

Concept diagram for power and data infrastructure

GRAPHIC SCALE(S)

DATE	03/22/06
SCALE	95%



Smithsonian Institution

Office of Facilities Engineering and Operations
750 9th Street N.W. Suite 5200
Washington DC 20560-0908

670 MT. HOPKINS ROAD
AMADO, ARIZONA

VERITAS PROTOTYPE
T3 & T4

M3 PNO6037

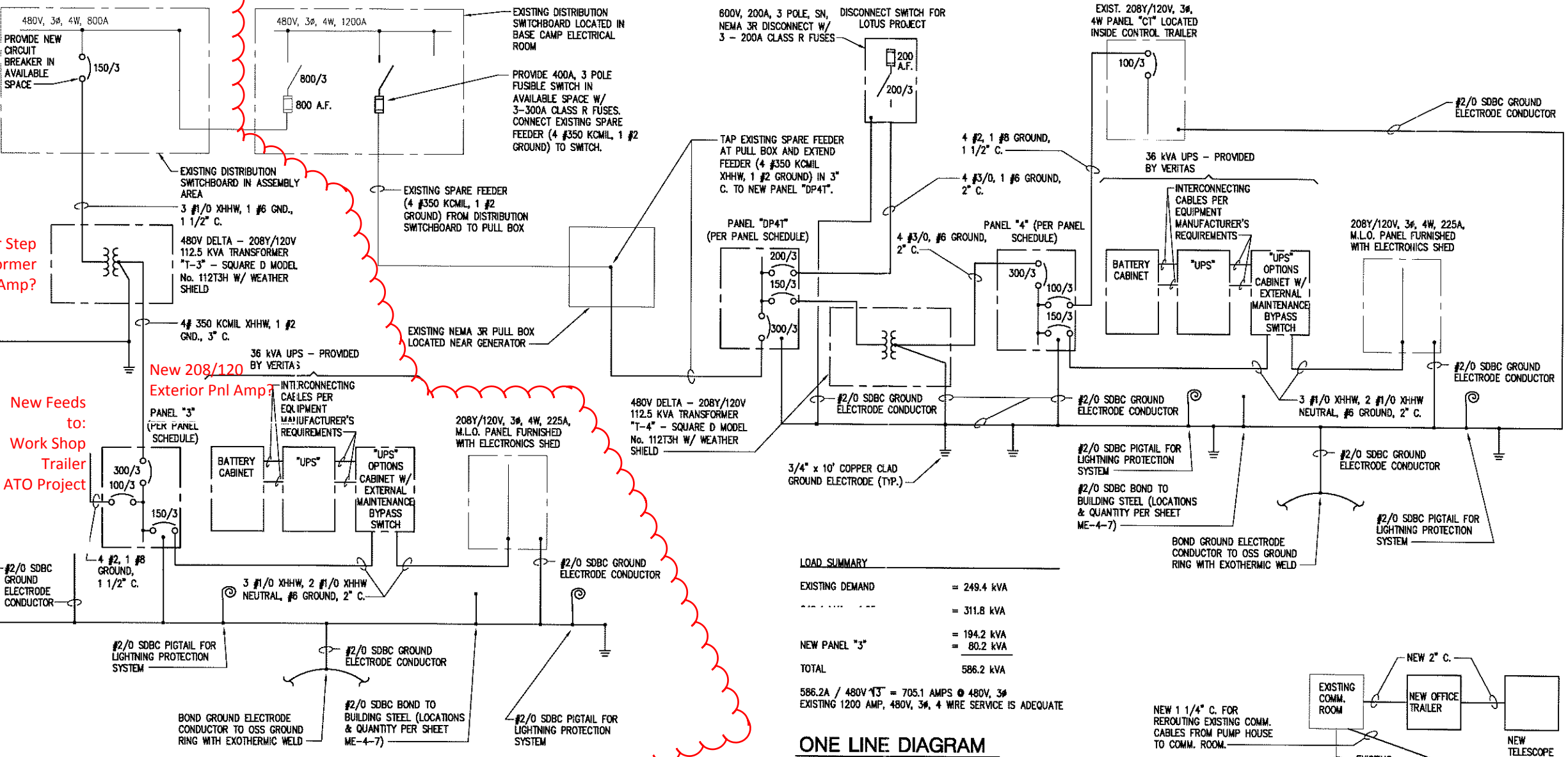
ONE LINE DIAGRAM,
SCHEDULES & DETAILS
ELECTRICAL

RPG	RPG	EBL

SHEET NO.	E	5	08
OF			

New 480/277
Exterior Circuit
Breaker Amp?

New Exterior Step
Down Transformer
480/Amp? to 208/Amp?

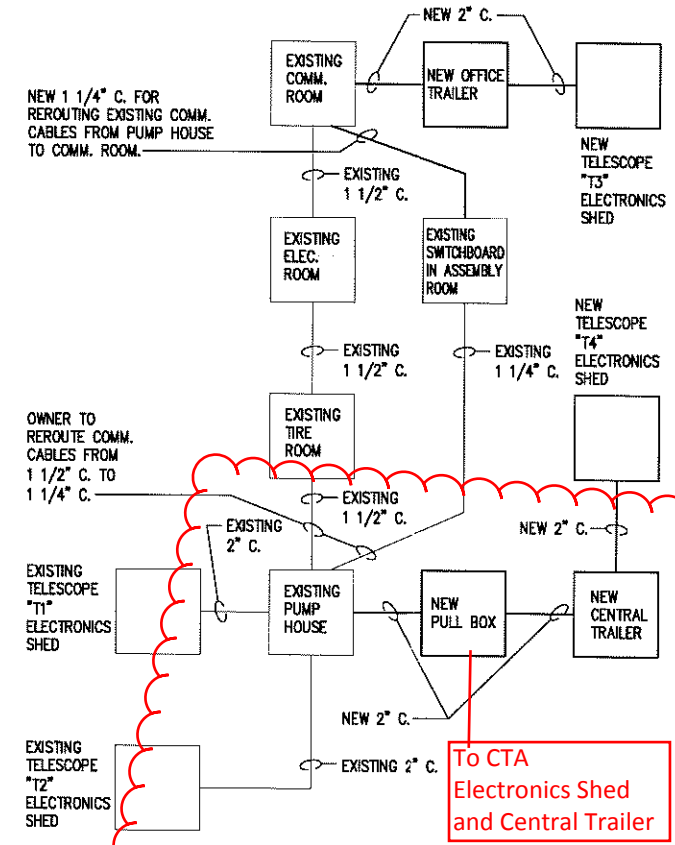


LOAD SUMMARY

EXISTING DEMAND	= 249.4 KVA
	= 311.8 KVA
NEW PANEL "3"	= 194.2 KVA
	= 80.2 KVA
TOTAL	586.2 KVA

586.2A / 480V 13³ = 705.1 AMPS @ 480V, 3Φ
EXISTING 1200 AMP, 480V, 3Φ, 4 WIRE SERVICE IS ADEQUATE

ONE LINE DIAGRAM
NO SCALE



DATA RISER DIAGRAM
NO SCALE

To CTA
Electronics Shed
and Central Trailer

(TYPICAL FOR PANEL "3" AND "4")

TYPE, SQ. D. MOUNTED W/ BOLT-ON BREAKERS
SERVICE, 120/208V, 3Φ, 4W
POLES, 42
LOCATION, OUTSIDE UPS TRAILER
SURFACE, FLUSH

PANEL "3 & 4"

BUS AMPACITY, 400A
MAINS, 300A M.C.B.
NEUTRAL, FULL
AIC, 10,000
CINEMA | BINEMA SRD

CKT. KVA	CB TRIP	WIRE	LOAD NAME	POLE	LOAD NAME	WIRE	CB TRIP	CKT. KVA
ΦA	ΦB	ΦC				ΦA	ΦB	ΦC
4.5	60	3/4	6 HP-1	1	POSITIONER	10	30	2.6
4.5	4.5	3		3				2.6
2.1	30		10 WATER CHILLER	2	POSITIONER CONTROLLER	12	3/4	0.6
2.1	2.1	3		4				0.2
7.0	150	2	1/0 UPS	3	SPARE	12	1/2	0.4
7.0	7.0	3		13	LIGHTS, RECEIPTS - UPS TRAILER	20		1.4
8.0	10	3		14	A/C UNIT (UPS TRAILER)	2		1.4
8.0	8.0	3	PANEL "01" OR "02" FEEDER	1	SPACE			
			SPACE	2				
				21				
				22				
				23				
				24				
				25				
				26				
				27				
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				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				
				40				
				41				
				42				
22.2	22.2	22.2	TOTAL CONNECTED KVA:					
			LOAD SUMMARY PER NEC ART 220					
			CONTINUOUS KVA @ 125%	ΦA	ΦB	ΦC		
			NON-CONTINUOUS KVA (SEE DF @ RIGHT)	25.8	26.2	26.4		
			25% OF HP-1 COMPRESSOR	0.6	0.6	0.6		
			TOTAL PHASE KVA PER NEG	26.4	26.8	27.0		
			TOTAL PHASE AMPS PER NEG	220	223	225		
			TOTAL LOAD PER NEG	80.2				
			DEMAND FACTORS AS NOTED:					
			1. 220-II (LIGHTING)	3.6	4.0	4.2		
			2. 220-IB (RECEIPT)					
			3. 220-IB (HEAT)					
			4. 220-35 (EXIST. BLDG.)					
			① VERIFY POWER REQUIREMENTS FOR A/C UNIT					

TYPE, SQ. D. I-LINE W/ BOLT-ON BREAKERS
SERVICE, 277/480V, 3Φ, 4W
POLES, 42
LOCATION, OUTSIDE UPS TRAILER
SURFACE, FLUSH

PANEL "DP4T"

BUS AMPACITY, 400A
MAINS, 300A M.C.B.
NEUTRAL, FULL
AIC, 10,000
CINEMA | BINEMA SRD

CKT. KVA	CB TRIP	WIRE	LOAD NAME	POLE	LOAD NAME	WIRE	CB TRIP	CKT. KVA
ΦA	ΦB	ΦC				ΦA	ΦB	ΦC
38.0	200	2	3/0 LOTUS PROJECT	1	112.5 KVA XFRMR "T-4" / PANEL "4"	1/0	1/2	26.4
38.0	38.0	3		2				26.8
			SPACE	3				27.0
				4				
				5				
				6				
				7				
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				35				
				36				
				37				
				38				
				39				
				40				
				41				
				42				
38.0	38.0	38.0	TOTAL CONNECTED KVA:					
			LOAD SUMMARY PER NEC ART 220					
			CONTINUOUS KVA @ 125%	ΦA	ΦB	ΦC		
			NON-CONTINUOUS KVA (SEE DF @ RIGHT)	64.4	64.8	65.0		
			25% OF HP-1 COMPRESSOR					
			TOTAL PHASE KVA PER NEG	64.4	64.8	65.0		
			TOTAL PHASE AMPS PER NEG	232	234	235		
			TOTAL LOAD PER NEG	194.2				
			DEMAND FACTORS AS NOTED:					
			1. 220-II (LIGHTING)					
			2. 220-IB (RECEIPT)					
			3. 220-IB (HEAT)					
			4. 220-35 (EXIST. BLDG.)					