

JOB SAFETY ANALYSIS

Name of contractor:	M/s: SRI PROJECTSS	Work Location:	Gate No 2, Parking Area (New Office Building)
Prepared by: (Name & Design of Concern Safety Officer)	Mr. Ayyub Khan (Safety Officer)	Date:	31/07/2024
Title of method Statement:	PCC&RCC Work below plinth	Rev. No.	R2

Sr. No.	Description of Process / Work Activity	Hazards	Risk	Preventive Measures to be taken
1.	Mobilization of Manpower	<ol style="list-style-type: none"> Lack of awareness Worker under alcohol influence Language Barrier Unfitness 	<ol style="list-style-type: none"> Physical Injury Severe physical injury Confusion to worker/property Damage Unconscious 	<ol style="list-style-type: none"> Site safety training will be given, and gate pass will be ensured as Thermax standards. HSE induction training will be given to all newcomers. Conduct Breathing analysis test on gate. (If Possible) Visually inspection on daily basis to all workmen. (Finding on workmen by his smell) Use language which most of workmen usually knows and understand it. Take feedback from workmen about what they know. Continuous monitoring by supervisor on workmen and his work. Conduct physical fitness test on workmen before his employment from authorised doctor. Visually check the physical fitness of worker before start of work. Required PPE's will be provided to workmen. (Safety helmet, reflective jackets, Goggles, safety shoes)
2.	Pit Clearing	<ol style="list-style-type: none"> Use of defective ladder Slip-trip due to slippery condition. 	<ol style="list-style-type: none"> Physical Injury Fracture Injury 	<ol style="list-style-type: none"> Medically fit workers will be involved in work activity. Competent and trained workers will be deployed. Job specific training will be given to involved workers. Continuous monitoring on work activity by supervisor. Adequate ladder will be provided for scending and descending with hand railing. Ladder will be tie with stable support.

JOB SAFETY ANALYSIS

				<ul style="list-style-type: none"> 7. Continuous dewatering will be done for dryness. 8. Mud will be removed from pit to avoid slip-trip. 9. Required PPE's will be provided to workmen. (Safety helmet, reflective jackets, Goggles, Gum boots, Hand gloves)
3.	PCC work	<ul style="list-style-type: none"> 1. Wrong work practices 2. Use of defective tools 3. Handling of concrete 4. Sharp edges material handling 5. Collapse of sides 	<ul style="list-style-type: none"> 1. Skin & Eye Irritation 2. Cut Injury 3. Physical Injury 4. Fracture Injury 	<ul style="list-style-type: none"> 1. Trained and experience person will be deployed on work. 2. Job Specific training will be given to workers. 3. All tools and equipment inspected before starting of work. 4. Ladder will be used for ascending and descending in pits. 5. JSA & HIRA training shall be given to workers. 6. Transit mixer containing concrete will be inspected by authorised person. 7. Concrete vehicle will be kept away from pit at least 1 to 1.5 mtr. 8. Flagman will be deployed to guide TM driver. 9. Step excavation will be done. 10. Safety net will be provided. 11. Work area will be barricaded to restrict unauthorized personal. 12. Continuous PPE monitoring on work activity by supervisor. 13. Required PPE's will be provided to workmen.
4.	Scaffolding erection and Dismantling work	<ul style="list-style-type: none"> 1. Wrong work practices 2. Use of defective scaffolding material 3. Slip trip due to uneven surface. 4. Inadequate illumination at work location. 	<ul style="list-style-type: none"> 1. Physical Injury 2. Permanent disability 3. Fracture 4. Fatality 	<ul style="list-style-type: none"> 1. Medically fit workers will be involved in work activity. 2. Trained and experience person will be deployed on work. 3. Competent and trained workers will be deployed. 4. Job specific training will be given to involved workers. 5. All tools and equipment inspected before starting of work. 6. Access area will decide and marked. 7. Scaffold staging will be erected on levelled and compacted surface or firm ground with base plate. 8. Full boarded/minimum 600 mm width working platform shall be provided on scaffold staging. 9. Railing will be provided on scaffold staging. 10. Safe access will be provided for ascending and descending on scaffold staging.

JOB SAFETY ANALYSIS

				<ul style="list-style-type: none"> 11. Adequate support will be provided to staging. 12. Defective damage scaffold staging material will be removed from site after inspection. 13. Sufficient illumination shall be provided at work location and access. 14. Work area will be barricaded to restrict unauthorized personal. 15. Heavy weight material will be shifted by more workers to reduce the permissible load carrying capacity of workers. 16. Shoulder pad will be provided to workers during handling of scaffold material. 17. Full body harness shall be used while work on height. 18. Work will be continuously supervised. 19. Required PPE's will be provided to workmen.
5.	Reinforcement Work (Steel bar handling, Cutting and bending by machine, placement of steel)	<ul style="list-style-type: none"> 1. Wrong work practices 2. Sharp edges 3. Pinch point between steel 4. Use of defective electrical tools 5. Electric shock 6. Unsafe storage 	<ul style="list-style-type: none"> 1. Cut Injury 2. First aid Injury 3. Burn Injury 4. Property damage 5. Fatality 	<ul style="list-style-type: none"> 1. Medically fit workers will be involved in work activity. 2. Trained and experience person will be deployed on work. 3. Competent and trained workers will be deployed. 4. Job specific training will be given to involved workers. 5. All tools and equipment inspected before starting of work. 6. Access area will decide and marked. 7. Manual material handling training shall be given to all involved workers for safe material handling. 8. Cut resistance/PU coated hand gloves shall be provided to workers during material handling. 9. Compacted, plain & obstruction free surface will be used for material handling. 10. Electrical tools and machineries shall be inspected before use and inspection tag shall be provided. 11. Calibration certificate of all electrical tools and equipment's shall be provided. 12. Electrical connection will be gone through 30 mA ELCB/RCCB/RCBO. 13. Body earthing will be provided to electrically operated equipment's if metallic body of equipment's.

JOB SAFETY ANALYSIS

				<ul style="list-style-type: none"> 14. Double insulated electrical cable will be used. 15. Industrial switch and socket will be used. 16. 2.5 sqmm wire will be used for electrical connections. 17. Joint free electrical connection will be used. 18. All cable will be fixed on overhead. 19. Work will be continuously supervised. 20. Required PPE's will be provided to workmen.
6	Straightening of bended reinforcement bars by manually	<ul style="list-style-type: none"> 1. Slip-trip during handling of bar by manually. 2. Back force of bars during straightening. 3. Sharp edges. 4. Pinch points. 	<ul style="list-style-type: none"> 1. Physical injury. 2. Muscular injury. 3. Fracture injury. 4. Cut injury. 	<ul style="list-style-type: none"> 1. Job specific training will be given to involved workers. 2. Trained and experience work force will be involved in work activity. 3. TBT conducted to workers before start the work. 4. Plain and dry surface will be used for straightening work activity, 5. Obstruction free access will be used, 6. Sufficient man power will be involved in work activity to avoid back force. 7. Sharp edge will be covered. 8. Cut resistance hand gloves will be provided to all workers. 9. Housekeeping will be maintained at work area. 10. All tools inspected before starting of work. 11. Required PPE's will be provided to workers.
7.	Steel bar bending by manually	<ul style="list-style-type: none"> 1. Use of defective hand tools. 2. Sharp edge. 3. Slippage of under tension. 	<ul style="list-style-type: none"> 1. Physical injury 2. Cut injury 3. Muscular injury. 	<ul style="list-style-type: none"> 1. Job specific training will be given to involved workers. 2. Trained and experience work force will be involved in work activity. 3. All hand tools (dye) will be inspected before start the work. 4. Sharp edge will be covered 5. Cut resistance hand gloves will be provided to all workers.
8.	Making of shuttering	<ul style="list-style-type: none"> 1. Use of defective tools 2. Lack of knowledge. 3. Use of defective electric equipment's. 4. Electric Shock 	<ul style="list-style-type: none"> 1. First aid Injury 2. Eye Injury 3. Physical injury 4. Burn Injury 5. Fatality 	<ul style="list-style-type: none"> 1. Trained and experience person will be deployed on work. 2. Job Specific training will be given to workers. 3. All tools and equipment inspected before starting of work. 4. Access area will decide and marked. 5. Separate shuttering yard will be provided for making of shuttering material. 6. Work area will be barricaded to restrict unauthorized personal.

