



Safety Certification Audit Report
Issued July 15, 2022

Project: East Link Extension Contract 340
Audit Type: Security Audit Profiles 1000, 2000 & 3000
Safety Audit Profile 3000

PREPARED BY (TALSON):

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Date: June 1, 2022

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June 1, 2022

APPROVED BY (TALSON):

Kenneth Brzozowski – Project Manager

Date: June 27, 2022

APPROVED FOR ISSUE (SOUND TRANSIT):

Patrick Johnson – ST Director, Audit Division

Date: July 12, 2022

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I. EXECUTIVE SUMMARY

Commencing in March and extending through May 2022, Talson Solutions, LLC (Talsion) performed a desktop Safety and Security Certification Audit (SSCA) of the East Link Extension (ELE) Project for contract E340. The audit was performed on behalf of the Sound Transit Audit Division and focused on the following areas:

Security Audit Profile 1000 – Threat Vulnerability Assessment

- Assess that threats are identified within preliminary and operating hazard analyses including mitigation actions and efforts
- Key documents to be reviewed include the Threat Vulnerability Assessment

Security Audit Profile 2000 – Design Conformance Verification

- Assess that security criteria has been incorporated into the design to support the mitigation of a Certifiable Item / Threat
- Verify threat inclusions in designs and submittals
- Key documents to be reviewed include Drawings, Specifications, and Calculations

Security and Safety Audit Profile 3000 – Construction Conformance Verification

- Verifies that system safety hazard and security threat mitigations are sufficiently constructed according to design and documented properly
- Key documents to be reviewed include Inspection Daily Reports, Resident Engineer Summary Memos/Photos, Testing Reports, and Commissioning Reports

Talsion found overall that activities being performed to align with the safety and security certification processes are generally conforming to the Agency's Safety and Security Certification Plan. For Security Audit Profile 1000, 100% of the certifiable items and corresponding hazard identifications and mitigations tested by Talson were traced between SSIMs and the Threat Vulnerability Assessment.

It was noted that the Threat Vulnerability Assessment did not have formal approval from the Safety and Security Certification Review Subcommittee as referenced in the Agency's Safety and Security Certification Plan, Table 2-1 in Section 2. Additionally, Talson found inaccurate and/or missing representation within the SSIMS dashboard for reporting of closed certifiable items for select safety and security certifiable items. The sum impact of the audit testing resulted in one (1) finding and two (2) observations.

The audit was conducted to ensure that system hazards are effectively identified from preliminary engineering to revenue services inclusive of certifiable item traceability and mitigation efforts. A Closeout Briefing was facilitated on April 18, 2022 with select project team members, senior Sound Transit management and the Washington Department of Transportation

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State Safety Oversight Program Administrators. Continued discussions relating to preliminary findings, observations and potential corrective actions followed the Closeout Briefing.

Notable documentation referenced during the audit included:

- Agency Safety and Security Management Plan (SSMP), dated February 2017, Rev. 2
- Agency Safety and Security Certification Plan (SSCP), dated February 2017, Rev. 6
- Threat Vulnerability Assessment
- Safety and Security Information Management System Project Dashboard
- Drawings, Specifications, and Material Requirements
- Inspection Daily Reports, Resident Engineer Summaries, Memos/Photos
- Testing and Commissioning Reports

Safety and Security certifiable items within various elements listed within Sound Transit's Safety and Security Information Management System (SSIMS) database were selected for conformance testing specific to the following Elements: Guideway, Communications, Fire/Life/Safety, Signaling, Stations, Traction Electrification System, Fare Collections Equipment, and Safety/Security Plans Procedures and Training. Talson selected 15% of the 103 closed Safety Certifiable Items, and 15% of the 78 closed Security Certifiable Items that were populated in SSIMS for review during this audit.

II. SCOPE AND METHODOLOGY

Talson's audit activities included the following procedures for performance of the audit:

- Review of certifiable items within SSIMS
- Prepare SSCA Checklist inclusive of 15% stratified sampling of certifiable items
- Assess relevant documentation including SSCP, SSMP, and PS SSMP
- Identify method of verification within the SSCA Checklist along with audit results
- Communicate preliminary findings with Sound Transit
- Conduct a brief closeout meeting
- Produce draft and final reporting

Audit Profile Descriptions include the following areas of audit focus and testing:

Audit Profile 1000:

The purpose of the Safety/Security Certification Audit Profile 1000 is to ensure the completeness and integrity of SSIMS certifiable items for predefined hazards located in the Preliminary Hazard Analysis (for Safety) or the Threat Vulnerability Assessment (for Security) including potential causes, effects, and mitigation efforts ensuring that all are listed in SSIMS for resolution.

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Audit Profile 2000:

The purpose of the Safety/Security Certification Audit Profile 2000 is to ensure that mitigation efforts related to construction have been incorporated into the appropriate design drawings and specifications. This documentation must be uploaded into SSIMs under each respective certifiable item that was identified in the initial hazard analysis.

Audit Profile 3000:

The purpose of the Safety/Security Certification Audit Profile 3000 is to ensure that mitigation efforts related to construction have been verified and inspected. Aside from physical inspection, desktop verification occurs with inspection reports and photos. This documentation must be uploaded into SSIMs under each respective certifiable item that was identified in the initial hazard analysis.

Verification testing done through assessing data with the SSIMS dashboard utilized the following ratings as part of the audit process and are noted within the audit checklist:

- **Acceptable:** No deviation from the implemented SSCP.
- **Conditionally Acceptable:** Minor deviation of the implemented SSCP process and unlikely to result in a nonconforming product or service.
- **Unacceptable:** A significant breakdown or partial breakdown in processes that resulted in a nonconforming product or service. Corrective action must be documented formally and include a root cause analysis.

Results of Audit Testing are as Follows:

Safety Audit Profile 3000:

Talson concluded that, of the 16 safety certifiable items sampled, twelve (12) were deemed *Conditionally Acceptable*, 75%.

Safety Audit Profile 3000 - Summary of Preliminary Audit Findings							
Contract E340 Element	Total CIs	IDs Sampled	Acceptable	Unacceptable	Conditionally Acceptable	Not Applicable	Comments
E340-E23	102	15	4	0	11		SSIMs ID 146 – missing references on slope of walkway construction
E340-GW	1	1	0	0	1		
Total	103	16	4	0	12	0	

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Security Audit Profile 1000:

Talson concluded that, of the 13 security certifiable items sampled, three (3) were deemed *Conditionally acceptable*, 23%.

Security Audit Profile 1000 - Summary of Preliminary Audit Findings							
Contract	Total CIs	IDs Sampled	Acceptable	Unacceptable	Conditionally Acceptable	Not Applicable	Comments
E340-E23	48	8	6	0	2	0	CA rating due to missing or incomplete data
E340-GW	30	5	4	0	1	0	CA rating due to missing or incomplete data
Total	78	13	10	0	3	0	

Security Audit Profile 2000:

Talson concluded that, of the 13 safety certifiable items sampled, one (1) was deemed *Unacceptable*, 7% and five (5) were deemed *Conditionally acceptable*, 38%.

Security Audit Profile 2000 - Summary of Preliminary Audit Findings							
Contract	Total CIs	IDs Sampled	Acceptable	Unacceptable	Conditionally Acceptable	Not Applicable	Comments
E340-E23	48	8	7	1	0	0	ID 26 – FD documentation doesn't support bench designs
E340-GW	30	5	0	0	5	0	CA rating due to missing or incomplete data
Total	78	13	7	1	5	0	

Security Audit Profile 3000:

Talson concluded that, of the 13 safety certifiable items sampled, four (4) were deemed *Conditionally acceptable*, 30%.

Security Audit Profile 3000 - Summary of Preliminary Audit Findings							
Contract	Total CIs	IDs Sampled	Acceptable	Unacceptable	Conditionally Acceptable	Not Applicable	Comments
E340-E23	48	8	6	0	2	0	CA rating due to missing or incomplete data (SEE EXAMPLE)
E340-GW	30	5	2	0	2	1	CA rating due to missing or incomplete data
Total	78	13	8	0	4	1	

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III. FINDINGS

The audit resulted in one finding:

Finding No. 1:

The Threat Vulnerability Assessment does not have a formal and/or demonstrated approval from the Safety and Security Certification Review Subcommittee as referenced in the Agency’s Safety and Security Certification Plan, Table 2-1 in Section 2. Although the document is considered living, approval is required by the Safety and Security Management Plan. Formal approval would better demonstrate that acceptance of the vulnerability assessment occurred.

IV. OBSERVATIONS

The audit resulted in the following observations:

Observation No. 1:

Of the 39 Security Certifiable Items (AP 1000, 2000 & 3000) and 16 Safety Certifiable Items (AP 3000) sampled, the audit resulted in one (1) Unacceptable rating. The Security Certifiable Item, ID-26, did not have proper design documentation available marking the planned mitigation efforts.

Example: Security ID No. 26 – AP 2000 (SSIMS Screen Shot) - Unacceptable

Controlled Mitigation

Install skateboard clips on surface edges, where appropriate, at stations to deter skateboarding / loitering.

Suggested Construction Documentation

1. Provide representative sample of IDR & Photo Documentation to show that the arm rest that act as skateboard deterrents are constructed per E23-AEE010 to 012.
2. Material submittals

Auditor Comments:

- **Station railing was designed 42 inches high to prevent skateboarding and armrests are to be part of seated benches. Further, the IDR 1/6/21 says it placed armrests on benches but only provided photos of the railing.**
- **Talson was unable to verify the design of benches (or if even benches were installed as part of the hardscape plan)**

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Observation No. 2:

Of the 39 Security Certifiable Items (AP 1000, 2000 & 3000) and 16 Safety Certifiable Items (AP 3000) reviewed, there was a total of twenty-four (24) Conditionally Acceptable ratings noted (totaling 43% of the sampling). Examples were incorrect references or uploaded files that were not referenced in the corresponding verification field.

Example: Safety ID No. 146 – AP 3000 (SSIMS Screen Shot) – Conditionally Acceptable

Hazard Mitigation:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Controlled Mitigation</td> </tr> <tr> <td style="padding: 2px;"> <ol style="list-style-type: none"> 1. Design for handrail along walkway where slope exceeds 5%. 2. Design for a uniform, slip resistant walking surface. </td> </tr> </table>	Controlled Mitigation	<ol style="list-style-type: none"> 1. Design for handrail along walkway where slope exceeds 5%. 2. Design for a uniform, slip resistant walking surface.
Controlled Mitigation			
<ol style="list-style-type: none"> 1. Design for handrail along walkway where slope exceeds 5%. 2. Design for a uniform, slip resistant walking surface. 			

Auditor Comments:

- **Documentation lacks details on walkway construction (e.g., gradient slope to ensure positive slope and ponding does not occur is not provided)**

V. CONCLUSIONS / REQUIREMENTS

Talson found that the overall safety certification process is conforming to the Agency’s Safety and Security Certification Plans appropriately with minor exceptions for suggested enhancements. Safety and Security Certifiable Items were referenced appropriately in SSIMs from the Threat Vulnerability Assessment and the Preliminary Hazard Analysis. Sound Transit comments regarding the noted findings and observations should be provided within thirty (30) days after the submission of the Audit Report to Sound Transit.

VI. AUDIT RESPONSE FORM (ARF)

This audit report identified one (1) finding and two (2) observations that requires a response from the appropriate Sound Transit staff.

Finding No. 1: The Threat Vulnerability Assessment did not have formal documented approval.

Observation No. 1: SSIMs security certifiable item ID 26 did not have proper design documentation uploaded.

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Observation No. 2: Various SSIMs safety and security certifiable items were mis-referenced in SSIMs.

Observations can be addressed separately, but a management corrective action should be submitted within **30** days of the final distribution of this report and corresponding ARFs. Verification of conforming corrective action and root cause explanation will be reviewed by Talson upon submission of the ARF by Sound Transit.

DISTRIBUTION:

Safety Audit Dates:	March – May 2022
Organization:	Sound Transit <i>(Auditee)</i>
Responsible Party:	Branden Porter, Director, Transportation Safety & Security <i>(Auditee)</i>
Talson Auditor(s): Report To:	Ken Brzozowski, Norman Jones, and Robert Farrow <i>(Auditor)</i> <ul style="list-style-type: none"> • Branden Porter, Director, Transportation Safety & Security • Robert Taaffe, Director of Construction & System Safety • Don Davis, Executive Project Manager, DECM
Distribution List:	<ul style="list-style-type: none"> • Mary Cummings, ST DCEO & Chief Administrative Officer • David Wright, Chief Safety Officer, Safety Department • Rick Capka, Deputy Project Director, DECM • Ron Lewis, Executive Director, DECM • Eric Beckman, Deputy Executive Director, DECM • Kerry Pihlstrom, Chief Engineer, PSO • Matthew Preedy, Director, Construction Management - DECM • Michael Flood, Senior Auditor, Audit Division • Molly Hughes, WSDOT State Safety Oversight Program Administrator
Attachments:	<ul style="list-style-type: none"> • ELE Security APs 1000 - 3000 Checklists • ELE Safety AP 3000 Checklist • ELE SSCA ARFs (3)

Security Certification Audit Plan	Audit No:
	Date: March 23, 2022- April 17, 2022

Project Eastlink Extension Contract E340

Organization/Individual: SQA

Activity to be Audited: Threat Vulnerability Analysis (TVA)

Reference Documents: Audit Profile 1000 (Threat Vulnerability Assessment)

Notification: SA No. 2015

Audit Schedule: March 23, 2022 - April 17, 2022

Pre-Audit Entrance Meeting: N/A

Conduct Audit: March 23, 2022 **Through:** April 17, 2022

Post-Audit Exit Meeting: April 18, 2022 (4:00 PM –4:45PM)

Audit Team: Ken Brzozowski, Dan Hauber,
Robert Farrow

Special Concerns: All CI IDs in TVA and SSIMs were matched together. For selected CIs, the Element Number & Name, System Number & Name, Item Number & Name, and all other applicable information were matched.

Written Checklist Attached: Yes No

Prepared By: Robert Farrow 4/15/2022
Talson Auditor **Date**

Concurred By: Ken Brzozowski 4/15/2022
Talson Project Manager **Date**

Approved By: Mike Flood 4/15/2022
Sound Transit Safety Audit Manager **Date**

Safety Certification Audit Checklist

<u>Safety Certification Audit No.:</u>	<u>Organization/Contract No.:</u> E340-E23	<u>Talson Auditor:</u> Robert Farrow	<u>Audit Date(s):</u> March 23, 2022 - April 17, 2022
<u>Activity to be Audited:</u> AP 1000 for various CIs within E340-E23	<u>Key Contacts:</u> Patrick Johnson, Matthew Mitchell, Josiah Durham	<u>Audit Team Members:</u> Ken Brzozowski, Daniel Hauber, Rick Bumbera, Robert Farrow	<u>Audit Location:</u> Talson Solutions Offices, Philadelphia, PA

Audit Profile Type

- | | | | |
|--|---|---|--|
| <input checked="" type="checkbox"/> 1000 Hazard Analysis | <input type="checkbox"/> 3000 Construction Verification | <input type="checkbox"/> 5000 Vehicle Configuration | <input type="checkbox"/> 7000 Systems Readiness/Fire Life Safety/SS Certification Report |
| <input type="checkbox"/> 2000 Design Verification | <input type="checkbox"/> 4000 Integration Testing | <input type="checkbox"/> 6000 Training/Procedures | |

<u>Item</u>	<u>Audit Element (ID#/Contract/Element/ Title)</u>	<u>Method of Verification</u>	<u>Results</u>
1.	SSIMS ID-8 (E340-TVA-6) E340-E23 (Stations) Locks	D via SSIMS	Unauthorized access into a private or secured area. Acceptable
2.	SSIMS ID-21 (E340-TVA-19) E340-E23 (Stations) Trash Receptacles	D via SSIMS	Garbage cans located in gathering areas that are not secured and don't restrict the size of items that can be placed inside. Acceptable
3.	SSIMS ID-26 (E340-TVA-24) E340-E23 (Stations) Architectural	D via SSIMS	Lack of skateboard clips to deter skateboarding/loitering. Acceptable
4.	SSIMS ID-29 (E340-TVA-27) E340-GW (Traction Electrification System) Traction Power Substation	D via SSIMS	Lack physical security measures at TPSS sites. Acceptable
5.	SSIMS ID-31 (E340-TVA-29) E340-E23 (Safety and Security Plans, Procedures, and Training) Tabletops and Emergency Drills	D via SSIMS	Fail to have an emergency drill and or tabletop for emergency responders. Conditionally Acceptable "Hazard Mitigation" Field and TVA should reference that there is a procedure being created for this.
6.	SSIMS ID-47 (E340-TVA-45) E340-E23 (Safety and Security Plans,	D via SSIMS	No security awareness training for ST employees – including insider threat awareness.

	Procedures, and Training) Security Training		Conditionally Acceptable The TVA references DCM chapters, these should be included in the “DCM, code or standard field.
7.	SSIMS ID-48 (E340-TVA-46) E340-E23 (Signaling) Control Circuits	D via SSIMS	Unsecured signals, bungalows; exposed wiring/conduit. Acceptable
8.	SSIMS ID-49 (E340-TVA-47) E340-E23 (Fare Collection Equipment) TVM – Platform Placement/Mounting/Drainage	D via SSIMS	Fare collection equipment and ticket vending machines are placed in areas that lacks site lines and are prone to theft or vandalism. Acceptable

Method of Verification: I = Interview; D = Documentation Review; O = Observe Activity

****Results:** Include explanation and the following: A = Acceptable; U = Unacceptable; C = Conditional Acceptable; N = Not Examined; or N/A = Not Applicable

Safety Certification Audit Checklist			
Safety Certification Audit No.:	Organization/Contract No.: E340-GW	Talson Auditor: Robert Farrow	Audit Date(s): March 23, 2022 - April 17, 2022
Activity to be Audited: AP 1000 for various CIs within E340-GW	Key Contacts: Patrick Johnson, Matthew Mitchell, Josiah Durham	Audit Team Members: Ken Brzozowski, Daniel Hauber, Rick Bumbera, Robert Farrow	Audit Location: Talson Solutions Offices, Philadelphia, PA

Audit Profile Type

- 1000 Hazard Analysis
 2000 Design Verification
 3000 Connection Verification
 4000 Integration Testing
 5000 Vehicle Configuration
 6000 Training/Procedures
 7000 Systems Readiness/Fire Life Safety/SS Certification Report

Item	Audit Element (ID#/Contract/Element/ Title)	Method of Verification	Results
1.	SSIMS ID-52 (E340-TVA-50) E340 (Traction Electrification System) Traction Power Substation	D via SSIMS	Lack physical security measures at TPSS sites. Acceptable
2.	SSIMS ID-53 (E340-TVA-51) E340 (Guideway) Fencing	D via SSIMS	Lack of access control between public and private space. Conditionally Acceptable The TVA references DCM chapters, these should be included in the "DCM, code or standard field..
3.	SSIMS ID-59 (E340-TVA-57) E340 (Safety and Security Plans, Procedures, and Training) Security Procedures	D via SSIMS	Absence of suspicious activity reports in procedures. Acceptable
4.	SSIMS ID-65 (E340-TVA-63) E340 (Safety and Security Plans, Procedures, and Training) Security Operational Procedures	D via SSIMS	Nothing noted or referenced on the matter. Acceptable
5.	SSIMS ID-80 (E340-TVA-78) E340 (Signaling) Control Circuits	D via SSIMS	Unsecured signals, bungalows; exposed wiring/conduit. Acceptable

Method of Verification: I = Interview; D = Documentation Review; O = Observe Activity

****Results:** Include explanation and the following: A = Acceptable; U = Unacceptable; C = Conditional Acceptable; N = Not Examined; or N/A = Not Applicable

Security Certification Audit Plan	Audit No:
	Date: March 23, 2022- April 17, 2022

Project Eastlink Extension Contract E340

Organization/Individual: SQA

Activity To Be Audited: Design Conformance Verification

Reference Documents: Audit Profile 2000 (Designs, Specifications, and Drawings)

Notification: SA No. 2015

Audit Schedule: March 23, 2022 - April 17, 2022

Pre-Audit Entrance Meeting: N/A

Conduct Audit: March 23, 2022 **Through:** April 17, 2022

Post-Audit Exit Meeting: April 18, 2022 (4:00 PM –4:45PM)

Audit Team: Ken Brzozowski, Dan Hauber,
Ken Bumbera, Robert Farrow

Special Concerns: **Of the 78 CIs, only 37 were design/construction related. From the original stratified sample of 13 CIs for AP 1000, 8 substitutions were made for guideway and stations to bring the total reviewed amount to 15% of 78.**

Written Checklist Attached: Yes No

Prepared By: Robert Farrow 4/15/2022
Talson Auditor **Date**

Concurred By: Ken Brzozowski 4/15/2022
Talson Project Manager **Date**

Approved By: Mike Flood 4/15/2022
Sound Transit Safety Audit Manager **Date**

Safety Certification Audit Checklist			
<u>Safety Certification Audit No.:</u>	<u>Organization/Contract No.:</u> E340-E23	<u>Talson Auditor:</u> Robert Farrow	<u>Audit Date(s):</u> March 23, 2022 - April 17, 2022
<u>Activity to be Audited:</u> AP 2000 for various CIs within E340-E23	<u>Key Contacts:</u> Patrick Johnson, Matthew Mitchell, Josiah Durham	<u>Audit Team Members:</u> Ken Brzozowski, Daniel Hauber, Rick Bumbera,, Robert Farrow	<u>Audit Location:</u> Talson Solutions Offices, Philadelphia, PA

Audit Profile Type

- 1000 Hazard Analysis
 3000 Construction Verification
 5000 Vehicle Configuration
 7000 Systems Readiness/Fire Life Safety/SS Certification Report
 2000 Design Verification
 4000 Integration Testing
 6000 Training/Procedures

<u>Item</u>	<u>Audit Element (ID#/Contract/Element/ Title)</u>	<u>Method of Verification</u>	<u>Results</u>
1.	SSIMS ID-8 (E340-TVA-6) E340-E23 (Stations) Locks	D via SSIMS	"Drawings: Book 3 of 4: E23-ADS001 Specifications: Book 2 of 4: 08 71 00 Door Hardware" Acceptable
2.	SSIMS ID-21 (E340-TVA-19) E340-E23 (Stations) Trash Receptacles	D via SSIMS	Book 2 of 3: 12 93 00 par 2.04, 2.05, and exhibits A & B Drawings: Book 3 of 4: E23- APP100 Book 3 of 4: E23- APP102 Book 4 of 4: STD-LSD002 Acceptable
3.	SSIMS ID-26 (E340-TVA-24) E340-E23 (Stations) Architectural	D via SSIMS	Drawings: Book 3 of 4: E23- AEE010 Book 3 of 4: E23- AEE011 Book 3 of 4: E23- AEE012 No notable/skateable surfaces and benches have armrests that act as deterrents. DCM 9.10.5 - E Item 9.114 - Stations Architecture - Dan Nelson, 11/12/2014

			<p>Unacceptable: Unable to locate designs or specifications for benches.</p> <p>“Suggested Construction Documentation Field” does not mention designs, specs, and IDRS for handrails 42 inches high as part of the strategy.</p>
4.	SSIMS ID-29 (E340-TVA-27) E340-GW (Traction Electrification System) Traction Power Substation	D via SSIMS	<p>"There are no Traction Power Substations at 130th Station."</p> <p>N/A</p>
5.	SSIMS ID-31 (E340-TVA-340-29) E340-E23 (Safety and Security Plans, Procedures, and Training) Table Tops and Emergency Drills	D via SSIMS	<p>Operational</p> <p>N/A</p>
6.	SSIMS ID-47 (E340-TVA-45) E340-E23 (Safety and Security Plans, Procedures, and Training) Security Training	D via SSIMS	<p>Operational</p> <p>N/A</p>
7.	SSIMS ID-48 (E340-TVA-46) E340-E23 (Signaling) Control Circuits	D via SSIMS	<p>“There is no wayside signal equipment within the 130th Station area”.</p> <p>N/A</p>
8.	SSIMS ID-49 (E340-TVA-47) E340-E23 (Fare Collection Equipment) TVM – Platform Placement/Mounting/Drainage	D via SSIMS	<p>Drawings:</p> <p>Book 3 of 4: E23- APP100, 102</p> <p>Book 3 of 4: E23- APP110</p> <p>Book 3 of 4: E23-ELP101, 103 (Lighting)</p> <p>Book 3 of 4: E23-JEP101, 103, 111, 113</p> <p>Acceptable</p>
9.	SSIMS ID-4 (E340-TVA-2) E340-E23 (Stations) Architectural	D via SSIMS	<p>Drawings:</p> <p>Book 3 of 4: E23-AED001 Architectural Detail of Platform Canopy</p> <p>Book 3 of 4: E23-AZN001</p> <p>Book 3 of 4: E23-AED004, 225, 227</p> <p>Specifications:</p> <p>Book 2 of 3: 07 19 00 Water and Graffiti Repellents (film applied to glazing)</p> <p>Book 2 of 3: 08 80 00 2.02 Glass Type Summary (tempered safety glass with graffiti film and laminated safety glass).</p> <p>Acceptable</p>
10.	SSIMS ID-9 (E340-TVA-7) E340-E23 (Stations) Vandal Glazing	D via SSIMS	<p>Book 2 of 3: 07 19 00 Water and Graffiti Repellents (film applied to glazing)</p>

			<p>Book 2 of 3: 08 80 00 2.02 Glass Type Summary (tempered safety glass with graffiti film and laminated safety glass).</p> <p>Drawings: Book 3 of 4: E23-AED001 Architectural Detail of Platform Canopy Book 3 of 4: E23-AZN001 Book 3 of 4: E23-AED004, 225, 227</p> <p>Acceptable</p>
11.	SSIMS ID-16 (E340-TVA-14) E340-E23 (Stations) Signage and Graphics	D via SSIMS	<p>Signage plans, customer signage details, signage design manual</p> <p>Acceptable</p>
12.	SSIMS ID-24 (E340-TVA-22) E340-E23 (Stations) Landscaping	D via SSIMS	<p>Drawings Book 2 of 4: L87-LPP209 to 210 Book 2 of 4: L87-LPS200</p> <p>Acceptable</p>

Method of Verification: I = Interview; D = Documentation Review; O = Observe Activity

****Results:** Include explanation and the following: A = Acceptable; U = Unacceptable; C = Conditional Acceptable; N = Not Examined; or N/A = Not Applicable

