OKLAHOMA DEPARTMENT OF TRANSPORTATION

Environmental Programs Division Office 405 - 521-3050

Programmatic/Individual Categorical Exclusion

	PCE	X	ICE

Date	**May 21, 2020**	Project Number	**J3-0425(004); J3-0425(007)**
County	**Grady**	State Job Piece No:	**30425(04); 30425(07)**
NEPA Project Manager	**Greg Worrell**	Phone Number	**405-522-8014**
ODOT Field Division	**7**	Bridge NBI No. *(For County & State Projects)* & Location No. *(County Projects Only)*	**08712, 08714, 09046, 09048, 11070, 11089, 11119**
Project Description from JPINFO	**Grade, Drain, Bridge, & Surface: SH-19 from approximately 5 miles east of US-81, extending approximately 8.5 miles to Roaring Creek Bridge**		

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

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

Existing Conditions *(Describe existing bridge width, approach roadway width, etc., traffic (current and projected), Existing Problems such as sufficiency rating):*

SH-19 from west of the Town of Alex extending to east of Alex consists of two 12-ft. wide driving lanes with 1-ft. wide paved shoulders, numerous substandard vertical curves, and inadequate clear zone. There are six (6) bridges within the extents of this project, three (3) of which are 30-ft. long reinforced concrete boxes (RCB), one (1) of which is a 38-ft. long RCB, and two (2) of which are 28-ft. wide span bridges. All bridges have approaching roadway widths of 26 ft.

The current annual average daily traffic (AADT) volume is 2,800 vehicles per day (vpd) and the projected AADT for the design year 2037 is approximately 3,800 vpd. The western segment of SH-19, which begins 5 miles east of US-81, extends 3.8 miles east, and ends west of the Town of Alex, has a collision rate of 123.69 collisions per 100 million vehicle miles, which is 1.5 times the statewide rate for similar facilities. This elevated collision rate may be attributed to inadequate paved shoulder widths, lack of clear recovery area, and inadequate sight-distance caused by substandard vertical alignments. The eastern segment of SH-19, which extends east 4.7 miles from the western segment, has a collision rate about equal to the statewide rate for similar facilities.

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

The purpose of the project is to improve the safety of a facility with substandard vertical alignments, inadequate recovery clear zone, narrow bridges, and narrow shoulders such that the facility meets current design standards.

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

The project consists of three segments: Segment A, which begins 5 miles east of US-81 and extends east 5.9 miles to the western limits of the Town of Alex; Segment B, consisting of approximately 0.8 mile through the Town of Alex; and Segment C, which begins east of the Town of Alex and extends east 1.8 miles to the Roaring Creek Bridge. The proposed improvements to State Highway 19 include correction of the substandard vertical alignment, adding shoulders, establishing an adequate clear zone, and addition of turn lanes at the Cedar Hills Road intersection and through the Town of Alex.

Three alternatives were considered for Segment A: (1) improvements on the existing alignment, (2) offset alignment to the north, and (3) offset alignment to the south.

Three alternatives were considered for Segment B: (1) curb and gutter section widened about the centerline, (2) an open section widened to the south with 4-ft. wide paved shoulders, and (3) an open section widened to the south with 8-ft. wide paved shoulders. All three Segment B alternatives also included a middle left turn lane.

Three alternatives were considered for Segment C: (1) improvements on the existing alignment, (2) offset alignment to the north, and (3) offset alignment to the south.

At a public Open House held June 29, 2017 ODOT presented the Preferred Alternative for improvement of three segments of SH-19 and requested public comment. The Preferred Alternative presented at the Open House was:

- Segment A: Alternative 2 – North Offset
- Segment B: Alternative 2 – Open Section with 4-foot shoulders
- Segment C: Alternative 1 – Improvements on existing alignment

Subsequent to the Open House, ODOT received public comments, including questions about anticipated impacts to private property, suggestions for an alternative improvement to NS 294 (Cemetery Road), support for Segment A: Alternative 2 - North Offset, and additional information regarding underground oil utility locations. ODOT also met with representatives of the Southern Plains Landfill to discuss potential landfill impacts associated with the Segment A Preferred Alternative, i.e., Alternative 2 - North Offset. The Alternative 2 - North Offset would require acquisition of approximately 10 acres of right-of-way from the landfill's proposed expansion, resulting in the total estimated cost of Alternative 2 - North Offset being $11.7 million greater than that of Alternative 3 - South Offset. Due to the estimated economic impacts of Alternative 2 - North Offset, ODOT revised the Preferred Alternative for Segment A from Alternative 2 - North Offset to Alternative 3 - South Offset. The public was informed of this change in a public flyer mailed March 9, 2018 to all agencies and interested parties on the project mailing list. There was no public comment period associated with the flyer; rather, the flyer provided the public a link to ODOT's website, where the public flyer and all associated public involvement materials would be available for review.

Therefore, the final Preferred Alternative is:

- Segment A: Alternative 3 – South Offset, improvements offset 65 ft. south of the existing centerline, and the realignment of all section line road intersections to replace skewed intersections with perpendicular intersection, thereby improving sight-distance.
- Segment B: Alternative 2 – Open Section with 4-ft. shoulders, and the realignment of all section and non-section line road intersections to replace skewed intersections with perpendicular intersections, thereby improving sight-distance.
- Segment C: Alternative 1 – Improvements on existing alignment, to include pavement resurfacing, rehabilitation and/or restoration, shoulder widening, flattening substandard vertical curves, roadside clear zone adjustment, drainage improvements, and the realignment of the section line road intersection to replace the skewed intersection with a perpendicular intersection, thereby improving sight-distance.

All proposed improvements will feature two 12-ft. wide driving lanes with 8-ft. wide paved shoulders.

All six bridges will be replaced with either roadway-size or bridge-size RCBs meeting the clear zone requirements.

SH-19 will remain open to traffic during construction.

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

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

Criteria Identified in Section III.b.3. of the 2011 FHWA/ODOT Programmatic Agreement for Processing Categorical Exclusions that would require Individual Review and Approval by FHWA:
Check Yes or No below. If the answer to any of the questions below is Yes, an Individual CE will be required.

Description/Question	**Yes**	**No**
Item(a)		
1. Does the project involve residential or commercial relocation?	**X**	
2. Does the project involve acquisition of right-of-way not adjacent to the existing facility?		**X**
3. Does the project involve property in which another Federal Agency or Federally Recognized Tribe has ownership, oversight or any other encumbrance?		**X**
Item(b)		
Does the project involve a determination of adverse effect by Oklahoma State Preservation Office (SHPO) or a designated Tribal Historic Preservation (THPO) in accordance with Section 106? An exception to this would apply if adverse effects are addressed programmatically as part of a previously executed general Section 106 Programmatic Agreement with SHPO, FHWA and others, and a project-specific MOA will not be required.		**X**
Item (c)		
Does the project involve a Programmatic Section 4(f) or *de minimis* finding which has not been previously approved by FHWA?		**X**
Item (d)		
Does the project involve a Section 6(f) property?		**X**
Item (e)		
Does the project involve any impact on Noise Abatement Criteria (NAC) Category A, B, C or D receptors?	**X**	

Item (f)		
1. Does the project involve a finding of "may effect, likely to adversely affect" to a federally listed endangered or threatened species or its critical habitat determined during the Section 7 Informal Consultation Process? The exception to this is the American Burying Beetle or any other species which has been addressed under a separate formal programmatic agreement.		**X**
2. Does the project involve a Section 7 Formal Consultation Process?		**X**
Item (g)		
Does the project require an Individual Section 404 Permit (This is for major River Crossings, waters or wetlands impact greater than 0.5 AC, Projects with Formal Consultation, or others as determined by USACE)?		**X**
Item (h)		
Does the project require a Coast Guard Permit?		**X**
Item (i)		
Does the project involve construction across or adjacent to a river designated as a component in the National System of Wild and Scenic Rivers?		**X**
Item (j)		
Does the project involve an adverse impact on prime farmland where Natural Resources Conservation Agency (NRCS) has required consideration of alternatives and measures to avoid and minimize impacts?		**X**
Item (k)		
Does the project involve increase to the base 100 Year floodplain in a regulatory floodway (Zone A-E in a FEMA Map) that will require a flood map revision as determined by the appropriate state or local authority?		**X**
Item (l)		
Does the project involve any known Superfund site?		**X**
Item (m)		
Does the project involve any permanent changes to the operation of an Interstate highway, associated interchanges or ramps?		**X**
Item (n)		
Does the project have potential for disproportionately high and adverse impact on minority or low-income populations, based on known demographics in the project vicinity, extent of R/W, relocations, and other identified impacts?		**X**
Item (o)		
Does the project have any substantial or public controversy on environmental grounds?		**X**

Item (p)			
If the project involves road closure or ramp closure, do any of the following conditions apply*? (Check the boxes <u>ONLY</u> if the project involves road closure)*			
i.	No Access will be provided to local traffic or posted		
ii.	Through traffic dependent businesses will be affected		
iii.	The detour closure will interfere with special events or activities		
iv.	The detour or closure will substantially alter the environmental consequences of the action, such as by creating unsafe conditions on the detour route or requiring additional work or expansion to detour routes to carry the additional traffic.		
v.	There is a public controversy associated with the detour or closure		

Explanation for Individual CE (If any of the answers above are YES):	
Item for which the answer is YES	**Item (a)1**
Explanation that CE Classification is appropriate	
A Relocation Plan was completed on June 20, 2019 which determined that seven residential relocations may be necessary due to the impact of proposed right-of-way as depicted in the Proposed Right-of-Way Plans dated March 2019. A Community Impacts Assessment Form was completed to identify Social and Economic (SE) Impacts and an Analysis Specialist Study was completed to identify potential impacts associated with the potential displacements identified in the Relocation Plan. There were no commercial displacements identified in the Relocation Plan which would affect community cohesion or economic growth. For the seven (7) single family residences to be relocated, decent, safe and sanitary housing is available in the project's surrounding area and the potential displacements are located within Census Blocks which do not contain a high-percentage of minority populations, nor are they located within block groups containing a low-income population. The benefits associated with the proposed improvements would include improved traffic operations and enhanced safety for local traffic. No disproportionately high and adverse impacts on minority or low-income populations are anticipated as a result of the project. In accordance with the provisions of E.O. 12898 and FHWA order 6640.23A, no further Environmental Justice analysis is required. Information regarding the project was presented at a Public Open House meeting held on June 29, 2017. Notices were mailed to the property owners and the owners were asked to inform the lessees of the public meeting. ODOT and consultant staff were available during the Open House for one-on-one and small group discussions. A project brochure was provided to the public as a handout. Large aerial strip maps depicting the Preferred Alignment for each segment, as well as the environmental constraints mounted on display boards on easels were available for public viewing. Acquisition and relocation services will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, effective February 3, 2005.	
Item for which the answer is YES	**Item (e)**
Explanation that CE Classification is appropriate	
A February 2018 Noise Study Report was conducted for this project. Analysis utilized the FHWA Traffic Noise Model version 2.5 in accordance with FHWA 23 CFR 772 and complies with the ODOT Noise Policy dated July 13, 2011. Twenty-eight (28) model receptor locations were analyzed consisting of twenty-four (24) single family residential homes, one (1) day care, one (1) place of worship, and two (2) commercial facilities. Based upon the build alternative for the future condition (design year 2040), one (1) residential receptor (R-3; JP 30425(07)) will approach the 67 dB(A) LEQ (h) for NAC Activity Category B. No receptors will experience a substantial increase (15 dB) in sound levels over the current condition. Noise mitigation in the form of a free-standing noise wall was considered for the impacted receptor which has direct driveway access onto SH-19. Without access control, the gap needed in the noise wall for the driveway connection would make noise abatement measures ineffective and prove not feasible. Therefore, noise mitigation is not recommended for this project.	

Commitments *(Check Applicable ones)*	
X	Plan notes requiring avoidance of cultural resources in off-project areas will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2).
	Properties eligible for the National Register of Historic Places (NRHP) have been identified within the project area. Plans need to be submitted to Environmental Programs Division by the Designer for further coordination with the State Historic Preservation Office (SHPO) prior to the bid solicitation process or construction.
	Properties eligible for the National Register of Historic Places (NRHP) have been identified within the project area. The State Historic Preservation Office (SHPO)'s approval is based on the project as currently proposed. The following Plan notes will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2).

	(Only for Special Projects) Properties eligible for the National Register of Historic Places (NRHP) have been identified within the project area. Further coordination with the State Historic Preservation Office (SHPO) is required by the ODOT Project Management's Special Projects Branch prior to the bid solicitation process or construction. The SHPO letter which cites the information needed to proceed is included in the Appendix. The file number from the SHPO letter should be referenced in all correspondence with SHPO. Copies of such coordination should be provided to the Environmental Programs Division for the project record.
	(Only for Special Projects) Properties eligible for the National Register of Historic Places (NRHP) have been identified within the project area. The State Historic Preservation Office (SHPO)'s approval is based on the project as currently proposed. The following Plan notes will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2).
	The project occurs in an area where the American burying beetle (ABB) occurs. Special Provision 656-4 for ABB will be added to the final project plans/contract per policy Directive C-201-2D(2).
X	Survey for the following species need to be completed prior to constructions and plan notes will be provided after the completion of the survey *(List species survey requirements below)*
	Bald Eagle Note: Suitable nesting, roosting or foraging habitat for the Bald Eagle occurs within the project's action area. The Bald Eagle nesting season in Oklahoma extends from September 16, through May 31. The Resident Engineer shall contact the ODOT Biologist at 405-210-3671 to schedule a nest survey. Nest search surveys can only be conducted when leaves are not on the trees typically between December 1st and February 28th. No work may occur within suitable Bald Eagle habitat, located the full extent of the study area, during the nesting season (September 16, through May 31) until the completion of the survey by the ODOT Biologist. If nests are observed, a no-work buffer up to a distance of 1000 feet shall be placed around the nest. The exact distance of the buffer zone shall be established by the ODOT Biologist in consultation with US Fish and Wildlife Services. If the buffer cannot be maintained, all clearing, external construction and landscaping activities, within the buffer, shall be conducted between June 1 and September 15 (outside the nesting season).
	Plan notes requiring construction season restrictions for the following species will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). *(List species or notes below)*
	Plan notes requiring avoidance and minimization of impacts for the following species will be added to the final project plans under "Environmental Mitigation Notes" per policy Directive C-201-2D(2). *(List species below)*

<table>
<tr><td></td><td>The following Plan notes requiring construction season restrictions for the migratory birds will be added to the final project plans under “Environmental Mitigation Notes” per policy Directive C-201-2D(2). (List notes below)</td></tr>
<tr><td>X</td><td>Migratory Bird Note: Migratory birds are protected by the federal Migratory Bird Treaty Act. Many birds commonly use bridges and culverts for nesting. The nesting season for most migratory bird species extends from March 1 to August 31. Migratory bird nesting use of the following bridges and culverts was observed:
<table>
<tr><td>NBI:08712 (RCB bridge)</td><td>RCB at STA.593-37</td></tr>
<tr><td>NBI:09046 (Dry Creek RCB)</td><td>RCB at STA.655+57.7</td></tr>
<tr><td>NBI:09048 (RCB bridge)</td><td>RCB at STA.682+89.6</td></tr>
<tr><td>NBI:11070 (RCB bridge)</td><td>RCB at STA.692+09</td></tr>
<tr><td>NBI:11089 (Soldier Creek slab span)</td><td>RCB at STA.792+77.9</td></tr>
<tr><td>NBI:11119 (concrete slab)</td><td>RCB at STA.876+81.5</td></tr>
<tr><td>RCB at STA.495+25</td><td>RCB at STA.884+18.6</td></tr>
<tr><td>RCB at STA.581+13.9</td><td>RCB at STA.908+97</td></tr>
</table>
Painting, repair, retrofit, rehabilitation or demolition of the existing bridges and culverts shall be conducted between September 1, and February 28, when migratory bird nests are not occupied. If painting, repair, retrofit, rehabilitation or demolition cannot be completed between September 1 and February 28, the bridges and culverts shall be protected from new nest establishment prior to March 1, by means that do not result in bird death or injury. Options include the exclusion of adult birds from suitable nest sites on or within a structure by the placement of weather-resistant polypropylene netting with 0.25-inch or smaller openings, prior to March 1. Methods other than netting must be pre-approved by the ODOT Biologist.

