

Method Statement



Project Name: Project Number:
 Package Number: Element: Date Issued:

Trade Contractor:

Document Number	Revision	Method Statement / Risk Assessment (RAMS)	Description/ Title	Date Received By Client	Date Review Closed Out	Date Returned To Contractor	Review Status		Further Action / Comments
							A	U	
C00-527-RAMS-05	A		Installation of Crane Ties to the 8th floor	30.10.2020					

Review Status

A = Accepted
U = Unacceptable

CLIENT: _____ Signature: _____ Date: _____
PRINT NAME

CLIENT: _____ Signature: _____ Date: _____
PRINT NAME

Method Statement



	Form Ref. C00527-RAMS-05
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Project: McGee South Colonnade	Project No: C00527
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Title: C00527-RAMS-05 - Installation of Crane Ties to the 8th floor
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Author: James Fadden	Checked By:	Issue Date: 30.10.2020
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Issued to: William James	Revision: A	Date: 30.10.2020
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1. SAFE SYSTEM OF WORK

Contents

1. General Safety Outline
2. Delivery and Distribution
3. Lifting and Installation

General Safety Outline

All Asme operatives to be site inducted and have read and signed related method statement prior to commencement of works.

A safe start will be given to all operatives before works commence. Each operative/team will be made aware of hazards and other works happening within that area which may encroach on the work.

All operatives to comply with McGee safety requirements.

All relevant certification for plant will be issued prior to works commencing and will be continually added as the project progresses.

All the relevant training certification will be issue in advance or in any case on the same day of the induction. Specialist training/qualifications required will be identified throughout this document.

Any operatives found to be deviating from the Induction Process or to the Safe Systems of Work described in this document will be removed from site immediately.

All supervisor to have minimum SSSTS and supervisor card. Supervisors on site for all works.

Before works commences all operatives to take 5:

1. **STOP:** Stand back look at your environment.
2. **THINK:** How you can carry out your task safely.
3. **IDENTIFY:** The risk to yourself and others.
4. **CONTROL:** What you can do to reduce the risk to yourself and others.
5. **COMPLETE:** Complete your task safely

This method statement is to outline the safe methods of manoeuvring, hoisting & welding of the crane tie at the 30 South Colonnade Project for McGee.

OPERATIVES MUST NOT START WORKS UNTIL BRIEFED & UNDERSTOOD, OPERATIVE IS THEN TO SIGN UP TO RELEVANT RAMS.

Sequence of Works -

1. ASME Site Team will contact McGee site management prior to delivery of the steels or equipment. The steelwork will be delivered using a rigid lorry equipped with a FASSI F485A.2.25. This vehicle will also have fitted handrails. All Asme vehicles entering site are compliant to FORS.
2. ASME vehicle will enter site via South Colonnade, through the shutter of the building into the loading bay. Max lorry height accessible within loading bay approximately 4m.
3. Hi-ab lorry will be reversed into the parking bay.
4. Lorry driver will be signalled into position by McGee traffic Marshalls.
5. Traffic Marshall will signal lorry driver when lorry is in its final position.
6. Once vehicle is in its final position, barriers must be set up to prevent unauthorised access to unloading area, Chapter 8 barriers, and barrier tape to be used.
7. All off-loading of materials & equipment will be carried out either by manual handling for smaller items such as bolts bags or with use of the HIAB for larger items. All certifications for chains and slings to be in date and presented.
8. The lorry driver will then exit the cab of the lorry with 5-point PPE worn and start rigging for unloading.
9. Once lorry is rigged and ready for offloading, the operator of the hi-ab is to take note and special attention of the existing services installed to the underside of the soffit.
10. There is a range of live services in close proximity to the top of the lorry, this will be carefully monitored when removing the hi-ab from its stowed position by the supervisor overseeing the works.
11. Unloading & lifting is covered under LP-1.
12. Once landed onto the 2 buggies, the steels will be secured by using ratchet straps. The steel will then be manoeuvred into the position by others and vertically transported using an electric chain block.

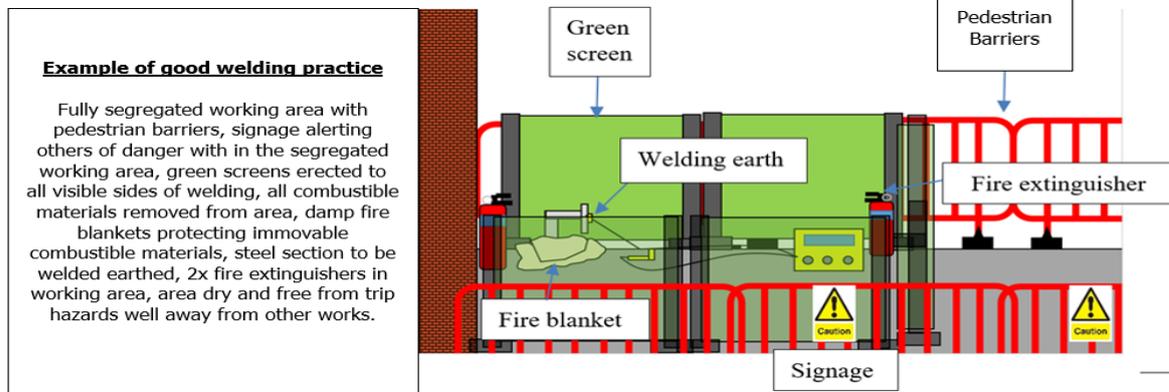
Installation

13. Marked up drawing attached showing delivery sequence which in turn will follow on as install sequence for a JIT system.
14. Once steel is on the level 8 floor, pallet stackers are to distribute the steel round to the GL 40 & GL 50.
15. Lay down area of steel is to be spready across the floor and mainly positioning tie steel over the primary beams from the floor below, these can be seen by working between columns seen on level 8.
16. Prior to any steel being installed, drilling and welding will take place prior.
17. An engineer will set out centre line of steels which steel erectors will then mark the position of holes using a set square and chalk.
18. All magnet drilling and welding is to be set up and carried out as per steps below. (22 and 56)
19. Steel is to be hoisted using SLA/SLK Genies and chain block off of a beam clamp.
20. Any lifting to be carried out using beam clamps is to have a permit to load in place.
21. The crane tie steel arrangement is being installed to stiffen the existing building so the tower crane can operate safely.
22. The area of install has been surveyed and drawn to suit.
23. If any clashes with existing services/steels/concrete/bolts ECT. Please STOP WORKS & contact supervisor.
24. Access to any off the ground items will be done so through a star 6AC scissor lift or an aluminium tower.
25. Operatives carrying out this install are reminded to position 2 sheets of 18mm ply beneath the scissor lift at all times.
26. Access to two proposed stiffeners (SP37) on G/L 40-Q2 & 50-Q2 will be accessed by the use of a scaffold due to the location within the atrium area.

Hot Works – Welding, cutting and grinding

27. Hot works permit will be issued by McGee Management prior to any hot works.
28. The area around the works will be damped down if deemed necessary.
29. Welding screens will be erected around the works to prevent sparks creating a fire hazard, where appropriate.
30. The working area will be cleared of all combustible materials by others before works commence.
31. The surrounding area/equipment will be protected from sparks etc.

32. Fire Watch person will be present for the duration of the hot works and for a minimum of 1 hour after completion of hot works.
33. The required fire extinguishers will be on hand at site and under control of the Fire Watch person.



34. In some areas, the steel to be welded may need to be preheated to a certain temperature. To pre heat steel, propane gas a burning torch is to be used.
35. Task specific PPE will be worn at all times during these tasks – high impact goggles or high impact full face shield for any grinding or cutting, respirator welding shield, fire proof clothing and welding gauntlets for all welding works.
36. 110V and 415V equipment will be used (grinders, welding machine) full checks on all equipment will be completed before use.
37. Grinders must not be used unless they are fitted with handle and guard; only correct size disks man be used on the tool.
38. Fire blankets and screens must be set up to protect area, welder and any other site personal.
39. 2no fire extinguishers must be at hand at all times for hot works – CO2 and Dry Powder.
40. Direction of sparks should be considered and all areas cleared of all potential flammable materials before starting any hot works.
41. Operatives carrying out any welding operations will be issued with welding mask which will have a respiratory device and flame-retardant welding gloves & overalls.
42. The welder is coded and tested internally to carry out Butt/fillet welds. The welder will work accordance with ASME welding procedure and approved structural engineer details.
43. Elephant trunk ventilation system will be used to clear the local work area of fumes. The welder will be using an air fed mask.
44. On confirmation from Site Engineer that positioning is ok only then may the welder proceed to fully weld in place.
45. On completion of all welding on all floors a full weld test will be completed, signed off copy of the Site Weld Notification SWN can be sent to McGee management with the Certificate to follow.
46. Prior to NDT being carried out Hold times before final NDT shall be in accordance with NSSS cl. 5.5.4 & Table A in Annex A
47. NDT will be carried out using Magnet Particle Inspection testing (MPI) or Ultrasonic equipment dependant on the weld and specification.
48. NDT inspector will be using same means of access as welder to access welds
49. Welder and fire watch are responsible to clean up work areas and remove all waste to correct designated bins for removal from site.
50. Gas bottles to be removed and form the work area at the end of the shift and placed in an agreed secure location.
51. Secure location for gas bottles will be on the floor being worked on. Bottles will be fenced and chained.
52. Welder and fire watch must wrap up all tools and equipment, with no tools left out that may be picked up by inexperienced site personal which could lead to accident or incident.

Drilling/Breaking Concrete

53. In this item of work, it's not seen that any drilling or breaking will be required as all connections are welded. there may be circumstance on this task where minor drilling/breaking concrete may be required.

54. All drilling of holes into concrete will be done with Hilti AVR Hammer drills with the aid of a Hilti M-class dry vacuum to control excess dust.
55. Operatives must wear the P3 full face masks and must inspect the filters before use, if heavily soiled with particles filters must be changed for new ones to maximise airflow and minimise potential for harm.

56. Holes will be drilled to required depth as per engineers' calculations, if unable to drill to required depth issue should be raised with Site Manager so a solution may be agreed upon at the earliest possible time.
57. On completion of drilling operatives must follow install instructions set out by the manufacturers, holes will be brushed and blowout before inserting the agreed upon fixings.
58. When using Hilti resin manufacturers instructed install method and times for resin to go off must be adhered to.
59. All excess dust created will be cleaned up using the Hilti Vacuum.
60. Operatives to wear P3 masks and safety goggles for all high-level drilling to minimise inhalation of dust and fragments entering eyes and mouth that may be missed by the dry vacuum.

Drilling into existing steel

61. Operatives may be required to drill into existing steel, they will work to the points set out by the engineer.
62. Operatives must run checks on all tools for the task before use, removing and reporting any defected items.
63. Operatives to check over drilling area surface to ensure there is nothing that may snag the drill or prevent it from getting full contact for the magnet, these snags if found must be removed prior to setting up and drilling.
64. A magnet drill will be used for all drilling where possible.
65. For all drilling to underside of steel or where the drill is horizontally positioned operatives must ensure a safety strap is positioned to minimise potential for the drill to fall away and cause harm.
66. All drilling of steel cutting fluid must be used and excess fluid and swarf when done must be cleaned up.
67. Task specific PPE must be worn for the works such as ear defenders and safety goggles.
68. No loose clothing, jewelry, etc. may be worn when operating rotating tools to prevent injury.
69. When using a 110v magnet drill once the lead is plugged into the power box the male to female socket must be taped with hazard tape to prevent other trades unplugging the lead which could cause a serious injury to the team carrying out the drilling as the magnet would release and the drill drop.

Manual Handling

70. Where possible mechanical aids will be used to lift and move loads.
71. Operatives to stop and assess the load before attempting lifts, understand weight of item and check travel path is clear.
72. implement team lifting where necessary with one man controlling the lift with verbal communication.
73. Operatives must place steels on supplied timbers and take care whilst moving steels, at no point must the steel be dropped aggressively onto the slab, slab is made up of terracotta infill sections which may crumble under a heavy blow.
74. All steels must be stacked securely and correctly in the designated storage areas.
75. Steels must be stacked minimum 2m away from building edge or 1m where there is adequate edge protection, steels within 2m of the edge must not be staked more than 2 high.

Working at height

76. Operatives working on the back of the truck to unload deliveries must use the ladder to access the bed of the truck and must ensure the edge protection is in place at all times.
77. Operatives working from podiums or scaffold towers must ensure the access equipment is built to manufacturer's instructions, that all pieces are in place, brakes are used, stabilizers are used and that entry and exit from the platform are done using the correct method only. and checks and tags are in place to indicate ready for use.
78. Permits may be required to work at height around the slab voids or external edge, these must be obtained from the McGee management before commencing works and closed out at end of shift.
79. When working in close proximity to the voids or slab all operatives must wear full body harness with a fall restraint lanyard when outside the edge protection.

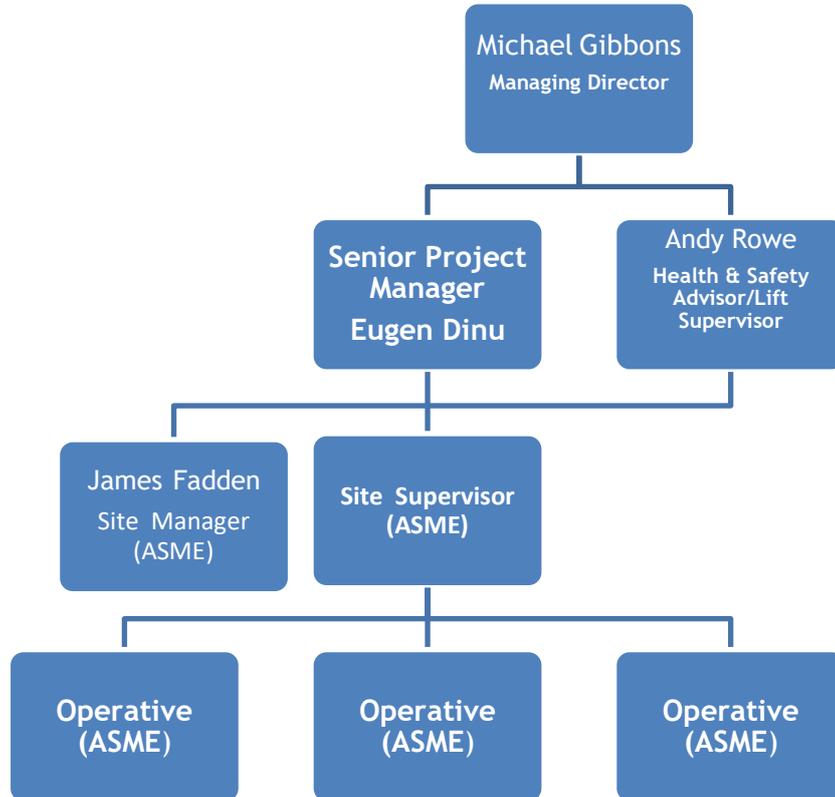
80. Fall protection must be securely connected to a fixed point like a round sling wrapped around a column, a horizontal lifeline etc.
81. Working on live edges must be avoided if possible, all works must be risk assessed before task may commence to ensure they have the safety method chosen.
82. Only trained competent operatives under instruction from McGee management may adapt the edge protection around the voids.
83. When using access equipment, it must be set up stable and correct with a clear path for exit in case of an emergency.
84. When using a MEWP operative must carry out full checks before use including that ground controls work so a rescue can be carried out if the operative in the basket was to get into trouble.

General notes & housekeeping

85. All ASME operatives must follow site rules at all times as detailed in the site induction given by McGee management.
86. ASME team to be aware of emergency plans, first aiders, locations of First Aid station and notice boards that have all relevant information.
87. ASME Site Manager to monitor weather and ensure team are aware of high temperatures / cold or wet weather. Manager to ensure wind speeds are monitored and respect the Crane Operative and Lifting Supervisor decision if they call lifting off due to high winds or gusts.
88. Operatives are responsibly for housekeeping of all work areas; all rubbish will be removed either to designated onsite bins or bagged and stored ready for collection by ASME van or truck.
89. Leads 110v 16amp, 110v 32 amp, 415v 63amp will run above head.
90. Operatives will ensure work areas are monitored and regularly cleaned up removing waste, tools, equipment etc.
91. Storage areas must be kept tidy as too working areas.
92. Equipment and materials must be left in a tidy state at end of shift and must not impede on access walkways or travel paths for others moving materials.
93. On completion of areas ASME Site Manager will complete a handover package and walk the area for inspection with the client if requested.
94. Any snags that may be found will be addressed in timely fashion and inspected again until client is happy to sign off on works.
95. Daily checks to be carried out on all equipment and tools.
96. Weekly checks for LOLER, PUWER, Pat Test, Premises check, TBT etc to be carried out and copies sent to McGEE management if requested.
97. Copies of all thorough examination certs for lifting equipment, access equipment etc will be sent to the client and hard copies stored in office.
98. ASME Site Manager to notify McGee management in advance for deliveries, collections, new inductees etc a minimum of 24 hours in advance.
99. In the case that works are to deviate from the RAMS due to being unable to proceed with current methodology then works must stop until the RAMS are revised and changed to include the new safe system of work, all operatives will be briefed on the changes and sign onto the updated document.
100. All revisions of RAMS or Lift plans must be signed off by McGee management before works can commence.

If any of the above does not work practically. STOP all works and contact the supervisor/manager.

Organisational Chart



3. RISK AND CONTROLS

Main Risks & Controls

Welding	Operatives will adhere to the welding RA at all times
Manual handling	Operatives will adhere to the manual handling RA at all times
Work at height	Operatives will adhere to the working at heights RA at all times

Personal Protective Equipment:

Mandatory PPE on site: Gloves (CUT-3), Hard hat, hi-visibility vest or jacket, safety glasses and safety boots.

Task Specific:

- Ear plugs / ear defenders during noisy works

Method Statement



- Safety Harness
- High Impact Goggles
- Reusable Half Masks with P3 Filters

Emergency Procedures:

- All operatives to have been informed of emergency phone numbers, nearest hospital & escape routes as per Health & Safety Plan. (Shown in site office)
- Asme Project Manager must be contacted immediately in case of any emergency.

PM - Eugen Dinu - 07921 389 026

SM - James Fadden - 07392 311 758

4. ACCESS & EGRESS

- It is imperative that all Emergency escape routes are kept clear of obstruction at all times (Asme Site Manager and McGee Manager to ensure).
- Site access and deliveries will be accessed through Bear Gardens (See the photo attached to this document above).

5. LIGHTING

- All operations will be performed during daylight.

6. PLANT & EQUIPMENT

Equipment provided by Asme:

Type	Qty
Magnetic Drill	2
SLA/SLK	
Hand tools - Spanners & Podgers, crow bar.	
Podium Steps/pop ups/tower scaffold	1
Star 6AC Scissor Lifts	
Props	4
Grinder	1
G Clamps	1

7. TRAINING CERTIFICATION/PERMIT TO WORK

- CSCS
- CPCS
- PASMA
- NPORS
- SSSTS or SMSTS
- IPAF
- ALLMI

8. HAZARDOUS MATERIALS & SUBSTANCES

Material / Substance Line marker spray	
<ul style="list-style-type: none"> • CT90 Fluid/Grease 	

9. WASTE MANAGEMENT

- Waste to be removed on daily bases and segregated in the dedicated area on site divided as per McGee Site Waste Management plan.

10. SPECIAL CONTROL MEASURES

- ASME engineering must ensure that adequate signage and safety barriers are put in place to segregate work areas both during work activities, before going for breaks and at the end of the shift.
- Chapter 8 barriers surrounding work area to create a lifting zone.

11. PROTECTION OF WORKS

- The site will be fully protected and separate from the public area as per Main Contractor specifications. A large fence in place around full circumference of project.
- The site will be under supervision at all times to monitor the activities on going.
- As works are at a high level, all operatives must use tool tethers for hand tools when working 1 metre of the edge.

12. QUALITY CHECKS, INSPECTION & TESTING

- The job will be delivered as per the Asme Engineering’s approved drawings, specifications and ASME ITP to which all have been previously submitted to McGee
- Final inspection is required by the client and signed off as installed correctly and is to be acceptable as per the engineer’s detail.

13. RECORDS & MONITORING

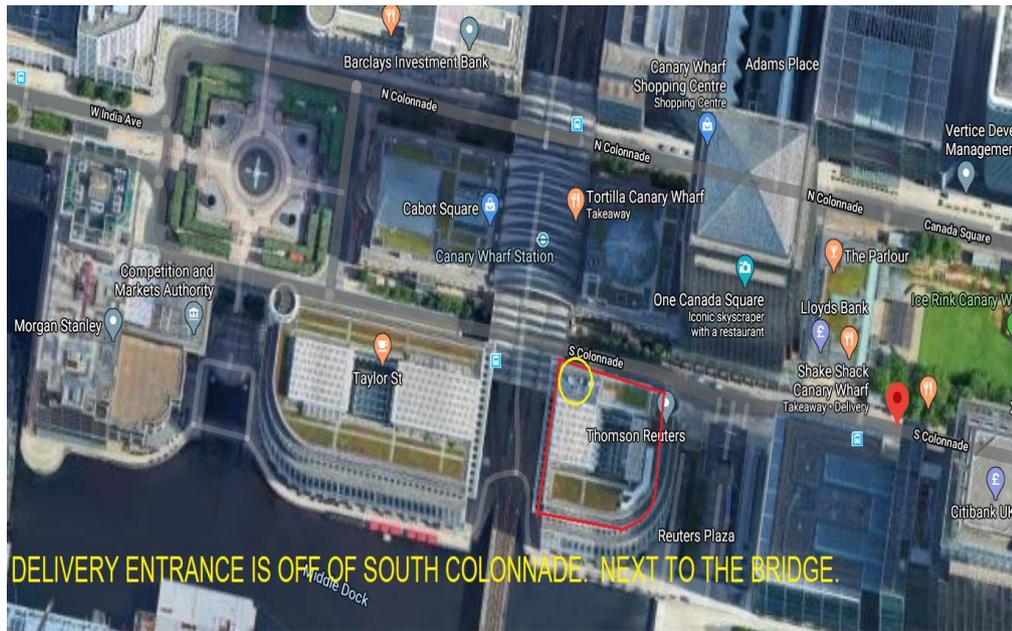
- The records & monitoring forms will be produced during the activities in place.
 - Tool & Equipment inspections -COSHH
 - Noise Monitoring

Method Statement

Checklist	
Risk assessments and COSHH completed.	Yes
Manual handling operations record complete.	Yes
Noise assessment record completed.	Will be produced as works are carried out.

14. ROUTE ACCESS TO THE SITE

The route access for deliveries is as indicated in the image below



Appendix A

Method Statement



(Risk Assessments)

Appendix B

(General Arrangement Drawings are attached to this document)

Method Statement



ESH	Health & Safety Method Statement Briefing Register		
Project:	South Colonnade McGee	Date:	30/10/2020
Trade Contractor:	Asme Engineering Ltd	Method Statement Title:	C00527-RAMS-05 - Installation of Crane Ties to the 8 th floor
Name (Print)	Signature	Company	Date
Name: _____ Designation: _____			

Method Statement



ESH	Health & Safety Method Statement Briefing Register		
Project:	South Colonnade McGee	Date:	30/10/2020
Trade Contractor:	Asme Engineering Ltd	Method Statement Title:	C00527-RAMS-05 - Installation of Crane Ties to the 8 th floor
Name (Print)	Signature	Company	Date
Name: _____		Designation: _____	
_____		_____	



C00527-RAMS-05 - Installation of Crane Ties to the 8th floor

Warning: Medium Risk Activity

Location of Activity

30 South Colonnade E14 4AP Level 8

Description of Activity

Installation of crane ties on level 8

Equipment Used

HIAB Crane Bogie Chain Block Star 6AC Magnet Drill Welding Equipment

Supporting Documents

Weekly checks Crane Manual RAMS PUWER LOLER Certs for lifting equipment Service reports

Person(s) Affected

Management
Supervisor
Operative
Third Party

Total Numbers Affected: 4-8 operatives

Frequency of Exposure: 2 weeks

Duration of Exposure: 10 hours per day

Assessor Signature: Andy Rowe

Created On: 16-10-2020

Review Before: 16-04-2021

Likely Harm(s)
Fatality
Fractures/broken bones
Burn injury
Crush injury
Head injury
Permanent loss or reduction in sight
Amputation
Sprain, strain or musculoskeletal injury
Cut, abrasion, laceration or bruise
Long term health effects
Short term health effects

Risk Summary

		Risk rating WITHOUT controls			Risk rating WITH controls		
Hazards Identified	Persons affected	Severity	Likelihood	Risk Rating	Severity	Likelihood	Risk Rating
Lack of competence/ experience	Operative, Supervisor, Management, Third Party	5	5	High	5	2	Medium
Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Operative, Supervisor	5	5	High	5	2	Medium
Fall of person/object from height	Operative, Supervisor	5	4	High	5	2	Medium
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving)	Operative	5	3	High	5	2	Medium
Malfunction of equipment/ mechanical failure	Operative, Supervisor	5	3	High	5	2	Medium
Unauthorised access	Third Party	4	4	High	4	2	Medium
Manual handling	Operative	3	4	Medium	3	2	Low
Using or selecting incorrect equipment	Operative, Supervisor, Management, Third Party	5	5	High	5	1	Low
Overturning or unplanned movement of equipment or item	Operative, Supervisor	5	4	High	5	1	Low
Unintentional strike contact with persons/ cable/ services/ structure/ equipment	Operative, Supervisor, Third Party	5	4	High	5	1	Low
Entrapment and/ or crush	Operative, Supervisor, Third Party	5	3	High	5	1	Low
Inclement/extreme weather	Operative, Supervisor, Third Party	5	3	High	5	1	Low

		Risk rating WITHOUT controls			Risk rating WITH controls		
Hazards Identified	Persons affected	Severity	Likelihood	Risk Rating	Severity	Likelihood	Risk Rating
Lack of information/ instruction	Operative, Supervisor	5	3	High	5	1	Low
Strike of person/ property/ equipment by falling object	Operative, Supervisor, Third Party	5	3	High	5	1	Low

Key:	Severity 1 = Trivial/Minor Injury/ies 2 = Moderate Injury/ies/Minor Property Damage 3 = Major Injury/ies to one person / Short Term Health Effects 4 = Major Injury/ies to several people / Long Term Health Effects / Major Property Damage 5 = Fatality	Likelihood 1 = Improbable Occurrence 2 = Remote Occurrence 3 = Possible Occurrence 4 = Probable Occurrence 5 = Likely Occurrence	Risk (Severity x Likelihood) 15 - 25 = High Risk 8 - 12 = Medium Risk 1 - 6 = Low Risk

Control Measures

Hazards	Control Measure
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Malfunction of equipment/ mechanical failure Unintentional strike contact with persons/ cable/ services/ structure/ equipment	All new tools, equipment or machinery are checked before first use to ensure they have the CE Standard Mark, a 'Declaration of Conformity', that there are no obvious accessible dangerous moving parts, and the location of the machine does not cause additional hazards.
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Tools, equipment and machinery have been reviewed for potential retrofitting of additional guarding/safety cut offs/interlocks etc. to minimise access to dangerous parts, improve braking or stopping speeds and ensure adequate access to emergency stops from operator position.
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving)	Tools, equipment and machinery used have been selected to eliminate dangerous/hot/moving or rotating parts.
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Unauthorised access	A safety exclusion zone is established around the perimeter of the works with suitable signage, barriers and screening as necessary. Authorised persons only are permitted to enter the exclusion zone.
Malfunction of equipment/ mechanical failure Using or selecting incorrect equipment	All damaged and defective portable electrical tools are immediately taken out of use, reported to the supervisor and disposed of or clearly marked as being defective and not for use.
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Entrapment and/ or crush Lack of competence/ experience Malfunction of equipment/ mechanical failure Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics Using or selecting incorrect equipment	Only suitably trained, competent and authorised personnel are allowed to use tools, equipment and machinery. They are instructed in the safe use and appropriate selection of items and associated parts or accessories, storage, PPE requirements, emergency requirements and procedures, use of guarding, interlocks and other required control measures specific to each item, process and particular activity, and how to inspect and check the equipment prior to use. All guards are installed in accordance with the manufacturers instructions, are appropriate for the equipment being used and are in place at all times the equipment is in operation.
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Malfunction of equipment/ mechanical failure	Suitable inspection, cleaning and maintenance regime is in place to ensure all items remain in safe working condition including annual thorough inspection, recorded weekly inspections and daily user checks where appropriate, in accordance with legislative requirements and manufacturer's recommendations.
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Good housekeeping practices are maintained at all times to minimise temptation/need to access moving parts, ensure good safe working area with appropriate lighting and minimise accidental contact. Regular cleaning and clearing of excess and waste materials is undertaken as per safe working methods only. Specific push sticks are only used where appropriate and authorised.
Malfunction of equipment/ mechanical failure	Abrasive Wheels are used in accordance with the principles of HSG17 - Safety in the Use of Abrasive Wheels.

Hazards	Control Measure
Malfunction of equipment/ mechanical failure Unintentional strike contact with persons/ cable/ services/ structure/ equipment Using or selecting incorrect equipment	The condition of the blade/disc/wheel/bit is monitored and replaced when necessary. When changing accessories, the blade/disc/wheel/bit is inspected to ensure that it is of the correct type for the item and material being worked, and that it is in good condition
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Lack of competence/ experience Lack of information/ instruction Malfunction of equipment/ mechanical failure Using or selecting incorrect equipment	Manually operated Hand tools (e.g. brushes, chisels, hammers, scrapers, screwdrivers, knives, saws, scissors) used in the task are selected, used and maintained correctly by competent trained operatives only, ensuring correct selection for work type, avoiding excess pressure or inappropriate use through incorrect selection or maintenance.
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Malfunction of equipment/ mechanical failure Unintentional strike contact with persons/ cable/ services/ structure/ equipment	Operators do not apply excessive pressure during the operation of the tool or machine and ensure that the correct speed/torque/settings are used appropriate to the material/tool and part being used. No bumping or forcing of materials or equipment is allowed. Where items are powered, slow start up speeds are used as appropriate, testing for material workability and any potential kickback or catching.
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Unintentional strike contact with persons/ cable/ services/ structure/ equipment	Portable electric tools are only used when it is confirmed that the relevant safety devices/guards are fitted and are working as intended.
Strike of person/ property/ equipment by falling object	Where possible, load is kept as low as possible to ground during manoeuvre.
Unauthorised access	The use of lifting equipment and accessories are by authorised persons, keys where applicable will be removed by authorised user, doors locked etc. to preventing unauthorised access.
Lack of competence/ experience Malfunction of equipment/ mechanical failure Strike of person/ property/ equipment by falling object	All lifting equipment and lifting accessories undergo suitable pre-use checks, weekly recorded inspections and thorough inspections (six/twelve monthly intervals as appropriate) by a competent person, and any other necessary inspection and documentation as required by legislation or manufacturer's recommendations.
Lack of competence/ experience Malfunction of equipment/ mechanical failure Strike of person/ property/ equipment by falling object	Materials that are being lifted are suitably and securely slung by competent trained slinger using appropriate lifting accessories for the particular task (such as stillages and straps for glass) and ensuring loads slung are secure.

Hazards	Control Measure
Lack of competence/ experience Lack of information/ instruction Strike of person/ property/ equipment by falling object Unintentional strike contact with persons/ cable/ services/ structure/ equipment Using or selecting incorrect equipment	All lifts are planned by a competent person. Anything other than simple and routine lifts have a detailed written lift plan by an appointed person.
Lack of information/ instruction	All persons involved in the lift are briefed on the lifting plan and sign to confirm acceptance.
Lack of competence/ experience Overturning or unplanned movement of equipment or item Strike of person/ property/ equipment by falling object Unintentional strike contact with persons/ cable/ services/ structure/ equipment	The lift is supervised at all times by competent lift supervisor. This may be the competent operator for simple lifts.
Lack of information/ instruction Malfunction of equipment/ mechanical failure Overturning or unplanned movement of equipment or item Strike of person/ property/ equipment by falling object	The safe working loads of all items involved (equipment, accessories and loads) are displayed, known by all persons involved and adhered to.
Inclement/extreme weather Lack of information/ instruction Malfunction of equipment/ mechanical failure Overturning or unplanned movement of equipment or item Unintentional strike contact with persons/ cable/ services/ structure/ equipment Using or selecting incorrect equipment	Lifting equipment used is as specified and used in accordance with the lifting plan and manufacturer's instructions.
Overturning or unplanned movement of equipment or item Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics Strike of person/ property/ equipment by falling object	Operators ensure route of manoeuvre during lifting operation is adequately lit and in good condition prior to works to minimise possibility of overturning.

Hazards	Control Measure
Lack of information/ instruction Strike of person/ property/ equipment by falling object Unintentional strike contact with persons/ cable/ services/ structure/ equipment	Good communications strategy established - for blind or complex lifts, radio system to be in place and operational at all times.
Malfunction of equipment/ mechanical failure Strike of person/ property/ equipment by falling object Unintentional strike contact with persons/ cable/ services/ structure/ equipment	A test lift carried out prior to main lifting operation.
Strike of person/ property/ equipment by falling object	Hard hats to standard BS EN 397 are worn to protect against falling objects.
Fall of person/object from height Strike of person/ property/ equipment by falling object Unauthorised access	No unauthorised persons are permitted access to any parts of the vehicle or unlock or reveal any parts of the vehicle or load. The driver inspects and provides access to the loaded materials on arrival at site.
Fall of person/object from height Lack of information/ instruction Malfunction of equipment/ mechanical failure Using or selecting incorrect equipment	Defective, damaged, worn or otherwise unsafe WAH equipment or accessories is completely removed from site immediately upon identification or removed to manager's secure location to prevent accidental or unintended reuse.
Fall of person/object from height Strike of person/ property/ equipment by falling object Unauthorised access	All reasonably practicable measures are taken to prevent unauthorised access to areas below and around work at height through the establishment of exclusion zones with suitable barriers, signage and guards.
Fall of person/object from height	The work at height hierarchy is used to assess all work at height activities; wherever possible work at height activities are avoided.
Fall of person/object from height Manual handling Strike of person/ property/ equipment by falling object	Suitable consideration is given to distributing materials and tools to the point of work when working at height, providing suitable carrying and transportation aids such as tethers, lanyards, straps, bags, rucksacks, lifting systems, carriers and tool belts to prevent items falling from height wherever possible and to ensure persons can access their workplace at height safely.
Lack of information/ instruction Strike of person/ property/ equipment by falling object	Workers are instructed that no items are to be deliberately thrown or dropped from any height, and suitable means of lowering items are to be used, for example use of rubble/debris chutes.

Hazards	Control Measure
Fall of person/object from height Using or selecting incorrect equipment	All vehicles are equipped with adequate, safe means of gaining access to the cabs and load. Full edge protection is provided around the vehicle or a suitable restraint system is in operation via a running line application.
Fall of person/object from height Malfunction of equipment/ mechanical failure Using or selecting incorrect equipment	Systems provided for safe work at height have been chosen so as not to interfere with or impede the loading or unloading of the vehicle, and to prevent staff from circumventing the control measures provided.
Fall of person/object from height Lack of competence/ experience Unauthorised access Using or selecting incorrect equipment	All drivers are trained in safe work at height on vehicles, including the type and specification of company vehicles, and the requirement to establish suitable exclusion zones when carrying out loading or unloading tasks.
Fall of person/object from height	Drivers are instructed to maintain excellent housekeeping across all parts of vehicles and wear non-slip steel toecap and midsole footwear.
Fall of person/object from height Strike of person/ property/ equipment by falling object	Drivers are required to inspect and approve the loading, stacking and securing of their vehicles prior to departure.
Manual handling	Mechanical means of lifting and movement are to be used wherever possible rather than relying on manual handling operations.
Manual handling	The organisation's purchasing policy considers manual handling when ordering materials and items that will require manual handling to determine if smaller, safer types, sizes and weights can be utilised.
Manual handling	Materials are delivered as close to the workplace as possible to reduce the need for manual handling wherever possible.
Lack of information/ instruction Manual handling	Only suitably competent, trained and authorised persons carry out manual handling activities (operative is trained in kinetic method of lifting). Operatives are advised to seek assistance if the load is too heavy or awkward (a team lift is in place for heavy/awkward loads). Operatives are trained to have an awareness of the local environment prior to manual handling, including route and any contributing weather conditions. Toolbox talks are used to refresh operatives on manual handling techniques.
Manual handling	Operatives who are involved in manual handling are assessed for physical capability prior to lifting and carrying. Staff work patterns are rotated to ensure regular breaks are implemented to reduce fatigue when manual handling.
Malfunction of equipment/ mechanical failure Manual handling Using or selecting incorrect equipment	Manual Handling aids are provided wherever possible, with suitable training in their use. Suitable maintenance and inspection regimes are implemented to ensure they do not present additional hazards. All staff are instructed to utilise manual handling aids that have been provided.
Manual handling Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Good housekeeping procedures are maintained prior to undertaking any manual handling activities to ensure the walkways are unobstructed.
Manual handling	Adequate supervision is provided and control measures remain valid for the duration of the work.

Hazards	Control Measure
Manual handling	Operatives wear steel toecap with steel midsole foot protection and Cut Resistant level 3 gloves as a minimum.
Entrapment and/ or crush Fall of person/object from height	Crane operators only to have access to the machine, they must hold an in-date HIAB Operators Certificate
Overturning or unplanned movement of equipment or item	A site survey is carried out to identify ground instabilities and features which may affect plant/equipment operations and these are rectified where applicable.
Overturning or unplanned movement of equipment or item	Safe traffic routes are identified and demarcated with barriers in place around dangers such as holes and slopes.
Lack of competence/ experience Lack of information/ instruction Malfunction of equipment/ mechanical failure Overturning or unplanned movement of equipment or item Strike of person/ property/ equipment by falling object Using or selecting incorrect equipment	Appropriate plant attachments are provided and clear instructions and training are given on when they are to be used. The machine operator takes full responsibility for the safe use of and compliance with correct operating procedures when changing attachments and checking their operation. The correct hitch location is selected to distribute load. Only compatible quick hitch and attachments are used. Quick hitch locking pins and lynch pins are always replaced into their original holes. Alternative pin substitutes (bolts/nails) are not used. Disconnected attachments are stored on firm level ground.
Entrapment and/ or crush Overturning or unplanned movement of equipment or item	Care is taken when operating plant and equipment on inclines and when traversing slopes; operatives are familiar with maximum angles/slopes for safe operation of item.
Unintentional strike contact with persons/ cable/ services/ structure/ equipment	Flashing amber light and/or audible reversing warning sounders are mounted to plant to warn others; they remain operational at all times.
Overturning or unplanned movement of equipment or item Unintentional strike contact with persons/ cable/ services/ structure/ equipment	Speed limits are clearly displayed and communicated to personnel for them to adhere to.
Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Trailing cables or hoses across floors are not permitted or are securely covered/raised and appropriate signage provided.
Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics Unauthorised access	A safe working zone has been established to isolate personnel from work areas/areas of risk through the use of suitable barriers, hoarding, screening, and signage as appropriate.
Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Pedestrian routes are segregated from vehicles through use of marked transit routes/fixed barriers.

Hazards	Control Measure
Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics Unauthorised access	Operatives are suitably informed of the potential hazards within the working areas, exclusion zones and appropriate control measures in place
Malfunction of equipment/ mechanical failure Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Machinery, equipment and tools are maintained to help prevent leakage of fluids, if there are any spillages these are cleaned immediately and any leaking items investigated to fix the leak.
Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Workers are trained in good housekeeping practices and in keeping floor and ground areas free of trip hazards. Non slip floor coverings and/or non slip safety footwear to BS EN 20345 are provided. Sufficient lighting is provided throughout workplace, transit and welfare areas. Handrails and handholds are provided on stairs, steps or changes of level. Changes of level, sharp corners or potential low level hazards are clearly marked and signed.

Additional Control Measure Action List

Employee/Worker/Operative

Hazards	Control Measure	By When	Complete
Entanglement or contact with dangerous parts (sharp/hot/rotating/moving) Malfunction of equipment/mechanical failure	Worn, warped, blunted, defective or damaged items/tools are to be immediately removed from work area to designated repair location or disposed of immediately to prevent unauthorised or unintended use.	Prior to commencement of works	<input type="checkbox"/>
Malfunction of equipment/mechanical failure	All portable electric tools and cables are to be inspected before use, especially for cracked casing, abrasion, splits and charring.	Prior to commencement of works	<input type="checkbox"/>
Strike of person/ property/ equipment by falling object Unauthorised access	Suitable secure cordons to be established with physical signed barriers and monitored throughout the lift, to exclude any persons not involved in the lift.	Prior to commencement of works	<input type="checkbox"/>
Fall of person/object from height Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Ground and floor conditions are to be assessed for suitability prior to the erection and set up of any access equipment.	Prior to commencement of works	<input type="checkbox"/>

Manager

Hazards	Control Measure	By When	Complete
Fall of person/object from height Lack of competence/ experience Strike of person/ property/ equipment by falling object	Regular refresher training/tool box talks on work at height is to be provided to operatives.	Monthly	<input type="checkbox"/>
Lack of competence/ experience Poor/inadequate work environment or conditions/slips, trips and falls and ergonomics	Toolbox talks and internal training are to be provided to keep housekeeping requirements fresh in workers' minds. Internal and external steps and traffic routes are to be maintained in good condition and included in regular safety inspections.	Ongoing	<input type="checkbox"/>

Selected PPE for task

Hearing protection

	PPE	Grade (where applicable)	Notes
	Ear plugs	SNR 25 - 35 - A-weighted noise level 95-100(dB).	

Hi-Viz

	PPE	Grade (where applicable)	Notes
	Hi-Viz Full Jacket	Class 2 - More Conspicuous: Intermediate level of conspicuity - typically used on construction sites and roadways (with speed limits not exceeding 50mph).	
	Hi-Viz Orange Jacket	Class 2 - More Conspicuous: Intermediate level of conspicuity - typically used on construction sites and roadways (with speed limits not exceeding 50mph).	
	Hi-Viz Tabard	Class 2 - More Conspicuous: Intermediate level of conspicuity - typically used on construction sites and roadways (with speed limits not exceeding 50mph).	

Hand Protection

	PPE	Grade (where applicable)	Notes
	Gloves/gloves with a cuff	Cut resistant	Cut resistant level 3 as a minimum must be in accordance to EN 388

Foot Protection

	PPE	Grade (where applicable)	Notes
	Boots	Steel/Composite Midsole Steel/Composite Toecap Anti Slip	

Eye Protection

	PPE	Grade (where applicable)	Notes
	Safety glasses	High energy impact resistance Medium energy impact resistance	

Rescue/Escape/Fall protection

	PPE	Grade (where applicable)	Notes
	Fall restraint - Fixed lanyard		
	Harness - Work at height		

Head Protection

	PPE	Grade (where applicable)	Notes
	hard hat with straps		
	Standard hard hat		

Manual Handling Appendix

This activity evaluation sheet is used to inform the risk assessment and ensure that appropriate control Measures are allocated.

Activity	Slinging, Lifting, Pushing & Pulling steel for installation		
Materials Handled	Various steel sections i.e. Universal Beams/Columns, PFC, and plate	Estimated Weights	a single load for 1 operative without mechanical mean will be 25kg as a guidance for operators but should consider capability if you wish to lift more than that down to the operative, as a control measure make sure you follow the manual handling procedure, keep your legs and shoulders width apart and lift with your legs.

Task

					
Carrying	Pulling	Pushing	Twisting	Repetition	Stooping
					
Reaching High	Reaching Low	Lifting High	Lifting Low	Handling While Seated	Bending Sideways

Load

					
Bulky/ Unwieldy	Difficult to Grip	Hot	Cold	Light	Heavy
					
Unstable	Eccentric Shape	Abrasive/ Sharp			

Environment

	Not Applicable			Not Applicable	Not Applicable
Cold	Hot	Noisy	Windy	Humid	Dusty
				Not Applicable	Not Applicable
Uneven Surfaces	Obstructions	Steps	Slopes	Vibration	Confined Space

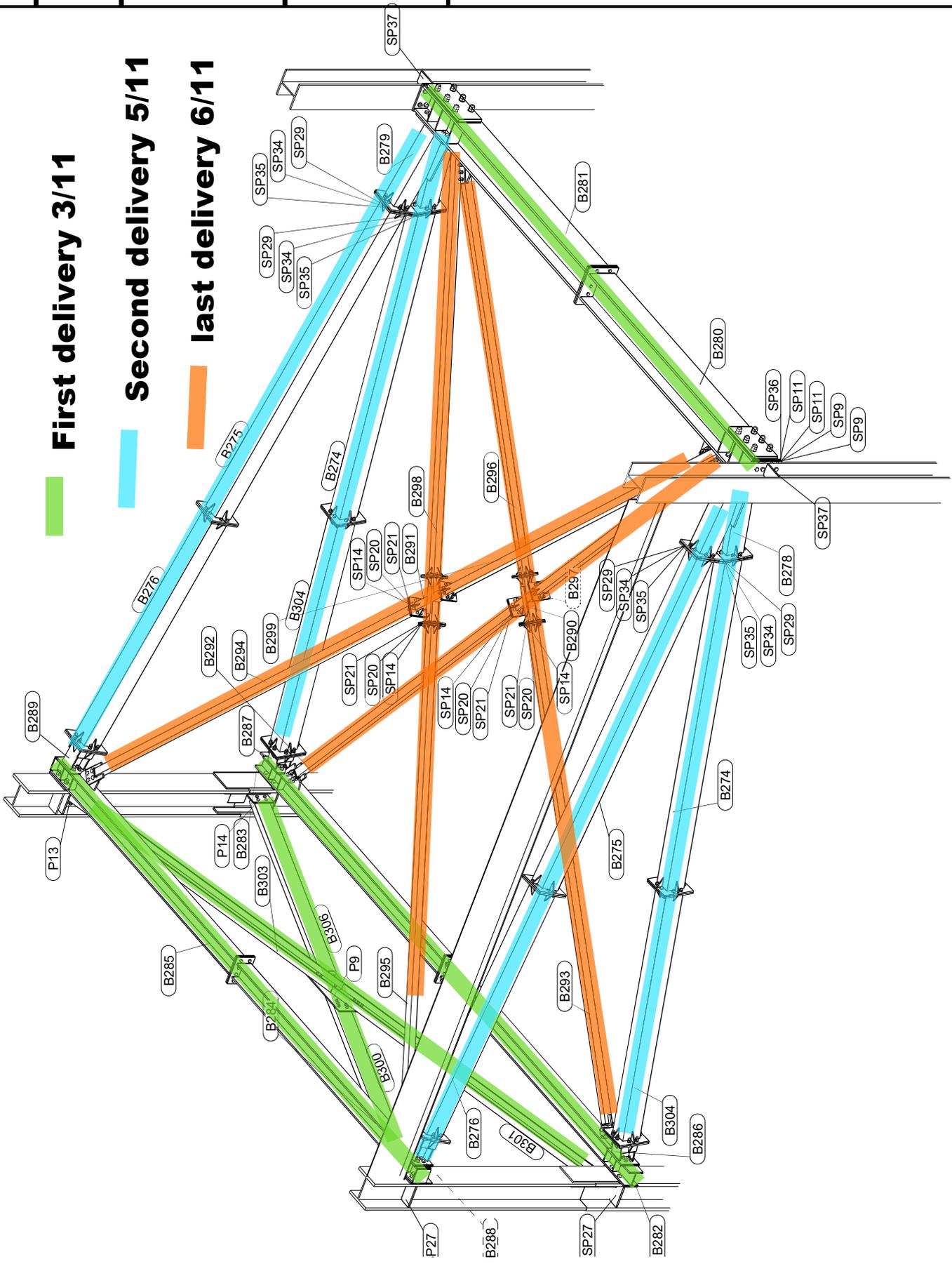
Individual

Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Training Required?	Medical Condition or History?	Need for Unusual Strength or Height?	18 - 55 Years?	PPE to be Worn?	Team Lift

