
SAFETY SUMMIT 2024

AGENDA

Welcome

Safety Performance Data

Lessons Learned

Safety Awareness

Safety & Quality Requirements

Compliance Standards

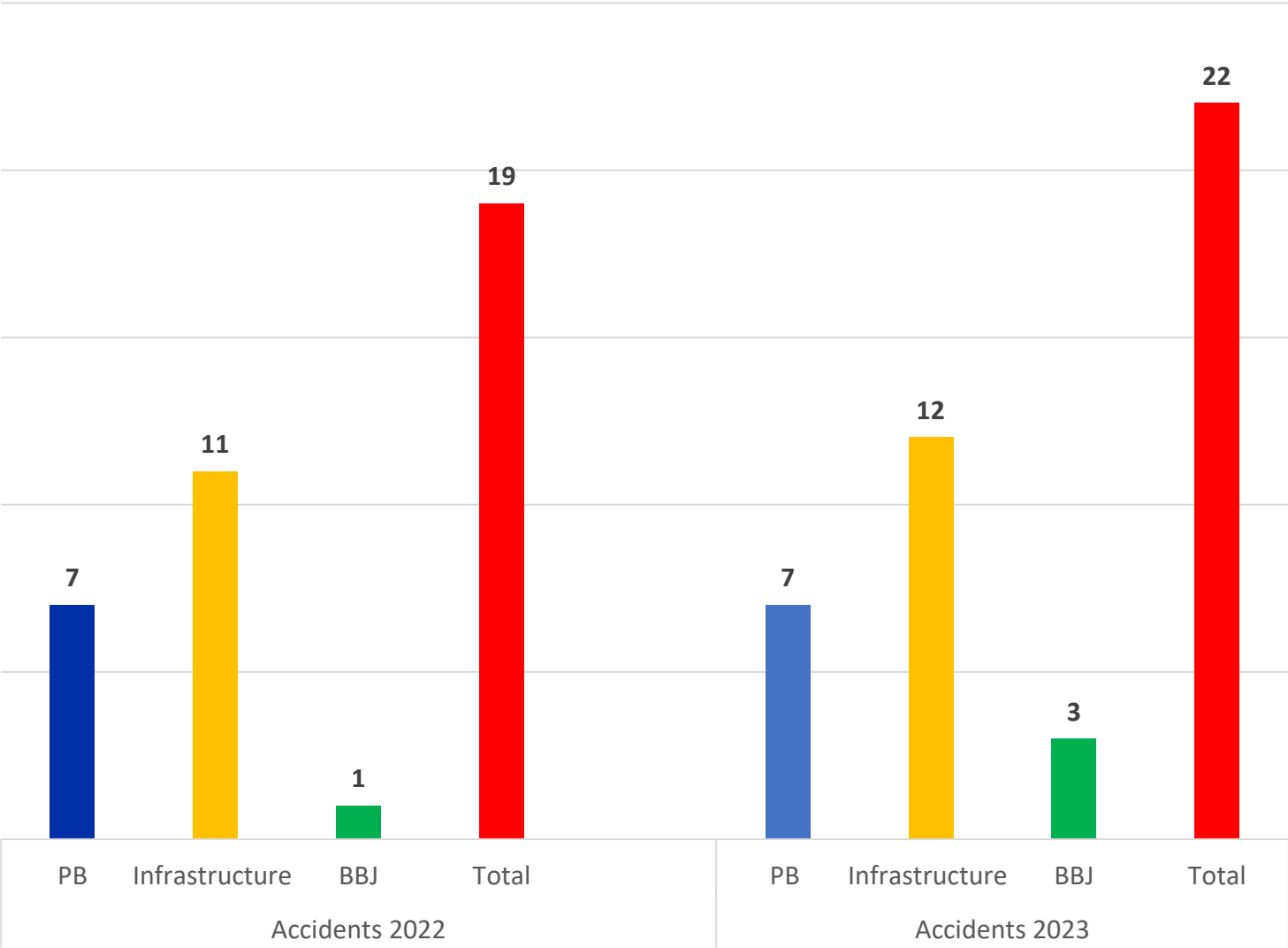
Q&A



Safety Performance Data



Construction Accidents DDC Projects 2022 vs 2023 Calendar Years



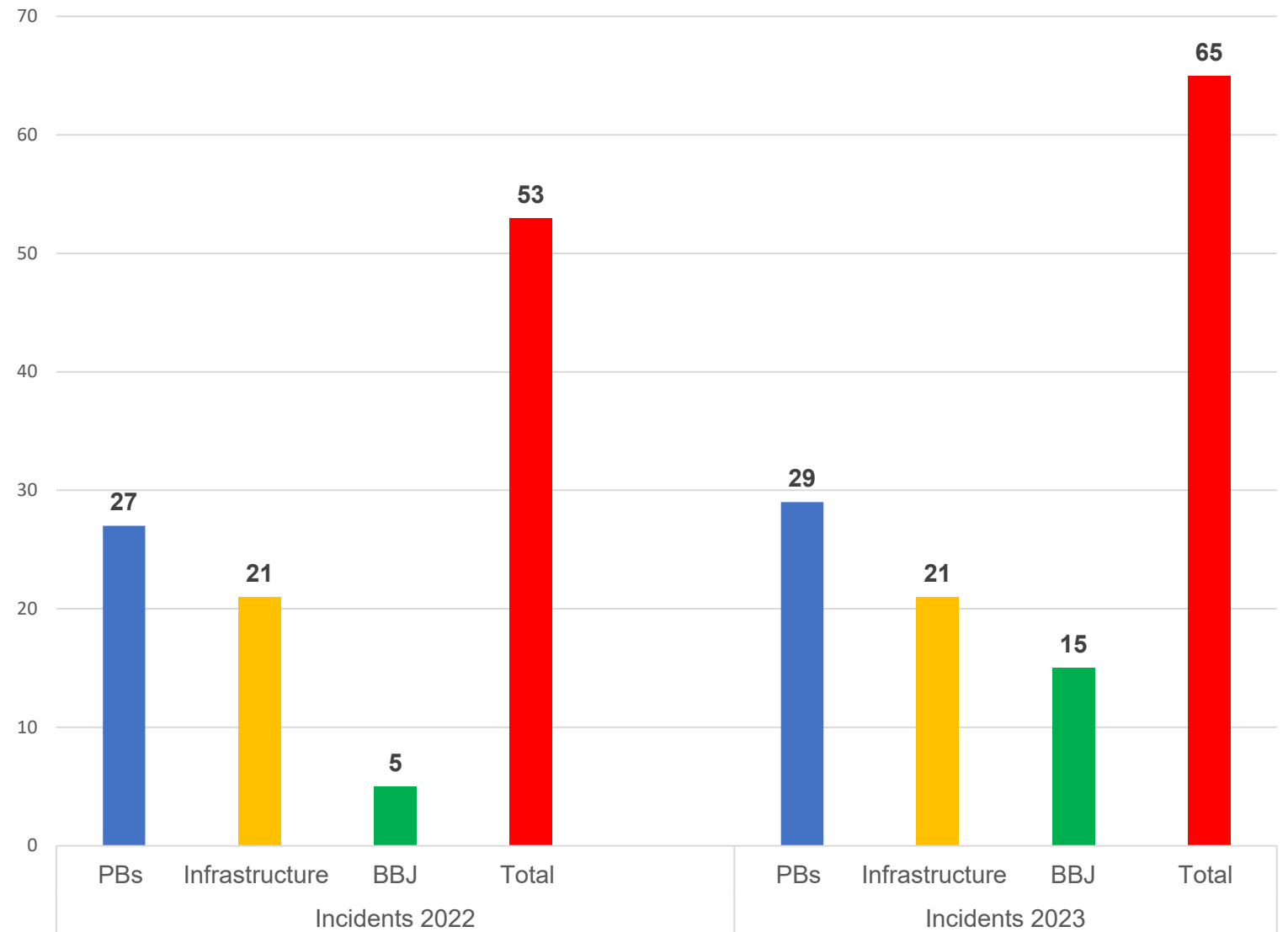
Frequent Accident Categories DDC Projects

