



Appendix A

Job Hazard Analysis Record (JHA)



Job Hazard Analysis Record

PROJECT/TASK:		CONTRACTOR:			JOB No.:				
SUPERVISOR:		LOCATION:			DATE:				
JOB STEP <small>Break the job into steps. Listing work which may be hazardous.</small>	HAZARDS <small>List the hazard or type of harm identified with each step.</small>	Consequence	Likelihood	RAM Risk Ranking	CONTROL MEASURE <small>List the necessary control measures to be followed to eliminate/reduce the identified hazards.</small>	Consequence	Likelihood	RAM Risk Ranking	ACTION <small>Person who will ensure this happens.</small>
~(example) Build access road for trailer complex project.	~Vehicle or people being crushed by equipment ~Dump trucks tipping over during dump				~traffic plan developed ~flag persons used to control ~fences erected around work area to keep workers away from heavy equipment. ~dump areas will remain level and any rutting will be fixed by D8 doz ~drivers will remain in their cabs when load is being removed from trailer				

Job Hazard Analysis Attendees:

	Name	Signature	Date
Written by:			
Reviewed by:			



Appendix B

Field Level Risk Assessment (FLRA)



FIELD LEVEL RISK ASSESSMENT (FLRA)

"Sample Only" - Contractors may use their own version of this form

Date:		Time:		Complete FLRA:				FALL PLAN			Y	N	N/A	
Job Location:				At the beginning of a new job or task(s)				Ladders to be Utilized?						
Job Description:				With tour group				Ladders Inspected?						
Name:				During an Inspection / Observation				Overhead Protection Needed?						
PERMITS		Y	N	N/A	CONFINED SPACE		Y	N	N/A	Proper Anchor Points?				
Hot Work?					Performing Entry?					Rescue Plan in Place?				
Confined Space?					Trained?					Control Zone Established?				
LOTO?					ERP? Needed?					Exclusion Zone Required?				
Other?					Other?					Swing Hazards Eliminated?				
PPE		Y	N	N/A	WORKING AT HEIGHTS		Y	N	N/A	HOUSEKEEPING		Y	N	N/A
Hardhat?					Pockets are Emptied?					Aisle Ways & Stairwells Clear?				
Metatarsal Boots?					Exclusion Zone?					Tripping Hazards?				
Jewelry Removed?					Fall Protection Needed?					Slipping Hazards?				
Inspected?					Tethers?					Material Secured?				
Full Seal Eyewear?					Hardhat Chin Strap?					Other?				
Gloves?					Trained?					HAZARDS		Y	N	N/A
Hearing Protection?					Other?					Proper Tools?				
MOBILE EQUIPMENT		Y	N	N/A	ELECTRICAL		Y	N	N/A	Operating Power Equipment?				
Inspected?					Extension Cords?					Hot & Cold Surfaces?				
TOA Completed?					Quarterly Colour Code?					Temperature?				
Trained?					Arch-Flash Clothing?					Any Pinch Points?				
Other?					Class E Hardhat?					Working Alone?				
WEATER CONDITIONS		Y	N	N/A	Pockets are Emptied?					Tour Group Hazard(s)?				
Rain?					Trained?					Line of Fire?				
Snow?					Other?					OTHER?		Y	N	N/A
Sunny?					ERGONOMIC HAZARDS		Y	N	N/A	Tour Group? (Visitor Orientation)				
Sunblock?					Repetitive Motion?					Individual Inspection?				
Wind?					Potential Sprain/Strain?					Group Safety Inspection?				
Tinted Full-Seal Glasses?					Other?									

Updated: 21-Feb-2019



Updated: 21-Feb-2019



Appendix C

Mosaic PPE Requirements



Use of Personal Protective Equipment (PPE)

Location/Applicability: Potash Business Unit		Document Identifier:	
Document Owner (Name/Title): Director Environment, Health, Safety and Security			
Effective Date:	April 1, 2020	Review Due Date:	April 1, 2023

Background

Purpose

In Scope

Out of Scope

General Requirements.....

Minimum Requirements

Selection.....

Care and Inspection

When is Specialty PPE Required.....

Variations and Exceptions from Program.....

Training

Evaluation of Effectiveness of PPE Program

Contractor, Visitor, Trucker and Delivery Personnel PPE

Jewelry.....

Hair and Facial Hair

Protective Clothing.....

Head Protection

Eye and Face Protection

Hearing Protection

Foot Protection

Hand Protection

APPENDIX A – Overview of Mosaic Potash Business Unit (PBU) minimum PPE requirements

APPENDIX B - Personal Protective Clothing for all Mosaic Employees

APPENDIX C - Filter Lenses for Protection against Radiant Energy

APPENDIX D - Glove Selection

APPENDIX D-1 - Glove Selection Guide


APPENDIX D-2 - Gloves Types and Construction







Background

Purpose	To ensure that anyone working or visiting a Mosaic Potash Site can select and maintain the minimum required Personal Protective Equipment (PPE).
In Scope	This program applies to anyone while on Mosaic sites.
Out of Scope	Some trades or tasks require additional or specialized PPE, which will not be covered in this document, such as: <ul style="list-style-type: none">• Electricians• Welders• Chemists• Mine Rescue/ Emergency Response Personnel when actively responding to an emergency• Working at heights

General Requirements

Minimum Requirements	<p>PPE Required Areas</p> <p>Anyone within a PPE required area must wear, at a minimum, the following "Standard PPE":</p> <ul style="list-style-type: none">• Hard hat• Safety glasses• High visibility clothing• Safety boots with internal metatarsal protection• Gloves <p> Note: Hearing protection must be worn in areas with noise levels above 85 (dB) decibels.</p>
Modified PPE Areas and PPE Free Zones	<p>Based on hazard assessment, sites may establish clearly marked, designated Modified PPE Areas and PPE Free Zones.</p> <ul style="list-style-type: none">• Modified PPE Areas are low hazard work areas where Standard PPE is not necessary, but some PPE is required to mitigate specific hazards. Quality Control Labs are a common example of a Modified PPE Area.• Work areas designated as PPE Free Zones are areas where no specific PPE requirements apply. Street clothes, compliant with the site's Dress Code Program are approved to be worn in PPE Free Zones.

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<p>Working in Modified PPE Areas and PPE Free Zones</p>	<p>Anyone performing trades type activities (plumbing, electrical, carpentry, etc.) within PPE Free Zones or Modified PPE Areas must wear at a minimum the <i>Standard PPE</i>.</p> <p>Anyone performing non-trades type activities within PPE Free Zones that may introduce a hazard that can only be mitigated by PPE must wear the appropriate PPE as deemed necessary. Hazards can be identified by conducting a <i>Hazard Assessment</i> (i.e. Field Level Hazard Assessment-FLHA/Job Hazard Assessment-JHA).</p>	
<p>Selection</p>	<p>All PPE must be of a safe design and construction for the work to be performed.</p> <p>All PPE must meet or exceed at least one of the following standards:</p> <ul style="list-style-type: none"> • CSA – Canadian Standards Association • ANSI – American National Standards Institute • NIOSH – National Institute for Occupational Safety and Health • DOT- Department of Transportation <p> Note: All recommendations for new PPE must follow the approved Procurement process.</p> <p> Warning: All PPE that is acquired or provided by employees that is not a company approved item must be approved prior to use by the Manager of Environment, Health, Safety, and Security or their designate.</p>	
<p>Care and Inspection</p>	<p>Inspection</p> <p>All PPE must be inspected prior to each use to ensure it is fit for purpose and meets the basic requirements of the manufacturer.</p> <p>When PPE is found to be in questionable condition during a task, a <i>Hazard Assessment</i> must be performed to confirm the PPE is in satisfactory condition to continue working.</p> <p> Note: PPE that fails the inspection must be removed from service immediately and replaced.</p> <p>Care</p> <p>All PPE must be maintained as per manufacturer's recommendations.</p>	
<p>When is Specialty PPE Required</p>	<p>Additional or specialized PPE must be worn if engineering and administrative controls do not provide adequate protection from hazards that can cause injury or impairment in a function of any part of the body through absorption, inhalation or physical contact. Some trades such as welders, electricians, chemists, seismic crews etc. will have to don additional or specialized PPE.</p>	



For example, hazards that will require additional or specialized PPE may include:

- Chemicals
- Radiation
- Mechanical
- Biological

Warning: Anyone accessing the underground mine areas must ~~at all times~~ have a W65 (or similar) self-rescue breathing apparatus readily accessible.

Hazard Assessments

The following are acceptable methods of determining what additional PPE may be required:

- Field Level Hazard Assessment (FLHA)
- Job Hazard Assessment (JHA)
- Touring and visual inspection of entire work area
- Interviewing employees familiar with the task
- Reviewing Safety Data Sheets (SDS)
- Reviewing accident/injury data
- Risk Register

Flotation Devices

Approved flotation devices must be used when working on or near bodies of water and there is a risk of falling and drowning as per the Mosaic "Working Around Water Standard".

Variations and Exceptions from Program

Any variance to this program must be:

- Risk assessed; and
- Time limited; and
- Approved by the site EHSS Manager and/or either the applicable GM or Capital Director
- Documented using the Variance Form in Appendix E

Training

All employees required to wear PPE must be trained on proper selection, use and care for the PPE.

Retraining

Retraining should be provided when:

- New PPE is introduced to the workforce
- Employees are observed using PPE improperly

Training Documentation

Training on the use of PPE should be documented either on its own or part of a broader training program such as an orientation.



Evaluation of Effectiveness of PPE Program

The PPE Program will be reviewed every three years or when changes are required by the EHSS Department. The review must include an:

- Overview of workplace hazard assessments to ensure they are current and complete
- Overview of any new processes to the facility to ensure all necessary PPE has been purchased and implemented
- Review of Program and MMS for accuracy and compliance with any new or amended government or corporate standards
- Review of past incidents to identify areas where PPE would be introduced to prevent re-occurrence.

Contractor, Visitor, Trucker and Delivery Personnel PPE

Contractor Requirements

All contractors' PPE must meet or exceed **all of** the requirements as set out by this document.

Short Term Contractors

Short Term Contractors' clothing:

- May be any color, so long as the clothing meets CSA High Visibility Class 1 requirements.
- Flame Resistance and Arc Flash Protection that meets or exceeds the requirements of this document will only be necessary based on a Job Hazard Assessment of the tasks being performed.

Information: Short Term Contractors shall constitute any firm that will be working on site for less than 6 consecutive months.

Long Term Contractors

Long term contractors' clothing must meet or exceed:

- CSA High Visibility Clothing Class 2 requirements.
- Flame Resistance and Arc Flash Protection that meets or exceeds the requirements of this document.

Information: Long Term Contractors shall constitute any firm that will be working on site for at least 6 consecutive months.

Contractor Hard Hats

Contractor's hard hats may be any color (**except red**) so long as they meet the standards per this document.

Note: Red hardhat color has been reserved for Mine Rescue and Surface ERT members to provide site personnel with instant recognition of response members.





**Visitor
Requirements**


All site visitors that will be accessing a PPE required zone must either bring or be supplied with PPE that meets or exceeds the requirements in this document.

Site visitors must wear the following PPE when entering PPE required areas:

- Orange hard hat
- Safety glasses must be half or full seal glasses or goggles
- Steel toed boots with metatarsal protection
- High visibility clothing or break-away vest that meets CSA Class 1 or equivalent
- Gloves
- Hearing protection when in areas with noise levels above 85 dB

 **Note:** Visitors in general are defined as anyone that will not be paid or perform any work while on site.


 **Note:** Mosaic employees are considered visitors unless they have valid local site employee or contractor orientation.

 **Note:** Visitors with prescription eyewear will be supplied with a pair of full seal "Over the Glasses" (OTG) goggles if their personal eyewear does not qualify as full or half seal.

**Trucker, Couriers
and Delivery
Personnel
Requirements**

Delivery personnel and truckers require the following PPE when accessing PPE areas at the site:

- Hard hat
- Half or full seal safety glasses
- High visibility clothing or break-away vest that meets CSA Class 1 or equivalent
- Gloves
- Approved safety boots

 **Note:** Sites may establish a PPE free or modified PPE zones as appropriate based on a risk assessment. All such zones must be well defined and clearly marked.

Jewelry

Approved Jewelry

The following items of jewelry are permitted within PPE required areas so long as they do not interfere with the PPE or pose another hazard:


- Stud type earrings
- Stud type facial piercings
- Non visible body piercings



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- Solid ear lobe disks
- Medical Alert bracelets, if they possess a break-away clasp or strap.
- Watches that possess bands held in place by pins
- Lanyards used to carry keys, ID, memory cards, etc. if they possess a break-away clasp

 **Note:** Break-away clasp can be any clasp that by design is weaker than the actual chain, strap or lanyard. This may consist of a weak pin, loop, mechanical clasp, etc.

Prohibited Jewelry

The following items of jewelry are prohibited in areas that require PPE:

- Rings
- Bracelets (see note on Medical Alert bracelets above)
- Necklaces
- Dangly, welded or solid hooped, or partially hooped piercings
- Open ear lobe disks


 **Note:** If open ear lobe disks or open ear lobes are present, they must be taped when entering a PPE zone.

Hair and Facial Hair

Length of Hair


Hair cannot extend below the base of one's collar. Hair longer than the base of the collar must be confined using one of the following or similar approved methods:

- Dew-rag (must be snug and the knot cannot exceed one's collar)
- Welder's hat
- Hair band(s)
- Bobby pin(s)

 **Note:** A hard hat is not considered an approved method for containing one's hair above the bottom of their collar. Hair must remain contained even with one's hardhat removed.

Length of Facial Hair

Beards, goatees, mustaches and sideburns must be kept trimmed or secured to a maximum length of two (2) inches. Facial hair longer than two (2) inches must be contained by employing a beard net, hair band(s) or other approved means.

 **Note:** Employees who could be required to wear a respirator during a day where a tight fit is essential to the proper functioning of the respirator must be clean shaven.





Protective Clothing

Minimum Standards

All Mosaic employees must wear the provided uniform coveralls or pants and shirt when entering a PPE required area. Clothing must meet or exceed the following standards:

- CSA Z96-15 or ANSI 107-2015 Class 2 for high visibility apparel
- Flame Resistant (FR Rated)
- Arc Flash rated to a minimum of Arc Thermal Protection Value (ATPV) of 8 calories/cm²
- Tops must be long sleeved (Coveralls, t-shirts, shirts)
 - Shirts must be either tucked into pants or contained with a belt to ensure an employee is protected in the case of an Arc Flash blast
- Shirts and coveralls must be buttoned/zipped up to at least the neckline
- Pants must be full length
 - No cuffs on pants if performing hot work.
- Outer wear (Jackets, Parkas, vests, etc.) must meet or exceed these standards, unless the greatest hazard associated with the work being performed can be more effectively mitigated by using a different type of outer wear. Any deviation from standard outer wear must be identified and justified on a Field Level Hazard Assessment (FLHA) or Safe Work Permit (SWP).
- All hoods, including those attached to Hoodies (aka "Bunny Hugs") or hooded jackets/parkas must:
 - Be designed to break away from the clothing if caught or pulled (breakaway hoods).
 - Not have a drawstring. If hood is supplied with a drawstring, the drawstring must be removed prior to use in a PPE area.
 - Be worn in such a manner that peripheral vision is not obstructed.

 **Warning:** Sleeves shall be rolled up when using lathes to prevent them from getting entangled.

 **Note:** The continued use and purchase of Mosaic specification royal blue Class 1 visibility winter parkas is approved due to availability and suitability concerns with the Class 2 yellow parkas. This condition is subject to future change if we can improve the warmth and availability of the yellow parka option.

Disposable Coveralls

Disposable coveralls (i.e. Tyvek style) may be worn on top of PPE clothing when there is a need to protect the clothing from the work environment. In these



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situations a documented hazard assessment must be completed to ensure that the coveralls do not introduce a new risk such as entanglement.

Warning: These must not be used during jobs that involve Hot Work or the risk of an Arc Flash.

High Visibility Vests

All high visibility vests must be of the break-away style to ensure that they do not become an entanglement hazard.

Alterations to clothing

Alterations such as hemming pants for length, replacing buttons, repairing of rips, and patching holes is permitted, however, these alterations must be performed by a vendor that has the appropriate supplies i.e. FR thread and FR patches.

Prohibited Clothing

The following items are prohibited from being worn within areas that require PPE:

- Short sleeves
 - Long sleeves must be worn and cannot be rolled up
- Shorts or Cut Offs
 - Pants must cover entire leg and leave no exposed skin
- Loose Clothing
 - Scarves
 - Jackets/Parkas with non-detachable hoods

Head Protection

Minimum Standards for Hard Hats

Hard hats must meet or exceed the CSA Z94.1-15 or ANSI 289.1-2014 requirements for Class G and E (or equivalent standard).

Note: Existing Class C hard hats (V-Gard hardhats with UG light clip holders) must be replaced with Class G or E hard hats in accordance with their scheduled replacement over the next 5 years.


Labels

Hard hats must have a label applied to the front of the hardhat which indicates the employee's first and last name. Nicknames may also be applied so long as the first and last names are visible.

Suspension Systems

Hard hats must have suspension systems properly installed and worn peak forward.



 **Note:** Hard hats may be worn peak backwards only during welding, grinding or climbing activities. These hard hats must be specifically designed and approved by the manufacturer to be worn in reverse.

Alterations

It is specifically prohibited to do any of the following activities to a hard hat:


- File
- Drill
- Saw
- Cut
- Apply any type of coating or paint

Hard hat suspensions and liners must be maintained in good condition. Alterations are prohibited.

Hard Hat Colors

The following are the assigned hard hat colors for Mosaic employees:

- White – Mosaic Employees
- Red – Emergency Response Team/Mine Rescue members
- Green – New hire employees (less than 90 days)
- Orange – Visitors and Truckers/Delivery Personnel

 **Note:** Contractors may wear any color (**except red**) which has been designated for Mine Rescue and Surface Emergency Response team members.

Decals

Hard hats may only be decorated or modified by the application of self-adhesive decal(s) that are approved by management. Decals must not be located within 1/4" of the rim of the hard hat.

 **Warning:** No metallic stickers may be affixed to a Class "E" hard hat.

Hard Hats in vehicles

Open Cab Vehicles

Employees operating or riding in mobile equipment without fully enclosed cabs (i.e. skid steers, forklifts, golf carts, mobile cranes, etc.) must wear an approved hard hat.

Fully Enclosed Cab Vehicles

Employees are not required to wear hard hats, but must have a hard hat in their possession in the following circumstances:


- When operating or riding in the cab of a pick-up truck, service truck, semi-tractor, automobile or equivalent vehicle with overhead protection in PPE required areas




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- When operating or riding in a fully enclosed cab of a tractor (crawler or rubber tired) frontend loader or locomotive with overhead protection.

 **Note:** Fully enclosed is a cab equipped with doors, roof, windows and sides that will prevent the outside atmosphere from entering the operator's compartment.

 **Note:** Employees in a fully enclosed cab with windows open are not required to wear a hard hat but must wear approved safety glasses.


Inspection and replacement

Hard hats and suspension systems must be inspected before each use. Damaged or deteriorated items must be replaced immediately. At a minimum hard hats must be replaced every 5 years and suspension systems on an annual basis.

 **Information:** Hard hats that have received a significant blow must be replaced even if no visible damage is noted

Linens

Snug fitting welder's caps, kerchiefs, cooling rags and winter liners may be worn under the hard hat suspension as long as it doesn't interfere with the fit of the hard hat.

 **Warning:** Ball caps are prohibited from being worn in conjunction with a hard hat.

Chin Straps

Chin straps and other approved devices should be employed where conditions may cause the hard hat to be dislodged. For example, in windy conditions when working at heights.

Underground Cap Lamp

Anyone accessing the underground mine areas must at all times have a functional cap lamp attached to their hardhat.

Motor Vehicle Helmets

United States Department of Transportation (DOT) approved helmets with a face shield must be worn in lieu of a hard hat for any work requiring the use of an All-Terrain Vehicle (ATV) or snowmobile.

Eye and Face Protection

Minimum Standards for Safety Glasses

All safety glasses (prescription and non-prescription) must meet or exceed the requirements of CSA Standard Z94.3-02 or ANSI Z87.1 (or other equivalent standard).



At all operating sites, full seal or half seal safety glasses must be worn at all times when in a PPE required area. Specific groups may mandate full seal glasses based on increased hazards associated with the type of work that is commonly performed.

Note: Anyone in close proximity to employees performing work requiring specific eye protection must also wear the specified eye protection.

Lens Tint

Safety glasses must have clear (no tint) when underground or indoors.

On surface, safety glasses with dark tinted lenses for exterior sun protection may be worn during daylight hours.

- Employees who wear dark tinted lenses must carry a pair of clear safety glasses with them at all times

Information: Daylight is defined as 30 minutes after sunrise and 30 minutes prior to sunset

Warning: Mirrored safety glasses are not permitted on sites.

Note: Self darkening (Transition) lenses are approved for use in PPE required areas, but sites shall exercise discretion when providing authorization for employees to purchase transition lenses. It is the responsibility of the individual to allow their eyes and eyewear time to adjust to changing lighting conditions before resuming work.

Contact Lenses

Contact lenses are prohibited in areas that require PPE.

Safety Glasses in Vehicles

Open Cab Vehicles

Employees in mobile equipment without a fully enclosed cab (skid steer, forklift, golf carts, etc.) OR in fully enclosed cab with windows or doors open must wear approved safety glasses.

Closed Cab Vehicles

Employees operating or riding in mobile equipment with fully enclosed cabs (trucks, semi-tractors, etc.) may remove their safety glasses so long as the windows and doors are closed.

Face Shields, Welding Helmets, and Goggles

Face Shields with Safety Glasses / Goggles

Face shield with approved safety glasses or face shield with full seal goggles with a properly adjusted elastic strap must be worn in the following circumstances:


- When operating portable or bench grinders
- When using a hot stick to operate high voltage-fusible disconnects



- When abrasive blasting (sandblasting, soda blasting, etc.)
- Whenever the job has the potential risk of flying debris, chips or sparks
- When handling chemicals, or operating valves on systems containing chemicals. Refer to SDS for further guidance.
- When using circular and chop saws


Face shields **and** approved full seal goggles with a properly adjusted elastic strap must be worn in the following circumstances:


- When handling acids, alkalis or other chemicals that have the potential to cause immediate or acute damage to eyes or skin upon exposure.
- When performing overhead work involving cutting, drilling, grinding or abrasive blasting
- When performing cutting, grinding or abrasive blasting in a confined space
- When using compressed air at a pressure of 45 PSI or more, for housekeeping or cleaning activities
- When performing bulk chemical loading and offloading activities. (This does not apply to fueling vehicles or equipment.)
- When pressure washing.

 **Note:** Pressure washing is the act of using water or other fluid pressurized by mechanical means such as a pump for cleaning or housekeeping purposes. Using water hoses and nozzles at standard plant pressures with no supplemental pressurization is not considered pressure washing.

Full seal goggles with a properly adjusted elastic strap must be worn in the following circumstances:


- When performing outdoor work in sustained wind more than 50 km/hr.
- When mixing or transferring grout, cement or other very dusty materials


 **Note:** Positive Air Purifying Respirators (PAPR) and Supplied Air respirators provide a higher level of protection and may be used in lieu of the requirements above.

 **Note:** Full seal safety glasses with a properly adjusted elastic strap meet the requirement for full seal goggles, provided the eyewear provides a complete seal against the skin.


Welding Hoods/Helmets

Welding hoods or helmets must be worn while performing any type of electric welding operation.


 **Information:** See Appendix A for a complete guideline on welding eye protection.

 **Note:** Safety glasses or goggles must be worn under face shields and welding hoods/helmets at all times.



 **Note:** Mesh face shields may be used with the appropriate approval and hazard assessment.

Hearing Protection

Minimum Requirements for Hearing Protection	<p>All hearing protection devices must meet or exceed the requirements of CSA Z94.2-14 or ANSI S12.6-97.</p> <p>The noise reduction available from a hearing protection device is an intrinsic property of the device and may be affected by:</p> <ul style="list-style-type: none"> • Correct fit • Adequate attenuation • Over protection • Comfort • Working conditions
Fitting Devices	<p>In order to be effective, hearing protection must provide adequate noise reduction and be worn as designed by the manufacturer.</p> <p>Instruction and demonstration on how to effectively fit hearing protectors will be provided on commencement of employment and as necessary by Occupational Health Nurse staff.</p>
Wear Time	<p>Hearing protection must be worn at all times when the noise level is greater than 85 decibels (dB).</p> <p>Areas with noise levels above 105 dB require double hearing protection (Ear plugs plus ear muffs). These areas are to have signage to indicate the noise levels and the requirement for double hearing protection.</p>
Maintenance of Hearing Protection Devices	<p>Hearing protectors must be maintained in a clean and hygienic condition.</p> <p>Hearing protectors must be inspected prior to each use.</p>
Hearing Protection Areas	<p>Some examples of areas that must be designated as "Hearing Protection Areas" include:</p> <ul style="list-style-type: none"> • All surface buildings containing potentially high noise <ul style="list-style-type: none"> ○ Process Plant (Mill/Refinery) ○  Note: Mills/Refinery will not be exempt during Shut Down days ○ Power House



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- Load Out
- Maintenance Shops
- Mobile equipment with noise levels above 85 dB
- Underground Workshops
- Underground when travelling from one work area to another
- **Note:** Once at the new work area, re-assess the noise levels to determine the need for hearing protection
- When working in an area that has high noise emitting equipment (temporary or permanent)

Foot Protection

Minimum requirements for Foot Protection

Safety boots must meet or exceed the requirements of CSA Z195-M92 or ASTM 2413-11Mt.

All safety boots must be at least 8" tall and must have internal metatarsal protection except as described in the note below. If the manufacturers' specifications state that it is an 8" boot then they qualify for Mosaic's foot protection program. Boots manufactured from leather, rubber or chemical resistant materials are acceptable.

Lace up boots must be laced to the top of the boot (top grommet or eyelet).

■ **Note:** "Lace in" metatarsal guards are allowed for low risk activities, such as tours or visual inspections.

Hand Protection

Minimum Hand Protection requirements

Employees must at all times, when in a PPE required area, wear a pair of gloves suitable for the task.

Gloves may be removed in the following situations without a documented risk assessment:

- Personal hygiene activities
- Eating in break areas that are in PPE required zones (such as underground)
- Installing earplugs, cleaning glasses or adjusting other PPE that may not be easily done with gloves on.
- Using authorized electronic devices, such as cameras, phone or surveying equipment





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- Use of lathes
- When inside enclosed mobile equipment
- Handling of small/fine parts which pose no hazards, such as tiny screws.

 **Note:** Gloves with drawstrings must have the string removed.

 **Note:** Gloves may be removed in other situations, but only when a documented risk assessment (FLHA, JHA, etc.) has been performed and it can be shown that the gloves introduce more risk than they mitigate.

 **Note:** Gloves must be worn when using stairs in PPE areas, as handrails could have rough surfaces that may create a hazard.

 **Information:** Refer to Appendix D for more detail on Glove Selection.

Responsibilities

Supervisors

- Model good work practices by consistently and properly wearing the right gloves for the job.
- Participate in educating and training workers about the hazards in the workplace, how gloves protect the worker, how to wear them correctly, when they must be worn, how to maintain, store, and dispose of them properly.
- Check that gloves are available and that workers know where and how to obtain them.
- Regularly monitor that workers are wearing their gloves
- Ensure that gloves are being inspected, stored, and disposed of properly.
- Act to remedy situations where workers are not wearing gloves or when workers report that gloves are requiring replacement
- Refer any issues with gloves to your employer or safety professional and stay involved to make sure issues are resolved.

Workers

- Make sure you are educated and trained in how and when to wear your gloves and how to clean, inspect, store and dispose of them prior to beginning work.
- Wear the appropriate gloves for the task.
- Take care of your gloves – inspect regularly and replace when necessary.
- Inspect your gloves for wear and tear and other damage before use.
- Make sure your gloves are replaced as necessary.

Contractors




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- Ensure that workers are provided gloves that meet the requirements of the glove selection program.

Appendix A - Overview of Mosaic PBU minimum PPE Requirements

Requirement	Visitor (Public or Mosaic)	Courier, Trucker, Delivery	Short Term Contractor	Long Term Contractor	Mosaic Employee (Local)
Hard Hat: Color	orange	any (except red)	any (except red)	any (except red)	white, red or green
Safety Glasses: half or full seal	✓	✓	✓	✓	✓
Hearing Protection: (in areas above 85 dB)	✓	✓	✓	✓	✓
Safety Boots: 8-inch steel or composite toe boots with internal metatarsal guards	✓	Steel or composite toe boots acceptable based on hazard assessment	✓	✓	✓
Gloves	✓	✓	✓	✓	✓
Clothing: long sleeve shirt & long pants	✓	✓	✓	✓	✓
Visibility	Class 1	Class 1	Class 1	Class 2	Class 2
Flame Resistance: FR rated	Based on Hazard Assessment	No	Based on Hazard Assessment	✓	✓
Arc Flash Protected: ATPV ≥ 8 calories/cm ²	Based on Hazard Assessment	No	Based on Hazard Assessment	✓	✓
Contact Lenses	Based on Hazard Assessment	Based on Hazard Assessment	Prohibited	Prohibited	Prohibited
Prohibited Items:	Rings, necklaces or bracelets (Medic Alert Bracelet – exempt) Dangly, hooped type visible body piercings or open earlobe disks Short sleeve tops, shorts or cut-off pants Open toed footwear Excessively loose clothing, such as scarves, strings, etc. Non-approved safety apparel				

 **Note:** See the applicable section of this document for detailed information of the standards/requirements of the PPE required in the table above.



 **Note:** “V” represents a required item.

Appendix B – Personal Protective Clothing for all Mosaic Employees

Mosaic PPE

All Mosaic Employees must wear the following provided PPE when entering a PPE Required Zone or as required in the PPE Program. The clothing must meet or exceed the requirements as listed below:

- Work Pant – Navy
 - ✓ HRC 2, ATPV 12.4, NFPA 70E, CSA Z462, ASTM F1506
- Work Coverall – Bright Yellow
 - ✓ HRC 2, ATPV 8.4, NFPA 70E, CSA Z462, ASTM F1506
 - ✓ Reflective pattern CSA Z96 Class 3
- Long Sleeve Shirt – Bright Yellow
 - ✓ HRC 2, ATPV 8.1, NFPA 70E, CSA Z462, ASTM F1506
 - ✓ Reflective pattern CSA Z96-09 Class 2
- Dress Shirt Long Sleeve – Bright Yellow
 - ✓ HRC 2, ATPV 9.0, NFPA 70E, CSA Z462, ASTM F1506
 - ✓ Reflective pattern CSA Z96-09 Class 2
- Vest – Bright Yellow
 - ✓ HRC 2, ATPV 8.4, NFPA 70E, CSA Z462, ASTM F1506
 - ✓ Reflective pattern CSA Z96 Class 1
- Parka – Bright Yellow or Royal Blue “Class 1”
 - ✓ HRC 2, ATPV 8.4, NFPA 70E, CSA Z462, ASTM F1506
 - ✓ Reflective pattern CSA Z96 Class 2
- Bib pant – Navy
 - ✓ HRC 2, ATPV 8.4, NFPA 70E, CSA Z462, ASTM F1506
 - ✓ Reflective pattern 2in silver around legs





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Requirements for CSA Class 1 High Visibility Clothing

Basic harness or stripes/bands over the shoulder(s) and encircling the waist.
Background material must be at least 0.14 square meters of bright or fluorescent color.

Retro reflective or combined-performance material used in conjunction with background material of 0.10 square meters and no less than 50 mm wide.

Examples of Class 1 High Visibility Clothing:



Requirements for CSA Class 2 High Visibility Clothing

Full coverage of upper torso (front, back, sides, and over the shoulders*). Refer to the CSA standard for an alternative style for bib.

Retro-reflective or combined-performance material used in conjunction with background material of 0.13 square meters and no less than 50 mm wide.

Examples of Class 2 High Visibility Clothing:



Figure B.3
Class 2 — Vest



Figure B.4
Class 2 — Jacket



Appendix C – Filter Lenses for Protection against Radiant Energy

FROM ARC WELDING			
1. Operations	Electrode Size (1/32 inch)	Arc Current (AMPS)	Minimum Protective Shade*
Shielded metal arc welding	Less than 3	Less than 80	7
	3 - 5	80 - 160	8
	5 - 8	160 - 250	10
	More than 8	250 - 500	11
Gas metal arc welding and flux cored arc welding		Less than 80	7
		80 - 160	10
		160 - 250	10
		250 - 500	10
Gas Tungsten arc welding		Less than 50	8
		50 - 150	8
		150 - 500	10
Air carbon Arc cutting	(Light)	Less than 500	10
	(Heavy)	500 - 1000	11
Plasma arc welding		Less than 20	8
		20 - 100	8
		100 - 400	10
		400 - 800	11
Plasma arc cutting	(Light)**	Less than 300	8
	(Medium)**	300 - 400	9
	(Heavy)**	400 - 800	10
Carbon arc welding			14

FROM GAS WELDING			
Operations	Plate Thickness - inches	Plate Thickness - mm	Minimum Protective Shade*
Gas Welding:			
Light	Under 1/8	Under 3.2	4
Medium	1/8 to 1/2	3.2 to 12.7	5
Heavy	Over 1/2	Over 12.7	6
Oxygen Cutting:			
Light	Under 1	Under 25	3
Medium	1 to 6	25 to 150	4
Heavy	Over 6	Over 150	6

*As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxy fuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

**These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the work piece.



Appendix D - Glove Selection

**Purpose /
Objective**

To establish guidelines for the selection of gloves to further minimize the risk of injury to the hands.

Personal Actions

Recognize the potential causes of hand and finger injuries.

- Striking against or struck by an object. (Wrench slips off a nut, improper use of tools).
- Caught in, on or between an object. (Handling heavy objects, pinch points).
- Contact with chemicals, electrical current or extreme temperatures. (Lab environment, sample collection)
- Rubbed, abraded or penetrated by an object. (Contact with a moving belt, lumber with a nail protruding)
- Reaching into "blind spots" (Engine compartments, pails of material)

Inspect your job for hazards.

- Look for existing and unexpected hazards that may affect your hands or fingers.

Hand and Finger Safety

- Plan the work activity and select the best way of performing a job.
- Follow all safety rules and procedures.
- Wear the correct type of hand protection.
- Keep your mind on the task when performing the activity.
- Continually watch for potential pinch points.
- Only operate equipment with guards in place.
- Be prepared for the unexpected by being alert for changing or unusual conditions
- When you are finished your work, leave your work area in a safe condition.
- Lacerations can occur at any time when using a knife; remember always cut away from your body.
- Never attempt to clean or adjust a moving piece of equipment. Follow lockout procedures.
- Never reach into a "blind spot."
- Always watch for pinch points.
- Avoid putting your unprotected hands into materials that have the potential to cause skin irritation or dermatitis.
- Remove your gloves if there is a possibility of entanglement.
- Do not wear jewelry (rings, bracelets, etc.) when working in an area that requires PPE.
- Always inspect your gloves for damage before using.



- Always use the proper tool correctly for the job.

Hand and finger hazards in the workplace


Identify potential hazards or energy sources that may cause hand or finger injuries such as:

Mechanical Hazards

- Chains, gears, rollers, wheels, spiked or jagged tools, edges that can catch and tear, shearing, chopping and crushing, cutting tools such as knives, falling objects, etc.

Heat and Cold Hazards (Temperature extremes)

- Sparks, steam, hot or cold pipes and surfaces, welding, compressed gases, production process, or the environment.

 **Note:** When the temperature of the hand or finger drops below 15° C or 59° F they become insensitive and the probability of an injury increases.

Chemical Hazards

- Degreasers, metal dyes, and inks, plant and animal oils, cleaning solutions, process chemicals, fuels, acids, corrosives, etc.

Blood Borne Pathogen Hazard

- Hands may be exposed to contaminated materials that may cause infection.

 **Note:** Always have hand or finger injuries cleaned and treated immediately.

Abrasions: (loss of skin)

- Abrasions occur when skin is rubbed away by friction of belts, sanders, grinders and rough materials. Broken skin allows easy entry of harmful or infectious substances.

Lacerations: (cuts)

- Lacerations happen when contacting dull or sharp cutting tools, objects or materials with jagged edges.

Puncture Wounds

- Puncture wounds are caused when pointed objects pierce the skin and deeper tissues. (glass, nails, sharp objects)

Repetitive Motion Hazards: (White Finger or Carpal Tunnel Syndrome (CTS))

- White Finger is caused by vibration that is passed on to the hands and fingers from working with vibrating power tools. Use of chain saws, air hammers, air chisels, jackhammers, etc. for extended periods will increase the chance of developing this.
- Carpal Tunnel Syndrome (CTS) is the damage to the nerve that runs through the wrist. CTS are caused by work tasks that require prolonged and repetitive bending or twisting of the wrists. (Painters, bagging operators, are examples of those that could be affected by this condition.)

Hierarchy of Controls

When performing work that involves the use of your hands and fingers consider the hierarchy of controls to see if the task can be eliminated, if a substitution can be used or if an engineering control can be implemented. Examples are:



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- Plan the work activity and select the best way of performing a job (automation).
- Operate equipment with guards in place (table saws, grinders).
- Use tools or materials that remove your hands or fingers from the line of fire i.e. push sticks, taglines

Glove Selection

General Requirements:

- Workers are required to wear gloves as per the Mosaic PPE program
- Workers will consult standard operating procedures, job hazard analysis, task safety analysis or any other relevant documents that provide information on the appropriate glove to wear for the task/tasks being performed. More than one type of glove may be required to complete the task/tasks.
- Should the above mentioned documents not provide sufficient information on the appropriate gloves to wear, a hazard assessment shall be performed to determine which gloves are necessary for the specific risks workers may encounter and the findings of the assessment recorded on the hazard assessment form (FLHA, FLRA, Safe Work Plan, SLAM Risk)
- Based on the findings from the hazard assessment a glove selection guide (sample provided in Appendix D-1) can be used to determine what the appropriate glove for the particular task is.
- Workers are responsible to select and wear the appropriate gloves that provide the hand protection required as per the assessment (reference Appendix D-2 for selection assistance).
- Should you require assistance in selecting a glove for a unique hazard consult your Supervisor or Safety Professional

 **Warning:** Additional or specialized gloves required in other programs shall be worn to provide adequate protection from hazards that can cause injury or impairment in a function to any part of the hand through absorption or physical contact. Some trades such as welders, electricians, sand blasters, painters etc. may have to don additional or specialized gloves i.e. electricians using rubber gloves under leather (double gloving).

Glove Selection Guide

Before heading down to the water, you should look for the nearest or most well-stocked marina. There are numerous marinas of each of these types, and it is important that you choose the appropriate glove for the task you are performing.



Appendix D-2 – Glove Types and Construction

This document contains the basic information regarding the different glove styles, construction, and types available. It is no means a complete guide to glove selection but merely a basic overview of the different options available.

STRING KNITS

A 'string knit' is a knitted glove. This designation is one of three possible types of glove construction. The other two are cut and sewn, and dipped. It is a category that overlaps many others, like palm-coated, supported (dipped) gloves, heat-resistant, and cut-resistant styles. They are knit from a variety of materials, such as cotton, polyester, nylon, Kevlar®, Dyneema®, or combinations of these. Some styles incorporate materials such as carbon filament, stainless steel or glass which all bring different resistant attributes to the gloves for abrasion, heat, cut, puncture, flame resistance, etc.



The materials used include 100% cotton, cotton/polyester blends, nylon, nylon-carbon (for anti-static applications), Raggwool, Kevlar® and Dyneema® (cut resistant), Rhovyl® (flame retardant), to name a few. The yarns vary in weight and the thread-count per inch may be adjusted to offer a tighter weave for greater dexterity and higher degrees of protection from dirt and particles.

FEATURES and BENEFITS

- Machine-knit, seamless construction provides hand-hugging comfort and fit.
- Ambidextrous or reversible, string-knit gloves eliminate sorting problems and reduce glove replacement costs.
- String-knit gloves conform to hand for better fit and allow skin to breathe.

COMMON APPLICATIONS

- General-purpose, popular in warehousing, parts handling, assembly, etc.
- Many styles are CFIA approved for food processing.
- Popular as a glove liner under liquid-proof gloves.

AVAILABLE FEATURES

- A variety of densities or gauges (string thickness) provide user with differing degrees of dexterity. Density refers to the tightness of the weave. The higher the gauge, the more dexterity it provides (i.e. 7 gauge is the most open knit, 18 gauge the tightest knit).
- Common weights are light, medium, and heavy.
- Cotton/polyester blend is the most popular and launders the most favorably.
- 100% polyester or 100% nylon is the solution if "lint" is an issue.
- 100% cotton is best where low to medium heat is an issue.
- Rhovyl® or Kevlar® is the solution if flame resistance is an issue.



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DOTTED STRING KNITS

Dotted string-knit gloves use string-knit gloves as “shells” or liners. A coating of PVC, or nitrile dots are silk-screened onto the glove to improve grip and abrasion resistance.

FEATURES and BENEFITS

- Knit shell provides all the same benefits as uncoated versions.
- PVC dot and brick patterns provide excellent grip and prolong glove life due to increased abrasion resistance.
- PVC palm-coated pattern provides good puncture resistance and reduced particulate infiltration.
- RT Reinforced styles have a PVC coating on the thumb crotch and finger tips (where gloves most often wear out first).



COMMON APPLICATIONS

- General-purpose abrasion protection.
- Very popular in automotive industry, warehousing, parts handling, assembly, etc.

AVAILABLE FEATURES

- Glove shells are available in a variety of gauges and weights. Gauge refers to the tightness of the weave. A regular liner weighs around 600 grams/dozen. A heavyweight liner weighs around 900 grams/dozen.



PALM-COATED GLOVES

Palm-coated gloves use string-knit gloves as 'shells' or liners. These gloves are coated with PVC, nitrile, latex, polyurethane (PU), using a dipping process. They offer great dexterity, durability and some liquid protection. All palm-coated gloves provide a great grip dry. For wet or oily grip, a foamed material is recommended, as the foam channels away liquid and prevents a slick from forming on the surface of the glove.



FEATURES and BENEFITS

- Most coated gloves provide some liquid resistance.
- Coated gloves are available in smooth, rough, foam and crinkle finishes, each offering varying degrees of grip.
- Latex crinkle-finish gloves provide outstanding grip, as well as a light degree of cut and puncture resistance. Latex is not recommended for applications involving oil because latex degrades in oil (i.e. metal stamping).
- Nitrile provides outstanding grip, abrasion resistance and is a good choice for handling oily parts. Nitrile is the most popular choice for coated gloves.
- PU coatings are generally regarded as the softest and most comfortable coating. They are also very "clean", making them a good choice for electronics handling and automotive paint applications.

COMMON APPLICATIONS

- Latex crinkle-finish gloves resist cuts and punctures and offer good abrasion resistance. They are commonly used for glass-handling and sheet-metal applications.
- PU coatings provide excellent dexterity with very little lint. They are good in material-handling applications such as electronics assembly.
- Nitrile-foam gloves are popular in oily, slippery applications.
- PVC-coated gloves are particularly good in adhesive applications, such as furniture manufacture. They are also well suited for many general purposes, and assembly applications.



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	Dry Grip	Wet Grip	Suitable for use with Adhesives	Durability	Comfort
Polyurethane (PU) Typical Industries: Aerospace Appliance Manufacturing	Good	Moderate	Poor	Moderate	Excellent
Nitrile Typical Industries: General Industry Carpentry	Good	Poor	Poor	Good	Moderate
Foam Nitrile Typical Industries: General Industry Carpentry	Good	Good	Poor	Moderate	Good
Micropore Nitrile Typical Industries: Metal Fabrication Automotive Assembly	Good	Good	Poor	Good	Moderate
PVC Typical Industries: Furniture Manufacturing	Good	Moderate	Excellent	Moderate	Moderate
Latex Typical Industries: Glass Manufacturing Construction	Excellent	Poor	Poor	Good	Good



CUT-RESISTANT GLOVES

Cut-resistant gloves and sleeves are produced much the same way that string-knit gloves are. However, they feature high-performance yarns to enhance cut and abrasion resistance.

FEATURES and BENEFITS

- Knit pattern provides all the same benefits of string knits (i.e., breathability, dexterity, etc.).
- Many styles are available with PVC, latex or nitrile coatings for improved grip and abrasion resistance.
- Composite blends of Kevlar®-steel, Dyneema®-steel, Dyneema®-fiberglass are also available. To achieve high levels of cut resistance, a composite yarn is required.



COMMON APPLICATIONS

- Food processing, glass handling, automotive manufacturing, metal stamping.
- Any application where there is a high risk of cuts and lacerations.
- Lighter-weight styles used as a glove liner to provide extra protection.
- Market place is heading towards most general duty jobs having some sort of cut resistance.

AVAILABLE FEATURES

- Cut-resistant sleeves are available in various lengths from 10-24 inches and are made from both Kevlar® and Dyneema®.
- Same points regarding string knit gloves apply, the higher the gauge the more dexterity.
- Secondary factors like grip (select proper coating) or resistance (heat, abrasion, etc.) determine optimal material.
- Cut resistant gloves should be paired with cut resistant sleeves to protect wrists and forearms.

Important note: yarn strength does not necessarily equal cut resistance.



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WOVEN-COTTON WORK GLOVES

Cotton work gloves have been available to workers for decades. The process has remained largely unchanged since they were first developed.

The fabrics include 100% cotton and cotton/ polyester blends. Many styles are available to fit the needs of many varieties of jobs. This style of glove is decreasing in popularity since the invention of the seamless-knit glove, which fits the hand better and is generally less expensive.



FEATURES and BENEFITS

- Canvas, single-palm gloves are one of the most popular work-glove styles. They are made from one layer of material. They are available in a variety of fabric weights and provide a very cost-effective, versatile, hand-protection solution that is widely accepted by the user.
- Canvas gloves with PVC dots offer improved grip. Dots prolong the usable life of the gloves.
- All-cotton styles provide some degree of heat resistance and abrasion protection.
- Double-palm gloves provide superior abrasion resistance and moderate heat protection while sacrificing minimal dexterity.
- Hot-mill styles are made of a variety of layers of material to provide greater heat protection than single-layer gloves. Burlap liners create pockets of air between the cotton layers to improve insulation characteristics.

COMMON APPLICATIONS

- Canvas styles are used in any general application such as maintenance, warehousing, material handling and agriculture.

AVAILABLE FEATURES

- Canvas styles are available with band-top cuffs, gauntlet cuffs, and knit-wrist cuffs.



LEATHER PALM GLOVES

Leather-palmed gloves are made using traditional cut- and-sew methods, which are labor intensive. Leather gloves offer protection from rough objects, heat, sparks and abrasion. Generous sizing, a variety of cuff designs and choices in leather quality make leather palms one of the most widely used gloves in industry.



FEATURES and BENEFITS

- Manufacturers offer several grades of split leather, top-grain cowhide, premium pigskin and goatskin for every application.
- 2 ½" safety cuff provides user with protection over the wrist, as well as ability to quickly discard glove in problem situations.
- ¾" gauntlet cuffs extend that safety further up the forearm.
- Kevlar®-stitched styles prolong life of glove by providing additional heat protection, as well as additional wear.
- Rubberized cuffs provide abrasion resistance in the toughest of applications.
- Knit-wrist style keeps particulate matter out of glove.

COMMON APPLICATIONS

- Popular in rugged-duty applications such as farming, foundry, lumberjacking, mining, and heavy-machine operation. Handling wire, wire rope, pry bars, railroad bars, or when hands/fingers could be pinched between objects.
- Top-grain styles provide superior abrasion resistance and usually last longer than split styles.
- Goatskin is most expensive, but is the strongest and thinnest leather, providing users with the best dexterity of any leather-palmed glove.

AVAILABLE FEATURES

- Many styles are available in double-palm versions. Be sure to note the difference between a patch palm (small pieces sewn together) vs. a true double palm.



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DRIVERS AND ROPER GLOVES

Leather drivers gloves offer many of the durable aspects of leather-palmed gloves coupled with better fit and dexterity compared to traditional leather fitters glove. Various leather options and slip-on styling create comfortable gloves for the most rugged applications. The term drivers and ropers gloves are commonly used interchangeably but while they look the same, there is a difference in seam location which does affect durability.



FEATURES and BENEFITS

- Drivers gloves feature slip-on styling to provide good fit and comfort.
- A variety of leathers are used to make drivers gloves:
 - Top-grain cowhide provides the best abrasion resistance and puncture resistance.
 - Split cowhide provides good abrasion resistance.
 - Top-grain pigskin is a very pliable leather that will retain its softness even after being soaked in water and dried out.
 - Goatskin is one of the most durable leathers available. Very thin but very strong, goatskin has natural lanolin, which helps avoid skin chafing. The dexterity of goatskin is the best of the available leathers.

COMMON APPLICATIONS

- Used in construction, machine operation, utility work, farming, and many other general applications.
- Pigskin is preferred in wet applications, as it will return to its original pliability after getting wet.
- Goatskin is used where tactile sensitivity and resistance to abrasion are of key importance.

AVAILABLE FEATURES

- American styles have shirred wrist for snug fit. Canadian styles have a snap closure.



FITTERS GLOVES

The fitters glove is typically what most people think of when they talk about a work glove as it has been in use for many years. It is typically a leather finger and palm construction that protects against scrapes and abrasion. It is still very popular because of its ability to resist abrasion or how it can slip off when unneeded. The fitters glove is often misused as a cut resistant glove.



FEATURES and BENEFITS

- High abrasion resistance and typically some sort of puncture resistance due to the leather palm.
- Full grain leather versions can provide water and oil resistance.
- Gunn Cut styles keep stitches and seams away from high wear areas to increase durability.

COMMON APPLICATIONS

- Used in construction, maintenance, utility work, farming, and many other general applications.
- Lined or unlined versions available for either winter or summer use.
- Cowgrain styles are heavier weight for increased durability or Pigskin for more breathability and its ability to return to its original softness after becoming wet.

AVAILABLE FEATURES

- Different gantlet material types and length to create added forearm protection.
- Fingertip and knuckle bar straps to provide wear resistance to the tops of fingers and back of hand.
- Kevlar liners at different cut ratings to provide cut protection.



LEATHER TYPES

Gloves come in many different levels of protection, dexterity, and comfort. Leather is a favorite choice for gloves. It's tough. It has good abrasion and puncture resistance. It breathes and conforms to the hand with time. The location and cut of leather that comes from cowhide makes a big difference, especially with split leather (the internal side of the hide). Side split is the most durable and best quality but also the most expensive. Shoulder split is also quite durable but slightly more economical. Belly split is the most economical and least durable cut.

Please Note while leather is tough and durable; it has no cut resistant properties.

FULL-GRAIN leather, made from the finest raw material, are clean natural hides which have not been sanded to remove imperfections. Only the hair has been removed. The grain remains in its natural state which will allow the best fiber strength, resulting in greater durability. The natural grain also has natural breath-ability, resulting in greater comfort for clothing. The natural Full- Grain surface will wear better than other leather. Rather than wearing out, it will develop a natural "Patina" and grow more beautiful over time. The finest leather furniture and footwear are made from Full-Grain leather. Grain provides durability, dexterity and water and oil repellency.

TOP-GRAIN leather is fuzzy on one side and smooth on the other. The smooth side is the side where the hair and natural grain used to be.

SPLIT SKIN leather that has had the grain completely removed or is an interior split of the hide/skin. During the splitting operation the grain and drop split are separated. The drop split can be further split (thickness allowing) into a middle split or a flesh split. In very thick hides the middle split can be separated into multiple layers until the thickness prevents further splitting. The strongest suedes are usually made from grain splits (that have the grain completely removed) or from the flesh split that has been shaved to the correct thickness. Split is "fuzzy" on both sides, less durable than top-grain and cheaper because many pieces of suede can be split from a single thickness of hide, whereas only one piece of top-grain can be made. Split Leather is also durable and is more economical.

COWHIDE: Offers comfort, durability, good abrasion and heat resistance.

PIGSKIN: Offers comfort, and extra breath-ability. Withstands moisture without stiffening.

DEER SKIN is one of the toughest leathers. It is extremely soft and supple with excellent dexterity.

GOATSKIN: High natural oil content makes goatskin very soft and pliable. Excellent tear resistance even when very thin.

HORSEHIDE: Tough and durable, yet very comfortable.

ELKSKIN: Elk split is the strongest leather out there, and offers excellent strength and abrasion resistance because it is thicker than regular split skin. (1.5 mm. thick, compared with 1.1 mm. thick for cow split).

SHEEPSKIN: Used where optimum dexterity and touch sensitivity are needed.



CHEMICAL-RESISTANT GLOVES

Unsupported liquid-proof gloves are made when ceramic molds are dipped in latex, nitrile or neoprene. Supported gloves are manufactured by dipping a shell of either jersey or interlock knit into a dipping compound. Latex resists bases, acids, alcohols, and diluted solutions of most types of chemicals. Nitrile offers greater protection against animal fats (particularly red meats), oils, many solvents, esters and greases. Nitrile is highly resistant to snags and punctures. Neoprene has better resistance to oils, acids, caustics, and solvents than nitrile, however neoprene is less resistant to snags and puncture. PVC provides protection against many acids, caustics, bases and alcohols. PVC-coated gloves offer good abrasion resistance.



Chemical gloves can also be offered with cut and puncture resistance linings as well as different grip options.

FEATURES and BENEFITS

- Full line of nitrile, latex, vinyl, PVC and neoprene chemical-resistant gloves.
- Rough grips include, sandblast, recessed-diamond, roughened-sandblast, raised-diamond, honeycomb and pebble.
- Unlined styles are generally powder-free.
- Most unlined styles are flock-lined (cotton added to the inside) for easy on-and-off, as well as for perspiration absorption.
- Nitrile, latex, PVC and neoprene offer exceptional chemical resistance without sacrificing dexterity.

COMMON APPLICATIONS

All styles are used in food processing, janitorial, sanitation and maintenance industry. Popular for any application that requires resistance to caustic chemicals such as fertilizer, battery acid, animal fats, etc.

Please note: always refer to a chemical-resistance chart when selecting chemical gloves.

Chemicals interact with the glove material itself which can break down and eat away at the material to cause a hole in the glove (penetration) or they can move through the material itself (called permeation, think water and osmosis) to contact the hand. It is important to select chemical gloves by matching the glove material with the chemical products being handled and the expected length of exposure.



Appendix D

Mosaic Global Life Saving Rules

 <p>1</p> <p>MOBILE EQUIPMENT AND DRIVING SAFELY</p> <p>Operate vehicles and mobile equipment for their intended purpose, only when properly trained and authorized.</p> <p>Ensure that equipment operation has your undivided attention and maintain compliance with key safety controls.</p>	 <p>2</p> <p>WORKING FROM HEIGHTS</p> <p>Only use inspected and approved fall protection equipment and be properly tied off whenever required.</p>	 <p>3</p> <p>LOCKOUT/TAGOUT</p> <p>Fully Lockout/Tagout equipment as required and verify isolation of all hazardous energy before work begins.</p>	 <p>4</p> <p>LIFTING OPERATIONS</p> <p>Only operate lifting equipment within safe working limits and clearances, while complying with prescribed lifting plans and procedures. Ensure that you are not positioned under a suspended load.</p>	 <p>5</p> <p>CONFINED SPACE ENTRY</p> <p>Obtain authorization before entering a confined space. Ensure that overhead hazards have been mitigated, a valid atmospheric test has been completed, and entrants are continuously monitored.</p>
 <p>6</p> <p>EQUIPMENT SAFEGUARDING AND BARRICADING</p> <p>Only operate equipment when all machine guards and critical safety devices are in place. Access barricaded or restricted areas only when authorized to do so. Install proper barricades when required.</p>	 <p>7</p> <p>ELECTRICAL SAFETY</p> <p>Only work on electrical equipment when authorized to do so and only access restricted areas containing electrical devices after receiving required training and an authorization.</p>	 <p>8</p> <p>GEOTECHNICAL, GROUND CONTROL AND STABILITY</p> <p>Inspect and manage ground stability conditions (surface and underground) throughout the entire work task, including during trenching and excavation and when working around bulk material piles.</p>	 <p>9</p> <p>HAZARDOUS CHEMICALS AND EXPLOSIVES</p> <p>Work with hazardous chemicals and explosives only when properly trained on how to handle and store them. Use all specialized protective equipment required for the work.</p>	<p>Global Life Saving Rules</p> 



Appendix E

Life Critical Standards



Mosaic Life Critical Standard

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Introduction

Purpose

This Standard provides Corporate, Business Unit and Facility Leaders with the minimum Environmental Health and Safety (EHS) requirements to be implemented so as to minimize Mosaic's EHS *risks* that have the potential to cause life altering injury to workers.

Scope

This Standard applies to all company managed facilities and company directed work off of Mosaic managed facilities.

Definitions

Definitions to terms found within the document that are in *italic* font can be found in the [EHS Glossary of Terms](#).

Hyperlinks ([blue italic font](#)) are linked to either:

- *Model best practice* documents which provide additional information on how to best fulfill the requirement of this Standard; or
- To various other documents used in reference within the standard.

Responsibilities

The following table contains a listing of *responsibilities* for specific groups/jobs as required by this Standard.

Group or Title	Responsibilities
Corporate	Develop and communicate this Standard. Review and update these standards to assure their continued relevance. Incorporate the Standard into Mosaic's EHSS Assurance Program.
Business Unit (BU)	Coordinate with each facility operation in the business unit to ensure this Standard is fully understood, adhered to and consistently executed. As necessary, prepare more detailed <i>Directives/Procedures</i> to ensure BU facilities are consistent in their approach to compliance with the Standard. Gather and report feedback on this standard to corporate.
<i>Facility Leader</i>	Assign individuals from facility operations (Facility-Level Standard Owner) to assume overall responsibility for managing the facility's implementation and sustained compliance with this Standard as part of their assigned job responsibilities.
Facility-Level Standard Owner	Develop, implement and maintain procedures and related documents to ensure the facility complies with this



	Standard. Ensure the facility's procedures are compliant with all applicable regulatory requirements.
Facility EHS Leader	Support the facility's implementation of this Standard. Ensure the facility's EHS team coordinates checks and assessments to verify the effectiveness of the Standard in the field.
Supervisors	Become knowledgeable of the contents of this Standard, associated facility procedures and the supporting operational controls. Ensure all work is executed in accordance with the Standard and hold all individuals accountable to the Standard.
Workers	Consistently execute and comply with the facility's Procedures and <i>Safe Work Instructions</i> while performing tasks on Mosaic property or under Mosaic's direction. Perform only those tasks for which they are trained, competent and authorized.

References


These documents are referenced in this standard.

Document Title
EHS Corporate Variance Request Procedure
EHS Glossary of Terms

Life Critical Standard

Context

Mosaic's EHS *Policy* is focused on the pursuit of an injury-free workplace and the protection of the environment. Mosaic complies with this policy by identifying environmental, health and safety *hazards*, and collaborating with our workforce to implement operational *controls* to reduce or eliminate these hazards.

 **Note:** Operational Controls are put into place to minimize safety hazards and environmental aspects and manage EHS Risk. They include Facility-level Risk Registers, documented procedures/instructions and operating criteria for the safe function of processes, activities and equipment. Operational Controls are implemented for employees, contractors, visitors, purchased goods, equipment and services.

Experience has shown that we have risks related to a number of hazards that may lead to death or serious injury. As such, Mosaic has developed a set of mandatory



standards to address these hazards and eliminate or minimize the risk of fatalities and injuries.

The Mosaic Life Critical Standard has been developed based on our own experiences and the examination of industry best practices. The Mosaic Life Critical Standard establishes the minimum performance requirements for managing risks with the potential to cause fatality.

The Mosaic Life Critical Standard does not completely address all possible risks with the potential for fatality. Instead, it focuses on the risks that have resulted in the majority of fatalities and serious injuries in recent years both in Mosaic and in related industries.

General


Application of the Mosaic Life Critical Standards is mandatory at all Mosaic managed businesses and operations. This mandatory nature is emphasized by the use of the word “shall” within the Standard.

Any deviation from these Standards shall be formally approved in accordance with the [Mosaic Corporate Variance Request Procedure](#).

Work Permit

Where there is a requirement to issue one or more Work Permits within this Standard, the expectation is that:

- A Supervisor physically reviews the workplace and ensures that required controls are in place and effective prior to authorizing a task to commence; or
- A second designated worker physically reviews the workplace and ensures that required controls are in place and effective prior to the task commencing and then a Supervisor authorizes the task.

 **Note:** Supervisors and designated workers must have documented competencies in hazard identification and risk control.

A Work Permit shall expire after 12 hours or one (1) shift.

Proactive Risk Based Approach

The Mosaic Life Critical Standard represents operational control requirements to effectively control the specific identified hazards to prevent Potentially Serious Incidents (PSI) and Serious Incidents (SI). These proactive risk control requirements are derived from risk assessments, investigations of incidents, and the experiences of other industry leaders. As such, there is a strong reliance on the proactive use of hazard assessments prior to commencing work activities to ensure appropriate controls are in place to prevent injury.

This Standard represents only a portion of the processes and controls used to prevent fatalities and serious injuries at Mosaic. Each facility's ongoing risk



assessment processes will also identify additional hazards and needed controls required to facilitate effective management of identified hazards. The controls shall be implemented in addition to the requirements within the Mosaic Life Critical Standard to ensure they remain appropriate and effective.

Mosaic owns and operates a diverse range of businesses and operations in different countries and cultures around the world, with varying legal frameworks. When applying procedures and practices to meet the requirements of this Standard, full compliance with all relevant local and national regulatory requirements is expected. Where local (host country) EHS regulations prescribe requirements that are less stringent than the requirements of Mosaic's standards, the Mosaic Life Critical Standard shall be applied in addition to the regulatory requirements.

**Coordination with
Contractors**

Contractors shall be required to meet the requirements of this Standard.

Contractors shall be provided with facility and or equipment specific hazard and control information for the hazards associated with their work.

Facilities shall ensure contractors provide information on the hazards they will be introducing and the controls that will be in place.

For new or non-routine jobs or any job that deviates from plan, facilities shall ensure that post job task debriefs are conducted with contractors to document any newly identified hazards and controls, and the facility's Risk Register is updated accordingly.

**Awareness,
Training, and
Competence**

Workers shall be made aware of the contents of the Mosaic Life Critical Standard, the potential hazards that may be in their areas of work (i.e., hazards identified on facility Risk Register) and the controls in place to prevent injury to themselves or others.

Each facility shall develop and maintain training and verification processes to ensure workers have the required *competence* and awareness necessary to safely perform their assigned tasks.

This shall include, as appropriate, training and verification of the following skills:

- Ability to recognize hazards;
- Ability to utilize task specific controls that are in place;
- Ability to understand task specific documentation and complete required approvals (Work Permit, Safe Work Instructions, etc.); and
- Ability to identify special circumstances and implement additional controls as required prior to and during any work.



Prior to deeming workers “*authorized*”, Supervisors shall ensure workers are competent in the specific task they are being assigned (i.e. Locking out Dryer 11, Confined Space Entry into Sulfuric Acid Tank A, Working at height in Loadout, etc.).

Workers involved in activities related to this Standard shall be retrained annually (refresher training). During training, there shall be a method for verifying the comprehension and retention of the material presented.

**Assessments and
Audits**

Facility compliance with the requirements of the Mosaic Life Critical Standards shall be assessed in accordance with Mosaic’s EHSS Assurance Standard.



Mosaic Life Critical Standard

Appendix 1 – Lockout/Tagout

Introduction

Purpose	To prevent injuries from the unexpected energization, start-up, or release of <i>hazardous energy</i> .
Scope	<p>The following shall be exempt from the requirements of this standard:</p> <ul style="list-style-type: none"> With respect to Lockout/Tagout: <ul style="list-style-type: none"> Cord and plug connected electrical equipment (e.g., power tools, fans, etc., typically 110 V), where the equipment is unplugged from the energy source and a competent worker has exclusive control of the plug; and Pneumatic and battery operated tools that have been disconnected from their energy source and a competent worker has exclusive control of the tool; With respect to Line Break and Equipment Opening: <ul style="list-style-type: none"> Opening rail car or truck; lids, domes and doors; Connecting/disconnecting hoses used for loading/unloading of product and material to/from trucks/trains/marine vessels; Instrument air lines from manifold to instrument or actuator; Obtaining samples from process equipment that has been designed for the safe retrieval of samples; and Disconnecting pressurized lines equipment with disconnects designed to contain the pressurized material once disconnected.

Requirements

Equipment Assessment and Controls	<p>Each facility shall identify <i>equipment</i> with <i>hazardous energy</i> sources (i.e., pressurized lines, radiation, electricity, equipment that may require lockout/tagout or line break/equipment opening, etc.).</p> <p>A documented equipment lockout/tagout <i>hazard assessment</i> (may be done independently or as part of the development of Equipment-specific Lockout/Tagout Instructions) shall be performed for equipment with hazardous energy sources by a <i>competent worker</i>. This assessment shall identify all hazardous energy sources associated with the equipment and identify the <i>controls</i> that are necessary to address the identified <i>hazards</i>.</p> <p>Hazardous energy controls shall include, as appropriate:</p>
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- Documented control processes, including Equipment-specific Lockout/Tagout instructions;
- *Energy isolation devices* to be used during lockout/tagout; and
- *Lockout devices* and any other ancillary equipment needed to make energy isolating devices capable of being locked out (e.g., valve covers, hasps, chains, etc.).

Required controls shall be in place prior to any maintenance, servicing, repair, inspection, testing (etc.) of equipment. This includes the use of Equipment-specific Lockout/Tagout instructions and readily available appropriate lockout devices for workers to use to control hazardous energy sources.


**Facility Lockout /
Tagout
Procedures**

Each facility shall implement a Lockout/Tagout procedure to ensure that:

- Hazardous energy sources, including stored energy, are effectively isolated, at the local control points as well as any remote control points prior to initiation of work on the equipment/processes;
 - Equipment/processes with hazardous energy sources are provided with a means to isolate (control) these sources and these isolation devices are capable of being locked out.

 **Note:** When no mechanical locking energy isolation device exists and no other effective means of positively locking out are possible, the use of tags in lieu of locks shall be permitted. In these cases, additional safety measures shall be required to remove/isolate the energy, such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device, or removal of a valve handle to reduce the likelihood of inadvertent energization.

- *Personal Lockout devices* are applied by each individual working on the equipment/process and removed only by the individual applying the device;
- Equipment that can be started/energized remotely is appropriately isolated to prevent the remote starting or energization of the equipment;
- Equipment being isolated is attempted to be energized by the worker applying the first lockout device(s), and if more than one worker is working on the equipment, at least one other competent worker or equipment owner will attempt to energize the equipment and verify that all stored energy is either released or appropriately isolated. Any additional workers wishing to verify the lockout are given the opportunity to do so;
- During a *group lockout*, an *independent field verification* of lockout shall be performed by a competent worker; and
- Unauthorized removal of or tampering with lockout / tagout devices is prohibited.

 **Reference:** An Independent Field Verification is performed by a competent worker, only once the isolation has been completed in the field, and is described as an act of physically verifying (in the field) that all lockout devices have been placed on the appropriate energy isolating devices in a

manner such that the energy isolating device cannot be manipulated from the “locked-out” position back to the “normal operation” position, ensuring all stored energy is either released or appropriately isolated and attempt to energize “bump test” the equipment to ensure the isolation was successful.

Each facility shall implement procedures for special circumstances that are encountered in the process of performing work on equipment with hazardous energy sources. These circumstances include, and are not limited to:

- Removal of lockout devices when the individual who applied the device is not present;
- Personnel changes;
- Group lockout procedures;
- Intermittent operation of equipment (i.e., rotation checks on electrical motors, bucket elevator inspections, bumping/jogging etc.);
- Performing tasks where isolation is not practicable (i.e. training a conveyor belt, electrical fault finding, adjusting packing on pumps, etc.);
- Clearing chutes
- *Hot Tap* operations (Documented controls shall be in place prior to commencing Hot Tap task and require a Work Permit); and
- Means to verify the effectiveness of the lockout and the validity of the bump test when there is the possibility of equipment being temporarily isolated from its energy source due to upstream conditions or interlocks.

Equipment-specific Lockout/Tagout Instructions

Each facility shall implement a documented Equipment-specific Lockout/Tagout Instructions for equipment with hazardous energy sources which will include at a minimum, and not be limited to:

- Notification of affected workers of the equipment shutdown;
- Identification of procedural steps to safely shutdown equipment/processes;
- Identification of type of energy and order of magnitude;
- Identification of each lockout device required to complete isolation, including upstream conditions or interlocks;
- Details of how to isolate each lockout device;
- Additional measures required for Tagout only situations including approval by the facility leader;
- Methods to prevent remote starting/energization of equipment;
- Methods to remove residual (stored) energy;
- Methods to prove that isolation was successful (Try); and
- Steps required to return equipment to safe operational state.



Reference: [Click here for model best practices that fulfil these requirements.](#)

Equipment-specific Lockout/Tagout Instructions shall be evaluated and approved (by an authorized equipment owner) for accuracy and effectiveness upon each use

of the instruction. Any changes in the equipment, hazardous energy sources, controls, or isolation device location(s) shall result in an update to the instruction.

Line Break and Equipment Opening

Facilities shall implement a procedure to ensure that when breaking or opening systems that contain or could contain hazardous materials:

Note: Hazardous Material includes any chemical or process material which, when released or when its energy is released, can result in serious injury to workers, significant property damage, or significant environmental harm.

- Line break activities are performed under the control of a documented line break / equipment opening work permit which ensures hazards and related controls are identified, available and in use during line breaking / equipment opening activities;
- When feasible, systems are emptied, purged, flushed, drained or vented (and all energy isolated and locked out) prior to performing any line break or equipment opening activities;

Note: In cases where it is not feasible to fully drain, flush or purge the line the facility shall develop a materials-specific process to address the hazards.

- Any additional PPE (especially appropriate respiratory protection and protective clothing), and guarding/separation requirements are identified and in use;
- Any pipe/equipment supporting requirements to prevent uncontrolled movement once line break is initiated are identified and in place;
- Means of First Aid; i.e. emergency safety showers/eyewash stations are available, easily accessible in the vicinity of the line break or equipment opening task, and operational;
- A fire watch and fire protection devices are present, operational and attended, if opening systems that contain or could contain flammable/combustible materials;
- Workers always assume the line or system could contain hazardous materials (including pressurized or hot temperature) and position themselves accordingly out of the line of fire during line break or equipment opening activities (assure all appropriate PPE is in place);
- All reasonably practicable efforts are made to prevent the need to perform line break overhead when in the line of fire.
- All affected work areas below a line break or equipment opening (that could be in the line of fire) are evacuated and barricaded until the system is proven safe;
- Lines containing flammable/combustible materials or those that present a respiratory hazard are tested with appropriately calibrated instruments before initial work begins, and/or when the initial bolt(s) are loosened and there is potential for leakage.

- If flammable/combustible vapors exceed 10% (or governing body regulation if more stringent) of the Lower Exposure Limit (LEL) or if toxic vapors are present, re-bolt the line/system and have the system flushed or purged again;
- Barricading and use of a watchman is required until the line, vessel, or system has been opened and verified as safely secured and drained.

 **Reference:** [Click here to reference the EHS Safety Standard - Barricading](#)

**Plant and
Equipment**

Each facility shall implement a process to ensure that:

- Personal lockout devices:
 - Be uniquely keyed;
 - Be standardized by color;
 - Not be combination locks;
 - Not have a master override key;
 - Not be supplied with more than one key;
 - Be kept under the exclusive control of the owning individual;
 - The key shall not be transferred to another person for lock removal; and
 - Be used in combination with a lockout tag or other means of identifying the owner.
- Tagout tags at a minimum:
 - Identify the system or equipment being tagged out;
 - Identify the owner of the tagout tag;
 - Identify date of tagout; and
 - Are highly visible.
- Designated Energy Isolation Devices are uniquely labeled and identify (i.e., use of asset number/equipment description on both the asset and the isolation device) the circuit or system over which they have direct control;
- Stored energy is able to be released, controlled or restrained; and
- Systems which contain or may contain hazardous materials are secured by *Double block and bleed* or have documented proof of line isolation.



Mosaic Life Critical Standard

Appendix 2 – Confined Space Entry

Introduction


Purpose To prevent injuries from *incidents* that arise when *workers* enter an area that is defined as a *confined space*.

Requirements

Confined Space Identification, Hazard Assessment, and Controls

Each facility shall implement a process that:

- Identifies equipment with the potential to be classified as a confined space.
 - Equipment and spaces that originally are not deemed confined spaces, and undergo a modification (permanent or temporary), are assessed to determine whether the modification has created a confined space.
- Maintains a current confined space list. The list shall:
 - Be used to plan all work in confined spaces (i.e., in conjunction with a work permit); and
 - Include both site and third-party contractor permanent equipment used at the facility.

 **Reference:** Maximo has the functionality to be able to define an asset as a Confined Space. Contact the Maximo Governance Group for more information on how this can be accomplished.

- Ensures all Confined Spaces are suitably marked/labelled (clearly visible at each portal/opening) to prevent inadvertent or unauthorized access to the space by workers.


 **Reference:** [Click here for a model best practice Confined Space Danger Sign](#)

- Unattended open portals/entrances to confined spaces shall, at a minimum, be barricaded with red barricade tape and a tag;
- Unattended open holes in walking/working surfaces, at a minimum, shall be hard barricaded;

 **Reference:** [Click here for the Mosaic Safety Standard - Barricading.](#)

- Ensures documented confined space hazard assessments are performed by a competent worker. This assessment shall identify potential hazards

associated with entry into the confined space and identify the effective controls to prevent or mitigate the hazards that have been identified;

 **Note:** Space-specific hazard assessment should be documented on the Space-Specific Safe Entry Instruction to ensure this information is readily available to the entrants.

- Ensures all confined space entries include the use of a competent attendant stationed outside of the space. An attendant shall (at a minimum):
 - Be, at all times, able to communicate with the workers inside the confined space;
 - Be in place at all times when workers are inside the confined space;
 - Be equipped with a radio or other effective communication method or device to summon rescuers;
 - Restrict access to the confined space to only authorized entrants and rescue personnel, as appropriate;
 - Verify that the environment inside the confined space was monitored prior to entry;
 - Based on a hazard assessment, verify the environment is monitored either periodically or continuously once entry has been initiated;
 - Maintain an up-to-date register of all workers inside the confined space; and
 - Never enter the confined space unless replaced with another worker who assumes all of the duties of an attendant;
- Ensures all confined space entries require a *Confined Space Entry Permit* (Work Permit), with a copy of the permit posted at each active (open) entry/portal; and


 **Reference:** [Click here for a model best practice that fulfils this requirement.](#)

- Ensures only authorized workers perform tasks related to confined space entries.

Safe Entry Instructions


Each facility shall implement documented Safe Entry Instructions for each confined space identified on the Confined Space Registry. These instructions shall:

- Be clearly written and up-to-date;
- Ensure hazards are identified and controls put in place prior to an entry;
- Be amended as new hazards/controls are identified or are introduced into the space;
- Be read, understood, and followed by authorized workers before every confined space entry, and
- Include requirements for atmospheric testing to be conducted prior to initial entry and where there is potentially *hazardous atmosphere*, appropriate monitoring and control shall be applied.

 **Note:** Consideration must be given to the possibility that any normally sealed and unventilated confined space that has never contained any hazardous material and might otherwise be considered “safe”, may be oxygen-deficient as a result of internal rust, anode deterioration, or bacterial action, or become oxygen deficient as a result of introducing inert gases or waste gases during the work.

Include requirements for work group coordination and communication before and after the confined space entry, and include a requirement to update the safe entry instructions based on lessons learned from the job.

-  **Reference:** [Click here for model best practices that fulfil these requirements.](#)

 **Note:** The use of Safe Entry Instructions is in addition to the use of a confined space entry permit.

Safe Entry Instructions shall have a documented evaluation by an authorized individual for accuracy and effectiveness upon each use. Any changes in the equipment, hazards or controls shall result in an update to the instruction.

Confined Space Rescue Requirements

Each facility shall have an effective process for rescuing all entrants from a confined space. This process includes the need for written rescue plans that include details for the specific confined spaces that they apply to. Where it is possible, *non-entry-rescue* capability shall be planned for and provided. If non-entry rescue cannot be performed, then an effective means for *entry-rescue* must be provided. Written rescue and emergency response plans shall be developed (prior to entry) to ensure safe rescue of entrants. Plans shall include means for:


- Summoning rescue and emergency services (internal and / or external);
- Rescuing entrants from confined spaces;
 - Additional precautions shall be in place where identified hazards are considered *Immediately Dangerous to Life and Health (IDLH)* such as having rescue equipment and rescue personnel on standby in the immediate vicinity of the confined space during all entries;
- Providing necessary emergency services to rescued employees;
- Maintaining applicable *Safety Data Sheets (SDS)* at the facility and providing them to medical facilities providing treatment as necessary; and
- Preventing unauthorized personnel from attempting rescue.

 **Reference:** [Click here for model best practice that fulfils this requirement.](#)

Plant and Equipment

Each facility shall implement a process to ensure confined spaces:

- Where reasonably practicable, are designed to eliminate the need to perform work inside the space;
- Have connected piping, ductwork, and equipment capable of being *locked out* to comply in all respects with [Mosaic Life Critical Standard – Lockout/Tagout](#);
- Any piping, ductwork, or connection (to the space) that contains or may contain gases, liquids, and other flowing materials that could asphyxiate or create a toxic atmosphere, are isolated by either:
 - Physical disconnection with open ends blanked; or
 - Double block and bleed; or
 - Fitting of a slip plate/spade/blank; or
 - Have documented proof of other effective isolation methods.

 **Warning:** The simple closing of a single block isolation valves is NOT an acceptable method of isolation for hazardous materials that may asphyxiate or create a toxic atmosphere.

- Have the ability to provide adequate ventilation/systems to ensure a safe atmosphere at all times, from initial entry until the work is completed and the space is evacuated; and

Each facility shall provide and maintain fully-functional confined space entry equipment to ensure safe confined space entry/exit (i.e. ladders, air monitors, rescue equipment, harnesses, etc.).

Coordination with
Contractors

 **Reference:** [Click here for model best practices that fulfil these requirements.](#)




Mosaic Life Critical Standard

Appendix 3 – Work at Height

Introduction

- Purpose** To prevent injuries from incidents that arise when workers are required to *Work at Height (WaH)*, defined as:
- Work performed at elevations higher than 4' (1.2 meters) above ground level or work floor with no engineered controls to prevent a fall; or
 - Work within 10' (3.1 meters) of an unprotected edge or opening with no engineered controls to prevent a fall of 4' (1.2 meters) or more; or
 - Work performed within a mobile Elevated Work Platform that has been elevated above 4' or is in motion.

 **Note:** Facilities shall as reasonably practicable minimize the need to perform work at height via temporary or permanent engineering controls. When workers are performing work at height, each facility shall utilize the *Hierarchy of Controls* to prevent workers from falling. The use of *personal protective equipment* (i.e., fall protection equipment) shall be implemented as the “last line of defense” in the prevention of falls from height.

- Scope** The following are exempt from the requirements of this standard:
- First worker ascending/descending a portable ladder for the purposes of securing it.
 - Workers ascending or descending fixed ladders that meet Mosaic’s engineering standards.
 - Workers performing work while on a ladder while three points of contact (two feet and one hand) are maintained, provided the ladder is not in a location that introduces additional risks; such as being on an elevated platform.
 - Workers mounting/dismounting mobile equipment however
 - Workers performing maintenance on mobile equipment above 4' (1.2m) are not exempt.

Requirements

- WaH Hazard Assessment and Controls** Each facility shall identify work tasks and workplace areas where workers would be expected to perform work at height prior to commencing any task.

Prior to any work at height activities being performed, a *WaH hazard assessment* shall be performed by a *competent worker* (may be performed as a stand-alone activity or as part of the pre-job planning activities). The hazard assessment shall:

- Identify the *hazards* associated with each task that requires working from height;
- Define safe working practices and other needed hazard *controls* for tasks involving work at height;
- Identify and take into account *fall clearances* (i.e. length of lanyard + tear-out distance + height of user + safety margin);
- Identify and take into account *fall swing radius*;
- Identify the type of fall prevention/protection measures to be used;
- Identify rated *anchor points* for *fall arrest* or *fall restraint* equipment;
- Assess weather and other environmental conditions (Slips, wind, rain, etc.);
- Address safe access to the WaH location, to ensure continuous fall protection throughout the assigned task;
- Identify hazards associated with walking paths (tank tops, roofs, tops of machinery, etc.) while working at height:
 - Fall hazards along such paths;
 - Locations and distances to all obstructions in potential fall paths (i.e., if a worker were to fall, where would they fall to, or onto, or into?); and
 - Inspection to identify any visually identifiable structural integrity concerns ;
- Identify the need for appropriate *barricading*;
- Identify and be prepared to execute rescue requirements that minimizes the rescue time to prevent *suspension trauma*.

 **Reminder:** Requirements of the *Life Critical Standard – Falling Objects* shall be in place, when applicable, while working at height.

Task-specific Safe WaH Instructions

Each facility shall develop and maintain documented Task-specific Safe WaH Instructions (may be performed as a stand-alone activity or as part of the pre-job planning activities), to be in place prior to commencing work. The Task-specific Safe WaH Instructions shall:

- Be prepared specifically for the workplace and task(s) where they will be applied, except where the same instruction can be effectively applied to multiple workplaces/tasks with the same fall hazard scenario;
- Include a requirement that Fall Protection is required in the following scenarios;
 - Where there is a potential to fall 4' (1.2 meters) or more where no engineered controls exist to prevent a fall, workers shall wear, at a minimum, fall arrest equipment consisting of a full body harness (including Suspension Trauma Safety Straps or other self-rescue equipment) attached to a shock-absorbing lanyard or inertia reel attached to an approved anchor point;

- When working within 10' of an opening or an elevated work surface edge, where no engineered controls exist to prevent a fall; at a minimum, workers shall wear fall restraint equipment consisting of a full body harness attached to a fixed lanyard, attached to an approved anchor point, to prevent them from accessing and ultimately falling over the edge;

 **Warning:** The use of body belts for fall protection is prohibited.

- Provide for continuous fall protection;
- Identify acceptable anchor points (i.e., engineered, rated and inspected);
- Ensure workers may only anchor to approved/engineered anchor point(s);
- Identify fall distance and clearance requirements;
- Identify the safe access for work at height;
- Identify the limitations on the use of the fall protection system(s), including the maximum free fall, maximum arrest force, and the maximum number and allowed locations of Authorized Persons who may attach to or use the system;
- Identify procedures for installing and dismantling the fall protection equipment;
- Specify fall rescue instructions/equipment, related to the specific WaH task, needed to get a person down after a fall (with a clear intent to minimize suspension time and trauma, usually within 5 minutes);
 - The site emergency response plan(s) shall include plans for the rapid retrieval of personnel in the event of a fall from height;
 - May include the provision of self-rescue apparatus;
- Restrict and control access to areas underneath WaH when task causes Falling Objects risk to workers below ([Refer to Mosaic Life Critical Standard – Falling Objects](#));
- Include a requirement that workers working at height do not work alone and there be another worker (*Watchman*) in the vicinity that can raise the alarm immediately should a fall occur;
- Be read, understood, and followed by authorized workers prior to commencing task; and
- Task-specific Safe WaH Instructions shall have a documented evaluation by an authorized individual for accuracy and effectiveness. Any changes in the equipment, hazards or controls shall result in an update to the instruction.

 **Reference:** [Click here for an example WaH Safe Work Instruction and Rescue Plan.](#)

Fall Protection Equipment Requirements

Each facility shall have a process in place to ensure:

- Use of only approved fall protection equipment from certified bodies (i.e., UL, CSA, etc.);

- All fall protection equipment and devices are used per the manufacturer's instructions, are properly tagged or labeled with the manufacturer's tags, and may not be modified;
- For Fall Arrest systems, single person anchor points are capable of withstanding 22.2kN (5000 lbf). Where it is not practical to install dedicated anchor points (i.e. ad-hoc work), anchor points capable of withstanding 22.2kN must be identified through a hazard assessment process and are approved by a competent person prior to commencement of work;
- For Fall Restraint systems, single person anchor points are capable of withstanding 8.75kN (2000 lbf). Where it is not practical to install dedicated anchor points (i.e. ad-hoc work), anchor points capable of withstanding 8.75kN must be identified through a hazard assessment process and are approved by a competent person prior to commencement of work;
- Permanent anchor points are easily identified (typically by a color tagging system with asset number);
- Dedicated fall protection anchor points are not to be used for any lifting activities, however engineered lifting points may be certified as fall protection anchor points if they meet the load rating criteria;

 **Reference:** [Click here for Model Best Practice for managing Anchor Points](#)

- Fall restraint and fall arrest equipment have lanyards and snap hooks with secondary locking mechanisms;
- Where work methods require workers to detach and re-attach at height, a dual lanyard system be utilized to ensure at least one connection point is maintained at all times (i.e., 100% tie-off, 100% of the time);
- Workers in the *elevated work platform/basket(s)* wear, at a minimum, fall restraint equipment consisting of a full body harness and a lanyard attached to an engineered anchor point within the elevated work platform/basket (that will not permit the worker to exit the basket at height, unless able to maintain continuous fall protection);
- Elevated work platforms that are not permanently/mechanically fixed to the lifting equipment (typically a forklift) are mechanically fixed to the lifting equipment to prevent the work platform from becoming detached and free falling to a lower level. (i.e., a work platform that is lifted by a forklift shall be chained to the mast/headache rack);
- Elevated work platforms being lifted by a crane, worker's anchor point(s) are above the attachment point of the work platform. (i.e., above the hook); and
- A Ladder Safety Program is implemented.

**Equipment
Inspection,
Maintenance,**

Each facility shall have and implement an inspection process that ensures:

- All fall protection equipment, including elevated work platforms, are inspected for structural integrity, functionality and approved prior to each use by an authorized worker;

Cleaning, and Storage

- All fall protection equipment be:
 - Properly cleaned of dirt, corrosives, or other contaminants after each use; and
 - Stored in areas that are clean, dry and free of exposure to chemicals, vapors, or corrosive substances when not in use;
- All fall protection equipment, including elevated work platforms, is inspected at least annually or according to the manufacturer's suggested timeline, whichever is more frequent, by a qualified worker;
- All inspections are documented;
- Inspection criteria for pass/fail is established;
- All fall protection equipment that fails inspection is immediately removed from service until a qualified worker is able to re-certify its safe use or have it destroyed/removed from service;
- All fall protection equipment and elevated work platforms (with the exception for Harnesses and Lanyards) involved in an actual incident is immediately inspected by a competent/qualified worker prior to being put back in use;
 - Lanyards and harnesses involved in an actual incident shall be destroyed after incident investigation is complete.
- All incidents involving the engagement of fall protection equipment are thoroughly investigated.

 **Reference:** [Click here for Manufacturer User Manual for DBI Harnesses](#)

 **Reference:** [Click here for Manufacturer User Manual for DBI Lanyards](#)

 **Reference:** [Click here for Manufacturer User Manual for MSA Harnesses](#)

 **Reference:** [Click here for Manufacturer User Manual for MSA Lanyards](#)

 **Reference:** [Click here for Manufacturer User Manuals for Miller equipment](#)

Work Permit

Tasks involving Working at Heights that do not have proven task-specific Safe Work Instructions, shall be authorized by a work permit. This permit shall provide a competent person's approval for the work to be completed and shall require the completion of a pre-job hazard assessment and a pre-use inspection of all fall protection equipment. The pre-job hazard assessment shall serve as temporary Safe Work Instructions and shall be attached to the work permit.

 **Reference:** [Click here for a model best practice example WaH permit template.](#)

Fall Rescue Drills

Emergency Fall Rescue Drills to retrieve a worker from a fall shall be performed annually to evaluate:






- The effectiveness of rescue capability;
- Adequate response time; and
- To identify the need for additional training/resources and/or fall rescue retrieval equipment.



Mosaic Life Critical Standard

Appendix 4 – Falling Objects

Introduction

Purpose	To prevent or minimize the <i>risk</i> of fatalities, injuries and <i>incidents</i> arising from dropped and falling objects.
Scope	<p>This standard addresses risk management for falling objects that are dropped or made loose (and fall) during work tasks that due to the height of the drop, and/or the mass and shape of the object could cause a serious injury or fatality. Structural integrity related break and fall objects are not in scope.</p> <p>If the potential for a dropped object is a Medical Treatment Case (as listed on the charts below) then the requirements of this Standard shall apply.</p> <p> Reference: Click here to download falling objects charts and a MS Excel calculator for falling objects;</p> <p> Reference: Click here for an iPhone app that will calculate injury potential from falling objects.</p> <p> Note: Each facility shall ensure that the charts above are used in determining injury potential with respect to falling objects.</p> <p>Falling object <i>hazards</i> include, and are not limited to:</p> <ul style="list-style-type: none"> • Tasks that create unsecure objects (i.e., unfasten, un-bolt, remove, etc.); • Tasks in the vicinity of materials that could fall if disturbed (i.e., loose product, redundant parts stored on beams, etc.); • Tools (i.e., Pens, Flashlights, cameras, etc.) and PPE carried on the worker which could be dislodged and fall; • Equipment/infrastructure/tools/parts not tethered or controlled to prevent a fall; and • Materials, tools or parts that may fall through flooring (grated) or bounce through open hand railings. <p> Reference: Falling objects related to Lifting Operations shall be controlled in the Mosaic Life Critical Standard – Lifting Operations.</p> <p> Reference: Falling material related to underground ground control shall be controlled in the Mosaic Life Critical Standard – Underground Ground Control.</p>

Requirements

Hazard Assessment and Controls

Each facility shall implement a process to eliminate or minimize the hazard of falling objects (objects that fall or are dropped from an elevated height during maintenance or operations activities) and ensure:

- A task specific hazard assessment is performed prior to commencing *elevated work* activities to identify falling object hazards and put appropriate *controls* in place prior to the task commencing;
- Tools and materials are carried or raised to an elevated work location and returned to ground level using a tool belt, covered bin or other fit-for-purpose means of preventing them from falling;
- Tools and materials at elevated workplaces are used and stored in a manner that prevents them from falling to a lower level;
- Equipment components that are made loose during the work task (i.e., removed panel, loosen pin, unbolt, etc.) are effectively controlled;
- Task hazard assessments include interactions between work groups in the vicinity of elevated work; and
- Unsecured tools and equipment are removed on completion of work tasks.




Note: Best practices to prevent falling objects include but are not limited to:

- Tethering of tools and PPE when they could fall to lower levels,
- Covering grating with plywood to prevent small objects from falling through,
- Installing netting or barricading around elevated work areas to prevent objects from falling through hand rails.

Pre-task Hazard assessment

Each facility shall implement a process to utilize the following decision tree during pre-task hazard assessments and implement the required level of controls, prior to commencing elevated work tasks.

 **Reference:** Elevated work includes all Work at Height (refer to [Mosaic Life Critical Standard – Work at Height](#)) and any work tasks that when performed may create a falling object hazard.

Barricading

Barricaded areas shall be Red Barricaded and be inclusive of the entire drop zone and may include more than one floor level below elevated work.

Facilities shall ensure that drop zones include, where applicable:


- The possibility that falling objects may ricochet off of other infrastructure/equipment during fall and increase drop zones;
- Work above grated flooring, where falling objects may pass through flooring, increase drop zone to level(s) below unless engineered controls prevent objects from passing through flooring.

Plant and Equipment

Each facility shall implement a process to ensure new or modified plant and equipment, including tools:

- Eliminate, where reasonably practicable, the need to assemble/disassemble equipment while performing elevated work;
- Are designed to minimize the risk of dropped objects (i.e. catch basins, solid floors (versus grating), toe boards, etc.); and
- Are not adversely affected by modifications (temporary or permanent) used to prevent dropped objects.

Permanent and temporary walking/working surfaces, including *elevated work platforms* are constructed with the requisite handrails, mid-rails and toe boards, and conform to relevant approved design standards and manufacturers specifications.

 **Reference:** Click here for Model Best Practice for engineered controls reference falling objects.



Mosaic Life Critical Standard

Appendix 10 - Underground Ground Control

Introduction

Purpose	To prevent injuries from the unexpected ground movements such as groundfalls and rockfalls.
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Requirements

Underground Ground Control Plan (GCP)	<p>Each facility with an underground operation shall complete a groundfall and/or rockfall risk assessment.</p> <p>The risk assessment shall be carried out by a multi-disciplinary team consisting of at least a Geotechnical/Rock Engineer, Geologist and the Mining Engineer responsible for that area. The cycle of re-evaluating the risk assessment shall be determined by risk exposure, the intended life and criticality of the mining area, any changes identified in the prevailing ground conditions, ground control data and any applicable legal requirements.</p>
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The risk assessment shall be used to establish the basic design parameters and risk control measures required to minimize risk.

Systems and Procedures	<p>Each facility with an underground operation shall implement an Underground Ground Control Plan (GCP) to ensure:</p> <ul style="list-style-type: none">• Initial and ongoing geotechnical analysis and assessment are an integral part of the mine plan.• Any alterations to the mine plan or changes to ground control systems shall include a geotechnical assessment as part of the MOC process.• A process is in place for assessing ground stability;<ul style="list-style-type: none">○ At the start of each work shift, in areas where<ul style="list-style-type: none">▪ Work is taking place;▪ Drilling or blasting is taking place;▪ After blasting has taken place;▪ Ground conditions warrant additional inspection;○ Monthly or as ground conditions warrant in all active underground haulage-ways and travel ways;• Ongoing periodic collection and analysis of data shall be performed to manage ground conditions and insure the effectiveness of the ground control system.• Documented procedures are in place to ensure the safe and effective installation and remediation of ground support;
-------------------------------	--

- A documented risk assessment is conducted before any remedial work is carried out to improve or regain stability, and appropriate risk reduction measures adopted;
- Ground conditions that create a hazard are taken down or supported before other work or travel is permitted in the affected area;
 - If mitigation cannot be completed immediately upon discovery of the hazard, then the affected area is appropriately barricaded; and
 - Workers report all identified ground hazards and corrective actions taken to their supervisor as soon as possible;

 **Reference:** Click here for access to the EHS Safety Standard – Barricading

- Scaling activities are performed by a competent worker after completing a pre-job hazard assessment.
- An Emergency Response Plan exists and is practiced, at least on an annual basis, to extract a worker(s) from an uncontrolled ground movement.

**Plant and
Equipment**

Each Mosaic facility with an underground operation shall ensure that:

- Design and selection of equipment used in ground control applications meets the requirements of the GCP;
 - Materials used in the ground control support systems are selected and routinely tested to ensure that they meet the required specifications of the GCP;
 - Equipment used in the ground control support systems is maintained and tested per the MMS Operational Control Element to ensure that it meets the GCP requirements and specifications.
 - Advances in ground control technology are monitored, and appropriate mine engineering reviews are conducted to determine whether new technologies should be implemented.
-



Appendix F

Prevention of Falling Objects Brochure

Create a Safe Work Area

Everyone on site is responsible for ensuring a safe work area. Follow the required procedures in areas where falling objects are a potential hazard.

- Correct a hazardous situation immediately
- Report any potential hazard to your supervisor
- Create exclusion zones below areas where objects could fall
- Post proper signage when a hazard exists
- Be observant of hard-barricaded exclusion zones
- Follow procedures for entering exclusion zones

Contact your supervisor for more information regarding on-site policies and procedures for working at heights and with people working below.

Falling Object Safety is a Priority

Think about falling object safety and risk mitigation in everything you do. Make it your priority to prevent falling objects by not taking risks — for your safety, and the safety of others.

For your safety and your co-worker's safety:

- You are responsible for the tools, materials and objects you carry or handle
- You will be held accountable if you drop something
- Be aware of potential hazards for falling objects around you
- Identify and control hazards
- Keep your mind on task to reduce the risk of dropping something
- Remain focused on safety in your work—do not become complacent

A full investigation will be done for all occurrences of falling objects.

For Everyone's
safety
**Prevent
Falling Objects**



PREVENT Falling Objects - Reduce the RISKS.



Falling Objects are our #1 Safety Concern

Falling objects present our greatest risks for injury.

On average, a falling object incident occurs every 21 days on Mosaic capital projects.

All contractors at Mosaic sites have experienced at least one falling object incident.

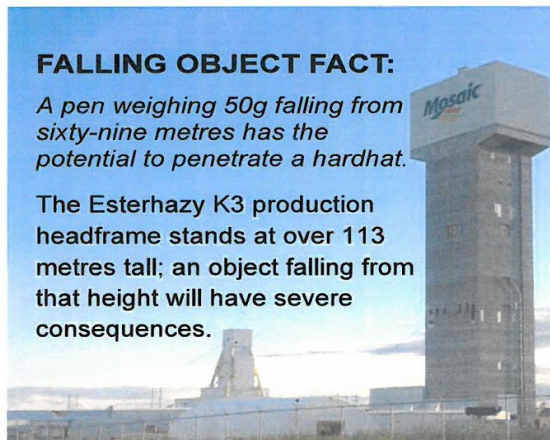
Identification of where falling object occurred at our work sites:

- Grated Floors
- Space between guard rails
- Signs from cranes
- Non-engineered items
- Unsecured items from carts
- Man basket openings
- Pockets
- Tool boxes

FALLING OBJECT FACT:

A pen weighing 50g falling from sixty-nine metres has the potential to penetrate a hardhat.

The Esterhazy K3 production headframe stands at over 113 metres tall; an object falling from that height will have severe consequences.



Gravity of the Situation

- ⇒ Gravity is an invisible force that is around us all of the time.
- ⇒ It is completely predictable and ruthlessly unforgiving if we make a mistake.
- ⇒ We live and work with gravity everyday and can become complacent to the hazards it creates.
- ⇒ Every time we lift an object above the ground, or over an open hole, we give it potential energy — possibly lethal amounts.

Prevent a Falling Object Incident from Occurring

Follow these safety precautions to ensure a safe work area:

- Remove items from top pockets (phones, pens, tools)
- Do not hang objects over guard-rails
- Use tool lanyards
- Secure all objects
- Create control zones on working platforms
- Inspect toe kicks
- Use solid guarding and brattice for elevated work surfaces



Appendix G

Electrical Shock Procedure



Electrical Shock Procedure

Location/Applicability: All PBU		Document Identifier: <i>Livelink Generated</i>	
Document Owner (Name/Title): Sr. Mgr. HSS			
Effective Date:	June 2014	Review Due Date:	June 2017

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Introduction

Purpose To ensure adequate medical treatment is provided to employees suffering from electrical shock. This documentation must be reviewed by the Registered Nurse, EMS, First Responder and any other person(s) involved.


Scope All Mosaic Potash Business Unit Employees, Contractors and Visitors

References These documents are referenced in this procedure.



Document Name
Mosaic Potash Colonsay: Discussed and approved by Dr. Rob Horner, June 2013
Mosaic Potash Colonsay: Emergency Procedure Manual re Electrical Shock
Guelph Hydro services – Mr. Roy Birch, Health and Safety Manager, Guelph, Ontario
Electrical Safety: The Fatal Current, New Jersey State Council of Electrical Contractors Association, Inc. Bulletin Vol. 2, No13. February 1987

Definitions and Explanatory Notes

Definitions

Term	Definition
Ampere	A measure of the amount of electric charge passing a point in an electric circuit per unit time.
Emergency medical technician	A person who is licensed as an: <ul style="list-style-type: none"> • Emergency medical technician • Emergency medical technician-advanced • Emergency medical technician-paramedic pursuant to <i>The Ambulance Act</i>.
Energy	Any form of energy that could cause injury if released from: <ul style="list-style-type: none"> • Electrical • Mechanical • Pneumatic • Chemical thermal • Radioactive sources
High voltage	Voltage over 750 volts
Low voltage	Voltage under 750 volts
150 volts	Electrical shock from source below 150 volts requires employee to be assessed by the nurse or paramedic and may be referred to medical aid
Medical care	Professional treatment for illness or injury above an emergency medical technician
Readily accessible	Capable of being reached quickly for operation, renewal, or inspection.  Note: <u>Without</u> requiring a worker to: climb over or remove obstacles or to resort to portable means of access


Explanatory Notes

Characteristics of Electrical Shock	
If the employee has sustained a significant electrical injury as evidenced by a the listed characteristics:	
 Warning: Electrical shock can be an insidious event and it is best to take the employee to definitive medical care for assessment and ECG regardless of the voltage, but especially if they display the listed characteristics.	
What to look for:	Further Details
Unresponsiveness	<ul style="list-style-type: none"> Unresponsive, have a decreased level of consciousness, be paralyzed or having seizures. restless, irritable, anxious or confused
Respiratory Distress	<ul style="list-style-type: none"> Respiratory arrest or difficulty breathing; cardiac arrest, irregular heartbeat or heart related chest pain.  Warning: injured person(s) are at risk for heart arrhythmia for several hours after a shock. The risk increases with the magnitude of the exposure, and is greatest immediately after the shock.
Shock	<ul style="list-style-type: none"> Signs and symptoms of shock
Visual difficulties	<ul style="list-style-type: none"> Evidence of visual difficulties
Burn	<ul style="list-style-type: none"> Serious burn Entrance or exit burns or associated thermal burns (flame burns caused by the ignition of clothing)
Injury to the: Nervous/Muscular System	<ul style="list-style-type: none"> Evidence of injury to the nervous/muscular system
Fractures and/or dislocations	<ul style="list-style-type: none"> Fractures and/or dislocations from profound muscle spasm or an associated fall
Abdominal Pain	<ul style="list-style-type: none"> Abdominal pain, nausea/vomiting and may exhibit abnormal abdominal tenderness or rigidity

Process

The following processes explain how to manage a situation where an electrical shock incident may have occurred:

Step	Determine the extent and severity of the problem:
1	Ensure all live electrical sources are removed from the area
2	Confirm live source of electricity is eliminated and free the victim from the current.
3	Inspect site and surrounding area of electrical shock.
4	Assess injured person(s) based on characteristics of electrical shock table including to check vital signs, including 3 Lead Telemetry if available


Step	No Visible Injury or Reported Symptoms:
1	After assessment completed employee must be informed of potential for; Cardiac damage and/or cardiac arrhythmia  To be confirmed by a medical professional
2	Document in employee file that they have been informed of potential risks and advised to seek further medical attention

Transport employee for Medical Assessment who shows no signs or symptoms of illness/ injury if:	
<ul style="list-style-type: none"> • There was inability to release object during electrical shock • Employee suspects current may have passed through chest/ heart based on symptoms at time of shock (<i>i.e. muscle tightness or spasm</i>) • Employee requests for further assessment • Health Care Professional's decision to send for an assessment as a precaution 	


Step	Provide Symptom Relief to Injured Person(s)
1	Reference Characteristics of Electrical Shock table provided within document
2	Ensure open airway, check breathing/pulse – if absent, initiate CPR
3	Control any bleeding and care for burns if present (Look for both entry/exit routes)
4	Evaluate and stabilize possible fractures
5	Apply cervical collar and transport on a spine board in all cases of altered consciousness, neck or back pain, head or facial injury or a history of a fall

Physiological effects of Electrical Shock

The chart below shows the physiological effects of various currents.

 **Warning:** Once a person is knocked out by an electrical shock it is impossible to tell how much current has passed through their vital organs.

Artificial respiration must be applied immediately if breathing has stopped

 **Note:** Voltage is not a consideration. The amount of shock-current will vary depending on the body resistance between the points of contact.

Appendix 1

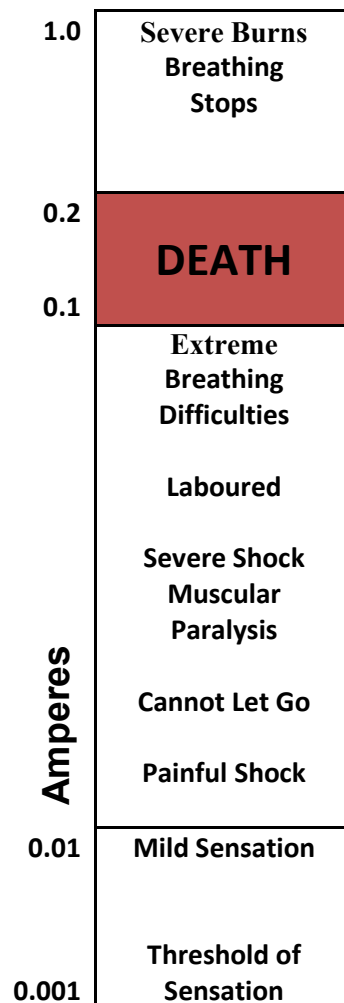


Chart Description This document describes the Physiological effects of Electrical Shock

Current	Result
Above 10 milliamps	<ul style="list-style-type: none">• Muscular contractions are so strong that the victim cannot let go of the wire that is shocking him/her.
As low as 20 milliamps	<ul style="list-style-type: none">• Breathing becomes labored, finally ceasing completely even at values below 75 milliamps.
Approaching 100 milliamps	<ul style="list-style-type: none">• Ventricular fibrillation of the heart occurs - an uncoordinated twitching of the walls of the heart's ventricles which results in death.
Above 200 milliamps	<ul style="list-style-type: none">• Muscular contractions are so severe that the heart is forcibly clamped during the shock. This clamping protects the heart from going into ventricular fibrillation, and the victim's chances for survival are good



Appendix H

Roof Safety Procedure

Roof Safety Permit



CAPITAL PROJECTS ROOF SAFETY PROGRAM

Mosaic Canada
1700-2010 12th Avenue
Regina, Saskatchewan S4P 0M3

Location/Applicability: Capital Projects	Document Identifier:
Document Owner (Name/Title): James Ferstl	
Effective Date: Feb 6, 2019	Review Date: Three years after effective date

Many of our building roof areas were constructed using a structural type cavity decking made from Atlas Turner Asbestos cement or Chemfort Cellulose cement. This decking was typically laid on the structural steel with spans of over 10 foot centers. These materials were installed at various periods over the last 50+ years at the plant site. These old roof decking areas have been derated the amount of weight per square foot that it is capable of holding) by the manufacturers based on the length of service and the exposure to the elements. (Water, ice, brine, etc.)

There has been a concerted effort to repair these roofs and this effort will continue. Safety requirements will be updated and communicated to ensure work can be performed safely when on the roofs.

1. Purpose / Objective

- 1.1. To establish an effective roof safety program that will reduce roof hazards and potential injuries to employees working on the all roofs on Mosaic Capital Projects.
2. This program will apply to all roofs and contains safe roof work procedures and PPE requirements that will apply to all Mosaic personnel and contractors conducting any type of work on roofs while on Mosaic Capital Projects. The procedures will cover the folioing elements.
 - 2.1.1. Responsibilities (Management, Supervisors and Workers)
 - 2.1.2. General and Specific Roof Safety and PPE requirements (operations, roof repairs, other roof activities)

3. Responsibilities

- 3.1. Management
 - 3.1.1. Ensure funds are available to maintain and repair the roofs as required.
 - 3.1.2. Enforce the safety requirements of the Roof Safety Program.
- 3.2. Supervisors
 - 3.2.1. Ensure their employee's understand the roof safely requirements
 - 3.2.2. Ensure their employee follow the safety and PPE requirements if working on the roof.
 - 3.2.3. Ensure a Roof Permit and Safety Work Plan, JHA and any other permit or requirement are completed prior to the work commencing on the roof.
 - 3.2.4. Review permits, checklists, plans and assessments required for the duration of the job, ensure accuracy and compliance. Make appropriate corrections and sign or initial as required.
- 3.3. Employees and Contractors
 - 3.3.1. Ensure a Roof Permit approved by Mosaic Engineering and Area Supervisor and a Safety Work Plan (SWP) and/or Job Hazard Assessment approved by their Supervisor is completed prior to starting the work activity on the roof.
 - 3.3.2. Follow all Safety and PPE requirements while working on the roofs.
 - 3.3.3. Stop and contact their Supervisor when the work conditions change or there is a safety concern.
 - 3.3.4. Review permits, checklists, plans and assessments required for the duration of the job, ensure accuracy and compliance. Make appropriate corrections and sign or initial as required.



CAPITAL PROJECTS ROOF SAFETY PROGRAM

Mosaic Canada
1700-2010 12th Avenue
Regina, Saskatchewan S4P 0M3

4. General Requirements

- 4.1. Prior to any work activity being performed on a roof, a Roof Permit approved by engineer and appropriate Mosaic Capital management must be in place. This includes a Safe Work Plan (SWP) and/or Job Hazard Assessment (JHA) approved by their Supervisor as well as any other required permits other controls.(i.e. hot work permit, Emergency Response Plan (ERP))
- 4.2. Any activity outside the walkways or on a portion of the roof not equipped with an approved walkway will require an approved Roof Permit and SWP or JHA.
- 4.3. Mosaic production employees or contract employees required to go onto the roof as part of their duties do not require a Roof Permit, SWP or JHA as long as they stay on an approved roof walkway. (All tasks still need reference on field level risk/hazard assessment)
- 4.4. For required roof work activities (roof repairs, scaffold for stack sampling, stage materials, and flame applied roofing, kettles, etc.)
 - 4.4.1.A Roof Permit will be required to be completed and approved by Mosaic Engineering and the Area Supervisor. The Roof Permit will specify what requirements must be taken when placing anything on the roof weight properly distribute and support any other requirements to be taken to ensure the work activity can be completed safely.
 - 4.4.2.A Safe Work Plan and/or Job Hazard Assessment is to be developed by the employees involved in the work activity and the SWP/JHA approved by their Supervisor.
- 4.5. All work activities that require the use of a hot process (welding, oxy-acetylene cutting, grinding, flame applied roofing, kettles, etc..) on the roof require an approved Roof Permit, SWP, JHA and Hot Work Permit
- 4.6. All roof access points will have signage to remind employees and contractors of the roof requirements.
- 4.7. All material approved (Roof Permit) to be stored or staged on the roof must be secured to prevent the material from being blown off of the roof. All effort, must be taken to limit the time these materials are stored or staged on the roof.
- 4.8. All approved work being performed outside the roof walkways will require the wearing of fall arrest (SRL, Lifeline, etc.) equipment attached to a suitable anchor point unless otherwise stated on the Roof Permit.
- 4.9. All work within 10 feet of a roofs edge requires the employee to be wearing fall arrest and attach it to a suitable anchor point unless the roofs edge has a physical barrier.
- 4.10. When a roof work activity is finished, all tools and materials must be removed from the roof.
- 4.11. Storing or staging flammable liquids (gasoline) on a roof is prohibited.
- 4.12. Storing roof or siding panels containing asbestos on the roof is prohibited.
- 4.13. Smoking on a roof is prohibited. Any employee found smoking on the roof will face discipline.
- 4.14. All work on a roof is to stop if severe weather conditions exist. See site requirements.
- 4.15. All Permits, SWPs, JHAs, ERPs Will be available for review and accessible for persons needing access to the roof during the scope of the project.

5. Definitions or Explanatory Notes SWP

6. References and Related Documentation



Capital Projects Roof Permit

Company: _____ Supervisor: _____ Date: _____

NOTE: Asbestos containing materials are not to be staged on roofs. All asbestos containing materials must be placed into appropriate bins immediately after removal.

Work Activity to be Performed on the Roof:

Have weather conditions been considered for loads? (Wind, Snow, Rain, etc.)	
<input type="checkbox"/> Yes <input type="checkbox"/> No <i>Additions to roof loading due to weather may void this permit. See engineering review and reassess</i>	
Hot Process involved? (Welding, Cutting, Flame applied roofing, Kettles, etc.)	
<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, Mosaic approval required, Hot Work Permit must be completed prior to the work starting)	
Approved Walkways/Platforms to be used at all times?	
<input type="checkbox"/> Yes <input type="checkbox"/> No (If No, what additional safety precautions or PPE are to be taken/used)	
Are materials to be Staged or Stored on the roof?	Weight of Materials
<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, complete engineering review section)	
Is a Platform or staging area required on the roof?	Weight and dimension of platform
<input type="checkbox"/> Yes <input type="checkbox"/> N/A (If Yes, complete engineering review section)	
Any additional weight being applied to the requested roof area?	
<input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, complete engineering review section)	
Materials secured from blowing or falling off the roof? <input type="checkbox"/> Yes	
Has the 10 foot leading edge been properly delineated? (if required)	
Drawing / photo of requested Deck, Staging or Storage area?	
<input type="checkbox"/> Yes (Drawings/Photos must be completed and posted with permit)	
Is there an Emergency Response Plan <input type="checkbox"/> Yes	
Have the safety precautions for work performed beyond an approved walkway or platform been reviewed and approved?	
<input type="checkbox"/> Yes <input type="checkbox"/> No (if No, specify the additional safety precautions or PPE that is required and get approval)	
Are crane operators aware that they are to confirm the visible load ratings are accurate using Crane Load-Moment indicator (LMI) system, if applicable? <input type="checkbox"/> Yes	
Are there any services needing to be assessed for risk? (Electrical, cables, piping etc.) Check all work areas, access routes, or imbedded in roof. Check swing radius of cranes, fork lifts, aerial work platforms (AWPs) reach.	
<input type="checkbox"/> Yes <input type="checkbox"/> No (All risk requires controls, isolation or removal before proceeding)	

Key points

Competent rigging supervisor to confirm loads placed on platforms or staging areas do not exceed the load rating of those platforms or staging areas.

Permit to be posted at work area

Supervisor to initial permit daily to confirm it is current and accurate.

All loads being hoisted to roof require their weight visually displayed.

Supervisor to initial permit daily to confirm it is current and accurate.

Engineering Review Only To be complete and signed by engineer

Engineer conducting review Name: _____ Signature: _____

Are platforms required for Staging or Storing materials?

☐ Yes ☐ No (If Yes, provide engineer approved platform)

Platform Weight: _____ Material weight: _____ Maximum load for approved deck: _____

Are load limits of staging and/or storage areas outside of engineered deck known and approved?

☐ Yes ☐ No

Has the roof been inspected and verified to be adequate for staging requested materials? ☐ Yes

Do the drawings illustrate the correct location of platform or staging in relation to structure?

☐ Yes (see page 2)

Are all approved platforms, storage or staging areas more than 10' from the roofs edge?

☐ Yes ☐ No (If No, what additional safety precautions are required)

Are there any additional allowable weather limits. (i.e. Snow cover, standing water) Note :

Do the platforms and staging areas have their approved load limits posted and visible?

Permit start date and time

Permit expiry date and time

PERMIT TO EXPIRE ONE WEEK AFTER ISSUANCE

Daily Supervisor Sign Off	SUN	MON	TUE	WED	THU	FRI	SAT
---------------------------	-----	-----	-----	-----	-----	-----	-----



Capital Projects Roof Permit

Special Notes (Drawings)

Drawing will need engineering review to confirm locations (Attach engineering drawings if available).

Reviewed By _____

Signing below is a confirmation the signee has reviewed and understands the requirements of the permit and will follow the requirements to the best of their ability.

Name	Signature	Name	Signature

Permit Approval Sign-off (Required)

Project Manager :	_____	_____	_____
	Print	Signature	Date
Contractor Supervisor	_____	_____	_____
Requesting the Permit:	_____	_____	_____
	Print	Signature	Date
Construction supervisor:	_____	_____	_____
	Print	Signature	Date



Capital Project Roof Work Daily Checklist

***The contents of this checklist are to be review and initialed daily by supervisor and workers prior to conducting work on the roof.*

Roof safety checklist							
Are all access points in good repair and have clear unobstructed access?							
Is the permit posted at the worksite?							
Have all guarding, signage, controls, walk ways been confirmed and in place, safe, inspected and in good repair?							
Are there other opportunities for controls with roof edge protection?							
Is the crane operator aware they are to check visible Load Limits against crane LMI sys?							
Do all loads being lifted to roof have clearly visible weight displayed?							
Has the loading platform been inspected?							
Are all materials, tools, and refuse secured against falling, blowing around, or being a hazard to workers?							
Are all areas requiring restricted access or Fall Arrest/Restraint equipment to enter, flagged and/or barricaded?							
Is there an approved emergency plan in place?							
Is there any ponded water or snow build up?							
Have ERT been notified of any current or upcoming work activity that may have possibility for their involvement?							
Roof information checklist							
Have you reviewed and signed the Roof Permit?							
Have you reviewed the Roof Safety Program?							
Are you currently competent and qualified for the tasks you will be conducting? (Fall arrest, rigging, tools, hotwork, etc.)							
Are you aware roof load limits may change with changes in weather? (Snow, rain or wind loads changes)							
Are you aware of the load limits for the deck and or staging areas on roofs? What are they?							
Are you aware of the weight limit for demoed material being packaged for removal? What are they?							
Are you aware all hotwork on roof requires a hotwork permit and Mosaic sign off?							
Are you familiar with your responsibilities within the emergency plan for the work you are conducting?							
Workers Names	Workers place initial in appropriate day column						
***** Print Name Clearly *****	SUN	MON	TUE	WED	THU	FRI	SAT
Supervisor signature:							

***This list is not intended to replace daily safe work planning or FLRAs on projects in execution. It is intended to identify high risk hazards and remind workers of those hazards on a daily basis. It is also intended to be reminder of information and responsibilities we as individuals should know and understand as we conduct ourselves in the workplace.*

Updated: 9-Jan-2019

Appendix I

Approved Cutting and Grinding Tools

Use of Rotary Grinding / Cut-off Tools



HAND TOOL CUTTING SAFETY PROGRAM

VERSION 1.6

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Location/Applicability: Corporate / Company wide		Document Identifier: 1486127	
Document Owner (Title): Vice President of EHS			
Effective Date:	September 9, 2016	Review Due Date:	September 9, 2019



HAND TOOL CUTTING SAFETY PROGRAM

VERSION 1.6

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Location/Applicability: Corporate / Company wide		Document Identifier: 1486127	
Document Owner (Title): Vice President of EHS			
Effective Date:	September 9, 2016	Review Due Date:	September 9, 2019

1. Purpose

- 1.1. To establish safe work practices regarding the use of cutting tools and reduce risk by using tools better suited for the job.

2. Scope

- 2.1. The scope includes all Mosaic personnel, contractors, vendors and visitors at Mosaic facilities and offices while engaged in work.
- 2.2. The scope does not include kitchen knives used in personal food preparation and consumption.






3. Responsibilities

- 3.1. This program defines the individual's responsibilities for cutting.
- 3.2. Only cutting tools approved by the Procurement and Safety Department shall be used unless a specific exception has been approved as noted below.

4. Procedure






- 4.1. All cutting tools and associated Personal Protective Equipment (PPE) used by Mosaic employees will be approved and issued through the Mosaic Procurement Process. Prohibited and approved cutting tools are outlined below.
- 4.2. All cutting tools and associated Personal Protective Equipment (PPE) used by contractors, vendors or visitors will meet the standard outlined within this procedure when on site. The contractor has the responsibility of supplying the approved cutting tools and PPE to their employees. Prohibited and approved cutting tools are outlined below.
- 4.3. Cutting tools must only be used to perform tasks for which they were designed and not be used beyond the design capacity intended by the manufacturer.
- 4.4. Inspect equipment prior to use and properly discard all dull or damaged knives or saw blades as part of your onsite maintenance program.
 - Use only a sharp blade. A dull blade requires more force and is more likely to slip than a sharp one.
 - Keep saw blades clean and use light machine oil on the blade to keep it from overheating and breaking when cutting on metal.
 - When changing blades, cut resistant gloves shall be worn.
 - While disposing of used cutting blades the blades should be placed in containers to prevent a cut exposure to the garbage handler.
- 4.5. Select a proper cutting surface and secure the item which you are cutting in order to minimize having to make an awkward cut. Preferably use clamps or vise versus holding with your hand. Do not rest material being cut on or near your legs.





- 4.6. Plan your task and select the appropriate cutting tool. Additionally, adhere to the following:
- Hands, other body parts, or other persons are not in the "line of fire." Cut away from your body.
 - Hold the cutting tool by the handle or casing
 - Never bend or apply side loads to blades or use them to open cans, loosen screws or pry.
 - Be aware of tension or stored energy when you complete your cut. The material being cut may have the potential to spring or snap back, fall and/or strike someone.
 - Ensure adequate levels of lighting when using a cutting tool.
- 4.7. When using a hand saw, cut using strong, steady strokes. Use the length of the blade in each cutting stroke. Choose the correct saw blade for the material being cut as per saw manufacturer recommendations.
- 4.8. This program focuses on the prevention of laceration. Other types of hazards may be associated with a task involving cutting, for example, lifting, electrical, pinch points, stored energy, etc... Therefore, a written task risk assessment *may* need to be completed to ensure all types of hazards are mitigated. Refer to the Task Risk Assessment program for more information.
- 4.9. Certain hand tools used for cutting are prohibited for use at Mosaic sites. If there is a task where one of these cutting tools is truly the only one to accomplish the job, then a written Task Risk Assessment shall be completed and approved by the General Manager of the site AND the Director of Health, Safety, & Security.

Prohibited for <u>use</u> at Mosaic sites				
Snap-Off Bladed knives	Unguarded locked blade utility knives	Blades of Multi-Tools	Pocket Knives	Hawkbill / Hook knife
				

*Pictures are for illustrative purposes only and are not brand specific.

- 4.10. The table below "Approved Cutting Tools and Required PPE" identifies the approved types of cutting tools and required personal protective equipment for a specific task. Appendix A lists the Mosaic Stock and Manufacture Code numbers for specifically approved cutting tools and PPE.

Approved Cutting Tools and Required PPE		
Task	Tool Description	Required PPE
Cutting/Trimming: <ul style="list-style-type: none"> ▪ Drywall ▪ Cardboard ▪ Rubber lining materials ▪ Geotextile liners ▪ Rope 	 <p>"Auto Retracting" or "Auto guarded" blade that retracts or is guarded automatically when it loses contact with material being cut.</p>	<ul style="list-style-type: none"> ▪ Cut-resistant gloves ▪ Cut resistant sleeves ▪ Chaps required when work position requires cutting toward your body.
Cutting: <ul style="list-style-type: none"> ▪ Bubble wrap ▪ Foam ▪ Twine/string ▪ Thin sheet materials ▪ Cardboard or Film 	 <p>Concealed Blade Cutter</p>	<ul style="list-style-type: none"> ▪ Work gloves may be necessary where the risk of a laceration exists.
<ul style="list-style-type: none"> ▪ Cutting Wire ▪ Stripping Wire 	 <p>Wire Cutter / Stripper</p>	<ul style="list-style-type: none"> ▪ Work gloves
<ul style="list-style-type: none"> ▪ Cutting insulation from medium & large diameter electrical wires/cables 	 <p>Electrical Cable Cutter / Stripper</p>	<ul style="list-style-type: none"> ▪ Cut-resistant gloves
<ul style="list-style-type: none"> ▪ Cutting sheet metal ▪ Cutting banding 	 <p>Snips or Shears</p>	<ul style="list-style-type: none"> ▪ Cut-resistant gloves ▪ Cut resistant sleeves ▪ Chaps required if potential for laceration exists

▪ Cutting rope or wire	 Side cutters	▪ Work gloves
▪ Cutting a conveyor belt	 Conveyor Belt Cutter	▪ Cut-resistant gloves
▪ Sawing by hand	 Hand Saw specific to material	▪ Cut-resistant gloves ▪ Cut resistant sleeves
▪ Changing blades		▪ Cut resistant gloves

*Pictures are for illustrative purposes only and are not brand specific.

4.11. For using a type of cutting tool NOT included in above OR in Appendix A, a written Task Risk Assessment shall be completed and approved by a safety representative. Refer to the Task Risk Assessment program for more information.

4.12. If a tool on the Prohibited list needs to be used, then a Task Risk Assessment shall be completed then approved by the General Manager / Facility Manager AND the Business Unit Director of Health, Safety and Security. Refer to the Task Risk Assessment program for more information.

5. Definitions

Unless otherwise defined in individual EHSMS policies and procedures, the definitions set out in ISO 14001:2004 and OSHA 18001:2007 apply.

5.1. Chaps: Protective leggings

5.2. Cut Level - The US designation for gloves that are rated at the highest level of cut resistance per ASTM: method F1790-04. The higher the cut level, the more cut resistant the material.









- 5.3. Cut Resistant Gloves: Cut made of cut resistant material to provide cut protection (not cut proof or puncture proof). Recommended minimum cut level 5.
- 5.4. Cut Resistant Sleeves: Cylindrical shaped cut resistant material that has the capability to slide over the user's arms to provide cut protection. Recommended minimum cut level 4.
- 5.5. Automatically guarded blade: A cutting tool that has a covered blade unless the user activates or retracts the shield while it is in use.
- 5.6. Permanently guarded blade: A hook style utility knife that does not allow the user to be cut but does allow thin materials to enter the cutting surface.
- 5.7. Pocket knife: Any folding blade knife of any size.

The Mosaic Company







Hand Tool Cutting Safety Program
Appendix A



Mosaic Product Order Details				
Picture	Item Description	Mosaic Stock #	Manufacturer Code Phosphates	Manufacturer Code Potash
	Auto Retracting Knife (Westward KU1S)	<u>M5431</u>		<u>WSWKU1S</u>
	Automatic dual protection system helps to ensure that the user does not over-ride the safety feature. Once the cut starts the guard is activated. (Olfa – Cutter Safety)	<u>M6267</u>		<u>OLFSK6</u>
	Safety carton cutter. Cuts plastic film, carton straps, tape, string and seat belts.	<u>M5149</u>	<u>CT-SCY</u>	<u>WSWKS8S</u>
	Its squeeze lever and ergonomic design make it ideal for repetitive tasks.	<u>M6216</u>	<u>122001</u>	
	A Safety Cutter with a spring-loaded jocking SAFETY HOOD.	<u>M6267</u>	<u>K-170</u>	
	Safety utility knife is a completely disposable utility knife. The blade never needs to be handled or changed.	<u>M6271</u>	<u>XS-CU</u>	






The Mosaic Company

Hand Tool Cutting Safety Program
Appendix A

	Wire Stripper / Cutter 6-1/16-inch wire stripper. Strips wire sizes #22, 24, 26, 28 and 30 AWG.	<u>M6533</u>	<u>PRT296</u>	<u>PRT296</u>
	Wire Stripper / Cutter 6-1/16-inch wire stripper.	<u>M6534</u>	<u>PRT297</u>	<u>PRT297</u>
	Wire Stripper / Cutter Built-in wire cutters. For all types of wire 0.2 mm to 6 mm.	<u>M5427</u>		<u>WSWIMA317</u>
	Utility cable cutter, 16-3/4 inches. Shear-type hook jaws grab and hold cable while shear-cutting action makes clean cuts. Beveled tips for positive mating.	<u>ADR015V</u>		<u>KLN63035</u>
	10-inch aviation style tin snips. Straight cut. Yellow handle. Non-slip serrated jaws. Self-opening for easy feed.	<u>MC88787</u> <u>MC90214</u> <u>M5440</u>		<u>WSWTS10SY</u> <u>Straight Cut</u> <u>WSWTSF10LR</u> <u>Left Cut</u> <u>WSWTSF10RG</u> <u>Right Cut</u>
	Belt Cutter is a sturdy, safe and portable tool that is specially designed for cutting wide belts. Special flat-top blade design that remains fully enclosed for maximum operator safety.	<u>ADV863E</u>	<u>840848</u> <u>Flex Pro</u>	

The Mosaic Company

Hand Tool Cutting Safety Program
Appendix A

	MaxiGard by ATG®, Dyneema® with Engineered Yarns, Heavy Weight, Foam Nitrile Coated Palm, Reinforced Thumb Crotch, EN Cut Level 5	<u>M6238</u>	19D470L	
	G-Tek 3GX with Dyneema Diamond Technology, White Knit with Gray P U Palm and Fingertip Coating, EN Cut Level 5	<u>M6245</u>	19D330L	
	Ansell Canada Inc. GLOVE FLAME RESISTANT CUT LEVEL 5 13g composite yarn liner with black foam neoprene palm coating. All components inherently flame resistant (FR). EN cut resistance (CR) level 5.	<u>M6562</u> <u>M6564</u> <u>M6565</u> <u>M6566</u> <u>M6568</u> <u>M6569</u>		ANL80-813-6 Size 6 ANL80-813-7 Size 7 ANL80-813-8 Size 8 ANL80-813-9 Size 9 ANL80-813-10 Size 10 ANL80-813-11 Size 11
	Kut-Gard Kevlar® sleeves, two-ply, seamless rib knit thumb hole, 22-inch length. • EN Cut Level 4	<u>M6246</u>	KS22TO	
	SLEEVE - CUT RESISTANT – Cut Level 5 7-gauge 10-inch seamless cut-resistant stainless steel	<u>M6572</u> <u>M6573</u>		BEMS927-10 10" Sleeve BEMS927-21V 21" Sleeve

The Mosaic Company

Hand Tool Cutting Safety Program
Appendix A

	knit sleeve, Elvex chainsaw chaps meet the requirements of ASTM Standard for Leg Protection for Chain Saw Users (F-1897- 2008).	<u>M6249</u>	<u>JE9428</u>	
	Kevlar twill chaps. Specify length. Available in 36" through 46" lengths, in <u>2 inch</u> increments.	<u>M6253</u>	<u>KTW605</u>	
	Leather waist chaps	<u>M6254</u>	<u>L2505</u>	
	Chainsaw Chaps (Kunys 4 ply Kevlar 28" leg) Chainsaw chaps, 4ply 100% Kevlar protective pads meet WCB standard. 3600 THRESHOLD	<u>M5438</u>		<u>KNYAP212K</u>
	Insulation Cutter for medium & large diameter electrical wires/cables	<u>Being Added to List</u>		



Use of Rotary Grinding / Cutoff Tools Program

Location/Applicability: Potash Business Unit	Originating Department: Potash Health and Safety
Document Owner: Director, Health & Safety, NAB	Document Identifier:
Current Version Effective Date: November 17, 2022	Formal Review Cycle Due Date: November 2029

1. **Purpose / Objective:** This program is intended to provide basic guidelines to ensure that grinding and cutting activities are performed using tools with the best available safety features and that these tools are used in a manner that minimizes risk to employees, contractors, and visitors.
2. **Scope:** This program establishes requirements for the use of handheld, corded electric, battery powered and pneumatic grinders & rotary cutoff tools and applies to all personnel involved with grinding & cutoff activities on Mosaic sites.
3. **Responsibilities**
 - 3.1. Mosaic's representative (employee or authorized contractor) shall ensure that personnel using grinding & cutoff tools:
 - 3.1.1. Complete a pre-job hazard assessment before work begins.
 - 3.1.2. Inspect tools before the job begins to ensure all safeguards are functioning. Tag-out any damaged or defective tools.
 - 3.1.3. Follow all safety guidelines for the use of the power hand tools in accordance with the manufacturer's instructions.
 - 3.1.4. Are competent and trained to operate the tools being used.
 - 3.1.5. Comply with the personal protective equipment (PPE) requirements for using & handling grinding & cutoff tools as defined in Mosaic's Potash Business Unit PPE Program.
4. **Grinder / Cut-off Tool Specifications:**
 - 4.1. **Mosaic accepted tool sizes**
 - 4.1.1. Grinder / Cut-off tools will be limited to those designed for 4.5"/5", 6" and 9" disk sizes.
 - 4.1.1.1. 4.5"/5" disks – Can be used for cutting or grinding.
 - 4.1.1.2. 6" disks – Can be used for cutting or grinding.
 - 4.1.1.3. 9" disks – Restricted to grinding applications only, not to be used for cutting.
 - 4.1.2. Tools and disks that do not meet this size criteria shall be removed from service unless a specific variance is obtained.



Potash Business Unit Program
Health and Safety Department
Use of Rotary Grinding / Cutoff Tools Program

4.2. Grinder / Cut-off Tool Safety Requirements:

- 4.2.1. Trigger lock mechanisms that allow the tool to operate without the trigger being continuously pressed by the operator are prohibited. Any tool equipped with such a device shall be removed from service.
- 4.2.2. If the tool is supplied by the manufacturer with a removable side handle, this side handle shall be installed and used during tool operation. If a specific task cannot be completed with the side handle in place, job specific risk mitigation measures shall be identified on a pre-job hazard assessment and supervisor approval must be obtained and documented before completing the work.
- 4.2.3. Grinder RPM MUST be visible on the tool so the disc can be properly matched and RPM rating on disk is not exceeded. Tool RPM shall never exceed the RPM rating of the disk being used.
- 4.2.4. All tools shall be dedicated to either cutting or grinding. Changing guards and disks in the field to switch between grinding and cutting applications is prohibited.
- 4.2.5. Cutting Guard – All tools used for cutting must have, at a minimum, a dedicated half clamshell cutting guard. An example of an acceptable cutting guard is shown in Figure 1 below.

Figure 1





- 4.2.6. Grinding Guard – All tools used for grinding must have, at a minimum, a dedicated open face grinding guard. An example of an acceptable grinding guard is shown in Figure 2 below.

Figure 2



- 4.2.7. Corded electric tools must be equipped with the following safety features:
- 4.2.7.1. Two stage safety trigger that minimizes the risk of unintentional depression of the trigger.
 - 4.2.7.2. Mechanical braking device designed to prevent free spinning of the disk upon release of the trigger.
 - 4.2.7.3. Clutch designed to minimize unintentional binding of the disk and grinder kickback.
- 4.2.8. Battery powered tools must be equipped with the following safety features:
- 4.2.8.1. Two stage safety trigger that minimizes the risk of unintentional depression of the trigger.
 - 4.2.8.2. Electric disk brake designed to reduce the duration of disk rotation upon release of the trigger.

4.3. Grinder Cutting Disks

- 4.3.1. All cutting disks must have a minimum thickness of 5/64", with the exception of metallic diamond cutting disks, which must have a minimum thickness of 3/64".
- 4.3.2. Examples of acceptable cutting disks are shown in Figure 3 below.



Potash Business Unit Program
Health and Safety Department
Use of Rotary Grinding / Cutoff Tools Program

Figure 3



Example of carbon fibre cutting disk



Example of metallic diamond cutting disk

5. References:

- 5.1. [Mosaic's Potash Business Unit PPE Program](#)

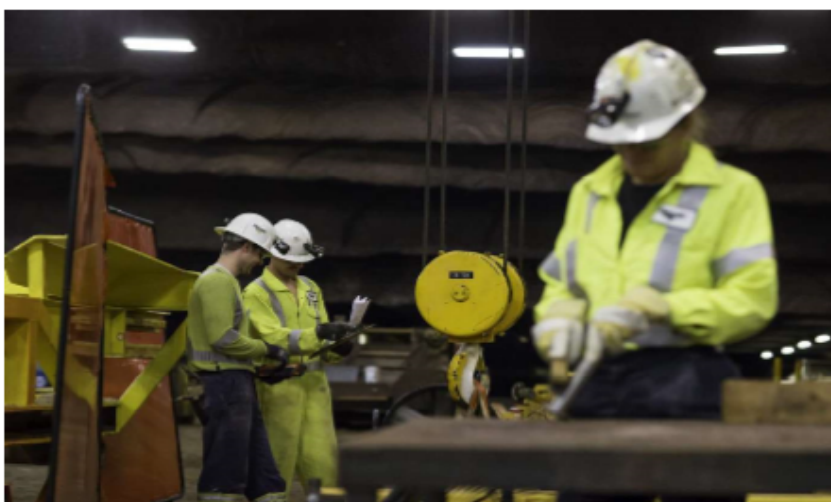


Appendix J

Mosaic Fit for Duty Program

Fit for Duty Program

Canada



Department	Human Resources
Program Owner	Vice President – Human Resources - Potash
Effective	February 2018
Review Date	Annually

Overview

This document provides information about the **Fit for Duty Program – Canada (“Program”)**

Disclaimer

This document is not a contract. It does not guarantee employment of any kind. Mosaic reserves the right to amend this Program in any manner and at any time, without prior notice, as it deems appropriate. This document will be reviewed annually and any revisions will be published.



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1. Purpose

The Mosaic Company and its affiliates (collectively, "Mosaic") are proud to have a reputation for hiring quality people and setting high standards of business performance, but that reputation is meaningless unless Mosaic succeeds in keeping people, products, the public, and the environment in which it operates safe from harm. It is widely recognized that being under the influence of Drugs or Alcohol while on the job poses serious safety and health risks, not only for the Employee or Worker involved, but for all those who work with or otherwise come into contact with that Employee or Worker. Mosaic has developed this Program to support its relentless pursuit of an injury-free workplace by creating and maintaining a Work Environment free of Alcohol, Drugs and substance abuse.

The Program is intended to provide a framework for dealing with the difficult, and often sensitive, issues stemming from substance abuse, or substance use that may cause a Worker or Employee to be unfit for work at a Mosaic site. Mosaic believes that early intervention in substance use and abuse problems can assist Employees to better deal with a situation which might otherwise place their own health and safety at risk as well as the health, and safety and employment of others. Employees who may have Drug or Alcohol abuse problems are encouraged to seek assistance prior to violating this Program.

The Program is also intended to fulfill Mosaic's duty under The Mines Regulations, 2003 (Saskatchewan) to take all reasonable steps to ensure that no person whose ability to work safely is impaired by alcohol, any drug or any other substance is allowed to work at a mine site.

Mosaic realizes that substance use disorder is considered to be a disability under The Saskatchewan Human Rights Code. This Program complies with the Code and other applicable legislation.

2. Scope

- 2.1 This Program, which focuses on safety, prevention and treatment, applies to all Mosaic **Employees and Applicants** for employment in Canada.
- 2.2 Drug Testing will only be required of those Employees who work in **Safety-Sensitive Positions** or in **Safety-Sensitive Environments**.

3. Administration

- 3.1 Mosaic Human Resources administers this Program.
- 3.2 Requests for exceptions, deviations, or changes to this Program must be made to the VP Human Resources – Potash.

4. Process/Procedures

4.1 Education

All Mosaic Employees will have an opportunity to learn about the Program and the effects of Drugs and Alcohol in the workplace.

Employees will be educated on their role and responsibility in making this Program successful, the types of testing, the effects of Drug and Alcohol abuse, prescription Drug abuse, health and workplace issues and Mosaic's Employee and Family Assistance Program ("EFAP").

People Leaders will receive training on their roles and responsibilities, and the roles and responsibilities of others, involved in:

- a. the testing process,
- b. reasonable suspicion and signs and symptoms of Drug and Alcohol use,
- c. post-incident testing,
- d. health and work place issues,
- e. human rights issues,
- f. intervention and dealing with an impaired Employee, and

- g. confidentiality.

4.2 Violation of Program

A violation of this Program and/or Mosaic's *Drug and Alcohol Policy – Global* will be grounds for intervention and may lead to disciplinary action up to and including dismissal of employment for cause. Violations are classified as critical/intolerable violations under Mosaic's Discipline Policy, and include but are not limited to:

- a. the use, sale, purchase, possession, manufacture, or distribution of Alcohol, Cannabis (Marijuana), illegal Drugs or controlled substances while working on Mosaic Business or while on Mosaic Property,
- b. reporting to work not Fit for Duty, and
- c. refusing to submit to an Alcohol and/or Drug test as required by this Program.

4.3 Substance Abuse and EFAP Support

An Employee who requires accommodation in order to perform the essential duties of a job has a responsibility to communicate the need for accommodation to Mosaic in sufficient detail to indicate the type and duration of the accommodation required and to cooperate in Mosaic's efforts to respond to the request.

Employees who may have substance abuse problems are encouraged to seek assistance prior to such problems affecting their job performance, and the safety of their co-workers. An Employee who self-reports a substance use concern before violating this Program or other Mosaic policy will be referred to EFAP, and will not be subject to disciplinary action.

Mosaic provides EFAP to assist its employees with various issues, including difficulties with substance use. Employees who seek assistance should contact the EFAP provider directly or through their People Leader, Human Resources, or Health and Safety representative. Employees who decide to self-report and voluntarily participate in a treatment program may be granted leave to do so, unless granting such leave would cause Mosaic undue hardship. Upon successful completion of a treatment plan determined by a Substance Abuse Professional ("SAP"), an Employee will be returned to work under a Return to Work Agreement.

Mosaic reserves the right, in any case where an Employee self-reports difficulties with substance use, to evaluate the Employee's continued fitness for safety-sensitive or other duties.

An Employee who has a substance use disorder but does not self-report prior to violating this Program or other Mosaic policy will be subject to disciplinary action, up to and including dismissal for just cause, unless the Employee can demonstrate that accommodation is required.

4.4 General Duties of Care

Mosaic and all Employees covered by this Program share a legal duty (under applicable occupational health and safety legislation) and an ethical duty to ensure the safety and well-being of all. This includes the duty to identify and report all safety issues and violations of the Program to Mosaic.

4.4.1 Duty of Mosaic

Mosaic is required by law to provide a safe workplace and safe systems of work, which includes the elimination of known hazards in the workplace. Part of that duty of care includes taking reasonable precautions to ensure that all Employees on Mosaic Property are in a fit condition to work so as to minimize risks both to themselves and others. Mosaic also has a legal duty under *The Mines Regulations, 2003* (Saskatchewan) to take all reasonable steps to ensure that no person who is impaired by drugs or alcohol is permitted to work at a mine site.

4.4.2 Duty of Senior Management

Senior Management are responsible for ensuring the adoption and implementation of this Program, including the provision of adequate resources for the education, training, counseling, etc.

4.4.3 Duty of People Leaders

People Leaders are responsible for the health, safety and welfare of all Employees under their control or supervision. Specific responsibilities include:

- a. **Implementation of the Program in area of responsibility** - People Leaders are responsible for the effective implementation of the Program on their respective sites including the briefing of all Employees, the provision

Mosaic Fit for Duty Program – Canada
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of appropriate education and training resources, and the review of the Program's application and effectiveness in their areas of responsibility. People Leaders may work with Human Resources to accomplish training and briefing of employees.

- b. **Adherence to the Program** - People Leaders are responsible for ensuring that all Employees in their area of responsibility understand and comply with the requirements of this Program.
- c. **Application of the Program** - People Leaders are responsible for ensuring that the Program is applied fairly and consistently and that all Employees are treated with respect. In particular they will ensure that no Employee who seeks assistance will be disadvantaged and that all employment rights are safeguarded.
- d. **Assessment of Fit for Duty** - Where appropriate and practical, People Leaders are responsible for assessing whether Employees under their control are Fit for Duty at the start of, and throughout, each work period.
- e. **Action required when an Employee is not Fit for Duty** - People Leaders are responsible for taking prompt and appropriate action whenever they have Reasonable Cause to believe that an Employee is not capable of working in a safe and effective manner. The exercise of this responsibility may include immediately, and as unobtrusively as possible, removing the Employee from the worksite, and directing them to submit to testing when appropriate under this Program. People Leaders are also required to document all occasions when an Employee has been determined to be not Fit for Duty. Documentation should include all steps taken to correct the situation, such as the specific feedback provided to the Employee concerning their performance or safety. People Leaders are also required to assist the Employee to access support and assistance from EFAP.
- f. **Ensuring confidentiality** - Communication of confidential information is on a "need to know" basis only. In general, People Leaders will only be provided with functional ability information in respect of their direct reports. However, if People Leaders are in a position where they have knowledge of, or are required to receive sensitive medical or other personal information about an Employee of a confidential nature, then they are responsible for establishing and maintaining appropriate procedures and facilities to safeguard such information against unauthorized use or disclosure. Compliance with applicable privacy legislation is required.

4.4.4 Duty of Employees

Each Employee has a duty to take reasonable care so as not to expose themselves or other Employees to unnecessary health or safety risks. An important part of this duty is ensuring that they are Fit for Duty at the start of, and throughout, each work period. In order to fulfill this responsibility, each Employee has the obligation to:

- a. **Report to work Fit for Duty** - All Employees must present themselves at work in a condition in which they are able to carry out their duties without risk to themselves or others. This includes ensuring that they are not in an unfit state due to the adverse effects of Alcohol or Drugs, or bring Alcohol or Drugs into a Work Environment.
- b. **Notify People Leader of their own impairment** - Mosaic recognizes that there may be legitimate medical causes for a worker's physical or mental impairment, and that these causes may not violate Mosaic policy and/or this Program. In such circumstances, Employees must notify their People Leader of any concerns about, or actual or potential impairment of, their own fitness for work. The Employee may be required to have their treating medical care professional discuss their circumstances with a Mosaic medical provider before they are permitted to return to work.
- c. **Properly use prescription Drugs** - It is the responsibility of every Employee when on Mosaic Property to ensure that all prescription and legal non-prescription medications are safely stored, taken only as prescribed or indicated on the package, and are unlikely to adversely affect their performance or fitness for duty. This means that Employees must discuss with their prescribing medical practitioner the nature of their work duties and find out any possible side effects of the prescribed or recommended medication that might impact their safety or job performance or the safety and job performance of others on Mosaic Property. If the Employee is in doubt about their ability to work safely and efficiently while taking such medication, it is their responsibility to immediately report that concern to their People Leader.

- d. **Disclose inability to report for unscheduled duty** - Employees who are contacted to report for work for emergency or other unscheduled reasons must not accept a work assignment if they have reason to believe their ability to work safely and effectively may be compromised, including due to use of Alcohol or Drugs.
- e. **Report concerns about co-workers' ability to work safely** - In order to ensure the safety of all people in a Work Environment, each Employee has a positive duty to report concerns to their People Leader if they believe that those who work around them (including Mosaic Employees and employees of contractors) not be Fit for Duty due to the effects of Drugs or Alcohol.

4.5 Notification of Violation of the Program

All Employees must notify their People Leaders, Human Resources representative, or Health and Safety representative of any Program violation, including situations involving other Workers. Violations include:

- a. conducting Mosaic Business or accessing Mosaic Property when not Fit for Duty;
- b. the possession or use of Alcohol, Drugs, or related paraphernalia on Mosaic Property or during Mosaic Business¹;
- c. the manufacture, distribution, sale or purchase of Drugs while on Mosaic Business or Mosaic Property; or
- d. any other apparent violation of the Program.

All information reported will be held in confidence unless disclosure is required for the immediate protection of the health and safety of the Employee in question or others in the vicinity, is mandated by law, or is required in order to fully and properly investigate the incident reported.

4.6 Alcoholic Beverage Service & Consumption

Mosaic's expectations regarding the responsible service and consumption of Alcoholic Beverages at Mosaic sponsored or approved events are addressed in the Alcoholic Beverage Service and Consumption Policy – Global.

4.7 Types of Testing

Only Safety-Sensitive Employees (being Employees who work in Safety-Sensitive Positions or in Safety-Sensitive Environments) will be subject to Drug and Alcohol Testing as described below. Mosaic recognizes that a Positive Drug and Alcohol Test does not, in and of itself, necessarily establish impairment nor does it necessarily reveal a substance use disorder. The following types of testing are conducted as part of this Program:

4.7.1 Pre-employment Testing

Mosaic will require that Applicants for Safety-Sensitive Positions, or those whose duties will involve working in a Safety-Sensitive Environment, undergo and successfully complete an Alcohol and Drug test after being given a Contingent Offer of employment with Mosaic.

4.7.2 Pre-access Testing

Employees who are not Safety-Sensitive Employees are required to successfully complete an Alcohol and Drug test prior to moving into Safety-Sensitive Positions or working in a Safety-Sensitive Environment. Failure to successfully complete the test will result in a referral to a SAP through Mosaic's EFAP program.

4.7.3 Reasonable Cause Testing

When Mosaic has Reasonable Cause to believe that a Safety-Sensitive Employee is in violation of this Program and is unable to work in a safe manner, it will advise the Safety-Sensitive Employee accordingly and direct them to submit to testing for Alcohol and Drugs. A Mosaic representative will make arrangements for testing and accompany the Safety-Sensitive Employee to the specimen collection site. If time and circumstances permit, Mosaic will arrange for the collection on Mosaic Property.

¹ Limited social consumption of Alcohol is permitted as set out under Mosaic's Alcoholic Beverage Service & Consumption Policy – Global.

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A Safety-Sensitive Employee who is asked to take a Reasonable Cause Test will be considered unfit for work and will be placed on immediate suspension pending the results of their test. If the test results are negative, the Employee is otherwise Fit for Duty, and there are no other Program, policy or work rule violations, the Safety-Sensitive Employee will be returned to work.

Illustrative, but not exhaustive, examples of reasonable cause to require an Alcohol and Drug test include:

- a. one or more signs that an Employee has reported to work not Fit for Duty (such as slurred speech, the smell of alcohol, bloodshot eyes, other signs of impairment),
- b. the discovery of Drug or Alcohol paraphernalia in the possession or control of an individual,
- c. reports from witnesses of Drug or Alcohol use on Mosaic Business or Mosaic property by the Employee who would be directed to test,
- d. indications from a drug detection animal, including without limitation a drug detection dog, that an individual may have Drugs or Alcohol in their possession, or
- e. any other evidence which indicates that a Worker is unfit for Duty but has reported to work, or is using Alcohol or Drugs on Mosaic Business or Mosaic Property.

4.7.4 Post-Incident Testing

Post-Incident Testing will be required where a Safety-Sensitive Employee's actions contributed or could have contributed to the incident and the incident in question involved:

- a. a death,
- b. personal injury resulting in lost time of one or more individuals,
- c. damage to public or private property, including without limitation any Mosaic-owned property, in excess of \$5000.00,
- d. an environmental incident,
- e. an incident that results in an emergency shutdown or partial shutdown of a Mosaic facility, or
- f. a Near Miss that could have resulted in any of the above.

Important: Testing will be conducted as soon as reasonably practical following the incident. The reasons for a decision to conduct a test should be documented as part of the preliminary investigation as soon as reasonably practical after the triggering event.

4.7.5 Return-to-Duty Testing

Mosaic will require a Safety-Sensitive Employee who has tested Positive for Alcohol and/or Drugs, who has completed a treatment program for substance abuse (if applicable), and who has satisfied the recommendations of a SAP to undergo a Return-to-Duty Test for Alcohol and Drugs. Negative test results are required before the Safety-Sensitive Employee will be allowed to return to duty.

4.7.6 Follow-up Testing

Safety-Sensitive Employees who return to duty following negative Return-to-Duty Tests will be subject to reasonable unannounced Follow-Up Testing as recommended by the SAP.

4.8 Refusals and Prohibitions

4.8.1 Refusal to be Tested

A refusal to test is a violation of Mosaic policy and the Program. Such a refusal will result in disciplinary action, up to and including dismissal, unless the Employee can demonstrate the refusal is non-culpable.

Examples of a refusal to test include, but are not limited to:

- a. failing to provide an adequate specimen for a Drug test without a valid medical explanation;

- b. failing to provide adequate specimen for an Alcohol test without a valid medical explanation;
- c. failing to submit to a test when requested to do so; or
- d. engaging in any conduct that obstructs the testing process, including tampering or attempting to alter the specimen.

4.8.2 Inability to Provide Adequate Urine Sample

Where Mosaic chooses to employ urine testing, in the event that an Employee is unable to provide a suitable sample of urine for Drug testing, then the Employer may seek an alternate sample (oral fluid or breath).

4.9 Testing Methodology

4.9.1 Drug Testing Procedure

All specimens will be collected in accordance with approved protocols of the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA), as adopted by the Standards Council of Canada or any industry standard testing deemed acceptable by Mosaic for Canadian sites. Unless otherwise instructed, Employees to be tested will immediately report and be escorted to the appropriate collection facility for collection of the specimen.

4.9.2 Communicating the Results

- a. Positive test results will be released to the Medical Review Officer (MRO). The MRO will contact the Employee by telephone and will obtain all information necessary to interpret and evaluate the test result.
 - i. The Employee tested may request an opportunity at this time to submit additional medical information for consideration by the MRO. A confidential physician/patient relationship will be deemed to exist between the MRO and any Employee who elects to deliver additional medical information.
 - ii. If the MRO receives a Positive test result but is unable to contact the Employee who provided the specimen within 24 hours from receipt of the results, the MRO will ask Mosaic to arrange for the Employee to contact the MRO. Mosaic will contact the Employee at his/her last known telephone number and advise that the Employee has three Business Days in which to contact the MRO, failing which a Positive result will be reported to Mosaic.
- b. After the MRO completes the evaluation, test results are disclosed to the Employee and Mosaic. Confirmed Positive results are reported as a verified Positive. The MRO may verify a test result as Positive without having communicated directly with the Employee tested in three circumstances:
 - i. the Employee expressly declines the opportunity to discuss the test;
 - ii. after making all reasonable efforts, neither Mosaic nor the MRO has been able to contact the Employee within the timelines outlined in ii above;
 - iii. the Employee was successfully contacted by Mosaic (as documented in writing) and instructed to contact the MRO within three Business Days but failed, without reasonable excuse to do so.

The MRO will report the test results to Mosaic in a manner that ensures confidentiality of the information.

4.9.3 Alcohol Testing Procedure

Testing for Alcohol will be conducted using a breath sample by a qualified BAT, or any industry standard testing deemed acceptable and reliable by Mosaic. Unless otherwise instructed, Employees to be tested are required to immediately report to the appropriate collection facility. Two breath tests are required to determine if a person has a prohibited Alcohol concentration. A screening test is conducted first.

A positive test is a test with an alcohol level equal to or in excess of 0.020 grams per 210 liters of breath. The confirmation test will be conducted not less than 15 minutes after the completion of the screening test. Test results will be reported to Mosaic in a manner that ensures confidentiality of the information.

4.9.4 Protection of Privacy

Mosaic will collect, use, and disclose all medical records in accordance with Mosaic's Medical Privacy Statement.

4.10 Action on Test Results – Current Employees

4.10.1 SAP Referral and Evaluation

For current Employees, a verified Positive Drug test result, and/or a verified Positive Alcohol test result will lead to a referral for an SAP evaluation to determine whether the Employee suffers from a substance use disorder. If, after evaluation, it is determined that an Employee has a substance use disorder and requires accommodation, Mosaic will require successful completion of a treatment program as a requirement for returning to work. After successful completion of a treatment program, the Employee will be subject to the regular provisions of this Program, as well as periodic unannounced Follow-up Testing pursuant to a Return to Work Agreement.

If, after evaluation, it is determined that the Employee does not have a substance use disorder, the Employee will be subject to disciplinary action up to and including dismissal for just cause.

4.10.2 Accommodation Following a Verified Positive Test Result for Current Employees

As previously noted, Mosaic recognizes that a verified Positive Drug test and/or a Positive Alcohol test result does not necessarily prove current impairment or a substance use disorder. But it is also widely accepted that frequent Alcohol and Drug use can compromise an Employee's perception, motor skills, reaction time and clarity of thought, leading to performance deficit. In order to reduce the risk from the use of Alcohol and Drugs in the workplace, Mosaic has established a process to be used after a verified Positive Drug test result, and/or a Positive Alcohol test result. The steps outlined below are designed to help Employees who may require support after a Positive test to find it.

- a. The Employee agrees to submit to an assessment by an SAP and to agree to the release of information obtained on evaluation by the SAP to Mosaic.
- b. Arrangements are made for the Employee to be evaluated by a SAP. This evaluation is a brief psychological screening that helps identify Employees who have a high probability of having a substance use disorder. The evaluation is followed by a face to face interview with the SAP to determine if the Employee needs assistance in overcoming a substance use disorder.
- c. Employees who are determined by the SAP to have a substance use disorder will be required to complete any recommended rehabilitation program (if any is required), and will then be allowed to return to work or to a comparable position under the terms of a Return-to-Work Agreement, which will include periodic Follow-Up Testing. The Employee will remain subject to all provisions of this Program.

If an Employee with a verified Positive Drug test and/or Positive Alcohol test who requests an accommodation refuses to participate in any of the three (3) steps outlined above, he or she will not be considered for further employment.

An Employee who has violated the Program and is determined not to have a substance use disorder after a SAP assessment will be considered for disciplinary action up to and including dismissal of employment for cause.

4.11 Action on Test Results – Applicants for Employment

4.11.1 Revocation of Contingent Offer

If an Applicant tests Positive then unless the Applicant establishes that they suffer from a substance abuse disorder as set out below, then the Applicant's Contingent Offer will be revoked.

4.11.2 Accommodation of Applicants for Employment

If an Applicant tests Positive and can establish that they suffer from a substance use disorder requiring accommodation, they will be accommodated provided they submit to the requirements of this Program. If the Applicant demonstrates that they require accommodation, the Applicant will be required to complete the education, assistance or treatment program recommended by an SAP in order to become eligible for employment consideration with Mosaic.

5. References

- 5.1 *Alcoholic Beverage Service and Consumption Policy – Global*
- 5.2 *Drug and Alcohol Policy – Global*
- 5.3 *Discipline Policy - Potash*
- 5.4 *The Saskatchewan Human Rights Code*
- 5.5 *The Saskatchewan Employment Act*
- 5.6 *The Mines Regulations, 2003 (Saskatchewan)*

6. Definitions

The following words and phrases, as used in this document, are defined as follows:

Alcohol – An intoxicating liquid which is designed and manufactured for human consumption and which meets the scientific definition of Alcohol.

Applicant – A person who has applied for a position with Mosaic, and to whom a **Contingent Offer** has been extended.

Breath Alcohol Technician (“BAT”) – A person who has been trained to properly operate breath Alcohol testing equipment and conduct Alcohol testing.

Business Day – Monday through Friday, excluding statutory holidays.

Cannabis – any of the preparations (such as marijuana or hashish) or chemicals (such as THC) that are derived from the hemp and are psychoactive.

Contingent Offer – An offer of employment that is subject to and conditioned upon the successful completion of the applicable pre-hire background checks.

Drug(s) – Any substance, including Alcohol, Cannabis, illegal Drugs and prescribed medications, the use of which has the potential to change or adversely affect a person’s physiological and/or psychological state. Drugs of concern are those that potentially inhibit a person’s ability to perform their job safely and productively. Specific Drugs of concern include, but are not limited to, Alcohol, Cannabis (marijuana), cocaine, opioids, phencyclidine, and amphetamines.

Employee – Any person employed by Mosaic whether in a full or part time position, and includes office and managerial staff.

Employee and Family Assistance Program (“EFAP”) – The third-party vendor, contracted for by Mosaic, which provides confidential assistance to help Employees and their family members resolve a variety of personal, emotional and/or situational concerns that might affect the Employee and his/her family.

Fit for Duty – Means being able to safely and acceptably perform duties without any limitations or performance deficit due to the use or after-effects of Drugs or Alcohol.

For greater clarity, a Worker is not Fit for Duty when they report to work or work with the presence of Alcohol or Drugs in their body, including but not limited to, in the oral fluid (saliva), breath, or urine, at or above the Positive cut off levels established under this Program. (See Appendix)

Follow-Up Testing – Testing that is required as part of a Return-to-Work Agreement and recommended by a SAP to ensure an Employee remains Fit for Duty.

Medical Review Officer (“MRO”) – A medical doctor who has been trained and certified in the interpretation and reporting of human Drug testing for substances abuse.

Mosaic Business - Includes all activities undertaken in the course of Mosaic operations, whether conducted on or off Mosaic Property.

Mosaic Property – Includes, but is not limited to, all plants, offices, work sites, parking lots, property (fixed or moveable), and land which Mosaic or any of its subsidiaries owns, leases, controls, operates, encumbers, or has any real estate rights or interest.

Near Miss – An unplanned event that did not result in injury, illness or damage – but had the potential to do so.

Positive – A Positive Alcohol test means an Alcohol level equal to or in excess of 0.020 grams per 210 liters of breath. A Positive Drug test means that the quantitative levels in the body of a Drug (excluding Alcohol) are over the approved cutoff

levels as set out by the U.S. Department of Transportation and monitored by the Substance Abuse and Mental Health Services Administration, HHS laboratories.

Post-Incident Test – A Drug and/or Alcohol test conducted following an event which intentionally or unintentionally causes, or could have caused (a near miss), injury or damage.

Reasonable Cause – Includes direct observation of Alcohol or Drug possession or use, irrational or unusual behavior, and reporting to work in an apparent unfit condition (based on specific, contemporaneous, clear observations concerning the Employee's appearance, behavior, speech or body odors) which would reasonably lead one to believe that the Employee may be under the influence of Alcohol or Drugs.

Reasonable Cause Test – A Drug and Alcohol test conducted upon the occurrence of Reasonable Cause with respect to an Employee.

Return-to-Duty Test – A Drug and Alcohol test conducted before an Employee can return to work.

Return-to-Work Agreement – An Agreement between Mosaic and an Employee which outlines certain requirements be completed before the Employee may return to work.

Safety-Sensitive Employee – An Employee who works in a Safety-Sensitive Environment or in a Safety-Sensitive Position.

Safety-Sensitive Environment – A work environment in which there are workers classified as safety-sensitive and a lack of awareness or attention on the part of workers or bystanders due to the adverse effects of Drugs or fatigue could result in injury to persons or significant damage to property or the environment.

Safety-Sensitive Position – A position in which a state of incapacity due to Alcohol and/or Drug impairment could result in direct and significant risk of injury to the incapacitated Employee, others, Mosaic Property and/or the environment. These positions depend on alertness, quickness of response, soundness of judgment, and/or accuracy of coordination of multiple muscle functions and have a direct role in an operation where inappropriate performance of the task could result in harm to oneself, coworkers, invitees, property or the environment. This definition includes all Employees who are required to rotate through or within a safety-sensitive area.

Substance Abuse Professional ("SAP") – A person responsible for determining whether or not an Employee has a substance dependency or abuse problem and needs assistance to overcome such problem.

Work Environment – The physical location, equipment, materials processed or used, and the activities and experiences of an Employee while engaged in the performance of his/her work.

Worker – A person performing work on a Mosaic site, including Employees and employees of any contractor.

7. Appendix

1. Express Urine Drug Screen (Field Testing)

Drug Class	Express Screening Cutoff	Lab Confirmation Cutoff
Marijuana	50 ng/ml	15 ng/ml
Cocaine	150 ng/ml	100 ng/ml
Amphetamines	500 ng/ml	250 ng/ml
Methamphetamines	500 ng/ml	250 ng/ml
MDMA (Ecstasy)	500 ng/ml	250 ng/ml
Opiates <i>*does not include heroin metabolite</i>	2000 ng/ml	2000 ng/ml
Phencyclidine	25 ng/ml	25 ng/ml
Oxycodone	100 ng/ml	100 ng/ml
Fentanyl	20 ng/ml	1 ng/ml

2. Lab Based Urine Drug Test

Drug Class	Lab Screening Cutoff	Lab Confirmation Cutoff
Marijuana	50 ng/ml	15 ng/ml
Cocaine	150 ng/ml	100 ng/ml
Amphetamines/Methamphetamines	500 ng/ml	250 ng/ml
MDMA (Ecstasy)	500 ng/ml	250 ng/ml
Opiates	2000 ng/ml	2000 ng/ml
6-Acetylmorphine (heroin metabolite)	10 ng/ml	10 ng/ml
Phencyclidine	25 ng/ml	25 ng/ml
Oxycodone	100 ng/ml	100 ng/ml
Fentanyl	20 ng/ml	1 ng/ml

3. Lab Based Oral Fluid Drug Screen

Drug Class	Lab Screening Cutoff	Lab Confirmation Cutoff
Marijuana	4 ng/ml	2 ng/ml
Cocaine	20 ng/ml	8 ng/ml
Amphetamines*	50 ng/ml	50 ng/ml
Methamphetamines*	50 ng/ml	50 ng/ml
Opiates**	40 ng/ml	40 ng/ml
Phencyclidine (PCP)	10 ng/ml	10 ng/ml

*Confirmation includes: Amphetamines, Methamphetamine, MDMA

**Confirmation includes: Morphine, Codeine, Hydrocodone, Hydromorphone, 6-Acetylmorphine



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Mosaic Potash: Health Safety Environment and Community

Drug and Alcohol Program
Section:

CERTIFICATION OF EMPLOYEE

I have received, understood and hereby accept the terms and conditions of my employer's Drug and Alcohol Program. I understand and accept that drug and alcohol testing may be required of me by my Employer in accordance with the Drug and Alcohol Program. I understand and accept that compliance with the Drug and Alcohol Program is a condition of my employment at the Project Site. I understand and accept that my failure or refusal to cooperate fully in the Program is a violation of this policy and may lead to progressive disciplinary action up to and including dismissal.

Date: _____

Employee's Signature

Employee's Printed Name

Witness' Signature


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Appendix K

Mobile Equipment Checklists



EQUIPMENT MUST BE INSPECTED BY A LICENSED MECHANIC WITHIN 30 DAYS PRIOR TO ARRIVAL ON SITE		
		<div>Equipment Number</div>
Project Title: Mosaic Capital Projects Project Name: _____	Certification Number and Expiry Date	Number: _____ Expiry Date: _____ Year/MM/DD
EQUIPMENT PROFILE		
1. COMPANY NAME: _____		
2. CONTRACTOR/SUPERVISOR PHONE NUMBER: _____		
3. RESPONSIBLE PERSON FOR EQUIPMENT: _____		
4. TYPE OF EQUIPMENT: _____		
5. SERIAL NUMBER: _____		
6. DATE EQUIPMENT ON SITE: _____		
7. DATE EQUIPMENT INSPECTED: _____		
8. DATE OF FIRST SHIFT: _____		
INSPECTION DETAILS		
I, having inspected the above mentioned machinery, certify that in addition to the items listed herein, the equipment complies with the Saskatchewan Employment Act of 2013, and the Saskatchewan Mines Regulations of 2003.		
EQUIPMENT INSPECTOR (Mechanic & Mechanic's Certification Number) - REQUIRED		
NAME: _____		
APPROVED <input type="checkbox"/>	REJECTED <input type="checkbox"/>	OR ATTACHED DOCUMENTATION <input type="checkbox"/>
SIGNATURE: _____		DATE: ____/____/____
CONTRACTOR SUPERVISOR - REQUIRED		
NAME: _____		
APPROVED <input type="checkbox"/>	REJECTED <input type="checkbox"/>	
SIGNATURE: _____		DATE: ____/____/____
MOSAIC PROJECT MANAGER		
NAME: _____		
APPROVED <input type="checkbox"/>	REJECTED <input type="checkbox"/>	
SIGNATURE: _____		DATE: ____/____/____
OFFICE USE ONLY		
SIGNATURE: _____		DATE: ____/____/____



PHYSICAL INSPECTION

Mark OK, DEF (Defective) or N/A (not applicable)		
1	Minimum two lights in front of vehicle	
2	Minimum two lights at rear of vehicle	
3	Two chock blocks	
4	Fire extinguisher plus bracket	
5	Back rack (surface only)	
6	Horn	
7	Backup alarm	
8	Lock out on power source	
9	Rotating beacons	
10	Brakes	
11	Emergency brake	
12	Maximum number of persons indicated	
13	All rotating equipment and pinch points suitably guarded	
14	Equipment free of oil and other leaks	
15	Spill kit (attached or readily available)	
16	Load chart displayed in cab	
17	Load limiting device operational	
18	Rough terrain (yes/no)	
19	Pre-use checklist available and applicable to type of machinery	
20	Tires in good condition	
21	Steering linkage and suspension	
22	Wheel bearings	
23	Sound exhaust system	
24	Windshield and all other glass windows clear of cracks	
25	Windshield wipers	
26	Safety belt fitted to cab	
27	Mirrors fitted and clear of cracks	
28	Window breaker and seat belt cutter	
1	Operator competences (documented, certified & available for viewing	
2	Equipment operators manual	
3	Log book	
4	Company decals affixed to mobile equipment	
5	Valid insurance	
6	Valid License	
7	Crane or hoist has received a complete inspection by a certified firm or person prior to starting work on site (PROVIDE CERTIFICATION)	
8	UNDERGROUND EQUIPMENT - FORM A - MUST BE COMPLETED & ATTACHED TO THIS DOCUMENT)	

NOTE: Contractor's Preventative Maintenance Program must meet or exceed the original equipment manufacture's guidelines

[All copies of documents to be certified copies, and must be attached to this file]



DOCUMENTATION

Item (attach proof)	Expiry Date
Saskatchewan Certified Safety Inspection	
Lifting Equipment Certification	
Crane or Hoist Certification	
Valid Insurance	
Valid Registration	
Prior Equipment Profile (within the past 12 months)	

[All copies of documents to be certified copies, and must be attached to this file]



EMPLOYERS DECLARATION

- ☐ I / we hereby confirm that this equipment is currently being used by our company.
- ☐ By virtue of the information and documentation provided, we are confident that the above mentioned equipment complies with legislative requirements.
- ☐ I / we undertake to ensure that the above-mentioned equipment will be operated by a person who has the skill, experience, knowledge and training to operate this equipment in a safe and responsible manner.
- ☐ I / we undertake to ensure that we provide each one of our employee's with safe equipment, in good working condition and maintained in accordance with the manufacturer's specifications.
- ☐ I / we declare that the organization has a documented Preventative Maintenance Program that meets or exceeds the original equipment manufacturers for the pieces of Powered Mobile Equipment used on this Mosaic Project.
- ☐ I / we declare that the information enclosed is true and correct.

Date: _____ Print Name: _____

Position within organization: _____



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MINES, 2018

S-15.1 REG 8

PART II

Form A

[Section 16-2]

Diesel-Powered Equipment Notice

Company Identification

Company Name: _____ Date: _____

Mine: _____ Area of operation: _____

Type: _____ Purpose: _____

Manufacturer's recommended grade (for mobile units): _____

Maximum operating grade for unit: _____ Maximum authorized load: _____

Unit Identification Data

Make: _____ Company unit number: _____

Does the unit conform to the CSA standards: ☐ Yes ☐ No

Engine Data

Make: _____ Model: _____ Serial Number: _____

Maximum rated load (kW): _____ Maximum speed (RPM): _____

Maximum fuel injection (kg/hr): _____

After Treatment Device Data

Type: _____ Manufacturer: _____ Model: _____

Fuel: _____ Capacity of tanks: _____

Hydraulic Fluid

Trade name: _____ Quantity: _____ Fire retardant: ☐ Yes ☐ No

Fire Suppression System

Type: _____ Number of nozzles: _____ Size of unit: _____

Fire Extinguishers

Type and size: _____

Ventilation

Amount of air required for this diesel engine: _____

Braking System:

Service: _____

Emergency: _____

Parking Brake: _____

Company Representative
(Name and signature)

Title

6 Apr 2018 cS-15.1 Reg 8.

Appendix L

Mosaic Risk Assessment Matrix (RAM) and Potentially Serious Incidents (PSI)



Mosaic Risk Assessment Matrix

Step 1: Identify the potential consequence for each impact.

Step 2: Determine likelihood of each consequence based on past occurrence.

Consequences				Likelihood				
(types of consequences are mutually exclusive)				1	2	3	4	5
Safety Impact*	Environmental Impact**	Business Impact***	Image Impact	No evidence of occurrence in Industry (extremely remote)	History of occurrence in fertilizer Industry (past ~30 yrs) (remote)	History of occurrence at Mosaic in the past 10 years (seldom)	History of multiple occurrences at Mosaic past 3 years (occasional)	Happens several times per year at the location (expected)
Fatality OR Release of materials that pose a widespread threat the health and safety of members of the public. (inc. evacuation or shelter in place)	Release of material that poses a widespread threat to the environment or irreversible damage to ecosystem	>=\$10 Million	International / National Media Coverage	A1	A2	A3	A4	A5
Permanent Disabling Injury-OR multiple people injured	Any Regulatory Non Compliance with a localized (not widespread) environmental impact that can be remediated over months or years	\$1 Million up to \$10 Million	Local / State / Provincial Media Coverage or multiple community complaints	B1	B2	B3	B4	B5
Injury/Illness with work restrictions	Any Regulatory Non Compliance, including those with quickly reversible^ environmental impact	\$100,000 up to \$1 Million	Mosaic Internal Impact or community complaint	C1	C2	C3	C4	C5
Injury/Illness with minor severity	Release with minimal impact	<\$100,000	Site internal impact	D1	D2	D3	D4	D5
(Use these probabilities for Mechanical Integrity or LOPA only)				<1/10,000	1/1,000 to 1/10,000	1/100 to 1/1,000	1/10 to 1/100	>1/10
*Includes employees, contractors or members of the public **Any Regulatory Non Compliance includes reportable releases ^Quickly reversible is up to a few weeks				Step 3: Determine the risk rating of each category and select the one with the highest risk.				
*** Lost Production (Margin) & Property Damage. Total financial impact is based on one time incident occurrence and limited to no longer than one year.								

Step 4: Take Action based on specific program (i.e. MOC, EHS MS, Mechanical Integrity...)

Low Risk	Medium Risk	High Risk
Identified controls are sufficient and assessed through management system activities.	Controls shall meet regulatory and company compliance requirements, followed by a documented suitability assessment of the control based on historic knowledge and industry	Business functions will demonstrate that the risk is controlled to a level that is as low as reasonably practicable (ALARP).



Determining Potentially Serious Incidents (PSI), communication and Investigation Requirements

RAM	Type	Communication	Investigation
A	PSI Event	24 Hour Notice – Mosaic Final Notice – Mosaic	Root Cause Analysis w/ cause map
B	PSI Event	24 Hour Notice - Mosaic Final Notice – Mosaic	Root Cause Analysis w/ cause map
C*	Recordable Injury (that is not a PSI) or Reportable Environmental event (that is not a PSI)	24 Hour Notice - Mosaic Final Notice – Mosaic	Incident Investigation required
D*	Non-Recordable Injury or Non-Reportable Environmental situation	Daily Report	Incident Investigation at management discretion



Appendix M

Mosaic Barricading Program Requirements

Potash Business Unit - Barricading Program

Location/Applicability: Potash Business Unit	Document Identifier:
Document Owner: Director, Health & Safety, NAB	Originating Department: Potash Health & Safety
Current Version Effective Date: May 15, 2023	Formal Review Cycle Due Date: March 1, 2030

Introduction

Purpose To establish a common approach and set of common requirements for the erection, management and removal of barricades that are recognized by the Potash Business Unit to ensure the health and safety of everyone on our sites as well as the protection of the environment.

Scope This Program applies to all Mosaic employees, contractors, and subcontractors working in the Potash Business Unit.

Responsibilities The following table contains a listing of responsibilities for specific groups /jobs as required by this Program.

Group or Title	Responsibilities
Potash Business Unit EHSS	Develop and communicate this program to all Mosaic sites. Coordinate with each site in the Business Unit to ensure this program is fully understood and adhered to.
Site EHSS Department	Ensure the overall communication of the Barricading Program criteria and expectations to the site. Support the development of site-specific procedures and requirements for the use of barricades. Assess the program as required. Provide subject matter expertise on safety rules, regulations and other EHSS requirements.
Site Human Resources Department	Provide subject matter expertise and execute on any disciplinary actions that are a result of a barricading Life Saving Rule infraction.
Supervisors/ Superintendents/ Managers	Become knowledgeable of the contents of this program document. Support the development of site-specific procedures/training as well as defining barricading. Ensure that workers are properly trained on the criteria and expectations. Assess the quality of workers' compliance to all program criteria.



Workers	Consistently comply with the site's Barricading Program while performing tasks on Mosaic property or under Mosaic's control. Periodically reassess the work tasks/area and update the relevant sections on all active hazard assessments documents and Mosaic barricading. If a change is noted, ensure communications are made with all work groups inside the barricaded areas.
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Requirements

Site Implementation of Barricading Program

Each site shall develop and implement documented procedures and training to comply with this Program.

Sites shall provide instruction as to when it is necessary to construct a barricade and the type of barricade to construct.

Barricading Requirements

The following table contains the listing of common barricading requirements which sites shall implement.

Standard	Expectation
Hazard Identification – Tape/Rope/Chain + Tag Barricading System	<p>With the exception of asbestos removal, sites shall use either yellow or red barricading material (tape/rope/chain) to visibly mark the barricade's perimeter as well as to communicate the level of hazard anticipated to be present within the barricaded area. Additionally, a Mosaic barricading tag shall be filled out by the barricade area owner and be readily visible near all points of entrance/exit.</p> <p>In the event of asbestos removal, sites shall use specific white asbestos barricading tape. Mosaic barricading tags must be readily visible at all points of entrance/exit.</p> <p>NOTE: Barricades must be between waist and chest height.</p>
Hard and Physical Barricades	Mosaic barricading tags shall be filled out by the barricade owner and readily visible at all points of entrance/exit.
Mosaic Barricading Tag	Sites shall develop a tag that has the following information at a minimum. Indication of the level of hazard in the barricaded area and a description of that hazard, name of person creating the tag, workgroup



	or company name, name of supervisor and contact number.
Barricade Ownership	<p>Yellow and red barricaded areas are owned by the individual/group doing the work in the area. Barricade owners shall:</p> <ul style="list-style-type: none"> • Maintain the barricade footprint for the duration of the work • Fill out and maintain all associated documentation during active work (i.e. hazard assessments, barricade tags, etc.) • Grant permission to other employees who have valid reasons to enter the barricaded area • Remove the barricade upon completion of work
Access to Barricaded Areas	<p>Any employee wanting to obtain entry to a barricaded area shall follow the guidelines listed below:</p> <p>Yellow – Employee shall read the tag and understand the hazard before entering the area. Permission does not need to be granted by the barricade owner to enter the area.</p> <p>Red – Permission is required from the barricade owner prior to access. If there are multiple tags on the same barricade due to multiple work groups in the area, permission is required from all groups with red tags on the barricade. Multiple tags are only required if there are separate projects happening within the barricaded area.</p> <p>When the work group working in the area is present, employees shall read and sign the hazard assessment belonging to the workgroup in the barricaded area. If no work group is present or the owner cannot be readily located, employees shall call the number listed on the tag. If the individual cannot be reached, the area Superintendent (or equivalent) shall be contacted to make the decision.</p> <p>DO NOT ENTER a red barricaded area until permission has been granted and a hazard assessment has been read, understood, and signed at the point of entry.</p>



Removal of Barricades	<p>Yellow – The individual or group that erected the barricade shall be expected to remove the barricade upon the completion of the work. In the event that the work has been completed but the yellow barricade has not been removed, the barricade owner will be contacted to return and remove the barricade. If this individual is unavailable, a Mosaic <i>supervisor</i> can grant permission to remove the barricade.</p> <p>Red – The individual or group that erected the barricade shall be expected to maintain the barricade footprint during active work and remove the barricade upon the completion of the work. In the event that the work has been completed but the red barricade has not been removed, the barricade owner will be contacted to return and remove the barricade. If this individual is unavailable, a <i>superintendent</i> can grant permission to remove the barricade.</p>
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**Training,
Competence, and
Awareness**

Each Mosaic site shall develop and maintain training to ensure employees have the required knowledge of the Barricading Program. Details of the Barricading Program shall be communicated to new employees and contractors through the general orientation and subsequent refresher training.

**Site Barricading
Procedures
Updates**

Each Mosaic site shall ensure their Barricading Procedures document is reviewed and revised at least every three years.

References

These documents are referenced in this procedure.

Document Title	Location
Corporate Life Saving Rules	Life Saving Rules Booklet
EHSS North America Field Level Hazard Assessment (FLHA) Program	North America Field Level Hazard Assessment (FLHA) Program



Appendix N

Rollover Protection



EHSS Program – Requirement for Roll Over Protection Structure (ROPS) on Underground Mobile Equipment

Location/Applicability: Potash Business Unit		Document Identifier: ROPS Program	
Document Owner (Name/Title): Director, Environmental, Health, Safety and Security - Potash			
Effective Date:	June 16, 2017	Review Due Date:	June 16, 2020

1. **Purpose / Objective:** Mosaic is committed to the safety of our employees, contractors, and visitors; and we continually strive to reduce risks that can put people in harm's way. Incidents across the mining industry and within Mosaic have made it clear to us that the rollover of vehicles underground is a significant risk that must be mitigated. This program is intended to outline Mosaic's commitment for the use of Roll Over Protection Structures (ROPS) on mobile equipment that operates in our underground mines.
2. **Scope:** This program applies to all underground mines in Mosaic's Potash Business Unit.
 - 2.1. In Scope: Underground personnel transport vehicles, loaders, scoop-trams, ram-cars, water trucks, service trucks, and all related vehicles.
 - 2.2. Out of Scope: Mining machines including 2 rotor, 4 rotor, drum miners and alpine miners.
3. **Commitment:** It is understood that equipping all in-scope vehicles with ROPS is a costly process that will take time to accomplish. Therefore, all in-scope vehicles shall be equipped with ROPS by the full compliance date of December 31, 2022.
4. **Requirements:**
 - 4.1. New in-scope vehicles purchased after the effective date of this program shall be equipped with ROPS before use.
 - 4.1.1. Whenever possible, new in-scope vehicles shall be sourced with ROPS from the vehicle's manufacturer.
 - 4.1.2. For new in-scope vehicles, if ROPS is not an available option from the manufacturer, an aftermarket system shall be used. All aftermarket ROPS shall be approved by a qualified engineer.
 - 4.2. Existing equipment will be evaluated for aftermarket ROPS. Using a risk based approach, sites shall decide if a vehicle will be retrofitted with aftermarket ROPS or if the vehicle will be removed from service prior to this program's full compliance date.
 - 4.3. Vehicles with ROPS shall be prioritized for use in the areas where uneven travelways exist and the likelihood of roll-over is elevated.
 - 4.4. Sites shall complete and document a gap assessment, and implement a plan with defined action items to achieve compliance with this program.
5. **Variances:** Any variance to this program must be requested using the existing EHSS variance process and approved by the EHS Director and the VP of the area where the variance is being requested.
6. **Definitions:**
 - 6.1. Roll Over Protection Structure (ROPS): A professionally engineered reinforcement installed on a vehicle to prevent the vehicle's cabin from being crushed during a roll over event. ROPS is a practical and preventative safety measure intended to protect the driver and passengers of vehicles from injuries caused by a vehicle roll over.



POTASH BUSINESS UNIT DIRECTIVE

Roll Over Protective Structure (ROPS)

DATE:

May 26, 2014

SITES AFFECTED:

Belle Plaine, Carlsbad, Colonsay, Esterhazy, Capital

DISTRIBUTION:

Procurement and Safety

ISSUE:

There has been some confusion as to the requirement for Roll Over Protective Structures at Mosaic. Each of our sites is at a different place in regards to ROPS and there needs to be one guiding document that addresses this issue.

DECISION/DESCRIPTION:

On January 9, 2013, an e-mail was generated by Bill Holder that stated there was no longer a requirement for Mosaic or contractor pickup trucks to be equipped with Roll Over Protective Structures. The requirement for mesh style headache racks still apply when the pickup truck has an open box or the operator is unable to secure the load in the back of a vehicle that has a bed cover or cap. If the vehicle has a type of bed cover or cap that is attached to the vehicle as per design and is completely closed and the load is secure there is no requirement for a headache rack.

REQUIRED ACTION:

Procurement

- Modify any documentation related to Roll Over Protection to indicate that Roll Over Protective Structures are no longer required to be installed on Contractor or Mosaic pickups
- Inform the appropriate groups that those vehicles currently equipped with ROPS meet the intent of this directive and they do not have to be removed
- Ensure that the requirements for mesh style headache racks are communicated to contractors and Mosaic site

- Contact Mosaic maintenance department to confirm that trucks booked into the shops are equipped with mesh style headache racks

Safety

- Monitor program to ensure that the site is conforming to the directive



Example of mesh style headache rack

IMPLEMENT BY (DATE):

December 31, 2014

Nancy Case
Director, Health, Safety and Security



Appendix O

Cross Company Audit (CCA)



CROSS COMPANY SAFETY AUDIT

Date:		Key Words:	Rigging, LOTO, Environmental, ERP, Preventative Maintenance, Guarding, PME, Permits, PPE, Housekeeping, Training, Barricading, Safe Start, Weather, Tools, Falling Object Prevention											
Time:		Project:												
Area:		Contract Company:												
Job/Task:		Supervisor:												
		Crew Member(s):												
Permits:														
			Y	N	At Risk	N/A				Y	N	At Risk	N/A	
Was task reviewed when Work Permit was issued?							Have all employees signed the necessary permits?							
Was a Task Safety Analysis available?							Was lockout / tag-out required?							
Was the Work Permit on the job?							Was a co-signature required and obtained?							
Is a M.S.D.S. required? Is a workplace label needed?							"Hot work permit" or "Hot Work Precautions Checklist" required							
Is task clear, communicated and organized?							Were all permits completed properly?							
Comments/Corrective Action:														
Task Communications:														
			Y	N	At Risk	N/A				Y	N	At Risk	N/A	
Is there a multi-trade involvement on the job being performed?							Has production been notified of maintenance work activities?							
Has communication between trades been established?							Has the supervisor discussed the task with the workers?							
Workers are aware of the locations of fire extinguishers, eye wash stations and emergency showers?							Was hazard assessment communicated with entire crew?							
FLHA Quality and Communication <input type="checkbox"/> Excellent <input type="checkbox"/> Needs Improvement <input type="checkbox"/> Does not meet expectation <input type="checkbox"/> No Card														
Comments/Corrective Action:														
PPE / Tools / Storage / Equipment / Layout:														
			Y	N	At Risk	N/A				Y	N	At Risk	N/A	
Proper P.P.E. identified and being used?							Does the crane / rigging capacity meet or exceed the weight of the load?							
The general condition of the tools was good? (damage, wear or weakness?)							Is a rigging plan in place? (critical lift etc..)							
Is the proper tool being used for the job?							Is the area properly barricaded with identifying tags?							
Are tools properly stored and clean?							Observed the safe use of a ladder. Is it properly secured?							
Cords, cables and hoses in good condition and strung out of walkways and aisles?							Worker maintained three point contact at all times?							
Welding / cutting in the area? Are flash screens used? Ventilation available?							Is fall protection required? Arrest - Restraint - Control Zones?							
Is a scaffold required or being used?							Is the anchor point adequate for a fall arrest to be used?							
Is the scaffold certified?							Mobile equipment being used?							
Is lifting equipment required? Come-a-longs, Chain falls, Cranes							Is the operator fully trained / qualified?							
Are slings, rigging, or softeners being used and inspected with adequate rigging points?							Have all log books been filled out prior to use?							
Is a tag line needed?														
Comments/Corrective Action:														
Updated: Mar-2017														



Potash Capital Projects
Environmental, Health and Safety (EHS) Department

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Housekeeping									
	Y	N	At Risk	N/A		Y	N	At Risk	N/A
Are tools and equipment strung out of walkways and aisles? (Is safe and free of obstructions.)					Floors must be clean, dry, and free of refuse, oils and greases.				
Are vessel man ways safe and free of obstacles					Is there clear access to electrical receptacles / panels?				
Is sufficient lighting provided throughout the work area?					Is there clear access to designated safety equipment? (Extinguishers, wash stations, pull stations, etc.)				
Must have platforms that are clean and free of unnecessary materials.					Are stairwells clear of products, materials, tools, equipment and properly lit?				
Area is kept free of unnecessary materials or hangings. (Neat and organized)					Are disposal bins provided with proper lids?				
Machinery and equipment is clean and free of unnecessary material, oil, or grease.					Are aisles clean and free of obstructions?				
Machinery and equipment have proper guards in good condition.					Grounds (including bone yards) are in good order, vegetation controlled, materials and equipment in proper places.				
Are exits/entrances clear of debris?									
Comments/Corrective Action:									
Confined Space:									
	Y	N	At Risk	N/A		Y	N	At Risk	N/A
Has Confined Space Entry permit been completed? Tier 2 Lock out?					Is the attendant aware of his responsibilities? Is a man watch kit being used?				
Have ventilation requirements been met?					Is an emergency plan in place? (What if?)				
Will work in confined space create a hazard? Controls in place?					Have workers been accounted for throughout the shift? (Entry & Exit)				
Is an attendant needed?									
Comments/Corrective Action:									
General Area Observations: (Summary)									
	Y	N	At Risk	N/A		Y	N	At Risk	N/A
Area conditions: (Hot, cold, dusty, smokey, strong odor, slippery surfaces, etc.?)					Care and caution was practiced when lifting? (manual/crane/rigging)				
Will the weather create a hazard?					Proper attire worn. (no holes, adequate foot wear, hair confined properly)				
Good housekeeping was practiced?					Positive participation from workers in this evaluation.				
Evident safe work practices and procedures used on task.									
Comments/Corrective Action:									
Concerns									
EMPLOYEE'S CONCERNS EXPRESSED:									
Clearly legible Mosaic employee signature or printed name									
Lead Auditor Name: _____					Employee Name: _____				
Employee Name: _____					Employee Name: _____				
Employee Name: _____					Employee Name: _____				

Updated: Mar-2017

Appendix P

Mobilization Checklist



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Contractor Mobilization Checklist

The Contractor Mobilization Checklist is to be reviewed during the Pre-Mobilization meeting between the Mosaic Project Manager and the Contractor. This ensures both the Project Manager and the Contractor clearly understand the requirements of a contractor mobilizing on a Mosaic site. This Checklist will be used by the Project Manager to validate key items have been addressed once the Contractor has mobilized to site by completing the "Validated by Project Manager during Site Mobilization" column on the form.

Project Name		Date	
Description of Work			
Mosaic Project Manager	Pre-Mobilization Meeting Date:	Validated by Project Manager during site mobilization:	
Contractor Name & Point of Contact	Subcontractors (if applicable)		
Mobilization Checklist			
Item	Discussed at Pre-Mobilization Meeting	Validated by Project Manager during Site Mobilization	Comments
Pre-Mobilization Meeting			
Mosaic's safety culture and expectations clearly discussed with Contractor field leadership? Message relayed to crews?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor OHC requirements discussed (worker rep, employer rep, meeting frequency, minutes, etc.)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor's PSMP approved and reviewed by the Mosaic Project Manager with Contractor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Mobilization date agreed upon? Mosaic Operations aware?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Manpower and work hours/schedule discussed and approved by Project Manager?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor employee's names including subcontractors provided to Mosaic?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor work areas identified and agreed upon? (Parking, smoking areas, lay down, trailers, washrooms, etc...)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is the Contractor made aware of restricted work areas on the Mosaic site?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
All utility connections identified and agreed upon? Contractor aware of Mosaic's Temporary Utility Trailer Requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Any site preparation required prior to contractor arriving on site? Approval by operations required?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Tanks brought onto site have an impervious secondary containment that holds 110% of the tank capacity or have an approved double wall containment. Portable fuel storage > 4000 L reported to site environmental department for tracking/reporting?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Any anticipated sampling requirements as a result of this work? (Soil, Asbestos, Air Quality, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Has the asbestos registry been consulted or updated for the work area and this information relayed to contractor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor made aware of the types and instances of asbestos that might be encountered in the work area?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

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Orientation / Safe Start / SKETCH training scheduled with Mosaic? Trainer and location confirmed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor aware of Mosaic's requirements to stop, reassess, re-plan and seek Mosaic's input as work conditions change? Contractor aware of hazard assessment programs such as 20-20-20?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor aware of known project risks, including those listed in Mosaic's Life Critical procedures? Determine what focused audits will be required based on project risk.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor made aware of FLRA / FLHA quality audit process?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is the Contractor aware that workers will require proof of training prior to start of work?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
If LOTO is required, a LOTO authority and procedure being used must be identified prior.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Has the Contractor identified the number of employees for orientation dates?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Has the contractor provided a list of Chemicals they intend to bring onto site? Any chemicals of concern for either party? Portable eye wash kits located at job site?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Has the contractor coordinated an inspection of Mosaic owned equipment prior to use? Completed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Mosaic equipment (i.e. lift well cranes, U/G equipment) required by contractor been agreed upon?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Medical (EMT, nurse) coverage coordinated for the project? Coverage for contractor's at all times onsite?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Location of contractor documents identified? (Training, SDS, safety minutes, certifications, equipment inspections, etc...)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Traffic Management Plan required? Approved by Project Manager?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Will Mosaic or Contractor permitting systems be used?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor aware all hoisting to roof buildings or projects requiring working on or walking on outside of engineered walkway on roof, requires a permit?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are Environmental Permits or Specific Requirements in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor has an incident reporting system and is aware all EHS incidents must be immediately reported to Mosaic.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor identified an OHC representative/committee?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor made aware of pre-access Alcohol & Drug testing requirements? (A&D test within 90 days of arrival)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor aware of site specific Mosaic PPE requirements? Example: hard hat brim forward, hard hat tethers	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Daily start and end of shift fit-for-duty expectations discussed with contractor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor aware of equipment that must be inspected by a licenced mechanic within 30 days prior to arriving at Mosaic sites on a Mosaic Capital Project? (including plated trailers)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor aware employee training records must be made available during mobilization?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Has the contractor provided an updated organizational chart and contact numbers for the project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is the Contractor aware of the Material Loading and Unloading Directive?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor aware of Case Management Expectations for workplace injuries involving their employees and understand the Mosaic Capital Projects Case Management Guideline?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor aware of Mosaic Cardinal Rules and Life Critical Procedures?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Mosaic expectations around tape/barricades discussed with contractor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

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Potash Capital Projects
Environmental, Health and Safety (EHS) Department

The Mosaic Company
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Regina, SK S4P 4L8

Mosaic cardinal rule / discipline process discussed with contractor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Confirm with Contractor the fire, confined space, high angle, medical response <ul style="list-style-type: none">• Defined responsibilities• Off hours coverage• Site evacuation plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Co-ordination, internal, and external notification by whom?			
Ensure the Contractor provides all their employees and subcontractors hours every month to Project Manager.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was a pre-job walk down performed with the contractor to identify worksite issues (housekeeping, potash buildup, lighting, etc.) that need addressing prior to mobilization?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor informed about Mine Safety Unit and thresholds / protocol for reporting Dangerous Occurrences?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does the Contractor have any questions that need to be addressed prior to mobilizing to the site?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Mobilization			
Contract employees completed Orientation and SafeStart?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are training documents for workers doing high risk activities available for review?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Documents for contractors identified (i.e. training records, SDS, certifications, OHC minutes)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Pre-access Alcohol and Drug tests been submitted to Mosaic? Copies available onsite?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor areas and PPE Free Zones agreed upon with Mosaic?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor Emergency Response Plan completed and approved by Project Manager?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Equipment checks and certifications forwarded to Mosaic Project Manager?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Tool inspection and tethering protocols discussed with Contractor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Housekeeping expectations discussed with contractor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Open Hole Registry in place? (If required)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Adequate restrooms in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Workers' rights posted along with OHC minutes in contractor trailers?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
All cranes and lifting devices certified prior to use?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Spill kits, drip trays, etc. onsite for use with mobile & heavy equipment?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have required roof permits been completed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do all loads to be hoisted have visible weights displayed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was a pre-job walk down performed with the contractor to identify structural anchor points for lifting and rigging?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Adequate waste disposal/recycle bins in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor EHS Policy and Program, OHS Regulations readily available on site?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Job Hazard Analysis (JHA) completed as per Appendix A Vendor and Contractor Environmental Health and Safety Requirements Guide?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor is aware all EHS incidents (both safety & environmental) must be immediately reported to Mosaic.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Contractor has all SDS's and hazardous materials approved for use on Mosaic sites. Special requirements agreed upon?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Has the Trap Checklist been completed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Update: April 17, 2020



	<input type="checkbox"/> No	<input type="checkbox"/> No	
--	-----------------------------	-----------------------------	--

Describe any addition mobilization items not discussed above		
Mosaic Project Manager	Mosaic Safety	Contractor
Signature / Date	Signature / Date	Signature / Date

***This list is not intended to replace daily safe work planning on projects in execution. It is intended to identify high risk tasks or activities early enough so that there is time to assess and seek additional support for solutions. A typical "High Risk" activity should be able to be planned properly without putting people in an emergency situation or unnecessary time constraints for making decisions.*

Update: April 17, 2020

Appendix Q

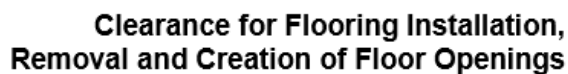
Open Hole Permit

Open Hole and Unguarded Edge Registry



Clearance for Flooring Installation, Removal and Creation of Floor Openings

Part 1			
Requested By:		Trade/Title:	
Date:		Opening Time:	
Location:		Area:	
Nature of Opening: Grating opening <input type="checkbox"/> Hole cover removal <input type="checkbox"/> Handrail removal <input type="checkbox"/> Concrete demo. <input type="checkbox"/> Other <input type="checkbox"/>			
Scope of Work:			
Request for Permit Duration from: to			
The permit requestor SHALL perform a Hazard Assessment of the work location and develop a Job Safety Analysis (JSA) for the scope of work. The JSA must be reviewed with all workers involved in the work and all workers must sign off on the JSA.			
Hazard Assessment Checklist There are no defined dimensions for classifying an "Open Hole". If a worker's foot could fall through, then the opening/hole is large enough to present a hazard requiring protection. Openings in floors, roofs, etc. (1) An employer, contractor or owner shall ensure that any opening or hole in a floor, roof or other work surface into which a worker could step or fall is: (a) covered with a securely installed covering that is capable of supporting a load of 360 kilograms per square metre and that is provided with a warning sign or permanent marking clearly indicating the nature of the hazard; or (b) provided with a guardrail and a toe board. (2) Where the covering or guardrail and toe board mentioned in subsection (1) or any part of the guardrail or toe board is removed for any reason, an employer, contractor or owner shall immediately provide an effective alternative means of protection.			
	YES	NO	N/A
Physical barricades	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barricade signage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anchorage points identified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Static lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tool/ material security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary holes covers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All access points controlled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overhead warning signage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>The status of all above items <u>must be</u> checked off. All items checked off "YES" must be addressed in a JHA attached.</i>			

Page 2 of 2



Open Hole and Unguarded Edge Registry

The contractor must complete this registry or have an equivalent program in place to protect workers from open holes or handrails removed that expose a worker to a fall. An inspection must be completed and this form updated daily if there are open holes or unprotected leading edges until the risks have been eliminated. Supervisor must inspect and initial the "Open Hole/Edge Complete" column prior to releasing area to normal operations.

Project Name		Date of issue	
Description of Work/Area(s)			
Mosaic Contact	Contractor Contact/Company	Permit Duration - week of: From to	
Risk Considerations			
There are no defined dimensions for classifying an "Open Hole". If a worker's foot could fall through, then the opening/hole is large enough to present a hazard requiring protection.			
Openings in floors, roofs, etc.			
(1) An employer, contractor or owner shall ensure that any opening or hole in a floor, roof or other work surface into which a worker could step or fall is: (a) covered with a securely installed covering that is capable of supporting a load of 360 kilograms per square metre and that is provided with a warning sign or permanent marking clearly indicating the nature of the hazard; or (b) provided with a guardrail and a toe board.			
(2) Where the covering or guardrail and toe board mentioned in subsection (1) or any part of the guardrail or toe board is removed for any reason, an employer, contractor or owner shall immediately provide an effective alternative means of protection.			
New "Open Hole, Unguarded Edge Registry" required weekly			
Mosaic Contact to be informed when an opens hole or leading edge is closed and returned to normal operations.			
Controls as listed below will be included on JHAs and reviewed on daily FLRAs			
Physical Barricades / Barricade Signage Required.			
Fall Protection / Restraint/Anchor Points Identified.			
Tool Tethers / Brattice Required to Prevent Falling Objects.			
Access Points have to be Controlled (swing gated, doors etc.)			
Other Control required:			
Before supervisor initials open hole/edge complete column and returns area to regular use, ensure following questions have been answered and Mosaic informed.			
Was there a modification to design?			
Does new design meet Mosaic specification?			
Has the supervisor inspected to ensure the area is safe to return to regular operations?			

Updated: 21-Feb-2019



Open Hole/Leading Edge Registry														
Cover or barricade #	Location	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Open Hole Properly covered, secured and identified.	Leading Open Edge Properly barricaded and signed.	Open hole/Edge complete/closed Supervisor Initial:	Inspector		Date and time
												Monday:		
												Tuesday:		
												Wednesday:		
												Thursday:		
												Friday:		
												Saturday:		
												Sunday:		
												Comments/Details		
#1	3 rd floor / Compaction #5		X	X	X	X			Yes		JS	Floor Covering installed Tuesday and Removed Friday (example)		

*****This list is not intended to replace daily safe work planning or FLRAs on projects in execution. It is intended to identify high risk fall hazards and monitor the controls until the risk has been eliminated. Falling off edges and through open holes is a leading contributor to workplace injuries and fatalities and this program helps ensure adequate controls are in place and maintained for the duration of the risk.***

Updated: 21-Feb-2019

Appendix R

SafeStart Program

States and Errors

SafeStart Extra

SAFESTART

These four states...

- ☐ Rushing
- ☐ Frustration
- ☐ Fatigue
- ☐ Complacency

***can cause or contribute to
these critical errors...***

- ☐ Eyes not on Task
- ☐ Mind not on Task
- ☐ Line-of-fire
- ☐ Balance/Traction/Grip

***...which increase the risk
of injury.***

SafeStart Extra

April 21, 2023

Description of Incident: Worker was backing up a half ton truck on a roadway when the truck contacted a piece of equipment being stored on the side of the road resulting in damage to the door of the truck.



These four states...

- ☐ Rushing
- ☐ Frustration
- ☐ Fatigue
- ☐ Complacency

can cause or contribute to these critical errors...

- ☐ Eyes not on Task
- ☐ Mind not on Task
- ☐ Line-of-Fire
- ☐ Balance/Traction/Grip

...which increase the risk of injury.

Which of the four states occurred during this incident?

Which of the four critical errors occurred during this incident?

What energy sources are present and need to be controlled to prevent injury?



Describe preventative measures that may have prevented this incident from happening.

What critical error reduction techniques would you implement in your own activities?

- ☐ Self-trigger on the state (or amount of hazardous energy) so you don't make critical error.
- ☐ Analyze close calls and small errors (to prevent agonizing over big ones).
- ☐ Look at others for the patterns that increase the risk of injury.
- ☐ Work on habits.

Name (Please Print)

Contractor/Company

Date

RETURN SAFE START EXTRA TO MOSAIC SAFETY SPECIALIST ON SITE WHEN COMPLETED

Appendix S

H&S Best Practice Metal on Metal Contact

Approved Date: Sep 16, 2021

Effective Date: Sep 15, 2021



North America Business

H&S Best Practice – Metal on Metal Contact

1. PURPOSE

This best safety practice provides guidance for worker safety related to the hazards associated with intentional metal on metal contact.

2. SCOPE

This best practice applies to all Mosaic North America Business operations facilities and covers all employees and contractors performing work on Mosaic property. It includes activities involving intentional metal on metal contact, including but not limited to situational, operational and routine tasks.

3. REASON FOR IMPLEMENTATION

Many steel tools have hardened steel parts. Bending, twisting, sudden impact against another hardened surface or applying extreme force can result in sharp metal fragments (shards) being ejected at very high speed. Mosaic employees and workers across industry have experienced bodily injuries from shrapnel projecting off hardened steel; the best practices in this document are being implemented to minimize the risk of injury to employees and contractors while conducting tasks involving intentional metal on metal contact.


4. RISK FACTORS TO CONSIDER

The following are some of the primary risk factors associated with intentional metal to metal contact:

- Workers unaware of the hazards associated with striking hardened steel
- Use of tools that have not been properly inspected and maintained
- Failure to follow manufacturer's recommendations for removal of a tool from service.
- Using an improper tool for task or using hand tools outside of manufacturer's recommendations.
- Not wearing appropriate PPE to mitigate the risk of possible injury

5. PREVENTATIVE CONTROLS

The requirements and recommendations in this section are designed to provide preventative measures against the risks associated with intentional metal on metal contact.

 **Warning:** At no time shall metal on metal contact be made with two pieces of hardened steel unless they were designed and engineered for striking.

Approved Date: Sep 16, 2021

Effective Date: Sep 15, 2021



North America Business

H&S Best Practice – Metal on Metal Contact

1.1 Required: Eliminate the act of hammering hardened steel with hardened steel tools.


- Use alternate tools and methods to perform work. For example, use a bearing puller to remove a race from a shaft, or a torch to cut off the race.
- Use a portable hydraulic press (porta power) in lieu of a hammer to press/push instead of blunt force or striking.

 **Note:** Follow manufacturer recommendations for porta power use.

- Whenever possible, relocate work from the field to the shop so work can be performed using ideal tools and methods.
- Include a dampening device between hardened steel components (eg. brass drift, mild steel drift, fire blanket)


1.2 Required: Substitute the tool being used for one that is made from alternate materials, such as:

- Soft steel hammers or punches
- Dead blow hammers

 **Note:** See Additional Information at the end of this document for available tools and applicability for use.

1.3 Required: If a metal on metal contact task is required, include the identified hazards and controls on the hazard assessment and/or permit for the task.

1.4 Required: Inspect tools prior to use and maintain or dress as needed.

 **Warning:** Do not attempt to repair damaged tools. Tools that are damaged must be removed from service. Note, dressing of a tool is not considered a repair – it is routine maintenance.


1.5 Required: Use additional PPE based on risk assessment of the work being done. Examples include face shields, leather jackets, leather chaps, and leather gloves.

1.6 Recommended: Find an engineered solution, particularly if the task is required on a recurring basis. Reference the manufacturer's manual to see if there is an engineered solution for the task.

1.7 Recommended: Barricade the work area to prevent others in the area from entering the hazard zone where tasks involving metal on metal contact are being conducted. Use barriers such as welding screens when possible, or banner guard the area to restrict access.

6. TOOLS AND APPLICABILITY FOR USE

Using the appropriate tool for the job can prevent injuries caused by the intentional striking of metal on metal. Consider soft steel sledgehammers, brass hammers, slide hammers, or dampening devices.

 **Note:** See Additional Information at the end of this document for available tools and applicability for use.

Approved Date: Sep 16, 2021

Effective Date: Sep 15, 2021








North America Business

H&S Best Practice – Metal on Metal Contact

7. ADDITIONAL INFORMATION

AVAILABLE TOOLS AND APPLICABILITY

Tool	Applicable Use	Description/Material	Photo (Eg.)
Soft Face Split Head Hammer Copper/Rawhide Item: MC1314	Metal on metal striking	Copper head absorbs impact and reduces the potential of fragmentation. Rawhide side acts as a non-metal soft hammer.	
Brass Head Hammer Item: MC1316	Metal on metal striking	Soft brass head absorbs impact and reduces the potential for fragmentation.	
Soft Safety Steel Sledge with Ergo Power Handle Item: 1966010 – 3lb/14" 1966011 – 10lb/32" 1966012 – 16lb/32" 1966014 – 6lb/16"	Metal on metal striking	Soft steel is designed to limit potential of splintering (metal pieces breaking off).	
Soft Face Hammer Item: 1966017 – 8oz	Metal on metal striking	Face absorbs impact and reduces the potential of fragmentation. Tips are available in different weights.	
Dead blow Hammers	Striking metal	Rubber or UHMW plastic – designed to absorb shock and reduce rebound.	

Version: Original

3

Effective date: 31 January 2022

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Approved Date: Sep 16, 2021

Effective Date: Sep 15, 2021



North America Business

H&S Best Practice – Metal on Metal Contact

Wire Rope Punch	Use to safely drive out pins and keys	Long, twohanded rubber handle to lessen shocks from blows. Head attached with wire rope to reduce shock. Urethane ring around head to reduce likelihood of chipping. Heat-treated punch, so it will not shatter.	
Slide Sledge	Metal on metal striking	Application specific tips available with each tool, a wide selection of easy-switch tips. Handle weights attach to the tools for more driving force when needed.	
HDPE Hammers	Striking Metal	The RadicalX Hammer is made from UHMW (ultra high molecular weight polyethylene). UHMW is a virtually unbreakable material. It yields the highest impact strength of any thermo-plastic. Highly resistant to most corrosive chemicals except oxidizing acids. Highly resistant to abrasion.	
Bit wrench	Changing bits on a mining machine	The “puck” is used for tapping out bits / made of PVC-type material.	

Version: Original

4

Effective date: 31 January 2022

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Appendix T

Abrasive Blasting

Abrasive Blasting

Location/Applicability: Potash Business Units sites		Document Identifier:	
Document Owner (Name/Title): PBU HSS Director			
Effective Date:	01-Apr-2014	Review Due Date:	One year after eff. date

1. Purpose / Objective

1.1 This document will outline the minimum requirements for abrasive blasting (AKA "sandblasting") at Potash Business Unit sites.

2. Scope

2.1 These requirements will apply to all abrasive blasting activities at PBU sites, including abrasive blasting in the "field" – whether that be inside a building or outdoors, abrasive blasting at designated blasting / painting stations or the use of "glove and box" type enclosed blasting cabinets.

3. Responsibilities

3.1 The employer / owner / lessee of the equipment will ensure that all requirements of this document and the applicable OH&S, Mines, MSHA or OSHA Regulations shall be complied with.

3.2 Abrasive blasting workers will comply with the various requirements for inspection and documentation, and will comply with the safe work procedures developed for this activity.

3.3 Specifically:

3.3.1 No siliceous substances, such as silica sand, diatomite, or other abrasive material containing more than 1% free crystalline silica shall be used at Mosaic sites.

3.3.2 For other than enclosed "glove box" abrasive blasting cabinets, approved abrasive blasting air supplied hoods shall be provided and the workers will use the provided Personal Protective Equipment (PPE). Hoods shall be supplied by an airflow that is clean and of a reasonable temperature and is provided to the hood at the rate of at least 170 liters (6 cubic feet) per minute, at a pressure of not more than 140 kPa (20 psi). Hoods and their air supply shall comply with air quality requirements for air-supplied respirators – minimum Grade "D" air – Oxygen 19.5% to 23.5%, hydrocarbons (condensed) less than 5 mg/m³, CO less than 10 ppm, CO₂ less than 1,000 ppm, and lack of noticeable odor.

3.3.3 The abrasive blasting discharge device will be equipped with a "dead man" control that will require a positive action by the operator to allow abrasive to flow, and that will immediately stop the flow of the air and abrasive if the "dead man" control device is



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Environmental, Health and Safety (EHS) Department

The Mosaic Company
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Plymouth, MN 55441

released by the operator. An "on/off" type toggle switch, or "emergency stop" type panic button, that requires a positive movement by the operator to shut off the flow is not acceptable.

4. Procedure

4.1 For Saskatchewan sites, no sandblasting will be done to an article that can reasonably be put into an abrasive blasting enclosure. As well, no sandblasting shall be conducted inside any structure or confined space without obtaining written permission from the Director of the OI&O Division and complying with any conditions imposed by the director. Note that "sandblasting" is a form of abrasive blasting that uses sand as the media, so the use of any other media is not "sandblasting".

4.2 The worker shall fully inspect the machine and apparatus at the start of every shift, and as often as is necessary to ensure that the equipment is in proper working order. If a deficiency is discovered, the worker will repair it if he/she is qualified and able to do so, else, the worker shall immediately report the deficiency to the Supervisor, who shall immediately ensure the safety of all personnel. Various types of equipment provided may require inspection or change-out of filters, starting area ventilation, and other activities prior to commencing the abrasive blasting operation. The worker will document the daily pre-use inspections as per site specific forms and document retention practices.

4.3 The employer shall periodically evaluate the air quality delivered to the blasting hood, and the results of the latest evaluation shall be readily available to workers, inspectors or auditors.

5. Definitions or Explanatory notes

5.1 **Sandblasting** – abrasive blasting that uses sand as an abrasive

5.2 **Abrasive blasting** - means cleaning, smoothing, roughening or removing part of the surface of an object using a jet of sand, metal shot, grit or other material.

6. References and Related Documentation

Sask OH&S Regulations Part XXIV

OSHA 29 CFR 1910.134(i).



Appendix U

Material Loading and Unloading Program



Approved Date: Sep 08, 2020

Effective Date: Sep 15, 2020



Potash Business Unit Directive
Environmental, Health, Safety and Security (EHSS)

The Mosaic Company
3033 Campus Drive, Suite E490
Plymouth, MN 55441

Material Loading and Unloading Program

Location/Applicability: Potash Business Unit		Document Identifier:	
Document Owner: Director, EHSS, Potash Business Unit			
Effective Date:	September 2020	Review Due Date:	September 2023

- 1. Purpose / Objective:** It is the responsibility of Mosaic personnel to ensure the safety of our employees, contractors, and visitors. Mosaic personnel involved in the receiving, loading, and offloading of materials must control the environment where these activities occur to ensure that manpower, facilities, mobile equipment, and materials are handled in a manner that prevents injury and/or property damage.
- 2. Scope:** This program covers all loading and unloading of materials on Mosaic property, both surface and underground. This program does not specifically address loading and unloading related to earthmoving projects or the deposition of materials into a Tailings Management Areas (TMA). For these activities, or other activities where the contractor possesses site specific orientation, site specific or project specific policies and procedures are to be followed.
- 3. Responsibilities**
 - 3.1. Personnel delivering materials to Mosaic or receiving materials from Mosaic shall:
 - 3.1.1. Comply with the personal protective equipment (PPE) requirements for delivery / receiving personnel as defined in [Mosaic's Potash Business Unit PPE Program](#).
 - 3.1.2. Shut off the delivery or receiving vehicle and set the emergency brake. (Vehicle engine may be operated during unloading / unloading if it is needed to operate loading / offloading pumps, etc.)
 - 3.1.3. Use wheel chocks to secure the delivery / receiving vehicle if mechanical equipment is required to load or unload materials. If an engineered vehicle restraint system is available, this system shall be used. When an engineered vehicle restraint system is being used, the use of wheel chocks is at the site's discretion.
 - 3.1.4. Follow the direction of the Mosaic representative or Mosaic authorized contractor that is responsible for the loading / unloading process. This is to include participation in a pre-loading / pre-offloading inspection, led by the Mosaic representative.
 - 3.1.5. Not work at an elevation more than four feet above the ground surface without fall protection and associated fall protection training that meets or exceeds Mosaic's requirements while on Mosaic property, as defined in [Mosaic's Corporate Standard for Potentially Hazardous Work](#). This includes when working within 6 feet of the back end a box truck when the truck is not a dock.
 - 3.1.6. Present documentation sufficient to fully identify the materials being delivered and verify that the materials are being delivered to the correct location. At a



Approved Date: Sep 08, 2020

Effective Date: Sep 15, 2020



Potash Business Unit Procedure
Environmental, Health, Safety and Security (EHSS)

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- minimum, this consists of the Mosaic Purchase Order (PO) number and vendor shipping/invoice number.
- 3.1.7. Ensure that all materials requiring mechanical equipment to unload remain secured until the vehicle is parked at the final unloading location and a pre-offload inspection is completed by Mosaic's representative.
 - 3.1.8. Provide documentation of the load's weight if powered mobile equipment is required to remove the load from the delivery vehicle.
 - 3.1.9. Only perform work that they are trained and authorized to perform in accordance with site procedures. Note: Delivery personnel who have not received site orientation shall not perform physical work on Mosaic sites, however these personnel may perform tasks on their vehicle to prepare the load for delivery (e.g. Removing straps and setting wheel chocks, etc.).
- 3.2. Personnel receiving materials from Mosaic shall:
- 3.2.1. Ensure that the load is properly secured before moving the vehicle being used to transport the load.
 - 3.2.2. Not leave the site without documentation showing what has been received and that custody of the material has been properly transferred.
- 3.3. Mosaic's representative (employee or authorized contractor) shall:
- 3.3.1. Assume full responsibility for the loading and unloading process, including but not limited to:
 - 3.3.1.1. Instructing personnel delivering or receiving materials where to prepare for loading or offloading.
 - 3.3.1.2. Selecting an appropriate loading or offloading location and limiting access to this area as appropriate.
 - 3.3.1.3. Determining equipment and manpower needs for the loading or unloading process.
 - 3.3.1.4. Assessing hazards associated with the work. This may include preparation of a written hazard assessment in accordance with site procedure for any loading / unloading process that involve non-routine work or work that is not identified on a separate hazard assessment.
 - 3.3.1.5. Ensure that the truck driver and all other delivery personnel are in a safe location and accounted for throughout the loading or unloading process.
 - 3.3.2. Perform a pre-loading / pre-offloading inspection with the delivery or receiving personnel prior to the removal of any devices used to secure the load. This inspection shall include:
 - 3.3.2.1. Verification that PPE requirements are met, keeping in mind that specific special PPE in addition to standard PPE may be required.
 - 3.3.2.2. Verification that ground conditions are suitable for the work being performed.



Approved Date: Sep 08, 2020

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- 3.3.2.3. Evaluation of the general condition of the load, looking for visible damage and materials that may have shifted during transport and may become unstable when securing devices are removed.
- 3.3.2.4. Verification that the vehicle's emergency brake is set, and the vehicle is secured with wheel chocks or an engineered restraint system (if mechanical means are required to perform the loading or offloading).
- 3.3.2.5. Verification that the engine is turned off, unless the engine is being used to operate loading or offloading pumps.
- 3.3.2.6. Inspect all tools and external delivery equipment associated with delivery/receiving. Ensure all tools and equipment are appropriate for the job, and are free of defects.
- 3.3.2.7. Review delivery / receiving paperwork to ensure that any specific offloading or storage instructions that would require special handling are

4. Bulk Materials

Mosaic sites receive bulk shipments of hazardous materials by both rail tank car and tank truck. Mosaic's products are also shipped by both railcar and bulk truck. Site specific loading and unloading procedures must be followed to ensure human safety and prevent the release of hazardous substances to the environment.

4.1. Bulk Trucks and Railcars

The Mosaic representative shall ensure that:

- 4.1.1. Personnel abide by all responsibilities outlined in Section 3.
- 4.1.2. Applicable site specific bulk products offloading procedures are followed.
- 4.1.3. Smoking and hot work ceases within 100 feet when loading or unloading flammable materials. Barricading or additional attendants may be required to accomplish this.
- 4.1.4. Equipment used for flammable material transfer is properly grounded.
- 4.1.5. Fire protection equipment is available when working with flammable materials.
- 4.1.6. An attendant monitors couplings, transfer lines, and the receiving tank throughout the transfer process.
- 4.1.7. Drip pans are placed under pipe or hose connections.
- 4.1.8. Spill response and clean-up equipment is available.
- 4.1.9. The receiving tank has sufficient available volume to receive contents being transferred.
- 4.1.10. All valves are in the proper position and the receiving tank is set up properly for transfer.
- 4.1.11. Transfer is discontinued immediately if a leak or spill occurs.
- 4.1.12. Any leaks are cleaned up and reported in accordance with the site's spill reporting procedures.

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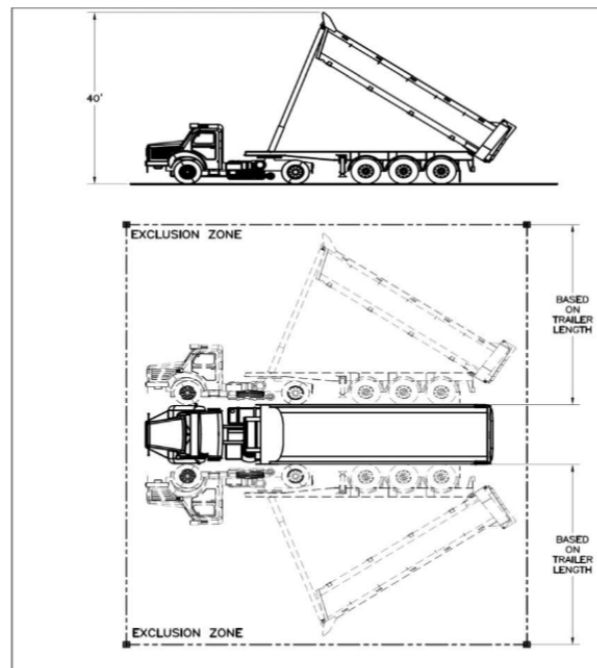
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4.2. End Dump Gravel Trucks

- 4.2.1. When dumping end dump gravel trailers 20' (6.1m) or longer, the Mosaic representative shall ensure that an exclusion zone is established on each side of the trailer to protect personnel in the event that the trailer tips over. The exclusion zone will be determined by the length of the trailer and is shown in Figure 1 below. (i.e. 20' trailer will require a 20' exclusion zone on each side of the trailer and a 30' trailer would require a 30' exclusion zone, etc.)

Figure 1



4.3. Flat Deck Trailers

The Mosaic representative shall ensure that:

- 4.3.1. A personnel exclusion zone is established and enforced during the loading and unloading process. No individuals shall enter the exclusion zone without proper authorization from the Mosaic representative while material is being loaded or unloaded from the trailer. An example of such an exclusion zone is shown in Figure 2 below.

The Mosaic Company
3033 Campus Drive, Suite E490
Plymouth, MN 55441

Rev 12



Approved Date: Sep 08, 2020

Effective Date: Sep 15, 2020



Potash Business Unit Procedure
Environmental, Health, Safety and Security (EHSS)

The Mosaic Company
3033 Campus Drive, Suite E490
Plymouth, MN 55441

5. Loading Docks

Some facilities are equipped with loading docks that allow a forklift to easily enter a box truck. The Mosaic representative shall ensure the following when a loading dock is used:

- 5.1. A dock board shall be used to bridge the gap between the bed of the trailer and the loading dock.
- 5.2. Only engineered dock boards with a load rating label shall be used.
- 5.3. The forklift and its load may not exceed the capacity of the dock board.
- 5.4. If the loading dock is equipped with an engineered restraint system that is compatible with the delivery vehicle, the delivery vehicle must be secured to the loading dock using the engineered restraint. If a restraint system is unavailable, wheel chocks must be used to secure the delivery vehicle prior to unloading with mechanical means.
- 5.5. Forklifts will not enter a trailer that does not have the truck properly attached to it.
- 5.6. Forklifts will only be permitted to enter box trailers. Forklifts or other mobile equipment will not be driven on a flatbed trailer (except in the cases where forklifts are being delivered or removed from sites).

6. References:

[Mosaic's Corporate Standard for Potentially Hazardous Work](#)
[Mosaic's Potash Business Unit PPE Program](#),
Site Specific Bulk Product loading and Unloading Procedures

Appendix V

Mosaic Environment, Health and Safety Policy



Mosaic Environment, Health and Safety Policy

The Mosaic Company is committed to conducting business activities in a manner which protects the environment and the health and safety of our employees, contractors, customers and communities. Our core values of integrity, excellence, sustainability, and connectivity define how we conduct our business, how we interact with each other, and how we treat our communities and our planet. We strive to help the world grow the food it needs in balance with preserving the ecosystems around us. Mosaic is committed to complying with applicable legal requirements and other commitments to which we subscribe.

Our implementation of this policy has the following goals -

Environmental Protection - All phases of the business will be managed in a manner which minimizes the impact of our operations on the environment. Pollution minimization and prevention practices will include substitution of environmentally friendly materials whenever feasible, and the employment of sound reuse and recycling practices and pollution control technology.

Health and Safety - In support of our relentless pursuit of an injury-free and healthy workplace, we will identify health and safety risks to our employees and contractors and take appropriate action to reduce or eliminate these risks.

To achieve these goals, we have established a detailed Management System –

Our Management System structures everything we do from an environmental, health and safety standpoint, and consists of critical elements that set clear expectations around how we operate our sites. We set targets and develop objectives to drive and measure our progress. We conduct periodic leadership reviews and self-assessments that ensure continual improvement of our Management System.



Joc O'Rourke
President and Chief Executive Officer



Ed Osborne
Vice President, Environmental, Health and Safety

General Manager/Facility Manager



Appendix W

Aerial Lift Platform Specifications



Aerial Lift Platform Specifications

December 15/2018

An Aerial Work Platform that is to be used on the Mosaic Belle Plaine site must meet the following requirements:

- Two (2) emergency stop switches
 - Ground level
 - Operator platform
- Motion interlock switch on the control joystick
(not applicable to boom lifts)

In addition to these requirements, all aerial work platforms must include one (1) of the following additional safety features:

1. Engineered Protective guard over the control joystick to prevent accidental operation by an outside source
2. Activation of the motion interlock switch on the control joystick only when in the neutral position
3. Additional switch or foot pedal requiring activation prior to movement of the Aerial Work Platform that does not affect any manufacturer's safeguards.

Appendix X

PSMP / PEMP



Contractor Project Safety Management Plan (PSMP)

The Project Manager is required to complete the shaded areas on the form and forward to Mosaic Capital Procurement for inclusion into the bid documents. To the best of the Project Manager's knowledge, all potential hazards associated with the project will be identified so that the Contractor has sufficient information so they may appropriately bid for the work.

Contractor must complete the remaining portions of the PSMP and attach to their bid documents. Failure to complete a PSMP could result in bid being disqualified.

Project Name/Description		Date	
Project Site and Area		Estimated Project Start Date	
Description of Work			
Mosaic Project Manager Contact		Mosaic Procurement Contact	
		Mosaic EHS Contact	
Contractor		ISN Rating	EPCM/EPC (Y/N)
Sub-Contractors and their jobs		ISN Rating	Mosaic Safety Targets
			Field Level Risk Assessment Quality >80%
			Cross Company Field Audits 2 per month
			Post Job Evaluations 1 per project
			Potentially Serious Incident Investigations 100%

Updated: 31-March-2022



Contractor Project Safety Management Plan (PSMP)

Project Risk Identification and Mitigation (Section 1)			
Hazard	Mosaic Comments	Contractor Hazard Control	HOC
Is this project in an area of the plant with unique or area-specific risks (Mosaic PM to relay hazards from risk registry to the contractor)			
Does this project involve a high-value / high-risk lift? i.e.: <ul style="list-style-type: none">• Use of a large crane (> 150 T) or crane requiring a pad• Blind lifting• Lifting using air-displacement, helicopters, jacking or other unconventional means• Lifting a high-value piece of equipment• Lifting over existing infrastructure and/or near sources of electricity			
If crane(s) are required, what is the model, size, make and year?			
Are excavations required? Is soil stability a concern for the project or for adjacent installations?			
Does this project require a laydown area, trailer office, parking, tool crib storage? Power, water?			
Does this job require work, walking or storage of materials on structure, buildings or roofs over 2 stories in height? (Roof permit may be required)			
Does this job require work around open water?			
Will this job require work overtop of other crews or critical process equipment?			
Work being conducted around moving conveyor belts or moving process equipment?			
Does this job require regular use and storage of flammable gases, accelerants, solvents, chemicals? Spill procedure available? SDS available and approved by Mosaic EHS?			
Will project include modification to any of the following: brine pond dikes or injection system, surface water drainage, containment systems, brine or contaminated water tanks, or air abatements systems (ex. scrubbers)			
Are waste disposal methods identified for recyclables, hazardous waste, and refuse?			
Does this project require the use of subcontractors? How will their Safety performance be managed/monitored by the Contractor?			
Will ground holes, floor openings, wall openings, or missing handrail be a risk? Hole Registry Program put in place? Permit for open holes, flooring installation, removal and creation of floor openings, wall openings, and structural penetrations required?			

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Contractor Project Safety Management Plan (PSMP)

How will the contractor mitigate the risk of as-found conditions? What verification activities (borescope, cold cutting, partial disassembly, etc.) will be completed prior to starting work? How will as-found be handled during the work?			
Will work be in close proximity of load out and rail operations?			
Does this project involve inherently risky work? <ul style="list-style-type: none">o Demolitiono Flame-applied roofingo Drilling / coring / directional boringo Atypical environmental conditions (excessive noise, heat, dust, humidity/rain, extreme cold)o Confined spaceso Live electrical worko Potential for live cable strikes (excavations, underground mine operations, etc.)o Hot tappingo Use of explosives (including powder actuated tools)o Use of breathing apparatuso Fall protection required (swing stage, rope access, climbing work platforms)o Use of engineered hoardingo Removal or installation of cladding at heighto Regular/extensive use of sledge hammerso Work affected by Mosaic's Life Critical procedureso Use of strong acids for pickling or passivationo Removal or disturbance of asbestos, Lead, PCB's or other toxic materialso Work that requires the worker's limbs or whole/partial body to be inside mechanical equipment (i.e. bucket elevators, large gearboxes, conveyor head boxes, compactors, centrifuges)			
Are contractors aware that workers performing high risk activities will require proof of any required training before starting work?			
Will contractors including subcontractors work alone or unsupervised for large portions of time?			
Will the work occur in hard-to-inspect locations (i.e. shafts, inside vessels, on roofs, at remote sites)? What additional controls will be put in place as a result?			
Will the project potentially affect local community? i.e.: open ditches, pipeline x-ray, work along roads & highways, equipment left in fields, etc.			
Does the work require people to be in close proximity to heavy equipment including railway equipment such as locomotives and car movers?			

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Contractor Project Safety Management Plan (PSMP)

Is the work prone to repetitive strain or ergonomic injuries due to vibration, body positioning, or work that is reliant on human strength? How the risk of these type of injuries be mitigated?			
Does this project involve work which may affect another company's property or infrastructure (i.e. utility right-of-way's, rail tracks)?			
Emergency Response Team or personnel required during project? Are rescue & extraction plans required?			
Will the Contractor require the use of Mosaic equipment? If so the Contractor will be required to conduct a mechanical inspection.			
Are Environmental Permits required?			
Will the project involve the installation or removal of radioactive devices?			
Does this project involve drilling or groundwork near wetlands?			
Work required in or near the shaft?			
Complex / large / engineered or scaffolding required?			
Are man lifts, baskets, or AWP required on project? Any special AWP accessories required (basket brattice, tool tethers, tool support arms, SkyGuard/LiftGuard crush protection, panel carrier or glazier kit, etc.)?			
Specialized tools or equipment required to complete work? (example: belting vulcanization, Metal on Metal contact)			
Contractor's aware of Mosaic's loading/unloading procedure?			
(Additional items not mentioned above)			

Contractor Safety Assessment (Section 2)

The Contractor is required to provide the following information as a part of their bid submission. This information will play a key part of contractor selection as Mosaic strives for an Incident and Injury free workplace. Bid submitted without Section 1 or 2 completed can be grounds for bid disqualification.

1. Management Leadership and Organizational Commitment		Comment
Is there a written EHS Policy for your organization?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach to bid document
Does your organization have an EHS Program? ISO or COR Certified?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach copy of "Table of Contents" <u>not your entire Safety Program</u>
Does the organization conduct EHS meetings for your workforce? Frequency?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is there a program for evaluating/monitoring subcontractors EHS performance?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach to bid document
Do you have a dedicated EHS Department?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach your EHS Organizational Chart
Will there be a Safety or Environmental Lead on this project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach individual's resume
Do supervision participate in safety meetings and EHS inspections with employees?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Has your company received EHS charges or contraventions in the past 3 years?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Indicate all charges and/or contraventions
2. Hazard Identification and Assessment		Comment
Do you have a hazard identification program? (JSA's, FLRA's)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach a completed example

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Contractor Project Safety Management Plan (PSMP)

Are your workers trained in hazard identification and assessment?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you plan to use a labor broker for this project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes... indicate name and percentage of workforce.
Has your company ever implemented "SafeStart"?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If Yes... the date implemented
Have all hazards been identified to the contractor?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Hazard Control		Comment
Fit for Duty and Alcohol and Drug Program met and/or exceed Mosaic's Program?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you have a method/system in place that ensures notification of the owner regarding chemicals you bring into the owner's work site including SDS?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you utilize appropriate spill kits and storage for chemicals projects? Does this include drip trays and spill kits for mobile equipment?		
Does your company implement a tool maintenance program?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach to program description
Does your company have a mobile equipment maintenance / inspection program?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does your company have a program to recognize, self-trigger, and reassess the work as conditions or sources of energy change? Example: 20-20-20	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach program
Does your company have a daily Fit for Duty assessment process to recognize fatigue, injury or other conditions prior to starting work which might negatively affect the worker's ability to safely perform their job?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach program
Does your company have a program to recognize, self-trigger, and prevent ergonomic and repetitive strain injuries? Does your company have a stretching program?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach program(s)
Does your company use an "Open Hole" registry for holes during construction?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is your company familiar with the Mosaic Task Risk Assessment Package (TRAP) process? List recent Mosaic TRAP jobs/experience.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4. Verifying EHS Compliance		Comment
Do you have a formal written inspection process that including subcontractors and the frequency of inspections?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is there a system for tracking action items from inspections and investigation? Explain	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is there a system in place whereby employees can report unsafe or unhealthy or substandard environmental conditions? Explain.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does contractor's supervision/management perform EHS inspections of the worksite?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Attach a completed inspection form
5. Qualifications, Orientation and Training		Comment
Do you utilize an online training certification database? (ex. ISNet TQ)		
Are your training documents up to date and available on site?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have you verified qualifications and competency of your employees? Explain.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you have qualified employees for excavations, fire watch, flag person, confined spaces, fall protection, etc.?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6. Emergency Response		Comment
Do you have a process to provide emergency medical/first aid?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you have an Emergency Response Procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Will you have trained employees for fall or confined spaces rescue if required?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you plan to use Mosaic's site Emergency Response Team?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

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Contractor Project Safety Management Plan (PSMP)

7. Incident Management		Comment
Does your organization have a process in place for prompt reporting and investigation of EHS incidents and near misses?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are there persons trained in conducting investigation techniques? (DNV, 5Y, etc)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does your company have a tracking system to ensure actions identified from investigations and inspections are completed in a timely manner?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Identify tracking system
Does your company have a case management and return to work program?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe the program
8. Document Control		Comment
Training records, permits, mobile equipment, safety meeting minutes completed	<input type="checkbox"/> Yes <input type="checkbox"/> No	
SafeStart Extra's immediately available upon request	<input type="checkbox"/> Yes <input type="checkbox"/> No	
SDS/Waste Management Program, Chemical Inventory immediately available upon request	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Emergency Response Plan for the project.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Received and reviewed the Mosaic Contractor and Vendor Safety Requirements.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Any applicable permits available upon request.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9. Communications		
Will you have Worker Rights Posted and OHC minutes posted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have a participant for any behaviour based safety programs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you have a program that shares incident learnings to the crews?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe the program
Additional comments or requests		
Mosaic Project Manager	Contractor Manager	Mosaic Safety
Signature / Date	Signature / Date	Signature / Date

****This list is not intended to replace daily safe work planning on projects in execution. It is intended to identify high risk tasks or activities early enough so that there is time to assess and seek additional support for solutions. A typical "High Risk" activity should be able to be planned properly without putting people in an emergency situation or unnecessary time constraints for making decisions.**



Project Environmental Management Plan (PEMP)

The Project Manager is required to complete this form in coordination with the site Mosaic Environmental Department and identify potential environmental requirements associated with the project. This will help identify any environmental requirements during the project planning, scoping and approval stages to minimize impact on schedule, cost, budget, and ensure safety and environment compliance.

Project Name/ Description		Estimated Project Start Date	
Project Site and Area		Date Developed by Project Manager	
Mosaic Project Manager	Mosaic Environmental Contact	Date Submitted for Environmental Approval	
Project Environmental Risk Identification and Mitigation			
	Environmental Risk	Is this applicable?	Comments
General	Is Environmental Assessment Branch Approval required through the Federal or Provincial Government?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there any environmental permits required for this project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will this project include modification to any of the following: <ul style="list-style-type: none">• Tailings Management Area – brine ponds, dykes, salt pile, excavations near or through dykes• Brine Injection Systems• Storage Tanks & Containment Systems• Air Abatement Systems• Surface Water Drainage or Ditch Systems• Potable Water or Wastewater Systems• Brine or Tailings Pumping Systems & Pipelines	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Have the required external stakeholders been identified?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Water	Will the project affect site water usage?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will this project affect the potable water system?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will the project have the potential to affect groundwater quality?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Any changes required to the groundwater and surface water monitoring programs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will changes be made to the existing surface water drainage patterns as a result of the project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	



Project Environmental Management Plan (PEMP)

	Environmental Risk	Is this applicable?	Comments
Air	Will a new emissions point be added? What type of emission and potential increase?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will this affect downstream or upstream emissions?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will air emissions monitoring and modeling be a part of the project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Materials / Chemicals	Will there be Industrial Hazardous Substances, Acute Hazardous Substances, Environmental Persistent or Chronic Hazardous Substances as defined in "The Hazardous Substances and Waste Dangerous Goods Regulations" required for the project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are contractors bringing materials/chemicals to site? Are they approved in Sitehawk?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will there be volumes that require specific storage and containment? (temporary and permanent)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will materials/chemicals remain onsite after the project is completed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there any materials being brought on site that cannot be stored near existing facilities due to compatibility risks? (Fuel tanks, ignition sources?)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has temporary and/or permanent secondary containments been considered?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will tanks or lines be purged or drained with a plan developed to minimize the potential of an unplanned spill or release?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will any project additions require the Approval to Operate Licence (Approval to Store Hazardous Substances and/or Dangerous Goods) to be updated and/or approved?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Have the "The Hazardous Substances and Waste Dangerous Goods Regulations" been reviewed for design requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	



Project Environmental Management Plan (PEMP)

	Environmental Risk	Is this applicable?	Comments
Waste	Will this project generate a new or add to existing waste stream?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will the project require the disposal of materials, liquids or gases deemed Hazardous (ammonia, asbestos, blast grits, heavy metals, lead, PCB's, etc.)? GFL to be used for all waste removed from site.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will the project require waste bins for general refuse, metals or hazardous waste? GFL to be used for all waste removed from site.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there materials being used that are identified as requiring special disposal (used oils, decommissioned tanks, brine, etc.)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Burrow Source	Geological suitability (e.g. will we expose an artesian aquifer and cause issues, will we dig into a sand lens which will then expose this to potential future contamination, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Geotechnical suitability (e.g. will the material be suitable for the dyke raise (may at times require a drilling program for suitability); will removing the material in this area cause an indirect impact to other infrastructure or instability (dykes/roads/ditches)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Land access & ownership (e.g. is the land owned by Mosaic? If not, would the current land owner like a dugout?)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Existing infrastructure in place that will be a hazard (buried lines and overhead lines – all of which are major H & S considerations and add cost to the project to mitigate)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Environmental scan & surveys: <ul style="list-style-type: none">• Vegetation• Wildlife• Heritage• Surface water and wetlands (e.g. if there are wetlands, compensation will be required and additional approvals, which come at a cost to the project & we also cannot alter surface land drainage without approvals and modeling)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Other miscellaneous hazards (traffic flow (e.g. will roads need to be installed to access, future land use, perception, historical land use (previous landfill, asbestos, etc.), additional permits (Utility Crossings, RMs, etc.))	<input type="checkbox"/> Yes <input type="checkbox"/> No	



Project Environmental Management Plan (PEMP)

	Environmental Risk	Is this applicable?	Comments
Other	Have existing environmental conditions been identified in the project area (e.g. potential soil contamination considerations, etc.)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the site Risk Register been reviewed for environmental risks associated with the project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will there be additional power, natural gas or fuel (gasoline, diesel or propane) be required for the project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there any anticipated community impacts (noise, dust, lights, odor, etc.)? Is external notification required?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there any additional items not mentioned above that could impact the cost, schedule, project design, safety or environmental compliance on the project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the project require any wildlife or habitat considerations (outdoor lighting, migration, nests, or wetlands)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Will the project require any geotechnical investigations or civil design drilling?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Mosaic Project Manager	Mosaic Environment Department
Signature/ Date	Signature/ Date

Appendix Y

Task Risk Assessment Program (TRAP)

Task Risk Assessment Program - Potash

Location/Applicability: Potash Business Unit		Document Identifier:
Document Owner: Director, Sustaining Capital		SME: Sr. Manager EHS – Capital Projects
Effective Date: October 30, 2019	Review Due Date: October 30, 2022	Originating Department: Potash Business Unit

Introduction

Purpose To establish a common approach and set of common requirements for a Task Risk Assessment Package (TRAP) that is recognized by the Capital/Expansion Group to ensure the health, safety, and welfare of everyone on our sites as well as the protection of the environment.

Scope This Program applies to all Mosaic Capital/Expansion projects executed in the Potash Business Unit.
Note: Task Risk Assessment Package (TRAP) is generic terminology used by the Capital/Expansion Group and is meant to include the various site specific formats that are already in use at our sites such as Construction Work Packages (CWP) or Daily Safe Work Permit. Sites do not need to change the title of their documents in order to be compliant with this Program.

Responsibilities The following table contains a listing of responsibilities for specific groups /jobs as required by this Program.

Group or Title	Responsibilities
Potash Capital/Expansion EHSS	Develop and communicate this Program to all Mosaic Capital/Expansion sites. Coordinate with each site in the Business Unit to ensure this Program is fully understood and adhered to.
Site/Project Management Team	Establish site specific requirements for completing and reviewing a TRAP and ensure all pertinent workers are trained on completing a TRAP.
Site EHSS Department	Ensure the overall communication of all TRAP criteria and expectations. Assess the Program as required. Provide subject matter expertise on safety rules, regulations and other EHSS requirements.
Supervisors/ Superintendents/ Contractors	Become knowledgeable of the contents of this Program document. Ensure that workers are properly trained on the criteria and expectations. Assess the quality of workers' compliance to all Program criteria. Provide additional training if TRAP quality does not meet requirements or expectations are otherwise not being met.



Workers	Consistently comply with the site's TRAP process while performing tasks on Mosaic property or under Mosaic's control. Periodically reassess the work tasks/area and update the relevant sections directly on the TRAP document every time a change is encountered that impacts the job.
---------	---

Requirements

Implementation of TRAP

All work on Capital and Expansion projects must be executed using either a **Task Risk Assessment Package (TRAP)**, a **Safe Operating Procedure (SOP)**, or in the case of small tasks, a **Field Level Risk Assessment (FLRA)/Safe Work Plan (SWP)**.

Work Changes:

- Minor changes or additions to work that occur during the shift shall be captured on the FLRA.
- Major changes or additions to work that occur during the shift would require a revised TRAP.
- The Supervisor is qualified to determine the magnitude of change.

The general contractor is to ensure that any sub-contractor performing work under their supervision also abides by this program. It is the responsibility of the general contractor to ensure documentation meets the requirements and obtain approvals prior to starting the work. However, it is expected that the sub-contractor should prepare the documentation for the general contractor. It is best practice for the General Contractor to notify the sub-contractor of these expectations prior to mobilization.

The intention of the TRAP process is to ensure all work tasks are performed safely. Other elements of the work, such as engineering, procurement, materials, schedule, cost, Quality Assurance/Quality Control (QA/QC), commissioning, and others are captured by other means.

TRAP Criteria

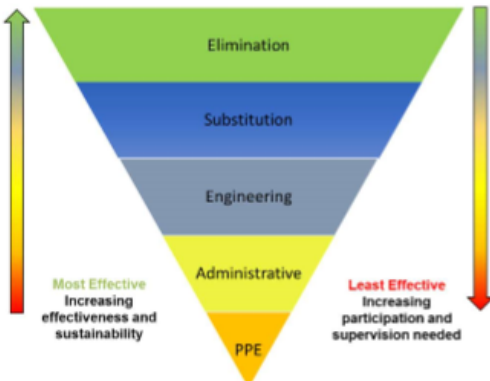
The following table contains the listing of TRAP minimum criteria. The TRAP minimum criteria is typically facilitated by using the Required Documents or TRAP Checklist. The checklist acts as a cover sheet over the required safety documentation.

Criteria	Expectation
Methodology Statement	The Contractor shall provide a step by step description of how the work will be performed including major



	<p>equipment to be used.</p> <p>Note: A methodology might range from a large multi-day activity with many steps, to a small job with only a few simple steps (Example: a scaffold modification). The methodology will determine the other documents required. (Example: if there is a confined space entry, a confined space entry permit and rescue plan are required.) Work steps written in the documentation are kept at a level, at which, a trained and competent worker knows the details involved. (Example, "install the pipe", a competent pipefitter would know the tools and precise steps to connect and install pipe. Example, "weld the plate", a welder knows the detailed steps of performing his trade.). If applicable, sketches or other reference documents may be included.</p>
Required Documents Checklist (TRAP Checklist)	<p>A checklist to help determine which plans and documents are required for the work. The user checks those items that are applicable. These documents could include but are not limited to:</p> <ul style="list-style-type: none"> • Critical lift plan • Working at heights plan – should include locations of anchor/connection points for fall arresting equipment with how it would be connected. • Confined space permit and entry plan • Rescue or egress plan • LOTO plan • Hot work permit • Barricading/exclusion zone plan • Ground control plan Underground (U/G) • Ventilation plan Underground (U/G) • Wall or floor penetrations permit • Ground disturbance plan (surface) <p>Note: The required documents checklist could be a Safe Work Permit or Daily Work Permit</p>
Job Hazard Analysis	<p>The Contractor shall develop a procedure which helps integrate accepted safety and health principles and practices into a particular task or job. The methodology statement should align with the Job Hazard Analysis (JHA) for ease of reference.</p> <p>Note: In a JHA, each basis step of the job is to identify potential hazards and to recommend the safest way to do the job. There are 3 basic steps in developing a JHA (1) break the job in to steps, (2) identify potential hazards, (3) determine preventative measures to mitigate these hazards. Prevention</p>



	<p>measures are (1) elimination, (2) contain or control, (3) revise the procedure (4) reduce the exposure. The Contractor should be familiar with the Cardinal Rules/Life Critical Procedures and be certain these are followed. The contractor should also consider the Hierarchy of Controls (HoC) when performing the analysis to ensure that the appropriate level of control is being considered.</p> 
Signatures/Approvals	<p>There will be a signatures area located in the documentation for approvals. All approvals shall be obtained prior to starting the work:</p> <ul style="list-style-type: none"> • The Contractor's management and safety departments approve the work first, review and sign. • Mosaic approves the work. At least two signatures are required, one for Operations/Construction representation and one for safety representation. • There must be time allowance for review and approvals. Typically 48 hrs is expected. Advanced work planning is required.

Pre-Release Documentation

Contractor must provide documentation upon completion of job prior to release back to Mosaic.

Alternative Processes

The following table contains alternative processes that may be used for executing work safely. If either of these processes are used a TRAP is not required.

Process	Expectation
Standard Operating	An SOP is a written, specific step-by-step description



<p>Procedure/Safe Operating Procedure (SOP)</p>	<p>of how to complete a job safely and efficiently from beginning to end. Performing the job in the safest manner has been integrated into the procedure.</p> <ul style="list-style-type: none"> • An SOP is used for jobs that are done frequently and routinely, following the same steps each time. • Often an SOP is developed when a TRAP/JHA is used repetitively. • An SOP identifies the applicable regulations, training required, permits, hazards and controls in place to perform the job in the safest manner. It also includes information regarding the execution details of the job, such as equipment, best practices, methodology, etc. • An SOP may also require other supporting documentation such as fall protection and rescue plans, permits, lift plans, etc. • An SOP is approved and signed off by applicable department managers. • Work shall be performed as per the SOP. In the event that deviations or exclusions from an SOP are required, change management must be considered using the TRAP/JHA format. • Some work may involve several SOP's. The FLRA of the worker should identify which SOP's are applicable during the shift. • Workers shall review and sign-off on SOP's prior to performing the SOP. Competency records are kept in the training matrix. SOP training is performed separately by the Contractor. • There is a master list of SOP's. The Safety Department is responsible to keep this list updated with the latest revisions and communicate the list to supervision. • SOP's need to be audited regularly. There are Focused Audit forms developed for auditing. There is an auditing schedule. <p>Note: If an SOP is available for the work to be performed a TRAP is not required</p>
<p>Field Level Risk Assessment (FLRA)/Safe Work Plan (SWP)</p>	<p>A Field Level Risk Assessment or Safe Work Plan is used on smaller jobs where the risk at the working face is identified.</p> <ul style="list-style-type: none"> • The worker would list on the FLRA which TRAP/JHA's or SOP's he will be performing



	<p>during the shift.</p> <ul style="list-style-type: none">• FLRA training is performed separately by the Contractor.
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**Training,
Competence, and
Awareness**

All contractors, Project Managers and Construction Leads shall be aware of this Program as well as any site procedures that pertain to their areas of work. Each Mosaic site shall develop and maintain training awareness procedures to ensure employees have the required knowledge of the TRAP Program. Details of the TRAP Program shall be communicated to contractors, Project Managers and Construction Leads through CPM training or the Contractor onboarding process

TRAP Updates

Capital EHS shall ensure that the TRAP Program document is reviewed and revised at least every two years in order to maintain relevancy.



TRAP (Task Risk Assessment Package) – Surface and Underground

PACKAGE STATUS - (for Mosaic use only)				Revision:	
<input type="checkbox"/> Proceed per comments <input type="checkbox"/> Proceed approved for use				Date Submitted:	
<input type="checkbox"/> Do not proceed – resubmit documents				Work Start Date:	
Mosaic Lead _____ Initial _____				Contractor / Contract No:	
Scope of Work:					
YES	NO	N/A	List of Documents	Comments	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Methodology Statement	• Description of work including methodology	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	JHA – Job Hazard Assessment	• General contractor to sign on sub-contractor JHA if applicable	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SOP – Safe Operating Procedures (if part of the scope of work)	• Refer to Permit to Work if applicable • Include SOP's in package	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Signatures and Approvals Form	• Contractor supervision/safety to sign package. • Mosaic management/safety to sign package.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Critical Lift Plan	• Refer to Cranes and Lifting Equipment	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Working at Heights Plan	• Refer to Working at Heights	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Confined Space Permit/Plan	• Refer to Confined Spaces	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rescue Plan(s)	• Describe rescue procedure	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lockout/Tagout Isolation	• Refer to Isolation from Hazardous Energy	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welding, Cutting and Hot Work	• Refer to Welding, Cutting and Hot Work	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Barricading / Exclusion Zone	• Refer to Barriers, Barricading and Flagging – include detail of use in JHA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Surface) ERT Risk Assessment Response Plan	• Submit form with this package if applicable • Shall be completed by site ERT Lead	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Surface) Wall/Floor Penetrations	• Refer to Flooring, Guardrails Installation and Removal • Open Hole/Wall Penetration Registry • Open Hole/Wall Penetration Permit	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(Surface) Ground Disturbance	• Refer to Trenching and Excavation	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(UG) Ground Control / Geology Plan	• If additional ground control is required. • Refer to Mosaic Ground Control Plan.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(UG) Ventilation Plan	• If additional ventilation is required.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(UG) Emergency Response Plan	• If additional emergency response is required.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(UG) Explosives	• If blasting or handling is required.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(UG) Mobile Equipment	• Provide list of equipment in methodology.	
All documentation is submitted and has been reviewed by contractor executing scope of work 48hrs. in advance . All documents comply with Mosaic SWPs (Safe Work Procedures) and all Site Policies.					
Contractor Representative					
Signature: _____		Print Name: _____		Date: _____	



TRAP (Task Risk Assessment Package) – Surface and Underground

Approval and Signature Form

CONTRACTOR REVIEWS:

SAFETY: ☐ Reviewed ☐ Needs more info

Name: _____ Date: _____ Signature: _____

SUPERINTENDENT: ☐ Reviewed ☐ Needs more info

Name: _____ Date: _____ Signature: _____

MOSAIC REVIEWS:

CONSTRUCTION LEAD: ☐ Reviewed ☐ Needs more info

Name: _____ Date: _____ Signature: _____

CONSTRUCTION MANAGER: ☐ Reviewed ☐ Needs more info

Name: _____ Date: _____ Signature: _____

SAFETY: ☐ Reviewed ☐ Needs more info

Name: _____ Date: _____ Signature: _____

ERT LEAD (if required): ☐ Reviewed ☐ Needs more info

Name: _____ Date: _____ Signature: _____

Appendix Z

Energy Recognition Program (SKETCH)

SKETCH

Energy Recognition Training



Stored Energy

Hidden form of energy that only becomes obvious when it's converted to another form of energy.

Think: Springs, high pressure pipelines, hydraulic systems.



Kinetic Energy

Energy of motion.

Think: Mobile equipment, running process equipment, falling objects.



Electric

Energy in electrical charges.

Think: Power, welding, grounding wires and cables, batteries, lightning strikes, motors and generators, breakers and switchgear.



Thermal and Radiant

Energy from heat or electromagnetic waves.

Think: Light, infrared and ultraviolet rays, nuclear radiation, sound, microwaves, and magnets.



Chemical

Energy from chemical reactions or exposure.

Think: Flammable or reactive liquids or vapours, exposure to toxic or carcinogenic materials, welding fumes.



Human

The energy you create.

Think: climbing a ladder, walking, slips & trips, skinned knuckles from pulling a wrench or swinging a sledge hammer.

**The Relentless Pursuit of an
Injury Free Workplace**





Appendix AA

Mosaic Incident Report



MOSAIC INCIDENT REPORTING FORM

BASIC DETAILS

Incident Number:	Client Incident Number:
Incident Date/Time:	Supervisor:
Reported Date/Time:	Project Description:
Reported By:	Project Number:
Contracting Firm:	Exact Location:

INCIDENT DESCRIPTION

Summary:
Incident Type: Select From List
Source/Hazard (for Property Damage): Select From List Source/Hazard (for First Aid): Select From List
Dangerous Occurrence: No
OHC Notified: No
Detailed Description:

CONSEQUENCES

Please enter a rating (0-5) for all consequences		
Category	Actual	Potential
Injury / Illness:	Not Selected	Not Selected
Environment:	Not Selected	Not Selected
Plant & equipment damage:	Not Selected	Not Selected

IMMEDIATE CORRECTIVE ACTIONS

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NOTIFICATION

People Immediately Notified:	People to be Notified:
	Mosaic Incident Notification List
Safety Specialist for the area:	Mosaic Supervisor (Who will review this notification):

Portion above to be submitted as first alert for all incidents.



INVESTIGATION DETAILS	
Investigator:	Start Date: End Date: mm/dd/yy
Investigation Team:	
Detailed description of investigation:	
Witnesses to incident:	
Supporting documentation location:	

INCIDENT INVOLVING INJURY OR ILLNESS	
Injured or ill person:	Employee Type: Select From List
Employer:	Injury Classification: Select From List
Did Injury result in Loss of Consciousness? No	Was the injured person at work on modified work duties? No
Number of Days Lost:	Number of Restricted Days:
Bodily location 1: Select From List	Nature of injury 1: Select From List
Bodily location 2: Select From List	Nature of injury 2: Select From List
Agency: Select From List	Mechanism: Select From List
Detailed Description of injury:	

INCIDENT INVOLVING ENVIRONMENT DAMAGE:	
Type Of Ecological Loss: Select From List	Initiating Event: Select From List
Habitat Description:	
Detailed Description:	
Contaminant Type: Select From List	Other Contaminant:
Volume Released: Unit: Select From List	Volume Contained: Unit: Select From List
Area Impacted: Unit: Select From List	Distance from Sensitive Area:
Sensitivity Type – Area: Select From List	Sensitivity Type – Other:
Species:	Number: Protected: Yes <input type="checkbox"/> No <input type="checkbox"/>

INCIDENT INVOLVING PLANT, EQUIPMENT OR VEHICLE DAMAGE:			
Equipment damage of loss classification: Select From List			
Equipment Description:			
Model	Year	Serial number	Owner



CAUSE ANALYSIS	
<i>Select the causes for this incident.</i>	
<i>Select general reason(s)</i>	<i>Select specific reason(s)</i>
Procedure? No	Select From List
<i>Comment:</i>	
Behavior? No	Select From List
<i>Comment:</i>	
Conditions? No	Select From List
<i>Comment:</i>	
Controls? No	Select From List
<i>Comment:</i>	
Equipment or Tools? Yes	Select From List
<i>Comment:</i>	
Housekeeping? Yes	Select From List
<i>Comment:</i>	
Maintenance? Yes	Select From List
<i>Comment:</i>	
Was Training Adequate? Yes	Select From List
<i>Comment:</i>	
Personal? Yes	Select From List
<i>Comment:</i>	
Risk? Yes	Select From List
<i>Comment:</i>	
Was hazard identification adequate? No	Select From List
<i>Comment:</i>	
Were there any other contributing factors? No	



CORRECTIVE ACTIONS				
No.	Category	Description	Issued To	Due Date
	Select From List			
	Select From List			
	Select From List			
	Select From List			
	Select From List			
	Select From List			
	Select From List			
	Select From List			
	Select From List			
	Select From List			

INVESTIGATOR'S ACKNOWLEDGMENT	
Investigation team members:	
Investigator comments and key learning's:	
Signature:	Date:

SafeStart REVIEW	
In your opinion what were the states of people involved prior to the incident?	
a. <input type="checkbox"/> Rushing	c. <input type="checkbox"/> Fatigue
b. <input type="checkbox"/> Frustration	d. <input type="checkbox"/> Complacency
What do you believe contributed to these states?	
What critical errors did you think contributed to the incident?	
a. <input type="checkbox"/> Eyes not on task	c. <input type="checkbox"/> Line of fire
b. <input type="checkbox"/> Mind not on task	d. <input type="checkbox"/> Balance/Traction/Grip
Can you provide further information on the errors?	
What critical error reduction techniques could have prevented these errors or avoid a similar incident from happening again?	
a. <input type="checkbox"/> Self triggering on the state or amount of hazardous energy so you don't make a critical error. b. <input type="checkbox"/> Analyzing close calls, and small errors to prevent agonizing over big ones. c. <input type="checkbox"/> Look at others for the patterns that increases the risk of injury d. <input type="checkbox"/> Working on improved habits e. <input type="checkbox"/> Other technique: _____	
Why do you feel these techniques could be effective?	



PICTURES

You may insert up to 4 photographs relevant to the incident. Include a caption in the text box below the frame. Please be sure to reduce file size prior to inserting them into the document.



SAFETY LEARNING LESSON	
Issued by:	Activity:
Location:	Incident Date:
	Learning Lesson Created Date:

LEARNING OPPORTUNITIES