

TASK ORDER NO. 24-015

TASK ORDER NAME: Vine St. Design

PROJECT CODE: SGR403

This is Task Order No. 24-015 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 #24-015 is hereby attached and incorporated into this Task Order.

2.0 SCHEDULE

The Substantial Completion Date for this Task is October 31, 2024. The Final Acceptance Date for this Task is October 31, 2024.

3.0 LUMP SUM PRICE

The price for this task order is a lump sum price of \$299,103.00. 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: _____
David Hancock, Chief Capital Services Officer Date
< 200,000

Date: 5/21/2024

By: _____
Jared Scarbrough, Director of Capital Design/Constr. Date
< \$75,000

By: _____
Dean Hansen, Project Manager Date
< \$25,000

DocuSigned by:
Tim Merrill 6/27/2024
56A038C7C491482...
Legal Review Date

Procurement Review Date



April 17th, 2024

RMSS-52598-102

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

Reference: Utah Transit Authority – Systems On-Call Services

Subject: PTO 045A Vine Street Crossing Upgrades – Signal Design

Dean,

Rocky Mountain Systems Services (RMSS) is pleased to provide a proposal for system, signal, and communication design updates required to modify the train control system associated with northbound approaches to the Vine Street grade crossing.

Our lump sum price for this proposal is **\$299,103.00**

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

The following design services are included under the scope of this proposal:

- General design description
 - RMSS will design a downstream adjacent crossing (DAX) approach circuit to increase the cab speed for northbound trains approaching Murray Station. The crossing approach will provide an appropriate warning time at Vine Street Crossing.
 - The design will include wayside application software updates to increase the northbound speeds to 45MPH with an aspect to proceed is displayed at Murray North.
- System Level Design
 - Update FrontRunner South Single Line Crossing Approach Plans
 - Update FrontRunner South Control Lines
 - Update FrontRunner South Route & Aspect Drawings
- Signal Design
 - Update Signal Design (Circuit Plans and iVPI Wayside Application Software) for the following locations:
 - 2165+00 Cut Section 2165
 - 2214+87 Cut Section 2214
 - 2228+25 Murray South
 - 2249+75 Vine Street
 - 2257+41 Murray North
 - 2296+02 4500 South Grade Crossing / Cut Section
 - 2347+85 Cut Section 2347
 - 2400+96 Cut Section 2400



- 2448+29 Cut Section 2448
- Signal design updates will include the following items:
 - Remove iVPI wayside application logic associated with cab rates that are limited to 15MPH MAS for northbound trains on approach to Murray North with an aspect displaying cleared to proceed.
 - Update iVPI wayside application logic to upgrade northbound cab rates to 45MPH for vehicles on approach to Murray South and Murray North with an aspect displaying cleared to proceed.
 - Update iVPI wayside application logic at all affected locations to modify cab rates associated with PTC temporary speed restrictions (TSR) and mandatory directives (MD).
 - Update location specific circuit plans to reflect any hardware and software modifications
 - Updates to GCP programs at Murray South and Vine St
 - Updates to wayside access gateway (WAG) configurations at Murray South and other locations if necessary to modify the Echelon crossing network
- Crossing Design
 - Update the DAX table matrix
 - Update configurations for GCP 4000
- Communication Design
 - Update communication design to include a new DAX link at:
 - Murray South
 - Vine Street
 - Update configurations on existing DAX ethernet switches as needed
 - Create configurations for new DAX ethernet switches as needed
 - Update FRS ring structure drawing to add additional nodes for new DAX links
 - Update FRS Fiber Layout Drawing to add additional nodes for new DAX links

Execution Timeline

The anticipated execution of this task order is shown on the attached document “PTO045A Vine Street Crossing Upgrades – Preliminary Task Order Schedule”.

Deliverables

The anticipated deliverables included in this scope of work are shown on the attached document “PTO045A Vine Street Crossing Upgrades – CDRL”.

