

Biosafety Program Development at The City of Calgary Water Utility



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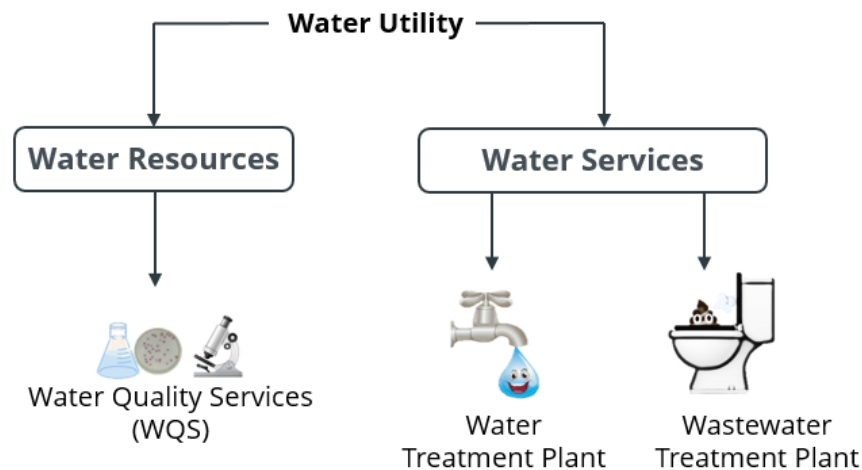
Water Quality Services
The City of Calgary

Canadian Biosafety Symposium 2019
September 17- 19, Toronto, Canada



Water Quality Services (WQS) Division

- Total 97 Staff
- Provides scientific, technical and regulatory expertise
- Four accredited laboratories
- Facilitate applied research and partnership



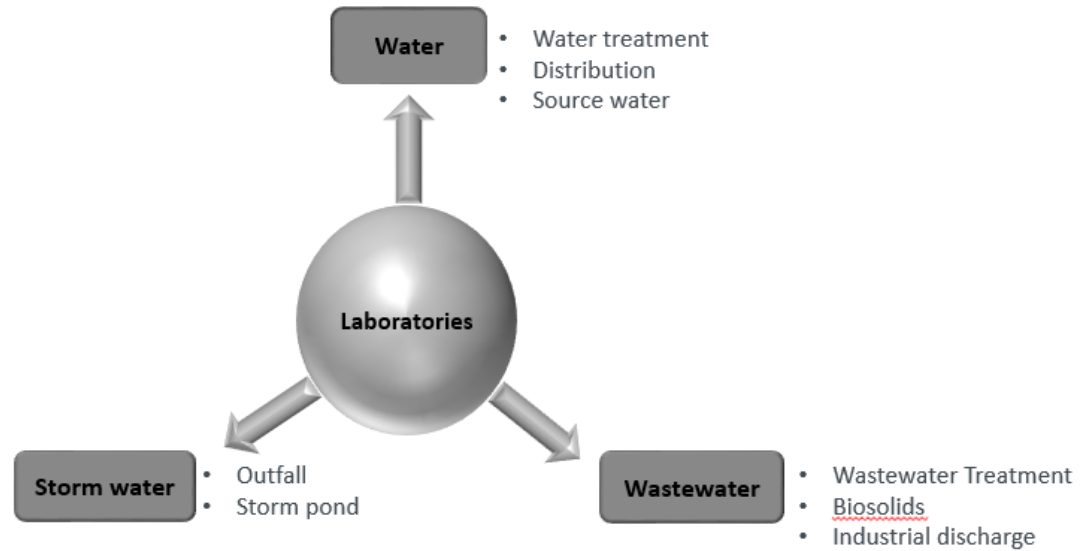


- Located on the sites of WTPs and WWTPs
- Daily operations – 8AM to 4:15PM
- Emergency – 24/7



Emergency Response

- Water main breaks
- Unauthorized release





Microbiology Labs



- Two Micro Labs
- Daily task - Coliform enumeration
- Quality control cultures
- Containment Level 2
- Storage is minimal
- Low risk





