



**Waste Water Division  
Water Division  
Solid Waste Division**

# **Employee Safety & Health Manual**

Version: March 3, 2010

## **Table of Contents**

1. Introduction
2. Employee Postings
3. Recordkeeping
4. Reporting of Incidents & Accidents
5. Incident Investigation
6. Medical Services
7. Return to Work Requirements
8. First Aid, CPR and AED
9. Blood Borne Pathogens
10. Fire Protection
11. Hot Work
12. Emergency Operations
13. Personal Protective Equipment (PPE)
14. Uniforms
15. Jewelry, Tattoos & Piercings
16. Respiratory Protection
17. General Work Environment
18. Walkways
19. Floor and Wall Openings
20. Stairs and Stairways
21. Scaffold Safety
22. Fall Protection
23. Facility Alarms and Emergency Evacuation
24. Portable Ladders
25. Fixed Ladders
26. Hand Tools and Equipment
27. Portable (Power Operated) Tools and Equipment
28. Abrasive Wheel Equipment Grinders
29. Powder Actuated Tools
30. Machine Guarding
31. Control of Hazardous Energy – Lock Out / Tag Out
32. Compressors and Compressed Air
33. Compressed Gas Cylinders
34. Chain Saw Safety
35. Traffic Control Guidelines
36. Flagger Safety
37. Crane Safety and Auxiliary Equipment
38. Powered Industrial Trucks (PIT)
39. Spraying Operations
40. Carbon Monoxide
41. Methane
42. Oxygen
43. Hydrogen Sulfide
44. Confined Spaces

45. Excavation Safety
46. Environmental Controls
47. Hazard Communications (Haz/Com)
48. Electrical Safety
49. Hearing Conservation
50. Vehicle / Equipment Fueling
51. Tire Inflation
52. Anti -idling of Vehicles and Equipment
53. Load Securement
54. Transporting Employees
55. Identification of Piping Systems
56. Material Handling
57. Control of Harmful Substances by Ventilation
58. Sanitizing Equipment and Clothing
59. Cell Phone Use
60. Two-Way Radio
61. Weapons
62. Chemical Hygiene Plans for Laboratories
63. Ergonomics
64. Facility Security
65. Safety Training Requirements
66. Ohio EPA Contact Hours
67. Employee Safety Agreement

## 1. Introduction

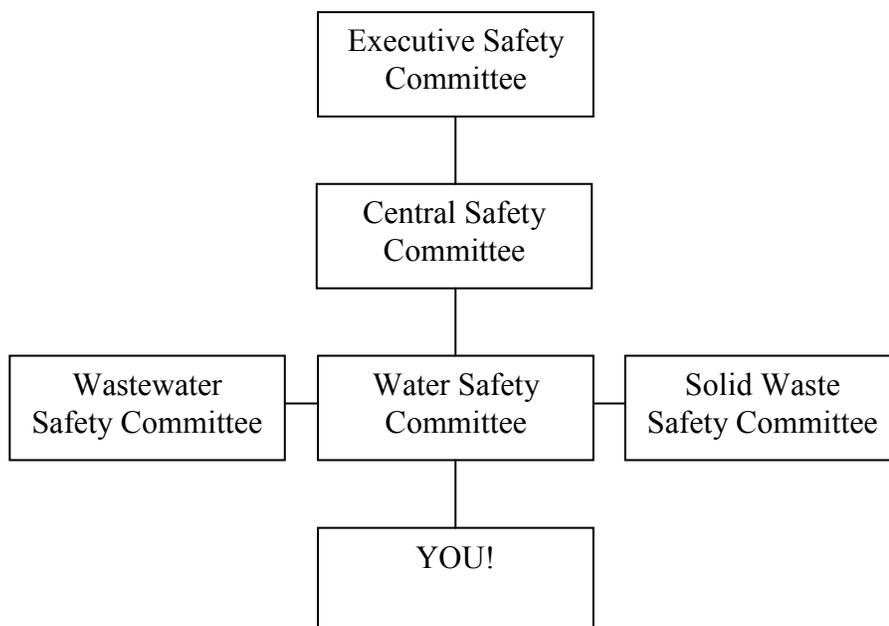
Lake County Department of Utilities (LCDU) is committed to providing a safe, secure and healthy work environment for its employees, the public and customers.

The LCDU Employee Safety and Health Manual serves as a general overview of safety requirements and practices and is not an all-encompassing document. Specific policies and procedures are developed by the Department to address site-specific equipment, practices and procedures in accordance with the Occupational Safety and Health Act (OSHA) of 1970. Site-specific, equipment-specific and task-specific safety policies and procedures are referenced throughout the Manual and can be printed from the Department's "Safety / X" network drive or can be obtained from a supervisor.

LCDU shall furnish to each of its employees a safe place of employment which is free from recognized hazards that may cause death or physical harm.

The safety program is directed by Lake County Department of Utilities Safety & Security Manager.

The diagram below shows how *YOU* are an integral part of the organization.



Each Lake County Department of Utilities employee will receive a hard copy of the Employee Safety & Health Manual during new hire orientation, accompanied by a review with an LCDU manager. Each employee will be afforded the opportunity to ask questions.

## 2. Employee Postings

All LCDU facilities have a Safety Communication Center. Critical information pertaining to the Department's safety goals, Public Employee's Risk Reduction Program (PERRP) 300AP Form, safety committees, safety procedures, material safety data sheets, frequently used safety forms, lockout / tagout supplies and OSHA standards 1910 – General Industry & 1926 - Construction are available for employee review and located on the Safety Communications Center. A photo of one of the centers is below.



The following items are posted at each LCDU facility on a separate communication board located in a conspicuous area:

- *BWC Certificate of Employers Right to Pay Compensation Directly*
- *State of Ohio BWC Certificate – Rebuttable Presumption*

## 3. Recordkeeping

Equipment certification records, equipment inspection records and employee safety training attendance and exam records are maintained at each LCDU facility.

Injuries and illness, exposure to hazardous materials, employee medical records and PERRP 300P Forms are maintained and secured in the LCDU Administrative Offices.

## 4. Reporting of Incidents & Accidents

All incidents and accidents must be reported immediately to a supervisor or the Safety & Security Manager. Failure to report an incident or accident immediately may result in disciplinary action up to, and including, termination.

Injured employees are required to complete the following forms for all injuries:

- *Lake County Government Workers' Compensation Plan Accident Report*
- *Authorization to Release Medical Information*
- *LCDU Injury Report*

These forms can be accessed and printed from any computer on the network by going to the "Safety / X" network drive. The forms are located in a folder titled, "Safety Forms."

Employees involved in a vehicle accident must file a police report with the appropriate authorities having jurisdiction, unless the accident occurred on LCDU property and there were no injuries.

## **5. Incident Investigation**

All incidents and accidents are investigated to determine the root cause and to ultimately prevent the situation from recurring. Vehicle accidents are investigated by the Safety & Security Manager or designee while employee injuries are investigated by a trained Safety & Security Manager designee.

## **6. Medical Services**

911 is the County-wide emergency contact number for medical rescue.

American Red Cross first aid, CPR and AED trained employees are available at all LCDU facilities.

First aid kits are available for minor injuries. A first aid log must be signed, at minimum, when obtaining supplies from a first aid kit.

## **7. Return to Work Requirements**

Employees requesting to return to work after experiencing an illness or injury, unrelated to work and requiring the employee to be off of work for greater than five (5) calendar days, must provide their supervisor with a completed *Return to Work Evaluation Form* from their licensed health care provider. LCDU will make reasonable efforts to place the returning employee into a meaningful assignment, which he/she can perform while on modified duty on a temporary basis. LCDU cannot guarantee placement and is under no obligation to offer, create or encumber any specific position for purposes of offering placement. All final decisions regarding placement shall be made by the Department's Executive Director.

Employees with work-related illnesses or injuries are required to return to work as soon as released from a licensed health care provider. Accommodations for restricted work activity will be made in all work-related cases, regardless of restrictions.

LCDU management will notify the Executive Director when an employee refuses an accommodation or reassignment of duties within the employee's restrictions and ability to perform. Such cases may result in the employee's termination of employment and benefits.

## **8. First Aid, CPR and AED**

American Red Cross training is made available several times each year and is typically held during work hours.

An employee certified and trained in CPR shall be assigned on all trenching and excavation activities and confined space work performed by Department personnel. This includes emergency call-outs. It is also recommended that a first aid and CPR certified employee be available when work is strenuous or weather is severe.

Employees certified in CPR and / or first aid are issued and carry certification cards.

LCDU sites are equipped with at least one Automated External Defibrillator (AED). Some sites have multiple AEDs, depending on the size of the facility. Contact a supervisor for specific locations of AEDs at sites.

## **9. Blood Borne Pathogens**

Personal Protective Equipment (PPE) and blood borne pathogens spill cleanup kits are available at each facility.

PPE (nitrile gloves, at minimum) must be worn when cleaning up potentially infectious materials.

Disposal containers for sharps (needles) are located in most facility bathrooms.

LCDU employees are encouraged to use universal precautions and the hazards presented by blood borne pathogens.

Contact the Department's Safety & Security Manager to coordinate disposal of blood borne pathogen waste materials.

Sewer employees are offered Hepatitis B vaccinations, at no charge, upon hire. A declination form must be completed if the employee declines the vaccination. Declination forms can be found on the Department's "Safety / X" network drive.

## **10. Fire Protection**

Fire extinguishers are provided and maintained throughout LCDU facilities and vehicles.

Hands-on and classroom training on proper portable fire extinguisher operation is available.

Portable fire extinguishers are inspected monthly and annually.

Facility inspections are performed by fire departments having jurisdiction at each respective site.

Fire suppression systems are monitored by an alarm monitoring company and maintained as needed.

## **11. Hot Work**

Hot work includes tasks such as brazing, welding, cutting, grinding, soldering or any other operation which generates heat or spark. A hot work permit must be completed for each job performed unless performed in an area designated and designed for such tasks.

Hot work tasks performed outside of a designated hot work area must maintain a fire watch during work and for thirty (30) minutes upon completion of the work task.

## **12. Emergency Operations**

Emergency operations plans for each site are reviewed on an annual basis by each site's superintendent.

The Department is equipped with an internal emergency operations center which is currently housed in the third floor conference room of the administrative offices. The LCDU emergency operations center is activated when an emergency event of significance or an event requiring more than 8 hours of monitoring and/or coordination of LCDU personnel and/or services occurs. The Department's Safety and Security Manager is responsible for operations of the emergency operations center.

Emergency operations drills are facilitated in coordination with the County's Emergency Operations Center Perry Nuclear Power Plant exercises.

## **13. Personal Protective Equipment (PPE)**

PPE must be worn as intended by design or properly disposed of if found to be damaged or defective.

Three principles applying to PPE use are:

- 1) Determine need
- 2) Select proper equipment
- 3) Wear equipment as specified

All PPE must meet safety standards and be approved by the Safety & Security Manager.

Employees are responsible for inspecting equipment before each use to assure cleanliness, functionality and to determine if the equipment has been damaged. Equipment should be maintained in ready-to-use condition and stored in a clean, dry area.

Modifications of PPE are prohibited.

Each LCDU job classification has a PPE Selection Guide which provides clear and concise graphical direction as to what PPE is required for each task an employee performs. The PPE selection guides can be found on the network drive "Safety / X."

Additional PPE may be required for non-routine tasks that have not been identified or evaluated by the Safety & Security Manager. It is the employee's responsibility to review area rules and Material Safety Data Sheets (MSDSs), if applicable, to determine the proper equipment for each job and task.

Employees are responsible for reviewing and following the task-specific PPE Selection Guides for each task. The following are minimum protection requirements:



#### HEAD PROTECTION

Hard hats must be worn when overhead hazards exist or when working beneath someone working above you. Although this primarily applies during periods of construction, specific questions should be reviewed with the Safety & Security Manager.



#### EYE & FACE PROTECTION

Industrial grade safety glasses w/ permanent side shields must be worn as minimum eye protection when eye hazards exist.

Chemical splash goggles and a polycarbonate face shield must be worn when there is possible exposure to chemical splash or spray.

A full face shield and safety glasses must be worn when there is possible exposure to solid particles such as sand blasting, grinding, saw cutting and electric arc or other welding, as well as high-pressure water use.

A welding helmet or burning goggles with proper lens shade must be worn when welding (electric arc, gas) or when using oxyacetylene cutting equipment.

Contact lenses should not to be worn if chemical exposure possibility exists, unless required by your optometrist and then only with a pair of approved chemical splash goggles.



## HEARING PROTECTION

Ear plugs or muffs must be worn in all areas identified as “Hearing Protection Required.”



## BODY PROTECTION

A variety of protective equipment is available including uniforms, coveralls, aprons (for corrosive splash protection), rain suits, etc. If you need equipment not readily available, ask your supervisor.

Shirts must cover the shoulders and pants must cover the legs and ankles.

Shorts are allowed in certain areas, with supervisor permission only, and must come down to mid thigh for protection.

Fire Resistant uniforms/coveralls must be worn in any area when performing cutting, welding, burning or when working on electrical panels (example: substations) where there is potential for electrical arc.

LCDU supplied uniforms must be laundered by our contracted uniform service. Uniforms and PPE are not to be taken off-site for home or vending washing and cleaning without prior approval from the Executive Safety Committee.



## HAND PROTECTION

Gloves of the proper type for the task are required when the potential for hand injury is present. Several types of gloves are available:

- Nitrile gloves must be worn when working with acids or other chemicals with serious exposure hazards.
- Leather gloves should be worn when performing general maintenance type tasks that might subject the hands to scraping or other injury.
- Cotton gloves are used primarily for product protection but can be used with other gloves to improve grip, etc.

*Review your MSDS for specific guidance on recommended glove types.*



## FOOT PROTECTION

Safety toe shoes meeting ASTM 75 standards are required to be worn when working in warehouse, construction, operations, maintenance and similar areas. Safety toe shoes must be in good repair and not have any exposed steel or composite material.

LCDU contributes a yearly fixed maximum amount for the purchase of safety toe shoes. Safety toe shoes must be purchased from an approved vendor identified in the Department's Safety Shoe Program Guidelines. It is the employee's responsibility to replace safety toe shoes when they become worn out. Determination should be made by the employee but is subject to inspections from a supervisor.

### **14. Uniforms**

Employee appearance is the first and most lasting impressions of our customers. All employees shall project a clean, professional and neat appearance. Daily grooming and hygiene is a requirement of employment. Work attire, including shoes, must be well kept and appropriate for the job. Work attire with holes, tears, patches or those that are frayed are not permitted.

Employees required to wear a uniform must report, at the start of their shift, in full uniform. Supervisors will inspect employees prior to the beginning of the shift to ensure uniforms are neat in appearance and worn in an acceptable manner. Appropriate corrective actions will be taken immediately, by supervisors, to ensure compliance.

Laundering services are provided by the Department at no charge to the employee. Employees are expected to maintain their uniforms in good repair and in a clean and neat manner.

Uniforms provided to employees are to be worn during the course of duty only. This includes emergency call-outs. Employees on-call are permitted to bring a clean set of uniforms home for that shift or term. Uniforms must be returned for laundering at the end of their on-call shift. Any employee wearing his/her uniform or any part thereof while not on duty may be subject to disciplinary action.

Employees shall not alter the uniform in any manner. Optional or alternative clothing may be worn depending on activities with the approval of the supervisor.

Office and administrative employees are required to wear business – business casual attire. Business casual does not include jeans, shorts, flip-flops, thong footwear, t-shirts with slogans or advertisements (other than Department issued t-shirts), strapless, spaghetti straps, or off-the-shoulder tops/blouses, or plunging necklines or tanks tops. Employees should plan to wear more formal attire for business meetings or meetings with

customers. Work-appropriate jeans are acceptable as casual Friday attire (except where uniforms are required), although jeans are not appropriate during the rest of the regular work week.

Employees interacting with customers are required to wear their Department photo identification in an area visible to the customer.

## **15. Jewelry, Tattoos & Piercings**

Body tattoos, if visible to the public, must be inconspicuous. The image and/or words cannot be such that it would be considered offensive to the public and/or other employees.

Operations and maintenance employees must remove all jewelry such as watches, rings, bracelets, necklaces, earrings that hang down, etc. before the start of their shift to prevent entanglement and / or electrocution with equipment or processes. Rings that cannot be removed must be covered with protective tape to prevent incidental exposure to electricity. Long hair (hair that is at or below the shoulders) must be tied back or under a cap by all operations and maintenance personnel.

## **16. Respiratory Protection**

Respiratory protection is required when there is a potential for exposure to dangerous vapors, fumes or particles. Examples are atmospheres:

- a. With low Oxygen content
- b. Immediately dangerous to life/health
- c. With non-toxic dusts, mists, vapors, fumes, fibers
- d. With organic vapors/gases
- e. With asbestos

Types of Respiratory Protective Equipment:

- Dust Masks
- Cartridge Masks (full face mask only)
- Emergency Escape Breathing Apparatus (Bacon Road Water Plant Chlorine Room)

Users of cartridge masks must be medically evaluated and fit-tested annually and receive training prior to being issued respiratory protective equipment.

Contractor employees must provide written documentation that training, medical evaluations and fit testing has been completed.

Users of cartridge masks are not permitted to have facial hair (sideburns, mustache and beard) that interferes with a skin-to-mask seal.

## **17. General Work Environment**

All Department facilities shall be maintained in a clean, orderly manner. Tools and equipment will be removed from the work area and stored in their proper, designated storage areas. Scrap and waste shall be disposed of in a timely manner.

Spills of all kinds must be reported, documented and cleaned up immediately. Those large enough that cannot be cleaned up immediately must be identified, at minimum, with hazard tape, cones, wet floors signs or some other form of employee communication.

Employees are responsible for identifying and correcting all hazards which could cause harm. Correct the hazard immediately, if possible. Hazards that cannot be remediated immediately must be reported, documented and identified with hazard or caution tape. Equipment posing a serious hazard may need to be locked and tagged out of service.

## **18. Walkways**

Emergency exits, aisles, passageways, portable fire extinguishers, eye wash stations, AEDs, first aid kits, electrical panels and emergency equipment areas must be kept clear and accessible at all times.

Employees identifying a blocked path of travel or accessibility to emergency equipment must resolve the issue immediately.

## **19. Floor and Wall Openings**

Floor openings will be kept covered and/or guarded except when being utilized for access. Any floor opening in use shall be guarded when open.

Permanently affixed handrails, midrails and toeboards must be provided on all elevated work areas of six (6) feet or more.

All skylights shall be guarded with a railing or other permanent structure which will prevent tools, materials and personnel from falling through or below.

Steel road plates must have a thickness of at least 1" and be installed on all unattended open excavations in the roadway and straddle the road by two (2) feet on all sides. Road plates must be secured by steel spikes or by cold patch ramps to prevent movement.

## **20. Stairs and Stairways**

LCDU employees are responsible for snow and ice control on all exterior stairs.

Deficiencies in stairs or stairways must be reported to a supervisor immediately. The deficiency must be immediately resolved or the stairway must be taken out of service.

## **21. Scaffold Safety**

When it is necessary to erect scaffolds on LCDU property, a competent person, trained in scaffold safety, shall oversee the work and inspect the scaffold prior to any work being performed utilizing the scaffold. A written inspection form must be utilized for the inspection and posted, maintained and updated during scaffold work.

## **22. Fall Protection**

Fall protection is required when working or walking on an unprotected side or edge of 6' or more above lower levels.

Fall protection is not required when working on or utilizing a ladder as long as the employee follows the requirements of the ladder safety program.

LCDU requires all employees and contractors engaged in roofing work, within six (6) feet of a roof's edge, to be protected from falling by a combination of warning line system and guardrail system, warning line system and safety net system or warning line system and personal fall arrest systems.

Anchorage used for personal fall arrest systems must be capable of supporting at least five thousand (5,000) pounds of force per attached employee.

LCDU employees are responsible for inspecting fall protection prior to each use. Personal fall protection must be donned and adjusted properly. At minimum, employees shall wear a body harness and a shock absorbing lanyard, attached to an approved anchor point. The length of the lanyard is dependent on the height of work. Employees are responsible for selecting the proper equipment for the task at hand.

## **23. Facility Alarms and Emergency Evacuation**

Each LCDU facility has a specific emergency alarm, evacuation route and plan. Facility alarms are tested once each year, at minimum. Evacuation drills are conducted to ensure employee understanding and timely response during an evacuation. Muster (gathering) areas and shelter-in-place (tornado shelters) are pre-determined and outlined on each facility's evacuation maps which are posted throughout each facility.

It is the responsibility of each employee and contractor to familiarize themselves with the nearest and best evacuation route, muster area and tornado shelter for the area they are working.

## **24. Portable Ladders**

Only Type I (250 pound capacity industrial), type 1A (300 pound capacity heavy duty industrial) and type 1AA (375 pound capacity rugged professional) fiberglass ladders are purchased and maintained by Lake County Department of Utilities. No wood, metal or aluminum ladders are permitted without justification and permission from the Department's Safety & Security Manager.

Portable step and extension ladders are inspected on a quarterly basis by trained ladder inspectors. Each ladder will have a color-coded band on one leg indicating the ladder has been inspected that quarter. The color-coding is as follows:

<b>1<sup>st</sup> Quarter = Blue</b>	(January – March)
<b>2<sup>nd</sup> Quarter = Green</b>	(April – June)
<b>3<sup>rd</sup> Quarter = Yellow</b>	(July – September)
<b>4<sup>th</sup> Quarter = Orange</b>	(October – December)

Ladders are to be returned and stored in the secure, designated ladder storage area at each site.

Each employee is responsible for performing a visual inspection prior to each ladder setup.

## **25. Fixed Ladders**

All fixed ladders must be visually inspected prior to use and will not be used if any deficiency is noted.

Fixed ladders in manholes are not inspected on a routine schedule and therefore must be thoroughly inspected prior to each use.

Fixed ladders at each facility must be inspected on an annual basis by trained personnel.

## **26. Hand Tools and Equipment**

All portable hand tools and equipment are only to be used for its intended purpose. Use the right tool for the right job. For example, a flat head screwdriver is only to be used as a flat head screwdriver. It is never to be used as a pry bar or a chisel.

Tools and equipment must be inspected prior to each use. Guards must be installed and adjusted per manufacturer's requirements.

## **27. Portable Power Operated Tools and Equipment**

All portable power operated tools and equipment are only to be used for their intended purpose. Use the right tool for the right job.

Tools and equipment must be inspected prior to each use. Guards must be installed and adjusted per manufacturer's requirements.

The Department shall only purchase double-insulated portable power tools, when available.

Employees are required to use a Ground Fault Circuit Interrupter (GFCI) receptacle or a GFCI pigtail for powering all portable tools and equipment.

Employees are not permitted to retrofit, modify or repair tools and equipment beyond the scope of the manufacturer's operating manual.

## **28. Abrasive Wheel Equipment & Grinders**

Abrasive wheels must be inspected, prior to installation, following the Department's Ring Test Procedure. Cracked or defective wheels and blades must be destroyed and disposed of properly.

Tool and equipment guarding must be in place and properly adjusted at all times during operation.

All work rests on stationary grinders will be maintained with a gap no greater than 1/8". The maximum gap on the tongue guard must not exceed 1/4". Employees must make frequent adjustments to the work rest and tongue guard to accommodate grinding wheel wear.

## **29. Powder Actuated Tools**

LCDU employees must be certified in powder actuated tool safety in order to operate said equipment.

Prior to use, signs must be posted on all respective man doors along with notification to employees in the immediate and surrounding work areas.

The tool shall be kept in a secured, locked cabinet when not in use.

### **30. Machine Guarding**

LCDU employees are not permitted to operate any machine or equipment which does not have an operable guard as originally designed by the manufacturer.

Employees are responsible for immediately informing their supervisor of damaged or inoperable guards.

Employees shall not remove or otherwise modify or bypass a machine guard when the machine is in operation. Employees performing maintenance or service must follow the lockout/tagout procedure for that specific equipment before removing any guarding.

### **31. Control of Hazardous Energy – Lock Out / Tag Out**

The purpose of Lock Out/Tag Out (LOTO) is to establish a uniform system for the protection of personnel in, on or around machinery, piping and electrical equipment during repair, maintenance and operation. The LOTO procedures are developed to prevent the unexpected energizing or start-up of equipment or the process. For this reason, all LCDU employees must ensure that all equipment and processes are in a zero energy state before any work can begin.

Employees receive LOTO training upon hire and on an annual basis. Each employee is assigned an individually-keyed personal lock and tag. These locks are orange in color. No other orange-colored lock will be purchased or used in the Department.

Locks identified and assigned for the use of LOTO (job locks (blue) and personal locks (orange)) are not permitted for any other purpose.

Each piece of equipment has an equipment-specific isolation procedure and checklist which must be printed and completed before any work can begin on any process or equipment. These procedures can be found on the Department's "Safety / X" network drive.

New equipment or equipment not having pre-established LOTO procedures must be reviewed with maintenance and operations to identify and document the proper zero energy state procedure. Documentation of this procedure must be forwarded to the Safety & Security Manager for input into the document system.

LCDU management takes safety seriously, especially LOTO. Bypassing or defeating a personal or job lock may result in disciplinary action, including, termination of employment.

### **32. Compressors and Compressed Air**

Compressors must have documented inspections and service on an annual basis.

All compressed air tools and equipment shall be used as designed and intended by the manufacturer. Modifying compressed air tools and equipment is not permitted.

Compressed air hoses and fittings must be designed for compressed air use and inspected by the user prior to each use.

Horseplay with compressed air tools and equipment is strictly forbidden.

No employees are permitted aim a nozzle or to “blow down” their clothing or body with compressed air.

### **33. Compressed Gas Cylinders**

All compressed gas cylinders must be stored in an upright, vertical position and secured from falling or tipping. Compressed gas cylinder valve-protection caps must be in place when cylinders are not in use and during transport of cylinders.

Oxygen and acetylene cylinders must be stored separately by spacing (twenty (20) feet apart, minimum) or by a five (5) foot fire wall having a fire rating no less than ½ hour.

During use, cylinders must be kept far enough away from welding or cutting operations that spark, hot slag or flame will not reach them or a fire-resistant shield shall be utilized to protect the cylinders.

### **34. Chain Saw Safety**

Chain saws may only be operated by trained and authorized employees. When used, PPE including chaps, hard hat, forester’s face shield, hearing protection and gloves must be worn. Employees in the surrounding area or those assisting with control lines must also wear hearing protection and a hard hat.

### **35. Traffic Control Guidelines**

LCDU has adopted the Federal Manual on Uniform Traffic Control Guidelines as the operating guide for proper traffic control setup. An independent, internal traffic control guide has been outlined for frequent, low traffic road repair performed by water, waste water and solid waste personnel. This guide can be found on the “Safety / X” network drive.

Required traffic control on high traffic intersections, Interstate 90 and/or other challenging areas will be setup by a licensed contractor before work begins.

### **36. Flagger Safety**

LCDU has developed specific procedures consistent with the Federal Manual on Uniform Traffic Control Guidelines for flagger safety.

Flags will not be used except during emergency situations. Stop/Slow paddles must be used during all other traffic control.

A means of communication must be established when two employees are coordinating traffic flow.

It is the policy of Lake County Department of Utilities that lime-green, class 3, traffic safety vests must be worn when working on or near roadways.

### **37. Crane Safety and Auxiliary Equipment**

Overhead, gantry, jib and all other cranes are inspected on a monthly basis by LCDU trained inspectors. A listing of trained inspectors can be found on the "Safety / X" network drive.

All cranes are thoroughly inspected annually by a licensed contractor.

A documented inspection by the operator must be performed prior to use, or at the start of each shift, whichever comes first. The required documented inspection form can be found on the Department's "Safety / X" network drive.

No cranes shall be operated if deficiencies are found. Cranes with deficiencies must be locked and tagged out of service until repairs can be made.

No employees or contractors may operate an LCDU crane until they have completed crane safety and rigging training. Each LCDU facility has designated trainers onsite responsible for conducting this training.

### **38. Powered Industrial Trucks (PIT)**

LCDU employees must hold a current certification in order to operate PITs.

The Department has designated PIT trainers at each site responsible for training and evaluating each operator. A listing of PIT trainers can be found on the "Safety / X" network drive.

PIT certifications are valid for a maximum of three (3) years.

A documented inspection must be performed prior to use, or at the start of each shift, whichever comes first. The required documented inspection form can be found on the Department's "Safety / X" network drive.

Contractors may not use LCDU PITs unless they hold a current certification and have been trained by an LCDU trainer on the specific functions and features of the equipment they will be operating.

### **39. Spraying Operations**

The GLK Mentor Wastewater Treatment Plant has a designated spraying and painting area for minor repairs and fabrication. The fume exhaust unit must be in operation when performing spraying operations in this area.

Spraying and painting operations outside of the designated area must be evaluated case-by-case to determine expected employee exposure, required PPE, and overspray concerns.

All large spraying and painting operations on equipment and materials will be sent off-site to a painting contractor or performed onsite by a licensed and insured contractor.

### **40. Carbon Monoxide**

Employees and contractors must be aware of the presence or possible accumulation of carbon monoxide, signs and symptoms of exposure and consequences of exposure prior to working in confined spaces. All confined space areas must be tested with a calibrated air monitor prior to entry. No employee or contractor is permitted to enter a confined space until the atmosphere has been deemed safe for human entry.

### **41. Methane**

Employees and contractors must be aware of the presence or possible accumulation of methane, signs and symptoms of exposure and consequences of exposure prior to working in confined spaces. All confined space areas must be tested with a calibrated air monitor prior to entry. It is reasonable to expect high concentrations of methane gas in many of the Department's confined spaces. No employee or contractor is permitted to enter a confined space until the atmosphere has been deemed safe for human entry.

## **42. Oxygen**

Employees and contractors must be aware of the presence or possible accumulation of oxygen, signs and symptoms of exposure and consequences of exposure prior to working in confined spaces. All confined space areas must be tested with a calibrated air monitor prior to entry. No employee or contractor is permitted to enter a confined space until the atmosphere has been deemed safe for human entry.

## **43. Hydrogen Sulfide**

Employees and contractors must be aware of the presence or possible accumulation of hydrogen sulfide, signs and symptoms of exposure and consequences of exposure prior to working in confined spaces. All confined space areas must be tested with a calibrated air monitor prior to entry. It is reasonable to expect high concentrations of hydrogen sulfide gas in many of the Department's confined spaces. No employee or contractor is permitted to enter a confined space until the atmosphere has been deemed safe for human entry.

## **44. Confined Spaces**

All LCDU permit-required confined spaces are labeled as "Permit-Required Confined Space" except for manholes which are all permit-required confined spaces.

Confined space training is conducted upon hire and annually thereafter.

LCDU has a complete confined spaces program and procedure which can be found on the Department's "Safety / X" network drive. The program includes evaluation findings and determinations on all confined spaces at all sites, including known hazards.

A confined space entry permit and atmospheric testing must be completed prior to entry into permit-required confined spaces.

Fall protection and emergency retrieval equipment must be setup for all confined space work. Availability of local emergency rescue services will be verified prior to entry.

Employees certified in CPR must be present during confined space entry. Employees certified in CPR carry a current certification card from the American Red Cross.

## **45. Excavation Safety**

All excavations performed by LCDU employees greater than four (4) feet are considered type C soils and will utilize at least one of the following methods to ensure employee safety and prevent entrenchment and engulfment:

1. Shielding or shoring
2. Benching
3. Sloping

It is a requirement of LCDU that all excavations have a person certified and trained in CPR on site during all excavation work. Employees certified in CPR carry a current certification card from the American Red Cross.

LCDU also requires at least one competent person in excavation safety and soil classifications to be on site during all excavation work. Competent person training is available for affected employees on a regular basis. Employees completing the class and a competency exam are issued competent person certificates which are stored in each employee's personnel file. Copies of certifications can be obtained by contacting the Safety and Security Manager.

Contractors of the Department must comply with all elements of OSHA standard 29 CFR 1926.650-652 and must also have trained competent personnel in soil classifications and excavation safety.

Ohio Utilities Protection Service (OUPS) shall be called (800 – 362 – 2764) prior to any underground excavation.

#### **46. Environmental Controls**

Many LCDU tasks are required to be performed outside of a building or structure. Site superintendents and supervisors who have personnel working outdoors are responsible for reviewing safety procedures with their employees prior to the start of the season (i.e. cold weather safety in the fall, heat stress safety in the spring) each year.

Employees working outdoors part or full time are issued a Carhart jacket, winter gloves and a winter stocking cap at no charge to the employee.

#### **47. Hazard Communications (Haz/Com)**

Highly hazardous, regulated chemicals have been identified and provisions and protocols have been established in each site's Risk Management Program (RMP).

LCDU has a complete listing of chemicals approved for purchase. A Chemical Requisition Form must be completed prior to purchasing or bringing the chemical on LCDU property if a chemical is not already listed on the approved chemical list.

No chemicals are permitted onsite without a Material Data Safety Sheet (MSDS).

All secondary containers, if not used in its entirety within an employee's shift, must be labeled using a Hazardous Material Identification System (HMIS) label.

Hazard Communications training will be provided to each employee upon hire and every year thereafter.

#### **48. Electrical Safety**

All electrical workers within the Department receive annual electrical safety training. Protective gloves and flash hazard suits are available for electrical workers at no expense to the employee.

Employees involved in electrical work are not permitted to wear jewelry of any kind. Jewelry that cannot be removed must be covered with tape or another non-conductive material. Metal belt buckles, buttons, etc, are not permitted while doing any electrical work.

Electrical working employees must also wear 100% cotton clothing, EH-rated safety shoes, and fire-retardant coveralls or uniforms during the course of their work.

#### **49. Hearing Conservation**

LCDU has identified most West End Service Center, East End Service Center and Solid Waste personnel as having exposure to high noise environments on a frequent basis. Baseline audiograms are required for new employees in these positions or areas. Audiograms will be performed every year thereafter to ensure the proper conservation of employee's hearing.

Hearing protection (ear plugs and muffs) is available to all employees.

High noise areas and equipment are labeled as such. Hearing protection is required when working in those areas and on or near high noise equipment.

#### **50. Vehicle / Equipment Fueling**

Employees must identify the location and access to the emergency fuel shut off button before fueling can begin.

The Department has fuel pumps at various facilities. Access to fueling pumps is granted through a key fob security system. Contact a site supervisor for access to fueling at remote facilities. All other fueling will be done at the County Garage.

No smoking or cell phone use is permitted when fueling vehicles and equipment.

All portable fuel cans must be of steel construction with a self-closing spout - type 1 safety gas can. Red cans are used for gasoline only. Yellow cans are for diesel fuel only. Blue cans are for kerosene only.

## **51. Tire Inflation**

Employees are prohibited from standing directly in front of or over any tire being inflated. Tires shall only be inflated to no more than the pressure listed on sidewall of the tire.

## **52. Anti-Idling of Vehicles and Equipment**

All LCDU vehicles shall be turned off whenever possible. Vehicles may remain idling if power is required for radios, emergency flashers or other needed equipment powered by the vehicle's electrical system.

No vehicle may be left unattended, out of line of sight, with the vehicle running or the keys left in the vehicle.

All vehicles shall be locked when left unattended or out of line of sight.

## **53. Load Securement**

Load securement training is provided by the State Highway Patrol. No employee shall transport any materials or equipment in the bed of a truck, on a trailer or otherwise unless it has been properly secured from movement. Proper securement means the load will not shift in any direction.

Approved chains and tie downs must be utilized for securing all heavy equipment to trailers. All equipment and equipment attachments must be secured.

Bungee cords may only be used for securing light materials (less than twenty-five (25) pounds) in the bed of a truck.

## **54. Transporting Employees**

No employees are permitted to ride on equipment or in areas of vehicles not intended for human transportation. Areas include the tailgate of a truck, bed of a truck, bucket of a loader, etc.

