

LEGEND

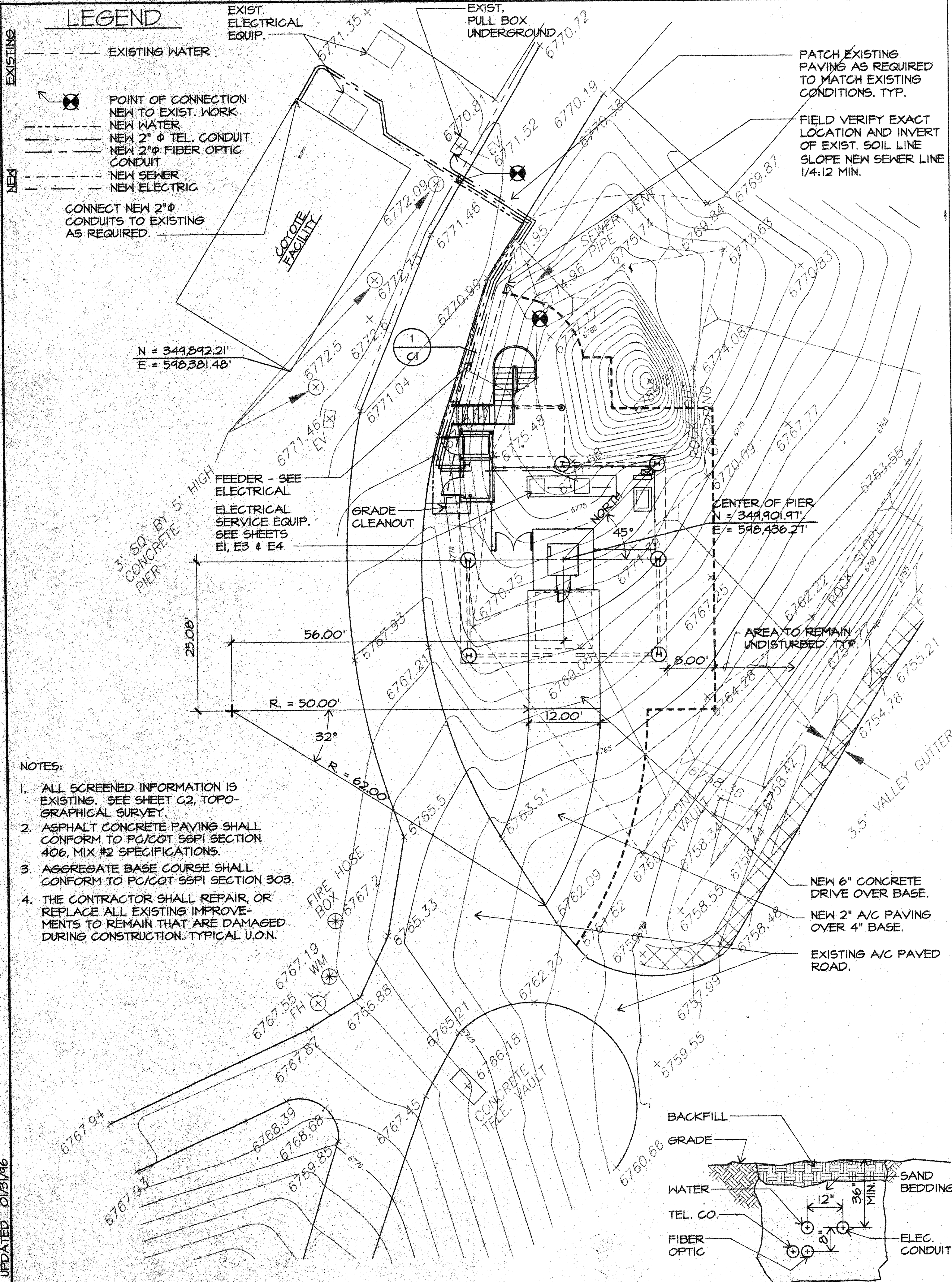
- EXISTING WATER
- POINT OF CONNECTION NEW TO EXIST. WORK
- NEW WATER
- NEW 2" Ø TEL. CONDUIT
- NEW 2" Ø FIBER OPTIC CONDUIT
- NEW SEWER
- NEW ELECTRICAL
- CONNECT NEW 2" Ø CONDUITS TO EXISTING AS REQUIRED.

EXIST. ELECTRICAL EQUIP.

EXIST. PULL BOX UNDERGROUND

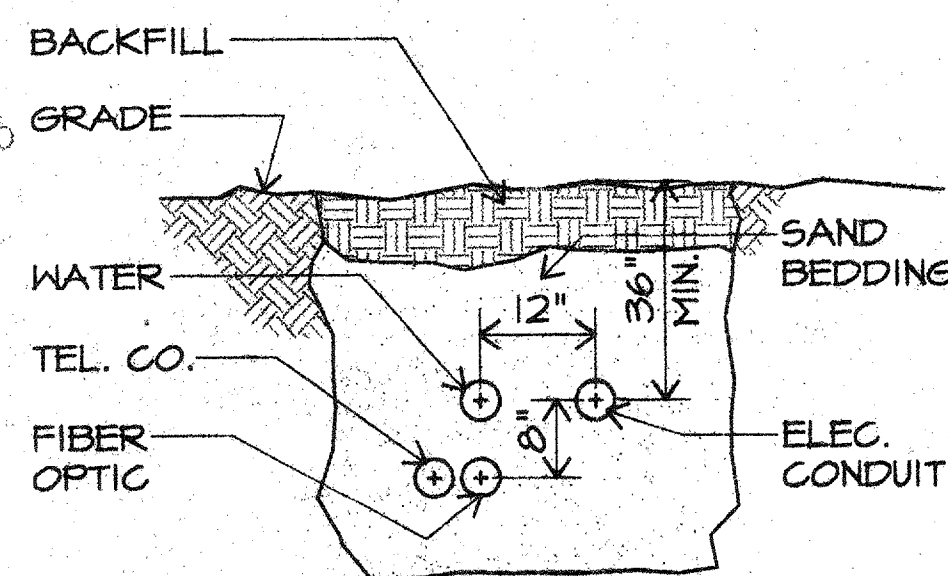
PATCH EXISTING PAVING AS REQUIRED TO MATCH EXISTING CONDITIONS. TYP.

FIELD VERIFY EXACT LOCATION AND INVERT OF EXIST. SOIL LINE
SLOPE NEW SEWER LINE 1/4:12 MIN.



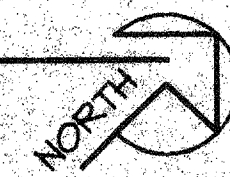
NOTES:

1. ALL SCREENED INFORMATION IS EXISTING. SEE SHEET G2, TOPOGRAPHICAL SURVEY.
2. ASPHALT CONCRETE PAVING SHALL CONFORM TO PC/COT SSPI SECTION 406, MIX #2 SPECIFICATIONS.
3. AGGREGATE BASE COURSE SHALL CONFORM TO PC/COT SSPI SECTION 303.
4. THE CONTRACTOR SHALL REPAIR, OR REPLACE ALL EXISTING IMPROVEMENTS TO REMAIN THAT ARE DAMAGED DURING CONSTRUCTION. TYPICAL U.O.N.



SITE PLAN

1"=10'-0"



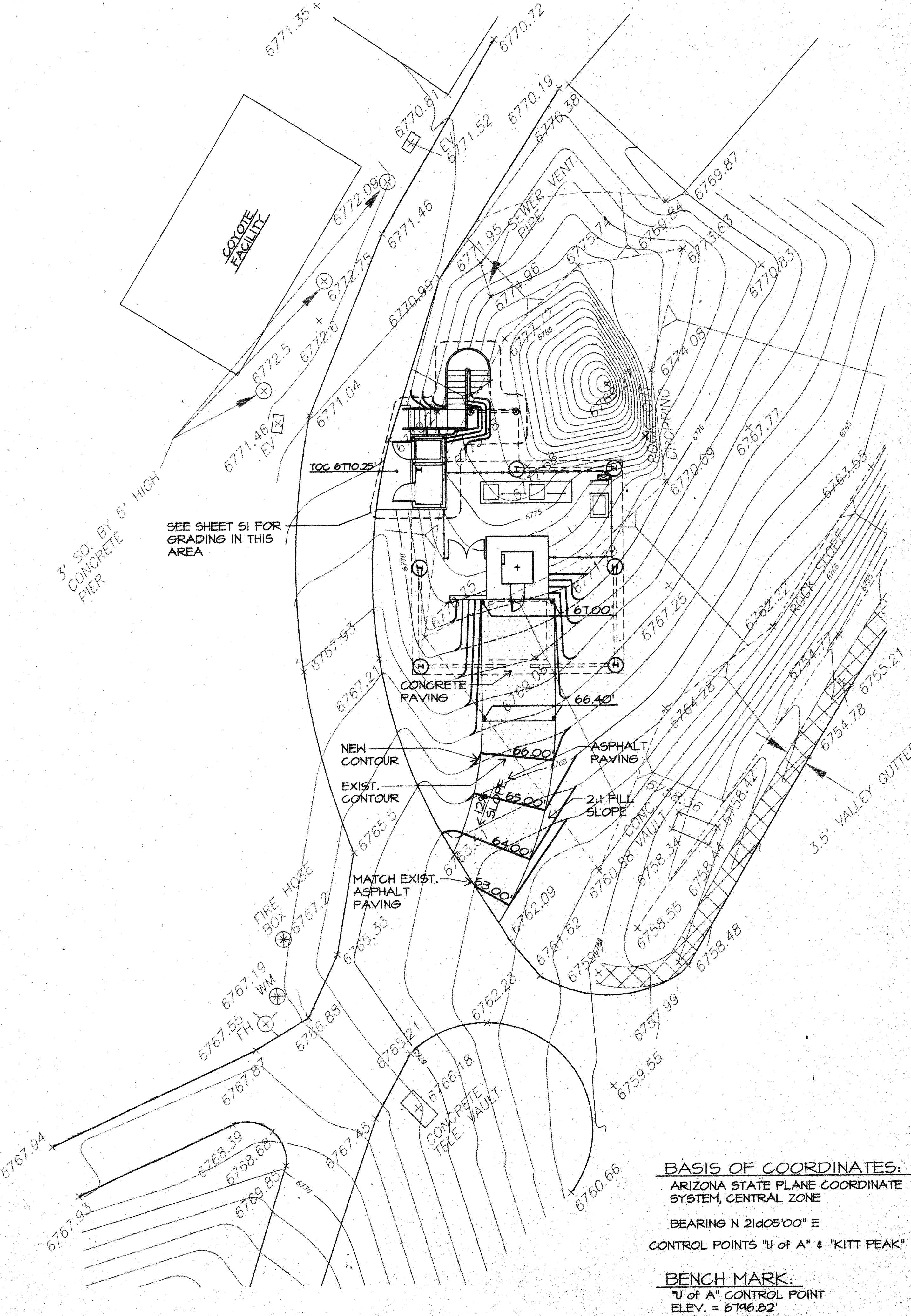
TRENCH DETAIL

NO SCALE



SITE GRADING PLAN

1"=10'-0"



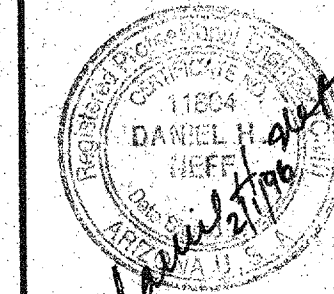
BASIS OF COORDINATES:
ARIZONA STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE

BEARING N 21d05'00" E
CONTROL POINTS "U of A" & "KITT PEAK"

BENCH MARK:

"U of A" CONTROL POINT
ELEV. = 6796.82'
5/8" IRON REBAR
COORDINATES: N 350134.644
E 548269.445
(NEAR 4 METER TELESCOPE - REFER TO LOCATION MAP ON SHEET G1)

SPACEWATCH TELESCOPE ENCLOSURE
UNIVERSITY OF ARIZONA
KITT PEAK, ARIZONA



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Revisions

Description	Date

Drawn: S.D.
Checked: J.T.U.
Approved: *[Signature]*

Released: *[Signature]* 2/96

Drawing Title
UTILITY & GRADING SITE PLANS

Sheet Number

C1

2 of 25 Sheets

95-7467

REVISIONS UPDATED: 01/21/96



SCALE: 1" = 10'

3' SQ. BY 5' HIGH
CONCRETE
PIER

6771.35

6770.81

6770.72

6772.5

6772.75

6771.46

6771.52

6770.19

6772.6

6771.46
EV

6770.96

6771.95
SEWER VENT
PIPE

6770.38

6774.96

6775.74

6770.24

6777.72

6780.84

6769.87

6775.48

6773.63

6777.98

6783.27

6774.08

6770.83

6767.93

6767.23

6770.75

6771.79

6770.09

6767.77

6767.94

FIRE HOSE
BOX

6767.19

6767.55
WM

6767.2

6767.93

6767.87

6765.33

6763.51

6767.25

6763.55

6759.76

6768.39

6768.68

6769.85

6765.21

6762.09

6764.26

6762.22

ROCK SLOPE

6750.82

6750.68

6750.3

6844.47 (TOP)

RADIO
TOWER

6778.01 (BOTTOM)

6766.18
CONCRETE
TELE. VAULT

6761.62

6760.88

CONC.
VAULT

6758.34

6758.42

6758.55

6758.44

6754.77

3.5' VALLEY CUTTER

6777.01

6757.99

6758.48

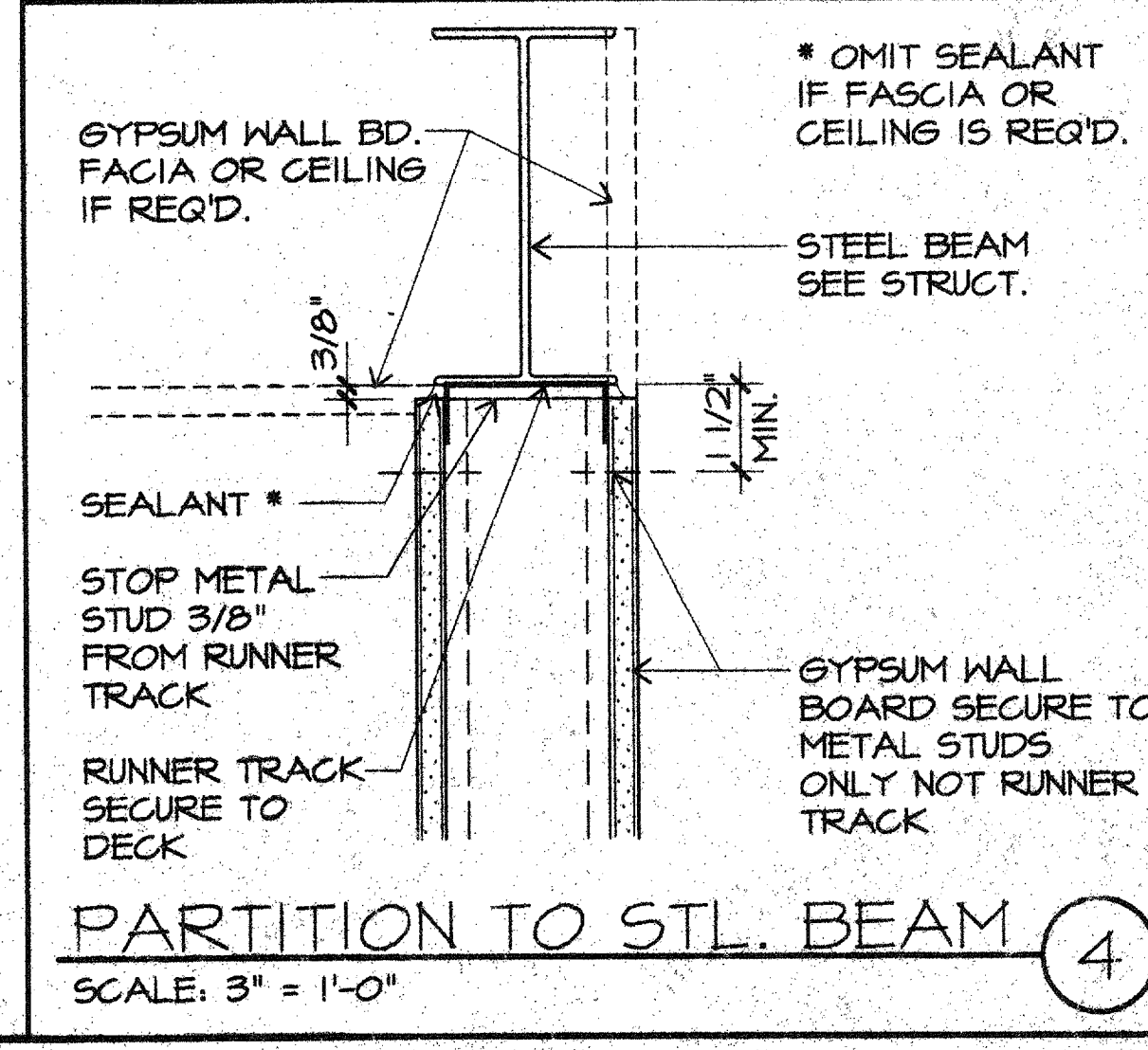
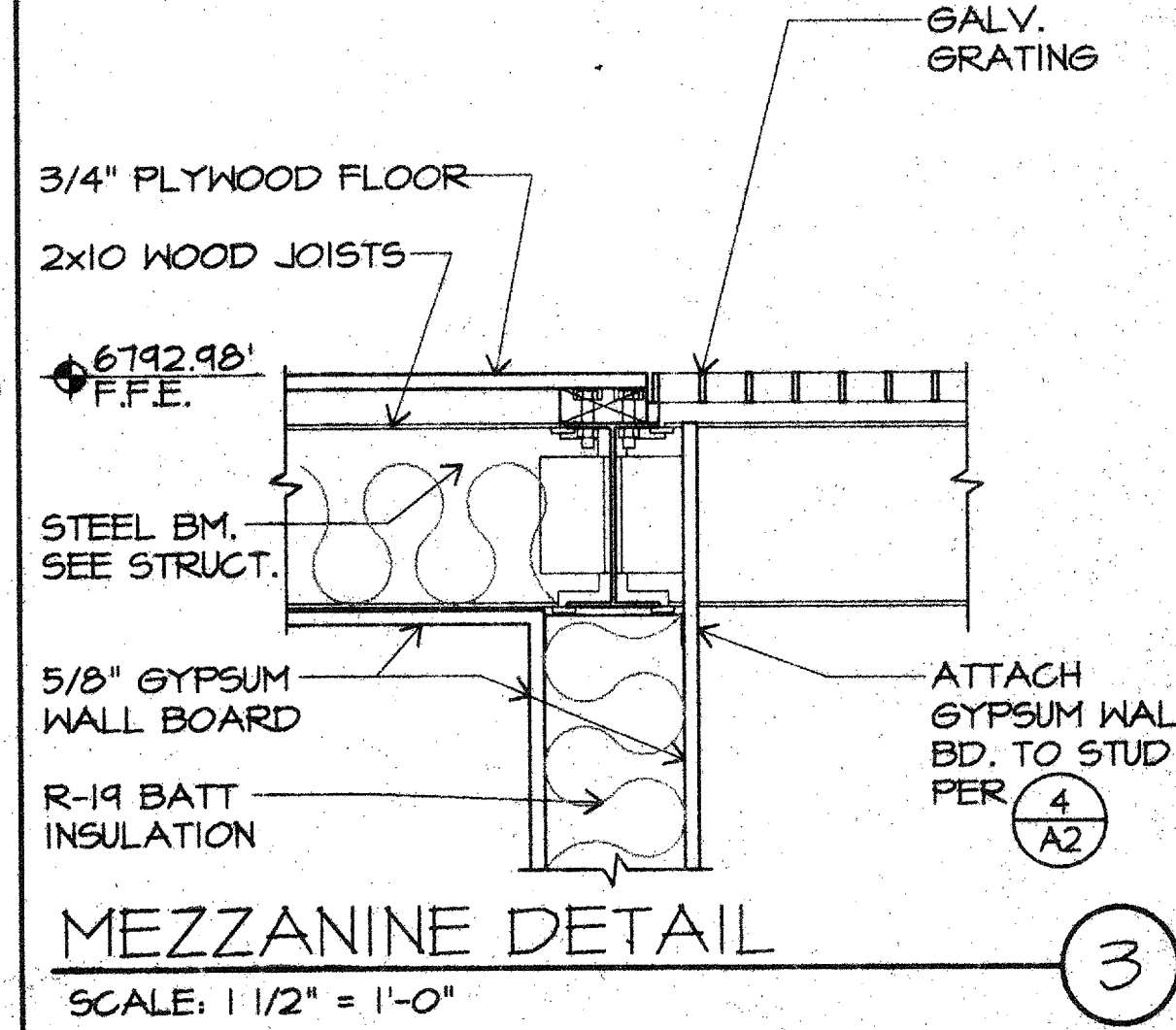
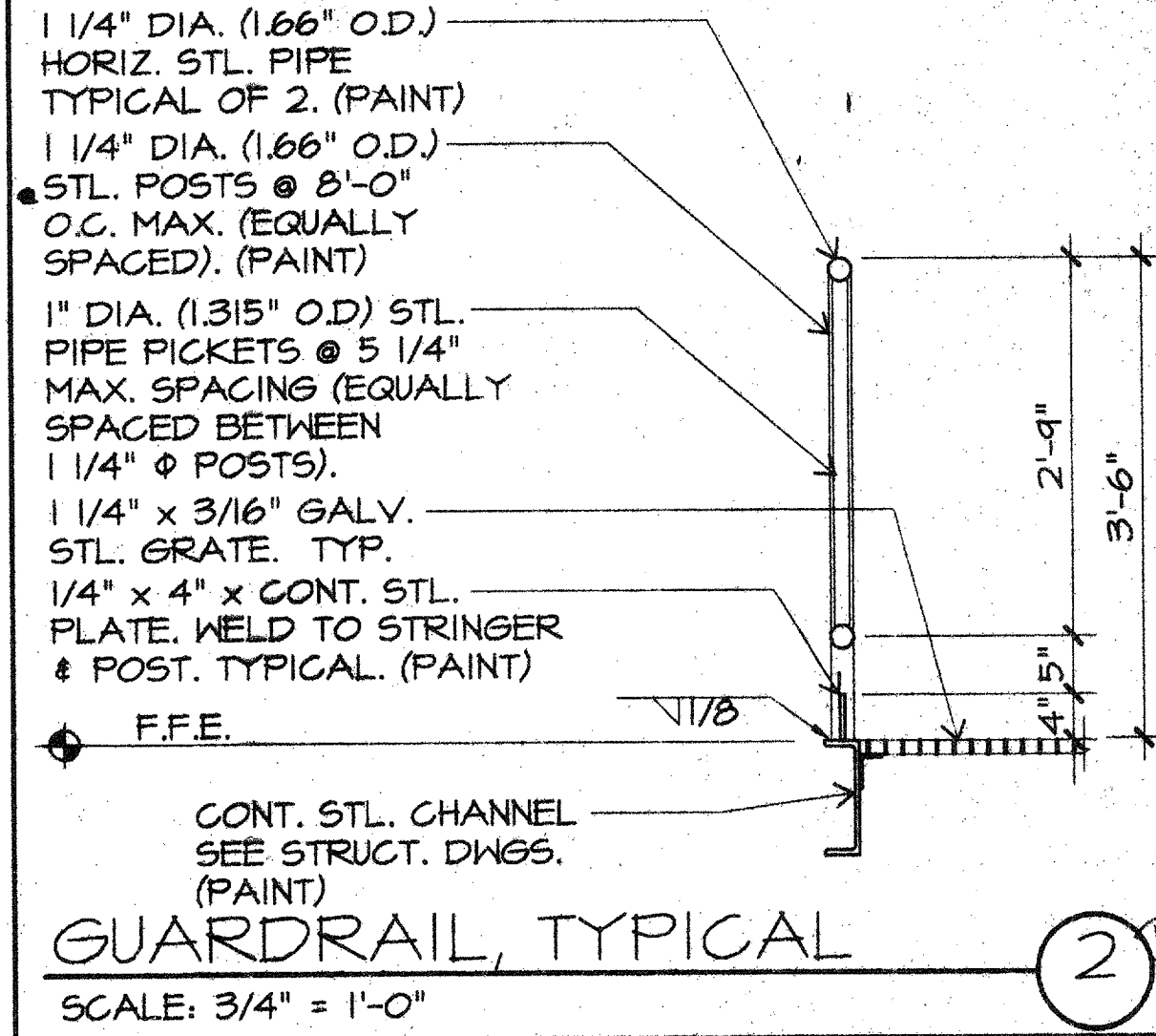
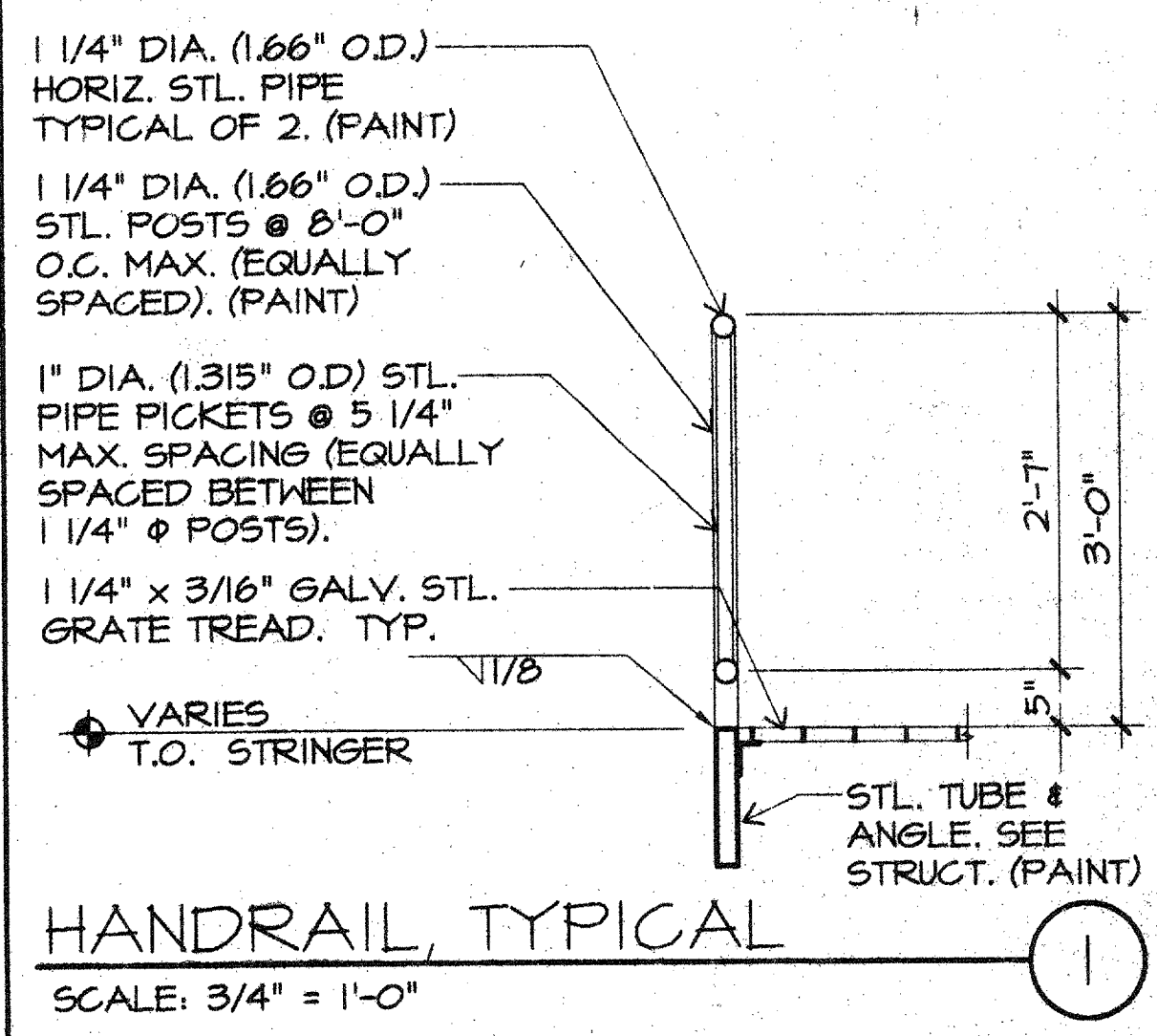
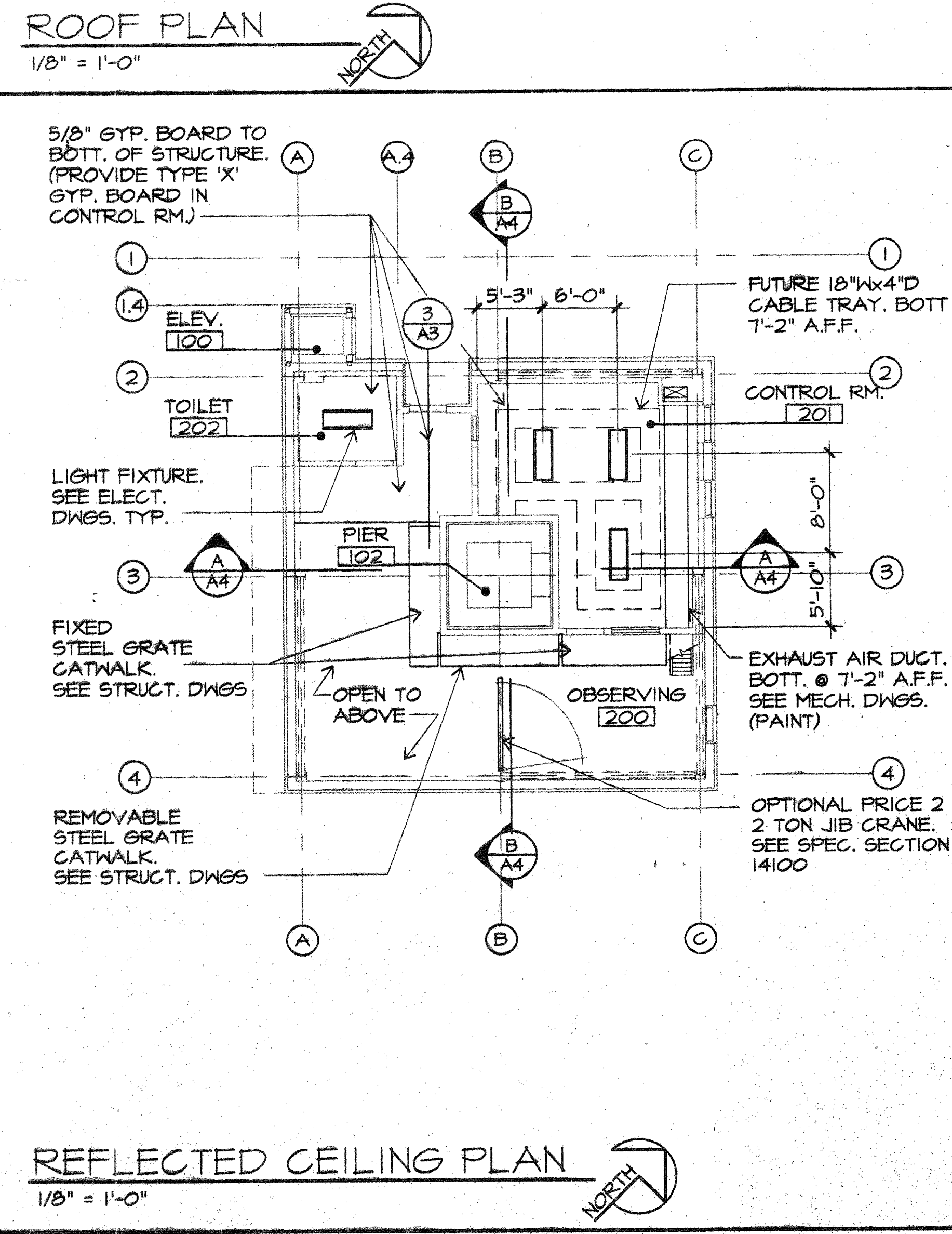
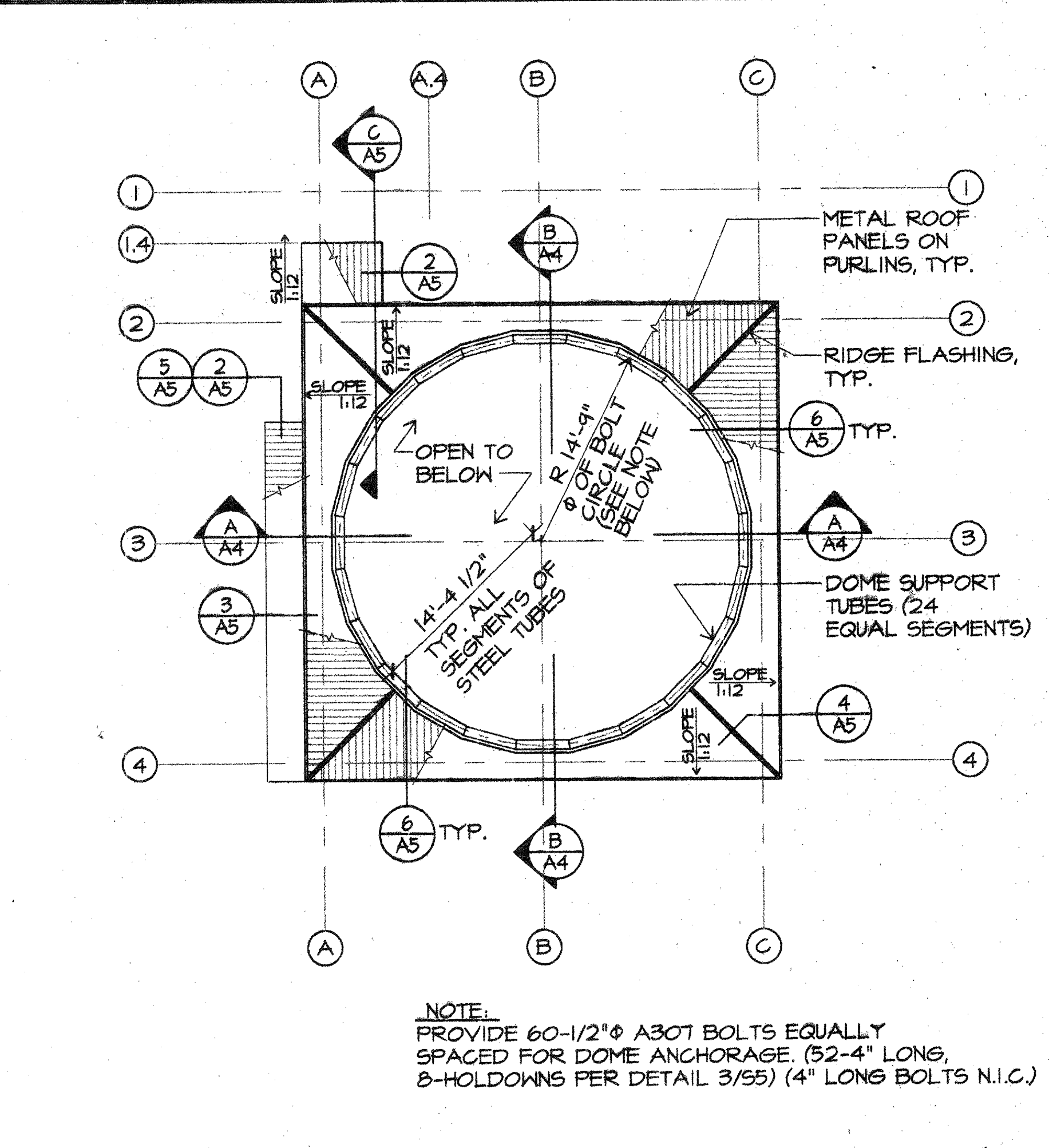
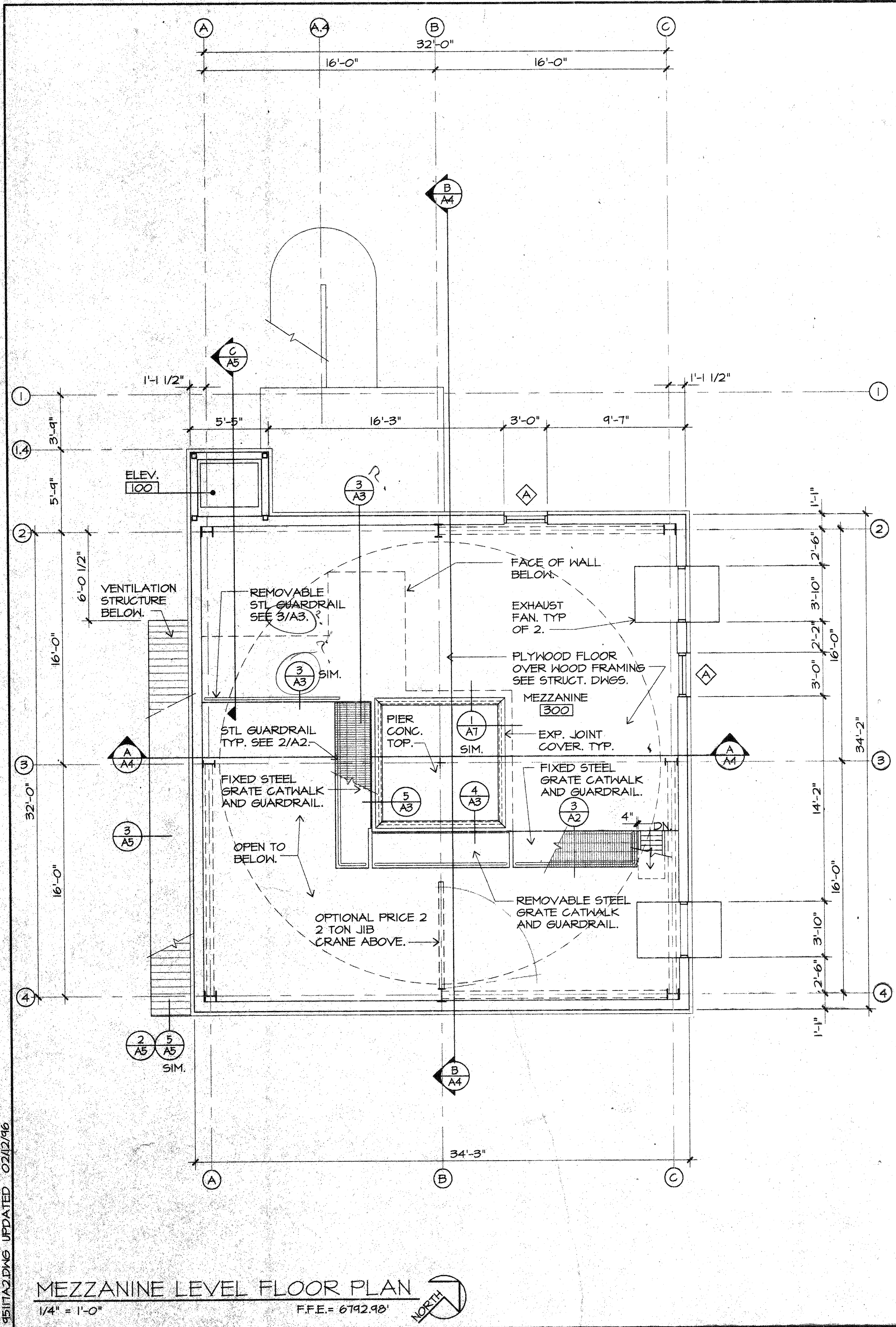
6759.55

6776.89

6760.66

KITBASE.DWG LAST PLOT 01/30/96

DATE		McGovern, MacVittie, Lodge and Associates, Inc.		ENGINEERING PLANNING SURVEYING 820 E. Highway Road, Suite 110, Tucson, AZ 85718 (520) 282-2500 Fax (520) 282-1290	
TOPOGRAPHICAL SURVEY FOR KITT PEAK				C2 3 of 25 Sheets	
SCALE:	SURVEYED BY:	CHECKED BY:	DATE:		
HORIZ 1" = 10'	E. GOMEZ	E. GOMEZ	8/95		
VERT	DRAFTED BY:	PROJECT MNGR:	PROJECT NO:		
	M. FAUST	S. SHANE			



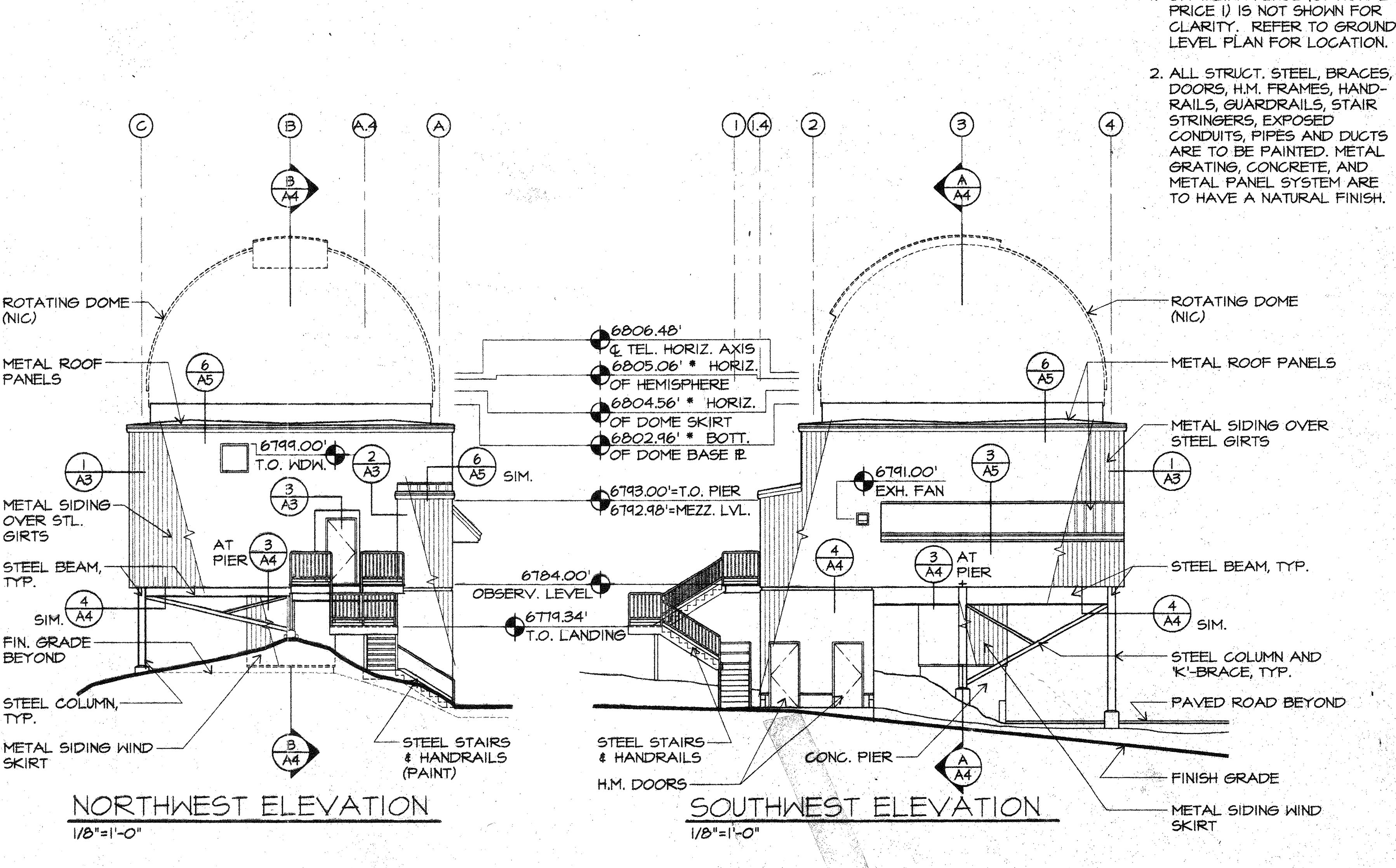
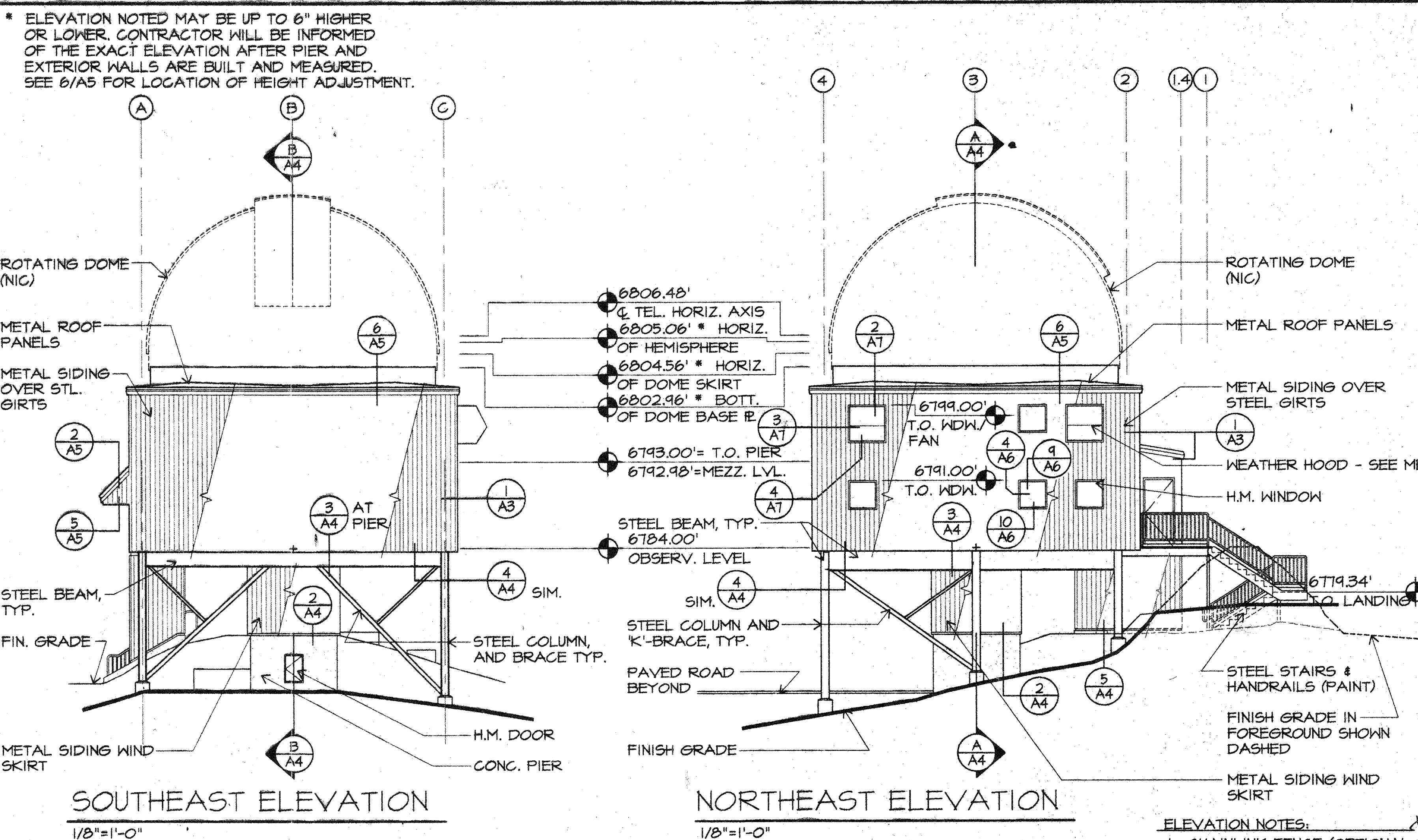
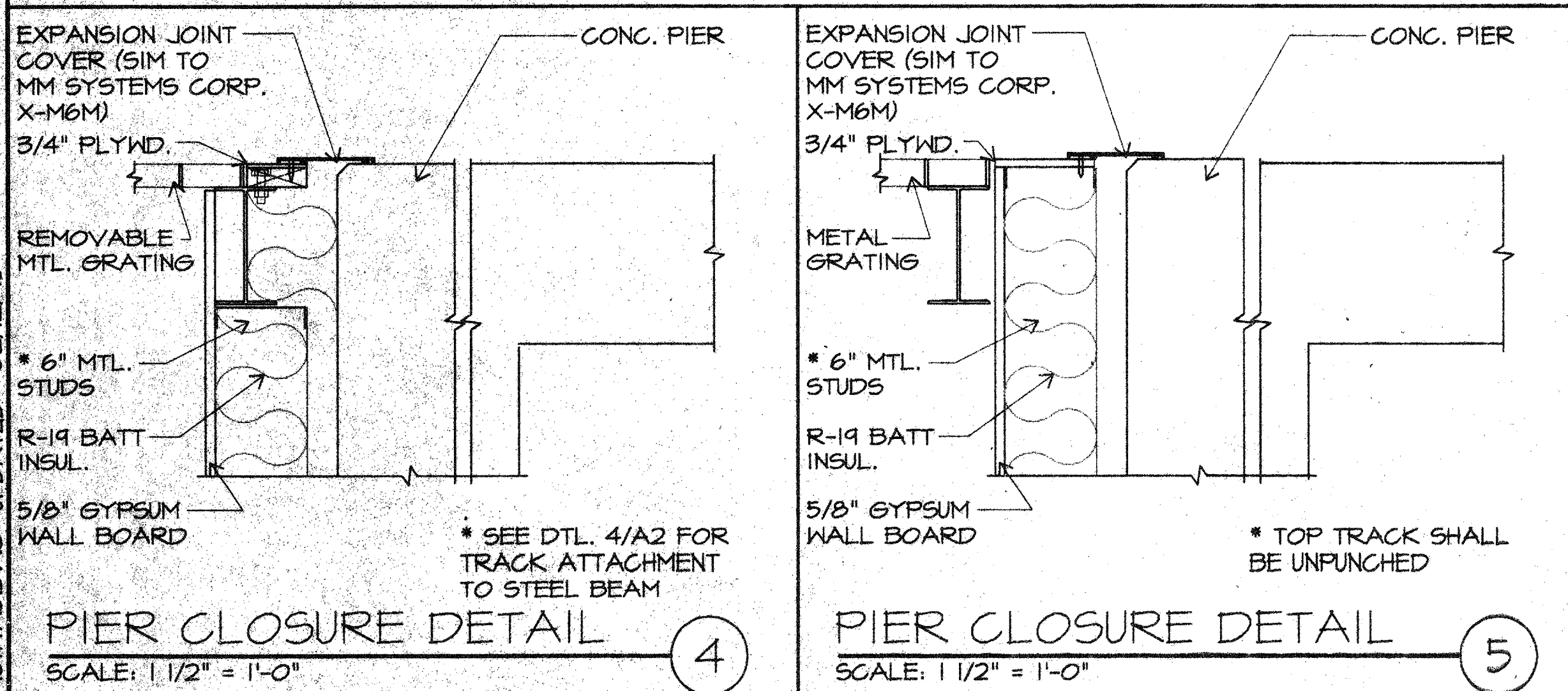
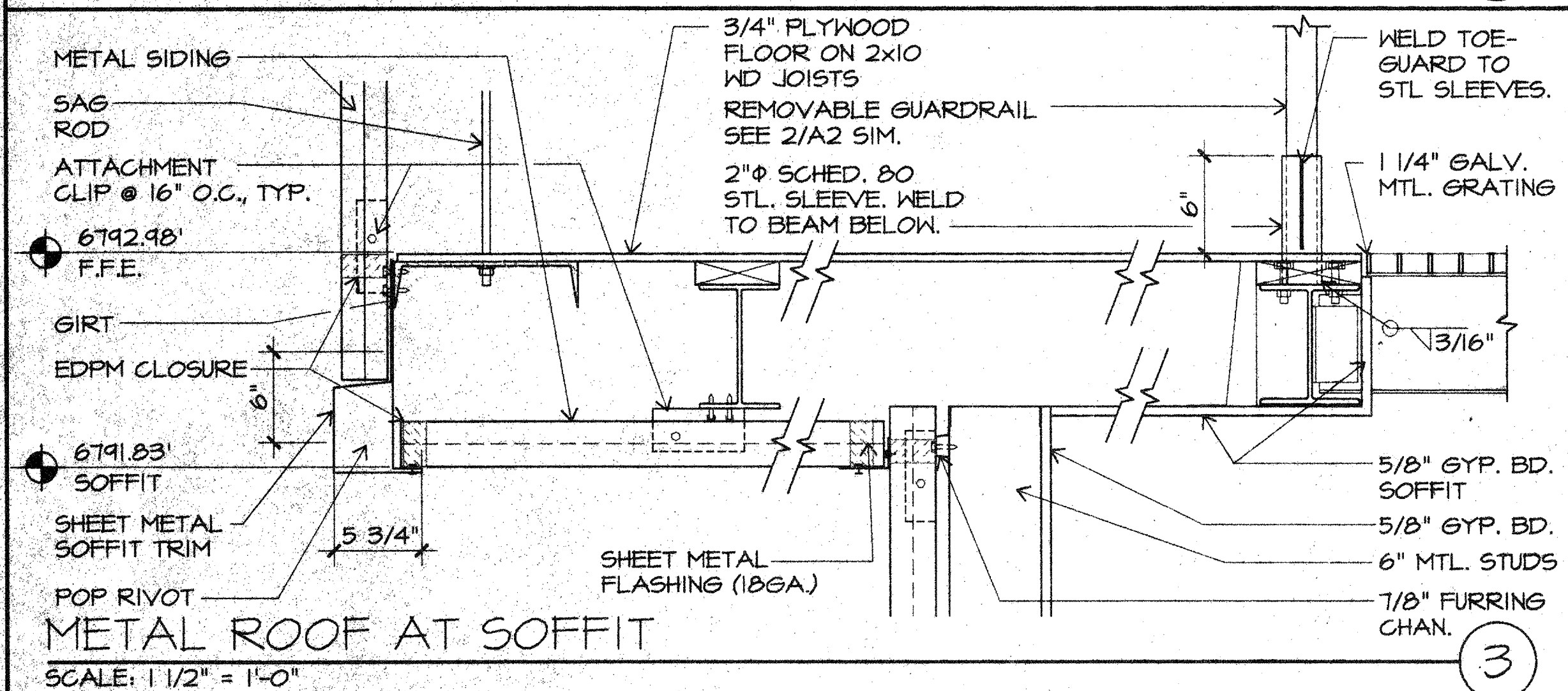
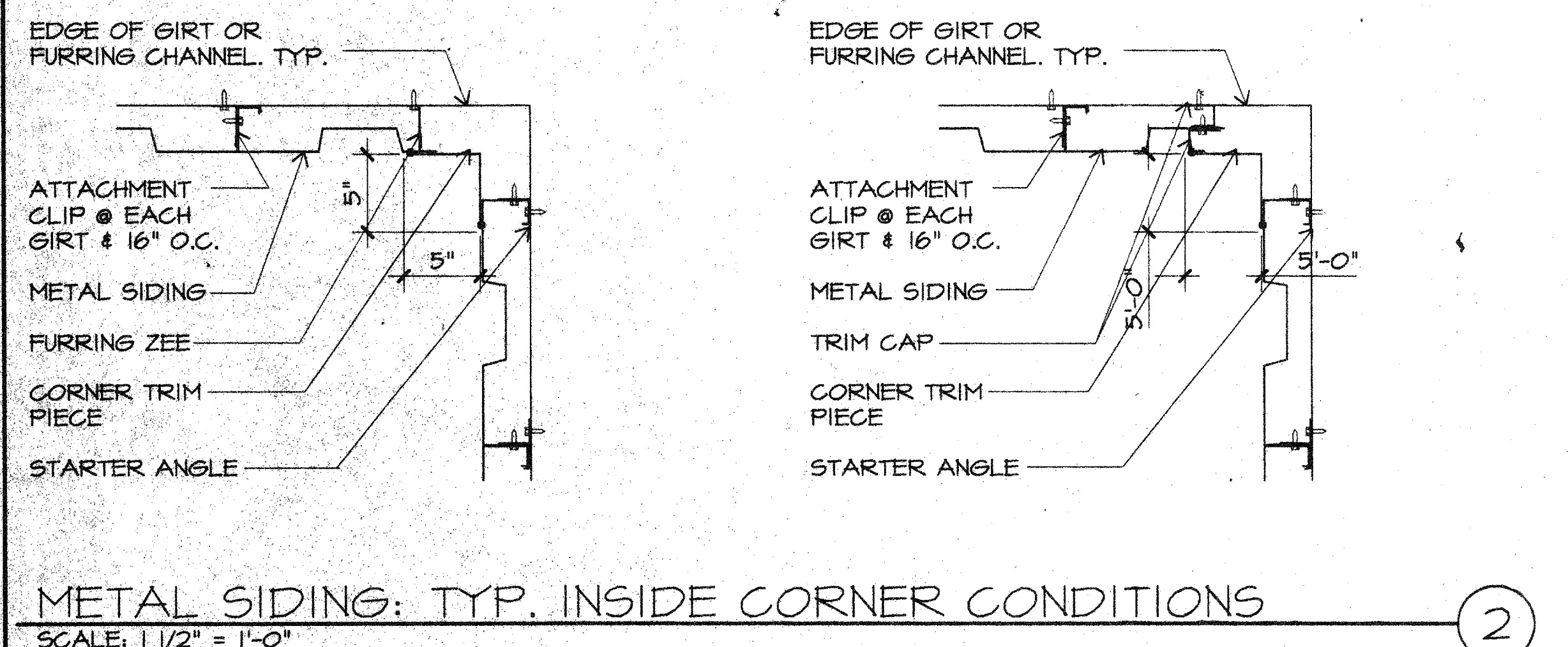
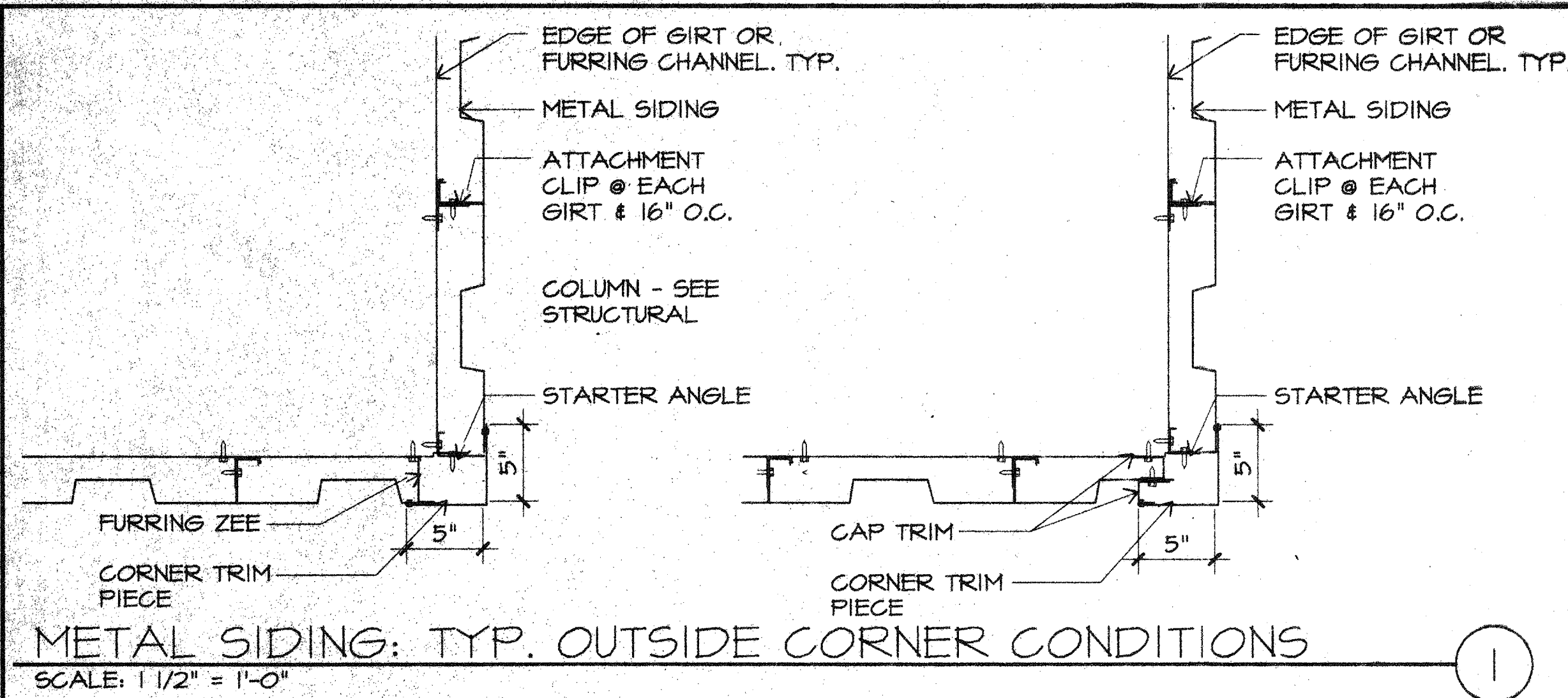
SPACEWATCH TELESCOPE ENCLOSURE
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 M3 PN 95117

Revisions	
Description	Date

Drawn: S.P.D. 12/95
 Checked: J.T.U. 1/96
 Approved:
 Released:
 Drawing Title: **FLOOR PLAN ROOF PLAN CEILING PLAN**
 Sheet Number: **A2**
 5 of 25 Sheets
 95-7467

5511A2.DWG UPDATED 02/12/96



- ELEVATION NOTES:**
- CHAINLINK FENCE (OPTIONAL PRICE I) IS NOT SHOWN FOR CLARITY. REFER TO GROUND LEVEL PLAN FOR LOCATION.
 - ALL STRUCT. STEEL, BRACES, DOORS, H.M. FRAMES, HANDRAILS, GUARDRAILS, STAIR STRINGERS, EXPOSED CONDUITS, PIPES AND DUCTS ARE TO BE PAINTED. METAL GRATING, CONCRETE, AND METAL PANEL SYSTEM ARE TO HAVE A NATURAL FINISH.

