

- LEGEND**
- 1 FUTURE BIOSOLIDS HEAT DRYING BUILDING
 - 2 FUTURE DRIED BIOSOLIDS STORAGE FACILITY
 - 3 BIOSOLIDS PLANE FACILITY
 - 4 BIOSOLIDS HOLDING TANK AND COMPRESSORS
 - 5 DRESTED BIOSOLIDS STORAGE TANK
 - 6 EMERGENCY STORAGE TANK
 - 7 BIOESTER
 - 8 MFSB
 - 9 RAW SOLIDS RECEIVING TANK
 - 10 COGENERATION FACILITY
 - 11 ODOR CONTROL FACILITY FOR S.B.P.S.
 - 12 WIND & G/M STORAGE CONTRACTOR STAGING AREA & RECYCLING STORAGE
 - 13 OPERATIONS BUILDING
 - 14 CHEMICAL BUILDING & ODOR CONTROL FACILITY
 - 15 ENERGY BUILDING
 - 16 RECEIVING TANK COMPLEX
 - 17 CENTRIFUGAL BUILDING
 - 18 BIOESTERS COMPLEX
 - 19 REGENERATED BIOSOLIDS STORAGE & LOADOUT FACILITY
 - 20 TRUCK WASH FACILITY
 - 21 WATER TREATMENT PUMP STATION (M.A.P.S.)

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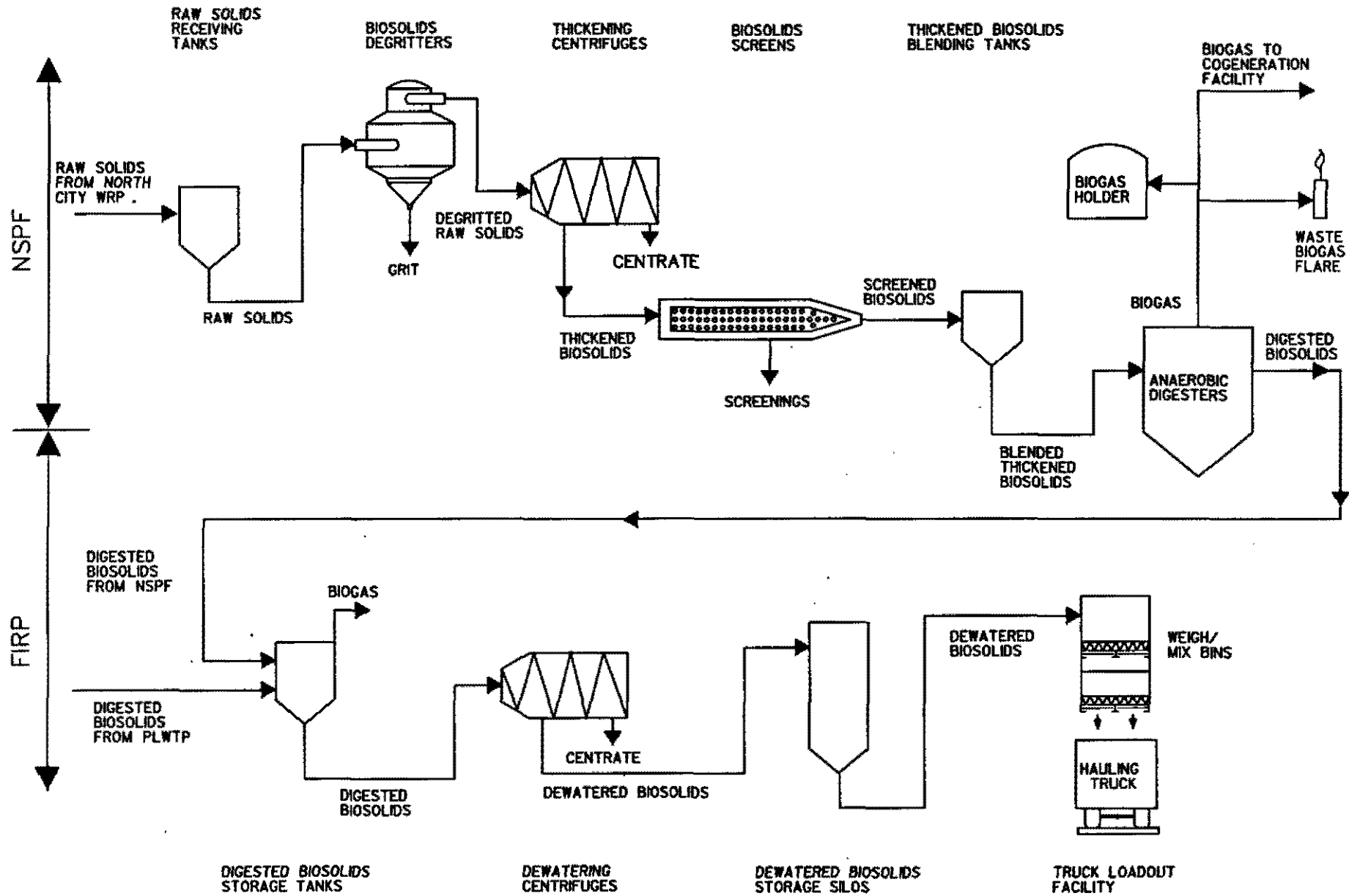


FIGURE 2-1

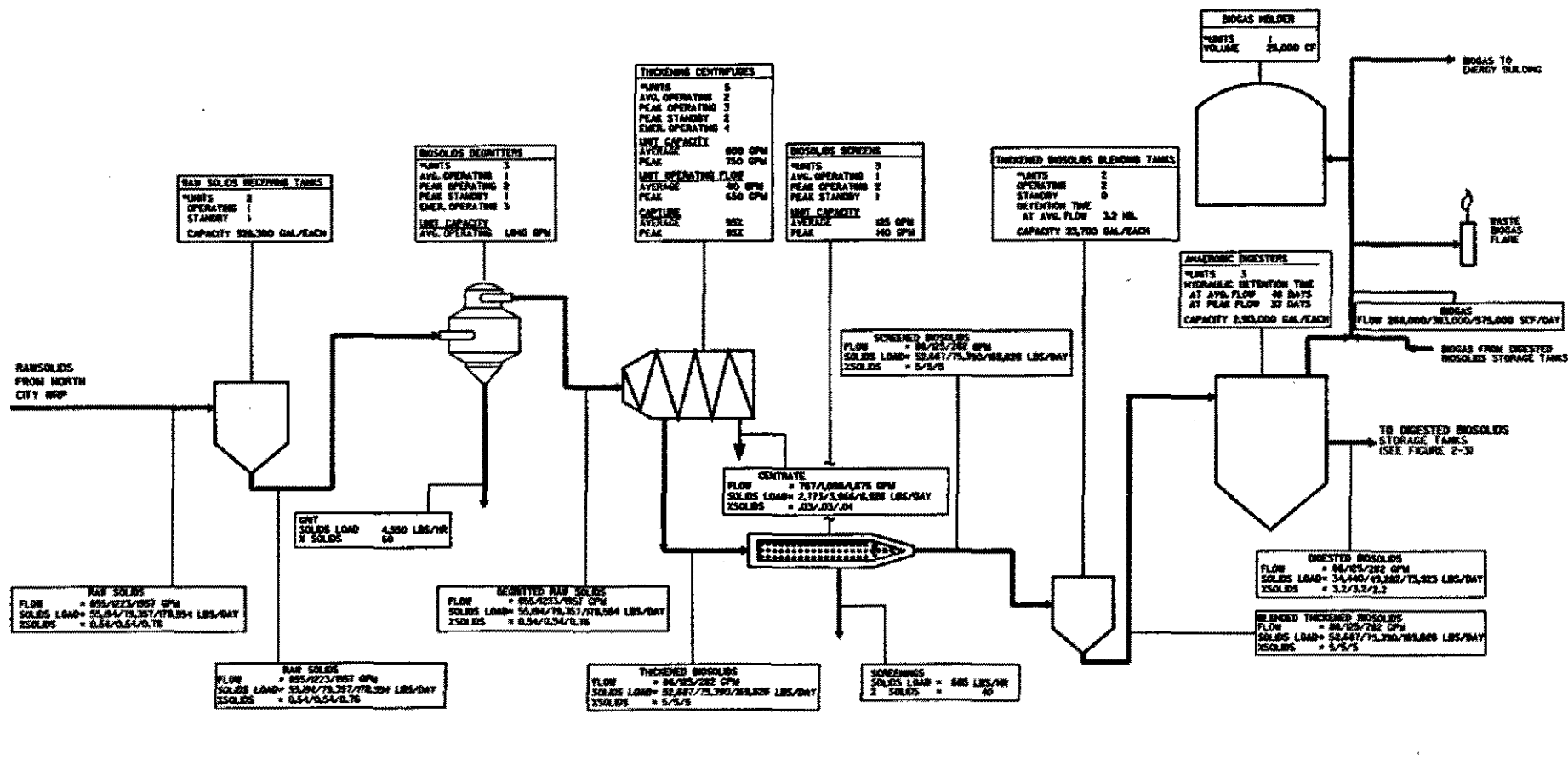
MBC OVERALL PROCESS FLOW DIAGRAM

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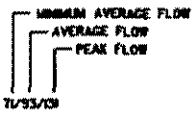
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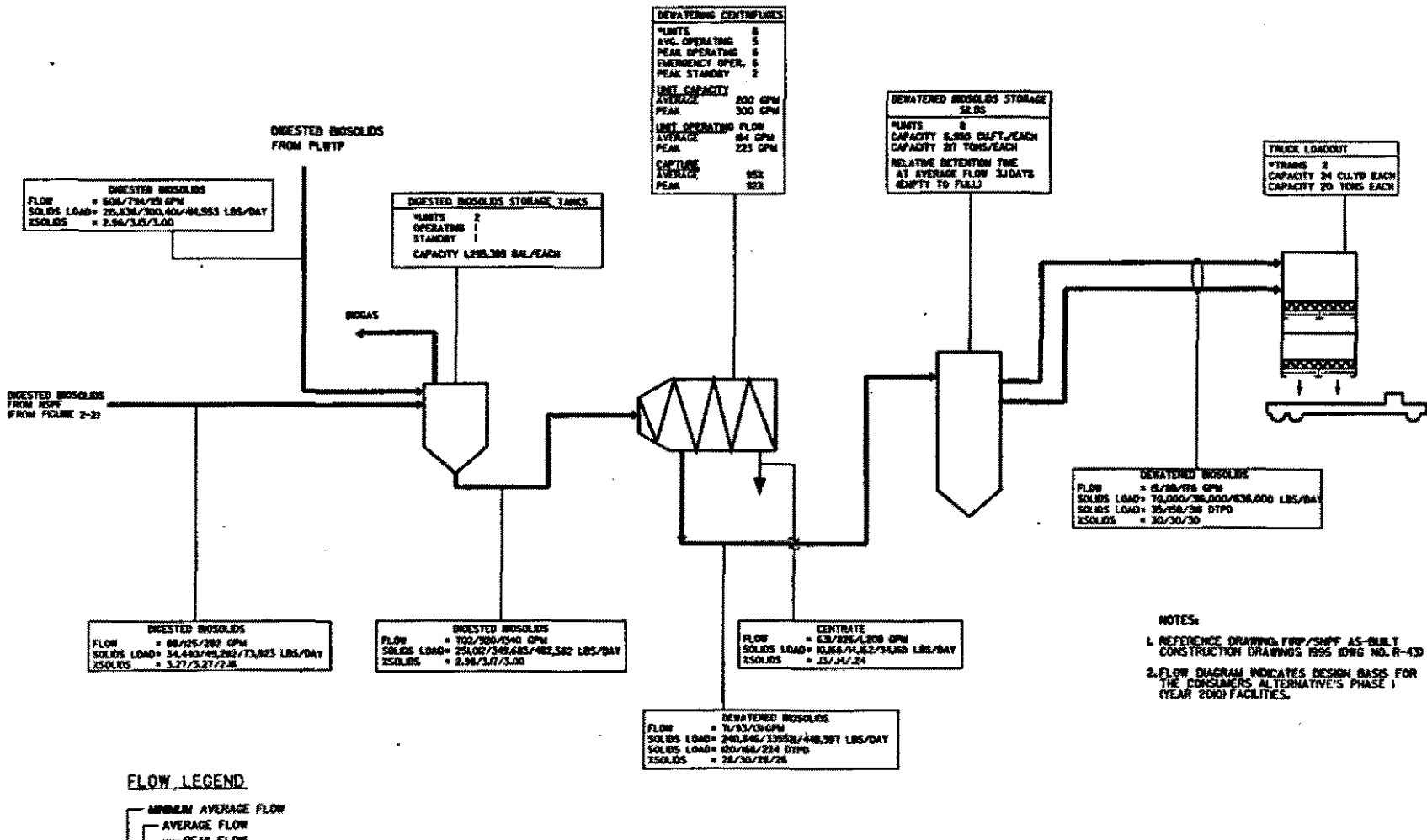


FLOW LEGEND:



- NOTES:**
1. REFERENCE DRAWING: FWP/SMP AS-BUILT CONSTRUCTION DRAWINGS 1995 IDWG NO. R-423
 2. FLOW DIAGRAM NUMBERS INDICATES DESIGN BASIS FOR THE CONSUMERS ALTERNATIVE 1 PHASE (1 YEAR 2001) FACILITIES.

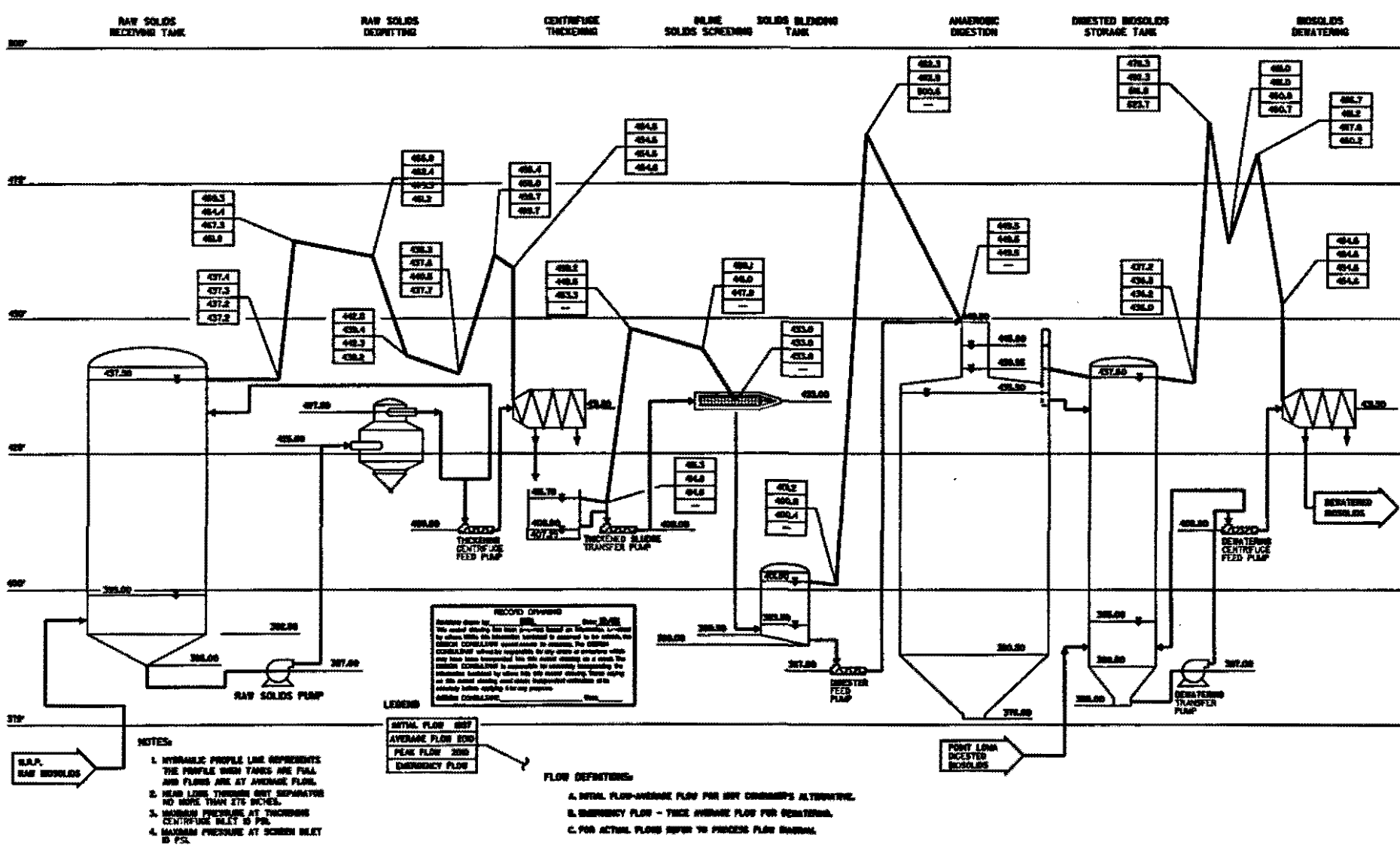
FIGURE 2-2
METRO BIOSOLIDS CENTER (NSPF)
PROCESS FLOW DIAGRAM-1



NOTES:
 1. REFERENCE DRAWING: FRP/SNPF AS-BUILT CONSTRUCTION DRAWINGS 1995 IDWG NO. R-43D
 2. FLOW DIAGRAM INDICATES DESIGN BASIS FOR THE CONSUMERS ALTERNATIVE'S PHASE I (YEAR 2000) FACILITIES.

FIGURE 2-3
METRO BIOSOLIDS CENTER (FRP)
PROCESS FLOW DIAGRAM-2

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- NOTES:**
1. HYDRAULIC PROFILE LINE REPRESENTS THE PROFILE WHEN TANKS ARE FULL AND FLOWS ARE AT AVERAGE FLOW.
 2. HEAD LOSS THROUGH GUY SEPARATORS NO MORE THAN 270 INCHES.
 3. MAXIMUM PRESSURE AT THICKENING CENTRIFUGE INLET IS 70 PSI.
 4. MAXIMUM PRESSURE AT SCREEN INLET IS 75 PSI.

RECORD DRIVERS

See PAGE 10 for more information. The record drivers are listed in the table below. The record drivers are used to monitor the process and to generate reports. The record drivers are used to monitor the process and to generate reports. The record drivers are used to monitor the process and to generate reports.

LEGEND:

- A. INITIAL FLOW - AVERAGE FLOW FOR NOT CHANGING ALTERNATING.
- B. EMERGENCY FLOW - THREE AVERAGE FLOW FOR OPERATING.
- C. FOR ACTUAL FLOWS REFER TO PROCESS FLOW MANUAL.

FLOW DEFINITIONS:

- A. INITIAL FLOW - AVERAGE FLOW FOR NOT CHANGING ALTERNATING.
- B. EMERGENCY FLOW - THREE AVERAGE FLOW FOR OPERATING.
- C. FOR ACTUAL FLOWS REFER TO PROCESS FLOW MANUAL.

**FIGURE 3-4
HYDRAULIC PROFILE**

**AS-BUILT HYDRAULIC PROFILE FOR
FWR/NSPF, 1995 (DWG NO. R-44)**

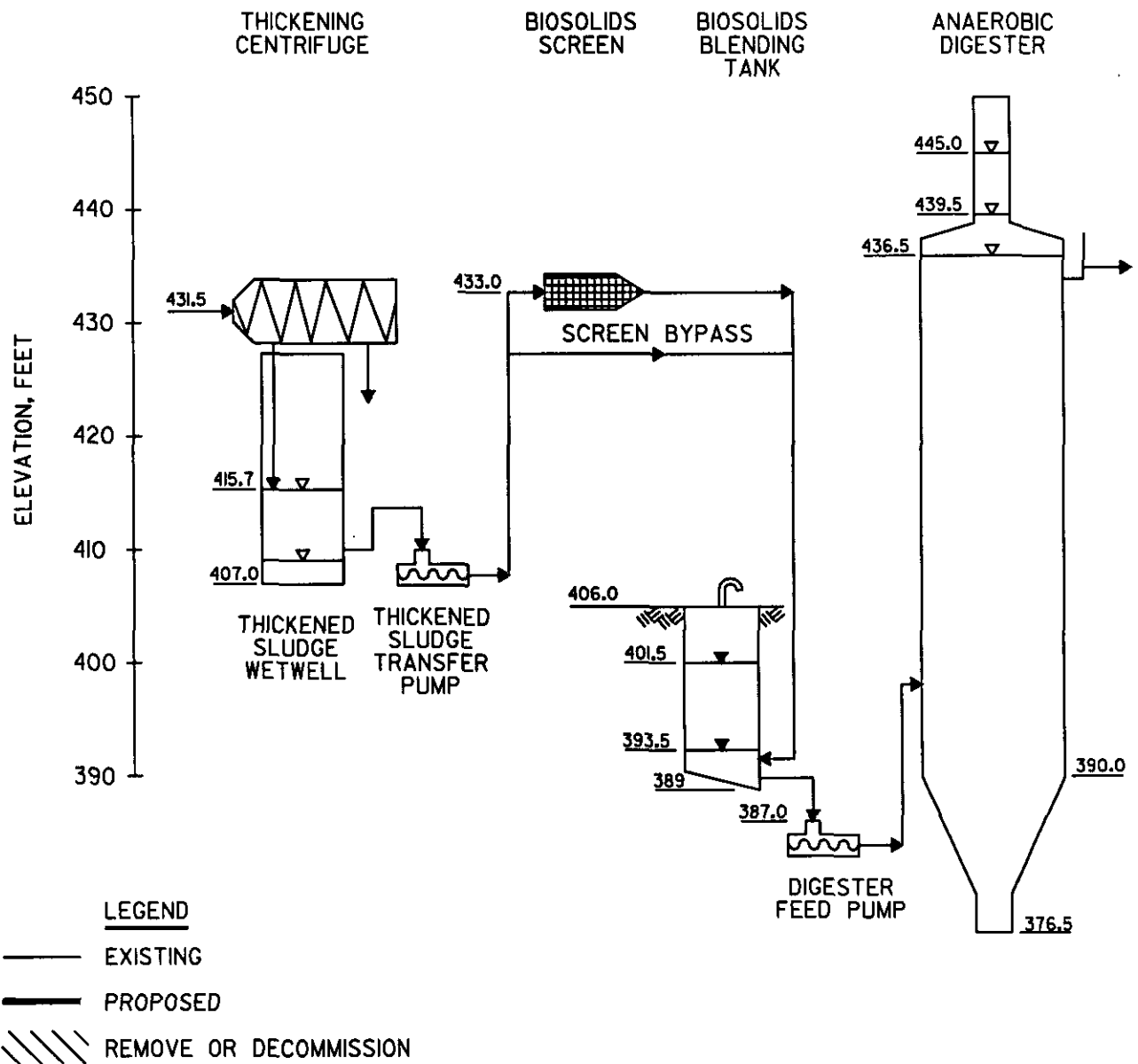


FIGURE 3-1
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
EXISTING CONDITION

F-AUG 2000 M288 2/10/01
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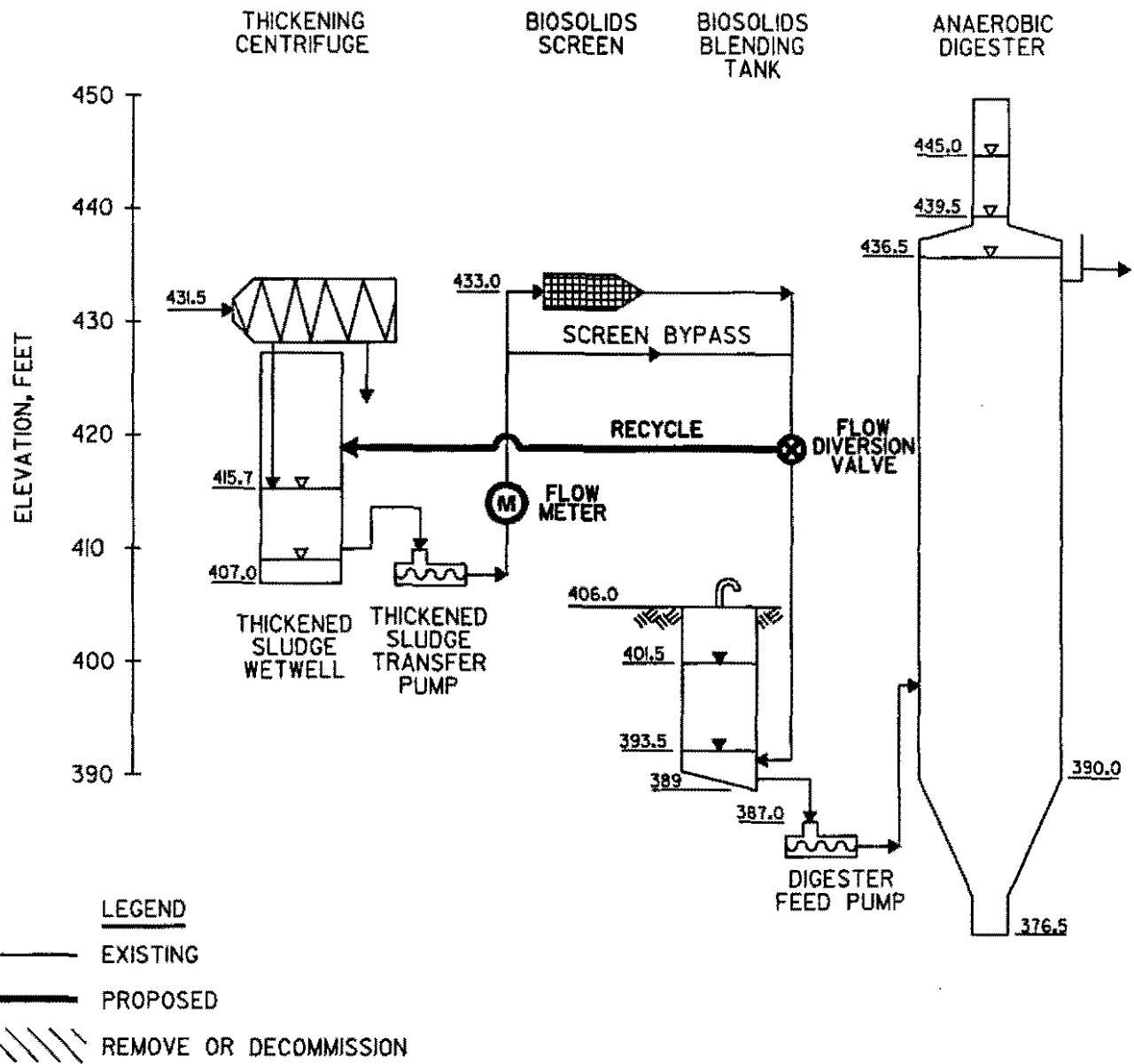


FIGURE 3-2
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 1

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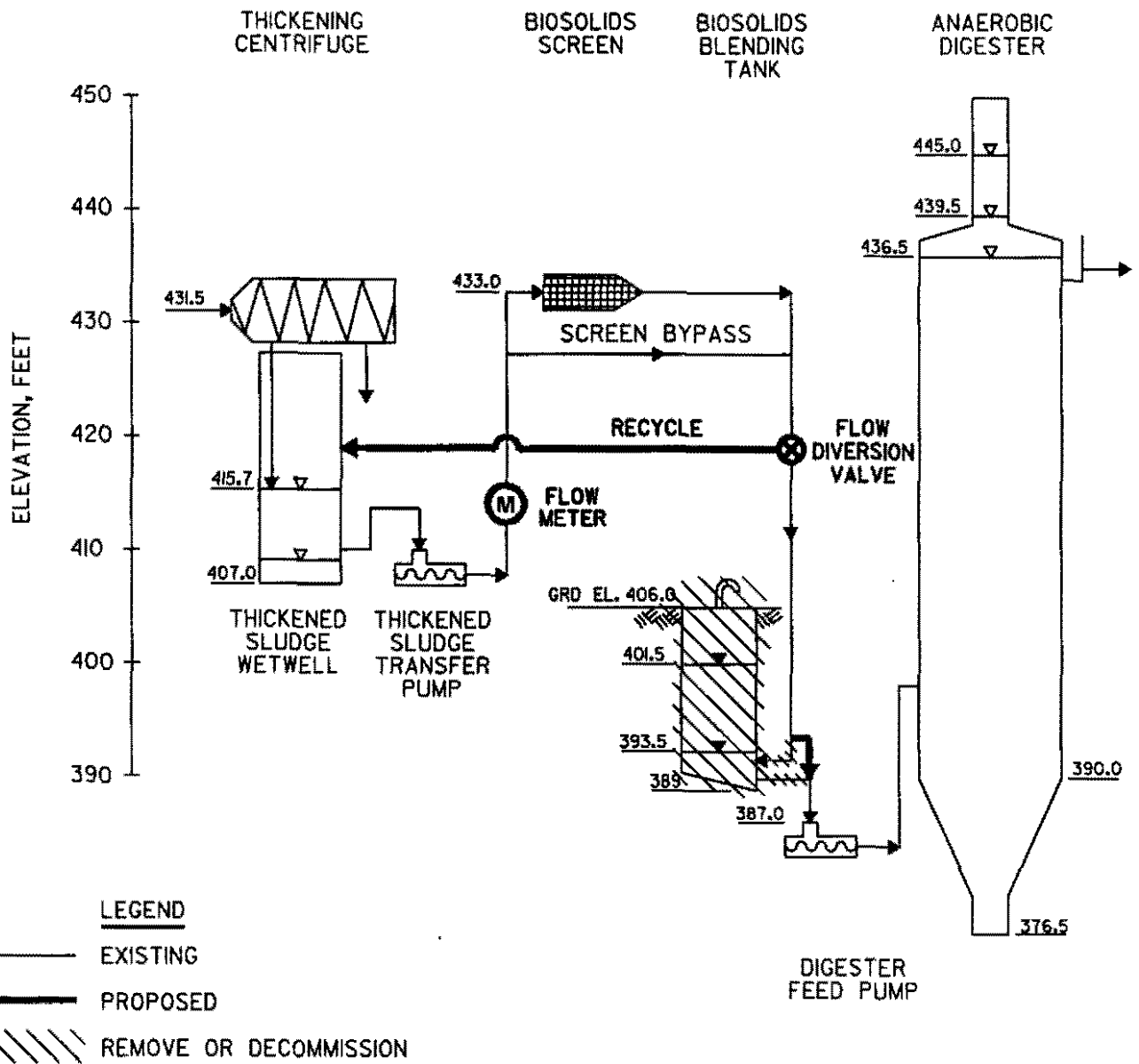


FIGURE 3-3
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 2

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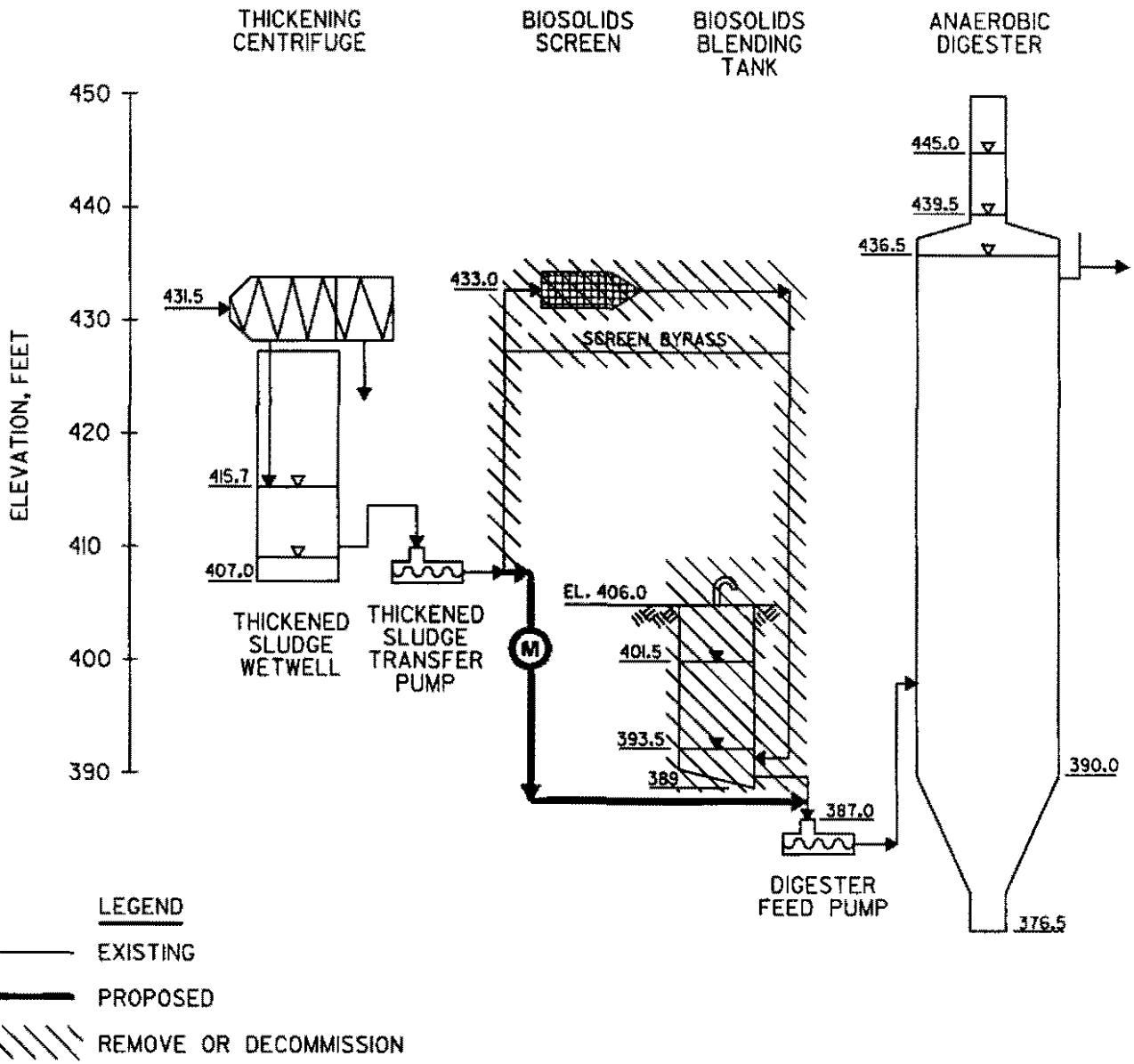


FIGURE 3-4
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 3

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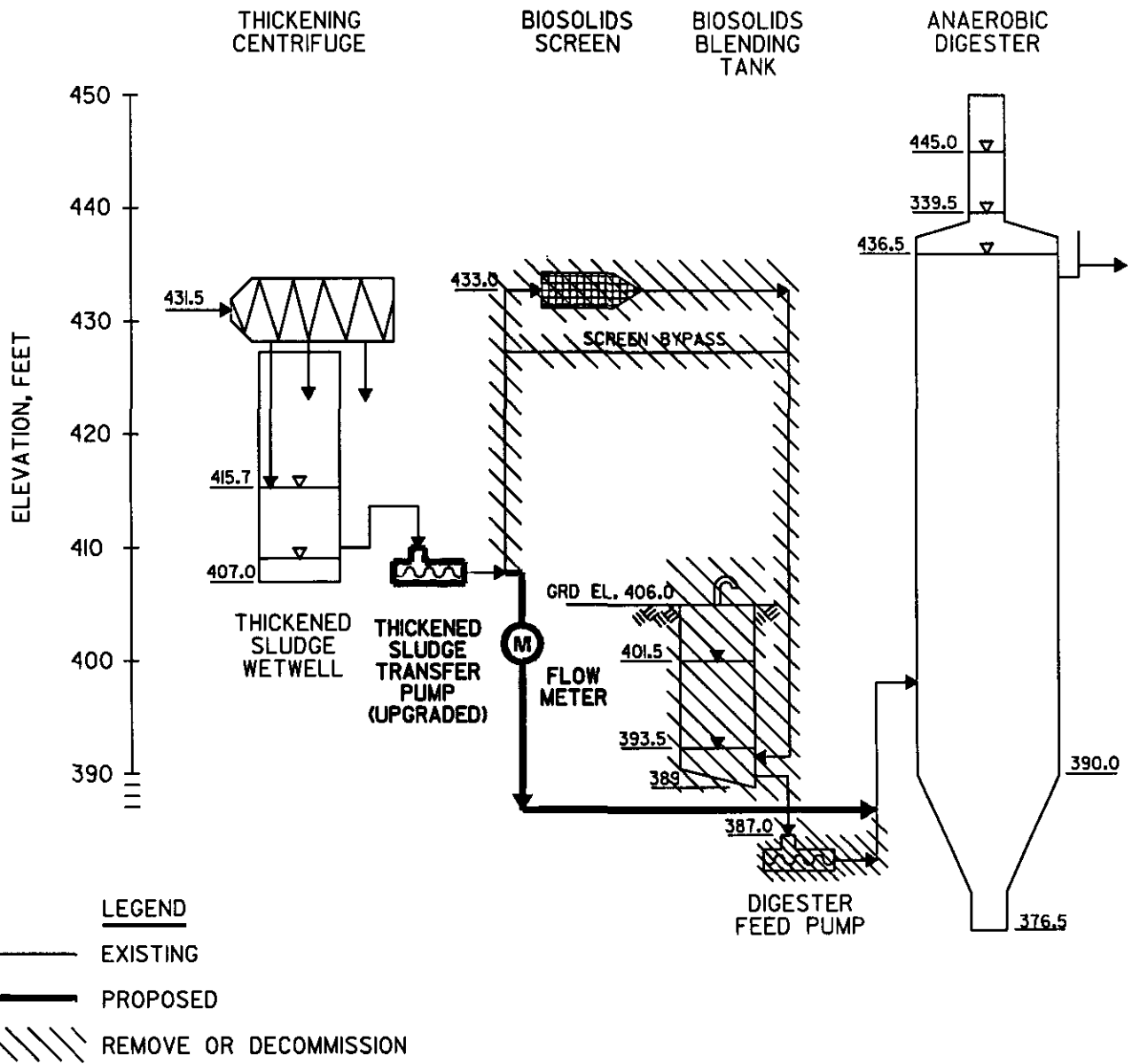


FIGURE 3-5
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 4

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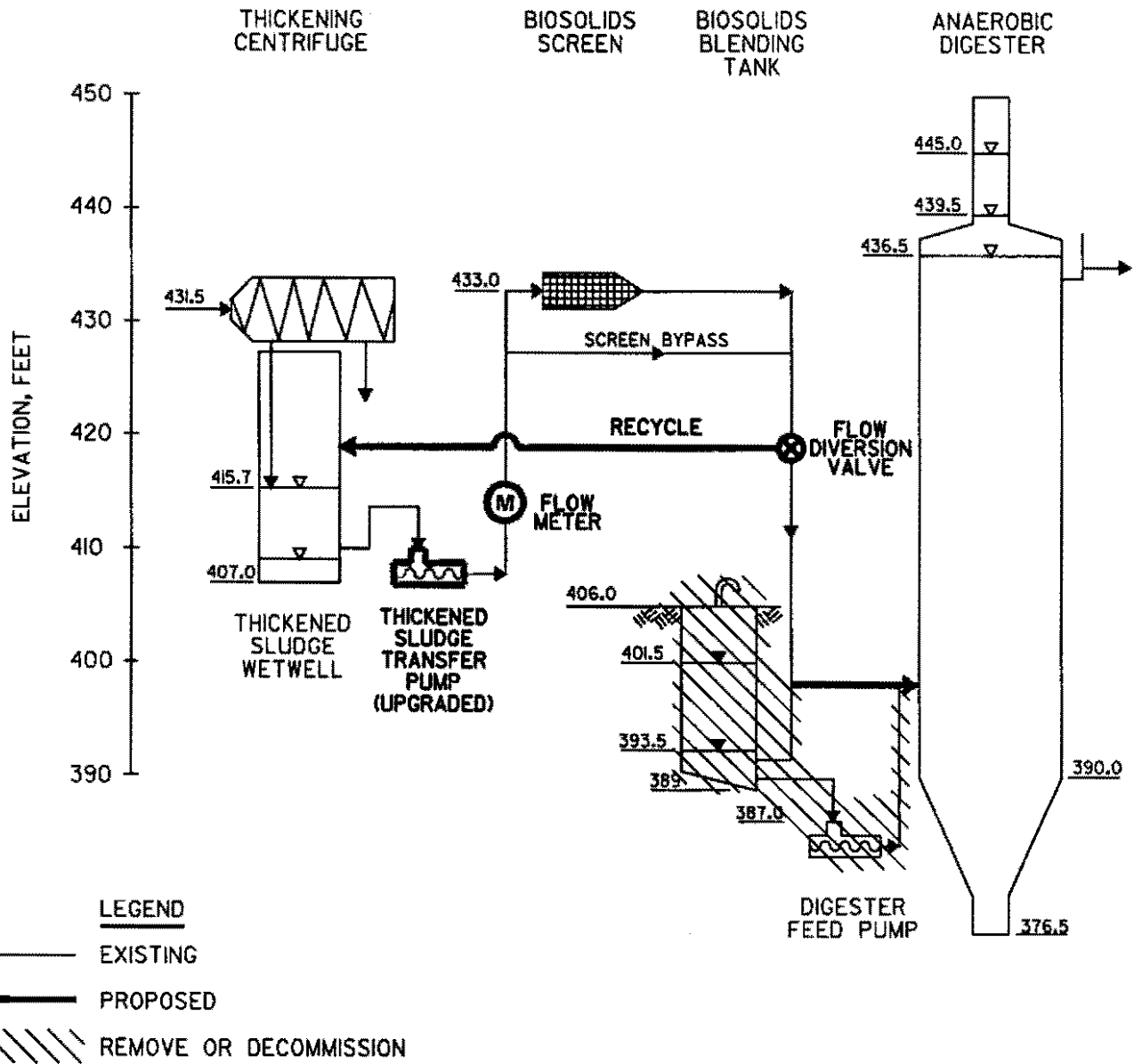


FIGURE 3-6
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 5

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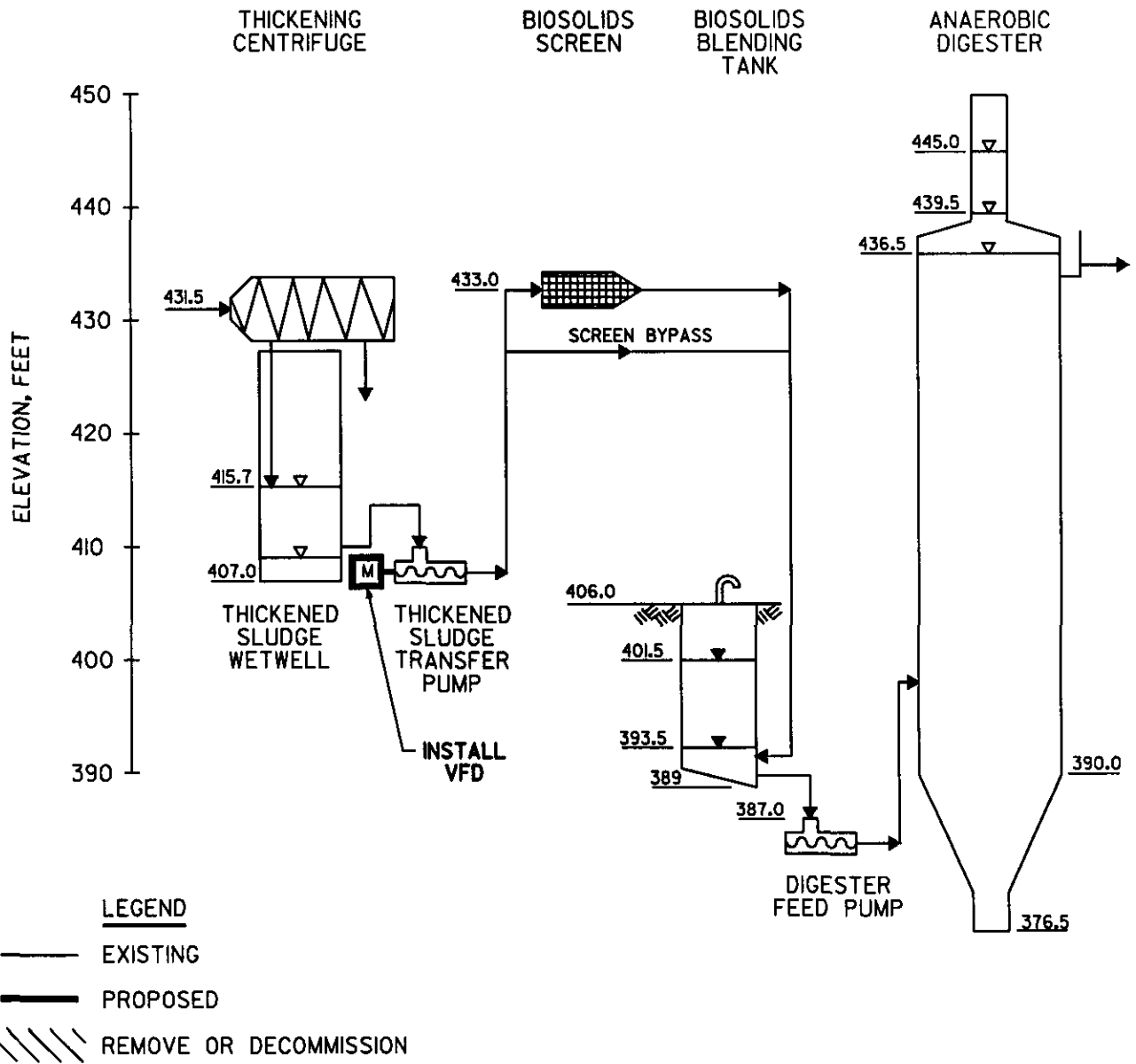


FIGURE 3-7
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 6

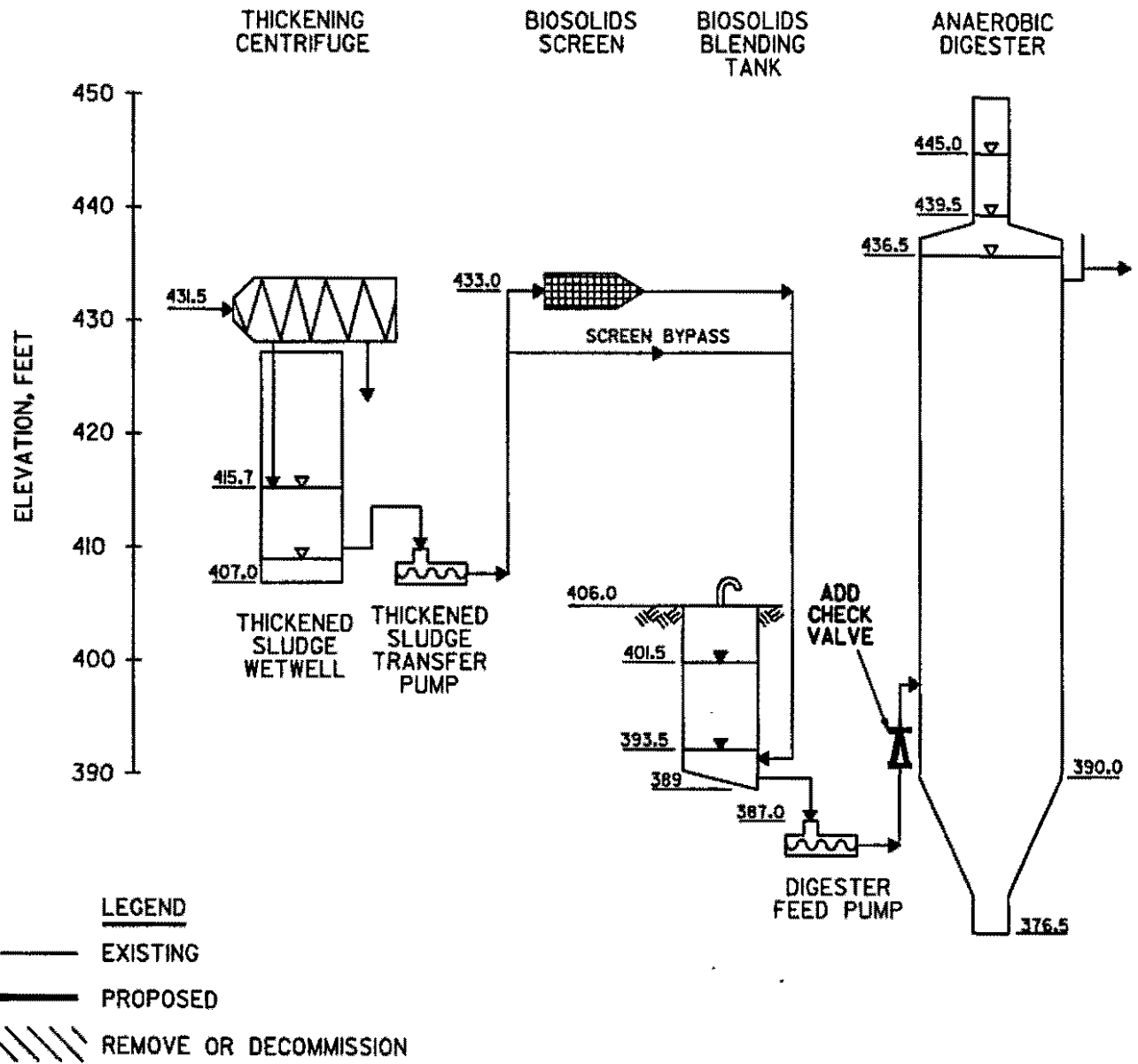


FIGURE 3-8
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 7

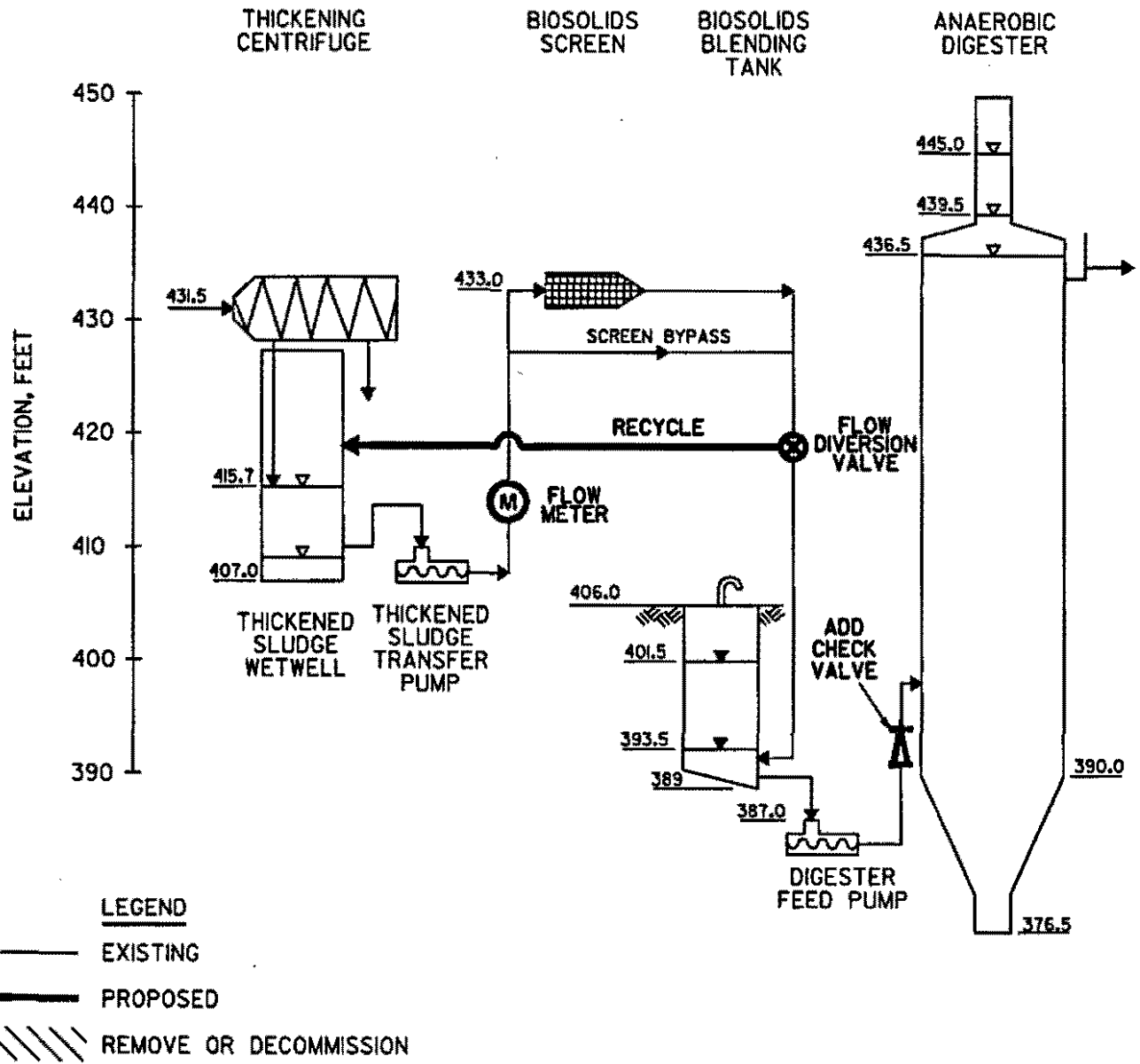


FIGURE 3-9
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 8

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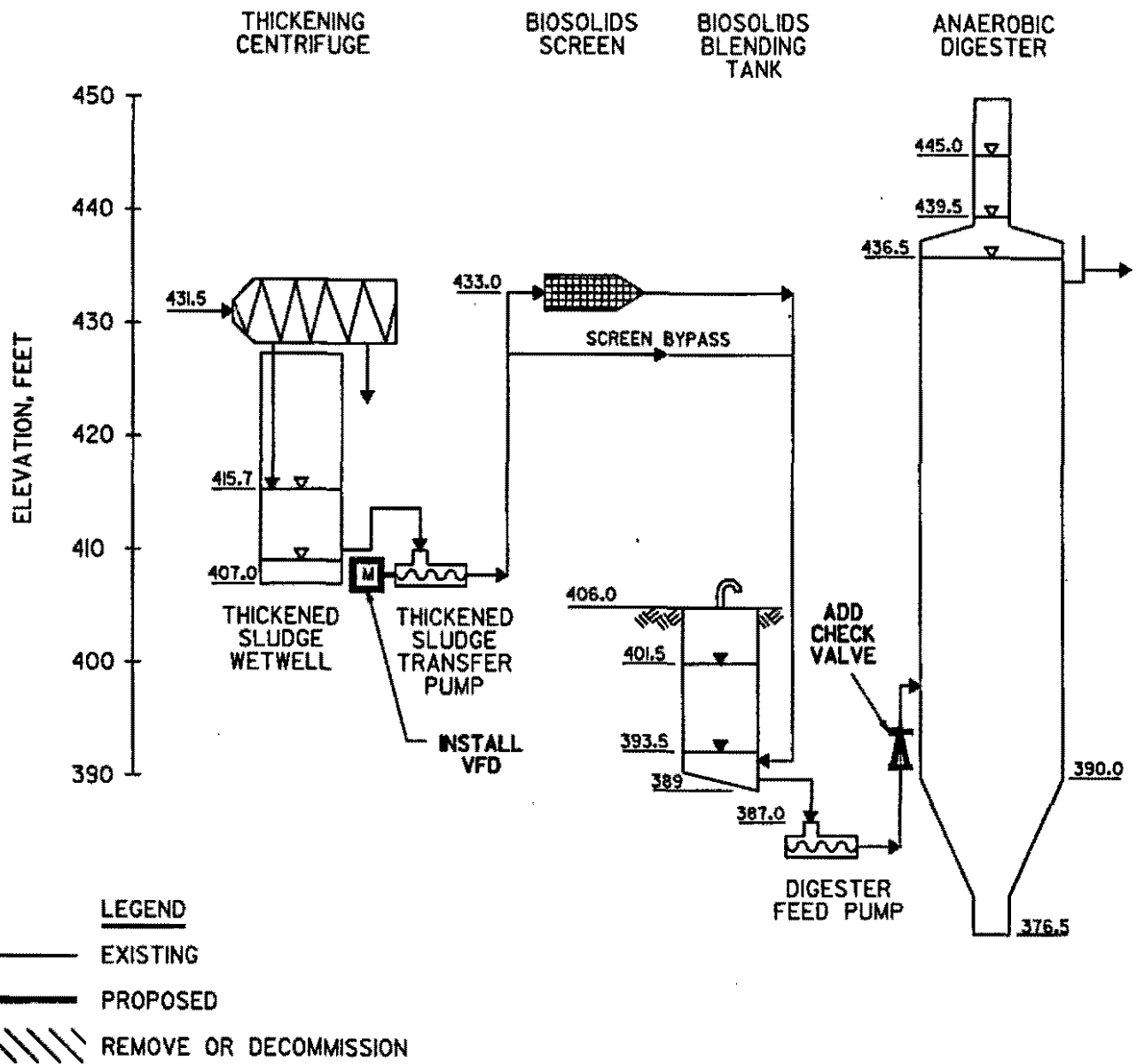
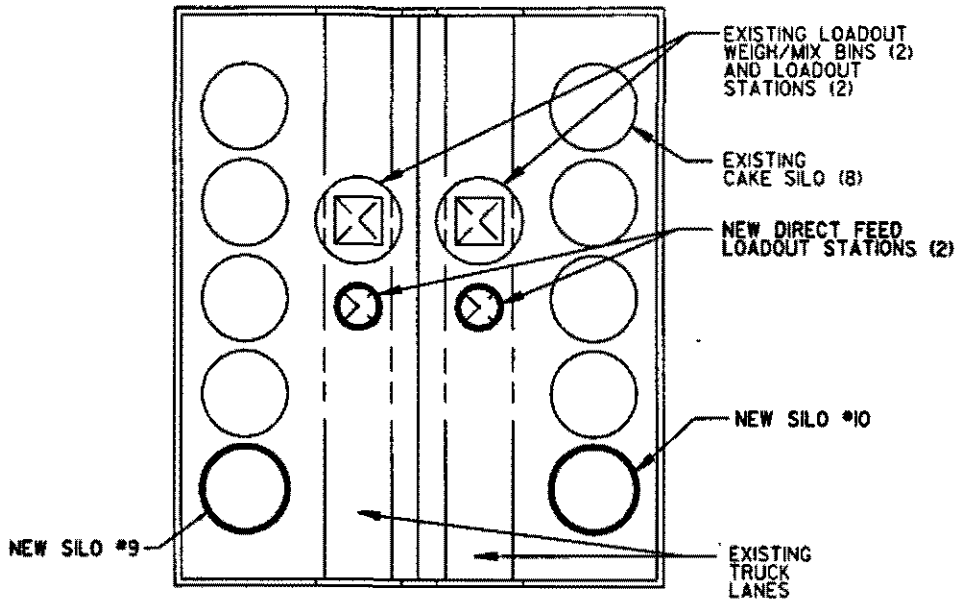
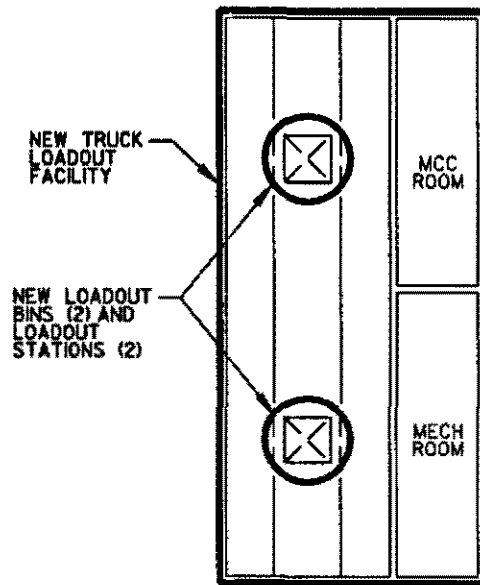


FIGURE 3-10
BIOSOLIDS SCREEN & BLENDING TANK PROBLEMS
ALTERNATIVE 9



ALTERNATIVE 1
REUSE EXISTING LOADOUT FACILITY

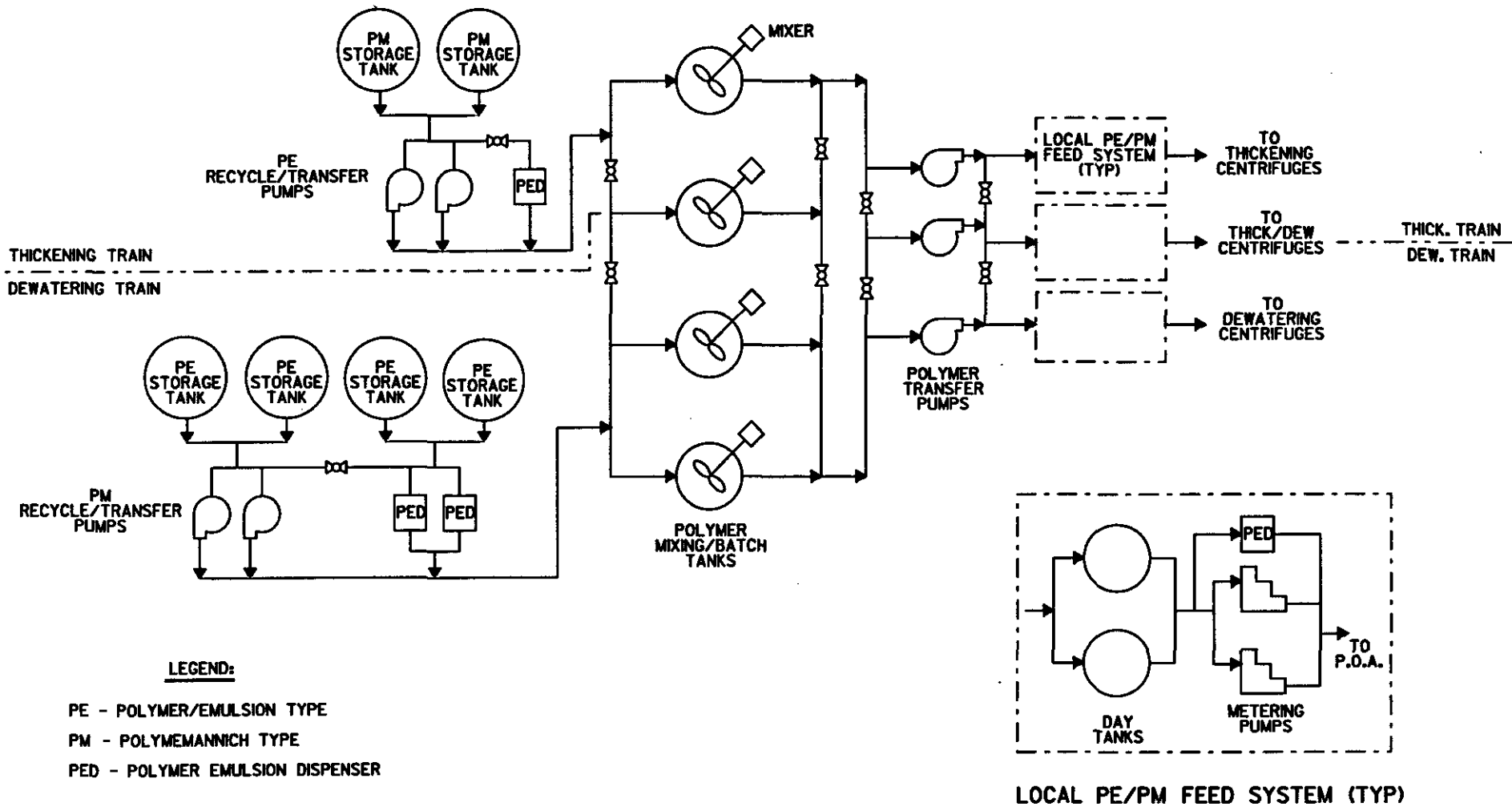


ALTERNATIVE 2
CONSTRUCT NEW LOADOUT FACILITY

FIGURE 3-11
BIOSOLIDS LOADOUT FACILITY UPGRADE
ALTERNATIVES

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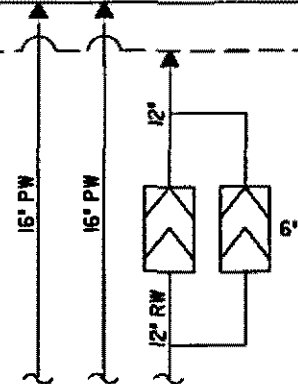
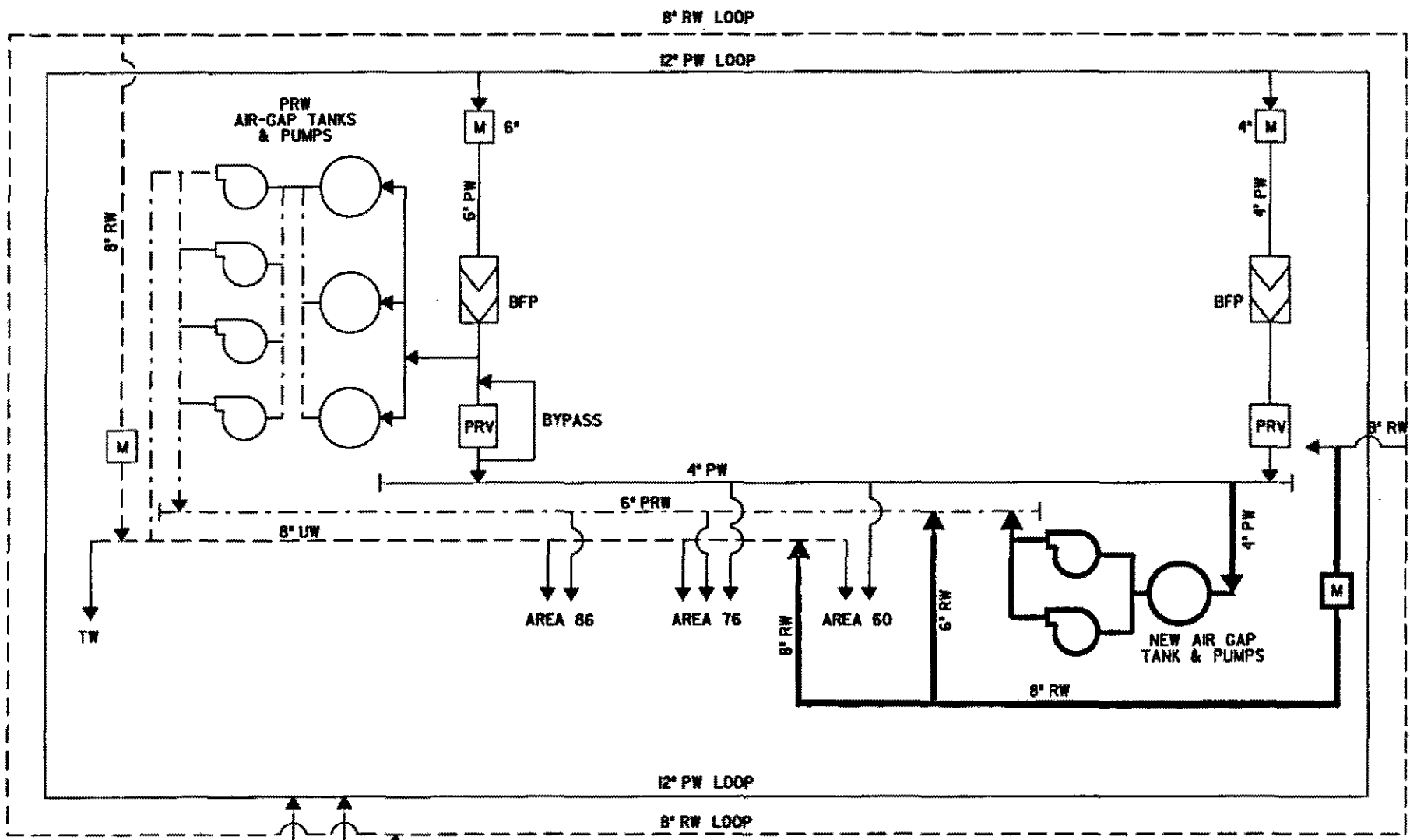
LEGEND:

- PE - POLYMER/EMULSION TYPE
- PM - POLYMEMANNICH TYPE
- PED - POLYMER EMULSION DISPENSER

FIGURE 3-12
POLYMER SYSTEMS
FLOW DIAGRAM

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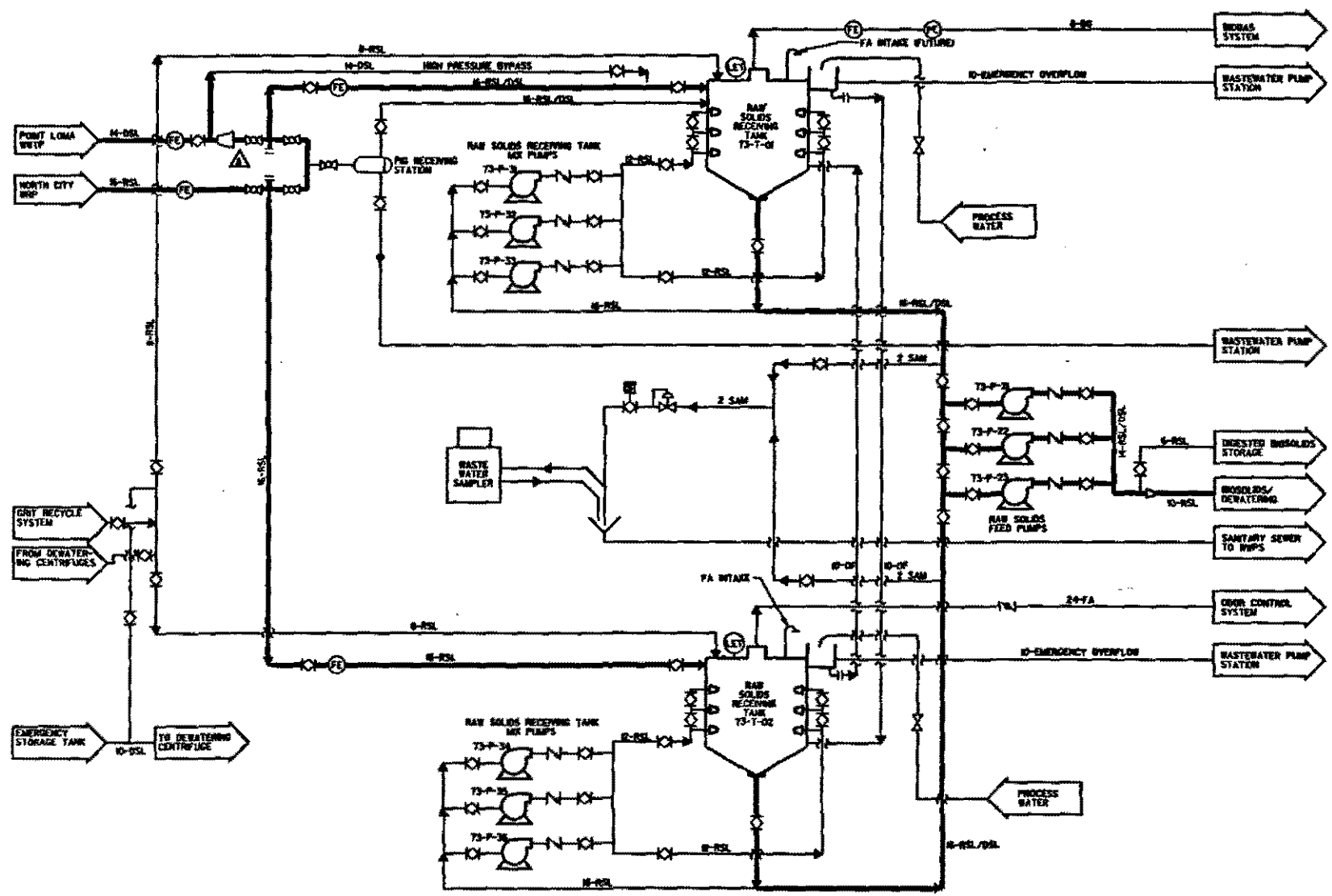
LEGEND:

- PW (POTABLE WATER)
- - - - - PRW (PROCESS WATER)
- - - - - RW OR LW (RECLAIMED OR UTILITY WATER)
- - - - - NEW PIPING/EQUIPMENT

FIGURE 4-1

**MBC PLANT WATER SYSTEMS TIE INS
FLOW DIAGRAM**

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— MAIN PROCESS PIPING
(Typ all diagrams)

FIGURE 1
PROCESS FLOW DIAGRAM
RAW SOLIDS RECEIVING/STORAGE

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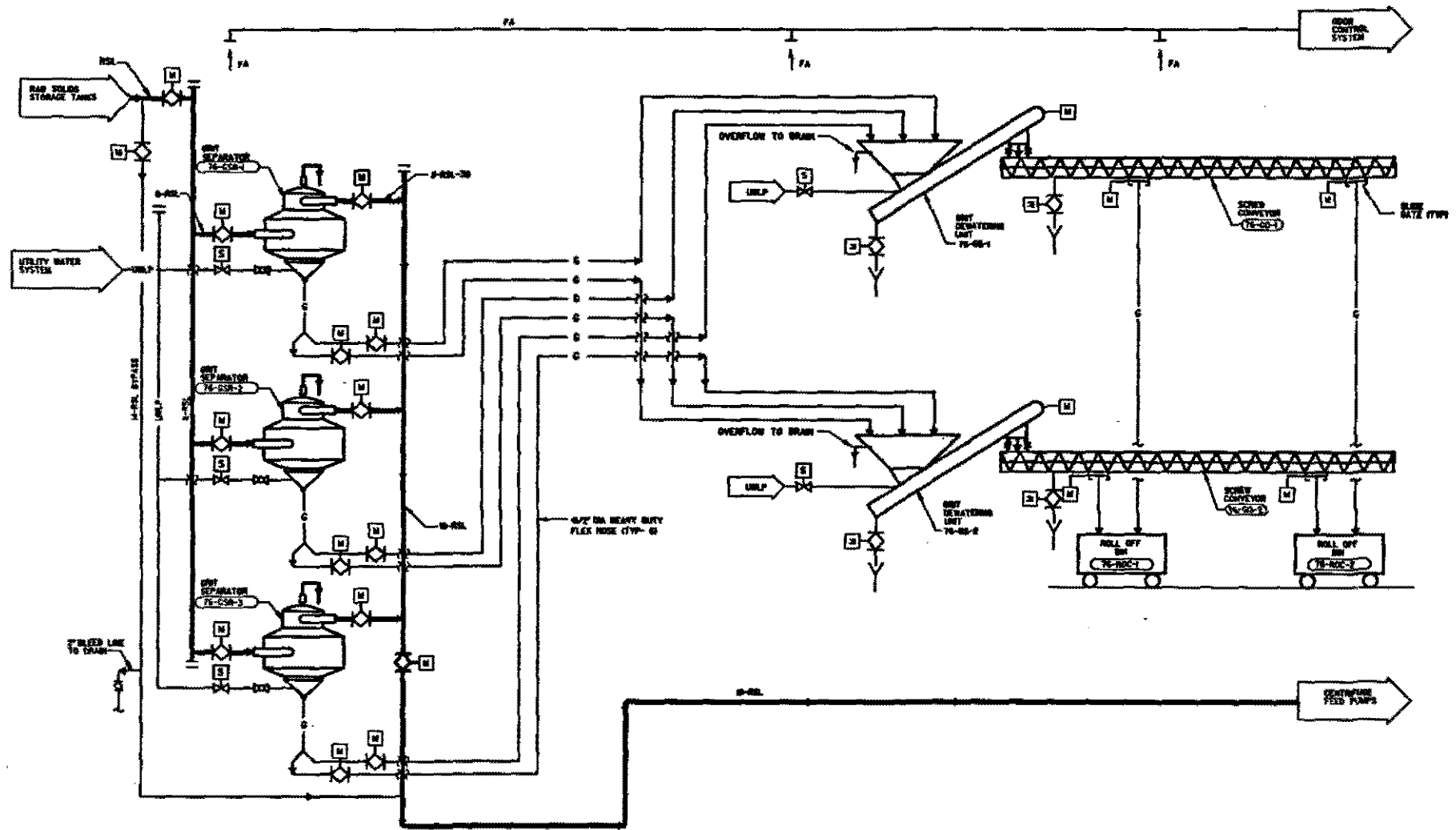


FIGURE 2
PROCESS FLOW DIAGRAM
GRIT REMOVAL

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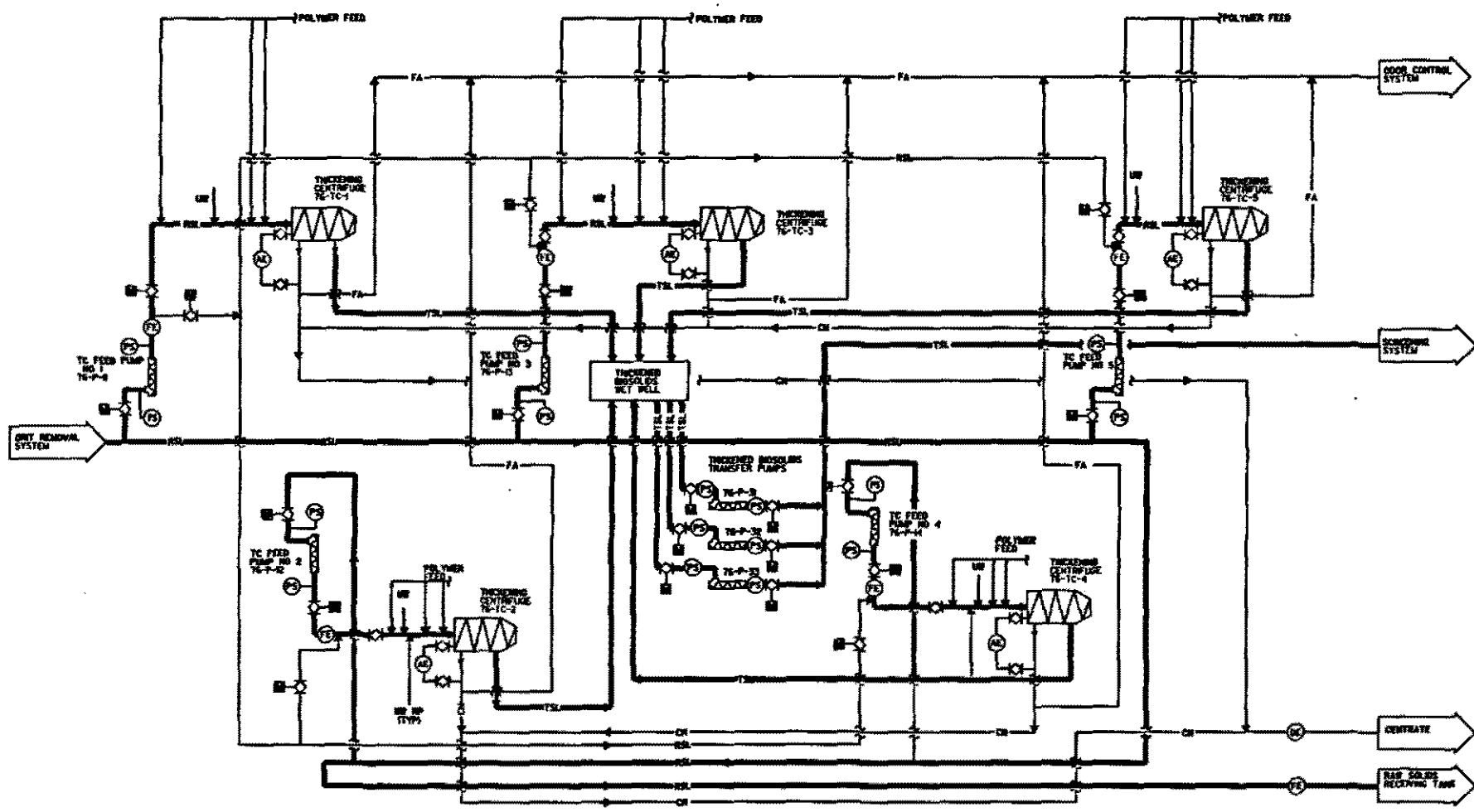


FIGURE 2
PROCESS FLOW DIAGRAM
BIOSOLIDS THICKENING

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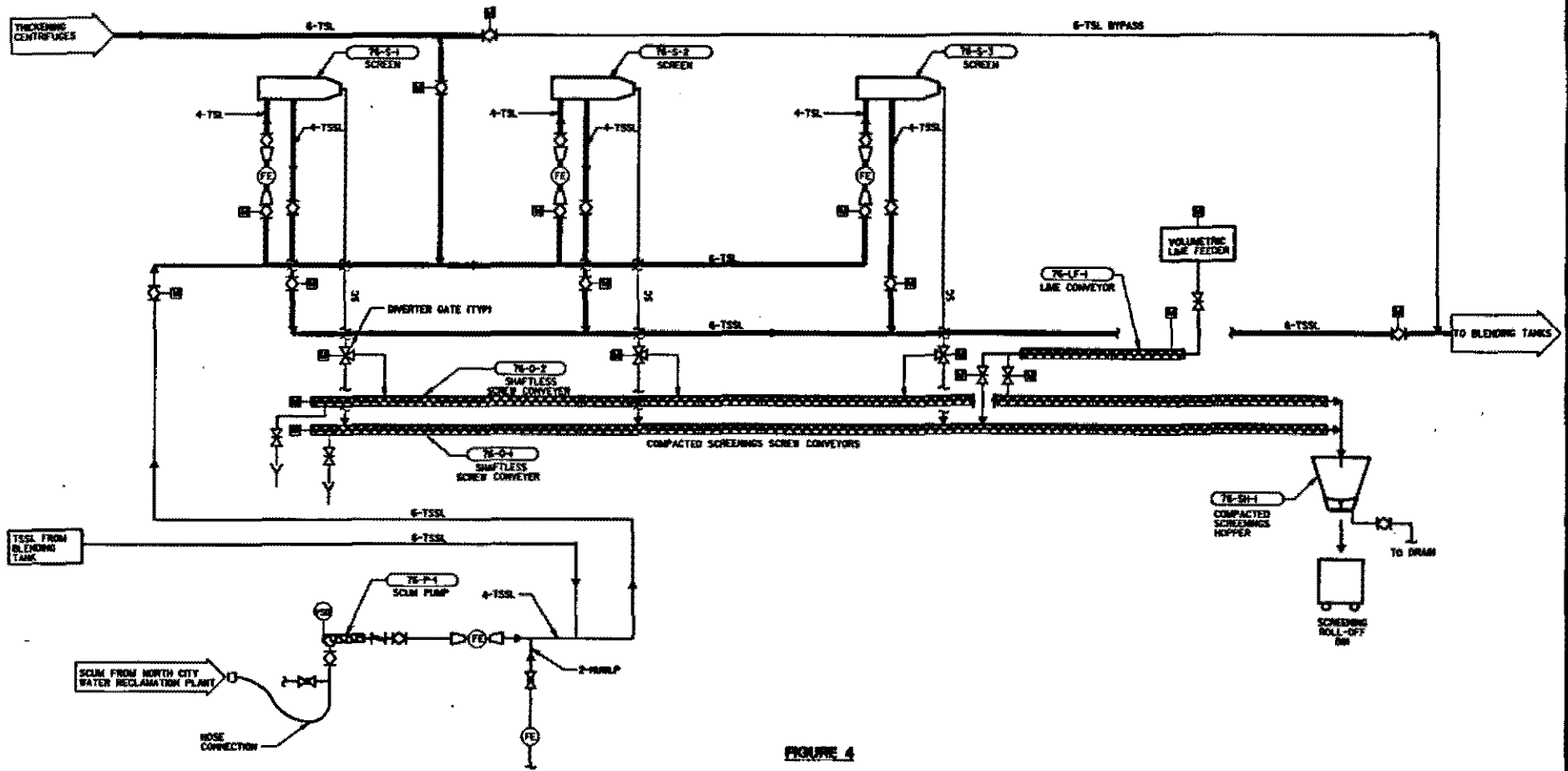


FIGURE 4
PROCESS FLOW DIAGRAM
BIOSOLIDS SCREENING

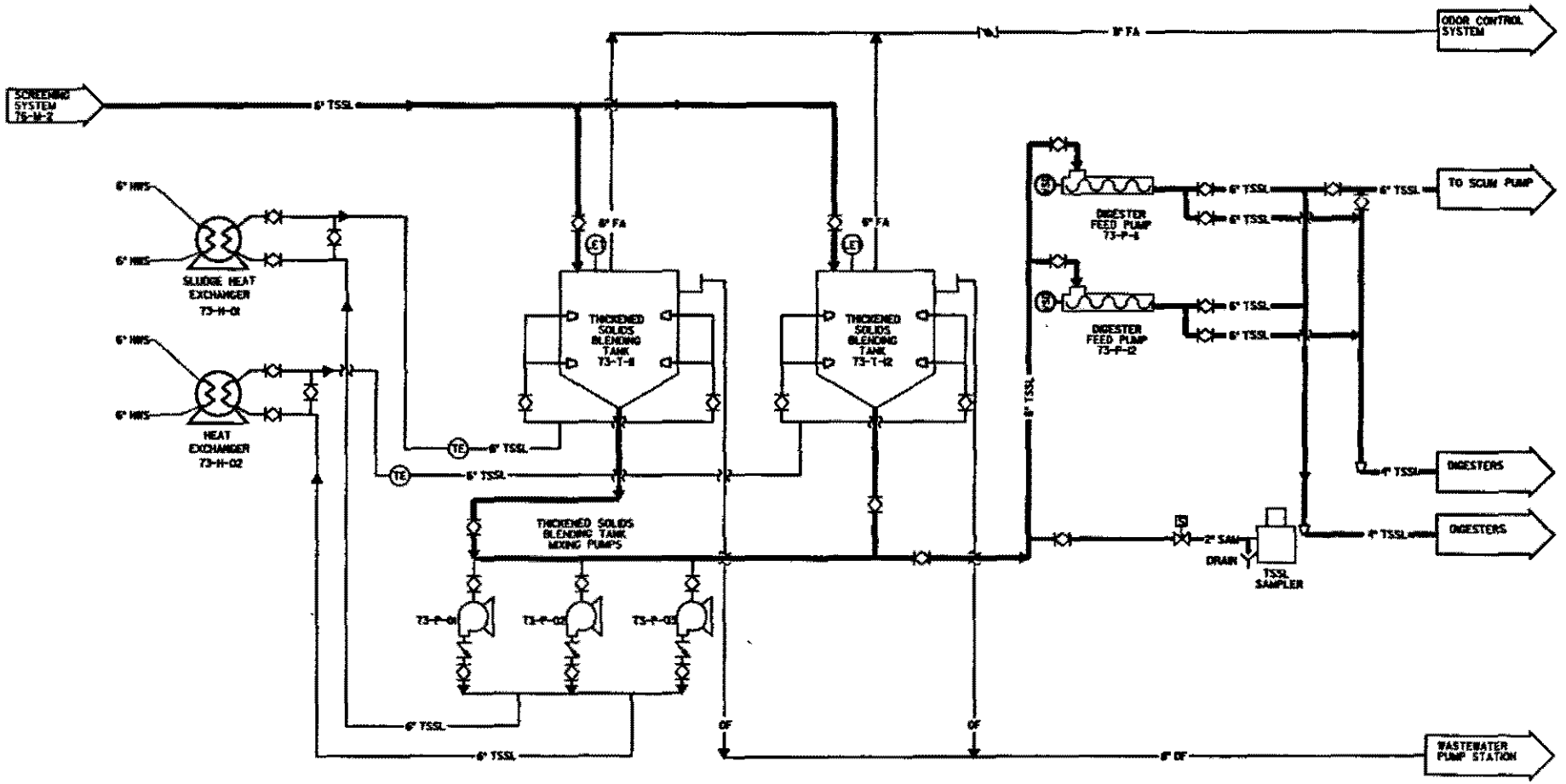


FIGURE B
PROCESS FLOW DIAGRAM
THICKENED SOLIDS BLENDING STORAGE

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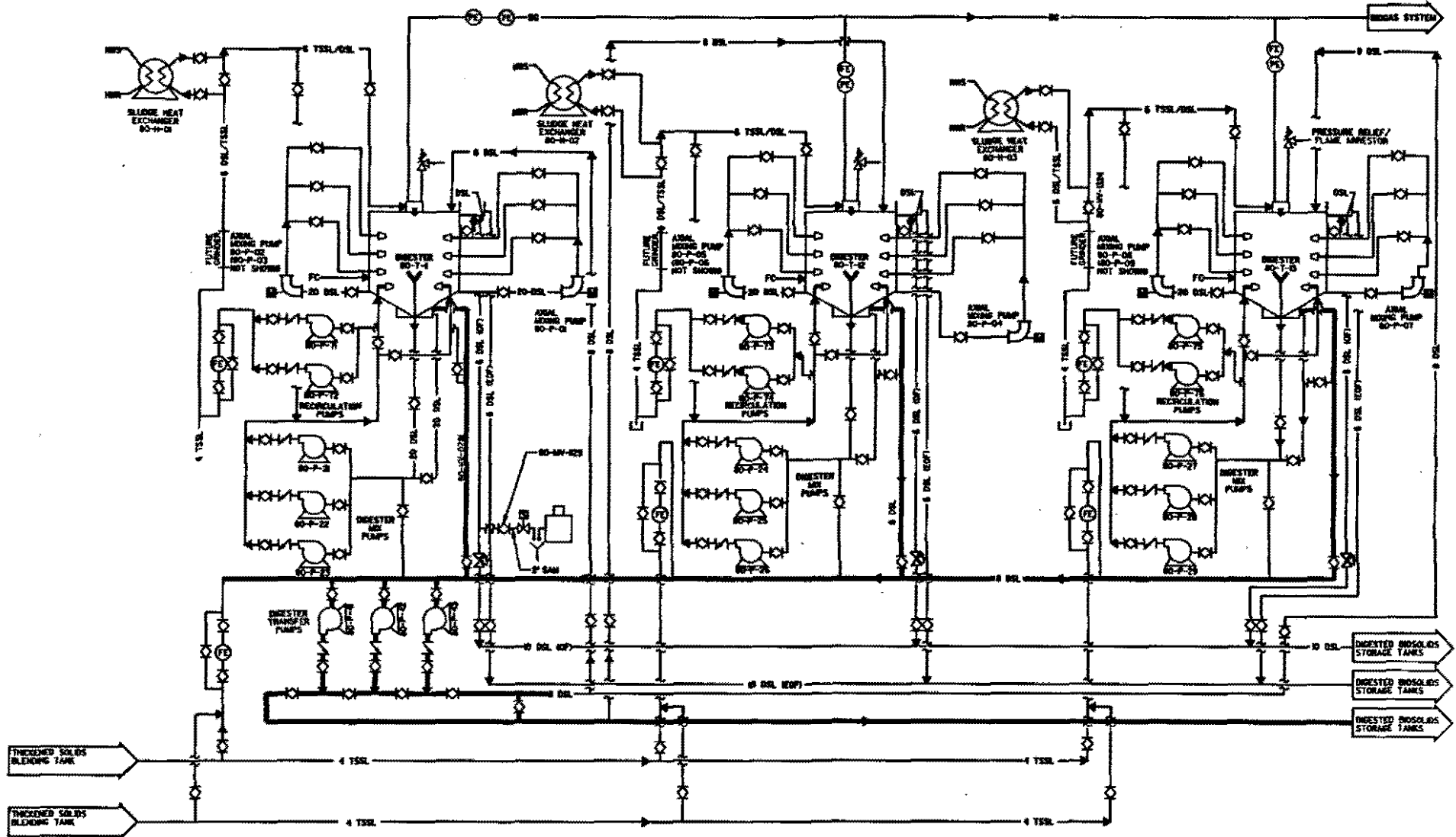


FIGURE 6
PROCESS FLOW DIAGRAM
ANAEROBIC DIGESTION

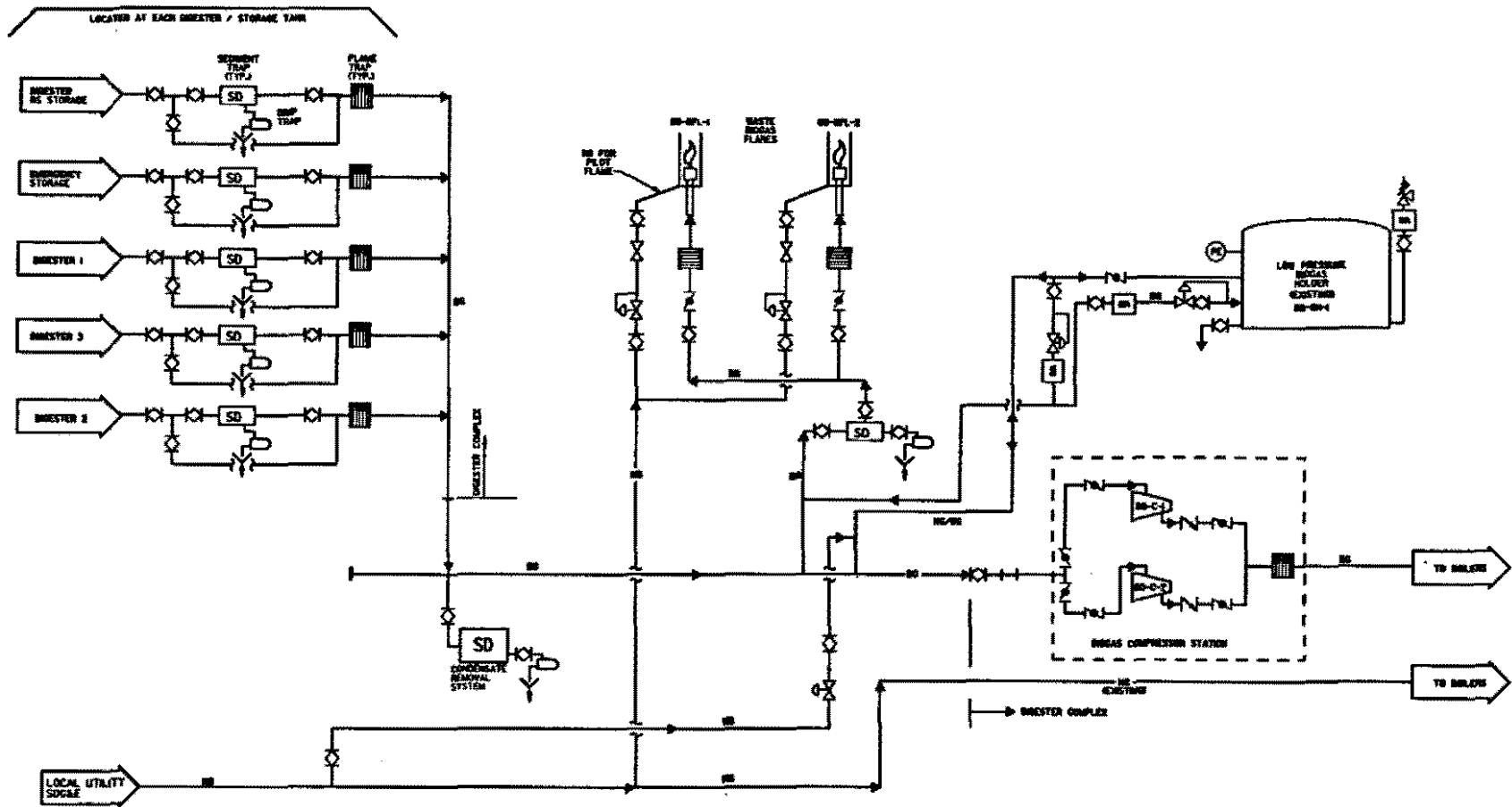


FIGURE 7
PROCESS FLOW DIAGRAM
BIOMETHANE COMPRESSORS & FLARES

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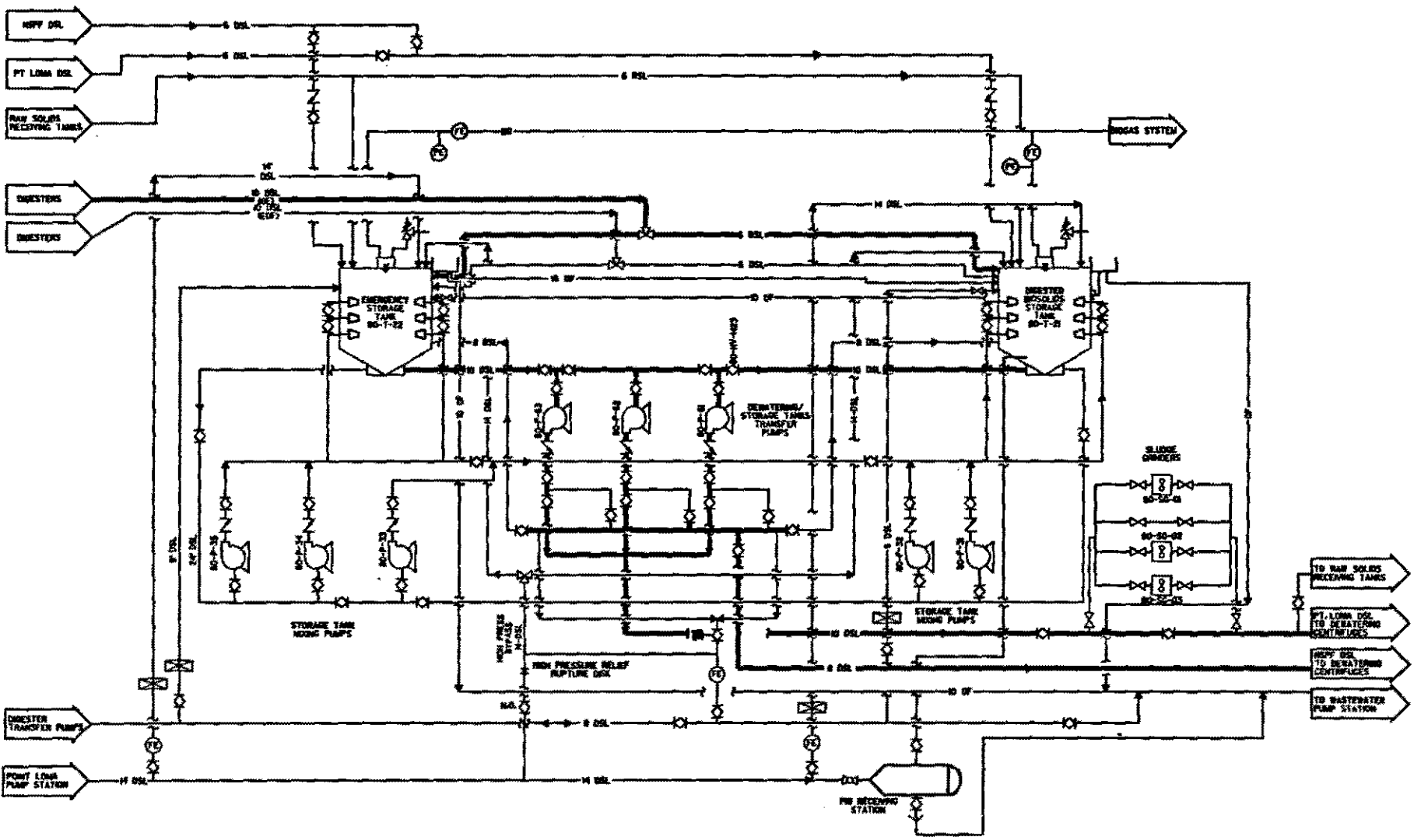


FIGURE 8
PROCESS FLOW DIAGRAM
DIGESTED BIOSOLIDS STORAGE

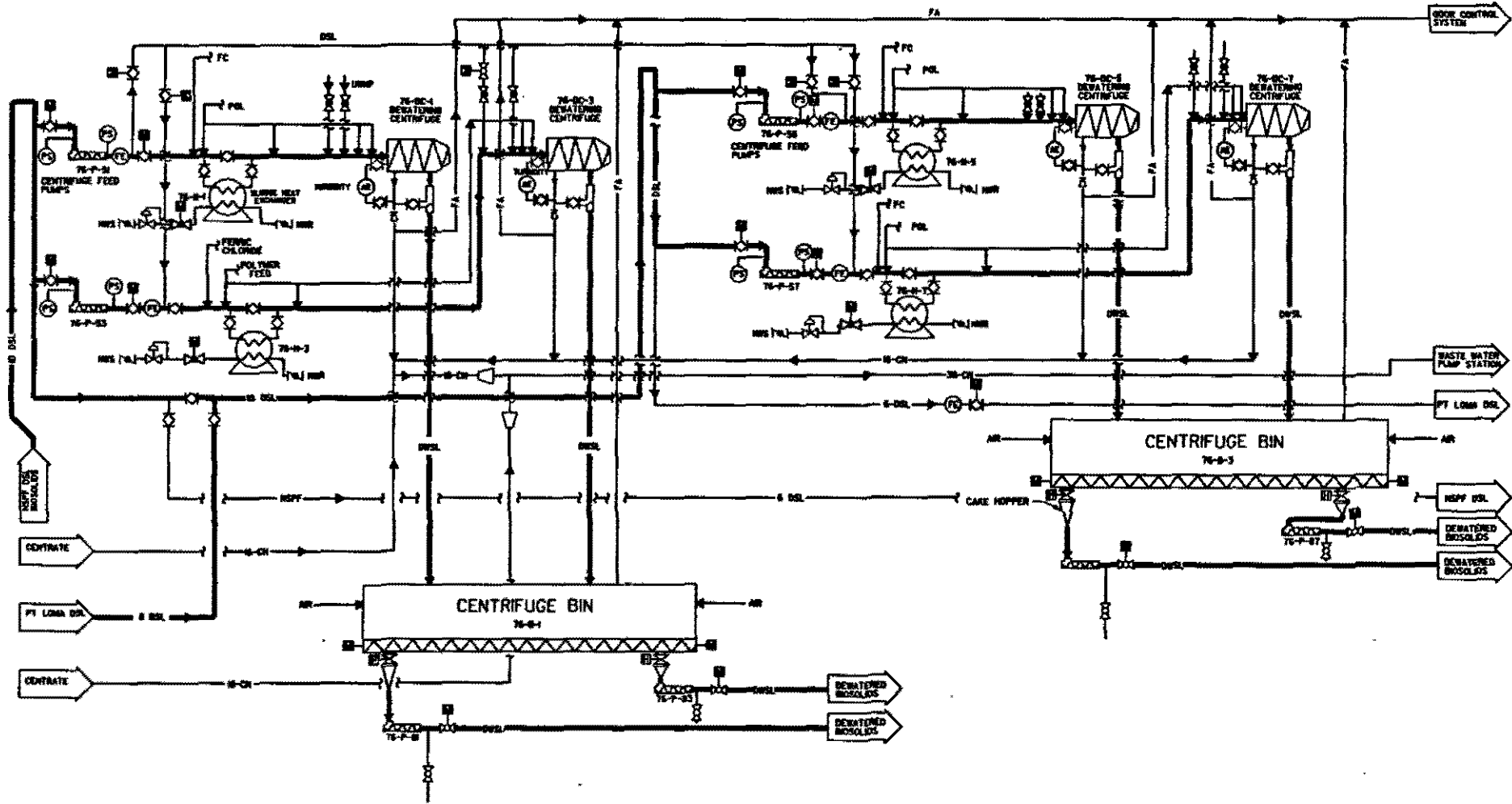


FIGURE 2
 PROCESS FLOW DIAGRAM
 DEWATERING

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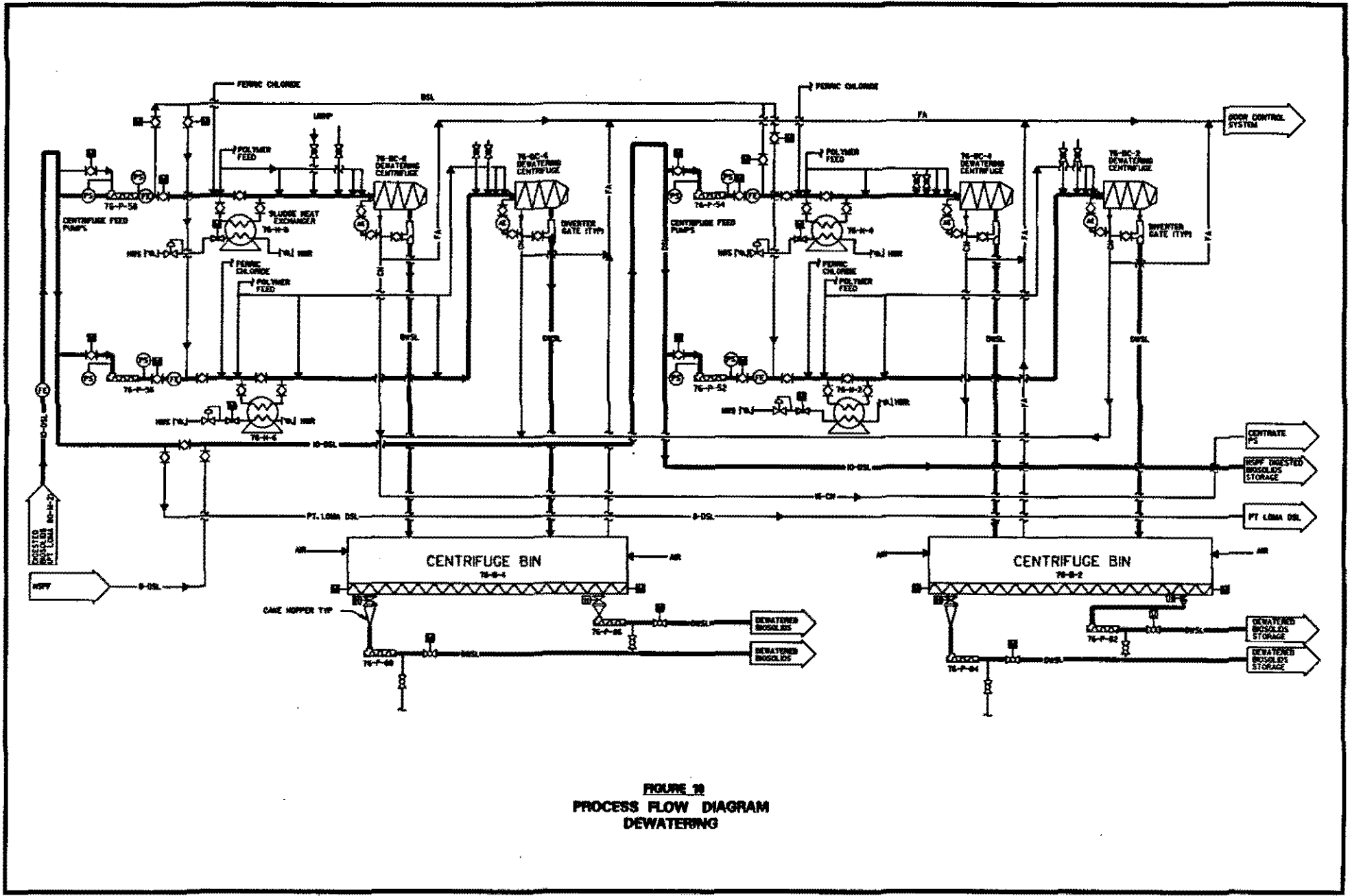


FIGURE 10
PROCESS FLOW DIAGRAM
DEWATERING

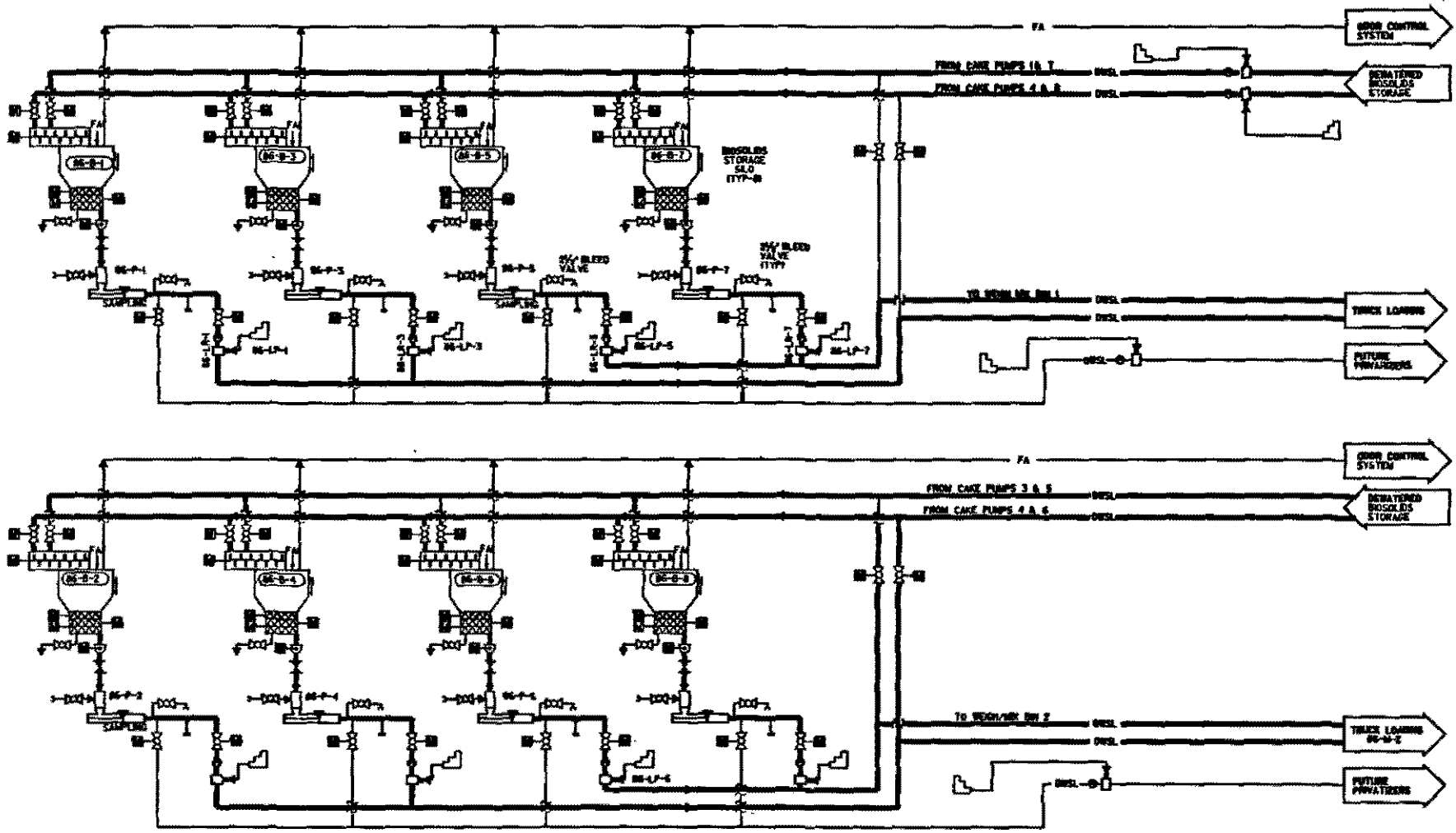


FIGURE 11
 PROCESS FLOW DIAGRAM
 DEWATERING BIOSOLIDS STORAGE

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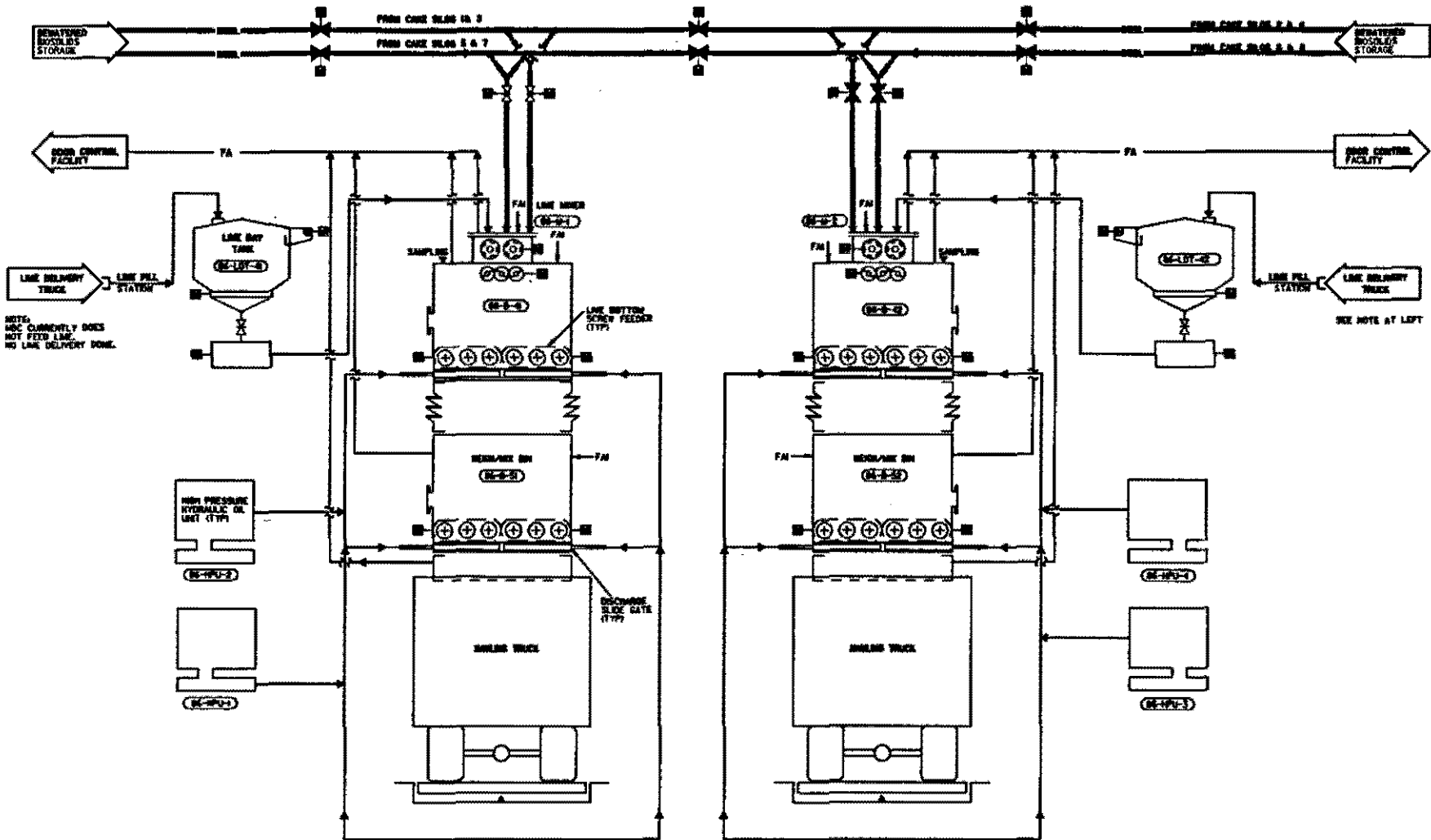
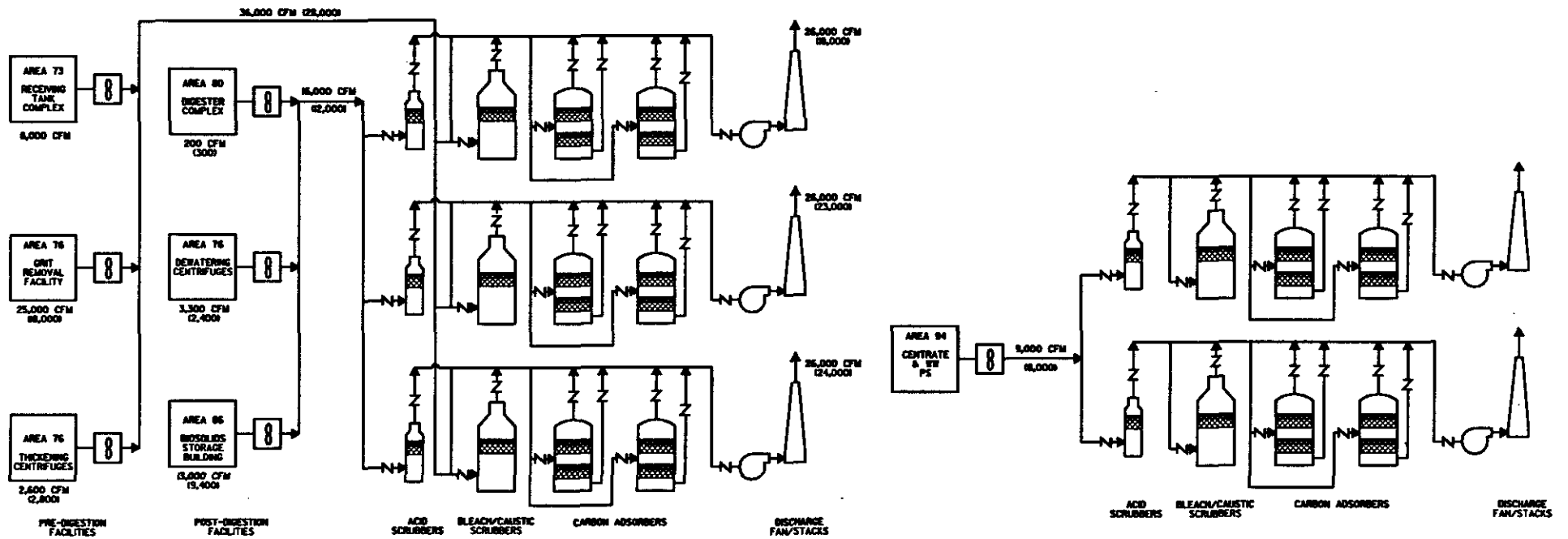


FIGURE 12

PROCESS FLOW DIAGRAM
DEWATERED BIOSOLIDS LOADOUT



AREAS 80, 73, 76, 86, & 86

(2 DUTY + 1 STANDBY ODOR CONTROL SYSTEMS)

AREA 94

(4 DUTY + 1 STANDBY ODOR CONTROL SYSTEMS)

NOTES:

1. REFERENCE: "MBC AIR BALANCE SUMMARY FINAL TRF" BY B&C, FIGURES 1 & 2, NOVEMBER 2003.
2. AIR CFMS SHOWN ARE DESIGN & ACTUAL.

FIGURE 10
MBC ODOR CONTROL FOUL AIR
FLOW DIAGRAMS

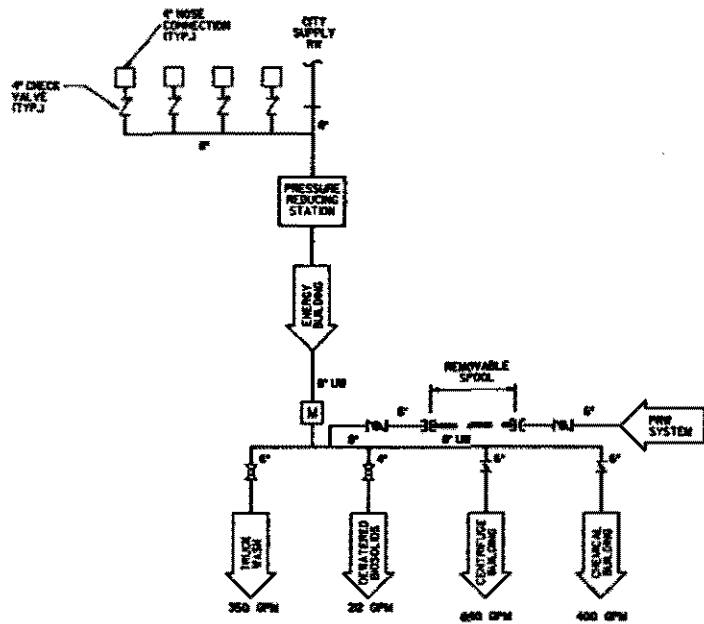


FIGURE 14

UTILITY WATER LOW PRESSURE (UWLP) SYSTEM
FLOW DIAGRAM

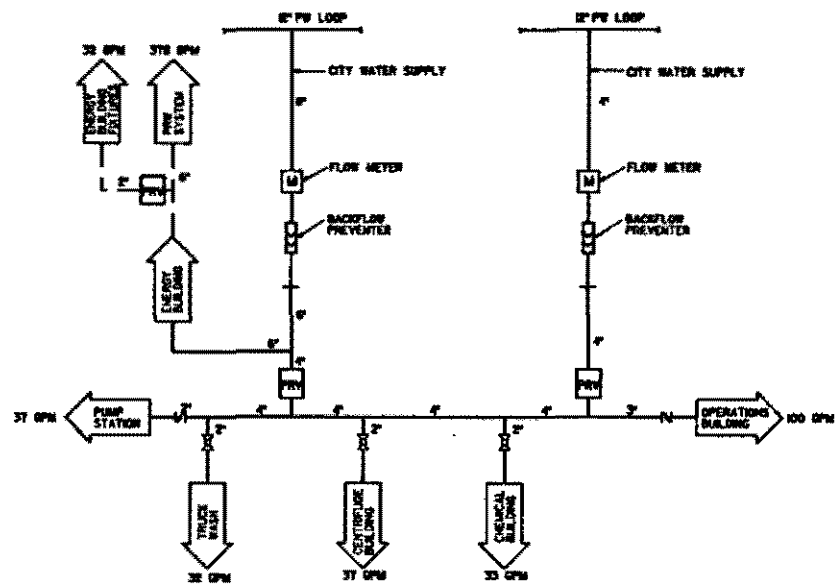


FIGURE 15

POTABLE WATER (PW) SYSTEM
FLOW DIAGRAM

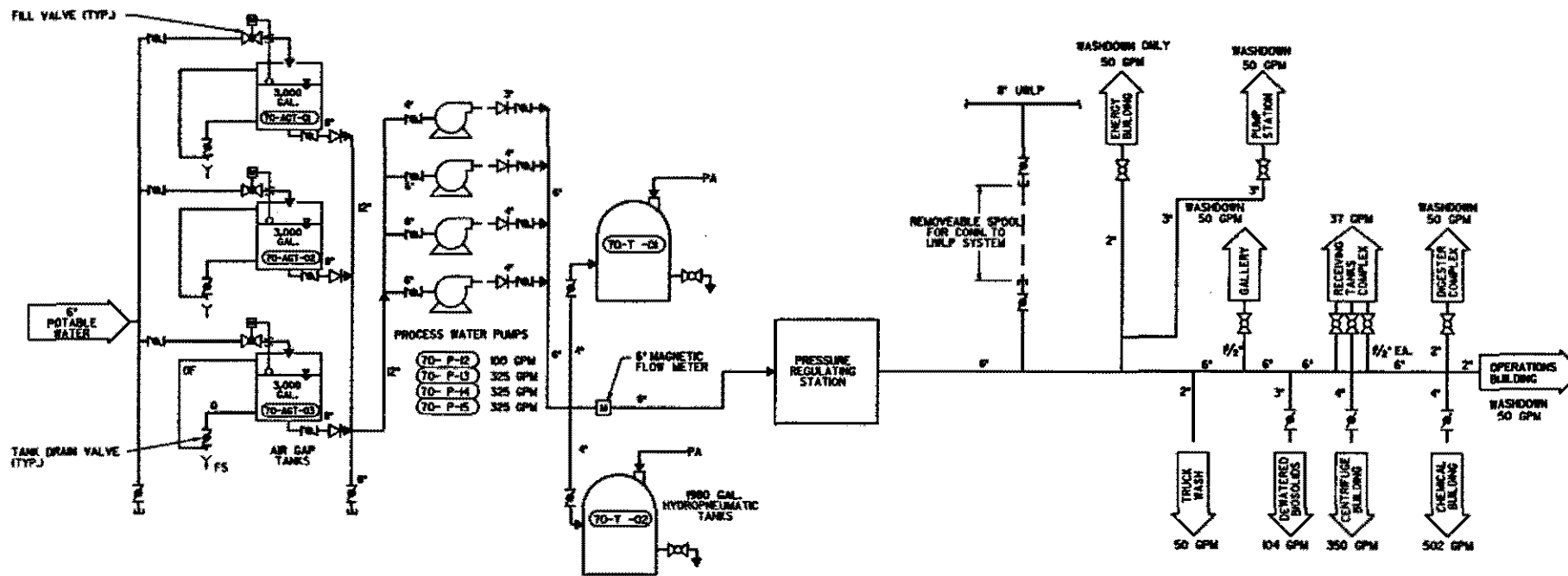


FIGURE 18
 PROCESS WATER (PRW) SYSTEM
 FLOW DIAGRAM

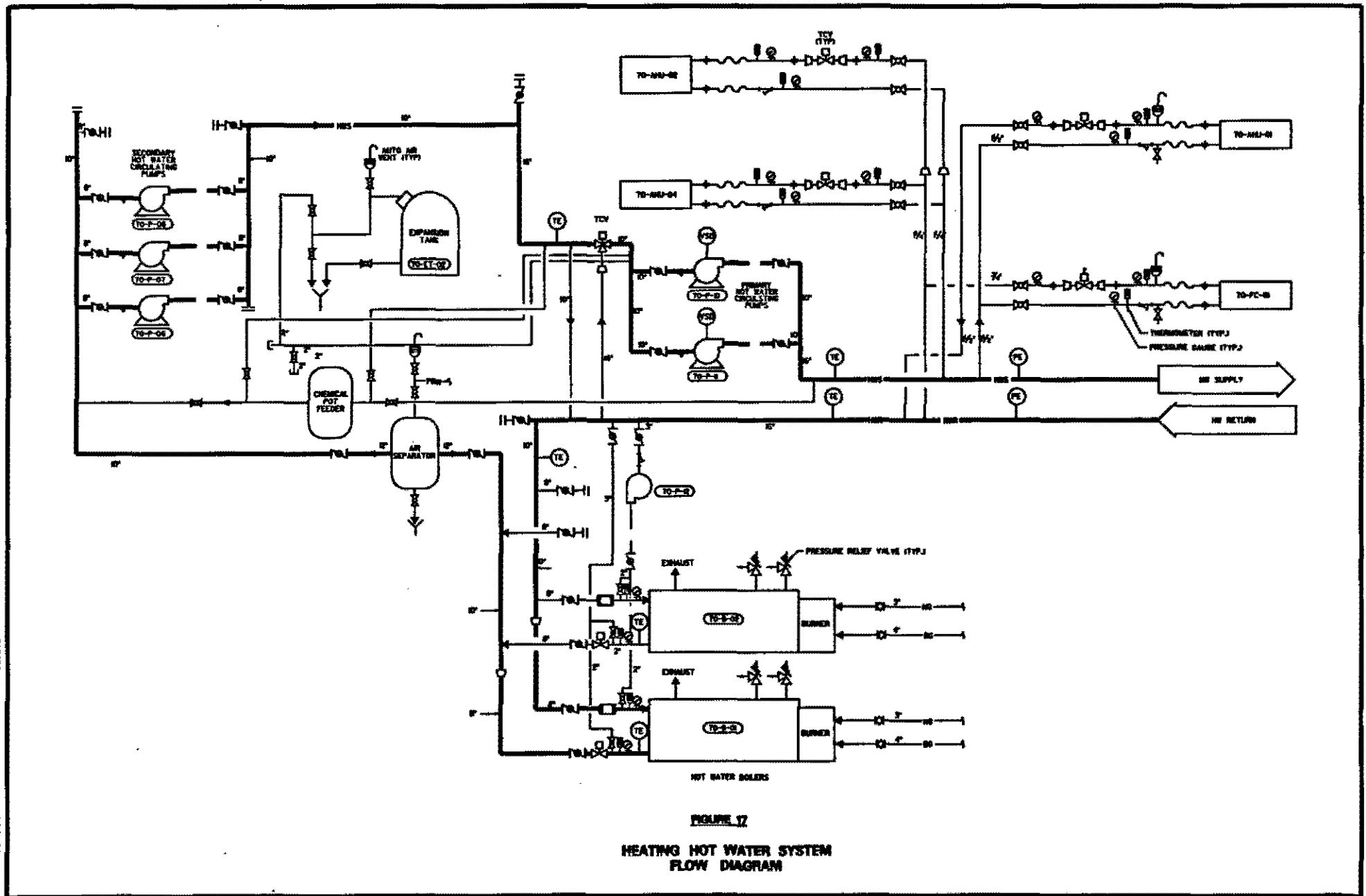


FIGURE 17
HEATING HOT WATER SYSTEM
FLOW DIAGRAM

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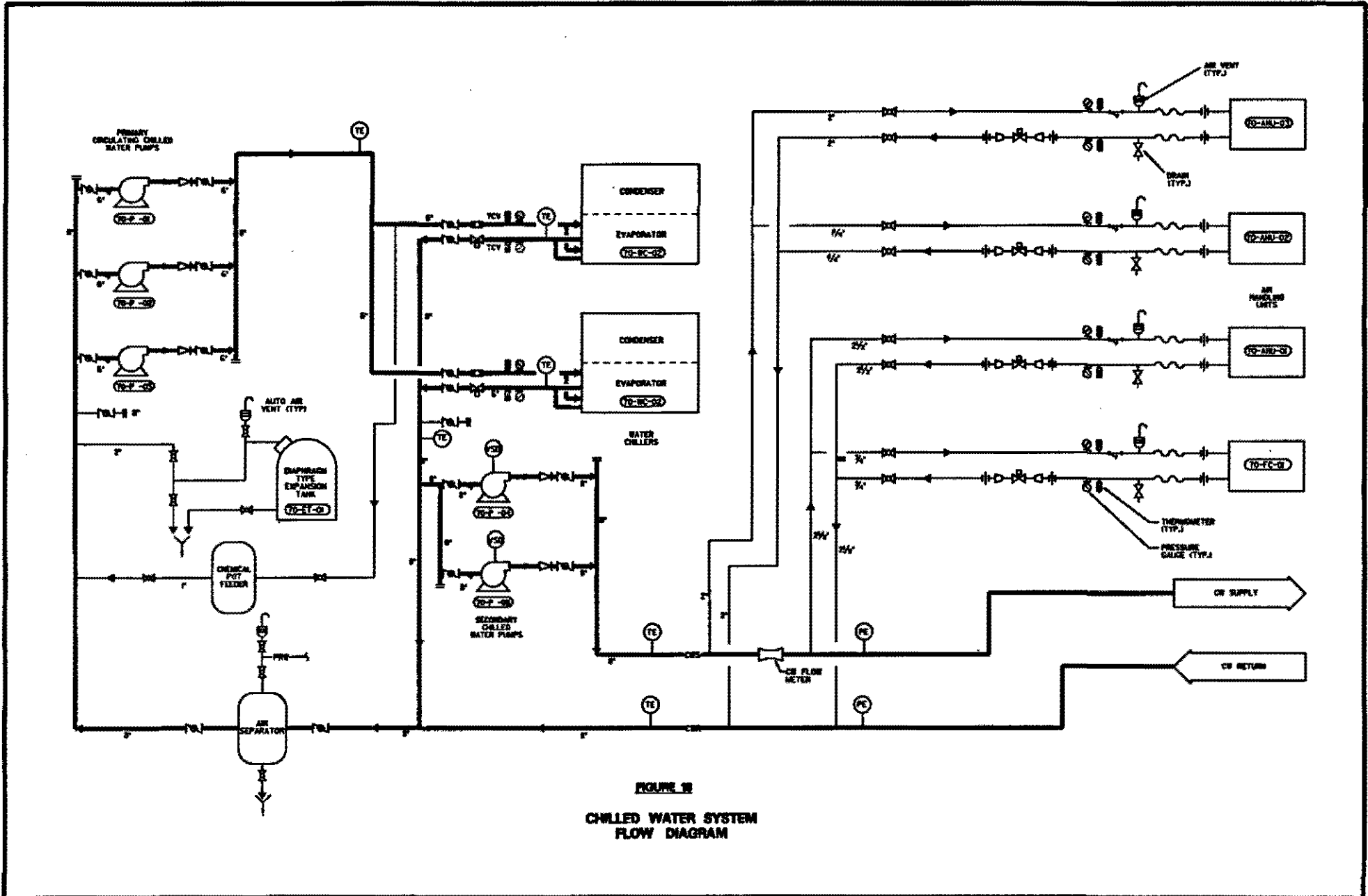


FIGURE 10
CHILLED WATER SYSTEM
FLOW DIAGRAM