



Approved Final Environmental Assessment

Nolana Loop

Pharr District

From FM 1426 (Raul Longoria Road)

To FM 88 (Texas Avenue)

CSJ: 0921-02-169, 0921-02-361

Hidalgo County, Texas

April 2020

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.

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Abbreviations and Acronyms

-A-

AADT	Annual Average Daily Traffic
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-Containing Material
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AJD	Approved Jurisdictional Determination
AOI	Area of Influence
APE	Area of Potential Effect

-B-

BG	Block Group
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practices

-C-

CAAA	Clean Air Act Amendments
CBRA	Coastal Barrier Resources Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CHC	County Historical Commission
CMP	Congestion Management Process
CSJ	Control Section Job
CT	Census Tract
CWA	Clean Water Act

-D-

dBA	A-Weighted Decibels
dbh	Diameter Breast Height
DHHS	Department of Health and Human Services
DID	Donna Irrigation District
DOT	Department of Transportation

-E-

EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
EPIC	Environmental Permits, Issues, & Commitments
ETC	Estimate Time of Completion
ETJ	Extra Territorial Jurisdiction

-F-

FHWA	Federal Highway Administration
FM	Farm to Market
FPPA	Farmland Protection Policy Act
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
FY	Fiscal Year

-G-

GIS Geographic Information System

-H-

H&CCDD Hidalgo & Cameron County Drainage District
H&CCID Hidalgo & Cameron County Irrigation District
HCDD Hidalgo County Drainage District
HCID Hidalgo County Irrigation District
HCMPO Hidalgo County Metropolitan Planning Organization
HEI Health Effects Institute

-I-

I Interstate
IBWC International Boundary and Water Commission
IPaC Information for Planning and Consultation
ISA Initial Site Assessment

-J-**-K-****-L-**

LEP Limited English Proficiency
LBP Lead Based Paint
LOS Level of Service
LPST Leaking Petroleum Storage Tanks
LWCF Land & Water Conservation Fund

-M-

MAPO Meeting with Affected Property Owners
MBTA Migratory Bird Treaty Act
MMPA Marine Mammal Protection Act
MPH Miles Per Hour
MOU Memorandum of Understanding
MS4 Municipal Separate Storm Sewer System
MSA Magnuson-Stevens Fishery Conservation Management Act
MSAT Mobile Source Air Toxics
MTP Metropolitan Transportation Plan

-N-

NAAQS National Ambient Air Quality Standards
NEPA National Environmental Policy Act of 1969
NHPA National Historic Preservation Act
NMFS National Marine Fisheries Service
NOA Notice of Availability
NOI Notice of Intent
NRCS Natural Resource Conservation Service
NRHP National Register of Historic Places
NWI National Wetlands Inventory

-O-

OTHM Official Texas Historical Markers

-P-

PA	Programmatic Agreement
PA-TU	Programmatic Agreement for Cultural Resources
PCN	Pre-Construction Notice
PMSA	Primary Metropolitan Statistical Area
PS&E	Plans, Specifications, & Estimates
PWC	Parks & Wildlife Code

-Q-**-R-**

ROW	Right-Of-Way
RPIC	Responsible Person In Charge
RTHL	Recorded Texas Historic Landmarks

-S-

SH	State Highway
SHPO	State Historic Preservation Officer
SW3P	Storm Water Pollution Prevention Plan

-T-

TAC	Texas Administrative Code
TARL	Texas Archeological Research Laboratory
TAQA	Traffic Air Quality Analysis
TCEQ	Texas Commission on Environmental Quality
TDC	Texas Demographic Center
THC	Texas Historical Commission
TIP	Transportation Improvement Plan
TPDES	Texas Pollutant Discharge Elimination System
TPP	Transportation Planning and Programming
TPWD	Texas Parks & Wildlife Department
TxDOT	Texas Department of Transportation

-U-

US	United States
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USDOT	United States Department of Transportation
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey

-V-

VMT	Vehicle Miles Traveled
VPD	Vehicles Per Day

-W-**-X-****-Y-****-Z-**

I. Introduction

A. Purpose of this Document

Hidalgo County in cooperation with the Texas Department of Transportation (TxDOT), proposes to widen, reconstruct, and extend Nolana Loop located in the City of San Juan and in rural Hidalgo County, Texas. Federal regulations require that federally funded transportation projects have logical termini (23 Code of Federal Regulations (CFR) 771.111(f)(1)). Simply stated, this means that a project must have rational beginning and end points. Those end points may not be created simply to avoid proper analysis of environmental impacts. The logical termini and construction limits are from Farm to Market (FM) 1426 (Raul Longoria Road) to FM 88 (Texas Avenue); a total length of 9.8 miles (**Figure 1**). These limits were chosen based on the major crossroads in the project area. **Figure 2** shows the proposed project on the U.S. Geological Survey (USGS) topographic map.

This Environmental Assessment (EA) has been developed to study the potential social, economic, and environmental impacts resulting from constructing the proposed project. The EA is organized to provide concise information with accompanying technical reports that support the finding within the document. The EA has been prepared in accordance with the procedural provision of the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) regulations in *Implementing Procedural Provision of NEPA* (40 CFR Parts 1500-1508) and *Environmental Impact and Related Procedures* (23 CFR Part 771); and Texas Administrative Code (TAC) Title 43, Part 1, Chapter 2, *Environmental Review of Transportation Projects*.

B. Public Review of the Environmental Assessment

The EA was made available for public review on November 20, 2019. A Notice of Availability (NOA) of the EA was published on www.txdot.gov and in the local newspapers. Hidalgo County and TxDOT thoroughly considered all comments submitted during the comment period. Based on the analysis conducted in this EA and comments received during the comment period, TxDOT determined the potential environmental effects do not warrant the preparation of an Environmental Impact Statement. A Finding of No Significant Impact (FONSI) will be prepared, signed, and made available to the public.

II. Project Description

The project would widen, reconstruct, and extend the existing roadway from FM 1426 (Raul Longoria Road) to FM 88 (Texas Avenue); a distance of 9.8 miles.

A. Existing Facility

The existing 22-foot-wide rural roadway from FM 1426 (Raul Longoria Road) to Victoria Road consists of two 11-foot-wide travel lanes. A varying 30-foot-wide minimum to 120-foot-wide maximum existing Right of Way (ROW) is available along existing roadway sections. Drainage for the roadway is handled through roadside ditches. See **Figure 3** for the existing typical section. The existing speed limit is 30 miles per hour (MPH). There is no existing roadway from Victoria Road east to FM 88, a distance of approximately 2.5

miles. See **Appendix A** for photos of the existing facility. Existing ROW would be used where possible.

Table 1 reflects the Average Daily Traffic (ADT) for the operational years 2018 and 2038 as provided by TxDOT's Transportation Planning and Programming (TPP) Division.

Table 1: Average Daily Traffic

Roadway	From	To	2018	2038
Nolana Loop	FM 1426 (Raul Longoria Road)	FM 88 (Texas Avenue)	7,900	11,100

TPP, 2016

B. Proposed Facility

The scope of the project is to widen, reconstruct, and extend the existing roadway from FM 1426 (Raul Longoria Road) to FM 88. The project would use approximately 63 acres of existing ROW where possible along Earling Road and Mile 11 ½ Road. Approximately 2.5 miles of the project, from Victoria Road east to FM 88, would be on new location.

Nolana Loop would be constructed as an 84-foot-wide urban roadway consisting of four 12-foot-wide travel lanes, one 16-foot-wide continuous left turn lane, two 10-foot-wide shoulders, and six-foot-wide sidewalks on both sides of the roadway within a 120-foot-wide ROW. Drainage would be handled by a storm drain system. See **Figure 4** for the proposed typical section. As part of the project, the intersection of Cesar Chavez Road would be reconstructed for approximately 1,286 feet to the north and south to include a proposed left turn lane. The project would use 7.3 miles of existing ROW along Earling Road and Mile 11 ½ Road, within the city limits of San Juan and rural Hidalgo County.

Nine existing outfalls located within the project limits would be cleaned of debris, as needed, to improve drainage in the area and collect stormwater runoff (drainage ditches in **Figure 11**). All outfall cleaning would occur within existing ROW. An existing outfall (approximately 976 feet in length) located between Old La Blanca Road and FM 493 would be relocated approximately 40-feet north of its current location (**Figure 5**) within existing drainage ROW.

Two permanent irrigation easements would be required as a result of the project. An existing, underground irrigation line runs parallel to Nolana Loop. Easement One is located on the north side of Nolana Loop from Jesenia Street east for approximately 0.4 miles (See **Figure 6**). To relocate the existing line, 30 feet would be required for Easement One. This easement would require approximately 1.4 acres of land. An existing, underground irrigation line runs parallel to Tower Road and to the east along Nolana Loop. Three areas (approximately 329, 105, and 1,434 linear feet, respectively) by 30 feet would be required to relocate Easement Two. This easement is located at the east side of the intersection of Tower Road on the north and south sides of the road and on the north side of Nolana Loop (See **Figure 7**). Easement Two would require approximately 1.3 acres of land.

Federal regulations require that a project have independent utility and be a reasonable expenditure even if no other transportation improvements are made in the area (23 CFR 771.11(f)(2)). This means a project must be able to provide benefit by itself, and that the project not compel further expenditures to make the project useful. Stated another way, a project must be able to satisfy its purpose and need with no other projects being built. The project would provide a continuous route on a discontinuous roadway, improving mobility and reducing congestion on adjacent roadways. The work satisfies the project's need and would improve mobility in the project area independent of any other future roadway improvements. Since this project stands alone, it cannot and does not irretrievably commit federal funds for other future transportation projects. This means that the proposed project does not require federal funds for future transportation projects. The proposed improvements to Nolana Loop will provide benefit to the corridor and region independently without the need for any other projects to be constructed for the proposed improvements.

Federal law prohibits a project from restricting consideration of alternatives for other reasonably foreseeable transportation improvements (23 CFR 771.111(f)(3)). This means that a project must not dictate or restrict any future roadway alternatives. The construction of the proposed project does not rule out future options for the development of other reasonably foreseeable transportation improvements. Because the project stands alone (independent utility) and will not force a future expenditure of funds, no future roadway alternatives would be dictated or restricted by the proposed project.

The project would require 82.6 acres of new ROW and is anticipated to require seven residential relocations, one business relocation, and 2.7 acres for two permanent irrigation easements.

The project is consistent with the Hidalgo County Metropolitan Planning Organization's (HCMPO) 2015-2040 Metropolitan Transportation Plan (MTP) and the 2019-2022 Transportation Improvement Plan (TIP). The entire project is listed in FY 2019 for preliminary engineering. The project is eligible for Federal and State transportation funds. The project is a local government sponsored roadway and is anticipated to receive 80 percent federal and 20 percent local funding for construction. The estimated total project cost is \$16.6 million. The appropriate pages of the plan and programming documents are available in **Appendix B**.

III. Purpose and Need

A. Need

The project is needed because there is a lack of east-west connectivity between FM 1426 and FM 88. Nolana Loop is unable to accommodate future traffic demands and is needed to complete the local, non-through traffic transportation network.

B. Supporting Facts and/or Data

Population increases and ongoing development have resulted in increased traffic in the study area. The current condition of the roadway does not allow for efficient operation, nor

does it carry the maximum amount of traffic possible. The proposed action must ensure an acceptable Level of Service (LOS) under anticipated traffic conditions. An acceptable LOS means that the proposed facility must operate at a LOS rating of C or higher under future traffic conditions. See **Table 2** for the LOS descriptions.

Table 2: LOS Descriptions

LOS Category	Description of Operating Conditions
LOS A	Free flow. LOS A represents high speed, smooth flow with little or no interference between vehicles.
LOS B	Lower speeds than LOS A, although flow is still good and little congestion exist. In urban areas, average over-all speeds drop due to intersection delay and vehicular conflicts.
LOS C	Lower speeds than LOS B, although flow is still good and little congestion exists. Operation is still stable with acceptable delays, but becoming more critical.
LOS D	Level D shows still lower speeds than previous levels. There is some congestion, and conditions become slightly unstable with respect to travel time and delay. The traffic flow is beginning to tax the capabilities of the street section. In urban and suburban areas, delays at intersections may be extensive with some cars waiting two or more cycles.
LOS E	The traffic flow is unstable, and the volumes are at capacity. Any momentary stoppage may create an immediate and significant amount of congestion. Traffic is backed up continuously at intersection approaches.
LOS F	Level of service F is demonstrated by conditions of heavy congestion and stop-and-go traffic. All intersections are handling traffic in excess of capacity. Vehicular back-ups extend back from signalized intersections, through unsignalized intersections.

Highway Capacity Manual, 2000

Based on the ADT of 7,900 vehicles per day for the year 2018, the existing two lane rural roadway received a LOS rating of D. Widening and reconstructing Nolana Loop to a four lane roadway would improve the LOS rating to a B based on the 2038 traffic projections. It can be determined that with increases in projected traffic and the congestion along Nolana Loop, the existing roadway would continue to deteriorate, thereby reducing its overall effectiveness.

Nolana Loop is not a continuous roadway east of Goolie Road and from Victoria Road east to FM 88. Access to subdivisions and business in the area is indirect due to the separated nature of the existing roadway. Nolana Loop is a major commuting roadway within the cities of San Juan and McAllen. The existing roadway west of FM 1426 is a four lane, urban roadway. The existing rural roadway is not continuous, lacks turning lanes, and sidewalks.

State Highway (SH) 107 and Interstate 2 (I-2) are the only roadways within a seven mile radius that provide continuous east-west connectivity from I-69 to FM 88. As a result, the area has poor circulation and traffic movement.

C. Purpose

The purpose of the project is to improve mobility on Nolana Loop between FM 1426 and FM 88 to accommodate current and future traffic volumes.

IV. Alternatives

The development of alternatives began with the primary objective of improving the existing Nolana Loop by providing a continuous corridor, additional travel lanes, a turn lane, and sidewalks within a 120-foot-wide ROW. The information used to develop and evaluate the different alternatives was obtained from aerial photography, elevation models, USGS topographic maps, field visits, internal design team meetings, discussions with the county, cities, and elected officials, stakeholder meetings, public meetings, and Meetings with Affected Property Owners (MAPO). Constraints driving the development of the alternatives were the impacts to vegetation and displacements. Economic considerations included: potential costs and benefits of implementing the alternative, length of roadway, and the feasibility of successfully mitigating the effects of the alternative. Other sources consulted included: the National Wetlands Inventory (NWI) and United States Fish and Wildlife Service (USFWS) maps, literary review at the Texas Historical Commission (THC), Texas Archeological Research Laboratory (TARL), and the Texas Historical Site Atlas.

A. Build Alternative

Upon receipt of new funding, the project was reviewed and updated under the latest design criteria, past public comments, and appraisal and property boundary description data. The Final Build Alternative would maximize use of the existing ROW, acquire new ROW in a best fit situation, and would meet the purpose and need of the project.

The proposed typical section was revised and updated to the latest TxDOT design standards. Based on comments received at the 2006 public meetings, the proposed median was removed. Interim construction phasing was eliminated in favor of providing a continuous, consistent roadway. Due to development, a minor modification was made to the alignment at the connection point at FM 88. The proposed typical section includes four 12-foot-wide travel lanes, a 16-foot-wide continuous turn lane, two 10-foot-wide shoulders, and a six-foot-wide sidewalk on both sides of the roadway within a 120-foot-wide ROW.

As a result of these changes, the proposed ROW required was reduced to 82.6 acres (277 parcels). This alternative is anticipated to require seven residential relocations, one business relocation, and two irrigation easements. **Figure 8** depicts the Build Alternative.

B. No-Build Alternative

The No-Build Alternative involves taking no major action to improve or change the existing Nolana Loop. The No-Build Alternative was considered and is used for comparison purposes. Under this alternative, there would be no mobility improvements and traffic would continue to use existing routes to access residences, schools, and businesses in the area. There would be no impacts on adjacent commercial or residential properties or agricultural lands since this alternative would not improve mobility on the existing roadway,

relieve congestion on surrounding street network, or require the acquisition of any new ROW.

C. Preliminary Alternatives Considered but Eliminated from Further Considerations

The 2006 build alternative proposed to provide an interim four lane divided section from FM 1426 to 0.1 mile east of Cesar Chavez Road. A two-lane, rural roadway was proposed from 0.1 mile east of Cesar Chavez Road to FM 88. The proposed interim typical section included two 12-foot-wide travel lanes, two 10-foot-wide shoulders, and a five-foot-wide sidewalk on one side of the roadway within a 120-foot-wide ROW.

Upon receipt of additional funding, the ultimate section would be constructed. The ultimate typical section included two 13-foot-wide travel lanes, two 12-foot-wide travel lanes, an eight-foot-wide bike lane on both sides of the roadway, five-foot-wide sidewalks on both sides of the roadway, and a 34-foot-wide grass median within a 120-foot-wide ROW.

The 2006 build alternative required 108.8 acres of new ROW from 294 parcels and required 14 residential relocations and no business relocations. The project was put on hold due to funding constraints. This alternative was eliminated from further consideration due to design and land use changes within the project area.

V. Affected Environment & Environmental Consequences

The technical reports prepared in support of this EA are listed in **Table 3**. The reports are incorporated by reference in this environmental document and are currently available for review at the TxDOT Pharr District or Hidalgo County Precinct #2 office.

Table 3: Environmental Technical Reports

Technical Report	Date of Report
Biological Tier I Site Assessment Form	June 2017
Biological Evaluation Form	June 2017
Water Resources Technical Report	March 2017
Air Quality Technical Report	March 2017
Traffic Noise Analysis	April 2018
Community Impacts Analysis	February 2018
Historical Research Design	October 2016
Historical Research Survey	April 2009
Historical Resources Survey	June 2017
Archeological Survey	September 2007
Archeological Background Study	September 2018
Hazardous Materials Initial Site Assessment	March 2017
Indirect and Cumulative Impacts	June 2018
Environmental Technical Memo	July 2018
Documentation of Public Meeting	March 2017
Documentation of Public Hearing	December 2019
Chapter 26 Evaluation	December 2019

Based on the above technical reports, scope, and thorough analysis, it was determined that the project would have no impact on the following resource categories: Wetlands, Navigable

Waters, Wild & Scenic Rivers, Edwards Aquifer, International Boundary & Water Commission (IBWC), and Coastal Coordination. Resources with the potential to be affected by the project are discussed in the following sections.

A. Right-Of-Way/Displacements

A.1 Existing Right-of-Way

The project would use approximately 63 acres of existing ROW where possible along Earling Road and Mile 11 ½ Road, within the city limits of San Juan and rural Hidalgo County. A 30-foot-wide minimum to 120-foot-wide maximum existing ROW is available along existing roadway sections.

A total of 68.0 acres of existing ROW would be used for the project. The existing ROW is comprised of urban vegetation and agriculture; in which urban land makes up the majority of the existing ROW (62.0 acres or 91.2 percent). The remaining 6.0 acres (8.8 percent) is agricultural land. See **Table 4** for a breakdown of existing ROW components.

Table 4: Existing ROW Components

Component	Acres	Percent
Urban	62.0	91.2
Agricultural	6.0	8.8
Scrub Shrub	0.0	0.0
Total	68.0	100

A.2 Proposed Right-of-Way

The project would require the conversion of approximately 82.6 acres of land to transportation use. The proposed project would require seven residential relocations and one business relocation. The proposed ROW consists of approximately 34.9 acres (42.3 percent) of urban vegetation, 47.0 acres (56.9 percent) of agriculture, and 0.7 acre (0.8 percent) of scrub shrub vegetation. See **Table 5** for a breakdown of proposed ROW components.

Table 5: Proposed ROW Components

Component	Acres	Percent
Urban	34.9	42.3
Agriculture	47.0	56.9
Scrub Shrub	0.7	0.8
Total	82.6	100

Two permanent irrigation easements would be required as a result of the project, as discussed in **Section II.B Proposed Facility** (page 3). Easement 1 would require approximately 1.4 acres of mainly farmland and urban land. Easement 2 would require approximately 1.3 acres of mainly farmland and urban land. See **Appendix C** for the schematic.

The acquisition of proposed ROW and any relocations will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended. Relocation resources are available to all residential and business persons being relocated without discrimination.

A.3 Displacements

It is anticipated that a total of seven residential relocations and one business relocation would be required as a result of the project. See **Figure 9** for the relocations map. The acquisition of proposed ROW and any relocations will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended. Relocation resources are available to all residential and business persons being relocated without discrimination. Relocations would be accomplished either by providing compensation for moving residences or businesses back from the proposed ROW on the currently occupied properties (where possible), or by providing assistance to locate and acquire available housing elsewhere. Replacement structures would be located in the same type of neighborhood and be equally accessible to public services and places of employment. In addition, consideration would be taken during the relocation process for extended families living together or in close proximity to one another. No adverse impacts are anticipated due to the displacements resulting from the proposed project.

B. Land Use

The project is located partially within the city limits of San Juan, the Extra Territorial Jurisdiction (ETJ) of Alamo, Donna, and Weslaco. Land use in the area is mainly agricultural with a mixture of residential and commercial land. See **Figure 10** for the land use map. Major north-south roadways (FM 1426, Cesar Chavez Road, FM 907, Tower Road, FM 1423, FM 493, Mile 6 West and FM 88) and much of the area west of FM 1423 exhibit existing residential and commercial development. Coordination with the Natural Resource Conservation Service (NRCS) determined that the project location is considered “land committed to urban development” due to its location within an area of land with a density of 30 structures per 40-acre area (**Appendix D**). Induced growth impacts are addressed on page 22 of this document and in the *Indirect and Cumulative Impacts Analysis Technical Report*.

C. Farmlands

The project would convert a total of 47.0 acres of farmland subject to the Farmland Protection Policy Act (FPPA), to a nonagricultural, transportation use; however, the combined scores of the relative value of the farmland and the site assessment completed by TxDOT do not warrant further consideration for protection and no additional sites need to be evaluated. Coordination with the NRCS was initiated on March 22, 2017 (**Appendix D**). NRCS concluded that the project location is “land committed to urban development” due to its location within an area of land with a density of 30 structures per 40-acre area.

D. Utilities/Emergency Services

Underground or overhead utilities would require adjustment or relocation. The location of utilities would be determined at the detailed design phase and coordination with utility owners would take place at that time. All utility adjustments would be in accordance with TxDOT, City, and County design policy guidelines. The adjustment and relocation of any utilities would be handled so that no substantial interruptions would take place while these adjustments are being made. Emergency services within the project area include fire, ambulance, and police (city and county). With improved mobility and less congestion in the project area, emergency response times are anticipated to be improved.

The no-build alternative would not require any utility adjustments and there would be no access changes that could affect emergency services; however, increasing congestion could increase emergency response times.

E. Bicycle & Pedestrian Facilities

With stronger emphasis for multimodal transportation facilities, the City of San Juan, Hidalgo County, and TxDOT are committed to proactively plan, design, and construct facilities to safely accommodate bicyclists and pedestrians. TxDOT would take into consideration existing and anticipated bicycle and pedestrian facility systems and needs as stated in the March 23, 2011 TxDOT Memorandum and the March 11, 2010 U.S. Department of Transportation (USDOT) Policy Statement on Bicycle and Pedestrian Accommodations, Regulations and Recommendations.

A six-foot-wide sidewalk would be included on both sides of the roadway throughout the length of the project. The project would include two 10-foot-wide shoulders for bicycles throughout the project limits.

F. Community Impacts

The *Community Impacts Analysis Technical Report* was completed and identified the demographics of the project area, as well as the potential effects of the proposed project on economic conditions, community resources, and environmental justice populations, as summarized below.

The proposed project is located within five Census Tracts (CT) and six Block Groups (BG): CT 18.06, BG 1, CT 219.01, BGs 3 and 4, CT 221.04, BG 1, CT 222.01, BG 1, CT 224.02, BG 2. Of the six BGs located within the project limits, all contained minority populations that exceeded 50 percent of the BG population. At the block level, all blocks consisted of minority populations that approached or exceeded 50 percent along the project area. There are no concentrations of children or elderly in the area; therefore, no impacts to these vulnerable populations are anticipated.

With respect to income characteristics, none of the CTs and two of the BGs (BG 4 of CT 219.01 and BG1 of CT221.01) were below the Department of Health and Human Services (DHHS) 2017 Poverty Guideline of \$24,600.

F.1 Environmental Justice

Based on the analysis, the project area contains minority and low-income populations. A review of the census data at the CT, BG, and block level revealed that the project is in an area that consists predominantly of a Hispanic population. The community in the area is considered to be an environmental justice population based on race. The median income in two BGs (BG 4 of CT 219.01 and BG1 of CT221.01) in the project area falls below the poverty guidelines; therefore, the area contains low-income populations.

It is anticipated that a total of seven residential relocations and one business relocation would be required (**Figure 9**). The residential relocations are not part of a subdivision or neighborhood, and are stand-alone residences surrounded by farmland. The ROW acquisition process would be conducted according to Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Relocations would be accomplished either by providing compensation for moving residences or businesses back from the proposed ROW on the currently occupied properties (where possible), or by providing assistance to locate and acquire available housing elsewhere. Replacement structures would be located in the same type of neighborhood and be equally accessible to public services and places of employment. In addition, consideration would be taken during the relocation process for extended families living together or in close proximity to one another.

Positive impacts to the community as a result of the project include: improved access to residences, businesses, and public facilities through the addition of a turning lane, and reduced congestion along the roadway as a result of the additional travel lanes. These improvements are considered beneficial to the entire population, including environmental justice populations, in the study area. An alternatives analysis and public involvement, including individual MAPOs and public meetings, occurred to discuss the proposed project and receive feedback from the community.

No disproportionately high or adverse effects to minority or low income populations in the area are anticipated as per Executive Order (EO) 12898.

F.2 Limited English Proficiency

EO 13166 on Limited English Proficiency (LEP) ensures agencies provide federally conducted programs and activities which are meaningfully accessible to LEP individuals. Data for "Ability to Speak English" for the population five years and over indicates 9.2 to 35.5 percent of the population within the BGs in the study area speaks English "Not Well" or "Not at All." Visual surveys indicated the presence of some signage in both English and Spanish. Furthermore, TxDOT ensures that opportunities for community input in the NEPA process would be provided.

A total of three public meetings were held on August 23 & 24, 2006, and on January 10, 2017. A public hearing was held on November 20, 2019. The meetings and hearing were advertised in English and Spanish in local newspapers and bilingual notices were sent to

property owners. Translation services were available at the public meetings/hearing and the services were used. LEP accommodations will continue to be provided throughout the environmental and public involvement processes.

F.3 Community Cohesion

No isolation or division of neighborhoods, individual residences, businesses or other substantial alterations would occur due to the project. The project would improve travel times with additional travel lanes and community access via the addition of sidewalks and shoulders. The project would be an expansion and extension of an existing roadway. The portion of new location roadway mainly traverses farmland; therefore, no change in travel patterns would occur as a result of the project.

F.4 Public Facilities and Services

The project area consists of residences, commercial businesses, and agricultural land. Facilities in the study area include one school, one church, and Hidalgo County Precinct #2 Multi-Purpose Center.

F.5 Access

Access to driveways, businesses, schools and other facilities would remain intact. No medians would be included and access to cross streets would not be altered. TxDOT procedures require that access to properties be maintained through at least one access point to the nearest roadway. During the ROW acquisition process, the acquiring agency would follow the guidelines of the TxDOT ROW acquisition process to determine if additional measures are required to provide additional access points, livestock access, or other specific concerns.

G. Visual/Aesthetics Impacts

Aesthetics is defined as “dealing with the visual integration of highways and other transportation modes into the fabric of a landscape in a way that blends with or complements that setting” (*TxDOT Landscape & Aesthetics Design Manual*, 2015). The existing visual landscape of the project area includes agricultural land, residences and commercial properties. The project would widen, reconstruct and extend the existing roadway; no changes in viewshed would occur as a result of the project. The project would not result in a noticeable change in the physical characteristics of the existing environment. A mix of introduced grasses and forbs would be used to reseed the ROW outside of paved areas according to TxDOT standards and disturbed areas would be restored and reseeded where appropriate. As with all construction projects, the aesthetics of the project area would be temporarily reduced during the construction phase of the project; however, the aesthetic and visual qualities of this area would be restored or improved post-construction.

H. Cultural Resources

Cultural resources are structures, buildings, archeological sites, districts (a collection of related structures, buildings, and/or archeological sites), cemeteries, and objects. Both federal and state laws require consideration of cultural resources during project planning.

At a federal level, NEPA and the National Historic Preservation Act (NHPA) of 1966, among others, apply to transportation projects such as this one. In addition, state laws such as the Antiquities Code of Texas apply to these projects. Compliance with these laws often requires consultation with the THC/Texas State Historic Preservation Officer (SHPO) and/or federally-recognized tribes to determine the project's effects on cultural resources. Review and coordination of this project followed approved procedures for compliance with federal and state laws.

H.1 Archeology

A field investigation was conducted in 2004 under Texas Antiquities Code permit number 3525 throughout the project limits. No artifacts, archeological deposits, or settings with reasonable potential to contain intact archeological deposits, or new archeological sites were identified during the survey. The investigation determined that the potential for buried archeological materials at this location is low due to extensive disturbance within the project limits. Based on the results of the survey, no additional archeological investigations within the proposed Area of Potential Effects (APE) are warranted.

TxDOT archeologists completed their review of this project in 2007 and determined that the project would have no effect on archeological sites or cemeteries that would require further consideration under cultural resources laws. As per the terms of the Programmatic Agreement (PA) with federally recognized Native American tribes with a demonstrated historic interest in the area, Section 106 consultation was initiated on September 26, 2007. Due to the amount of time since initial coordination, re-coordination was completed in September and October 2018.

An archeological background study was completed in September 2018 to review a minor alignment change from the 2007 clearance at the eastern terminus of the project. The project was reviewed and determined that the project would have no effect on archeological sites or cemeteries.

No public controversy exists regarding the project's potential impacts on archeological sites or cemeteries. In the event that unanticipated archeological deposits are encountered during construction, work in the immediate area would cease, and TxDOT archeological staff would be contacted to initiate post-review discovery procedures under the provisions of the First Amended Programmatic Agreement, regarding the Implementation of Transportation Undertakings (PA-TU) and Memorandum of Understanding (MOU).

H.2 Historic Properties

Historical surveys were originally completed in 2007 and 2009. An updated survey was completed in 2017.

It has been determined through consultation with the SHPO that the APE for the project is 150 feet beyond the existing and proposed ROW boundaries along the existing Nolana Loop and 300 feet beyond the proposed ROW in areas of new roadway construction.

A review of the National Register of Historic Places (NRHP), the list of State Archeological Landmarks (SAL), and the list of Recorded Texas Historic Landmarks (RTHL) indicated that three historically significant resources have been previously documented within the APE: the Louisiana-Rio Grande Canal Company Irrigation System, the Hidalgo County Irrigation District (HCID) #2, and the Hidalgo and Cameron Counties Irrigation District (H&CCID) # 9.

The Louisiana-Rio Grande Canal Company Irrigation System is an NRHP-listed District; within the district is the NRHP-listed HCID #2. Direct effects on the HCID#2 include the removal of standpipes and irrigation lines and the introduction of new standpipes, pipelines, and a siphon at the Alamo Main. The relocation of individual components and introduction of new elements would not hinder or impact the form and function of the irrigation resource. THC concurred on a No Adverse Effect determination on November 1, 2010. Coordination with the Hidalgo County Historical Commission (CHC) was completed on May 11, 2017; no comments were received (**Appendix D**).

An intensive survey was performed in 2009 on H&CCID #9 and it was found to be ineligible by THC in 2010. Pursuant to Stipulation VI, "Undertakings with Potential to Cause Effects" of the PA-TU between the FHWA, the Texas SHPO, the Advisory Council on Historic Preservation, and TxDOT and the MOU, TxDOT historians determined that impacts to the HCID#2 would be a *de minimis*.

I. Department of Transportation (DOT) Act, Section 4(f), Land and Water Conservation Fund (LWCF) Act Section 6(f), and Parks and Wildlife Code (PWC) Chapter 26

The project is adjacent to the Hidalgo County Precinct #2 Multi-Purpose Center. No ROW would be required from the center; therefore, the property is not subject to Section 4(f) or Chapter 26.

The project would affect the NRHP-listed HCID#2; a historic resource. Impacts to HCID#2 would include: removing and replacing standpipes, removing irrigation lines, introducing new pipelines, and a new siphon at the Alamo Drain; therefore, the property is subject to Section 4(f) and Chapter 26.

I.1. DOT Act Section 4(f)

Section 4(f) of the 1966 U.S. DOT Act is codified in 23 USC 138 and 49 USC 303. The act requires special consideration to preserve the natural beauty of the countryside and public park and recreation lands, wildlife, and waterfowl refuges, and historic sites. Since the project would impact a historic resource, HCID#2, Section 4(f) would apply. The county concurred that the proposed project would not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection. A Section 4(f) *de minimis* determination was approved by TxDOT in July 2017 (**Appendix E**).

I.2 LWCF Section 6(f)

Construction of the proposed project would not affect publicly owned parkland, recreational areas, or wildlife or waterfowl management areas. No land acquired through the LWCF would be impacted; therefore, Section 6(f) does not apply.

I.3 PWC Chapter 26

The project would “use” a historic resource (HCID #2); therefore, PWC Chapter 26 applies. A public hearing was held on November 20, 2019 in accordance with Chapter 26 criteria (3 PWC 26.001-26.004) to receive public input. No comments were received regarding the irrigation district. The relocation of individual components and introduction of new elements would not hinder or impact the form and function of the irrigation resource. It was determined that there is no feasible and prudent alternative to the use or take of the Chapter 26 property, and that the project includes all reasonable planning to minimize harm to the Chapter 26 property. A *Chapter 26 Compliance Checklist* is on file.

J. Water Resources

A *Water Resources Technical Report* was prepared and analyzed potential impacts to waters of the United States (U.S.), wetlands, water quality, and floodplains. The technical report was approved with the stipulation that the EA would reflect the latest information/language upon receipt of the U.S. Army Corps of Engineers (USACE) determination.

J.1 Clean Water Act (CWA) Section 404

The project crosses a total of nine drainage ditches and five irrigation canals See **Figure 11** for aquatic resources map. The five irrigation canals are man-made, elevated and concrete lined. These canals are owned and maintained by HCID#2, Donna Irrigation District (DID) or H&CCID#9. They do not maintain a feature flow route. They are not relocated tributaries or excavated in tributaries, nor do they drain wetlands; therefore, the irrigation canals do not meet the definition of a water of the U.S. as per 40 CFR 230.3 (2iii A-C).

The nine drainage ditches are owned and routinely maintained by the Hidalgo County Drainage District (HCDD) #1 and Hidalgo & Cameron County Drainage District (H&CCDD) #1. Coordination with the USACE was initiated on February 24, 2017 to obtain an Approved Jurisdictional Determination (AJD). The AJD (**Appendix D**) received on March 26, 2018 determined that no waters of the U.S. are present within the project area; therefore, no Section 404 permits are required and compliance with Section 14 of the Rivers and Harbors Act (commonly referred to as Section 408) is not required. This section from the technical report was updated due to receipt of the USACE AJD.

J.2 CWA Section 401

The project would not require a federal license or permit for discharges under Section 404 of the CWA, Section 10 of the Rivers and Harbors Act, or under the General Bridge Act/Section 9 of the Rivers and Harbors Act; therefore, Section 401 of the CWA does not apply.

J.3 EO 11990: Wetlands

EO 11990 prohibits new construction in wetlands unless there is no practicable alternative to such construction, and the project includes all practicable measures to minimize harm to wetlands. A wetland delineation was completed July 28, 2017 and determined that no wetlands are present in the project area.

J.4 Rivers and Harbors Act

This project does not involve work in or over a navigable water of the U.S., nor would it require a USACE permit; therefore, Sections 9 and 10 of the Rivers and Harbors Act does not apply.

J.5 CWA Section 303(d)

The Texas Commission on Environmental Quality (TCEQ) MOU coordination triggers were analyzed for this project and it was determined coordination with TCEQ is not required since the project is not located within five linear miles of an impaired assessment unit and not within the corresponding watershed. The 2014 TCEQ 303(d) list was used in the assessment. TxDOT would use several pollution prevention procedures, including TxDOT's Water Quality Best Management Practices (BMP) to ensure minimal impacts to water resources.

J.6 CWA Section 402

The project would comply with the TCEQ Texas Pollutant Discharge Elimination System (TPDES).

Since TPDES Construction General Permit (CGP) authorization and compliance (and the associated documentation) occur outside of the environmental clearance process, compliance is ensured by the policies and procedures that govern the design and construction phases of the project. The Project Development Process Manual and the Plans, Specifications, and Estimates (PS&E) Preparation Manual require a Storm Water Pollution Prevention Plan (SW3P) be included in the plans of all projects that disturb one or more acres. The Construction Contract Administration Manual requires that the appropriate CGP authorization documents (notice of intent or site notice) be completed, posted, and submitted, when required by the CGP, to TCEQ and the Municipal Separate Storm Sewer System (MS4) operator. It also requires that projects be inspected to ensure compliance with the CGP.

The PS&E Preparation Manual requires that all projects include Standard Specification Item 506 (Temporary Erosion, Sedimentation, and Environmental Controls), and the "Required Specification Checklists," require Special Provision 506-003 on all projects that need authorization under the CGP. These documents require the project contractor to comply with the CGP and SW3P, and to complete the appropriate authorization documents. This section was updated from the technical report based on new required language provided by TxDOT.

J.7 Floodplains

Approximately 8.3 acres of the project ROW is located within a 100 year floodplain (**Figure 12**). This project is subject to and will comply with the federal EO 11988 on Floodplain Management. The department implements this EO on a programmatic basis through its Hydraulic Design Manual. Design of this project will be conducted in accordance with the department's Hydraulic Design Manual. Adherence to the TxDOT Hydraulic Design Manual ensures that this project will not result in a "significant encroachment" as defined by the Federal Highway Administration's (FHWA) rules implementing EO 11988 at 23 CFR 650.105(q). The floodplain administrator was notified of the project on September 30, 2016. No comments were received. This section was updated from the technical report based on new required language provided by TxDOT.

J.8 Wild and Scenic Rivers

This project is not located within the designated segment of the Rio Grande that would harm the river's free flowing condition, water quality or outstanding resource values; therefore, the Wild and Scenic Rivers Act does not apply.

J.9 Coastal Barrier Resources Act (CBRA)

The project is not located within a designated CBRA map unit; therefore, coordination with the National Marine Fisheries Service (NMFS) is not required.

J.10 Coastal Zone Management

This project is not located within a coastal county; therefore, the coastal management program does not apply.

J.11 Edwards Aquifer

This project is not located within the recharge, transition, or contributing zones of the Edwards Aquifer; therefore, the corresponding regulations do not apply.

J.12 IBWC

This project is not located within the floodplain of the Rio Grande or the Arroyo Colorado; therefore, coordination with IBWC would not be required.

J.13 Drinking Water Systems

Three water wells are located along the project (**Figure 13**). Two are domestic-use wells and one is a monitor well for a landfill. The wells within the construction area would be plugged and storm water management plans (i.e. SW3Ps) and BMPs would be implemented to prevent stormwater runoff from entering groundwater aquifers at wellheads. In accordance with TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges (Item 103, Disposal of Wells), any drinking water well would need to be properly removed and disposed of during construction of the project. This section was updated from the technical report based on new required language provided by TxDOT.

K. Biological Resources

A *Biological Evaluation Form* and *Tier I Site Assessment Form* were prepared, which analyzed potential impacts to vegetation, threatened and endangered species, migratory birds, fish and wildlife. A summary of the findings is below.

K.1 Texas Parks and Wildlife (TPWD) Coordination

Under the TxDOT-TPWD MOU and the BMP PA, TPWD coordination was required since vegetation threshold requirements for agricultural vegetation, as listed in the TPWD Threshold Table Programmatic Agreement, were exceeded and BMPs were not available for all species. Coordination with TPWD was completed August 23, 2017 and no comments were received (**Appendix D**).

K.2 Impacts to Vegetation

As discussed in **Section V, A.2** of this EA (page 7), the proposed ROW consists primarily of agricultural vegetation (47.0 acres), with some urban (34.9 acres) and scrub shrub (0.7 acres). Vegetative diversity in the project area is low due to the presence of residential areas and agricultural land. TPWD vegetation BMPs would be used to the greatest extent possible to minimize impacts to vegetation; therefore, no adverse impacts are anticipated.

K.3 EO 13112 on Invasive Species

This project is subject to and would comply with Federal EO 13112 on Invasive Species. The department implements this EO on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

K.4 Executive Memorandum on Environmentally & Economically Beneficial Landscaping

This project is subject to and would comply with the federal Executive Memorandum on Environmentally and Economically Beneficial Landscaping, effective April 26, 1994. The department implements this Executive Memorandum on a programmatic basis through its Roadside Vegetation Management Manual and Landscape and Aesthetics Design Manual.

Landscaping is not part of the project; if re-vegetation is needed, disturbed areas would be re-vegetated according to TxDOT's standard practices, which to the extent practicable, complies with the Executive Memorandum on Environmentally and Economically Beneficial Landscaping. Direction to contractors is provided on the standard Environmental Permits, Issues, and Commitments (EPIC) sheet.

K.5 Impacts to Wildlife

The project would use existing ROW where available; land in these areas is mainly urbanized. The new location sections are located within land that is continually disturbed by agricultural activities. Three land tracts (two east of FM 907 and one east of Tower Road) of scrub shrub vegetation were identified within the project limits. These tracts are small, isolated, and located between active agricultural fields. Wildlife typical to the project area and observed in the field is limited to those species suited to live near urban, disturbed areas. Species observed during field surveys was mainly avian and included:

grackles (*Quiscalus quiscula*), Eurasian collared doves (*Streptopelia decaocto*), and house sparrows (*Passer domesticus*).

TPWD BMPs would be implemented to minimize potential impacts to species. No adverse impacts to wildlife are anticipated.

K.6 Migratory Bird Protections

This project will comply with applicable provisions of the Migratory Bird Treaty Act (MBTA) and Texas Parks and Wildlife Code Title 5, Subtitle B, Chapter 64, Birds. It is the department's policy to avoid removal and destruction of active bird nests except through federal or state approved options. In addition, it is the department's policy to, where appropriate and practicable:

- Use measures to prevent or discourage birds from building nests on man-made structures within portions of the project area planned for construction, and
- Schedule construction activities outside the typical nesting season.

A site survey did not identify active nests within the project action area. While no impact to migratory birds is expected, TxDOT will take appropriate actions to prevent the take of migratory birds, their active nests, eggs, or young should they be discovered on the project site. Direction to contractors is provided in the standard EPIC sheet. TPWD Bird BMPs and bird exclusion devices would be incorporated to minimize potential impacts to avian species.

K.7 Fish and Wildlife Coordination Act (FWCA)

The FWCA of 1958 requires that federal agencies obtain comments from USFWS and TPWD. This coordination is required whenever a project involves impounding, diverting, or deepening a stream channel or other body of water. The project would have no impact to Waters of the U.S. or wetlands and no Section 404 permit is required; therefore, no review by the USFWS is required.

K.8 Bald and Golden Eagle Protection Act of 2007 (BGEPA)

The project is not within range, nor does it include suitable habitat for Bald or Golden Eagles; therefore, the BGEPA of 2007 does not apply.

K.9 Magnuson-Stevens Fishery Conservation Management Act (MSA)

The project is not located within a coastal county, nor are tidally influenced waters present in the project area. The MSA does not apply and coordination with the National Marine Fisheries Service (NMFS) is not required.

K.10 Marine Mammal Protection Act (MMPA)

Marine Mammals are protected under the MMPA. The Texas coast provides suitable habitat and is within range of several marine mammals including the West Indian Manatee (*Trichechus manatus*) and bottlenose dolphin (*Tursiops truncatus*). The project area does not contain suitable habitat for marine mammals; therefore, the MMPA act does not apply. Coordination with the NMFS is not required.

K.11 Threatened, Endangered and Candidate Species**K.11.1 Federally-Listed Species**

The USFWS Information, Planning, and Consultation (IPaC) identified 10 federally-listed threatened, endangered, or candidate species that may occur within the project area; however, no suitable or critical habitat was observed in the project area for any federally listed species. No effect on federally-listed species is anticipated. Measures to avoid harm to any threatened and endangered species would be taken should they be observed during construction of the project. Coordination with the USFWS would not be required. The USFWS IPaC website was originally accessed on January 23, 2017 as part of the Biological Evaluation and was updated on April 6, 2020; no changes to the IPaC list were identified.

K.11.2 State-Listed Species

Approximately 18 state-listed species may be impacted by the project: Texas Botteri's Sparrow, (*Aimophila botterii texana*), Western Burrowing Owl (*Athene cunicularia hypugaea*), Plains Spotted Skunk (*Spilogale putorius interrupta*), Southern Yellow Bat (*Lasiurus ega*), Black-Striped Snake (*Coniophanes imperialis*), Reticulate Collared Lizard (*Crotaphytus reticulatus*), Spot-Tailed Earless Lizard (*Holbrookia lacerata*), Texas Horned Lizard (*Phrynosoma cornutum*), Texas Indigo Snake (*Drymarchon melanurus erebennus*), Black Spotted Newt (*Notophthalmus meridionalis*), Mexican Tree Frog (*Smilisca baudinii*), Sheep Frog (*Hypopachus variolosus*), South Texas Siren (large form) (*Siren* sp. 1), White-Lipped Frog (*Leptodactylus fragilis*), Mexican Mud-Plantain (*Heteranthera mexicana*), Los Olmos Tiger Beetle (*Cicindela nevadica olmosa*), Neojuvenile Tiger Beetle (*Cicindela obsoleta neojuvenile*), Subtropical Blue-Black Tiger Beetle (*Cicindela nigrocoerulea subtropica*).

TxDOT-TPWD BMPs would be used to minimize and avoid impacts to state-listed species. BMPs would include: Bird BMPs, Bat BMPs, Terrestrial Reptile BMPs, Amphibian BMPs, Plains Spotted Skunk BMPs, Texas Horned Lizard BMPs, Sheep Frog BMPs, South Texas Siren BMPs, and Water Quality BMPs. Contractors will be advised of potential occurrence of species in the project area, and to avoid harming the species if encountered. For more information on these species and their habitat, see the *Biological Evaluation Form and Tier I Form* available at the TxDOT Pharr District Office or Hidalgo County Precinct #2 Office.

L. Air Quality**L.1 Conformity**

This project is located in Hidalgo County which is in an area in attainment or unclassifiable for all National Ambient Air Quality Standards (NAAQS); therefore, the transportation conformity rules do not apply. See the *Air Quality Technical Report* for more details.

The No-Build Alternative would provide no improvements to the existing roadway; therefore, there is a potential for traffic volumes and congestion to increase over time. Vehicle and fuel regulations, coupled with fleet turnover, are expected to cause region-wide air quality improvements.

L.2 Carbon Monoxide Traffic Air Quality Analysis (TAQA)

Traffic data for the design year 2038 is 11,100 vpd. A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that a carbon monoxide standard would ever be exceeded as a result of any project with an average annual daily traffic (AADT) below 140,000 vpd. The AADT projections for the project do not exceed 140,000 vpd; therefore, a TAQA is not required.

L.3 Congestion Management Process

This project is located in an area that is in attainment or unclassifiable for all NAAQS; therefore, a Congestion Management Process (CMP) analysis is not required.

L.4 Mobile Source Air Toxics (MSAT)

A qualitative MSAT analysis was provided for this project in the *Air Quality Technical Report*. Under each alternative there may be localized areas where vehicle miles traveled (VMT) would increase, and other areas where VMT would decrease; therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emission would likely be most pronounced along the new roadway sections that would be built between Goolie Road and Mile 11½ Road and Victoria Road and FM 88. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations. In sum, under all Build Alternatives in the design year it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No Build Alternative, due to the reduced VMT associated with more direct routing, and due to EPA's MSAT reduction programs.

M. Hazardous Materials

A Hazardous Materials Initial Site Assessment (ISA) for the project has been completed and filed with TxDOT. The site assessment was conducted for the project to identify sites within the project area that may have experienced soil and/or groundwater contamination by hazardous materials. The assessment consisted of a regulatory/governmental agency database records review and an onsite investigation. The proposed project includes the demolition of seven residences, one business, and an existing bridge structure. The buildings may contain asbestos containing materials (ACM). Asbestos inspections, specifications, notification, license, accreditation, abatement and disposal, as applicable, would comply with federal and state regulations. Asbestos issues would be addressed during the ROW acquisition process, prior to construction. Demolition and reconstruction of the existing bridge, located 0.25 miles west of Cesar Chavez Road, would include asbestos and/or lead-based paint testing prior to demolition.

An active sanitary landfill, Rio Grande Valley Landfill, is located 1,584 feet east of FM 493 and 52.8 feet north of the proposed roadway. ROW would be required from the property where the landfill is located; however, the ROW being acquired is outside the perimeter fence and would not impact the active landfill.

It was determined that no adverse impacts related to hazardous materials are anticipated as a result of the project.

Hazardous materials that require special handling would be managed, including onsite treatment, removal, or combination thereof, on an as needed basis only by appropriately licensed and certified abatement contractors having documentation of successfully completing prior similar abatement work and receiving regulatory acceptance. No dewatering is anticipated; however, additional investigation may be undertaken if dewatering is required during construction.

In addition, updated ISAs will be obtained during final design if additional ROW is required or any additional excavation is anticipated on or adjacent to any properties identified with potential hazardous material contamination. Any unanticipated hazardous materials encountered during construction will be handled according to applicable federal and state regulations per TxDOT Standard Specifications.

N. Traffic Noise

A *Noise Analysis Technical Report* was prepared in accordance with TxDOT's (FHWA approved) *Guidelines for Analysis and Abatement of Roadway Traffic Noise* (2011). Existing and predicted traffic noise levels were modeled at receiver locations that represent land use activity area adjacent to the project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement. A total of 63 representative receivers (**Figure 14**) were analyzed; predicted noise levels ranged from 51 dBA (A-weighted decibels) to 69 dBA. Based on the analysis of the 63 representative receivers, 21 of those receivers approached, equaled or exceeded the FHWA Noise Abatement Criteria or substantially exceeded (10 dBA or more) the existing noise level; therefore, the project would cause traffic noise impacts.

Noise barriers were analyzed for each of the impacted receiver locations. A barrier 12 feet in height and 1,303 feet in length at Hopi Estates was determined reasonable and feasible (**Figure 14, Sheet 15**). The barrier would reduce noise levels by at least 7 dBA at one receiver and by at least 5 dBA for greater than 50 percent of the adjacent receivers. Of the total 16 residences, 15 would be benefited. The total cost of the barrier is \$281,448, or \$18,763 per benefitted receiver. The barrier would not exceed \$25,000 per benefitted receiver; therefore, the barrier is feasible and reasonable. A noise workshop will be held to present the noise wall and obtain comments from the public. Any subsequent design changes may require a reevaluation of this preliminary noise barrier proposal. The final decision to construct the proposed noise barrier would not be made until completion of the project design, utility evaluation, and polling of adjacent property owners.

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs should ensure, the maximum extent possible, no new activities are planned or constructed along or within the predicted (2038) noise impact contours, 55 feet from the ROW for residential properties and five feet for other developed properties. Local officials will be notified within

30 days of environmental clearance that a noise analysis was completed, an increase in noise would occur as a result of the project, and a copy of the traffic noise analysis will be made available. On the date of approval of this document (Date of Public Knowledge), TxDOT is no longer responsible for providing noise abatement for new development adjacent to the project.

VI. Indirect and Cumulative Impacts

During the environmental scoping process, it was determined, utilizing the Scope Development Tool and Induced Growth Indirect Impacts Decision Tree, that an indirect impact analysis is necessary for the Nolana Loop project. The *TxDOT Guidance on Indirect Impacts Analysis* (July 2016) was used in the assessment. An Indirect and Cumulative Impacts Technical Report was completed in April 2018.

A. Indirect Impacts

Indirect effects are “caused by the action and are later in time and farther removed in distance, but are still reasonably foreseeable; indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate and related effects on air and water and other natural systems, including ecosystems” (40 CFR 1508.8). Probability also helps distinguish indirect effects from direct effects; direct effects are often inevitable, while indirect effects are merely probable.

A.1 Induced Growth Impacts Analysis Summary

Historical aeriels indicate that growth within the project area has been increasing since the 1960's, with farmland being converted to residential and commercial use. Trends in the area have shown the general directionality of growth spreading north from I-2. Increasing populations contribute to the growth of the area. According to the United States Census Bureau (USCB), the population of Hidalgo County has increased approximately 73 percent from 2000 to 2010. Populations in all six of the cities within the project area have increased between 2000 and 2010: San Juan has increased 28 percent, Edinburg has increased 58 percent, Alamo has increased 22 percent, Donna has increased three percent, Weslaco has increased 25 percent, and Elsa has increased 0.5 percent. Population projections from the Texas Demographic Center (TDC) anticipate a 77 percent increase in population in Hidalgo County and the McAllen-Edinburg-Mission Statistical Area between 2010 and 2020. Current growth trends are likely to continue regardless of the implementation of the project. Coordination with NRCS determined that the project location is considered “land committed to urban development” due to its location within an area of land with a density of 30 structures per 40-acre area

Roadways in the project area listed in the MTP for improvement include: SH 107 (from US 281 to FM 493), FM 1426 (from I-2 to Nolana Loop), Cesar Chavez Road (from Ridge Road to Nolana Loop), FM 907 (Alamo Road) (from I-2 [US 83] to SH 107), Mile 6 West Road (from Mile 9 North to SH 107), East Eldora Road (from FM 907 to I Road), Sioux Road (from Cesar Chavez Road to I Road), FM 493 North (from Mile 10 to SH 107), and

Mile 10 North (from Mile 6 West to FM 1015). SH 68 (from I-2 to I-69C) is a new, north-south roadway planned to be constructed; however, an alignment location has not yet been finalized. The City of Edinburg Parks and Recreation Plan cites two areas within the project area as proximities for future community parks:

- Trenton and FM 907, and
- Schunior and FM 907

In a telephone interview with the Hidalgo County's Planning Division (March 7, 2018), any proposed development along the Nolana Loop project must accommodate for the proposed roadway. The only current planned development within the AOI is a new residential subdivision, Las Toronjas, located at FM 493 and Mile 13 ½ Road. Development is occurring within the AOI and evidence suggests that development would continue with or without the project.

Construction of the project would increase mobility and connectivity in the project area, which may serve to facilitate potential development. Existing city planning and zoning regulations would regulate potential growth within the city limits and their corresponding Extra Territorial Jurisdiction (ETJ) zones. It is logically assumed if potential development would occur, it would originate in the immediate area of the project, then spread in all directions, with the likelihood of the development being reduced farther from the project. The existing city limits and ETJ zones would control the spread of development. Areas outside the city limits and corresponding ETJ zones, have developable areas available; however, development in these areas as a result of the project is unlikely since they are isolated and constrained by the existing ETJ zones. Induced growth as a result of the project is not anticipated.

The project would not directly result in induced growth. Construction of continuous east-west corridor would increase mobility and circulation in the project area, which would only serve to complement and facilitate potential development within the city limits and ETJ zones. Because of the location, projected growth, traffic data, and nature of the project, induced growth was not considered potentially substantial and does not require further analysis.

A.2 Encroachment Alteration Impacts Analysis Process

A.2.1 Ecological

The ROW required for the project would include: 47.0 acres of agricultural land, 0.7 acres of scrub shrub, and 34.9 acres of urban vegetation. Available habitat for 18 state threatened or endangered species is available along the existing roadways and within the agricultural sections of new location. The project would bisect some areas of farmland, which is considered potential habitat for certain state listed species. Potential habitat fragmentation and degradation may occur. Given the large amounts of farmland in the surrounding area and the level of disturbance currently occurring through active farming,

the ecosystem is anticipated to be both resistant and resilient to encroachment alteration impacts.

Approximately 8.3 acres of floodplains would be impacted as a result of the project. The hydraulic design for the project would be in accordance with the FHWA and TxDOT design standards. The facility would permit the conveyance of the 100-year flood, inundation of the roadway being acceptable without causing significant damage to the facility, stream, or other property. The project would not increase the base flood elevation to a level that would violate applicable ordinance or regulations. Coordination with the floodplain administrator has occurred.

A wetland delineation determined that no wetlands are present within the project area. A total of nine drainage ditches and five irrigation canals would be crossed by the project. The irrigation canals are man-made, elevated, concrete lined structures that as per 40 CFR 230.3 (2ii A-C) do not meet the definition of Water of the U.S. An AJD received from the USACE indicated none of the drainage ditches are jurisdictional. Drainage culverts would be installed at each crossing to ensure uninterrupted use and flow.

Existing ROW would be used where possible. Several years of alternatives analysis and public involvement were conducted to achieve a preferred alternative that minimized, to the greatest extent possible, impacts to the natural environment. Development of the area would continue, regardless of the project; however, the project may accelerate the timing of potential development.

A.2.2 Socioeconomic

The project would provide continuity and improve mobility by providing a continuous east-west corridor. The proposed improvements are anticipated to improve access to work, schools, and public services within the Area of Impact (AOI). The project may encourage changes in travel patterns due to the elimination of the need to use various alternate routes to access Mile 11½ Road and FM 88. Local traffic may choose to use Nolana Loop as opposed to SH 107 or I-2 to travel within the local area.

No impacts to neighborhood cohesion or stability would occur as discussed in the *Community Impacts Technical Report*. In the vicinity of neighborhoods, the project would widen and reconstruct the existing roadway on existing location. The area of new location roadway would occur within agricultural land, where no neighborhoods are located; therefore, no bisections of existing neighborhoods would occur. No restrictions in access or driveways would occur and no medians are proposed as part of the project. Sidewalks and shoulders would be incorporated to improve multi-modal transportation. During the public meeting, attendees indicated a desire to use the proposed roadway as a bicycle route.

It is anticipated seven residential relocations and one business relocation would be required. The residential relocations are spread throughout the 9.8 mile project and are not concentrated within one neighborhood or area. The business relocation is a “drive-thru” convenience store that does not serve a specific population. Comparable services and replacement housing are available in the project area. All relocations will be done in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. Relocations will be accomplished either by providing compensation for moving residences or businesses back from the proposed ROW on the currently occupied properties (where possible), or by providing assistance to locate and acquire available housing elsewhere. Replacement structures would be located in the same type of neighborhood and be equally accessible to public services and places of employment. In addition, consideration would be taken during the relocation process, for extended families living together or in close proximity to one another.

The project is located in an area that contains environmental justice populations (low-income and minority). As discussed in the *Community Impacts Technical Report*, improvements are considered beneficial to the entire population, including environmental justice populations. Alternatives analysis and public involvement have occurred to discuss the proposed project and receive feedback from the community. Based on the analysis, no disproportionately high or adverse effects to minority or low-income populations in the area are anticipated.

Substantial socioeconomic impacts are not anticipated as a result of the proposed project; therefore, further analysis is not required.

B. Cumulative Impacts

The regulations implementing NEPA define cumulative impacts as the impact on the environment that result from “the incremental impact” of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time 40 CFR §1508.8. Cumulative impacts include both direct and indirect impacts.

Based on the TxDOT *Cumulative Impacts Analysis Guidelines (July 2016)*, “a table indicating resources not carried through to the cumulative effects analysis is recommended.” **Table 6** addresses each of the potentially impacted resources and justification for the inclusion/exclusion in the analysis of cumulative impacts.

Table 6: Determination of Resources Included in the Cumulative Impacts Analysis

Resource	Current Trend/ Health of Current Resource	Direct Impacts	Indirect Impacts	Included in Cumulative Impact Analysis	Reason Eliminated from Cumulative Impact Analysis
Air Quality	Hidalgo County is in attainment of all NAAQs	Direct impacts to air quality are not anticipated.	Based on the results of steps 1 through 4 of the indirect cumulative air quality analysis, it was determined that the project would not be anticipated to cause indirect impacts to air quality in the AOI.	No	Impacts were analyzed in the <i>Air Quality Technical Report</i> and determined not to be adverse; resource not at risk.
Community Resources	Stable	Blocks containing low income & minority populations are located within the proposed ROW. Seven residential relocations and one business relocation would be required	Mobility and connectivity for communities would be enhanced by the Build Alternative.	No	Although considered notable and “at-risk,” impacts to environmental justice populations would not be adverse as per the <i>Community Impacts Analysis Technical Report</i> . Relocations are individual residences and businesses that are not part of a neighborhood. Relocation assistance would be provided and impacts are not anticipated to be adverse.
Cultural Resources	Stable	Removal of standpipes and irrigation lines and the introduction of new standpipes, pipelines, and a siphon at the Alamo Main within the NRHP-listed HCID #2. No archaeological sites within the project area.	No adverse indirect impacts anticipated.	No	No adverse impacts anticipated as per the <i>Historic Resources Survey Report</i> and <i>Archaeological Project Coordination Request</i> . Project would not hinder or impact the form and function of the irrigation resource.
Threatened &	Declining due to development and increasing	State threatened and/or endangered species may be	Habitat used by state threatened and/or endangered species may	No	Impacts were analyzed in the <i>Biological Technical Report</i> and determined not to be adverse. BMPs

Resource	Current Trend/ Health of Current Resource	Direct Impacts	Indirect Impacts	Included in Cumulative Impact Analysis	Reason Eliminated from Cumulative Impact Analysis
Endangered Species	human populations	impacted (0.7 acres of scrub shrub & 47.0 acres of agriculture). No impacts to federally-listed species.	be disturbed. No impacts to federally-listed species		will be implemented in accordance with the TPWD MOU.
Vegetation	Declining due to development and increasing populations	82.6 acres of proposed ROW would be converted to transportation use.	Potential habitat may be converted to more urban-type use. Habitat used by state threatened and/or endangered species may be disturbed.	No	Impacts were analyzed in the <i>Biological Technical Report</i> and determined to not be adverse. BMPs would be implemented in accordance with the TPWD MOU.
Water Resources (including wetlands & waters of the U.S.)	Stable	The project would cross nine drainage ditches and five irrigation canals. No wetlands or waters of the U.S. are present.	Water flow in ditches may temporarily be disturbed	No	Impacts were analyzed in the <i>Water Resources Technical Report</i> and determined to not be adverse. TxDOT-TPWD Water Quality BMPs would be used to minimize impacts to water resources.
Floodplains	Declining due to development and increasing populations	Approximately 8.3 acres of the project ROW is located within a 100-year floodplain.	The project would not increase the base flood elevation to a level that would violate applicable ordinances or regulations.	No	Impacts were analyzed in the <i>Water Resources Technical Report</i> and determined not to be adverse. Coordination with Floodplain Administrator has occurred.
Farmland	Declining due to development and increasing populations	Approximately 47.0 acres of farmland would be converted to transportation use.	Surrounding farmland has potential to be developed to residential or commercial use.	No	As per coordination with the NRCS, the land has been determined to be committed to urban development" due to its location within an area of land with a density of 30 structures per 40-acre area.

As described in **Table 6**, and in the indirect effects section, and previous approved technical reports; no substantial impacts are anticipated from the project or other agencies/developers at this time. As a result, a cumulative impacts analysis was not performed.

C. Construction Phase Impacts

C.1 Noise Impacts-Construction

Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving and the movement patterns are unpredictable. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers are expected to be exposed to construction noise for a long duration; therefore, extended disruption of normal activities is not expected. Provisions would be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

C.2 Air Quality Impacts-Construction

During the construction phase of this project, temporary increases in air pollutant emissions may occur from construction activities. The primary construction-related emissions are particulate matter (fugitive dust) from site preparation. These emissions are temporary in nature (only occurring during actual construction); it is not possible to reasonably estimate impacts from these emissions due to limitations of the existing models. However, the potential impacts of particulate matter emissions would be minimized by using fugitive dust control measures such as covering or treating disturbed areas with dust suppression techniques, sprinkling, covering loaded trucks, and other dust abatement controls, as appropriate.

The construction activity phase of this project may generate a temporary increase in MSAT emission from construction activities, equipment and related vehicles. The primary MSAT construction-related emissions are particulate matter from site preparation and diesel particulate matter from diesel powered construction equipment and vehicles. However, considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions to be used, it is not anticipated that emissions from construction of this project would have any significant impact on air quality in the area.

VII. Agency Coordination

Agency and local coordination has occurred throughout the environmental process. All coordination has been summarized in **Table 7** and the letters are included in **Appendix D**.

Table 7: Coordination

Agency	Date	Reason for Coordination	Response Received	Comments
THC	November 1, 2010	Section 4(f) De Minimis	Yes	Concurrence of no effect on historical properties.
CHC	May 11, 2017	Request for historical information in the project area and concurrence with project.	No	No comments received.
NRCS	March 22, 2017	Farmland in the project area	Yes	The project is “land committed to urban development” and exempt
USACE	March 29, 2018	Project crosses several irrigation/drainage ditches	Yes	Approved AJD received. No waters of the U.S. present in the project area.
TPWD	August 23, 2017	Coordination Trigger Met: Potential impacts to state-listed species & vegetation threshold	Yes	Acceptance of BMPs to be implemented; coordination complete.
Floodplain Administrator	September 30, 2016	Approximately 8.3 acres of the project is within the 100- year floodplain	No	No comments received.
Tribal Coordination	September 26, 2007	Section 106 consultation & re-coordination	Yes	Concurrence received.
	September 26, 2018			
	October 25, 2018			
HCID #2	October 21, 2019	Chapter 26 coordination	No	No comments received.

VIII. Public Involvement

Three public meetings were held on August 23, 2006 at Rudy Silva Elementary School, August 24, 2006 at Hidalgo County Community Resource Center and on January 10, 2017 at Donna North High School.

At the 2006 meetings, there was a minimum of 30 people in attendance. A total of 10 people were against the proposed median. A total of 21 comments were received regarding high

speed traffic, noise, higher taxes, and access issues. A total of 18 positive comments were received. As a result of the 2006 meetings, the median was removed from the proposed project.

Advertisements for the 2017 public meeting were published in the *Monitor* in English and in Spanish in *El Periodico* on December 21, 2016. Advertisements were also published on the *Monitor* online. Bilingual notices were mailed to city, county, state elected officials, adjacent business owners, and property owners, along with a location map of the project. Translation services were provided at the meetings. A total of 132 persons were in attendance. A total of 21 comments were received; of which, eight were in support of the project, and the remaining 13 comments were general questions about the project, flooding concerns, and ROW acquisition. A response to comments matrix was provided to the commenters. The *Public Meeting Documentation Packet* is on file with the TxDOT Pharr District and Hidalgo County Precinct #2.

The project includes sections of new location roadway and would affect a Chapter 26 property; therefore, a public hearing was held on November 20, 2019. Advertisements were published in the *Monitor* in English and in Spanish in *El Extra*. Advertisements were also published on the *Monitor* online and TxDOT's website. Bilingual notices were mailed to city, county, state elected officials, adjacent business owners, and property owners. Translation services were provided and used at the hearing. A total of 69 persons were in attendance and two comments were received. One comment asked about limits beyond FM 88 and the other comment requested a call back. A response to comments matrix was provided online. The *Public Hearing Documentation Packet* is on file with the TxDOT Pharr District and Hidalgo County Precinct #2.

A noise barrier is proposed; therefore, a noise workshop will be conducted in accordance with state and federal regulations.

IX. Post-Environmental Clearance Activities and Contractor Communications

A. Post-Environmental Clearance Activities

After issuance of a FONSI, there are unresolved environmental activities that will need to be performed and finalized. These activities are detailed below.

1. The Build Alternative would include five or more acres of earth disturbance. TxDOT would comply with TCEQ's TPDES CGP. An SW3P would be prepared and implemented and a construction site notice would be posted at the construction site.
2. Coordination with the MS4 will be required prior to construction.
3. Relocation of utilities would be determined at the detailed design phase and coordination with utility owners would take place at that time. All utility adjustments would be in accordance with TxDOT, City, and County design policy guidelines and will be handled so that no substantial interruptions would take place while these adjustments are being made.
4. Construction of the project may require temporary lane closures; however, these are expected to be of short duration with no major traffic flow disruptions on the existing

roadways. TxDOT will work with community members to notify them of closures and limited access.

5. ROW acquisition and relocation would be conducted in accordance with the Federal Uniform Relocation and Real Property Acquisition Policy Act of 1970.
6. The project includes the potential demolition of seven residential properties and one business. The structures may contain asbestos containing materials. Asbestos inspections, specifications, notification, license, accreditation, abatement and disposal, as applicable, should comply with the federal and state regulations. Asbestos issues should be addressed during the ROW acquisition process prior to construction.
7. A Traffic noise workshop will occur after the public hearing.
8. Migratory Bird Nest Survey will be conducted prior to construction.
9. Mussel surveys would not be required as habitat is not available.
10. No wetlands or waters of the U.S. are present; therefore, no USACE permits are required.

No additional environmental permitting, surveying, mitigation or unresolved issues would be required after environmental clearance.

B. Contractor Communications

An Environmental Permits, Issues, and Commitments (EPIC) sheet summarizing project-specific avoidance measures or special instructions will be provided to the design or construction contractor. The following contractor communications would be required:

1. If unanticipated archeological deposits are encountered during construction, work in the immediate area will cease and TxDOT archeological staff will be contacted to initiate post-review discovery procedures.
2. TCEQ BMPs must be in place prior to the start of construction.
3. In the event that migratory birds are encountered on-site during project construction, every effort would be made to avoid protected birds, active nests, eggs, and/or young. Contractors would not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit. Bird Exclusion devices may need to be implemented and potentially planned for this project during construction.
4. The project contains potential habitat for the Texas Horned Lizard. Terrestrial Reptile BMPs will be implemented and contractors would be advised of the potential occurrence in the project area, and to avoid harming the species if encountered. This should include avoiding harvester ant mounds in the selection of PSLs, where feasible.
5. The project contains potential habitat for the Texas Botteri's Sparrow and Western Burrowing Owl; therefore Bird BMPs will be implemented.
6. The project contains potential habitat for the Mexican Treefrog, Sheep Frog, White-Lipped Frog, Black Spotted Newt, and Texas Siren; therefore, amphibian BMPs will be implemented.

7. The project contains potential habitat for the plains spotted skunk. Contractors will be advised of the potential occurrence within the project area, and to avoid harming the species if encountered, and to avoid unnecessary impacts to dens.
8. The project contains potential habitat for the Southern Yellow Bat; therefore, bat BMPs will be implemented.
9. The project contains potential habitat for the Black-Striped Snake, Texas indigo Snake, Reticulate Collared Lizard, and Spot-Tailed Earless Lizard; therefore, reptile BMPs will be implemented.
10. The potential impacts of particulate matter emissions will be minimized by using fugitive dust control measures contained in standard specifications, as appropriate. TxDOT encourages construction contractors to use TERP and other local and federal incentive programs to the fullest extent possible to minimize diesel emissions.
11. Every reasonable effort will be made to minimize construction noise through abatement measures such as work hour controls and proper maintenance of equipment mufflers.
12. In accordance with the EO 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping, permanent soil erosion control features would be constructed as soon as feasible during the early stages of construction through proper sodding and/or seeding techniques. Disturbed areas would be restored and stabilized as soon as the construction schedule permits. Therefore, seeding and replanting with TxDOT Pharr District native permanent rural seed mix would be performed.
13. Any unanticipated hazardous material and/or petroleum contamination encountered during construction of the project would be handled according to applicable federal and state regulations per TxDOT Standard Specification.

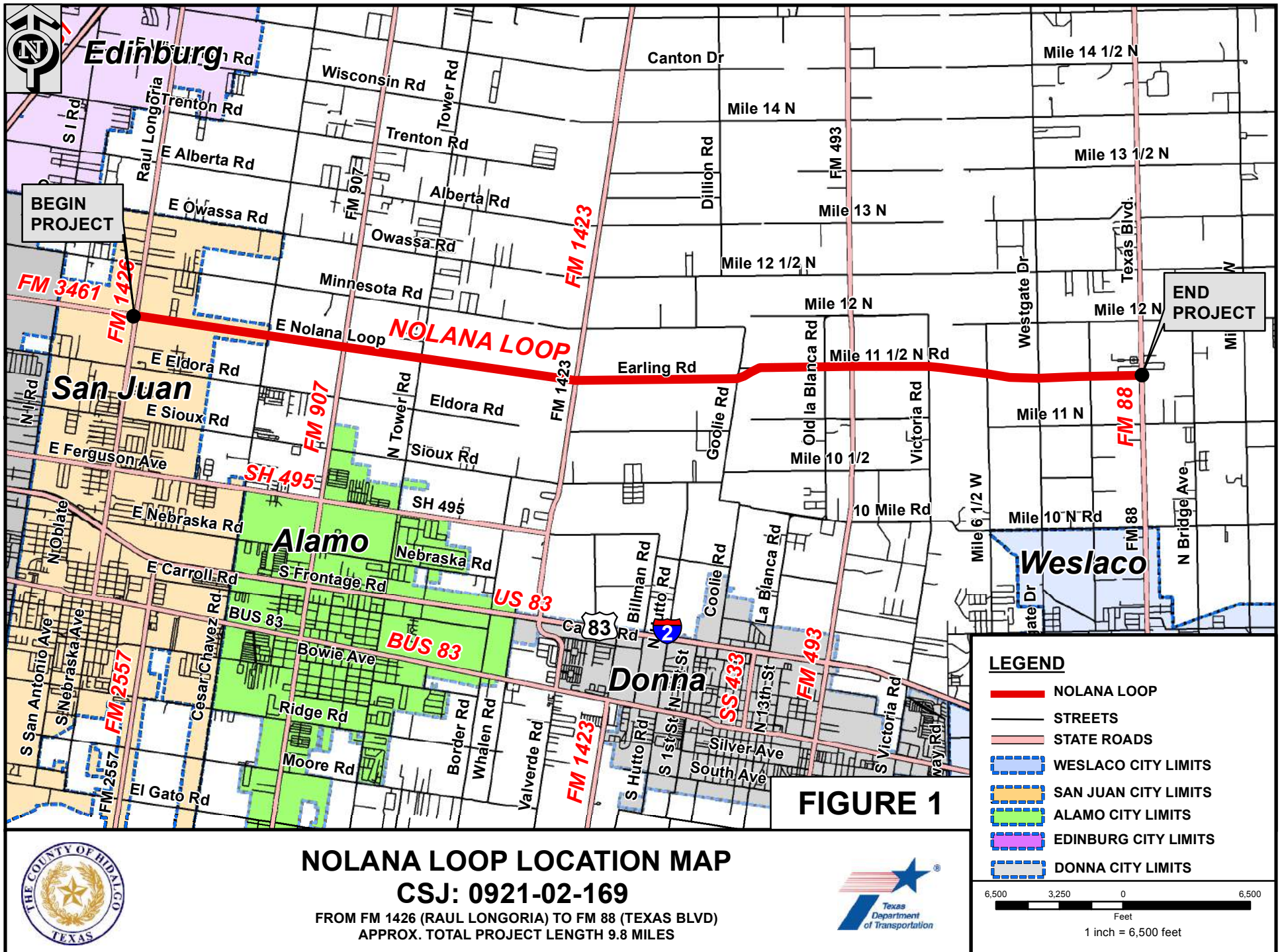
X. Conclusion

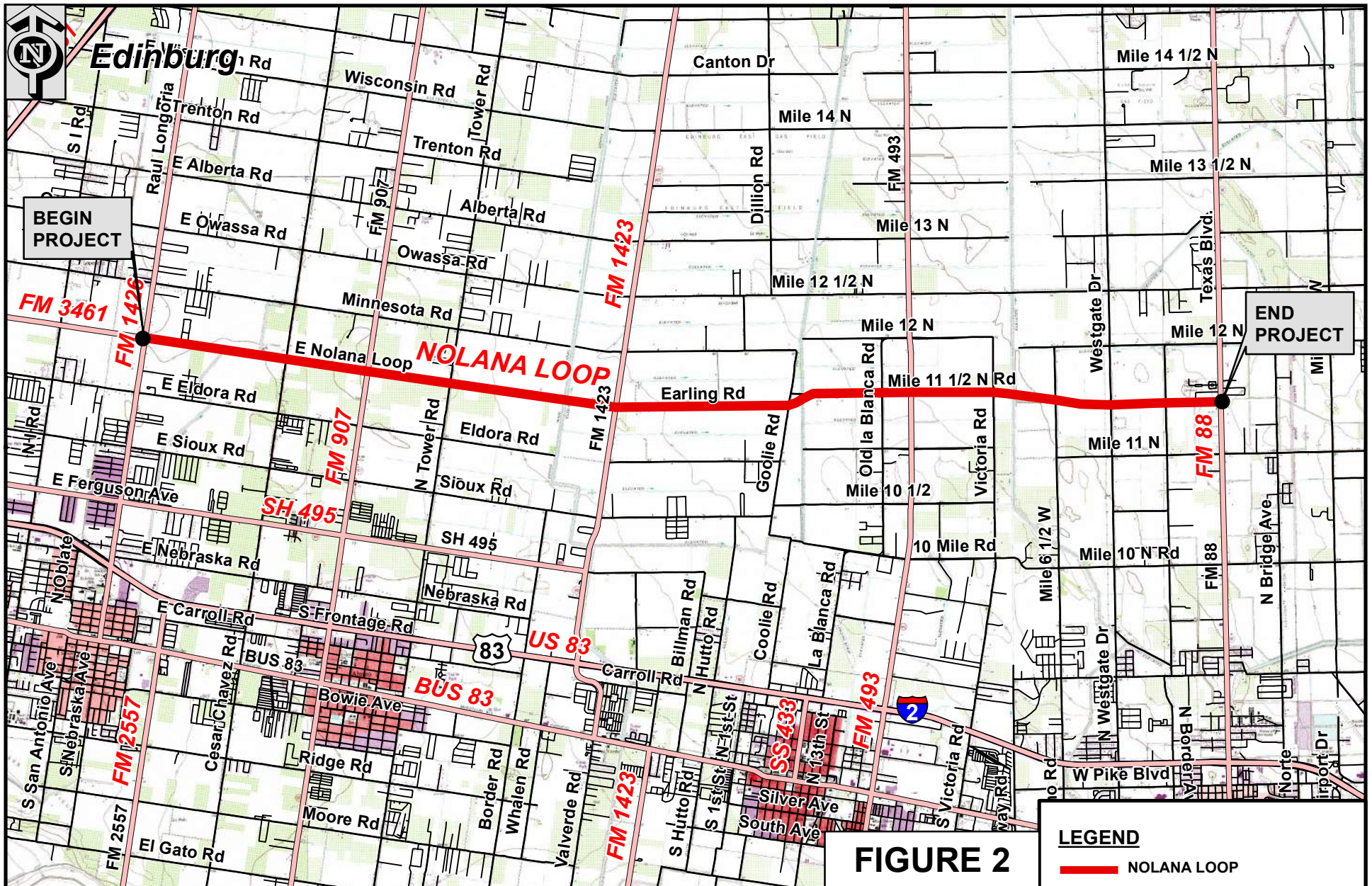
Implementation of the proposed project would not result in a significant impact on the human or natural environment. Therefore, a finding of no significant impact is recommended.

References

1. Ama Terra Environmental, Inc.
 - 2017a. Historical Studies Research Design
 - 2017b. Historic Resources Survey
 - 2018a. Archeological Background Study
2. SWCA Environmental Consultants.
 - 2007/2009. Historic Resource Reconnaissance Survey
 - 2014a. Antiquities Permit Application Form (3525)
 - 2014b. Archeological Survey
3. Texas Department of Transportation & Hidalgo County.
 - 2017a. Documentation of Public Meeting
 - 2017b. Biological Evaluation Form
 - 2017c. Biological Tier I Site Assessment Form
 - 2017d. Air Quality Technical Report
 - 2017e. Hazardous Materials Initial Site Assessment
 - 2017f. Water Resources Technical Report
 - 2017g. Community Impacts Analysis Technical Report
 - 2018a. Traffic Noise Analysis Technical Report
 - 2018b. Indirect and Cumulative Impacts Analysis report
 - 2018c. Technical Memo
 - 2019a. Documentation of Public Hearing
 - 2019b. Chapter 26 Compliance Checklist

Figures





NOLANA LOOP USGS TOPO MAP

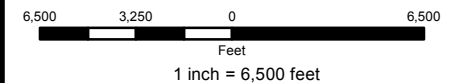
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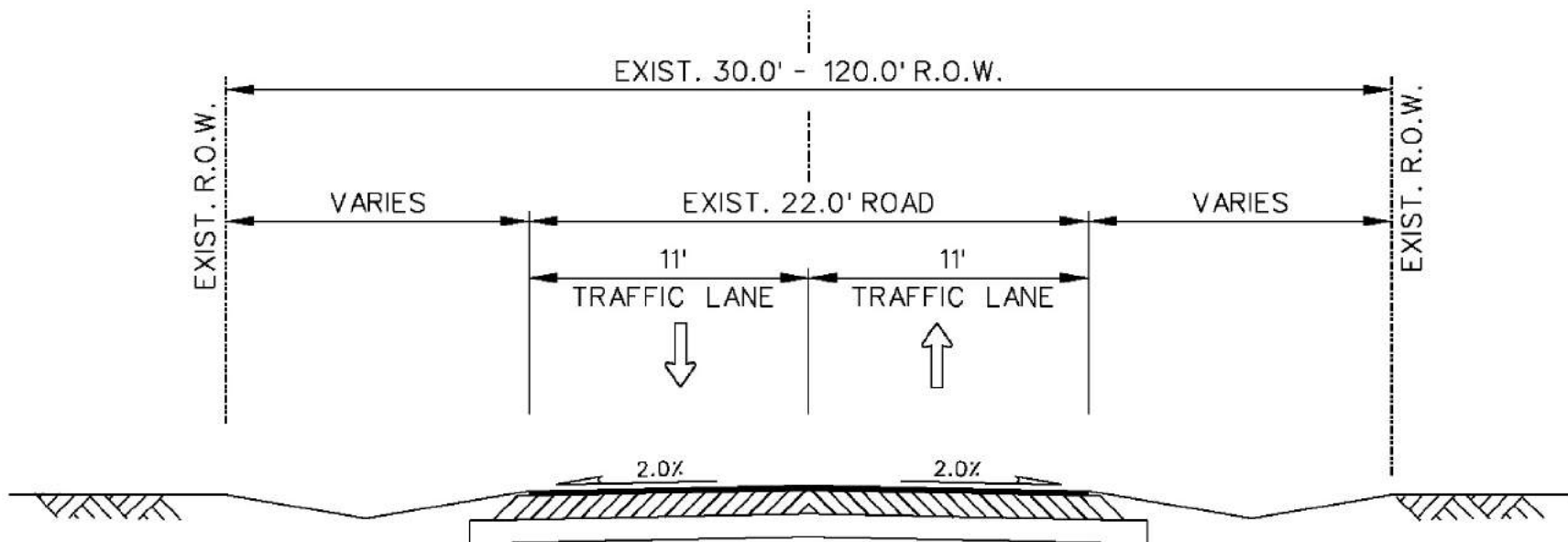
FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

- NOLANA LOOP
- STREETS
- STATE ROADS





EARLING & MILE 11 1/2 EXISTING TYPICAL SECTION

FIGURE 3

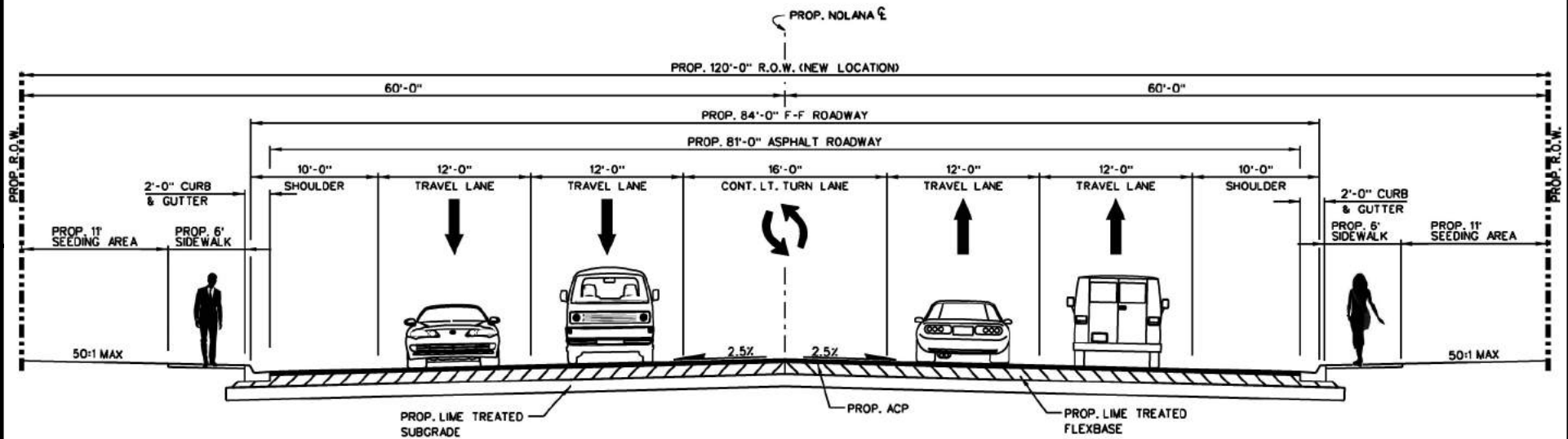


NOLANA LOOP EXISTING TYPICAL SECTION

CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





NOLANA PROPOSED TYPICAL SECTION

FIGURE 4

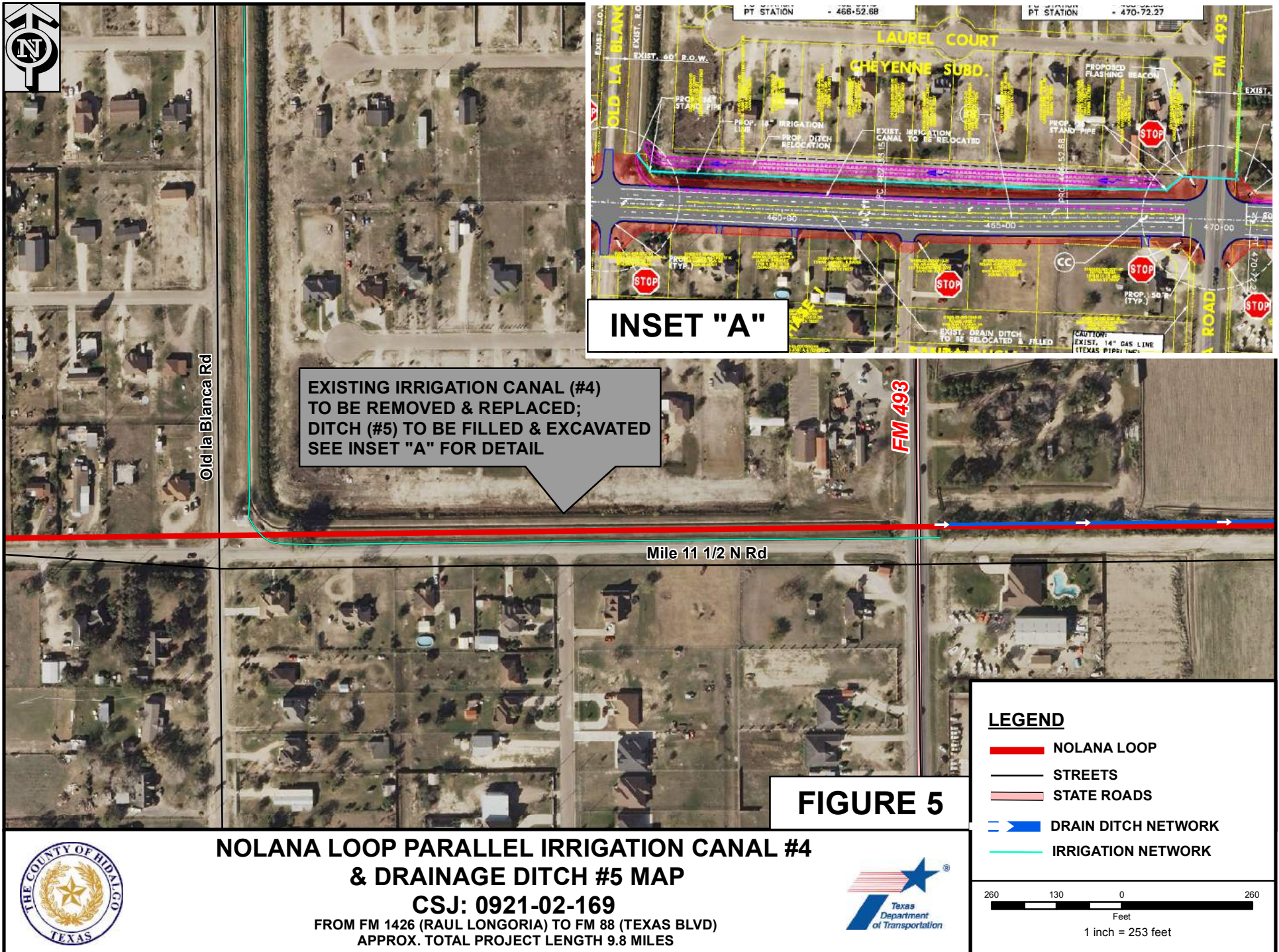


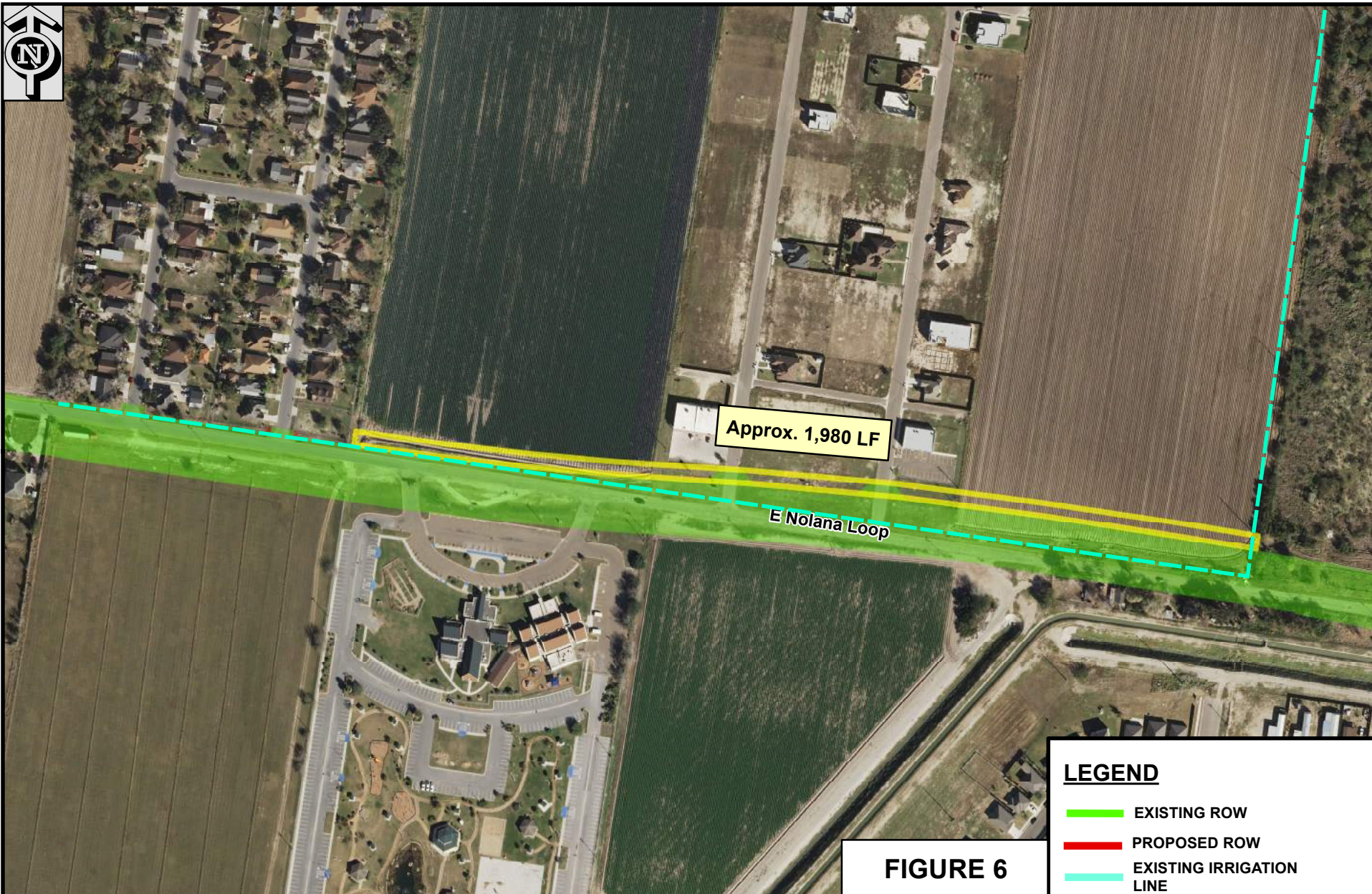
NOLANA LOOP PROPOSED TYPICAL SECTION

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FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES







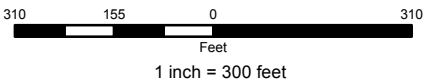
Approx. 1,980 LF

E Nolana Loop

FIGURE 6

LEGEND

- EXISTING ROW
- PROPOSED ROW
- EXISTING IRRIGATION LINE
- PROPOSED IRRIGATION EASEMENT



NOLANA LOOP EASEMENT #1
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



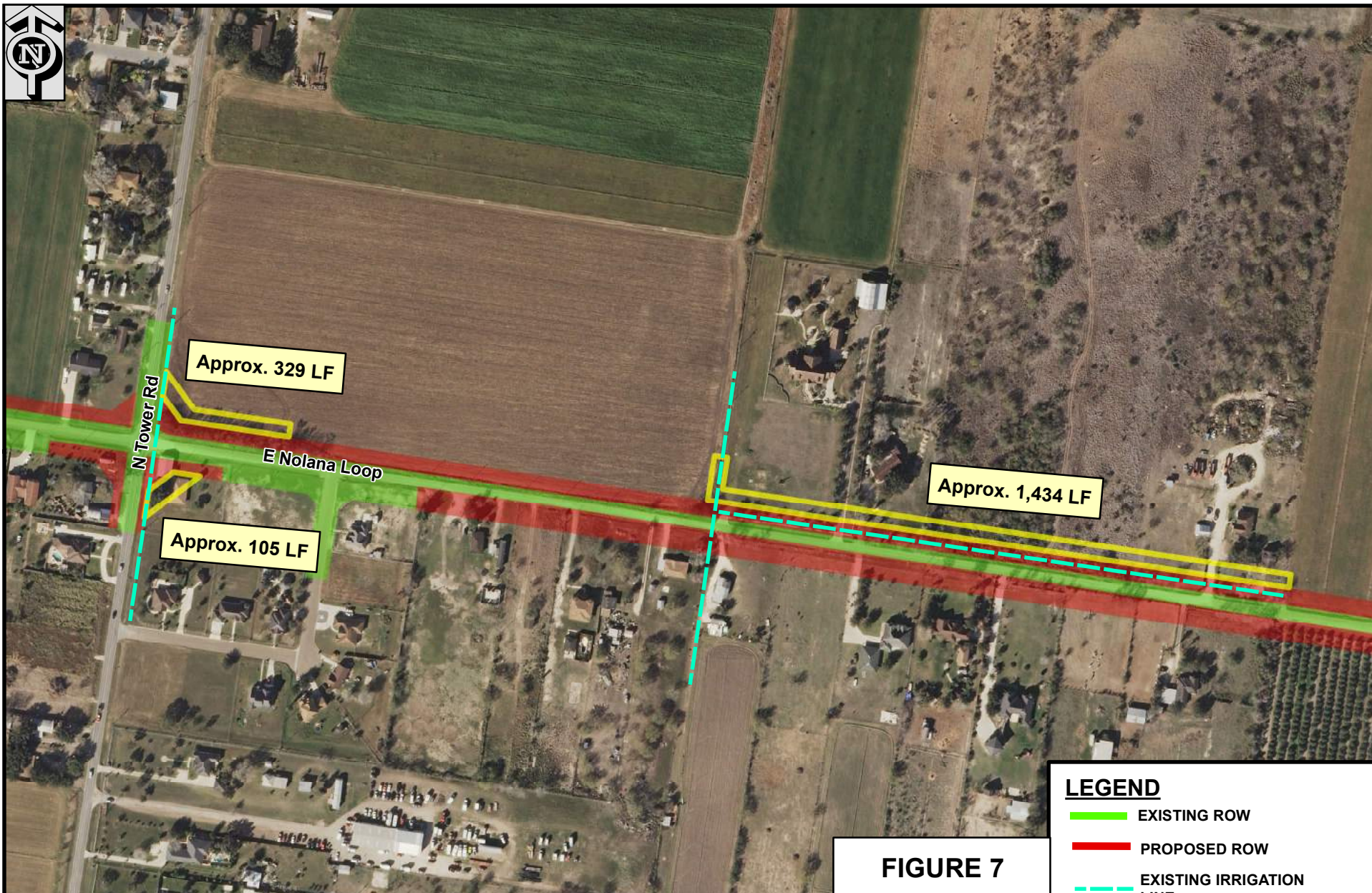




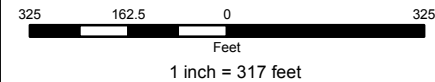


FIGURE 7

LEGEND

-  EXISTING ROW
-  PROPOSED ROW
-  EXISTING IRRIGATION LINE
-  PROPOSED IRRIGATION EASEMENT



NOLANA LOOP EASEMENT #2
CSJ-0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





BEGIN
PROJECT

FM 3461

FM 1426



N Raul Longoria Rd

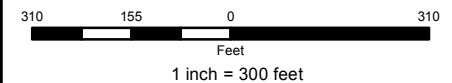
E Nolana Loop

MATCH LINE

FIGURE 8
SHEET 1 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





MATCH LINE

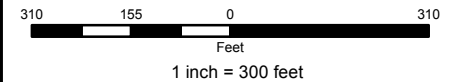
MATCH LINE

E Nolana Loop

**FIGURE 8
SHEET 2 OF 19**

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



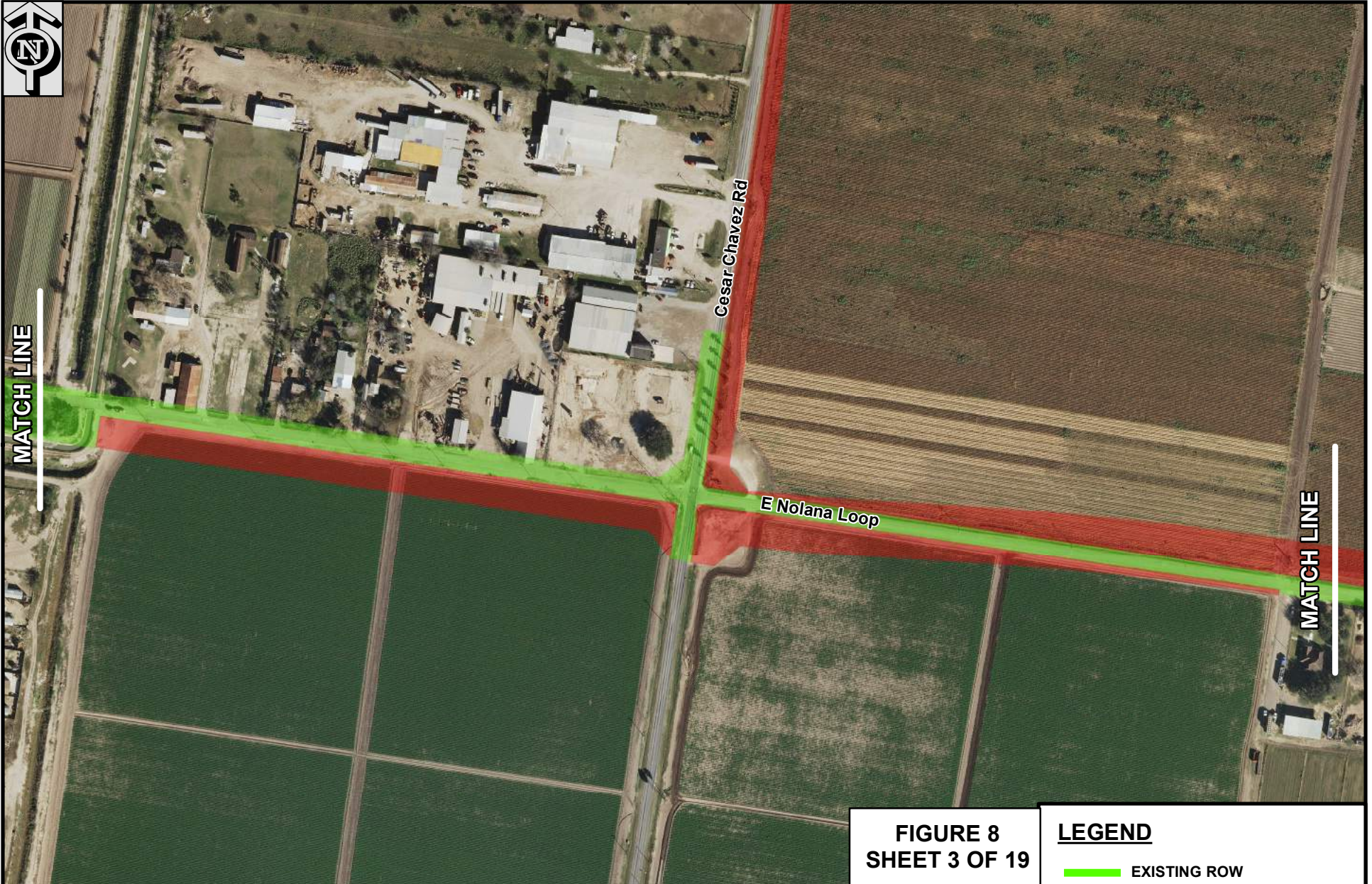
**NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169**

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES







MATCH LINE



MATCH LINE

**FIGURE 8
SHEET 3 OF 19**

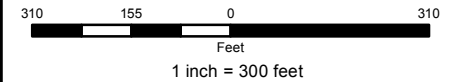
LEGEND

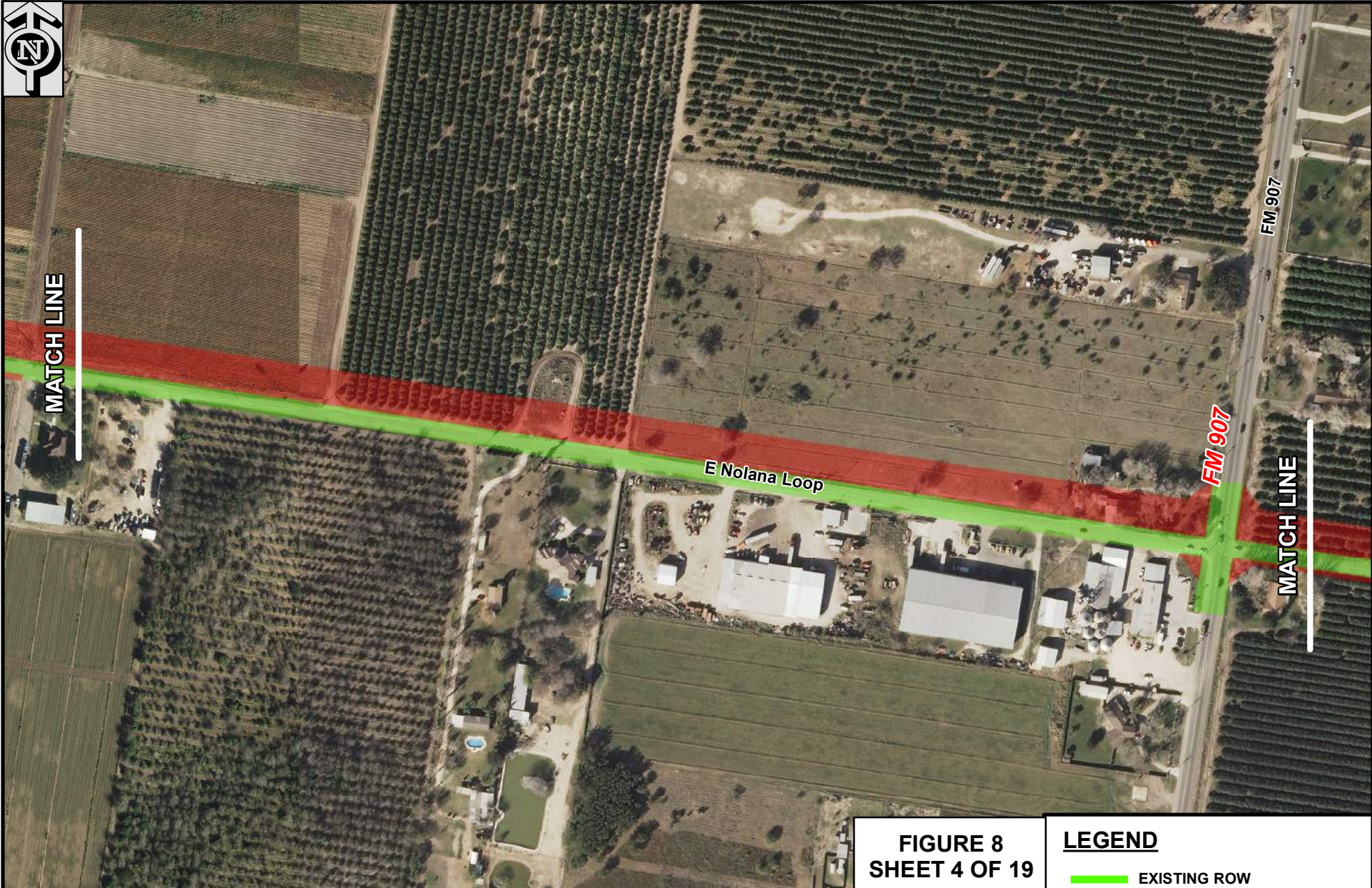
-  EXISTING ROW
-  PROPOSED ROW



**NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169**

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES

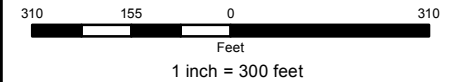




**FIGURE 8
SHEET 4 OF 19**

LEGEND

- EXISTING ROW
- PROPOSED ROW



**NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169**

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES

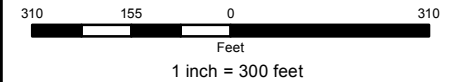




**FIGURE 8
SHEET 5 OF 19**

LEGEND

- EXISTING ROW
- PROPOSED ROW



**NOLANA LOOP BUILD ALTERNATIVE
CSJ-0921-02-169**

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES

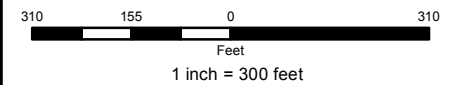




**FIGURE 8
SHEET 6 OF 19**

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



**NOLANA LOOP BUILD ALTERNATIVE
CSJ-0921-02-169**

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



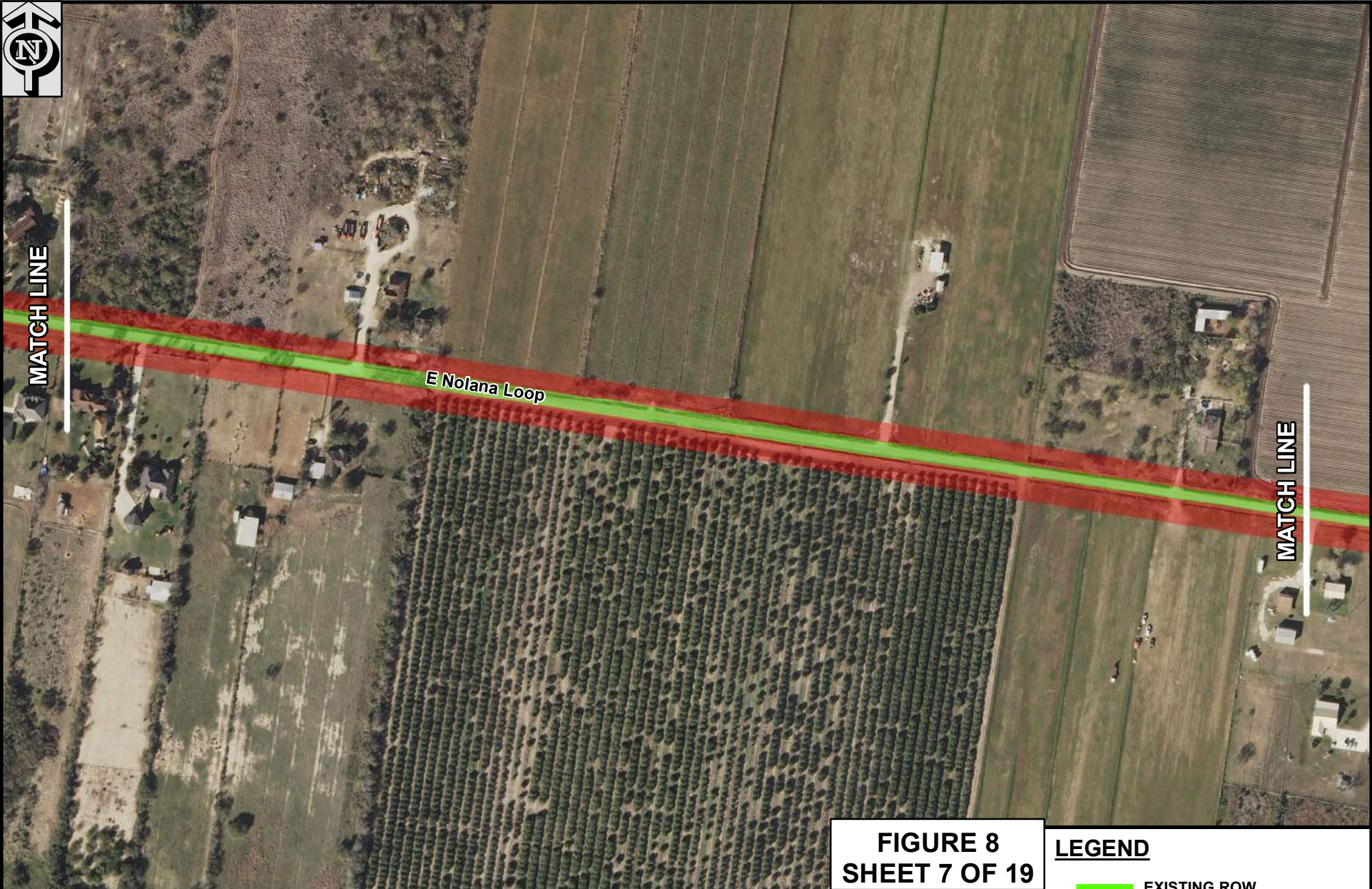
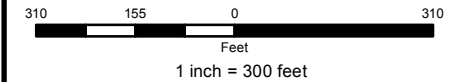


FIGURE 8
SHEET 7 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ-0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





MATCH LINE

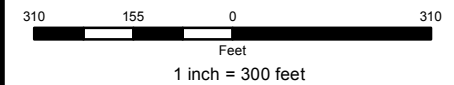
E Nolana Loop

MATCH LINE

**FIGURE 8
SHEET 8 OF 19**

LEGEND

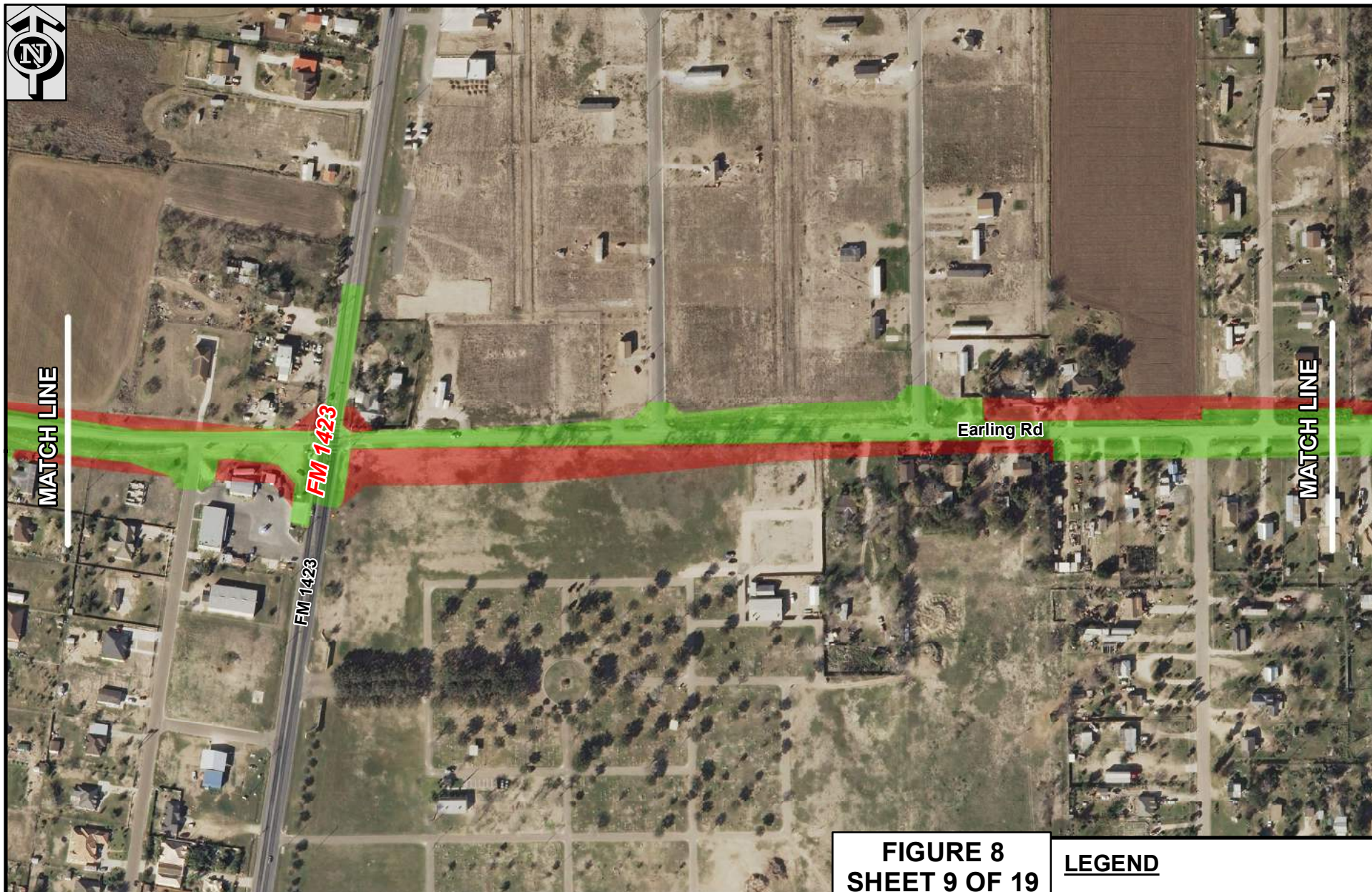
-  EXISTING ROW
-  PROPOSED ROW



**NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169**

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES

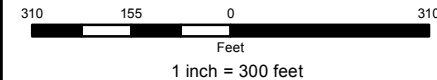




**FIGURE 8
SHEET 9 OF 19**

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



**NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169**

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



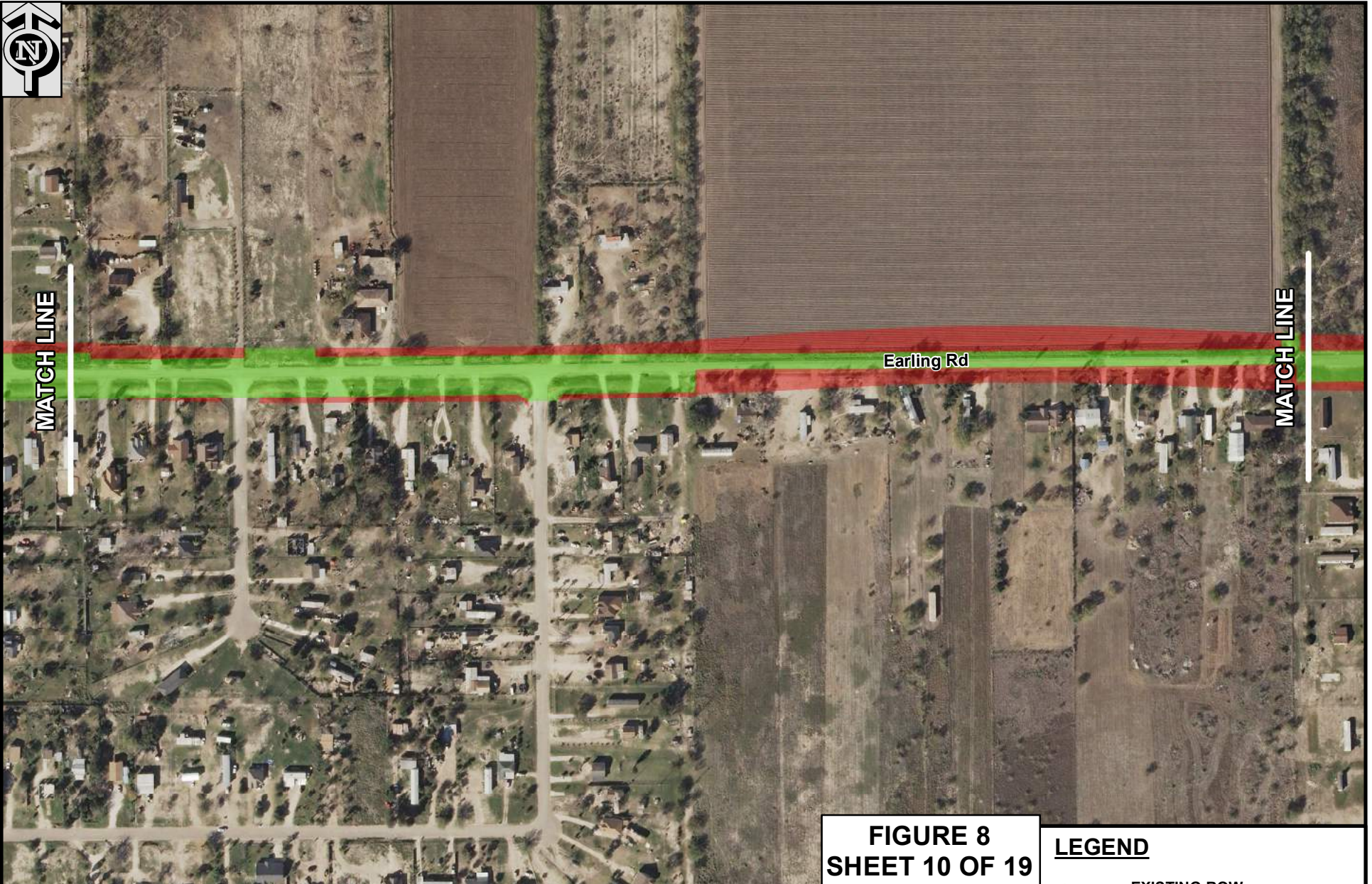
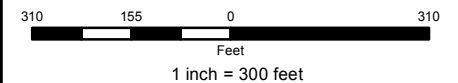


FIGURE 8
SHEET 10 OF 19

LEGEND

- EXISTING ROW
- PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



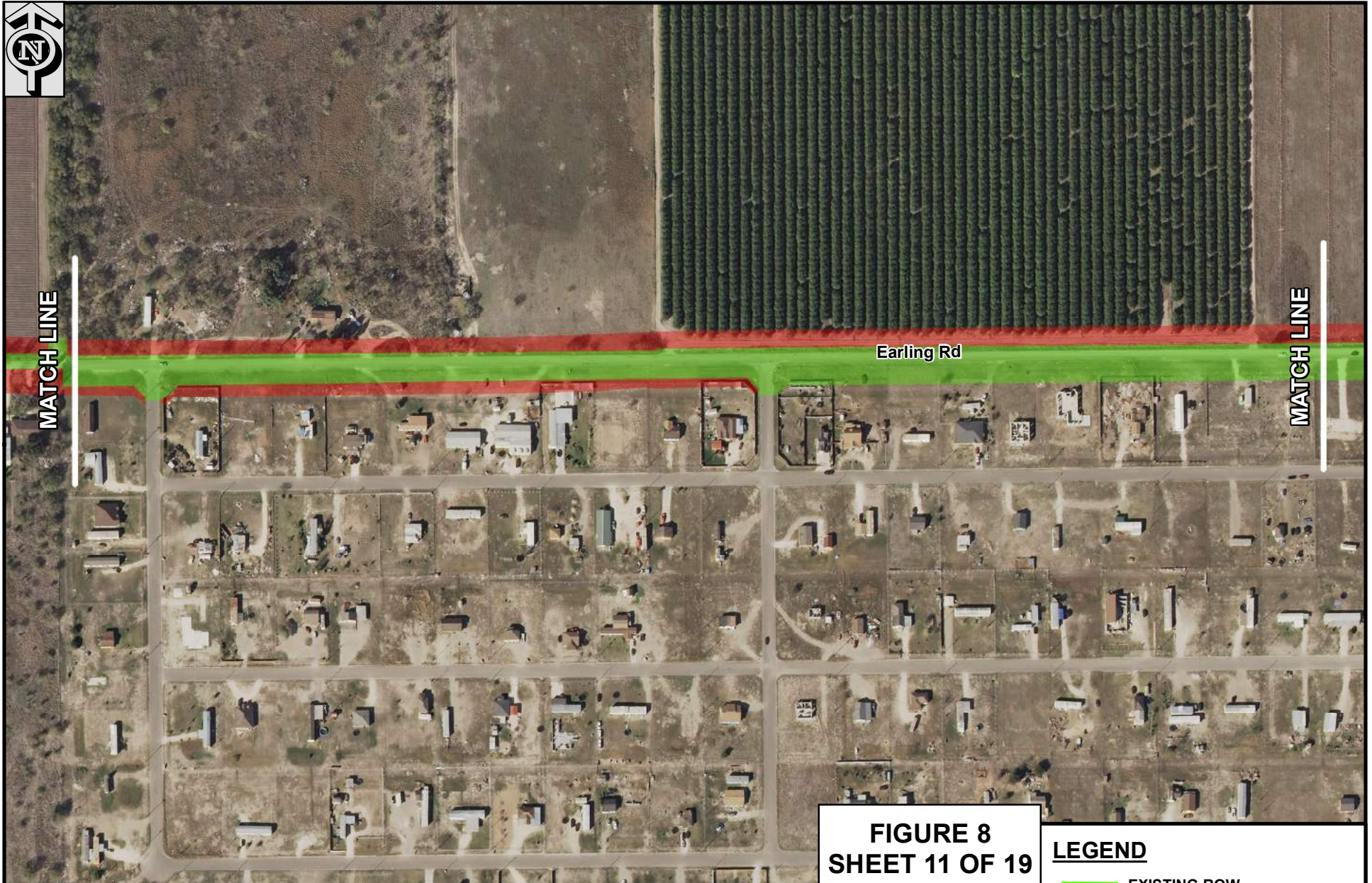
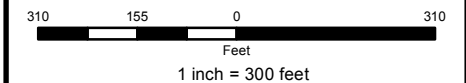


FIGURE 8
SHEET 11 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



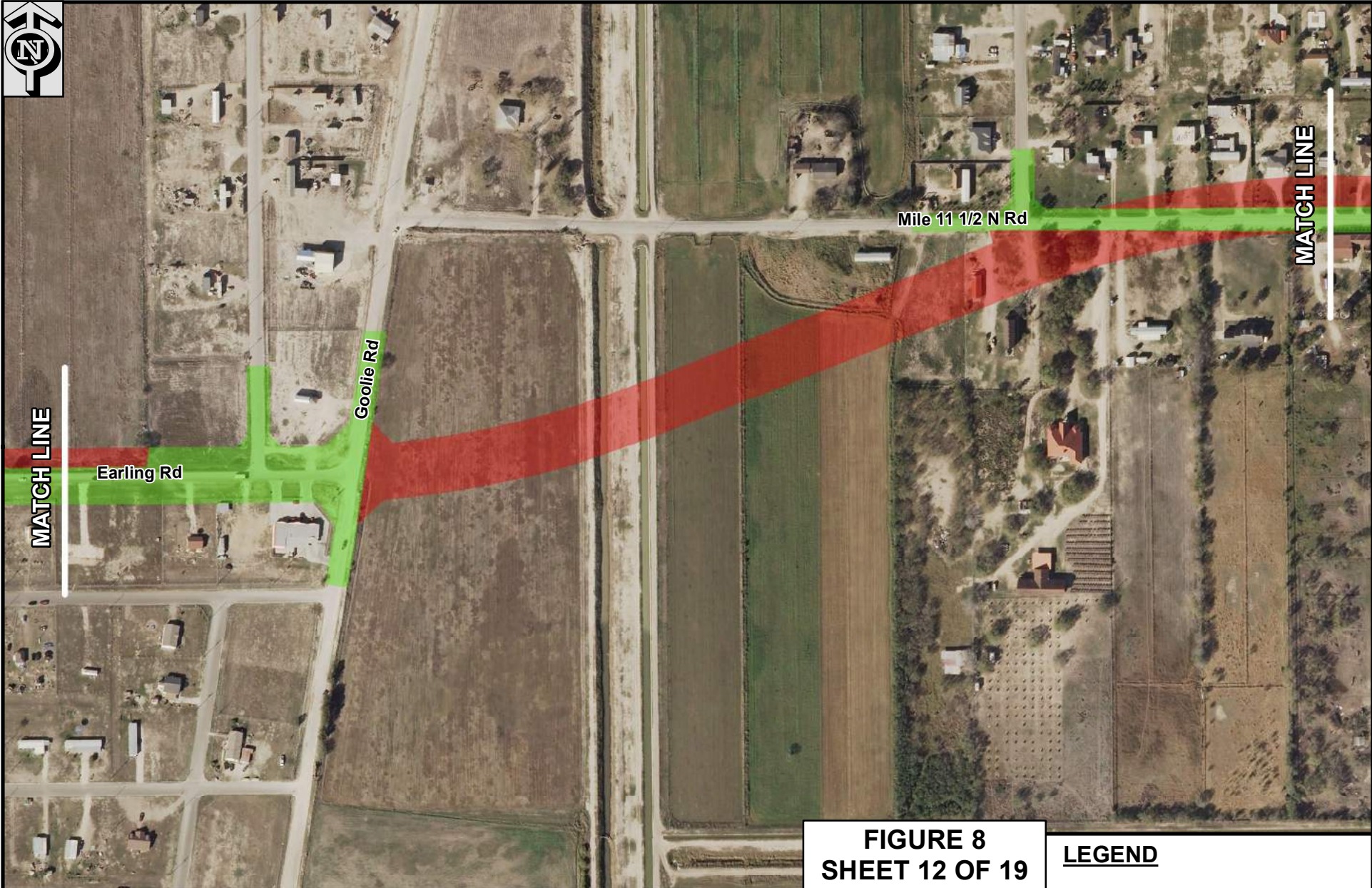
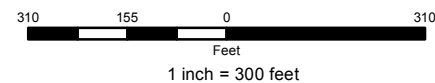


FIGURE 8
SHEET 12 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES

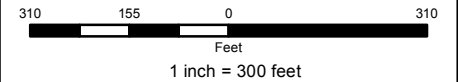




FIGURE 8
SHEET 13 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



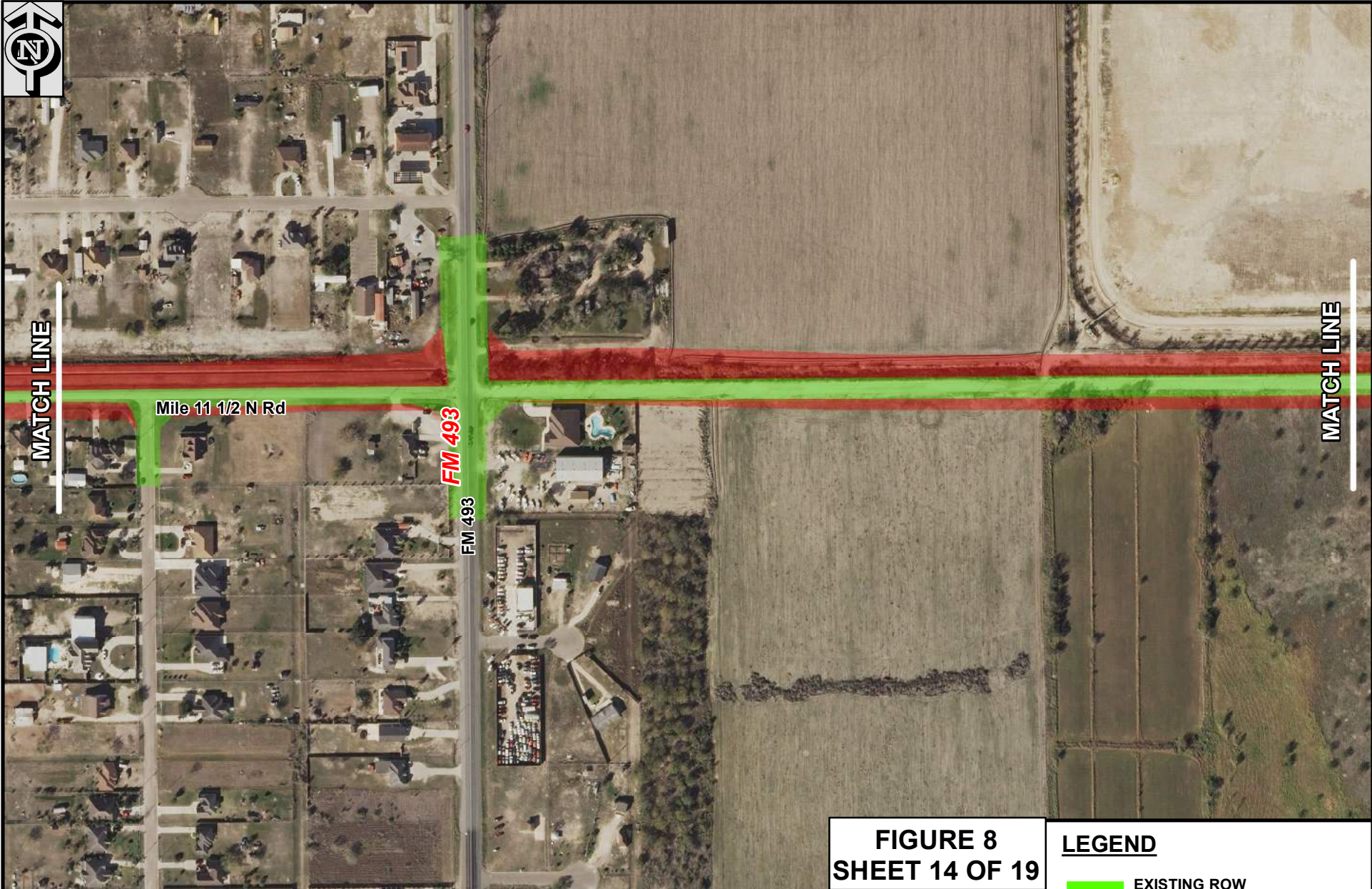
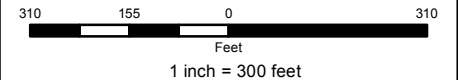


