

TASK ORDER NO. 026**TASK ORDER NAME: 5300-5400 S. Signal Design****PROJECT CODE: SGR-403 and SGR-404; 20-03382.68912**

This is Task Order No. 026 to the On Call Maintenance Contract entered into by and between Utah Transit Authority (UTA) and Rocky Mountain Systems Services, (Contractor) as of February 24th, 2021.

This Task Order is part of the On Call Maintenance Contract and is governed by the terms thereof.

The purpose of this Task Order is to specifically define the scope, schedule, lump sum price, and other terms applicable to the work identified herein.

UTA and Contractor hereby agree as follows:

1.0 SCOPE OF SERVICES

The scope of work for the Task Order #026 is hereby attached and incorporated into this Task Order.

2.0 SCHEDULE

The Substantial Completion Date for this Task is December 31st, 2022. The Final Acceptance Date for this Task is December 31st, 2022.

3.0 LUMP SUM PRICE

The price for this task order is a not to exceed \$339,007.00. Invoices will be billed on monthly basis for work completed to date.

4.0 APPLICABILITY OF FEDERAL CLAUSES

This Task Order does ☐ does not ☒ [Check Applicable] include federal assistance funds which requires the application of the Federal Clauses appended as Exhibit D to the On Call Maintenance Contract.

IN WITNESS WHEREOF, this Task Order has been executed by UTA and the Contractor or its appointed representative

UTAH TRANSIT AUTHORITY:**ROCKY MOUNTAIN SYSTEMS SERVICES:**

By: _____
Jay Fox, Executive Director Date
> \$200,000

DocuSigned by:
By: Anthony Ortolani
1587B142E149430...

By: _____
Mary DeLoretto, Chief Service Development Ofc. Date
< 200,000

Date: 4/22/2022

By: _____
Jared Scarbrough, Acting Director of Capital Const. Date
< \$75,000

By: _____
Jared Scarbrough, Project Manager Date
< \$25,000

DocuSigned by:
Mike Bell 4/22/2022
Legal Review Date

Procurement Review Date

On-Call Maintenance Contract # 20-03382VW



April 18th, 2022

RMSS-52598-041

Mr. Jared Scarbrough
Manager of Systems Engineering
2264 South 900 West
Salt Lake City, UT 84119

Reference: Utah Transit Authority – Systems On-Call Services

Subject: 5300S - 5400S Powered Crossovers - Design

Jared,

Rocky Mountain Systems Services (RMSS) is pleased to provide a proposal for developing signal design upgrades of the 5300S & 5400S TRAX crossovers. The design updates are required to upgrade both crossovers from electric locks to fully signalized interlockings with powered switch machines. The design will result in each set of crossovers functioning as an independent interlocking. Additionally, to take full advantage of the modifications being made to the current signal system, the new design will include a bi-directional signaling element between 5300S Crossover (Ash Interlocking) and Lovendahl Junction on both main tracks. This includes modifying the affected reverse running crossing approaches. Lastly, this work includes upgrading the current ElectroCode 4 Plus equipment to Electrologix at the S9122 Intermediate Signal location.

Our lump sum price for this proposal is **\$339,007.00**.

The scope of work covered in this proposal is as follows:

RMSS will produce the updates shown in the table below to account for required changes as outlined in the attached documents:

- 5300.5400 Phase 1 Normal Control Lines FINAL_2022_02_09
- 5300.5400 Phase 1 Revers Control Lines FINAL_2022_02_09
- 5300-5400 Phase 1 Xing Approach Updates_2022_02_09

LOCATION	CIRCUIT PLAN UPDATE	WAYSIDE SOFTWARE UPDATE	SATS	XING UPDATE	NEW CUSTOM LCP
5300S Crossover (Ash Interlocking)	YES	YES	YES	NO	YES
5400S Crossover (Murray Interlocking)	YES	YES	YES	NO	YES
Vine Street Grade Crossing	YES	NO	YES	YES	NO
S9122RC Intermediate	YES	YES	YES	NO	NO
5813S Grade Crossing	YES	NO	YES	YES	NO
5900S Grade Crossing	YES	NO	YES	YES	NO
6100S Grade Crossing	YES	NO	YES	YES	NO
Lovendahl Junction	YES	YES	YES	NO	NO
Sugar Interlocking	YES	YES	YES	NO	NO



All circuit plan and wayside application software updates will consist of a standard UTA review cycle of the following revision levels:

- Issued For Review (IFR)
- Issued for Construction (IFC)
- As in Service (AIS)

RMSS will perform SATS virtual lab testing of all locations receiving revised wayside application software.

