the Speed whit bowsed on Huy 28 Ink west of longly stop last in food of Jelowship of Believed Church The present Speed limit is aproporate engewells to Those who are turning into the church droowing.
Another action in Addition to bowering the
and the same of th
entravel would flored a believent
a) sight and lisean for entrance and after to
lingrade,
California de la Catalante
Also would like a luyherry sign formources charge
The Fellow of & Believes church.
Name: Sade Nietro Sh - K Environmental Programs Division Engineer
Oklahoma Department of Transportation
Address: P.O. DDX 97 200 Northeast 21st Street
City, State, Zip: Langley Ok. 74350 Oklahoma City, Oklahoma 73105 FAX: 405-522-5193
(Above information is optional) Please submit comments by August 26, 2008.
ODOT Website: http://www.okladot.state.ok.us/meetings/other.htm

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THE SE SUME TO LEAD SAME LANGE

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley:

The Idea of a highway 28 lucoming a
4 lane means I Will lose Prime
Prairie grass that Will be taken buy
the nighway, there to this I will come
up short on hour for Winter feeding
also your equipment we tear rip. The
Jan D O Ways let which must
Result as no more pay for Winte Luding
result as no more pay for Winti Juding. It also will make a main economical
UPA O (JAVI) (XVII A PERIMATRIA
also feel more traffic is not always a good thing. Thenk you.
a Good thing.
I Thenk you.

Name: Sam & Kathy Kichardson Address: 10242 E. 420

City, State, Zip: STRANG. OK 74367

Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 73105

FAX: 405-522-5193

(Above information is optional)

Please submit comments by August 26, 2008.



Dear Participants:

We would	like to that	nk you fo	r taking the	e time to	attend	this	meeting	and	providing	us w	ith '	written
comments.	. Putting yo	our comm	ents in wri	ing is on	e of the	mos	t effectiv	e wa	ys to have	you	CO	ncerns
addressed												

I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley:

Were	not	going to	o make	5H 28	Af	our
Lane	road	novv.]	like	the ic	lea o	f
Wide	. sho	ulders.				
Wide	5ho	ulders.				

Marvin Boyd Adams

Name: Wilda J. Adams

Environmental Programs Division Engineer Oklahoma Department of Transportation

200 Northeast 21st Street

Oklahoma City, Oklahoma 73105

City, State, Zip: Vinita, OK 74301 FAX: 405-522-5193

(Above information is optional)

Address: 443260 E 380 Rd

Please submit comments by August 26, 2008.



Dear Participants:

We would	like to	thank	you fo	or taking	the	time	to	attend	this	meeting	and	providing	us 1	with	written
comments.	Puttir	ng your	comr	ments in	writin	ng is	one	e of the	mos	st effectiv	e wa	ys to have	you	ur co	ncerns
addressed.															

addressed.	g is one of the most effective ways to have your concerns							
US 69 / SH 28 intersection near Adair, east near Langley:	about the Environmental Assessment of SH 28 from the approximately 13 miles to the SH 82 / SH 28 intersection							
WE OWN OUR BUSINESS (DD&L MC	OTORS) LOCATED ON THE SOUTH SIDE OF							
HWY 28 AT THE EAST END OF PENSACOLA, OK. WE ARE NOT OPPOSED TO								
A BUY OUT.								
THANK YOU FOR THE CONSIDERAT	TION OF SAFTY FOR THE PEOPLE TRAVELING							
ON HWY 28. WE HAVE SEEN SO	MANY NEAR MISSES RIGHT IN FRONT OF							
OUR BUSINESS AND ALONG HWY28	8 THERE ARE VERY FEW PLACES TO GET							
OFF THE MAT TO CHANGE A TIRE, CHECK A LOAD OR WAIT FOR HELP DUE								
TO A VEHICULAR BREAKDOWN.								
THIS PROJECT ON HWY 28 IS A	GOOD THING FOR THE GRAND LAKE AREA.							
AGAIN, THANKS								
Sang Swall								
Lorna Arescall								
	13 AV 2000 AV							
40								
Name: DAVE & LORNA DRISCOLL	Environmental Programs Division Engineer Oklahoma Department of Transportation							
Address: 442285 E KENTUCKY AVE	200 Northeast 21 st Street Oklahoma City, Oklahoma 73105							
City, State, Zip: VINITA OK. 74301	FAX: 405-522-5193							
TOTAL TOTAL PROGRAMMENT AND ADMINISTRATION OF THE PARTY O								

(Above information is optional)

Please submit comments by August 26, 2008.



Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

I have the following comments or questions about the Environmental Assessment of SH 28 from US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersect near Langley: Live have lived here all our lives & believe this project	tioi
will be in everyones best interest. Hoping that someday	
soon it will become a 4 lane to help relieve the	
problems we now have entering + exiting onto this	
hung. Our property is just west of 82/28 and	
everywhere along here the traffic is almost non stop	
making it almost im possible somedays to enter or exi	+
onto the hwy. Please consider us in favor of the	
widening of Hwy 28.	
We will look foward to the next meeting to hear	
the postive outcome for this project.	
	1.58

Address: P.O. Box 415
City, State, Zip Langley OK 74350

(Above information is optional)

Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 73105 FAX: 405-522-5193

Please submit comments by August 26, 2008.

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Dear Participants:

	time to attend this meeting and providing us with written ng is one of the most effective ways to have your concerns
I have the following comments or questions US 69 / SH 28 intersection near Adair, east near Langley:	s about the Environmental Assessment of SH 28 from the t approximately 13 miles to the SH 82 / SH 28 intersection
Int In the half the half the back	of take my home from of e for me to buy i't n and move i't to another y family. And I would house you find for me. My house it would Ca few acres and to live next to way in the future.
Name:	Environmental Programs Division Engineer Oklahoma Department of Transportation
Address:	200 Northeast 21 st Street Oklahoma City, Oklahoma 73105
City, State, Zip:	FAX: 405-522-5193
(Above information is optional)	Please submit comments by August 26, 2008.
ODOT Website: http://ww	ww.okladot.state.ok.us/meetings/other.htm

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ENVIRONMENTAL

PROGRAMS DIV.

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

addressed.							
US 69 / SH 28 intersection near Adair, east app	oout the Environmental Assessment of SH 28 from the proximately 13 miles to the SH 82 / SH 28 intersection						
	intersection of Nos, 439 Rds						
L II	he last there is a Gully						
Their has been numbers of revolets at this							
[The I I IN 1874] The Committee of the State	A A A A A A A A						
1 - 1 -	gole were thill that we						
Know of herouse of The	sure a andley						
We do need words of To	urning lanes Brown						
property lucause of the	bis Jemi trailer trucks,						
When we turn they olmost run over us.							
1							
1150	4428						
HY 28							
12 9 1,000	car car						
1 7							
7 110 11 10	car .						
Name: Terry & Ruthe Martin	Environmental Programs Division Engineer						
Address: 9594 N 4139	Oklahoma Department of Transportation 200 Northeast 21 st Street						
City, State, Zip: Big Calin OK 74332	LFAX: 405-522-5193						
(Above information is optional)	Please submit comments by August 26, 2008.						

RECEIVE AUE 22 ZILL

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection

near Langley: HANK You, The project is long over due. The only duraw back To us is The businty of the tree line suchling my family and business from the taffic. We would apprisible some first grewing tree's To manupary The fence line, for it took The life of The existing Huy To vertel this beauty. We run cattle Along the Lyny And turin very expensive Laborator Retrievers, we is my family would he very pleased if the new tence would Hold up To the pounding iT gets from The lake Hudgon big cabin creek vise And FAIL of Flood WATER dog Troying it It wildlife movement Amoung The builder rither Then

Name: Charles Crook

Address: 441550 Hwy 28

City, State, Zip: Vinita, OK. 74301

Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 73105 FAX: 405-522-5193

(Above information is optional)

Please submit comments by August 26, 2008.

SH 28 Environmental Assessment Pensacola Community Center RECEIVED Pensacola, Oklahoma August 12, 2008 Public Comments Form ENVIRONMENTAL FROGRIAN. DIV.

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written

comments. Putting your comments in writing is addressed.	one of the most effective ways to have your concerns
US 69 / SH 28 intersection near Adair, east app near Langley: ユ L) レ 트 3g かい) L E E	
SINCE 1947. T.	JAVE NOT EXPERINCED
ANY OF THE PROB.	LEMS WITH THE ROAD
THAT WAS MINCHE	ENED, SUCH ASTHE
NAROW SHOLDERS.	T TRAVEL THIS ROAD
DAILEY. THE ONL	Y PROBLEM 15 MAINTANCE
I DO NOT WANT	TO BE RELOCATED
Name: FLOYD WHEELER	Environmental Programs Division Engineer Oklahoma Department of Transportation
Address: 442775 E 386 RD	200 Northeast 21st Street
City, State, Zip: VINITA 0 K 7430 j	Oklahoma City, Oklahoma 73105 FAX: 405-522-5193
(Above information is optional)	Please submit comments by August 26, 2008.

RECEIVED

ANH 22 2008

ENVIRONMENTAL
PRO STUMBO DIV.

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley: am against this highway. My husband and I have worked chance to buy this lan always said year and de con enjoy Fake but then my spinion Environmental Programs Division Engineer Oklahoma Department of Transportation Address: 9735 N 43 200 Northeast 21st Street Oklahoma City, Oklahoma 73105 City, State, Zip: Cidair, NK 74330 FAX: 405-522-5193 (Above information is optional) Please submit comments by August 26, 2008.

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PRODUCTION OF LAW

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

addressed.				
US 69 / SH 28 intersection near Adair, east ap	oout the Environmental Assessment of SH 28 from the proximately 13 miles to the SH 82 / SH 28 intersection			
near Langley:	1 1 4			
EcoNomic ingacts; I thank at would be great				
Rebocation impacts & Registant- way Acquisition; if willbe				
hard at First by the	re all boust & bester.			
Visual impacts; of	should halp a Lot			
Wildlets Impact; Shoul	du't breer t anguove then it			
1's Mac.				
thy meeting was	Well attended + o'w form tore			
P.S. I need the Shoulder	Is for weeker Ser.			
//	1			
720.600 3	T Call win"			
23 King 1	1 Grant DAN			
	27 - 1			
This to Wvecker Ser	2			
Hur, 20 Auto Dashvan	. KL			
Let twis Beauty + Berber Shop Crare Lake Konnel				
Crard Lake Kennel				
Name: DALE & Leader Henry	Environmental Programs Division Engineer			
	Oklahoma Department of Transportation			
Address: 44 4814 W Hay 28	200 Northeast 21st Street			
City, State, Zip: Viva ta CK 74301	Oklahoma City, Oklahoma 73105			
City, State, Zip: VINA 19 CA 1851	FAX: 405-522-5193			
(Above information is optional)	Please submit comments by August 26, 2008.			
TEST PER CONSOLINATION OF THE PROPERTY OF THE				

RECEIVED ENVITOY PARATULE PROGRAMO DIL

Dear Participants:
We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.
I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley:
In consideration in developing a safer highway, please Consider at least a turn lane in pensacola, langley, and adair.
Name: 100 Shod ord Que Address: 38990 Shod ord Que Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 73105

(Above information is optional)

Please submit comments by August 26, 2008.

August 13,2008

RECEIVED

AUB 2.2 2608

ENVIROUM ENVIRONMENT IN

Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 743105

To Whom It May Concern

I did not attend your meeting, but my son did in my behalf. I own property approximately five acres along Hwy 28..My business I have leased to Gary's Automotive & Small Engines his home adjoins the business along with my home to the east of the business located in Section 27, Twp 23N, Rge 20 E.

My concern is that I have never been contacted about the expansion, plans, etc., of Hwy 28 and I am told others have not either. This is what causes some of the land owners to get things out of whack about what is going on or is to go on.

