ARCHITECTURAL ENGINEERING

Fall Protection Anchorage Safety Inspection and Certification Report

Building Envelope Consulting

BIM Consulting

Structural Engineering

Forensic Engineering

UChicago Medicine
Northwest Indiana Hospital
10855 Virginia Street, Crown Point, IN 46307

May 3, 2024

ZS Project Number: 247089

Prepared for:

Nacional Group, LLC
2001 Butterfield Road, Suite 1700
Downers Grove, IL 60515
Attn: Rick Connolly, Project Manager

Prepared by:

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1. Introduction

Rick Connolly, Project Manager at Nacional Group, requested that ZS LLC (ZS) preform an OSHA compliant fall protection safety examination and certification program of the newly installed Tractel Fall Protection System installed at multiple roof levels at the UChicago Medicine Northwest Indiana Hospital building located at 10855 Virginia Street, Crown Point, Indiana.

The newly installed Tractel fall protection system consists of 72 tie-back roof anchors (cast-in-place) and 10 horizonal lifelines (HLLs).

2. Safety Regulations and Standards

In an effort to raise the standards for life safety in the window washing and building maintenance industry and develop a consistent and comprehensive national safety standard for window cleaning and building envelope maintenance operations, on November 18, 2016 OSHA finalized a new 1910, General Industry Subpart D – Walking - Working Surfaces Rule that addresses many of the required safety standards.

Under the recently updated OSHA regulations, the Building Owner is required to inform the window washing / maintenance contractor in writing that the safety system maintenance and inspections have been performed, tested (if necessary), and maintained in compliance with OSHA requirements over the life of the system.

OSHA requires that all anchorages used to anchor an employee equipped with personal fall arrest equipment shall be capable of supporting at least a 5,000-pound load per employee attached. Alternately, the anchors shall be designed, installed, and used as part of a complete personal fall arrest system, which maintains a safety factor of at least two, under the supervision of a qualified person (i.e., professional engineer).

OSHA fall protection safety standards require that anchors used for fall arrest safety equipment must be certified by a qualified person at least every 10 years (or 5 years for adhesive anchor assemblies). The certification process includes visual inspections as well as load testing of the anchors.

OSHA regulations require that all anchor points and equipment installations are inspected by qualified person as follows:

- Before being placed in initial service.
- Following any major alteration to the installation.
- At intervals not to exceed 12 months.
- At intervals specified by the manufacturer / supplier, but not to exceed 12 months.
- The building owner shall keep a certification record of each inspection and test required.
- The certification record must be kept readily available for review by the Assistant Secretary of Labor or the Assistant Secretary’s representative and by the employer.

Since the November 18, 2016 publication of the new OSHA 1910 Subpart D Walking-Working Surfaces Rule, it is recommended that the annual inspections no longer be performed under the assumption that the anchorages were initially designed and inspected for compliance to applicable OSHA requirements. An initial inspection of all anchorage locations should be performed unless the building owner can provide proper documentation of an acceptable initial inspection and load capacity verification.

3. Test Procedure

The testing program for the newly installed Tractel Fall Protection System at UChicago Medicine Northwest Indiana Hospital Building consisted of the following:

- Visual inspection of the tie-back roof anchor's condition including welds, flashing, bolts, nuts and coatings.
- A Dynamometer gauge is attached between 2 anchors using a chain hoist to apply the test load. The test load reading was done using a calibrated Dynamometer gauge (See Appendix B).
- Apply a load of 250 lbs. to bring all members into full bearing.
- Measure the distance between the 2 anchors at the 250 lbs. load. These readings would be used to determine any deflection.
- Increase the load very gradually (to avoid imparting dynamic effect to the anchor elements) to 2,500 lbs. and hold for 2 minutes. The time to reach 2,500 lbs. shall not be less than 2 minutes.
- Measure the distance the between the 2 anchors at the 2,500 lbs. load. These readings would be used to determine any deflection.
- At any point if the anchors cannot sustain the load (i.e., load drops continuously) or if the total deflection is > 1" (i.e., ½" per anchor) STOP the test and note down the load and deflection of each anchor.
- The anchors would be considered as "failed" if:
    - It deflects > 1" (i.e., ½" per anchor) with load ≤ 2,500 lbs.
    - The test load cannot be attained for any reasons.
    - The test load of 2,500 lbs. cannot be sustained of 2 minutes.
    - There is concrete breakout, pry out or cracking.
    - There is failure of adhesive bonding or pull out of anchor.
    - If there are signs of distress or cracking in material.
- Release the test load and measure the distance between the 2 anchors, if this distance is same as previous unloaded measurement (within 1/16" per anchor), then the anchor is certified as have passing the load test. The readings would be used to determine any permanent deformation.
- After the test load was removed, the roof anchors were visually inspected again for any signs of distress.

The testing performed by ZS is consistent with *Section 5.1.2 Periodic Inspections and Testing of the ASME A1201-2014 Safety Requirements for Powered Platform and Travelling Ladders and Gantries for Building Maintenance* and Tractel's (manufacturer's) *Tie-Back Anchor Field Test Procedure* and Testing Specifications.

4. Certification and Results

On April 23rd, April 24th and April 30th, 2024, a total of 72 tie-back roof anchors were visually inspected and load tested by ZS. In addition, 10 horizontal lifelines (HLLs) were inspected by ZS. For locations, layout and detailed test results of the inspected and tested fall protection system, see Appendices C and D.

Based on the test results, all 72 tie-back roof anchors installed on the multiple roof levels (#1: Level-2 Roof; #2: Linac High Roof; #3: Linac Low Roof; #4: Level-3 Roof; #5: Level-3 (Pavilion Roof); & #6: Boiler Room Roof) at the UChicago Medicine Northwest Indiana Hospital Building passed the visual inspection and load test.

The tie-back roof anchors that passed the visual inspection and load test are certified for a period of 10 years. ZS certification labels with their respective date of load testing were installed at all certified tie-back roof anchors.

Also, all 10 horizontal lifelines (HLLs) installed on the multiple roof levels have passed the inspection. The HLLs utilize the certified tie-back roof anchors and have been installed following Tractel's (manufacturer's) specifications.

To maintain their certification, the tie-back roof anchors and HLLs must be visually inspected by a qualified person annually and by a competent person before each use. The annual inspections must be documented in a dedicated log book, dated and signed by an OSHA qualified person (See Appendix E).

In the event of a fall arrest incident or a roof replacement project within the certification period, the affected system element(s) will require re-inspection and recertification by a qualified person.

To access any certified tie-back roof anchor located within 15 feet of the unprotected roof edge, the user must be tied off to a certified roof anchor (or equivalent system) that is located with a roof edge distance greater than 15 feet.

5. Fall Protection Anchorage Use Protocol

The following protocol should be followed when the fall protection anchorage elements are used:

1. Review the safety system log to ensure that the annual inspections were performed, within the last 12 months, and confirm that the use hours for each anchor did not exceed 300 hours between inspections.

2. Provide a copy of the use log, inspection certification(s) and the system drawing to the maintenance contractor. This should be accompanied by a transmittal letter listing the above items to provide a written record that it was completed.

3. Receive from the maintenance contractor, a copy of a work plan that includes:

    a. Work sequence.
    b. A protection plan for work performed above the public way.
    c. Detailed daily inspection protocols for all fall arrest / safety equipment.
    d. MSDS documentation for all products brought on site.
    e. A communication plan for maintenance contractor's employees in the event of an emergency or the need for emergency rescue.
    f. An assurance form that states the employees have been properly trained and are competent in the safe use of the anchor system (See Appendix F for a sample form).

4. Review the above documentation provided by the contractor and initial in the safety system use log that it was received (See Appendix E).

5. After the project has been completed and before receiving final contract payment, the contractor is required to complete their portion of the safety system use log (See Appendix E).

6. Professional Seal

State of Indiana
License Number Issued: PE19900418
Expiration Date: 07/31/2024

Ziad M. Salameh, PhD, PE
Principal-In-Charge
ZS LLC

Appendix A

Test Procedure Photographs

Photo 1 – Load test between 2 tie-back roof anchors (A-11 & A-12).

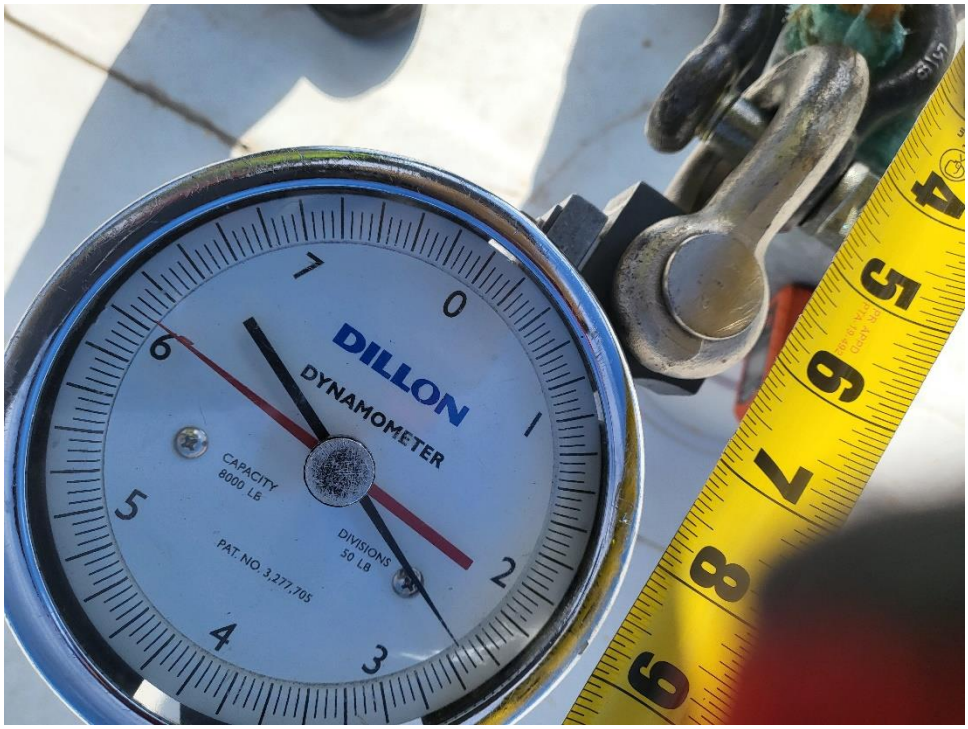

Photo 2 – A calibrated dynamometer gauge with a test load of 2,500 lbs.