- Struck-by
- Caught-in-between
- Falls
- Tools & equipment





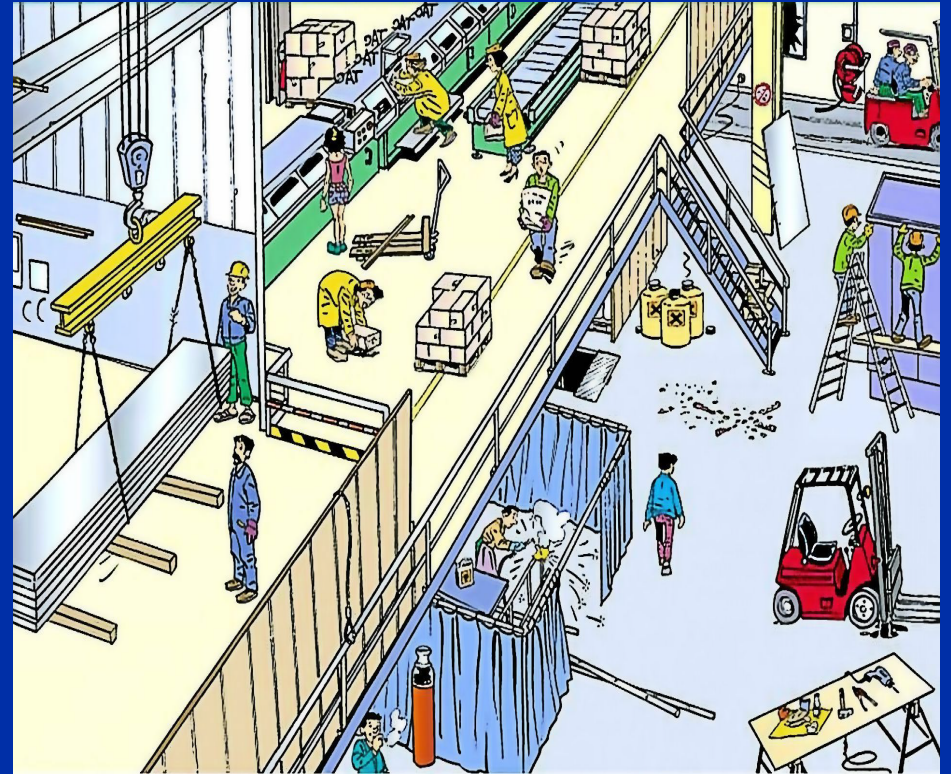
Incidents (Minor Injuries) DDC Projects 2022 vs 2023 Calendar Years



Top Incident Categories

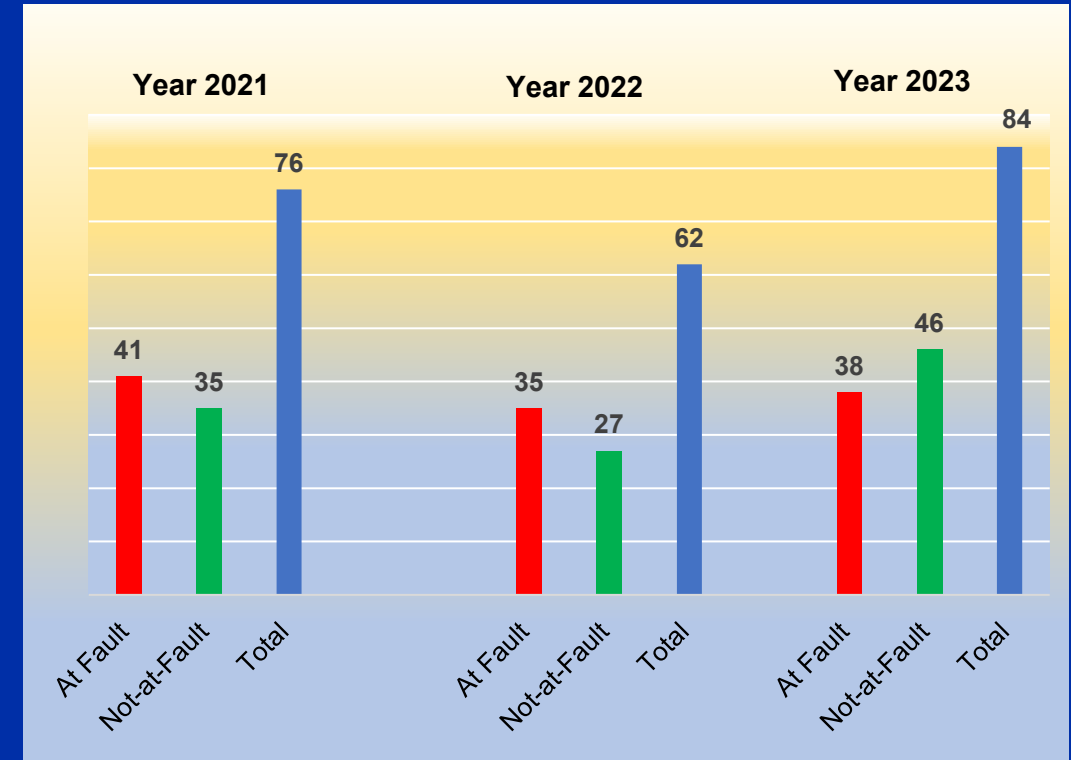
All the incidents resulted in an injury requiring first aid.

- Struck-by
- Slips, trips & fall
- Strains
- Tools

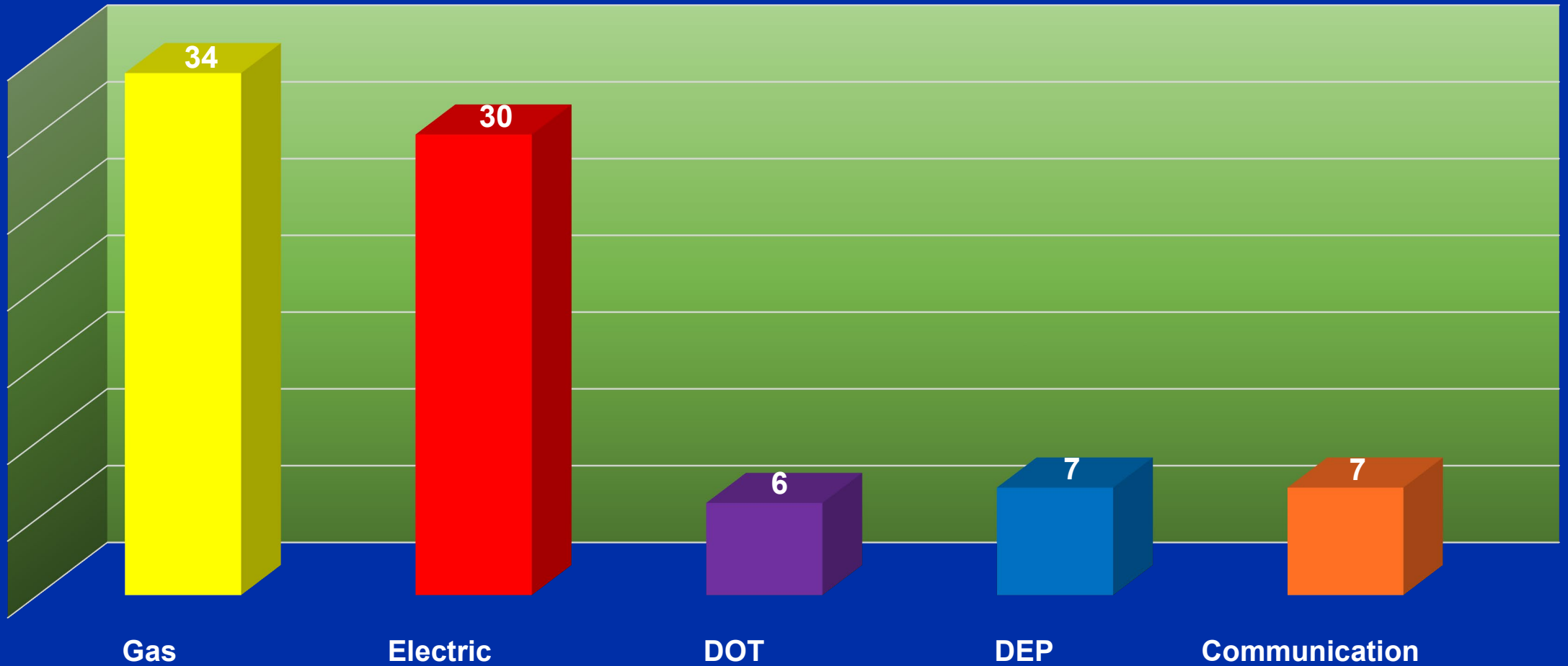


Utility Damages

- Always call before you dig – 811 – It's the LAW and it's FREE.
- Wait the required timeframe & get positive response from utility operator.
- Respect and maintain the marks – **NO** powered or mechanized equipment within the Tolerance Zone.
- Provide a spotter for subsurface and overhead utilities.
- Support and protect exposed utilities within the excavation.
- NY 811 Excavator Training & Education Program (operator).
- Request assistance from utility representative.



Damaged Utilities



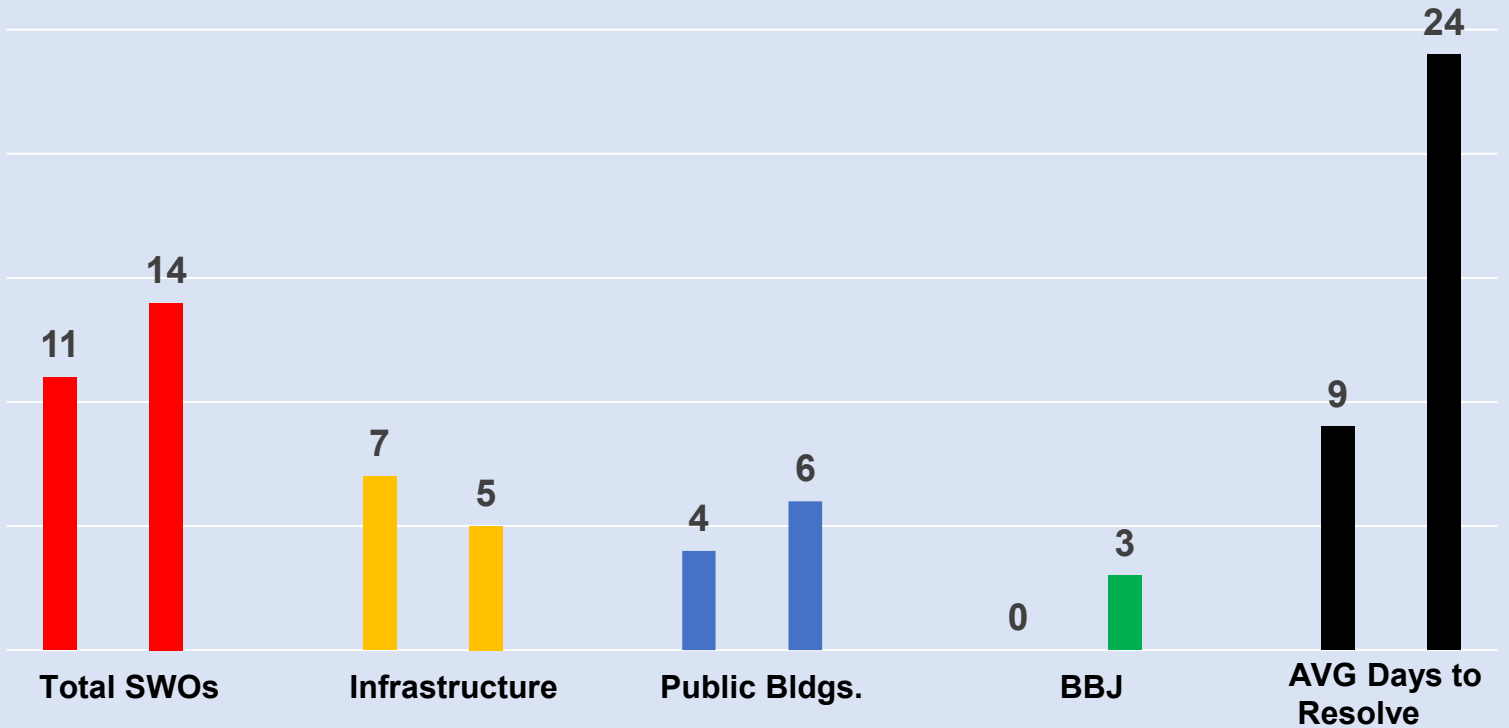
Call 811 – It's the LAW

Important web sites on the protection of subsurface utilities

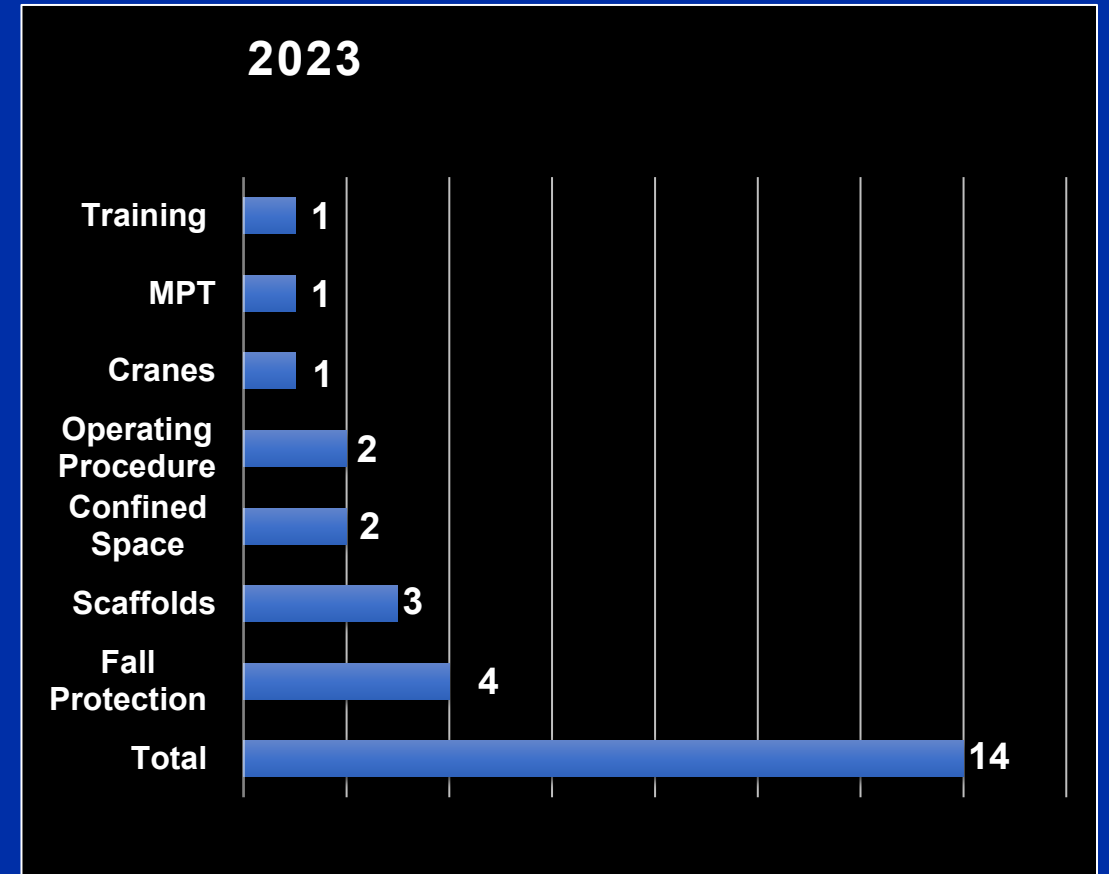
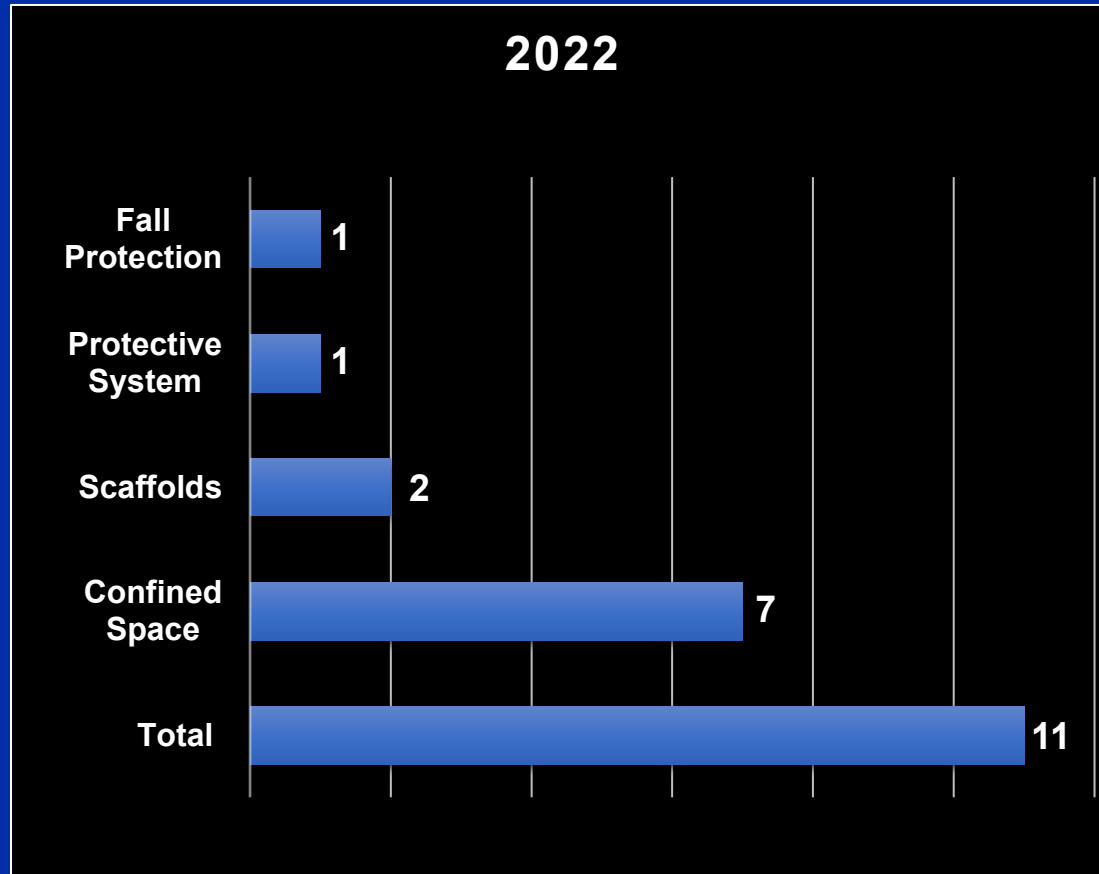
- <https://newyork-811.com/>
- [Manage 811 Tickets - Search and Status](#)
- [NYS Code Rule 753 - Protection of Underground Utilities](#)
- [NYC DOB Earthwork Notification](#)
- [OSHA 1926.651\(b\) thru \(b\)\(4\) - Underground Installations](#)



Partial Stop Work Orders Issued 2022 vs 2023



SWOs by Category – 2022 vs 2023





DDC's Top Five Most Cited Deviations



Fall Protection

Covered under OSHA 1926 subpart M (Fall Protection General), Subpart L (Scaffolds), and Subpart R (Steel Erection).

Frequently cited during field audits:

- No guardrail system or missing parts of guardrail system (mid-rail, toe boards, etc).
- Holes not properly covered, secured and/or labeled.
- Worker not donning harness or not tied off when required.
- Scaffold planks not properly placed or secured.
- Incorrect application of warning line and CAZ.



Benefits of Safe Housekeeping

- Eliminates incidents, accidents, and fire hazards.
- Promotes safe and healthy work conditions.
- Saves time, money, materials, space, and effort.
- Improves productivity and quality.
- Boosts morale.
- Demonstrates the organization cares and is well run.

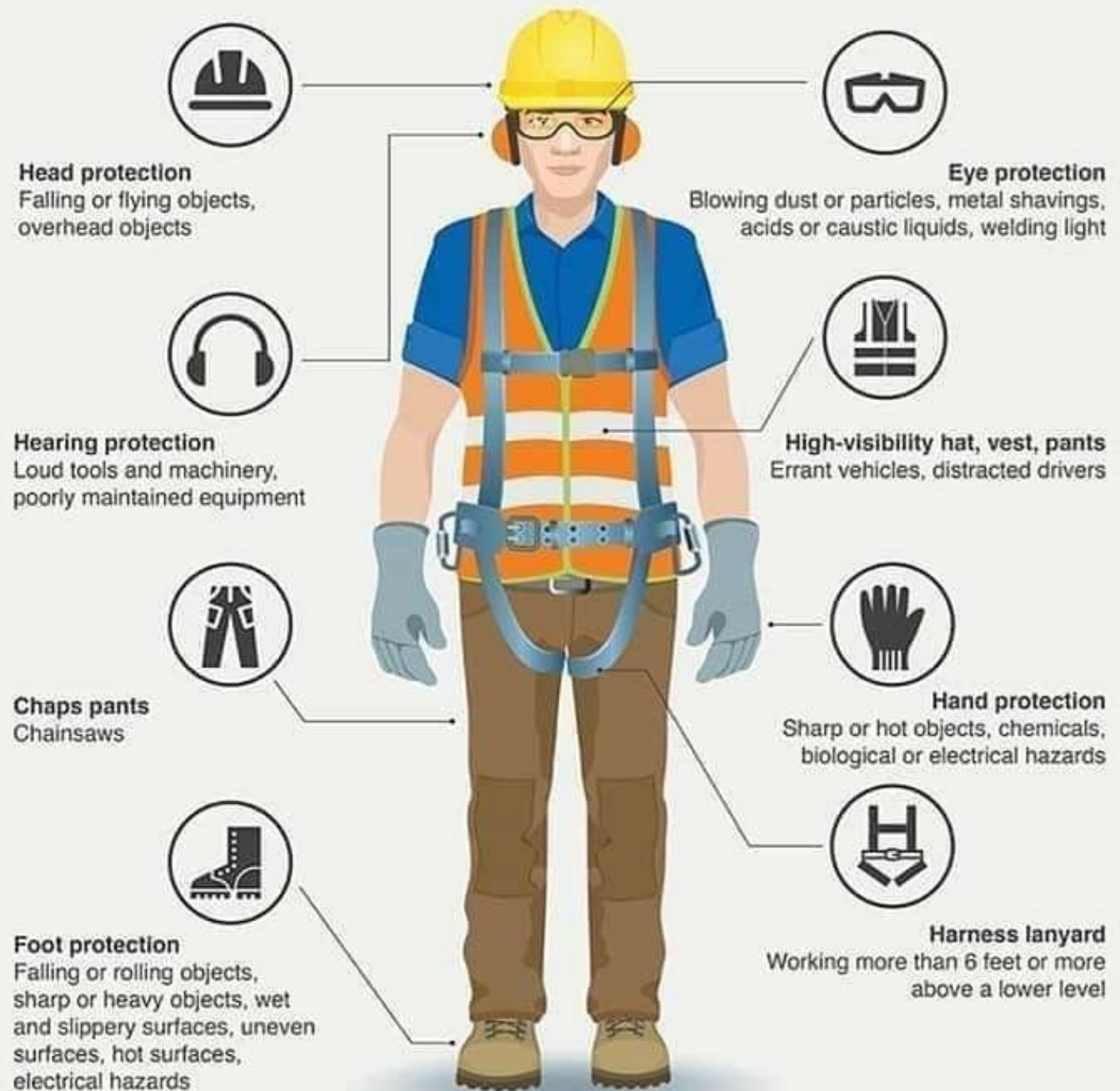


Personnel Protective Equipment (PPE)

OSHA 1926.28 - The employer is responsible for requiring the wearing of appropriate PPE in all operations where there is an exposure to reduce hazards to employees.

Includes but not limited to:

- Head protection (1926.100 & ANSI Z89.1)
- Hearing protection (1926.101)
- Eye and face (1926.102 & ANSI Z87.1)
- Foot protection (1926.96 & ANSI 41.1)
- High visibility apparel (1926.201(a), MUTCD & ANSI 107)
- Hand protection (ANSI 105)
- PFAS / Restraint (1926.104)



Maintenance & Protection of Traffic Plan (MPT)

- MPT required to protect all pedestrians and vehicular traffic within the limits of the work zone.
- MPT drawings maybe provided as part of contract.
- If not part of contract it must be prepared by NYS licensed PE, or when changes to MPT is required.
- MPT plan shall be available upon request, and must conform to existing road conditions, traffic and pedestrian patterns.
- MPT devices such as traffic barrels, pedestrian fencing, timber curbs, signage, etc. properly in place and sufficient in size and number.



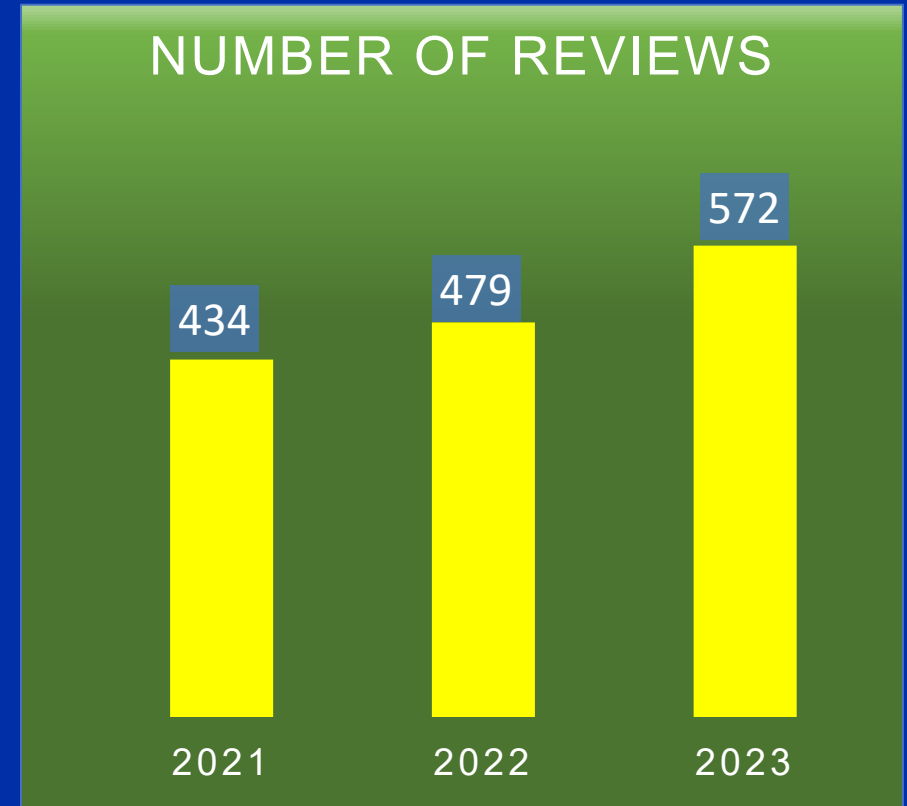
Fire Prevention & Protection

- Hot work permits completed and available upon request.
- Assigned Fire Guard with valid certificate of fitness.
- Functioning and inspected fire extinguishers readily available.
- Emergency evacuation plans conspicuously posted - drills conducted.
- Proper storage of combustible materials and liquids.



Site Safety Plan (SSP)

- Increase in submittals from 2021 to 2023 .
- Project Staff must thoroughly screen SSPs prepared by contractors before submitting to OCS.
- Contractors must strive to resubmit revised SSP within 5 calendar days of review by OCS.
- Ensure what is requested and required is provided.
- OCS provides support by meeting w/project staff and contractor to provide clarification and assistance.
- **DO NOT** hold onto the SSPs.





Multiemployer Sites

New requirements were established and are now required for all DDC construction projects as part of SSP. The GC shall:

- GC's responsibility is to determine if subs will develop and maintain their own SSP or adhere to both.
- Develop procedure to review, approve, and certify subcontractors SSP and JHAs prior to commencement of work.
- Ensure subcontractors SSPs comply with all applicable rules and regulations, and that means and methods are incorporated addressing project specific health & safety hazards.
- Develop procedure on documented training of subcontractors on GC SSP.
- Written procedure on documented communication of existing and created health & safety hazards between GC & sub(s) site conditions.



Structural Integrity Walking & Working Surfaces

- Fall from 15-feet resulting in a major injury.
- Partial roof replacement - deteriorated roof structure.
- The roof structure was not adequately assessed to determine if the walking/working surfaces had the strength and structural integrity to support employees safely OSHA 1926.501(a)(2).
- Employees shall be allowed to work on those surfaces only when the surfaces have the requisite strength and structural integrity.
- If determination cannot be made, worker must wear PFAS.



Personal Protective Equipment (PPE) EP7 & Section U Projects

- Incidents involving arc flash burns.
- Collaboration with natural gas and electric utility operators to develop procedures.
- PPE specifically identified based on task to be performed.
- In addition to DDC requirements, contractors performing EP7 and Section U on DDC projects must comply with utility PPE requirements.
- OSHA 29 CFR 1926.28 states that *employer shall require the wearing of appropriate PPE in all operations where there is an exposure to hazardous conditions.*



HOW CAN SAFETY AWARENESS BE IMPROVED IN THE WORKPLACE?

**Safety
First**



Health



Safety



Environment



Safety Awareness Outreach

- On-site and online presentations given to contractors.
- OCS monthly site visits with open safety discussion and dialogue.
- Provide “tip cards” outlining safety practices.