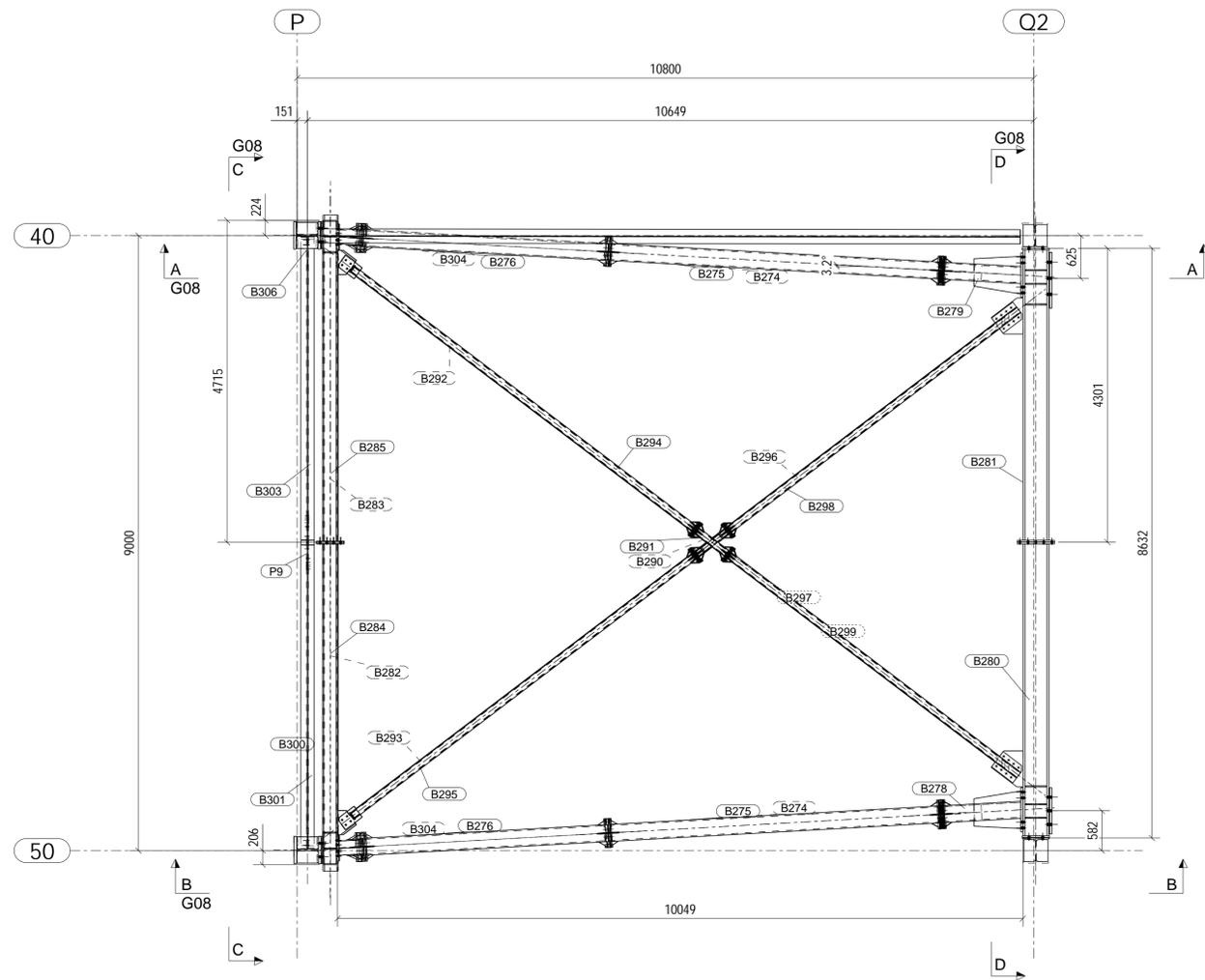
First delivery 3/11

Second delivery 5/11

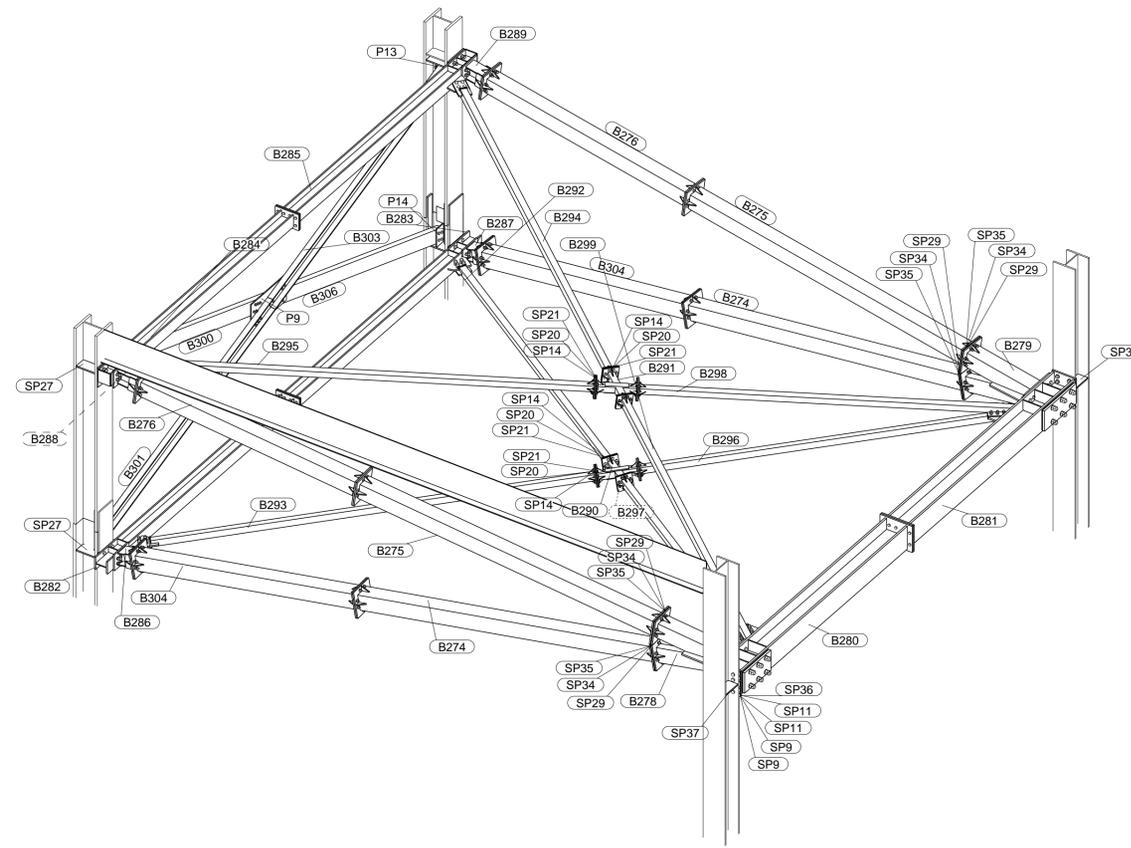
last delivery 6/11



3D VIEW
SCALE : 1:50



PLAN VIEW
SCALE : 1:50



3D VIEW
SCALE : 1:50

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- THIS DRAWING IS COPYRIGHT AND SHALL NOT BE REPRODUCED WITHOUT ASME PERMISSION.
- DO NOT SCALE THIS DRAWING. PDF DRAWINGS HAVE BEEN PRODUCED ELECTRONICALLY. FOLLOW THE FIGURED DIMENSIONS SHOWN ON PLAN & ELEVATION. DIMENSIONS ARE IN MILLIMETER (mm).
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL THE RELEVANT ARCHITECTS & ENGINEER'S DRAWINGS & SPECIFICATIONS. BEFORE MANUFACTURE, SETTING OUT AND LEVELS SHOULD BE CHECKED AS PER SITE SURVEY AND APPROVED BY THE CLIENT, ARCHITECT, ENGINEER & MAIN CONTRACTOR.
- ALL HOT ROLLED SECTIONS, PLATES & BARS WILL BE TO BS EN 10025 WITH TECHNICAL DELIVERY REQUIREMENTS OF BS EN 10025-2.
- ALL HOT FINISHED STRUCTURAL HOLLOW SECTIONS WILL BE TO BS EN 10210 WITH TECHNICAL DELIVERY REQUIREMENTS OF BS EN 10210-1.
- ALL COLD FORMED STRUCTURAL HOLLOW SECTIONS WILL BE TO BS EN 10219 WITH TECHNICAL DELIVERY REQUIREMENTS OF BS EN 10219-1.
- STEELWORKS SHALL BE SHOT BLAST CLEANED TO SA 2 1/2 SHALL BE IN ACCORDANCE TO BS EN ISO 8501-1. HOT DIPPED GALVANISING SHALL BE IN ACCORDANCE WITH BS EN 1461:2009.
- MATERIAL DIMENSIONS & TOLERANCES SHALL COMPLY WITH THE APPROPRIATE STANDARD SHOWN IN THE NSSS 5TH EDITION CE MARKING
- LEGEND/ABBREVIATIONS:

- FFL : FINISH FLOOR LEVEL
- SSL : STRUCTURAL SLAB LEVEL
- TOS : TOP OF STEEL
- SHS : SQUARE HOLLOW SECTION
- RHS : RECTANGULAR HOLLOW SECTION
- CHS : CIRCULAR HOLLOW SECTION
- M.S. : MILD STEEL
- S.S. : STAINLESS STEEL
- ▼ : DENOTES ERECTION MARK LOCATION - FOR ORIENTATION
- : HOLES
- ⊕ : SHOP BOLTS
- ⊙ : CSK HOLES N/S
- ⊙ : CSK HOLES F/S

EXECUTION CLASS:

- SITE NDT & INSPECTION:
- 100% SITE
 - SITE WELD NOTIFICATION
 - CLIENT EXTRA REQUIREMENT

MATERIAL:

FINISH:

2	FOR INSTALLATION	28-10-20	CCA	ED
1	FOR INSTALLATION	21-10-20	CCA	ED
Rev	Description	Date	By	Checked

CLIENT
QUADRANT ESTATES

PROJECT
30 SOUTH COLONNADE

Drawing Title
**TOWER CRANE MAST TIE STRENGTHENING
GENERAL ARRANGEMENT STEELWORK
PLAN & 3D VIEWS**



Drawn	CCA	Scale @A1	1:50
Checked by	ED	Date	28.10.2020
Job No.	C-00527	Status	INSTALLATION
Drawing Number	G07	Revision	2