Appendix B

Certificate of Calibration – Dynamometer & Torque Wrench

CERTIFICATE OF CALIBRATION

Trescal
7350 North Teutonia Avenue Milwaukee, WI 53209
(414) 351-7420 * FAX: (414) 351-7429

1003739372
Certification Number

Gage ID	D51268	Manufacturer	DILLON
Type	DYNAMOMETER DILLON AP SERIES 4000 LB	Model Number	AP SERIES
Company	ZS LLC	Serial Number	D51268
		Size	0 TO 4000LBS
		Department	N/A
		Cal Date	2023/05/22
Calibrated By: JJS Gage Calibrated at Trescal		Next Cal Due	2024/05/22
		Temp 70.9°F	Humidity 42.5%RH
		Standard Used	ED1386
		Proc: PMC0263	

This is to certify that the above instrument was calibrated by Trescal, Inc. using standards traceable to the National Institute of Standards & Technology (NIST). The results indicated on this certificate relate only to the item(s) calibrated. Trescal is accredited to ISO/IEC 17025:2017 which satisfies all requirements of ISO 9001:2015 & ANSI/NCSL Z540. 1-1994. The expanded measurement uncertainty is reported as k=2, 95.45% confidence level.
This certificate & attachment(s) may not be reproduced, except in full, without the written approval of Trescal, Inc.
Trescal, Inc. utilizes a simple decision rule unless otherwise specified, uncertainties are not included in Pass/Fail determination.

CALIBRATION STD(s)	DESCRIPTION	Cal Due Date	Test Report#
FG0198	LOAD CELL INTERFACE 1110AF-5K	06/30/2023	1002639169
FG0196	DIGITAL READOUT INTERFACE 9840	04/30/2024	1003725673

TOLERANCE
PER MANUFACTURER SPECIFICATIONS, ±.5%FS
SEE ATTACHED SPREADSHEET FOR READINGS

CONDITION
RECEIVED WITHIN MANUFACTURER'S SPECIFICATIONS
RETURNED WITHIN MANUFACTURER'S SPECIFICATIONS

Dimensional values are referenced to 68°F.

Trescal's responsibility shall in no event, nor for any cause whatsoever exceed the purchase price of this certification. Last Page unless stated.
Calibrations performed outside required environmental conditions were reviewed prior to completion to conclude that conditions will not impact calibration.

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ZS LLC
Company

DILLON / AP SERIES
Make/Model

D51268
Gauge ID#

1003739372
Attached to Certificate

		Applied/Standard DRO				
	UUT Display	As Found	As Left	Minimum	Maximum	Found/Left Test Result
Tension						
Desired Load						
0 lb	0	0	0	-20	20	Pass/Pass
800 lb	800	790.1	790.1	780	820	Pass/Pass
1600 lb	1600	1593.4	1593.4	1580	1620	Pass/Pass
2400 lb	2400	2405.6	2405.6	2380	2420	Pass/Pass
3200 lb	3200	3199.8	3199.8	3180	3220	Pass/Pass
4000 lb	4000	4007.8	4007.8	3980	4020	Pass/Pass
Return to Zero Load		UUT Display				
0 lb, Std. Display	0	0.12	0.12	-20	20	Pass/Pass

CERTIFICATE OF CALIBRATION

Trescal
7350 North Teutonia Avenue Milwaukee, WI 53209
(414) 351-7420 * FAX: (414) 351-7429

1003741342
Certification Number

Gage ID	D50614	Manufacturer	DILLON
Type	DYNAMOMETER DILLON 0-8000 LB	Model Number	N/A
		Serial Number	D50614
Company	ZS LLC	Size	0-8000 LB
		Department	N/A
		Cal Date	2023/05/31
Calibrated By: JJS Gage Calibrated at Trescal		Next Cal Due	2024/05/31
		Temp 74.7°F	Humidity 48.4%RH
		Standard Used	ED1386
		Proc:PMC0263	

This is to certify that the above instrument was calibrated by Trescal, Inc. using standards traceable to the National Institute of Standards & Technology (NIST). The results indicated on this certificate relate only to the item(s) calibrated. Trescal is accredited to ISO/IEC 17025:2017 which satisfies all requirements of ISO 9001:2015 & ANSI/NCSL Z540. 1-1994. The expanded measurement uncertainty is reported as k=2, 95.45% confidence level.

Trescal, Inc. utilizes a simple decision rule unless otherwise specified, uncertainties are not included in Pass/Fail determination.

CALIBRATION STD(s)	DESCRIPTION	Cal Due Date	Test Report#
FG0141	LOAD CELL INTERFACE 1610AJH-10K	01/31/2024	1003703049
FG0142	DIGITAL READOUT INTERFACE 9840	04/30/2024	1003724180

*** ATTRIBUTES ***

NAME	NOMINAL	BEFORE READING	FINAL READING	PASS/FAIL
1600 LBS	1600.0	1586.2	1586.2	PASS
3200 LBS	3200.0	3182.6	3182.6	PASS
4800 LBS	4800.0	4780.7	4780.7	PASS
6400 LBS	6400.0	6420.4	6420.4	PASS
8000 LBS	8000.0	8001.2	8001.2	PASS
REPEATABILITY				PASS
VISUAL/OPERATIONAL				PASS

TOLERANCE
± 0.5% of capacity

CONDITION
RECEIVED WITHIN MANUFACTURER'S SPECIFICATIONS
RETURNED WITHIN MANUFACTURER'S SPECIFICATIONS

Dimensional values are referenced to 68°F.
Trescal's responsibility shall in no event, nor for any cause whatsoever exceed the purchase price of this certification. Last Page unless stated.
Calibrations performed outside required environmental conditions were reviewed prior to completion to conclude that conditions will not impact calibration.

----------Last Page----------

CERTIFICATE OF CALIBRATION

Trescal
7350 North Teutonia Avenue Milwaukee, WI 53209
(414) 351-7420 * FAX: (414) 351-7429

1003741338
Certification Number

Gage ID	1302005504	Manufacturer	WESTWARD
Type	TORQUE WRENCH WESTWARD 6PAF7	Model Number	6PAF7
		Serial Number	1302005504
Company	ZS LLC	Size	5-99.5 FT-LBS
		Department	N/A
		Cal Date	2023/05/31
Calibrated By: BMJ Gage Calibrated at Trescal		Next Cal Due	2024/05/31
		Temp 75.2°F	Humidity 47.7%RH
		Standard Used	ED1181
		Proc: PMC0023 V	

This is to certify that the above instrument was calibrated by Trescal, Inc. using standards traceable to the National Institute of Standards & Technology (NIST). The results indicated on this certificate relate only to the item(s) calibrated. Trescal is accredited to ISO/IEC 17025:2017 which satisfies all requirements of ISO 9001:2015 & ANSI/NCSL Z540. 1-1994. The expanded measurement uncertainty is reported as k=2, 95.45% confidence level.

Trescal, Inc. utilizes a simple decision rule unless otherwise specified, uncertainties are not included in Pass/Fail determination.

CALIBRATION STD(s)	DESCRIPTION	Cal Due Date	Test Report#
TQ0068H	TORQUE TRANSDUCER CDI 2000-10-XX	11/30/2023	1003682208

TOLERANCE
PER MANUFACTURER SPECIFICATIONS, ±2%RDG FROM 20 TO 100%FS
SEE ATTACHED REPORT FOR DATA

CONDITION
RECEIVED WITHIN MANUFACTURER'S SPECIFICATIONS
RETURNED WITHIN MANUFACTURER'S SPECIFICATIONS

Dimensional values are referenced to 68°F.

Trescal's responsibility shall in no event, nor for any cause whatsoever exceed the purchase price of this certification. Last Page unless stated.
Calibrations performed outside required environmental conditions were reviewed prior to completion to conclude that conditions will not impact calibration.

----------Last Page----------

ZS LLC
Company

WESTWARD 6PAF7, 99 ft-lb Torque Wrench
Make/Model

1302005504

1003741338
Attached to Certificate

	Nominal	As Found	As Left	Minimum	Maximum	Test Result
Torque						
Clockwise						
20 ft-lb	20	19.76	19.76	19.6	20.4	Pass/Pass
60 ft-lb	60	59.39	59.39	58.8	61.2	Pass/Pass
99 ft-lb	99	98.35	98.35	97.02	100.98	Pass/Pass
Counterclockwise						
20 ft-lb	20	19.88	19.88	19.6	20.4	Pass/Pass
60 ft-lb	60	59.82	59.82	58.8	61.2	Pass/Pass
99 ft-lb	99	98.86	98.86	97.02	100.98	Pass/Pass
Repeatability						
						PASS

Appendix C

UChicago Medicine Northwest Indiana Hospital

Fall Protection System Location and Identification Plan

REV.	AMENDMENTS	BY	CHK	DATE
A	HLL LINES L8 ,L9 & L10 ADDED AS PER CUSTOMER	KN	RR	OCT.07/22

HLL-10
A-74 to A-69
& A-76 to A-74

HLL-5
A-41 to A-51

HLL-2
A-13 to A-23

HLL-3
A-23 to A-32

HLL-7
A-62, A-53 to A-56, A-59

HLL LINE (L8)
LENGTH ~96 FT.
ANCHOR NO.58 TO 63

HLL-8
A-65 to A-66

HLL-6
A-52 to A-53

HLL-4
A-32 to A-41

HLL-1
A-1 to A-12

CONTINUOUS GUTTER

ROOF AT LEV.1
ELE. 696'-0"

ROOF AT LEV.2
ELE. 726'-0"

ROOF AT LEV.2
ELE. 711'-0"

ENTRY CANOPY

DS
SLOPE 1/2" PER 12"

ROOF PAVILION
ELE. 732'-4"

ROOF SCUPPER &
DOWNSPOUT (07 62 00)

METAL SHIPS LADDER
(05 50 00)

ROOF HATCH

ROOF BOILER ROOM
ELE. 736'-3"

ROOF CURB

LINE OF
PHARMACY BELOW

ELEVATOR BELOW

ELEVATOR
OVERRUN

ILLUMINATED
BUILDING
SIGNAGE

EWS-4
SWING PANEL

ERA-1A

ERA-2

RTU-1

RTU-2

RTU-3

RTU-4

RTU-5

RTU-6

RTU-7

LINAC ROOF AT
LEV.2 ELE.711'-0"

6'-0" TYP. FROM EDGE
OF PARAPET(REF.)

METAL PANEL FASCIA
/ SURROUND BELOW

LP 726' - 9"
LP 726' - 6"
LP 731' - 10"
LP 711' - 2 1/2"
HP 727' - 2"
HP 727' - 1 5/8"
HP 732' - 4"
HP 712' - 9 1/2"
HP 711' - 8"
HP 717'-6"
T.O.P
HP 728' -3"
T.O.P
HP 713' - 0"
T.O.P
727' - 2"
72'-8"

COMPOSITE ROOF PLAN (EQUIPMENT LAYOUT)

SCALE 1/16"=1.0'

N

ZS LEGEND KEY (05-03-2024)

- Certified Tie-Back Roof Anchor
- Certified Horizontal Lifeline
- Equipment not installed
- Screen Wall

TRACTEL LTD.-SWINGSTAGE DIVISION
ISSUE STAMP

PROJECT NAME: UCM MICRO HOSPITAL

CUSTOMER: WALSH CONSTRUCTION

LOCATION: CROWN POINT, IN

UNLESS OTHERWISE NOTED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS ± 1/16"
DECIMALS ± 0.015"
ANGLES ± 1 °

REPORT ALL ERRORS TO ENGINEERING – DO NOT SCALE DRAWING

Tractel Ltd
Swingstage Division

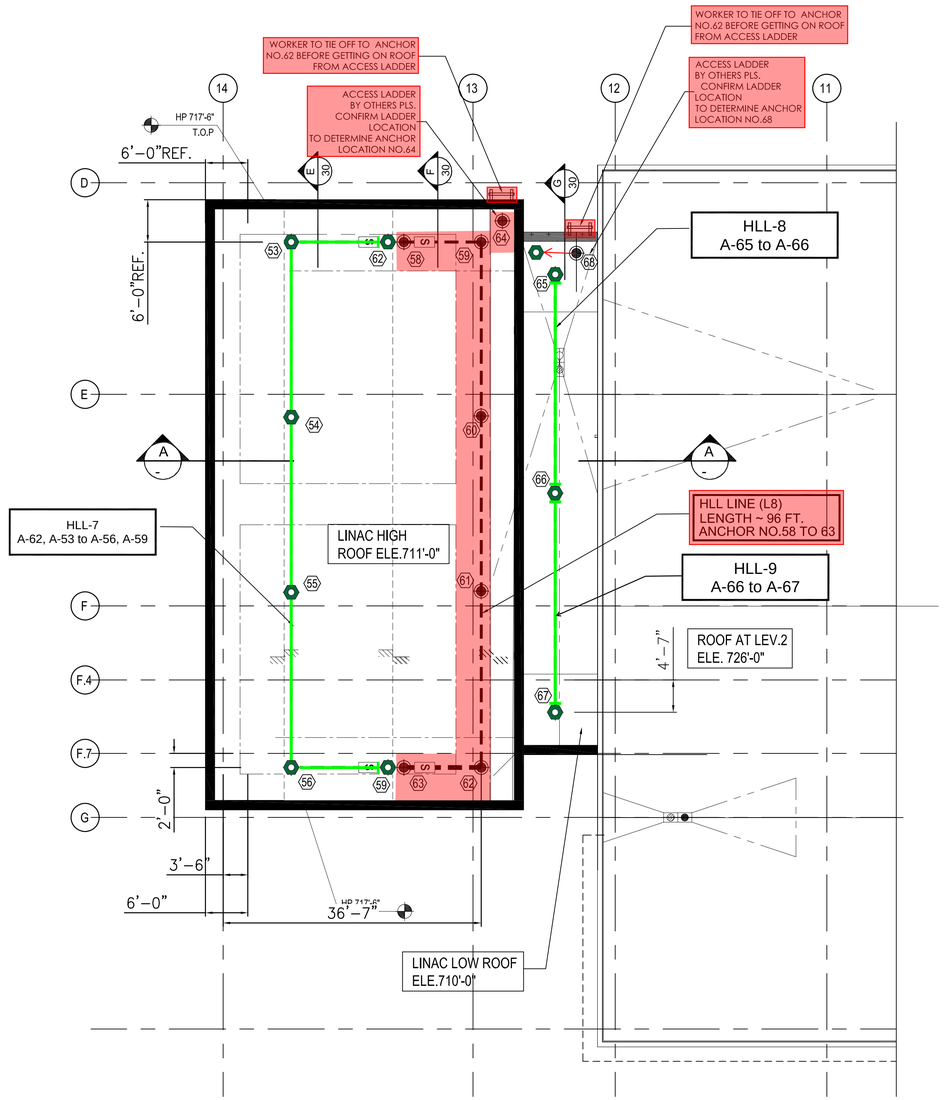
TITLE
ROOF PLAN EQUIPMENT LAYOUT

APPROVALS	DATE
DRAWN BY: KN	SEP.07/22
CHECKED BY: RR	SEP.07/22
APPROVED BY: RR	SEP.07/22

UPPER LEVEL DWG. 8R08000
PROJECT NO. 8R08
TOTAL WEIGHT (lbs.) –
SCALE AS NOTED

DRAWING No. 8R08011
REV. A

REV.	AMENDMENTS	BY	CHK	DATE



N

PARTIAL ROOF PLAN
LINAC ROOF AREA (EQUIPMENT LAYOUT)

P1
11

SCALE 3/32"=1.0"

ZS LEGEND KEY (05-03-2024)

- Certified Tie-Back Roof Anchor
- Certified Horizontal Lifeline
- Equipment not installed
- Screen Wall

TRACTEL LTD.-SWINGSTAGE DIVISION ISSUE STAMP

PROJECT NAME: UCM MICRO HOSPITAL

CUSTOMER: WALSH CONSTRUCTION

LOCATION: CROWN POINT, IN

UNLESS OTHERWISE NOTED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS ± 1/16"
DECIMALS ± 0.015"
ANGLES ± 1°

REPORT ALL ERRORS TO ENGINEERING - DO NOT SCALE DRAWING

Tractel ltd
Swingstage Division

TITLE: ROOF PLAN EQUIPMENT LAYOUT

APPROVALS	DATE
DRAWN BY: KN	SEP.07/22
CHECKED BY: RR	SEP.07/22
APPROVED BY: RR	SEP.07/22

UPPER LEVEL DWG. 8R08000
PROJECT NO. 8R08
TOTAL WEIGHT (lbs.) –
SCALE AS NOTED

DRAWING No. 8R08012
REV. –

Appendix D

Summary of Test Results

Table 1 - Anchor Schedule
Fall Protection Certification - Summary of Test Results
UChicago Medicine Northwest Indiana Hospital: 10855 Virginia Street, Crown Point, IN 46307

No.	Anchor ID	Roof Area	Certification Status	Certification Date	Certification Expires	Witnessed By	Test Load (lbs.)	Ultimate Load (lbs.)
1	A-1	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
2	A-2	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
3	A-3	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
4	A-4	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
5	A-5	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
6	A-6	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
7	A-7	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
8	A-8	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
9	A-9	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
10	A-10	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
11	A-11	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
12	A-12	Level-2	Certified	04/30/2024	04/30/2034	JT & CN	2,500	5,000
13	A-13	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
14	A-14	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
15	A-15	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
16	A-16	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
17	A-17	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
18	A-18	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
19	A-19	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
20	A-20	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
21	A-21	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
22	A-22	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
23	A-23	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
24	A-24	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
25	A-25	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
26	A-26	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
27	A-27	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
28	A-28	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
29	A-29	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
30	A-30	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
31	A-31	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
32	A-32	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
33	A-33	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
34	A-34	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
35	A-35	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
36	A-36	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
37	A-37	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
38	A-38	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
39	A-39	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
40	A-40	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
41	A-41	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
42	A-42	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
43	A-43	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000

Table 1 - Anchor Schedule Cont.
Fall Protection Certification - Summary of Test Results
UChicago Medicine Northwest Indiana Hospital: 10855 Virginia Street, Crown Point, IN 46307

No.	Anchor ID	Roof Area	Certification Status	Certification Date	Certification Expires	Witnessed By	Test Load (lbs.)	Ultimate Load (lbs.)
44	A-44	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
45	A-45	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
46	A-46	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
47	A-47	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
48	A-48	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
49	A-49	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
50	A-50	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
51	A-51	Level-3	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
52	A-52	Boiler Room	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
53	A-53	Boiler Room	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
54	A-53	Linac High	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
55	A-54	Linac High	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
56	A-55	Linac High	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
57	A-56	Linac High	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
58	A-59	Linac High	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
59	A-62	Linac High	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
60	A-65	Linac Low	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
61	A-66	Linac Low	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
62	A-67	Linac Low	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
63	A-68	Linac Low	Certified	04/24/2024	04/24/2034	JT & CN	2,500	5,000
64	A-69	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000
65	A-70	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000
66	A-71	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000
67	A-72	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000
68	A-73	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000
69	A-74	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000
70	A-75	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000
71	A-76	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000
72	A-77	Pavilion	Certified	04/23/2024	04/23/2034	JT & CN	2,500	5,000

Table 2 - HLL Schedule
Fall Protection Certification - Summary of Test Results
UChicago Medicine Northwest Indiana Hospital: 10855 Virginia Street, Crown Point, IN 46307

No.	HLL ID	Roof Area	Anchor to Anchor	Certification Status	Certification Date	Certification Expires	Inspected By
1	HLL-1	Level 2	A-1 to A-12	Certified	04/30/2024	04/30/2034	JT & CN
2	HLL-2	Level 3	A-13 to A-23	Certified	04/24/2024	04/24/2034	JT & CN
3	HLL-3	Level 3	A-23 to A-32	Certified	04/24/2024	04/24/2034	JT & CN
4	HLL-4	Level 3	A-32 to A-41	Certified	04/24/2024	04/24/2034	JT & CN
5	HLL-5	Level 3	A-41 to A-51	Certified	04/24/2024	04/24/2034	JT & CN
6	HLL-6	Boiler Room	A-52 to A-53	Certified	04/24/2024	04/24/2034	JT & CN
7	HLL-7	Linac High	A-62, A-53 to A-56, A-59	Certified	04/24/2024	04/24/2034	JT & CN
8	HLL-8	Linac Low	A-65 to A-66	Certified	04/24/2024	04/24/2034	JT & CN
9	HLL-9	Linac Low	A-66 to A-67	Certified	04/24/2024	04/24/2034	JT & CN
10	HLL-10	Pavilion	A-74 to A-69, A76 to A-74	Certified	04/23/2024	04/23/2034	JT & CN

ZS
ARCHITECTURAL ENGINEERING

Building Envelope Consulting
BIM Consulting
Structural Engineering
Forensic Engineering

ZS LLC
1525 East 53rd Street
Chicago, IL 60615

Phone 773.551.9630
Web zsllc-us.com

Horizontal Lifeline (HLL) Installation Commissioning Checklist

Client: Nacional Group, LLC Address: 2001 Butterfield Road, Suite 1700 Downers Grove, IL 60515 Attention: Rick Connolly, Project Manager	**HLL System Installation Company:** Nacional Group, LLC Address: 2001 Butterfield Road, Suite 1700 Downers Grove, IL 60515
Date of Inspections: April 23, 24 & 30, 2024	**Manufacture of System:** Tractel Access NAM Address: 1615 Warden Avenue Toronto, Ontario M1R 2T3 Canada
Inspection By: Jerad Tauschek & Chris Neseman (ZS LLC)	
System Location and ID: Building Name: UChicago Medicine Northwest Indiana Hospital Address: 10855 Virginia Street, Crown Point, IN 46307 Roof Area Locations: Level 2 Roof: HLL-1; Level 3 Roof: HLL-2 to HLL-5; Boiler Room Roof: HLL-6; Linac High Roof: HLL-7; Linac Low Roof: HLL-8 & HLL-9; & Pavilion Roof: HLL-10	Insert "Yes" if satisfactory for PASS Insert "No" if unsatisfactory for FAIL

1.0 System Inspection - Confirm the Following Items:		Yes / No	Comments:
1.1	All tie-back roof anchors passed load testing and are cerfield for use.	Yes	72 tie-back roof anchors were load tested by ZS (04/23/2024, 04/24/2024 & 04/30/2024) and are certified for use.
1.2	5/16" stainless steel fist grip clips (6 fist grip clips per cable).	Yes	
1.3	Apply 1st fist grip clip one saddle width from dead end of cable.	Yes	
1.4	5/16" fist grip clips installed following the Tractel cable installation details. The fist grip clips were torque checked to 30 ft/lbs for 5/16" Ø cable.	Yes	
1.5	5/16" stainless steel thimble (2 thimbles per cable)	Yes	
1.6	5/8" stainless steel turnbuckle (1 turnbuckle per cable)	Yes	
1.7	Tractel shock absorbers installed (2 shock absorbers per cable).	Yes	
1.8	Tractel HLL Capacity Plate punched with installation date, maximum 2 users, maximum 310 lbs capacity per worker, project # (1 per cable)	Yes	
1.9	5/16" Ø (7x19) stainless steel flexible cable.	Yes	
1.10	Rope softeners installed at all corner anchors.	Yes	
1.11	Horizontal Lifeline not pre-tensioned.	Yes	
1.12	Cut cable ends with an end cap installed to prevent cable fraying.	Yes	
1.13	Double end cable anchor detail installed in correct orientation.	Yes	

2.0 System Sign-Off	
2.1	HLL system is installed following Tractel's Drawings (Sheets 8R08010 to Sheet 8R08030, dated September 07, 2022) and a commissioning certificate can be issued: Yes
2.2	If No, reason for non-issue of certificate: N/A
2.3	Corrective action required: None
2.4	HLL system passed inspection: Yes
2.5	Comments: 1. At A-45 (Level 3 Roof) the rope softener is to be rotated with the opening to the interior side (see Photo 4). 2. Fully tighten the stainless steel fast link connectors at A-52 (Boiler Room Roof) & at A-74 (Pavilion Roof). See Photo 5.

3.0 Commissioning Company Details	
3.1	Company Name: ZS (ZS LLC)
3.2	Inspector of the HLL Installation: Jerad Tauschek
3.3	Signature: Jerad Tauschek
3.4	Printed Name: Jerad Tauschek
3.5	Report Date: May 2, 2024

Photo 3 – Certified tie-back roof anchor A-8. Typical.

Photo 4 – Competent person should inspect the HLL prior to use and ensure the rope softener is rotated to the interior side. Typical.

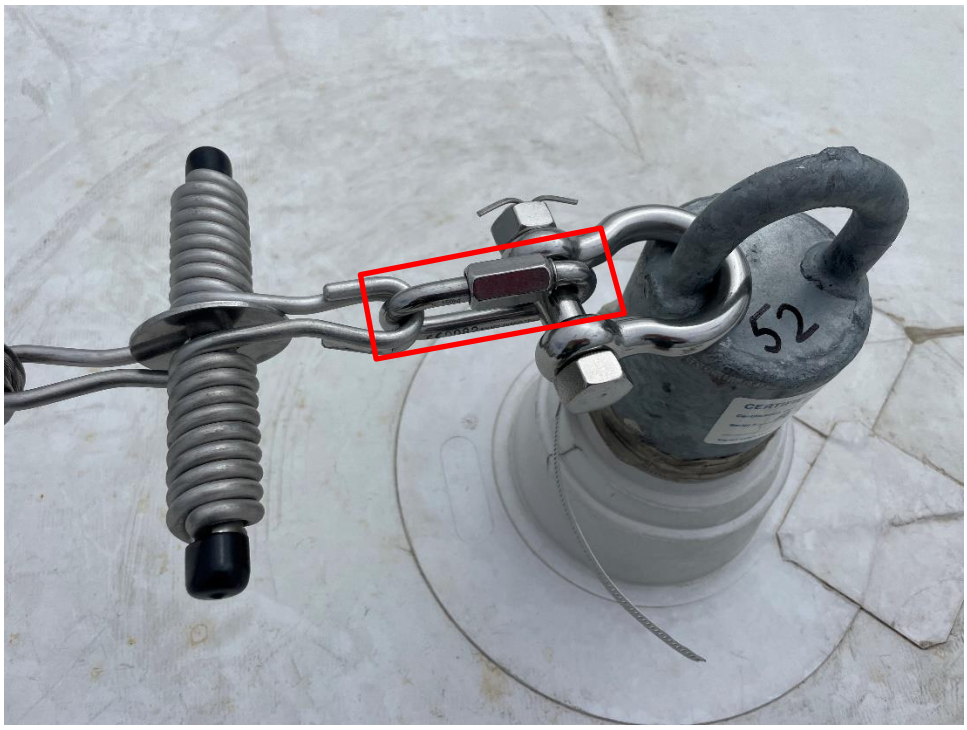


Photo 5 – Competent person should inspect the HLL prior to use and ensure the fast link connector is properly tightened. Typical.

Appendix E

Fall Protection Inspection and Use Log

FALL PROTECTION INSPECTION AND USE LOG

UCM NWI Hospital: 10855 Virgina Street, Crown Point, IN 46307 - Fall Protection Anchorage

Date	Type of Work	Hours of Use (See Note 1)	Safe Working Limit (See Note 2)	Name of User / Company (See Note 3)	Signature	University of Chicago Medical Buidling Management, Recieved Contractor Work Plan - Initial By (See Note 4)
04/23/2024	Safety Certification	8	one (1) person	Chris Neseman / ZS		Rick Connolly (Project Manager at Nacional Group)
04/23/2024	Safety Certification	8	one (1) person	Jerad Tauschek / ZS		Rick Connolly (Project Manager at Nacional Group)
04/24/2024	Safety Certification	8	one (1) person	Chris Neseman / ZS		Rick Connolly (Project Manager at Nacional Group)
04/24/2024	Safety Certification	8	one (1) person	Jerad Tauschek / ZS		Rick Connolly (Project Manager at Nacional Group)
04/30/2024	Safety Certification	8	one (1) person	Chris Neseman / ZS		Rick Connolly (Project Manager at Nacional Group)
04/30/2024	Safety Certification	8	one (1) person	Jerad Tauschek / ZS		Rick Connolly (Project Manager at Nacional Group)
		-	one (1) person			
		-	one (1) person			
		-	one (1) person			
		-	one (1) person			
		-	one (1) person			
		-	one (1) person			
		-	one (1) person			
		-	one (1) person			

Note 1. Hours of use shall not exceed 300 hours per annual inspection. Inspections must be performed annually.

Note 2. Each Fall Protection Anchorage is designed for a working load of one (1) person per anchor or one (1) equipment tie-back per anchor.

Note 3. Before each use, an OSHA competent person is required to inspect the anchor points prior to commencing work.

Note 4. Prior to the use of the Fall Protection Anchorage, the contractor is required to provide the University of Chicago Medical Building Management a work plan.

Appendix F

Sample Maintenance Contractor's Assurance Form

This form should be prepared on contractor's letterhead.

We, the Maintenance Contractor assure "The Owner" that all employees have been properly trained and are competent in the proper use of the safety system.

In addition, we also assure that we have performed an inspection of the safety rigging equipment, and will inspect the equipment before each use to ensure that all equipment is safe and operational.

As requested, attached are written work plans and procedures for the safety system and safety methods we intend to employ and information regarding our communications system that will be used to facilitate rescue.

We have reviewed the system restrictions and limits as noted on the Inspection Log and Drawings and will work in strict accordance with these requirements.

We agree to immediately report any safety concerns to the Owner prior to performing any work.

We will immediately report any fall arrest event and discontinue use until an inspection can be performed by a licensed professional engineer.

Maintenance Contractor Company: _____

Name: _____

Address: _____

Signature: _____

Date: _____