- Inspect excavations (competent person) before beginning work for signs of unstable soil, atmospheric hazards, or standing water - OSHA 1926.651(g), (h), and (k).
- Slope it, Shore it or Shield it - walls of an excavation can collapse, striking, entrapping and/or engulfing workers. Make sure protective system is in place where required - OSHA 1926.652.
- Provide protective system at excavation 5 feet deep or greater - OSHA 1926.652(a).
- Keep material, spoils, and equipment at least 2 feet away from the excavation edges. The weight of equipment can cause the walls to collapse - OSHA 1926.651(j).
- Provide safe means of entry and egress - OSHA 1926.651(c).
- Call 811 (Toll Free!!) to have underground utilities marked before beginning excavation work - it is the LAW!
- Train all workers on excavation safety. Ensure everyone working in or around the excavation site is aware of the potential hazards.



Falls are among the leading causes of workplace injuries and fatalities. Fall protection is required when construction work is performed at heights 6 feet or more above a lower level. Here are eight safety measures related to fall protection:

1. Guardrail Systems - installed on all open sides of platforms, walkways, and elevated surfaces - OSHA 12926.502(b).
2. Safety Net Systems - installed when guardrail system is not feasible or where workers are exposed to falling objects, OSHA 1926.502(c).
3. Personal Fall Arrest Systems - consisting of body harness, anchorage and connector used to arrest a worker in a fall from a working level - OSHA 1926.502(d).
4. Warning Line Systems - installed around all sides of roof work area - OSHA 1926.502(f).
5. Controlled Access Zones - used to control access to where leading edge and other operations are taking place - OSHA 1926.502(g).
6. Safety Monitoring Systems - designated safety monitor assigned to recognize and warn workers of fall hazards - OSHA 1926.502(h).
7. Covers - for holes in floors, roofs, and other walking/working surfaces - OSHA 1926.502(i).
8. Training - for each employee who might be exposed to fall hazards - OSHA 1926.503.



Confined Space is a space large enough and configured that worker can enter, has limited or restricted entry and egress, and is not designed for continuous occupancy.

- Assess and document hazards of a confined space – performed by a trained competent person – OSHA 1926.1203(a).
- Know the difference between a confined space and permit required confined space – OSHA 1926.1202.
- Confirm confined space program in place – OSHA 1926.1204.
- Train employees on confined space program – OSHA 1926.1207 thru 1211.
- Be aware of existing and potential hazards.
- Test atmosphere prior to entry (top, middle, and bottom) with a calibrated 4 gas meter.
- Ensure sufficient lighting, adequate ventilation, and effective means of communication.
- DO NOT enter unless authorized by entry supervisor.
- Never work alone – use buddy system.
- Check ALL safety equipment (air monitor, communication, harness, PPE, etc.) prior to entry.
- Provide a safe entry and exit and have rescue plan in place - inform rescue team of scheduled entry.

Call or Click Before You Dig

Remember to always dig with CARE:

- C** - Call or Click Before You Dig
- A** - Avoid the locates
- R** - Respect the marks
- E** - Excavate with care



A **UTILITY DAMAGE** has the potential of causing a major service interruption, natural gas leak, fire, explosion, severe injury or fatality. The following steps are key in damage prevention:

- **ALWAYS call before you dig – 811 – It's the LAW and it's free – 16 NYCRR 753-3.1.**
- Wait the required time and ensure positive response from affected utility operators – 16 NYCRR 753-3.3(d).
- Confirm One Call ticket is valid (start date and defined work area) prior to excavating, otherwise new ticket must be called in.
- Verify location of utilities within the tolerance zone by hand excavation – 16 NYCRR 753-3.6(b) and (c).
- Inform the utility operator if the underground facility is not located within the tolerance zone before continuing excavation activity – 16 NYCRR 753-3.7.
- Respect and maintain the marks – NO powered or mechanized equipment in the tolerance zone – 16 NYCRR 753-3.5 and 3.6.
- Provide a spotter where subsurface and overhead utilities are located.
- Support and protect exposed utilities – 16 NYCRR 753-3.12.
- Ensure excavator operators on DDC construction projects have completed NYS One Call training and education program.

Requirements



DDC Safety & Quality Requirements

OCS

- Accident/Incident reporting Procedure.
- 5 W's of reporting an incident/accident.
- DDC Contract Safety Requirements.

OQA

- EIC Call In Form.
- Welding and coating of trunk water mains
- Mix Designs.



DDC Accident / Incident Reporting Procedure

- Report accident, incident and near miss.
- Contractors must inform DDC Project Staff within one hour of occurrence.
- Project Staff, including CM and REI firms, shall notify OCS within 2 hours of occurrence.
- OCS Emergency number is manned 24/7 - (718) 391-1911.
- Telephonic notification must be made, an email is NOT considered a notification.



Five Ws

- **WHO?** Name of person placing the call, the name and title of person involved in the incident or accident, if applicable.
- **WHAT?** Detailed description of the incident, accident or near miss.
- **WHEN?** Date and time of when incident, accident or near miss occurred.
- **WHERE?** Project ID, address of occurrence and specific location.
- **WHY?** Why did it happen?



Office of Quality Assurance (OQA)

- EIC Call-In Forms
- Mix Design Protocol: Generic vs Project Specific Mix Designs
- Portland-Limestone Cement (PLC) use in DDC Projects
- Welding and Coatings of Trunk Main Pipe



EIC Call-In Form

- Applicable to infrastructure projects.
- Prepared and submitted by project field staff to the OQA.
- Identifies materials or activities scheduled on the project (concrete, asphalt, ductile iron pipe, steel watermains, welding, etc.).
- Submitted at least 24 hours before the expected arrival of materials or activity – failure to do so will result in a deviation.
- Form is provided during pre-construction meeting and is also available on the DDC HUB.
- Used to verify compliance with quality standards during OQA and OCS field audits.



NYC DDC Department of Design and Construction		EIC Call-In Form for Construction Activity Safety & Site Support Division Office of Quality Assurance	
At least 24 hours prior to materials placement or work activity taking place, construction Project Staff is to complete and email the form to: Vagnonech@ddc.nyc.gov ; Shehatana@ddc.nyc.gov ; Paolola@ddc.nyc.gov			
Name		Title	
Phone Number	Fax Number	Project Email Address	
Project ID	Contractor	Work Date (MM/DD/YY)	
Asphalt Plant Name and NYSDOT Facility # H -		Concrete Plant Name and NYSDOT Facility # C -	
Backfill Vendor			
Item	Start Time	Amount	Location (Specific address or intersection)
Asphalt Top			
Asphalt Binder			
3200PSI Concrete			
4000PSI Concrete			
High Early Concrete			
Pigmented Concrete			
Backfill			
Excavation			
Item	Start Time	Footage / Diameter / # of Items	Location (Specific address or intersection)
Ductile Iron Pipe (DIP) Installation			
Valves (Gate, Butterfly, etc.)			
Couplings / Exp. Joints			
Welding of Trunk Main Pipe			
Hydrants			
Item	Start Time	Footage / Diameter / # of Items	Location (Specific address or intersection)
Sewer Relining			
Sewer Pipe (Clay or RCP)			
Precast Box Culverts / Manholes			
Other			

Mix Design Protocol: Generic vs Project Specific Mix Designs

- Generic Mix Designs cover most standard mixes included in NYC DEP and NYC DOT specifications:
 - ✓ For Concrete: B-32 AE, A-40 AE, HE AE, 4000 NAE, 4000 NAE with Fly Ash, Outfall Mix, Hydraulic Fill (100 PSI), CLSM, and others
 - ✓ For Asphalt: 3RA (Binder), and 6FRA (Top)
- Project specific approvals no longer required for standard mixes above.
- For Generic Concrete and Asphalt Mixes, plants receive approval to produce mixes for two (2) years.
- Field staff must ensure mix design in use is current and matches the material delivered.
- If there is a specific need for a different mix design, project staff shall submit Project Specific Mix Design to OQA for approval.

Only for DDC OQA processing

CityTM/HE/AE/Generic/NYCDDC/4/23/025 Expiration: 4/30/2025


RECOMMENDED MIX DESIGN

Product	Material Type and Source	Amount per CY	SG	ASTM	NYS DOT Source
Cementitious #1	Type IL (13) Essex	850 lbs	3.08	C-595	125
Cementitious #2		lbs			
Cementitious #3		lbs			
Fine Aggregate	Coram Sand	1010 lbs	2.64	C-33	10-18F
Course Aggregate #1	Tilcon Clinton Point	1825 lbs	2.81	C-33	8-9R
Course Aggregate #2		lbs			
Amount of water		29 gal		C-94	
Admixture 1	Sika Air 160	11 oz	1.01	C-260	1067
Admixture 2	Viscocrete 2100	46.8 oz	1.1	C-494	4048
Admixture 3	Sika Rapid 1	256 oz	1.17	C-494	7008
Admixture 4	SikaSet NC	384 oz	1.37	C-494	7016
Other	Sikatard 440	25.5 oz	1.1	C-494	2034

Slump / Spread (in):	3 ± 1
Air Content (%):	6 ± 1
Unit Weight (Lbs/ft ³)	150.8
W/C Ratio:	0.32

Project No: Generic
"APPROVED"
 NYC DDC - Office of Quality Assurance
 Date: 4/20/25 Reviewed By: S.C.
 LOG No: 2023-025

Recommended for approval by:



Portland-Limestone Cement (PLC) or Type IL

A blend of Portland and Limestone that produces similar or higher performances at a reduced environmental impact. CO2 equivalent emissions during Type IL cement production are 10% to 20% lower than traditional Portland Type I and II.

- Type IL cement contains up to 15% of finely ground limestone.
- Permitted in DDC Infrastructure projects and included in NYC DOT Standard Highway Specifications under *SS 2.10.4 – Blended Cements*
- More than 44 State DOTs use Low-Carbon cement for their projects.
- Multiple plants producing concrete for DDC projects are using Type IL cement. Most cement producers transitioning to produce Type IL exclusively.



Welding and Coatings of Trunk Water Mains

- Polyurethane coatings per AWWA C222 are approved for use in lieu of the commonly used tape wrap (AWWA C214).
- In 2023, OQA performed field and shop inspections of pipes coated with Polyurethane for DDC projects BED776, BBJ-QTWM, and SANDTWOB – all with satisfactory results.
- Welding Procedure Specifications (WPS) are approved by OQA, and all welders must possess a current OQA welder qualification card – verified by project staff.
- OQA conducts field audits to ensure compliance with welding procedures and inspection of field welding operations.
- Project staff to ensure coating is protected, tested for coating damage (holidays), and coating damage repaired by contractors.





STANDARDS



NYC DOB Superintendent Oversight

- Beginning on **January 1, 2024**, no individual may be designated as the primary construction superintendent (CS) for more than three jobs.
- If one of the jobs for which the CS is designated as a primary Construction Superintendent is on a building that meets the definition of a **major building**, the individual may only be designated as the primary CS for that job and may not serve as the primary CS for any other job.



Scaffolds vs Aerial lifts (OSHA 1926 Subpart L)

- An aerial device is a vehicle mounted work platform such as an extensible or articulating boom lift, aerial ladder or vehicle-mounted vertical tower as designed and constructed in conformance with the American National Standards for “Vehicle Mounted Elevating and Rotating Work Platforms,” ANSI A92.2-1969.
- A scissor lift, by definition, is a mobile scaffold and would fall under 1926.451, 1926.452(w) and ANSI A92.6.



Confined Spaces

- Large enough and so configured that an employee can bodily enter it.
- Has limited or restricted means for entry and exit.
- Is not designed for continuous employee occupancy.
- May contain life threatening physical or hazardous atmosphere, including toxic substances, electrocutions, explosions, and asphyxiation – making it a “Permit Required” confined space.
- Reference OSHA 29 CFR 1926 Subpart AA – Confined Spaces in Construction.



Examples of Confined Spaces

- Manholes (sewer, storm drain, electrical, communication and other utility subsurface structures).
- Pits (elevator, escalator pump, valve pits, etc.).
- Large diameter water and sewer mains.
- HVAC ducts.
- Precast concrete and other pre-formed structures.
- Attics, crawl spaces, basements (before steps are installed).



Expectations

Confined Spaces in Construction

- Identify the presence of a Confined Space and Permit Required.
- Documented assessment of the confined space by the competent person – an evaluation of the hazards (physical & environmental) including atmospheric testing.
- All workers engaged in confined space work must be trained in compliance with subpart AA.
- Roles clearly defined and understood (entrant, attendant, entry supervisor, competent person, rescue, etc.).





THANK YOU!