I know you will do what ever is in the best interest of the land owners, I would just like to be informed instead of getting second hand information.

Thanking you in advance,

Mary L. Necessary 5372 Hwy28E Big Cabin,OK 74332

Located:

{7 miles East of Adair or 7 miles West of Langley on 28 Hwy)

RECEIVED AUG 22 2008 ENVIRONMENTAL. PROGRAMS DIV.

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley:

1) Do Not understand	why if the sustilication
is Traffic Volum, you	why if the justification do not make it a
four lane betwee	in LAngly/Adail.
2) Lowing it a 2-	of speeding tanks
solve the problem	of speeding tanks
passing at 70	
3) You also cite safer	speed will offset"
And higher speed	speed will offset"
4) A suggestion, is to	neer for the New 8 is you TABLE LESS LAND.
old Hi-way into one	e super 2-TANE if you
donot plan a 4-ANS &	TARK less land
Name: Michael Me Jonnell	Good luck.
	Environmental Programs Division Engineer Oklahoma Department of Transportation
Address: 3808 EACL man R.D	200 Northeast 21st Street
City, State, Zip: Edmond 78013	Oklahoma City, Oklahoma 73105 FAX: 405-522-5193
(Above information is optional)	Please submit comments by August 26, 2008.



RECEIVED ANS 21 2008

PROGRAMS DIV.

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

이 가는 이 경에 가장 아이들이 하는 것이 되었다. 이 가게 없어 가게 살으면 살아들은 그리고 있었다면 얼마나 가셨다면 하는데 이 이 살아지는데 그렇게 되었다면 하는데 하는데 하는데 되었다.	bout the Environmental Assessment of SH 28 from the	
	oproximately 13 miles to the SH 82 / SH 28 intersection	
near Langley: I've lived in Renracola	since 1964 and I've seen alot of	
	any and more dangerous than lever. The all	
	long time ago. The south side of Rensacola	
is only 600 ft deep with 4 access	roads on to the highway a 300 Stapart.	
Sometimes we may chave to wait on	40 cars (or more) to even cross the highway	
or togo ceast or west. The through	a traffic travels so fast we worry	
about being rearended. Jun.	lares would be agreet asset in Remaida,	
adair and Langley. The 28/82	stoplight alangley, allonger turn lane	
to go south would be great. Many drivers are confused on the right of		
way - to turn west when coming from the south and from the north. Remarda		
like Langley has to many accesses to the highway in to short of a distance.		
Those of us who have been there along time want a 4 clane soon. But we		
do not want traffic to chave to be slowed down because Ja transvering of the		
road in our town. The town only has I buriness paying city sales tax regularly		
Pelease remember the businesses are	met supported by lown people, but the extended	
Cake voyers.		
Name: TERESA ARNETT	Environmental Programs Division Engineer	
Address: 38993 Woodford AVE	Oklahoma Department of Transportation 200 Northeast 21 st Street	
	Oklahoma City, Oklahoma 73105	
City, State, Zip: Perosacoca, CK 74301-7219	FAX: 405-522-5193	
(Above information is optional)	Please submit comments by August 26, 2008.	

612-2 E. MAIN = PO BOX 398 = ADAIR, OK 74330 PHONE: 918.785.2153 = FAX: 918.785.4891

August 13, 2008

RECEIVED

Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, OK 73105 ENVIRONMENTAL PROGRAMS DIV.

Dear Sir/Madam:

I am a business owner in Adair. I do not oppose the project in any way. However, my concern is with the location of the project.

Utilizing the south side of Highway 28 from Highway 69 to Rock Creek, you would consume 13 houses and 3 businesses. One of which wants you to build on that side, impacting 7 employees in the businesses. Utilizing the north side, you would consume 17 homes, 5 businesses and 1 church, impacting 43 employees. Additional expenses would also be incurred with the moving of water mains, electrical lines, phone and DSL.

If as little as 30 feet of additional right of way is taken, my business would be shut down. I could no longer have semi-trucks pull into my facility. By having an additional right of way taken on the north side, displacement of my 28 employees would occur. Moving costs for my facility would be as follows:

Moving machinery, equipment, inventory, offices, specialized equipment

\$70,000.00

New building (14,000 sq ft) – 12-16 inch reinforced concrete pad with 3 phase, central heat & air

\$910,000.00

Land

\$50,000.00

TOTAL

\$1,030,000.00

There are no facilities in Adair or within the area for my business. I would not move to the Pryor Industrial Area, the expense and additional driving for my employees would not be an option.

Please feel free to contact me if I can be of any assistance.

Sincerely.