FIGURE 8
SHEET 14 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



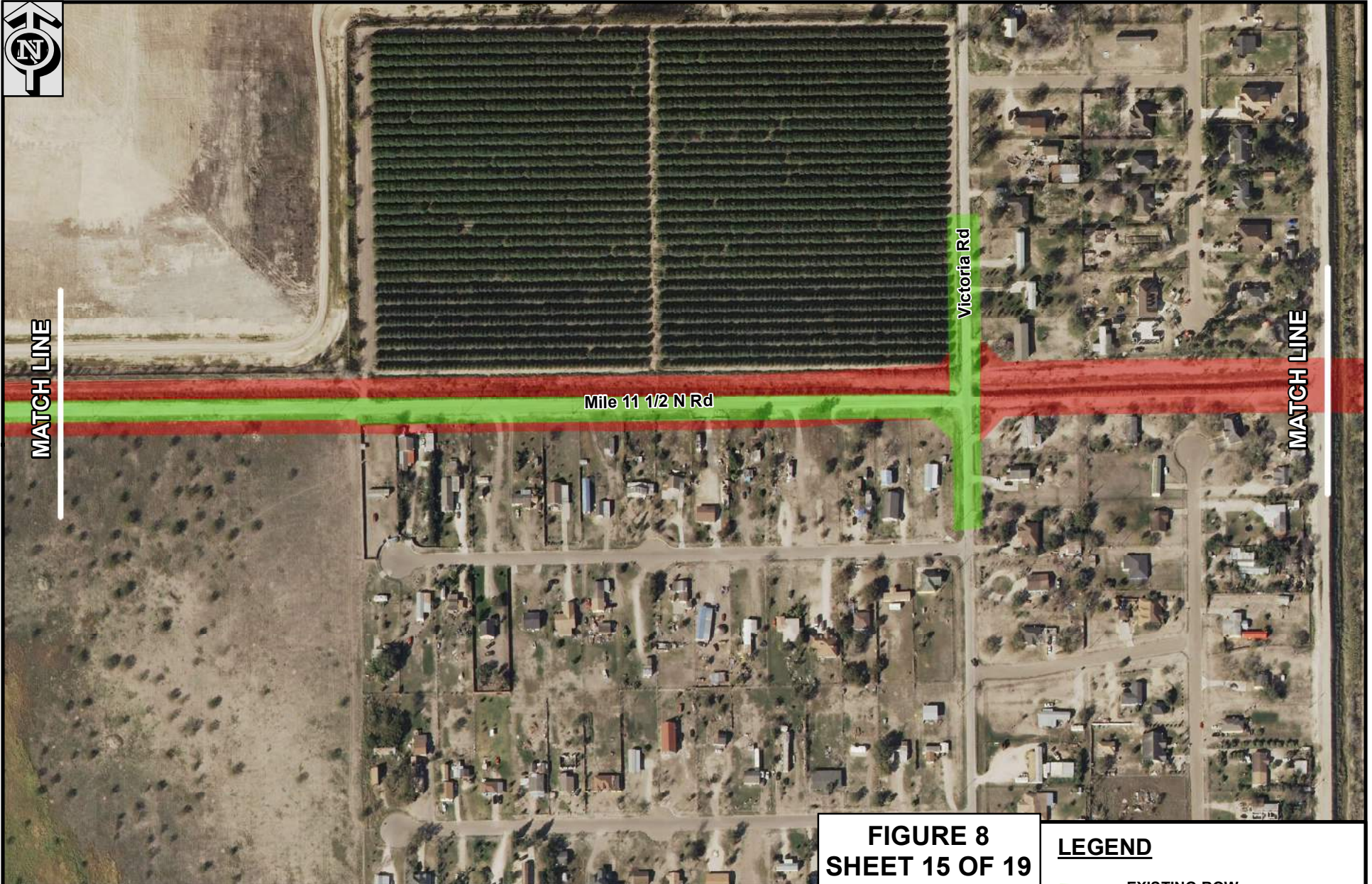
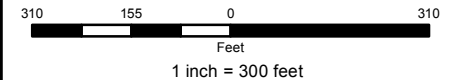


FIGURE 8
SHEET 15 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



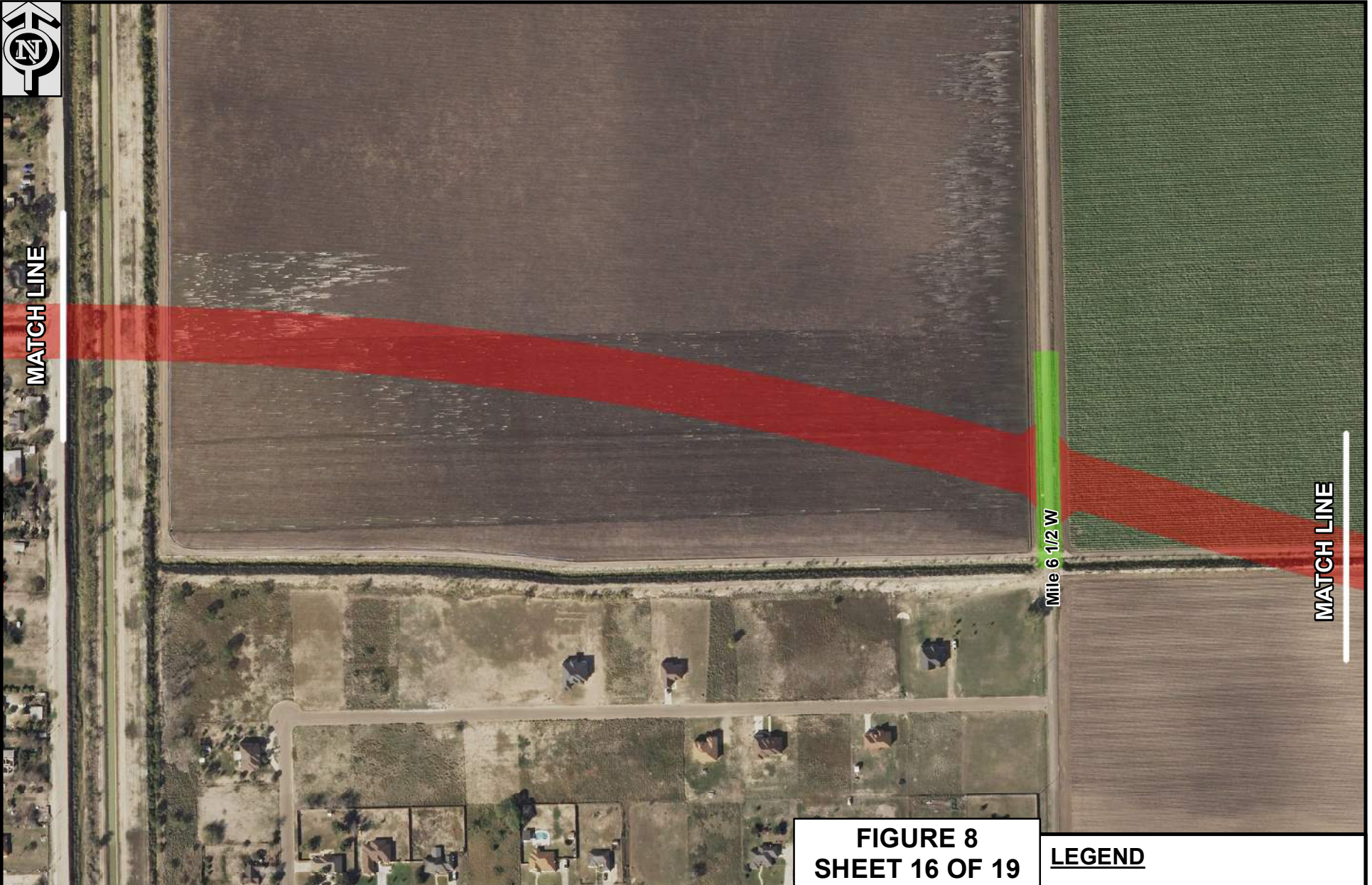
NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





MATCH LINE



MATCH LINE

**FIGURE 8
SHEET 16 OF 19**



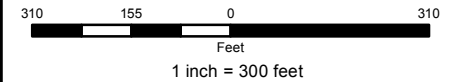
NOLANA LOOP BUILD ALTERNATIVE CSJ: 0921-02-169

**FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES**



LEGEND

-  EXISTING ROW
-  PROPOSED ROW





MATCH LINE

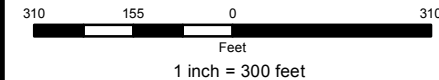
MATCH LINE

Westgate Dr

FIGURE 8
SHEET 17 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



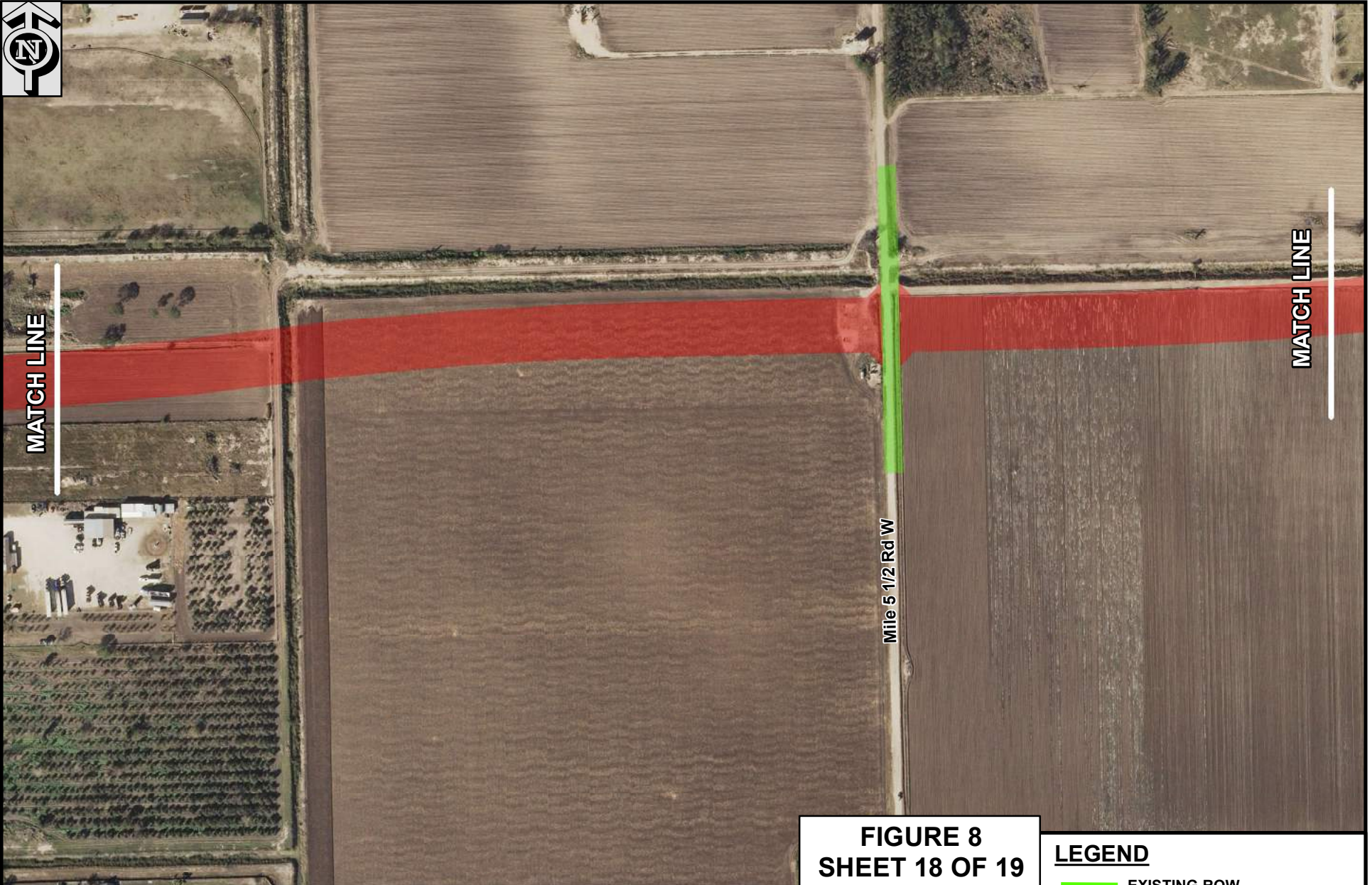

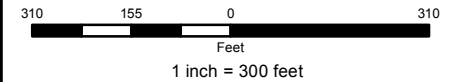


FIGURE 8
SHEET 18 OF 19

LEGEND

-  EXISTING ROW
-  PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



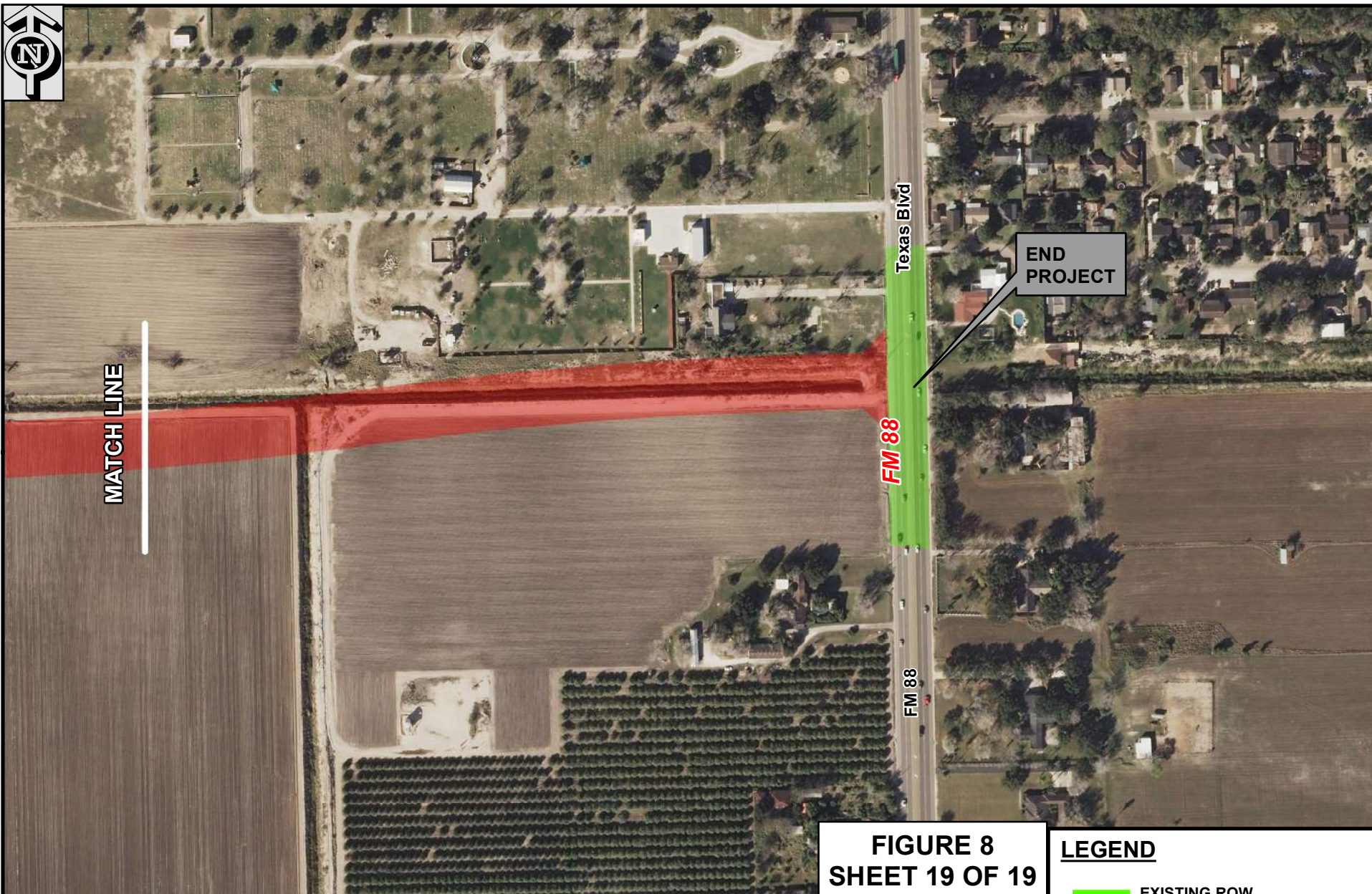
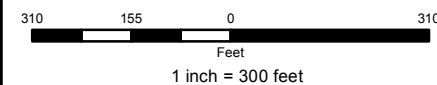


FIGURE 8
SHEET 19 OF 19

LEGEND

- EXISTING ROW
- PROPOSED ROW



NOLANA LOOP BUILD ALTERNATIVE
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



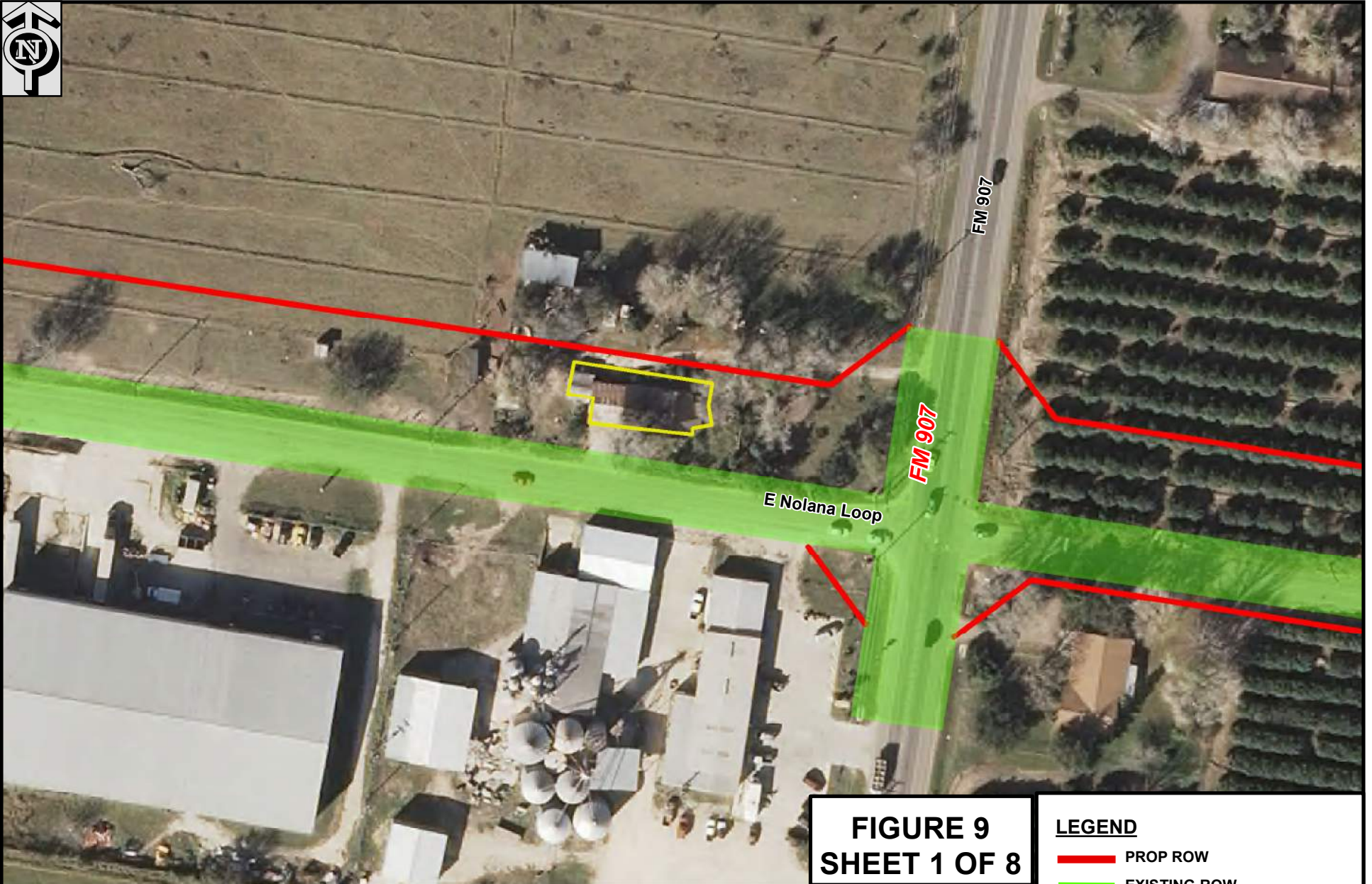
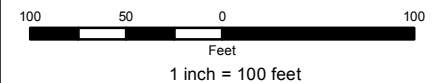


FIGURE 9
SHEET 1 OF 8

LEGEND

- PROP ROW
- EXISTING ROW
- IMPACTS/RELOCATIONS



NOLANA LOOP RELOCATION #1 (RESIDENCE)
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



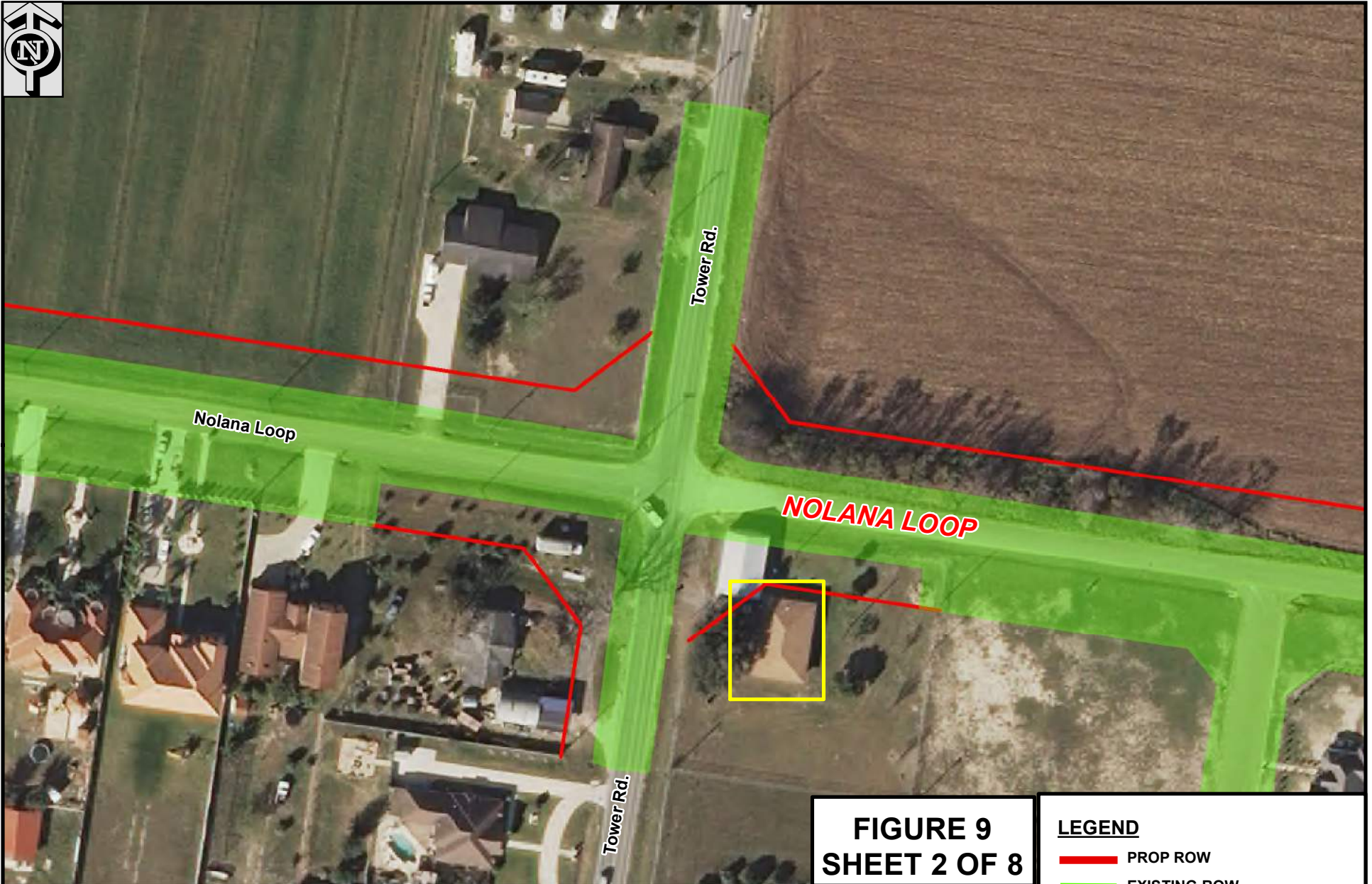
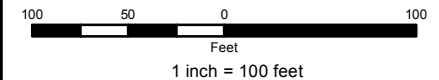


FIGURE 9
SHEET 2 OF 8

LEGEND

- PROP ROW
- EXISTING ROW
- IMPACTS/RELOCATIONS



NOLANA LOOP RELOCATION #2 (RESIDENCE)

CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



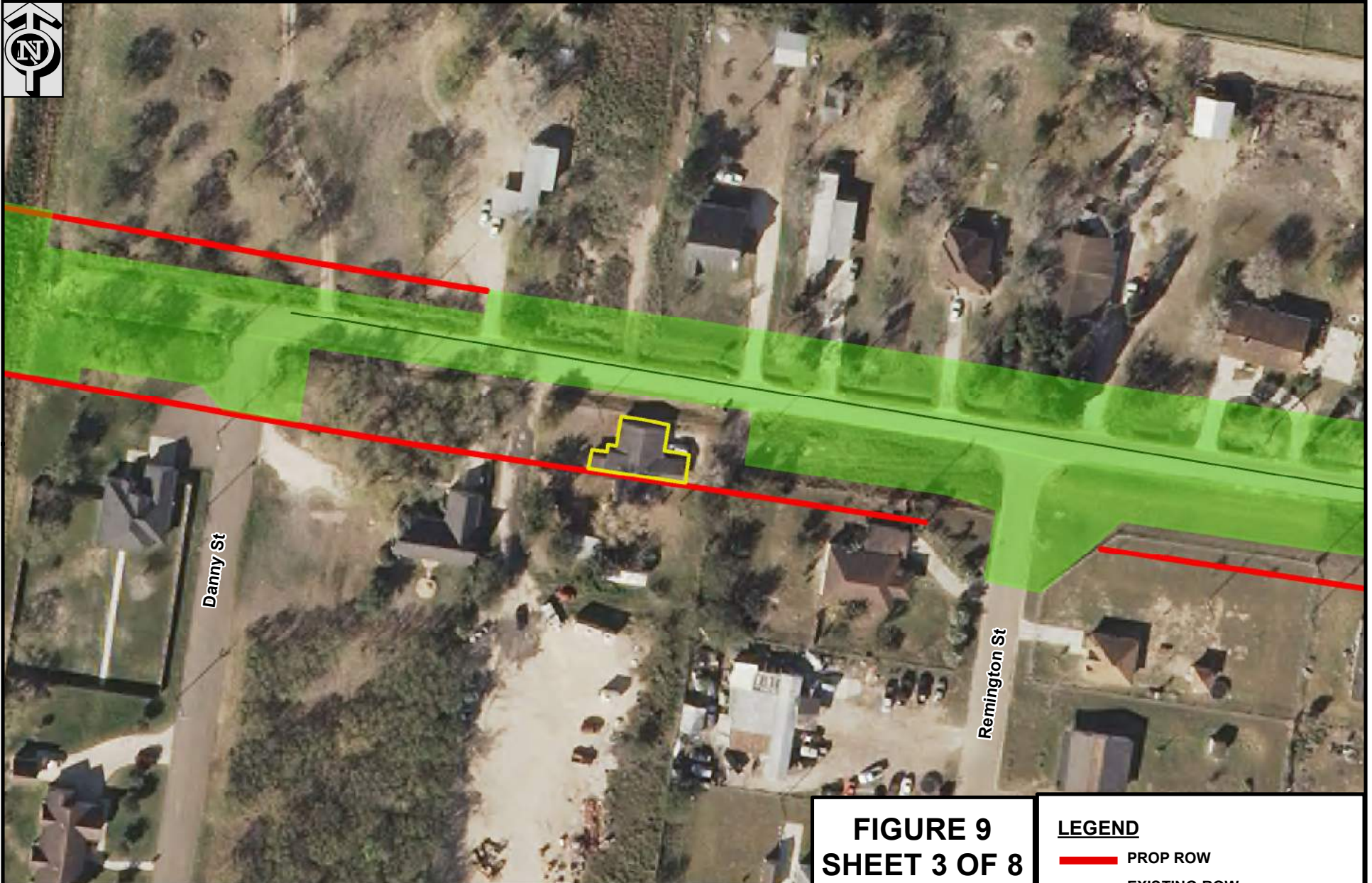


FIGURE 9
SHEET 3 OF 8

LEGEND

- PROP ROW
- EXISTING ROW
- IMPACTS/RELOCATIONS

100 50 0 100
Feet
1 inch = 100 feet



NOLANA LOOP RELOCATION #3 (RESIDENCE)
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



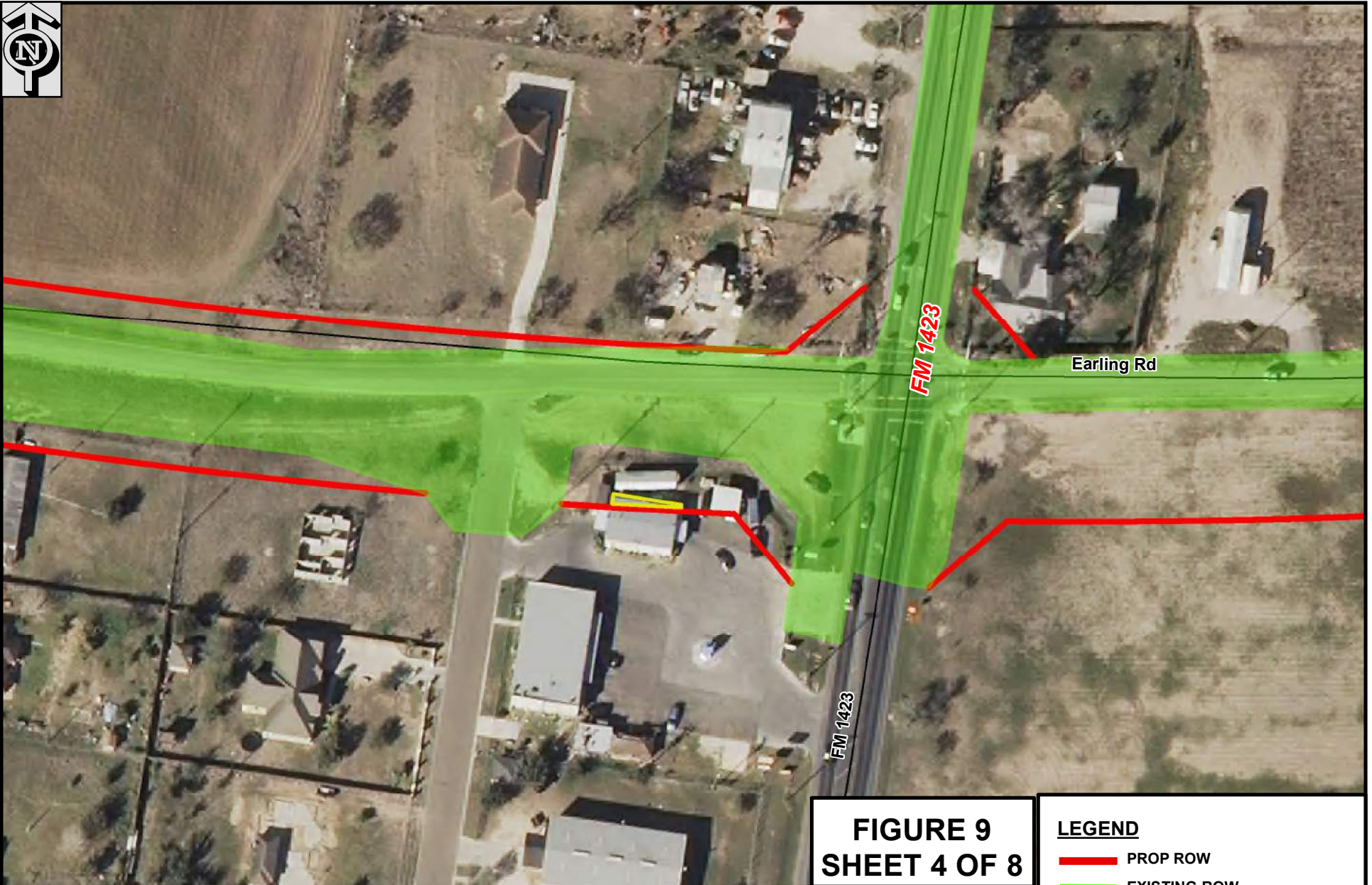
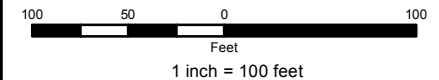


FIGURE 9
SHEET 4 OF 8

LEGEND

- PROP ROW
- EXISTING ROW
- IMPACTS/RELOCATIONS



NOLANA LOOP RELOCATION #4 (BUSINESS)
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