Execution Timeline

A final timeline for execution will be mutually agreed upon between RMSS and UTA upon execution of a change order for this scope of work. However, for planning purposes, RMSS anticipates the following timeline for design:

MILESTONE	EXECUTION TIMELINE
<u>Hardware Design</u>	
IFR Hardware Submittal Package	NTP/CO + 90 calendar days
IFC Hardware Submittal Package	IFR Approval + 14 calendar days
AIS Hardware Submittal Package	Substantial Completion + 30 calendar days
<u>Software Design</u>	
IFR Software Submittal Package	NTP/CO + 120 calendar days
IFC Software Submittal Package	IFR Approval + 14 calendar days
AIS Software Submittal Package	Substantial Completion + 30 calendar days

Clarifications

1. This proposal is only for the design of "Phase 1" of potential improvements between Sugar Interlocking and Vine Street as shown in **RED** and **YELLOW** on the attached documents. All other Phases are to be quoted under a separate task order proposal
2. Development of modifications to the TDX Control Office screens and back-end updates required in order to power up both crossovers are not included in this scope of work. All head-end scope will be included in the proposal for the construction scope.

Assumptions

1. Any vital signal processor that is to be a new addition to the system must be ElectroLogIXS
2. Any track circuit within the "OS" of an interlocking is to be a Siemens Phase Shift Overlay (PSO4000) track circuit



If you need any additional information, please don't hesitate to contact us.

Sincerely,

A handwritten signature in blue ink, appearing to read "Anthony Ortolani".

Anthony Ortolani
Area Manager
Rocky Mountain Systems Services

cc:

Marshall Wilson – RMSS
Doug Jones – RMSS

Attachments:

- 5300.5400 Phase 1 Normal Control Lines FINAL_2022_02_09
- 5300.5400 Phase 1 Reverse Control Lines FINAL_2022_02_09
- 5300-5400 Phase 1 Xing Approach Updates_2022_02_09

This proposal is valid for 60 days, unless extended in writing by RMSS.
Our pricing is in U.S. Dollars, F.O.B. Salt Lake City UT, and excludes all allowances, taxes,
tariffs, licenses, and permits

UTA - On Call

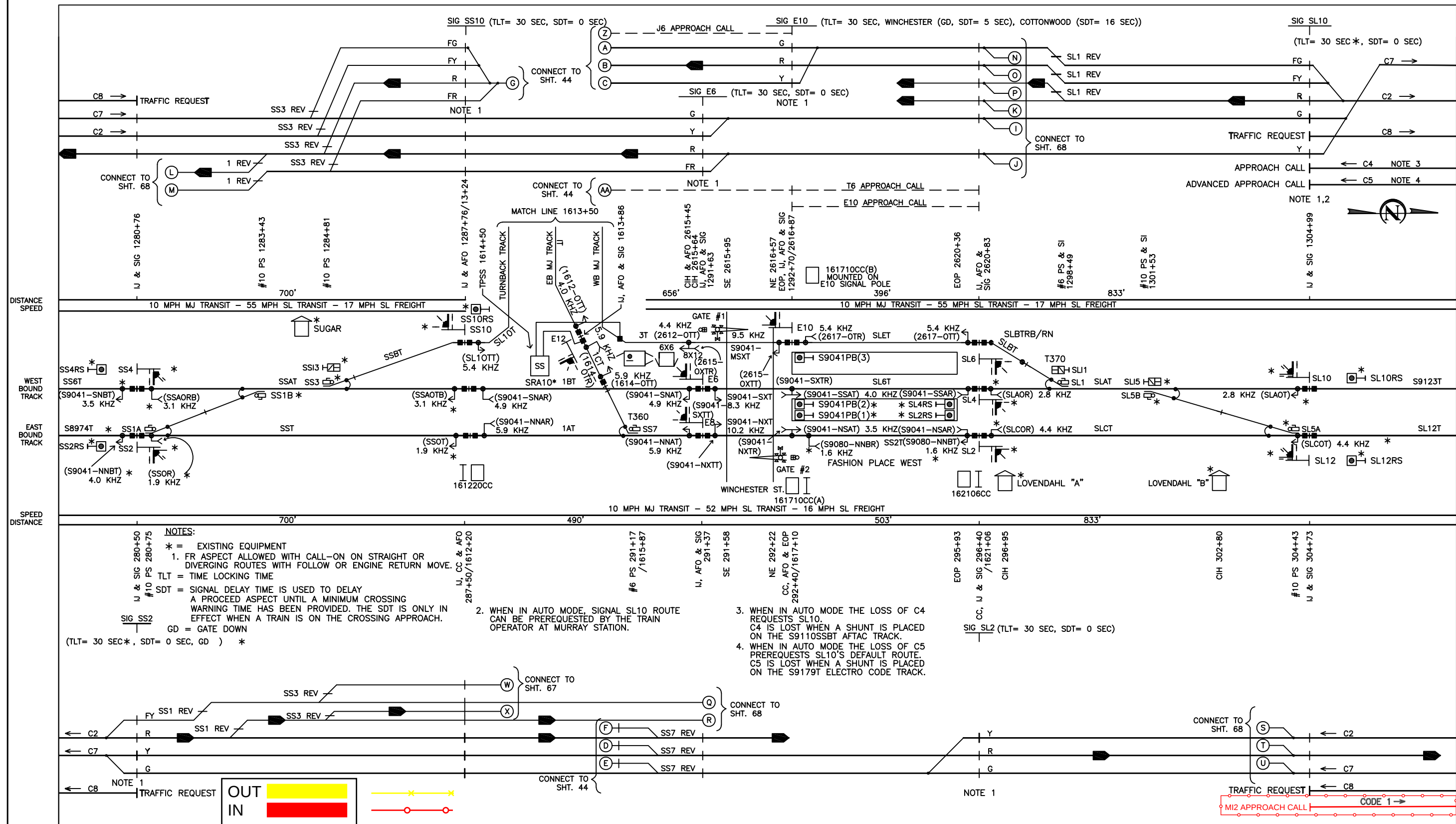
RMSS-52598-041 5300/5400 Powered X-Overs DESIGN

