



## Safety Certification Audit Report January 22, 2025

**Projects:** Federal Way Link Extension

**Audit Type:** Safety Audit Profile 2000

**PREPARED BY (TALSON):**

Norman Jones – Auditor

Date: November 13, 2024

Robert Farrow – Auditor

November 13, 2024

**APPROVED BY (TALSON):**

Kenneth Brzozowski – Project Manager

Date: November 18, 2024

**APPROVED FOR ISSUE (SOUND TRANSIT):**

Patrick Johnson – ST Director, Audit Division

Date: December 12, 2024



# Safety Certification Audit Report

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# Safety Certification Audit Report

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## I. EXECUTIVE SUMMARY

Commencing in October 2024 and extending through January 2024, Talson Solutions, LLC (Talsoln) performed a desktop Safety Certification Audit (SCA) of Sound Transit’s Federal Way Link Extension (FWLE) project. The audit was performed on behalf of the Sound Transit Audit Division and focused on Audit Profile 2000 – *Design Conformance Verification*.

### **Objectives**

The objective of SCAs is to independently verify evidence that design, construction, and operational activities are in conformance with Sound Transit hazard mitigation plans and certification policy. Sound Transit uses certifiable item forms in the Safety and Security Information Management System (SSIMS) to evidence hazard mitigating documentation in accordance with required specifications and plans. Hazard mitigation and certification standards are detailed within the Agency Safety and Security Certification Plan (SSCP), dated August 2018<sup>1</sup> (updated 2023) and the Agency Safety and Security Management Plan (SSMP), dated February 2017 (updated 2022). Audit Profile objectives for this audit focused on the following:

### **Audit Profile 2000 – Design Phase Conformance Verification**

- Evaluated evidence that designs mitigated safety and security hazards according to the hazard analyses and the “Safety and Security Requirements” fields within SSIMS
- Key documents reviewed included Drawings, Specifications, and Calculations

### **Results**

Talsoln found that design activities performed by Sound Transit align with safety and security certification processes and plans with noted exceptions. Testing resulted in **one (1) finding** and **one (1) observations**; relating to the accuracy and availability of uploaded documentation and references within the SSIMS Project Dashboard. The finding is noted due to the re-occurrence of similar past issues.

Preliminary observations and results were shared with appropriate Sound Transit personnel prior to the issuance of this report. Continued discussion and correspondence will occur through the auditor’s evaluation and acceptance of Management Response Forms (MRFs), detailed in Section V. of this report.

## II. SCOPE AND METHODOLOGY

SCAs provide independent assurance that identified hazards are effectively mitigated and appropriately documented during each phase of a capital project spanning from preliminary engineering to revenue service. The Audit Profiles (APs) of SCAs are specific to the completed phases of a capital project:

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<sup>1</sup> The revised SSCP, dated April 2023 does not reference SSIMS but is not applicable to this project’s start date

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|---|--|
| <ul style="list-style-type: none"> <li>➤ <b>Audit Profile 1000</b> – Hazard Analysis</li> <li>➤ <b>Audit Profile 2000</b> – Design</li> <li>➤ <b>Audit Profile 3000</b> – Construction</li> <li>➤ <b>Audit Profile 4000</b> – System Testing</li> </ul> | <ul style="list-style-type: none"> <li>➤ <b>Audit Profile 5000</b> – Vehicle Fabrication</li> <li>➤ <b>Audit Profile 6000</b> – Training/SOPs</li> <li>➤ <b>Audit Profile 7000</b> – Fire/Life Safety Readiness / Certification Reporting</li> </ul> |
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SSCP Section 3.1.2, B., 2. (dated 2018), requires the use of Certifiable Item Forms (CIs) within SSIMS for uploading documented evidence that each identified hazard has been mitigated throughout each completed capital project phase. SCA testing targets stratified sampling for 15% of all completed CIs covering each identified contract and element. Each sampled CI is verified for relevancy, appropriateness, traceability, and proper referencing. A three (3) tiered rating system is used to categorize the results:

- **Acceptable:** No deviation from the implemented SSCP / SSMP standards
- **Conditionally Acceptable:** Minor deviation of the implemented SSCP /SSMP standard and unlikely to result in a nonconforming product or service
- **Unacceptable:** A significant breakdown or partial breakdown in processes that may result or has resulted in a nonconforming product or service.

CIs that are rated “Conditionally Acceptable” may or may not result in the assignment of audit findings, observations, and corrective action plans based on the criteria listed in Section V of this report and the professional judgement of the auditor.

