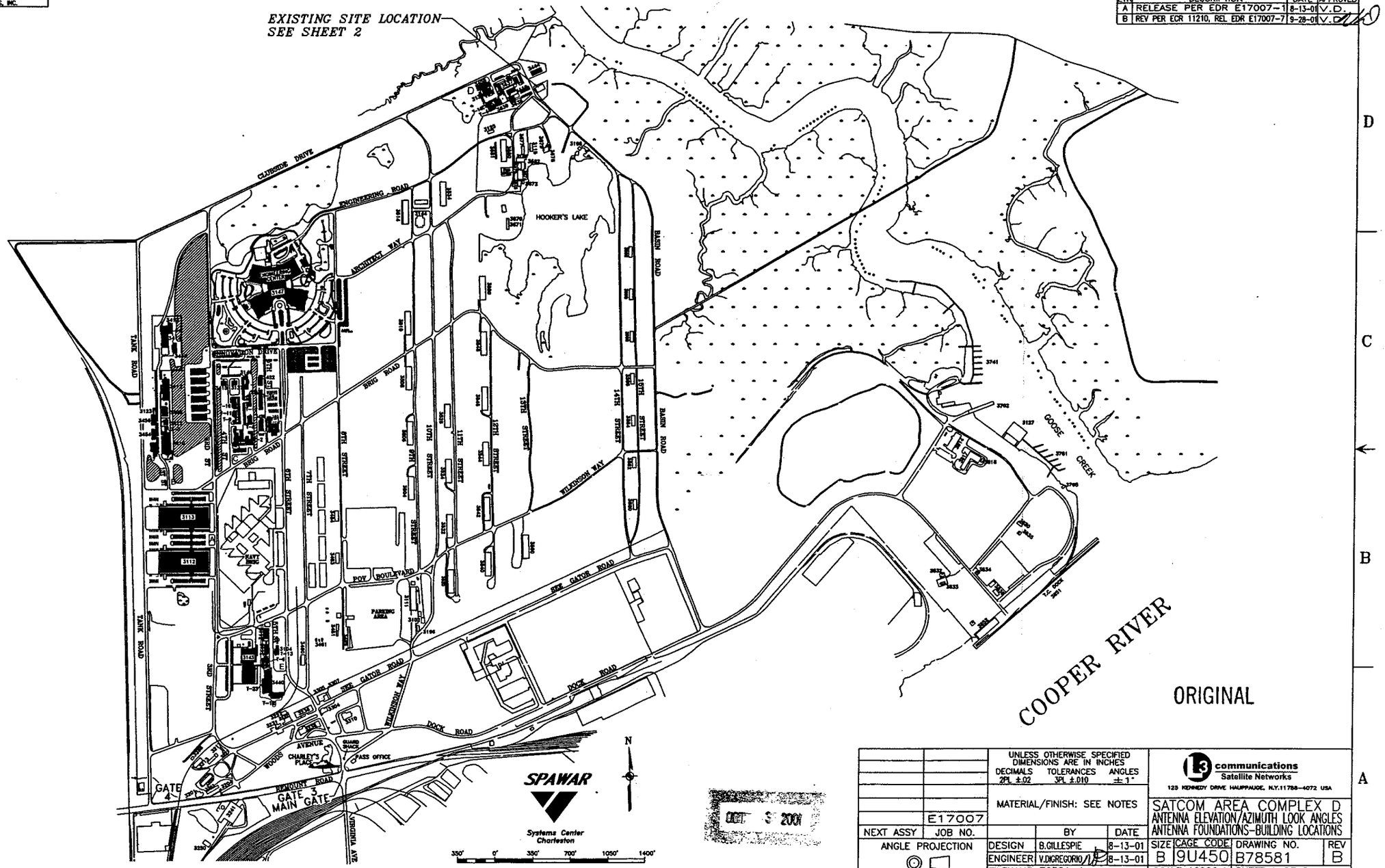
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	RELEASE PER EDR E17007-1	8-13-01	V.D.
B	REV PER ECR 11210, REL EDR E17007-7	9-28-01	V.D.



ORIGINAL

OCT 3 2001

		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
		DECIMALS 2PL ±.02	TOLERANCES 3PL ±.010	ANGLES ± 1°
		MATERIAL/FINISH: SEE NOTES		
	E17007			
NEXT ASSY	JOB NO.		BY	DATE
ANGLE PROJECTION		DESIGN	B.GILLESPIE	8-13-01
		ENGINEER	V.DIGREGORIO	8-13-01
		FILENAME: 78581-1		

L3 communications
Satellite Networks
125 KENNEDY DRIVE HAUPPAUGE, N.Y.11788-4072 USA

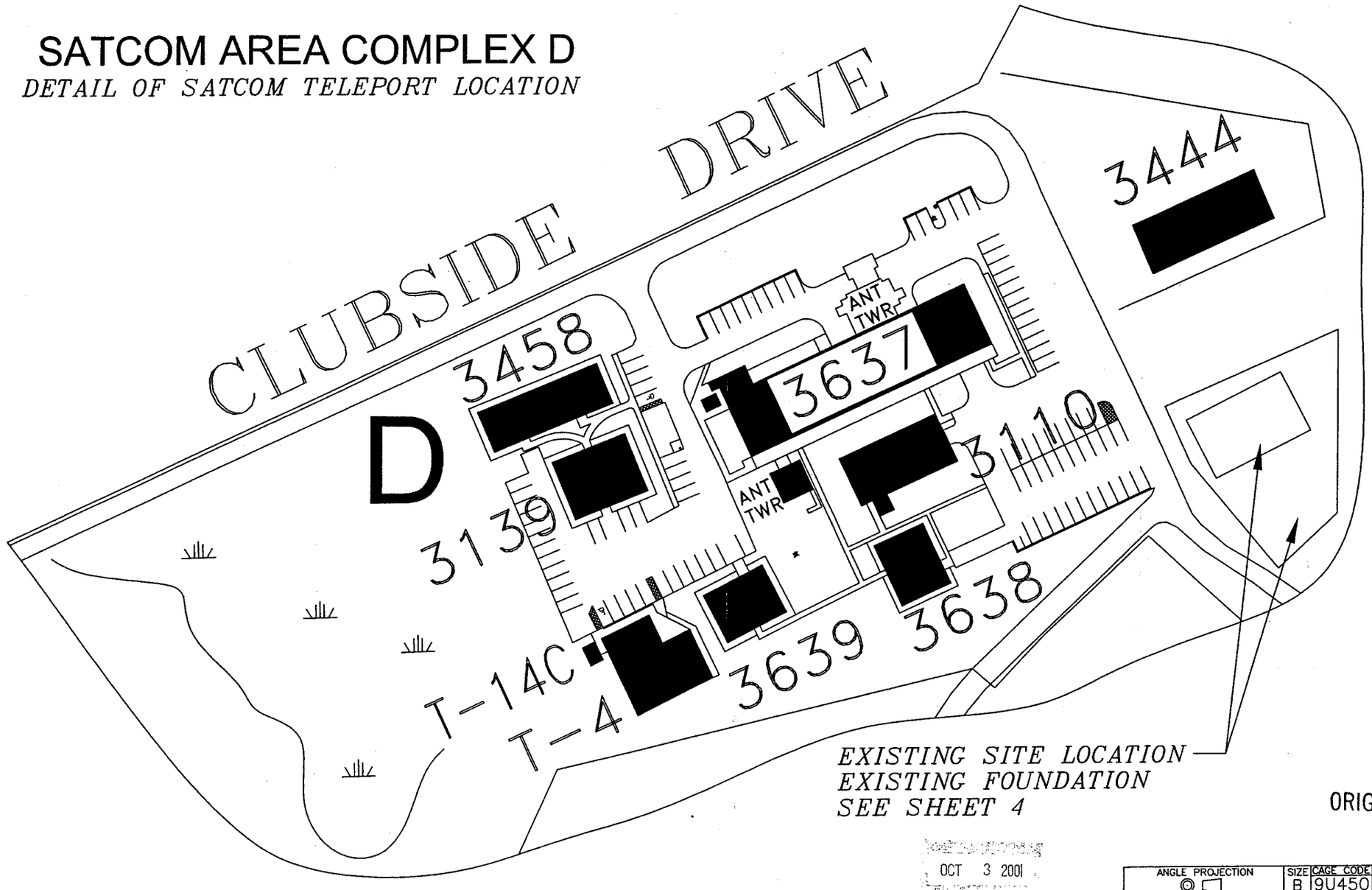
SATCOM AREA COMPLEX D
ANTENNA ELEVATION/AZIMUTH LOOK ANGLES
ANTENNA FOUNDATIONS-BUILDING LOCATIONS

SIZE	CAGE CODE	DRAWING NO.	REV
B	9U450	B78581	B
SCALE: 10000:1		SHEET: 1 OF 8	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		

SATCOM AREA COMPLEX D

DETAIL OF SATCOM TELEPORT LOCATION

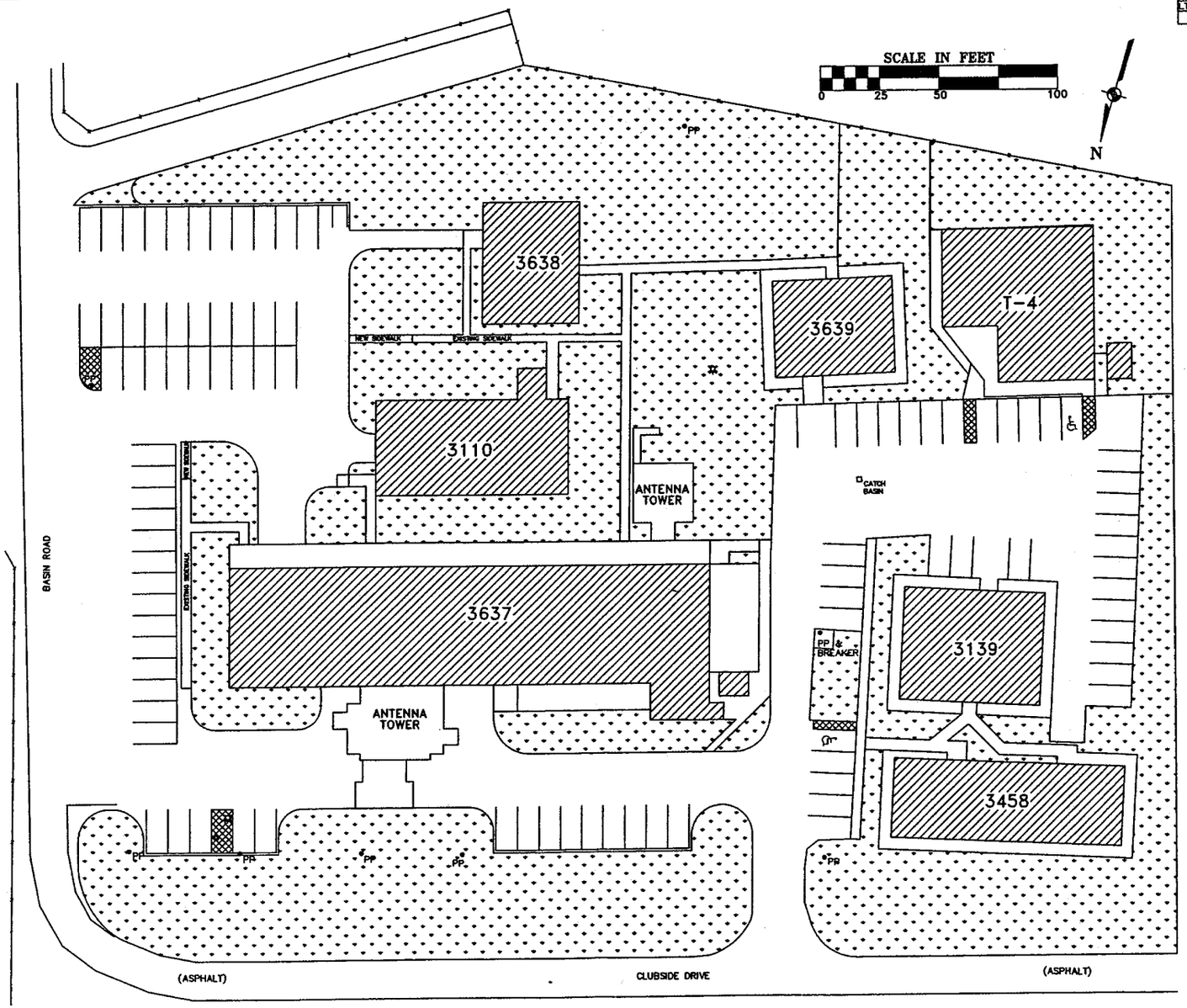


ORIGINAL

OCT 3 2001

ANGLE PROJECTION	SIZE	CAGE CODE	DRAWING NO.	REV
	B	9U450	B78581	B
FILENAME: 78581-1	SCALE: 13968:1		SHEET: 2 OF 8	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		



ORIGINAL

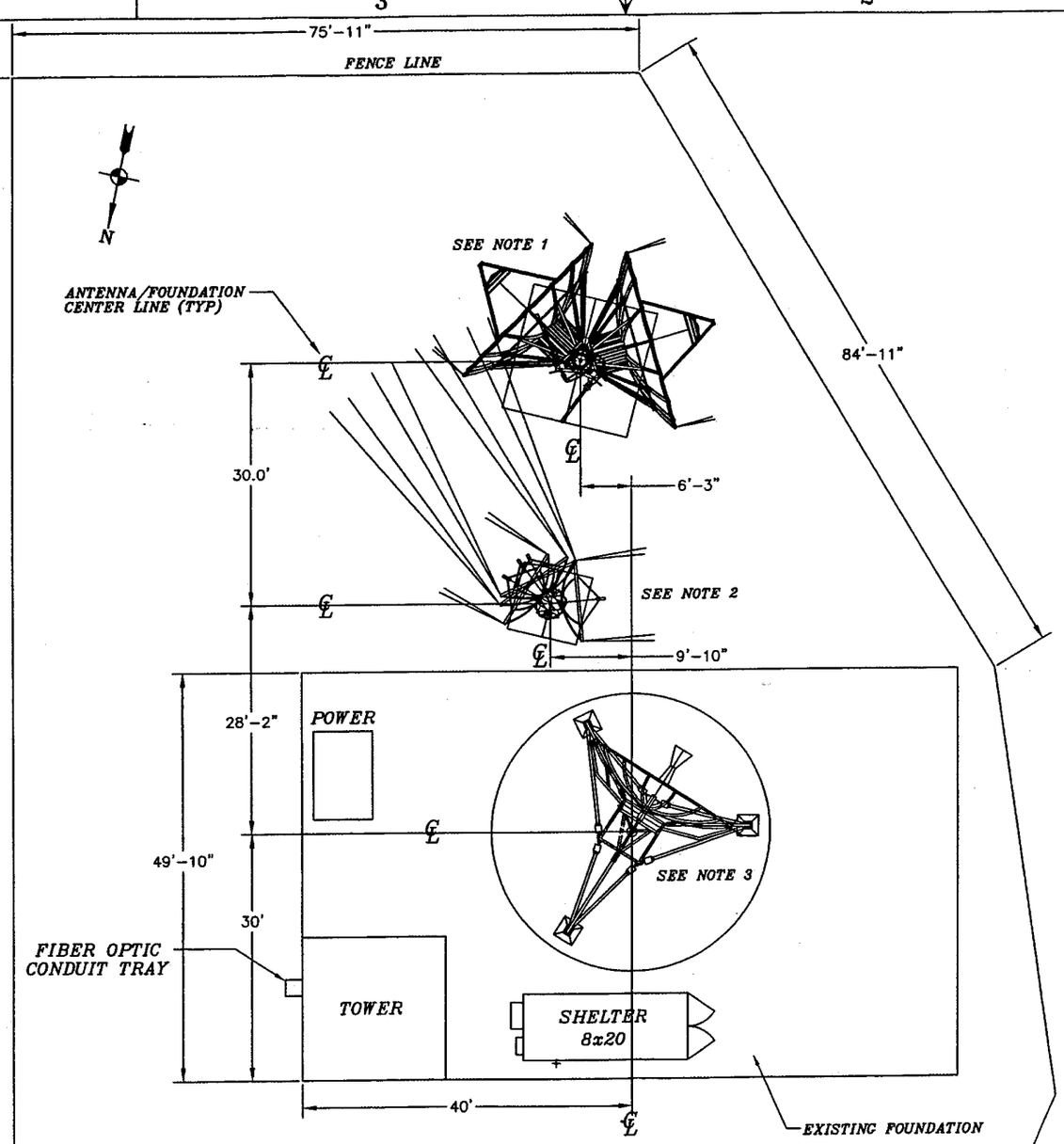
OCT 3 2001

SATCOM AREA COMPLEX D

COMPLEX CO-LOCATED WITH SATCOM TELEPORT

ANGLE PROJECTION	SIZE	CAGE CODE	DRAWING NO.	REV
	B	9U450	B78581	B
FILENAME: 78581-1	SCALE: 1/1		SHEET: 3 OF 8	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		



NOTES:

1. 6.5 METER C-BAND ANTENNA
   FOUNDATION HEADING 182° MAGNETIC, 175° TRUE
   ANTENNA AZIMUTH RANGE 122.70-241.80° MAGNETIC
   ANTENNA AZIMUTH RANGE 115.70-234.80° TRUE
   ANTENNA ELEVATION RANGE 26.50°-35.1°
   AZIMUTH ±60° FROM FOUNDATION HEADING OF 182° MAGNETIC, 175° TRUE
   * FOR FOUNDATION SPECIFICATIONS SEE SHEETS 6 & 7.
   * FOR AZIMUTH AND ELEVATION LOOK ANGLES SEE SHEET 8.