Task Order Estimate Summary



4/18/2022

Subcontractors	\$	-
Materials	\$	-
Administrative	\$	10,005.00
Design/Engineering	\$	271,143.38
Construction/Testing	\$	-
Travel & Perdiem	\$	-
Other Costs and Fee	\$	57,859.00
Total:	\$	<u>339,007.38</u>



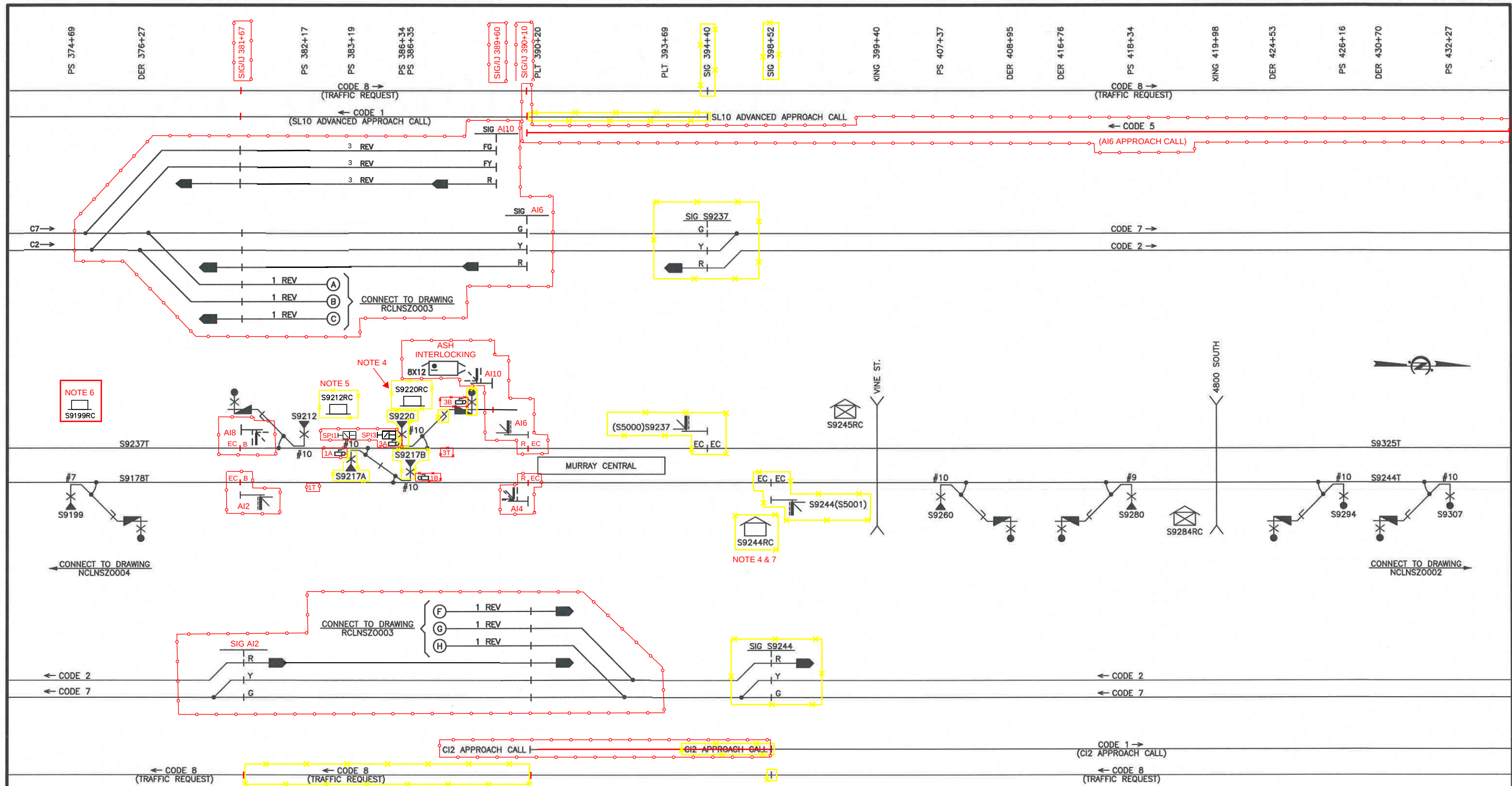
REV	DATE	DESCRIPTION
4	2/09/22	POWER UP 5300/5400 CROSSOVERS AND BI-DIRECTIONAL SIGNALING
3	8/22/17	YELLOW OVER YELLOW MODIFICATIONS-AIS UPDATE
2	6/9/2015	YELLOW OVER YELLOW MODIFICATIONS
1	07/15/11	UPDATED TLT/STATION NAME CHANGES
0	05/11/11	AS IN SERVICE



