Appendix A
Structure of Joint IS/EA

NEPA and CEQA were signed into law in 1970 by President Richard Nixon and California Governor Ronald Reagan, respectively. NEPA applies only to federal agencies and their proposed actions, while CEQA applies only to California state and local agencies and their proposed discretionary projects.

Both NEPA and CEQA require the incorporation of environmental values into governmental decision making. Both statutes require public agencies to consider the environmental impacts of their actions, to document those impacts, and to disclose that documentation to the public. CEQA additionally requires that significant adverse effects are minimized to the extent feasible.

NEPA and CEQA each encourage a joint federal and state review where a project requires both federal and state approvals. Because the proposed project requires approvals from federal and state agencies, a joint IS/EA is being prepared. This joint review process will avoid redundancy, improve efficiency and interagency cooperation, and be easier for the public to follow.

Despite the similarities between NEPA and CEQA, there are key differences both procedurally and substantively that must be addressed in a joint document. In addition, there are differences in terminology. A description of these key differences and how they will be addressed in this IS/EA is provided in Table 1.1.

In terms of differences in *terminology*, CEQA terminology will be used when both terms refer to the same or very similar concepts or documents. For example, NEPA involves the evaluation of proposed "actions," whereas CEQA applies to proposed "projects." In this case, the CEQA term "project" shall be used to refer to both concepts.

In cases when substantive requirements of NEPA and CEQA differ, the more stringent requirements between NEPA and CEQA will be satisfied, and all unique requirements for NEPA and CEQA will both be met. Thus, for instance, greenhouse gas impacts should be considered in the analysis, since that is required pursuant to the CEQA guidelines. Similarly, a socioeconomic impact analysis (as required by NEPA but not necessarily by CEQA) will be conducted in this IS/EA.

In cases where procedures differ, both sets of procedures will be followed to ensure full compliance with both NEPA and CEQA. For example, notification procedures differ between the two statutes. In such cases, both sets of procedures shall be followed.

Table 1.1 Key Differences Between NEPA and CEQA, and How Differences will be Addressed in the IS/EA

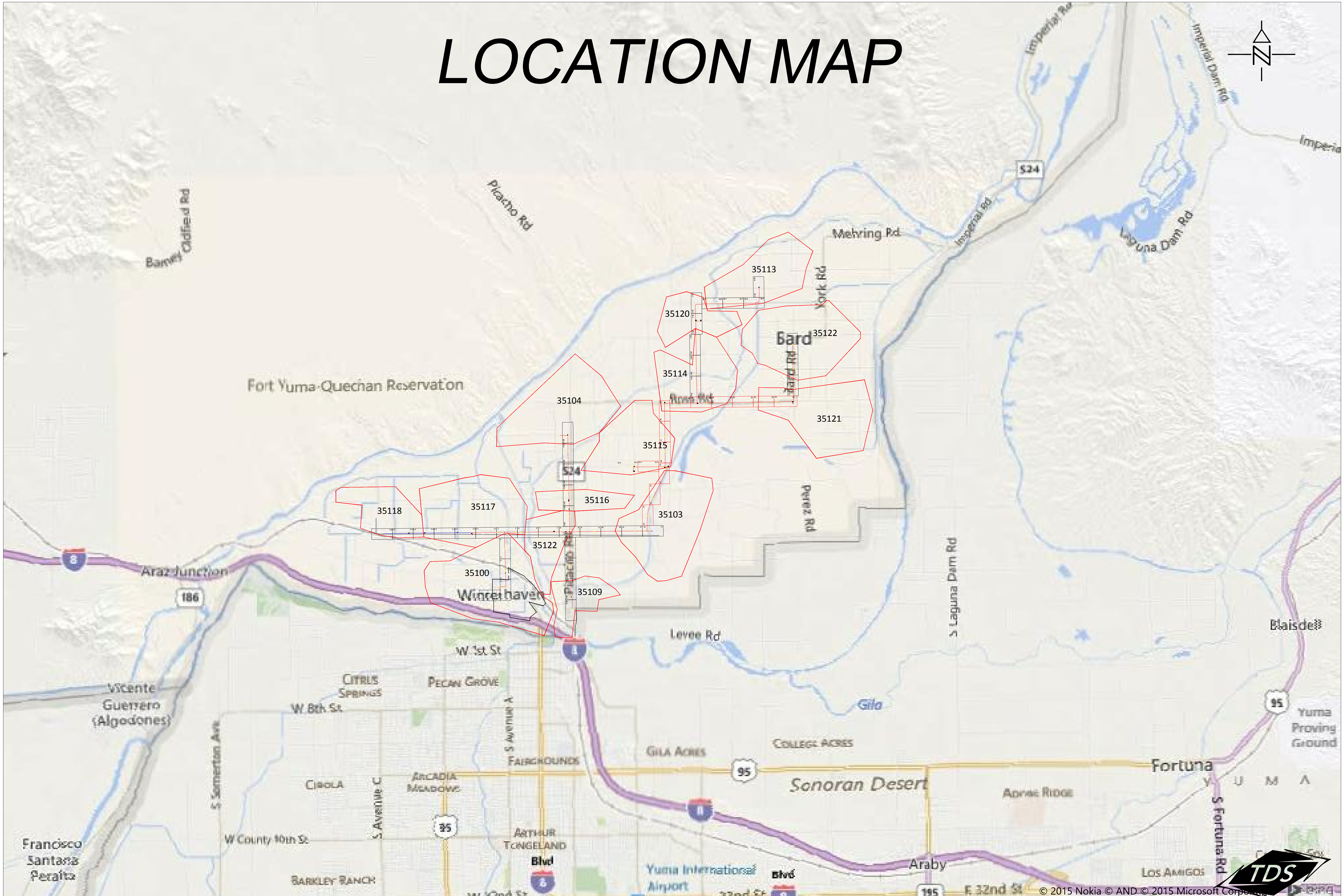
NEPA	CEQA	How Addressed in IS/EA
General Terminology		
Proposal for Action (or Proposed Action)	Proposed Project	Proposed Project
Cooperating Agency – any federal agency other than the lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in the proposed Action (40 CFR §1508.5)	Responsible Agency – all public agencies other than the lead agency which have discretionary approval power over the project (CEQA Guidelines §15381) Trustee Agency – agencies without approval authority, but which have jurisdiction by law over resources potentially affected by the Project.	Both NEPA and CEQA terminology will apply to applicable agencies.
Purpose and Need	Goals and Objectives	Goals and Objectives; Purpose and Need (both terminologies will be used due to differing agency missions and authorities)
No Action alternative	No Project alternative	No Project Alternative
Environmentally Preferred Alternative	No term applies in an IS	Environmentally Preferred Alternative
Affected Environment	Environmental Setting	Environmental Setting
Environmental Consequences	Environmental Impacts	Environmental Impacts
Environmental Baseline		
NEPA does not contain specific guidance for using a baseline for determining an action's significant effects on the quality of the human environment. The No Action alternative may be used as a "benchmark" to compare the magnitude of environmental effects of the action alternatives. Under NEPA, federal agencies have the discretion to define the baseline for assessing environmental effects of the alternatives as the no action alternative.	Baseline conditions are normally defined as physical conditions in the Project Area that exist at the time that the IS is prepared.	When comparing the Proposed Project to baseline conditions, the Proposed Project will be evaluated against existing conditions at the time that the Draft IS/MND is circulated. If the No Action is different than existing conditions, the Action Alternative will be evaluated against the No Action alternative.
Significance		
Significance is defined in terms of context and intensity. Context refers to the need to consider impacts within the setting in which they occur (40 CFR §1508.27(a)). Intensity refers to the severity of the impact, with 10 non-exclusive criteria to consider specified in the regulations (40 CFR §150827(b)).	Significance is defined as "a substantial, or potentially substantial, adverse change within the area affected by the project" (CEQA Guidelines §15382). A "threshold of significance" is "an identifiable quantitative, qualitative, or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the lead	CEQA requires significance determinations for individual impacts, but NEPA does not. Therefore, significance determinations in the document will be made under CEQA.

NEPA	CEQA	How Addressed in IS/EA
	agency and compliance with which means the effect normally will be determined to be less than significant" (CEQA Guidelines §15064.7(a)).	
Socioeconomic Impacts		
Economic and social effects need to be evaluated in an EA when these effects are interrelated with physical effects on the environment (40 CFR 1508.14). In addition, environmental justice impacts must be evaluated.	Economic and social effects need to be evaluated in an IS when these effects result in a direct or indirect change in the physical environment.	NEPA's approach to evaluating socioeconomic impacts will be used in the IS/EA.
Cumulative Impacts		
NEPA defines a cumulative impact as an "impact on the environment which results from the incremental impact of the Action when added to other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR §1508.7)	CEQA defines a cumulative impact as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA Guidelines §15355). The IS should focus on instances in which the proposed project would incrementally contribute to a significant cumulative impact.	The cumulative impact analysis will use a combination of both approaches.
Mitigation		
Mitigation includes avoiding, minimizing, rectifying, reducing over time, or compensating for an impact (40 CFR §1508.20). NEPA guidance says that "all relevant, reasonable mitigation measures that could improve the project are to be identified," even those outside the agency's jurisdiction (NEPA's 40 Most Asked Questions, 19b). The lead agency is not limited to considering mitigation only for significant impacts, but should identify feasible measures for any adverse environmental impacts, even those that are not considered significant (40 CFR §1502.16(h)).	CEQA defines mitigation the same way as NEPA (CEQA Guidelines § 15370). An IS/MND must describe feasible mitigation measures for significant adverse impacts (CEQA Guidelines § 15126.4(a)(1)), and the agency must adopt mitigation measures to reduce the impact to a less-than-significant level. If this is not feasible, or if a fair argument may be made based on substantial evidence that an impact is significant even after implementation of one or more mitigation measures, then an EIR must be prepared. Mitigation measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (CEQA Guidelines § 15126.4(a)(3)).	Mitigation measures are considered for all adverse impacts to environmental resources. The BIA will approach *implementation* of mitigation measures according to NEPA in its FONSI. CPUC shall adopt all proposed mitigation measures for significant impacts according to CEQA in this MND.
Environmental Review Documents		
Environmental Assessment (EA)	Initial Study (IS)	IS/EA
Finding of No Significant Impact (FONSI)	Mitigated Negative Declaration (MND)	BIA will publish a FONSI in accordance with NEPA. CPUC will adopt a MND in accordance with CEQA.

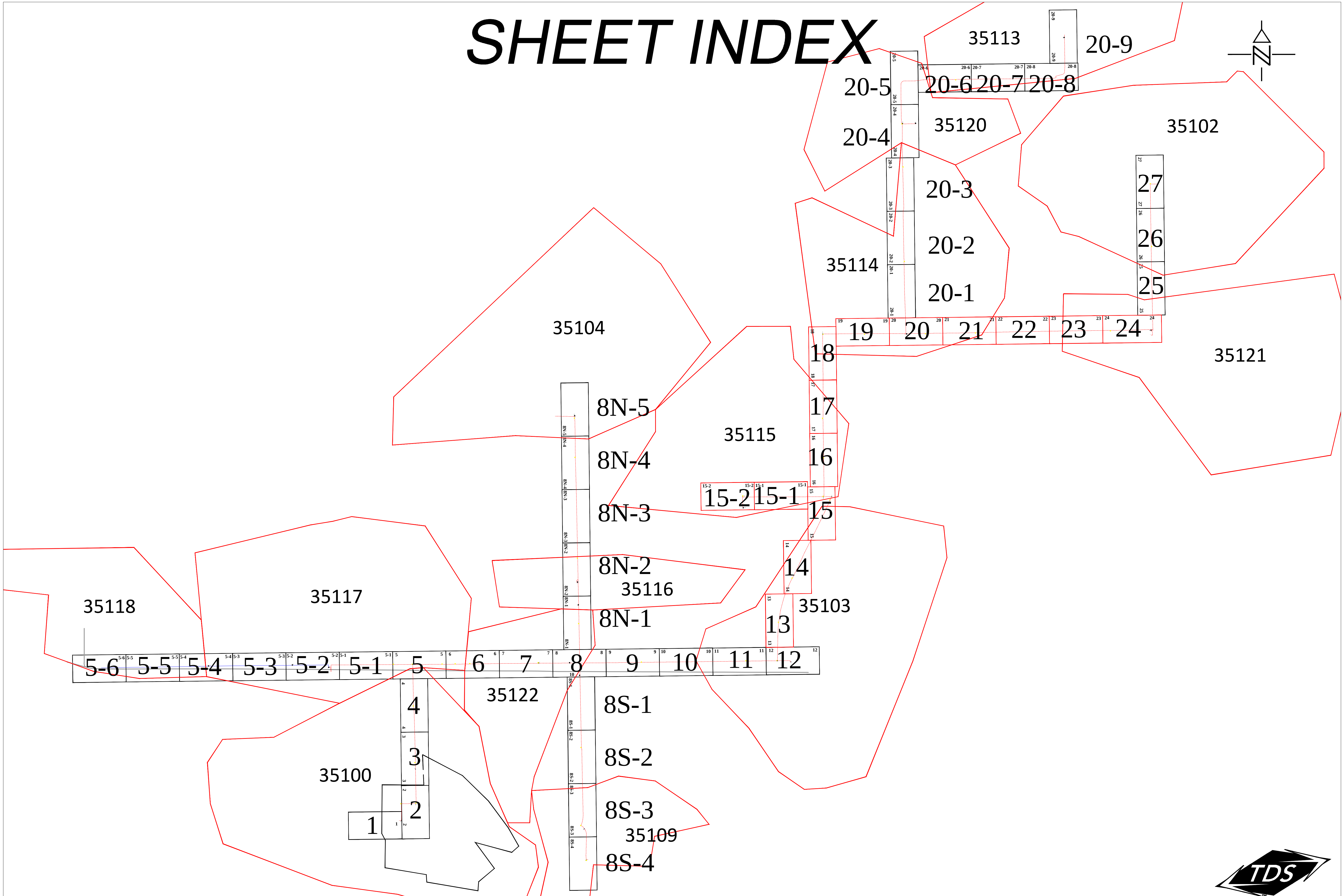
NEPA	CEQA	How Addressed in IS/EA
Alternatives		
Provided that there are no unresolved conflicts, alternatives do not need to be evaluated in an EA (with the exception of the No Action alternative).	An IS does not need to consider alternatives to the proposed project (except for the No Project)	The proposed project has no unresolved conflicts as defined by BIA's NEPA guidelines. Therefore, this IS/EA only evaluates the proposed project and a No Project alternative.

Appendix B
Project Plans

LOCATION MAP



SHEET INDEX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20-9
20-5
20-6
20-7
20-8
20-4
35120
35102
20-3
27
20-2
26
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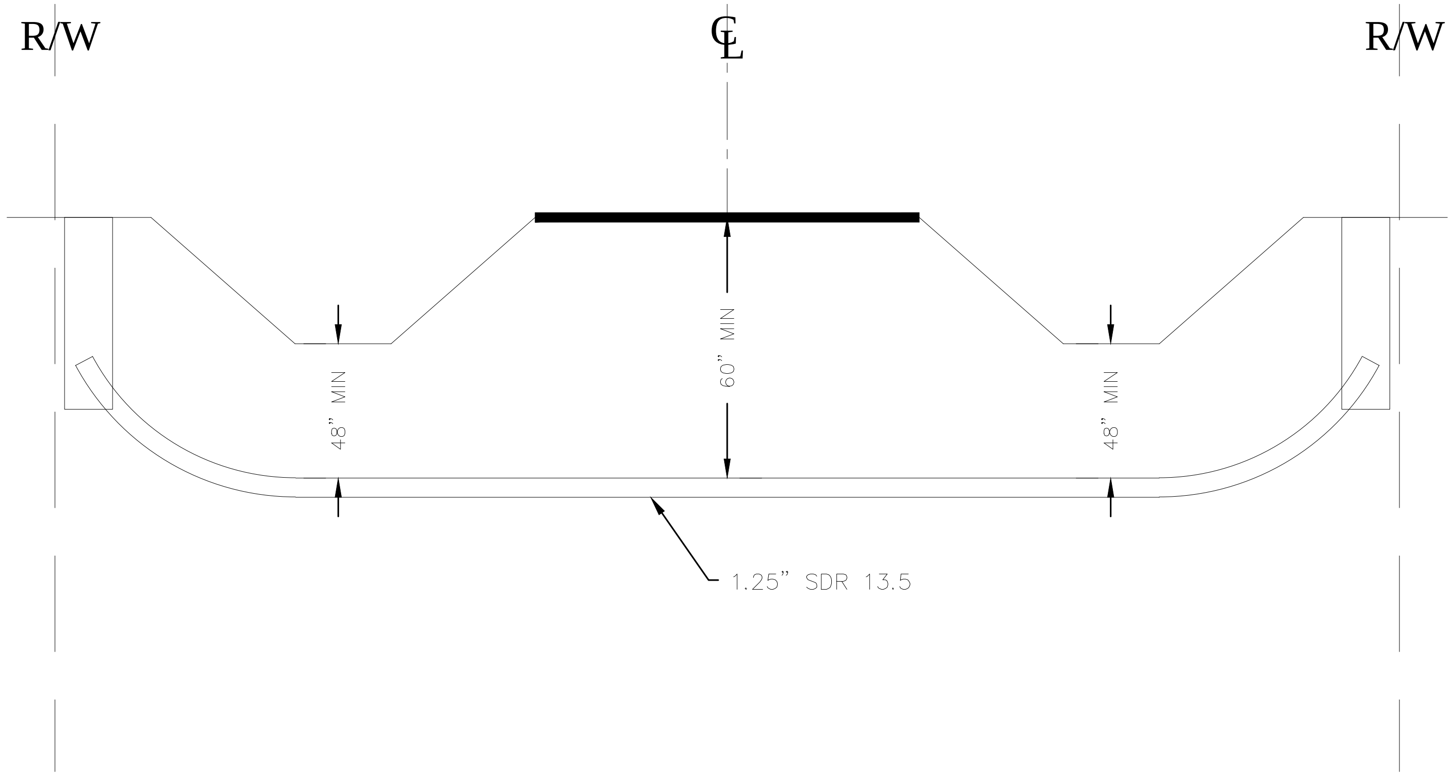
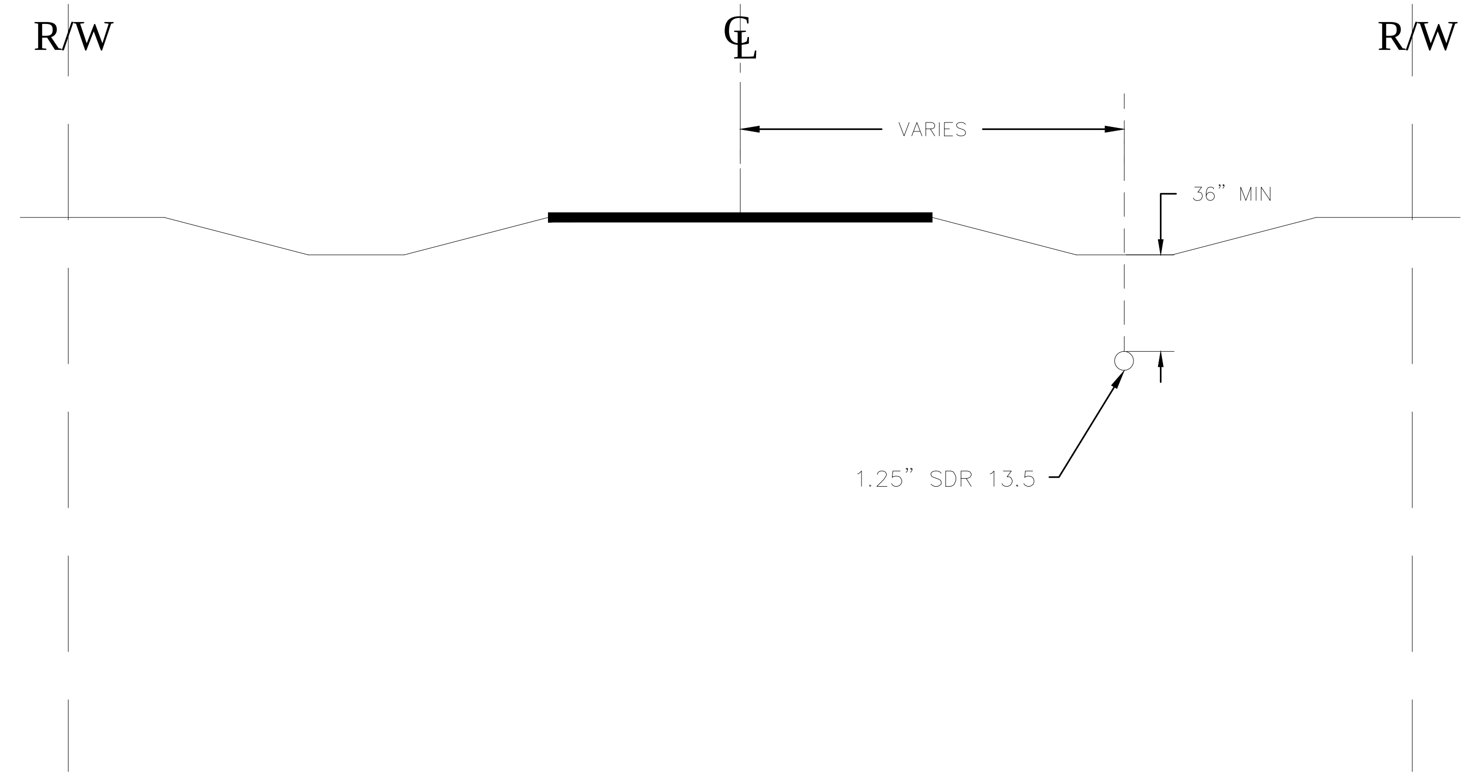
20-1
25
19
20
21
22
23
24
18
35121
35104
8N-5
17
35115
8N-4
16
15-2
15-1
15
8N-3
8N-2
14
35116
35118
35117
8N-1
13
35103
5-6
5-5
5-4
5-3
5-2
5-1
5
6
7
8
9
10
11
12
35122
4
8S-1
3
8S-2
35100
2
8S-3
1
35109
8S-4
TDS

TYPICAL SECTIONS



TYPICAL BORE PROFILE



TYPICAL PARALLEL PROFILE

NOTES:

1. Crossing will be made utilizing directional bore methodology.
2. Depth to top of duct will be a minimum of forty-eight inches (48") below bottom of ditch
3. Depth to top of duct will be a minimum of sixty inches (60") below hard road surface, bottom of waterway or irrigation ditch.
4. Entry and Exit locations on each side of roadway will be dug down to depth of running line as required and care will be taken to return pits to original or better condition.

NOTES:

1. Minimum depth from ground to top of duct will be 36"
2. Placement shall be by directional bore, plow or trench methodology
3. When trenching or plowing, warning tape shall be placed 12" above top of duct
4. Running line shown on sheets subject to change due to location of existing utilities

NOT TO SCALE

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351 | ROUTE DA

SHEET 1 OF 27	
EX. ROUTE	DA
MAP REF.	351002
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

RUNNING LINE = 3'
FROM EDGE PVMT
MIN DEPTH= 36"

N

NOT TO SCALE

Know what's below. Call 811 before you dig.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOIE (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 21	BM 53	BM 61D							CUST NO.		HBFO (96)		HO1			W UM
0+00	CO									100							1											1		96			1
0+64	MH										64																						
TOTAL										100	64						1											1		96			1

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	DA
SHEET	2 OF 27
EX. ROUTE	DA
MAP REF.	351002
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

RUNNING LINE = 3'- 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

Know what's below. Call 811 before you dig.

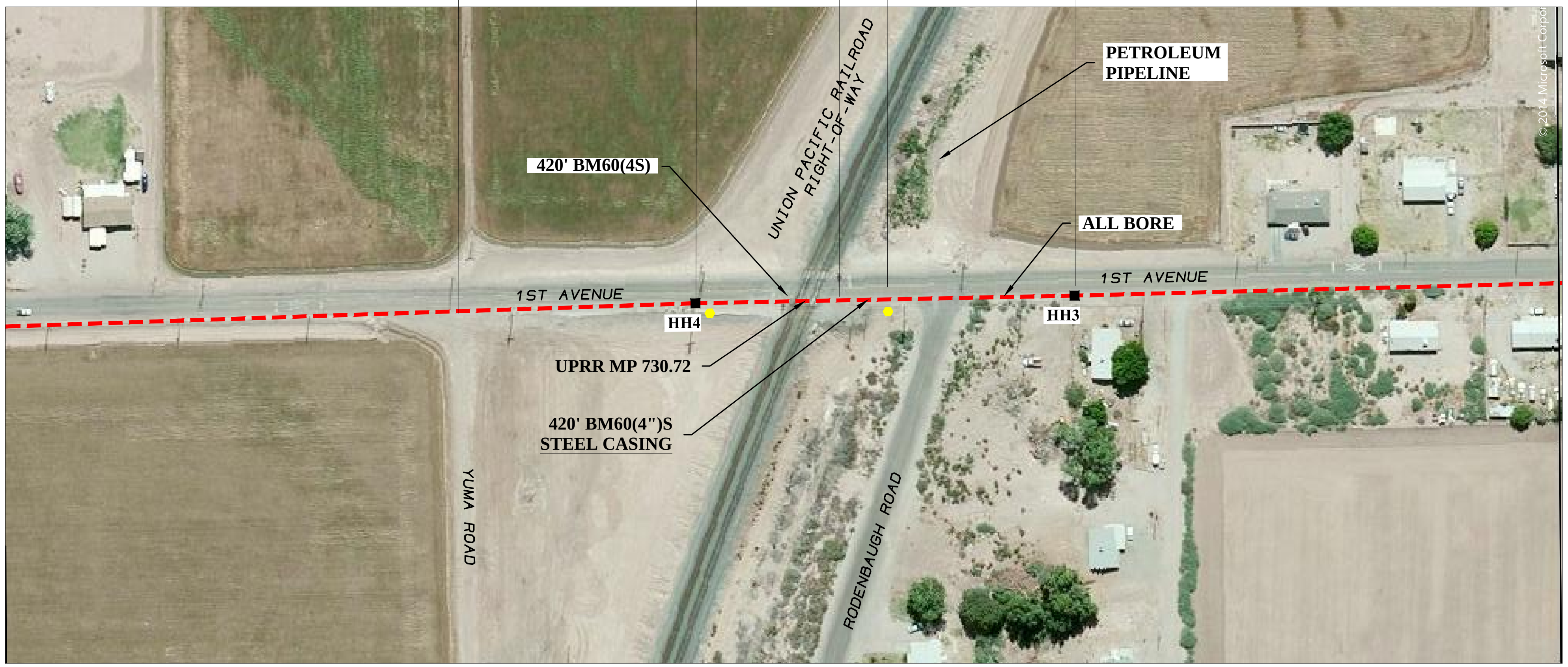
POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD / ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (24)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
0+64	SHT 1															
6+34	HH1	BH2									610	610		1	610	
11+12	HH2	BH2									512	512		1	512	
15+74	Lateral										496	496			496	
TOTAL		2									1618	1618		2	1618	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE HA	
SHEET 3 OF 27	
EX. ROUTE HA	
MAP REF. 351011/351009	
COUNTY: IMPERIAL	
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY: WINTERHAVEN	
TWN/RGE 16S / 22E	
SEC. 21	
STAKED BY FARR	
DATE 01/14	
DRAFTED BY FARR	
DATE 10/14	
W.O. TC-CA351ENG-001	
REV	
REV	
REV	
FILE:	

ROAD 28+98
HH 26+34
MP 730.22 25+06
RR ROW 24+46
HH 22+14

KINDER-MORGAN
PETROLEUM PIPELINE
714-560-4411



RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

*SEE RAILROAD PERMIT
EXHIBIT FOR DETAIL
FROM HH3 TO HH4

811 Know what's below. Call 811 before you dig.

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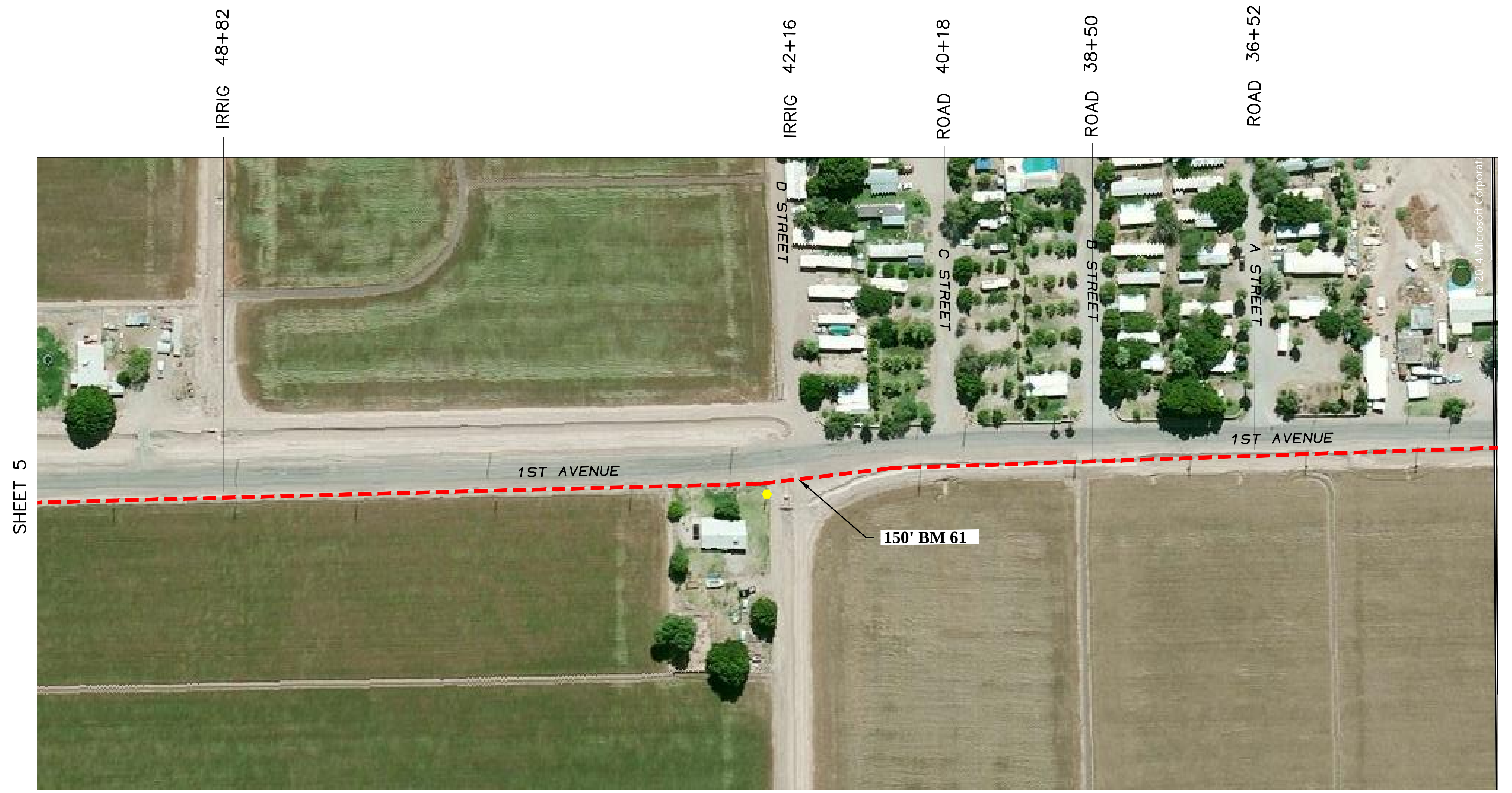
TDS

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE				
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 55F	BM 61	BM 60(4")S	CUST NO.
15+74	SHT 2																
22+14	HH3	BH2 / BD3								100	680	680	1		680		
26+34	HH4	BH2 / BD3								100	454	454	1	2		420	
28+98	ROAD										292	292					
TOTAL		2 / 2								200	1426	1426	2	2	680	420	

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	HA
SHEET	4 OF 27
EX. ROUTE	HA
MAP REF.	351009/351027
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	



RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

811 Know what's below. Call 811 before you dig.

NOT TO SCALE

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TDS

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
28+98	SHT 3															
42+16	IRRIG										1358	1358		1	150	
48+82	IRRIG										706	706				
TOTAL											2064	2064		1	150	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	HA/HC
SHEET	5 OF 27
EX. ROUTE	HA/HC
MAP REF.	351027
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
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REV	
REV	
FILE:	

NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT																		CUST NO.			HBFO (96)	H01			
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D															
48+82	SHT 4																																
55+84	HH6	BH4 / BD3								50	734	734				1	1	180											1	12			
56+52	IRRIG									50	82	82						160															
65+20	PP										894	894					1																
62+36	IRRIG										672	672					1	140															
TOTAL		1 / 1								100	2382	2382				1	3	480											1	12			

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	HA
SHEET	5-1 OF 27
EX. ROUTE	HA
MAP REF.	351023
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

N

NOT TO SCALE

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POLES / PEDS: POLE/PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD / ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	CABLE: BFO (96)	BFOI (96)	BFOV (1)(1.25)	POLE LINE & PED HARDWARE: BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
62+36	SHT 5															
75+46	IRRIG														160	
80+10	MATCH										1830	1830				
TOTAL											1830	1830			160	

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	HA
SHEET	5-2 OF 27
EX. ROUTE	HA
MAP REF.	351023
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
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REV	
REV	
FILE:	

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

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POLES / PEDS										CABLE					
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT							
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFC 100–24		
80+10	MATCH														
82+54	ROAD														
82+54	DSA									50	540	540			
82+58	PH2A3												300		
TOTAL										50	540	540	300		

TEL CO.	POLE LINE & PED HARDWARE																	
	BM2 (5/8)(8)	BM 2C	BM 20	BM 53	BM 61D						CUST NO.			HBFO (96)	HO1	HC1		W BD
80+10																		
82+54				1	100													
82+54			1		230									1	6	100		
82+58		1														100		1
TOTAL		1	1	1	330									1	6	200		1

PROJECT NO. 23325	TEL. CO. TDS	EXCHANGE 351

ROUTE	HA
SHEET	5-3 OF 27
EX. ROUTE	HA
MAP REF.	351023
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

ROAD 108+62

SHEET 5–4

SHEET 5–2

Know what's below. Call 811 before you dig.

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT																		CUST NO.							
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D															
TOTAL																																	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	HA
SHEET	5-4 OF 27
EX. ROUTE	HA
MAP REF.	351023
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

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NOT TO SCALE

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TDS

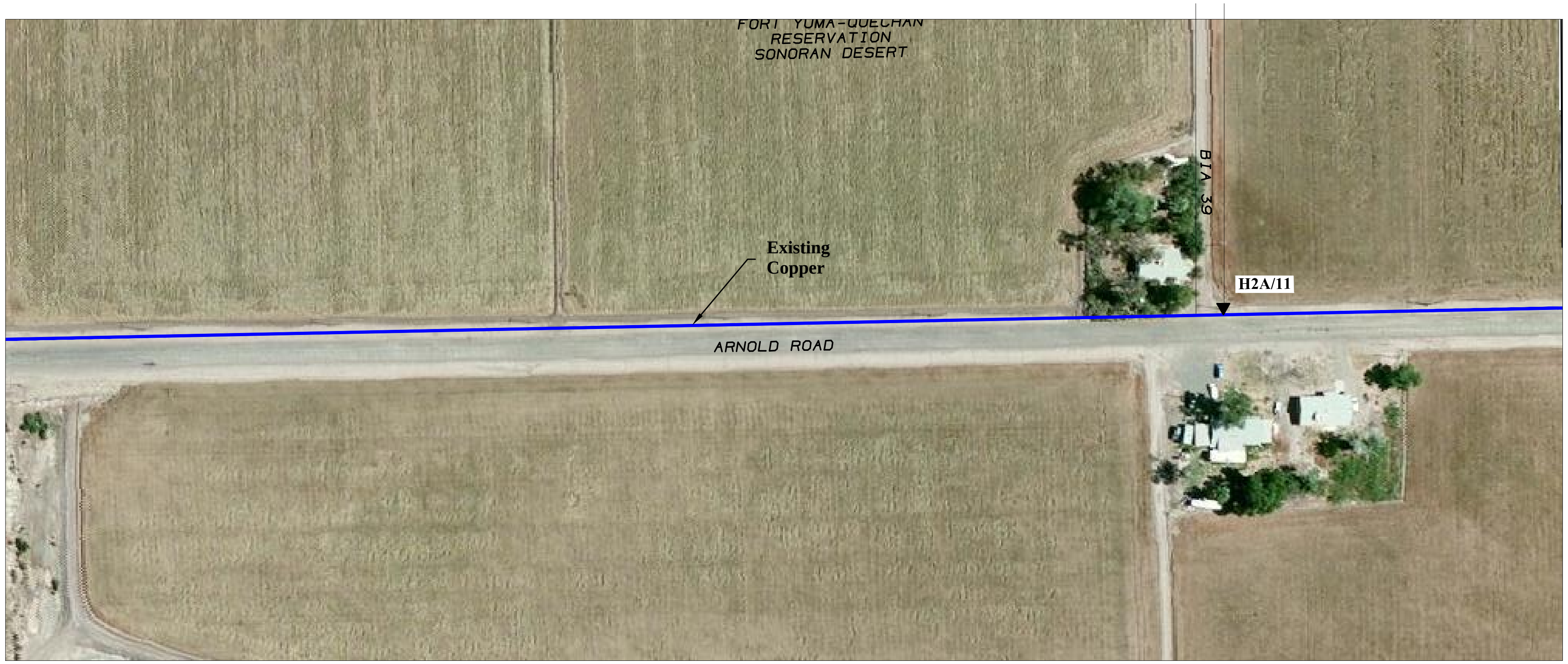
POLES / PEDS										CABLE						POLE LINE & PED HARDWARE										CUST NO.							
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT																									
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D															
TOTAL																																	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE HA
SHEET 5-5 OF 27
EX. ROUTE HA
MAP REF. 351023
COUNTY: IMPERIAL
TOWNSHIP:
TAX DISTRICT: ????
MUNICIPALITY: WINTERHAVEN
TWN/RGE 16S / 22E
SEC. 21
STAKED BY FARR
DATE 01/14
DRAFTED BY FARR
DATE 10/14
W.O. TC-CA351ENG-001
REV
REV
REV
FILE:

ROAD 134+90
PED 134+70

SHEET 5-6



SHEET 5-4

NOT TO SCALE

Know what's below. Call 811 before you dig.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD / ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D								CUST NO.							
TOTAL																																	

PROJECT NO. 23325	TEL. CO. TDS	EXCHANGE 351

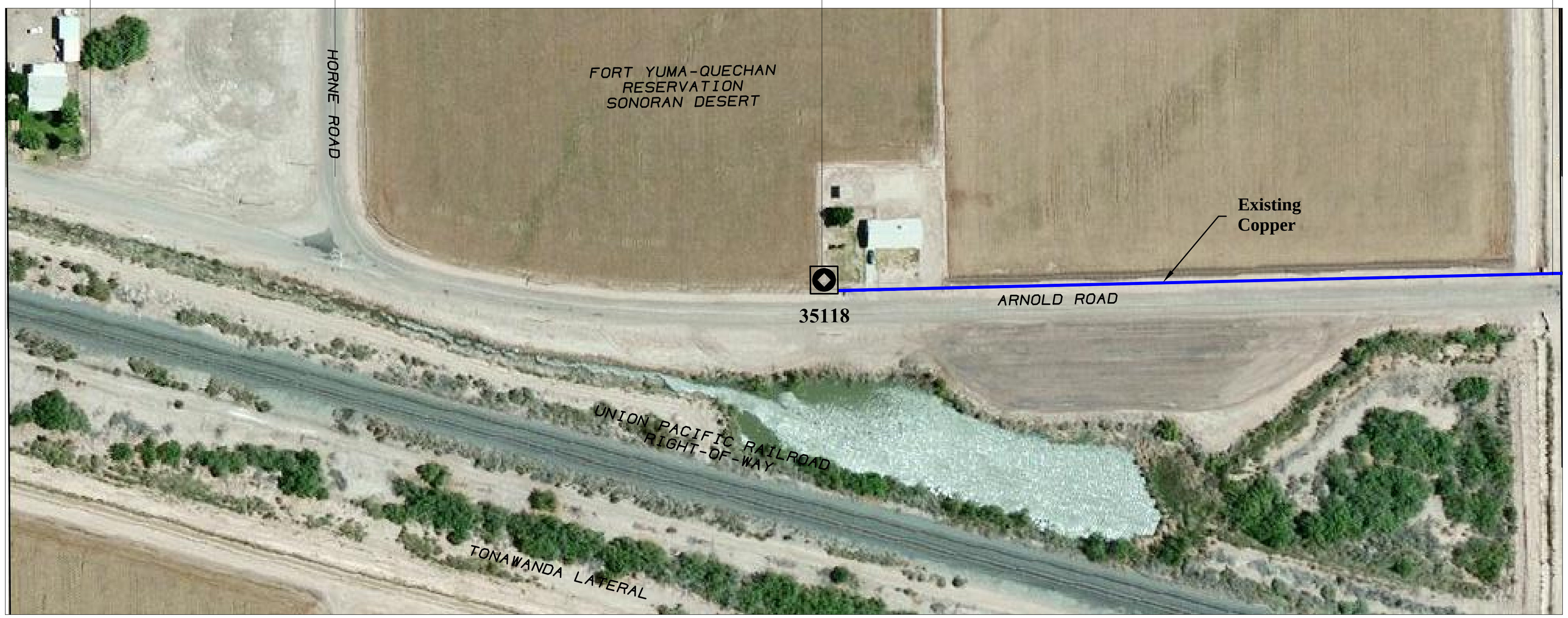
ROUTE	HA
SHEET	5-6 OF 27
EX. ROUTE	HA
MAP REF.	351023
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	????
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

PP 164+48

ROAD 161+48

DSA 155+98

IRRIG 148+22



SHEET 5-5

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE										CUST NO.
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D	BM 20							
155+98	DSA																		1							
TOTAL																			1							

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	HC/AL
SHEET	6 OF 27
EX. ROUTE	HC/AL
MAP REF.	351027
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

Know what's below. Call 811 before you dig.

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

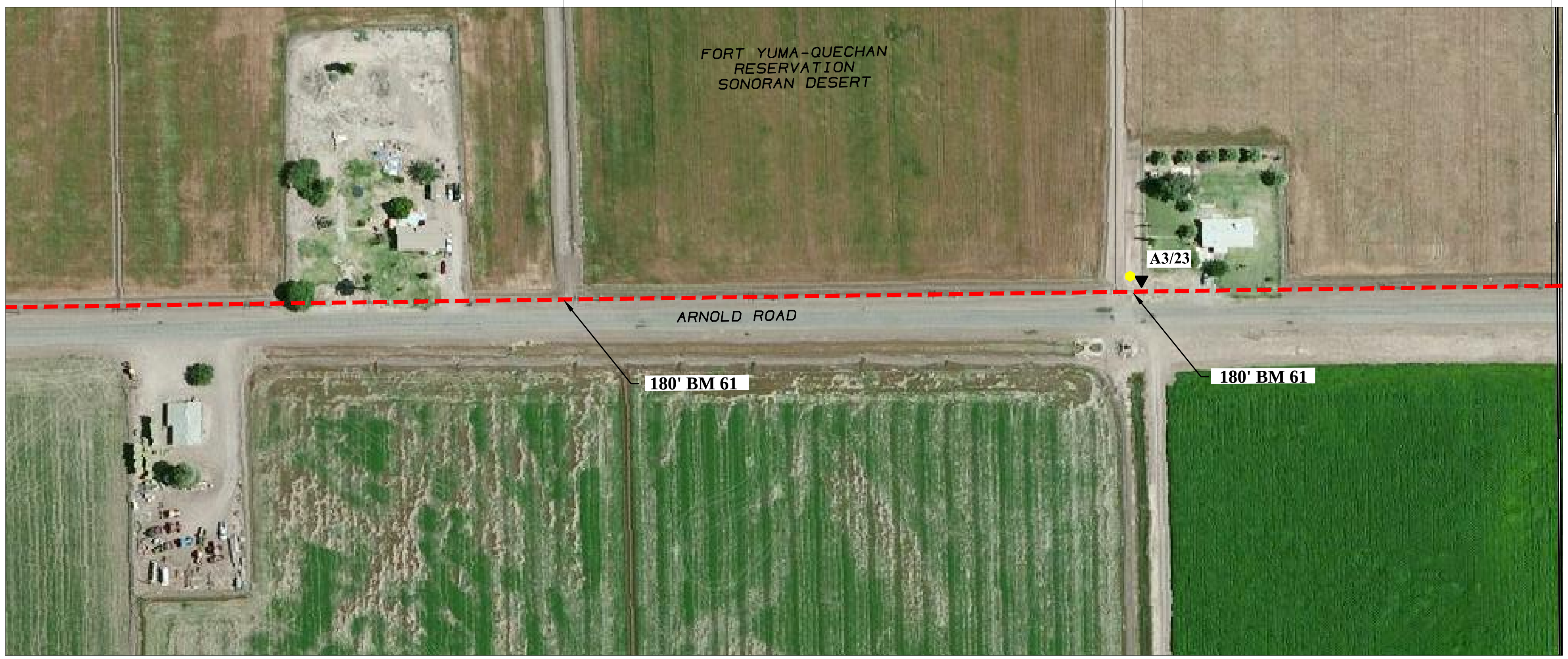
TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE				
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT											CUST NO.
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D	
55+84	HH6																		
84+00	MATCH										2900	2900					2	1160	
TOTAL											2900	2900					2	1160	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AL
SHEET	7 OF 27
EX. ROUTE	AL
MAP REF.	351027
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

IRRIG 90+02
IRRIG 95+94
PED 96+12
MATCH 100+55
SHEET 6
SHEET 8



RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
84+00	MATCH															
90+02	IRRIG														180	
95+94	IRRIG													1	180	
100+55	MATCH										1704	1704				
TOTAL											1704	1704		1	360	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE AL
SHEET 8 OF 27
EX. ROUTE AL
MAP REF. 351027
COUNTY: IMPERIAL
TOWNSHIP:
TAX DISTRICT:
MUNICIPALITY: WINTERHAVEN
TWN/RGE 16S / 22E
SEC. 21
STAKED BY FARR
DATE 01/14
DRAFTED BY FARR
DATE 10/14
W.O. TC-CA351ENG-001
REV
REV
REV
FILE:

IRRIG 102+78
PED 106+56
HH 109+42
ROAD 109+68
IRRIG 116+30
MATCH 117+76
SHEET 8N-1

SHEET 7
SHEET 9
111+26 DSA
114+96 PED
SHEET 8S-1

NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE					
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFOV (3)(1.25)	BFC 400–24	
100+55	MATCH														
109+42	HH	BH4 / BD3								100 / 50	914	914			
111+26	DSA									50/50/50	190		190		
											190				
											190				
114+96	PA3J1													250	
109+68	ROAD														
117+76	MATCH										860	860			
TOTAL		1 / 1								300	2344	1774	190	250	

TEL CO.	POLE LINE & PED HARDWARE BM2 (5/8)(8)	BM 2C	BM 20	BM 53	BM 61D						CUST NO.			HBFO (96)	HO1	HC1		W BD
100+55					170													
109+42	1			1														
111+26			1											1	72	400		
114+96		1														400		1
109+68					80													
117+76					200													
TOTAL	1	1	1	1	630									1	72	800		1

PROJECT NO. 23325	TEL. CO. TDS	EXCHANGE 351	ROUTE AJ

SHEET	8N-1 OF 27
EX. ROUTE	AJ
MAP REF.	351027
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

MATCH 130+50

PED 128+60

SHEET 8N-2

SHEET 8

NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

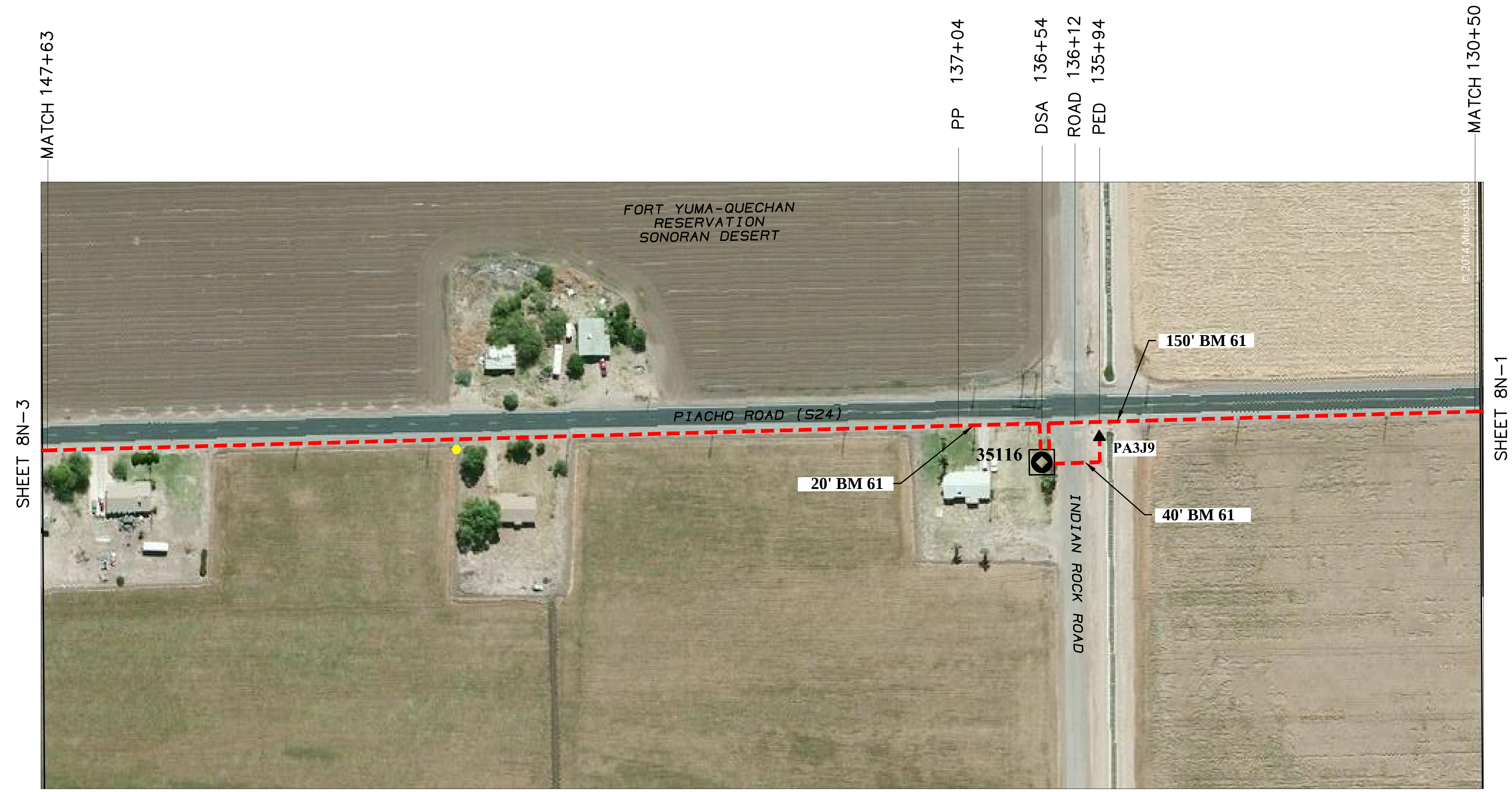
UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE				
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT												CUST NO.
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D	BM 73	
109+42	(HH)																			
130+50	MATCH										2172	2172					1			
TOTAL											2172	2172					1			

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AJ
SHEET	8N-2 OF 27
EX. ROUTE	AJ
MAP REF.	351027
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	



RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE					
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFOV (2)(1.25)	BFC 100–24	
130+50	MATCH														
136+54	DSA									50 / 50	660	660			
135+94	PED													120	
137+04	PP										120		120		
147+63	MATCH										1090	1090			
TOTAL										100	1870	1750	120	120	

TEL CO.	POLE LINE & PED HARDWARE BM2 (5/8)(8)	BM 2C	BM 20	BM 53	BM 61D						CUST NO.			HBFO (96)	HO1	HC1		W BD
130+50					150													
136+54			1											1	6	100		
135+94		1			40											100		1
137+04					20													
147+63				1														
TOTAL		1	1	1	210									1	6	200		1

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AJ
SHEET	8N-3 OF 27
EX. ROUTE	AJ
MAP REF.	351026
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

MATCH 164+46

ROAD 162+62

IRRIG 162+20

MATCH 147+63

SHEET 8N-4

SHEET 8N-2

NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
147+63	MATCH															
164+46	MATCH										1734	1734			150	
TOTAL											1734	1734			150	

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	AJ
SHEET	8N-4 OF 27
EX. ROUTE	AJ
MAP REF.	351026
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

MATCH 181+72

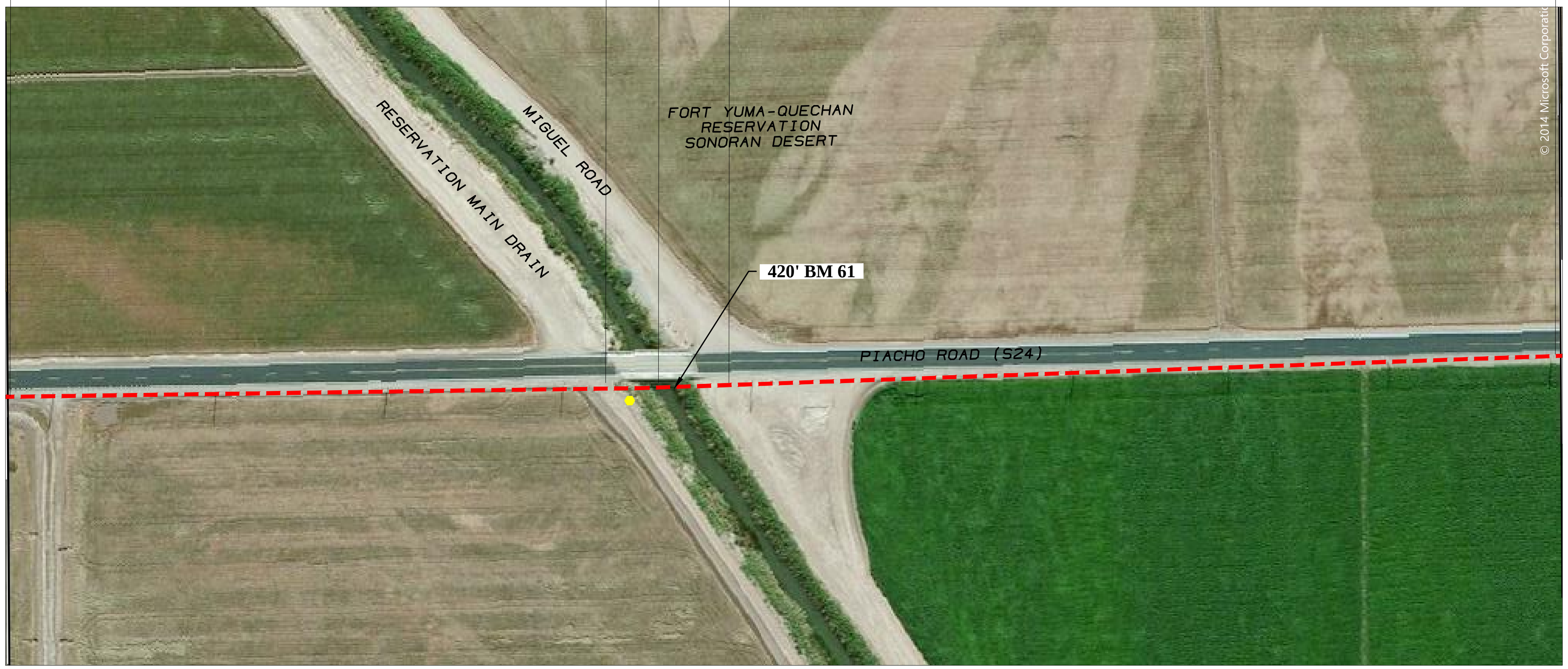
IRRIG 175+96

IRRIG 173+24

ROAD 174+42

MATCH 164+46

SHEET 8N-5



SHEET 8N-3

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE			CUST NO.
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D	
164+46	MATCH																		
																	1	420	
181+72	MATCH										1780	1780							
TOTAL											1780	1780					1	420	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE AJ/AK

SHEET 8N-5 OF 27

EX. ROUTE AJ/AK

MAP REF. 351026

COUNTY: IMPERIAL

TOWNSHIP:

TAX DISTRICT:

MUNICIPALITY: WINTERHAVEN

TWN/RGE 16S / 22E

SEC. 21

STAKED BY FARR

DATE 01/14

DRAFTED BY FARR

DATE 10/14

W.O. TC-CA351ENG-001

REV

REV

REV

FILE:

NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS: POLE/PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	CABLE: BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFC 100–24			POLE LINE & PED HARDWARE: BM2 (5/8)(8)	BM 2C	BM 20	BM 53F	BM 61D						CUST NO.			HBFO (96)	HO1	HC1		W BD
181+72	MATCH																																
188+75	ROAD										724	724							1	190													
																															100		1
189+00	PED																1																
196+50	DSA									50	800	800	840					1											1	6	100		
TOTAL										50	1524	1524	840				1	1	1	190									1	6	200		1

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	AA
SHEET	8S-1 OF 27
EX. ROUTE	AA
MAP REF.	351010
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

ROAD 125+00

MATCH 130+90

SHEET 8

SHEET 8S-2

NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS — CABLE — POLE LINE & PED HARDWARE

POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D								CUST NO.							
111+26	(DSA)																																
130+90	MATCH										2022	2022																					
TOTAL											2022	2022																					

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AA/09-1000
SHEET	8S-2 OF 27
EX. ROUTE	AA/09-1000
MAP REF.	351012
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

MATCH 130+90

133+98

CANAL 135+96

MATCH 146+88

SHEET 8S-1

SHEET 8S-3

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

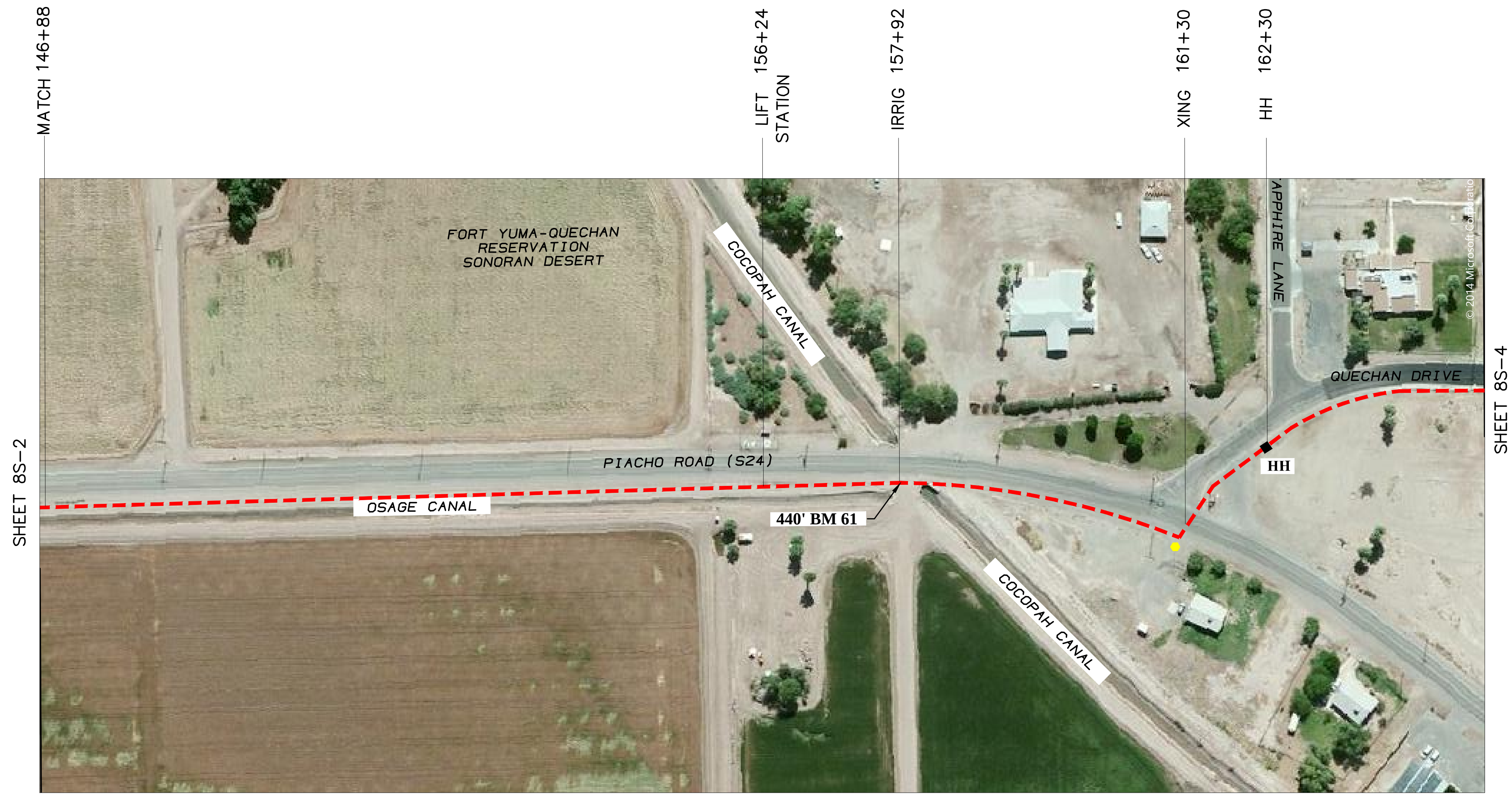
NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
130+90	MATCH															
146+88	MATCH										1646	1646		1		
TOTAL											1646	1646		1		

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	09-1000
SHEET	8S-3 OF 27
EX. ROUTE	09-1000
MAP REF.	351006
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	



RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE				
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	REM	JOINT %	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D		CUST NO.
146+88	MATCH																			
162+30	HH	BH2 / BD3								100	1590	1590				1	1	440		
TOTAL		1 / 1								100	1590	1590				1	1	440		

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	09-1000
SHEET	8S-4 OF 27
EX. ROUTE	09-1000
MAP REF.	351006
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

RUNNING LINE = 2'
FROM BACK OF WALK
MIN DEPTH= 36"

NOT TO SCALE

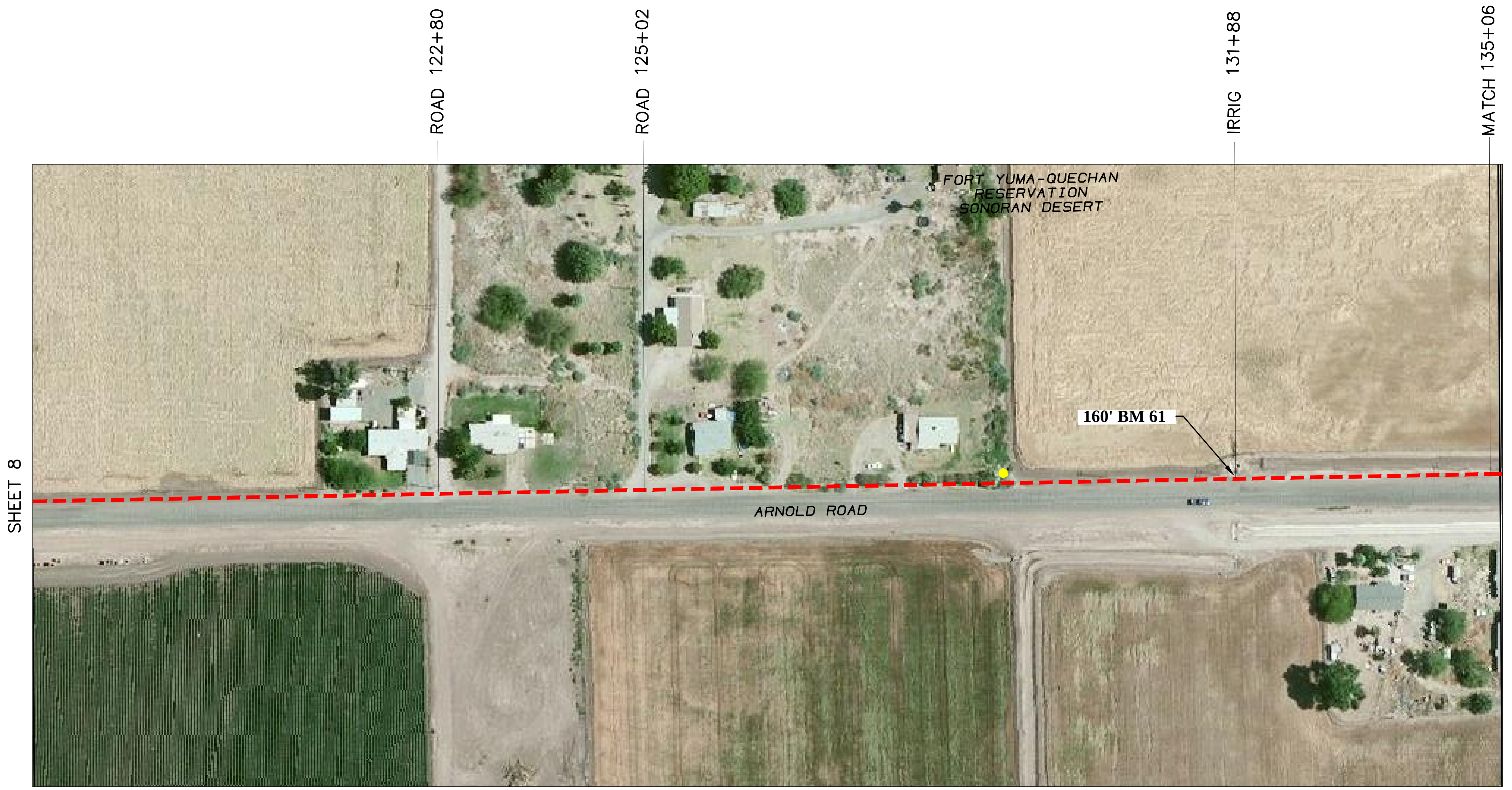
Know what's below. Call 811 before you dig.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFOV (2)(2)			BM2 (5/8)(8)	BM 20	BM 53	BM 61D							CUST NO.			HBFO (96)	HO1			
162+30	(HH)																																
162+30	HH	BH4								50	1188	1188																					
																		1	100														
DSA										50	60	60	60				1		60										1	6			
TOTAL		1								100	1248	1248	60				1	1	160										1	6			

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AA
SHEET 9 OF 27	
EX. ROUTE	AA
MAP REF.	351027
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	



RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D								CUST NO.							
109+42	(HH)																																
135+06	MATCH										2640	2640					1	160															
TOTAL											2640	2640					1	160															

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AA
SHEET	10 OF 27
EX. ROUTE	AA
MAP REF.	351031
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E
SEC.	21
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	
REV	
REV	
FILE:	

MATCH 135+06

ROAD 135+92

ROAD 142+52

MATCH 152+04

SHEET 9

SHEET 11

N

NOT TO SCALE

811 Know what's below. Call 811 before you dig.

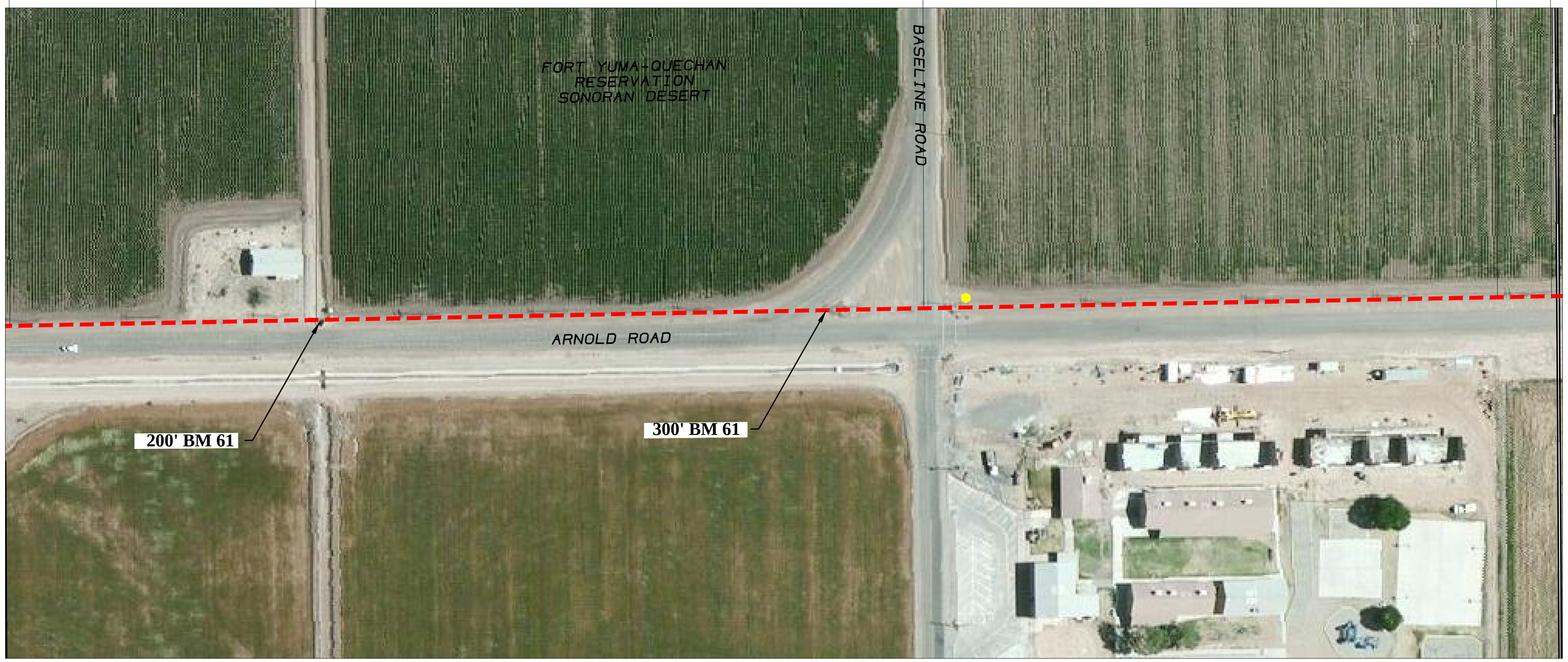
RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT								CUST NO.
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	
135+06	MATCH															
152+04	MATCH										1748	1748			160	
TOTAL											1748	1748			160	

PROJECT NO. 23325	TEL. CO. TDS	EXCHANGE 351	ROUTE AA



SHEET 11 OF 27	
EX. ROUTE	AA
MAP REF.	351031
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 22E & 23E
SEC.	24/19
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

N

NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

811 Know what's below. Call 811 before you dig.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE					
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.	HBFO (96)	HO1
152+04	MATCH																	
															200			
169+04	MATCH										1752	1752		1	300			
TOTAL											1752	1752		1	500			

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE AA
SHEET 12 OF 27
EX. ROUTE AA
MAP REF. 351048
COUNTY: IMPERIAL
TOWNSHIP:
TAX DISTRICT:
MUNICIPALITY: WINTERHAVEN
TWN/RGE 16S / 23E
SEC. 19
STAKED BY FARR
DATE 01/14
DRAFTED BY FARR
DATE 10/14
W.O. TC-CA351ENG-001
REV 02/15
REV
REV
FILE:

MATCH 169+04

IRRIG 173+22

ROAD 173+72

NEW DSA 177+24

EXIST DSA 177+34

SHEET 13 MATCH 177+19

SHEET 11

NOT TO SCALE

811 Know what's below. Call 811 before you dig.

RUNNING LINE:
Arnold Road = 6' FROM EDGE PVMT
Cocopah Road = 3' East of Power Poles
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																		
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	REM	JOINT %	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 20	BM 53	BM 61D							CUST NO.			HBFO (96)	HO1				
169+04	MATCH																																	
																			160										1	6				
172+80	HH 8	BH4 / BD3								50/50/50	390	390				1		1																
177+24	DSA									50	520	520					1		50										1	6				
177+34	EX. DSA											12																						
177+19	MATCH										452	152																						
TOTAL		1 / 1								200	1362	1362				1	1	1	210										2	8				

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AA
SHEET	13 OF 27
EX. ROUTE	AA
MAP REF.	351031
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 23E
SEC.	19
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 194+60

MATCH 177+19

SHEET 14

SHEET 12

Know what's below. Call 811 before you dig.

RUNNING LINE = 3' EAST OF POWER POLES
MIN DEPTH= 36"

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS: POLE/PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	CABLE: BFO (96)	BFOI (96)	BFOV (1)(1.25)	POLE LINE & PED HARDWARE: BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
177+19	MATCH															
194+60	MATCH										1796	1796		1		
TOTAL											1796	1796		1		

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	AA
SHEET 14 OF 27	
EX. ROUTE	AA
MAP REF.	351031
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 23E
SEC.	19
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 213+69

MATCH 194+60

SHEET 15

SHEET 13

NOT TO SCALE

RUNNING LINE = 3' EAST OF POWER POLES
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE									
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT																CUST NO.	
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D							
194+60	MATCH																								
213+69	MATCH										1970	1970					1								
TOTAL											1970	1970					1								

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	AA
SHEET	15 OF 27
EX. ROUTE	AA
MAP REF.	351030
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 23E
SEC.	18
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 235+08

HH9 229+21

BORE 228+87

BORE 215+96

MATCH 213+69

SHEET 16

231+92 HH10

SHEET 14

236+94 MATCH

SHEET 15-1

811 Know what's below. Call 811 before you dig.

NOT TO SCALE

RUNNING LINE:
COCOPAH ROAD = 3' EAST OF POWER POLES
HAUGHTELIN ROAD = 3' SOUTH OF POWER POLES
PEREZ ROAD = 3' EAST OF POWER POLES
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS: POLE/PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	CABLE: BFO (96)	BFOI (96)	BFOV (1)(1.25)	POLE LINE & PED HARDWARE: BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.	HBFO (96)	H01
231+69	MATCH																	
															80			
229+21	HH9	BH4 / BD3								100	1600	1600	1	1	80			
231+92	HH10	BH4 / BD3								100/50	280	280	1	1			1	6
235+08	MATCH										330	330						
236+94	MATCH										520	520						
TOTAL		2 / 2								250	2730	2730	2	2	160		1	6

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AF
SHEET	15-1 OF 27
EX. ROUTE	AF
MAP REF.	351030
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 23E
SEC.	18
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 236+94

BORE IRR 245+00

MATCH 236+94

SHEET 15-2

SHEET 15

N

NOT TO SCALE

811 Know what's below. Call 811 before you dig.

RUNNING LINE:
3' SOUTH OF POWER POLES TO YARD,
THEN TRANSITION TO 3' NORTH OF IRRIGATION BERM
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE					
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.	HBFO (96)	H01
236+94	MATCH																	
254+07	MATCH										1800	1800			80			
TOTAL											1800	1800			80			

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	AA
SHEET	15-2 OF 27
EX. ROUTE	AA
MAP REF.	351030
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 23E
SEC.	18
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

HH10-1 257+89

MATCH 254+07

SHEET 15-1

DSA 260+86

NOT TO SCALE

RUNNING LINE:
HAUGHTELIN ROAD: 3' NORTH OF IRRIGATION BERM
BASELINE ROAD: 3' WEST OF POWER POLES
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE				POLE LINE & PED HARDWARE								
POLE/PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	REM	JOINT %	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFC 150-24	BM2 (5/8)(8)	BM 20	BM 53	BM 61D	CUST NO.	HBFO (96)	HO1	HC1	WBD
254+07	MATCH																					
257+89	HH10-1	BH4 / BD3								100	440	440		1		1						
260+86	DSA									50	380	380			1		100		1	6	150	
	A5F7												30								150	1
TOTAL		1 / 1								150	820	820	30	1	1	1	100		1	6	300	1

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	N/A
SHEET	16 OF 27
EX. ROUTE	N/A
MAP REF.	351030
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 23E
SEC.	18
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCCH 252+21

MATCCH 235+08

SHEET 17

SHEET 15

NOT TO SCALE

RUNNING LINE = 3' EAST OF POWER POLES
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
235+08	MATCH															
252+21	MATCH										1764	1764		1		
TOTAL											1764	1764		1		

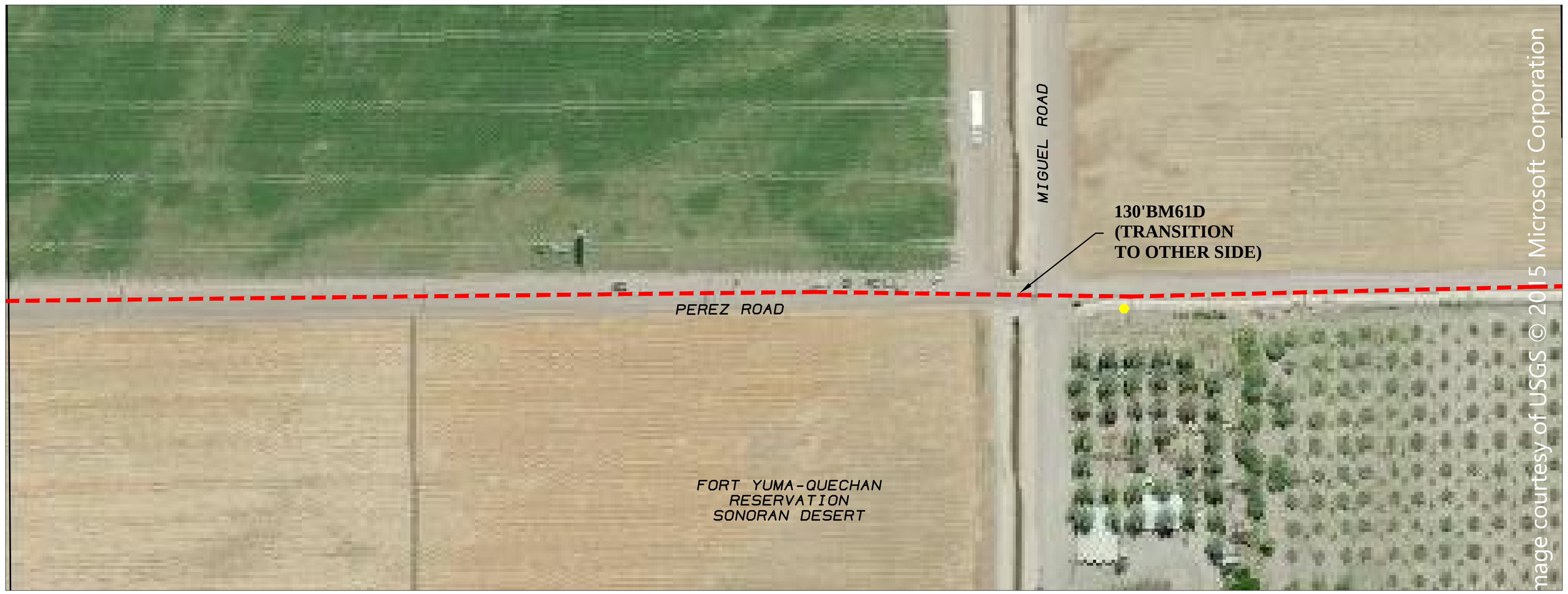
PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE N/A
SHEET 17 OF 27
EX. ROUTE N/A
MAP REF. 351030/35129
COUNTY: IMPERIAL
TOWNSHIP:
TAX DISTRICT:
MUNICIPALITY: WINTERHAVEN
TWN/RGE 16S / 23E
SEC. 18
STAKED BY FARR
DATE 01/14
DRAFTED BY FARR
DATE 10/14
W.O. TC-CA351ENG-001
REV 02/15
REV
REV
FILE:

MATCH 269+33

MATCH 252+21

SHEET 18



SHEET 16

NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE:
SOUTH OF MIGUEL ROAD = 3' EAST OF POWER POLES
NORTH OF MIGUEL ROAD = 3' NORTH OF POWER POLES
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE								
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D						CUST NO.
252+21	MATCH																							
269+33	MATCH										1780	1780					1	130						
TOTAL											1780	1780					1	130						

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	AB
SHEET	18 OF 27
EX. ROUTE	AB
MAP REF.	351029
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	WINTERHAVEN
TWN/RGE	16S / 23E
SEC.	7
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

HH 284+13

288+44 MATCH

SHEET 19

SHEET 17

NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE:
PEREZ ROAD = 3' WEST OF POWER POLES
ROSS ROAD = 6' FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE				POLE LINE & PED HARDWARE			
POLE/ PED NO.				LEAD	POLE LENGTH CLASS	YEAR		JOINT									
TEL CO.	FOR CO.	BD / HA	BG / PG	ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)		BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
269+33	MATCH																
284+13	HH11	BH4 / BD3								100	1524	1542		1	1		
288+44	MATCH										444	444					
TOTAL										100	1968	1968		1	1		

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	BA
SHEET	19 OF 27
EX. ROUTE	BA
MAP REF.	351029
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	7
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 288+44

MATCH 305+56

SHEET 18

SHEET 20

RUNNING LINE = 6' FROM EDGE PVMT
MIN DEPTH= 36"

811 Know what's below. Call 811 before you dig.

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	REM	JOINT %	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
288+44	MATCH															
305+56	MATCH										1766	1766		1		
TOTAL											1766	1766		1		

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	BA
SHEET	20 OF 27
EX. ROUTE	BA
MAP REF.	351035
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 22E
SEC.	7
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/05
REV	
REV	
FILE:	

MATCH 305+56

DSA 310+59

PP 311+10

END BORE 320+39

MATCH 322+68

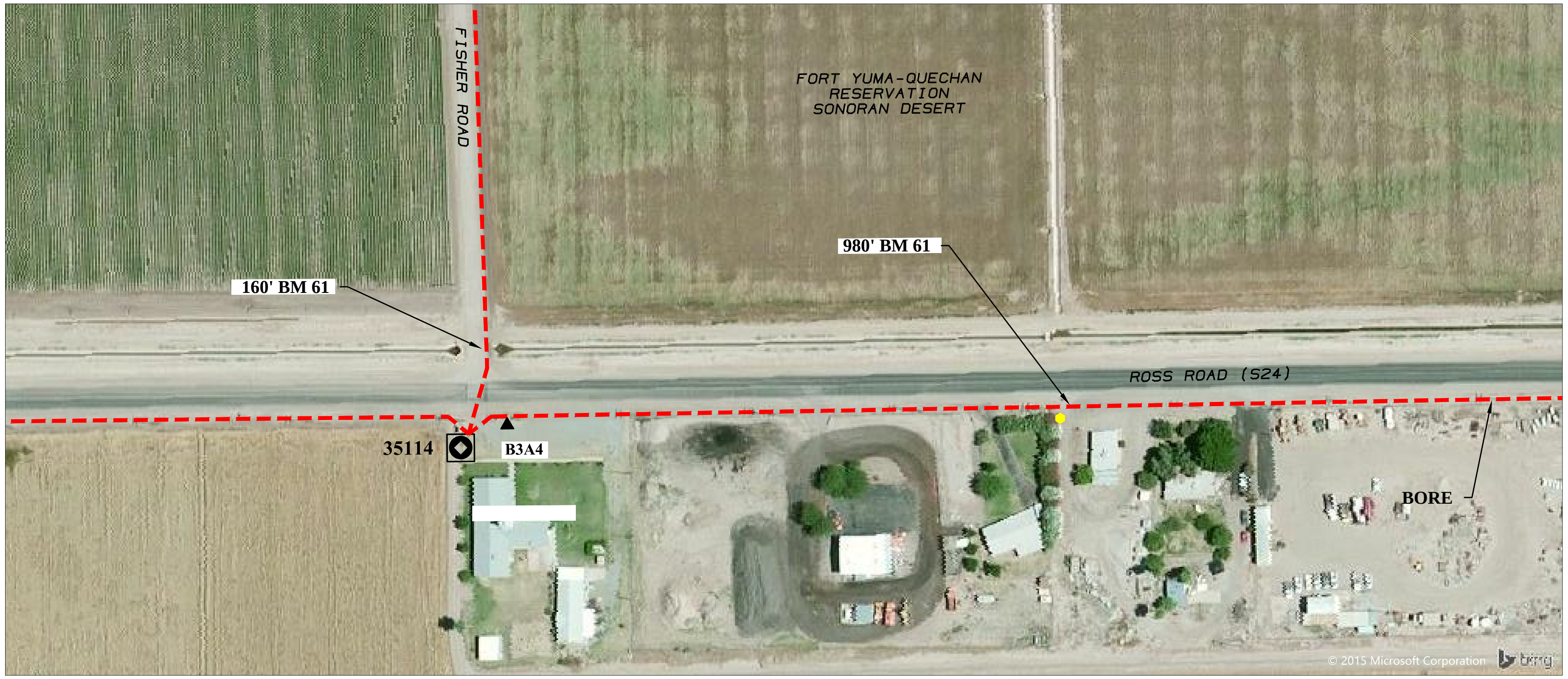
SHEET 20-1

315+47 MATCH

311+71 IRRIG.

SHEET 19

SHEET 21



Know what's below. Call 811 before you dig.

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE					
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFC 100-24		
305+56	MATCH														
310+59	DSA									100	560	560			
	B3A4												110		
322+68	MATCH										1290	1290			
315+37	MATCH									50	550	550			
TOTAL										150	2400	2400	110		

POLE/ PED NO. TEL CO.	FOR CO.	POLE LINE & PED HARDWARE BM2 (5/8)(8)	BM 2C	BM 20	BM 53	BM 61D						CUST NO.			HBFO (96)	HO1	HC1		W BD
305+56	MATCH																		
310+59	DSA			1											1	24	100		
	B3A4		1														100		1
322+68	MATCH					980													
315+37	MATCH					160													
TOTAL			1	1		1140									1	24	200		1

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	BD
SHEET	20-1 OF 27
EX. ROUTE	BD
MAP REF.	351035
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	8
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 332+64

ROAD 324+15

MATCH 315+37

SHEET 20-2

SHEET 20

NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D								CUST NO.							
315+37	MATCH																																
332+64	MATCH										1784	1784																					
TOTAL											1784	1784																					

PROJECT NO. 23325	TEL. CO. TDS	EXCHANGE 351	ROUTE BD

SHEET	20-2 OF 27
EX. ROUTE	BD
MAP REF.	351035
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	8/5
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE = 2'
WEST OF POWER POLES
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE									
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT																	CUST NO.
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D							
332+64	MATCH																								
350+06	MATCH										1794	1794					1	200							
TOTAL											1794	1794					1	200							

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE BD
SHEET 20-3 OF 27
EX. ROUTE BD
MAP REF. 351034
COUNTY: IMPERIAL
TOWNSHIP:
TAX DISTRICT:
MUNICIPALITY: BARD
TWN/RGE 16S / 23E
SEC. 5
STAKED BY FARR
DATE 01/14
DRAFTED BY FARR
DATE 10/14
W.O. TC-CA351ENG-001
REV 02/15
REV
REV
FILE:

ROAD 365+48
IRRIG 364+04
IRRIG 350+90
ROAD 350+54
MATCH 350+06
SHEET 20-4
SHEET 20-2

NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD / ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
350+06	MATCH															
															250	
															140	
365+48	ROAD										1588	1588		1		
TOTAL											1588	1588		1	390	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE BD
SHEET 20-4 OF 27
EX. ROUTE BD
MAP REF. 351034
COUNTY: IMPERIAL
TOWNSHIP:
TAX DISTRICT:
MUNICIPALITY: BARD
TWN/RGE 16S / 23E
SEC. 5
STAKED BY FARR
DATE 01/14
DRAFTED BY FARR
DATE 10/14
W.O. TC-CA351ENG-001
REV 02/15
REV
REV
FILE:

MATCH 383+80

ROAD 377+70

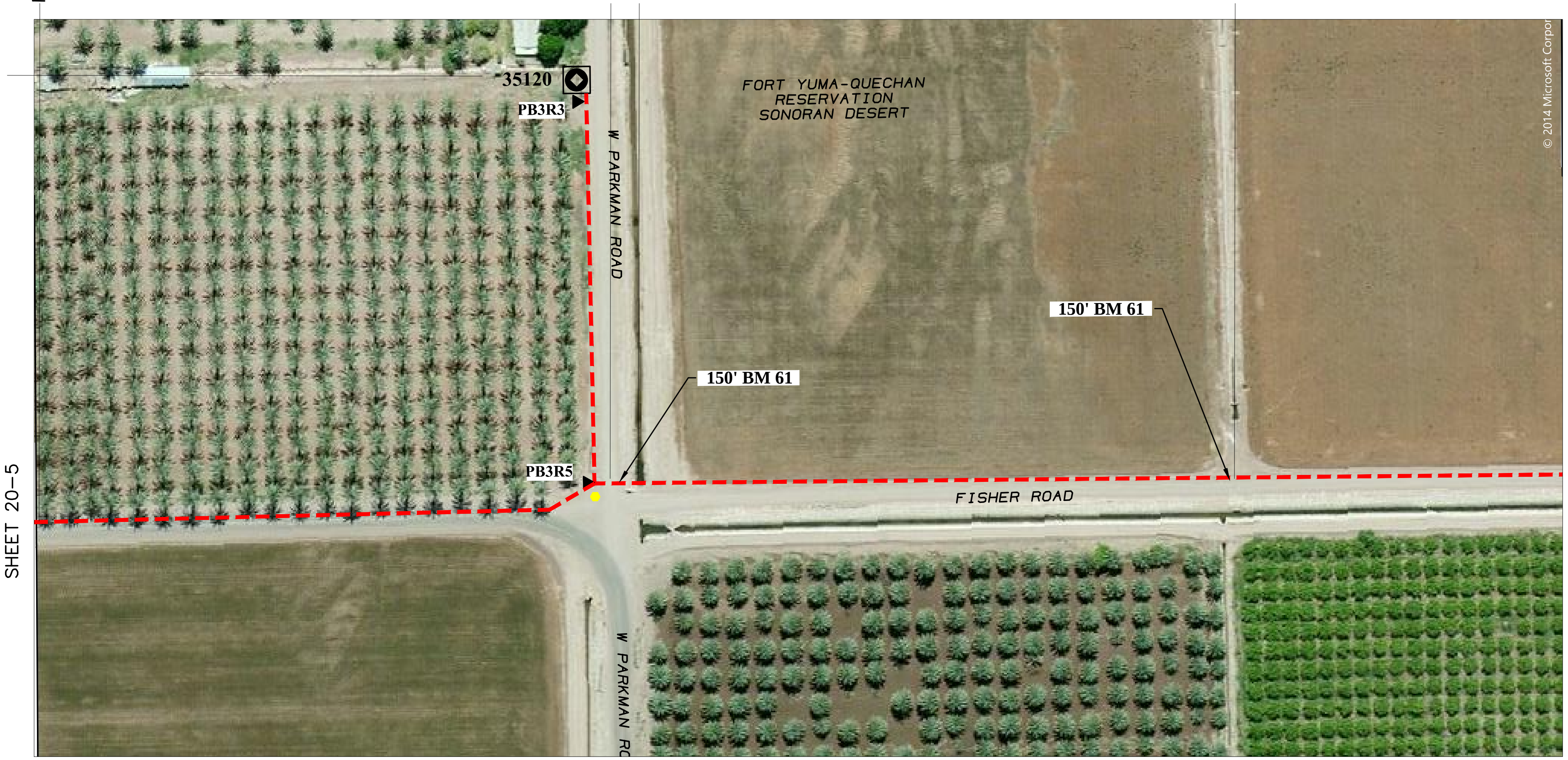
IRRIG 377+30

IRRIG 370+64

382+65 IRRIG

SHEET 20-5

SHEET 20-4



NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE = 6' FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS — CABLE

POLE/PED NO. TEL CO.	POLE/PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFOV (2)(1.25)	BFC 25–24	
365+48	MATCH														
377+90	PB3R5										1280	1280			
382+65	DSA										490		490		
											490				
382+95	PB3R3													50	
383+90	MATCH										618	618			
TOTAL											2878	1898	490	50	

POLE LINE & PED HARDWARE

POLE/PED NO. TEL CO.	BM2 (5/8)(8)	BM 2C	BM 20	BM 53	BM 61D						CUST NO.			HBFO (96)	HO1	HC1		W BD
365+48																		
					150													
					150													
377+90																		
382+65			1											1	6	25		
382+95		1														25		1
383+90																		
TOTAL		1	1		300									1	6	50		1

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	BP
SHEET	20-5 OF 27
EX. ROUTE	BP
MAP REF.	351034
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	5
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	10/14
REV	
REV	
FILE:	

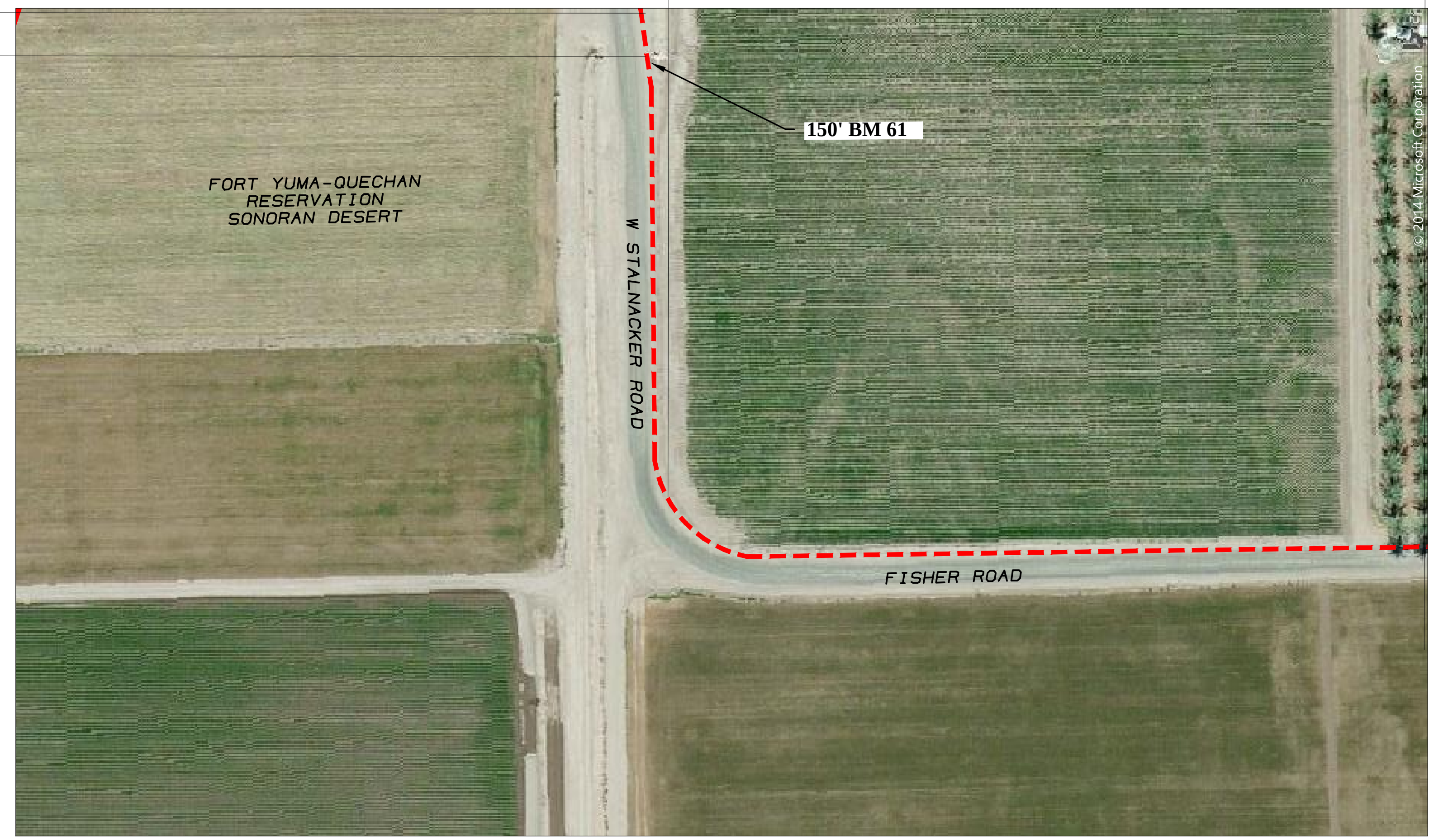
TURN 391+94

MATCH 383+80

SHEET 20-6

396+94 MATCH

396+02 IRRIG



SHEET 20-4

Know what's below. Call 811 before you dig.

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	REM	JOINT %	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
383+80	MATCH																		
396+94	MATCH										1360	1360						150	
TOTAL											1360	1360						150	

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	BP
SHEET	20-6 OF 27
EX. ROUTE	BP
MAP REF.	351034
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	5
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 396+94

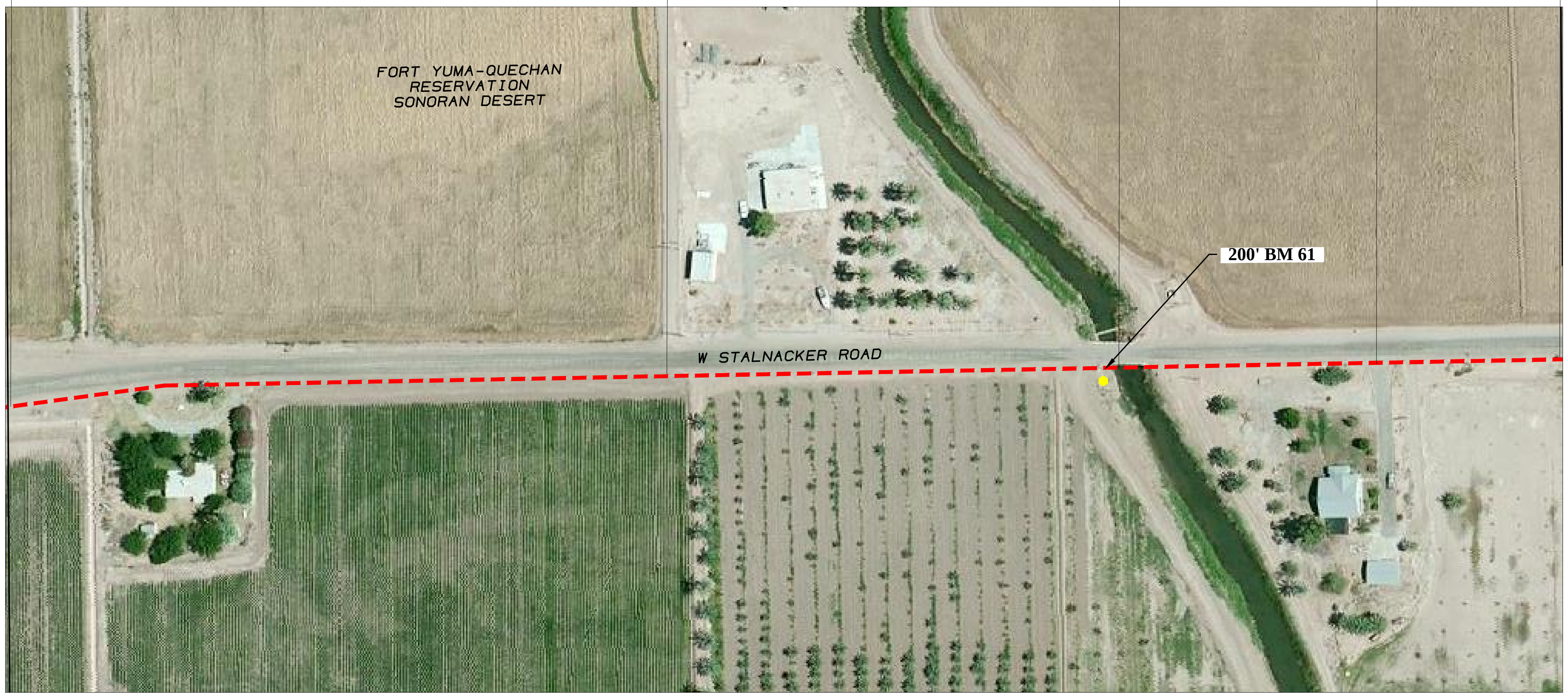
DVWY 404+90

CANAL 409+06

DVWY 411+86

MATCH 413+44

SHEET 20-5



SHEET 20-7

N

NOT TO SCALE

Know what's below. Call 811 before you dig.

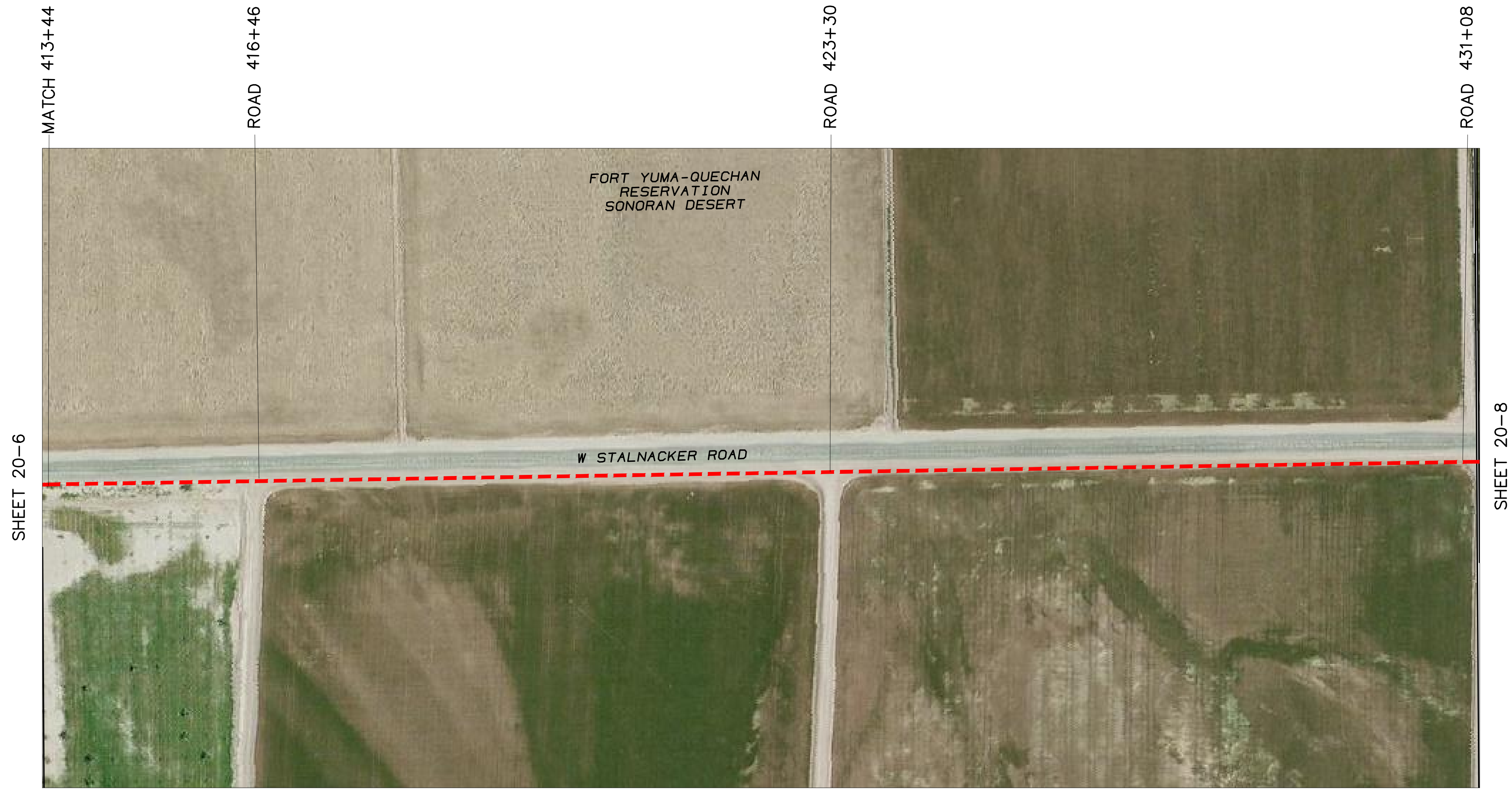
RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS											CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT																			CUST NO.							
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/		BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D															
396+94	MATCH																																	
413+44	MATCH											1700	1700					1	200															
TOTAL												1700	1700					1	200															

PROJECT NO. 23325	TEL. CO. TDS	EXCHANGE 351	ROUTE BP



SHEET	20-7 OF 27
EX. ROUTE	BP
MAP REF.	351034
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	5
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

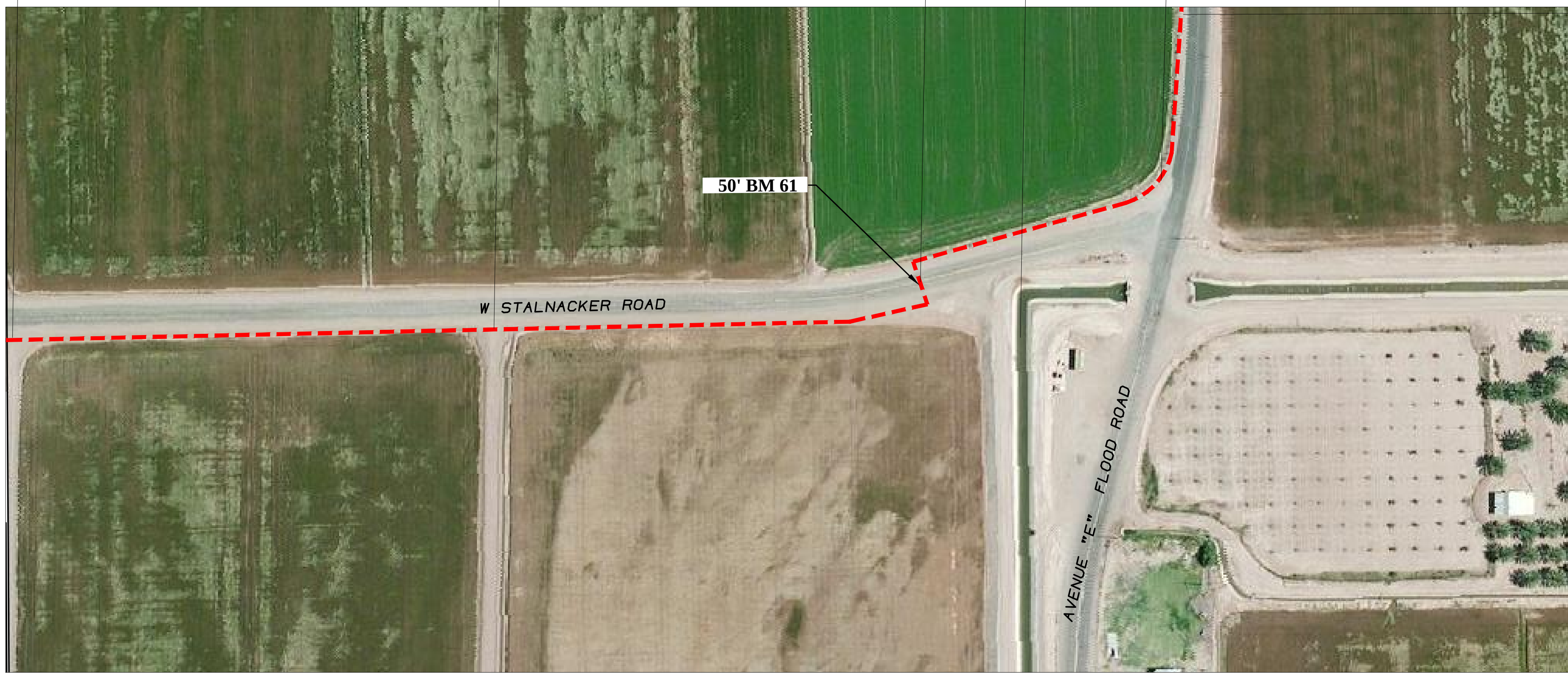
UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D								CUST NO.							
413+44	MATCH																																
431+08	ROAD										1820	1820																					
TOTAL											1820	1820																					

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	BP
SHEET	20-8 OF 27
EX. ROUTE	BP
MAP REF.	351034
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	5/32
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

ROAD 431+08
ROAD 436+32
XING 440+80
IRRIG 442+52
TURN 444+30
SHEET 20-9
MATCH 445+58
SHEET 20-7



RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

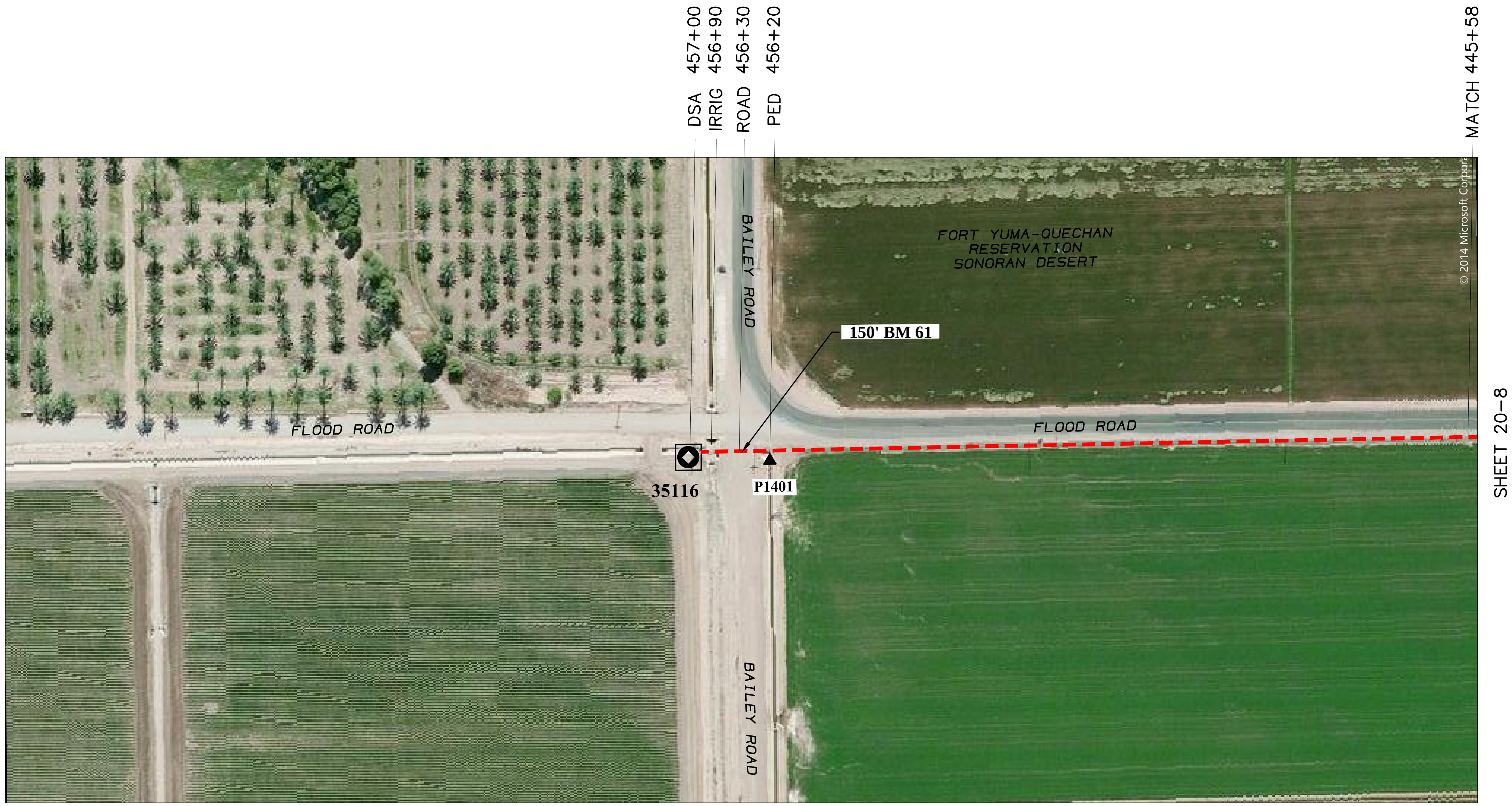
NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE				
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D		CUST NO.
431+08	MATCH																			
449+80	XING																	50		
445+58	MATCH										1550	1550								
TOTAL											1550	1550						50		

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	BP
SHEET	20-9 OF 27
EX. ROUTE	BP
MAP REF.	351033
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	15S / 23E
SEC.	32
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	



RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

811 Know what's below. Call 811 before you dig.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

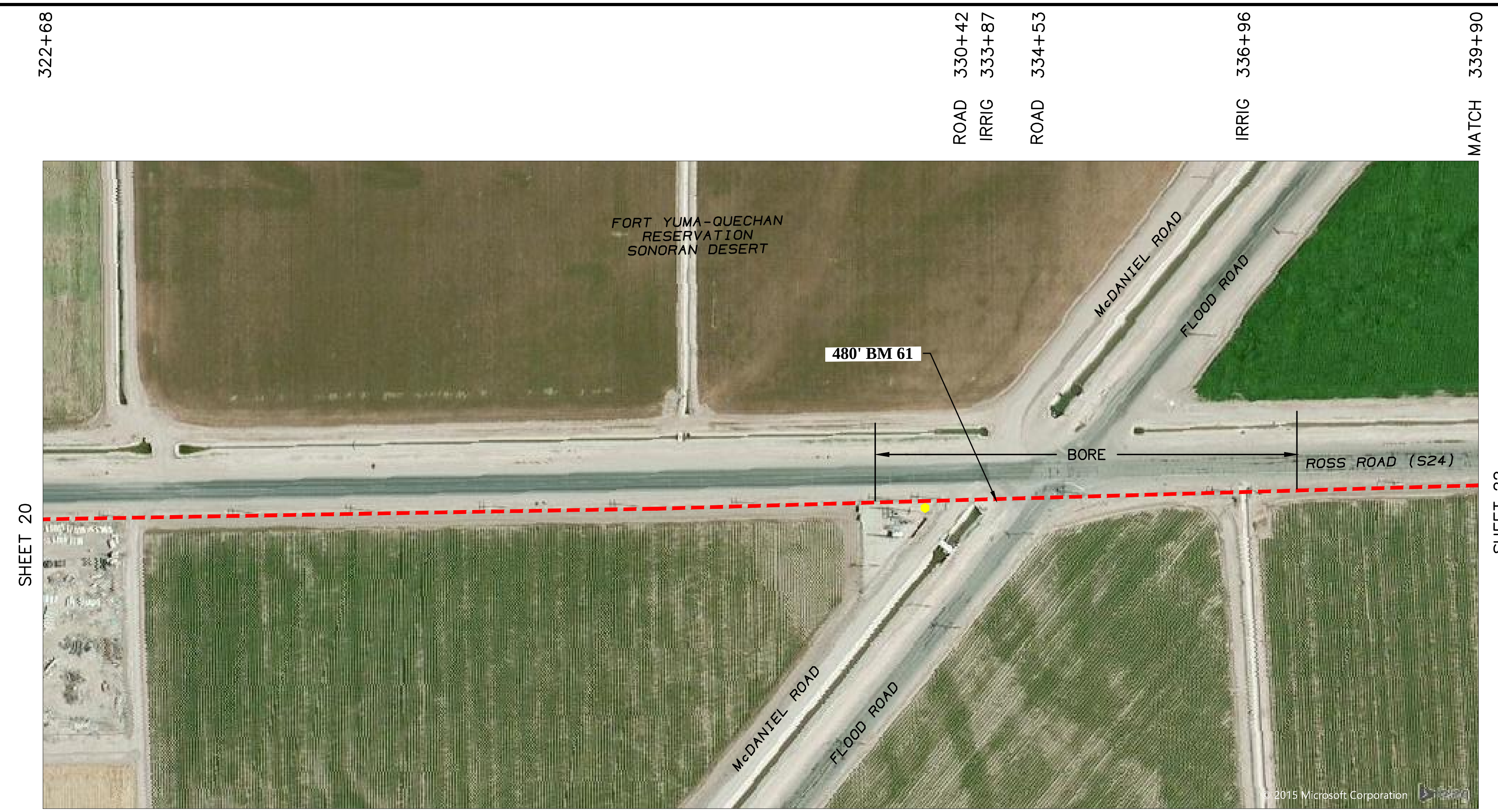
TDS

POLES / PEDS										CABLE					
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT							
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFC 50–24		
445+58	MATCH														
456+20	P1401										1094	1094			
457+00	DSA									50	150	150	150		
TOTAL										50	1244	1244	150		

POLE/ PED NO. (TEL CO.)	POLE LINE & PED HARDWARE										CUST NO.							
	BM2 (5/8)(8)	BM 2C	BM 20	BM 53	BM 61D									HBFO (96)	HO1	HC1		W BD
445+58																		
456+20		1														50		1
457+00			1		150									1	6	50		
TOTAL		1	1		150									1	6	100		1

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	BA
SHEET	21 OF 27
EX. ROUTE	BA
MAP REF.	351035
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	8
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	



NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE			
POLE/ PED NO.		BD / HA	BG / PG	LEAD	POLE LENGTH CLASS	YEAR		JOINT											CUST NO.
TEL CO.	FOR CO.			ANGLE		SET	REM	%	W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D	
322+68	MATCH																		
																		480	
339+90	MATCH										1766	1766					1		
TOTAL											1766	1766					1	480	

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	BA
SHEET	22 OF 27
EX. ROUTE	BA
MAP REF.	351035
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	8
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 339+90

IRRIG 349+18

MATCH 357+02

SHEET 21

SHEET 23

NOT TO SCALE

Know what's below. Call 811 before you dig.

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
339+90	MATCH															
															480	
357+02	MATCH										1770	1770				
TOTAL											1770	1770			480	

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

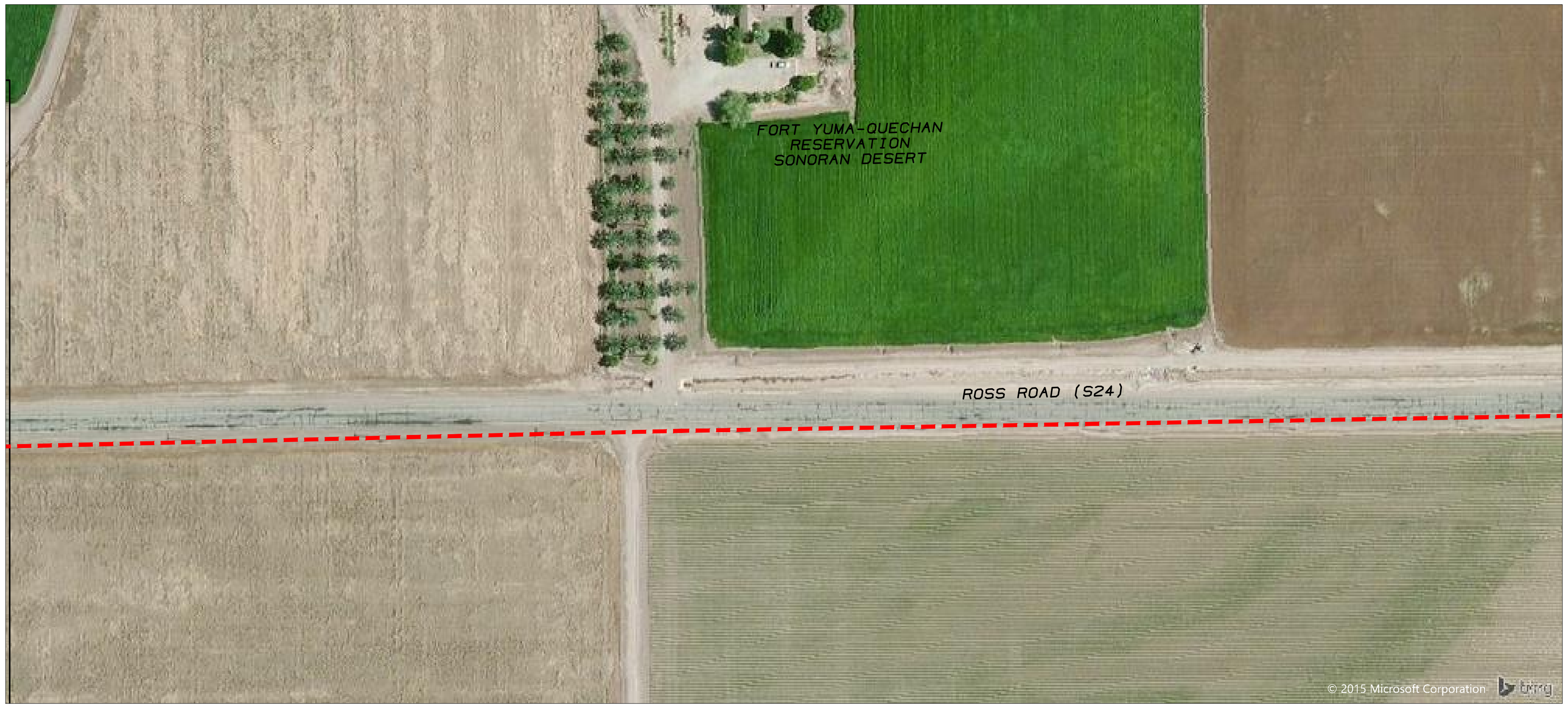
ROUTE	BB
SHEET	23 OF 27
EX. ROUTE	BB
MAP REF.	351035
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	8
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 357+02

ROAD 364+18

MATCH 374+16

SHEET 22



SHEET 24

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS											CABLE						POLE LINE & PED HARDWARE				
POLE/ PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	REM	JOINT %	W/		BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D		CUST NO.
357+02	MATCH																				
374+16	MATCH											1770	1770								
TOTAL												1770	1770								

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	BB
SHEET	24 OF 27
EX. ROUTE	BB
MAP REF.	351035
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	9
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 374+16

IRRIG 376+45

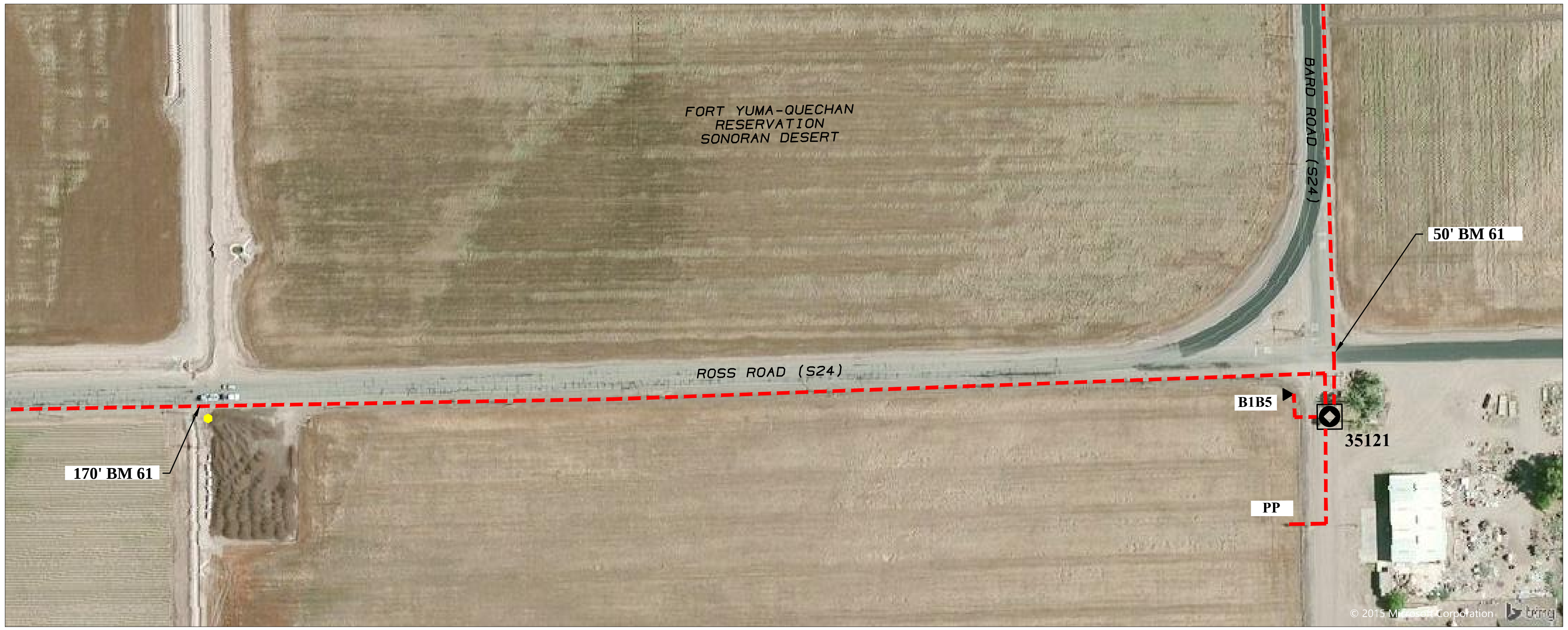
ROAD 389+99

SHEET 25

MATCH 397+19

SHEET 23

DSA 390+25



NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

Know what's below. Call 811 before you dig.

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

TDS

POLES / PEDS — CABLE

POLE/PED NO. TEL CO.	FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BFC 100-24
374+16	MATCH												
390+25	DSA									100	1700	1700	
	B1B5												110
	PP											180	
397+19	MATCH										780	780	
TOTAL										100	2480	2660	110

POLE LINE & PED HARDWARE

POLE/PED NO. TEL CO.	FOR CO.	BM2 (5/8)(8)	BM 20	BM 53	BM 61D	CUST NO.	HBFO (96)	HO1	HC1	WBD
374+16	MATCH									
390+25	DSA		1	1	170		1	6	100	
	B1B5								100	1
	PP									
397+19	MATCH									
TOTAL			1	1	170		1	6	200	1

PROJECT NO. 23325 | TEL. CO. TDS | EXCHANGE 351

ROUTE	BB
SHEET	25 OF 27
EX. ROUTE	BB
MAP REF.	351040
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	9
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

MATCH 411+79

ROAD 403+67

MATCH 397+19

SHEET 26

SHEET 24

NOT TO SCALE

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

Know what's below. Call 811 before you dig.

POLES / PEDS										CABLE			POLE LINE & PED HARDWARE			
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)	BM2 (5/8)(8)	BM 53	BM 61D	CUST NO.
397+19	MATCH															
411+79	MATCH										1510	1510				
TOTAL											1510	1510				

PROJECT NO. 23325 TEL. CO. TDS EXCHANGE 351

ROUTE	BB
SHEET	26 OF 27
EX. ROUTE	BB
MAP REF.	351040
COUNTY:	IMPERIAL
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY:	BARD
TWN/RGE	16S / 23E
SEC.	9/4
STAKED BY	FARR
DATE	01/14
DRAFTED BY	FARR
DATE	10/14
W.O.	TC-CA351ENG-001
REV	02/15
REV	
REV	
FILE:	

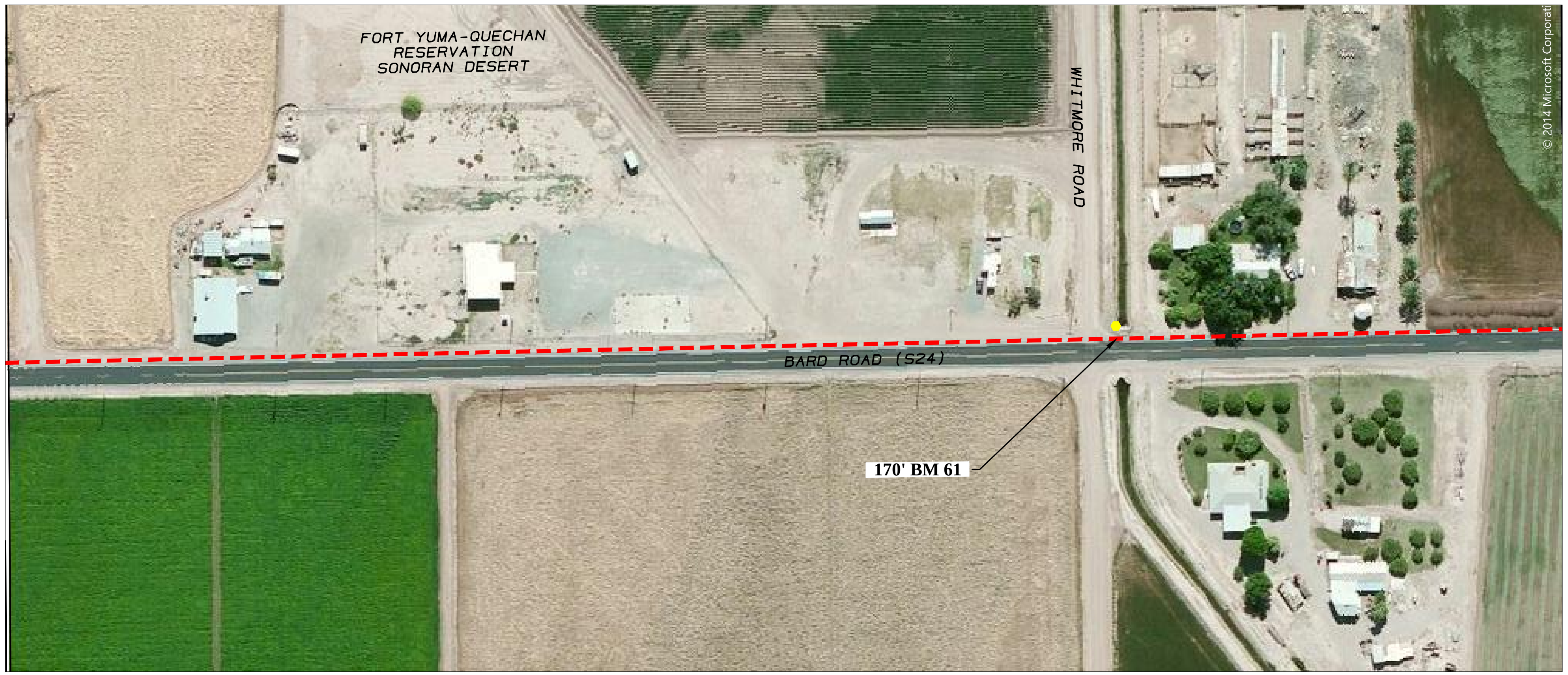
MATCH 428+83

ROAD 417+19

IRRIG 416+23

MATCH 411+79

SHEET 27



SHEET 25

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM FIELD OBSERVATIONS BUT ARE NOT NECESSARILY EXACT. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD LOCATE ALL UNDERGROUND OBSTRUCTIONS AND UTILITIES PRIOR TO CONSTRUCTION. COMPLETE REPAIR OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV (1)(1.25)				BM2 (5/8)(8)	BM 53	BM 61D								CUST NO.							
411+79	MATCH																																
428+83	MATCH										1760	1760					1	170															
TOTAL											1760	1760					1	170															

PROJECT NO. 23325	TEL. CO. TDS	EXCHANGE 351	ROUTE BB

SHEET 28 OF 27	
EX. ROUTE BB	
MAP REF. 351040	
COUNTY: IMPERIAL	
TOWNSHIP:	
TAX DISTRICT:	
MUNICIPALITY: WINTERHAVEN	
TWN/RGE 16S / 22E	
SEC. 4	
STAKED BY FARR	
DATE 01/14	
DRAFTED BY FARR	
DATE 10/14	
W.O. TC-CA351ENG-001	
REV	
REV	
REV	
FILE:	

DSA 439+19
ROAD 436+75

MATCH 428+83

SHEET 26

RUNNING LINE = 6'
FROM EDGE PVMT
MIN DEPTH= 36"

NOT TO SCALE

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POLES / PEDS										CABLE						POLE LINE & PED HARDWARE																	
POLE/ PED NO. TEL CO.	POLE/ PED NO. FOR CO.	BD / HA	BG / PG	LEAD ANGLE	POLE LENGTH CLASS	YEAR SET	YEAR REM	JOINT %	JOINT W/	BFO (96)	BFOI (96)	BFOV 1.25				BM2 (5/8)(8)	BM 20	BM 53	BM 61D							CUST NO.			HBFO (96)	H01			
428+83	MATCH																																
439+19	DSA									50	1070	1070					1	1											1	6			
TOTAL										50	1070	1070					1	1											1	6			

Appendix C

Air Quality/Greenhouse Gas Emissions Evaluations

CPUC Winterhaven Broadband

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2017
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	1270.9	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Durations determined based on an assumed 2 miles/day for plow installation, 400 ft/day for bored installation, and 2 nodes/day.

Off-road Equipment - Bored installation has 2 pumps, 2 air compressors, 2 drill rigs, and 2 backhoes.

Off-road Equipment - Node construction will only have 1 backhoe.

Off-road Equipment - Plowed installation has 2 air compressors, and 2 crawler tractors.

Trips and VMT - Vendor trips include equipment delivery and water trucks for dust control. Workers in Winterhaven, vendors in Yuma. Equipment delivery rate=2/day for plowed and 1/day for bored installations. Node vaults = 1/day. Water truck = twice/day during each phase.

On-road Fugitive Dust - Approximately 10% of the roads in the project area are not paved.

Vehicle Trips - Assumed no workers.

Road Dust - Updated % road paved to be 90%.

Construction Off-road Equipment Mitigation - Assume cleaning of paved roads will provide a 10% reduction in PM.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	10
tblConstructionPhase	PhaseStartDate	3/5/2016	3/7/2016
tblOffRoadEquipment	HorsePower	78.00	174.00
tblOffRoadEquipment	HorsePower	208.00	97.00
tblOffRoadEquipment	HorsePower	84.00	208.00
tblOffRoadEquipment	LoadFactor	0.48	0.41
tblOffRoadEquipment	LoadFactor	0.43	0.37
tblOffRoadEquipment	LoadFactor	0.74	0.43
tblOnRoadDust	VendorPercentPave	50.00	90.00
tblOnRoadDust	VendorPercentPave	50.00	90.00
tblOnRoadDust	VendorPercentPave	50.00	90.00
tblOnRoadDust	WorkerPercentPave	50.00	90.00
tblOnRoadDust	WorkerPercentPave	50.00	90.00
tblOnRoadDust	WorkerPercentPave	50.00	90.00
tblProjectCharacteristics	OperationalYear	2014	2017

tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	7.1940e-003	7.6650e-003
tblVehicleEF	HHD	3.02	2.95
tblVehicleEF	HHD	1.71	1.75
tblVehicleEF	HHD	70.59	75.37
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tblVehicleEF	HHD	61.94	65.70
tblVehicleEF	HHD	0.08	0.08
tblVehicleEF	HHD	4.29	4.62
tblVehicleEF	HHD	4.30	4.86
tblVehicleEF	HHD	4.71	4.85
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tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.10	0.11

tblVehicleEF	HHD	4.0230e-003	4.9800e-003
tblVehicleEF	HHD	9.8530e-003	0.01
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8370e-003	8.8390e-003
tblVehicleEF	HHD	0.09	0.11
tblVehicleEF	HHD	3.1900e-003	3.9270e-003
tblVehicleEF	HHD	6.8240e-003	8.0590e-003
tblVehicleEF	HHD	0.20	0.24
tblVehicleEF	HHD	0.54	0.53
tblVehicleEF	HHD	3.2800e-003	3.8220e-003
tblVehicleEF	HHD	0.16	0.17
tblVehicleEF	HHD	0.80	0.95
tblVehicleEF	HHD	2.83	3.23
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tblVehicleEF	HHD	6.8240e-003	8.0590e-003
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tblVehicleEF	HHD	0.61	0.60
tblVehicleEF	HHD	3.2800e-003	3.8220e-003
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tblVehicleEF	HHD	0.80	0.95
tblVehicleEF	HHD	3.04	3.47
tblVehicleEF	HHD	0.02	0.02
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tblVehicleEF	HHD	67.18	72.53

tblVehicleEF	HHD	591.03	600.47
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tblVehicleEF	HHD	0.08	0.08
tblVehicleEF	HHD	4.43	4.77
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tblVehicleEF	HHD	4.62	4.75
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tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.10	0.11
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tblVehicleEF	HHD	8.3060e-003	9.9260e-003
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tblVehicleEF	HHD	8.8370e-003	8.8390e-003
tblVehicleEF	HHD	0.09	0.11
tblVehicleEF	HHD	3.1900e-003	3.9270e-003
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tblVehicleEF	HHD	1.7900e-003	1.9150e-003
tblVehicleEF	HHD	0.01	0.02

tblVehicleEF	HHD	0.25	0.30
tblVehicleEF	HHD	0.58	0.57
tblVehicleEF	HHD	5.2890e-003	6.1810e-003
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tblVehicleEF	HHD	0.84	0.99
tblVehicleEF	HHD	2.88	3.30
tblVehicleEF	HHD	0.03	0.03
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tblVehicleEF	HHD	83.73	88.23
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tblVehicleEF	HHD	1,511.58	1,538.63
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tblVehicleEF	HHD	4.0230e-003	4.9800e-003
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tblVehicleEF	HHD	8.8370e-003	8.8390e-003
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tblVehicleEF	HHD	3.1900e-003	3.9270e-003

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tblVehicleEF	LDA	0.17	0.19
tblVehicleEF	LDA	0.18	0.19
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tblVehicleEF	LDA	0.11	0.12
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tblVehicleEF	LDA	0.18	0.19
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tblVehicleEF	LDA	0.30	0.33
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tblVehicleEF	LDA	3.4020e-003	3.4050e-003
tblVehicleEF	LDA	8.4400e-004	8.5100e-004
tblVehicleEF	LDA	0.36	0.39
tblVehicleEF	LDA	0.26	0.28
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tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
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tblVehicleEF	LDA	0.45	0.45
tblVehicleEF	LDA	0.34	0.36
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tblVehicleEF	LDA	1.6070e-003	1.6480e-003
tblVehicleEF	LDA	3.5900e-003	3.5020e-003
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tblVehicleEF	LDA	3.3110e-003	3.2200e-003

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tblVehicleEF	LDA	0.15	0.16
tblVehicleEF	LDA	0.03	0.03
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tblVehicleEF	LDA	0.43	0.46
tblVehicleEF	LDA	0.61	0.65
tblVehicleEF	LDA	3.1160e-003	3.1180e-003
tblVehicleEF	LDA	8.6400e-004	8.7200e-004
tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.15	0.16
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.12	0.13
tblVehicleEF	LDA	0.43	0.46
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tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	3.24	3.76
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tblVehicleEF	LDT1	0.30	0.34

tblVehicleEF	LDT1	0.30	0.33
tblVehicleEF	LDT1	0.21	0.23
tblVehicleEF	LDT1	0.10	0.13
tblVehicleEF	LDT1	1.03	1.15
tblVehicleEF	LDT1	0.45	0.52
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tblVehicleEF	LDT1	0.30	0.33
tblVehicleEF	LDT1	0.21	0.23
tblVehicleEF	LDT1	0.13	0.16
tblVehicleEF	LDT1	1.03	1.15
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tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.03	0.03
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tblVehicleEF	LDT1	67.84	70.85
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tblVehicleEF	LDT1	0.38	0.42
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tblVehicleEF	LDT1	4.9820e-003	5.2270e-003
tblVehicleEF	LDT1	0.63	0.71
tblVehicleEF	LDT1	0.40	0.45

tblVehicleEF	LDT1	0.35	0.39
tblVehicleEF	LDT1	0.12	0.15
tblVehicleEF	LDT1	1.09	1.21
tblVehicleEF	LDT1	0.46	0.53
tblVehicleEF	LDT1	3.9350e-003	3.9410e-003
tblVehicleEF	LDT1	9.6500e-004	9.8100e-004
tblVehicleEF	LDT1	0.63	0.71
tblVehicleEF	LDT1	0.40	0.45
tblVehicleEF	LDT1	0.35	0.39
tblVehicleEF	LDT1	0.15	0.18
tblVehicleEF	LDT1	1.09	1.21
tblVehicleEF	LDT1	0.49	0.57
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	2.86	3.33
tblVehicleEF	LDT1	7.55	8.55
tblVehicleEF	LDT1	275.04	287.07
tblVehicleEF	LDT1	67.84	70.85
tblVehicleEF	LDT1	0.07	0.07
tblVehicleEF	LDT1	0.37	0.43
tblVehicleEF	LDT1	0.39	0.44
tblVehicleEF	LDT1	2.9930e-003	3.2950e-003
tblVehicleEF	LDT1	5.4120e-003	5.7030e-003
tblVehicleEF	LDT1	2.7510e-003	3.0140e-003
tblVehicleEF	LDT1	4.9820e-003	5.2270e-003
tblVehicleEF	LDT1	0.13	0.14
tblVehicleEF	LDT1	0.26	0.30
tblVehicleEF	LDT1	0.06	0.07

tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	1.15	1.28
tblVehicleEF	LDT1	0.53	0.62
tblVehicleEF	LDT1	3.6190e-003	3.6260e-003
tblVehicleEF	LDT1	9.8500e-004	1.0040e-003
tblVehicleEF	LDT1	0.13	0.14
tblVehicleEF	LDT1	0.26	0.30
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.12	0.14
tblVehicleEF	LDT1	1.15	1.28
tblVehicleEF	LDT1	0.57	0.66
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	1.89	2.17
tblVehicleEF	LDT2	3.90	4.45
tblVehicleEF	LDT2	362.13	375.84
tblVehicleEF	LDT2	83.72	86.86
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.24	0.28
tblVehicleEF	LDT2	0.39	0.45
tblVehicleEF	LDT2	1.6430e-003	1.7150e-003
tblVehicleEF	LDT2	3.4820e-003	3.4150e-003
tblVehicleEF	LDT2	1.5100e-003	1.5670e-003
tblVehicleEF	LDT2	3.2090e-003	3.1320e-003
tblVehicleEF	LDT2	0.15	0.17
tblVehicleEF	LDT2	0.18	0.19
tblVehicleEF	LDT2	0.11	0.12
tblVehicleEF	LDT2	0.05	0.06

tblVehicleEF	LDT2	0.59	0.64
tblVehicleEF	LDT2	0.25	0.30
tblVehicleEF	LDT2	4.4820e-003	4.4870e-003
tblVehicleEF	LDT2	1.0740e-003	1.0840e-003
tblVehicleEF	LDT2	0.15	0.17
tblVehicleEF	LDT2	0.18	0.19
tblVehicleEF	LDT2	0.11	0.12
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.59	0.64
tblVehicleEF	LDT2	0.27	0.32
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tblVehicleEF	LDT2	4.07	4.65
tblVehicleEF	LDT2	371.33	385.36
tblVehicleEF	LDT2	83.72	86.86
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.21	0.25
tblVehicleEF	LDT2	0.40	0.46
tblVehicleEF	LDT2	1.6430e-003	1.7150e-003
tblVehicleEF	LDT2	3.4820e-003	3.4150e-003
tblVehicleEF	LDT2	1.5100e-003	1.5670e-003
tblVehicleEF	LDT2	3.2090e-003	3.1320e-003
tblVehicleEF	LDT2	0.32	0.35
tblVehicleEF	LDT2	0.23	0.26
tblVehicleEF	LDT2	0.19	0.21
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.61	0.67

tblVehicleEF	LDT2	0.26	0.30
tblVehicleEF	LDT2	4.6000e-003	4.6050e-003
tblVehicleEF	LDT2	1.0770e-003	1.0870e-003
tblVehicleEF	LDT2	0.32	0.35
tblVehicleEF	LDT2	0.23	0.26
tblVehicleEF	LDT2	0.19	0.21
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.61	0.67
tblVehicleEF	LDT2	0.27	0.32
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	1.65	1.90
tblVehicleEF	LDT2	4.84	5.52
tblVehicleEF	LDT2	341.91	354.92
tblVehicleEF	LDT2	83.72	86.86
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.24	0.28
tblVehicleEF	LDT2	0.42	0.48
tblVehicleEF	LDT2	1.6430e-003	1.7150e-003
tblVehicleEF	LDT2	3.4820e-003	3.4150e-003
tblVehicleEF	LDT2	1.5100e-003	1.5670e-003
tblVehicleEF	LDT2	3.2090e-003	3.1320e-003
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.16	0.17
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.66	0.71
tblVehicleEF	LDT2	0.30	0.35

tblVehicleEF	LDT2	4.2270e-003	4.2330e-003
tblVehicleEF	LDT2	1.0900e-003	1.1020e-003
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.16	0.17
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.66	0.71
tblVehicleEF	LDT2	0.32	0.37
tblVehicleEF	LHD1	1.2690e-003	1.2700e-003
tblVehicleEF	LHD1	9.7930e-003	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	1.16	1.29
tblVehicleEF	LHD1	3.79	4.03
tblVehicleEF	LHD1	8.63	8.76
tblVehicleEF	LHD1	517.21	525.58
tblVehicleEF	LHD1	35.27	35.68
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	1.83	2.02
tblVehicleEF	LHD1	1.40	1.44
tblVehicleEF	LHD1	8.4600e-004	8.5500e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.1000e-004	8.9800e-004
tblVehicleEF	LHD1	7.7900e-004	7.8700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.2110e-003	9.8140e-003

tblVehicleEF	LHD1	7.5000e-004	8.3100e-004
tblVehicleEF	LHD1	4.4200e-003	4.6750e-003
tblVehicleEF	LHD1	0.07	0.07
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.1360e-003	2.2310e-003
tblVehicleEF	LHD1	0.08	0.09
tblVehicleEF	LHD1	0.42	0.44
tblVehicleEF	LHD1	0.40	0.42
tblVehicleEF	LHD1	5.3570e-003	5.3610e-003
tblVehicleEF	LHD1	4.4300e-004	4.4600e-004
tblVehicleEF	LHD1	4.4200e-003	4.6750e-003
tblVehicleEF	LHD1	0.07	0.07
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.1360e-003	2.2310e-003
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.42	0.44
tblVehicleEF	LHD1	0.42	0.45
tblVehicleEF	LHD1	1.2690e-003	1.2700e-003
tblVehicleEF	LHD1	9.7930e-003	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	1.18	1.31
tblVehicleEF	LHD1	3.38	3.60
tblVehicleEF	LHD1	8.63	8.76
tblVehicleEF	LHD1	517.21	525.58
tblVehicleEF	LHD1	35.27	35.68
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.08	0.08

tblVehicleEF	LHD1	1.64	1.81
tblVehicleEF	LHD1	1.38	1.41
tblVehicleEF	LHD1	8.4600e-004	8.5500e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.1000e-004	8.9800e-004
tblVehicleEF	LHD1	7.7900e-004	7.8700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.2110e-003	9.8140e-003
tblVehicleEF	LHD1	7.5000e-004	8.3100e-004
tblVehicleEF	LHD1	9.0780e-003	9.6080e-003
tblVehicleEF	LHD1	0.09	0.10
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	3.4560e-003	3.6360e-003
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	0.43	0.45
tblVehicleEF	LHD1	0.37	0.40
tblVehicleEF	LHD1	5.3570e-003	5.3620e-003
tblVehicleEF	LHD1	4.3500e-004	4.3800e-004
tblVehicleEF	LHD1	9.0780e-003	9.6080e-003
tblVehicleEF	LHD1	0.09	0.10
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	3.4560e-003	3.6360e-003
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.43	0.45
tblVehicleEF	LHD1	0.40	0.42
tblVehicleEF	LHD1	1.2690e-003	1.2700e-003
tblVehicleEF	LHD1	9.7930e-003	0.01

tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	1.13	1.26
tblVehicleEF	LHD1	4.82	5.14
tblVehicleEF	LHD1	8.63	8.76
tblVehicleEF	LHD1	517.21	525.58
tblVehicleEF	LHD1	35.27	35.68
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	1.87	2.06
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tblVehicleEF	LHD1	8.4600e-004	8.5500e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.1000e-004	8.9800e-004
tblVehicleEF	LHD1	7.7900e-004	7.8700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.2110e-003	9.8140e-003
tblVehicleEF	LHD1	7.5000e-004	8.3100e-004
tblVehicleEF	LHD1	1.9690e-003	2.0890e-003
tblVehicleEF	LHD1	0.06	0.07
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	7.3200e-004	7.5200e-004
tblVehicleEF	LHD1	0.08	0.09
tblVehicleEF	LHD1	0.44	0.46
tblVehicleEF	LHD1	0.46	0.49
tblVehicleEF	LHD1	5.3570e-003	5.3610e-003
tblVehicleEF	LHD1	4.6100e-004	4.6500e-004

tblVehicleEF	LHD1	1.9690e-003	2.0890e-003
tblVehicleEF	LHD1	0.06	0.07
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	7.3200e-004	7.5200e-004
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.44	0.46
tblVehicleEF	LHD1	0.49	0.52
tblVehicleEF	LHD2	9.1000e-004	9.1100e-004
tblVehicleEF	LHD2	7.0380e-003	7.8700e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.87	1.00
tblVehicleEF	LHD2	2.26	2.50
tblVehicleEF	LHD2	9.49	9.64
tblVehicleEF	LHD2	507.97	516.33
tblVehicleEF	LHD2	21.01	21.44
tblVehicleEF	LHD2	5.5930e-003	5.5950e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	2.42	2.67
tblVehicleEF	LHD2	0.79	0.82
tblVehicleEF	LHD2	1.4380e-003	1.4470e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.2100e-004	6.3200e-004
tblVehicleEF	LHD2	1.3230e-003	1.3310e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.6680e-003	2.6690e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.5800e-004	5.5000e-004
tblVehicleEF	LHD2	2.5270e-003	2.8110e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.2190e-003	1.3330e-003
tblVehicleEF	LHD2	0.08	0.09
tblVehicleEF	LHD2	0.25	0.27
tblVehicleEF	LHD2	0.22	0.24
tblVehicleEF	LHD2	5.1930e-003	5.1980e-003
tblVehicleEF	LHD2	2.6300e-004	2.6900e-004
tblVehicleEF	LHD2	2.5270e-003	2.8110e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.2190e-003	1.3330e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.25	0.27
tblVehicleEF	LHD2	0.24	0.26
tblVehicleEF	LHD2	9.1000e-004	9.1100e-004
tblVehicleEF	LHD2	7.0380e-003	7.8700e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.89	1.03
tblVehicleEF	LHD2	2.05	2.28
tblVehicleEF	LHD2	9.49	9.64
tblVehicleEF	LHD2	507.97	516.33
tblVehicleEF	LHD2	21.01	21.44
tblVehicleEF	LHD2	5.5930e-003	5.5950e-003

tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	2.19	2.42
tblVehicleEF	LHD2	0.78	0.81
tblVehicleEF	LHD2	1.4380e-003	1.4470e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.2100e-004	6.3200e-004
tblVehicleEF	LHD2	1.3230e-003	1.3310e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.6680e-003	2.6690e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.5800e-004	5.5000e-004
tblVehicleEF	LHD2	5.2230e-003	5.8260e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.9850e-003	2.1890e-003
tblVehicleEF	LHD2	0.08	0.09
tblVehicleEF	LHD2	0.26	0.28
tblVehicleEF	LHD2	0.21	0.23
tblVehicleEF	LHD2	5.1940e-003	5.1990e-003
tblVehicleEF	LHD2	2.6000e-004	2.6500e-004
tblVehicleEF	LHD2	5.2230e-003	5.8260e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.9850e-003	2.1890e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.26	0.28

tblVehicleEF	LHD2	0.22	0.25
tblVehicleEF	LHD2	9.1000e-004	9.1100e-004
tblVehicleEF	LHD2	7.0380e-003	7.8700e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.86	0.99
tblVehicleEF	LHD2	2.81	3.10
tblVehicleEF	LHD2	9.49	9.64
tblVehicleEF	LHD2	507.97	516.33
tblVehicleEF	LHD2	21.01	21.44
tblVehicleEF	LHD2	5.5930e-003	5.5950e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	2.45	2.71
tblVehicleEF	LHD2	0.83	0.86
tblVehicleEF	LHD2	1.4380e-003	1.4470e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.2100e-004	6.3200e-004
tblVehicleEF	LHD2	1.3230e-003	1.3310e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.6680e-003	2.6690e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.5800e-004	5.5000e-004
tblVehicleEF	LHD2	1.1090e-003	1.2360e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.9800e-004	4.2600e-004

tblVehicleEF	LHD2	0.08	0.09
tblVehicleEF	LHD2	0.26	0.28
tblVehicleEF	LHD2	0.25	0.28
tblVehicleEF	LHD2	5.1930e-003	5.1980e-003
tblVehicleEF	LHD2	2.7300e-004	2.7900e-004
tblVehicleEF	LHD2	1.1090e-003	1.2360e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.9800e-004	4.2600e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.26	0.28
tblVehicleEF	LHD2	0.27	0.30
tblVehicleEF	MCY	28.21	29.28
tblVehicleEF	MCY	9.55	9.53
tblVehicleEF	MCY	150.07	150.22
tblVehicleEF	MCY	41.75	43.15
tblVehicleEF	MCY	2.3740e-003	2.3930e-003
tblVehicleEF	MCY	1.24	1.25
tblVehicleEF	MCY	0.30	0.30
tblVehicleEF	MCY	4.4700e-004	5.1600e-004
tblVehicleEF	MCY	1.2100e-003	1.3910e-003
tblVehicleEF	MCY	3.6800e-004	4.2200e-004
tblVehicleEF	MCY	9.8500e-004	1.1200e-003
tblVehicleEF	MCY	2.15	2.17
tblVehicleEF	MCY	0.68	0.70
tblVehicleEF	MCY	1.36	1.38
tblVehicleEF	MCY	2.70	2.74
tblVehicleEF	MCY	1.45	1.54

tblVehicleEF	MCY	1.98	1.99
tblVehicleEF	MCY	2.1070e-003	2.1020e-003
tblVehicleEF	MCY	6.5200e-004	6.5900e-004
tblVehicleEF	MCY	2.15	2.17
tblVehicleEF	MCY	0.68	0.70
tblVehicleEF	MCY	1.36	1.38
tblVehicleEF	MCY	2.96	2.99
tblVehicleEF	MCY	1.45	1.54
tblVehicleEF	MCY	2.12	2.14
tblVehicleEF	MCY	31.32	32.54
tblVehicleEF	MCY	9.34	9.36
tblVehicleEF	MCY	150.07	150.22
tblVehicleEF	MCY	41.75	43.15
tblVehicleEF	MCY	2.3740e-003	2.3930e-003
tblVehicleEF	MCY	1.01	1.02
tblVehicleEF	MCY	0.29	0.29
tblVehicleEF	MCY	4.4700e-004	5.1600e-004
tblVehicleEF	MCY	1.2100e-003	1.3910e-003
tblVehicleEF	MCY	3.6800e-004	4.2200e-004
tblVehicleEF	MCY	9.8500e-004	1.1200e-003
tblVehicleEF	MCY	4.48	4.54
tblVehicleEF	MCY	1.17	1.19
tblVehicleEF	MCY	2.56	2.58
tblVehicleEF	MCY	2.74	2.77
tblVehicleEF	MCY	1.52	1.61
tblVehicleEF	MCY	1.89	1.91
tblVehicleEF	MCY	2.1570e-003	2.1550e-003
tblVehicleEF	MCY	6.4500e-004	6.5400e-004

tblVehicleEF	MCY	4.48	4.54
tblVehicleEF	MCY	1.17	1.19
tblVehicleEF	MCY	2.56	2.58
tblVehicleEF	MCY	2.99	3.03
tblVehicleEF	MCY	1.52	1.61
tblVehicleEF	MCY	2.03	2.05
tblVehicleEF	MCY	28.43	29.53
tblVehicleEF	MCY	10.93	10.85
tblVehicleEF	MCY	150.07	150.22
tblVehicleEF	MCY	41.75	43.15
tblVehicleEF	MCY	2.3740e-003	2.3930e-003
tblVehicleEF	MCY	1.32	1.33
tblVehicleEF	MCY	0.32	0.32
tblVehicleEF	MCY	4.4700e-004	5.1600e-004
tblVehicleEF	MCY	1.2100e-003	1.3910e-003
tblVehicleEF	MCY	3.6800e-004	4.2200e-004
tblVehicleEF	MCY	9.8500e-004	1.1200e-003
tblVehicleEF	MCY	0.94	0.95
tblVehicleEF	MCY	0.50	0.52
tblVehicleEF	MCY	0.26	0.27
tblVehicleEF	MCY	2.78	2.82
tblVehicleEF	MCY	1.63	1.72
tblVehicleEF	MCY	2.29	2.31
tblVehicleEF	MCY	2.1130e-003	2.1090e-003
tblVehicleEF	MCY	6.8300e-004	6.9000e-004
tblVehicleEF	MCY	0.94	0.95
tblVehicleEF	MCY	0.50	0.52
tblVehicleEF	MCY	0.26	0.27

tblVehicleEF	MCY	3.03	3.08
tblVehicleEF	MCY	1.63	1.72
tblVehicleEF	MCY	2.46	2.48
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	2.36	2.59
tblVehicleEF	MDV	5.75	6.27
tblVehicleEF	MDV	476.77	493.22
tblVehicleEF	MDV	109.52	112.99
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.37	0.42
tblVehicleEF	MDV	0.64	0.71
tblVehicleEF	MDV	1.6430e-003	1.6670e-003
tblVehicleEF	MDV	3.4800e-003	3.3970e-003
tblVehicleEF	MDV	1.5180e-003	1.5390e-003
tblVehicleEF	MDV	3.2210e-003	3.1410e-003
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.22	0.23
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.76	0.77
tblVehicleEF	MDV	0.42	0.47
tblVehicleEF	MDV	5.7100e-003	5.7090e-003
tblVehicleEF	MDV	1.3760e-003	1.3830e-003
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.22	0.23
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.09	0.10

tblVehicleEF	MDV	0.76	0.77
tblVehicleEF	MDV	0.45	0.50
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	2.69	2.95
tblVehicleEF	MDV	5.99	6.54
tblVehicleEF	MDV	488.78	505.60
tblVehicleEF	MDV	109.52	112.99
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.34	0.38
tblVehicleEF	MDV	0.65	0.72
tblVehicleEF	MDV	1.6430e-003	1.6670e-003
tblVehicleEF	MDV	3.4800e-003	3.3970e-003
tblVehicleEF	MDV	1.5180e-003	1.5390e-003
tblVehicleEF	MDV	3.2210e-003	3.1410e-003
tblVehicleEF	MDV	0.36	0.37
tblVehicleEF	MDV	0.29	0.30
tblVehicleEF	MDV	0.22	0.22
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.80	0.81
tblVehicleEF	MDV	0.43	0.47
tblVehicleEF	MDV	5.8600e-003	5.8580e-003
tblVehicleEF	MDV	1.3800e-003	1.3870e-003
tblVehicleEF	MDV	0.36	0.37
tblVehicleEF	MDV	0.29	0.30
tblVehicleEF	MDV	0.22	0.22
tblVehicleEF	MDV	0.10	0.11
tblVehicleEF	MDV	0.80	0.81

tblVehicleEF	MDV	0.45	0.50
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	2.05	2.25
tblVehicleEF	MDV	7.13	7.78
tblVehicleEF	MDV	450.37	465.99
tblVehicleEF	MDV	109.52	112.99
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.38	0.43
tblVehicleEF	MDV	0.69	0.76
tblVehicleEF	MDV	1.6430e-003	1.6670e-003
tblVehicleEF	MDV	3.4800e-003	3.3970e-003
tblVehicleEF	MDV	1.5180e-003	1.5390e-003
tblVehicleEF	MDV	3.2210e-003	3.1410e-003
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.20	0.20
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.85	0.86
tblVehicleEF	MDV	0.50	0.56
tblVehicleEF	MDV	5.3890e-003	5.3880e-003
tblVehicleEF	MDV	1.4000e-003	1.4090e-003
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.20	0.20
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.08	0.09
tblVehicleEF	MDV	0.85	0.86
tblVehicleEF	MDV	0.53	0.59

tblVehicleEF	MH	4.83	6.32
tblVehicleEF	MH	9.62	10.99
tblVehicleEF	MH	578.24	587.55
tblVehicleEF	MH	32.21	33.59
tblVehicleEF	MH	2.0580e-003	2.0540e-003
tblVehicleEF	MH	1.59	1.79
tblVehicleEF	MH	1.14	1.23
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.3990e-003	8.4010e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.5000e-003	1.9550e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.3270e-003	1.7030e-003
tblVehicleEF	MH	2.83	3.26
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.90	1.03
tblVehicleEF	MH	0.12	0.15
tblVehicleEF	MH	2.24	2.48
tblVehicleEF	MH	0.61	0.72
tblVehicleEF	MH	6.1080e-003	6.1340e-003
tblVehicleEF	MH	5.0900e-004	5.4300e-004
tblVehicleEF	MH	2.83	3.26
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.90	1.03
tblVehicleEF	MH	0.15	0.19
tblVehicleEF	MH	2.24	2.48
tblVehicleEF	MH	0.65	0.77

tblVehicleEF	MH	5.03	6.62
tblVehicleEF	MH	8.51	9.76
tblVehicleEF	MH	578.24	587.55
tblVehicleEF	MH	32.21	33.59
tblVehicleEF	MH	2.0580e-003	2.0540e-003
tblVehicleEF	MH	1.36	1.53
tblVehicleEF	MH	1.12	1.20
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.3990e-003	8.4010e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.5000e-003	1.9550e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.3270e-003	1.7030e-003
tblVehicleEF	MH	5.90	6.80
tblVehicleEF	MH	0.14	0.16
tblVehicleEF	MH	1.37	1.58
tblVehicleEF	MH	0.12	0.16
tblVehicleEF	MH	2.27	2.51
tblVehicleEF	MH	0.56	0.66
tblVehicleEF	MH	6.1120e-003	6.1390e-003
tblVehicleEF	MH	4.9000e-004	5.2200e-004
tblVehicleEF	MH	5.90	6.80
tblVehicleEF	MH	0.14	0.16
tblVehicleEF	MH	1.37	1.58
tblVehicleEF	MH	0.15	0.19
tblVehicleEF	MH	2.27	2.51
tblVehicleEF	MH	0.60	0.71

tblVehicleEF	MH	4.67	6.13
tblVehicleEF	MH	12.61	14.36
tblVehicleEF	MH	578.24	587.55
tblVehicleEF	MH	32.21	33.59
tblVehicleEF	MH	2.0580e-003	2.0540e-003
tblVehicleEF	MH	1.66	1.87
tblVehicleEF	MH	1.20	1.29
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.3990e-003	8.4010e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.5000e-003	1.9550e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.3270e-003	1.7030e-003
tblVehicleEF	MH	1.41	1.62
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.36	0.41
tblVehicleEF	MH	0.12	0.15
tblVehicleEF	MH	2.32	2.57
tblVehicleEF	MH	0.74	0.88
tblVehicleEF	MH	6.1060e-003	6.1310e-003
tblVehicleEF	MH	5.6000e-004	6.0100e-004
tblVehicleEF	MH	1.41	1.62
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.36	0.41
tblVehicleEF	MH	0.14	0.18
tblVehicleEF	MH	2.32	2.57
tblVehicleEF	MH	0.80	0.94

tblVehicleEF	MHD	8.2170e-003	8.7450e-003
tblVehicleEF	MHD	3.4250e-003	3.9360e-003
tblVehicleEF	MHD	1.86	1.90
tblVehicleEF	MHD	1.42	1.74
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tblVehicleEF	MHD	841.36	857.48
tblVehicleEF	MHD	58.04	61.87
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tblVehicleEF	MHD	6.60	6.98
tblVehicleEF	MHD	2.89	3.35
tblVehicleEF	MHD	2.12	2.29
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.10	0.10
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.08	0.10
tblVehicleEF	MHD	3.4720e-003	4.5650e-003
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	2.6740e-003	2.6780e-003
tblVehicleEF	MHD	0.08	0.09
tblVehicleEF	MHD	2.8940e-003	3.7500e-003
tblVehicleEF	MHD	8.1560e-003	9.7400e-003
tblVehicleEF	MHD	0.20	0.25
tblVehicleEF	MHD	0.18	0.19
tblVehicleEF	MHD	3.8230e-003	4.5030e-003
tblVehicleEF	MHD	0.11	0.13
tblVehicleEF	MHD	0.87	1.03

tblVehicleEF	MHD	1.44	1.71
tblVehicleEF	MHD	5.9630e-003	5.9260e-003
tblVehicleEF	MHD	8.5480e-003	8.5790e-003
tblVehicleEF	MHD	9.5600e-004	1.0350e-003
tblVehicleEF	MHD	8.1560e-003	9.7400e-003
tblVehicleEF	MHD	0.20	0.25
tblVehicleEF	MHD	0.20	0.21
tblVehicleEF	MHD	3.8230e-003	4.5030e-003
tblVehicleEF	MHD	0.13	0.15
tblVehicleEF	MHD	0.87	1.03
tblVehicleEF	MHD	1.55	1.83
tblVehicleEF	MHD	7.7440e-003	8.2410e-003
tblVehicleEF	MHD	3.4250e-003	3.9360e-003
tblVehicleEF	MHD	1.35	1.38
tblVehicleEF	MHD	1.48	1.81
tblVehicleEF	MHD	17.63	20.20
tblVehicleEF	MHD	629.00	634.97
tblVehicleEF	MHD	841.36	857.48
tblVehicleEF	MHD	58.04	61.87
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.81	7.20
tblVehicleEF	MHD	2.59	3.01
tblVehicleEF	MHD	2.08	2.25
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	0.10	0.10
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.08	0.10
tblVehicleEF	MHD	3.4720e-003	4.5650e-003

tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	2.6740e-003	2.6780e-003
tblVehicleEF	MHD	0.08	0.09
tblVehicleEF	MHD	2.8940e-003	3.7500e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.25	0.32
tblVehicleEF	MHD	0.17	0.18
tblVehicleEF	MHD	6.2270e-003	7.3600e-003
tblVehicleEF	MHD	0.11	0.13
tblVehicleEF	MHD	0.90	1.07
tblVehicleEF	MHD	1.36	1.61
tblVehicleEF	MHD	6.3170e-003	6.2780e-003
tblVehicleEF	MHD	8.5480e-003	8.5800e-003
tblVehicleEF	MHD	9.3000e-004	1.0080e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.25	0.32
tblVehicleEF	MHD	0.19	0.20
tblVehicleEF	MHD	6.2270e-003	7.3600e-003
tblVehicleEF	MHD	0.13	0.15
tblVehicleEF	MHD	0.90	1.07
tblVehicleEF	MHD	1.46	1.73
tblVehicleEF	MHD	8.8710e-003	9.4400e-003
tblVehicleEF	MHD	3.4250e-003	3.9360e-003
tblVehicleEF	MHD	2.56	2.61
tblVehicleEF	MHD	1.40	1.72
tblVehicleEF	MHD	23.67	26.56
tblVehicleEF	MHD	545.01	550.19

tblVehicleEF	MHD	841.36	857.48
tblVehicleEF	MHD	58.04	61.87
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.31	6.67
tblVehicleEF	MHD	2.93	3.40
tblVehicleEF	MHD	2.23	2.41
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	0.10	0.10
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.08	0.10
tblVehicleEF	MHD	3.4720e-003	4.5650e-003
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	2.6740e-003	2.6780e-003
tblVehicleEF	MHD	0.08	0.09
tblVehicleEF	MHD	2.8940e-003	3.7500e-003
tblVehicleEF	MHD	3.5420e-003	4.2210e-003
tblVehicleEF	MHD	0.19	0.25
tblVehicleEF	MHD	0.19	0.20
tblVehicleEF	MHD	1.2300e-003	1.4290e-003
tblVehicleEF	MHD	0.11	0.13
tblVehicleEF	MHD	0.91	1.07
tblVehicleEF	MHD	1.70	2.02
tblVehicleEF	MHD	5.4730e-003	5.4390e-003
tblVehicleEF	MHD	8.5470e-003	8.5790e-003
tblVehicleEF	MHD	1.0350e-003	1.1210e-003
tblVehicleEF	MHD	3.5420e-003	4.2210e-003
tblVehicleEF	MHD	0.19	0.25

tblVehicleEF	MHD	0.22	0.23
tblVehicleEF	MHD	1.2300e-003	1.4290e-003
tblVehicleEF	MHD	0.13	0.15
tblVehicleEF	MHD	0.91	1.07
tblVehicleEF	MHD	1.82	2.16
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	1.7570e-003	2.0040e-003
tblVehicleEF	OBUS	2.37	2.36
tblVehicleEF	OBUS	1.76	2.09
tblVehicleEF	OBUS	12.97	14.29
tblVehicleEF	OBUS	563.74	571.35
tblVehicleEF	OBUS	926.08	947.54
tblVehicleEF	OBUS	35.14	36.47
tblVehicleEF	OBUS	1.8600e-003	1.8690e-003
tblVehicleEF	OBUS	5.55	5.94
tblVehicleEF	OBUS	3.23	3.78
tblVehicleEF	OBUS	2.01	2.15
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.5890e-003	2.0050e-003
tblVehicleEF	OBUS	9.6700e-003	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.5360e-003	2.5430e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.4430e-003	1.7870e-003
tblVehicleEF	OBUS	3.4490e-003	3.9110e-003

tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.40	0.41
tblVehicleEF	OBUS	1.2760e-003	1.4280e-003
tblVehicleEF	OBUS	0.11	0.13
tblVehicleEF	OBUS	0.66	0.73
tblVehicleEF	OBUS	0.93	1.05
tblVehicleEF	OBUS	5.6610e-003	5.6490e-003
tblVehicleEF	OBUS	9.4380e-003	9.5090e-003
tblVehicleEF	OBUS	6.0200e-004	6.3500e-004
tblVehicleEF	OBUS	3.4490e-003	3.9110e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.46	0.47
tblVehicleEF	OBUS	1.2760e-003	1.4280e-003
tblVehicleEF	OBUS	0.13	0.15
tblVehicleEF	OBUS	0.66	0.73
tblVehicleEF	OBUS	1.00	1.12
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	1.7570e-003	2.0040e-003
tblVehicleEF	OBUS	1.72	1.72
tblVehicleEF	OBUS	1.79	2.12
tblVehicleEF	OBUS	11.62	12.86
tblVehicleEF	OBUS	597.23	605.30
tblVehicleEF	OBUS	926.08	947.54
tblVehicleEF	OBUS	35.14	36.47
tblVehicleEF	OBUS	1.8600e-003	1.8690e-003
tblVehicleEF	OBUS	5.73	6.13
tblVehicleEF	OBUS	2.89	3.39
tblVehicleEF	OBUS	1.97	2.11

tblVehicleEF	OBUS	8.8610e-003	0.02
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.5890e-003	2.0050e-003
tblVehicleEF	OBUS	8.1520e-003	0.01
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.5360e-003	2.5430e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.4430e-003	1.7870e-003
tblVehicleEF	OBUS	7.1970e-003	8.1900e-003
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	0.38	0.39
tblVehicleEF	OBUS	1.9550e-003	2.1990e-003
tblVehicleEF	OBUS	0.11	0.13
tblVehicleEF	OBUS	0.67	0.75
tblVehicleEF	OBUS	0.88	0.99
tblVehicleEF	OBUS	5.9980e-003	5.9840e-003
tblVehicleEF	OBUS	9.4390e-003	9.5090e-003
tblVehicleEF	OBUS	5.7900e-004	6.1000e-004
tblVehicleEF	OBUS	7.1970e-003	8.1900e-003
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	0.43	0.44
tblVehicleEF	OBUS	1.9550e-003	2.1990e-003
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tblVehicleEF	OBUS	0.67	0.75
tblVehicleEF	OBUS	0.94	1.05
tblVehicleEF	OBUS	0.02	0.02

tblVehicleEF	OBUS	1.7570e-003	2.0040e-003
tblVehicleEF	OBUS	3.26	3.26
tblVehicleEF	OBUS	1.72	2.04
tblVehicleEF	OBUS	16.54	18.14
tblVehicleEF	OBUS	517.49	524.48
tblVehicleEF	OBUS	926.08	947.54
tblVehicleEF	OBUS	35.14	36.47
tblVehicleEF	OBUS	1.8600e-003	1.8690e-003
tblVehicleEF	OBUS	5.30	5.67
tblVehicleEF	OBUS	3.29	3.85
tblVehicleEF	OBUS	2.11	2.26
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.5890e-003	2.0050e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.5360e-003	2.5430e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.4430e-003	1.7870e-003
tblVehicleEF	OBUS	1.6380e-003	1.8600e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.44	0.45
tblVehicleEF	OBUS	4.7700e-004	5.2800e-004
tblVehicleEF	OBUS	0.11	0.13
tblVehicleEF	OBUS	0.68	0.76
tblVehicleEF	OBUS	1.09	1.22

tblVehicleEF	OBUS	5.1970e-003	5.1850e-003
tblVehicleEF	OBUS	9.4380e-003	9.5080e-003
tblVehicleEF	OBUS	6.6300e-004	7.0100e-004
tblVehicleEF	OBUS	1.6380e-003	1.8600e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.50	0.51
tblVehicleEF	OBUS	4.7700e-004	5.2800e-004
tblVehicleEF	OBUS	0.13	0.15
tblVehicleEF	OBUS	0.68	0.76
tblVehicleEF	OBUS	1.16	1.31
tblVehicleEF	SBUS	5.4440e-003	5.4360e-003
tblVehicleEF	SBUS	4.8860e-003	4.8500e-003
tblVehicleEF	SBUS	1.07	1.06
tblVehicleEF	SBUS	21.12	25.20
tblVehicleEF	SBUS	42.56	47.50
tblVehicleEF	SBUS	562.55	570.82
tblVehicleEF	SBUS	949.40	967.22
tblVehicleEF	SBUS	137.71	144.59
tblVehicleEF	SBUS	6.7700e-004	6.8700e-004
tblVehicleEF	SBUS	8.05	8.09
tblVehicleEF	SBUS	6.11	6.32
tblVehicleEF	SBUS	2.23	2.33
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.36	0.37
tblVehicleEF	SBUS	9.8520e-003	9.8700e-003
tblVehicleEF	SBUS	0.06	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.02	0.02

tblVehicleEF	SBUS	0.16	0.16
tblVehicleEF	SBUS	2.4630e-003	2.4680e-003
tblVehicleEF	SBUS	0.05	0.05
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.12	0.13
tblVehicleEF	SBUS	0.48	0.58
tblVehicleEF	SBUS	0.12	0.12
tblVehicleEF	SBUS	0.04	0.04
tblVehicleEF	SBUS	1.49	1.69
tblVehicleEF	SBUS	2.81	3.24
tblVehicleEF	SBUS	3.85	4.43
tblVehicleEF	SBUS	5.6490e-003	5.6430e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.2370e-003	2.3820e-003
tblVehicleEF	SBUS	0.12	0.13
tblVehicleEF	SBUS	0.48	0.58
tblVehicleEF	SBUS	0.13	0.13
tblVehicleEF	SBUS	0.04	0.04
tblVehicleEF	SBUS	1.60	1.82
tblVehicleEF	SBUS	2.81	3.24
tblVehicleEF	SBUS	4.13	4.76
tblVehicleEF	SBUS	5.1310e-003	5.1230e-003
tblVehicleEF	SBUS	4.8860e-003	4.8500e-003
tblVehicleEF	SBUS	0.78	0.77
tblVehicleEF	SBUS	22.86	27.38
tblVehicleEF	SBUS	40.04	44.98
tblVehicleEF	SBUS	595.97	604.73
tblVehicleEF	SBUS	949.40	967.22

tblVehicleEF	SBUS	137.71	144.59
tblVehicleEF	SBUS	6.7700e-004	6.8700e-004
tblVehicleEF	SBUS	8.31	8.35
tblVehicleEF	SBUS	5.41	5.59
tblVehicleEF	SBUS	2.13	2.22
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.36	0.37
tblVehicleEF	SBUS	9.8520e-003	9.8700e-003
tblVehicleEF	SBUS	0.06	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.16	0.16
tblVehicleEF	SBUS	2.4630e-003	2.4680e-003
tblVehicleEF	SBUS	0.05	0.05
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.25	0.29
tblVehicleEF	SBUS	0.57	0.68
tblVehicleEF	SBUS	0.11	0.11
tblVehicleEF	SBUS	0.06	0.07
tblVehicleEF	SBUS	1.51	1.72
tblVehicleEF	SBUS	2.70	3.12
tblVehicleEF	SBUS	3.56	4.10
tblVehicleEF	SBUS	5.9850e-003	5.9790e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.1890e-003	2.3320e-003
tblVehicleEF	SBUS	0.25	0.29
tblVehicleEF	SBUS	0.57	0.68
tblVehicleEF	SBUS	0.13	0.13

tblVehicleEF	SBUS	0.06	0.07
tblVehicleEF	SBUS	1.63	1.85
tblVehicleEF	SBUS	2.70	3.12
tblVehicleEF	SBUS	3.82	4.40
tblVehicleEF	SBUS	5.8770e-003	5.8680e-003
tblVehicleEF	SBUS	4.8860e-003	4.8500e-003
tblVehicleEF	SBUS	1.47	1.46
tblVehicleEF	SBUS	21.42	25.67
tblVehicleEF	SBUS	50.99	56.44
tblVehicleEF	SBUS	516.39	523.99
tblVehicleEF	SBUS	949.40	967.22
tblVehicleEF	SBUS	137.71	144.59
tblVehicleEF	SBUS	6.7700e-004	6.8700e-004
tblVehicleEF	SBUS	7.69	7.73
tblVehicleEF	SBUS	6.26	6.48
tblVehicleEF	SBUS	2.43	2.54
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.36	0.37
tblVehicleEF	SBUS	9.8520e-003	9.8700e-003
tblVehicleEF	SBUS	0.06	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.16	0.16
tblVehicleEF	SBUS	2.4630e-003	2.4680e-003
tblVehicleEF	SBUS	0.05	0.05
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.05	0.06
tblVehicleEF	SBUS	0.48	0.58

tblVehicleEF	SBUS	0.13	0.13
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	1.50	1.72
tblVehicleEF	SBUS	3.23	3.73
tblVehicleEF	SBUS	4.64	5.36
tblVehicleEF	SBUS	5.1860e-003	5.1800e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.3950e-003	2.5520e-003
tblVehicleEF	SBUS	0.05	0.06
tblVehicleEF	SBUS	0.48	0.58
tblVehicleEF	SBUS	0.14	0.14
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	1.61	1.84
tblVehicleEF	SBUS	3.23	3.73
tblVehicleEF	SBUS	4.98	5.76
tblVehicleEF	UBUS	7.77	8.70
tblVehicleEF	UBUS	32.97	35.88
tblVehicleEF	UBUS	991.41	1,011.14
tblVehicleEF	UBUS	121.37	123.29
tblVehicleEF	UBUS	1.5100e-004	1.5200e-004
tblVehicleEF	UBUS	5.82	6.23
tblVehicleEF	UBUS	6.17	6.59
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	1.0030e-003	1.0840e-003
tblVehicleEF	UBUS	0.04	0.05
tblVehicleEF	UBUS	9.3000e-004	1.0060e-003
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	0.37	0.41

tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.57	0.64
tblVehicleEF	UBUS	2.18	2.31
tblVehicleEF	UBUS	3.17	3.36
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.8930e-003	1.9450e-003
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	0.37	0.41
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.64	0.71
tblVehicleEF	UBUS	2.18	2.31
tblVehicleEF	UBUS	3.38	3.59
tblVehicleEF	UBUS	7.88	8.82
tblVehicleEF	UBUS	30.01	32.66
tblVehicleEF	UBUS	991.41	1,011.14
tblVehicleEF	UBUS	121.37	123.29
tblVehicleEF	UBUS	1.5100e-004	1.5200e-004
tblVehicleEF	UBUS	5.07	5.42
tblVehicleEF	UBUS	6.01	6.42
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	1.0030e-003	1.0840e-003
tblVehicleEF	UBUS	0.04	0.05
tblVehicleEF	UBUS	9.3000e-004	1.0060e-003
tblVehicleEF	UBUS	0.07	0.08
tblVehicleEF	UBUS	0.46	0.51
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	0.58	0.65
tblVehicleEF	UBUS	2.23	2.36

tblVehicleEF	UBUS	3.00	3.18
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.8410e-003	1.8890e-003
tblVehicleEF	UBUS	0.07	0.08
tblVehicleEF	UBUS	0.46	0.51
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	0.64	0.72
tblVehicleEF	UBUS	2.23	2.36
tblVehicleEF	UBUS	3.20	3.40
tblVehicleEF	UBUS	7.58	8.48
tblVehicleEF	UBUS	39.84	43.36
tblVehicleEF	UBUS	991.41	1,011.14
tblVehicleEF	UBUS	121.37	123.29
tblVehicleEF	UBUS	1.5100e-004	1.5200e-004
tblVehicleEF	UBUS	5.98	6.41
tblVehicleEF	UBUS	6.53	6.98
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	1.0030e-003	1.0840e-003
tblVehicleEF	UBUS	0.04	0.05
tblVehicleEF	UBUS	9.3000e-004	1.0060e-003
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.37	0.40
tblVehicleEF	UBUS	6.5610e-003	7.0430e-003
tblVehicleEF	UBUS	0.56	0.62
tblVehicleEF	UBUS	2.44	2.58
tblVehicleEF	UBUS	3.55	3.76
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	2.0130e-003	2.0750e-003

tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.37	0.40
tblVehicleEF	UBUS	6.5610e-003	7.0430e-003
tblVehicleEF	UBUS	0.62	0.69
tblVehicleEF	UBUS	2.44	2.58
tblVehicleEF	UBUS	3.79	4.01
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0548	0.5650	0.3192	8.6000e-004	0.5634	0.0265	0.5900	0.0567	0.0252	0.0819	0.0000	77.1427	77.1427	0.0138	0.0000	77.4318
Total	**0.0548**	**0.5650**	**0.3192**	**8.6000e-004**	**0.5634**	**0.0265**	**0.5900**	**0.0567**	**0.0252**	**0.0819**	**0.0000**	**77.1427**	**77.1427**	**0.0138**	**0.0000**	**77.4318**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0548	0.5650	0.3192	8.6000e-004	0.4458	0.0265	0.4723	0.0449	0.0252	0.0701	0.0000	77.1426	77.1426	0.0138	0.0000	77.4317
Total	**0.0548**	**0.5650**	**0.3192**	**8.6000e-004**	**0.4458**	**0.0265**	**0.4723**	**0.0449**	**0.0252**	**0.0701**	**0.0000**	**77.1426**	**77.1426**	**0.0138**	**0.0000**	**77.4317**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**20.88**	**0.00**	**19.94**	**20.80**	**0.00**	**14.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Plowed conduit installation	Trenching	1/12/2016	1/20/2016	5	7	
2	Bored installation	Trenching	1/21/2016	3/4/2016	5	32	
3	Node installation	Trenching	3/7/2016	3/11/2016	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Plowed conduit installation	Air Compressors	2	4.00	174	0.41
Plowed conduit installation	Crawler Tractors	2	8.00	97	0.37
Bored installation	Air Compressors	2	4.00	78	0.48
Bored installation	Bore/Drill Rigs	2	8.00	205	0.50
Bored installation	Pumps	2	8.00	208	0.43
Bored installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Node installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Plowed conduit installation	4	10.00	8.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Bored installation	8	20.00	6.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Node installation	1	6.00	6.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Plowed conduit installation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1500e-003	0.0504	0.0327	5.0000e-005		3.7100e-003	3.7100e-003		3.4900e-003	3.4900e-003	0.0000	4.3255	4.3255	8.1000e-004	0.0000	4.3425
Total	**6.1500e-003**	**0.0504**	**0.0327**	**5.0000e-005**		**3.7100e-003**	**3.7100e-003**		**3.4900e-003**	**3.4900e-003**	**0.0000**	**4.3255**	**4.3255**	**8.1000e-004**	**0.0000**	**4.3425**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4000e-004	2.8600e-003	4.1100e-003	1.0000e-005	0.0357	6.0000e-005	0.0357	3.6000e-003	6.0000e-005	3.6500e-003	0.0000	0.6400	0.6400	0.0000	0.0000	0.6401
Worker	1.9000e-004	2.3000e-004	2.0500e-003	0.0000	0.0365	0.0000	0.0366	3.6800e-003	0.0000	3.6800e-003	0.0000	0.1595	0.1595	1.0000e-005	0.0000	0.1598
Total	**5.3000e-004**	**3.0900e-003**	**6.1600e-003**	**1.0000e-005**	**0.0722**	**6.0000e-005**	**0.0723**	**7.2800e-003**	**6.0000e-005**	**7.3300e-003**	**0.0000**	**0.7996**	**0.7996**	**1.0000e-005**	**0.0000**	**0.8000**

3.2 Plowed conduit installation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1500e-003	0.0504	0.0327	5.0000e-005		3.7100e-003	3.7100e-003		3.4900e-003	3.4900e-003	0.0000	4.3255	4.3255	8.1000e-004	0.0000	4.3425
Total	**6.1500e-003**	**0.0504**	**0.0327**	**5.0000e-005**		**3.7100e-003**	**3.7100e-003**		**3.4900e-003**	**3.4900e-003**	**0.0000**	**4.3255**	**4.3255**	**8.1000e-004**	**0.0000**	**4.3425**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4000e-004	2.8600e-003	4.1100e-003	1.0000e-005	0.0282	6.0000e-005	0.0283	2.8500e-003	6.0000e-005	2.9100e-003	0.0000	0.6400	0.6400	0.0000	0.0000	0.6401
Worker	1.9000e-004	2.3000e-004	2.0500e-003	0.0000	0.0289	0.0000	0.0289	2.9100e-003	0.0000	2.9100e-003	0.0000	0.1595	0.1595	1.0000e-005	0.0000	0.1598
Total	**5.3000e-004**	**3.0900e-003**	**6.1600e-003**	**1.0000e-005**	**0.0571**	**6.0000e-005**	**0.0572**	**5.7600e-003**	**6.0000e-005**	**5.8200e-003**	**0.0000**	**0.7996**	**0.7996**	**1.0000e-005**	**0.0000**	**0.8000**

3.3 Bored installation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0440	0.4899	0.2384	7.5000e-004		0.0219	0.0219		0.0209	0.0209	0.0000	67.2192	67.2192	0.0126	0.0000	67.4832
Total	**0.0440**	**0.4899**	**0.2384**	**7.5000e-004**		**0.0219**	**0.0219**		**0.0209**	**0.0209**	**0.0000**	**67.2192**	**67.2192**	**0.0126**	**0.0000**	**67.4832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	9.8000e-003	0.0141	2.0000e-005	0.1223	2.1000e-004	0.1225	0.0123	1.9000e-004	0.0125	0.0000	2.1944	2.1944	1.0000e-005	0.0000	2.1947
Worker	1.7800e-003	2.0800e-003	0.0188	2.0000e-005	0.3341	1.0000e-005	0.3341	0.0336	1.0000e-005	0.0336	0.0000	1.4586	1.4586	1.3000e-004	0.0000	1.4613
Total	**2.9300e-003**	**0.0119**	**0.0329**	**4.0000e-005**	**0.4564**	**2.2000e-004**	**0.4567**	**0.0460**	**2.0000e-004**	**0.0462**	**0.0000**	**3.6530**	**3.6530**	**1.4000e-004**	**0.0000**	**3.6560**

3.3 Bored installation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0440	0.4899	0.2384	7.5000e-004		0.0219	0.0219		0.0209	0.0209	0.0000	67.2191	67.2191	0.0126	0.0000	67.4831
Total	**0.0440**	**0.4899**	**0.2384**	**7.5000e-004**		**0.0219**	**0.0219**		**0.0209**	**0.0209**	**0.0000**	**67.2191**	**67.2191**	**0.0126**	**0.0000**	**67.4831**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	9.8000e-003	0.0141	2.0000e-005	0.0968	2.1000e-004	0.0970	9.7800e-003	1.9000e-004	9.9700e-003	0.0000	2.1944	2.1944	1.0000e-005	0.0000	2.1947
Worker	1.7800e-003	2.0800e-003	0.0188	2.0000e-005	0.2643	1.0000e-005	0.2643	0.0266	1.0000e-005	0.0266	0.0000	1.4586	1.4586	1.3000e-004	0.0000	1.4613
Total	**2.9300e-003**	**0.0119**	**0.0329**	**4.0000e-005**	**0.3611**	**2.2000e-004**	**0.3613**	**0.0364**	**2.0000e-004**	**0.0366**	**0.0000**	**3.6530**	**3.6530**	**1.4000e-004**	**0.0000**	**3.6560**

3.4 Node installation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5000e-004	8.1400e-003	6.0300e-003	1.0000e-005		6.3000e-004	6.3000e-004		5.8000e-004	5.8000e-004	0.0000	0.7341	0.7341	2.2000e-004	0.0000	0.7387
Total	**8.5000e-004**	**8.1400e-003**	**6.0300e-003**	**1.0000e-005**		**6.3000e-004**	**6.3000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**0.7341**	**0.7341**	**2.2000e-004**	**0.0000**	**0.7387**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-004	1.5300e-003	2.2000e-003	0.0000	0.0191	3.0000e-005	0.0191	1.9300e-003	3.0000e-005	1.9600e-003	0.0000	0.3429	0.3429	0.0000	0.0000	0.3429
Worker	8.0000e-005	1.0000e-004	8.8000e-004	0.0000	0.0157	0.0000	0.0157	1.5800e-003	0.0000	1.5800e-003	0.0000	0.0684	0.0684	1.0000e-005	0.0000	0.0685
Total	**2.6000e-004**	**1.6300e-003**	**3.0800e-003**	**0.0000**	**0.0348**	**3.0000e-005**	**0.0348**	**3.5100e-003**	**3.0000e-005**	**3.5400e-003**	**0.0000**	**0.4113**	**0.4113**	**1.0000e-005**	**0.0000**	**0.4114**

3.4 Node installation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5000e-004	8.1400e-003	6.0300e-003	1.0000e-005		6.3000e-004	6.3000e-004		5.8000e-004	5.8000e-004	0.0000	0.7341	0.7341	2.2000e-004	0.0000	0.7387
Total	**8.5000e-004**	**8.1400e-003**	**6.0300e-003**	**1.0000e-005**		**6.3000e-004**	**6.3000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**0.7341**	**0.7341**	**2.2000e-004**	**0.0000**	**0.7387**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-004	1.5300e-003	2.2000e-003	0.0000	0.0151	3.0000e-005	0.0152	1.5300e-003	3.0000e-005	1.5600e-003	0.0000	0.3429	0.3429	0.0000	0.0000	0.3429
Worker	8.0000e-005	1.0000e-004	8.8000e-004	0.0000	0.0124	0.0000	0.0124	1.2500e-003	0.0000	1.2500e-003	0.0000	0.0684	0.0684	1.0000e-005	0.0000	0.0685
Total	**2.6000e-004**	**1.6300e-003**	**3.0800e-003**	**0.0000**	**0.0275**	**3.0000e-005**	**0.0276**	**2.7800e-003**	**3.0000e-005**	**2.8100e-003**	**0.0000**	**0.4113**	**0.4113**	**1.0000e-005**	**0.0000**	**0.4114**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.452463	0.070907	0.165532	0.163183	0.043777	0.005595	0.012812	0.078576	0.001869	0.000152	0.002393	0.000687	0.002054

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

CPUC Winterhaven Broadband

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2017
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	1270.9	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Durations determined based on an assumed 2 miles/day for plow installation, 400 ft/day for bored installation, and 2 nodes/day.

Off-road Equipment - Bored installation has 2 pumps, 2 air compressors, 2 drill rigs, and 2 backhoes.

Off-road Equipment - Node construction will only have 1 backhoe.

Off-road Equipment - Plowed installation has 2 air compressors, and 2 crawler tractors.

Trips and VMT - Vendor trips include equipment delivery and water trucks for dust control. Workers in Winterhaven, vendors in Yuma. Equipment delivery rate=2/day for plowed and 1/day for bored installations. Node vaults = 1/day. Water truck = twice/day during each phase.

On-road Fugitive Dust - Approximately 10% of the roads in the project area are not paved.

Vehicle Trips - Assumed no workers.

Road Dust - Updated % road paved to be 90%.

Construction Off-road Equipment Mitigation - Assume cleaning of paved roads will provide a 10% reduction in PM.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	10
tblConstructionPhase	PhaseStartDate	3/5/2016	3/7/2016
tblOffRoadEquipment	HorsePower	78.00	174.00
tblOffRoadEquipment	HorsePower	208.00	97.00
tblOffRoadEquipment	HorsePower	84.00	208.00
tblOffRoadEquipment	LoadFactor	0.48	0.41
tblOffRoadEquipment	LoadFactor	0.43	0.37
tblOffRoadEquipment	LoadFactor	0.74	0.43
tblOnRoadDust	VendorPercentPave	50.00	90.00
tblOnRoadDust	VendorPercentPave	50.00	90.00
tblOnRoadDust	VendorPercentPave	50.00	90.00
tblOnRoadDust	WorkerPercentPave	50.00	90.00
tblOnRoadDust	WorkerPercentPave	50.00	90.00
tblOnRoadDust	WorkerPercentPave	50.00	90.00
tblProjectCharacteristics	OperationalYear	2014	2017

tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripLength	11.90	8.90
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripLength	10.20	7.30
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	7.1940e-003	7.6650e-003
tblVehicleEF	HHD	3.02	2.95
tblVehicleEF	HHD	1.71	1.75
tblVehicleEF	HHD	70.59	75.37
tblVehicleEF	HHD	557.88	566.80
tblVehicleEF	HHD	1,511.58	1,538.63
tblVehicleEF	HHD	61.94	65.70
tblVehicleEF	HHD	0.08	0.08
tblVehicleEF	HHD	4.29	4.62
tblVehicleEF	HHD	4.30	4.86
tblVehicleEF	HHD	4.71	4.85
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.10	0.11

tblVehicleEF	HHD	4.0230e-003	4.9800e-003
tblVehicleEF	HHD	9.8530e-003	0.01
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8370e-003	8.8390e-003
tblVehicleEF	HHD	0.09	0.11
tblVehicleEF	HHD	3.1900e-003	3.9270e-003
tblVehicleEF	HHD	6.8240e-003	8.0590e-003
tblVehicleEF	HHD	0.20	0.24
tblVehicleEF	HHD	0.54	0.53
tblVehicleEF	HHD	3.2800e-003	3.8220e-003
tblVehicleEF	HHD	0.16	0.17
tblVehicleEF	HHD	0.80	0.95
tblVehicleEF	HHD	2.83	3.23
tblVehicleEF	HHD	5.6030e-003	5.6040e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.8480e-003	1.9650e-003
tblVehicleEF	HHD	6.8240e-003	8.0590e-003
tblVehicleEF	HHD	0.20	0.24
tblVehicleEF	HHD	0.61	0.60
tblVehicleEF	HHD	3.2800e-003	3.8220e-003
tblVehicleEF	HHD	0.19	0.20
tblVehicleEF	HHD	0.80	0.95
tblVehicleEF	HHD	3.04	3.47
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	7.1940e-003	7.6650e-003
tblVehicleEF	HHD	2.20	2.14
tblVehicleEF	HHD	1.72	1.76
tblVehicleEF	HHD	67.18	72.53

tblVehicleEF	HHD	591.03	600.47
tblVehicleEF	HHD	1,511.58	1,538.63
tblVehicleEF	HHD	61.94	65.70
tblVehicleEF	HHD	0.08	0.08
tblVehicleEF	HHD	4.43	4.77
tblVehicleEF	HHD	3.91	4.42
tblVehicleEF	HHD	4.62	4.75
tblVehicleEF	HHD	9.0280e-003	0.01
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.10	0.11
tblVehicleEF	HHD	4.0230e-003	4.9800e-003
tblVehicleEF	HHD	8.3060e-003	9.9260e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8370e-003	8.8390e-003
tblVehicleEF	HHD	0.09	0.11
tblVehicleEF	HHD	3.1900e-003	3.9270e-003
tblVehicleEF	HHD	0.01	0.02
tblVehicleEF	HHD	0.25	0.30
tblVehicleEF	HHD	0.51	0.50
tblVehicleEF	HHD	5.2890e-003	6.1810e-003
tblVehicleEF	HHD	0.16	0.17
tblVehicleEF	HHD	0.84	0.99
tblVehicleEF	HHD	2.69	3.07
tblVehicleEF	HHD	5.9350e-003	5.9370e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.7900e-003	1.9150e-003
tblVehicleEF	HHD	0.01	0.02

tblVehicleEF	HHD	0.25	0.30
tblVehicleEF	HHD	0.58	0.57
tblVehicleEF	HHD	5.2890e-003	6.1810e-003
tblVehicleEF	HHD	0.19	0.20
tblVehicleEF	HHD	0.84	0.99
tblVehicleEF	HHD	2.88	3.30
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	7.1940e-003	7.6650e-003
tblVehicleEF	HHD	4.17	4.06
tblVehicleEF	HHD	1.69	1.73
tblVehicleEF	HHD	83.73	88.23
tblVehicleEF	HHD	512.11	520.30
tblVehicleEF	HHD	1,511.58	1,538.63
tblVehicleEF	HHD	61.94	65.70
tblVehicleEF	HHD	0.08	0.08
tblVehicleEF	HHD	4.10	4.42
tblVehicleEF	HHD	4.34	4.92
tblVehicleEF	HHD	4.95	5.09
tblVehicleEF	HHD	0.01	0.02
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.10	0.11
tblVehicleEF	HHD	4.0230e-003	4.9800e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8370e-003	8.8390e-003
tblVehicleEF	HHD	0.09	0.11
tblVehicleEF	HHD	3.1900e-003	3.9270e-003

tblVehicleEF	HHD	2.8910e-003	3.4130e-003
tblVehicleEF	HHD	0.20	0.24
tblVehicleEF	HHD	0.58	0.57
tblVehicleEF	HHD	1.0500e-003	1.2110e-003
tblVehicleEF	HHD	0.16	0.17
tblVehicleEF	HHD	0.82	0.97
tblVehicleEF	HHD	3.34	3.83
tblVehicleEF	HHD	5.1430e-003	5.1440e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	2.0710e-003	2.1860e-003
tblVehicleEF	HHD	2.8910e-003	3.4130e-003
tblVehicleEF	HHD	0.20	0.24
tblVehicleEF	HHD	0.66	0.65
tblVehicleEF	HHD	1.0500e-003	1.2110e-003
tblVehicleEF	HHD	0.19	0.20
tblVehicleEF	HHD	0.82	0.97
tblVehicleEF	HHD	3.59	4.11
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	2.47	2.63
tblVehicleEF	LDA	5.75	6.11
tblVehicleEF	LDA	246.08	257.62
tblVehicleEF	LDA	57.24	59.93
tblVehicleEF	LDA	0.45	0.45
tblVehicleEF	LDA	0.34	0.35
tblVehicleEF	LDA	0.30	0.32
tblVehicleEF	LDA	1.6070e-003	1.6480e-003
tblVehicleEF	LDA	3.5900e-003	3.5020e-003

tblVehicleEF	LDA	1.4800e-003	1.5120e-003
tblVehicleEF	LDA	3.3110e-003	3.2200e-003
tblVehicleEF	LDA	0.17	0.19
tblVehicleEF	LDA	0.18	0.19
tblVehicleEF	LDA	0.11	0.12
tblVehicleEF	LDA	0.11	0.12
tblVehicleEF	LDA	0.39	0.42
tblVehicleEF	LDA	0.52	0.55
tblVehicleEF	LDA	3.3100e-003	3.3130e-003
tblVehicleEF	LDA	8.3900e-004	8.4600e-004
tblVehicleEF	LDA	0.17	0.19
tblVehicleEF	LDA	0.18	0.19
tblVehicleEF	LDA	0.11	0.12
tblVehicleEF	LDA	0.13	0.14
tblVehicleEF	LDA	0.39	0.42
tblVehicleEF	LDA	0.56	0.59
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	2.82	3.00
tblVehicleEF	LDA	6.01	6.39
tblVehicleEF	LDA	252.47	264.31
tblVehicleEF	LDA	57.24	59.93
tblVehicleEF	LDA	0.45	0.45
tblVehicleEF	LDA	0.30	0.32
tblVehicleEF	LDA	0.30	0.33
tblVehicleEF	LDA	1.6070e-003	1.6480e-003
tblVehicleEF	LDA	3.5900e-003	3.5020e-003
tblVehicleEF	LDA	1.4800e-003	1.5120e-003

tblVehicleEF	LDA	3.3110e-003	3.2200e-003
tblVehicleEF	LDA	0.36	0.39
tblVehicleEF	LDA	0.26	0.28
tblVehicleEF	LDA	0.20	0.21
tblVehicleEF	LDA	0.12	0.13
tblVehicleEF	LDA	0.40	0.44
tblVehicleEF	LDA	0.52	0.56
tblVehicleEF	LDA	3.4020e-003	3.4050e-003
tblVehicleEF	LDA	8.4400e-004	8.5100e-004
tblVehicleEF	LDA	0.36	0.39
tblVehicleEF	LDA	0.26	0.28
tblVehicleEF	LDA	0.20	0.21
tblVehicleEF	LDA	0.15	0.16
tblVehicleEF	LDA	0.40	0.44
tblVehicleEF	LDA	0.56	0.59
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	2.12	2.26
tblVehicleEF	LDA	7.14	7.58
tblVehicleEF	LDA	232.04	242.93
tblVehicleEF	LDA	57.24	59.93
tblVehicleEF	LDA	0.45	0.45
tblVehicleEF	LDA	0.34	0.36
tblVehicleEF	LDA	0.32	0.35
tblVehicleEF	LDA	1.6070e-003	1.6480e-003
tblVehicleEF	LDA	3.5900e-003	3.5020e-003
tblVehicleEF	LDA	1.4800e-003	1.5120e-003
tblVehicleEF	LDA	3.3110e-003	3.2200e-003

tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.15	0.16
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.11
tblVehicleEF	LDA	0.43	0.46
tblVehicleEF	LDA	0.61	0.65
tblVehicleEF	LDA	3.1160e-003	3.1180e-003
tblVehicleEF	LDA	8.6400e-004	8.7200e-004
tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.15	0.16
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.12	0.13
tblVehicleEF	LDA	0.43	0.46
tblVehicleEF	LDA	0.65	0.70
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	3.24	3.76
tblVehicleEF	LDT1	6.12	6.93
tblVehicleEF	LDT1	290.71	303.32
tblVehicleEF	LDT1	67.84	70.85
tblVehicleEF	LDT1	0.07	0.07
tblVehicleEF	LDT1	0.36	0.41
tblVehicleEF	LDT1	0.37	0.41
tblVehicleEF	LDT1	2.9930e-003	3.2950e-003
tblVehicleEF	LDT1	5.4120e-003	5.7030e-003
tblVehicleEF	LDT1	2.7510e-003	3.0140e-003
tblVehicleEF	LDT1	4.9820e-003	5.2270e-003
tblVehicleEF	LDT1	0.30	0.34

tblVehicleEF	LDT1	0.30	0.33
tblVehicleEF	LDT1	0.21	0.23
tblVehicleEF	LDT1	0.10	0.13
tblVehicleEF	LDT1	1.03	1.15
tblVehicleEF	LDT1	0.45	0.52
tblVehicleEF	LDT1	3.8320e-003	3.8380e-003
tblVehicleEF	LDT1	9.6000e-004	9.7600e-004
tblVehicleEF	LDT1	0.30	0.34
tblVehicleEF	LDT1	0.30	0.33
tblVehicleEF	LDT1	0.21	0.23
tblVehicleEF	LDT1	0.13	0.16
tblVehicleEF	LDT1	1.03	1.15
tblVehicleEF	LDT1	0.48	0.56
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	3.72	4.31
tblVehicleEF	LDT1	6.42	7.28
tblVehicleEF	LDT1	297.84	310.71
tblVehicleEF	LDT1	67.84	70.85
tblVehicleEF	LDT1	0.07	0.07
tblVehicleEF	LDT1	0.32	0.37
tblVehicleEF	LDT1	0.38	0.42
tblVehicleEF	LDT1	2.9930e-003	3.2950e-003
tblVehicleEF	LDT1	5.4120e-003	5.7030e-003
tblVehicleEF	LDT1	2.7510e-003	3.0140e-003
tblVehicleEF	LDT1	4.9820e-003	5.2270e-003
tblVehicleEF	LDT1	0.63	0.71
tblVehicleEF	LDT1	0.40	0.45

tblVehicleEF	LDT1	0.35	0.39
tblVehicleEF	LDT1	0.12	0.15
tblVehicleEF	LDT1	1.09	1.21
tblVehicleEF	LDT1	0.46	0.53
tblVehicleEF	LDT1	3.9350e-003	3.9410e-003
tblVehicleEF	LDT1	9.6500e-004	9.8100e-004
tblVehicleEF	LDT1	0.63	0.71
tblVehicleEF	LDT1	0.40	0.45
tblVehicleEF	LDT1	0.35	0.39
tblVehicleEF	LDT1	0.15	0.18
tblVehicleEF	LDT1	1.09	1.21
tblVehicleEF	LDT1	0.49	0.57
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	2.86	3.33
tblVehicleEF	LDT1	7.55	8.55
tblVehicleEF	LDT1	275.04	287.07
tblVehicleEF	LDT1	67.84	70.85
tblVehicleEF	LDT1	0.07	0.07
tblVehicleEF	LDT1	0.37	0.43
tblVehicleEF	LDT1	0.39	0.44
tblVehicleEF	LDT1	2.9930e-003	3.2950e-003
tblVehicleEF	LDT1	5.4120e-003	5.7030e-003
tblVehicleEF	LDT1	2.7510e-003	3.0140e-003
tblVehicleEF	LDT1	4.9820e-003	5.2270e-003
tblVehicleEF	LDT1	0.13	0.14
tblVehicleEF	LDT1	0.26	0.30
tblVehicleEF	LDT1	0.06	0.07

tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	1.15	1.28
tblVehicleEF	LDT1	0.53	0.62
tblVehicleEF	LDT1	3.6190e-003	3.6260e-003
tblVehicleEF	LDT1	9.8500e-004	1.0040e-003
tblVehicleEF	LDT1	0.13	0.14
tblVehicleEF	LDT1	0.26	0.30
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.12	0.14
tblVehicleEF	LDT1	1.15	1.28
tblVehicleEF	LDT1	0.57	0.66
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	1.89	2.17
tblVehicleEF	LDT2	3.90	4.45
tblVehicleEF	LDT2	362.13	375.84
tblVehicleEF	LDT2	83.72	86.86
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.24	0.28
tblVehicleEF	LDT2	0.39	0.45
tblVehicleEF	LDT2	1.6430e-003	1.7150e-003
tblVehicleEF	LDT2	3.4820e-003	3.4150e-003
tblVehicleEF	LDT2	1.5100e-003	1.5670e-003
tblVehicleEF	LDT2	3.2090e-003	3.1320e-003
tblVehicleEF	LDT2	0.15	0.17
tblVehicleEF	LDT2	0.18	0.19
tblVehicleEF	LDT2	0.11	0.12
tblVehicleEF	LDT2	0.05	0.06

tblVehicleEF	LDT2	0.59	0.64
tblVehicleEF	LDT2	0.25	0.30
tblVehicleEF	LDT2	4.4820e-003	4.4870e-003
tblVehicleEF	LDT2	1.0740e-003	1.0840e-003
tblVehicleEF	LDT2	0.15	0.17
tblVehicleEF	LDT2	0.18	0.19
tblVehicleEF	LDT2	0.11	0.12
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.59	0.64
tblVehicleEF	LDT2	0.27	0.32
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	2.16	2.48
tblVehicleEF	LDT2	4.07	4.65
tblVehicleEF	LDT2	371.33	385.36
tblVehicleEF	LDT2	83.72	86.86
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.21	0.25
tblVehicleEF	LDT2	0.40	0.46
tblVehicleEF	LDT2	1.6430e-003	1.7150e-003
tblVehicleEF	LDT2	3.4820e-003	3.4150e-003
tblVehicleEF	LDT2	1.5100e-003	1.5670e-003
tblVehicleEF	LDT2	3.2090e-003	3.1320e-003
tblVehicleEF	LDT2	0.32	0.35
tblVehicleEF	LDT2	0.23	0.26
tblVehicleEF	LDT2	0.19	0.21
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.61	0.67

tblVehicleEF	LDT2	0.26	0.30
tblVehicleEF	LDT2	4.6000e-003	4.6050e-003
tblVehicleEF	LDT2	1.0770e-003	1.0870e-003
tblVehicleEF	LDT2	0.32	0.35
tblVehicleEF	LDT2	0.23	0.26
tblVehicleEF	LDT2	0.19	0.21
tblVehicleEF	LDT2	0.08	0.09
tblVehicleEF	LDT2	0.61	0.67
tblVehicleEF	LDT2	0.27	0.32
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tblVehicleEF	LDT2	341.91	354.92
tblVehicleEF	LDT2	83.72	86.86
tblVehicleEF	LDT2	0.17	0.17
tblVehicleEF	LDT2	0.24	0.28
tblVehicleEF	LDT2	0.42	0.48
tblVehicleEF	LDT2	1.6430e-003	1.7150e-003
tblVehicleEF	LDT2	3.4820e-003	3.4150e-003
tblVehicleEF	LDT2	1.5100e-003	1.5670e-003
tblVehicleEF	LDT2	3.2090e-003	3.1320e-003
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.16	0.17
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.66	0.71
tblVehicleEF	LDT2	0.30	0.35

tblVehicleEF	LDT2	4.2270e-003	4.2330e-003
tblVehicleEF	LDT2	1.0900e-003	1.1020e-003
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.16	0.17
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.66	0.71
tblVehicleEF	LDT2	0.32	0.37
tblVehicleEF	LHD1	1.2690e-003	1.2700e-003
tblVehicleEF	LHD1	9.7930e-003	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	1.16	1.29
tblVehicleEF	LHD1	3.79	4.03
tblVehicleEF	LHD1	8.63	8.76
tblVehicleEF	LHD1	517.21	525.58
tblVehicleEF	LHD1	35.27	35.68
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	1.83	2.02
tblVehicleEF	LHD1	1.40	1.44
tblVehicleEF	LHD1	8.4600e-004	8.5500e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.1000e-004	8.9800e-004
tblVehicleEF	LHD1	7.7900e-004	7.8700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.2110e-003	9.8140e-003

tblVehicleEF	LHD1	7.5000e-004	8.3100e-004
tblVehicleEF	LHD1	4.4200e-003	4.6750e-003
tblVehicleEF	LHD1	0.07	0.07
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.1360e-003	2.2310e-003
tblVehicleEF	LHD1	0.08	0.09
tblVehicleEF	LHD1	0.42	0.44
tblVehicleEF	LHD1	0.40	0.42
tblVehicleEF	LHD1	5.3570e-003	5.3610e-003
tblVehicleEF	LHD1	4.4300e-004	4.4600e-004
tblVehicleEF	LHD1	4.4200e-003	4.6750e-003
tblVehicleEF	LHD1	0.07	0.07
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.1360e-003	2.2310e-003
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.42	0.44
tblVehicleEF	LHD1	0.42	0.45
tblVehicleEF	LHD1	1.2690e-003	1.2700e-003
tblVehicleEF	LHD1	9.7930e-003	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	1.18	1.31
tblVehicleEF	LHD1	3.38	3.60
tblVehicleEF	LHD1	8.63	8.76
tblVehicleEF	LHD1	517.21	525.58
tblVehicleEF	LHD1	35.27	35.68
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.08	0.08

tblVehicleEF	LHD1	1.64	1.81
tblVehicleEF	LHD1	1.38	1.41
tblVehicleEF	LHD1	8.4600e-004	8.5500e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.1000e-004	8.9800e-004
tblVehicleEF	LHD1	7.7900e-004	7.8700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.2110e-003	9.8140e-003
tblVehicleEF	LHD1	7.5000e-004	8.3100e-004
tblVehicleEF	LHD1	9.0780e-003	9.6080e-003
tblVehicleEF	LHD1	0.09	0.10
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	3.4560e-003	3.6360e-003
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	0.43	0.45
tblVehicleEF	LHD1	0.37	0.40
tblVehicleEF	LHD1	5.3570e-003	5.3620e-003
tblVehicleEF	LHD1	4.3500e-004	4.3800e-004
tblVehicleEF	LHD1	9.0780e-003	9.6080e-003
tblVehicleEF	LHD1	0.09	0.10
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	3.4560e-003	3.6360e-003
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.43	0.45
tblVehicleEF	LHD1	0.40	0.42
tblVehicleEF	LHD1	1.2690e-003	1.2700e-003
tblVehicleEF	LHD1	9.7930e-003	0.01

tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	1.13	1.26
tblVehicleEF	LHD1	4.82	5.14
tblVehicleEF	LHD1	8.63	8.76
tblVehicleEF	LHD1	517.21	525.58
tblVehicleEF	LHD1	35.27	35.68
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	1.87	2.06
tblVehicleEF	LHD1	1.47	1.51
tblVehicleEF	LHD1	8.4600e-004	8.5500e-004
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.1000e-004	8.9800e-004
tblVehicleEF	LHD1	7.7900e-004	7.8700e-004
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.2110e-003	9.8140e-003
tblVehicleEF	LHD1	7.5000e-004	8.3100e-004
tblVehicleEF	LHD1	1.9690e-003	2.0890e-003
tblVehicleEF	LHD1	0.06	0.07
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	7.3200e-004	7.5200e-004
tblVehicleEF	LHD1	0.08	0.09
tblVehicleEF	LHD1	0.44	0.46
tblVehicleEF	LHD1	0.46	0.49
tblVehicleEF	LHD1	5.3570e-003	5.3610e-003
tblVehicleEF	LHD1	4.6100e-004	4.6500e-004

tblVehicleEF	LHD1	1.9690e-003	2.0890e-003
tblVehicleEF	LHD1	0.06	0.07
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	7.3200e-004	7.5200e-004
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.44	0.46
tblVehicleEF	LHD1	0.49	0.52
tblVehicleEF	LHD2	9.1000e-004	9.1100e-004
tblVehicleEF	LHD2	7.0380e-003	7.8700e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.87	1.00
tblVehicleEF	LHD2	2.26	2.50
tblVehicleEF	LHD2	9.49	9.64
tblVehicleEF	LHD2	507.97	516.33
tblVehicleEF	LHD2	21.01	21.44
tblVehicleEF	LHD2	5.5930e-003	5.5950e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	2.42	2.67
tblVehicleEF	LHD2	0.79	0.82
tblVehicleEF	LHD2	1.4380e-003	1.4470e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.2100e-004	6.3200e-004
tblVehicleEF	LHD2	1.3230e-003	1.3310e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.6680e-003	2.6690e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.5800e-004	5.5000e-004
tblVehicleEF	LHD2	2.5270e-003	2.8110e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.2190e-003	1.3330e-003
tblVehicleEF	LHD2	0.08	0.09
tblVehicleEF	LHD2	0.25	0.27
tblVehicleEF	LHD2	0.22	0.24
tblVehicleEF	LHD2	5.1930e-003	5.1980e-003
tblVehicleEF	LHD2	2.6300e-004	2.6900e-004
tblVehicleEF	LHD2	2.5270e-003	2.8110e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.2190e-003	1.3330e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.25	0.27
tblVehicleEF	LHD2	0.24	0.26
tblVehicleEF	LHD2	9.1000e-004	9.1100e-004
tblVehicleEF	LHD2	7.0380e-003	7.8700e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.89	1.03
tblVehicleEF	LHD2	2.05	2.28
tblVehicleEF	LHD2	9.49	9.64
tblVehicleEF	LHD2	507.97	516.33
tblVehicleEF	LHD2	21.01	21.44
tblVehicleEF	LHD2	5.5930e-003	5.5950e-003

tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	2.19	2.42
tblVehicleEF	LHD2	0.78	0.81
tblVehicleEF	LHD2	1.4380e-003	1.4470e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.2100e-004	6.3200e-004
tblVehicleEF	LHD2	1.3230e-003	1.3310e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.6680e-003	2.6690e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.5800e-004	5.5000e-004
tblVehicleEF	LHD2	5.2230e-003	5.8260e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.9850e-003	2.1890e-003
tblVehicleEF	LHD2	0.08	0.09
tblVehicleEF	LHD2	0.26	0.28
tblVehicleEF	LHD2	0.21	0.23
tblVehicleEF	LHD2	5.1940e-003	5.1990e-003
tblVehicleEF	LHD2	2.6000e-004	2.6500e-004
tblVehicleEF	LHD2	5.2230e-003	5.8260e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.9850e-003	2.1890e-003
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.26	0.28

tblVehicleEF	LHD2	0.22	0.25
tblVehicleEF	LHD2	9.1000e-004	9.1100e-004
tblVehicleEF	LHD2	7.0380e-003	7.8700e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.86	0.99
tblVehicleEF	LHD2	2.81	3.10
tblVehicleEF	LHD2	9.49	9.64
tblVehicleEF	LHD2	507.97	516.33
tblVehicleEF	LHD2	21.01	21.44
tblVehicleEF	LHD2	5.5930e-003	5.5950e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	2.45	2.71
tblVehicleEF	LHD2	0.83	0.86
tblVehicleEF	LHD2	1.4380e-003	1.4470e-003
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.2100e-004	6.3200e-004
tblVehicleEF	LHD2	1.3230e-003	1.3310e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	2.6680e-003	2.6690e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.5800e-004	5.5000e-004
tblVehicleEF	LHD2	1.1090e-003	1.2360e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.9800e-004	4.2600e-004

tblVehicleEF	LHD2	0.08	0.09
tblVehicleEF	LHD2	0.26	0.28
tblVehicleEF	LHD2	0.25	0.28
tblVehicleEF	LHD2	5.1930e-003	5.1980e-003
tblVehicleEF	LHD2	2.7300e-004	2.7900e-004
tblVehicleEF	LHD2	1.1090e-003	1.2360e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.9800e-004	4.2600e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.26	0.28
tblVehicleEF	LHD2	0.27	0.30
tblVehicleEF	MCY	28.21	29.28
tblVehicleEF	MCY	9.55	9.53
tblVehicleEF	MCY	150.07	150.22
tblVehicleEF	MCY	41.75	43.15
tblVehicleEF	MCY	2.3740e-003	2.3930e-003
tblVehicleEF	MCY	1.24	1.25
tblVehicleEF	MCY	0.30	0.30
tblVehicleEF	MCY	4.4700e-004	5.1600e-004
tblVehicleEF	MCY	1.2100e-003	1.3910e-003
tblVehicleEF	MCY	3.6800e-004	4.2200e-004
tblVehicleEF	MCY	9.8500e-004	1.1200e-003
tblVehicleEF	MCY	2.15	2.17
tblVehicleEF	MCY	0.68	0.70
tblVehicleEF	MCY	1.36	1.38
tblVehicleEF	MCY	2.70	2.74
tblVehicleEF	MCY	1.45	1.54

tblVehicleEF	MCY	1.98	1.99
tblVehicleEF	MCY	2.1070e-003	2.1020e-003
tblVehicleEF	MCY	6.5200e-004	6.5900e-004
tblVehicleEF	MCY	2.15	2.17
tblVehicleEF	MCY	0.68	0.70
tblVehicleEF	MCY	1.36	1.38
tblVehicleEF	MCY	2.96	2.99
tblVehicleEF	MCY	1.45	1.54
tblVehicleEF	MCY	2.12	2.14
tblVehicleEF	MCY	31.32	32.54
tblVehicleEF	MCY	9.34	9.36
tblVehicleEF	MCY	150.07	150.22
tblVehicleEF	MCY	41.75	43.15
tblVehicleEF	MCY	2.3740e-003	2.3930e-003
tblVehicleEF	MCY	1.01	1.02
tblVehicleEF	MCY	0.29	0.29
tblVehicleEF	MCY	4.4700e-004	5.1600e-004
tblVehicleEF	MCY	1.2100e-003	1.3910e-003
tblVehicleEF	MCY	3.6800e-004	4.2200e-004
tblVehicleEF	MCY	9.8500e-004	1.1200e-003
tblVehicleEF	MCY	4.48	4.54
tblVehicleEF	MCY	1.17	1.19
tblVehicleEF	MCY	2.56	2.58
tblVehicleEF	MCY	2.74	2.77
tblVehicleEF	MCY	1.52	1.61
tblVehicleEF	MCY	1.89	1.91
tblVehicleEF	MCY	2.1570e-003	2.1550e-003
tblVehicleEF	MCY	6.4500e-004	6.5400e-004

tblVehicleEF	MCY	4.48	4.54
tblVehicleEF	MCY	1.17	1.19
tblVehicleEF	MCY	2.56	2.58
tblVehicleEF	MCY	2.99	3.03
tblVehicleEF	MCY	1.52	1.61
tblVehicleEF	MCY	2.03	2.05
tblVehicleEF	MCY	28.43	29.53
tblVehicleEF	MCY	10.93	10.85
tblVehicleEF	MCY	150.07	150.22
tblVehicleEF	MCY	41.75	43.15
tblVehicleEF	MCY	2.3740e-003	2.3930e-003
tblVehicleEF	MCY	1.32	1.33
tblVehicleEF	MCY	0.32	0.32
tblVehicleEF	MCY	4.4700e-004	5.1600e-004
tblVehicleEF	MCY	1.2100e-003	1.3910e-003
tblVehicleEF	MCY	3.6800e-004	4.2200e-004
tblVehicleEF	MCY	9.8500e-004	1.1200e-003
tblVehicleEF	MCY	0.94	0.95
tblVehicleEF	MCY	0.50	0.52
tblVehicleEF	MCY	0.26	0.27
tblVehicleEF	MCY	2.78	2.82
tblVehicleEF	MCY	1.63	1.72
tblVehicleEF	MCY	2.29	2.31
tblVehicleEF	MCY	2.1130e-003	2.1090e-003
tblVehicleEF	MCY	6.8300e-004	6.9000e-004
tblVehicleEF	MCY	0.94	0.95
tblVehicleEF	MCY	0.50	0.52
tblVehicleEF	MCY	0.26	0.27

tblVehicleEF	MCY	3.03	3.08
tblVehicleEF	MCY	1.63	1.72
tblVehicleEF	MCY	2.46	2.48
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	2.36	2.59
tblVehicleEF	MDV	5.75	6.27
tblVehicleEF	MDV	476.77	493.22
tblVehicleEF	MDV	109.52	112.99
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.37	0.42
tblVehicleEF	MDV	0.64	0.71
tblVehicleEF	MDV	1.6430e-003	1.6670e-003
tblVehicleEF	MDV	3.4800e-003	3.3970e-003
tblVehicleEF	MDV	1.5180e-003	1.5390e-003
tblVehicleEF	MDV	3.2210e-003	3.1410e-003
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.22	0.23
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.76	0.77
tblVehicleEF	MDV	0.42	0.47
tblVehicleEF	MDV	5.7100e-003	5.7090e-003
tblVehicleEF	MDV	1.3760e-003	1.3830e-003
tblVehicleEF	MDV	0.17	0.18
tblVehicleEF	MDV	0.22	0.23
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.09	0.10

tblVehicleEF	MDV	0.76	0.77
tblVehicleEF	MDV	0.45	0.50
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	2.69	2.95
tblVehicleEF	MDV	5.99	6.54
tblVehicleEF	MDV	488.78	505.60
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tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.34	0.38
tblVehicleEF	MDV	0.65	0.72
tblVehicleEF	MDV	1.6430e-003	1.6670e-003
tblVehicleEF	MDV	3.4800e-003	3.3970e-003
tblVehicleEF	MDV	1.5180e-003	1.5390e-003
tblVehicleEF	MDV	3.2210e-003	3.1410e-003
tblVehicleEF	MDV	0.36	0.37
tblVehicleEF	MDV	0.29	0.30
tblVehicleEF	MDV	0.22	0.22
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.80	0.81
tblVehicleEF	MDV	0.43	0.47
tblVehicleEF	MDV	5.8600e-003	5.8580e-003
tblVehicleEF	MDV	1.3800e-003	1.3870e-003
tblVehicleEF	MDV	0.36	0.37
tblVehicleEF	MDV	0.29	0.30
tblVehicleEF	MDV	0.22	0.22
tblVehicleEF	MDV	0.10	0.11
tblVehicleEF	MDV	0.80	0.81

tblVehicleEF	MDV	0.45	0.50
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	2.05	2.25
tblVehicleEF	MDV	7.13	7.78
tblVehicleEF	MDV	450.37	465.99
tblVehicleEF	MDV	109.52	112.99
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.38	0.43
tblVehicleEF	MDV	0.69	0.76
tblVehicleEF	MDV	1.6430e-003	1.6670e-003
tblVehicleEF	MDV	3.4800e-003	3.3970e-003
tblVehicleEF	MDV	1.5180e-003	1.5390e-003
tblVehicleEF	MDV	3.2210e-003	3.1410e-003
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.20	0.20
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.85	0.86
tblVehicleEF	MDV	0.50	0.56
tblVehicleEF	MDV	5.3890e-003	5.3880e-003
tblVehicleEF	MDV	1.4000e-003	1.4090e-003
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.20	0.20
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.08	0.09
tblVehicleEF	MDV	0.85	0.86
tblVehicleEF	MDV	0.53	0.59

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tblVehicleEF	MH	9.62	10.99
tblVehicleEF	MH	578.24	587.55
tblVehicleEF	MH	32.21	33.59
tblVehicleEF	MH	2.0580e-003	2.0540e-003
tblVehicleEF	MH	1.59	1.79
tblVehicleEF	MH	1.14	1.23
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.3990e-003	8.4010e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.5000e-003	1.9550e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.3270e-003	1.7030e-003
tblVehicleEF	MH	2.83	3.26
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.90	1.03
tblVehicleEF	MH	0.12	0.15
tblVehicleEF	MH	2.24	2.48
tblVehicleEF	MH	0.61	0.72
tblVehicleEF	MH	6.1080e-003	6.1340e-003
tblVehicleEF	MH	5.0900e-004	5.4300e-004
tblVehicleEF	MH	2.83	3.26
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.90	1.03
tblVehicleEF	MH	0.15	0.19
tblVehicleEF	MH	2.24	2.48
tblVehicleEF	MH	0.65	0.77

tblVehicleEF	MH	5.03	6.62
tblVehicleEF	MH	8.51	9.76
tblVehicleEF	MH	578.24	587.55
tblVehicleEF	MH	32.21	33.59
tblVehicleEF	MH	2.0580e-003	2.0540e-003
tblVehicleEF	MH	1.36	1.53
tblVehicleEF	MH	1.12	1.20
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.3990e-003	8.4010e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.5000e-003	1.9550e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.3270e-003	1.7030e-003
tblVehicleEF	MH	5.90	6.80
tblVehicleEF	MH	0.14	0.16
tblVehicleEF	MH	1.37	1.58
tblVehicleEF	MH	0.12	0.16
tblVehicleEF	MH	2.27	2.51
tblVehicleEF	MH	0.56	0.66
tblVehicleEF	MH	6.1120e-003	6.1390e-003
tblVehicleEF	MH	4.9000e-004	5.2200e-004
tblVehicleEF	MH	5.90	6.80
tblVehicleEF	MH	0.14	0.16
tblVehicleEF	MH	1.37	1.58
tblVehicleEF	MH	0.15	0.19
tblVehicleEF	MH	2.27	2.51
tblVehicleEF	MH	0.60	0.71

tblVehicleEF	MH	4.67	6.13
tblVehicleEF	MH	12.61	14.36
tblVehicleEF	MH	578.24	587.55
tblVehicleEF	MH	32.21	33.59
tblVehicleEF	MH	2.0580e-003	2.0540e-003
tblVehicleEF	MH	1.66	1.87
tblVehicleEF	MH	1.20	1.29
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	8.3990e-003	8.4010e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.5000e-003	1.9550e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.3270e-003	1.7030e-003
tblVehicleEF	MH	1.41	1.62
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.36	0.41
tblVehicleEF	MH	0.12	0.15
tblVehicleEF	MH	2.32	2.57
tblVehicleEF	MH	0.74	0.88
tblVehicleEF	MH	6.1060e-003	6.1310e-003
tblVehicleEF	MH	5.6000e-004	6.0100e-004
tblVehicleEF	MH	1.41	1.62
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.36	0.41
tblVehicleEF	MH	0.14	0.18
tblVehicleEF	MH	2.32	2.57
tblVehicleEF	MH	0.80	0.94

tblVehicleEF	MHD	8.2170e-003	8.7450e-003
tblVehicleEF	MHD	3.4250e-003	3.9360e-003
tblVehicleEF	MHD	1.86	1.90
tblVehicleEF	MHD	1.42	1.74
tblVehicleEF	MHD	19.14	21.71
tblVehicleEF	MHD	593.73	599.36
tblVehicleEF	MHD	841.36	857.48
tblVehicleEF	MHD	58.04	61.87
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.60	6.98
tblVehicleEF	MHD	2.89	3.35
tblVehicleEF	MHD	2.12	2.29
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.10	0.10
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.08	0.10
tblVehicleEF	MHD	3.4720e-003	4.5650e-003
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	2.6740e-003	2.6780e-003
tblVehicleEF	MHD	0.08	0.09
tblVehicleEF	MHD	2.8940e-003	3.7500e-003
tblVehicleEF	MHD	8.1560e-003	9.7400e-003
tblVehicleEF	MHD	0.20	0.25
tblVehicleEF	MHD	0.18	0.19
tblVehicleEF	MHD	3.8230e-003	4.5030e-003
tblVehicleEF	MHD	0.11	0.13
tblVehicleEF	MHD	0.87	1.03

tblVehicleEF	MHD	1.44	1.71
tblVehicleEF	MHD	5.9630e-003	5.9260e-003
tblVehicleEF	MHD	8.5480e-003	8.5790e-003
tblVehicleEF	MHD	9.5600e-004	1.0350e-003
tblVehicleEF	MHD	8.1560e-003	9.7400e-003
tblVehicleEF	MHD	0.20	0.25
tblVehicleEF	MHD	0.20	0.21
tblVehicleEF	MHD	3.8230e-003	4.5030e-003
tblVehicleEF	MHD	0.13	0.15
tblVehicleEF	MHD	0.87	1.03
tblVehicleEF	MHD	1.55	1.83
tblVehicleEF	MHD	7.7440e-003	8.2410e-003
tblVehicleEF	MHD	3.4250e-003	3.9360e-003
tblVehicleEF	MHD	1.35	1.38
tblVehicleEF	MHD	1.48	1.81
tblVehicleEF	MHD	17.63	20.20
tblVehicleEF	MHD	629.00	634.97
tblVehicleEF	MHD	841.36	857.48
tblVehicleEF	MHD	58.04	61.87
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.81	7.20
tblVehicleEF	MHD	2.59	3.01
tblVehicleEF	MHD	2.08	2.25
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	0.10	0.10
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.08	0.10
tblVehicleEF	MHD	3.4720e-003	4.5650e-003

tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	2.6740e-003	2.6780e-003
tblVehicleEF	MHD	0.08	0.09
tblVehicleEF	MHD	2.8940e-003	3.7500e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.25	0.32
tblVehicleEF	MHD	0.17	0.18
tblVehicleEF	MHD	6.2270e-003	7.3600e-003
tblVehicleEF	MHD	0.11	0.13
tblVehicleEF	MHD	0.90	1.07
tblVehicleEF	MHD	1.36	1.61
tblVehicleEF	MHD	6.3170e-003	6.2780e-003
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tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.25	0.32
tblVehicleEF	MHD	0.19	0.20
tblVehicleEF	MHD	6.2270e-003	7.3600e-003
tblVehicleEF	MHD	0.13	0.15
tblVehicleEF	MHD	0.90	1.07
tblVehicleEF	MHD	1.46	1.73
tblVehicleEF	MHD	8.8710e-003	9.4400e-003
tblVehicleEF	MHD	3.4250e-003	3.9360e-003
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tblVehicleEF	MHD	1.40	1.72
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tblVehicleEF	MHD	841.36	857.48
tblVehicleEF	MHD	58.04	61.87
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.31	6.67
tblVehicleEF	MHD	2.93	3.40
tblVehicleEF	MHD	2.23	2.41
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	0.10	0.10
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.08	0.10
tblVehicleEF	MHD	3.4720e-003	4.5650e-003
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	2.6740e-003	2.6780e-003
tblVehicleEF	MHD	0.08	0.09
tblVehicleEF	MHD	2.8940e-003	3.7500e-003
tblVehicleEF	MHD	3.5420e-003	4.2210e-003
tblVehicleEF	MHD	0.19	0.25
tblVehicleEF	MHD	0.19	0.20
tblVehicleEF	MHD	1.2300e-003	1.4290e-003
tblVehicleEF	MHD	0.11	0.13
tblVehicleEF	MHD	0.91	1.07
tblVehicleEF	MHD	1.70	2.02
tblVehicleEF	MHD	5.4730e-003	5.4390e-003
tblVehicleEF	MHD	8.5470e-003	8.5790e-003
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tblVehicleEF	MHD	3.5420e-003	4.2210e-003
tblVehicleEF	MHD	0.19	0.25

tblVehicleEF	MHD	0.22	0.23
tblVehicleEF	MHD	1.2300e-003	1.4290e-003
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tblVehicleEF	MHD	0.91	1.07
tblVehicleEF	MHD	1.82	2.16
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	1.7570e-003	2.0040e-003
tblVehicleEF	OBUS	2.37	2.36
tblVehicleEF	OBUS	1.76	2.09
tblVehicleEF	OBUS	12.97	14.29
tblVehicleEF	OBUS	563.74	571.35
tblVehicleEF	OBUS	926.08	947.54
tblVehicleEF	OBUS	35.14	36.47
tblVehicleEF	OBUS	1.8600e-003	1.8690e-003
tblVehicleEF	OBUS	5.55	5.94
tblVehicleEF	OBUS	3.23	3.78
tblVehicleEF	OBUS	2.01	2.15
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.5890e-003	2.0050e-003
tblVehicleEF	OBUS	9.6700e-003	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.5360e-003	2.5430e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.4430e-003	1.7870e-003
tblVehicleEF	OBUS	3.4490e-003	3.9110e-003

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tblVehicleEF	OBUS	0.40	0.41
tblVehicleEF	OBUS	1.2760e-003	1.4280e-003
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tblVehicleEF	OBUS	0.66	0.73
tblVehicleEF	OBUS	0.93	1.05
tblVehicleEF	OBUS	5.6610e-003	5.6490e-003
tblVehicleEF	OBUS	9.4380e-003	9.5090e-003
tblVehicleEF	OBUS	6.0200e-004	6.3500e-004
tblVehicleEF	OBUS	3.4490e-003	3.9110e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.46	0.47
tblVehicleEF	OBUS	1.2760e-003	1.4280e-003
tblVehicleEF	OBUS	0.13	0.15
tblVehicleEF	OBUS	0.66	0.73
tblVehicleEF	OBUS	1.00	1.12
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	1.7570e-003	2.0040e-003
tblVehicleEF	OBUS	1.72	1.72
tblVehicleEF	OBUS	1.79	2.12
tblVehicleEF	OBUS	11.62	12.86
tblVehicleEF	OBUS	597.23	605.30
tblVehicleEF	OBUS	926.08	947.54
tblVehicleEF	OBUS	35.14	36.47
tblVehicleEF	OBUS	1.8600e-003	1.8690e-003
tblVehicleEF	OBUS	5.73	6.13
tblVehicleEF	OBUS	2.89	3.39
tblVehicleEF	OBUS	1.97	2.11

tblVehicleEF	OBUS	8.8610e-003	0.02
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.5890e-003	2.0050e-003
tblVehicleEF	OBUS	8.1520e-003	0.01
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.5360e-003	2.5430e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.4430e-003	1.7870e-003
tblVehicleEF	OBUS	7.1970e-003	8.1900e-003
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	0.38	0.39
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tblVehicleEF	OBUS	0.88	0.99
tblVehicleEF	OBUS	5.9980e-003	5.9840e-003
tblVehicleEF	OBUS	9.4390e-003	9.5090e-003
tblVehicleEF	OBUS	5.7900e-004	6.1000e-004
tblVehicleEF	OBUS	7.1970e-003	8.1900e-003
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tblVehicleEF	OBUS	0.43	0.44
tblVehicleEF	OBUS	1.9550e-003	2.1990e-003
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tblVehicleEF	OBUS	0.67	0.75
tblVehicleEF	OBUS	0.94	1.05
tblVehicleEF	OBUS	0.02	0.02

tblVehicleEF	OBUS	1.7570e-003	2.0040e-003
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tblVehicleEF	OBUS	517.49	524.48
tblVehicleEF	OBUS	926.08	947.54
tblVehicleEF	OBUS	35.14	36.47
tblVehicleEF	OBUS	1.8600e-003	1.8690e-003
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tblVehicleEF	OBUS	3.29	3.85
tblVehicleEF	OBUS	2.11	2.26
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.5890e-003	2.0050e-003
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tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.5360e-003	2.5430e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.4430e-003	1.7870e-003
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tblVehicleEF	OBUS	0.68	0.76
tblVehicleEF	OBUS	1.09	1.22

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tblVehicleEF	OBUS	9.4380e-003	9.5080e-003
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tblVehicleEF	OBUS	1.6380e-003	1.8600e-003
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.50	0.51
tblVehicleEF	OBUS	4.7700e-004	5.2800e-004
tblVehicleEF	OBUS	0.13	0.15
tblVehicleEF	OBUS	0.68	0.76
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tblVehicleEF	SBUS	4.8860e-003	4.8500e-003
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tblVehicleEF	SBUS	949.40	967.22
tblVehicleEF	SBUS	137.71	144.59
tblVehicleEF	SBUS	6.7700e-004	6.8700e-004
tblVehicleEF	SBUS	8.05	8.09
tblVehicleEF	SBUS	6.11	6.32
tblVehicleEF	SBUS	2.23	2.33
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.36	0.37
tblVehicleEF	SBUS	9.8520e-003	9.8700e-003
tblVehicleEF	SBUS	0.06	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.02	0.02

tblVehicleEF	SBUS	0.16	0.16
tblVehicleEF	SBUS	2.4630e-003	2.4680e-003
tblVehicleEF	SBUS	0.05	0.05
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.12	0.13
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tblVehicleEF	SBUS	0.04	0.04
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tblVehicleEF	SBUS	2.2370e-003	2.3820e-003
tblVehicleEF	SBUS	0.12	0.13
tblVehicleEF	SBUS	0.48	0.58
tblVehicleEF	SBUS	0.13	0.13
tblVehicleEF	SBUS	0.04	0.04
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tblVehicleEF	SBUS	4.13	4.76
tblVehicleEF	SBUS	5.1310e-003	5.1230e-003
tblVehicleEF	SBUS	4.8860e-003	4.8500e-003
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tblVehicleEF	SBUS	949.40	967.22

tblVehicleEF	SBUS	137.71	144.59
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tblVehicleEF	SBUS	5.41	5.59
tblVehicleEF	SBUS	2.13	2.22
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tblVehicleEF	SBUS	0.36	0.37
tblVehicleEF	SBUS	9.8520e-003	9.8700e-003
tblVehicleEF	SBUS	0.06	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.16	0.16
tblVehicleEF	SBUS	2.4630e-003	2.4680e-003
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tblVehicleEF	SBUS	0.01	0.01
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tblVehicleEF	SBUS	5.9850e-003	5.9790e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.1890e-003	2.3320e-003
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tblVehicleEF	SBUS	0.13	0.13

tblVehicleEF	SBUS	0.06	0.07
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tblVehicleEF	SBUS	5.8770e-003	5.8680e-003
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tblVehicleEF	SBUS	0.36	0.37
tblVehicleEF	SBUS	9.8520e-003	9.8700e-003
tblVehicleEF	SBUS	0.06	0.06
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tblVehicleEF	SBUS	0.01	0.01
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tblVehicleEF	SBUS	0.48	0.58

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tblVehicleEF	UBUS	6.17	6.59
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	1.0030e-003	1.0840e-003
tblVehicleEF	UBUS	0.04	0.05
tblVehicleEF	UBUS	9.3000e-004	1.0060e-003
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	0.37	0.41

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tblVehicleEF	UBUS	0.57	0.64
tblVehicleEF	UBUS	2.18	2.31
tblVehicleEF	UBUS	3.17	3.36
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.8930e-003	1.9450e-003
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	0.37	0.41
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.64	0.71
tblVehicleEF	UBUS	2.18	2.31
tblVehicleEF	UBUS	3.38	3.59
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tblVehicleEF	UBUS	5.07	5.42
tblVehicleEF	UBUS	6.01	6.42
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	1.0030e-003	1.0840e-003
tblVehicleEF	UBUS	0.04	0.05
tblVehicleEF	UBUS	9.3000e-004	1.0060e-003
tblVehicleEF	UBUS	0.07	0.08
tblVehicleEF	UBUS	0.46	0.51
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	0.58	0.65
tblVehicleEF	UBUS	2.23	2.36

tblVehicleEF	UBUS	3.00	3.18
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.8410e-003	1.8890e-003
tblVehicleEF	UBUS	0.07	0.08
tblVehicleEF	UBUS	0.46	0.51
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	0.64	0.72
tblVehicleEF	UBUS	2.23	2.36
tblVehicleEF	UBUS	3.20	3.40
tblVehicleEF	UBUS	7.58	8.48
tblVehicleEF	UBUS	39.84	43.36
tblVehicleEF	UBUS	991.41	1,011.14
tblVehicleEF	UBUS	121.37	123.29
tblVehicleEF	UBUS	1.5100e-004	1.5200e-004
tblVehicleEF	UBUS	5.98	6.41
tblVehicleEF	UBUS	6.53	6.98
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	1.0030e-003	1.0840e-003
tblVehicleEF	UBUS	0.04	0.05
tblVehicleEF	UBUS	9.3000e-004	1.0060e-003
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.37	0.40
tblVehicleEF	UBUS	6.5610e-003	7.0430e-003
tblVehicleEF	UBUS	0.56	0.62
tblVehicleEF	UBUS	2.44	2.58
tblVehicleEF	UBUS	3.55	3.76
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	2.0130e-003	2.0750e-003

tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.37	0.40
tblVehicleEF	UBUS	6.5610e-003	7.0430e-003
tblVehicleEF	UBUS	0.62	0.69
tblVehicleEF	UBUS	2.44	2.58
tblVehicleEF	UBUS	3.79	4.01
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	2.9337	31.3707	17.0270	0.0493	29.4930	1.3819	30.8749	2.9680	1.3160	4.2840	0.0000	4,876.642 1	4,876.642 1	0.8758	0.0000	4,895.034 4
Total	**2.9337**	**31.3707**	**17.0270**	**0.0493**	**29.4930**	**1.3819**	**30.8749**	**2.9680**	**1.3160**	**4.2840**	**0.0000**	**4,876.642 1**	**4,876.642 1**	**0.8758**	**0.0000**	**4,895.034 4**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	2.9337	31.3707	17.0270	0.0493	23.3334	1.3819	24.7153	2.3503	1.3160	3.6663	0.0000	4,876.642 1	4,876.642 1	0.8758	0.0000	4,895.034 4
Total	**2.9337**	**31.3707**	**17.0270**	**0.0493**	**23.3334**	**1.3819**	**24.7153**	**2.3503**	**1.3160**	**3.6663**	**0.0000**	**4,876.642 1**	**4,876.642 1**	**0.8758**	**0.0000**	**4,895.034 4**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**20.88**	**0.00**	**19.95**	**20.81**	**0.00**	**14.42**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Plowed conduit installation	Trenching	1/12/2016	1/20/2016	5	7	
2	Bored installation	Trenching	1/21/2016	3/4/2016	5	32	
3	Node installation	Trenching	3/7/2016	3/11/2016	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Plowed conduit installation	Air Compressors	2	4.00	174	0.41
Plowed conduit installation	Crawler Tractors	2	8.00	97	0.37
Bored installation	Air Compressors	2	4.00	78	0.48
Bored installation	Bore/Drill Rigs	2	8.00	205	0.50
Bored installation	Pumps	2	8.00	208	0.43
Bored installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Node installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Plowed conduit installation	4	10.00	8.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Bored installation	8	20.00	6.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Node installation	1	6.00	6.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Plowed conduit installation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7572	14.3981	9.3389	0.0138		1.0592	1.0592		0.9966	0.9966		1,362.3028	1,362.3028	0.2544		1,367.6446
Total	**1.7572**	**14.3981**	**9.3389**	**0.0138**		**1.0592**	**1.0592**		**0.9966**	**0.9966**		**1,362.3028**	**1,362.3028**	**0.2544**		**1,367.6446**

3.2 Plowed conduit installation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1050	0.8240	1.3447	2.0100e-003	10.5380	0.0174	10.5554	1.0624	0.0160	1.0784		200.7353	200.7353	1.2400e-003		200.7613
Worker	0.0515	0.0673	0.5589	6.0000e-004	10.7948	4.3000e-004	10.7952	1.0856	3.9000e-004	1.0860		47.5297	47.5297	4.4500e-003		47.6232
Total	**0.1565**	**0.8913**	**1.9035**	**2.6100e-003**	**21.3327**	**0.0179**	**21.3506**	**2.1480**	**0.0164**	**2.1644**		**248.2649**	**248.2649**	**5.6900e-003**		**248.3844**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7572	14.3981	9.3389	0.0138		1.0592	1.0592		0.9966	0.9966	0.0000	1,362.3028	1,362.3028	0.2544		1,367.6446
Total	**1.7572**	**14.3981**	**9.3389**	**0.0138**		**1.0592**	**1.0592**		**0.9966**	**0.9966**	**0.0000**	**1,362.3028**	**1,362.3028**	**0.2544**		**1,367.6446**

3.2 Plowed conduit installation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1050	0.8240	1.3447	2.0100e-003	8.3385	0.0174	8.3560	0.8419	0.0160	0.8579		200.7353	200.7353	1.2400e-003		200.7613
Worker	0.0515	0.0673	0.5589	6.0000e-004	8.5398	4.3000e-004	8.5402	0.8595	3.9000e-004	0.8599		47.5297	47.5297	4.4500e-003		47.6232
Total	**0.1565**	**0.8913**	**1.9035**	**2.6100e-003**	**16.8783**	**0.0179**	**16.8961**	**1.7013**	**0.0164**	**1.7177**		**248.2649**	**248.2649**	**5.6900e-003**		**248.3844**

3.3 Bored installation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7520	30.6181	14.9008	0.0466		1.3680	1.3680		1.3032	1.3032		4,631.0313	4,631.0313	0.8660		4,649.2172
Total	**2.7520**	**30.6181**	**14.9008**	**0.0466**		**1.3680**	**1.3680**		**1.3032**	**1.3032**		**4,631.0313**	**4,631.0313**	**0.8660**		**4,649.2172**

3.3 Bored installation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0787	0.6180	1.0085	1.5100e-003	7.9035	0.0131	7.9165	0.7968	0.0120	0.8088		150.5515	150.5515	9.3000e-004		150.5709
Worker	0.1030	0.1347	1.1177	1.1900e-003	21.5896	8.6000e-004	21.5904	2.1712	7.8000e-004	2.1720		95.0594	95.0594	8.9000e-003		95.2463
Total	**0.1818**	**0.7526**	**2.1262**	**2.7000e-003**	**29.4930**	**0.0139**	**29.5070**	**2.9680**	**0.0128**	**2.9808**		**245.6108**	**245.6108**	**9.8300e-003**		**245.8173**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7520	30.6181	14.9008	0.0466		1.3680	1.3680		1.3032	1.3032	0.0000	4,631.0313	4,631.0313	0.8660		4,649.2172
Total	**2.7520**	**30.6181**	**14.9008**	**0.0466**		**1.3680**	**1.3680**		**1.3032**	**1.3032**	**0.0000**	**4,631.0313**	**4,631.0313**	**0.8660**		**4,649.2172**

3.3 Bored installation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0787	0.6180	1.0085	1.5100e-003	6.2539	0.0131	6.2670	0.6314	0.0120	0.6434		150.5515	150.5515	9.3000e-004		150.5709
Worker	0.1030	0.1347	1.1177	1.1900e-003	17.0795	8.6000e-004	17.0804	1.7189	7.8000e-004	1.7197		95.0594	95.0594	8.9000e-003		95.2463
Total	**0.1818**	**0.7526**	**2.1262**	**2.7000e-003**	**23.3334**	**0.0139**	**23.3473**	**2.3503**	**0.0128**	**2.3631**		**245.6108**	**245.6108**	**9.8300e-003**		**245.8173**

3.4 Node installation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306		323.6773	323.6773	0.0976		325.7276
Total	**0.3406**	**3.2551**	**2.4126**	**3.1100e-003**		**0.2506**	**0.2506**		**0.2306**	**0.2306**		**323.6773**	**323.6773**	**0.0976**		**325.7276**

3.4 Node installation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0787	0.6180	1.0085	1.5100e-003	7.9035	0.0131	7.9165	0.7968	0.0120	0.8088		150.5515	150.5515	9.3000e-004		150.5709
Worker	0.0309	0.0404	0.3353	3.6000e-004	6.4769	2.6000e-004	6.4771	0.6514	2.4000e-004	0.6516		28.5178	28.5178	2.6700e-003		28.5739
Total	**0.1096**	**0.6584**	**1.3438**	**1.8700e-003**	**14.3803**	**0.0133**	**14.3937**	**1.4482**	**0.0123**	**1.4604**		**179.0693**	**179.0693**	**3.6000e-003**		**179.1448**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3406	3.2551	2.4126	3.1100e-003		0.2506	0.2506		0.2306	0.2306	0.0000	323.6773	323.6773	0.0976		325.7276
Total	**0.3406**	**3.2551**	**2.4126**	**3.1100e-003**		**0.2506**	**0.2506**		**0.2306**	**0.2306**	**0.0000**	**323.6773**	**323.6773**	**0.0976**		**325.7276**

3.4 Node installation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0787	0.6180	1.0085	1.5100e-003	6.2539	0.0131	6.2670	0.6314	0.0120	0.6434		150.5515	150.5515	9.3000e-004		150.5709
Worker	0.0309	0.0404	0.3353	3.6000e-004	5.1239	2.6000e-004	5.1241	0.5157	2.4000e-004	0.5159		28.5178	28.5178	2.6700e-003		28.5739
Total	**0.1096**	**0.6584**	**1.3438**	**1.8700e-003**	**11.3778**	**0.0133**	**11.3911**	**1.1471**	**0.0123**	**1.1593**		**179.0693**	**179.0693**	**3.6000e-003**		**179.1448**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.452463	0.070907	0.165532	0.163183	0.043777	0.005595	0.012812	0.078576	0.001869	0.000152	0.002393	0.000687	0.002054

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Appendix D

Biological Resources Evaluation

Tierra Right of Way
A LAND SERVICES COMPANY

TDS Telecom
Winterhaven Last Mile Underserved Broadband Project
Imperial County, California

Biological Resources Evaluation

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April 17, 2015

ABSTRACT

Winterhaven Telephone Company d.b.a. TDS Telecom proposes to construct the Winterhaven Last Mile Underserved Broadband Project (the project), which will provide high-speed internet services to portions of the Fort Yuma-Quechan Indian Reservation, as well as portions of unincorporated Imperial County, California.

This Biological Resources Evaluation (BRE) has been prepared to provide a summary of existing biological conditions, the potential presence of special status species and resources, an initial evaluation of impacts of the project on biological resources, and feasible avoidance and minimization measures to reduce potential impacts to a level typically considered less than significant under the California Environmental Quality Act (CEQA). This report is useful for the preparation of the proposed project's CEQA Proponent's Environmental Assessment/Mitigated Negative Declaration and is in compliance with the National Environmental Policy Act (NEPA).

As discussed herein, the BRE determines to what extent the proposed project may potentially impact biological resources that are subject to provisions of CEQA and NEPA. Based on existing conditions and characteristics of the study area, Sonoran Desert Toad *(Incilius alvarius)*, Lowland Leopard Frog *(Lithobates yavapaiensis)*, Loggerhead Shrike *(Lanius ludovicianus)*, Vermilion Flycatcher *(Pyrocephalus rubinus)*, Yellow-headed Blackbird *(Xanthocephalus xanthocephalus)*, Townsend's Big-eared Bat *(Corynorhinus townsendii)*, and Yuma Hispid Cotton Rat *(Sigmodon hispidus eremicus)* are known to occur or have the potential to occur in the study area; therefore these species are evaluated for potential impacts.

It was determined that the proposed project would have no effect on species or critical habitats listed under the Endangered Species Act and that the project would have no impact on habitats meeting the criteria of sensitive natural communities as defined by the California Department of Fish and Wildlife (CDFW). In addition, it was determined that irrigation canals in the study area that may be Waters of the U.S. subject to U.S. Army Corps of Engineers, Regional Water Quality Control Board, and/or CDFW jurisdiction would not be impacted by the proposed project.

The BRE concludes that the proposed project would potentially impact special status species listed by CDFW and it may result in the spread of invasive plant species; however, implementation of the recommended avoidance and minimization measures will reduce these potential impacts to a less than significant level.

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1.0 INTRODUCTION

Winterhaven Telephone Company d.b.a. TDS Telecom (TDS) proposes to construct the Winterhaven Last Mile Underserved Broadband Project (the Project) which will provide high-speed internet services to portions of the Fort Yuma-Quechan Indian Reservation, as well as portions of unincorporated Imperial County, California.

This Biological Resource Evaluation (BRE) presents the results of a database search and a reconnaissance level biological survey of regionally-occurring special-status species and sensitive biological resources within the project area. The purpose of this report is to document the dominant plant and animal species observed at the time of the survey, to discuss the general habitat types present, and to evaluate the potential for the project site and vicinity to contain, or provide habitat for, Federal or State listed special status plant and animal species and sensitive natural communities. Additionally, this report provides standard recommended avoidance and minimization measures to reduce potential impacts to sensitive biological resources.

1.1 Project Location

The project area is located in southeastern Imperial County, California, just north of Yuma, Arizona, and the Colorado River. Baseline Road, which runs north-south, marks the boundary between the Fort Yuma-Quechan Reservation and private land; the Reservation is west of Baseline, and private land is to the east. The southern edge of the project area is roughly bounded by the Union Pacific Railroad (UPRR) tracks, the community of Winterhaven, and the Paradise Casino on Picacho Road. The Cocopah Canal runs along the eastern boundary of the project area, and the community of Bard is located at the northeastern limits of the project area. Stalnacker and Ross Roads along with the community of Ross Corner make up the approximate northern limits of the project area, and the western edge of the project area is near Arnold Road where the road approaches the UPRR. Specifically, the project area is located in portions of Section 2, Township 15 South, Range 24 East; Sections 11, 14, and 21–27, Township 16 South, Range 22 East; and Sections 4, 5, 7–9, 18, and 19 Township 16 South Range 23 East; San Bernardino Baseline and Meridian (SBB&M), as depicted on the Araz, Bard, Yuma East, and Yuma West, AZ/CA, 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle maps (Figures 1 and 2).

1.2 Project Description

The proposed project involves the construction of a second-generation, very-high-bit-rate digital subscriber line (VDSL2) fiber-optic network capable of 25 Mbps/5 Mbps (download/upload) speeds. In total, approximately 24.65 km (15.31 miles) of new fiber-optic cable will be buried within protective conduit along existing roads in the project area and approximately 2.25 km (1.40 miles) of existing buried copper line will be used to connect a proposed DLC site on Arnold Road to the new system. A summary of the associated lengths to be installed on and off the Fort Yuma–Quechan Reservation can be found in Table 1. The buried line installation, which consists of the telecommunications cable and its protective conduit, will be performed using plowing construction techniques, and a directional boring machine will be used to install the line at canal and road crossings. Ancillary equipment to be installed includes 10 new equipment cabinets that will serve as connecting "nodes" for customers, splice boxes, and line markers. The equipment cabinets will be approximately 0.6 by 1.0 by 1.2 m (2.0 by 3.0 by 4.0 feet) in size and will be installed on top of buried concrete vaults within an approximately 6-m-square (20-foot-square) area. Splice boxes are small rectangular metal enclosures that will be installed between lengths of cable.

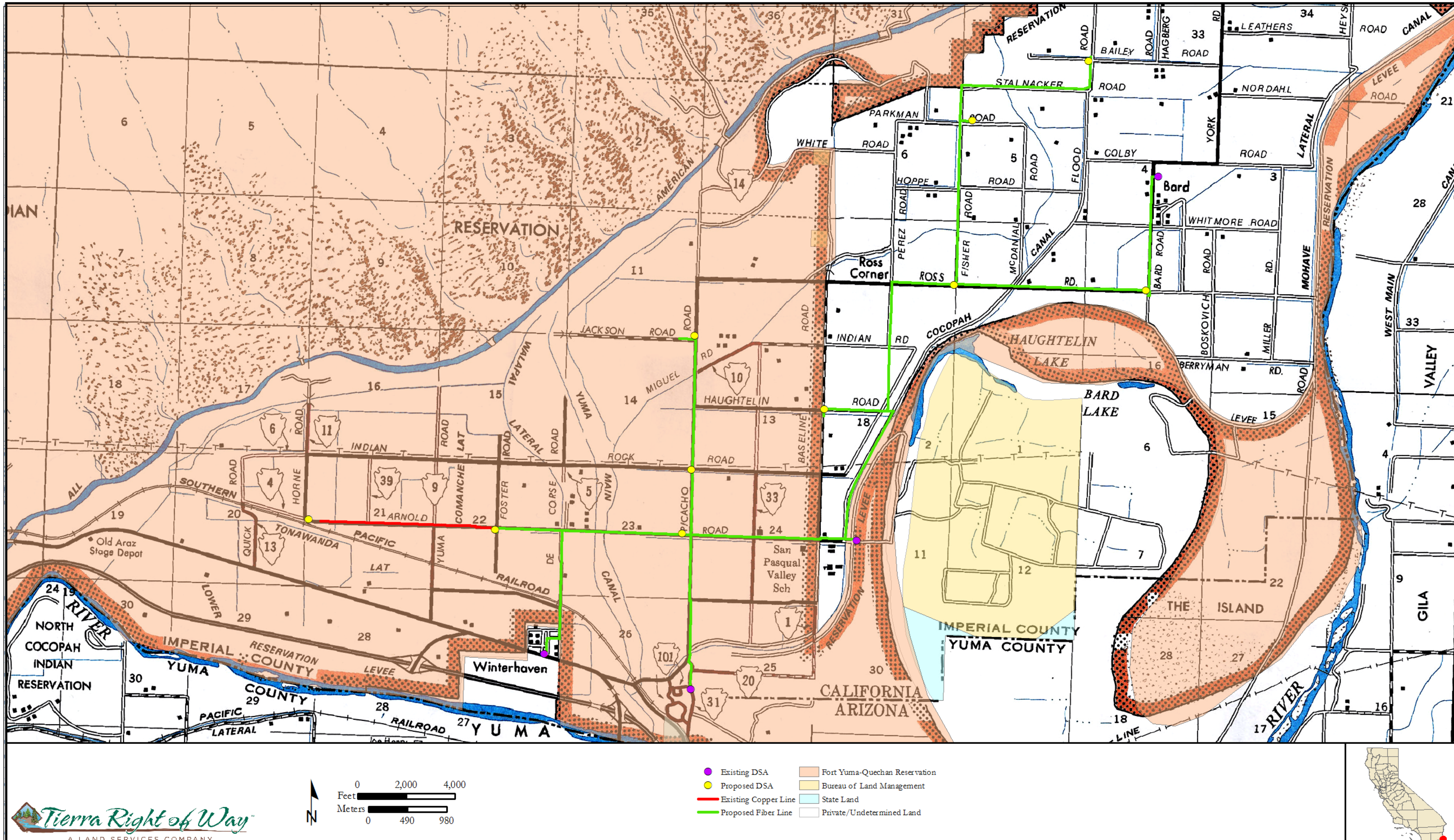

Figure 1. Project location.

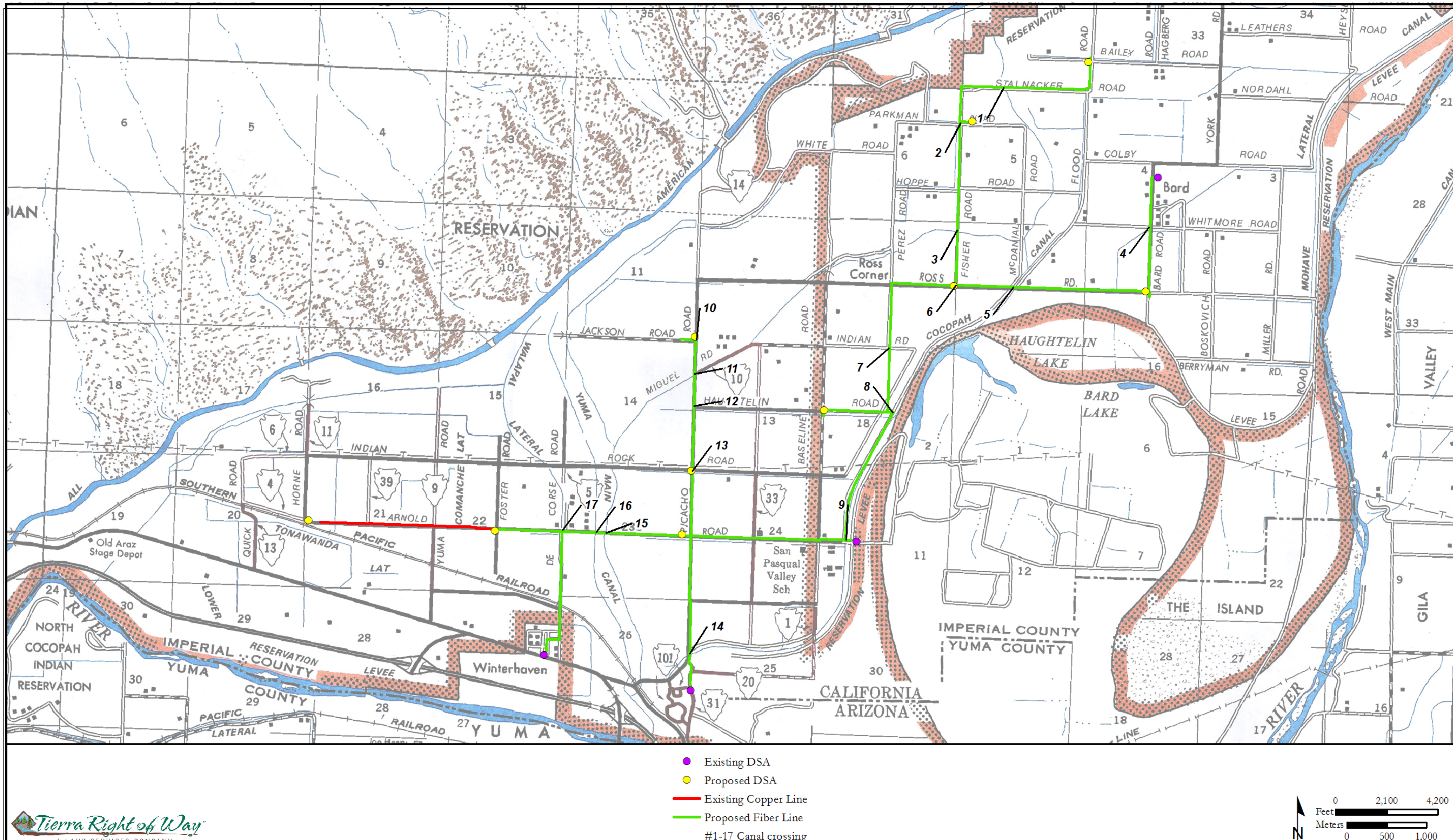

Figure 2. Project area.

Table 1. Cable Installation Lengths

Installation	Length (m)	Length (km)	Length (feet)	Length (miles)
On-Reservation	10,139	10.14	33,264	6.30
Off-Reservation	14,507	14.51	47,595	9.01
Total	**24,646**	**24.65**	**80,859**	**15.31**

Line markers, which will be installed at intervals of approximately 305 m (1,000 feet), are approximately 1.2 m (4.0 feet) tall and made of flexible fiberglass.

The line installation will be performed in two steps. First, a protective conduit for the fiber-optic cable will be installed by either plowing or directional boring construction methods. Second, the fiber-optic cable will be "blown" through the conduit using compressed air. The total combined ground disturbance associated with the project, including both the plowed and bored installations, would not exceed an area approximately 5.1 ha (12.5 acres) in size.

1.2.1 Plowed Conduit Installation

Plowed conduit is installed using a machine equipped with a specialized single ripper that loosens the soil along the installation path. Conduit is fed either from the plow machine or from a separate truck-mounted reel through a plow chute attached to the ripper and laid directly at a nominal depth of 1 m (3 feet). A compaction machine follows directly behind the plow machine, restoring the ground surface to its original contour. The installation path may be "pre-ripped" if necessary to loosen the soil in areas where subsurface rock or other buried obstructions may be present. Ground disturbance associated with the plowed installation will be limited to an approximately 2.4-m-wide (8.0-foot-wide) corridor.

1.2.2 Bored Conduit Installation

Directional boring is a method used to install underground utilities without the need for trenching. Typically it is used to install utility lines under waterways, roads, and other areas where the avoidance of surface disturbance is desirable (Figure 3). Directional boring machines are essentially horizontal drilling rigs and have a drill bit that is steerable. The drill bit is guided by the operator as it progresses along the desired boring path. After boring, the drill pipe is pulled out and conduit is threaded through the bore. In "drill and leave" installations, the drill pipe is left in place and serves as the conduit.

Two boring pits for bore ingress and egress would be required for each canal crossing installation—one on each side of the canal. These bore pits would be located at varying distances from the canals and roads. The depth of the bore would be a minimum of 1.5 m (5.0 feet) below the bottom of the canals and roads, and the bore lengths would be variable. The bores would be of sufficient diameter to accommodate the 5-cm (2-inch) conduit and would be drilled using drilling fluid "mud." This mud is nontoxic, consisting of clay, bentonite, and water; and it would be disposed of accordingly.

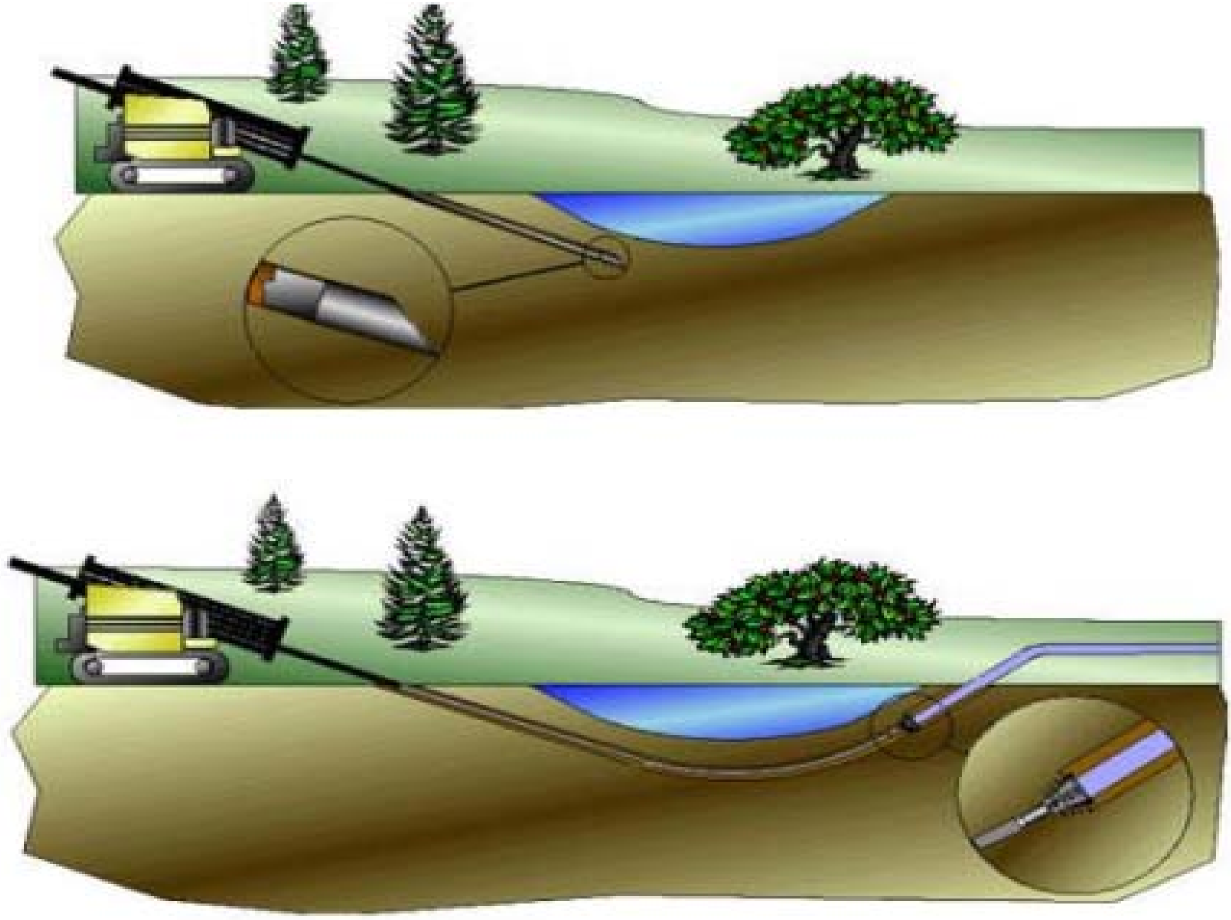

Figure 3. Example of a directional bore beneath a waterway.

Following the installation of the pipe beneath the canal or road, the bore pits would be filled in and compacted and the ground surface restored to its original contour. The locations of all canal bores associated with the project are summarized in Table 2. Ground disturbance associated with the bored conduit installations will occur within the same 2.4-m-wide (8.0-foot-wide) corridor as the plowed installations.

1.2.3 Project Schedule

The anticipated start date for the proposed project is mid-January, 2016 and construction would take approximately two months.

Table 2. Canal Bore Locations

Map No.	Canal Name	Location	Canal Width
1	Reservation Main Drain	Stahlnacker Road	20.5 m (67 feet)
2	Unnamed canal	Fisher and Parkman Roads	3.6 m (12 feet)
3	Reservation Main Drain	Fisher Road	19.6 m (64 feet)
4	Hopi Canal	Bard and Whitmore Roads	6.3 m (21 feet)
5	Cocopah Canal	Ross Road	9.0 m (30 feet)
6	Unnamed canal	Fisher and Ross Roads	5.3 m (17 feet)
7	Papago Canal	Perez Road	4.5 m (15 feet)
8	Pima Canal	Haughtelin and Perez Roads	4.5 m (15 feet)
9	Cocopah Canal	Flood and Arnold Roads	7.0 m (23 feet)
10	Navajo Canal	Picacho and Jackson Roads	7.3 m (24 feet)
11	Reservation Main Drain	Picacho Road	27.3 m (90 feet)
12	Pima Canal	Picacho and Haughtelin Roads	3.7 m (12 feet)
13	Pueblo Canal	Picacho and Indian Rock Roads	3.6 m (12 feet)
14	Cocopah Canal	Picacho Road	8.3 m (27 feet)
15	Reservation Main Drain	Arnold Road	27.3 m (90 feet)
16	Yuma Main Canal	Arnold Road	46.0 m (151 feet)
17	Walapai Canal	Arnold Road	2.4 m (8 feet)

1.3 Applicable Environmental Regulations

1.3.1 Federal Requirements for Species Protection

***Endangered Species Act*—**The U.S. Fish and Wildlife Service (FWS) and the National Oceanographic and Atmospheric Administration's National Marine Fisheries Service (NMFS) enforce the provisions stipulated within the Endangered Species Act (ESA) of 1973 (16 USC Section 1531 et seq.). Threatened and Endangered species on the Federal list (50 CFR Section 17.11 and 17.12) are protected from take, defined as direct or indirect harm, unless a Section 10 permit is granted to an entity other than a Federal agency or a Biological Opinion with incidental take provisions is rendered to a Federal lead agency via a Section 7 consultation. Pursuant to the requirements of the ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any Federally listed species may be present in the project site and determine whether the proposed project will have a potentially significant impact upon such species. Under the ESA, habitat loss is considered to be an impact to a species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species that is proposed for listing under the ESA or to result in the destruction or adverse modification of critical habitat proposed or designated for such species (16 USC 1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

Executive Order 13186: Migratory Bird Treaty Act— The Migratory Bird Treaty Act (MBTA) of 1918 (United States Code, Title 16, Chapter 7, Subchapter II) prohibits the "pursuit, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof." The ensuing Executive Order 13186, signed January 10, 2001, by President Clinton "directs executive departments and agencies to take certain actions to further implement the (MBTA)." Such actions include the responsibility that Federal agencies "taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations … develop and implement, within 2 years, a Memorandum of Understanding with the Fish and Wildlife Service, that shall promote the conservation of migratory bird populations."

Executive Order 11990: Protection of Wetlands—Executive Order 11990, signed May 24, 1997, directs Federal agencies to refrain from assisting in or giving financial support to projects that encroach on publicly or privately owned wetlands. It further requires that Federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. A project that encroaches on wetlands may not be undertaken unless the agency has determined that (1) there are no practicable alternatives to construction, (2) the project includes all practicable measures to minimize harm to wetlands affected, and (3) the impact will be minor.

Executive Order 13112: Invasive Species Prevention—On Feb 3, 1999, Executive Order 13112 was signed establishing the National Invasive Species Council. Executive Order 13112 required that each Federal agency whose actions may affect the status of invasive species will, to the extent practicable and permitted by law, (1) identify such actions; (2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species, (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner, (iii) monitor invasive species populations accurately and reliably, (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded, (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species, and (vi) promote public education on invasive species and the means to address them; and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions. In addition, it requires that Federal agencies will pursue the duties set forth in this section in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan and in cooperation with stakeholders, as appropriate, and, as approved by the Department of State, when Federal agencies are working with international organizations and foreign nations.

1.3.2 State Requirements for Species Protection

California Endangered Species Act/California Environmental Quality Act—The California Endangered Species Act (CESA) of 1970 (Fish and Game Code Section 2050 et seq., and CCR Title 14, Subsection 670.2, 670.51) prohibits the take (interpreted to mean the direct killing of a species) of species listed under CESA (14 CCR Subsection 670.2, 670.5). Under CESA, State agencies are required to consult with the California Department of Fish and Wildlife (CDFW) (formerly

California Department of Fish and Game [CDFG]) when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on State listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of a State-listed species under Sections 2080.1 and 2081(b) of CDFW code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under Section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of Threatened and Endangered species designated under State law (CDFG Code 2070). CDFW also maintains lists of Species of Special Concern, which serve as "watch lists." Pursuant to the requirements of CESA, a State or local agency reviewing a proposed project within its jurisdiction must determine whether any State-listed species may be present in the project area and determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to Species of Concern and fully protected species would be considered significant under certain circumstances.

The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000-21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on rare or Endangered species. These "special status" species are defined under CEQA Guidelines Subsection 15380(b) and (d) as those listed under the ESA and CESA, and species that are not currently protected by statute or regulation, but would be considered rare, Threatened, or Endangered under these criteria, or by the scientific community. Therefore, species that are considered rare or Endangered are addressed in this study regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants on Lists 1A, 1B, and 2 are considered special status species under CEQA.

Although Threatened and Endangered species are protected by specific Federal and State statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the Federal or State list of protected species may be considered rare or Endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the ESA and the section of the California Fish and Game Code dealing with rare or Endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the U.S. Fish and Wildlife Service (USFWS) or CDFW (i.e., Candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Native Plant Protection Act—The California Native Plant Protection Act of 1977 (CDFG Code Section 1900-1913) requires all State agencies to use their authority to carry out programs to conserve Endangered and otherwise rare species of native plants. Provisions of the Act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting Birds—California Fish and Game Code Subsections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are "Fully Protected" as those that may not be taken or possessed except under specific permit.

1.3.3 Protection of Wetlands, Waters of the United States, and Waters of the State

Any person, firm, or agency planning to alter or work in Waters of the U.S. (WUS), including the discharge of dredged or fill material, must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA; 33 U.S.C. 1344). Permits, licenses, variances, or similar authorization may also be required by other Federal, State, and local statutes. Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable WUS without a permit from USACE (33 U.S.C. 403). The CDFW requires notification prior to commencement and possibly a Streambed Alteration Agreement pursuant to California Fish and Game Code Subsection 1601-1603, 5650F, if a proposed project would result in the alteration or degradation of a stream, river, or lake in California. The Regional Water Quality Control Board (RWQCB) may require State Water Quality Certification (CWA Section 401 permit) prior to the alteration of or discharge to WUS and the State.

WUS are defined as: all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters (33 CFR Part 328). With non-tidal waters, in the absence of adjacent wetlands, the extent of USACE jurisdiction extends to the ordinary high water mark (OHWM)—the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050(e)."

Water quality in California is governed by the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (California Water Code § 13000 et. seq.) This Act delegates responsibility to the State Water Resource Control Board (SWRCB) for water rights and water quality protection and directs the nine statewide RWQCBs to develop and enforce water quality standards within their jurisdiction. The Porter-Cologne Act requires any entity discharging waste or proposing to discharge waste within any region that could affect the quality of the Waters of the State to file a report of waste discharge with the appropriate RWQCB. The appropriate RWQCB then must issue a permit, referred to as a waste discharge requirement (WDR). WDRs implement water quality control plans and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisances (California Water Code § 13263).

1.3.4 Lower Colorado River Multi-Species Conservation Program

The Lower Colorado River Multi-Species Conservation Program **(**LCR MSCP) was created to balance the use of the Colorado River water resources with the conservation of native species and their habitats. The program works toward the recovery of species currently listed under the ESA. It also reduces the likelihood of additional species listings. Implemented over a 50-year period, the program accommodates current water diversions and power production and will optimize opportunities for future water and power development by providing ESA compliance through the implementation of a Habitat Conservation Plan (HCP) which was finalized in December 2004. The program area extends over 643.7 km (400 miles) of the lower Colorado River from Lake Mead to the southernmost border with Mexico and includes Lakes Mead, Mohave, and Havasu, as well as the historic 100-year floodplain where the proposed project is located, along the main stem of the lower Colorado River. The HCP calls for the creation of more than 3,278 ha (8,100 acres) of habitat for fish and wildlife species and the production of over 1.2 million native fish to augment existing populations. The plan will benefit at least 26 species, most of which are State or Federally listed Endangered, Threatened, or Sensitive species.

The Bureau of Reclamation (BOR) is the implementing agency for the LCR MSCP. Partnership involvement occurs primarily through the LCR MSCP Steering Committee (currently representing 57 entities, including State and Federal agencies, water and power users, municipalities, Native American Tribes, conservation organizations, and other interested parties), which provides input and oversight functions in support of LCR MSCP implementation. Program costs are evenly divided between the Federal government and non-Federal partners (Lower Colorado River Multi-Species Conservation Program 2013).

1.3.5 Imperial County General Plan

The Imperial County General Plan (GP), which applies to all public and private projects in unincorporated Imperial County, consists of 10 Elements entitled Land Use, Housing, Circulation and Scenic Highways, Noise, Seismic and Public Safety, Agricultural, Conservation and Open Space, Geothermal/Alternative Energy and Transmission, Water, and Parks & Recreation.

The Conservation and Open Space Element of the GP provides detailed plans and measures for the preservation and management of biological and cultural resources, soils, minerals, energy, regional aesthetics, air quality, and open space. The purpose of the Conservation and Open Space Element is to promote the protection, maintenance, and use of the County's natural resources with particular emphasis on scarce resources and to prevent wasteful exploitation, destruction, and neglect of the State's natural resources. Additionally, the purpose of this Element is to recognize that natural resources must be maintained for their ecological value for the direct benefit to the public, protect open space for the preservation of natural resources, the managed production of resources, outdoor recreation, and for public health and safety (Imperial County Planning and Development Services 2014). Recommended mitigation for invasive species control has been included in this report that will be consistent with the conservation objectives of the GP.

2.0 METHODOLOGY

Tierra Right of Way Services, Ltd. (Tierra), senior biologist, Tim Jordan, conducted a reconnaissance survey of the project area on July 15 and 16, 2014 (Table 3). Special status species (listed in Appendix A) were assessed for their potential to occur in the project area based on the existing characteristics that were observed. In addition to special status species and their habitats, the project corridors were assessed for general wildlife species, migratory birds, plant species and noxious weeds, sensitive natural communities, and the presence or absence of waterways.

Table 3. Field Survey Schedule

Date/Weather Conditions	Surveyor	Survey Time/Survey Purpose
7/15/2014; 100–101° F, calm, slight haze	Tim Jordan	1200–1430, general biological
7/16/2014; 82–104° F, calm to slight breeze, clear	Tim Jordan	0700–1230, general biological, canal location recording

For the purposes of this report, the entire area assessed during the reconnaissance survey includes the project corridor centerlines with an approximately 15.2-m (50.0-foot) buffer to either side, which is comprehensively referred to as the study area. All areas within the study area were visually assessed during the surveys.

Prior to the reconnaissance surveys, a comprehensive list of regionally occurring special-status species and sensitive natural communities was compiled from the list of reported occurrences in the CDFW's California Natural Diversity Database (CNDDB) for the Araz, Bard, Imperial Reservoir, Laguna Dam, Little Picacho Peak, Picacho Peak, Yuma East, and Yuma West 7.5-minute USGS topographic quadrangles (CNDDB 2014) (Figure 4) and a list of Natural Resources of Concern that includes Federally listed special-status species for Imperial County that was obtained from the FWS Information, Planning, and Conservation (IPAC) system. CNDDB occurrence records include those that are mapped—meaning that occurrence data has been verified by CDFW—and unprocessed records that have not been verified. The CNDDB and FWS lists are included in Appendix A. Habitats present in the study area were compared to the habitat requirements of these regionally occurring special-status species; this comparison was used to determine which of these species had the potential to occur in the study area. Those species with a potential to occur within the study area and/or be adversely affected by the proposed project are addressed in Section 4.3. Species whose range (geographic or elevation) does not include the study area or for which the study area does not provide suitable habitat, were excluded from further consideration. This analysis is included in Appendix B.

3.0 BIOLOGICAL RESOURCES IN THE PROJECT AREA

3.1 Environmental Setting

The project area is located in southeastern California on the lower Colorado River in an area primarily used for agricultural cultivation. Several irrigation canals operated by the BOR Imperial Irrigation District and Bard Water District either cross or run parallel to the project corridors. Elevations in the project area range from approximately 38–43 m (126–140 feet) above mean sea level (AMSL).

The Western Regional Climate Center (WRCC) recorded seasonal climatic data from 1993–2013 at the Yuma Quartermaster Depot, located just south of the project area (WRCC 2014). These data include average maximum temperature, average minimum temperature, average total precipitation, and average snowfall. The average annual maximum temperature within the project area is 90.1° F (32.2° C); the hottest month of the year is July with an average maximum temperature of 109.4° F (43.0° C). The average annual minimum temperature within the project area is 59.0° F (15.0° C), with December having the coldest average temperature of 43.4° F (6.3° C). The project area receives an average of 6.80 cm (2.67 inches) of precipitation annually; February has the highest average precipitation at 1.20 cm (0.48 inches). The project area receives no snowfall in the average year.

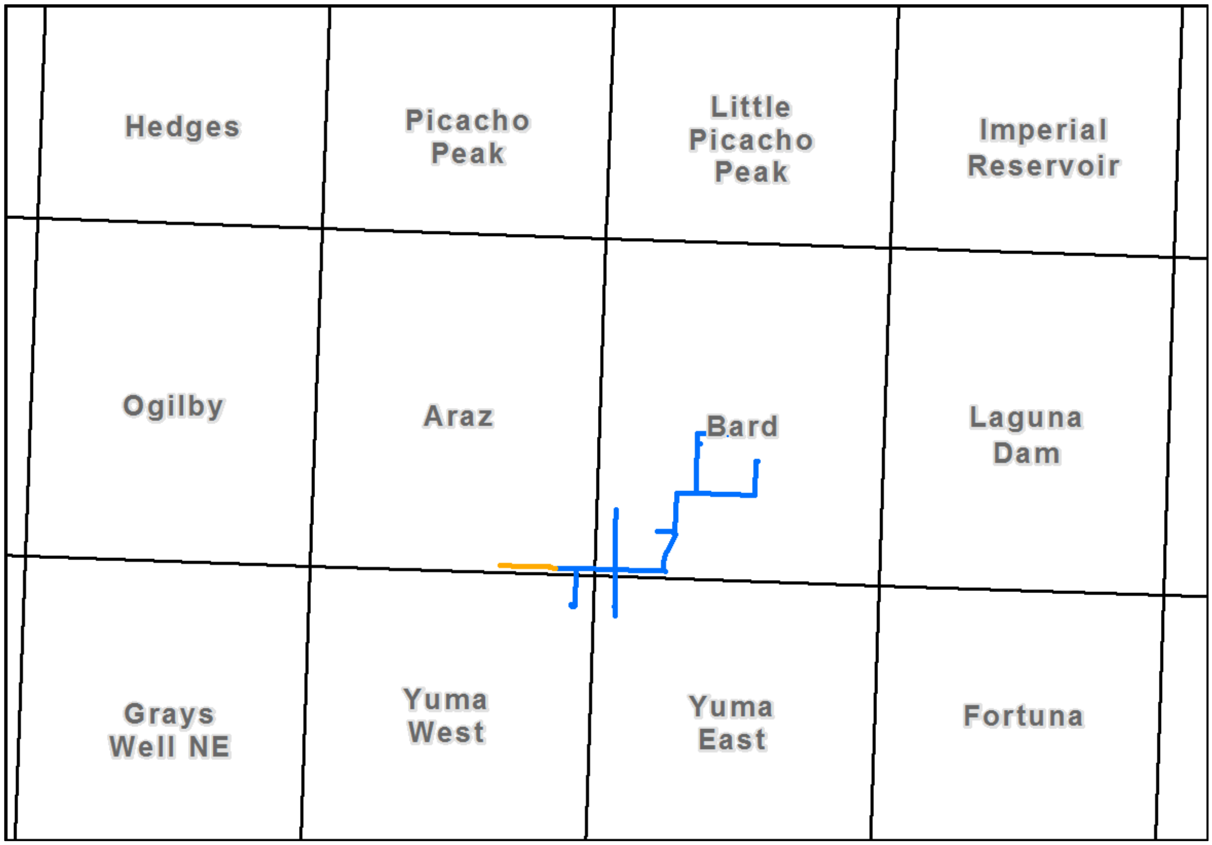

Figure 4. USGS topographic quadrangles in CNDDB search.

3.2 Habitat Types

3.2.1 Terrestrial Habitat

The study area is located within the Colorado Desert, as classified in *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 2009); however, the dominant type of terrestrial habitat present in the project area consists of agricultural land that is being actively cultivated to produce Sudangrass, wheat, cotton, alfalfa, dates, citrus, and other crops. The road shoulders where the proposed telecommunications line is to be installed are mostly devoid of vegetation as a result of blading activities associated with road maintenance and agricultural activities. Because of this previous disturbance, little-to-no native vegetation remains in the project area. Complete lists of plants and wildlife species identified in the study area at the time of the surveys can be found in Appendices C and D.

3.2.2 Aquatic Habitat

Aquatic habitat in the study area is limited to that associated with agricultural canals. There are no ponds or ephemeral or perennial waterways within the study area.

Grass Carp *(Ctenopharyngodon idella)*, a fish species native to southeastern Russia and northwestern China, has been stocked in the Yuma Main Canal by the Yuma County Water User's Association since October 2013 for vegetation control purposes.

3.2.3 Sensitive Natural Communities

Riparian Areas

No sensitive natural communities, as defined by CDFW, are present in the study area. However, the margins of unlined canals in the study area, especially the Reservation Main Drain, contain limited riparian vegetation consisting mostly of dense Common Reed *(Phragmites australis)* and invasive species such as Salt Cedar *(Tamarix ramosissima)* (see Photos 4 and 9 in Appendix E). This vegetation is mostly low-growing, is not structurally complex, and does not have a tree overstory.

Wetlands

Riverine wetlands may be present along the unlined canals that are crossed by the project corridors. These potential wetlands were not delineated during the field surveys because TDS will be boring beneath all of the canals crossed by the line installations with sufficient set backs from either the canal edges or the extent of associated vegetation, if present, thus avoiding any potential impacts to wetlands.

3.3 Special Status Species

Based on the assessment methodology outlined in Section 2.0, seven Special Status wildlife species are either known to occur or have the potential to occur in the study area (Table 4). Because of the previously disturbed nature of the study area and its lack of native vegetation, no Special Status plant species were expected to be found during the surveys, and none were identified.

3.3.1 Special Status Wildlife Species

Table 4. Special Status Species with the Potential to Occur in the Study Area

Scientific Name	Common Name	Status (FWS/State/CNPS)
Amphibians		
Incilius alvarius	Sonoran Desert Toad	–/SSC/–
Lithobates yavapaiensis	Lowland Leopard Frog	–/SSC/–
Birds		
Lanius ludovicianus	Loggerhead Shrike	–/SSC/–
Pyrocephalus rubinus	Vermilion Flycatcher	–/SSC/–
Xanthocephalus xanthocephalus	Yellow-headed Blackbird	–/SSC/–
Mammals		
Corynorhinus townsendii	Townsend's Big-eared Bat	–/CT, SSC/–
Sigmodon hispidus eremicus	Yuma Hispid Cotton Rat	–/SSC/–

Key: SSC = Species of Special Concern, CT = Candidate Threatened.

3.3.1.1 Sonoran Desert (Colorado River) Toad *(Incilius alvarius)*

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: The Colorado River Toad is found in the lower Colorado River and in irrigated lowlands of the extreme southeast portion of Imperial County. In the main part of its range it can be found at elevations from sea level to 1,600 m (5,300 feet) AMSL. It can be found in a variety of desert and semi-arid habitats, including brushy desert with creosote bush, washes with mesquite, and semi-arid grasslands and woodlands. It is semi-aquatic and is usually found associated with large, somewhat permanent streams. It is occasionally found near small springs, temporary rain pools, and human-made canals and irrigation ditches. This species is active from March to July during periods of warm rainfall (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDB Records: This species has mapped occurrences on the Araz and Bard USGS quadrangles.

Potential to Occur within the Study Area: No Sonoran Desert Toad individuals were identified during the biological survey. Sonoran Desert Toad has a moderate potential to occur along the unlined and vegetated canals crossed by the project corridors because they contain suitable cover, foraging, and general habitat for this species. It would be unlikely for this species to occur along the lined canals crossed by the project corridors and in the remaining portions of the study area located away from the canals because of the general lack of cover in these areas.

3.3.1.2 Lowland Leopard Frog *(Lithobates yavapaiensis)*

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: Historically, the Lowland Leopard Frog ranged from northwestern Arizona through central and southeastern Arizona, southwestern New Mexico, and northern Sonora, Mexico. Populations were also known from southwestern Arizona and southeastern California along the lower Colorado River and in the Coachella Valley. This species inhabits aquatic systems in lower elevation desert grasslands up to mid-elevation pinyon-juniper woodland. They are habitat generalists and breed in a variety of natural and human-made aquatic systems. Natural systems include rivers, permanent streams and permanent pools in intermittent streams, beaver ponds, cienegas, wetlands, and springs; while human-made systems include earthen cattle tanks, livestock drinkers, canals, irrigation sloughs, wells, mine adits, abandoned swimming pools, and ornamental backyard ponds. Most historical localities are from small-to-medium-sized streams and rivers. In these stream and river habitats, Lowland Leopard Frogs are typically concentrated at springs, near debris piles, at heads of pools, and near deep pools associated with root masses (Arizona Game and Fish Department 2006).

Critical Habitat Designation: Not applicable

CNDDB Records: This species has mapped occurrences on the Imperial Reservoir and Laguna USGS quadrangles.

Potential to Occur within the Study Area: No Lowland Leopard Frog individuals were identified during the biological survey. Lowland Leopard Frog has a moderate potential to occur along the unlined and vegetated canals crossed by the project corridors because they contain suitable cover, foraging, and general habitat for this species. It would be unlikely for this species to occur along the lined canals crossed by the project corridors and in the remaining portions of the study area located away from the canals because of the general lack of cover in these areas.

3.3.1.3 Loggerhead Shrike *(Lanius ludovicianus)*

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: Loggerhead Shrike is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Highest population density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. This species rarely occurs in heavily urbanized areas but is often found in open cropland. It sometimes uses edges of denser habitats (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDB Records: This species has an unprocessed occurrence on the Laguna Dam USGS quadrangle.

Potential to Occur within the Study Area: No Loggerhead Shrike individuals were identified during the biological survey. Loggerhead Shrike has a low potential to occur in the study area because of the presence of scattered residences and commercial areas with their associated activity levels; however, the agricultural fields in and adjacent to the study area located away from these developed areas may provide suitable open habitat for this species.

3.3.1.4 Vermilion Flycatcher *(Pyrocephalus rubinus)*

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: Vermilion Flycatcher is a rare, local, yearlong resident along the Colorado River, especially in vicinity of Blythe, Riverside County. Nesting individuals inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures and other open, mesic areas in isolated patches throughout central southern California. Populations of this species have declined drastically in the Imperial and Coachella Valleys and along the Colorado River, primarily as a result of loss of habitat. Despite local extirpations in these two valleys, the overall breeding range of Vermilion Flycatcher has expanded in recent years to the north and west (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDB Records: This species has mapped occurrences on the Yuma East and Laguna USGS quadrangles. It also has unprocessed and mapped occurrences on the Little Picacho Peak and Imperial Reservoir quadrangles.

Potential to Occur within the Study Area: No Vermilion Flycatcher individuals were identified during the biological survey. Vermilion Flycatcher has a low potential to nest in the study area because of the lack of well-developed riparian areas. This species has a moderate potential to occur in the irrigated fields and vegetated canals in and adjacent to the study area because these areas may provide suitable foraging habitat for this species.

3.3.1.5 Yellow-headed Blackbird *(Xanthocephalus xanthocephalus)*

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: In California, the Yellow-headed Blackbird breeds commonly but locally east of the Cascade Range and Sierra Nevada, in the Imperial and Colorado River Valleys, in the Central Valley, and at selected locations in the coast ranges west of the Central Valley. This species nests in fresh emergent wetlands with dense vegetation and deep water, often along the borders of lakes or ponds. Individuals forage in emergent wetlands and moist, open areas, especially cropland and the muddy shores of lakes. Yellow-headed Blackbird has a restricted distribution in the Central Valley in winter, occurring mainly in the western portion. This species is fairly common in winter in the Imperial Valley and it occurs as a migrant and local breeder in desert and along the Orange County coast. Yellow-headed Blackbird has bred, at least irregularly, as high as 2,000 m (6,600 feet) AMSL in the San Bernardino Mountains (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDB Records: This species has unprocessed occurrences on the Bard and Imperial Reservoir quadrangles.

Potential to Occur within the Study Area: No Yellow-headed Blackbird individuals were identified during the biological survey. There are no emergent wetlands in the study area suitable for nesting Yellow-headed Blackbirds; however, this species has a moderate potential to occur because the agricultural field in and adjacent to the study area may provide suitable foraging habitat.

3.3.1.6 Townsend's Big-eared Bat *(Corynorhinus townsendii)*

Federal Status: None

State/CDFW Status: Candidate Threatened, Species of Special Concern

Habitat/Biology: Townsend's Big-eared Bat is found throughout California, but the details of its distribution are not well-known. This species is found in all but subalpine and alpine habitats, and may be found at any season throughout its range. Once considered common, Townsend's Big-eared Bat is now considered uncommon in California. It is most abundant in mesic habitats. This species requires caves, mines, tunnels, buildings, or other human-made structures for roosting. It may use separate sites for night, day, hibernation, or maternity roosts. Hibernation roosts are cold but not below freezing, and individuals may move within the hibernacula to find suitable temperatures. Maternity roosts are warmer than hibernation roosts.

Small moths are the principal food source for Townsend's Big-eared Bat, although beetles and a variety of soft-bodied insects are also consumed. This species captures prey in flight using echolocation or by gleaning from foliage. Flight is slow and maneuverable, and this bat is capable of hovering (CDFW 2014).

Critical Habitat Designation: Not applicable

CNDDB Records: This species has mapped occurrences on the Bard, Yuma East, Yuma West, Imperial Reservoir, Little Picacho Peak, and Picacho Peak quadrangles.

Potential to Occur within the Study Area: No Townsend's Big-eared Bat individuals or potential roosting sites were identified in the study area during the biological survey. Townsend's Big-eared Bat has a moderate potential to occur in the study area while foraging because the vegetated areas, including agricultural fields, in and adjacent to the study area may provide suitable foraging habitat.

3.3.1.7 Yuma Hispid Cotton Rat *(Sigmodon hispidus eremicus)*

Federal Status: None

State/CDFW Status: Species of Special Concern

Habitat/Biology: In California, Yuma Hispid Cotton Rat occurs only along the Colorado River and in the Imperial Valley. Establishment of cotton rats in the Imperial Valley apparently was in response to agricultural irrigation practices. This species is most common in grassland and cropland habitats near water, including grass-forb understory vegetation in early successional stages of other habitats. Cotton rats also occur in overgrown clearings and herbaceous borders of fields and brushy areas (CDFW 2014). Grass height and density have been documented as important habitat components for hispid cotton rats; they utilize runways through dense herbaceous growth and nests are built of woven grass (BOR 2008).

Critical Habitat Designation: Not applicable

CNDDB Records: This species has mapped occurrences on the Bard, Yuma West, Little Picacho Peak, and Laguna Dam quadrangles. It also has mapped and unprocessed occurrences on the Yuma East quadrangle.

Potential to Occur within the Study Area: No Yuma Hispid Cotton Rat individuals were identified in the study area during the biological survey. Yuma Hispid Cotton Rat has a moderate potential to occur in the study area along the unlined Reservation Main Drain because the dense vegetation present represents suitable cover and foraging habitat. It would be unlikely for this species to occur along the lined canals crossed by the project corridors and in the remaining portions of the study area located away from the canals because of the lack of dense cover vegetation in these areas.

3.3.2 Migratory Birds

The study area and areas adjacent to it were determined to contain suitable habitat for two migratory birds appearing on the American Bird Conservancy's *U.S. Watchlist of Birds of Conservation Concern*. Both of these species were identified in the CNDDB search, which included mapped and unprocessed occurrences of Prairie Falcon *(Falco mexicanus)* on the Picacho Peak quadrangle and unprocessed occurrences of White-faced Ibis *(Plegadis chihi)* on the Bard quadrangle.

No bird nests were observed in the project corridors at the time of the surveys; this lack of nests was because the project corridors being essentially devoid of vegetation large enough to support bird nests. However, areas adjacent to the project corridors and the study area contain trees and other vegetation that may be utilized by migratory birds. A list of bird species appearing on the 2008 FWS Birds of Conservation Concern list for Bird Conservation Region 33, Sonoran and Mojave Deserts U.S. Portion Only, can be found in Table 5.

Table 5. Bird Conservation Region 33 Migratory Bird List

Least Bittern	Elf Owl
Bald Eagle	Burrowing Owl
Peregrine Falcon	Costa's Hummingbird
Prairie Falcon	Gila Woodpecker
Black Rail	Gilded Flicker
Snowy Plover	Bell's Vireo
Mountain Plover	Gray Vireo
Whimbrel	Bendire's Thrasher
Long-billed Curlew	LeConte's Thrasher
Marbled Godwit	Lucy's Warbler
Red Knot	Yellow Warbler
Gull-billed Tern	Rufous-winged Sparrow
Black Skimmer	Black-chinned Sparrow
Yellow-billed Cuckoo	Lawrence's Goldfinch

3.4 Invasive Species

Three invasive plant species appearing on the California Department of Food and Agriculture (CDFA) Noxious Weed Species List and/or the California Invasive Plant Council (CIPC) Invasive Plant Inventory list were identified in the study area. These invasive species include Russian Thistle *(Salsola kali)*, Kariba Weed *(Salvinia molesta)*, and Salt Cedar *(Tamarix ramosissima)* (See Appendix C).

With the exception of Russian Thistle and a few scattered dryland infestations of Salt Cedar, all of these invasive species were found associated with the irrigation canals crossed by the project corridors. The only aquatic invasive species identified, Kariba Weed, was found in the Reservation Main Drain at the proposed corridor crossings on Fisher, Picacho, and Stalnacker, Roads (crossings 7–9 indicated in Figure 2).

Two of the invasive species, Kariba Weed and Salt Cedar, have a High rating assigned by CIPC and the remaining species, Russian Thistle, has a Limited rating. The CIPC rating system is as follows:

> **High**: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate-to-high rates of dispersal and establishment. Most are widely distributed ecologically.
>
> **Moderate**: These species have substantial and apparent but generally not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate-to-high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
>
> **Limited:** These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low-to-moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

3.5 Jurisdictional Waters

There are no ephemeral drainages such as washes within or in the vicinity of the study area. There are several irrigation canals in the project area, and it was assumed that they flow at least intermittently and in some cases, perennially. An example of the latter would be the Yuma Main Canal and the Reservation Main Drain, two of the largest canals observed during the surveys. In total, the proposed fiber installations would cross irrigation canals at 17 locations.

The USACE and/or CDFW jurisdictional status of the canals in the project area was not determined conclusively because all of the canals would be avoided during the proposed telecommunications line installations (See the *Waterway Delineation and Assessment Report*, under separate cover). No dredge and fill operations will occur within the canals and no subsequent loss of WUS will take place because all canals in the project area will be bored beneath during the proposed installations. Likewise, a stream alteration permit from CDFW is unnecessary for the proposed installations because the canals and any potential wildlife habitat, either in the canals themselves or riparian habitat along the canal margins, will be avoided. A summary of the crossings, including the names of the canals, their locations, and corresponding identification numbers as indicated on Figure 2, can be found in Table 6.

Table 6. Irrigation Canal Crossings in the Study Area

Map No.	Canal Name	Location	Lined?
1	Reservation Main Drain	Stahlnacker Road	no
2	unnamed canal	Fisher and Parkman Roads	no
3	Reservation Main Drain	Fisher Road	no
4	Hopi Canal	Bard and Whitmore Road	no

Map No.	Canal Name	Location	Lined?
5	Cocopah Canal	Ross Road	yes
6	unnamed canal	Fisher and Ross Roads	yes
7	Papago Canal	Perez Road	no
8	Pima Canal	Haughtelin and Perez Roads	yes
9	Cocopah Canal	Flood Road	yes
10	Navajo Canal	Picacho and Jackson Roads	no
11	Reservation Main Drain	Picacho Road	no
12	Pima Canal	Picacho and Haughtelin Roads	yes
13	Pueblo Canal	Picacho and Indian Rock Roads	yes
14	Cocopah Canal	Picacho Road	no
15	Reservation Main Drain	Arnold Road	no
16	Yuma Main Canal	Arnold Road	no
17	Walapai Canal	Arnold Road	no

4.0 IMPACTS OF THE PROPOSED PROJECT

4.1 Significance Criteria

Per the regulatory requirements outlined in Section 1.3, including CEQA and NEPA statutes and guidelines, the proposed project will have a significant adverse impact on biological resources if it will:

- Have a substantial adverse effect, either directly through "take" or indirectly through habitat modifications, on any species identified as Threatened, Endangered, Candidate, or Proposed for Candidacy by FWS, or as Sensitive or as a Special-status Species in local or regional plans, policies, or regulations, or by FWS, CDFW, or CNPS;
- Have a substantial adverse effect on a species' Critical Habitat as designated by USFWS;
- Result in the introduction or spread of an invasive species;
- Have a substantial adverse effect on any sensitive natural community identified in local or regional plans, policies, regulations, or by the FWS or CDFW;
- Have a substantial adverse effect on Federally protected wetlands or other WUS as defined by Sections 10 and 404 of the Clean Water Act, including special aquatic sites such as wetlands, through direct removal, filling, hydrologic disruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources;
- Have a substantial adverse effect on habitat for commercially or recreationally important fisheries;
- Have a substantial adverse effect on waterfowl breeding or wintering habitat by reducing acreage or quality, or have a substantial adverse effect on the acreage or quality of migrant or wintering shorebird habitat; or,

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

4.2 Effects of the Proposed Project

The proposed project will involve the installation of a buried telecommunications line in the previously disturbed road shoulders of existing roads. Following line installation, the only surface-level ancillary equipment that will be visible will be line markers, splice boxes, and ten equipment cabinets mounted on concrete pads. The majority of the ground disturbance associated with the installation would be temporary and would occur during plowing operations and at the bore pit locations used for the bored installations. The only permanent ground disturbance would occur at the new equipment cabinet locations. Impacts to wildlife and wildlife habitat from the proposed project would be temporary. Equipment noise and the presence of work crews may disturb wildlife in the areas surrounding the project corridors. Because the installations would occur along existing roads that carry regular vehicular traffic, any increases in noise and activity levels during construction would be minimal.

4.3 Impact Assessment and Recommended Avoidance and Minimization Measures

The following impact assessment is based on the criteria summarized in Section 4.1. For each impact identified, recommended avoidance, minimization, or mitigation measures are identified.

4.3.1 Special Status Species

Potential Impact #1: Construction of the proposed project has the potential to impact Sonoran Desert Toad and Lowland Leopard Frog.

Sonoran Desert Toad and Lowland Leopard Frog have the potential to occur along the irrigation canals in the study area. Implementation of the proposed project has the potential to impact these two species if individuals come into contact with construction equipment or personnel or individuals attempt to flee the construction area and are subject to increased chances of predation or other harm. With the implementation of avoidance and minimization measures listed below, impacts are expected to be reduced to a less than significant level.

Recommended Avoidance and Minimization Measures for Impact #1:

- All irrigation canals in the study area will be avoided during construction.
- Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of the canal bank or the maximum extent of any vegetation present along the canal's margin.

Potential Impact #2: Construction of the proposed project has the potential to impact Loggerhead Shrike, Yellow-headed Blackbird, and Townsend's Big-eared Bat.

Loggerhead Shrike and Yellow-headed Blackbird have the potential to occur in the agricultural fields adjacent to the study area. In addition to potentially occurring in the agricultural fields, Townsend's Big-eared Bat has the potential to occur in vegetated areas adjacent to the study area.

Recommended Avoidance and Minimization Measures for Impact #2:

- All agricultural fields will be avoided during construction.
- It is extremely unlikely that any vegetation trimming will be necessary during project implementation; however, if trimming is required to facilitate the installations, it will be kept to the absolute minimum necessary.

Potential Impact #3: Construction of the proposed project has the potential to impact Vermilion Flycatcher and Yuma Hispid Cotton Rat.

Vermilion Flycatcher and Yuma Hispid Cotton Rat have the potential to occur in the agricultural fields adjacent to the study area and along the vegetated irrigation canals within the study area.

Recommended Avoidance and Minimization Measures for Impact #3:

- All agricultural fields will be avoided during construction.
- All irrigation canals in the study area will be avoided during construction.
- Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of the canal bank or the maximum extent of any vegetation present along the canal's margin.

4.3.2 Invasive Species

Potential Impact #4: Construction of the proposed project has the potential to result in the spread of invasive plant species.

Because of the presence of invasive plant species in the study area, implementation of the proposed project has the potential to result in further spread of existing noxious weeds. Invasive species could also be introduced into the study area by construction equipment, vehicles, personnel, or imported fill or other material. Further introduction of invasive plant species could adversely impact the irrigation canals in the project area and their associated riparian areas, where present. However, with the implementation of the avoidance and minimization measures listed below, impacts are expected to be reduced to a less than significant level.

Recommended Avoidance and Minimization Measures for Impact #4:

- All irrigation canals in the study area will be avoided during construction.
- Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of the canal bank or the maximum extent of any vegetation present along the canal's margin.
- All equipment and vehicles will be thoroughly cleaned to remove dirt and weed seeds prior to being transported or driven to or from the study area.

5.0 SUMMARY

This BRE has been prepared for the Winterhaven Last Mile Underserved Broadband Project in order to evaluate the potential for the proposed project to impact sensitive biological resources. Based on the results of the analysis conducted in preparation of this report, the proposed project has the potential to impact special-status species and result in the introduction or spread of invasive species. With the implementation of the proposed avoidance and minimization measures, all potential adverse impacts are expected to be reduced to a less than significant level.

6.0 REPORT PREPARERS AND CERTIFICATION

Tierra believes that the proposed project would not violate any of the regulatory requirements outlined in Section 1.3, provided that all recommended avoidance and minimization measures indicated in Section 1.4 are implemented during construction. Results and conclusions contained in this report are based on actual field reconnaissance and represent my best professional judgment, based on information provided by the project proponent, applicable agencies, and other sources.

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7.0 REFERENCES

Arizona Game and Fish Department

2006 Rana yavapaiensis. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, Arizona.

Bureau of Reclamation (BOR)

2008 *Species Accounts for the Lower Colorado River Multi-species Conservation Program*. U.S. Department of Interior Bureau of Reclamation, Lower Colorado Division, Boulder City, Nevada.

California Department of Fish and Wildlife (CDFW)

2014 California Wildlife Habitat Relationships (CWHR) System Life History Accounts and Range Maps. Available at: http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx. Accessed on July 13, 2014.

California Natural Diversity Database (CNDDB)

2014 Biogeographic Information and Observation System (BIOS). Available at https://map.dfg.ca.gov/bios/. Accessed on July 13, 2014.

Imperial County Planning and Development Services

2014 Conservation and Open Space Element. Available at: http://www.icpds.com/?pid=832. Accessed on November 1, 2014.

Lower Colorado River Multi-Species Conservation Program

2013 LCR Multi-Species Conservation Program. Available at: http://www.lcrmscp.gov/general_program.html. Accessed on November 1, 2014.

Sawyer, John O., and Todd Keeler-Wolf

2009 *A Manual of California Vegetation.* California Native Plant Society, Sacramento.

Western Regional Climate Center (WRCC)

2014 Yuma Quartermaster Depot, Arizona—Climate Summary. Available at: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nm8668. Accessed on June 19, 2014.

APPENDIX A. REGIONALLY OCCURRING SPECIAL STATUS SPECIES LISTS

Table A.1. Regionally Occurring Special Status Species Lists

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	*Incilius alvarius*	Sonoran Desert Toad	AAABB01010	none	none	SSC	-	3211475	Bard	mapped	Animals - Amphibians - *Bufonidae - Incilius alvarius*
Animals - Amphibians	*Incilius alvarius*	Sonoran Desert Toad	AAABB01010	none	none	SSC	-	3211476	Araz	mapped	Animals - Amphibians - *Bufonidae - Incilius alvarius*
Animals - Amphibians	*Lithobates yavapaiensis*	Lowland (=Yavapai, San Sebastian, and San Felipe) Leopard Frog	AAABH01250	none	none	SSC	-	3211484	Imperial Reservoir	mapped	Animals - Amphibians - *Ranidae - Lithobates yavapaiensis*
Animals - Amphibians	*Lithobates yavapaiensis*	Lowland (=Yavapai, San Sebastian, and San Felipe) Leopard Frog	AAABH01250	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Amphibians - *Ranidae - Lithobates yavapaiensis*
Animals - Birds	*Accipiter cooperii*	Cooper's Hawk	ABNKC12040	none	none	WL	-	3211474	Laguna Dam	mapped	Animals - Birds - *Accipitridae - Accipiter cooperii*
Animals - Birds	*Accipiter cooperii*	Cooper's Hawk	ABNKC12040	none	none	WL	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Accipitridae - Accipiter cooperii*
Animals - Birds	*Accipiter cooperii*	Cooper's Hawk	ABNKC12040	none	none	WL	-	3211475	Bard	mapped and unprocessed	Animals - Birds - *Accipitridae - Accipiter cooperii*
Animals - Birds	*Aquila chrysaetos*	Golden Eagle	ABNKC22010	none	none	FP; WL	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - *Accipitridae - Aquila chrysaetos*

Element Type	**Scientific Name**	**Common Name**	**Element Code**	**Federal Status**	**State Status**	**CDFW Status**	**CA Rare Plant Rank**	**Quad Code**	**Quad Name**	**Data Status**	**Taxonomic Sort**
Animals - Birds	*Haliaeetus leucocephalus*	Bald Eagle	ABNKC10010	delisted	Endangered	FP	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - *Accipitridae - Haliaeetus leucocephalus*
Animals - Birds	*Haliaeetus leucocephalus*	Bald Eagle	ABNKC10010	delisted	Endangered	FP	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Accipitridae - Haliaeetus leucocephalus*
Animals - Birds	*Pandion haliaetus*	Osprey	ABNKC01010	none	none	WL	-	3211475	Bard	unprocessed	Animals - Birds - *Accipitridae - Pandion haliaetus*
Animals - Birds	*Chaetura vauxi*	Vaux's Swift	ABNUA03020	none	none	SSC	-	3211475	Bard	unprocessed	Animals - Birds - *Apodidae - Chaetura vauxi*
Animals - Birds	*Chaetura vauxi*	Vaux's Swift	ABNUA03020	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - *Apodidae - Chaetura vauxi*
Animals - Birds	*Ardea herodias*	Great Blue Heron	ABNGA04010	none	none	-	-	3211475	Bard	mapped	Animals - Birds - *Ardeidae - Ardea herodias*
Animals - Birds	*Ardea herodias*	Great Blue Heron	ABNGA04010	none	none	-	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Ardeidae - Ardea herodias*
Animals - Birds	*Ardea herodias*	Great Blue Heron	ABNGA04010	none	none	-	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - *Ardeidae - Ardea herodias*
Animals - Birds	*Ixobrychus exilis*	Least Bittern	ABNGA02010	none	none	SSC	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - *Ardeidae - Ixobrychus exilis*
Animals - Birds	*Ixobrychus exilis*	Least Bittern	ABNGA02010	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Ardeidae - Ixobrychus exilis*
Animals - Birds	*Ixobrychus exilis*	Least Bittern	ABNGA02010	none	none	SSC	-	3211474	Laguna Dam	unprocessed	Animals - Birds - *Ardeidae - Ixobrychus exilis*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Nycticorax nycticorax*	Black-Crowned Night Heron	ABNGA11010	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - *Ardeidae* - *Nycticorax nycticorax*
Animals - Birds	*Nycticorax nycticorax*	Black-Crowned Night Heron	ABNGA11010	none	none	-	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Ardeidae* - *Nycticorax nycticorax*
Animals - Birds	*Mycteria americana*	Wood Stork	ABNGF02010	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Ciconiidae* - *Mycteria americana*
Animals - Birds	*Coccyzus americanus occidentalis*	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211484	Imperial Reservoir	mapped	Animals - Birds - *Cuculidae* - *Coccyzus americanus occidentalis*
Animals - Birds	*Coccyzus americanus occidentalis*	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - *Cuculidae* - *Coccyzus americanus occidentalis*
Animals - Birds	*Coccyzus americanus occidentalis*	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211465	Yuma East	unprocessed	Animals - Birds - *Cuculidae* - *Coccyzus americanus occidentalis*
Animals - Birds	*Coccyzus americanus occidentalis*	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211466	Yuma West	mapped	Animals - Birds - *Cuculidae* - *Coccyzus americanus occidentalis*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Coccyzus americanus occidentalis*	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Cuculidae* - *Coccyzus americanus occidentalis*
Animals - Birds	*Coccyzus americanus occidentalis*	Western Yellow-Billed Cuckoo	ABNRB02022	Proposed Threatened	Endangered	-	-	3211485	Little Picacho Peak	mapped	Animals - Birds - *Cuculidae* - *Coccyzus americanus occidentalis*
Animals - Birds	*Melozone aberti*	Abert's Towhee	ABPBX74050	none	none	-	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Emberizidae* - *Melozone aberti*
Animals - Birds	*Melozone aberti*	Abert's Towhee	ABPBX74050	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - *Emberizidae* - *Melozone aberti*
Animals - Birds	*Melozone aberti*	Abert's Towhee	ABPBX74050	none	none	-	-	3211475	Bard	unprocessed	Animals - Birds - *Emberizidae* - *Melozone aberti*
Animals - Birds	*Spizella passerina*	Chipping Sparrow	ABPBX94020	none	none	-	-	3211475	Bard	unprocessed	Animals - Birds - *Emberizidae* - *Spizella passerina*
Animals - Birds	*Falco mexicanus*	Prairie Falcon	ABNKD06090	none	none	WL	-	3211486	Picacho Peak	mapped and unprocessed	Animals - Birds - *Falconidae* - *Falco mexicanus*
Animals - Birds	*Xanthocephalus xanthocephalus*	Yellow-Headed Blackbird	ABPBXB3010	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Icteridae* - *Xanthocephalus xanthocephalus*
Animals - Birds	*Xanthocephalus xanthocephalus*	Yellow-Headed Blackbird	ABPBXB3010	none	none	SSC	-	3211475	Bard	unprocessed	Animals - Birds - *Icteridae* - *Xanthocephalus xanthocephalus*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Lanius ludovicianus*	Loggerhead Shrike	ABPBR01030	none	none	SSC	-	3211474	Laguna Dam	unprocessed	Animals - Birds - *Laniidae* - *Lanius ludovicianus*
Animals - Birds	*Toxostoma crissale*	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Birds - *Mimidae* - *Toxostoma crissale*
Animals - Birds	*Toxostoma crissale*	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - *Mimidae* - *Toxostoma crissale*
Animals - Birds	*Toxostoma crissale*	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211475	Bard	mapped	Animals - Birds - *Mimidae* - *Toxostoma crissale*
Animals - Birds	*Toxostoma crissale*	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Mimidae* - *Toxostoma crissale*
Animals - Birds	*Toxostoma crissale*	Crissal Thrasher	ABPBK06090	none	none	SSC	-	3211485	Little Picacho Peak	mapped	Animals - Birds - *Mimidae* - *Toxostoma crissale*
Animals - Birds	*Toxostoma lecontei*	Le Conte's Thrasher	ABPBK06100	none	none	SSC	-	3211476	Araz	unprocessed	Animals - Birds - *Mimidae* - *Toxostoma lecontei*
Animals - Birds	*Toxostoma lecontei*	Le Conte's Thrasher	ABPBK06100	none	none	SSC	-	3211475	Bard	unprocessed	Animals - Birds - *Mimidae* - *Toxostoma lecontei*
Animals - Birds	*Dendroica occidentalis*	Hermit Warbler	ABPBX03090	none	none	-	-	3211475	Bard	unprocessed	Animals - Birds - *Parulidae* - *Dendroica occidentalis*
Animals - Birds	*Dendroica occidentalis*	Hermit Warbler	ABPBX03090	none	none	-	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Parulidae* - *Dendroica occidentalis*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Dendroica occidentalis*	Hermit Warbler	ABPBX03090	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - *Parulidae* - *Dendroica occidentalis*
Animals - Birds	*Dendroica petechia brewsteri*	Yellow Warbler	ABPBX03018	none	none	SSC	-	3211474	Laguna Dam	unprocessed	Animals - Birds - *Parulidae* - *Dendroica petechia brewsteri*
Animals - Birds	*Dendroica petechia brewsteri*	Yellow Warbler	ABPBX03018	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Parulidae* - *Dendroica petechia brewsteri*
Animals - Birds	*Dendroica petechia sonorana*	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Parulidae* - *Dendroica petechia sonorana*
Animals - Birds	*Dendroica petechia sonorana*	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211475	Bard	mapped and unprocessed	Animals - Birds - *Parulidae* - *Dendroica petechia sonorana*
Animals - Birds	*Dendroica petechia sonorana*	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Parulidae* - *Dendroica petechia sonorana*
Animals - Birds	*Dendroica petechia sonorana*	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - *Parulidae* - *Dendroica petechia sonorana*
Animals - Birds	*Dendroica petechia sonorana*	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211465	Yuma East	unprocessed	Animals - Birds - *Parulidae* - *Dendroica petechia sonorana*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Dendroica petechia sonorana*	Sonoran Yellow Warbler	ABPBX03017	none	none	SSC	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - *Parulidae* - *Dendroica petechia sonorana*
Animals - Birds	*Icteria virens*	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211485	Little Picacho Peak	mapped and unprocessed	Animals - Birds - *Parulidae* - *Icteria virens*
Animals - Birds	*Icteria virens*	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211465	Yuma East	unprocessed	Animals - Birds - *Parulidae* - *Icteria virens*
Animals - Birds	*Icteria virens*	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - *Parulidae* - *Icteria virens*
Animals - Birds	*Icteria virens*	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Parulidae* - *Icteria virens*
Animals - Birds	*Icteria virens*	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Parulidae* - *Icteria virens*
Animals - Birds	*Icteria virens*	Yellow-Breasted Chat	ABPBX24010	none	none	SSC	-	3211475	Bard	mapped and unprocessed	Animals - Birds - *Parulidae* - *Icteria virens*
Animals - Birds	*Oreothlypis luciae*	Lucy's Warbler	ABPBX01090	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Parulidae* - *Oreothlypis luciae*
Animals - Birds	*Oreothlypis luciae*	Lucy's Warbler	ABPBX01090	none	none	SSC	-	3211474	Laguna Dam	unprocessed	Animals - Birds - *Parulidae* - *Oreothlypis luciae*
Animals - Birds	*Oreothlypis luciae*	Lucy's Warbler	ABPBX01090	none	none	SSC	-	3211465	Yuma East	unprocessed	Animals - Birds - *Parulidae* - *Oreothlypis luciae*
Animals - Birds	*Oreothlypis luciae*	Lucy's Warbler	ABPBX01090	none	none	SSC	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - *Parulidae* - *Oreothlypis luciae*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Phalacrocorax auritus*	Double-Crested Cormorant	ABNFD01020	none	none	WL	-	3211484	Imperial Reservoir	unprocessed	Animals - Birds - *Phalacrocoracidae* - *Phalacrocorax auritus*
Animals - Birds	*Colaptes chrysoides*	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Picidae* - *Colaptes chrysoides*
Animals - Birds	*Colaptes chrysoides*	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - *Picidae* - *Colaptes chrysoides*
Animals - Birds	*Colaptes chrysoides*	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211465	Yuma East	mapped and unprocessed	Animals - Birds - *Picidae* - *Colaptes chrysoides*
Animals - Birds	*Colaptes chrysoides*	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211466	Yuma West	mapped	Animals - Birds - *Picidae* - *Colaptes chrysoides*
Animals - Birds	*Colaptes chrysoides*	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Picidae* - *Colaptes chrysoides*
Animals - Birds	*Colaptes chrysoides*	Gilded Flicker	ABNYF10040	none	Endangered	-	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - *Picidae* - *Colaptes chrysoides*
Animals - Birds	*Melanerpes lewis*	Lewis' Woodpecker	ABNYF04010	none	none	-	-	3211475	Bard	unprocessed	Animals - Birds - *Picidae* - *Melanerpes lewis*
Animals - Birds	*Melanerpes uropygialis*	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - *Picidae* - *Melanerpes uropygialis*
Animals - Birds	*Melanerpes uropygialis*	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Picidae* - *Melanerpes uropygialis*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Melanerpes uropygialis*	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Picidae* - *Melanerpes uropygialis*
Animals - Birds	*Melanerpes uropygialis*	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211466	Yuma West	mapped	Animals - Birds - *Picidae* - *Melanerpes uropygialis*
Animals - Birds	*Melanerpes uropygialis*	Gila Woodpecker	ABNYF04150	none	Endangered	-	-	3211485	Little Picacho Peak	mapped	Animals - Birds - *Picidae* - *Melanerpes uropygialis*
Animals - Birds	*Laterallus jamaicensis coturniculus*	California Black Rail	ABNME03041	none	Threatened	FP	-	3211485	Little Picacho Peak	mapped	Animals - Birds - *Rallidae* - *Laterallus jamaicensis coturniculus*
Animals - Birds	*Laterallus jamaicensis coturniculus*	California Black Rail	ABNME03041	none	Threatened	FP	-	3211466	Yuma West	mapped	Animals - Birds - *Rallidae* - *Laterallus jamaicensis coturniculus*
Animals - Birds	*Laterallus jamaicensis coturniculus*	California Black Rail	ABNME03041	none	Threatened	FP	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Rallidae* - *Laterallus jamaicensis coturniculus*
Animals - Birds	*Laterallus jamaicensis coturniculus*	California Black Rail	ABNME03041	none	Threatened	FP	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Rallidae* - *Laterallus jamaicensis coturniculus*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Laterallus jamaicensis coturniculus*	California Black Rail	ABNME03041	none	Threatened	FP	-	3211475	Bard	mapped	Animals - Birds - *Rallidae* - *Laterallus jamaicensis coturniculus*
Animals - Birds	*Rallus longirostris yumanensis*	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211475	Bard	mapped	Animals - Birds - *Rallidae* - *Rallus longirostris yumanensis*
Animals - Birds	*Rallus longirostris yumanensis*	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Rallidae* - *Rallus longirostris yumanensis*
Animals - Birds	*Rallus longirostris yumanensis*	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211474	Laguna Dam	mapped	Animals - Birds - *Rallidae* - *Rallus longirostris yumanensis*
Animals - Birds	*Rallus longirostris yumanensis*	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211466	Yuma West	mapped	Animals - Birds - *Rallidae* - *Rallus longirostris yumanensis*
Animals - Birds	*Rallus longirostris yumanensis*	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211465	Yuma East	mapped and unprocessed	Animals - Birds - *Rallidae* - *Rallus longirostris yumanensis*
Animals - Birds	*Rallus longirostris yumanensis*	Yuma Clapper Rail	ABNME0501A	Endangered	Threatened	FP	-	3211485	Little Picacho Peak	mapped and unprocessed	Animals - Birds - *Rallidae* - *Rallus longirostris yumanensis*
Animals - Birds	*Micrathene whitneyi*	Elf Owl	ABNSB09010	none	Endangered	-	-	3211474	Laguna Dam	mapped	Animals - Birds - *Strigidae* - *Micrathene whitneyi*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Micrathene whitneyi*	Elf Owl	ABNSB09010	none	Endangered	-	-	3211484	Imperial Reservoir	mapped	Animals - Birds - *Strigidae* - *Micrathene whitneyi*
Animals - Birds	*Micrathene whitneyi*	Elf Owl	ABNSB09010	none	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - *Strigidae* - *Micrathene whitneyi*
Animals - Birds	*Polioptila melanura*	Black-Tailed Gnatcatcher	ABPBJ08030	none	none	-	-	3211475	Bard	mapped	Animals - Birds - *Sylviidae* - *Polioptila melanura*
Animals - Birds	*Polioptila melanura*	Black-Tailed Gnatcatcher	ABPBJ08030	none	none	-	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Sylviidae* - *Polioptila melanura*
Animals - Birds	*Polioptila melanura*	Black-Tailed Gnatcatcher	ABPBJ08030	none	none	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Sylviidae* - *Polioptila melanura*
Animals - Birds	*Polioptila melanura*	Black-Tailed Gnatcatcher	ABPBJ08030	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - *Sylviidae* - *Polioptila melanura*
Animals - Birds	*Piranga rubra*	Summer Tanager	ABPBX45030	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - *Thraupidae* - *Piranga rubra*
Animals - Birds	*Piranga rubra*	Summer Tanager	ABPBX45030	none	none	SSC	-	3211465	Yuma East	unprocessed	Animals - Birds - *Thraupidae* - *Piranga rubra*
Animals - Birds	*Piranga rubra*	Summer Tanager	ABPBX45030	none	none	SSC	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Thraupidae* - *Piranga rubra*

Element Type	**Scientific Name**	**Common Name**	**Element Code**	**Federal Status**	**State Status**	**CDFW Status**	**CA Rare Plant Rank**	**Quad Code**	**Quad Name**	**Data Status**	**Taxonomic Sort**
Animals - Birds	*Piranga rubra*	Summer Tanager	ABPBX45030	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Thraupidae* - *Piranga rubra*
Animals - Birds	*Piranga rubra*	Summer Tanager	ABPBX45030	none	none	SSC	-	3211475	Bard	mapped and unprocessed	Animals - Birds - *Thraupidae* - *Piranga rubra*
Animals - Birds	*Piranga rubra*	Summer Tanager	ABPBX45030	none	none	SSC	-	3211485	Little Picacho Peak	unprocessed	Animals - Birds - *Thraupidae* - *Piranga rubra*
Animals - Birds	*Plegadis chihi*	White-Faced Ibis	ABNGE02020	none	none	WL	-	3211475	Bard	unprocessed	Animals - Birds - *Threskiornithidae* - *Plegadis chihi*
Animals - Birds	*Calypte costae*	Costa's Hummingbird	ABNUC47020	none	none	-	-	3211466	Yuma West	unprocessed	Animals - Birds - *Trochilidae* - *Calypte costae*
Animals - Birds	*Contopus cooperi*	Olive-Sided Flycatcher	ABPAE32010	none	none	SSC	-	3211466	Yuma West	unprocessed	Animals - Birds - *Tyrannidae* - *Contopus cooperi*
Animals - Birds	*Empidonax traillii extimus*	Southwestern Willow Flycatcher	ABPAE33043	Endangered	Endangered	-	-	3211474	Laguna Dam	mapped	Animals - Birds - *Tyrannidae* - *Empidonax traillii extimus*
Animals - Birds	*Myiarchus tyrannulus*	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Tyrannidae* - *Myiarchus tyrannulus*
Animals - Birds	*Myiarchus tyrannulus*	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211465	Yuma East	unprocessed	Animals - Birds - *Tyrannidae* - *Myiarchus tyrannulus*
Animals - Birds	*Myiarchus tyrannulus*	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211475	Bard	mapped	Animals - Birds - *Tyrannidae* - *Myiarchus tyrannulus*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Myiarchus tyrannulus*	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Tyrannidae* - *Myiarchus tyrannulus*
Animals - Birds	*Myiarchus tyrannulus*	Brown-Crested Flycatcher	ABPAE43080	none	none	WL	-	3211485	Little Picacho Peak	mapped and unprocessed	Animals - Birds - *Tyrannidae* - *Myiarchus tyrannulus*
Animals - Birds	*Pyrocephalus rubinus*	Vermilion Flycatcher	ABPAE36010	none	none	SSC	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Tyrannidae* - *Pyrocephalus rubinus*
Animals - Birds	*Pyrocephalus rubinus*	Vermilion Flycatcher	ABPAE36010	none	none	SSC	-	3211475	Bard	mapped and unprocessed	Animals - Birds - *Tyrannidae* - *Pyrocephalus rubinus*
Animals - Birds	*Pyrocephalus rubinus*	Vermilion Flycatcher	ABPAE36010	none	none	SSC	-	3211465	Yuma East	mapped	Animals - Birds - *Tyrannidae* - *Pyrocephalus rubinus*
Animals - Birds	*Pyrocephalus rubinus*	Vermilion Flycatcher	ABPAE36010	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Birds - *Tyrannidae* - *Pyrocephalus rubinus*
Animals - Birds	*Vireo bellii arizonae*	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211474	Laguna Dam	mapped and unprocessed	Animals - Birds - *Vireonidae* - *Vireo bellii arizonae*
Animals - Birds	*Vireo bellii arizonae*	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211465	Yuma East	mapped and unprocessed	Animals - Birds - *Vireonidae* - *Vireo bellii arizonae*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Birds	*Vireo bellii arizonae*	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211466	Yuma West	mapped	Animals - Birds - *Vireonidae* - *Vireo bellii arizonae*
Animals - Birds	*Vireo bellii arizonae*	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211475	Bard	mapped	Animals - Birds - *Vireonidae* - *Vireo bellii arizonae*
Animals - Birds	*Vireo bellii arizonae*	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211484	Imperial Reservoir	mapped and unprocessed	Animals - Birds - *Vireonidae* - *Vireo bellii arizonae*
Animals - Birds	*Vireo bellii arizonae*	Arizona Bell's Vireo	ABPBW01111	none	Endangered	-	-	3211485	Little Picacho Peak	mapped and unprocessed	Animals - Birds - *Vireonidae* - *Vireo bellii arizonae*
Animals - Fish	*Xyrauchen texanus*	Razorback Sucker	AFCJC11010	Endangered	Endangered	FP	-	3211484	Imperial Reservoir	mapped	*Animals - Fish - Catostomidae - Xyrauchen texanus*
Animals - Fish	*Xyrauchen texanus*	Razorback Sucker	AFCJC11010	Endangered	Endangered	FP	-	3211475	Bard	mapped	*Animals - Fish - Catostomidae - Xyrauchen texanus*
Animals - Fish	*Xyrauchen texanus*	Razorback Sucker	AFCJC11010	Endangered	Endangered	FP	-	3211474	Laguna Dam	mapped	*Animals - Fish - Catostomidae - Xyrauchen texanus*
Animals - Fish	*Ptychocheilus lucius*	Colorado Pikeminnow	AFCJB35020	Endangered	Endangered	FP	-	3211474	Laguna Dam	mapped	*Animals - Fish - Cyprinidae - Ptychocheilus lucius*
Animals - Fish	*Ptychocheilus lucius*	Colorado Pikeminnow	AFCJB35020	Endangered	Endangered	FP	-	3211475	Bard	mapped	*Animals - Fish - Cyprinidae - Ptychocheilus lucius*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Mammals	*Ovis canadensis nelsoni*	Desert Bighorn Sheep	AMALE04013	none	none	FP	-	3211486	Picacho Peak	mapped and unprocessed	Animals - Mammals - *Bovidae - Ovis canadensis nelsoni*
Animals - Mammals	*Neotoma albigula venusta*	Colorado Valley Woodrat	AMAFF08031	none	none	-	-	3211484	Imperial Reservoir	mapped	Animals - Mammals - *Muridae - Neotoma albigula venusta*
Animals - Mammals	*Neotoma albigula venusta*	Colorado Valley Woodrat	AMAFF08031	none	none	-	-	3211485	Little Picacho Peak	mapped	Animals - Mammals - *Muridae - Neotoma albigula venusta*
Animals - Mammals	*Neotoma albigula venusta*	Colorado Valley Woodrat	AMAFF08031	none	none	-	-	3211475	Bard	mapped	Animals - Mammals - *Muridae - Neotoma albigula venusta*
Animals - Mammals	*Neotoma albigula venusta*	Colorado Valley Woodrat	AMAFF08031	none	none	-	-	3211466	Yuma West	mapped	Animals - Mammals - *Muridae - Neotoma albigula venusta*
Animals - Mammals	*Sigmodon hispidus eremicus*	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Mammals - *Muridae - Sigmodon hispidus eremicus*
Animals - Mammals	*Sigmodon hispidus eremicus*	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211466	Yuma West	mapped	Animals - Mammals - *Muridae - Sigmodon hispidus eremicus*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Mammals	*Sigmodon hispidus eremicus*	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211465	Yuma East	mapped and unprocessed	Animals - Mammals - *Muridae - Sigmodon hispidus eremicus*
Animals - Mammals	*Sigmodon hispidus eremicus*	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211475	Bard	mapped	Animals - Mammals - *Muridae - Sigmodon hispidus eremicus*
Animals - Mammals	*Sigmodon hispidus eremicus*	Yuma Hispid Cotton Rat	AMAFF07013	none	none	SSC	-	3211485	Little Picacho Peak	mapped	Animals - Mammals - *Muridae - Sigmodon hispidus eremicus*
Animals - Mammals	*Taxidea taxus*	American Badger	AMAJF04010	none	none	SSC	-	3211485	Little Picacho Peak	mapped	Animals - Mammals - *Mustelidae - Taxidea taxus*
Animals - Mammals	*Taxidea taxus*	American Badger	AMAJF04010	none	none	SSC	-	3211484	Imperial Reservoir	mapped	Animals - Mammals - *Mustelidae - Taxidea taxus*
Animals - Mammals	*Taxidea taxus*	American Badger	AMAJF04010	none	none	SSC	-	3211476	Araz	mapped	Animals - Mammals - *Mustelidae - Taxidea taxus*
Animals - Mammals	*Taxidea taxus*	American Badger	AMAJF04010	none	none	SSC	-	3211475	Bard	mapped	Animals - Mammals - *Mustelidae - Taxidea taxus*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Mammals	*Macrotus californicus*	California Leaf-Nosed Bat	AMACB01010	none	none	SSC	-	3211475	Bard	mapped	Animals - Mammals - *Phyllostomidae* - *Macrotus californicus*
Animals - Mammals	*Macrotus californicus*	California Leaf-Nosed Bat	AMACB01010	none	none	SSC	-	3211484	Imperial Reservoir	unprocessed	Animals - Mammals - *Phyllostomidae* - *Macrotus californicus*
Animals - Mammals	*Corynorhinus townsendii*	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211484	Imperial Reservoir	mapped	Animals - Mammals - *Vespertilionidae* - *Corynorhinus townsendii*
Animals - Mammals	*Corynorhinus townsendii*	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211485	Little Picacho Peak	mapped	Animals - Mammals - *Vespertilionidae* - *Corynorhinus townsendii*
Animals - Mammals	*Corynorhinus townsendii*	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211486	Picacho Peak	mapped	Animals - Mammals - *Vespertilionidae* - *Corynorhinus townsendii*
Animals - Mammals	*Corynorhinus townsendii*	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211475	Bard	mapped	Animals - Mammals - *Vespertilionidae* - *Corynorhinus townsendii*
Animals - Mammals	*Corynorhinus townsendii*	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211466	Yuma West	mapped	Animals - Mammals - *Vespertilionidae* - *Corynorhinus townsendii*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Mammals	*Corynorhinus townsendii*	Townsend's Big-Eared Bat	AMACC08010	none	Candidate Threatened	SSC	-	3211465	Yuma East	mapped	Animals - Mammals - *Vespertilionidae - Corynorhinus townsendii*
Animals - Mammals	*Myotis lucifugus*	Little Brown Bat	AMACC01010	none	none	-	-	3211475	Bard	unprocessed	Animals - Mammals - *Vespertilionidae - Myotis lucifugus*
Animals - Mammals	*Myotis occultus*	Arizona Myotis	AMACC01160	none	none	SSC	-	3211475	Bard	mapped	Animals - Mammals - *Vespertilionidae - Myotis occultus*
Animals - Mammals	*Myotis occultus*	Arizona Myotis	AMACC01160	none	none	SSC	-	3211465	Yuma East	mapped	Animals - Mammals - *Vespertilionidae - Myotis occultus*
Animals - Mammals	*Myotis yumanensis*	Yuma Myotis	AMACC01020	none	none	-	-	3211475	Bard	mapped	Animals - Mammals - *Vespertilionidae - Myotis yumanensis*
Animals - Reptiles	*Heloderma suspectum cinctum*	Banded Gila Monster	ARACE01011	none	none	SSC	-	3211484	Imperial Reservoir	mapped	Animals - Reptiles - *Helodermatidae - Heloderma suspectum cinctum*
Animals - Reptiles	*Kinosternon sonoriense*	Sonoran Mud Turtle	ARAAE01040	none	none	SSC	-	3211475	Bard	mapped	Animals - Reptiles - *Kinosternidae - Kinosternon sonoriense*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Reptiles	*Kinosternon sonoriense*	Sonoran Mud Turtle	ARAAE01040	none	none	SSC	-	3211465	Yuma East	mapped	Animals - Reptiles - *Kinosternidae* - *Kinosternon sonoriense*
Animals - Reptiles	*Kinosternon sonoriense*	Sonoran Mud Turtle	ARAAE01040	none	none	SSC	-	3211474	Laguna Dam	mapped	Animals - Reptiles - *Kinosternidae* - *Kinosternon sonoriense*
Animals - Reptiles	*Kinosternon sonoriense*	Sonoran Mud Turtle	ARAAE01040	none	none	SSC	-	3211466	Yuma West	mapped	Animals - Reptiles - *Kinosternidae* - *Kinosternon sonoriense*
Animals - Reptiles	*Phrynosoma mcallii*	Flat-Tailed Horned Lizard	ARACF12040	none	none	SSC	-	3211466	Yuma West	mapped	Animals - Reptiles - *Phrynosomatidae* - *Phrynosoma mcallii*
Animals - Reptiles	*Phrynosoma mcallii*	Flat-Tailed Horned Lizard	ARACF12040	none	none	SSC	-	3211465	Yuma East	mapped	Animals - Reptiles - *Phrynosomatidae* - *Phrynosoma mcallii*
Animals - Reptiles	*Phrynosoma mcallii*	Flat-Tailed Horned Lizard	ARACF12040	none	none	SSC	-	3211475	Bard	mapped	Animals - Reptiles - *Phrynosomatidae* - *Phrynosoma mcallii*
Animals - Reptiles	*Phrynosoma mcallii*	Flat-Tailed Horned Lizard	ARACF12040	none	none	SSC	-	3211476	Araz	mapped and unprocessed	Animals - Reptiles - *Phrynosomatidae* - *Phrynosoma mcallii*

