

COMMERCIAL SOLAR 61.07 KW PHOTOVOLTAIC SYSTEM

4705 ALLEN ROAD

BAKERSFIELD, CA 93314



BLAND SOLAR & AIR INC.
4303 E. BRUNDAGE LN.
BAKERSFIELD, CA 93307
(661)836-3880

KERN MOSQUITO & VECTOR CONTROL
4705 ALLEN ROAD
BAKERSFIELD, CA 93314

Corr 4-30-19

K18-8607,8608,8610

SHEET INDEX

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- 2.1 - ELECTRICAL SITE PLAN
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- 5 - LABELING

STRUCTURAL DRAWINGS & ENGINEERING CALCULATIONS PROVIDED DONE BY OTHERS

SEE SHEET SO FOR STATEMENT OF SPECIAL INSPECTIONS

SYSTEM COMPONENTS

- 198 BOVLET 310 WATT MODULES
- 6 SOLAR EDGE INVERTERS
- SOLAR RACKING COMPONENTS
- MISC ELECTRICAL COMPONENTS

SYSTEM DESCRIPTION

A 55.74 KW AC SOLAR ELECTRICAL SYSTEM TO BE INSTALLED ON SOLAR CARPORT STRUCTURES. ALL ELECTRICAL COMPONENTS TO FALL WITHIN GUIDELINES OF NATIONAL ELECTRICAL CODE, INCLUDING BUT NOT LIMITED TO ARTICLE 690. PLEASE REFER TO ATTACHED PLANS AND SPEC SHEETS FOR ADDITIONAL INFORMATION. PLANS AND COMPONENTS ADHERE TO THE 2016 CBC, 2016 CRC, 2016 CEC, 2016 CEBC AND 2016 CFC.

CALIFORNIA GREEN BUILDING STANDARD NOTES

1. THE SUSTAINABLE CONSTRUCTION PRACTICES OF THIS PROJECT ARE GOVERNED BY THE CALIFORNIA GREEN BUILDING STANDARDS CODE, 2015 EDITION, HEREAFTER REFERRED TO AS THE CALGREEN CODE OR CGBSC.
2. ADHESIVES, ADHESIVE PRIMERS, AND ADHESIVE BONDING PRIMERS SHALL COMPLY WITH THE VOC LIMITS SET IN CGBSC TABLE 5.504.4.1 AND DIVISIONS 5.504 AND 5.714.
3. SEALANTS, SEALANT PRIMERS, AND CAULKS SHALL COMPLY WITH THE VOC LIMITS SET IN CGBSC TABLE 5.504.4.2 AND DIVISIONS 5.504 AND 5.714.
4. PAINTS AND COATINGS SHALL COMPLY WITH THE VOC LIMITS SET IN CGBSC TABLE 5.504.4.3 AND DIVISION 5.504.4.3

DESIGN CRITERIA AND LOADS

PLANS COMPLY WITH 2016 CBC

DESIGN FLOOR LIVE LOAD:

N/A (Roof-Mounted Structure)

DESIGN ROOF LIVE LOAD:

20 psf (Unreduced)

DESIGN SNOW LOAD:

Ground Snow Load, P_g : 0 psf (Elevation = 362 ft. < 1500 ft. limit)

DESIGN WIND LOAD:

Risk Category: II (All structures not in categories I, III, or IV)

Main Wind Force Resisting System:

Ultimate Design Speed, V_{ult} : 110 mph
Nominal Design Speed, V_{nom} : 85 mph
Exposure Category: C
Internal Pressure Coefficient: 0.0 (Open structure)
Analysis Method: Directional Procedure

Components and Cladding:

Design Wind Pressure, q_r : 22.53 psf

DESIGN DEAD LOAD:

Structure: 2.77 psf
Solar system: 2.77 psf

DESIGN SEISMIC LOAD:

Risk Category: II (All structures not in categories I, III, or IV)
Importance Factor, I_e : 1.0 (Risk Category II)

Mapped Spectral Response Acceleration Parameters:

Short Period, S_s : 1.029
1-Second Period, S_1 : 0.390

Site Class: D (Default)

Design Spectral Response Acceleration Parameters:

Short Period, S_{ps} : 0.747
1-Second Period, S_{p1} : 0.421

Design Category:

D

Basic Seismic Force Resisting System:

Ordinary Steel Moment Frame

Design Base Shear, V :

1162.33 lb (Per Column)

Seismic Response Coefficient, C_s :

0.597

Response Modification Coefficient, R :

1.25

Analysis Procedure:

Equivalent Lateral force

GEOTECHNICAL INFORMATION:

Design Load Bearing Value:

Vertical: 1500 psf
Lateral: 100 psf / ft

FLOOD DESIGN DATA:

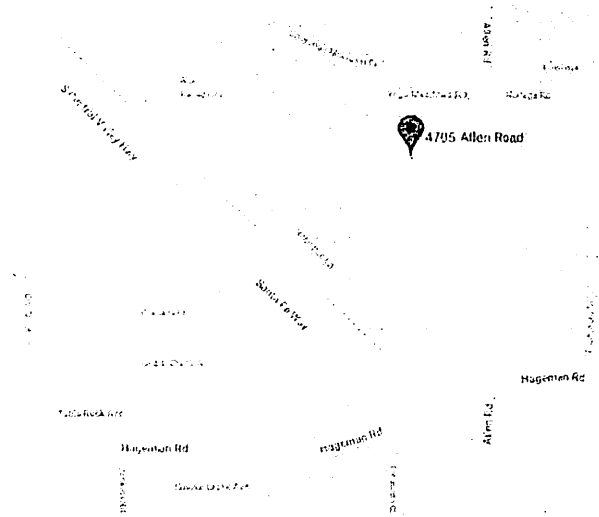
Flood Height: 0.0 ft (Not in a flood hazard zone)

OCCUPANT LOAD OF STRUCTURES:

Occupant Load
Structure 2: 7
STRUCTURE 2: 14

AREA ANALYSIS		
STRUCTURE	1 & 2	3
DESCRIPTION OF USE	1=OFFICES/ 2=CARPORT	CARPORT
OCCUPANCY CLASSIFICATION	1=TYPE B/ 2=TYPE U	TYPE U
CONSTRUCTION TYPE	1 & 2 = RB	RB
SPRINKLERS	NO	NO
PROPOSED AREA/HEIGHT/ # OF STORIES	7315 SQFT/15'-7"/1	2816 SQFT/15'-7"/1
ALLOWABLE AREA/HEIGHT/ # OF STORIES	8500 SQFT/55'-0"/2	8500 SQFT/55'-0"/2
MIXED OCCUPANCY	SEPARATED	N/A

MAXIMUM TOTAL BUILDING AREA (7315) / ALLOWABLE AREA (8500) = .86



SITE LOCATION

APPROVED
FOR ZONE REQUIREMENTS ONLY
Kern County Planning & Natural Resources
BY: [Signature]
DATE: 12/06/18
FOR: [Signature]



[Signature]
588565

NOTES:

TITLE SHEET

DATE: 12/06/18

REV: Δ - 02/06/19

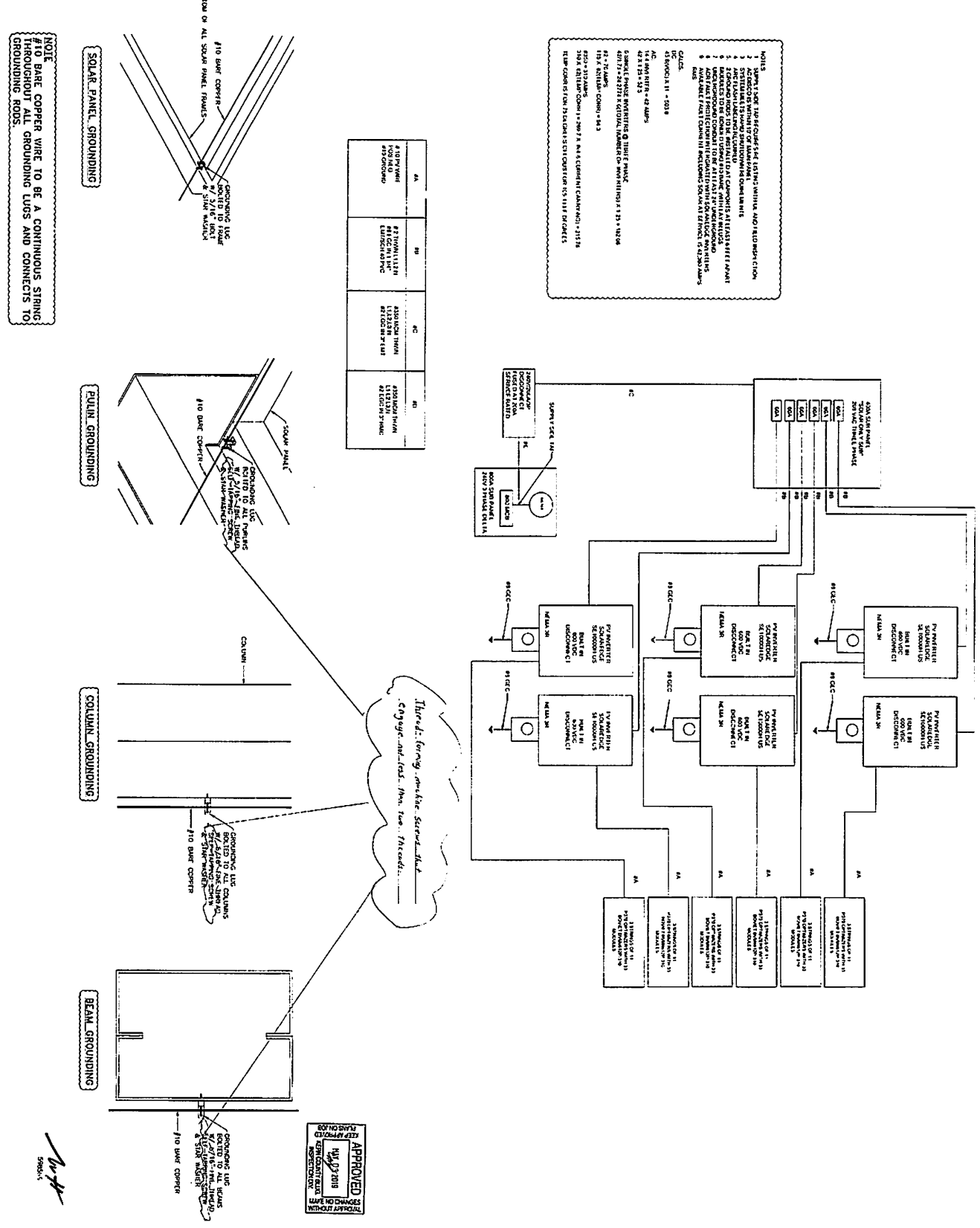
PLAN CHECK COMMENTS

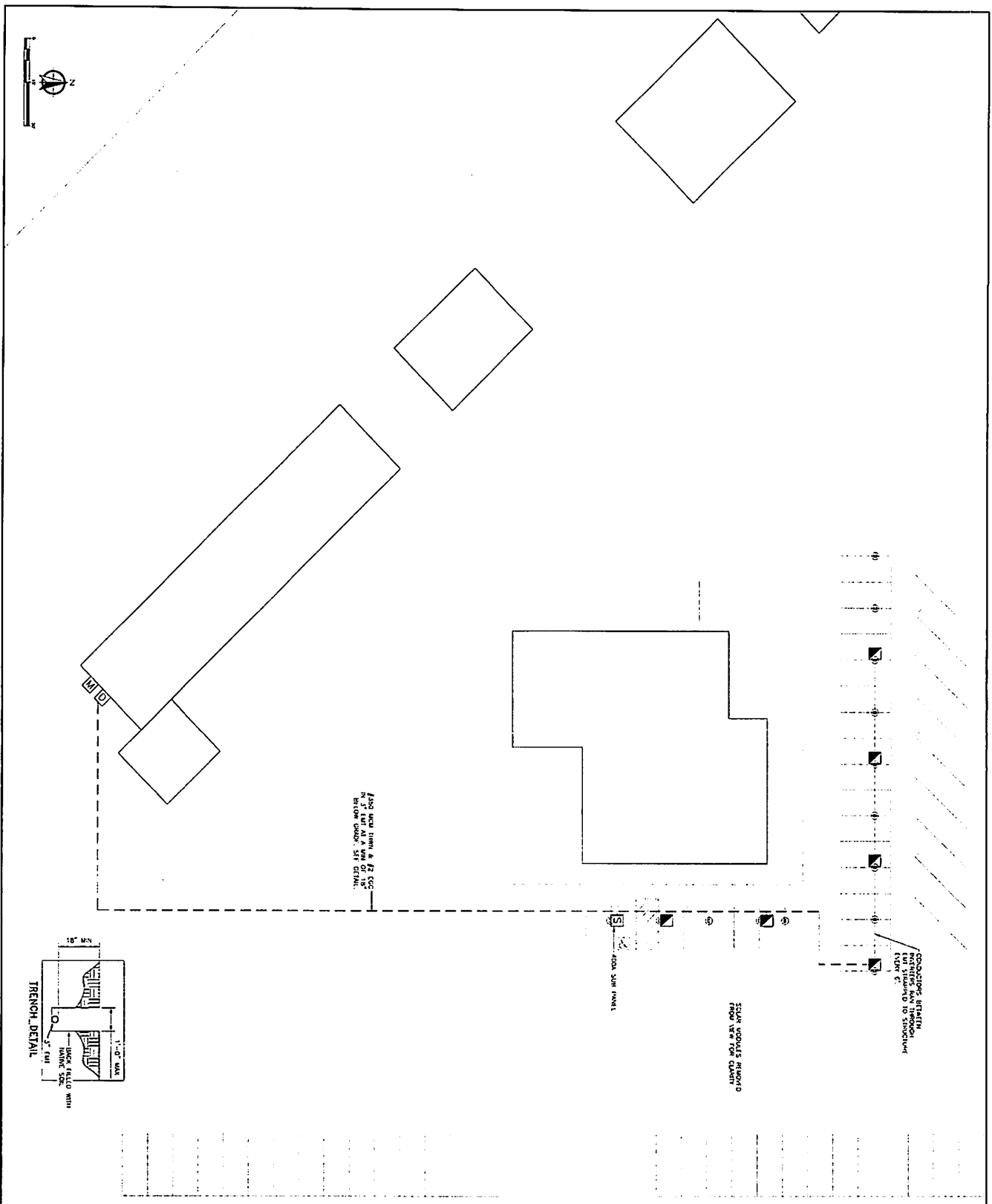
REV: Δ - 04/28/19

PLAN CHECK COMMENTS

KERN MOSQUITO & VECTOR CONTROL
 4705 ALLEN ROAD
 BAKERSFIELD, CA 93314

NOTES:
 ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA ELECTRICAL CODE AND THE NATIONAL ELECTRICAL CODE.
 DATE: 12/06/18
 DPT BY: NH
 REV: A - 04/29/19
 PLAN CHECK COMMENTS





APPROVED
DATE: 11/19/18
BY: RAL

NOTES:

KERN MOSQUITO & VECTOR CONTROL
4705 ALLEN ROAD
BAKERSFIELD, CA 93314

BLAND
BLAND SOLAR & AIR INC.
4305 E. BROADWAY, SUITE 107
BAKERSFIELD, CA 93307
(805) 335-5880

LEGEND

- - RANTIER
- - MAIN SERVICE PANEL
- ⊞ - SUB PANEL
- ⊞ - DISCONNECT
- HENCHY/CONDUIT

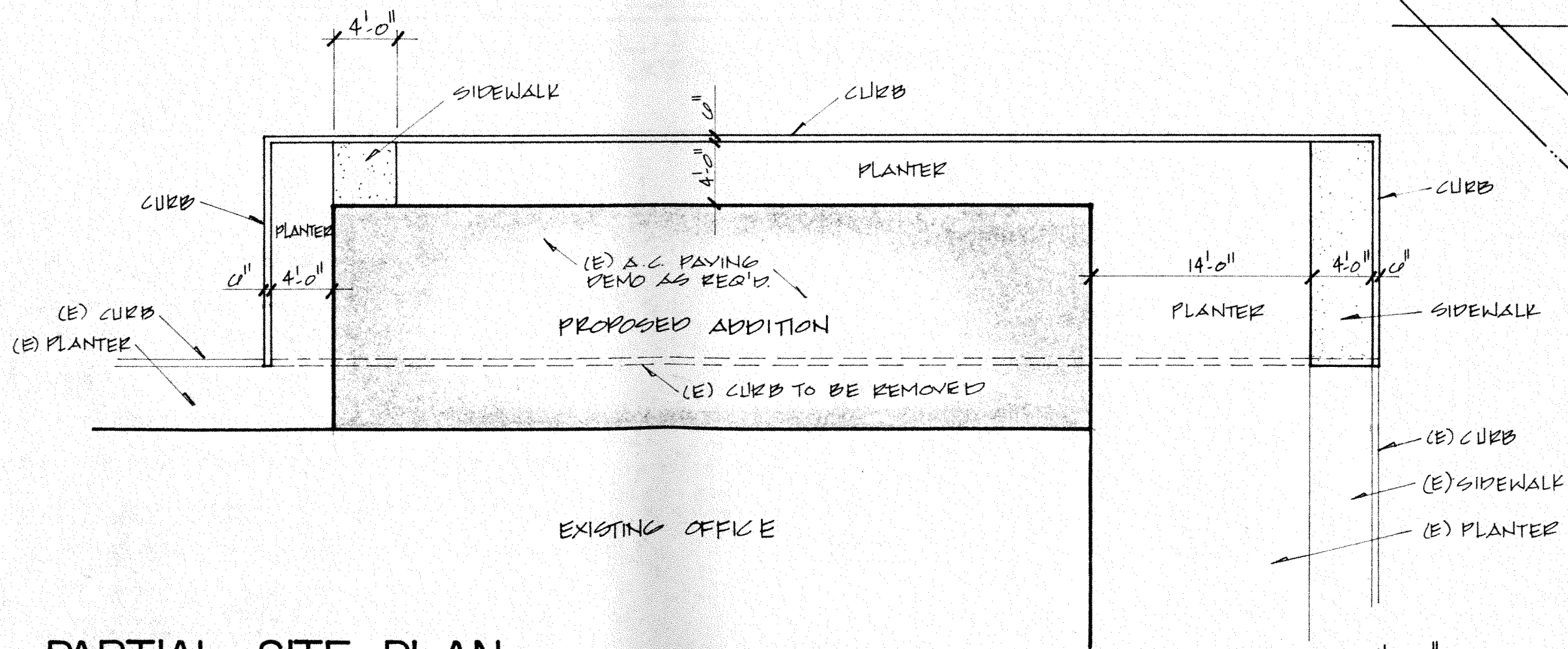
SITE PLAN

DATE: 11/19/18
BY: RAL

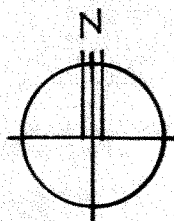
REV: A - 04/01/19
PLAN CHECK COMMENTS

REV: A - 04/29/19
PLAN CHECK COMMENTS

2.1

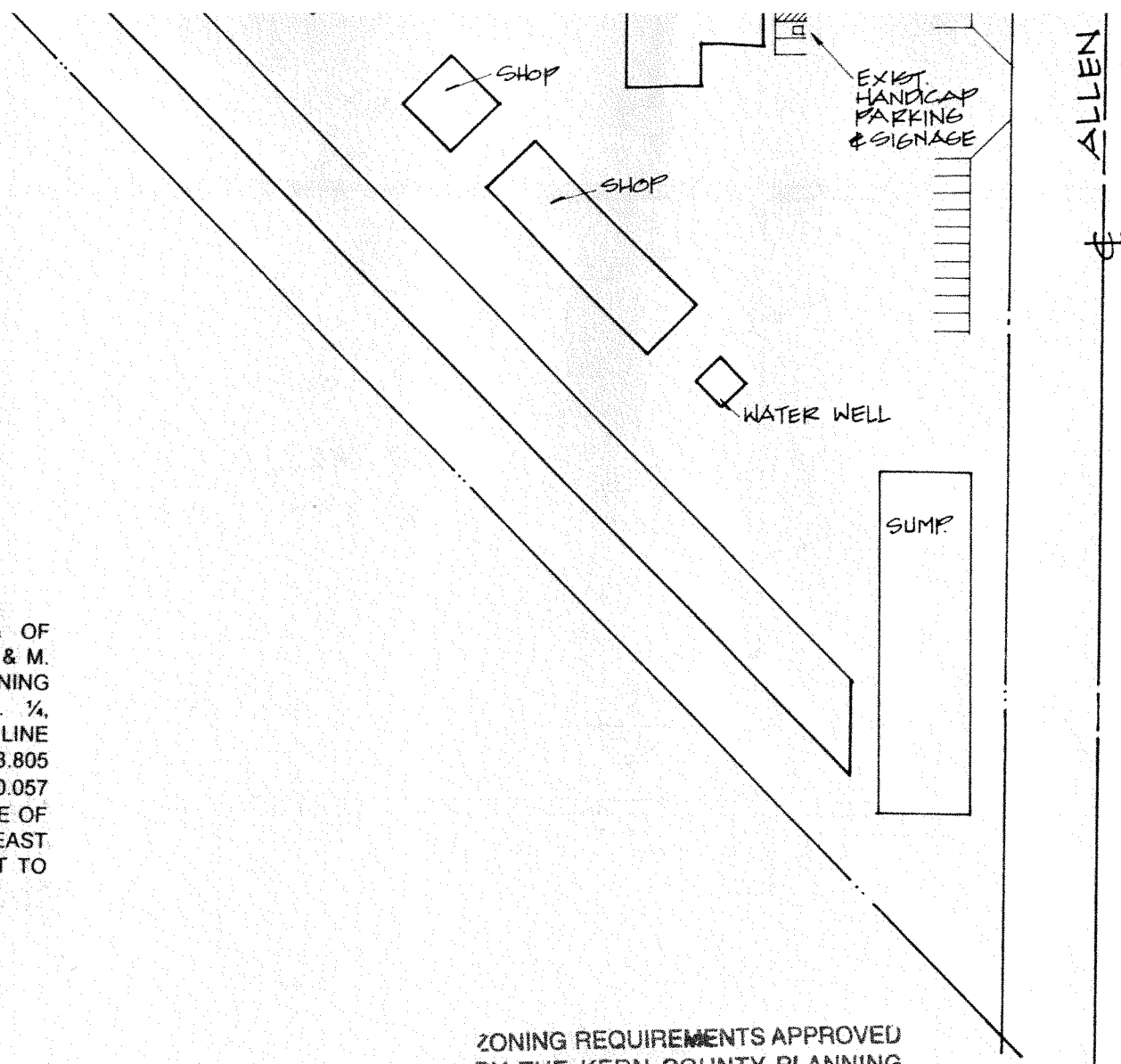


1/8" = 1'-0"



PARTIAL SITE PLAN

ROPER
 ITERED
 FT AND
 D SOIL,
 SIMILAR

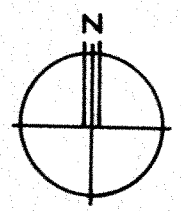


LEGAL DESCRIPTION
 THAT PORTION OF THE S.E. ¼ OF SECTION 14, T 295, R 26 E, M.D.B. & M. DESCRIBED AS FOLLOWS: BEGINNING AT N.E. CORNER OF SAID S.E. ¼, THENCE ALONG THE NORTH LINE THEREOF, S. 89° 53' 25" W. 1508.805 FEET; THENCE S.45° 15' 00" E. 2130.057 FEET TO A POINT ON THE EAST LINE OF SAID S.E. ¼; THENCE ALONG SAID EAST LINE N.00° 09' 00" W. 1502.485 FEET TO THE POINT OF BEGINNING.

ZONING REQUIREMENTS APPROVED BY THE KERN COUNTY PLANNING DEPARTMENT PER MEMO DATED: 1/25/99 AND PER ATTACHED CONDITIONS

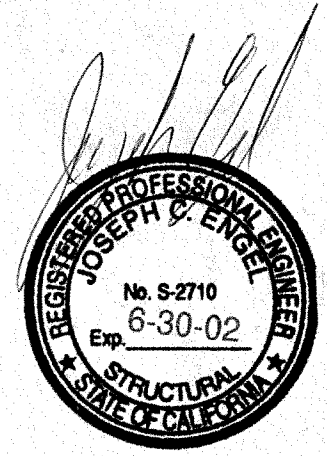
APPROVED
 FEB 08 1999
 KERN COUNTY BLDG. INSPECTION DEPT.
 KEEP APPROVED PLANS ON JOB
 MAKE NO CHANGES WITHOUT APPROVAL

DRAINAGE APPROVED
 ENGINEERING AND SURVEY SERVICES DEPARTMENT
 BY WDM DATE 2-10-99
 REF. GRAD 77017



SITE PLAN

1" = 100.00'



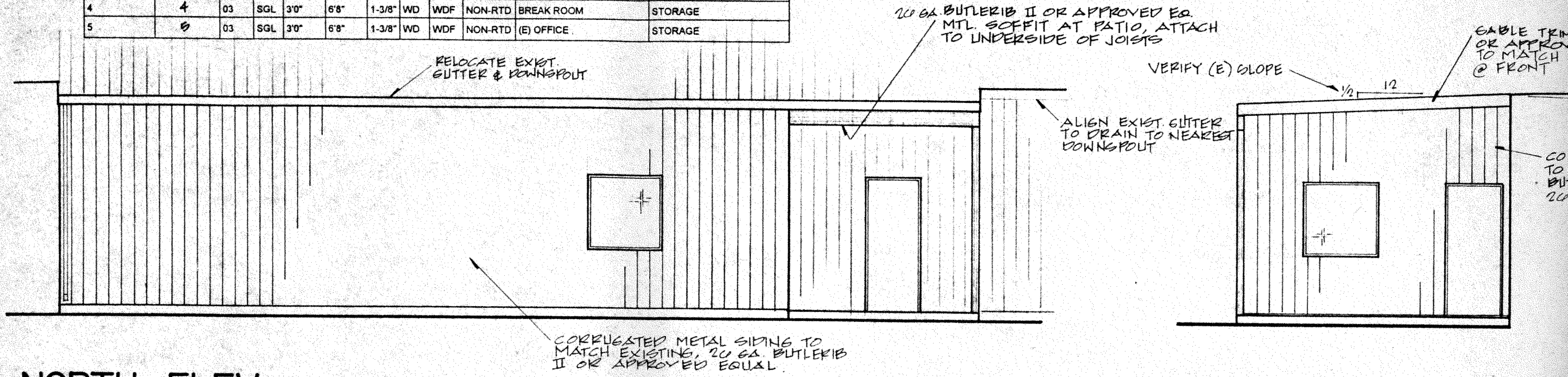
JAN 21 1999

71809

DATE	REVISIONS	ENGEL & COMPANY <i>Engineers</i> 4009 UNION AVENUE BAKERSFIELD, CA 93305 (805) 327-7025	DRAWN M.A.F.	OFFICE ADDITION FOR: KERN MOSQUITO AND VECTOR CONTROL DISTRICT 4705 ALLEN ROAD		SHEET NO. A-1 OF 1
			DATE 3-12-98			
			CHECKED			
			APPROVED			

Door Schedule

MARK	DOOR NO	HWSET	MODE	WIDTH	HEIGHT	THICK	DOOR	FRAME	RATING	OUTSIDELOCATION	INSIDELOCATION
1	1	01	SGL	3'0"	6'8"	1-3/4"	HMD	HMF	NON-RTD	PATIO	BREAK ROOM
2	2	02	SGL	3'0"	6'8"	1-3/8"	WD	WDF	NON-RTD	HALL	BREAK ROOM
3	3	03	SGL	3'0"	6'8"	1-3/8"	WD	WDF	NON-RTD	HALL	(E) STORAGE
4	4	03	SGL	3'0"	6'8"	1-3/8"	WD	WDF	NON-RTD	BREAK ROOM	STORAGE
5	5	03	SGL	3'0"	6'8"	1-3/8"	WD	WDF	NON-RTD	(E) OFFICE	STORAGE



NORTH ELEV.

WEST ELEV.

GENERAL NOTES

1994 UNIFORM BUILDING CODE GOVERNS DESIGN AND CONSTRUCTION. THESE GENERAL NOTES SHALL APPLY TO ALL SHEETS IN THIS SET OF PLANS.

SAFETY REGULATIONS - CALIF. ADMIN. CODE, TITLE 8, GENERAL SAFETY ORDERS ("CAL OSHA") IS APPLICABLE TO THE CONSTRUCTION OF THIS PROJECT AND PROVISIONS THEREOF MUST BE FOLLOWED. ENGEL & COMPANY ENGINEERS IS NOT RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION, NOR FOR SAFETY ON THE JOBSITE. THESE RESPONSIBILITIES ARE INTENDED TO BE AND TO REMAIN SOLELY THOSE OF THE BUILDER.

ALL DIMENSIONS WHICH ARE DEPENDENT ON EXISTING CONDITIONS SHALL BE FIELD VERIFIED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

FOUNDATION DESIGN IS BASED ON UBC TABLE NO. 18-I-A, CLASS 4 MATERIAL. BEARING FOUNDATIONS SHALL BE PLACED AT A DEPTH OF AT LEAST 12" INTO NATURAL UNDISTURBED SOIL OR COMPACTED (90% MIN.) FILL.

CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 2500 PSI MINIMUM IN 28 DAYS. USE NO MORE THAN 7.6 GAL. OF WATER PER SACK OF CEMENT.

CRACK CONTROL IN CONCRETE SLABS - AT OWNER'S OPTION. RECOMMENDED SPACING OF CONTROL JOINTS: NOT MORE THAN 20' O.C. BOTH WAYS.

REINFORCING STEEL SHALL BE INTERMEDIATE GRADE (FY=40,000 PSI MINIMUM) DEFORMED BARS CONFORMING TO ASTM A615, GRADE 40. SPLICES SHALL LAP A MINIMUM OF 30 DIAMETERS IN CONCRETE.

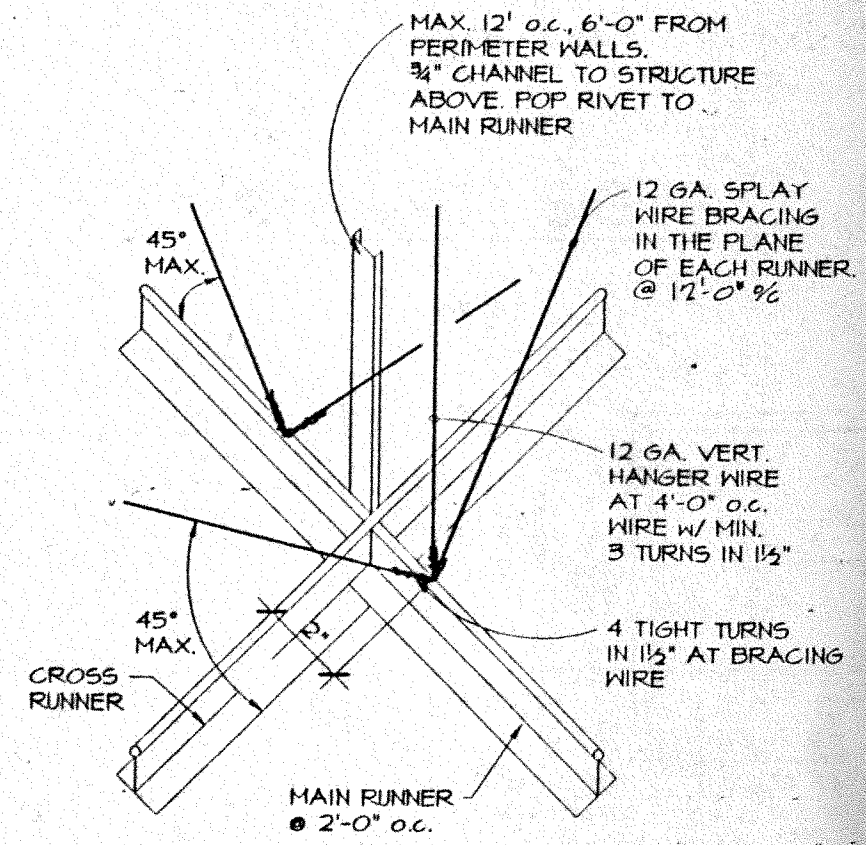
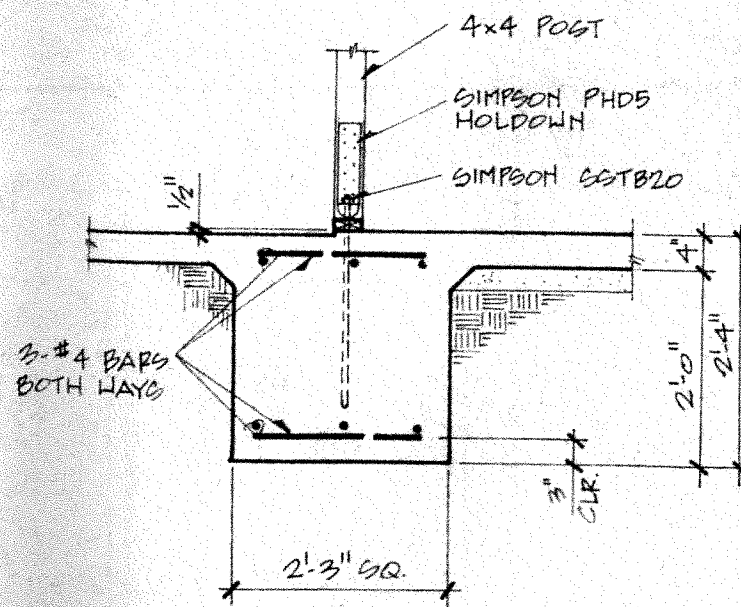
WELDED WIRE FABRIC SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A185. IT SHALL BE INSTALLED IN AS LONG LENGTHS AS PRACTICABLE AND MUST LAP AT LEAST ONE FULL MESH AT SIDES AND ENDS WHERE PIECES JOIN.

LUMBER - BEAMS, HEADERS, AND POSTS ARE TO BE NO. 1 (OR BETTER) D.F. ALL OTHER WOOD FRAMING IS TO BE NO. 2 (OR BETTER) D.F. WOOD SILL PLATES ON CONCRETE SHALL BE PRESSURE TREATED D.F. SILL BOLTS SHALL BE SPACED AS SHOWN ON THE PLANS AND WITHIN 12" OF THE ENDS OF EACH SILL PIECE. NAILING OF LIGHT FRAMING IS TO BE DONE IN ACCORDANCE WITH TABLE 23-I-Q, UBC 1994. BOLT HOLES SHALL BE 1/16" LARGER IN DIAMETER THAN THE BOLT. PLACE CUT WASHER UNDER HEAD AND NUT BEARING ON WOOD.

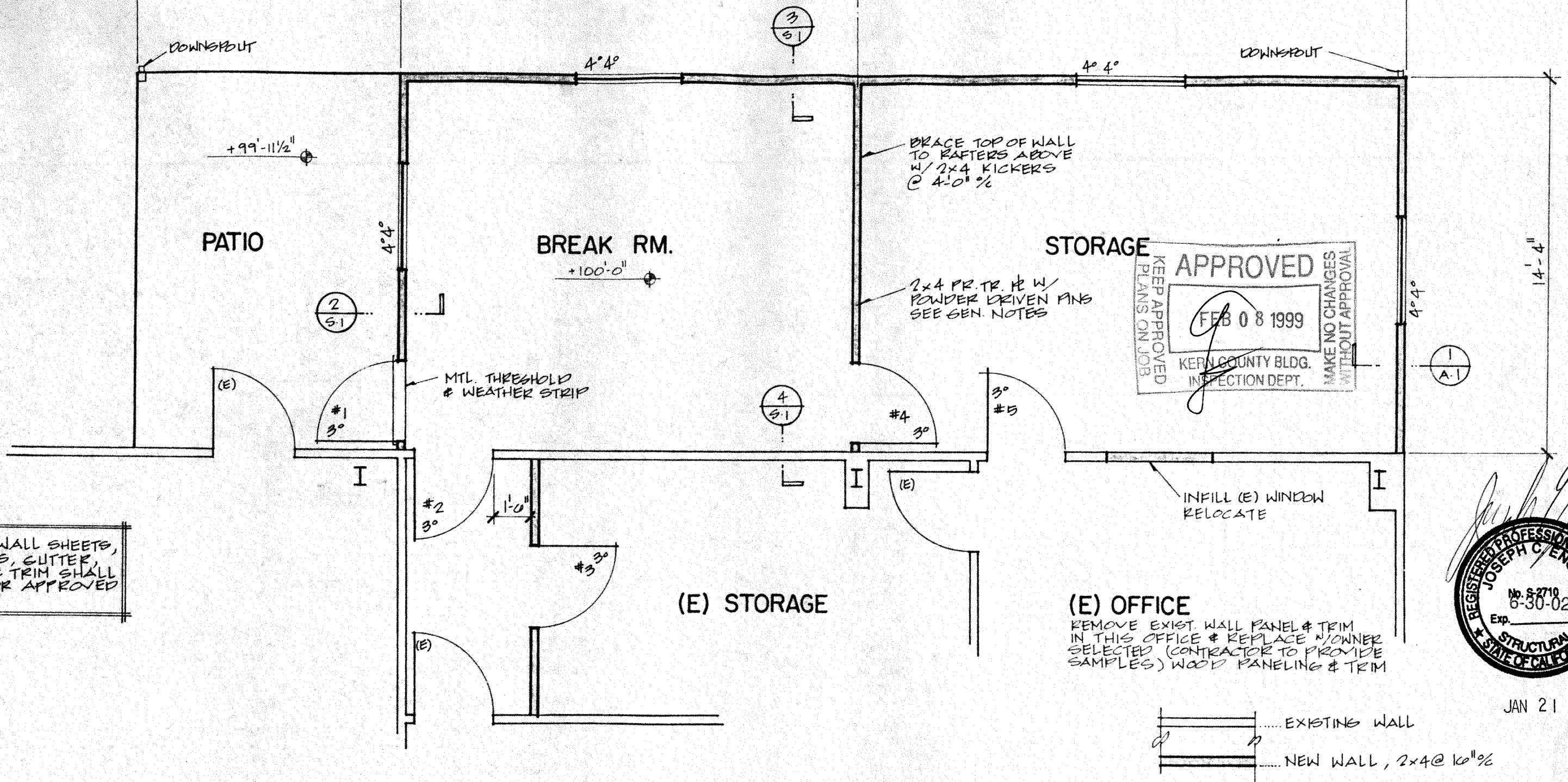
PLYWOOD SHEAR WALLS SHALL BE 3/8" UNSAIDED DOUGLAS FIR PLYWOOD, A.P.A. RATED EXPOSURE I, C-D INTERIOR WITH EXTERIOR GLUE. NAIL WITH COMMON NAILS. SEE SHEAR WALL SCHEDULE FOR NAILING.

POWDER ACTUATED PINS IN WOOD SILLS SHALL BE HILTI DN2936 (OR EQUAL) WITH 1 3/8" DIAMETER METAL WASHER. TWO PINS SHALL BE PLACED 6" AND 10" RESPECTIVELY FROM EACH END OF SILL PLATES. MAXIMUM SPACING BETWEEN PINS SHALL BE 18" O.C. DO NOT INSTALL PINS UNTIL THE CONCRETE HAS CURED FOR AT LEAST 7 DAYS AND HAS A MINIMUM STRENGTH OF 2000 PSI. PINS ARE .145" (MIN.) DIAMETER AND MUST PENETRATE THE CONCRETE AT LEAST 1 1/8".

ALL PLYWOOD SHEATHING SHALL BE SUPPORTED ON FRAMING MEMBERS BY FULL OR PARTIAL BLOCKING.



NOTE 1 WIRE SIZE SHOWN IS FOR ACOUSTICAL TILE AND LAY-IN PANEL. SYSTEMS WEIGHING NOT MORE THAN 4 LB/# INCL. LIGHT FIXTURES. INCREASE WIRE SIZE PER UBC TABLE 23-I-Q.



JAN 21 1999

CEILING SHEETS, WALL SHEETS, FLOOR SHEETS, CUTTER, TRIM & TRIM SHALL BE AS SHOWN OR APPROVED

FLOOR PLAN

1/4" = 1'-0"

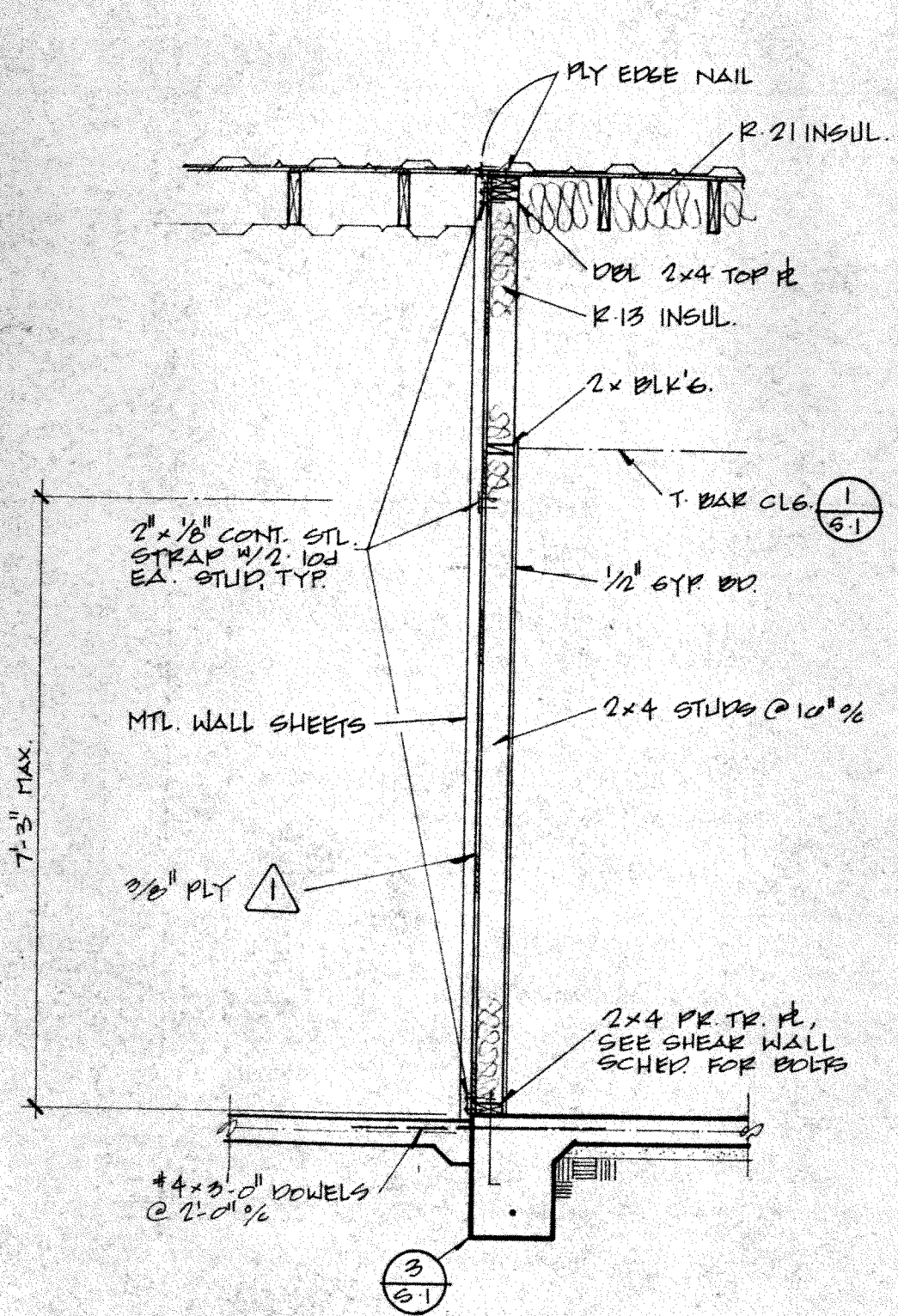
		ENGEL & COMPANY <i>Engineers</i> 4009 UNION AVENUE BAKERSFIELD, CA 93305 (805) 327-7025	DRAWN	M.A.P.	OFFICE ADDITION			SHEET NO.	
			DATE	3-12-98	FOR:			KERN MOSQUITO AND VECTOR CONTROL DISTRICT 4705 ALLEN ROAD	S-1 OF 1
			CHECKED						
			APPROVED						
DATE	REVISIONS								

9924

NOTE: FOR ADDITIONAL NOTES AND REQUIREMENTS, SEE THE PROJECT SPECIFICATION MANUAL.

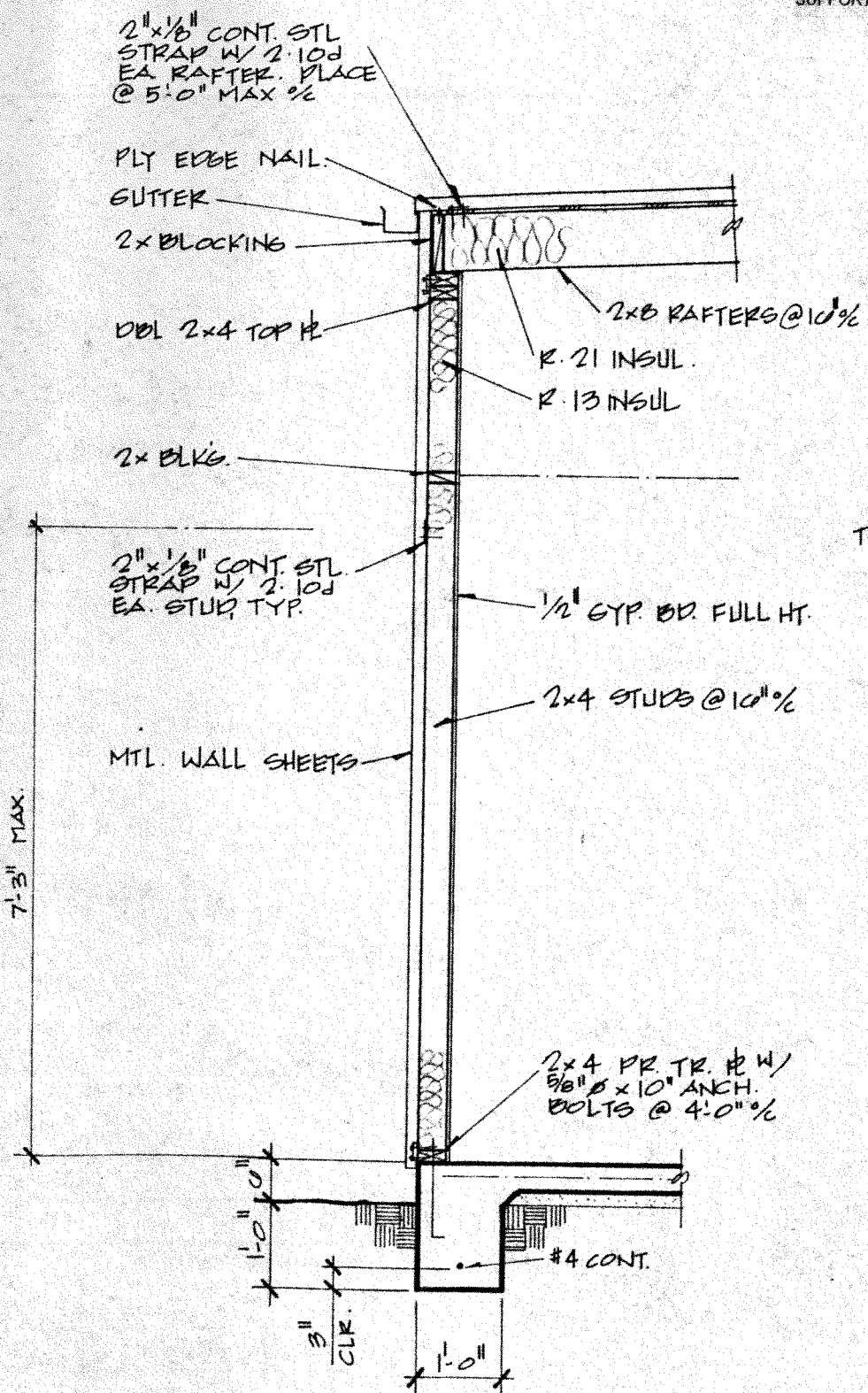
NOTE: ALL EXTERIOR PAINTING BY OWNER

1. NAIL PLYWOOD WITH NAILS AND SPACING AS SHOWN AT PANEL EDGES. AT INTERMEDIATE FRAMING USE SHOWN AND A SPACING OF 12" O.C. BLOCK ALL UNSUPPORTED EDGES. USE COMMON NAILS.
2. WALL SHEATHING ON SHEAR WALLS SHALL BE CONTINUOUS FROM SILL PLATE TO DOUBLE TOP PLATE, TY
3. SEE GENERAL NOTES FOR PLYWOOD SHEATHING.
4. ANCHOR BOLTS FOR THE 2X PRESSURE TREATED SILL PLATE SHALL BE 10" LONG TYPICAL, UNLESS NOTE
5. NAIL 1/2" GYPSUM BOARD WITH COLLIER NAILS AT THE SPACING SHOWN ABOVE AT EDGES AND AT INTERMEDIATE SUPPORTS. UNSUPPORTED EDGES NEED NOT BE BLOCKED.



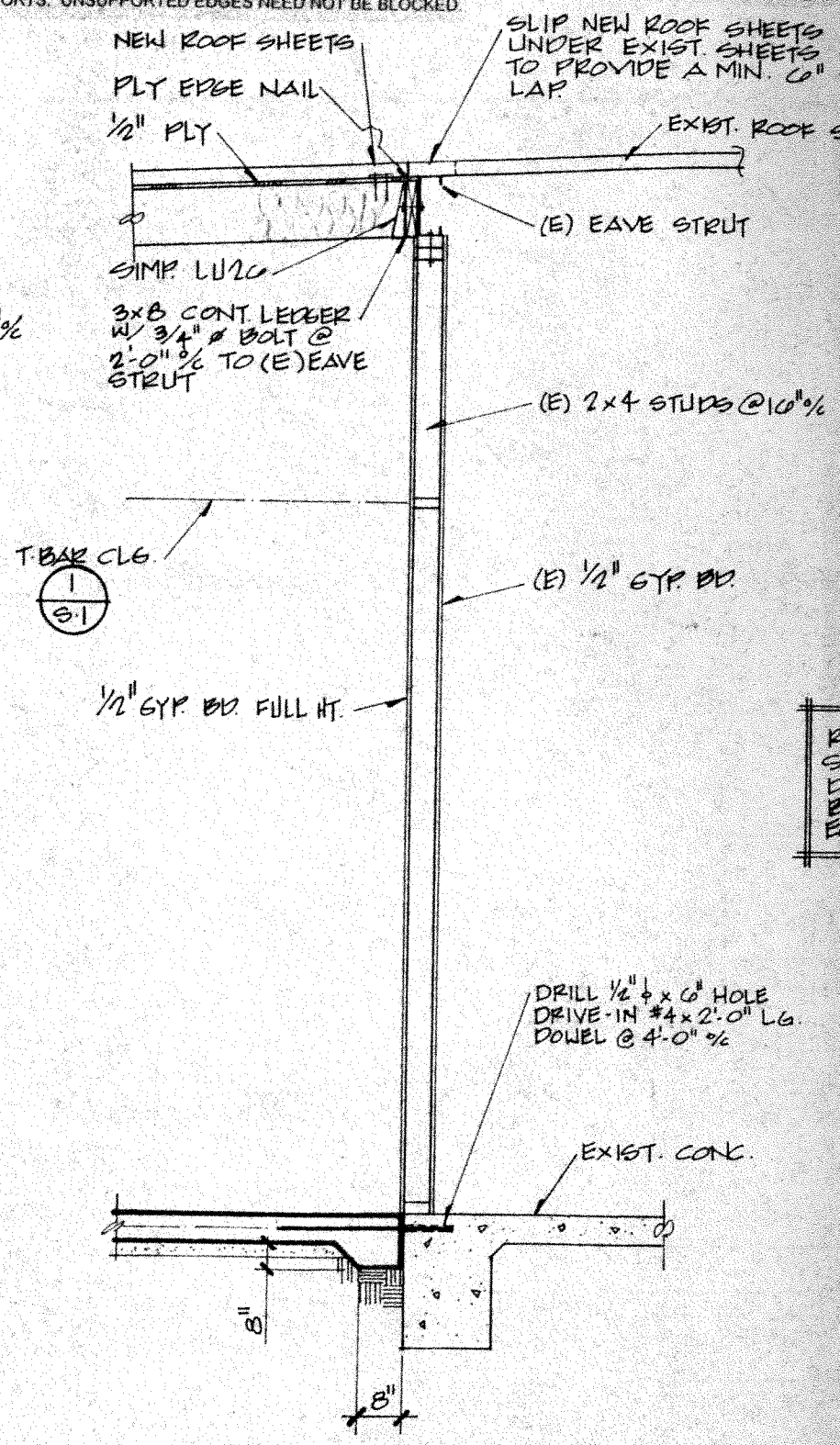
2 SECTION

1/2" = 1'-0"



3 SECTION

1/2" = 1'-0"



4 SECTION

1/2"

3/4" GAS TO CONNECT
TO EXISTING 2" GAS
FIELD VERIFY LOCATION.

3/4" GAS RISE THRU
ROOF TO UNIT W/GAS
COCK.

DAY & NIGHT #589A024
2 TON GAS HEAT
ELECTRIC COOL,
208V, 1 ϕ , 15 FLA. w/ELECT
OUTLET.
3/4" COND. DROP
THRU ROOF.

CONDENSATE
'P' TRAP

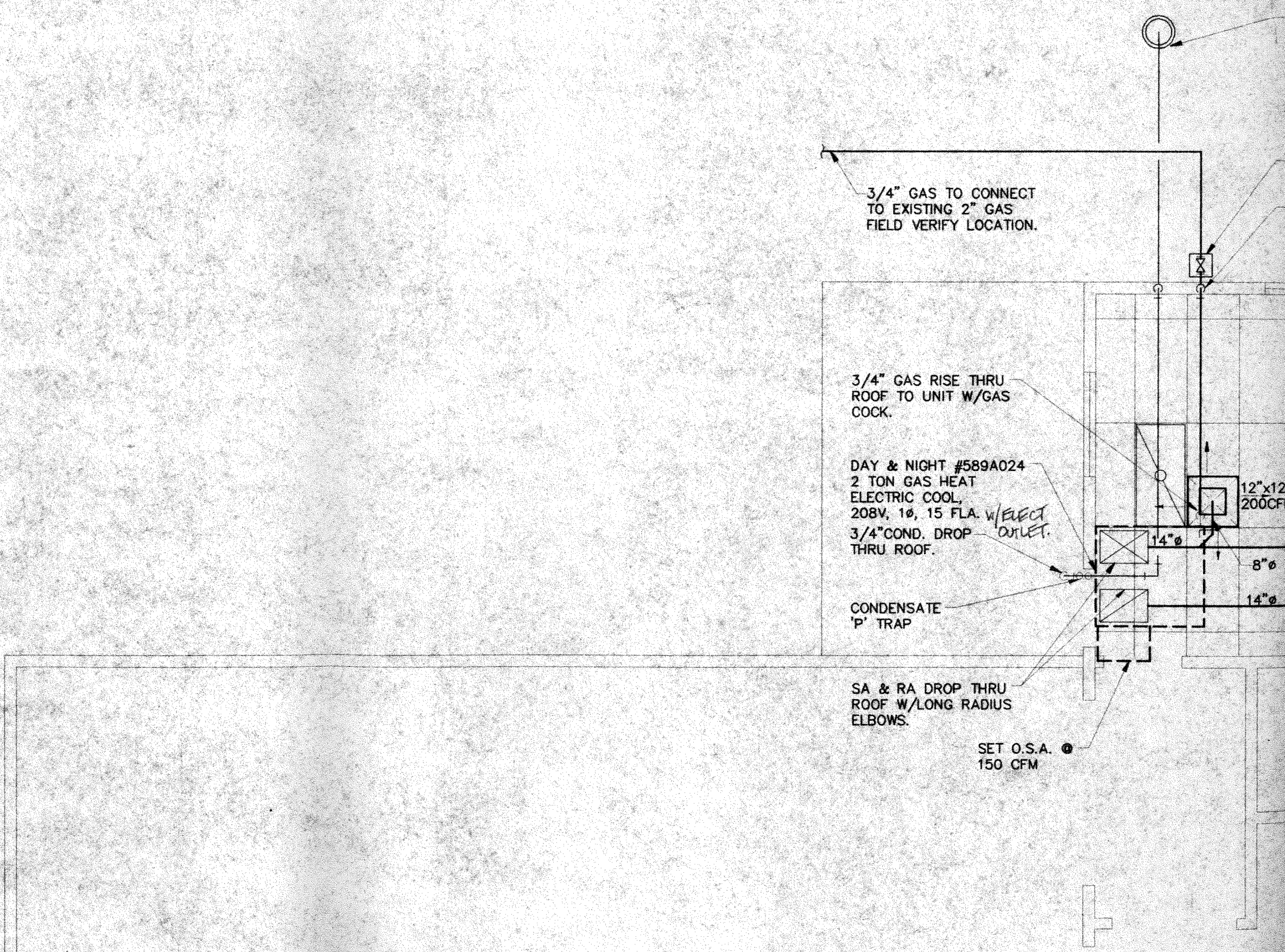
SA & RA DROP THRU
ROOF W/LONG RADIUS
ELBOWS.

SET O.S.A. ●
150 CFM

12"x12"
200CF

8" ϕ

14" ϕ

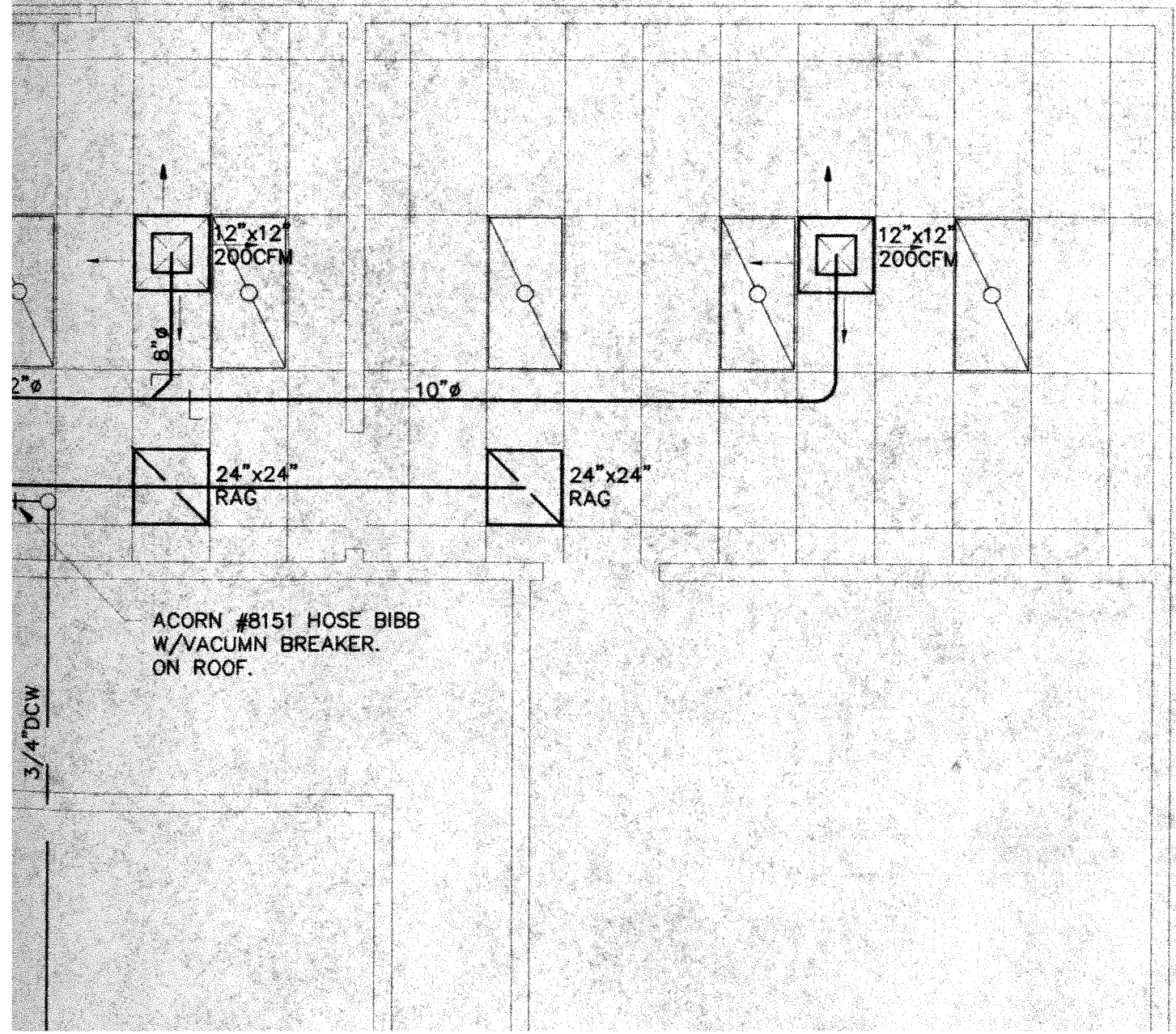


REVISIONS

4" CONDENSATE DRAIN
LL @ ROCK POCKET
LD VERIFY LOCATION

4" GAS S.O.V IN
RD BOX

4" GAS RISE IN
LL TO ATTIC AREA



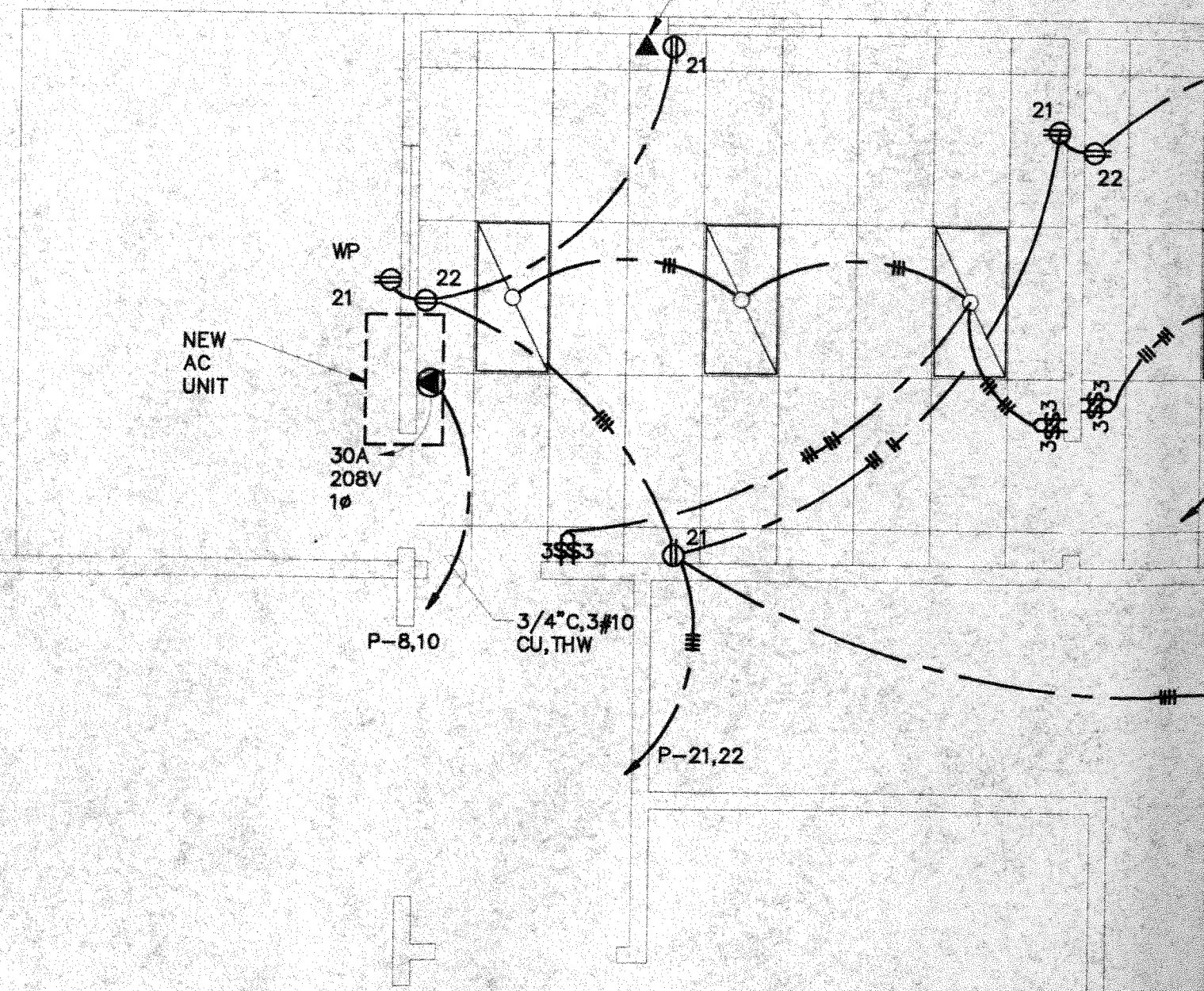
FRANK CANTELM

MECHANICAL ENGINEER

LICENSE # 21190

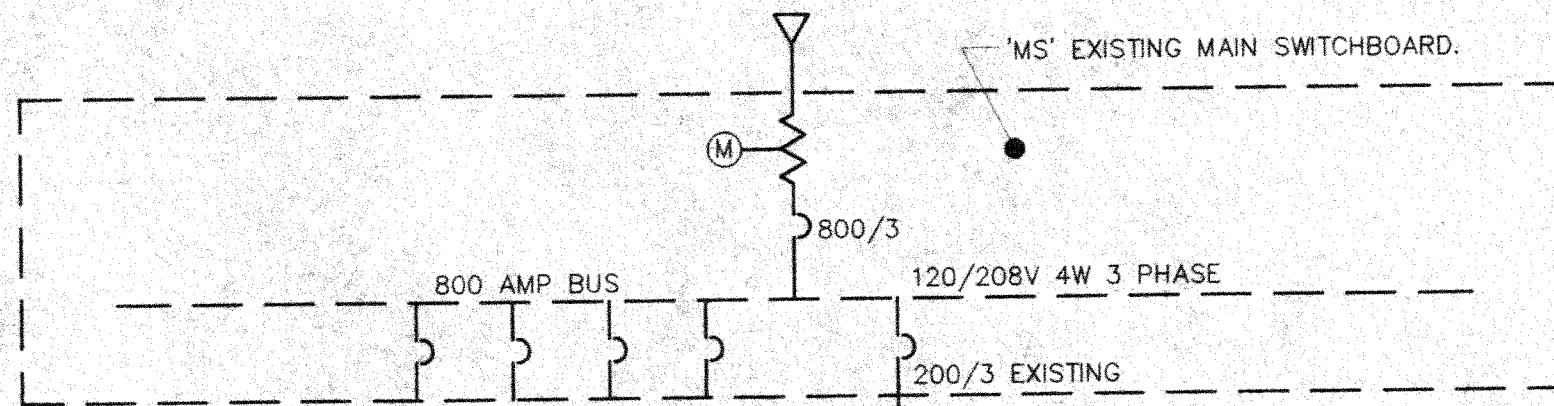
2130 'E' STREET SUITE B RIVERSIDE CALIFORNIA

TELEPHONE OUTLET BOX
3/4" C.O. TO ATTIC
(TYPICAL)



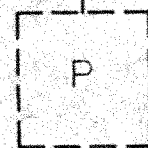
- 3) SAME AS NOTE 2 ABOVE. CIRCUIT No. 22
- 4) REPLACE EXISTING SPARE 50 AMP 3 POLE C.B. WITH NEW 40 AMP 2 POLE C.B. TO SERVE NEW AIR CONDITIONING UNIT. CIRCUIT No. 8 & 10.
- 5) UPDATE DIRECTORY LISTING.

EXISTING MAIN SWITCHBOARD 'MS'



LOAD CALC-PANEL P	
EXISTING WATTS	= 45,000
REMOVED WATT	= -12,000
OFFICE ADDITION	= 6,400
NET CHANGE	= 5,600
NEW TOTAL WATTS	= 39,400
120/208V 3 ϕ	= 110A

(1) 3" C, 4 4/0 AL THW EX



EXISTING FLUSH PANEL
24 CKT. 200 AMP MLO

CHANGE AT PANEL 'P' ONLY

KEEP APPROVED PLANS ON JOB

APPROVED

FEB 08 1999

KERN COUNTY BLDG. INSPECTION DEPT.

MAKE NO CHANGES WITHOUT APPROVAL

PARTIAL SINGLE LINE DIAGRAM

ELECTRICAL PLAN, SCHEDULE, 1-LINE DIAGRAM

KERN MOSQUITO
BAKERSFIELD, CA.

DRAWN
CHECKED EML
DATE 1-29-98
SCALE 1"=1/4"
JOB No. FILE: MOSQ-E
SHEET
E-1
OF 1 SHEETS

9924

1/4"

PHONE, RADIO AND COMPUTER WALL JACKS WITH THE