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1. SCOPE

This guideline applies to CAWT employees performing work at the CAWT Minden research facility, including sample collection, sample analysis, wastewater collection, wastewater augmentation, as well as operation and maintenance of pumps, stirrers, heaters and timers.

This document should be used when any activity is being performed at the Minden research facility that may pose a risk of injury or illness due to injury or hazardous conditions.

2. PURPOSE

This document is established to outline the requirements for CAWT staff who will be working at the Minden facility either with a coworker or alone.

3. DEFINITIONS/ACRONYMS

CAWT: Centre for Advancement of Water and Wastewater Technologies

Working Alone: means the performance of any work function by a worker who:

- (a) is the only worker for that employer at that workplace at any time;
- (b) is not directly supervised by the employer, or another person designated as a supervisor by the employer, at any time.

Working in isolation: means working in circumstances where assistance is not readily available in the event of injury, ill health or emergency.


Cleaning: refers to the physical removal of germs (bacteria, viruses, etc.), dirt, dust and impurities from surfaces through scrubbing, washing, and rinsing.

Disinfecting: refers to using chemicals to kill or inactivate germs (bacteria & viruses) on hard, nonporous surfaces. Disinfecting a surface after cleaning can further lower the risk of spreading infection.

PPE: refers to personal protective equipment, is used as a temporary (until more effective hazard control techniques can be used) or last line of protection for workers against hazards. Non-medical masks are not included as PPE.

Hand washing: also known as hand hygiene, is the act of cleaning one's hands to remove soil, grease, microorganisms, or other unwanted substances.

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Hand sanitizing: refer to using an alcohol-based liquid, gel, or foam to decrease infectious agents on the hands.

dBA: a measure of sound level in decibels measured on the A-weighting network of a sound level meter. The measurement of sound on the A-weighting network is commonly used to characterize noise levels in loud environments

4. ROLES AND RESPONSIBILITIES

Following the requirement of the CAWT's Health and Safety Manual the CAWT Manager should:

- Ensure that staff are aware of and have been trained on the requirements for working at the Minden facility and the requirements as described in WI 105 Working Alone Guideline.
- Implement the written check-in procedure, as outlined in WI 105 Working Alone Guideline, by training worker(s), PRIOR to commencing work alone.

CAWT staff should:

- Take an active role in reading, understanding, and following the steps outline in this document.
- Follow PPE requirements as established in this document.
- Report any unsafe working conditions at the Minden facility to the CAWT Manager.

5. PROCEDURES


5.1 WORKING ALONE

If a CAWT employee is required to work alone in Minden the following steps must be completed before the work can begin (for specific details, please refer to *WI 105 Working Alone Guideline*):

- Approval must first be granted from the CAWT Manager;
- Written check in procedure is developed and understood.
- Following QP 532 Security and Access Procedure for CAWT and Minden Facility for the procedures to safe access to Minden Facility

5.2 TRANSPORTATION

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Travelling to and from Minden will require a college owned vehicle or rental vehicle. Using a personal vehicle for regular occurring trips to Minden is discouraged and will require prior approval by the CAWT Manager. If using a rental vehicle it must be approved by the CAWT Manager and the employee must follow the steps as described in the *How To Rent A Car* document as found on the Fleming College purchasing web page (<https://department.flemingcollege.ca/purchasing/travel/car-rentals/>). The following must be adhered to when travelling, regardless of vehicle type used:

- During COVID-19 pandemic, each employee must travel alone in a vehicle.
- If travel alone is not possible, prior approval must be given by the CAWT Manager. In this situation it is recommended travel is in a vehicle that is able to accommodate physical distancing of at least 2 meters from other passengers, non-medical face masks will need to be worn for the entire duration of travel.
- If these options are not possible, and employees travel together in the same vehicle where 2-meter physical distancing cannot be achieved, all occupants must use procedural face masks and eye protection for the duration of travel.
- Sanitation supplies should be easily accessible in the vehicle. Refer to *Employees Use of a College Vehicle* (<https://department.flemingcollege.ca/safety/>) and *Vehicle Cleaning Checklist* (<https://department.flemingcollege.ca/safety/sds-resources-covid-19-cleaning-products/> for daily sanitation of the vehicles).

5.3 PERSONAL PROTECTIVE EQUIPMENT (PPE)

When entering the Minden facility, CSA approved footwear, long pants and eye protection must be used at all times. This is considered the minimum required personal protective equipment (PPE) for entering the building. When the equalization tank stirrers are operating, ear protection must be worn at all times. Check the noise level using a certified noise monitor. If the level is above 85 dBA, using a hearing protection device (HPD) to reduce the noise level to below 85 dBA is mandatory according to the *Ontario Occupational Health & Safety Act (OHSA)*. A number of different tasks with wastewater will require specific PPE, Refer to QL 1001 CAWT PPE Guide for description of activities and the associated required PPE.

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In addition, for best practices for handling wastewater, refer to *WI 556 Wastewater Sludge Hauling, Pumping, Sampling and Biohazard Awareness*. This working instruction must be read, understood and followed by any CAWT employee working at the Minden facility.

5.4 COVID SPECIFIC PROCEDURES

Please refer to *WI 109 Guidelines for CAWT Facilities During the COVID-19 Pandemic* for the following COVID-19 specific procedures:

- hand hygiene practice
- physical distancing
- wastewater handling
- disinfection procedures

Due to space limitations it is recommended that occupancy of the Minden facility be kept at one person inside at a time. If two people are required (maximum limit), physical distancing and mask use practices as outlined in *WI 109 Guidelines for CAWT Facilities During the COVID-19 Pandemic* are to be followed. If physical distancing is not possible due to space limitations or the nature of the required work then masks must be worn.

6. SITE SPECIFIC PROCEDURES

6.1 VENTILATION

Ventilation in the facility is provided by an exhaust fan (pictured below in Image 1) that is located at the front entrance and a damper is located at the back of the building. The ventilation system should be activated upon entrance. To activate the ventilation system, the red toggle switch must be pressed upwards. The ventilation system is sized to remove odour and prevent any buildup of biogas in the facility. Before entering the system, a portable gas monitor must be used to check methane (CH₄) and hydrogen sulfide (H₂S) levels are not exceeding short term exposure limit (STEL).

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Image 1. Ventilation Fan.

6.2 STIRRERS/MECHANICAL MIXERS

The industrial sized mixers installed in each equalization tank are not connected to the PLC system, rather they are hardwired to a wall mounted timer (as pictured below in Image 2). To start the mixers, the timer can be set to either auto or manual mode. In auto mode a program is created that starts and stops the mixers based on the programmed time of day. In manual mode the mixers are either on or off, controlled directly by the user. In an emergency situation the mixers can be shut off in either mode by pressing the on/off button. To avoid mechanical injury or potential exposure to bio-hazards via splashing wastewater, the mixers should not be operated until the equalization tank lid(s) are on, secured and fitting properly. The mixers can also be stopped by turning off breakers 16 and 18 (labelled *Stirrer 1* & *Stirrer 2*) in the electrical panel, this should only be done if the timer is not working in an emergency shut off situation (shown below Image 3).




Image 2. Stirrer Timer



Image 3 Stirrer Breakers

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6.3 BURIED TANK AND SAMPLING PORTS

The septic collection tank and technology sampling ports are buried to a depth of 4 feet. At no point is a CAWT employee permitted to place their body or head into the access ports. Work may be performed but employees must remain above grade (ground level) at all times. All staff working on site must have completed confined spaces awareness training. If work must be performed inside of one of the access hatches, a plan must be developed with the CAWT Manager to work with someone who has the proper confined spaces entry training and certification.

7. CONTACT INFORMATION

Jennifer Andersen, Manager, CAWT,

Office: 705 324 9144 ext 3068

Mobile: 705-934-2779

8. REFERENCES AND ASSOCIATED DOCUMENTS

The Occupational Health and Safety Act (OHSA), Ontario Regulation 381/15: Noise

Fleming College Purchasing (2018) *How to Rent a Car*

Fleming College Health & Safety (2020) *Employee Use of a College Vehicle*

Fleming College Health & Safety (2020) Vehicle Cleaning Checklist

WI 105 Working Alone Guideline.


WI 556 Wastewater Sludge Hauling, Pumping, Sampling and Biohazard Awareness.

WI 109 Guidelines for CAWT Facilities During the COVID-19 Pandemic

QP 532 Security and Access Procedure for CAWT and Minden Facility

QL 1001 CAWT PPE Guide

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9. HISTORY OF REVISIONS

REVISION HISTORY				
Date	Revision	Description of Change	Author	Authorized By
Feb 09 2021	0.0	Initial release	HZ	JA

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