Element Type	**Scientific Name**	**Common Name**	**Element Code**	**Federal Status**	**State Status**	**CDFW Status**	**CA Rare Plant Rank**	**Quad Code**	**Quad Name**	**Data Status**	**Taxonomic Sort**
Animals - Reptiles	*Gopherus agassizii*	Desert Tortoise	ARAAF01012	Threatened	Threatened	-	-	3211466	Yuma West	mapped	Animals - Reptiles - *Testudinidae - Gopherus agassizii*
Community - Terrestrial	*Sonoran Cottonwood Willow Riparian Forest*	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211466	Yuma West	mapped	Community - Terrestrial - *Sonoran Cottonwood Willow Riparian Forest*
Community - Terrestrial	*Sonoran Cottonwood Willow Riparian Forest*	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211474	Laguna Dam	mapped	Community - Terrestrial - *Sonoran Cottonwood Willow Riparian Forest*
Community - Terrestrial	*Sonoran Cottonwood Willow Riparian Forest*	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211475	Bard	mapped	Community - Terrestrial - *Sonoran Cottonwood Willow Riparian Forest*
Community - Terrestrial	*Sonoran Cottonwood Willow Riparian Forest*	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211484	Imperial Reservoir	mapped	Community - Terrestrial - *Sonoran Cottonwood Willow Riparian Forest*
Community - Terrestrial	*Sonoran Cottonwood Willow Riparian Forest*	Sonoran Cottonwood Willow Riparian Forest	CTT61810CA	none	none	-	-	3211485	Little Picacho Peak	mapped	Community - Terrestrial - *Sonoran Cottonwood Willow Riparian Forest*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Plants - Vascular	*Palafoxia arida var. gigantea*	Giant Spanish-Needle	PDAST6T012	none	none	-	1B.3	3211466	Yuma West	mapped	Plants - Vascular - *Asteraceae - Palafoxia arida var. gigantea*
Plants - Vascular	*Cryptantha holoptera*	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211466	Yuma West	unprocessed	Plants - Vascular - *Boraginaceae - Cryptantha holoptera*
Plants - Vascular	*Cryptantha holoptera*	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211474	Laguna Dam	unprocessed	Plants - Vascular - *Boraginaceae - Cryptantha holoptera*
Plants - Vascular	*Cryptantha holoptera*	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211476	Araz	unprocessed	Plants - Vascular - *Boraginaceae - Cryptantha holoptera*
Plants - Vascular	*Cryptantha holoptera*	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211485	Little Picacho Peak	unprocessed	Plants - Vascular - *Boraginaceae - Cryptantha holoptera*
Plants - Vascular	*Cryptantha holoptera*	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211484	Imperial Reservoir	unprocessed	Plants - Vascular - *Boraginaceae - Cryptantha holoptera*
Plants - Vascular	*Cryptantha holoptera*	Winged Cryptantha	PDBOR0A180	none	none	-	4.3	3211486	Picacho Peak	unprocessed	Plants - Vascular - *Boraginaceae - Cryptantha holoptera*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Plants - Vascular	*Nama stenocarpum*	Mud Nama	PDHYD0A0H0	none	none	-	2B.2	3211466	Yuma West	mapped	Plants - Vascular - *Boraginaceae - Nama stenocarpum*
Plants - Vascular	*Nama stenocarpum*	Mud Nama	PDHYD0A0H0	none	none	-	2B.2	3211465	Yuma East	mapped	Plants - Vascular - *Boraginaceae - Nama stenocarpum*
Plants - Vascular	*Carnegiea gigantea*	Saguaro	PDCAC12010	none	none	-	2B.2	3211474	Laguna Dam	mapped and unprocessed	Plants - Vascular - *Cactaceae - Carnegiea gigantea*
Plants - Vascular	*Carnegiea gigantea*	Saguaro	PDCAC12010	none	none	-	2B.2	3211475	Bard	mapped	Plants - Vascular - *Cactaceae - Carnegiea gigantea*
Plants - Vascular	*Carnegiea gigantea*	Saguaro	PDCAC12010	none	none	-	2B.2	3211484	Imperial Reservoir	mapped	Plants - Vascular - *Cactaceae - Carnegiea gigantea*
Plants - Vascular	*Carnegiea gigantea*	Saguaro	PDCAC12010	none	none	-	2B.2	3211485	Little Picacho Peak	mapped	Plants - Vascular - *Cactaceae - Carnegiea gigantea*
Plants - Vascular	*Koeberlinia spinosa ssp. tenuispina*	Slender-Spined All-Thorn	PDCPP05012	none	none	-	2B.2	3211486	Picacho Peak	mapped	Plants - Vascular - *Capparaceae - Koeberlinia spinosa ssp. tenuispina*
Plants - Vascular	*Croton wigginsii*	Wiggins' Croton	PDEUP0H140	none	rare	-	2B.2	3211475	Bard	mapped	Plants - Vascular - *Euphorbiaceae - Croton wigginsii*

Element Type	**Scientific Name**	**Common Name**	**Element Code**	**Federal Status**	**State Status**	**CDFW Status**	**CA Rare Plant Rank**	**Quad Code**	**Quad Name**	**Data Status**	**Taxonomic Sort**
Plants - Vascular	*Croton wigginsii*	Wiggins' Croton	PDEUP0H140	none	rare	-	2B.2	3211476	Araz	mapped	Plants - Vascular - *Euphorbiaceae - Croton wigginsii*
Plants - Vascular	*Ditaxis claryana*	Glandular Ditaxis	PDEUP080L0	none	none	-	2B.2	3211486	Picacho Peak	mapped and unprocessed	Plants - Vascular - *Euphorbiaceae - Ditaxis claryana*
Plants - Vascular	*Ditaxis claryana*	Glandular Ditaxis	PDEUP080L0	none	none	-	2B.2	3211485	Little Picacho Peak	mapped	Plants - Vascular - *Euphorbiaceae - Ditaxis claryana*
Plants - Vascular	*Astragalus insularis var. harwoodii*	Harwood's Milk-Vetch	PDFAB0F491	none	none	-	2B.2	3211476	Araz	mapped	Plants - Vascular - *Fabaceae - Astragalus insularis var. harwoodii*
Plants - Vascular	*Astragalus insularis var. harwoodii*	Harwood's Milk-Vetch	PDFAB0F491	none	none	-	2B.2	3211466	Yuma West	mapped	Plants - Vascular - *Fabaceae - Astragalus insularis var. harwoodii*
Plants - Vascular	*Calliandra eriophylla*	Pink Fairy-Duster	PDFAB0N040	none	none	-	2B.3	3211486	Picacho Peak	mapped	Plants - Vascular - *Fabaceae - Calliandra eriophylla*
Plants - Vascular	*Juncus acutus ssp. leopoldii*	Southwestern Spiny Rush	PMJUN01051	none	none	-	4.2	3211484	Imperial Reservoir	unprocessed	Plants - Vascular - *Juncaceae - Juncus acutus ssp. leopoldii*

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Plants - Vascular	*Horsfordia newberryi*	Newberry's Velvet-Mallow	PDMAL0J020	none	none	-	4.3	3211486	Picacho Peak	unprocessed	Plants - Vascular - *Malvaceae - Horsfordia newberryi*
Plants - Vascular	*Digitaria californica var. californica*	Arizona Cottontop	PMPOA27051	none	none	-	2B.3	3211475	Bard	mapped	Plants - Vascular - *Poaceae - Digitaria californica var. californica*
Plants - Vascular	*Panicum hirticaule ssp. hirticaule*	Roughstalk Witch Grass	PMPOA4K170	none	none	-	2B.1	3211466	Yuma West	mapped	Plants - Vascular - *Poaceae - Panicum hirticaule ssp. hirticaule*
Plants - Vascular	*Panicum hirticaule ssp. hirticaule*	Roughstalk Witch Grass	PMPOA4K170	none	none	-	2B.1	3211465	Yuma East	mapped	Plants - Vascular - *Poaceae - Panicum hirticaule ssp. hirticaule*
Plants - Vascular	*Colubrina californica*	Las Animas Colubrina	PDRHA05030	none	none	-	2B.3	3211486	Picacho Peak	mapped	Plants - Vascular - *Rhamnaceae - Colubrina californica*
Plants - Vascular	*Colubrina californica*	Las Animas Colubrina	PDRHA05030	none	none	-	2B.3	3211485	Little Picacho Peak	mapped	Plants - Vascular - *Rhamnaceae - Colubrina californica*
Plants - Vascular	*Condalia globosa var. pubescens*	Spiny Abrojo	PDRHA06031	none	none	-	4.2	3211485	Little Picacho Peak	unprocessed	Plants - Vascular - *Rhamnaceae - Condalia globosa var. pubescens*

Element Type	**Scientific Name**	**Common Name**	**Element Code**	**Federal Status**	**State Status**	**CDFW Status**	**CA Rare Plant Rank**	**Quad Code**	**Quad Name**	**Data Status**	**Taxonomic Sort**
Plants - Vascular	*Condalia globosa var. pubescens*	Spiny Abrojo	PDRHA06031	none	none	-	4.2	3211486	Picacho Peak	unprocessed	Plants - Vascular - *Rhamnaceae - Condalia globosa var. pubescens*
Plants - Vascular	*Condalia globosa var. pubescens*	Spiny Abrojo	PDRHA06031	none	none	-	4.2	3211475	Bard	unprocessed	Plants - Vascular - *Rhamnaceae - Condalia globosa var. pubescens*
Plants - Vascular	*Penstemon pseudospectabilis ssp. pseudospectabilis*	Desert Beardtongue	PDSCR1L562	none	none	-	2B.2	3211475	Bard	mapped	Plants - Vascular - *Scrophulariaceae - Penstemon pseudospectabilis ssp. pseudospectabilis*
Plants - Vascular	*Penstemon pseudospectabilis ssp. pseudospectabilis*	Desert Beardtongue	PDSCR1L562	none	none	-	2B.2	3211486	Picacho Peak	mapped	Plants - Vascular - *Scrophulariaceae - Penstemon pseudospectabilis ssp. pseudospectabilis*

APPENDIX B. LISTED, PROPOSED SPECIES, AND CRITICAL HABITAT POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT REGION EXCLUDED FROM FURTHER CONSIDERATION

Table B.1. Listed, Proposed Species, and Critical Habitat Potentially Occurring or Known to Occur in the Project Region Excluded from Further Consideration

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat[a]	Exclusion Justification
Birds				
Accipiter cooperii	Cooper's Hawk	-/WL/-	low-to-mid-elevation riparian areas, woodlands, and forests	no suitable riparian, woodland, or forest habitat present in study area
Aquila chrysaetos	Golden Eagle	-/FP,WL/-	open habitats, including tundra, grasslands and desert; nesting cliffs, with typical heights of at least 30 m (100 feet), are normally directly adjacent to foraging habitat of desert grasslands or desert scrub	no suitable cliff habitat for nesting or open desert habitat for foraging present in study area
Chaetura vauxi	Vaux's Swift	-/SSC/-	Redwood and Douglas-fir habitats with nest-sites in large hollow trees and snags, especially tall, burned-out stubs; a fairly common migrant throughout most of the state in April and May and August and September; a few individuals winter irregularly in southern coastal lowlands	no suitable habitat present in study area. may occur in the vicinity of the study area as a transient during migration, but not in the study area itself
Coccyzus americanus occidentalis	Western Yellow-billed Cuckoo	PT/E/-	dense cottonwood/willow stands in areas of standing water	no suitable riparian habitat present in study area
Colaptes chrysoides	Gilded Flicker	-/E/-	upper and lower Sonoran Desert with Saguaros	no suitable Sonoran desert habitat present in study area
Contopus cooperi	Olive-sided Flycatcher	-/SSC/-	forest and woodland habitats below 2,800 m (9,000 feet) throughout California exclusive of the deserts, the central valley, and other lowland valleys and basins; preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine; arrives from South American wintering areas in mid-April (southern California) to early May (northern California), with transient individuals still moving north in early June; departs breeding areas in August; most have left the state by early October	no suitable habitat present in study area. may occur in the vicinity of the study area as a transient during migration, but not in the study area itself

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat[a]	Exclusion Justification
Dendroica petechia brewsteri	Yellow Warbler	-/SSC/-	riparian areas with cottonwoods, willows, and alder	no suitable riparian habitat present in study area
Dendroica petechia sonorana	Sonoran Yellow Warbler	-/SSC/-	riparian areas including tamarisk thickets	no suitable riparian or tamarisk thicket habitat present in study area
Empidonax traillii extimus	Southwestern Willow Flycatcher	E/E/-	dense and layered willow, cottonwood, and tamarisk thickets and woodland along streams and rivers	no suitable riparian or tamarisk thicket habitat present in study area
Haliaeetus leucocephalus	Bald Eagle	-/E,FP/-	open areas, forest edges, and mountains near large lakes and rivers; requires tall trees for nesting	no suitable habitat in the vicinity of large waterbodies present in study area
Icteria virens	Yellow-breasted Chat	-/SSC/-	riparian thickets with willows and other brushy vegetation near watercourses	no suitable riparian habitat present in study area
Ixobrychus exilis	Least Bittern	-/SSC/-	densely vegetated emergent wetlands near sources of fresh water and desert riparian areas including tamarisk thickets	no suitable riparian or tamarisk thicket habitat present in study area
Kinosternon sonoriense	Sonoran Mud Turtle	-/SSC/-	rivers, streams, stock tanks, ponds, and reservoirs	no suitable aquatic habitat present in study area
Laterallus jamaicensis coturniculus	California Black Rail	-/T,FP/-	tidal salt marshes. Also occurs in brackish and fresh-water marshes, all at low elevations	no suitable marsh habitat present in study area
Melanerpes uropygialis	Gila Woodpecker	-/E/-	desert riparian and wash habitats. Cottonwoods and other desert riparian trees, shade trees, and date palms supply cover	no suitable riparian or wash habitat present in study area
Micrathene whitneyi	Elf Owl	-/E/-	desert riparian areas with cottonwood, sycamore, willow, or mesquite; absent from habitats dominated by tamarisk	no suitable riparian habitat present in study area
Mycteria americana	Wood Stork	-/SSC/-	breeds in Mexico, Central and South America, and along the southeastern U.S. coast; this species is a locally common post-breeding visitor to California, with several hundred birds occurring in Imperial County from late May to October in marshes at the south end of the Salton Sea	no suitable marsh habitat present in study area. may occur in the vicinity of the study area as a transient during migration, but not in the study area itself
Myiarchus tyrannulus	Brown-crested Flycatcher	-/WL/-	riparian areas with cottonwood, willow, or mesquite; desert scrub and tamarisk thickets often used for foraging	no suitable riparian, tamarisk thicket, or desertscrub habitat present in study area

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat[a]	Exclusion Justification
Oreothlypis luciae	Lucy's Warbler	-/SSC/-	desert washes and riparian areas dominated by mesquite; also found in tamarisk and other thickets	no suitable wash, riparian, or tamarisk thicket habitat present in study area
Pandion haliaetus	Osprey	-/WL/-	riparian areas near large, fish-bearing bodies of water	no suitable riparian habitat near large bodies of water present in study area
Phalacrocorax auritus	Double-crested Cormorant	-/WL/-	large, open bodies of water including slow-moving rivers, lakes, and reservoirs	no suitable large waterbody habitat present in study area.
Piranga rubra	Summer Tanager	-/SSC/-	desert riparian areas dominated by cottonwoods and willows	no suitable riparian habitat present in study area
Rallus longirostris yumanensis	Yuma Clapper Rail	E/T,FP/-	freshwater and brackish marshes. Prefers dense cattails, bulrushes, and other aquatic vegetation; nests in riverine wetlands near upland, in shallow sites dominated by mature vegetation, often in the base of a shrub; prefers denser cover in winter than in summer	no suitable marsh habitat present in study area
Toxostoma crissale	Crissal Thrasher	-/SSC/-	dense vegetation along streams and washes with mesquite, willows, and arrowweed	no suitable riparian or desert wash habitat present in study area
Toxostoma lecontei	Le Conte's Thrasher	-/SSC/-	arid and sparsely vegetated desertscrub with saltbush and creosote scrub	no suitable desertscrub habitat present in study area
Vireo bellii arizonae	Arizona Bell's Vireo	-/E/-	riparian areas along the Colorado River from Needles to Blythe	no suitable riparian habitat present in study area
Vireo bellii pusillus	Least Bell's Vireo	E/E/-	riparian areas with willows	no suitable riparian habitat present in study area
Fish				
Cyprinodon macularius	Desert Pupfish	E/E/-	shallow waters of springs, small streams, and marshes. Often associated with areas of soft substrates and clear water	no suitable aquatic habitat present in study area
Ptychocheilus lucius	Colorado Pikeminnow	E/E,FP/-	large-to-medium-sized rivers (adults) and backwaters (juveniles)	no suitable aquatic habitat present in study area
Xyrauchen texanus	Razorback Sucker	E/E,FP/-	large to medium-sized rivers including backwaters	no suitable aquatic habitat present in study area
Invertebrates				

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat[a]	Exclusion Justification
Euphydryas editha quino	Quino Checkerspot Butterfly	E/-/-	coastal sage scrub, open chaparral, juniper woodland, and grassland	no suitable scrub, chaparral, woodland, or grassland habitat present in study area
Mammals				
Macrotus californicus	California Leaf-nosed Bat	-/SSC/-	desert riparian, wash, scrub, alkali scrub, and succulent shrub	no suitable riparian, wash, or scrub habitat present in study area
Myotis occultus	Arizona Myotis	-/SSC/-	desert riparian areas	no suitable riparian habitat present in study area
Ovis canadensis nelsoni	Peninsular Bighorn Sheep	E/T,FP/-	arid, precipitous terrain with rocky ridges, slopes, cliffs, and rugged canyons; typical vegetation consists of low shrubs, grasses, and forbs	no suitable rocky cliff habitat present in study area
Taxidea taxus	American Badger	-/SSC/-	drier open stages of most shrub, forest, and herbaceous habitats, with friable soils	no suitable habitat present in study area and no individuals of or burrows attributable to this species observed during surveys
Plants				
Astragalus insularis var. harwoodii	Harwood's Milkvetch	-/-/2B.2	sandy or gravelly areas in Mojavean desertscrub including dunes	no suitable Mojavean desertscrub or dune habitat present in study area and no individuals of this species observed during surveys
Astragalus magdalenae v. peirsonii	Peirson's Milkvetch	T/E/1B.2	desert dunes	no suitable dune habitat present in study area and no individuals of this species observed during surveys
Calliandra eriophylla	Pink Fairy Duster	-/-/2B.3	sandy or rocky Sonoran desertscrub	no suitable Sonoran desertscrub habitat present in study area and no individuals of this species observed during surveys
Carnegiea gigantea	Saguaro	-/-/2B.2	rocky Sonoran desertscrub	no suitable Sonoran desertscrub habitat present in study area and no individuals of this species observed during surveys

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat[a]	Exclusion Justification
Colubrina californica	Las Animas Colubrina	-/-/2B.3	Mojavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
Condalia globosa var. pubescens	Spiny Abrojo	-/-/4.2	Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
Croton wigginsii	Wiggins' Croton	-/R/2B.2	sandy Sonoran desertscrub and desert dunes	no suitable desertscrub or dune habitat present in study area and no individuals of this species observed during surveys
Cryptantha holoptera	Winged Cryptantha	-/-/2B.3	Mojavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
Digitaria californica v. californica	Arizona Cottontop	-/-/2B.2	Mojavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
Ditaxis claryana	Glandular Ditaxis	-/-/2B.3	sandy Mohavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
Horsfordia newberryi	Newberry's Velvet Mallow	-/-/4.2	rocky Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
Juncus acutus ssp. leopoldii	Southwestern Spiny Rush	-/-/2B.2	mesic coastal dunes, alkaline seeps, and coastal salt marshes and swamps	no suitable dune or marsh habitat present in study area and no individuals of this species observed during surveys

Scientific Name	Common Name	Status (FWS/State/CNPS)	Habitat[a]	Exclusion Justification
Koeberlinia spinosa ssp. tenuispina	Slender-spined Allthorn	-/-/4.3	riparian woodland and Sonoran desertscrub	no suitable riparian or desertscrub habitat present in study area and no individuals of this species observed during surveys
Nama stenocarpum	Mud Nama	-/-/2B.3	marshes and swamps on lake margins and riverbanks	no suitable marsh habitat present in study area and no individuals of this species observed during surveys
Palafoxia arida v. gigantea	Giant Spanish Needle	-/-/2B.2	desert dunes	no suitable dune habitat present in study area and no individuals of this species observed during surveys
Panicum hirticaule ssp. hirticaule	Roughstalk Witchgrass	-/-/2B.1	sandy, silty depressions in desert dunes and Mojavean and Sonoran desertscrub	no suitable dune or desertscrub habitat present in study area and no individuals of this species observed during surveys
Penstemon pseudospectabilis ssp. pseudospectabilis	Desert Beardtongue	-/-/4.2	sandy, sometimes rocky, washes in Mojavean and Sonoran desertscrub	no suitable desertscrub habitat present in study area and no individuals of this species observed during surveys
Reptiles				
Gopherus agassizii	Mohave Desert Tortoise	T/T/-	valleys, bajadas, and hills in Mojavean and Sonoran desertscrub with sandy loam to rocky soils	no suitable desertscrub habitat present in study area
Heloderma suspectum cinctum	Banded Gila Monster	-/SSC/-	Mojavean desertscrub, primarily in desert mountain ranges	no suitable desertscrub habitat present in study area
Phrynosoma mcallii	Flat-tailed Horned Lizard	-/SSC/-	desert and alkali scrub, washes, and succulent shrub areas with fine sand and sparse vegetation	no suitable desertscrub habitat present in study area

[a]Habitat descriptions from California Department of Fish and Wildlife California Wildlife Habitat Relation System, California Native Plant Society Rare and Endangered Plant Inventory, and Arizona Game and Fish Department Heritage Data Management System online species abstracts and U.S. Fish and Wildlife Service Environmental Conservation Online System species bjoprofiles.

Key: FWS = U.S. Fish and Wildlife Service; CNPS = California Native Plant Society; E = Endangered; T = Threatened; C = Candidate; P = Proposed; SSC = Species of Special Concern; R = Rare; FP = Fully Protected; WL = Watchlist; 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2B = Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere; 4 = Plants of Limited Distribution – A Watch List; .1 = Seriously Threatened in California; .2 = Moderately Threatened in California; .3 = Not Very Threatened in California.

APPENDIX C. PLANT SPECIES OBSERVED

Table C.1. Plant Species Observed

Family	Scientific Name	Common Name	Noxious Weed Rating
Amaranthaceae	*Amaranthus palmeri*	Carelessweed	-
Asteraceae	*Ambrosia dumosa*	White Bursage	-
Chenopodiaceae	*Atriplex canescens*	Fourwing Saltbush	-
Chenopodiaceae	*Chenopodium album*	Lambsquarters	-
Boraginaceae	*Cryptantha angustifolia*	Narrow-leaved Popcornflower	-
Poaceae	*Cynodon dactylon*	Bermuda Grass	-
Onagraceae	*Gaura coccinea*	Tall Gaura	-
Malvaceae	*Gossypium hirsutum*	Cotton	-
Asteraceae	*Helianthus annum*	Common Sunflower	-
Asteraceae	*Lactuca serriola*	Prickly Lettuce	-
Malvaceae	*Malva parviflora*	Cheeseweed	-
Fabacea	*Medicago sativa*	Alfalfa	-
Fabacea	*Parkinsonia aculeata*	Mexican Palo Verde	-
Arecaceae	*Phoenix dactylifera*	Date Palm	-
Poaceae	*Phragmites australis*	Common Reed	-
Asteraceae	*Pluchea sericea*	Arrow Weed	-
Portulacaceae	*Portulaca oleraceae*	Portulaca	-
Fabacea	*Prosopis glandulosa*	Honey Mesquite	-
Chenopodiaceae	*Salsola kali*	Russian Thistle	limited (CIPC)
Salviniaceae	*Salvinia molesta*	Kariba Weed	high (CIPC)
Poaceae	*Sorghum bicolor*	Sudangrass	-
Tamaricaceae	*Tamarix ramosissima*	Salt Cedar	high (CIPC), listed (CDFA)
Typhaceae	*Typha latifolia*	Cattail	-

Key: CIPC = California Invasive Plant Coucil, CDFA = California Department of Food and Agriculture.

APPENDIX D. WILDLIFE SPECIES OBSERVED

Table D.1. Wildlife Species Observed.

Scientific Name	Common Name
Ardea alba	Great Egret
Callipepla gambellii	Gambel's Quail
Canis latrans	Coyote
Columba livia	Pigeon
Quiscalus neomexicanus	Grackle
Riparia riparia	Bank Swallow
Zenaida asiatica	White-winged Dove

APPENDIX E. REPRESENTATIVE SITE PHOTOGRAPHS

Photo E.1. First Avenue and E Street, view to north.

Photo E.2. Arnold Road and First Avenue, view to west.

Photo E.3. West end of project corridor on Arnold, view to east.

Photo E.4. Reservation Main Drain at Arnold Road, view to south.

Photo E.5. Arnold and Picacho Roads, view to east.

Photo E.6 Cocopah Canal at Arnold Road, view to north.

Photo E.7. Haughtelin and Perez Roads, view to north.

Photo E.8. Ross and Fisher Roads, view to west.

Photo E.9. Reservation Main Drain at Stalnacker Road, view to north. Note Kariba Weed in canal.

Photo E.10.North end of project corridor on Bard Road, view to south.

Photo E.11. Cocopah Canal at Picacho Road, view to east.

Photo E.12. Pima Canal at Picacho Road, view to east.

Appendix E

Letter from California State Historic Preservation Officer

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

February 19, 2015 Reply in Reference To: BIA_2015_0120_001
(BIA# 2014-316)

Catherine Wilson
Acting Deputy Regional Director
Bureau of Indian Affairs, Western Regional Office
2600 North Central Avenue
Phoenix, Arizona 85004-3008

RE: Fort Yuma Quechan Indian Reservation Fiber-Optic Line Project; Imperial County, California.

Dear Ms. Wilson:

Thank you for seeking my consultation regarding the above noted undertaking. Pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA), the Bureau of Indian Affairs (BIA) is seeking my comments regarding the effects that the above named project will have on historic properties.

TDS Telecommunication Corporation (TDS) proposes to install new fiber-optic cable and ten nodes to provide internet service to the communities of Winterhaven, Bard, and the Fort Yuma-Quechan Indian Reservation (Reservation) requiring an easement across Reservation land. This will involve the installation of 8.68 miles of fiber-optic line on Reservation land and 7.75 miles of line within unincorporated Imperial County.

The Area of Potential Effects (APE) consists of a 98-foot wide corridor incorporating all segments of the fiber-optic installation. Trenching to install the fiber optic line will be approximately one to two feet in width to a depth of approximately four feet; therefore the vertical APE for the project will extend to four feet.

In addition to your letter received January 20, 2015, you have submitted *A Class III Cultural Resources Survey for a Proposed Buried Telecommunications Fiber-Optic Line near Winterhaven, in Imperial County, California* (Howell, December 22, 2014) as evidence of your efforts to identify and evaluate historic properties in the project APE.

Archival research included a record search at the South Coastal Information Center in May and June 2014, and the Arizona State Museum's AZSITE online database on April 15, 2014. Five previously recorded sites were determined to lie within the APE for the project:

	Resource Designation	Resource Description	NRHP Eligibility	Project Effect
1	CA-IMP-3424	Southern Pacific Railroad	Eligible; Criteria A	No Adverse Effect
2	CA-IMP-6824	Reservation Main Drain Canal	Eligible; Criteria A	No Adverse Effect
3	CA-IMP-6830	Yuma Main Canal	Eligible; Criteria A	No Adverse Effect
4	CA-IMP-6832	Cocopah Canal	Eligible; Criteria A	No Adverse Effect
5	CA-IMP-7158	Pilot Knob Tap Drop 4 16 kV Line	Eligible; Criteria A	No Adverse Effect

Native American consultation included contact with the Tribal Historic Preservation Officer, Arlene Kingery, on May 16, 2014 regarding knowledge of sites of religious or cultural significance to the tribe in the project area. No such properties were identified through consultation efforts.

A pedestrian surface survey was conducted of the APE utilizing transects spaced fifteen meters apart on July 15 and 16, 2014. One built resource was identified and recorded:

	Resource Designation	**Resource Description**	**NRHP Eligibility**	**Project Effect**
6	P-13-014813	Walapai Canal	Eligible;	No Adverse Effect

Ten isolated finds were also observed within the APE. Six of these isolates are lithic fragments that could only be tentatively identified as flaked stone. All were found in disturbed contexts. Three isolates were possible historic glass; one of which was associated with a fragment of white earthenware. One isolated occurrence was a roadside memorial shrine recorded with the intent to document its location for avoidance.

The BIA has recommended the six resources listed in the tables above as eligible to the NRHP. The ten isolated finds do not qualify as historic properties under Section 106 of the NHPA. Pursuant to 36 CFR §800.5(b) the BIA has determined a *Finding of No Adverse Effect* to historical properties by the proposed project.

I agree the ten isolated finds described do not meet the qualifications as historic properties. Because formal evaluations were not provided for the above listed built environment resources, I cannot make a determination of eligibility to the NRHP. I suggest the resources be assumed eligible to the NRHP for purposes of this project only. Because the project will have no adverse effect to these resources I then concur with the *Finding of No Adverse Effect* for the project. After clarification of information obtained through phone contact, I also concur identification efforts are sufficient and I also have no objections to the delineation of the APE, as depicted in the supporting documentation. For future reference I wish to clarify that canals are considered built resources and not archaeological resources.

Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the BIA may have additional future responsibilities for this undertaking under 36 CFR Part 800. Thank you for seeking my comments and considering historic properties as part of your project planning. If you have any questions or concerns, please contact Associate State Archaeologist, Kim Tanksley at (916) 445-7035 or by email at kim.tanksley@parks.ca.gov. Any questions concerning the built environment should be directed to State Historian, Kathleen Forrest at (916)445-7022 or by email at kathleen.forest@parks.ca.gov.

Sincerely,

Carol Roland-Nawi, PhD

Carol Roland-Nawi, PhD
State Historic Preservation Officer

Appendix F

Allands Data and Research, Inc., Report

Allands

14947 W. Piccadilly Road, Goodyear, AZ 85395 • Phone: 623-535-7800 • Fax: 623-535-7900
www.allands.com • e-mail: sharon@allands.com

Historical Title and Environmental Research

REGULATORY DATABASE (ASTM) SEARCH

YOUR FILE NO:

ALLANDS FILE NO: 2015-04-012D

DATE OF REPORT: April 12, 2015

ALLANDS hereby reports the search results of Federal and State Databases according to ASTM standards for Phase I Environmental Site Assessments E 1527-13. Allands is not responsible for errors in the available records. The total liability is limited to the fee paid for this report. This is a confidential, privileged and protected document for the use of Tierra Right of Way Services.

1. The land referred to in this report is located in Imperial County, California, described as follows:

1/10th of a mile Corridor Study along power line corridor and existing DSA and proposed nodes along Streets and Avenues located on the Fort Yuma - Quechan Indian Reservation and in the vicinity of the towns of Bard and Winterhaven, California, being in Sections 13, 14, 21 to 24, inclusive, 26 & 27, Township 16 South, Range 22East; Sections 32 & 33, Township 15 South, Range 23 East; and in Sections 4 to 9, inclusive and 16 to 19, inclusive, Township 16 South, Range 23 East, San Bernardino Meridian and Base Line.

REGULATORY DATABASE SEARCH SUMMARY

Database	Date of Database	Approximate Minimum Search Distance (miles)	Reported Facilities
Standard Federal ASTM Environmental Record Sources			
NPL (National Priorities List) / Proposed NPL / DOD (Department of Defense Sites)	04/15	Within corridor boundaries	0
Delisted National Priorities List	04/15	Within corridor boundaries	0
CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System)/No Further Remedial Action Planned (NFRAP)	11/13	Within corridor boundaries	0
RCRA (Resource Conservation and Recovery Act) Large and Small Quantity Generators	04/15	Within corridor boundaries	0
RCRA – CORRACTS TSDFs (Corrective Action Treatment, Storage, and Disposal Facilities)	04/15	Within corridor boundaries	0
RCRA – Non-CORRACTS TSDFs	04/15	Within corridor boundaries	0
ERNS (Emergency Response Notification System)	04/15	Within corridor boundaries	0
Standard State ASTM Environmental Record Sources			
State Priority List	04/15	Within corridor boundaries	0
California Hazardous Materials Incident System (CHMIRS)	02/05	Within corridor boundaries	0
Solid Waste Facilities/Landfill Sites	04/15	Within corridor boundaries	0
CalSites / Envirostor	04/15	Within corridor boundaries	0
Registered USTs (Underground Storage Tanks) LUSTs (Leaking Underground Storage Tanks) Incident Reports (includes Tribal Records)	04/15	Within corridor boundaries	3
Additional Environmental Record Sources			
RCRA Compliance Facilities	04/15	Within corridor boundaries	0
Topographical / Aerial Maps	See text	Within corridor boundaries	2

Standard Federal ASTM Environmental Record Sources

SUPERFUND NATIONAL PRIORITIES LIST (NPL)

Under Section 105 of the Comprehensive Environmental Response, Compensation and Liability Act the Environmental Protection Agency established a National Priorities List (NPL) of Superfund sites. In addition, Proposed NPL and DOD (Department of Defense) Sites are researched in the section. These databases are provided by the EPA, dated April, 2015, and searched to identify all NPL/Proposed NPL/ DOD sites within corridor boundaries.

No National Priorities List (NPL) / Proposed NPL / DOD Sites were found located within corridor boundaries.

DELISTED NATIONAL PRIORITIES LIST

Site may be delisted from the National Priorities List where no further response is appropriate. This database is provided by the Environmental Protection Agency, dated April, 2015, and searched to identify all Delisted NPL Sites within corridor boundaries.

No Delisted National Priorities List (NPL) Sites were found located within corridor boundaries.

FEDERAL CERCLIS / NFRAP LIST

The CERCLIS list contains sites which are either proposed to or on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL. Those sites on the NFRAP list have no further remedial action planned. This database is provided by EPA, dated November, 2013, and searched for facilities within corridor boundaries.

No CERCLIS / NFRAP facilities were found located within corridor boundaries.

RESOURCE CONSERVATION AND RECOVERY ACT FACILITIES (RCRA)

Under RCRA the Environmental Protection Agency compiles a database of facilities that are involved in the generation of hazardous materials. This database is from the EPA, dated April, 2015 and checked for Federal RCRA facilities located within corridor boundaries.

No Federal RCRA handlers were found located within corridor boundaries.

CORRACTS FACILITIES

Under RCRA the Environmental Protection Agency compiles a database of Corrective Action Sites, sites with known contamination. Also known as the RCRA CORRACTS List, this is a list maintained by the EPA of RCRA sites at which contamination has been discovered and where some level of corrective clean-up activity has been undertaken. For example, a site may have been on the RCRA TSD or the RCRA Generators site list, and was placed on the CORRACTS list once contamination was discovered and remediation was underway. This database is dated April, 2015, and checked for facilities which occurred within corridor boundaries.

No Facilities were found which occurred within corridor boundaries.

TSD FACILITIES

Under RCRA the Environmental Protection Agency compiles a database of facilities that are involved in the transportation, treatment, storage, or disposal of hazardous materials. This database is from the EPA, dated April, 2015, and checked for Facilities which occurred within corridor boundaries.

No TSD Facilities were found which occurred within corridor boundaries.

FEDERAL EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) LIST

The ERNS list is a national database used to collect information on reported releases of oil and hazardous substances. This database is provided by the National Response Center and the EPA through the Right of Know Net by OMB Watch and Unison Institute from 1983 to April, 2015, and checked for incidents located within corridor boundaries.

No incidents were found located within corridor boundaries.

Standard State ASTM Environmental Record Sources

STATE PRIORITY LIST

The California Department of Toxic Substances Control (DTSC) has developed an electronic database system with information about sites that are known to be contaminated with hazardous substances as well as information on uncharacterized properties where further studies may reveal problems. The database, referred to as "CalSites," is used primarily by DTSC's staff as an informational tool to evaluate and track activities at properties that may have been affected by the release of hazardous substances. This list includes CALSITE Active Workplan (AWP); Sites that are not AWP (Annual workplan) are not actively being remediated, but are stilled being tracked on the State Equivalent CERCLIS List (SCL)

No Sites were found located within corridor boundaries.

CALIFORNIA HAZARDOUS MATERIAL INCIDENT REPORT SYSTEM (CHMIRS)

The California Office of Emergency Services documents spills and incidents involving hazardous materials that are reported to the unit prior to the state of California adopting the National Incident Management System. This database is dated February, 2005 and checked for hazardous material incidents which occurred within corridor boundaries.

Property within corridor boundaries was not found on this list.

SOLID WASTE INFORMATION SYSTEM (SWIS)

The Solid Waste Information System (SWIS) database contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

For each facility, the database contains information about location, owner, operator, facility type, regulatory and operational status, authorized waste types, local enforcement agency and inspection and enforcement records.

The data in the facility database is continuously updated and reviewed April, 2015 for facilities located within corridor boundaries.

No facilities were found located within corridor boundaries.

SITE MITIGATION AND BROWNFIELDS REUSE PROGRAM DATABASE (CALSITES) / DEPARTMENT OF TOXIC SUBSTANCES CONTROL (ENVIROSTOR)

The California Department of Toxic Substances Control (DTSC) has developed an electronic database system with information about sites that are known to be contaminated with hazardous substances.. The Site Mitigation and Brownfields Reuse Program Database was known as CalSites. The Voluntary Cleanup Program (VCP) category contains only those properties undergoing voluntary investigation and/or cleanup and which are listed in the Voluntary Cleanup Program. DTSC recently replaced the "CalSites" database with a new database of hazardous substance release sites, known as the "EnviroStor" database. This database was reviewed April 2015, for facilities located within corridor boundaries.

No facilities were found located within corridor boundaries.

UNDERGROUND STORAGE TANKS
(UST, AST & LUST)

Owners of USTs are required to report any and all releases of tank contents for which an ongoing file documenting the nature of contamination and the status of each such incident is maintained. This database is maintained by the State Water Resources Control Board and individual cities, dated April, 2015 and searched for facilities located within corridor boundaries.

FACILITY	ID	ADDRESS	STATUS
U S A Supersave / Salvador Huerta	T0602500185	2115 Winterhaven Drive	Open - Inactive as of 8/27/2014
Ross Corner Store	T0602592922	1460 West Ross Road	Completed - Case Closed as of 8/5/2013
Bard / Winterhaven Road Yard	T0602500186	1477 Ross Road	Completed - Case Closed as of 2-13-2008

For more information replace “xxx” below with ID from table above
http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=xxx

Additional Environmental Record Sources

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) COMPLIANCE FACILITIES

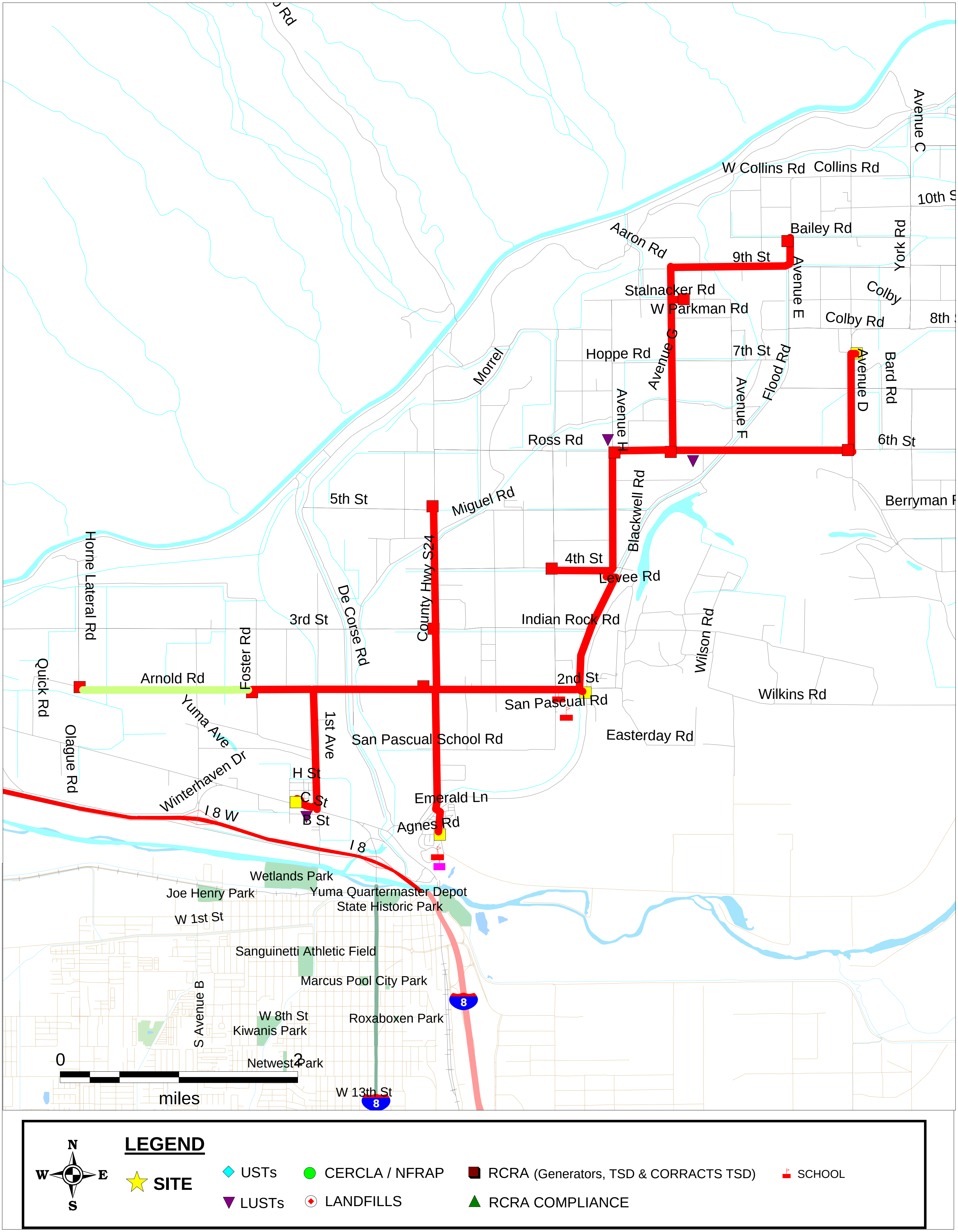
The RCRA Compliance Log lists facilities that have been or presently are under investigation for non-compliance with RCRA regulations. Inclusion of any facility on this list indicates a history of compliance problems and RCRA regulatory violation. This database is from the EPA, dated April, 2015, and searched for compliance facilities within corridor boundaries.

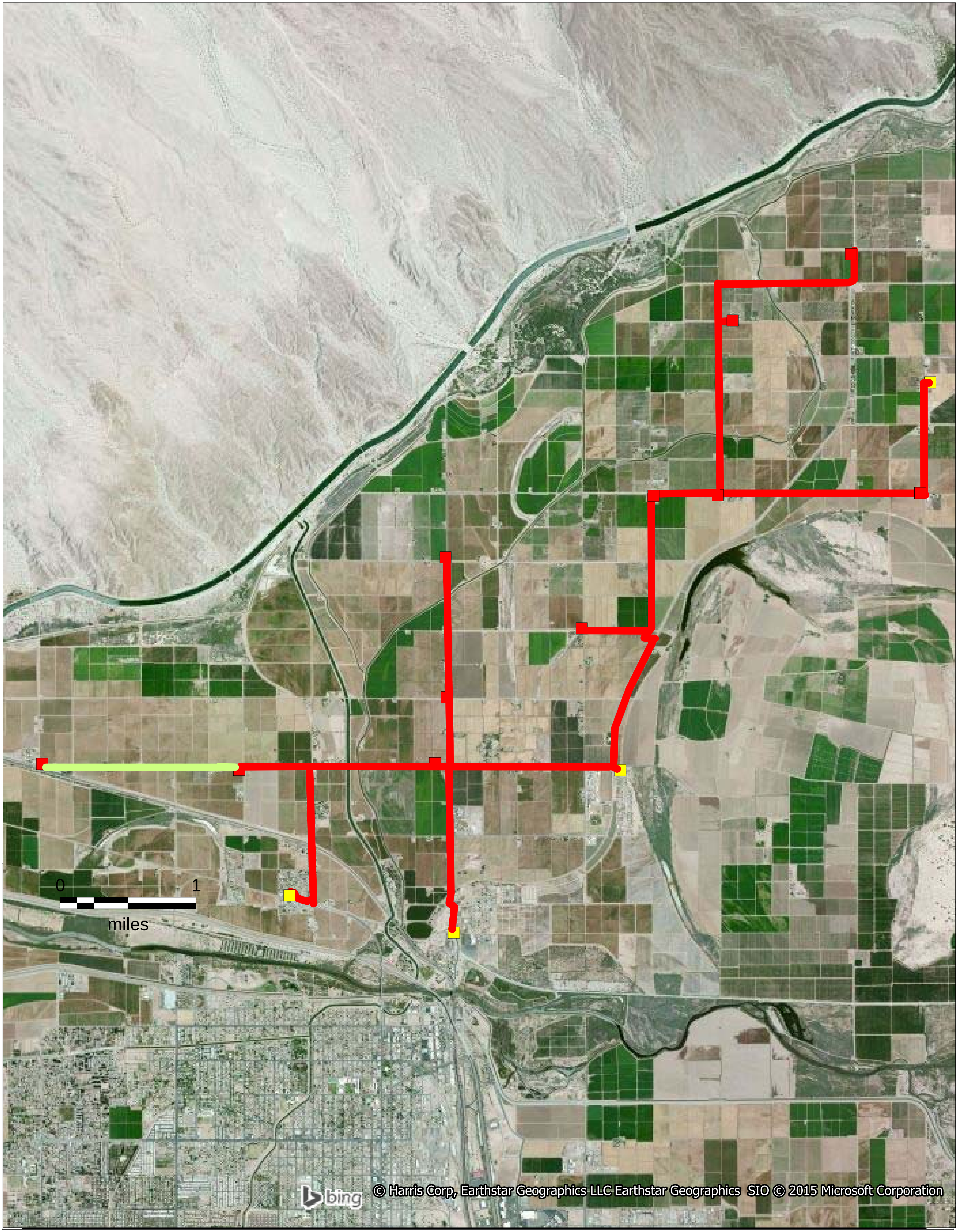
No compliance facilities were found located within corridor boundaries.

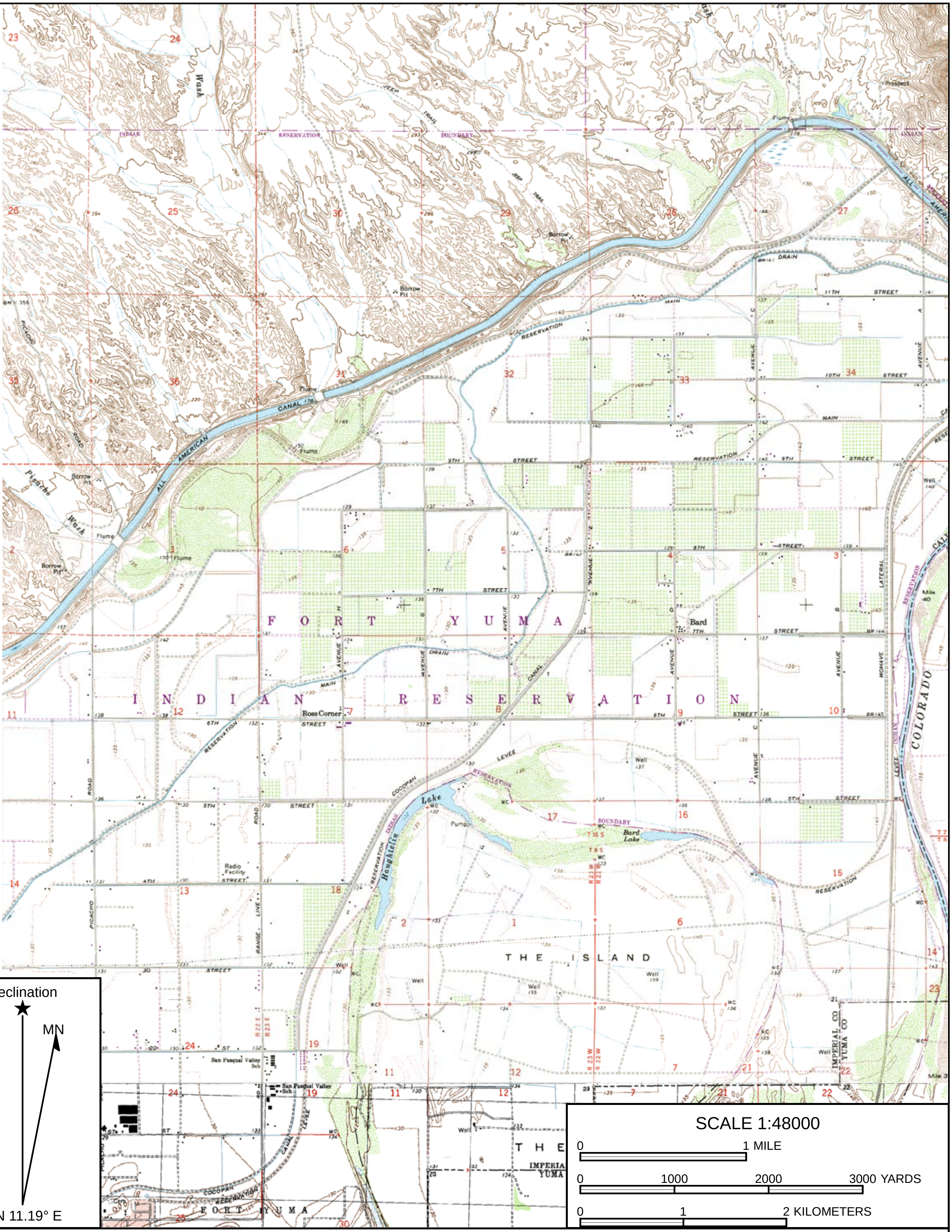
USGS 7.5 MINUTE TOPOGRAPHICAL MAPS AERIAL PHOTOS

The United States Geological Survey Topographic maps and Aerial Photos are derived from Terrain Navigator Software from Maptech, Inc. (www.maptech.com) and are for informational purposes only.

NAME	TYPE	DATE
Bard	Topo	1965 revised 1979
Bing Aerial	Aerial	2015


W Collins Rd
Collins Rd
Avenue C
10th St
Bailey Rd
York Rd
Aaron Rd
9th St
Avenue E
Colby
Stalnacker Rd
W Parkman Rd
Colby Rd
8th St
Hoppe Rd
Avenue G
7th St
Flood Rd
Avenue D
Bard Rd
Morrel
Avenue H
Avenue F
Ross Rd
6th St
Blackwell Rd
Berryman Rd
5th St
Miguel Rd
Horne Lateral Rd
4th St
Levee Rd
3rd St
De Corse Rd
County Hwy S24
Indian Rock Rd
Wilson Rd
Quick Rd
Arnold Rd
Foster Rd
2nd St
San Pascual Rd
Wilkins Rd
Yuma Ave
Olague Rd
1st Ave
San Pascual School Rd
Easterday Rd
Winterhaven Dr
H St
C St
B St
I 8 W
Emerald Ln
Agnes Rd
I 8
Wetlands Park
Joe Henry Park
Yuma Quartermaster Depot
State Historic Park
W 1st St
Sanguinetti Athletic Field
Marcus Pool City Park
8
S Avenue B
W 8th St
Kiwanis Park
Roxaboxen Park
0
2
Netwest Park
miles
W 13th St
8
N
W
E
S
LEGEND
SITE
USTs
LUSTs
CERCLA / NFRAP
LANDFILLS
RCRA (Generators, TSD & CORRACTS TSD)
RCRA COMPLIANCE
SCHOOL


0
1
miles
bing
© Harris Corp, Earthstar Geographics LLC Earthstar Geographics SIO © 2015 Microsoft Corporation



Declination

MN

MN 11.19° E

SCALE 1:48000

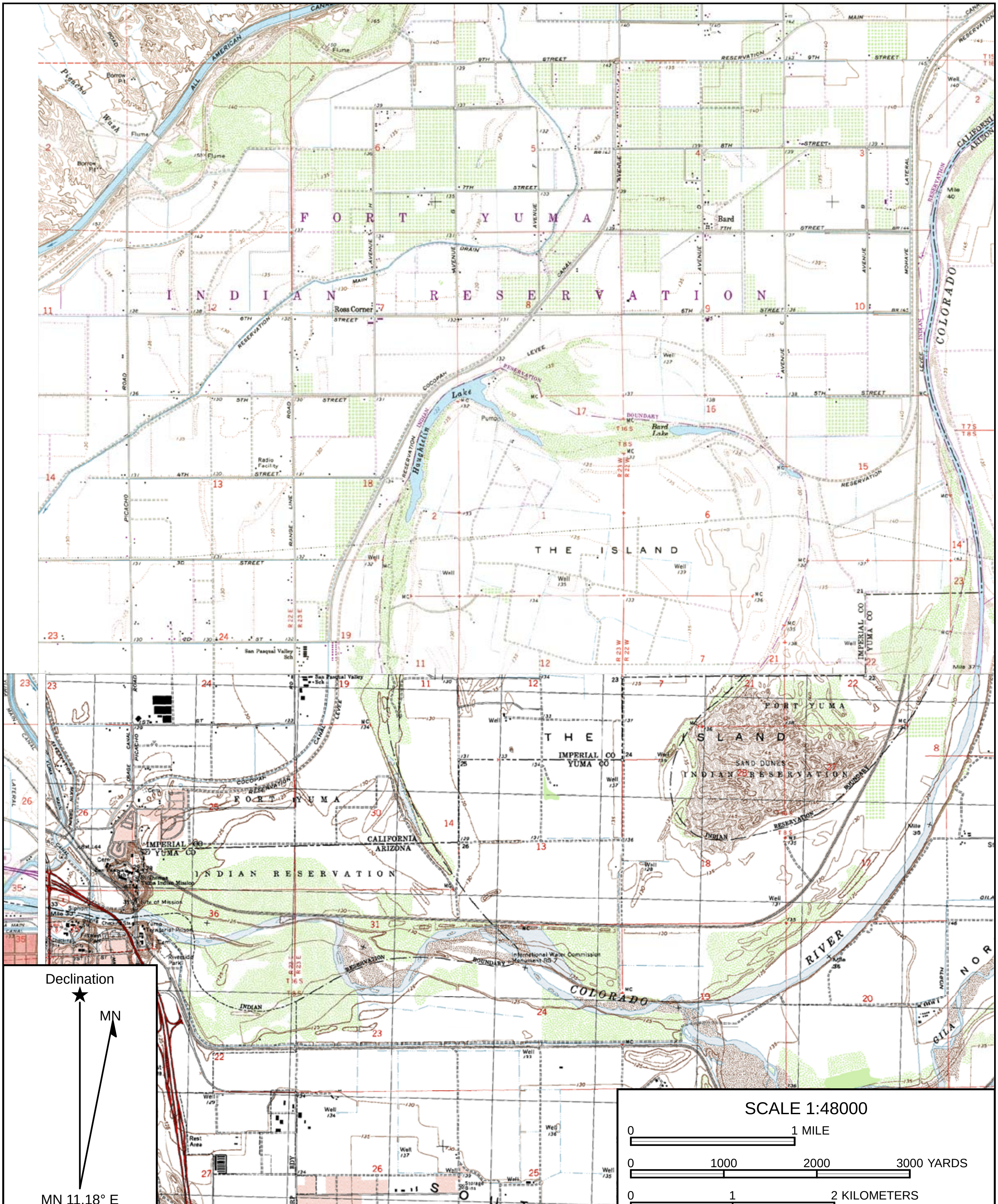
0 1 MILE

0 1000 2000 3000 YARDS

0 1 2 KILOMETERS

Name: BARD
Date: 04/12/15
Scale: 1 inch = 4,000 ft.

