



## **WMSC Commissioner Brief: W-0169 – Serious Injury – Potomac Yard Station – March 2, 2022**

*Prepared for Washington Metrorail Safety Commission meeting on June 28, 2022*

### **Safety event summary:**

On March 2, 2022, at 9:35 a.m., a Metrorail subcontractor fell while installing glass on a canopy at Potomac Yard Station and sustained a concussion, leg and shoulder fractures and a facial laceration. The contractor was wearing a personal fall arrest system that had not been properly adjusted.

The contractor was working on installation of skylight glass on the canopy over tracks 1 and 2 at the station when the event occurred.

While working in a 4-person team, the contractor acted as one of two Glazers, whose responsibility it is to install and seal the glass panels lifted and set in place by the crane operator, who is directed by a foreman. Just before the event occurred the subcontractor, Glazer #1, installed a glass panel on the lower row of the canopy and then skipped two bays at the expansion joint, leaving them open. Glazer #1 moved to the first glass panel past the expansion joint to wait for the next piece of glass to be lifted by the crane.

While waiting for the glass, Glazer #1 adjusted their vertical lifeline system rope and went back to fix the panel they had just installed but failed to readjust the rope when they returned to the first glass panel past the expansion joint.

The Glazer was wearing a Guardian Synthetic Vertical Lifeline System with Integrated Manual Rope Grab that was attached to permanent engineered anchor points on the canopy. While continuing to wait for the crane operator to lift and place the glass panel, Glazer #1 stepped back into one of the open bays they skipped glass installation of and fell to the ground below, approximately 22 feet, 6 inches. Glazer #1 was wearing full personal protective equipment (PPE) and fall protection equipment at the time of the event.

Contractor personnel on the scene contacted 911 directly to request emergency medical assistance. Alexandria Fire Department (AFD) responded and transported the injured contractor to George Washington University Hospital. The event was not reported to the ROCC by onsite personnel. The ROCC Fire Liaison Officer (FLO) was notified of the event by AFD at 9:37 a.m.

The Office of Safety Certification and Engineering (OSCE) Manager, the Office of Emergency Preparedness (OEP) Response and Recovery Coordinator and an Office of Safety Investigations (OSI) Safety Investigator were dispatched, and the scene was cordoned off for investigation. The Contracting company notified the Virginia Department of Labor and Industry (VOSH) and representatives inspected the site, which was maintained, the following day, on March 3, 2022. Following the event work was suspended at the site.

Testing on the personal fall arrest system and harness determined that the fall arrest system was adjusted to where an uncontrolled fall would arrest near the ground and operated as intended.

The investigation also found that the two Glazers were both tied off on the same roof anchor, which is only designed to support one person.

There was no signature from the injured subcontractor on forms kept by the contracting company indicating they took the Sub-Contractor Orientation, which is required of workers before they begin working on the construction site.



The injured subcontractor did not undergo drug and alcohol testing when they were admitted, therefore no determination was made as to whether they were in violation of WMATA's Drug and Alcohol Program policy.

**Probable Cause:**

The probable cause of this serious injury event is a lack of supervisory oversight of the subcontractor. At the time of the event, the Project Safety Manager was not present to ensure the work was being conducted properly and safely. Additionally, the Project Safety Manager did not ensure that the injured subcontractor attended the required safety orientation prior to starting their work. Contributing factors were the Glazer's lack of situational awareness and failure to readjust their fall arrest system.

**Corrective Actions:**

Metrorail conducted and documented attendance for a Safety Stand Down to reinforce safety procedures and fall protection.

WMATA distributed Safety Bulletin 22-03B on fall protection.

WMATA is conducting daily on-site safety meetings and weekly virtual safety meetings on an ongoing basis.

**WMSC staff observations:**

The contractors did not follow reporting procedures, which require that the WMATA point of contact, in this case the WMATA Project Manager, be notified of safety events at the work site. At the time of the incident the Project Safety Manager and the WMATA Project Manager were taking part in a weekly meeting with other WMATA personnel in the onsite operations trailer.

During an interview, the Project Safety Manager stated that they occasionally observe the contractors' tie points and check to make sure the contractors are following proper use. This oversight should not be occasional, but rather a normal and continuous task throughout the duration of the work.



Washington Metro Area Transit Authority  
Department of Safety – Office of Safety Investigations (OSI)  
**FINAL REPORT OF INVESTIGATION A&I E22138**

<b>Date of Event:</b>	March 2, 2022
<b>Type of Event:</b>	Serious Injury (Contractor)
<b>Incident Time:</b>	09:35 Hours
<b>Location:</b>	Potomac Yard Station
<b>Time and How received by SAFE:</b>	10:00 Hours – SAFE/Construction
<b>WMSC Notification Time:</b>	10:58 Hours
<b>Responding Safety Officers:</b>	WMATA: SAFE (OSCE, OEP & OSI) WMSC: N/A Other: Virginia Occupational Safety & Health (VOSH)
<b>Injuries:</b>	Concussion, Broken Leg, Fractured Shoulder, and Face Lacerations
<b>Damage:</b>	None
<b>Emergency Responders:</b>	Alexandria Fire Department M-206
<b>SMS I/A Incident Number:</b>	20220303#98766

# Potomac Yard Station – Serious Injury

March 2, 2022

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## Abbreviations and Acronyms

<b>ARS</b>	Audio Recording System
<b>CAP</b>	Corrective Action Plan
<b>CAPD</b>	Office of Capital Program Delivery
<b>CCTV</b>	Closed-Circuit Television
<b>FLO</b>	Fire Liaison Officer
<b>MSRPH</b>	Metrorail Safety Rules and Procedures Handbook
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>OEP</b>	Office of Emergency Preparedness
<b>OSCE</b>	Safety Certification and Engineering
<b>OSI</b>	Office of Safety Investigations
<b>PYC</b>	Potomac Yard Constructors
<b>RTRA</b>	Office of Rail Transportation
<b>ROCC</b>	Rail Operations Control Center
<b>SAFE</b>	Department of Safety and Environmental Management
<b>SCIC</b>	Sam Cortez, Inc. Construction
<b>SMS</b>	Safety Measurement System
<b>VOSH</b>	Virginia Department of Labor and Industry
<b>WMATA</b>	Washington Metropolitan Area Transit Authority
<b>WMSC</b>	Washington Metrorail Safety Commission

### **Executive Summary**

On Tuesday, March 2, 2022, at approximately 09:35 hours, a Contractor Employee (Glazer #1) of Sam Cortez, Inc. Construction (SCIC), who is a sub-contractor to Linel Architectural Glass, a sub-contractor to the Potomac Yard Constructors (PYC) was injured while performing their duties at the Potomac Yard Station construction site.

The work area is under the control of the PYC, a joint venture of Halmar International and Schiavone Construction Co., with the Office of Capital Program Delivery (CAPD) overseeing the construction of the project. The task being performed at the time of the injury involved SCIC contractors installing skylight glass over the roadway of tracks 1 and 2.

At approximately 09:33 hours, Glazer #1 performed leading-edge work, wore a personal fall arrest system, and installed glass panels at Potomac Yard Station on the canopy rooftop. At approximately 09:35 hours, Glazer #1 was standing by waiting for the crane to bring up the next piece of glass when they stepped back into an open bay. Glazer #1 fell from the canopy rooftop, landing on the concrete. Glazer #1's personal fall arrest system did not engage sufficiently to prevent contact with the ground due to the incorrect fall distance calculation performed by Glazer #1. The fall distance was measured at approximately twenty-two and a half (22.5) feet.

Members of the work crew contacted Emergency Services and requested medical assistance. The City of Alexandria Fire Department responded, treated, and transported Glazer #1 to George Washington University Hospital Center for further medical treatment.

Work at Potomac Yard Station was immediately stopped following the event.

At approximately 09:57 hours, the City of Alexandria Fire Department notified the Fire Liaison Officer (FLO) located in the Rail Operations Control Center (ROCC) of the event.

At approximately 10:00 hours, the Office of Safety Certification and Engineering (OSCE) Manager was dispatched to the incident site. The Office of Emergency Preparedness (OEP) dispatched the Response and Recovery Coordinator, and at approximately 10:20 hours, the Office of Safety Investigations (OSI) dispatched a Safety Investigator. The incident scene was cordoned off for inspection and investigation. PYC representatives notified the Virginia Department of Labor and Industry (VOSH) department due to the injury severity.

Representatives from VOSH responded on March 3, 2022, and inspected the site, which was maintained following the event. VOSH took possession of the personal fall arrest system and harness for testing.

The probable cause of the Serious Injury event at Potomac Yard Station on March 2, 2022, was the injured Glazer failed to re-adjust their personal fall arrest system when they returned to their initial location to wait for the crane to lift the next piece of glass panel. A contributing factor is the injured Glazer's lack of awareness to continually and properly adjust the fall arrest system to prevent contact with the ground. Additionally, the injured Glazer's complacency resulted in failure

to recognize an opening (missing glass panel) behind their position before they stepped back into an open bay.

### **Incident Site**

Potomac Yard Station, Overhead Canopy

### **Field Sketch/Schematics**



*\*Image Not to Scale*

### **Purpose and Scope**

This incident investigation and candid self-evaluation aim to collect and analyze available facts, determine the probable cause(s) of the incident, identify contributing factors, and make recommendations to prevent a recurrence.

### **Investigative Methods**

Upon receiving the notification of the Serious Injury at Potomac Yard Station on March 2, 2022, SAFE dispatched a cross-functional team to assess the scene and conduct the subsequent investigation. SAFE team members worked with relevant Washington Metropolitan Area Transit Authority (WMATA) subject matter experts to review the incident's facts and data.

The investigative methodologies included the following:

- Physical Site Assessment
- Formal Interviews – SAFE interviewed one (1) individual as part of this investigation, including the
  - Project Safety Manager (PYC)
- Informal Interviews – Collected through conversations with individuals during the investigation to provide background and supporting information. Note: Written statements were reviewed from personnel present during the event.

- Glazer #1 (Sam Cortez Inc.) - statement
  - Foreman/Supervisor (Sam Cortez Inc.) - statement
  - Glazer #2 (Sam Cortez Inc.) - statement
  - Electrician (Mass Electric) - statement
  - Project Superintendent (Linel) - statement
  - Project Manager (WMATA/CAPD)
- Documentation Review – A collection of relevant work history information and process documentation in Metro records systems. These records include:
    - Metro Safety Rules and Procedures handbook (MSRPH)
    - Fall Protection Program
    - Fall Arrest System Manual
    - Project Safety Program
    - Training records for contractor employee
    - Design drawings of the anchor system
    - Manufacturer user guide(s) for all fall protection equipment assigned to the employee
    - Contractor Employee Work Schedule
    - National Oceanic and Atmospheric Administration (NOAA) data
  - System Data Recording Review – A collection of information in Metro Data Recording Systems. This data includes:
    - Audio Recording System (ARS) playback – OEM Fire Dept. Liaison (54404)

## **Investigation**

On Tuesday, March 2, 2022, at approximately 09:35 hours, a Contractor Employee (Glazer #1) of SCIC, who is a sub-contractor to Linel Architectural Glass, a sub-contractor to the PYC, was injured while performing their duties at the Potomac Yard Station construction site.

On September 23, 2018, the Washington Metropolitan Area Transit Authority and PYC entered into a contract agreement to develop Potomac Yard Metro Station in Alexandria, VA. On August 27, 2020, PYC and Linel, LLC entered into a subcontract agreement to install skylights at Potomac Yard Station. On November 3, 2021, Linel, LLC and SCIC entered into a sub-contract agreement as Installers on the Potomac Yard Metro Station Project, specifically to install skylights (see *Appendix B*). As included in the subcontract agreements, each company was to provide their own safety equipment as required by the Occupational Safety and Health Administration standards.

On February 28, 2022, Glazer #1 was assigned to perform skylight installation of the canopy at Potomac Yard Metrorail Station. Before performing work duties at the construction site, workers are required to attend a PYC Sub-Contractor Orientation. The documentation provided by PYC, et. al did not include a signed Sub-Contractor Orientation Form for the injured, Glazer #1. On February 28, 2022, and the days leading up to the incident, SCIC documented Contractor's Daily Pre-Task Safety Briefings discussing skylight installation and fall hazards.

On March 2, 2022, Glazer #1 reported to Potomac Yard Metrorail Station Construction site and attended the daily safety meeting before working on the canopy skylights with all of their personal protective equipment and fall protection equipment. Four workers were conducting the installation of the canopy skylights (1-Foreman, 2-Glazers, and 1-Crane Operator). The Foreman signals the

Crane Operator as the glass panels are lifted to the canopy and set in place. The Glazers perform the installation and sealing of the glass panels. The workers utilized a Guardian Synthetic Vertical Lifeline System with Intergraded Manual Rope Grab attached to the permanent anchor points (see Appendices C & D). The canopy design has a permanent engineered anchor point system installed approximately 33 feet apart.

The workers were installing skylights to the lower face of the canopy; they skipped two bays at the expansion joint, leaving them open. After installing the glass panels on the bottom row, Glazer #1 stepped up onto the first glass panel past the expansion joint to wait for the next piece of glass to be lifted from the crane. According to the statement from Glazer #1, while waiting for the next glass panel, they adjusted the rope connected to their vertical lifeline system and returned to fix a glass panel that had been installed. They returned to their previous position at the first glass panel past the expansion joint to wait for the next glass panel without re-adjusting the rope connected to their vertical lifeline system. While waiting for the glass panel, Glazer #1 stepped back into an open bay.

At approximately 09:35 hours, Glazer #1 fell from the canopy rooftop to the ground approximately twenty-two feet six inches (22' 6"), wearing all of their personal protective and fall protection equipment. Alexandria Fire Department and EMS were immediately contacted. At approximately 09:57 hours, the Alexandria Fire Department contacted the FLO located in the ROCC and reported the injury. At approximately 10:00 hours, OSCE Manager was dispatched to the incident site. OEP dispatched the Response and Recovery Coordinator, and at approximately 10:20 hours, OSI dispatched a Safety Investigator. Alexandria Fire Department M-206 responded to Potomac Yard Metrorail Station, provided medical assistance to Glazer #1, and transported them to George Washington University Hospital. Glazer #1 suffered a concussion, broken leg, fractured shoulder, and facial lacerations. The work at the construction site at Potomac Yard Metrorail Station was stopped, and the area where the injury occurred was cordoned off.

On March 3, 2022, PYC notified VOSH of the injury that occurred at Potomac Yard Metrorail Station. VOSH arrived at the construction site at approximately 10:00 hours, conducted an opening conference, inspected the incident location, and retrieved the Guardian Synthetic Vertical Lifeline System used during the injury for testing. On March 4, 2022, VOSH submitted a request for information and documentation (see Appendix G). Documentation presented to VOSH from PYC, Linel, LLC and SCIC was uploaded to ProCore for review.

On April 22, 2022, VOSH investigated the incident and determined that no citations would be issued to WMATA, PYC and Linel, LLC. SCIC was cited under inspection number 151319.015 for \$600.00. The Guardian Inspection Report determined that the vertical lifeline passed inspection, worked, and functioned properly and noted that the rope was worn out.

Before removing the work stoppage at Potomac Yard Metrorail Station construction site, on March 3, 2022, a Safety Stand Down was conducted for all workers to provide an update on the condition of Glazer #1 and to reinforce safety, communication, complacency, inspection of personal protective equipment and tools and additional training. The Safety Stand Down was also conducted for workers that speak English as a second language. On March 24, 2022, the Chief Safety Officer at WMATA distributed Safety Bulletin, #22-03B – Fall Protection and Prevention, to all employees and contractors. This Safety Bulletin discussed the increase in OSHA recordable injuries, when fall protection is required, implementing the proper fall protection, and ensuring fall protection is implemented correctly (see Appendix H). On April 26, 2022, the Deputy Chief at

WMATA implemented a work stoppage, and Safety Standdown mandated for all employees and contractors working at elevation. This Safety Standdown halted employees and contractors from resuming fall protection activities until they had received and signed, acknowledging the Fall Protection Standdown Briefing (see Appendix I). SCIC reported the implementation of an aggressive initiative to conduct daily safety briefings and weekly virtual safety briefings.

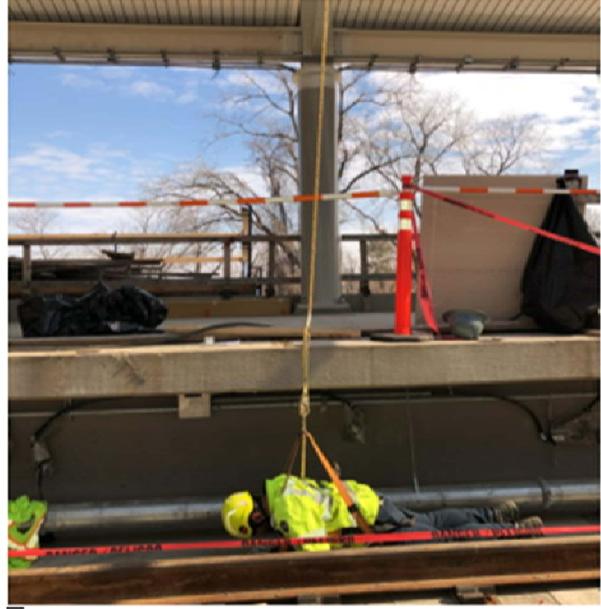
### Chronological Event Timeline

Recorded communications for construction activity were not available. A review of ARS playback, (i.e., phone, ambient, and radio communications) revealed the following timeline:

<b>Time</b>	<b>Description</b>
09:57:19 hours	Alexandria FD: Contacted the Fire Liaison to report that there was a worker at the Potomac Yard Station that fell off the roof and they were being transported shortly. [Phone]

*\*\*Note: Times above may vary from other system's timelines based on clock settings and reporting source.*

**Photo Images**



*Image 1 & 2 – Photo of the top of the canopy depicting the open bay and photo of the end state of the fall arrest system demonstrated by WMATA SAFE personnel.*



*Image 3 & 4 – View of the area where the fall occurred and view from the ground looking up to the area where the fall occurred*

## Interview and Statement Findings

*As part of the investigation launched into the Serious Injury at Potomac Yard Station event, SAFE conducted one interview via Microsoft Teams, including the Investigations Team and the WMSC. The interview was conducted 6 days after the event and identified the following key findings associated with this event. Findings detailed below include reported information from interviews and written statements and may conflict with other data sources contained in the report.*

### *Project Safety Manager*

The Safety Manager stated that their job duties require responding to needs as alerted to them. They conduct orientations, training, and fieldwork (walking, site observations). Most of the daily observations are completed verbally and are not always documented. The Safety Manager stated that the PYC Supervisors and all sub-contractors on-site and their supervisors report to the Superintendent Trailer for safety and planning meetings daily. During the meetings, they review Job Hazard Analysis (JHAs) and other tasks. The Safety Manager stated that they conduct a weekly toolbox talk safety meeting every Monday morning. The Safety Manager stated that they were not at the site when the incident occurred. They were in the weekly meeting with WMATA staff in their operations trailer. The Safety Manager stated that PYC is the general contractor, not the direct supervisor of the injured contractor. The Safety Manager indicated that they did not provide the work equipment for the injured contractor and did not inspect their equipment. The Safety Manager stated that they perform walking inspections and look at the work crews performing their duties throughout the site. The Safety Manager stated that they occasionally observe the contractors' tie points and check to make sure the contractors are following the proper use requirement.

### *Glazer #1*

According to the written statement of Glazer #1, they were working at the Potomac Yard Metro Station in Alexandria, VA. They were glazing, which involved a crane bringing glass from the ground level up to approximately 22 feet high onto the canopy rooftop.

They were on top of the roof when they adjusted for more lag to reach another glass that needed fixing, and then returned to their original position. After returning to wait for the next piece to be brought up they took a step back into an area that did not have glass. They fell from the canopy rooftop and do not remember anything else until waking up at the hospital.

### *Foreman/Supervisor*

According to the written statement of the Foreman/Supervisor, Glazer #1 & #2 were doing the glazing process on the lower face of the skylight section. There was a total of three, including themselves working on the process. They were supervising the area and communicating with the crane operator. They were tied off, according to the JHA. Glazer #1 & #2 had just finished glazing the second piece of glass. The glass panel had been released by Glazer #1 and the crane was booming down for the next piece of glass. Glazer #1 proceeded to adjust the glass with the suction cups and then went to the first piece of glass that was set to fix the setting blocks. After Glazer #2 completed that, they were waiting for the next piece of glass to come. Glazer #1 stood up by the edge of the first glass and the open bay. They saw Glazer #1 take one step backward, and they

yelled out to Glazer #1, then Glazer #1 fell. They thought that Glazer #1 would be hanging, but they had fallen to the ground.

#### *Glazer #2*

According to the written statement Glazer #2, they saw Glazer #1 reaching for a suction cup on another piece of glass panel. Glazer #1 reached for the suction cup, then Glazer #1 stepped into the open bay. They immediately got off the roof and went down to check on him.

#### *Electrician*

According to the written statement of the Electrician, while working on the west end of PYC2 they witnessed Glazer #1 fall off the roof on the north-east side of the platform. They heard Glazer #1 line rubbing and turned in time to see Glazer #1 hit the concrete. Glazer #1 appeared to be tied off, but their lifeline did not engage. They quickly started calling for help and had other crew members call 911. Members of the rail crew came to aid and kept Glazer #1 still until help arrived.

#### *Project Superintendent*

According to the written statement of the Project Superintendent, Glazer #1 & #2 were setting glass and had skipped two bays at the expansion joint, which were left open. Glazer #1 & #2 set the next two pieces of glass on the bottom row, then Glazer #1 stepped up on the first piece of glass past the expansion joint to wait for another piece of glass for the section to be flown by the crane. That's the area where Glazer #1 fell. When the crew called, they were on the ground locating glass for the expansion bay.

### **Weather**

On March 2, 2022, at the time of the incident, NOAA recorded the temperature as 51°F and partly sunny. Weather does not appear to be not a contributing factor in this event (Weather source: NOAA – Location: Alexandria, VA).

### **Human Factors**

#### Fatigue

The work history and incident data were evaluated, Glazer #1 performed work on the construction site for a total of three days leading to this event. The biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied.

### **Post-Incident Toxicology Testing**

The contractor was transported from the job site via ambulance for medical treatment. They subsequently obtained medical treatment from George Washington University Hospital Center. The contractor was not tested for drugs and alcohol upon admission to the hospital. The window for Drug and Alcohol testing lapsed before their discharge and would not be informative as the contractor was prescribed pain medication as part of treatment.

## **Investigative Findings**

- The injured contractor was wearing a hard hat, safety coat, personal fall arrest system, and safety vest at the event.
- The roof anchor was designed to withstand 5,000 pounds, which complies with supporting one employee.
- The two Glazers were tied off to the same anchor point on the fall protection system, which would require a 10,000-pound rating per anchor.
- The two lifelines were found to have several wraps around each other.
- Post-incident inspection revealed that the fall arrest grab was adjusted to where an uncontrolled fall would be arrested near the ground.

## **Immediate Mitigation to Prevent Recurrence**

- Work was halted. The remaining work crew cleared the work site.
- The work area was cordoned off to prevent entry into the incident area.
- The following day, a Safety Stand Down was conducted by PYC for all personnel to promote awareness of the event and to reinforce safety procedures.

## **Probable Cause Statement**

- The probable cause of the Serious Injury event at Potomac Yard Station on March 2, 2022, was the injured Glazer failed to re-adjust their personal fall arrest system when they returned to their initial location to wait for the crane to lift the next piece of glass panel. A contributing factor is the injured Glazer's lack of awareness to continually and properly adjust the fall arrest system to prevent contact with the ground. Additionally, the injured Glazer's complacency resulted in failure to recognize an opening (missing glass panel) behind their position before they stepped backward into an open bay.

## **SAFE Recommendations/Corrective Actions**

Corrective Action Code	Description	Responsible Party	Due Date
98766_SAFE CAPS_CAPD _001	Safety Stand Down to reinforce safety procedures and fall protection.	CAPD/PYC	Completed
98766_SAFE CAPS_CAPD _002	Daily On-Site Safety Meetings and Weekly Virtual Safety Meetings.	CAPD/SCIC	Ongoing
98766_SAFE CAPS_SAFE_ 001	WMATA SAFE to distribute Safety Bulletin 22-03B, Fall Protection.	SAFE	Completed
98766_SAFE CAPS_SAFE_ 002	Fall Protection Stand Down with Documented Attendance Log.	SAFE	Completed

## Appendices

### **Appendix A – Full Interview Summary**

#### *Project Safety Manager*

The Safety Manager stated that their job duties require responding to needs as they are alerted to them. They conduct orientations, training, and fieldwork (walking, site observations); most are completed verbally, not always documented. The Safety Manager stated that they have the PYC Supervisors and all sub-contractors on-site, and their supervisors report to the Superintendent Trailer for safety and planning meetings daily. During the meetings, they review the JHA and other tasks. The Safety Manager stated that they conduct a weekly toolbox talk safety meeting every Monday morning. The Safety Manager said that when the incident occurred, they were not at the incident site. They were in the weekly meeting with WMATA staff in their operations trailer. The Safety Manager stated that the PYC is the general contractor, not the direct supervisor for the injured contractor. The Safety Manager indicated that they did not provide the work equipment for the injured contractor, and did not inspect their equipment. The Safety Manager stated that they perform walking inspections and look at the work crews performing their duties throughout the site. The Safety Manager said that they occasionally observe the contractors' tie points and check to ensure they are following the proper use requirement.

The Safety Manager stated that when an injury occurs, Safety is notified immediately, and then they place protective barriers for people, equipment, materials, and the environment. They complete a preliminary incident report within 48 hours. The Safety Manager stated that they hadn't received any complaints about anyone not being tied off. The Safety Manager said that they are always conducting observations, and they have created an open environment to allow contractors to voice safety concerns. The Safety Manager stated that they normally have the same complaint regarding tool availability; other contractors having access to equipment and contractors taking other contractors' tools are the most common complaints. The Safety Manager stated that if the crew members have a complaint, they feel comfortable voicing their concerns openly.

## Appendix B – Sub-Contractor Agreements



To: Linel- A Division of Mestek, Inc.  
[Redacted]  
Mooresville, IN 46158

Phone: [Redacted]

Attn: [Redacted]

### SUBCONTRACT AGREEMENT

SC#: P1801.10.036

Agreement made this 27<sup>th</sup> day of August, 2020 by and between Potomac Yard Constructors a Joint Venture with its principal place of business located at 421 East Route 59, Nanuet, New York 10954 (hereinafter designated as "Contractor") and Linel- A Division of Mestek, Inc. with its principal place of business located at 101 Linel Drive, Mooresville, IN 46158 (hereinafter designated as "Subcontractor").

WHEREAS, the Contractor has heretofore entered a contract (hereinafter designated as the "Prime Contract" or "General Contract") dated September 23, 2018 with the Washington Metropolitan Area Transit Authority (WMATA) (hereinafter designated as the "Owner"), to furnish certain labor, materials, tools, supplies, equipment, services, plant, supervision, administration and incidentals in the performance of necessary work for the Potomac Yard Metrorail Station (hereinafter designated as the "Project"), located in the town of Alexandria, VA (hereinafter designated as the "site") in accordance with Washington Metropolitan Area Transit Authority (WMATA) Contract No. FQ16146 Potomac Yard Metrorail Station documents, including certain plans, specifications, terms, conditions and other referenced documents.

The Contractor and the Subcontractor, in consideration of mutual covenants, do hereby enter this Agreement, incorporating the following terms and conditions, together with the hereinafter defined Prime Contract documents and other incorporated and referenced documents (hereinafter collectively designated as the "Subcontract") and agree as follows:

The Subcontractor shall provide and furnish all labor, materials, tools, supplies, equipment, services, plant, supervision, administration and incidentals necessary for the proper and complete performance and acceptance of the work as per Attachment A, as an integral part of the Project to be performed by the Contractor.

PYC Initials [Redacted]

An Equal Opportunity Employer

Page 1 of 10

Sub Initials [Redacted]

Document 1 – Sub-Contractor Agreement between PYC and Linel, LLC, dated September 23, 2018 – Page 1 of 3

Incident Date: 03/02/2022 Time: 09:35 hours  
Final Report – Serious Injury  
E22138

Drafted By: SAFE 707 – 05/02/2022  
Reviewed By: SAFE 70 – 05/06/2022  
Approved By: SAFE 70 – 05/06/2022

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IN WITNESS WHEREOF, the parties hereto have caused this Subcontract to be duly executed as of the day and year first above written.

Potomac Yard Constructors a Joint Venture

By: [Redacted]

Dated: 9/4/2020

(Corporate Seal)

Linel- A Division of Mestek, Inc.

By: [Redacted]

Dated: 8/28/2020

(Corporate Seal)

FYC Initials [Redacted]

An Equal Opportunity Employer

Sub Initial [Redacted]

**ATTACHMENT A**  
**LINEL- A Division of Mestek, Inc.**

SC#: P1801.10.030

The Subcontractor shall, in a good and workmanlike manner and in strict accordance with the Contract Documents, perform all of the Work as hereinafter designated and provide all other things required to duly construct and complete the Work and provide a "Complete Installation" of the following Items as further described herein.

In consideration of the Subcontractor's complete performance of this Contract, and in accordance with all other relevant provisions in this Agreement, the Contractor shall pay the Subcontractor as follows:

ITEM NO.	PHASE CODE	ITEM DESCRIPTION	QTY.	UOM	UNIT PRICE	LINE TOTALS
1.		Furnish and Install METAL-FRAMED SKYLIGHT SYSTEMS as further described herein:	1	LS		
<b>TOTAL CONTRACT AMOUNT:</b>						

Special Provisions:

1. Subcontractor's Work and Obligations shall be performed in strict accordance with the Prime Contract Documents for Washington Metropolitan Area Transit Authority (WMATA) Contract No. FQ16146 — Potomac Yard Metrorail Station, located in Alexandria, VA, including all 15 Addenda issued thereto. All Standard Specifications, as well as any General, Special, Miscellaneous and Supplementary Conditions of the referenced Contract apply hereto for the Work of this Subcontract and are hereby incorporated by Reference to this Agreement.
2. The Subcontractor's Work under this Agreement shall include but not necessarily be limited to all METAL-FRAMED SKYLIGHT SYSTEMS WORK, along with all labor, supervision, material, insurance, permits and necessary equipment in accordance with the Project Requirements, State, Federal Guidelines, Drawings, and Specifications applicable to this Work.
  - a. All work will be performed in strict accordance with all RFP Documents (conformed through Addendum No. 15 dated May 14, 2018) as modified and further developed in all related Contract Drawings, as depicted in Package 02a – Station Building Substructure – Issue for Construction Drawings (Record Set) dated February 04, 2020 and Package 02b – Station Building – Issue for Construction Drawing (Record Set) dated February 21, 2020 along with all RFP Project Specifications (conformed through Addendum No. 15 dated May 14, 2018), Project Specifications (redline version) dated September 25, 2019, and RFI P-A-150 dated March 31, 2020.
  - b. The Specifications describing and governing the Work include but are not necessarily limited to the following:

DIVISION 1 – GENERAL REQUIREMENTS (In Its Entirety)

PYC Initials 

An Equal Opportunity Employer

Sub Initials 

Project Name: WMATA Potomac Yard Metro Station  
Project Address: 1645 Potomac Greens Drive

Owner Name: Washington Metropolitan Area Transit Authority  
Owner Address: 600 5th Street NW, Washington, DC 20001

Customer Name: Potomac Yard Constructors  
Customer Address: 421 East Route 59, Nanuet, NY 10954

Architect Name: [REDACTED]  
Architect Address: 180 Varick Street, New York, NY 10014

#### SUBCONTRACT AGREEMENT

This **SUBCONTRACT AGREEMENT** ("Subcontract" and/or "Agreement"), made this 3 day of November, 2021, by and between Linel, LLC (hereinafter called the "Linel"), and Sam Cortez, Inc. (hereinafter called the "Installer"),

#### WITNESSETH THAT:

Linel and the Installer in consideration of the mutual agreements herein contained, agree as follows:

1. **The Work.** The Installer shall perform the work (the "Work") described as follows:

The Work shall include, but is not limited to, all supervision, labor, permits, licenses, inspections, miscellaneous materials, equipment, tools, expertise, services, insurance, sales tax, scaffolding, lifts, supplies, fees and miscellaneous items necessary to complete the

Work in compliance with Construction Documents, and shall include but is not limited to the Work as described in Exhibit B (Scope of Work).

As used in this agreement, Plans shall mean the following designated plans or drawings: (See Exhibit "A")

As used in this agreement, Specifications shall mean the specifications identified as follows: (See Exhibit "A")

As used in this agreement, Contract Documents shall mean this Subcontract, Contract between Linel and its Customer, Exhibit A - Plans, Specifications; Exhibit B - Scope of Work; Exhibit C - Daily Field Reports; Exhibit D - Project Completion Report; Exhibit E - Sample Insurance Certificate; Exhibit F - Lien Waiver; Exhibit G - Close Out Documents; Exhibit H - Installer/Installer Payment Application; Exhibit I - Construction Schedule and by signing this Subcontract, the Installer acknowledges that it has received a copy of all Exhibits.

As used herein the word Owner shall mean: the Owner, all of the Owner's agents and representatives including as appropriate the Architect, Construction Manager, General Contractor, Customer and any other person or entity to the extent the Contract Documents which are hereby incorporated by reference expressly give functions to such person or entity.

#### GENERAL SCOPE of WORK

1.1 Installer shall properly and completely perform the Work and shall provide all supervision, labor, materials, services, tools and any equipment necessary for the full completion of the Work.

1.1.1 Unless otherwise approved in writing by Linel, Installer agrees to supply continuous on-site competent supervision, and when required, licensed individuals, who are approved by Linel. The Installer shall not terminate or remove the approved supervisor or superintendent from the site without the written consent of Linel. When the acting supervisor or superintendent is called away from the site, a substitute on-site supervisor or superintendent will be provided by the Installer as approved by Linel. The on-site supervisor or superintendent must have a continuous means of communication with Linel and Owner as may be required.

1 of 20

Initials  
Initials

Document 4 - Sub-Contractor Agreement between Linel, LLC and SCIC, dated November 3, 2021 – Page 1 of 4

Incident Date: 03/02/2022 Time: 09:35 hours  
Final Report – Serious Injury  
E22138

Drafted By: SAFE 707 – 05/02/2022  
Reviewed By: SAFE 70 – 05/06/2022  
Approved By: SAFE 70 – 05/06/2022

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- 23.4 To the extent that materials are delivered to the job site or project for use in Installers Work, regardless of whether the Installer has delivered or caused such material to be delivered, the Installer shall be obligated to protect such materials from theft or damage by the elements. Further, during the progress of its Work the Installer shall protect its portion of the Work from the elements (rain, snow, sleet, wind, etc.) to the extent that the elements may damage such materials or if that the lack of protection may damage other portions of the Work.
- 23.5 **DISPUTES.** If a dispute should arise between Linel and Installer under or relating to this Subcontract, or the breach thereof, then Linel, in its sole discretion, may elect to submit such dispute to arbitration, in which event the dispute(s) shall be determined by arbitration, pursuant to the American Arbitration Association under its Construction Industry Arbitration Rules. The location of the hearing shall be Indianapolis, IN.
- 23.6 **Officer to Sign Lien Waivers.** All lien waivers required by this subcontract and this subcontract agreement shall be signed by the President of the Installer or in the case of a limited liability company, a member of the LLC who represents that he is a member of the LLC authorized to sign on behalf of the LLC.
- 23.7 Day or Days is defined as business day or days unless specified otherwise.
- 23.8 Notice periods are the lesser of what is stated in this Agreement or requirements of the Contract Documents.

IN WITNESS WHEREOF, the parties hereto have executed this Subcontract Agreement the day and the year first written above.

INSTALLER  
San Cortez, Inc.

BY: \_\_\_\_\_

NAME: \_\_\_\_\_

TITLE: owner

DATE: NOV 19, 2021

LINEL

Linel, LLC (b)(3)(C) [REDACTED]

BY: \_\_\_\_\_

NAME: \_\_\_\_\_

TITLE: President

DATE: 11/19/21

11 of 20

Initials  
Initials [REDACTED]

Document 5 - Sub-Contractor Agreement between Linel, LLC and SCIC, dated November 3, 2021 – Page 2 of 4

Incident Date: 03/02/2022 Time: 09:35 hours  
Final Report – Serious Injury  
E22138

Drafted By: SAFE 707 – 05/02/2022  
Reviewed By: SAFE 70 – 05/06/2022  
Approved By: SAFE 70 – 05/06/2022

Page 18

**Exhibit B**  
**To Subcontract Agreement**

**Scope of Work**

**Project: WMATA Potomac Yard Metro Station**

1. Man Project as need to meet complete the WORK as schedule requires
2. Unload all material
3. Hoisting of material as required
4. Installation of all materials per Linel's shop drawings are covered under this Subcontract
5. Clean all Materials prior to installation
6. Trash Removal from work area to an approved location or dumpster
7. Supervision, labor, permits, licenses, inspections, miscellaneous materials, equipment, tools, expertise, services, insurance, sales tax, scaffolding, lifts, supplies, fees and miscellaneous items necessary to complete the entire Scope of Work.
8. Check all cartons, bundles, skids, and crates against the packing list as soon as it is received notifying Linel. In writing of any discrepancies or damage (photographs must be submitted of damaged items within 24 hours)
9. Clean-up the job site daily
10. Email the project manager a progress report daily
11. All material must be cleaned and touched up and splices are to be sealed with silicone before glazing is set
12. All labels and adhesives are to be removed and glass cleaned prior to glazing
13. All sealant must be cleaned from glass and snap pieces after silicone is applied
14. All sealant must be cleaned from glass and snap pieces after silicone is applied
15. Final job site clean up includes the installed unit(s) and surrounding roof. Make sure the customer signs off that there are no holes or damage to the roof.
16. Remove all protective coatings from materials after installation
17. All aluminum panels/coatings to be installed level and plumed and/or per Linel's drawings
18. If glass is broken in the crates, it is important that you note damage on the bill of lading. If the damage is concealed, photograph the broken glass in the crate as you are unpacking the glass and forward to Linel.
19. Collect and retain receivers and packing/shipping documents for items such as Glass or Overnight items and miscellaneous materials sent to the project directly.
20. Parties listed below to be added as additional insureds for all applicable coverages required by this Subcontract Agreement.  
  
\_\_\_\_\_  
  
\_\_\_\_\_
21. Take project photos prior to commencement of Work, during Work, at completion of Work, before starting punch list corrections and after completion of punch list corrections.
22. Create as built drawings documenting approved changes to plans and specification.
23. Prior to commencement of Work, inspect the work of others, that may affect the Work, or as required. Notify Contractor of any defective work prior to commencing Work.
24. On site supervisor must have completed the 10 Hours hour OSHA training. Certificate to be submitted to Linel before the commencement of the Work.

**Job Specific Requirements**

Warranty period, if more than two years	2 Years
AAMA 501.2 test, mark if required	N/A
Job Specific Safety Analysis, mark if required	N/A
CCIP	N/A
Other:	PPE and all required safety equipment and onsite safety orientation

Exhibit F  
To Subcontract Agreement

PARTIAL WAIVER OF LIEN

STATE OF Indiana  
COUNTY OF Morgan

WHEREAS the undersigned has been employed by Linel, LLC to install skylights for the premises known as WMATA Potomac Yard Metro Station,

THE undersigned for and in consideration of \_\_\_\_\_ good and valuable considerations, the receipt whereof is hereby acknowledged, do(es) hereby waive and release any and all lien or claim of, or right to, lien, under the statutes of the state of Indiana, relating to mechanics' liens with respect to and on said above-described premises, and the improvements thereon, and on the material, fixtures, apparatus or machinery furnished, and on the moneys, funds or other considerations due or to become due from the owner, on account of labor services, material, fixtures, apparatus or machinery heretofore furnished, or which may be furnished at any time hereafter, by the undersigned for the above-described premises.

Given under my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_.

Installer: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Initial  
Initial





## Guardian Bucket of Safe-Tie

GF-00815



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### Guardian Fall Protection Bucket of Safe-Tie

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The Guardian Fall Protection 00815 Bucket of Safe-Tie is a roofing kit built for the roofer, by the roofer. It is one of the few kits available on the market that includes a 50' lifeline with an integrated shock absorber, which allows the worker to never have to worry

*Figure 1 – Guardian Fall Protection – Safe-Tie, Page 1 of 2*

about incorporating an additional shock absorbing lanyard into their fall protection system. Removing the shock absorbing component from the worker's back also results in less weight placed on the dorsal D-ring, resulting in an increase in comfort level and ease of movement.

**Features:**

- Incorporates an integrated shock absorber into the 50' lifeline
- User will never have to worry about adding a shock absorbing lanyard to his fall protection system
- By removing the shock pack from the workers back, less dead weight is transferred to the dorsal D-ring
- Comes in a variety of configurations
- Compliant with all OSHA 1910, OSHA 1926 Subpart M, ANSI Z359.1-07, and ANSI A10.32-2012 regulations

**Kit Includes:**

- 50' Lifeline (01320) with Integrated Manual Rope Grab
- Velocity Harness (01700)
- Temper Anchor (00455)

*Figure 2 - Guardian Fall Protection – Safe-Tie, Page 2 of 2*

# Appendix D – Guardian Fall Protection – Lifeline Assembly



## Product Name: Vertical Lifeline Assembly (VLA)

Part #: 01310; 01320; 01323; 01324; 01325; 01326; 01327; 11318; 11320; 01330; 01340; 01346; 01350; 01360; 01365; 01345; 11329; 11330; 11331; 11332; 11333; 11334; 11335; 11321; 11322; 11323; 11324; 11325; 11326; 11327; 11328

### Instruction Manual

**Do not throw away these instructions!**  
**Read and understand these instructions before using equipment!**

Introduction .....	1
Applicable Safety Standards .....	1
Worker Classifications .....	1
Product Specific Applications .....	2
Limitations .....	2 - 3
Components and Specifications .....	3 - 4
Installation and Use .....	4
Maintenance, Cleaning, and Storage .....	5
Inspection .....	5
Inspection Log .....	5
Safety Information .....	6
Labels .....	7

Figure 3 - Guardian Fall Protection – Lifeline Assembly, Page 1 of 4



## Introduction

Thank you for purchasing a Guardian Fall Protection VLA. This manual must be read and understood in its entirety, and used as part of an employee training program as required by OSHA or any applicable state agency.

This and any other included instructions must be made available to the user of the equipment. The user must understand how to safely and effectively use the VLA, and all fall safety equipment used in combination with the VLA.

User Information	
Date of First Use:	_____
Serial #:	_____
Trainer:	_____
User:	_____

## Applicable Safety Standards

When used according to instruction specifications, this product meets or exceeds all applicable OSHA 1926 Subpart M, OSHA 1910, ANSI Z359.1-2007, and ANSI A10.32-2012 standards for fall protection. Applicable standards and regulations depend on the type of work being done, and also might include state regulations if applicable. Consult regulatory agencies for more information on personal fall arrest systems and associated components.

## Worker Classifications

**CAUTION** Understand the following definitions of those who work near or who may be exposed to fall hazards.

**Qualified Person:** A person with an accredited degree or certification, and with extensive experience or sufficient professional standing, who is considered proficient in planning and reviewing the conformity of fall protection and rescue systems.

**Competent Person:** A highly trained and experienced person who is ASSIGNED BY THE EMPLOYER to be responsible for all elements of a fall safety program, including, but not limited to, its regulation, management, and application. A person who is proficient in identifying existing and predictable fall hazards, and who has the authority to stop work in order to eliminate hazards.

**Authorized Person:** A person who is assigned by their employer to work around or be subject to potential or existing fall hazards.

**It is the responsibility of a Qualified or Competent person to supervise the job site and ensure all applicable safety regulations are complied with.**

Guardian Fall Protection 6305 S. 231st St., Kent, WA 98032 USA phone: (800) 466-6385 fax: (800) 670-7892 www.guardianfall.com



**Product Specific Applications**

**WARNING** Use of equipment in unintended applications may result in serious injury or death. Maximum 1 attachment per connection point.

- Personal Fall Arrest:** VIAs may be used in Personal Fall Arrest applications to support a MAXIMUM 1 Personal Fall Arrest System (PFAS). Structure must withstand loads applied in the directions permitted by the system of at least 5,000 lbs. Maximum free fall is 6'. MAXIMUM combined length of fall arrester, lanyard extension, and D-ring is 36". Applicable D-ring: Dorsal.
- Use in Fall Arrest requires a shock absorbing element in PFAS. In the absence of a shock absorber integrated into rope, it must be present in the Fall Arrester used in combination with rope (positioning device or rope grab used with shock absorbing extension lanyard).
- Restraint:** VIAs may be used in Restraint applications. Restraint systems prevent workers from reaching the leading edge of a fall hazard. Always account for fully deployed length of lanyard/VIA. Structure must withstand loads applied in the directions permitted by the system of at least 1,000 lbs. No vertical free fall is permitted. Restraint systems may only be used on surfaces with slopes up to 4/12 (vertical/horizontal). Applicable D-rings: Dorsal, Chest, Side, Shoulder.

For all applications: worker weight capacity range (including all clothing, tools, and equipment) is 130-310 lbs.

**Limitations**

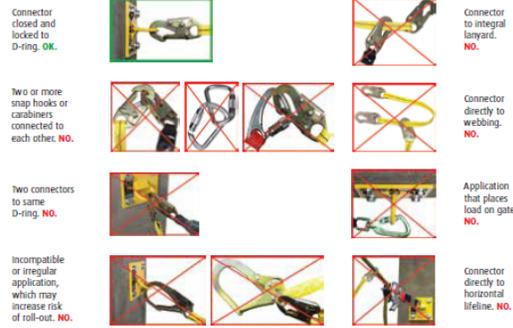
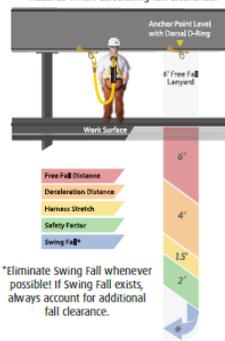
**Fall Clearance:** There must be sufficient clearance below the anchorage connector to arrest a fall before the user strikes the ground or an obstruction. When calculating fall clearance, account for a MINIMUM 2' safety factor, deceleration distance, user height, length of lanyard/SRT, harness stretch, and all other applicable factors.

**Diagram shown is an example fall clearance calculation ONLY.**

**Swing Falls:** Prior to installation or use, make considerations for eliminating or minimizing all swing fall hazards. Swing falls occur when the anchor is not directly above the location where a fall occurs. Always work as close to in line with the anchor point as possible. Swing falls significantly increase the likelihood of serious injury or death in the event of a fall.

**Compatibility:** When making connections with VIA, eliminate all possibility of roll-out. Roll-out occurs when interference between a hook and the attachment point causes the hook gate to unintentionally open and release. All connections must be selected and deemed compatible with VIA by a Competent Person. All connector gates must be self-closing and self-locking, and withstand minimum loads of 3,600 lbs. See the following for examples of compatible/incompatible connections:

Fall clearance calculation shown based on standing worker falling directly in-line with anchor point. Always consider potential swing fall and other hazards when calculating fall clearance.



**Components and Specifications**

Materials: steel, polyester or nylon, and steel polyolefin.

Lifeline diameter: 5/8".

Average arrest force: 900 lbs.  
Maximum arrest force: 1,800 lbs.  
Maximum deployment: 48".



Part #	Length	Description
01310	25'	Vertical Lifeline Assembly w/ Shock Absorber, Positioning Device, @ 10" Lanyard Extension
01320	50'	Vertical Lifeline Assembly w/ Shock Absorber, Positioning Device, @ 10" Lanyard Extension
01323	75'	Vertical Lifeline Assembly w/ Shock Absorber, Positioning Device, @ 10" Lanyard Extension
01324	100'	Vertical Lifeline Assembly w/ Shock Absorber, Positioning Device, @ 10" Lanyard Extension
01325	130'	Vertical Lifeline Assembly w/ Shock Absorber, Positioning Device, @ 10" Lanyard Extension
01326	150'	Vertical Lifeline Assembly w/ Shock Absorber, Positioning Device, @ 10" Lanyard Extension
01327	200'	Vertical Lifeline Assembly w/ Shock Absorber, Positioning Device, @ 10" Lanyard Extension
11318	30'	No Tangle VIA w/ Swivel Snap Hook, Shock Absorber, Positioning Device, @ 10" Lanyard Extension
11320	50'	No Tangle VIA w/ Swivel Snap Hook, Shock Absorber, Positioning Device, @ 10" Lanyard Extension
11329	25'	Polyolefin Rope w/ Snap Hook End
11330	30'	Polyolefin Rope w/ Snap Hook End
11331	50'	Polyolefin Rope w/ Snap Hook End
11332	75'	Polyolefin Rope w/ Snap Hook End
11333	100'	Polyolefin Rope w/ Snap Hook End
11334	150'	Polyolefin Rope w/ Snap Hook End

Figure 4 - Guardian Fall Protection – Lifeline Assembly, Page 2 of 4



Part #	Length	Description
11325	200'	Polystyrene Rope w/Snap Hook End
11321	25'	VIA w/1 Strand Polyester Rope, Shock Pack, Positioning Device, 8" 10" Lanyard Extension
11322	30'	VIA w/1 Strand Polyester Rope, Shock Pack, Positioning Device, 8" 10" Lanyard Extension
11323	50'	VIA w/1 Strand Polyester Rope, Shock Pack, Positioning Device, 8" 10" Lanyard Extension
11324	75'	VIA w/1 Strand Polyester Rope, Shock Pack, Positioning Device, 8" 10" Lanyard Extension
11325	100'	VIA w/1 Strand Polyester Rope, Shock Pack, Positioning Device, 8" 10" Lanyard Extension
11326	130'	VIA w/1 Strand Polyester Rope, Shock Pack, Positioning Device, 8" 10" Lanyard Extension
11327	150'	VIA w/1 Strand Polyester Rope, Shock Pack, Positioning Device, 8" 10" Lanyard Extension
11328	200'	VIA w/1 Strand Polyester Rope, Shock Pack, Positioning Device, 8" 10" Lanyard Extension
01330	25'	Standard 5/8" Rope w/Snap Hook End
01340	50'	Standard 5/8" Rope w/Snap Hook End
01350	75'	Standard 5/8" Rope w/Snap Hook End
01360	100'	Standard 5/8" Rope w/Snap Hook End
01365	150'	Standard 5/8" Rope w/Snap Hook End
01345	200'	Standard 5/8" Rope w/Snap Hook End
01346	300'	Standard 5/8" Rope w/Snap Hook End

### Installation and Use

**WARNING** One connection per VLA. NEVER attempt to remove components from VLA.

1. Ensure either that there is always adequate fall clearance for VLA to arrest fall (Fall Arrest), or that VLA will not allow the user to reach the leading edge of any fall hazard (Fall Restraint). Eliminate or minimize all risk of swing fall.

\* NEVER tie knots in lifeline, and always ensure end of lifeline is terminated to eliminate risk of detachment of Fall Arrestor.

2. Attach VIA snap hook to compatible anchorage connector. If VLA has integral shock pack, shock pack end must connect to anchor.

\* NEVER install VLA in a tie-back method (do not wrap VLA around anchor point and connect snap hook back to rope).

3. Attach Fall Arrestor/Extension Lanyard to applicable harness D-ring.

\* If working in Fall Arrest, and if VLA rope does not include integral shock absorber, Fall Arrestor/Extension Lanyard must include shock absorber.

4. To move along lifeline, compress and hold Fall Arrestor handle. ALWAYS adjust Fall Arrestor to reduce slack in the system as much as possible. When attached to Fall Arrestor and moving along work surface, ALWAYS do so by moving Fall Arrestor along rope, and NEVER by moving only the rope itself. For example, if moving from a roof edge to the roof peak, engage handle of Fall Arrestor and move it up the VLA while walking to peak. DO NOT move up to roof peak by moving VLA and keeping Fall Arrestor stationary; doing so can create free fall in excess of levels permitted by system.

5. To restrict Fall Arrestor movement along lifeline, release Fall Arrestor handle. NEVER grab the Fall Arrestor in the event of a fall; doing so may cause the unit to accidentally disengage and slip along the rope.



### Maintenance, Cleaning, and Storage

If VLA fails inspection in any way, immediately remove it from service, and contact Guardian to inquire about its return or repair.

Cleaning after use is important for maintaining the safety and longevity of VIAs. Remove all dirt, corrosives, and contaminants from VIAs before and after each use. If a VLA cannot be cleaned with plain water, use mild soap and water, then rinse and wipe dry. NEVER clean VIAs with corrosive substances.

When not in use, store equipment where it will not be affected by heat, light, excessive moisture, chemicals, or other degrading elements.

### Inspection

Prior to EACH use, inspect VLA for deficiencies, including, but not limited to, corrosion, deformation, pits, burrs, rough surfaces, sharp edges, cracking, rust, paint buildup, excessive heating, alteration, broken stitching, fraying, bird-caging, and missing or illegible labels. IMMEDIATELY remove VLA from service if defects or damage are found, or if exposed to forces of fall arrest.

Ensure that applicable work area is free of all damage, including, but not limited to, debris, rot, rust, decay, cracking, and hazardous materials. Ensure that selected work area will support the application-specific minimum loads set forth in this instruction manual. Work area MUST be stable.

At least every 12 months, a Competent Person other than the user must inspect VIAs. Competent Person inspections MUST be recorded in inspection log in instruction manual and on equipment inspection grid label. The Competent Person must sign their initials in the box corresponding to the month and year the inspection took place.

During inspection, consider all applications and hazards VIAs have been subjected to.

### Inspection Log

Date of First Use: \_\_\_\_\_

Product lifetime is indefinite as long as it passes pre-use and Competent Person inspections. User must inspect prior to EACH use. Competent Person other than user must complete formal inspection at least every 12 months. Competent Person to inspect and initial.

This inspection log must be specific to one VLA. Separate inspection logs must be used for each VLA. All inspection records must be made visible and available to all users at all times.

	J	F	M	A	M	J	J	A	S	O	N	D
YR												
YR												
YR												
YR												

If equipment fails inspection IMMEDIATELY REMOVE FROM SERVICE.

Figure 5 - Guardian Fall Protection – Lifeline Assembly, Page 3 of 4



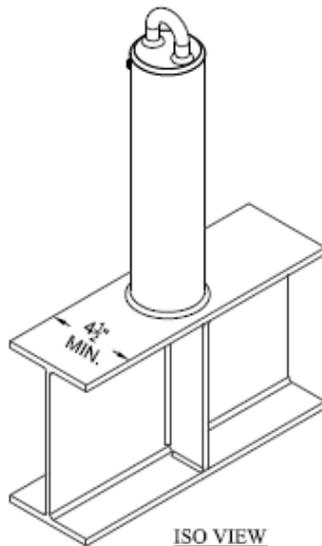
## Appendix E - Welded Roof Anchor

### Design Guidelines:

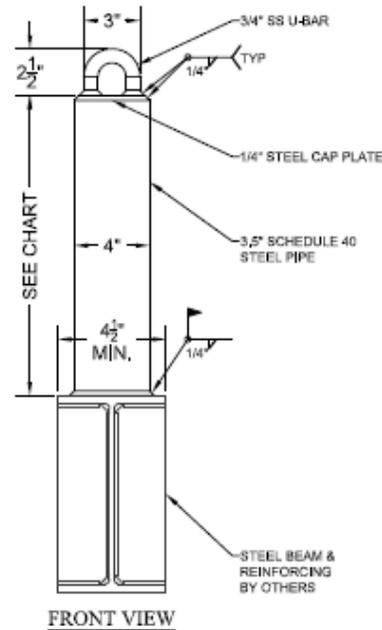
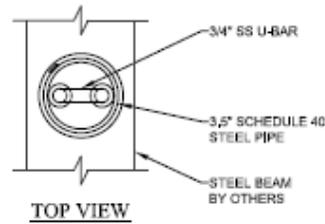
1. All fall arrest anchors are designed in accordance with Federal OSHA standards and the ANSI-IWCA I-14.1 Window Cleaning Safety Standard.
2. All fall arrest anchors are designed for a rated working load of 1,250 lbs., an Allowable Strength Design elastic service load of 3,125 lbs. per IBC 1607.9.4 and a Load and Resistance Factor Design ultimate factored load of 5,000 lbs.
3. All fall arrest anchors have been evaluated by industry typical structural evaluation and/or testing methods. Anchors shall not be tested above 3,125 lbs.
4. The additional live loads imposed by the fall arrest anchors on the structure to which they are attached shall be verified by the structural engineer of record for the project. Structure minimums if listed herein are for anchor attachment only.
5. All welding shall be done in accordance with the AWS structural welding code.

### Material Specifications:

Steel W-Shapes:	ASTM A992 (F <sub>y</sub> =50 ksi)
Steel Pipe:	ASTM A500B (F <sub>y</sub> =42 ksi)
Steel Tube:	ASTM A500B (F <sub>y</sub> =46 ksi)
Steel Angle:	ASTM A36 (F <sub>y</sub> =36 ksi)
Steel Channel:	ASTM A36 (F <sub>y</sub> =36 ksi)
Steel Plate:	ASTM A572 (F <sub>y</sub> =50 ksi)
Stainless Steel:	Type 304 (F <sub>y</sub> =30 ksi)
Stainless U-Bar:	Type 304 (F <sub>y</sub> =70 ksi)
Stainless Fasteners:	Type 18-8 (F <sub>y</sub> =30 ksi)
Weld Filler Metal:	E70XX (F <sub>EXX</sub> =70 ksi)



*Warning: All fall arrest anchors shall be used as part of a complete fall protection system designed in accordance with all OSHA, ANSI and other equivalent safety standards. Only qualified persons experienced in the installation methods shall install fall arrest equipment. All users shall be properly trained to use the equipment safely and properly inspect fall protection system prior to each use. Incorrect use and/or installation of the fall protection equipment may result in property damage, personal injury or death. All equipment shall be annually inspected by a qualified person and re-certified at periods not to exceed 10 years under the direct supervision of a licensed professional engineer.*



All anchors shall be hot dipped galvanized to ASTM A123 unless otherwise noted. Stainless Steel and other weather protective coatings are available. Please contact a representative for availability.

Welded Roof Anchor Class		
	Height	Working Load
WDRA.0040.12	12"	1250 lbs
WDRA.0040.14	14"	1250 lbs
WDRA.0040.16	16"	1250 lbs
WDRA.0040.18	18"	1250 lbs
WDRA.0040.20	20"	1250 lbs
WDRA.0040.22	22"	1250 lbs

<b>WELDED ROOF ANCHOR CLASS</b>  WDRA.0040 Class	01/02/2011 Original Anchor Specifications Issue 03/02/2014 Revised Working Load Tables & Notes 02/04/2015 Revised Working Load Tables & Notes 03/02/2018 Revised Working Load Tables & Notes 01/28/2022 Revised Working Load Tables & Notes	AN.01	
	<small>PLEASE ADVISOR USE THE QUALITY OF PROFESSIONAL FALL PROTECTION EQUIPMENT SHALL NOT BE USED, COPIED, OR REPRODUCED WITHOUT THE WRITTEN PERMISSION OF AMERICAN ANCHOR, INC. PHOTO COURTESY OF: AMERICAN ANCHOR, INC. 305 CONSTITUTION DR., SUITE 1, TAUNTON, MA 02780 800-371-4822</small>	AMERICAN ANCHOR WWW.AMERICAN-ANCHOR.COM 305 CONSTITUTION DR., SUITE 1, TAUNTON, MA 02780 800-371-4822	

Incident Date: 03/02/2022 Time: 09:35 hours  
 Final Report – Serious Injury  
 E22138

Drafted By: SAFE 707 – 05/02/2022  
 Reviewed By: SAFE 70 – 05/06/2022  
 Approved By: SAFE 70 – 05/06/2022

# Appendix F – Guardian Fall Protection – Inspection Report

Powered by 



## Inspection Report

6 Apr 2022 [REDACTED]

	Flagged Items	0	Actions	0
Conducted on				6 Apr 2022 10:51 CDT
Prepared by				[REDACTED]
Location				9201 Winkler Dr Houston TX 77017 United States (29.67102117354649, - 95.25167351901526)

Product passed inspection

Private & Confidential

1/4

Document 8 - Guardian Fall Protection – Inspection Report, Page 1 of 4

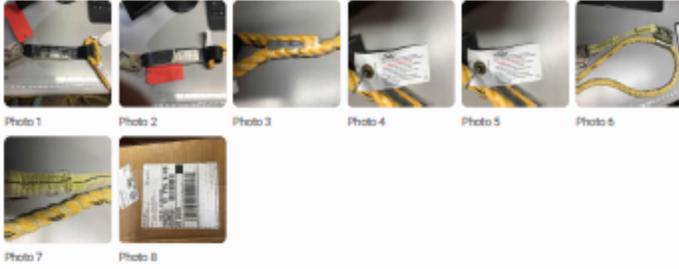
Incident Date: 03/02/2022 Time: 09:35 hours  
Final Report – Serious Injury  
E22138

Drafted By: SAFE 707 – 05/02/2022  
Reviewed By: SAFE 70 – 05/06/2022  
Approved By: SAFE 70 – 05/06/2022

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Picture evidence

Take several pictures of the part / location. Make sure are visible on the picture the details that you want to make evident.



Description

VLL works properly, is functional  
rope worn out

Appendix



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6

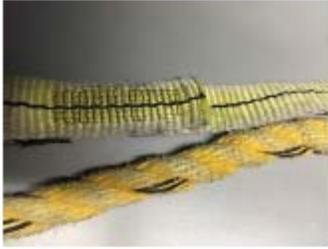


Photo 7



Photo 8

## Appendix G – Occupational Safety and Health Administration – Inspection Details

From: [REDACTED]  
To: [REDACTED]  
Subject: <External>VOSH Inspection - Potomac Yard Metro Station  
Date: Friday, March 04, 2022 8:49:51 AM  
Attachments: [Closing Conf Guide 2022.pdf](#)

**CAUTION:**This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and have verified the authenticity of the message.

Gentlemen,

Thank you for meeting with myself and Mr. [REDACTED] yesterday in regards to the inspection of the Potomac Yard Metro Station project. As discussed, I am requesting the following information and documents from each respective company, sent over by Tuesday March 08, 2022:

- Safety & Health Program
- Emergency Action Plan
- OSHA 300 Logs for past 3 years or the duration of the project if they are maintained site-specific - these are needed today 03/04/2022
- Fall Protection Training records for Sam Cortez Inc. employees
- The PYC disciplinary record for fall protection
- The contracts between all companies involved in the inspection
- Project timeline (best that can be provided, I understand WMATA and PYC cannot provide a target completion date at this time)
- Employee contact information for the Sam Cortez Inc. crew that was working yesterday, any witnesses, the crane operator who was moving the glass, any employees who provided first aid treatment on site. With this please note if language translation would be needed, and if they work for a company not involved what company that is.
- Product information for the glass that was being installed along with information on the glazing workflow process
- Orientation records between the GC and subcontractors
- Any in house investigation documents and pictures taken on 03-02-2022 or 03-03-2022 of the accident site and the work are
- Any engineering documents or other relevant documentation for the anchor points installed by Crystal Metals

I'm adding a few additional items at this point as well

- Documentation for when the local Fire Department most recently came out to the site to work the GC for emergency response
- Information on the fall protection equipment used - when was it purchased, placed in service, are all parts the original or have any been replaced, and the product user manuals
- Federal Employer ID numbers if not already provided
- DPOR numbers for the companies (Virginia contractor license)

For your reference, the following inspection numbers have been assigned to each company:

- Washington Metropolitan Area Transit Authority - VOSH Inspection [REDACTED]

*Document 12 – VOSH Request for Information and Documentation, Page 1 of 2*

Incident Date: 03/02/2022 Time: 09:35 hours  
Final Report – Serious Injury  
E22138

Drafted By: SAFE 707 – 05/02/2022  
Reviewed By: SAFE 70 – 05/06/2022  
Approved By: SAFE 70 – 05/06/2022

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- Potomac Yard Contractors, Inc. - VOSH Inspection [REDACTED]
- Linel LLC, A Mastek Company - VOSH Inspection [REDACTED]
- Sam Cortez Inc. - VOSH Inspection [REDACTED]

Additionally, please see the attached closing conference guide. The guide actually underwent revision yesterday while we were on site, please note the changes within the Consultative Assistance section - new contact information has been added, and our agency's new Commissioner is listed on the front page.

Again, thank you for your cooperation on this inspection and I appreciate everyone's time. I wish the best to Mr [REDACTED] for a speedy and healthy recovery. Please feel free to reach out for any questions or concerns.

Thank you kindly,  
[REDACTED]

---  
Respectfully,  
[REDACTED]

Safety Compliance Officer  
Virginia Department of Labor and Industry  
Northern Virginia Regional Office  
9400 Innovation Drive, Suite 120, Manassas VA 20110



P: [REDACTED] F: [REDACTED]

*Document 13 - VOSH Request for Information and Documentation, Page 1 of 2*

OSHA ▾	STANDARDS ▾	ENFORCEMENT	TOPICS ▾	HELP AND RESOURCES ▾	NEWS ▾
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## Inspection Detail

**Case Status: CLOSED**

**Inspection: 1581311.015 - Washington Metropolitan Area Transit Authority**

Inspection Information - Office: Virginia Safety 4				
Nr: 1581311.015	Report ID: 0355114	Open Date: 03/03/2022		
Washington Metropolitan Area Transit Authority				
2500 Potomac Greens Drive				
Alexandria, VA 22314				
SIC:				
NAICS: 237990/Other Heavy and Civil Engineering Construction				
Mailing: 600 Fifth Street, Nw, Washington, Washington, DC 20001				
Inspection Type:	Prog Related			
Scope:	Partial	Advanced Notice:	N	
Ownership:	LocalGovt			
Safety/Health:	Safety	Close Conference:	03/03/2022	
Emphasis:	P:Fri, S:Fall, S:Fri	Close Case:	03/03/2022	
Related Activity:	Type	ID	Safety	Health
	Inspection	1581313	Yes	
	Inspection	1581319	Yes	
	Inspection	1581316	Yes	

**Case Status: CLOSED**

*Document 14 – Virginia Occupational Safety and Health, Inspection Detail for Washington Metropolitan Area Transit Authority*

OSHA ▾ STANDARDS ▾ ENFORCEMENT TOPICS ▾ HELP AND RESOURCES ▾ NEWS ▾

## Inspection Detail

**Case Status: CLOSED**

**Inspection: 1581313.015 - Potomac Yard Contractors, Inc.**

### Inspection Information - Office: Virginia Safety 4

Nr: 1581313.015	Report ID: 0355114	Open Date: 03/03/2022		
Potomac Yard Contractors, Inc.				
2500 Potomac Greens Drive				
Alexandria, VA 20598				
SIC:				
NAICS: 237990/Other Heavy and Civil Engineering Construction				
Mailing: 421 East Rt 59, Nanuet, NY 10954				
Inspection Type:	Prog Related			
Scope:	Partial	Advanced Notice:	N	
Ownership:	Private			
Safety/Health:	Safety	Close Conference:	03/03/2022	
Emphasis:	P:Fri, S:Fall, S:Fri	Close Case:	03/03/2022	
Related Activity:	Type	ID	Safety	Health
	Inspection	1581316	Yes	
	Inspection	1581311	Yes	
	Inspection	1581319	Yes	

**Case Status: CLOSED**

*Document 15 - Virginia Occupational Safety and Health, Inspection Detail for Potomac Yard Constructors*

## Inspection Detail

**Case Status: CLOSED**

**Inspection: 1581316.015 - Linel Llc, A Mestek Company**

### Inspection Information - Office: Virginia Safety 4

Nr: 1581316.015	Report ID: 0355114	Open Date: 03/03/2022
Linel Llc, A Mestek Company 2500 Potomac Greens Drive Alexandria, VA 20598		Union Status: NonUnion
SIC: NAICS: 332323/Ornamental and Architectural Metal Work Manufacturing Mailing: 101 Linel Drive, Mooresville, IN 46158		
Inspection Type:	Prog Related	
Scope:	Partial	Advanced Notice: N
Ownership:	Private	
Safety/Health:	Safety	Close Conference: 03/03/2022
Emphasis:	S:Fri, P:Fri, S:Fall	Close Case: 03/03/2022
Related Activity:	Type	ID
	Inspection	1581313
	Inspection	1581311
	Inspection	1581319
		Safety
		Health

**Case Status: CLOSED**

*Document 16 - Virginia Occupational Safety and Health, Inspection Detail for Linel, LLC*

## Inspection Detail

**Case Status: OPEN**

**Note:** The following inspection has not been indicated as closed. Please be aware that the information shown may change, e.g. violations may be added or deleted. For open cases, in which a citation has been issued, the citation information may not be available for 5 days following receipt by the employer for Federal inspections or for 30 days following receipt by the employer for State inspections.

**Inspection: 1581319.015 - Sam Cortez Inc.**

Inspection Information - Office: Virginia Safety 4				
Nr: 1581319.015	Report ID: 0355114	Open Date: 03/03/2022		
Sam Cortez Inc.				
2500 Potomac Greens Drive		Union Status: NonUnion		
Alexandria, VA 20598				
SIC:				
NAICS: 238150/Glass and Glazing Contractors				
Mailing: 2348 Sam Newell Rd, Matthews, NC 28105				
Inspection Type:	Prog Related			
Scope:	Partial	Advanced Notice:	N	
Ownership:	Private			
Safety/Health:	Safety	Close Conference:	03/03/2022	
Emphasis:	P:Fri, S:Fall, S:Fri			
Related Activity:	Type	ID	Safety	Health
	Inspection	1581313	Yes	
	Inspection	1581311	Yes	
	Inspection	1581316	Yes	

**Case Status: OPEN**

*Document 17 - Virginia Occupational Safety and Health, Inspection Detail for Sam Cortez, Inc.*

## Fall Protection and Prevention

### OVERVIEW

Fiscal year-to-date comparisons (FY21 vs. FY22) show a 125% increase in Occupational Safety and Health Administration (OSHA) recordable injuries among the WMATA contractor workforce.

Additionally, according to the U.S. Bureau of Labor Statistics, falls are the leading cause of death of all construction workers, accounting for 38% of workplace fatalities in 2019, and failure to properly follow fall protection requirements is OSHA's most frequently occurring citations.

To reverse the trend and proactively reduce the risk of serious injury, WMATA employees, managers and contractors must ensure that controls are in place to prevent individuals from falling off of overhead platforms or elevated workstations, or into holes in floors and walls.

### DETAILS AND ACTIONS

#### When is Fall Protection Required?

According to OSHA 29 Code of Federal Regulations, § 1910 General Industry and § 1926 Construction, controls to prevent and mitigate falls must be put in place:

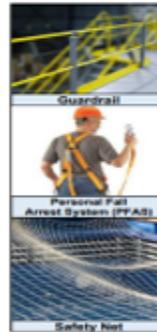
- Whenever workers (employees and contractors) are working at elevations of four feet in general industry (§ 1910), six feet in construction activities (§ 1926), and ten feet for scaffolding;
- When there is a risk of workers walking into holes (in a floor or wall); and
- When there is a risk of workers falling into or onto dangerous machines or equipment.

Workers who might be exposed to fall hazards must receive training from a qualified person. Contractors and WMATA are equally and independently responsible for the training, controls, and mitigations of their respective employees. The Department of Safety's (SAFE) Office of Occupational Safety and Health (OSH) develops internal directives based on regulatory occupational safety and health requirements.

#### Implementing the Right Type of Fall Protection

OSHA prescribes three forms of acceptable fall protection: guardrails, personal fall arrest systems (PFAS), and safety nets.

- **Guardrails** help prevent falls. OSHA-standard guardrails and toeboards should be around every elevated open-sided platform, floor or runway to prevent workers from falling and getting injured. They must be present on unprotected edges, scaffolds, and around openings.
- **Personal Fall Arrest Systems** mitigate the severity of falls by preventing workers from making contact with a lower level. PFAS have three main components: full body harness, connecting device, and anchorage. PFAS must be inspected before each use and after any fall to ensure they are free of damage and in proper working condition.
- **Safety Nets**, like PFAS, are designed to impede a worker's fall and prevent contact with a lower level. Safety nets should be positioned as close as possible to the work area and should not be placed further than 30 feet below a working surface. Safety nets must extend a minimum of eight feet out horizontally from the working surface, as required by § 1926 Construction.



#### Ensure Fall Protection is Properly Implemented

All workers must be able to recognize and mitigate fall protection hazards. They must also use the correct procedures for erecting, maintaining, disassembling, and inspecting PFAS that will be used.

Prior to each use, the worker using the PFAS must inspect the harness and lanyard for damage as detailed below.

- Verify that all metal components, such as D-rings or hooks, are intact and without cracks or wear.
- Check the stitching and webbing along the entire length of the harness for wear, burned areas, loose stitches, tufts, or broken strands.
- Check ropes that are part of the PFAS for frayed edges, loose strands, or cut portions. Damaged ropes should be removed from service. To prevent this problem, only use personal fall arrest ropes for personal fall protection and never as lifting or hoisting rope for cargo, tools, or other loads.

If any part of the PFAS has been identified with defects or damage, or was used during a fall, the entire PFAS must be surrendered to management to be removed from service.

For questions regarding this Safety Bulletin or other safety-related issues, contact the Safety Hotline at 202-249-SAFE (7233).



Appendix I – Fall Protection Safety Stand Down, dated April 26, 2022



1



2

# Appendix J – Root Cause Analysis

