



TETRA TECH EC, INC.

### SAFETY PLAN CHANGE APPROVAL FORM

N68711-98-D-5713 CTO: 83 \_\_\_\_\_  
Date 9/16/05 Amendment Number \_\_\_\_\_

Project Name: Point Molate Install Treatment System Project Number: 1990

Section of SHSP: 3 and 4 Page Number: \_\_\_\_\_

Change to read: Scope of work has been modified to include removal of an oil water separator and the installation of treatment system using granular activated carbon (GAC) and the re-installation of pipes and the oil water separator.

Since this work is not specifically addressed in the *Final Site-Specific Health and Safety Plan, Operation and Maintenance of the Extraction Trench, Packaged Groundwater Treatment Plant and Stormwater Treatment Ponds, Point Molate, Richmond, California* (SHSP) dated July 29, 2002, the SHSP is modified to incorporate Activity Hazard Analyses (AHA) for the proposed task. The AHAs for the tasks associated with this added work are attached to this form.

Reason for change: Work not previously described in SHSP.

Approvals: [Signature]  
Project Superintendent or Manager

N/A  
SSHS

[Signature]  
PESM (CIH)

## ACTIVITY HAZARD ANALYSIS (AHA) #1

ACTIVITY Mobilization and site setup

ANALYZED BY/DATE R.Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
1. Identify chemical hazards for the project in each work area.	Potential exposure to chemical hazards.	<p>Delineate exclusion zones and use PPE specified in SHSP.</p> <p>Visual observation shall be used to verify selection of PPE.</p> <p>Identify all chemical hazards and receive training (MSDS) regarding safe handling of chemicals. The SHSS will file copies of all MSDSs at the site.</p>
2. Identify any noise hazards, especially from tools and equipment that may be used in setting up the work area.	Noise exposure could cause temporary or eventually permanent loss of hearing.	Hearing protection is required when sound levels exceed 85 dBA continuously.
3. Anticipate exposure to insects that can bite.	Biological hazards such as insects or spiders could cause illness or skin irritation from bites.	<p>Wear appropriate clothing; bright colors tend to attract insects.</p> <p>Use insect repellent as necessary.</p>
4. Examine work area for hazards.	Slip, trip, and fall hazards.	Work areas shall be visually inspected and slip, trip, and fall hazards shall be marked, barricaded, or eliminated, if feasible. Use care in work area; look for depressions and obstructions.
	Sharp objects/punctures.	<p>Wear cut-resistant work gloves when sharp edges or other objects may cause the possibility of lacerations or other injury. When possible, sharp edges will be blunted.</p> <p>Workers should not stand or walk on equipment or supplies.</p>
	Strains from manually moving materials and equipment.	<p>Personnel shall be directed to use proper lifting techniques such as keeping the back straight, lifting with legs, limiting twisting, and getting help when moving bulky/heavy materials and equipment. Use of hand truck shall be encouraged.</p> <p>Employees will not lift more than 50 pounds.</p>
	Exposure to extreme temperatures.	Monitor for heat stress. Provide fluids and rest breaks during warm weather and while wearing impermeable protective clothing.
	Eye hazards.	Safety glasses are the minimum required eye protection for all work areas.

**ACTIVITY HAZARD ANALYSIS (AHA) #1**

ACTIVITY Mobilization and site setup

ANALYZED BY/DATE R.Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
	Lack of communication in widely dispersed areas.	<p>Ensure each work team has a telephone or access to a telephone for communication.</p> <p>If more than one team at a time is working, ensure there is communication between the work teams and project management. Workers must work in teams of two or more. Each team must use the "buddy" system.</p>
5. Driving pickup trucks and delivery vehicles.	Workers injured while driving vehicles.	Follow all driving rules and regulations. Always wear seat belts whenever vehicle is in motion. Licensed drivers only may drive vehicles.
	Struck by or against vehicles.	<p>Wear high-visibility reflective vests at all times in work areas.</p> <p>Make eye contact with operators of vehicles. Use the buddy system.</p> <p>Understand and review posted hand signals. Traffic barricades, signs, flags, and backup spotters will be used during field activities, as necessary.</p>
6. Use of tools to construct and set up areas.	Power and hand tools if improperly used or damaged could cause injury to workers.	<p>Inspect all tools before each use. Discard or tag out any tool that is not safe, has broken handles, patched handles, missing guards, and so forth.</p> <p>Personnel will be trained in the proper use of hand and power tools.</p> <p>If power tools are connected to power sources other than batteries, the tools will be grounded or double insulated and connected to a GFCI outlet.</p>
7. Lifting supplies and materials.	Injury from placing hands between materials, being struck by materials, and from improper lifting causing strain to the back.	<p>Identify and avoid pinch points.</p> <p>Maintain communication with others involved in material handling. Use the buddy system.</p> <p>Never place materials in such a manner that it obstructs your vision.</p> <p>Always lift properly using the legs, do not lift any object 50 pounds or greater (get assistance), never twist at the waist when lifting and holding materials.</p>

## ACTIVITY HAZARD ANALYSIS (AHA) #1

ACTIVITY Mobilization and site setup

ANALYZED BY/DATE R.Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
8. Installation of utilities.	Employees could be electrocuted during installation or due to improper installation.	<p>Only qualified electricians are allowed to hook up or disconnect electrical circuits.</p> <p>Follow a written lock-out procedure such as the one in the Base Wide Plan, or a lock out plan that meets the same requirements.</p> <p>Electrician will not work on any energized circuits on site.</p> <p>If electricity from nearby buildings is used, verify that it is acceptable to the Base to use those sources. In all cases, ensure that all connections meet NEC requirements. Ensure that voltage, amperage, and circuit breakers are rated for the equipment to be used.</p>
	Extension cords and connectors could be damaged or improper for tools used causing potential injury to workers or damage to tools.	<p>Inspect all extension cords daily for structural integrity, ground continuity, and damaged areas.</p> <p>Use extension cords rated for hard usage in damp environment. [S, SJ, SJO, SV and others listed in National Electrical Code (NEC) Section 401].</p> <p>Document extension cord inspection.</p> <p>Do not pass temporary wiring through walls, doors, or windows (extension cords are one type of temporary wiring).</p>
		<p>Use ground fault circuit interrupters on all outdoor 115-to-120-volt, 20-ampere or less, circuits.</p> <p>Cover or elevate electric wire or flexible cord passing through work area to protect it from damage by foot traffic, vehicles, sharp corners, projections, or pinching. (Do not place cords through pipes.)</p> <p>Keep plugs and receptacles out of water unless they are approved submersible types.</p> <p>Ground all electrical circuits in accordance with the NEC or other applicable regulations or standards.</p>

## ACTIVITY HAZARD ANALYSIS (AHA) #1

ACTIVITY Mobilization and site setup

ANALYZED BY/DATE R.Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
9. Use of generator for temporary electrical supply.	Improper connections or installation of generator could cause electrocution of workers.	<p>If a generator is used, be sure it is a type that does not require grounding. If it requires grounding, follow manufacturer's directions. NEC 250-6 lists the exceptions for grounding portable and vehicle-mounted generators.</p> <p>Follow the other requirements specified above in this AHA.</p> <p>Ensure that the outlets on the generator are protected by GFCI. If they are not, be sure to install an inline portable GFCI.</p>
10. Refuel generator.	Improper refueling of generator could expose workers to fuel, expose the environment to fuel, or cause a fire.	<p>Never refuel a generator while it is running, unless the manufacturer specifies that this can be done. (Normally this is allowed only during emergencies or where shutdown of unit would significantly impair operations.)</p> <p>Avoid refueling while the engine is hot.</p> <p>Workers should review the MSDS for fuel for the type of fuel used and follow all safe handling precautions.</p> <p>A person must attend to all refueling activities at all times. Never lock a fuel nozzle in an on position and walk away to do something else.</p>
		<p>Never refuel in an environmentally sensitive area. Either move the unit away from the area before refueling or place an impermeable barrier (plastic liner) under the generator.</p> <p>Have spill control supplies readily available.</p>

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles.
Equipment, hand tools	Inspect all equipment and tools before each use.	Specific training for equipment and hand tools will be provided.
Power tools	Inspect before each use. Tools must be listed by a recognized testing laboratory such as UL, CSA or FM.	Review operators manual for each tool and ensure that directions are followed.
Generator	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.

**Notes:**

- AHA - activity hazard analysis
- dBA - decibels, A-scale
- CSA - Canadian Standards Association
- FM - Factory Mutual
- GFCI - ground fault circuit interrupter
- MSDS - Material Safety Data Sheet
- NEC - National Electrical Code
- PPE - personal protective equipment
- SHSP - site health and safety plan
- SHSS - Site Health and Safety Specialist
- UL - Underwriters Laboratories

## ACTIVITY HAZARD ANALYSIS (AHA) #2

**ACTIVITY** Install 6" Bypass Hose

**ANALYZED BY/DATE** R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
1. Remove soil above and around leachate pipeline between elevation 85 and 67 feet.	While digging, the HDPE pipe could be damaged.	Hand dig where necessary and applicable. Avoid using excessive downward thrusts into the soil.
	Employees could be struck by heavy equipment such as a Bobcat® or similar.	Always maintain eye contact with operator of equipment. Operator must avoid excessive speed especially when backing. Use the buddy system.
	If using a shovel, worker could be injured by repetitive motion or failure to follow safe shoveling techniques.	Alternate task among workers. When shoveling, avoid twisting at waist. Rather, pivot on feet to turn and place load.
	Slip, trip, and fall hazards could be present as trench is dug to unearth pipe.	Visually inspect work areas and mark, barricade, or eliminate slip, trip, and fall hazards. Only work on walking/working surfaces that have the strength and integrity to support employees safely. Openings 18 inches or more in diameter must be covered and marked. All openings less than 18 inches in diameter and all holes must be marked or barricaded. Trench if left open must be barricaded.
2. Cut pipe.	Pipe could leak contents into environment.	Ensure pipe has been drained. Place spill control materials nearby. If possible, place an absorbent pad under the area of the pipe to be cut.
	Location could create a traffic hazard.	Locate vehicle in an area that will not obstruct traffic.
	Cuts and abrasions could while cutting or handling pipe.	Use leather gloves when moving or handling objects with sharp contact points.
	If using a powered cutting tool, workers could be injured by blade of the tool or could be electrocuted if the tool is electrically powered.	Power tools when connected to a generator or other power source must be grounded or double insulated. All cords and extension cords must be inspected daily. All outdoor connections must be made to a GFCI protected circuit. Generator must be inspected daily, installed as required by the manufacturer and grounded if required by the manufacturer. All workers must have training on the use of tools and the generator.  Tools must be inspected before use and all guards must be in place.
	While cutting material could get into eyes.	Wear safety glasses.
3. Assemble hose with hose coupling.	Use of hand tools could cause injury to workers.	Hand tools must be inspected before use. Discard tools that are damaged. Do not use excessive force when joining coupling to hose.  If using, blade knife, always use point away from body. Avoid use of excessive force.

## ACTIVITY HAZARD ANALYSIS (AHA) #2

**ACTIVITY** Install 6" Bypass Hose

**ANALYZED BY/DATE** R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
4. Install bypass hose.	Pipe ends of leachate pipe could be sharp from the recent cutting causing injury to worker when connecting the hose or damage to the hose.	Smooth the edges of the HDPE pipe before connecting the hose. Wear leather work gloves.
	Use of excessive force could cause injury to worker.	Avoid use of excessive force.

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles
Equipment, hand tools	Inspect all equipment and tools before each use.	Specific training for equipment and hand tools will be provided.
Power tools	Inspect before each use. Tools must be listed by a recognized testing laboratory such as UL, CSA or FM.	Review operator's manual for each tool and ensure that directions are followed.
Generator	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.

**Notes:**

- CSA - Canadian Standards Association
- FM - Factory Mutual
- GFCI - ground fault circuit interrupter
- HDPE - high density polyethylene
- UL - Underwriters Laboratories

## ACTIVITY HAZARD ANALYSIS (AHA) #3

ACTIVITY Remove and Reinstall Strainer      ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
1. Lift strainer.	Lifting of equipment and materials from vehicle could cause strain to worker.	Use proper lifting techniques such as keeping the back straight, lifting with legs, limiting twisting, and getting help when moving bulky/heavy materials and equipment. Use hand truck if needed. For loads greater than 50 pounds, use two people to lift.
	Cuts and abrasions could occur while moving equipment and materials.	Use leather gloves when moving objects with sharp contact points.
	Slip, trip, and fall hazards could be present.	Visually inspect work areas and mark, barricade, or eliminate slip, trip, and fall hazards. Only work on walking/working surfaces that have the strength and integrity to support employees safely. Openings 18 inches or more in diameter must be covered and marked. All openings less than 18 inches in diameter and all holes must be marked or barricaded.
	Use of hand tools could cause injury to workers.	Hand tools must be inspected before use. Discard tools that are damaged. Power tools when connected to a generator or other power source must be grounded or double insulated. All cords and extension cords must be inspected daily. All outdoor connections must be made to a GFCI protected circuit. Generator must be inspected daily, installed as required by the manufacturer and grounded if required by the manufacturer. All workers must have training on the use of tools and the generator.
	If using a piece of heavy equipment to raise the strainer, the rigging used to lift the item could slip or break. Nearby workers could be injured if unit drops.	Ensure that rigging and all associated equipment are inspected by a competent person. Workers will never work under a load. Workers should also avoid standing near a load. If load must be "guided" attach a tag line and stand a distance away from the load as it is being moved.

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles.
Equipment, hand tools	Inspect all equipment and tools before each use.	Specific training for equipment and hand tools will be provided.
Power tools	Inspect before each use. Tools must be listed by a recognized testing laboratory such as UL, CSA or FM.	Review operator's manual for each tool and ensure that directions are followed.
Generator	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.

**Notes:**

- CSA - Canadian Standards Association
- FM - Factory Mutual
- GFCI - ground fault circuit interrupter
- UL - Underwriters Laboratories

## ACTIVITY HAZARD ANALYSIS (AHA) #4

ACTIVITY Prepare Ground and Place Temporary Storage Tank

ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
1. Level ground to prepare for storage tank, using a Bobcat® or similar vehicle.	Vehicle could hit someone or something.	Use spotters when positioning vehicle if needed. Ensure spotters know how to communicate with driver of vehicle.
	Slip, trip, and fall hazards could be present.	Visually inspect work areas and mark, barricade, or eliminate slip, trip, and fall hazards. Only work on walking/working surfaces that have the strength and integrity to support employees safely. Openings 18 inches or more in diameter must be covered and marked. All openings less than 18 inches in diameter and all holes must be marked or barricaded.
2. Temporary tank is delivered by vendor.	Ground may not be level.	Verify levelness of ground before placing tank on ground. Determine tank orientation.
	Tank could strike a worker as it is being placed.	While tank is being placed workers will stand a safe distance away from the operation. When tank is being placed use spotters as necessary. Use the buddy system.
3. Use 6-inch hose to route HDPE pipeline into storage tank.	Workers could fall when climbing tank if hose must be placed in top of tank.	Use steps or ladder on tank following safe climbing procedures (always maintaining 3 points of contact). It may be necessary to tie a rope to the hose, climb the ladder with rope attached around the waste, when at the top use the rope to lift the hose to the top of the tank.
	Failure to secure hose could cause release of material to the environment.	Ensure hose is adequately tied off or connected to the tank.

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles.
Bobcat or similar equipment	Inspect daily as required by manufacturer.	Operator must be fully aware of operational procedures, especially regarding the position in cab and the attachments used with the equipment. Operator's manual must be on site including any manuals applicable to the interchangeable attachments used.
Equipment, hand tools	Inspect all equipment and tools before each use.	Specific training for equipment and hand tools will be provided.
Power tools	Inspect before each use. Tools must be listed by a recognized testing laboratory such as UL, CSA or FM.	Review operator's manual for each tool and ensure that directions are followed.
Generator	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.

**Notes:**

- CSA - Canadian Standards Association
- FM - Factory Mutual
- UL - Underwriters Laboratories

## ACTIVITY HAZARD ANALYSIS (AHA) #5

ACTIVITY Construct Concrete Foundations ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
1. Carry wood and supplies to the site of the pad.	Lifting of heavy or unevenly weighted wood and supplies could cause strain or injury to worker.	Do not lift more than 50 pounds without assistance. Wood of larger dimensions and uneven weight distribution must be handled mechanically or by two persons.
2. Cut wood for forms.	Workers could be injured by power saw when cutting wood. Eye injuries from flying wood chips. Wood used for forms, workers could receive splinters from wood.	Inspect wood for splinters, burrs, or sharp points. Handle forms with leather work gloves. Follow manufacture's operating instructions for power saw. Inspect tool before use. Check the blade with the power cord unplugged. Ensure all guards are in place. Ensure power cord is connected to GFCI protected circuit. Know how to use saw properly. Wear hearing protection. Other workers should stand way from cutting operation. Wear safety glasses.
	Noise from saw.	Wear hearing protection while using saw.
3. Nail forms together.	Usually a hammer or sledge hammer is used for installing. Use of hammer could injure nearby workers or present muscle strain to the worker.	Ensure that area near the hammer user is clear of nearby workers so that workers are not hit by the hammer. All workers will wear hard hats and safety glasses. Rotate tasks among workers, so that no one worker will have a strain as the result of a repetitive task.
4. Insert and connect rebar.	Cut by rebar. Impaled by rebar Rebar could strike another worker as it is being carried.	Handle rebar carefully, be sure to be aware of persons working near your. Wear leather work gloves when handling rebar. Cover ends of all rebar that is vertical (with rebar caps) when people are working above end.
5. Truck arrives and is set up at site.	Defective truck or equipment could cause potential injury to workers. Truck may not be positioned safely on flat ground or stable soil, causing truck to roll or tilt.	Check engine oil, hydraulic oil, and radiator water before starting engine. Inspect machinery and mobile equipment per equipment checklist. Inspect all safety covers, instruments, gauges, grates, tires, outriggers, etc., for safety and proper operation. Verify that proper clean-out equipment is available. Always be sure that the path of the truck, and the ground that it is positioned on, can accept the weight of a loaded truck. If truck must be positioned at a slight angle, be sure to place chocks under the wheels to prevent additional movement of the truck.
6. Position truck at pour points along pad.	Failure to communicate directions could result in error or injuries. Workers could be struck by truck	Always maintain contact with truck operator. Use a spotter.
7. Operate valves and controls for delivery of cement.	Reaching into the valve or water box could cause injury.	Never reach into the valve or water box. Covers must be in place when machine is in operation.

## ACTIVITY HAZARD ANALYSIS (AHA) #5

ACTIVITY Construct Concrete Foundations ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
8. Pour cement into forms.	Exposure to cement materials can cause skin irritation. Struck by cement delivery chute.	Avoid direct contact with cement. Obtain and review MSDS for cement and controlled density fill. Wear protective clothing (coveralls, neoprene or nitrile gloves, rubber or neoprene over boots, safety glasses, and face shield) when handling cement. Work a safe distance from delivery chute. Cement truck driver will not move truck until given okay by designated ground person. (Only one person will be authorized to give directions to truck operator.)
9. Level and float cement.	Workers fall into poured cement. Workers strain themselves as they float the pad.	Ensure surface has sufficiently set before "walking the pad" for floating. Use assistants and rotate task among workers for leveling.
10. Remove forms.	Workers could injure themselves with hammer or wood as they knockout the forms. Splinters when carrying wood. Lifting could strain workers.	Carefully use hammer when knocking out forms. Ensure other workers are out of the way. Wear leather work gloves and safety glasses. Do not carry more than 50 pounds without assistance.

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles.
Equipment, hand tools	Inspect all equipment and tools before each use. Discard damaged or defective tools.	Specific training for equipment and hand tools will be provided.
Cement pumping truck, hand tools, power tools	Daily or before use. Equipment must be inspected and certified as operational by a competent person.	Only trained equipment operators may operate heavy equipment; only DMV-licensed personnel will operate trucks. The operator of the cement pump truck must be qualified and documentation of specific training must be provided. Specific training for power tools and hand tools.
Generator	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.

**Notes:**

- dBA - decibels, A-scale
- DMV - Department of Motor Vehicles
- GFCI - ground fault circuit interrupter
- MSDS - Material Safety Data Sheet

## ACTIVITY HAZARD ANALYSIS (AHA) #6

ACTIVITY Remove and Reinstall OWS

ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
1. Use hand tools to remove connections and fittings.	Use of improper or defective tools. Lack of knowledge on use of tools.	Training on safe use of tools. Inspect tools before use and discard defective tools.
	Pinch points while using tools.	Avoid placing hands between objects while using tools. Wear leather work gloves.
	OWS may still contain fluids that can spill into the environment.	Drain separator as much as possible. Contain contents when transporting. Have spill control supplies readily available.
2. Lift unit using a forklift or heavy equipment with rigging.	Load not level and centered when carried. Improper rigging, causing unit to fall while being lifted.	Inspect machinery and mobile equipment per equipment checklist. Inspect construction equipment per Form R-150R. Ensure load is centered. Rigging to be performed by a competent person. Ensure lifting straps, chains or wire rope can support the weight of the lift.
	Lifting of equipment and materials from vehicle could cause strain to worker.	Use proper lifting techniques such as keeping the back straight, lifting with legs, limiting twisting, and getting help when moving bulky/heavy materials and equipment. Use hand truck if needed. For loads greater than 50 pounds, use two people to lift.
	Cuts and abrasions could occur while moving equipment and materials.	Use leather gloves when moving objects with sharp contact points.
	Slip, trip, and fall hazards could be present.	Visually inspect work areas and mark, barricade, or eliminate slip, trip, and fall hazards. Only work on walking/working surfaces that have the strength and integrity to support employees safely. Openings 18 inches or more in diameter must be covered and marked. All openings less than 18 inches in diameter and all holes must be marked or barricaded.
3. Carry unit to new pad.	Uneven terrain causing load to drop or equipment (because of center of gravity) to overturn.	Establish and clear the path of travel. Carry the items slowly.
	Workers stand too close to unit while it is being carried.	Never stand under or near any load. Use tag line if necessary to guide the unit as it is carried.
4. Place unit on pad.	As unit is lowered it could drop from sling, wire rope or chain.	Lower unit, slowly. Workers should stand back as it is lowered to new pad.
5. Install fittings and connections.	Use of improper or defective tools. Lack of knowledge on use of tools.	Training on safe use of tools. Inspect tools before use and discard defective tools.
	Pinch points while using tools.	Avoid placing hands between objects while using tools. Wear leather work gloves.

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles.
Equipment, hand tools	Inspect all equipment and tools before each use.	Specific training for equipment and hand tools will be provided.
Power tools	Inspect before each use. Tools must be listed by a recognized testing laboratory such as UL, CSA or FM.	Review operator's manual for each tool and ensure that directions are followed.
Generator	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.

**Notes:**

- CSA - Canadian Standards Association
- FM - Factory Mutual
- OWS - oil water separator
- UL - Underwriters Laboratories

## ACTIVITY HAZARD ANALYSIS (AHA) #7

**ACTIVITY** Install process tank

**ANALYZED BY/DATE** R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
1. Arrange for crane.	Failure to provide crane of proper size could cause inability to lift and place load safely.	Determine weight of each piece of equipment to raised, boom length and angle. Calculate critical lift.
	Crane operator not qualified causing potential injury to workers or damage to crane and equipment.	Crane operator must have a certificate of training that is current and acceptable to the state of California.
	Crane not properly inspected, coordination with NTR for inspection not performed.	Ensure date of delivery is coordinated with NTR. Superintendent, SHSS and crane operator will conduct inspection upon arrival of crane. Inspect equipment per Form R-150R.
2. Crane arrives at site.	Overhead lines create potential for electrocution.	Do not move crane into any work area until a site layout plan has been completed and route of travel to the work site has been assessed for hazards (overhead lines and stability of roads and ground). At the pre-activity safety briefing, discuss site layout plan and analysis of route of travel, along with AHAs. Do not place crane within 15 feet of any overhead electrical lines. Use a spotter for positioning as necessary.
	Ground is not stable enough to support crane and outriggers.	Inspect ground where outriggers will be placed. If necessary use recommended cribbing for support of outrigger.
	Maneuvering crane on road and in site area.	Use leather gloves when moving objects with sharp contact points.
	Slip, trip, and fall hazards could be present.	Visually inspect work areas and mark, barricade, or eliminate slip, trip, and fall hazards. Only work on walking/working surfaces that have the strength and integrity to support employees safely. Openings 18 inches or more in diameter must be covered and marked. All openings less than 18 inches in diameter and all holes must be marked or barricaded.
3. Process equipment arrives by truck.	Delivery truck must climb hill slope and get equipment as close as possible to installation area. Area has narrow roads and a sloped hillside.	Ensure with vendor that truck can enter the area as the truck is loaded. It may be necessary to inform vendor in advance of shipment to ensure truck is loaded in a configuration that will work best for the site.
	When removing tie downs, straps, wire ropes or chains can snap back. Load could have shifted during transport.	Carefully release tie down. Other workers should stand back while this is done. Inspect load before releasing tie downs (it may be necessary to use a piece of equipment to push shifted item back into position).
4. Lift equipment from truck using crane.	Improper inspection of rig rigging and failure to rigging of adequate size could cause load to drop during the lift.	Ensure that rigging and all associated equipment are inspected by a competent person.
	Crane could contact overhead lines.	Ensure there are no power lines within 15 feet for entire lift.

## ACTIVITY HAZARD ANALYSIS (AHA) #7

ACTIVITY Install process tank

ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
	High winds could destabilize crane. Mast could act as a conductor during a thunderstorm.	Check weather conditions and forecasts to determine if conditions are acceptable for use of crane. Do not operate if winds exceed manufacturer's recommended tolerances.
5. Place process equipment on pad.	Failure to lower load slowly could cause load to drop and damage load, the crane, the concrete pad, or injure nearby workers.	Lower load slowly.
	Workers could be injured by load if they are too close to the load as it is lowered.	Workers will never work under a load. If load must be guided into position use tag lines until load is just a few inches above position. At that time the worker can move closer to the load, but must still stand back so that when load is placed into final position, the workers feet are not under the load. Use the buddy system.
	Worker could be exposed to noise.	Wear earplugs whenever crane is in operation, if necessary.

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles.
Equipment, hand tools	Inspect all equipment and tools before each use.	Specific training for equipment and hand tools will be provided.
Crane	Upon arrival, before each use and as required by manufacturer. Use checklist specifically devised for crane inspections (Form R-150R). Crane must have official certification of inspection by a recognized organization.	Operator must have a certificate - current within last 3 years.
Power tools	Inspect before each use. Tools must be listed by a recognized testing laboratory such as UL, CSA or FM.	Review operator's manual for each tool and ensure that directions are followed.
Generator	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.

**Notes:**

- AHA - activity hazard analysis
- CSA - Canadian Standards Association
- FM - Factory Mutual
- NEC - National Electrical Code
- NTR - Navy Technical Representative
- SHSS - Site Health and Safety Specialist
- UL - Underwriters Laboratories

## ACTIVITY HAZARD ANALYSIS (AHA) #8

**ACTIVITY** Install Pipelines

**ANALYZED BY/DATE** R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
<p>1. Inspect work area/excavation for pipelines that will be buried.</p>	<p>Excavation hazards: improper shoring or sloping could cause excavation to collapse, accumulation of water can erode excavation, and personnel could be struck by operating equipment. Loads in equipment could drop on top of workers. Workers or others could inadvertently fall into an excavation.</p>	<p>Reverify all utility markings. Ensure proper shoring or sloping. Spoil banks and equipment must be at least 3 feet away from the excavation. [Cal-OSHA requires at least 2-feet from the edge of the excavation.] If personnel must enter excavations: For excavations that are over 4-feet in depth, ladders will be placed in excavation to provide access and egress within 25 feet lateral. For example, one ladder placed in center of 50-foot lateral provides egress within 25-feet on either side. Ramps must have a minimum slope of 1.5:1.</p> <p>Daily inspections of excavation, the adjacent areas and protective systems shall be made by the project-assigned competent person.</p> <p>Workers will never work under loads. Use the buddy system.</p>
<p>2. Conduct Safety Inspection excavators or backhoes, dump trucks, water truck (for dust control) and site pickup trucks.</p>	<p>Slips, trips and falls, caught in between, pinch-points, cuts, and damage to equipment if not in good working condition.</p> <p>Failure of equipment to operate in a safe manner.</p> <p>Broken hydraulic/oil lines could cause burns.</p>	<p>When accessing heavy equipment (climbing on or off) always use the "Three Points of Contact" system to prevent falls. Crew needs to remain alert to work flow and hazards as they change. Equipment Safety Inspections must be conducted for each piece of equipment; use the correct forms. An inspection of oil lines and connections should be performed and any suspect leaks should be reported immediately to Management. Do not use equipment until they are repaired or specifically authorized by the Project Superintendent or Project Manager. Operator's manual must be on-site and reviewed to ensure proper inspection and operation of equipment.</p>
<p>3. Excavate the soil.</p>	<p>Heavy equipment hazards.</p>	<p>Equip all heavy equipment on this project with rollover protection systems and backup alarms.</p> <p>Stay clear of moving equipment unless necessary. (If working near equipment workers must be in visual contact with the operator.) Be aware of the swing radius of the equipment, especially the counterbalance on an excavator.</p> <p>Inspect all equipment per equipment checklist daily before use to ensure proper maintenance is being performed.</p> <p>Make eye contact with operator, heavy equipment has right-of-way.</p>

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ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
4. Use of shovels.	Strains from use of shovels.	Maintain steady work pace. Avoid pivoting at waist, rather, pivot using feet. If possible, rotate tasks among the workers. Inspect tools to ensure they are in good condition.
5. Handling pipes and other materials.	Cuts and abrasions could occur while moving equipment and materials.  Slip, trip, and fall hazards could be present.	Use leather gloves when moving objects with sharp contact points.  Visually inspect work areas and mark, barricade, or eliminate slip, trip, and fall hazards. Only work on walking/working surfaces that have the strength and integrity to support employees safely. Openings 18 inches or more in diameter must be covered and marked. All openings less than 18 inches in diameter and all holes must be marked or barricaded.
6. Lay out alignment of main 3-inch process pipeline. Mark locations of concrete thrust blocks and supports.	Use of marker paint could cause workers to be exposed to paint fumes.	Avoid working downwind of spray paint. Review MSDS of paint used. Wear required PPE, if necessary.
	Use of stakes could cause injury to workers if they should fall while carrying stakes. Workers could be injured while hammering stakes into ground.	Always carry stakes with points facing downward. Carry stakes in a canvas bag. Use an appropriate hammer for the stakes. Wear safety glasses to prevent splinters from getting into eyes.
	Stakes could present a trip hazard.	After placing stakes visibly mark the stakes with high visibility paint or ribbons.
7. Construct concrete thrust blocks and supports.	Use of heavy equipment to place blocks and supports. Workers could be injured by the heavy equipment, by the load as it swings into position or as it is placed on the ground.	Use a tagline to guide load. Never stand under a load or too close to a load as it is being "swung" into position.
	Improper rigging of load if heavy equipment is used could cause load to fall and injure a worker.	Ensure proper rigging of load. Never stand under a load.
	Placing of hands between blocks as they are placed or between block and pipeline could cause worker to injure hands.	Avoid placing hands between objects as they are placed. Wear heavy leather work gloves.
8. Install pipeline, valves and instruments.	Use of crane or other heavy equipment to lift pipe into position with improper rigging, could cause injury to workers should the load drop.	Ensure proper rigging of load. Never stand under a load.
	Swinging load could cause injury to nearby workers.	Use a tag line. Never worker under a load.
	Improper connection of valves could cause inadvertent release of materials into the environment or expose workers.	Ensure all connections are secure before performing any testing with air or fluids.

**ACTIVITY HAZARD ANALYSIS (AHA) #8**

ACTIVITY Install Pipelines

ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
	Use of glues could cause exposure of workers to fumes.	Review MSDS of glues used. Wear protective gloves as required.
	Use of a butt fusion welder could cause thermal burns to worker, cuts to hands.	Qualified operator required to operate butt fusion welder. Wear leather work gloves. Ensure all welded parts are cool before handling. (Note there is a required "resident" time before pipeline is moved after welding.)
	Leak testing of line by air pressure could cause inadvertent release of pressure causing injury to worker from projectiles.	Never pressurize a PVC line above 15 psi. Lines of other material such as HDPE may be tested to a pressure as authorized by an engineer and not to exceed 1/2 of the bursting capacity of the pipe material. Ensure all valves are securely attached. Wear hard hat, safety glasses, and other required PPE.

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles
Equipment, hand tools	Inspect all equipment and tools before each use.	Specific training for equipment and hand tools will be provided.
Power tools	Inspect before each use. Tools must be listed by a recognized testing laboratory such as UL, CSA or FM.	Review operator's manual for each tool and ensure that directions are followed.
Generator	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.
Butt fusion welder	As required by manufacturer	Qualified and trained operators (certificate)

**Notes:**

- Cal-OSHA - California Occupational Safety and Health Administration
- CSA - Canadian Standards Association
- FM - Factory Mutual
- HDPE - high density polyethylene
- MSDS - Material Safety Data Sheet
- PPE - personal protective equipment
- psi - pounds per square inch
- PVC - polyvinyl chloride
- UL - Underwriters Laboratories

## ACTIVITY HAZARD ANALYSIS (AHA) #9

ACTIVITY Complete system installation

ANALYZED BY/DATE R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
1. Install control system equipment.	Lifting of equipment and materials could cause strain to worker.	Use proper lifting techniques such as keeping the back straight, lifting with legs, limiting twisting, and getting help when moving bulky/heavy materials and equipment. Use hand truck if needed. For loads greater than 50 pounds, use two people to lift.
	Cuts and abrasions could occur while moving equipment and materials.	Use leather gloves when moving objects with sharp contact points.
	Slip, trip, and fall hazards could be present especially from pipes, other equipment, and the concrete pad, etc.	Locate vehicle in an area that will not obstruct traffic. Visually inspect work areas and mark, barricade, or eliminate slip, trip, and fall hazards. Only work on walking/working surfaces that have the strength and integrity to support employees safely. Do not walk on supplies or equipment. Openings 18 inches or more in diameter must be covered and marked. All openings less than 18 inches in diameter and all holes must be marked or barricaded.
2. Install conduit and wiring and instrumentation.	Improper connections, contact with live electrical wiring.	Only qualified electricians are allowed to hook up or disconnect electrical circuits.  Follow a written lock-out procedure such as the one in the Base Wide Plan or a lock out plan that meets the same requirements.  Electrician will not work on any energized circuits on site. In all cases, ensure that all connections meet NEC requirements. Ensure that voltage, amperage, and circuit breakers are rated for the equipment to be used and that all circuit breakers are marked as to what they control.
	Improper pulling of wire through conduit could cause stripping of wire and cause inadvertent exposure to electricity.	Ensure proper diameter conduit and wiring is used per NEC code. Verify that once line is energized that there is no short to ground.
	Cuts and abrasions could occur while moving equipment and materials.	Use leather gloves when moving objects with sharp contact points.
	Failure to install instrumentation properly could cause damage to equipment or injury to worker.	Follow manufacturers' instructions on proper installation. All electrical equipment will be installed with the power turned off to the circuit. Ensure any electrical instrumentation is turned off before power is restored to the installation.
3. Test control functions.	Failure to install guards or cover electrical connection boxes could expose employees to an energized source.	Ensure all guards are in place, that all connection boxes are covered and that all equipment is turned off before energizing equipment.
	Failure to close valves prior to introduction of fluids could cause the inadvertent release of fluids to the environment.	Inspect all valves to ensure they are closed (as appropriate to system design). Each valve should be clearly marked as to whether it is in an open or closed position.

## ACTIVITY HAZARD ANALYSIS (AHA) #9

**ACTIVITY** Complete system installation

**ANALYZED BY/DATE** R. Margotto 06/17/05

Principal Steps	Potential Safety/Health Hazards	Recommended Control
4. Treat contents of 18,000 gallon tank.	Connections leak.	Visibly inspect and test all connections before removing water from leachate tank.
	Failure to follow procedure to drain tank could cause overflow in treatment system.	Follow operating instructions.
5. Decontaminate all reusable materials and equipment.	Lifting of equipment and materials could cause strain to worker.	Use proper lifting techniques such as keeping the back straight, lifting with legs, limiting twisting, and getting help when moving bulky/heavy materials and equipment. Use hand truck if needed. For loads greater than 50 pounds, use two people to lift.
	Worker could be exposed to chemical contaminants.	Avoid spills. Ensure that spill cleanup supplies are available. Wear required PPE and respiratory protection as specified in the SHSP. Visual inspection and ambient air monitoring will determine selection of PPE and respiratory protection. Remove PPE properly and wash hands.
	Decontamination area may become slippery.	Visually inspect work areas and mark, barricade, or eliminate slip, trip, and fall hazards as feasible. Maintain proper illumination in all work areas. If decontaminating on plastic sheeting, use caution since plastic sheeting is extremely slippery. Wear boots with good traction.

Equipment to be Used	Inspection Requirements	Training Requirements
Vehicles	Daily and before use. Use equipment safety checklist.	Only licensed personnel will operate vehicles.
Equipment, hand tools	Inspect all equipment and tools before each use. Installed equipment must be inspected before and after installation. All electrical equipment must be listed by a recognized testing laboratory.	Specific training for equipment and hand tools will be provided. Follow manufacturers' instructions for installation and use of installed equipment.
Power tools	Inspect before each use. Tools must be listed by a recognized testing laboratory such as UL, CSA or FM.	Review operator's manual for each tool and ensure that directions are followed.
Generator, if used	Inspect as required by manufacturer.	Operator's manual must be on site and operators must follow instructions for safe use.

**Notes:**

- dBA - decibels, A-scale
- CSA - Canadian Standards Association
- EHS - Environmental Health and Safety
- FM - Factory Mutual
- MSDS - Material Safety Data Sheet
- NEC - National Electrical Code
- PPE - personal protective equipment
- SHSS - Site Health and Safety Specialist
- UL - Underwriters Laboratories

# SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT

(Including Cranes, Derricks, and Hoisting Equipment)

PROJECT	CONTRACTOR	CONTRACT NO.
TYPE AND MAKE OF EQUIPMENT	MODEL	SERIAL NO.

Before any machinery or mechanized equipment is placed in use, it shall be inspected and tested by a competent mechanic and certified to be in good operating condition. Records of tests and inspections shall be maintained as part of the active contract file at Project or Resident Office. Check list set forth herein requires the application of EM 385-1-1, Safety and Health Requirements Manual, 1 Oct 87. The appropriate EM paragraph to be applied is listed at the end of each testing requirement.

CHECK LIST	Yes	No	Not Appl
1. ARE ADEQUATE AND SERVICEABLE FIRE EXTINGUISHERS PROVIDED? (13.A.01)			
2. ARE ALL WIRE ROPE CABLES IN GOOD CONDITION? (17.C.01)			
3. ARE WIRE ROPE, SOCKETS, SPLICES, THIMBLES AND CLIPS ADEQUATE AND PROPERLY APPLIED? (17.C.09)			
4. ARE HOOKS, SAFETY NOOKS, SHACKLES, RINGS, ETC., IN GOOD CONDITION? (17.A.02, 17.A.06)			
5. ARE NECESSARY PLATFORMS, FOOTWALKS, ETC., PROVIDED? (18.B.09)			
6. ARE ACCESS STEPS, PLATFORMS, ETC., PROVIDED WITH NON-SLIP SURFACES? (18.B.08, 18.A.14, 28.B.03)			
7. IS OPERATOR PROTECTED AGAINST THE ELEMENTS, FALLING OR FLYING OBJECTS, SWINGING LOADS, AND SIMILAR HAZARDS? (18.B.18, 19.A.13, 18.B.19, 18.B.21)			
8. ARE ALL GLASSES IN OPERATOR'S COMPARTMENT SAFETY GLASS AND IN GOOD REPAIR? (19.A.15, 19.A.16, 18.B.18)			
9. IS SUITABLE ACCESS PROVIDED TO LUBRICATION POINTS? (18.A.18)			
10. DO ALL MODIFICATIONS, EXTENSIONS, REPLACEMENT PARTS, AND/OR REPAIRS TO EQUIPMENT MAINTAIN THE SAME FACTOR OF SAFETY AS ORIGINAL DESIGNED EQUIPMENT? (18.A.33, 18.C.04)			
11. ARE DRUMS FOR LOAD LINES EQUIPPED WITH AT LEAST ONE POSITIVE HOLDING DEVICE, APPLIED DIRECTLY TO THE MOTOR SHAFT OR SOME PART OF THE TRAIN GEAR? (18.C.06)			
12. IS THERE SUFFICIENT CABLE TO ALLOW TWO FULL WRAPS OF CABLE ON DRUMS AT ALL WORKING POSITIONS? (18.C.07)			
13. ARE ADEQUATE HEADLIGHTS, TAIL-LIGHTS AND TURN SIGNALS PROVIDED AND ARE THEY IN PROPER OPERATING CONDITION? (19.A.06, 18.A.15)			
14. ARE ALL APPROVED BRAKES ON WHEELED EQUIPMENT AND IN GOOD OPERATING CONDITION? (18.A.21, 18.A.22, 19.A.07, 19.A.08)			
15. DO WINDSHIELDS HAVE WIPERS IN PROPER OPERATING CONDITION? (19.A.10, 18.A.29)			
16. ARE REAR VIEW MIRRORS PROVIDED? (19.A.12)			
17. ARE OPERATING LEVERS EQUIPPED WITH LATCH OR OTHER DEVICES TO PREVENT ACCIDENTAL STARTING? (19.A.21)			

CHECK LIST	Yes	No	Not Appl
18. IS ENGINE EQUIPPED WITH POWER-OPERATED STARTING DEVICE IN OPERATIVE CONDITION? (18.A.24)			
19. DO ALL PRESSURE VESSELS HAVE VALID INSPECTION CERTIFICATES? (21.A.01, 21.B.01, 21.C.01, 21.D.01)			
20. ARE REVERSE SIGNAL ALARMS ON EQUIPMENT? (18.B.01)			
21. ARE BELTS, GEARS, SHAFTS, ELECTRICAL CONTACTS, ETC., ADEQUATELY GUARDED? (18.B.03, 18.A.04)			
22. ARE ALL HOT PIPES AND SURFACES SUITABLY GUARDED? (18.B.04)			
23. ARE FUEL TANKS LOCATED SO THAT SPILLS OR OVERFLOWS WILL NOT COME IN CONTACT WITH ENGINE OR EXHAUST? (18.B.06)			
24. ARE EXHAUSTS AND DISCHARGES SO DIRECTED AS NOT TO ENDANGER WORKMEN OR OBSTRUCT VIEW OF OPERATOR? (18.B.08)			
25. ARE GUARDS IN PLACE ON EQUIPMENT WITH DROP TYPE SKIP PANS? (18.B.07)			
26. ARE ADEQUATE SEATS PROVIDED FOR ALL RIDERS? (18.A.07, 18.C.01, 18.C.02)			
27. ARE TIRES IN SERVICEABLE CONDITION? ARE TESTING/INSPECTIONS DOCUMENTED? (18.A.01, 18.A.03)			
28. ARE STEERING LINKAGE AND TIE ROD IN GOOD OPERATING CONDITION? ARE TESTING/INSPECTIONS DOCUMENTED? (18.A.01)			
29. ARE DUMP BODIES PROVIDED WITH HOLDING DEVICE OR OTHER SUITABLE DEVICE FOR LOCKING BODY IN RAISED POSITION? (18.A.20)			
30. ARE TAILGATE DUMPING DEVICES SO ARRANGED THAT OPERATOR WILL BE IN THE CLEAR WHILE DUMPING LOADS? (18.A.22)			
31. ARE TRIP-HANDLES PROVIDED ON TAILGATES TO FACILITATE HANDLING? (18.A.22)			
32. IS AIR HOSE FREE FROM LEAKS OR DEFECTS? (18.A.07)			
33. ARE SAFETY LASHINGS FOR QUICK MAKE-UP TYPE CONNECTIONS PROVIDED? (18.E.03, 12.A.18)			
34. IS ACCEPTABLE SPARK ARRESTOR INSTALLED AND WORKING? (18.B.06, 12.C.03)			
35. DO HEATING DEVICES COMPLY WITH REFERENCES? (08.B, 12.D)			
36. DOES WELDING EQUIPMENT COMPLY WITH CODE REQUIREMENTS? (14.A.01, 14.A.02, 14.A.03, 16.A.04)			
37. IS EQUIPMENT ADEQUATELY GROUNDED? (14.C.02, 14.C.03, 15.A.08)			
38. DO ELECTRICAL COMPONENTS COMPLY WITH CODE? (15.A.01)			
39. ARE REQUIRED PRESSURE, TEMPERATURE OR RELIEF GAGES AND VALVES INSTALLED AND OPERABLE? (21.A.10, 21.A.11, 08.B.06)			
40. ARE APPROVED SEAT BELTS AND ROLL-OVER PROTECTION PROVIDED? (18.B.16, 18.B.20)			
41. IS RECOMMENDED PREVENTIVE MAINTENANCE BEING FOLLOWED? (18.A.03)			

CHECK LIST	Yes	No	Not Appl
42. DO HELICOPTER CRANES MEET CONSTRUCTION REQUIREMENTS? (18.Q.01, 18.Q.04, 18.Q.10)			
43. DO HYDRAULIC JACKS MEET SPECIAL SAFETY CONDITIONS? (18.R)			
44. IS CONCRETE EQUIPMENT FITTED WITH ADEQUATE SAFETY DEVICES? (18.O.02, 18.O.03, 18.O.05, 18.O.07, 18.O.08)			
45. ARE ELEVATING AND ROTATING WORK PLATFORMS IN CONFORMANCE WITH ANSI A92.2? (18.N.01)			
46. DO CONVEYORS, CABLEWAYS, AND RELATED EQUIPMENT CONFORM TO ANSI B20.01? (18.K.01)			
47. ARE PILE DRIVERS EQUIPPED WITH ALL APPROPRIATE SAFETY DEVICES? (18.J)			
48. DO MATERIAL HOISTS CONFORM TO ANSI A10.5? (18.I)			
49. DO PASSENGER ELEVATORS CONFORM TO ANSI A10.4? DO TEMPORARY HOISTS IN ACCORDANCE TO ANSI A10.22? (18.H.01)			
50. DO HAND AND POWER TOOLS COMPLY WITH APPLICABLE ANSI STANDARDS? (SEC 18)			
<i>The following six questions apply to Cranes and Hoisting Equipment only and need not be answered for other construction equipment.</i>			
51. IS HIGH VOLTAGE SIGN POSTED? (18.E.08, 18.C.02)			
52. IS EQUIPMENT FITTED WITH POSITIVE STOPS FOR ROTATION WHEN NEAR POWER LINES? (18.E.09)			
53. IS THERE ANY VISIBLE EVIDENCE OF DAMAGE TO BOOM? (18.A.01, 18.C.01)			
54. IS THE BOOM POSITION INDICATOR OPERATING AND VISIBLE TO OPERATOR? (18.D.04, 18.C.13, 18.E.08, 18.F.03, 18.G.04)			
55. HAVE ALL OPERATORS HAD A CURRENT PHYSICAL EXAMINATION? (06.A.01, 06.B.03)			
56. IS BRAKING EQUIPMENT CAPABLE OF EFFECTIVELY BRAKING, LOWERING AND SAFELY HOLDING A LOAD OF AT LEAST THE FULL RATED LOAD AS REQUIRED? (18.C.06)			
REMARKS:			
CERTIFICATION: <i>I hereby certify that this item of equipment is in good operating condition and that it meets all above requirements except as noted under remarks.</i>			
_____ SIGNATURE OF COMPETENT MECHANIC		_____ DATE	
_____ SIGNATURE OF SUPERINTENDENT/QUALITY CONTROL ENGINEER		_____ DATE	

<b>MACHINERY AND MOBILE EQUIPMENT (BACKHOES, DOZERS, SCRAPERS, EXCAVATORS, LIFT TRUCKS, etc.)</b>					
Contract Name and Number:		Contractor/Subcontractor:			
Government Inspector:		Location:			
Contractor Inspector:		Date:			
Equipment name and number:					
Complete one checklist for each piece of equipment.			<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Is the slow moving emblem used on all vehicles which by design move at 25 mph or less on public roads? (08.A.04)					
2. Are initial and daily/shift inspection records available? (16.A.01 and .02)					
3. When machinery or equipment is found to be unsafe or when a deficiency which affects the safe operation of equipment is observed, is the equipment immediately taken out of service and its use prohibited until unsafe conditions have been corrected? (16.A.03)					
4. Is machinery or equipment operated only by designated personnel? (16.A.04)					
5. Have inspections or determinations of road conditions and structures been made in advance to assure that clearances and load capacities are safe for the passage or placing any machinery or equipment? (16.A.06)					
6. Are seats or equal protection provided for each person required to ride on the equipment? (16.A.07a)					
7. Is equipment operating on streets and highways equipped with headlights, taillights, brake lights, back light, and turn signals (visible from front and rear)? (16.A.07b)					
8. Is all equipment equipped with operable windshield wipers, and defrosting or defogging equipment? (16.A.07c)					
9. Does the unit have an emergency brake which will automatically stop the equipment upon brake failure? Is this system manually operable from the drivers position? (16.A.07d)					
10. Is all maintenance (including preventive maintenance) and repairs done in accordance with the manufacturer's recommendations and is it documented? (16.A.08a)					
11. Has bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment been fully lowered or blocked when being repair or when not in use? (16.A.09)					
12. Has adequate ventilation been provided when equipment powered by internal combustion engines is operating in enclosed areas? (16.A.12)					
13. Are all vehicles which will be parked or moving slower than normal traffic on haul roads equipped with a yellow flashing light or flasher visible from all directions? (16.A.13)					
14. Is all mechanized equipment shut down before and during refueling? (16.A.14)					
15. Are all towing devices used on any combination of equipment structurally adequate for the weight drawn and securely mounted? (16.A.15a)					
16. Have the wheels been chocked or track mechanisms blocked and the parking brake set when equipment is parked on an incline? (16.A.17b)					

This checklist is based on EM 385-1-1, dated 3 September 1996. Use of this checklist is optional.

**MACHINERY AND MOBILE EQUIPMENT (con.)**

	Yes	No	N/A
17. Are personnel prohibited from working or passing under or riding in the buckets or booms of loaders in operation? (16.A.24)			
18. Does the unit have a dry chemical or carbon-dioxide fire extinguisher with a minimum rating of 5-B:C? (16.A.26)			
19. Is there an effective, working reverse alarm? (16.B.01)			
20. Is there a signalperson or warning device when there is a danger to persons from moving equipment, swinging loads, buckets, booms, etc.? (16.B.02)			
21. Are all belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts guarded? (16.B.03a)			
22. Is protection against hot surfaces, exhausts, etc., provided? (16.B.03b)			
23. Are platforms, footwalks, steps, handholds, guardrails, and toeboards designed, constructed, and installed on machinery and equipment to provide safe footing and accessways? (16.B.03d)			
24. Are fuel tanks located in a manner to prevent spills or overflows from running onto engine exhaust or electrical equipment? (16.B.04)			
25. Are exhaust or discharges from equipment directed so they do not endanger persons or obstruct operator vision? (16.B.05)			
26. Are seatbelts installed and worn in all motor vehicles? (16.B.08)			
27. Is protection (grills, canopies, screens) provided to shield operator from falling or flying objects? (16.B.10 and .11)			
28. Is roll over protection provided? (16.B.12)			
Comments:			

This checklist is based on EM 385-1-1, dated 3 September 1996. Use of this checklist is optional.



TETRATECH EC, INC.

TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N68711-98-D-5713 (RAC III)

Document Control No. 05-1778

File Code: 6.0

TO: Contracting Officer
Naval Facilities Engineering Command
Southwest Division
Ms. Beatrice Appling, AQE.BA
1220 Pacific Highway
San Diego, CA 92132-5190

DATE: 09/16/05
CTO: 0083
LOCATION: Point Molate

FROM: Neil Hart, Program Manager

DESCRIPTION: Health and Safety Plan Change Form, Filtration Treatment System, IR Site 1
Landfill, Naval Fuel Depot Point Molate, Richmond, California

TYPE: [ ] Contract/Deliverable [ ] CTO Deliverable [ ] Notification
[X] Other

VERSION: N/A REVISION #: N/A
(e.g. Draft, Draft Final, Final, etc.)

ADMIN RECORD: Yes [ ] No [X] Category [ ] Confidential [ ]
(PM to Identify)

SCHEDULED DELIVERY DATE: N/A ACTUAL DELIVERY DATE: 09/16/05

NUMBER OF COPIES SUBMITTED: 0/2E Copy of SAP to N. Ancog [ ]

COPIES TO: (Include Name, Navy Mail Code, and Number of Copies)

NAVY: J. Kowalczyk (06CM.JK)
0/2E

TtEC: K. Weingardt
M. LoStracco
R. Margotto
L. Bercik
C. Simpson

OTHER: (Distributed by TtEC)
I. Amadea - SF Bay ROICC
Date/Time Received



TETRA TECH EC, INC.

September 16, 2005  
FWSD-RAC-05-1778  
6.0

John Kowalczyk  
Base Realignment and Closure  
Program Management Office West  
1230 Columbia Street, Suite 1100  
San Diego, California 92101

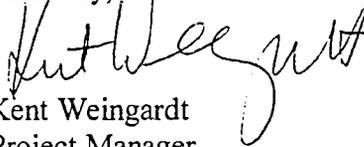
**SUBJECT: HEALTH AND SAFETY PLAN CHANGE FORM, FILTRATION  
TREATMENT SYSTEM, IR SITE 1 LANDFILL, NAVAL FUEL DEPOT POINT  
MOLATE, RICHMOND, CALIFORNIA**

Reference: Contract N68711-D-5713, Environmental Remedial Action Contract for Sites in  
Southern California, Arizona, New Mexico and Southern Nevada

Dear Mr. Kowalczyk,

Enclosed are the Activity Hazard Analyses (AHAs) to supplement the Site-Specific Health and  
Safety Plan for installation of the filtration treatment system at the Installation Restoration Site 1  
Landfill. Your comments have been incorporated and these documents may be considered final.  
If you have any questions, please do not hesitate to contact me at (619) 471-3532.

Sincerely,

  
Kent Weingardt  
Project Manager

Attachments:  
SAFETY PLAN CHANGE APPROVAL FORM

Copy to:  
Izzat Amadea – ROICC Office - Alameda



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