Assumptions

1. This proposal assumes that UTA will provide current as-in-service design files that accurately reflect the current configuration in the field.
2. This proposal assumes that UTA FrontRunner vehicles will be operated in a manner that aligns with the attached document “PTO045A - Vine Street 45MPH Crossing Approach Simulation”.
3. Designs will be provided at the following revision levels for review and approval by UTA:
 - a. System Design (R&A’s, Control Lines, and Single Line Xing Approach Plans)
 - i. Issued for Construction (IFC)
 - b. Hardware Design
 - i. Issued for Construction (IFC)



- c. Wayside Application Software
 - i. Issued for Construction (IFC)
- d. Configuration Files for GCP4000 and RS900
 - i. Issued for Construction (IFC)

Exclusions

1. As-in-service level drawings are excluded from the scope of this proposal as construction of this scope is anticipated to take place under a separate contract. RMSS recommends that UTA include these deliverables in future task orders for construction and testing.
2. Modifications to design elements that are not directly related to the scope of this proposal.
3. Modification to Genrakode chassis/processors.

This proposal is valid for 60 days, unless extended in writing by RMSS.

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
Project Manager
Rocky Mountain Systems Services

cc:

Marshall Wilson – RMSS
Doug Jones – RMSS

Attachments:

- PTO045A Vine Street Crossing Upgrades – Preliminary Task Order Schedule
- PTO045A Vine Street Crossing Upgrades – CDRL
- PTO045A Vine Street 45MPH Crossing Approach Simulation

