

# BIG BEND RANCH STATE PARK AML PROJECT LOCATION MAP

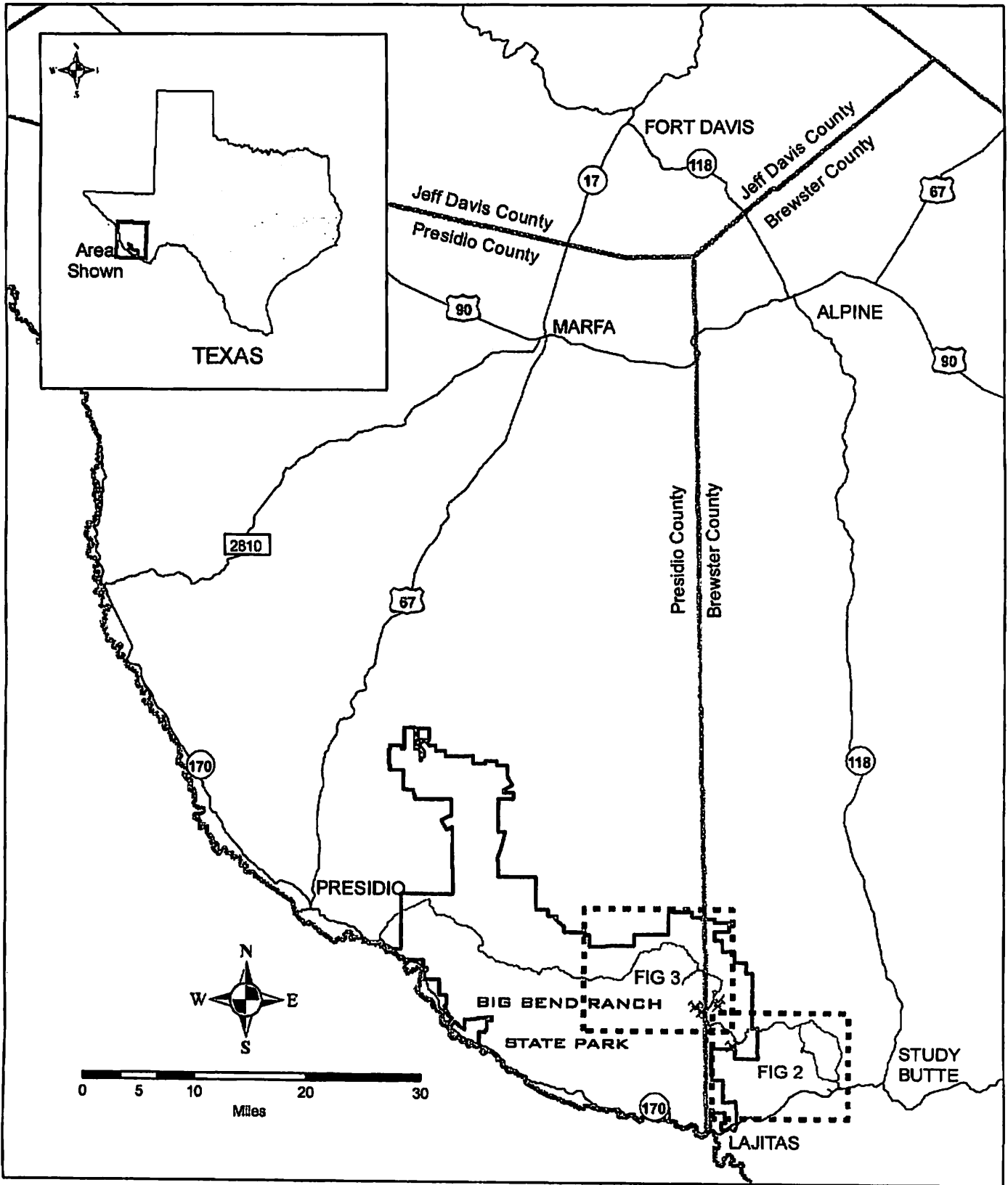
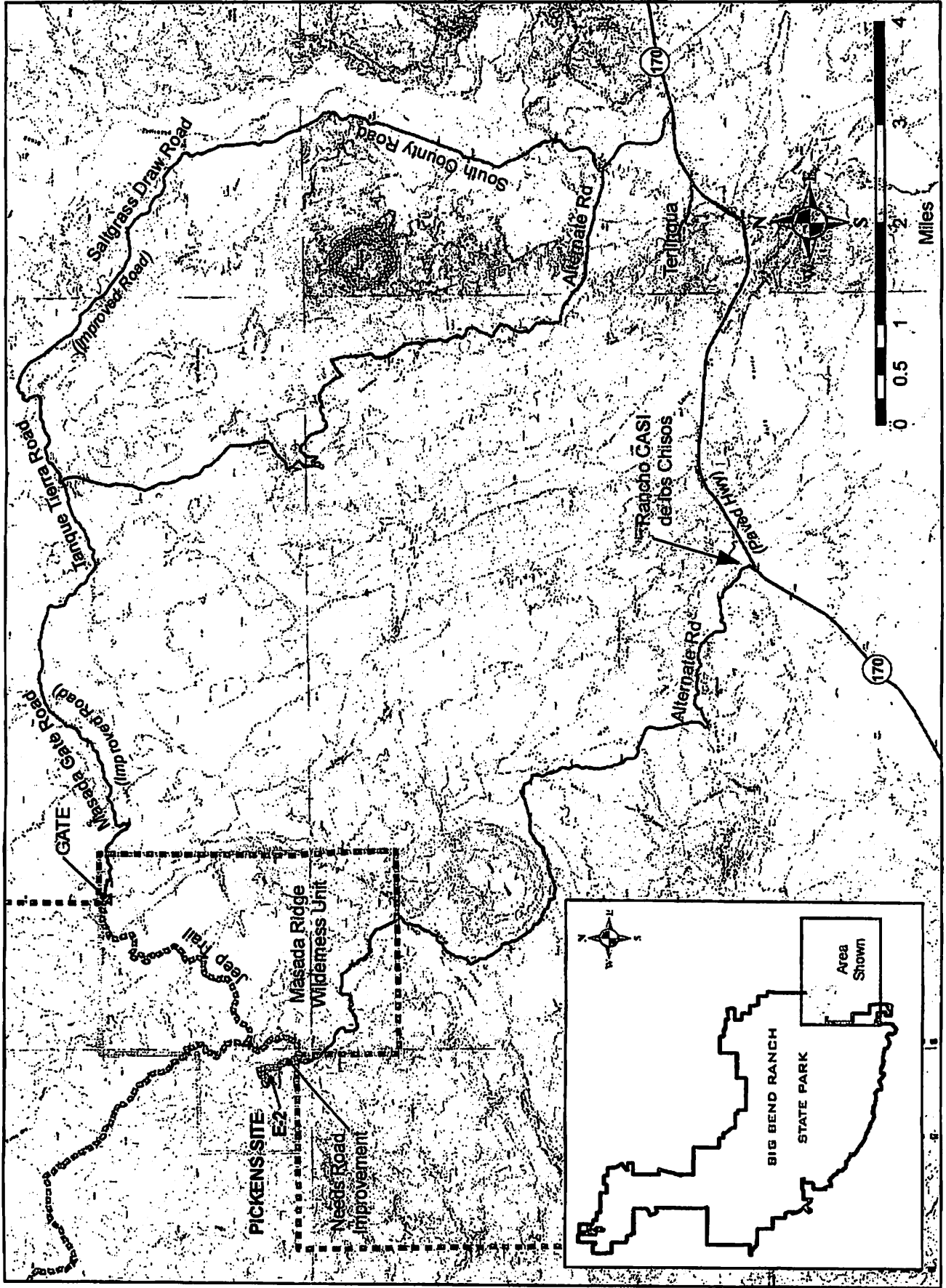


Figure 1

**BIG BEND RANCH STATE PARK AML PROJECT**  
**Pickens Site E-2**



**Figure 2**

**BIG BEND RANCH STATE PARK AML PROJECT**  
**Solitario Sites E-3,4,8**

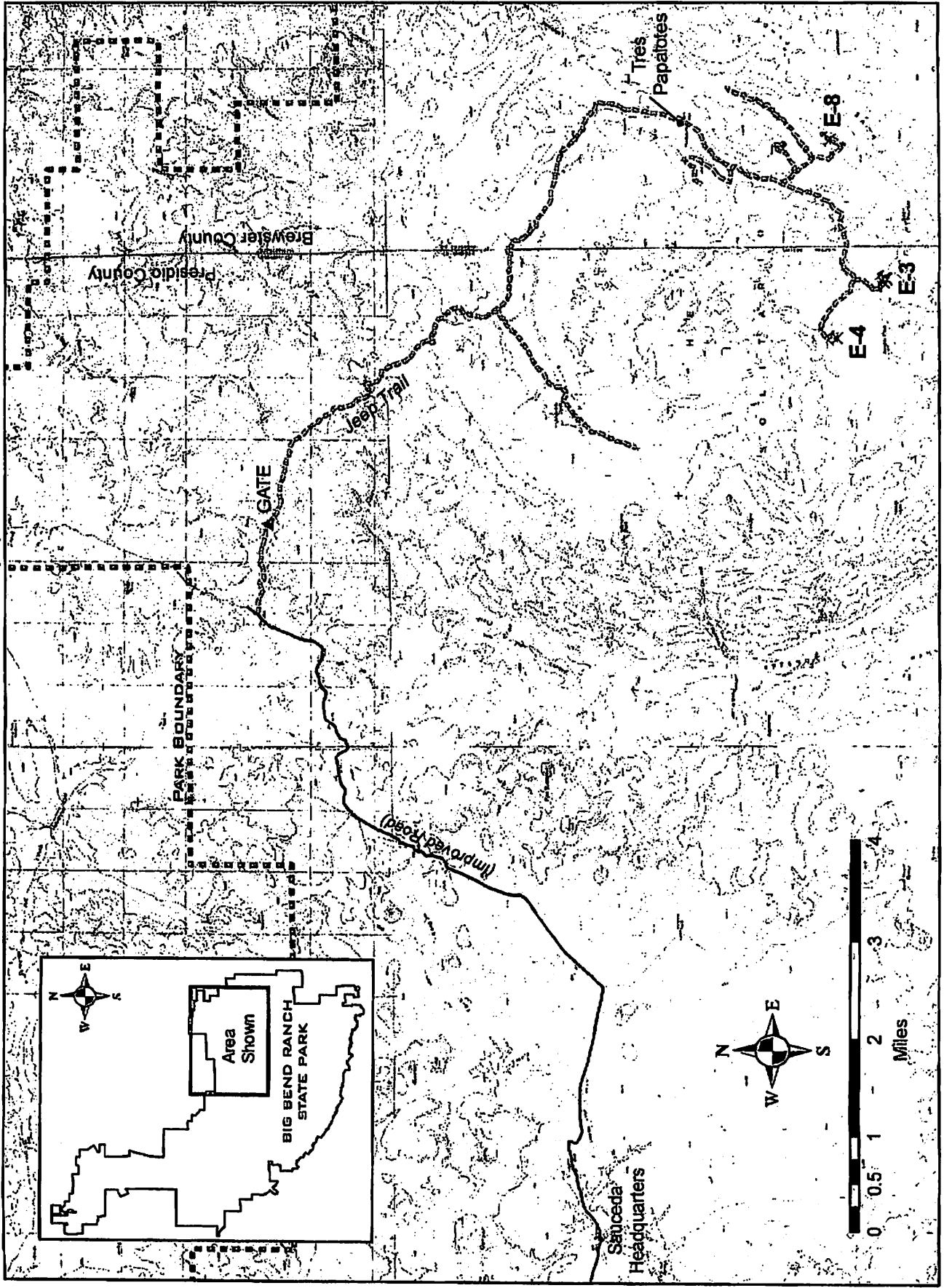


Figure 3

BIG BEND RANCH STATE PARK AML PROJECT  
Gold Mine Site E-3

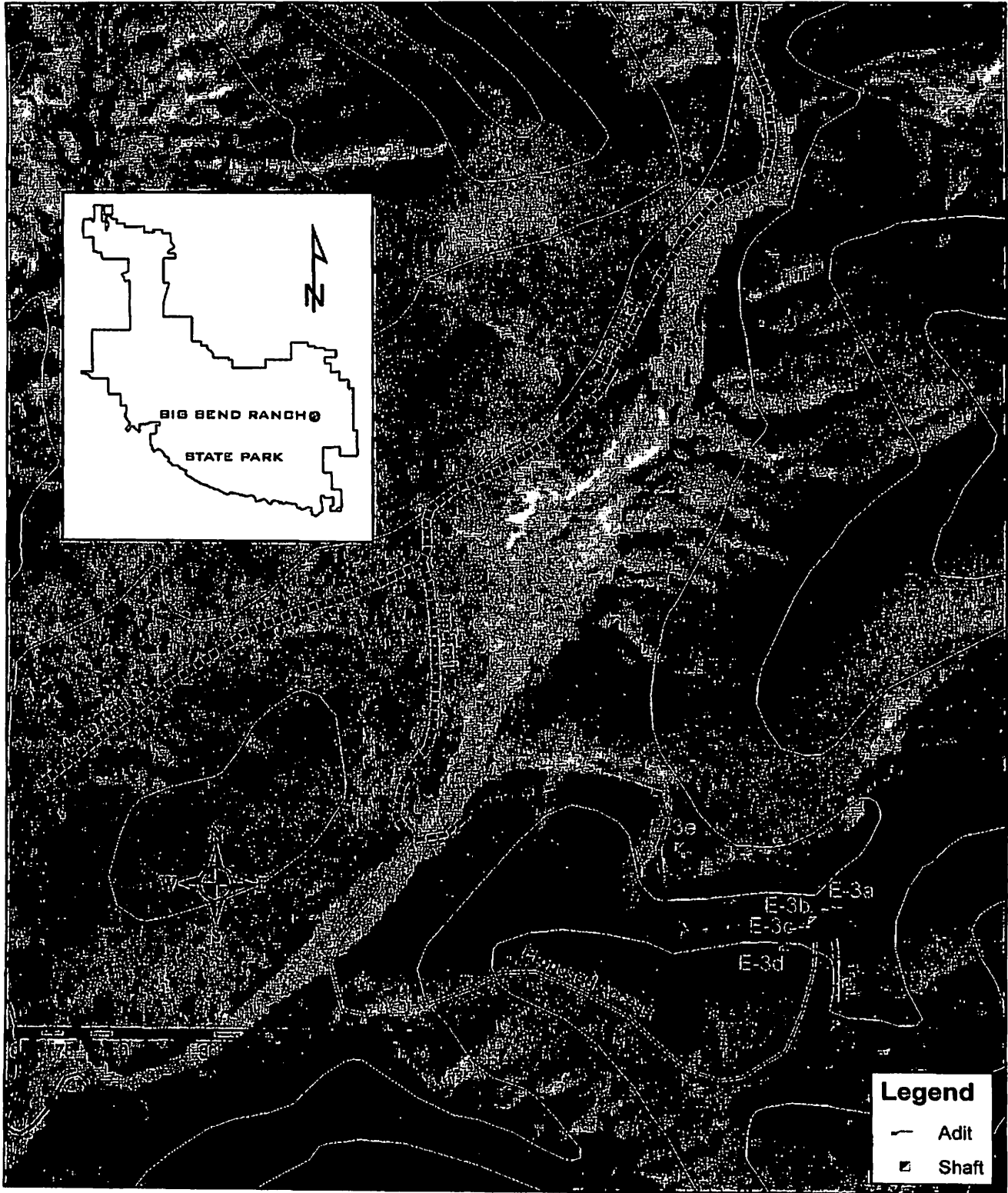
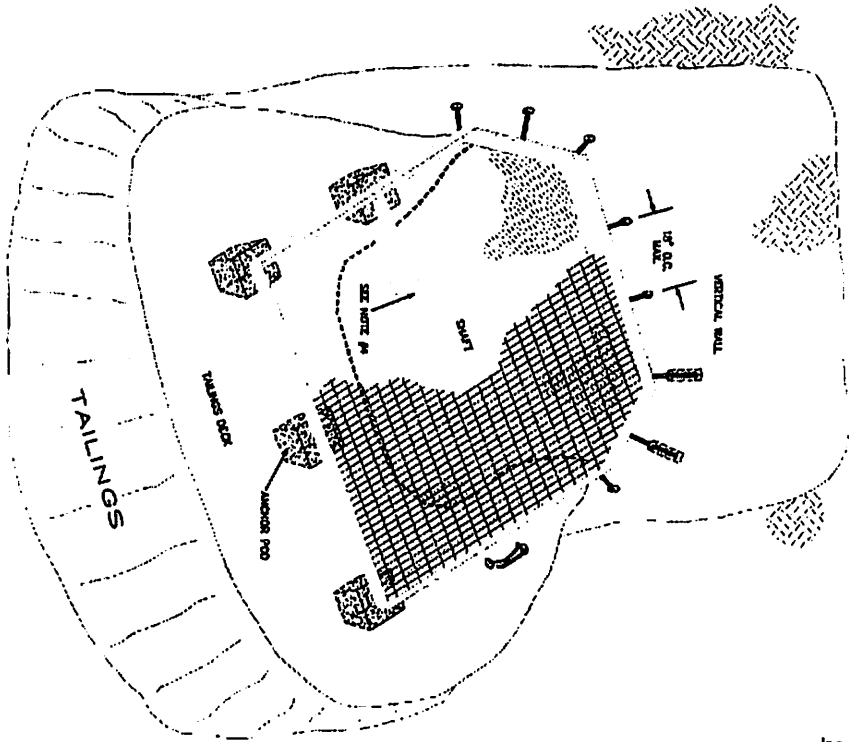


Figure 4

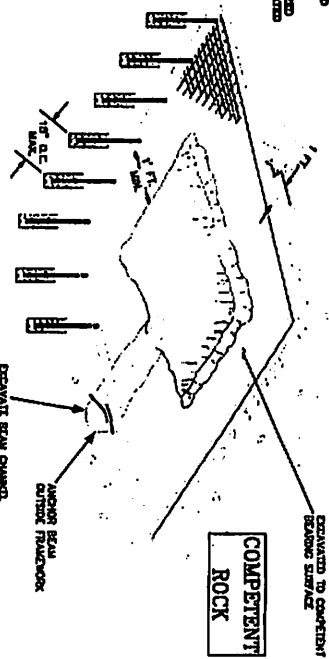
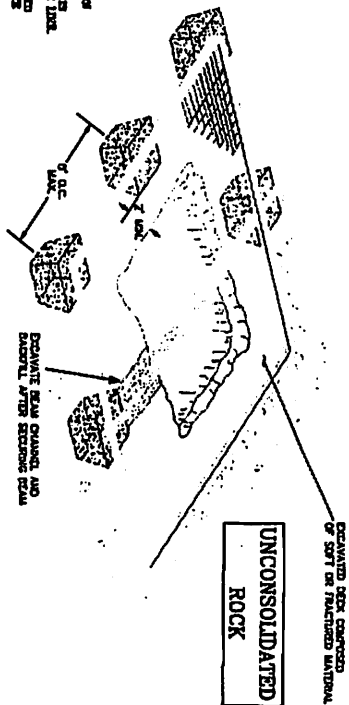
# STEEL GRATED CLOSURES SURFACE GRATE INSTALLATION SITE E-2, E-3b

N.T.S.



**NOTES:**

- 1) ALL STRUCTURES INSTALLED SHOULD BE CONSTRUCTED TO REST ON A 4" BED OF FINE SAND UNDER LIME.
- 2) PROTECTIVE TAILING WALLS BE SET ON PILES TO ADEQUATE DEPTH.
- 3) THE STEEL GRATES AS SPECIFIED IN CONNECTION SHEETS, CONTRACTOR TO BE RESPONSIBLE FOR THE GRATE.
- 4) STEEL GRATING PATTERN SHALL BE OBTAINED FROM THE CONTRACTOR BY 2" VERTICALS OR BY CENTER.
- 5) SPACER (WOOD) SHOULD NOT BE USED ALONG WITH STEEL GRATING (TYP.).
- 6) OTHER ANCHOR PILES ARE REQUIRED IN STEEL MATERIAL AND CONCENTRATED LOAD SHALL BE AVOIDED AND ONLY EXPANDED IN COMPACT ROCK.



**CAUTION-** THIS PROJECT REQUIRES CONSTRUCTION WORK AROUND AND OVER EXISTING STRUCTURES AND UTILITIES. ALL OPERATIONS SHOULD BE CONTROLLED BY THE CONTRACTOR TO PREVENT ACCIDENTS AND DAMAGE TO PERSONNEL AND EXISTING STRUCTURES TO PREVENT ACCIDENTS AND DAMAGE.

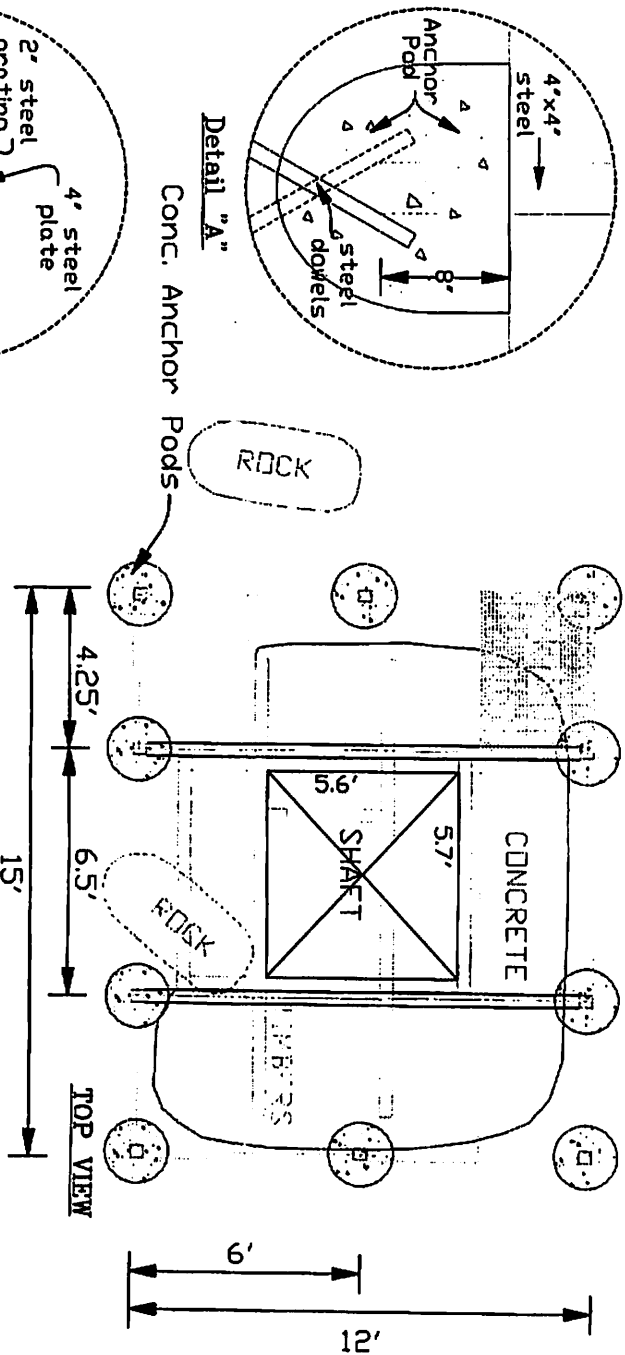


RICHARD S. WILLIAMS  
ENGINEER  
10000  
1/20/03

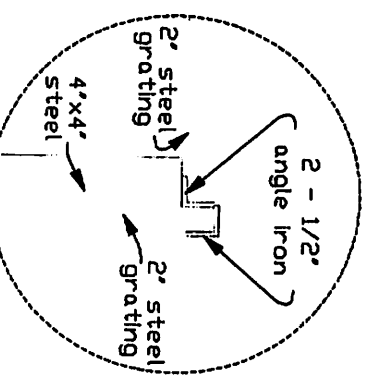
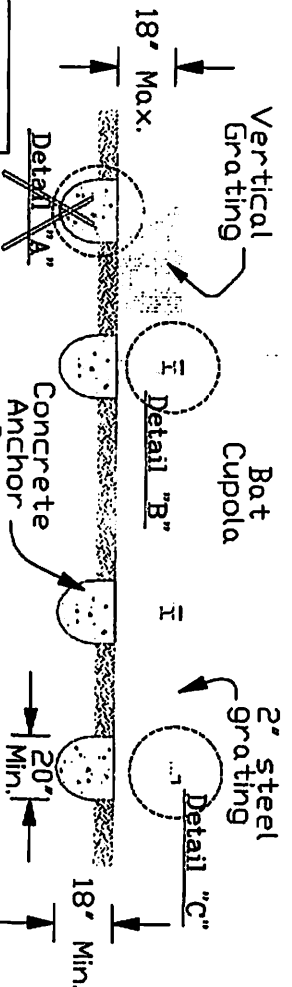
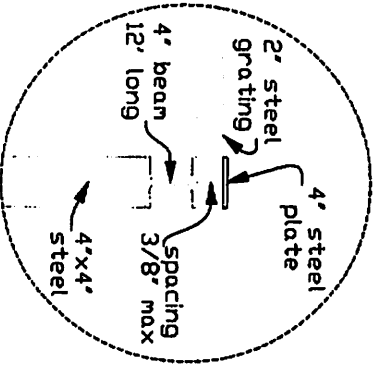
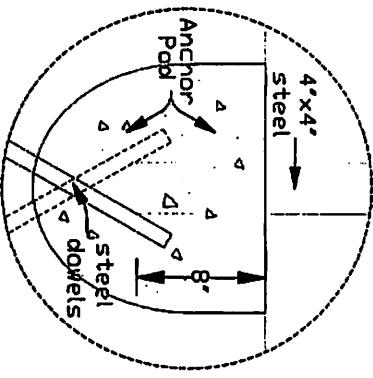
DESIGNED BY	1/20/03
CHECKED BY	1/20/03
APPROVED BY	1/20/03
DATE	1/20/03

DESIGNED BY	1/20/03	DATE	1/20/03
CHECKED BY	1/20/03	DATE	1/20/03
APPROVED BY	1/20/03	DATE	1/20/03
PROJECT NO.	1	DRAWING NO.	1

PICKENS SITE E-2



- NOTES:
- 1 Existing opening 5.5' x 5.7'
  - 2 Move rock
  - 3 Install Two - 4" beams, 12' long
  - 4 Install grating - 12x15
  - 5 Match existing ground with vertical grating around perimeter
  - 6 Cover edge of grating with 2-1/2" angle iron



**CAUTION-** THIS PROJECT REQUIRES CONSTRUCTION WITH ANCHORS AND OTHER OPENING BEING MADE TO THE EXISTING OR REMOVED MATERIAL. THESE OPERATIONS MUST BE DONE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR AND ALL PERSONNEL SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS AND SAFETY PROCEDURES TO PERFORM ANCHORS AND OTHER

**SIDE VIEW**

DATE: 1/23/78  
 DRAWN BY: S. WALKER  
 CHECKED BY: S. WALKER  
 APPROVED BY: S. WALKER

DATE: 1/23/78  
 DRAWN BY: S. WALKER  
 CHECKED BY: S. WALKER  
 APPROVED BY: S. WALKER

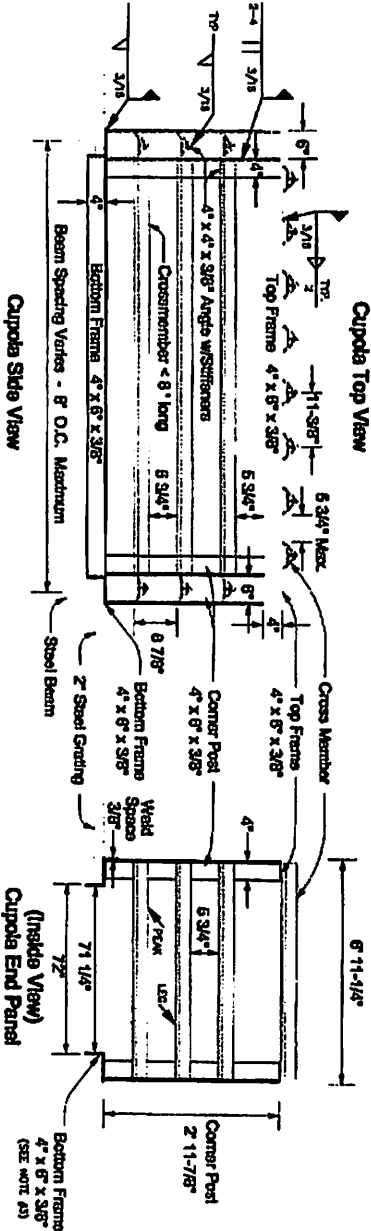
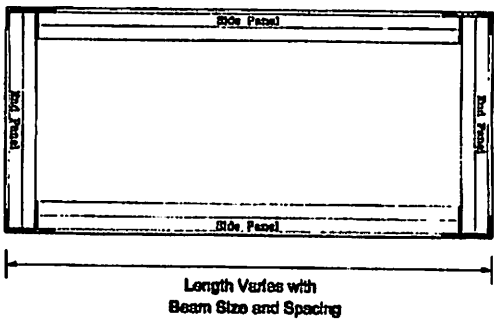
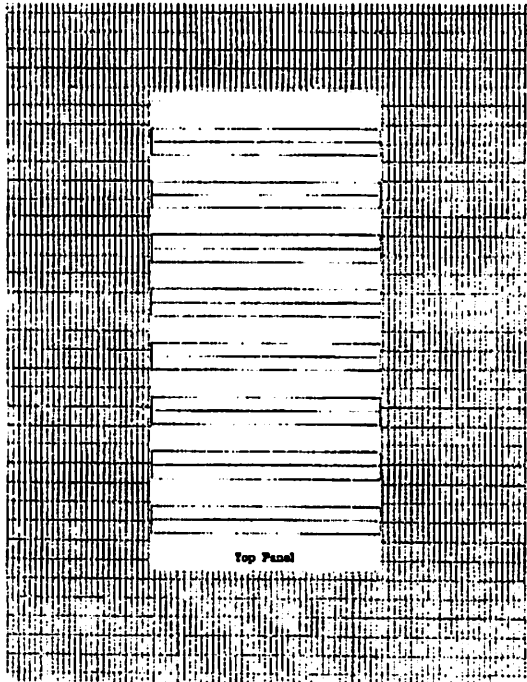
DATE: 1/23/78  
 DRAWN BY: S. WALKER  
 CHECKED BY: S. WALKER  
 APPROVED BY: S. WALKER

2

# FABRICATED FOUR PANEL ANGLE IRON CUPOLA

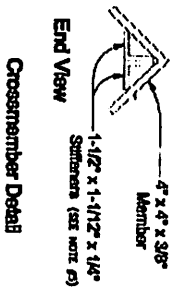
SHEET E-2

N.T.S.



Cupola End View (Inside View)

Bottom Frame 4" x 6" x 3/8" (SEE NOTE #3)



Lock Box and Tab Detail for Removable Bar



**NOTES:**

- 1) FABRICATED PANELS TO BE DETACHED OR FIT.
- 2) FABRICATOR OF CUPOLA OR COVER CLOSURE SHALL BE IDENTIFIED BY THE PRODUCT MANUFACTURER.
- 3) 1/4" x 3/8" x 3/8" ANGLE IRON SHALL BE USED FOR ALL CLOSURE AND OPERATING ELEMENTS OF PANEL FRAME CUT TO FIT OVER CLOSURE.
- 4) ALL STRUCTURAL MEMBERS SHALL BE 6" x 4" x 3/8" OR 1/4" x 3/8" x 3/8" ANGLE IRON.
- 5) ALL CROSS MEMBERS AND TOP MEMBERS SHALL BE FITTED INTO 1-1/2" x 1-1/2" x 1/4" SLOTS, AS DETAILED.
- 6) CUPOLA REQUIREMENTS AND DIMENSIONS SHALL BE IDENTIFIED BY THE PRODUCT MANUFACTURER.
- 7) SHOWS ALL CONDITIONS OF BORN TOP AND BOTTOM PANELS.

**CAUTION:** THIS PRODUCT REQUIRES CONSTRUCTION WITH ANCHORS AND OTHER MATERIALS AND CONNECTIONS TO BE EXACTLY AS SHOWN. ALL DIMENSIONS SHALL BE TAKEN FROM THE FACE UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION, THE FABRICATOR AND ERECTOR SHALL BE RESPONSIBLE FOR THE DESIGN, DIMENSIONS AND CONNECTIONS.

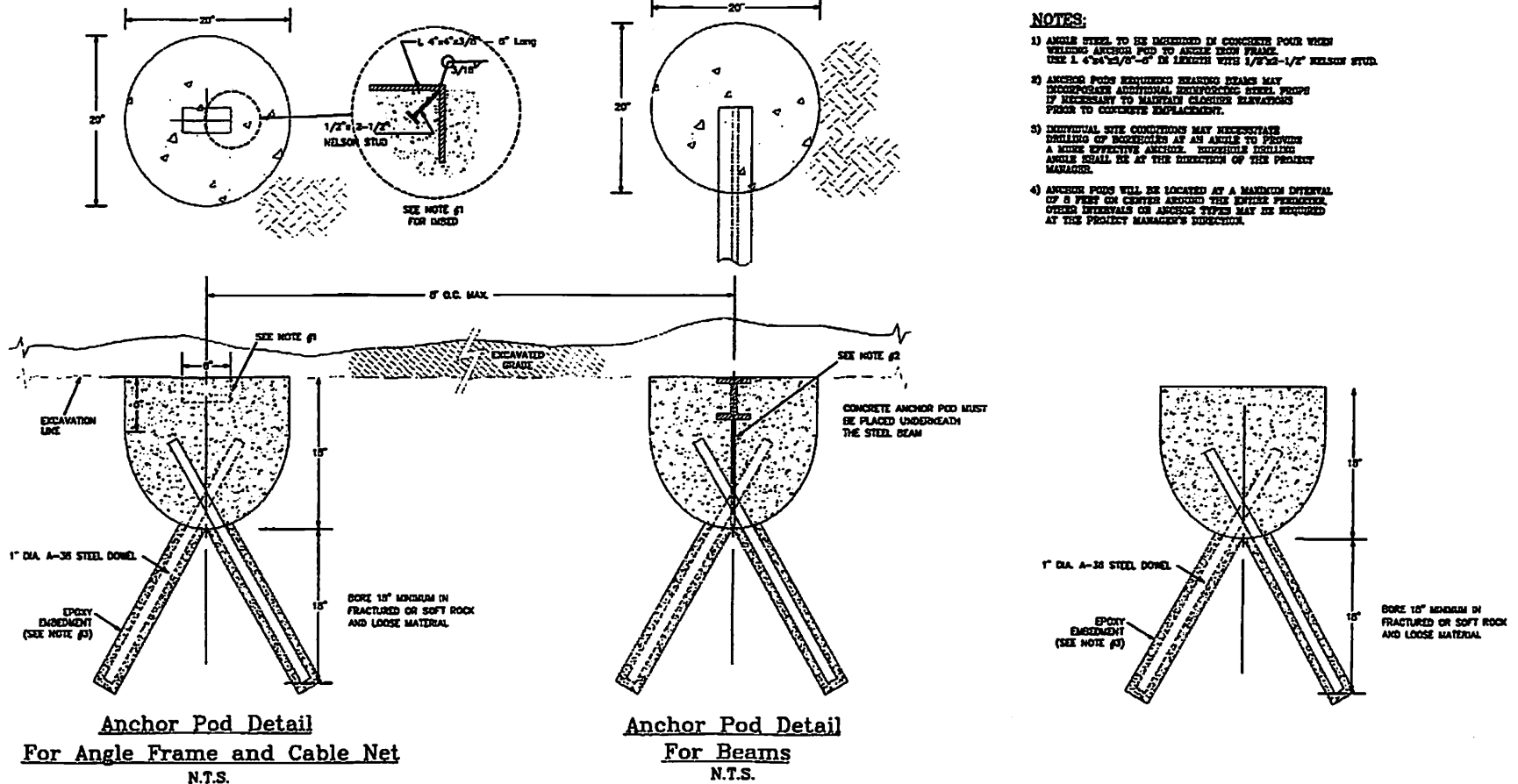
**RAILROAD CONSTRUCTION OF TEXAS**  
 GEORGE W. BROWN AND ASSOCIATES, INC.  
 1000 WEST 11TH STREET, SUITE 100  
 ARLING, TEXAS 76010

REV.	DATE	BY	CHKD.	DESCRIPTION
1	1/20	N. BROWN	S. WATKINS	ISSUED FOR FABRICATOR
2	1/20	N. BROWN	S. WATKINS	ISSUED FOR ERECTOR
3	1/20	N. BROWN	S. WATKINS	ISSUED FOR FABRICATOR AND ERECTOR

3 REV.

**CAST-IN-PLACE CONCRETE ANCHOR POD DETAILS  
FOR UNCONSOLIDATED ROCK CONDITIONS**

N.T.S.



**NOTES:**

- 1) ANGLE STEEL TO BE EMBEDDED IN CONCRETE POUR WHEN SETTING ANCHOR POD TO ANGLE IRON FRAME. USE 1 1/2" x 4" x 2 1/2" IN LENGTH WITH 1/2" x 2" NELSON STUD.
- 2) ANCHOR PODS REQUIRING BRACED BEAMS MAY INCORPORATE ADDITIONAL REINFORCING STEEL PROPS IF NECESSARY TO MAINTAIN CLOSURE ELEVATIONS PRIOR TO CONCRETE EMPLOYMENT.
- 3) INDIVIDUAL SITE CONDITIONS MAY NECESSITATE INSTALLING OF BRACED BEAMS AT AN ANGLE TO PROVIDE A MORE EFFECTIVE ANCHOR. THROUGHOUT INSTALLING ANGLE SHALL BE AT THE DIRECTION OF THE PROJECT MANAGER.
- 4) ANCHOR PODS WILL BE LOCATED AT A MAXIMUM INTERVAL OF 8 FEET ON CENTER AROUND THE ENTIRE PERIMETER. OTHER INTERVALS ON ANCHOR TYPES MAY BE REQUIRED AT THE PROJECT MANAGER'S DISCRETION.

**Anchor Pod Detail  
For Angle Frame and Cable Net  
N.T.S.**

**Anchor Pod Detail  
For Beams  
N.T.S.**

**CAUTION-** THIS PROJECT REQUIRES CONSTRUCTION WORK AROUND AND OVER HAZARDOUS AND UNPROTECTED HOLES, SHAFTS, STOPS, ADITS AND OTHER OPENINGS WHICH MAY BE OPEN TO THE SURFACE OR HIDDEN FROM VIEW BY GRAVE, BENCH OR TIEB AND UNDERLAYS OF SURFICIAL MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY INVESTIGATING THE SITE CONDITIONS AND SCHEDULING HIS EQUIPMENT, EQUIPMENT OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.



RAILROAD COMMISSION OF TEXAS  
 JAMES L. WILSON, Chairman  
 WALTER S. CARRILLO, Commissioner  
 COLUMBUS A. BROWN, Commissioner  
 SURFACE MINING AND RECLAMATION DIVISION  
 WELLS B. BOWEN, P.A. Director

SCALE	NOT TO SCALE	DATE	7/88
DRAWN BY	T. BOOTHMAN	7/88	
DESIGNED BY	PHYSICAL	7/88	
CHECKED BY	S. WILEY	1/89	
APPROVED BY	M. BRIDGES	1/89	
DESIGNED BY	S. WILEY	1/89	

BIG BEND RANCH STATE PARK  
 AML PROJECT  
 DRAWING TITLE  
 CAST-IN-PLACE CONCRETE  
 ANCHOR POD DETAILS

DRAWING NO.  
 4  
 REV.

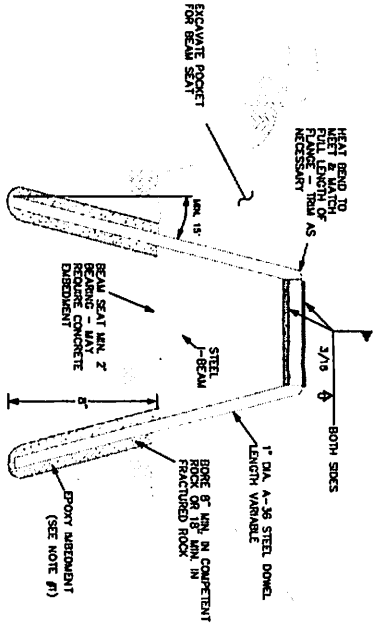


# STEEL GRATED CLOSURES RECESSED GRATE INSTALLATION SITES E-3a and E-3b-1

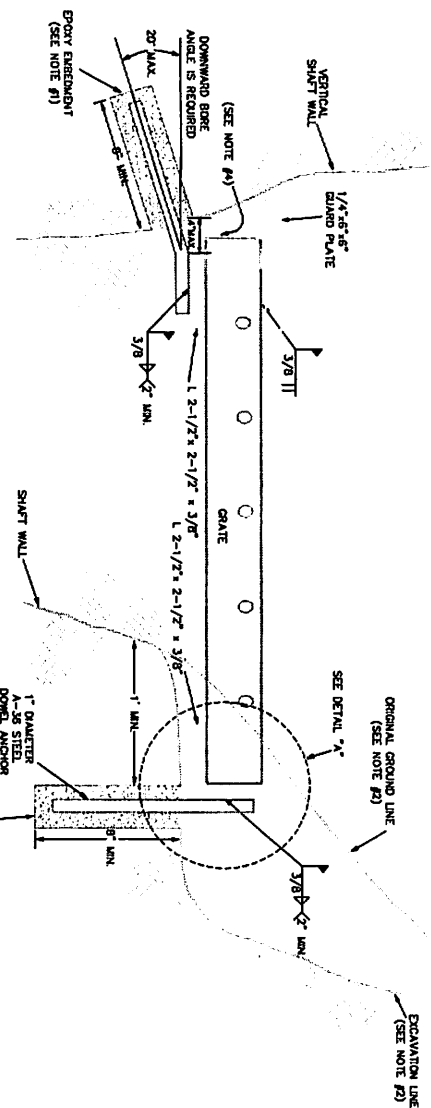
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**NOTES:**

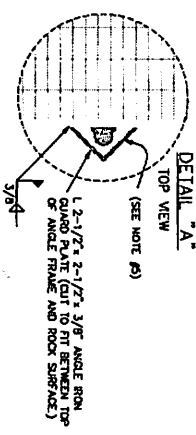
- 1) BEAM HOLES SHALL BE 8" MIN. IN COMPARTMENT ROCK OR 10" MIN. IN SOFT FRACTURED ROCK.
- 2) CARE MUST BE TAKEN TO ENSURE THAT THE STEEL BEAMS ARE PROPERLY POSITIONED AND THAT SOME EXCAVATION MAY BE NECESSARY.
- 3) A MIN. 2" WELD MUST BE MAINTAINED AT THE DOG-EAR ANGLE JOINT.
- 4) DO NOT INTERRUPT THE SURFACE CONDITIONS EXISTING AT THE POINTS OF ANCHORING. ALL DOG-EAR ANCHORS TO VERTICAL WALL MUST BE COVERED WITH CONCRETE FLANS WHEN AND ANY OCCURS.
- 5) ANCHORS WILL BE LOCATED AT A MINIMUM OF 12" FROM THE EXISTING FACE. OTHER INTERVALS OR ANCHOR TYPES MAY BE REQUIRED AT THE PROJECT MANAGER'S DISCRETION.
- 6) DO NOT INTERRUPT THE SURFACE CONDITIONS EXISTING AT THE POINTS OF ANCHORING. ALL DOG-EAR ANCHORS MUST BE COVERED WITH AN ANGLE IRON GUARD PLATE WHEN ANY GAP OCCURS. SEE DETAIL "A".



**Beam Anchor Detail**  
N.T.S.

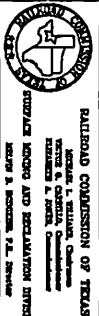


**Angle Frame Anchor Detail**  
N.T.S.



**CAUTION** - THIS PROJECT REQUIRES CONSTRUCTION WORK AROUND AND OTHER HAZARDOUS CONDITIONS. ALL OPERATIONS WHICH MAY BE OPEN TO THE SURFACE OR UNDER FLOOR VIEW BY TRAILER DECKS OR TRENCH AND INSTALLED LAYERS OF STRUCTURAL MATERIAL SHALL BE COVERED AND BEARING THE EXISTING SURFACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL OPERATIONS, PERSONNEL AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND DAMAGES.

**NOTE:** THIS DRAWING HAS BEEN ADAPTED FROM A DRAWING PREPARED BY THE COLORADO DEPARTMENT OF MINERAL RESOURCES, BEND LAND REclamation DIVISION.

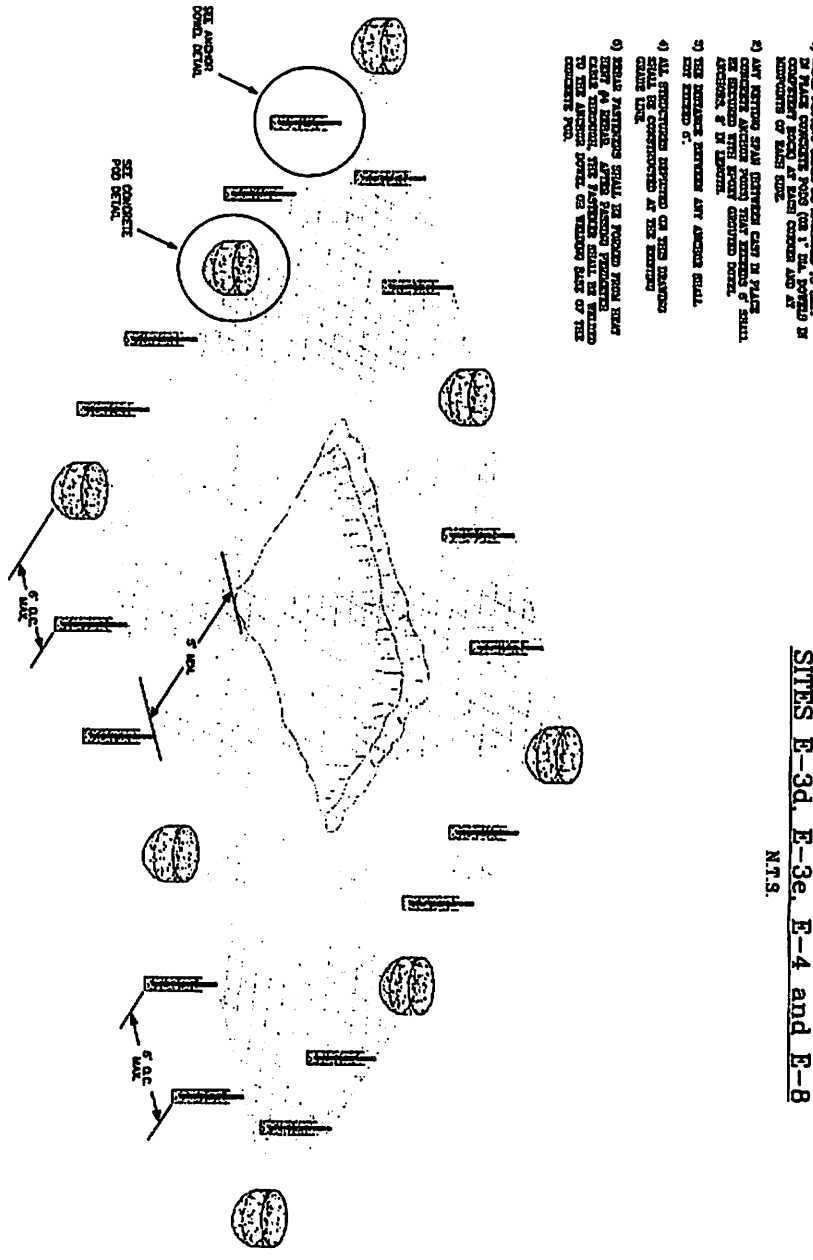


RAILROAD COMMISSION OF TEXAS	
DESIGNED BY	1. WOODRUFF
PREPARED BY	7/36
APPROVED BY	5. BERRY
REVISIONS BY	5. BERRY
REVISIONS DATE	1/29

BIG BEND RANCH STATE PARK	
A.M. PROJECT	
RECESSED GRATE INSTALLATION	
DRAWING NO.	5
REV.	

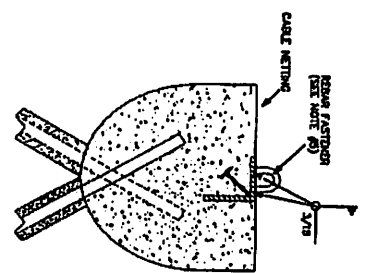
- NOTES:**
- 1) CABLE NETTING SHALL BE ANCHORED TO CAST IN PLACE CONCRETE PODS (ON A 1" DIA. POD) BY MEANS OF STEEL PODS (ON A 1" DIA. POD) BY MEANS OF STEEL PODS.
  - 2) ALL REINFORCING SHALL BE CAST IN PLACE CONCRETE ANCHORS PERMANENTLY CAST IN PLACE ANCHORS OF 1" DIA. POD.
  - 3) THE REINFORCING BETWEEN AIR ANCHORS SHALL BE 1" DIA. POD.
  - 4) ALL STRUCTURES SUPPORTED ON THE EXISTING SHALL BE CONSTRUCTION AT THE EXISTING SHALL BE.
  - 5) REINFORCING SHALL BE PLACED FROM THE CAST ANCHORS TO THE ANCHORS SHALL BE CAST TO THE ANCHORS PERMANENTLY CAST IN PLACE OF THE CONCRETE POD.

**TYPICAL CABLE NET AND ANCHOR DETAILS**  
**SITES E-3d, E-3e, E-4 and E-8**  
 N.T.S.

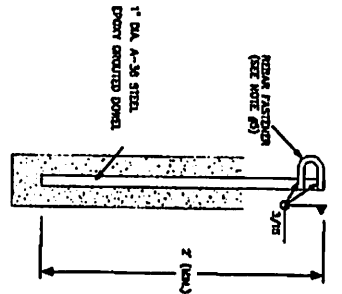


**ANCHOR PLACEMENT DETAIL**  
 N.T.S.

**CONCRETE ANCHOR POD DETAIL**  
 N.T.S.



**ANCHOR DOWEL DETAIL**  
 N.T.S.



**CAUTION -** THIS PROJECT INVOLVES COMPLEXITY, WORK ANCHORS AND OTHER HAZARDOUS AND CONFINED SPACE ENTRY, LIFTING AND OTHER HAZARDOUS WORK. ALL CONTRACTORS SHALL BE ADVISED OF THESE HAZARDS AND TAKE PRECAUTIONS TO AVOID ACCIDENTS AND INJURIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING NECESSARY TRAINING, EQUIPMENT AND SAFETY PROCEDURES TO PREVENT ACCIDENTS AND INJURIES.

**DATE:** 1/20/20  
**DESIGNED BY:** S. BROWN  
**CHECKED BY:** S. BROWN  
**APPROVED BY:** S. BROWN  
**DATE:** 1/20/20

**DATE:** 1/20/20  
**DESIGNED BY:** S. BROWN  
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