The below chart details the Safety only CI population size and sample for each contract conducted as part of this SCA:

Contract	CI Total	Sampling	Percentage
F200-Comm	77	12	16%
F200-FLS – S03, S05, S07	96	18	19%
F200-FW	133	20	20%
F200-OCS	35	6	17%
F200-S03	177	27	15%
F200-S05	171	26	15%
F200-S07	172	26	15%
S200-SIG	87	14	16%
F200 – SP03, SP05, SP07	93	15	16%
F200-TES	17	3	18%
F200-TPSS – 1-5	141	26	18%
<b>Total</b>	<b>1,199</b>	<b>193</b>	<b>16%</b>

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### Talson's audit procedures included the following:

- Conducted Kick Off meeting with applicable personnel on October 17, 2024
- Assessed relevant compliance documentation including prior audit reports, SSCP, SSMP, and Preliminary Hazard Analysis, dated May 19, 2016
- Selected 193 Safety CIs out of 1199 (16%) for Audit Profile 2000 Testing
- Reviewed uploaded documentation and notations within each CI
- Completed Audit Profile 2000 Testing Checklists/Workpapers
- Conducted a Closeout Briefing with preliminary results on November 6, 2024
- Produced audit draft and final reports
- Continued discussion with Safety Management regarding audit results

### III. FINDINGS

The audit resulted in **one (1) finding**.

#### **Finding No. 1**

Certifiable item forms within SSIMS had incorrect or missing references to uploaded documents. These have been marked as **Conditional Acceptable** within the audit checklist and have been shared with Sound Transit staff. Within the sampling of Security Audit Profile 2000: 47 out of 193 sampled (24%) had relevancy to this issue.

#### **Example screenshot from CI No. 2913:**

The screenshot shows a document entry in a SharePoint list. The document title is "S1.06 Drawings S03-EPS001 for single line diagram of battery (filename: S1.06 RFC Complete Drawing Set 03.02, pgs 271)". Below the title is a long URL: "https://soundtransit.sharepoint.com/:b:/r/sites/SSCMS/fwle/Verification%20Documents/Design%20Verification%20Documents/F200-S03/S1.06%20RFC%20Complete%20Drawing%20Set%2003.02.pdf?csf=1&web=1&e=cd0NqY". A red arrow points from the document entry to a callout box on the right. The callout box contains the text: "Incorrect page number reference - S03-EPS001 is listed on page 239 S03-JAD001 is listed on page 271".

This item is marked as a finding due to the re-occurrences of this issue in past audits.

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### IV. OBSERVATIONS

The audit resulted in **one (1) observation**:

**Observation No. 1**

Talson observed that three (3) out of 1,199 safety CI forms sampled within SSIMs had inadequate explanatory notation for final design closure. During the audit, notations within the various SSIMs fields (Design Conformance) was not detailed enough to lead the auditor to other intended CIs for supporting documentation. Enhancement to the narration in the comment fields would assist in clarity of linkage for supporting documentation to address risk mitigation activities.

**Examples:**

- Contract F200-COMM – CI Nos: 3532, 3588: Hazards applicable to stations tracked through other CIs lacked detailed references to adequate links for supporting documentation.
- Contract F200-GW – CI No. 3335: Lacked detailed evidence of utility company correspondence and reference to drawings, and no Sound Transit or independent verification or evidence of mitigation that gas lines were moved away from the construction site.

**Example screenshots below – CI No. 3532 – Element Name: Stations:**

<p><b>Controlled Mitigation</b></p> <div style="border: 1px solid gray; padding: 5px; background-color: #f0f0f0;"> <p>DESIGN / CONSTRUCTION / TESTING: 1) Provide DCM and Code compliant smoke and fire detection and annunciations system, and specifications which include system commissioning and testing requirements.</p> </div> <p><b>Design Conformance</b></p> <div style="border: 1px solid gray; padding: 5px; background-color: #e0f0ff;"> <p>Not applicable for CW.02 (TPSS, Signal Bungalow or guid away). Only applicable at stations.</p> </div>	<div style="border: 1px solid red; padding: 5px; background-color: #fff0f0;"> <p><b>Applicable drawing sets and Specs for Stations or CIs that provide the locations of smoke and fire detection systems/equipment are not referenced. Design mitigation is not appropriately demonstrated or explained.</b></p> </div>
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### V. Management Response Forms (MRFs)

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 MRFs. Verification of conforming corrective action and root cause explanation will be reviewed by Talson upon submission of the Management Response Form by Sound Transit. Below are the definitions of a Finding and an Observation, along with the acceptable response requirements:

- A. **Findings** indicate areas where Sound Transit or another entity is non-compliant with its own established policy, plan, procedure and/or regulation and which must be corrected,

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*and documented in writing on a corrective action plan. Action plans should also include a specific, measurable amount of time it will take to correct the issue and reduce risk.*

- B. **Observations** do not mean the issue is deficient; however, the auditor has determined that the issue poses the potential risks of becoming a finding in the future if recommended changes are not put in place to prevent occurrence.