Safety Certification Audit Checklist			
<u>Safety Certification Audit No.:</u>	<u>Organization/Contract No.:</u> E340-GW	<u>Talson Auditor:</u> Robert Farrow	<u>Audit Date(s):</u> March 23, 2022 - April 17, 2022
<u>Activity to be Audited:</u> AP 2000 for various CIs within E340-GW	<u>Key Contacts:</u> Patrick Johnson, Matthew Mitchell, Josiah Durham	<u>Audit Team Members:</u> Ken Brzozowski, Daniel Hauber, Rick Bumbera, Robert Farrow	<u>Audit Location:</u> Talson Solutions Offices, Philadelphia, PA

Audit Profile Type

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> 1000 Hazard Analysis | <input type="checkbox"/> 3000 Construction Verification | <input type="checkbox"/> 5000 Vehicle Configuration | <input type="checkbox"/> 7000 Systems Readiness/Fire Life Safety/SS Certification Report |
| <input checked="" type="checkbox"/> 2000 Design Verification | <input type="checkbox"/> 4000 Integration Testing | <input type="checkbox"/> 6000 Training/Procedures | |

<u>Item</u>	<u>Audit Element (ID#/Contract/Element/ Title)</u>	<u>Method of Verification</u>	<u>Results</u>
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1.	SSIMS ID-52 (E340-TVA-50) E340 (Traction Electrification System) Traction Power Substation	D via SSIMS	"There are no Traction Power Substations at 130th Station." N/A
2.	SSIMS ID-53 (E340-TVA-51) E340 (Guideway) Fencing	D via SSIMS	Design Conformance Field Information Blank Conditionally Acceptable "Design Conformance" Field needs to reference the FD documentation that is required. There are FD documentation uploaded and mis-labeled as CM. Appropriate FD data reviewed includes STD-SED142, various others, and Railing Drawings.
3.	SSIMS ID-59 (E340-TVA-57) E340 (Safety and Security Plans, Procedures, and Training) Security Procedures	D via SSIMS	Operational Conformance N/A
4.	SSIMS ID-65 (E340-TVA-63) E340 (Safety and Security Plans, Procedures, and Training) Security Operational Procedures	D via SSIMS	Operational Conformance N/A
5.	SSIMS ID-80 (E340-TVA-78) E340 (Signaling) Control Circuits	D via SSIMS	"There is no wayside signal equipment within the 130th Station area". N/A
6.	SSIMS ID-73 (E340-TVA-71) E340 (Guideway) Illuminance Levels	D via SSIMS	FD Conformance Field Information is Blank Conditionally Acceptable There is no FD documentation referenced or uploaded. Reference should be made somewhere that this CI is non-applicable because the guideway is not lighted.
7.	SSIMS ID-79 (E340-TVA-77) E340 (Guideway) Maintenance Access	D via SSIMS	Design Conformance Field Information Blank Conditionally Acceptable Design Conformance Field needs to reference the FD documentation that is required in order to demonstrate conformance. There are FD documentation uploaded and mis-labeled as CM docs. Appropriate FD data

			reviewed includes L87-CRP121, various others, and design specifications.
8.	SSIMS ID-77 (E340-TVA-75) E340 (Guideway) Wiring	D via SSIMS	Design Conformance Field Information Blank Conditionally Acceptable “Design Conformance Field” needs to reference the FD documentation that is required in order to demonstrate conformance. There are FD documentation uploaded and mis-labeled as CM. Appropriate FD data reviewed includes L87-EPP100, various others, and design specifications.
9.	SSIMS ID-78 (E340-TVA-76) E340 (Guideway) Wiring	D via SSIMS	Design Conformance Field Information Blank Conditionally Acceptable “Design Conformance Field” needs to reference the FD documentation that is required in order to demonstrate conformance. There are FD documentation uploaded and mis-labeled as CM. Appropriate FD data reviewed includes E23-ELP100, various others, and design specifications.

Method of Verification: I = Interview; D = Documentation Review; O = Observe Activity

****Results:** Include explanation and the following: A = Acceptable; U = Unacceptable; C = Conditional Acceptable; N = Not Examined; or N/A = Not Applicable

Security Certification Audit Plan	Audit No:
	Date: March 23, 2022- April 17, 2022

Project	Eastlink Extension Contract E340	
Organization/Individual:	SQA	
Activity To Be Audited:	Construction Conformance Verification	
Reference Documents:	Audit Profile 3000 (Inspection Reports, Verification Reports, Photographs)	
Notification:	SA No. 2015	
Audit Schedule:	March 23, 2022 - April 17, 2022	
Pre-Audit Entrance Meeting:	March 22, 2022	
Conduct Audit:	March 23, 2022	Through: April 17, 2022
Post-Audit Exit Meeting:	April 18, 2022 (4:00 PM –4:45PM)	
Audit Team:	Ken Brzozowski, Dan Hauber, Rick Bumbera, Robert Farrow	
Special Concerns:	<p>Of the 78 CIs, only 37 were design/construction related. From the original stratified sample of 13 CIs for AP 1000 CIs, 8 substitutions were made for guideway and stations to bring the total reviewed amount to 15% of 78.</p>	
Written Checklist Attached:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Prepared By:	Robert Farrow	4/15/2022
	Talson Auditor	Date
Concurred By:	Ken Brzozowski	4/15/2022
	Talson Project Manager	Date
Approved By:	Mike Flood	4/15/2022
	Sound Transit Safety Audit Manager	Date

Safety Certification Audit Checklist			
<u>Safety Certification Audit No.:</u>	<u>Organization/Contract No.:</u> E340-E23	<u>Talson Auditor:</u> Robert Farrow	<u>Audit Date(s):</u> March 23, 2022 - April 17, 2022
<u>Activity to be Audited:</u> AP 3000 for various CIs within E340-E23	<u>Key Contacts:</u> Patrick Johnson, Matthew Mitchell, Josiah Durham	<u>Audit Team Members:</u> Ken Brzozowski, Daniel Hauber, Rick Bumbera, Robert Farrow	<u>Audit Location:</u> Talson Solutions Offices, Philadelphia, PA

Audit Profile Type

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> 1000 Hazard Analysis | <input checked="" type="checkbox"/> 3000 Construction Verification | <input type="checkbox"/> 5000 Vehicle Configuration | <input type="checkbox"/> 7000 Systems Readiness/Fire Life Safety/SS Certification Report |
| <input type="checkbox"/> 2000 Design Verification | <input type="checkbox"/> 4000 Integration Testing | <input type="checkbox"/> 6000 Training/Procedures | |

<u>Item</u>	<u>Audit Element (ID#/Contract/Element/ Title)</u>	<u>Method of Verification</u>	<u>Results</u>
1.	SSIMS ID-8 (E340-TVA-6) E340-E23 (Stations) Locks	D via SSIMS	E340-REC-03968 SUB 074210-001.001 1.03 Station Metal Wall and Soffit Panels E340-REC-04885 SUB 074210-001.002 1.03 Station Metal Wall and Soffit Panels E340-REC-06795 SUB 087100-009.001 1.04D E340 Electronic Door Hardware System E340 IDR RDM 0018 08-11-20 DAY Acceptable
2.	SSIMS ID-21 (E340-TVA-19) E340-E23 (Stations) Trash Receptacles	D via SSIMS	"1. Provide approved product data for Recycling Receptacles and Trash Receptacles per 12 93 00 Article 1.03 A 2. Provide approved shop drawings for Recycling Receptacles and Trash Receptacles per 12 93 00 Article 1.03 B Provide representative sample of IDR & Photo Documentation to show that the Recycling Receptacles and Trash Receptacles are constructed per approved shop drawings and E23-APP100 and 102 and STD-LSD002."

