

**APPENDIX A**  
**ABBREVIATED SITE SAFETY**  
**AND HEALTH PLAN**

## 1.0 SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

### 1.1 Site Description

Fort McClellan has been used for artillery training of troops and the National Guard as early as 1912 to present day, and is located in Calhoun County, Alabama, northeast of Anniston (Figure 1). The proposed eastern bypass route begins on the western boundary of the installation in the vicinity of Summerall Gate and proceeds due east approximately one (1) mile, then turns due south for approximately 3.5 miles to the southern boundary.

### 1.2 Past Uses

The State of Alabama chose this area to conduct annual encampments of Alabama National Guard Units. The slopes of the surrounding hills were similar to an artillery range in Tennessee. Parts of the land were used for rural farming and for timber to make charcoal for the Woodstock Iron Company.

#### 1.2.1 Background

On December 6, 1915, President Woodrow Wilson signed Executive Order 2281 to reserve 1,160 acres for military purposes. This acreage in three parcels was named the Anniston Field Artillery Range, which later became part of the main reservation in 1917.

In 1917, the Federal Government purchased the area as an artillery range. This purchase increased the camp size to 18,997.18 acres. In 1941, the War Department acquired an additional 26,912.17 acres, which was separated from the post by approximately six (6) miles. Also in 1941, an additional 4,160 acres, known as the Choccolocco corridor, was leased. Eleven parcels totalling 297.53 acres, lying along the periphery of the Fort McClellan boundary, were conveyed by quitclaim deed to various interests.

#### 1.2.2 Historical OE Activities

During the Spanish American War, the Fourth Alabama Artillery used the Choccolocco Mountains as a background for firing shells. In 1912, National Guardsmen conducted maneuvers in the area.

During World War I, a Field Artillery Brigade Firing Center was established at Fort McClellan. Training would have included the use of rifle grenade dischargers, 3" or 75mm guns, 37mm guns, anti-aircraft machine guns, heavy machine guns, 6" or 155mm howitzers, and trench mortars.

Subsequent to World War I, the Camp was used for a Reserve Office Training Corps encampment, then redesignated for the Citizens Military Training Camps. In 1929, Camp McClellan was made a permanent Army Post.

During World War II, Fort McClellan became the site of the Branch Immaterial Replacement Training Center, which was later abandoned in favor of Infantry Replacement Training Center, which included vigorous combat training. The firing of 60mm mortars, 37mm anti-tank guns and 57mm anti-tank guns occurred. A rocket range and grenade court were also utilized.

In 1951, Fort McClellan was reactivated for operation of the Chemical Corps Training School as a replacement center for the Chemical Corps. Between the years of 1950 and 1973, Fort McClellan was home to the Women's Army Corps Center and the Women's Army Corps School, the National Guard, the US Army Combat Developments Command Chemical Biological-Radiological Agency, and the Infantry Advance Individual Training Unit.

In 1979, the Military Police School moved to Fort McClellan. During that same year, the US Army Chemical Corps School re-established, along with a training Brigade for Basic Training. FORSCOM units were also garrisoned at the post during the 1970's and 1980's.

### **1.3 Surrounding Population**

Fort McClellan is situated to the northeast of Anniston, Alabama which has a population base of 27,115 persons (US Census Bureau, 1992). Calhoun County registered 116,406 persons during the same time period (US Census Bureau, 1992).

### **1.4 Previous Sampling/Investigation Results**

Environmental Science & Engineering, Inc. has been contracted by the US Army Environmental Center to conduct an Environmental Baseline Survey to determine the environmental condition of the property as part of the base closure process.

## **2.0 Description of On-Site Activities**

ZAPATA ENGINEERING and it's subcontractor, USA Environmental (formerly known as CMS) will perform ground reconnaissance to identify areas of possible OE contamination which are not documented within the area of the proposed bypass. This work is being conducted to select areas for placement of grids to be geophysically mapped and possibly sampled. Identification of possible OE contamination will be performed using handheld magnetometers. No intrusive activities shall be performed during reconnaissance activities.

Prior to conducting the ground reconnaissance, Fort McClellan Range Control and the Military Police will be notified of the locations, schedule, and personnel involved with this task.

### 3.0 Site Personnel and Responsibilities

Name	Position	Responsibility	Company/Address and Phone Number
*David Cosans	SSHO	Safety and Health	ZAPATA ENGINEERING 1100 Kenilworth Avenue Charlotte, NC 28204 704-358-8240
Ed Komak Jae Yun	UXO Specialist	Senior UXO Supervisor	USA Environmental, Inc. 4904 Eisenhower Boulevard Suite 310 Tampa, Florida 33634 813-882-0148
Thad Stripling	GIS Support		US Army Engineering and Support Center, Huntsville, AL

\*David Cosans and Thad Stripling will provide First Aid and CPR treatment, if required.

### 4.0 Hazard Analysis

#### 4.1 Safety and Health Hazards

Ordnance or explosive hazards may be encountered during the field activities at Fort McClellan. Chemical wastes are not anticipated during the site investigation. Based on telephone conversations with the US Army Engineering and Support Center, ordnance is not likely to be encountered in the site investigation area.

#### 4.2 Overall Hazard Evaluation

The overall hazard evaluation for the field work to be conducted at Fort McClellan is low. However, there is the potential for physical hazards such as slips, trips, and falls, temperature fluctuations, thunderstorms and biological hazards such as poisonous plants, insects and snakes.

##### 4.2.1 Biological Hazards

###### 4.2.1.1 Hazardous Plants

During the conduct of site activities the number and variety of hazardous plants that may be encountered is large and extensive. The ailments associated with these plants range from mild hay fever to contact dermatitis, to carcinogenic affects. However the plants which present the greatest degree of risk to site personnel (i.e., potential for contact vs. affect produced) are those which produce skin reactions and skin and tissue injury.

Contact with splinters, thorns and sharp leaf edges is of special concern to site personnel. This concern stems from the fact that punctures, cuts and even minor scrapes caused by accidental contact may result in non-infectious skin lesions, and the introduction of fungi or bacteria through the skin or eye. Personnel receiving any of the injuries listed above, even minor scrapes, should report immediately to the Site Safety and Health Officer for initial and continued observation and care of the injury.

The poisonous plants of greatest concern are poison oak, poison sumac, and poison ivy. Poison oak is mostly found in the southeast and west. Poison oak resembles poison ivy, with one important difference. The poison oak leaves are more rounded rather than jagged like poison ivy and the underside of poison oak leaves are covered with hair. Poison ivy thrives in all types of light and usually grows in the form of a trailing vine, however, it can also grow as a bush and can attain heights of 10 feet or more. Poison ivy has shiny, pointed leaves that grow in clusters of three. Poison sumac is a tall shrub or slender tree that usually grows along swampy areas or ponds in wooded areas. Each poison sumac leaf stalk has 7 to 13 leaflets which have smooth edges.

The skin reaction associated with contacting these plants is caused by the body's allergic reaction to toxins contained in oils produced by the plant. Becoming contaminated with the oils does not require contact with just the leaves. Contamination can be achieved through contact with other parts of the plant such as the branches, stems or berries, or contact with contaminated items such as tools and clothing. The allergic reaction associated with exposure to these plants will generally cause the following signs and symptoms:

- Blistering at the site of contact, usually occurring within 12 to 48 hours after contact.
- Reddening, swelling, itching and burning at the site of contact.
- Pain, if the reaction is severe.
- Conjunctivitis, asthma, and other allergic reactions if the person is extremely sensitive to the poisonous plant toxin.

If the rash is scratched, secondary infections can occur. The rash usually disappears in one (1) to two (2) weeks in cases of mild exposure and up to three (3) weeks when exposure is severe. Preventative measures which can prove effective for most site personnel are:

- Avoid contact with any poisonous plants on-site, and keep a steady watch to identify, report and mark poisonous plants found on-site.
- Wash hands, face or other exposed areas at the beginning of each break period and at the end of each work day.

- Avoid contact with, and wash on a daily basis, contaminated tools, equipment and clothing.
- Barrier creams, detoxification/wash solutions and orally administered desensitization may prove effective and should be tried to find the best preventative solution.

#### 4.2.1.2 Reptiles and Animals

When site activities are conducted in warm weather at sites that are located in wooded, grassy or rocky environments, the potential for contact with snakes becomes a very real danger. Normally, if a person is approaching a snake, the noise created by the person is usually sufficient to frighten the snake off. However, during the warm months, extreme caution must be exercised when conducting site operations around areas where snakes might be found (i.e., rocks, bushes, logs, or in holes, crevices, and abandoned pipes). If poisonous snakes are identified on-site, the ZAPATA ENGINEERING Site Safety and Health Officer will determine if protective clothing, such as snake leggings, are to be used by site personnel.

Personnel will be instructed to avoid contact with any snakes identified on the site. Personnel will be cautioned not to reach into places where snakes may hide such as rock and wood piles, or walk through tall grasses.

The following descriptions are provided for the poisonous snakes located around Anniston, Alabama:

- Cottonmouth (Florida Cottonmouth, Cottonmouth Moccasin, Water Moccasin, Moccasin). Average adult size is 20 - 48 inches. A dark colored, heavy bodied snake. Juveniles are brightly colored with reddish brown cross bands on a brown ground color. The dark cross bands contain many dark spots and speckles. The pattern darkens with age so adults retain only a hint of the former banding or are uniform black. The head is thick and distinctly broader than the neck, and when viewed from above the eyes cannot be seen. They can be found in any wetlands or waterways in the state. The cottonmouth occasionally wanders far from water and has been found in bushes and trees.
- Eastern Diamondback Rattlesnake (Diamondback, Rattlesnake, Rattler). Average adult size is 36 - 72 inches. A large, heavy bodied snake with a row of large dark diamonds with brown centers and cream borders down its back. The ground color of the body is brownish. The tail ends in a rattle. Diamondbacks are often found in pine flatwoods, longleaf pine and turkey oak and sand pine scrub areas.
- Dusky Pygmy Rattlesnake (Pygmy Rattler, Ground Rattler). Average adult size is 12 - 24 inches. This is a small snake, but very thick for its size. The top of the triangular shaped head is covered with 9 large scales. The body color is light to dark gray. A longitudinal row of black or charcoal, transverse blotches disrupts a

reddish brown strip running down the middle of the back. Dark spots on the side line up with the blotches. The tail is slender and ends in a miniature rattle. The snake is found throughout the state. This snake is common in lowland pine flatwoods, prairies, around lakes and ponds, and along the borders of many freshwater marshes and cypress swamps.

- Eastern Coral Snake (Coral Snake). Average adult size is 20 - 30 inches. Body ringed with black, yellow and red; narrow yellow rings separating the wider red and black rings. The rings continue across the belly of the snake. From tip of snout to just behind the eye the head is black. The tail is black and yellow, without any red rings. The snake occurs throughout the state and occupies a variety of habitats, from dry, well drained flatwoods and scrub areas to low, wet hammocks and the borders of swamps. They are secretive and are usually found under debris and in the ground, but occasionally they are found in the open, and have been seen climbing the trunks of live oaks.

The rules to follow if someone is bitten by a snake are:

- Keep the victim calm and immobile.
- Have the victim hold the affected extremity lower than the body while waiting for medical assistance.
- Transport the victim to the Hospital Emergency Room for immediate medical evaluation.
- Do not cut "Xs" over the bite area as this will intensify the effect of the venom.
- Do not apply suction to the wound since this has a minimal effective in removing venom.
- Do not apply a tourniquet since this will concentrate the venom and increase the amount of tissue damage in the immediate area.
- If it safely possible to kill the snake without risk to other personnel, bag it and transport it with the victim or try to get a good look at it so it can be identified for proper selection of anti-venom.
- Do not allow the victim to run for help since running increases the heart rate and will increase the spread of the venom throughout the body.

#### 4.2.1.3 Ticks

The Center for Disease Control (CDC) has noted an increase of Lyme Disease and Rocky Mountain Spotted Fever (RMSF), which are caused by bites from infected ticks that live

in and near wooded areas, tall grass, and brush. Ticks are small, ranging from the size of a comma up to about one quarter inch. They are sometimes difficult to see. The tick season extends from spring through summer. When embedded in the skin, they may look like a freckle.

#### 4.2.1.3.1 Lyme Disease

Lyme disease has occurred in 43 states, with the heaviest concentrations in the Northeast (Connecticut, Massachusetts, New Jersey, New York, Pennsylvania), the upper Midwest (Minnesota and Wisconsin), and along the northern Texas coast. It is caused by deer ticks and the lone star ticks which have become infected with spirochetes. Female deer ticks are about one quarter inch in size, and are black and brick red in color. Male deer ticks are smaller, and completely black. Lone star ticks are larger and chestnut brown in color.

#### 4.2.1.3.2 Rocky Mountain Spotted Fever

RMSF has occurred in 36 states, with the heaviest concentrations in Oklahoma, North Carolina, South Carolina, and Virginia. It is caused by Rocky Mountain wood ticks, and dog ticks which have become infected with rickettsia. Both are black in color.

#### 4.2.1.3.3 Symptoms

The first symptoms of either disease are flu-like chills, fever, headache, dizziness, fatigue, stiff neck, and bone pain. If immediately treated by a physician, most individuals recover fully in a short period of time. If not treated, more serious symptoms can occur.

#### 4.2.1.3.4 Treatment

If you believe you have been bitten by a tick, or if any of the signs and symptoms noted above appear, contact the ZAPATA ENGINEERING Site Safety and Health Officer, who will direct you to a physician for an examination and possible treatment.

#### 4.2.1.3.5 Protective Measures

Standard field gear (work boots, socks, and work uniform) provide good protection against tick bites, particularly if the openings are taped. However, even when wearing field gear, the following precautions should be taken when working in areas that might be infested with ticks:

- When in the field, check yourself often for ticks, particularly on your lower legs and areas covered with hair.
- Spray outer clothing, particularly your pant legs and socks, **BUT NOT YOUR SKIN**, with an insect repellent that contains permethrin.

- When walking in wooded areas, avoid contact with bushes, tall grass, or brush as much as possible.
- If you find a tick, remove it by pulling on it gently with tweezers.
- Do not use matches, a lit cigarette, nail polish or any other type of chemical to "coax" the tick out.
- Be sure to remove all parts of the tick's body, and disinfect the area with alcohol or a similar antiseptic after removal.
- For several days to several weeks after removal of the tick, look for the signs of the onset of Lyme disease, such as a rash that looks like a bulls-eye or an expanding red circle surrounding a light area, frequently seen with a small welt in the center.
- Also look for the signs of the onset of RMSF, such as an inflammation which is visible in the form of a rash comprising many red spots under the skin, which appears three (3) to 10 days after the tick bite.

#### **4.2.1.4 Bees, Hornets and Wasps**

Contact with stinging insects like bees, hornets and wasps may result in site personnel experiencing adverse health affects that range from mild discomfort to life threatening. Therefore, stinging insects present a serious hazard to site personnel, and extreme caution must be exercised whenever site and weather conditions increase the risk of encountering stinging insects. Some of the factors related to stinging insects that increase the degree of risk associated with accidental contact are as follows:

- The nests for these insects are frequently found in remote wooded, grassy areas where many waste sites are located.
- The nests can be situated in trees, rocks, bushes or in the ground, and are usually difficult to see.
- Accidental contact with these insects is highly probable, especially during warm weather conditions when the insects are most active.
- If a site worker accidentally disturbs a nest, the worker may be inflicted with multiple stings, causing extreme pain and swelling which can leave the worker incapacitated and in need of medical attention.
- Some people are hypersensitive to the toxins injected by a sting, and when stung, experience a violent and immediate allergic reaction resulting in a life-threatening condition known as anaphylactic shock. Anaphylactic shock manifests itself very

rapidly and is characterized by extreme swelling of the body, eyes, face, mouth and respiratory passages.

- The hypersensitivity needed to cause anaphylactic shock, can in some people, accumulate over time and exposure; therefore, even if someone has been stung previously, and has not experienced an allergic reaction, there is no guarantee that they will not have an allergic reaction upon receipt of another sting.

#### **4.2.1.4.1 Protective Measures**

With these things in mind and with the high probability of contact with stinging insects, all site personnel will comply with the following safe work practices:

- If a worker knows that he is hypersensitive to bee, wasp or hornet stings, they must inform the ZAPATA ENGINEERING Site Safety and Health Officer of this condition prior to participation in site activities.
- All site personnel will be watchful for the presence of stinging insects and their nests, and will advise the ZAPATA ENGINEERING Site Safety and Health Officer a stinging insect nest or presence of a swarm of bees is located or suspected in the area.
- Any nests located on-site will be flagged and site personnel will be notified of its presence.
- If stung, site personnel will immediately report the ZAPATA ENGINEERING Site Safety and Health Officer to obtain treatment and to allow the ZAPATA ENGINEERING Site Safety and Health Officer to observe them for signs of allergic reaction.
- Site personnel with a known hypersensitivity to stinging insects will keep required emergency medication on or near their person at all times.

#### **4.2.1.5 Biting Insects**

Many types of biting insects such as mosquitoes, flies and fleas may be encountered on-site. The use of insect repellents will be encouraged by the ZAPATA ENGINEERING Site Safety and Health Officer if deemed necessary. The biting insects of greatest concern are spiders, especially the black widow and the brown recluse. These spiders are of special concern due to the significant adverse health effects that can be caused by their bite.

##### **4.2.1.5.1 Black Widow Spider**

The spider is not aggressive unless agitated when guarding her egg sac. They live in a variety of natural and domestic habitats such as under rocks, wooden boards and in dense

plant growth. The female spider is glossy black and marked with a characteristic red hourglass on the underside of the abdomen. The female has a body length of about ½” with a total length of about 1 ½”. The male, which is rarely seen, is smaller and has four pairs of red marks along the sides of the abdomen. Young black widow spiders are tan-to-gray in color and have orange and white “racing stripes” on their abdomens. Black widow spider venom affects the nervous system. The venom causes pain in the lymph nodes. Other symptoms of a severe bite include nausea, elevated blood pressure, sweating, tremors and increased white blood cell counts. The wound may appear as a bluish red spot, surrounded by a whitish area. Victims of a black widow bite may exhibit the following signs or symptoms:

- Sensation of pinprick or minor burning at the time of the bite.
- Appearance of small punctures (but sometimes none are visible).
- After 15 to 60 minutes, intense pain is felt at the site of the bite which spreads quickly, and is followed by profuse sweating, rigid abdominal muscles, muscle spasms, breathing difficulty, slurred speech, poor coordination, dilated pupils and generalized swelling of face and extremities.

#### **4.2.1.5.2 Brown Recluse Spider**

Adult brown recluse spiders are soft bodied, yellowish tan to dark brown, about ¼ to ½ inch long and have long, delicate grayish to dark brown legs covered with short, dark hairs. The leg span is about the size of a half dollar. Distinguishing characteristics are the presence of three pairs of eyes arranged in a semicircle on the forepart of the head and a violin-shaped, dark marking immediately behind the semicircle of eyes with the neck of the violin pointing towards the abdomen. The spider may be found in sheltered corners among debris, in wood piles, under loose bark and stones. Human hands, underarms, lower abdomen and the ankles are the areas of the body most likely to be bitten. A bite may go unnoticed for 6 - 8 hours, before a reddening, swelling and blistering of the wound starts to appear. A severe bite can produce an area of dead skin tissue that may require surgery. Victims of a brown recluse bite may exhibit the following signs or symptoms:

- Blistering at the site of the bite, followed by a local burning at the site 30 to 60 minutes after the bite.
- Formation of a large, red, swollen, pustulating lesion with a bull's-eye appearance.
- Systemic affects may include a generalized rash, joint pain, chills, fever, nausea and vomiting; and pain may become severe after eight (8) hours, with the onset of tissue necrosis.

#### **4.2.1.5.3 Scorpions**

Average scorpion length is 1 to 1 ½ inches. Young scorpions are pale yellowish brown, usually with two lengthwise dark stripes on their abdomen, older scorpions are uniformed dark brown with the stripes faint or lacking. Scorpions have a pair of enlarged pinchers at their front which they use to grab prey. A scorpion has a pair of eyes in the middle of its back, as well as two (2) to five (5) additional pairs of eyes along the front edge of its body. Scorpions sting with their tail. The sting resembles a bee sting. The human victim may feel the sting or a burning sensation at first but an allergic reaction can occur requiring immediate medical treatment.

#### **4.2.1.5.4 Fire Ants**

Fire ants are particularly an aggressive pest. When attacking they first attach themselves to their victim using their jaws. They have the ability to repeatedly sting their victim by inserting, removing, and reinserting their stingers. There are three different reactions one can get from a fire ant sting. These are local, extended, and generalized. Almost everyone is sensitive to the local reaction. This consists of immediate pain and intensely itchy welts at the site of stings. After several hours pustules form as the welts disappear. If left alone, the pustules will break open in 3-7 days, and full healing occurs in 7-14 days. The pustules that form are sterile. They should be left alone, as infection only occurs after scratching them open. The extended reaction consists of a large area of extremely itchy redness and swelling around the stings, which can involve an entire leg or arm. It usually lasts from 1-3 days. Treatment of severe cases may require a physician's attention. The generalized reaction may affect individuals who are allergic to bee stings and are at especially high risk. Symptoms include itchy hives over the entire body and swelling of the throat making it difficult to breathe or swallow. Other symptoms may include flushing, chest or stomach pains, nausea, vomiting, and fainting. If these symptoms occur in any individual after being bitten, seek emergency treatment immediately.

#### **4.2.1.5.5 Treatment For Spider, Scorpion, and Ant Bites**

There is no effective first aid treatment for any of these bites. Except for very young, very old or weak victims, these bites are not considered to be life threatening, however medical treatment must be sought to reduce the extent of damage caused by the injected toxins. If any of the described spiders are suspected or known to be on-site, the ZAPATA ENGINEERING Site Safety and Health Officer will brief the site personnel as to the identification and avoidance of the spiders. As with stinging insects, site personnel should report to the ZAPATA ENGINEERING Site Safety and Health Officer if they locate these spiders or scorpions on-site or notice any type of bite while involved in site activities. Treatment for fire ant bites can consist of ice-packs and anti-itch lotions and sprays to control the itching. If a severe reaction is noted in the individual after being bitten by any of the above, seek emergency medical treatment immediately.

#### **4.2.1.6 Hantavirus Pulmonary Syndrome**

Hantavirus pulmonary syndrome (HPS) is a serious, often deadly, respiratory disease that has been found mostly in rural areas of the western United States. The disease is caused by a Hantavirus that is carried by rodents and passed onto humans. The Hantavirus, which is found in rodent urine, saliva, and feces, gets into the air as a mist from urine and saliva or dust from feces. Inhalation of the virus is the most common route of exposure; however, a person can also become infected by touching the mouth or nose after handling contaminated materials. Transmission may also occur when fresh or dried materials contaminated by rodent excreta are disturbed, directly introduced into broken skin, introduced into the eyes, or possibly ingested in contaminated food or water. Persons have also become infected after being bitten by rodents. HPS is not contagious from person-to-person. In the Southeast, the cotton rat (*Sigmodon hispidus*), as well as the rice rat (*Oryzomys palustris*), are known to carry the Black Creek Canal Hantavirus.

- The cotton rat has a body about 5 - 7 inches and a 3 - 4 inch tail. The hair is long and coarse, of a grayish brown color, even grayish black. The cotton rat prefers overgrown areas with shrubs and tall grasses.
- The rice rat is slightly smaller than the cotton rat, having a body about 5 - 6 inches and a very long, 4 - 7 inch tail. Rice rats have short, soft, grayish brown fur on top, and gray or tawny underbellies. Their feet are whitish. The rice rat likes marshy areas and is semiaquatic.

HPS is a rare disease and presents a minor risk to personnel conducting outdoor construction activities in rural areas. The symptoms of HPS usually appear within two (2) weeks after exposure but may appear as early as three (3) days to as late as six (6) weeks after infection. First symptoms are general and flu-like with fever (101° - 104° F), headache, abdominal, joint and lower back pain, with nausea and vomiting. The primary symptom is difficulty in breathing, which is caused by fluid build-up in the lungs and quickly progresses to an inability to breath. Almost half of the reported cases of HPS, or 44.8%, have resulted in death. If any combination of the symptoms occur after direct or indirect exposure to rodents, especially difficulty in breathing, immediate and intensive medical care is essential. There is no vaccine against the Hantavirus infection.

The following preventive measures are to be followed by site personnel to reduce the risk of exposure to HPS:

- All site personnel will be watchful for the presence of rodents, rodent droppings and their nests (burrows). Any rodent sightings or nests shall be immediately reported to the ZAPATA ENGINEERING Site Safety and Health Officer.
- All contact with rodents or their nests shall be avoided to the maximum extent possible.

- Personnel shall wash their hands, faces and other exposed skin surfaces prior to leaving the site and before eating.
- All food brought onto the site shall be maintained where rodents have no access, such as, vehicle trunks or portable coolers.
- All food wastes shall be placed within a trash receptacle with lid, and shall be emptied on a daily basis.

## **4.2.2 PHYSICAL HAZARDS**

### **4.2.2.1 Thunderstorms**

Thunderstorms are common in Alabama. All project activities will be safely terminated and personnel shall seek shelter if a thunderstorm approaches. The Site Safety and Health Officer shall safely terminate all project activities when he/she sees or hears an approaching thunderstorm. Lightning takes the shortest path. It hits the highest object, a tall tree or building, a tower or a person standing alone in a flat field. Common signs of an impending lightning strike are the feeling of hair standing on end and the taste of copper in your mouth. If you are outside, get inside a vehicle and avoid contact with the metal. Avoid using telephones, unless it is an emergency. Do not stand under a natural lightning rod such as a tall, isolated tree in an open area. Do not stand on a hilltop or an open field. Get away from construction vehicles and stay away from wire fences, metal pipes, rails and other metallic paths which could carry lightning to you from some distance away. If out in the open, seek shelter in a low place such as a ravine. If an individual is struck by lightning, first aid should be rendered to those not breathing within four (4) to six (6) minutes to prevent irrevocable damage to the brain. Mouth-to-mouth resuscitation and cardiopulmonary resuscitation (CPR) may be required to be administered by persons with proper training.

### **4.2.2.2 Heat Stress**

Extreme temperature fluctuations within the Anniston, Alabama area may cause serious safety and health impacts on site workers. The ZAPATA ENGINEERING Site Safety and Health Officer will identify and monitor personnel for heat stress symptoms. Heat stress is one of the most common (and potentially serious) illnesses that can affect hazardous waste site workers. Individuals will vary in their susceptibility and degree of response to the stress induced by increased body heat. Factors which may predispose a worker to heat stress include: lack of physical fitness; lack of acclimatization to hot environments; degree of hydration; level of obesity; current health status (i.e., having an infection, chronic disease, diarrhea, etc.); alcohol or drug use; and the worker's age and sex. Proper training and preventive measures shall help avert serious illness and loss of work productivity. ZAPATA ENGINEERING shall provide drinking water. Preventing heat stress is particularly important, because after suffering from heat stroke or heat exhaustion, a person may be predisposed to additional heat injuries.

## 5.0 Accident Prevention

### 5.1 General Precautions

Prior to the on-site visit to Fort McClellan, all team members are required to read this abbreviated SSHP and sign the form acknowledging that they have read and will comply with the plan. In addition, the Site Safety and Health Officer and Senior UXO Supervisor shall hold a brief tailgate meeting in which site-specific topics regarding the day's activities will be discussed. The buddy system will be enforced at all times. If unanticipated hazardous conditions arise, team members are to stop work, leave the immediate area and notify the Site Safety and Health Officer.

## 6.0 Standard Operation Safety Procedures, Engineering Controls and Work Practices

The abbreviated SSHP shall describe the standard operating safety procedures, engineering controls and safe work practices to be implemented for the field work at Fort McClellan. These shall include, but not be limited to, the following:

### 6.1 Site Rules/Prohibitions

ZAPATA ENGINEERING shall ensure that the following safe work practices are incorporated during field work at the project site:

- Site personnel shall not touch or pick up anything from the ground.
- All team members will stay within sight of each other.
- The Team Leader shall contact the CEHNC and the authorities if suspected ordnance or hazardous substances are found.
- The buddy system shall be employed during all site activities.
- Site personnel shall adhere to the provisions contained within the abbreviated SSHP.
- Site personnel shall adhere to verbal health and safety instructions issued by the Site Safety and Health Officer.
- During the tailgate meeting, site personnel will be informed of the designated areas for eating, drinking and smoking.
- A first-aid kit shall be immediately available for use.
- Outdoor field activities are not permitted during the night nor in occurring or approaching electrical storms.

- Material handling is not permitted during field activities.
- Site personnel shall not enter excavated areas.
- Site personnel shall use existing sanitary facilities.
- Site personnel shall not step where they cannot see where they place their foot.
- Site personnel shall wear clothing appropriate for the existing weather conditions. This shall include a minimum of short-sleeved shirts and long trousers. Steel-toed work boots are required during the site visit, except when such wear will interfere with magnetometer surveys.

## **7.0 Site Communications**

### **7.1 On-Site Communications**

Verbal communications will be used among the team members to communicate to each other on site. If verbal communication is not possible, hand signals shall be developed and used:

- Both hands on hips - Leave area immediately.
- Hands on top of head - Help; I need assistance.
- Thumbs up - I'm all right; I understand.
- Thumbs down - No; negative.
- Hands gripping throat - Choking; can't breathe.
- Hand gripping nose - Unusual smell detected.

### **7.2 Off-Site Communications**

Off-site communications shall be established on every site. ZAPATA ENGINEERING will be using cellular phones for off-site communications.

### **7.3 Emergency Signals**

Verbal signals or hand signals shall be used for emergency signaling during field activities at Fort McClellan.

## **8.0 Emergency Response**

### 8.1 Potential Dangers

All team members are to be alert for potential dangers associated with the site at all times. If an unanticipated hazardous condition arises, stop work, evacuate the immediate area and notify CEHNC.

### 8.2 First Aid

A first aid kit will be provided during field activities. Two members of the field team will be qualified to administer and perform first aid and CPR.

### 8.3 Emergency Telephone Numbers

AGENCY	TELEPHONE NUMBER
Fire Department (from land-based line)	911
Military Police	256-848-5178
Stringfellow Memorial Hospital, Ambulance	256-235-8900
Patient First Health Care	256-835-4756
Dr. John Beard (ZAPATA ENGINEERING Nalle Clinic Physician)	704-342-8000
Range Control	256-848-4623
Wayne Galloway (For emergencies involving the discovery of OE)	256-865-1582
Mary F. Richards, Vice President (ZAPATA ENGINEERING)	704-358-8240
CHEMTREC (Hazardous Chemical Information Hotline)	1-800-424-9300
Poison Control Center	1-800-332-6632

### 8.4 Hospital/Medical Facility Information

To reach the Stringfellow Memorial Hospital from Fort McClellan, proceed with the following directions and Hospital Route Map (Figure 2):

Hospital Name	Hospital Address	Hospital Phone Number
Stringfellow Memorial Hospital	301 E. 18 <sup>th</sup> Street	205-235-8900

- Proceed on Rocky Hollow Road, due southwest to Thomas Avenue.
- Proceed on Thomas Avenue, due west, to 18<sup>th</sup> Street.

OR

- Proceed west on Summerall Gate Road to Route 21 / Quintard Avenue.

- Proceed south on Route 21 / Quintard Avenue to 18<sup>th</sup> Street, Anniston.

## **9.0 Monitoring Equipment and Procedures**

### **9.1 Exposure Monitoring**

Field activities at Fort McClellan will not require exposure monitoring.

### **9.2 Heat and Cold Stress Monitoring**

Heat and cold stress monitoring will not be required during field activities being conducted at Fort McClellan. However, a source of water or electrolytic drink, for fluid replacement, shall be close to the work area.

## **10.0 Personal Protective Equipment**

### **10.1 General**

The field activities being conducted at Fort McClellan will not include intrusive testing or sampling of soil or the ground surface. The required level of protection will be Level D. Hard hats will be worn if an overhead hazard exists, safety shoes or boots will be worn, and safety glasses will be worn if an eye hazards exists.

### **10.2 Non-Intrusive Site Visit**

Level D protection will be used during field activities, if site conditions warrant a higher level of protection, the site will be evacuated.

## **11.0 Decontamination Procedures**

Decontamination procedures are not anticipated for this site investigation. Team members are cautioned not to walk, kneel, or sit on any surface with potential leaks, spills or contamination.

## **12.0 Training**

All site personnel shall have completed the training required by EM 385-1-1 and 29 CFR 1910.120 (e). The Project Manager shall ensure and the Site Safety and Health Officer shall verify that all on-site persons shall have completed appropriate training prior to submitting the plan to the safety office for review. Additionally, the Site Safety and Health Officer shall inform personnel, before entering, of any potential site-specific hazards and procedures.

## **13.0 Medical Surveillance Program**

The Project Manager shall ensure and the SSSS shall verify that all on-site personnel are on the

Medical Surveillance Program meeting the requirements of 29 CFR 1910.120, and ANSI Z-88.s, as appropriate, depending on the PPE and site specific task.

The following is information on the Training and Medical Surveillance for on-site personnel:

Name	Course Date (40 Hour, 8 Hour)	Medical Exam Date	First Aid/CPR Training Date
David Cosans	2/10/95, 10/3/97	6/19/98	1/6/98
Ed Komak	5/98	8/10/98	N/A
*Jae Yun	N/A	N/A	N/A
Thad Stripling	6/5/98	8/21/98	12/12/97

\* Mr. Yun will accompany Mr. Komak during the ground reconnaissance, and not enter areas with identified OE contamination.

#### 14.0 Logs, Reports and Record Keeping

Site logs are maintained by the Site Safety and Health Officer. This is to include historical data, personnel authorized to visit the site, all records, standard operating procedures and the SSHP submitted.

#### 15.0 General

The number of persons visiting the site shall be held to a minimum. No more than 8 people per Site Safety and Health Officer shall be allowed on-site. The more persons on-site, the greater potential for an accident. The Site Safety and Health Officer may modify this abbreviated SSHP if site conditions warrant it and without risking the safety and health of the team members. This modification will be coordinated with the team members and the CEHNC-ED representative.

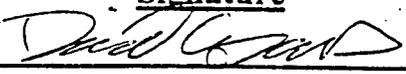
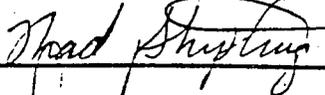
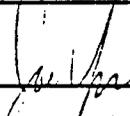
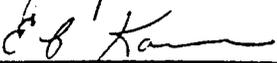
**ATTACHMENT I**

Site Safety and Health Briefing Log

SITE SAFETY AND HEALTH PLAN BRIEFING LOG

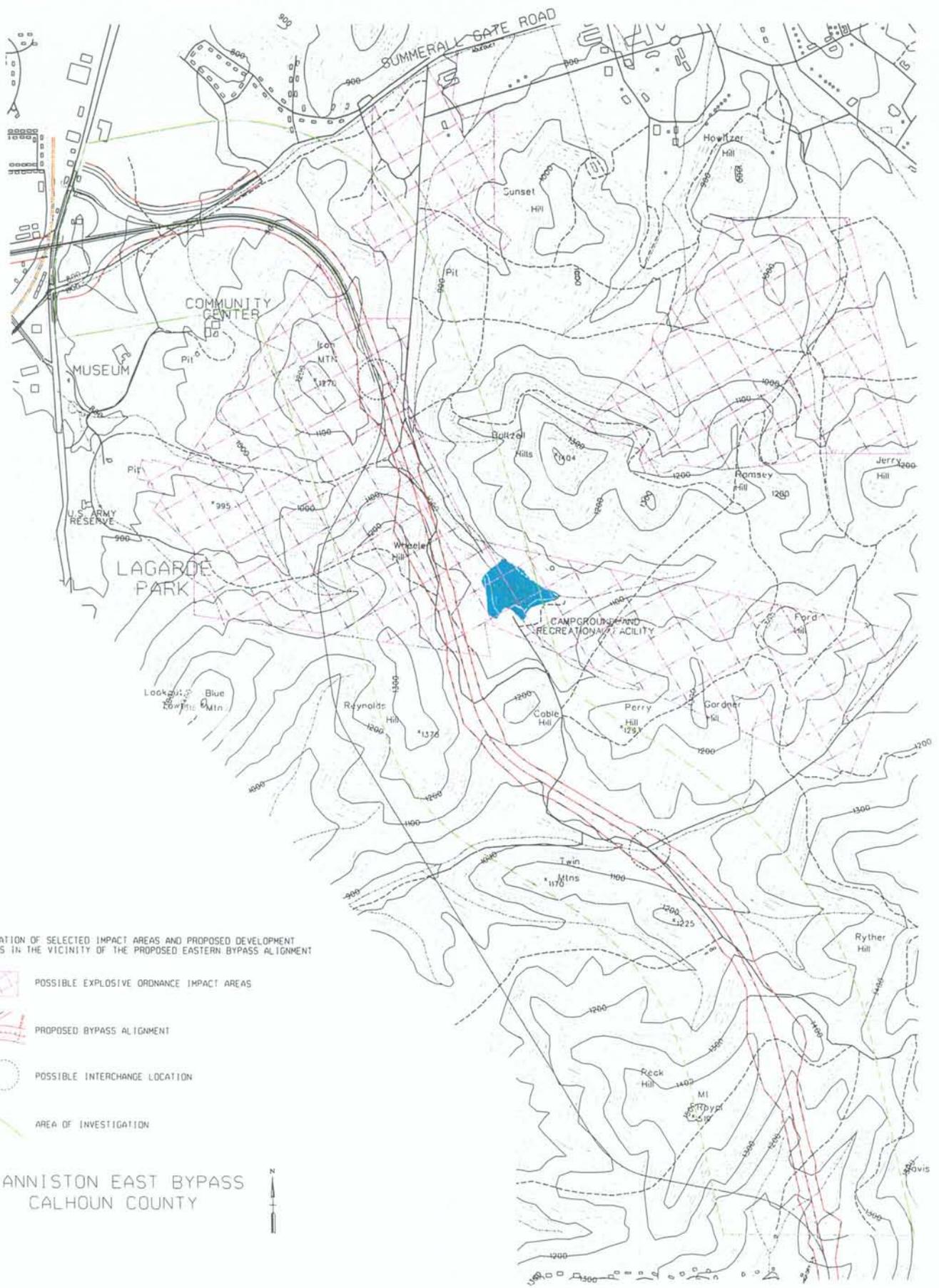
FORT MCCLELLAN EASTERN BYPASS  
GROUND RECONNAISSANCE

ANNISTON, AL

<u>Name (Print)</u>	<u>Signature</u>	<u>Date</u>
David Cosans		8/24/98
Thad Stripling		8/25/98
Jae Yun		8/24/98
E. F. Komoc		24 Aug 98

**APPENDIX B**

**SITE MAPS**



LOCATION OF SELECTED IMPACT AREAS AND PROPOSED DEVELOPMENT AREAS IN THE VICINITY OF THE PROPOSED EASTERN BYPASS ALIGNMENT

-  POSSIBLE EXPLOSIVE ORDNANCE IMPACT AREAS
-  PROPOSED BYPASS ALIGNMENT
-  POSSIBLE INTERCHANGE LOCATION
-  AREA OF INVESTIGATION

ANNISTON EAST BYPASS  
CALHOUN COUNTY



1100 KENILWORTH AVENUE CHARLOTTE, NC 28204  
PHONE (704) 358-8240 FAX (704) 358-8342  
E-MAIL ZAPATA@ZAPENG.COM WEB SITE WWW.ZAPENG.COM

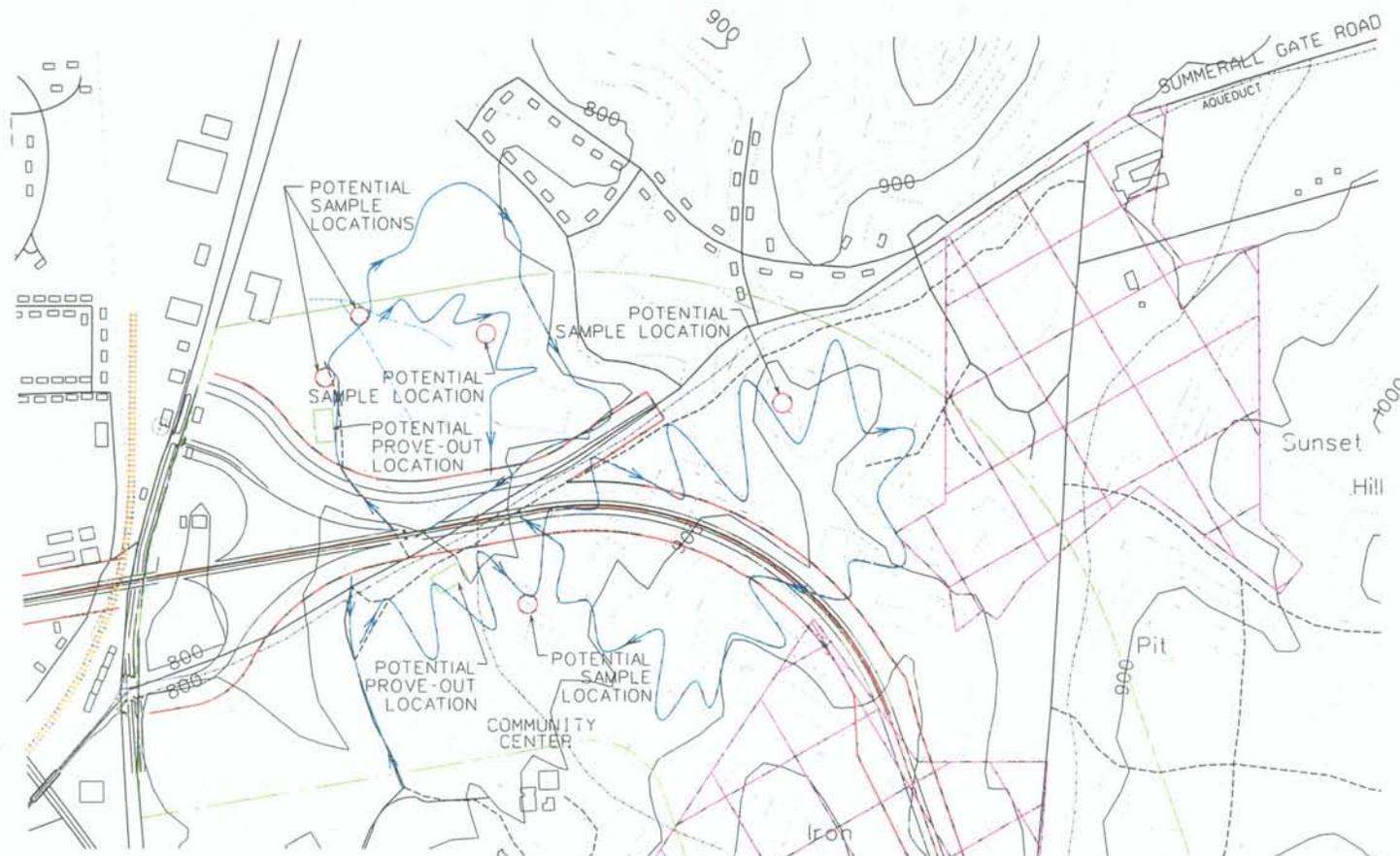


US ARMY ENGINEERING & SUPPORT CENTER  
HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN  
EASTERN BYPASS

DRAWING TITLE: VICINITY MAP

PROJECT #:	REF. #:	DATE:	DRAWN BY:	SCALE:	DRAWING #:
		4 SEPT 98	CMS	NOT TO SCALE	FIGURE 1



LOCATION OF SELECTED IMPACT AREAS AND PROPOSED DEVELOPMENT AREAS IN THE VICINITY OF THE PROPOSED EASTERN BYPASS ALIGNMENT

-  POSSIBLE EXPLOSIVE ORDNANCE IMPACT AREAS
-  PROPOSED BYPASS ALIGNMENT
-  POSSIBLE INTERCHANGE LOCATION
-  POTENTIAL SAMPLE LOCATION
-  POTENTIAL GEOPHYSICAL PROVE-OUT LOCATION
-  APPROXIMATE PATH OF GROUND RECONNAISSANCE
-  AREA OF INVESTIGATION

ANNISTON EAST BYPASS  
CALHOUN COUNTY



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PHONE: (704) 358-8240 FAX: (704) 358-8342  
E-MAIL: ZAPATA@ZAPENG.COM WEB SITE: WWW.ZAPENG.COM

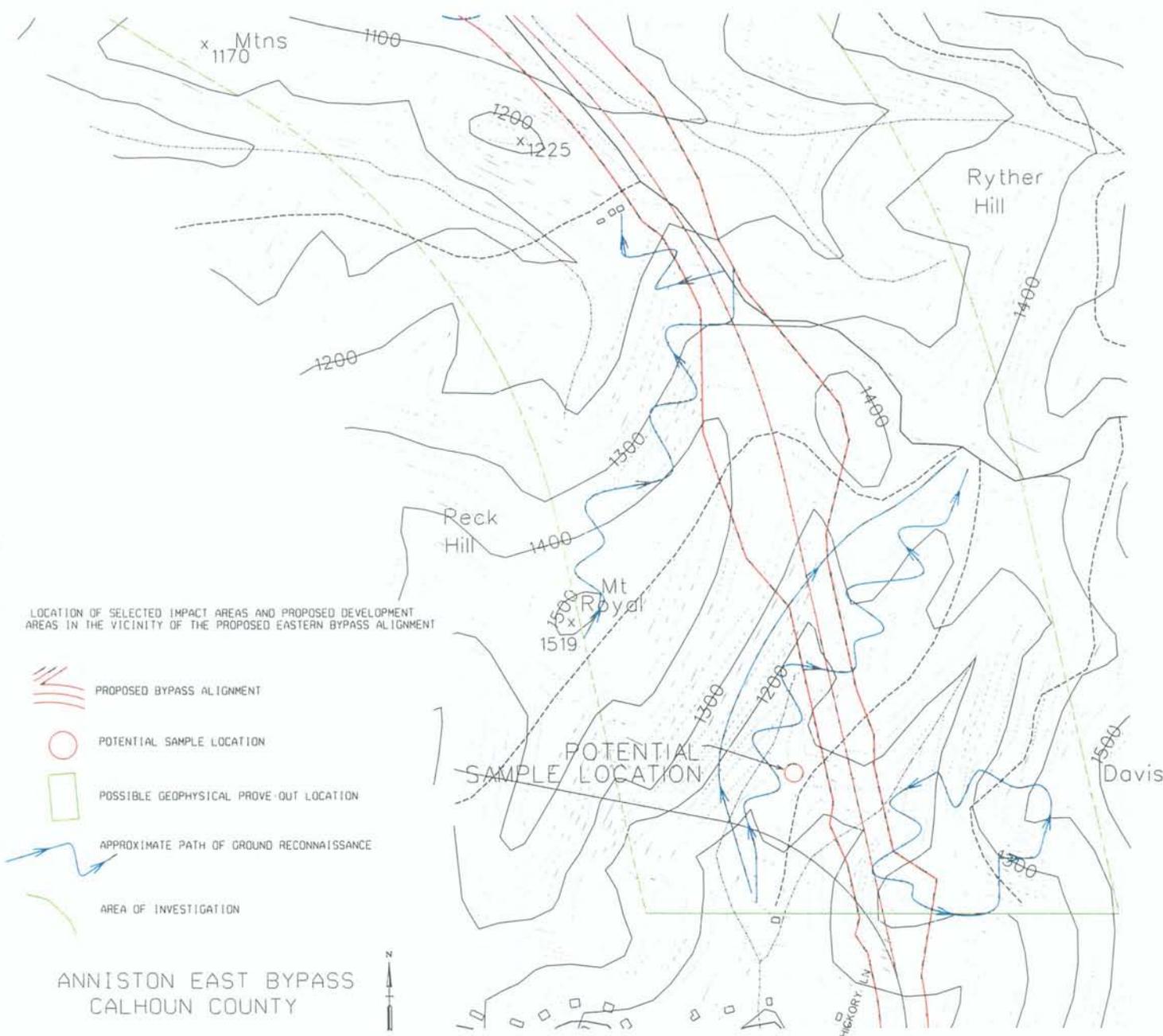


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HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN EASTERN BYPASS

DRAWING TITLE: DAY 2 RECONNAISSANCE

PROJECT #:	REF. #:	DATE:	DRAWN BY:	SCALE:	DRAWING #:
		4 SEPT 98	DJC	NOT TO SCALE	FIGURE 2



**ZAPATA ENGINEERING**  
TRUST INTEGRITY QUALITY

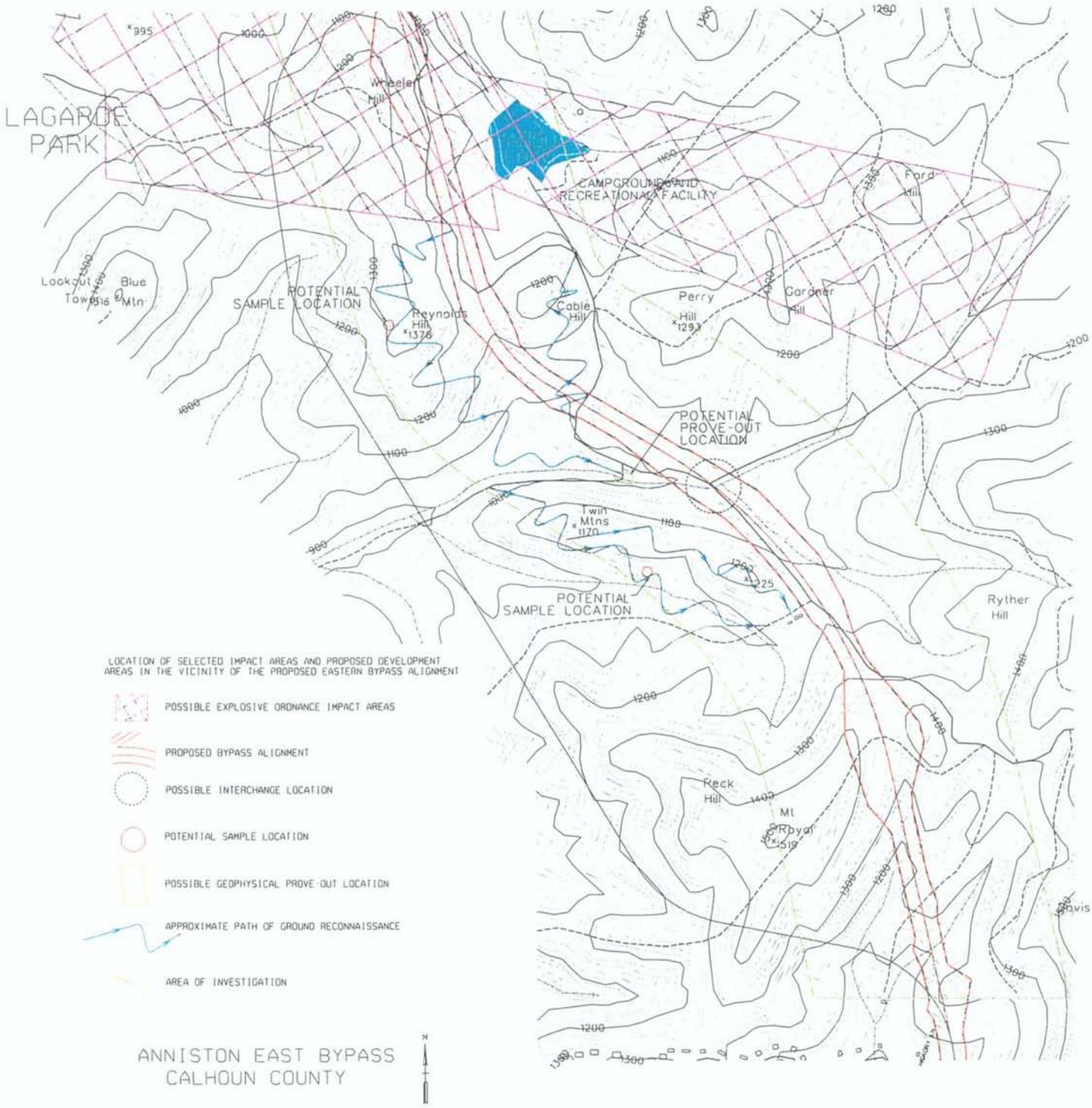
1100 KEHL WORTH AVENUE CHARLOTTE, NC 28204  
PHONE: (704) 358-8240 FAX: (704) 358-8342  
E-MAIL: ZAPATA@ZAPENG.COM WEB SITE: WWW.ZAPENG.COM



US ARMY ENGINEERING & SUPPORT CENTER  
HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN EASTERN BYPASS  
DRAWING TITLE: DAY 3 RECONNAISSANCE

PROJECT #:	REF. #:	DATE: 4 SEPT 98	DRAWN BY: DJC	SCALE: NOT TO SCALE	DRAWING #: FIGURE 3
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LOCATION OF SELECTED IMPACT AREAS AND PROPOSED DEVELOPMENT AREAS IN THE VICINITY OF THE PROPOSED EASTERN BYPASS ALIGNMENT

- POSSIBLE EXPLOSIVE ORDNANCE IMPACT AREAS
- PROPOSED BYPASS ALIGNMENT
- POSSIBLE INTERCHANGE LOCATION
- POTENTIAL SAMPLE LOCATION
- POSSIBLE GEOPHYSICAL PROVE-OUT LOCATION
- APPROXIMATE PATH OF GROUND RECONNAISSANCE
- AREA OF INVESTIGATION

ANNISTON EAST BYPASS  
CALHOUN COUNTY



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PHONE: (704) 358-8240 FAX: (704) 358-8342  
E-MAIL: ZAPATA@ZAPENG.COM WEB SITE: WWW.ZAPENG.COM

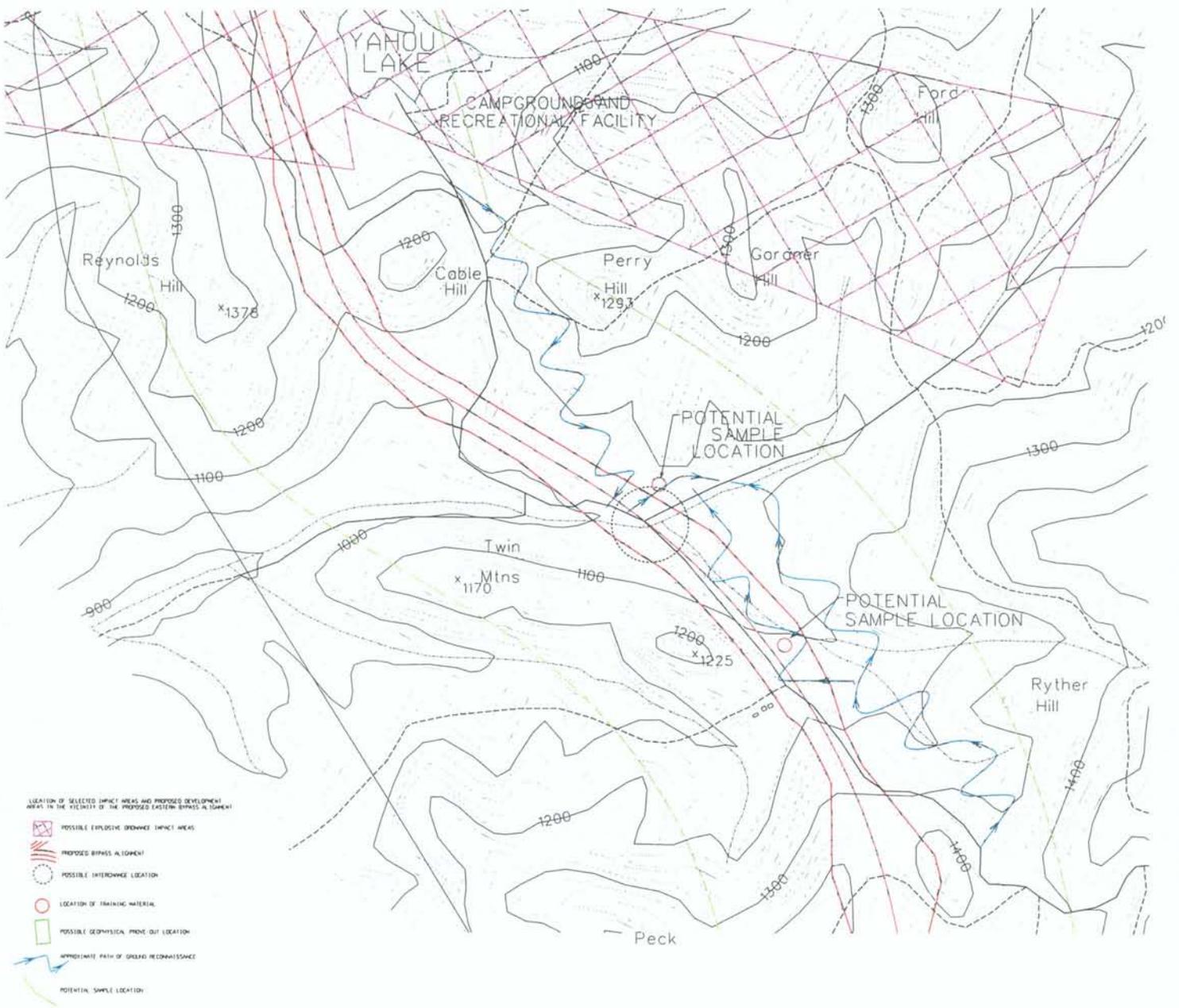


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HUNTSVILLE, ALABAMA

PROJECT #:	REF. #:	DATE:	DRAWN BY:	SCALE:	DRAWING #:
		4 SEPT 98	DJC	NOT TO SCALE	FIGURE 4

PROJECT TITLE: FORT McCLELLAN EASTERN BYPASS

DRAWING TITLE: DAY 4 RECONNAISSANCE



ANNISTON EAST BYPASS  
CALHOUN COUNTY

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**US ARMY ENGINEERING & SUPPORT CENTER**  
HUNTSVILLE, ALABAMA

PROJECT #: REF. #: DATE: 4 SEPT 98

PROJECT TITLE: FORT McCLELLEN EASTERN BYPASS

DRAWING TITLE: DAY 5 RECONNAISSANCE

DRAWN BY: DJC SCALE: NOT TO SCALE DRAWING #: FIGURE 5

APPENDIX B-2

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Geophysical Fieldwork Report

## *Geophysical Fieldwork Report*

### *Fort McClellan*

1. **Date:** 18 February, 1999 through 16 March, 1999
2. **Location:** Fort McClellan, Calhoun County, Alabama
3. **Purpose:** Site preparation and geophysical data collection
4. **Project Team Members:**

CEHNC	Thad Stripling, Bob Selfridge
ZAPATAENGINEERING, P.A.	Jason Shiflet, Suzy Cantor-McKinney, Neil Gilbert
USA Environmental, Inc.	Tom Brennan, Jae Yun, Brian Thompson
Sanford Cohen & Associates	John Dolynchuk
Burford's Tree Surgeons	Mike Burford, Roy Mange, Shane Allen
Sain Associates, Inc.	Shane Traffanstedt, Matt Lackey, Joseph Lightfoot, Kenny Mahone

#### 5. **Narrative:**

ZAPATAENGINEERING, P.A. under contract No. DACA87-95-D-0026 (Task Order Annex E), from the US Army Engineering and Support Center (CEHNC), Huntsville, Alabama conducted a geophysical survey of six areas within training ranges 18B and TA-10 at Fort McClellan, Calhoun County, Alabama. The survey was conducted to support the preparation of an Engineering Evaluation/Cost Analysis for the proposed Eastern Bypass that will bisect Fort McClellan. The fieldwork consisted of six tasks: conducting brush clearing operations, conducting site surveying activities, performing geophysical prove-out, performing geophysical surveys, conducting location surveying and mapping, and videotaping. Photographs representing various stages of the field work are in Appendix A. The geophysical survey areas are identified on the Site Map, Figure 1, included in Appendix B. Safety briefings were conducted daily prior to entering the site. Safety Briefing sign-in sheets are included in Appendix C.

#### 6. **Daily Summary:**

Thursday, 18 February, 1999

Team Members: Jason Shiflet and Thad Stripling

Jason Shiflet traveled to Anniston/Oxford via Birmingham and met Thad Stripling in the lobby of the Hampton Inn at 1030 hours. They traveled to Fort McClellan and arrived on-site at 1045 hours. Range Control was notified of their required presence on ranges 18B and TA-10. They proceeded to Area 1, just South of Summerall Gate Road, as shown in Photograph No. 1. The perimeter of Area 1 was walked and the area outlined with yellow and black caution tape. They proceeded to Area 2 and discussed using a

more suitable location for the survey area, as preliminary plans suggested that the original area extended beyond Fort McClellan's property boundary. They proceeded to Areas 3 and 4 and discussed identifying survey areas that were more accessible. It was agreed that the general locations for all areas were suitable, but exact area locations would be decided once a representative from USA Environmental, Inc. arrived on-site and could make recommendations based on suitability of data collection with EM-61 or G-858. They proceeded to the Directorate of the Environment Office and met with Lisa Kingsbury. She provided access to storage for project equipment, and the hours of operation for the office were discussed. They further discussed possible Internet connections and data transfer, if such services were needed. After visiting the site, they closed the ranges with Range Control and returned to the Hampton Inn. Jason Shiflet traveled to Charlotte via Birmingham.

Monday, 22 February, 1999

Team Members: Jason Shiflet, Suzy Cantor-McKinney, Tom Brennan, Mike Burford, and Roy Mange

Jason Shiflet and Suzy Cantor-McKinney traveled to Anniston/Oxford via Birmingham and met Tom Brennan in the lobby of Hampton Inn at 1015 hours. The Team traveled to Fort McClellan and met Mike Burford and Roy Mange just outside Baltzell Gate at 1030 hours. Ranges 18B and TA-10 were opened (opening code J1056). The Team traveled to Area 1, where Tom Brennan conducted the daily safety briefing. While at Area 1, the Team discussed brush clearing needs for the project. The Team proceeded to Area 2 and again discussed brush clearing needs. The appropriate brush clearing equipment was agreed upon, and the Team was to meet the following morning at 0630 hours to begin work. Jason Shiflet, Suzy Cantor-McKinney and Tom Brennan proceeded to areas 2, 3 and 4 and walked the perimeter, marking trees with yellow and black tape. After outlining each area, the Team proceeded to the Directorate of the Environment Office and met with Lisa Kingsbury. They examined and collected previously stored field equipment. An aerial photograph of the study site was copied for reference. The ranges were closed (closing code T1500) and the Team departed the site at 1520 hours.

Tuesday, 23 February, 1999

Team Members: Jason Shiflet, Suzy Cantor-McKinney, Tom Brennan, Roy Mange, and Shane Allen

Ranges 18B and TA-10 were opened (C0624) and the Team members met at 0630 hours just inside Summerall Gate. After the daily safety meeting, Burford's Tree Surgeons began clearing Area 1. Approximately 15 minutes into work, the engine of the brush-clearing machine, a Kendall Cutter #484, ceased to operate. Unsuccessful attempts were made to repair the engine on-site. After removing the cutter from the site, Burford's Tree Surgeons returned with a new brush-clearing machine, a New Holland #7740. The Project Team decided to clear Area 2, as illustrated in Photograph No. 2, and return to Area 1 at a later time using heavier equipment. Suzy Cantor-McKinney departed the site at 1600 hours and returned to Charlotte via Birmingham. Brush clearing at Area 2 was completed at 1700 hours and the ranges were closed (C1653).

Wednesday, 24 February, 1999

Team Members: Jason Shiflet, Tom Brennan, Roy Mange, and Shane Allen

Ranges 18B and TA-10 were opened (C0618) and the Team members met at 0630 hours just inside Summerall Gate. After the daily safety meeting, Burford's Tree Surgeon began clearing Area 3. Clearing at Area 3 was completed at 1200 hours and the Team proceeded to Area 4. Clearing of Area 4 commenced after lunch and concluded at 1645 hours, when operation of the clearing machine halted due to a flat tire. Additionally, approximately five large metal panels, shown in Photograph No. 3, were uncovered in Area 4, Grid 1, illustrated on Figure 5. They were collected and transported to a local scrap metal dealer by Burford's Tree Surgeon.

Thursday, 25 February, 1999

Team Members: Jason Shiflet, Tom Brennan, Roy Mange, and Shane Allen

Ranges 18B and TA-10 were opened (C0620) and the Team members met at 0630 hours just inside Summerall Gate. After the daily safety meeting, Burford's Tree Surgeon changed the flat tire and reconfigured the blades on the cutting machine. Additional clearing of Area 4 began at 0815 hours and concluded at 1030 hours. Refer to Photograph 4. The Team moved to Area 1 and began clearing the site at 1100 hours. At 1200 hours, a blade on the cutting machine broke. Cutting resumed after lunch and blade replacement. Clearing of Area 1 was completed at 1700 hours. The Team adjourned for the weekend and agreed to meet again on the following Monday, as Jason Shiflet determined a possible need for additional brush clearing.

Monday, 1 March, 1999

Team Members: Jason Shiflet, Tom Brennan, Shane Traffanstedt, and Matt Lackey

Ranges 18B and TA-10 were opened (C0737) and the Project Team met at 0730 hours just inside Summerall Gate. After the daily safety meeting, the Team began establishing a 100-foot by 100-foot grid layout in Area 1 using precision surveying techniques. The surveyors used a total base station to turn all the angles and measure all the distances for each grid corner (marked with a 1.5 inch wooden hub) and each boundary corner (marked with an 18 inch stick of rebar). After the grids were established, real-time GPS was used to collect several points within each area. The data from the total base station and the RT-GPS was used to establish the grid system within the Alabama State Plane. Figure 2 represents the surveyed locations in Area 1. Surveying of Area 1 was completed and surveying of Area 2 was started at 1015 hours. Figure 3 represents the surveyed locations in Area 2. Surveying of Area 2 was completed and surveying of Area 3 was started at 1300 hours. Figure 4 represents the surveyed locations in Area 3. Surveying of Area 3 was completed and the ranges were closed (C1710) at 1700 hours. The Team determined that additional brush clearing was needed and Burford's Tree Surgeons was notified. They agreed to join the Team on Tuesday.

Tuesday, 2 March, 1999

Team Members: Jason Shiflet, Tom Brennan, Shane Traffanstedt, Matt Lackey, Roy Mange, and Shane Allen

Ranges 18B and TA-10 were opened (C0659) and the Team members met at 0700 hours just inside Summerall Gate. After the daily safety meeting, the surveyors established the grid layout for Area 4 and the brush clearers completed additional clearing of Area 4. After the surveyors completed Area 4, shown on Figure 5, they attempted to collect GPS data for Area 4, as shown in Photograph No. 5. They had little success with GPS so the Team moved to Area 3. The surveyors established smaller grids in this area while the brush clearer expanded the area and further cleaned-up the previously cleared portions of the area. Brush clearing was completed at 1700 hours. The surveyors attempted to collect GPS data for Area 3 with little success. The ranges were closed (T1755) at 1800 hours.

Wednesday, 3 March, 1999

Team Members: Jason Shiflet, Tom Brennan, Shane Traffanstedt, Matt Lackey, Roy Mange, and Shane Allen

Ranges 18B and TA-10 were opened (C0705) and the Team members met at 0700 hours just inside Summerall Gate. After the daily safety meeting, the surveyors completed Area 1 while the brush clearers continued to remove debris from previously cleared portions of the area. The survey Team completed Area 1 and moved to Area 2 at 1030 hours. At 1130 hours the Project Team planted seed items in the prove-out grid in Area 1. Jason Shiflet spoke with Bob Selfridge who agreed that the prove-out grid should be in an area similar to the areas where data collection would occur. Further, seed items would be planted in anomaly-free areas within the grid and all prior anomalies would remain because removing them would be an intrusive action. Photograph No. 6 shows Tom Brennan driving rebar into an anomaly-free part of the prove-out grid. Photograph No. 7 represents a typical pipe burial in the prove-out grid. The brush clearers departed the site at 1300 hours. The surveyors completed hub locating at 1700 hours. Based on the total number of grids established, the Team determined that additional brush clearing and surveying would be required. Plans were made to clear and survey additional areas on Monday and Tuesday of the following week. The ranges were closed (C1721) and the Team adjourned at 1730 hours. Jason Shiflet traveled to Charlotte via Birmingham.

Monday, 8 March, 1999

Team Members: Jason Shiflet, Suzy Cantor-McKinney, Neil Gilbert, Tom Brennan, Brian Thompson, Jae Yun, John Dolynchuk, Roy Mange, and Shane Allen

Ranges 18B and TA-10 were opened (T0647) and the Team members met at 0700 hours just inside Summerall Gate. After the daily safety meeting, Burford's Tree Surgeons began clearing Areas 5 and 6. The Project Team began conducting the geophysical prove-out in Area 1, Grid 3. The EM-61 with GPS, using a three-foot lane spacing, was operated first, as shown in Photograph 8. The same EM-61 setup, without GPS, was run next. The G-858, with GPS and three-foot lane spacing, as shown in Photograph No. 9,

was operated third. The same G-858 setup, without GPS, was run last. Brush clearing of all additional areas was completed at 1330 hours. The geophysical prove-out was completed at 1530 hours and the ranges were closed (T1526). The Team traveled back to the hotel to begin data transfer.

Tuesday, 9 March, 1999

Team Members: Jason Shiflet, Suzy Cantor-McKinney, Neil Gilbert, Bob Selfridge, Tom Brennan, Jae Yun, Brian Thompson, Shane Traffanstedt, Joseph Lightfoot, Kenny Mahone, John Dolynchuk

Ranges 18B and TA-10 were opened (P0730) and Project Team members met at 0730 hours just inside Summerall Gate. After the daily safety meeting, the surveyors began establishing grids in Areas 5 and 6. A second round of prove-out tests was conducted under the instruction of Bob Selfridge. The second round of prove-out tests involved the same equipment, the same northern direction from hub 8, without GPS, with a closer lane spacing (2.5 feet instead of 3.0 feet) and slower data acquisition rates. Surveying of the grids in Areas 5 and 6 was completed at 1300 hours, as shown on Figures 6 and 7, respectively. The second round of prove-out procedures was completed at 1730 hours. The ranges were closed (P1729) and the Team reassembled at the hotel to transfer and analyze data. Suzy Cantor-McKinney and Neil Gilbert returned to Charlotte via Birmingham the following morning. Upon evaluating all of the prove-out data, it was determined that the optimal data collection equipment for this project is the EM-61 without GPS, using a 2.5-foot lane width.

Wednesday, 10 March, 1999

Team Members: Jason Shiflet, Tom Brennan, Jae Yun, and Brian Thompson

Ranges 18B and TA-10 were opened (P0546) and the Project Team met at 0545 hours just inside Summerall Gate. After the daily safety meeting, the Team began data collection in Area 1. The Team encountered a 60mm practice mortar, Photograph No. 10, and a "mousetrap" lying on the surface in Area 1, Grid 07. Hank Hubbard and Bob Selfridge removed the practice mortar and "mousetrap" from the site. The Team completed Area 1 and proceeded to Area 5 at 1615 hours. The Team completed Area 5 at 1750 hours. The ranges were closed (T1757) at 1800 hours.

Thursday, 11 March, 1999

Team Members: Jason Shiflet, Tom Brennan, Jae Yun, Brian Thompson, John Dolynchuk, and Bob Selfridge

Ranges 18B and TA-10 were opened (P0641) and the Project Team met at 0645 hours just inside Summerall Gate. After the daily safety meeting, the Team began data collection in Area 2. The Team completed data collection in Area 2 and proceeded to Area 6 and began data collection at 1545 hours. The ranges were closed (T1654) at 1800 hours.

---

Friday, 12 March, 1999

Team Members: Jason Shiflet, Tom Brennan, Jae Yun, and Brian Thompson

Ranges 18B and TA-10 were opened (P0620) and the Project Team met at 0630 hours just inside Summerall Gate. After the daily safety meeting, the Team continued data collection in Area 6. The Team halted data collection in Area 6 and proceeded to Area 4 at 1445 hours. The ranges were closed (T1544) at 1545 hours. The Project Team adjourned until the following Monday. Jason Shiflet traveled to Charlotte via Birmingham.

Monday, 15 March, 1999

Team Members: Neil Gilbert, Tom Brennan, Jae Yun, and Brian Thompson

Neil Gilbert traveled to Fort McClellan via Birmingham. Ranges 18B and TA-10 were opened and the Project Team met at 0700 hours just inside Summerall Gate. After the daily safety meeting, the Team began data collection in Area 4. Neil Gilbert arrived on-site at 1015 hours. Severe storms over the preceding weekend had blown down several trees in Area 4, as shown in Photograph No. 11, which made data collection more difficult and resulted in gaps in area coverage. The Team completed data collection in Area 4 and moved on to Area 3 at 1430 hours. The ranges were closed at 1730 hours.

Tuesday, 16 March, 1999

Team Members: Neil Gilbert, Tom Brennan, Jae Yun, and Brian Thompson

Ranges 18B and TA-10 were opened at 0630 hours when the Project Team met at 0630 hours just inside Summerall Gate. After the daily safety meeting, the Team began data collection in Area 3, as shown in Photograph No. 12. The numerous deep foxholes in Area 3 made data collection difficult. The Team completed Area 3 and proceeded to Area 6 at 1545 hours to complete data collection. Data collection was completed at 1700 hours and the ranges were closed at 1713 hours. All data collection was completed and the Project Team returned to their respective home offices.

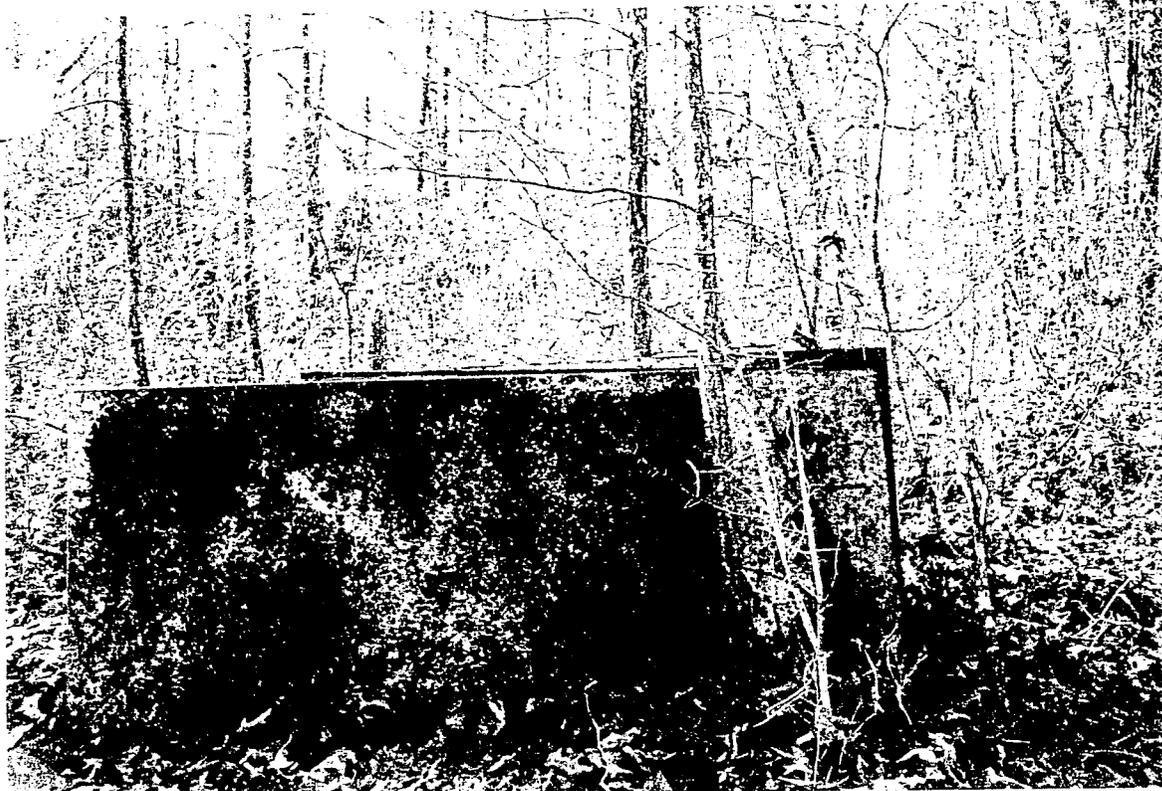
**Appendix A**  
**Field Photographs**



1. Area 1, Grid 3 (northeastern end) prior to brush clear, facing southeast.



2. Area 2 during brush clearing activities, facing west.



3. Large metal panel discovered in Area 4, Grid 1.



4 Area 4, Grid 1 after brush clearing, facing south.



5. Area 4, Grid 10 hub location procedure using a Leica RT-GPS system.



6. Tom Brennan driving 1.0 foot rebar seed item in Area 1, Grid 3 (prove-out).



7. Burial of a 60mm simulant seed item in Area 1, Grid 3 (prove-out).



8. Prove-out procedure with EM-61 and GPS in Area 1, Grid 3, facing south.



9. Prove-out procedure with G-858 and GPS in Area 1, Grid 3, facing southeast.



10. 60mm practice mortar discovered at surface in Area 1, Grid 2.



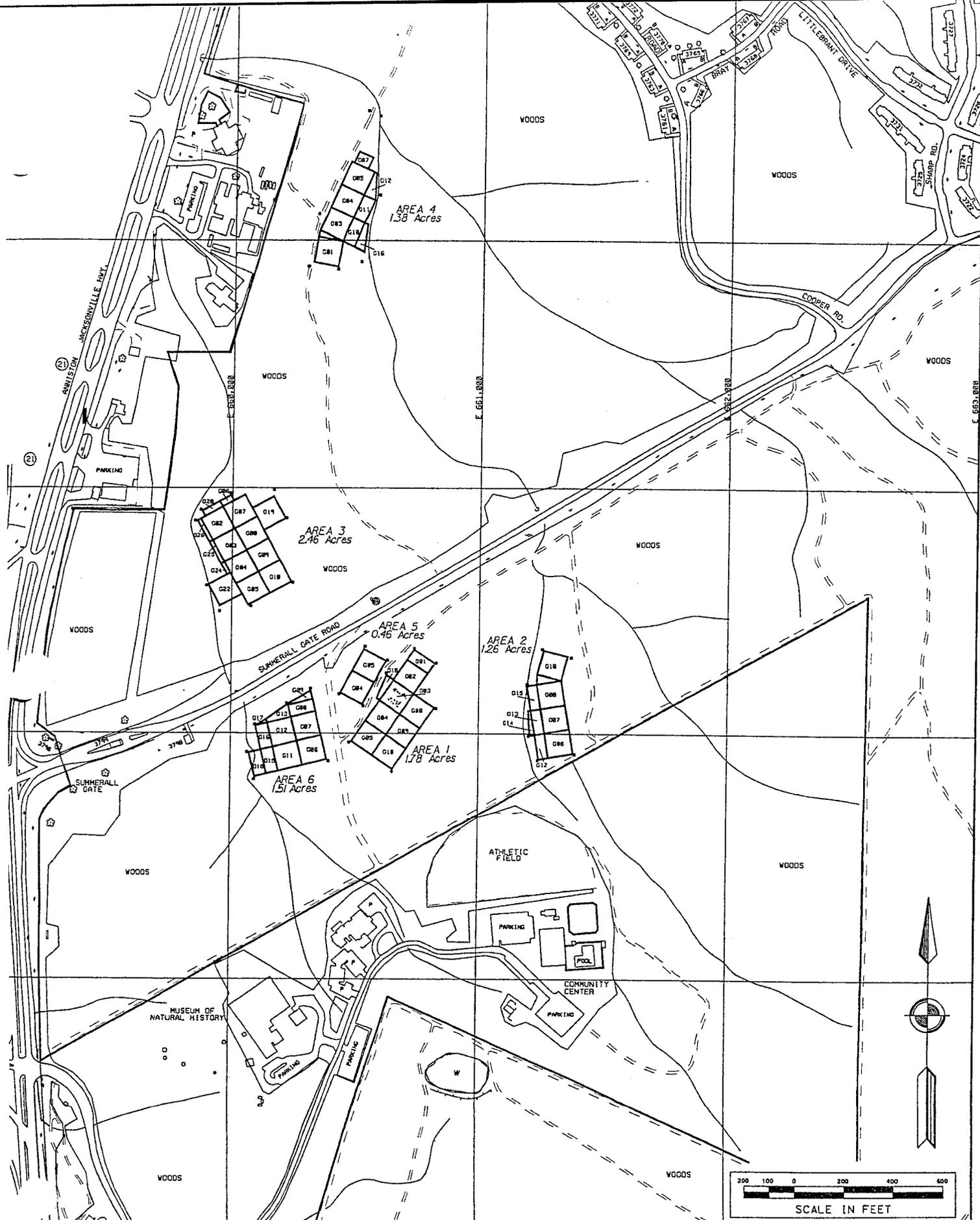
11. Fallen trees discovered in Area 4 prior to data collection.



12. Data collection with EM-61 in Area 3, Grid 4, facing northwest.

## **Appendix B**

### **Site Maps**



ZAPATA ENGINEERING, P.A.

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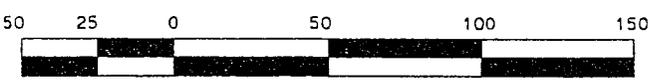
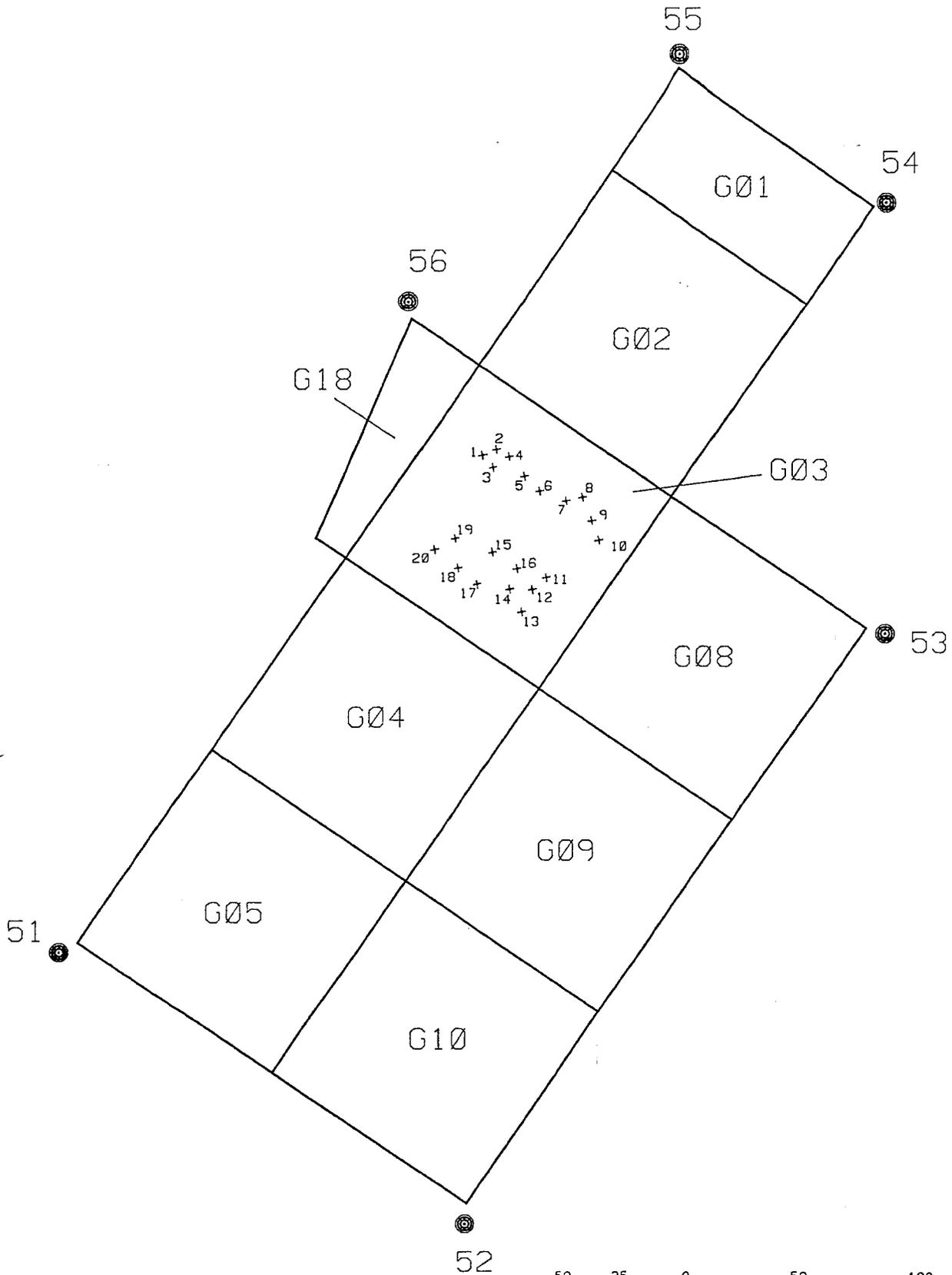


US ARMY ENGINEERING  
& SUPPORT CENTER  
HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN GEOPHYSICAL  
SURVEY INVESTIGATION

DRAWING TITLE: SITE MAP

PROJECT #:	REF. #:	DATE:	DRAWN BY:	SCALE:	FIGURE:
982505		29 MAR 99	J. SHIFLET	SEE DRAWING	1



SCALE IN FEET



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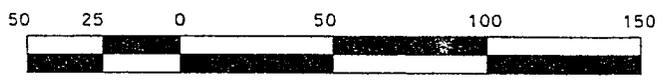
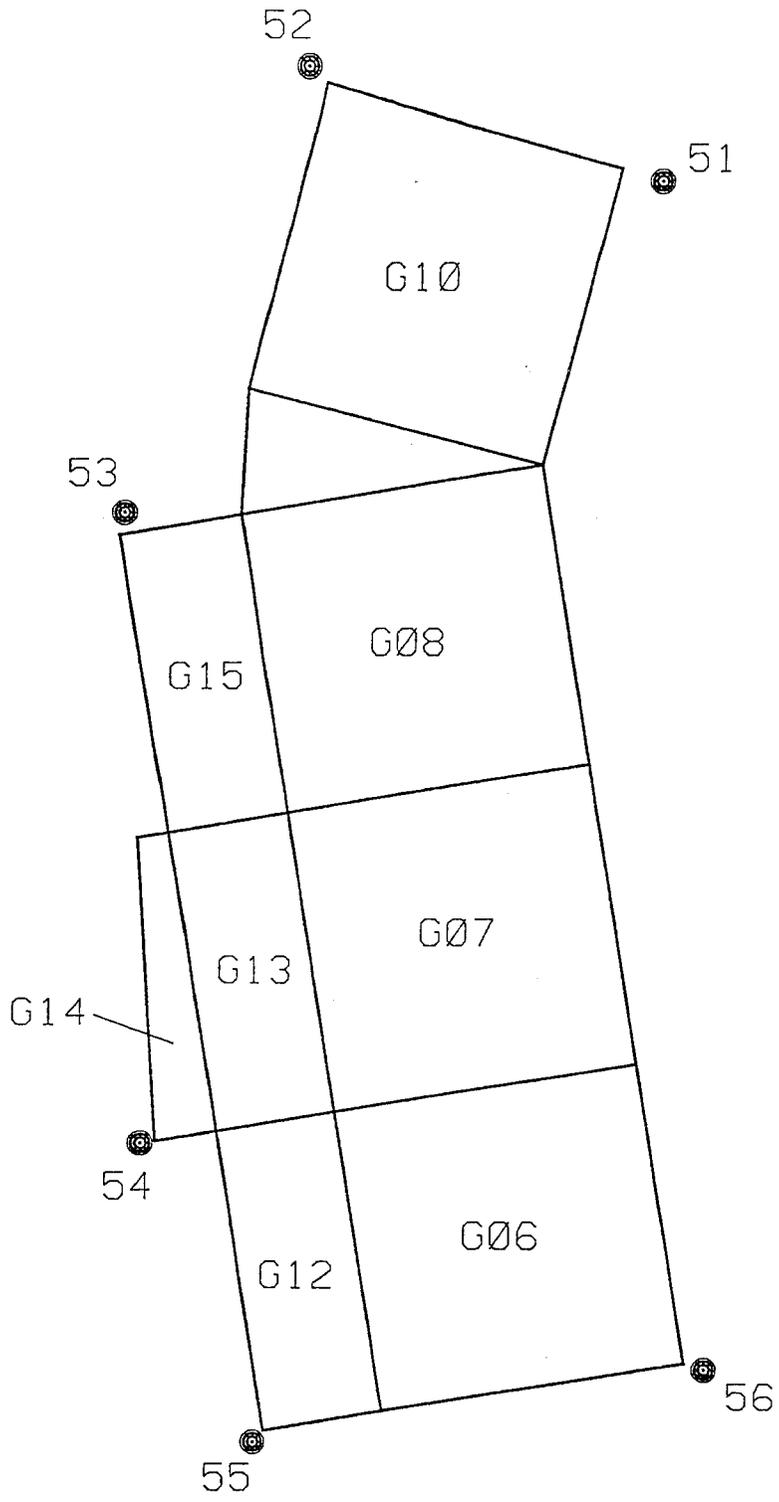


US ARMY ENGINEERING  
& SUPPORT CENTER  
HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN GEOPHYSICAL  
SURVEY INVESTIGATION

DRAWING TITLE: AREA 1

PROJECT #: 982505	REF. #:	DATE: 29 MAR 99	DRAWN BY: J. SHIFLET	SCALE: SEE DRAWING	FIGURE: 2
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SCALE IN FEET



**ZAPATA ENGINEERING, P.A.**  
 1100 KENILWORTH AVENUE  
 CHARLOTTE, NC 28204  
 E-MAIL: ZAPATA@ZAPENG.COM  
 PHONE: (704) 358-8240  
 FAX: (704) 358-8342  
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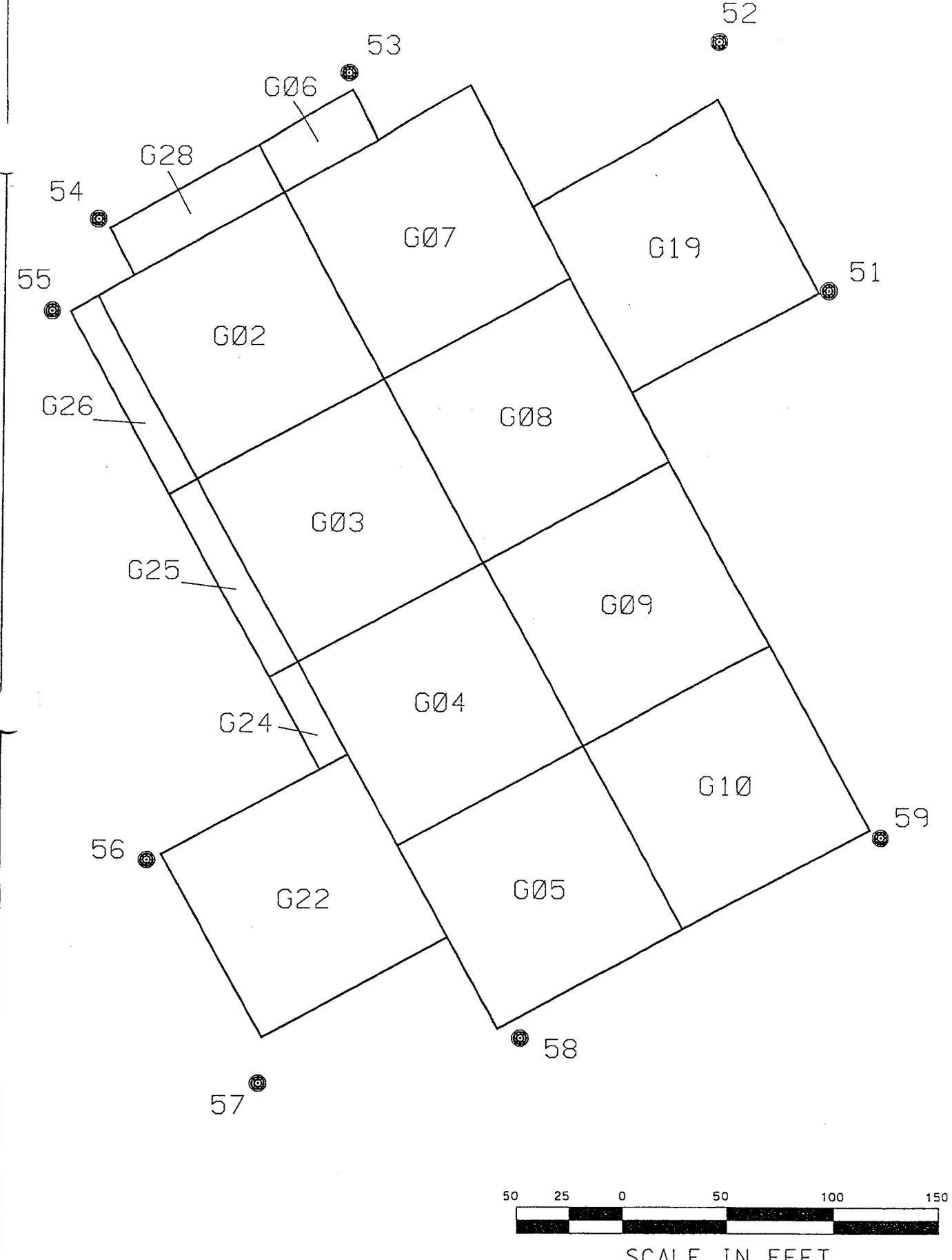


US ARMY ENGINEERING  
 & SUPPORT CENTER  
 HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT MCCLELLAN GEOPHYSICAL  
 SURVEY INVESTIGATION

DRAWING TITLE: AREA 2

PROJECT #: 982505	REF. #:	DATE: 29 MAR 99	DRAWN BY: J. SHIFLET	SCALE: SEE DRAWING	FIGURE: 3
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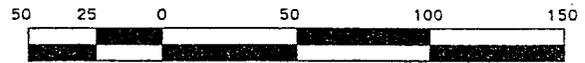
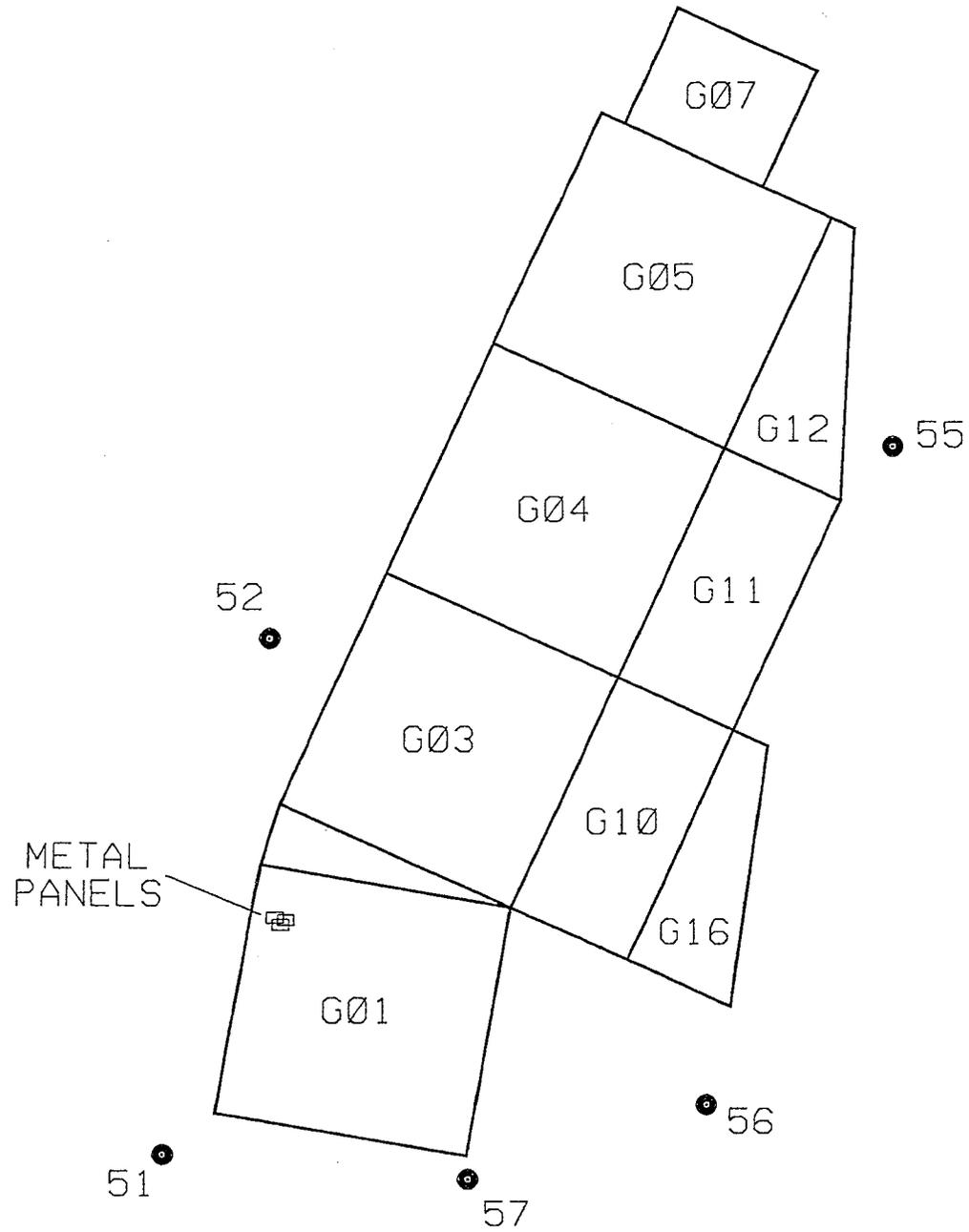


<b>ZAPATA ENGINEERING, P.A.</b> <small>1100 KENILWORTH AVENUE          CHARLOTTE, NC 28204          E-MAIL: ZAPATA@ZAPENG.COM</small>	 <b>US ARMY ENGINEERING &amp; SUPPORT CENTER</b> HUNTSVILLE, ALABAMA	<b>PROJECT TITLE: FORT McCLELLAN GEOPHYSICAL SURVEY INVESTIGATION</b>			
		<b>DRAWING TITLE: AREA 3</b>			
<b>PROJECT #:</b> 982505	<b>REF. #:</b>	<b>DATE:</b> 29 MAR 99	<b>DRAWN BY:</b> J. SHIFLET	<b>SCALE:</b> SEE DRAWING	<b>FIGURE:</b> 4

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100 KENILWORTH AVENUE  
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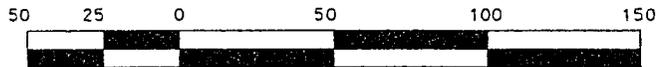
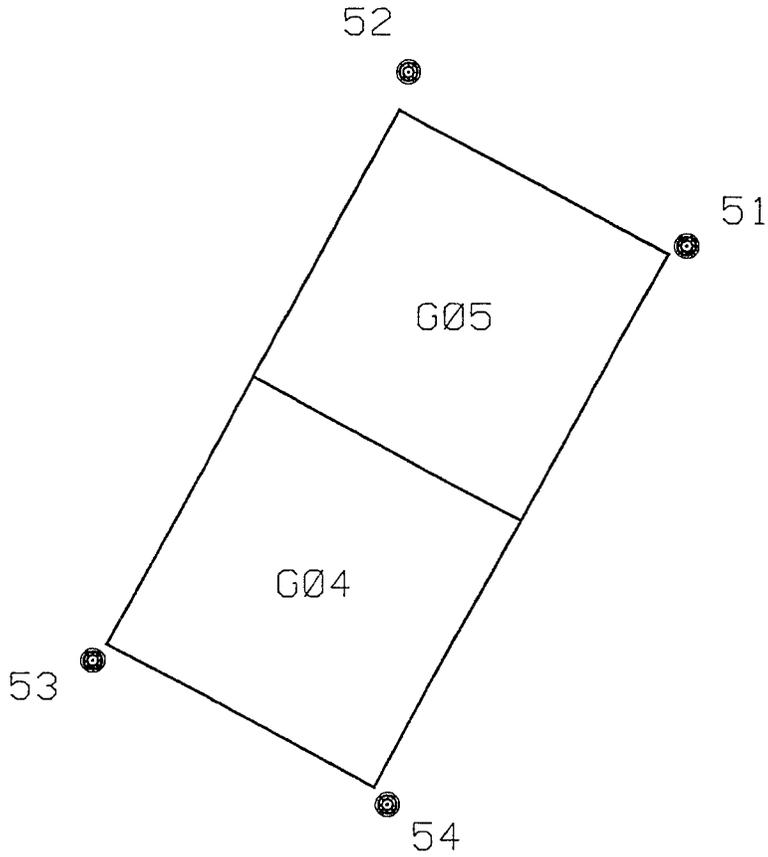


US ARMY ENGINEERING  
 & SUPPORT CENTER  
 HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN GEOPHYSICAL SURVEY INVESTIGATION

DRAWING TITLE: AREA 4

PROJECT #: 982505	REF. #:	DATE: 29 MAR 99	DRAWN BY: J. SHIFLET	SCALE: SEE DRAWING	FIGURE: 5
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ZAPATAENGINEERING, P.A.

100 KENLWORTH AVENUE  
 CHARLOTTE, NC 28204  
 E-MAIL: ZAPATA@ZAPENG.COM  
 PHONE: (704) 358-8240  
 FAX: (704) 358-0342  
 WEB SITE: WWW.ZAPENG.COM  
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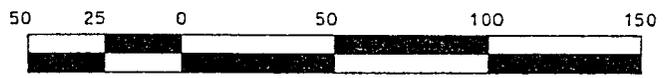
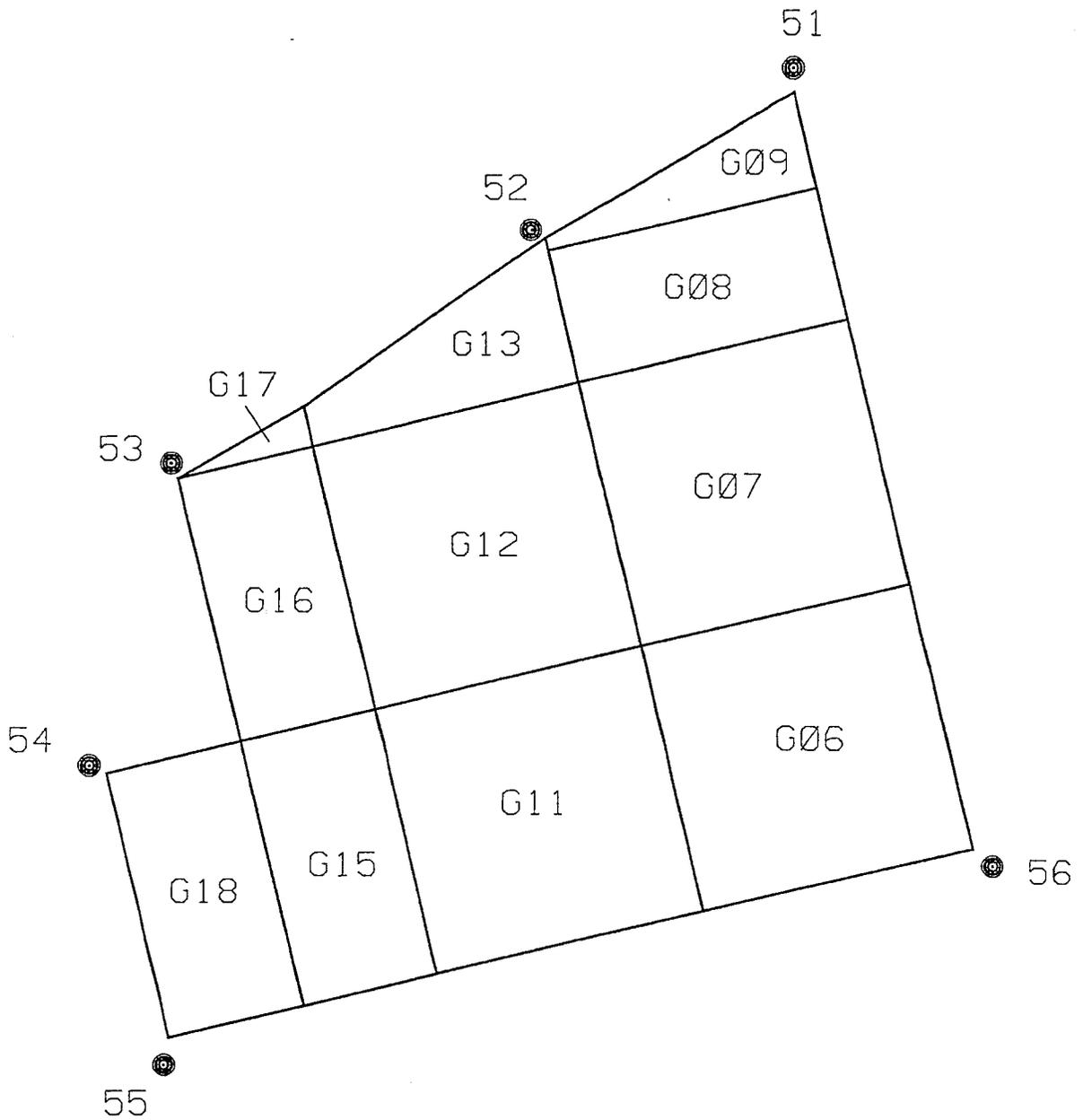


US ARMY ENGINEERING  
 & SUPPORT CENTER  
 HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN GEOPHYSICAL  
 SURVEY INVESTIGATION

DRAWING TITLE: AREA 5

PROJECT #: 982505	REF. #:	DATE: 29 MAR 99	DRAWN BY: J. SHIFLET	SCALE: SEE DRAWING	FIGURE: 6
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SCALE IN FEET



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& SUPPORT CENTER  
HUNTSVILLE, ALABAMA

PROJECT TITLE: FORT McCLELLAN GEOPHYSICAL  
SURVEY INVESTIGATION

DRAWING TITLE: AREA 6

PROJECT #:  
982505

REF. #:

DATE:  
29 MAR 99

DRAWN BY:  
J. SHIFLET

SCALE:  
SEE DRAWING

FIGURE:  
7

**Appendix C**

**Daily Safety Briefing Records**

## ON-SITE SAFETY MEETING RECORD

DATE: 2-22-99 TIME: 1030

Page 1 of 2

LOCATION: SITE AT FT. McClellan, AL.

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input checked="" type="checkbox"/>	Initial Site Safety Briefing
	Begin New Task. Task:
	Periodic Safety Meeting
	New Site Procedures
	New Site Information
	Review of Site Information
	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. MIKE BURFORD	<i>Mike Burford</i>	BURFORD'S TREE SURGEONS INC.
2. ROY MANGE	<i>Roy Mange</i>	BURFORD'S TREE SURGEONS INC.
3. SUZY Cantamella	<i>Suzie Cantamella</i>	ZAPATA-ENGINEERING
4. Jason Shiflet	<i>Jason Shiflet</i>	Zapata-Engineering
5. F. BRENNAN	<i>F. Brennan</i>	USA ENVIRONMENTAL
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ON-SITE SAFETY MEETING RECORD

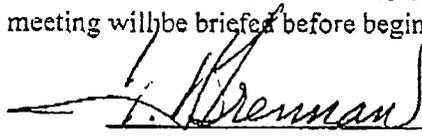
III. TOPIC (check all that apply)

	Site Safety Personnel		Decontamination
✓	Site Description		Emergency Response
✓	Work Area Description		Hazard Communication
	Site Characterization		On-Site Emergency
	Biological Hazard(s)		On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
✓	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
	Cold Stress		Directions to Hospital
✓	Site Control		Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
	PPE		Medical Monitoring
	Air Monitoring		Task Training
	Safe Work Practices		Other

IV. REMARKS

V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.



2-22-99

Site Safety Officer

Date

## ON-SITE SAFETY MEETING RECORD

DATE: 2-23-99 TIME: 0700

Page 1 of 2

LOCATION: WORK SITE, FT. McCLellan, AL

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. Roy Mang	<i>Roy Mang</i>	Burford Tree
2. Sherrill Allen	<i>Sherrill Allen</i>	Burford Tree
3. Suzy Cantor-McKinney	<i>Suzanne S.</i>	ZAPATA ENGINEERING
4. Jason Shiflet	<i>Jason Shiflet</i>	Zapata Engineering
5. T. BRENNAN	<i>T. Brennan</i>	USA ENVIRD.
6. Cecil Watts	<i>Cecil Watts</i>	DOE.
7. Gordon Horsley	<i>Gordon A. Horsley</i>	DOE
8. JASON DEVOE	<i>Jason Devoe</i>	Burford Tree
9. Ron Smith	<i>Ronald J. Smith</i>	FT McCLellan, DOE
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ON-SITE SAFETY MEETING RECORD

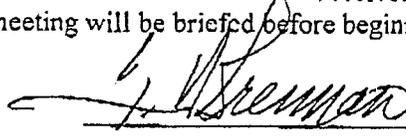
III. TOPIC (check all that apply)

<input type="checkbox"/>	Site Safety Personnel	<input type="checkbox"/>	Decontamination
<input type="checkbox"/>	Site Description	<input type="checkbox"/>	Emergency Response
<input type="checkbox"/>	Work Area Description	<input type="checkbox"/>	Hazard Communication
<input type="checkbox"/>	Site Characterization	<input type="checkbox"/>	On-Site Emergency
<input type="checkbox"/>	Biological Hazard(s)	<input type="checkbox"/>	On-Site Injuries
<input type="checkbox"/>	Chemical Hazard(s)	<input type="checkbox"/>	Evacuation Procedures
<input checked="" type="checkbox"/>	Physical Hazard(s)	<input type="checkbox"/>	Rally Point
<input type="checkbox"/>	Heat Stress	<input type="checkbox"/>	Emergency Communications
<input type="checkbox"/>	Cold Stress	<input type="checkbox"/>	Directions to Hospital
<input type="checkbox"/>	Site Control	<input type="checkbox"/>	Emergency Equipment
<input type="checkbox"/>	Work and Support Zones	<input type="checkbox"/>	Drug and Alcohol Policies
<input checked="" type="checkbox"/>	PPE	<input type="checkbox"/>	Medical Monitoring
<input type="checkbox"/>	Air Monitoring	<input type="checkbox"/>	Task Training
<input type="checkbox"/>	Safe Work Practices	<input type="checkbox"/>	Other

IV. REMARKS

V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.


2-23-99

Site Safety Officer

Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-24-99 TIME:

Page 1 of 2

LOCATION: FT. McCULLAN, AL

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. BRENNAN	<i>T. Brennan</i>	USA ENVIRO.
2. Jason Shiflet	<i>Jason Shiflet</i>	Zapata Engineering
3. Roy Marge	<i>Roy Marge</i>	Burford Tree
4. Shane Allen	<i>Shane Allen</i>	Burford Tree
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**ON-SITE SAFETY MEETING RECORD**

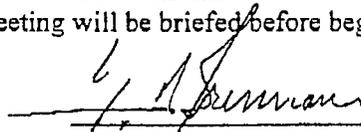
III. TOPIC (check all that apply)

<input type="checkbox"/>	Site Safety Personnel	<input type="checkbox"/>	Decontamination
<input type="checkbox"/>	Site Description	<input type="checkbox"/>	Emergency Response
<input type="checkbox"/>	Work Area Description	<input type="checkbox"/>	Hazard Communication
<input type="checkbox"/>	Site Characterization	<input type="checkbox"/>	On-Site Emergency
<input type="checkbox"/>	Biological Hazard(s)	<input type="checkbox"/>	On-Site Injuries
<input type="checkbox"/>	Chemical Hazard(s)	<input type="checkbox"/>	Evacuation Procedures
<input checked="" type="checkbox"/>	Physical Hazard(s)	<input type="checkbox"/>	Rally Point
<input type="checkbox"/>	Heat Stress	<input type="checkbox"/>	Emergency Communications
<input type="checkbox"/>	Cold Stress	<input checked="" type="checkbox"/>	Directions to Hospital
<input type="checkbox"/>	Site Control	<input type="checkbox"/>	Emergency Equipment
<input type="checkbox"/>	Work and Support Zones	<input type="checkbox"/>	Drug and Alcohol Policies
<input type="checkbox"/>	PPE	<input type="checkbox"/>	Medical Monitoring
<input type="checkbox"/>	Air Monitoring	<input type="checkbox"/>	Task Training
<input checked="" type="checkbox"/>	Safe Work Practices	<input type="checkbox"/>	Other

IV. REMARKS

V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.



2-24-99

Site Safety Officer

Date

## ON-SITE SAFETY MEETING RECORD

DATE: 2.25.99 TIME: 1630

Page 1 of 2

LOCATION: FT MCL

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input checked="" type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. Roy Magee	<i>Roy Magee</i>	Burford Tree
2. Shane Allen	<i>Shane Allen</i>	Burford Tree
3. Jason Shiflet	<i>Jason Shiflet</i>	Zapata Engineering
4. T. Brown	<i>T. Brown</i>	4x0 USA Enviro.
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## ON-SITE SAFETY MEETING RECORD

Page 2 of 2

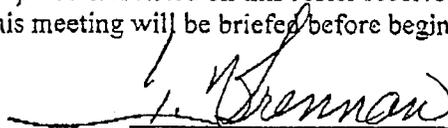
III. TOPIC (check all that apply)

	Site Safety Personnel		Decontamination
	Site Description		Emergency Response
	Work Area Description		Hazard Communication
✓	Site Characterization		On-Site Emergency
	Biological Hazard(s)		On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
✓	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
	Cold Stress		Directions to Hospital
	Site Control		Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
	PPE		Medical Monitoring
	Air Monitoring		Task Training
✓	Safe Work Practices		Other

IV. REMARKS


V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.


2-25-99  
 Site Safety Officer Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-1-99 TIME: 0730

Page 1 of 2

LOCATION: FT. McClellan, AL.

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input checked="" type="checkbox"/>	Initial Site Safety Briefing
<input checked="" type="checkbox"/>	Begin New Task. Task:
	Periodic Safety Meeting
	New Site Procedures
	New Site Information
	Review of Site Information
	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. BRENNAN	<i>T. Brennan</i>	USA ENVIRO.
2. Jason Shiflet	<i>Jason Shiflet</i>	Zapata Engineering
3. SHANE TRAFFANSTEDT	<i>Shane Traffanstedt</i>	SAW ASSOC. INC.
4. MAT LACKIEY	<i>Mat Lackiey</i>	Saw Assoc
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## ON-SITE SAFETY MEETING RECORD

Page 2 of 2

III. TOPIC (check all that apply)

	Site Safety Personnel		Decontamination
✓	Site Description		Emergency Response
✓	Work Area Description		Hazard Communication
	Site Characterization		On-Site Emergency
	Biological Hazard(s)		On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
✓	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
✓	Cold Stress		Directions to Hospital
✓	Site Control		Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
	PPE		Medical Monitoring
	Air Monitoring		Task Training
✓	Safe Work Practices		Other

IV. REMARKS

SURVEY OPERATIONS THIS DATE

V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.

L. J. Brennan

3-1-99

Site Safety Officer

Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-2-99 TIME: 0700

Page 1 of 2

LOCATION: FT. McClellan A1.

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. Roy Munge	<i>Roy Munge</i>	Burford Tree
2. Shane Allen	<i>Shane Allen</i>	Burford Tree
3. Jason Skiflet	<i>Jason Skiflet</i>	Zapata Engineering
4. SHANE TRAFFANSTEDT	<i>Shane Traffanstedt</i>	SAW ASSOCIATES
5. MATT LACEY	<i>Matt Lacey</i>	Saw Assoc
6. T. BRENNAN	<i>T. Brennan</i>	USA ENVIRO.
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## ON-SITE SAFETY MEETING RECORD

Page 2 of 2

### III. TOPIC (check all that apply)

	Site Safety Personnel		Decontamination
	Site Description		Emergency Response
	Work Area Description		Hazard Communication
	Site Characterization		On-Site Emergency
✓	Biological Hazard(s)		On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
✓	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
	Cold Stress	✓	Directions to Hospital
	Site Control		Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
	PPE		Medical Monitoring
	Air Monitoring		Task Training
	Safe Work Practices		Other

### IV. REMARKS


### V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.

*J. H. Brennan*

3-2-99

Site Safety Officer

Date

## ON-SITE SAFETY MEETING RECORD

DATE: 3-3-99 TIME: 0700

Page 1 of 2

LOCATION: FT. McCLellan, AL.

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. BRENNAN	<i>T. Brennan</i>	USA ENVIR.
2. Jason Skiflet	<i>Jason Skiflet</i>	Zapata Engineering
3. Shane Allen	<i>Shane Allen</i>	Burford Tree
4. Roy Mangie	<i>Roy Mangie</i>	Burford Tree
5. SHANE TRAFFANSTREET	<i>Shane Traffanstreet</i>	SAW ASSOCIATES
6. MATT LACKEY	<i>Matt Lackey</i>	" "
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**ON-SITE SAFETY MEETING RECORD**

**III. TOPIC (check all that apply)**

<input type="checkbox"/>	Site Safety Personnel	<input type="checkbox"/>	Decontamination
<input type="checkbox"/>	Site Description	<input type="checkbox"/>	Emergency Response
<input type="checkbox"/>	Work Area Description	<input type="checkbox"/>	Hazard Communication
<input type="checkbox"/>	Site Characterization	<input checked="" type="checkbox"/>	On-Site Emergency
<input checked="" type="checkbox"/>	Biological Hazard(s)	<input type="checkbox"/>	On-Site Injuries
<input type="checkbox"/>	Chemical Hazard(s)	<input type="checkbox"/>	Evacuation Procedures
<input checked="" type="checkbox"/>	Physical Hazard(s)	<input type="checkbox"/>	Rally Point
<input type="checkbox"/>	Heat Stress	<input type="checkbox"/>	Emergency Communications
<input type="checkbox"/>	Cold Stress	<input checked="" type="checkbox"/>	Directions to Hospital
<input type="checkbox"/>	Site Control	<input type="checkbox"/>	Emergency Equipment
<input type="checkbox"/>	Work and Support Zones	<input type="checkbox"/>	Drug and Alcohol Policies
<input type="checkbox"/>	PPE	<input type="checkbox"/>	Medical Monitoring
<input type="checkbox"/>	Air Monitoring	<input type="checkbox"/>	Task Training
<input type="checkbox"/>	Safe Work Practices	<input type="checkbox"/>	Other

**IV. REMARKS**

**V. VERIFICATION**

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.

*L. Stennan*

*3-3-99*

Site Safety Officer

Date

## ON-SITE SAFETY MEETING RECORD

DATE: 3-8-99 TIME: 0700

Page 1 of 2

LOCATION: FT. McCLERNAN, AL.

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input checked="" type="checkbox"/>	Initial Site Safety Briefing
	Begin New Task. Task:
	Periodic Safety Meeting
	New Site Procedures
	New Site Information
	Review of Site Information
	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. BRENNAN	<i>T. Brennan</i>	USA ENVIRO
2. J. Yun	<i>J. Yun</i>	USA ENVIRO
3. BRIAN THOMPSON	<i>B. Thompson</i>	USA ENVIRO
4. Suzy Cantor-Mckione	<i>Suzanne Cantor-Mckione</i>	ZAPATA ENGINEERING
5. Ray Mays	<i>Ray Mays</i>	Burford Tree
6. Shane Allen	<i>Shane Allen</i>	Burford Tree
7. Neil Gilbert	<i>Neil Gilbert</i>	Zapata Engineering
8. John Alachuk	<i>John Alachuk</i>	SC&A
9. Jason Shulet	<i>Jason Shulet</i>	Zapata Engineering
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## ON-SITE SAFETY MEETING RECORD

Page 2 of 2

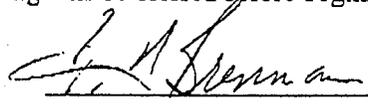
### III. TOPIC (check all that apply)

<input checked="" type="checkbox"/>	Site Safety Personnel		Decontamination
<input checked="" type="checkbox"/>	Site Description		Emergency Response
<input checked="" type="checkbox"/>	Work Area Description		Hazard Communication
	Site Characterization	<input checked="" type="checkbox"/>	On-Site Emergency
<input checked="" type="checkbox"/>	Biological Hazard(s)		On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
<input checked="" type="checkbox"/>	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
	Cold Stress	<input checked="" type="checkbox"/>	Directions to Hospital
<input checked="" type="checkbox"/>	Site Control		Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
<input checked="" type="checkbox"/>	PPE		Medical Monitoring
	Air Monitoring		Task Training
	Safe Work Practices		Other

### IV. REMARKS


### V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.


3-8-99

Site Safety Officer
Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-9-99 TIME:

Page 1 of 2

LOCATION: FORT McCLELLAN, AL

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. BRENNAN	<i>T. Brennan</i>	USA ENVIRO
2. J. Yun	<i>J. Yun</i>	USA ENVIRO
3. BRIAN THOMPSON	<i>Brian Thompson</i>	USA ENVIRO
4. Jason Shiflet	<i>Jason Shiflet</i>	Zapata Engineering
5. Bob Selfridge	<i>Bob Selfridge</i>	CEHHC
6. Gary Cantor McKeaney	<i>Gary Cantor McKeaney</i>	ZAPATA ENGINEERING
7. Neil Gilkert	<i>Neil Gilkert</i>	Zapata Engineering
8. SHANE TRAFFANSTEDT	<i>Shane Traffanstedt</i>	SAIN ASSOCIATES
9. JOSEPH LIGHTFOOT	<i>Joseph A Lightfoot</i>	SAIN ASSOCIATES
10. KENNY MANONE	<i>Kenny Manone</i>	" "
11. John Dolynchuk	<i>John Dolynchuk</i>	SC & A
12.		
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## ON-SITE SAFETY MEETING RECORD

Page 2 of 2

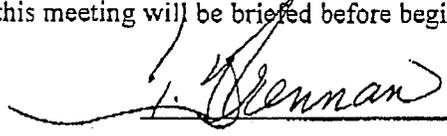
### III. TOPIC (check all that apply)

	Site Safety Personnel		Decontamination
	Site Description	✓	Emergency Response
	Work Area Description		Hazard Communication
	Site Characterization		On-Site Emergency
✓	Biological Hazard(s)	✓	On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
✓	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
	Cold Stress	✓	Directions to Hospital
	Site Control		Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
	PPE		Medical Monitoring
	Air Monitoring		Task Training
✓	Safe Work Practices		Other

### IV. REMARKS


### V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.


3-9-99  
 \_\_\_\_\_  
 Site Safety Officer Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-10-99 TIME: 0630 STARTED 0530 Page 1 of 2

LOCATION: FT. McCLAN, AL.

**I. Reason for meeting: (check all that apply)**

/	Daily Safety Briefing
	Initial Site Safety Briefing
	Begin New Task. Task:
	Periodic Safety Meeting
	New Site Procedures
	New Site Information
	Review of Site Information
	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. BRENNAN	<i>T. Brennan</i>	USA ENVIRO.
2. Jason Shiflet	<i>Jason Shiflet</i>	Zapata Engineering
3. BRIAN THOMPSON	<i>Brian Thompson</i>	USA ENVIRO
4. Jae Yun	<i>Jae Yun</i>	USA-Enviro
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ON-SITE SAFETY MEETING RECORD

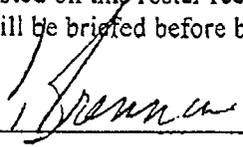
III. TOPIC (check all that apply)

<input type="checkbox"/>	Site Safety Personnel	<input type="checkbox"/>	Decontamination
<input type="checkbox"/>	Site Description	<input type="checkbox"/>	Emergency Response
<input type="checkbox"/>	Work Area Description	<input type="checkbox"/>	Hazard Communication
<input type="checkbox"/>	Site Characterization	<input type="checkbox"/>	On-Site Emergency
<input checked="" type="checkbox"/>	Biological Hazard(s)	<input type="checkbox"/>	On-Site Injuries
<input type="checkbox"/>	Chemical Hazard(s)	<input type="checkbox"/>	Evacuation Procedures
<input checked="" type="checkbox"/>	Physical Hazard(s)	<input type="checkbox"/>	Rally Point
<input type="checkbox"/>	Heat Stress	<input type="checkbox"/>	Emergency Communications
<input type="checkbox"/>	Cold Stress	<input type="checkbox"/>	Directions to Hospital
<input type="checkbox"/>	Site Control	<input type="checkbox"/>	Emergency Equipment
<input type="checkbox"/>	Work and Support Zones	<input type="checkbox"/>	Drug and Alcohol Policies
<input checked="" type="checkbox"/>	PPE	<input checked="" type="checkbox"/>	Medical Monitoring
<input type="checkbox"/>	Air Monitoring	<input type="checkbox"/>	Task Training
<input checked="" type="checkbox"/>	Safe Work Practices	<input type="checkbox"/>	Other

IV. REMARKS

V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.


3-10-99

Site Safety Officer

Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-11-99 TIME:

Page 1 of 2

LOCATION: FORT McCLELLAN, AL

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. BRONNAN	<i>T. Bronnan</i>	USA Enviro.
2. Jason Shiflet	<i>Jason Shiflet</i>	ZapData Engineering
3. Lisa V.	<i>Lisa V.</i>	USA Enviro
4. Ben Thompson	<i>Ben Thompson</i>	USA
5. John Dolyachuk	<i>John Dolyachuk</i>	SC&A
6. Bob Selfridge	<i>Bob Selfridge</i>	CEHNC
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## ON-SITE SAFETY MEETING RECORD

Page 2 of 2

### III. TOPIC (check all that apply)

	Site Safety Personnel		Decontamination
	Site Description		Emergency Response
	Work Area Description		Hazard Communication
	Site Characterization		On-Site Emergency
<input checked="" type="checkbox"/>	Biological Hazard(s)		On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
<input checked="" type="checkbox"/>	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
	Cold Stress		Directions to Hospital
	Site Control	<input checked="" type="checkbox"/>	Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
	PPE		Medical Monitoring
	Air Monitoring		Task Training
<input checked="" type="checkbox"/>	Safe Work Practices		Other

### IV. REMARKS

### V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.

*J. Lerman*

3-11-99

Site Safety Officer

Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-12-99 TIME:

Page 1 of 2

LOCATION: FT. McClellan, AL

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. J. BRENNAN	<i>J. Brennan</i>	USA ENVIRO.
2. Brian Thompson	<i>Brian Thompson</i>	USA ENVIRO
3. Joe Yip	<i>Joe Yip</i>	USA Enviro.
4. Jason Shiflet	<i>Jason Shiflet</i>	Zapata Engineering
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ON-SITE SAFETY MEETING RECORD

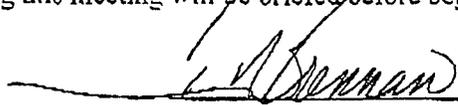
III. TOPIC (check all that apply)

<input type="checkbox"/>	Site Safety Personnel	<input type="checkbox"/>	Decontamination
<input type="checkbox"/>	Site Description	<input type="checkbox"/>	Emergency Response
<input type="checkbox"/>	Work Area Description	<input type="checkbox"/>	Hazard Communication
<input type="checkbox"/>	Site Characterization	<input type="checkbox"/>	On-Site Emergency
<input type="checkbox"/>	Biological Hazard(s)	<input type="checkbox"/>	On-Site Injuries
<input type="checkbox"/>	Chemical Hazard(s)	<input type="checkbox"/>	Evacuation Procedures
<input checked="" type="checkbox"/>	Physical Hazard(s)	<input type="checkbox"/>	Rally Point
<input type="checkbox"/>	Heat Stress	<input type="checkbox"/>	Emergency Communications
<input type="checkbox"/>	Cold Stress	<input type="checkbox"/>	Directions to Hospital
<input type="checkbox"/>	Site Control	<input type="checkbox"/>	Emergency Equipment
<input type="checkbox"/>	Work and Support Zones	<input type="checkbox"/>	Drug and Alcohol Policies
<input type="checkbox"/>	PPE	<input type="checkbox"/>	Medical Monitoring
<input type="checkbox"/>	Air Monitoring	<input type="checkbox"/>	Task Training
<input checked="" type="checkbox"/>	Safe Work Practices	<input type="checkbox"/>	Other

IV. REMARKS

V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.


3-12-99

Site Safety Officer
Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-15-99 TIME: 0630

Page 1 of 2

LOCATION: FT McClellan

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. Brennan	<i>T. Brennan</i>	USA ENVIRO
2. J. Yun	<i>J. Yun</i>	USA ENVIRO
3. B. Thompson	<i>B. Thompson</i>	USA ENVIRO
4. Neil Gilbert	<i>Neil Gilbert</i>	Engsta Engineering
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## ON-SITE SAFETY MEETING RECORD

Page 2 of 2

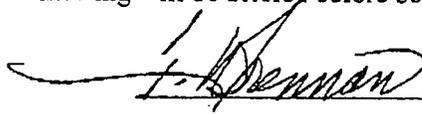
### III. TOPIC (check all that apply)

	Site Safety Personnel		Decontamination
	Site Description		Emergency Response
	Work Area Description		Hazard Communication
	Site Characterization		On-Site Emergency
✓	Biological Hazard(s)		On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
✓	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
	Cold Stress		Directions to Hospital
	Site Control		Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
	PPE		Medical Monitoring
	Air Monitoring		Task Training
	Safe Work Practices		Other

### IV. REMARKS


### V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.



3-15-99

Site Safety Officer

Date

**ON-SITE SAFETY MEETING RECORD**

DATE: 3-16-99 TIME: 0615

Page 1 of 2

LOCATION: FT McClellan

**I. Reason for meeting: (check all that apply)**

<input checked="" type="checkbox"/>	Daily Safety Briefing
<input type="checkbox"/>	Initial Site Safety Briefing
<input type="checkbox"/>	Begin New Task. Task:
<input type="checkbox"/>	Periodic Safety Meeting
<input type="checkbox"/>	New Site Procedures
<input type="checkbox"/>	New Site Information
<input type="checkbox"/>	Review of Site Information
<input type="checkbox"/>	Other: (explain)

**II. MEETING ATTENDEES**

NAME (Print)	SIGNATURE	COMPANY
1. T. BRENNAN	<i>T. Brennan</i>	USA ENVIRO.
2. Neil Gilbert	<i>Neil Gilbert</i>	Expata Engineering
3. Joe Yub	<i>Joe Yub</i>	USA Enviro
4. BRINA THOMPSON	<i>Brina Thompson</i>	USA ENVIRO
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## ON-SITE SAFETY MEETING RECORD

Page 2 of 2

### III. TOPIC (check all that apply)

	Site Safety Personnel		Decontamination
	Site Description		Emergency Response
<input checked="" type="checkbox"/>	Work Area Description		Hazard Communication
	Site Characterization		On-Site Emergency
<input checked="" type="checkbox"/>	Biological Hazard(s)		On-Site Injuries
	Chemical Hazard(s)		Evacuation Procedures
<input checked="" type="checkbox"/>	Physical Hazard(s)		Rally Point
	Heat Stress		Emergency Communications
	Cold Stress		Directions to Hospital
	Site Control		Emergency Equipment
	Work and Support Zones		Drug and Alcohol Policies
	PPE		Medical Monitoring
	Air Monitoring		Task Training
<input checked="" type="checkbox"/>	Safe Work Practices		Other

### IV. REMARKS

*Precautions for Ticks*

### V. VERIFICATION

I certify that the personnel listed on this roster received the briefing described above. Site personnel not attending this meeting will be briefed before beginning their assigned duties.

*J. Brennan*      *3-16-99*

Site Safety Officer

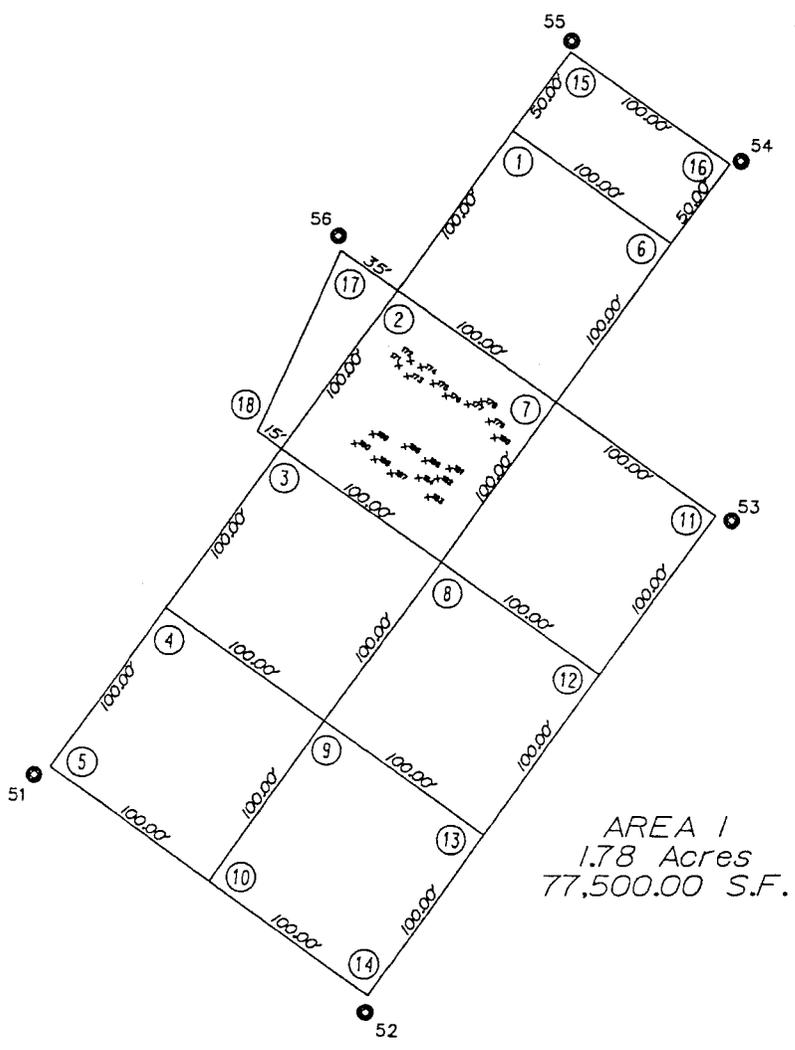
Date

APPENDIX B-3

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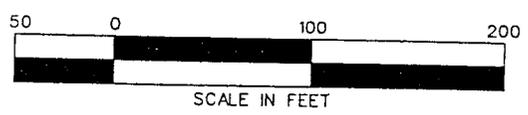
OOU1 Area Survey Maps



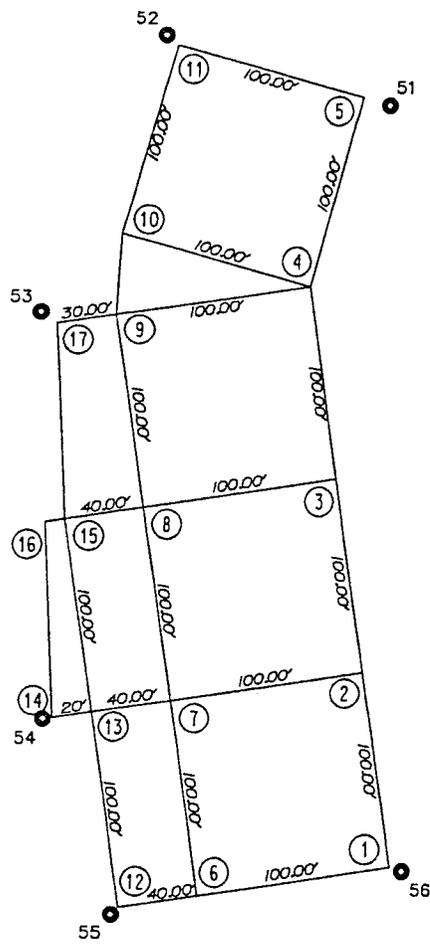
AREA 1  
1.78 Acres  
77,500.00 S.F.

# LEGEND

- Ⓜ 1/2" WOODEN HUB
- 5/8" CAPPED REBAR
- GRID BOUNDARY



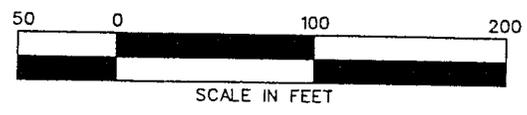
Shane Traffanstedt, PLS  
SAIN ASSOCIATES, INC.



AREA 2  
1.26 Acres  
88,043.84 S.F.

# LEGEND

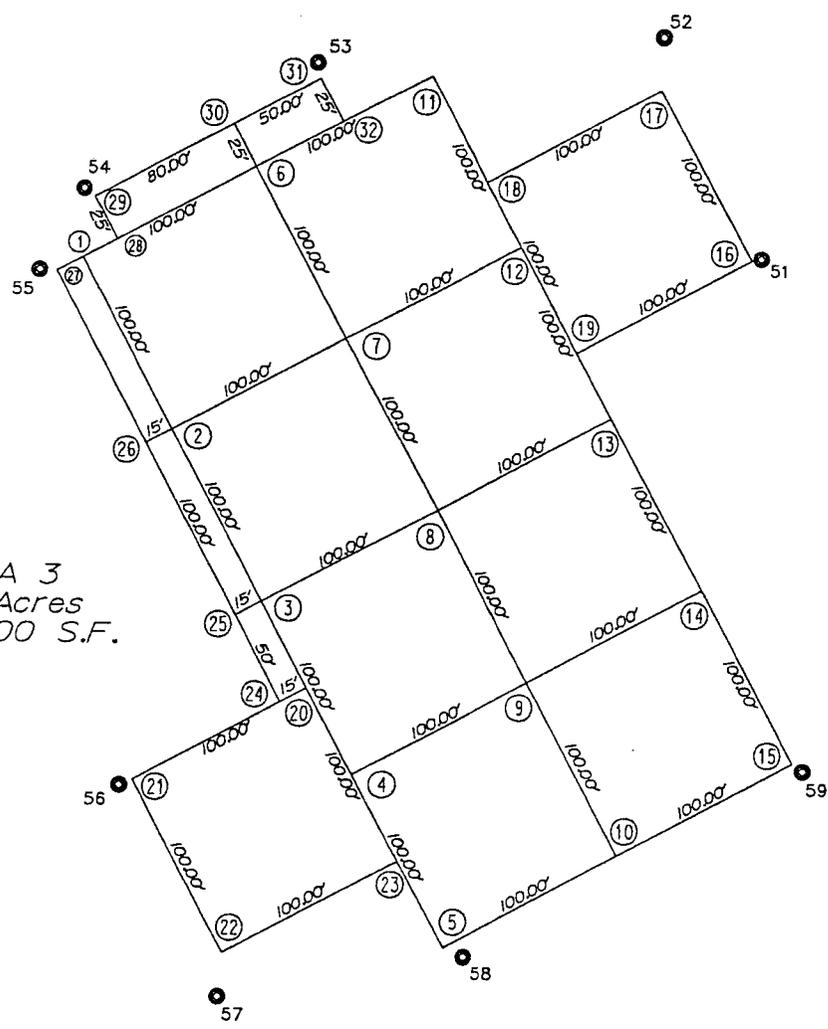
- ⑪ 1/2" WOODEN HUB
- 5/8" CAPPED REBAR
- GRID BOUNDARY



Shane Traffanstedt, PLS  
SAIN ASSOCIATES, INC.

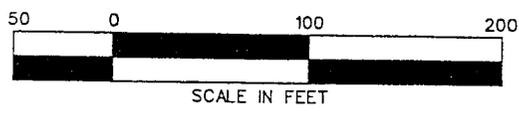


AREA 3  
2.46 Acres  
107,000.00 S.F.



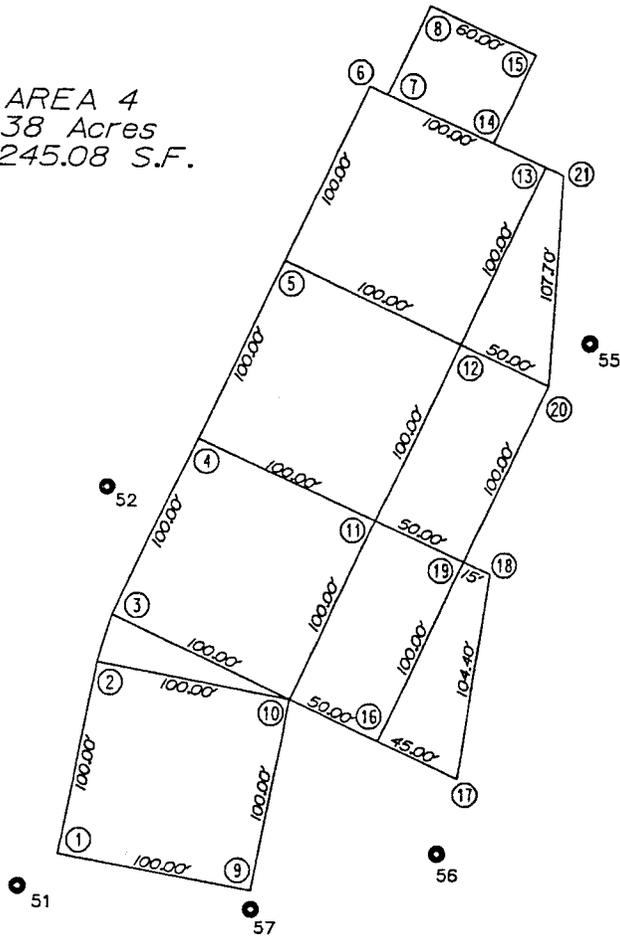
# LEGEND

- ⑪ 1/2" WOODEN HUB
- 5/8" CAPPED REBAR
- GRID BOUNDARY



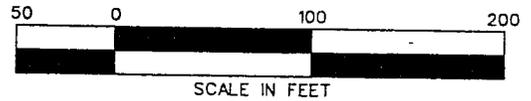
Shane Traffanstedt, PLS  
SAIN ASSOCIATES, INC.

AREA 4  
1.38 Acres  
60,245.08 S.F.

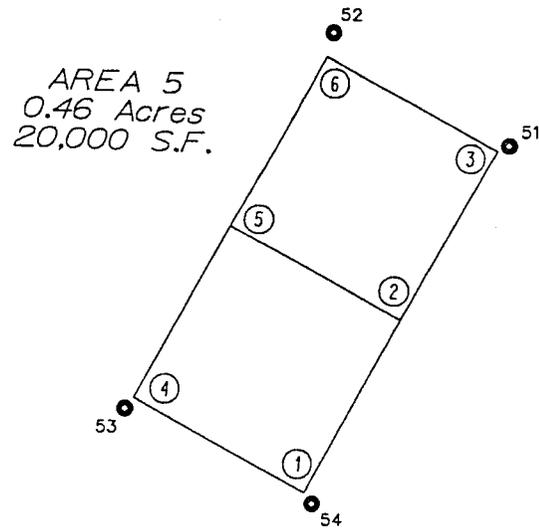


# LEGEND

- ⑪ 1/2" WOODEN HUB
- 5/8" CAPPED REBAR
- GRID BOUNDARY

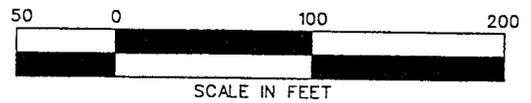


Shane Traffanstedt, PLS  
SAIN ASSOCIATES, INC.

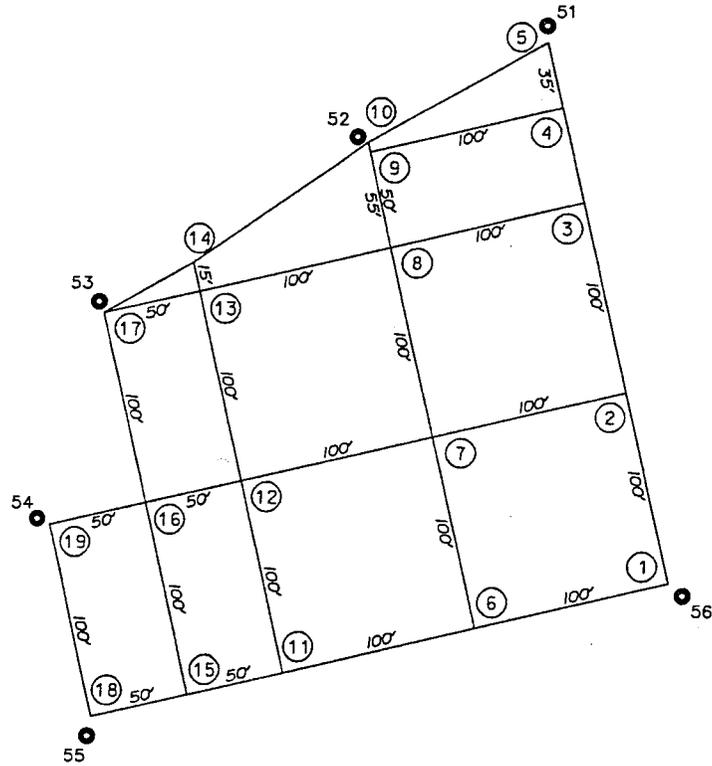


# LEGEND

- ① 1/2" WOODEN HUB
- 5/8" CAPPED REBAR
- GRID BOUNDARY



Shane Traffanstedt, PLS  
SAIN ASSOCIATES, INC.



AREA 6  
1.51 Acres  
65,875 S.F.

## LEGEND

⑪

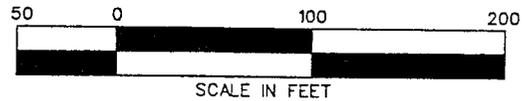
1/2" WOODEN HUB



5/8" CAPPED REBAR



GRID BOUNDARY



SCALE IN FEET

Shane Traffanstedt, PLS  
SAIN ASSOCIATES, INC.

Area	Point No	Northing(Y)	Eastng(X)	LATITUDE	LONGITUDE
AREA 1	1	1164299.23	660712.72	33°42'01.60 N	85°49'06.19 W
	2	1164216.52	660656.51	33°42'00.79 N	85°49'06.86 W
	3	1164133.80	660600.31	33°41'59.97 N	85°49'07.53 W
	4	1164051.09	660544.11	33°41'59.15 N	85°49'08.19 W
	5	1163968.38	660487.91	33°41'58.33 N	85°49'08.85 W
	6	1164243.03	660745.43	33°42'01.05 N	85°49'05.21 W
	7	1164160.32	660739.23	33°42'00.23 N	85°49'05.88 W
	8	1164077.60	660683.03	33°41'59.41 N	85°49'06.54 W
	9	1163994.89	660626.82	33°41'58.59 N	85°49'07.21 W
	10	1163912.18	660570.62	33°41'57.77 N	85°49'07.87 W
	11	1164104.11	660821.94	33°41'59.67 N	85°49'04.90 W
	12	1164021.40	660765.74	33°41'58.85 N	85°49'05.56 W
	13	1163938.69	660709.54	33°41'58.04 N	85°49'06.23 W
	14	1163855.98	660653.34	33°41'57.22 N	85°49'06.89 W
	15	1164340.59	660740.82	33°42'02.01 N	85°49'05.86 W
	16	1164258.38	660684.62	33°42'01.20 N	85°49'06.52 W
	17	1164236.19	660628.42	33°42'00.39 N	85°49'07.18 W
	18	1164142.23	660572.22	33°42'00.00 N	85°49'07.84 W
	19	1163963.89	660479.97	33°41'58.29 N	85°49'08.50 W
	20	1163881.18	660423.77	33°41'57.47 N	85°49'09.16 W
	21	1163798.47	660367.57	33°41'56.65 N	85°49'09.82 W
	22	1163715.76	660311.37	33°41'55.83 N	85°49'10.48 W
	23	1163633.05	660255.17	33°41'55.01 N	85°49'11.14 W
	24	1163550.34	660198.97	33°41'54.19 N	85°49'11.80 W
	25	1163467.63	660142.77	33°41'53.37 N	85°49'12.46 W
	26	1163384.92	660086.57	33°41'52.55 N	85°49'13.12 W
	27	1163302.21	660030.37	33°41'51.73 N	85°49'13.78 W
	28	1163219.50	659974.17	33°41'50.91 N	85°49'14.44 W
	29	1163136.79	659917.97	33°41'50.09 N	85°49'15.10 W
	30	1163054.08	659861.77	33°41'49.27 N	85°49'15.76 W
	31	1162971.37	659805.57	33°41'48.45 N	85°49'16.42 W
	32	1162888.66	659749.37	33°41'47.63 N	85°49'17.08 W
	33	1162805.95	659693.17	33°41'46.81 N	85°49'17.74 W
	34	1162723.24	659636.97	33°41'45.99 N	85°49'18.40 W
	35	1162640.53	659580.77	33°41'45.17 N	85°49'19.06 W
	36	1162557.82	659524.57	33°41'44.35 N	85°49'19.72 W
	37	1162475.11	659468.37	33°41'43.53 N	85°49'20.38 W
	38	1162392.40	659412.17	33°41'42.71 N	85°49'21.04 W
	39	1162309.69	659355.97	33°41'41.89 N	85°49'21.70 W
	40	1162226.98	659300.00	33°41'41.07 N	85°49'22.36 W
	41	1162144.27	659244.00	33°41'40.25 N	85°49'23.02 W
	42	1162061.56	659188.00	33°41'39.43 N	85°49'23.68 W
	43	1161978.85	659132.00	33°41'38.61 N	85°49'24.34 W
	44	1161896.14	659076.00	33°41'37.79 N	85°49'25.00 W
	45	1161813.43	659020.00	33°41'36.97 N	85°49'25.66 W
	46	1161730.72	658964.00	33°41'36.15 N	85°49'26.32 W
	47	1161648.01	658908.00	33°41'35.33 N	85°49'26.98 W
	48	1161565.30	658852.00	33°41'34.51 N	85°49'27.64 W
	49	1161482.59	658796.00	33°41'33.69 N	85°49'28.30 W
	50	1161400.00	658740.00	33°41'32.87 N	85°49'28.96 W
	51	1161317.29	658684.00	33°41'32.05 N	85°49'29.62 W
	52	1161234.58	658628.00	33°41'31.23 N	85°49'30.28 W
	53	1161151.87	658572.00	33°41'30.41 N	85°49'30.94 W
	54	1161069.16	658516.00	33°41'29.59 N	85°49'31.60 W
	55	1160986.45	658460.00	33°41'28.77 N	85°49'32.26 W
	56	1160903.74	658404.00	33°41'27.95 N	85°49'32.92 W
	57	1160821.03	658348.00	33°41'27.13 N	85°49'33.58 W
	58	1160738.32	658292.00	33°41'26.31 N	85°49'34.24 W
	59	1160655.61	658236.00	33°41'25.49 N	85°49'34.90 W
	60	1160572.90	658180.00	33°41'24.67 N	85°49'35.56 W
	61	1160490.19	658124.00	33°41'23.85 N	85°49'36.22 W
	62	1160407.48	658068.00	33°41'23.03 N	85°49'36.88 W
	63	1160324.77	658012.00	33°41'22.21 N	85°49'37.54 W
	64	1160242.06	657956.00	33°41'21.39 N	85°49'38.20 W
	65	1160159.35	657900.00	33°41'20.57 N	85°49'38.86 W
	66	1160076.64	657844.00	33°41'19.75 N	85°49'39.52 W
	67	1160000.00	657788.00	33°41'18.93 N	85°49'40.18 W

Area	Point No	Northing(Y)	Eastng(X)	LATITUDE	LONGITUDE
AREA 2	1	1163920.05	661381.72	33°41'57.85 N	85°48'58.27 W
	2	1164018.71	661365.42	33°41'58.83 N	85°48'58.47 W
	3	1164117.37	661349.11	33°41'59.80 N	85°48'58.66 W
	4	1164216.04	661332.80	33°42'00.78 N	85°48'58.85 W
	5	1164314.71	661316.50	33°42'01.74 N	85°48'59.04 W
	6	1163903.74	661283.06	33°41'57.69 N	85°48'59.44 W
	7	1164002.41	661266.76	33°41'58.67 N	85°48'59.83 W
	8	1164101.07	661250.45	33°41'59.64 N	85°48'59.83 W
	9	1164199.73	661234.14	33°42'00.62 N	85°48'59.00 W
	10	1164241.48	661217.84	33°42'01.60 N	85°48'58.17 W
	11	1164338.19	661201.54	33°42'02.58 N	85°48'57.34 W
	12	1163897.22	661243.60	33°41'57.63 N	85°48'59.91 W
	13	1163995.88	661227.29	33°41'58.60 N	85°48'59.10 W
	14	1163992.63	661210.98	33°41'59.57 N	85°48'58.29 W
	15	1164094.54	661210.98	33°41'59.58 N	85°48'59.00 W
	16	1164092.91	661201.12	33°41'59.58 N	85°48'59.41 W
	17	1164194.84	661204.54	33°42'00.57 N	85°48'59.37 W
	18	1164314.06	661362.90	33°42'01.75 N	85°48'58.50 W
	19	1164343.35	661255.45	33°42'02.04 N	85°48'59.77 W
	20	1164200.37	661196.18	33°42'00.62 N	85°48'59.37 W
	21	1163991.93	661202.72	33°41'58.58 N	85°48'59.39 W
	22	1163893.37	661240.10	33°41'57.59 N	85°48'59.95 W
	23	1163917.91	661388.07	33°41'57.83 N	85°48'58.20 W

Area	Point No	Northing(Y)	Eastng(X)	LATITUDE	LONGITUDE
AREA 3	1	1164875.80	659872.75	33°42'07.31 N	85°49'16.13 W
	2	1164788.08	659920.76	33°42'06.44 N	85°49'15.56 W
	3	1164700.36	659968.78	33°42'05.57 N	85°49'15.00 W
	4	1164612.64	660016.79	33°42'04.71 N	85°49'14.43 W
	5	1164524.92	660064.81	33°42'03.84 N	85°49'13.86 W
	6	1164437.20	660112.83	33°42'02.97 N	85°49'13.29 W
	7	1164350.00	660160.85	33°42'02.10 N	85°49'12.72 W
	8	1164262.28	660208.87	33°42'01.23 N	85°49'12.15 W
	9	1164175.00	660256.89	33°42'00.36 N	85°49'11.58 W
	10	1164087.72	660304.91	33°41'59.49 N	85°49'11.01 W
	11	1164000.44	660352.93	33°41'58.62 N	85°49'10.44 W
	12	1163913.16	660400.95	33°41'57.75 N	85°49'09.87 W
	13	1163825.88	660448.97	33°41'56.88 N	85°49'09.30 W
	14	1163738.60	660496.99	33°41'56.01 N	85°49'08.73 W
	15	1163651.32	660545.01	33°41'55.14 N	85°49'08.16 W
	16	1163564.04	660593.03	33°41'54.27 N	85°49'07.59 W
	17	1163476.76	660641.05	33°41'53.40 N	85°49'07.02 W
	18	1163389.48	660689.07	33°41'52.53 N	85°49'06.45 W
	19	1163302.20	660737.09	33°41'51.66 N	85°49'05.88 W
	20	1163214.92	660785.11	33°41'50.79 N	85°49'05.31 W
	21	1163127.64	660833.13	33°41'49.92 N	85°49'04.74 W
	22	1163040.36	660881.15	33°41'49.05 N	85°49'04.17 W
	23	1162953.08	660929.17	33°41'48.18 N	85°49'03.60 W
	24	1162865.80	660977.19	33°41'47.31 N	85°49'03.03 W
	25	1162778.52	661025.21	33°41'46.44 N	85°49'02.46 W
	26	1162691.24	661073.23	33°41'45.57 N	85°49'01.89 W
	27	1162603.96	661121.25	33°41'44.70 N	85°49'01.32 W
	28	1162516.68	661169.27	33°41'43.83 N	85°49'00.75 W
	29	1162429.40	661217.29	33°41'42.96 N	85°49'00.18 W
	30	1162342.12	661265.31	33°41'42.09 N	85°48'59.61 W
	31	1162254.84	661313.33	33°41'41.22 N	85°48'59.04 W
	32	1162167.56	661361.35	33°41'40.35 N	85°48'58.47 W
	33	1162080.28	661409.37	33°41'39.48 N	85°48'57.90 W
	34	1161993.00	661457.39	33°41'38.61 N	85°48'57.33 W
	35	1161905.72	661505.41	33°41'37.74 N	85°48'56.76 W
	36	1161818.44	661553.43	33°41'36.87 N	85°48'56.19 W
	37	1161731.16	661601.45	33°41'36.00 N	85°48'55.62 W
	38	1161643.88	661649.47	33°41'35.13 N	85°48'55.05 W
	39	1161556.60	661697.49	33°41'34.26 N	85°48'54.48 W
	40	1161469.32	661745.51	33°41'33.39 N	85°48'53.91 W
	41	1161382.04	661793.53	33°41'32.52 N	85°48'53.34 W
	42	1161294.76	661841.55	33°41'31.65 N	85°48'52.77 W
	43	1161207.48	661889.57	33°41'30.78 N	85°48'52.20 W
	44	1161120.20	661937.59	33°41'29.91 N	85°48'51.63 W
	45	1161032.92	661985.61	33°41'29.04 N	85°48'51.06 W
	46	1160945.64	662033.63	33°41'28.17 N	85°48'50.49 W
	47	1160858.36	662081.65	33°41'27.30 N	85°48'49.92 W
	48	1160771.08	662129.67	33°41'26.43 N	85°48'49.35 W
	49	1160683.80	662177.69	33°41'25.56 N	85°48'48.78 W
	50	1160596.52	662225.71	33°41'24.69 N	85°48'48.21 W
	51	1160509.24	662273.73	33°41'23.82 N	85°48'47.64 W
	52	1160421.96	662321.75	33°41'22.95 N	85°48'47.07 W
	53	1160334.68	662369.77	33°41'22.08 N	85°48'46.50 W
	54	1160247.40	662417.79	33°41'21.21 N	85°48'45.93 W
	55	1160160.12	662465.81	33°41'20.34 N	85°48'45.36 W
	56	1160072.84	662513.83	33°41'19.47 N	85°48'44.79 W
	57	1160000.00	662561.85	33°41'18.60 N	85°48'44.22 W

Area	Point No	Northing(Y)	Eastng(X)	LATITUDE	LONGITUDE
AREA 4	1	1165914.93	60314.80	33°42'17.59 N	85°49'10.90 W
	2	1166013.40	60332.18	33°42'18.56 N	85°49'10.89 W
	3	1166111.87	60349.56	33°42'19.53 N	85°49'10.88 W
	4	1166210.34	60366.94	33°42'20.50 N	85°49'10.87 W
	5	1166308.81	60384.32	3	