Although no nests were observed on all other structures, the birds may occupy the structures in the future. The Resident Engineer shall contact the ODOT Biologist at 405-210-3671 if any bird use of these structures is observed. If birds are observed then painting, repair, retrofit, rehabilitation or demolition of the existing bridges and culverts shall be conducted between September 1, and February 28 (when migratory bird nests are not occupied).</td></tr>
<tr><td>X</td><td>The action may involve work in potentially jurisdictional waters and potentially jurisdictional wetlands. For State Projects, the 404 permit application form needs to be submitted by the Designer through Project Management Division to Environmental Programs Division at the time of Right-of-Way submittal for evaluation and determination of the appropriate Clean Water Act Section 404 permit application for the project. For Local Government Projects or Special Projects, a copy of the 404 permit obtained by the County/City should be submitted by Local Government Division or Special Projects to Environmental Programs Division for the Project File.</td></tr>
<tr><td></td><td>The action involves work in Critical Resource Waters and requires Pre Construction Notification (PCN) to USACE regardless of the area of impact. For Local Government Projects or Special Projects, a copy of the PCN by the County should be submitted by Local Government Division or Special Projects Branch to Environmental Programs Division for the Project File.</td></tr>
<tr><td></td><td>The action will require a FEMA Map revision.</td></tr>
<tr><td></td><td>Plan notes requiring avoidance of potential hazardous materials remains areas will be added to the final project plans under “Environmental Mitigation Notes” per policy Directive C-201-2D(2).</td></tr>
<tr><td></td><td>The Department’s Hazardous Coordinator has determined that a Preliminary Site Investigation (PSI) is required for this project. Construction Plans need to be submitted by the Designer to Environmental Programs Division at the time of Right-of-Way submittal for the PSI.</td></tr>
<tr><td></td><td>The following plan note regarding Road Closure will be added to the plans (Add plan notes restricting road closure).</td></tr>
<tr><td></td><td>(Only for Local Government Projects) The roadway will be closed to traffic during construction. The County or City will be responsible for notifying all local residential and commercial property owners, schools, and emergency services providers prior to construction. The County or City will be responsible for posting the detour routes. The Contractor will provide access to local property owners at all times during construction.</td></tr>
</table>

	(Only for Local Government Projects) The Local Government Project Manager shall coordinate any required species surveys with Environmental Programs Division prior to letting the project. Note the seasonal restrictions for surveys in the biological studies summary.
	The following Airport/Airfield located within 4 miles of this project. This action may require notifying the Federal Aviation Administration (FAA) of proposed construction via FAA Form 7460-1 prior to construction. *(List the name of the Airport below)*
	Other *(List Commitment below)*
	Other *(List Commitment below)*

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

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

Preparer/Reviewer Signatures

Melissa Boothe	**5/21/2020**
Environmental Consultant Project Manager (If Applicable)	Date
Triad Design Group	
Environmental Consultant Firm Name (If Applicable)	Date
County Commissioner or City Manager (For Local Government Projects)	Date
Greg Worrell Digitally signed by Greg Worrell Date: 2020.05.22 12:06:47 -05'00'	
ODOT Environmental Project Manager	Date
Assistant Environmental Programs Division Engineer	Date
Sivanuja Sundaram Digitally signed by Sivanuja Sundaram Date: 2020.05.22 12:48:04 -05'00'	
Environmental Programs Division Engineer	Date

CONCLUSION:

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

For Individual CEs requiring FHWA Approval:

Concurrence that this project qualifies for a Categorical Exclusion:

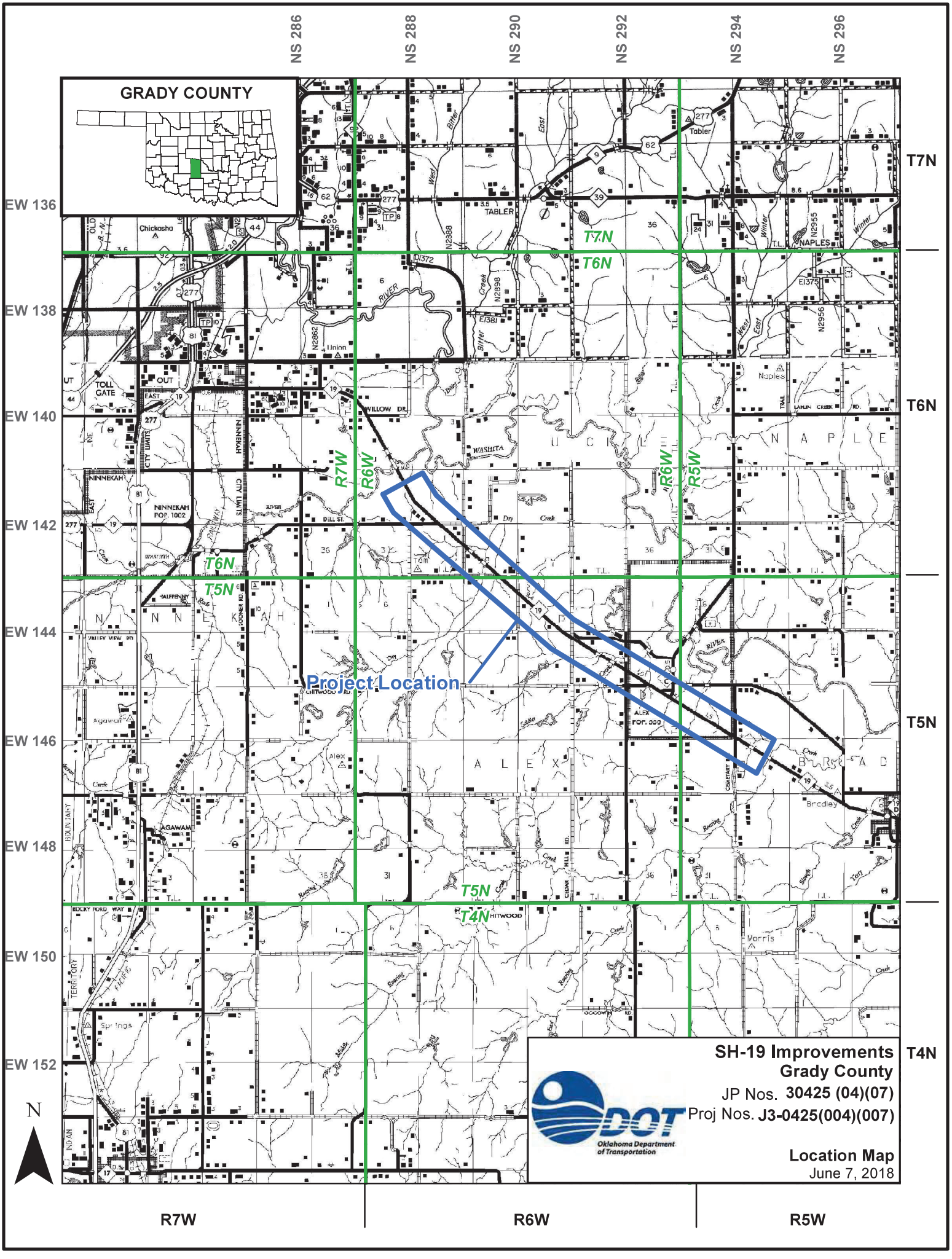
Ralph NGuyen	6/3/2020
Environmental Programs Manager, FHWA	Date

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

Distribution List (Check Applicable Ones)

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

Copy to: Reading File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Project Location
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Tabler
NAPLES
Union
TOLL GATE
NINNEKAH
POP. 1002
Agawam
Alex
Bradley
Morris
Springs
SH-19 Improvements
Grady County
JP Nos. 30425 (04)(07)
Proj Nos. J3-0425(004)(007)
Oklahoma Department of Transportation
Location Map
June 7, 2018
N

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

DATE: December 5, 2019

TO: Project Management Division

FROM: Environmental Programs Division

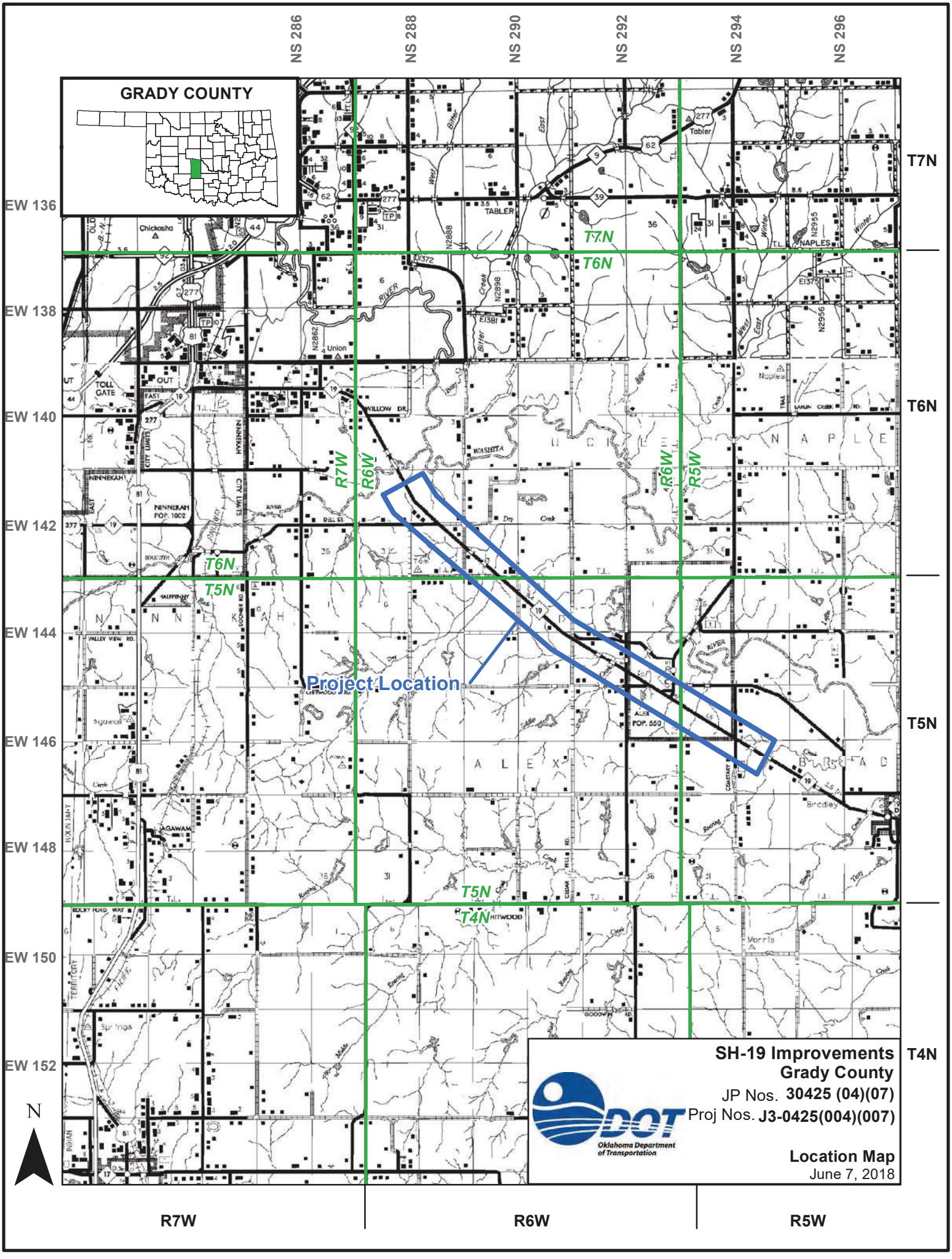
SUBJECT: Grady County: JP 30425(04)(07); Proposed Improvements to SH-19 in Grady County, Oklahoma.

The NRHP-eligible Craddock Dugout and NRHP-eligible archaeological site 34GD299 is located immediately north of the proposed right-of-way of the referenced project. Impact to the building, archaeological site, and immediate surrounding area must be avoided. In order to avoid effects to these resources, the following notes should be added the plans to ensure that construction or construction-related activities do not impact the Craddock Dugout/Site 34GD299. Please have the following note added to a section of the project plans entitled "Environmental Mitigation Notes" per Policy Directive C-201-2D(2):

Temporary fencing will be used to demarcate the project R/W from Stations: 503+50 LT through 508+50 LT. No equipment staging, borrow, haul roads, spoil dumps, vehicle parking, or any other project related off-site facilities or use should occur beyond the fencing in this area during construction activities.

ODOT-Cultural Resources Program should be invited to all pre-work conferences to discuss these measures, per Policy Directive C-201-2E(1). If you have any questions, please contact the Cultural Resources Program at 405-325-7201.

SAS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Project Location
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ALEX POP. 550
JAGAWAN
HITWOOD
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SH-19 Improvements
Grady County
JP Nos. 30425 (04)(07)
Proj Nos. J3-0425(004)(007)
Oklahoma Department of Transportation
Location Map
June 7, 2018
R7W
R6W
R5W

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

DATE: December 5, 2019

TO: Project Management Division

FROM: Environmental Programs Division

SUBJECT: Grady County: JP 30425(04)(07); Proposed Improvements to SH-19 in Grady County, Oklahoma.

The NRHP-eligible Craddock Dugout and NRHP-eligible archaeological site 34GD299 is located immediately north of the proposed right-of-way of the referenced project. Impact to the building, archaeological site, and immediate surrounding area must be avoided. In order to avoid effects to these resources, the following notes should be added the plans to ensure that construction or construction-related activities do not impact the Craddock Dugout/Site 34GD299. Please have the following note added to a section of the project plans entitled "Environmental Mitigation Notes" per Policy Directive C-201-2D(2):

Temporary fencing will be used to demarcate the project R/W from Stations: 503+50 LT through 508+50 LT. No equipment staging, borrow, haul roads, spoil dumps, vehicle parking, or any other project related off-site facilities or use should occur beyond the fencing in this area during construction activities.

ODOT-Cultural Resources Program should be invited to all pre-work conferences to discuss these measures, per Policy Directive C-201-2E(1). If you have any questions, please contact the Cultural Resources Program at 405-325-7201.

SAS

PLANS OR FOOTPRINTS

OKLAHOMA DEPARTMENT OF TRANSPORTATION

REVISED
PROPOSED R/W
AUGUST 14, 2019

FOR SURVEY CONTROL DATA,
SEE SURVEY DATA SHEETS

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY
FEDERAL AID PROJECT NO. J3-0425(007)
GRADE, DRAIN, BRIDGE & SURFACE
SH 19
GRADY COUNTY

CONTROL SECTION NO. 19-26-18
STATE JOB NO. 30425(07)

BRIDGE "A" LOCATION NO. 2618-0705X NBIS NO. 09046; NEW NBI NO. 32291
BRIDGE "B" LOCATION NO. 2618-0721X NBIS NO. 08714; (TO BE REMOVED)
BRIDGE "C" LOCATION NO. 2618-0729X NBIS NO. 09048; NEW NBI NO. 32290
BRIDGE "D" LOCATION NO. 2618-0993X NBIS NO. 11070; NEW NBI NO. 32289
BRIDGE "E" LOCATION NO. 2618-1010X NBIS NO. 11089; NEW NBI NO. 32288

INDEX OF SHEETS

0001	TITLE SHEET
0002-0003	TYPICAL SECTIONS
B001-B008	BRIDGE GP&E SHEETS
R001-R027	PLAN AND PROFILE SHEETS
S001-S021	SURVEY DATA SHEETS SWO 5208(1)
S001-S026	SURVEY DATA SHEETS SWO 5207(1)
X001-X193	CROSS SECTIONS

DESIGN DATA

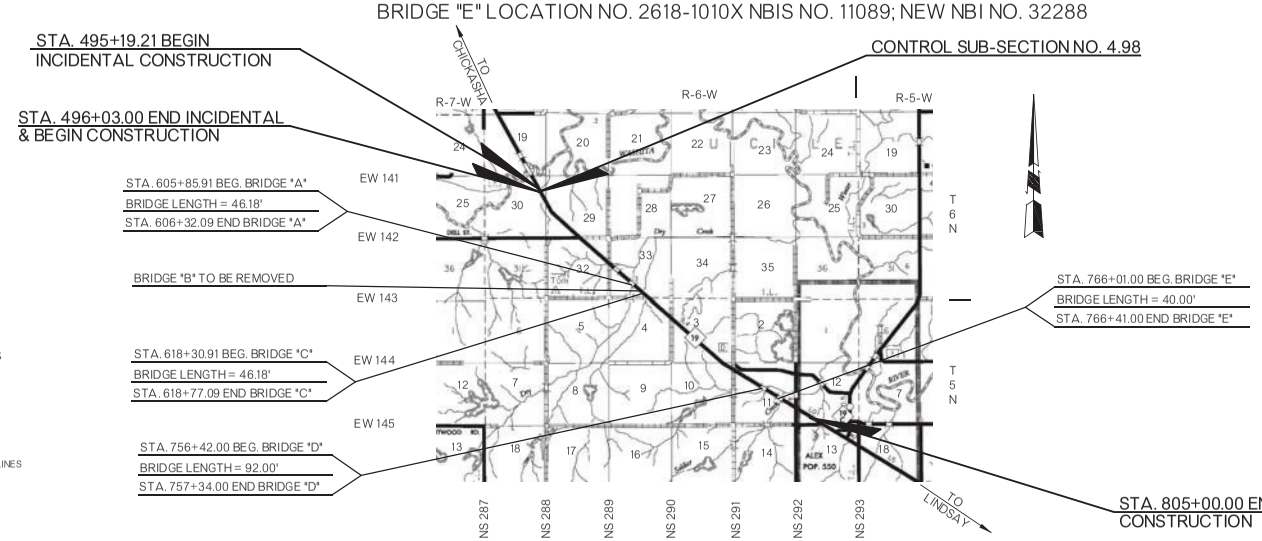
ADT 2020	= 2,800
ADT 2040	= 3,800
DHV (2-WAY)	= 456
K (DHV/ADT)	= 12%
D	= 58%
T (% DHV)	= 18%
T (% ADT)	= 22%
T3 (% ADT)	= 15%
V	= 65 MPH
20YR FLEX. ESALS	= 5.3 M

SCALES

PLAN	1" =	50'
PROFILE HOR.	1" =	50'
VER.	1" =	10'
LAYOUT MAP	1" =	5,280'

CONVENTIONAL SYMBOLS

- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES (+2% ▲ -2%)
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- OIL WELLS
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- PRES R/W — RIGHT-OF-WAY LINES - EXISTING
- R/W — RIGHT-OF-WAY LINES - NEW
- CONTROLLED ACCESS
- R/W — RIGHT-OF-WAY FENCE



NOTE: PROJECT LENGTH BASED ON CRL STATIONING.