			<p>E340 Construction Verification SSIMS 20 (CIL 1.18.1) E340 IDR RDM 0107 12-30-2020 DAY</p> <p>Conditionally Acceptable Submittal E340-REC-03187 Sub 129300-001.001 1.03 should be referenced in the "Required Construction Documentation Field". Construction Verification SSIMS 20 CIL 1.18.1 is also mis referenced as CIL 1.18.3 is the document that is uploaded.</p>
3.	SSIMS ID-26 (E340-TVA-24) E340-E23 (Stations) Architectural	D via SSIMS	<p>E340 IDR RDM 0100 12-17-20 DAY E340 IDR RDM 0101 12-18-20 DAY E340 IDR RDM 0111 01-06-20 DAY</p> <p>Conditionally Acceptable No IDRs include photographic evidence of benches with armrests. (Alternative verification would have been in person).</p>
4.	SSIMS ID-29 (E340-TVA-27) E340-GW (Traction Electrification System) Traction Power Substation	D via SSIMS	<p>"There are no Traction Power Substations at 130th Station."</p> <p>N/A</p>
5.	SSIMS ID-31 (E340-TVA-340-29) E340-E23 (Safety and Security Plans, Procedures, and Training) Table Tops and Emergency Drills	D via SSIMS	<p>Operational Conformance</p> <p>N/A</p>
6.	SSIMS ID-47 (E340-TVA-45) E340-E23 (Safety and Security Plans, Procedures, and Training) Security Training	D via SSIMS	<p>Operational Conformance</p> <p>N/A</p>
7.	SSIMS ID-48 (E340-TVA-46) E340-E23 (Signaling) Control Circuits	D via SSIMS	<p>"There is no wayside signal equipment within the 130th Station area".</p> <p>N/A</p>
8.	SSIMS ID-49 (E340-TVA-47) E340-E23 (Fare Collection Equipment) TVM – Platform Placement/Mounting/Drainage	D via SSIMS	<p>E340 IDR RDM 0091 11-23-2020 DAY E340 IDR RDM 0098 12-15-2020 DAY E340 IDR RDM 0123 01-26-21 DAY E340 Construction Verification SSIMS 49 (CIL 8.1.4)</p> <p>Acceptable</p>
9.	SSIMS ID-4 (E340-TVA-2) E340-E23 (Stations) Architectural	D via SSIMS	<p>E340-REC-03192 SUB 084410-001.001 1.03 Shop Drawings and Delegated Design - SF1 and 3</p>

			<p>E340-REC-03204 SUB 084435-001.001 1.04 Shop and Design - Main Canopy Sloped GlazingSub</p> <p>E340-REC-03205 SUB 084429-002.001 1.03 Shops and Design - SSG Entry Sloped Canopy</p> <p>E340-REC-03277 SUB 084429-001.001 1.03 Shops and Design - SSG Entry Lites at TVM</p> <p>E340-REC-04343 SUB 084410-001.002 1.03 Shop Drawings and Delegated Design - SF1 and 3</p> <p>E340 IDR AB 0231 03-23-20 DAY E340 IDR AB 0260 05-21-2020 E340 IDR AB 0275 06-12-20 DAY E340 IDR AB 0302 07-21-2020</p> <p>Acceptable</p>
10.	SSIMS ID-9 (E340-TVA-7) E340-E23 (Stations) Vandal Glazing	D via SSIMS	<p>E340 Construction Verification SSIMS 9 (CIL 1.5.1) E340-REC-05796 SUB 071910-002.001 1.03A Anti-Graffiti Film For Glazing AG-6 3M Product Data</p> <p>E340 IDR RDM 0080 11-06-20 DAY E340 IDR AB 0273 06-10-20 DAY E340 IDR AB 0275 06-12-20 DAY E340 IDR AB 0231 03-23-20 DAY</p> <p>Acceptable</p>
11.	SSIMS ID-16 (E340-TVA-14) E340-E23 (Stations) Signage and Graphics	D via SSIMS	<p>Construction Phase not Complete</p> <p>N/A</p>
12.	SSIMS ID-24 (E340-TVA-22) E340-E23 (Stations) Landscaping	D via SSIMS	<p>E340 Construction Verification SSIMS 24 (CIL 1.19.0) E340 IDR RDM 0116 01-14-2021 DAY E340 IDR RDM 0120 01-21-2021 DAY E340 IDR RDM 0122 01-25-21 DAY E340 IDR RDM 0123 01-26-21 DAY</p> <p>Acceptable</p>

Method of Verification: I = Interview; D = Documentation Review; O = Observe Activity

****Results:** Include explanation and the following: A = Acceptable; U = Unacceptable; C = Conditional Acceptable; N = Not Examined; or N/A = Not Applicable

Safety Certification Audit Checklist			
<u>Safety Certification Audit No.:</u>	<u>Organization/Contract No.:</u> E340-GW	<u>Talson Auditor:</u> Robert Farrow	<u>Audit Date(s):</u> March 23, 2022 - April xx, 2022
<u>Activity to be Audited:</u> AP 3000 for various CIs within E340-GW	<u>Key Contacts:</u> Patrick Johnson, Matthew Mitchell, Josiah Durham	<u>Audit Team Members:</u> Ken Brzozowski, Daniel Hauber, Rick Bumbera, Robert Farrow	<u>Audit Location:</u> Talson Solutions Offices, Philadelphia, PA

Audit Profile Type

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> 1000 Hazard Analysis | <input checked="" type="checkbox"/> 3000 Construction Verification | <input type="checkbox"/> 5000 Vehicle Configuration | <input type="checkbox"/> 7000 Systems Readiness/Fire Life Safety/SS Certification Report |
| <input type="checkbox"/> 2000 Design Verification | <input type="checkbox"/> 4000 Integration Testing | <input type="checkbox"/> 6000 Training/Procedures | |

<u>Item</u>	<u>Audit Element (ID#/Contract/Element/ Title)</u>	<u>Method of Verification</u>	<u>Results</u>
1.	SSIMS ID-52 (E340-TVA-50) E340 (Traction Electrification System) Traction Power Substation	D via SSIMS	"There are no Traction Power Substations at 130th Station." N/A
2.	SSIMS ID-53 (E340-TVA-51) E340 (Guideway) Fencing	D via SSIMS	Construction Phase not Complete – still open N/A
3.	SSIMS ID-59 (E340-TVA-57) E340 (Safety and Security Plans, Procedures, and Training) Security Procedures	D via SSIMS	Operational Conformance N/A
4.	SSIMS ID-65 (E340-TVA-63) E340 (Safety and Security Plans, Procedures, and Training) Security Operational Procedures	D via SSIMS	Operational Conformance N/A
5.	SSIMS ID-80 (E340-TVA-78) E340 (Signaling) Control Circuits	D via SSIMS	"There are no wayside signal equipment within the 130th Station area".

			N/A
6.	SSIMS ID-73 (E340-TVA-71) E340 (Guideway) Illuminance Levels	D via SSIMS	<p>CM Conformance Field Information is Blank</p> <p>Conditionally Acceptable There is no FD documentation referenced or uploaded. Reference should be made somewhere that this CI is non-applicable because the guideway is not lighted.</p>
7.	SSIMS ID-79 (E340-TVA-77) E340 (Guideway) Maintenance Access	D via SSIMS	<p>E340-REC-05339 SUB 323156-001.001 1.04A Decorative Fence Product Data</p> <p>E340-REC-05485 SUB 323156-002.002 1.04B Decorative Fence Shop Drawings</p> <p>E340-REC-05564 SUB 323113-003.002 1.03A Mesh Fence Product Data and Shop Drawings</p> <p>E340-REC-05633 SUB 323113-003.003 1.03A Mesh Fence Product Data and Shop Drawings</p> <p>E340 IDR JRR 0607 03-12-21 DAY E340-REC-05650 CNRFP 068 Rev. 1 Evans Property Restoration CO 157 Evans Fencing Revisions- For Signature 155_L87-CRP108_B_CO 157</p> <p>Conditionally Acceptable IDR 0166 04-06-21 was uploaded and should be referenced in the "Required Construction Documentation Field"</p>
8.	SSIMS ID-77 (E340-TVA-75) E340 (Guideway) Wiring	D via SSIMS	<p>E340-REC-05924 SUB 262413-002.002 1.03A Switchgear Bill of Material Product Data</p> <p>E340 Construction Verification SSIMS 77 (CIL 3.10.3). E340 IDR RDM 0106 12-29-2020 DAY</p> <p>Acceptable</p>
9.	SSIMS ID-78 (E340-TVA-76) E340 (Guideway) Wiring	D via SSIMS	<p>E340 IDR AB 0293 07-09-20 DAY E340 IDR JRR 0546 12-09-20 DAY</p>

			E340 IDR JRR 0569 01-14-21 DAY Acceptable
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Safety Certification Audit Plan	Audit No:
	Date: March 23, 2022- April 17, 2022

Project Eastlink Extension Contract E340

Organization/Individual: SQA

Activity to be Audited: Construction Conformance Verification

Reference Documents: Audit Profile 3000 (Construction Conformance Verification)

Notification: SA No. 2015

Audit Schedule: March 23, 2022 - April 17, 2022

Pre-Audit Entrance Meeting: March 22, 2022

Conduct Audit: March 23, 2022 **Through:** April 17, 2022

Post-Audit Exit Meeting: April 18, 2022 (4:00 PM –4:45PM)

Audit Team: Ken Brzozowski, Norman Jones, Robert Farrow

Special Concerns: None

Written Checklist Attached: Yes No

Prepared By: Norman Jones 4/12/2022
Talson Auditor **Date**

Concurred By: Ken Brzozowski 4/15/2022
Talson Project Manager **Date**

Approved By: Mike Flood 4/15/2022
Sound Transit Safety Audit **Date**
Manager

Safety Certification Audit Checklist

<u>Safety Certification Audit No.:</u>	<u>Organization/Contract No.:</u> E340-E23	<u>Talson Auditor:</u> Norman Jones	<u>Audit Date(s):</u> March 23, 2022 - April 17, 2022
<u>Activity to be Audited:</u> AP 3000 for various CILs within E340 Project	<u>Key Contacts:</u> Patrick Johnson, Matthew Mitchell, Mike Flood	<u>Audit Team Members:</u> Ken Brzozowski, Norman Jones, Robert Farrow	<u>Audit Location:</u> Talson Solutions Offices, Philadelphia, PA