### VI. DISTRIBUTION

Safety and Security Audit  
Dates:

October 2024 – January 2024

Organization:

Sound Transit

(Auditee)

Responsible Party:

Branden Porter, Acting: Chief Safety Officer

(Auditee)

Talson Auditor(s):

Ken Brzozowski, Norman Jones, and Robert Farrow

(Auditors)

Report To:

- Robert Taaffe, Acting Director, Transportation Safety & Security

Distribution List:

- Robert Taaffe, Acting Director, Transportation Safety & Security
- Craig DeLalla, Acting Chief Engineer, PSO
- Linneth Riley-Hall, Executive Project Director FWLE
- Sepehr Sobhani, Deputy Executive Project Director FWLE
- Kerry Pihlstrom, Executive Director, Asset Transition Office
- Jodi Mitchell, ST Deputy Director – Safety Business Processes, Transportation Safety & Security
- Bien Mai, ST Manager, Transportation Safety and Security
- Heather Wright, Deputy Director, Audit Division
- Michael Flood, ST Senior Auditor, Audit Division
- Molly Hughes, WSDOT State Safety Oversight Program Administrator
- Andrew Royer, WSDOT State Safety Oversight Program Administrator

Attachments:

- SCA MRF – Finding No. 1
- SCA MRF – Observation No. 1

**Blocks 1 thru 12 to be completed by Auditors**

1. Audit Type: Security Safety Certification	2. Mode/System: LLR	3. Audit Title / Number/Reference: Federal Way Link Extension Safety AP 2000 Audit Project 2024-17	4. Classification (Finding/Obsv): <b>FINDING</b>
5. Finding/Observation Ref. # (ST File #): Finding #1	6. Auditor, Email & Phone: Patrick Johnson, Director – Audit Division; (206) 689-4784 patrick.johnson@soundtransit.org		7. Issued Date: 1/22/2025

8. Description: (of Finding or Observation)

**Finding No. 1**


Certifiable item forms within SSIMS had incorrect or missing references to uploaded documents. These have been marked as **Conditional Acceptable** within the audit checklist and have been shared with Sound Transit staff. Within the sampling of Security Audit Profile 2000: 47 out of 193 sampled (24%) had relevancy to this issue.

**Example screenshot from CI No. 2913:**

**Design Conformance**

S1.06 Drawings S03-EPS001 for single line diagram of battery (filename: S1.06 RFC Complete Drawing Set 03.02, pgs 271)

<https://soundtransit.sharepoint.com/:b:/r/sites/SSCMS/fwle/Verification%20Documents/Design%20Verification%20Documents/F200-S03/S1.06%20RFC%20Complete%20Drawing%20Set%2003.02.pdf?csf=1&web=1&e=cd0NqY>



**Incorrect page number reference – S03-EPS001 is listed on page 239**

**S03-JAD001 is listed on page 271**

This item is marked as a finding due to the re-occurrences of this issue in past audits.

8a. Recommendation (For Observations Only)

8b. Reference: N/A

9. Risk Rating <b>5C</b>	10. Owner/Assigned Responsible Individual: Robert Taaffe	11. Assigned Responsible Division: Transportation Safety and Security	12. Response Due Date: 2/12/2025
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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 19 thru 25 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 Safety Certification	2. Mode/System: LLR	3. Audit Title / Number/Reference: Federal Way Link Extension Safety AP 2000 Audit Project 2024-17	4. Classification (Finding/Obsv): <b>OBSERVATION</b>
5. Finding/Observation Ref. # (ST File #): Observation #1	6. Auditor, Email & Phone: Patrick Johnson, Director – Audit Division; (206) 689-4784 patrick.johnson@soundtransit.org		7. Issued Date: 1/22/2025

8. Description: (of Finding or Observation)

**Observation No. 1**

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**Example screenshots below – CI No. 3532 – Element Name: Stations:**

<p><b>Controlled Mitigation</b></p> <p>DESIGN / CONSTRUCTION / TESTING: 1) Provide DCM and Code compliant smoke and fire detection and annunciations system, and specifications which include system commissioning and testing requirements.</p>	<p><b>Design Conformance</b></p> <p>Not applicable for CW.02 (TPSS, Signal Bungalow or guideway). Only applicable at stations.</p>	<p><b>Applicable drawing sets and Specs for Stations or CIs that provide the locations of smoke and fire detection systems/equipment are not referenced. Design mitigation is not appropriately demonstrated or explained.</b></p>
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8a. Recommendation (For Observations Only)

8b. Reference: N/A

9. Risk Rating <b>3C</b>	10. Owner/Assigned Responsible Individual: Robert Taaffe	11. Assigned Responsible Division: Transportation Safety and Security	12. Response Due Date: 3/4/2025
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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 #

**Blocks 19 thru 25 to be completed by Auditors**

19. Finding/Observation Implementation Plan Review

Accept       Reject

20. Auditor Name / Signature:      Date:

21. Finding/Observation Implementation Verification

Accept (CLOSE)       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: