HANSENYUNCKEN
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# MOBILE PLANT

HYER STANDARD

PROCEDURE

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## PURPOSE AND SCOPE

The purpose of this procedure is to ensure a safe operational environment is established and maintained for the operation of all mobile plant. This applies to the operation of all mobile plant at a Hansen Yuncken project.

## RESPONSIBILITIES

### HY PROJECT TEAM:

- Ensure Plant and Equipment has been inspected and verified as safe for use prior to use on site
- Ensure reports and verifications have been obtained from a geotechnical engineer where required
- Ensure applicable Work Permits are implemented prior to commencing work
- Ensure only trained and competent persons perform work on site

- Ensure worker competencies and qualifications are verified prior to commencing work
- Ensure that SWMS are provided for any work that is carried out in an area at a workplace in which there is any movement of powered mobile plant

# HAZARD IDENTIFICATION RISK ASSESSMENT AND CONTROL (HIRAC)

All risks associated with the use of the operation of mobile plant must be included in the project risk register. This includes risks associated with:

- Mobile plant overturning
- Things falling on the operator of the mobile plant
- The operator being ejected from the mobile plant
- Mobile plant colliding with any person or thing
- Dropped loads (e.g. forklifts)
- Mechanical failure of pressurised elements of plant that may release fluids that pose a risk to health and safety
- Operating plant adjacent to roads/traffic
- Interfacing with other workers and members of the public

Mobile plant must comply with the requirements of the Plant and Equipment procedure, including plant safety verification.

# ESTABLISHING SITE PLANT ZONES

The identification and establishment of plant specific work zones shall form part of the site establishment process and be reassessed as required throughout the course of the project.

Factors to be taken into consideration when establishing plant zones include:

- Type of plant to be used
- Access and egress for mobile plant
- Traffic plan for site
- Soil type & grading
- Zones of influence, including proximity of excavations (old and existing)
- Site topography and layout
- Compaction/load bearing capacity (existing testing/sampling)
- Concrete slab capacity (3Mpa, 5Mpa etc)
- Overhead & underground services
- Work activity to be undertaken e.g. Precast installation

Plant zones are to be based on the capacity of work areas to support specific plant. This should be based on the information initially provided in the project geotech reports. A geotechnical engineer must be further consulted where doubt exists as to the permissible ground pressure of work areas. Where necessary additional testing is required a documented geotechnical report must be obtained.

Further information on Geotechnical Reports can be found in the Ground Works Procedure (https://www.hyworkzone.com.au/ground-works-procedure/).

Areas where plant is expected to be operated must be prepared and maintained to provide a safe working surface. This includes consideration of:

- Gradients in which the plant can be safely operated on
- Surcharge load the plant will impose on the supporting ground or structure
- Ability of the plant to come into contact with adjacent hazards, activities or structures
- Type of track/wheel and compatibility with surface the plant is operating on

Areas assessed as unsafe for the operation of specific mobile plant must be clearly excluded from plant zones. This may include:

- Areas adjacent pits, penetrations or excavations
- Areas over or adjacent existing inground services and installations.
- Areas adjacent to existing overhead powerlines/services
- Surfaces adversely affected by extreme weather conditions (rain/water)
- Surfaces adversely affected by operation of other plant and equipment
- Areas with unacceptable gradients i.e. too steep for safe operation

Underground and overhead services must be identified and communicated to workers prior to operation of mobile plant. The location of these services should be documented on a services location plan, drawings, or similar.

Structural damage to pipes (i.e. sewers, stormwater, water) can be caused by the load of mobile plant bearing on the pipework. The following “zones of influence” are to be used as a guide for determining exclusion zones:

- Clay Soils – The “zone of influence” extends out from the edge of the pipe trench the same distance as the depth of the trench (the ratio used is 1:1). Therefore, the Exclusion Zone should extend the same distance as the depth plus half the width of the trench.
- Sand, Filled Ground, Loam etc. – The “zone of influence” extends out from the edge of the pipe trench twice the distance as the depth of the trench (the ratio used is 2:1). Therefore, the Exclusion Zone should extend twice the distance as the depth plus half the width of the trench.

If mobile plant is to be used within these exclusion zones, then further investigation is to be undertaken. This includes compaction rates of the soil in the area, depth of the pipes, ground bearing pressure of the mobile plant and appropriate control measures implemented i.e. consult with geotechnical engineer.

## MOVEMENT OF PLANT BETWEEN ZONES

When relocating mobile plant from one zone to another, consideration must be given to the conditions required for its safe operation (e.g. narrow wheel based EWP are not permitted to operate on uneven/unprepared surfaces).

HY approval is required prior to moving mobile plant between zones when there is a risk due to unsafe conditions. A safe means of moving the plant must be established and approved prior to such movements.

Designated access/egress points must be established for movement of plant into or out of Plant Zones.

## IMPACTS OR CHANGES TO PLANT ZONES

Plant Zones may temporarily be affected by factors such as:

- Wet weather
- Excavation and backfilling
- Operation of other mobile plant and equipment

Plant Zones may be permanently affected by factors such as:

- Installation of underground services (e.g. stormwater pipes or culverts)
- Overhead powerlines/services
- Completion of asphaltic surfaces or concrete pavement with curing time
- Installation of road base
- Installation of footing / inground substructure (start bars, HD bolts)

Plant Zones that have been adversely impacted must be assessed by HY in consultation with relevant workgroups prior to continued operation of mobile plant.

If the impact on the Plant Zone is such that the zone is not suitable for plant operation, then:

- Barricading and signage must be installed to prevent unauthorised plant from entering the area
- The change must be communicated to relevant subcontractors for subsequent communication to their workers via the recognised consultative processes (e.g. pre-starts, notice boards etc)

Where doubt exists as to the plant zone's ongoing suitability, the plant zones may need to be re-established and proof rolled, and re-approved by a qualified geotechnical engineer prior to re-use.

Where there has been a permanent change to Plant Zones, the following must be undertaken:

- Site Layout Plan updated and re-posted (i.e. Site Induction Room, Site Safety Boards)
- The change communicated to relevant workers via the next Pre-Start Meeting

## ACCESS/HAUL ROADS

When constructing or designating permanent access/hauls roads consideration must be given to the proposed usage of the roads with respect to:

- Frequency and duration of use by vehicles, plant and equipment
- Types of vehicles and loads expected to use access roads
- Possible weight of individual vehicles/loads expected to use access roads
- Compaction levels/load bearing capacity required for proposed vehicle/plant usage.
- Potential for damage and deterioration by adverse weather conditions
- Dust being generated, and damage to the road surface, from vehicles using the road

The determination of suitable load bearing and compaction levels for access / hauls roads must be conducted by a qualified geotechnical engineer with consideration given to the above. Designated permanent access / haul roads must be monitored and maintained to ensure the continued safe access and egress of all mobile plant. Refer to Temporary Works procedure.

## SEPARATION OF MOBILE PLANT AND PEOPLE

Clear delineation and separation between workers and mobile plant must, as far as is reasonably practicable, be maintained at all times. This may be achieved through one or more of the following:

- Solid barriers e.g. concrete /water filled barriers, solid fencing etc
- Barrier mesh / para webbing type fences
- Signage
- Spotters

Every effort must be made to eliminate the need for personnel to work in and around the area of operating mobile plant. Physical barriers should be used to separate mobile plant operations to protect workers and/or members of the public.

Where there is no practicable alternative, one or more of the following must occur:

- Delineation and work zones must be established
- Engineering detection systems are to be considered and implemented where practicable
- Increased supervision of the work area and interfaces (e.g. Spotters)

When plant is operated in the vicinity of other plant or people, a competent person should be used as a spotter. The operator should observe the following procedures:

- Where practicable plant should always move in a forward direction
- Ensure no persons are at risk before reversing
- Avoid hazards by facing and maintaining attention in the direction of travel
- Spotter should always be in the sight of the plant operator and be free from risks such as crushing
- Clear communication systems based on two-way acknowledgement between mobile plant operators and ground workers

## PEDESTRIAN ACCESS WAYS

Safe pedestrian access/egress through or around all plant zones must be established through the provision of designated pedestrian access ways. Access ways must be indicated on the Site Layout Plan and communicated to workers.

Designated pedestrian/emergency access ways must be continually monitored and maintained to ensure safe access/egress for all personnel.

Hansen Yuncken badged cautionary /directional signage must be installed.

## SITE ACCESS AND EGRESS

Safe vehicular access and egress to site must be provided and managed to ensure worker and public safety. Mirrors may be placed adjacent to access points to assist in identifying vehicle/pedestrian movement. Site layouts must show all vehicular access/egress points. Gates must remain closed when not in use.

Consideration should be given to drive through access to sites to minimise need for vehicles to reverse into/out of site. Reversing vehicles must have spotter in addition to traffic management personnel.

On-site traffic that has the potential to cause interference or obstruction to the normal use of a road or path by any road user must be managed as per the Traffic Management procedure.

Refer to Chain of Responsibility procedure for requirements for deliveries.

# OPERATION OF MOBILE PLANT

Personnel must be trained, hold the appropriate valid licence (as required) and be deemed competent for the mobile plant that they operate.

Plant Operator tickets and licenses are to be uploaded to a worker's profile in HammerTech upon registration and induction onto the project. Records of operator competency (i.e. documented evidence they are familiar with the specific type of plant) are to be maintained and be readily available.

Hansen Yuncken representatives may request to sight a worker's Plant Competency during High Risk Work Check Ins, HSE Inspections, as part of risk assessments or planning activities, or following an event occurring on site. The HY Project Team reserves the right to check plant operator tickets or competencies to ensure they have the capacity to perform the task at any point.

High risk work licences (HRWL) for mobile plant include:

- Tower cranes
- Mobile cranes
- Materials and Personnel hoists
- Boom-type EWPs
- Forklift trucks

Where a High-Risk Work Licence is not required by legislation:

- Licence or Certificate of Competency issued under previous State or Territory legislation for which there is no longer a High Risk Work Licence required e.g. load-shifting equipment; or
- Statement of Attainment or Certificate issued by a Registered Training Organisation (RTO) for the successful completion of the appropriate unit of competency in the Nationally Recognised Training (NRT) package

VOC assessments that are not undertaken by an RTO will not be accepted.

The required licenses or VOCs for certain types of plant are below:

| MOBILE PLANT | LICENCE TYPE | VOC UNITS |
|---|---|---|
| Backhoe/Loader | LB | Conduct backhoe/loader operat |

| | | |
|---|---|---|
| Skid steer loader | LS | Conduct skid steer loader operatior attachments/without attachments, as |
| Front End Loader Operations | LL | Conduct front-end loader operati |
| Roller | LR | Conduct Roller Operations |
| Grader | LG | Conduct Grader Operations |
| Dozer | LZ | Conduct Dozer Operations |
| Scraper | LP | Conduct Scraper Operations |
| Excavator | LE | |
| Scissor Lift | SL (EWPA Yellow Card) | Operate elevated work platforms up to |
| Self-propelled Boom Lift (boom length < 11m) | BL (EWPA Yellow Card)<br>**Note:** Boom length >11m requires HRWL | |
| Truck Mounted Lift | TM (EWPA Yellow Card) | |
| Trailer Lift | TL (EWPA Yellow Card) | |
| Vertical Lift | VL (EWPA Yellow Card) | |

| | | |
|---|---|---|
| Telehandler capacity 3 tonne and under (with attachments) | TSHA Gold Card<br><br>**Note:** Operating a telehandler with lifting capacity >3 tonne using forks requires relevant HRWL in Victoria. Operating a telehandler with Lifting capacity >3 tonne with hook/jib requires relevant HRWL in all states. | Statement of Attainment for Conduct Materials Handler Operation |
| Vehicle Loading Crane (VLC) < 10 metre/tonnes | Operate a vehicle loading crane<br><br>**Note:** >10 metre/tonnes requires a HRWL and includes judgement o loads<br><br>**Note:** Dogging HRWL also required if slinging loads using VLC < | |
| Piling Rig | Conduct pile driving operations | |

# LIGHT VEHICLES

Light and heavy vehicles should be separated where practicable. Potential hazards exist with the interface between light vehicles, heavy vehicles and personnel, therefore light vehicles will:

- Only travel on designated roads or paths as directed
- Observe speed limits
- Have flashing light or hazard lights on when driving onto site
- Reversing beepers to be operational or spotter in place when reversing
- Drivers must have a current valid driver's licence
- Operator to wear seatbelt at all times when vehicle running

# ON SITE TRAFFIC MANAGEMENT

All on site traffic management must be coordinated through the daily pre start meetings and by the site layout plans. This includes but is not limited to the following:

- Pedestrian Access & Egress
- Main Vehicle Entry & Exit locations
- Main Vehicular Routes

- Plant Set Up Areas
- Loading & Unloading Areas
- Speed Limits
- Spill Kit Locations

## SITE LAYOUT PLAN

The site layout plan indicating relevant plant work zones must be developed using the standard Hansen Yuncken template and displayed within the induction room, site amenities and office area. The Site Layout Plan must be updated to reflect any changes that impact mobile plant (e.g. installation of new underground services).

## EMERGENCY RESPONSE

Where mobile plant is being operated at a site, the procedures for the response to an emergency related to mobile plant must be included in the Emergency Response Plan. When establishing emergency procedures, the following must be considered:

- Crush injuries
- Plant roll over
- Collisions
- Service strikes
- Retrieving workers from height

## DEFINITIONS AND ABBREVIATIONS

VOC – Verification of Competency

Mobile Plant – (same as powered mobile plant) means plant that is provided with some form of self-propulsion that is ordinarily under the direct control of an operator

## REFERENCES

- Work Health & Safety Regulation 2011 (QLD), 2012 (SA/TAS) and 2017 (NSW) – Chapter 5 Plant and structures
- Occupational Health and Safety Regulations 2017 (Victoria) – Part 3.5 Plant
- Managing the risks of plant in the workplace (Model Code of Practice)
- Federal Safety Commission (FSC) Audit Criteria – H16 Mobile Plant

# ASSOCIATED DOCUMENTS

- HYer Standard – Mobile Plant
- Quick Guide – Elevated Work Platforms (https://www.hyworkzone.com.au/elevated-work-platforms-quick-guide/)
- Quick Guide – Work Zones (https://www.hyworkzone.com.au/work-zones-quick-guide/)
- Plant and Equipment procedure (https://www.hyworkzone.com.au/plant-and-equipment-procedure/)
- Temporary Works procedure (https://www.hyworkzone.com.au/temporary-works-procedure/)
- Traffic Management procedure (https://www.hyworkzone.com.au/traffic-management-procedure/)

*Last Modified: December 21, 2023*

# ANIMATION

HANSENYUNCKEN (https://www.hyworkzone.com.au/wp-content/uploads/HY_Wordmark_Black_transparent.png)

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