Audit Profile Type

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> 1000 Hazard Analysis | <input checked="" type="checkbox"/> 3000 Construction Verification | <input type="checkbox"/> 5000 Vehicle Configuration | <input type="checkbox"/> 7000 Systems Readiness/Fire Life Safety/SS Certification Report |
| <input type="checkbox"/> 2000 Design Verification | <input type="checkbox"/> 4000 Integration Testing | <input type="checkbox"/> 6000 Training/Procedures | |

<u>Item</u>	<u>Audit Element (ID#/Contract/Element/ Title)</u>	<u>Method of Verification</u>	<u>Results</u>
1.	ID-158 E340-E23 (Communications) Intrusion Detection / Alarm	D	<p>1. Provide the Certificate of Occupancy (C of O) from the City of Bellevue. Receipt of the C of O indicates that the station was built in general conformance with the contract plans and specifications meeting all applicable building code requirements. [1. Provide as-built drawing showing the stub location for CCTVs and access card readers/intrusion detection are constructed per E23-JEP101 to 113, E09-AED605, E09-JBS100, E09-JCD109, and L87-JEP100 to 105 or other documentation that they are built per plan. Note: Installation (including testing and commissioning) of CCTV will be in E750 contract</p> <p>1. E340 IDR RDM 0123 01-26-21 DAY 2. E340 IDR RDM 0106 12-29-20 DAY 3. E340 IDR RDM 0107 12-30-20 DAY</p> <p>No change to the designed stub locations for CCTVs and access card readers.</p> <p>1. Pages of As-Built Drawings Relevant to SSIMS 158 from E340 Vol 3 Book 2 2. Pages of As-Built Drawings Relevant to SSIMS 158 from E340 Vol 3 Book 3</p>

			<p>To be provided by ST Permit Manager, Justin Lacson, following COB's acceptance of E750 installed CCTVs and access card readers.</p> <p>Conditional Acceptable:</p> <p>(1) Certificate of Occupancy from the City of Bellevue is outstanding.</p> <p>(2) The following draws numbers E09-AED605, E09-JBS100, E09-JCD109 are in error. They should be E23-AED605; E23-JBS100 and E23-JCD109.</p> <p>(3) Pages of As-Built Drawings Relevant to SSIMS 158 from E340 Vol 3 Book 2 and E340 Vol 3 Book 3 not uploaded into SSIMS.</p>
2.	ID-173 E340-E23 (Fire /Life/Safety) Means of Access / Egress	D	<p>1. Provide representative sample of IDR & photo documentation that the public ramps and their associate landing are built per E23-APP100 to 102.</p> <p>E340 IDR RDM 0123 01-26-2021 DAY</p> <p>Conditional Acceptable:</p> <p>(1) Referenced drawings E23-APP100 and 102 are in error. They should be E23-APP001 and E23-AP002.</p> <p>(2) Drawing E23-APP002 not uploaded into SSIMS.</p> <p>(3) Material Certification not uploaded into SSIMS as Construction Verification Documentation.</p>
3.	ID-176 E340-E23 (Fire /Life/Safety) Standpipe System	D	<p>1. Provide Level 1 installation verification checklist per Commissioning of Fire Suppression report in accordance with 21 08 00 article 3.04.</p> <p>2. Provide approved Product Data that shows compliance with NFPA 130 per 21 11 00 Article 1.04 B</p> <p>3. Provide approved Shop Drawings that shows compliance with NFPA 130 per 21 11 00 Article1.04 E</p> <p>4. Provide approved Hydraulic Calculations that shows compliance with NFPA 130 per 21 11 00 Article 1.04 D</p> <p>1. E340-REC-03033 SUB 211100-002.002 1.04B Fire Suppression System Underground - Product Data</p>

			<p>2. E340-REC-03333 SUB 210500-003.001 1.04B Fire Protection Underground Standpipe Layout</p> <p>3. E340-REC-04284 SUB 211100-003.001 1.04B Fire Suppression Subcomponents Product Data</p> <p>4. E340-REC-04895 SUB 211100-001.003 1.04B Fire Suppression System Product Data</p> <p>5. E340-REC-05025 SUB 210500-006.001 1.04B Fire Protection Guideway Standpipe Layout and Design</p> <p>6. E340-REC-05207 SUB 211100-006.002 1.04D Fire Protection Hydraulic Calculations</p> <p>Level 1 Installation Verification (IV) Checklists:</p> <p>1. 2108-IV-01.01 Water-Based Fire Suppression E22-FDC-01</p> <p>2. 2108-IV-01.02 Water-Based Fire Suppression E22-FDC-02-03</p> <p>Acceptable</p>
4.	ID-124 E340-E23 (Guideway) Emergency Guardrail	D	<p>Provide a representative sample of IDR & photo documentation that the emergency guardrail are constructed per L87-KAP101 to 105, 120 and L87-KTC100 to 401.</p> <p>1. E340 IDR JRR 0572 01-13-21 DAY</p> <p>2. E340 IDR JRR 0572 01-15-21 DAY</p> <p>3. E340 IDR JRR 0572 01-19-21 DAY</p> <p>4. E340 IDR JRR 0572 01-21-21 DAY</p> <p>E340-REC-03158 CO 053 Emergency Guardrail Track Limits (including 83_L87-KTC400_mA_CO 053)</p> <p>Conditional Acceptable:</p> <p>(1) Reference drawings L87-KTC100 to 401 is misleading. Drawings should be noted as: L87-KTC100 to 105 and L87-KTC400 and 401</p> <p>(2) Reference drawing L87-KAP120 has not been uploaded into SSIMS as noted as required construction documentation. IDRs & photos needs to be uploaded.</p>
5.	ID-131 E340-E23 (Guideway) Drainage	D	<p>1. Provide a representative sample of IDR & photo documentation that the</p>

			<p>guideway drainage and underdrain are constructed per L87-CDP106 to 115 and its associate drainage profile and details and in accordance with 33 44 26 and 33 46 00.</p> <ol style="list-style-type: none"> 1. E340 IDR JRR 0518 10-22-20 DAY 2. E340 IDR JRR 0416 05-08-20 DAY 3. E340 IDR JD 0361 03-26-20 DAY 4. E340 IDR JD 0429 07-22-20 DAY <p>Conditional Acceptable:</p> <p>(1) The Location ID for the reference drawings L87-CDP106 to 115 are not all associated with the E23 project. Location IDs E22 and E24 are noted on the drawings. These contracts do not appear to be on the East Link project.</p> <p>(2) Product data sheets and certifications have not been provided as verification documentation as required per Specification 33 46 00 (Section 1.04 (Submittals A & B); Specification 33 44 26 (Section 1.03 (Submittals A & C (Test Reports)))</p>
6.	ID-138 E340-E23 (Guideway) Fencing (to include security barriers)	D	<ol style="list-style-type: none"> 1. Provide a representative sample of IDR & photo documentation that the fencing, barrier and gates are constructed along the guideway per L87-CRP109 to 115, L87-SEP100 to 102. 2. Provide a representative sample of IDR & photo documentation that the LINK ACCESS SIGN and GATE CROSSING SIGN are constructed per L87-TNP100 to 105, L87-TNS001 and L87-TND001 to 002 and in accordance with 10 14 56. 3. Provide a representative sample of IDR & photo documentation that the fencing that prevent patrons at both ends of the station platform per E23-APP100. <ol style="list-style-type: none"> 1. E340 IDR JRR 0577 01-28-21 DAY 2. E340 IDR JRR 0579 02-01-21 DAY 3. E340 IDR JD 0566 02-26-21 DAY 4. E340 IDR RDM 0111 01-06-20 DAY <p>Conditional Acceptable:</p>

			<p>1. Product data sheets have not been provided as verification documentation reference Specification 10 14 53.</p> <p>2. A Construction Verification checklist should be added.</p> <p>3. Resolution of reference drawings location ID.</p>
7.	ID-146 E340-E23 (Guideway) Pedestrian Walkway	D	<p>1. Provide approved Shop Drawings that show walkway where slope exceeds 5% (including stairs) will receive broom finish per 03 35 00 Article 1.03 B.</p> <p>2. Provide a representative sample of IDR & photo documentation that the walkway where slope exceed 5% (including stairs) received broom finish and hand rail provided.</p> <p>3. Provide a representative sample of IDR & photo documentation that the hand rails are provided for the Maintenance Stair Tower per 05 51 39</p> <p>N/A; provide approved Shop Drawings that show walkway where slope exceeds 5% (including stairs) will receive broom finish per 03 35 00 Article 1.03 B</p> <p>1. E340 IDR RDM 0055 10-02-20 DAY 2. E340 IDR JRR 0537 11-23-20 DAY 3. E340 IDR JRR 0568 01-13-21 DAY 4. E340 IDR JRR 0454 07-14-20 DAY</p> <p>Acceptable: Product data sheets have not been provided as verification documentation. Remarks on Construction Verification checklist indicates that the slopes are less than 5%. Also, on the dates noted for items 2 and 3 above, it appears that no work was performed on the walkways.</p>
8.	ID-157 E340-E23 (Signaling) Pathway Swing Gate	D	<p>1. Provide IDR & Photo Documentation that the Pedestrian Swing Gate is constructed per L87-CRP109 and STD-CRD004 and in accordance with 32 31 56.</p> <p>Documents uploaded: 1. E340 IDR RDM 0175 04-20-21 DAY 2. E340 IDR RDM 0177 04-22-21 DAY</p>

			<p>Conditional Acceptable:</p> <p>1. Product data sheets have not been provided as verification documentation reference Specification 32 31 56 (Section 1.03 Submittals).</p>
9.	ID-100 E340-E23 (Stations) Signage and Graphics	D	<p>1. Provide photo documentation that the contractor has made the space available at end of platforms for future ST signage contractor to install customer signage per E23-ANP100 to 103.</p> <p>2. Provide photo documentation that the contractor has installed the traffic sign and LRT guideway signage per L87-CMP109 an d110, L87-TSP100, 101 and L87-TNP102.</p> <p>1. E340 IDR RDM 0123 01-26-2021 DAY 2. E340 IDR RDM 0109 01-04-2020 DAY 3. E340 IDR RDM 0110 01-05-2020 DAY</p> <p>Conditional Acceptable:</p> <p>1. Product data sheets have not been provided as verification documentation reference Specifications 10 14 53 and 10 14 56 (Section 1.03 Submittals).</p> <p>2. Upload the IDR that verifies the installation of the LRT guideway signage per L87-CMP109 and 110 and add photo to the Construction Verification checklist.</p>
10.	ID-105 E340-E23 (Stations) Platform Accessibility	D	<p>1. Provide IDR & photo documentation that the layout of the station platform is constructed per E23-APP100 to 102 and E23-AFP100 to 1024.</p> <p>Conditional Acceptable:</p> <p>Reference drawings E23-AFP100 to 1024 is in error. It should be E23-AFP100 to 102.</p> <p>Product data sheets have not been provided as verification documentation.</p> <p>The following IDRs should be listed as verification documentation:</p> <p>1. E340 IDR RDM 0031 08-28-20 DAY</p>

			<p>2. E340 IDR RDM 0036 09-04-20 DAY</p> <p>3. E340 IDR RDM 0064 10-15-20 DAY</p> <p>4. E340 IDR RDM 0078 11-04-20 DAY</p>
11.	ID-112 E340-E23 (Stations) Seating and Other	D	<p>1. Provide a representative sample of IDR & photo documentation that the station site furnishing are constructed per E23-AAP001, E23-APP100 to 102.</p> <p>1. E340 IDR RDM 0107 12-30-2020 DAY</p> <p>2. E340 IDR RDM 0110 01-05-2020 DAY</p> <p>Conditional Acceptable: Product data sheets have not been provided as verification documentation. Upload IDR which verifies that the station site furnishings are constructed per E23-AAP001 and reflect it on the Construction Verification checklist.</p>
12.	ID-89 E340-E23 (Stations) Grounding / Insulation	D	<p>Submittals</p> <p>1. E340-REC-02579 SUB 262416-001.002 1.03 Panelboard</p> <p>2. E340-REC-02882 SUB 262416-003.002 1.03A Enclosure Breakers Only</p> <p>3. E340-REC-06137 SUB 260553-002.001 2.01B Identification for Electrical Systems - Sleeves and Tags</p> <p>4. E340-REC-06525 SUB 260553-001.002 2.01A Identification for Electrical Systems – Nameplates</p> <p>5. E340-REC-07502 SUB 260526-021.001 1.03C Grounding Test Report - Project Wide</p> <p>Representative IDRs</p> <p>1. E340 IDR RDM 0108 12-31-20 DAY</p> <p>2. E340 IDR RDM 0106 12-29-20 DAY</p> <p>3. E340 IDR RDM 0123 01-26-21 DAY</p> <p>4. E340 IDR RDM 0139 02-23-21 DAY</p> <p>Level 1 Commissioning Checklists</p> <p>Level 1 Installation Verification (IV) Checklists for commissioning of Electrical Systems in accordance with Specs Section 26 08 00, Articles 3.04 and 3.05</p>

			<p>1. 2608-IV-05.01 Dry-Type Transformers All Rev01</p> <p>2. 2608-IV-07.01 Panelboards All Rev01</p> <p>Acceptable</p>
13.	ID-161 E340-E23 (Traffic Control) Control of Train Interface With Traffic	D	<p>1. Provide a representative sample of IDR and photo documentation that shows the construction of signal equipment, curb, sidewalk, gate systems and traffic signage for intersection crossings are constructed per L87-CRP109, 110 to 111, 113, 115 and 135, L87-TSP100, 101, 104 and 107 or other documentation that they are built per the contract documents.</p> <p>1. E340 IDR JD 0502 11-16-20</p> <p>2. E340 IDR RDM 0100 12-17-20 DAY</p> <p>3. E340 IDR JRR 0492 09-15-20 DAY</p> <p>4. E340 IDR JD 0518 12-08-20</p> <p>Acceptable</p>
14.	ID-166 E340-E23 (Traffic Control) Control of Train Interface with Traffic	D	<p>1. E340 IDR RDM 0186 05-10-21 DAY</p> <p>2. E340 IDR JD 0559 02-17-21 DAY</p> <p>3. CO 039 Signal and Striping Revisions:</p> <p> 1. E340-REC-02704 CO 039 Signal and Striping Revision Executed</p> <p> 2. 192_L87-CMP111_A_RFP 026 & CO 039</p> <p> 3. 194_L87-CMP113_A_RFP 026 & CO 039</p> <p> 4. 196_L87-CMP115_A_RFP 026 & CO 039</p> <p> 5. 420_L87-TSP104_A_RFP 026 & CO 039</p> <p> 6. 421_L87-TSP107_A_RFP 026 & CO 039</p> <p> 7. 422_L87-TSP108_A_RFP 026 & CO 039</p> <p> 8. 426_L87-TSD102_A_RFP 026 & CO 039</p> <p> 9. 427_L87-TSD103_A_RFP 026 & CO 039</p> <p> 10. 432_L87-TWP102_A_RFP 026 & CO 039</p> <p> 11. 435_L87-TNP102_A_RFP 026 & CO 039</p>

			<p>12. 439_L87-TNS001_A_RFP 026 & CO 039</p> <p>4. "Railroad Crossing Cross Buck" signs and "Flashing Light"</p> <p>5. 419_L87-TSP101_A_WD 123.1</p> <p>6. BKemper_Trans_20150915</p> <p>7. E340 100pct Traffic Grade Crossing Review Form - 130th Ave NE Sept2015</p> <p>8. E340 100pct Traffic Grade Crossing Review Form - 132nd Ave NE Sept2015</p> <p>9. E340 100pct Traffic Grade Crossing Review Form - 136th PI NE Sept2015</p> <p>10. E340 100pct Traffic Grade Crossing Review Form - NE 20th ST Sept2015</p> <p>11. 1779-E750-G00-JSD040</p> <p>12. BOP-NE 130TH ST-6532-003</p> <p>13. BOP-NE 132ND AVE-6610-003</p> <p>Acceptable</p>
15.	ID-171 E340-E23 (Traffic Control) Detection Equipment	D	<p>Provide a representative sample of IDR and photo documentation that shows the construction of signal equipment, and detection loops for intersection crossing at NE 20th are constructed per L87-TSP107 or other documentation that they are built per the contract documents.</p> <p>1. E340 IDR AB 0212 02-25-20 DAY</p> <p>2. E340 IDR JD 0496 11-02-20</p> <p>3. E340 IDR JD 0505 11-19-20</p> <p>Conditional Acceptable: Product data sheets have not been provided as verification documentation.</p>

***Method of Verification:** I = Interview; D = Documentation Review; O = Observe Activity

****Results:** Include explanation and the following: A = Acceptable; U = Unacceptable; C = Conditional Acceptable; N = Not Examined; or N/A = Not Applicable

Safety Certification Audit Checklist

<u>Safety Certification Audit No.:</u>	<u>Organization/Contract No.:</u> E340-GW	<u>Talson Auditor:</u> Norman Jones	<u>Audit Date(s):</u> March 23, 2022 - April 17, 2022
<u>Activity to be Audited:</u> AP 3000 for various CILs within E340 Project	<u>Key Contacts:</u> Patrick Johnson, Matthew Mitchell, Mike Flood	<u>Audit Team Members:</u> Ken Brzozowski, Norman Jones, Robert Farrow	<u>Audit Location:</u> Talson Solutions Offices, Philadelphia, PA

Audit Profile Type

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> 1000 Hazard Analysis | <input checked="" type="checkbox"/> 3000 Construction Verification | <input type="checkbox"/> 5000 Vehicle Configuration | <input type="checkbox"/> 7000 Systems Readiness/Fire Life Safety/SS Certification Report |
| <input type="checkbox"/> 2000 Design Verification | <input type="checkbox"/> 4000 Integration Testing | <input type="checkbox"/> 6000 Training/Procedures | |

<u>Item</u>	<u>Audit Element (ID#/Contract/Element/ Title)</u>	<u>Method of Verification</u>	<u>Results</u>
1.	ID-192 E340-GW (Guideway Handrail (as applicable))	D	<p>1. Provide executed Changer Order for Guideway Guardrail Stanchion Revision (change from side mount to top mount).</p> <p>2. Provide as-builts or other documentations that the guideway railing revision is built per change order drawings.</p> <p>1. E340 IDR JRR 0379 02-12-20 DAY 2. E340 IDR JRR 0392 02-28-20 DAY 3. E340-REC-02862 CO 002 Change to Top Mount Rail</p> <p>Conditional Acceptable: The as-built drawing numbers associated with the change order should be identified. They have been uploaded into SSIMS.</p>

***Method of Verification:** I = Interview; D = Documentation Review; O = Observe Activity

****Results:** Include explanation and the following: A = Acceptable; U = Unacceptable; C = Conditional Acceptable; N = Not Examined; or N/A = Not Applicable



Blocks 1 thru 12 to be completed by Auditors

1. Audit Type: Security Certification Choose an item.	2. Mode/System: SCR	3. Audit Title / Number/Reference: East Link Extension E340 AP 1000	4. Classification (Finding/Obsv): FINDING
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5. Finding/Observation Ref. # (ST File #): Finding No. 1	6. Auditor, Email & Phone: Mike Flood, Sr. Compliance Auditor (206) 398-5075 michael.flood@soundtransit.org	7. Issued Date: 7/15/2022
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8. Description: (of Finding or Observation)

The Threat Vulnerability Assessment does not have a formal and/or demonstrated approval from the Safety and Security Certification Review Subcommittee as referenced in the Agency’s Safety and Security Certification Plan, Table 2-1 in Section 2. Although the document is considered living, approval is required by the Safety and Security Management Plan. Formal approval would better demonstrate that acceptance of the vulnerability assessment occurred.

8a. Recommendation (For Observations Only)

Sound Transit to provide evidence of the Safety and Security Certification Review

8b. Reference:

9. Risk Rating N/A	10. Owner/Assigned Responsible Individual: Josiah Durham	11. Assigned Responsible Division: Security	12. Response Due Date: 8/5/2022
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Blocks 13 thru 18 will be completed by the individual responding to the Finding/Observation

13. Finding/Observation Response:

13a. Root Cause (Findings Only):

14. Finding/Observation Implementation Plan

15. Audit Response Form Completed By: (Name and Title)	16. Today's Date: Click or tap to enter a date.	17. Est. Implementation Date: Click or tap to enter a date.	18. SAIR / CAP #
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Blocks 22-27 to be completed by Auditors

19. Finding/Observation Implementation Plan Review	20. Auditor Name / Signature:	Date:
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<input type="checkbox"/> Accept <input type="checkbox"/> Reject	
21. Finding/Observation Implementation Verification <input type="checkbox"/> Accept (CLOSE) <input type="checkbox"/> Reject (Remain OPEN)	22. Auditor / Signature: _____ Date: _____
23. Description of Verification of Finding/Observation implementation: 	
24. Reasons for Implementation Plan or Implementation Verification Rejection by Auditors: 	
25. Auditor Director Name / Signature: _____	Date: _____



Blocks 1 thru 12 to be completed by Auditors

1. Audit Type: Security Certification Choose an item.	2. Mode/System: SCR	3. Audit Title / Number/Reference: East Link Extension E340 AP 1000	4. Classification (Finding/Obsv): OBSERVATION
5. Finding/Observation Ref. # (ST File #): Observation No. 1	6. Auditor, Email & Phone: Mike Flood, Sr. Compliance Auditor (206) 398-5075 michael.flood@soundtransit.org		7. Issued Date: 7/15/2022

8. Description: (of Finding or Observation)

Of the 39 Security Certifiable Items (AP 1000, 2000 & 3000) and 16 Safety Certifiable Items (AP 3000) sampled, the audit resulted in one (1) Unacceptable rating. The Security Certifiable Item, ID-26, did not have proper design documentation available marking the planned mitigation efforts.

Example: Security ID No. 26 – AP 2000 (SSIMS Screen Shot) - Unacceptable

Controlled Mitigation

Install skateboard clips on surface edges, where appropriate, at stations to deter skateboarding / loitering.

Suggested Construction Documentation

1. Provide representative sample of IDR & Photo Documentation to show that the arm rest that act as skateboard deterrents are constructed per E23-AEE010 to 012.
2. Material submittals

Auditor Comments:

- Station railing was designed 42 inches high to prevent skateboarding and armrests are to be part of seated benches. Further, the IDR 1/6/21 says it placed armrests on benches but only provided photos of the railing.
- Talson was unable to verify the design of benches (or if even benches were installed as part of the hardscape plan)

8a. Recommendation (For Observations Only)

Additional documentation and/or description should be provided within SSIMS.

8b. Reference:

9. Risk Rating N/A	10. Owner/Assigned Responsible Individual: Josiah Durham	11. Assigned Responsible Division: Security	12. Response Due Date: 8/5/2022
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Blocks 13 thru 18 will be completed by the individual responding to the Finding/Observation

13. Finding/Observation Response:

13a. Root Cause (Findings Only):



14. Finding/Observation Implementation Plan

15. Audit Response Form Completed By: (Name and Title)	16. Today's Date: Click or tap to enter a date.	17. Est. Implementation Date: Click or tap to enter a date.	18. SAIR / CAP #
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Blocks 22-27 to be completed by Auditors

19. Finding/Observation Implementation Plan Review <input type="checkbox"/> Accept <input type="checkbox"/> Reject	20. Auditor Name / Signature: Date:
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21. Finding/Observation Implementation Verification <input type="checkbox"/> Accept (CLOSE) <input type="checkbox"/> Reject (Remain OPEN)	22. Auditor / Signature: Date:
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23. Description of Verification of Finding/Observation implementation:

24. Reasons for Implementation Plan or Implementation Verification Rejection by Auditors:

25. Auditor Director Name / Signature:	Date:
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Blocks 1 thru 12 to be completed by Auditors

1. Audit Type: Security Certification Safety Certification	2. Mode/System: SCR	3. Audit Title / Number/Reference: East Link Extension E340 AP 1000, 2000, 3000	4. Classification (Finding/Obsv): OBSERVATION
5. Finding/Observation Ref. # (ST File #): Observation No. 2	6. Auditor, Email & Phone: Mike Flood, Sr. Compliance Auditor (206) 398-5075 michael.flood@soundtransit.org		7. Issued Date: 7/15/2022

8. Description: (of Finding or Observation)

Of the 39 Security Certifiable Items (AP 1000, 2000 & 3000) and 16 Safety Certifiable Items (AP 3000) reviewed, there was a total of twenty-four (24) Conditionally Acceptable ratings noted (totaling 43% of the sampling). Examples were incorrect references or uploaded files that were not referenced in the corresponding verification field.

Example: Safety ID No. 146 – AP 3000 (SSIMS Screen Shot) – Conditionally Acceptable

Hazard Mitigation:	Controlled Mitigation
	<ol style="list-style-type: none"> 1. Design for handrail along walkway where slope exceeds 5%. 2. Design for a uniform, slip resistant walking surface.

Auditor Comments:

- Documentation lacks details on walkway construction (e.g., gradient slope to ensure positive slope and ponding does not occur is not provided)

8a. Recommendation (For Observations Only)

Additional documentation and/or descriptions should be provided within SSIMS

8b. Reference:

9. Risk Rating N/A	10. Owner/Assigned Responsible Individual: Josiah Durham and Erin Brumbaugh	11. Assigned Responsible Division: Safety and Security	12. Response Due Date: 8/5/2022
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Blocks 13 thru 18 will be completed by the individual responding to the Finding/Observation

13. Finding/Observation Response:

13a. Root Cause (Findings Only):



14. Finding/Observation Implementation Plan			
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15. Audit Response Form Completed By: (Name and Title)	16. Today's Date: Click or tap to enter a date.	17. Est. Implementation Date: Click or tap to enter a date.	18. SAIR / CAP #
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Blocks 22-27 to be completed by Auditors

19. Finding/Observation Implementation Plan Review <input type="checkbox"/> Accept <input type="checkbox"/> Reject	20. Auditor Name / Signature: Date:
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21. Finding/Observation Implementation Verification <input type="checkbox"/> Accept (CLOSE) <input type="checkbox"/> Reject (Remain OPEN)	22. Auditor / Signature: Date:
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23. Description of Verification of Finding/Observation implementation:
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24. Reasons for Implementation Plan or Implementation Verification Rejection by Auditors:

25. Auditor Director Name / Signature: Date:
