

APPENDIX A

SOCIOECONOMIC IMPACT ANALYSIS

**SOCIOECONOMIC IMPACTS OF THE
PROPOSED SPENT NUCLEAR FUEL
CONSOLIDATED INTERIM STORAGE FACILITY
ANDREWS COUNTY, TEXAS**

**WASTE CONTROL SPECIALISTS LLC
DOCKET No. 72-1050, MAY 2015**

Prepared by:



Cox|McLain Environmental Consulting, Inc.
6010 Balcones Drive
Suite 210
Austin, Texas 78731

December 2015

Revision 3

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Acronyms and Abbreviations

ACS	American Community Survey
AIF	Andrews Industrial Foundation
APE	Area of Potential Effects
ARMS	Archeological Records Management Section
BLM	Bureau of Land Management
CISF	Consolidated Interim Spent Fuel Storage Facility
DHHS	U.S. Department of Health and Human Services
DOI	Department of Interior
EDCLC	Economic Development Corporation of Lea County
EJ	Environmental Justice
ISFS	Interim Spent Fuel Storage Facility
LEP	Limited English Proficiency
NCHS	National Center for Health Statistics
NHPA	National Historic Preservation Act
NMCRIS	New Mexico Cultural Resources Information System
NMDH	New Mexico Department of Health
NM-EPHT	New Mexico's Environmental Public Health Tracking Network
NMHPD	New Mexico Historic Preservation Division
NM-IBIS	New Mexico Indicator-Based Information System
NRC	Nuclear Regulatory Commission
NRHP	National Register of Historic Places
PRCC	Permian Residential Care Center
ROI	Region of Interest
RTHL	Recorded Texas Historic Landmarks
SAL	State Antiquities Landmark
SHPO	State Historic Preservation Officer
TARL	Texas Archeological Research Laboratory
THC	Texas Historical Commission
USDA	U.S. Department of Agriculture
WCS	Waste Control Specialists LLC

Introduction and Background

Introduction

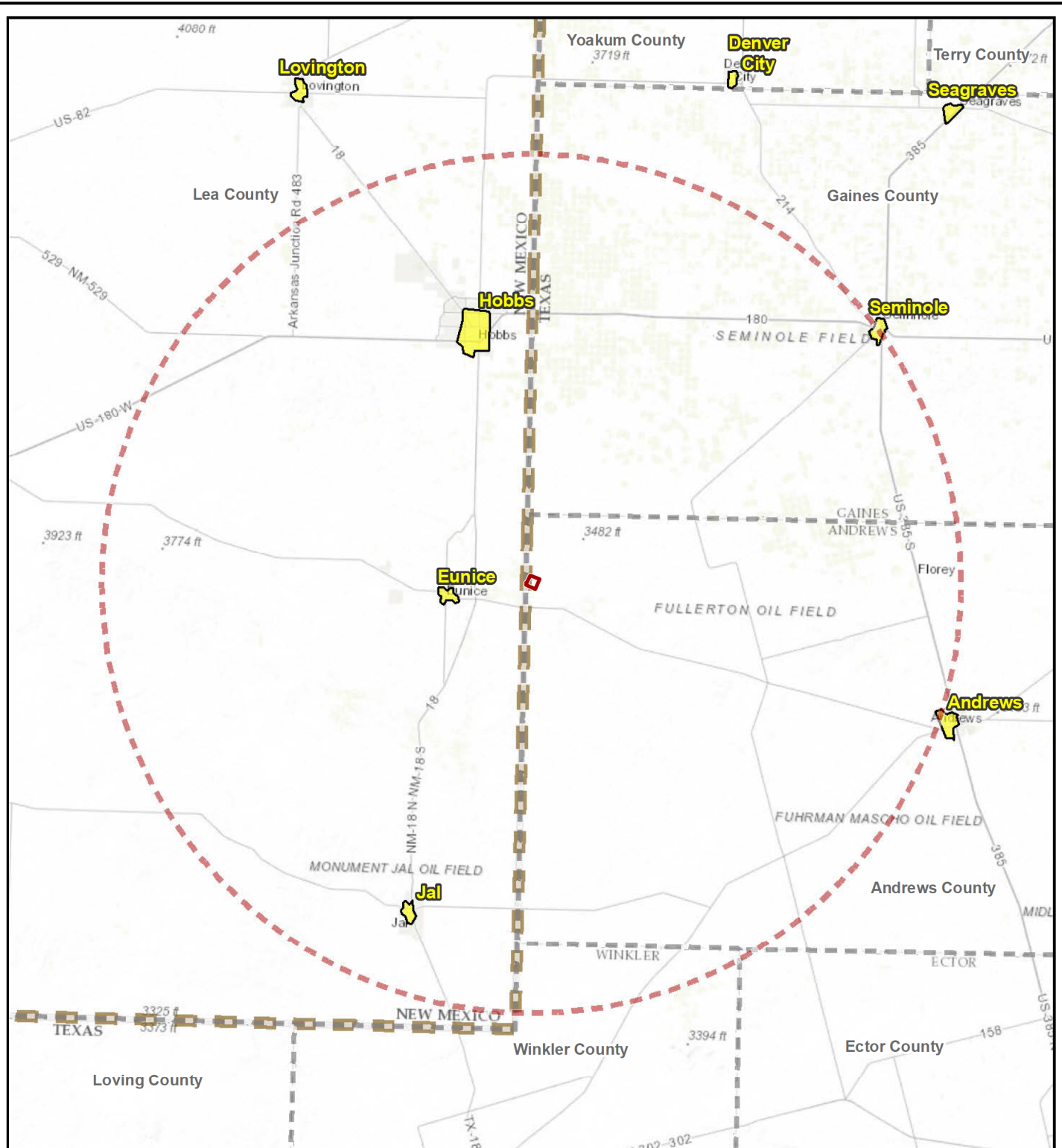
Waste Control Specialists LLC (WCS) has an existing waste disposal facility with various licenses in Andrews County, Texas, near the border of Lea County, New Mexico, on State Highway 176. The site is approximately 30 miles northwest of the county seat of the city of Andrews (see **Figure 1a, Project Location Road Base**, and **Figure 1b, Project Location Aerial Base**). Photographs of the current facility and proposed project site are in **Appendix A**.

Background

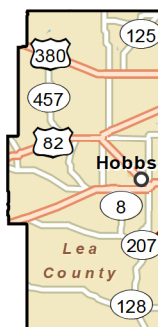
Since 1997, WCS has been licensed and authorized to store, process, and dispose of certain types of radioactive materials at its facilities located in Andrews County, Texas. WCS is authorized to dispose of Class A, B, and C Low-Level Radioactive Waste at the Texas Compact Waste Disposal Facility and the Federal Waste Disposal Facility. WCS is also authorized to dispose of 11e (2) byproduct materials at its Byproduct Material Disposal Facility. These activities are regulated by the Texas Commission on Environmental Quality (TCEQ) governed by regulations determined to be compatible, pursuant to Section 274 of the Atomic Energy Act of 1954, as amended in NUREG-0980 wherein the Nuclear Regulatory Commission (NRC) could delegate some licensing authority to the state level.

In January 2010, President Barack Obama established the Blue Ribbon Commission on America's Nuclear Future. They were directed by the Secretary of Energy to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle and recommend a new strategy. On January 26, 2012, the Blue Ribbon Commission issued a final report making recommendations consisting of eight key elements. Of paramount importance to this licensing action was the Blue Ribbon Commission's recommendation to adopt a new consent-based approach to siting future nuclear waste management facilities in order to initiate prompt efforts to develop one or more consolidated storage facilities (Blue Ribbon Commission 2012).

Development of a spent nuclear fuel Consolidated Interim Storage Facility (CISF) has strong support from the state, regional, and local communities located in West Texas. In April 2014, Texas Governor Rick Perry called for a Texas solution for spent nuclear fuel generated at two reactor sites located in the state. On September 19, 2014, the Texas Radiation Advisory Board also issued a position stating it is in the state's best interest to request that the Federal Government consider Texas as a CISF site. On January 20, 2015, the Andrews County Commissioners unanimously approved a resolution in support of establishing a site in Andrews County, Texas, for the consolidated interim storage of spent nuclear fuel and high level radioactive waste (see **Appendix B**).



-  Project Location
-  30-mile Region of Interest
-  State Boundary
-  County Boundary



Andrews County

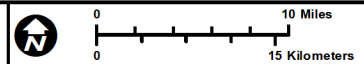


Figure 1a Project Location - Road Base

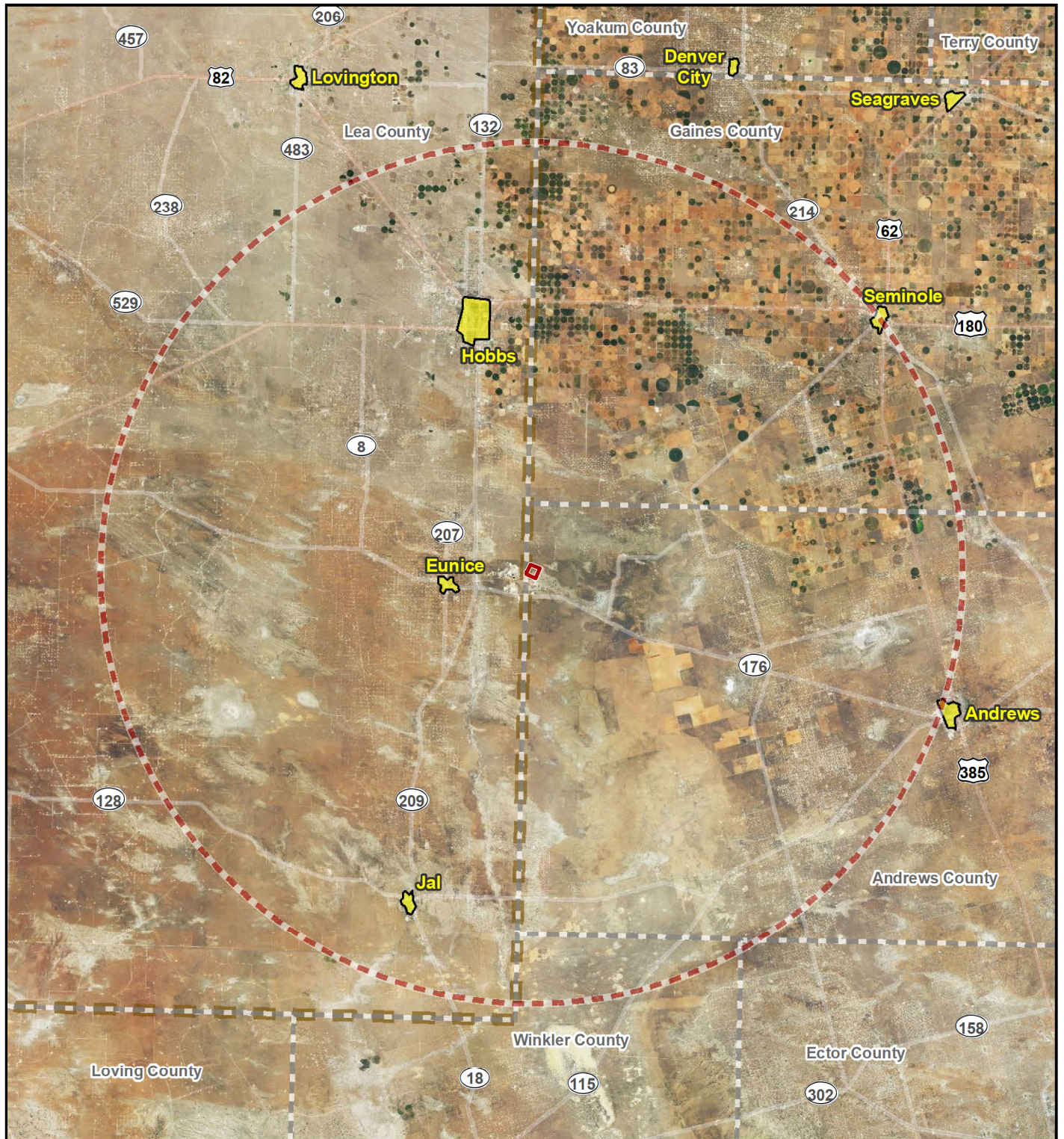
Proposed Consolidated Interim
Spent Fuel Storage Facility

 **COX | McLAIN**
Environmental Consulting

Prepared for: WCS	1 in = 10 miles
Prepared by: SL	Scale: 1:633,600
	Date: 4/4/2016

Data Source: US Census Bureau (2010)
Basemap Source: ESRI (2014)

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- Project Location
- 30-mile Region of Interest
- State Boundary
- County Boundary

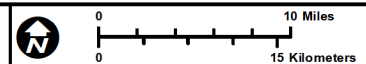
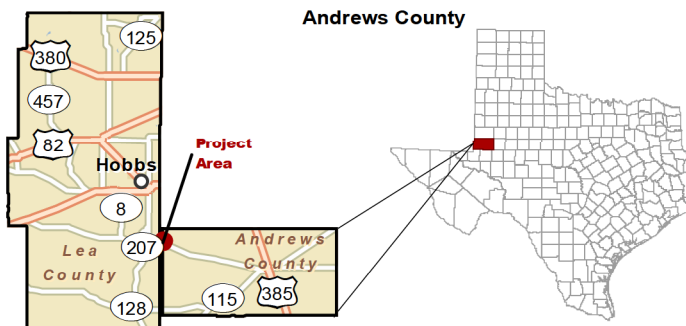


Figure 1b
Project Location - Aerial Base

Proposed Consolidated Interim
Spent Fuel Storage Facility

COX | McLAIN
Environmental Consulting

Prepared for: WCS	1 in = 10 miles
Prepared by: SL	Scale: 1:633,600
	Date: 4/4/2016

Data Source: US Census Bureau (2010)
Aerial Source: NAIP (2014)

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Approach

WCS has prepared an Environmental Report (to which this document is attached) to evaluate the radiological and non-radiological impacts associated with the construction and operation of a CISF for spent nuclear fuel in Andrews County, Texas. This Environmental Report was prepared to support a License Application for review and approval by the NRC pursuant to the requirements specified in Title 10 of the *Code of Federal Regulations* (CFR), Part 72, Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste.

WCS prepared the Environmental Report consistent with the guidance provided in:

- Regulatory Guide 3.50, Standard Format and Content for A Specific License Application for an Independent Spent Fuel Storage Installation or Monitored Retrievable Storage Facility;
- NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with Nuclear Material Safety and Safeguards (NMSS) Programs; and
- The National Environmental Policy Act (NEPA) (42 U.S. Code [U.S.C.] Sections 4321–4375) and implementing regulations promulgated by the Council on Environmental Quality (CEQ, 40 Code of Federal Regulations [CFR] Part 1500).

Other documents were reviewed in the development of this report:

- NUREG-1790, Louisiana Energy Services National Enrichment Facility License Application – Environmental Report (Revision 5, 2005);
- Waste Control Specialists LLC, 2007. Socioeconomic Impacts of the Waste Control Specialists Proposed Low-Level Radioactive Waste Disposal Facility, Andrews County, Texas, March 16, 2007; and
- Waste Control Specialists LLC, 2008. Socioeconomic Impacts of the Waste Control Specialists Radioactive Material Storage and Processing Facility, Andrews County, Texas for the Renewal of License No. R04971, July 3, 2008.

WCS is in the process of submitting the license application to construct and operate a CISF. WCS anticipates that the NRC may issue the Final Environmental Impact Statement and License within the next five years. WCS is planning for receipt and storage of spent nuclear fuel until the expiration of the license. Moreover, WCS anticipates continued storage for approximately up to 60 years or until a final geologic repository is licensed and operating in accordance with the Nuclear Waste Policy Act of 1982, as amended.

