

**SAN BERNARDINO INTERNATIONAL AIRPORT**

**CONSTRUCTION SAFETY PLAN**

**AIRFIELD PAVEMENT RECONSTRUCTION EDA**  
**PROJECT**



**December 2009**

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## **1. Purpose**

Hazardous practices and marginal conditions created by construction activities can decrease or jeopardize operational safety on airports. To minimize disruption of normal aircraft operations and to avoid situations that compromise the Airport's operational safety, the Airport operator must carefully plan, schedule, and coordinate construction activities.

This Safety Plan, as required by FAA Advisory Circular (AC) 150/5370-2E, stipulates responsibilities, tasks and methods to be completed by the Contractor and the Airport to maintain operational safety on the Airport during construction. All facets of this construction project shall conform to this Safety Plan.

## **2. Scope of Work**

This project consists primarily of installing new Portland Cement Concrete (PCC) panels within the ramp area north and east of Hangar 695, removal of airfield markings throughout the ramp area, and joint removal and replacement as necessary within the project area. This scope of work will be completed in two (2) phases as shown on Attachment "A", Phasing Plan. The Phase 1 scope of work consists primarily of removing the existing base material, installing new base material and installing new Portland Cement Concrete (PCC) panels. The Phase 2 scope of work consists primarily of the removal of existing errant markings north of Hangar 695 and joint replacement within the same area.

## **3. Duration of Work**

- Total Project – 14 weeks

## **4. Construction activity affect on Aircraft Operations**

- Access to Hangar 695's east door will be affected by Phase 1 of the project. The Contractor will ensure tenant access to the west door of Hangar 695 throughout the project.
- Construction will occur on the ramp area approximately 120-feet west of the intersection of Taxiways "C" & "E"
- The intersection of Taxiways "C" & "E" will remain open throughout the project to facilitate aircraft operations by the United States Forest Service.

## **5. Air Operations Areas Affected by the Construction Activity**

- Portions of the main ramp north of Hangar 695 will be closed during Phase 1 & 2 per Attachment "A", Phasing Plan.

## **6. Closure and Haul Route Plans**

The Project Areas, including haul routes, stockpile locations and staging areas, are depicted by the Project Area Plan – Attachment “B”, and the Stockpile/Crushing Site Plan - Attachment “C”. The Airport Operations Area (AOA) Closure Plan - Attachment “D” depicts the areas to be closed on the AOA during Phases 1 and 2 of the project. Attachment “D” details the safety barricades, markers and delineators that shall be furnished and installed by the Contractor as part of this project, with the exception of AR 10x 96 HDPE interlocking barricades which the Airport Operations Department will supply for the Contractor to install. The following items shall be in place as per Attachment “D”, AOA Closure Plan, prior to project and phase change commencement.

- Contractor shall install, and fill with water, continuous AR 10 x 96 HDPE interlocking barricades, orange and white with two each red flashing solar lights per section at locations as shown on Attachment “D”, AOA Closure Plan.
- The Airport Operations Department will place the Post Tube Delineators, as shown in Attachment “D,” 165-feet from the Taxiway “C” centerline. These delineators shall NOT be moved by the Contractor at any time. Equipment and/or materials shall NOT be placed on the east side of these delineators.
- Contractor’s Haul route shall be through the Jet Fuel Farm’s west gates via Perimeter Road to/from the Stockpile/Crushing Area, as per Attachment “B”, the Project Area Plan. Haul routes located within the AOA shall be marked with traffic cones when in use. The Fuel Farm gates, when open or unlocked, will be staffed by a representative of the Contractor.
- Contractor has the option of three (3) separate Crushing Site locations. If necessary, a combination of sites may be utilized. All dirt or paved roads must be kept open to vehicle traffic.
- Contractor shall ensure that the grade in the AOA stockpile area is restored to its original grade height and slope upon project completion. The grade was originally concaved towards a drain located in the Northwest tip of the field.
- Any surplus dirt resulting from the Contractor’s excavation activities, including restoration of the AOA stockpile to its original height and slope shall be placed and leveled in an area Northeast of AOA Gate 5 per Attachment “C”, the Stockpile/Crushing Site Plan.

## **7. Taxiway Marking and Lighting**

- During the course of this project no taxiway lights and guidance signs taxiways will be blacked out or deactivated.

## **8. Procedures for Protecting the Runway Safety Area (RSA)**

- The Contractor shall not enter the RSA for any reason during the course of this project.
- Contractor personnel access within the AOA shall be restricted to the Project Areas and Haul Routes. The limits of the Project Areas shall be clearly marked with various

safety media including, Type AR 10 x 96-inch orange lighted barricades and post tube delineators. All construction activity will be closely monitored by the Airport Operations Department at all times during the course of this project.

**9. Procedures for Protecting Runway Obstacle Free Zone (ROFZ) and the Runway Object-Free Area (ROFA)**

- The Contractor shall not enter the ROFZ or the ROFA for any reason during the course of this project.
- Contractor personnel access within the AOA shall be restricted to the Project Areas and Haul Routes. The limits of the Project Areas shall be clearly marked with various safety media including, Type AR 10 x 96-inch orange lighted barricades, and Post tube delineators. All construction activity will be closely monitored by the Airport Operations Department at all times during the course of this project.

**10. Procedures for Protecting the Taxiway Safety Area and Taxiway Object-Free Zone**

- Taxiways shall not be used as haul routes during the course of this project.
- No construction vehicles shall be located within an active: taxiway; taxiway safety area; or taxiway object-free area at any time during this project. No construction activities shall be allowed to take place within any active taxiway or taxiway safety area.

**11. Construction Site Parking**

- Contractor employee's personal vehicles may be parked inside of the AOA at the Contractor's Staging Area/Crushing Site as shown on Attachment "B."
- Construction vehicles and, where applicable, construction equipment shall be parked and serviced in the Contractor's Staging area east of Hangar 695. Additional parking may be permitted in the Contractor's Stockpile/Crushing area east of AOA Gate #5 per Attachment "B."
- Construction vehicles shall not be parked or serviced on any portion of a closed or open taxiway, closed or open portion of the runway, any safety area, Object Free Area or open portion of the ramp.
- Contractor must park all equipment and vehicles that leak oil or any other fluid on plastic sheeting to prevent contamination into the soil or storm water system.

**12. Procedures for Protecting Imaginary Surfaces as Defined in 14 CFR Part 77**

- The Airport Operations Department will issue any applicable NOTAMs pertaining to construction activities affecting Part 77 surfaces.

**13. Affected NAVAIDS**

- The Airport's NAVAIDS will not be affected by the performance of this project. All NAVAIDS will remain on during the course of this project.

#### **14. Methods of Separating Construction Traffic from the Movement Areas**

- All construction traffic shall be separated from the Airport Movement Areas via the safety media shown on Attachments “B” and “D”, Project Area Plan and AOA Closure Plan.
- Haul routes will be identified by traffic cones with red stripes, per Attachment “B”, the Project Area Plan.
- Haul routes using portions of active ramp shall be continuously maintained to be free of Foreign Objects and Debris (FOD).
- The Contractor shall inspect and restore all barricades, markers, and delineators to their proper positions and operation at the end of each business day.
- All construction personnel will be required to attend an Operational Safety Training Class prior to operating vehicles or equipment inside the AOA. Emphasis will be drawn to the aircraft right of way and approaching aircraft avoidance procedures. This class will be provided by the Airport Operations Department and attended by the Air Traffic Control Manager prior to the start of construction. See Section 33 of this Safety Plan for more information about the Operational Safety Training Class.

#### **15. Procedures and Equipment to Delineate Closed Construction Areas**

- Necessary barricades and lighting will be used to identify construction and unserviceable areas in at least the following areas: each construction area and unserviceable area which is on or adjacent to any movement area; each item of construction equipment and each construction roadway which may affect the safe movement of aircraft on the Airport. See Attachment “D” of this Safety Plan for specific planned areas to be delineated.

#### **16. Limitations on Construction**

- Construction will occur inside closed portions of the Airfield only as stipulated by this Safety Plan.
- Contractor access outside the project area and designated haul routes is strictly prohibited.

#### **17. Required Compliance of Contractor Personnel**

- Construction meetings will be held weekly to review Contractor compliance with airfield safety, and Airport rules and regulations. Additionally, the Airport Operations Department and the Construction Manger will be constantly monitoring safety issues that may require immediate action.
- AOA Security must be maintained at all times during the construction period. The Contractor will be provided access routes through AOA gate locations. It is the responsibility of the Contractor to ensure that AOA gate(s) used for haul routes remain locked or manned at all times.

## **18. Contractor Yard Marking and Lighting**

- Any Contractor equipment exceeding 45-feet in height at the Contractor's yard shall be marked with a minimum of one 3' by 3' orange and white checkered flag, and four operational flashing red hazard lights. Equipment greater than 45 feet in height shall be marked with one additional red light for each 15-feet in height above 45 feet.

## **19. Radio Communications**

- The Contractor's designated representative(s) shall maintain direct communication via cell phone with the Airport Operations Department while inside the AOA.
- Contractor shall vacate the project site, as directed by the Airport Operations Department, if an Airport emergency occurs.

## **20. Vehicle Operation and Identification**

- The Airport Authority shall not allow any vehicle to operate on any portion of the Airport except those duly authorized to do so by the Authority. All vehicles operating on the Airport shall follow the rules and regulations established by the Authority. All rules and regulations are enforced by the Airport Operations Department.
- All vehicles operating within the AOA must have either a flashing orange/amber Omni directional beacon or an orange and white checkered flag securely attached to the highest point of the vehicle. Vehicle operations during hours of darkness must have an Omni directional flashing beacon. Escorted vehicles must also maintain an Omni directional flashing beacon or an orange and white checkered flag atop their vehicle during daylight hours. Checkered flags shall be 3' by 3' orange and white with each box being one-foot square, located on the uppermost portion of the vehicle/equipment.
- The Airport Operations Department will monitor vehicles for AOA compliance. Also, construction personnel manning AOA gates will ensure vehicles entering the AOA are properly marked or lighted.
- All vehicles which operate within the movement areas shall remain within their designated area. Only properly trained Airport employees or persons under escort of the Airport Operations Department will be permitted outside of the Contractor designated area.
- All vehicles which operate outside the movement and safety areas shall stay within designated roadway markings.
- The speed limit on the AOA is 15 MPH.
- All vehicles and equipment operating on the AOA shall have pneumatic tires unless special approval is granted by the Airport.

## **21. Location Of and Access to Stockpiled Construction Materials and Equipment**

- There will be three construction stockpile areas for use with this project.
- The Contractor's Staging/Stockpile Site shall be located east of Hangar 695.

- Stockpile/Crushing Site shall be located outside of the AOA, within the field east of AOA Gate 5. Access to this area shall be through the western gates at the Jet Fuel Farm via Perimeter Road to the Stockpile/Crushing Site.
- Contractor shall provide a flag person to control open AOA gates used for Contractor hauling activities. Spillage of debris on active ramp areas shall be cleaned immediately by the Contractor.
- Airport Operations Area gates shall be closed and locked at all times unless under continuous supervision by construction personnel.
- See Attachments “B” & “C” – Project Area & Stockpile/Crushing Area for maps of the stockpile areas, Contractor staging areas, and haul routes.

## **22. Trenches, Excavations, Cover Requirements, and Dust Control**

- No open trenches or excavations will be allowed within 200-feet of the Runway center line or inside any Taxiway Safety Area without prior permission and coordination from the Airport Operations Department.
- The Contractor must control fugitive dust through the use of a watering regime at all areas where the native grade has been disturbed.

## **23. Procedures For Notifying ARFF (Fire Department)**

- The Contractor shall coordinate all water line and fire hydrant shut-offs with the Airport Operations Department.
- The Airport Operations Department will notify ARFF (Fire Department) of all water line and fire hydrant shut-offs.
- The Airport Operations Department will notify ARFF when demolition takes place, and large areas of concrete are removed that may affect emergency access routes.
- The Airport Operations Department will conduct all emergency ARFF notifications. Notifications will be made through the ARFF captain or on-duty personnel, as necessary.
- The Airport Operations Department will apprise the Air Traffic Control Tower of all airport emergencies.

## **24. Emergency Notification Procedures For Medical and Police Response**

- Contact 911 when a medical emergency occurs, or contact the Airport Operations Department who will contact emergency services. Contact the Airport Operations Department to provide immediate access for emergency personnel to the accident site.
- Contact 911 for police response to the construction site. Additionally, the Airport Operations Department can contact the Airport’s Police Sergeant or on-duty officer.

## **25. Wildlife Management**

- Wildlife issues are currently not a problem on the Airport. However, if wildlife issues do occur, they will be addressed during weekly construction meetings or immediately, if necessary, by the Airport Operations Department at the construction site.

## **26. Environmentally Sensitive Habitat Area**

- The project areas are not located near any of the environmentally sensitive habitat areas located on the airfield.

## **27. Foreign Object Debris (FOD) control provisions**

- Debris and Materials that may be wind-blown onto the active runway or taxiways must be continuously removed by the Contractor during the construction project. The Contractor must not leave or place trash, unsecured construction materials, or any other type of FOD on or near the active parts of the AOA, taxiways, or within the project areas.
- The Airport Operations Department, in conjunction with the Contractor, will conduct periodic daily inspections.
- Daily and weekly Construction & Safety meetings will emphasize FOD control.
- Any FOD found on the AOA shall be removed immediately by the Contractor if within the project area, or by the Airport Operations Department if outside of the project area.
- The Contractor will be responsible for controlling food waste created by workers. All food waste must be removed from the construction area immediately to prevent attracting wildlife onto the airfield.

## **28. HAZMAT Management**

- All lubricating liquids and solids (oils and greases) shall be secured and contained in dry areas until used by trained personnel or mechanics. All waste material shall be properly disposed of in accordance with all applicable environmental laws.
- In the event of a hazardous material spill, the Airport Fire Department will be contacted by the Airport Operations Department. The Contractor must take appropriate measures to seal off the spill area and keep persons and equipment away from the site. Once the spill has been contained, the Contractor shall take the appropriate measures to have the material removed from the site.
- Construction equipment fuel may be kept at the Contractor's yard and made available to Contractor's employees only.
- All fuel shall be stored in a manner that prevents leakage, and provides secondary containment.
- No hazardous material shall be stored or used near any of the Airport's storm water drain inlets.

## **29. Notice To Airman (NOTAM) Issuance**

- The Airport Operations Department will disseminate closed or hazardous conditions at the Airport via the NOTAM system.
- Only the Airport Operations Department may issue or cancel NOTAM's.
- The Contractor shall notify the Airport Operations Department at least 8 hours prior to any work that may occur outside the project area.

- The Contractor must contact the Airport Operations Department immediately upon any construction emergency that effects aircraft operations. The Airport Operations Department will determine what action the Contractor and the Airport will take on a case by case basis. If the action requires the issuance of a NOTAM, the Airport Operations Department will issue the NOTAM.
- Prior to commencement of the construction project, the Contractor shall present a complete construction schedule.

### **30. Inspection Requirements**

- Inspection requests shall be submitted to the Airport Operations Department a minimum of 48 hours in advance of the requested inspection.
- FAR Part 139 airfield inspections will occur daily as described in the Airport's Certification Manual. Additionally, the Airport Operations Department will be on scene at the construction site during construction activity in order to monitor aircraft activity, FOD control, and any other related issues.
- The Contractor shall be required to inspect and clean active ramp area crossings on a continuous basis.

### **31. Procedures For Locating and Protection of Existing Underground Utilities**

- Proper procedures shall be followed to review all appropriate utility plans in order to avoid damage of existing utilities, cables, wires, conduits, pipelines, or other underground facilities. If utilities are located in any construction area, the Contractor shall properly mark them. Additionally, the Contractor shall immediately notify the Airport Operations Department when such underground facilities are discovered.
- If any electrical wires are found, or disturbed, a burn check of the airfield lighting will be performed immediately by the Airport Operations Department.
- At the end of each day in which the Contractor disturbs an area where airfield electrical cables are present, or are thought to be present, a burn check will be performed by the Airport Operations Department.
- Lockout/Tagout procedures must be employed any time work is being performed on the airfield electrical system in order to prevent a circuit from being inadvertently energized. Located on the west wall of Vault 303 is a "*do not energize*" sign along with a single pad lock with only one key. This pad lock shall be used to Lockout a circuit, and the sign shall be used to identify the open circuit which is being worked on. The person performing the electrical work shall maintain control of the key until the work is completed. Electrical service shall be restored immediately upon completion of work.

### **32. Procedures For Responsible Points of Contact**

- A complete list of 24-hour emergency numbers will be circulated between the Airport, Contractor, and engineers prior to commencement of construction.
- The Contractor must be willing to submit a complete list of emergency phone numbers prior to any activity at the Airport.

- In the event of an emergency, personnel who are listed as emergency contacts shall be notified and expected to immediately respond and correct any of the following situations:
  - Disruptions of electrical circuitry for operational portions of the airfield caused by Contractor activities.
  - Equipment improperly parked outside of the Contractor's yard.
  - Airfield markings that are disturbed and may cause a pilot to be confused.
  - Damaged airfield signage that may cause a pilot to be confused.
  - Open trenches considered to be a safety concern.
  - Any situation that the Airport deems unsafe.

### **33. Vehicle Operator Training**

- A safety meeting will be conducted by the Airport Operations Department to train all construction personnel who will be driving within the AOA. The following subjects will be described in the safety meeting:
  - Proper vehicle operations on the AOA and to the Contractor staging areas.
  - Penalties for non-compliance with driving rules and regulations
  - Escort procedures for construction vehicles requiring access inside the AOA.
  - Monitoring procedures to ensure that construction vehicles within the AOA are in compliance with Airport driving rules and regulations.
  - Guidance to flag persons directing traffic at haul routes and AOA gates.
  - Appropriate vehicle markings as described in Section 18 of this Safety Plan.
  - Speed limit inside of the AOA is 15 MPH.

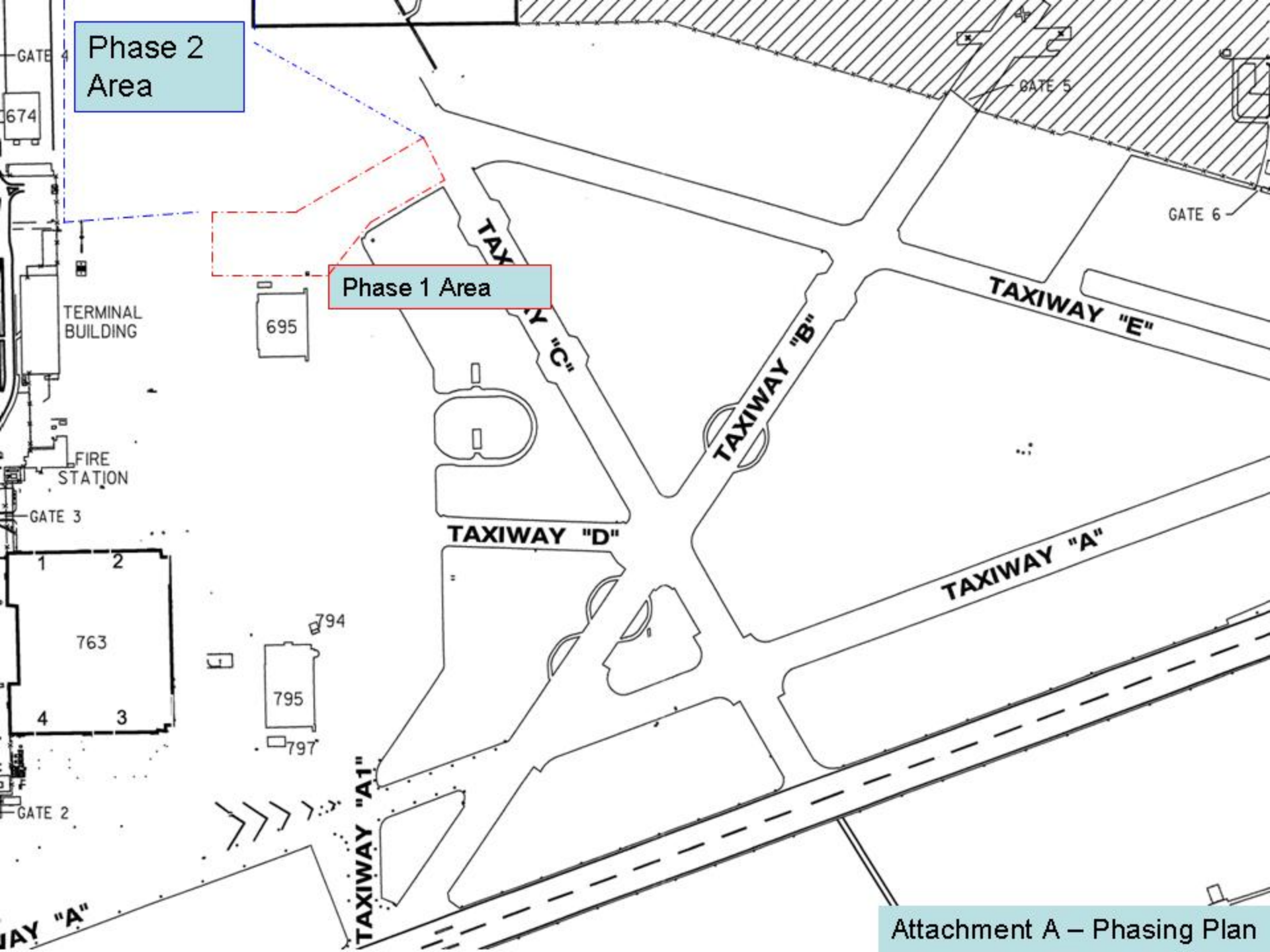
### **34. Penalty Provisions For Noncompliance With the Safety Plan**

- **A \$750.00 per day charge will be assessed to the Contractor for failure to comply with this Safety Plan.**
- Personnel who enter into restricted Environmentally Sensitive Habitat Areas will be removed from the property.
- Personnel who enter into restricted endangered species zones may incur monetary penalties brought by the United States Fish and Wildlife Agency.
- Construction personnel driving erratically on the airfield, exceeding the 15 MPH speed limit, or violating any other Airport driving rule or regulation shall be removed from the project.

### **35. Safety Officers**

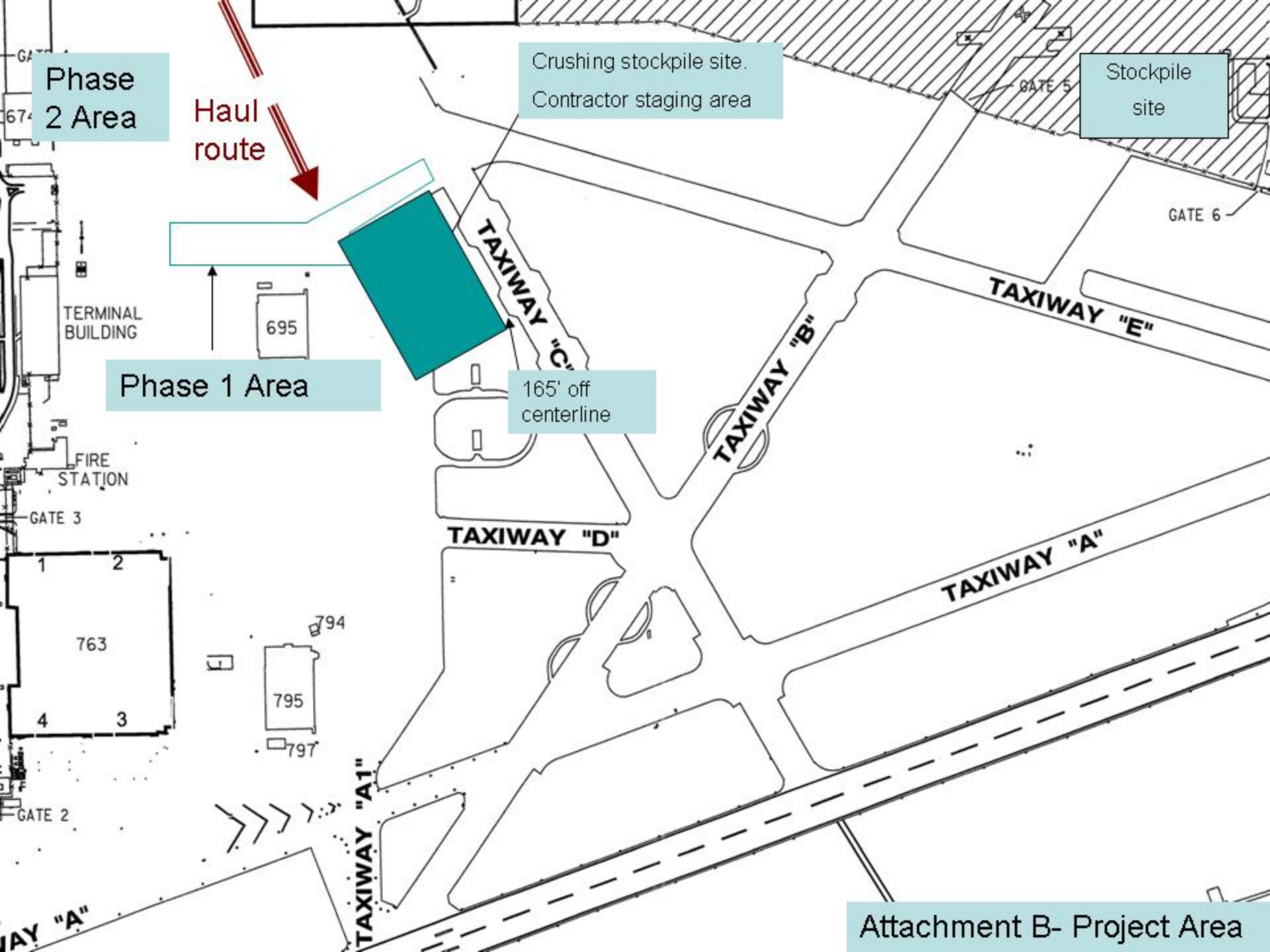
- This project will be under constant supervision of the Airport Operations Department trained in Airport and/or construction safety. The purpose of employing safety inspectors is to prevent aviation and industrial injuries.
- The Airport will maintain an Airport Safety Officer on site during construction activities.
- The Airport Operations Department will also serve as a safety inspector.

- The Contractor shall designate a trained Safety Officer to ensure and direct, as appropriate, safe working practices.
- Any observed safety concerns shall be addressed immediately in order to prevent injury and potential loss of life.



Phase 2 Area

Phase 1 Area



Phase 2 Area

Haul route

Crushing stockpile site.  
Contractor staging area

Stockpile site

Phase 1 Area

165' off centerline

Attachment B- Project Area



Area for extra  
Dirt

Possible  
Crushing Sites

Current Stockpile Area

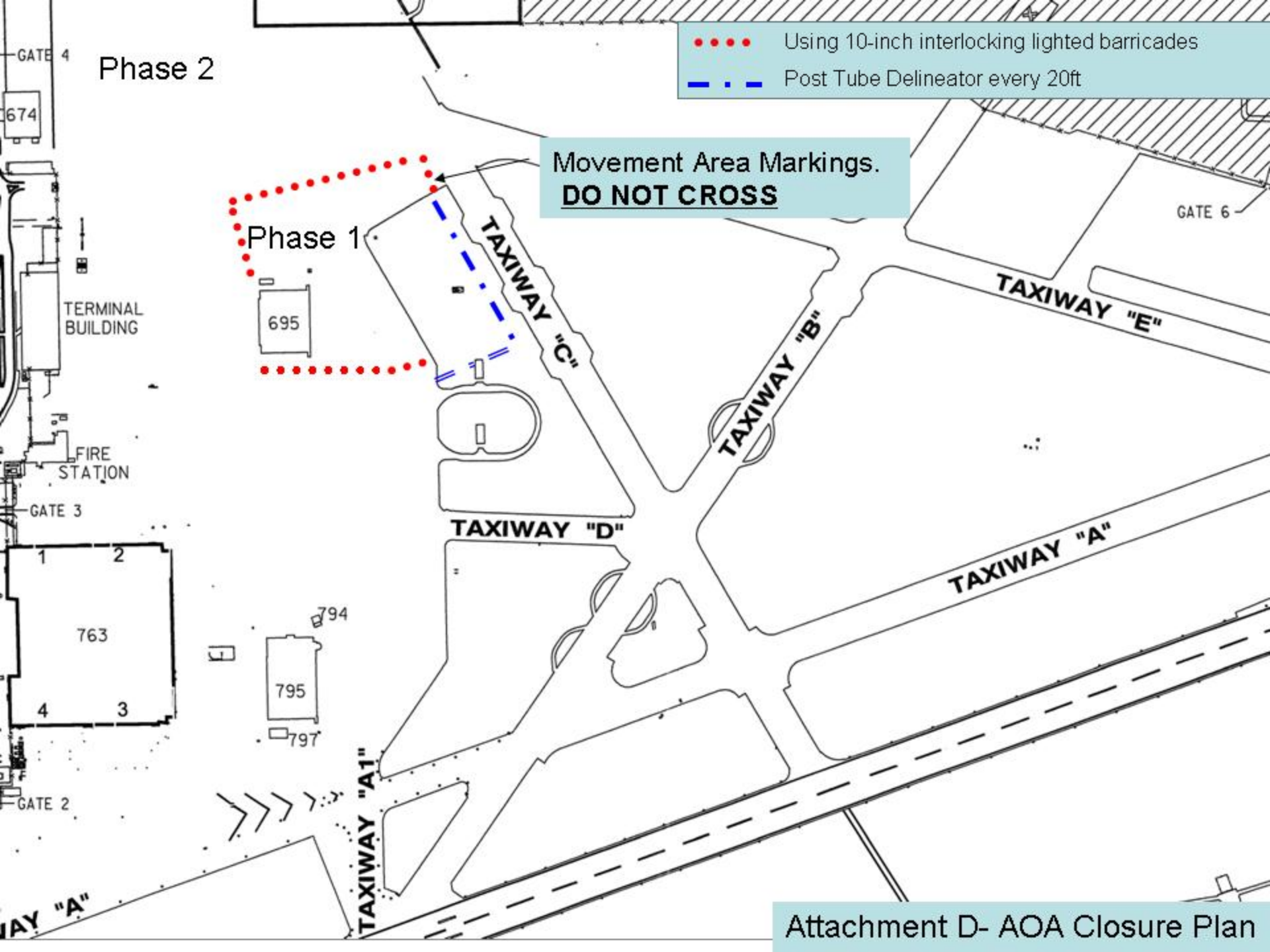
© 2009 Google

Attachment C- Stockpile/Crushing Site

Pointer 34°06'10.85" N 117°13'50.57" W elev 1132 ft

Streaming ||||| 100%

Eye all 2610 ft



Phase 2

- ● ● ● Using 10-inch interlocking lighted barricades
- - - Post Tube Delineator every 20ft

Movement Area Markings.  
**DO NOT CROSS**

Phase 1

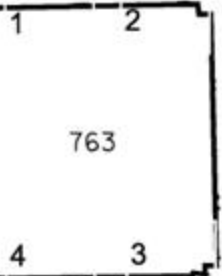
GATE 4

674

TERMINAL BUILDING

FIRE STATION

GATE 3



695

794

795

797

GATE 2

TAXIWAY "A"

TAXIWAY "C"

TAXIWAY "B"

TAXIWAY "E"

GATE 6

TAXIWAY "D"

TAXIWAY "A"

TAXIWAY "A1"

Attachment D- AOA Closure Plan