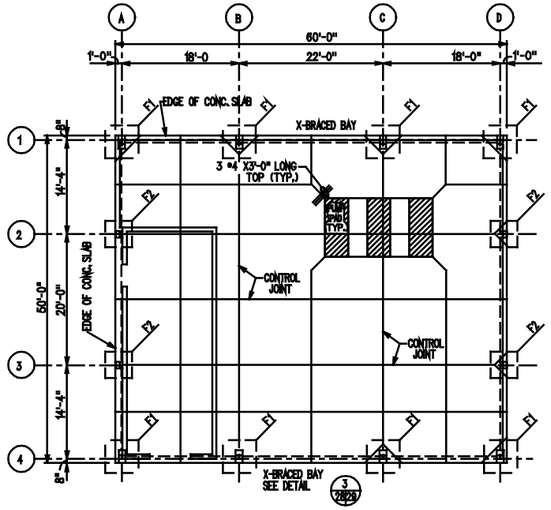
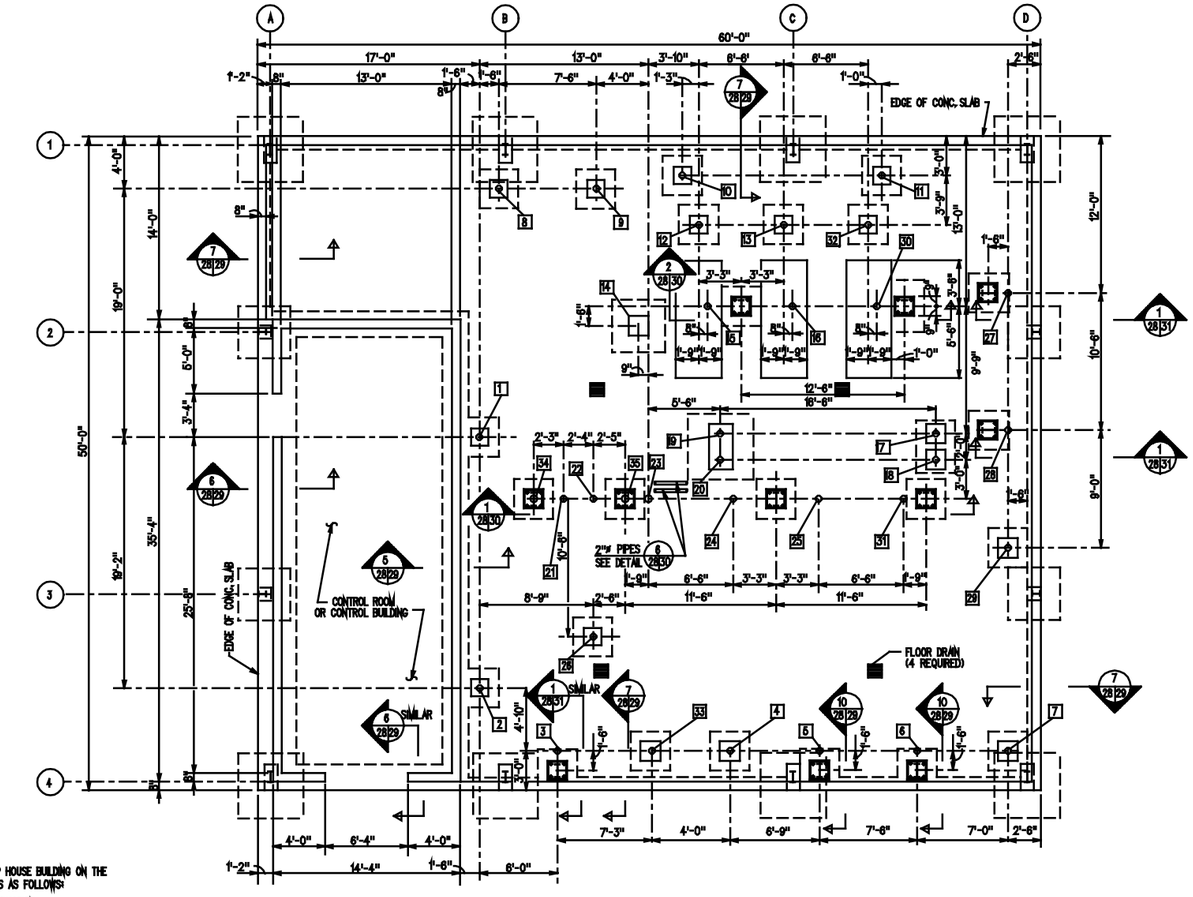


NOTE: TOP OF SLAB ON GRADE ELEVATION=0'-00".

PUMP HOUSE FOUNDATION & SLAB ON GRADE - PLAN 1

1/8"=1'-0"



CONTROL ROOM & PIPE SUPPORT - PLAN 2

1/4"=1'-0"

NOTE:

5 -INDICATES PIPE SUPPORT NUMBER AND LOCATION SEE SCHEDULE ON SHEET 29.

FLOOR SLAB SHALL BE SLOPED TO DRAINS.& OF PIPE LISTED IN PIPE SUPPORT SCHEDULE ARE TAKEN FROM FINISH FLOOR HIGH POINT.

BASIS OF STRUCTURAL DESIGN

1. FOUNDATIONS:
   FOUNDATIONS DESIGNED FOR PUMP HOUSE BUILDING (PRE-ENGINEERED METAL BUILDING), PUMP PADS FILTER SEPARATOR PADS AND PIPE SUPPORT PIERS ARE BASED ON A MAXIMUM ALLOWABLE SOIL BEARING CAPACITY OF 2000 P.S.F.
2. CONCRETE:
   ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. AT 28 DAYS.
3. REINFORCING STEEL:
   ALL REINFORCING STEEL SHALL BE GRADE 60.
4. STRUCTURAL STEEL:
   ALL STRUCTURAL STEEL SHALL BE ASTM A-36. CONNECTIONS SHALL BE DESIGNED FOR MINIMUM REACTION OF 6000 lbs.
5. PUMP HOUSE BUILDING:
   A. PUMP HOUSE BUILDING SHALL BE A PRE-ENGINEERED METAL BUILDING WITH RIGID FRAMES AND COLUMN-BEAM ENDWALLS.
   B. ALL BUILDING DIMENSIONS SHOWN SHALL BE REVIEWED AND REVISED TO AGREE WITH "PRE-ENGINEERED METAL BUILDING" TO BE FURNISHED.
6. CONTROL ROOM:
   A. WALLS: 8" C.M.U. WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 P.S.I.
   B. ROOF: CONCRETE SLAB, METAL DECK AND BAR JOIST.
7. DESIGN LOADS USED:
   A. ROOF LIVE LOAD _ _ _ _ _ _ _ _ _ _ 20 P.S.F.
   B. FLOOR LIVE LOAD: UNIFORM LOAD. _ _ _ 100 P.S.F.
      CONCENTRATED LOAD__2000 POUNDS (MAX.)
   C. WIND LOAD . _ _ _ _ _ _ _ _ _ _ _ _16.0 P.S.F. (PUMP HOUSE WITH SIDING).
   D. EARTHQUAKE _ _ _ _ _ _ _ _ _ _ _ _SEIZMIC ZONE 1
8. FROST LINE:
   FROST LINE LOCATED 1'-0" BELOW GRADE.
9. PRE-ENGINEERED BUILDING FOOTINGS HAVE BEEN DESIGNED FOR THE FOLLOWING LOADS:
   A. MAXIMUM GRAVITY LOAD 9.7 KIPS
   B. MAXIMUM NET UPLIFT 7.1 KIPS
   C. MAXIMUM HORIZONTAL REACTION AT TOP OF PIERS FROM GRAVITY LOADS (OUTWARD) 4.9 KIPS
   D. MAXIMUM HORIZONTAL REACTION AT TOP OF PIERS FROM WIND LOADS (INWARD) 4.3 KIPS
10. REINFORCE 6" SLAB ON GRADE WITH 4X4-W4XW4 WELDED WIRE FABRIC LOCATED 2" FROM TOP OF SLAB. FOR DETAILS OF JOINTS SEE SHEET 30.

NOTE: MODIFY BASIS OF DESIGN IN ACCORDANCE WITH THE LOCAL CONDITIONS AND THE GENERAL DESIGN CRITERIA.

GENERAL STRUCTURAL DESIGN CRITERIA

1. SELECT THE TYPE OF CONSTRUCTION FOR THE PUMP HOUSE BUILDING ON THE BASIS OF THE LOCAL HEATING DESIGN TEMPERATURES AS FOLLOWS:

SCHEME	TEMPERATURE	CONTRUCTION
1	0°F AND LOWER	ENCLOSED BUILDING (PRE-ENGINEERED BUILDING WITH SIDING)
2	ABOVE 0° F	SHELTER (PRE-ENGINEERED BUILDING WITH SIDING WHEN DIRECTED BY COMMAND FUEL FACILITIES ENGINEER)

2. DESIGN FOUNDATION FOR THE MAXIMUM ALLOWABLE SOIL BEARING CAPACITY AND SOILS CONDITIONS AT A PARTICULAR LOCATION.
3. PUMP HOUSE BUILDING FINAL DIMENSIONS (WIDTH,BAY SPACING,EAVE HEIGHT) SHALL BE IN ACCORDANCE WITH THE PRE-ENGINEERED BUILDING SELECTED FOR THE DETERMINED LOCATION, CLEARANCES SHALL NOT BE LESS THAN INDICATED.
4. DESIGN LOADS SHALL BE AS FOLLOWS:
   A. FLOOR LIVE LOAD
      UNIFORM LOAD _ _ _ _ _ _ _ _ 100 P.S.F. (MINIMUM)
      CONCENTRATED LOAD_ _ _ _ _ _ _WEIGHT OF PIPING AND EQUIPMENT
   B. ROOF LIVE LOAD _ _ _ _ _ _ _ _20 P.S.F. MINIMUM, (INCREASE AS REQUIRED FOR SNOW LOAD FOR PRE-ENGINEERED BUILDING) (PRE-ENGINEERING BUILDING AND CONTROL ROOM BUILDING)
   C. WIND LOAD _ _ _ _ _ _ _ _ _ _DETERMINE FROM APPLICABLE MAXIMUM WIND VELOCITY. USE A MINIMUM OF 80 MILES PER HOUR WIND VELOCITY (16.0 P.S.F. VELOCITY PRESSURE)
   D. EARTHQUAKE_ _ _ _ _ _ _ _ _ _DETERMINE FROM LATERAL FORCE FOR APPLICABLE SEISMIC ZONE, AT PARTICULAR LOCATION.
   E. FROST LINE _ _ _ _ _ _ _ _ _ _DETERMINE FROM LOCAL CONDITIONS.
5. APPLICABLE STRUCTURAL DESIGN MANUALS AND P-355 SHALL BE USED.

GRAPHIC SCALES:

1/8"=1'-0" 4' 2' 0 4' 8' 12' 16' 20'

1/4"=1'-0" 2' 1' 0 2' 4' 6' 8' 10'

REVISION	DESCRIPTION	DATE	APPROVED

SUPERSEDES PREVIOUS EDITIONS OF THIS DRAWING

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DESIGN & DRAWN: CHK. & CHKD.
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SUBMITTED BY: DATE: 12-7-90
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BR.HD.
PFE.
APPROVED: DATE: 1/8/91
CHIEF, ENGINEERING DIVISION FOR COMMANDER WAFAC

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS SIXTH SERVICE AREA
WASHINGTON, D.C.

ACCEPTED: DATE: 1-22-91
USAF FUEL FACILITIES ENGINEER

APPROVED FOR CHIEF OF STAFF, U.S. AIR FORCE
CHIEF, ENGINEERING DIVISION
DATED 1-22-91

AIR FORCE STANDARDS
AIRCRAFT DIRECT FUELING SYSTEM
TYPE IV

UNVERIFIED DRAFT
PUMP HOUSE PLAN,
CONTROL ROOM &
PIPE SUPPORTS PLAN

SCALE: AS NOTED
SPEC. NO. 78-24-20-89-AF
SHEET 28
DRAWING NO. AF 78-24-20