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M3 PN: 95117

Revisions	
Description	Date

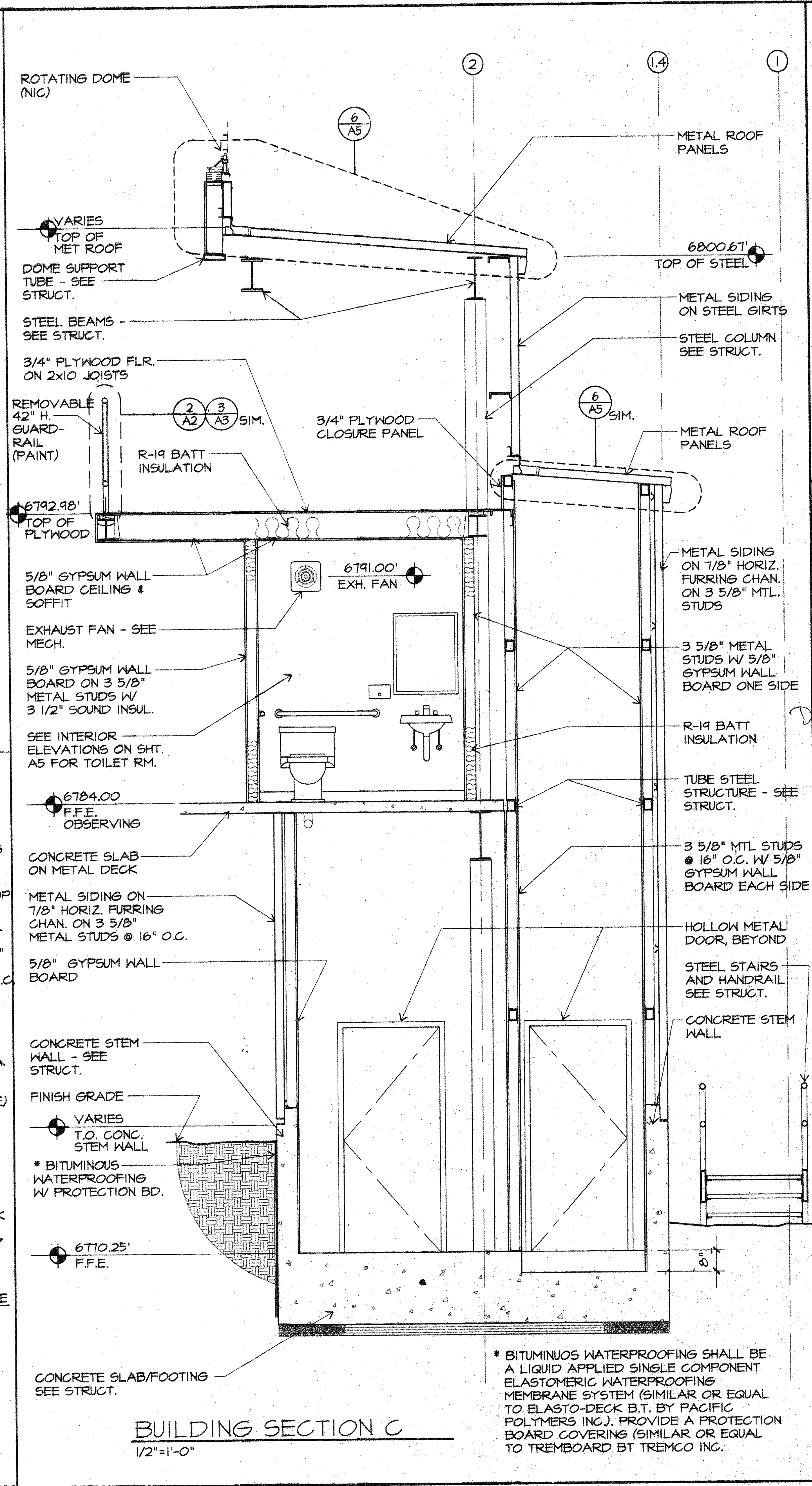
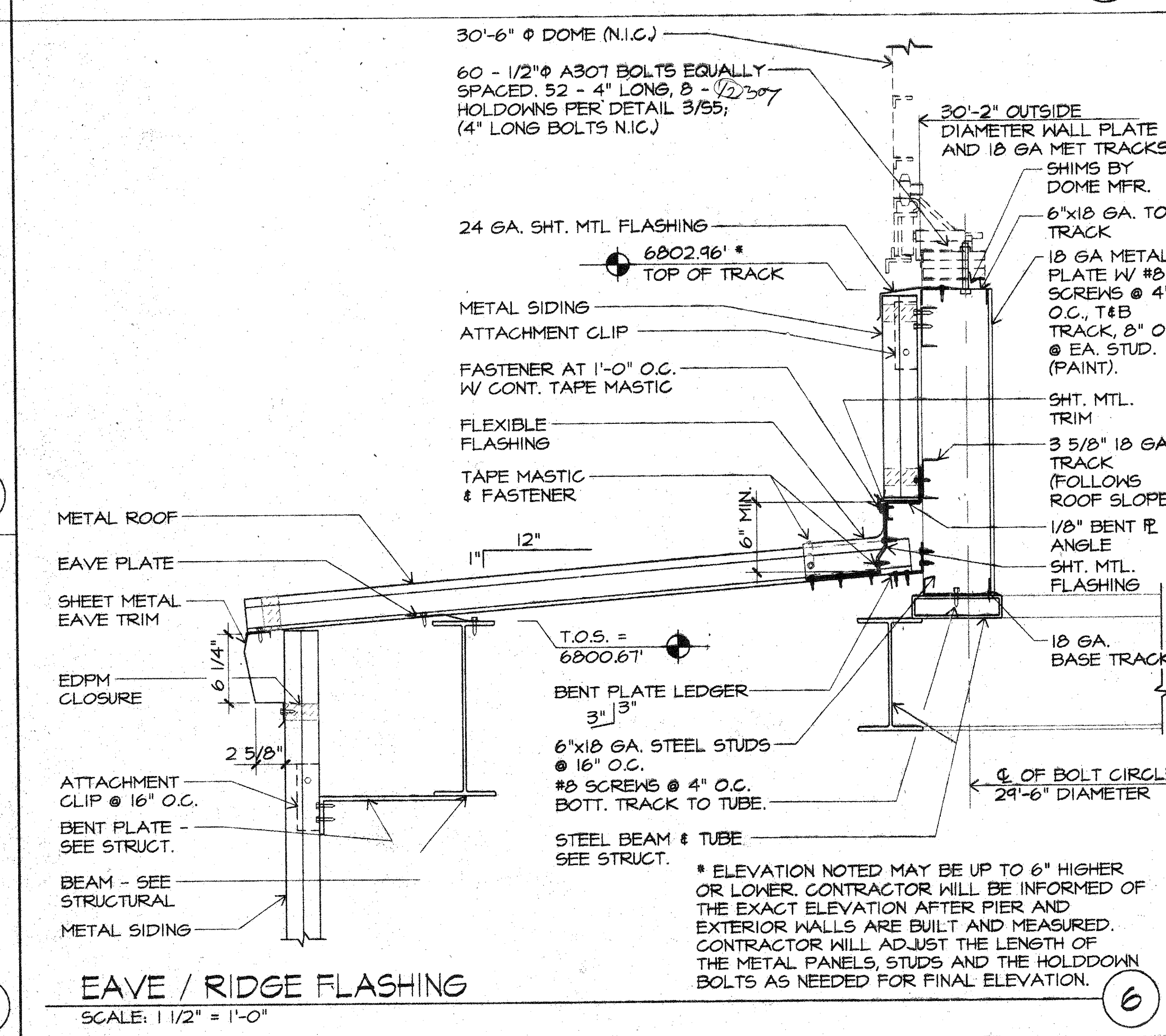
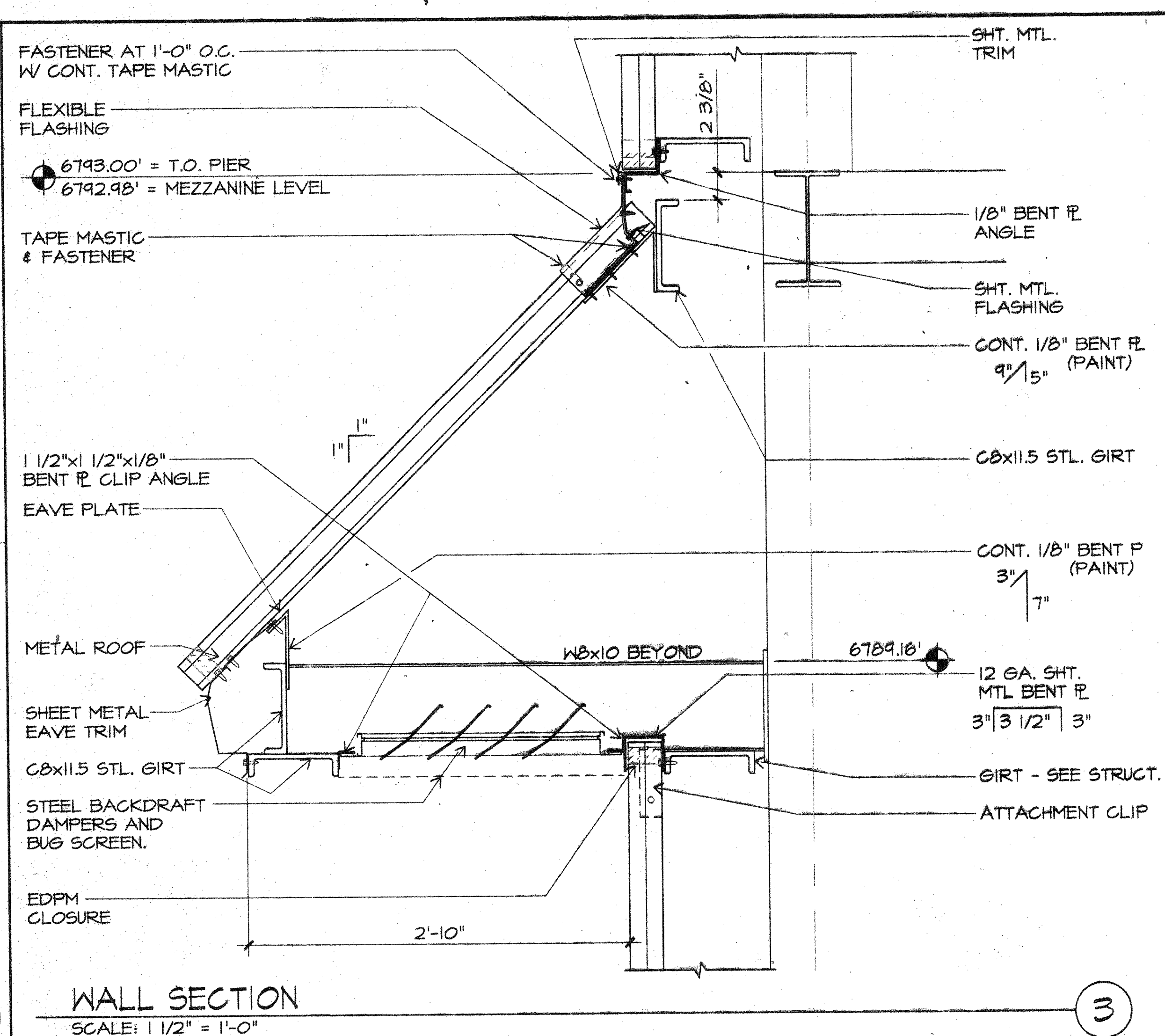
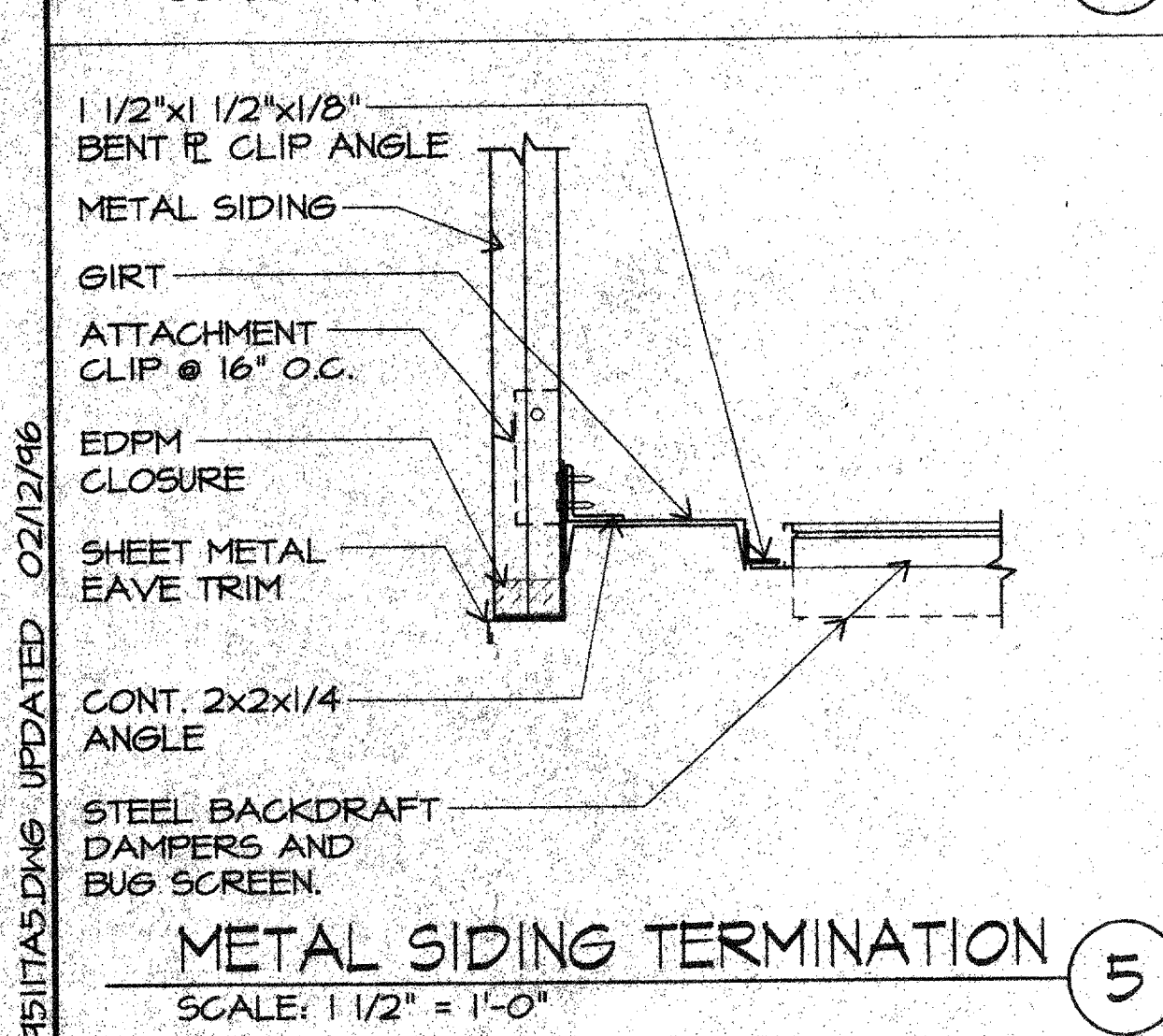
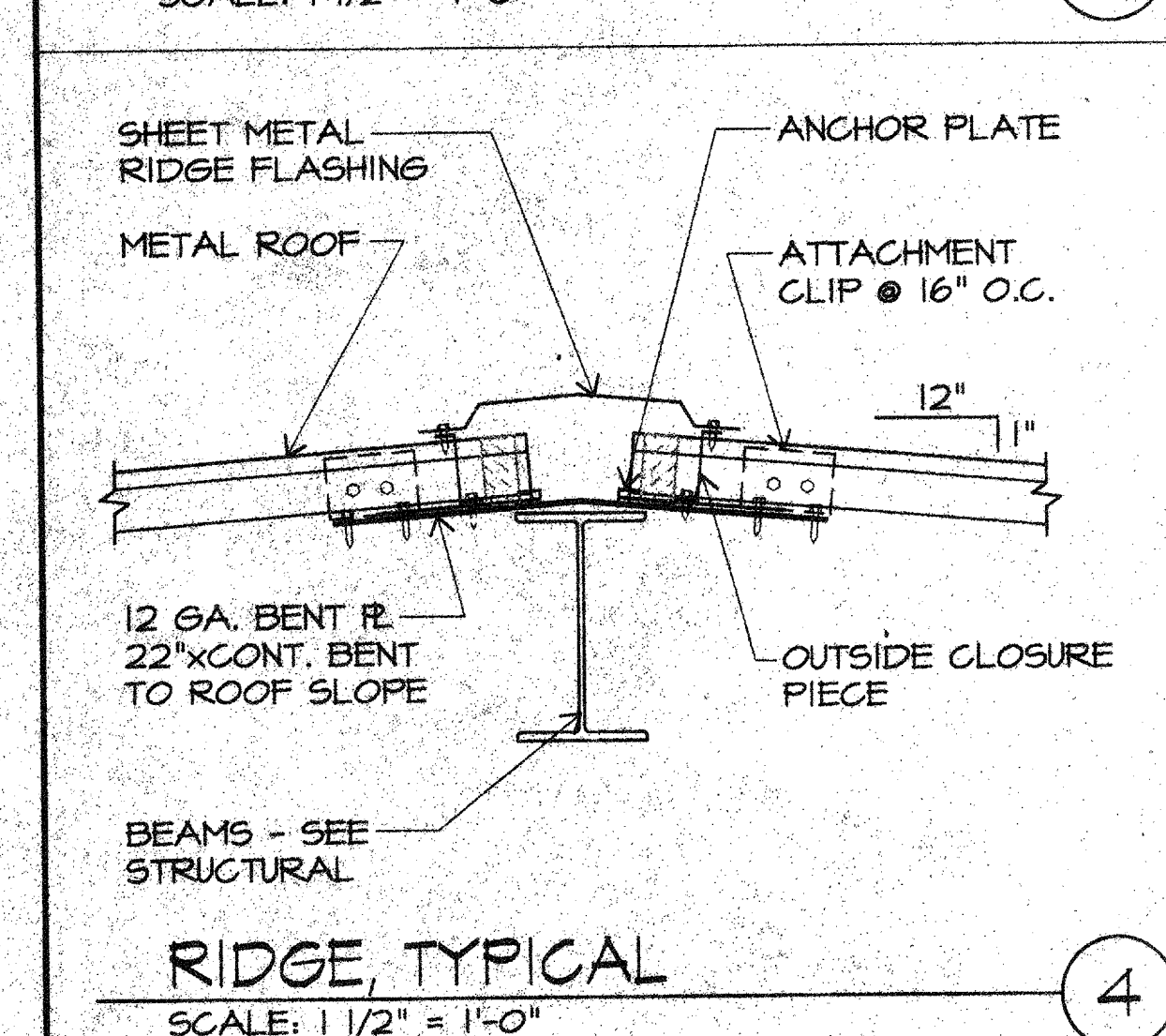
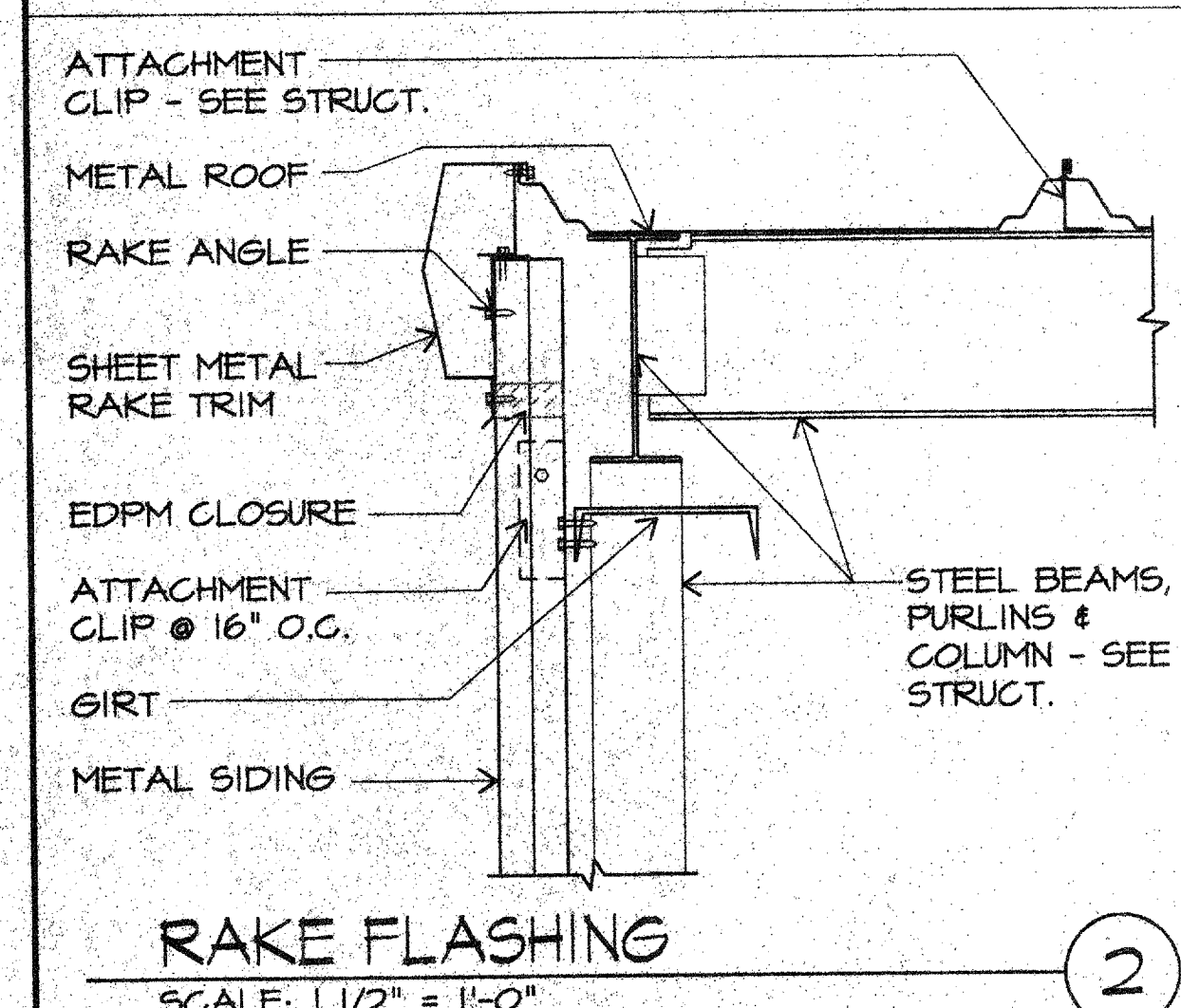
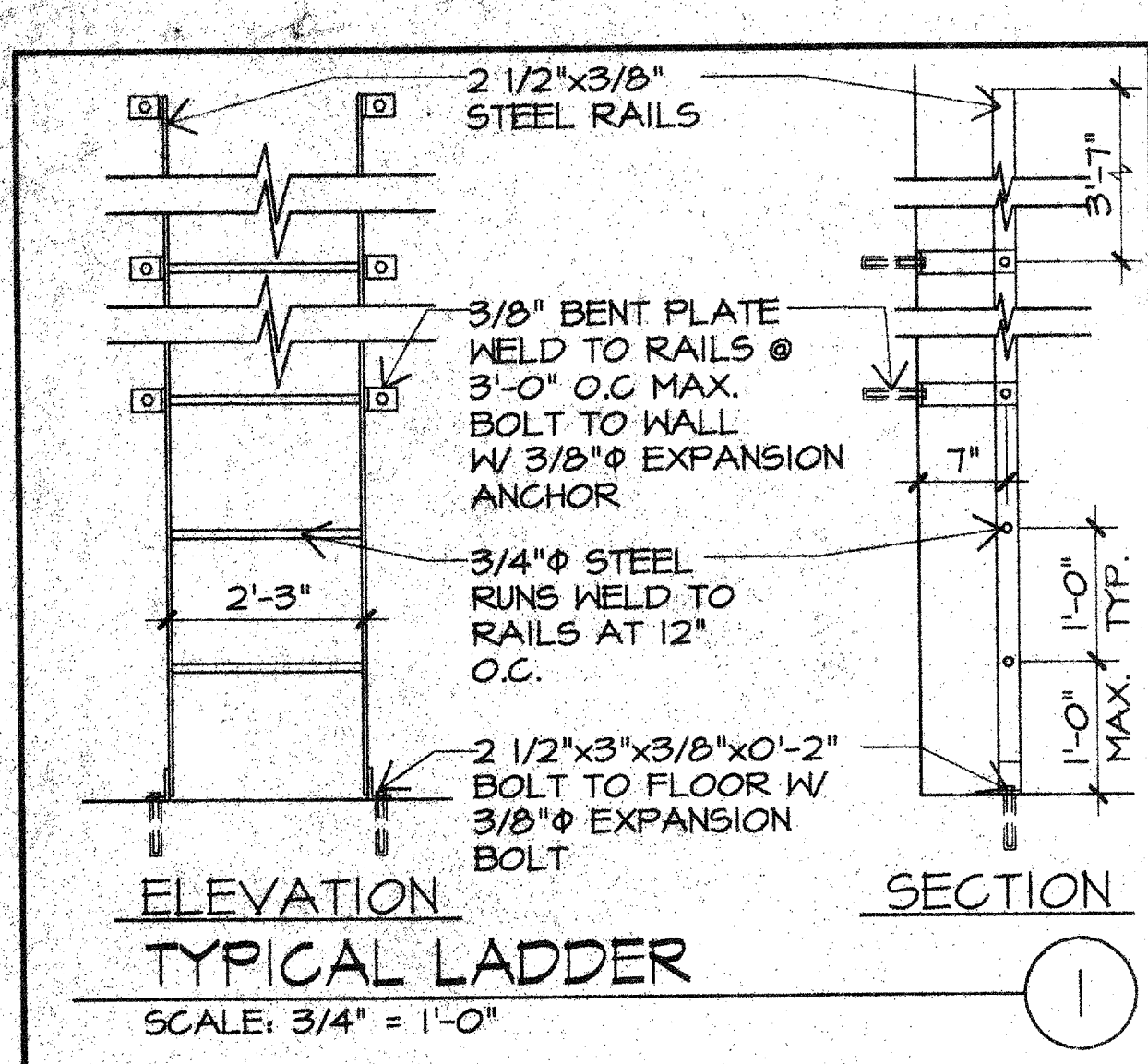
Drawn: S.P.D. 12/95
Checked: J.T.U. 1/96
Approved: *[Signature]*
Released: *[Signature]* 2/14/96

Drawing Title: **EXTERIOR ELEVATIONS & DETAILS**

Sheet Number: **A3**
6 of 25 Sheets

95-7467

REVISIONS UPDATED 02/12/96



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Description	Date

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Released: *[Signature]* 2/14/96

Drawing Title
SECTIONS AND DETAILS

Sheet Number
A5
8 of 25 Sheets
95-7467

95117A5.DWG UPDATED 02/12/96

DOOR SCHEDULE

DOOR NO.	DOOR SIZE	MATERIAL DOOR/FRAME	DOOR TYPE	RATING	HDWR	FRAME DETAILS			REMARKS	DOOR NO.
						HEAD	JAMB	SILL		
100A	3'-0" x 7'-0"	HM/HM	A	-	1	5	5	-	-	100A
100B	3'-0" x 7'-0"	HM/HM	A	-	1	5	5	8	-	100B
101A	3'-0" x 7'-0"	HM/HM	A	-	2	5	5	-	-	101A
102A	2'-0" x 3'-0"	HM/HM	C	-	3	3	3	-	DOOR TO HAVE THERMAL INSULATION	102A
102B	3'-0" x 7'-0"	HM/HM	C	-	5	6	6	7	DOOR TO HAVE THERMAL INSULATION	200A
200A	3'-0" x 7'-0"	HM/HM	A	-	4	4	4	-	-	201A
201A	3'-0" x 7'-0"	HM/HM	B	-	5	2	2	-	-	201B
201B	3'-0" x 7'-0"	HM/HM	B	-	5	2	2	-	-	202A
202A	3'-0" x 7'-0"	HM/HM	A	-	6	2	2	-	-	

ABBREVIATIONS:

CONC. CONCRETE
 EP EPOXY PAINT
 E&G EXPOSED & GYPSUM WALL BOARD
 EXP. EXPOSED
 GYP. GYPSUM WALL BOARD
 GYP* GYPSUM WALL BOARD
 P PAINT
 PLYWD. PLYWOOD
 R RESILIENT BASE
 SV SHEET VINYL W/ 6" INTEGRAL COVE BASE.

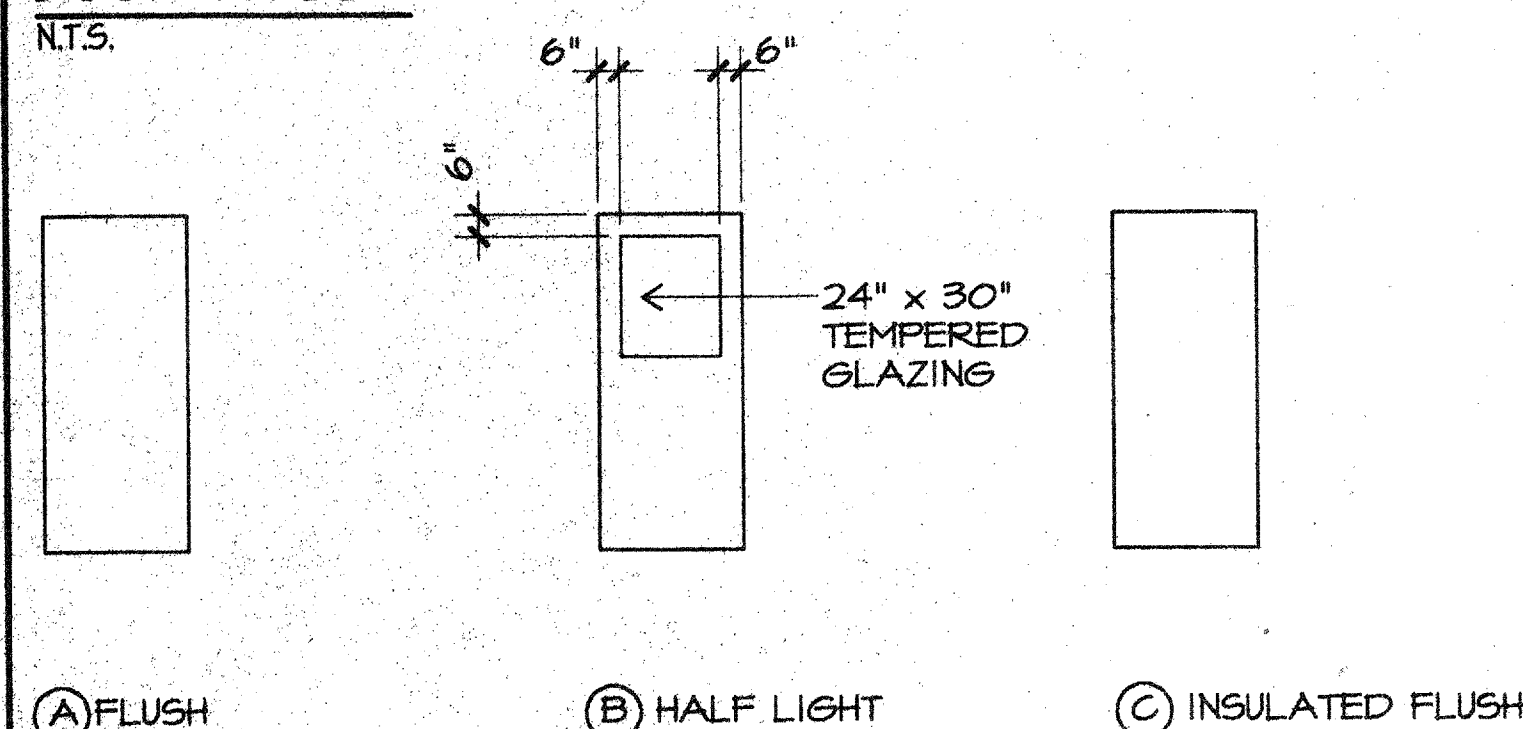
ROOM FINISH SCHEDULE:

ROOM NO.	FLOOR/BASE	WALLS/ WAINSCOT MAT'L N E S W	CEILING MAT'L FIN. HGT.	REMARKS	ROOM NO.
100	CONC/-	GYP.* P P P P	EXP/P VAR.	Elevator	100
101	CONC/R	GYP.* P P P P	GYP*/P 8'-0"	Machine Room	101
102	CONC/-	CONC - - -	EXP/- --	Inside Pier	102
200	CONC	E&G P P - -	EXP/P VAR.	SEE NOTE #2. observing Floor	200
201	CONC/R	GYP.* P P P P	GYP*/P 8'-2"	Control Room	201
202	SV/SV	GYP.* EP EP EP EP	GYP*/EP 8'-2"	Restroom	202
300	PLYWD.	EXP - - - -	EXP/P VAR.	Mezzanine	300

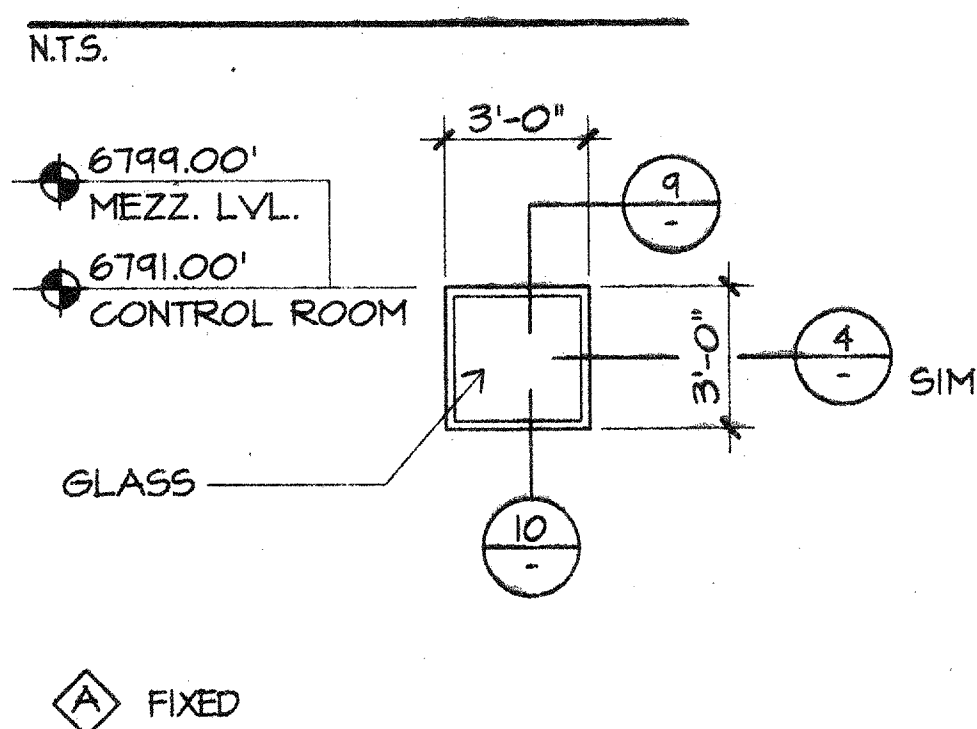
GENERAL NOTES:

- ALL EXPOSED CONDUITS, AND STEEL SHALL BE PAINTED TO MATCH ADJACENT SURFACES.
- PROVIDE RESILIENT BASE AT GYPSUM WALL BOARD WALLS.
- METAL PANEL SHALL BE LEFT W/ GALVANIZED FINISH.
- PROVIDE SHEET VINYL AND RESILIENT BASE IN ELEVATOR CAB.
- ALL GYPSUM WALL BOARD SHALL BE WATER RESISTANT

DOOR TYPES:



WINDOW FRAME TYPES:

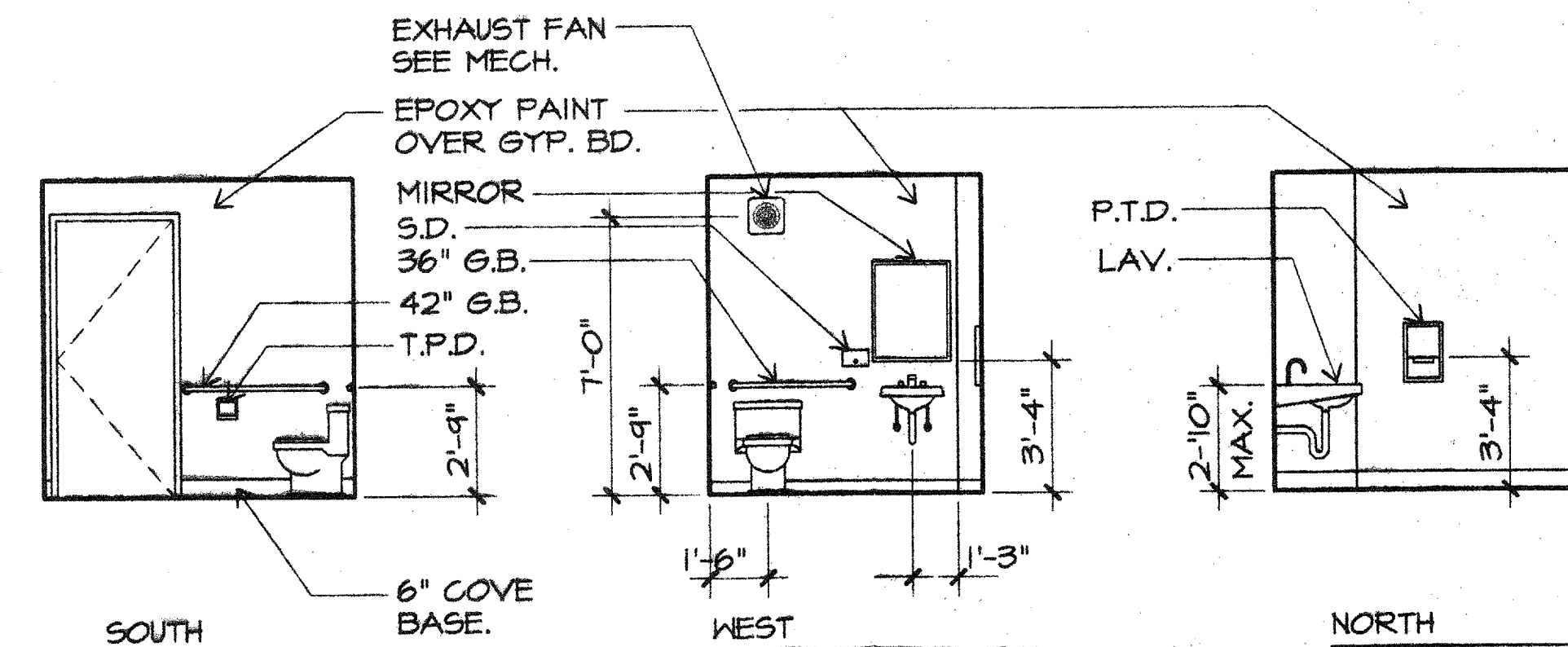


FRAME TYPE NOTES:

- ALL WINDOWS AND DOORS LITES SHALL HAVE BLACK OUT SHADES.
- ALL EXTERIOR WINDOWS IN THE CONTROL ROOM SHALL BE 1" CLEAR INSULATED GLASS.
- ALL OTHER WINDOWS SHALL BE CLEAR FLOAT GLASS, U.O.N.

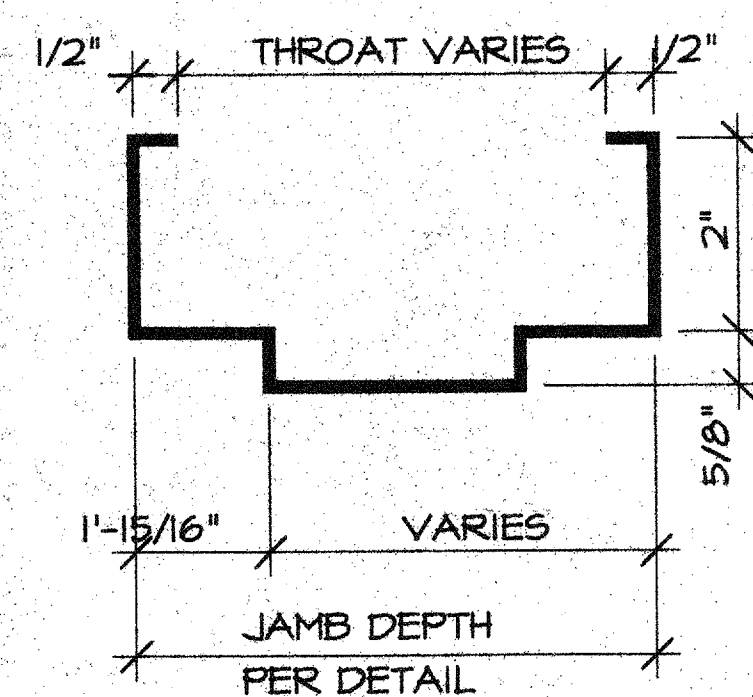
DOOR SCHEDULE NOTES:

- (*) DENOTES DOOR DETAIL SIMILAR TO THE DETAIL NOTED.
- ALL HOLLOW METAL DOORS AND FRAMES SHALL HAVE A PAINTED FINISH. TYPICAL.
- ALL DOORS SHALL BE 1 3/4" THICK, U.O.N.



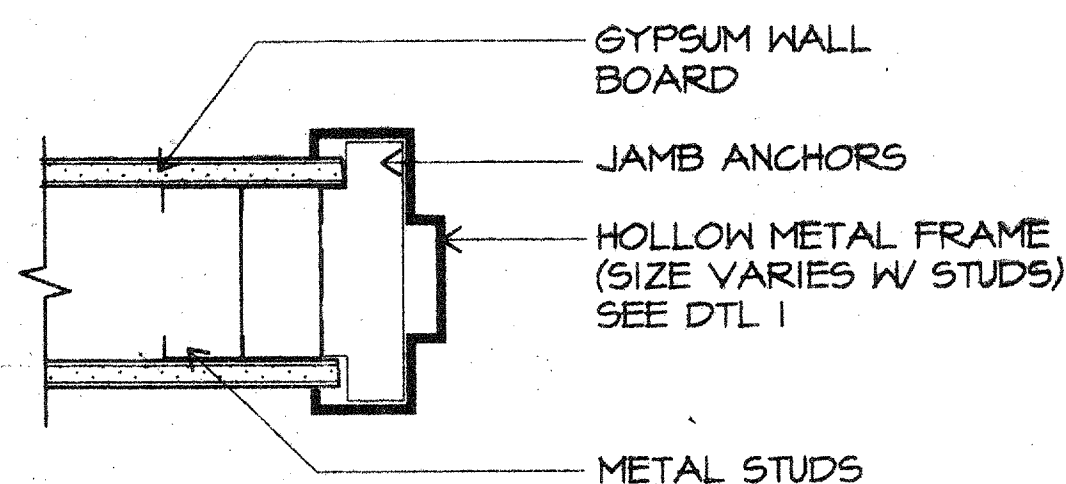
INTERIOR ELEVATIONS

[202] TOILET ROOM.



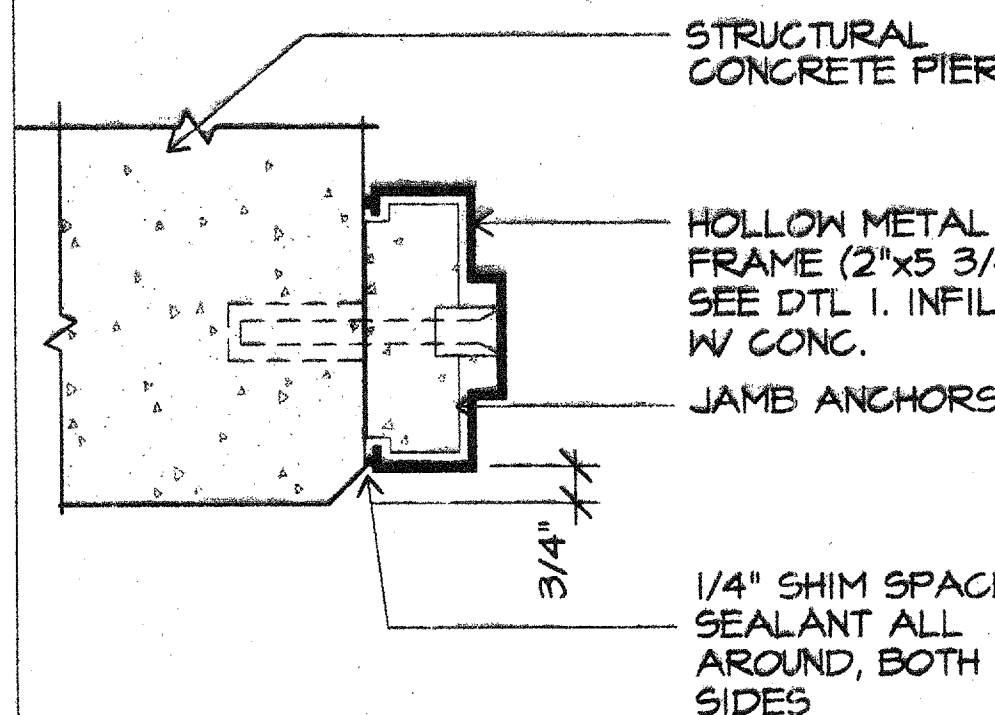
TYPICAL HM FRAME PROFILE

SCALE: 6" = 1'-0"



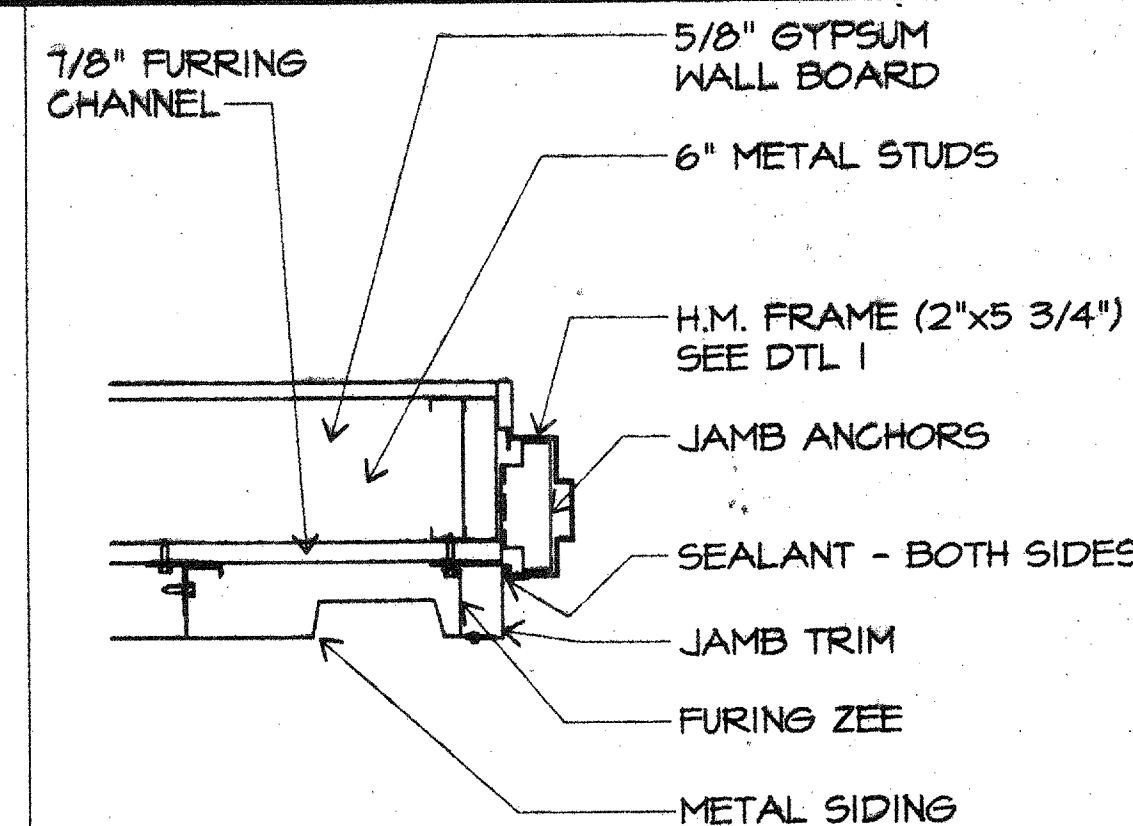
HOLLOW METAL JAMB

SCALE: 3" = 1'-0"



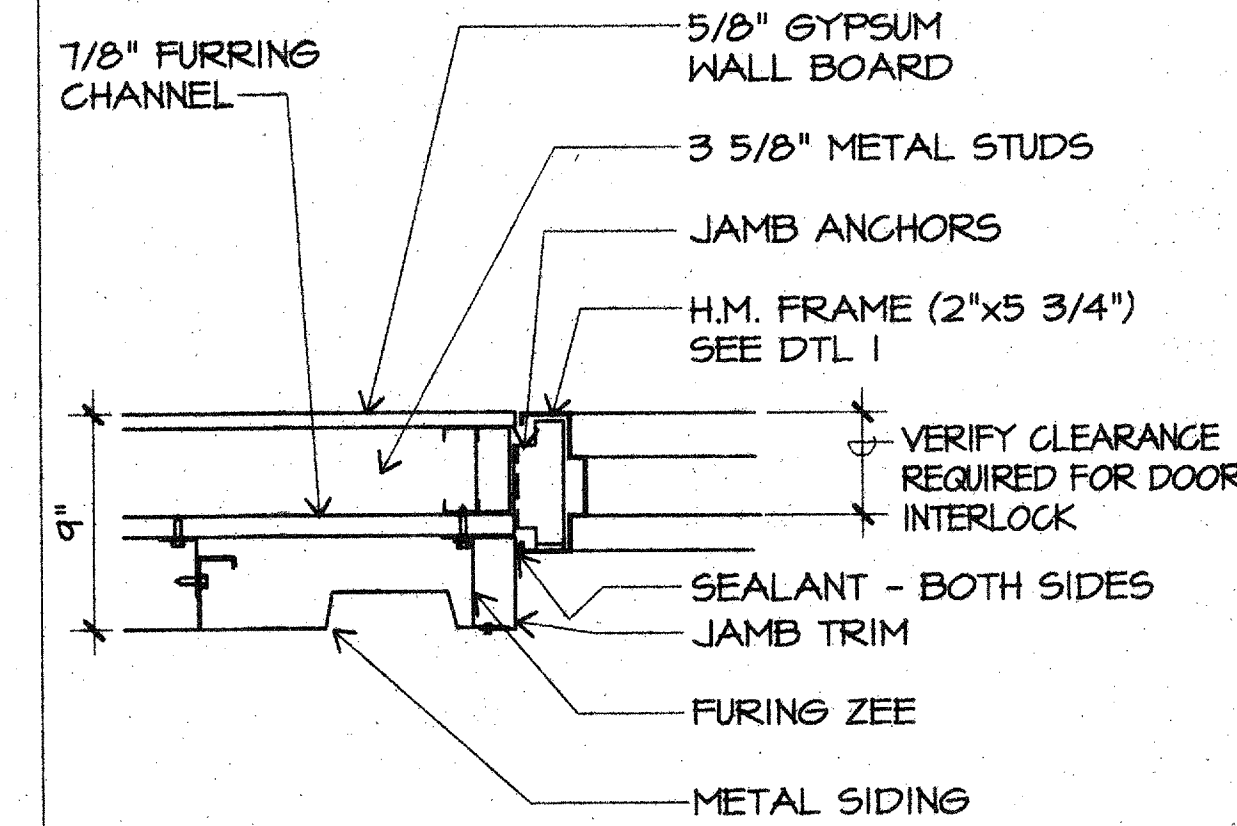
HOLLOW METAL JAMB

SCALE: 3" = 1'-0"



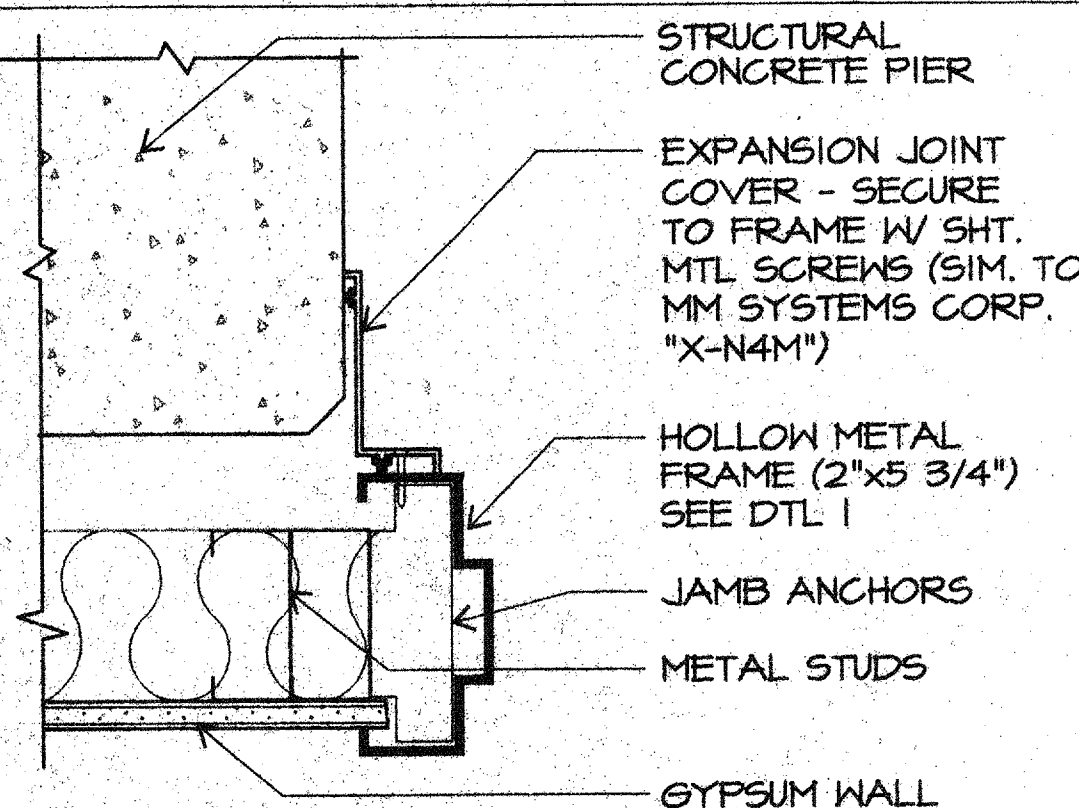
HOLLOW METAL JAMB

SCALE: 1 1/2" = 1'-0"



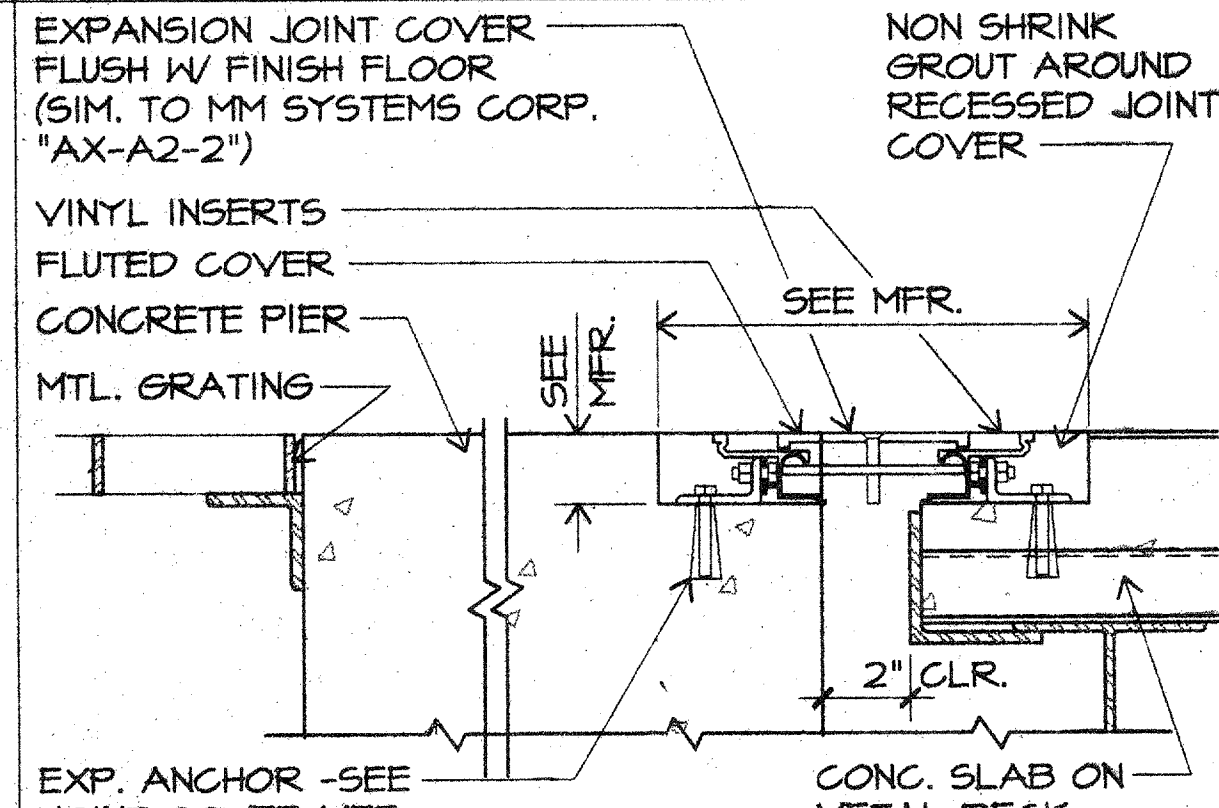
HOLLOW METAL JAMB

SCALE: 1 1/2" = 1'-0"



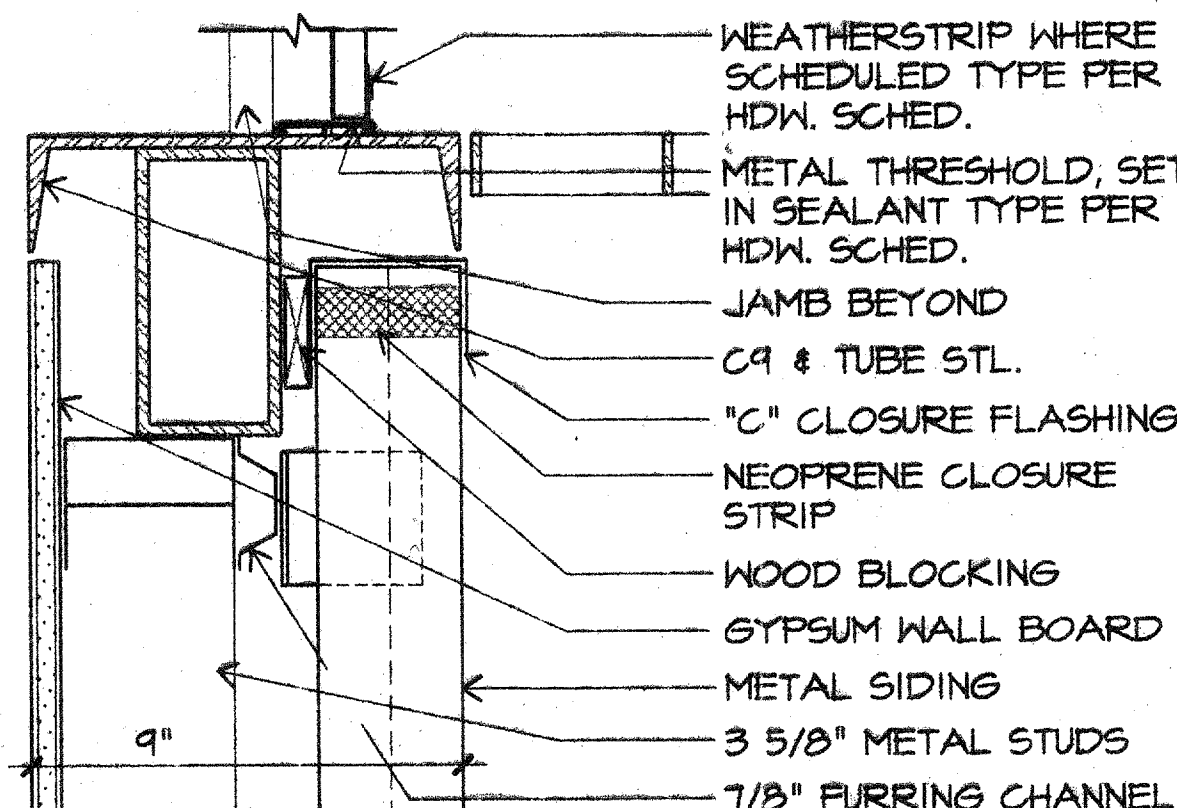
HOLLOW METAL JAMB

SCALE: 3" = 1'-0"



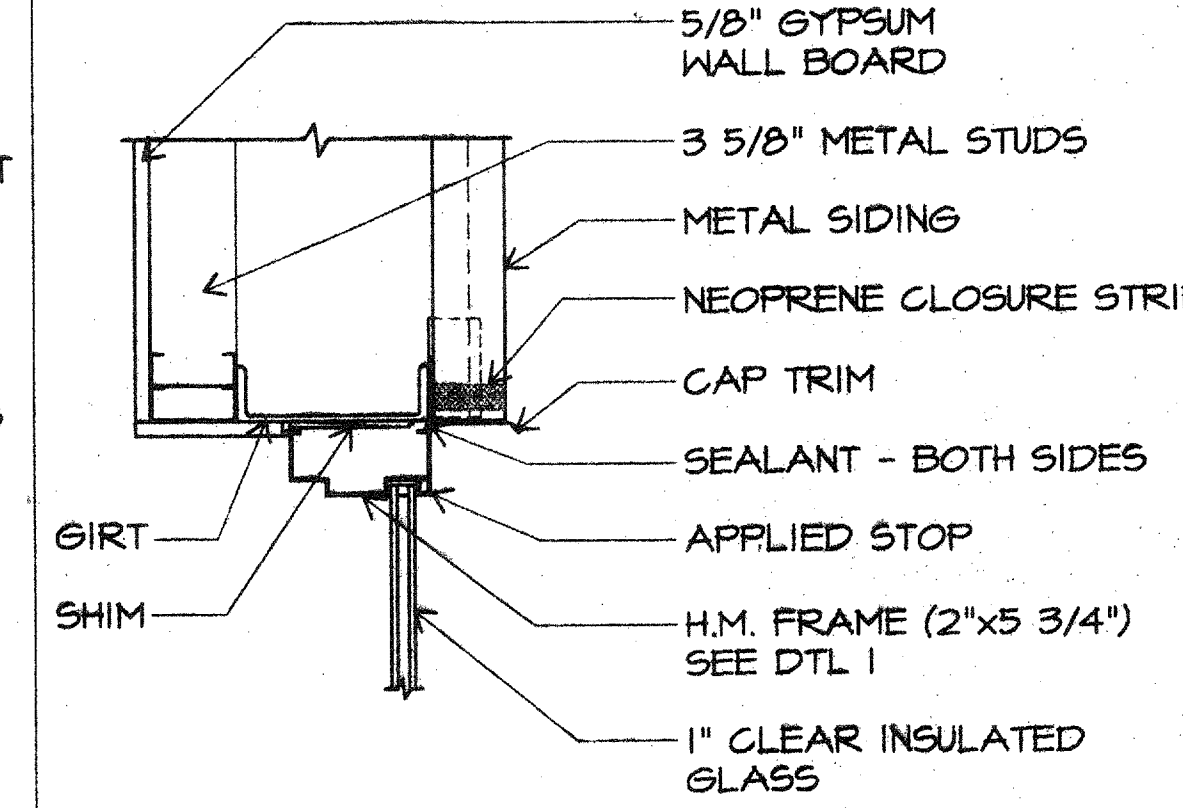
THRESHOLD AT PIER

SCALE: 3" = 1'-0"



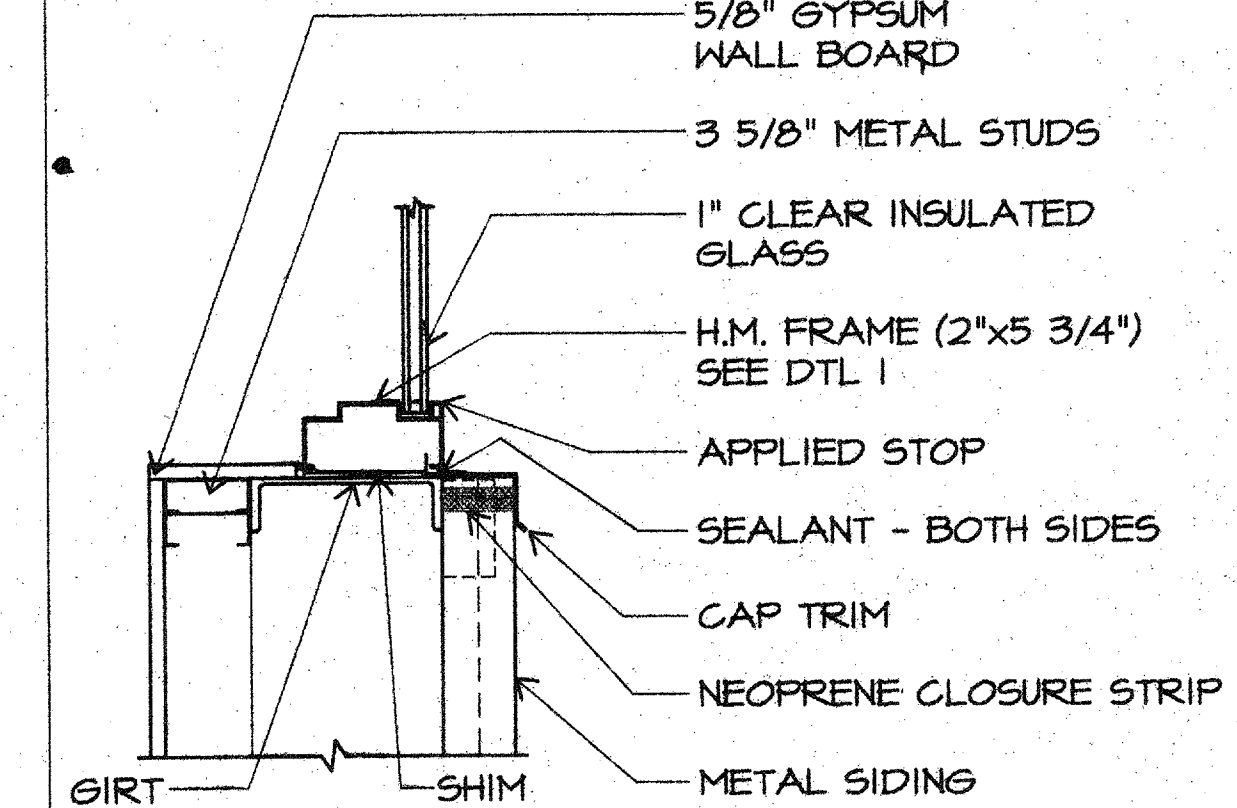
THRESHOLD AT ELEV.

SCALE: 3" = 1'-0"



H.M. WINDOW HEAD

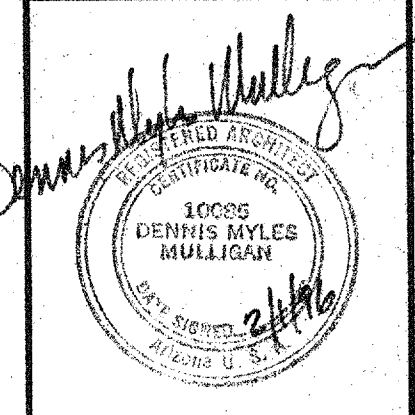
SCALE: 3" = 1'-0"



H.M. WINDOW SILL

SCALE: 3" = 1'-0"

SPACEWATCH TELESCOPE ENCLOSURE UNIVERSITY OF ARIZONA KITT PEAK, ARIZONA



M3 Engineering & Technology Corp. Tucson, Arizona Tel. (520) 690-8209 Fax No. (520) 293-8177 M3 PN 95117

Revisions

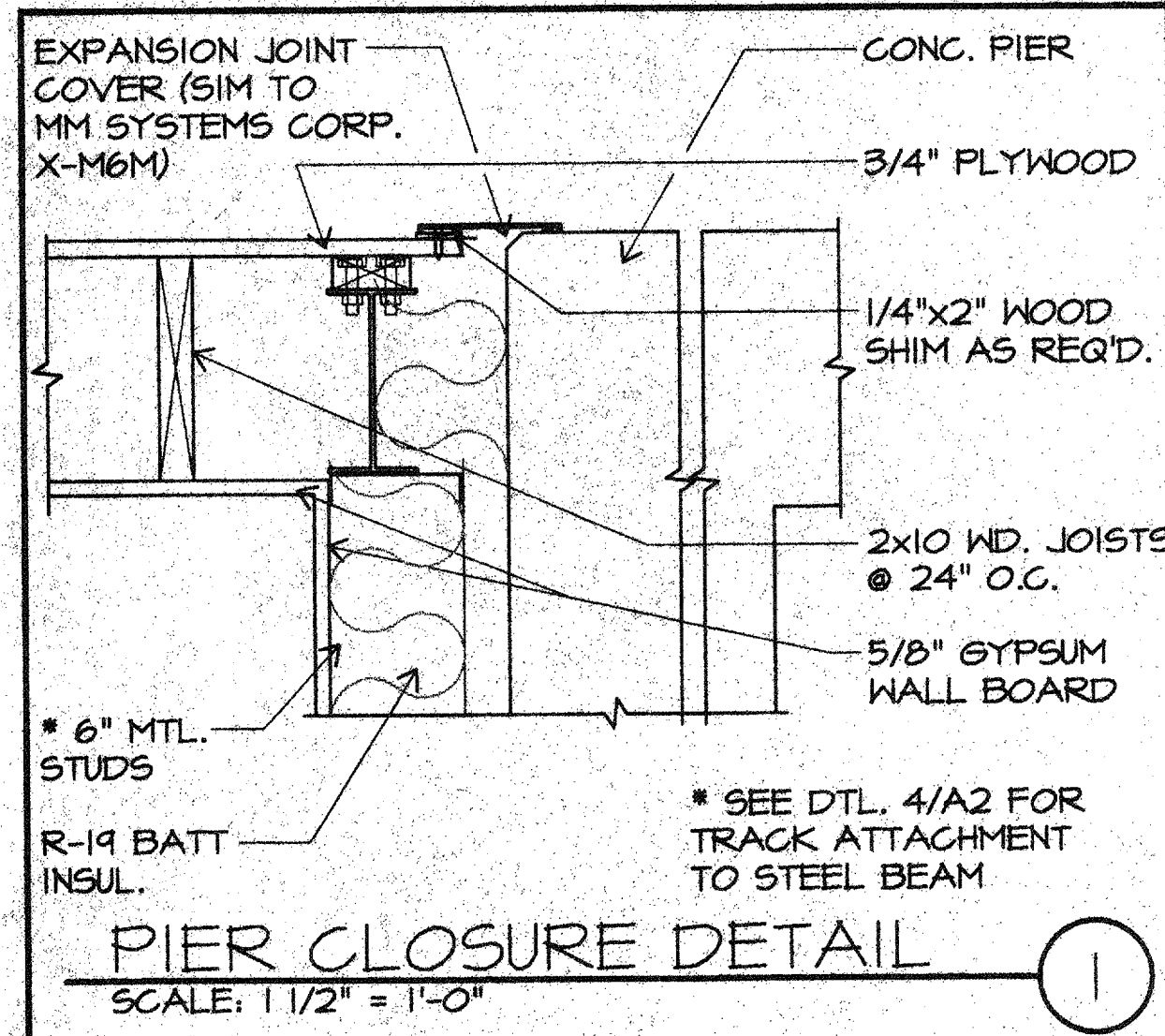
Description	Date

Date: 12/95
 S.P.D. Checked: 1/96
 J.T.U. Approved: 2/1/96
 Released: 2/1/96

Drawing Title: DOOR & ROOM FINISH SCHEDULES & DETAILS

Sheet Number: A6
 9 of 25 Sheets
 95-7467

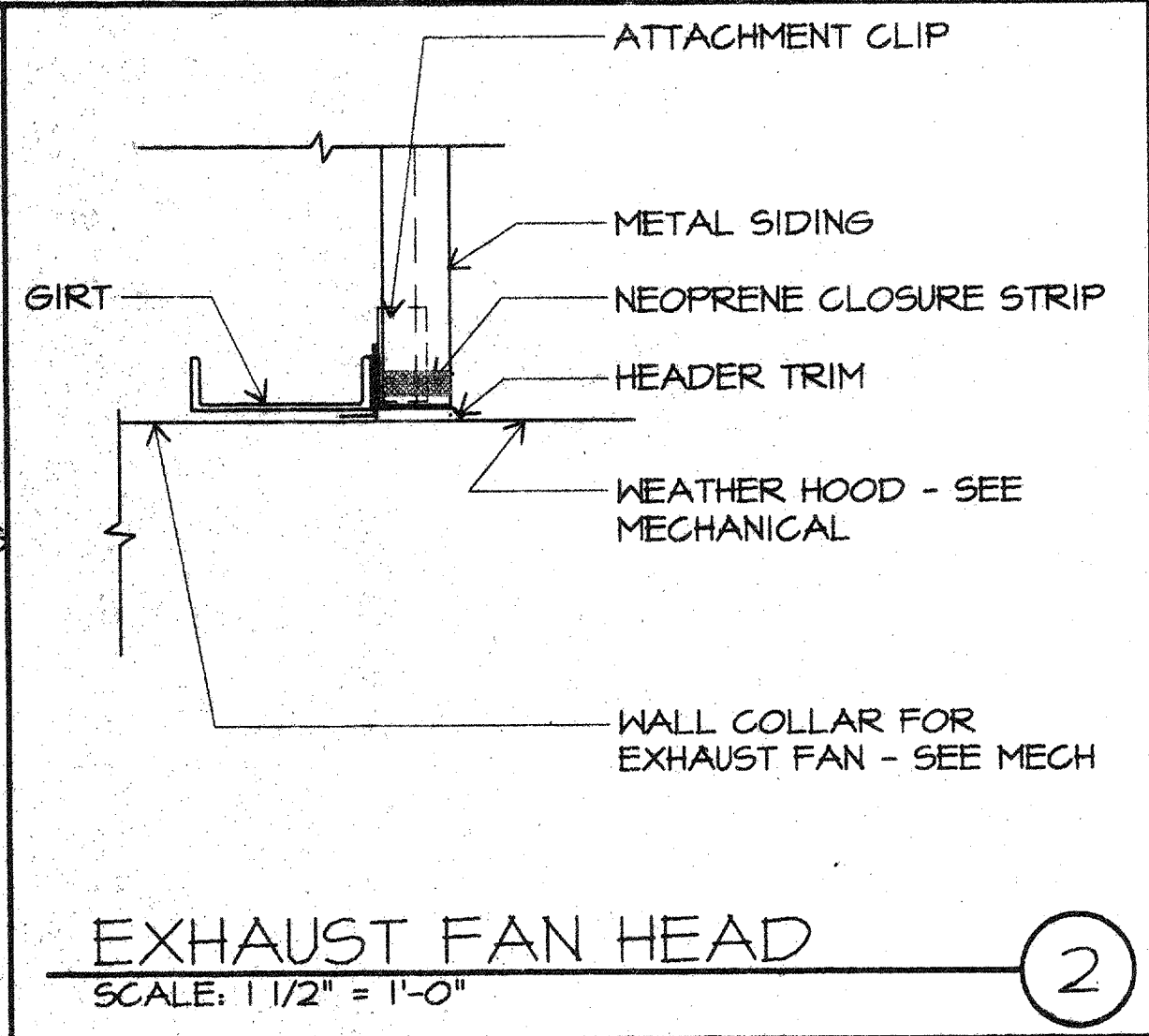
5/17/2016 UPDATED 02/05/16



PIER CLOSURE DETAIL

SCALE: 1 1/2" = 1'-0"

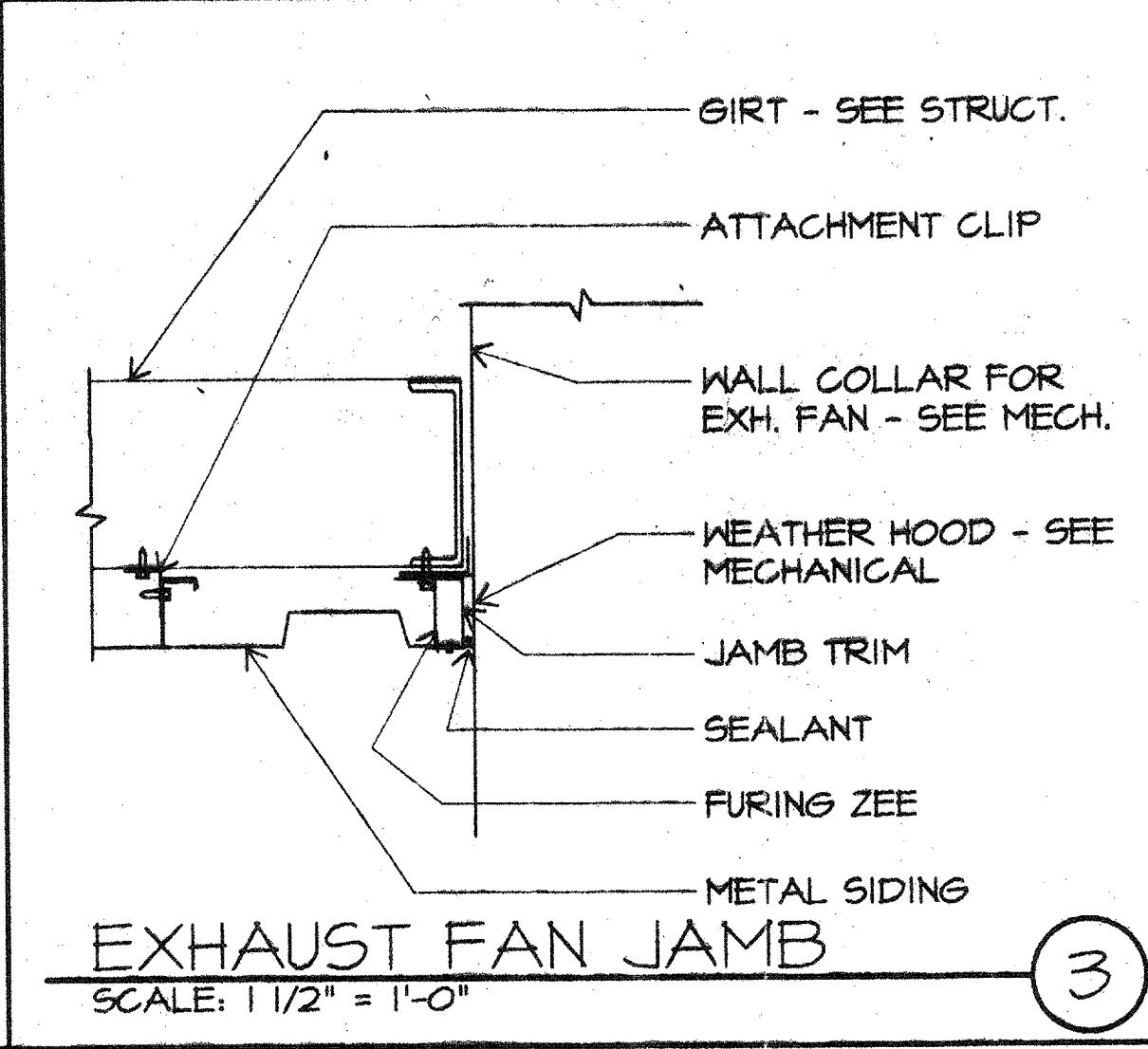
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EXHAUST FAN HEAD

SCALE: 1 1/2" = 1'-0"

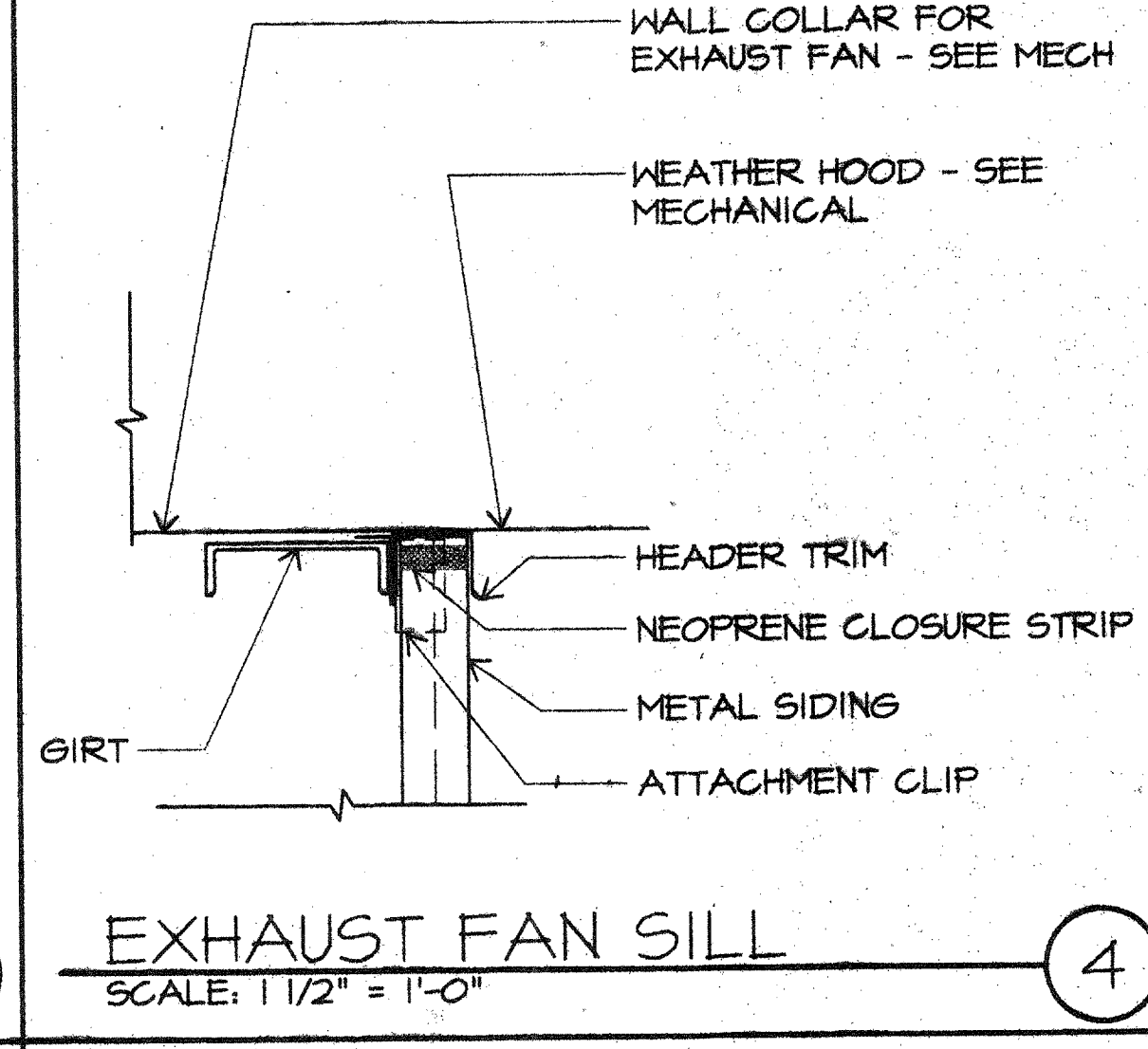
2



EXHAUST FAN JAMB

SCALE: 1 1/2" = 1'-0"

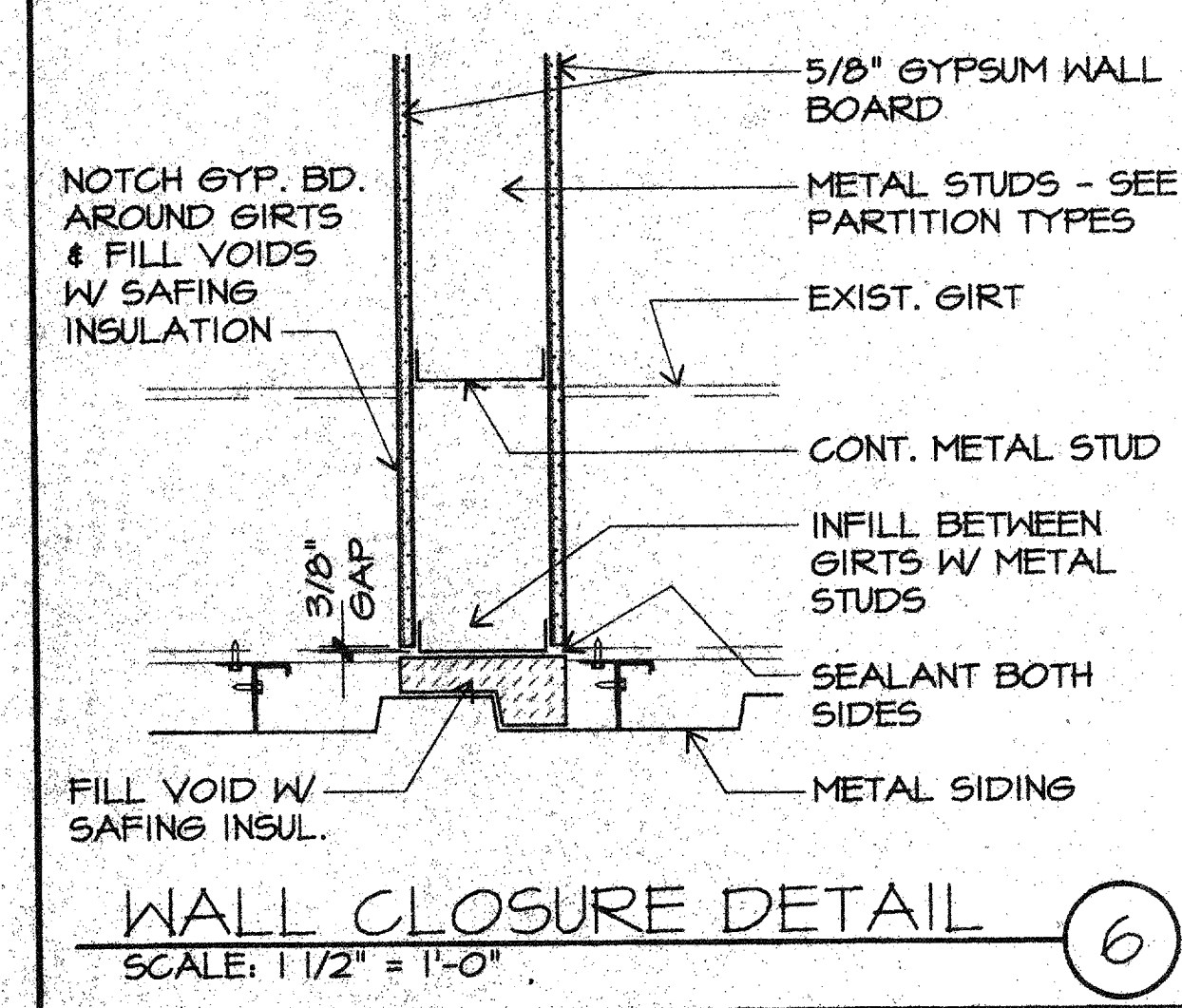
3



EXHAUST FAN SILL

SCALE: 1 1/2" = 1'-0"

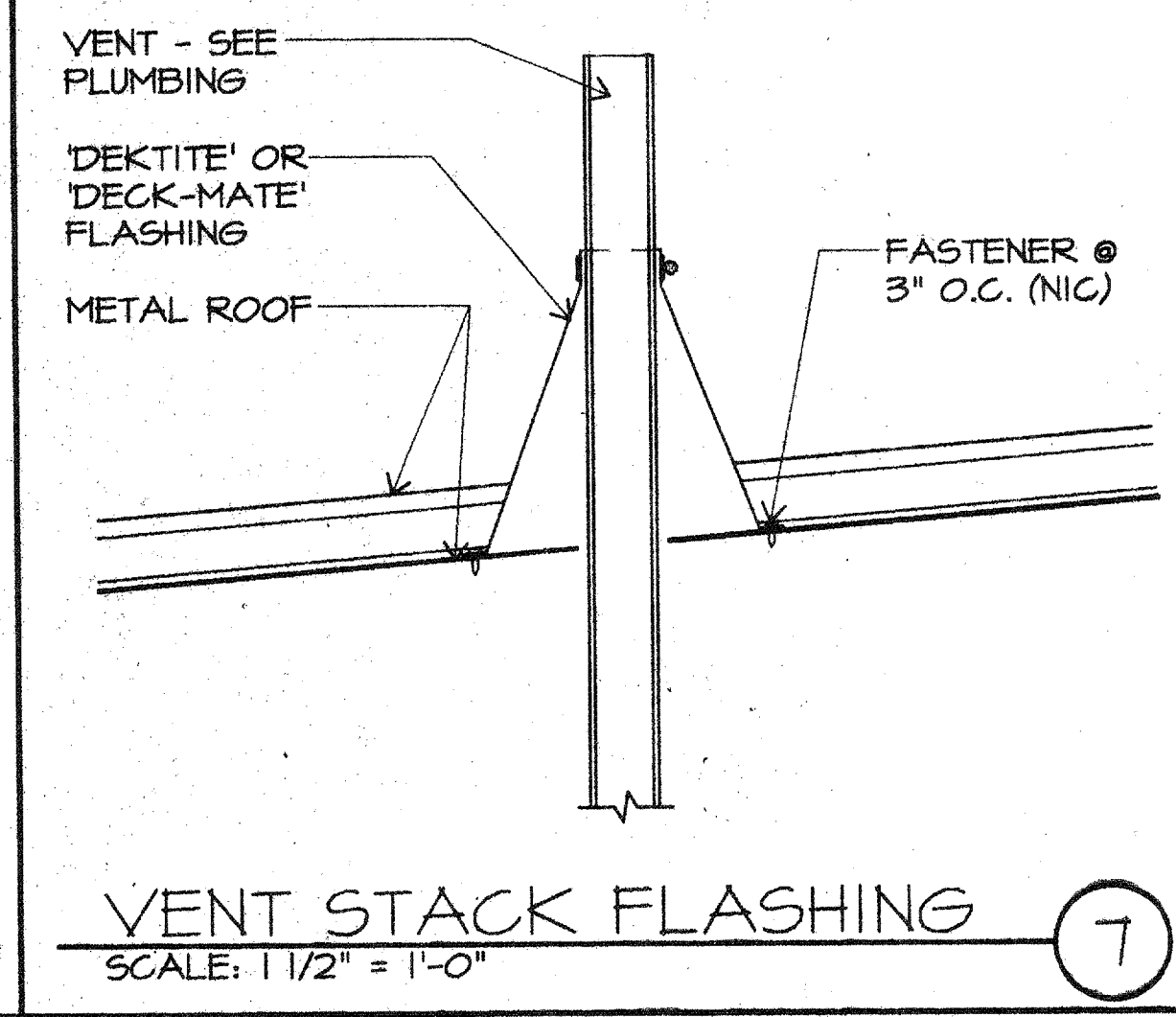
4



WALL CLOSURE DETAIL

SCALE: 1 1/2" = 1'-0"

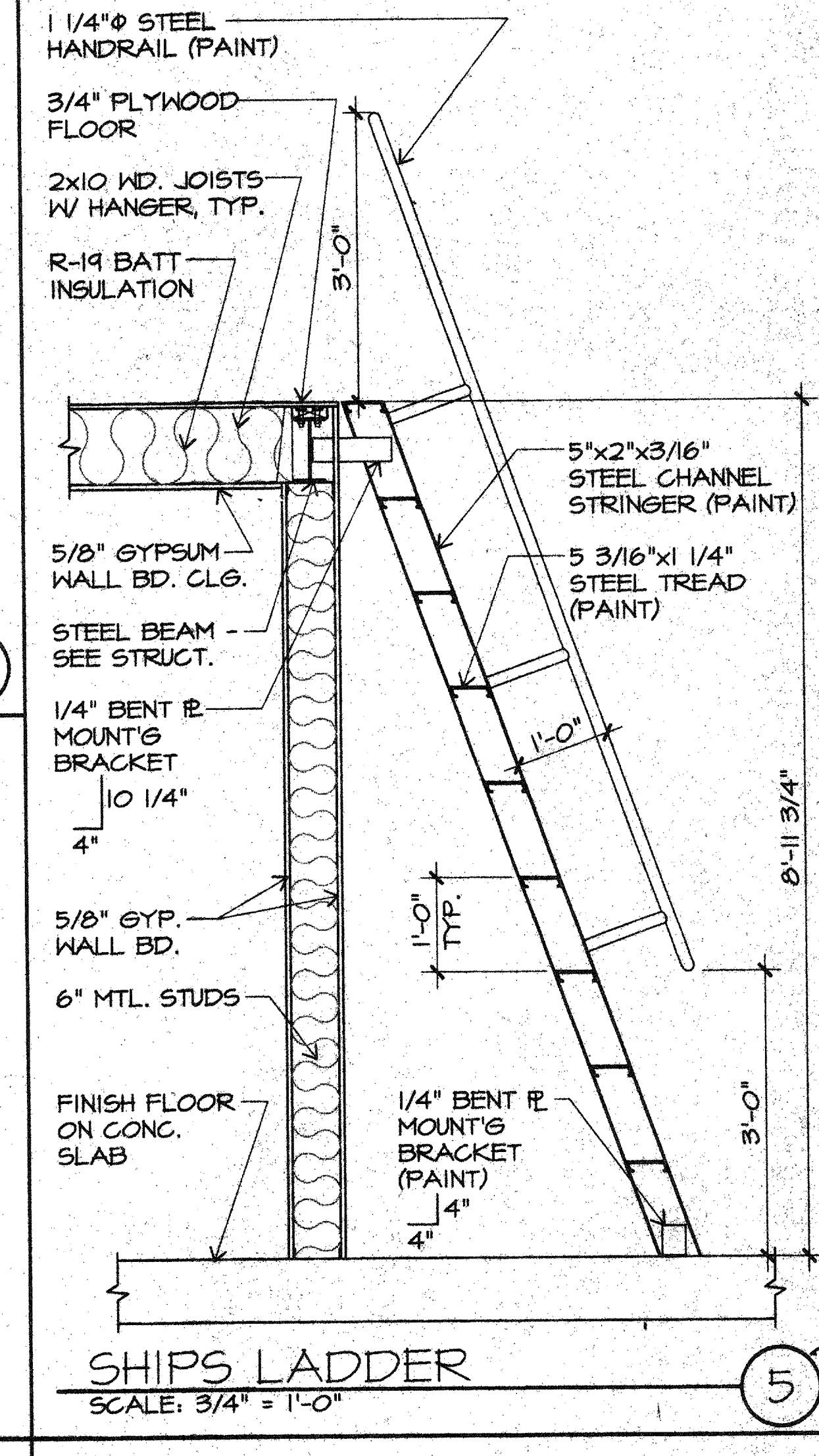
6



VENT STACK FLASHING

SCALE: 1 1/2" = 1'-0"

7



SHIPS LADDER

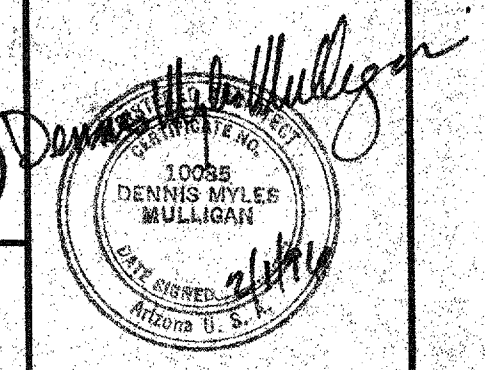
SCALE: 3/4" = 1'-0"

5

SPACEWATCH TELESCOPE ENCLOSURE

UNIVERSITY OF ARIZONA

KITT PEAK, ARIZONA



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M3 PN 95117

Revisions

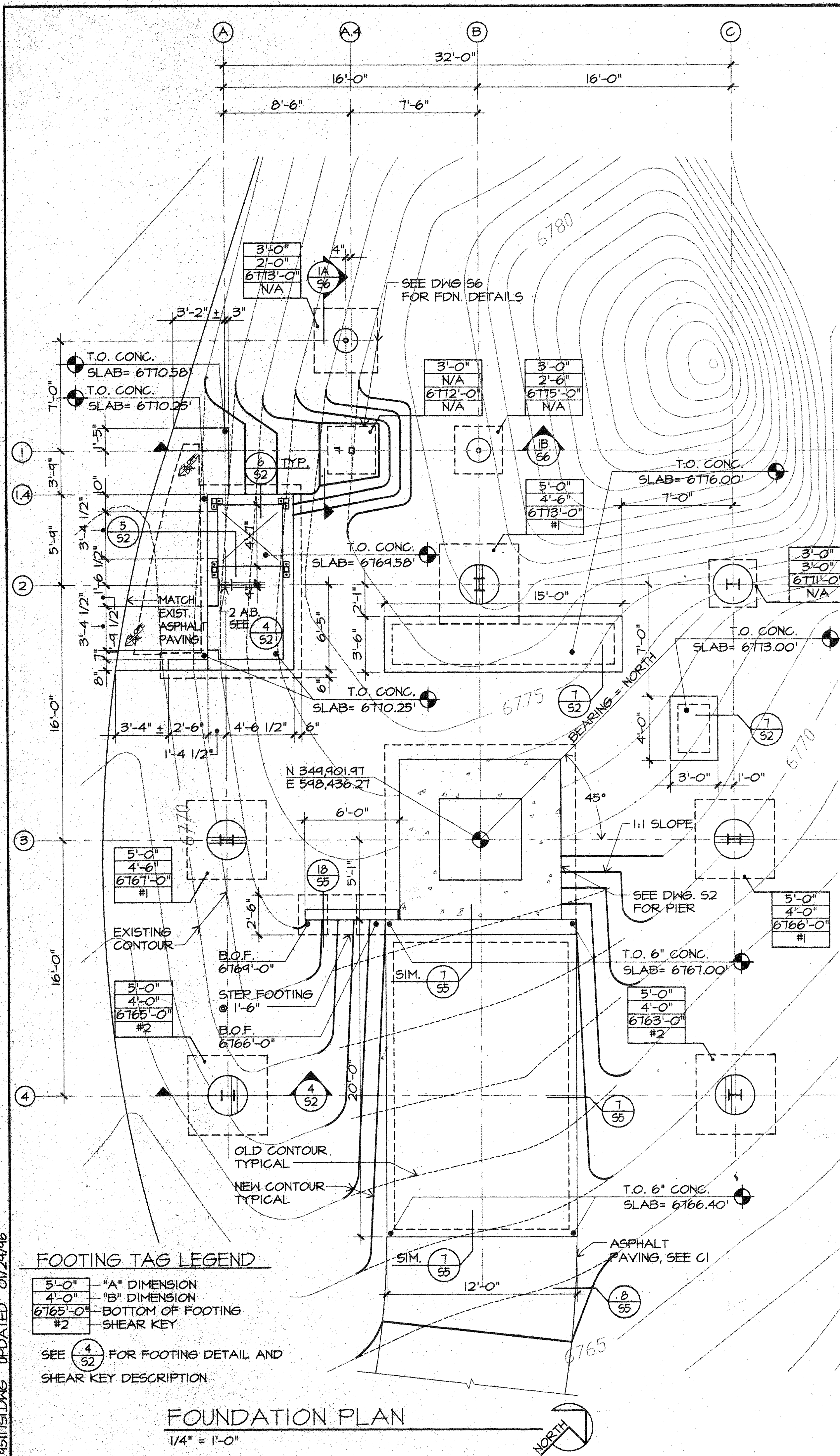
Description	Date
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Date: _____
 Drawn: S.P.D. 12/45
 Checked: J.T.U. 1/96
 Approved: DM 2/1/96
 Released: DM 2/1/96

Drawing Title
MISC. DETAILS

Sheet Number
A7
 10 of 25 Sheets
 95-7467

REVISIONS UPDATED 01/31/96



GENERAL STRUCTURAL NOTES

I. GENERAL

- A. GENERAL REFERENCE:
ALL WORK MUST CONFORM TO THE REQUIREMENTS OF THE UNIFORM BUILDING CODE, LATEST EDITION, AND OSHA, LATEST EDITION.
- B. DESIGN LOADS:
1. ROOF LIVE LOAD - 30 PSF (SNOW)
2. FLOOR LIVE LOAD - 100 PSF
3. SLABS ON GRADE
4. SLABS 100 PSF (LIGHT COMMERCIAL)
5. WIND LOAD - 150 MPH (50 PSF BASIC)
6. SEISMIC ZONE - ZONE 2A, Z = 0.15
7. SOILS REPORT (REF: TERRACON PROJECT NO. 63955095, AUGUST 22, 1995)
ALLOWABLE BEARING PRESSURE ON ROCK - 10,000 PCF
BEARING PRESSURE - 2500 PSF, 3 FEET BELOW GRADE ON SOIL
ACTIVE FLUID PRESSURE - 35 PCF
AT REST FLUID PRESSURE - 55 PCF
PASSIVE PRESSURE - 300 PCF
COEFFICIENT OF FRICTION - 3
- C. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND THE EXISTING BUILDING PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH ARCHITECT.
- E. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.
- F. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.
- G. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.
- H. ~~OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND HE SHALL COORDINATE ALL DETAILS.~~
- I. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
- J. TYPICAL DETAILS ARE NOT CUT ON DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE.
- K. WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN. MODIFICATION OF CERTAIN CONNECTION DETAILS AS PART OF THE SHOP DRAWING REVIEW PROCESS SHALL BE ANTICIPATED BY THE CONTRACTOR.
- L. THE CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS PRIOR TO ORDERING MATERIALS AND STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
- M. CALCULATIONS FOR DESIGN/BUILD ITEMS MUST BE SUBMITTED FOR REVIEW OF ARCHITECT/STRUCTURAL ENGINEER AND SHALL BEAR THE SEAL OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF ARIZONA.
- N. ALL CONSTRUCTION BRACING AND SHORING MUST BE DESIGNED BY THE CONTRACTOR.

II. SOILS

- A. FILL MATERIAL:
1. ANY IMPORTED ENGINEERING FILLS SHALL HAVE THE FOLLOWING GRADATION BY WEIGHT:
100% PASSING 6" SIEVE
70-100% PASSING 3" SIEVE
50-100% PASSING #4 SIEVE
15% MAXIMUM PASSING #200 SIEVE
LIQUID LIMIT 30 MAX
PLASTICITY INDEX 15 MAX
MAXIMUM SOLUBLE SULFATES = 0.1%
MAXIMUM EXPANSION POTENTIAL OF 1.5%
2. SLAB BASE COURSE SHALL HAVE 100% PASSING 1-1/2" SIEVE, 45% TO 90% PASSING #4 SIEVE, NO MORE THAN 12% PASSING #200 SIEVE.
3. COMPACTION TO 95% OF ASTM D-1557 AS PER ABOVE.
- B. FINISH GRADING SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO SLOPE GRADE (MINIMUM OF 5%) AWAY FROM FOUNDATIONS. GRADING SHALL ALSO ELIMINATE ANY POTENTIAL PONDING NEAR FOUNDATIONS.

III. CONCRETE

- A. ALL CONCRETE SHALL BE READY MIXED CONFORMING WITH ASTM C-94 AND ATTAIN THE FOLLOWING MINIMUM STRENGTHS AT 28 DAYS: 3000 PSI
- B. ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE PROVISIONS OF THE FOLLOWING LATEST ACI STANDARDS:
1. ACI 301-SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDING.
2. ACI 318-BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

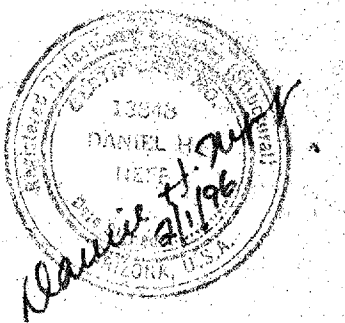
III. CONCRETE (CONT.)

- C. CONCRETE FOOTINGS AND PADS MAY BE POURED AGAINST NEAT EXCAVATIONS.
- D. MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE AS FOLLOWS:
1. CONCRETE POURED DIRECTLY AGAINST EARTH 3"
2. FORMED CONCRETE EXPOSED TO WEATHER OR EARTH 2"
3. AGAINST LEVELED BASE COURSE 2"
4. FORMED COLUMNS NOT EXPOSED TO WEATHER OR EARTH 2"
5. FORMED WALLS NOT EXPOSED TO WEATHER OR EARTH 1 1/2"
- E. ALL REINFORCING BARS, ANCHOR BOLTS AND CONCRETE INSERTS SHALL BE SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- F. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING CONCRETE. VERIFY OPENINGS WITH ELECTRICAL AND MECHANICAL DRAWINGS. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT.
- G. NO CONSTRUCTION JOINTS (OTHER THAN THOSE SHOWN ON DRAWINGS) SHALL BE INSTALLED WITHOUT APPROVAL OF THE ENGINEER. PROVIDE 3/4" CHAMFER AT ALL EXPOSED CORNERS.
- H. CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER 24 HRS IN ADVANCE TO OBSERVE COMPLETED FOOTING EXCAVATION AND ALL REINFORCING BAR PLACEMENTS BEFORE ANY CONCRETE IS PLACED.
- I. REINFORCING STEEL:
1. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615 GRADE 40 FOR #4 OR LESS, GRADE 60 FOR #5 OR GREATER.
2. ALL REINFORCING IN CONCRETE SHALL BE CONTINUOUS OR LAPPED IN ACCORDANCE WITH ACI 318, AND NOT LESS THAN 36 DIAMETERS.
- J. SLABS ON GRADE:
1. 4" SLABS SHALL HAVE ONE LAYER OF 6 X 6 - W1.4 X W1.4 WELDED WIRE FABRIC AT CENTER OF SLAB, RECOMMENDED MAXIMUM CONTROL JOINT SPACING: 20' X 20'.

IV. STRUCTURAL STEEL

- A. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH SPECIFICATIONS OF AISC MANUAL, LATEST EDITION. REFER TO PAINTING SPEC. FOR FINISHES.
1. STRUCTURAL SHAPES AND PLATES: ASTM A-36
2. TUBULAR STEEL: ASTM A-500, GRADE B (46 KSI)
3. STEEL PIPE: ASTM A501 OR ASTM A53, TYPES E OR S, GRADE
4. BAR GRATING 1-1/4" X 3/16" @ 1-3/16" O.C.
5. HANDRAIL 1-1/4" STANDARD PIPE WITH MITERED OR ROUNDED TURNS
6. CONNECTIONS FOR STAIRWAYS AND LADDERS: ASTM A-307, GRADE A
7. CONNECTIONS FOR MAIN STEEL INCLUDING BRACING: ASTM A-325
8. TYPICAL BEAM CONNECTIONS DOUBLE SHEAR MAXIMUM ROW OF 3/4" DIAMETER BOLTS, AISC TABLE II B, IN CONJUNCTION WITH TABLE III, WELD A
9. WELDING SHALL CONFORM TO AWS SPECIFICATION. ELECTRODES: E70XX
10. ALL CONNECTIONS FOR EXPOSED STRUCTURES SHALL BE "HIDDEN" TO INSIDE. CLOSURE PLATES ARE TO BE PROVIDED TO TRIM STEEL SUCH AS AT EXPOSED ENDS OF CHANNELS. ALL EXPOSED WELDS TO BE GROUND SMOOTH.
- B. FLOOR DECKING SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH STEEL DECK INSTITUTE.
1. 1/2" DIAMETER FUSED SURFACE PUDDLE WELDS IN ALL FLUTES AT ALL BEARING BEAMS AND BEARING LEDGERS.
2. 1/2" DIAMETER FUSED SURFACE PUDDLE WELDS @ 24" O.C. FOR PARALLEL LEDGERS AND BEAMS WITHIN 8 FEET OF END WALLS.
3. 1-1/2" SIDE SEAM WELDS AT 12" O.C.
4. 3 SPAN CONTINUOUS UNLESS NOTED OTHERWISE.
5. NESTING AT END LAPS SHALL BE 4" MINIMUM.
6. DECK SHALL BE GALVANIZED.
7. CONSTRUCTION MATERIALS SHALL NOT BE LOADED AT MIDSPAN OF DECKING; RATHER ANY TEMPORARY STORAGE SHALL BE OVER BEAM SUPPORTS.
8. DECKING SHALL BE DESIGNED WITH COMPOSITE ACTION FOR 100 PSF LIVE LOAD AND 10 PSF DEAD LOAD, EXCLUDING DECK. MINIMUM DECK PROPERTIES SHALL BE AS FOLLOWS:
MOMENT OF INERTIA I = 0.43 IN⁴/FT.
SECTION MODULUS S = 0.36 IN³/FT.
GAGE GA = 20
DIAPHRAGM VALUE V = 1800 PLF
- V. CARPENTRY
A. CONSTRUCTION:
ALL WORK AND MATERIALS SHALL BE IN CONFORMANCE WITH THE LATEST APPROVED EDITION OF THE UBC.
- B. ROUGH CARPENTRY:
1. ALL LUMBER FOR JOISTS, BEAMS, AND MISCELLANEOUS FRAMING SHALL BE DOUGLAS FIR-LARCH NO. 2, MINIMUM.
2. PLYWOOD SHALL BE CD INT. APA WITH EXTERIOR GLUE.
3. CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER TO OBSERVE THE COMPLETED NAILING OF SHEATHING PRIOR TO ROOFING PLACEMENT.
4. ALL NAILINGS SHALL CONFORM TO THE UBC 1994 TABLE NO. 23-1-Q AND AS NOTED ON DRAWINGS. USE METAL JOIST HANGERS, SIMPSON OR EQUAL.
5. ALL LUMBER SHALL BEAR THE STAMP OF AN APPROVED GRADING AGENCY.
- C. FINISH CARPENTRY:
1. ALL WORK SHALL BE NEAT AND WORKMANLIKE IN APPEARANCE.
2. ALL HAMMER MARKS SHALL BE REMOVED BY SANDING AND REFINISHING.

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M3 PN 95117

Revisions	
Description	Date

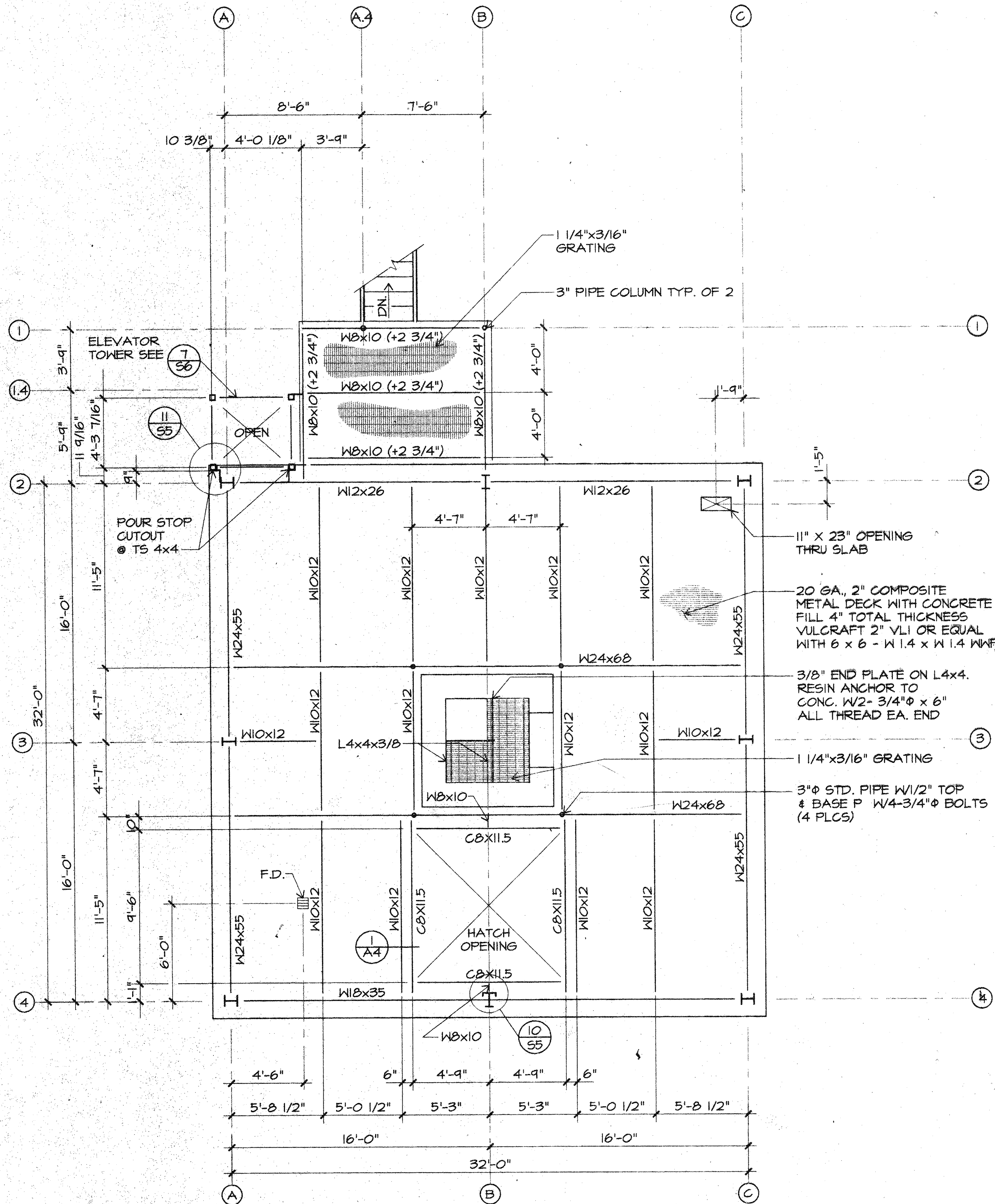
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Drawn: T.M.W.
Checked: D.NEFF
Approved: 2/96
Released: 12/96

Drawing Title
FOUNDATION PLAN AND NOTES

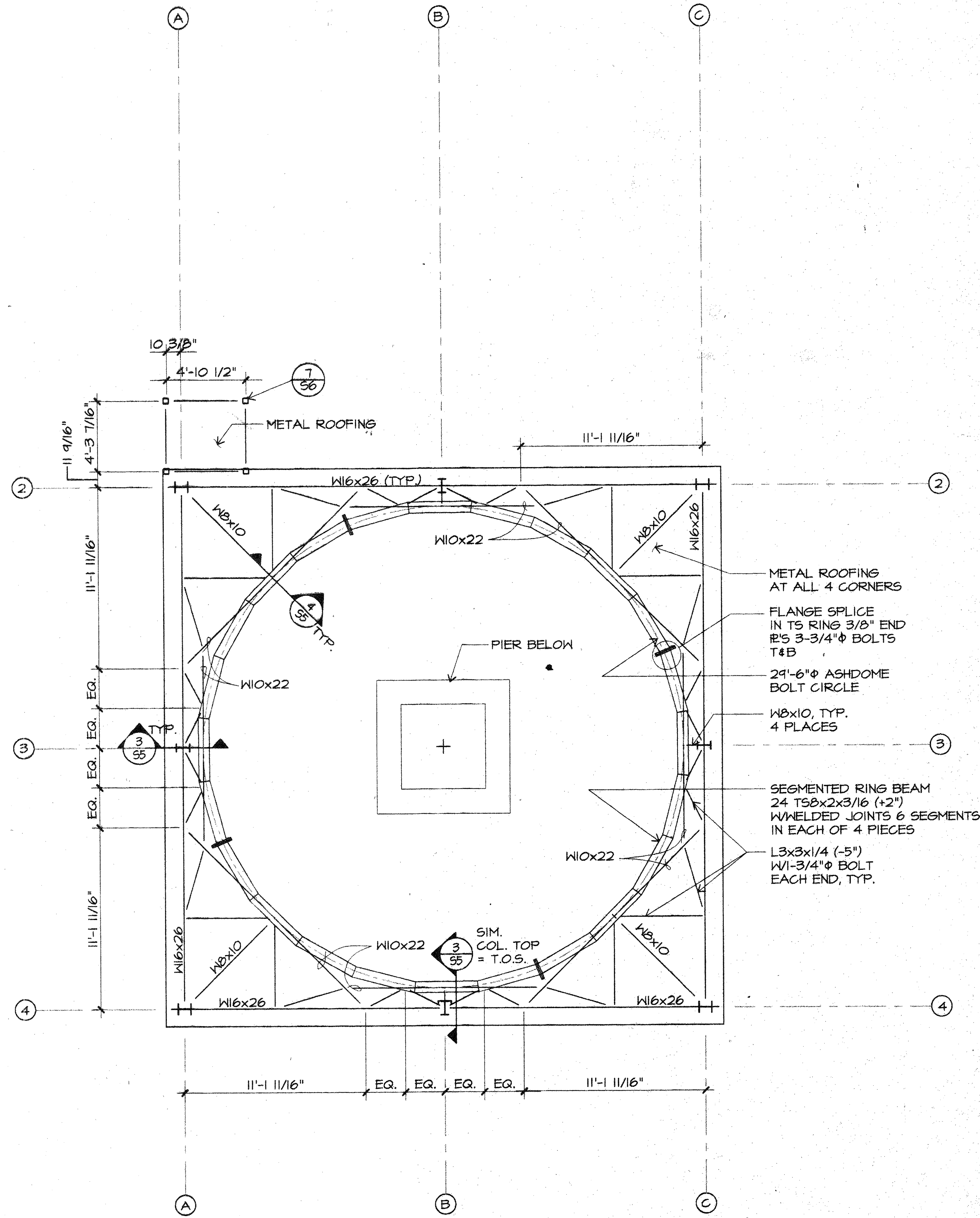
Sheet Number
S1
11 of 25 Sheets
95-7467

45115.DWG UPDATED 01/24/96

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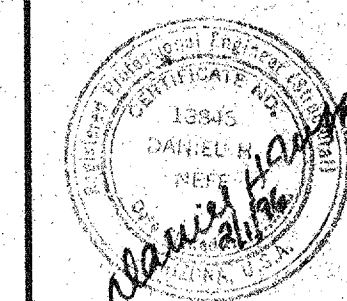


OBSERVING LEVEL FLOOR FRAMING PLAN
 1/4" = 1'-0" (T.O.S. ELEVATION 6783'-8" U.N.)



ROOF FRAMING PLAN
 1/4" = 1'-0" (T.O.S. ELEVATION 6800'-8" U.N.)

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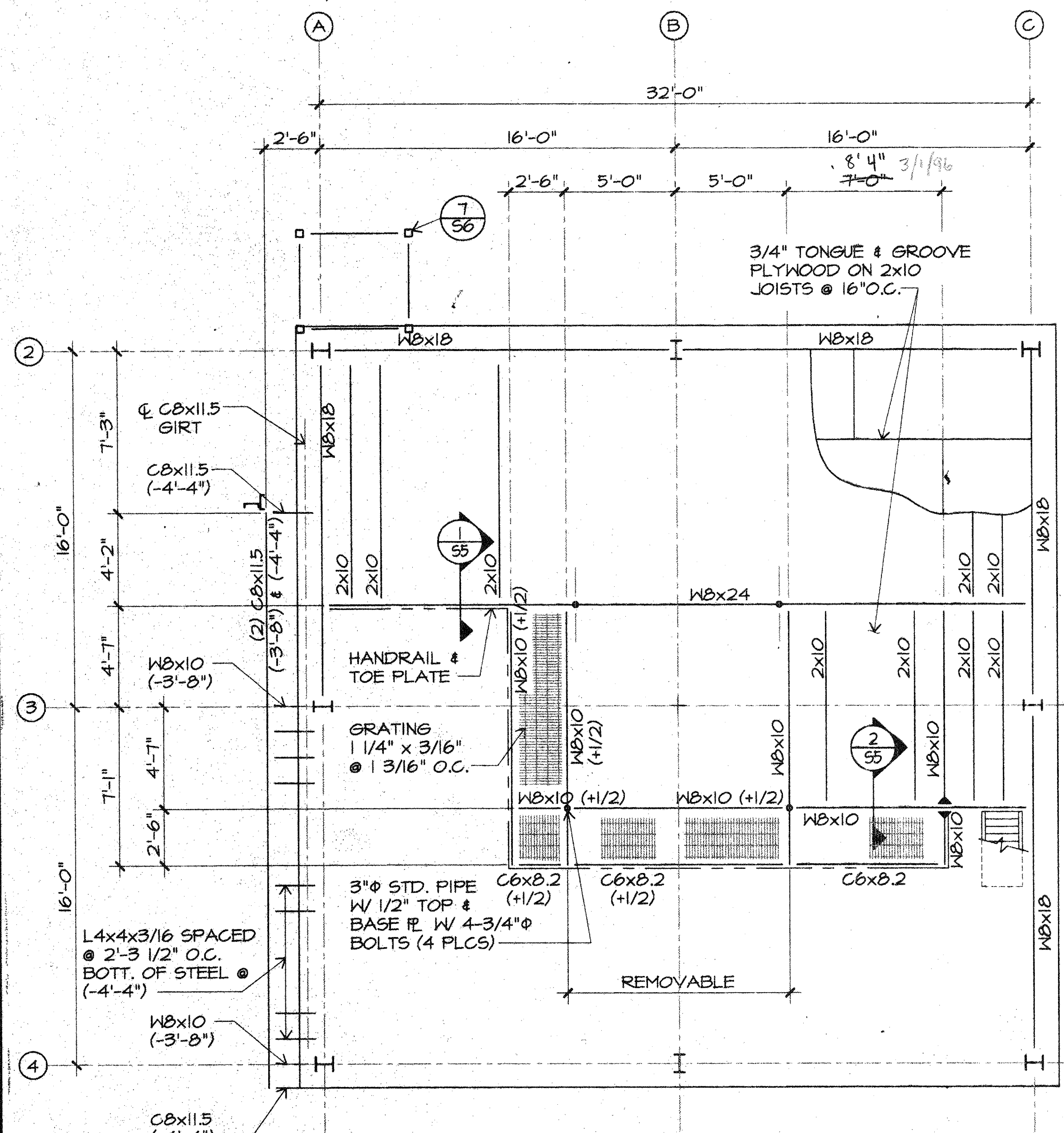
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Drawn: T.M.H. 12/95
 Checked: D.NEFF 2/96
 Approved:
 Released: R.W.P. 2/1/96

Drawing Title
FRAMING PLANS

Sheet Number
S3
 13 of 25 Sheets
 95-7467

REVISIONS D.W.G. UPDATED 01/29/96

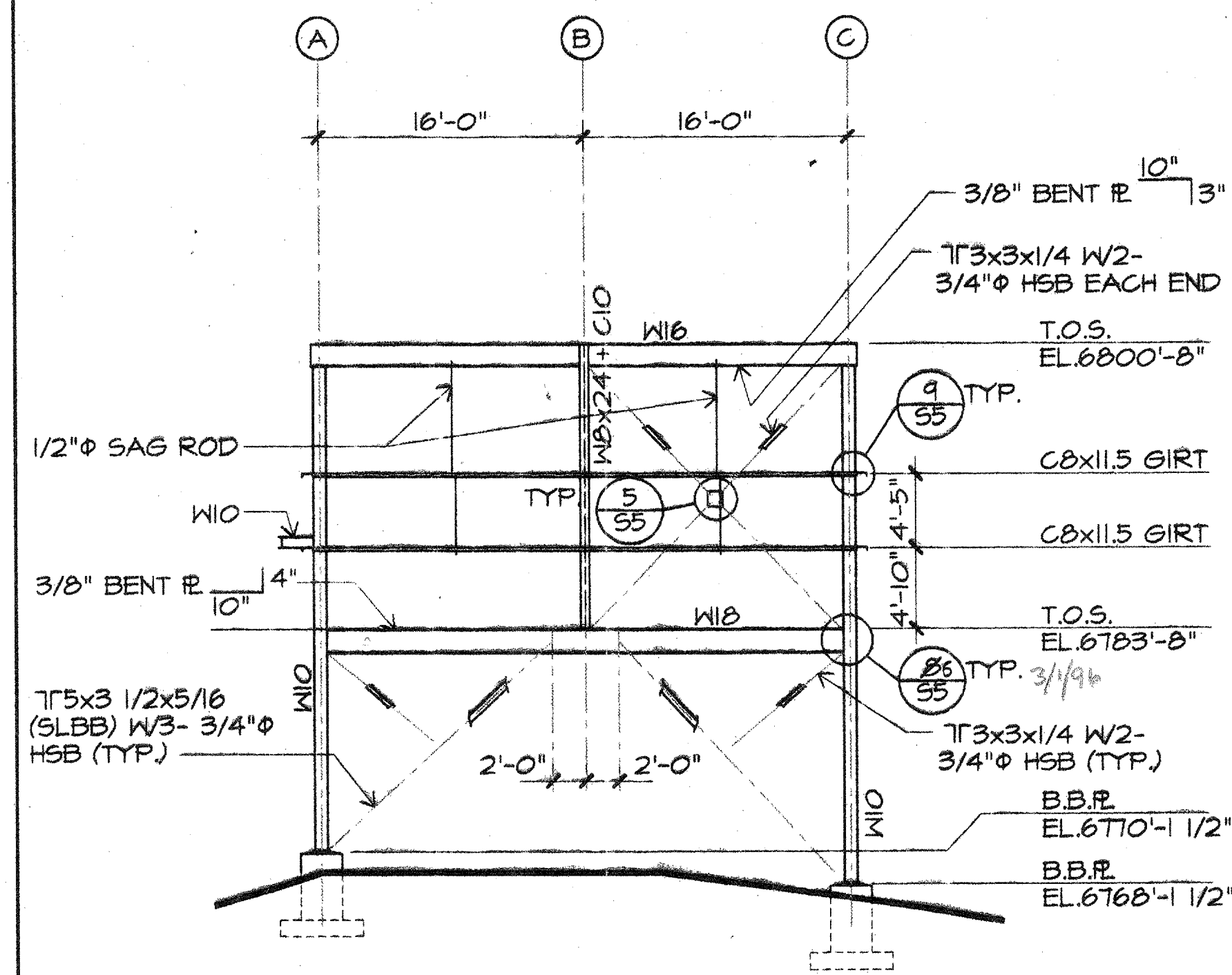
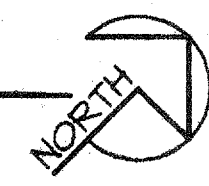


MEZZANINE LEVEL FRAMING PLAN

1/8"=1'-0"

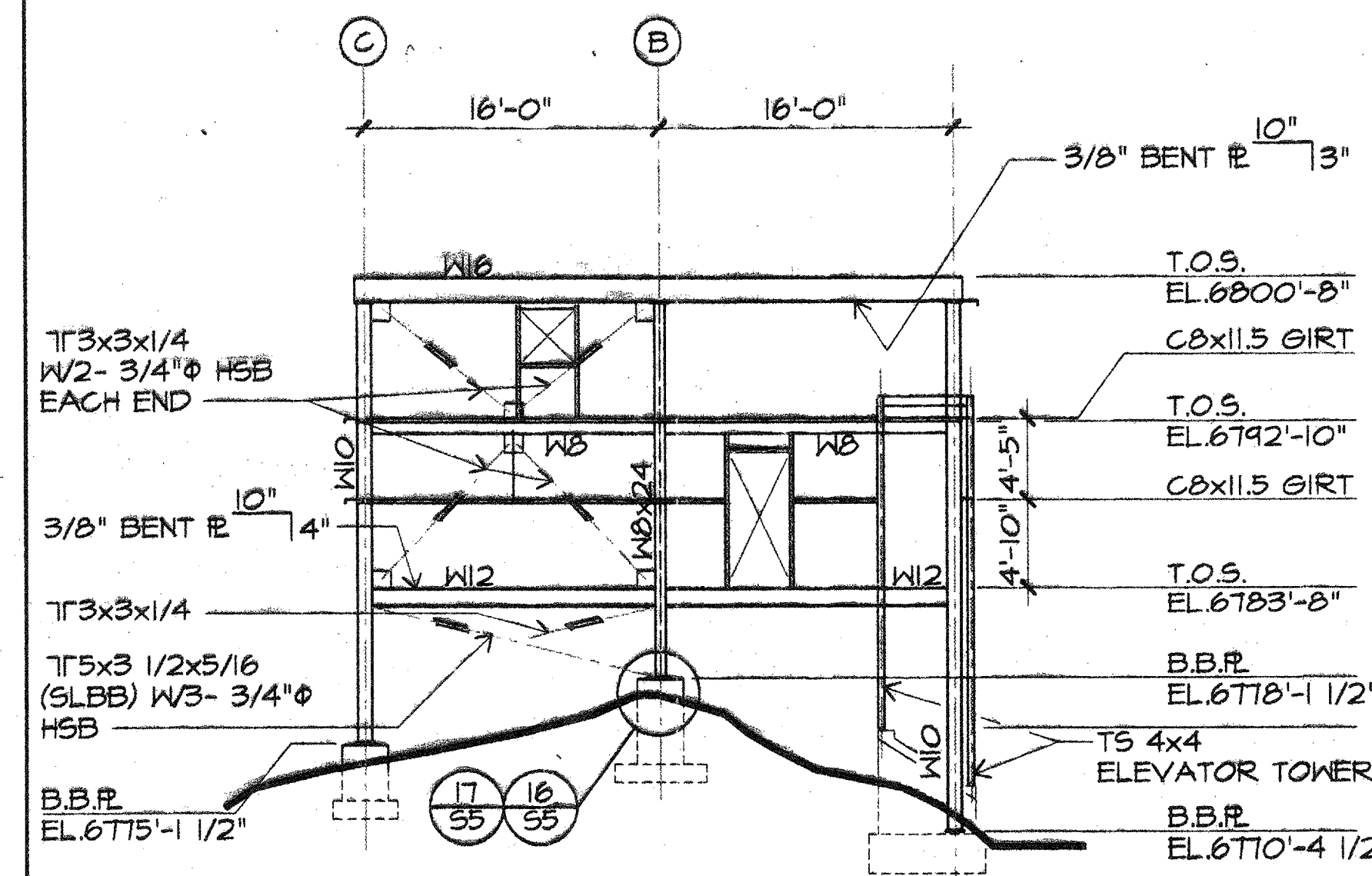
(T.O.S. ELEVATION 6792'-10" U.N.)

NOTE:
INDICATES MOMENT CONNECTION PER 2/55.



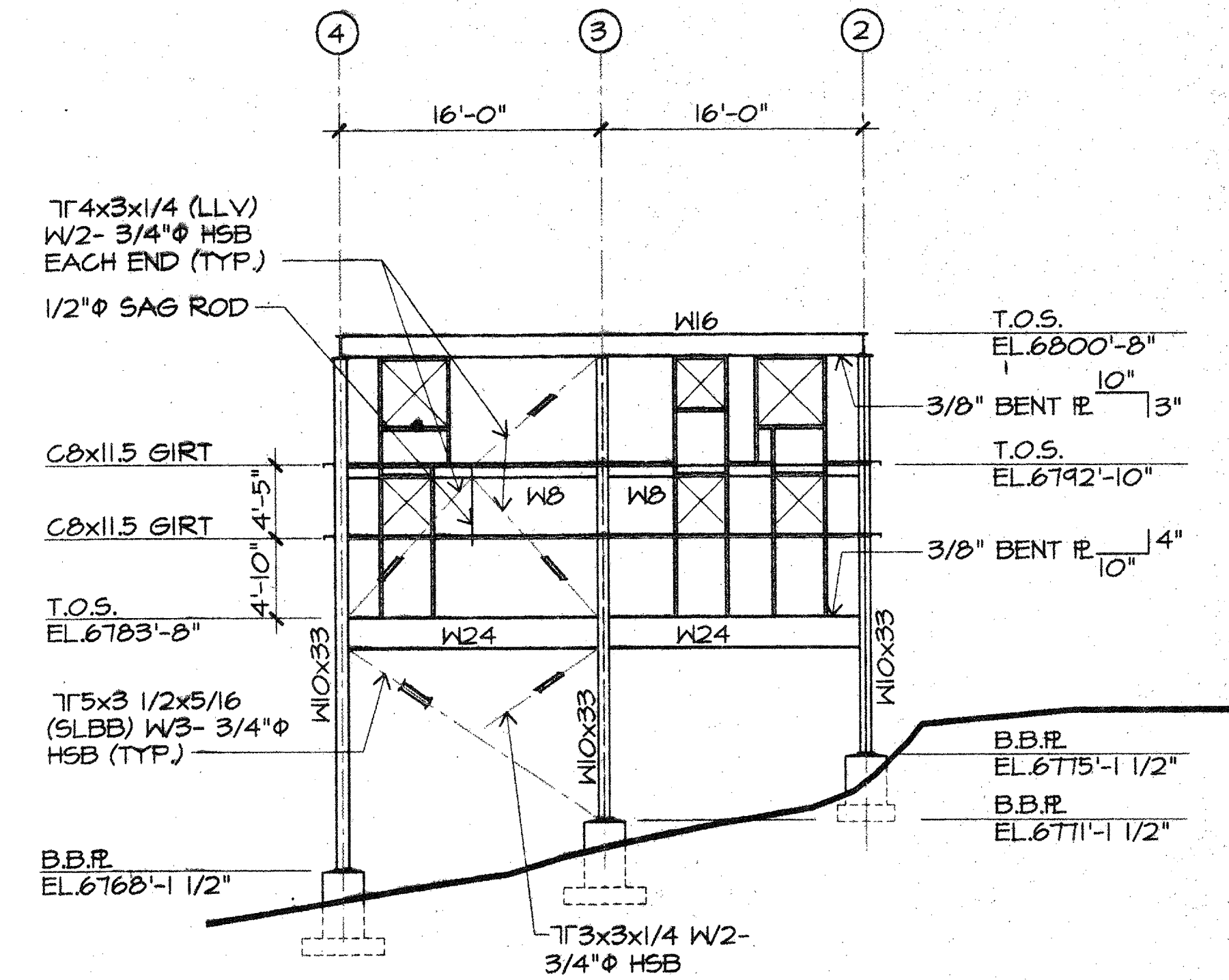
SOUTHEAST ELEVATION COL. 4

1/8"=1'-0"



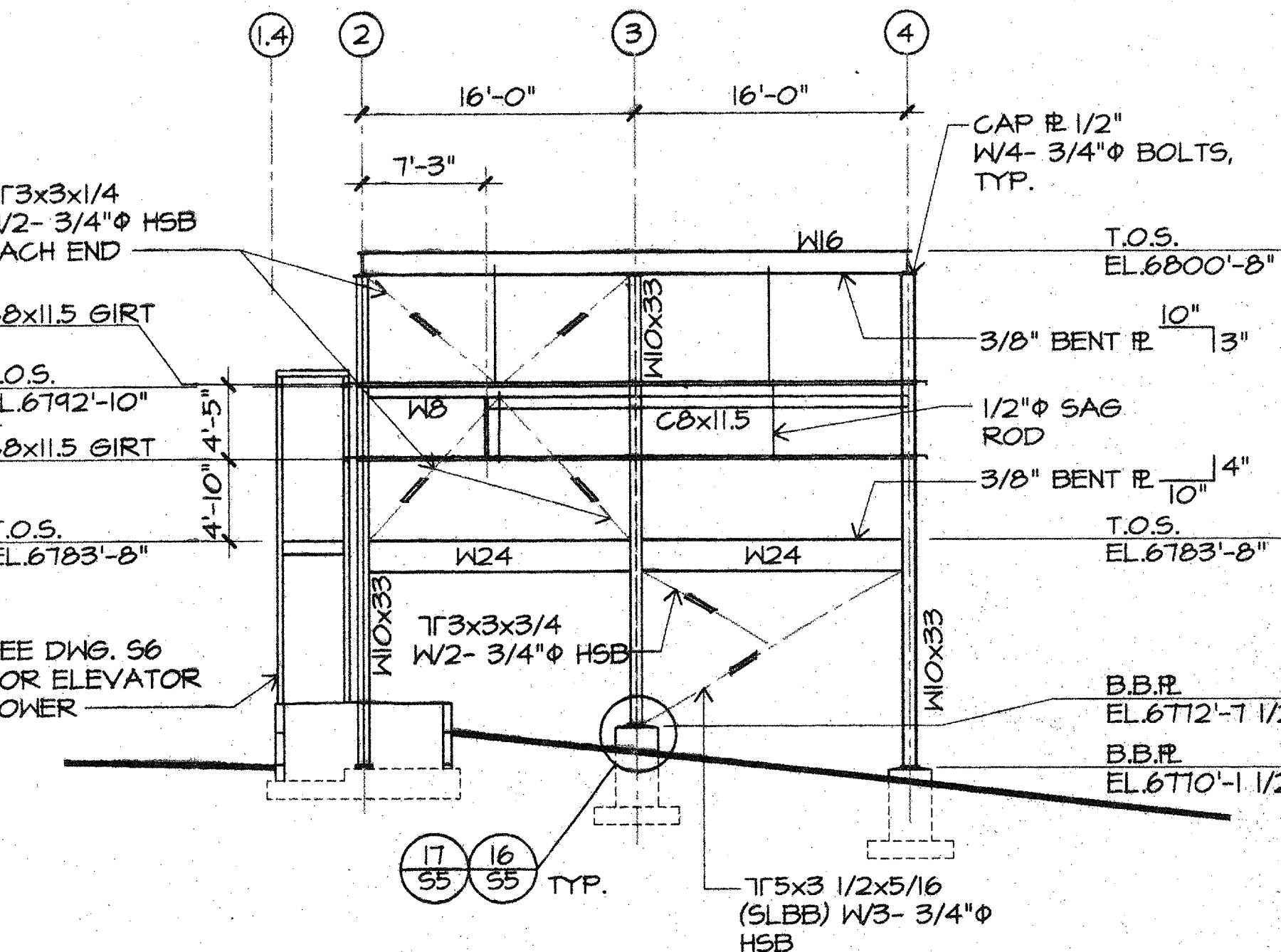
NORTHWEST ELEVATION @ COL. 2

1/8"=1'-0"



NORTHEAST ELEVATION @ COL. C

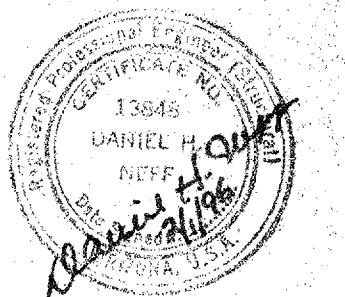
1/8"=1'-0"



SOUTHWEST ELEVATION @ COL. A

1/8"=1'-0"

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 Checked: D.NEFF 2/96
 Approved:

Released: *NAME 2/1/96*

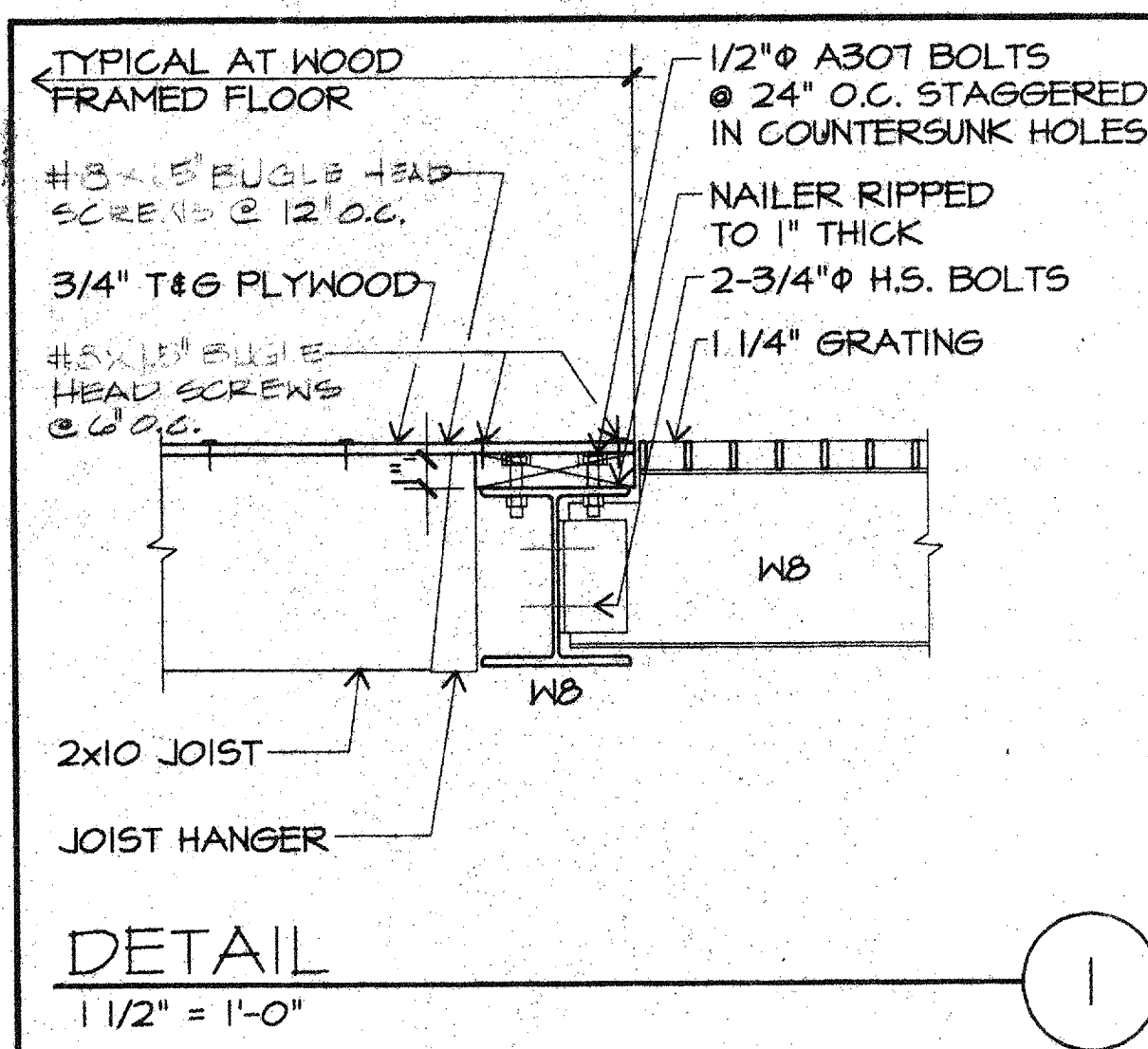
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Sheet Number

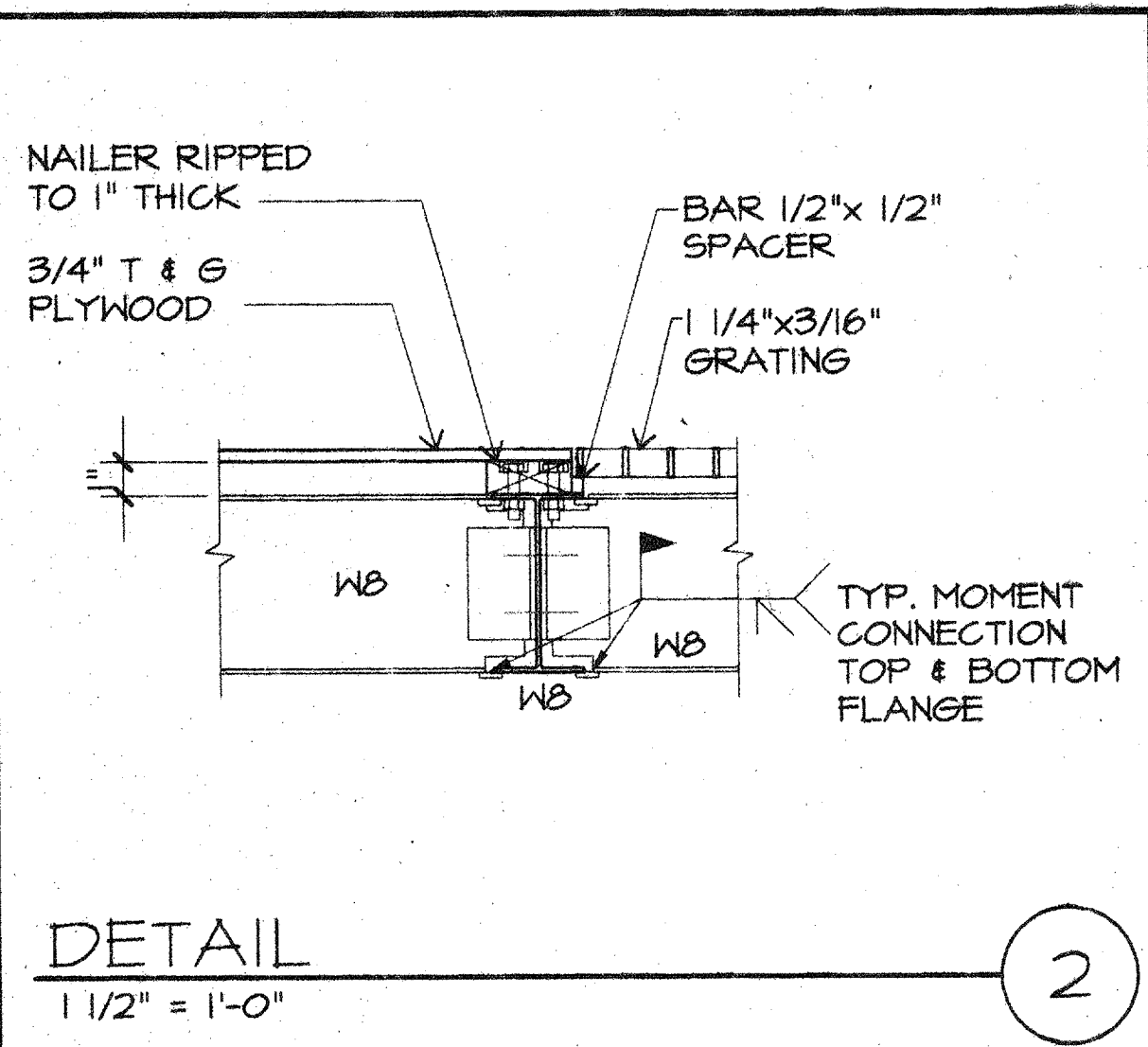
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14 of 25 Sheets

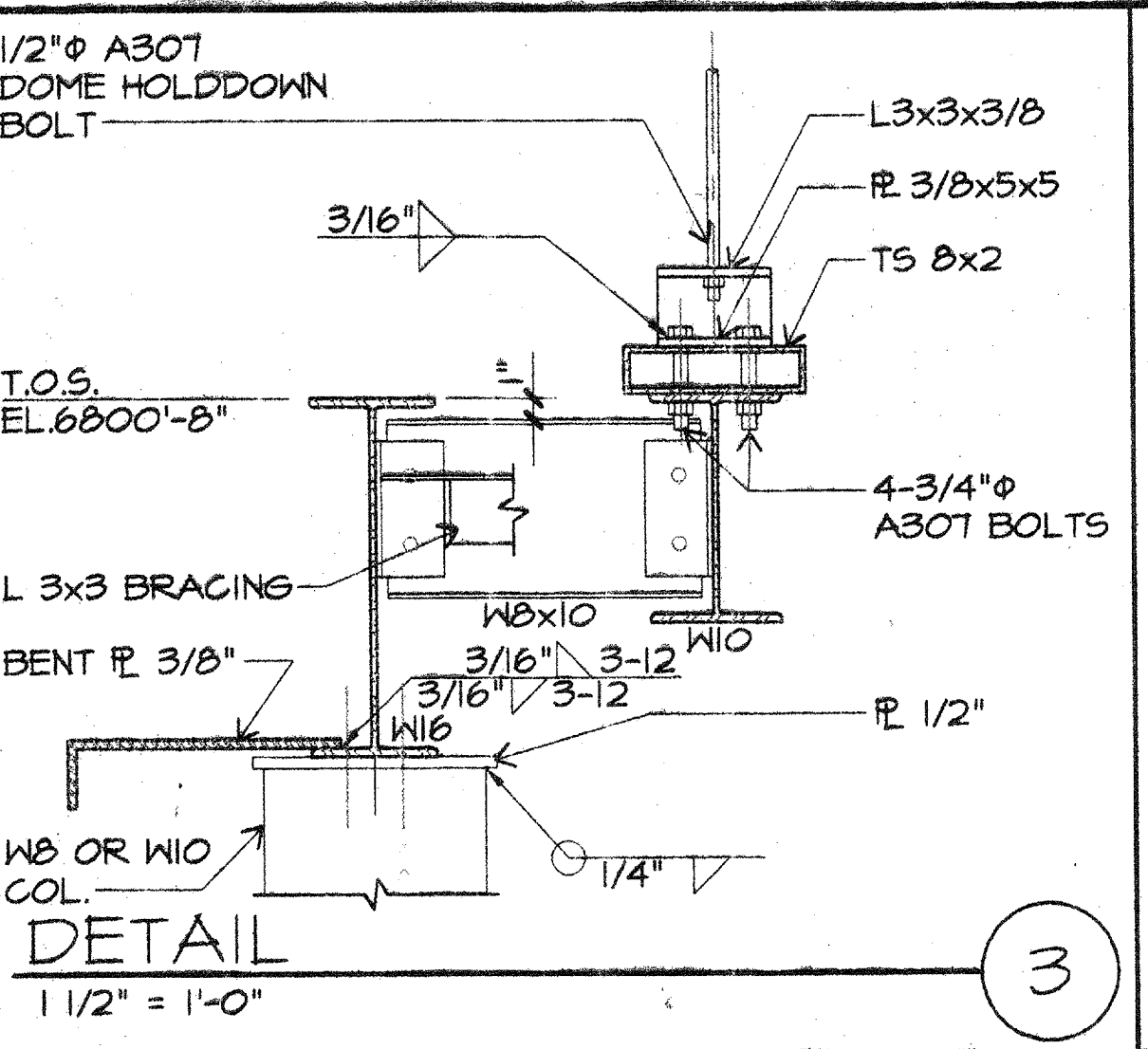
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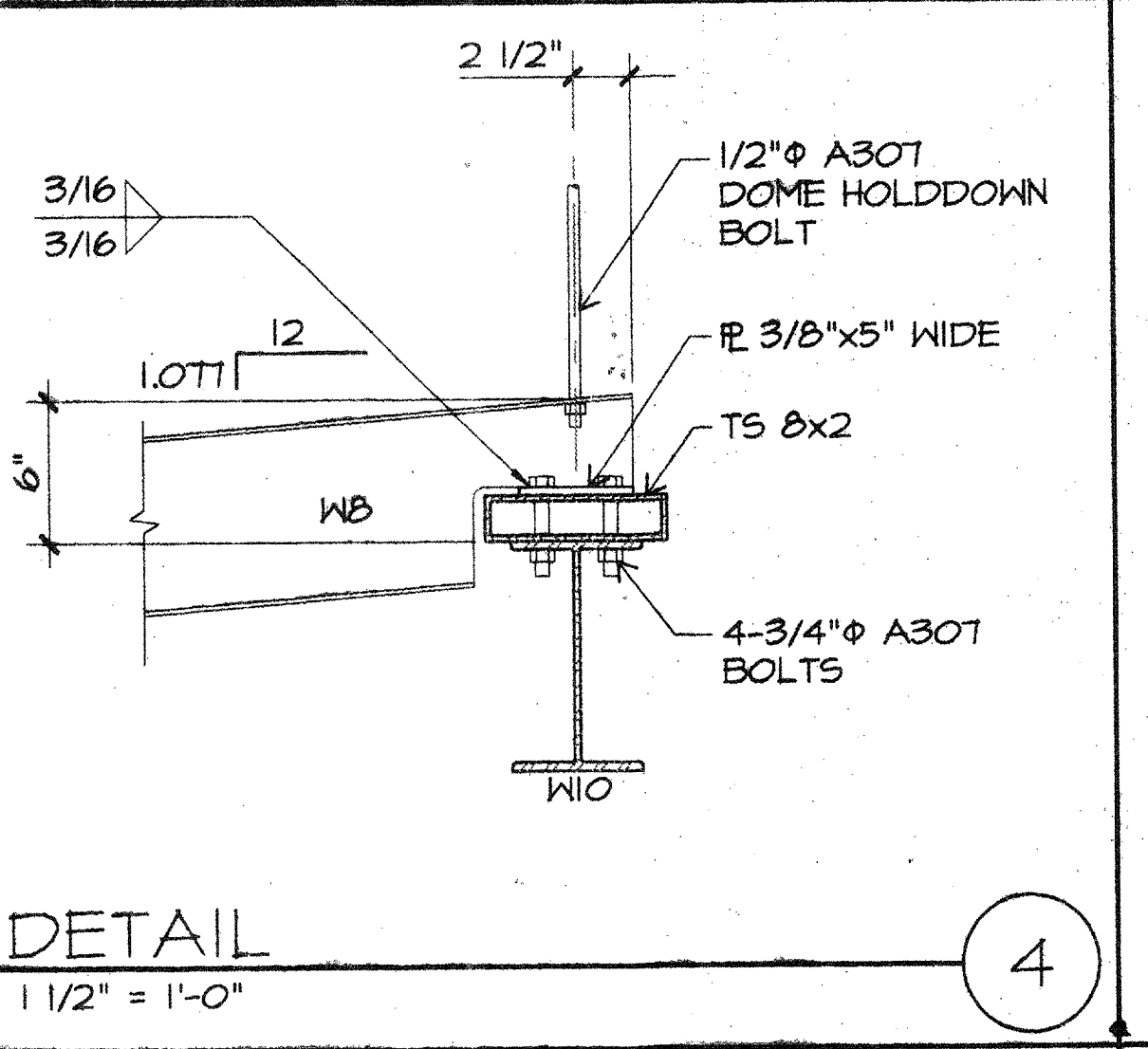
DETAIL 1
1 1/2" = 1'-0"



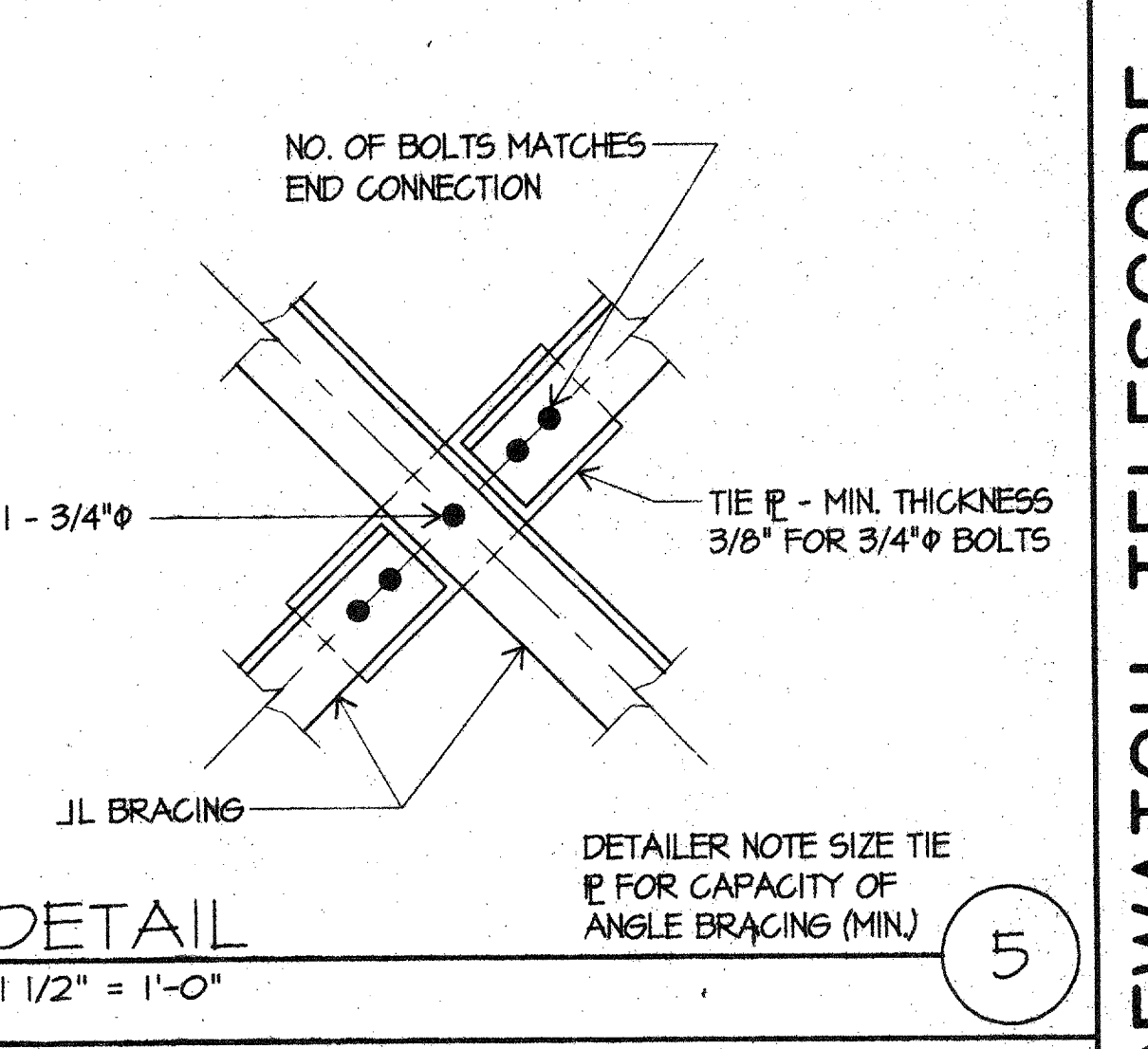
DETAIL 2
1 1/2" = 1'-0"



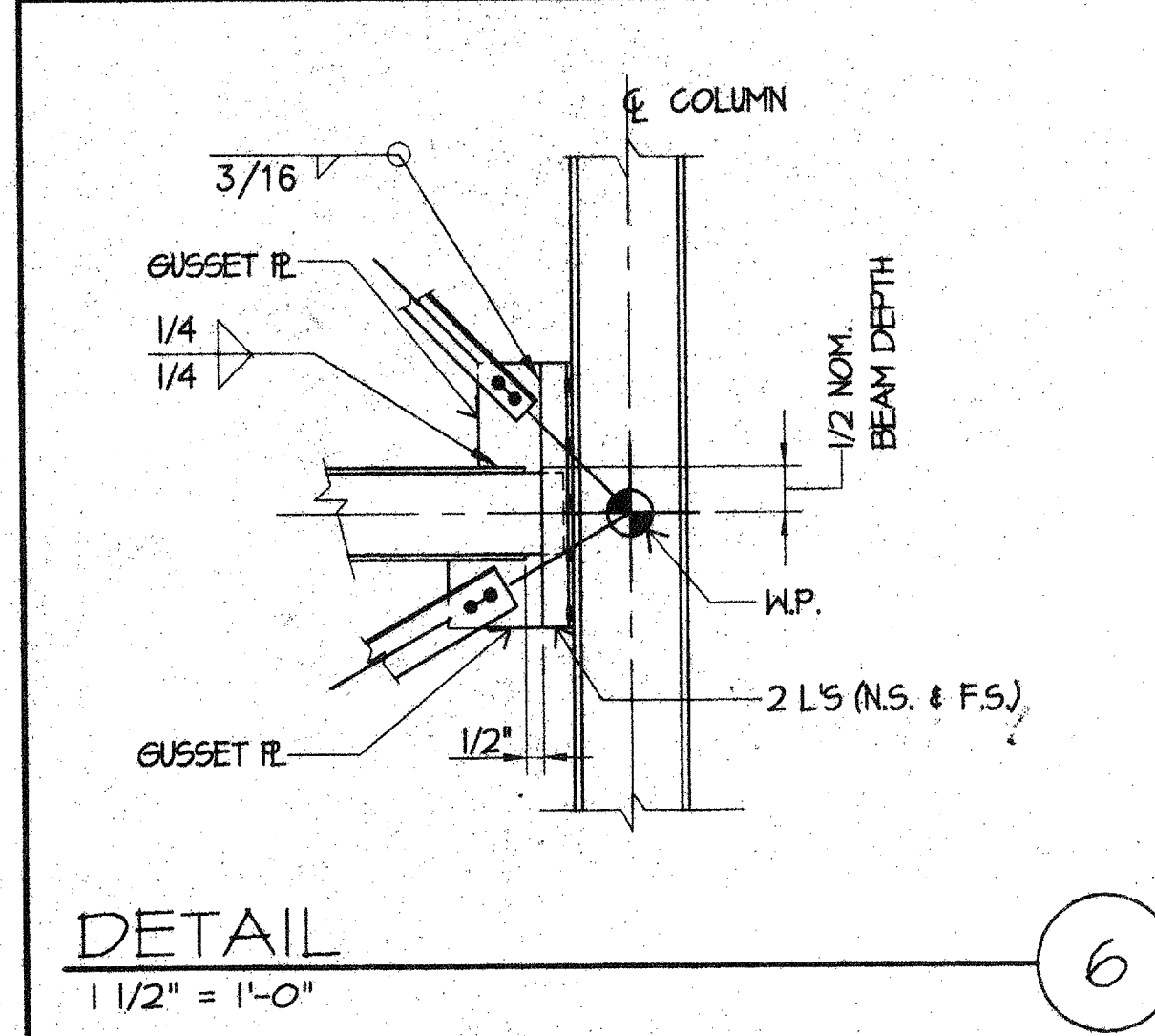
DETAIL 3
1 1/2" = 1'-0"



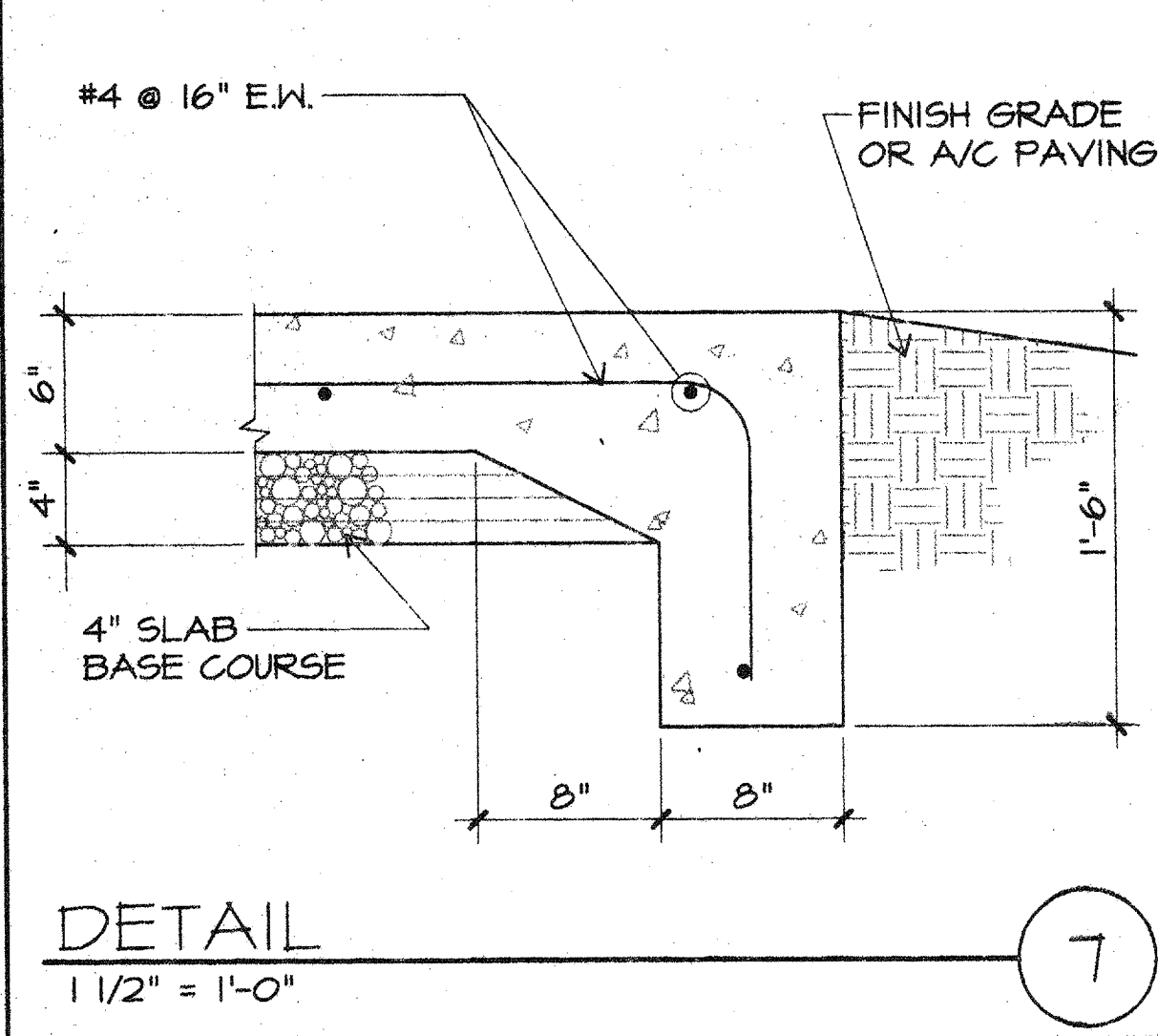
DETAIL 4
1 1/2" = 1'-0"



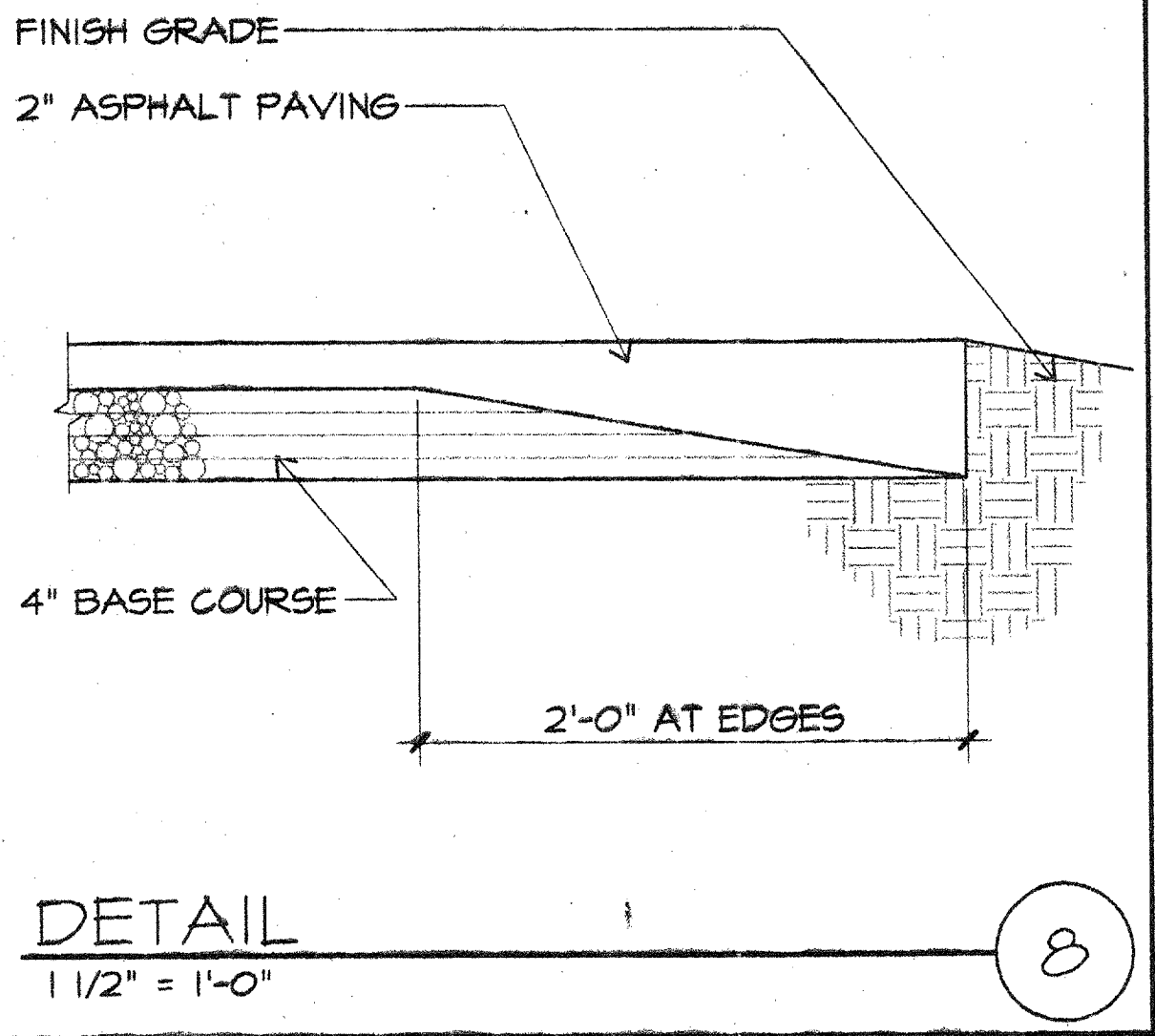
DETAIL 5
1 1/2" = 1'-0"



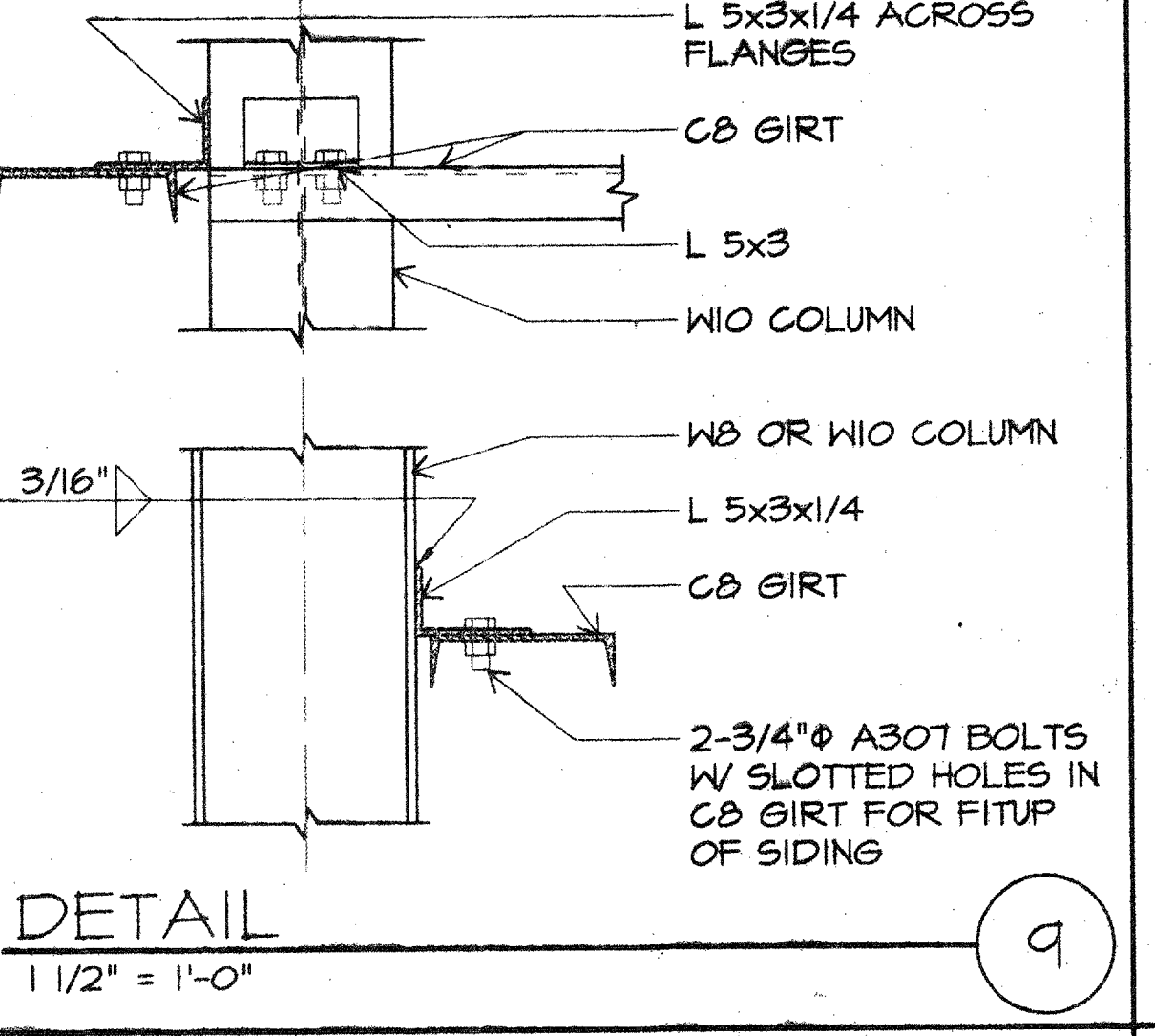
DETAIL 6
1 1/2" = 1'-0"



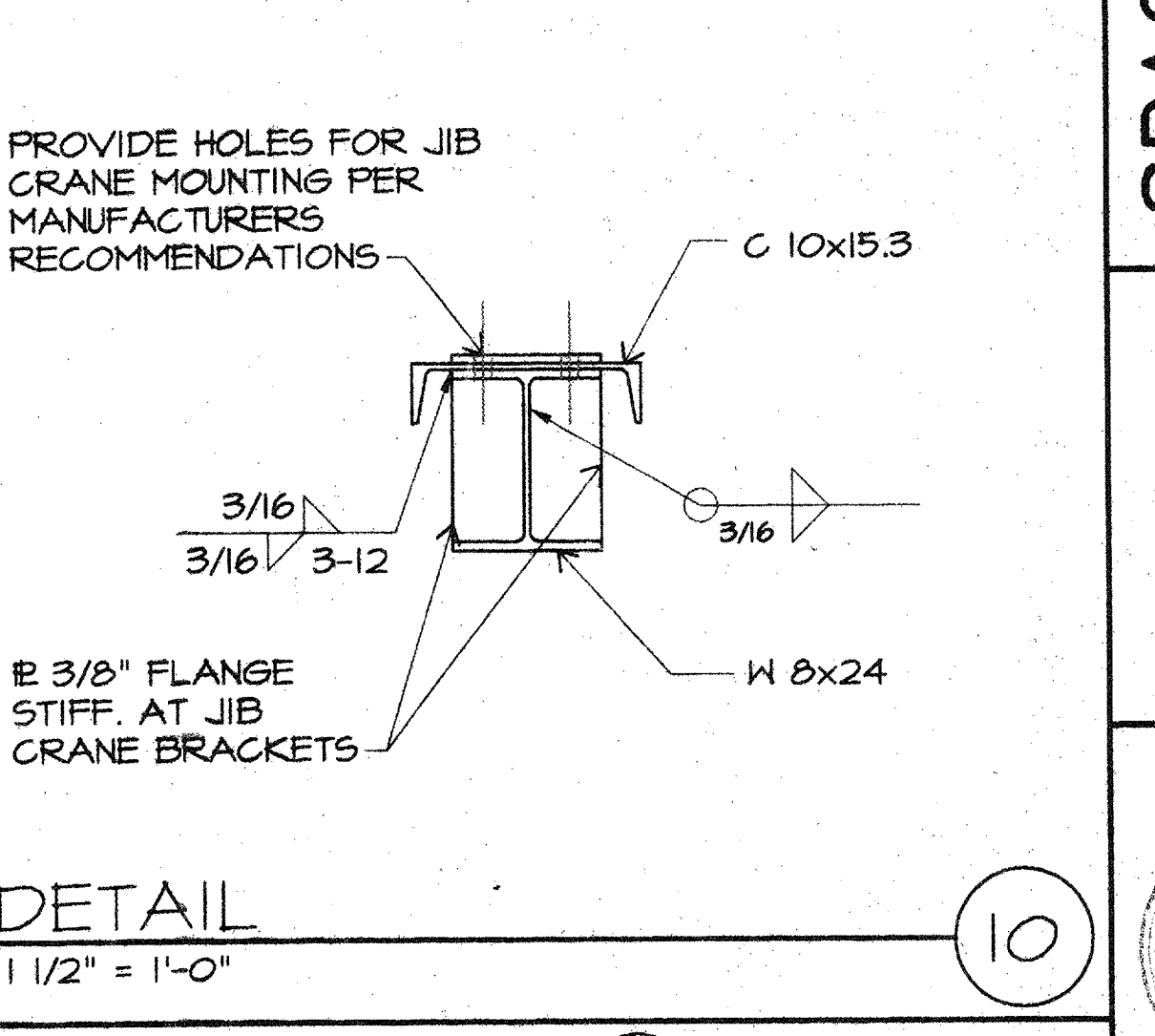
DETAIL 7
1 1/2" = 1'-0"



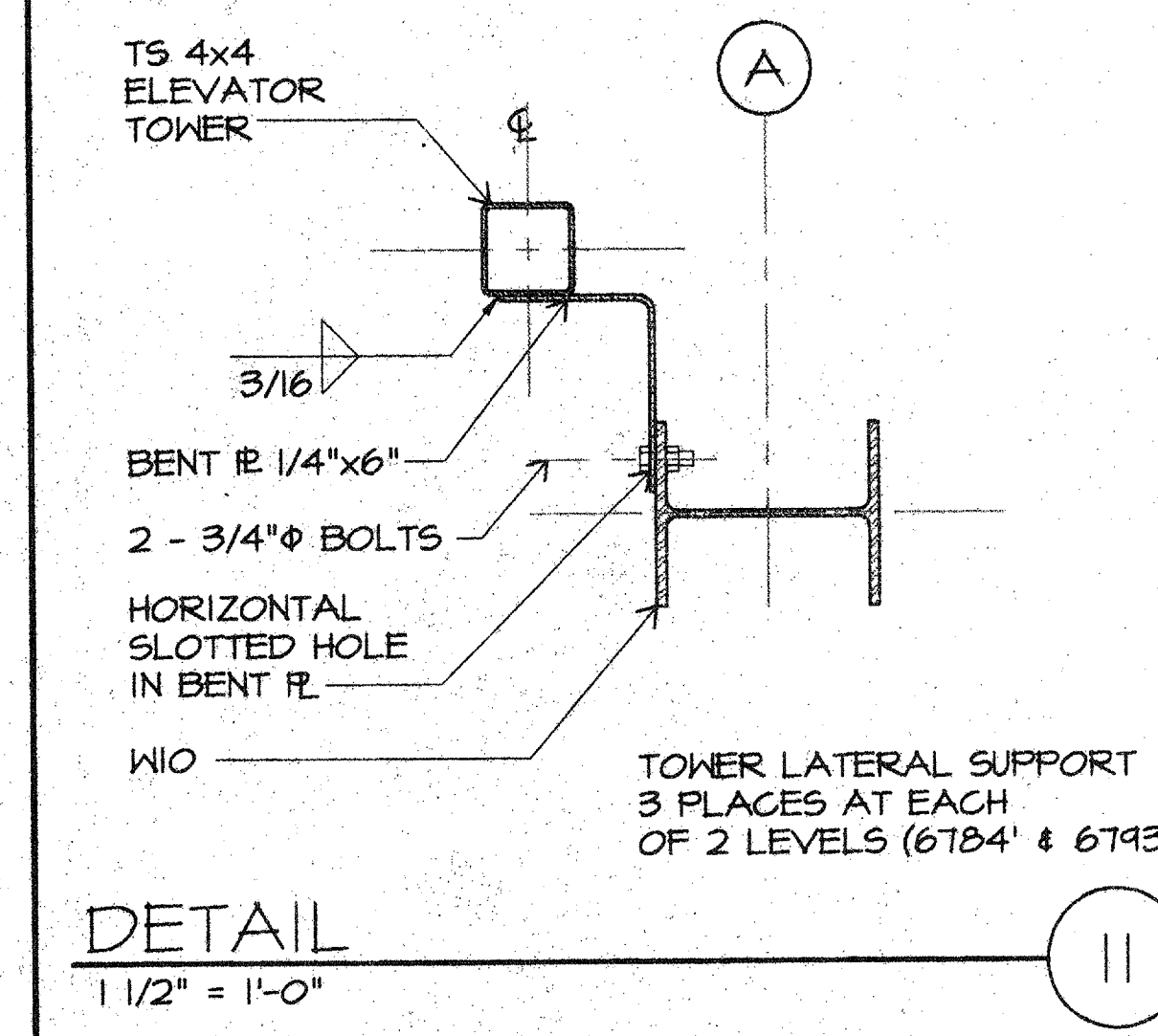
DETAIL 8
1 1/2" = 1'-0"



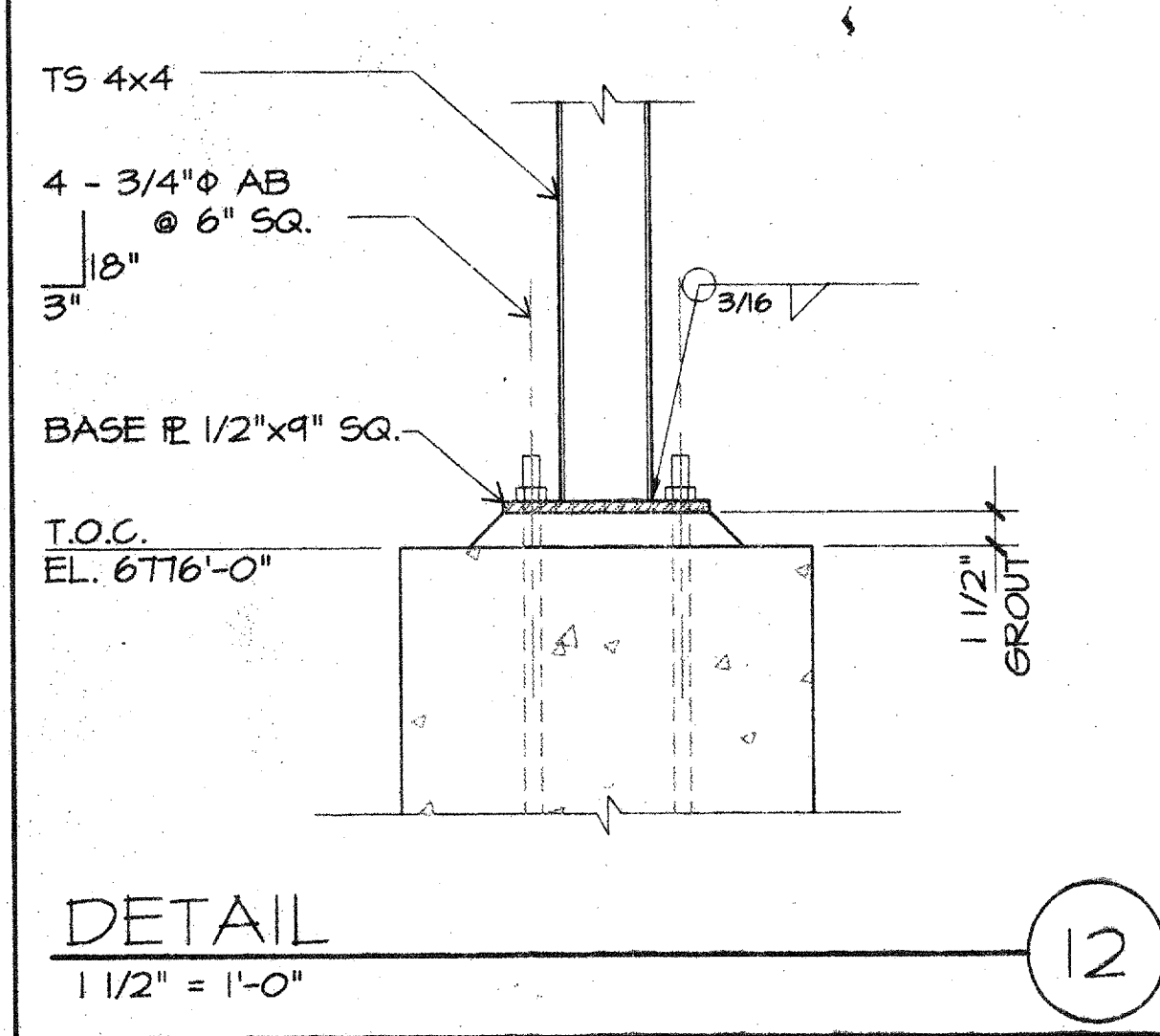
DETAIL 9
1 1/2" = 1'-0"



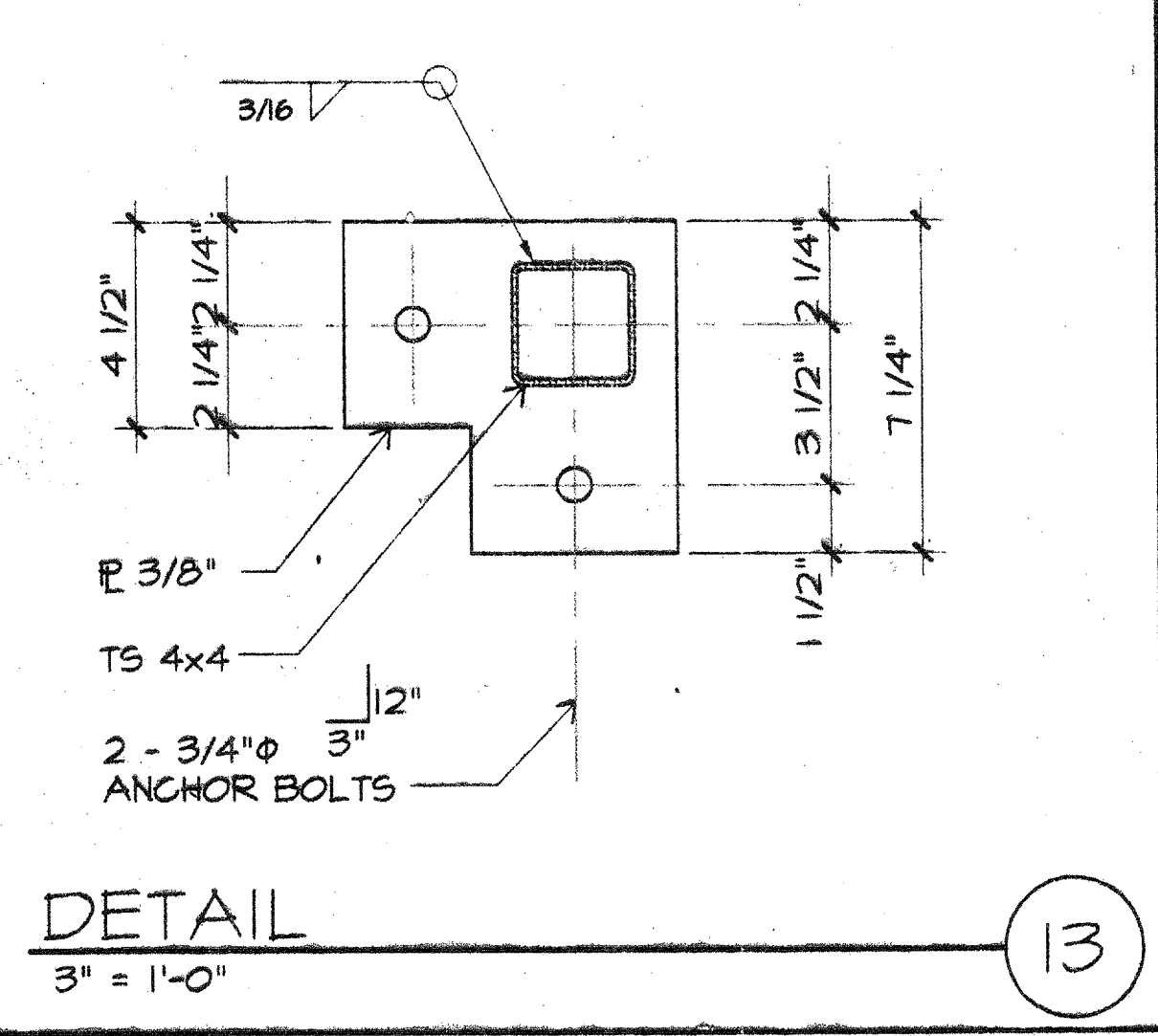
DETAIL 10
1 1/2" = 1'-0"



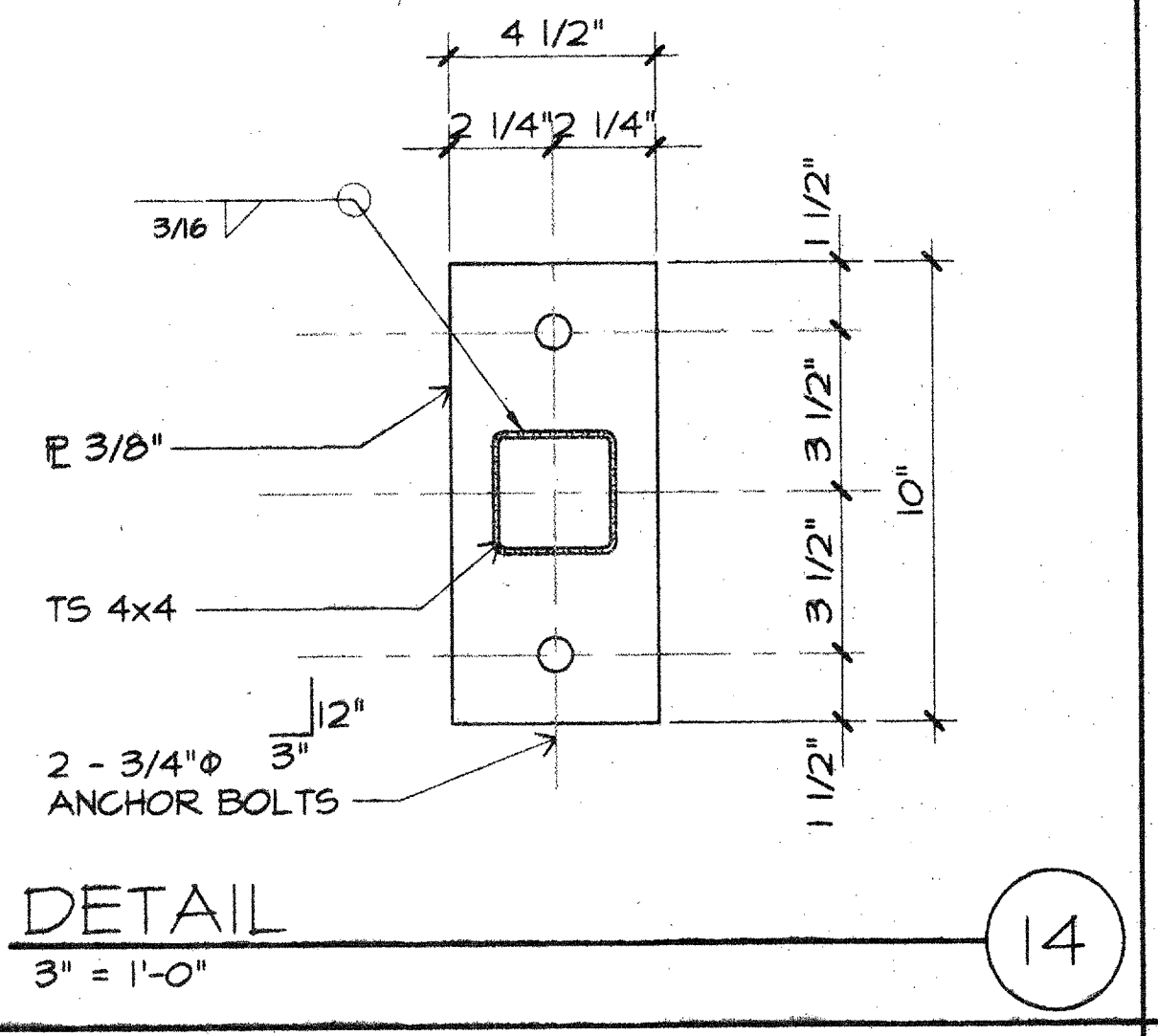
DETAIL 11
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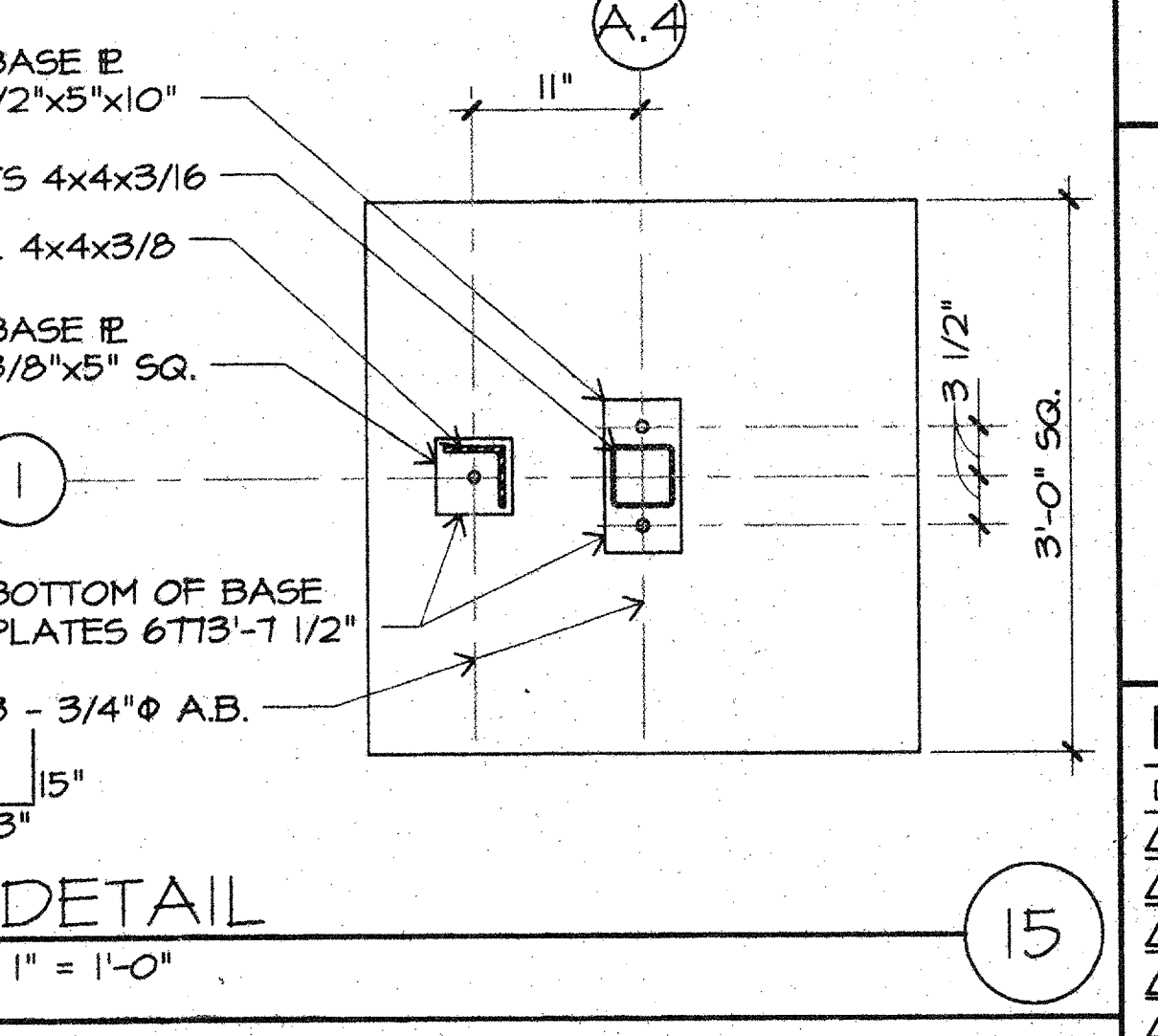
DETAIL 12
1 1/2" = 1'-0"



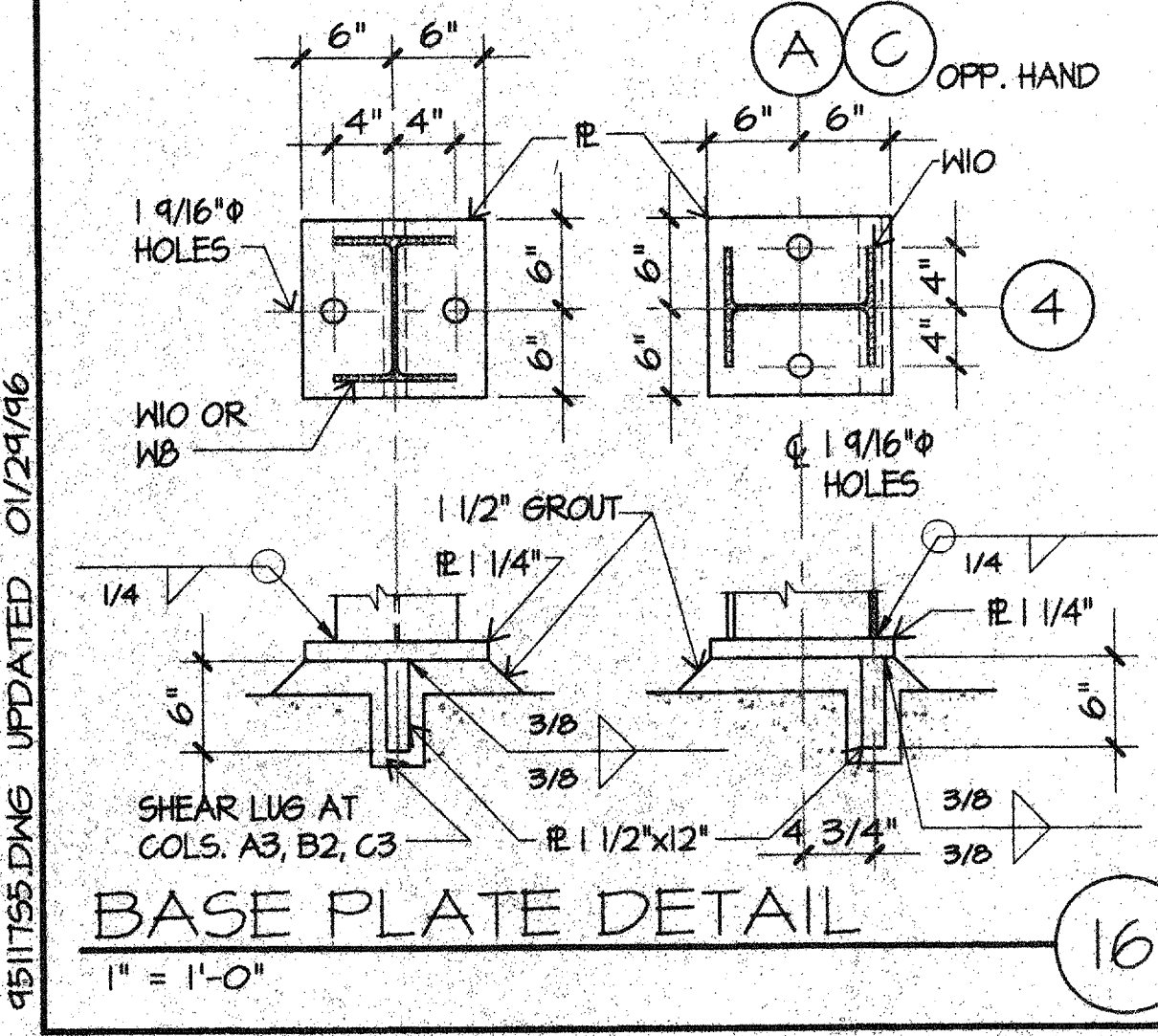
DETAIL 13
3" = 1'-0"



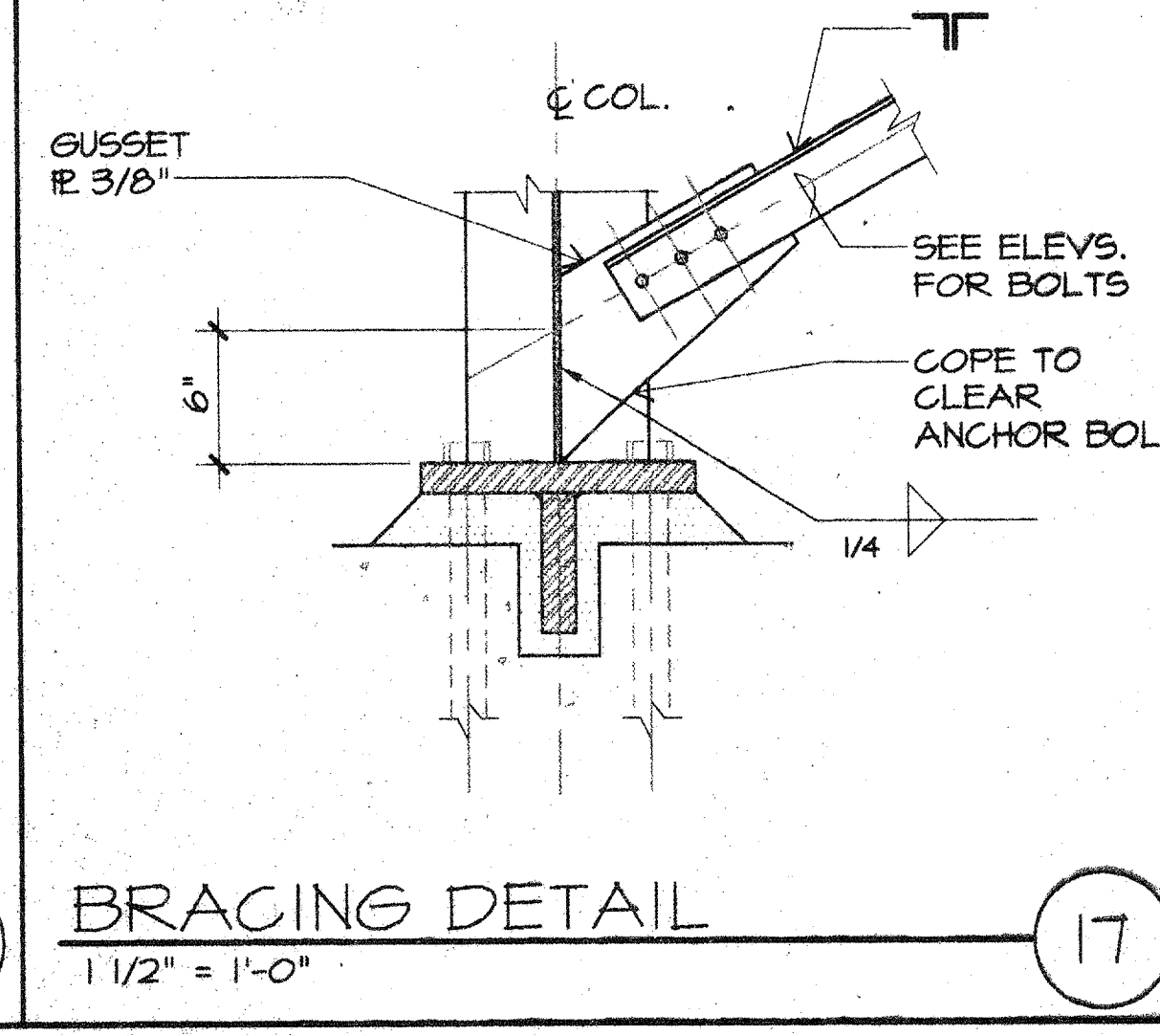
DETAIL 14
3" = 1'-0"



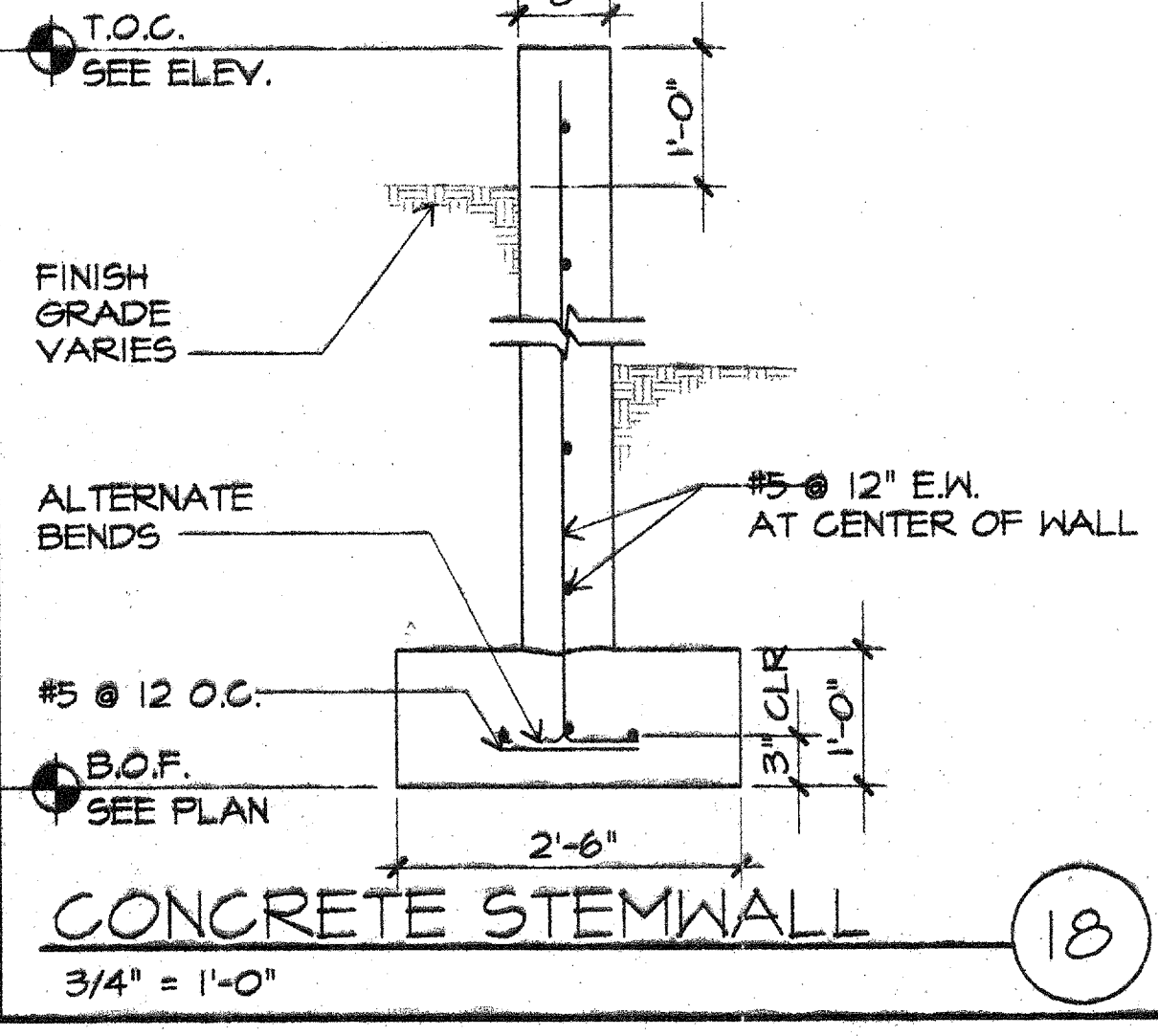
DETAIL 15
1" = 1'-0"



BASE PLATE DETAIL 16
1" = 1'-0"

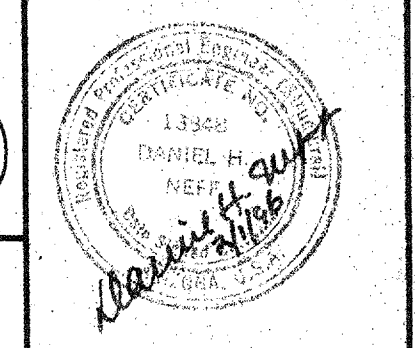


BRACING DETAIL 17
1 1/2" = 1'-0"



CONCRETE STEMWALL 18
3/4" = 1'-0"

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Revisions

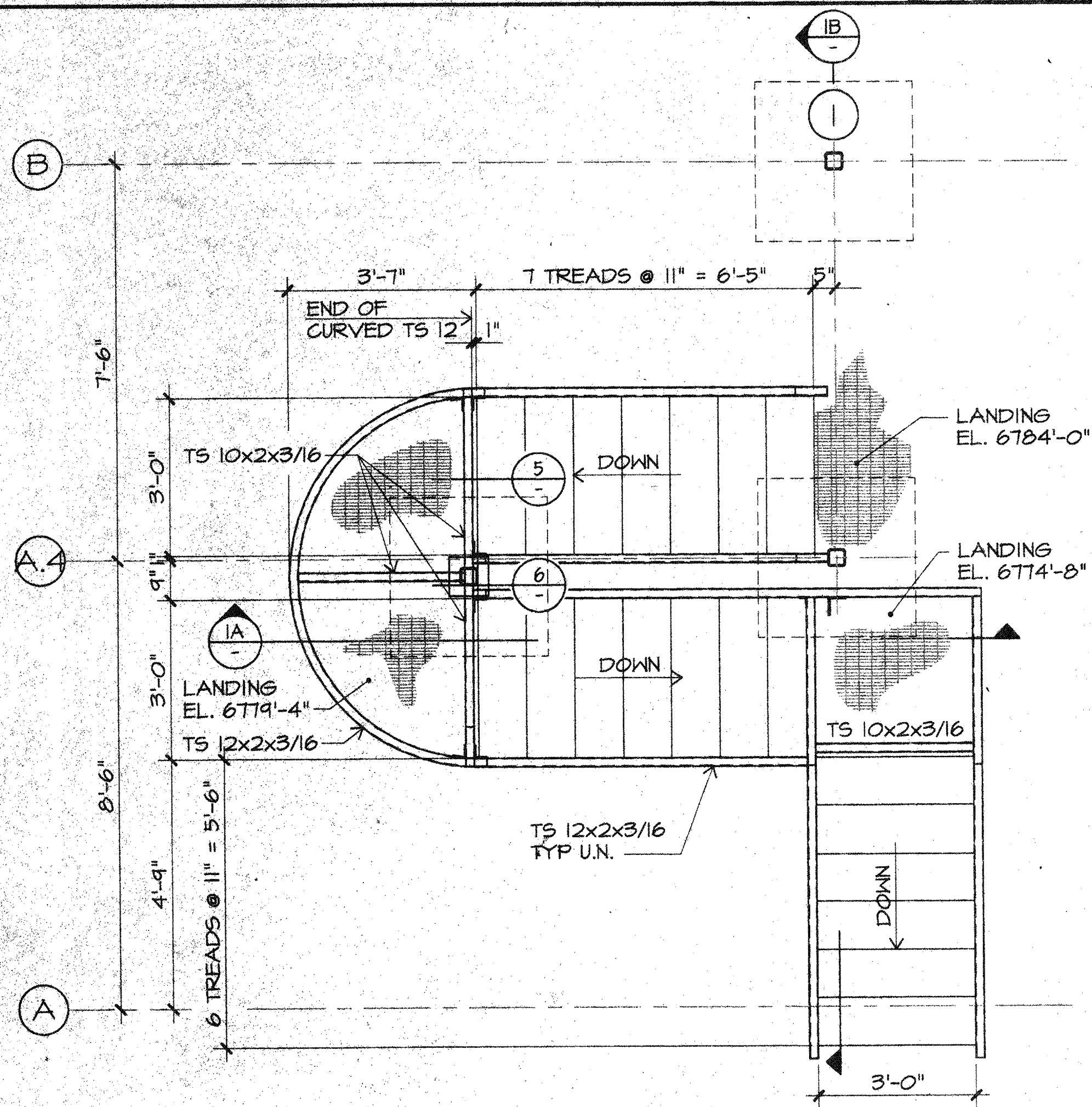
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Checked: D.NEFF 2/96
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Released: *[Signature]* 2/1/96

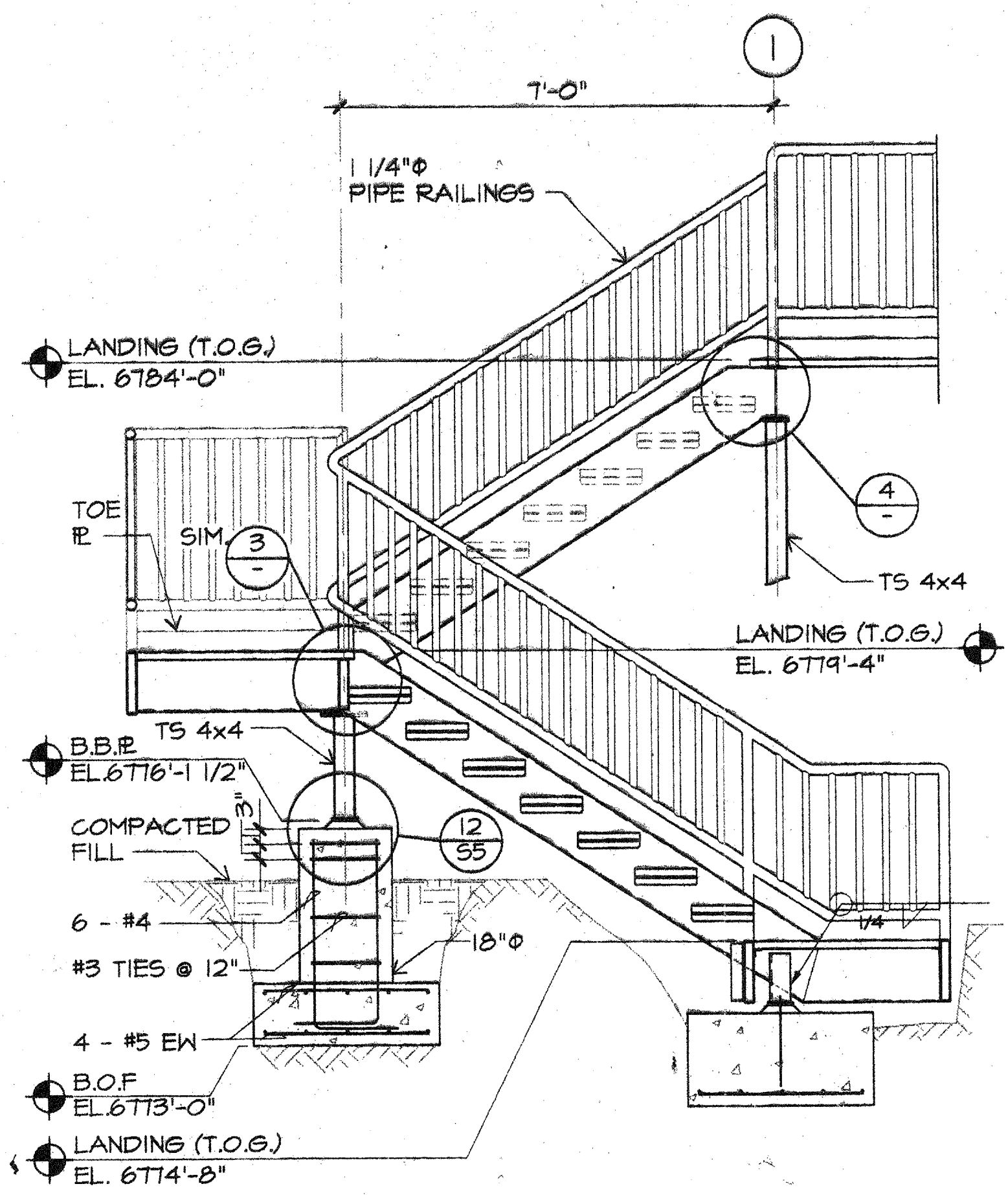
Drawing Title
FRAMING SECTIONS & DETAILS

Sheet Number
S5
15 of 25 Sheets
95-7467

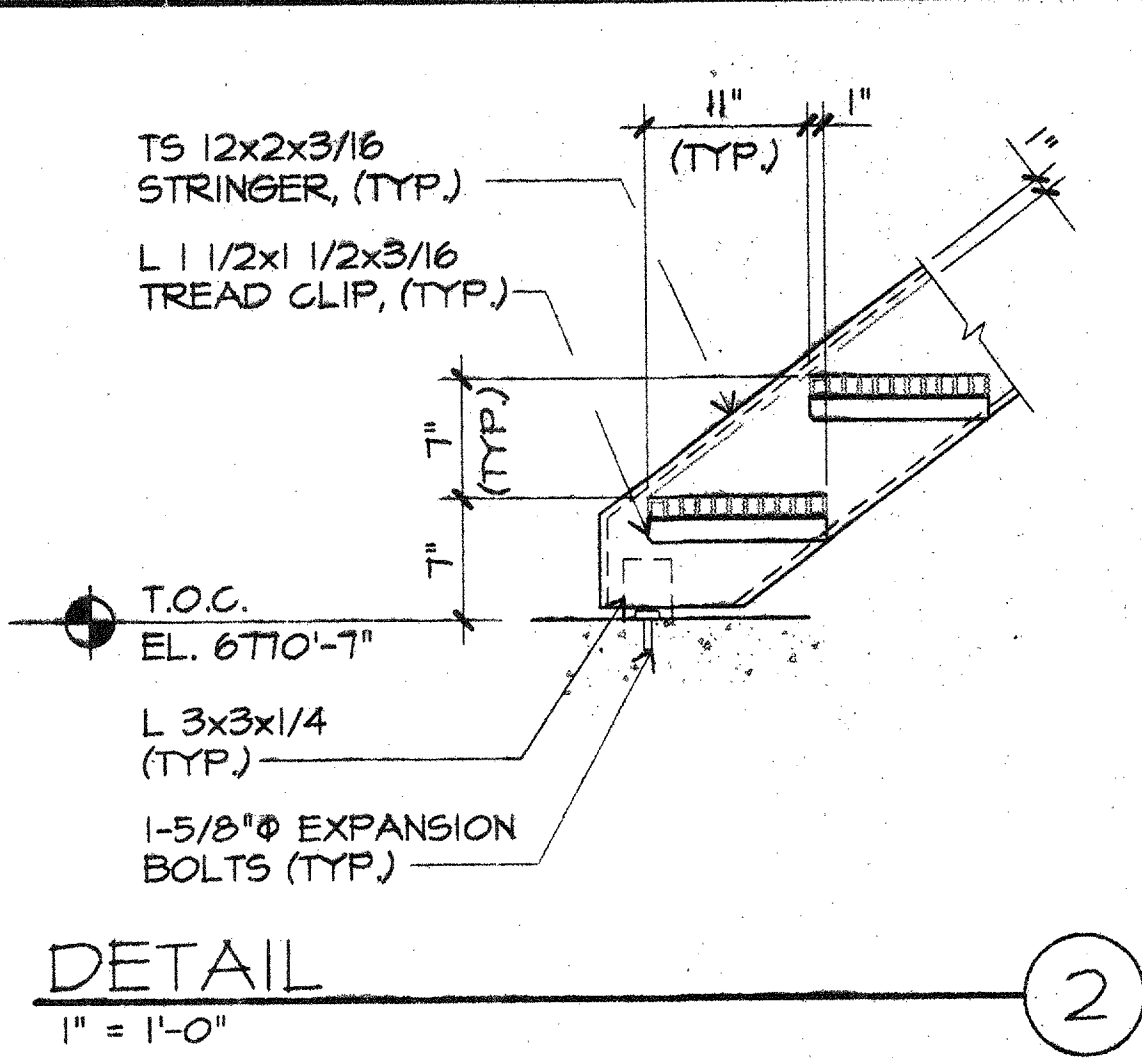
4BITSS.DWG UPDATED 01/24/96



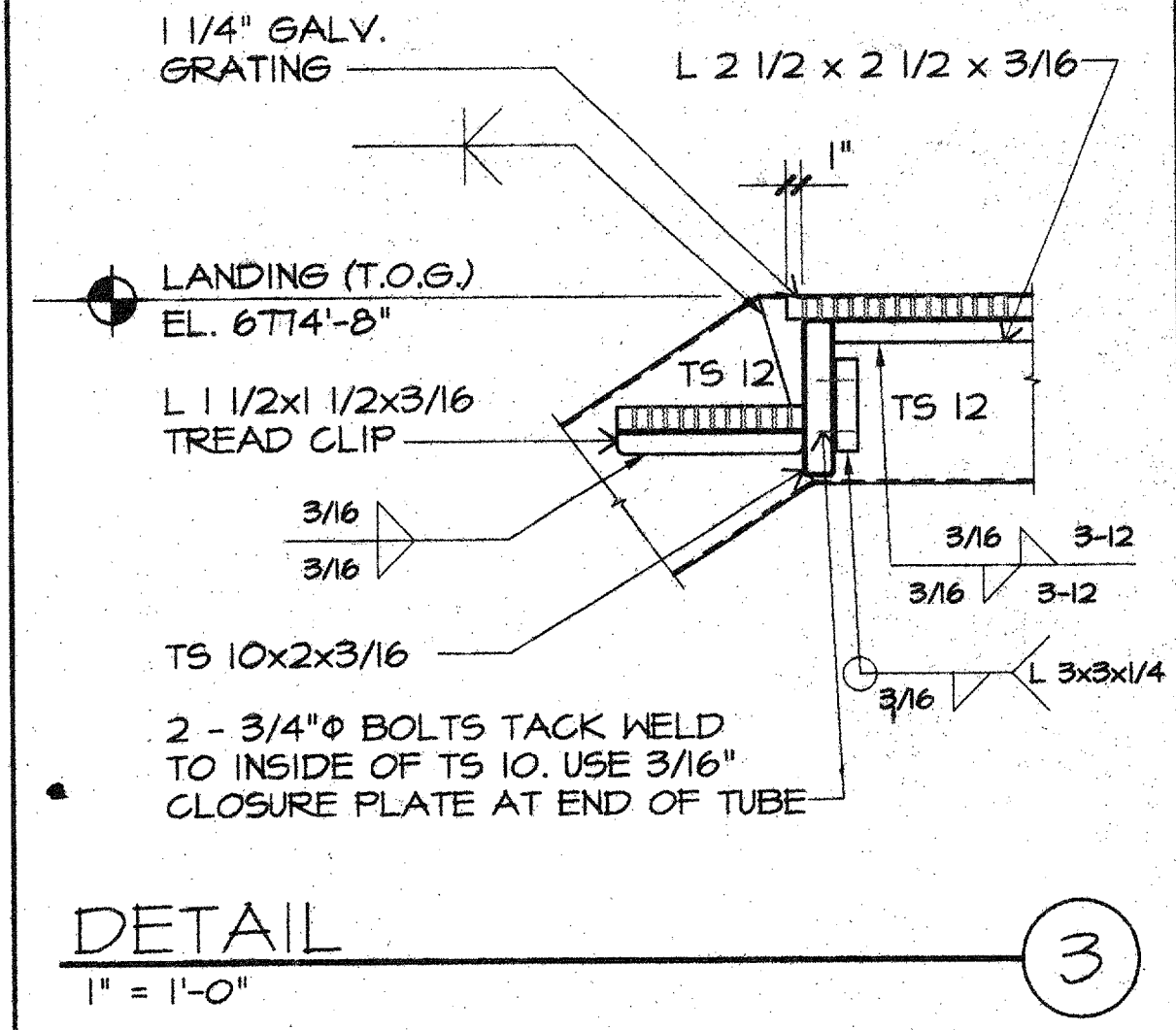
STAIR PLAN
1/2" = 1'-0"



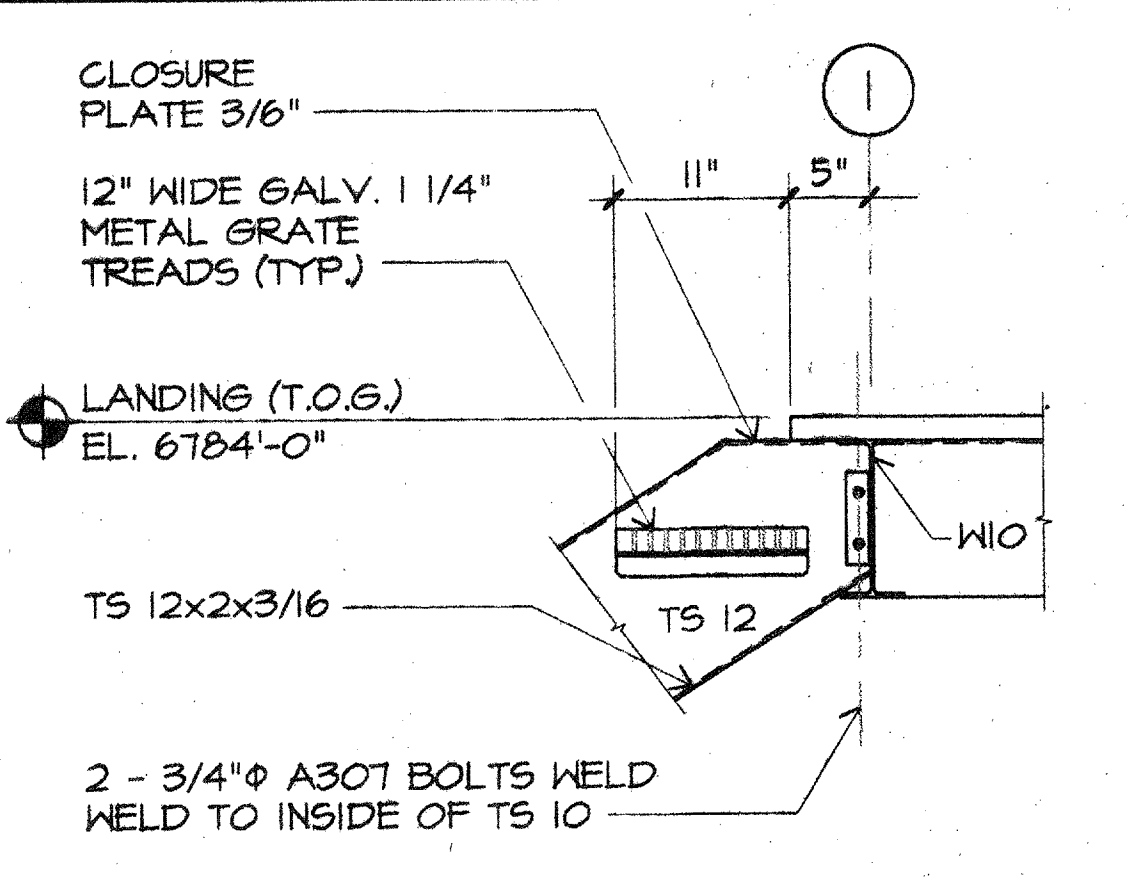
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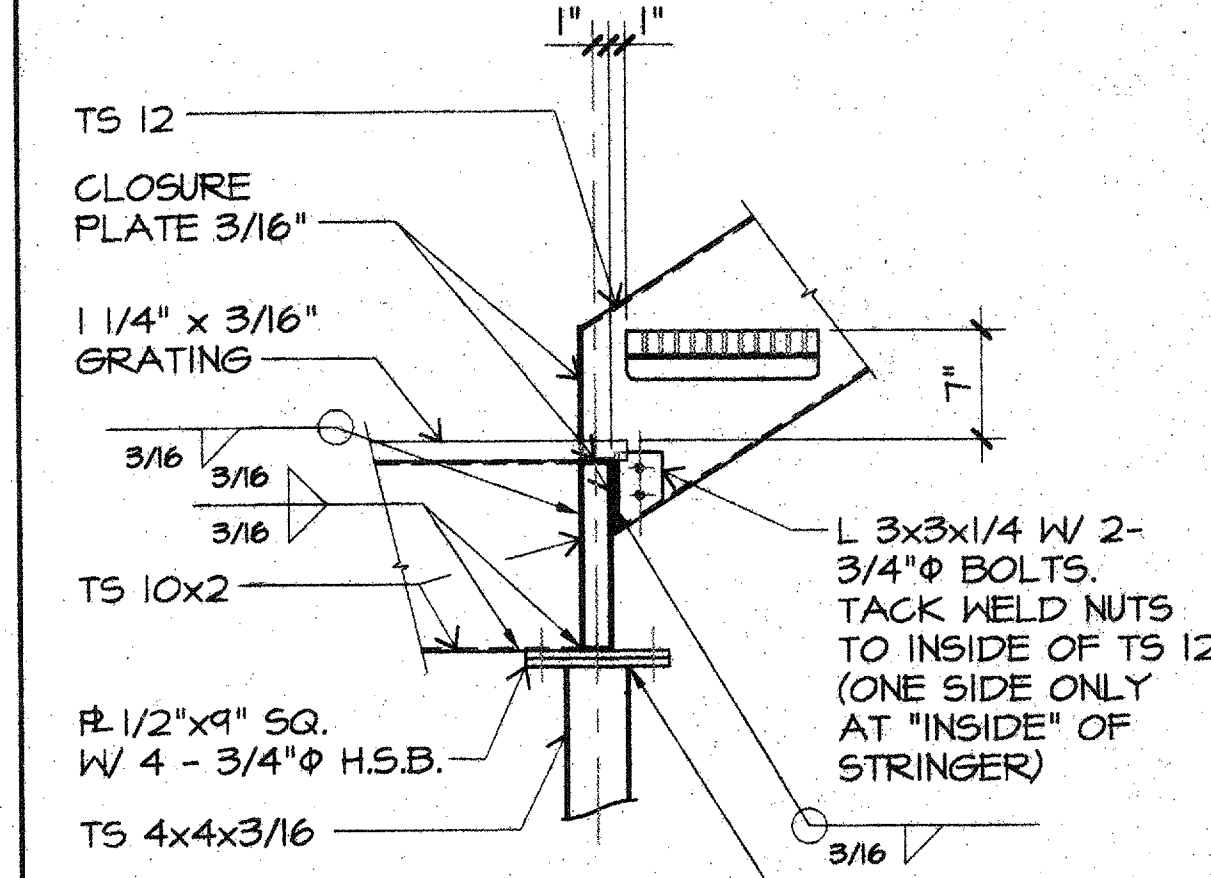
DETAIL
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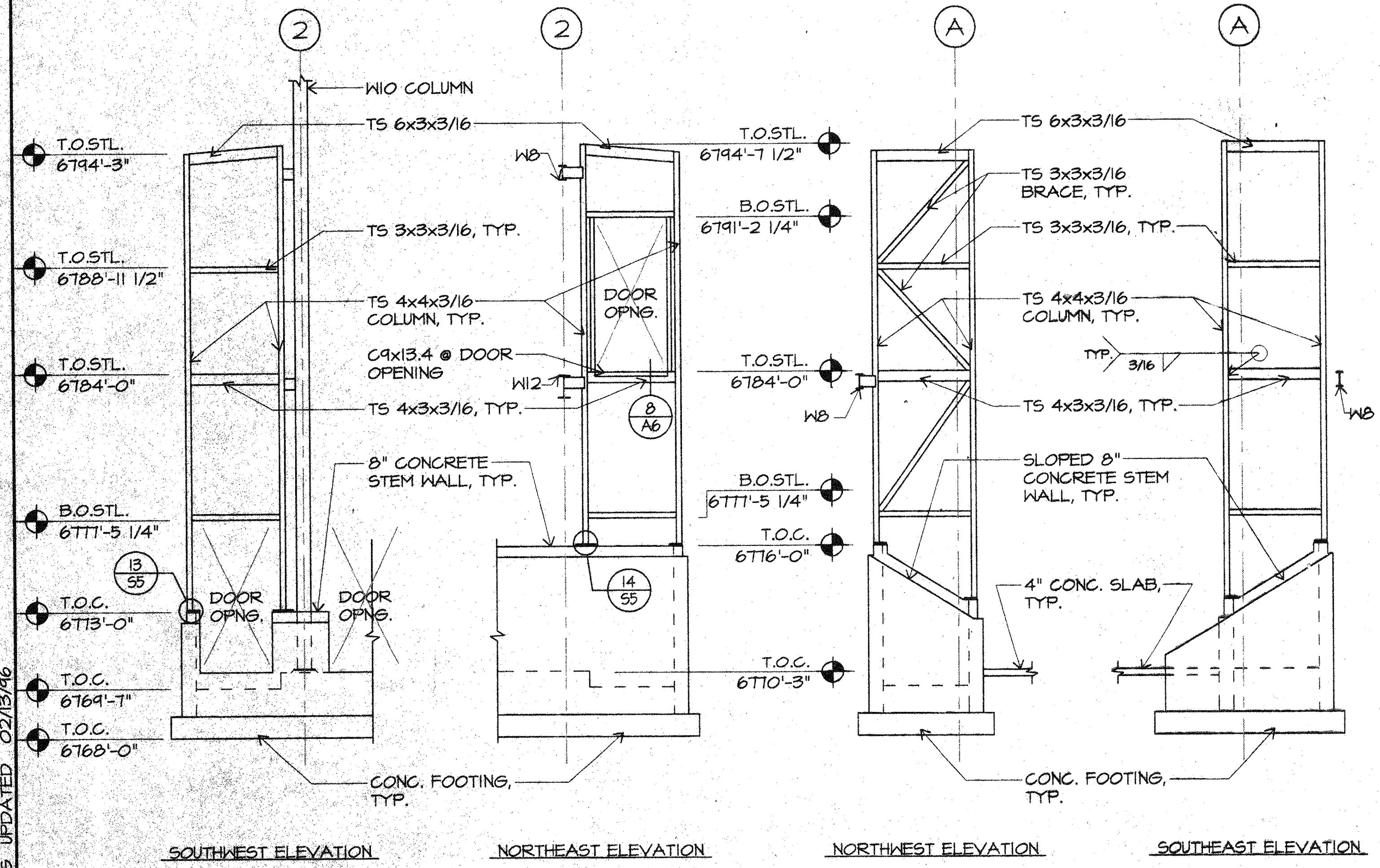
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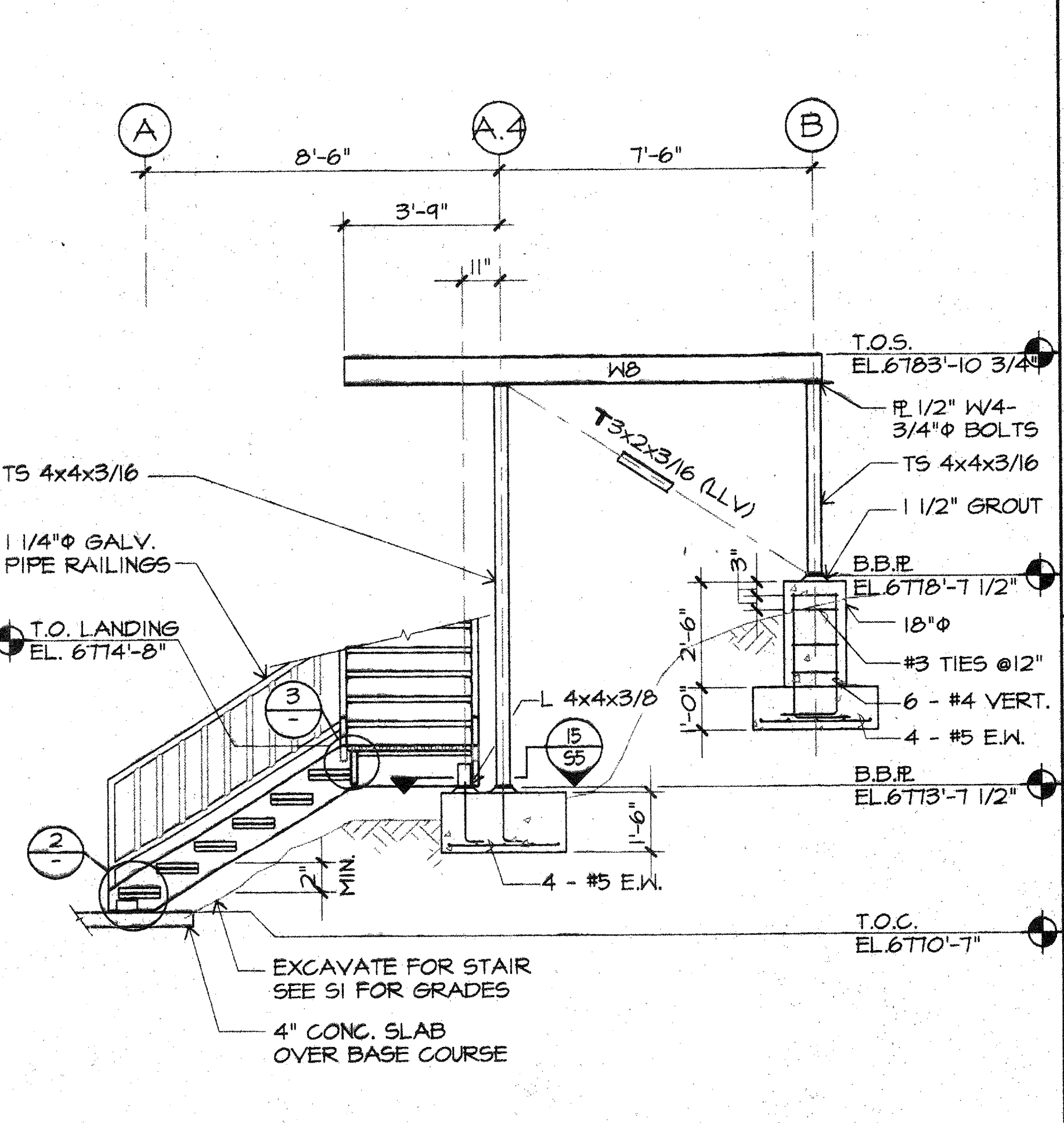
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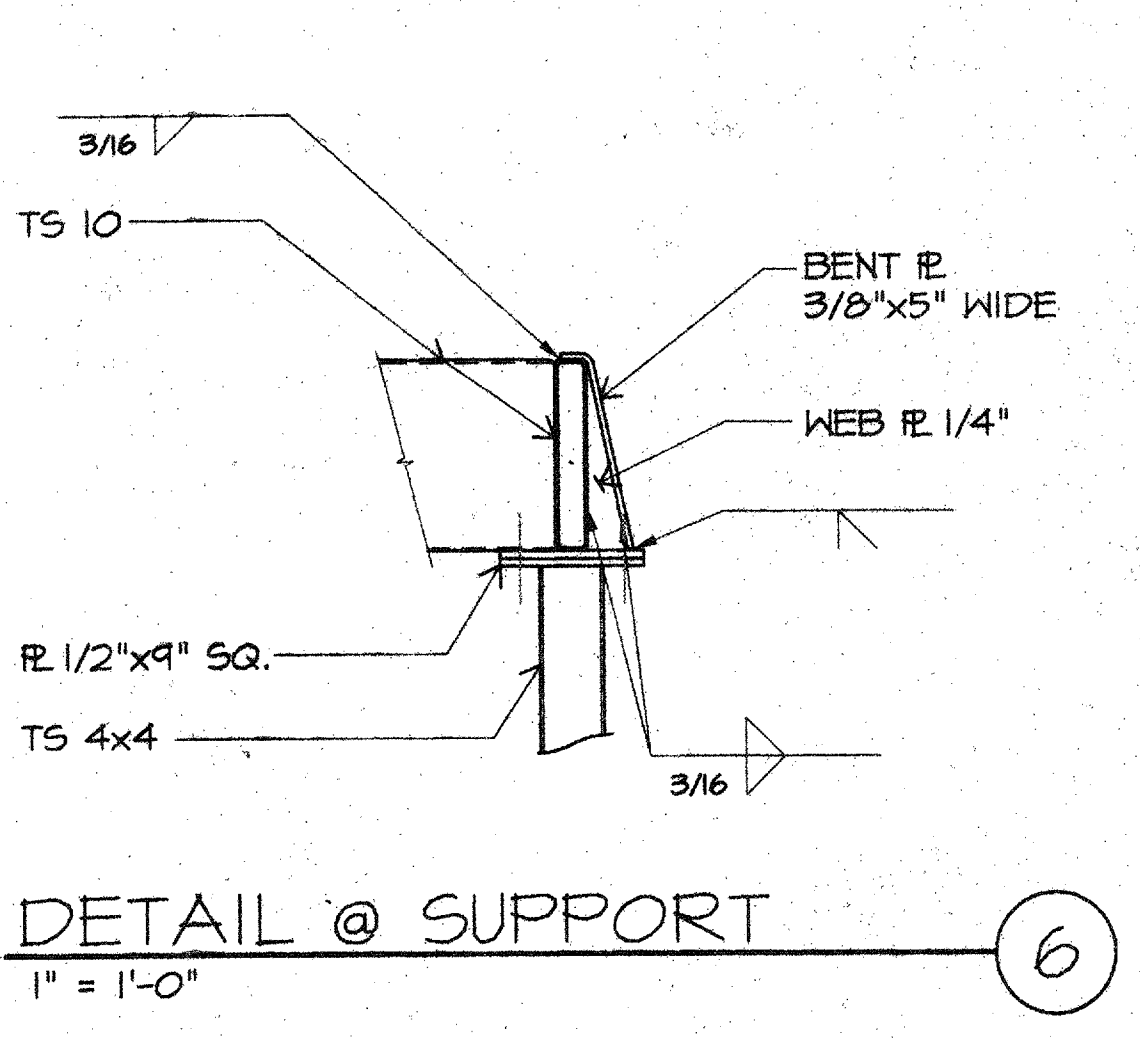
DETAIL
1" = 1'-0"



ELEVATOR TOWER STEEL ELEVATIONS
1/4" = 1'-0"

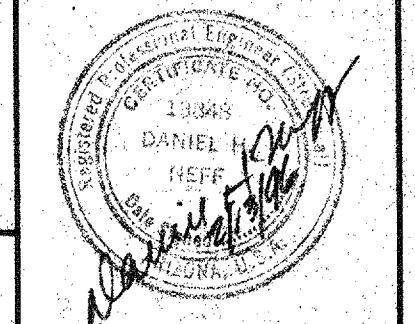


STAIR SECTION
3/8" = 1'-0"



DETAIL @ SUPPORT
1" = 1'-0"

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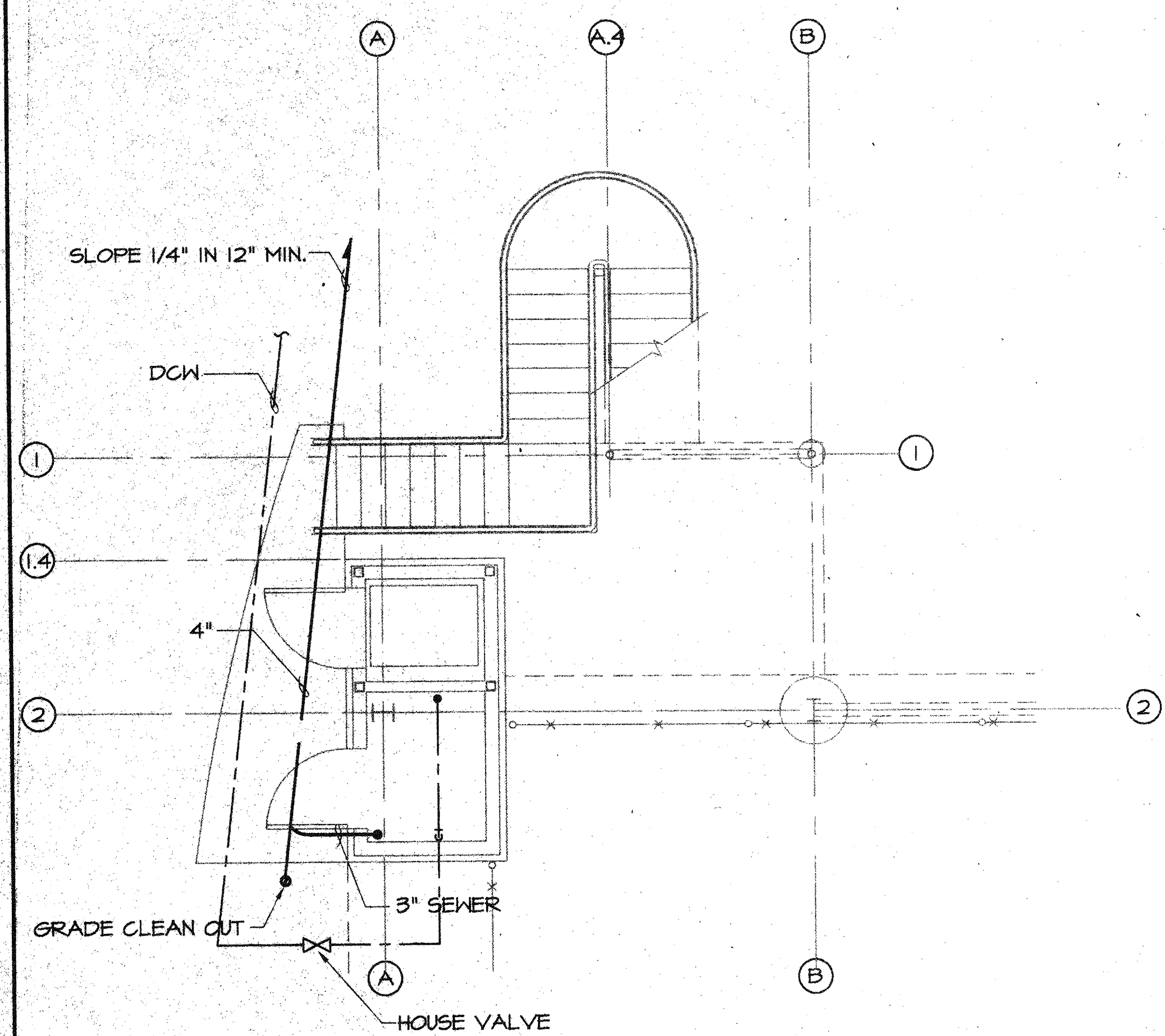
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Approved: *[Signature]*

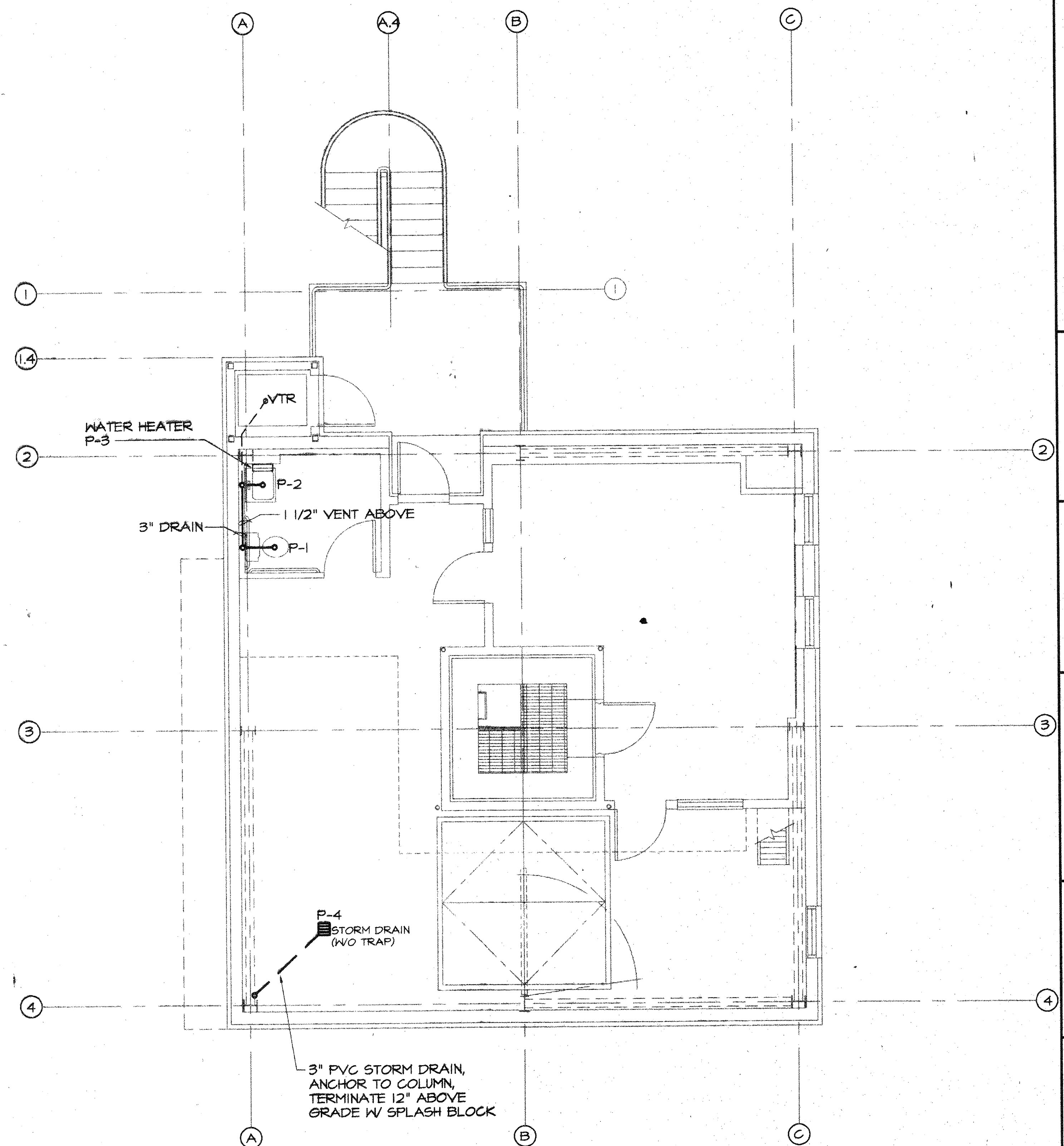
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**STAIR PLAN
DETAILS &
SECTIONS**

Sheet Number
S6
16 of 25 Sheets
95-7467

REVISED/UPDATED 02/13/96



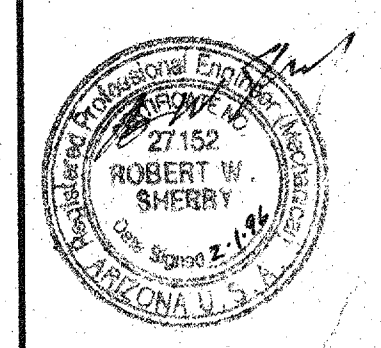
GROUND LEVEL PIPING PLAN
1/4" = 1'-0"



OBSERVING LEVEL PIPING PLAN
1/4" = 1'-0"

NOTE: PAINT ALL EXPOSED PIPES W/ 2 COATS LATEX PAINT TO MATCH ADJACENT SURFACE.

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Tucson, Arizona
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M3 PN 95117

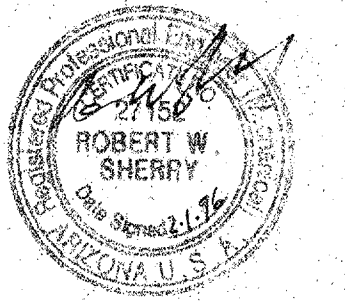
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Date:
Drawn: L.D.Y. 12/27/95
Checked:
Approved:
Released: RWS 2/1/96

Drawing Title
PIPING PLANS

Sheet Number
P1
17 of 25 Sheets
95-7467

REVISIONS: UPDATED 02/01/96



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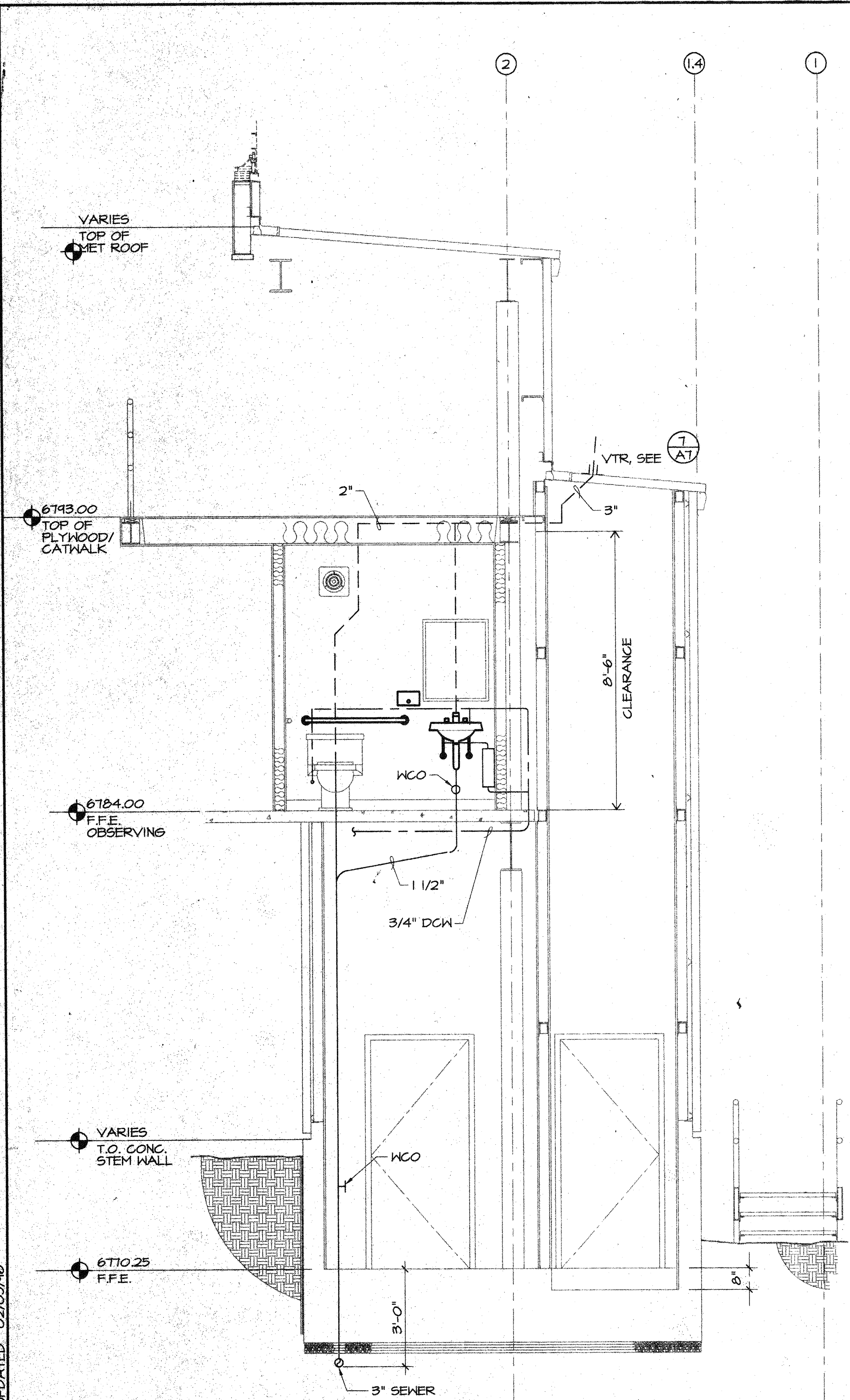
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**SECTIONS
DETAILS
& ISOMETRICS**

Sheet Number

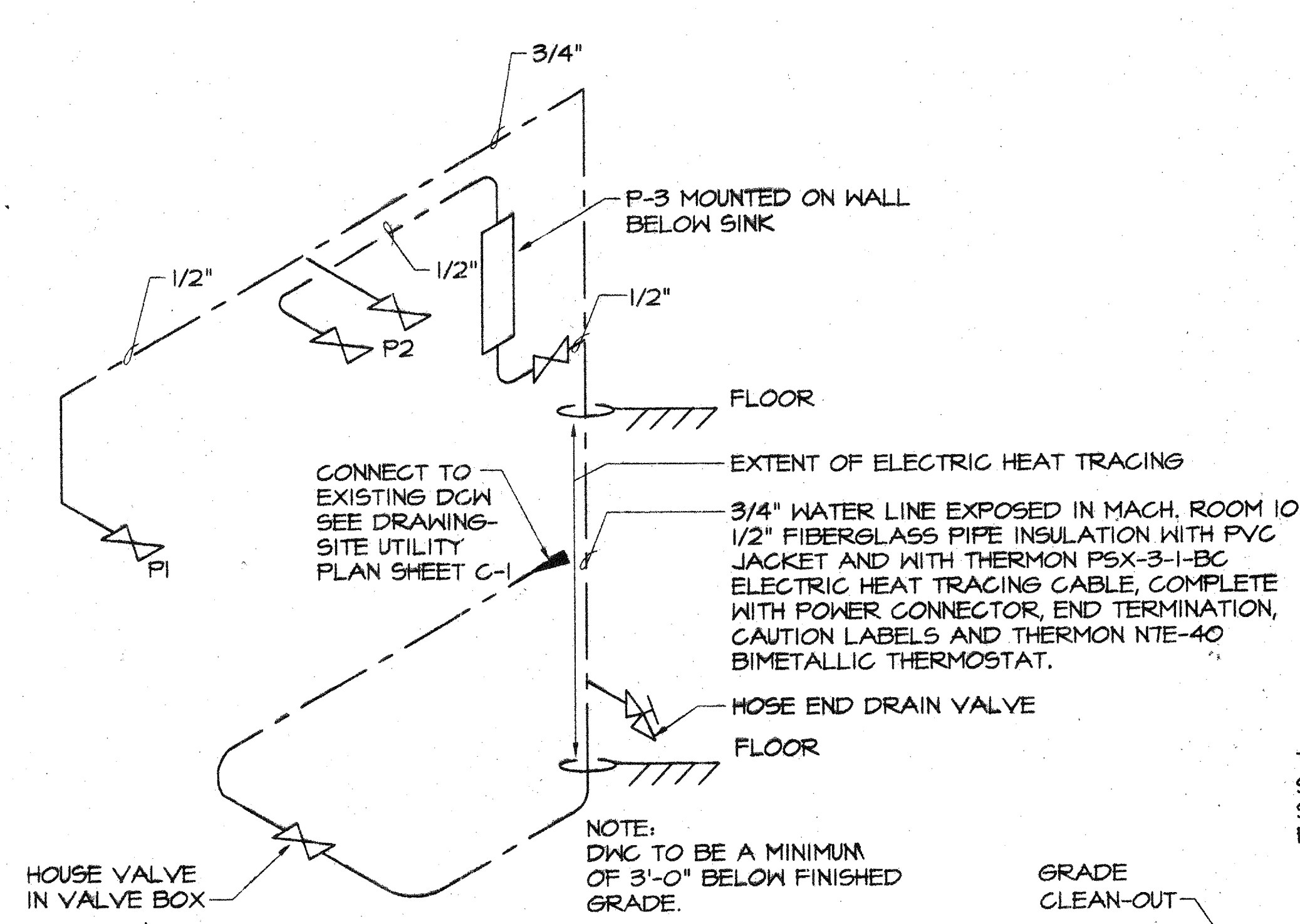
P2

18 of 25 Sheets

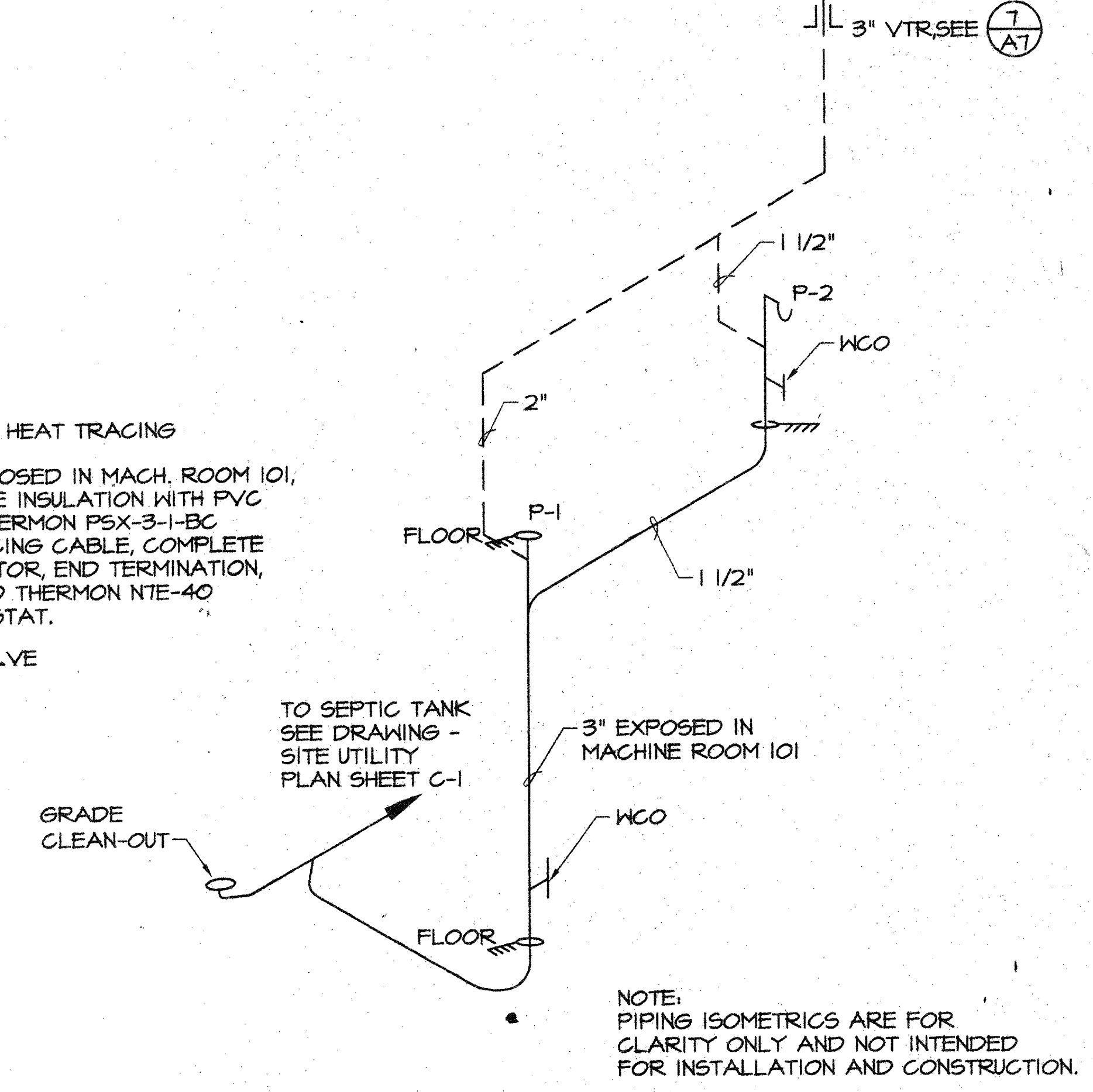
95-7467



BUILDING SECTION C
1/2"=1'-0"



**COLD AND HOT DOMESTIC
WATER PIPING ISOMETRIC**
N.T.S.



SOIL AND WASTE PIPING ISOMETRIC
N.T.S.

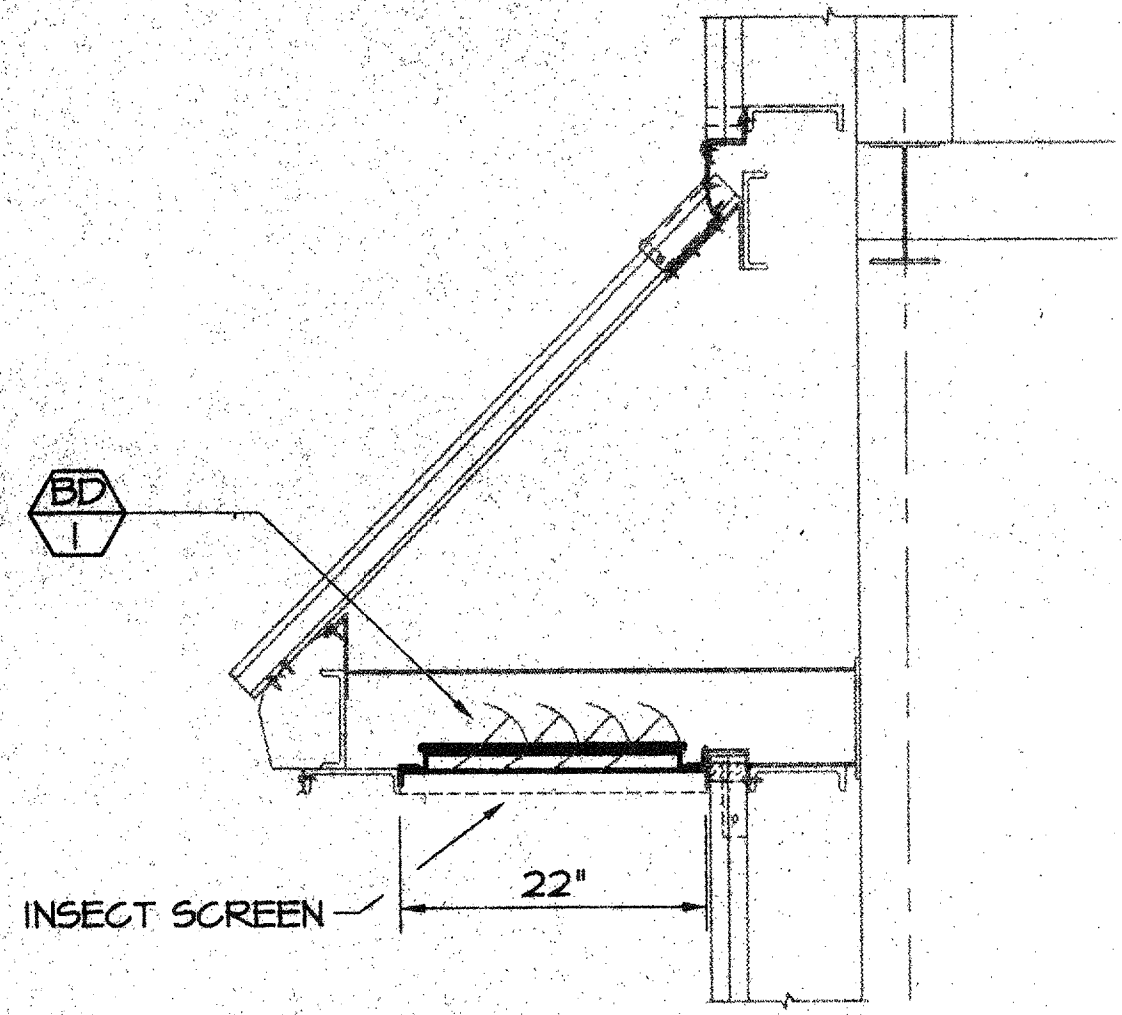
PLUMBING FIXTURE SCHEDULE

- P-1 TOILET - EQUAL TO AMERICAN STANDARD VITREOUS CHINA CADET II-17" H EL 1.6-HANDICAP- CLOSE COUPLED TANK, FLUSHES ON 1.6 GALLONS. SEAT PRESSALIT FOR AMERICAN STANDARD CLOSED FRONT WITH COVER, PROVIDE STOP VALVE.
- P-2 LAVATORY - EQUAL TO AMERICAN STANDARD VITREOUS CHINA, LUCERNE WALL HUNG WITH CONCEALED ARM SUPPORT 20-1/2" X 18-1/4" FOR HANDICAP. FAUCETS - AMERICAN STANDARD MODEL AMARILIS 8811.000 WITH WRIST BLADE HANDLES MODEL 372.
- P-3 ELECTRICAL WATER HEATER - EQUAL TO MC MASTER-CARR CATALOG No. 3556K83 240V-1Ø-60-4.6KW-21 AMPS MOUNT ON WALL BELOW SINK.
- P-4 STORM DRAIN - EQUAL TO JOSAM "5" SERIES 6"X6" FINISH BRONZE TOP.

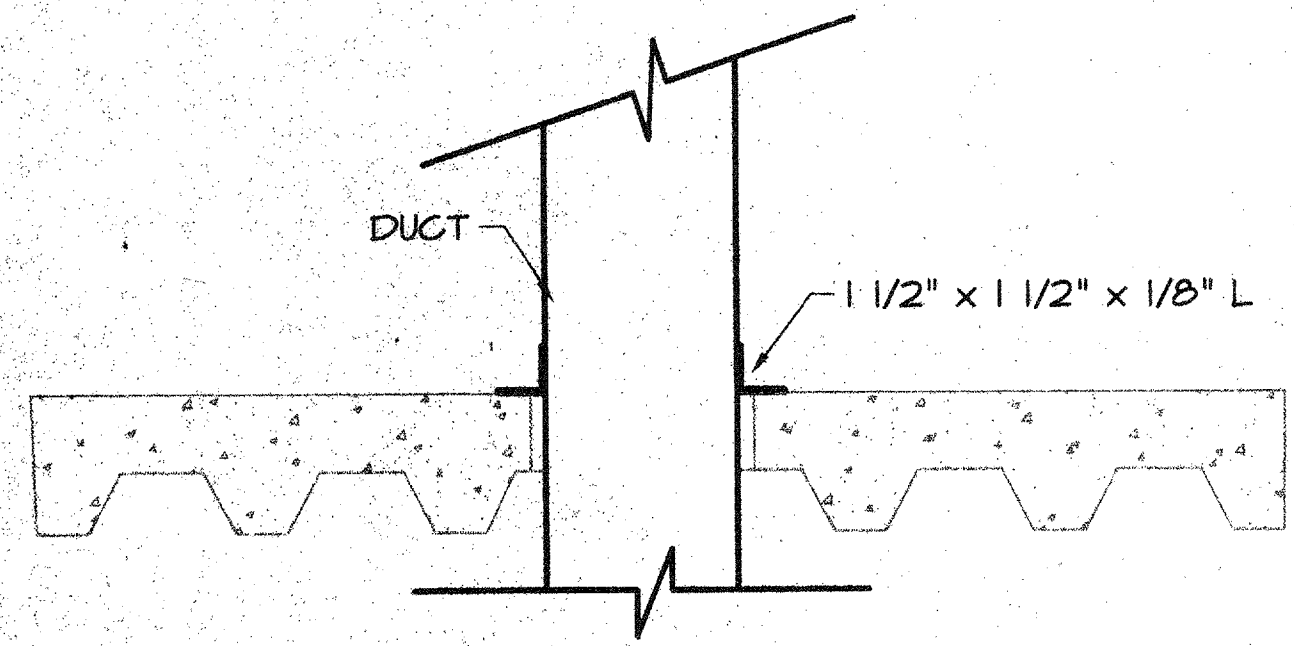
LEGEND

- SOIL AND WASTE LINES
- — — DOMESTIC COLD WATER
- · — · — DOMESTIC HOT WATER
- WCO WALL CLEAN-OUT
- VTR VENT THRU ROOF

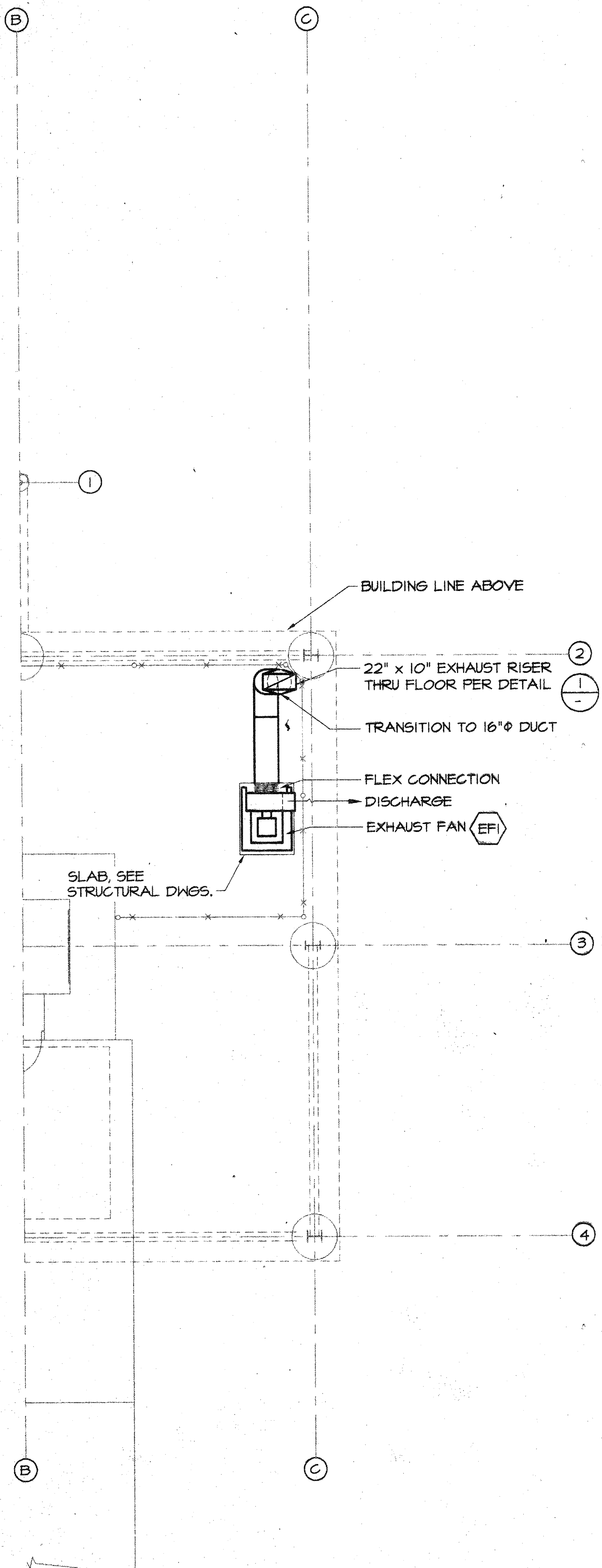
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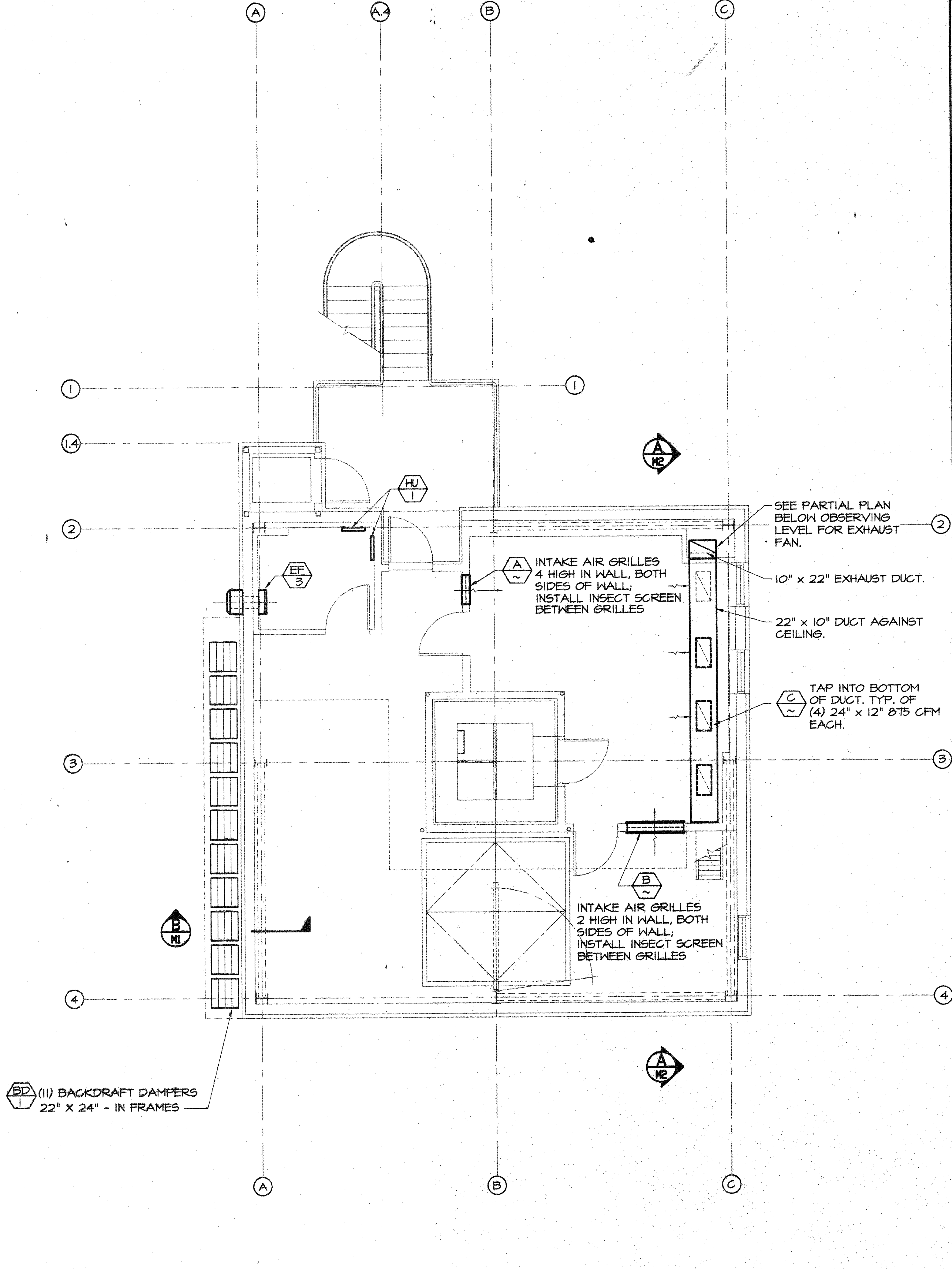
SECTION
SCALE: 1 1/2" = 1'-0"
M1 2/1/96



DUCT THRU FLOOR DETAIL
SCALE: N.T.S.

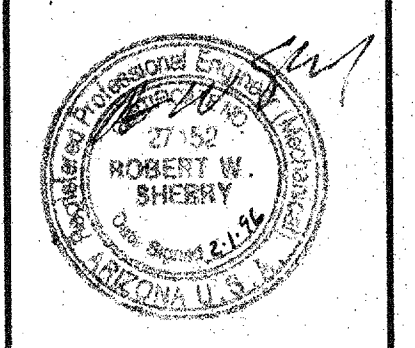


PARTIAL PLAN BELOW OBSERVING LEVEL
1/4" = 1'-0"



MECHANICAL FLOOR PLAN OBSERVING LEVEL
1/4" = 1'-0"

**SPACEWATCH TELESCOPE
ENCLOSURE**
UNIVERSITY OF ARIZONA
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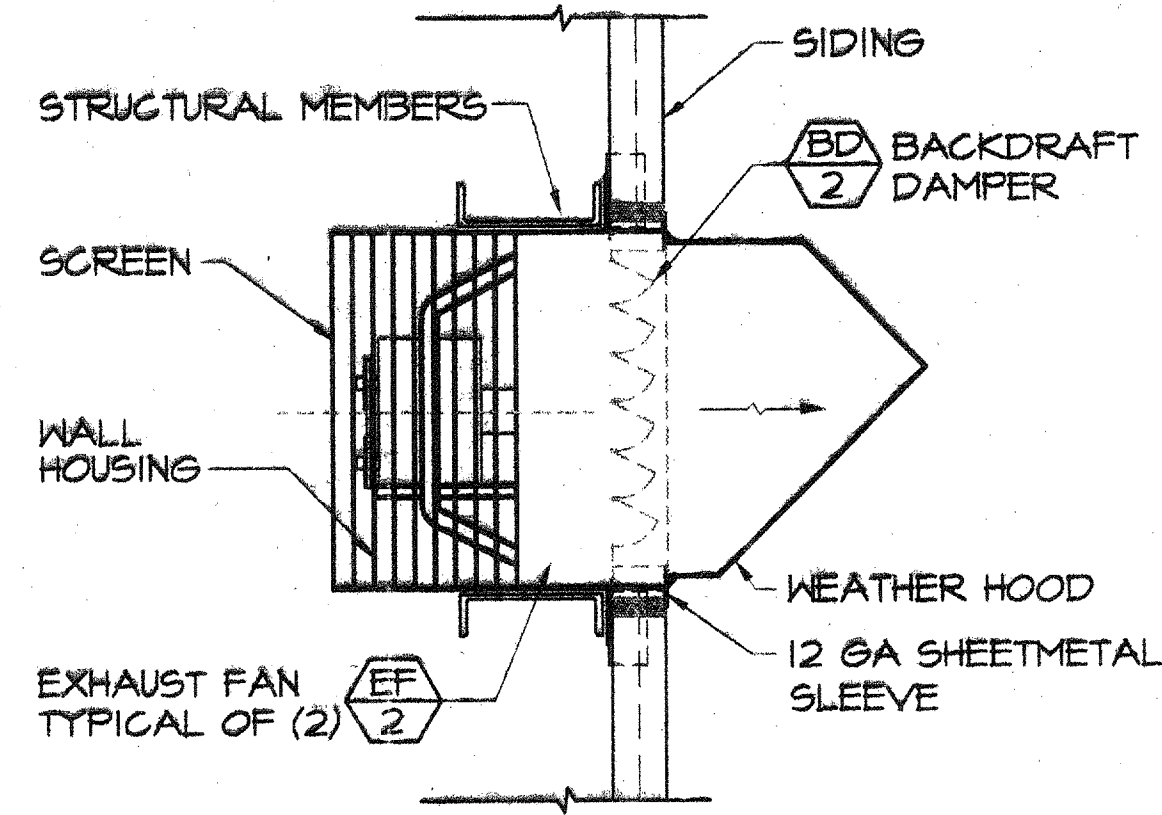
Drawing Title
**MECHANICAL
HVAC
PLAN**

Sheet Number
M1
19 of 25 Sheets
95-7467

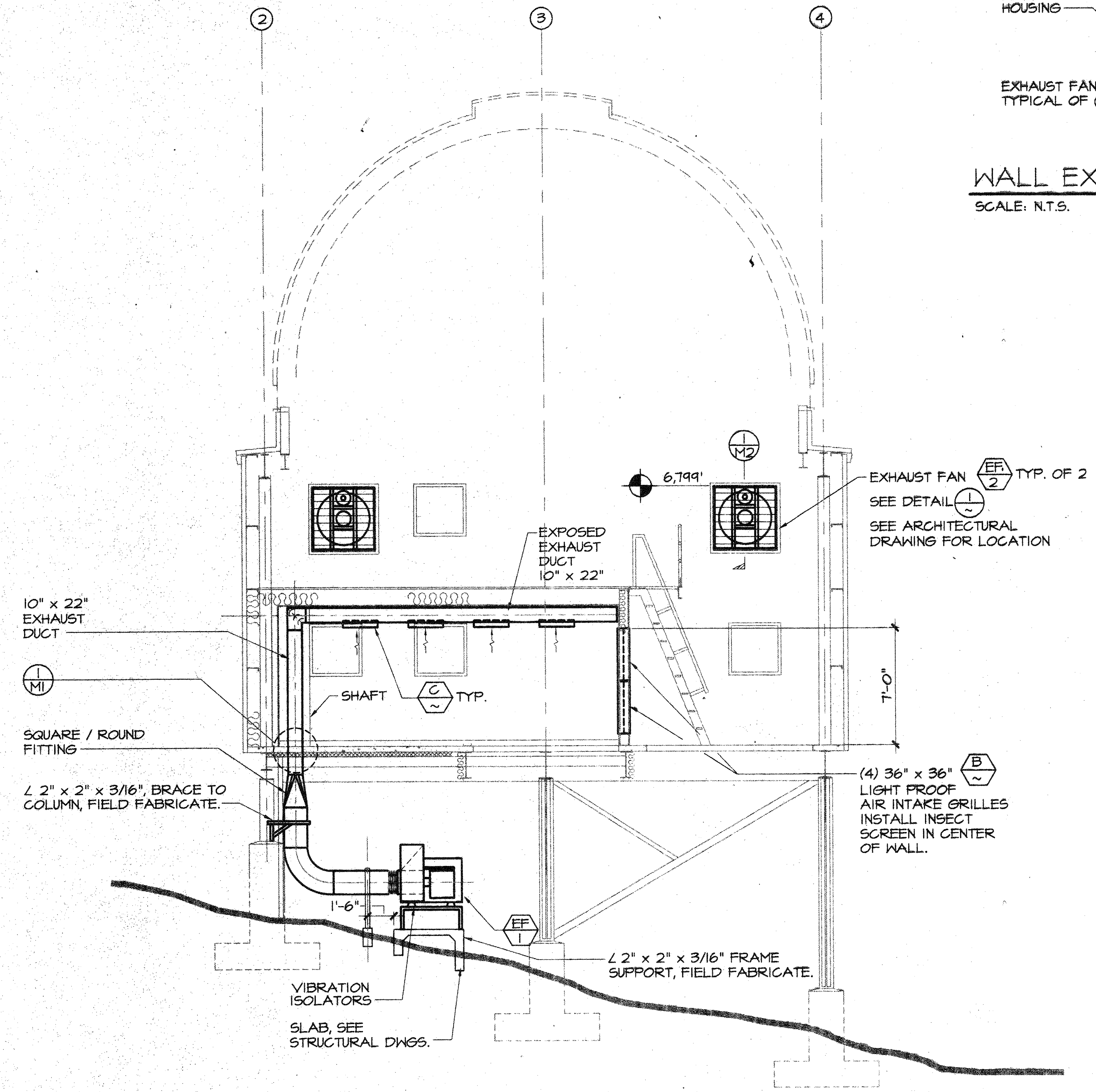
45211 MILLING OPERATED UNASSISTED

MECHANICAL EQUIPMENT SCHEDULE

- EF 1** EXHAUST FAN - EQUAL TO GREENHECK SWB-18 SINGLE INLET, BOTTOM HORIZONTAL DISCHARGE. CAPACITY 3500 CFM @ .75" SP - 1 HP MOTOR, MOUNT ON SLAB.
- EF 2** WALL EXHAUST FAN - EQUAL TO GREENHECK SBE-3L-36-30 CAPACITY 14230 CFM @ .40" SP - FAN RPM T54, 2.4 BHP, 3 HP MOTOR FOR ~~460/3/60~~ POWER WITH WALL HOUSING AND SCREEN. 230/1/60 3/1/96
- EF 3** WALL EXHAUST FAN - EQUAL TO MCMASTER CATALOG No. 2089K5. CAPACITY 160 CFM AT 0" SP - 11" SQUARE, 120V-1Φ-60 ON LIGHT SWITCH. INSTALL HOODED WALL CAP EQUAL TO GREENHECK MODEL WCSP CENTER T-0" ABOVE FINISHED FLOOR.
- BD 1** BACKDRAFT DAMPER - EQUAL TO RUSKIN CBD2 COUNTER BALANCED DAMPER, 24" X 22", FOR HORIZONTAL MOUNTING, AIR FLOW UP.
- BD 2** BACKDRAFT DAMPER - EQUAL TO RUSKIN CBD2 COUNTER BALANCED DAMPER, 38" X 38", FOR VERTICAL MOUNTING, HORIZONTAL AIR FLOW. CHECK FAN DIMENSIONS.
- A** AIR INTAKE GRILLE - EQUAL TO KRUEGER 5600 NON-VISION DOOR GRILLE, 24" X 16", SINGLE FLAT FRAME WITH 1/4" MARGIN. EXTRUDED ALUMINUM.
- B** AIR INTAKE GRILLE - EQUAL TO KRUEGER 5600 NON-VISION DOOR GRILLE, 36" X 36", SINGLE FLAT FRAME WITH 1/4" MARGIN, EXTRUDED ALUMINUM.
- C** EXHAUST AIR GRILLES - EQUAL TO KRUEGER SERIES 5800 H - W MULTI-LOUVER DAMPER, 24" X 12".
- HU 1** WALL HEATER - EQUAL TO RAYWALL RPHZ-SA, GRAINGER CATALOG #258T2, 500 WATTS, 240V-1Φ-60. MOUNT 24" ABOVE FLOOR.



WALL EXHAUST FAN DETAIL
SCALE: N.T.S.

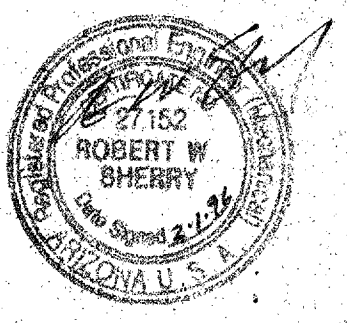


SECTION A-A
SCALE: 1/4" = 1'-0"

NOTE: PAINT ALL EXPOSED DUCTS.

9511M2.DWG - UPDATED - 2/1/96

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Drawing Title
SECTIONS AND DETAILS

Sheet Number
M2
20 of 25 Sheets
95-7467

ABBREVIATIONS

A	AMPERES	EL	EVENING LIGHT (ON @ DUSK, OFF @ 11 PM)	MCC	MOTOR CONTROL CENTER
ADA	AMERICANS WITH DISABILITIES ACT GUIDELINES (1990)	F/O	FIBER OPTIC	MFG	MANUFACTURER
AFF	ABOVE FINISHED FLOOR	FU	FUSE	NEC	NATIONAL ELECTRICAL CODE
AICS	AMPERES INTERRUPTING CAPACITY SYMMETRIC	FRS	BUSSMAN TYPE FRS FUSE	NL	NIGHT LIGHT
ARS	AMPERES RMS SYMMETRIC	GFI	GROUND FAULT INTERRUPTER	N, NEU	NEUTRAL
AMP	AMPACITY	GFCI	GROUND FAULT CURRENT INTERRUPTER	PR	PAIR
AC	ALTERNATING CURRENT	GND	GROUND	REM	REMARK
ARS	AMPERES RMS SYMMETRICAL	HP	HORSE POWER	RGS	RIGID GALVANIZED STEEL
AWG	AMERICAN WIRE GAUGE	IMC	INTERMEDIATE METAL CONDUIT	RHW	RUBBER WIRE INSULATION, SEE NEC
#/C	NUMBER OF CONDUCTORS	KW	KILOWATTS	SHLD/SH	SHIELDED
BC	BARE COPPER	KVA	KILOVOLT AMPS	SP	SPARE
C	CONDUIT	LBS	POUNDS	SMR	SURFACE METAL RACEWAY
C/B	CIRCUIT BREAKER	LTFC	LIQUID TIGHT FLEXIBLE CONDUIT STEEL CORE	SDL	SUITABLE FOR DAMP LOCATION UL LISTED
CU	COPPER	LF	LINEAR FEET	SWL	SUITABLE FOR WET LOCATION UL LISTED
CKT	CIRCUIT	LPS	LOW PRESSURE SODIUM	TYP	TYPICAL
CM	CIRCULAR MIL	LPSR	BUSSMAN FUSE TYPE	UPS	UNININTERRUPTIBLE POWER SOURCE
EWC	ELECTRIC WATER COOLER	MCB	MAIN CIRCUIT BREAKER	UL	UNDERWRITERS LABORATORY
EM	EMERGENCY LIGHT	MCP	MOTOR CIRCUIT PROTECTOR	U.O.N.	UNLESS OTHERWISE NOTED
		M	MOTOR	W	WATTS
		MCB	MAIN CIRCUIT BREAKER	WP	WEATHERPROOF
				XFMR	TRANSFORMER

SYMBOLS

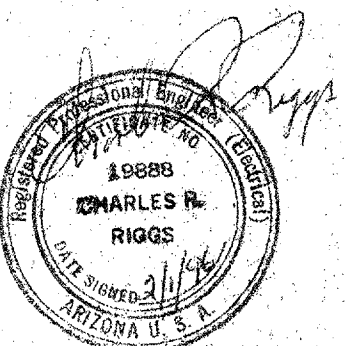
	NEW CONDUIT		HOME RUN TO PANELBOARD - 'LS'-INDICATES PANEL DESIGNATION 1,3,5-INDICATES CIRCUIT BREAKER NO.
	JUNCTION BOX		SINGLE POLE SWITCH, 20 A OR LOW VOLTAGE TYPE, MAX HEIGHT = 42" TO CENTERLINE OR AS NOTED ON DRAWINGS
	DUPLEX RECEPTACLE OUTLET, NEMA 5-20R, MTD 18" AFF		DIMMER SWITCH AS NOTED
	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE 15 AMP FEED THROUGH TYPE.		THREE WAY SWITCH, 20 AMP.
	QUADRAPLEX OUTLET WITH SINGLE DEVICE EQUAL TO HUBBELL 415 SERIES. 20A, 120V, 2P+G CONFIGURATIONS		TOGGLE SWITCH TYPE MANUAL MOTOR STARTER
	FLEXIBLE CONDUIT		WALL SURFACE INCANDESCENT LUMINAIRE
	MOTOR		FLUORESCENT LUMINAIRE, AS NOTED
	WIREWAY		FLUORESCENT STRIP LIGHT LUMINAIRE, SURFACE OR PENDANT MOUNTED
	EXTERNALLY OPERATED DISCONNECT SWITCH		RECESSED OR SURFACE INCANDESCENT LUMINAIRE, AS NOTED
	COMBINATION MOTOR STARTER DISCONNECT, FUSED		2-HEAD EMERGENCY BATTERY PACK LIGHT
	PUSH BUTTON CONTROL STATION		HOMERUN
	SURFACE MOUNTED PANELBOARD & CABINET		BURIED #1/0 BARE COPPER, U.N.O.
	THERMOSTAT		CABLE TRAY
	FIRE ALARM, SMOKE DETECTOR		GROUND ROD
	FIRE ALARM, HEAT DETECTOR		EQUIPMENT CONNECTION
	FIRE ALARM CONTROL PANEL		GROUND CONNECTION
	FIRE ALARM, MANUAL PULL STATION, ADA COMPLYING		DRY TYPE TRANSFORMER, AS NOTED
	FIRE ALARM, HORN/STROBE, ADA COMPLYING		CIRCUIT BREAKER
	FIRE ALARM, STROBE LIGHT, ADA COMPLYING		STARTER DISCONNECT
	FIRE ALARM, DUCT DETECTOR		NOT IN CONTRACT
	CONCEALED CONDUIT - NUMBER OF SLASHES INDICATE NUMBER OF WIRES (WHEN MORE THAN TWO) PROVIDE GROUND WIRE IN ALL CONDUITS (SIZE PER NEC 250-95 UNLESS NOTED OTHERWISE); GROUNDS ARE NOT SHOWN BY SLASHES. SLASHES WHERE SHOWN ARE FOR CONVENIENCE OF THE CONTRACTOR ONLY; PROVIDE NUMBER OF CONDUCTORS AS REQUIRED BY CIRCUIT FUNCTION.		
	HOME RUN TO PANELBOARD - 'LS'-INDICATES PANEL DESIGNATION 1,3,5-INDICATES CIRCUIT BREAKER NO.		

GENERAL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ELECTRICAL INSTALLATIONS WITH ALL OTHER TRADES TO AVOID ANY CONFLICTS WITH PIPING, STRUCTURE, ETC.
- ALL NEW WIRING SHALL BE INSTALLED IN CONDUIT WITHOUT EXCEPTION, SIZE PER N.E.C.
- ALL CONDUCTORS SHALL BE THIN, XHHW, COPPER.
- DRAWINGS ARE DIAGRAMMATIC IN NATURE AND CANNOT SHOW EVERY CONNECTION, J-BOX, WIRE, CONDUIT, ETC. THE EXACT LOCATION AND ARRANGEMENT OF ALL PARTS SHALL BE DETERMINED AS THE WORK PROGRESSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEM.
- THE USE OF NO. 14 AWG COPPER CONDUCTORS SHALL BE RESTRICTED TO CONTROL AND INSTRUMENT WIRING.
- ALL CONDUCTORS INSTALLED IN CONDUIT EXPOSED TO THE SUN SHALL BE TYPE XHHW.
- ALL CONDUCTORS INSTALLED SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE N.E.C. ALL CONDUITS SHALL CONTAIN AN INSULATED GROUND WIRE SIZED PER NEC 250.
- ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF RACEWAYS OR EQUIPMENT SHALL BE PERFORMED BY A TRADESMAN EXPERIENCED IN THE WORK REQUIRED. ALL FINISHES SHALL MATCH EXISTING ADJACENT SURFACES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY LOSS OR DAMAGE CAUSED BY HIS OR HER WORKERS TO THE FACILITY DURING THE COURSE OF CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING SUCH OR DAMAGE INCURRED BY HIS OR HER WORKERS.
- ALL ELECTRICAL EQUIPMENT OUTSIDE BUILDING SHALL BE NEMA 3R OR 4.
- INCIDENTAL ITEMS NOT INDICATED ON DRAWINGS, NOR MENTIONED IN THE SPECIFICATIONS THAT CAN BE LEGITIMATELY AND REASONABLY INFERRED TO BELONG TO THE WORK DESCRIBED OR NECESSARY IN GOOD PRACTICE TO PROVIDE A COMPLETE SYSTEM, SHALL BE FURNISHED AND INSTALLED AS THOUGH ITEMIZED HERE IN EVERY DETAIL.
- CONTRACTOR SHALL FURNISH MATERIALS, TOOLS, SERVICES, LABOR, ETC. FOR A COMPLETE ELECTRICAL INSTALLATION UNLESS OTHERWISE NOTED ON PLANS.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE, AND SERVING ELECTRICAL UTILITIES' CODES, ORDINANCES RULES, REGULATIONS, ETC. THE ENTIRE ELECTRICAL INSTALLATION SHALL COMPLY WITH OR SURPASS THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.).
- ALL MATERIALS AND EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR SHALL BE NEW OF FIRST-CLASS QUALITY, FREE FROM DEFECTS AND SHALL CONFORM WITH UNDERWRITERS LABORATORIES (UL) STANDARDS, WHERE APPLICABLE, UNLESS OTHERWISE NOTED ON PLANS.
- DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED. PROVIDE TEMPORARY SERVICES DURING INTERRUPTIONS TO EXISTING FACILITIES AS REQUIRED.
- CONTRACTOR SHALL CALL FOR BLUE STAKE SERVICES AND AVOID UNDERGROUND PIPES, DRAINS AS NECESSARY.
- CONTRACTOR SHALL VISIT THE JOB SITE, AND PRIOR TO SUBMITTING BID VERIFY ALL EXISTING CONDITIONS, LOCATIONS, DIMENSIONS AND COUNTS AS SHOWN AND/OR NOTED ON THE DRAWINGS.
- WHERE CORE DRILLING OF FLOORS/WALLS IS REQUIRED, CONTRACTOR SHALL SEAL OPENINGS AFTER UTILITIES HAVE BEEN INSTALLED. LOCATION OF CORED HOLES SHALL COORDINATE WITH LOCATION OF EQUIPMENT IN A MANNER TO BE CLEAN AND FUNCTIONAL. THE CONTRACTOR SHALL INSTALL ONLY ONE CONDUIT PER HOLE AND SEAL THE OPENING AROUND THE CONDUIT AS SPECIFIED.
- PROVIDE FIRE RETARDANT UL APPROVED SEALANT ON ALL RACEWAY PENETRATIONS OF FIRE RATED CEILINGS, PARTITIONS, WALLS, AND STRUCTURAL SLABS. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO VERIFY PRIOR TO SUBMITTING BID, LOCATIONS OF ALL SUCH FIRE RATED PARTITIONS, WALLS, AND STRUCTURAL SLABS.
- ANY ELECTRICAL DEVICES BEING REWIRED, REMOVED, RELOCATED OR RECONNECTED SHALL BE DONE WITH WIRE AND CONDUIT.
- ALL CONDUIT SHALL BE RUN EXPOSED EXCEPT IN FURRED OUT WALLS.
- ALL DEVICES ARE EXISTING TO REMAIN AND BE RECONNECTED AS INDICATED, UNLESS OTHERWISE INDICATED. VERIFY ALL DEVICES ARE IN GOOD WORKING ORDER.
- ALL SWITCHES EXCEPT LIGHTING SWITCHES SHALL HAVE ENGRAVED NAMEPLATE TO DESCRIBE THE SWITCH FUNCTION.
- ALL HOMERUN J-BOXES SHALL BE IDENTIFIED WITH PANEL DESIGNATION AND CIRCUIT NUMBER.
- TELEPHONE AND DATA WIRING, OUTLET, TERMINATIONS, EQUIPMENT, ETC.. SHALL BE FURNISHED BY THE OWNER AND INSTALLED BY SEPARATE CONTRACT.
- AUTHORIZATION TO INTERRUPT UTILITIES MUST BE COORDINATED WITH JOHN WAACK, STEWARD OBSERVATORY, KITT PEAK STATION, 316-8696, 7 DAYS PRIOR TO PLANNED INTERRUPTION.
- PLANNED INTERRUPTION. PAINT STEEL MOUNTING PLATE ON SHEET E-2 WITH 1 COAT RUSTOLEUM PRIMER, 2 COATS RUSTOLEUM ENAMEL, COLOR BY OWNER.
- ALL LIGHTNING PROTECTION HARDWARE SHALL BE APPROVED COPPER OR BRONZE. NO ALUMINUM IS APPROVED.
- DOWNLEADS AND MAIN CONDUCTORS SHALL BE #15000 CM COPPER, 15 AWG MINIMUM STRANDING, 375 LB/1000 LF.
- BONDING CABLE SHALL BE 26240 CM COPPER, 17 AWG STRANDING.
- ALL LIGHTNING PROTECTION COMPONENTS SHALL BE UL APPROVED AND LABELED, CLASS 2, AND IN ACCORDANCE WITH NFPA 780.
- INSTALLATION SHALL CONFORM TO NFPA 780, PROVIDE SHOP DRAWINGS FOR APPROVAL, PREPARED BY A U.L. APPROVED INSTALLER.



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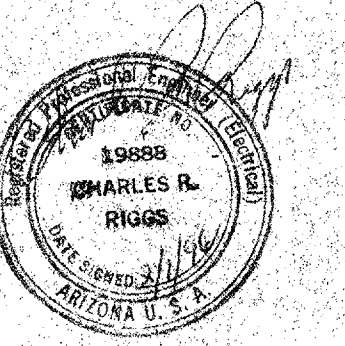
Drawing Title
ELECTRICAL SYMBOLS & GENERAL NOTES

Sheet Number
E1
 21 of 25 Sheets
 95-7467

NOTE:
 COORDINATE ROUGH OUT WORK WITH CONCRETE, STRUCTURAL, AND SITE TRADES

UPDATED 02/10/96
 SHEET

318-8696



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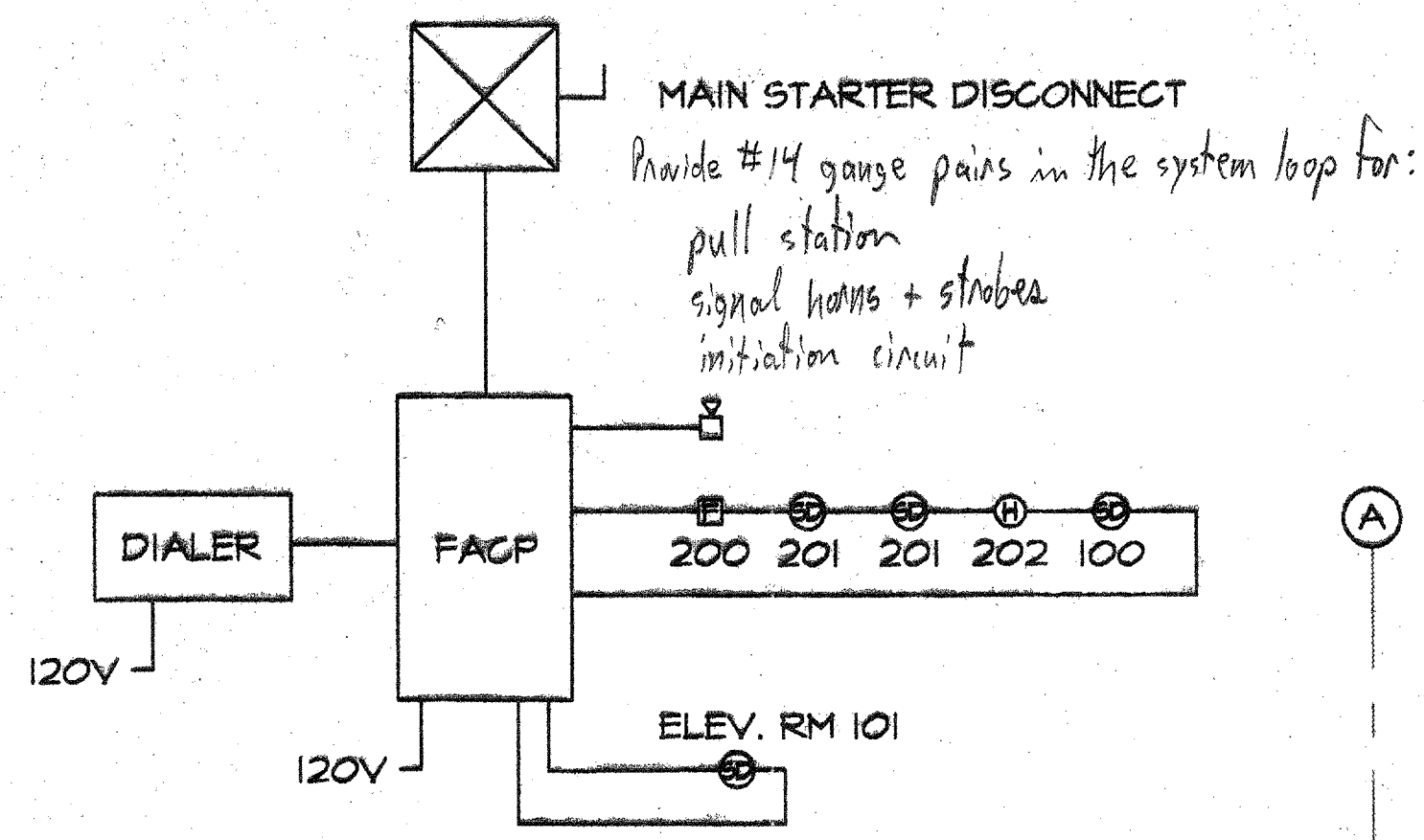
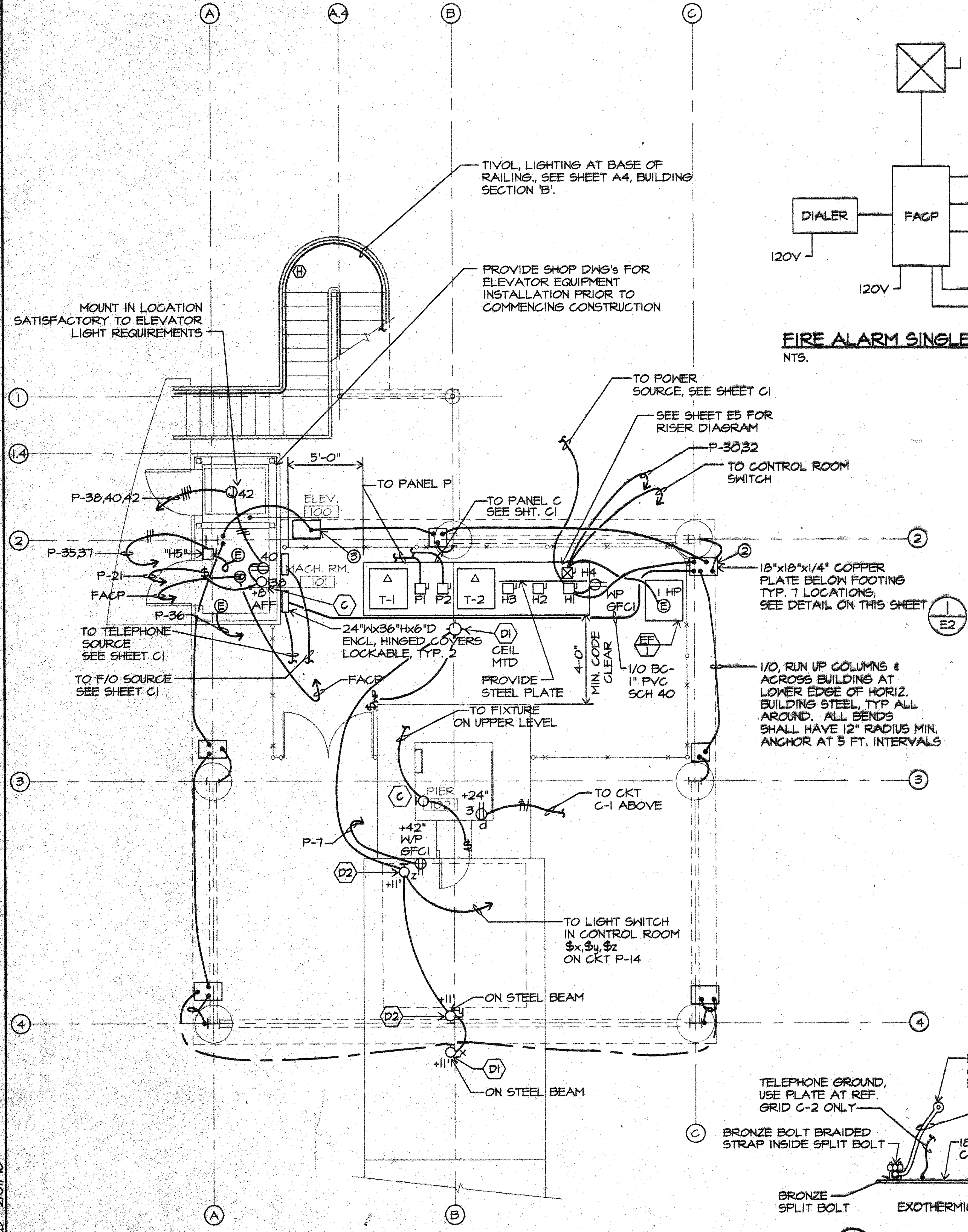
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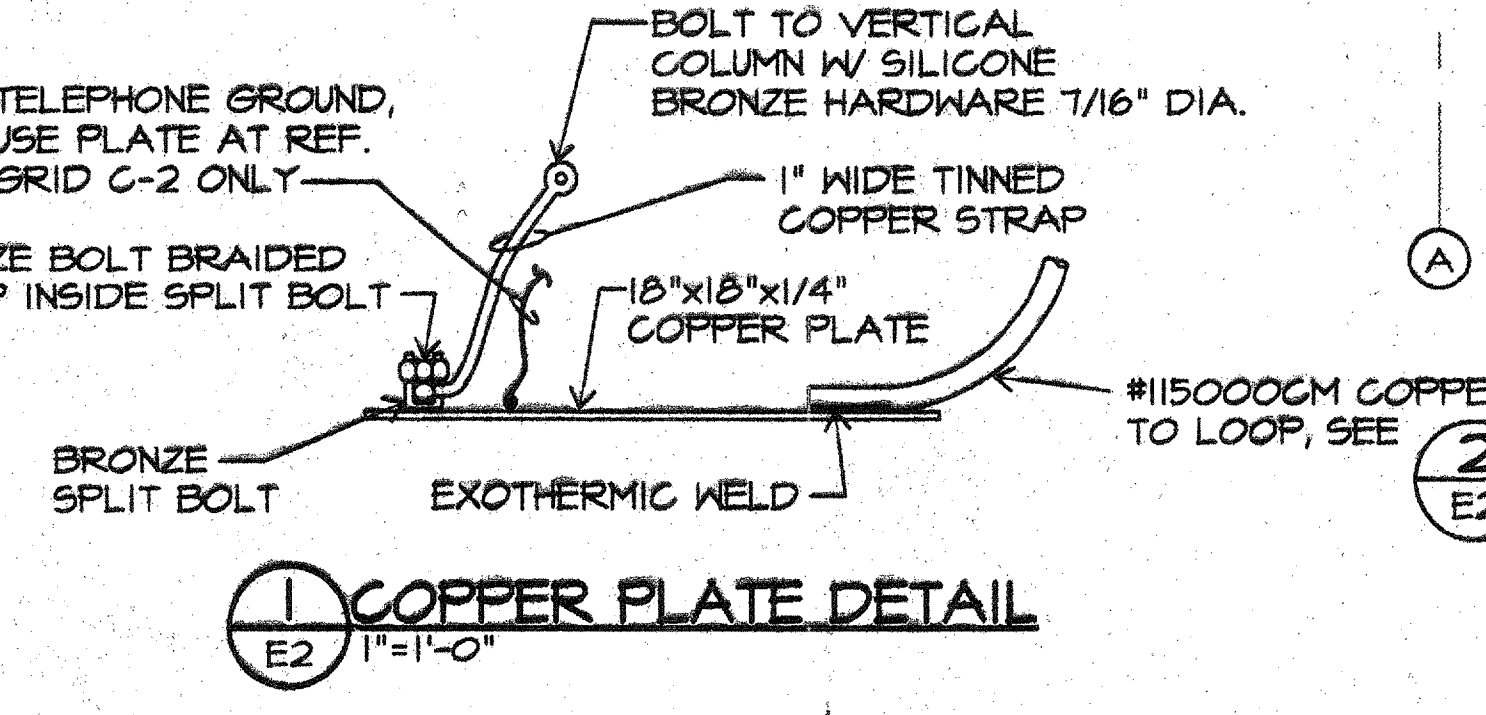
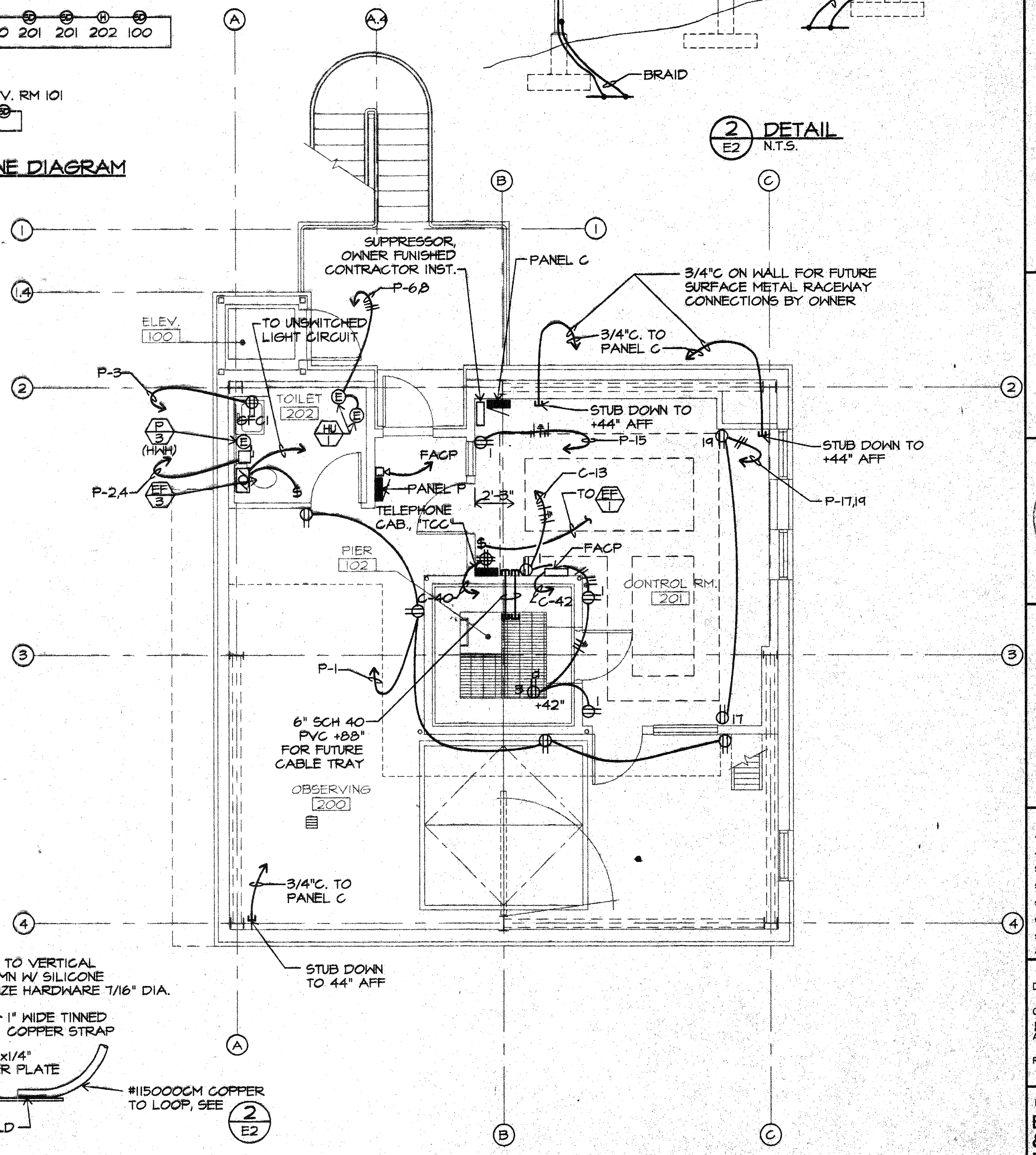
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Approved: CRR 3/1/96

Drawing Title
ELECTRICAL & POWER PLANS

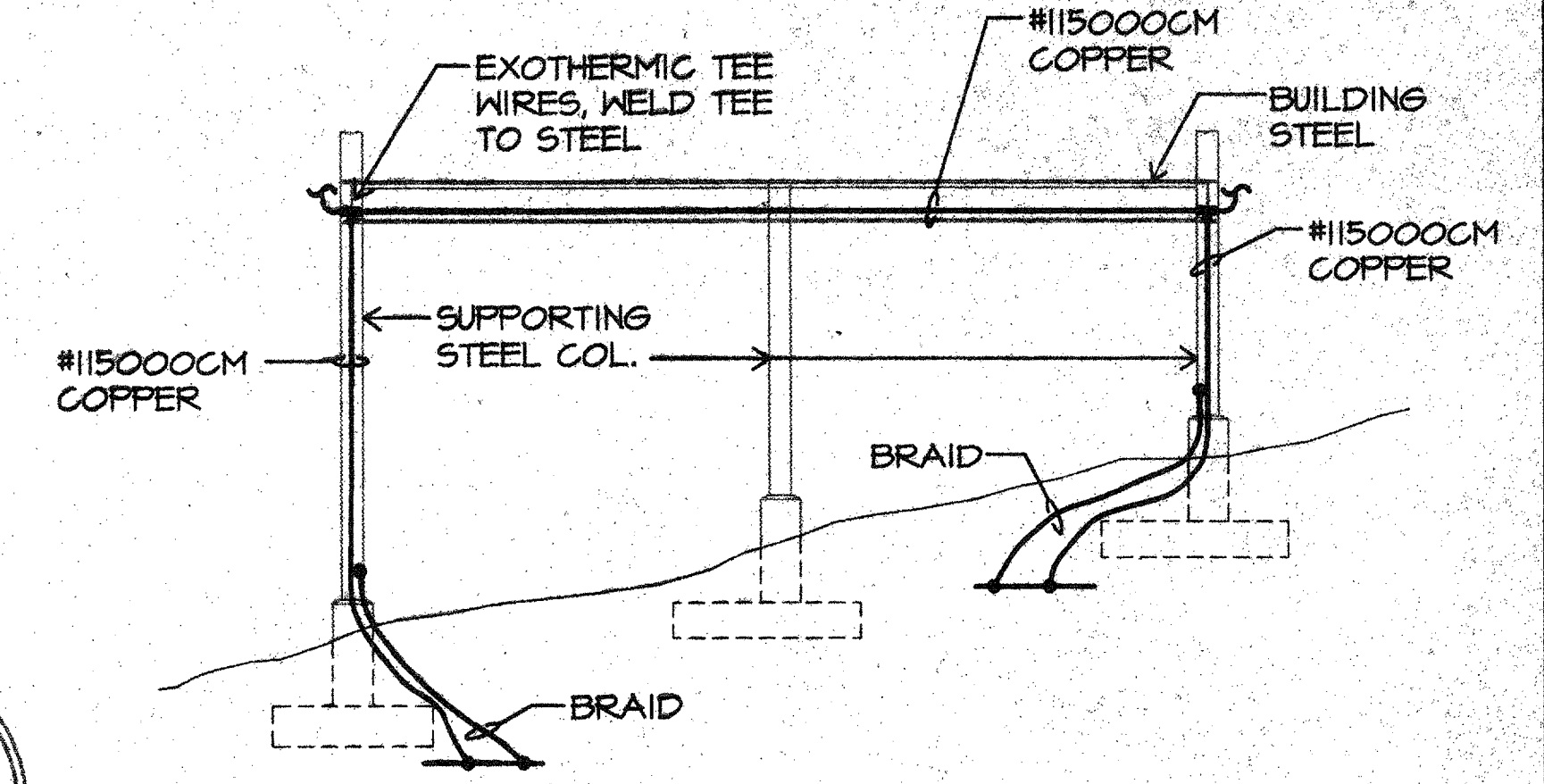
Sheet Number
E2
22 of 25 Sheets



FIRE ALARM SINGLE LINE DIAGRAM
NTS.



1 COPPER PLATE DETAIL
1" = 1'-0"



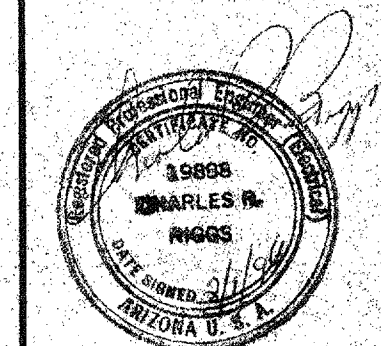
2 DETAIL
E2
NTS.

REVISED/UPDATED 2/01/96

GROUND LEVEL ELECTRICAL PLAN
1/4" = 1'-0"

OBSERVING LEVEL POWER PLAN
1/4" = 1'-0"

- KEYNOTES (THIS SHEET ONLY).**
- CONNECT TO TRAVELING CABLE FOR ELEVATOR LIGHTS.
 - GROUND PLATE AT REF. GRID C-2 SHALL BE GROUND POINT FOR ALL SYSTEMS.
 - DO NOT GROUND TELEPHONE HERE.



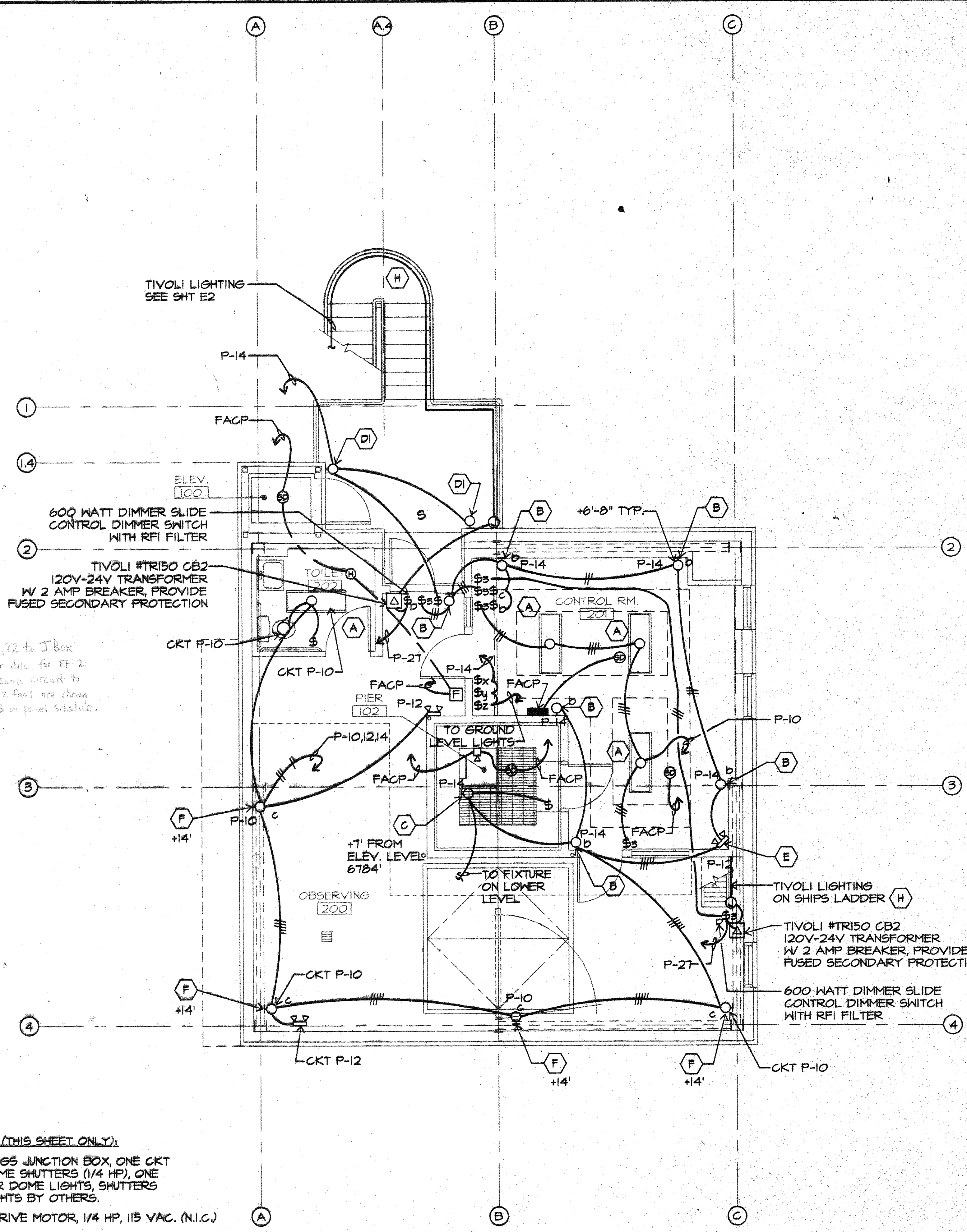
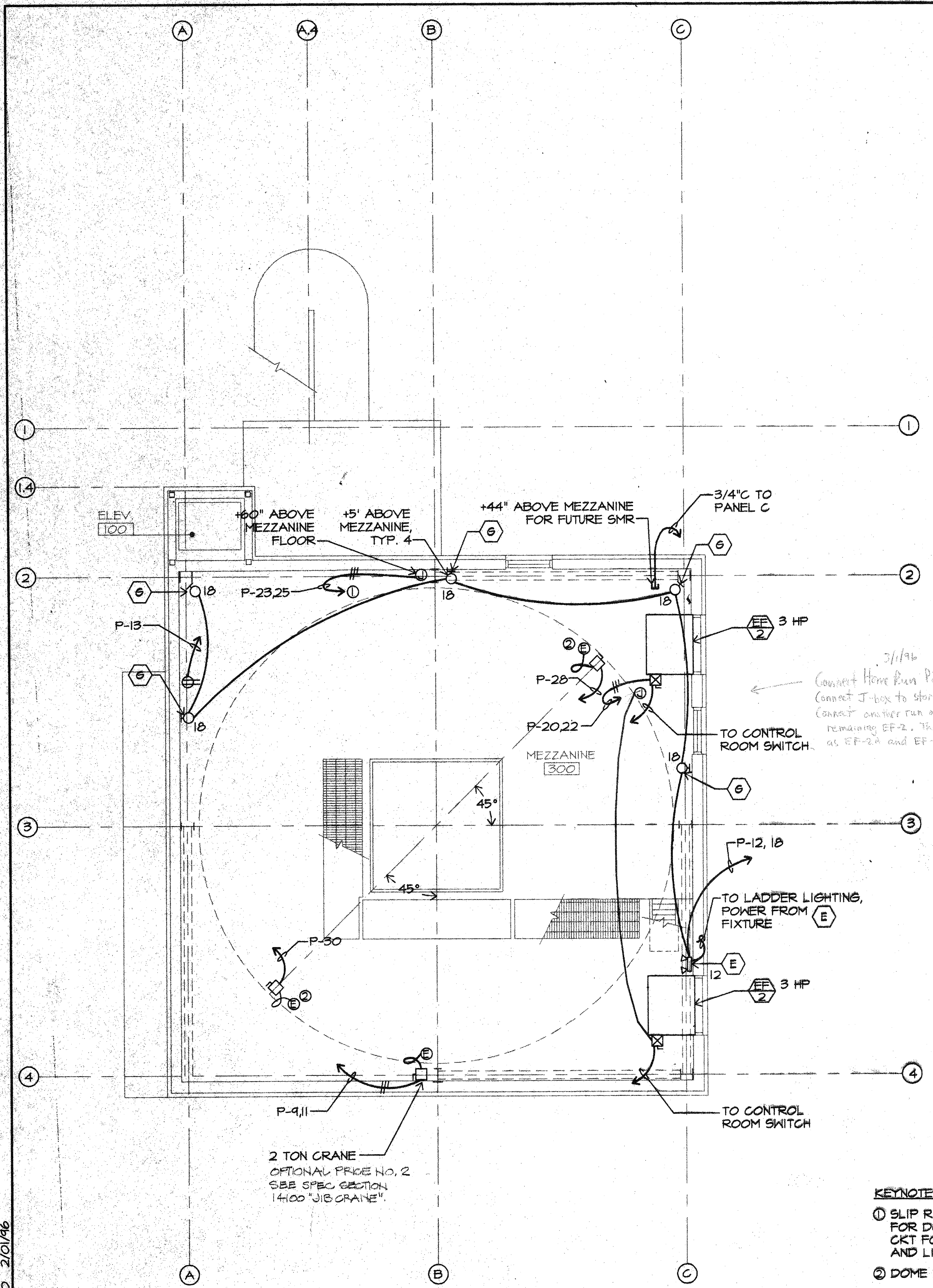
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Drawing Title
LIGHTING & SPECIAL SYSTEMS PLAN
Sheet Number
E3
23 of 25 Sheets
95-7467



- KEYNOTES (THIS SHEET ONLY):**
- ① SLIP RINGS JUNCTION BOX, ONE CKT FOR DOME SHUTTERS (1/4 HP), ONE CKT FOR DOME LIGHTS, SHUTTERS AND LIGHTS BY OTHERS.
 - ② DOME DRIVE MOTOR, 1/4 HP, 115 VAC. (N.I.C.)

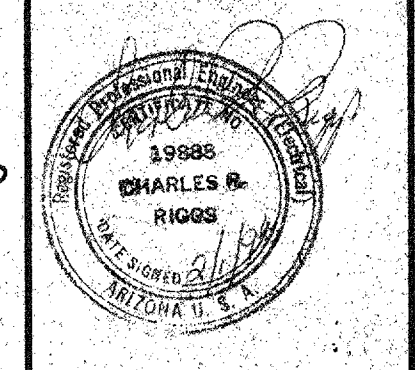
MEZZANINE LEVEL LIGHTING, POWER, & SPECIAL SYSTEMS PLAN

OBSERVING LEVEL LIGHTING & SPECIAL SYSTEMS PLAN

1/4" = 1'-0"

1/4" = 1'-0"

REVISED DWG. UPDATED 2/10/96



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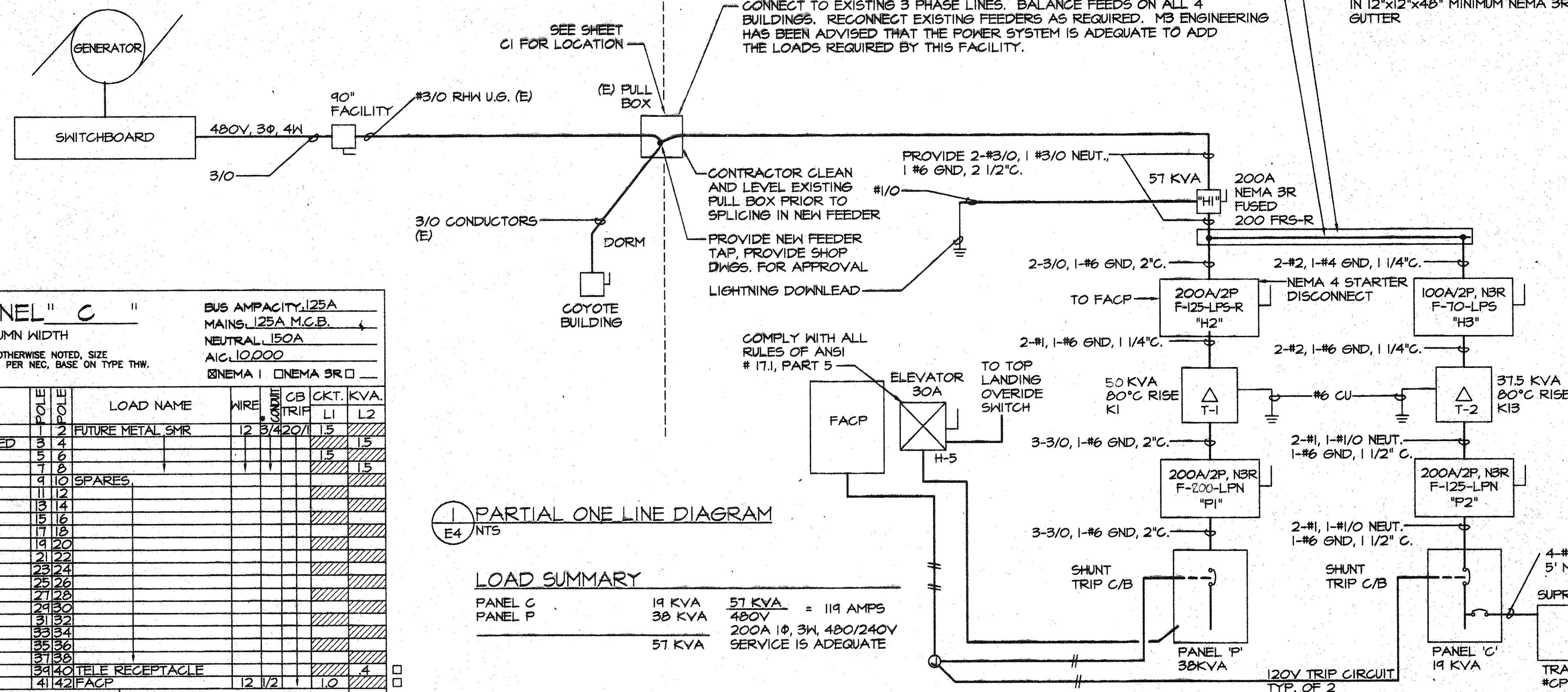
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Drawing Title
ELECTRICAL ONE LINE AND SHED.

Sheet Number
E4
24 of 25 Sheets
95-7467

WORK NOT DESIGNED BY M3 ENGINEERIN & TECH. CORP. ← → WORK DESIGNED BY M3 ENG. & TECH. CORP.



1 PARTIAL ONE LINE DIAGRAM E4 NTS

LOAD SUMMARY

PANEL C	19 KVA	57 KVA	= 119 AMPS
PANEL P	38 KVA	480V	
	57 KVA	200A 1Ø, 3W, 480/240V	SERVICE IS ADEQUATE

TYPE BOLT ON CB PANEL "C" BUS AMPACITY 125A
SERVICE 240/120V 1Ø, 3W MAINS 125A M.C.B.
POLES 42 COLUMN WIDTH NEUTRAL 150A
LOCATION GRID REF. A.2-2.4 * UNLESS OTHERWISE NOTED, SIZE CONDUITS PER NEC, BASE ON TYPE THW. AIC 10,000
SURFACE FLUSH NEMA 1 NEMA 3R

CKT.	KVA	CB	TRIP	WIRE	LOAD NAME	WF	WF	LOAD NAME	WIRE	CB	TRIP	CKT.	KVA
L1	L2					POLE	POLE					L1	L2
10	4	20/15/4	12		RECEPT. CIRCUIT	1	2	FUTURE METAL SMR	12	3/4	20/1	15	15
					RECEPT. DEDICATED SPARES	3	4					15	15
						5	6					15	15
						7	8					15	15
					SPARE SPACE	9	10					15	15
						11	12					15	15
						13	14					15	15
						15	16					15	15
						17	18					15	15
						19	20					15	15
						21	22					15	15
						23	24					15	15
						25	26					15	15
						27	28					15	15
						29	30					15	15
						31	32					15	15
						33	34					15	15
						35	36					15	15
						37	38					15	15
25	25	50/1	8		UPS	35	36					15	15
24	24	30/3/4	10		G.P. COMPUTER	39	40	TELE RECEPTACLE	12	1/2	10	4	4
24	24	20/1	12		FACP	41	42	FACP	12	1/2	10	4	4

TOTAL CONNECTED KVA

LOAD SUMMARY PER NEC ART 220	ØA	ØB
CONTINUOUS KVA @ 125%	10	9
NON-CONTINUOUS KVAD (SEE DF @ RIGHT)	83	75
TOTAL PHASE KVA PER NEG		
TOTAL PHASE AMPS PER NEG		
TOTAL LOAD PER NEG	19	17

DEMAND FACTORS AS NOTED:
1. 220-11 (LIGHTING) 6. 220-34 (SCHOOLS)
2. 220-13 (RECEPT.) 7. 220-35 (EXIST. BLDG.)
3. 220-15 (HEAT) 8. 550-22 (MOBILE PARK)
4. 220-20 (KITCHENS) 9. 551-44 (RV. PARKS)
5. 225-21 (NON-COINCIDENT) 10. 630-11 (WELDERS)

COPPER BUS, TIN PLATED

* CIRCUIT BY OTHERS □ PROVIDE LOCK DOG

TYPE BOLT ON CB PANEL "P" BUS AMPACITY 200A
SERVICE 240/120V 1Ø, 3W MAINS 200A M.C.B.
POLES 42 COLUMN WIDTH NEUTRAL 200A
LOCATION GRID REF. A.6-2.3 * UNLESS OTHERWISE NOTED, SIZE CONDUITS PER NEC, BASE ON TYPE THW. AIC 10,000
SURFACE FLUSH NEMA 1 NEMA 3R

CKT.	KVA	CB	TRIP	WIRE	LOAD NAME	WF	WF	LOAD NAME	WIRE	CB	TRIP	CKT.	KVA
L1	L2					POLE	POLE					L1	L2
8	2	20/1/2	12		CONVENIENCE RECEPT.	1	2	HWH GFCI C/B	6	3/4	40/1	23	23
					TOILET RECEPT.	3	4					23	23
					RECEPT. SERV.	5	6	BATH HEAT	12	3/4	20/1	5	5
					OUTSIDE RECEPT.	7	8	BATH HEAT				5	5
					2 TON CRANE	9	10	LTS. BATH AND MISC.				11	11
						11	12	EM	12	1/2	20/1	4	4
						13	14	OUTSIDE LTS.				3	3
					MEZZ. RECEPT.	15	16	SPARE				3	3
						17	18	MEZZANINE LTS.				3	3
						19	20	EXH. FANS 2A, 2B 3 HP EA	8	3/4	50/1	4	4
					EQ ROOM LITE	21	22					4	4
					DOME SHUTTERS	23	24	SPARE				4	4
					DOME LITES	25	26					4	4
					TIVOLI LIGHTING	27	28	DOME DRIVE	12	1/2	20/1	1	1
					SPARE	29	30					1	1
						31	32	EF-1				10	10
						33	34					10	10
						35	36	STRIP HEAT				10	10
						37	38	EQ RM LIGHT	12	1/2	20/1	1	1
						39	40	EQ RM RECEPT	12	1/2	20/1	1	1
						41	42	ELEV. LTS.	12	1/2	1	2	2

TOTAL CONNECTED KVA

LOAD SUMMARY PER NEC ART 220	ØA	ØB
CONTINUOUS KVA @ 125%	6	6
NON-CONTINUOUS KVAD (SEE DF @ RIGHT)	14.4	10.8
TOTAL PHASE KVA PER NEG	20	18
TOTAL PHASE AMPS PER NEG	167	150
TOTAL LOAD PER NEG	38	33

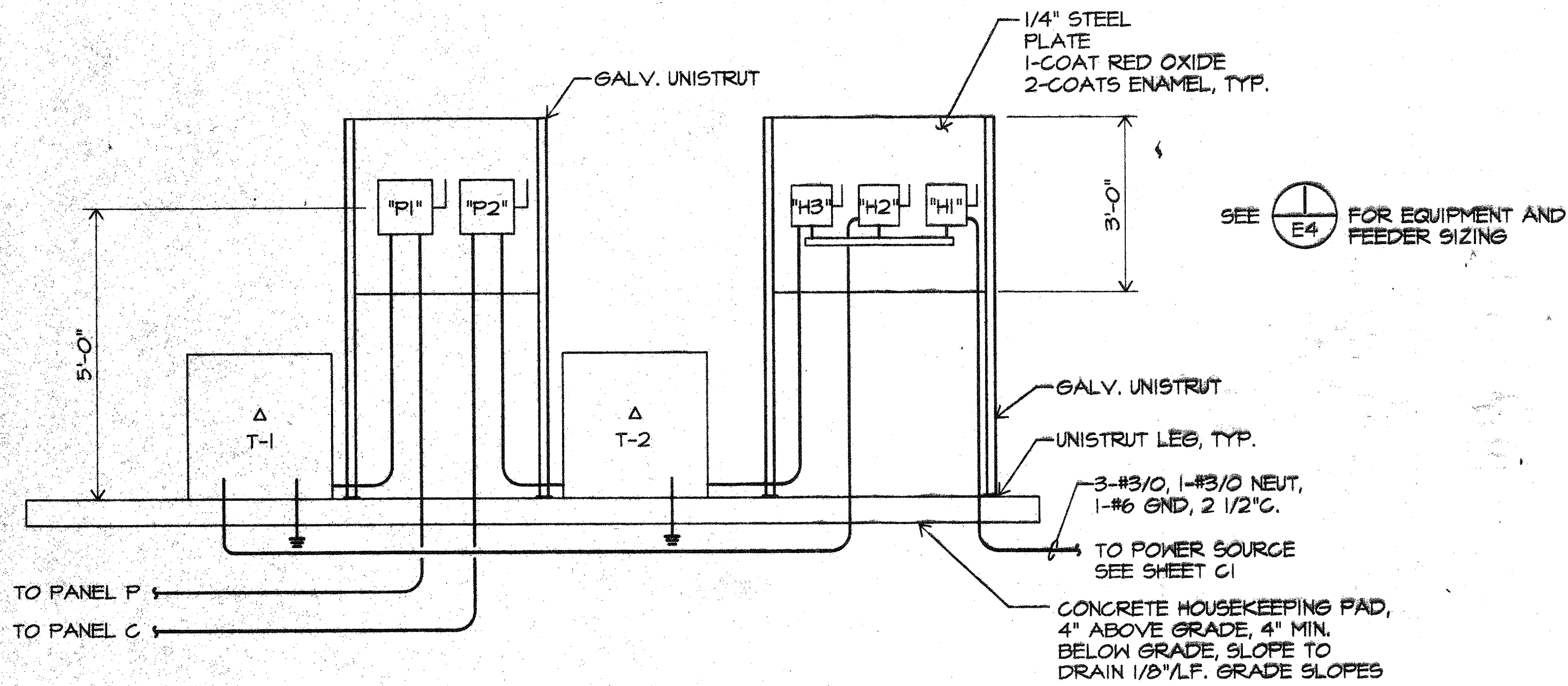
DEMAND FACTORS AS NOTED:
1. 220-11 (LIGHTING) 6. 220-34 (SCHOOLS)
2. 220-13 (RECEPT.) 7. 220-35 (EXIST. BLDG.)
3. 220-15 (HEAT) 8. 550-22 (MOBILE PARK)
4. 220-20 (KITCHENS) 9. 551-44 (RV. PARKS)
5. 225-21 (NON-COINCIDENT) 10. 630-11 (WELDERS)

COPPER BUS, TIN PLATED

* CIRCUIT BY OTHERS □ PROVIDE LOCK DOG
** VERIFY CIRCUIT RGTS WITH EQUIP. SUPPLIER

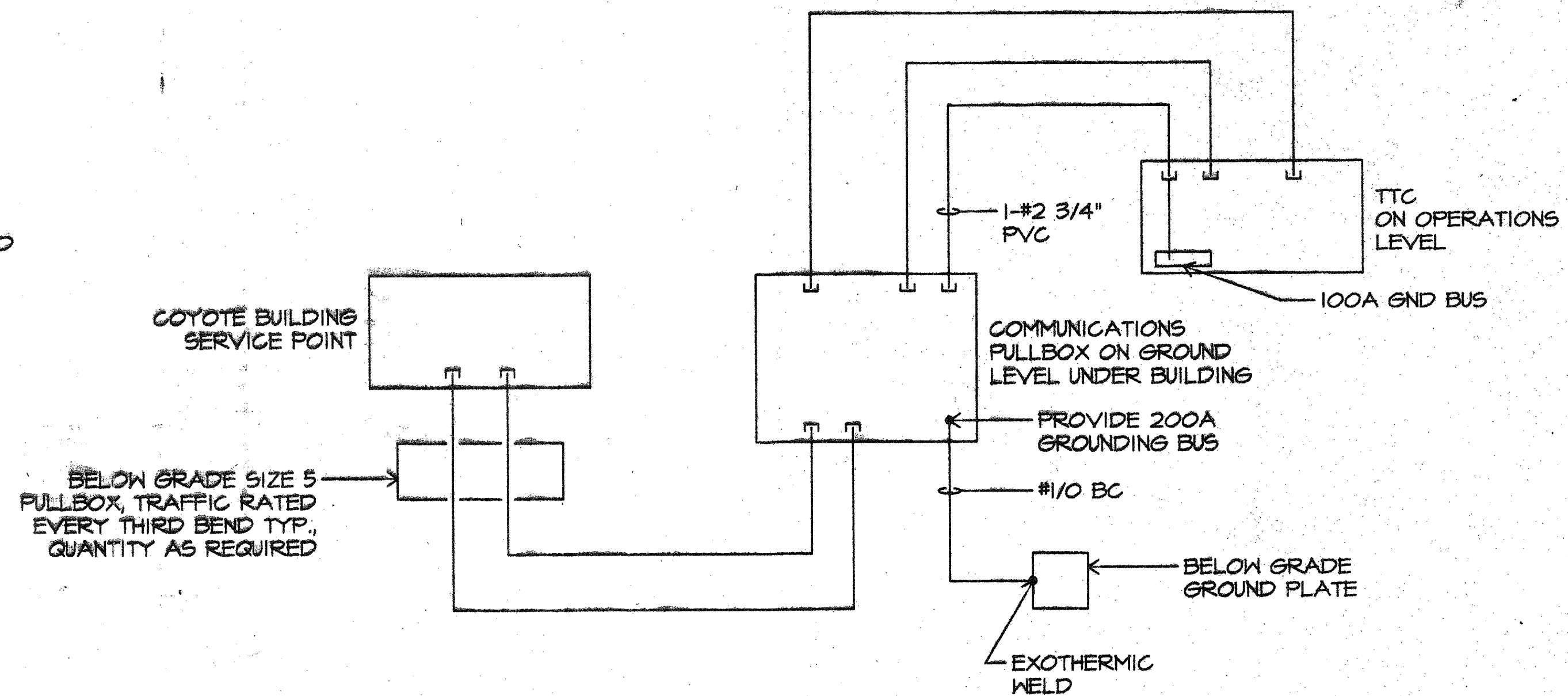
ALL FLOURESCENT FIXTURES SHALL HAVE BALLASTS EQUAL TO ADVANCE MARK V.

TYPE	MANUFACTURER AND MODEL NO.	DESCRIPTION	VOLT.	LAMPS	MOUNTING	FINISH	REMARKS
A	LIGHTOLIER CELEBRITY CBS 440	FLUORESCENT 4 LAMP	120	4 EA. T8 3500° K	SURFACE	BLACK HOUSING	1Ø1" THICK CONICAL FRISM 2-WAY HINGED LENS
B	PRESCOLITE WB-28	WALL MTD INCANDESCENT WITH RED GLASS JELLY JAR 200W RATED	120	100W A19	SURFACE	ALUM.	OPAL GLASS LENS
C	PRESCOLITE WB-28	WALL MTD INCANDESCENT WITH OPAQUE WHITE GLASS JELLY JAR 200W RATED	120	100W A19	SURFACE	ALUM.	OPAL GLASS LENS
D	THOMAS/DAY-BRITE LED 18 HS SERIES	WALL MTD SWL LISTED LOW PRESSURE SODIUM	120	18W LPS	SURFACE	STD.	
D2	D1 FIXTURE 35W	SAME AS D1 ONLY 35W LPS	120	35W LPS	WALL	STD.	
E	DUAL LITE AS-210	BATTERY POWERED EMERGENCY LIGHT DUAL HEAD	120	2-25W HO	WALL	STD.	NICAD ONLY, 138W FOR 1 1/2 HR
F	PRESCOLITE WB-28	WALL MTD INCANDESCENT WITH OPAQUE WHITE GLASS JELLY JAR 200W RATED	120	200W A19	WALL	STD.	PROVIDE 8 ADDITIONAL FOR OWNER INSTALLATION IN THE DOME
G	PRESCOLITE WB-28	WALL MTD INCANDESCENT WITH OPAQUE WHITE GLASS JELLY JAR 200W RATED	120	150W MED. BASE	SURFACE	ALUM.	OPAL GLASS LENS
H	TIVOLI TT1003-R-6-TVLN	RED POLYCARBONATE LIGHT TUBING	24	9 WATT INCAN.	SURFACE	RED	1/4"x5/16" GEL FILLED TUBING W/ LAMPS @ 6" O.C.

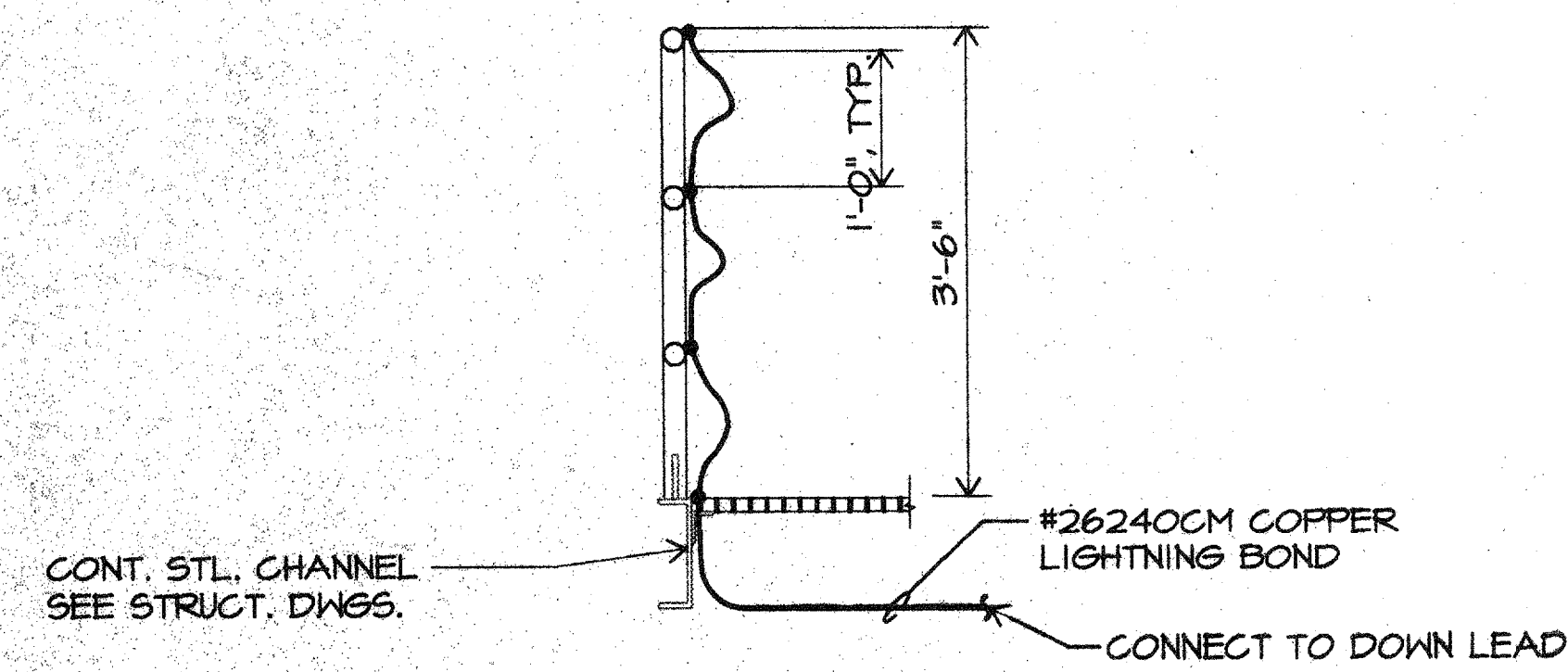


RISER DIAGRAM

N.T.S.
NOTE: PAINT EQUAL TO RUSTOLEUM

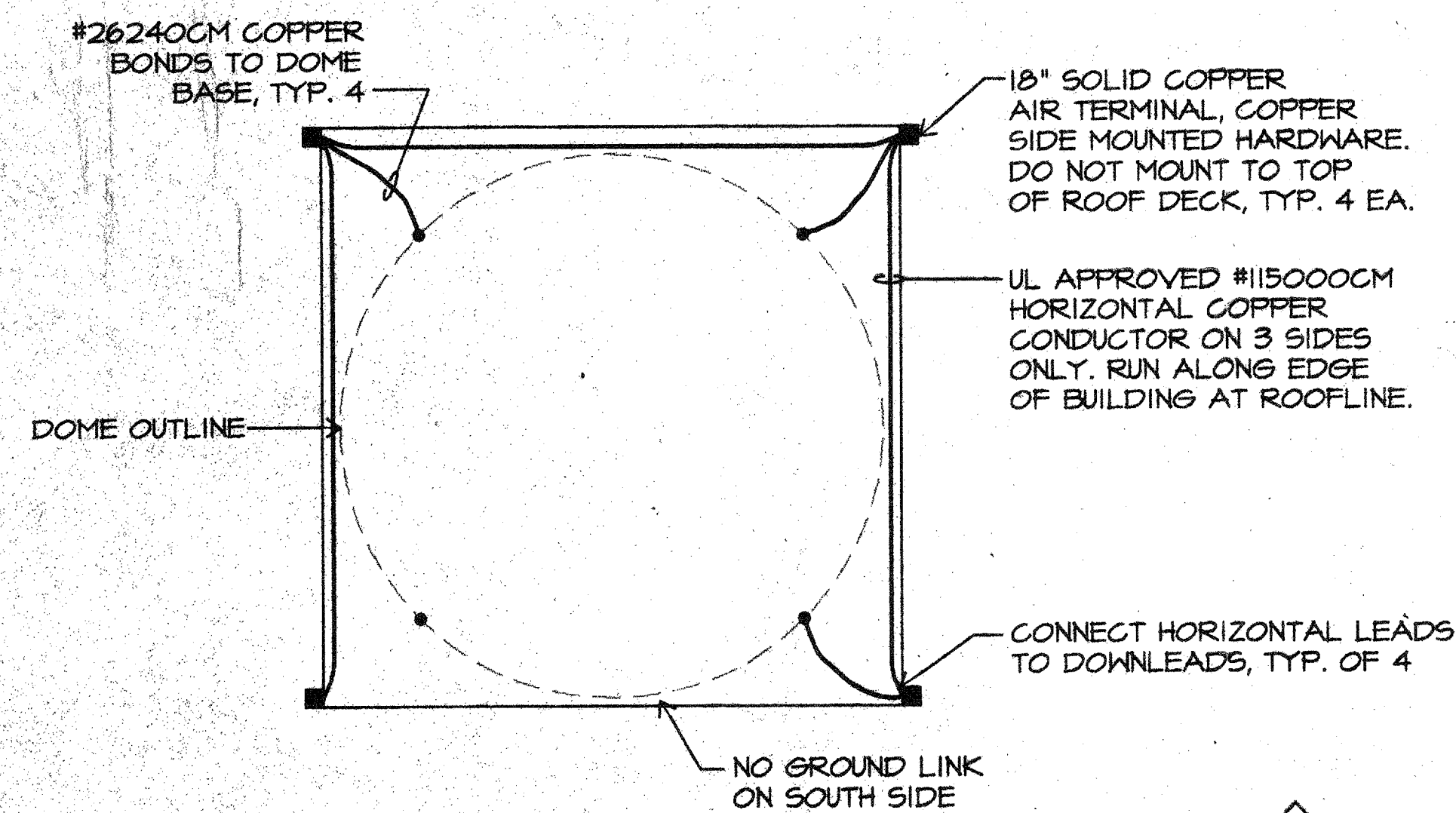


COMMUNICATIONS SYSTEMS SINGLE LINE DIAGRAM



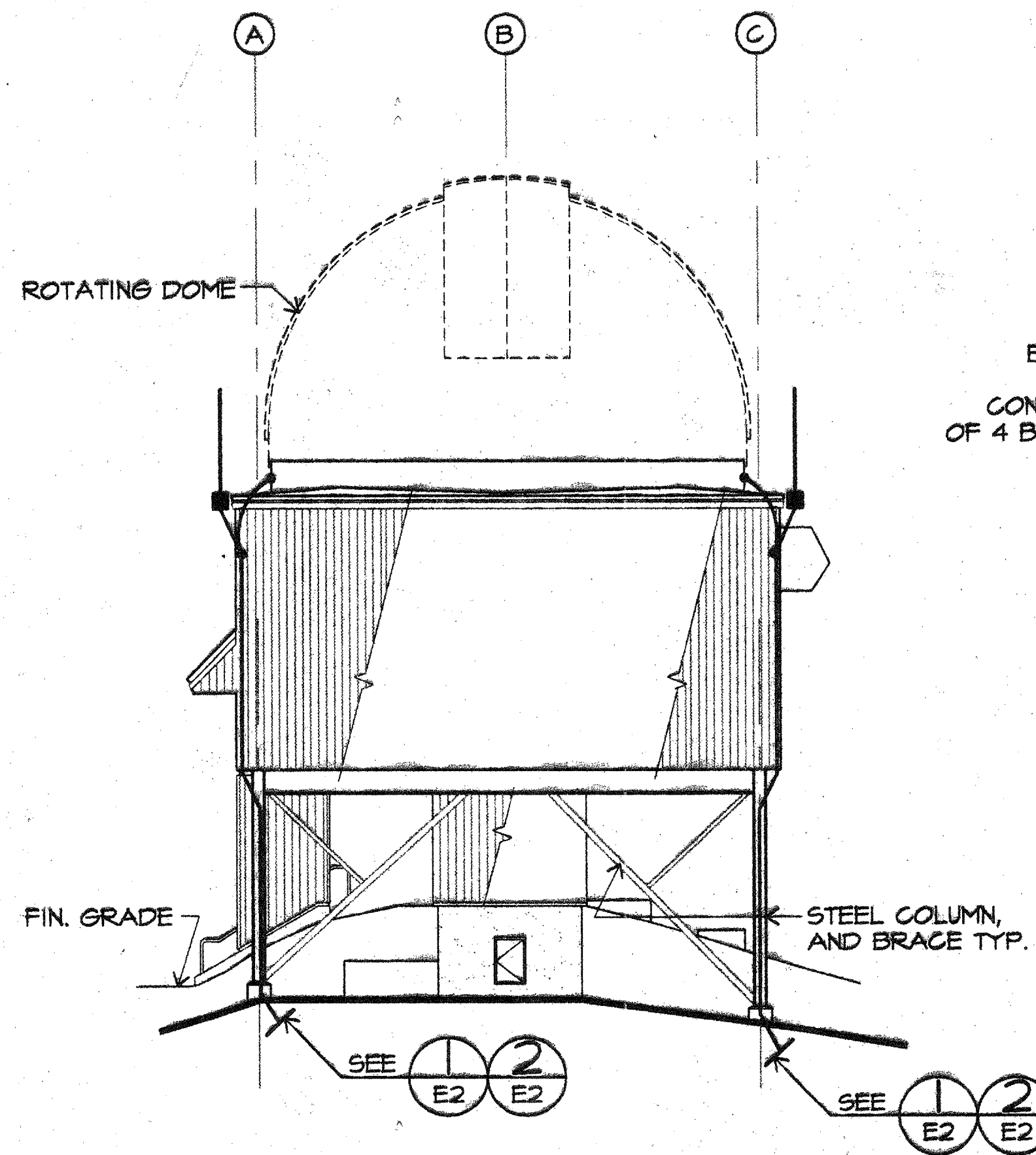
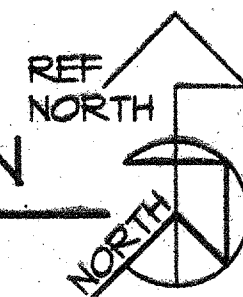
GUARDRAIL GROUNDING, TYPICAL

N.T.S.



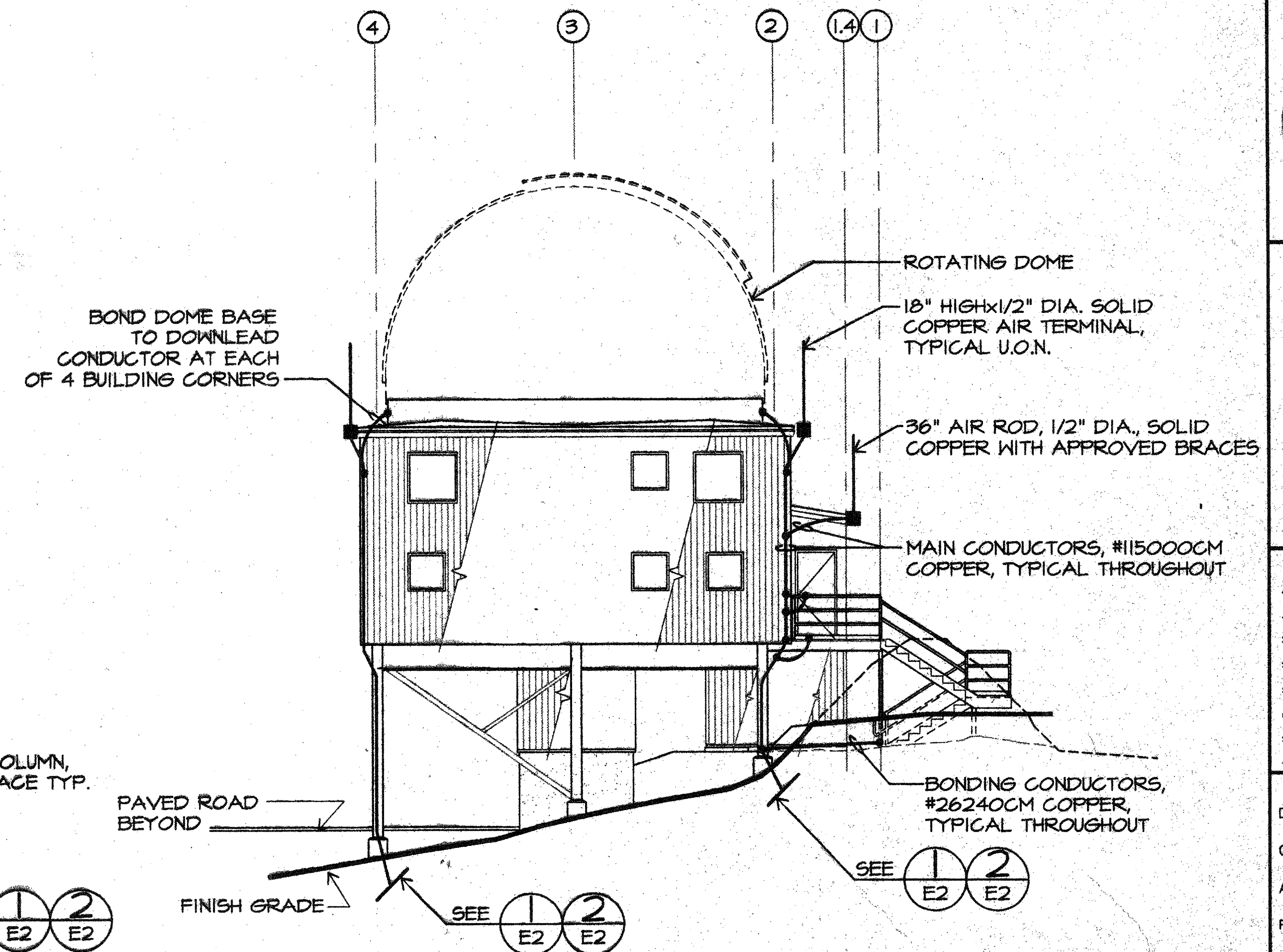
ROOFTOP LIGHTNING PROTECTION PLAN

N.T.S.



SOUTHEAST ELEVATION-LIGHTNING PROTECTION DETAIL

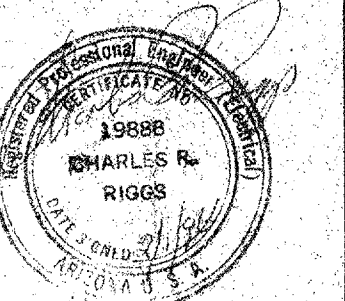
N.T.S.



NORTHEAST ELEVATION-LIGHTNING PROTECTION DETAIL

N.T.S.

SPACEWATCH TELESCOPE
ENCLOSURE
UNIVERSITY OF ARIZONA
KITTE PEAK, ARIZONA



M3 Engineering & Technology Corp.
Tucson, Arizona
Tel. (520) 690-8209
FAX No. (520) 293-8177
M3 PN 95117

Revisions

Description	Date

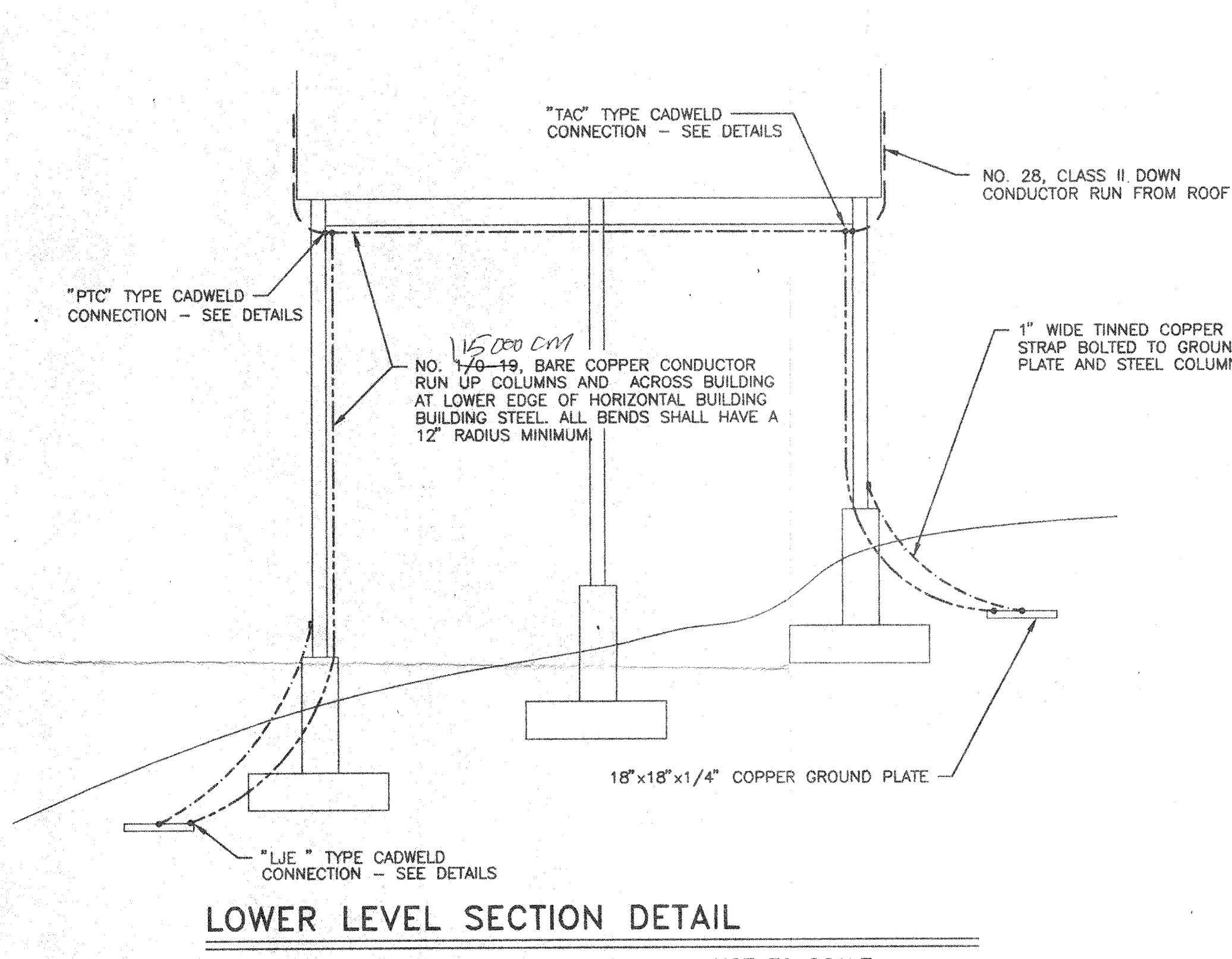
Date: 2/1/96

Drawn: COUSY 12/26/95
Checked: EC 12/19/95
Approved:
Released: CLK 2/1/96

Drawing Title
DIAGRAMS & DETAILS

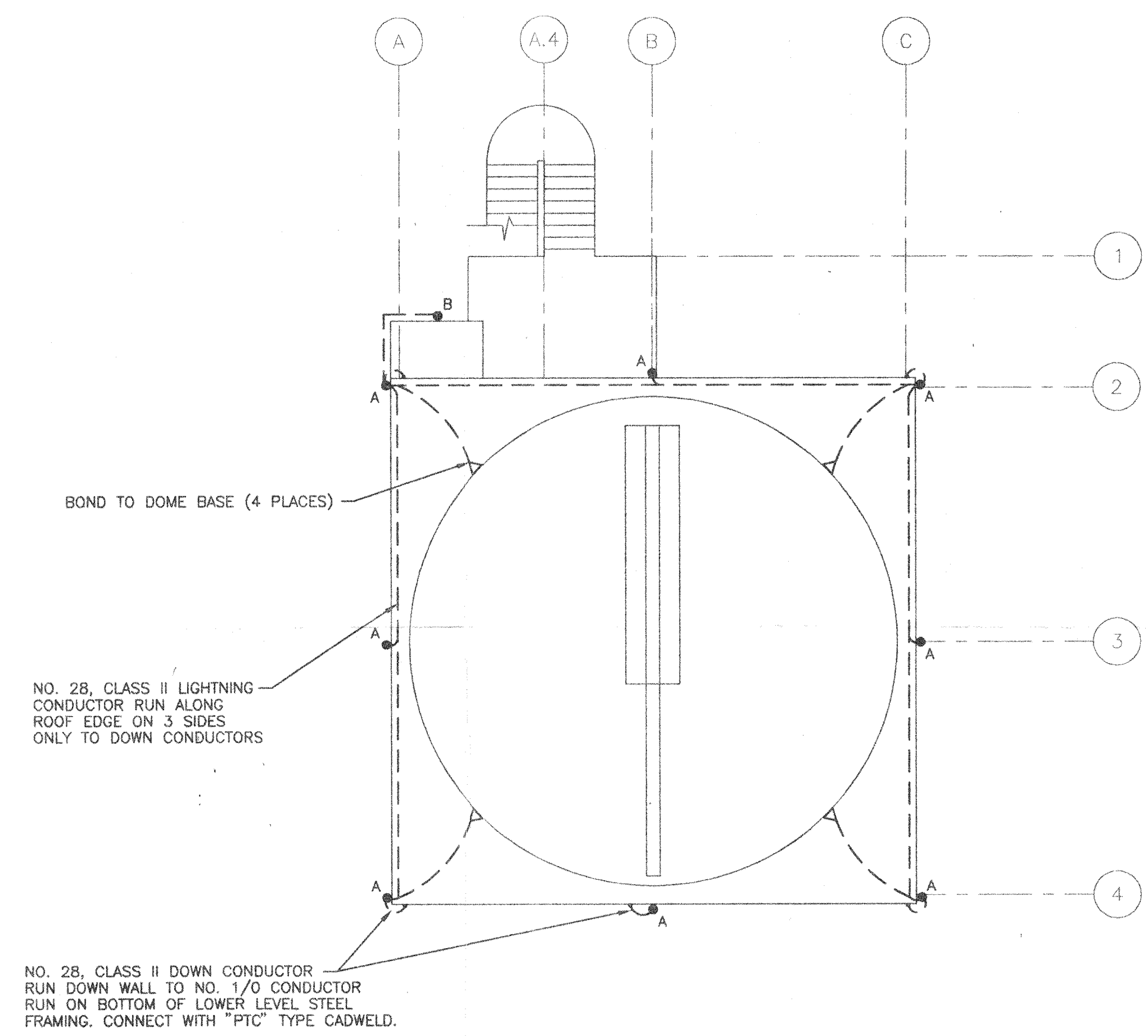
Sheet Number
E5
25 of 25 Sheets
95-7467

REVISED DWS UPDATED 2/1/96



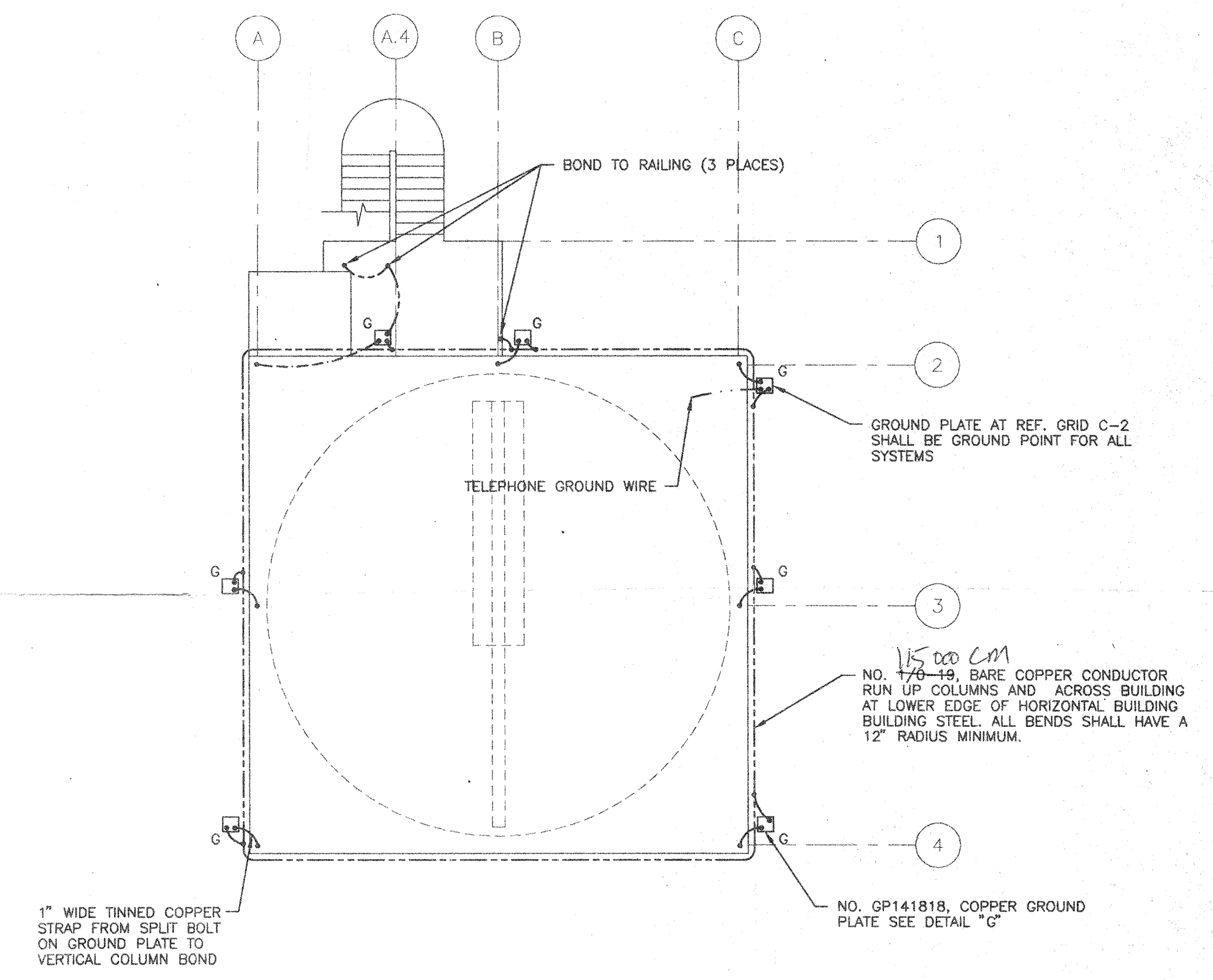
LOWER LEVEL SECTION DETAIL

NOT TO SCALE



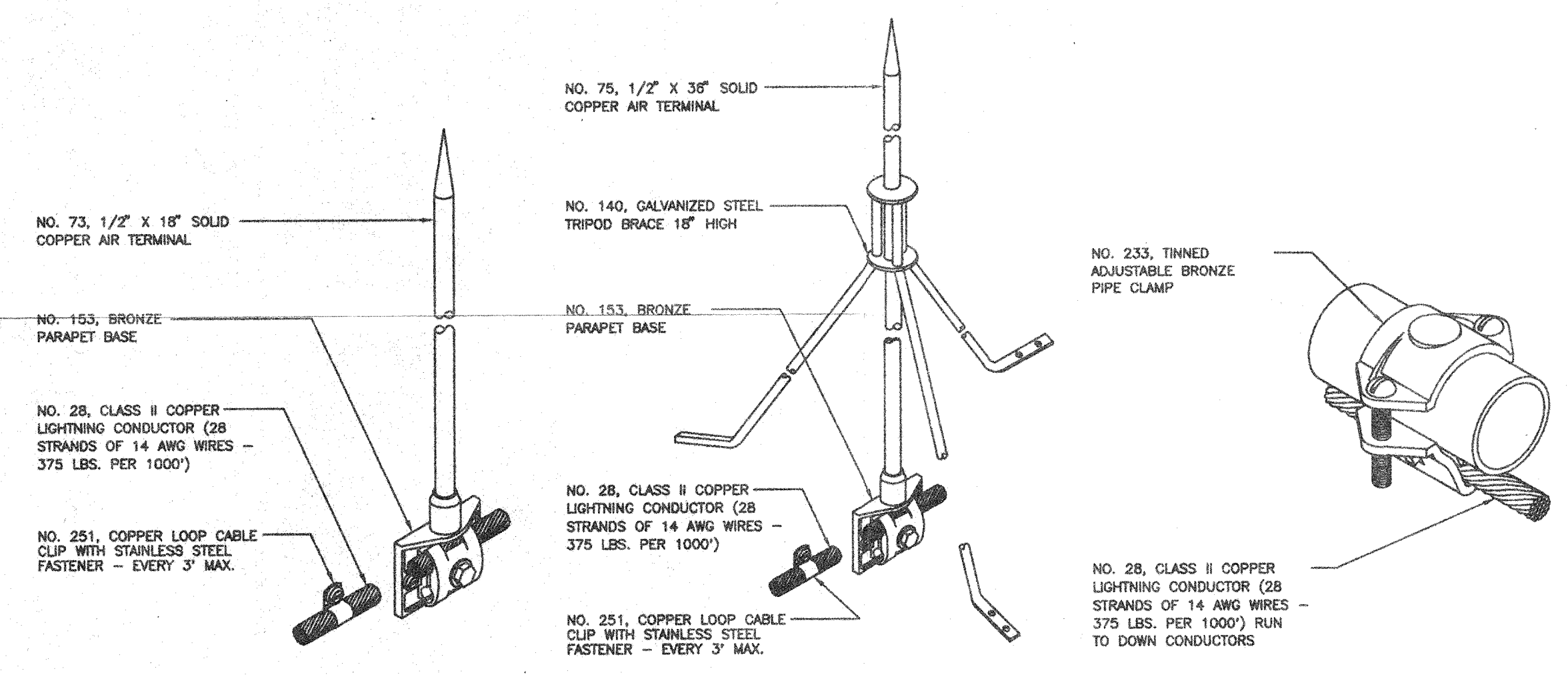
LIGHTNING PROTECTION SYSTEM PLAN

SCALE: 1/8" = 1'-0"



GROUNDING SYSTEM PLAN

SCALE: 1/8" = 1'-0"



AIR TERMINAL DETAIL "A"

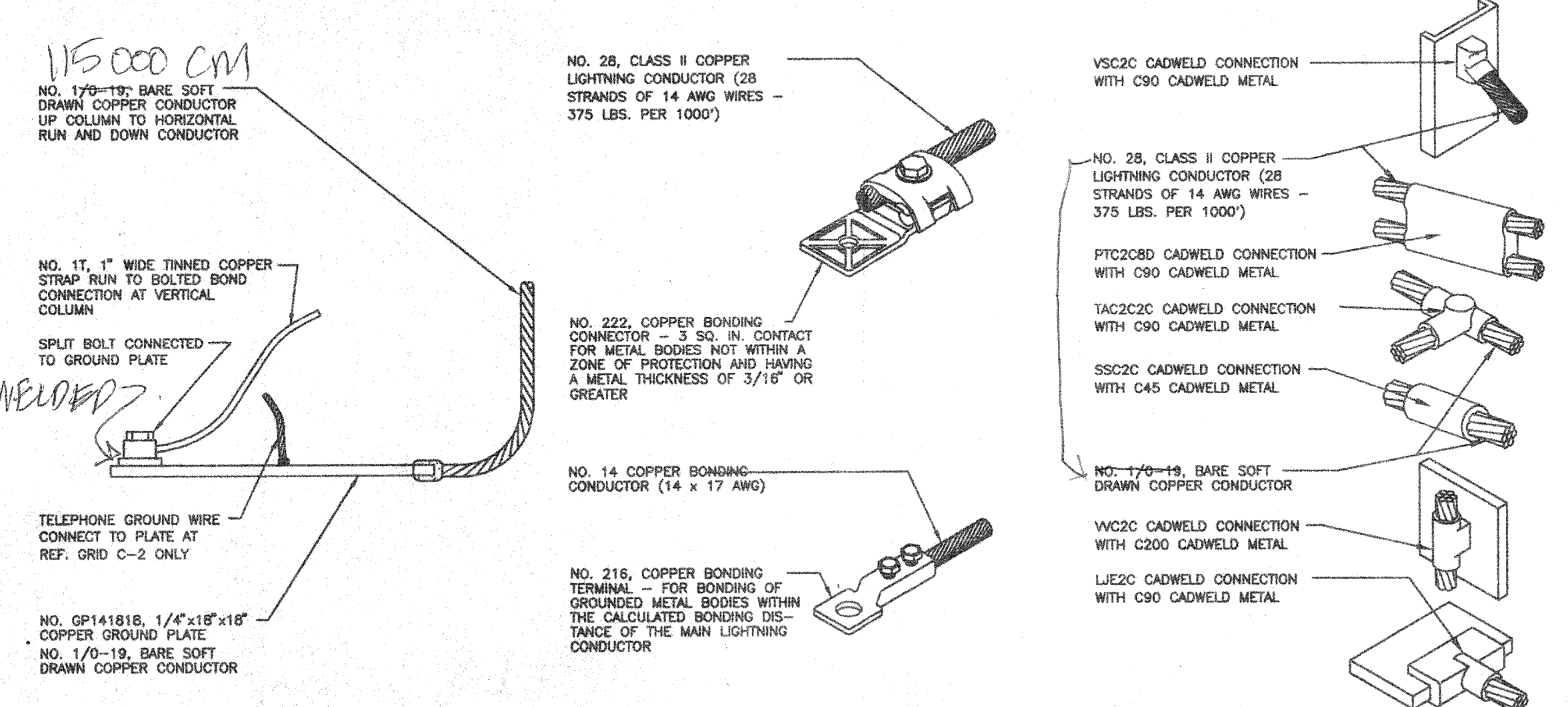
NTS

AIR TERMINAL DETAIL "B"

NTS

RAILING BOND CLAMP DETAIL

NTS



GROUND PLATE DETAIL "G"

NTS

TYPICAL BONDING LUG DETAILS

NTS

CADWELD DETAILS

NTS

LEGEND

- A NO. 71, 1/2" X 12" SOLID COPPER AIR TERMINAL WITH A NO. 153, BRONZE PARAPET BASE - SEE DETAIL "A"
- B NO. 74, 1/2" X 24" SOLID COPPER AIR TERMINAL WITH A NO. 152, BRONZE ADHESIVE BASE - SEE DETAIL "B"
- NO. 28 CLASS II COPPER LIGHTNING CONDUCTOR (28 STRANDS OF 14 AWG WIRE - 375 LBS. PER 1000 FEET). SEE AIR TERMINAL DETAILS FOR METHOD OF FASTENING. SECURE TO BUILDING EVERY THREE FEET MAXIMUM. (115,000 CM)
- NO. 1/0-19, BARE SOFT DRAWN COPPER CONDUCTOR
- NO. 1T, 1" WIDE TINNED COPPER STRAP 1/16" THICK
- G NO. GP141818, 1/4" X 18" X 18" GROUND PLATE WITH CADWELD CONNECTIONS TO DOWN CONDUCTOR - SEE DETAIL "G"

NOTES:

1. THE COMPLETED INSTALLATION SHALL MEET THE "INSTALLATION REQUIREMENTS FOR LIGHTNING PROTECTION SYSTEMS, UL96A" OF UNDERWRITERS LABORATORIES 1992. THE UL MASTER LABEL SHALL BE FURNISHED TO THE OWNER UPON COMPLETION.
2. COPPER LIGHTNING PROTECTION SYSTEM COMPONENTS SHALL NOT BE MOUNTED TO ALUMINUM SURFACES. ALUMINUM COMPONENTS SHALL BE USED TO AVOID ELECTROLYTIC CORROSION.
3. GROUNDED METAL BODIES WITHIN THE BONDING DISTANCE DETERMINED BY UL96A - 1992 SHALL BE BONDED TO THE SYSTEM IN ACCORDANCE WITH CODE REQUIREMENTS.
4. UNDERGROUND METALLIC PIPING ENTERING THE BUILDING SHALL BE BONDED TO THE NEAREST DOWN CONDUCTOR OR GROUND ELECTRODE.

and NFPA 780 para 3-22

REVIEWED CORRECT AS NOTED REVISE & RE-DATE SELECTED

M3 Engineering & Technology Corp. 3

2445 W. BUCKLE RD. SUITE 1175 • TUCSON, AZ 85705
 (520) 298-1488 • FAX 298-3348

REVIEW IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. SUBMITTERS TO BE INFORMED AND CORRELATED AT THE JOB SITE FOR INFORMATION THAT PERTAINS TO THE FABRICATION PROCESSES AND/OR TECHNIQUES OF CONTRACTORS. THE COORDINATION OF THE WORK OF ALL TRADES AND THE BATTERED ON PERFORMANCE OF THE WORK.

BY: *[Signature]* DATE: *8/29/96*

KIT PEAK OBSERVATORY SPACEWATCH TELESCOPE

TUCSON ARIZONA

—SUBMITTED BY—
& ASSOCIATES

22 E. JACKSON - PHOENIX, AZ 85004
 P.O. BOX 13067 - PHOENIX, AZ 85002
 (602) 271-0333

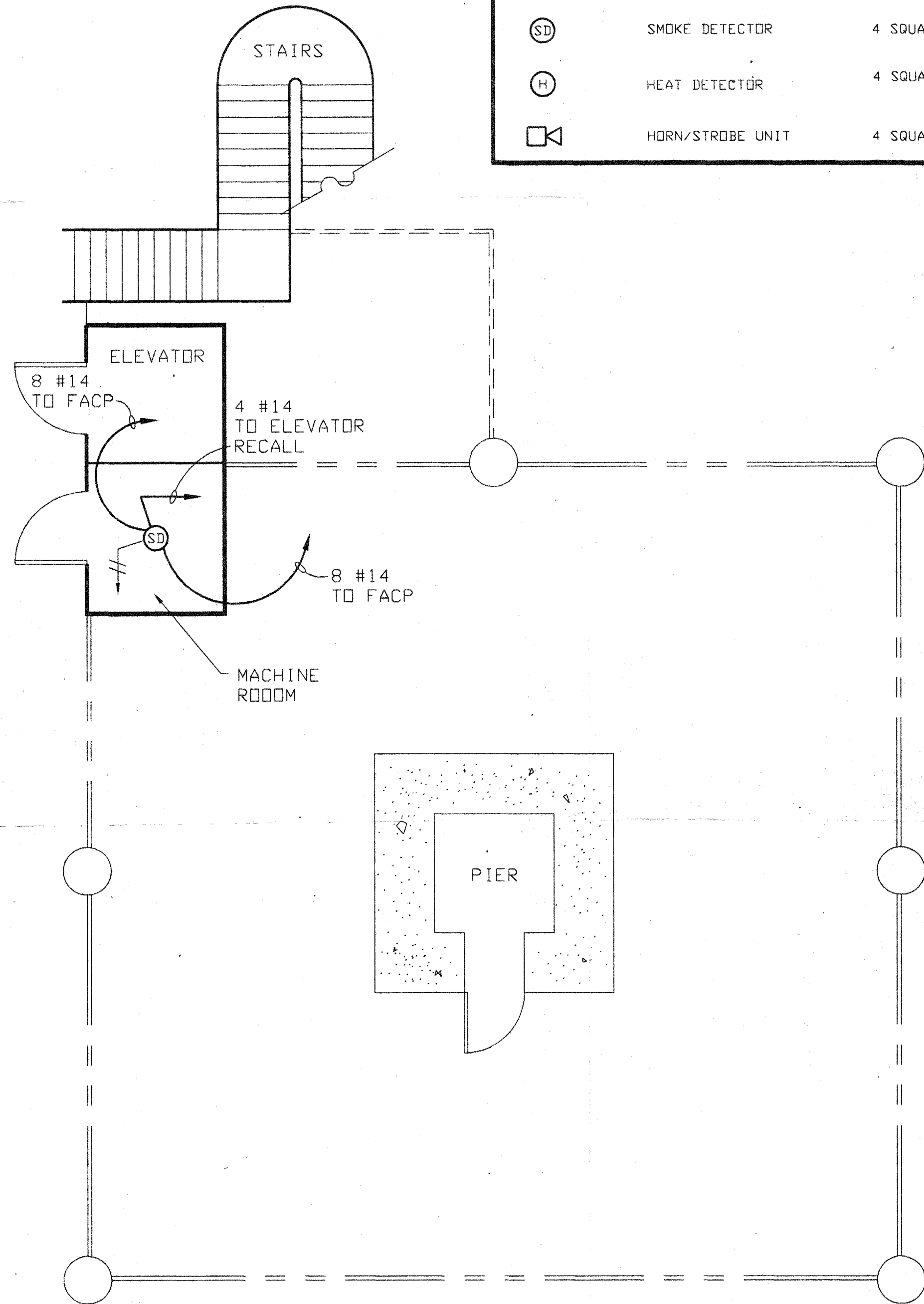
DRAWN BY: **SSS**
 CHECKED BY: **TRM**
 DATE: 7/30/96

HARGER LIGHTNING PROTECTION, INC.
 301 ZIEGLER DRIVE
 GRAYSLAKE, IL 60030
 (847) 548-8700

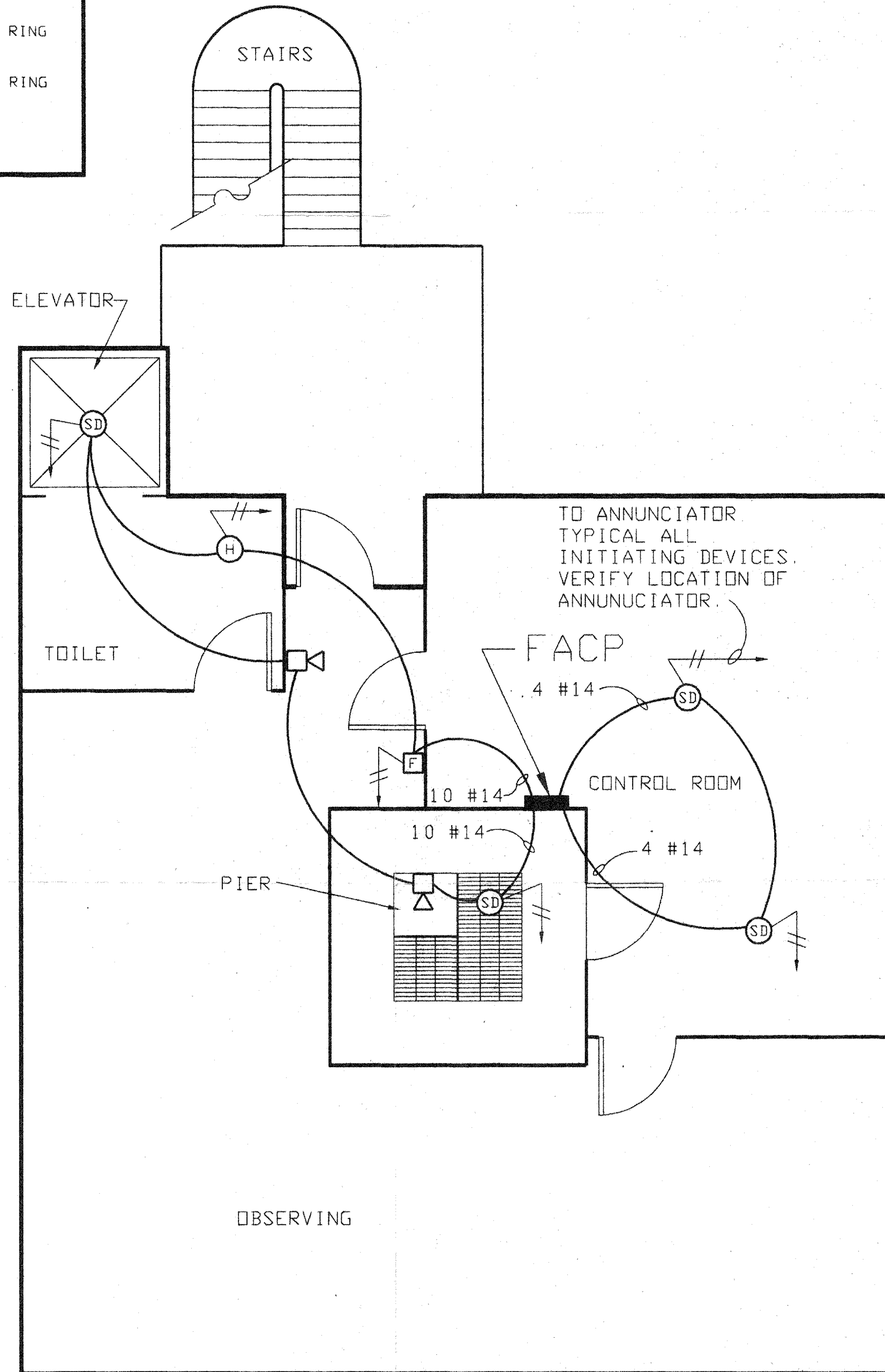
JOB NO. **HA-184**
 SHEET NO. **LP 1**
 OF 1 SHEETS

6. CADY SHEET/DRAWN/HART/HA184 Mon Aug 5 11:56:59 1996 Final 12.01

LEGEND	DESCRIPTION	ROUGH-IN
□	MANUAL STATIONS	4 SQUARE WITH SINGLE GANG RING
SD	SMOKE DETECTOR	4 SQUARE WITH 3D RING
H	HEAT DETECTOR	4 SQUARE WITH 3D RING
□	HORN/STROBE UNIT	4 SQUARE



GROUND LEVEL
SCALE: 1/4"=1'



OBSERVING LEVEL
SCALE: 1/4"=1'

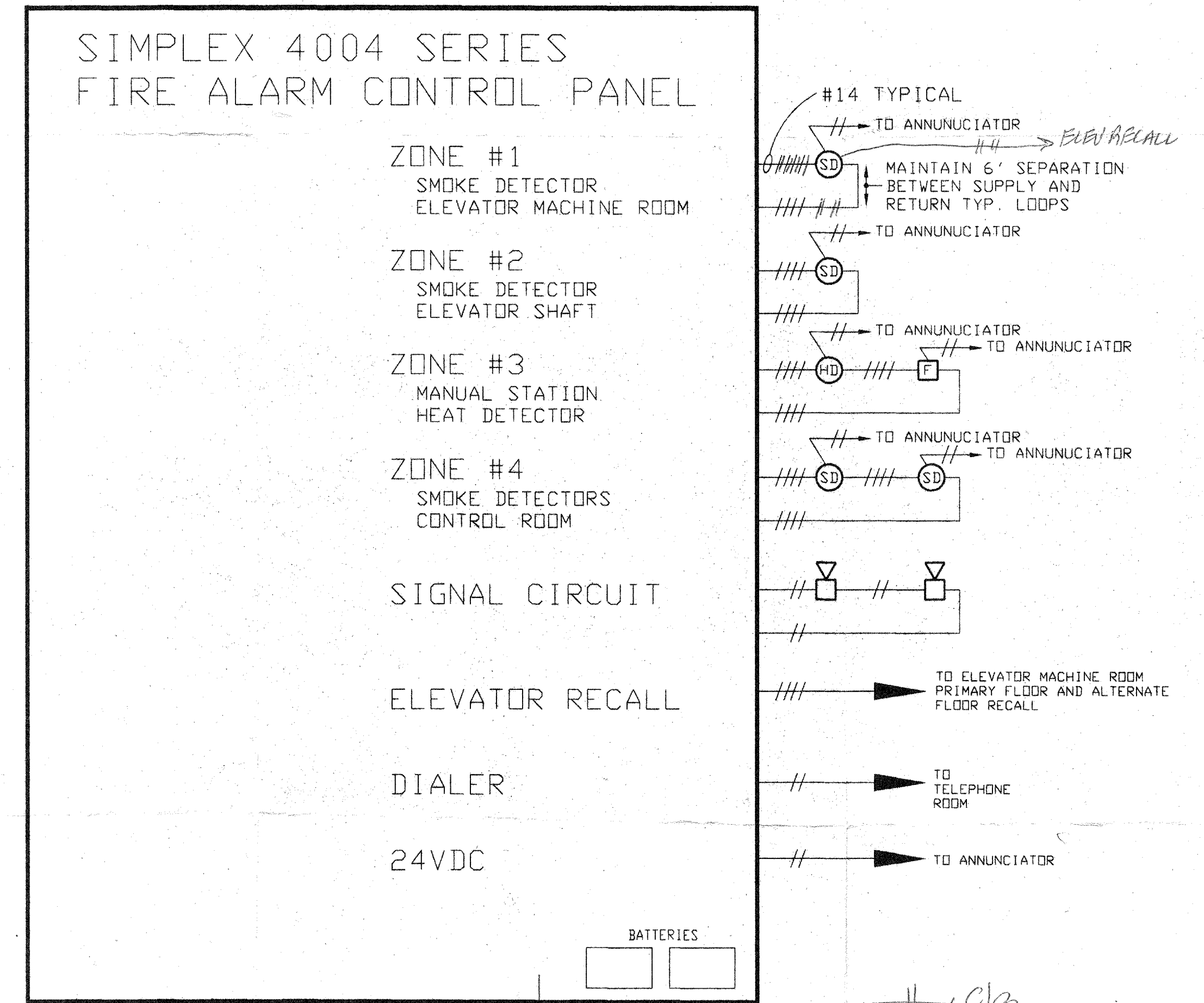
NOTE:
REFER TO FLOOR PLANS FOR DEVICE COUNT AND LOCATIONS.

REVIEWED
 CORRECT AS NOTED
 REVISE & RESUBMIT
 REJECTED

M3 Engineering & Technology Corp.
 2400 W. Alhambra Blvd. Suite 4100
 West Valley City, UT 84119
 TEL: 801-408-4444 FAX: 801-408-4449

REVIEW IS ONLY FOR COMPLIANCE WITH THE DESIGN CONCEPT OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE FOR INFORMATION THAT PERTAINS TO THE FABRICATION PROCESSES AND/OR TECHNIQUES OF CONSTRUCTION. FOR COORDINATION OF THE WORK OF ALL TRADES, AND THE SATISFACTION OF THE OWNER OF THE PROJECT.

BY: *[Signature]* DATE: *9/28/96*



RISER DIAGRAM
NO SCALE

COLOR CODE FOR FIELD WIRING

THESE COLORS TO BE USED:

RED AND BLACK	= SIGNAL DEVICES (HORNS/STROBES AND BELLS)
YELLOW AND LIGHT BLUE	= INITIATION DEVICES (PULL STATIONS AND HEAT DETECTORS)
ORANGE AND BROWN	= FLOW AND TAMPER SWITCHES
WHITE AND VIOLET	= AUXILIARY (DOOR RELEASE/DOOR LATCH RELEASE AND HVAC SHUTDOWN, AND ETC.)