## **55. Identification of Piping Systems**

LCDU has developed a pipe labeling standard, consistent for all plants within the Department. The color-coding standard has been adopted into the Department's Rules and Regulations and must be followed for any new installations or upgrades. The Standard is as follows:

Raw Water ---	<b>OLIVE GREEN</b>
Plant Influent---	<b>TAN</b>
Settled Water ---	<b>OLIVE GREEN w/ BLUE BAND</b>
Potable Water ---	<b>BLUE</b>
Non-Potable Water---	<b>GREY w/ BLUE BAND</b>
Polymer---	<b>YELLOW w/ WHITE BAND</b>
Coagulant ---	<b>ORANGE w/ GREEN BAND</b>
Caustic Soda ---	<b>ORANGE w/ BLACK BAND</b>
Sodium Hypochlorite or Chlorine ---	<b>YELLOW</b>
Sodium Bisulfite---	<b>YELLOW w/ BLACK BAND</b>
Ferrous Chloride---	<b>GREY w/ WHITE BAND</b>
Carbon---	<b>BLACK</b>
Fluoride ---	<b>BLUE w/ RED BAND</b>
Phosphate ---	<b>LIGHT GREEN w/ RED BAND</b>
Potassium Permanganate---	<b>PURPLE</b>
Backwash Waste ---	<b>LIGHT GREEN</b>
Digester Gas---	<b>ORANGE</b>
Sludge ---	<b>DARK BROWN</b>
Natural Gas ---	<b>RED</b>
Compressed Air ---	<b>DARK GREEN</b>
Heating ---	<b>WHITE</b>
Roof Drains and Sanitary Vents ---	<b>GREY</b>

## **56. Material Handling**

All materials should be handled in the safest manner possible and as low to the ground as possible. Drums should be transported with a drum handler.

Loads greater than sixty (60) pounds require a two-person lift or a mechanical lift assist.

## **57. Control of Harmful Substances by Ventilation**

All laboratory fume hoods are referenced in their respective chemical hygiene plan. All other ventilation systems are to be inspected to verify proper operation when utilized. If deficiencies are identified, the equipment will be locked and tagged out of service until repairs can be made.

## **58. Sanitizing Equipment and Clothing**

Due to the nature of our business, uniforms are to be kept onsite and cleaned by a uniform company. Shoes and boots used for work should remain in the employee's locker. In most cases, employees will be permitted a reasonable amount of time (ten – fifteen (10 – 15) minutes) to change and wash before the end of their shift.

Employees should practice good hand-washing procedures before consuming food or beverages. Wash hands thoroughly in warm water and mild soap whenever possible. Employees in the field should use a pre-moistened, antibacterial towelette to wash their hands.

## **59. Cell Phone Use**

LCDU employees are not permitted to use personal cell phones during work hours unless it is an emergency or prior approval from a supervisor is obtained. When approved by a supervisor, cell phone use should be scheduled so as not to interfere with employee's responsibilities, duties and productivity.

Cell phones used during travel to and from facilities must be used with a hands-free device.

Texting while driving a County vehicle is strictly prohibited.

## **60. Two-way Radio**

Two-way radios are utilized for intradepartmental communications.

All two-way radio traffic will be in a professional manner and in compliance with Lake County written policies and FCC regulations.

All radio messages are monitored and could be heard by customers. Horseplay, foul language or negative and/or condescending comments are not permitted.

### **61. Weapons**

Weapons of any kind are prohibited on County property and vehicles. A pocket knife having a blade length greater than the height of a credit card (two and one-eighth (2 1/8) inches) is considered a weapon.

### **62. Chemical Hygiene Plans for Laboratories**

Written chemical hygiene plans are available for each of the four labs LCDU operates.

### **63. Ergonomics**

The Department's Safety & Security Manager is responsible for evaluating new workspaces and equipment when requested by a supervisor.

LCDU has established a pre-approved guide for the purchase of office chairs. No ergonomic evaluation is necessary as long as chairs are purchased from the Chair Selection Guide. The Guide can be found on the "Safety / X" drive.

### **64. Facility Security**

All visitors must remain in the lobby of each respective facility until greeted and escorted by an LCDU employee. No visitor shall be permitted beyond the lobby area without first signing a visitor's log and receiving instructions of occupational hazards and personal protection requirements for the areas they'll be visiting. Visitors are defined as anyone who is not a current LCDU employee carrying an active security access ID. This includes family members, friends and former co-workers. This applies to all Department facilities, including administrative offices. Visitors must sign out on the visitor's log before leaving LCDU property.

Visitor's logs can be obtained from an office supply store or Central Purchasing.

Employees accessing LCDU property should be aware and report vehicles tagging along or following through the security gate at each site. Employees should watch for the security gate to close behind them before leaving the property.

## **65. Safety Training Requirements**

Employees are responsible for attending all safety training classes at their workplace unless excused by their supervisor. Makeup training will be provided as needed.

## **66. Ohio EPA Contact Hours**

Most safety classes are approved for contact hours. The instructor of each class will provide contact hour information, if available.

It is the responsibility of each employee to track their attendance, class records and contact hour information. LCDU will not track employee's contact hour needs or requirements.

## 67. LCDU Employee Safety Agreement

Employees initial on each block if completed.

- I have read the LCDU Employee Health & Safety Manual and I understand the general safety rules, safety policies and expectations outlined within the Manual.
- I have received a copy of this manual for my records.
- I agree to take responsibility for my own safety by complying with the safety policies, practices and expectations outlined in this Manual.
- I understand that the Manual is not all-encompassing and that additional, specific procedures, programs and operating procedures detail and outline additional guidelines that I must follow to ensure my safety.
- I have been instructed on the process for accessing the “X / Safety” network drive.
- I have received a security ID access card.
- I understand that the Department may change the Manual, as necessary, to comply with new State, Federal, Ohio EPA regulations or Department-specific challenges.

Name (print): \_\_\_\_\_

Name (signature): \_\_\_\_\_

Today's date: \_\_\_\_\_