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| **S.N.** | **ACTIVITY** | **HAZARD** | **CAUSES OF HAZARD** | **CONSEQUENCES/ IMPACT** | **RISK EVALUATION** | | **RISK LEVEL** | **IMPLEMENTED CONTROL MEASURES** | **RESIDUAL RISK** | | | **ACCEPT Y/N?** |
| **P** | **S** | **H/M/L** | **P** | **S** | **H/M/L** |
| **1**  1 | Delivery and Mobilization of aluminum Handrails, tools and equipments at site | Hit by fallen object, slip ,trip and fall. | Improper handling, access restriction and space constrained | Injury to workers ,ergonomics related injury ,and damaged of property | 2 | 3 | 6 | Pre job task briefing to all by supervisor undertaking activity.  Ensure correct use of PPE  Correct method of handling and equipments used for materials transfer  Only trained personnel engaged for the task  Close supervision by designated charge hand  Isolate and barricade work area and post signage  . | 1 | 2 | 2 | Y |
| **2** | Barricading of the area prior to start of any activities and installation. | Hit by fallen object, slip ,trip and fall | . Improper handling, access restriction and space constrained  Lifting heavy materials used for barricading, and minor difficulties in installing them. | Injury to workers ,ergonomics related injury ,and damaged of property. | 2 | 3 | 6 | Pre job task briefing to all by supervisor undertaking activity.  Ensure correct use of PPE  Correct method of handling and equipments used for materials transfer  Only trained personnel engaged for the task  Close supervision by designated charge hand  Isolate and barricade work area and post signage | 1 | 2 | 2 | Y |
| **3** | Concrete cutting and chipping for installation | Hit by flying object, sharp edges | Negligence of wearing ppe  Untrained personnel | Injury to personnel | 2 | 3 | 6 | Operative should be suitably trained and competent.  All operators must hold relevant Certificates of Training Achievements.  Ensure that machines should always be positioned on a firm, level and flat surface to ensure stability.  Cutting operations should be within a cordoned- off safety zone and with proper signage.  Hands should be kept a safe distance away from the revolving blade during the cutting operation.  All cables to be secured and properly insulated.  Proper Personal Protective Equipment (ear muffs, face shield/eye goggles and dust mask) must be provided.  Close supervision | 1 | 2 | 2 | Y |
| **4** | Installation of Aluminum Handrails | falling materials  sharp edges  pinch points | Improper handling of materials during installation  Negligence of wearing ppe  Untrained personnel | Injuries to personnel and damage | 2 | 3 | 6 | Ensure that the materials are wrapped as possibly can  Ensure that the labors are holding the materials very well during installation  Ensure falling protection in place with temporary firm barricade (GI pipes)  Deploy trained and experienced person  Use hand gloves, Eye protection.  All material to be secured and in position before permanent bolting.  Cordon off the area at ground restrict entry.  Use safety harness at heights.  Provide close supervision.  Train employees on manual handling and ergonomics safety | 1 | 2 | 2 | Y |
| **5** | Housekeeping and Handling over | Hit by fallen object, slip ,trip and fall | Materials placement in sub standard and haphazard condition | Injuries to personnel and damage | 1 | 3 | 3 | * Area surrounding the materials/ equipment should be kept in a tidy condition. * All work area must be maintained in a clean and orderly fashion. * Close supervision/monitor by designated person | 1 | 2 | 2 | y |

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| Persons in danger |
| * Workers undertaking the work |
| * Persons passing the site location/ truck routes, e.g. members of the public and persons in the Vehicles. |
| Personal protective equipment |
| * Safety Helmet, Gum Boot, Proper Gloves & Safety Goggles |
| Information, instruction and training |
| * All personnel in the team are to be made aware of the safe systems of work. |
| * Ensure that good housekeeping standard is maintained throughout. * Training and experience for personnel to use electrical equipments and vibratory equipments. * Educate the personnel to handle chemicals such as concrete… |
| Emergency procedures |
| * Site emergency procedures should make provision for the rescue of individuals from heights. |
| * First-aid facilities should be available to cope with any significant injuries that may arise from the work. |
| Monitoring and review |
| * Work should be monitored by Foreman and charge hand who are trained to ensure that any additional precautions or equipment required are provided. |

**RISK ASSESSMENT COMMITTEE**: Project Manager/ Project Engineer

Safety Manager/ Safety Officer

**Reviewed by:** (Safety Officer) **Approved by:** (Project Manager)

**RISK MATRIX**

**Risk Rating (RR) – Severity x Likelihood**

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| **LIKELIHOOD**  **(PROBABILITY)**  **(P)**  **SEVERITY**  **(IMPACT)**  **(S)** | | **Rare**  Remote possibility (once every 3 years or more)  **1** | **Unlikely**  Could happen but rare (typically once in a year)  **2** | **Possible**  Could happen occasionally (on average quarterly)  **3** | **Likely**  Could happen often (on average once a month or more)  **4** | **Almost certain**  Could happen frequently (once a week or more)  **5** |
| **Insignificant** | **1** | **Low**  **1** | **Low**  **2** | **Low**  **3** | **Low**  **4** | **Medium**  **5** |
| **Minor** | **2** | **Low**  **2** | **Low**  **4** | **Medium**  **6** | **Medium**  **8** | **Medium**  **10** |
| **Moderate** | **3** | **Low**  **3** | **Medium**  **6** | **Medium**  **9** | **Medium**  **12** | **High**  **15** |
| **Significant** | **4** | **Low**  **4** | **Medium**  **8** | **Medium**  **12** | **High**  **16** | **High**  **20** |
| **Major** | **5** | **Medium**  **5** | **Medium**  **10** | **High**  **15** | **High**  **20** | **High**  **25** |

**RISK BASED CONTROL PLAN**

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| **RISK LEVEL** | **ACTION AND TIMESCALE** |
| **1-4**  **Low** | Quick, easy controls should be implemented immediately and further action planned for when resources permit. Monitoring required ensuring controls are maintained. Manage through routine procedures. Go for economic improvements where possible. Incident report must be completed. |
| **5-12**  **Medium** | Aim to reduce risks but costs of prevention may be limited. Undertake a risk assessment of the situation / task and implement the appropriate actions. Actions should have a timescale and should be monitored. Where the risk involves work in progress undertake a risk assessment as soon as possible to ensure the safety of the situation or task. **Work should not start until the risk is reduced to an acceptable level.** Considerable resources may have to be allocated. Contact your Manager and Risk Manager by telephone about the actions that should be taken to reduce the risk/s. incident report must be completed. Incident must be added to service risk register. |
| **15-25**  **High** | **Do not commence the activity until** a risk assessment has been completed to ensure the safety of the situation or task. If it is not possible to reduce or eliminate the risk even with unlimited resources, work must remain prohibited. Inform your relevant Director, your Manager and the Risk Manager immediately by telephone. Incident report must be completed. Incident must be added to service risk register. |