

# STATE OF MICHIGAN

## DEPARTMENT OF MANAGEMENT AND BUDGET

### OFFICE OF FACILITIES

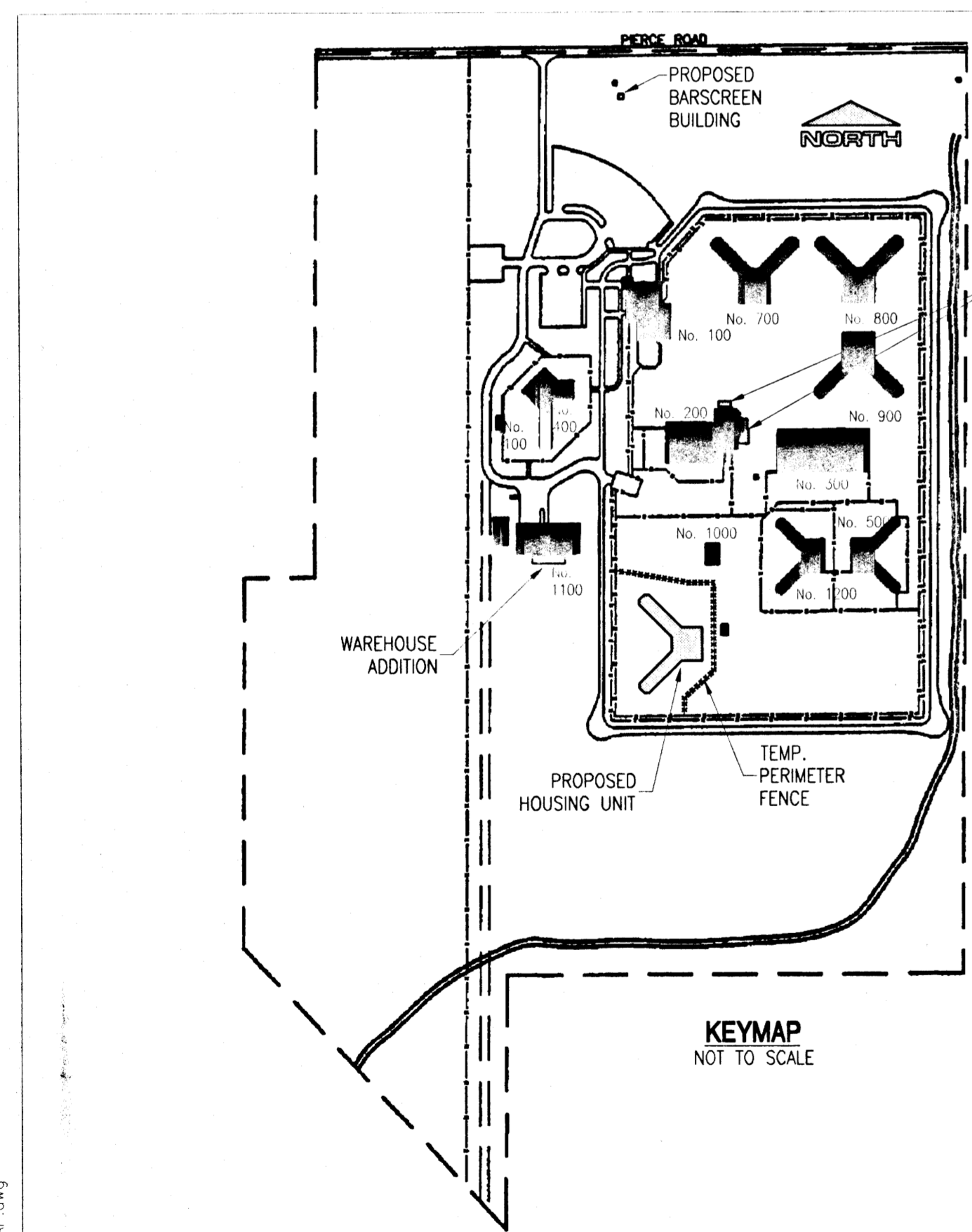
# BAR SCREEN BUILDING FOR SAGINAW REGIONAL CORRECTIONAL FACILITY

## FREELAND, MICHIGAN

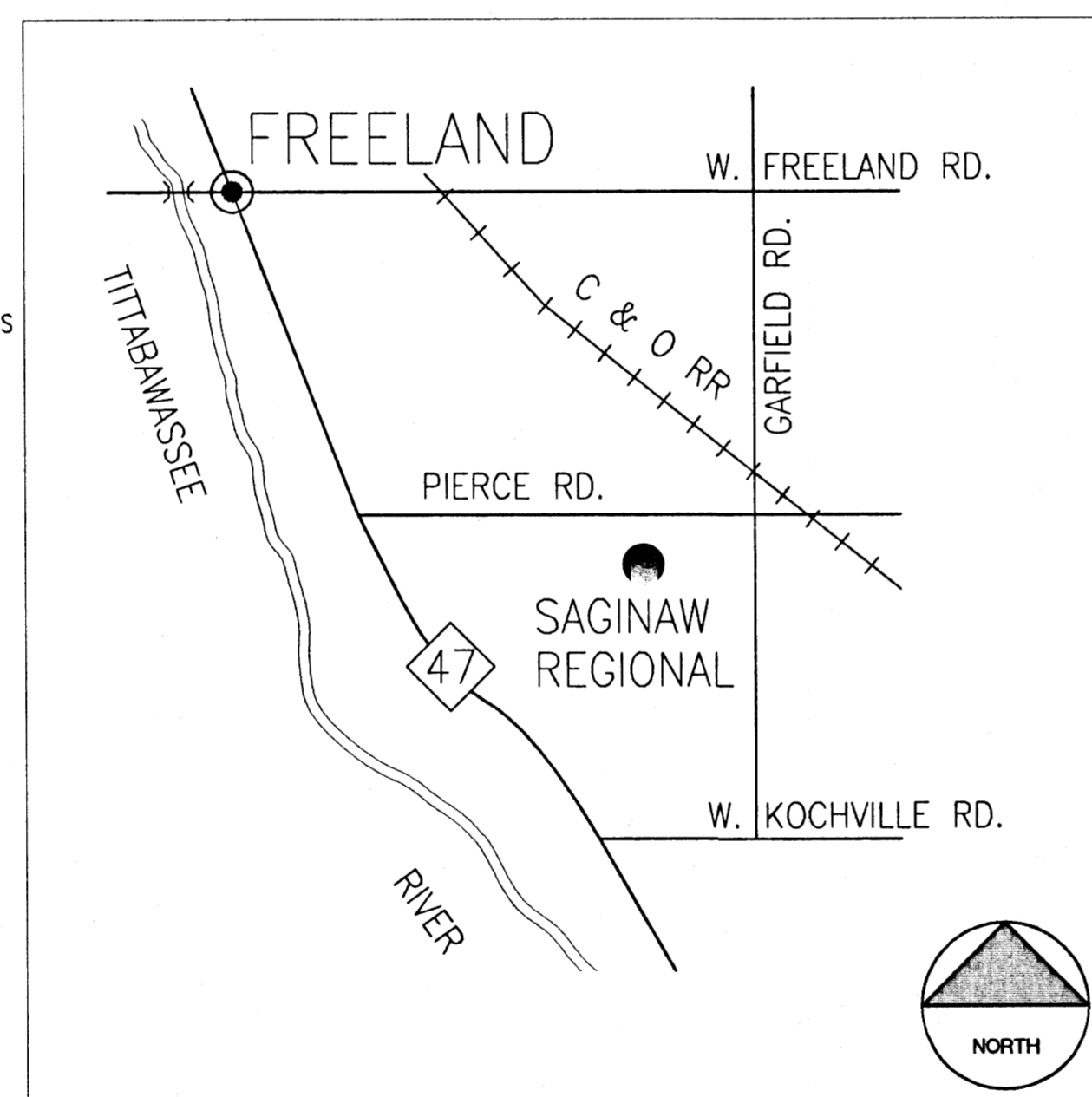
STATE INDEX No: 53052

STATE FILE No: 472/98359.EEW

VICINITY MAP



LOCATION MAP



#### BUILDING CODE REVIEW

##### APPLICABLE CODES:

GENERAL BUILDING:  
BOCA NATIONAL BUILDING CODE (1996 EDITION) AND STATE ADDENDUMS.

MECHANICAL:  
INTERNATIONAL MECHANICAL CODE (1996 EDITION) AND STATE ADDENDUMS.

PLUMBING:  
BOCA NATIONAL PLUMBING CODE (1997 EDITION) AND STATE ADDENDUMS.

ELECTRICAL:  
NATIONAL ELECTRICAL CODE, 1996 EDITION.

MDEQ:  
PART 41 SEWERAGE SYSTEMS

##### BUILDING CODE SUMMARY:

U: UTILITY & MISCELLANEOUS USE GROUP (312)

BUILDING AREA LIMITATIONS 8400 S.F. (TABLE 503)

AUTOMATIC SPRINKLER SYSTEM: NON-SPRINKLED

CONSTRUCTION TYPE 2C (603.0)

OCCUPANCY LOAD (TABLE 1008.1.2): INDUSTRIAL AREAS 100 GROSS S.F. PER OCCUPANT

TOTAL BUILDING AREA: 1,723 S.F. = 18 OCCUPANTS

EGRESS WIDTH PER OCCUPANT (TABLE 1008.1.2)

0.3": STAIRWAYS  
0.2": DOORS, RAMPS & CORRIDORS (18 X 0.2" = 3.6" TOTAL)

MINIMUM NUMBER OF EXITS FOR OCCUPANCY LOAD (TABLE 1010.3)

USE GROUP U: 1 EXIT, MINIMUM, REQUIRED (1 EXIT PROVIDED)

LENGTH OF EXIT ACCESS TRAVEL (TABLE 1006.5): 200 FEET.

#### DRAWING INDEX

T-1 TITLE SHEET - SHEET INDEX & CODE REVIEW

#### CIVIL DRAWINGS

- C1.1 SITE REMOVALS AND LAYOUT
- C1.2 SITE GRADING AND UTILITIES
- C2.1 SANITARY SEWER PROFILES
- C3.1 BAR SCREEN DETAILS

#### ARCHITECTURAL DRAWINGS

- A1.1 FLOOR PLANS, EXTERIOR ELEVATIONS AND MISCELLANEOUS DETAILS
- A2.1 EXTERIOR DETAILS

#### STRUCTURAL DRAWINGS

- F1.1 FOUNDATION PLAN
- F1.2 FOUNDATION DETAILS
- F1.3 NOTES & TYPICAL FOUNDATION DETAILS
- S0.1 ENGINEERING DATA & STRUCTURAL NOTES
- S1.1 PLANS AND DETAILS

#### PLUMBING DRAWINGS

- P1.1 FLOOR PLANS AND DETAILS - PLUMBING

#### MECHANICAL DRAWINGS (not included)

- H1.1 FLOOR PLAN, DETAILS, AND SCHEDULES - HVAC

#### ELECTRICAL DRAWINGS

- ES0.1 ELECTRICAL SITE PLAN
- E1.1 ELECTRICAL POWER AND LIGHTING PLAN
- E3.1 ELECTRICAL SYMBOLS, ONE-LINE DIAGRAM & DETAILS

DATE	RCP	ISSUED FOR
DR	RCP	
CK	JJO	
APP	RCP	
IN CHARGE	SCRIPSEA	
DATE	DATE	

URS Greiner Woodward Clyde  
 GRAND RAPIDS, MI, FARMINGTON HILLS, MI, PETOSKEY, MI, INDIANAPOLIS, IN  
 3950 SPARNS DR., S.E. 601 INVALS AVE. 3440 W. 13TH RD. 340 S. WESLON  
 49504-1414 471-341-4114 417-444-4444 317-444-4444

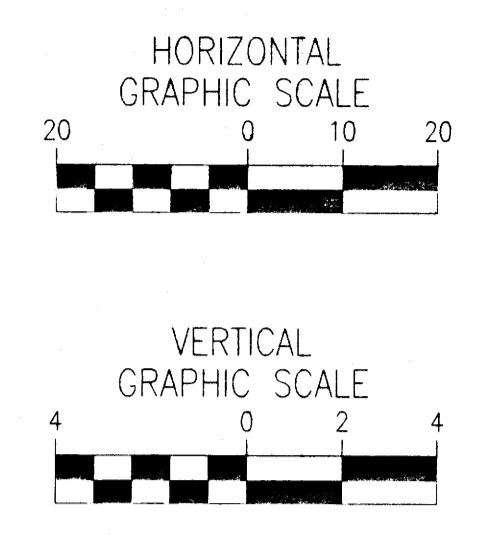
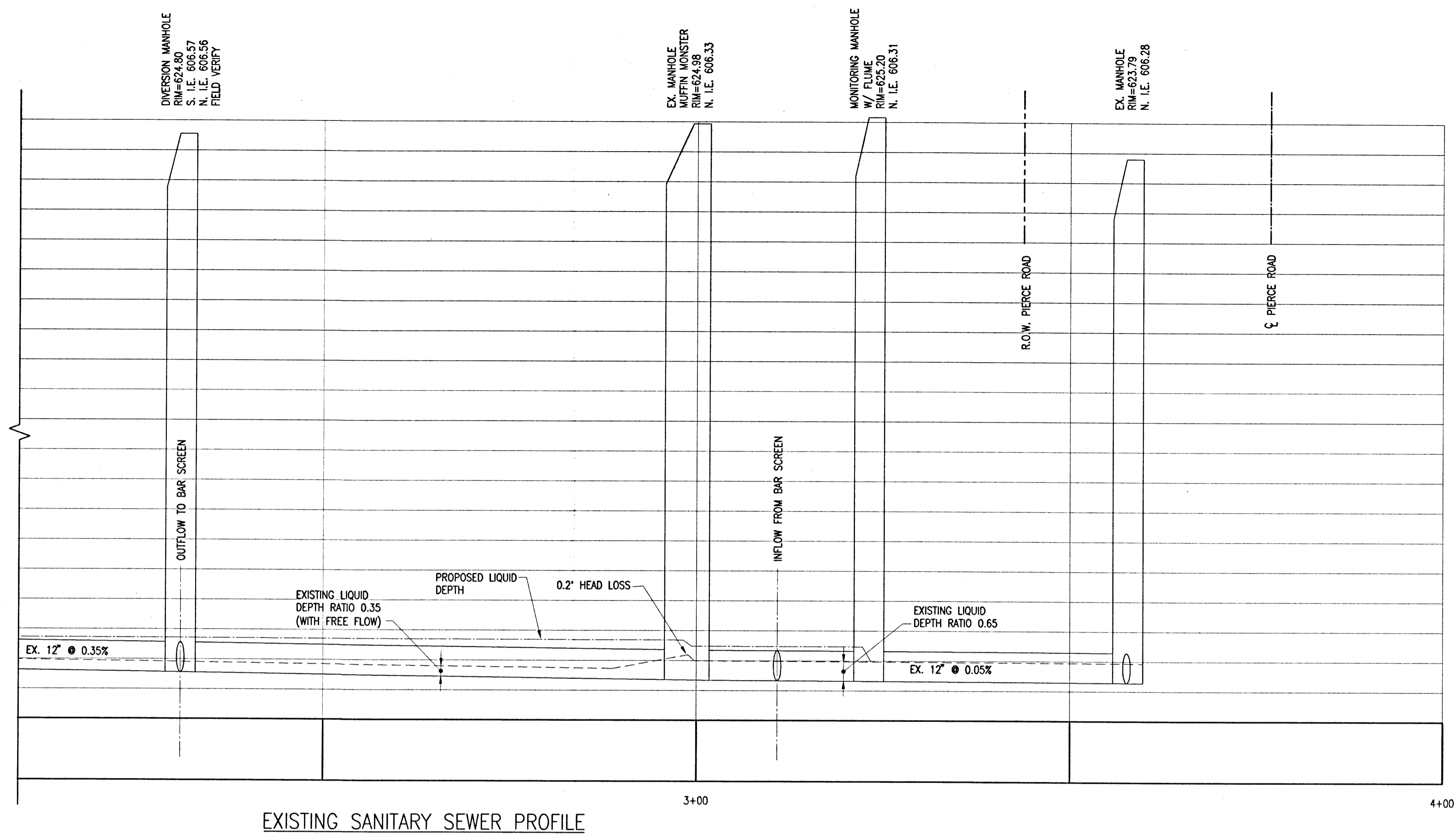
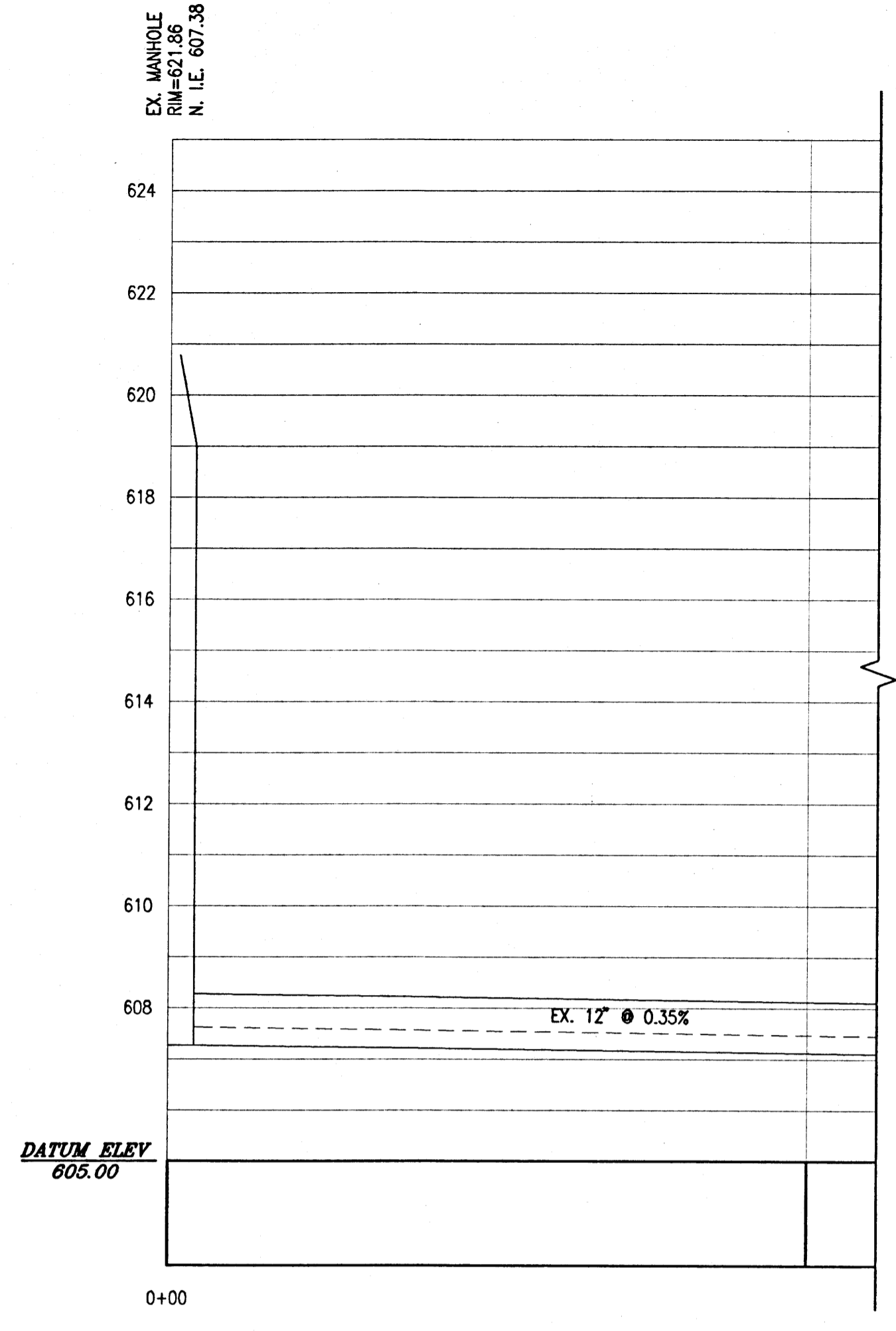
SAGINAW REGIONAL CORRECTIONAL FACILITY  
 MICHIGAN DEPARTMENT OF CORRECTIONS  
 BAR SCREEN BUILDING  
 FREELAND, MICHIGAN  
 TITLE SHEET - INDEX SHEET & CODE REVIEW

DRAWING  
**T-1**  
 FILE  
 M103262

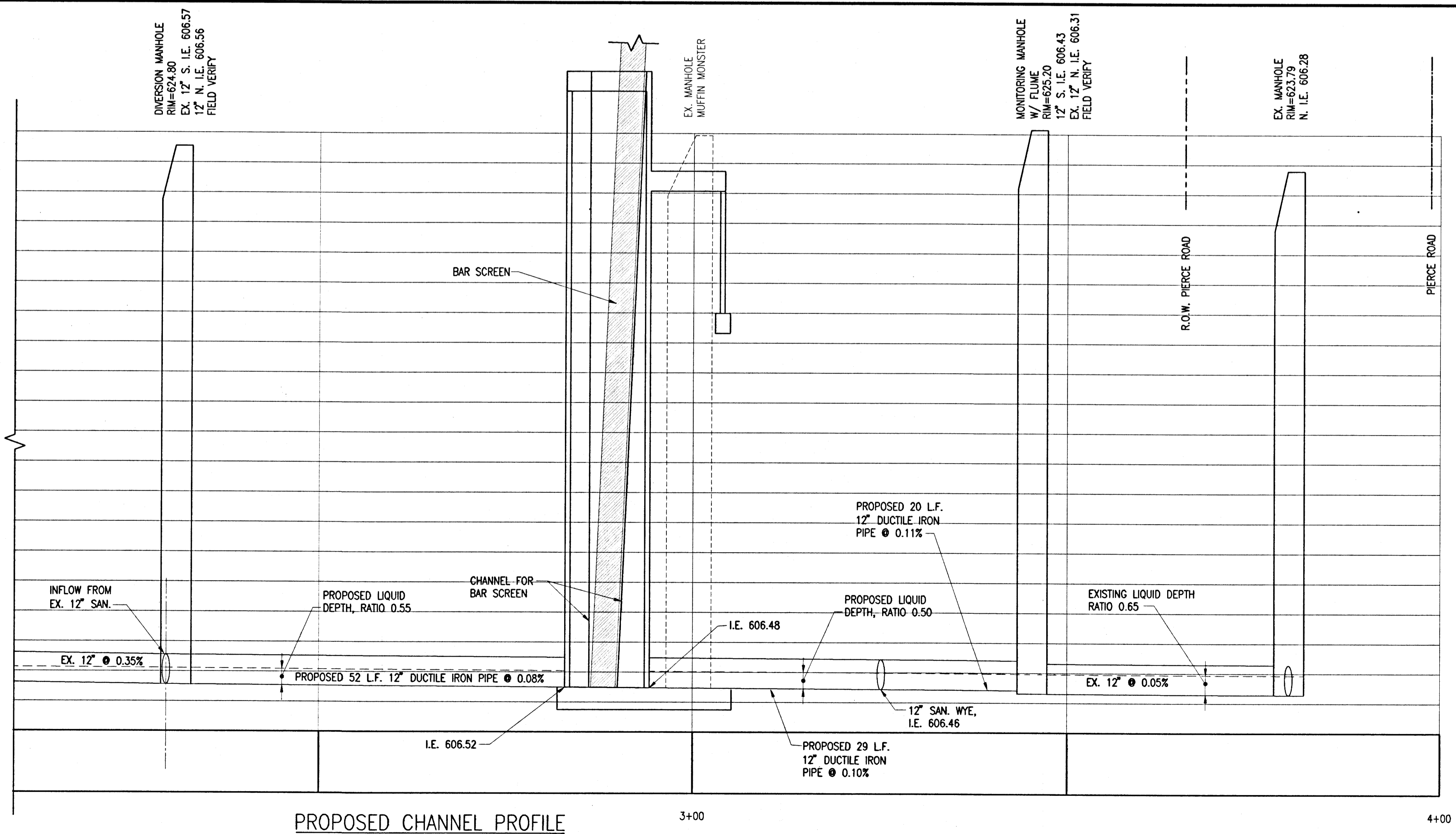
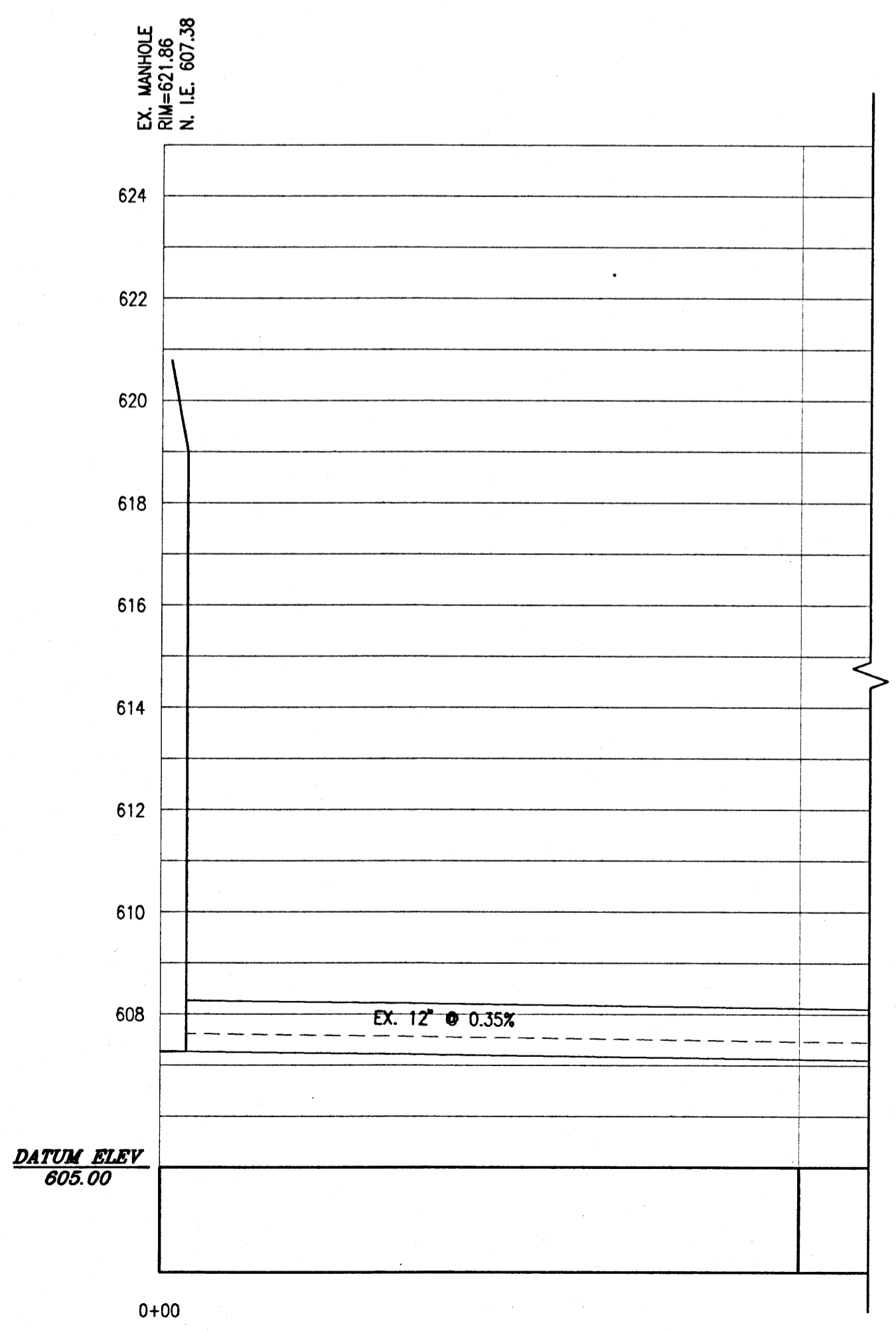




M:\103262\FDS\C2-1-BS.dwg  
 M:\103262\FDS\C2-1-BS.dwg  
 GR36.M\F... \UTIL\GR36.M.dwg  
 CPP1-BS=... \CVA\CPP1-BS.dwg  
 CPP2-BS=... \CVA\CPP2-BS.dwg  
 3:24 pm on Dec 7, 99



EXISTING SANITARY SEWER PROFILE



DESIGN ASSUMPTIONS:  
 AVERAGE FLOW: 186,000 GAL/DAY  
 DESIGN FLOW: 0.4 MILLION GAL/DAY

PROPOSED CHANNEL PROFILE

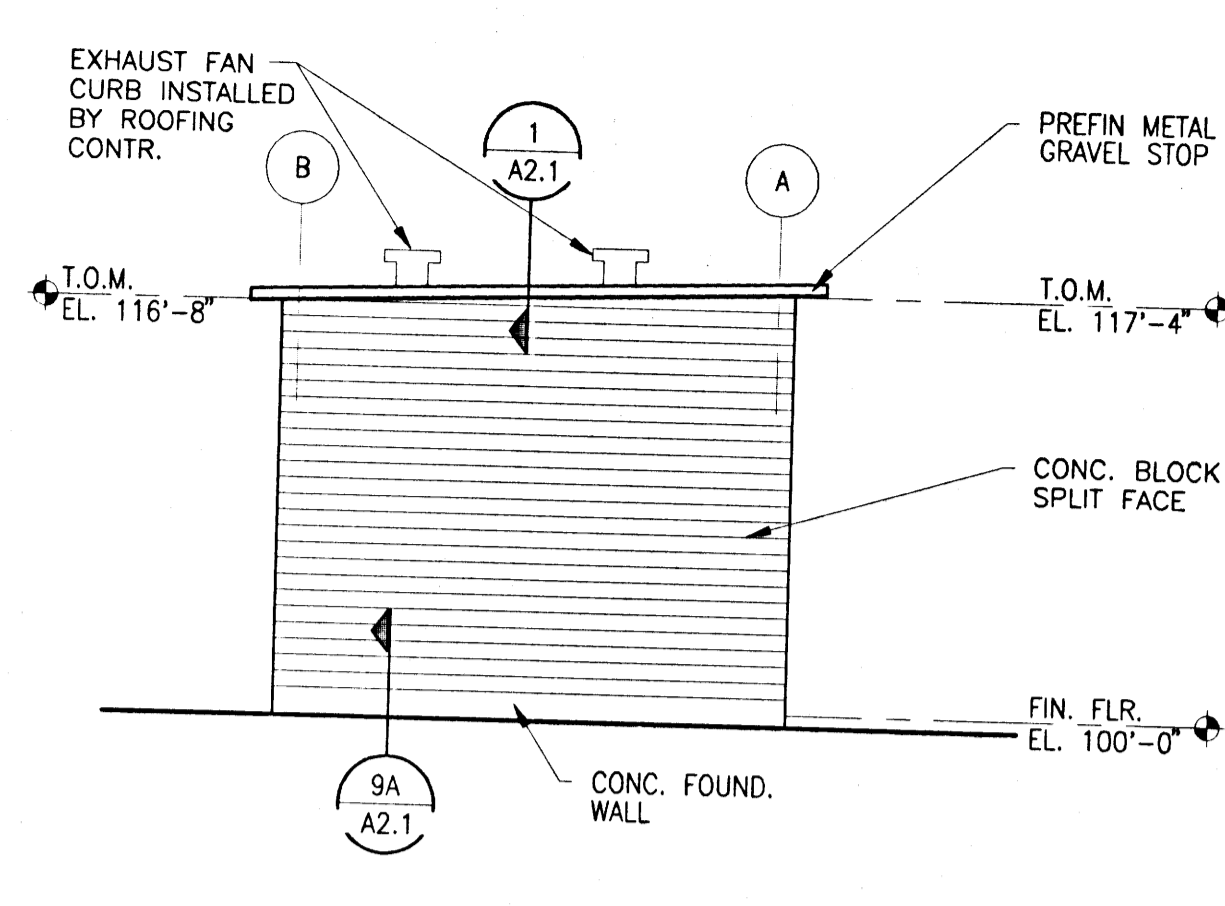
DATE	MMH	ISSUED FOR
DR	MMH	
CK	JAJ	
APP	JAJ	
IN CHARGE	J. JACOBSON	

**URS Greiner Woodward Clyde**  
 GRAND RAPIDS, MI, FARMINGTON HILLS, MI, PETOSKEY, MI, INDIANAPOLIS, IN, 3950 SPARKS DR. S.E., 601 WOODS AVE., 516 S. WERTMAN, 34405 W. 134TH RD., 910 JAY-9103, 317-847-7468, 910-374-0080

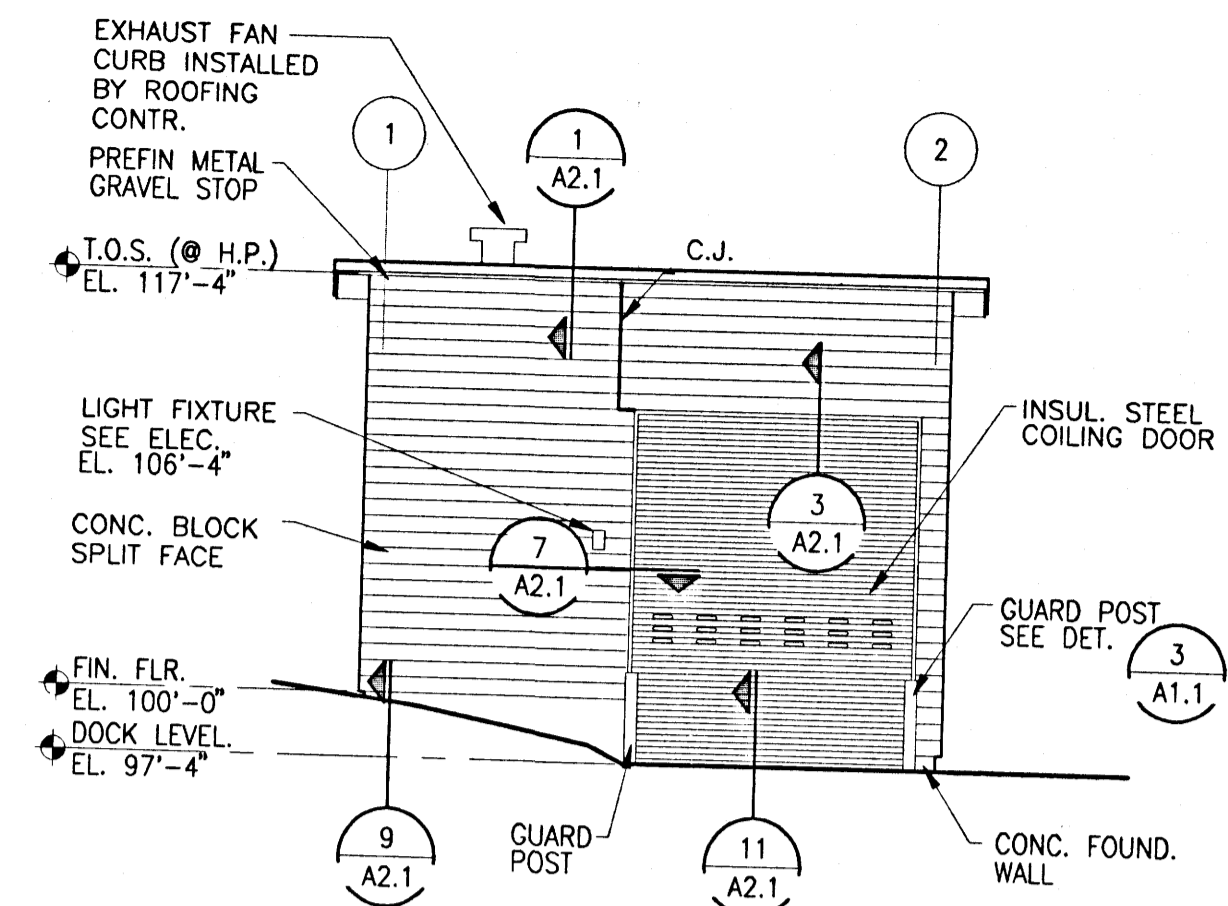
**SAGINAW REGIONAL CORRECTIONAL FACILITY**  
 MICHIGAN DEPARTMENT OF CORRECTIONS  
 BAR SCREEN BUILDING  
 FREELAND, MICHIGAN  
 SANITARY SEWER PROFILE

DRAWING  
**C2.1**  
 FILE  
 M103262

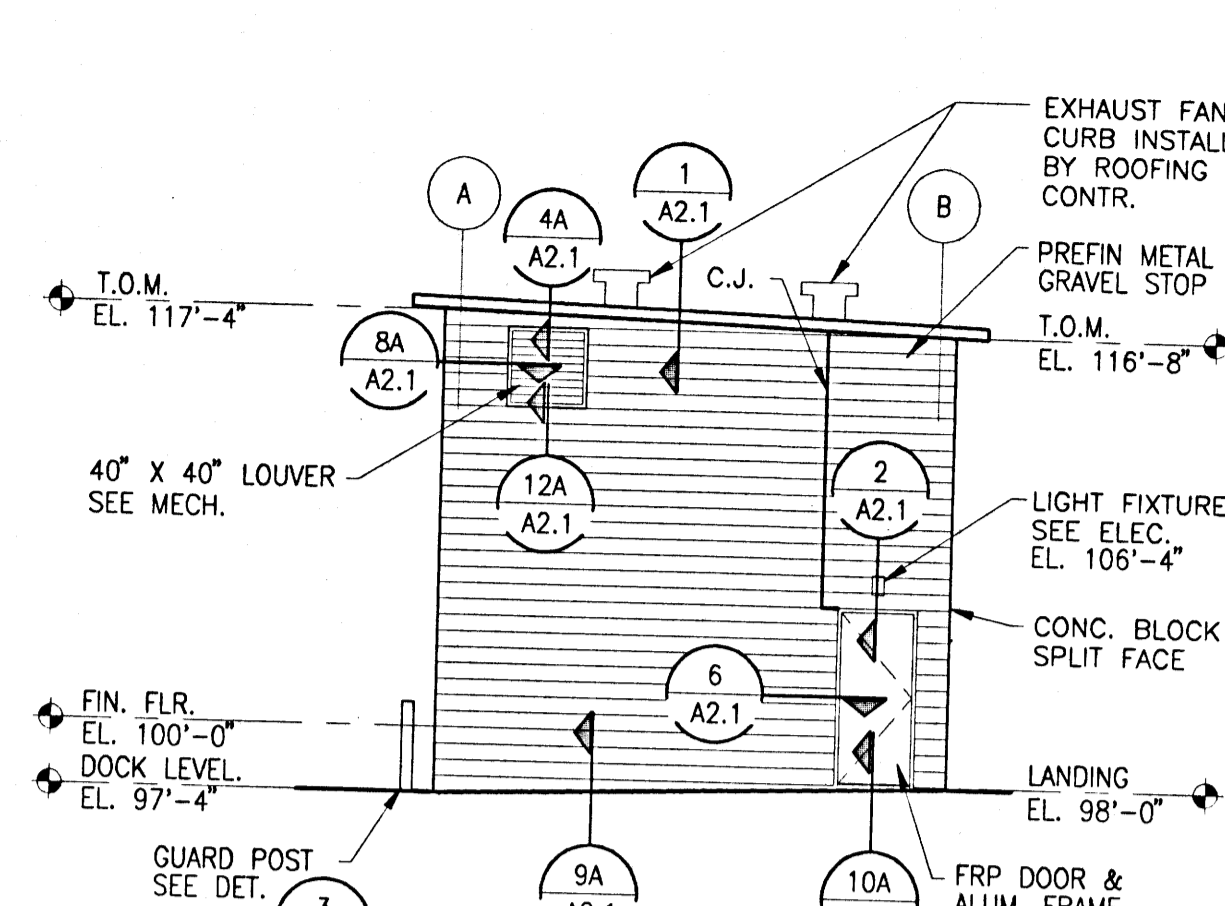




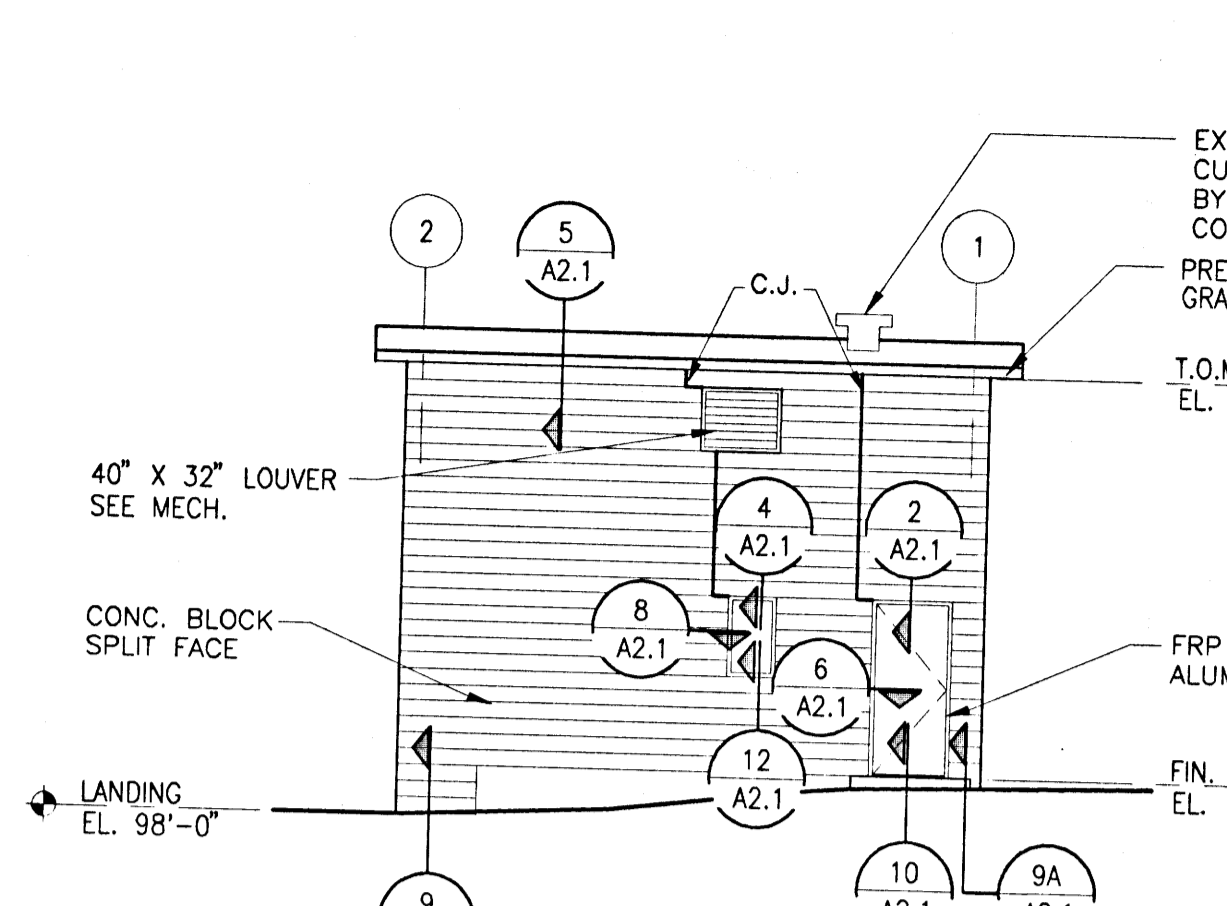
**4 SOUTH ELEVATION**  
A1.1



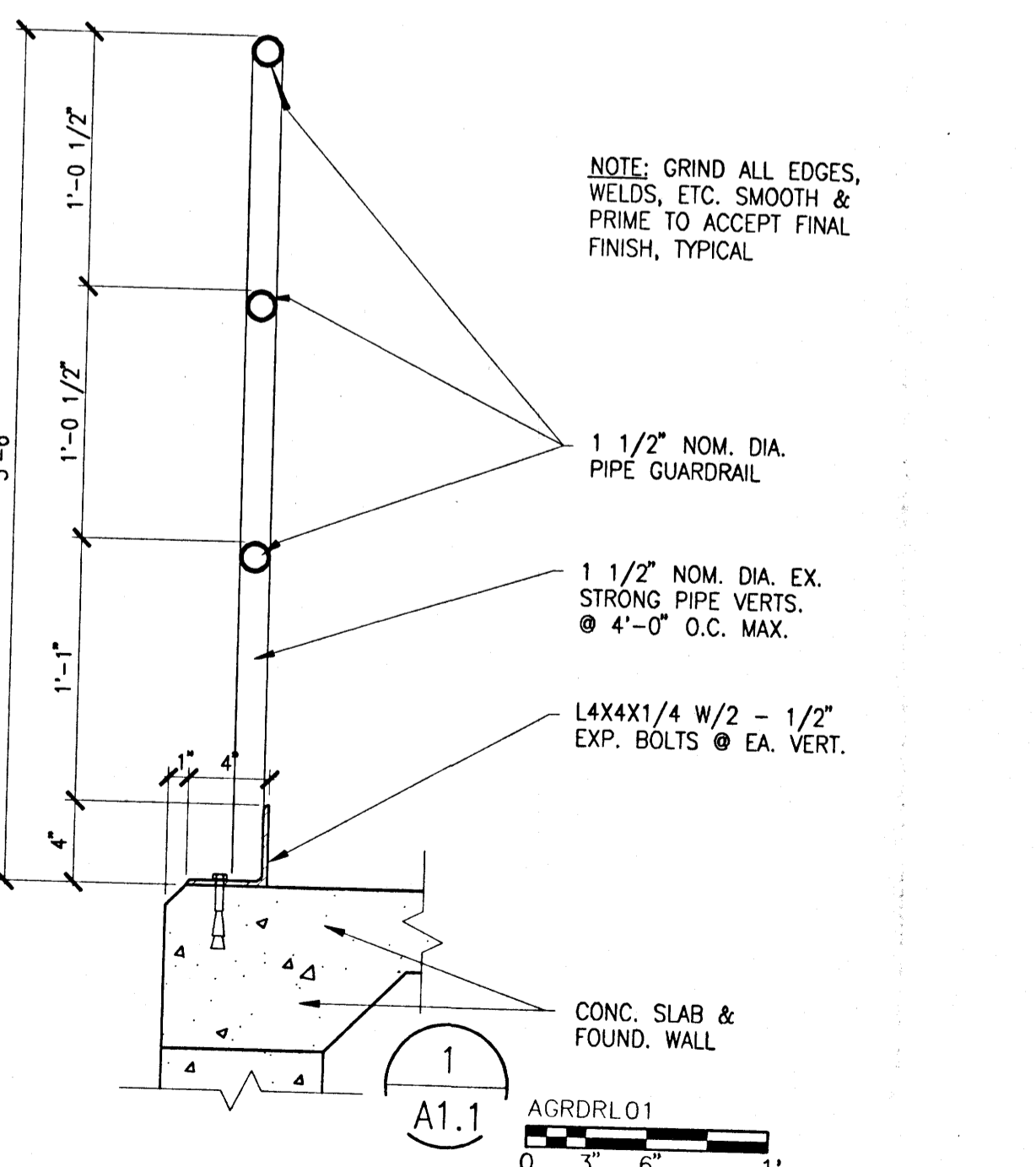
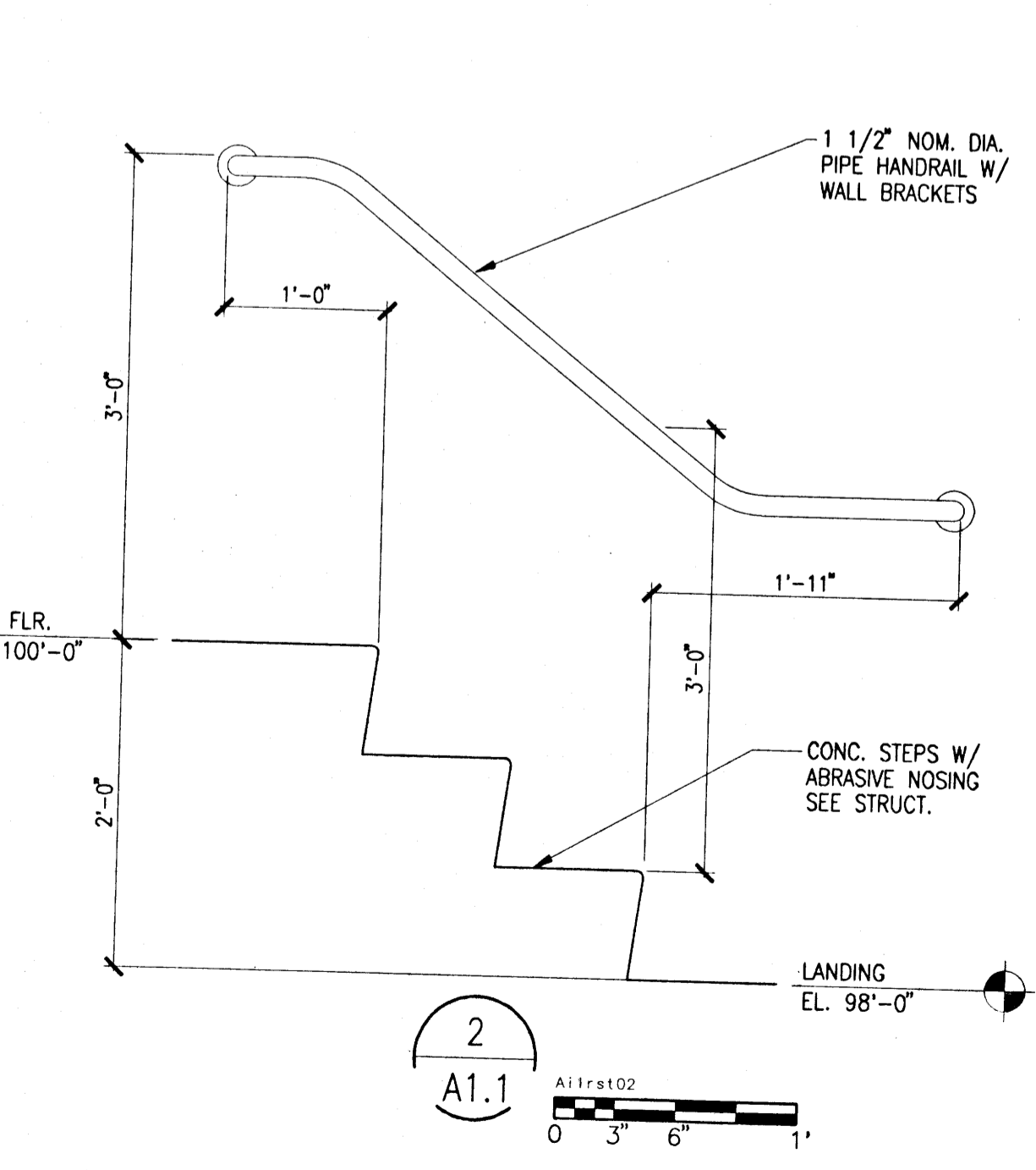
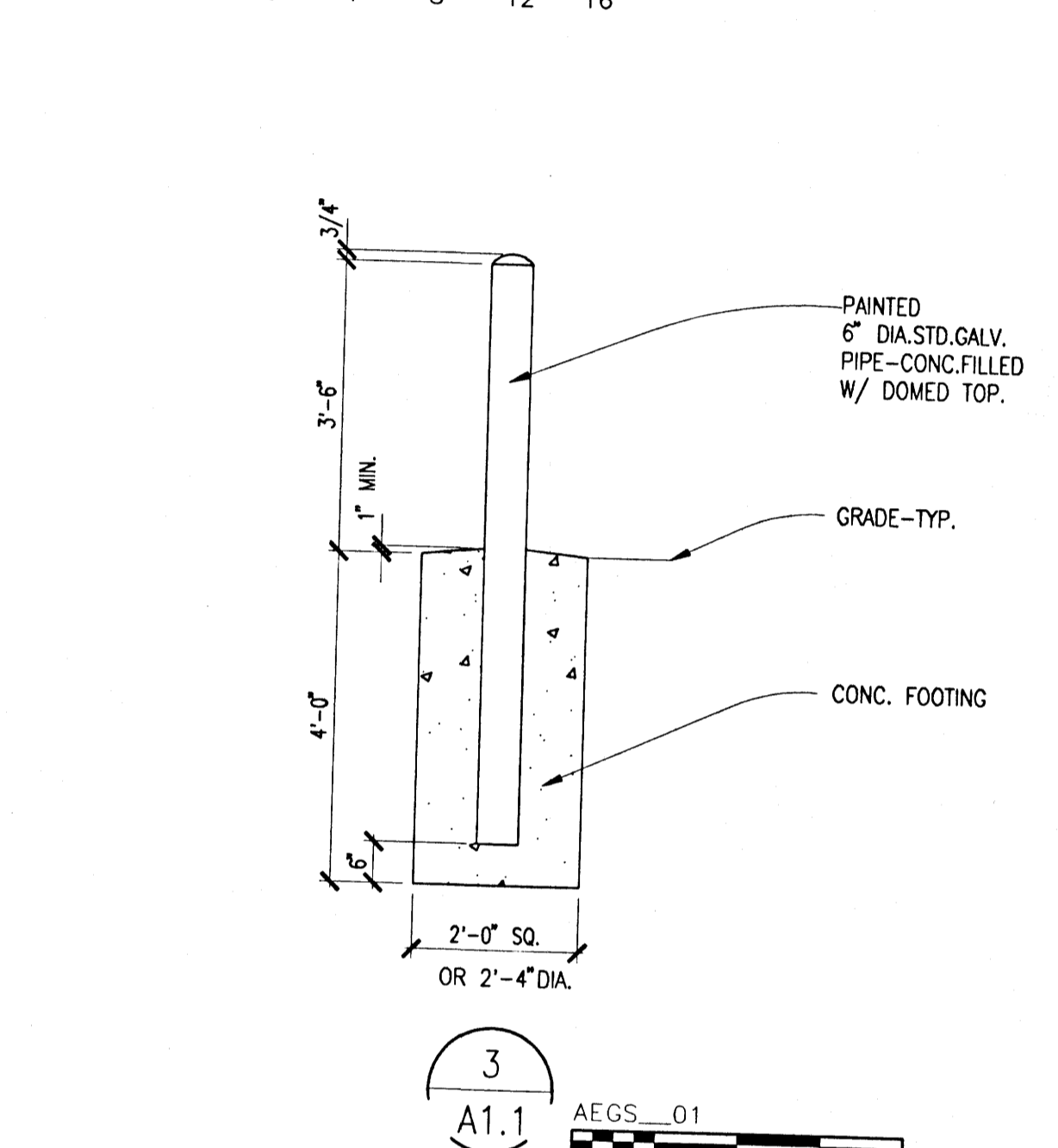
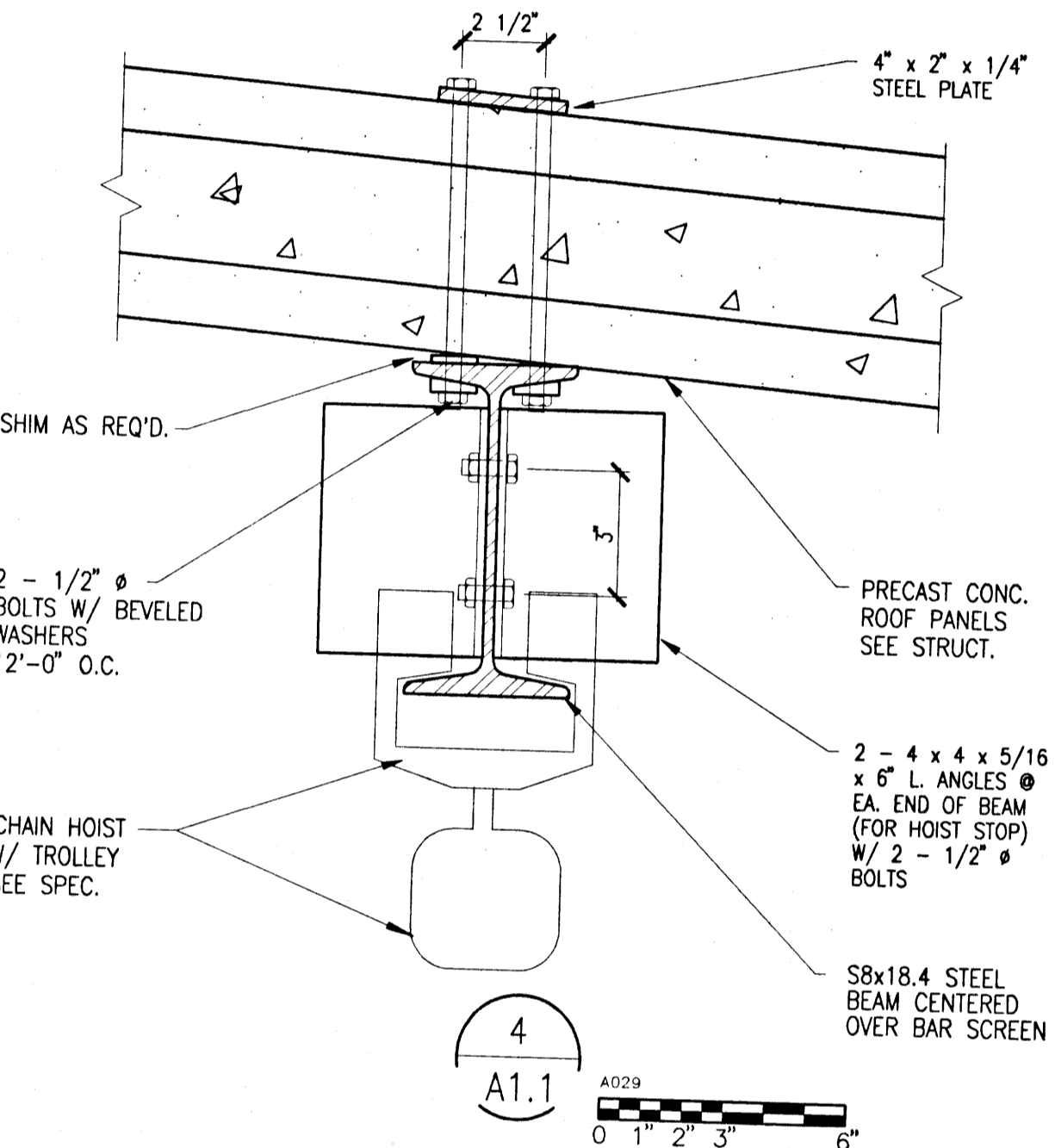
**3 EAST ELEVATION**  
A1.1



**2 NORTH ELEVATION**  
A1.1

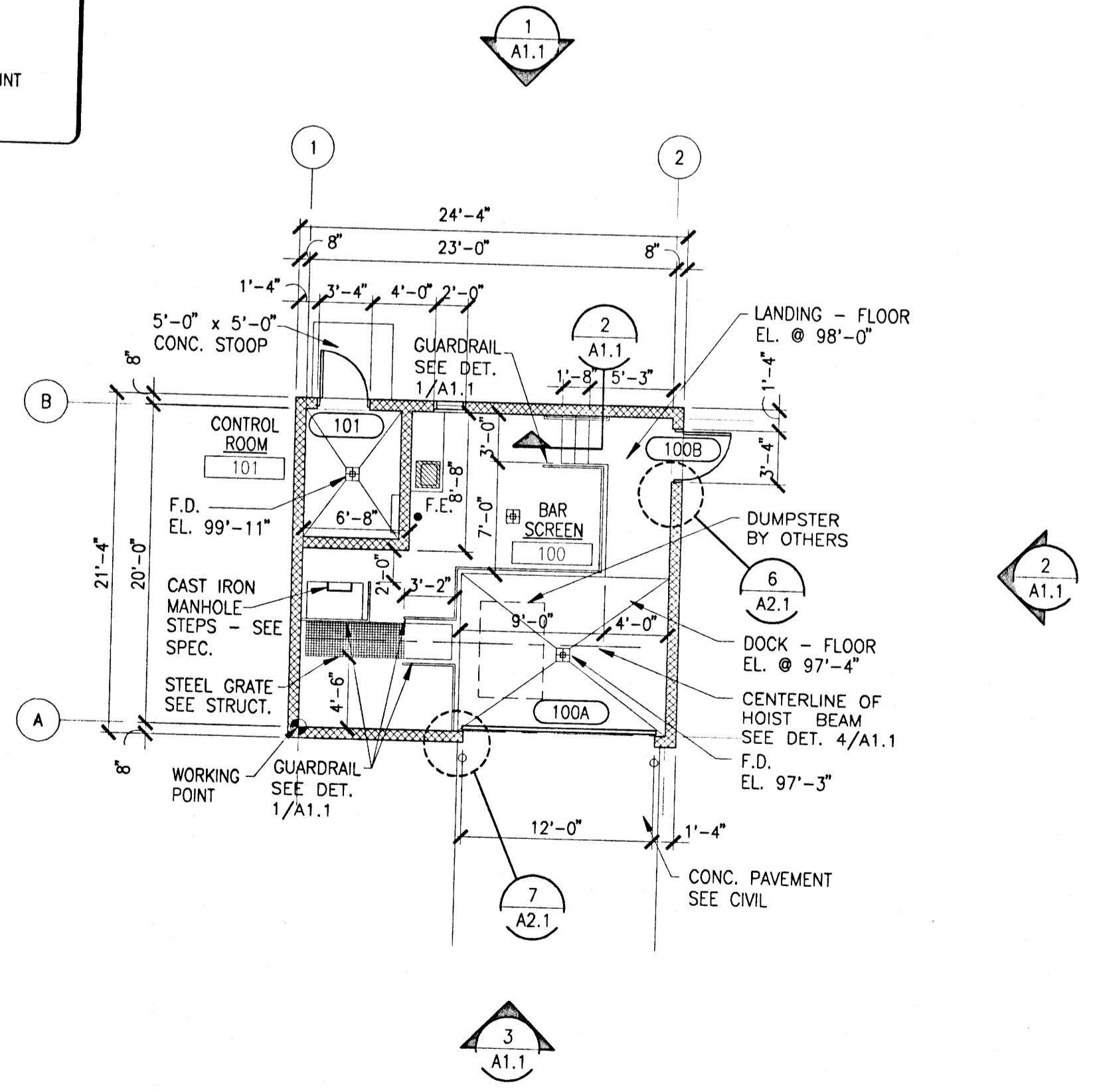


**1 WEST ELEVATION**  
A1.1



DOOR SCHEDULE									
DOOR NO.	ROOM NAME	SIZE	DOOR		FRAME			HJWR	REMARKS
			TYP	MAT	TYP	MAT	HEAD		
100A	BAR SCREEN	12'-0"X14'-8"	-	INS. MET.	-	STL.	3/A2.1	7/A2.1	2 OVERHEAD COILING, MANUAL
100B	BAR SCREEN	3'-0"X7'-2"	FLUSH	FRP	-	AL	2/A2.1	6/A2.1	
101	CONTROL ROOM	3'-0"X7'-2"	FLUSH	FRP	-	AL	2/A2.1	6/A2.1	

**INTERIOR FINISH NOTES**  
 CONCRETE FLOOR - SEALER  
 CONCRETE BLOCK - PLASTIC PAINT  
 PRECAST ROOF DECK - PLASTIC PAINT



**FLOOR PLAN**  
FIN. FLR. (U.O.) EL. 100'-0"

MAXXREF POS: V1-1-10#B#  
 AEL=ARCH\AEL.dwg  
 GRAB\_MH=UTIL\GR36.M.dwg  
 AEGS=01=VARI\AEGS\_01.dwg  
 AEGS=02=VARI\AEGS\_02.dwg  
 AFD51=ARCH\AFD51.dwg  
 A229=VARI\A229.dwg  
 AGDRD1=VARI\AGDRD1.dwg  
 AGRDR1=VARI\AGDR1.dwg  
 12:55 pm on Dec 8, 99

**URS Greiner Woodward Clyde**

SAGINAW REGIONAL CORRECTIONAL FACILITY  
 MICHIGAN DEPARTMENT OF CORRECTIONS  
 BAR SCREEN BUILDING  
 FREELAND, MICHIGAN

FLOOR PLAN, EXTERIOR ELEVATIONS AND MISCELLANEOUS DETAILS

DRAWING  
**A11**  
 FILE  
 M103262

DATE	DR	CHK	APP	SUBMIT	IN CHARGE	ISSUED FOR
12-08-99	DR	CK	AP	11-22-99	DR	DR
12-08-99	DR	CK	AP	11-22-99	DR	DR
12-08-99	DR	CK	AP	11-22-99	DR	DR
12-08-99	DR	CK	AP	11-22-99	DR	DR

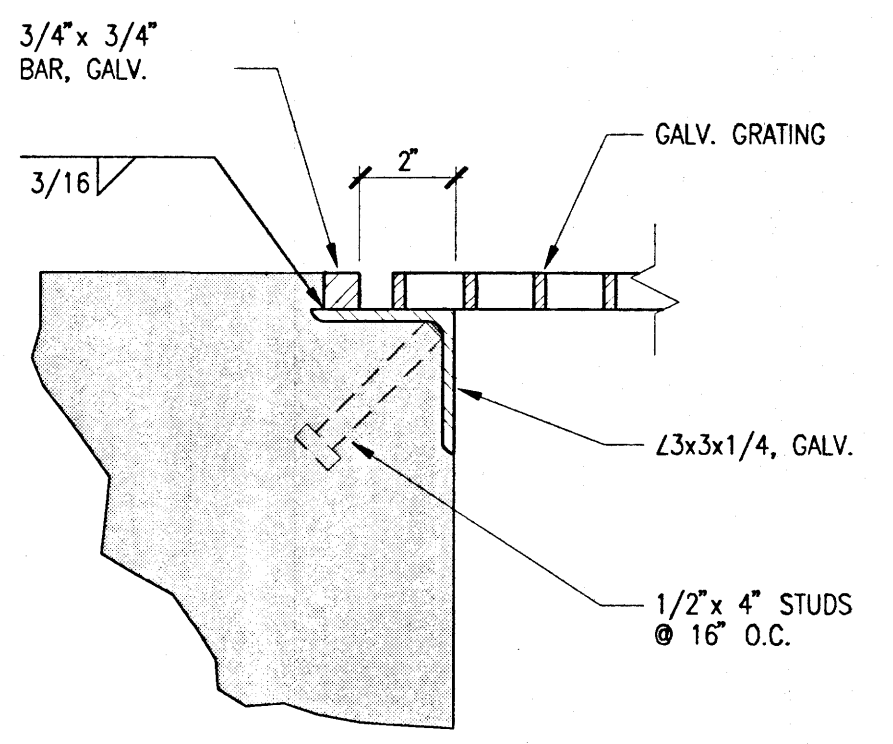
State of Michigan  
 DEPARTMENT OF MANAGEMENT AND BUDGET  
 Office of Facilities  
 477/9205/EN  
 477/9205/EN  
 STATE WAREHOUSE  
 1100 S. ZEEB ROAD  
 LANSING, MI 48206-1000  
 313.487.1000

URS Greiner Woodward Clyde  
 GRAND RAPIDS, MI FARMINGTON HILLS, MI PETOSKEY, MI INDIANAPOLIS, IN  
 49503-1000 48306-1000 49703-1000 46206-1000  
 616.374.8200 616.374.8200 616.374.8200 616.374.8200

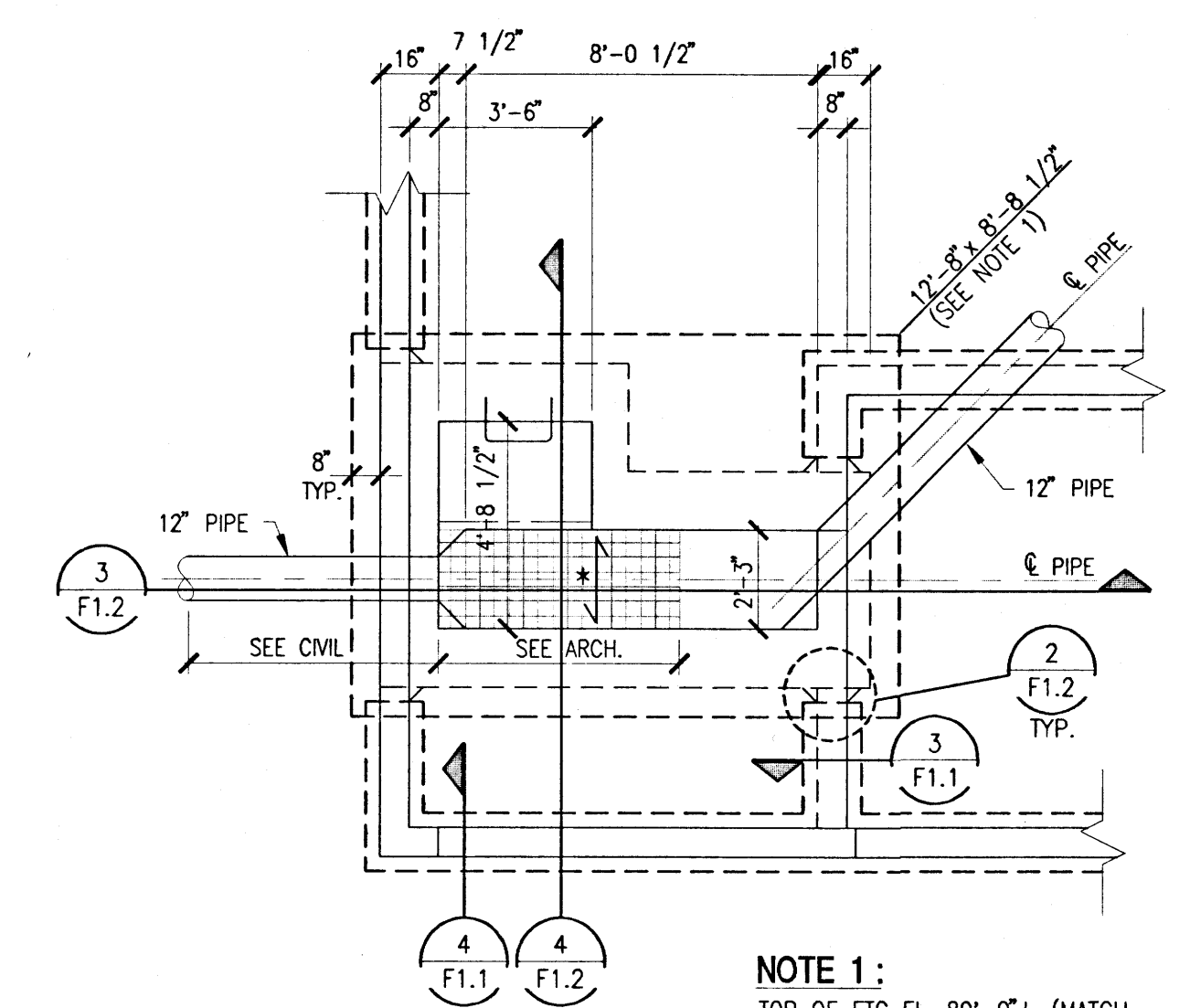
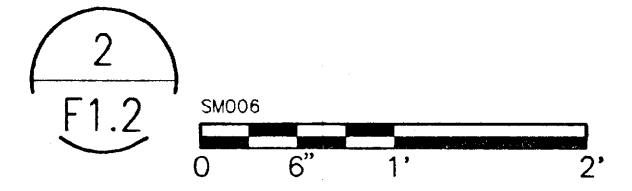
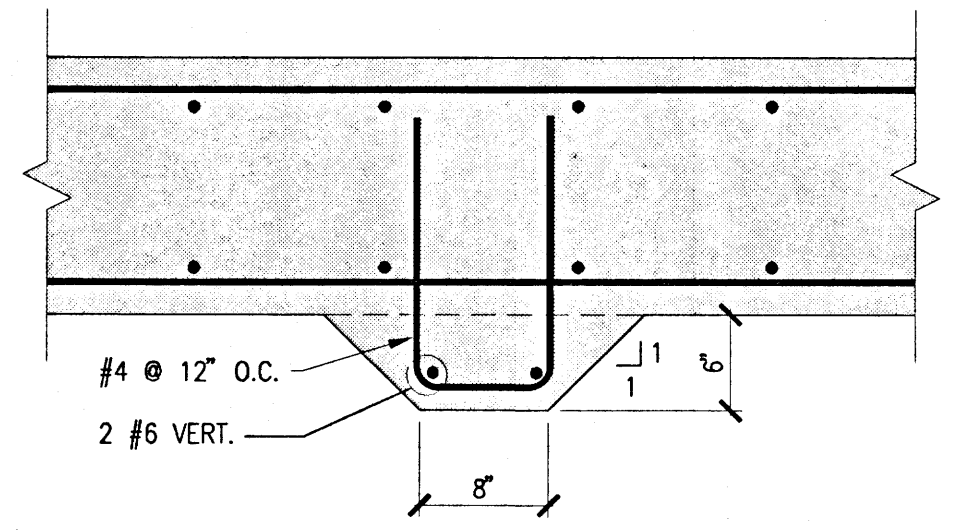
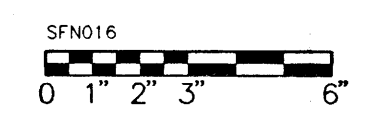




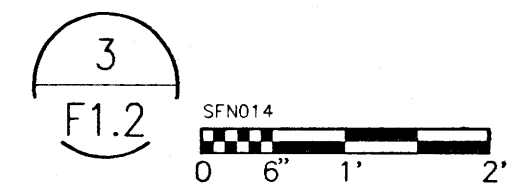
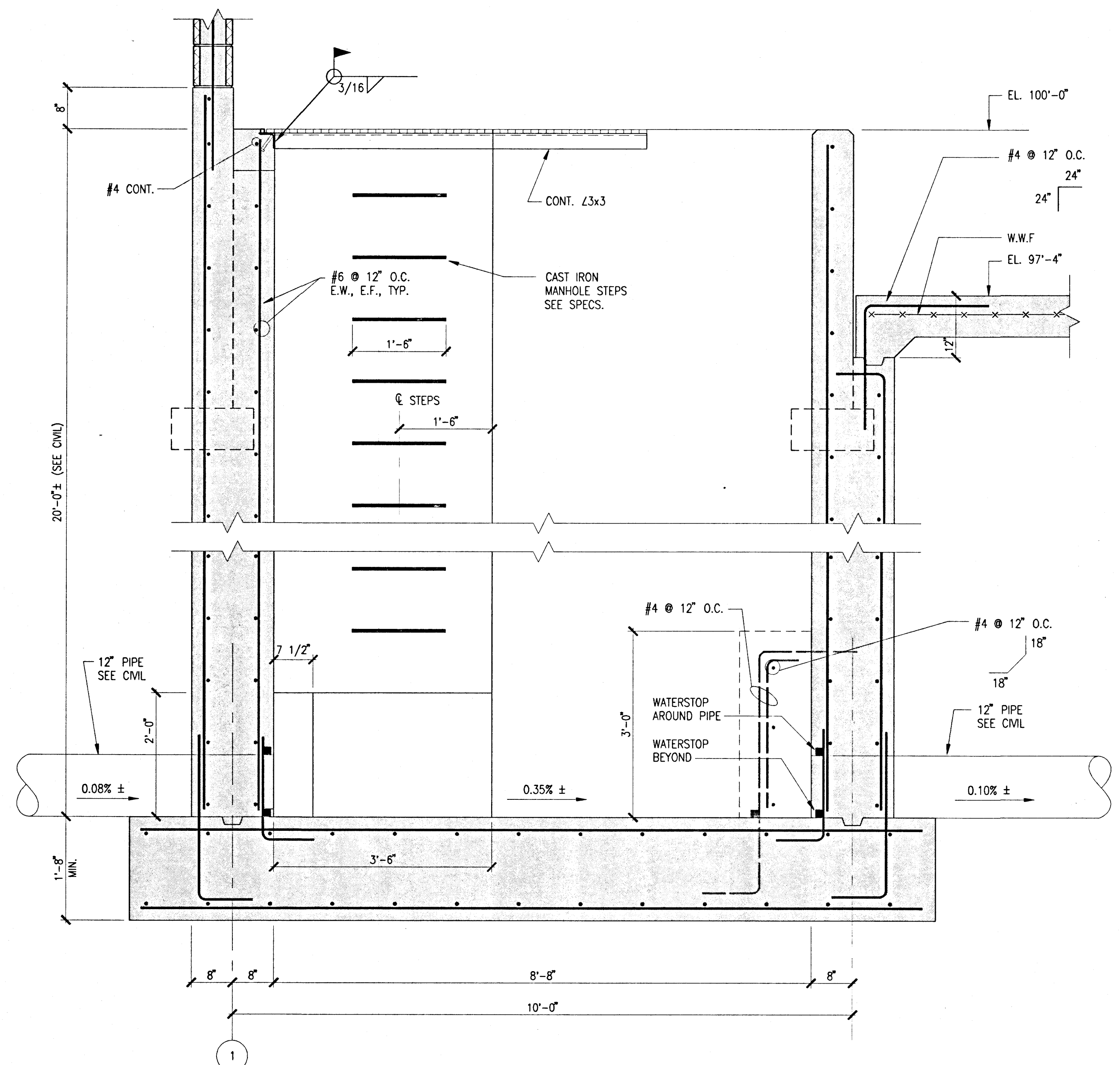
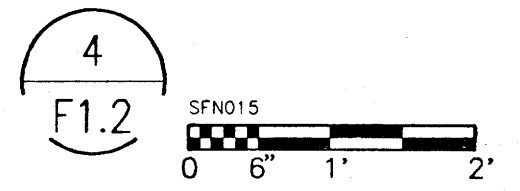
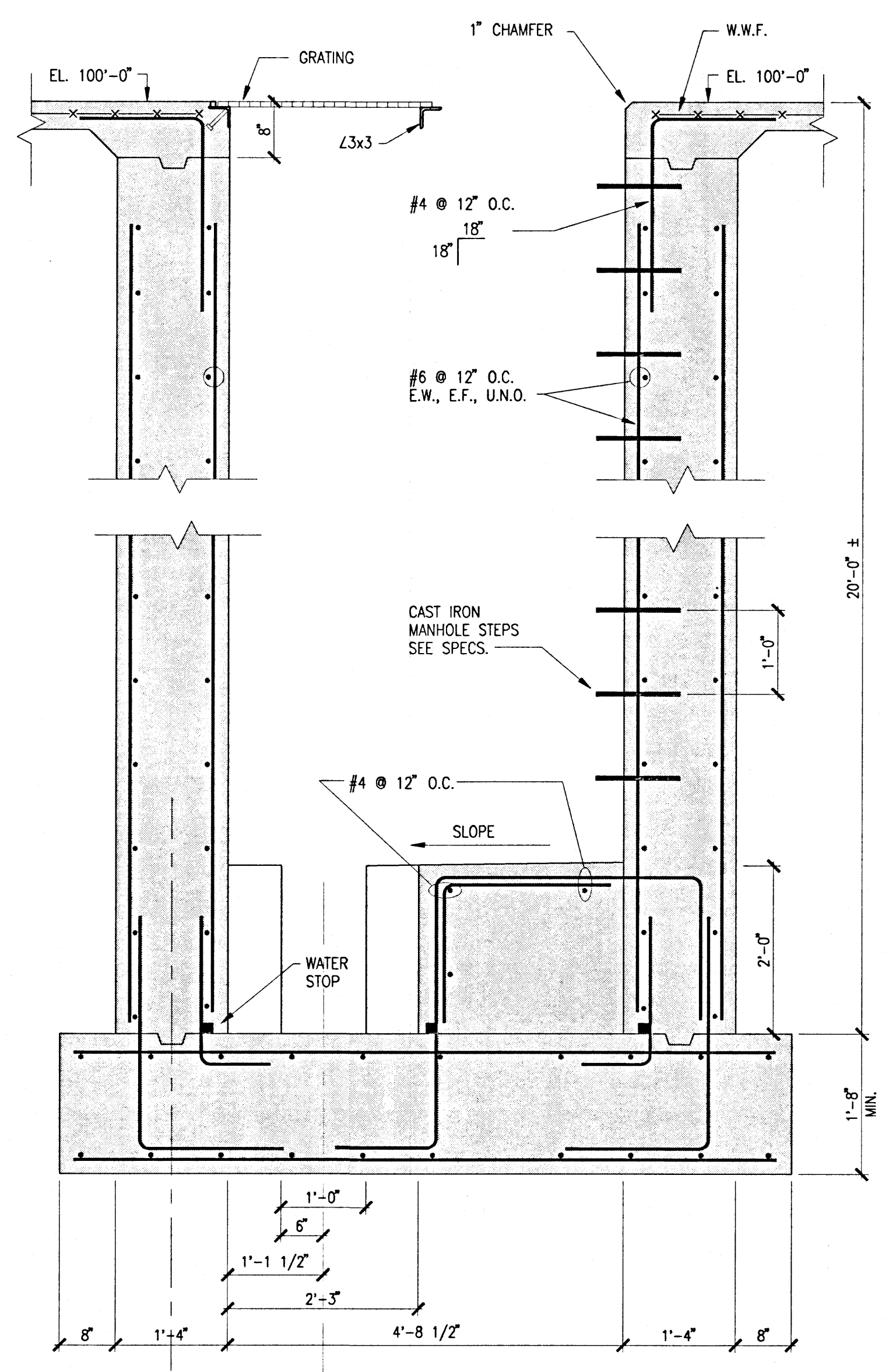
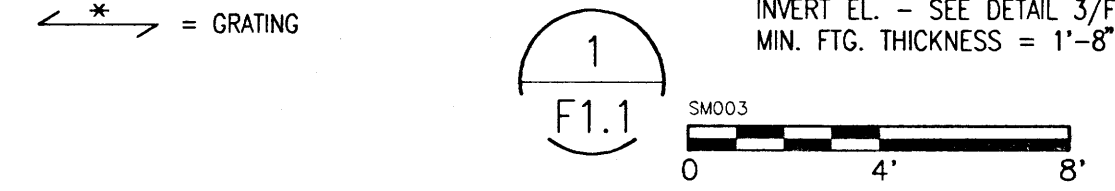
M103262\PD01\SF1-2.dwg  
 3:49 pm on Dec 7, 99  
 W:\03262\PD01\SF1-2.dwg  
 GR36\_Mit\UTL\GR36\_Mit.dwg  
 SFNO15=\\SNET\SFNO15.dwg  
 SM003=\\SNET\SM003.dwg  
 SFNO14=\\SNET\SFNO14.dwg  
 SM006=\\SNET\SM006.dwg  
 SFNO16=\\SNET\SFNO16.dwg



TYPICAL GRATE EDGING DETAIL



NOTE 1:  
 TOP OF FIG. EL. 80'-0"± (MATCH  
 INVERT EL. - SEE DETAIL 3/F1.1)  
 MIN. FIG. THICKNESS = 1'-8"



DATE	RVG	DR	CK	APP	IN CHARGE	ISSUED FOR
12/08/99	DRS & CONSTRUCTION	DR	CK	APP	SCRIPSEMA	DATE
12/08/99	ACSCY BOWEN					
11/22/99	DRG					
11/22/99	DRG					

**URS Greiner Woodward Clyde**  
 GRAND RAPIDS, MI, FARMINGTON HILLS, MI, POTOSKEY, MI, INDIANAPOLIS, IN, 472/9835015/15W, 401 N. WALLS AVE., 3405 W. 17TH RD., 546 S. MERIDIAN  
 3950 SPARTAN DR., S.E. 916 347-9105 916 335-4449 916 374-8998

**SAGINAW REGIONAL CORRECTIONAL FACILITY**  
 MICHIGAN DEPARTMENT OF CORRECTIONS  
 BAR SCREEN BUILDING  
 FREELAND, MICHIGAN  
 FOUNDATION DETAILS

DRAWING  
**F1.2**  
 FILE  
 M103262



STRUCTURAL NOTES

GENERAL

- 1. ALL DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN OBTAINED FROM AVAILABLE SOURCES AND ARE NOT GUARANTEED TO BE TRUE AND EXACT. THE CONTRACTOR SHALL VERIFY THESE DIMENSIONS AND ELEVATIONS BY ACTUAL FIELD MEASUREMENTS PRIOR TO FABRICATION OF ANY MATERIALS AND START OF WORK AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
2. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO SHOP DRAWINGS AND WORK.
3. OPENINGS SHALL NOT BE MADE IN ANY STRUCTURAL MEMBER WITHOUT APPROVAL OF THE ARCHITECT.
4. DO NOT CHANGE SIZE OR DIMENSION OF STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF STRUCTURAL MEMBERS AT THE TIME THE LOADS ARE IMPOSED.
6. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE STRUCTURE IS DEPENDANT UPON DIAPHRAGM ACTION OF THE ROOF PLANKS AND ATTACHMENT TO THE MASONRY WALLS FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. PROVIDE ALL TEMPORARY BRACING REQUIRED FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES UNTIL THESE ELEMENTS ARE COMPLETE AND ARE CAPABLE OF PROVIDING THIS SUPPORT.
7. DO NOT SCALE DRAWINGS, USE DIMENSIONS.
8. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
9. INFORM THE ARCHITECT OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE ARCHITECT'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ARCHITECT OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
10. VERIFY ALL DIMENSIONS AND ELEVATIONS ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS. REPORT DISCREPANCIES TO ARCHITECT BEFORE PROCEEDING WITH WORK.

FOUNDATIONS

- 1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH SUB-SURFACE RECOMMENDATION REPORT BY SOIL AND MATERIALS ENGINEERS, INC. DATED NOVEMBER 5, 1999.
2. FOOTING ELEVATIONS SHOWN ON PLAN ARE TO TOP OF FOOTINGS.
3. REFER TO CIVIL DRAWINGS FOR ROUGH GRADE ELEVATIONS.
4. DO NOT PLACE CONCRETE FOR FOOTINGS UNTIL BEARING CAPACITY IS VERIFIED BY OWNER'S GEOTECHNICAL CONSULTANT.
5. OVER EXCAVATION OF SOIL FOR FOOTINGS SHALL BE REPLACED AND COMPACTED IN LAYERS, TO 95% OF MODIFIED PROCTOR.
6. STEP WALL FOOTINGS 1 VERTICAL TO 2 HORIZONTAL WHERE ELEVATIONS CHANGE UNLESS NOTED OTHERWISE ON DRAWINGS.
7. EDGES OF FOOTINGS SHALL NOT BE PLACED AT A SLOPE GREATER THAN 1 VERTICAL TO 2 HORIZONTAL WITH RESPECT TO ANY ADJACENT FOOTING OR EXCAVATION UNLESS NOTED OTHERWISE ON THE DRAWINGS.
8. THE DESIGN AND INSTALLATION OF SHORING, BRACING AND SHEETING REQUIRED WHEN EXCAVATING ADJACENT TO AN EXISTING STRUCTURE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9. DO NOT USE EARTH FORMED TRENCH FOR FOOTINGS OR FOUNDATION WALLS.
10. DO NOT PLACE FOUNDATION CONCRETE ON FROZEN SOIL OR INTO AN EXCAVATION CONTAINING FREE WATER.
11. DO NOT PLACE BACKFILL AGAINST RETAINING WALLS UNTIL CONCRETE HAS ATTAINED 75% OF 28 DAY DESIGN STRENGTH.
12. BACKFILL FOUNDATION WALLS WITH EARTH ON BOTH SIDES OF WALL BY ALTERNATELY PLACING BACKFILL ON EACH SIDE SO THAT HEIGHT OF BACKFILL DOES NOT DIFFER BY MORE THAN 1'-6" FROM OTHER SIDE.
13. PROVIDE ASPHALTIC COATING ON ALL STEEL EXPOSED TO THE EARTH.
14. REFER TO ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS FOR CONCRETE FINISHES.
15. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL FOUNDATION WORK NOT SHOWN ON STRUCTURAL DRAWINGS.
16. REFER TO ARCHITECTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL LOCATIONS OF TRENCHES, PITS, CONDUITS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS.
17. MASONRY WALLS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE CONSIDERED BEARING WALLS. NON BEARING WALLS ARE SHOWN ON THE ARCHITECTURAL DRAWINGS ONLY.
18. DOWEL CONCRETE WALL VERTICAL REINFORCEMENT INTO FOOTINGS.
19. DOWEL MASONRY WALL REINFORCEMENT INTO CONCRETE SUPPORTS UNLESS NOTED OTHERWISE.
20. COORDINATE PLACEMENT OF ANCHOR BOLTS AND SLEEVES WITH FOUNDATION REINFORCEMENT.

STRNOTES

SLABS ON GRADE

- 1. SUPPORT WELDED WIRE FABRIC REINFORCEMENT ON CONTINUOUS SLAB BOLSTERS (WITH SAND PLATES) SPACED AS REQUIRED TO ADEQUATELY SUPPORT FABRIC, BUT IN NO CASE GREATER THAN 24" O/C. PLACE WELDED WIRE FABRIC 2" BELOW TOP OF SLAB.
2. SLOPE FLOORS TO DRAINS WHERE INDICATED ON ARCHITECTURAL DRAWINGS.
3. PLACE ELECTRIC CONDUIT AND OTHER PIPES EMBEDDED IN CONCRETE FLOOR SLABS ACCORDING TO THE REQUIREMENTS OF AC1318-95, PARAGRAPH 6.3.
4. PROVIDE DIAGONAL REINFORCEMENT AT RE-ENTRANT CORNERS IN SLABS AS FOLLOWS: 2 #4 X 4'-0" BAR FOR EACH 4 INCHES OF SLAB THICKNESS.

CONCRETE

- 1. HEATING WILL NOT BE PERMITTED FOR BENDING OF REINFORCING STEEL.
2. MINIMUM CONCRETE COVER FOR STEEL REINFORCEMENT, UNLESS NOTED OTHERWISE:
UNFORMED SURFACE IN CONTACT WITH THE GROUND. 3 IN.
FORMED SURFACES EXPOSED TO EARTH OR WEATHER. 2 IN.
FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:
BEAMS, GIRDERS, AND COLUMNS 1-1/2 IN.
SLABS, WALLS, AND JOISTS 3/4 IN.
3. MINIMUM CONCRETE COVER FOR ANCHOR BOLTS: 3 IN.
4. LAP CONTINUOUS CONCRETE REINFORCING BARS 30 DIAMETERS, UNLESS OTHERWISE NOTED. ALL OTHER LAP SPLICES SHALL BE IN ACCORDANCE WITH AC1318-95.
5. PROVIDE CORNER BARS FOR ALL HORIZONTAL REINFORCEMENT. EXTEND HORIZONTAL WALL REINFORCEMENT THROUGH PIERS.
6. BAR SUPPORTS AND SPACERS RESTING ON SURFACES TO BE LEFT EXPOSED SHALL BE PLASTIC TIPPED OR STAINLESS STEEL.
7. ALL CONSTRUCTION JOINTS SHALL BE KEYED.
8. WIRE BRUSH AND THOROUGHLY CLEAN, WITH ALL LAITANCE REMOVED, CONSTRUCTION JOINTS OF STRUCTURAL WALLS AND SUPPORTED SLABS. WET JOINTS THOROUGHLY AND SLUSH WITH A COAT OF NEAT CEMENT GROUT IMMEDIATELY BEFORE PLACING NEW CONCRETE.
9. REFER TO CIVIL, ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSIONS OF PADS, DEPRESSIONS, OPENINGS, SLEEVES, DRAINS, INSERTS, ANCHORS HANGERS, MISCELLANEOUS IRON, CHASES, CONDUITS, FLOOR FILLS AND FINISHES, CURBS, STONE AND MASONRY DETAILS AND OTHER DETAILS RELATED TO CONCRETE WORK NOT SHOWN ON STRUCTURAL DRAWINGS.
10. REINFORCEMENT INTERRUPTED BY OPENINGS IN SLABS AND WALLS SHALL BE REPLACED BY AN EQUAL NUMBER OF ADDITIONAL BARS, OF THE SAME SIZE, ON ALL SIDES OF THE OPENING. AS A MINIMUM, PROVIDE 2-#5 BARS, WITH 2'-0" PROJECTION BEYOND OPENING, FOR EACH 8" OF SLAB OR WALL THICKNESS. ALSO PROVIDE 2-#5 X 4'-0" DIAGONALLY AT EACH CORNER.
11. PROVIDE DIAGONAL REINFORCEMENT ON EACH SIDE OF OPENINGS, OR RE-ENTRANT CORNERS IN SLABS AS FOLLOWS: 2 #4 X 4'-0" BAR FOR EACH 4 INCHES OF SLAB THICKNESS.
12. CHAMFER 1" x 45 DEGREES EXPOSED EDGES OF CONCRETE WALLS, COLUMNS, PIERS, PILASTERS, ETC.
13. OPENINGS SHALL NOT BE MADE IN ANY STRUCTURAL MEMBER WITHOUT APPROVAL FROM THE ARCHITECT, UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS.
14. REFER TO ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS FOR CONCRETE FINISHES.
15. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL CONCRETE WORK NOT SHOWN ON STRUCTURAL DRAWINGS.

MASONRY

- 1. MASONRY WALLS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE CONSIDERED BEARING WALLS. NON-BEARING WALLS ARE SHOWN ON THE ARCHITECTURAL DRAWINGS ONLY.
2. REINFORCE ALL WALLS, INCLUDING NON-BEARING WALLS, WITH JOINT REINFORCEMENT AT 16" ON CENTERS, UNLESS OTHERWISE NOTED.
3. REINFORCING DESCRIBED BELOW APPLIES TO BEARING WALLS ONLY, UNLESS OTHERWISE NOTED ON DRAWINGS.
4. REINFORCE BOND BEAMS WITH 2-#5 CONTINUOUS, UNLESS OTHERWISE NOTED. PROVIDE CORNER BARS FOR ALL BOND BEAM REINFORCEMENT.
5. LAPPED BAR REINFORCEMENT SPLICES SHALL BE 48 BAR DIAMETERS.
6. CENTER VERTICAL REINFORCEMENT IN CELLS OF MASONRY UNIT, UNLESS OTHERWISE NOTED.
7. REINFORCE ALL MASONRY WALLS WITH #5 @ 48" O.C. IN ADDITION, PROVIDE VERTICAL BARS AT ALL CORNERS, ENDS, JAMBS, INTERSECTIONS AND BOTH SIDES OF CONTROL JOINTS.
8. USE BAR POSITIONERS TO HOLD VERTICAL AND BOND BEAM REINFORCEMENT IN PROPER ALIGNMENT.
9. HOLD VERTICAL BARS IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS OR 10 FEET.
10. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF VERTICAL CONTROL JOINTS.
11. DISCONTINUE JOINT REINFORCEMENT AT VERTICAL CONTROL JOINTS. BOND BEAM REINFORCEMENT SHALL BE CONTINUOUS THROUGH JOINT.
12. FILL THE FOLLOWING WITH 2000 PSI MASONRY GROUT:
a. ALL CELLS CONTAINING VERTICAL REINFORCEMENT.
b. ALL CELLS BELOW GRADE.
c. ALL CELLS BELOW BEAM AND LINTEL BEARING POINTS DOWN TO CONCRETE FOUNDATION WALL OR FOOTING.
d. ALL CELLS BELOW STEEL JOIST BEARING POINTS DOWN TO A BOND BEAM OR TO A DEPTH EQUAL TO THE JOIST SPACING, WHICHEVER IS LESS.
e. ALL BOND BEAMS.
f. ALL CELLS OF THE BLOCK COURSE IMMEDIATELY ABOVE LINTELS.
13. PROVIDE SOLID GROUTED MASONRY AROUND BEARING ENDS OF ALL PLANKS.
14. GROUT MASONRY LINTELS IN ONE CONTINUOUS OPERATION.
15. WHEN A FOUNDATION DOWEL DOES NOT LINE UP WITH A VERTICAL BLOCK CORE IT MAY BE SLOPED, BUT NOT MORE THAN ONE HORIZONTAL TO SIX VERTICAL.
16. A REINFORCING BAR MAY BE CONSIDERED TO BE IN VERTICAL ALIGNMENT WHEN IT IS WITHIN 4" OF AN ADJACENT BAR OR DOWEL, EVEN THOUGH IT IS IN AN ADJACENT CELL.
17. SECURE REINFORCING STEEL BARS BEFORE GROUTING STARTS.
18. VERTICAL REINFORCING BARS SHALL HAVE A MINIMUM CLEARANCE OF 3/4 INCH FROM THE MASONRY SURFACE AND NOT LESS THAN ONE BAR DIAMETER BETWEEN BARS.
19. VERTICAL CELLS TO BE GROUTED SHALL HAVE VERTICAL ALIGNMENT TO MAINTAIN A CONTINUOUS UNOBSTRUCTED CELL AREA NOT LESS THAN 2-1/2" x 3".
20. STOP GROUT 1-1/2" BELOW THE TOP OF A COURSE TO FORM A KEY AT POUR JOINT.
21. GROUT ALL BOLTS, ANCHORS, ETC., SOLID INTO POSITION.
22. NO CHASES, RISERS, CONDUITS OR TOOTHING OF MASONRY SHALL OCCUR IN MASONRY WALLS WITHIN 18 INCHES OF BEAM BEARING CENTERLINE.
23. REFER TO TYPICAL LINTEL SCHEDULE FOR LINTELS OVER OPENINGS IN MASONRY WALLS SUCH AS DUCTS, RECESSES FOR CONVECTORS, DRINKING FOUNTAINS, FIRE EXTINGUISHERS, ETC. UNLESS OTHERWISE NOTED.

PRECAST HOLLOW CORE SLABS

- 1. PROVIDE 1/8 INCH THICK TEMPERED HARDBOARD UNDER ALL PRECAST BEARING ON MASONRY OR CONCRETE.
2. DESIGN AND FURNISH ALL HEADERS REQUIRED AT OPENINGS THROUGH SLABS.
3. DO NOT FIELD CUT HOLES THROUGH PRECAST HOLLOW CORE SLABS WITHOUT APPROVAL OF ARCHITECT AND PRECAST MANUFACTURER.
4. REFER TO ENGINEERING DATA FOR REQUIRED DESIGN LOADS.

DESIGN STRESSES

SOIL PRESSURE: Fp = 3,000 PSF
CONCRETE: SLABS ON GRADE f'c = 4,000 PSI; ALL OTHERS f'c = 3,500 PSI
MASONRY PRISM STRENGTH: f'm = 2,000 PSI
REINFORCING STEEL: #3 BARS AND SMALLER: Fy = 40,000 PSI; #4 BARS AND LARGER: Fy = 60,000 PSI; WELDED WIRE FABRIC: Fy = 60,000 PSI
STRUCTURAL STEEL: WIDE FLANGE SHAPES: Fy = 36,000 PSI; ALL OTHER ROLLED SHAPES: Fy = 36,000 PSI; PLATES AND BARS: Fy = 36,000 PSI; TUBE SHAPES: Fy = 46,000 PSI

DESIGN LOADS

PRECAST SLAB ROOF DEAD LOADS: ROOFING & INSULATION 17 PSF; 6" PLANK UTILITIES 49 PSF; 8 PSF
ROOF LIVE LOADS: UNIFORM SNOW 25 PSF; 2 TON CRANE
WIND LOADS: 20 PSF

Table with columns: DATE, IN CHARGE, and ISSUED FOR. Includes dates 7/26/99 and 7/27/99.

Table with columns: DAVE RIG, DR, MEH, CK, APP, and IN CHARGE. Includes name SCROPERIA.

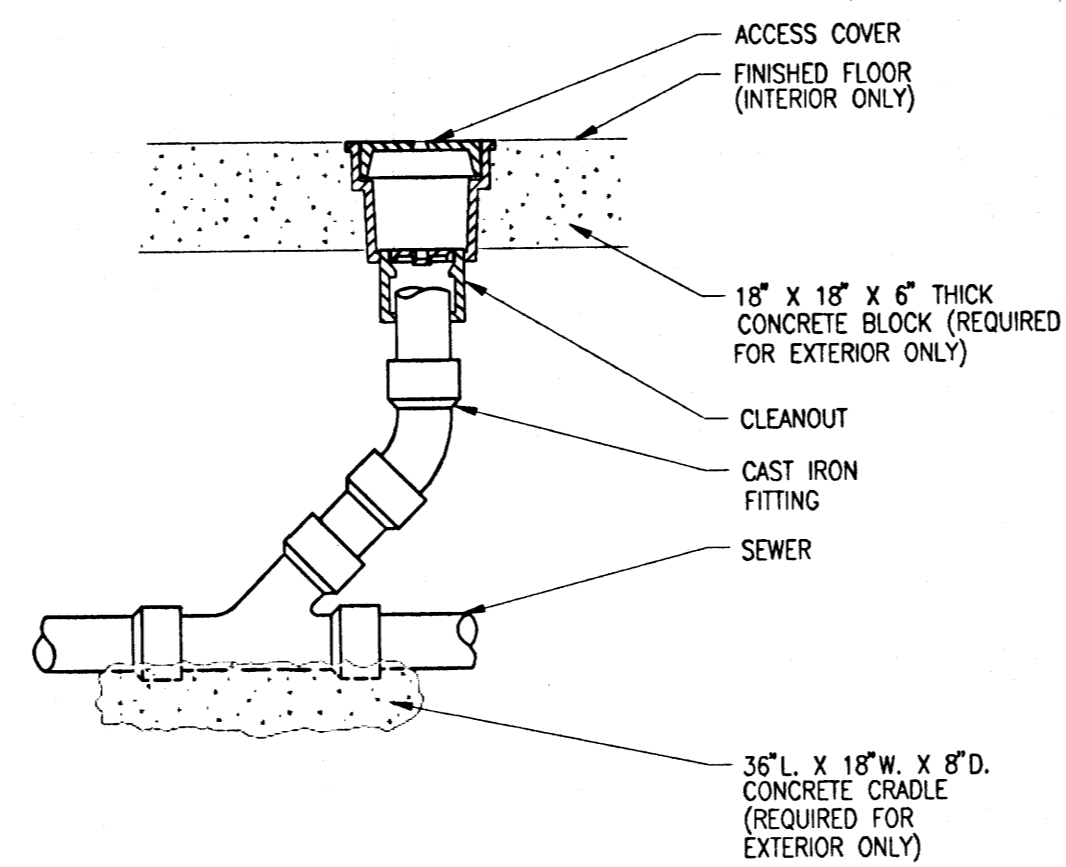
State of Michigan DEPARTMENT OF MANAGEMENT AND BUDGET Office of Facilities. Includes logo and contact information for Grand Rapids, MI.

URS Greiner Woodward Clyde logo and contact information for Grand Rapids, MI.

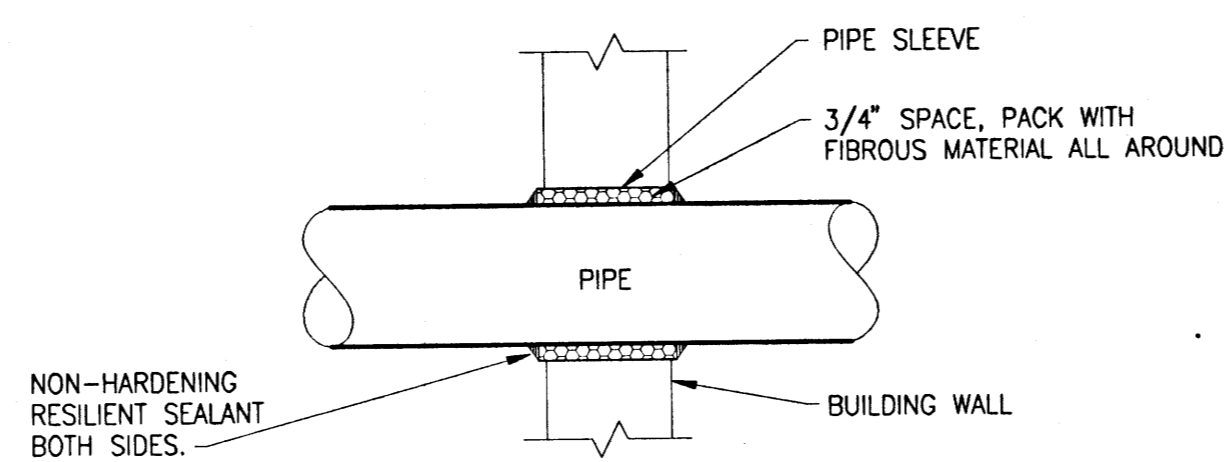
SAGINAW REGIONAL CORRECTIONAL FACILITY MICHIGAN DEPARTMENT OF CORRECTIONS BAR SCREEN BUILDING FREELAND, MICHIGAN. Includes title: STRUCTURAL NOTES & ENGINEERING DATA.

DRAWING S0.1 FILE M103262





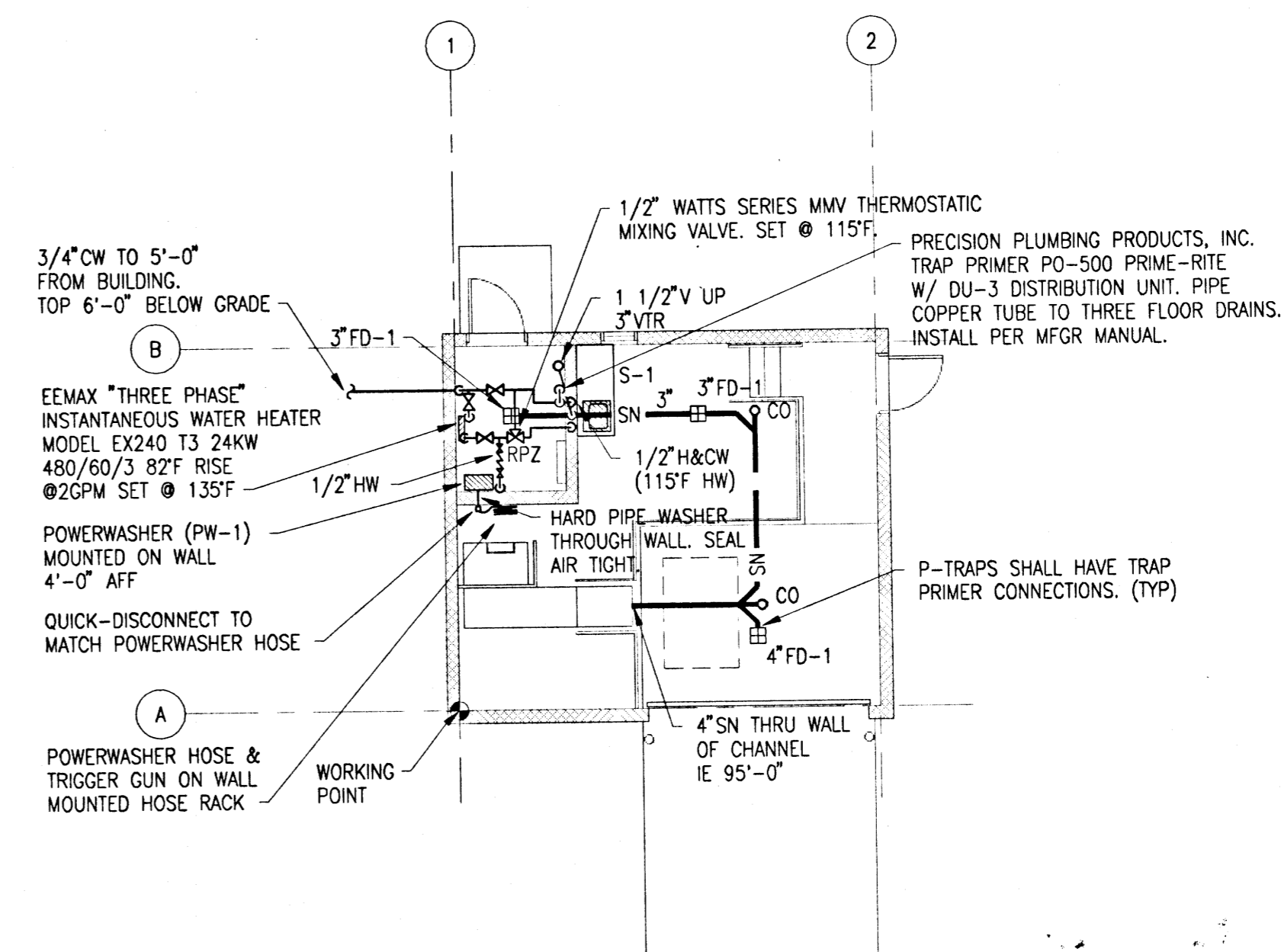
**CLEANOUT EXTENSION DETAIL**  
NOT TO SCALE



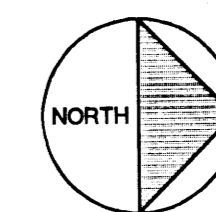
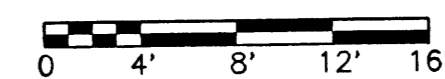
NOTE: SUPPORT PIPES ON EITHER SIDE OF WALL DO NOT LET THEM LOAD ONTO THE WALL.

**TYPICAL WALL PENETRATION DETAILS (FOR NON-FIRE-RATED WALLS)**  
NOT TO SCALE

PLUMBING ABBREVIATIONS			
AFF	ABOVE FINISHED FLOOR	MH	MANHOLE
AP	ACCESS PANEL	PW	PRESSURE WASHER
CW	COLD WATER	RPZ	REDUCED PRESSURE BACKFLOW PREVENTER
DN	DOWN	S	SINK
FD	FLOOR DRAIN	SN	SANITARY
FLR	FLOOR	V	VENT
HW	HOT WATER	VTR	VENT THRU ROOF
IE	INVERT ELEVATION		



**FLOOR PLAN**



**SAGINAW REGIONAL CORRECTIONAL FACILITY**  
MICHIGAN DEPARTMENT OF CORRECTIONS  
**BAR SCREEN BUILDING**  
FREELAND, MICHIGAN  
FLOOR PLAN AND DETAILS - PLUMBING

DRAWING

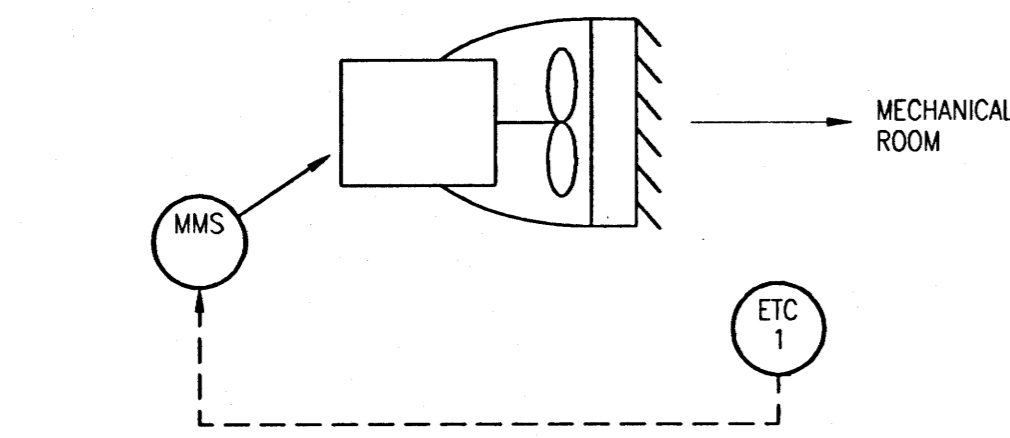
**P1.1**

FILE  
M103262

**URS Greiner Woodward Clyde**  
INDIANAPOLIS, IN  
317 858-7489  
GRAND RAPIDS, MI  
616 574-8506  
317 858-7489

DA/E	SH	DATE	ISSUED FOR
DR	SH		
CK	WCE		
APP	RCP		
IN CHARGE	SCRIPSEMA		
		12-08-99	REV. & CONSTRUCTION
		12-01-99	AGENCY REVIEW
		11-12-99	SOC. OWNER REVIEW

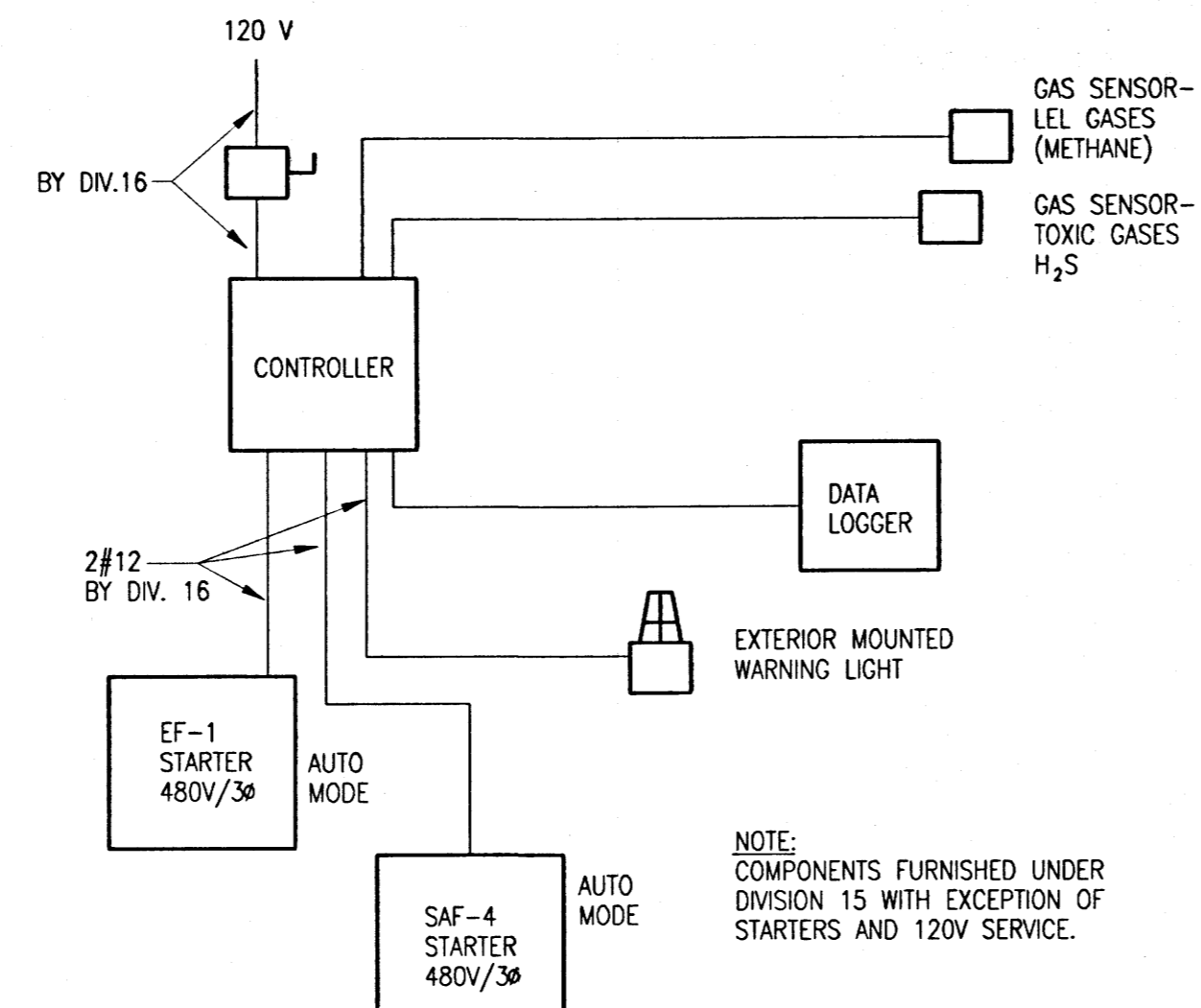
10:44 am on Dec 9, 99  
M:\1999\0027\_PDS\PT-1.dwg  
Shiller  
APPBST1=M:\UTIL\APPBST1.dwg  
APPBST1=M:\UTIL\APPBST1.dwg  
PSCH-B6-M\UTIL\PSCH-C6.dwg  
GRIBBS=M:\UTIL\GRIBBS.dwg  
P-6-M\PCETV-P-6.dwg  
PSN-10-M\PCETV-PSN-10.dwg



**SEQUENCE OF OPERATIONS**  
 1. ELECTRIC SPACE THERMOSTAT (ETC-1) WILL ENERGIZE THE UNIT HEATER ON/OFF TO MAINTAIN MAINTAIN THE CORRECT SPACE TEMPERATURE.

**UNIT HEATER CONTROL DIAGRAM**  
 NOT TO SCALE

HPS-3



**GAS MONITORING SYSTEM SCHEMATIC**  
 NOT TO SCALE

**NOTE:**  
 COMPONENTS FURNISHED UNDER DIVISION 15 WITH EXCEPTION OF STARTERS AND 120V SERVICE.

HPS-5

ELECTRIC UNIT HEATER SCHEDULE									
MARK	LOCATION	MODEL	CFM	MBH	KW	HP	RPM	LAT	REMARKS
EUH-1	ABOVE LANDING	MUH-40-2	2600	136	40	1/2	1420	100F	(1)(2)(3) HORIZ. THROW
EUH-2	ABOVE LANDING	MUH-40-2	2600	136	40	1/2	1420	100F	(1)(2)(3) HORIZ. THROW
EUH-3	CONTROL ROOM				3				(1)(3)

- (1) BASED ON Q-MARK
- (2) EXPLOSION PROOF & COATED WITH HERESITE, FLUOROPOLYMER OF VINYLIDENE FLUORIDE AGAINST CORROSION.
- (3) ELEVATION TO BOTTOM: 8'-0"

FAN SCHEDULE													
MARK	LOCATION	SERVICE	TYPE	MODEL	CFM	SP	RPM	TS	WHEEL SIZE	HP	SONE @ 5'	VOLT & PHASE	REMARKS
EF-1	ABOVE SINK	EXHAUST	TUBE AX.	TAB-18H	2600	0.375"	1400	-/-	20"	3/4	10	480V/3Ø	(3)(4)
EF-2	ROOF @ SCREEN	EXHAUST	ROOF	G-65G	175	0.125"	1300	2765/-	6.5"	1/20	2.7	120V/1Ø	(1)(2)(4)
EF-3	CONTROL RM	EXHAUST	ROOF	G-60E	75	0.125"	1050	2234/-	6"	1/20	1.7	120V/1Ø	(1)(2)
SAF-4	ABOVE OH DOOR	SUPPLY	TUBE AX.	TAB-18H	2600	0.75"	1725	-/-	20"	1	12	480V/3Ø	(3)(4)

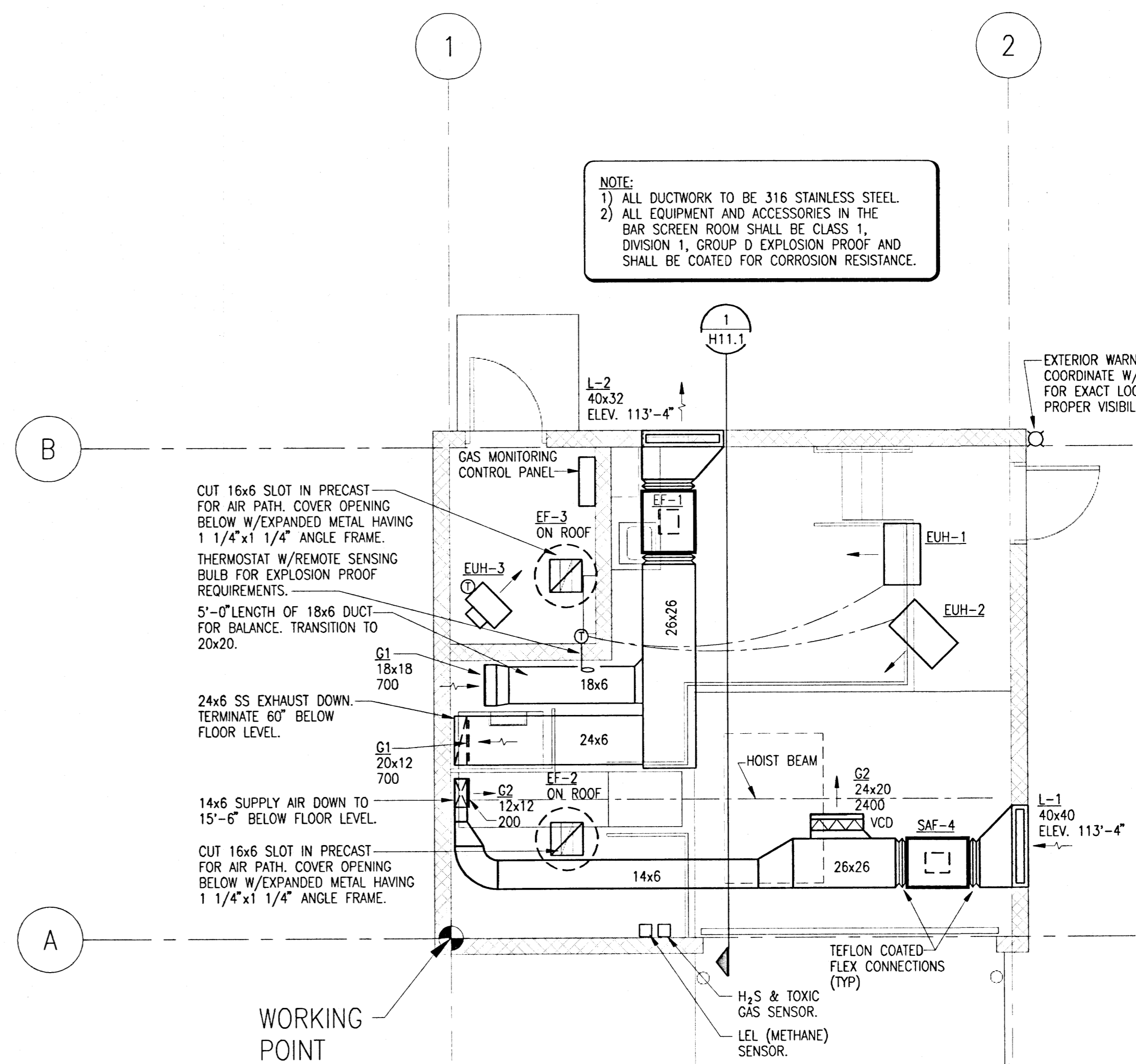
- (1) BASED ON GREENCHECK; WITH PRE-FAB CURB, BIRDSCREEN AND BACKDRAFT DAMPER.
- (2) NON-SPARKING WHEEL & MOTOR OUT OF AIRSTREAM TO MEET EXPLOSION PROOF REQUIREMENTS.
- (3) FULL DEPTH HOUSING, BACKDRAFT DAMPER, EXPLOSION PROOF.
- (4) ALL COMPONENTS COATED WITH HERESITE, FLUOROPOLYMER OR VINYLIDENE FLUORIDE AGAINST CORROSION.

DIFFUSER, REGISTER, & GRILLE SCHEDULE						
MARK	TYPE	MODEL	SIZE	VOLUME CONTROL DAMPER	FINISH	REMARKS
G1	SIDEWALL EXHAUST	33RL GYM	SEE PLAN	NO	PRIME COAT	(1)
G2	DOUBLE DEFLECTION SUPPLY	300R	SEE PLAN	NO	PRIME COAT	(1)

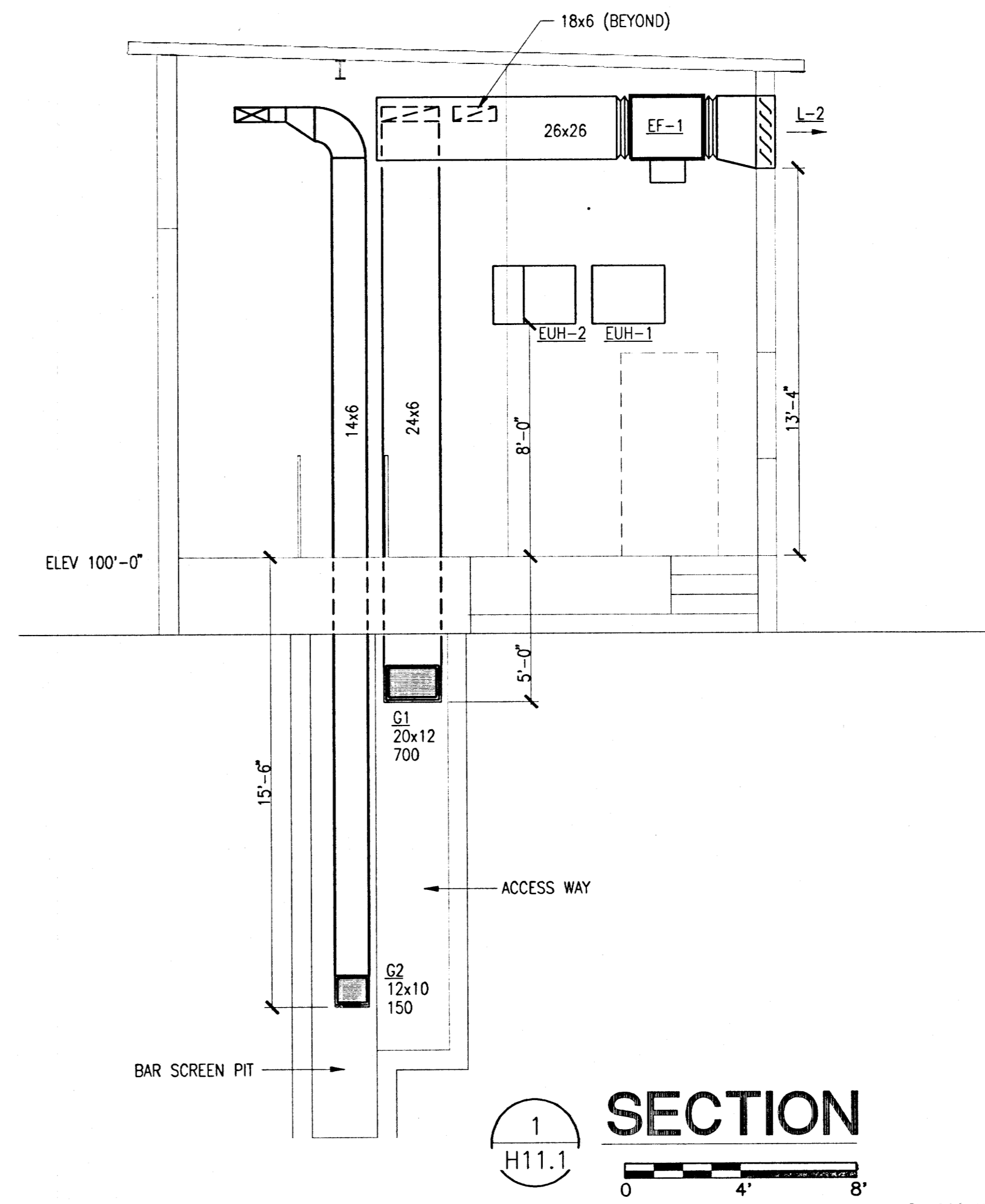
(1) EQUAL TO TITUS.

LOUVER SCHEDULE										
MARK	LOCATION	SERVICE	INTAKE/EXHAUST	DIMENSIONS		FREE AREA SQ.FT.	CFM	S.P. DROP IN W.G.	FINISH	REMARKS
				LENGTH	HEIGHT					
L-1	BAR SCREEN	BAR SCREEN	INTAKE	40	40	5.5	2600	0.1"	KYNAR	(1)
L-2	BAR SCREEN	BAR SCREEN	EXHAUST	40	32	4.0	2600	0.15"	KYNAR	(1)

(1) EQUAL TO RUSKIN. DRAINABLE BLADE ELF-6375D



**FLOOR PLAN - HVAC**



**SECTION 1 H11.1**

12/8/99	BIS AND CONSTRUCTION	DATE	ISSUED FOR
12/7/99	ASSET REVIEW		
12/7/99	30% REVIEW		
12/7/99	PHASE 400 DESIGN		
12/7/99	PRELIMINARY DESIGN		

DA/E	REB	KIK	REB	APP	IN CHARGE
DR	CK	APP	MALONEY		

State of Michigan  
 DEPARTMENT OF  
 MANAGEMENT AND BUDGET  
 Office of Facilities

URS Greiner Woodward Clyde  
 GRAND RAPIDS, MI, FARMINGTON HILLS, MI, POTOSKY, MI, INDIANAPOLIS, IN.  
 3950 28th St., SE, Grand Rapids, MI 49508-3300, 616 574-6500, 313 377-8103, 317 838-7489  
 910 255-3749

SAGINAW REGIONAL CORRECTIONAL FACILITY  
 MICHIGAN DEPARTMENT OF CORRECTIONS  
 BAR SCREEN BUILDING  
 FREELAND, MICHIGAN  
 FLOOR PLAN, DETAILS, AND SCHEDULES - HVAC

DRAWING  
 H11.1  
 FILE  
 M103262





### ELECTRICAL SYMBOL LEGEND

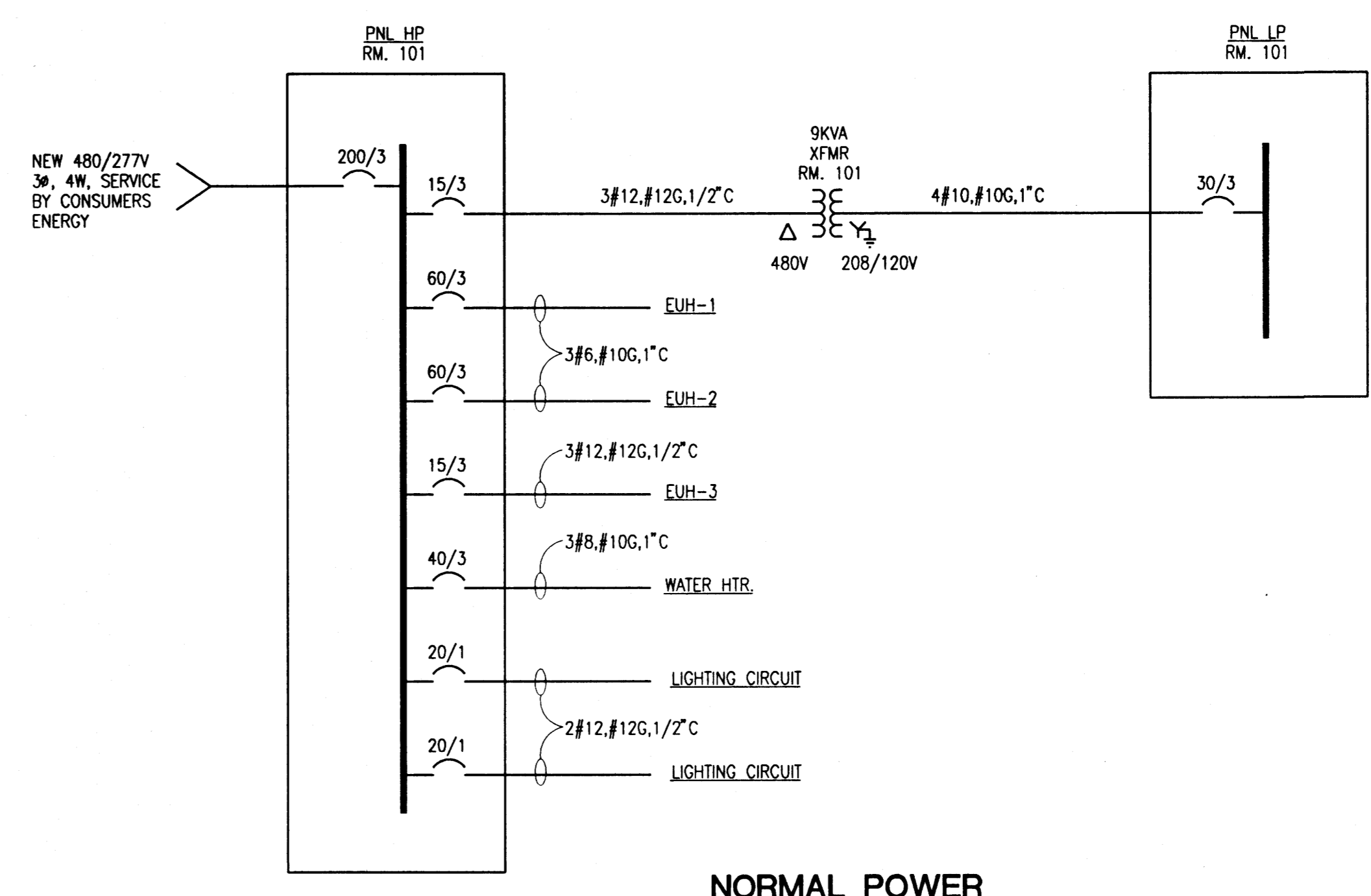
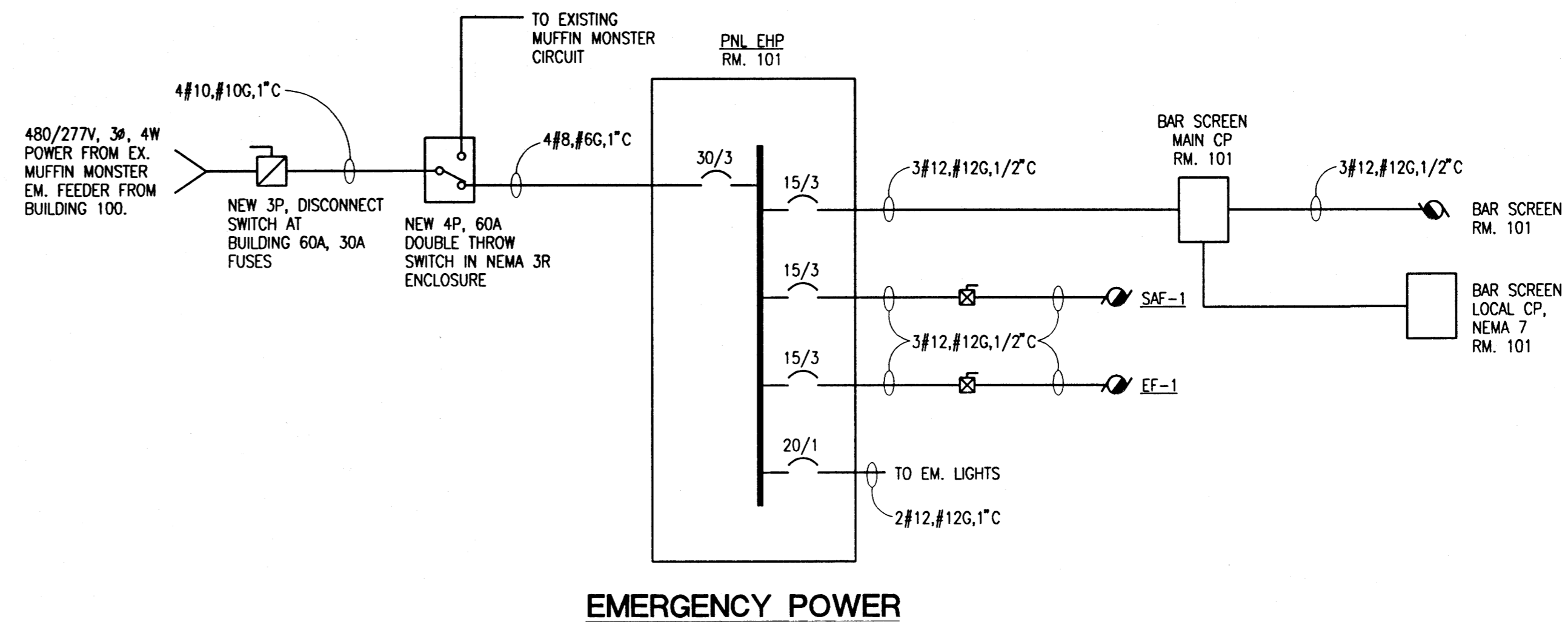
SYMBOL	DESCRIPTION	MOUNTING HEIGHT (NOTE 1)	NOTES
\$0	SINGLE POLE WALL SWITCH (LOWER CASE LETTER INDICATES CONTROL)	44"	---
\$F	BOX COVER SINGLE POLE SWITCH WITH DUAL ELEMENT PLUG FUSE	44"	---
\$M	MANUAL MOTOR STARTER SWITCH	44"	---
\$P	WALL SWITCH W/PILOT LIGHT	44"	---
Ⓢ	DUPLEX RECEPTACLE	16" UNO	---
ⓈWP	DUPLEX RECEPTACLE WITH WEATHERPROOF PLATE AND GROUND FAULT INTERRUPTER	24" UNO	---
ⓈE	EMERGENCY CIRCUIT DUPLEX RECEPTACLE	16" UNO	---
ⓈGFI	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	16" UNO	---
ⓈJ	JUNCTION BOX	---	---
ⓈM	SINGLE PHASE MOTOR	---	---
ⓈT	THREE PHASE MOTOR	---	---
ⓈO	SPECIAL OUTLET AS NOTED	---	---
ⓈP	PUSHBUTTON	44"	---
ⓈC	CONTACTOR	---	---
ⓈMS	MAGNETIC MOTOR STARTER	---	---
ⓈMDS	COMBINATION MAGNETIC MOTOR STARTER / DISCONNECT	---	---
ⓈD	DISCONNECT SWITCH	---	---
ⓈFD	FUSED DISCONNECT SWITCH	---	---
ⓈCB	CIRCUIT BREAKER DISCONNECT	---	---
ⓈDT	DRY TYPE TRANSFORMER	---	---
ⓈDPB	DISTRIBUTION PANELBOARD	NOTE 3	---
ⓈBCPB	BRANCH CIRCUIT PANELBOARD	NOTE 3	---
ⓈSC	SYSTEM CABINET	NOTE 3	---
ⓈPC	PHOTOCELL	---	---
ⓈTS	TIME SWITCH	---	---
ⓈET	ELECTRIC THERMOSTAT	44"	---
ⓈSL	SURFACE OR PENDENT LUMINAIRE	---	---
ⓈWML	WALL MOUNTED LUMINAIRE (TO SCALE)	NOTE 2	---
ⓈFL	FLUORESCENT STRIP LUMINAIRE	---	---
ⓈSE	SURFACE OR PENDENT EXIT SIGN	---	---
ⓈWES	WALL MOUNTED EXIT SIGN	---	---
ⓈSMBLU	SURFACE MOUNTED EMERGENCY BATTERY LIGHTING UNIT	NOTE 2	---
<b>LUMINAIRE INFORMATION</b>			
ⓈA	UPPER CASE LETTER = LUMINAIRE TYPE		
ⓈL1A-1	PANEL - CIRCUIT IDENTIFICATION		
Ⓢ0	LOWER CASE LETTER = SWITCHING OR CONTROL		
<b>KEYED NOTES</b>			
ⓈC	COMMUNICATIONS (DIVISION 17)	---	---
ⓈD	ELECTRICAL DEMOLITION (DIVISION 16)	---	---
ⓈE	ELECTRICAL (DIVISION 16)	---	---
ⓈL	LIGHTING (DIVISION 16)	---	---
<b>ABBREVIATIONS</b>			
CP	CONTROL PANEL	---	---
NL	NIGHT LIGHT LUMINAIRE	---	---
UNO	UNLESS NOTED OTHERWISE	---	---
WP	WEATHERPROOF	---	---
WG	WIRE GUARD	---	---
XP	EXPLOSION PROOF, U.L. LISTED FOR CLASS 1, DIV. 1 GROUP D.	---	---

### ELECTRICAL SYMBOL LEGEND NOTES:

1. MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO BOTTOM OF BOX, UNLESS NOTED OTHERWISE.
2. SEE PLANS OR DETAILS FOR MOUNTING HEIGHT.
3. SEE SPECIFICATIONS FOR MOUNTING HEIGHT.

### ELECTRICAL KEYED NOTES:

- ⓈE1 PROVIDE CONDUIT SEAL FITTING AT VALVE CHAMBER. SEE SPECIFICATIONS REGARDING CONDUIT SEAL FITTINGS AND INSTALLATION.
- ⓈE2 PROVIDE CONDUIT SEAL FITTING IN CONDUIT AT FLOW TRANSDUCER. SEE SPECIFICATIONS REGARDING CONDUIT SEAL FITTINGS AND INSTALLATION.
- ⓈE3 MANUAL TRANSFER SWITCH SHALL BE INSTALLED AT EXISTING BUILDING 1400 TO PROVIDE SWITCHING OF EMERGENCY POWER FROM THE MUFFIN MONSTER TO THE BAR SCREEN BUILDING. EXISTING CONDUIT AND CONDUCTORS SHALL BE ROUTED TO LINE SIDE ON NEW MANUAL TRANSFER SWITCH AS SHOWN ON ONE LINE DIAGRAM.
- ⓈE4 EXPLOSIONPROOF SWITCH SHALL SWITCH RECEPTACLE FOR PRESSURE WASHER IN CONTROL ROOM. PROVIDE REQUIRED CONDUIT SEAL FITTING AT SWITCH AND WHERE CONDUIT PASSES THROUGH WALL. SEE SPECIFICATIONS.
- ⓈE5 ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT AND CONDUCTORS TO CONNECT GAS MONITORING SYSTEM SHOWN ON PLANS. SEE MECHANICAL DRAWINGS FOR DETECTION SYSTEM SCHEMATIC. SEE DIVISION 15 SPECIFICATIONS FOR DETECTION EQUIPMENT SPECIFICATIONS.



### ONE LINE DIAGRAM

DISTRIBUTION EQUIPMENT & PANELBOARD SCHEDULE												
EQUIP MRKG	VOLT/ PHASE	MTG	MAINS	BRANCH DEVICES -- NOTE 2			FULLY BUSSED SPACES	EQUIP TYPE	KAIC	LOAD KVA		NOTES
				1-POLE	2-POLE	3-POLE				CONNECTED	NEC DESIGN	
HP	480/277 3ø, 4W	SURFACE	250 A MCB	SEE ONE LINE			13	NF	35	-	-	1
LP	208/120 3ø, 4W	SURFACE	100 AMP W/30A MCB	3-20A, 1-15A 4-20A SPARE	-	-	12	NQOD	22	-	-	-
EHP	480/277 3ø, 4W	SURFACE	100 AMP W/30A MCB	SEE ONE LINE			20	NF	35	-	-	-

### DISTRIBUTION EQUIPMENT AND PANELBOARD SCHEDULE NOTES:

1. PROVIDE SERVICE ENTRANCE LABEL FOR THIS PANEL.

M:\103262\PD5\E3-1B6.dwg  
 AS/Stephen  
 3:19 pm on Dec 8, 99

State of Michigan  
 DEPARTMENT OF  
 MANAGEMENT AND BUDGET  
 Office of Facilities  
 Issued for: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 State File Number: \_\_\_\_\_  
 State Index Number: \_\_\_\_\_  
 5302

**URS Greiner Woodward Clyde**  
 GRAND RAPIDS, MI., U.S.A.  
 355 S. B. 100  
 49503-1600  
 616 272-8200

**SAGINAW REGIONAL CORRECTIONAL FACILITY**  
 MICHIGAN DEPARTMENT OF CORRECTIONS  
 BAR SCREEN BUILDING  
 FREELAND, MICHIGAN  
 ELECTRICAL SYMBOLS, ONE-LINE DIAGRAM & DETAILS

DRAWING  
**E3.1**  
 FILE  
 M103262