UTA - On Call

PTO 045A Vine St Crossing Upgrade - Design

Task Order Estimate Summary



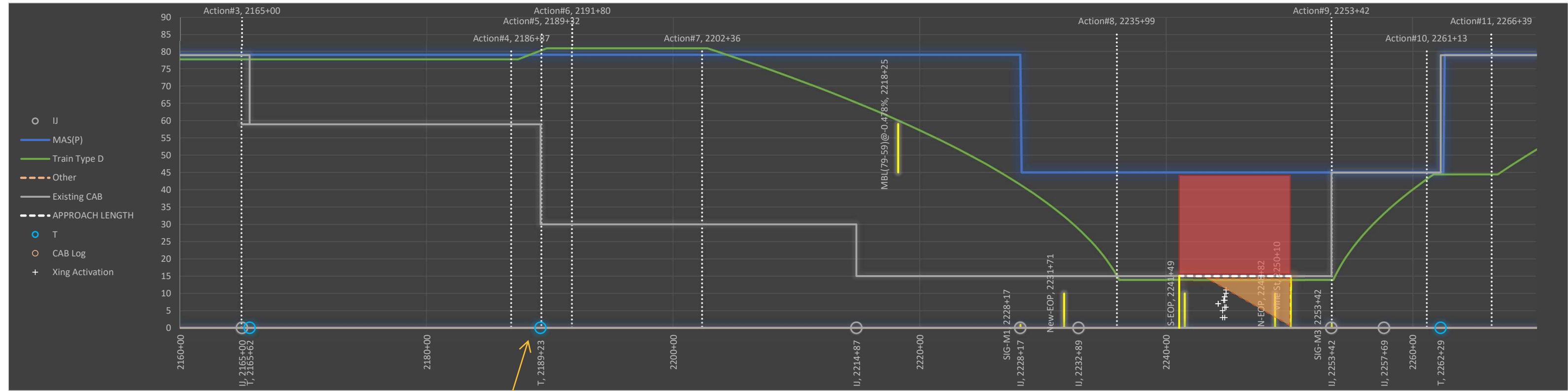
**ROCKY MOUNTAIN
SYSTEMS SERVICES**

4/17/2024

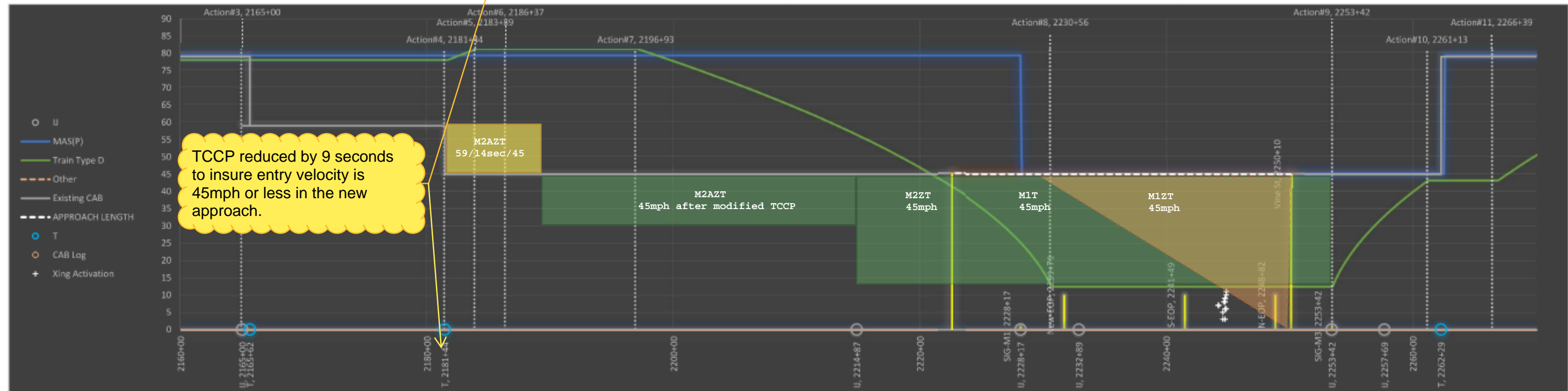
Subcontractors	\$	-
Materials	\$	-
Administrative	\$	11,427.00
Design/Engineering	\$	250,901.00
Construction/Testing	\$	-
Travel & Perdiem	\$	-
Other Costs and Fee	\$	36,775.00
Total:	\$	<u>299,103.00</u>
DBE Participation (Dollars)	\$	-
DBE Participation (%)		
DBE GOAL		N/A

SUBMITTAL ID	DELIVERABLE DESCRIPTION	REVISION LEVEL
SUB-PTO045A-001	FrontRunner South Control Line Updates	IFC
SUB-PTO045A-002	FrontRunner South Route & Aspect Updates	IFC
SUB-PTO045A-003	FrontRunner South Single Line Xing Approach Plan Update	IFC
SUB-PTO045A-004	FrontRunner South DAX Table Update	IFC
SUB-PTO045A-005	2228+25 Murray South – Hardware Design	IFC
SUB-PTO045A-006	2249+75 Vine Street – Hardware Design	IFC
SUB-PTO045A-007	2165+00 CS 2165 iVPI Application Software	IFC
SUB-PTO045A-008	2214+87 CS 2214 iVPI Application Software	IFC
SUB-PTO045A-009	2228+25 Murray South iVPI Application Software	IFC
SUB-PTO045A-010	2228+25 Murray South GCP Program	IFC
SUB-PTO045A-011	2228+25 Murray South WAG Configuration	IFC
SUB-PTO045A-012	2249+75 Vine Street GCP Program	IFC
SUB-PTO045A-013	2257+41 Murray North iVPI	IFC
SUB-PTO045A-014	2296+02 4500 South Xing/CS iVPI	IFC
SUB-PTO045A-015	2347+85 CS 2347 iVPI	IFC
SUB-PTO045A-016	2400+96 CS 2400 iVPI	IFC
SUB-PTO045A-017	2448+29 CS 2448 iVPI	IFC
SUB-PTO045A-018	FrontRunner South Network Topology Diagram Update	IFC
SUB-PTO045A-019	FrontRunner South Fiber Layout Plan Update	IFC
SUB-PTO045A-020	Murray South RS900 Configuration	IFC

Existing Design with 15mph Approach



Notes:



Alternate Design with 45mph Approach

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	Department	Lead	Assigned	Task Order	Calendar	2024												2025				
												Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
UTA - Systems On-Call Services																												
M1240	Vine Street - Task Order Proposal Complete	0	0	15-Apr-24	08-Oct-24	23	MILESTONE			Vine Street	MRS 5-Day Work Week (Holidays to 2027)	◆ Vine Street - Task Order Proposal Complete																
Vine Street - Task Order Proposal																												
VS.1000	Vine Street Task Order Approved	0	0	15-Apr-24*		32	MILESTONE			Vine Street	MRS 5-Day Work Week (Holidays to 2027)	◆ Vine Street Task Order Approved																
Design																												
Systems Level Design																												
FrontRunner South Control Line Updates																												
FrontRunner South Control Line Updates - IFC																												
VS.1030	Update/Submit FrontRunner South Control Line Updates - IFC	8	8	19-Apr-24	30-Apr-24	107	DESIGN	Roger	SYS ENG. A & B	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Update/Submit FrontRunner South Control Line Updates - IFC																
VS.1040	Review/Approve FrontRunner South Control Line Updates - IFC	21	21	01-May-24	30-May-24	107	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve FrontRunner South Control Line Updates - IFC																
FrontRunner South Route & Aspect Updates																												
FrontRunner South Route & Aspect Updates - IFC																												
VS.1070	Update/Submit FrontRunner South Route & Aspect Updates - IFC	8	8	17-Apr-24	26-Apr-24	107	DESIGN	Roger	SYS ENG. A & B	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Update/Submit FrontRunner South Route & Aspect Updates - IFC																
VS.1080	Review/Approve FrontRunner South Route & Aspect Updates - IFC	21	21	29-Apr-24	28-May-24	109	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve FrontRunner South Route & Aspect Updates - IFC																
FrontRunner South Single Line Xing Approach Plan Update																												
FrontRunner South Single Line Xing Approach Plan Update - IFC																												
VS.1110	Update/Submit FrontRunner South Single Line Xing Approach Plan Update - IFC	8	8	15-Apr-24	24-Apr-24	107	DESIGN	Roger	SYS ENG. A & B	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Update/Submit FrontRunner South Single Line Xing Approach Plan Update - IFC																
VS.1120	Review/Approve FrontRunner South Single Line Xing Approach Plan Update - IFC	21	21	25-Apr-24	23-May-24	111	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve FrontRunner South Single Line Xing Approach Plan Update - IFC																
GCP/WAG Design/Verification																												
2228+25 Murray South																												
VS.1170	Develop 2228+25 Murray South GCP Program Design	12	12	06-May-24*	21-May-24	27	DESIGN	Brad	Ray	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Develop 2228+25 Murray South GCP Program Design																
VS.1190	2228+25 Murray South GCP Program Verification	5	5	22-May-24	29-May-24	63	DESIGN	Brad	Engineer 2 (Ray)	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2228+25 Murray South GCP Program Verification																
VS.1200	Review/Approve Murray South GCP Program Design	21	21	30-May-24	27-Jun-24	87	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve Murray South GCP Program Design																
2249+75 Vine Street																												
VS.1210	Develop 2249+75 Vine Street GCP Program Design	9	9	22-May-24	04-Jun-24	27	DESIGN	Brad	Ray	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Develop 2249+75 Vine Street GCP Program Design																
VS.1230	2249+75 Vine Street GCP Program Verification	5	5	05-Jun-24	11-Jun-24	59	DESIGN	Brad	Engineer 2 (Ray)	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2249+75 Vine Street GCP Program Verification																
VS.1240	Review/Approve 2249+75 Vine Street - Hardware Design	21	21	12-Jun-24	11-Jul-24	78	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve 2249+75 Vine Street - Hardware Design																
2228+25 Murray South WAG Configuration																												
VS.1410	Develop 2228+25 Murray South WAG Configuration Design	8	8	05-Jun-24	14-Jun-24	27	DESIGN	Brad	Ray	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Develop 2228+25 Murray South WAG Configuration Design																
VS.1430	2228+25 Murray South WAG Configuration Verification	4	4	17-Jun-24	20-Jun-24	56	DESIGN	Brad	Engineer 2 (Ray)	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2228+25 Murray South WAG Configuration Verification																
VS.1440	Review/Approve 2228+25 Murray South WAG Configuration Design	21	21	21-Jun-24	22-Jul-24	71	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve 2228+25 Murray South WAG Configuration Design																
Plan Design & Verification																												
FrontRunner South DAX Table Update																												
VS.1130	FrontRunner South DAX Table Update	6	6	06-May-24*	13-May-24	17	DESIGN	Brad	Engineer 1	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ FrontRunner South DAX Table Update																
VS.1150	FrontRunner South DAX Table Update - Verification	4	4	14-May-24	17-May-24	23	DESIGN	Brad	Engineer 2	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ FrontRunner South DAX Table Update - Verification																
VS.1160	Review/Approve FrontRunner South DAX Table Update	21	21	20-May-24	18-Jun-24	94	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve FrontRunner South DAX Table Update																
2228+25 Murray South																												
VS.1850	2228+25 Murray South - Hardware Design	31	31	17-Jun-24	30-Jul-24	27	DESIGN	Brad	Ray	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2228+25 Murray South - Hardware Design																
VS.1860	2228+25 Murray South - Hardware Design Verification	12	12	31-Jul-24	15-Aug-24	27	DESIGN	Brad	Engineer 2 (Ray)	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2228+25 Murray South - Hardware Design Verification																
VS.1870	Review/Approve 2228+25 Murray South - Hardware Design	21	21	16-Aug-24	16-Sep-24	32	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve 2228+25 Murray South - Hardware Design																
2249+75 Vine Street																												
VS.1880	2249+75 Vine Street - Hardware Design	10	10	31-Jul-24	13-Aug-24	29	DESIGN	Brad	Ray	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2249+75 Vine Street - Hardware Design																
VS.1900	2249+75 Vine Street - Hardware Design Verification	5	5	16-Aug-24	22-Aug-24	27	DESIGN	Brad	Engineer 2 (Ray)	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2249+75 Vine Street - Hardware Design Verification																
VS.1910	Review/Approve 2249+75 Vine Street - Hardware Design	21	21	23-Aug-24	23-Sep-24	27	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve 2249+75 Vine Street - Hardware Design																
iVPI Design																												
2165+00 CS 2165 iVPI Application Software																												
VS.1250	2165+00 CS 2165 iVPI Application Software Design	9	9	15-May-24	28-May-24	17	DESIGN	Brad	Engineer 1	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2165+00 CS 2165 iVPI Application Software Design																
VS.1270	2165+00 CS 2165 iVPI Application Software Verification	28	28	30-Jul-24	06-Sep-24	17	DESIGN	Brad	Engineer 1 & 2	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2165+00 CS 2165 iVPI Application Software Verification																
VS.1280	Review/Approve 2165+00 CS 2165 iVPI Application Software	21	21	09-Sep-24	07-Oct-24	17	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve 2165+00 CS 2165 iVPI Application Software																
2214+87 CS 2214 iVPI Application Software																												
VS.1920	2214+87 CS 2214 iVPI Application Software Design	12	12	29-May-24	13-Jun-24	17	DESIGN	Brad	Engineer 2	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2214+87 CS 2214 iVPI Application Software Design																
VS.1940	2214+87 CS 2214 iVPI Application Software Verification	28	28	30-Jul-24	06-Sep-24	17	DESIGN	Brad	Engineer 1 & 2	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ 2214+87 CS 2214 iVPI Application Software Verification																
VS.1950	Review/Approve 2214+87 CS 2214 iVPI Application Software	21	21	09-Sep-24	07-Oct-24	17	DESIGN	UTA	UTA	Vine Street	MRS 5-Day Work Week (Holidays to 2027)	■ Review/Approve 2214+87 CS 2214 iVPI Application Software																
2228+25 Murray South iVPI Application Software																												

■ Bar Name
◆ Milestone
 Remaining Level of Effort
 Actual Level of Effort
 Actual Work
 Remaining Work
 Critical Remaining Work

UTA - Systems On-Call Services

Setup - Update

Project ID: 52.598.WK.20240401
 Layout: Setup - Update
 TASK filter: WBS.