President

/dsh

RECEIVED

AUG 2008

ENVIRGINATE
PROGRAMO DAV

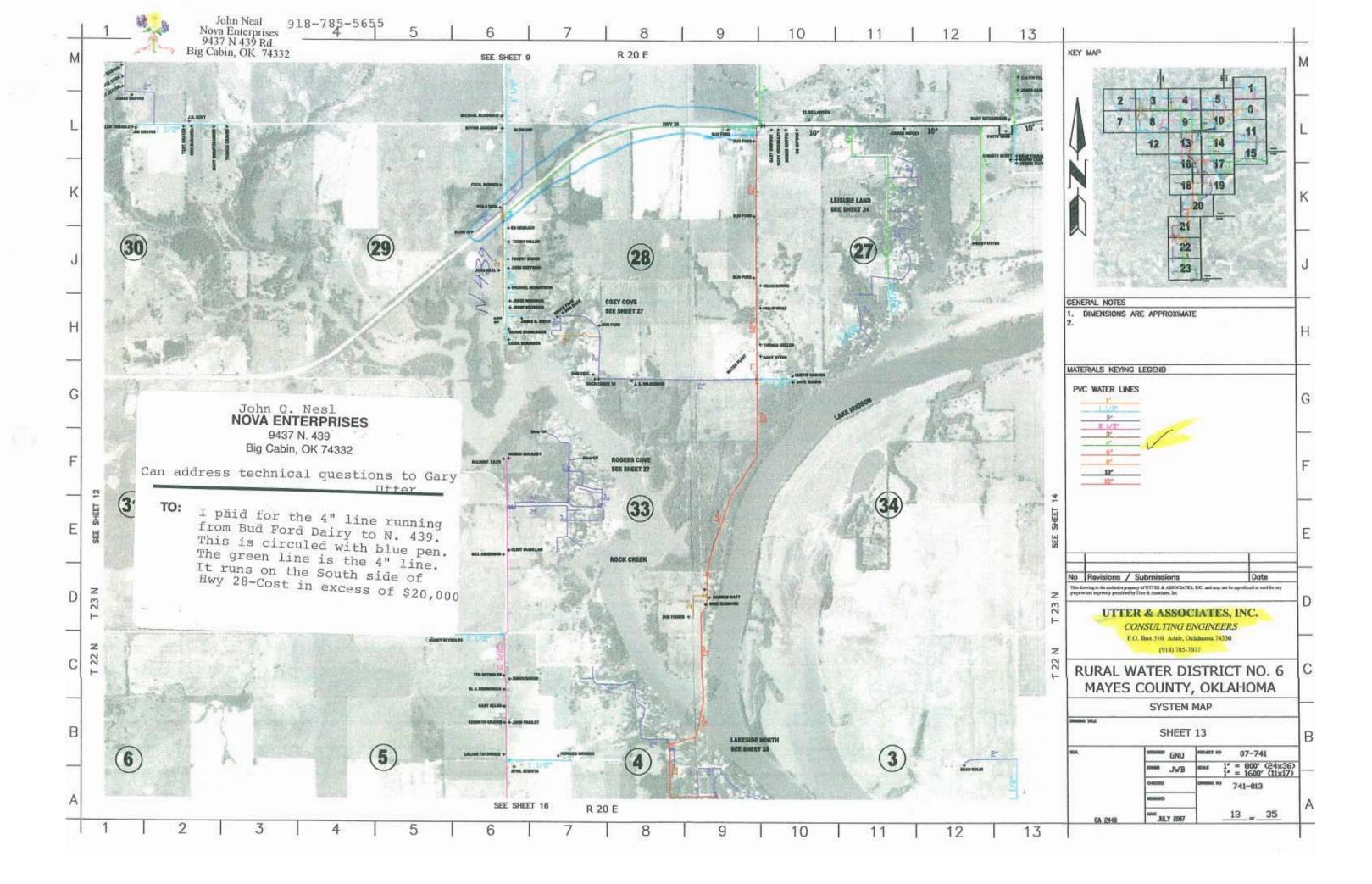
Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley:

Would like to know	i why the three	
()	lair are more important	
than ROCK CREEK livelage 6 miles east of adoir.		
It's in far morse shape-full of holles that		
at make every day. The other 3 livelages		
have been nicely padied. Seems like there's		
an ODOT truck abuland ROCK CREEK leistge a lot		
	er done. The seen secretal	
rehisles junch sideways from hitting some		
of the holes on that levelege! and the holes		
are wear then the pavement to the levelge		
infrastructure (Fleare consider remarking this		
luidge before the end of 2010.		
0 0	I Shank Gaw:	
Name: Phyllis Lichano	Environmental Programs Division Engineer	
1	Oklahoma Department of Transportation	
Address: 300 M. Eagle Lane	200 Northeast 21st Street	
City, State, Zip: ask Of. 74330	Oklahoma City, Oklahoma 73105 FAX: 405-522-5193	
Oily, State, 21p. (100010), (M. 14330	177. 400-022-0190	
(Above information is optional)	Please submit comments by August 26, 2008.	

	Dear P	articipants:
	s. Putting your comments in writing is o	to attend this meeting and providing us with writter one of the most effective ways to have your concerns
	SH 28 intersection near Adair, east appi	out the Environmental Assessment of SH 28 from the roximately 13 miles to the SH 82 / SH 28 intersection
_ A.	The intersection of Hwy 28 E	and N. 439 is very dangerous.
	If you are turning West(Left) off N. 439 it is difficult to see
	the cars coming from the eas	t. This is turning from N. 439
	on to Hwy 28 E. The same ap	plies turning RT off N. 439.
-		
Name: Address:	John Neal (Nova Enterprises	Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21 st Street
Addiess.		Oklahoma City, Oklahoma 73105
City, Stat	te, Zip:	FAX: 405-522-5193
(A	Above information is optional) $-393-022/$	Please submit comments by August 26, 2008.
		ladot.state.ok.us/meetings/other.htm



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ENVIRONMENTAL
PROGRAMM DIV.

Dear Participants:

We would like to thank you for taking the time to attend this meeting and providing us with written comments. Putting your comments in writing is one of the most effective ways to have your concerns addressed.

have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection
As a landowner/business owner along 5H28 I am ToTally opposid
to the expansion of this hiway to four lanes. His a taxpaying
concerned citizen I am ToTALLY against expanding this hiway
to four lanes.
I have no problem with improving 5H28 with wider
oulders and fixing the existing bridges, But to think.
and consider by expanding this road to four lanes will help
w/ truck traffic and safety is stupid. All it will do is IN's REA
truck traffic and encourage car traffic to go faster which will
reduce safety. There are residents along this hiway who will
have to have access to it, either four ortilo lane & by
expanding to four this will increase their danger getting
onto the howay. The trucks one using this howay only
to bypass the tolls on I-44; consequently since the OK
Turnpike Authority has raised their tolls so high the truckers-
Name: Box Data Box Environmental Programs Division Engineer Oklahoma Department of Transportation
Address: 443010 E 386 Rd 200 Northeast 21st Street
City, State, Zip: Vinita, Old 74301 Oklahoma City, Oklahoma 73105 FAX: 405-522-5193
(Above information is optional) Please submit comments by August 26, 2008.

ODOT Website: http://www.okladot.state.ok.us/meetings/other.htm

1

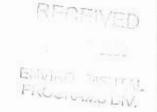
20n't afford to drive on I-44, the St. of OK DOT and taxsayers are having to shoulder this added burden. If
we turnpike would decrease the folls so the truckers could offord
'rive on I.44 this would alleviate alot of truck triffic
'slip offset any losses by decreasing the tolls. Also, if
all offset any losses by decreasing the tolls. Also, if
IK DOT would put in a weigh station on Hiway 28 at
IK DOT would put in a weigh station on Hiway 28 at
only
see Adair and lower the speed limit for trucks only
the Adair and lower the speed limit for trucks only
tates have done this, Colif., Indiano, Illinois, to nome a
tates have done this, Colif., Indiano, Illinois, to nome a

to the DOT also needs to stop listening to the Tulse
on DOT also needs to stop listening to the Tulse
seed who have homes on Grand Lake area are
seeple who have homes on Grand Lake area are
seeple who have homes on Grand Lake area are
seeple who have homes and they are part of
the problem.

OK DOT created the current problem along when turnpike.

Now OK DOT wants to create more of a problem. It doesn't take a rocket scientist to figure out if you expand a 2 lane to 4 lane you are just asking for MORE troffic OK DOT can't even take eare of what they have now.

There are other roads throughout this state where this 4 lane \$4\$ could do alot more benefit



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I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 62 / SH 28 intersection
near Langley:
My PROPORTY IS THE EAST HALF OF THE SOUTHWEST
QUARTER, SECTION 30 TOWNSHIP 23N RANGE 20 E.
I WELCOME THE CONSTRUCTION OF NEW BRIDGES
AND ROADS AS THE NEED DEVELOPS.
I HAVE A VERY NICE STOCK POND NEAR THE SOUTH END
OF My PROPERTY, NEAR THE PRESENT HIEHRAY, THAT
DEPENDS ENTIRELY ON RAINTALL ON THE SOUTH END
OF THE PROPERTY! THE BOND WOULD DRY UP WITHOUT
THAT LAND THE MAD HAS RECENTLY BEEN CLEANED OUT
& A THROUGH THE DAM WATER TANK FOR STOCK INSTALLED,
The state of the s
IN ADDITION I PLANTED CEDAR + PINE TREET ON
EITHER SIDE OF THE ENTRANCE INTO OUR PROPERTY
APOROXIMATRY 26 YEARS AGO, WE ALSO BURT
A HEAVY DUTY CATTLE GUARD THERE.
Name: R. MAGNE NEAL Environmental Programs Division Engineer
Oklahoma Department of Transportation
Address: 3//S S. DET ALVARE TL, 200 Northeast 21st Street Oklahoma City, Oklahoma 73105
City, State, Zip: 10LSA OK 74105 FAX: 405-522-5193
(Above information is optional) Please submit comments by August 26, 2008.



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I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley:

We here	in down town Person 14
	- Almost thirty years !!!
	like to see a slover
	Ing through rown and
Turning	Jane All the way from
	11 the Senis you take
	ing loft or right in town
lame: Dan Lit	defield Environmental Programs Division Engineer

Address: 442018 Kentucky Aue

Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21st Street

Oklahoma City, Oklahoma 73105

City, State, Zip: VINITA, 0/c/a 7430 FAX: 405-522-5193

(Above information is optional) Please submit comments by August 26, 2008.



Dear	r Participants:
	ne to attend this meeting and providing us with written is one of the most effective ways to have your concerns
US 69 / SH 28 intersection near Adair, east ap near Langley:	bout the Environmental Assessment of SH 28 from the pproximately 13 miles to the SH 82 / SH 28 intersection
to Rock Creek, Coming from adai	on the Home just before you get is. one at this time, and will be Moving
in soon.	ome as this ame, are well be mong
Highway 29 is dangerous, progress Your Jone Highway someday. The appricated the taitfullness	the Meeting in Pensicola was paralled.
T-1	
Name: Loger Wright Address: 827.5 East TAALEWOAh 57 City, State, Zip: Vivita DK 74301	Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21 st Street Oklahoma City, Oklahoma 73105 FAX: 405-522-5193
(Above information is optional)	Please submit comments by August 26, 2008.

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I have the following comments or questions about the Environmental Assessment of SH 28 from the US 69 / SH 28 intersection near Adair, east approximately 13 miles to the SH 82 / SH 28 intersection near Langley:

I am a third generation person, living on property handed down. I realise times charge
and Places grow, however. I feel NO I know
that the only reason that we have the
arrount of traffic on thou 38 is only due
to the Fact that Interstate U4 (the tumpite)
has gone up in cost to the point everyone
including 19-wheeler traffic is taking thuy 20 to avoid this cost. I myself
am a owner operator why would I want
to pay to take a Huy when I can go
around it by taking another For Free.
don't take peoples land, & herritage to
+0 keep from dealing with the turnpite
Name: TeresA Lauerscoff Environmental Programs Division Engineer

Address: UUD835 E 380

City, State, Zip: Vin ItA, OK 7450

Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 73105

FAX: 405-522-5193 SEP 15 Mile

(Above information is optional)

Please submit comments by August 26, 2008.



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The City of Adais server system runs north &
She City of Adais server system runs north a
right a runs west toward adain. The City of
Adair water line nums oast to west across
the grant of our property. There is a windmile situated in our front yard with a water
situated in our front yard with a water
well under it. There are two water meters
on the grant of our property. Utility lines
on the grant of our property. Utility lines

Joanna + William Crufford

Address: 606 E. Main

City, State, Zip Haan, OK

Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 73105

FAX: 405-522-5193

(Above information is optional)

Please submit comments by August 26, 2008.

PROGRAMO DIV.

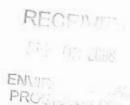
Dear Participants:

We would	like to thank	you for taking	the time to	o attend	this meetir	ng and	providing	us with	written
comments.	Putting your	comments in v	vriting is or	ne of the	most effect	tive wa	ys to have	your co	ncerns
addressed.	•								

addressed.	
US 69 / SH 28 intersection near Adair, east ap	bout the Environmental Assessment of SH 28 from the oproximately 13 miles to the SH 82 / SH 28 intersection
near Langley: To Whom it May	CONCERN:
We own the Speedy 66	Convenience Store is Langley OK.
We are planning a major	renovation at this location in the
Next 12 months. We Wou	ld like to know if you plan
or taking any land from u	5 so that we can remodel our
location accordingly	
- 1	
C C C C C C C C C C C C C C C C C C C	
Name: VISON Smill	Environmental Programs Division Engineer
Address: 4211 5. DONOIL AUE 1 8336 12 73 Rd Street	Oklahoma Department of Transportation 200 Northeast 21 st Street
City, State, Zip: Tulse, OK 74133	Oklahoma City, Oklahoma 73105 FAX: 405-522-5193

(Above information is optional)

Please submit comments by August 26, 2008.



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near Langley:
make to the four gropesal, it will be much
afer.
We do hope you choose to build the additional a lanes on the North side of the highway 28 in Pensacela.
I lanes on the North side of the highway 28
in Pensacela.
we also hope you don't beuteneek it back down as the highway passes thru Rensacola. So a head to get it over with for the eventual 4 lane highway
Name: Dougt Turni Ray Address: 38950 Main St City, State, Zip: Vinita (Penaluela) QC FAX: 405-522-5193 Environmental Programs Division Engineer Oklahoma Department of Transportation 200 Northeast 21st Street Oklahoma City, Oklahoma 73105 FAX: 405-522-5193

(Above information is optional)

Please submit comments by August 26, 2008.



Oklahoma Department of Transportation

· Environmental Programs Division

Office 521-2704 Fax 522-5193

DATE:

October 1, 2008

TO:

Files and Attendees

FROM:

Environmental Programs Division

SUBJECT:

SH 28 Public Meeting Minutes

On Tuesday, August 12, 2008, a public meeting was held for the SH 28 improvements project at the Pensacola Community Center, located one (1) block north of SH 28 in Pensacola, Oklahoma at 6:00 p.m. The meeting attendance roster was signed by 135 people.

Introductions

Craig Moody opened the meeting with a few introductory remarks, explained the project, emphasized the importance of public comments, and then turned the microphone over to Paul Green, Assistant Division 8 Engineer. Paul invited the public to contact him with questions about any project in Division 8, and repeated the importance of public comments. Diane Abernathy of The Benham Companies next explained the environmental process, as well as the meaning of the yellow Study Area boundary lines on the environmental constraints maps, and encouraged the public to review the maps posted at the meeting for accuracy. Diana Barlow and Joel Law gave a brief right-of-way presentation, describing the appraisal, acquisition, and relocation process.

Questions and Answers

Craig thanked the public for their interest in the project, and encouraged them to submit any pertinent information or comments in writing prior to the close of the comment period. Craig then opened the meeting for questions and answers, which are summarized in the following text: Comment: When will the Environmental Study be finished?

Response: The anticipated schedule for completion is late 2008 or early 2009.

<u>Comment</u>: Why does the project area not extend west to the Will Rogers Turnpike as four lanes?

Response: The segment of SH 28 from the Turnpike to US 69 is a separate project, with a traffic

level of 3,300 vehicles per day (vpd). SH 28 from Adair to Langley has a traffic level

of 5,300 vpd.

Comment: Are the funds for this improvement project available?

Response: Yes, FHWA provides the funding.

Comment: Heavy truck traffic on SH 28 is damaging the road. The trucks choose to travel on SH

28 to avoid the US 69 weigh station.

Response: Comment noted. The addition of 8-foot shoulders should make the road safer.

Comment: If you widen the road everywhere but at Pensacola, won't that create a bottleneck?

Response: The road will also be widened about the center through Pensacola.

Comment: What will the right-of-way width be?

Response: The width will be known when the Environmental Assessment is completed.

Comment: Will there be improvements to SH 82 at Langley? Will the road be improved across

the dam?

Response: This project does not include improvements across the dam. However, improvements

to turning lanes and turning radii will result in better turning movements at the SH

82/SH 28 intersection.

Comment: When homes are appraised for acquisition, will the purchase price be based on new

construction somewhere like Tulsa, or based upon the cost of an existing home in a

small town like Adair?

Response: Appraisals are conducted on a case by case basis. A comparable price study is

conducted of three equal or better homes in the area, from which a fair market value will be determined, as well as any replacement housing dividend. Moving expenses are reimbursed; however, ODOT may not reimburse 100% of costs associated with

moves greater than 50 miles.

Comment: How are business displacements handled by ODOT?

Response: ODOT will help the business locate other feasible business sites, and pay business

replacement, moving, and re-establishment costs. ODOT does not compensate for

loss of business during the move.

Comment: How near must the new ROW lines come to my property for ODOT to buy the

property?

Response: If the ROW hits the front of a building, then the entire building is purchased. If any

ancillary buildings or systems are impacted by the ROW purchase (e.g., septic system) in a way that cannot be mitigated, the entire property will be purchased. Otherwise it

depends on the appraisal process.

Comment: How much ROW will be purchased?

Response: Enough ROW will be purchased to construct 2 new 12' lanes with 8' shoulders,

offset from the existing lanes.

Comment: What type of compensation is provided if a church must be relocated?

Response: The compensation is very similar to those for business, i.e., moving expenses or

building modification costs, if necessary.

Comment: Does ODOT utilize condemnation juries?

Response: ODOT tries to negotiate a purchase with property owners and, if unsuccessful, does

proceed with condemnation.

Comment: What does ODOT do about historic buildings, such as the First Christian Church in

Adair which is over 100 years old?

Response: ODOT strives to avoid historic buildings. If no other alignment is possible, the

building will be documented in accordance with regulatory requirements prior to

acquisition.

Comment: Please explain the nature of the improvements with regard to new lanes.

Response: Two new 12' lanes with 8' shoulders will be built on offset alignment, and then the

existing 2 lanes will be removed. Adequate ROW will be purchased to preserve a

corridor for an ultimate 4-lane facility, when traffic deems it necessary.

Comment: I am against a 4-lane facility.

Response: Comment noted.

Comment: If ODOT removes the current pavement, will homes and businesses be provided

access to the new lanes?

Response: Yes.

Comment: What is the need for these improvements?

Response: The facility needs shoulders and the replacement of inadequate bridges to improve

safety.

Comment: Truckers drive SH 28 rather than the Turnpike or US 69 in order to avoid the turnpike

tolls and the weigh station.

Response: Comment noted.

Comment: Will the improvements extend to Langley?

Response: Yes.

Comment: There is currently lots of new development along SH 28. ODOT should consider a

bypass through undeveloped land, which would be inexpensive to acquire now, and

will become more expensive in the future.

Response: Comment noted.

Comment: I hope that ODOT's replacement house study takes into account that everyone

displaced will be looking for replacement at the same time, potentially driving up the

purchase prices.

Response: Comment noted.

Comment: Is ODOT planning to build a 4-lane road?

Response: ODOT will buy adequate ROW to ultimately construct a 4-lane facility. The ROW

for the west segment is scheduled in year 2011 and for the east segment in year 2009.

Comment: I just added water lines at my home that cost \$20,000. If the road work destroys them,

what will I do?

Response: If the project requires that the lines be taken, you will be compensated for them.

Comment: Will the SH 28 alignment be corrected when the new lanes are built?

Response: ODOT plans to correct many of the vertical and horizontal curves.

Comment: Will there be a turn lane in Adair?

Response: A turn lane can be added if it is needed and desired by the public. Please submit your

comment in writing.

Comment: How will the highway improvements affect our property taxes?

Response: Property taxes are determined by the County.

Comment: The traffic headed to Grand Lake "flies" on SH 28. What can we do about that?

Response: If the traffic is not complying with the speed limits posted by ODOT, then it is a local

law and/or Oklahoma Highway Patrol enforcement issue.

Comment: How much additional ROW will be needed to make the improvements?

Response: The amount of ROW varies, depending upon the topography. More ROW will be

needed in sloping areas than in flat areas. Adequate ROW must be acquired to

accommodate the 40' of pavement, utilities, and drainage.

Comment: Has ODOT studied rerouting SH 28 on new alignment on farmland?

Response: We are unaware of any such studies by ODOT.

Comment: Is it possible that ODOT may build the new lanes to the north in some areas and to the

south in other areas of SH 28?

Response: Yes.

Comment: Will ODOT present a Preferred Alignment at the Public Hearing?

Response: Yes.

Comment: Will ODOT present which side of the road the lanes will be built, and the acquisition

width at the Public Hearing?

Response: Yes.

Comment: Is the road construction going to be done in 2 sections?

Response: The ROW acquisition will be done in 2 phases. The construction will have to be

phased as money becomes available. The bridge replacements will be completed first,

due to safety issues. The remaining construction work will be phased.

Comment: Will ODOT buy the ROW for the entire project at one time?

Response: ROW for the east segment is scheduled for 2009, and the west segment is scheduled

for 2011.

Comment: Will ODOT provide turnouts at SH 82/SH 28?

Response: Yes, as well as improve the turning radii.

Comment: Will the Sonic or the Phillips 66 at SH 82/SH 28 be taken?

Response: This will not be known until the ROW plans are developed.

Comment: Sometimes speculators aware of future road plans purchase and develop land that

must be acquired for ROW, driving up the ROW costs.

Response: ODOT realizes that this sometimes happens.

Comment: If the north side is the preferred location for the new lanes in the east segment, but the

south side is the preferred location for the new lanes in the west segment, can the road

be "shifted" to accommodate this?

Response: Yes.

Comment: What if we want to sell our home now-must we disclose our knowledge of the

planned SH 28 improvements?

Response: Yes, sellers are required to disclose such info.

Comment: May ODOT possibly choose to weave the new alignment back and forth across

existing SH 28?

Response: ODOT will try to avoid "snaking", but the new lanes do not have to be on the same

side throughout.

Comment: Won't these improvements increase road traffic and truck traffic on SH 28?

Response: ODOT does consider the future traffic growth in its planning.

Comment: Will the ROW need to increase as the truck traffic increases?

Response: The study will consider the effects of increased future traffic, perhaps traveling closer

to some residences and businesses. The 2002 traffic level was 3,000 vpd, and

increased to 5,000 vpd in 2006.

Comment: If truck traffic increases that will increase highway noise.

Response: Comment noted.

Comment: How will sewer lines in the ROW be affected?

Response: ODOT will replace them.

Comment: Will the moving of utilities require more ROW?

Response: Sufficient ROW will be purchased to accommodate the relocation of utilities.

Comment: ODOT should be aware that the City of Adair has various utilities (including water

and sewer) that parallel SH 28 and extend to 1 miles east of Adair.

Response: Comment noted.

Comment: What percentage likelihood is there that the project will either go or no-go?

Response: That depends upon the outcome of the environmental assessment.

Comment: Can ODOT destroy wetlands?

Response: If a project will impact wetlands, ODOT can mitigate the impacts by building

replacement wetlands at some specified replacement ratio.

Comment: What traffic volume is needed for a 4-lane facility?

Response: A 4-lane facility is considered when traffic levels approach 10,000 vpd. The current

traffic level on SH 28 is 5,300 vpd.

Comment: How big will the new bridges be?

Response: The bridges will accommodate 2 12' lanes and 2 10' shoulders.

Comment: What will be the distance between the existing lanes and the new lanes?

Response: ODOT does not know yet.

Comment: When does ODOT think traffic levels will reach 10,000 vpd?

Response: ODOT typically assumes a 2% increase per year, but the traffic along this segment of

SH 28 is apparently increasing at a faster rate.

Comment: Who has final approval of the project?

Response: Federal Highway Administration.

Comment: When will construction commence?

Response: Some time after the ROW is acquired. The current construction schedule is year

2013, but that is subject to change.

Closing Remarks

At the conclusion of the question and answer session, the formal meeting was adjourned and the public was encouraged to visit the Environmental, Design, and Right-of-Way Stations during the Open Forum. A station was also provided for the public's convenience in submitting written comments. The public was encouraged to leave their written comments in the Comment Box, or submit their comments to ODOT during the following 2-week comment period.

General Public Comments Noted at Stations during Open Forum

Some topics of public discussion noted during the Open Forum are listed in the following text; however, no attempts were made by ODOT staff to record these discussions. Rather, the public was encouraged to record their comments on the written comment forms and submit them to ODOT.

- Three (3) additional homes on the east side of Adair were identified as being very near the boundary of the study area.
- Gary Utter of Utter Engineering indicated that his company could provide location maps of the Rural Water District #6 water lines.
- A crude oil line crosses SH 28 just east of county road NS 4360.

- An individual who owns land west and south of Langley expressed concern over the
 potential for road construction to impact a natural spring on the property.
- Don't narrow SH 28 through Pensacola. Just buy all the property on one side of the road for ROW.
- When will the graphics be online?
- · SH 28 needs to have a turning lane (i.e., be 5-lane) through Adair.
- East of Adair, relocation of SH 28 to the south would impact open land and avoid many residential relocations.

Written Comments

A total of 28 written comment forms were received, noting various issues and summarized as follows:

- Against a 4-lane because doesn't want to sell land for ROW (1 comment)
- Against a 4-lane because it will only increase truck traffic and traffic speed, thus off-setting
 any increase in safety (2 comments)
- Against the project; believes traffic volumes on SH 28 due to trucks avoiding increasing tolls on I-44 (1 comment)
- Support of the project (7 comments)
- Support of a 4-lane (4 comments)
- Support for wide shoulders (5 comments)
- Support for bridge replacements (2 comments)
- Suggest adding a SH 28 weigh station (2 comments)
- Suggest lowering the posted speed limit for trucks to 55 mph (2 comments)
- Believes project is politically motivated by out-of-town owners of Grand Lake homes (3 comments)
- Begin the project in Adair first, to minimize safety hazards near the school (1 comment)
- Add a left turn signal on SH 28 at SH 28/US 69 intersection (1 comment)

- Recent re-surfacing of SH 28 left fine gravel in the ROW, making it difficult for homeowners to mow (1 comment)
- Actual traffic count in Adair on one Labor Day was 418 vehicles/hour (1 comment)
- Add stop light, an additional driveway, and post a lower speed limit, or add turn lanes to Fellowship of Believers Church, 1 miles west of Langley. Also, post a "Church Entrance" road sign (1 comment)
- Concerned that purchase of ROW will reduce hay operations such that cattle operations will be negatively impacted (1 comment)
- Willing to sell DD&L Motors in Pensacola (1 comment)
- If ODOT must purchase a home, can the homeowner re-purchase and relocate the home? (1 comment)
- Concern over vertical and horizontal curves east of NS 439, which have caused accidents and deaths (2 comments)
- Concerned over personal 4" water line along south side of SII 28 from just west of NS 440
 west to NS 439 (~1 mile), installed at a cost of greater than \$20,000 (1 comment)
- Requests turning lanes at NS 439 (1 comment)
- Requests that, where ROW acquires existing, mature trees that act as a privacy barrier for a home, ODOT replant fast-growing trees as replacement barrier (1 comment)
- Requests that ODOT ensure that replacement fencing can withstand Big Cabin Creek flooding (1 comment)
- Design new bridges to facilitate wildlife travel under the bridge, to minimize wildlife crossing SH 28 (1 comment)
- Not aware of safety problems on SH 28 (1 comment)
- Does not wish to be relocated (1 comment)
- North side resident prefers South alignment to avoid ROW takes of her property, as well as
 Adair water lines on the north. Also states that a gas line crosses her property, which may be
 reference to a crude oil lines running north/south and crossing SH 28 near NS 437. (1
 comment)

- North side business owner prefers South alignment due to greater number of homes and business on North. If 30 feet of ROW is taken from the north side his business (Henson Manufacturing) would be shut down. Relocation costs for would be ~\$1.03 million, and no replacement facilities exist in the area (1 comment)
- Request turning lanes in the towns of Adair, Pensacola, and Langley (3 comments)
- Several landowners did not receive notice of the meeting (1 comment)
- Construction of a "Super 2" would require less land (1 comment)
- Concerns over heavy traffic and high speeds through Pensacola (2 comments)
- Request a lower speed limit through Pensacola (1 comment)
- Requests a longer turn lane to the south at SH 28/SH 82 (1 comment)
- Believes that the westbound lane and ROW are confusing to drivers at SH 28/SH 82 (1 comment)
- There are too many north/south roads in Pensacola which cross SH 28 (i.e., 4), and they are too closely spaced (i.e., 300' apart) (1 comment)
- Requests that SH 28 not be narrowed through Pensacola such that traffic is restricted, to avoid negative economic impacts (2 comments)
- One commenter expressed concern with the need for ongoing maintenance of the Rock Creek Bridge, suggested that it be replaced before the three bridges west of Adair are replaced, and that it be replaced before the end of 2010 (1 comment)
- Concern over stock pond on property north of SH 28 and potential impact on pond if runoff is reduced due to highway improvements (1 comment)
- Concern over mature trees (planted 26 years ago) that line a private drive north of SH 28, as well as a heavy-duty cattle guard (1 comment)
- One commenter provided information regarding utility line locations along Segments 1 and 2 (1 comment)
- Owner of Speedy 66 Convenience Store in Langley plans to remodel and asks if ODOT plans to acquire right-of-way at that location (1 comment)
- One commenter prefers adding new lanes to the south through Pensacola (1 comment)

Attachments:

Copies of the sign-in list and written comments are attached.

Cc: David Streb, Director of Engineering

Dawn Sullivan, Environmental Programs Engineer

Division VIII Engineer

ODOT and Benham attendees