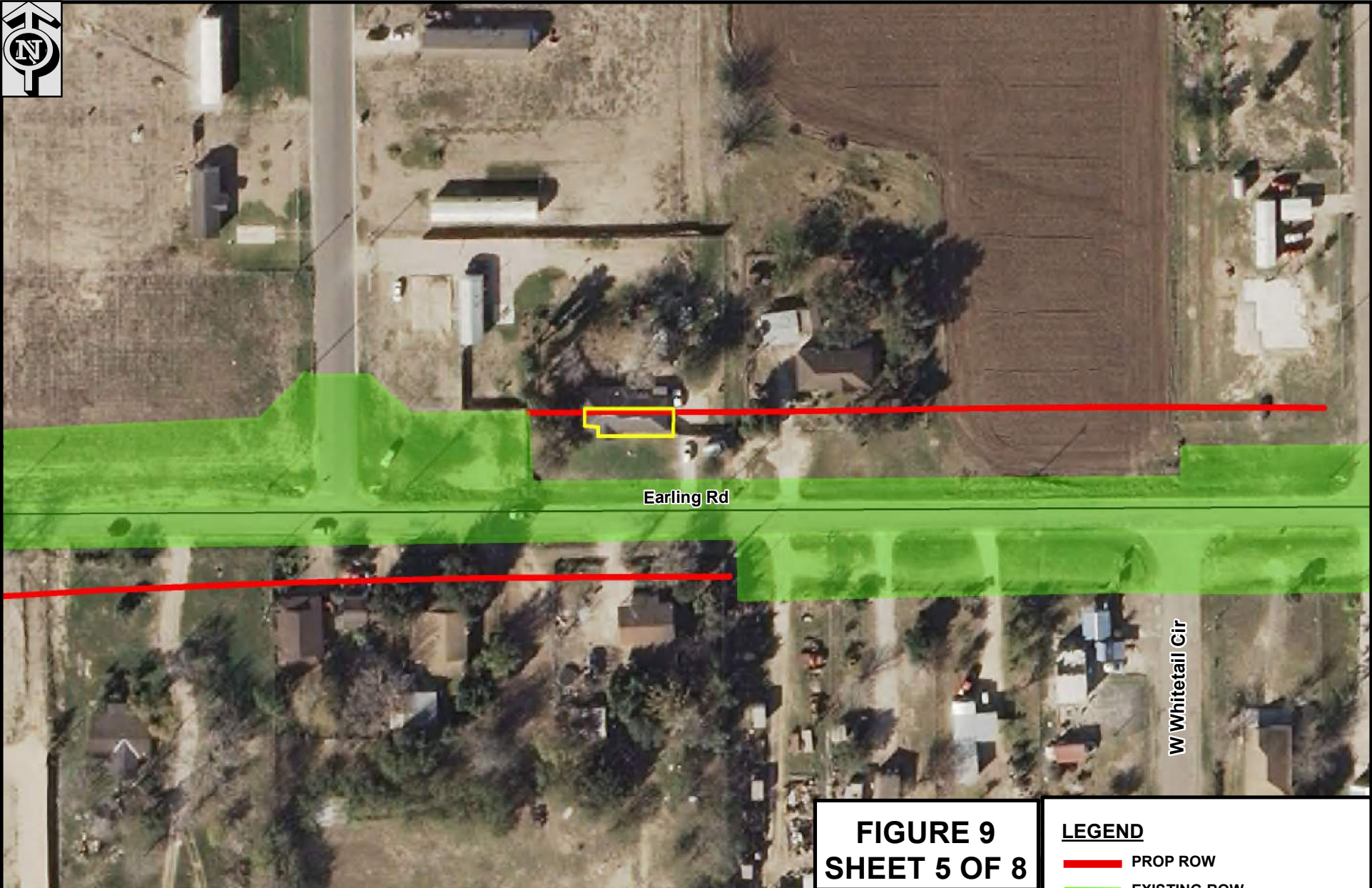
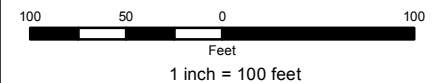


FIGURE 9
SHEET 5 OF 8

LEGEND

- PROP ROW
- EXISTING ROW
- IMPACTS/RELOCATIONS



NOLANA LOOP RELOCATION #5 (RESIDENCE)
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



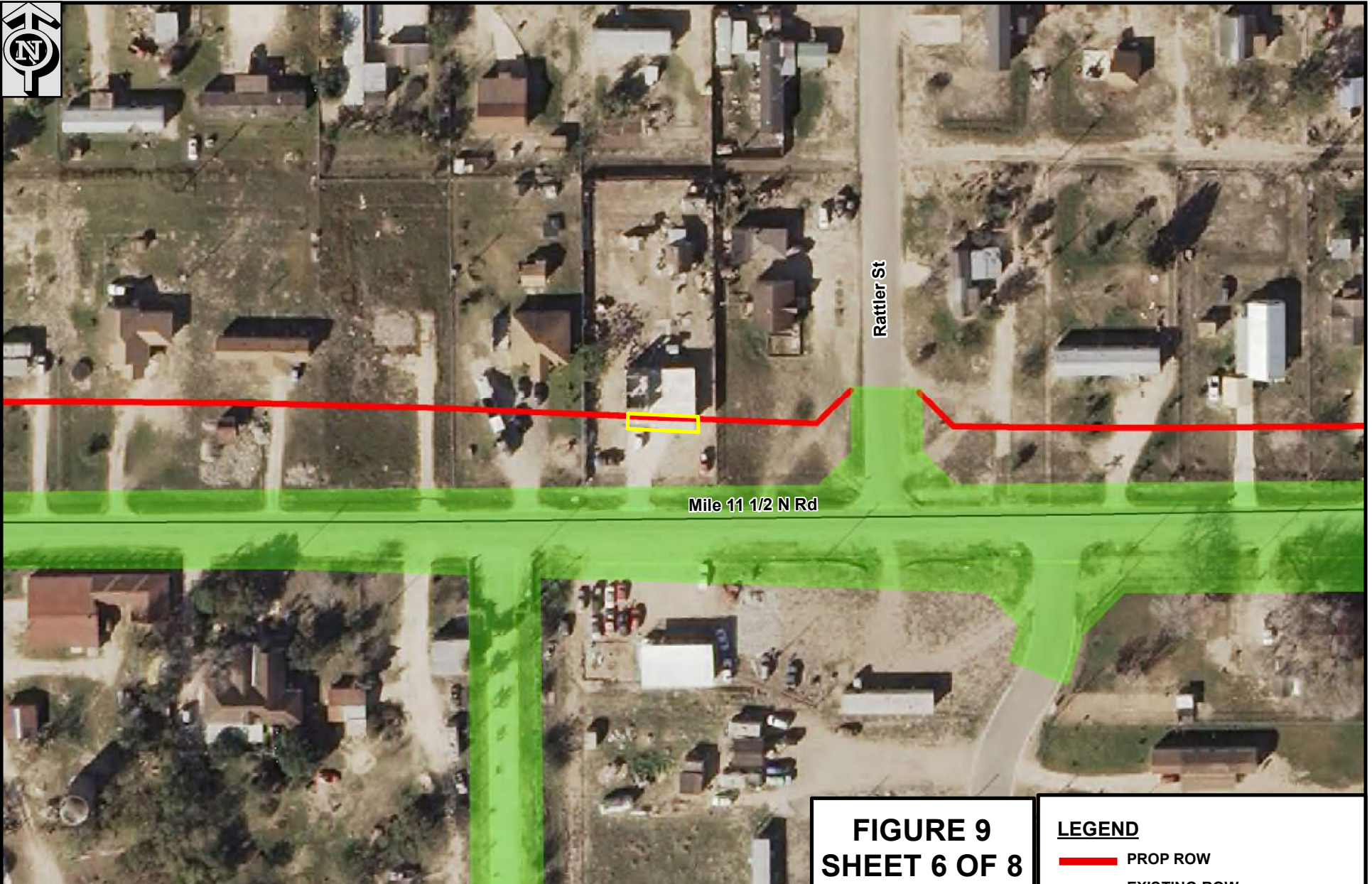
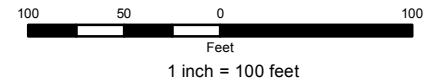


FIGURE 9
SHEET 6 OF 8

LEGEND

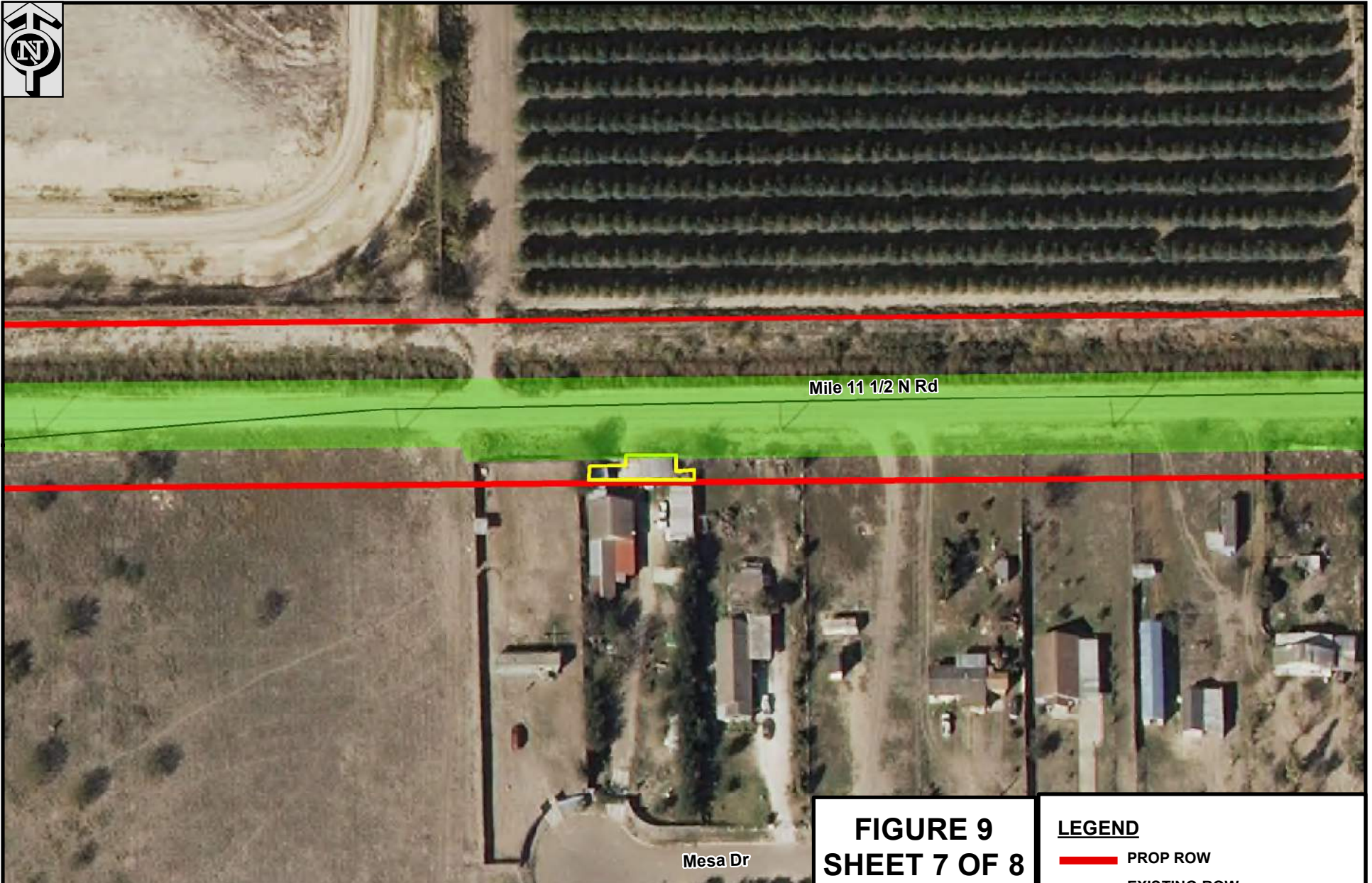
- PROP ROW
- EXISTING ROW
- IMPACTS/RELOCATIONS



NOLANA LOOP RELOCATION #6 (RESIDENCE)
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





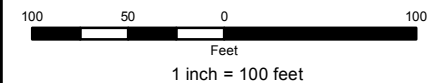
Mile 11 1/2 N Rd

Mesa Dr

FIGURE 9
SHEET 7 OF 8

LEGEND

- PROP ROW
- EXISTING ROW
- IMPACTS/RELOCATIONS



NOLANA LOOP RELOCATION #7 (RESIDENTIAL)
CSJ-0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



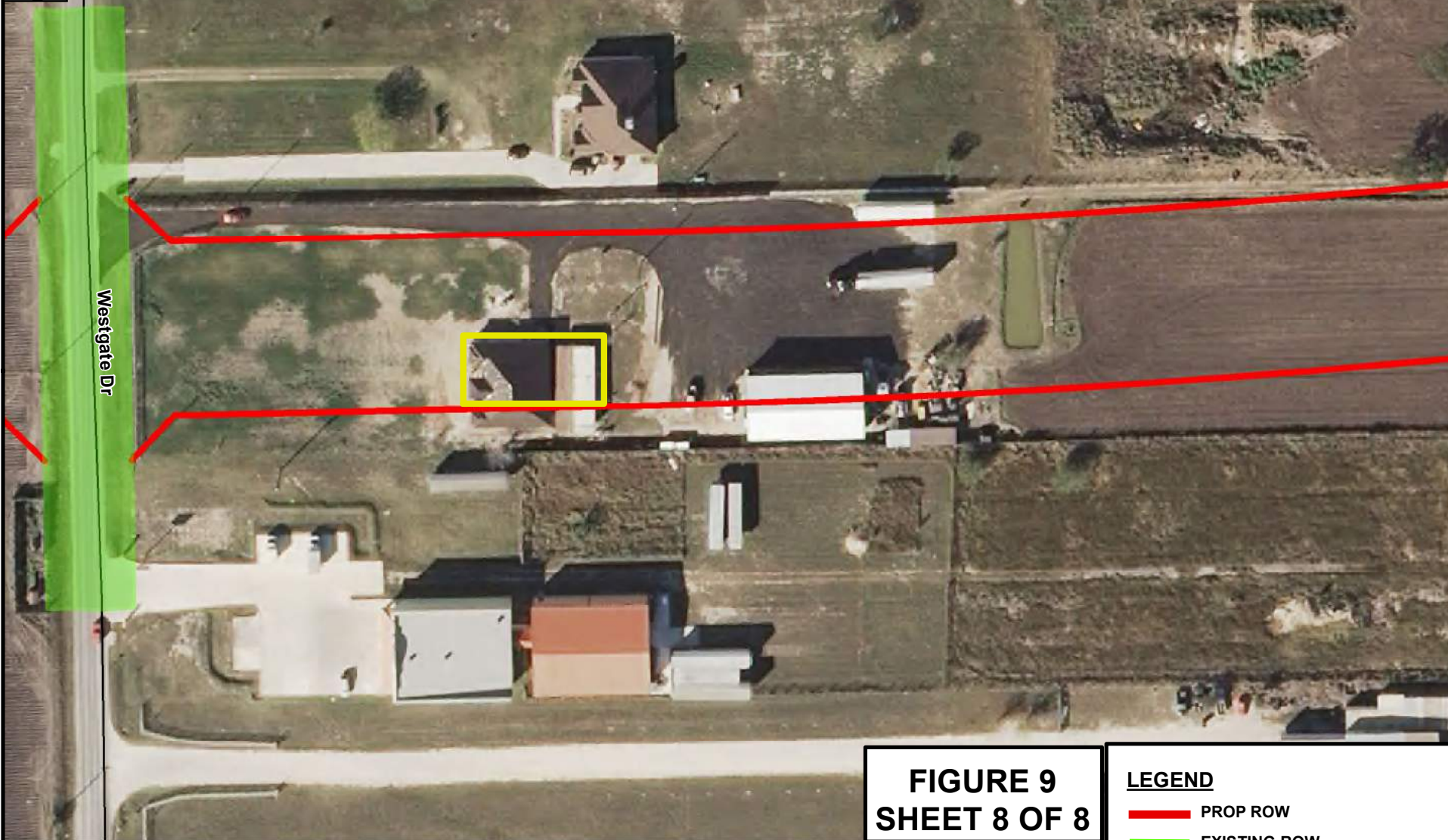
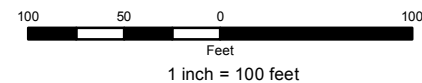


FIGURE 9
SHEET 8 OF 8

LEGEND

- PROP ROW
- EXISTING ROW
- IMPACTS/RELOCATIONS



NOLANA LOOP RELOCATION #8 (RESIDENTIAL)
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



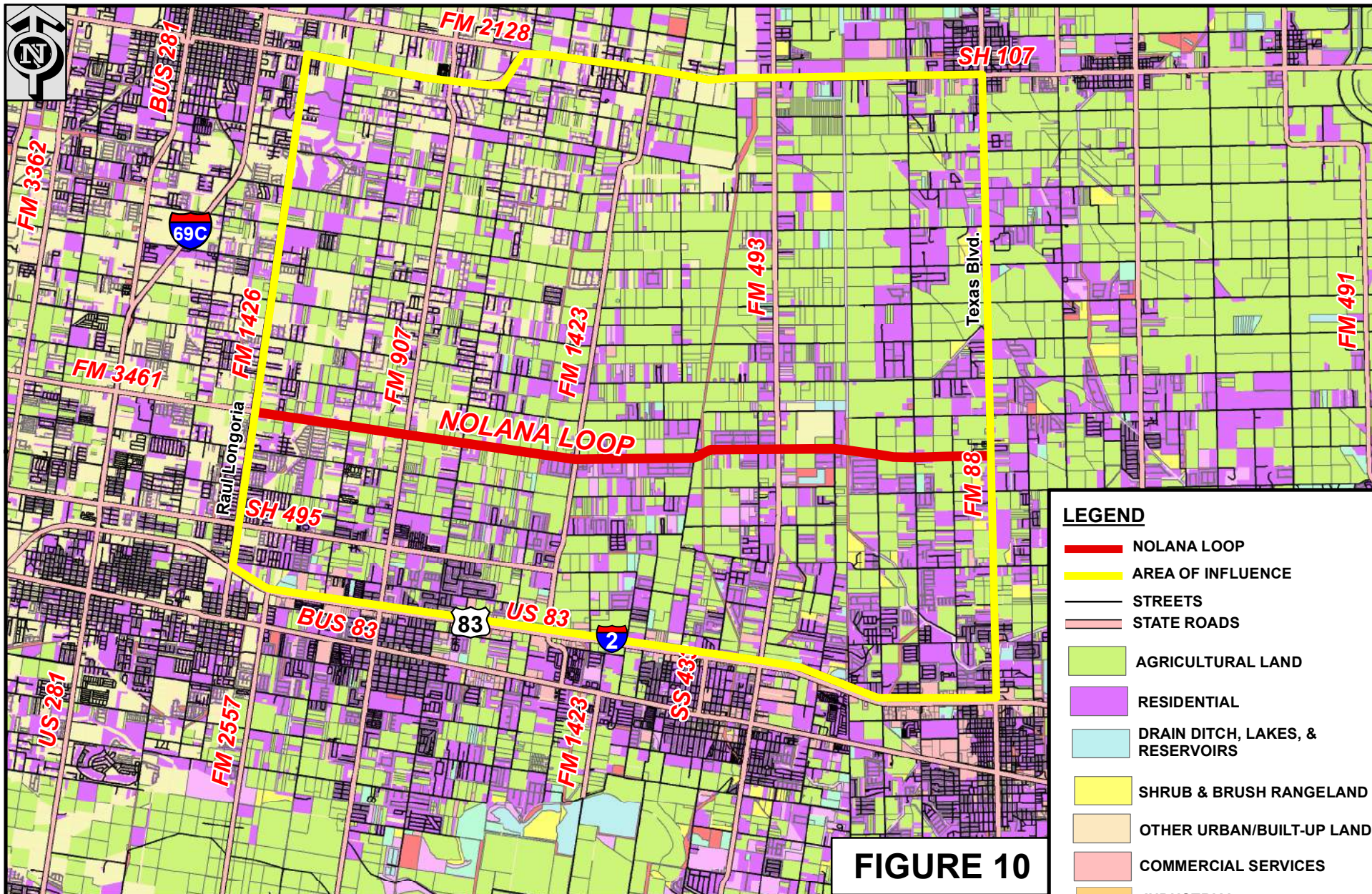
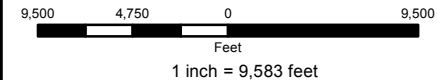


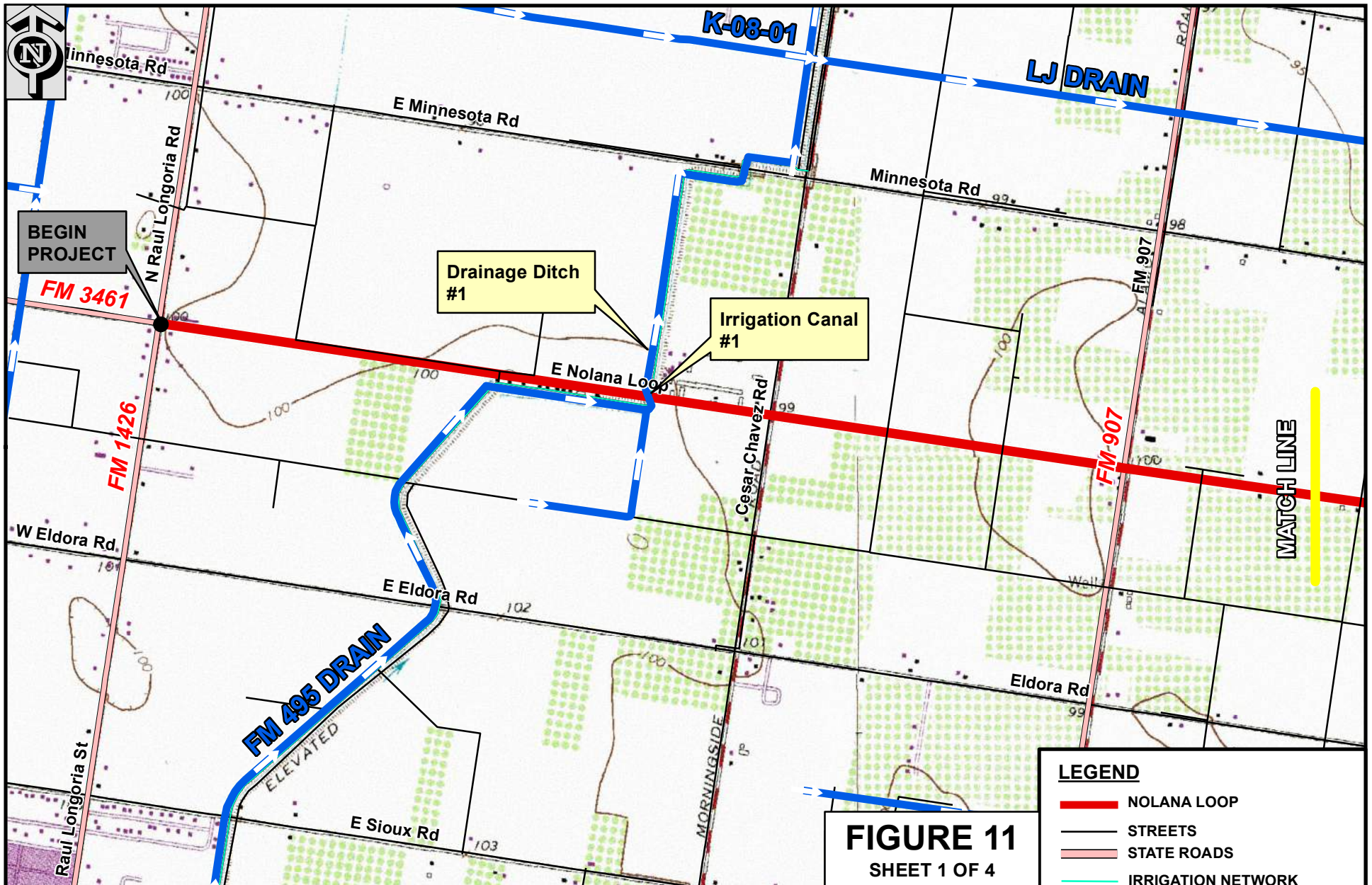
FIGURE 10

NOLANA LOOP LAND USE MAP

CSJ: 0921-02-169

FROM FM 1426 (RAULI LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





LEGEND

- NOLANA LOOP
- STREETS
- STATE ROADS
- IRRIGATION NETWORK
- DRAIN DITCH NETWORK

1,500 750 0 1,500
Feet
1 inch = 1,500 feet



NOLANA LOOP AQUATIC RESOURCES MAP CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



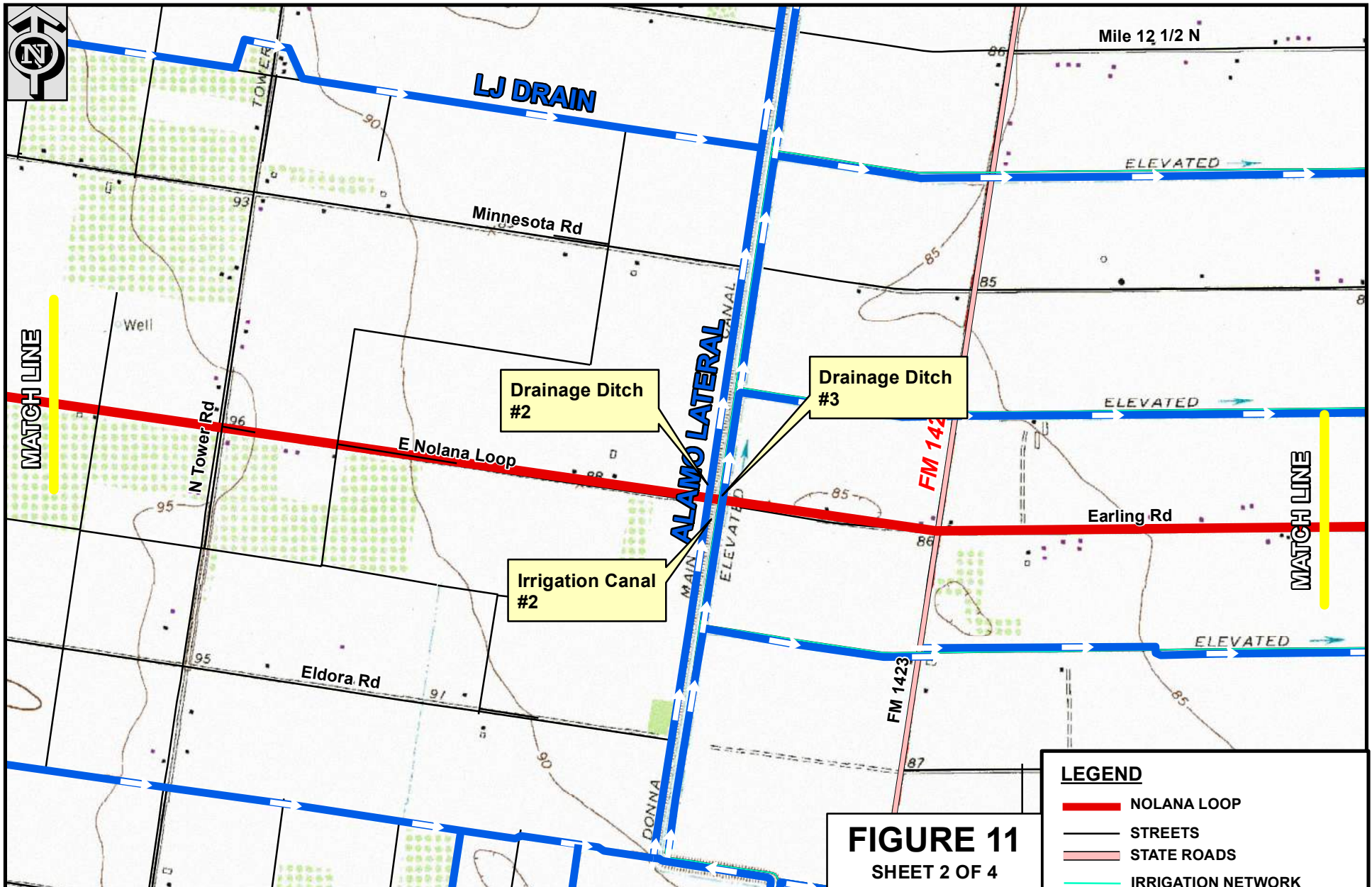


FIGURE 11
SHEET 2 OF 4

LEGEND

- NOLANA LOOP
- STREETS
- STATE ROADS
- IRRIGATION NETWORK
- DRAIN DITCH NETWORK

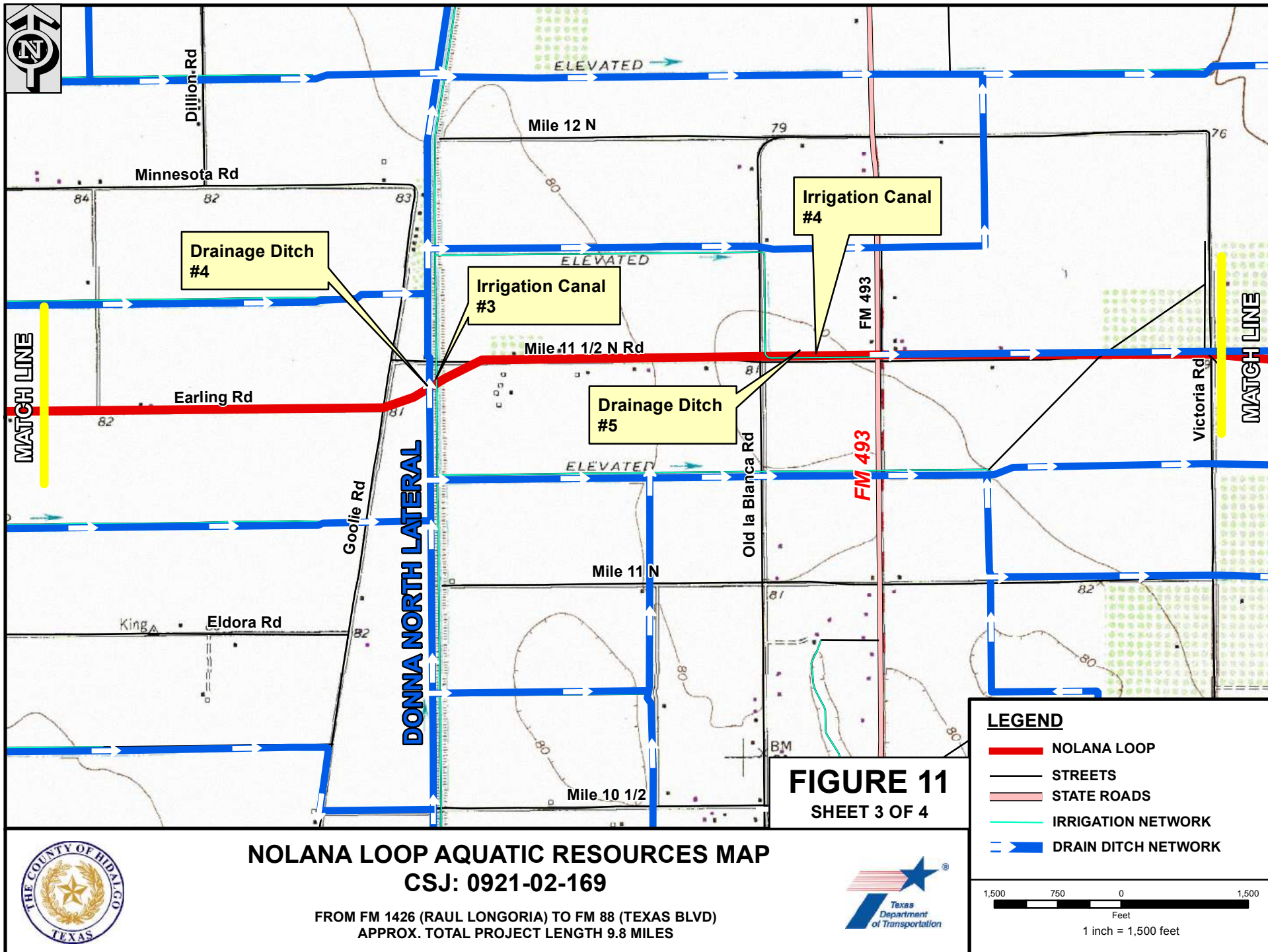
1,500 750 0 1,500
Feet
1 inch = 1,500 feet



NOLANA LOOP AQUATIC RESOURCES MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





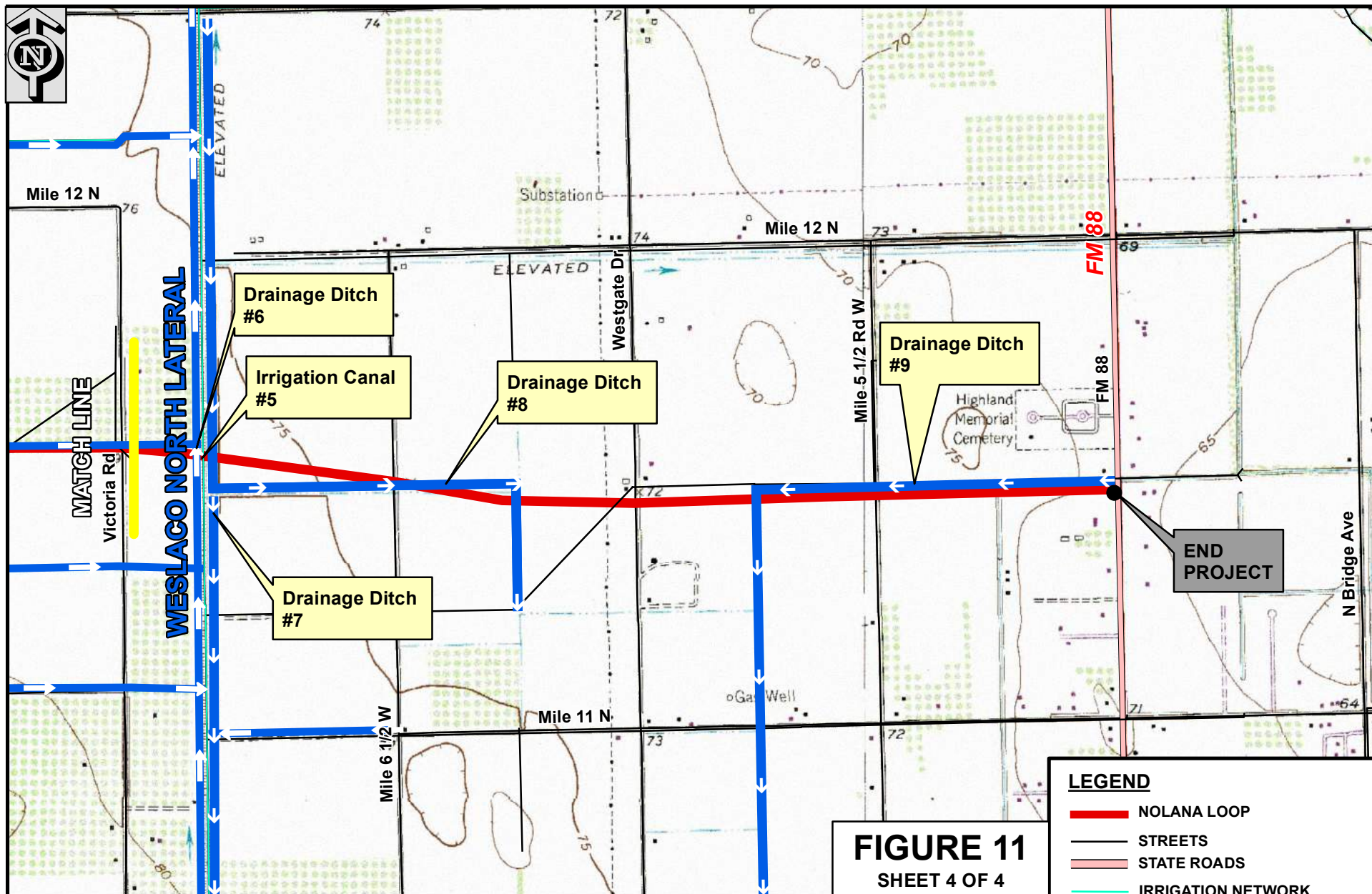


FIGURE 11
SHEET 4 OF 4

LEGEND

- NOLANA LOOP
- STREETS
- STATE ROADS
- IRRIGATION NETWORK
- DRAIN DITCH NETWORK

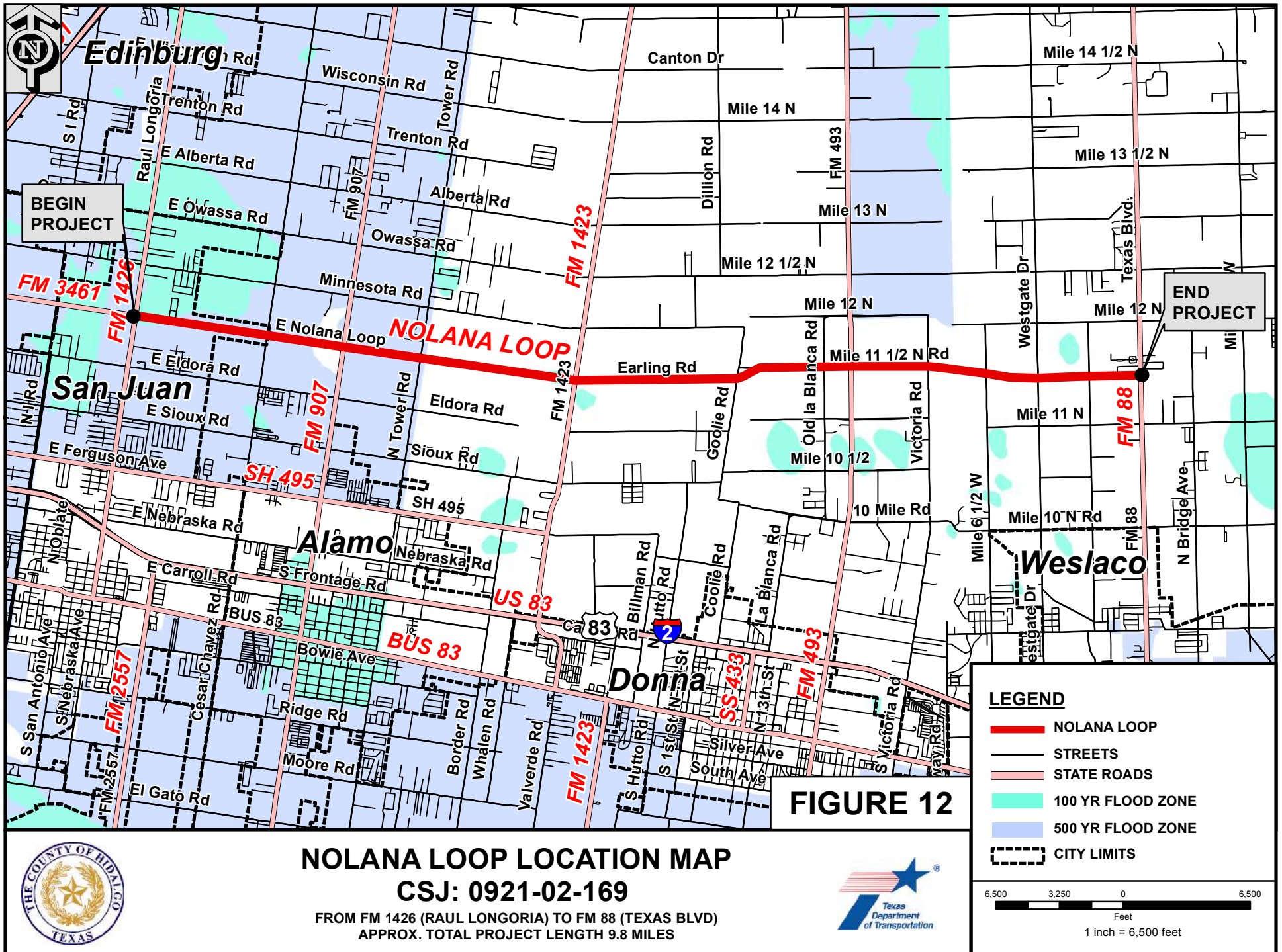
Scale:
1,500 750 0 1,500
Feet
1 inch = 1,500 feet

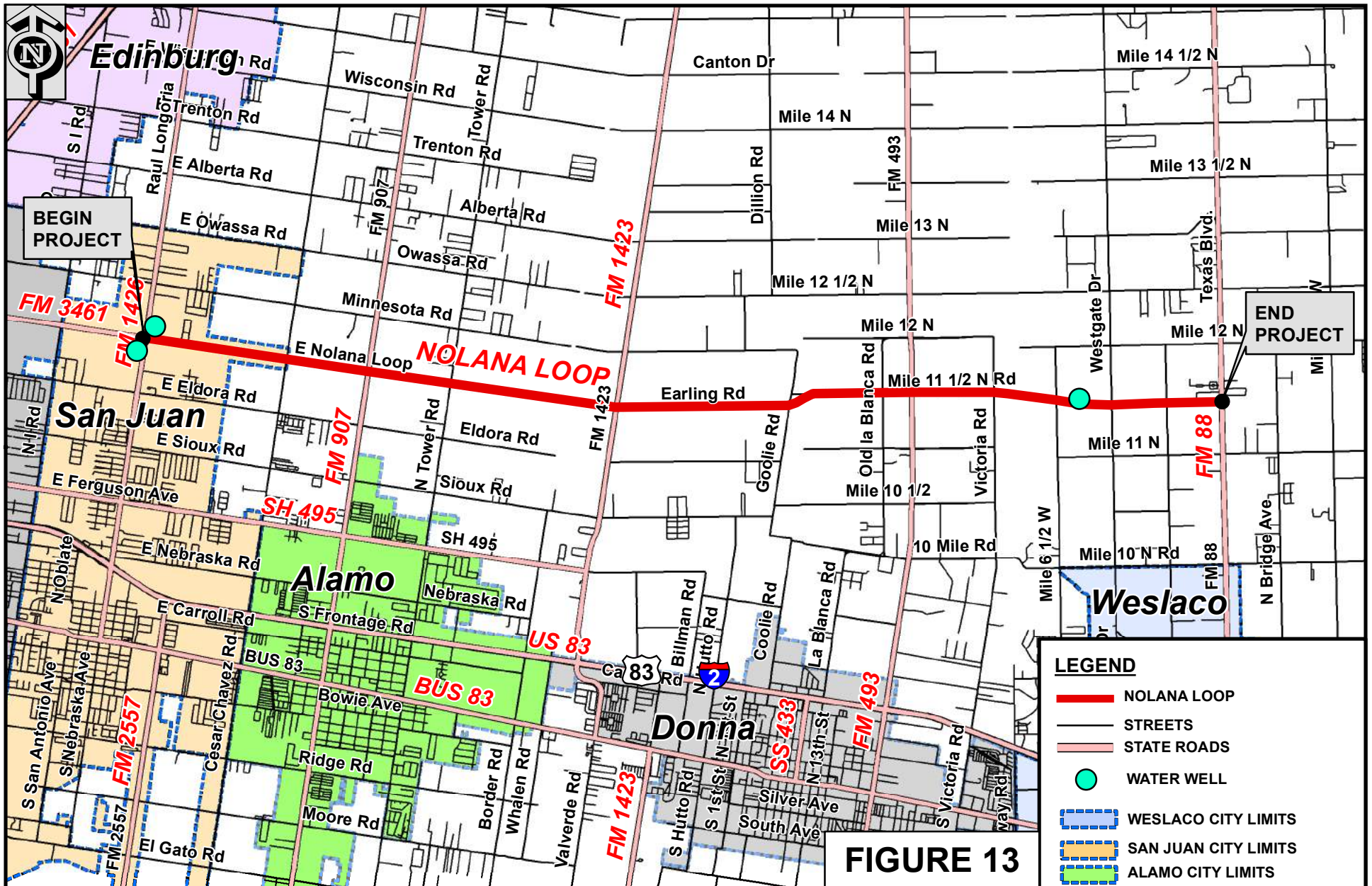


NOLANA LOOP AQUATIC RESOURCES MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES

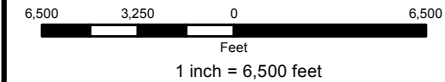






LEGEND

- NOLANA LOOP
- STREETS
- STATE ROADS
- WATER WELL
- WESLACO CITY LIMITS
- SAN JUAN CITY LIMITS
- ALAMO CITY LIMITS
- EDINBURG CITY LIMITS
- DONNA CITY LIMITS



NOLANA LOOP WATER WELL MAP

CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





FIGURE 14
SHEET 1 OF 19

LEGEND

- Proposed ROW
- Existing ROW
- Noise Barrier
- Non-Impacted Receiver
- Impacted Receiver
- Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



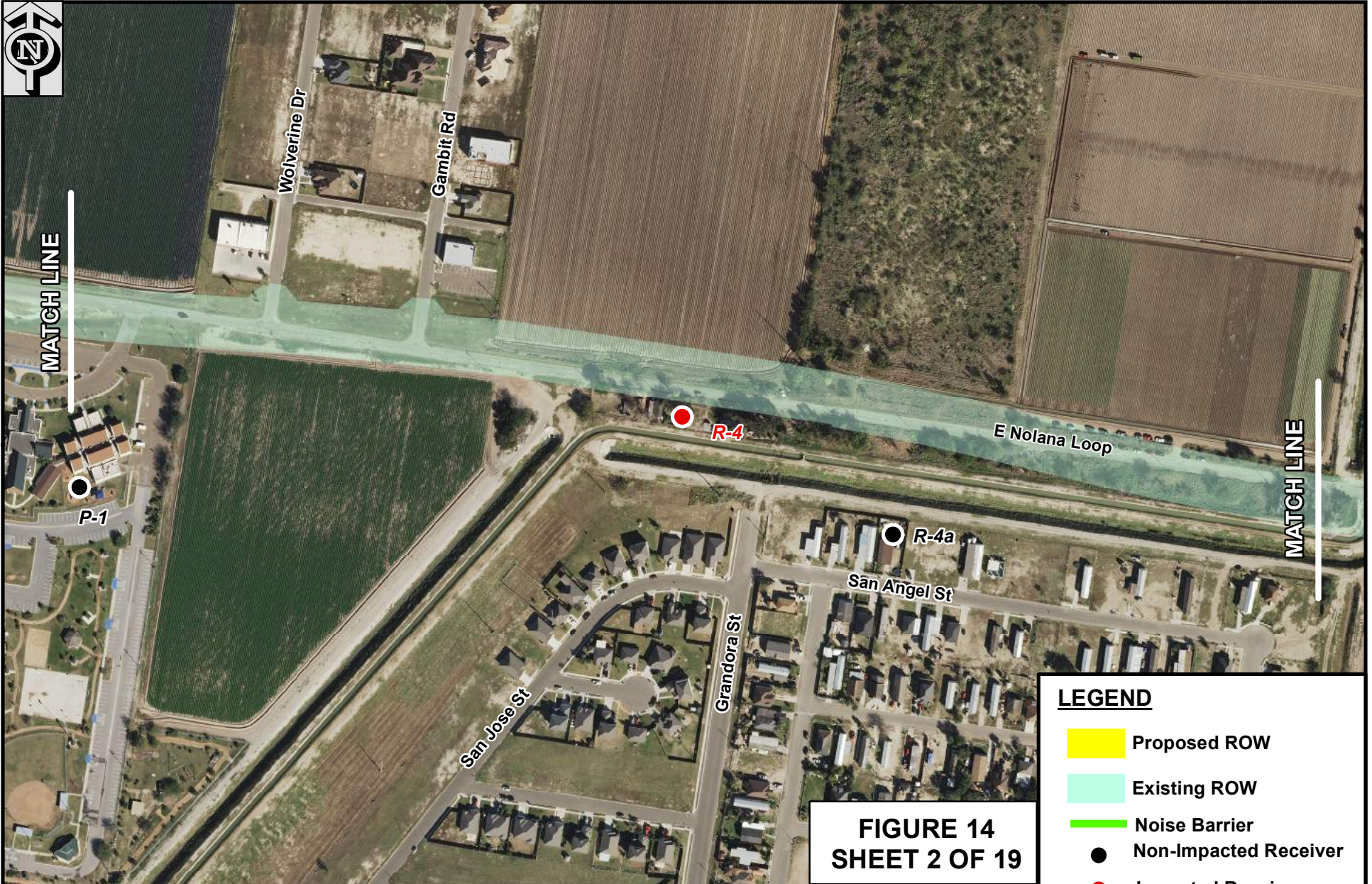








FIGURE 14
SHEET 2 OF 19

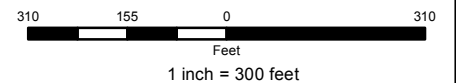
LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



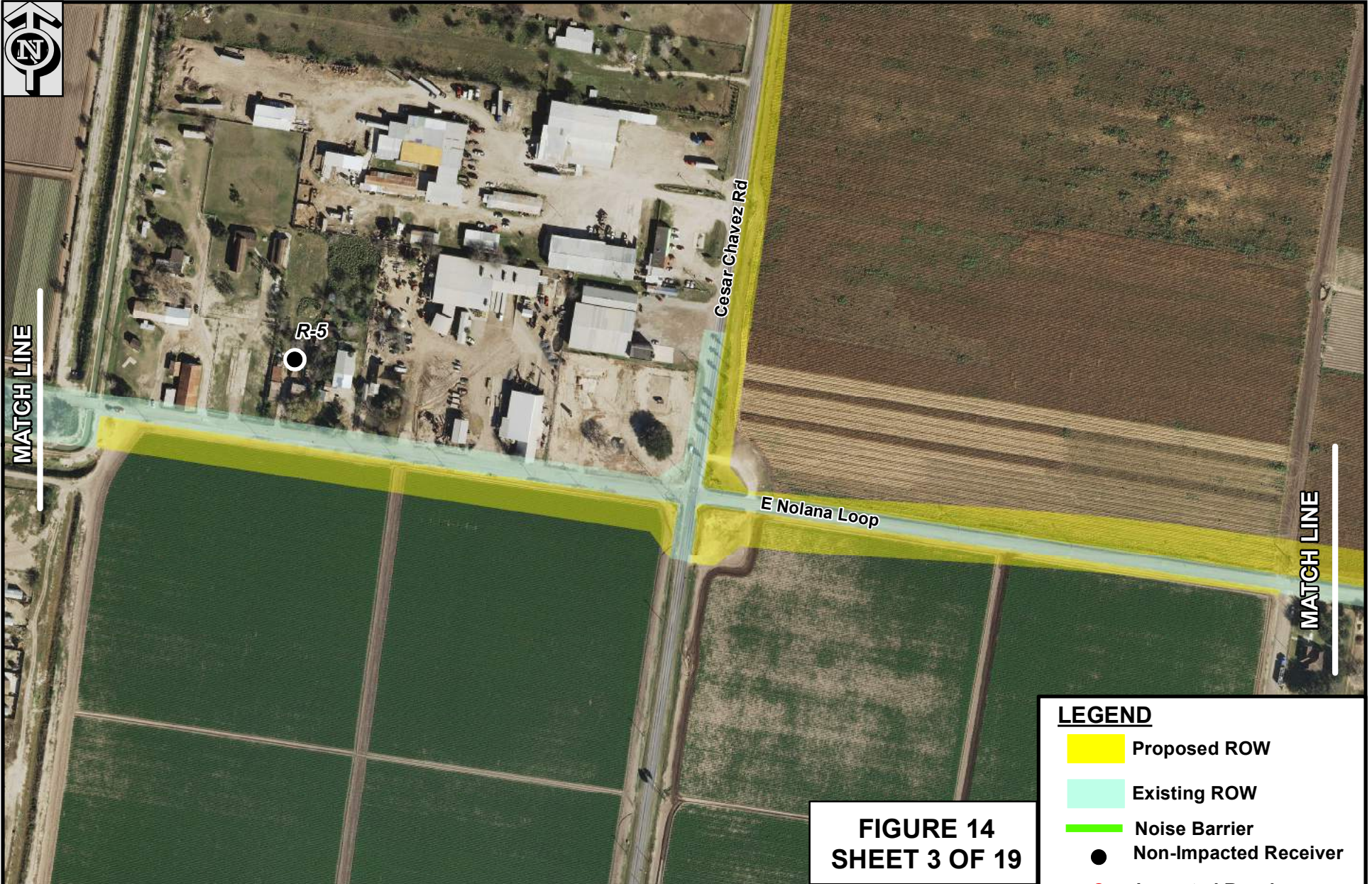
NOLANA LOOP NOISE RECEIVER LOCATION MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





MATCH LINE



MATCH LINE

FIGURE 14
SHEET 3 OF 19



NOLANA LOOP NOISE RECEIVER LOCATION MAP

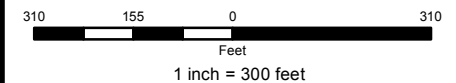
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

- Proposed ROW
- Existing ROW
- Noise Barrier
- Non-Impacted Receiver
- Impacted Receiver
- Benefitted Receiver



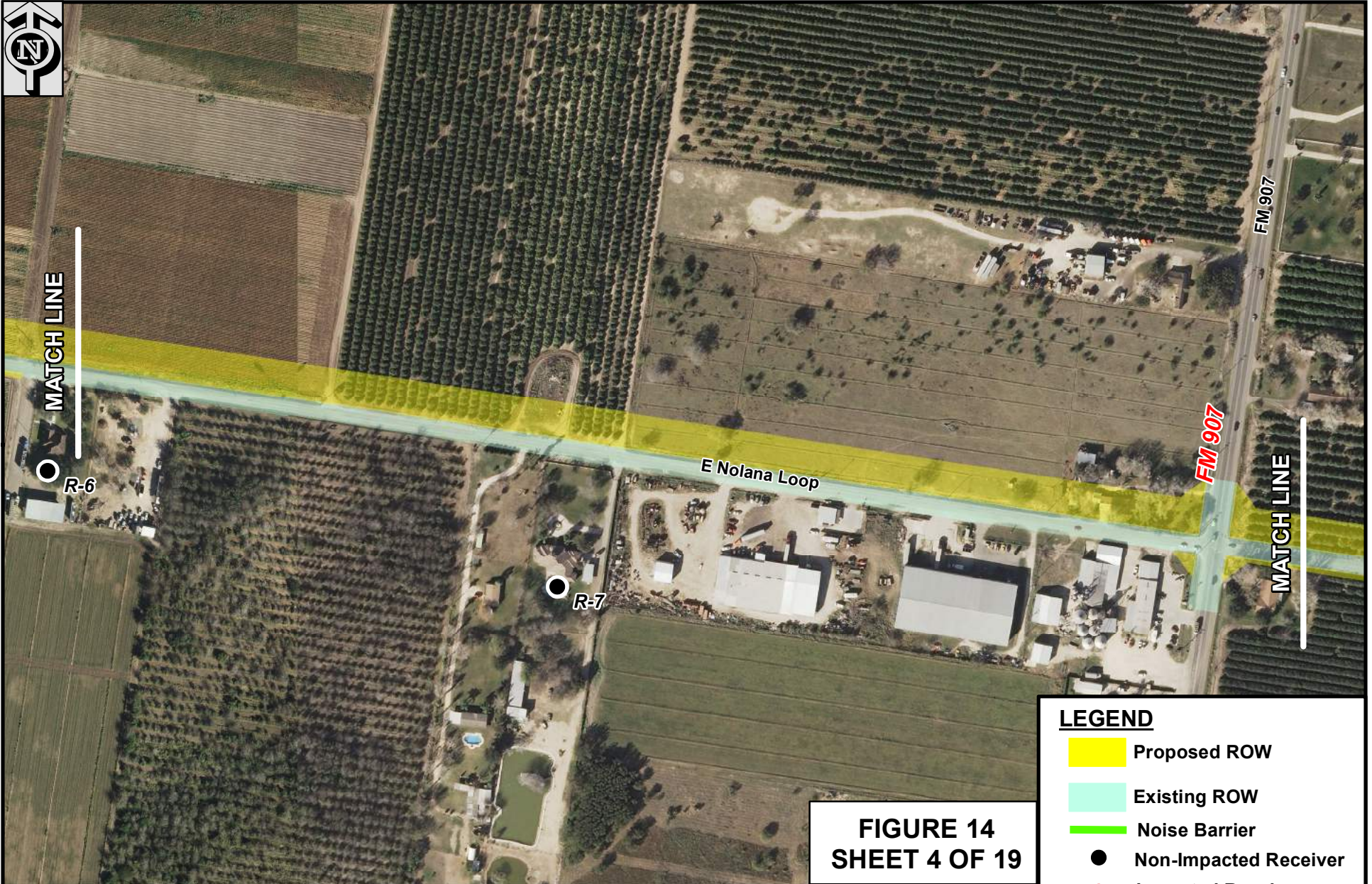


FIGURE 14
SHEET 4 OF 19



NOLANA LOOP NOISE RECEIVER LOCATION MAP

CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

- Proposed ROW
- Existing ROW
- Noise Barrier
- Non-Impacted Receiver
- Impacted Receiver
- Benefitted Receiver

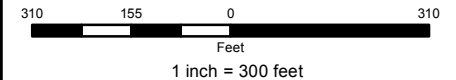




FIGURE 14
SHEET 5 OF 19









NOLANA LOOP NOISE RECEIVER LOCATION MAP

CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver

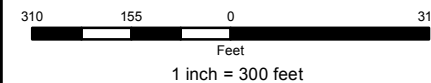






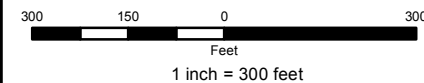




FIGURE 14
SHEET 6 OF 19

LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP

CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



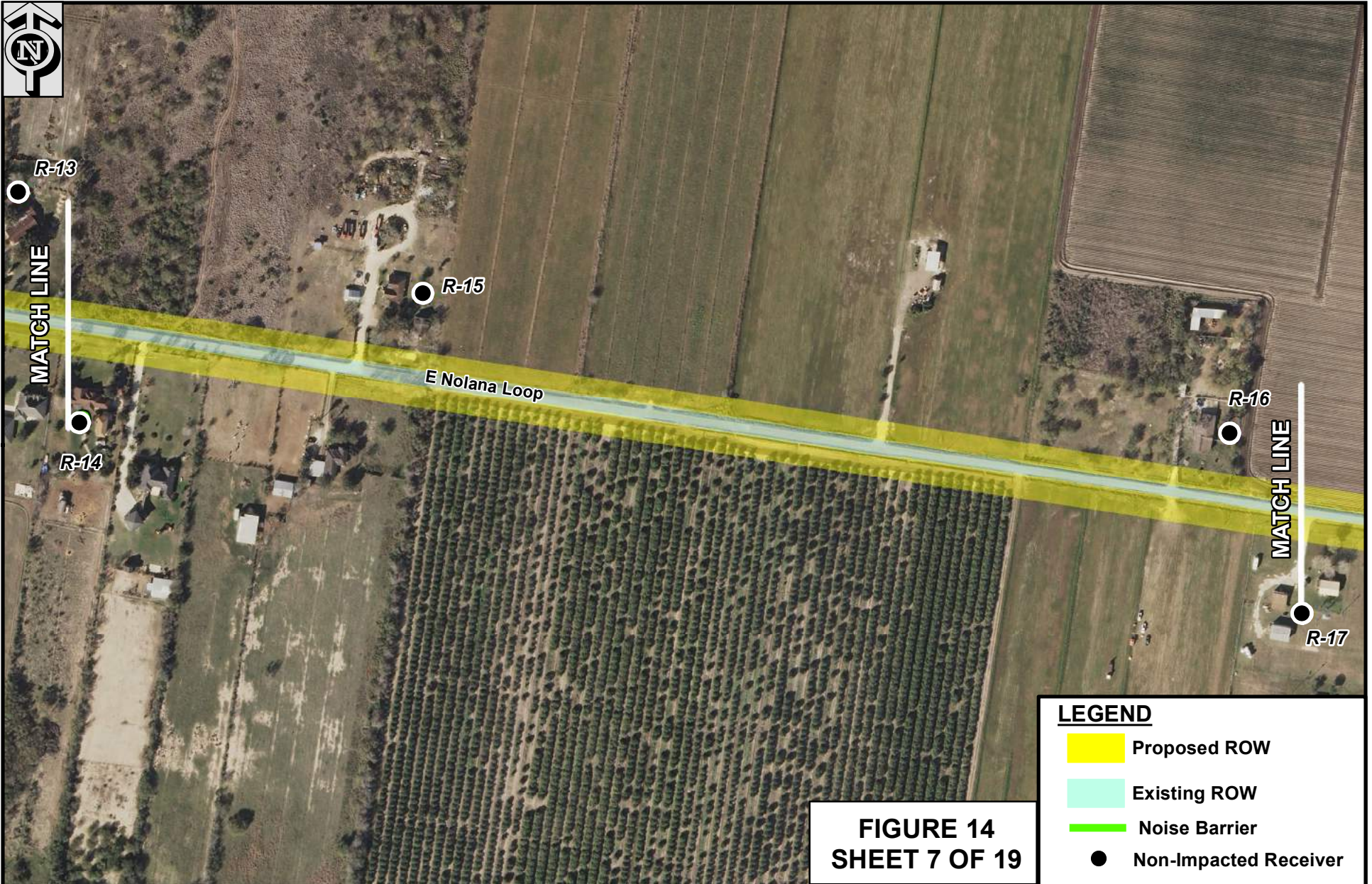


FIGURE 14
SHEET 7 OF 19







NOLANA LOOP NOISE RECEIVER LOCATION MAP

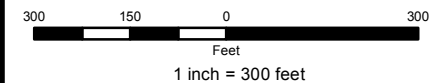
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



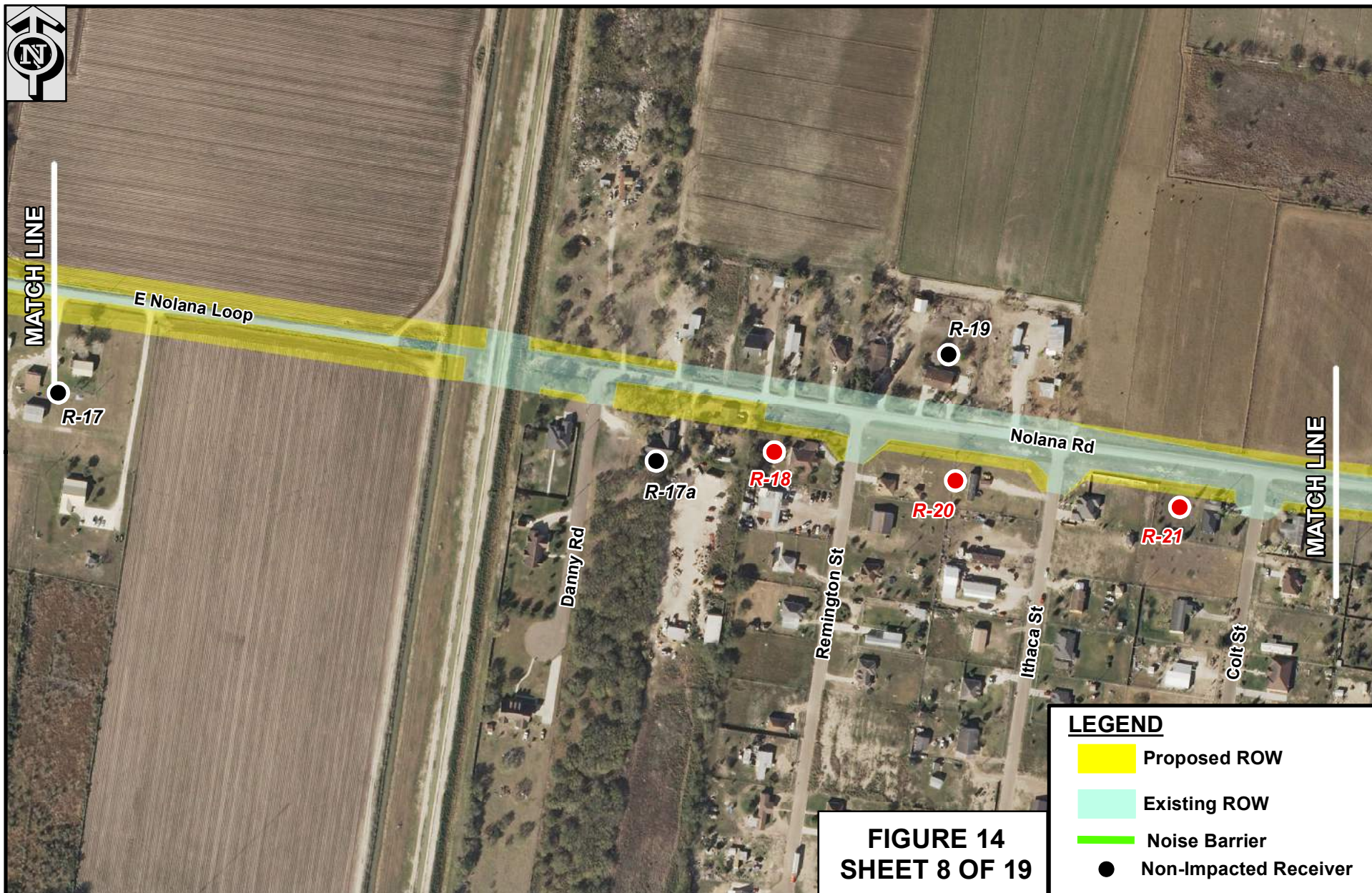






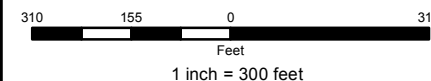


FIGURE 14
SHEET 8 OF 19

LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



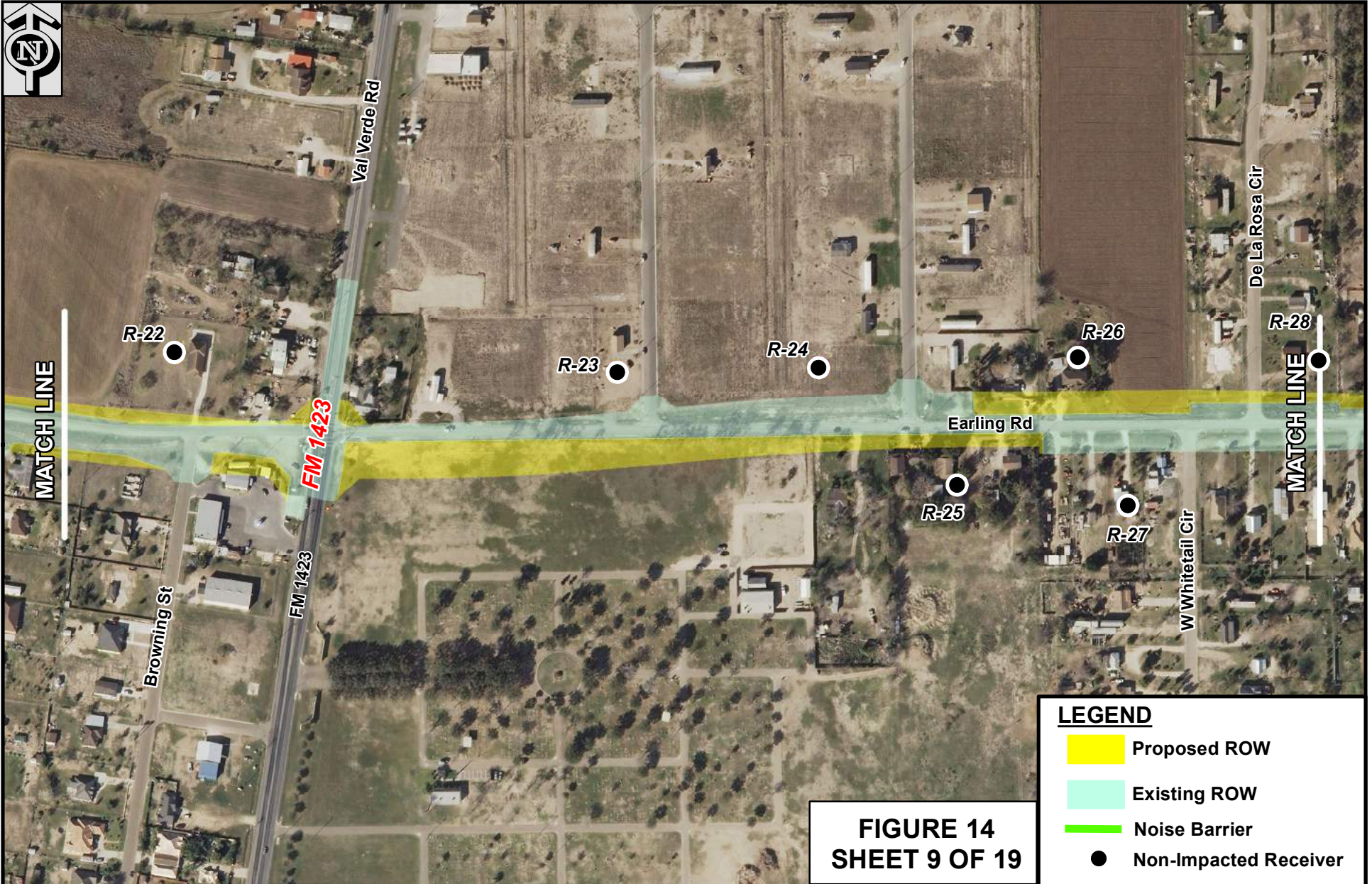


FIGURE 14
SHEET 9 OF 19



NOLANA LOOP NOISE RECEIVER LOCATION MAP

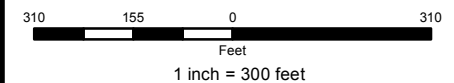
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

- Proposed ROW
- Existing ROW
- Noise Barrier
- Non-Impacted Receiver
- Impacted Receiver
- Benefitted Receiver



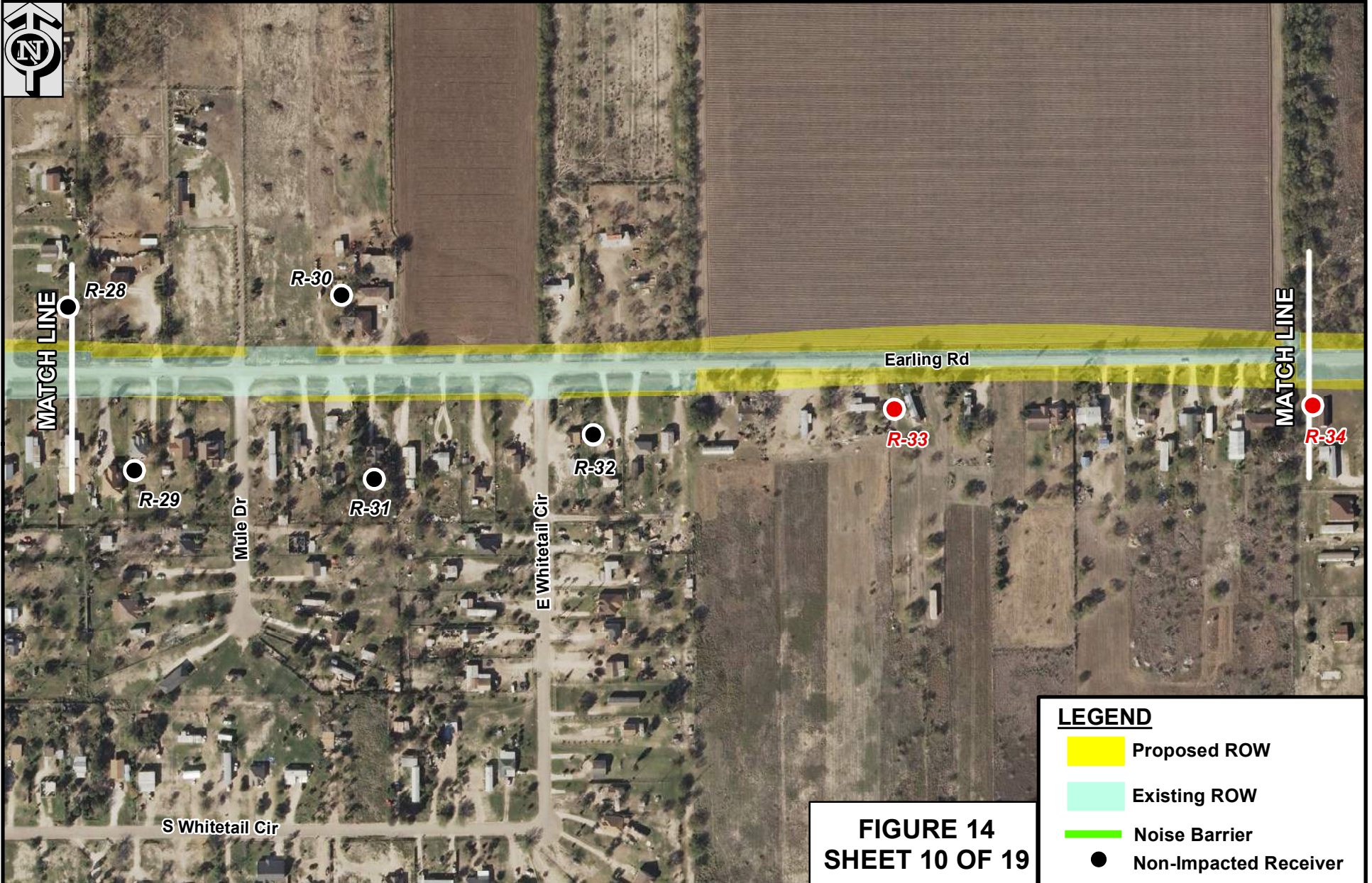






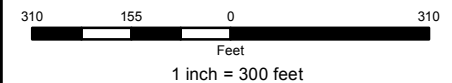


FIGURE 14
SHEET 10 OF 19

LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP

CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



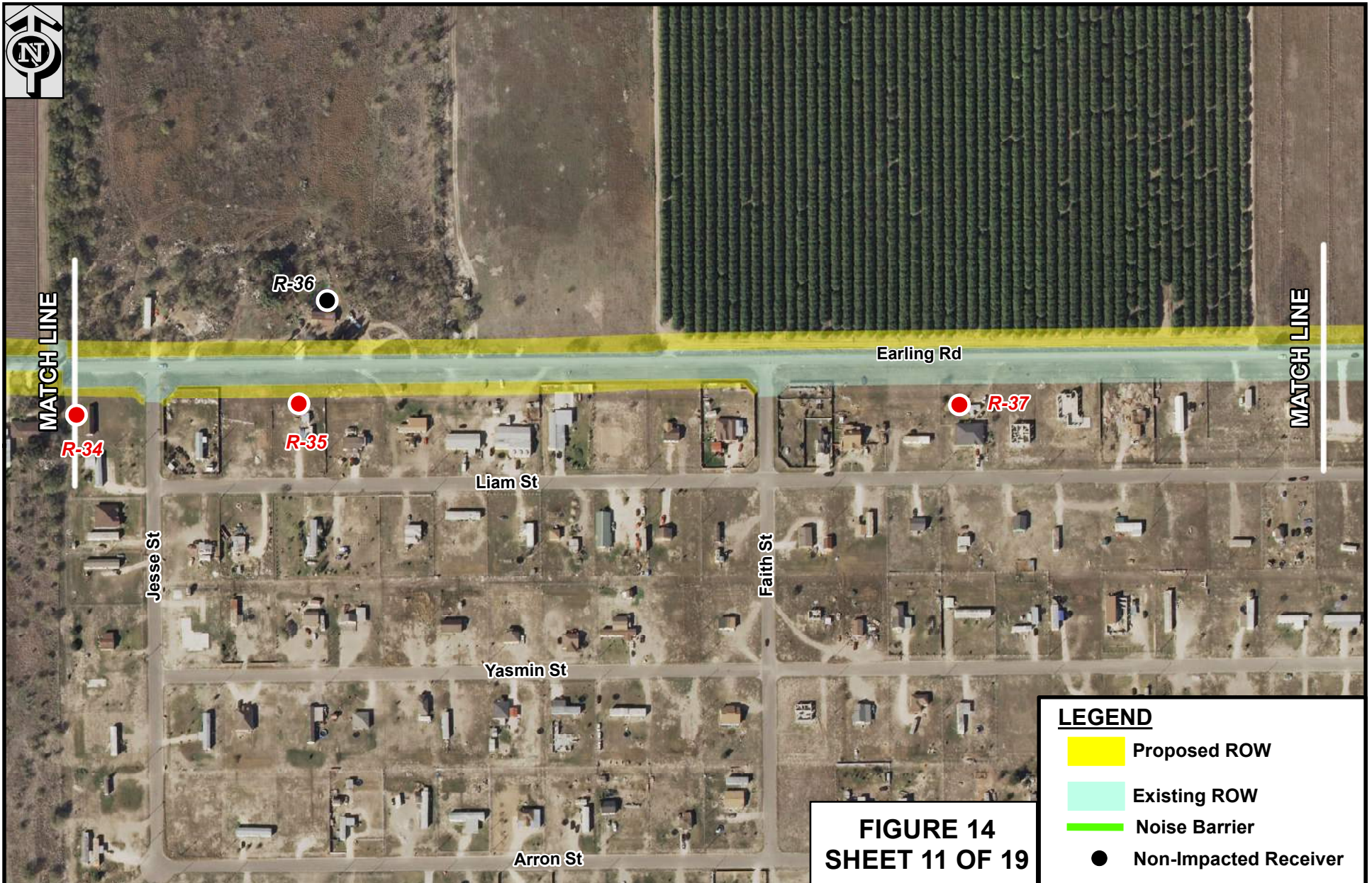






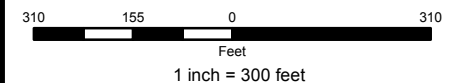


FIGURE 14
SHEET 11 OF 19

LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES

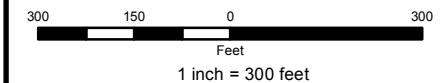




FIGURE 14
SHEET 12 OF 19

LEGEND

- Proposed ROW
- Existing ROW
- Noise Barrier
- Non-Impacted Receiver
- Impacted Receiver
- Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



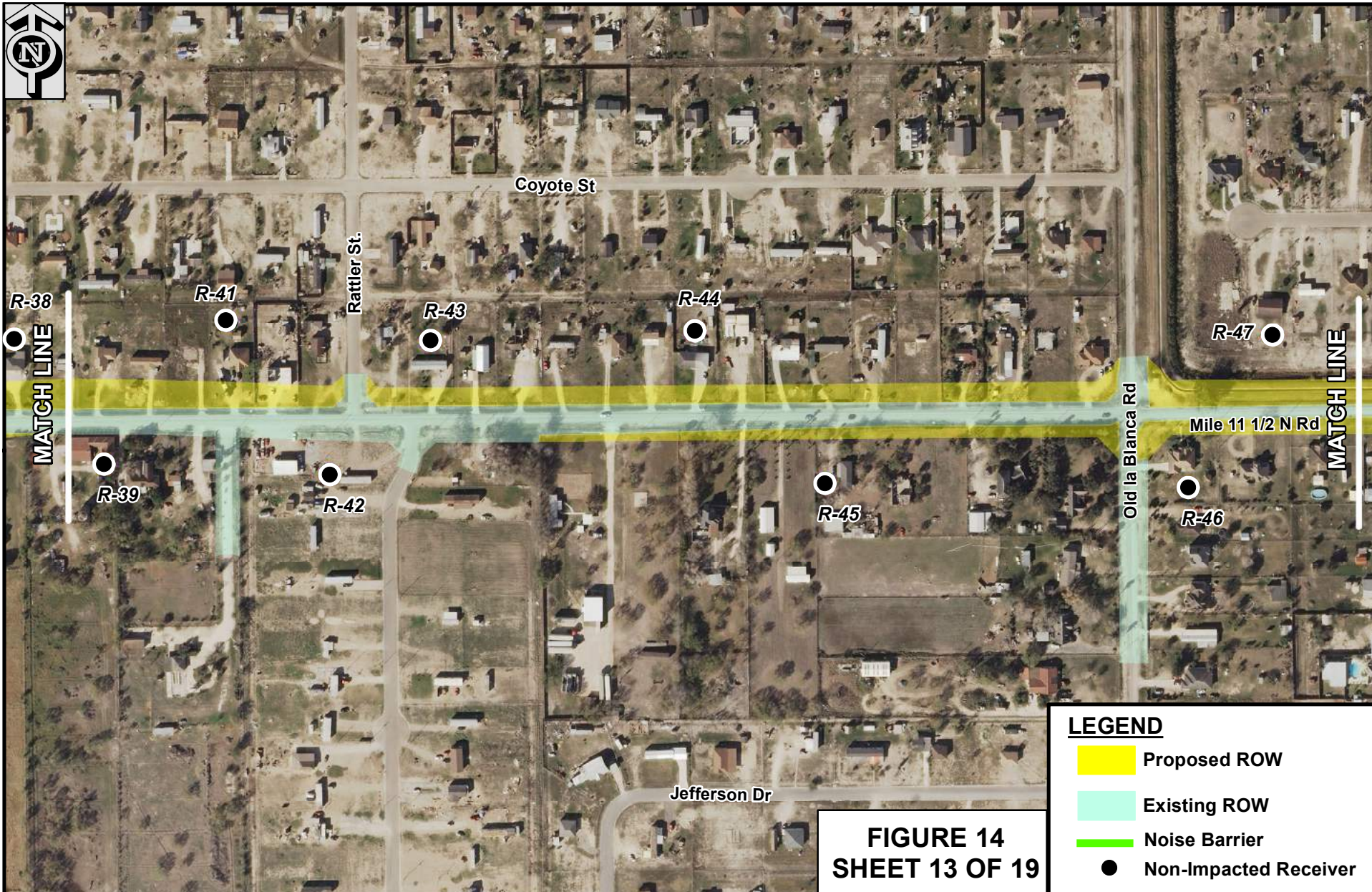
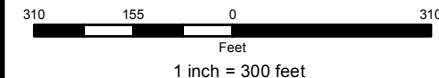


FIGURE 14
SHEET 13 OF 19

LEGEND

- Proposed ROW
- Existing ROW
- Noise Barrier
- Non-Impacted Receiver
- Impacted Receiver
- Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



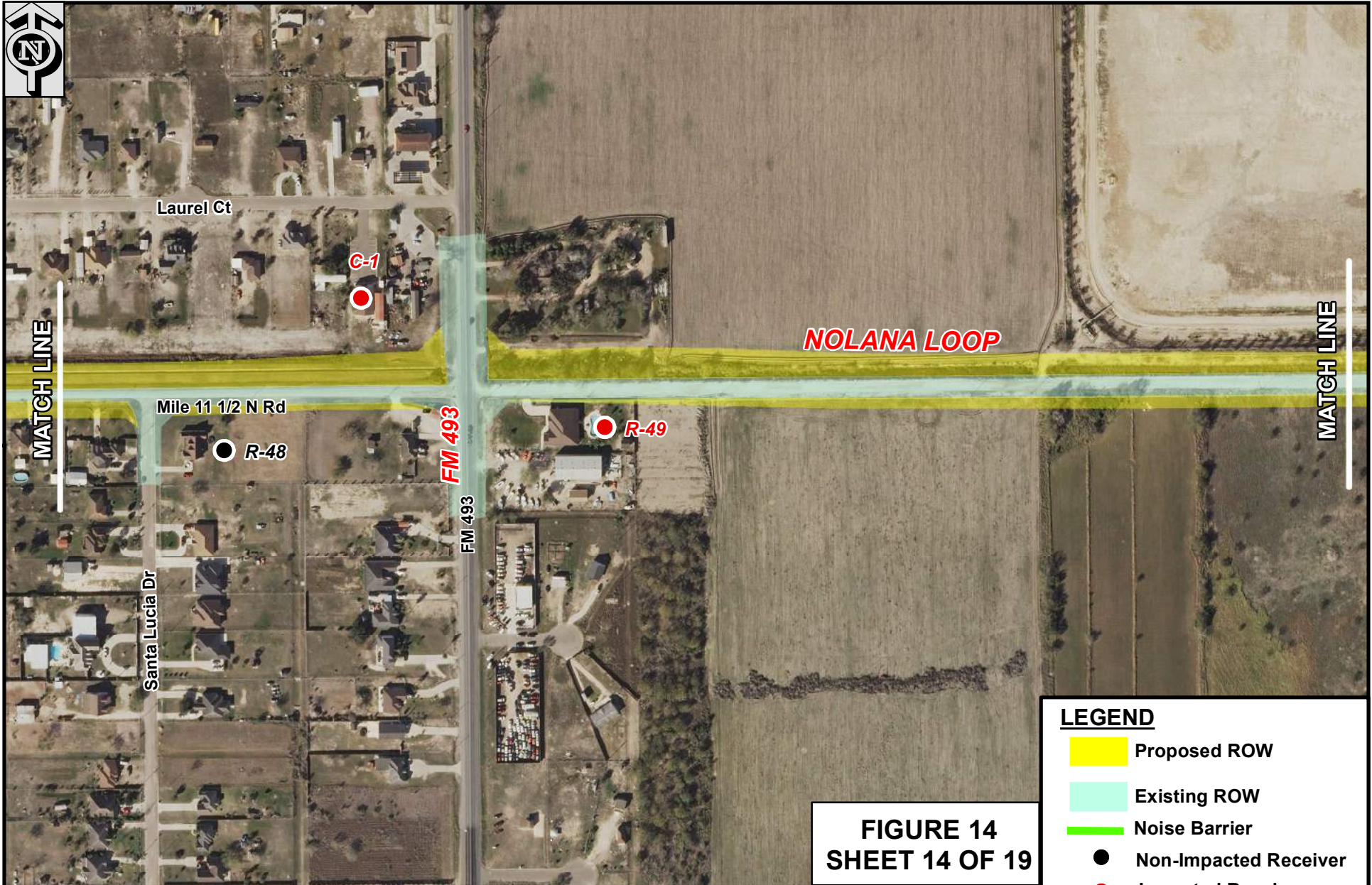
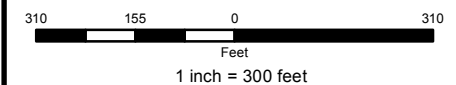


FIGURE 14
SHEET 14 OF 19

LEGEND

- Proposed ROW
- Existing ROW
- Noise Barrier
- Non-Impacted Receiver
- Impacted Receiver
- Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



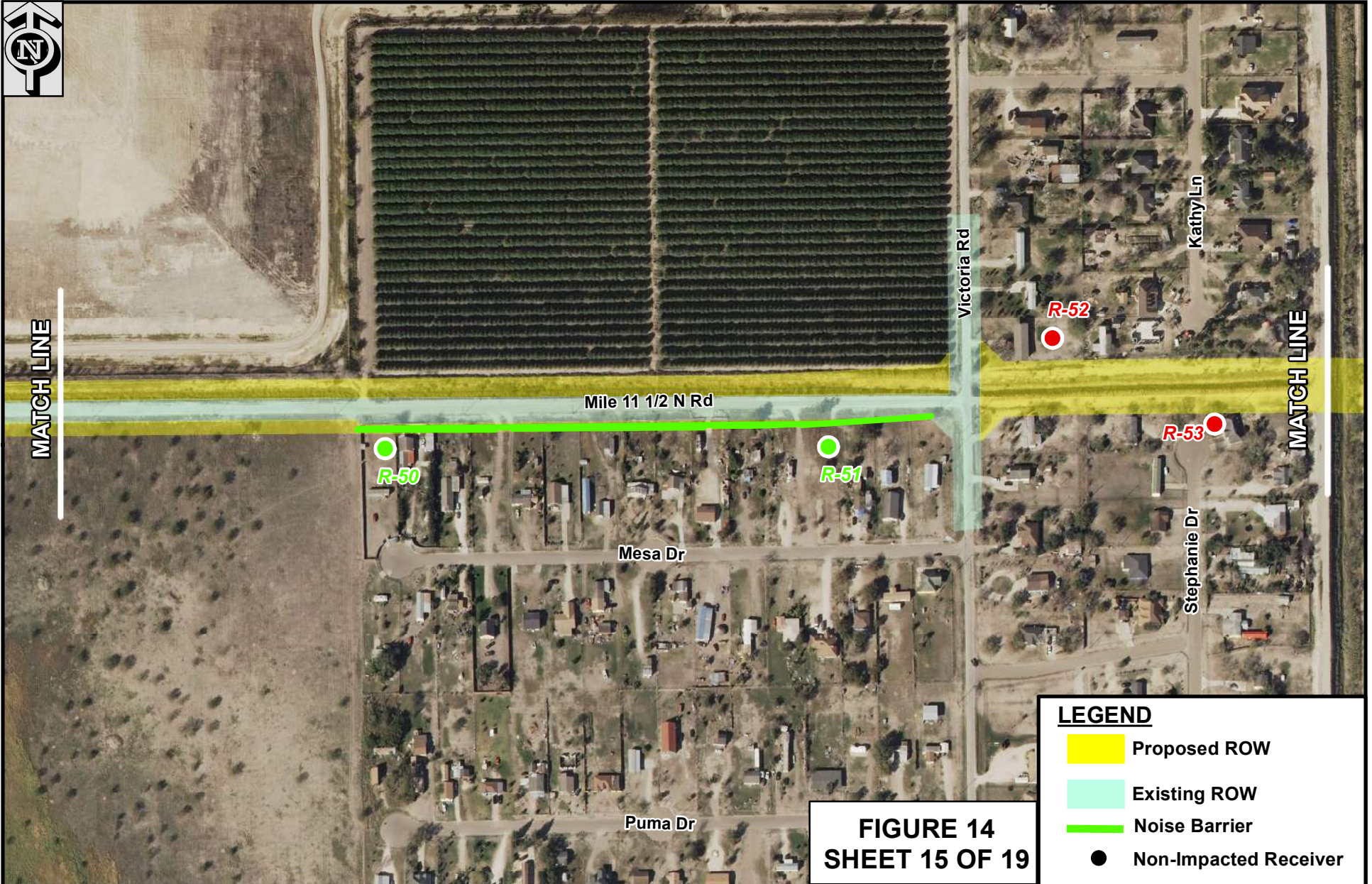


FIGURE 14
SHEET 15 OF 19







NOLANA LOOP NOISE RECEIVER LOCATION MAP

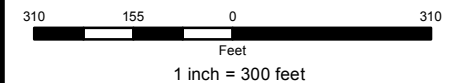
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver





MATCH LINE

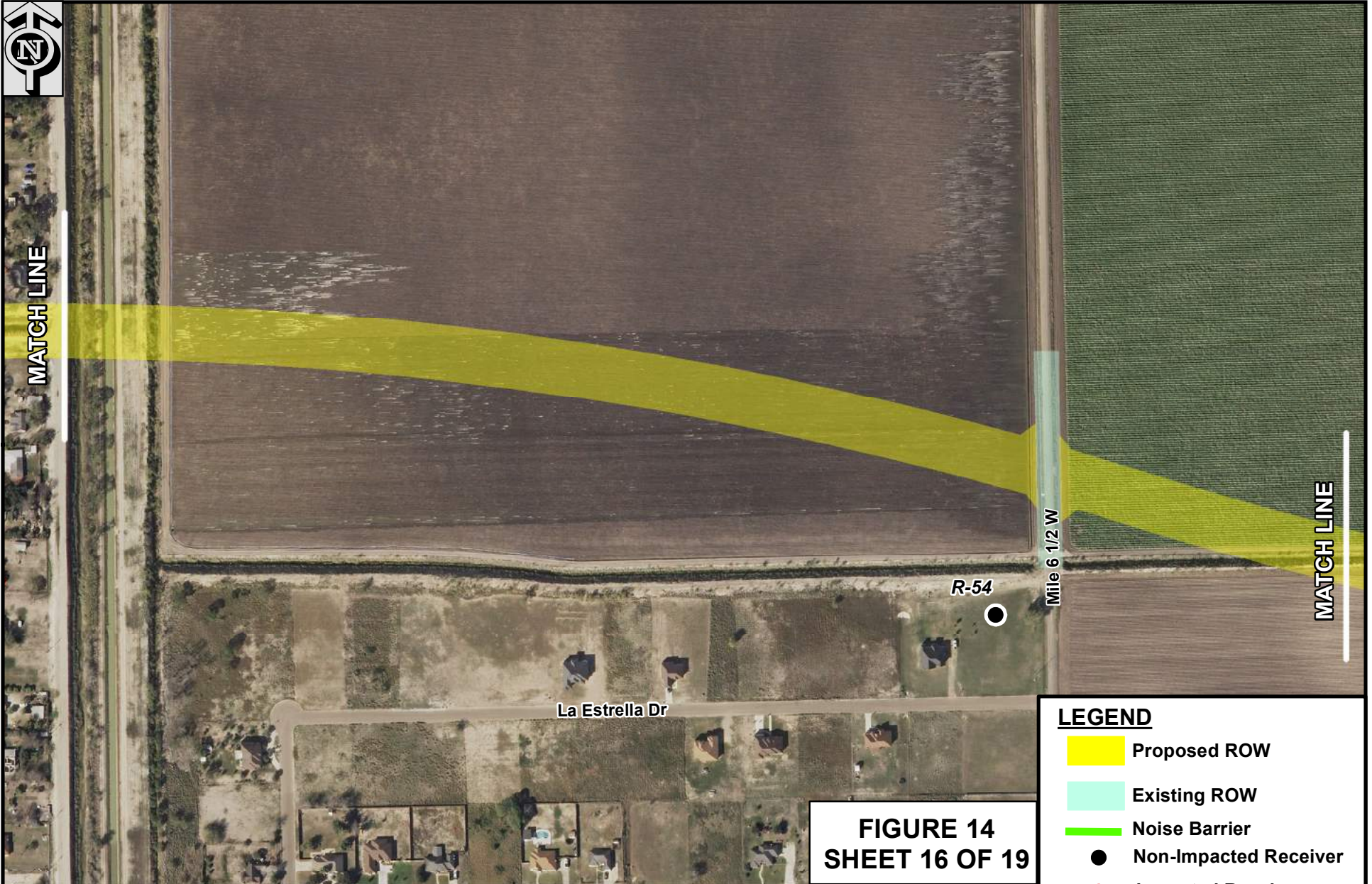


FIGURE 14
SHEET 16 OF 19









NOLANA LOOP NOISE RECEIVER LOCATION MAP

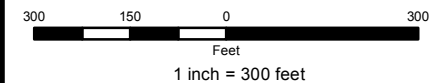
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver





MATCH LINE







R-55

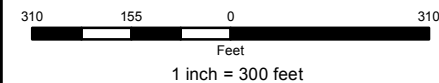
MATCH LINE

Westgate Dr

FIGURE 14
SHEET 17 OF 19

LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP

CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES





FIGURE 14
SHEET 18 OF 19









NOLANA LOOP NOISE RECEIVER LOCATION MAP

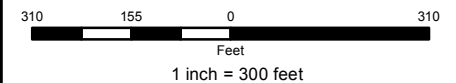
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES



LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



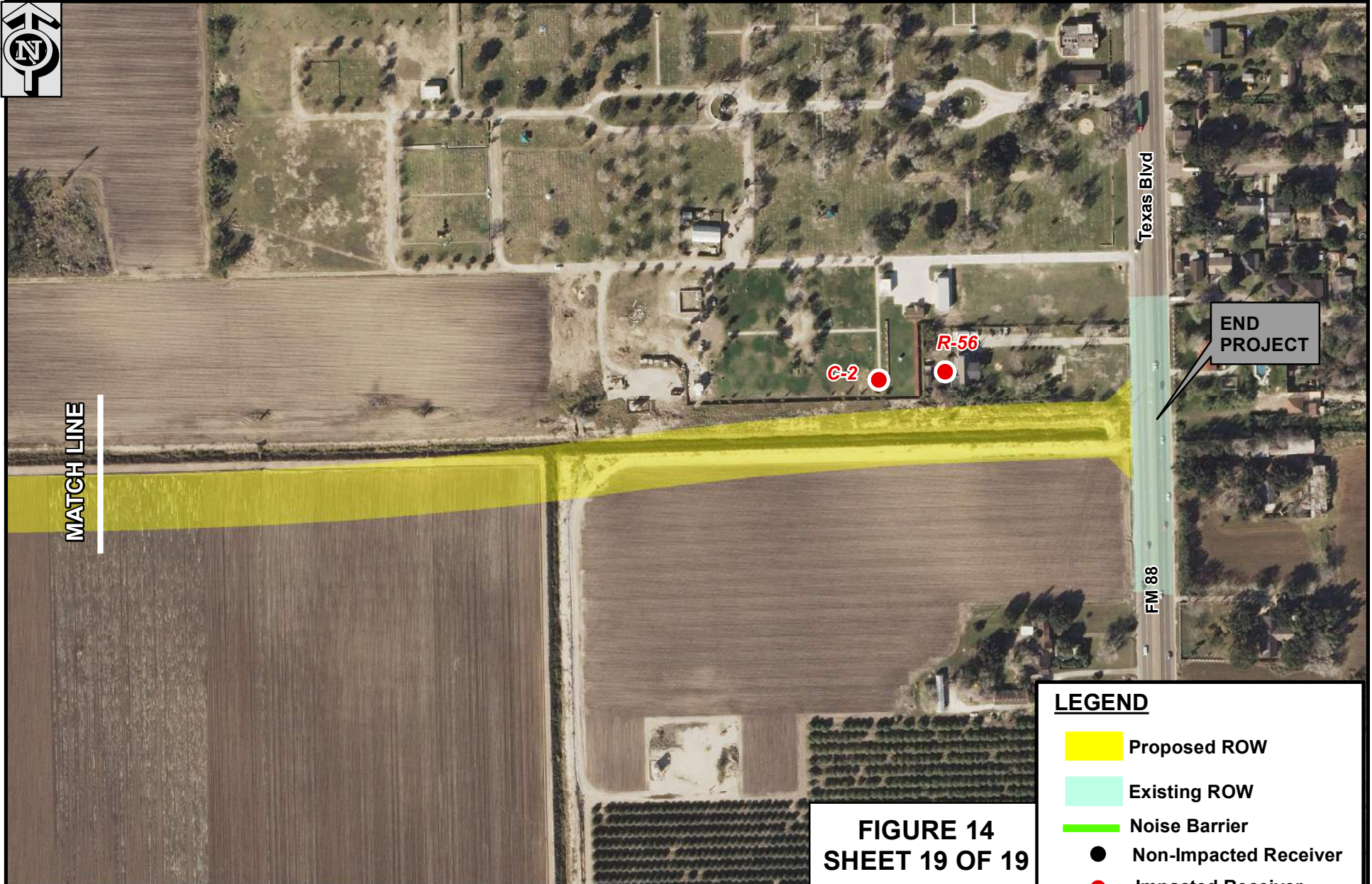








FIGURE 14
SHEET 19 OF 19

LEGEND

-  Proposed ROW
-  Existing ROW
-  Noise Barrier
-  Non-Impacted Receiver
-  Impacted Receiver
-  Benefitted Receiver



NOLANA LOOP NOISE RECEIVER LOCATION MAP
CSJ: 0921-02-169

FROM FM 1426 (RAUL LONGORIA) TO FM 88 (TEXAS BLVD)
APPROX. TOTAL PROJECT LENGTH 9.8 MILES