ROADWAY LENGTH	30,672.64 FT.	5.809 MI.
BRIDGE LENGTH	224.36 FT.	0.042 MI.
PROJECT LENGTH		5.851 MI.

EQUATIONS: NONE
EXCEPTION: NONE

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

P.E. NO. XXXXX

TRIAD DESIGN GROUP
Architecture • Engineering
3020 N.W. 149TH STREET
OKLAHOMA CITY, OK 73134
PH. (405) 752-1122
FAX (405) 752-8855
CA# 1759, RENEWAL 06-30-2021

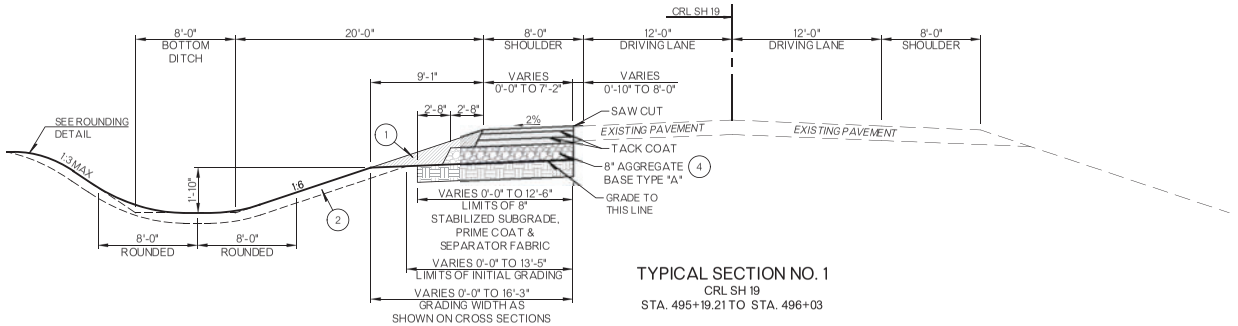
PRELIMINARY — NOT FOR CONSTRUCTION — CASSANDRA PINTA — 27216 — OKLAHOMA

CASSANDRA PINTA — DATE
LICENSED PROFESSIONAL ENGINEER NO. 27216

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

SWO 5208(1) F.A. PROJECT NO. J3-0425(007)
COUNTY GRADY COUNTY HIGHWAY SH 19 SHEET NO. 0001

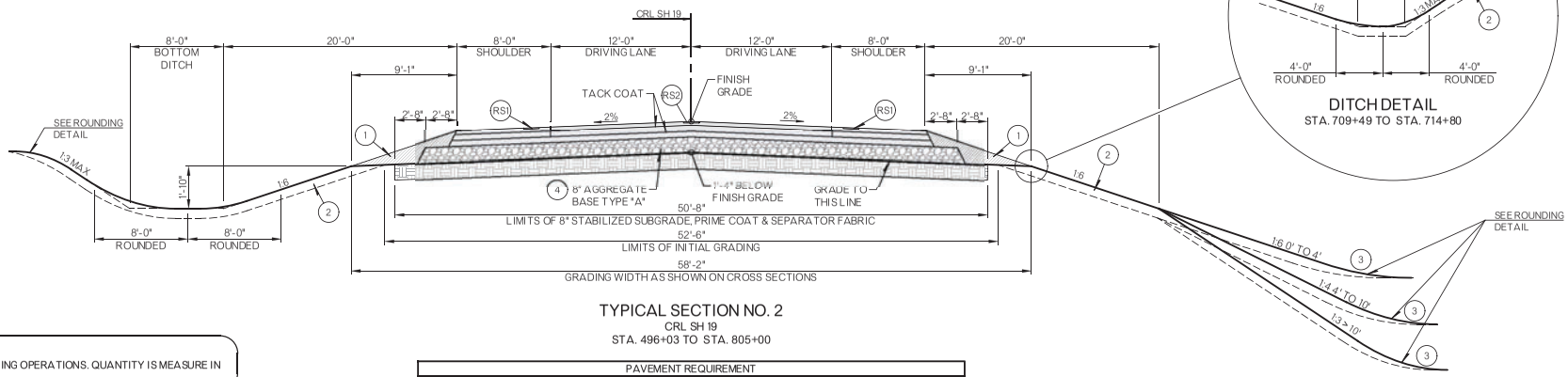
REVISED
PROPOSED R/W
AUGUST 14, 2019



TYPICAL SECTION NO. 1

CRL SH 19
STA. 495+19.21 TO STA. 496+03

PAVEMENT REQUIREMENT	
8" PAVEMENT STRUCTURE	0'-0" TO 7'-2" SHOULDER
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG 64-22 OK)
BASE COURSE	3" SUPERPAVE TYPE S3 (PG 64-22 OK)
	3" SUPERPAVE TYPE S3 (PG 64-22 OK)



TYPICAL SECTION NO. 2

CRL SH 19
STA. 496+03 TO STA. 805+00

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

DITCH DETAIL

STA. 709+49 TO STA. 714+80

(1) BACKFILL NOTE:
TO BE BACKFILLED AS PART OF THE FINISHING OPERATIONS. QUANTITY IS MEASURE IN T.B.S.C. TYPE E.

(1A) BACKFILL NOTE:
TO BE BACKFILLED AS PART OF THE FINISHING OPERATIONS. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

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

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

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

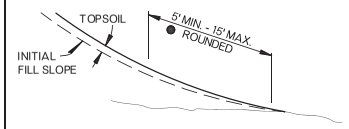
(4) PRIME COAT ON TOP OF AGGREGATE BASE.

(RS1) RUMBLE STRIP - METHOD HMA-CYC

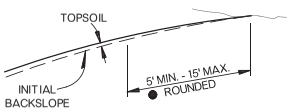
(RS2) RUMBLE STRIP - CENTERLINE HMA-CON

ROUNDING DETAIL

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



TOE OF FILL ROUNDING



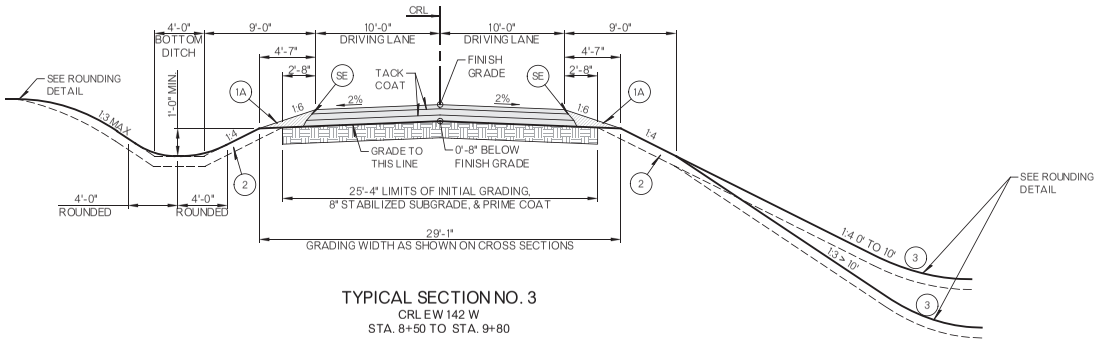
TOP OF CUT ROUNDING

TYPICAL SECTIONS

State Job No. 30425(07) Sheet No. 0002

GRADY COUNTY SH 19

PROPOSED
R/W
JUNE 2019



TYPICAL SECTION NO. 3

CRL EW 142 W
STA. 8+50 TO STA. 9+80

CRL EW 142 E
STA. 10+20 TO STA. 13+50

CRL NS 289
STA. 14+00 TO STA. 19+80
STA. 20+20 TO STA. 23+50

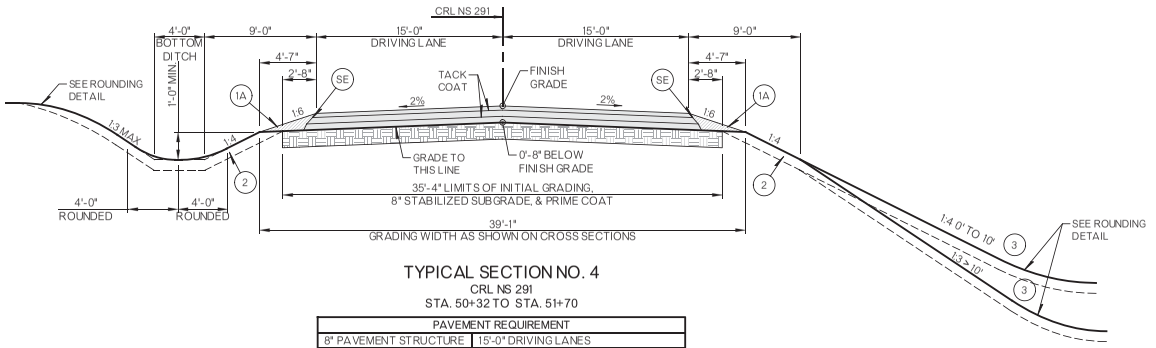
CRL EW 143
STA. 27+00 TO STA. 29+80

CRL NS 290
STA. 34+50 TO STA. 39+80
STA. 40+20 TO STA. 46+00

CRL NS 291
STA. 45+50 TO STA. 49+68

CRL NS 292
STA. 60+20 TO STA. 64+00

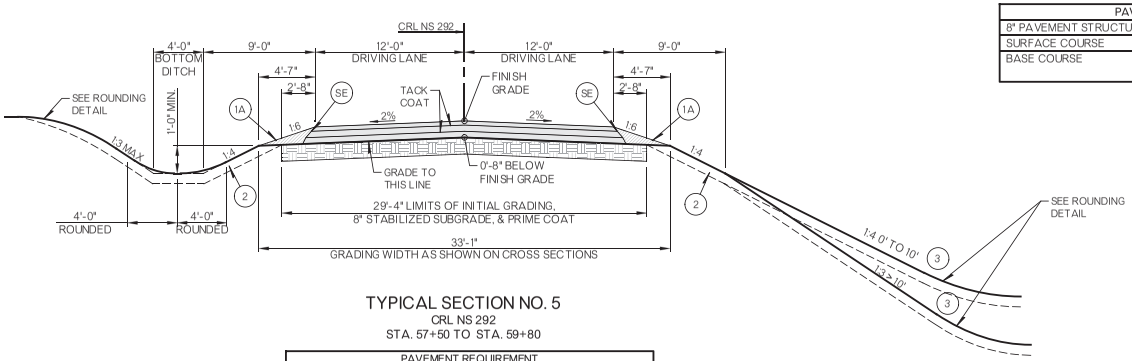
PAVEMENT REQUIREMENT	
8" PAVEMENT STRUCTURE	10'-0" DRIVING LANES
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG 64-22 OK)
BASE COURSE	3" SUPERPAVE TYPE S3 (PG 64-22 OK)
	3" SUPERPAVE TYPE S3 (PG 64-22 OK)



TYPICAL SECTION NO. 4

CRL NS 291
STA. 50+32 TO STA. 51+70

PAVEMENT REQUIREMENT	
8" PAVEMENT STRUCTURE	15'-0" DRIVING LANES
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG 64-22 OK)
BASE COURSE	3" SUPERPAVE TYPE S3 (PG 64-22 OK)
	3" SUPERPAVE TYPE S3 (PG 64-22 OK)



TYPICAL SECTION NO. 5

CRL NS 292
STA. 57+50 TO STA. 59+80

PAVEMENT REQUIREMENT	
8" PAVEMENT STRUCTURE	12'-0" DRIVING LANES
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG 64-22 OK)
BASE COURSE	3" SUPERPAVE TYPE S3 (PG 64-22 OK)
	3" SUPERPAVE TYPE S3 (PG 64-22 OK)

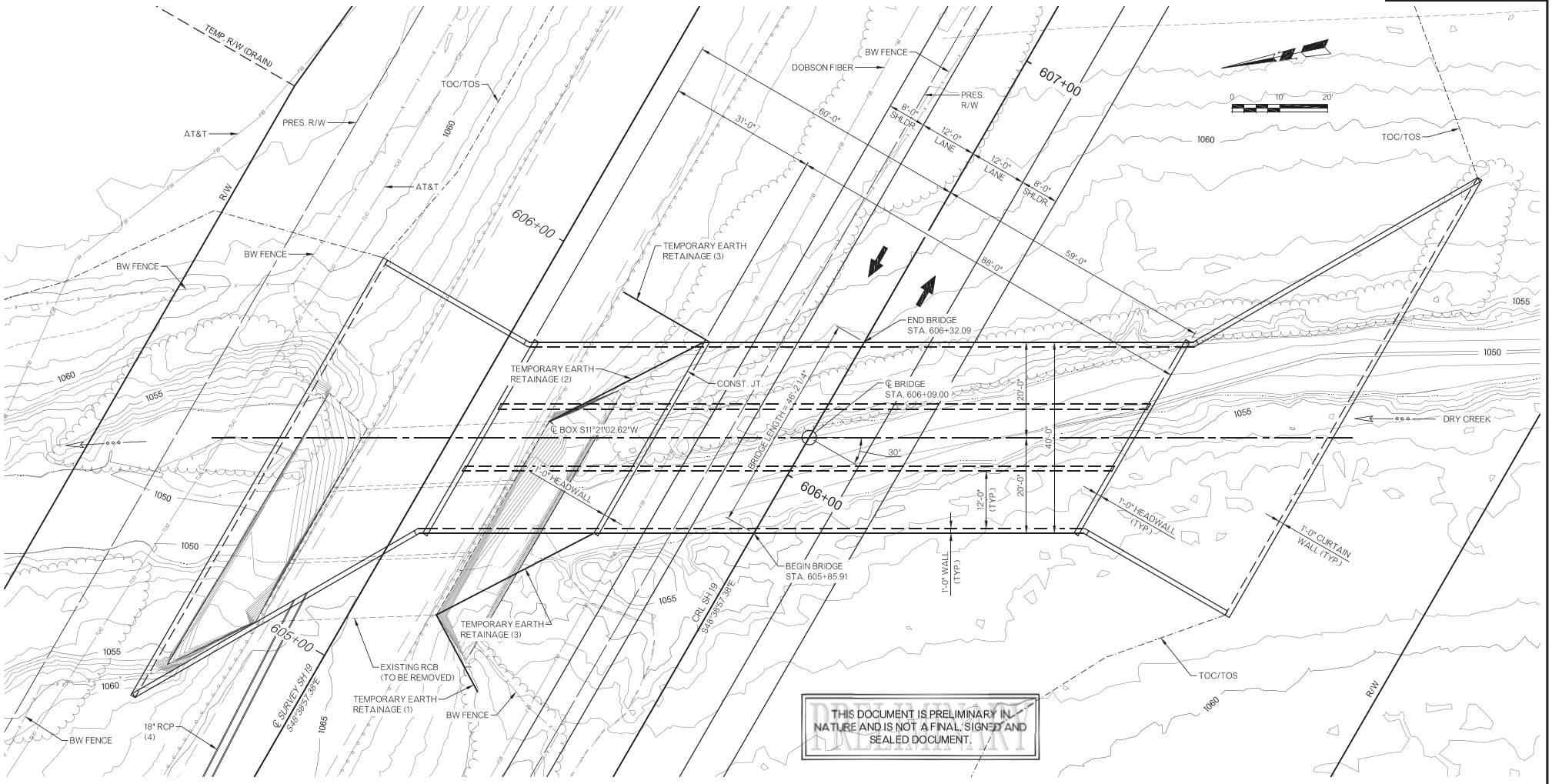
1. SEE BACKFILL NOTE SHEET NO. 0002.
1A. SEE BACKFILL NOTE SHEET NO. 0002.
2. SEE TOPSOIL NOTE SHEET NO. 0002.
3. SEE DISTANCE MEASURED NOTE SHEET NO. 0002.
4. SEE PRIME COAT NOTE SHEET NO. 0002.
SE. SAFETY EDGE.

TYPICAL SECTIONS

State Job No. 30425(07) Sheet No. 0003

GRADY COUNTY

SH 19



PLAN
SCALE 1" = 10'

BM#114 - 36"x5/8" REBAR 2 FT. SOUTH OF BWF
℄ SURVEY STA. 599+57, 48.00' LT.
ELEV. = 1089.8896

BM#115 - 36"x5/8" REBAR 1 FT. N. OF BRACE POST
℄ SURVEY STA. 607+19, 37.00' RT.
ELEV. = 1060.4918

NOTES
ALL STATIONING FOLLOWS CRL SH 19, UNLESS NOTED OTHERWISE.

FOR ELEVATION VIEW, SEE SHEET NO. B002.

SEE SHEET NO. B002 FOR DESIGN DATA, FINISH GRADE DATA, HYDRAULIC DATA SUMMARY, INDEX OF SHEETS AND EXISTING BRIDGE NOTE.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

NOTES
(1) TEMPORARY EARTH RETAINAGE FOR EXISTING RCB END SECTION REMOVAL.

(2) TEMPORARY EARTH RETAINAGE FOR EXISTING RCB END SECTION REMOVAL AND NEW RCB CONSTRUCTION.

(3) TEMPORARY EARTH RETAINAGE FOR NEW RCB CONSTRUCTION.

(4) SEE ROADWAY PLAN AND PROFILE SHEETS AND CROSS SECTION SHEETS FOR ADDITIONAL INFORMATION.

CONST. 3-12'x10' BRIDGE BOX WITH STD. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 30° R.F.

BRIDGE "A"
SH 19 OVER DRY CREEK

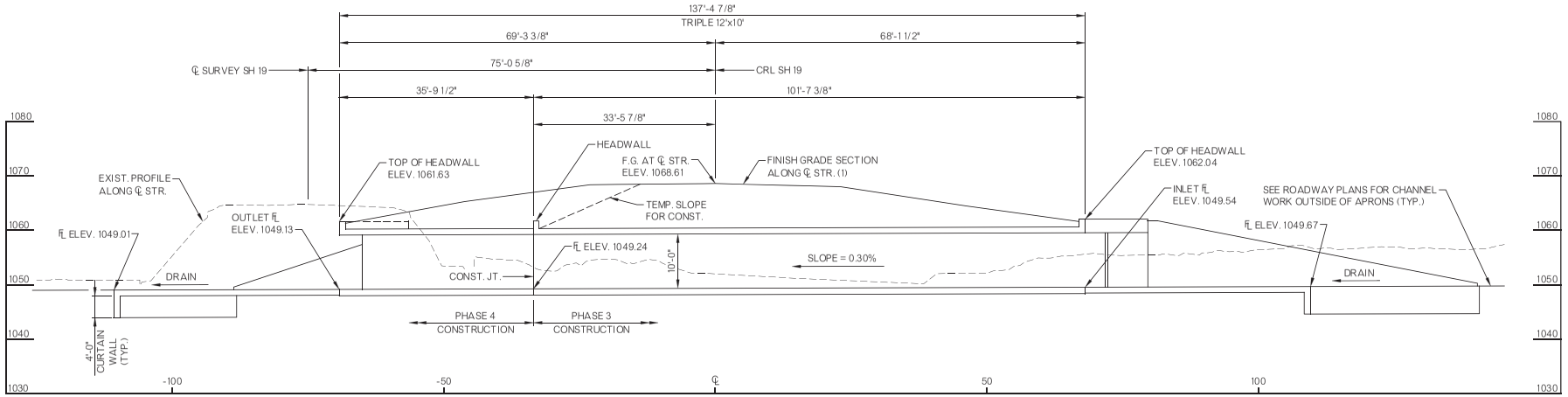
GENERAL PLAN AND ELEVATION
(SHEET 1 OF 2)

CONST. TRIPLE 12'x10'x137.41' LG. BOX, SKEWED 30° R.F., AT CRL STA. 606+09

State Job No. 30425(07) Sheet No. B001

SH 19
GRADY COUNTY

PROPOSED
R/W
JUNE 2019



ELEVATION
SCALE 1" = 10'

BM#114 - 36"x5/8" REBAR 2 FT. SOUTH OF BWF
℄ SURVEY STA. 599+57, 48.00' LT.
ELEV. = 1089.8896

BM#115 - 36"x5/8" REBAR 1 FT. N. OF BRACE POST
℄ SURVEY STA. 607+19, 37.00' RT.
ELEV. = 1060.4918

INDEX OF SHEETS (BRIDGE "A")

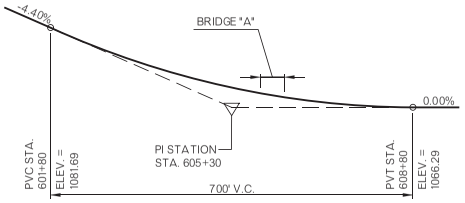
NO.	DESCRIPTION
XX	PAY QUANTITIES AND GENERAL NOTES
B001	GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)
B002	GENERAL PLAN AND ELEVATION (SHEET 2 OF 2)

HYDRAULIC DATA ~ BRIDGE "A"
DRY CREEK

TOTAL D.A. = 7.86 SQ. MI.
CONTROLLED D.A. = 4.53 SQ. MI.
EFFECTIVE D.A. = 3.33 SQ. MI.

FREQ.	Q (cfs)	CHW (ft)	V (fps)
2	369	1058.53	2.35
5	785	1060.49	3.41
10	1200	1061.74	4.19
25	1900	1062.88	5.32
50	2430	1062.94	6.75
100	3080	1063.84	8.47
500	4920	1065.81	11.70
RDWY OT > Q500	0	0	0
DETOUR OT	0	0	0

CONST. 3-12'x10' BRIDGE BOX WITH STD. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 30° R.F.



FINISH GRADE DATA
CRL SH 19
(STATIONS SHOWN ON THE DETAIL ARE ALONG CRL)

SUMMARY OF QUANTITIES - BRIDGE "A"

DESCRIPTION	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	CY	X.XX
STRUCTURAL EXCAVATION UNCLASSIFIED	CY	X.XX
TEMPORARY EARTH RETAINAGE	LSUM	X.XX
CLASS AA CONCRETE	CY	X.XX
REINFORCING STEEL	LB	X.XX
REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM	X.XX

DESIGN DATA
(LOAD AND RESISTANCE FACTOR DESIGN)

CLASS "AA" CONCRETE F'C = 4,000 PSI
REINFORCING STEEL FY = 60,000 PSI

LOADING: HL-93 AND ODOT OVERLOAD TRUCK

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

THE FOLLOWING STANDARDS SHALL BE REQUIRED:

SBI-4-2
RCB-C3-12(2-12)-02E
RCB-E3-H10-30-1-01E
RCB-E3-H10-30-2-01E
RCB-E3-H10-30-3-01E
RCB-CW3-D4-30-01E

NOTES
ALL STATIONING FOLLOWS CRL SH 19, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

(1) SEE ROADWAY PLAN AND PROFILES AND CROSS SECTIONS.

EXISTING BRIDGE NOTE:

THE EXISTING BRIDGE SHALL BE REMOVED IN ACCORDANCE WITH THE NOTES ON SHEET XX.

BRIDGE "A"
SH 19 OVER DRY CREEK

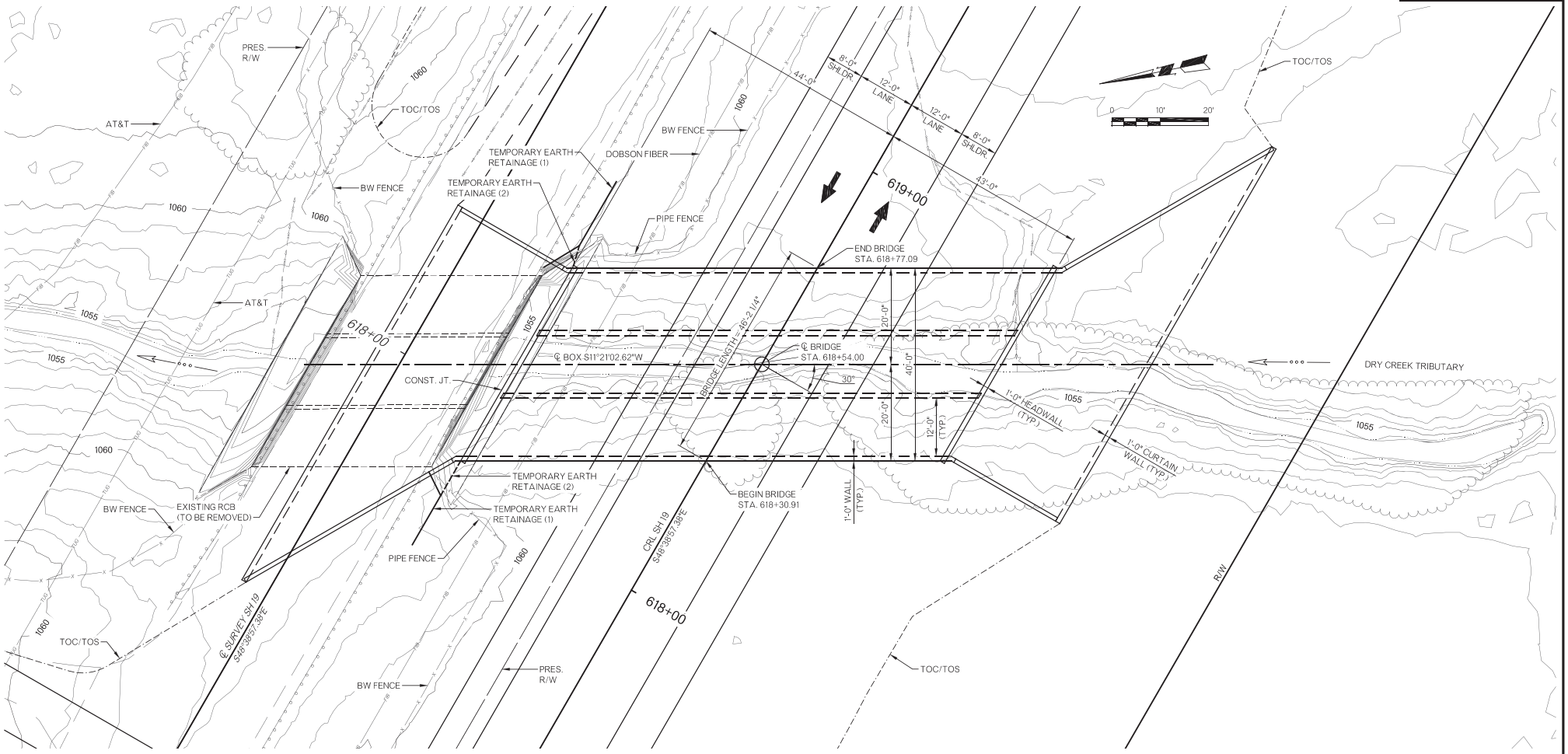
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

CONST. TRIPLE 12'x10'x137.41' LG. BOX, SKEWED 30° R.F., AT CRL STA. 606+09

State Job No. 30425(07) Sheet No. B002

SH 19
GRADY COUNTY

PROPOSED
R/W
JUNE 2019



PLAN
SCALE 1" = 10'

BM#116 - CHISELED BOX SE WING WALL ON BRIDGE
℄ SURVEY STA. 614+27, 19.00' RT.
ELEV. = 1062.1743

BM#117 - 36"x5/8" REBAR 1 FT. S. OF E. BRACE POST
℄ SURVEY STA. 622+96, 44.00' LT.
ELEV. = 1065.1233

NOTES
ALL STATIONING FOLLOWS CRL SH 19, UNLESS NOTED OTHERWISE.

FOR ELEVATION VIEW, SEE SHEET NO. B004.

SEE SHEET NO. B004 FOR DESIGN DATA, FINISH GRADE DATA, HYDRAULIC DATA SUMMARY, INDEX OF SHEETS AND EXISTING BRIDGE NOTE.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

(1) TEMPORARY EARTH RETAINAGE FOR EXISTING RCB END SECTION REMOVAL AND NEW RCB CONSTRUCTION.

(2) TEMPORARY EARTH RETAINAGE FOR NEW RCB CONSTRUCTION.

CONST. 3-12'x7' BRIDGE BOX WITH STD. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 30° R.F.

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

BRIDGE "C"
SH 19 OVER DRY CREEK TRIBUTARY

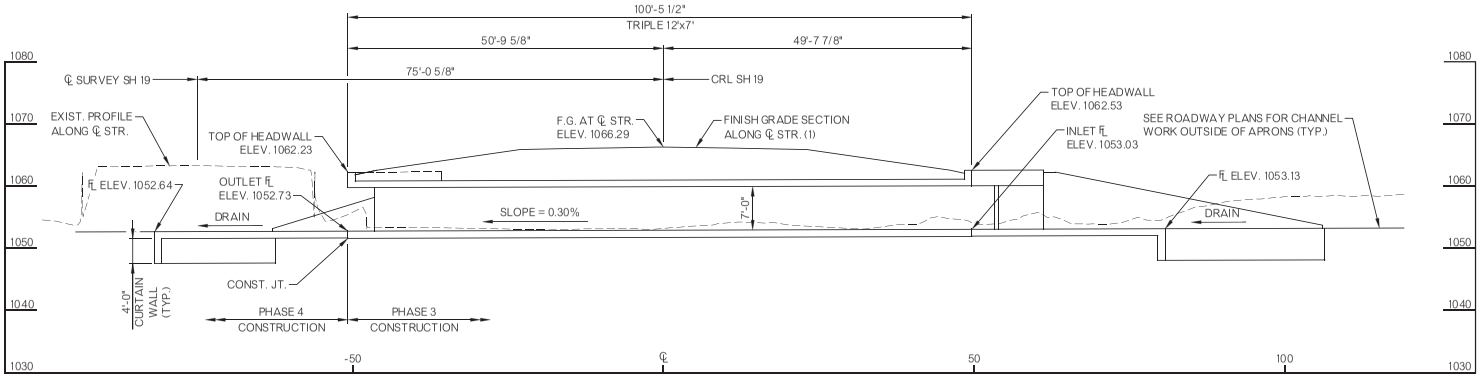
GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)

CONST. TRIPLE 12'x7'x100.46' LG. BOX, SKEWED 30° R.F., AT CRL STA. 618+54

State Job No. 30425(07) Sheet No. B003

SH 19
GRADY COUNTY

PROPOSED
R/W
JUNE 2019



ELEVATION
SCALE 1" = 10'

BM#116 - CHISELED BOX SE WING WALL ON BRIDGE
℄ SURVEY STA. 614+27, 19.00' RT.
ELEV. = 1062.1743

BM#117 - 36"X5/8" REBAR 1 FT. S. OF E. BRACE POST
℄ SURVEY STA. 622+96, 44.00' LT.
ELEV. = 1065.1233

INDEX OF SHEETS (BRIDGE "C")

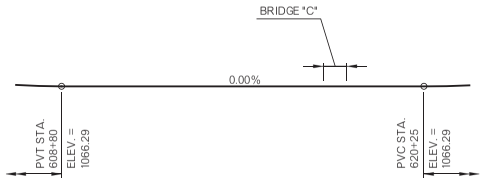
NO.	DESCRIPTION
XX	PAY QUANTITIES AND GENERAL NOTES
B003	GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)
B004	GENERAL PLAN AND ELEVATION (SHEET 2 OF 2)

HYDRAULIC DATA - BRIDGE "C"
DRY CREEK TRIBUTARY

TOTAL D.A. = 2.99 SQ. MI.
CONTROLLED D.A. = 1.56 SQ. MI.
EFFECTIVE D.A. = 1.43 SQ. MI.

FREQ.	Q (cfs)	CHW (ft)	V (fps)
2	214	1058.64	2.56
5	422	1059.65	2.99
10	603	1060.06	3.17
25	876	1060.64	2.77
50	1087	1061.14	2.68
100	1409	1061.85	2.77
500	2819	1065.47	2.94
RDWY OT > Q500	0	0	0
DETOUR OT	0	0	0

CONST. 3-12'x7' BRIDGE BOX WITH STD. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 30° R.F.



FINISH GRADE DATA
CRL SH 19
(STATIONS SHOWN ON THE DETAIL ARE ALONG CRL)

SUMMARY OF QUANTITIES - BRIDGE "C"

DESCRIPTION	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	CY	X.XX
STRUCTURAL EXCAVATION UNCLASSIFIED	CY	X.XX
TEMPORARY EARTH RETAINAGE	LSUM	X.XX
CLASS AA CONCRETE	CY	X.XX
REINFORCING STEEL	LB	X.XX
REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM	X.XX

DESIGN DATA
(LOAD AND RESISTANCE FACTOR DESIGN)

CLASS "AA" CONCRETE F'C = 4,000 PSI
REINFORCING STEEL FY = 60,000 PSI

LOADING: HL-93 AND ODOT OVERLOAD TRUCK

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

THE FOLLOWING STANDARDS SHALL BE REQUIRED:

SBI-4-2
RCB-C3-12(2-12)-02E
RCB-E3-H7-30-1-01E
RCB-E3-H7-30-2-01E
RCB-E3-H7-30-3-01E
RCB-CW3-D4-30-01E

NOTES
ALL STATIONING FOLLOWS CRL SH 19, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

(1) SEE ROADWAY PLAN AND PROFILES AND CROSS SECTIONS.

EXISTING BRIDGE NOTE:

THE EXISTING BRIDGE SHALL BE REMOVED IN ACCORDANCE WITH THE NOTES ON SHEET XX.

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

BRIDGE "C"
SH 19 OVER DRY CREEK TRIBUTARY

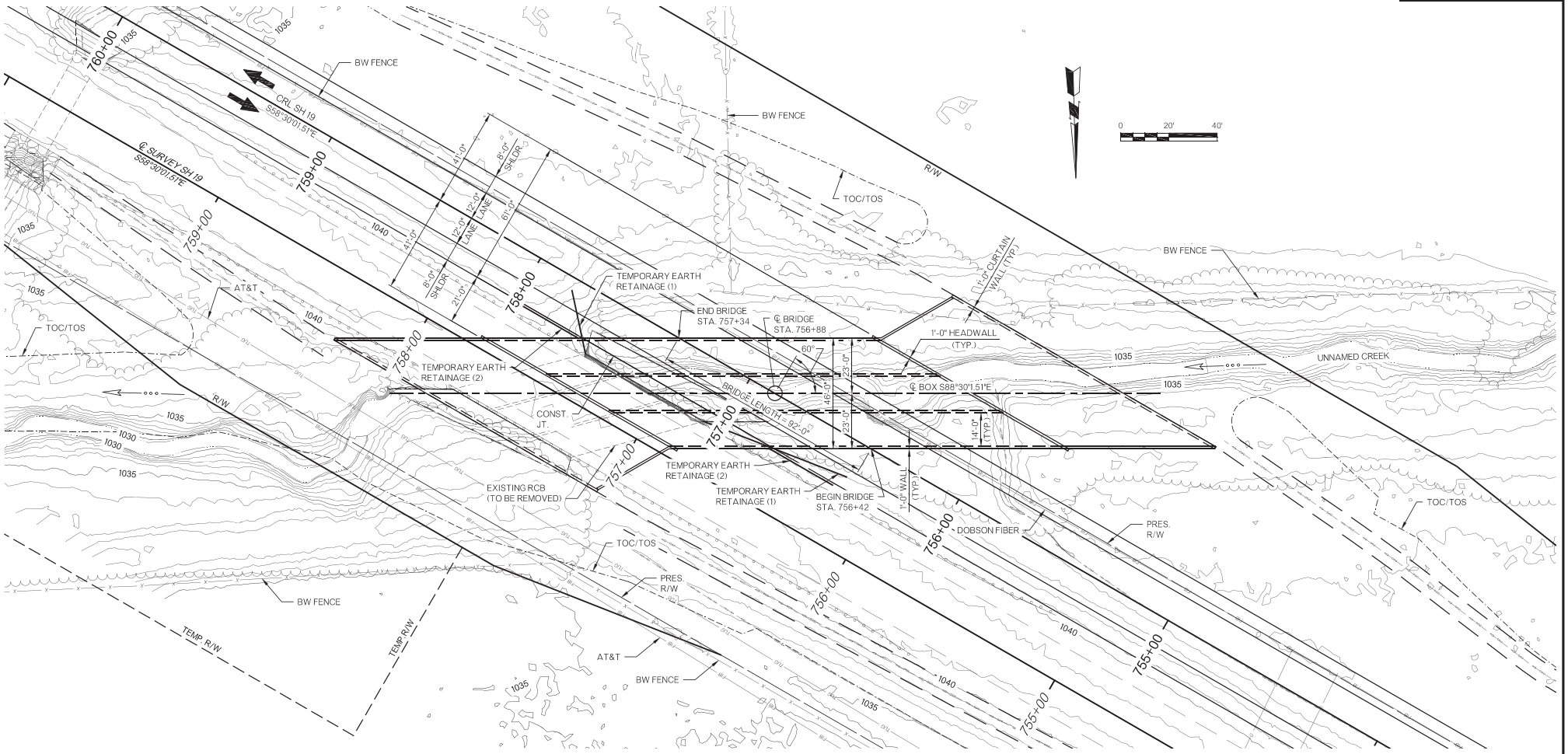
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

CONST. TRIPLE 12'x7'x100.46' LG. BOX, SKEWED 30° R.F., AT CRL STA. 618+54

State Job No. 30425(07) Sheet No. B004

SH 19
GRADY COUNTY

PROPOSED
R/W
JUNE 2019



PLAN
SCALE 1" = 20'

BM#132 - CHISELED BOX ON CENTER OF HEADWALL
℄ SURVEY STA. 753+25, 26.00' RT.
ELEV. = 1038.7846

BM#133 - CHISELED BOX ON CENTER OF HEADWALL
℄ SURVEY STA. 761+24, 35.00' RT.
ELEV. = 1038.0733

NOTES
ALL STATIONING FOLLOWS CRL SH 19, UNLESS NOTED OTHERWISE.

FOR ELEVATION VIEW, SEE SHEET NO. B006.

SEE SHEET NO. B006 FOR DESIGN DATA, FINISH GRADE DATA, HYDRAULIC DATA SUMMARY, INDEX OF SHEETS AND EXISTING BRIDGE NOTE.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

(1) TEMPORARY EARTH RETAINAGE FOR EXISTING RCB END SECTION REMOVAL AND NEW RCB CONSTRUCTION.

(2) TEMPORARY EARTH RETAINAGE FOR NEW RCB CONSTRUCTION.

CONST. 3-14'x8' BRIDGE BOX WITH SP. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 60° L.F.

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

BRIDGE "D"
SH 19 OVER UNNAMED CREEK

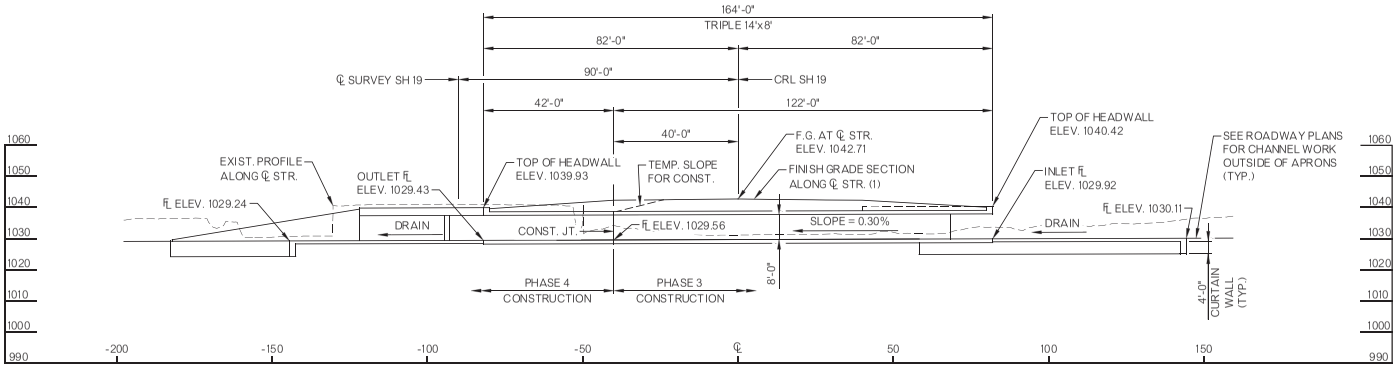
GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)

CONST. TRIPLE 14'x8'x164' LG. BOX, SKEWED 60° L.F., AT CRL STA. 756+88

State Job No. 30425(07) Sheet No. B005

SH 19
GRADY COUNTY

PROPOSED
R/W
JUNE 2019



ELEVATION
SCALE 1" = 20'

BM#132 - CHISELED BOX ON CENTER OF HEADWALL
℄ SURVEY STA. 753+25, 26.00' RT.
ELEV. = 1038.7846

BM#133 - CHISELED BOX ON CENTER OF HEADWALL
℄ SURVEY STA. 761+24, 35.00' RT.
ELEV. = 1038.0733

INDEX OF SHEETS (BRIDGE "D")

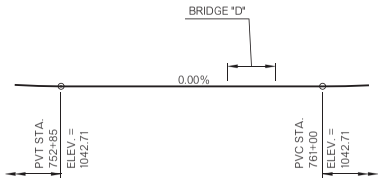
NO.	DESCRIPTION
XX	PAY QUANTITIES AND GENERAL NOTES
B005	GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)
B006	GENERAL PLAN AND ELEVATION (SHEET 2 OF 2)

HYDRAULIC DATA – BRIDGE "D"
UNNAMED CREEK

TOTAL D.A. = 2.68 SQ. MI.
CONTROLLED D.A. = 1.42 SQ. MI.
EFFECTIVE D.A. = 1.26 SQ. MI.

FREQ.	Q (cfs)	CHW (ft)	V (fps)
2	218	1038.10	1.10
5	471	1039.82	1.61
10	727	1041.09	2.16
25	1160	1041.48	3.45
50	1470	1041.93	4.37
100	1560	1042.38	5.27
500	1880	1043.01	5.27
RDWY OT = Q147	1670	1042.18	4.87
DETOUR OT	0	0	0

CONST. 3-14'x8' BRIDGE BOX WITH SP. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 60° L.F.



FINISH GRADE DATA
CRL SH 19
(STATIONS SHOWN ON THE DETAIL ARE ALONG CRL)

SUMMARY OF QUANTITIES - BRIDGE "D"

DESCRIPTION	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	CY	X.XX
STRUCTURAL EXCAVATION UNCLASSIFIED	CY	X.XX
TEMPORARY EARTH RETAINAGE	LSUM	X.XX
CLASS AA CONCRETE	CY	X.XX
REINFORCING STEEL	LB	X.XX
REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM	X.XX

DESIGN DATA
(LOAD AND RESISTANCE FACTOR DESIGN)

CLASS "A A" CONCRETE F'C = 4,000 PSI
REINFORCING STEEL FY = 60,000 PSI

LOADING: HL-93 AND ODOT OVERLOAD TRUCK

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

THE FOLLOWING STANDARDS SHALL BE REQUIRED:

SBI-4-2

NOTES
ALL STATIONING FOLLOWS CRL SH 19, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

(1) SEE ROADWAY PLAN AND PROFILES AND CROSS SECTIONS.

EXISTING BRIDGE NOTE:

THE EXISTING BRIDGE SHALL BE REMOVED IN ACCORDANCE WITH THE NOTES ON SHEET XX.

PRELIMINARY

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

BRIDGE "D"
SH 19 OVER UNNAMED CREEK

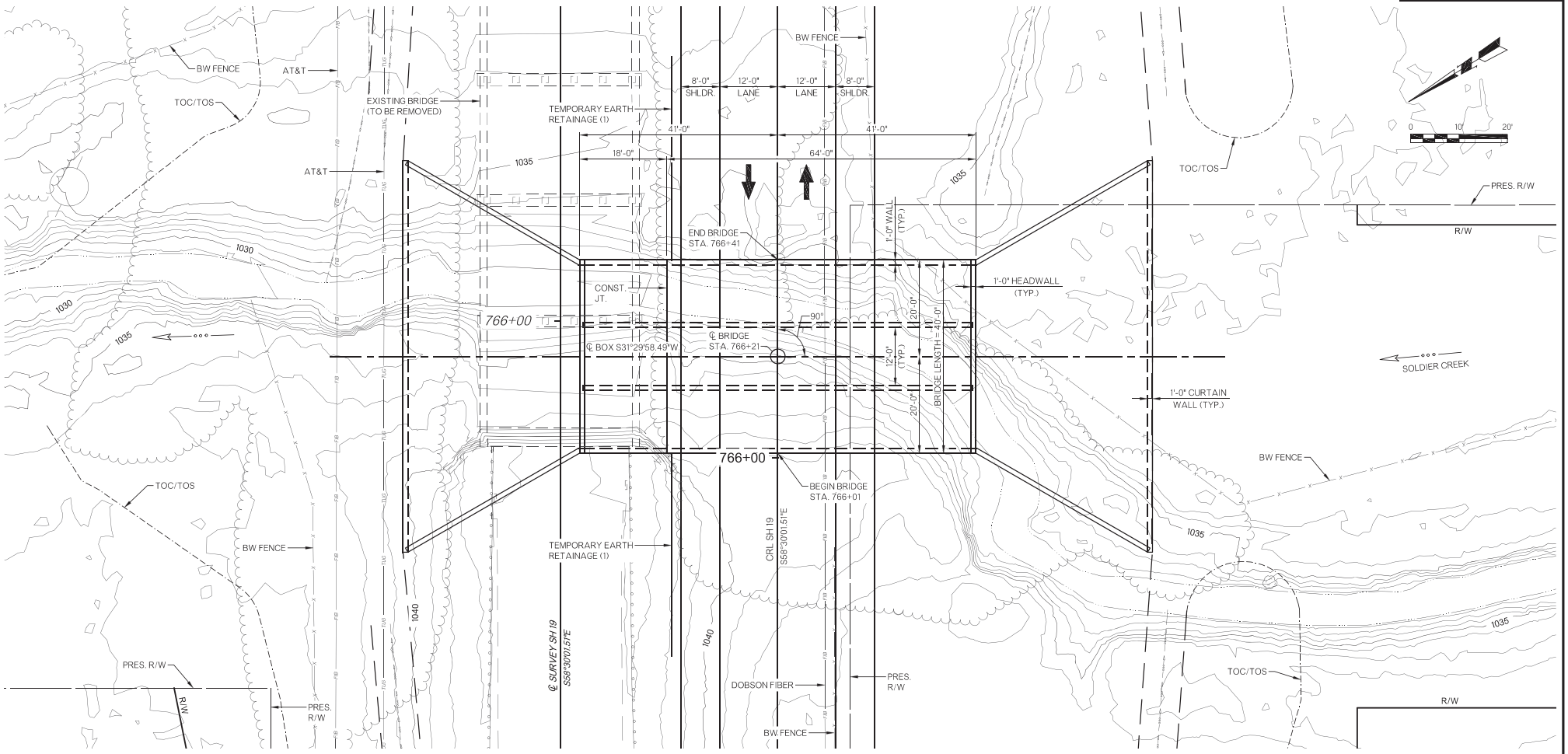
GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

CONST. TRIPLE 14'x8'x164' LG. BOX, SKEWED 60° L.F., AT CRL STA. 756+88

State Job No. 30425(07) Sheet No. B006

SH 19
GRADY COUNTY

PROPOSED
R/W
JUNE 2019



PLAN
SCALE 1" = 10'

BM#133 - CHISELED BOX ON CENTER OF HEADWALL
℄ SURVEY STA. 761+24, 35.00' RT.
ELEV. = 1038.0733

BM#134 - CHISELED BOX ON CENTER OF HEADWALL
℄ SURVEY STA. 722+47, 29.00' RT.
ELEV. = 1040.2782

NOTES
ALL STATIONING FOLLOWS CRL SH 19, UNLESS NOTED OTHERWISE.

FOR ELEVATION VIEW, SEE SHEET NO. B008.

SEE SHEET NO. B008 FOR DESIGN DATA, FINISH GRADE DATA, HYDRAULIC DATA SUMMARY, INDEX OF SHEETS AND EXISTING BRIDGE NOTE.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

(1) TEMPORARY EARTH RETAINAGE FOR NEW RCB CONSTRUCTION.

CONST. 3-12'x10' BRIDGE BOX WITH STD. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 0°

PRELIMINARY

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

BRIDGE "E"
SH 19 OVER SOLDIER CREEK

GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)

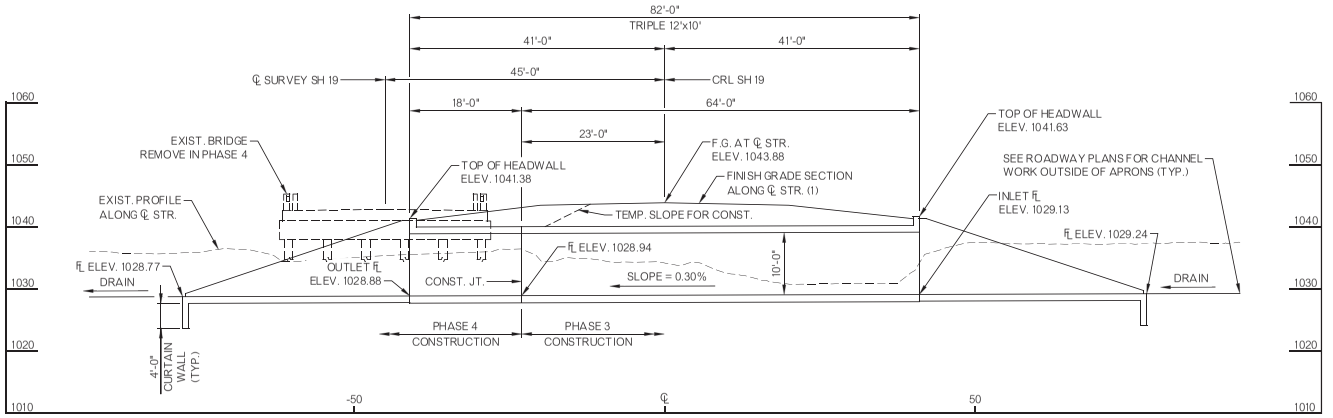
CONST. TRIPLE 12'x10'x82' LG. BOX, SKEWED 0°, AT CRL STA. 766+21

State Job No. 30425(07) Sheet No. B007

SH 19

GRADY COUNTY

PROPOSED
R/W
JUNE 2019



ELEVATION
SCALE 1" = 10'

BM#133 - CHISELED BOX ON CENTER OF HEADWALL
℄ SURVEY STA. 761+24, 35.00' RT.
ELEV. = 1038.0733

BM#134 - CHISELED BOX ON CENTER OF HEADWALL
℄ SURVEY STA. 722+47, 29.00' RT.
ELEV. = 1040.2782

INDEX OF SHEETS (BRIDGE "E")

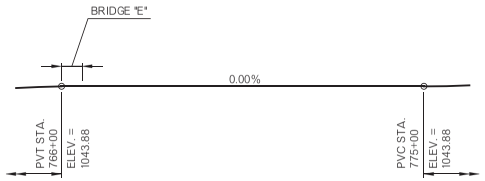
NO.	DESCRIPTION
XX	PAY QUANTITIES AND GENERAL NOTES
B007	GENERAL PLAN AND ELEVATION (SHEET 1 OF 2)
B008	GENERAL PLAN AND ELEVATION (SHEET 2 OF 2)

HYDRAULIC DATA – BRIDGE "E"
SOLDIER CREEK

TOTAL D.A. = 3.79 SQ. MI.
CONTROLLED D.A. = 2.76 SQ. MI.
EFFECTIVE D.A. = 1.03 SQ. MI.

FREQ.	Q (cfs)	CHW (ft)	V (fps)
2	184	1035.81	1.40
5	394	1037.03	1.99
10	605	1037.79	2.48
25	961	1039.14	2.94
50	1220	1039.84	3.64
100	1560	1041.10	4.74
500	2500	1041.54	9.94
RDWY OT = Q147	1870	1041.16	4.82
DETOUR OT	0	0	0

CONST. 3-12'x10' BRIDGE BOX WITH STD. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 0°



FINISH GRADE DATA
CRL SH 19
(STATIONS SHOWN ON THE DETAIL ARE ALONG CRL)

SUMMARY OF QUANTITIES - BRIDGE "E"

DESCRIPTION	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	CY	X.XX
STRUCTURAL EXCAVATION UNCLASSIFIED	CY	X.XX
TEMPORARY EARTH RETAINAGE	LSUM	X.XX
CLASS AA CONCRETE	CY	X.XX
REINFORCING STEEL	LB	X.XX
REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM	X.XX

DESIGN DATA
(LOAD AND RESISTANCE FACTOR DESIGN)

CLASS "AA" CONCRETE F'C = 4,000 PSI
REINFORCING STEEL FY = 60,000 PSI

LOADING: HL-93 AND ODOT OVERLOAD TRUCK

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

THE FOLLOWING STANDARDS SHALL BE REQUIRED:

SBI-4-2
RCB-C3-12(2-12)-02E
RCB-E3-H10-0-1-01E
RCB-E3-H10-0-2-01E
RCB-CW3-D4-0-01E

NOTES
ALL STATIONING FOLLOWS CRL SH 19, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

(1) SEE ROADWAY PLAN AND PROFILES AND CROSS SECTIONS.

EXISTING BRIDGE NOTE:

THE EXISTING BRIDGE SHALL BE REMOVED IN ACCORDANCE WITH THE NOTES ON SHEET XX.

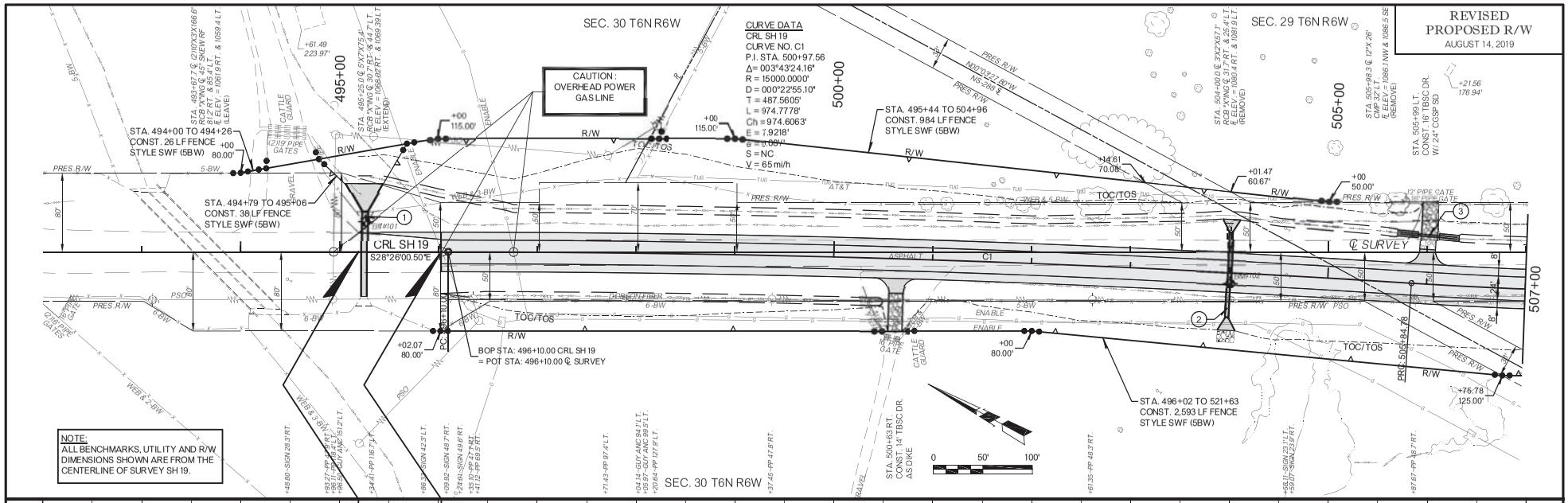
BRIDGE "E"
SH 19 OVER SOLDIER CREEK

GENERAL PLAN AND ELEVATION
(SHEET 2 OF 2)

CONST. TRIPLE 12'x10'x82' LG. BOX, SKEWED 0°, AT CRL STA. 766+21

State Job No. 30425(07) Sheet No. B008

SH 19
GRADY COUNTY

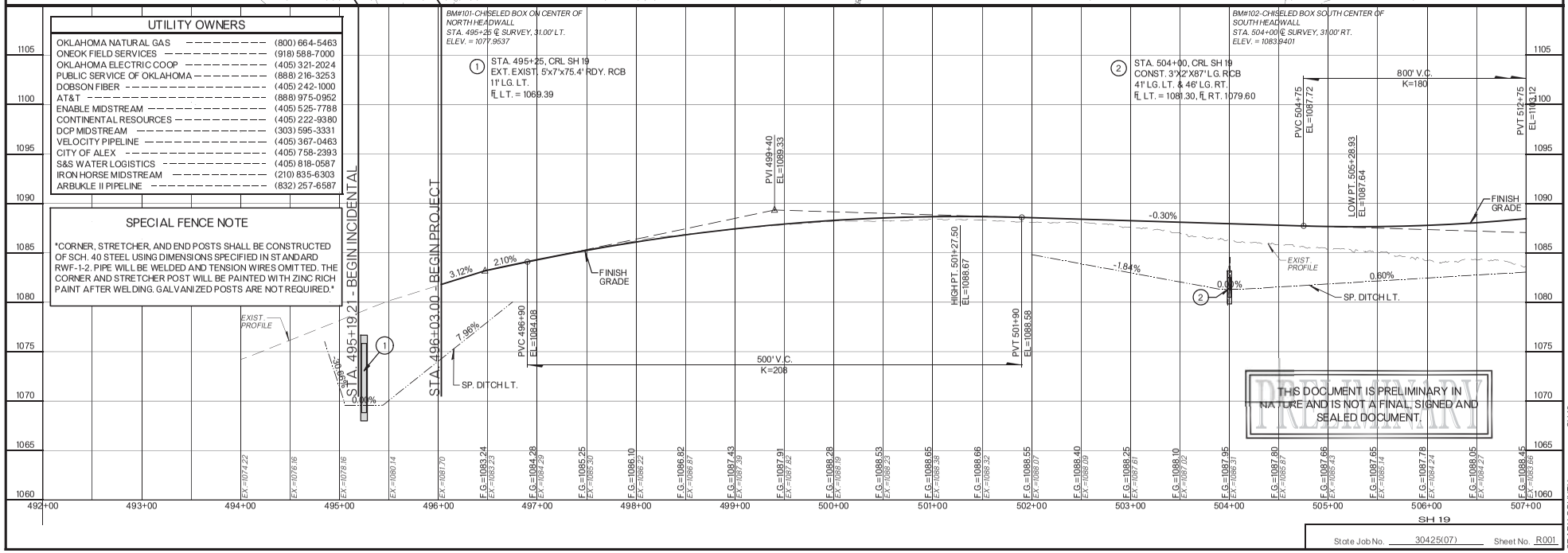


UTILITY OWNERS

OKLAHOMA NATURAL GAS	(800) 664-5463
ONEOK FIELD SERVICES	(918) 588-7000
OKLAHOMA ELECTRIC COOP	(405) 321-2024
PUBLIC SERVICE OF OKLAHOMA	(888) 216-3253
DOBSON FIBER	(405) 242-1000
AT&T	(888) 975-0952
ENABLE MIDSTREAM	(405) 525-7788
CONTINENTAL RESOURCES	(405) 222-9380
DCP MIDSTREAM	(303) 595-3331
VELOCITY PIPELINE	(405) 367-0463
CITY OF ALEX	(405) 758-2393
S&S WATER LOGISTICS	(405) 818-0587
IRON HORSE MIDSTREAM	(210) 835-6303
ARBUKLE II PIPELINE	(832) 257-6587

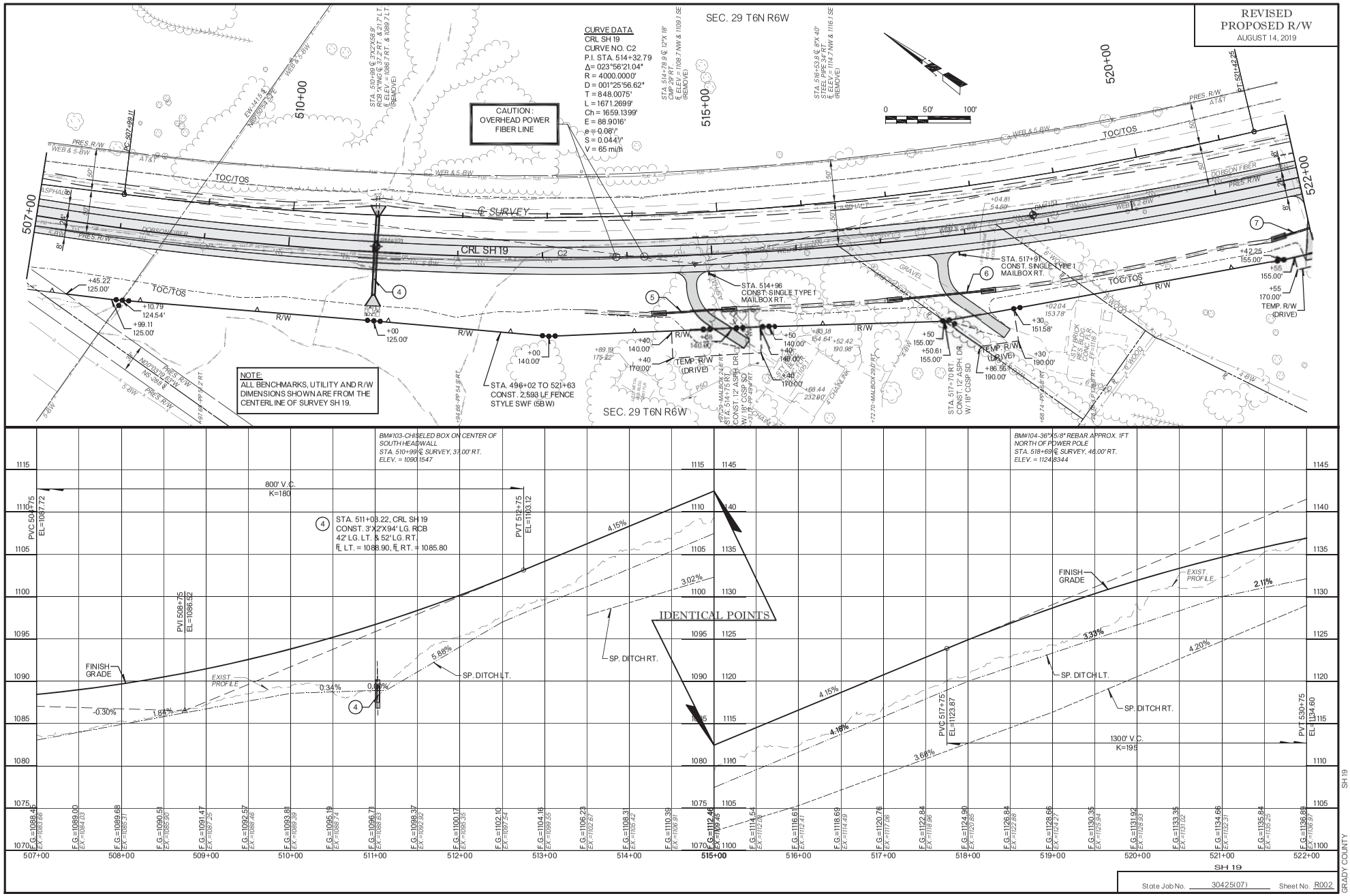
SPECIAL FENCE NOTE

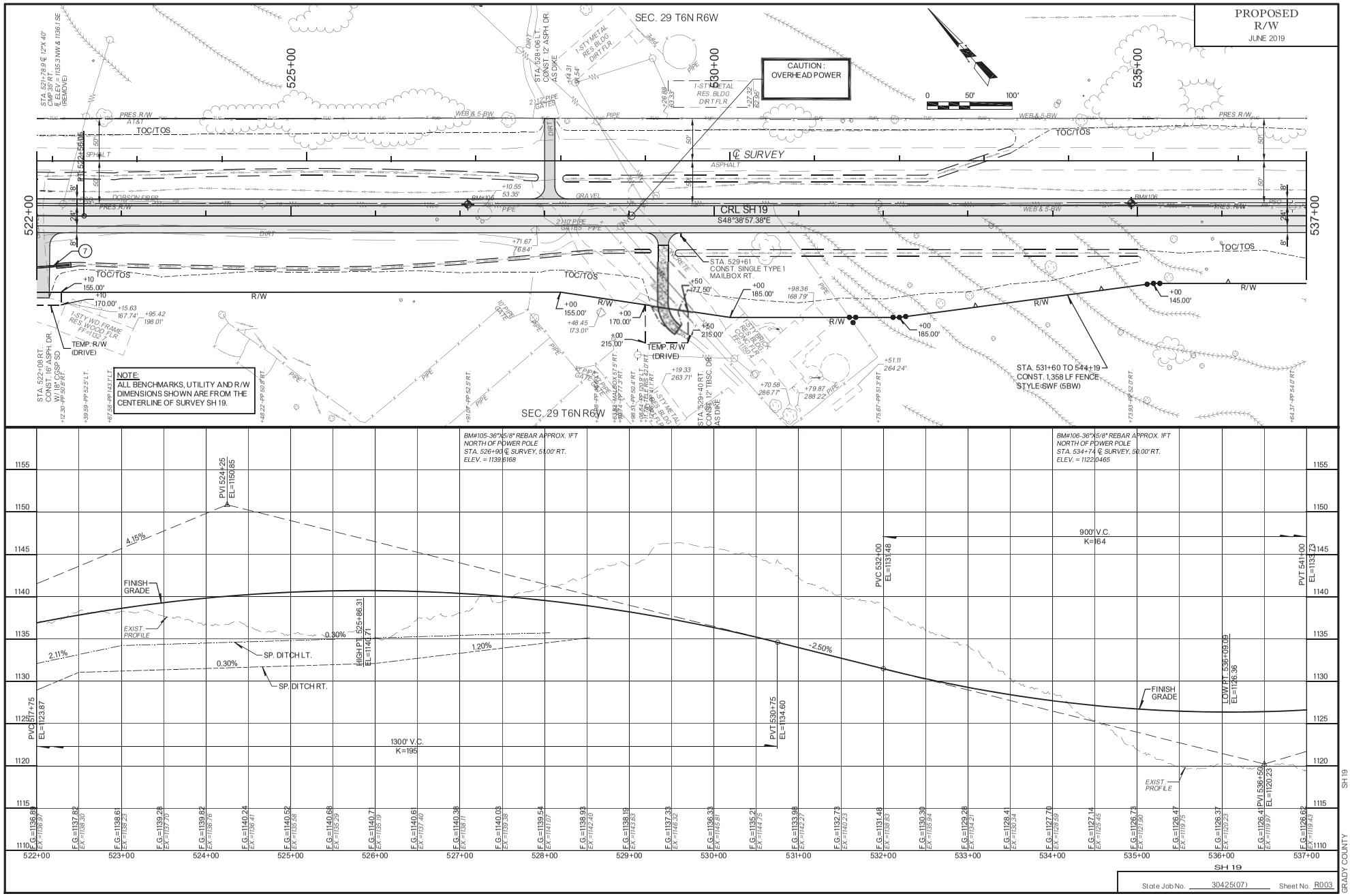
CORNER, STRETCHER, AND END POSTS SHALL BE CONSTRUCTED OF SCH. 40 STEEL USING DIMENSIONS SPECIFIED IN STANDARD RWF-1-2. PIPE WILL BE WELDED AND TENSION WIRES OMITTED. THE CORNER AND STRETCHER POST WILL BE PAINTED WITH ZINC RICH PAINT AFTER WELDING. GALVANIZED POSTS ARE NOT REQUIRED.

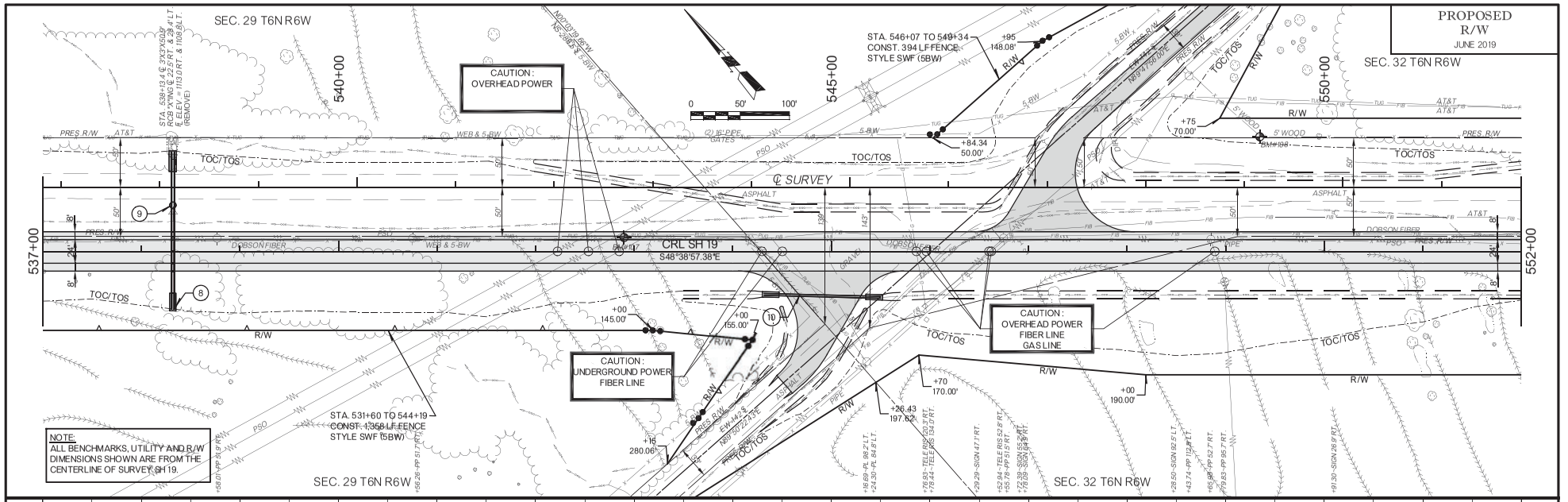


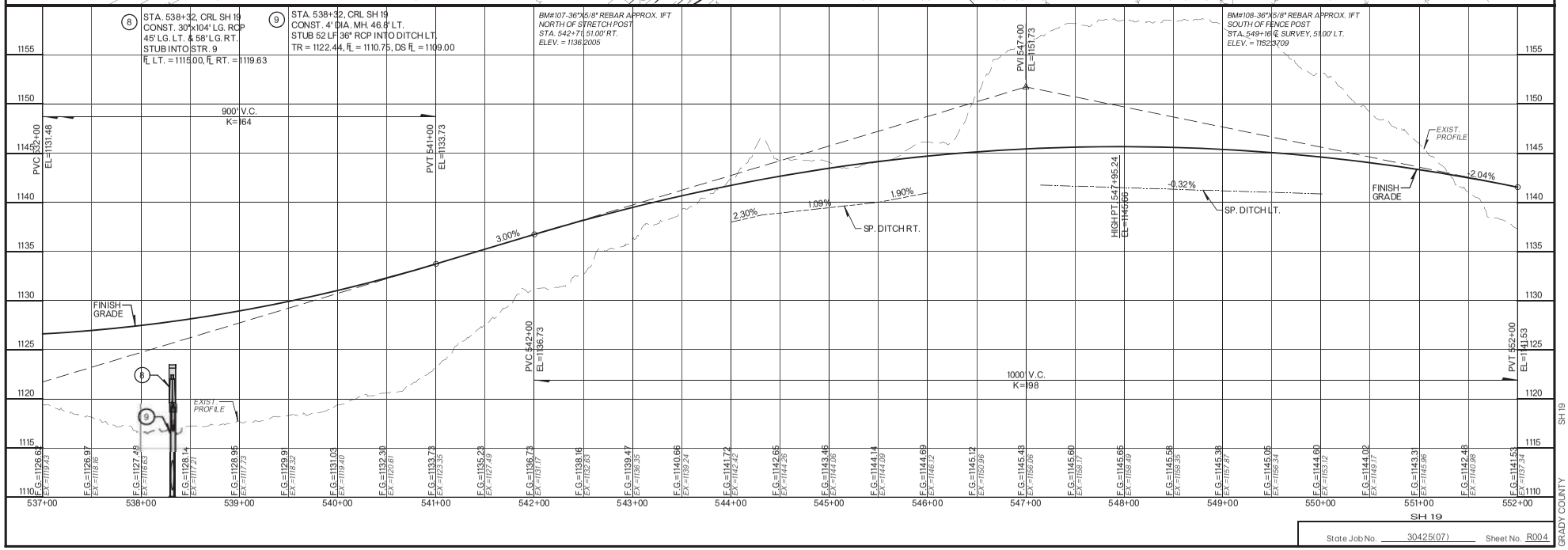
State Job No. 30425(07) Sheet No. R001

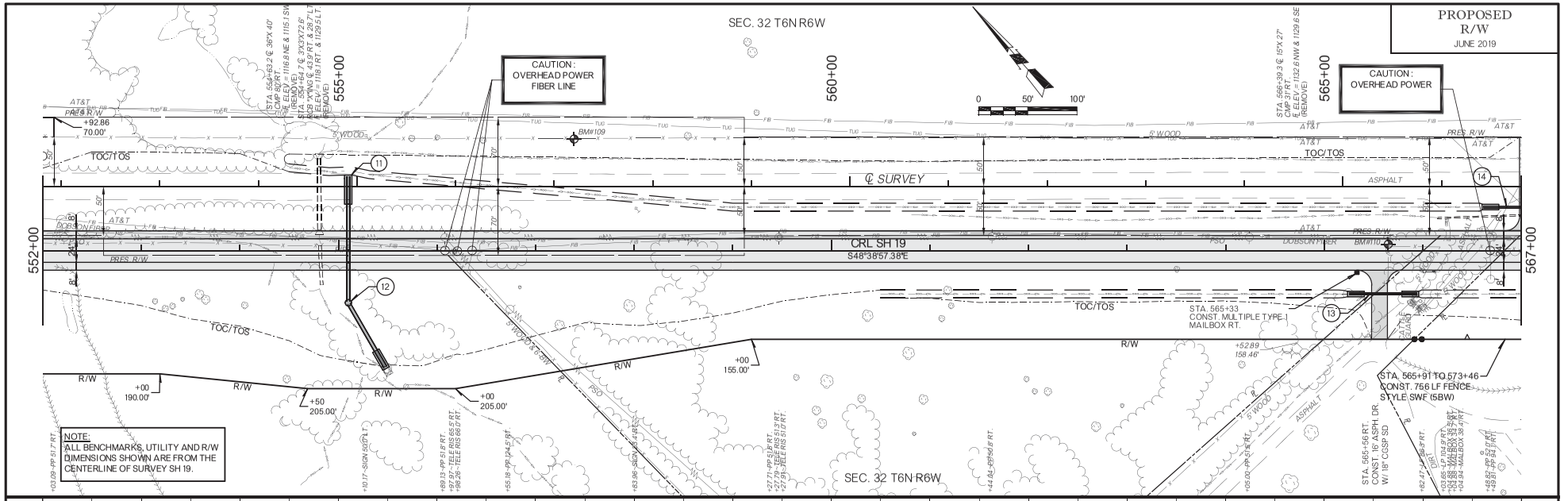
GRADY COUNTY SH 19

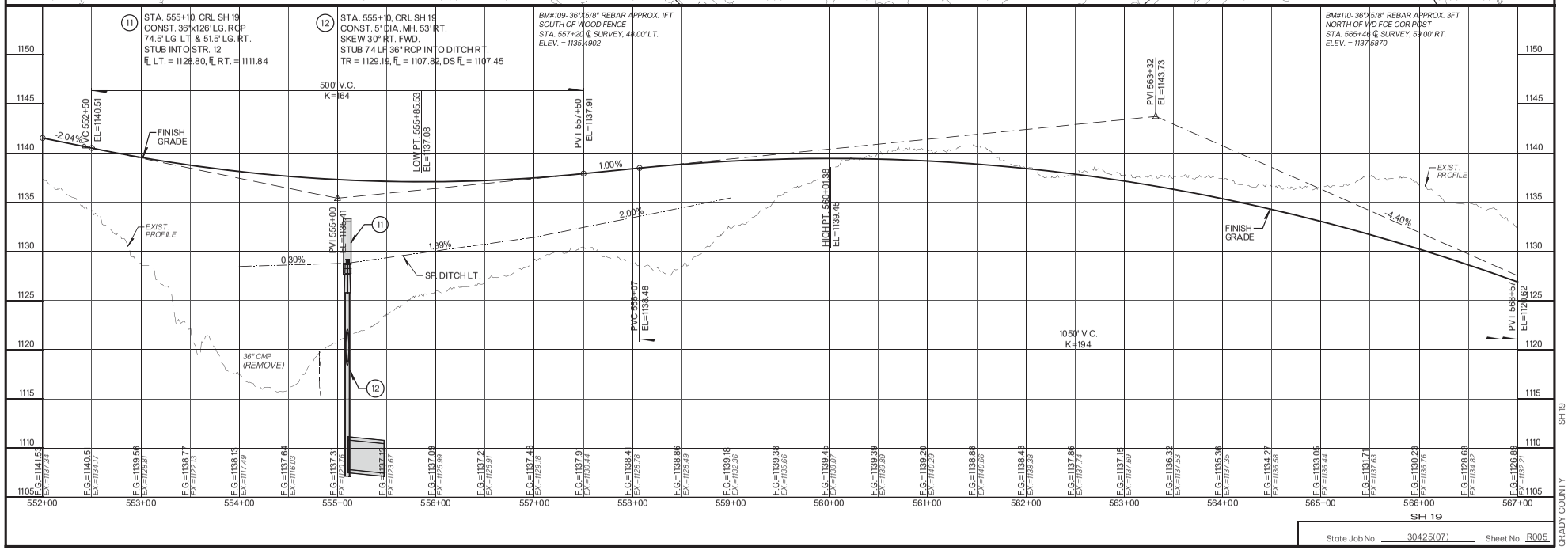

REVISED
PROPOSED R/W
AUGUST 14, 2019
SEC. 29 T6N R6W
CURVE DATA
CRL SH 19
CURVE NO. C2
P.I. STA. 514+32.79
Δ= 023°56'21.04"
R = 4000.0000'
D = 001°25'56.62"
T = 848.0075'
L = 1671.2699'
Ch = 1659.1399'
E = 88.9016'
e = 0.08"/'
S = 0.044"/'
V = 65 mi/h
CAUTION :
OVERHEAD POWER
FIBER LINE
NOTE:
ALL BENCHMARKS, UTILITY AND R/W
DIMENSIONS SHOWN ARE FROM THE
CENTERLINE OF SURVEY SH 19.
STA. 496+02 TO 521+63
CONST. 2,593 LF FENCE
STYLE SWF (5BW)
STA. 514+96
CONST. SINGLE TYPE I
MAILBOX RT.
STA. 517+91
CONST. SINGLE TYPE I
MAILBOX RT.
TEMP. R/W
(DRIVE)
TOC/TOS
R/W
℄ SURVEY
CRL SH 19
507+00
510+00
515+00
520+00
522+00
0
50'
100'
BM#103-CHISELED BOX ON CENTER OF
SOUTH HEADWALL
STA. 510+99 ℄ SURVEY, 37.00' RT.
ELEV. = 1090.1547
BM#104-36"X5/8" REBAR APPROX. 1FT
NORTH OF POWER POLE
STA. 518+69 ℄ SURVEY, 46.00' RT.
ELEV. = 1124.8344
800' V.C.
K=180
STA. 511+03.22, CRL SH 19
CONST. 3'X2'X94' LG. RCB
42' LG. LT. & 52' LG. RT.
FL LT. = 1088.90, FL RT. = 1085.80
PVC 504+75
EL=1087.72
PVI 508+75
EL=1096.62
PVT 512+75
EL=1103.12
4.15%
3.02%
5.88%
-0.30%
1.84%
0.34%
0.00%
FINISH
GRADE
EXIST.
PROFILE
SP. DITCH LT.
SP. DITCH RT.
IDENTICAL POINTS
PVC 517+75
EL=1123.87
PVT 530+75
EL=1134.60
1300' V.C.
K=195
4.15%
4.18%
3.68%
3.33%
4.20%
2.11%
F.G.=1088.46
EX.=1083.66
F.G.=1089.00
EX.=1084.03
F.G.=1089.68
EX.=1085.31
F.G.=1090.51
EX.=1085.90
F.G.=1091.47
EX.=1087.25
F.G.=1092.57
EX.=1088.46
F.G.=1093.81
EX.=1089.92
F.G.=1095.19
EX.=1088.74
F.G.=1096.71
EX.=1088.83
F.G.=1098.37
EX.=1092.82
F.G.=1100.17
EX.=1095.35
F.G.=1102.10
EX.=1097.54
F.G.=1104.16
EX.=1099.55
F.G.=1106.23
EX.=1102.67
F.G.=1108.31
EX.=1105.42
F.G.=1110.39
EX.=1106.91
F.G.=1112.46
EX.=1109.45
F.G.=1114.54
EX.=1112.08
F.G.=1116.61
EX.=1112.41
F.G.=1118.69
EX.=1114.49
F.G.=1120.76
EX.=1117.06
F.G.=1122.84
EX.=1118.96
F.G.=1124.90
EX.=1120.85
F.G.=1126.84
EX.=1122.88
F.G.=1128.66
EX.=1124.27
F.G.=1130.35
EX.=1125.94
F.G.=1131.92
EX.=1128.93
F.G.=1133.36
EX.=1130.02
F.G.=1134.66
EX.=1132.31
F.G.=1135.84
EX.=1133.22
F.G.=1136.89
EX.=1135.97
507+00
508+00
509+00
510+00
511+00
512+00
513+00
514+00
515+00
516+00
517+00
518+00
519+00
520+00
521+00
522+00
SH 19
State Job No. 30425(07)
Sheet No. R002
SH 19
GRADY COUNTY

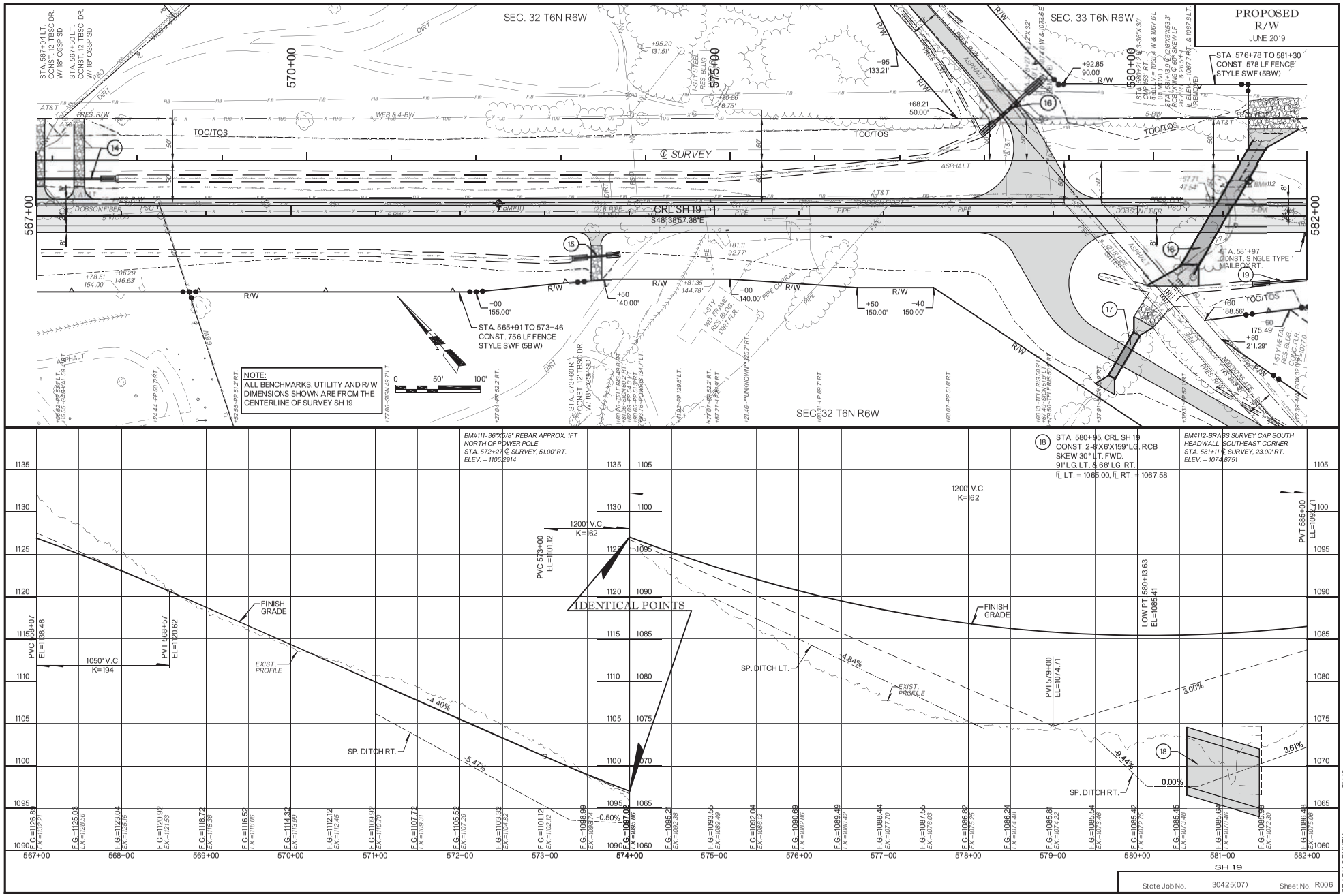

PROPOSED
R/W
JUNE 2019
SEC. 29 T6N R6W
CAUTION :
OVERHEAD POWER
0 50' 100'
525+00
530+00
535+00
522+00
537+00
℄ SURVEY
CRL SH 19
S48°38'57.38"E
TOC/TOS
PRES R/W
WEB & 5-BW
ASPHALT
GRAVEL
DIRT
PIPE
R/W
BM#105
BM#106
STA. 529+61
CONST. SINGLE TYPE 1
MAILBOX RT.
STA. 531+60 TO 544+19
CONST. 1,358 LF FENCE
STYLE: SWF (5BW)
TEMP. R/W
(DRIVE)
NOTE:
ALL BENCHMARKS, UTILITY AND R/W
DIMENSIONS SHOWN ARE FROM THE
CENTERLINE OF SURVEY SH 19.
BM#105-36"X5/8" REBAR APPROX. 1FT
NORTH OF POWER POLE
STA. 526+90 ℄ SURVEY, 51.00' RT.
ELEV. = 1139.6168
BM#106-36"X5/8" REBAR APPROX. 1FT
NORTH OF POWER POLE
STA. 534+74 ℄ SURVEY, 50.00' RT.
ELEV. = 1122.0465
PVI 524+25
EL=1150.85
PVC 517+75
EL=1123.87
HIGH PT 525+86.31
EL=1140.71
PVC 532+00
EL=1131.48
PVT 530+75
EL=1134.60
PVT 541+00
EL=1133.23
LOW PT 536+09.09
EL=1126.36
PVI 536+59
EL=1120.23
4.15%
2.11%
0.30%
0.30%
1.20%
-2.50%
1300' V.C.
K=195
900' V.C.
K=164
FINISH
GRADE
EXIST.
PROFILE
SP. DITCH LT.
SP. DITCH RT.
1155
1150
1145
1140
1135
1130
1125
1120
1115
1110
522+00
523+00
524+00
525+00
526+00
527+00
528+00
529+00
530+00
531+00
532+00
533+00
534+00
535+00
536+00
537+00
SH 19
State Job No. 30425(07) Sheet No. R003
GRADY COUNTY
SH 19

