



شركة العين للتوزيع
Al Ain Distribution Company

Health, Safety and Environment
Management System
Procedure

Standard Operating Procedure
Excavation Work
SOP.HSEMS.04

Effective Date 10/ 01 / 2019

Procedure #: SOP.HSEMS.04

Issue : 1

Revision : 0

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Approved by:

Managing Director



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Standard Operating Procedure
Excavation Work

Prepared by:

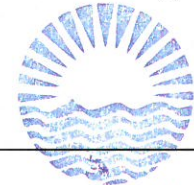

Senior Health, Safety and Environment Engineer

Reviewed by:


Health, Safety and Environment Department Manager

Approved by:


Managing Director



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Al Ain Distribution Company

Issued by:


HSE Management System Representative

Effective Date: 10 / 01 / 2019

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1. INTENT

- 1.1 This Standard Operating Procedure (SOP) defines the general rules and good practices required for excavating and working in excavations.
- 1.2 This SOP is a supplement to the AADC JSAs.
- 1.3 Excavations and associated work is regarded as a high risk activity and should only be undertaken when adhering to this SOP.
- 1.4 This procedure covers hand and machine excavating.
- 1.5 Where work is conducted in excavations which present a risk of collapse, work shall be assessed, planned and suitable prevention measures established to control the risk and comply with all applicable compliance obligations.
- 1.6 This procedure has been developed in line with the *OSHAD CoP 29.0 Excavation Work Version 3.0 July 2016* and is applicable to all AADC staff and contractor workers

2. PRINCIPLES

- 2.1 Working in excavations where there is a risk of collapse i.e. more than 1.2m and / or the possibility of coming into contact with other services (electricity, water, sewerage etc.) is regarded as a high risk.
- 2.2 Workers working in excavations shall be trained and made aware of risks including the precautions to be taken.
- 2.3 Excavation work shall take account of the weather conditions.
- 2.4 Excavations shall be safe for work to be carried out in – sides must be sloped / shored when necessary.
- 2.5 No workers are permitted to work in excavations whilst plant or machinery is being operated above the excavation.
- 2.6 Safe access must be provided for work in excavations.

3. DEFINITIONS

Term	Definition
AP	Authorised Person
CP	Competent Person
JSA	Job Safety Analysis



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RA

Risk Assessment

4. RESPONSIBILITIES

The respective section manager is responsible to distribute this procedure to all involved parties and monitor the implementation. Added responsibilities:

Role	Excavations
Supervisor	<ul style="list-style-type: none"> Coordinates and plans the excavation activity Conducts the onsite risk assessment Ensures that workers are trained to work in excavations Ensure that workers / operators are competent to operate any plant, machinery and equipment Ensures that all services are identified and marked Ensure the area is surveyed Conducts Tool-box talk with workers prior to work commencing including discussing this SOP and the Excavation RA Inspects / examines excavations when required Observes the excavating activity and work in excavations from time to time
Workers	<ul style="list-style-type: none"> Ensures they are aware of the risks of working in excavations Work in accordance with the determined safe system of work Report any hazards and risks that may come to their attention Work in accordance with the supervisor's instruction and guidance

5. PROCEDURE

5.1 Planning

5.1.1 The Excavation JSA / RA shall be reviewed and specific site and working conditions shall be included into the site specific RA.

5.1.2 The following shall be considered during the RA stage:

- Work location;



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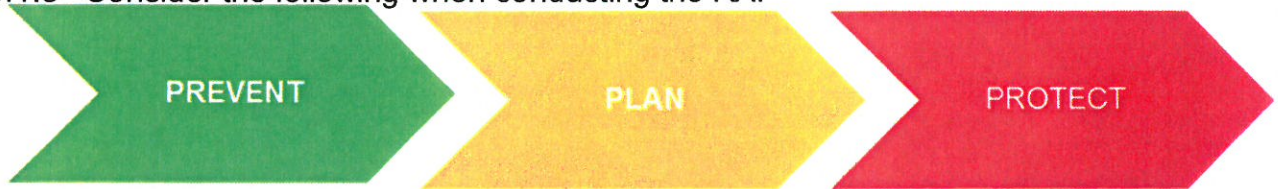
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- Weather conditions;
- Any adjacent structure(s), road etc. which may impact on the excavation;
- Type of plant / machinery / equipment to be used i.e. excavating machinery, power tools etc.;
- Depth of excavation;
- Soil conditions;
- Fall Prevention – protecting excavation sides from collapse i.e. slopping, shoring etc.;

5.1.3 Consider the following when conducting the RA:



<ul style="list-style-type: none"> • Is working in excavations the only option • Is it necessary to have workers in the excavation / trench whilst materials / equipment are being lowered 	<ul style="list-style-type: none"> • Identify all services in the vicinity for excavation • Is slopping / shoring required - depth more than 1.2m • What shoring material / equipment can be used to prevent sides from collapsing • Placing of excavated material – at least 2m away from edge of excavation 	<ul style="list-style-type: none"> • Prevent working directly above excavation with machinery / plant to prevent collapse • Conduct site, daily and weekly checks of excavation prior to work commencing • Ensure required PPE is used • Continually inspect and monitor the excavation and soil conditions.
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5.1.4 Develop and establish a Safe System of Work including rules when required taking the above information into account.

Criteria for Disqualifying Persons Working in Excavations

- Those not physically / medically fit enough to undertake climbing activities
- Those who have a physical shape or weight which may affect the safe operation of required equipment.



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5.1.5 Contractors have a responsibility to working safely on the AADC sites and projects.

Contractors

- When conducting excavation work will abide by their project specific risk assessment and method statement. This will be in line with the respective AADC HSE specification.
- All submitted documentation by the contractor shall be approved by the respective section and AADC's HSE Department.
- Principle contractors shall undertake their roles and responsibilities in accordance with the general requirements of OSHAD-SF CoP 53.0 OSH Management during Construction Work.

5.2 Excavating

Required PPE:

- Overalls;
- Safety boots / shoes;
- Safety helmet;
- High visibility vest.

5.2.1 All controls as identified in the risk assessment phase must be implemented and adhered to.

5.2.2 The area to be excavated must be surveyed as required.

5.2.3 An Excavation Permit in the form of a Limited Access Permits (LAP) shall be issued prior to work commencing, permit shall include as a minimum:

- Diagram / plans of services that could possibly impact on the excavation these include:
 - Electrical cables – high and low voltage
 - Communication cables
 - Water and sewerage pipelines
 - Chambers;
 - Gas pipelines; etc.
- Safety precautions taken i.e. pegging of routes of services, sloping or shoring techniques
- Date and time period of work – **not to be open ended**
- All role players to be recorded



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- Signature of person authorising the permit (AP)
 - Signature of person conducting the work (CP)
- 5.2.4 Excavation supervisor, who shall be designated / appointed, is to conduct a safety briefing prior to work commencing, briefing to include:
- The risk assessment - ensuring that all hazards and risks are covered
 - Precautions to take as per outcomes of the RA and the requirements of the permit
- 5.2.5 Excavation shoring and / or sloping to be determined when required – this shall be considered for excavations that will be deeper than 1.2m, this shall be done in accordance to *Table 1 Safe Temporary Slopes – OSHAD SF CoP 29.0 Excavation Work Version 3.0 2016*.
- 5.2.6 Shoring material to be considered includes:
- Sheet walling and strutting
 - Proprietary support systems
 - Soldier piling support
- 5.2.7 Shoring techniques applied for excavations shall be in accordance with *Section 3.7 "Support Systems" – OSHAD SF CoP 29.0 Excavation Work Version 3.0 2016*.
- 5.2.8 Consider dewatering techniques in case ground water is encountered during excavation.
- 5.2.9 Placing of excavated material should be at least 2m away from side of excavation whenever possible.
- 5.2.10 Barriers shall be provided around excavations.
- 5.2.11 Where a person may fall 2m or more into an excavation then rigid barriers must be erected around the excavation – below 2m then physical demarcation around the excavation edge shall be applied.
- 5.2.12 Barriers shall be 950mm high.
- 5.2.13 Barricades are to be erected in accordance to *OSHAD SF CoP 22.0 Version 3.0 - Barricading of Hazards*.
- 5.2.14 When excavations are required in public roads, permission shall be obtained from the traffic police and barricading and warning signs / notices shall be erected in accordance with *OSHAD SF CoP 33.0 Version 3.0 – Working on or Adjacent to a Road*.
- 5.2.15 Use of plant and machinery around the edges of an excavation whilst persons are working in the excavation is prohibited.
- 5.2.16 During darkness, edges of excavations must be highlighted by hazard lights.



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5.2.17 Work shall be supervised as required and observed at regular intervals.

5.2.18 Excavations must be inspected by an experienced and competent person (excavation supervisor) before work commences and at least daily and prior to each shift.

5.2.19 Excavation shall also be inspected on a weekly basis and each time after a collapse has occurred.

5.2.20 A suitable checklist shall be used for this purpose and should cover at least the following criteria:

- Adjacent structures, roads etc.
- Condition of ground / soil – cracks or signs of collapse
- Sloping
- Shoring and the various materials used
- Material near excavation
- Weather conditions – suitable for excavating or working in excavations

5.3 Working in Excavations

Required minimum PPE:

- Overalls;
- Safety boots / shoes;
- Safety helmet;
- High visibility vest.

5.3.2 All controls as identified in the assessment phase must be implemented and adhered to.

5.3.3 Only suitably competent and medically able workers shall perform work in excavations.

5.3.4 Ensure that suitable means of entry and exit are provided for workers working in excavations – ladders are to be suitably secured and maintained.

5.3.5 Ladders are to extend at least 1m (4 rungs) above the excavation to allow for safe use.

5.3.5 Ensure suitable lighting is provided when required.

5.3.6 Ensure ventilation is provided when required.

5.3.5 Daily checks are to be conducted of the excavation prior to persons being allowed to work in it.

5.3.5 Work in excavations should be halted during bad weather i.e. high winds or rain.

5.3.6 The work shall be supervised as required and observed at regular intervals.



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6. REFERENCES

- 6.1 OSHAD SF CoP 29.0 Excavation Works – Version 3.0, July 2016
- 6.2 OSHAD SF CoP 53.0 OSH Management during Construction Work
- 6.3 OSHAD SF CoP 22.0 Version 3.0 - Barricading of Hazards
- 6.4 OSHAD SF CoP 33.0 Version 3.0 – Working on or Adjacent to a Road
- 6.5 OSHAD SF Element 2 – Risk Management – Version 3.0, March 2017.

7. APPENDICES

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