2. 3.0 METER (10 FOOT DISH) X-BAND ANTENNA
   FOUNDATION HEADING 182° MAGNETIC, 175° TRUE
   ANTENNA AZIMUTH RANGE 109.5°-253.1° MAGNETIC
   ANTENNA AZIMUTH RANGE 102.5°-246.1° TRUE
   ANTENNA ELEVATION RANGE 10.2°-24.6°
   AZIMUTH ±90° FROM FOUNDATION HEADING OF 182° MAGNETIC, 175° TRUE
   * FOR FOUNDATION SPECIFICATIONS SEE SHEET 5.
   * FOR AZIMUTH AND ELEVATION LOOK ANGLES SEE SHEET 8.

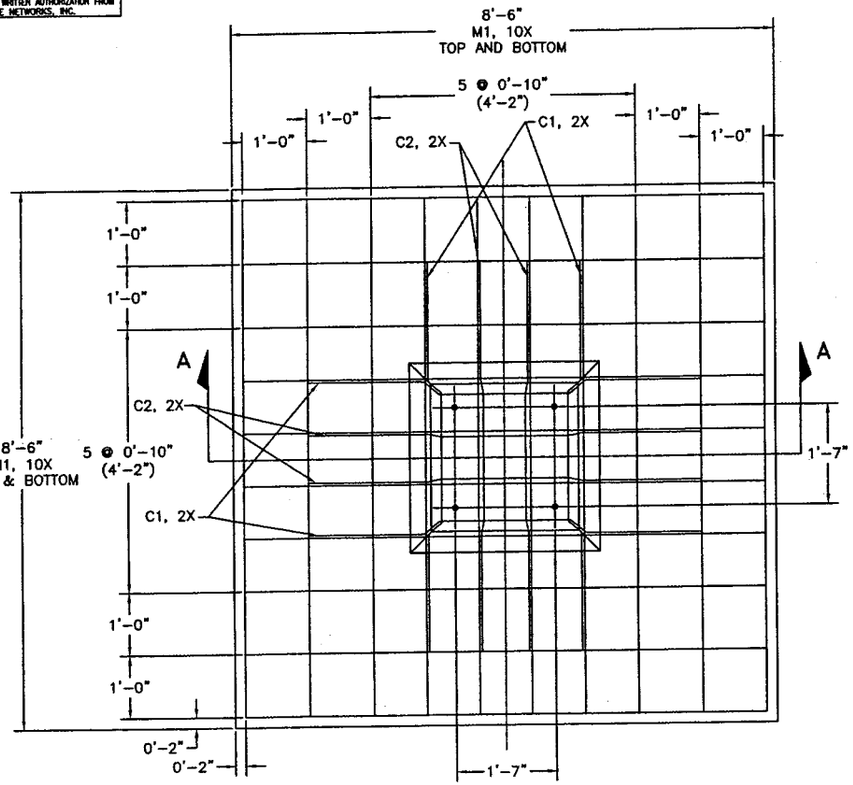
3. 6 METER KU-BAND ANTENNA
   PRIOR TO FINAL ANTENNA POSITIONING ANTENNA TESTING IS NECESSARY
   THE ANTENNA AZIMUTH HEADING FOR TESTING IS 147° MAGNETIC, 140° TRUE
   AFTER TESTING THE ANTENNA IS TO POSITIONED AS FOLLOWS;
   ANTENNA AZIMUTH HEADING 200.7° MAGNETIC, 193.7° TRUE
   AZIMUTH ±10° FROM ANTENNA HEADING OF 200.7° MAGNETIC, 193.7° TRUE
   ANTENNA AZIMUTH RANGE 190.7°-210.7° MAGNETIC
   ANTENNA AZIMUTH RANGE 183.7°-203.7° TRUE
   ANTENNA ELEVATION RANGE 50.2°-51.8°
   * FOR AZIMUTH AND ELEVATION LOOK ANGLES SEE SHEET 8.

SATCOM AREA COMPLEX D

SITE POSITION BY GPS 32 55' 18"N – 79 58' 11"W
EXISTING FOUNDATION HEADING 168° MAGNETIC
175° TRUE

ANGLE PROJECTION	SIZE	CAGE CODE	DRAWING NO.	REV
	B	9U450	B78581	B
FILENAME: 78581–1	SCALE: 1800:1		SHEET: 4 OF 8	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		



FOUNDATION PLAN VIEW

PLATE C10055-01 NOT SHOWN

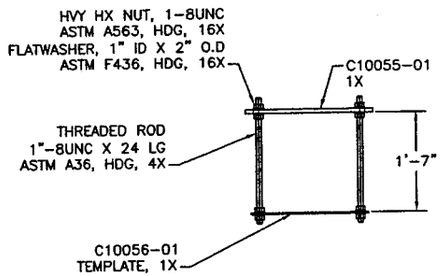
AZIMUTH HEADING 182° MAGNETIC
AZIMUTH HEADING 175° TRUE

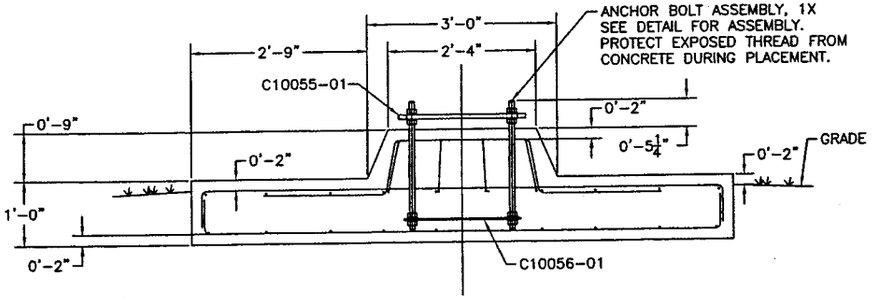
MARK	DIA.	QTY	DIMENSIONS (OUTSIDE)
M1	1/2"	40	8'-2", 0'-7"
C1	1/2"	4	6'-6", 2'-0½", 0'-2¾", 0'-10", 2'-0", 0'-2¾"
C2	1/2"	4	6'-6", 2'-0½", 0'-2¾", 0'-9½", 2'-0", 0'-2¾"

NOTES:

1. ALL CONCRETE SHALL HAVE A 28-DAY MIN. COMPRESSIVE STRENGTH OF 3000 psi.
2. CONCRETE SHALL BE POURED MONOLITHICALLY AND THOROUGHLY CONSOLIDATED BY RODDING OR VIBRATING.
3. ALL REINFORCING BAR TO BE WIRED OR WELDED SECURELY TO PREVENT SHIFTING WHEN CONCRETE IS PLACED. USE ADDITIONAL REINFORCING BAR AS NECESSARY TO SUPPORT ANCHOR PLATES AND BOLTS.
4. REINFORCEMENT SHALL BE DEFORMED INTERMEDIATE GRADE NEW BILLET STEEL BARS. 60 ksi MIN. YIELD IN ACCORDANCE WITH ASTM A-615.
5. BASE UNDER FOUNDATION TO CONSIST OF UNDISTURBED OR COMPACTED MATERIAL WITH A MINIMUM BEARING CAPACITY OF 2000 psf.
6. ANCHOR BOLTS SHALL BE LOCATED TO DESIRED RELATIVE POSITION WITHIN ± ⅛".
7. SURFACE SHALL HAVE A BROOM FINISH AN SLOPE AWAY FROM CENTER PEDESTAL APPROX. 1/8" PER FOOT.
8. COMPLIANCE WITHIN LOCAL BUILDING CODES IS THE RESPONSIBILITY OF THE FOUNDATION INSTALLER.
9. CONSULT LOCAL GEOTECHNICAL ENGINEER FOR SUITABILITY OF THIS FOUNDATION DESIGN TO THE LOCAL CONDITIONS PRIOR TO POURING.
10. DESIGN SURVIVAL WINDSPEED IS 125 MPH.
11. ESTIMATED MATERIAL QUANTITIES ARE:

CONCRETE: 2.85 CU. YDS.
STEEL: 290 LBS.





SECTION A-A

OCT 3 2001

ORIGINAL

FOUNDATION LAYOUT
FOR CUSTOMER SUPPLIED 3 METER
SATCOM AREA COMPLEX D

ANGLE PROJECTION	SIZE	CAGE CODE	DRAWING NO.	REV
	B	9U450	B78581	B
FILENAME: 78581-1	SCALE: NONE		SHEET: 5 OF 8	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		

FOUNDATION NOTES

1. ALL DIMENSIONS ARE SHOWN IN FEET AND INCHES [AND MILLIMETERS] AND (REFERANCE).

2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS LOCATING EXISTING CONSTRUCTION BEFORE FABRICATION OF NEW CONSTRUCTION BEGINS.

3. CONCRETE AND RELATED WORK SHALL BE MIXED, PLACED AND CURED IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" ACI 318-89 (REV88) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE" ACI 301-84 (REV88), PUBLICATION SP-15(88).

4. CONCRETE SHALL DEVELOPE COMPRESSIVE STRENGTH OF AT LEAST 3000 PSI (211 Kgf/cm) IN 28 DAYS WITH A MAXIMUM SLUMP OF 3 IN [76] AT TIME OF PLACING.

5. REINFORCING BARS SHALL CONFORM TO ASTM A615 (SI) GRADE 60 DEFORMED TYPE F_Y = 60000 PSI (4219 Kgf/cm^2).

6. UNLESS OTHERWISE NOTED, CONCRETE COVER FOR REINFORCING BARS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF ACI 318-89 (REV 88).

7. FABRICATION OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" ACI 315-80 (REV86).

8. PROVIDE 3/4" x 45° (19mm x 45°) CHAMFER ON ALL EXPOSED CONCRETE EDGES.

9. FOUNDATIONS HAVE BEEN DESIGNED TO REST ON UNDISTURBED STANDARD SOIL (PER EIA-411-A & RS-222-D) WITH MINIMUM ALLOWABLE NET VERTICAL BEARING CAPACITY OF 2000 PSF (9770 KGF/m). IF UNDESIRABLE SOIL CONDITIONS ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIIFIED.

10. BACKFILLS SHALL BE SUITABLE EXCAVATED MATERIAL OF OTHER SUITABLE MATERIAL COMPACTED IN 6" LIFTS TO 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.

11. GROUND RODS SHALL BE DRIVEN TO DEPTHS AS SHOWN (BELOW PERMANET MOISTURE LEVEL) AND GROUND SYSTEM RESISTANCE MEASURED. THE ANTENNA STRUCTURE SHALL BE CONNECTED TO A GROUNDING SYSTEM CONSISTING OF A NUMBER OF INTERCONNECTED GROUND RODS. THE SYSTEM SHALL MEET THE STANDARDS OF THE UNDERWRITERS LABORATORIES PUBLICATION NO. UL96A FOR LIGHTNING PROTECTION. THE GROUND ROD SYSTEM-TO-EARTH RESISTANCE SHALL NOT EXCEED 1.0 ohm AT ANY TIME DURING THE YEAR.

12. GROUNDING SYSTEM SHOWN IS THE MINIMUM NECESSARY. LOCAL CONDITIONS WILL DICTATE GROUNDING SYSTEM DESIGN.

13. THIS FOUNDATION IS A TYPICAL DESIGN ONLY. CERTIFICATION OF ITS SUITABILITY FOR A PARTICULAR INSTALLATION BY A PROFESSIONAL ENGINEER IS REQUIRED PRIOR TO ITS USE FOR ACTUAL FABRICATION.

14. IF THIS FOUNDATION IS TO BE LOCATED IN AN AREA WHERE THE ANNUAL FROST PENETRATION DEPTH EXCEEDS 15 INCHES (331mm), THE LOCAL BUILDING CODE SPECIFYING A MINIMUM REQUIRED FOUNDATION DEPTH SHOULD BE CONSULTED.

15. A TOLERANCE OF ±1/8" (3mm) APPLIES TO ALL ANCHOR BOLT LAYOUT DIMENSIONS.

16. LEVEL TOP ANCHOR PLATE TO WITHIN ±1/8" (3mm)

17. FOR ELECTRICAL POWER TO ANTENNA, 1 1/2" TO 2 1/2" SIZE CONDUIT RECOMMENDED. TYPE AND DEPTH TO BURY CONDUIT TO BE DETERMINED BY CUSTOMER, IN COMPLIANCE WITH LOCAL CODES. DIRECTION TO ROUTE CONDUIT TO BE DETERMINED BY LOCATION OF COMMUNICATIONS BUILDING/SHELTER. CONDUIT TO EXTEND 6" (MIMIMUM) ABOVE SURFACE OF FOUNDATION SLAB. OPEN ENDS OF CONDUIT TO BE SEALED TO PREVENT MOISTURE AND FOREIGN PARTICAL CONTAMINATION.

18. IFL CONDUIT REQUIRED IF NO OTHER MEANS OF ROUTING CABLES ARE PROVIDED.

19. FOR ROUTING IFL CABLES, 4" SIZE CONDUIT RECOMMENDED. TYPE AND DEPTH TO BURY CONDUIT TO BE DETERMINDED BY CUSTOMER, IN COMPLIANCE WITH LOCAL CODES. LOCATION OF CONDUIT ON FOUNDATION AND DIRECTION TO ROUTE CONDUIT TO BE DETERMINED BY LOCATION OF COMMUNICATIONS BUILDING/SHELTER. CONDUIT TO EXTEND 36" (MINIMUM) ABOVE SURFACE OF FOUNDATION SLAB. ALL BENDS TO BE LARGE RADIUS, MAXIMUM OF TWO BENDS PER RUN. OPEN ENDS OF CONDUIT TO BE SEALED TO PREVENT MOISTURE AND FOREIGN PARTICAL CONTAMINATION.

ORIGINAL

OCT 3 2001

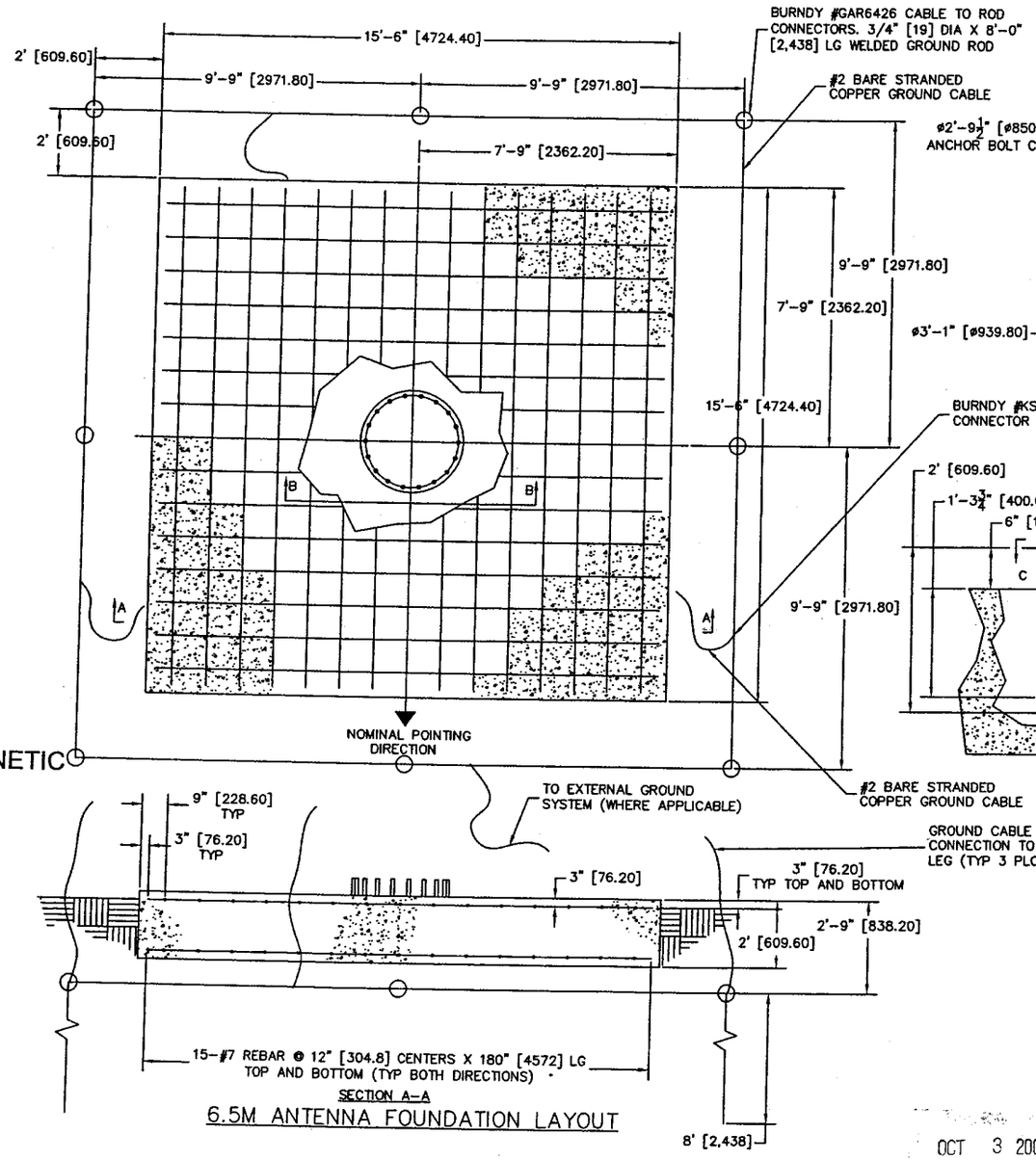
FOUNDATION LAYOUT
6.5 METER ANDREW

ALSO SEE ANDREW DOCUMENT 237603, FOR ADDITIONAL FOUNDATION INFORMATION

SATCOM AREA COMPLEX D

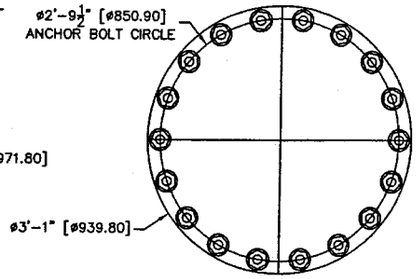
ANGLE PROJECTION	SIZE	CAGE CODE	DRAWING NO.	REV
	B	9U450	B78581	B
FILENAME: 78581-1	SCALE: NONE		SHEET: 6 OF 8	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		

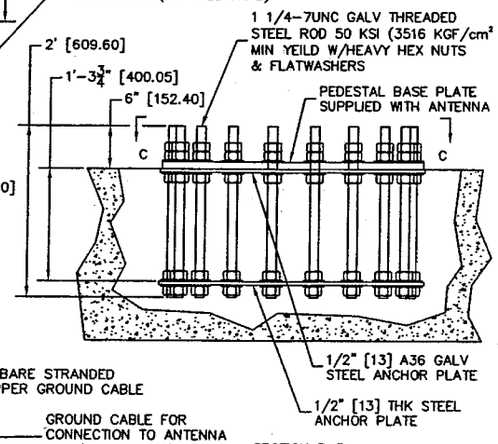


SECTION A-A

6.5M ANTENNA FOUNDATION LAYOUT



SECTION C-C



GROUND CABLE FOR CONNECTION TO ANTENNA LEG (TYP 3 PLCS)

SECTION B-B

TYPICAL 6.5M

AZIMUTH HEADING 175° TRUE
AZIMUTH HEADING 182° MAGNETIC

OCT 3 2001

ORIGINAL

FOUNDATION LAYOUT
6.5 METER ANDREW

ALSO SEE ANDREW DOCUMENT 237603, FOR ADDITIONAL FOUNDATION INFORMATION

SATCOM AREA COMPLEX D

ANGLE PROJECTION	SIZE	CAGE CODE	DRAWING NO.	REV
	B	9U450	B78581	B
FILENAME: 78581-1	SCALE: NONE		SHEET: 7 OF 8	

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		

1. THE X-BAND ANTENNA HAS FOUR PRIMARY SATELLITES
* DSCA II EA, AZ 102.5° TRUE, 109.5° MAGNETIC, EL 10.2°
* DSCS II WA RESERVE, AZ 125.4° TRUE, 132.4° MAGNETIC, EL 35.2°
* DSCS II WA, AZ 136.4° TRUE, 143.4° MAGNETIC, EL 42.3°
* DSCS II EP RESERVE, 246.1° TRUE, 253.1° MAGNETIC, EL 24.6°

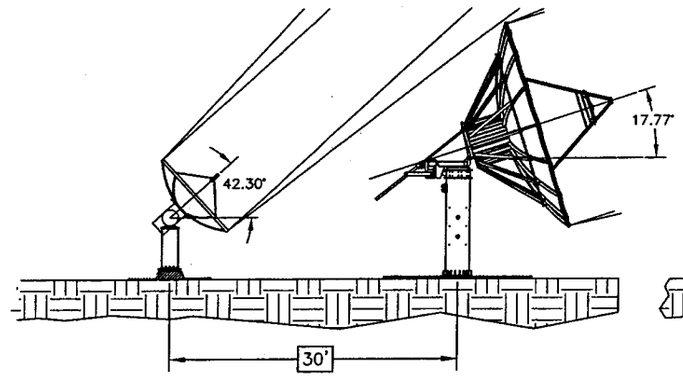
THREE OF THE FOUR X-BAND SATELLITES CAN BE VIEWED WITHOUT REGARD TO THE POSITION OF THE C-BAND ANTENNA. THE EXCEPTION IS THE DSCS II WA, SATELLITE, AZ 136.4° TRUE, 143.4° MAGNETIC, EL 42.3°. WHEN THE C-BAND ANTENNA IS IS POSITIONED TO LOOK AT THE INTELSAT 506 SATELLITE, AZ 115.70° TRUE, 122.7° MAGNETIC, EL 17.77° A MINIMUM DISTANCE IS REQUIRED TO AVOID SIGNAL INTERFERENCE ON THE OTHER SATELLITES. SEE VIEW A.

2. WHEN THE X-BAND ANTENNA IS IN POSITION TO VIEW SATELLITE DSCA II EA, AZ 102.5° TRUE, 109.5° MAGNETIC, EL 10.2°. (SEE VIEW C) A POSSIBLE SIGNAL INTERFERENCE WITH THE TREE LINE MIGHT OCCUR. SIGNAL DOES CLEAR FENCE WITH A 5% MARGIN.

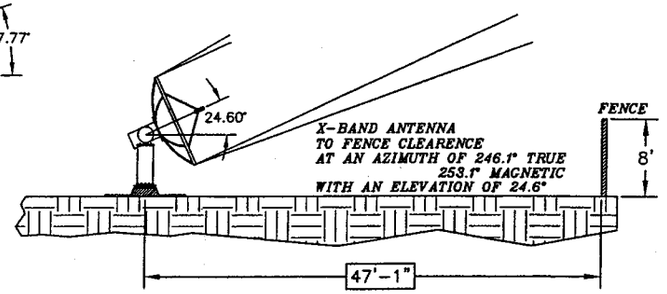
3. FOR ALL OTHER X-BAND SATELLITES NO SIGNAL INTERFERENCE EXISTS. SEE VIEW B.

4. ON THE C-BAND THE TWO WORST CASE DISTANCES BETWEEN THE ANTENNA AND THE FENCE ARE OUTLINED IN VIEW D & E. NO SIGNAL INTERFERENCE EXIST FOR THE C-BAND ANTENNA.

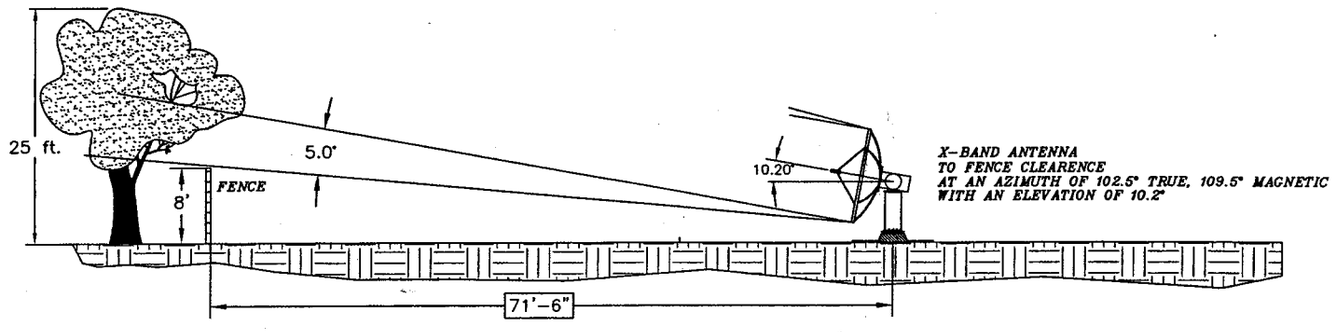
5. VIEW F, SHOWS THE KU-BAND ANTENNA IN RELATION TO THE X & C-BAND ANTENNA. THIS VIEW IS INTENDED TO IDENTIFY ANY SIGNAL INTERFACE BETWEEN THE KU-BAND AND THE X & C-BAND. NO SIGNAL INTERFACE EXISTS. THE X & C-BAND ARE SHOWN FOR REFERENCE ONLY, SINCE THE X-BAND DOES NOT HAVE A SATELLITE AT THIS AZIMUTH.



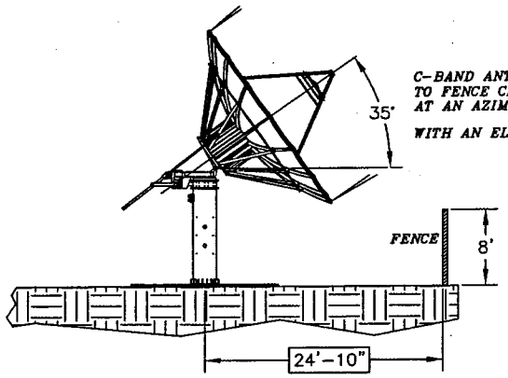
VIEW A



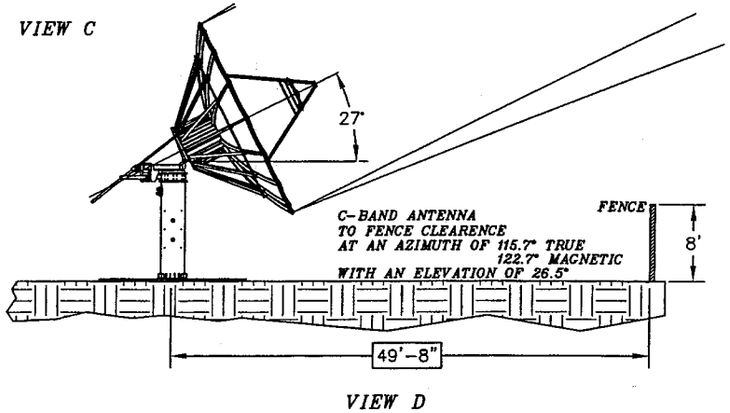
VIEW B



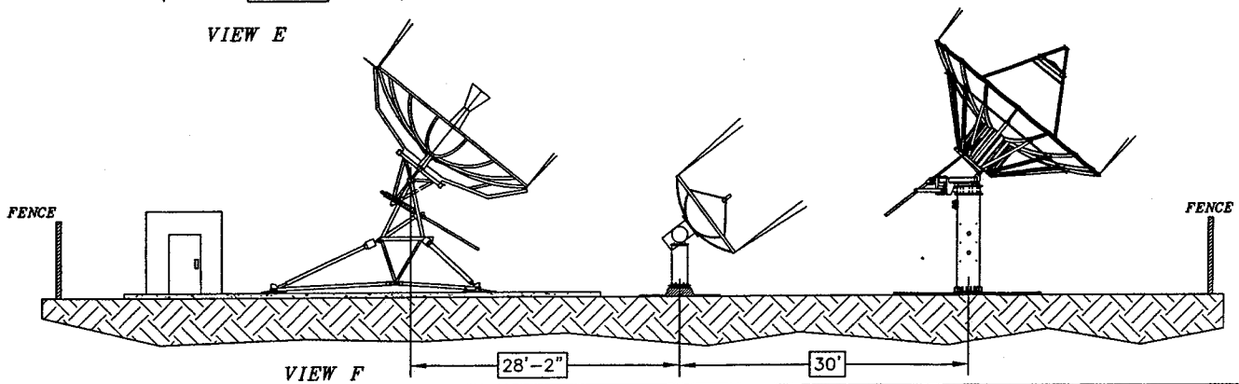
VIEW C



VIEW E



VIEW D



VIEW F

ORIGINAL

OCT 3 2001

SATCOM AREA COMPLEX D

ANGLE PROJECTION	SIZE	CAGE CODE	DRAWING NO.	REV
⌀	B	9U450	B78581	B
FILENAME: 78581-1	SCALE: 1800:1		SHEET: 8 OF 8	