Saskatchewan Common Ground Alliance

BEST PRACTICES

Version 1.0

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The Saskatchewan Regional Common Ground Alliance (SCGA) is an organization promoting efficient and effective damage prevention for Saskatchewan's vital underground infrastructure. Saskatchewan Common Ground Alliance has developed, through the commitment and consensus of its member, a manual of Best Practices. These practices represent a statement of the type of activities that SCGA believes do provide optimum levels of diligence towards preventing damage to underground infrastructure. Not all stakeholders are presently in a position to adopt these practices, however, it is anticipated that progression will be made towards following the practices over time. The following Best Practices constitute "SCGA Best Practices Version 1:

- Planning and Design
- One Call Centre
- Locating and Marking
- Excavation
- Mapping
- Compliance
- Public Education
- Reporting and Evaluation

Comments and suggestions are welcome. All industry stakeholders are welcome and encouraged to submit suggestions and to join Best Practice Committee meetings. Participation at this level is not restricted to SCGA members.

In order to submit a suggestion or to join a meeting, please check our website at **www.scga.ca** to learn about the SCGA and how you can participate.

Thanks to our sponsors and members for their support and commitment in creating this set of Best Practices for Saskatchewan. For a complete list of sponsors, please visit our website at **www.scga.ca.**

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1-0
Planning and Designing

Practice Statements

1-0 Planning & Design Best Practices

1-1: Gathering Information for Design Purposes

The designer/engineer should use all reasonable and available means of obtaining information about utility facilities in the area to be developed.

1-2: The Protection of Survey Infrastructure

When designing the location for placement of new utility plant, planners and designers should plan it accordingly in order to protect the survey infrastructure so that the public interest may be served and protected.

1-3: Utility Coordination

Project owners and facility owners/operators should regularly communicate and coordinate with each other concerning current and future projects. Consideration should be given to the establishment of Utility Coordinating Committees (UCCs) mandated to deal with specific projects as well as issues of concern.

1-4: Underground Facilities should be locatable

The presence and type of underground facilities should be readily locatable, and may be identified through such devices as tone-able pipes, cables, tracer wire, or locator balls and may also include permanent above and/or below ground markers.

1-5: Follow All Applicable Codes, Regulations, and Facility Owner/Operator Standards

When planning and designing the installation of new or replacement facilities, the designer should ensure compliance with all

- federal and provincial statutes, regulations, codes, standards, and guidelines;
- municipal by-laws; and
- owner/operator standards.

1-6: Use of Competent Contractors

Competent contractors should be used to excavate on and near underground facilities.

1-7: Contact between the Designer/Engineer and Potential Contractors during the Pre-Bid/Bid Phase

Once a project design is completed, the designer/engineer or designate should be available to answer questions and clarify aspects during the pre-bid/bid process.

1-8: Contact between the Designer and the Contractor during Construction

The designer/engineer or designate should be available during the entire construction.

1-9: Sewer/Water main Service Connections

Sewer laterals and water main service connections should be installed and locatable from the main to 1.5m beyond the property line in new subdivisions.

1-10: Sharing of Sewer Main and Lateral Information

Project and facility owners should use all reasonable and available means to share sewer main and lateral information including, but not limited to, location

2-0
One-Call Centre

Practice Statements

2-0 One-Call Centre Best Practices

2-1: Pro-active Public Awareness, Education and Damage Prevention Activities

The one-call centre has an advertising, promotion and liaison program.

2-2: Specifically Defined Geopolitical Service Area with No Overlap

The one-call centre serves the entire Province of Saskatchewan so that an excavator need only make one call for it's members and a facility owner/operator need only belong to a single one-call centre.

2-3: Formal Agreements with Members

Each member of the one-call centre abides by a written agreement that states the rights and the responsibilities of the one-call centre members and the one-call centre.

2-4: One-Call Centre Governance

The one-call centre is governed by a Board of Directors with input from stakeholders.

2-5: Single Toll Free Number with North-American Access

The one-call centre has a single toll free number.

2-6: Hours of Operation

The one-call centre operates from 0800 to 1900 Monday to Friday, excluding holidays. An after-hours answering service shall be provided.

2-7: Voice Record of All Incoming Calls

A voice recording is maintained of all voice transactions concerning requests to locate facilities.

2-8: Retention of Voice Records According to Applicable Statutes

Voice records of all calls concerning requests to locate facilities are kept in retention for three years.

2-9: Caller Feedback

The one-call centre provides the caller with the ticket number and the names of facility owners/operators who will be notified for each locate request.

2-10: Printed Ticket Recall

The one-call centre can provide a printed copy of any ticket for a period of 7 years.

2-11: Documented Operating Procedures, Policies, and Manuals

The one-call centre has documented operating procedures, human resource policies including health and safety and training manuals.

2-12: Flexibility for Growth and Change

The operating plan of the one-call centre is sufficiently flexible to accommodate growth and change.

2-13: Meeting Between the Excavator and Facility Operator(s) Initiated by One-Call Centre Notification

The one-call centre has a process for receiving and transmitting requests for meetings between the excavator and the facility operator(s) for the purpose of discussing locating facilities on large or complex jobs.

2-14: Locate Request

The one-call centre shall endeavour to capture the following information on a locate request: the caller's name and phone number; the excavator's/company's name, address and phone numbers; the specific location of the excavation; the start date and time of the excavation; and the description of the excavation activity.

2-15: Practices to Reduce Over-Notifications

The one-call centre employs practices designed specifically to reduce the number of notices transmitted to facility owners/operators, in which the reported excavation site is outside the owner's/operator's desired area of notification.

2-16: Disaster Recovery

The one-call centre develops, implements, and maintains an effective disaster recovery plan enabling the one-call function to continue in the event of a disaster.

2-17: Remote User Interface

The one-call centre provides users a means of direct, electronic locate request entry that maintains comparable ticket quality to operator-assisted entry.

2-18: Accept Multiple Reference Points for Locate Requests

Where facilitated by the subscriber company, the one-call centre is able to accept multiple types of points of reference to define the exact location of an excavation site (e.g., latitude/longitude, highway, address, street and cross street, etc.).

2-19: One-Call Centre Security

The one-call centre provides appropriate physical and systems security, fire protection and electrical protection to protect the one-call center and its critical components.

2-20: One-Call Quality Standards

The one-call centre establishes performance standards for the operation of the center for the purpose of promoting accuracy, cost effectiveness and efficiency.

2-21: One-Call Centre Mapping

The one-call centre maintains a current street centerline mapping database and updates it as new/revised map data becomes available to the centre.

2-22: One-Call Centre is the Interface between Excavators and Registered Facility Owners for the Purpose of Receiving Locate Requests

The one-call centre is the interface between the digging community (all excavators) and registered owners of buried facilities for the purpose of receiving locate requests.

2-23: Excavators Contact the One-Call Centre Before Excavating

Excavators contact the one-call centre to request locates prior to excavating.

2-24: One-call Centre Advises Excavators to Contact Non-Members Directly

The one-call centre will advise excavators on every request that not all facility owners are members of one-call centre and that the excavator must contact non-members directly to obtain locates prior to excavating.

3-0
Locating and Marking

Practice Statements

3-0 Locating and Marking Best Practices

3-1: Use of Records
Locators utilize on-site facility records at all times

3-2: Record Corrections
If a locator becomes aware of an error or omission, then the locator provides information for the updating of records that are in error or to add new facilities.

3-3: Color Code
A uniform color code and set of marking symbols is adopted province-wide

3-4: Training
Locators are properly trained and training is documented.

3-5: Locator and Public Safety
Locates are performed safely**.**

3-6: Excavation Site Conditions
Facilities are adequately identified for conditions.

3-7: Locate Status
Positive response is provided to facility locate requests.

3-8: Multiple Facilities in "Joint Use" Trench
Multiple facilities in a "joint use" trench are marked individually and with corridor markers

3-9: Locate Method Preference
When locating electro-magnetically, active/conductive locating is preferable to passive/inductive locating

3-10: Facility Identification
The facility owner/operator is identified.

3-11: Damage Reporting
A damaged facility is investigated as soon as possible after occurrence of damage.

3-12: Workload Planning
Forecasting/planning for predictable workload fluctuations is an integral part of all operating practices. A responsive plan is

developed for dealing with unpredictable fluctuations

4-0
Excavation

4.0 Excavation Best Practices

4-1: One-Call Facility Locate Request

The excavator requests the location of underground facilities at each site by notifying the facility owner/operator through the one-call system. Unless otherwise specified in law, the excavator calls the one-call center at least two working days prior to beginning excavation procedures.

4-2: Privately Owned Facility Awareness

Prior to excavating, the excavator must be aware that privately owned buried facilities may exist within the work area and should request the private facility owner (e.g. landowner) to locate their underground facilities.

4-3: Locate Reference Number

The excavator receives and maintains a reference number from the one-call center that verifies the locate was requested.

4-4: Pre Excavation Meeting

When necessary, the excavator or the locator may request a pre-excavating meeting at the jobsite just prior to the actual marking of facility locations. Such pre-excavating meetings are important for major, or unusual, excavations**.**

4-5: Facility Relocations

The excavator co-ordinates work with the affected facility owner/operator and the project owner where temporary or permanent interruption of a facility owner/operator's service is required

4-6: Separate Locate Requests

Every excavator on the job has an appropriate locate form before excavating

4-7: One-Call Access

The excavator has access to the one-call centre between 0800 and 1900 Monday through Friday excluding holidays.

4-8: Facility Avoidance

The excavator uses reasonable care to avoid damaging underground facilities.

4-9: Federal and Provincial Regulations

The excavator adheres to all applicable federal and provincial occupational health and safety legislation and regulations.

4-10: Marking Preservation

The excavator, where practical, protects and preserves the staking, marking, or other designations for underground facilities until no longer required for proper and safe excavation. The excavator stops excavating and notifies the one-call center for re-marks if any facility mark is removed or no longer visible

4-11: Exposed Facility Protection

Excavators support and protect exposed underground facilities from damage.

4-12: Locate Request Updates

The excavator calls the one-call center to refresh the ticket when excavation continues past the life of the ticket. This recognizes that it is a best practice to define ticket life. Ticket life would be 10 working days from the date the locate was performed as noted on the locate sheet, unless otherwise specified by provincial or federal law.

4-13: Facility Damage Notification

An excavator discovering or causing damage to underground facilities notifies the facility owner/operator. All breaks, leaks, nicks, dents, gouges, groves, or other damages to facility lines, conduits, coatings or cathodic protection will be reported.

4-14: Notification of Emergency Personnel

If the damage results in the escape of any flammable, toxic, or corrosive gas or liquid or endangers life, health, property or the environment, the excavator responsible immediately notifies the appropriate authorities and the facility owner/operator.

The excavator takes reasonable measures to protect workers and others in immediate danger; the general public; property, and the environment.

4-15: Emergency Excavation

In the case of an emergency excavation, the excavator notifies the one call center and non subscribers and requests emergency locates. The proposed practice in Saskatchewan is a two hour response time by the facility owner/operator.

4-16: Backfilling

The excavator protects all facilities from damage when backfilling an excavation.

4-17: As-Built Documentation

Contractors installing underground facilities notify the facility owner/operator if the actual placement is different from expected placement.

4-18: Vacuum Excavation Definition

Vacuum excavation is defined as a mechanical means of soil extraction through vacuum when using water or air jet devices for breaking ground. This method of excavation is commonly referred to as "soft excavation technology" and is commonly accepted as being equivalent or safer than hand digging within the "tolerance zone" around underground facilities.

4-19: Operator Competency – Vacuum Excavating

Vacuum excavation equipment shall only be operated by a "competent worker" as defined by OH&S regulations for construction projects. The operator must have knowledge, training and experience to perform the work, be familiar with the OH&S Act and the regulations that apply to the work and have knowledge of all potential or actual danger to health and safety in the work place. It is a best practice that workers have training recognized by the industry, defined work practices and manufacturer's recommended procedures specific to the equipment they are operating.

4-20: Safe Operation of Vacuum Excavation Equipment

Vacuum excavation can be used to excavate safely around utilities if the equipment has been designed and engineered for vacuum excavating according to the manufacturer. Equipment must be operated in accordance with recognized practices and procedures that provide necessary levels of worker and public safety and prevent damage to underground utilities. Excavators should contact the utility owners to determine the extent of their restrictions for the use of this method of excavation around their plant

4-21: Frozen Ground Excavation

A preferred method for excavating within the tolerance zone around any underground utility in frozen ground is to use a vacuum excavation designed and built for this purpose. Excavators should contact the utility owners to determine the extent of their restrictions for the use of this method of excavation around their plant

4-22: Utility Owner Acceptance of Vacuum Excavation Practices
Each utility has a specific criterion for safe excavating practices. Some utilities view Vacuum Excavation as the equivalent to hand digging when exposing their utility and others have restrictions on their use. It is recommended excavators contact the utility owners to determine the extent of their restrictions for the use of this method of excavation around their plant

4-23: Protection of Survey Infrastructure
Every excavator is responsible for recognizing and ensuring the integrity of survey infrastructure.

4:24: Excavation and Public Safety
Excavations are performed safely

5-0
Mapping

Practice Statements

5-0 Mapping Best Practices

5-1: One-Call Center Responsibilities and Use of Mapping

The land base used by the One Call Centre for the electronic mapping system should be accurate and kept up to date with new information from facility owners/operators provided regularly. Ideally, the land base used is available to the public and can produce a ticket for the smallest practical geographical area utilizing latitude/longitude to describe the location.

5-2: Locator Responsibilities and Use of Mapping

Locators use maps to assist in finding the excavation site and to assist in determining the general location of the buried facility. Where discrepancies occur between mapping and facilities location determined by equipment, the locator should notify the owner/operator.

5-3: Excavator Responsibilities and Use of Mapping

The excavator provides accurate excavation location information to the one-call centre.

5-4: Facility Owner/Operator Responsibilities and Use of Mapping

The facility owner/operator collects detailed location information on existing and newly constructed facilities and provides mapping data to the one-call center and the locator on a consistent basis.

5-5: Project Owner Responsibilities and Use of Mapping

The project owner provides accurate information on the scope of work and determines the starting and ending points, ideally by providing basic coordinates which define the centerline or area of construction.

6-0
Compliance

Practice Statements

6-0 Compliance Best Practices

6-1: Public Education

Public education programs are used to promote compliance.

7-0
Public Education

Practice Statements

7-0 Public Education Best Practices

7-1: Know Your Audiences and their Needs

In order to effectively educate about damage prevention and influence damage prevention habits, it is necessary to identify the target audience, establish what their training needs are, and create a communications package that is tailored to those training needs.

7-2: Develop and Use a Marketing Plan

Develop a Marketing Plan that will take in to account the training needs of the participants, available resources, communications media and timeframes.

7-3: Practice Good Project Management

Practice good project management when executing the marketing plan.

7-4: Create a Damage Prevention Message that "Sticks"

When promoting damage prevention, create a message that will "stick".

7-5: Promote the Damage Prevention Message

Promoting the damage prevention message by finding creative ways to persuade the target audience to a) listen attentively to the message, b) remember what they heard, and c) do something different because of it (i.e. - change their behaviors). Since some promotion activities can be expensive, partnering with other stakeholders can reduce costs.

7-6: Establish Strategic Relationships

Establish and nurture strategic working relationships to assist in the promotion of damage prevention.

7-7: Measure Results and Use Them to Improve

Critically review the results and outcomes of the various initiatives. An annual review is essentially a determination of successes and failures, followed by continuous program improvement to implement any lessons learned.

8-0
Reporting and Evaluation

Practice Statements

8-0 Reporting and Evaluation Best Practices

8-1: Reporting information
All stakeholders have the opportunity to report information.

8-2: Standardized information
Standardized information is reported

8-3: Non-compliant stakeholder
Identify the non-compliant stakeholder.

8-4: Accuracy of information
Person reporting provides detailed information.

8-5: Changes in reporting format
Requested information may change.

8-6: Simple process for collecting data
A simple, one page form for collecting data is adapted.

8-7: Training process for collecting data
Training is provided.

8-8: Common database in place
An organization is identified to receive the data.

8-9: Data evaluation process
An independent committee evaluates the data.

8-10: Purpose of data collection
Data is used to improve damage prevention efforts and to evaluate underground damage awareness.

8-11: Data analysis
Data is summarized by key components

8-12: Root cause
Root causes are identified.

8-13: Quantifying results
Results are quantified against a standardized risk factor.

8-14: Results comparison
Performance levels and trends are assessed.

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