STATE OF VERMONT
AGENCY OF TRANSPORTATION
CONSTRUCTION SECTION

2009
ENGLISH/METRIC
CONSTRUCTION MANUAL

SECTION X

SAFETY

10-100 CONSTRUCTION SAFETY

DISCLAIMER: Any discrepancies found between the Safety Section of this Manual and the VTrans Safety Manual; the VTrans Safety Manual will govern.

10-100.10 General

The Construction Section policy on safety can be easily summarized with the statement that the safety of VTrans employees, the Contractor and the traveling public is our number one priority.

Resident Engineers and Inspectors are responsible for promoting safety on the job site. The Resident Engineers and Inspectors shall bring any recognized safety issues to the immediate attention of the Contractor, specifically their safety officer, competent person or superintendent. If the contractor is unwilling to address any safety issue on a project, the Resident Engineer has the authority to shut down the operation in question until the situation has been remedied (Subsections 107.01, Laws to be Observed and 105.10, Authority and Duties of the Resident Engineer of the Standard Specifications for Construction). When it is necessary to shut down a construction operation or project because of a safety concern, the Resident Engineer or their representative will issue a *Written Order* (Appendix A-3) directing the Contractor to discontinue work and include in the *Written Order* the nature of the concern. The Resident Engineer should then inform the Regional Construction Engineer, the Safety Coordinator for the construction Section and the VTrans Safety Officer or the VTrans Hazardous materials Officer for further guidance. If any one of these individuals issues a directive related to safety or hazardous materials, it shall be followed. These individuals are familiar with both VOSHA regulations and many other pertinent regulations. They are the authority for VTrans on anything pertaining to these matters.

10-100.20 Personal Protective Equipment

The staff on the Construction Section is issued the Personal Protective Equipment (PPE) required for the safe performance of their work or has access to the required equipment. Employees shall keep all PPE supplied by VTrans in good working order. It is a requirement that PPE be used as necessary during performance of any and all inspection work by VTrans personnel or contract work done by Contractor personnel. Please consult the Construction Safety Coordinator any time during a project to make sure you are protected against the hazards that exist in the workplace.

Personal Protective Equipment (PPE) is designed to protect you from health and safety hazards that exist in the workplace and its use in required by law. This is not only a requirement for VTrans personnel, but also applies to Consultants working for VTrans. Consultants may contact the Construction Section's Safety Coordinator for additional information on PPE.

From time to time, personnel from other sections, other Agencies, or Departments may visit the work zone. All visitors to the project are required to abide with these safety requirements. An extra hard hat, safety vest, hearing protection, and eye protection should be kept on hand in the field office for visitors to use. The Resident Engineer is the responsible party to ensure compliance with the law. The brief descriptions that follow are intended to provide general guidance; you should always seek project specific advice to ensure compliance.

a. **Hard Hats:** VTrans provides a protective hard hat for all staff and it requires all employees to wear hard hats whenever there is a possible danger of head injury from any work overhead, impact, falling or flying objects, or from electrical shock and burns. There are times when a hard hat is not required; however, the circumstances on a construction project can change quickly. Developing the habit of wearing the hard hat ensures the employee won't inadvertently be placed in a situation for which they are unprepared. There are very few situations where a hard hat would be a detriment so it is a good habit by which to work. If you have any doubt, wear a hard hat.

b. **Safety Vests:** The Construction Section provides high-visibility safety vests to all its employees. Safety vests shall be worn when working within the right-of-way when exposed to traffic or construction equipment. Each employee shall be responsible for maintaining their vest in a clean, serviceable condition. Should a vest become damaged, misplaced, or no longer in good condition, contact your supervisor or the Construction Section's Safety Coordinator to obtain a replacement.

c. **Foot Protection:** VTrans provides safety shoes for field employees once every other year and they need to be worn when the danger of falling or rolling objects exist. When employees are working on or around electrical devices such as traffic signals and street lighting, their safety shoes should be constructed of non-metallic toe protection.

d. **Hearing Protection:** Only approved hearing protection is allowed for use in Construction. The noise level and duration are both factors in determining the exposure and therefore the required protection. The chart below provides duration and sound levels for which hearing protection shall be worn. Construction operations and equipment likely to exceed the permissible noise levels include, but are not limited to: Pavers, rollers, jackhammers, cold planers, rotor milling, pile driving, and blasting.

Duration Per Day (Hours)	Sound Level (dba)
8	90
6	92
4	95
3	97
2	100
1 ~ 1½	102
1	105
½	110
¼ or less	115

e. **Clothing:** VTrans employees are expected to take the necessary precautions to protect themselves from over exposure to weather elements. Excessive heat, sun, cold, moisture, and freezing conditions can impair a person's judgment. Employees should learn to recognize the signs of dehydration and hypothermia in themselves and others and take appropriate action.

   Many other hazards exist on a construction site such as chemical spills or chemical splatter, raw concrete or bituminous concrete and poisonous plants. It's also important when working around equipment or within a construction site, that you don't wear loose clothing, torn pants or shirt. Shorts are not permitted on any VTrans project.

f. **Eye and Face Protection:** Eye and face protection shall be worn when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases, or other hazardous chemicals or products.

10-100.30 Lifting and Material Handling

Lifting and handling heavy or awkward objects are the most common causes of occupational injuries. Back harness or back braces are available and can help reduce the risk of back injury. Using good technique, mechanical lifters, or seeking assistance can often avoid an injury. Work smarter.

10-100.40 Fall Protection

Fall protection is required when a vertical drop is six feet or greater. There are many forms of fall protection, personal fall arrest system with lanyard, lifelines, railings, guard rails and safety nets to name a few. Each condition where fall protection is required should be evaluated by a competent person or Safety Officer to determine which form of protection might work best. This is normally the Contractor's responsibility to provide the fall protection system as part of providing access for the Resident Engineer to inspect the work. The Resident Engineer must assess the conditions of the work site and determine if they have the appropriate personal fall arrest equipment to be used with the contractor's fall protection system.

Personal fall arrest equipment needs to be properly fitted to each individual and must be fitted by a qualified person. An improperly fitting harness will not provide the functionality of the device for which it was designed. The devices must also be periodically inspected by a qualified person to ensure continued performance. Failure to follow these steps places the employee in a potentially dangerous situation which could result in equipment failure. VTrans employees must have a certificate of training in the use of a personal fall arrest system; contact the Construction Section Safety Coordinator for training, fitting, and inspection needs.

The lack of a fall protection system on the part of the Contractor or required equipment for the Resident Engineer is not an excuse for not inspecting the work. If the Resident Engineer or the inspection staff does not have adequate fall protection they must contact the Construction Safety Coordinator to obtain fall protection devices. That will allow them to inspect the Contractor's work in a safe manner.

10-100.50 Working Over or Near Water

Bridge construction and bridge rehabilitation are examples of work that typically involve work over water where the danger of drowning exists. Employees working over or near water where the danger of drowning exists shall wear a U.S. Coast Guard approved personal flotation device. Fall protection systems may in some case negate the need for a personal flotation device. Employees should consult the Construction Safety Coordinator with the site specific situation to ensure personal safety. The Contractor must take additional measures in these situations as required by the regulations.

10-100.60 Traffic Control

Traffic control in work zones is an essential element of construction safety. In our State, the Manual on Uniformed Traffic Control Devices (M.U.T.C.D.) is the State law. In addition to this manual, most projects have a traffic control plan or, for more straight forward applications, you might be referred to a VTrans Standard.

The traffic control package must be meticulously maintained and reflect a clear message to the traveling public in order to provide a smooth and safe flow of traffic through the project. On a daily basis the Resident Engineer shall review and evaluate the project traffic control packages to determine if it is functioning as intended by the design, or if improvements over the design can be made to further enhance the safety of the traveling public and all personnel within the work zone. The Traffic Operations Section and Project Manager should be consulted if there are any significant changes anticipated or questions regarding the traffic control package.

Traffic patterns change and traffic flows vary throughout the day. It is important that the Contractor have competent people oversee and make necessary changes. Other important features of a good work zone is certified flaggers and Uniformed Traffic Control Officers (UTO). It is important to remember the function of a UTO is to control traffic. In the event the UTO is required to leave their post to perform law enforcement, the work zone must be evaluated for safety of the traveling public. If necessary, work may be halted until a replacement can be located.

10-100.70 Excavation

Each employee in an excavation shall be protected from cave-ins by an adequate protective system. The protective systems shall have the capacity to resist, without failure, all loads that are intended to be applied; have adequate egress; be protected from water, gases, or fumes; have an adequate supply of oxygen; be properly designed for the application; and comply with all safety regulations. All devices used shall be free from damage or defects.

Trenching and excavations are a major focus area in construction safety and require careful consideration on the part of the Contractor and Resident Engineer. The regulations are clear regarding the requirements for excavation and trenching and the contractor is responsible to provide a safe work site that meets the regulations. The contractor must have a competent person overseeing these operations.

Another form of employee protection in excavations are sloping, cutting back, or benching. If conditions allow, the following illustrations may apply. Remember this type of operation is soil type dependant and the soil type must be determined by a qualified person. There are three basic soil types:

Type A: clay, silty clay, sandy clay, cay loam, silty clay loam, and sandy clay loam.

Type B: angular gravel (similar to crushed stone), silt, silt loam, sandy loam, silty clay loam, and sandy clay loam.

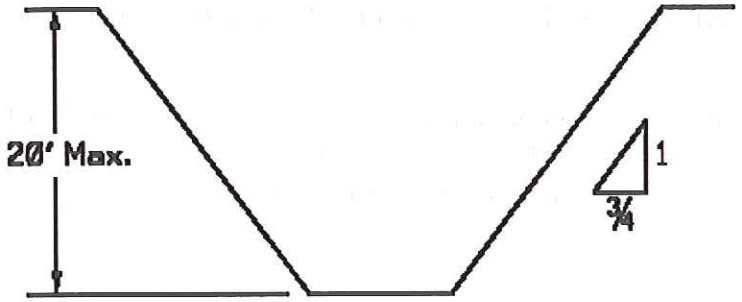
Type C: gravel, sand, loamy sand or soils from which water is seeping, or submersed unstable rock.

Shown below are some examples of slope configurations with the various soil types mentioned. If this type of excavation protection is used and soil type is uncertain, always go to the extreme and plan for the worst conditions, Type C soil.

Slope Configurations
(All slopes stated below are in the horizontal to vertical ratio; H:V)

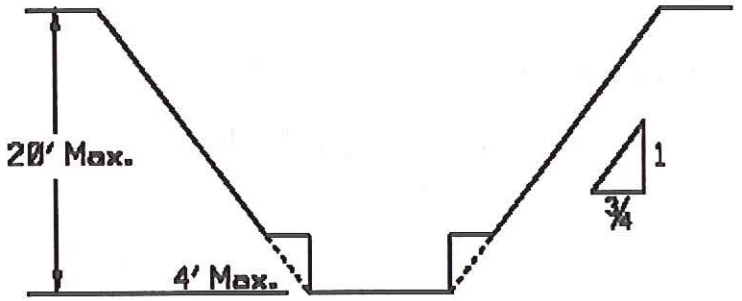
B-1.1 Excavations made in Type A soil.

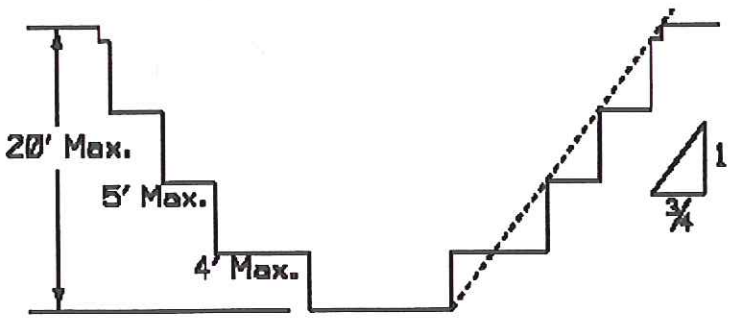
1. All simple slope excavation 20 feet or less in depth shall have a maximum allowable slope of ¾:1.



Simple Slope – Short Term

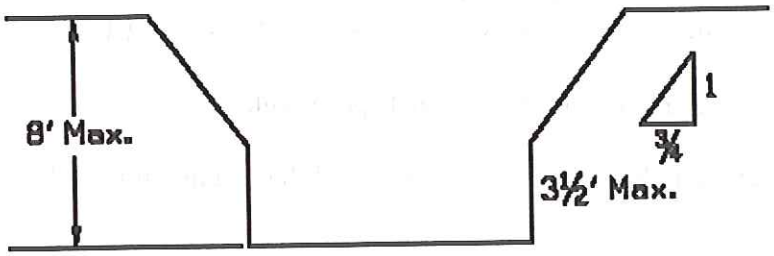
2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of ¾:1 and Maximum bench dimensions as follows:





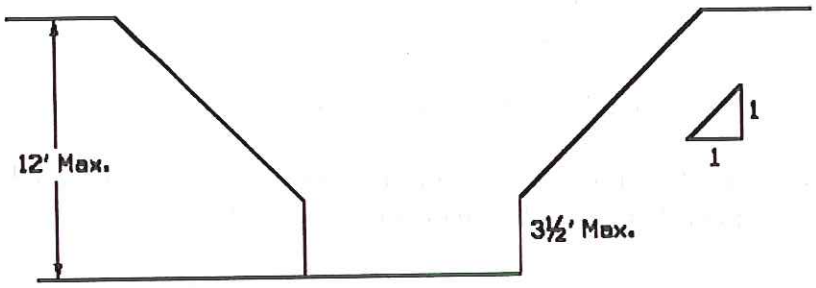
Multiple Bench

3. All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical side of 3 ½ feet.



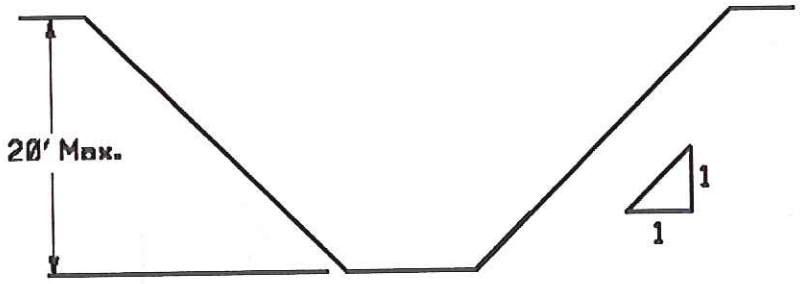
Unsupported Vertically Sided Lower Portion – Maximum 8 Feet in Depth

All excavations more than 8 feet but not more than 12 feet in depth which unsupported vertically sided lower portions shall have a maximum allowable slope of 1:1 and a maximum vertical side of 3 ½ feet.

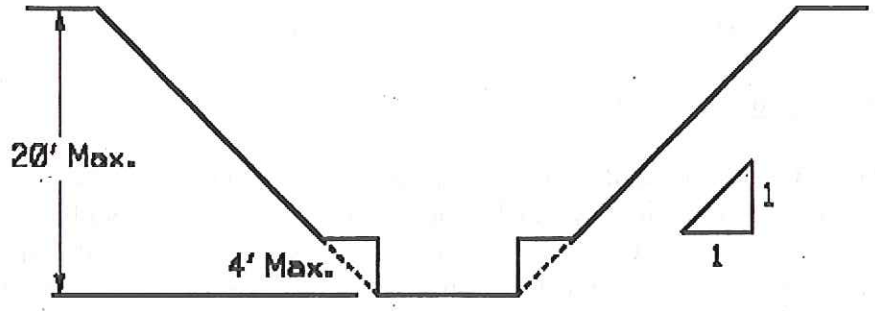


B-1.2 Excavations Made in Type B Soil

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.

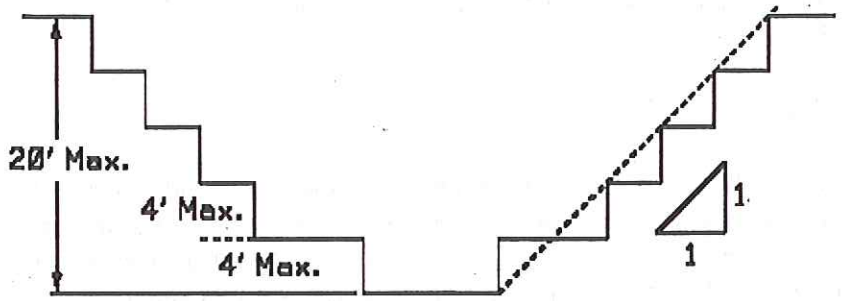


This bench allowed in cohesive soil only.



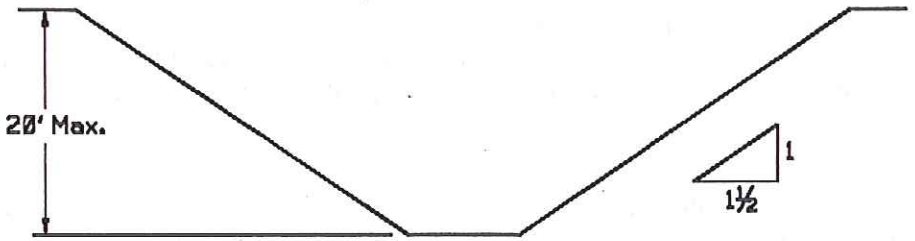
Single Bench

This bench allowed in cohesive soil only.



B-1.3 Excavations Made in Type C Soil

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1 1/2:1



Access and Egress: Where a trench is 4 feet (1.25 meters) and greater in depth a method of egress must be provided. It can be in the form of a stairway, ladder or ramp or other approved means and shall be located no more than 25 feet (8 meters) of lateral travel for employees.

10.100.80 Blasting

VTrans shall permit only authorized and qualified persons to handle and use explosives. Additional reference should be made to Subsection 107.11, Use of Explosives of the Standard Specifications for Construction.

10-100.90 Toxic and Hazardous Material

Any material of this nature shall be accompanied by a *Material Safety Data Sheet* (MSDS) and material container(s) labeled appropriately. Material suppliers will forward this documentation with their products and Section 1910.1200 of the Occupational Health and Environmental Controls requires employers (Contractor) using these chemicals to inform their employees and downstream employers (VTrans) of the potential hazards associated with the use and application of these materials. Copies of the MSDS should be kept on file in both the field offices. For materials used on our construction projects that are tested by VTrans at the Material & Research Laboratory the Resident Engineer should obtain a copy of the MSDS from the Materials & Research Chemist.

10-100.100 Hazardous Spills

As soon as possible, but no later than 2 hours after the occurrence of a spill of 2 gallons or more of a hazardous substance, or if any amount of a hazardous substance reaches a waterway, the Resident Engineer must contact the Hazardous Materials Coordinator at 828-2797, 229-8740 (cell), 250-4666 (pager) or Contact the VTrans Safety Officer at 828-2585, 272-9054 (cell phone), 250-4667 (pager).

10-100.110 Erected Structures

Many of our projects require large or heavy masses to be lifted into place such as sheet piling for cofferdams, temporary bridges, structural steel, and pre-cast concrete to name a few. The relevant pay item will require the Contractor to submit erection plans in advance of the work and must be stamped by a Professional Engineer; any deviation from the plans of record must be approved by the Professional Engineer of record.

When the Contractor lifts objects not covered by a pay item, or lifts associated with pay items that do not have the erection plan requirement, the Contractor still maintains a responsibility to comply with applicable regulations. The use of cranes, slings, chains and bars are all addressed in the regulations and the Contractor's competent person must be qualified to oversee the safety of the operation.

10-110 OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)

10-110.10 General

The *Accident Prevention of PR Form 1273* (included in all Federal Aid Construction contracts) makes the Occupational Safety and Health Act regulations a part of all Federal Aid Construction contracts.

As with other laws incorporated in the contract, either directly or by reference, FHWA and VTrans officials are obligated to cooperate with the enforcing agencies to the fullest extent practicable by making the project inspection by these agencies feasible, observing and reporting potential violations, and using sanctions available under the contract to enforce compliance where necessary.

Occupational Safety and Health Act regulations have been published in the *Federal Register* and have also been summarized by AASHTO in *An Information Guide on Occupational Safety on Highway Construction Projects*. These publications are available in the Construction Headquarters.

OSHA regulations have been adopted by the Vermont Department of Labor and Industry and are available through that department under the titles:

VOSHA Safety and Health Standards for Construction
VOSHA Safety and Health Standards for General Industry

Copies of these publications are available in Construction Headquarters. The AASHTO Guide includes a "brief summary for reviewing occupational safety and health provisions on highway construction projects" which is included below.

10-110.20 Preconstruction

Before construction is actually started, VTrans inspection personnel should:

1. Become conversant with the occupational safety and health regulations for construction.
2. Become fully familiar with the plans and specifications for the project.
3. Identify those aspects of the work meriting special attention from the standpoint of hazard elimination.
4. Participate in a Preconstruction Conference (See Section 2-130.20, Preconstruction Conference) with the Contractor to discuss safety. The following points specific to safety should be covered:
    a. The contractual obligation of the contractor for complying with Federal construction safety standards.

b. Availability of the safety standards that apply to the contract.
c. Discuss the safety program of the contractor, identify the safety officer for the organization and identify the competent persons as defined by the OSHA regulations.
d. The Contractor's responsibility for seeing that subcontractors comply with safety regulations.
e. The Contractor's plans for meeting specific safety requirements and for eliminating potentially critical hazards on the project.
f. Have a written record placed in the project file covering safety

10-110.30 Construction Operations

When construction starts, and throughout the project life, VTrans personnel in their observation of the Contractor's operations should be alert to note safety violations and take measured action immediately. Action may range from calling it to the attention of the Contractor and providing an opportunity to take corrective action to immediate cessation of all activities. The Resident Engineer has a tremendous responsibility for safety but also has resources on which he can rely. Safety is a team approach and collectively we must make safety a priority. It is not possible or practical to provide exacting directions to staff for every situation in this manual. Employees must rely on the training they have been provided, their own experience and the support services offered in Construction and VTrans to make informed decisions so the right action is taken.

The following list; based on federal construction safety standards, indicates some of the principal requirements that must be met. Resident Engineers and Inspectors should read the VOSHA Regulations for the specific type of work that they are inspecting. Regulations for the job being performed can be found at the following web address http://www.state.vt.us/labind/Vosha/ruleslaws.htm or a hard copy can be obtained through Construction Headquarters.

1. First Aid and Medical Services. The Contractor must provide readily accessible first aid kits; and in the absence of an infirmary, clinic, hospital, or physician that is reasonably accessible in terms of time and distance to the worksite; a person who has a valid certificate in first-aid training. Telephone numbers of doctors, hospitals, and ambulances must be conspicuously posted.
2. Housekeeping. Scrap and used materials, scattered debris, and combustible scrap that would constitute hazards to workers must be cleared from work areas.
3. Noise Exposure. If effective means cannot be provided to lower noise level exposures to permissible levels, personal protective equipment must be provided.

4. Personal Protective Equipment. Personal protective equipment for eyes, face, head, and extremities; protective clothing, respiratory devices, and protective shields and barriers shall be provided and maintained whenever it is necessary to protect employees.
5. Fall Protection. Each employee exposed to an unprotected side or edge which is 6 feet (1.83m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety new system, or personal fall arrest systems unless specific requirements make exceptions.
6. Scaffolds. (Exception to #5) Scaffolds 4 ft. (1.22m) to 6 ft. (1.83m) in height, having a minimum dimension in either direction of less than 45 inches (1.14m) shall have guardrails on all open sides. Scaffolds more than 10 ft. (3.05m) above the ground must have guardrails and toe-boards.
7. Hand Tools. Electrically powered hand tools must be of the double-insulated type or grounded. Hand held power tools must be equipped with constant pressure switches. Power actuated tools must be operated by employees trained in the operation of the particular tool.
8. Ladders. Ladders shall not be loaded beyond the manufacturers rated capacity and shall extend at least 3 ft. (.91m) above an upper landing surface.
9. Cranes, Derricks, etc. Rated load capacities, recommended operating speeds, special hazard warnings, or instructions shall be conspicuously posted on all equipment; visible to the operator while at the control station. Inspections shall be conducted of all equipment as required. Electrical distribution lines near equipment should be de-energized and grounded or insulating barriers erected to prevent contact with the lines. Otherwise operation must allow at least 10 feet (3.05m) clearance from live (5OKV or below) power lines.
10. Motor Vehicles and Mechanized Equipment. Motor vehicle equipment having an obstructed view to the rear shall have reverse signal alarm audible above the surrounding noise level or shall back up only when an observer signals that it is safe to do so.
11. Protection of Employees in Excavations. Employees in excavations shall be protected from cave-ins by an adequate protective system except when:
    - Excavations are made entirely in stable rock; or
    - Excavations are less than 5 feet (1.52m) in depth and examination of the ground by a competent person provides no indication of a potential cave-in.
12. Concrete Reinforcing Steel and Form Work. All protruding reinforcing steel onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement. Forms must be erected and braced so as to withstand without failure all vertical and horizontal loads that may reasonably be anticipated.

13. Structural Steel Assembly. During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts, or the equivalent, at each connection and drawn up wrench tight.
14. Cofferdams. If overtopping of the cofferdam by high waters is possible, means shall be provided for controlled flooding of the work area. Warning signals for evacuation of employees in case of emergency shall be developed and posted.
15. Explosives. Only authorized and qualified persons shall be permitted to handle and use the explosives. Smoking, firearms, matches, open flame, lamps, and other fires, flame, or heat producing devices and sparks shall be prohibited in or near explosive magazines or while explosives are being handled, transported, or used.
16. Handling traffic through and around construction. Temporary roadways and detours must be properly maintained and satisfactory traffic control measures must be used such as signs, barricades, and flag-persons.

The items listed above are for general guidance and if there are differences between these items and the regulations, the regulations shall govern.

10-110.40 General Checklist of the Contractor's Overall Safety Program

1. Does the Contractor make frequent safety inspections of operations on the project? Does this include Subcontractor operations?
2. Does the Contractor train their employees to recognize and to avoid unsafe conditions and practices related to their individual work assignments?
3. Are periodic safety meetings held with employees?
4. Are all accidents investigated by the Contractor, recorded, and reported?
5. Does the Contractor keep currently informed on governmental safety regulations and standards?
6. Does the field staff for the Contractor follow the company safety plan?

10-110.50 Violations

When VTrans inspection staff observes blatant safety violations the matter must be brought to the Contractor's attention immediately. If verbal notification does not result in corrective action, a *Written Order* (Appendix A-3) should be issued, the regional engineer and safety coordinator contacted by voice. The written order will direct the Contractor to cease work on the operation or project until the matter is brought into compliance with the regulations.

Should the Contractor fail to follow the *Written Order*, the Resident Engineer should again notify the Contractor in writing that they have failed to follow the *Written Order* and that inspection activities on project will now terminate.

In extreme cases the police or VOSHA may deserve to be contacted. Safety Officer will be responsible for notifying VOSHA. Ultimately VTrans personnel can not allow a Contractor's actions to jeopardize the safety and welfare of the workers or the public.

All safety issues should be recorded on the contractor performance evaluation and forwarded to the Construction Services Engineer for distribution to the Prequalification Committee.

10-120 FIRST REPORT OF INJURY

10-120.10 General

Any VTrans employee who is injured on the project must contact the Construction Executive Assistant or the Construction Safety Officer to report this injury. The employee must fill out a *First Report of Injury* form (Appendix J-1) and submit it to Program Development's Personnel Coordinator with a copy to the Construction Executive Assistant and Construction Safety Coordinator within 72 hours of the injury. This form can also be obtained by contacting Construction Headquarters.

10-130 TRAFFIC SAFETY ENFORCEMENT WITHIN CONSTRUCTION WORK ZONES

10-130.10 General

VTrans has a Memorandum of Understanding with the Vermont Department of Public Safety – State Police Division to provide traffic safety enforcement within construction work zones. The State Police have agreed to provide traffic safety enforcement on construction projects as requested by the Construction Section. VTrans also has an Agreement with the Agency's Department of Motor Vehicles, Field Forces Division, to also provide traffic safety enforcement on construction projects.

10-130.20 Types of Projects Covered Under This Memorandum of Understanding

Project funds to provide traffic safety enforcement on VTrans projects are authorized by FHWA and allocated by the Project Manager for the following types of projects. This authorization and allocation normally takes place prior to bid letting:

- Interstate projects
- Projects on the National Highway System
- Some projects on high profile Secondary Roadway Systems

There may be some instances where funds have not been specifically allocated to a project prior to bid letting. In this case the Project Manager must obtain all required approvals. The Resident Engineer shall file all approvals with the project records.

10-130.30 Procedure to Request the State Police/DMV to Provide Traffic Safety Within the Construction Work Zone.

If the Resident/Regional Engineer deems that there is a need for speed enforcement, they are to:

1. Contact the Construction Executive Assistant and let them know at least a week ahead of time, if possible, that they would like to have the State Police/DMV Field Forces perform traffic safety on their project.
2. Designate the amount of hours per week, while the Contractor is working, that they would like the enforcement provided.
3. Provide a timeframe, i.e.; from June 20 – July 26. Also whether or not the Contractor works on Saturdays.

Once contacted, the Construction Executive Assistant will contact the State Police Coordinator to inform the State Police of when their services are required and where the project is located. The Coordinator in turn will contact the Regional Barrack's appointed contact and the appropriate Barracks Coordinator will ensure that traffic safety services are provided within the parameters we have specified in the Memorandum of Understanding. At the same time, the State Police Coordinator of DMV will be notified. Traffic safety enforcement will be provided by both entities, and coordinated strictly through the State Police. The State Police/DMV will provide a minimum of two hours each time they are on project, unless recalled for enforcement emergencies.

Upon the State Police/DMV providing an officer within the construction zone, they will in turn contact the Resident Engineer when they arrive on the project and when they leave the project site. The State Police and DMV have been provided a copy of the *Field Emergency Contact Sheets* (Appendix J-2) and also a copy of the spreadsheet designating which projects may be requesting their services.

It is the Resident Engineer's responsibility to note the hours that the Public Safety/DMV personnel are on their project(s), in the *Daily Work Report* (Appendix B-1).

The Department of Public Safety will provide the Construction Section monthly invoices. Upon arrival in the Construction Headquarters, the invoice in turn will be sent to the Resident Engineer for verification of hours and they will need to initial the invoice and return it to the Construction Headquarters for processing of payment.

DMV will provide monthly reports indicating the hours they provided traffic safety enforcement on our construction projects.

Services that VTrans Construction Section will provide to the Department of Public Safety, State Police Division, and VTrans DMV Field Forces Section are as follows:

1. All plans, maps and drawings as are presently on file with VTrans, if requested.
2. A list of all projects, including the official name, project number, and the expenditure account number to charge their time against.
3. The name and contact numbers for the Resident and Regional Engineer overseeing the project(s) where the Department of Public Safety, State Police Division, and the VTrans DMV Field may contact them.
4. Ensure that the sign package containing speed limits are placed and maintained appropriately.

10-130.40 The State Police / DMV Will Provide the Following Documentation to the Construction Section

1. Copies of any, and all, accident reports written within the work zones.
2. Will maintain daily log of on-project activity, which includes warnings issued, tickets issued and other pertinent information which provide an indication of general traffic speed.
3. A detailed activity report yearly for each project covered.

10-130.50 U-Turn Authorization Certificate for Limited Access Highways

When working on a limited access highway, State employees, Contractor and Subcontractor employees may use the U-turns IF they have the proper paperwork in their vehicle, the proper equipment visible on their vehicle and follow the guidelines as outlined in the Agency's *Safety Manual* (see Appendix J-)

1. Resident Engineer can access the U-turn Authorization Certificate on the G:\Forms\Field Forms\General or the CD that is handed out at the Annual Construction Spring Meeting. Resident Engineer fills in all pertinent information, forwards to the Regional Program Services Clerk, who in turn, at the direction of the Resident Engineer, can add additional project personnel, Prime Contractor personnel and Subcontractor personnel as needed. Once completed, the document is electronically forwarded to the Construction Executive Assistant for further processing.
2. Once the document is approved by the Construction Engineer, the document is returned to the Resident Engineer with copies to the Vermont State Police, Regional Project Files, Construction Headquarters Files and the Construction Executive Assistant's Files.
3. If the document is for the Prime Contractor, a letter (Appendix J -) accompanies the document to the Prime with instructions for distribution to their personnel and copies sent to the Resident Engineer, Regional Project Files, Construction Headquarters Files, Construction Executive Assistant's Files, and Vermont State Police.

4. If the document is for a Subcontractor, a letter (Appendix J -) accompanies the document to the Subcontractor with instructions for distribution to their personnel and copies are sent to the Prime Contractor, Resident Engineer, Regional project Files, Construction Headquarters Files, Construction Executive Assistant's Files, and Vermont State Police.

10-140 PROJECT VISITORS

10-140.10 General

All project visitors conducting VTrans business shall report to the Construction Field Office and/or Resident Engineer before proceeding to the work area. The Resident Engineer or project staff should make the superintendent aware that there are visitors on the project.

The Resident Engineer and/or field Inspector(s) shall be responsible for making sure that the visitors on project are limited to areas on the project that will not in any way endanger them. Visitors are expected to wear personal protective equipment, or they will not be allowed to visit areas of the work that would require this equipment.

10-150 INCIDENT REPORTING / INVESTIGATION

10-150.10 General

All VTrans Construction employees are obligated to report any incident that results in personal injury or property damage to Construction's Safety Coordinator.

Please note that all incidents must be clearly and concisely documented in the *Daily Work Report* (Appendix B-1) for that specific day. The following gives some additional guidance in regard to incident management. Please note that in the absence of Construction's Safety Coordinator, the VTrans Safety Officer should be contacted. The Resident Engineer is also responsible for notifying both the Regional Construction Engineer and Construction Engineer of the incident.

10-150.20 Incidents with Property Damage

As stated in the General Section above, it is imperative to first contact Construction's Safety Coordinator to report the incident and obtain guidance in the handling of the event. The Construction's Safety Coordinator may decide that the accident needs a project visit for follow up, or may indicate that the incident reporting can be conducted as outlined in Section 10-150.40, Incident Reporting.

10-150.30 Incidents with Personal Injuries

Minor Injuries: The first point of contact should be to the local rescue squad or 911, and then follow up with Construction's Safety Coordinator. Construction's Safety Coordinator may decide that the accident needs a project visit for follow up, or may indicate that the incident reporting can be conducted as outlined in Section 10-150.40, Incident Reporting Construction's Safety Coordinator will be responsible for any follow up with VOSHA, State Police, and VTrans Legal Section.

Major Injuries: The first point of contact should be to the local rescue squad or 911, and then follow up with Construction's Safety Coordinator. A *Written Order* (Appendix A-3) should be issued to close the site to public access and to the Contractor, unless access is required for emergency efforts. Construction's Safety Coordinator will be responsible for any follow up with VTrans Safety Officer, VOSHA, State Police, and VTrans Legal Section. The Resident Engineer should conduct a preliminary review on site, but the reporting will be the responsibility of Construction's Safety Coordinator.

10-150.40 Incident Reporting

It is extremely important to gather the following information regarding any and all incidents that result in personal injury and/or property damage:

1. Facts about who specifically was on project and who was responsible for the specific aspects of the work. (Contractors, Subcontractors, Suppliers, Visitors, Inspectors)
2. Photographs of the project including the entire traffic control package, the accident scene and any other general photographs that will help an investigation. You can't take too many pictures.
3. Make sketches of the surroundings indicating where any equipment and materials are located.
4. Obtain the names and contact information for witnesses.