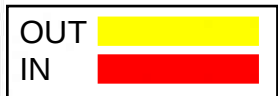
Designed By:	JLG
Drawn By:	SAT
Checked By:	DWG
Approved By:	DWG

MID-JORDAN LIGHT RAIL TRANSIT PROJECT	
NORMAL CONTROL LINES	
STA. 278+73 TO STA. 308+73	

Scale:	NTS
CADD File Name:	MJAZ1045
Submitted Date:	01/16/09
UTA Contract No.:	UT07-013V
Drawing No.:	Z1045
Sheet No.:	45



NOT TO SCALE



NOTES:

1. FR ASPECT DISPLAYED FOR FOLLOWING OR ENGINE RETURN MOVES WITH CALL-ON.
2. CODE 8 IS TRANSMITTED WHEN ROUTE INTO SIGNAL BLOCK IS REQUESTED & CODE 5 IS BEING RECEIVED.
3. WHEN IN AUTO MODE, ABSENCE OF CODE 5 INITIATES AUTO CALL.
4. REMOVE AND RETIRE
5. REMOVE AND RETIRE. INCORPORATE NEW EQUIPMENT AND FUNCTIONALITY INTO NEW ASH INTERLOCKING CIH
6. EVALUATE DURING DESIGN:
A. REMOVE AND RETIRE. INCORPORATE NEW EQUIPMENT AND FUNCTIONALITY INTO NEW ASH INTERLOCKING CIH
B. ADD BATTERY BACKUP
7. REMOVE EXISTING FIBER PATCH PANEL AND FUSION SPLICE THROUGH 24 SM

REV	DATE	DESCRIPTION
1	2/09/22	POWER UP 5300/5400 CROSSOVERS AND BI-DIRECTIONAL SIGNALING
0	08/01/13	IFC (TRAX SGR CONTRACT #UT12-002GL)



CONTRACT NO.: UT12-002GL

DESIGNED BY:	JTD
DRAWN BY:	JTD
CHECKED BY:	BAH
APPROVED BY:	REB

UTA TRAX
STATE OF GOOD REPAIR PROJECTS
NORMAL CONTROL LINES
STA. 373+00 TO STA. 440+00
NORTH - SOUTH LINE
ROUTE & ASPECT CHART

SCALE:	NONE
CADD FILENAME:	NCLNSZ0003.DWG
SUBMITTAL DATE	08-01-13
DRAWING No.:	NCLNSZ0003

\$User\$
\$TIME\$
\$DATE\$
\$FILE\$

REV	DATE	DESCRIPTION
2	2/09/22	POWER UP 5300/5400 CROSSOVERS AND BI-DIRECTIONAL SIGNALING
1	08/16/13	IFC (TRAX SGR PROJECT #3 CONTRACT #UT11-021GL)
0	08/01/13	IFC (TRAX SGR PROJECT #2 CONTRACT #UT11-021GL)

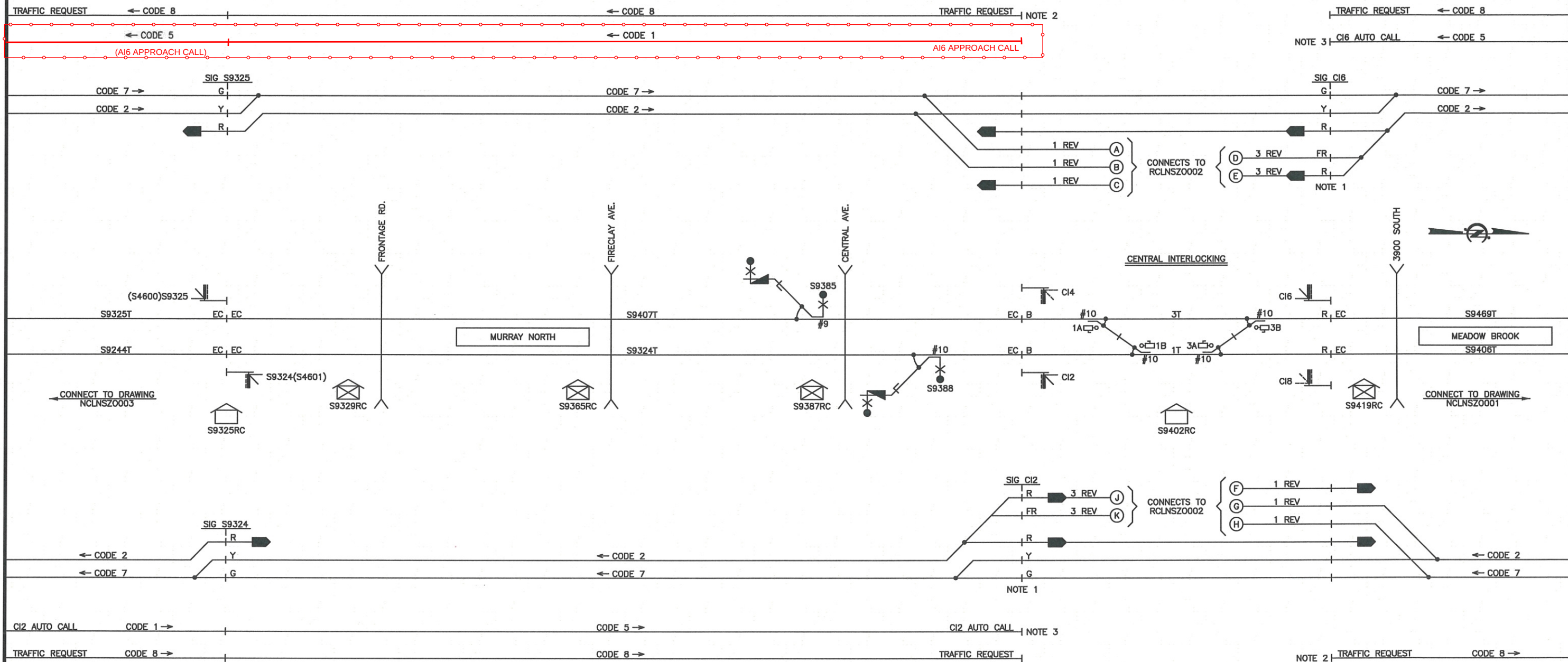


CONTRACT NO.: UT12-002GL

DESIGNED BY:
JTD
DRAWN BY:
JTD
CHECKED BY:
BAH
APPROVED BY:
REB

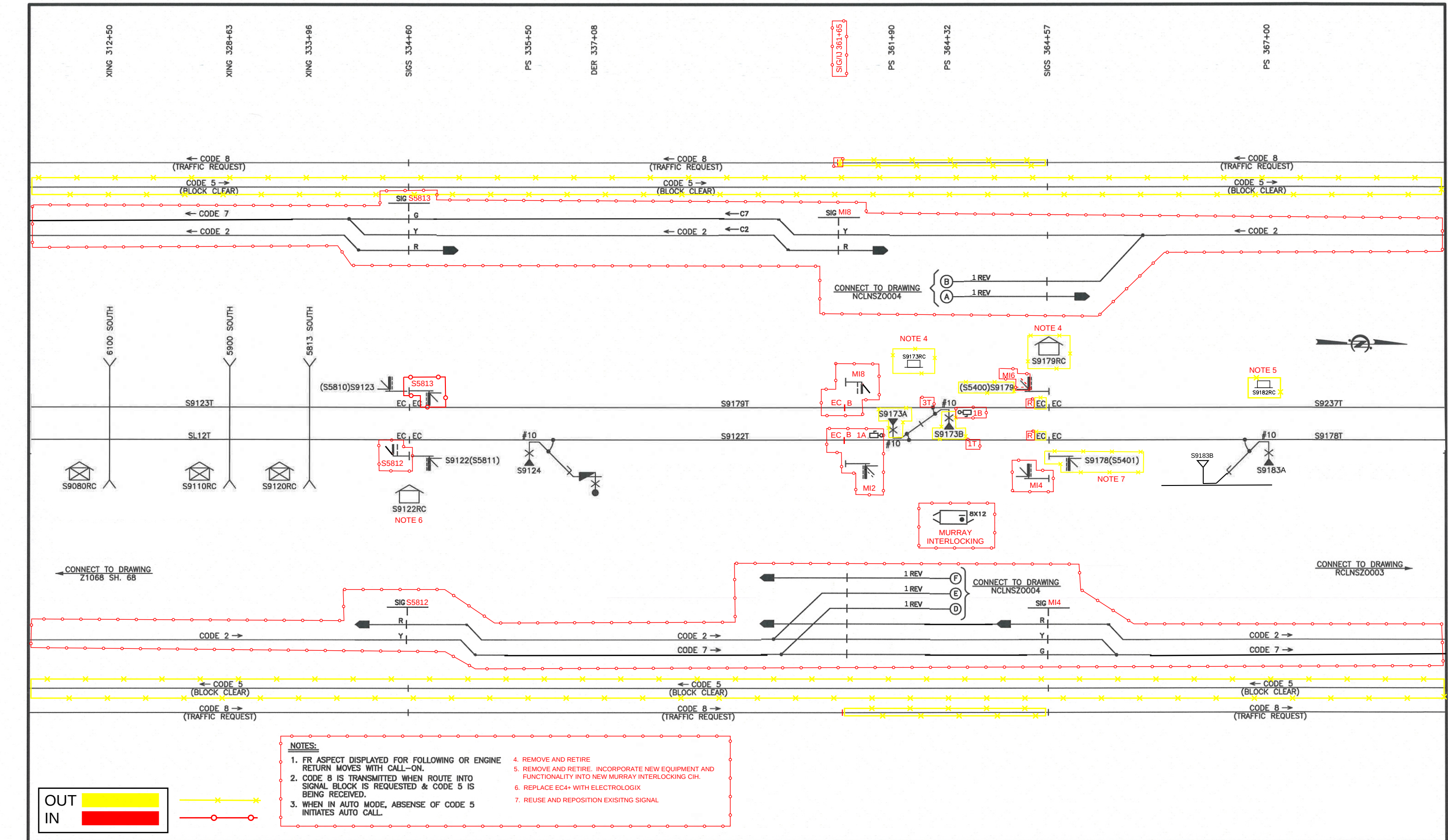
UTA TRAX
STATE OF GOOD REPAIR PROJECTS
NORMAL CONTROL LINES
STA. 440+00 TO STA. 497+00
NORTH - SOUTH LINE
ROUTE & ASPECT CHART

SCALE:
NONE
CADD FILENAME:
NCLNSZ0002.DWG
SUBMITTAL DATE:
08-01-13
DRAWING No.:
NCLNSZ0002

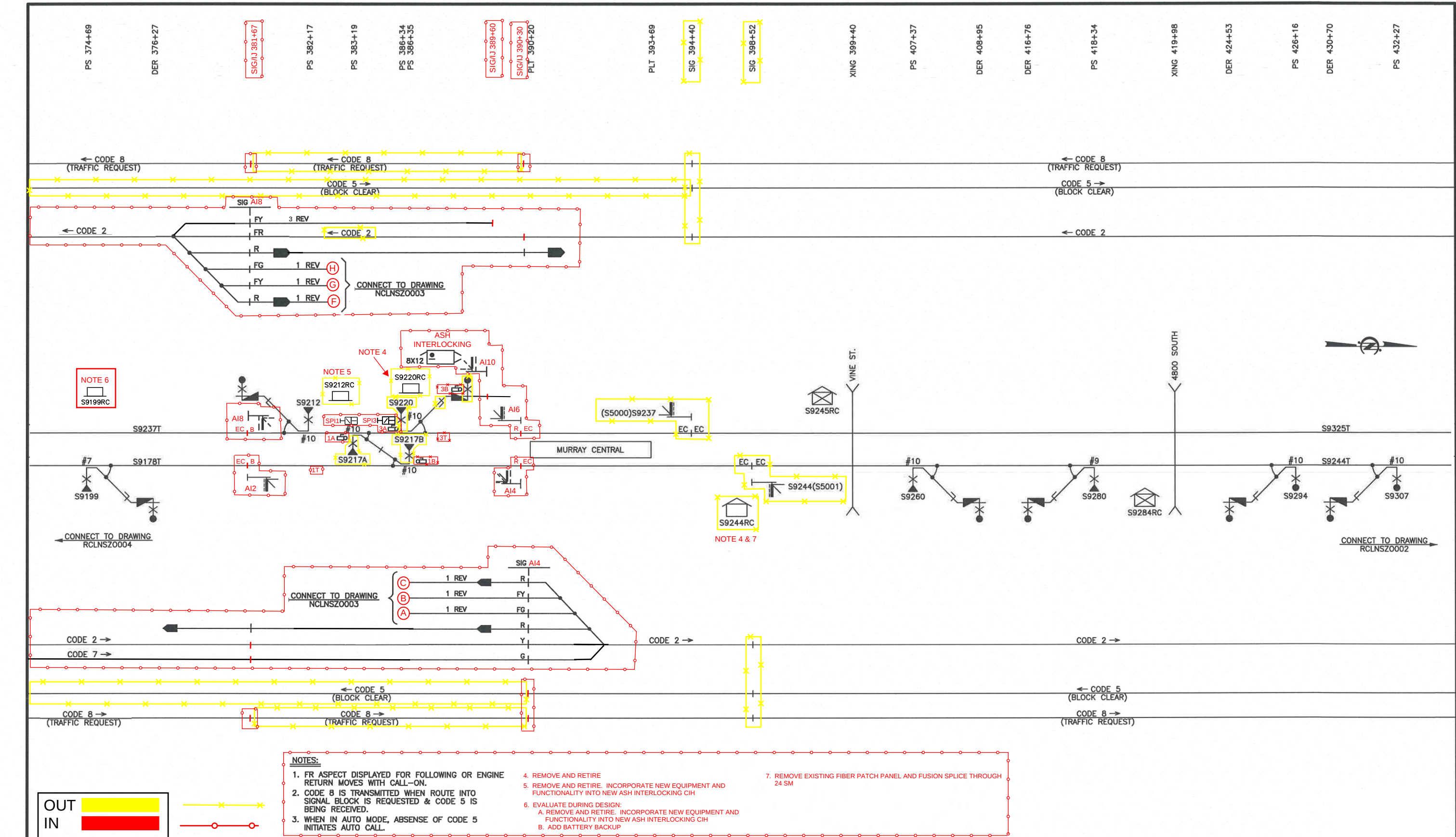


- NOTES:
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 - CODE 8 IS TRANSMITTED WHEN ROUTE INTO SIGNAL BLOCK IS REQUESTED & CODE 5 IS BEING RECEIVED.
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REV	DATE	DESCRIPTION
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0	08/01/13	IFC (TRAX SGR CONTRACT #UT12-002GL)

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 - REMOVE EXISTING FIBER PATCH PANEL AND FUSION SPLICE THROUGH 24 SM

