



# 2023-2024 ANNUAL REPORT



DEPARTMENT OF  
ENVIRONMENTAL SAFETY,  
SUSTAINABILITY & RISK



**DEPARTMENT OF ENVIRONMENTAL  
SAFETY, SUSTAINABILITY & RISK**  
**2023-2024 ANNUAL REPORT**

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## MESSAGE FROM THE EXECUTIVE DIRECTOR



Greetings from ESSR!

ESSR has been very busy this past year with many projects and initiatives. It has taken hard work and commitment from our ESSR staff, along with the cooperation of our campus partners. It is very encouraging to see the progress we are making in committing to a culture of safety and service in support of the University's strategic plan and the Division of Administration's Mission, Vision, and Values.

One of our largest projects involved the replacement of more than 2000 laboratory hazard warning signs with a new and improved version that has more information and provides a more efficient way to keep the signs up to date. The old signs have been removed and the new signs are now posted at laboratory entrances with the help of Facilities Management. We want to thank the research community for their participation and patience during this process.

Another big initiative is the AskESSR portal, a one-stop solution for streamlined support of the campus community. This system was developed in collaboration with the Division of Information Technology. The portal and additional information about AskESSR can be found at [essr.umd.edu](https://essr.umd.edu).

ESSR has also been involved in supporting many other initiatives including planning for the NextGen project, the development and implementation of an Enterprise Risk Management program, creating a landing page for entrepreneurship safety support, development of a comprehensive heat safety program and heat illness prevention training video, updates to our Sustainability Progress Hub, and many more new and improved programs. I hope you will visit our website to review topics such as hazardous waste minimization measures, the University's AED program, the Climate Action Plan, Camps and Youth Program procedures, and so much more.

We are looking forward to providing you with our new and improved programs and services in environmental safety, sustainability and risk management in the coming year. We hope to hear from you through the AskESSR portal with questions, comments, and suggestions.

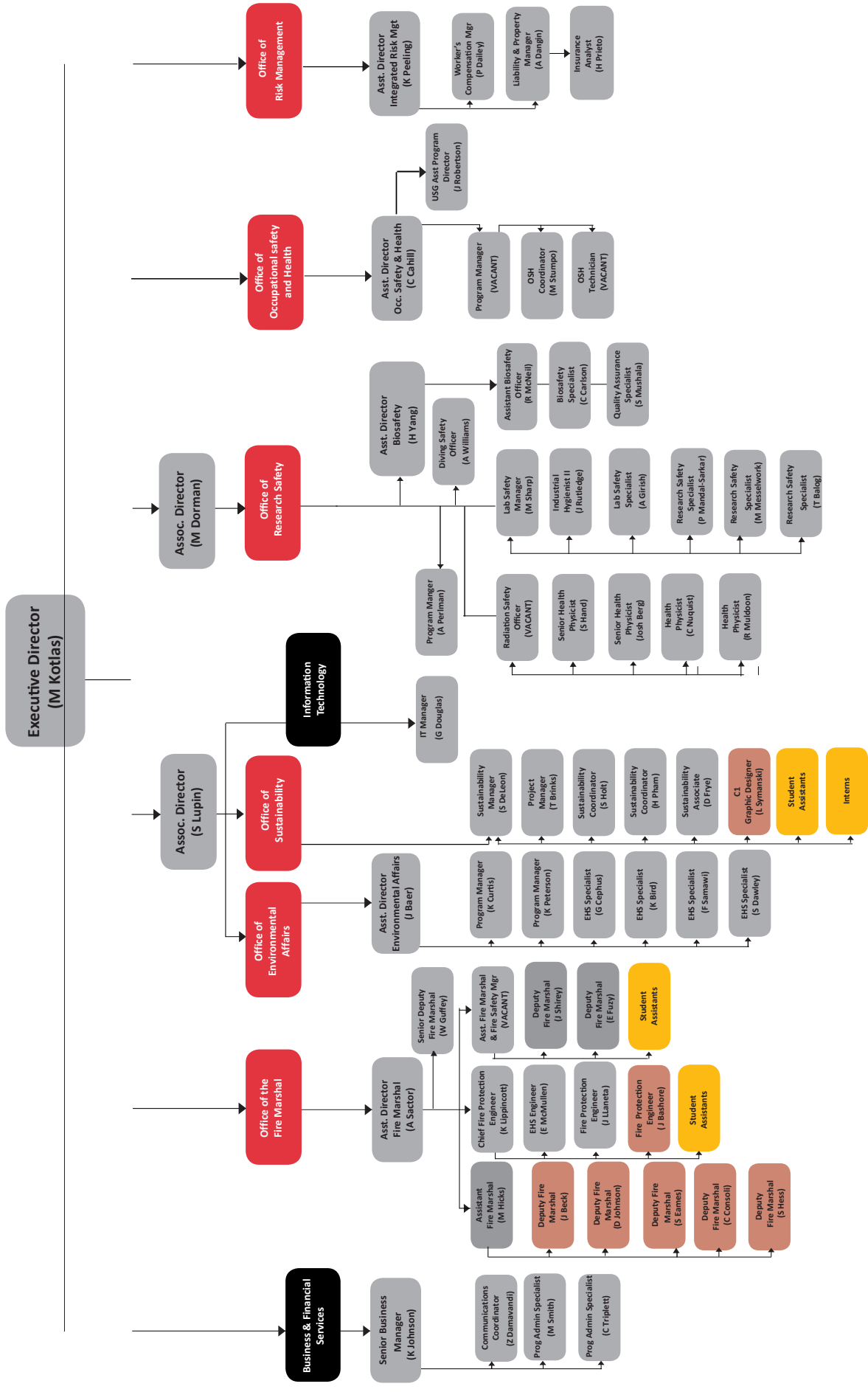
Sincerely,

A handwritten signature in black ink that reads "Maureen M. Kotlas". The signature is written in a cursive, flowing style.

Maureen Kotlas  
*Executive Director*



# DEPARTMENT OF ENVIRONMENTAL SAFETY, SUSTAINABILITY & RISK



Full Time

Part Time

Students



# DEPARTMENT OF ENVIRONMENTAL SAFETY, SUSTAINABILITY & RISK

## OUR VISION

Our vision is a campus where safety and sustainability are core values at every level of the institution.

## OUR MISSION

Our mission is to provide leadership in the identification and management of safety and environmental risks and to foster excellence in safety and sustainability through our technical expertise, our quality of work and our professional integrity.

## OUR VALUES

The Department of Environmental Safety, Sustainability & Risk (ESSR) holds these values as intrinsic to our mission –

### **Protect People and the Environment**

We put the highest priority in returning people home the same or better than they arrived. Through education, training and knowledge sharing we promote a culture of safety and sustainability.

### **Excellence**

We expect state-of-the-art competencies of ourselves and others in all areas of workplace safety, environmental management and sustainability. We deliver high quality programs and services to the campus community.

### **Leadership**

Our people at all levels, have ownership and take initiative in their areas of responsibility and demonstrate the safe, sustainable and environmentally friendly behaviors we expect of others.

### **Service**

We provide professional services to the University of Maryland community. We are a resource for those we support and we follow through on our commitments in a timely manner.

### **Diversity**

We acknowledge and honor the fundamental value and dignity of all individuals. We are committed to inclusiveness and actively seeking and encouraging discussion and participation from a diverse group with different perspectives and experiences.

### **Collaboration**

We are committed to building partnerships and working together to find the best solutions to collectively achieve our goals. We are open to new ideas and creative solutions. We seek to engage and motivate the campus community to accept ownership of the university's safety and sustainability culture.

**The Office of Environmental Affairs (OEA)** is comprised of a staff of seven and is engaged in three primary areas of focus - regulated waste management, multimedia environmental compliance assurance, and assisting with environmental aspects of various real estate initiatives and other property. OEA works with campus stakeholders to facilitate campus-wide compliance with federal and state environmental regulations including regulated waste management, air quality permits, fuel and oil storage tank management, stormwater and water quality permits, and environmental site assessment and remediation. OEA helps the campus community manage environmental risk by developing policies, procedures, training, and consulting with campus entities including faculty, staff and students in labs, offices, and maintenance shops. OEA conducts required regulatory inspections, testing, and reporting.

## Regulated Waste Management Programs

The regulated waste programs encompass the collection, management, and disposal of all hazardous, biohazardous, radioactive and universal waste generated at the College Park campus and UMD's satellite facilities, which includes the Institute for Bioscience and Biotechnology Research (IBBR) in Rockville, Maryland and the various farms and other remote research facilities located throughout the State. OEA staff regularly collect and manage over 100,000 pounds of regulated waste on an annual basis. OEA operates a fully permitted hazardous waste storage facility on campus, one of only 11 such facilities in the State of Maryland. The facility's operations are performed in a safe manner to ensure that all waste is managed safely, and practices meet all federal and state environmental regulations.

## Spill & Incident Response

Clean up and spill responses for most HAZMAT incidents are managed by the OEA unit. OEA staff are on call 24 hours a day, 365 days a year to respond to and mitigate environmental incidents on the campus.



Water main leak repair

## Stormwater / Pollution Prevention Compliance and Training

OEA is currently working on a study to develop site-specific discharge permit limits for the campus for copper that are protective of the environment. The study is a multi-year effort and involves aquatic toxicology monitoring in the various waterbodies that surround the campus. OEA currently manages multiple stormwater permits and pollution prevention programs for the University.

- Industrial Discharge Permit, which specifically regulates campus discharges from outfalls to surrounding streams (Permit #08-DP-2618).
- Six (6) General Discharge Permits for Stormwater Associated with Industrial Activities (Permit #20-SW-3281, 20-SW-3854, 20-SW-3855, 20-SW-3856, 20-SW-3857, and 20-SW-3858), which permit the discharge of stormwater from certain facilities that are targeted as high potential sources for stormwater pollution.
- NPDES Municipal Separate Storm Sewer System (MS4) Phase II General Permit (Permit #13-SF-5501), which covers the general discharge of stormwater



Storm-water sampling

run-off from land, pavement, building rooftops and construction sites on campus.

- General Permit for Discharges Associated with Pesticide Application (Permit #17-PE-0195), which streamlines the use of herbicides and pesticides at the College Park campus and all satellite UMD facilities.
- Spill Prevention Control and Countermeasure (SPCC) Plans to prevent and mitigate oil spills on campus, IBBR / USG campus, as well as the 6 farms operated by the University.
- Two Oil Operations Permits for the College Park campus and operations at the Severn Building.

## Air Quality Permitting and Reporting

UMD is required under federal and state regulations to hold a Title V Air Quality Permit, with this requirement being primarily driven by the University's Combined Heat and Power (CHP) facility. OEA collaborates with other departments on campus to ensure that various management tasks associated with the Title V Air Quality Permit are completed and submitted in a timely manner, including testing fuel-burning equipment, permitting new fuel-burning equipment and reporting air emissions from the campus, including "greenhouse gas" emissions from these regulated units. OEA also continued to provide support to the IBBR campus with their state-issued air Permit to Operate, ultimately helping them convert from Synthetic Minor status to a more basic Air Quality Permit to Construct. OEA continues to provide technical support to the University as we plan and implement the NextGen project, which seeks to refurbish the University's heat and power facility.

## Campus Development Initiatives

During FY24, OEA continued to provide support to the University as we acquired new property, developed existing properties, divested property, and engaged in new relationships with non-University entities. In addition to conducting environmental site assessments related to property acquisition/divestment transactions, OEA provided technical assistance to multiple partnerships with non-University entities, including the Purple Line Project, several start-up ventures, and projects related to land acquisition, divestment, and beneficial redevelopment.

## OFFICE OF ENVIRONMENTAL AFFAIRS FY24 BY THE NUMBERS

Regulated Waste Management Programs	
Regulated Waste Pickup Requests	8,038 requests
Hazardous Chemical Waste (solid & liquid)	66,941 pounds
Biohazardous Waste (solid)	19,420 pounds
Radioactive Waste (solid & liquid)	454 pounds
Universal Waste (e.g., batteries & bulbs)	26,753 pounds
Scrap Metal Recycling	1,780 pounds
Used Oil	1,925 pounds
Used Antifreeze	484 pounds
Old Latex Paint	25 pounds
Oil Contaminated Soil	5,556 tons (11,112,000 pounds)
Waste Diverted as Municipal Solid Waste	1,316 pounds
Regulated Waste Training Provided	5,181 faculty, staff, students
Laboratory Cleanouts	6 cleanouts
Unknown/Unidentified Wastes Tested	259 items
Spill & Incident Response	
Oil Spills	7 incidents
Hazardous Waste/Spills On-Call Incident Response	10 incidents
Sewage Overflow	0 incident
Stormwater / Pollution Prevention Compliance and Training	
Stormwater Permits Managed and Implemented	9 permits
Outfall Sampling and Inspection	52 outfalls
Pollution Prevention Training Provided	82 faculty, staff, students
Illicit Discharge Investigations	7 investigations
SPCC Plan Inspections Completed	146 inspections
Pollution Prevention Training Provided	388 faculty, staff, students
Spill Prevention and Control Compliance and Training	
Spill Prevention Control Plan (SPCC)	414 regulated assets
SPCC Plan Inspections Completed	596
Spill Prevention and Control Training Provided	61 faculty, staff, students
Air Quality Permitting and Reporting	
Title V Air Quality Permit Renewal	Issued in FY23 (revision underway)
Air Permits to Construct	2 permits prepared
Air Quality Training Provided	10 staff

**The Office of the Fire Marshal (OFM)** works to preserve and protect life and property from fire, explosion, and natural hazards. This is accomplished through enforcement of the State Fire Prevention Code, fire protection engineering, training, public education, fire investigation, emergency response and preparedness. OFM is the Authority Having Jurisdiction (AHJ) for the University of Maryland. Fire Marshals are delegated legal authority by the Maryland State Fire Marshal.

## Building Construction Plan Review and Inspection Process Flow Chart

New buildings and renovation projects are extensive endeavors for the University. The design process goes through multiple phases with input from future building occupants, architects, and campus representatives. During each phase, the building plans are reviewed by different entities to ensure that the project is meeting expectations as well as conforming to various codes and University standards. OFM is responsible for ensuring every project is designed and completed in conformance to the State of Maryland Fire Prevention Code (COMAR 29.06.01).

To provide guidance on how OFM fits into the design and construction process, a flow chart was developed. The Comprehensive ESSR Plan Review & Inspection Process flow chart describes the plan review process and how various ESSR units are brought into the review process, as necessary. Additionally, after construction is started, the flow chart describes how OFM completes various inspections during construction to ensure that the internal components, such as sprinkler piping and fire barriers, are installed in accordance with the code. The OFM goal of simplifying this process into a flow chart is to better educate the campus project managers and other representatives, contractors, and the public on the efforts that are taken to ensure safety standards and ultimately approve buildings for occupancy.

## Senior Deputy Fire Marshal William Guffey



Senior Deputy Fire Marshal William "Bill" Guffey joined the Department of Environmental Safety (DES), renamed ESSR, in November 2003. Bill joined DES Office of the Fire Marshal after retiring as a Lieutenant within D.C. Fire and EMS and immediately began applying his skills and knowledge. Over the past 21 years, Bill has become a staple in the

research community as he has completed annual fire inspections of laboratories. Bill has enjoyed working with his colleagues and is considered a trusted resource for researchers. According to Fire Marshal Alan Sactor, "Bill is always willing to take on any task or assignment. His abilities are broad – from fire inspections to fire investigations. Bill also has a masterful knowledge of the Codes." Bill's fire safety work does not just stop here on campus but across the whole nation as he is a member of the National Fire Protection Association (NFPA) 45 [Standard on Fire Protection for Laboratories Using Chemicals] and 80 [Fire Doors and other Open Protectives] committees and the International Fire Code (IFC) subcommittee on fire safety in higher education laboratories. When the time comes for Bill to retire from his second career, he plans to travel internationally, enjoy time with his wife, children, grandchildren, and grand-dog, and continue working part-time as a life safety code inspector for healthcare facilities.

## Chemistry Wing 1 Design for the Future

A challenging issue on our campus is finding adequately sized research space that meets code requirements to accommodate the various types of research planned by principal investigators (PIs). As move-in ready research space for chemical use is limited, the need to retrofit and renovate spaces to meet current code for the planned use has been increasing year over year. Renovation



Chemistry Wing 1 Laboratory Construction





OFM Fire FP Engineers at Chemistry Wing 1

costs continue to rise due to the utility upgrades and extensive work required to modify these spaces.

The proposed solution is to design new buildings that are easily adaptable for future use. This is easier said than done. Designing a building to be able to adapt to any research while maintaining the ability for the University to work towards a less energy dependent campus is difficult. However, completed in Spring 2023, the new Chemistry Wing 1 is a research building that has been designed and built with the future in mind.

The first major design feature is the fire code classification for the laboratories and the fire rated separation on each floor. Every research laboratory in the new wing has been designed to a Class C Unit per NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals. The primary advantage to this is that the laboratories will not be limited on various chemical quantities due to the fire protection design. The second major feature is that the laboratories are designed with single pass ventilation with multiple fume hoods and sprinklered gas cabinets. This will enable many types of research to be performed as fire protection and exhaust features are readily available. Another major feature is that the new wing has a new fire alarm system with a control unit that will support future upgrades to the remaining four wings at a reduced cost.

As the University continues to grow, planning for the future remains essential. Designing flexible, adaptable spaces and buildings should be a priority in all future construction projects.

## A Lithium-Ion Battery Problem

Over the past few years, lithium-ion batteries have frequently been the cause of fires in both residential and commercial buildings around the country. On our campus, two micromobility devices with lithium-ion batteries experienced fires inside campus buildings within a short period of time. A third fire occurred when a rental scooter burned on McKeldin Mall. Our community is fortunate that there were no injuries and only minor damage from these fortunately timed “near miss” incidents as the fires are intense, create projectiles, and are difficult to extinguish. These cases highlight the reason why the Office of the Vice President for Administration, DOTS, and OFM along with Resident Life and Residential Facilities have been working together to ensure that micromobility devices are not brought into campus buildings and that safe alternatives for storing and charging these devices are developed.

To review some national campus statistics provided by the Center for Campus Fire Safety (CCFS), 93% of lithium-ion battery devices (includes e-Scooters, e-Bike, Skateboards, Drones, etc.) on college campuses caught fire inside campus buildings. Of the devices that have been reported, 56% caught fire while the devices were charging. In the case on our campus, the resident of a high-rise residence hall noticed smoke coming from the scooter and tried to take the device outside instead of leaving it, pulling the fire alarm and immediately evacuating. The building fire alarm was activated by smoke while the resident was moving the scooter. The explosive fire started just after the resident exited the elevator into the lobby.



Scooter fire in LaPlata Hall

# RESEARCH SAFETY

**The Office of Research Safety (ORS)** brings together the expertise of professionals in Biosafety, Laboratory Safety, Radiation Safety, Laser Safety, and Scientific Diving Safety to support the research community in adhering to the University's Expectations for Conducting Safe Research. At UMD, safety is a core value. University leadership expects all members of the research community to integrate safety into every aspect of their work, striving for excellence and exceeding basic compliance requirements. Whether it's collecting samples in remote locations or handling hazardous materials in campus labs, research often involves diverse health and safety risks that must be effectively identified and managed. ORS plays a critical role by offering a wide range of services, including comprehensive safety training, risk assessments, exposure monitoring, and guidance on implementing safety controls to minimize risks. In addition, ORS manages many of the University's federal and state licenses and registrations for hazardous materials, ensuring regulatory compliance as the research community pursues its goals. Through this partnership, ORS helps safeguard both research activities and the individuals conducting them.

## Enhancing Safety and Emergency Preparedness

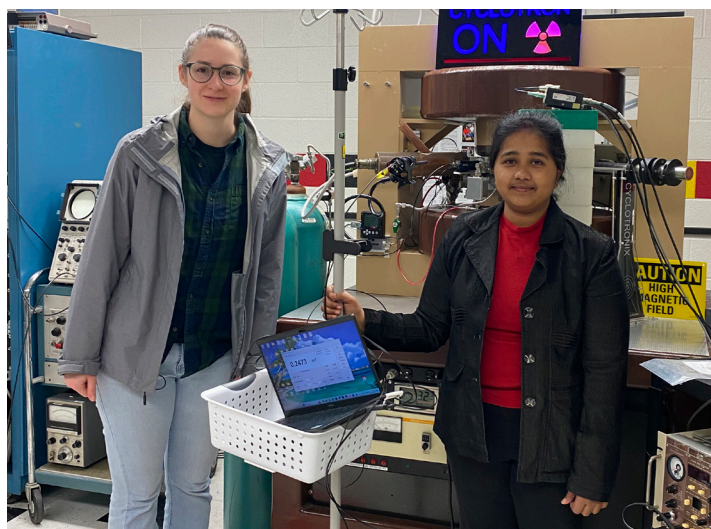


Marc Vogts, UMD Sign Shop, and Ananya Girish, ORS

This year ORS successfully completed the new laboratory hazard warning signage project across College Park, IBBR, USG, and UMD farm locations, led by Laboratory Safety Specialist Ananya Girish. The signs seamlessly integrate with SciShield to provide real-time laboratory information, significantly improving safety and emergency preparedness. Over 2,000 custom sign holders were expertly crafted and installed by Marc Vogts and his team in the UMD Sign Shop. Fully compliant with National Fire Protection Association (NFPA) and Code of Maryland (COMAR) standards, these signs ensure that Facility Management (FM), emergency responders, and visitors are well-informed of potential hazards prior to entry.

## Evaluating and Controlling Magnetic Field Hazards

Led by ORS's Dr. Pampa Mandal Sarkar, ORS focused efforts to evaluate static magnetic fields in research laboratories across campus. This initiative, involved



Ariana Bussio, certified Cyclotron operator in the Koeth Laboratory and Dr. Pampa Mandal Sarkar, ORS

conducting comprehensive surveys to identify field strengths and control the 5 Gauss line, ensuring the safety of workers, visitors, and people with implanted medical devices. By mapping and clearly marking areas with elevated magnetic field levels, ORS is taking proactive steps to reduce potential risks. This project underscores our ongoing commitment to safeguarding the campus community and maintaining a secure research environment.

## Partnering with FM to Create a Real Safety Win-Win!

Properly operating emergency showers in laboratories are crucial for quickly mitigating exposure to hazardous chemicals in the event of accidents. Across our campus, FM maintain over 1,000 emergency safety showers. This year ORS and FM combined resources to improve the safety, sustainability, and efficiency of the ANSI required safety shower maintenance process by introducing a new tool – the Green Gobbler®. The new process

reduces shower testing time from 8 to 4 minutes and improves ergonomics, reducing strain of manual testing for FM teams when they must ensure proper flow rates for showers up to 84 inches.

By modernizing our approach

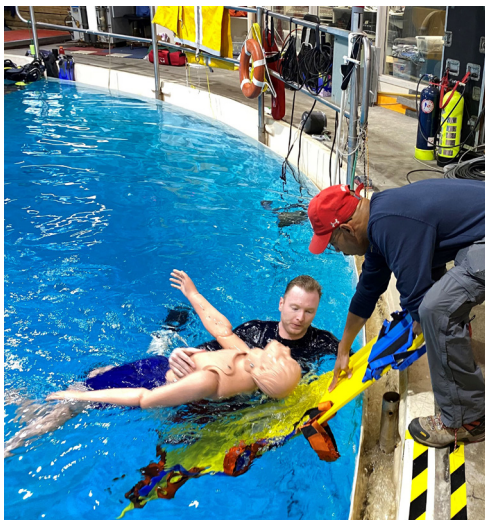
to emergency shower testing, ORS and FM have significantly advanced campus safety and operational effectiveness, reflecting a commitment to continuous improvement and sustainability. This collaboration marks a pivotal step towards advancing the Division of Administration's vision of transforming service delivery through innovation.



Theo Balog, ORS, and William Marsters, FM Operations and Maintenance

## Supporting Scientific Diving

The Diving Safety Office had a standout year, achieving major milestones alongside the continued growth of UMD's Scientific Diving Program. Key accomplishments include Emergency Response coordination, Scientific Diver Deck Chief training, First Scientific Diver Certification course of instruction, and a New Dive Locker. The coordination completed with the University of Maryland Police (UMPD) and College Park Fire Department ensures aligned procedures for responding to diving incidents. These efforts have strengthened safety protocols and prepared UMD's Scientific Diving Program for the current academic year and beyond.



Deck Chief Candidate within the Neutral Buoyancy Research Facility Akin Laboratory and A.K. Williams, DSO, discuss diver extrication methods for an injured diver, using a rescue manikin



Professor Biswas, AGNR, and Dr. Hong Yang, ORS

## Commissioning the First Modular Containment Enclosure at UMD

Professor Biswas and Biosafety Officer Dr. Hong Yang proudly stand next to UMD's first-ever Modular Containment Enclosure, newly installed in the Animal Sciences Building. This state-of-the-art enclosure supports Professor Biswas's cutting-edge research with chickens and has been approved by both the Institutional Biosafety Committee (IBC) and the Institutional Animal Care and Use Committee (IACUC). Designed with inward airflow, HEPA-filtered exhaust, and an anteroom, it serves as the primary containment for the ABSL-2 facility. This achievement highlights a remarkable collaboration among UMD stakeholders, including the Biosafety Office, the Office of the Fire Marshal in ESSR, and the Department of Animal and Avian Sciences, united in their commitment to advancing research safety and innovation.

## Continuous Improvement and Emergency Preparedness

ORS Radiation Safety hosted a comprehensive drill at the Maryland University Training Reactor (MUTR), simulating a suspicious package scenario and a small spill. The drill demonstrated a swift response by UMPD, MUTR, and ORS, ensuring preparedness for handling complex radiation-related incidents, and reinforced the safety procedures that protect the campus community.



UMPD Officer Dykstra inspects package during drill

# OCCUPATIONAL SAFETY AND HEALTH

The Office of Occupational Safety and Health (OSH) is dedicated to the UMD community and their well-being through training, outreach, education, and assistance. Our efforts serve to enable faculty, staff and students to reduce illness injury by identifying hazards, evaluating corrective measures, and implementing controls associated with their activities. OSH collaborates with university departments including Facilities Management, University Health Center, University of Maryland Police, Residence Life and academic departments to develop effective programs that advance the UMD safety culture.

## Safety and Health Training Presented in Multiple Languages

Safety and Health trainings translated into participants' native language provides a more effective method for any organization's needs. With the Spanish and Portuguese Departments, OSH developed safety education materials using language and vocabulary that the employees could understand. Attendant feedback from these training sessions indicated success in achieving the goal of providing understandable training materials.

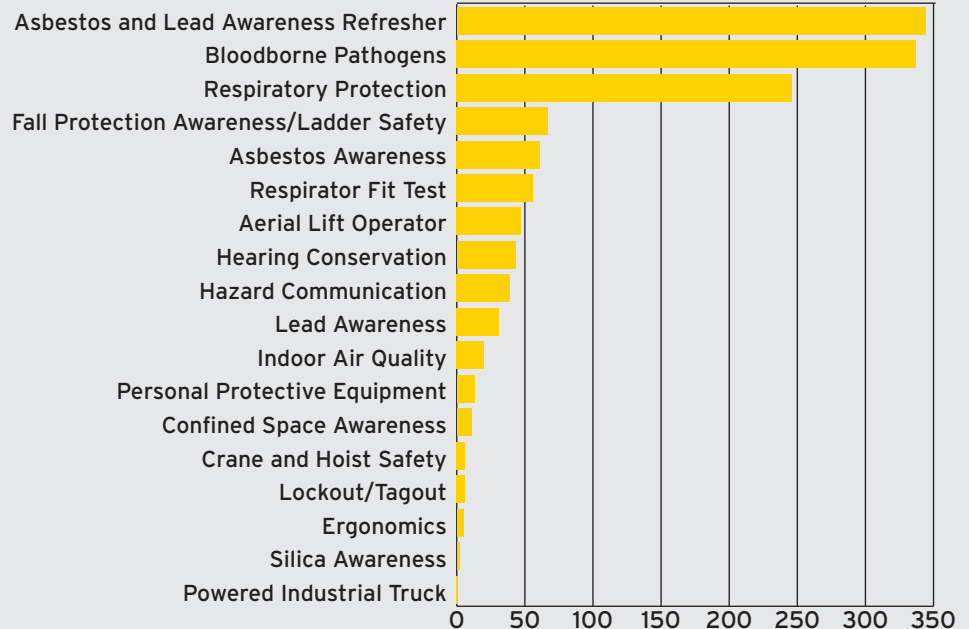
Associated with this effort was OSH's development of the UMD Heat Safety Program, which was developed to address the Occupational Safety and Health Administration (OSHA) and Maryland Occupational Safety and Health (MOSH) actions toward protection of workers at risk during increasingly hot summers. As part of the UMD Heat Safety Program, a video was developed that can be translated into other languages and be seen by any employee at any UMD location.

Videos for other safety topics will be similarly developed and included in the Workday platform. This effort



Engaging the Dining Services Maintenance staff during a Forklift Safety training session

## Training Completed in FY24



optimizes safety training at all UMD owned facilities. The UMD community will be able to access these videos at any time, ask any questions via our askESSR portal, and have rapid answers.

To provide the university community with the knowledge and skills to perform their work in a safe manner for them and their colleagues, OSH improved our safety courses and greatly increased the number of individuals trained. One thousand three hundred and thirty-five (1335) faculty, staff and students attended updated training sessions in FY24.

## Outreach Initiatives and Program Development

During FY24, OSH visited the College of Agriculture and Natural Resources Research and Education Centers to assess hazards and evolve safety controls to address those hazards. As a result of those visits, OSH identified new engineering controls including stopping mechanisms that protect against serious injuries while operating table saws that are routinely used at these locations.



Outreach efforts at the Wye Research & Education Center focused on assessing and controlling hazards.

These visits and communications resulted in additional collaborative efforts resulting in substantial risk reduction, including respiratory protection and fall protection.

Additional outreach included safety audits performed as part of an integrated ESSR team at the UAS Research and Operations Center and the University System of Maryland at Southern Maryland. These visits resulted in additional collaboration toward a continuous improvement in safety.

## Investigation, Evaluation, and Control of High-Hazard Activities

OSH investigates safety hazards on campus and identifies engineering controls to reduce the risks of these operations. In FY24, over \$214,000.00 was used to fund the following projects:

- Installing interlocking warning lighting throughout campus to protect personnel of adjacent spaces or non-lab service personnel who may need to enter the labs.
- **Fall Protection Improvements** at Beltsville and Campus farms as well as the Vet Med Building.
- Ventilation Improvements including animal transfer stations and biosafety cabinets at the Animal Sciences Building.
- **Emergency Egress Improvements and Building Security** upgrades by installing fire rated doors, door holders, and relay and control modules at the Animal Sciences/Agricultural Building, Biology-Psychology Building, Plant Sciences Building and Engineering Lab.
- **Newly Identified High Priority Projects** including an automated lift and protective canopy at the Environmental Service Facility.

As part of its ongoing efforts over the past year, ESSR has continued to collaborate with Facilities Management

(FM) Project Managers and the Facilities Advisory Council (FAC)/Facilities Council (FC) in order to continually improve the project identification and estimation process, reduce the timeline for bids, and streamline the construction process.

## Safety Initiatives at the Universities at Shady Grove

The University of Shady Grove (USG) hosts educational programs from nine University System of Maryland institutions. ESSR provides on-site support of these programs, maintains ties, and where program instruction involves hazards on campus serves as a liaison between USG and the associated institutional EHS departments. The various requirements of OSH, fire safety, laboratory safety, biological safety, radiation safety, and committee registrations are supported at USG by ESSR representation.

Some key safety initiatives for FY24:

- Supporting expansion of the use of the Biomedical Science and Engineering Building laboratories with new instructional programs. In addition to expansion of existing programs, two new programs are scheduled to come from College Park.
- Developing safety strategies to support further expansion of USG operated resources for students such as the new fabrication shop. This includes the development of hazardous analysis documentation for operation of each piece of equipment which clearly specifies the control mechanisms for preventing injury during operation.
- Disseminating the SciShield Safety Management Platform to serve campus for OSH and laboratory safety support matters.
- Serving as an EHS resource for facility related aspects of operating the USG campus including development of a new facilities master plan, building and grounds renovation, audit support, and OSH related matters for campus staff.
- Communicating safety in campus operations and laboratories through outreach and development of guidance materials for the EHS website.

In conjunction with various ESSR service groups, OSH supports the EHS unit at USG. Areas of support include OSH related risk minimization efforts and safety training, laboratory, biological, and radiation safety, hazardous and universal waste management, and environmental compliance.

# SUSTAINABILITY

**The Office of Sustainability (OS)** supports and advances environmental performance, economic prosperity and social equality through a variety of initiatives. The staff facilitate the development and implementation of sustainable policies, practices and curricula for the campus community. OS also supports the administration of the University Sustainability Council and the University Sustainability Fund, coordinates sustainability-related outreach and education, conducts campus sustainability measurement and reporting, and manages campus sustainability websites and other communications.

## Sustainability Fund Updates

OS is responsible for the administration of the Sustainability Fund and the coordination between the Sustainability Fund Review Committee (SFRC), Sustainability Council, and project leads. Over 296 projects have received more than \$4.3 million in Sustainability Fund Grants since 2011. Based on predicted undergraduate student enrollment and a successful increase to the sustainability fee, the fund is expected to reach over \$800K in revenue for FY25. Students, faculty, and staff are all welcome to apply to receive funding for projects that benefit campus sustainability. In the 2023-2024 academic year, the Sustainability Fund awarded grants to 13 projects totaling \$605,220.59. Some of the projects approved this fiscal year included summer internships for the UMD Arboretum and Botanical Garden, research on agrovoltaics, and a bike and scooter parking expansion plan.



Helen Craig, graduate student with the Dept. of Entomology, poses with insect display boxes as part of a Sustainability Fund project.



Community Learning Garden volunteers and staff harvest produce for donation to the UMD Campus Pantry.

## New Staff and Faculty Engagement Programs

The 2023-2024 academic year was an exciting year for staff and faculty engagement. In October 2023, OS launched two major engagement initiatives: the Sustainability Badge and Green Workspace. The Sustainability Badge is a new individual-level opportunity for staff and faculty to adopt sustainability-minded actions into their personal and professional lives and receive recognition for their efforts.



UMD staff poses with her earned Sustainability Badge.

The Green Workspace Program, which replaced the sunsetted Green Office program, is a holistic program that aims to equip staff and faculty with the knowledge, skills, and resources to be sustainable at UMD and beyond. As of May 2024, 144 staff and faculty earned their Sustainability Badge and 15 teams earned their Green Workspace certification. OS will continue building off the success of these piloted programs in the upcoming academic year to reach even more staff and faculty.



OS staff award Jason Baer and Reuven Goren with Leadership Awards for their Green Workspace excellence.

## Climate Action Plan 3.0

UMD will soon publish the third comprehensive update to its plan to reach net zero carbon emissions. The Office of Sustainability has built good relationships with all strategy implementation leaders and coordinated development and Sustainability Council approval of the newest version of UMD's Climate Action Plan (CAP 3.0). With 37 pathway strategies to implement in its next phase of climate action, UMD continues to lead in the difficult puzzle of how to decarbonize and engage relevant audiences at a Research 1 Doctoral University. Pathways in the plan address campus power, heating & cooling, refrigerants, agriculture, fleet vehicles, land use management, solid waste, air travel, commuting, purchasing, and education & research.

Sustainability staff are prepared to begin offsetting all estimated operational greenhouse gas emissions that UMD has not yet been able to eliminate starting in January 2025 in support of the university's target to be carbon neutral from 2025 forward (for more information see section on *Carbon Neutrality Support* below). By 2035, UMD will transition away from fossil fuels in its central energy system and fully electrify its light-duty and shuttle bus vehicle fleets. The new web portal for CAP 3.0 will also feature digital resources to support people interested in climate change resilience, climate-related justice, emotions around climate change, and climate change research.



Students chat with alumni who served as panelists during a spring Sustainability Career Panel event in March 2023.

during and after college. In the 2023-2024 academic year, OS reached more than 3,000 students, and 200 staff and faculty, at its on-campus events. Some key events included a Sustainability Career Panel, EarthFest 2024, the Campus Sustainability Month Celebration, and a green building tour of Thurgood Marshall Hall. To learn more, please read the [2023-2024 Outreach Metrics Report](#).

## Campus Engagement and Key Events

OS has long-standing outreach and engagement programs that enhance the UMD experience. From Green Workspace to the SustainableUMD Outreach Ambassador team, these programs help develop students' sustainability literacy; connect students to key campus resources; provide meaningful leadership development opportunities; and motivate students to incorporate sustainability behaviors into their lifestyle, both



SustainableUMD Ambassador and Outreach & Events intern table at the 2023 Campus Sustainability Month Celebration.

# RISK MANAGEMENT

The Office of Risk Management (ORM) supports the academic and operational departments in their efforts to manage risk using a number of methods that are complementary to the Maryland State Self Insurance Program and commercial insurance. The department regularly provides consultation with respect to hazard identification, loss control techniques, risk transfer and the application of commercial insurance.

## Origami Software Enhances Workers' Compensation Efficiency

ORM Workers' Compensation, was selected by the Injured Workers' Insurance Fund (IWIF) to be the first agency in the State for implementing a newly built software system. Origami is a software platform for managing claims, workflows, and other processes related to workers' compensation and insurance.

ORM collaborated with the IWIF team assigned to the Origami implementation and kicked off the project with a training meeting that included our UMD workers' compensation claim partners to report injuries in the Origami system. The UMD claim partners are from our five highest claim-generation units. Throughout the implementation period, ORM continued having weekly meetings to discuss processes, ideals, and experiences using the system.

The integration of Origami in managing the claim process has been excellent. Benefits include quicker responsiveness to customers' needs and requests, time-saving access to adjuster notes and bill payments and obtaining quicker claim status. Origami has many different features, including reporting capabilities. The functionality in generating OSHA 300 and 300A reports streamlines processes, enhances efficiency. This dual capability saves time and helps ensure compliance with safety regulations, making it a valuable tool in any workplace setting.

## Youth Programs Consultations

The University provides many opportunities for young people from the local community and beyond include internships, mentorships, research projects, summer enrichment experiences, research experiences, service-learning hours, and other programs. The University has a responsibility to ensure the safety of minors who are under the age of 18 and who are not in the company of their parents or guardians while involved in these programs.

This year, ORM provided consultations to the Departments of Geology, Agriculture & Natural Resources, Chemistry & Biochemistry, Entomology, Geography, and Classics to help them manage their programs involving unaccompanied minors. ORM provided these departments with guidance on the use of parental/guardian consent forms, best practices for supervising minors and child abuse mandatory reporting materials, as well as giving behavioral and supervision standards when conducting virtual programs for minors.

Youth programs offerings are continuing to grow at our campus with increased community engagement efforts and ORM is prepared to provide more consultations in the coming year.

**FIGURE 1: 2023 Total Injuries by Month**

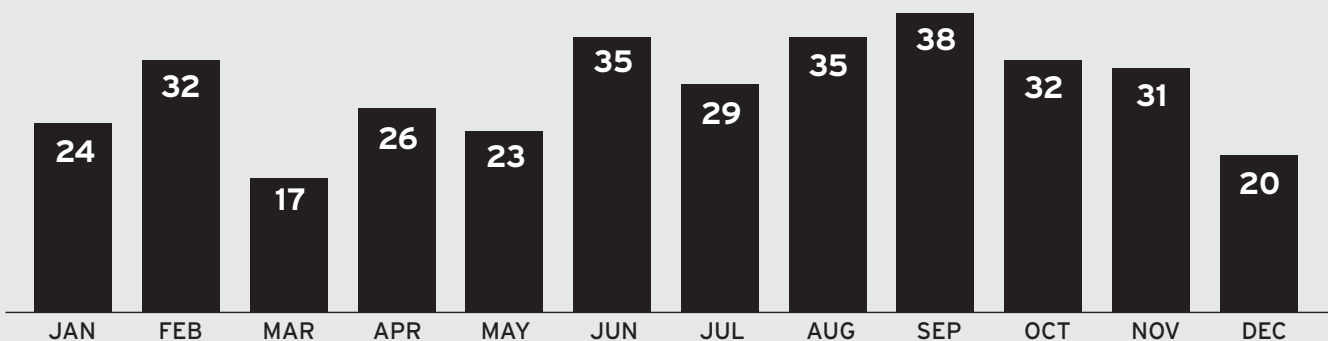


Fig. 1 shows the monthly report of work injuries. The month of March had the fewest work injuries, with seventeen. Thirty-eight were reported in the month of September, the most injuries reported in 2023. March is a part of the UMD Spring Semester and includes spring break for students and employees. Reduced activities on campus can result in fewer work injuries. The Fall Semester and the start of a new school year reflect higher UMD work injuries as noted in the Figure 1 chart.



**FIGURE 2: Total Work Injuries Five-Year Comparison**

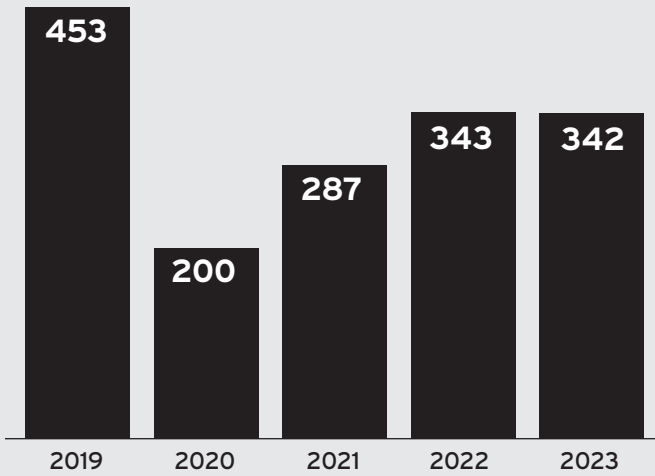


Figure 2 is a five-year comparison of the total number of work injuries reported from 2019 to 2023.

Work injuries dropped during the COVID-19 years of 2020 and 2021 due to teleworking.

Although the injuries increased in 2022 and 2023 to a more normal level, they remained 24.4% lower than the 453 work injuries reported in 2019.