WCS has hired Cox|McLain Environmental Consulting, Inc. (CMEC) to conduct a socioeconomic impact assessment of the proposed CISF activities at the existing WCS facility. This assessment includes (1) background demographic, social, economic, and cultural resources information about the Region of Interest (ROI); (2) a focused assessment within a four-mile radius around the proposed

facility for Environmental Justice analysis; and (3) a social and economic impact assessment including sections on potential impacts from transportation and cumulative impacts.

CMEC utilized two general study areas for this analysis: a 30-mile ROI radius centered on the proposed site within the WCS property and a four-mile radius for the Environmental Justice Analysis. Study areas are discussed in the NRC's Environmental Justice Policy Statement (2003). Whereas NUREG-1748 uses 0.6 mile for analysis if the center of the site is in an urban area, and whereas the Office of Nuclear Reactor Regulation (NRR) uses an analysis area of a 50-mile radius for regulatory actions involving power reactors, the current analysis includes 30 miles since it encompasses both the nearby community of Eunice, New Mexico and the county seat and center of many business operations related to the WCS activities in the city of Andrews, Texas. In the comment and response period on the NRC's proposed policy statement (2003) on Environmental Justice, NRC stated that "this policy statement does not address site-specific concerns. In accordance with NEPA, and consistent with Commission practice, the geographic area assessed for NEPA purposes will be commensurate with the potential impact area of the proposed activity" and "should include a sample of the surrounding population because the goal is to evaluate the communities, neighborhoods, and areas that may be disproportionately impacted." Therefore, the 30-mile ROI includes census geographies and political geographies such as county boundaries in order to provide a clear picture of the communities that would host the proposed disposal activities, and that would house workers who may be involved with construction or operation phases of the proposed CISF activities. The four-mile study area directly addresses the recommended analysis area for Environmental Justice considerations.

Project Description

WCS is requesting authorization to construct and operate a CISF in Andrews County, Texas. The CISF will be located on approximately 100 acres of land (owner-controlled area) just north and adjacent to the WCS Low-Level Radioactive Waste Disposal facilities licensed by the TCEQ in accordance with Texas Radioactive Material License (RML) No. R04100.

Additionally, WCS is requesting authorization to store up to 40,000 metric tons of uranium (MTU). Approval to store up to 40,000 MTU at the CISF will not only accommodate complete decommissioning of the ten shutdown commercial reactors, but also provide a regulatory path forward to ultimately allow a transition for storing additional spent nuclear fuel from other reactors that may initiate decommissioning in the future.

WCS will use existing dry cask storage systems currently used at several operating commercial nuclear power plants in the United States and abroad. These dry cask storage systems store spent nuclear fuel inside of sealed canisters as opposed to a spent fuel pool. These dry cask storage systems are safe and confine radioactive materials thereby, minimizing the potential for the release of radioactive contamination into the environment. More information on the disposal methods can be found in the full license application.

The CISF project will consist of a total of eight phases with capacity for 500 metric tons of waste in each phase. Construction on Phase 1 is expected to start in 2018 and is scheduled to be completed by the end of 2020. Phase 1 construction will consist of: the first storage pad, site infrastructure, utilities, a rail line, and support buildings, including Administration, Radiation Safety, Security, and Offload/Transfer buildings. Phase 1 is expected to provide capacity for approximately five years of operations. Phase 2 construction will begin so that it will come online just before Phase 1 reaches full capacity. The remaining phases are expected to follow the same 5-year pattern (see **Figure 1c, Conceptual Layout** and **Figure 1d, Potential Storage Facility Site Design Renderings**).

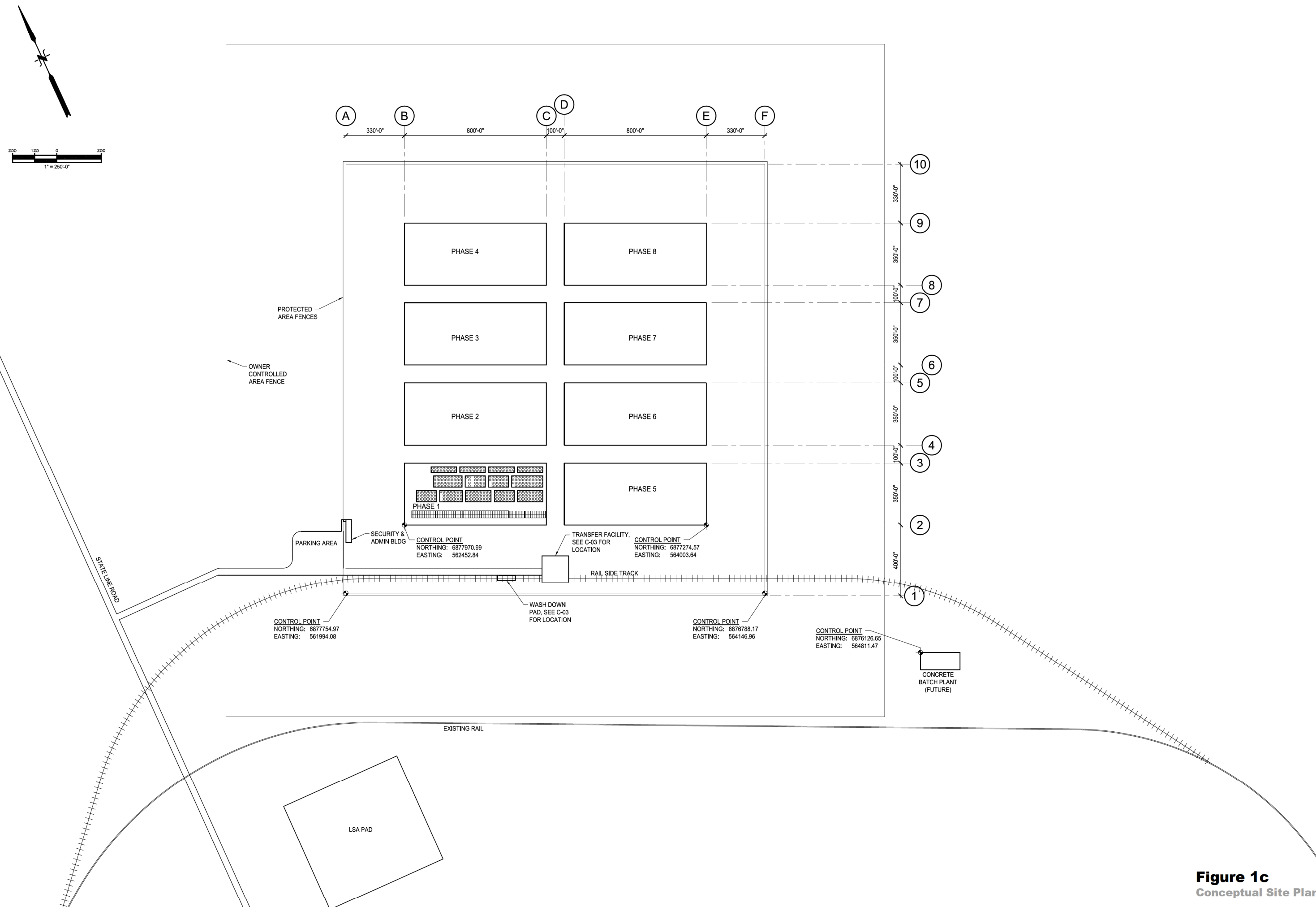
Social and Economic Background of the Region

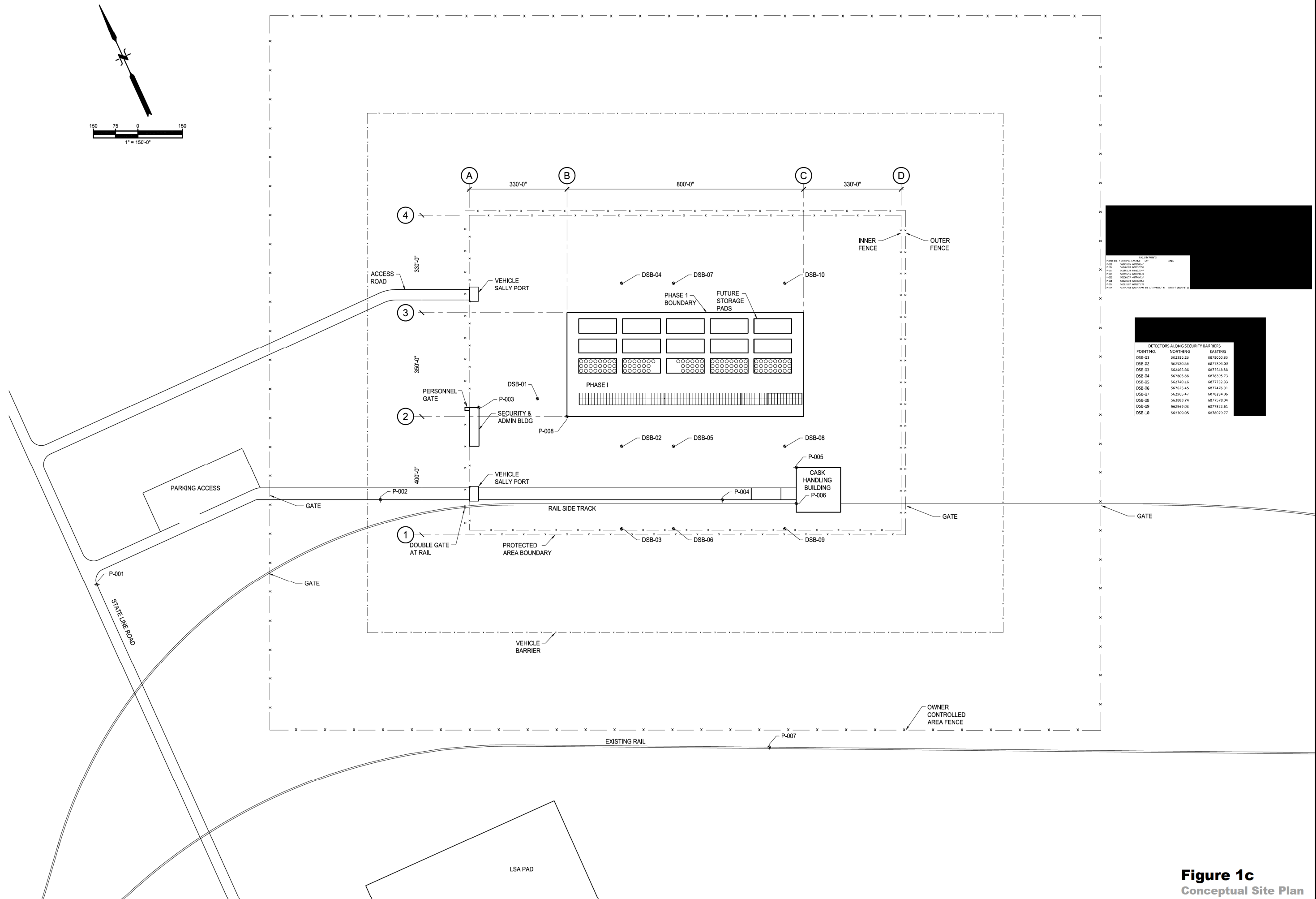
The site for the proposed CISF is located in Andrews County, Texas, which is in the northwestern portion of the state, bordered on the north by Gaines County; on the east by Martin County; on the south by Winkler, Ector and Midland Counties; and on the west by the State of New Mexico (Lea County). The CISF will be located in the High Plains region, which is part of the central Great Plains. The nearest neighbor to the WCS facility is approximately 3.8 miles west along State Highway 176 toward Eunice, New Mexico. The surrounding land is primarily used for stock grazing and supports an active oil and natural gas industry.

Outside of the WCS footprint, industries include gravel and caliche mining, oil and gas production, landfill operations, cattle and ranching. Louisiana Energy Services (LES) operates the National Enrichment Facility as URENCO, USA, about one mile southwest of the site, under license by the Nuclear Regulatory Commission. The majority of the land within five miles of the Site is used for grazing and ranching activities. Other businesses in proximity to the WCS property include Wallach Quarry, Sundance, Inc., and DD Landfarm located about one mile northwest and west of the proposed CISF. The remaining land in the vicinity of the proposed CISF is used for livestock grazing, oil and gas production or is unused land. The Lea County, New Mexico Landfill occupies approximately 40 acres and is located about 1.25 miles south southwest of the proposed CISF.

The ROI (defined as a 30-mile radius around the WCS facility) is entirely situated within the southern part of the Llano Estacado of Texas and New Mexico. The Llano Estacado (Staked Plains), the southern extension of the High Plains of North America, lies south of the Canadian River in northwest Texas and east New Mexico.

According to the WCS Socioeconomic Impact Assessment completed for the Byproduct Materials License (2008), social and economic development of the Llano Estacado did not begin until the 1870s. By the end of 1886, the area and adjacent lands had at least 30 large ranches recognized by name and cattle brand, grazing thousands of cattle on free grass and water on mostly unappropriated public lands. Some of the larger ranches were the Quarter Circle T, JA, Rocking Chair, LX, Turkey Track, T Anchor, Shoe Bar, Frying Pan, and Matador. Most of the largest ranches

[illegible]



CALCIFICATIONS		
POINT NO.	NORTHING	EASTING
P-001	562396.20	6877204.00
P-002	562396.20	6877204.00
P-003	562396.20	6877204.00
P-004	562396.20	6877204.00
P-005	562396.20	6877204.00
P-006	562396.20	6877204.00
P-007	562396.20	6877204.00
P-008	562396.20	6877204.00

DETECTORS ALONG SECURITY BARRIERS		
POINT NO.	NORTHING	EASTING
DSB-01	562396.20	6877204.00
DSB-02	562396.20	6877204.00
DSB-03	562396.20	6877204.00
DSB-04	562396.20	6877204.00
DSB-05	562396.20	6877204.00
DSB-06	562396.20	6877204.00
DSB-07	562396.20	6877204.00
DSB-08	562396.20	6877204.00
DSB-09	562396.20	6877204.00
DSB-10	562396.20	6877204.00

Figure 1c
Conceptual Site Plan

141101

DESIGNED BY: D. OWEN
DRAWN BY: CHAMBLIN
CHECKED BY: D. OWEN
ENGINEER: CHAMBLIN
DOCUMENT CONTROL INC.
CONTROL COPY NO.:
DWG. SCALE: 1" = 150'-0"