CONTRACT NO.: UT12-002GL

DESIGNED BY: JTD

DRAWN BY: JTD

CHECKED BY: BAH

APPROVED BY: REB

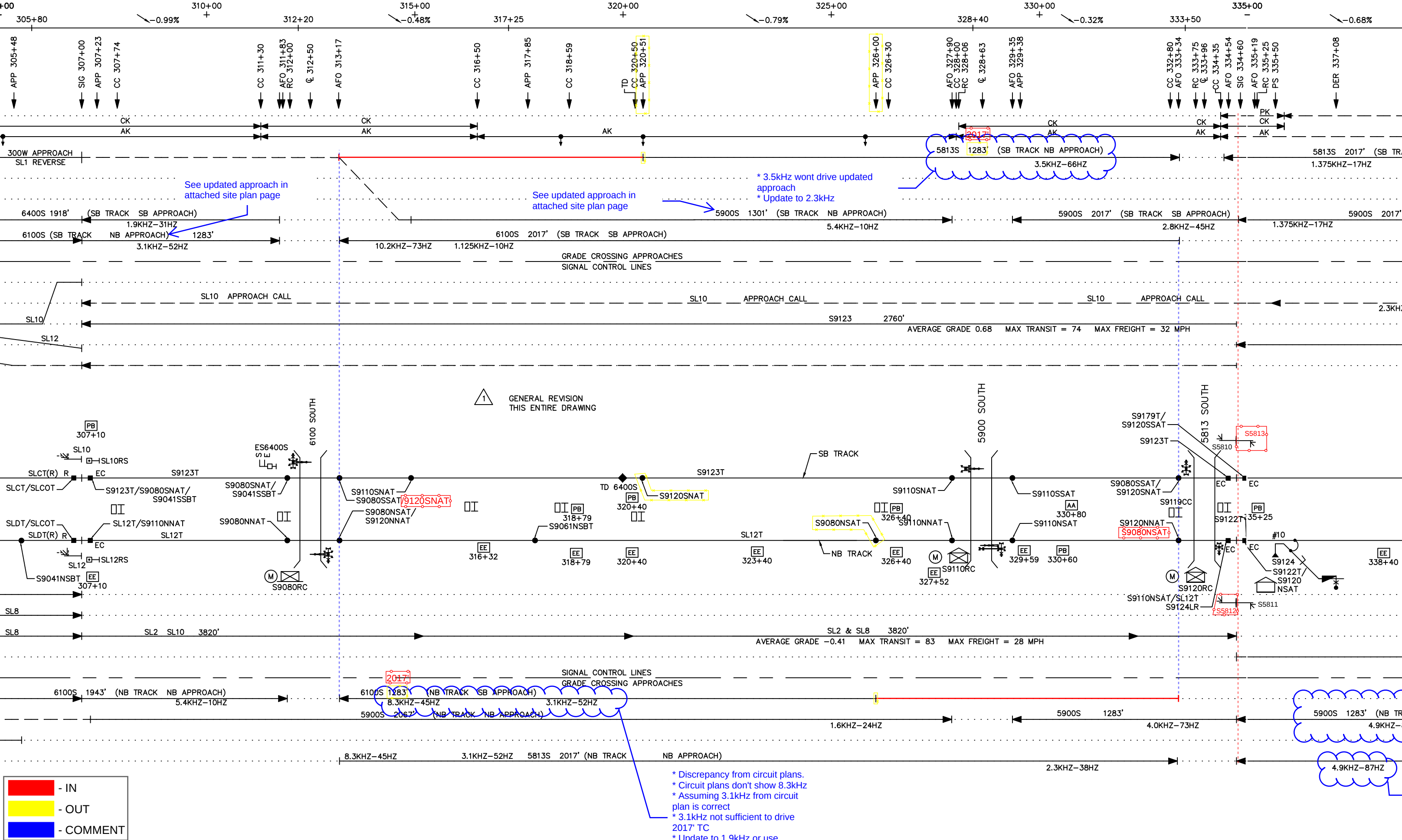
UTA TRAX
STATE OF GOOD REPAIR PROJECTS
REVERSE CONTROL LINES
STA. 373+00 TO STA. 440+00
NORTH - SOUTH LINE
ROUTE & ASPECT CHART

SCALE:
NONE

CADD FILENAME:
RCLNSZ0003.DWG

SUBMITTAL DATE
08-01-13

DRAWING No.:
RCLNSZ0003



- IN

- OUT

- COMMENT

* Discrepancy from circuit plans.
* Circuit plans don't show 8.3kHz
* Assuming 3.1kHz from circuit plan is correct
* 3.1kHz not sufficient to drive 2017' TC
* Update to 1.9kHz or use

4.9KHZ-87HZ



						Designed By: BAH Drawn By: DLB Checked By: JVW Approved By:	HIGHWAY CROSSING WARNING DEVICES APPROACH LAYOUT 5900 SOUTH MIDVALE, UTAH	Scale: NONE	
								CADD File Name: S911002.dwg	
								Submitted Date: 12-20-97	
								UTA Contract No.: UT-16VT-L53	
								Drawing No.: S911002	Sheet No.: 2 of 11
	03-01-00	AS IN SERVICE REVISION							
REV	DATE	DESCRIPTION	H.P.N. 3940107-140	Submitted by: _____	Approved by: _____				