**Figure 3: UMD OSHA Recordable Injuries and Illnesses Five-Year Comparison**

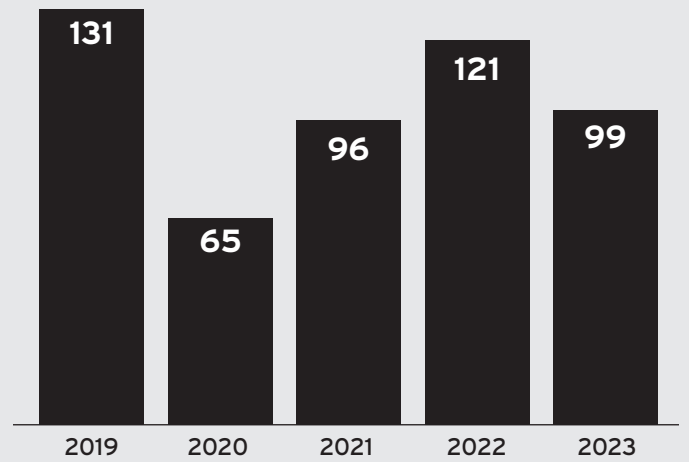
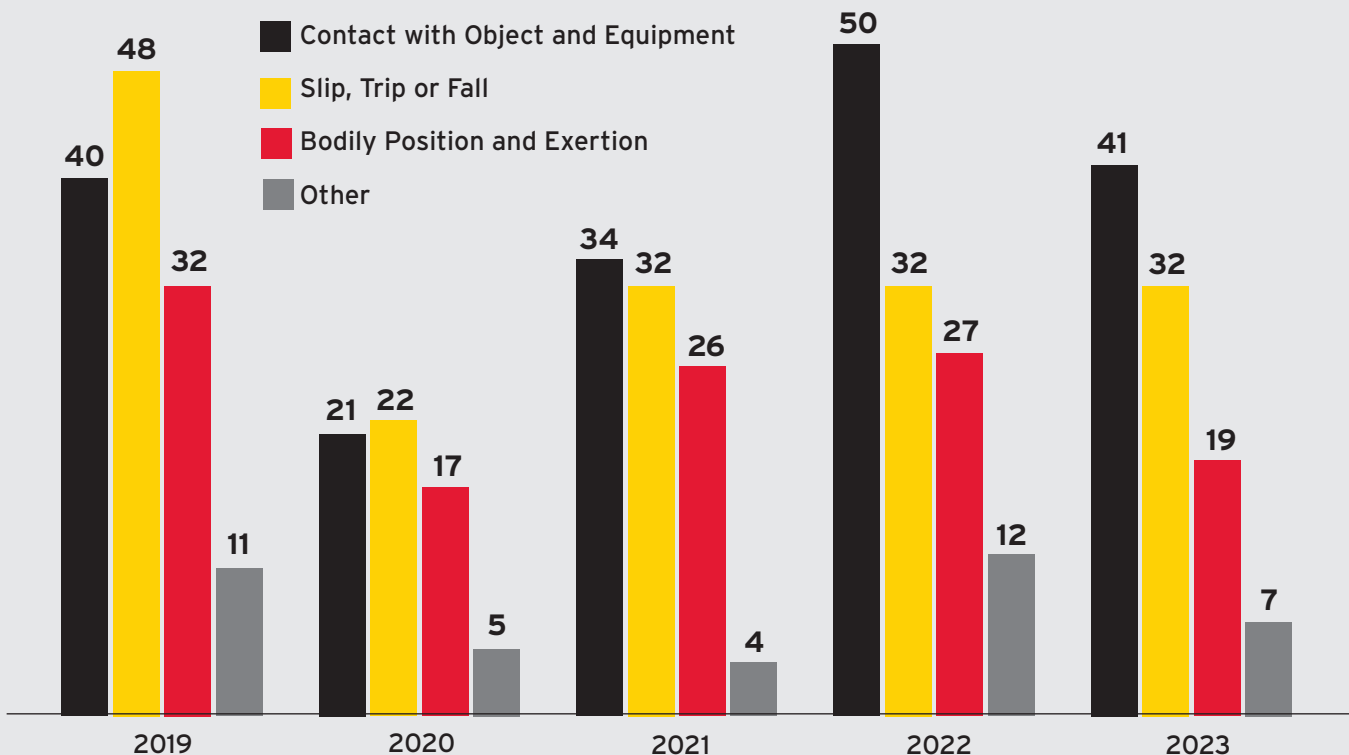


Fig. 3 displays the UMD OSHA recordable injuries and illnesses over the past five years.

The 2023 recordable numbers correlate to the total work injury numbers in Fig 2 and are also down 24.4% from 2019.

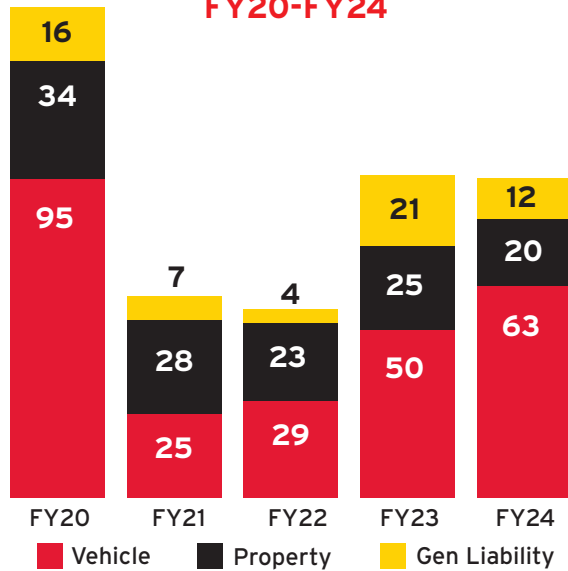
**FIGURE 4: 2019-2023 UMD Recordable Injuries & Illnesses by Incident/Event**



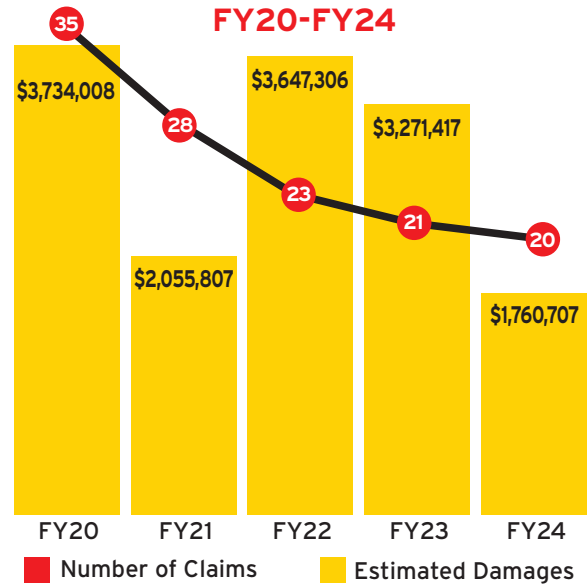
The recordable injuries and illnesses by Incident/Event in fig. 4 highlights the causes of UMD work injuries. Over the past five years, contact with objects or equipment, and slips, trips or falls have been the leading causes of UMD injuries.

# METRICS

## INSURANCE PROCESSING CLAIMS FY20-FY24



## PROPERTY CLAIMS FY20-FY24



### FY24 PROPERTY CLAIMS

Type of Claim	Reason Detail	Number of Claims	Estimated Damages
FLOOD	EQUIPMENT FAILURE	3	\$400,000
	PIPE FAILURE	2	\$75,000
	FAULTY EQUIPMENT	1	\$34,904
	STEAM	1	\$100,000
	CONTRACTOR	1	\$2,500
	OTHER	1	\$125,000
<b>FLOOD TOTAL</b>		<b>9</b>	<b>\$737,404</b>
OTHER		4	\$114,994
WEATHER		3	\$692,809
POWER OUTAGE		2	\$40,500
FIRE		2	\$175,000
<b>GRAND TOTAL</b>		<b>20</b>	<b>\$1,760,707</b>

### FY24 GENERAL LIABILITY

Type of Claim	Number of Claims
TORT INJURY	7
TORT PROPERTY	5
<b>GRAND TOTAL</b>	<b>12</b>

### FY24 STATE VEHICLE CLAIMS

Type of Claim	Number of Claims
SIDESWIPE	37
BACKING	9
OTHER	8
REARENDED	6
FRONTAL	1
DEER	1
T-BONE	1
<b>GRAND TOTAL</b>	<b>63</b>



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