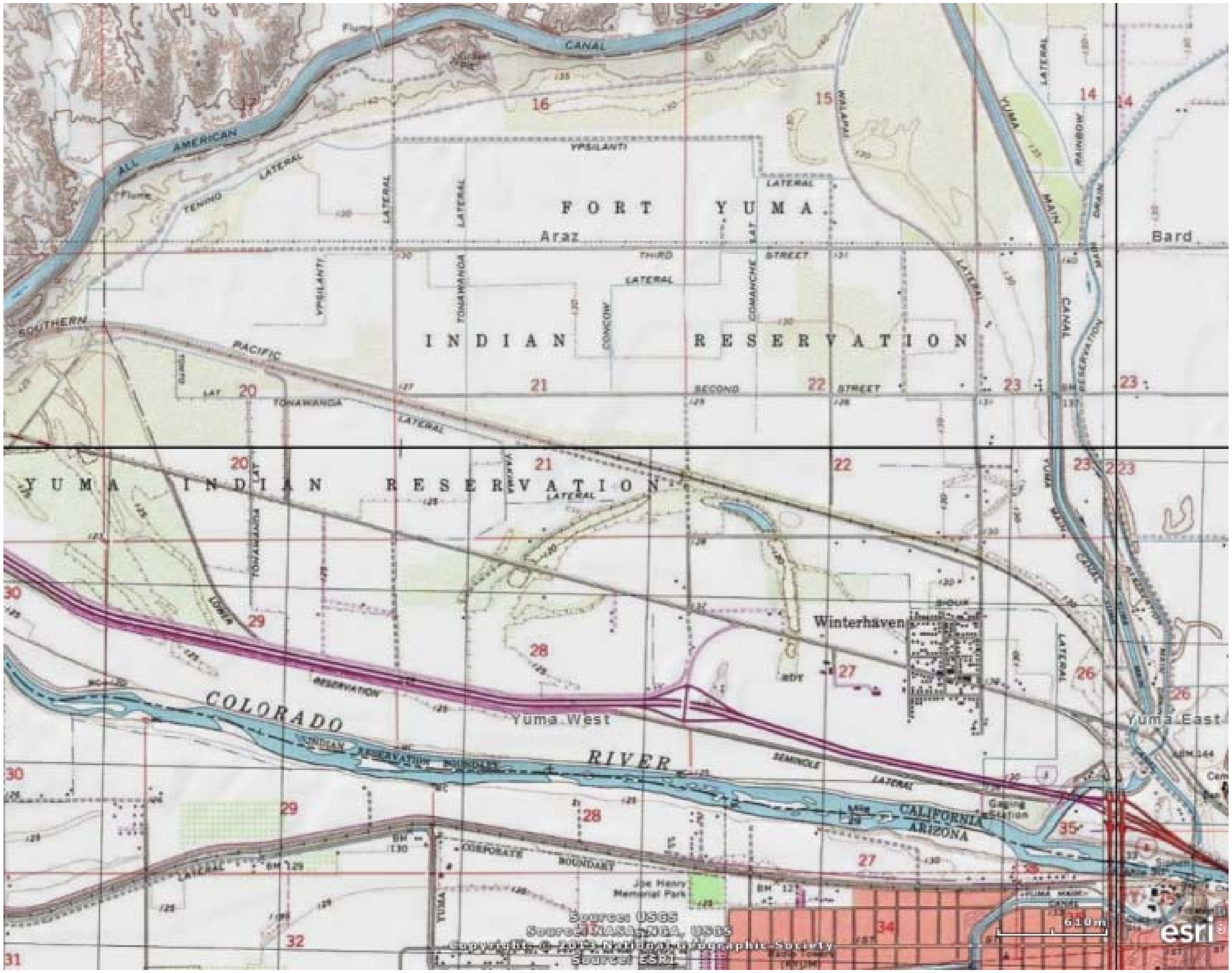
Location: 032° 47' 26.5228" N, 114° 34' 44.2079" W
2015-04-012.north



Name: BARD
Date: 04/12/15
Scale: 1 inch = 4,000 ft.

Location: 032° 45' 21.0674" N, 114° 34' 36.0000" W
2015-04-012

Topo West



ALL AMERICAN CANAL
FORT YUMA
INDIAN RESERVATION
YUMA INDIAN RESERVATION
Araz
Bard
Winterhaven
Yuma West
Yuma East
COLORADO RIVER
CALIFORNIA
ARIZONA
SOUTHERN PACIFIC
YUMA MAIN CANAL
Source: USGS
Source: NASA, NGA, USGS
Copyright:© 2013 National Geographic Society
Source: ESRI
esri

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www.allands.com • e-mail: sharons@allands.com

Historical Title and Environmental Research

TITLE AND JUDICIAL RECORDS FOR ENVIRONMENTAL LIENS AND ACTIVITY AND USE LIMITATIONS; VOLUNTARY ENVIRONMENTAL MITIGATION USE RESTRICTIONS BY OWNERS (VEMUR) AND DECLARATION OF ENVIRONMENTAL USE RESTRICTIONS (DEUR)

YOUR FILE NO:

ALLANDS FILE NO: 2015-04-012E

Date of Report: April 12, 2015
Title Plant Date***: April 8, 2015
***The Title Plant Date reflects the most current data made available by the information sources used at the time the research was performed.

ALLANDS hereby presents an Environmental Search Report to the land described below The total liability is limited to the fee paid for this report.. Allands is not responsible for errors in the available records. The total liability is limited to the fee paid for this report. This is a confidential, privileged and protected document for the use of Tierra Right of Way Services.

1. The land referred to in this report is located in Imperial County, California.

2. 1/10th of a mile Corridor Study along power line corridor and existing DSA and proposed nodes along Streets and Avenues located on the Fort Yuma - Quechan Indian Reservation and in the vicinity of the towns of Bard and Winterhaven, California, being in Sections 13, 14, 21 to 24, inclusive, 26 & 27, Township 16 South, Range 22East; Sections 32 & 33, Township 15 South, Range 23 East; and in Sections 4 to 9, inclusive and 16 to 19, inclusive, Township 16 South, Range 23 East, San Bernardino Meridian and Base Line.

3. No VEMUR’S, DEUR’S; Environmental Liens, Brownfields, institutional controls, engineering controls, or activity and use limitations, if any, were found currently recorded against the property as searched at the subject county recorder’s office.

Appendix G

Scoping Report

Winterhaven Last Mile
Underserved Broadband Project

Scoping Report

October 2015

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Table of Contents

List of Appendices

1.0 Introduction

On October 3, 2013, the California Public Utilities Commission (CPUC) approved Resolution T-17410 to award a California Advanced Services Fund (CASF) grant for the Winterhaven Last Mile Broadband Project (the proposed project) to TDS Telecommunications Corporation's the Winterhaven Telephone Company doing business as TDS Telecom, Inc. (TDS or the applicant). The purpose of the project is to provide high-speed internet service to a 15.67-square-mile area (proposed project area) that includes the Winterhaven, California community, other unincorporated areas of Imperial County, and areas within the Forth Yuma Indian Reservation, which is home to the Quechan Indian tribe. As defined by CPUC Decision 12-02-015, the need of the proposed project is predicated on the fact that these areas are underserved—broadband is available, but no facilities-based provider offers service at speeds of at least 3 megabits per second for downloads and 1 megabits per second for uploads. The purpose and need of the proposed project aligns with Senate Bill 1193 (approved in 2008 and codified in PUC Section 281) to approve funding for infrastructure projects that will provide broadband access to 98 percent or more of California households.

CPUC Resolution T-17410 found that proposed project is subject to review pursuant to the California Environmental Quality Act (CEQA). Due to the proposed construction of facilities on the Fort Yuma Indian Reservation, the project is also subject to review pursuant to the National Environmental Policy Act (NEPA). The CPUC will serve as the lead agency under CEQA, and the Bureau of Indian Affairs (BIA) will serve as the federal lead agency under NEPA.

To comply with the requirements of CEQA and NEPA, an Initial Study/Environmental Assessment (IS/EA) is being prepared. CEQA and NEPA both encourage public participation throughout the environmental review process. Scoping is a means of soliciting input, early in the environmental review process, concerning the project purpose and need, the range of alternatives to be analyzed, and the scope of the analysis to be included in the environmental document. This Scoping Report has been prepared to document the scoping activities conducted to solicit input from the public and government agencies, to identify public and agency concerns and to define the environmental issues and alternatives to be examined in the IS/EA. This report covers outreach conducted during the formal scoping period of August 27, 2015, through October 2, 2015. Public and agency outreach efforts will continue throughout the project development process.

2.0 Scoping Activities

The scoping activities conducted for the proposed project are described below.

2.1 Notice of Preparation (NOP)

A Notice of Preparation (NOP), explaining that an IS/EA will be prepared for the proposed project, and requesting comments on the scope and content of the environmental information to be addressed, was submitted to the State Clearinghouse on September 1, 2015. The NOP was circulated to responsible, trustee, and federal agencies. The distribution list for the NOP is provided in the Notice of Completion in Appendix A.

2.2 Notice of Public Scoping

A public scoping notice was published in the newspaper, the *Yuma Sun,* on August 23 and August 24, 2015. The text of the public scoping notice was also provided for distribution to a representative of the Quechan tribe. Copies of these notices are provided in Appendix B.

2.3 Project Website and Multimedia Opportunities to Submit Comments

CPUC maintains a website for the project, providing various documents and information regarding the project, at www.cpuc.ca.gov/Environment/info/horizonh2o/winterhaven/index.html. The website provided information on how to submit comments during the scoping period. A screenshot of the website is provided in Appendix C. An email address, fax machine, and a telephone line with a recorded outgoing message inviting comments on the scoping of the environmental document were also available. The email address, telephone number and fax number were publicized on the project website and at the public meeting, to facilitate the submission of comments.

2.4 Public Scoping Meeting

A public scoping meeting was held at the Paradise Casino, at 450 Quechan Drive, Yuma, AZ, on Thursday, August 26, from 6:00 to 8:00 p.m. Five members of public attended. A CPUC staff member and an environmental consultant for CPUC gave presentations on the proposed project and the environmental resource topic areas that are anticipated to be studied during environmental review. Representatives of the applicant were present and assisted in answering questions regarding the proposed project. Members of the public in attendance were encouraged to provide information that they may have regarding environmental resources that may occur in the proposed project area, concerns they may have regarding the potential for environmental impacts to result from the project, and suggestions they may have regarding the scope of environmental technical studies to be conducted for the project. Members of the public provided oral comments, which were noted on a flipchart by a consultant to CPUC. Comment cards were also available at the meeting for attendees to complete and submit to the CPUC. The meeting sign-in sheet, meeting handouts, and the PowerPoint slides shown during the meeting are provided in Appendix D.

3.0 Comments

Comments were provided orally at the public meeting and summarized on a flipchart. Appendix E presents copies a transcription of the notes from the flipchart. Topics raised included the following:

- Groundwater resources
- Cultural resources
- Potential seismic impacts
- Potential land use impacts
- Existing condition of internet access
- Questions regarding the project
- Questions regarding the grant funding

Appendix A

Notice of Completion

Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Winterhaven Last Mile Underserved Broadband Project

Lead Agency: California Public Utilities Commission
Contact Person: Rob Peterson
Mailing Address: 505 Van Ness Avenue
Phone: (415) 703-2820
City: San Francisco Zip: 94102
County: San Francisco

Project Location: County: Imperial City/Nearest Community: Winterhaven
Cross Streets: Various Zip Code: 92283
Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W Total Acres: N/A
Assessor's Parcel No.: N/A Section: ____ Twp.: ____ Range: ____ Base: ____
Within 2 Miles: State Hwy #: ____ Waterways: Various
Airports: ____ Railways: Union Pacific Schools: Various

Document Type:

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ____ Other: ____

NEPA: ☒ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other: ____

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other: N/A

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational: ____
☐ Recreational: ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☒ Other: Fiber Optic Cable Laydown

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☒ Drainage/Absorption ☒ Economic/Jobs
☐ Fiscal ☒ Flood Plain/Flooding ☒ Forest Land/Fire Hazard ☒ Geologic/Seismic ☒ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities
☒ Recreation/Parks ☐ Schools/Universities ☐ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation
☒ Vegetation ☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Growth Inducement ☒ Land Use ☒ Cumulative Effects ☐ Other: ____

Present Land Use/Zoning/General Plan Designation:

Various

Project Description: *(please use a separate page if necessary)*

The Proposed Project would extend high-speed internet service to an approximately 15.67 square mile area, including the community of Winterhaven, a portion of the Fort Yuma-Quechan Indian Reservation, and other areas of unincorporated Imperial County in southeastern California.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Revised 2010

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

X	Air Resources Board	X	Office of Historic Preservation
	Boating & Waterways, Department of	X	Office of Public School Construction
X	California Emergency Management Agency	X	Parks & Recreation, Department of
X	California Highway Patrol		Pesticide Regulation, Department of
	Caltrans District # ____		Public Utilities Commission
	Caltrans Division of Aeronautics	X	Regional WQCB # 7
X	Caltrans Planning	X	Resources Agency
	Central Valley Flood Protection Board		Resources Recycling and Recovery, Department of
	Coachella Valley Mtns. Conservancy		S.F. Bay Conservation & Development Comm.
	Coastal Commission		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	Colorado River Board		San Joaquin River Conservancy
X	Conservation, Department of		Santa Monica Mtns. Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of	X	SWRCB: Water Quality
X	Energy Commission		SWRCB: Water Rights
X	Fish & Game Region # 6		Tahoe Regional Planning Agency
	Food & Agriculture, Department of		Toxic Substances Control, Department of
X	Forestry and Fire Protection, Department of		Water Resources, Department of
X	General Services, Department of		
	Health Services, Department of		Other:
X	Housing & Community Development		Other:
X	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date August 27, 2015 Ending Date October 2, 2015

Lead Agency (Complete if applicable):

Consulting Firm: Horizon Water and Environment, LLC
Address: 180 Grand Avenue, Suite 1405
City/State/Zip: Oakland, CA 94612
Contact: Tom Engels
Phone: (916) 790-8548

Applicant:
Address:
City/State/Zip:
Phone:

Signature of Lead Agency Representative: Robt Peterson **Robert Peterson, CPUC, Energy Division** **Date:** Sept 1, 2015

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Appendix B

Notice of Public Scoping

Appendix B Contents:

- Meeting announcement in the August 23, 2015, Yuma *Sun*
- Meeting announcement in the August 24, 2015, Yuma *Sun*
- Meeting notice provided to a member of the Quechan tribe, to distribute to other tribe members

County growers lead in efficient, earth-friendly methods of growing produce

Yuma Ag & You
Bobbi Stevenson-McDermott

The sights and sounds of Yuma County agriculture in August! Looking at the fields, there is a lot more brown than green at this time of year. Growers are in the midst of harvesting Sudan hay, Sudan seed, dried beans and peas, alfalfa hay, Bermuda grass hay and seed, and other specialty seed crops. Cotton growers will probably start early picking in late August. The weather has been tough with all the extreme heat and humidity. Wheat fields have been harvested, stalks baled and the remaining organic matter turned into the soil.

Now is the time that the heavy tillage is done, while the soil profile to a depth of 3 feet or more is very dry and rippers can break up compacted layers and facilitate the soil structure. The soil structure determines how much air and water will get to the root zones of the coming produce crops.

This year, there seem to be many fields being bedded and then the beds covered with sheets of plastic. This process is called solarization, a method of weed control. The heat builds up under the plastic to temperatures that will kill many weed seeds, reducing the need to use tillage and herbicides later in the year. Solarization may also help with insect and disease problems.

Along Highway 95, there are fields that are being continuously flooded for days at a time. The practice of keeping a field saturated with water is thought to help to control the lettuce disease Sclerotinia sclerotiorum. The sclerotia, or the fungal 'seed,' become hard and black when they mature. The sclerotia act like seeds and allow the fungus to survive for several years in the soil. Control of Sclerotinia diseases must be accomplished by using a combination of cultural and chemical means. Presently, resistant lettuce varieties have not been successfully developed with enough resistance to make this a feasible means of control. Activity of this pathogen favors high soil moisture, high air humidity and cool temperatures. Research has shown that the use of drip irrigation can dramatically reduce both factors near the soil surface and reduce the incidence of Sclerotinia diseases. Crop rotation is another important tool in reducing the disease population in the soil. Planting non-host crops as corn, small grains and grasses are suggested rotation crops.

It should be mentioned that a non-crop fallow period does little to reduce the disease population. The wetting and drying of soil that occurs during a cropping cycle is much more effective in reducing the number of active sclerotia in the soil. Deep plowing has been recommended to help reduce Sclerotinia diseases, but recent research does not support this practice. There are a number of fungicides that have excellent activity against Sclerotinia.

Avoiding overly wet soils by keeping the lettuce bed surface as dry as possible with careful irrigation is important as is irrigation water management and good soil drainage.

There are continual improvements to the technology used in the produce industry. One of the newest is a plant tape. Most folks understand what a seed tape is, some type of material with seeds imbedded in it that is merely planted, watered and then the seed grows. One of the problems with planting vegetable seed is that it is extremely expensive, from hundreds to thousands of dollars per pound. While everyone uses precision seeders, most crops grown from seed must be thinned so the heads develop uniformly. While mechanical thinners were demonstrated at the Yuma Ag Summit in February 2015, the technology still is in the development stage. Also with the planting of seed, there is a percentage of the seed that do not germinate, leaving gaps in the crop line, something no grower wants to see. A YouTube video I recently saw shows little germinated lettuce on a tape. A machine then installs the tape with the plants on the field rows. Plants are spaced on the tape at the optimum distance for head development. If this technology becomes commercially successful, it will greatly reduce the labor needed early in the crops growing season.

In a visit last year to a transplant-growing facility, I was surprised to learn that some growers are already transplanting some lettuces. In addition, watermelons, cantaloupes, herbs and many other crops are being transplanted because a viable plant is going into the field.

All these changes in the early stages of produce production may in the long run reduce the production costs for these crops. Yuma County growers continue to be leaders in the development of more efficient and environmentally sound methods of growing produce worthy of the winter produce capital!

Bobbi Stevenson-McDermott is a soil and water conservationist. She can be reached at rjsm09@msn.com.

YUMA GROWERS HAVE gotten better at growing crops in an efficient and environmentally sustaining method.

PHOTOSPIN.COM

CROP OF THE WEEK: SORREL

• Young sorrel may be harvested to use in salads, soups or stews. If using sorrel in salads, it's a good idea to stick with small tender leaves that have a fruitier and less acidic taste. Young sorrel leaves are also excellent when lightly cooked, similar to the taste of cooked chard or spinach. For soups and stews, older sorrel can be used because it adds tang and flavor to the dish.

• The sorrel herb grows as a perennial, however, the male and female parts of the sorrel grow on separate plants. The leaves of a sorrel plant are sometimes used to treat fevers, itchy skin and ringworm. When dried or fresh, the leaves can clear the system by serving as a diuretic or laxative. The juice from the leaf can be applied directly to the skin to calm rashes. Liquid from the root can be infused into one's body in order to treat jaundice, gravel and kidney stones.

• Sorrel may be a little challenging to find in your local grocery store, the best place to look for sorrel is in specialty food stores, where it may be available fresh, or in pureed or canned varieties. For sorrel fans, fresh sorrel is most preferable, though the pureed version may add a nice flavor to creamy soups.

• From a nutritional standpoint, sorrel can be an excellent food for many. It has high levels of vitamins A and C. It also has moderate levels of potassium, calcium, and magnesium. Because of the oxalic acid in sorrel, it is not good for everyone. Oxalic acid may aggravate the conditions of people with rheumatism, kidney or bladder stones. If you love sorrel when you first try it, learn to love it in small doses in the beginning.

• Common sorrel, also known as spinach dock, is a perennial herb that is cultivated as a garden herb or leaf vegetable. It is a slender plant that is deep rooted and grows to almost 2 feet high. It has juicy stems and edible oblong leaves and grows up to 6 inches in length. Its lower leaves are arrow-shaped at the base and have whorled spikes of reddish-green flowers. It will supply growers with a crop from early spring to late fall as a "cut-and-come-again" crop. Once established, the plant should produce greens for 8-10 years, but in the Yuma area, sorrel is grown exclusively as an annual.

• Traditionally, sorrel is cooked like spinach and vine leaves. Its sharp, fresh taste makes it a good foil for dolmades and an excellent ingredient for pies, omelets, etc. In past, when lemons were very expensive, the lemon flavor of sorrel was a good substitute for lemon juice. People kept sorrel leaves out of season, pressing them tightly with salt in sealed bottles or air drying them. Though they are very popular in rural Greek cooking.

• Some in the Caribbean use sorrel for jams, chutneys and make a popular sorrel drink that is served at Christmas time. Sorrel is also used as a colorant for some foods and beverages.

PHOTO BY KURT NOLTE/YUMA COUNTY COOPERATIVE EXTENSION

IN THE YUMA AREA, sorrel is grown exclusively as an annual crop. Sorrel may be a little challenging to find in your local grocery store, the best place to look for sorrel is in specialty food stores, where it may be available fresh, or in pureed or canned varieties.

Kurt Nolte is an agriculture agent and Yuma County Cooperative Extension director. He can be reached at knolte@cals.arizona.edu or 726-3904.

Poll: Majority in U.S. wants gov't to curb prescription costs

ASSOCIATED PRESS

WASHINGTON — Move over, "Obamacare." A new poll finds Americans worried about medication costs and broadly supporting government action to curb drug prescription prices.

Overall, 72 percent said the cost of prescription medications is unreasonable, according to Thursday's poll from the nonpartisan Kaiser Family Foundation.

Regardless of party affiliation, large majorities support requiring pharmaceutical companies to disclose how they set prices (86 percent); allowing Medicare to negotiate drug prices on behalf of beneficiaries (83 percent); limiting what drug companies can charge for medications to treat serious illnesses (76 percent); and allowing consumers to get prescriptions filled by pharmacies in Canada (72 percent).

The 2016 presidential candidates continue to debate President Barack Obama's 5-year-old law expanding coverage for the uninsured, but the survey suggests the public has other priorities.

"The public is more focused on consumer issues like the price of drugs and out-of-pocket costs than the continuing political battles over the health care law," said Drew Altman, president of the foundation, a clearinghouse for information on the health care system.

The Pharmaceutical Research and Manufacturers of America argues that government price controls would stifle an innovative industry that is delivering cures for life-threatening illnesses and allowing many people with chronic disease to lead productive lives.

But high-priced new drugs, including a $1,000 pill for hepatitis C, have alarmed the public. Insurers are complaining, and so are state Medicaid programs and the Department of Veterans Affairs, which are legally entitled to lower prices.

Insurers and employers often require patients with private coverage to pay a bigger share of the cost of new drugs. At the same time, prices for some of the old generic stand-by medications have soared.

As a result, the drug industry seems to be taking a beating when it comes to public opinion. Only about 4 in 10 in the poll viewed pharmaceutical companies favorably, about the same share that holds a positive opinion of oil companies. Even airlines, the target of consumer complaints about bag fees and on-time performance, were viewed favorably by 55 percent.

Overall, 73 percent said drug companies make too much profit.

"It's clear that drug companies have overreached and their pricing is not sustainable," said Topher Spiro, the top health policy expert at the Center for American Progress, a think tank often aligned with the White House.

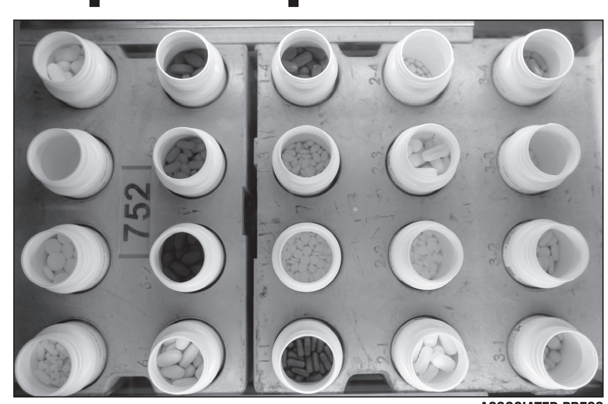
But it won't be easy to translate public sentiment into government policies that don't spawn new problems.

"To arbitrarily limit the price of drugs without regard to benefit or value would not be wise," said Spiro. More transparency is needed about how pharmaceutical companies price their products, and more research is needed to establish which drugs work best, he added.

Although the public says it wants action, the poll also found an undercurrent of skepticism about government.

As a general proposition, Americans prefer marketplace competition over government regulation to keep drug prices in check, by 51 percent to 40 percent.

The poll found that about half of Americans take a prescription medication, and of those, 7 in 10 said their prescriptions are easy to afford. But one-quarter have difficulty paying for their drugs, including 43 percent of those who are in poor health, and 33 percent of those with low incomes.



ASSOCIATED PRESS

VARIOUS PRESCRIPTION DRUGS on the automated pharmacy assembly line at Medco Health Solutions are displayed in Willingboro, N.J. A new poll out Thursday finds that Americans strongly support government action to control prescription drug costs, regardless of their political affiliation.

BUSINESS GLANCE

Chamber mixer

The Yuma County Chamber of Commerce's monthly mixer will be 5:30 to 8 p.m. Friday at the Yuma Civic Center, 1440 W. Desert Hills Drive.

This mega-mixer is sponsored by the 65 members who have booths and exhibits for members to visit and enjoy. There will be food, a no-host bar and door prizes.

Admission is $5 at the door. For more information, call the chamber at 782-2567.

Super manager training

Four flexible and interactive modules will prepare supervisors and potential supervisors to become more effective in a diverse and ever-changing environment offered by Arizona Western College Continuing Education Division.

- Modern supervision challenges
- Functions of the supervisor
- Skills of the supervisor
- Supervision and human resources

Students can complete all four modules or select only those most applicable to their goals. Course outlines are available upon request. The first course begins Sept. 8 at the AWC Entrepreneurial Center, 1351 S. Redondo Center Drive. Cost is $129 per module.

For more information, call 317-7674 or visit www.azwestern.edu/continuinged.

Basic training course

Yuma County Community Emergency Response Team will hold a basic training class over a two weekend period at the Yuma County Public Works facility, 4343 S. Avenue 5-1/2E.

The first session will be 6 to 9 p.m. Sept. 18 and 8 a.m. to 5 p.m. Sept. 19. The next session will be 6 to 9 p.m. Sept. 25 and 8 a.m. to 5 p.m. Sept. 26.

Class is limited to 15 participants. Another class can be arranged to accommodate overflow.

To sign up, send an email to tony.badilla@yumacountyaz.gov or yumacertrudy@gmail.com or call 317-4681. Study material will be delivered during the first or second week prior to class. All training is free.

To submit business items, email Arlene Fornof at afornoff@YumaSun.com

First Take By John Vaughn, Bajo El Sol editor

Darin Fenger's recent story in the Yuma Sun about the new owners of El Charro Cafe brought back fond memories of Yuma three decades ago, when I got to town.

I know there were other Mexican restaurants besides, but the ones back then that I vividly recall were El Charro, Chretin's, La Casa Gutierrez and La Fonda. Of course, along with El Charro, La Fonda and Chretin's remain in business, although the latter moved to a new location.

All my acquaintances back then had their decided preferences among the four, and every so often we engaged in debate about which was best. Truth be told, any one of us would gladly eat at any one of the four.

I'm sure the same argument played out all over town.

Congratulations are due Pauline Villa and Anna Martinez, who become the third generation of the Gutierrez family to operate El Charro. And I also tip my hat to all the other great restaurants in the area.

Lotteries

Winning numbers selected Sunday, Aug. 23.

CALIFORNIA
Fantasy 5 - 3,7,31,35,39
Afternoon Daily 3 - 6,8,8
Evening Daily 3 - 7,7,2

For more information or past winning numbers, visit the Arizona or California lottery websites.

Grant funds to be used for data sharing

Money will help public safety in Yuma

BY RACHEL TWOGUNS
@RTWOGUNS

U.S. Attorney for the District of Arizona John S. Leonardo announced Tuesday that the Bureau of Justice Assistance (BJA) awarded the City of Yuma $42,924 in grant funds, according to a City of Yuma press release.

The Yuma Police Department will use the money for its part in the participation of mobile data sharing between members of the Yuma Regional Communications System (YRCS).

Kitzya Leal Quintero, grant writer for the City of Yuma, explained in the news release that the goal of the project is to "tie all county agencies together in order to share information between them as needed."

Quintero noted that without the funding it would be difficult for the Yuma County law enforcement agencies to complete this project.

YRCS is an award-winning collaboration of almost all local, state, tribal and federal public safety agencies in the region surrounding Yuma. It was created in the aftermath of the 9/11 terrorist attacks and it began as a way for various public safety agencies to be able to contact one another via radio while also maintaining secure connections to their respective home bases.

In more recent times YRCS has added a joint computer-aided dispatch and a records management system allowing interagency sharing of real-time data. For instance, if the U.S. Border Patrol is chasing a vehicle and it travels into the Yuma city limits, YPD officers can already have information such as to whom the suspect vehicle is registered and the exact locations of the Border Patrol vehicle and other officers and agents in the area.

The funding was requested by the Yuma Police Department to aid in paying for air card airtime charges and Internet access for virtual private network communications with mobile data computers. This permits YPD and the other county-area public safety agencies the sharing of information.

The main objective of the District of Arizona's office is to support local law enforcement agencies, said Leonardo in a news release. "We encourage all agencies to be proactive and apply for future grant funding through our Office of Justice Program."

Walk a Mile for Ashlly

Lutes Casino manager Laurie Nau-Martocci (left in photo above) and servers Christy McMaster (center) and Carla Holmes check out the special T-shirts worn by workers at Lutes Casino, Pint House and Prison Hill Brewery during Friday night's special Walk A Mile For Ashlly fundraiser, benefiting Ashlly Montes, who was injured in the recent alleged kidnapping of her roommate. Proceeds from the event are to be used to help Montes with her medical expenses. Servers at the three downtown eateries wore pedometers and collected pledges for how many miles they walked during the event, which lasted from 5 p.m. until closing. Montes was a server at Lutes Casino. Holmes, wearing a special Walk A Mile For Ashlly T-shirt, explains the fundraiser to three Lutes Casino patrons.

Buy these photos at YumaSun.com

PHOTOS BY RANDY HOEFT/**YUMA SUN**

1st public hearings on Medicaid changes find wide opposition

ASSOCIATED PRESS

PHOENIX — Arizona Gov. Doug Ducey wants able-bodied Arizonans on the state's Medicaid program for the poor to pay into health savings accounts and be charged co-pays for some services, but those proposals and others he's touting got a tough reception at the first meeting where the public was allowed to weigh in.

Health care providers and patients said the governor's proposals would likely end up costing the state more money by discouraging people from getting treatment until they are far sicker. And their blunt assessment will be passed on to the Centers for Medicare and Medicaid Services, which must approve a waiver to allow them to go into force.

The most concerning proposals to those who attended the first of five planned public hearing were the co-pays and mandatory premiums Ducey wants the able-bodied to pay and a five-year cap on enrollment.

"Our office has tried (co-pays) and they really just don't work. The effect they have is people just don't come," said Dr. Tim Jordan, a Phoenix pediatrician who specializes in developmental disabilities. "The short-term effect is you'll save money because people just won't participate in the program. And it seems like the purpose of this is to get people not to participate."

Jordan's comments were echoed by several speakers at a meeting organized by the Arizona Health Care Cost Containment System, the state's Medicaid plan.

But Ducey is set on what he calls a modernization of the health care insurance plan for poor Arizonans. In additional to "strategic co-pays" for some services limited to 3 percent of a recipient's income, his plan uses the 2 percent of income premium to fund an account an insured person can use to pay for non-covered services. Patients can tap the account once they meet "wellness" steps and keep unused cash when they move off the program.

Only about 350,000 people of 1.7 million now on the plan would be affected. The elderly, disabled and those caring for young children would be exempt.

Co-pays and premiums, however, have been shown in studies to keep people from getting care and to actually drive up the ultimate cost because of delays in seeking treatment, said Dee Mahan, Medicaid program director for Families USA, a nonpartisan group that pushes for increased access to health care.

"What ends up happening is a lot of times people can't make those payments – when you're very, very low income 2 percent is a lot – and that means people drop coverage or they don't sign up for the program," Mahan said.

State Glance

ASSOCIATED PRESS

9-month-old girl pulled from bathtub in critical condition

PHOENIX — A 9-month-old girl has been hospitalized after being pulled from a bathtub in a Phoenix home.

Phoenix firefighters say they were called to the home near Cactus Road and 42nd Street Sunday morning after a family member found the girl in the tub.

Fire spokesman Larry Subervi says the child suffered full cardiac and respiratory arrest.

She is currently listed in extremely critical condition at Phoenix Children's Hospital.

It is unknown how long she was submerged.

Phoenix police officer shot at during traffic stop

PHOENIX — Phoenix police say an officer narrowly escaped getting hit by gunfire during a random traffic stop.

Police spokesman Vince Lewis says the officer tried to pull over a vehicle for speeding Sunday around 3 a.m. near 67th Avenue and Hazelwood Street.

Lewis says the car came to a stop but then the occupants opened fire. According to Lewis, the officer was not injured by several rounds hit his police vehicle.

The suspects fled in a white sedan.

Designated drivers in Tucson rewarded with free gas

TUCSON — Drivers carrying impaired passengers in Tucson are being rewarded.

KVOA-TV in Tucson reports that Pima County sheriff's deputies gave out gas cards to sober drivers with intoxicated passengers at a DUI checkpoint on Saturday.

The department timed the checkpoint on the city's south side to coincide with students going back to school.

Each gas card was worth $25.

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Join us for a
Public Consultation Meeting
for the

Winterhaven Last Mile Underserved Broadband Project on August 26th

The California Public Utilities Commission (CPUC) invites you to attend a public meeting on the Winterhaven Last Mile Underserved Broadband Project (Proposed Project). The Proposed Project, being proposed by the Winterhaven Telephone Company TDS Telecom, Inc., would extend high-speed internet service to an area approximately 15.67 square miles in size, including the community of Winterhaven, a portion of the Fort Yuma-Quechan Indian Reservation, and other areas of unincorporated Imperial County in southeastern California. The Proposed Project would involve installation of approximately 15.31 miles of new fiber optic cable underground within protective conduit, as well as buried vaults, equipment cabinets, and splice boxes along existing roads in the project area. The CPUC is the lead state agency, and the Bureau of Indian Affairs is the lead federal agency, for preparation and review of an initial study/environmental assessment (IS/EA), pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). The purpose of the meeting is to provide information about the project and to solicit input on the scope and content of the environmental information to be included in the IS/EA. The date, time, and location of the public scoping meeting will be as follows:

Wednesday, August 26th, 6:00 pm – 8:00 pm
Paradise Event Center, Paradise Casino
450 Quechan Drive
Yuma, AZ 85364

Will you need an accommodation in order to attend and/or participate in this event? If so, please contact Tom Engels, Horizon Water and Environment at (916) 790-8548. Auxiliary aides and services are available to individuals with disabilities upon request.

NOTE: This notice was provided to a representative of the Quechan tribe, to distribute to other members of the tribe.

Appendix C

Screenshot of Project Webpage

STATE OF CALIFORNIA PUBLIC UTILITIES COMMISSION

TDS Telecom
Winterhaven Last Mile
Underserved Broadband Project

Commission Resolution T-17410

PDF

Files linked on this page are in Portable Document Format (PDF). To view them, you will need to download the free Adobe Acrobat Reader if it is not already installed on your computer.

Welcome to the California Public Utilities Commission (CPUC) website for the environmental review of the proposed TDS Telecom (TDS) Winterhaven Last Mile Underserved Broadband Project (Project). The proposed Project includes construction and installation of a fiber-optic network that would extend high-speed internet service to the community of Winterhaven, to a portion of the Fort Yuma-Quechan Indian Reservation, and to other areas of unincorporated Imperial County in southeastern California.

The objective of the proposed Project is to make available affordable broadband internet services to currently underserved areas in Imperial County, including a portion of the Fort Yuma-Quechan Reservation.

The proposed Project is subject to review under the California Environmental Quality Act (CEQA), and the CPUC is the CEQA Lead Agency. The proposed Project is also subject to review under the National Environmental Policy Act (NEPA), and the U.S. Bureau of Indian Affairs (BIA) is the NEPA Lead Agency. A CEQA/NEPA review is being performed to evaluate the potential environmental impacts associated with the Project. This website provides access to public documents and information relevant to the CEQA and NEPA review process.

Quick Links

- Resolution T-17410, dated October 4, 2013, approving funding of the TDS grant application for the Project
- Proponent's Environmental Assessment (PEA), dated April 21, 2015
    - Entire PEA, Including Appendices (55.6 MB)

  - PEA Only (5.5 MB)
  - PEA Appendices Only (49.3 MB)
  - PEA Appendix A - Project Plans (6.7 MB)
  - PEA Appendix B - CalEEMod Results (190 KB)
  - PEA Appendix C - Biological Resources Evaluation (8.8 MB)
  - PEA Appendix D - Waterway Delineation and Assessment Report (7.4 MB)
  - PEA Appendix E - Class III Cultural Resources Survey Report and Cultural Resources Correspondence (23.9 MB)
  - PEA Appendix F - Allands Data and Research, Inc., Report (3.4 MB)
  - PEA Project Maps (5.1 MB)
- Deficiency Letter, dated May 28, 2015, from CPUC regarding review of PEA
- TDS Response to Deficiency Items, dated June 17, 2015
- Letter Deeming PEA Complete, dated June 24, 2015, from CPUC

Project Description

The proposed Project involves the construction of a second-generation, very-high-bit-rate digital subscriber line (VDSL2) fiber-optic network capable of 25 Mbps/5 Mbps (megabit-per-second download/upload) speeds. In total, approximately 24.65 km (15.31 miles) of new fiber-optic cable would be buried within protective conduit along existing roads in the project area, and approximately 2.25 km (1.40 miles) of existing buried copper line would be used in the new system.

The proposed Project is funded in part by the California Advanced Service Fund (CASF). On December 20, 2007, the CPUC in Decision 07-12-054 established the CASF program as a two-year program to provide funds for the deployment of broadband infrastructure in unserved and underserved areas in California. CPUC Resolution T-17410 approved funding in the amount of $2,063,967 from the CASF for the proposed Project. A link to Resolution T-17410 is provided above.

Environmental Review

The TDS PEA was deemed complete by the CPUC on June 24, 2015. The CPUC subsequently determined that an Initial Study/Mitigated Negative Declaration (IS/MND) was the appropriate CEQA document to evaluate potential environmental issues associated with this project. Based on discussions with BIA, preparation of an Environmental Assessment (EA) is anticipated to be the appropriate level of review for NEPA compliance. Therefore, the CPUC is coordinating with BIA to prepare a joint IS/EA.

Scoping Meeting and Public Comment Period

CPCU conducted a public scoping meeting from 6-8 p.m. on Wednesday, August 26, 2015. The meeting was held at the Paradise

Event Center, Paradise Casino, 450 Quechan Drive, Yuma, AZ 85364.

The initial public comment period begins on August 26, 2015, and ends at **5 p.m. on Monday, September 28, 2015**. Members of the public, interested parties and governmental agencies may provide comments about the proposed Project via the contact information listed below.

Draft Initial Study/Environmental Assessment

CPUC is currently preparing the draft joint IS/EA. Please check this webpage for updates about when the draft joint IS/EA will be available for public review.

For Additional Information

The CPUC, through its Environmental Review Team, manages the environmental evaluation of the proposed project. To request additional information or to be added to the mailing list for project updates, please contact us by email, fax, phone or mail, as follows:

Email: winterhavenproject@horizonh2o.com
Fax: (510) 350-3592
Toll-free voicemail: (844) 211-7510

Mail: Rob Peterson, CPUC
c/o Tom Engels
Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405
Oakland, CA 94612

The CPUC's Project Manager is:

Rob Peterson
Energy Division
Infrastructure Permitting and CEQA
505 Van Ness Avenue
San Francisco, CA 94102

Project Home Page - CPUC Environmental Information - CPUC Home

Appendix D

Meeting Materials for August 26 Public Meeting

Appendix D Contents:

- Meeting sign-in sheet
- Project flyer: Winterhaven Broadband Project (TDS Telecom)
- Comment card
- PowerPoint handout of slides shown at the public meeting

CPUC Winterhaven Broadband Project (TDS Telecom)

Public Scoping Meeting Sign-In Sheet

August 26, 2015 – Yuma, AZ

Name	Address	Email Address	Organization *(optional)*	Phone Number *(optional)*
Nate Stanislawski	525 Junction Rd Madison WI 53717	natestanislawski@tdstelecom.com	TDS	608-664-5642
Olivia T. José	1860 W. Diamond Winterhaven, CA 92283			928 446-3086

Disclaimer: Before including your name, address, email address or other personal identifying information, please be aware that your name and contact information will be added to the project mailing list and your personal identifying information may be made publicly available at any time. While you may request that your personal identifying information be withheld from public review, CPUC cannot guarantee that this will be possible.

CPUC Winterhaven Broadband Project (TDS Telecom)

Public Scoping Meeting Sign-In Sheet

August 26, 2015 – Yuma, AZ

Name	Address	Email Address	Organization (optional)	Phone Number (optional)
Joe Kirk	PO Box 216	joseph.kirk@tdstelecom.com	TDS	608-664-4900
Brian Golding Sr.	PO Box 1899, Yuma AZ 85366-1899	b.golding@quechantribe.com	Quechan EDA	760/572-5270
Vernon Smith	P.O. Box 04 92283 Winterhaven, CA	smithvrnn@aol.com	Quechan	(760) 572-5242
Lucinda E. Polk	Box 783 Winterhaven, Ca. 92283		Quechan	760-572-5242
Carlotta O'Brien Sestiaga	PO Box 117 Winterhaven Ca 92283	c.sestiaga1@yahoo.com	Quechan	928 503-9170

Disclaimer: Before including your name, address, email address or other personal identifying information, please be aware that your name and contact information will be added to the project mailing list and your personal identifying information may be made publicly available at any time. While you may request that your personal identifying information be withheld from public review, CPUC cannot guarantee that this will be possible.

California Public Utilities Commission

Winterhaven Broadband Project (TDS Telecom)

Public Scoping

Project Overview

The objective of the TDS Telecom Winterhaven Broadband Project is to make affordable high-speed internet services available to currently underserved areas in Imperial County, including the community of Winterhaven and a portion of the Fort Yuma-Quechan Indian Reservation.

The proposed project involves the construction of a second-generation, very-high-bit-rate digital subscriber line (VDSL2) fiber-optic network capable of 25 Mbps/5 Mbps (megabits-per-second download/upload) speeds. In total, approximately 24.65 km (15.31 miles) of new fiber-optic cable would be buried within protective conduit along existing roads in the project area, and approximately 2.25 km (1.40 miles) of existing buried copper line would be used in the new system.

The proposed project is funded in part by the California Advanced Service Fund (CASF). On December 20, 2007, the California Public Utilities Commission (CPUC) in Decision 07-12-054 established the CASF program as a two-year program to provide funds for the deployment of broadband infrastructure in unserved and underserved areas in California. CPUC Resolution T-17410 approved funding in the amount of $2,063,967 from the CASF for the Winterhaven Broadband Project.

The proposed project is subject to review under the California Environmental Quality Act (CEQA), with the CPUC as the CEQA Lead Agency. The proposed project is also subject to review under the National Environmental Policy Act (NEPA), with the U.S. Bureau of Indian Affairs (BIA) as the NEPA Lead Agency. A CEQA/NEPA review is being performed to evaluate the potential environmental impacts associated with this project.

A Proponent's Environmental Assessment (PEA) for the project was prepared in April 2015 by TDS Telecom and deemed complete by the CPUC on June 24, 2015. The CPUC subsequently determined that an Initial Study (IS)/Mitigated Negative Declaration (MND) was the appropriate CEQA document to evaluate the project's potential environmental issues. Based on discussions with BIA, preparation of an Environmental Assessment (EA) is anticipated to be the appropriate level of review for NEPA compliance. Therefore, the CPUC is coordinating with BIA to prepare a joint IS/EA.

Public Comment Period

Public input is a valued and important component of the joint IS/EA development process. We invite members of the public, interested parties, and governmental agencies to provide comments about the content of the PEA prepared for this project. **The deadline for comments is 5 p.m. on Monday, September 28, 2015**. All comments received will be considered during the CPUC's preparation of the draft joint IS/EA, which is anticipated to be available for public review in January 2016.

COMMENT SUBMISSION

Per the guidance provided by CEQA/NEPA, comments should focus on the sufficiency of the PEA document in identifying and analyzing the project's possible impacts on the environment and ways in which any significant effects might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate significant environmental effects. The basis for your comments should be explained, including relevant data or references.

SUBMIT COMMENTS TO:

Mail	***Voicemail/Fax***	***Email***
Rob Peterson, CPUC c/o Tom Engels Horizon Water and Environment 180 Grand Avenue, Suite 1405 Oakland, CA 94612	**Voicemail** ***(Toll-Free)*** (844) 211-7510 **Fax** (510) 350-3592	winterhavenproject@horizonh2o.com

COMMENTS DUE:

5 p.m. on Monday, September 28, 2015

Please include your name, address, contact number, and email address for future correspondence related to this CEQA/NEPA process.

Further information about the Winterhaven Broadband Project (TDS Telecom) may be found at the project website:
http://www.cpuc.ca.gov/environment/info/horizonh2o/winterhaven/index.html

CALIFORNIA PUBLIC UTILITIES COMMISSION
WINTERHAVEN BROADBAND PROJECT (TDS TELECOM)

Scoping Comment Form

Name:
Group/Organization (optional):
Mailing Address:
Telephone No. (optional):
Email (optional):

Comments/Issues:

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED NO LATER THAN SEPTEMBER 28, 2015) TO:

MAIL: Rob Peterson, CPUC Project Manager
c/o Tom Engels
Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405
Oakland, CA 94612

EMAIL: winterhavenproject@horizonh2o.com

Questions? Please contact us or visit our website:
http://www.cpuc.ca.gov/environment/info/horizonh2o/winterhaven/index.html

Place

Stamp

Here

Rob Peterson, CPUC Project Manager
c/o Tom Engels
Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405
Oakland, CA 94612

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staple

Winterhaven Broadband Project
(TDS Telecom)

Public Scoping Meeting
August 26, 2015

California Public Utilities Commission

Introductions

Rob Peterson
California Public Utilities Commission

Tom Engels
Horizon Water and Environment

Meeting Agenda

- Purpose of Scoping
- California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) Review Process
- Project Overview
- Receipt of Public Comment

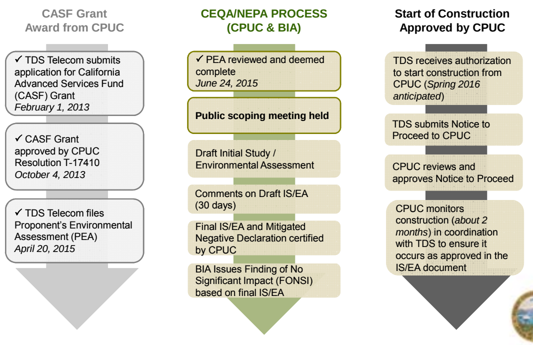
Purpose of Scoping

To provide the public and agencies with the opportunity to comment on the scope and content of the environmental assessment.

Scoping comments may include information on:

- Potential environmental issues
- Potential mitigation measures
- Potential project alternatives
- Characteristics of the existing environment

Grant Funding, CEQA/NEPA and Construction Processes



CEQA/NEPA Review Process

- California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA)
- Determines whether project would have any significant effects on the quality of the human and natural environment
- Identifies proposed mitigation measures for any potentially significant impacts to the environment
- Prevents significant avoidable damage to the environment by requiring changes in projects when governmental agency finds such changes to be feasible
- Discloses to public the reasons why a governmental agency approved the project
- Next steps: CEQA/NEPA document under preparation: Initial Study/Environmental Assessment

CEQA/NEPA Topics Anticipated

- Aesthetics
- Agricultural Resources
- Air Quality and Greenhouse Gas Emissions
- Biological Resources
- Cultural Resources
- Environmental Justice
- Geology, Soils and Seismic Potential
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services/Utilities and Service Systems
- Recreation
- Socioeconomics
- Transportation/Traffic
- Growth-Inducing and Cumulative Impacts

Project Objective

To make affordable broadband internet services available to currently underserved areas in Imperial County, including a portion of the Fort Yuma-Quechan Reservation

Project Background and Purpose

- Winterhaven and other areas of unincorporated Imperial County, including a portion of the Fort Yuma-Quechan Indian Reservation, currently do not have high-speed (“broadband”) access to the internet
- TDS granted $2,063,967 from CPUC for project, to match TDS funding of $1,375,978
- In addition to residences, other institutions will benefit—San Pasqual Valley High School, San Pasqual Valley Elementary School, Bill M. Manes High School, San Pasqual Middle School, and San Pasqual Vocational Academy

Project Components

- 9.01 miles (47,595 feet) of cable installed outside the Fort Yuma-Quechan Reservation
- 6.3 miles (33,264 feet) of cable installed inside the Fort Yuma-Quechan Reservation
- Installation sites along existing roadways with right-of-use and encroachment authorizations—no land acquisitions
- Fiber-optic telecommunications cable and protective 1.25-inch-diameter high-density polyethylene (HDPE) standard dimension ratio (SDR)-11 conduits
- 10 equipment cabinets (each 2' x 3' x 4') installed atop buried epoxy composite vaults, each within 20-square-foot area

Construction Overview

- Estimated total construction time: two months
- Total ground disturbance not to exceed 12.5 acres
- No staging of equipment or materials in project areas
- Prompt site clean-up and surface restoration following construction
- Once installed, infrastructure essentially maintenance-free

Construction Details

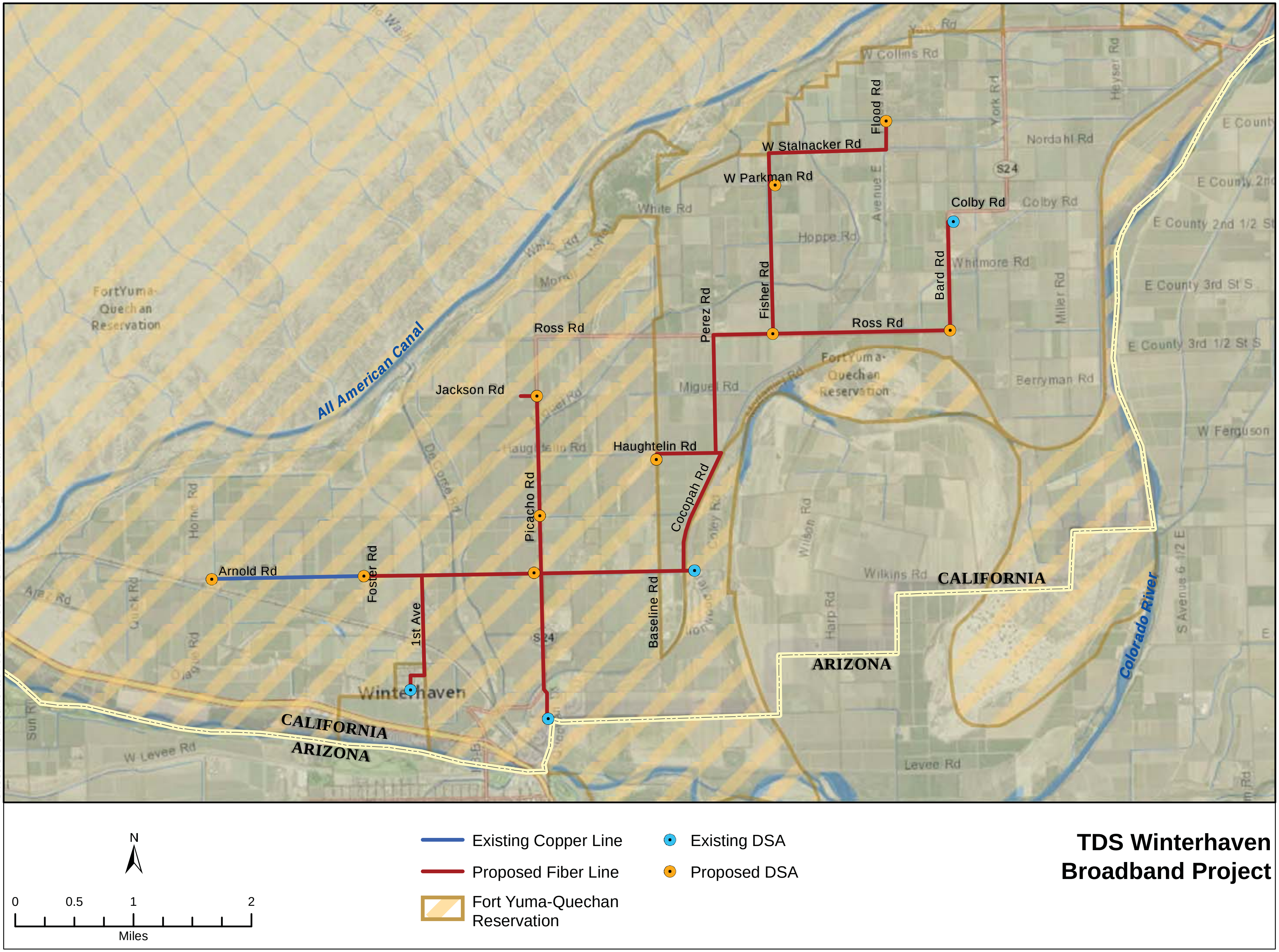
- Plow-type construction (68,101 feet of conduit):
  - o Bulldozer with single ripper to loosen soil along installation path
  - o Conduit installed at depth of 3.3 feet
  - o Ground disturbance limited to 8-foot-wide corridor
- Bore-type construction (12,758 feet of conduit)
  - o Horizontal drilling rig with steerable drill bit lubricated with sodium bentonite "mud"
  - o Conduit installed at depth of 5 feet
  - o Ground disturbance limited to two 8-foot boring pits for each canal/road crossing installation
- Pits for node vaults (3' x 4' x 6') excavated with backhoe

How to Comment

- Ask your questions or give comments orally tonight.
- Fill out a comment card to submit written comments and questions.
- Submit comments after tonight's meeting by mail, phone or email:

Mail	Voicemail/Fax	Email
Rob Peterson, CPUC c/o Tom Engels Horizon Water and Environment 180 Grand Avenue, Suite 1405 Oakland, CA 94612	**Voicemail (Toll-Free)** (844) 211-7510 **Fax** (510) 350-3592	winterhavenproject@ horizonh2o.com

- Comments due by **5 p.m.** on **Monday, September 28, 2015**.
- For more information, visit the project website: www.cpuc.ca.gov/environment/info/horizonh2o/winterhaven/index.html



TDS Winterhaven Broadband Project

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Appendix E

Comments

CALIFORNIA PUBLIC UTILITIES COMMISSION
WINTERHAVEN BROADBAND PROJECT (TDS TELECOM)

Comments Provided During August 26, 2015, Public Meeting

(transcribed from flipchart)

The following comments were offered by attendees of the public meeting held at the Paradise Casino, in Yuma, Arizona, on Wednesday, August 26, 2015, from 6:00 to 8:00 p.m. This is a transcription of comments that were noted on flipchart by a member of the consulting team, recording comments made during the public meeting. The comments were given in response to a request for comments on potential environmental issues to study in during environmental review under the National Environmental Policy Act and California Environmental Qua

- There is potential for cable damage from farm activities.
- High groundwater table – potential impacts
- Where is the fiber optic cable coming from?
- There was a previous installation of a communication cable along the railroad tracks, around 2005. [TDS staff in attendance noted that this cable is for a different system.]
- Will you hire monitors for cultural impacts? There is potential for burial sites.
- At the last meeting for this project some property owners objected to the use of their land. [TDS staff in attendance noted that the route has been changed to avoid those properties.]
- The map of the proposed project does not show which side of road the cable will be on. [TDS noted that the cable would be on the north side of Arnold Road and added that they will contact property owners and cannot cross a property without owner's approval.]
- How will the project affect phone service? [TDS noted that the new service includes phone service.]
- It is very difficult to get internet service now.
- Get signatures from the majority of land owners.
- People may not have shown up at this meeting if they thought it was a done deal.
- People who said no to the project may feel there is no more to say, and therefore may not have seen a need to attend the meeting.
- Can't you get internet access from satellite without having to put cable in the land? [TDS staff noted the satellite service is more expensive.]

- Earthquake faults could affect the fiber optic cable.
- Disabled and sick people need landline for emergency calls.
- Farm ditches could affect the project, there are farming activities right up to the road.
- Lots of rutted roads, not much road improvement by the county.
- Can the cable withstand heat? [TDS staff noted that the cable will be put in a housing/encasement and be buried for protection.]
- Rainstorms cause electric outages [TDS staff noted that rain may affect service if a cable is damaged, in which case repairs are made.
- When I call the phone company regarding service problems, they ask me to check the connection inside the house. [TDS staff noted that problems inside the house are the owner's responsibility.]
- Would there be new fees to keep the fiber optic line in service?
- For the previous fiber optic project, there was digging along the tracks done without public notice, tribal council didn't know about it, and landowners did not receive payment.
- Is the project funded by a state grant?
- How many projects are funded by those grants besides this one?
- How much of the project costs are administrative, and how much are project costs?
- Is this the only grant-funded project on tribal land?
- How will landowners be compensated for allowing installation of broadband line on their property?