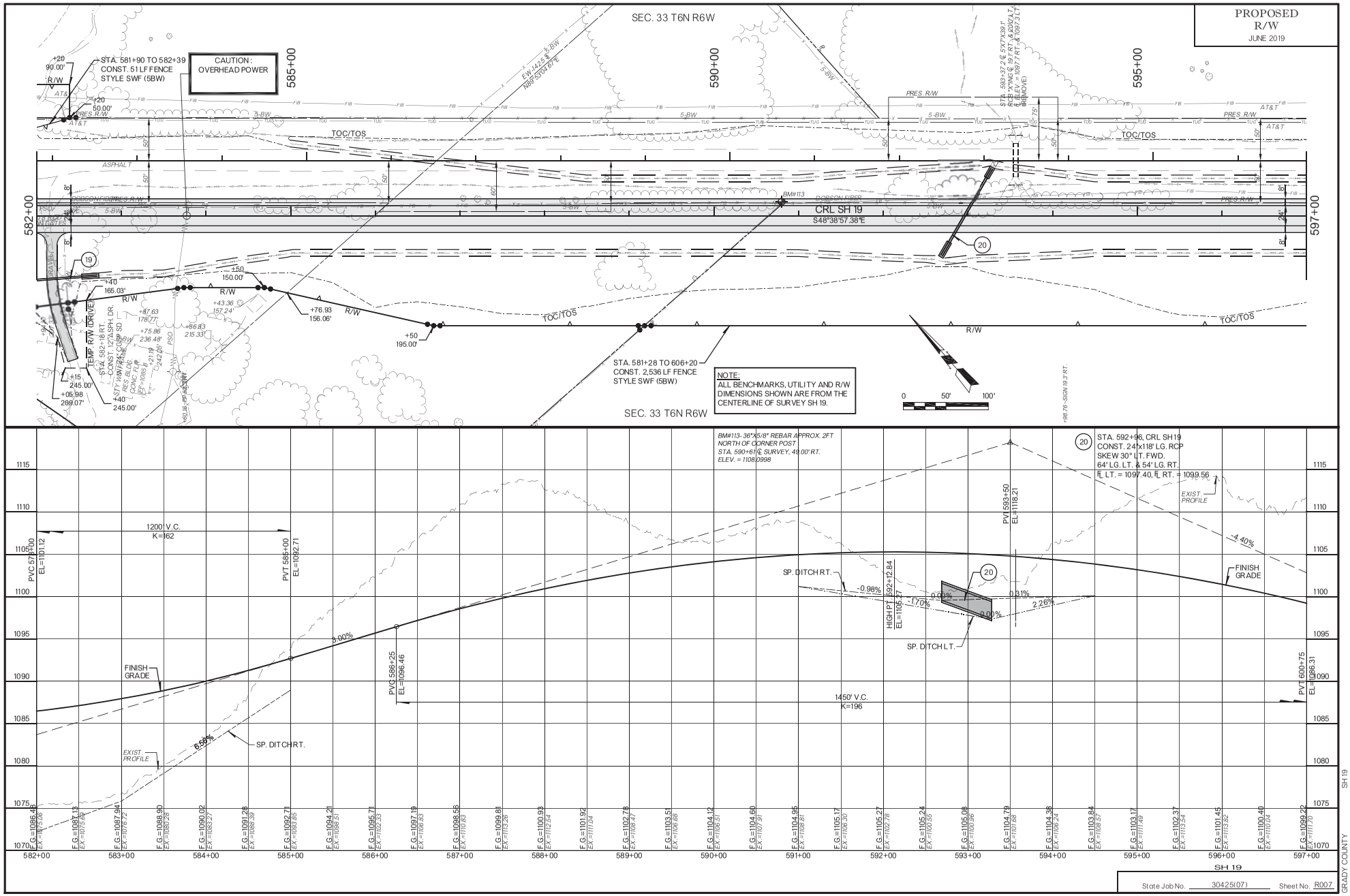

PROPOSED
R/W
JUNE 2019
SEC. 29 T6N R6W
SEC. 32 T6N R6W
537+00
540+00
545+00
550+00
552+00
CRL SH 19
S48°38'57.38"E
℄ SURVEY
CAUTION : OVERHEAD POWER
CAUTION : UNDERGROUND POWER FIBER LINE
CAUTION : OVERHEAD POWER FIBER LINE GAS LINE
STA. 546+07 TO 549+34
CONST. 394 LF FENCE
STYLE SWF (5BW)
STA. 531+60 TO 544+19
CONST. 1358 LF FENCE
STYLE SWF (5BW)
TOC/TOS
R/W
ASPHALT
GRAVEL
DOBSON FIBER
PRES. R/W
NOTE:
ALL BENCHMARKS, UTILITY AND R/W DIMENSIONS SHOWN ARE FROM THE CENTERLINE OF SURVEY SH 19.


8 STA. 538+32, CRL SH 19
CONST. 30"x104' LG. RCP
45' LG. LT. & 58' LG. RT.
STUB INTO STR. 9
FL LT. = 1115.00, FL RT. = 1119.63
9 STA. 538+32, CRL SH 19
CONST. 4' DIA. MH. 46.8' LT.
STUB 52 LF 36" RCP INTO DITCH LT.
TR = 1122.44, FL = 1110.75, DS FL = 1109.00
BM#107-36"X5/8" REBAR APPROX. 1FT NORTH OF STRETCH POST STA. 542+71 51.00' RT. ELEV. = 1136.2005
BM#108-36"X5/8" REBAR APPROX. 1FT SOUTH OF FENCE POST STA. 549+16 ℄ SURVEY, 51.00' LT. ELEV. = 1152.3709
PVC 532+00 EL=1131.48
900' V.C. K=164
PVT 541+00 EL=1133.73
PVT 547+00 EL=1151.73
HIGH PT 547+95.24 EL=1145.66
1000' V.C. K=198
PVC 542+00 EL=1136.73
PVT 552+00 EL=1141.53
3.00%
2.30%
1.09%
1.90%
-0.32%
2.04%
SP. DITCH RT.
SP. DITCH LT.
FINISH GRADE
EXIST PROFILE
537+00
538+00
539+00
540+00
541+00
542+00
543+00
544+00
545+00
546+00
547+00
548+00
549+00
550+00
551+00
552+00
SH 19
GRADY COUNTY
SH 19
State Job No. 30425(07) Sheet No. R004


PROPOSED
R/W
JUNE 2019
SEC. 32 T6N R6W
CAUTION:
OVERHEAD POWER
FIBER LINE
CAUTION:
OVERHEAD POWER
555+00
560+00
565+00
552+00
567+00
0
50'
100'
CRL SH 19
S48°38'57.38"E
℄ SURVEY
TOC/TOS
PRES. R/W
AT&T
DOBSON FIBER
5' WOOD
ASPHALT
FSU
BM#109
BM#110
STA. 565+33
CONST. MULTIPLE TYPE I
MAILBOX RT.
STA. 565+91 TO 573+46
CONST. 756 LF FENCE
STYLE SWF (5BW)
STA. 565+56 RT.
CONST. 16' ASPH DR.
W/ 18" CSSP SD
NOTE:
ALL BENCHMARKS, UTILITY AND R/W
DIMENSIONS SHOWN ARE FROM THE
CENTERLINE OF SURVEY SH 19.
SEC. 32 T6N R6W


11 STA. 555+10, CRL SH 19
CONST. 36"x126" LG. RCP
74.5' LG. LT. & 51.5' LG. RT.
STUB INTO STR. 12
FL LT. = 1128.80, FL RT. = 1111.84
12 STA. 555+10, CRL SH 19
CONST. 5' DIA. MH. 53' RT.
SKEW 30° RT. FWD.
STUB 7.4 LF 36" RCP INTO DITCH RT.
TR = 1129.19, FL = 1107.82, DS FL = 1107.45
BM#109- 36"X5/8" REBAR APPROX. 1FT
SOUTH OF WOOD FENCE
STA. 557+20 ℄ SURVEY, 48.00' LT.
ELEV. = 1135.4902
BM#110- 36"X5/8" REBAR APPROX. 3FT
NORTH OF WD FCE COR POST
STA. 565+46 ℄ SURVEY, 59.00' RT.
ELEV. = 1137.5870
500' V.C.
K=164
1050' V.C.
K=194
PVC 552+50
EL=1140.51
LOW PT. 555+85.53
EL=1137.08
PVT 557+50
EL=1137.91
HIGH PT. 560+01.38
EL=1139.46
PVC 561+07
EL=1138.48
PVI 563+32
EL=1143.73
PVT 568+57
EL=1126.62
PVI 555+00
EL=1135.41
-2.04%
1.00%
2.00%
1.89%
0.30%
-4.40%
FINISH GRADE
EXIST. PROFILE
SP. DITCH LT.
36" CMP (REMOVE)
1150
1145
1140
1135
1130
1125
1120
1115
1110
1105
552+00
553+00
554+00
555+00
556+00
557+00
558+00
559+00
560+00
561+00
562+00
563+00
564+00
565+00
566+00
567+00
SH 19
SH 19
GRADY COUNTY
State Job No. 30425(07)
Sheet No. R005


PROPOSED R/W
JUNE 2019
SEC. 32 T6N R6W
SEC. 33 T6N R6W
SEC. 32 T6N R6W
CRL SH 19
S48°38'57.36"E
TOC/TOS
℄ SURVEY
ASPHALT
DIRT
PRES R/W
R/W
567+00
570+00
575+00
580+00
582+00
STA. 565+91 TO 573+46
CONST. 756 LF FENCE
STYLE SWF (5BW)
STA. 576+78 TO 581+30
CONST. 578 LF FENCE
STYLE SWF (5BW)
STA. 581+97
CONST. SINGLE TYPE 1
MAILBOX RT.
NOTE:
ALL BENCHMARKS, UTILITY AND R/W
DIMENSIONS SHOWN ARE FROM THE
CENTERLINE OF SURVEY SH 19.
0 50' 100'
BM#111-36"X5/8" REBAR APPROX. 1FT
NORTH OF POWER POLE
STA. 572+27 ℄ SURVEY, 51.00' RT.
ELEV. = 1105.2914
BM#112-BRASS SURVEY CAP SOUTH
HEADWALL, SOUTHEAST CORNER
STA. 581+11 ℄ SURVEY, 23.00' RT.
ELEV. = 1074.8751
18 STA. 580+95, CRL SH 19
CONST. 2-8'X6'X159' LG. RCB
SKEW 30° LT. FWD.
91' LG. LT. & 68' LG. RT.
FL LT. = 1065.00, FL RT. = 1067.58
PVC 568+07
EL=1138.48
1050' V.C.
K=194
PVT 568+57
EL=1120.62
FINISH GRADE
EXIST. PROFILE
-4.40%
-5.47%
SP. DITCH RT.
PVC 573+00
EL=1101.12
1200' V.C.
K=162
IDENTICAL POINTS
-0.50%
574+00
1200' V.C.
K=162
PVT 579+00
EL=1074.71
4.84%
SP. DITCH LT.
3.00%
9.44%
0.00%
3.61%
LOW PT. 580+13.63
EL=1065.41
PVT 585+00
EL=1091.71
F.G.=1126.89 EX.=1122.21
F.G.=1125.03 EX.=1128.56
F.G.=1123.04 EX.=1123.16
F.G.=1120.92 EX.=1121.53
F.G.=1118.72 EX.=1118.36
F.G.=1116.52 EX.=1116.06
F.G.=1114.32 EX.=1113.39
F.G.=1112.12 EX.=1112.45
F.G.=1109.92 EX.=1110.79
F.G.=1107.72 EX.=1109.31
F.G.=1105.52 EX.=1107.29
F.G.=1103.32 EX.=1104.82
F.G.=1101.12 EX.=1102.12
F.G.=1098.99 EX.=1098.74
F.G.=1097.00 EX.=1095.86
F.G.=1095.21 EX.=1092.26
F.G.=1093.55 EX.=1089.49
F.G.=1092.04 EX.=1086.12
F.G.=1090.69 EX.=1082.86
F.G.=1089.49 EX.=1080.42
F.G.=1088.44 EX.=1077.70
F.G.=1087.55 EX.=1076.03
F.G.=1086.82 EX.=1074.22
F.G.=1086.24 EX.=1074.48
F.G.=1085.81 EX.=1074.22
F.G.=1085.54 EX.=1073.46
F.G.=1085.42 EX.=1072.75
F.G.=1085.45 EX.=1073.48
F.G.=1085.64 EX.=1070.46
F.G.=1085.96 EX.=1072.20
F.G.=1086.48 EX.=1075.06
567+00 568+00 569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00 578+00 579+00 580+00 581+00 582+00
SH 19
State Job No. 30425(07) Sheet No. R006
GRADY COUNTY
SH 19


PROPOSED
R/W
JUNE 2019
SEC. 33 T6N R6W
585+00
590+00
595+00
582+00
597+00
CAUTION:
OVERHEAD POWER
STA. 581+90 TO 582+39
CONST. 51 LF FENCE
STYLE SWF (5BW)
TOC/TOS
PRES. R/W
AT&T
5-BW
ASPHALT
CRL SH 19
S48°38'57.38"E
BM#113
STA. 581+28 TO 606+20
CONST. 2,536 LF FENCE
STYLE SWF (5BW)
NOTE:
ALL BENCHMARKS, UTILITY AND R/W
DIMENSIONS SHOWN ARE FROM THE
CENTERLINE OF SURVEY SH 19.
TEMP. R/W (DRIVE)
STA. 582+18 RT.
CONST. 12' ASPH. DR.
0 50' 100'
BM#113- 36"X5/8" REBAR APPROX. 2FT
NORTH OF CORNER POST
STA. 590+61 ℄ SURVEY, 49.00' RT.
ELEV. = 1108.0998
STA. 592+96, CRL SH 19
CONST. 24'x118' LG. RCP
SKEW 30° LT. FWD.
64' LG. LT. & 54' LG. RT.
fl. LT. = 1097.40, fl. RT. = 1099.56
EXIST. PROFILE
FINISH GRADE
SP. DITCH RT.
SP. DITCH LT.
1200' V.C.
K=162
1450' V.C.
K=196
PVC 578+00
EL=1101.12
PVT 585+00
EL=1092.71
PVC 586+25
EL=1096.46
PVI 593+50
EL=1118.21
PVT 600+75
EL=1086.31
HIGH PT. 592+12.84
EL=1105.27
-4.40%
-0.98%
-1.70%
0.00%
0.31%
2.26%
6.56%
5.00%
9.00%
1115
1110
1105
1100
1095
1090
1085
1080
1075
1070
582+00
583+00
584+00
585+00
586+00
587+00
588+00
589+00
590+00
591+00
592+00
593+00
594+00
595+00
596+00
597+00
SH 19
GRADY COUNTY
SH 19
State Job No. 30425(07)
Sheet No. R007