Biosafety Program Development

Q1 2016

Q2&Q3 2016

2016- Current

Ongoing

Audit

Risk Assessment

Implementation

Program Management

Consultation

ORA
LRA
Biosecurity RA
TNA

Facility
Document
Records
Training
RAs

Compliance Monitoring
Review



Key findings

Documentation &
Procedure Gaps



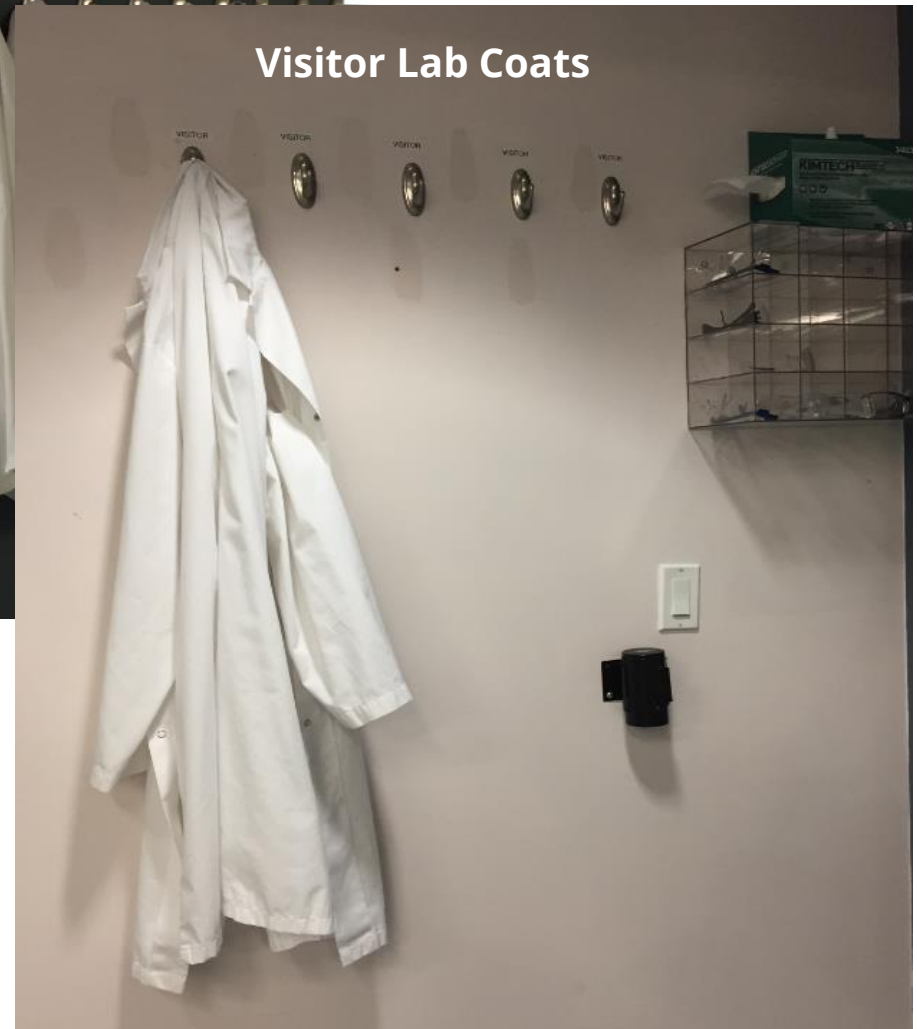
Microbiology Lab Facility Overview

- Security 👍
- Dedicated computer work stations 👍
- Located in combined laboratory space
- No physical separation by a door
- PPE storage space is limited
- Personal belongings stored in the lab
- No dedicated handwashing sink





Lab Coat Management





➤ Cubbies installed





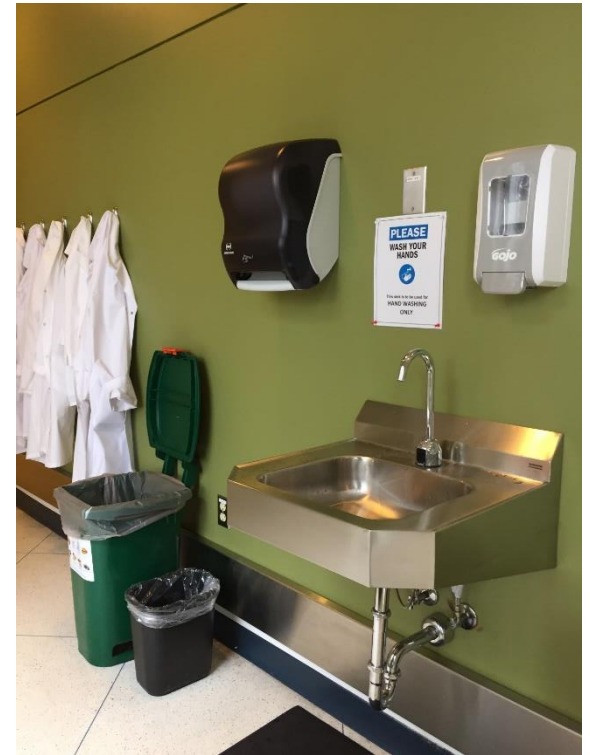
Personal Belonging Storage

- New lockers and coat rack





Dedicated Handwashing Sinks





Consideration for Program Development

- Canadian Biosafety Standard
 - Licensed by the PHAC
- Provincial OHS
- City's Water Utility Standard
- ISO Accreditation
 - 17025
 - 14001



QSOP-1003
Quality Manual



Biosafety Documents

➤ Overarching Risk Assessment

	QSOP-1015 Safety Manual		
	Creation Date: 20140218	Revision Date: 20180528	Revision #: 2.0.0
	Owner: Water Quality Services		Controlled Document

Q: Sa:

	QSOP-1017 Biosafety Program		
	Creation Date: 20161205	Revision Date: 20190122	Revision #: 2.0.0
	Owner: Microbiology & WA, Water Quality Services		Controlled Document

Rev QS

	QSOP-1018 Biosafety Manual		
	Creation Date: 20161215	Revision Date: 20190214	Revision #: 2.0.0
	Owner: Microbiology & WA, Water Quality Services		Controlled Document

➤ Bio

➤ Bioh

➤ Decc

➤ Bioh

➤ Other Ri

QS

	WI-1018 Biohazard Shipping and Receiving		
	Creation Date: 20171011	Revision Date: 20190724	Revision #: 1.2.0
	Owner: Microbiology & WA, Water Quality Services		Controlled Document

Bi

	Biohazard Shipment Form		Owner: Microbiology & WA Water Quality Services Controlled Document
	LAB-ISOF300		
	Revision Date: 20180612 Revision 1.1.0		

Rev

	Biohazard Agent Inventory		Microbiology & WA Water Quality Services Controlled Document
	LAB-ISOF287		
	Revision Date: 20190704 Revision #2.2.0		

If this document is a hard copy, it is uncontrolled and may not be the current version. Check the Forms and Report Templates file for the most current version.

Total Records 0

Agent: **Miscellaneous Cultures**

Risk Group: **2**

Location:

Equipment ID:

*** For cultures stored for more than 30 days only**

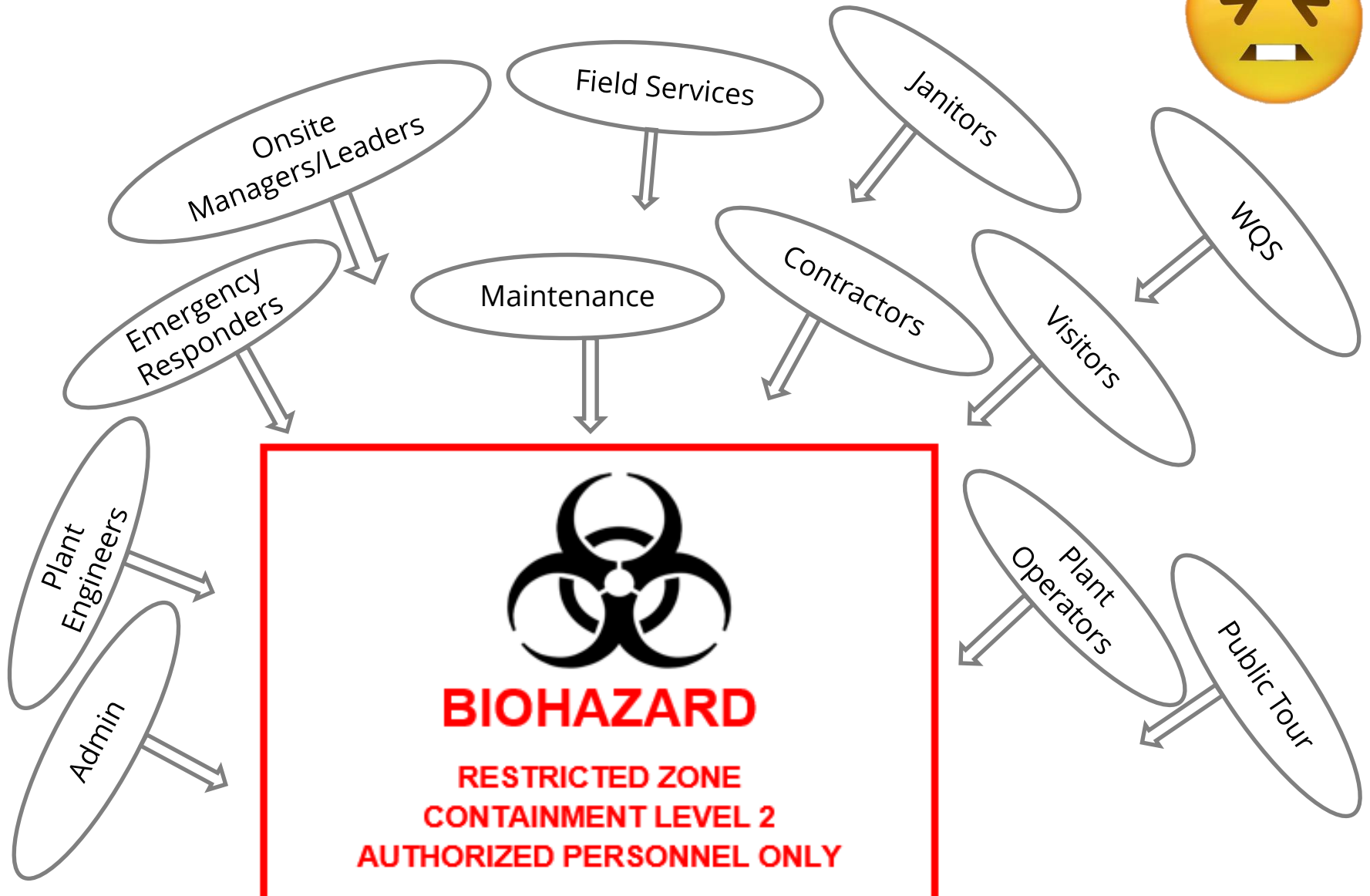


➤ Integrated Biosafety into Corporate Safety Data Management System

The screenshot shows the myCity website interface. At the top left is the Calgary logo and 'myCity' text. A search bar is located at the top right. Below the search bar is a navigation menu with items like 'Tools & Resources', 'myHR', 'Organization', 'News & Events', 'Dashboard', and 'Safety & Security'. The date 'September 5, 2019' is displayed on the right. The main content area features a breadcrumb trail: 'myCity home > Tools & Resources > Safety and Health > OHS Training > SDMS training'. The title is 'Safety Data Management System (SDMS)'. The text explains that in Fall 2015, the City of Calgary began capturing safety concerns using the SDMS. A 'Quick links' sidebar on the right contains three buttons: 'Report online', 'Follow up online (for leaders)', and 'Record activities online'. At the bottom of the main content area, there is a graphic with the text 'Reporting safety concerns online' and illustrations of people.



List of Authorized Personnel

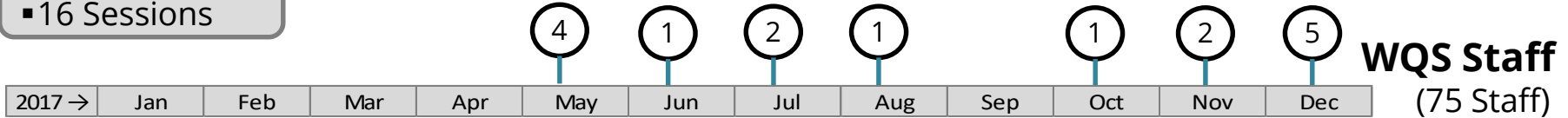




Biosafety Training

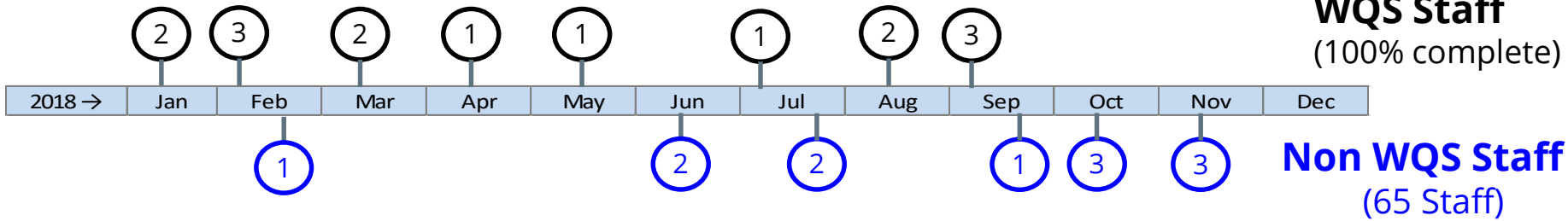
2017

▪ 16 Sessions



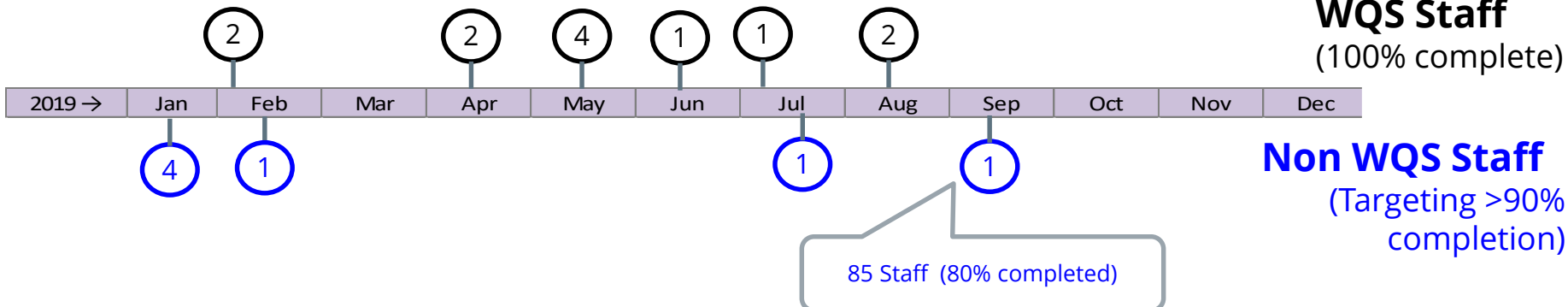
2018

▪ 27 Sessions



2019

▪ 19 Sessions





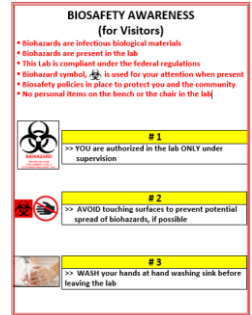
➤ Collaboration with L&ED

- Develop E-learning tools
- Training records electronically
- Manage list of authorized personnel



Additional Risk Mitigation

- Visitor orientation card – Biosafety awareness
- Risk assessment – Public tours
- Risk assessment - Laboratory assets
- Risk assessment – Decorations





➤ Monthly Biosafety Moment

- When you receive biohazard shipment.....
- Assisting with biohazard spill response.....
- Proper donning/doffing of PPE.....





Compliance Monitoring



- **Bi - annual Inspection**
 - Walk through Observation

- **Annual Internal Audit**
 - Document reviews
 - Lab visit
 - Verify records

- **Annual Program Review with Manager**
 - Current status update
 - Indicate challenges and success
 - Identify priorities





Safety Inspections

Findings	Status of corrective actions
Safety signage	Combined with new signage as part of Utility PPE requirements (no current timeline)
PPE storage (GM&BB)	😊
Micro recycle blue bin potential exposure to biohazard (GM)	😊
CL2 office chairs made of fabric material (GM)	New leather chairs for GM offices (currently unassigned)
QC cultures improperly stored in the fridge at the door side (BB)	😊
Biohazard warning sign missing on lab equipment (GM & BB)	😊
Biohazard warning sign placed in the wrong area on the fridge (GM)	😊



- Biosafety culture shift being well adapted
- Containment facility improvement
- SDMS Online Reporting
- Alignment with laboratory safety

➤ Biosafety Training

- Multiple sections for non-WQS staff
- Low attendance
- Time commitment
- Has not been completed yet

➤ Containment Facility

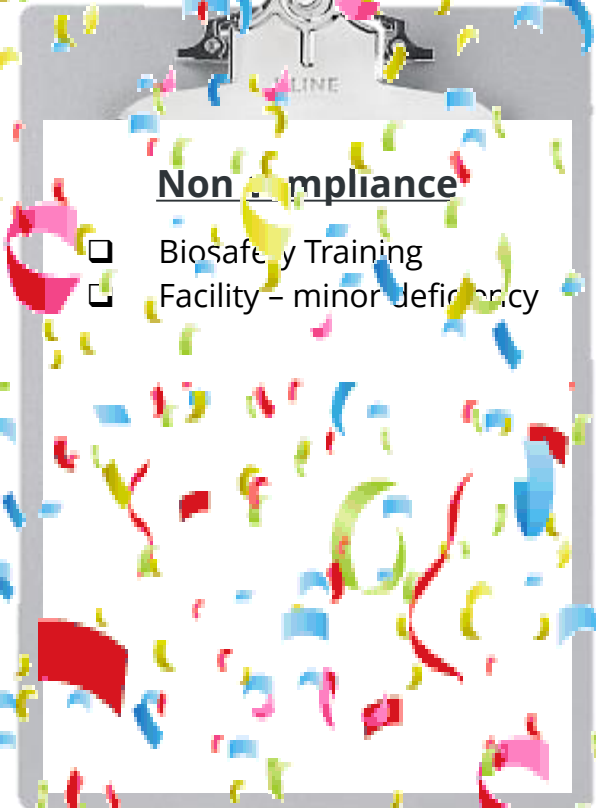
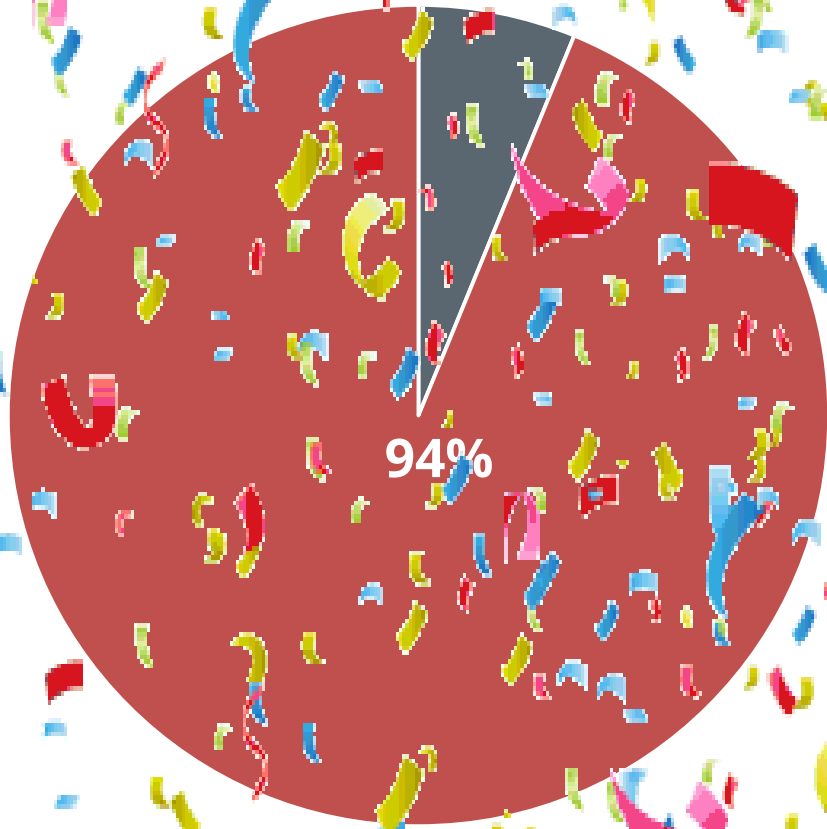
- Minor deficiencies





COMPLIANCE

Program compliance is determined by 137 items in PHAC CL2 checklist



Non-compliant

Compliant



*Thank
you*