JOB SAFETY ANALYSIS

		<ul style="list-style-type: none"> 5. Language barrier 6. Lack of awareness 7. Nails jumping due to bounce back of hammer. 		<ul style="list-style-type: none"> 7. Electrically operated tools inspected by authorised/certified electrician. 8. Self-guarded ply cutter machine will be used for making of shuttering. 9. Electrical connection will be gone through 30 mA ELCB/RCCB/RCBO. 10. Body earthing will be provided to electrically operated equipment's if metallic body of equipment's. 11. Double insulated electrical cable will be used. 12. Industrial switch and socket will be used. 13. 2.5sq mm wire will be used for electrical connections. 14. Joint free electrical connection will be used. 15. All cable will be fixed on overhead. 16. Work will be continuously supervised. 17. Required PPE's will be provided to workmen. (Safety goggles, hand gloves, safety shoes, safety jacket
9.	Shuttering & De-shuttering	<ul style="list-style-type: none"> 1. Wrong work practices 2. Use of defective tools 3. Use of defective electric equipment's. 4. Electric Shock 5. Language barrier 6. Work at height 7. Lack of awareness 8. Lack of knowledge 	<ul style="list-style-type: none"> 1. Physical Injury 2. Cut Injury 3. Burn Injury 4. Sever Injury 5. Fatality 	<ul style="list-style-type: none"> 1. Trained and experience person will be deployed on work. 2. Job Specific training will be given to workers. 3. All tools and equipment inspected before starting of work. 4. Access area will decide and marked. 5. Ladder will be used for ascending and descending in pits. 6. JSA & HIRA training shall be given to workers. 7. Work area will be barricaded to restrict unauthorized personal. 8. Heavy weight material will be shifted by more workers to reduce the permissible load carrying capacity of workers. 9. Buddy system will be used for shifting long length ply boards. 10. Electrically operated tools inspected by authorised/certified electrician. 11. Calibration certificate shall be provided for required electrical tools and equipment's. 12. Electrical connection will be gone through 30 mA ELCB/RCCB/RCBO.

JOB SAFETY ANALYSIS

				<p>13. Body earthing will be provided to electrically operated equipment's if metallic body of equipment's.</p> <p>14. Double insulated electrical cable will be used.</p> <p>15. Industrial switch and socket will be used.</p> <p>16. 2.5 sqmm wire will be used for electrical connections.</p> <p>17. Joint free electrical connection will be used.</p> <p>18. All cable will be fixed on overhead.</p> <p>19. Work will be continuously supervised.</p> <p>20. Required PPE's will be provided to workmen.</p>
10.	<p>Concreting work (MS pipe installation, Pump operation, RMC vehicle movement, Concrete pouring)</p>	<ol style="list-style-type: none"> 1. Mechanical failure 2. Deployment of untrained operator/driver 3. Over speeding 4. Blind spot 5. Unguarded rotating part 6. Sharp Edges 7. Use of defective tools, 8. Caught in between. 9. Dust generation. 10. Flying of slurry/particles 11. Uneven/slippery surface 	<ol style="list-style-type: none"> 1. Physical Injury 2. Cut Injury 3. Lung disease 4. Hearing problems 5. Skin irritation 6. Permanent disability 7. Back pain 8. Sever Injury 9. Fatality 	<ol style="list-style-type: none"> 1. Medically fit workers will be involved in work activity. 2. Trained and experience person will be deployed on work. 3. Competent and trained workers will be deployed. 4. Job specific training will be given to involved workers. 5. All tools and equipment inspected before starting of work. 6. Access area will decide and marked. 7. Manual material handling training shall be given to all involved workers. 8. Material (Sharps edges of material) shall be inspected by supervisor / storekeeper before loading & unloading & shifting. 9. Cut resistant / PU coated hand gloves shall be provided to workers during material handling. 10. Buddy system will be used for material handling. 11. Access and work area shall be free from any obstructions & slippery surface. 12. Safe working platform shall be provided to worker during installation of pipeline. 13. Lifeline rope shall be provided for height work to anchorage of FHB hook. 14. Double lanyard Full body harness shall be provided with shock absorber, fall arrest system.

JOB SAFETY ANALYSIS

				<ol style="list-style-type: none"> 15. Screening of workers shall be done along with height phobia test. 16. Height work training shall be conducted to involved workers & teams. 17. Height work permit shall be issued before starting the work. 18. Below works area shall be barricaded. 19. MS pipeline shall be properly locked or tied with permanent / stable support. 20. Defective & damaged hand tools & power tools shall be removed or replaced. 21. Concrete pump shall be inspected by competent person prior to work start. 22. Form no. 13 shall be valid of concrete pump. 23. All moving / rotating parts shall be guarded. 24. Ear Plug / Earmuff shall be provided to pump operator and other who in present at pump area. 25. Flag man shall be deployed with whistle, light baton, and green & red tag for direction of driver and other who present on location. 26. Defensive driving training shall be conducted for drivers based on the findings. 27. TBT shall be conducted before starting the work on daily basis by supervisor. 28. Access shall be clear from obstruction and slippery surface. 29. 15 KMPH Speed limit shall be maintained inside the project site. 30. Electrically operated tools inspected by authorised/certified electrician. 31. Calibration certificate shall be provided for required electrical tools and equipment's. 32. Electrical connection will be gone through 30 mA ELCB/RCCB/RCBO. 33. Body earthing will be provided to electrically operated equipment's if metallic body of equipment's. 34. Double insulated electrical cable will be used. 35. Industrial switch and socket will be used.
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JOB SAFETY ANALYSIS

				<p>36. 2.5sq mm wire will be used for electrical connections.</p> <p>37. Joint free electrical connection will be used.</p> <p>38. All cable will be fixed on overhead.</p> <p>39. Work will be continuously supervised.</p> <p>40. Required PPE's will be provided to workmen.</p>
11.	Backfilling of Murom & Compaction	<ol style="list-style-type: none"> 1. Improper access 2. Lack of awareness 3. Vehicle may hit to workers. 4. Language barrier 5. Lack of Knowledge 	<ol style="list-style-type: none"> 1. First aid 2. Physical Injury 3. Property Damage 4. Fatality 	<ol style="list-style-type: none"> 1. Clearance will be taken from concern authority about underground services before starting of work. 2. Ensure only trained operator should be allowed to operate JCB/Excavator 3. Operator should have valid driving license. 4. Signal man should be available with JCB/Excavator to guide operator. 5. Area will be barricaded & will be provided proper signage. 6. Excavator will be kept away from 1 to 1.5m from pit. 7. Wheel stopers will be provided when vehicle parked. 8. Proper inspection of JCB/Excavator before start of work will be done. 9. Plate compactor/Baby roller will thoroughly be inspected. 10. Restriction of unauthorized person in work activity area will be restricted. 11. Ensure proper PPEs for work activities.
12.	Housekeeping	<ol style="list-style-type: none"> 1. Dust Generation 2. Sharp edges 	<ol style="list-style-type: none"> 1. Cut Injury 2. Severe Injury 3. Lung disease 	<ol style="list-style-type: none"> 1. Water sprinkling on ground before start of brooming. 2. Sharp edge will be found and covered it in proper manner. 3. Continuous monitoring by supervisor. 4. Appropriate PPE's will be provided to workers.
13.	In case of emergency	<ol style="list-style-type: none"> 1. Confusion 2. Panic situation 	<ol style="list-style-type: none"> 1. Fall of person/material 	<ol style="list-style-type: none"> 1. Emergency pathway will be free from obstruction. 2. Emergency response plan shall be communicated to all workers. 3. Ambulance will be available at site till completion of work. 4. Emergency number will be displayed at various location at site.

JOB SAFETY ANALYSIS

Prepared By:	Reviewed By:	Approved By: