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|---|---|---|---|--|-------------------------------|---|--------------|
| PTW NO-   | Department  | Equipment                                       | Location  | Job description: Construction of balance sanitary & plumbing works in toilets in BOP area for unit #3&4 at ITPS.           |                               |   |              |
| JSA performed by:   | Signature   | Review & Apprd. by                              | Signature   | Date of Issue  | Date of revision              |   | Revision No- |
| <b>HAZARD TEXT/TYPE ( For reference to identify the Hazard type )</b>   |   |   |   |  |                               |   |              |
| <b>PHYSICAL HAZARDS</b>   | <b>PHYSICAL HAZARDS</b>   | <b>PHYSICAL HAZARDS</b>                         | <b>ELECTRICAL HAZARDS</b>   | <b>CHEMICAL/ GAS HAZARDS</b>   | <b>EXCAVATION</b>             | <b>OTHERS</b>   |              |
| Noise   | Fall from height  | Force (Push/Pull)                               | Shock/ Electrocutio   | Flammable/ Explosive substances  | Collapse/Sliding              | Fire  |              |
| Radiation   | Fall (Slip/Trip)  | Caught in/on or between                         | Static electricity  | Inhalation of toxic fumes  | Underground live cable damage | Heavy Wind/Rain   |              |
| Confined space  | Fall down/below   | Struck by/against                               | Arcflash/ blast   | Ingestion/Absorption   | ERGONOMICS                    | Dust exposure   |              |
| Exposure to pressurised Steam/Air   | Fall of Objects from height   | Extreme weather (Hot/Cold)                      | BIOLOGICAL HAZARDS  | Body/Eye Contact   | Poor Posture                  | Oil spill   |              |
| Contact with Hot surface  | Contact with moving parts   | Poor illumination                               | Snake/Insect bite/Virus infection   | Spillage   | Repeatative motion            | Human factor  |              |
| <b>PPEs to be used</b>  | Safety Helmet, Safety Shoe, Safety goggle, Hand glove, Nose mask, Apron, Safety belt etc.                                     |   |   |  |                               |   |              |
| <b>Tools required</b>   | Spade, Gamla, wire brush, cutting machine   |   |   |  |                               |   |              |
| <b>Important Note-</b> While deciding hazard control measures, consider hierarchy of hazard control steps in order of preference. |   |   |   |  |                               |   |              |
| <b>SEQUENCE OF BASIC STEPS</b>  | <b>SAFETY, HEALTH &amp; ENVIROMENT HAZARDS</b>  | <b>SAFE JOB STEPS / HAZARD CONTROL MEASURES</b> |   |  |                               | Are control Measures adequate to mitigate the risk  |              |
|   |   | <b>Elimination/ Substitution</b>                | <b>Engineering</b>  | <b>Administrative</b>  | <b>PPE</b>                    |   |              |
| Work start-up & obtaining PTW   | 1.Unauthorized work.<br>2. Invalid permit .<br>3. Lack of competency<br>4. Lack or poor communication<br>5. Haste or shortcut | Access should be free without obstacle.         | Responsible person will conduct inspection, monitor the work activities and have to ensure safety standards and procedures are strictly adhered | Obtain a valid work permit before starting the job. Adequate Supervision for the task to be done. Be attentive on the job. | Basic PPES used               | Supervisor must ensure that all work activities are carried out by competent personnel. Before start of the activity, Conduct pre-job briefing and have close monitoring for supervision. |              |

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| Vehicles & Machinery Movement | 1-Bodily injury to the road users/drivers/ helper.<br>2-Material/ equipment damage.           | Road condition to be even/follow safe route.  | Speed limit should not be more than 20 KM/H. While reversing the trucks, Machinery, banks man shall be available and away for prier guiding the vehicles. | Skilled & trained driver with Valid proffessional DL to be deployed.Vehicle shall be checked prior to start the work. Inspect the vehicle on daily basis through checklist & maintain the record. Vehicles should be in good working condition with back up alarms functioning. | Shoes, helmet, goggles, vest, hand glove , Nose mask.                | Don't park the vehicle on passage of vehicle movement.Vehicle shall be checked prior to start the work.          |
| Scarifying Work               | 1.Dust emision  | Nose mask to be weared  | skiled workmen to be deployed.  | PTW system follows. Proper supervision.   | Helmet, Safety Shoes, Cotton handgloves, goggels, Jacket, nose mask. |  |
| SHUTTERING WORK.              | 1.Phisical hazard. 2.During shuttering fixing fall of shuttering matrial. 3.Electrical shock. | Working area to be cleared from un wanted materials. Shuttering matrial to be stacked proper .    | Shuttering cutting machine physicaly cheked. Skiled work man deployed. Cutting machine power cable proper insulaated. Connected 30ma elcb must.           | as per drawing procuder follows. PTW system and daily PJB to be conducted befour activity.  | Basic PPE used.  | During shuttering fixing safe distance should be maintined. Wooden hammer or plastic grip hammer should be used. |
| Concrete Work                 | 1.Phisical injury. 2.Slip & trip .3.concreate enter eye.4.Fall of concrete. 5.Topple vehicle  | Working area access should be clear. Boomplacing area to be labelling.                            | Skilled mason deployed. Area corden of. Boom and miller condition phisicaly ensured. Authorized oprator deployed. Banks man provided.                     | PTW system follows. Conduct PJB job specific must. Proper supervision.  | Basic PPE used.  |  |
| Steel Reinforcement work      | 1.Fall of material. 2. Hit by rod while bending & shifting. 3.Crush between materials.        | Access egress clear should be free of material. Secure the rod properly while shifting and fixing | Protruding rebar shall be protected with mushrumcap. Proper checked cutting machine before activity.  | PTW system follows. Conduct PJB before starting the job. Proper supervision.  | Basic PPE used.  | Shoulder pad must be used during Rod shifting.   |

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| REBAR CUTTING WORK (Cutting m/c) | 1.Wheel damage, cracks etc. 2. Electric shock, 3.Breaking of wheel. 4. Fire hazard. 5. Serious cut injury. 6. Noise  | Before starting cutting make sure the area is clear of all types of combustible materials . | Cutting wheel shall be from reputed brand of specified diameter and quality. Check physical damage to the wheel before mounting.Check expiry date of cutting wheel. Ensure the connection for cutting machine through 30mA ELCB . Double insulated | Only skilled and trained worker have to perform the cutting the rebar. | Shoes, helmet, goggles, vest, face shield & Leather hand glove | Make sure guards are fitted to all moving parts. Maintain the equipment such that it reduce noise level. |
| 7. Snake bite                    | 1. Body infection 2. Death   | 1. Area survey 2. Housekeeping  |  | 1.Training (PJB/OJT) 2.carbolic Acid spray                             | All ppe,s mandatory  |  |
| HOUSE KEEPING WORK.              | 1. Tripping over loose objects. 2.Being hit by objects.3. Slipping on bitumen or dirty surface.4. Striking against projecting, poorly stacked items.5. Cutting,puncturing or tearing the skin of parts of the body | Clear on obstructed walk way.   | Segregate the materials in designated place. Unwanted materials to be removed on regular basis.  | PJB brifing on daily basis   | Basic PPE used.  |  |
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**Emergency Control Measures: Keep ready Foam Type Fire Extinguishers** Main Control Room- 7077743444, CHP Control Room- 8018084333, Fire- 07077225454/777, 222257, Ambulance- 07894035500/ 248/337

**Overall Job Risk Category- (High/Low) :**

**JSA Review during PJB:**

**Pre Job Briefing (PJB) is applicable to all persons involved with the task.**

**Pre Job Briefing (PJB) Acknowledgement: I undertake that the JSA is communicated to me effectively & understand the hazards & risks**

| Name | Agency's name | Signature | Name | Agency's name | Signature |
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