141101

WASTE CONTROL SPECIALISTS, ANDREWS TEXAS
CONCEPTUAL SITE PLAN

141101

WCS CISF

DRAWING RECORD

REV.	DESCRIPTION	DATE	DRAWN	CHECK
1	ISSUED FOR REVIEW		OWH	DHO
2				
3				
4				

AMERICA'S NUCLEAR SOLUTION

9998 W. STATE HWY. 176, ANDREWS, TEXAS 79714
PH: (432) 525-8600 WWW.WCSTEXAS.COM

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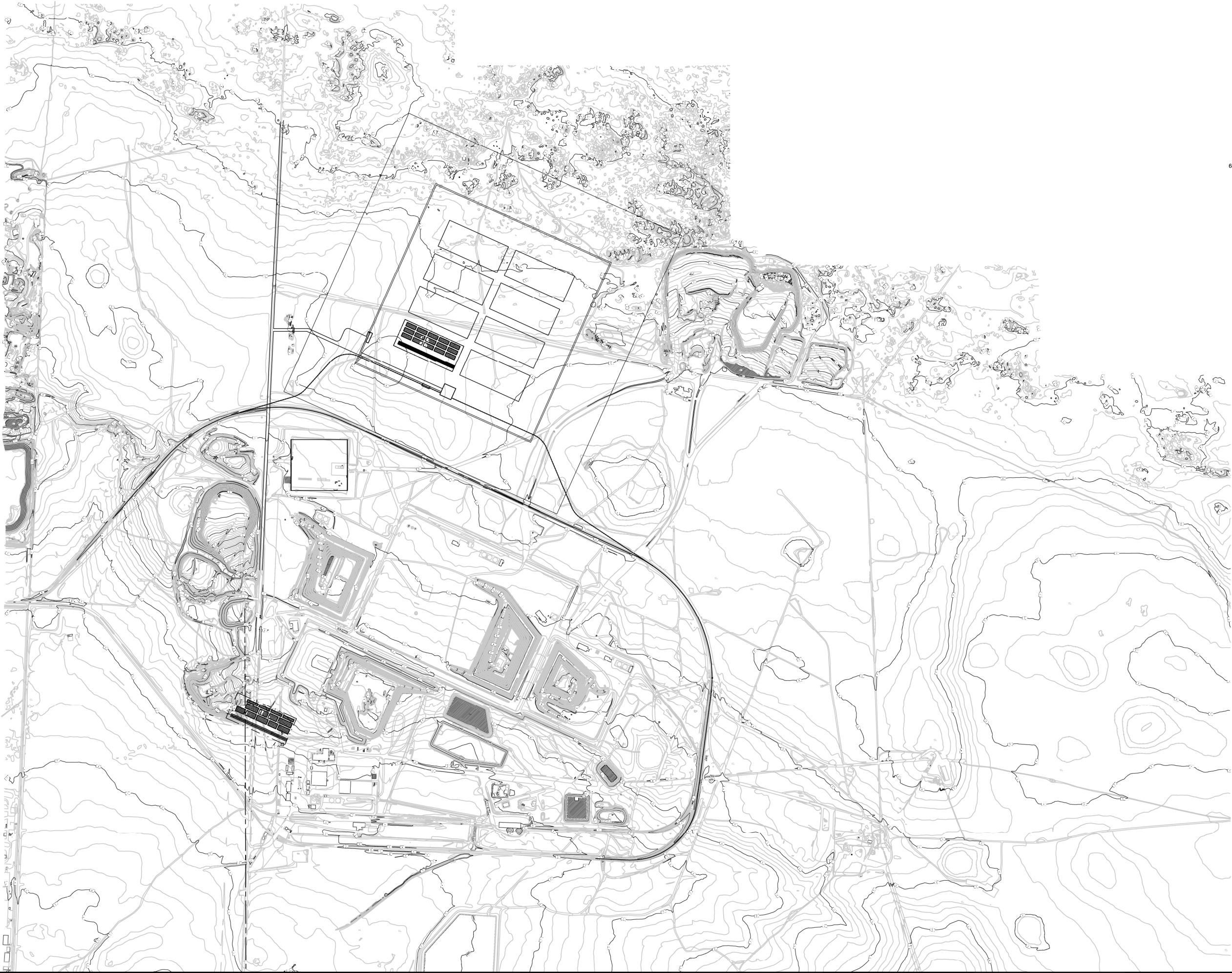


Figure 1c
Conceptual Site Plan

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SHEET NUMBER:

DOWEN
GHAMLIN
D. DOWEN
D. DOWEN

ENGINEER:
DOCUMENT CONTROL NO.:

ENGINEER:
DOCUMENT CONTROL NO.:

CONTROL COPY NO.:

141101

WCS CISF
WASTE CONTROL SPECIALISTS, ANDREWS TEXAS
CONCEPTUAL SITE PLAN



AMERICA'S NUCLEAR SOLUTION
9988 W. STATE HWY. 176, ANDREWS, TEXAS 79714
PH: (432) 525-8600 WWW.WCSTEXAS.COM

DRAWING RECORD			
REV.	DESCRIPTION	DATE	CHECK
1	ISSUED FOR REVIEW		DND
2			
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AMERICA'S NUCLEAR SOLUTION

POTENTIAL ISFSI SITE RENDERINGS

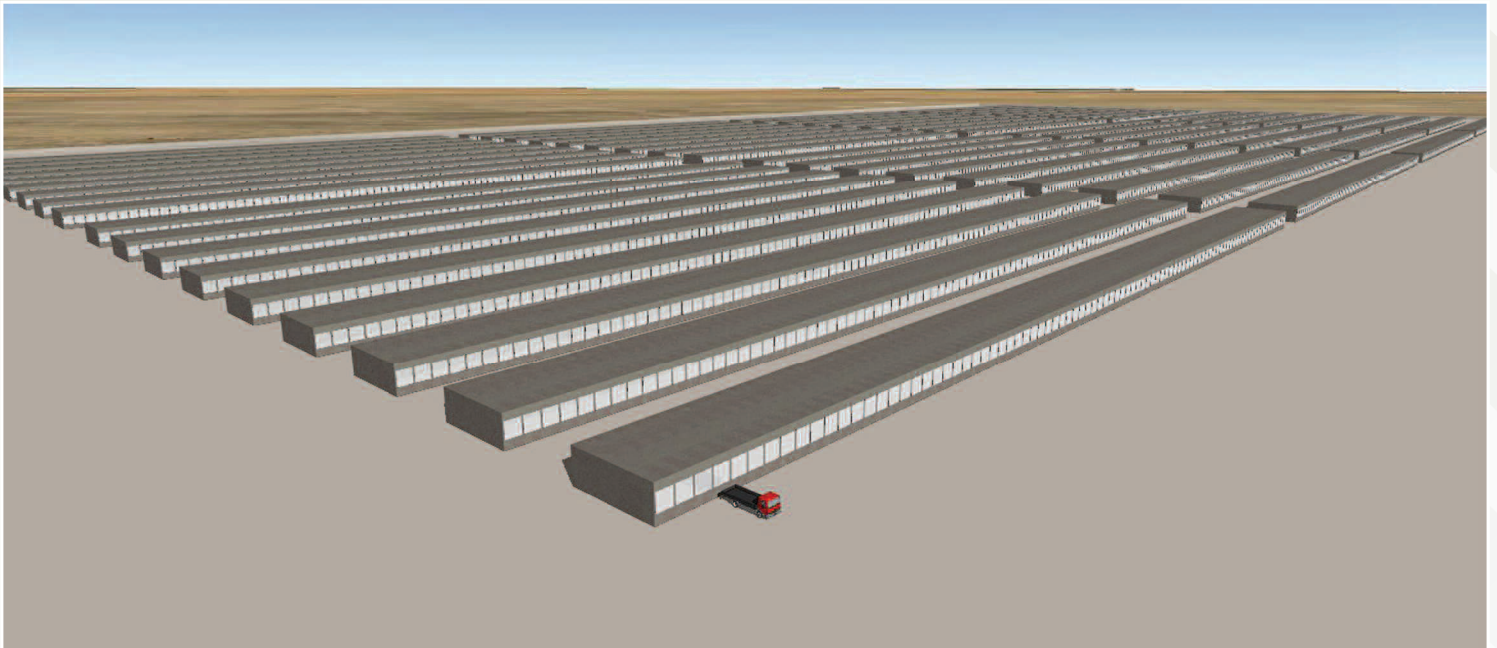
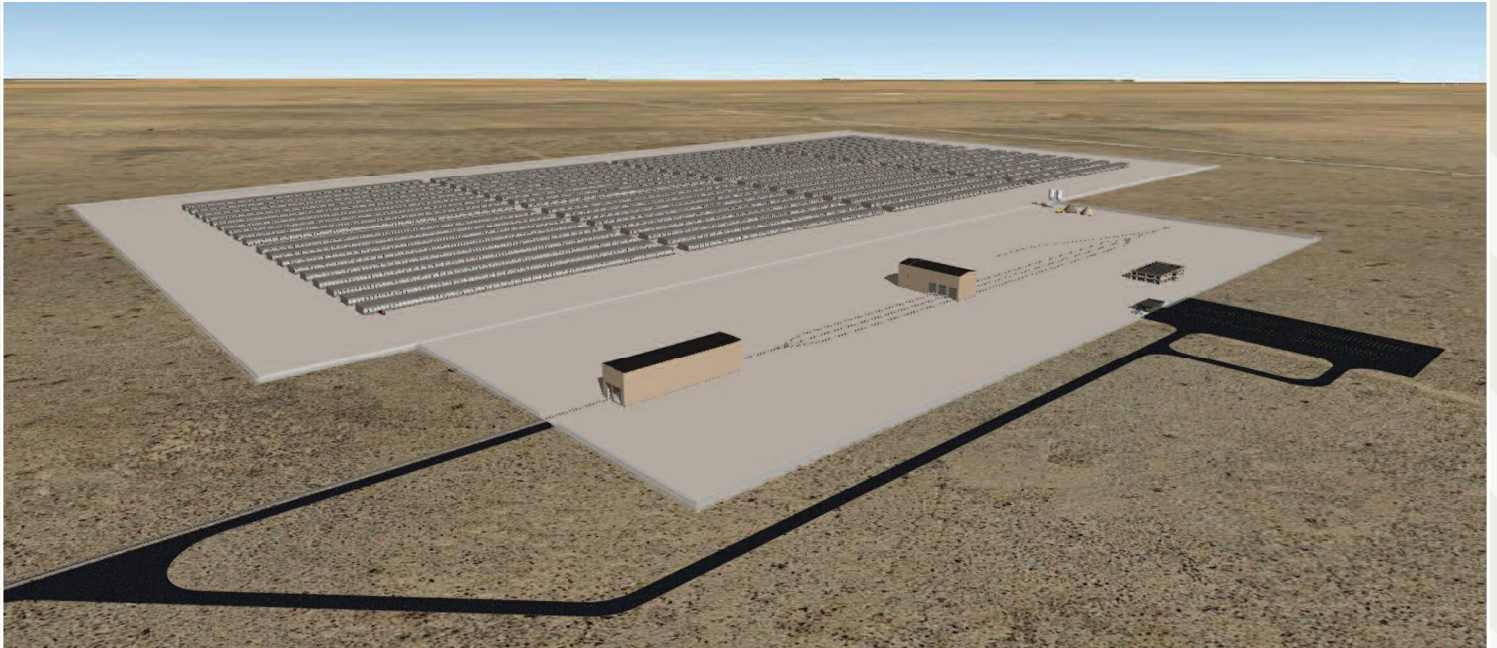


Figure 1d
Potential Storage Facility Site Design Renderings