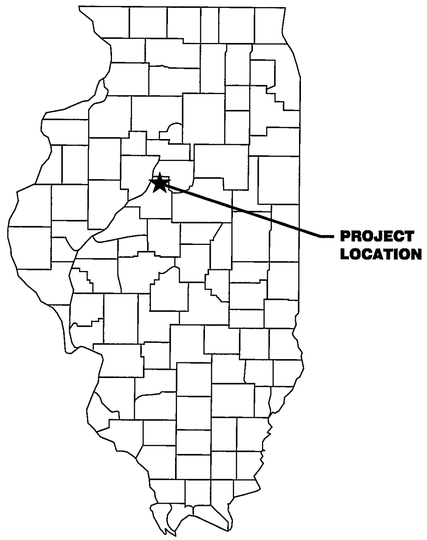
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
FOR THE
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS
JUNE 2009



AREA MAP
NO SCALE

PROJECT LOCATION MAP
NO SCALE

910 West Wingra Drive
Madison, WI 53715
608-251-4843
608-251-8655 FAX

www.strand.com

CONTRACT NO. 1-2009

STATE OF ILLINOIS
TROY W STINSON
0062-052342
REGISTERED PROFESSIONAL ENGINEER
Troy W. Stinson
EXP 11/30/2009

DAVID J WALKER
031-004915
REGISTERED STRUCTURAL ENGINEER
STATE OF ILLINOIS
David J. Walker
EXP. 11/30/2010

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
1
00-G-01
JOB NO 1-879-003

File S:\MAD\1800--1899\1879\008\Acad\DRAWINGS\00-G-01.dwg Time Jun 15, 2009 - 8:57am

UNIT DESIGN CRITERIA			
DESIGN FLOWS AND LOADINGS	**PHASE 1 - YEAR 2011**	**PHASE 2 - YEAR 2016**	**PHASE 3 - YEAR 2026**
TOTAL DESIGN INFLUENT FLOWS:			
DESIGN AVERAGE FLOW (DAF), MGD	1.56	2.29	2.79
DESIGN MAXIMUM FLOW (DMF), MGD	5.29	6.37	7.48
PROJECTED POPULATION	13,575	14,828	18,578
TOTAL DESIGN AVERAGE INLFLUENT LOADING RATE:			
BOD5, LBS/DAY	1,693	2,506	3,300
TSS, LBS/DAY	1,631	2,506	3,500
TKN, LBS/DAY	276	417	573
FLOW AND ORGANIC SPLIT TO NEW FACILITIES	70%	78%	100%
DESIGN INFLUENT FLOWS (TO NEW PORTION OF PLANT)			
DESIGN AVERAGE FLOW (DAF), MGD	1.09	1.79	2.79
DESIGN MAXIMUM FLOW (DMF), MGD	3.70	4.97	7.48
DESIGN AVERAGE INFLUENT LOADING RATE (TO NEW PORTION OF PLANT):			
BOD5, LBS/DAY	1,185	1,955	3,300
TSS, LBS/DAY	1,142	1,955	3,500
TKN, LBS/DAY	193	325	573
NPDES Effluent Requirements:			
RECEIVING STREAM:	FARM CREEK		
Outfall 001 (STP Outfall)			
CBOD5			
MONTHLY AVERAGE (mg/L)	10		
DAILY MAXIMUM (mg/L)	20		
SUSPENDED SOLIDS			
MONTHLY AVERAGE (mg/L)	12		
DAILY MAXIMUM (mg/L)	24		
AMMONIA NITROGEN - MONTHLY AVERAGE			
SPRING/FALL (MAR.-MAY/SEPT.-OCT.) (mg/L	1.5		
SUMMER (JUNE-AUG.) (mg/L)	1.4		
WINTER (NOV. - FEB.) (mg/L)	3.3		
AMMONIA NITROGEN - WEEKLY AVERAGE			
SPRING/FALL (MAR.-MAY/SEPT.-OCT.) (mg/L	3.8		
SUMMER (JUNE-AUG.) (mg/L)	3.5		
WINTER (NOV. - FEB.) (mg/L)	--		
AMMONIA NITROGEN - DAILY MAXIMUM			
SPRING/FALL (MAR.-MAY/SEPT.-OCT.) (mg/L	4.2		
SUMMER (JUNE-AUG.) (mg/L)	4.4		
WINTER (NOV. - FEB.) (mg/L)	4.3		
pH	9.0		
DAILY MAXIMUM (s.u.)	6.0		
DAILY MINIMUM (s.u.)			
Outfall A01 (Excess Flow)			
CBOD5 (mg/L)	30		
SUSPENDED SOLIDS (mg/L)	30		
FECAL COLIFORM			
DAILY MAXIMUM (#COLONIES/100mL)	400		
CHLORINE RESIDUAL (mg/L)	0.75		
Ph			
DAILY MAXIMUM (s.u.)	9.0		
DAILY MINIMUM (s.u.)	6		
Unit Design Criteria			
A. PRELIMINARY TREATMENT			
INFLUENT PUMPING			
TYPE	**CENTRIFUGAL**		
NUMBER	**3**	**3**	**4**
CAPACITY, MGD EACH	**2.66**	**2.66**	**2.66**
CAPACITY, MGD FIRM	**5.33**	**7.99**	**7.99**
MOTOR SIZE, HP EACH	**25**		
DRIVES	**VFD**		
MECHANICAL BAR SCREENS			
TYPE	**FINE, STAIR**		
NUMBER	**1**		
CAPACITY EACH, MGD	**7.48**		
SCREENING OPENING SIZE, INCHES	**1/8**		
BYPASS BAR RACK			
NUMBER	**1**		
OPENING SIZE, INCHES	**2**		
CAPACITY, MGD	**7.48**		
EXISTING GRIT REMOVAL			
TYPE	AERATED		
NUMBER	1		
SIZE, FEET	14 x 14 x 12		
VOLUME, GALLONS	17,600		
INFLUENT FLOW METER			
Type	**PARSHALL FLUME**		
Number	**1**		
Throat Size, inches	**12**		
Capacity Range, mgd	**0.08 - 10.4**		
INFLUENT SAMPLER (SA-20-01)	**AUTO., 24 HR COMPOSITE**		
B. SECONDARY TREATMENT			
OXIDATION DITCHES			
TYPE		**CARROUSEL**	
NUMBER	**1**	**2**	**3**
VOLUME, EACH (CUBIC FEET)	**79,000**	**79,000**	**79,000**
VOLUME, EACH (MILLION GALLONS)	**0.591**	**0.591**	**0.591**
VOLUME, TOTAL (MILLION GALLONS)	**0.591**	**1.182**	**1.773**
AVG. LOADING RATE (LBS BOD5/1000 CF)	**15.0**	**12.4**	**13.9**
HYDRAULIC DETENTION TIME @ DAF (HRS)	**13.0**	**15.8**	**15.3**
HYDRAULIC DETENTION TIME @ PHF (HRS)	**3.84**	**5.71**	**5.70**
AVERAGE AOR (LBS OXYGEN/DAY)	**2,000**	**3,300**	**5,900**
PEAK AOR (LBS OXYGEN/DAY)	**2,600**	**4,300**	**7,500**
PEAK SOR (LBS OXYGEN/DAY)	**3,900**	**6,400**	**11,300**
AERATION DRIVES, NO. TOTAL	**2**	**4**	**6**
BHP, EACH	**2 @ 50 hp**	**4 @ 50 hp**	**6 @ 50 hp**
STANDARD OXYGEN DELIVERY (LB O2/DAY	**4,200 firm**	**8,400 firm**	**12,600 firm**
ANOXIC ZONES			
TYPE	**BIOLOGICAL**		
NUMBER OF BASINS	**2**	**4**	**6**
TOTAL VOLUME, GALLONS	**100,000**	**200,000**	**300,000**
HYDRAULIC DETENTION TIME @ DAF (HRS)	**2.2**	**2.7**	**2.6**
SUBMERSIBLE MIXERS			
NUMBER	**2**	**4**	**6**
MOTOR SIZE, EACH, HP	**2.3**	**2.3**	**2.3**
EXISTING AERATION TANKS			
TYPE	FINE BUBBLE	FINE BUBBLE	
NUMBER	1	1	CONV. TO DIGESTION
VOLUME, EACH (CUBIC FEET)	36,903	36,903	
VOLUME, EACH (MILLION GALLONS)	0.276	0.276	
VOLUME, TOTAL (MILLION GALLONS)	0.276	0.276	
AVG. LOADING RATE (LBS BOD5/1000 CF)	13.8	15	
HYDRAULIC DETENTION TIME @ DAF (HRS)	14.0	15.8	

HYDRAULIC DETENTION TIME @ PHF (HRS)	4.17	4.73	
AVERAGE AOR (LBS OXYGEN/DAY)	1,000	1,085	
PEAK AOR (LBS 02/DAY)	1,200	1,300	
PEAK SOR (LBS 02/DAY)	1,800	1,951	
PEAK SOR (SCFM)	600	650	
BLOWERS, NO. TOTAL	4	4	
BLOWERS, CAPACITY, EACH (SCFM)	2 @ 1,800	2 @ 1,800	
BLOWERS, CAPACITY, EACH (SCFM)	2 @ 2,100	2 @ 2,100	
BLOWERS, CAPACITY, FIRM (SCFM)	5,700	5,700	
BLOWERS ALSO USED FOR AEROBIC DIGESTION			
FINAL CLARIFIERS			
TYPE	**CIRCULAR, CENTER FEE, SUCTION SLUDGE WITHDRAWL**		
NUMBER	**2**	**3**	**4**
DIAMETER, FT	**65**	**65**	**65**
TOTAL AREA, SF	**6,637**	**9,955**	**13,273**
SURFACE OVERFLOW RATE, GPD/SF	**15**	**15**	**15**
SURFACE OVERFLOW RATE, GPD/SF			
@ AVERAGE DAY	**165**	**179**	**210**
@ PEAK HOUR	**558**	**499**	**564**
EXISTING FINAL CLARIFIERS			
TYPE	CIRCULAR		
NUMBER	2	2	
DIAMETER, FT	32	32	
TOTAL AREA, SF	1,608	1,608	
SIDE WATER DEPTH, FT	12	12	
SURFACE OVERFLOW RATE, GPD/SF			
@ AVERAGE DAY	292	311	
@ PEAK HOUR	1,000	870	
RAS PUMPING			
TYPE		**CENTRIFUGAL**	
NUMBER, TOTAL	**3**	**4**	**5**
NUMBER, STANDBY	**1**	**1**	**1**
MIN CAPACITY, EACH, GPM (15% OF DAF)	**115**	**115**	**115**
CAPACITY, EACH, GPM	**725**	**725**	**725**
CAPACITY, FIRM, GPM	**1,450**	**2,175**	**2,900**
CAPACITY, FIRM, MGD (150% OF DAF)	**2.1**	**3.13**	**4.18**
DRIVE		**VFD**	
C. EXISTING SAND FILTRATION			
TYPE	TRAVELING BRIDGE		NONE
NUMBER	2	2	
SIZE, EACH, SF	260	260	
CAPACITY, EACH, MGD	1.872	1.872	
CAPACITY, FIRM, MGD	1.872	1.872	
D. NUTRIENT REMOVAL			
PHOSPHORUS REMOVAL			
TYPE	**FERRIC CHLORIDE**		
STORAGE TANK VOLUME, GALLONS	**5800**		
METERING PUMP TYPE	**POSITIVE DISP.**		
METER PUMPS NO.	**2**		
METERING PUMP CAPACITY, EACH, GPH	**20**		
E. DISINFECTION			
CHLORINATION			
NUMBER OF CONTACT TANKS	2	2	2
NUMBER OF PASSES	4 EACH	4 EACH	4 EACH
SIZE	4' (W)x5'-7"(D)x40'-6" (L)		
VOLUME, TOTAL, CF	7200	7350	9700
HRT @ DAF, MINUTES	50	35	37
HRT @ DMF, MINUTES	16	13	15
EFFLUENT FLOW METER			
TYPE	WEIR		
F. BIOSOLIDS MANAGEMENT			
EXISTING AEROBIC DIGESTION			
TYPE	RECTANGULAR, CONCRETE		
NUMBER	6	7	8
CAPACITY, TOTAL, CF	80,743	89,183	117,646
PE (@ 0.17 PCD BOD5)	9,960	14,741	19,412
LOADING RATE, CF/PE	8.1	6.1	6.1
AIR REQUIRED (30 SCFM/1,000 CF)	2,422	2,675	3,529
BLOWERS			
TYPE	Centrifugal		
NUMBER, TOTAL	4	4	4
NUMBER, STANDBY	1	1	1
CAPACITY, EACH, SCFM	1,800	1,800	1,800
CAPACITY, EACH, SCFM	2,100	2,100	2,100
CAPACITY, FIRM, SCFM	5,700	5,700	5,700
LIQUID SLUDGE STORAGE			
TYPE	CIRCULAR, JET MIX		
NUMBER	1	2	2
SIZE	70 ft dia x 17.4 ft SWD		
VOLUME,EACH, MILLION GALLONS	0.5	0.5	0.5
VOLUME,TOTAL, MILLION GALLONS	0.5	1	1
BIOSOLIDS PRODUCTION, LBS/DAY	832	1,232	1,622
TOTAL SOLIDS, %	2.1	2.1	2.1
BIOSOLIDS PRODUCTION, GPD	4,666	7,034	9,261
DAYS OF LIQUID STORAGE	107	142	108
SLUDGE DRYING BEDS			
TYPE	Sand		
SURFACE AREA, SF (EXISTING)	34,450	52,030	77,030
SURFACE AREA, SF (NEW)	**17,580**	**25,000**	**24,405**
SURFACE AREA, SF (TOTAL)	52,030	77,030	101,435
EXCESS FLOW MANAGEMENT			
EXCESS FLOW PUMPING			
TYPE	VERTICAL TURBINE	VERTICAL TURBINE	VERTICAL TURBINE
NUMBER	3	3	3
CAPACITY, ONE PUMP RUNNING	5,000	5,000	5,000
CAPACITY, TWO PUMPS RUNNING	8,000	8,000	8,000
CAPACITY, THREE PUMPS RUNNING	12,400	12,400	12,400
EXCESS FLOW LAGOON			
NUMBER	1	1	1
VOLUME, MILLION GALLONS	17	17	17
EXCESS FLOW CHLORINE CONTACT TANK			
NUMBER	2	2	2
SIZE, FT	37x41x5	37x41x5	37x41x5
VOLUME, GALLONS	113,500	113,500	113,500

LIST OF DRAWINGS

DATE:
REVISIONS
NO.

DATE: JUNE 2009
DES BY:SAI CHK BY:SAI
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

DESIGN CRITERIA AND LIST OF DRAWINGS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
2
00-G-02
JOB NO. 1-879-008

File: S:\MAD\1800--1899\1879\008\Acad\DRAWINGS\00-G-02.dwg Time: Jun 17, 2009 - 11:26am

DRAFTING SYMBOLS

DETAIL NOTATION — A / 5 — DETAIL LETTER / SHEET WHERE SHOWN

SECTION NOTATION — 2 / 99-ASM-01 — SECTION NUMBER / SHEET WHERE SECTION IS TAKEN

ELEVATION NOTATION — A / 99-ASM-01 — ELEVATION LETTER / SHEET WHERE SHOWN

EQUIPMENT IDENTIFICATION — Type / Group — TYPE OF EQUIPMENT / EQUIPMENT GROUP

NAME / 9999 — ROOM IDENTIFICATION

101A — DOOR IDENTIFICATION

999 — WINDOW IDENTIFICATION

1 — KEY/SPECIFIC NOTE CALL-OUT

X — PARTITION TYPE REFERENCE

A — CENTER LINE OF BEAM-COLUMN FRAME SYSTEM

M11 — POINTS OF VIEW BEING CONSIDERED MATCH LINE

3 — REVISION

+EL 1000.00 — FINISH ELEVATION

EL 1000.00 — SPOT ELEVATION

EXISTING OBJECTS ARE SCREENED

EXISTING OBJECTS TO BE ABANDONED

EXISTING OBJECTS TO BE DEMOLISHED

HIDDEN OBJECT

FUTURE OBJECT

OBJECT SUPPLIED BY OWNER

ARCHITECTURAL SYMBOLS

EARTH

SAND, PLASTER, STUCCO

CONCRETE

BRICK

CONCRETE BLOCK

ACOUSTIC BLOCK

ASHLAR STONE VENEER

METAL

METAL LATH

WOOD-FINISH

WOOD-FRAMING

PLYWOOD

ACOUSTICAL TILE

GYPSUM BOARD

BATT INSULATION

RIGID INSULATION

CHECKERED PLATE

HANDRAIL

TOPOGRAPHICAL SYMBOLS

AREA OF THE SITE

CORPORATE LIMITS

PROPERTY LINE AND/OR RIGHT OF WAY

RIGHT OF WAY MARKER

CONSTRUCTION EASEMENT ON SEWER AND WATER PLANS

PERMANENT EASEMENT ON SEWER AND WATER PLANS

SECTION LINE

CENTER LINE

SOIL BORING

BENCH MARK

PROPERTY STAKE

PRIVATE WELL

EXISTING UTILITY POLE

NEW UTILITY POLE

BURIED TELEPHONE CABLE PEDESTAL

SIGN

LIGHT POLE

DECIDUOUS TREE

CONIFEROUS TREE

DECIDUOUS SHRUBS

CONIFEROUS SHRUBS

INTERMITTENT STREAM

STREAM OR RIVER

WETLAND AREA

RAILROAD – LARGE SCALE

BRIDGE

EXISTING CULVERT

SILT FENCE

FENCE

GUARD RAIL

CURB, GUTTER AND INLET

REJECT CURB

960 — CONTOUR LINES

EXISTING DEPRESSION

TOP OF CUT OR BERM

UNDERGROUND UTILITY SYMBOLS

6" W — NEW WATER MAIN AND VALVE MANHOLE

6" W — WATER MAIN AND VALVE IN ROAD BOX

6" W — EXISTING WATER MAIN AND FIRE HYDRANT

6" W — NEW WATER MAIN AND FIRE HYDRANT WITH AUXILIARY VALVE

6" S — EXISTING SANITARY SEWER AND MANHOLE

6" S — NEW SANITARY SEWER AND MANHOLE

6" ST — EXISTING STORM SEWER AND MANHOLE (I-INLET)

6" ST — NEW STORM SEWER AND MANHOLE (I-INLET)

6" F — FORCE MAIN

F — VALVE MANHOLE ON FORCE MAIN

S — WYE BRANCH

S — R — RISER

S — MR — MODIFIED RISER

T — TELEPHONE OR TV CABLE AND MANHOLE

2" G — GAS MAIN

E — UNDERGROUND ELECTRIC CABLE

W / S — F — EXISTING WATER MAIN, SEWER MANHOLE, AND FORCE MAIN IN PROFILE

W / S — F — NEW WATER MAIN, SEWER, MANHOLE AND FORCE MAIN IN PROFILE

CULVERT IN PROFILE

NEW GRADE LINE

SLOPE INTERCEPT

ORIGINAL GROUND IN PROFILE

ROCK IN PROFILE

SURVEY OR REFERENCE LINE

165° — POINT OF INTERSECTION

POINT ON REFERENCE LINE

N / S — BUILDING IN PROFILE

DIRECTION OF TRAFFIC

CAUTION — NOTATION FOR COMBUSTIBLE FLUIDS

ELECTRICAL SYMBOLS

LIGHTING

A 2 b — FIXTURE SYMBOL (TYPICAL)
A–INDICATES FIXTURE TYPE
2–INDICATES CIRCUIT NUMBER
b–INDICATES SWITCHING
SOLID CIRCLE INDICATES ALWAYS ON

INCANDESCENT, HID, SURFACE OR PENDANT

INCANDESCENT, HID, WALL

1X4 FLUORESCENT, SURFACE OR PENDANT

1X8 FLUORESCENT, SURFACE OR PENDANT

FLUORESCENT, WALL

1X4 FLUORESCENT, RECESSED

2X2 FLUORESCENT, RECESSED

2X4 FLUORESCENT, RECESSED

CAN, FLUORESCENT OR HID

EXIT, SURFACE, PENDANT OR RECESSED

EXIT, WALL

EMERGENCY LIGHTING

SWITCHES

$ — SINGLE POLE

$2 — TWO POLE

$3 — THREE WAY

$4 — FOUR WAY

$K — KEYED

$P — SWITCH WITH PILOT LIGHT

$D — DIMMER

$M — MANUAL SWITCH (HORSEPOWER RATED)

R3 — LOCKOUT STOP SWITCH

DS — DOOR LIMIT SWITCH

CS 1,2 — CONTROL SWITCH
DEVICE TYPE (SEE MCC SCHEDULE)

EQUIPMENT AND WIRING

GROUND ROD 10'-5/8" DIA. COPPER CLAD

TRANSFORMER

F — DISCONNECT, F=FUSED, B=CIRCUIT BREAKER

MOTOR STARTER MAGNETIC

CIRCUIT BREAKER COMBINATION STARTER

$T — MANUAL STARTER WITH THERMAL OVERLOAD PROTECTION

J — JUNCTION BOX

T — LINE VOLTAGE THERMOSTAT

M16 — MOTOR CIRCUIT, NUMBER FROM MCC SCHEDULE

POWER SYMBOLS

E — UNDERGROUND ELECTRIC

OH — OVERHEAD ELECTRIC

CIRCUIT NUMBER (TYPICAL)
OTHERWISE SHOWN PANEL DESIGNATION (TYP.)

2(X) — DUPLEX, 125 VOLT, WP
INDICATES WEATHERPROOF

DUPLEX, 125 VOLT, ABOVE FURNITURE

DOUBLE DUPLEX, 125 VOLT, ABOVE FURNITURE

DOUBLE DUPLEX, 125 VOLT

EWC — SINGLE CONVENIENCE, 125 VOLT FOR ELECTRIC WATER COOLER

EXPLOSION-PROOF, ABOVE FURNITURE

EXPLOSION-PROOF

FIXED EQUIPMENT CONNECTION

POWER OUTLET, VOLTAGE & AMPERAGE AS INDICATED

COMPUTER NETWORK OUTLET

AUTOMATIC TRANSFER SWITCH (ONE-LINE DIAGRAM)

CIRCUIT BREAKER (ONE-LINE DIAGRAM)

M — METER (ONE-LINE DIAGRAM)

PANELBOARD

INSTRUMENTATION EQUIPMENT

SOLENOID VALVE

DO — DISSOLVED OXYGEN DEVICE

PH — PH SENSOR

DM — DENSITY METER

A — AIR FLOW METER

FIT — FLOW INDICATING TRANSMITTER

FS — FLOAT SWITCH

PS — PRESSURE SWITCH

PT — PRESSURE TRANSDUCER

DT — DIFFERENTIAL PRESSURE TRANSDUCER

SPT — SUBMERSIBLE PRESSURE TRANSDUCER

MS — MOTION SENSOR

UFM — ULTRASONIC FLOW METER

MFM — MAGNETIC FLOW METER

ULT — ULTRASONIC LEVEL TRANDUCER

CS — CONTROL STATION

CFM — COMPOUND FLOW METER

TECHNOLOGY SYMBOLS

XD — DATA LOBE
X=# OF DATA LOBES

YV — PHONE
Y=# OF PHONE JACKS

XD YV — VOICE AND DATA LOBE
X=# OF DATA LOBES
Y=# OF PHONE JACKS

DATA RACK

CO-AXIAL CABLE

POWER POLE

XXX

SOUND SYSTEM

S — SPEAKER – CEILING

H — SPEAKER (H-HORN, S-SPEAKER)-SURFACE

S — DOUBLE SPEAKER (H-HORN, S-SPEAKER)-SURFACE

INTERCOM TELEPHONE – WALL

INTERCOM TELEPHONE – DESK

TELEPHONE

TELEPHONE FLOOR BOX

FIRE ALARM SYSTEM

F — FIRE ALARM STROBE – ADA RATED (CEILING MOUNT)

S — ## — FIRE ALARM STROBE – ADA RATED (WALL MOUNT)
STROBE CANDELA RATING

H/S — ## — HORN/STROBE (WALL MOUNT) 80" AFF
STROBE CANDELA RATING

H — HORN 80" AFF

SD — CEILING MOUNTED SMOKE DETECTOR

FIRE ALARM PULL STATION

FACP — FIRE ALARM CONTROL PANEL

FAAP — FIRE ALARM ANNUNCIATOR PANEL

FS — FLOW SWITCH

TS — TAMPER SWITCH

RTS — REMOTE TEST SWITCH
SWITCH INDICATION

HS — ## — CEILING MOUNTED HORN/STROBE
STROBE CANDELA RATING

H — CEILING MOUNTED HEAT DETECTOR

DSD — ## — DUCT MOUNTED SMOKE DETECTOR
SWITCH INDICATION

SECURITY SYSTEM

MS — MOTION SENSOR CEILING MOUNTED

MS — MOTION SENSOR WALL MOUNTED

DP — DOOR POSITION SWITCH

ML — MAGNETIC LOCKS

CR — CARD READER

ES — ELECTRIC STRIKE

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY:SAI CHK BY:SAI
RECORD DRAWING
BY: DATE: CONTRACTOR:

STANDARD SYMBOLS - 1
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 3
00-G-03
JOB NO. 1-879-008

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PIPING DESIGNATIONS

- A — AIR
- CA — COMPRESSED AIR
- CW — COLD WATER
- CWR — COLD WATER RETURN
- CWS — COLD WATER SUPPLY
- DEW — DISINFECTED EFFLUENT WATER
- G — NATURAL GAS PIPING
- HW — HOT WATER
- HHWR — HEATING HOT WATER RETURN
- HHWS — HEATING HOT WATER SUPPLY
- LPC — LOW PRESSURE CONDENSATE
- LPS — LOW PRESSURE STEAM
- NPW — NONPOTABLE WATER
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- SPD — SUMP PUMP DISCHARGE
- SW — SOFT WATER
- VENT PIPE
- WASTE BELOW GRADE
- WASTE ABOVE GRADE
- STORM BELOW GRADE
- STORM ABOVE GRADE

PIPING SYMBOLS

- FLANGE JOINT
- GROOVED JOINT
- MECHANICAL JOINT
- PUSH – ON JOINT
- RUBBER EXPANSION JOINT
- SOLVENT WELD OR THREADED JOINT
- PIPE COUPLING WITH TENSION TIES
- SMALL DIAMETER PIPE
- WALL PIPE
- WALL SLEEVE
- FABRICATED WALL SLEEVE
- SHUT OFF VALVE
- FLOOR STAND IN PLAN
- STOP PLATE – EMBEDDED
- SLIDE GATE – EMBEDDED
- SLIDE GATE – SURFACE MOUNTED
- SLUICE GATE
- P/VR — PRESSURE/VACUUM RELIEF
- LIQUID RING COMPRESSOR
- OP — ORIFICE PLATE
- M — MANOMETER
- FD — FLOOR DRAIN
- RD — ROOF DRAIN
- HD — HUB DRAIN
- HOSE BIB
- WATER HAMER ARRESTER
- 6 — WATER SUPPLY/DRAINAGE FIXTURE UNITS
- THERMOMETER
- TRAP PRIMER

PIPING SYMBOLS

- ELBOW DOWN
- ELBOW UP
- M — METER
- STRAINER
- TEE DOWN
- TEE UP
- UNION
- GAS PRESSURE REGULATOR
- PI — PRESSURE INDICATOR
- PT — PRESSURE TRANSMITTER
- TE — TEMPERATURE ELEMENT
- TI — TEMPERATURE INDICATOR
- TT — TEMPERATURE TRANSMITTER
- MANUAL AIR VENT
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- FLEXIBLE CONNECTOR

VALVE SYMBOLS

- AIR PRESSURE RELIEF VALVE
- BALANCING VALVE
- BALL VALVE
- BALL CHECK VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- GAS SHUTOFF PLUG VALVE
- GATE VALVE
- GLOBE VALVE
- LP — LOW PRESSURE CHECK VALVE
- PRESSURE REDUCING VALVE
- PVR — PRESSURE RELIEF VALVE
- TELESCOPIC VALVE
- 3–WAY VALVE
- TRIPLE DUTY VALVE

EQUIPMENT SYMBOLS

- ACU — ACCUMULATOR
- AIR FLOW DIRECTION
- BASE MOUNTED PUMP
- BLOWER
- CEILING DIFFUSER WITH FLEXIBLE DUCT
- CENTRIFUGAL PUMP
- CONNECT TO EXISTING
- DT — DRIP TRAP
- DUCT BOOST COIL
- Type / Group — EQUIPMENT TAG
- FA — FLAME ARRESTER
- FC — FLAME CELL
- FT — FLAME TRAP ASSEMBLY
- G — GRINDER
- INLINE PUMP
- POSITIVE DISPLACEMENT PUMP
- ROOF EXHAUST FAN
- UNIT HEATER
- VARIABLE AIR VOLUME (VAV) BOX WITH ELECTRIC REHEAT COIL
- VARIABLE AIR VOLUME (VAV) BOX WITH HEATING HOT WATER REHEAT COIL

DUCTWORK SYMBOLS

- SUPPLY DUCT (UP OR SECTION)
- SUPPLY OR OUTSIDE AIR DUCT (DOWN/OR AWAY)
- EXHAUST DUCT (UP OR SECTION)
- EXHAUST OR RETURN DUCT (DOWN/OR AWAY)
- ROUND DUCTWORK UP
- ROUND DUCTWORK DOWN
- FLEXIBLE CANVAS CONNECTION
- TURNING VANES

DAMPER SYMBOLS

- M — AUTOMATIC DAMPER
- BDD — BACKDRAFT DAMPER
- MANUAL VOLUME DAMPER
- FD — 1–1/2 HR. FIRE DAMPER

FIELD MOUNTED CONTROLS

- T — THERMOSTAT
- H — ROOM HUMIDISTAT
- P — PRESSURE SENSOR
- S — ROOM SENSOR
- DUCT SMOKE DETECTOR
- PRESSURE GAUGE

ACTUATORS

- M — MOTOR (ELECTRIC)
- P — PNEUMATIC
- S — SOLENOID

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DATE: JUNE 2009
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CHK BY: SAI
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BY:
DATE:
CONTRACTOR:

STANDARD SYMBOLS - 2
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
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ELECTRICAL ABBREVIATIONS

A	AMPERE
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
A/V	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
C	CONDUIT
CAT	CATALOG
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CL	CENTERLINE
CLG	CEILING
COL	COLUMN
CT	CURRENT TRANSFORMER
CTE	CONNECT TO EXISTING
CU	COPPER
CUH	CABINET UNIT HEATER
D	DEDICATED
DC	DIRECT CURRENT
DISC	DISCONNECT
DWG	DRAWING
E	EMERGENCY
EC	ELECTRICAL CONTRACTOR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EMT	ELECTRICAL METALLIC TUBING
EOL	END OF LINE DEVICE
EWC	ELECTRIC WATER COOLER
EX	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPERES
FPCP	FIRE PUMP CONTROL PANEL
FR	FIRE RETARDANT
FT	FEET
FDA	FOOD AND DRUG ADMINISTRATION
FVNR	FULL VOLTAGE NON-REVERSING
G	GROUND
GC	GENERAL CONTRACTOR
GFP	GROUND FAULT PROTECTION (EQUIPMENT)
GFCI	GROUND FAULT CKT INTERRUPTER
HACR	HEATING AND AIR CONDITIONING RATED
HP	HORSEPOWER
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
HZ	HERTZ
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KCMIL	ONE THOUSAND CIRCULAR MILS
KO	KNOCKOUT
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KW	KILOWATT
LTG	LIGHTING
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TELEVISION
MC	METAL CLAD
MCB	MAIN CIRCUIT BREAKER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANELBOARD
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MO	MOTOR OPERATED
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MW	MICROWAVE OR MEGAWATT
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NAC	NOTIFICATION APPLIANCE CIRCUIT PANEL
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NM	NONMETALLIC
NO	NORMALLY OPEN
NSF	NATIONAL SANITARY FOUNDATION
NTS	NOT TO SCALE
OCB	OIL CIRCUIT BREAKER
P	POLE
PB	PULL BOX
PC	PULL CORD
PH	PH SENSOR
ø	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PS	PRESSURE SWITCH
PT	PRESSURE TRANSDUCER
PTZ	PANTEL ZOOM CAMERA
PVC	POLYVINYL CHLORIDE
PWR	POWER
RSC	RIGID GALVANIZED STEEL CONDUIT
RVNR	REDUCED VOLTAGE NON-REVERSING
SC	SHORT CIRCUIT
SE	SERVICE ENTRANCE
SEC	SECONDARY
SS	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
TEL	TELEPHONE
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE OR WATT
WD	HIGH PRESSURE WASH DOWN
WL	WET LOCATION
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
Y	WYE

GENERAL EQUIPMENT ABBREVIATIONS

AC	AIR COMPRESSOR
AER	AERATOR
AOV	AIR OPERATED VALVE
AST	AUTOMATIC STRAINER
B	BLOWER
BFV	BUTTERFLY VALVE
BS	BAR SCREEN
BP	BOOSTER PUMP
CIM	CHEMICAL INDUCTION MIXER
CLR	CHLORINATOR
COMP	COMPRESSOR
CSG	CAST IRON SLUICE GATES
DOW	DOWNWARD OPENING WEIR GATE
EFP	EXCESS FLOW PUMP
FC	FINAL CLARIFIER
FCD	FINAL CLARIFIER DRIVE
FILT	FILTER
FAB	FILTER SYSTEM AIR COMPRESSOR
FBP	FILTER BACKWASH PUMP
FBB	FILTER BACKWASH AIR BLOWER
FM	FLOW METER
FP	FUEL PUMP
FSG	FABRICATED SLUICE GATE
GTD	GRAVITY THICKENER DRIVE
GTV	GRAVITY THICKENER VENTILATOR
GC	GRIT COLLECTOR
GD	GRIT DECANTOR
HBT	HYDROPNEUMATIC BOOSTER TANK
HSP	HEAVY SLUDGE PUMP
ILP	INTERMEDIATE LIFT PUMP
MAC	MAINTENANCE AIR COMPRESSOR
MA	MOTORIZED ACTUATOR
MFM	MAGNETIC FLOW METER
MBV	MOTORIZED BALL VALVE
MIX	MIXER
MOV	MOTOR OPERATED VALVE
MP	METERING PUMP
NPWP	NON POTABLE WATER PUMP
OHD	OVERHEAD DOOR OPERATOR
PRCP	PHOSPHORUS REMOVAL CHEMICAL PUMP
PRCT	PHOSPHORUS REMOVAL CHEMICAL TANK
RASP	RETURN ACTIVATED SLUDGE PUMP
RSP	RAW SEWAGE PUMP
SAM	SAMPLER
SCMP	SCUM PUMP
SCW	SCREENINGS WASHER
SEP	SEWAGE EJECTOR PUMP
SMP	SLUDGE MIXING PUMP
SG	SLIDE GATE
SLF	SULFINATOR
SLG	SLUICE GATE
SP	SUMP PUMP
STG	STOP GATE
STR	STRAINER
SV	SOLENOID VALVE
TH	TROLLEY HOIST

FLUID ABBREVIATIONS

A	AIR
BW	BACKWASH
CA	COMPRESSED AIR
CG	CHLORINE GAS
CLS	CHLORINE SOLUTION
D	DRAIN
DSL	DIGESTED SLUDGE
EF	EXCESS FLOW
FE	FILTER EFFLUENT
F	FORCE MAIN
G	NATURAL GAS
GR	GRIT
HOCL	HYPOCHLORITE
HS	HEAVY SLUDGE
HW	HOT WATER
ML	MIXED LIQUOR
NPW	NONPOTABLE WATER
OF	OVERFLOW
PDP	PERFORATED DRAIN PIPE
PE	PLANT EFFLUENT
PI	PLANT INFLUENT
PRC	PHOSPHORUS REMOVAL CHEMICAL
PSS	PLANT SANITARY SEWER
PW	POTABLE WATER
PWR	PROCESS WATER RETURN
PWS	PROCESS WATER SUPPLY
RAS	RETURN ACTIVATED SLUDGE
RW	RAW WASTEWATER
SAM	SAMPLE
SAN	SANITARY SEWER
SB	SODIUM BISULFITE
SCM	SCUM
SCMD	SCUM DECANT
SDG	SULFER DIOXIDE GAS
SDS	SULFER DIOXIDE SOLUTION
SE	SECONDARY EFFLUENT
SPD	SUMP PUMP DISCHARGE
ST	STORM SEWER
TSL	THICKENED SLUDGE
V	VENT
WAS	WASTE ACTIVATED SLUDGE

PLUMBING AND PROCESS ABBREVIATIONS

AEW	APRON END WALL
BF	BLIND FLANGE
CA	COMPRESSED AIR
CB	CATCH BASIN
CD	CONDENSATE DRAIN
CI	CAST IRON
CO	CLEAN OUT
COND	CONDENSATE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CW	COLD WATER
D	DRAIN
DCBP	DOUBLE CHECK BACKFLOW PREVENTER
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DI	DUCTILE IRON
ESEW	EMERGENCY SHOWER EYEWASH
EW	EYEWASH
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
HB	HOSE BIBB
HD	HUB DRAIN
HDPE	HIGH DENSITY POLYETHYLENE
HR	HOSE REEL
HWL	HIGH WATER LEVEL
HW	HOT WATER
IE	INVERT ELEVATION
LWL	LOW WATER LEVEL
MB	MOP BASIN
MH	MANHOLE
P	PUMP
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PVC	POLYVINYL CHLORIDE
QC	QUICK CONNECT
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RZBP	REDUCED ZONE BACKFLOW PREVENTER
S	SINK
SP	SUMP PUMP
SS	STAINLESS STEEL
SV	SOLENOID VALVE
SVS	SERVICE SINK
T	TANK
TD	TRENCH DRAIN
V	VENT
VB	VACUUM BREAKER
VTR	VENT THRU ROOF
W	WASTE PIPE
WCO	WALL CLEANOUT
WH	WATER HEATER

GENERAL/HVAC ABBREVIATIONS

ACH	AIR CHANGES PER HOUR
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AP	ACCESS PANEL
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
COND	CONDENSATE
DAT	DISCHARGE AIR TEMPERATURE
DB	DRY BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROL
DG	DOOR GRILLE
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EL	ELEVATION
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
FC	FAIL CLOSED
FLA	FULL LOAD AMPS
FO	FAIL OPEN
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FT	FEET
GA	GAUGE
GPM	GALLONS PER MINUTE
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSANDS OF BTU PER HOUR
MC	MECHANICAL CONTRACTOR
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OC	ON CENTER
OV	OUTLET VELOCITY
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SP	STATIC PRESSURE

HVAC EQUIPMENT ABBREVIATIONS

ACCU	AIR COOLED CONDENSING UNIT
AFR	ARCHITECTURAL FINE TUBE RADIATION
AHU	AIR HANDLING UNIT
BB	BASEBOARD
C	CONVECTOR
CD	CEILING DIFFUSER
CUH	CABINET UNIT HEATER
DH	DEHUMIDIFIER
DL	DRUM LOUVER
EBB	ELECTRIC BASEBOARD
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
EL	EXPANSION LOOP
ER	EXHAUST REGISTER
ERC	ELECTRIC REHEAT COIL
ERU	ENERGY RECOVERY UNIT
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WALL HEATER
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FR	FINNED TUBE RADIATION
FUR	FURNACE
GRV	GRAVITY ROOF VENTILATOR
GUH	GAS UNIT HETATER
HC	HEATING COIL
HU	HUMIDIFIER
HWH	HOT WATER UNIT HEATER
HWP	HOT WATER PUMP
L	LOUVER
MAU	MAKE-UP AIR UNIT
P	PUMP
PWP	PROCESS WATER PUMP
RF	RETURN FAN
RG	RETURN GRILLE
RR	REGISTER
REF	RETURN EXHAUST FAN
RTU	ROOFTOP UNIT
SD	SUCTION DIFFUSER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER
TCP	TEMPERATURE CONTROL PANEL
TG	TRANSFER GRILLE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME BOX
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
XT	EXPANSION TANK

NO. | REVISIONS | DATE:

DATE: JUNE 2009 DES BY:SAI CHK BY:SAI
RECORD DRAWING
BY: DATE: CONTRACTOR:

ABBREVIATIONS
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
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JOB NO. 1-879-008

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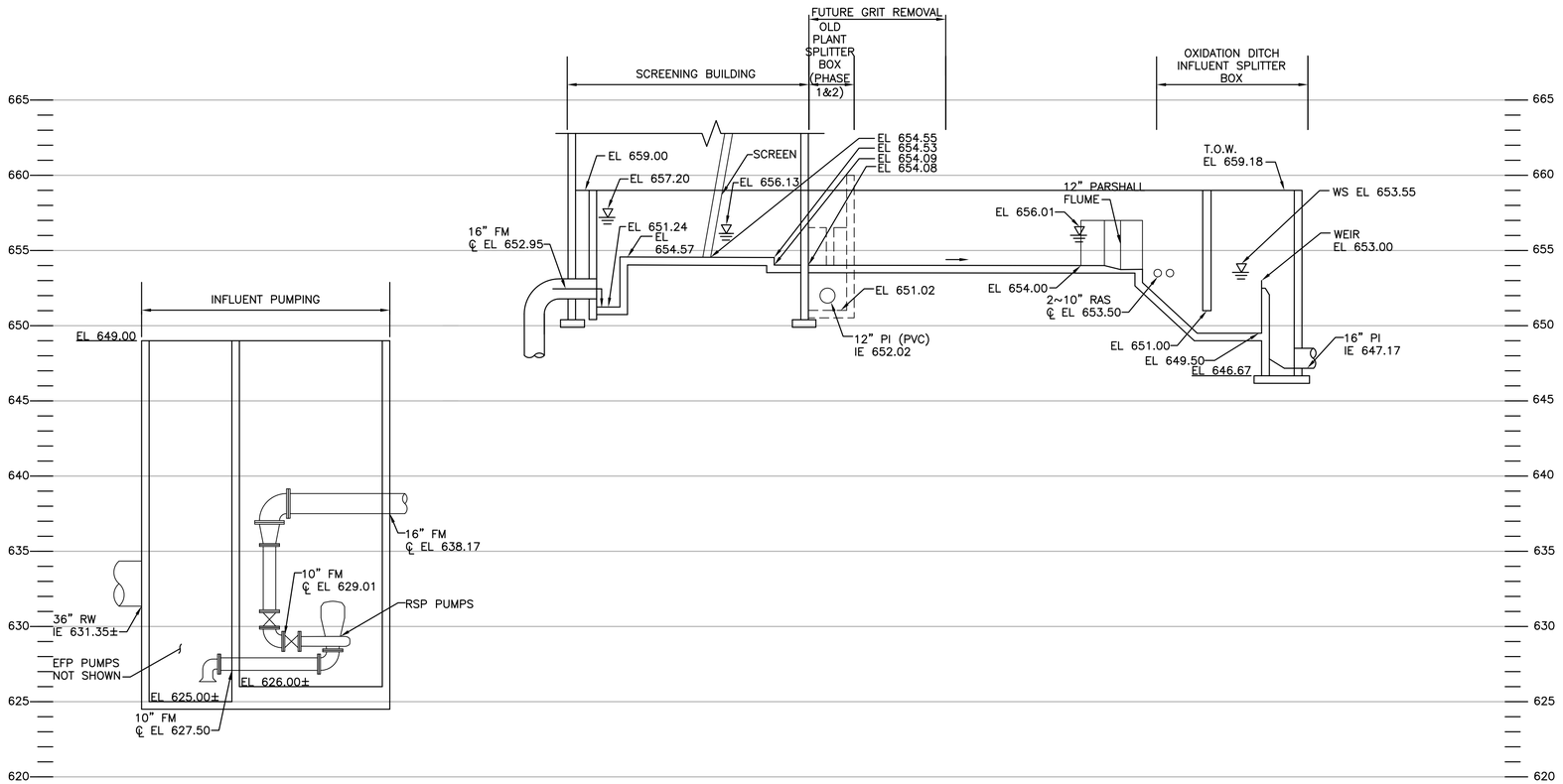
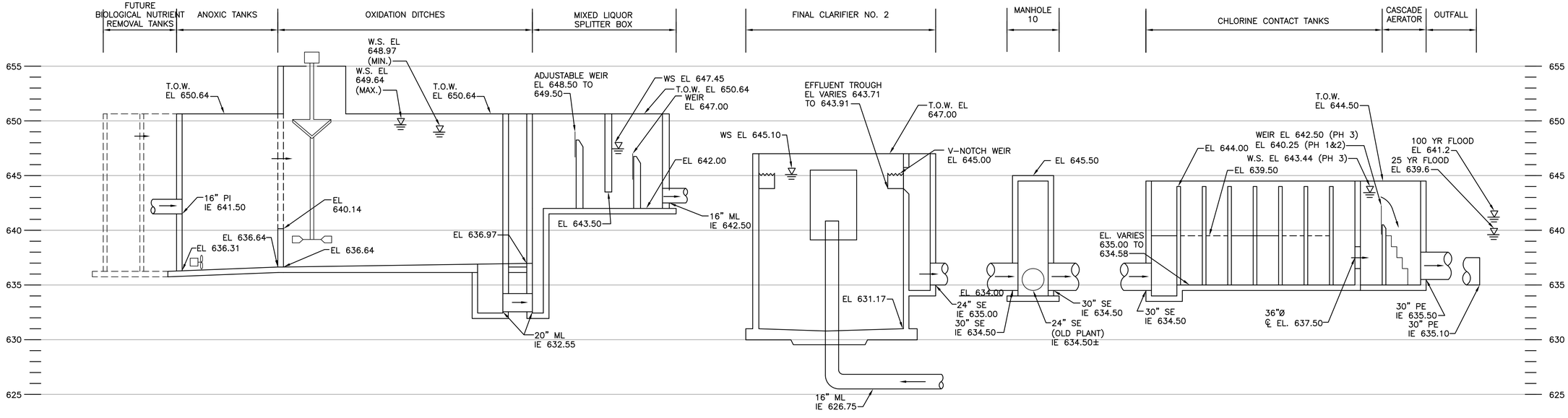


NOTE: WATER SURFACE AND WEIR ELEVATIONS SHOWN ARE BASED ON THE HYDRAULIC GRADIENT AT THE PHASE 3 DESIGN PEAK INSTANTANEOUS FLOW RATE OF 7.48 MGD, PLUS RETURN ACTIVATED SLUDGE FLOW RATE OF 2.79 MGD, WITH ALL UNITS OPERATIONAL.



HYDRAULIC PROFILE–STP NO. 2

SCALE:
HORIZONTAL: NO SCALE
VERTICAL: 1"=5'-0"

HYDRAULIC PROFILE
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

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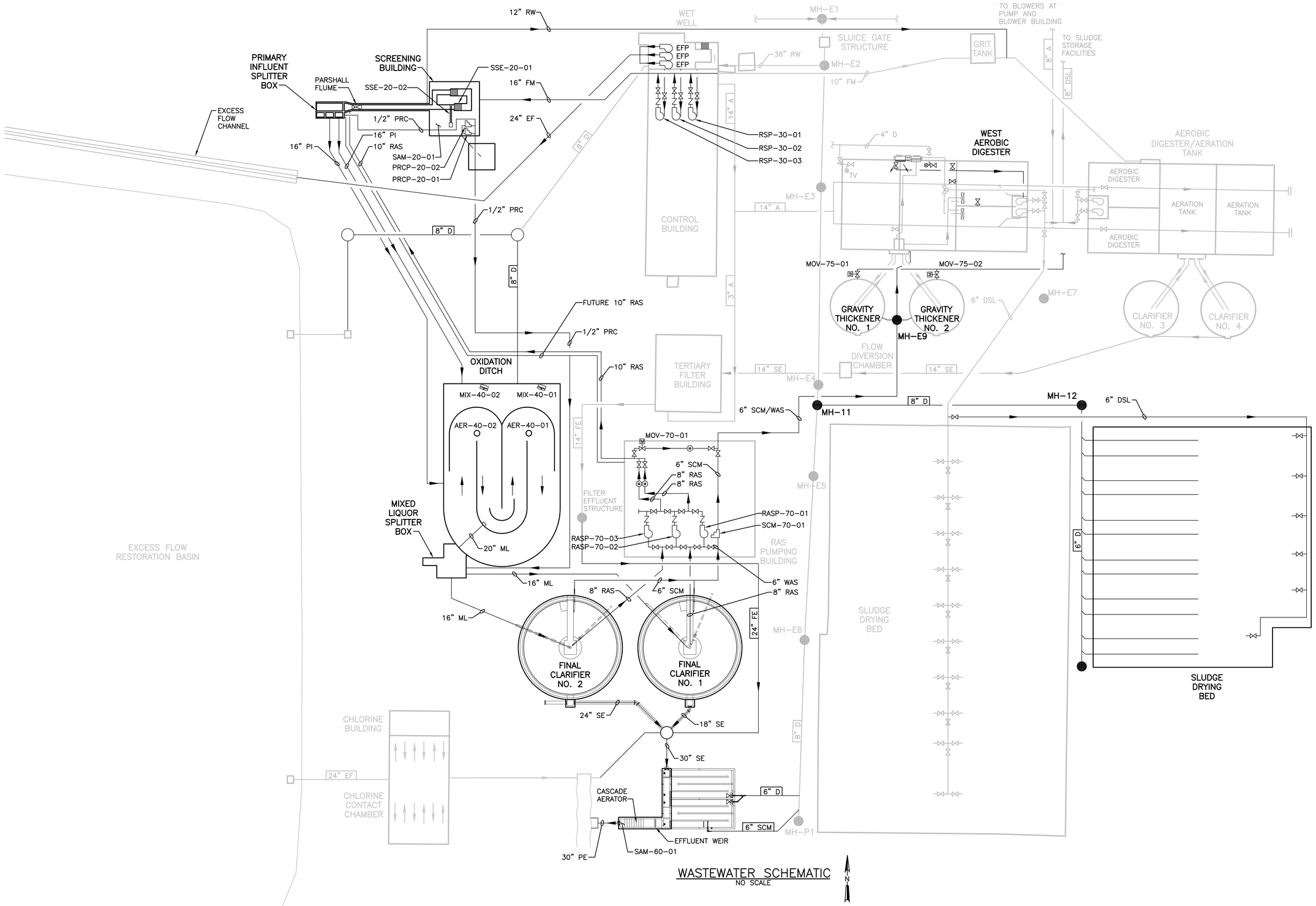

WASTEWATER FLOW SCHEMATIC DIAGRAM

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

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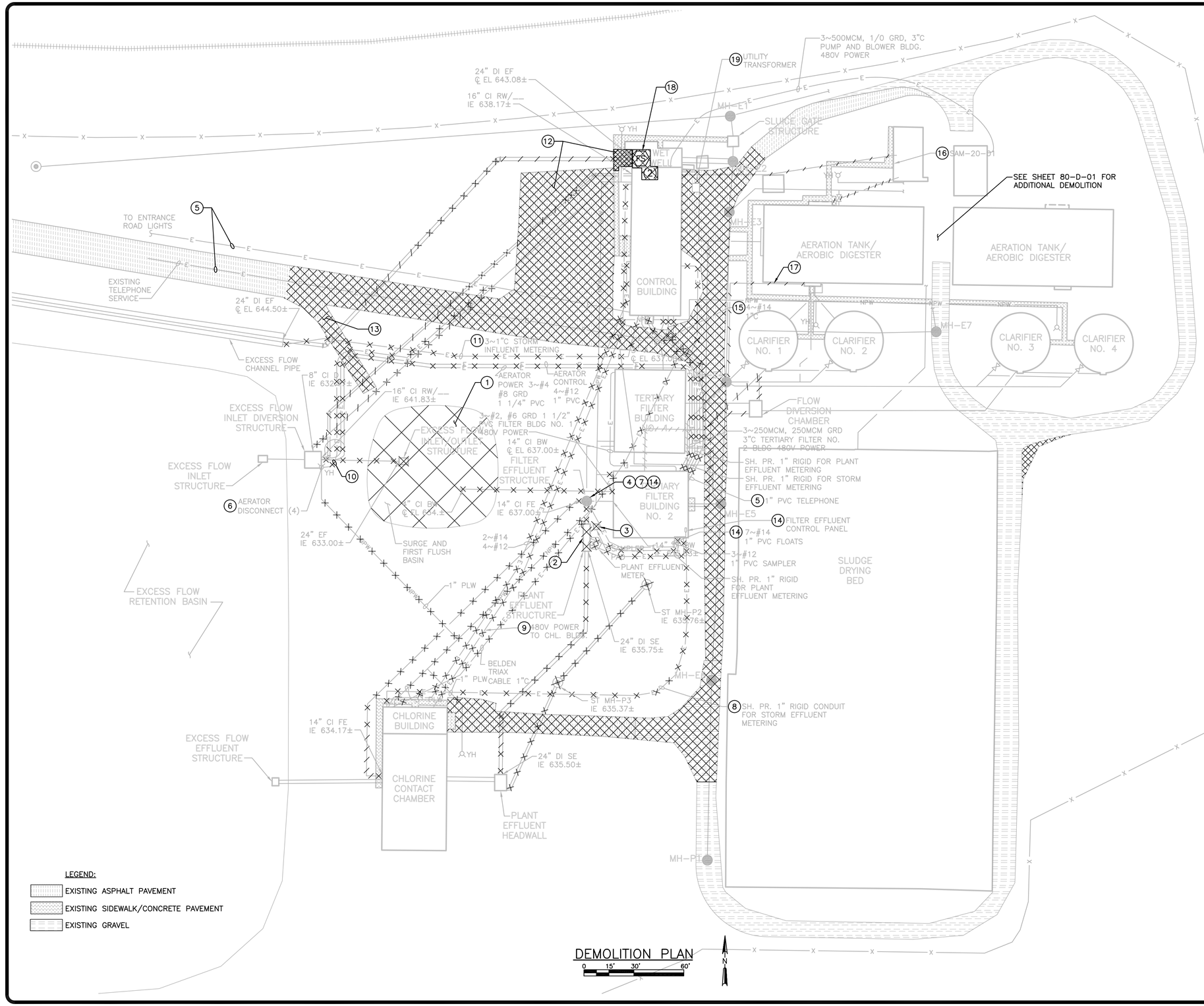

GENERAL NOTES:

1. THE DRAWINGS SHOW APPROXIMATE LOCATION OF EXISTING UNDERGROUND ELECTRICAL BASED ON OWNER-PROVIDED RECORD DRAWINGS. CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLING NEW ELECTRICAL EQUIPMENT AND PRIOR TO MAKING MODIFICATIONS TO EXISTING ELECTRICAL. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, FEEDERS TO STRUCTURES AND EQUIPMENT, BRANCH CIRCUIT WIRING, PHONE AND COMMUNICATION CABLING, INSTRUMENT WIRING, AND CONTROL WIRING. CONTRACTOR SHALL TEMPORARILY RELOCATE EXISTING UNDERGROUND ELECTRICAL AS REQUIRED TO KEEP THE EXISTING FACILITY IN OPERATION AND FOR ANY NEW CONSTRUCTION, AND ALL COSTS FOR RELOCATING EXISTING ELECTRICAL SHALL BE INCLUDED IN THE BID.
2. CONTRACTOR SHALL REMOVE ALL WIRE, EXPOSED CONDUIT, AND JUNCTION BOXES ASSOCIATED WITH ALL DEVICES AND EQUIPMENT BEING REMOVED UNLESS OTHERWISE NOTED. PATCH ALL HOLES AND DEFORMATIONS WITH NON-SHRINK GROUT. FINISH TO MATCH EXISTING.

KEY NOTES:

(1) DEMOLISH AND REMOVE EXCESS FLOW INLET/OUTLET BASIN

(2) DEMOLISH AND REMOVE PLANT EFFLUENT STRUCTURE. REPLACE EXISTING CHANNEL WITH DUCTILE IRON PIPE.

(3) DEMOLISH AND REMOVE CONCRETE PAD AND RELOCATE SAMPLER TO CHLORINE CONTACT TANK.

(4) DEMOLISH AND REMOVE 14" FE PIPE AND FILL PENETRATION WITH NON SHRINK GROUT.

(5) ELECTRICAL WIRING AND CONDUIT FOR ENTRANCE ROAD LIGHTS AND TELEPHONE SHALL REMAIN. KEEP INTACT.

(6) DEMOLISH AND REMOVE EXISTING ABANDONED AERATOR DISCONNECTS, MOUNTING STRUCTURE, AND ALL ASSOCIATED WIRE AND CONDUIT.

(7) REMOVE DUCK BILL CHECK VALVE ON 14-INCH FE TO TERTIARY BUILDING.

(8) DIVISION 16 CONTRACTOR SHALL REROUTE EXISTING STORM EFFLUENT METERING WIRE AND CONDUIT TO SCC-70 AS SHOWN ON ELECTRICAL SITE PLAN.

(9) CHLORINE BUILDING IS CURRENTLY POWERED FROM THE CONTROL BUILDING MAIN EMERGENCY POWER PANEL. DIVISION 16 CONTRACTOR SHALL RELOCATE EXISTING 480V POWER WIRING AND CONDUIT FOR CHLORINE BUILDING TO NEW LOCATION SHOWN ON ELECTRICAL SITE PLAN.

(10) DIVISION 16 CONTRACTOR SHALL REROUTE EXISTING 2~#8 PLUS GROUND AND ASSOCIATED CONDUIT FOR EXCESS FLOW INLET DIVERSION STRUCTURE LIGHTING AROUND NEW OXIDATION DITCH. PROVIDE NEW CONDUIT AND WIRING AS REQUIRED.

(11) DIVISION 16 CONTRACTOR SHALL REROUTE AND EXTEND EXISTING BELDEN 9222 MULTI CONDUCTOR CABLE, TWO BELDEN 9222 TRIAX CABLES AND RED TRIAX CABLE IN 3~1" CONDUITS FOR STORM INFLUENT METERING SIGNAL WIRING AROUND NEW OXIDATION DITCH TO MAIN CONTROL PANEL SHOWN ON SHEET 30-HE-01.

(12) NOT USED.

(13) DEMOLISH AND REMOVE EXISTING PAVEMENT AND REGRADE.

(14) REMOVE THREE EXISTING FLOAT SWITCHES AND ALL ASSOCIATED WIRE AND CONDUIT BACK TO FILTER EFFLUENT CONTROL PANEL. REFER TO SHEET 70-D-01 FOR ADDITIONAL DEMOLITION REQUIRED.

(15) CONTROL WIRING FOR FILTER OVERFLOW FROM TERTIARY FILTER BUILDING NO. 1 TO MAIN CONTROL PANEL IN CONTROL BUILDING SHALL REMAIN INTACT.

(16) RELOCATE EXISTING INFLUENT SAMPLER TO NEW LOCATION SHOWN ON SHEET 20-ASM-03.

(17) ABANDON EXISTING CHEM. FEED CASING PIPE.

(18) REMOVE EXISTING FLOAT SWITCHES AND ALL ASSOCIATED WIRE AND CONDUIT BACK TO STORM PUMP P6 STARTER SHOWN ON SHEET 05-E-01.

(19) RELOCATE EXISTING UTILITY COMPANY TRANSFORMER TO WHERE SHOWN ON SHEET 05-E-01. COORDINATE RELOCATION WITH UTILITY COMPANY.

NO.	REVISIONS	DATE:

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BY: DATE: CONTRACTOR:

DEMOLITION PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 8
05-D-01
JOB NO. 1-879-008

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EMH–4
UTILITY TRANSFORMER
EMH–5
SCREENING BUILDING
X=–15.71
Y=321.32
SLUICE GATE STRUCTURE
MH–E1
WET WELL
MH–E2
GRIT DRYING BED
GRIT TANK
SHED
FACILITIES AND CONTOURS NOT SHOWN IN THIS AREA
BLOWER AND PUMP BLDG
MH–E3
WEST AEROBIC DIGESTER
AEROBIC DIGESTER/AERATION TANK
EXCESS FLOW CHANNEL
X=–15.41
Y=286.32
MH–15
MH–14
CONTROL BUILDING
GRAVITY THICKENER NO. 1
MH–9
GRAVITY THICKENER NO. 2
MH–E7
FINAL CLARIFIER NO. 3
FINAL CLARIFIER NO. 4
X=–22.86
Y=214.11
X=52.47
Y=214.75
EMH–1
FUTURE OXIDATION DITCH
FUTURE OXIDATION DITCH
OXIDATION DITCH
TERTIARY FILTER BUILDING
MH–E4
FLOW DIVERSION CHAMBER
MH–11
MH–12
EXCESS FLOW INLET STRUCTURE
EXCESS FLOW INLET DIVERSION STRUCTURE
FILTER EFFLUENT STRUCTURE
RAS PUMPING BUILDING
FLOW DIVERSION CHAMBER
MH–E5
EMH–2
MH–16
X=344.00
Y=157.05
SLUDGE DRYING BED
SLUDGE DRYING BEDS
X=–26.20
Y=88.57
X=–7.20
Y=88.73
FUTURE CLARIFIER
FUTURE CLARIFIER
CLARIFIER NO. 2
X=29.52
Y=45.37
CLARIFIER NO. 1
X=106.86
Y=46.03
NORTH–SOUTH BASELINE
MH–E6
X=345.33
Y=1.73
MH–17
EAST–WEST BASELINE
MH–18
MH–10
X=107.18
Y=7.50
EMH–3
MH–13
DISINFECTION BUILDING
X=0.0
Y=0.0
X=29.85
Y=6.84
X=136.59
Y=–39.53
X=89.59
Y=–39.94
STORM BASIN EFFLUENT STRUCTURE
CHLORINE CONTACT TANK
PLANT EFFLUENT HEADWALL
PLANT EFFLUENT HEADWALL
CHLORINE CONTACT TANK
MH–P1

PLAN
0 15' 30' 60'
N

LEGEND:
- EXISTING ASPHALT PAVEMENT
- EXISTING SIDEWALK/CONCRETE PAVEMENT
- EXISTING GRAVEL
- NEW ASPHALT PAVEMENT
- NEW SIDEWALK/CONCRETE PAVEMENT

GENERAL NOTES:

1. BENCHMARK B: SOUTH EAST CORNER OF EFFLUENT CHAMBER ON EAST CLARIFIER. EL=651.00

2. BENCHMARK C: SOUTHEASTERLY CORNER OF CHLORINE CONTACT CHAMBER EL=640.00

NO. | REVISIONS | DATE:

DATE: JUNE 2009
DES BY: CHK BY:
RECORD DRAWING
BY: DATE:
CONTRACTOR:

LOCATION PLAN
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 9
05–C–01
JOB NO. 1–879–008

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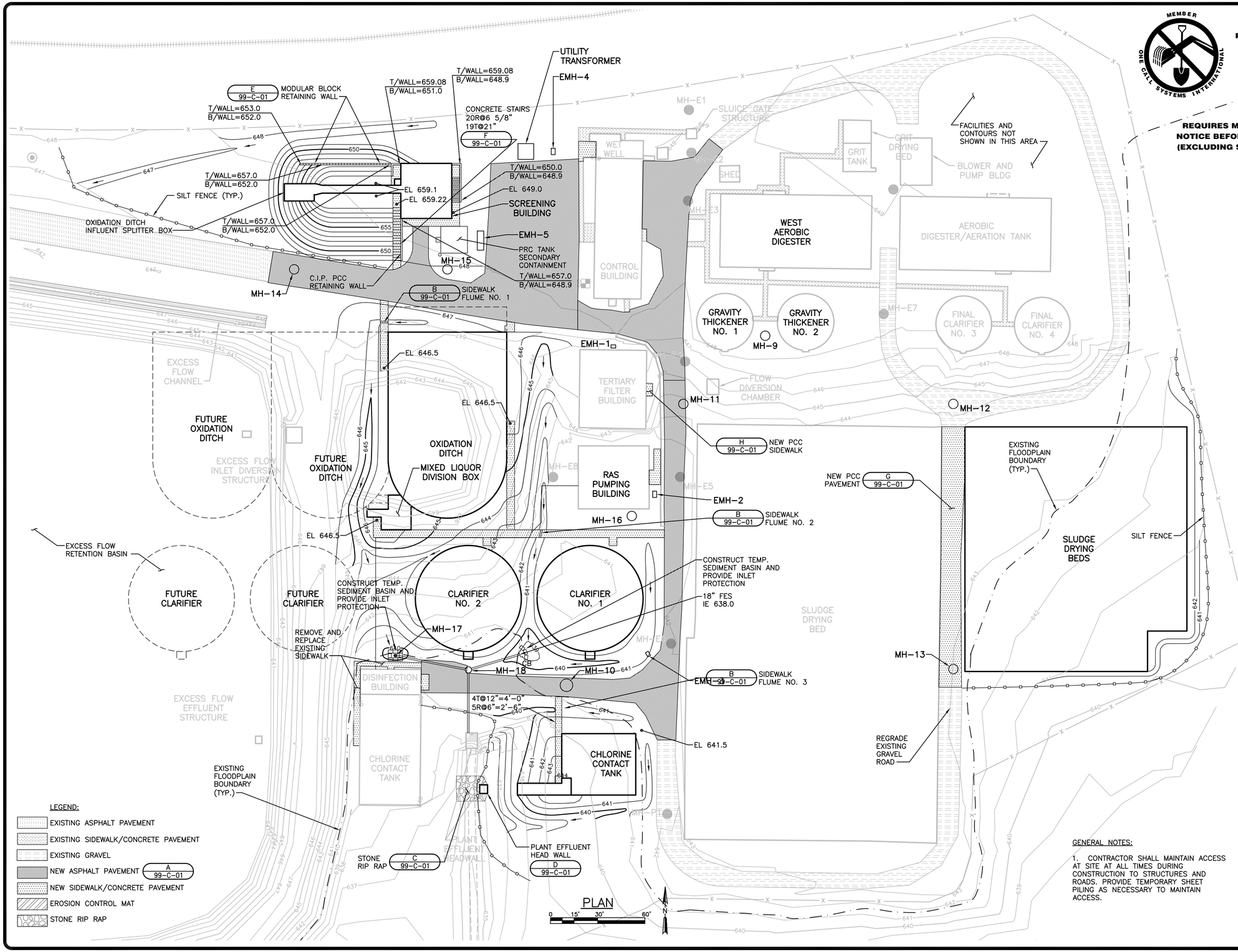

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1-800-892-0123

TOLL FREE

REQUIRES MIN. OF 48 HOURS NOTICE BEFORE YOU EXCAVATE. (EXCLUDING SAT., SUN., & HOL.)

SEDIMENTATION AND EROSION CONTROL NOTES:

A. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.

B. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.

C. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE, OR REDISTURBANCE.

D. TEMPORARY EROSION CONTROL BLANKET SHALL BE REQUIRED AS SHOWN ON THE DRAWINGS.

E. ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED, BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.

F. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.

G. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED BY THE CONTRACTOR.

H. A STABILIZED MAT OF AGGREGRATE UNDERLAIN WITH FILTER CLOTH (OR OTHER APPROPRIATE MEASURE) SHALL BE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA. ANY SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.

I. SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRONE AREA OR A DESIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES.

J. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE.

K. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE OWNER OR GOVERNING AGENCY.

L. EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL, 1995.

M. TEMPORARY EROSION BLANKET SHALL BE PLACED ON ALL DISTURBED SLOPES OF 25 % OR GREATER.

GENERAL NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS AT SITE AT ALL TIMES DURING CONSTRUCTION TO STRUCTURES AND ROADS. PROVIDE TEMPORARY SHEET PILING AS NECESSARY TO MAINTAIN ACCESS.

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY: CHK BY:
RECORD DRAWING
BY: DATE:
CONTRACTOR:

SITE GRADING PLAN AND EROSION CONTROL

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
10
05-C-02
JOB NO. 1-879-008

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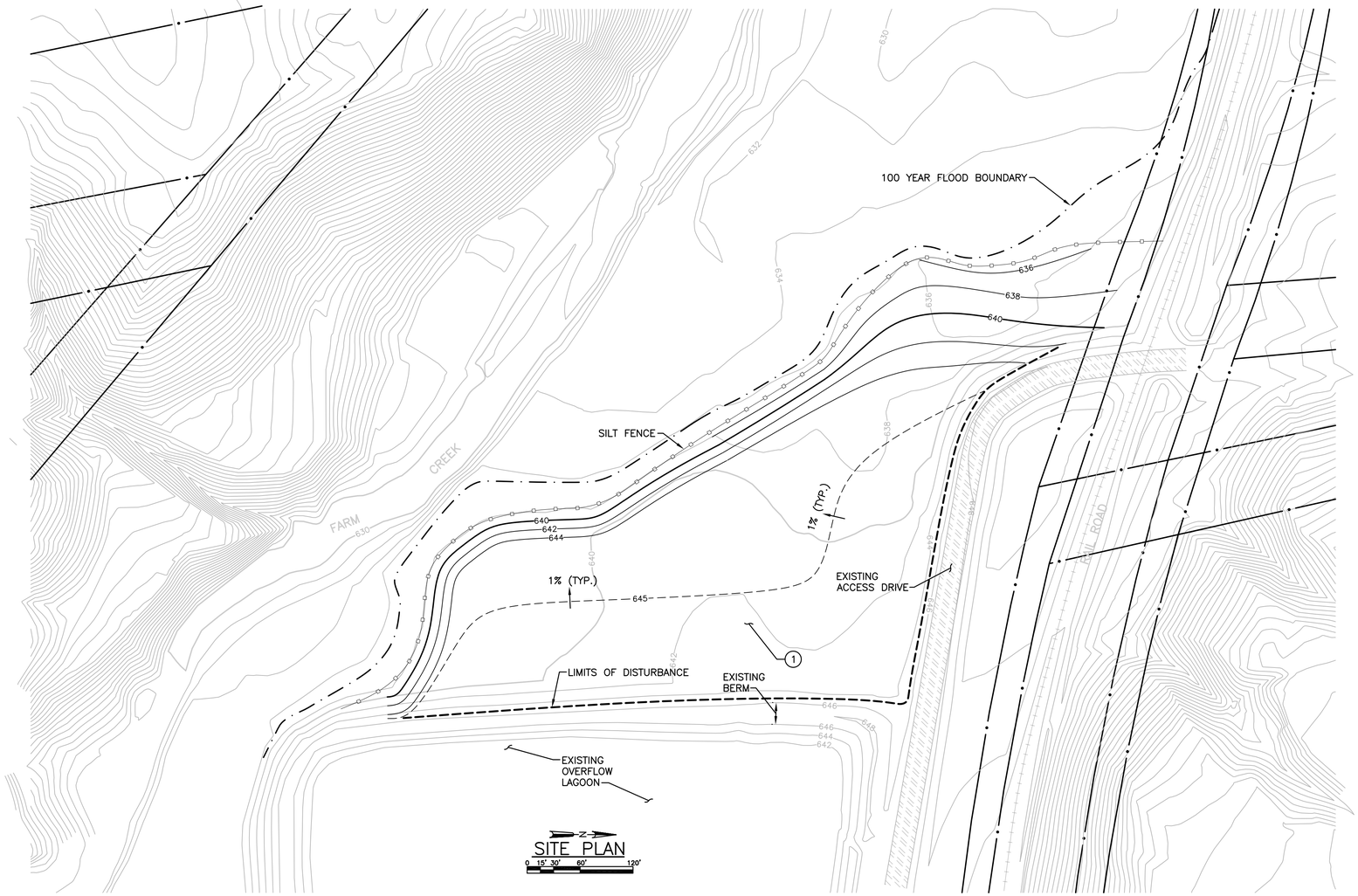

SITE PLAN

0 15' 30' 60' 120'

LEGEND:

EXISTING GRAVEL

GENERAL NOTES:

1. SILT FENCE SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
2. NO EXCESS EXCAVATED MATERIAL SHALL BE PLACED WITHIN FLOOD PLAIN BOUNDARY.
3. DISTURBED AREAS SHALL BE SEEEDED WITH IDOT CLASS 2 SEED MIXTURE AND MULCHED.
4. STRIPPING OF EXISTING TOPSOIL IN AREA TO BE FILLED NOT REQUIRED.
5. ESTIMATED VOLUME OF EXCESS FILL TO BE DISPOSED OF = 18,500 C.Y..

KEY NOTES:

(1) AREA TO BE FILLED WITH SITE EXCAVTED MATERIAL AND CAPPED WITH TOPSOIL AND SEEDED PER SPECIFICATIONS.

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NO.	REVISIONS	DATE:

DATE: JUNE 2009
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RECORD DRAWING
BY:
DATE:
CONTRACTOR:

EXCESS FILL GRADING PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
11
05-C-03
JOB NO. 1-879-008

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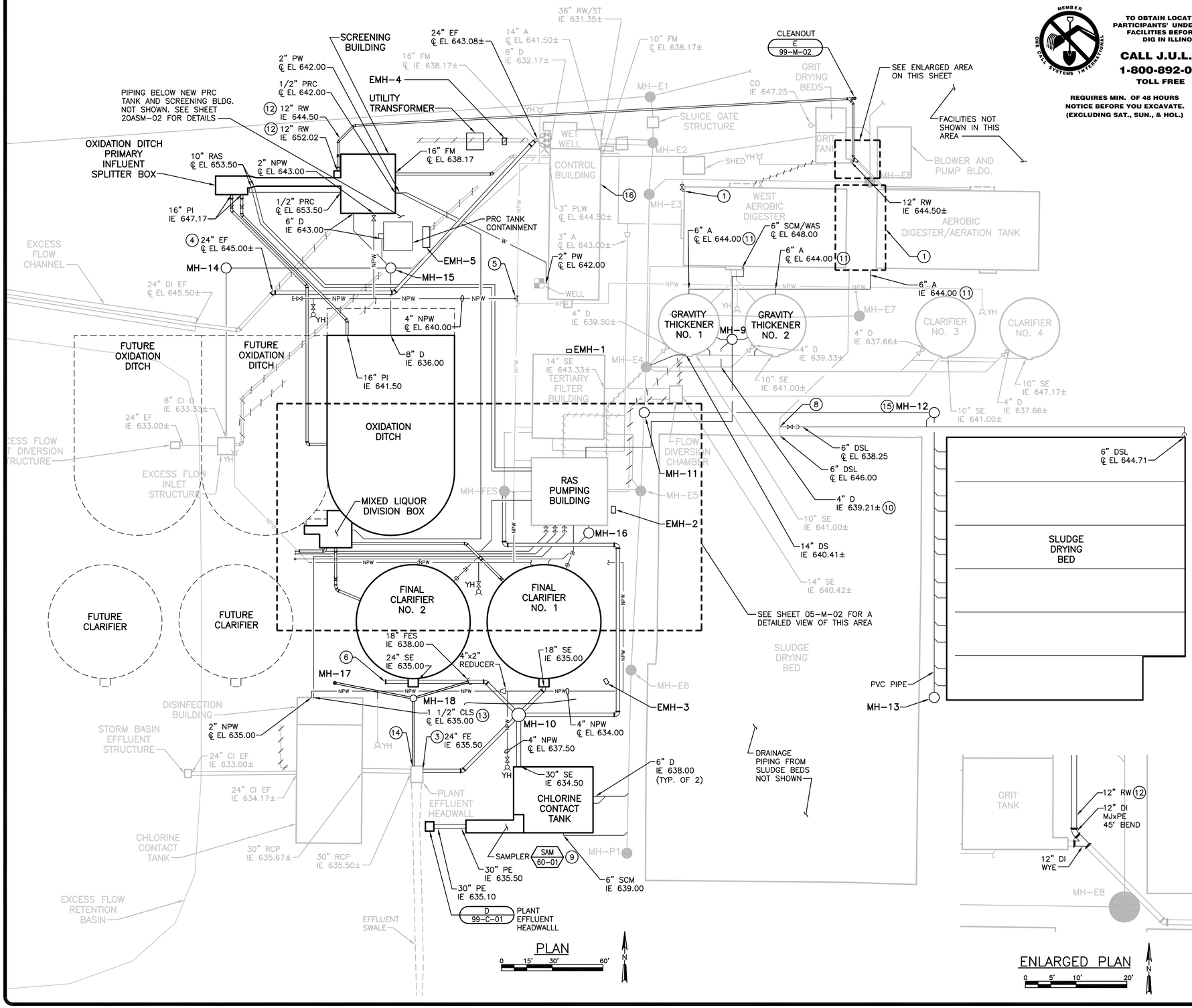

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN ILLINOIS

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REQUIRES MIN. OF 48 HOURS NOTICE BEFORE YOU EXCAVATE. (EXCLUDING SAT., SUN., & HOL.)

GENERAL NOTES:

1. ALL PIPE SHALL BE DUCTILE IRON (DI) UNLESS OTHERWISE SPECIFIED OR SHOWN. SEE SPECIFICATIONS SECTIONS 02600 AND 15050 FOR OTHER PIPING MATERIAL.
2. THIS DRAWING DOES NOT INDICATE ALL PIPE FITTINGS REQUIRED TO INSTALL YARD PIPING AS SHOWN. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING ALL REQUIRED FITTINGS. CONTRACTOR SHALL KEEP NUMBER OF FITTINGS TO THE MININUM REQUIRED.
3. CONTRACTOR SHALL CONTACT AGENCIES FOR LOCATION OF UTILITIES.
4. AT PIPE CROSSINGS, ON ALL SCHEMATIC AND PIPING PLANS, THE PIPIE THAT IS BROKEN DOES NOT NECESSARILY DESIGNATE THE POSITION OF THE PIPES RELATIVE TO EACH OTHER.
5. PROVIDE THRUST RESTRAINTS ON ALL FORCE MAIN AND PRESSURE PIPE BENDS, PLUGS, CAPS, TEES, AND HYDRANTS. SEE SPECIFICATIONS.
6. LOCATIONS AND ELEVATIONS OF EXISTING PIPING, BUILDING, ELECTRICAL SERVICES, AND OTHER SITE FEATURES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND IS RESPONSIBLE FOR LOCATIONS.
7. MH – MANHOLE. SEE DRAWING 01-975-43A (SPECIFICATIONS) FOR DETAILS.
8. TOP OF CASTING (TC) ELEVATIONS TO BE FIELD VERIFIRED. CONTRACTOR SHALL ADJUST CASTINGS AS REQUIRED.
9. SEE DRAWING 05-C-02 FOR STORM SEWER PIPING PLAN AND DETAILS.
10. PROVIDE A MINIMUM 4.5-FEET OF COVER OVER NPW AND CLS PIPING OR PROVIDE PIPE INSULATION.
11. FOR PIPE INSULATION SEE DETAIL D/99-M-01 AND SPECIFICATION SECTION 15250.
12. PDP AT STRUCTURES SHOWN ON STRUCTURE DRAWINGS.
13. SEE SHEET 05-M-02 FOR MH ELEVATIONS.

KEY NOTES:

1. SEE DRAWING 80-ASM-01 FOR DETAILS.
2. NOT USED.
3. PROVIDE NEW 24" OPENING IN EXISTING HEAD WALL STRUCTURE.
4. PROVIDE THRUST BLOCK AT NEW 45-DEGREE BEND. FIELD VERIFY LOCATION AND ELEVATION.
5. CONTRACTOR SHALL FIELD VERIFY ELEVATION AND LOCATION OF TIE-IN. MAINTAIN A MINIMUM OF 4'-0" COVER OVER PIPE.
6. PROVIDE END PLUG ON PIPE.
7. INTENTIONALLY LEFT BLANK.
8. TIE INTO EXISTING 6" DSL LINE AND INSTALL NEW 6"X6" TEE WITH GATE VALVE.
9. RELOCATE EXISTING SAMPLER FROM PLANT EFFLUENT STRUCTURE TO THIS LOCATION.
10. PROVIDE NEW MJ TEE.
11. UNDERGROUND AIR PIPING SHALL BE 304L SCH 40 WELDED STAINLESS STEEL.
12. PROVIDE SDR 26 PVC PIPE AND FITTINGS FOR 12" RW
13. ROUTE 2-INCH NPW AND 1 1/2" CLS PIPING INTO DISINFECTION BUILDING. TERMINATE PIPING W/VALVE AND END PLUG.
14. CORE NEW HOLE FOR 24" RCP ST. SEAL PENETRATION WATER TIGHT.
15. PROVIDE FLAT SLAB MH WITH ROAD BOX CAST IN COVER TO ACCESS VALVE BELOW. PROVIDE 6" GATE VALVE ON 6" DSL LINE INSIDE MANHOLE.
16. RELOCATE EXISTING DRAIN SPOUT IN ORDER TO ACCOMMODATE INSTALLATION OF ELECTRIC UTILITY CT CABINET. MODIFY AND PATCH EXISTING DRAIN SPOUT AND EAVES TROUGH AS NECESSARY. COORDINATE RELOCATION WITH DIVISION 16 CONTRACTOR.

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY: CHK BY:
RECORD DRAWING
BY: DATE:
CONTRACTOR:

YARD PIPING PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 12
05-M-01
JOB NO. 1-879-008

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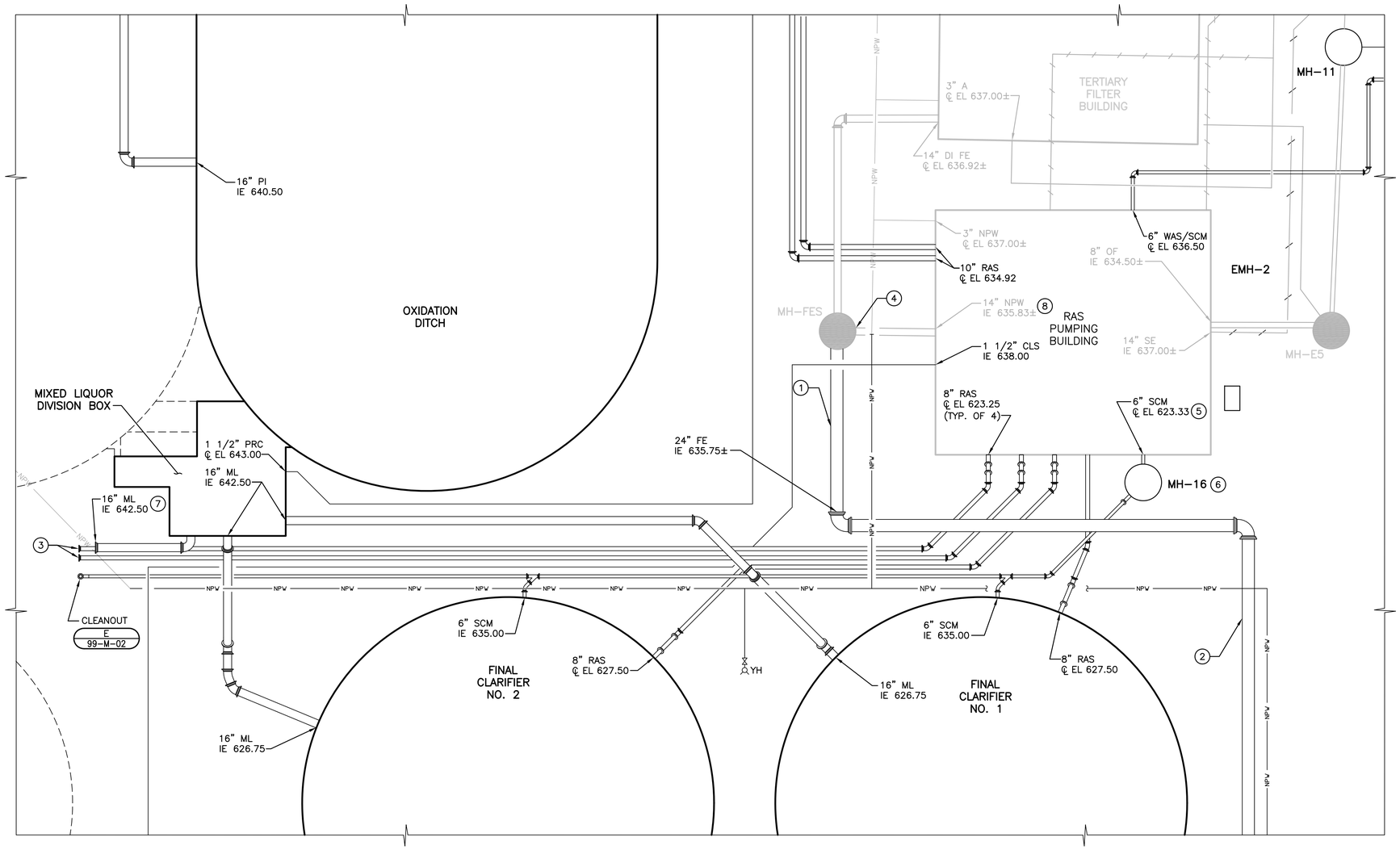

DETAILED YARD PIPING

0 5' 10' 20'

N

MANHOLE SCHEDULE						
MH NO.	TOP OF CASTING EL.	SIZE (IN)	FLUID TYPE	DIRECTION	PIPE EL.	COMMENTS
EXISTING MANHOLES						
E2	648.54±	36	RW	W	IE=631.37±	
		8	D	N	IE=631.44±	
		8	D	S	IE=633.70±	
E3	648.41±	8	D	N	IE=633.02±	
		8	D	S	IE=633.90±	
		8	D	NE	IE=633.90±	
E4	645.97±	4	D	NE	IE=639.00±	
		8	D	N	IE=634.10±	
		8	D	S	IE=634.20±	
		14	DS	NE	IE=639.10	
		4	D	E	IE=639.00±	
		4	D	SE	IE=635.83±	
E5	641.50±	8	D	N	IE=634.50±	
		8	D	S	IE=637.00±	
		8	OF	W	CL=635.50±	
		8	BW	NW	IE=636.00±	
E6		8	D	N	IE=637.50±	
		8	D	S	IE=637.60±	
E7	648.61±	6	SCM	NW	IE=642.00±	
		6	SCM	E	IE=642.50±	
		6	SCM	W	IE=642.50±	
E8		4	D	N	IE=646.83	
FES		14	FE	W	IE=635.83±	SEE KEY
		14	FE	N	IE=636.25±	NOTE 4
		14	FE	E	IE=636.25±	
		24	FE	S	IE=635.75±	
P1	641.93±	8	D	N	IE=638.04±	
NEW MANHOLES						
9	648.00	6	WAS/CSM	N	CL=642.00	SEE DETAIL
		6	WAS/SCM	E	CL=642.00	C/99-M-02
		6	WAS/SCM	S	CL=642.00	
		4	D	SW	CL=642.00	
		6	WAS/SCM	W	CL=642.00	
10	641.00	24	FE	E	IE=635.50	
		24	FE	W	IE=635.50	
		18	FE	NE	IE=634.70	
		24	FE	NW	IE=634.70	
		30	SE	S	IE=634.60	
11	643.67	8	D	S	IE=634.32	
		8	D	N	IE=634.32	
		8	D	E	IE=634.42	
12	644.40	8	D	W	IE=635.34	SEE KEY
		6	DSL	SW	CL=636.00	NOTE 5
		6	D	S	IE=637.10	
13	643.00	6	D	N	IE=638.00	
14	648.00	8	D	E	IE=633.04	
		8	D	S	IE=633.14	
15	647.90	8	D	E	IE=632.76	
		8	D	W	IE=632.86	
		8	D	S	IE=634.76	
		8	D	NW	IE=642.06	
16	641.00	6	SCM	N	CL=623.00	SEE KEY
		6	SCM	SW	IE=629.20	NOTE 6
17	639.80	12	ST	E	IE=636.1	
18	639.40	12	ST	W	IE=635.75	
		18	ST	N	IE=637.50±	
		24	ST	S	IE=635.25	

KEY NOTES:

(1) CONTRACTOR SHALL CONNECT TO EXISTING PLANT EFFLUENT STRUCTURE (SEE 05-D-01) TEMPORARILY DURING CONSTRUCTION. SEE KEY NOTE 2 ON SHEET 05-D-01 PRIOR TO PUTTING CHLORINE CONTACT TANK INTO SERVICE STRUCTURE CAN BE DEMOLISHED.

(2) CONTRACTOR MAY ADJUST ELEVATION OF THIS PIPE TO FACILITATE CLARIFIER CONSTRUCTION.

(3) PROVIDE END CAP ON 8-INCH RAS. 8-INCH RAS CENTERLINE EL. 625.50.

(4) REMOVE EXISTING DUCKBILL CHECK VALVE FROM 14-INCH BW PIPE FROM TERTIARY FILTER (RAS PUMPING) BUILDING.

(5) GROUT BOTTOM OF MANHOLE TO SLOPE TO 6-INCH SCM SUCTION.

(6) PROVIDE CAUTION SIGN (K / 99-M-01).

(7) PROVIDE END PLUG.

(8) REUSE 14" BW PIPING FOR NEW PIPING.

NO. | REVISIONS | DATE:

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RECORD DRAWING
BY: DATE:
CONTRACTOR:

DETAILED YARD PIPING PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
13
05-M-02
JOB NO. 1-879-008

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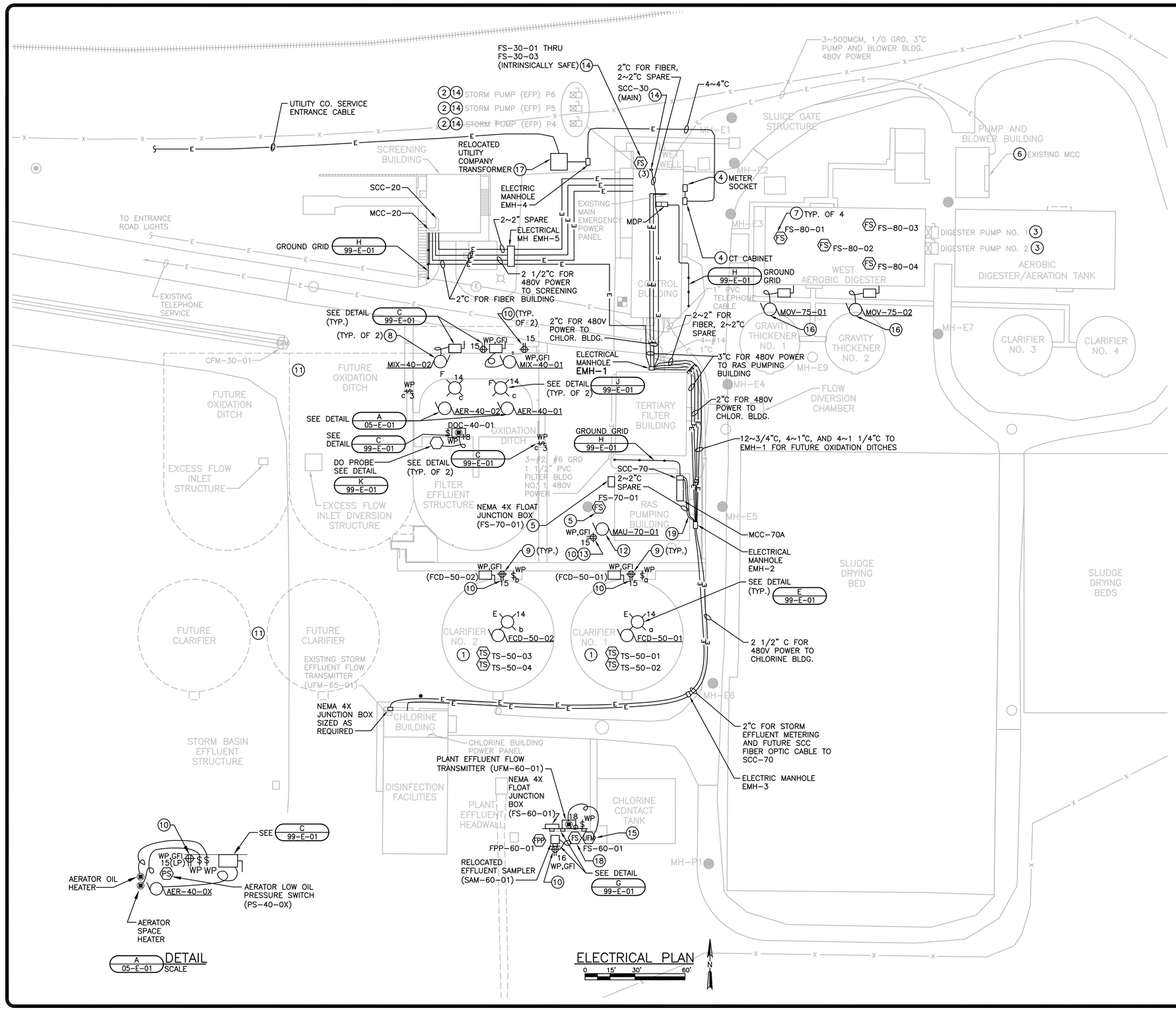

GENERAL NOTES:

1. REFER TO SHEETS 05–D–01,75–DASM–01, AND 80–D–01 FOR SITE ELECTRICAL DEMOLITION WORK.
2. REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE PLANT SCADA SYSTEM.
3. ALL 120V LOADS SHOWN ON THIS SHEET SHALL BE FED FROM PANEL LP SHOWN ON SHEET 70–E–01, UNLESS NOTED OTHERWISE.
4. ALL 480V MOTOR LOADS SHOWN ON THIS SHEET SHALL BE POWERED FROM MCC–70, UNLESS NOTED OTHERWISE.

KEY NOTES:

(1) ALL ELECTRICAL WORK AND EQUIPMENT IN THIS AREA SHALL BE RATED FOR A CLASS I, DIV. 1, GROUPS C AND D LOCATION.

(2) PROVIDE RELAY AT STARTER FOR FAIL INDICATION AT SCADA. REFER TO SECTION 16940 FOR PUMP CONTROLS.

(3) MODIFY EXISTING STARTER TO PREVENT DIGESTER PUMP FROM STARTING WHEN PERMISSIVE OUTPUT FROM SCC–30 IS OPEN.

(4) SEE SHEET 30–E–01 FOR ADDITIONAL INFORMATION ON CT CABINET AND METER SOCKET.

(5) FLOAT SWITCH SHALL BE MOUNTED ABOVE INLET FOR EXISTING 14" NPW SUCTION PIPE IN FILTER EFFLUENT STRUCTURE. PROVIDE NEMA 4X JUNCTION BOX WITH TERMINAL STRIP FOR FLOAT SWITCH AND NEW MOUNTING HARDWARE AS REQUIRED.

(6) MODIFY EXISTING BLOWER NO. 3, BLOWER NO. 4, SLUDGE RECIRC. PUMP P7, SLUDGE RECIRC. PUMP P8, DIGESTER SUPERNATANT/SLUDGE PUMP NO. 1, AND DIGESTER SUPERNATANT/SLUDGE PUMP NO. 2 STARTERS IN MCC TO PREVENT EQUIPMENT FROM STARTING WHEN PERMISSIVE OUTPUT FROM SCC–30 IS OPEN.

(7) DIGESTER HIGH LEVEL FLOAT SWITCH SHALL BE AS MANUFACTURED BY ANCHOR SCIENTIFIC ROTO–FLOAT TYPE S SUSPENDED, OR EQUAL. FLOAT SHALL BE SUSPENDED FROM WALKWAY USING STAINLESS STEEL KELLUM GRIPS. PROVIDE CABLE SUPPORTS AND MOUNTING HARDWARE AS REQUIRED. PROVIDE NEMA 4X JUNCTION BOX WITH TERMINAL STRIP MOUNTED TO HANDRAIL PER DETAIL C 99-E-01 FOR EACH FLOAT SWITCH. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.

(8) PROVIDE STAINLESS STEEL KELLUM GRIPS FOR SUPPORT OF MIXER POWER AND CONTROL CABLES.

(9) DEVICES SHALL BE MOUNTED ON STAIRWAY LANDING HANDRAIL. SEE DETAIL C 99-E-01 FOR MOUNTING.

(10) PROVIDE 2~#10 AND #12 GRD IN 3/4"C FROM CIRCUIT BREAKER IN PANEL LP IN THE CHLORINE BUILDING TO RECEPTACLE.

(11) CONTRACTOR SHALL AVOID ROUTING CONDUIT IN FUTURE OXIDATION DITCH AREAS AND FUTURE FINAL CLARIFIER AREAS.

(12) MAKE–UP AIR UNIT SHALL BE POWERED FROM THE CONTROL BUILDING MAIN DISTRIBUTION PANEL MDP AS SHOWN ON SHEET 99–E–05. SEE DETAIL L 99-E-01 FOR MAU CONTROLS RISER DIAGRAM.

(13) RECEPTACLE SHALL BE MOUNTED TO MAKE–UP AIR UNIT USING STAINLESS STEEL UNISTRUT.

(14) FLOAT SWITCHES SHALL BE MOUNTED IN WETWELL AND SHALL BE WIRED TO SCC–30 FOR BACKUP FLOAT CONTROL OF EXISTING STORM PUMPS AS SPECIFIED IN SPECIFICATION SECTION 16940. PROVIDE NEMA 4X JUNCTION BOX WITH TERMINAL STRIPS MOUNTED TO WALL OF WETWELL ABOVE GRATING FOR FLOAT SWITCH CABLES AND 2~#14 IN 3/4" CONDUIT WITH SEAL–OFFS FOR EACH FLOAT SWITCH FROM JUNCTION BOX TO SCC–30. PROVIDE 4~#14 IN 3/4" CONDUIT FROM SCC–30 TO EACH STORM PUMP STARTER FOR START AND STOP SIGNALS ASSOCIATED WITH THE BACKUP FLOAT CONTROLS. MODIFY EXISTING STARTERS AS REQUIRED.

(15) PROVIDE STAINLESS STEEL MOUNTING BRACKET FOR ULTRASONIC TRANSDUCER. CUT HOLE IN GRATING AS REQUIRED FOR INSTALLATION OF TRANSDUCER.

(16) EQUIPMENT PROVIDED AS SPECIFIED IN DIVISION 15 AND WIRED BY THIS CONTRACTOR. EQUIPMENT SHALL BE POWERED FROM THE RAS BUILDING POWER PANEL P–A. PROVIDE STAINLESS STEEL UNISTRUT MOUNTING STAND FOR ASSOCIATED DISCONNECT.

(17) PROVIDE CONCRETE PAD FOR RELOCATED UTILITY COMPANY TRANSFORMER. TRANSFORMER AND CONCRETE PAD SHALL BE INSTALLED PER UTILITY COMPANY REQUIREMENTS. PROVIDE TWO 4–INCH SCHEDULE 40 PVC CONDUITS FOR UTILITY COMPANY PRIMARY CONDUCTORS. CONDUITS SHALL EXTEND FROM TRANSFORMER PAD PRIMARY COMPARTMENT PENETRATION TO A MINIMUM OF 10 FEET BEYOND TRANSFORMER PAD. COORDINATE EXACT LENGTH WITH UTILITY COMPANY.

(18) FLOAT SWITCH SHALL BE MOUNTED AT SAME ELEVATION AS AND ON DOWNSTREAM SIDE OF EFFLUENT WEIR.

(19) SAWCUT AND PATCH FLOOR TO MATCH EXISTING FOR INSTALLATION OF CONDUITS BETWEEN MCC–70 AND EMH–2.

NO.	REVISIONS	DATE:

DATE: JUNE 2009
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ELECTRICAL SITE PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 14
05–E–01
JOB NO. 1–879–008

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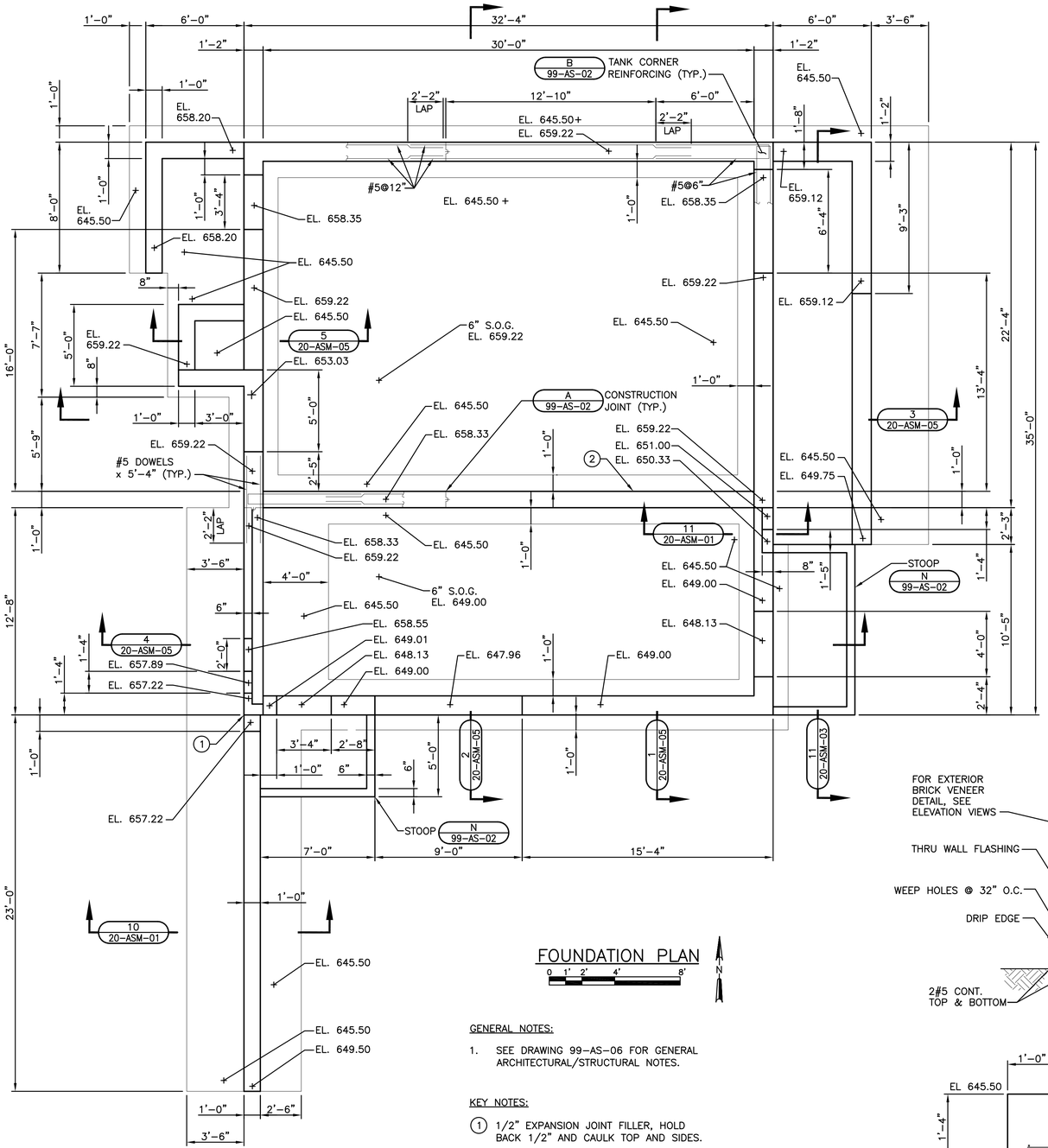


FOUNDATION PLAN

0 1' 2' 4' 8'

GENERAL NOTES:

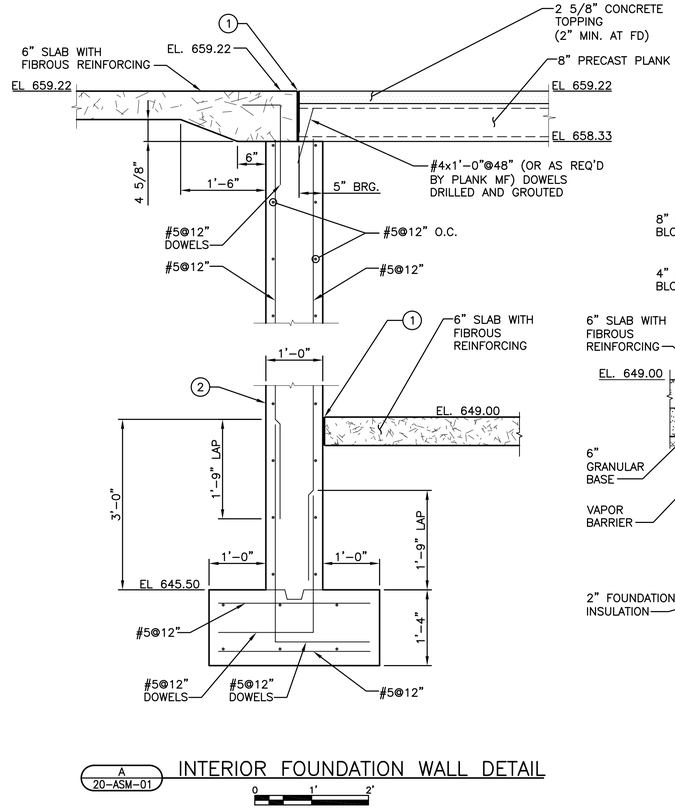
1. SEE DRAWING 99-AS-06 FOR GENERAL ARCHITECTURAL/STRUCTURAL NOTES.

KEY NOTES:

(1) 1/2" EXPANSION JOINT FILLER, HOLD BACK 1/2" AND CAULK TOP AND SIDES.

(2) PROVIDE FLUID APPLIED WATERPROOFING MEMBRANE.

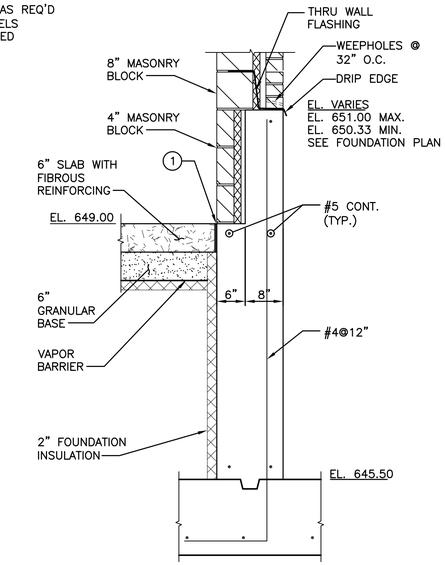
(3) #4x2'-7" LONG RESIN ANCHOR DOWELS @ 32" O.C. EMBEDDED 6" INTO FOUNDATION WALL. SEE GENERAL NOTE 9 ON SHEET 99-AS-06 FOR MASONRY WALL REINFORCING REQ'TS.



INTERIOR FOUNDATION WALL DETAIL

A 20-ASM-01

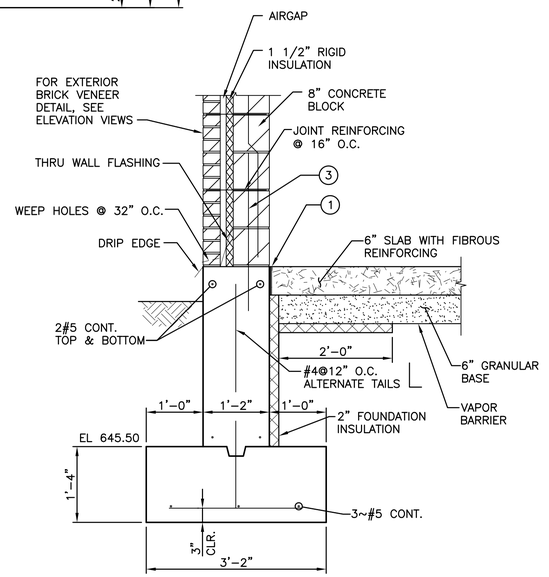
0 1' 2'



SECTION

11 20-ASM-01 | 11 20-ASM-02

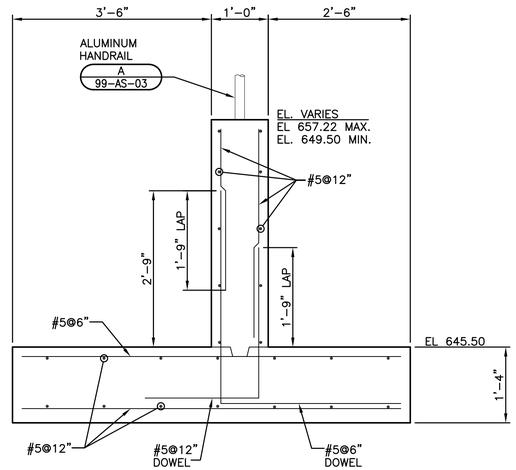
0 1' 2'



TYPICAL SECTION THRU FOUNDATION WALL

B 20-ASM-01

0 1' 2'



SECTION

10 20-ASM-01 | 10 20-ASM-02

0 1' 2'

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY: CHK BY:TWS
RECORD DRAWING
BY: DATE: CONTRACTOR:

SCREENING BUILDING FOUNDATION PLAN AND DETAILS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 15
20-ASM-01
JOB NO. 1-879-008

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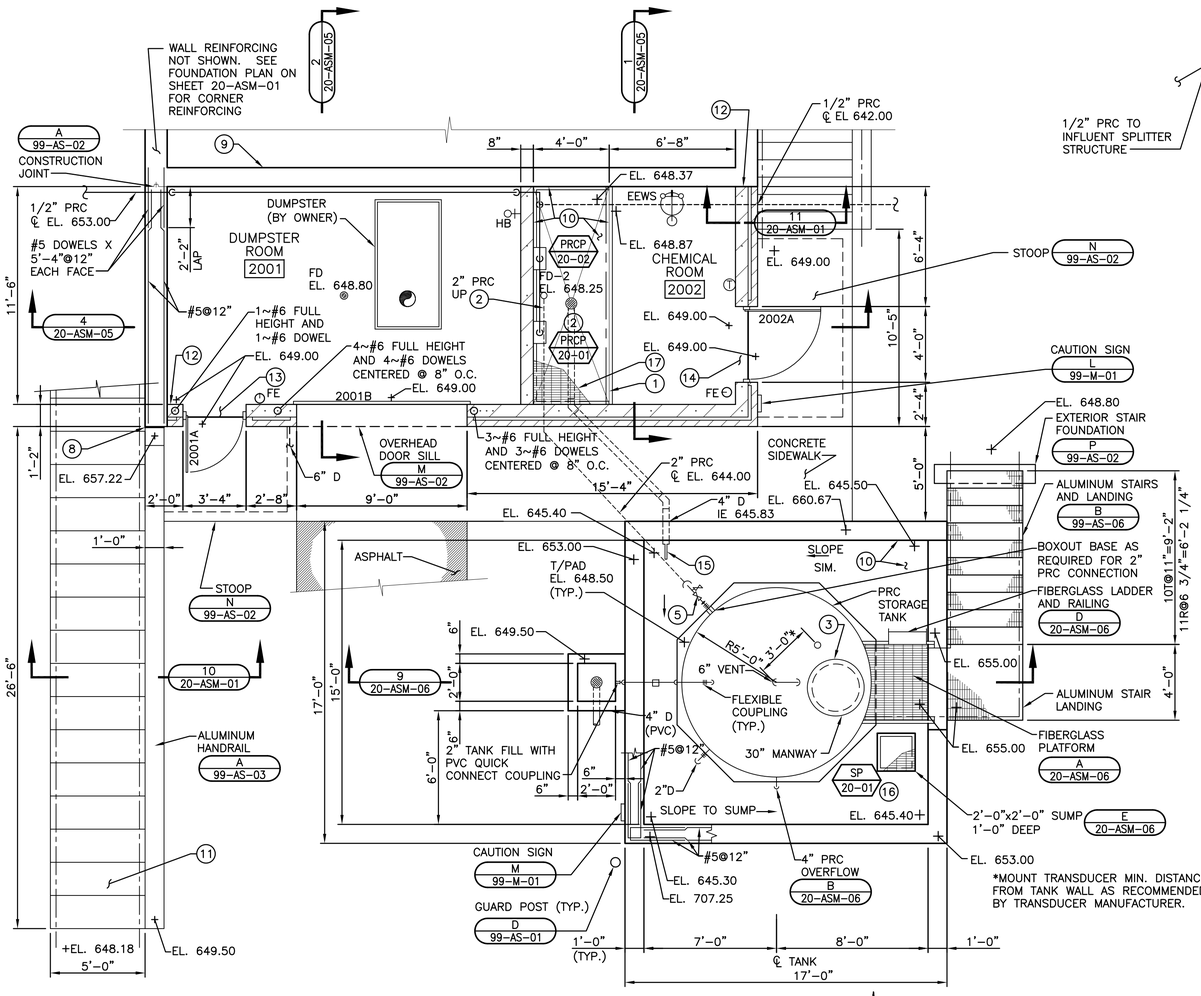
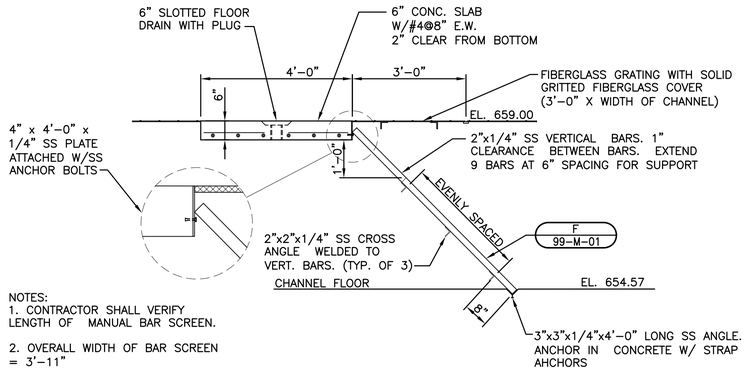


LOWER LEVEL PLAN

0 1' 2' 4' 8'

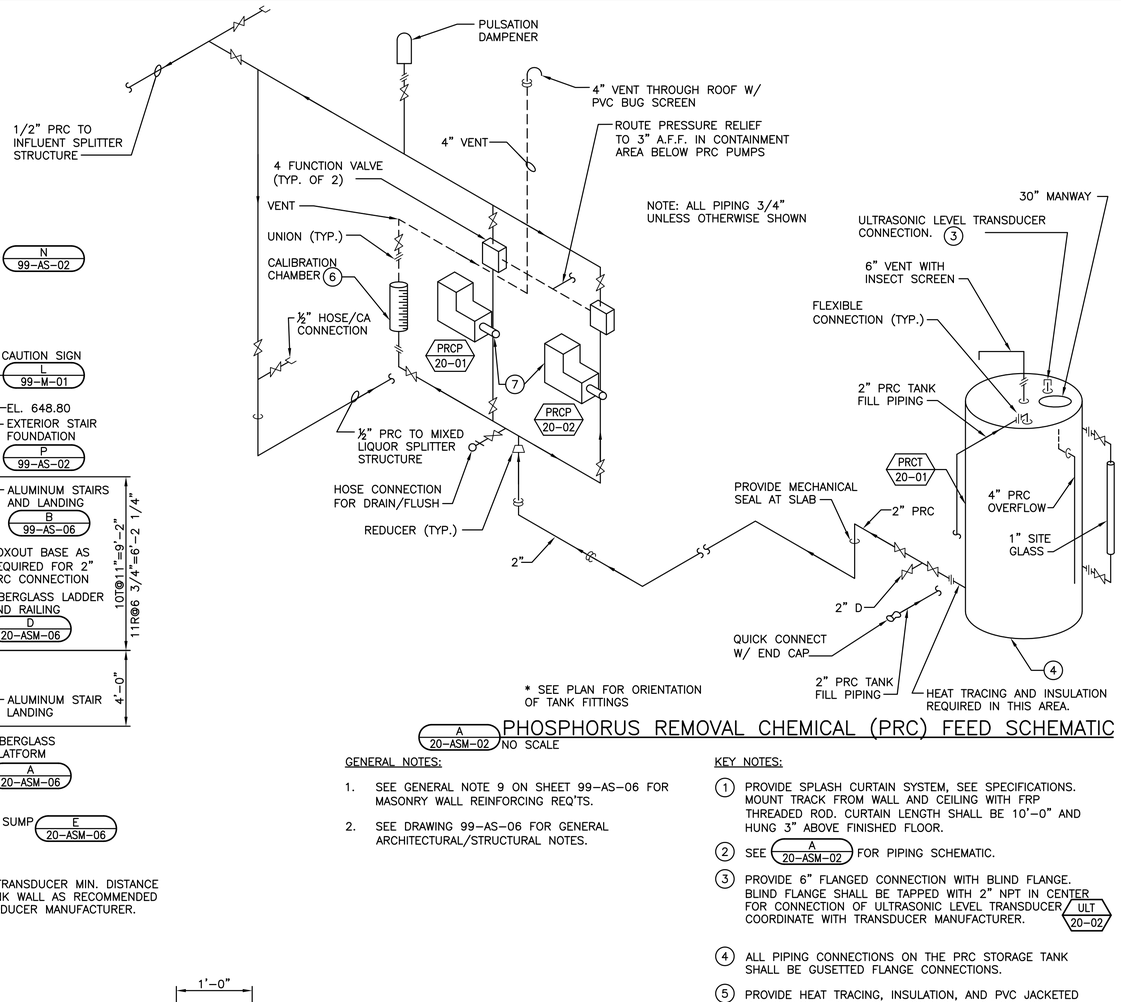


NOTES:
1. CONTRACTOR SHALL VERIFY LENGTH OF MANUAL BAR SCREEN.
2. OVERALL WIDTH OF BAR SCREEN = 3'-11"

MANUAL BAR SCREEN

10 / 20-ASM-03

0 1' 2' 4'



A / 20-ASM-02 PHOSPHORUS REMOVAL CHEMICAL (PRC) FEED SCHEMATIC

NO SCALE

GENERAL NOTES:

1. SEE GENERAL NOTE 9 ON SHEET 99-AS-06 FOR MASONRY WALL REINFORCING REQ'TS.
2. SEE DRAWING 99-AS-06 FOR GENERAL ARCHITECTURAL/STRUCTURAL NOTES.

KEY NOTES:

(1) PROVIDE SPLASH CURTAIN SYSTEM, SEE SPECIFICATIONS. MOUNT TRACK FROM WALL AND CEILING WITH FRP THREADED ROD. CURTAIN LENGTH SHALL BE 10'-0" AND HUNG 3" ABOVE FINISHED FLOOR.

(2) SEE A / 20-ASM-02 FOR PIPING SCHEMATIC.

(3) PROVIDE 6" FLANGED CONNECTION WITH BLIND FLANGE. BLIND FLANGE SHALL BE TAPPED WITH 2" NPT IN CENTER FOR CONNECTION OF ULTRASONIC LEVEL TRANSDUCER. COORDINATE WITH TRANSDUCER MANUFACTURER. ULT / 20-02

(4) ALL PIPING CONNECTIONS ON THE PRC STORAGE TANK SHALL BE GUSETTED FLANGE CONNECTIONS.

(5) PROVIDE HEAT TRACING, INSULATION, AND PVC JACKETED PIPING INSULATION FROM FLOOR PENETRATION TO CHEMICAL TANK. (SEE SPECIFICATIONS)

(6) MOUNT BOTTOM OF CALIBRATION CHAMBER MINIMUM 1-INCH ABOVE PRC PUMP CENTERLINE.

(7) MOUNT PRC PUMPS AT ℄ EL 652.00.

(8) 1/2" EXPANSION JOINT FILLER, HOLD BACK 1/2' AND CAULK TOP AND FRONT FACE.

(9) PROVIDE FLUID APPLIED WATERPROOFING MEMBRANE.

(10) PROVIDE CHEMICAL RESISTANT COATING TO CAST-IN-PLACE CONCRETE FLOOR AND SIDES OF CHEMICAL CONTAINMENT AREA.

(11) PROVIDE EXTERIOR CONCRETE STAIRS. SEE DETAIL F / 99-C-01 PROVIDE 19T@21" AND 20R@6 5/8"

(12) PROVIDE MASONRY TIES @ 16" O.C. ANCHORED TO CAST-IN PLACE WALL.

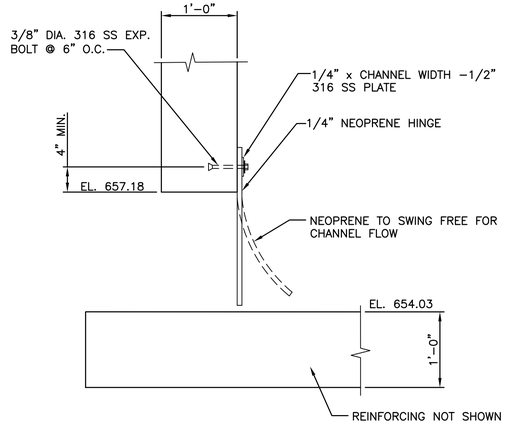
(13) 3'-4" X 1'-4" HVAC OPENING ABOVE DOOR WITH LINTEL TOP EL. 657.66. SEE SHEET 99-AS-05 FOR LINTEL SCHEDULE.

(14) 4'-0" X 1'-4" HVAC OPENING ABOVE DOOR WITH LINTEL TOP EL. 657.66. SEE SHEET 99-AS-05 FOR LINTEL SCHEDULE.

(15) PROVIDE SLIP-ON DUCKBILL TIDEFLEX CHECK VALVE OR EQUAL. VALVE SHALL BE MANUFACTURED OF VITON WITH 316 SS FASTENERS.

(16) PROVIDE PORTABLE DEWATERING PUMP AS SPECIFIED. PROVIDE TO OWNER.

(17) PROVIDE FIBERGLASS GRATING AND SUPPORTS.



B / 20-ASM-02 NEOPRENE AIR SEAL

NO SCALE

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY: CHK BY:TWS
RECORD DRAWING
BY: DATE: CONTRACTOR:

SCREENING BUILDING
LOWER LEVEL PLAN
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET **16** 20-ASM-02
JOB NO. 1-879-008

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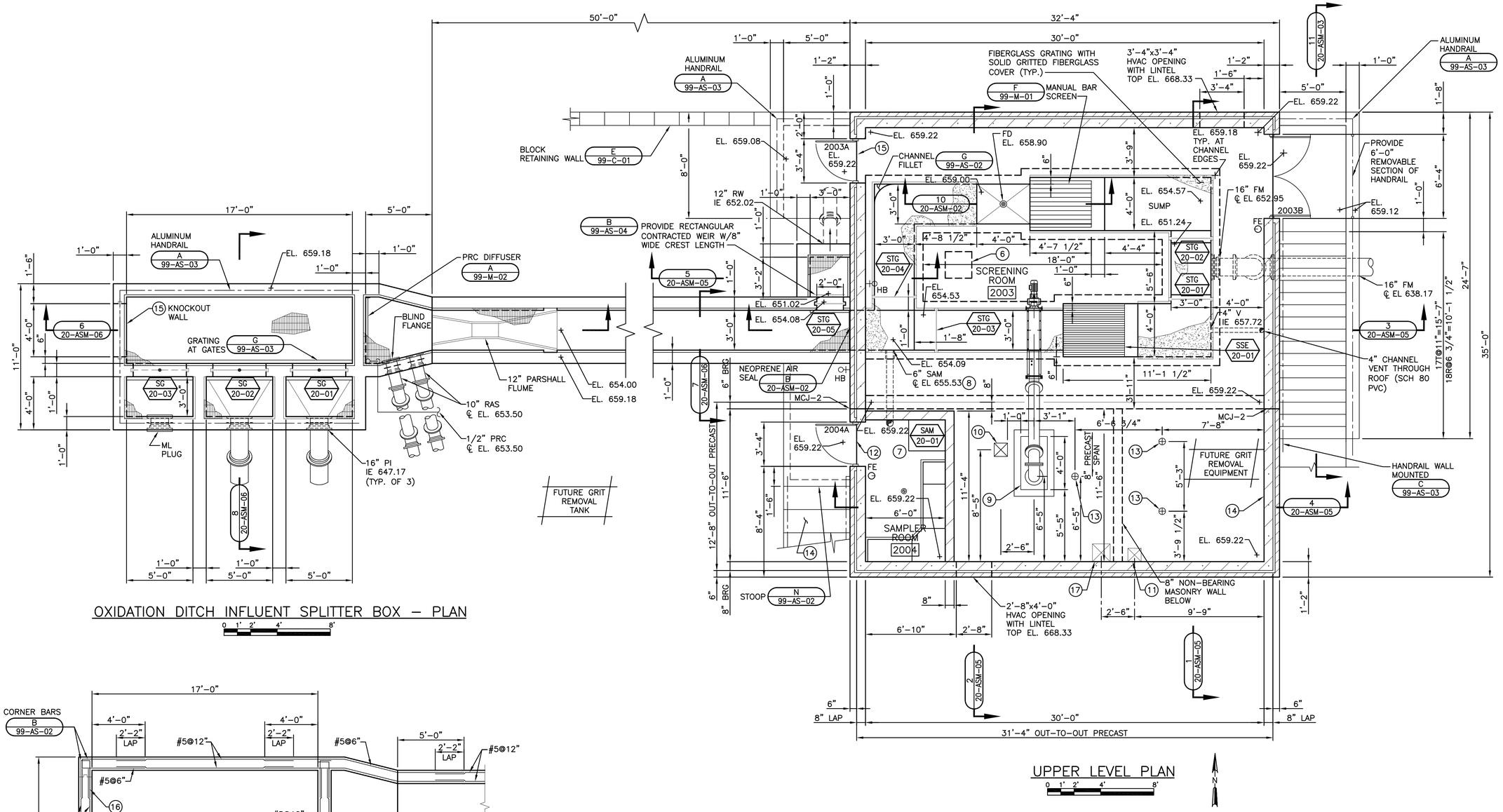

OXIDATION DITCH INFLUENT SPLITTER BOX – PLAN

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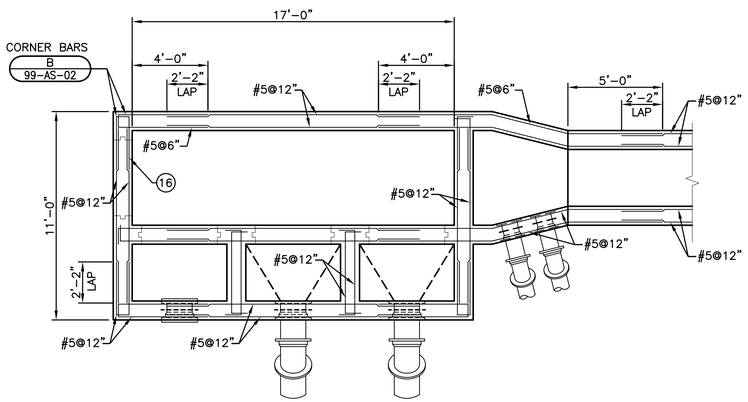


PLAN @ EL. 652.75

0 1' 2' 4' 8'

GENERAL NOTES:

1. SEE GENERAL NOTE 9 ON SHEET 99–AS–06 FOR MASONRY WALL REINFORCING REQUIREMENTS (TYP. ALL WALLS).
2. SEE DRAWING 99–AS–06 FOR GENERAL ARCHITECTURAL/STRUCTURAL NOTES.
3. PRECAST FLOOR PLANK TO BE DESIGNED FOR 100 PSF LIVE LOAD PLUS EQUIPMENT LOADS AS SHOWN.

KEY NOTES:

KEYNOTES 1 THROUGH 5 NOT USED.

(6) 24"x24" ATTIC ACCESS ABOVE THROUGH PRECAST PLANK PER DETAIL M 99-AS-03 SEE ROOF PLAN ON SHEET 20–AS–02.

(7) CONTRACTOR SHALL RELOCATE OWNER'S EXISTING SAMPLER FROM GRIT TANK TO SAMPLER ROOM.

(8) PROVIDE LONG RADIUS ELBOW FOR 6" PVC SAMPLE LINE. SEAL OPENING IN SAMPLER ROOM GAS TIGHT AND EXTEND PIPING 3'–0" ABOVE FLOOR.

(9) 2'–0"x4'–0" OPENING IN PRECAST PLANK. COORDINATE OPENING SIZE AND LOCATION WITH EQPT. MFR. PROVIDE 6" CURB AROUND OPENING. SEE D 99-M-02 FOR COVER DETAILS.

(10) 1'–0"x1'–0" FUTURE OPENING IN PRECAST PLANK FOR FUTURE EQUIPMENT.

(11) 12"x12" HVAC OPENING IN FLOOR PLANK. COORDINATE OPENING SIZE AND LOCATION WITH HVAC INSTALLATION.

(12) 40"x16" HVAC OPENING ABOVE DOOR WITH LINTEL. TOP EL. 667.88. SEE SHEET 99–AS–05 FOR LINTEL SCHEDULE.

(13) 4.5K FUTURE EQUIPMENT LOAD ON PRECAST CONCRETE FLOOR PLANK.

(14) PROVIDE EXTERIOR CONCRETE STAIRS. SEE DETAIL F 99-C-01 PROVIDE 19T@21" AND 20R@6 5/8".

(15) PROVIDE KEYWAY AND BOND BREAKER ON BOTTOM AND SIDES. DO NOT RUN REINFORCING THROUGH JOINTS.

(16) CORNER BARS SHOWN FOR CONDITION BELOW EL. 652.75. DO NOT RUN REINFORCING THROUGH JOINT ABOVE EL. 652.75

(17) 16"x16" HVAC OPENING IN FLOOR PLANK. COORDINATE OPENING SIZE AND LOCATION WITH HVAC INSTALLATION.

NO. | REVISIONS | DATE:

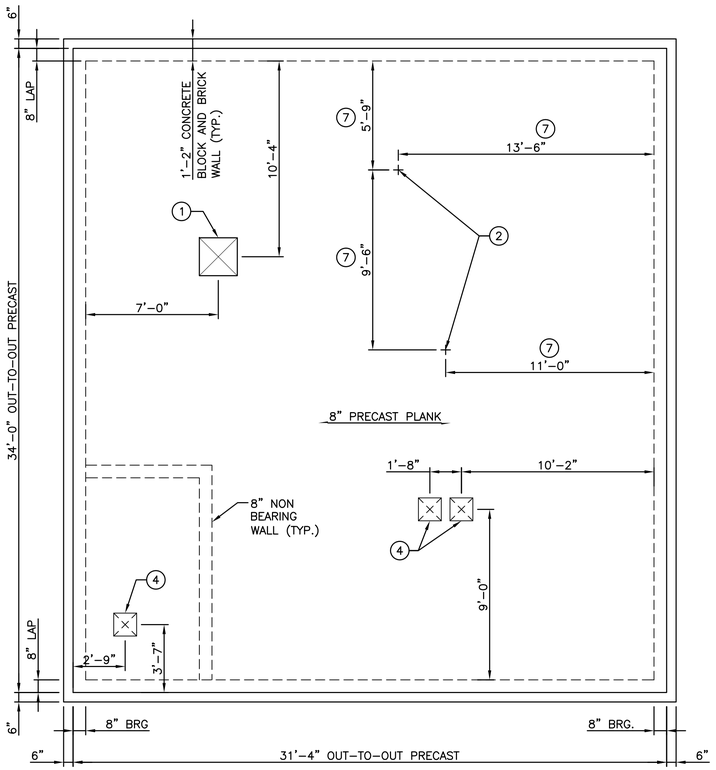
DATE: JUNE 2009 DES BY: CHK BY:TWS
RECORD DRAWING
BY: DATE:
CONTRACTOR:

SCREENING BUILDING
UPPER LEVEL AND SPLITTER BOX PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

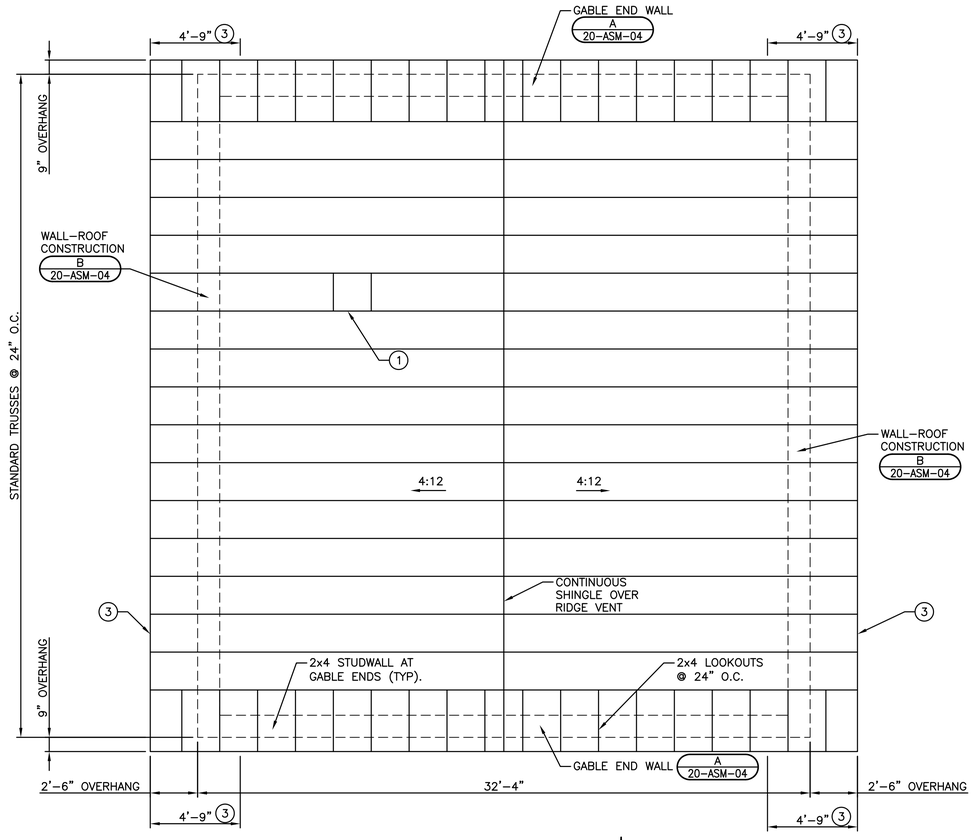
STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 17
20–ASM–03
JOB NO. 1–879–008



ROOF PLAN

0 1' 2' 4' 8'



TRUSS FRAMING PLAN

0 1' 2' 4' 8'

GENERAL NOTES:

1. PRECAST ROOF PLANK TO BE DESIGNED FOR 25 PSF LIVE LOAD, 5 PSF COLLATERAL LOAD, AND CONCENTRATED LOADS AS SHOWN.
2. WOOD TRUSSES TO BE DESIGNED FOR 10 PSF ROOFING DEADLOAD, 20 PSF BALANCED SNOWLOAD, AND 25 PSF UNBALANCED SNOW LOAD.

KEY NOTES:

(1) 24"x24" ATTIC ACCESS OPENING THROUGH PRECAST PLANK PER DETAIL M 99-AS-03 CONTRACTOR TO LOCATE BETWEEN TRUSS CHORDS AND AVOID CONFLICT WITH LIGHTING.

(2) HOIST HOOKS CONC. LOAD = 6500 LBS. COORDINATE LOCATION AND VERIFY LOADS WITH SCREEN EQUIPMENT. SEE DETAIL K 99-AS-03 FOR HOIST HOOK INSTALLATION IN PRECAST CONCRETE ROOF.

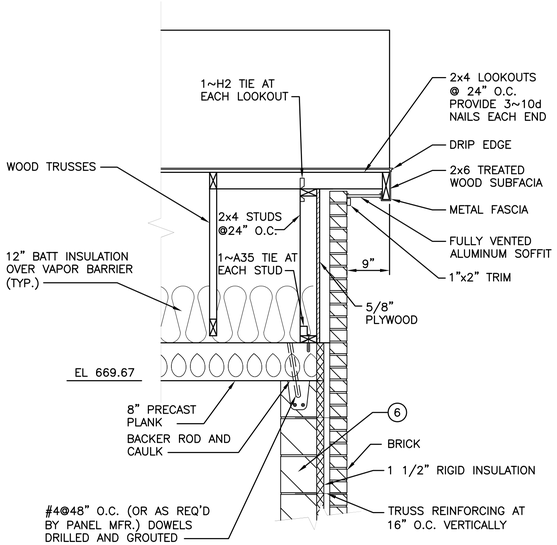
(3) PROVIDE SEAMLESS ALUMINUM GUTTERS ALONG EDGE OF ROOF.

(4) 14.5"x14.5" HVAC OPENINGS IN PRECAST ROOF PLANK. COORDINATE OPENING SIZE AND LOCATION WITH HVAC INSTALLATION.

(5) SEE ELEVATION VIEWS ON SHEET 20-ASM-07 FOR QUOIN LAYOUT AT EACH CORNER.

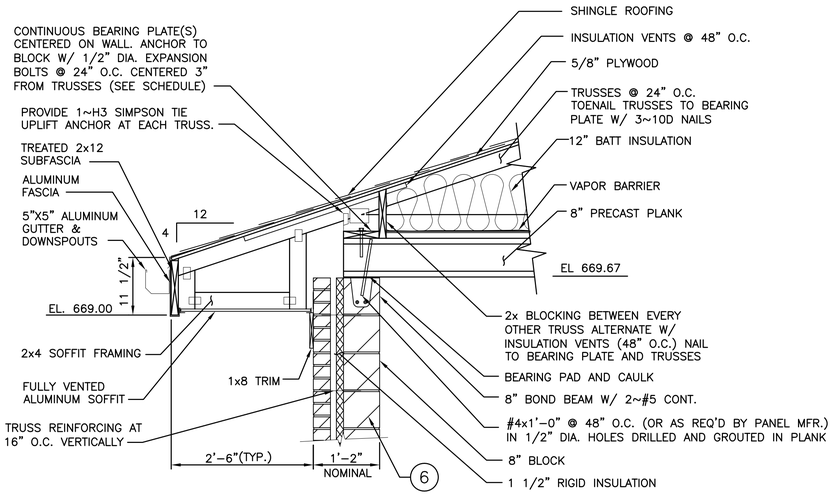
(6) SEE GENERAL NOTE 9 ON SHEET 99-AS-06 FOR MASONRY WALL REINFORCING REQ'TS. (TYP. ALL MASONRY WALLS).

(7) VERIFY HOIST HOOK LOCATION WITH SCREEN MFR.



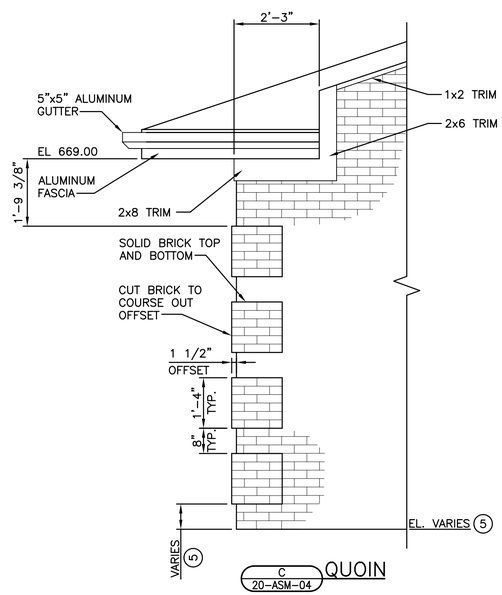
A 20-ASM-04 GABLE END WALL

0 1' 2'



B 20-ASM-04 TYPICAL WALL-ROOF CONSTRUCTION

0 1' 2'



C 20-ASM-04 QUOIN

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY: CHK BY:TWS
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

SCREENING BUILDING ROOF PLAN, TRUSS FRAMING PLAN, AND DETAILS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 18
20-ASM-04
JOB NO. 1-879-008

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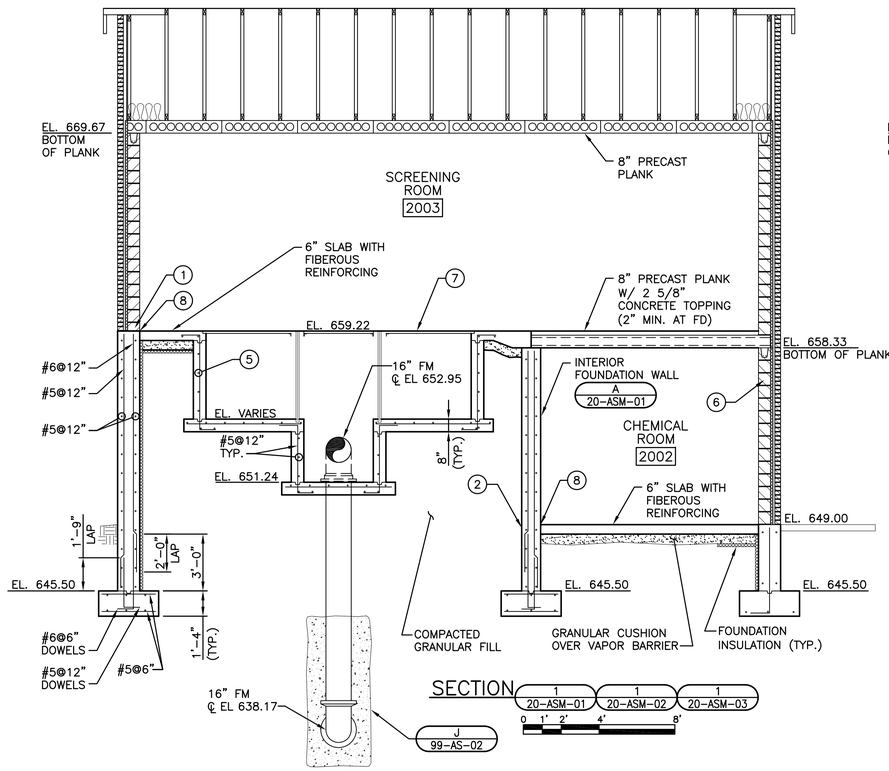
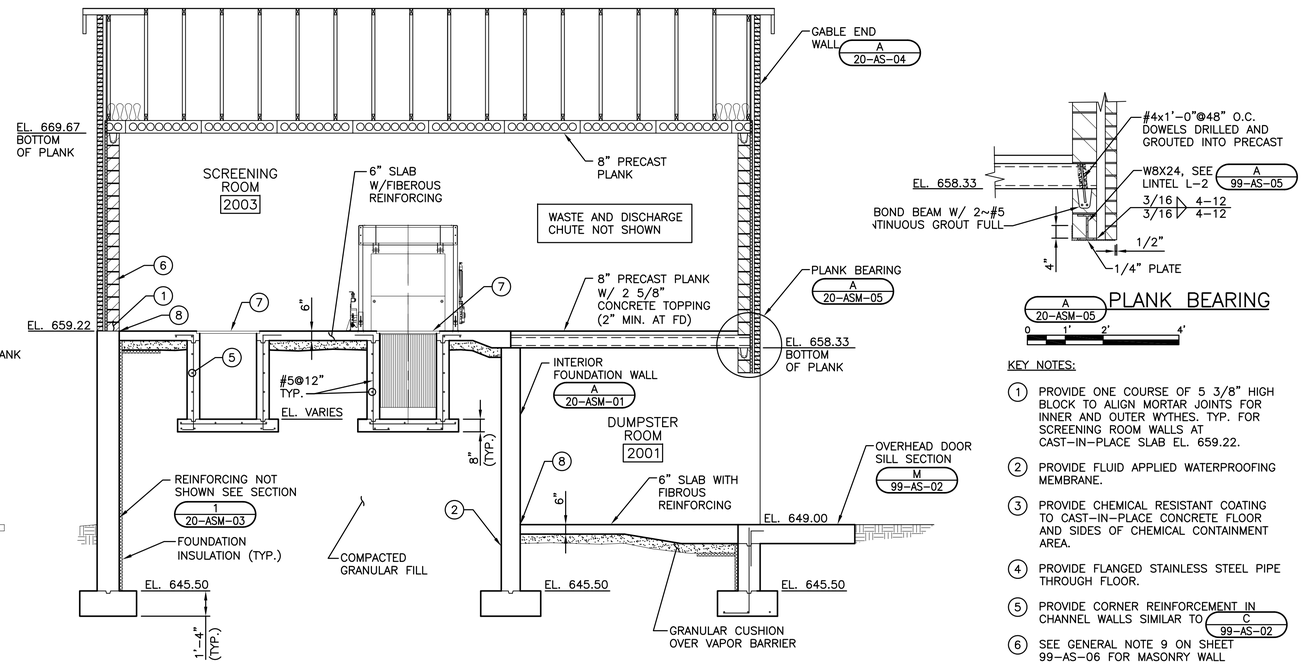
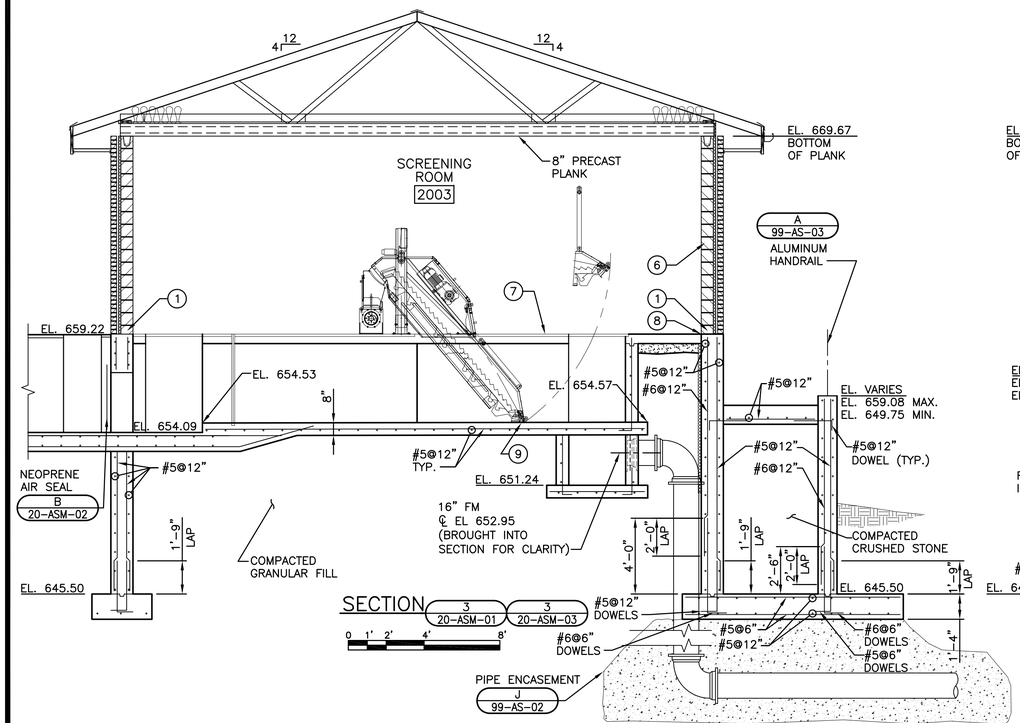
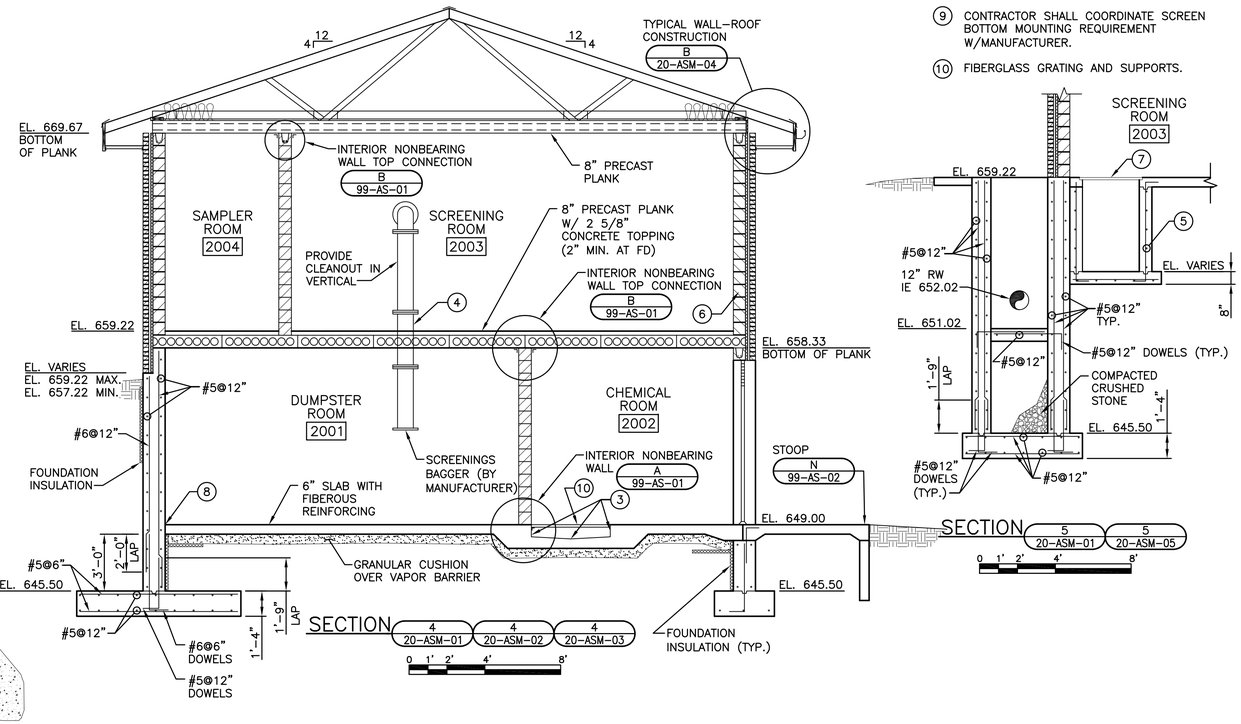




KEY NOTES:

1. PROVIDE ONE COURSE OF 5 3/8" HIGH BLOCK TO ALIGN MORTAR JOINTS FOR INNER AND OUTER WYTHES. TYP. FOR SCREENING ROOM WALLS AT CAST-IN-PLACE SLAB EL. 659.22.
2. PROVIDE FLUID APPLIED WATERPROOFING MEMBRANE.
3. PROVIDE CHEMICAL RESISTANT COATING TO CAST-IN-PLACE CONCRETE FLOOR AND SIDES OF CHEMICAL CONTAINMENT AREA.
4. PROVIDE FLANGED STAINLESS STEEL PIPE THROUGH FLOOR.
5. PROVIDE CORNER REINFORCEMENT IN CHANNEL WALLS SIMILAR TO C 99-AS-02
6. SEE GENERAL NOTE 9 ON SHEET 99-AS-06 FOR MASONRY WALL REINFORCING REQ'TS. (TYP. ALL MASONRY WALLS)
7. FIBERGLASS GRATING WITH SOLID GRITTED FIBERGLASS COVER.
8. 1/2" EXPANSION MATERIAL. HOLD DOWN 1/2" AND CAULK.
9. CONTRACTOR SHALL COORDINATE SCREEN BOTTOM MOUNTING REQUIREMENT W/MANUFACTURER.
10. FIBERGLASS GRATING AND SUPPORTS.





SCREENING BUILDING SECTIONS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY: CHK BY: TWS
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
19
20-ASM-05
JOB NO. 1-879-008

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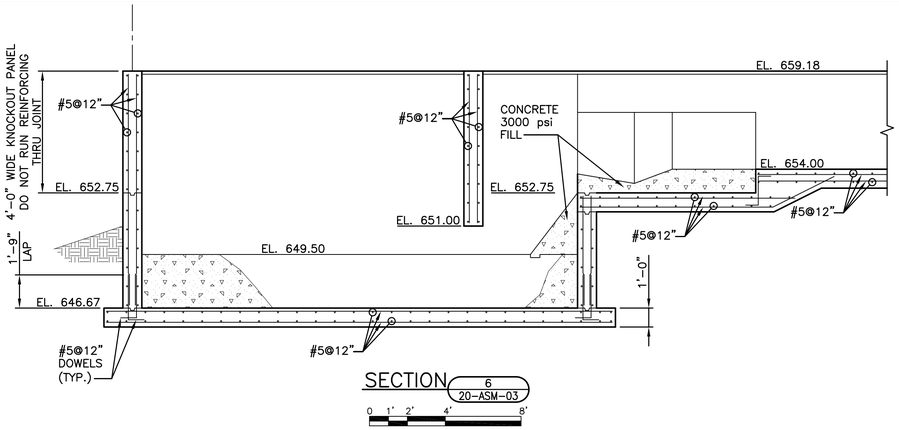
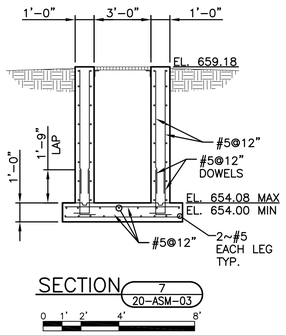


SECTION 6 20-ASM-03



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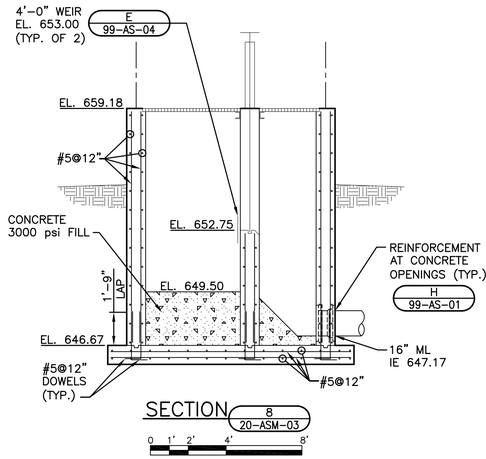

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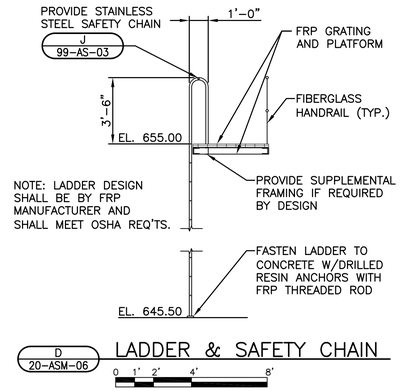
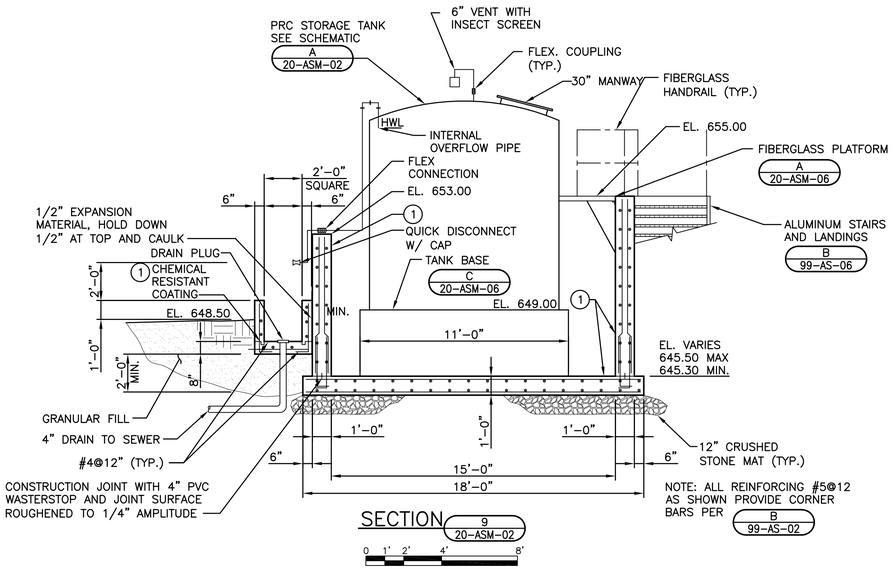
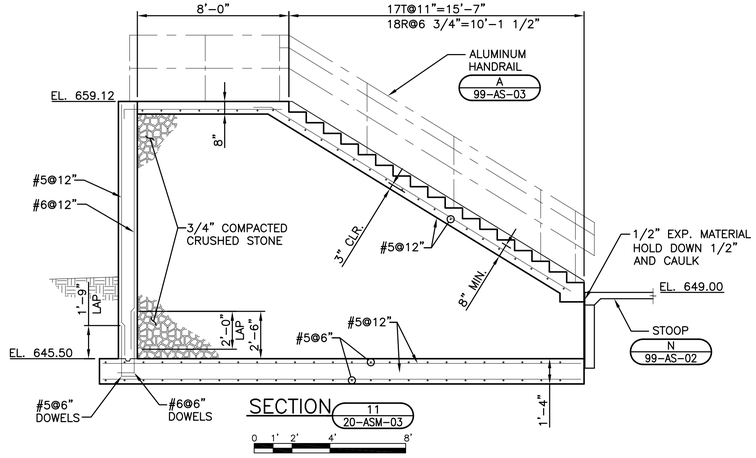


D 20-ASM-06 LADDER & SAFETY CHAIN



SECTION 9 20-ASM-02



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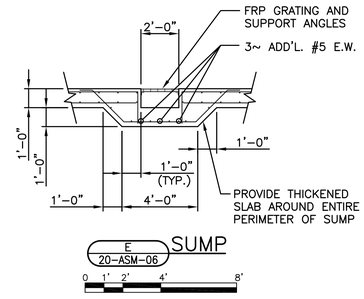
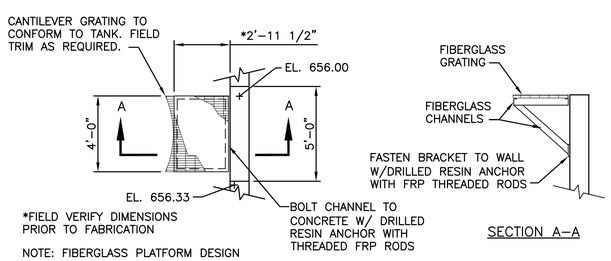
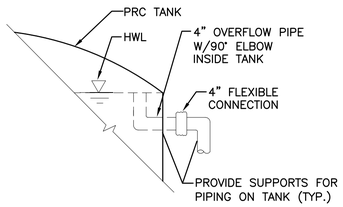


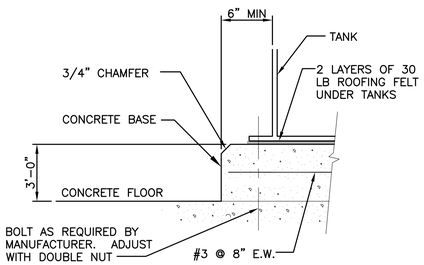
E 20-ASM-06 SUMP



A 20-ASM-06 FIBERGLASS PLATFORM



B 20-ASM-06 TANK OVERFLOW NO SCALE



NOTES:

1. CONCRETE BASE BY CONTRACTOR.
2. ANCHOR CONCRETE BASE TO FLOOR WITH 1/2" DIA. EXPANSION BOLTS @24" O.C., MINIMUM, 4 PER BASE.

C 20-ASM-06 TANK BASE NO SCALE

KEY NOTES:

(1) ALL INTERIOR CONCRETE SURFACES SHALL RECEIVE A CHEMICAL RESISTANT COATING (WALLS, BASE, FLOOR). COATING SHALL BE APPLIED PRIOR TO PRC STORAGE TANK INSTALLATION (SEE SPECS).

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY: CHK BY:TWS
RECORD DRAWING
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CONTRACTOR:

SCREENING BUILDING SECTIONS AND DETAILS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
20
20-ASM-06
JOB NO. 1-879-008

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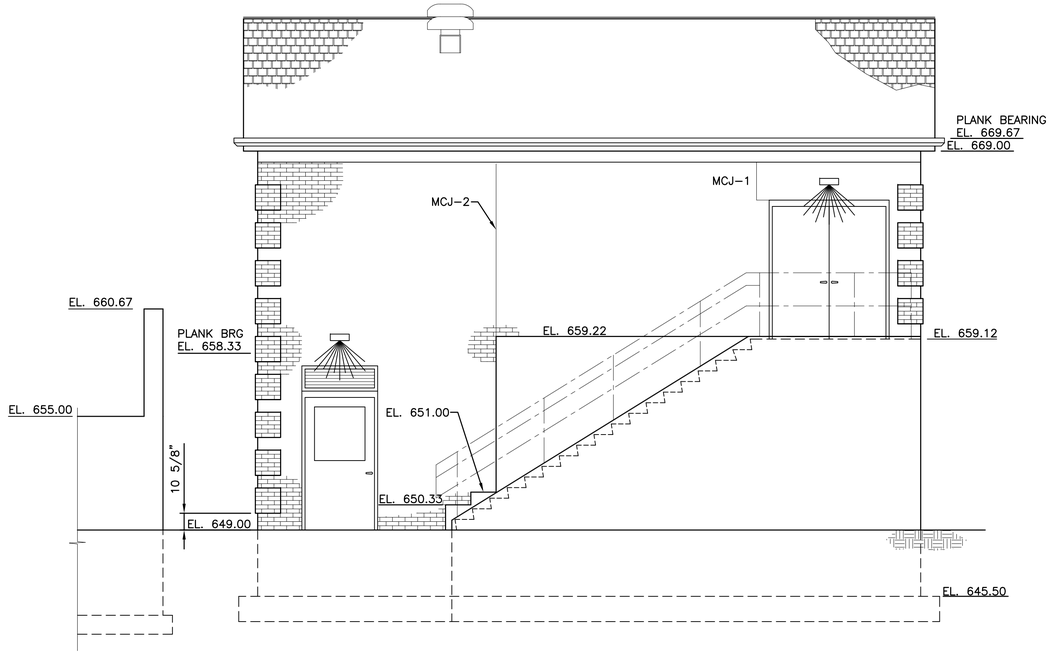
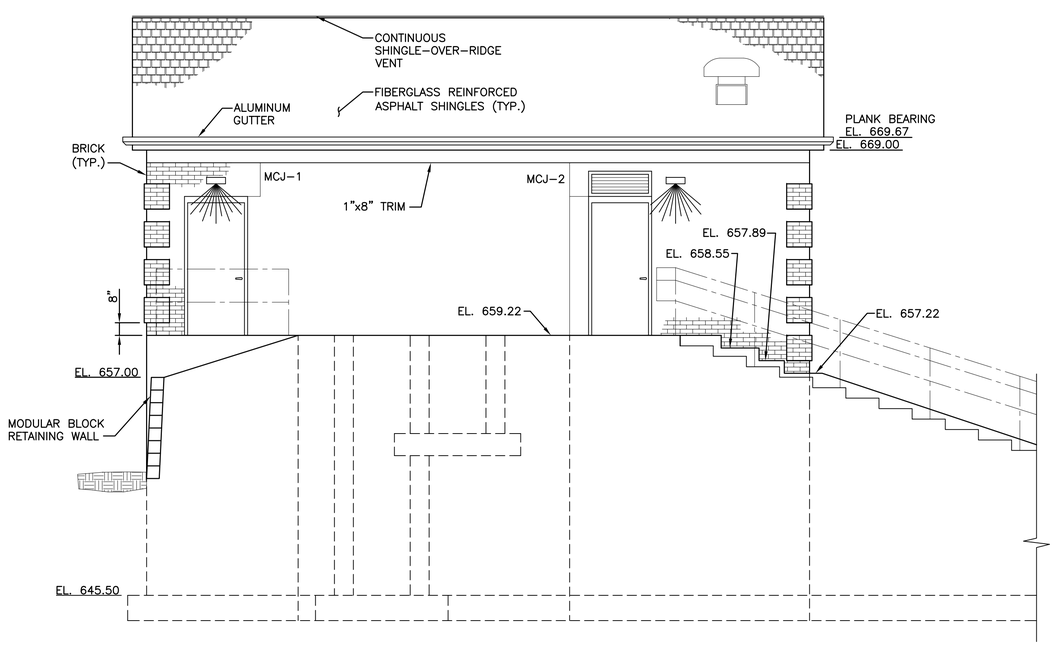


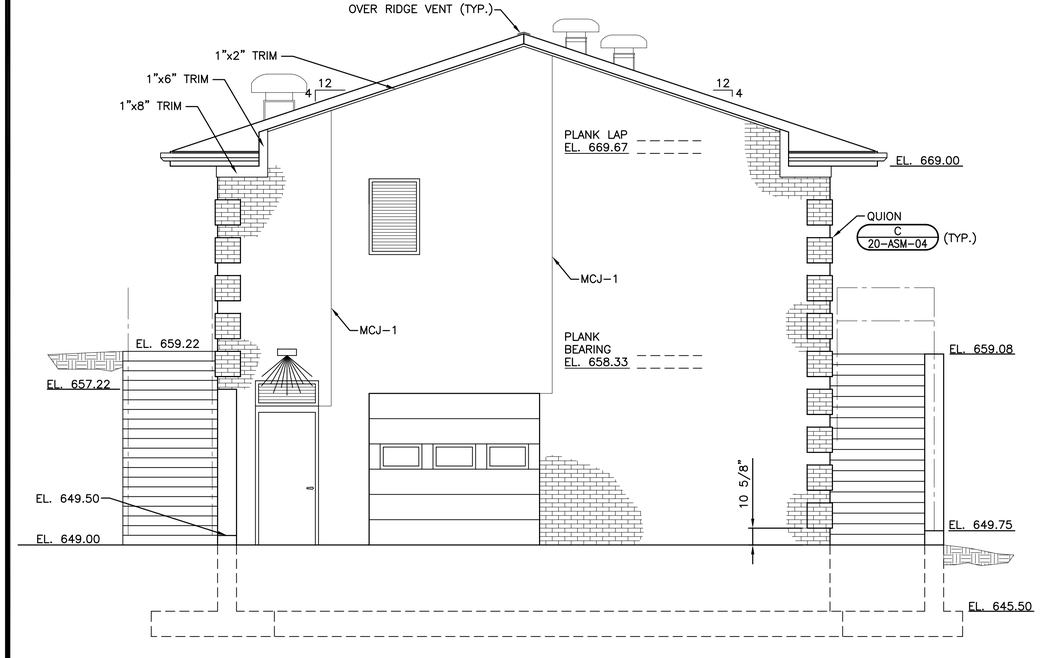
EAST ELEVATION

0 1' 2' 4' 8'



WEST ELEVATION

0 1' 2' 4' 8'



SOUTH ELEVATION

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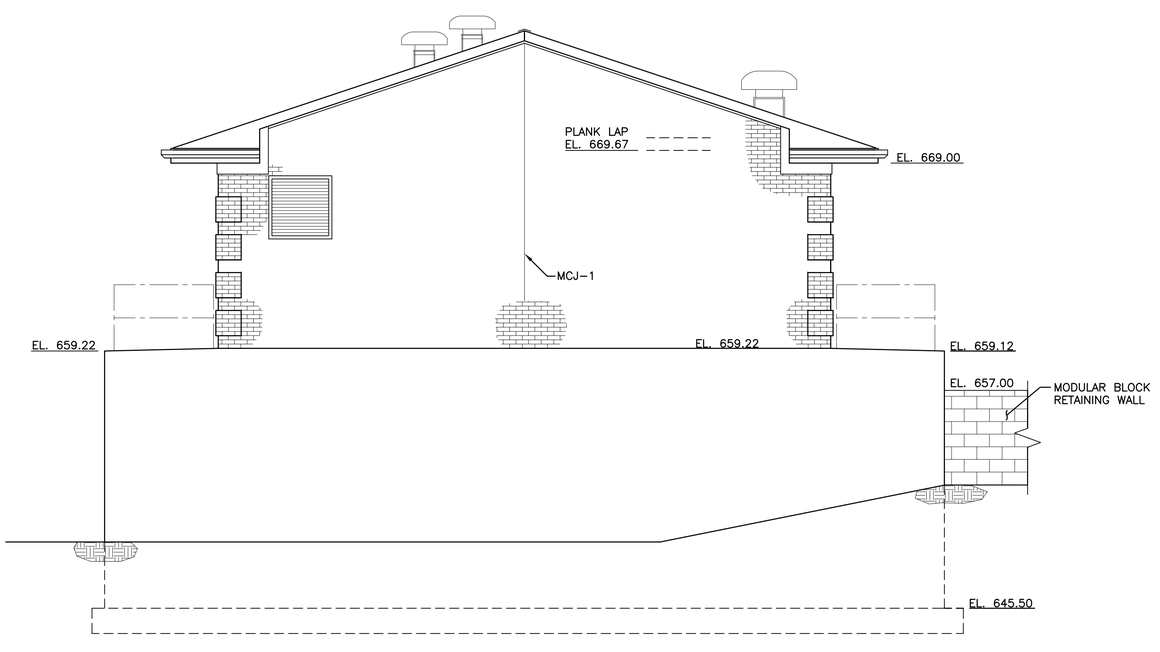

NORTH ELEVATION

0 1' 2' 4' 8'

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY: CHK BY:TWS

RECORD DRAWING

BY:
DATE:
CONTRACTOR:

SCREENING BUILDING ELEVATIONS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
21
20-ASM-07
JOB NO. 1-879-008

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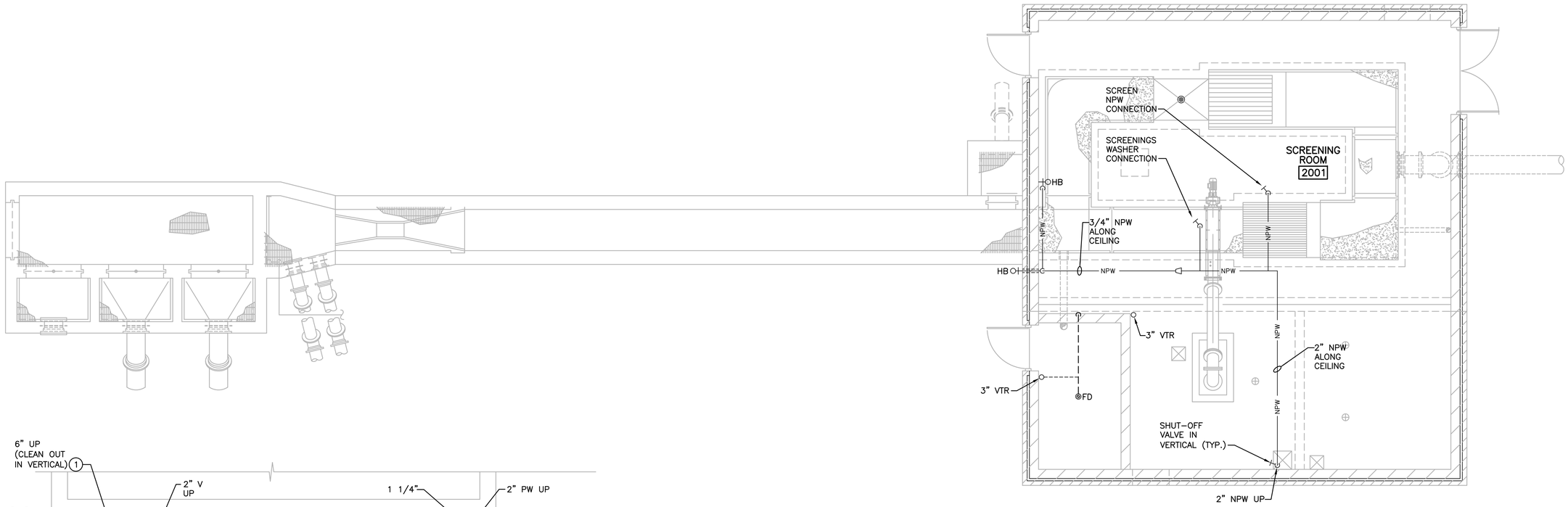
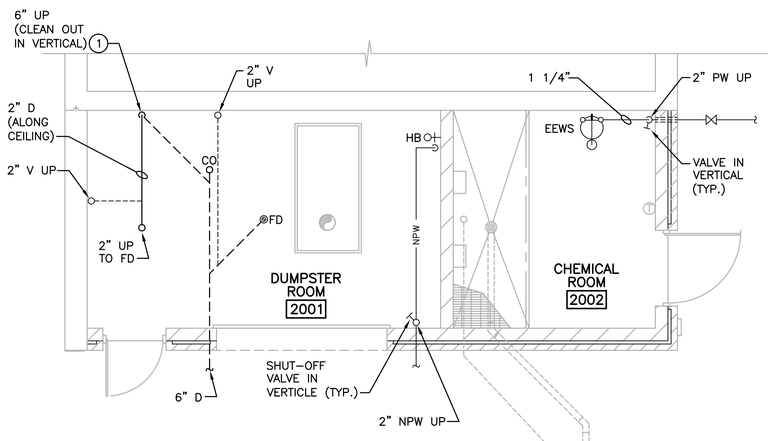
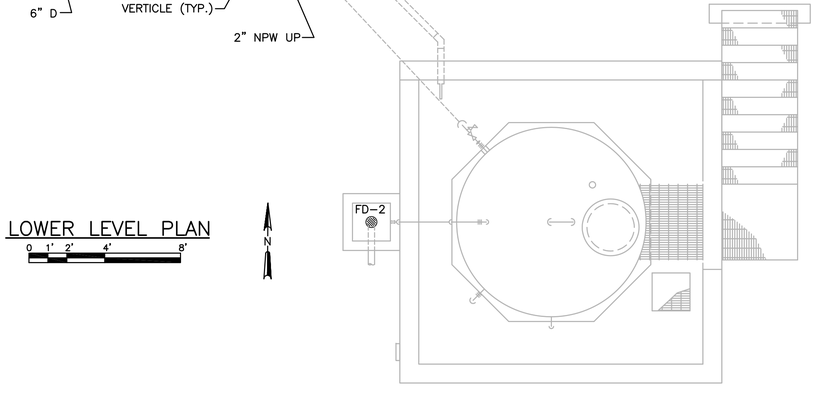


UPPER LEVEL PLAN

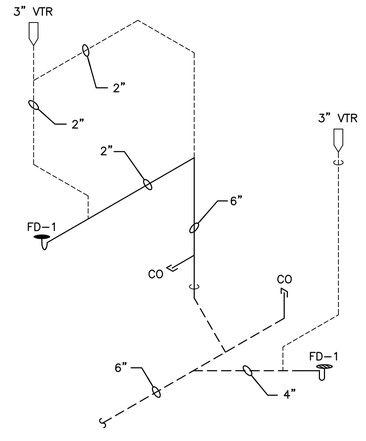
0 1' 2' 4' 8'





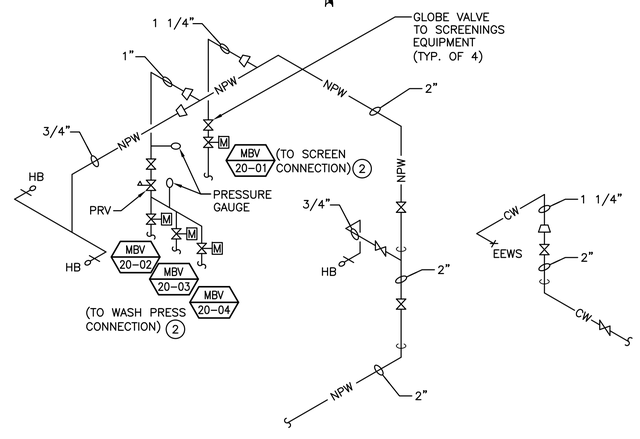
LOWER LEVEL PLAN

0 1' 2' 4' 8'



WASTE AND VENT SCHEMATIC

NO SCALE



NPW AND PW SCHEMATIC

NO SCALE

KEY NOTES:

1. TRANSITION TO 2-INCH WASTE LINE NEAR CEILING.
2. MOV TO SCREEN AND WASH PRESS SUPPLIED BY MANUFACTURER.

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY: CHK BY:TWS
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

SCREENING BUILDING PLUMBING

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
22
20-P-01
JOB NO. 1-879-008

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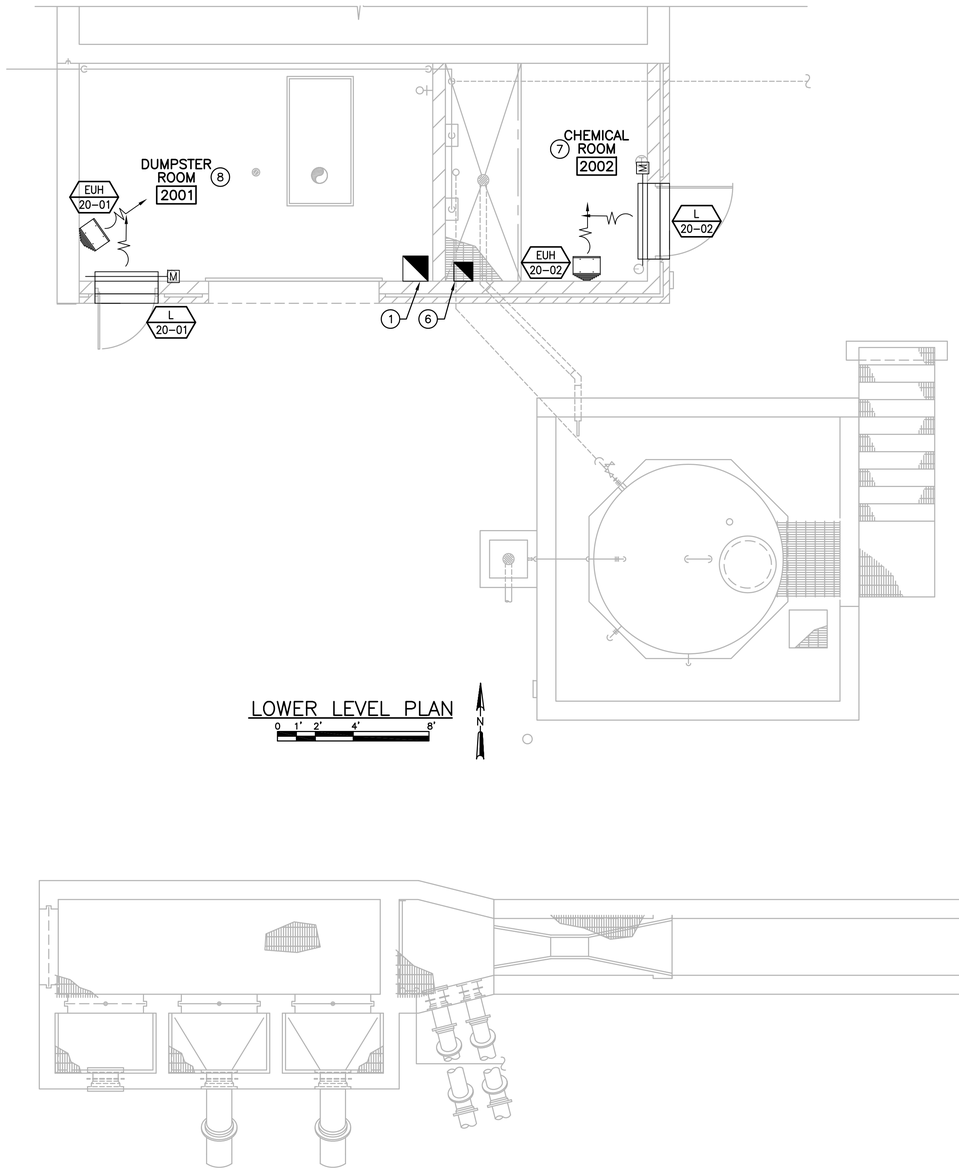


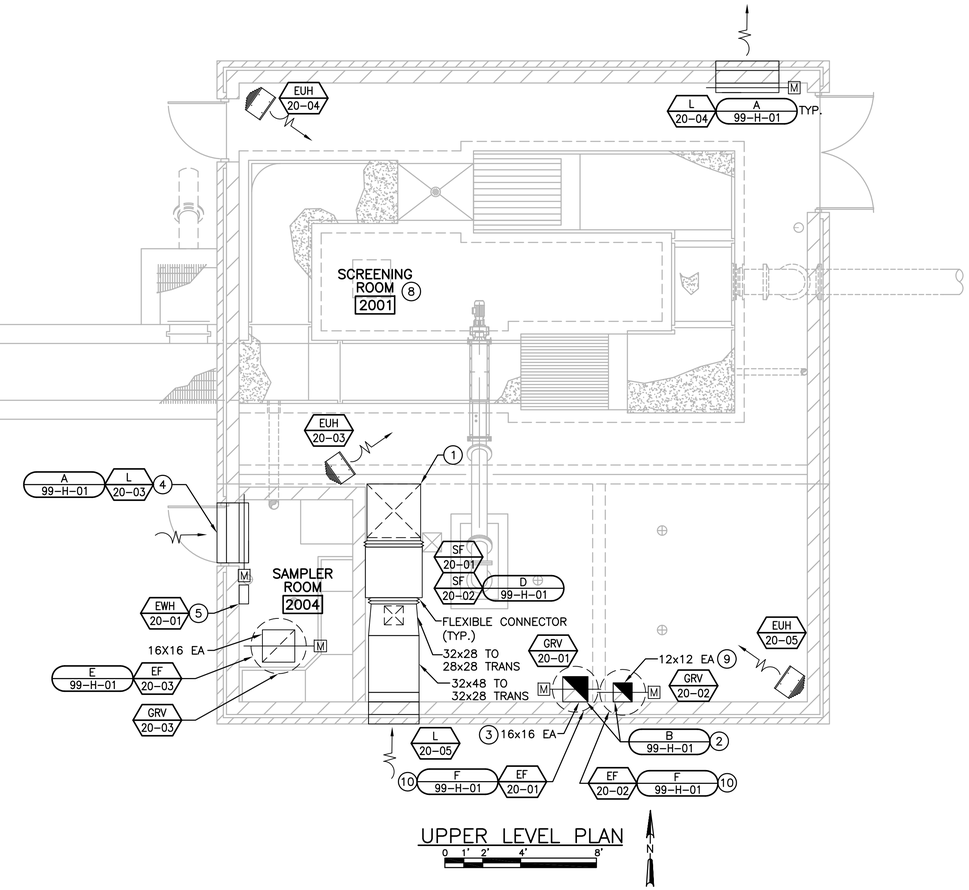
LOWER LEVEL PLAN

0 1' 2' 4' 8'

N

KEY NOTES:

1. 16X16 316 STAINLESS STEEL DUCT DOWN TO 12" AFF. PROVIDE SCREENED OUTLET.
2. COORDINATE FLOOR PENETRATION LOCATION WITH ALL TRADES BASED ON WHERE EXHAUST FAN WILL BE MOUNTED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DUCT OFFSETS REQUIRED.
3. DUCT SHALL BE 316 STAINLESS STEEL.
4. CENTER ABOVE DOOR.
5. PROVIDE SURFACE MOUNTED UNIT.
6. 12X12 DUCT DOWN TO 12" AFF. PROVIDE SCREENED INLET TO MATCH DUCT CONSTRUCTION.
7. ALL EQUIPMENT AND ACCESSORIES SHALL BE SUITABLE FOR CORROSIVE (NEMA 4X) ENVIRONMENTS WITHIN THIS ROOM. DUCTWORK IN THIS ROOM SHALL BE FRP OR PVC.
8. EQUIPMENT AND ACCESSORIES IN THIS ROOM SHALL BE SUITABLE FOR CLASS 1, DIVISION 1, GROUPS C AND D ENVIRONMENTS.
9. DUCTWORK SHALL BE FRP OR PVC.
10. MOUNT INLINE EXHAUST FAN 4'-0" AFF.



UPPER LEVEL PLAN

0 1' 2' 4' 8'

N

DATE: JUNE 2009
DES BY: CHK BY:TWS
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

NO.	REVISIONS	DATE:

SCREENING BUILDING HVAC

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
23
20-H-01
JOB NO. 1-879-008

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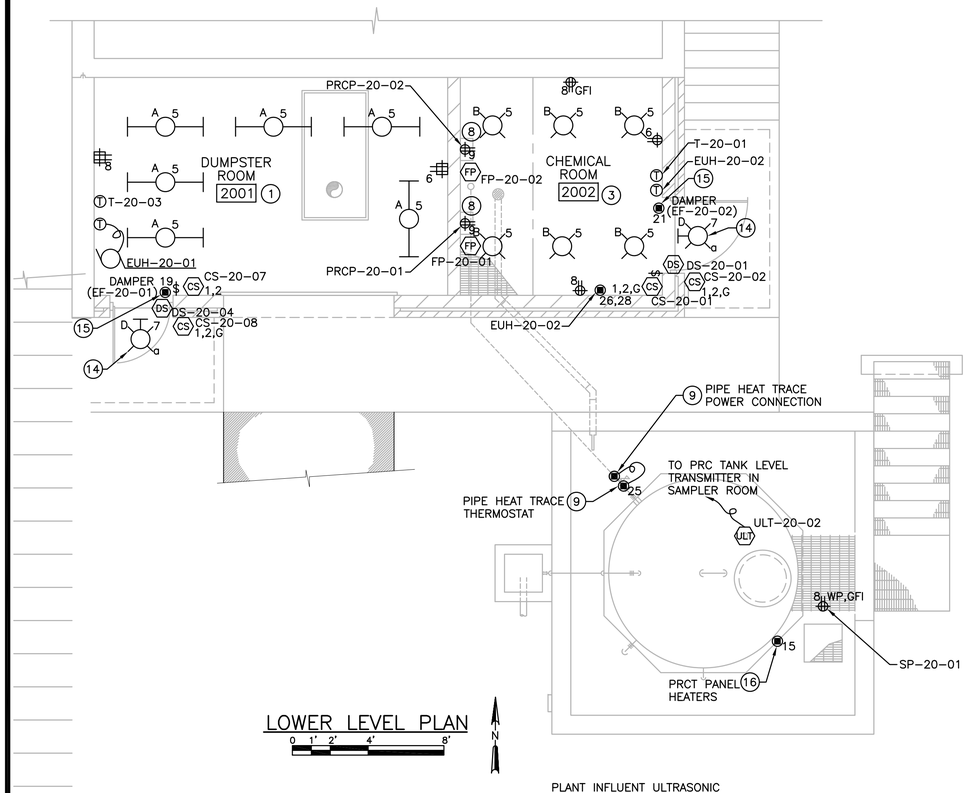


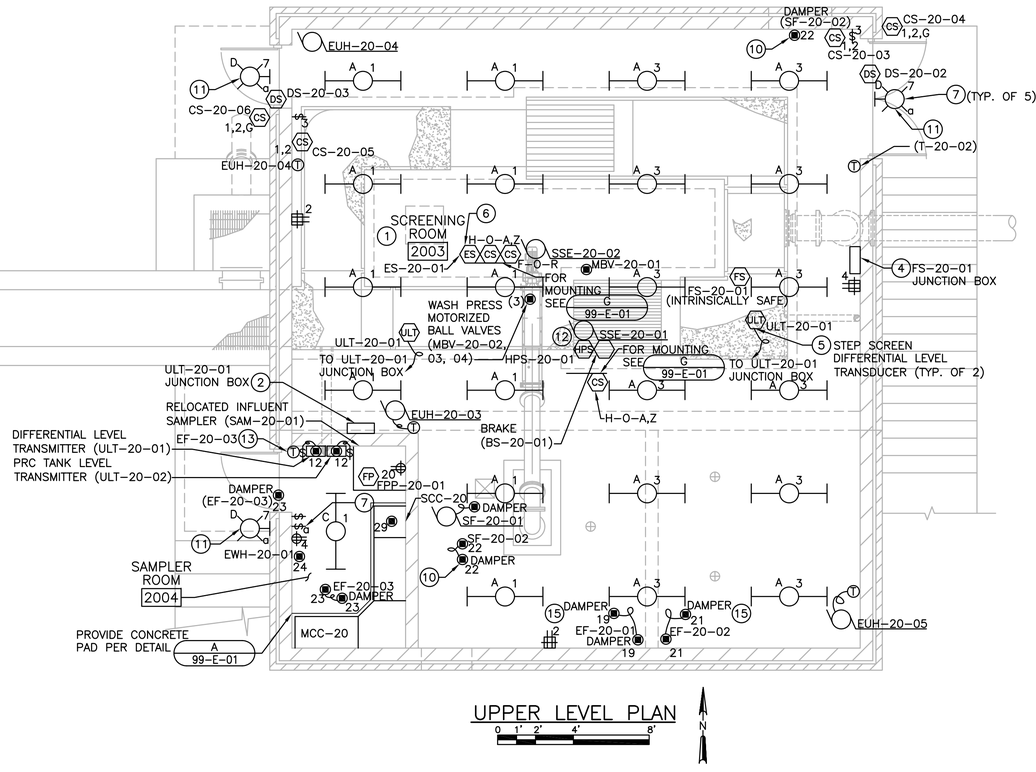
LIGHTING PANEL LP-B

Service:	120/208 V, 3Ø, 4W			Enclosure NEMA 1G					Mounting:			In MCC	
Main Breaker:	100/3								Main Bus:			Copper	
Location:	SCREENING BUILDING								SCIC:			10 kAIC	
Room Number/Description	Amps	Poles	Cct. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Cct. #	Amps	Poles	Room Number/Description
Screening Room Lights (West), Sampler Room Lights	20	1	1	960			540			2	20	1	Screening Room, Sampler Room Receptacles
Screening Room Lights (East)	20	1	3		960			360		4	20	1	Screening Room, Sampler Room Receptacles
Dumpster Room, Chemical Room Lights	20	1	5			800			540	6	20	1	Dumpster Rm, Chem Room Recepts
Exterior Lights	20	1	7	500			720			8	20	1	Dumpster Rm, Chem Rm, PRCT Recepts
PRCP-20-01, PRCP-20-02	15	1	9		200			0		10	20	1	Spare
Spare	20	1	11			0			300	12	20	1	Influent Flow, Screen Differential, PRCT Level Transmitters
Spare	20	1	13	0			0			14	20	1	Spare
PRCT Heat Trace*	30	1	15		2200			0		16	20	1	Spare
Spare	20	1	17			0			0	18	20	1	Spare
EF-20-01 and Dampers (2)	20	1	19	900			1650			20	20	1	Influent Sampler SAM-20-01
EF-20-02 and Dampers (2)	20	1	21		900			900		22	20	1	SF-20-02 and Dampers (2)
EF-20-03 and Dampers (2)	20	1	23			900			1000	24	20	1	EWH-20-01
Pipe Heat Trace*	20	1	25	100			1000			26	20	2	EUH-20-02
Spare	20	1	27		0			1000		28	/	/	/
SCC-20	20	1	29			1000			0	30	20	1	Spare
Total Load per Phase per Side (VA)				2460	4260	2700	3910	2260	1840				

Total Load Phase A (VA)	6370	VA
Total Load Phase B (VA)	6520	VA
Total Load Phase C (VA)	4540	VA
Total Connected Load (VA)	17430	VA

Total Connected Load (A)	48	A
Total Connected Load + 25%	60	A
Spare 25%	15	A
Feeder Load	76	A

* All heat trace breakers shall be equipped with GFI protection.



GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE PLANT SCADA SYSTEM.
2. THERMOSTATS MOUNTED ON EXTERIOR WALLS SHALL BE PROVIDED WITH INSULATED BASES.

KEY NOTES:

(1) ALL ELECTRICAL WORK AND EQUIPMENT IN THIS ROOM SHALL BE RATED FOR A CLASS I, DIVISION 1, GROUPS C AND D LOCATION. CONTROL STATIONS, THERMOSTATS, AND DOOR SWITCHES IN THIS AREA SHALL BE INTRINSICALLY SAFE AND BE NEMA 4X.

(2) PROVIDE A NEMA 4X JUNCTION BOX WITH TERMINAL STRIP FOR BOTH ULTRASONIC LEVEL TRANSDUCERS. PROVIDE MANUFACTURER RECOMMENDED CABLE IN CONDUIT FROM JUNCTION BOX TO DIFFERENTIAL LEVEL TRANSMITTER IN SAMPLER ROOM. PROVIDE SEAL-OFF FITTING BETWEEN JUNCTION BOX AND TRANSMITTER.

(3) ALL ELECTRICAL WORK AND EQUIPMENT IN THIS ROOM SHALL BE RATED NEMA 4X. ALL MATERIALS SHALL BE ABS OR PVC. NO STAINLESS STEEL SHALL BE PERMITTED.

(4) PROVIDE NEMA 4X JUNCTION BOX WITH TERMINAL STRIP FOR FLOAT. PROVIDE SEAL-OFF FITTING BETWEEN JUNCTION BOX AND SCC-20.

(5) CONTRACTOR SHALL WIRE TRANSDUCER TO ASSOCIATED STEP SCREEN DIFFERENTIAL LEVEL TRANSMITTER ULT-20-01 LOCATED IN THE SAMPLER ROOM.

(6) EMERGENCY STOP PUSH BUTTON FURNISHED AS SPECIFIED IN DIVISION 11 AND WIRED BY THIS CONTRACTOR.

(7) EXTERIOR FIXTURES SHALL BE CONTROLLED FROM INDIVIDUAL PHOTOCELLS AND A MANUAL OVERRIDE SWITCH LOCATED IN THE SAMPLER ROOM.

(8) RECEPTACLE SHALL BE HALF-HOT, HALF-INTERLOCKED WITH SCC-20 FOR CONTROL OF THE ASSOCIATED PHOSPHOROUS REMOVAL CHEMICAL PUMP.

(9) EQUIPMENT FURNISHED AS SPECIFIED IN DIVISION 15 AND WIRED BY THIS CONTRACTOR. COORDINATE EXACT CONNECTION LOCATION WITH DIVISION 15 CONTRACTOR.

(10) DAMPER SHALL BE INTERLOCKED WITH ITS ASSOCIATED SUPPLY FAN SUCH THAT DAMPER OPENS WHENEVER THE FAN IS RUNNING.

(11) LIGHT FIXTURE SHALL BE MOUNTED 8' ABOVE STAIR LANDING.

(12) ALL WIRING TO STEP SCREEN SHALL ALLOW FOR PIVOTING SCREEN OUT OF CHANNEL WITHOUT HAVING TO DISCONNECT ANY WIRING.

(13) WIRE THERMOSTAT IN SERIES WITH ASSOCIATED EXHAUST FAN SUCH THAT FAN RUNS AND DAMPERS OPEN WHEN THE ROOM TEMPERATURE RISES ABOVE THE THERMOSTAT SETTING.

(14) LIGHT FIXTURE SHALL BE MOUNTED AT 10' ABOVE GRADE.

(15) EXHAUST FAN SHALL BE CONTROLLED AS SPECIFIED IN SECTION 16940. EXHAUST FAN AND ASSOCIATED DAMPERS SHALL BE POWERED THROUGH CONTRACTOR IN SCC-20.

NO. | REVISIONS | DATE:

DATE: JUNE 2009
DES BY: RGT CHK BY: SPZ
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

SCREENING BUILDING ELECTRICAL
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
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20-E-01
JOB NO. 1-879-008

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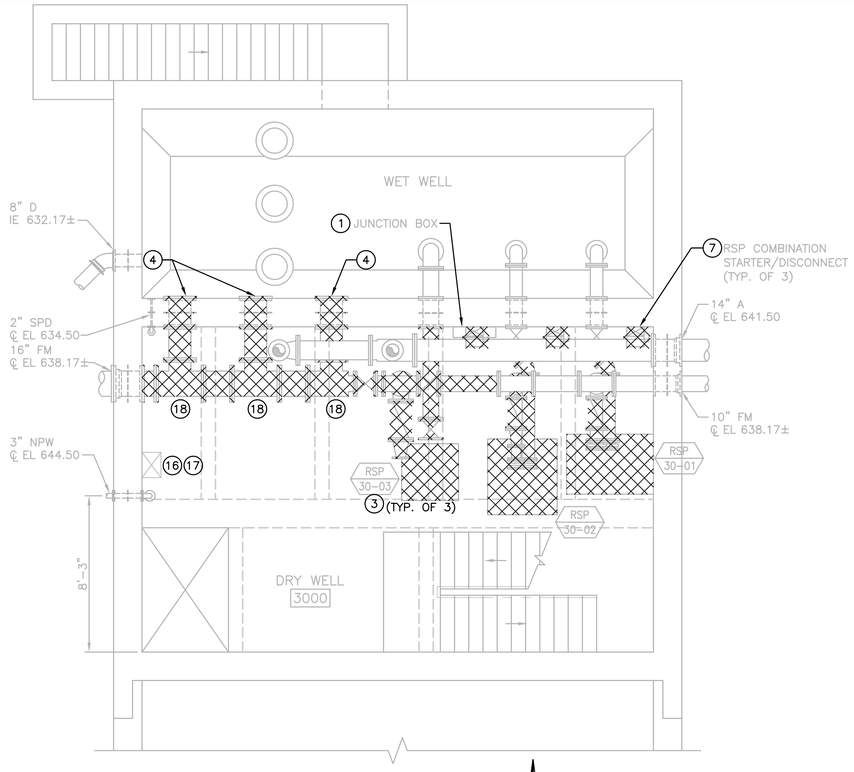
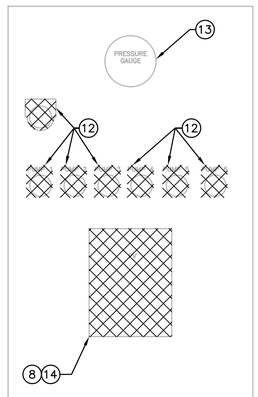
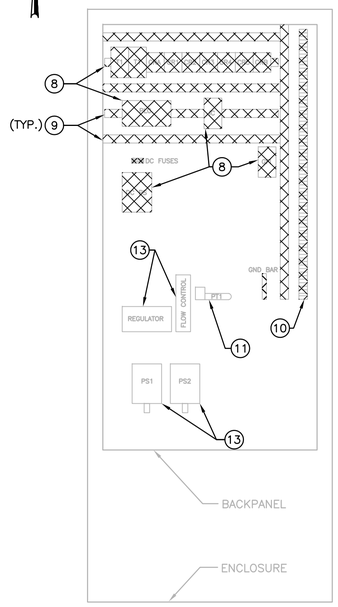


LOWER LEVEL PLAN

0 1' 2' 4' 8' N



DOOR ELEVATION

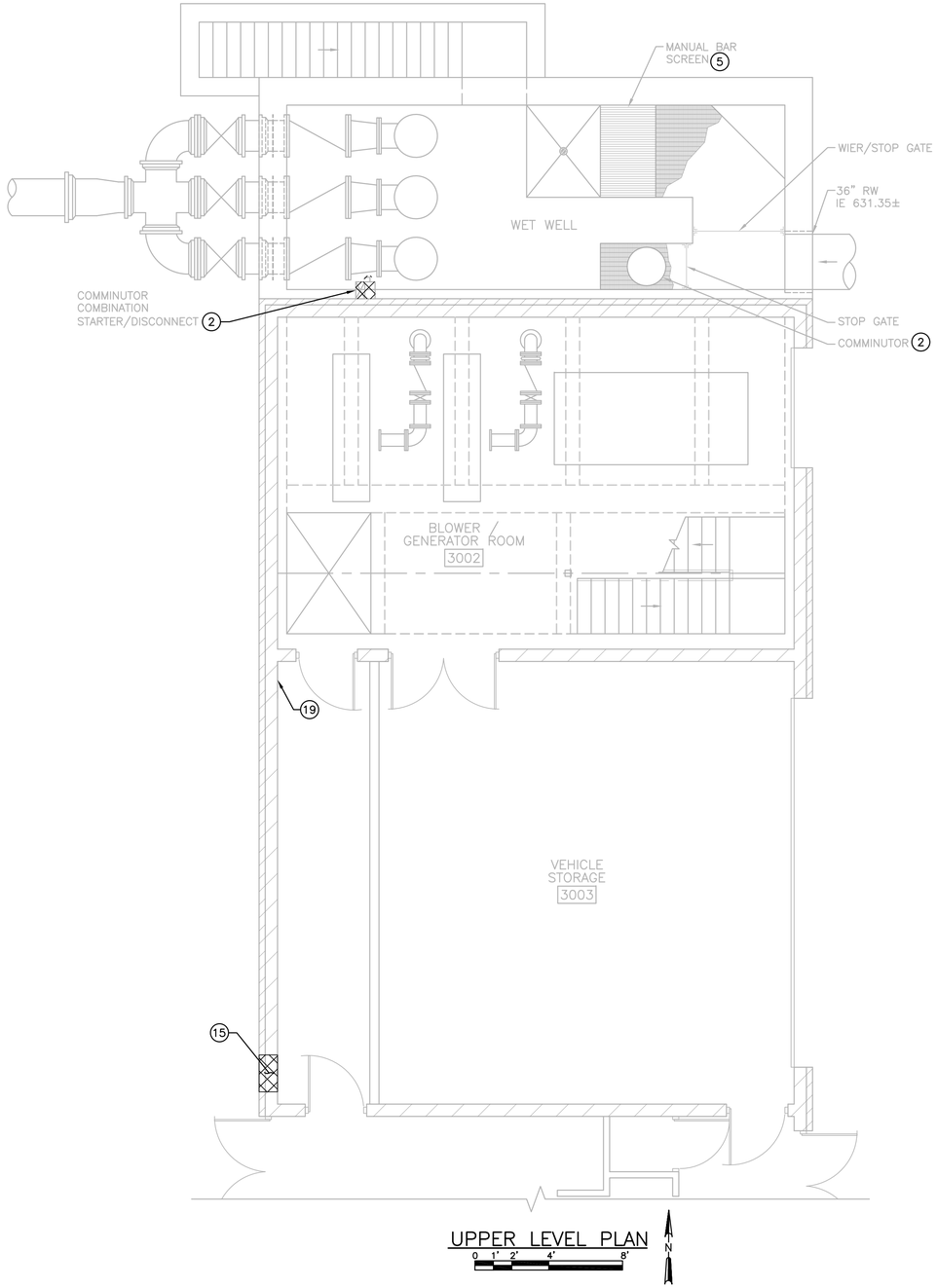


INTERIOR ELEVATION

1 / 30-D-01 EXISTING SCC PANEL DEMOLITION NO SCALE

KEY NOTES:

1. DIVISION 16 CONTRACTOR SHALL REMOVE EXISTING ABANDONED CONDUIT AND CAP HOLE IN EXISTING JUNCTION BOX.
2. REMOVE COMMINUTOR AND CONTROLS. REMOVE ALL EXISTING WIRE AND CONDUIT ASSOCIATED WITH COMMINUTOR BACK TO CIRCUIT BREAKER IN CONTROL BUILDING MAIN EMERGENCY POWER PANEL. SALVAGE EXISTING STARTER AND ENCLOSURE AND TURN OVER TO OWNER.
3. CONTRACTOR SHALL REMOVE PUMP AND RETURN TO OWNER.
4. CONTRACTOR SHALL REMOVE SPOOL, TEE, AND WALL PIPES. FILL PENETRATIONS W/ NON SHRINK GROUT.
5. REMOVE EXISTING BAR SCREEN.
6. REMOVE PUMP BASES TO 1-INCH BELOW EXISTING FLOOR AND PATCH FLOOR TO MATCH EXISTING.
7. REMOVE EXISTING RSP COMBINATION STARTER/DISCONNECTS AND ALL ASSOCIATED WIRE AND CONDUIT.
8. REMOVE EQUIPMENT AND TURN OVER TO OWNER.
9. REMOVE ALL PLASTIC WIRE DUCT AND DIN RAIL AND PREPARE SURFACE FOR NEW BACK PANEL.
10. DETERMINATE FIELD WIRES AND REMOVE TERMINAL BLOCKS AND ALL INTERNAL WIRING. LABEL ALL FIELD WIRING WITH TERMINAL BLOCK INFORMATION PRIOR TO DETERMINATION.
11. PROVIDE NEW LABEL FOR PT. LABEL SHALL READ PT-30-1.
12. REMOVE PILOT DEVICES AND PROVIDE MATCHING HOLE PLUG.
13. LEAVE EXISTING BUBBLER EQUIPMENT AND ASSOCIATED TUBING IN PLACE. PROTECT FROM DAMAGE DURING DEMOLITION WORK.
14. PROVIDE COVER PLATE FOR OPENING LEFT BY REMOVAL OF PV AND PAINT TO MATCH EXISTING.
15. REMOVE EXISTING WALL FOR NEW 2'-0"x1'-4" LOUVER
16. DEMOLISH AND REMOVE EXISTING LEVEL CONTROLLER ALONG WEST WALL INCLUDING WIRE, CONDUIT AND APPURTENANCES.
17. DEMOLISH AND REMOVE EXISTING SUMP PUMP, WIRE, CONDUIT AND CONTROLS
18. CONTRACTOR MAY REUSE EXISTING FITTINGS
19. REMOVE SHELVING.



UPPER LEVEL PLAN

0 1' 2' 4' 8' N

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY:BTM CHK BY:TWS
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

CONTROL BUILDING
DEMOLITION PLAN
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
25
30-D-01
JOB NO. 1-879-008

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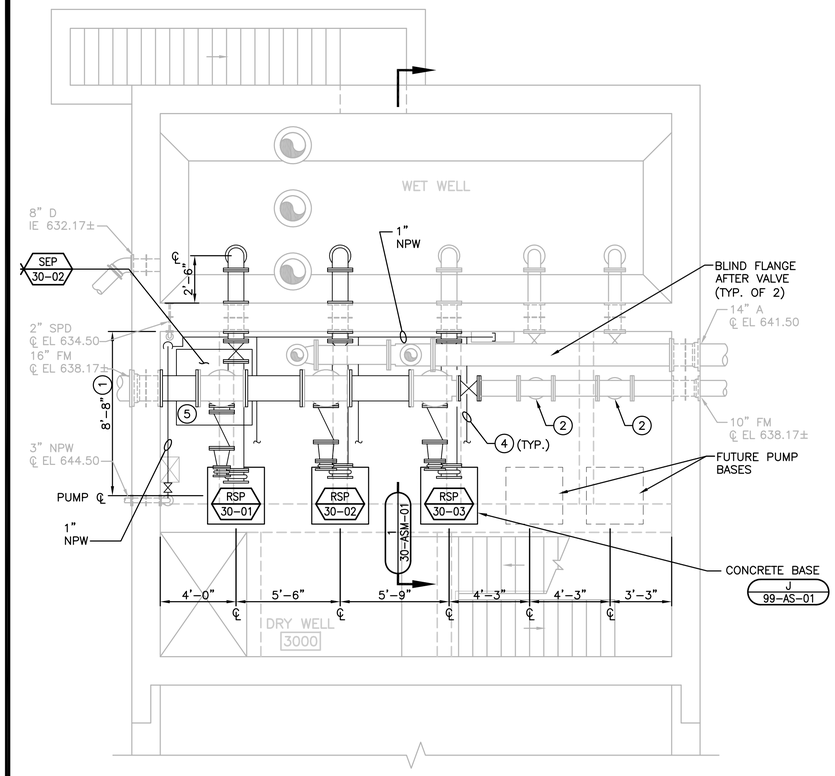
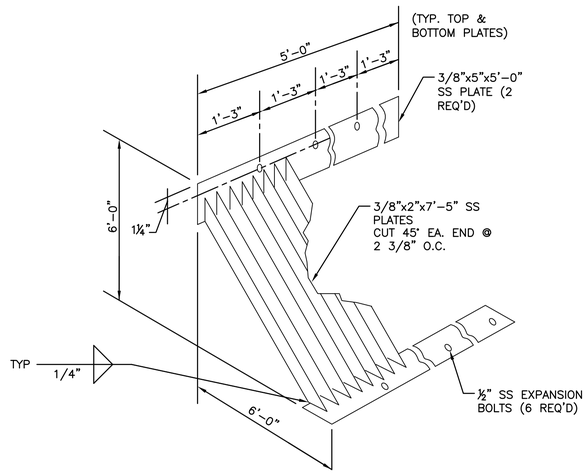


LOWER LEVEL PLAN

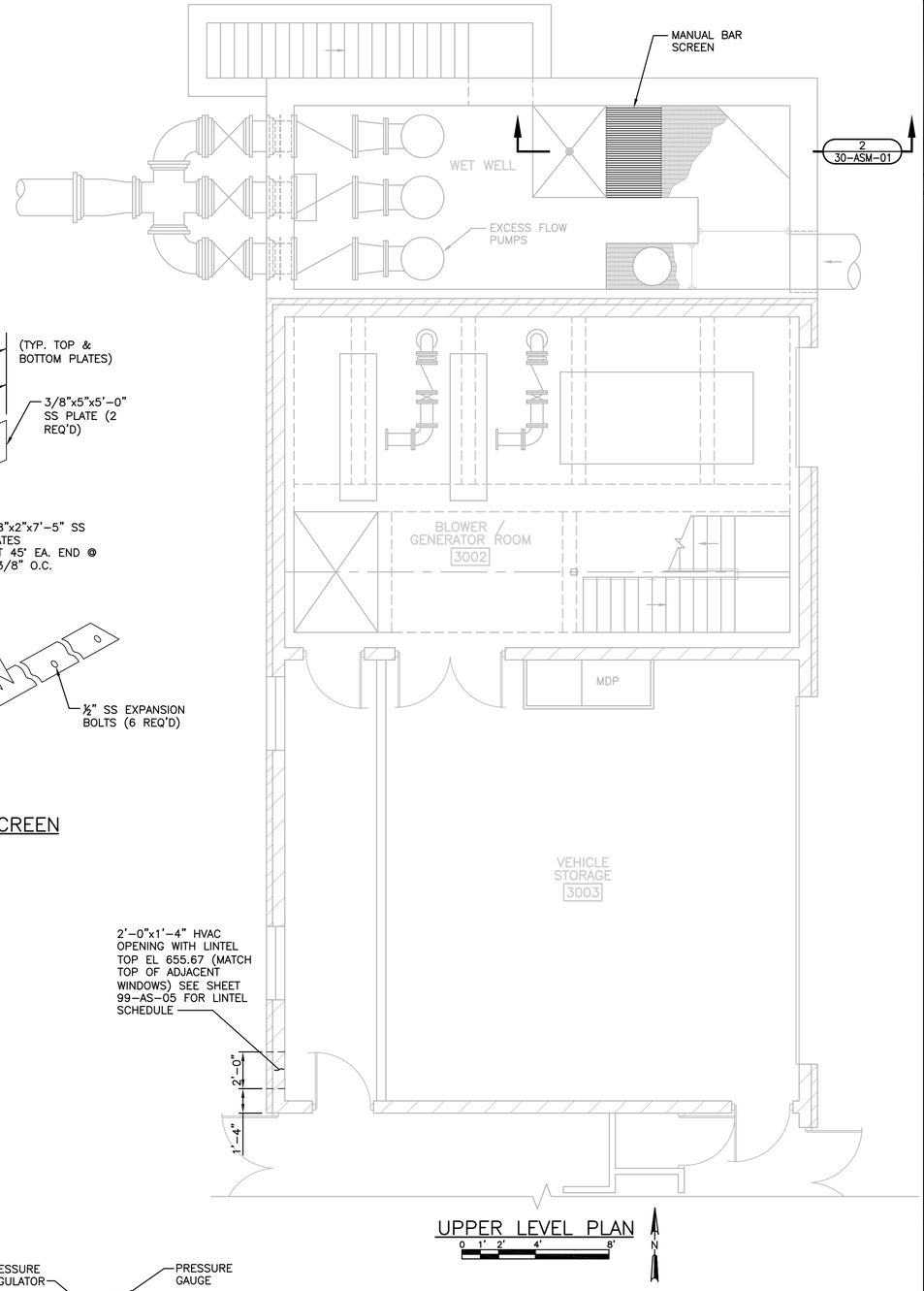
0 1' 2' 4' 8'

KEY NOTES:

1. VERIFY EQUIPMENT PAD LOCATION WITH PUMP CENTERLINE.
2. PROVIDE BLIND FLANGE ON BOTTOM OF 10-INCH TEE.
3. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS.
4. ROUTE 3/4" NPW ALONG PUMP SUCTION SUPPORTED FROM FLOOR. SEE DETAIL B/30-ASM-01 FOR SEAL WATER CONNECTION DETAILS.
5. PROVIDE NEW 48"x48" SUMP PUMP COVER W/INDIVIDUAL PUMP ACCESS COVERS. INSPECTION COVER, AND VENT COVER. REUSE EXISTING SPD PIPING AND DEMOLISH AND REPLACE WITH NEW AS NECESSARY.

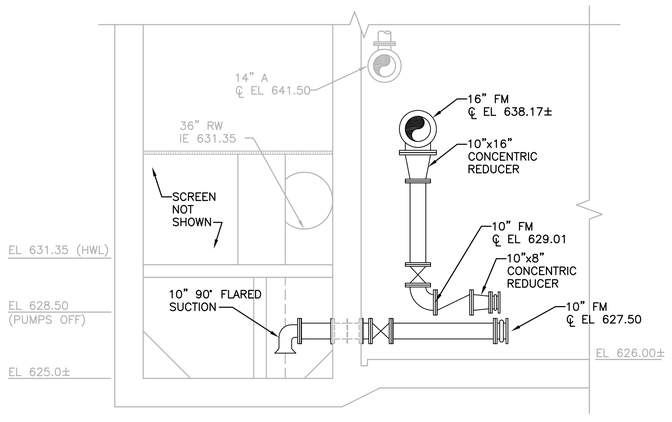


A 30-ASM-01 BAR SCREEN NO SCALE



UPPER LEVEL PLAN

0 1' 2' 4' 8'



SECTION 1 / 30-ASM-01

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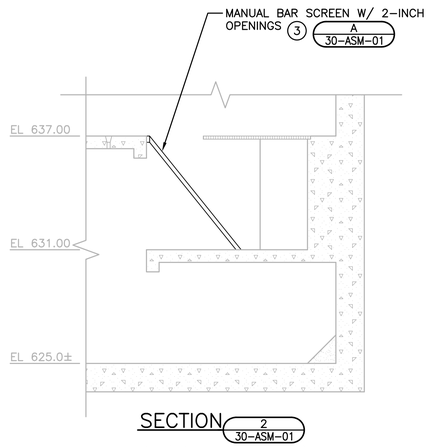

SECTION 2 / 30-ASM-01

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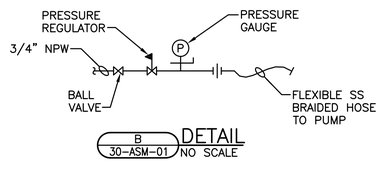

B 30-ASM-01 DETAIL NO SCALE

NO.	REVISIONS	DATE:

DATE: JUNE 2009
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BY:
DATE:
CONTRACTOR:

CONTROL BUILDING
PLANS AND SECTIONS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
26
30-ASM-01
JOB NO. 1-879-008

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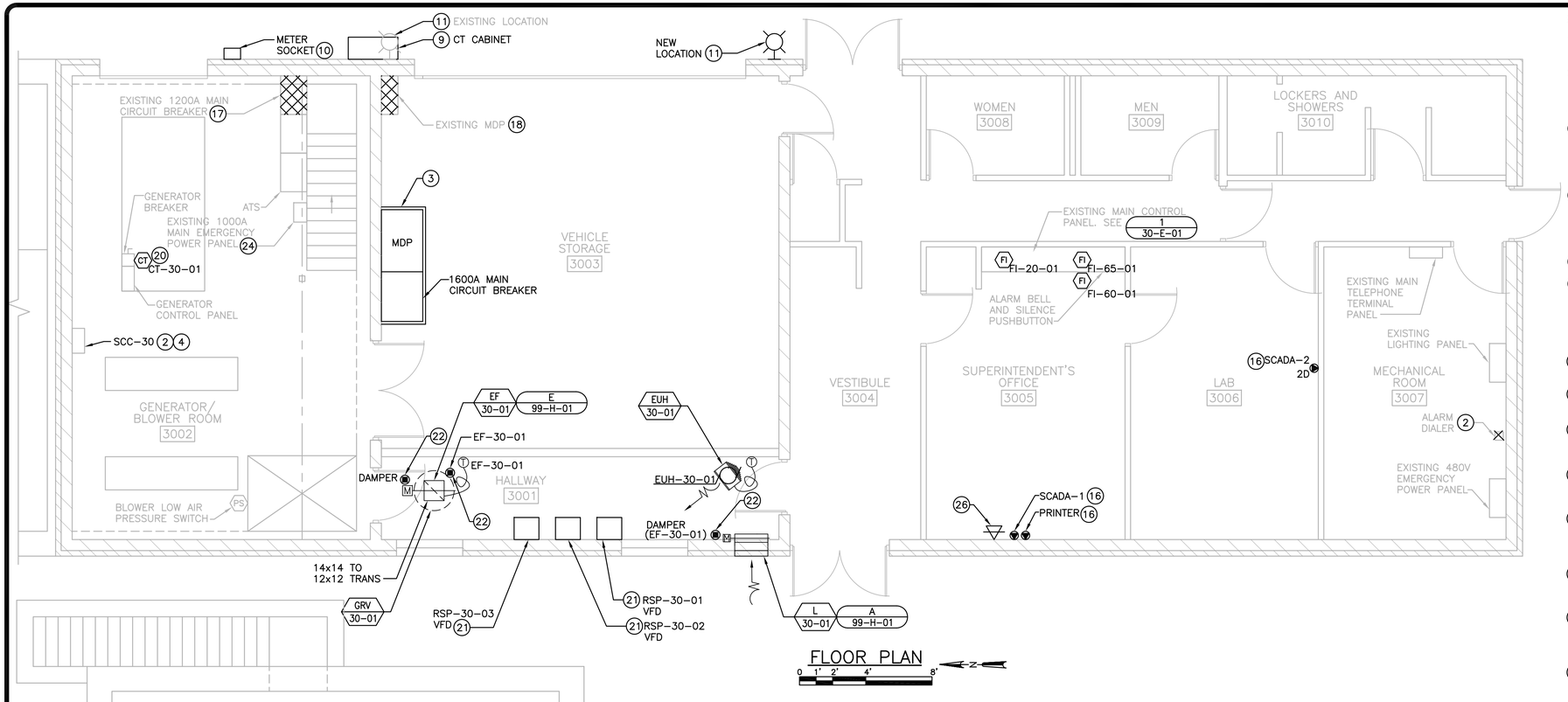

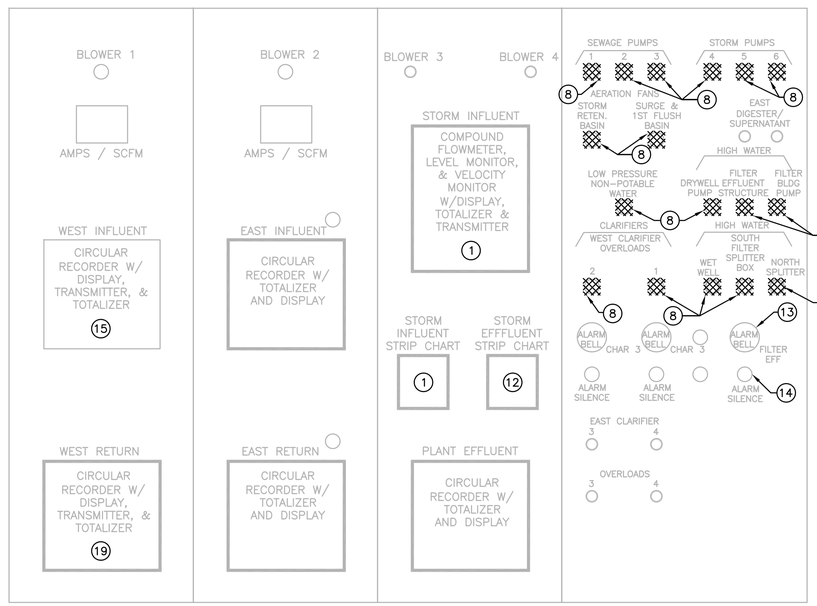

1 / 30-E-01 EXISTING MAIN CONTROL PANEL LAYOUT
NO SCALE

GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE PLANT SCADA SYSTEM.
2. REFER TO SHEET 30-D-01 FOR ADDITIONAL ELECTRICAL DEMOLITION WORK IN THIS BUILDING.

KEY NOTES:

(1) SPECIFICATION SECTION 16940 SYSTEM SUPPLIER SHALL PROVIDE SIGNAL ISOLATOR WITHIN MAIN CONTROL PANEL FOR STORM INFLUENT FLOW SIGNAL. SPLIT EXISTING SIGNAL TO SCC-30 AND EXISTING STRIP CHART RECORDER. PROVIDE CONDUIT AND SHIELDED PAIRS AS REQUIRED.

(2) CONTRACTOR SHALL REMOVE EXISTING ALARM DIALER AND TURN OVER TO OWNER. EXTEND EXISTING PHONE LINE TO SCC-30 FOR USE WITH NEW DIALER IN SCC-30. PROVIDE NEMA 1 JUNCTION BOX AND TERMINAL STRIP TO EXTEND EXISTING ALARM WIRING AT OLD ALARM DIALER LOCATION TO NEW DIALER.

(3) PROVIDE HOUSEKEEPING PAD PER DETAIL A / 99-E-01.

(4) SECTION 16940 SYSTEM SUPPLIER SHALL REMOVE DEVICES AND EQUIPMENT AS SHOWN IN DETAIL 1 / 30-D-01 AND REUSE ENCLOSURE FOR SCC-30 AS SPECIFIED. THE EXISTING 20 AMP POWER FEED TO THIS PANEL SHALL BE REUSED FOR 120V POWER TO SCC-30. RELABEL EXISTING CIRCUIT BREAKER.

(5) ALL ELECTRICAL WORK AND EQUIPMENT IN THIS ROOM SHALL BE RATED FOR A NEMA 4X LOCATION.

(6) DISCONNECTS SHALL BE WALL MOUNTED. PROVIDE 3~1/0 AND A #6 GRD IN 1 1/2"C FROM DISCONNECT TO ASSOCIATED RSP.

(7) REPLACE EXISTING RECEPTACLE WITH A NEW GFI RECEPTACLE IN A WEATHERPROOF ENCLOSURE. REUSE EXISTING WIRE AND CONDUIT. MODIFY EXISTING WIRE AND CONDUIT AS NECESSARY.

(8) REMOVE EXISTING PILOT DEVICE AND ALL ASSOCIATED INTERNAL WIRING. PROVIDE MATCHING HOLE PLUG. REMOVE EXISTING NAMEPLATES AND CLEAN SURFACE OF ALL RESIDUE.

(9) CONTRACTOR SHALL PROVIDE AN ERICKSON CT CABINET, MODEL CT164 PTLCIL WITH A SIDE GUTTER, MODEL SGL24. CTS AND PTS SHALL BE FURNISHED BY UTILITY COMPANY AND INSTALLED BY THIS CONTRACTOR PER UTILITY COMPANY REQUIREMENTS.

(10) CONTRACTOR SHALL PROVIDE METER SOCKET PER UTILITY COMPANY REQUIREMENTS. PROVIDE WIRE AND CONDUIT BETWEEN CT CABINET AND METERING SOCKET AS REQUIRED.

(11) CONTRACTOR SHALL RELOCATE LIGHT TO NEW LOCATION SHOWN NEXT TO GENERATOR ROOM DOOR. MODIFY AND EXTEND EXISTING WIRE AND CONDUIT AS NECESSARY. PROVIDE NEW MOUNTING HARDWARE AS NECESSARY.

(12) PROVIDE MODIFICATIONS TO EXISTING STRIP CHART AS REQUIRED TO ACCEPT NEW 4-20MA SIGNAL FOR STORM EFFLUENT FLOW FROM SCC-30.

(13) REWIRE EXISTING ALARM BELL TO UTILIZE DIGITAL OUTPUT FROM SCC-30. PROVIDE CONDUIT AND WIRE AS REQUIRED.

(14) REWIRE EXISTING SILENCE PB AS AN INPUT TO SCC-30. PROVIDE CONDUIT AND WIRE AS REQUIRED.

(15) PROVIDE MODIFICATIONS TO EXISTING CHART RECORDER AS REQUIRED TO ACCEPT 4-20mA SIGNAL FOR INFLUENT FLOW FROM SCC-30. PROVIDE NEW "INFLUENT" NAMEPLATE FOR CHART RECORDER.

(16) PROVIDE CAT. 5e CABLE FROM NETWORK SWITCH IN SCC-30 TO THIS LOCATION. SEE SCADA RISER.

(17) CONTACTOR SHALL REMOVE EXISTING 1200A MAIN AND ALL ASSOCIATED WIRE AND CONDUIT.

(18) CONTRACTOR SHALL REMOVE EXISTING MDP AND REFEED EXISTING LOADS FROM NEW 1600A MDP. EXTEND CONDUIT AND WIRE AS REQUIRED TO REFEED EXISTING LOADS.

(19) REMOVE WIRING FROM CHART RECORDER BACK TO TERMINAL BLOCKS IN PANEL. PROVIDE NEW "SPARE" NAMEPLATE.

(20) CONTRACTOR SHALL PROVIDE A CURRENT TRANSFORMER FOR MONITORING GENERATOR CURRENT DRAW AT THE SCADA SYSTEM. CURRENT TRANSFORMER SHALL BE INSTALLED ON PHASE A CABLE OF GENERATOR BREAKER AND SHALL SEND A 4-20mA SIGNAL TO SCC-30. CURRENT TRANSFORMER SHALL BE MODEL ATR4-420-24LFL AS MANUFACTURED BY NK TECHNOLOGIES, OR EQUAL.

(21) REFER TO RAW SEWAGE PUMP VARIABLE FREQUENCY DRIVES SCHEDULE ON SHEET 99-E-04 FOR ADDITIONAL WIRING REQUIREMENTS ASSOCIATED WITH THE RAW SEWAGE PUMPS.

(22) EXHAUST FAN EF-30-01 AND ASSOCIATED DAMPERS (TWO TOTAL) SHALL BE POWERED FROM NEW 20 A CIRCUIT BREAKER TO BE PROVIDED IN THE EXISTING LIGHTING PANEL LOCATED IN THE MECHANICAL ROOM. PROVIDE 2~#12 PLUS #12 GROUND IN 3/4" CONDUIT FOR 120V POWER TO EXHAUST FAN AND DAMPERS. EXHAUST FAN AND DAMPERS SHALL BE CONTROLLED FROM ASSOCIATED THERMOSTAT.

(23) PROVIDE NEW CABLE AND CONDUIT TO SUMP FROM PANEL. REUSE EXISTING POWER FEED TO NEW PANEL.

(24) PROVIDE NEW CIRCUIT BREAKERS IN EXISTING PANEL AS INDICATED ON SINGLE-LINE DIAGRAM.

(25) SEAL WATER MOTORIZED BALL VALVE PROVIDE AS SPECIFIED IN DIVISION 11 AND WIRED BY THIS CONTRACTOR TO VFD ENCLOSURE. SEE RAW SEWAGE PUMPS VFD SCHEDULE FOR ADDITIONAL DETAILS.

(26) PROVIDE CAT. 5E CABLE IN 3/4"C FOR PHONE JACK BACK TO EXISTING MAIN TELEPHONE TERMINAL PANEL.

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY:RGT CHK BY:BMS
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

CONTROL BUILDING HVAC AND ELECTRICAL

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 27 30-HE-01
JOB NO. 1-879-008

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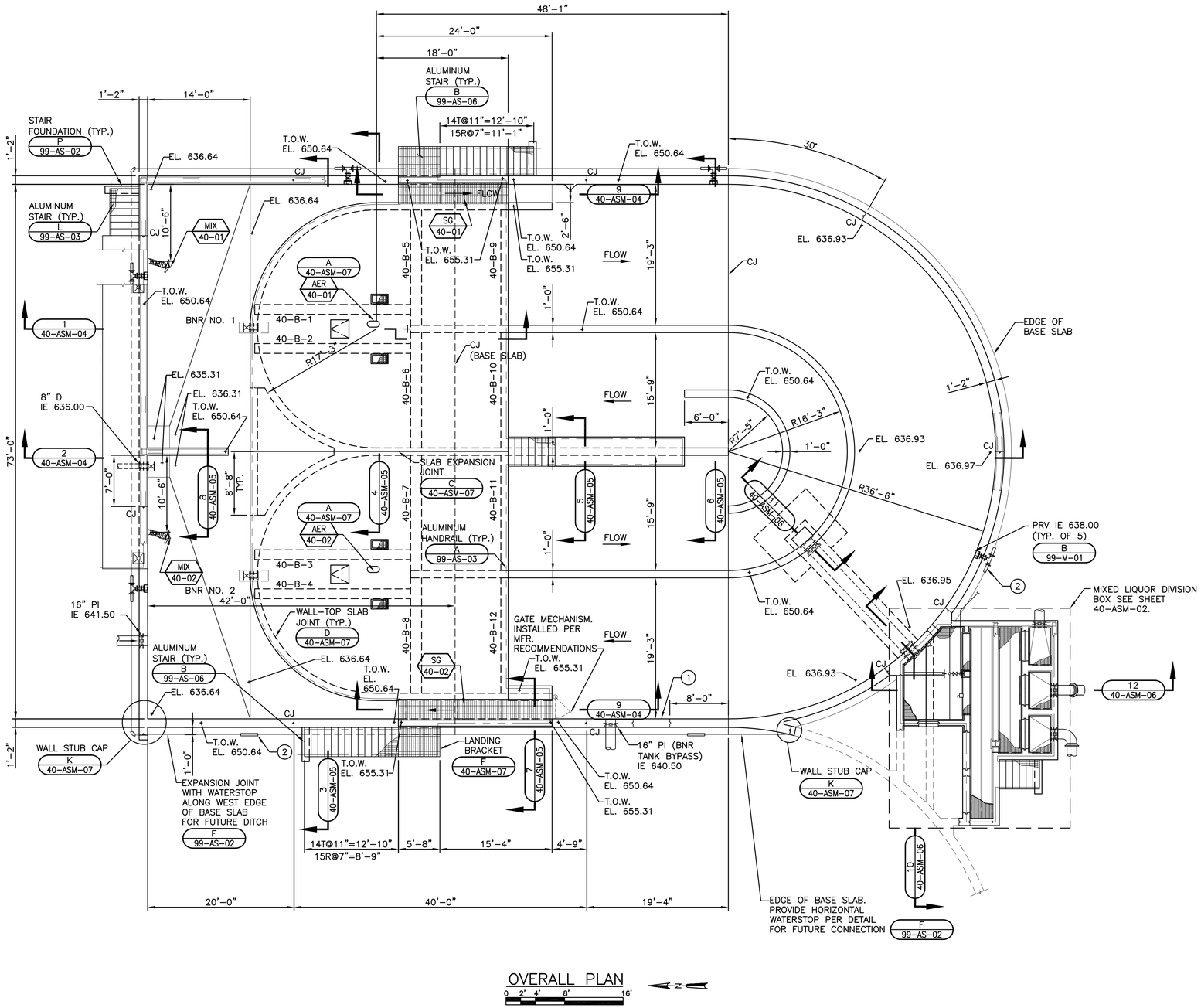


OVERALL PLAN

0 2' 4' 8' 16'

GENERAL NOTES:

1. SEE DRAWING 99-AS-06 FOR GENERAL ARCHITECTURAL/STRUCTURAL NOTES.

KEY NOTES:

(1) KNOCKOUT PANEL 4'-0" WIDE, BOTTOM EL. 647.00. REINFORCE WITH #5@12" EACH WAY, EACH FACE. DO NOT RUN WALL REINFORCING INTO KNOCKOUT PANEL. PROVIDE ADDITIONAL REINFORCING AROUND KNOCKOUT PANEL PER H 99-AS-01

(2) 4" PDP AROUND ENTIRE PERIMETER OF STRUCTURE. IE=638.00 SEE DETAIL C 99-M-01

OXIDATION DITCH
OVERALL PLAN AND DETAILS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

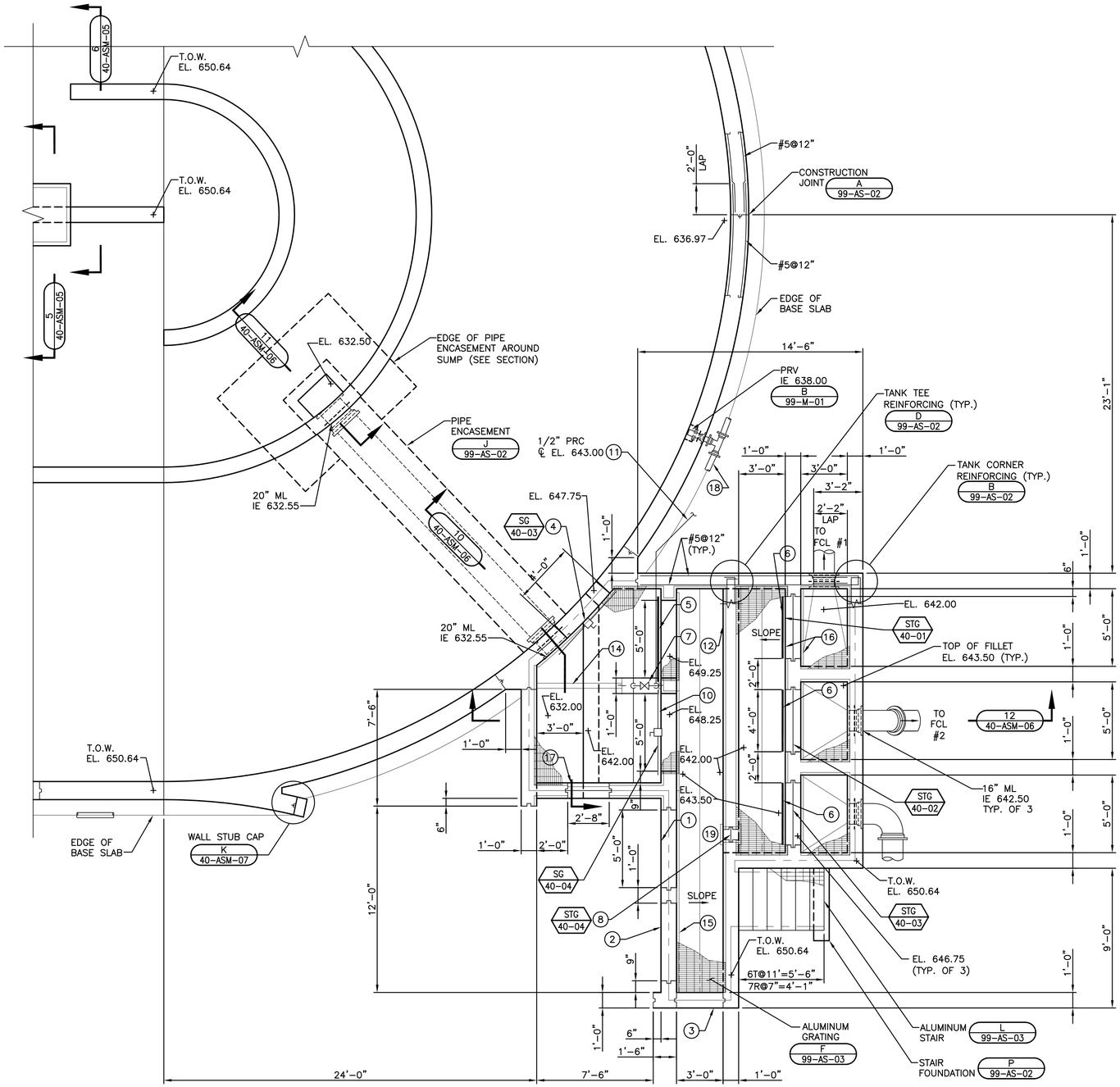
NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY: CHK BY:TWS
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 28
40-ASM-01
JOB NO. 1-879-008

File: S:\MAD\1800--1899\1879\008\Acad\DRAWINGS\40-ASM-01.dwg Time: Jun 17, 2009 - 11:28am



SOUTH END PLAN

0 1' 2' 4' 8'

GENERAL NOTES:

1. FOR SLIDE AND STOP GATE NUMBERS, SEE SHEET 40–ASM–01.
2. KNOCKOUT PANEL REINFORCING, #5@12" EACH WAY, EACH FACE. DO NOT RUN WALL REINFORCING INTO KNOCKOUT PANEL.

KEY NOTES:

(1) KNOCKOUT PANEL 5'–0" WIDE, BOTTOM EL. 648.25. TOP EL. 650.64.

(2) KNOCKOUT PANEL 5'–0" WIDE, BOTTOM EL. 649.25, TOP EL. 650.64.

(3) KNOCKOUT PANEL 3'–0" WIDE FULL HEIGHT. SEE NOTE 2.

(4) DOWNWARD OPENING WEIR GATE. SEE NOTE 1 HIGH SETTING EL. 650.14, LOW SETTING EL. 648.00.

(5) SHARP CRESTED WEIR EL. 649.50.

(6) SHARP CRESTED WEIR EL. 647.00 TYP. OF 3.

(7) PVC DIFFUSER. SEE A / 99–M–02 FOR DETAILS.

(8) 1'–0" WIDE SCUM GATE, BOTTOM EL. 646.50. PROVIDE REMOVABLE SECTION OF GRATING OVER GATE.

(9) NOT USED.

(10) DOWNWARD OPENING WEIR GATE. SEE NOTE 1. HIGH SETTING EL. 649.50, LOW SETTING EL. 648.50.

(11) INSULATE PRC PIPING PER B / 99–M–01.

(12) BAFFLE WALL BOTTOM EL. 643.50.

(13) POUR NONSHRINK GROUT AT 1" PER FOOT (UNLESS NOTED OTHERWISE) AND PROVIDE 1.5"x12" BOXOUT AT TERMINATION POINT OF GROUT.

(14) W6x9 GRATING SUPPORT.

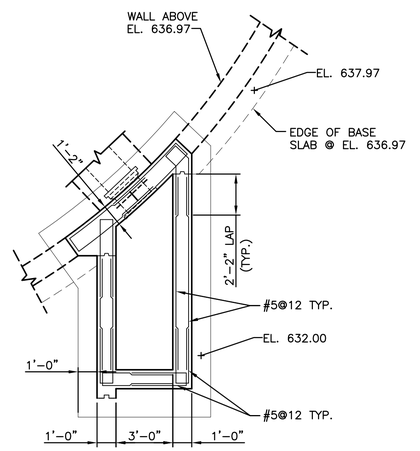
(15) SURFACE MOUNTED GRATING SUPPORT TYP. OF 2. SEE DETAIL G / 99–AS–03 FOR GRATING AT GATES.

(16) SURFACE MOUNTED GRATING SUPPORT TYP. OF 6. SEE DETAIL G / 99–AS–03 FOR GRATING AT GATES.

(17) KNOCKOUT PANEL 2'–8" WIDE, BOTTOM EL. 646.50. TOP EL. 650.64.

(18) 4" PDP AROUND ENTIRE PERIMETER OF STRUCTURE. IE=638.00 SEE DETAIL C / 99–M–01.

(19) SURFACE MOUNTED GRATING SUPPORT TYP. OF 2. SEE DETAIL G / 99–AS–03 FOR GRATING AT GATES.



SOUTH END PLAN AT EL. 632.00

0 1' 2' 4' 8'

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY: CHK BY:TWS

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OXIDATION DITCH ENLARGED PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
29
40–ASM–02
JOB NO. 1–879–008

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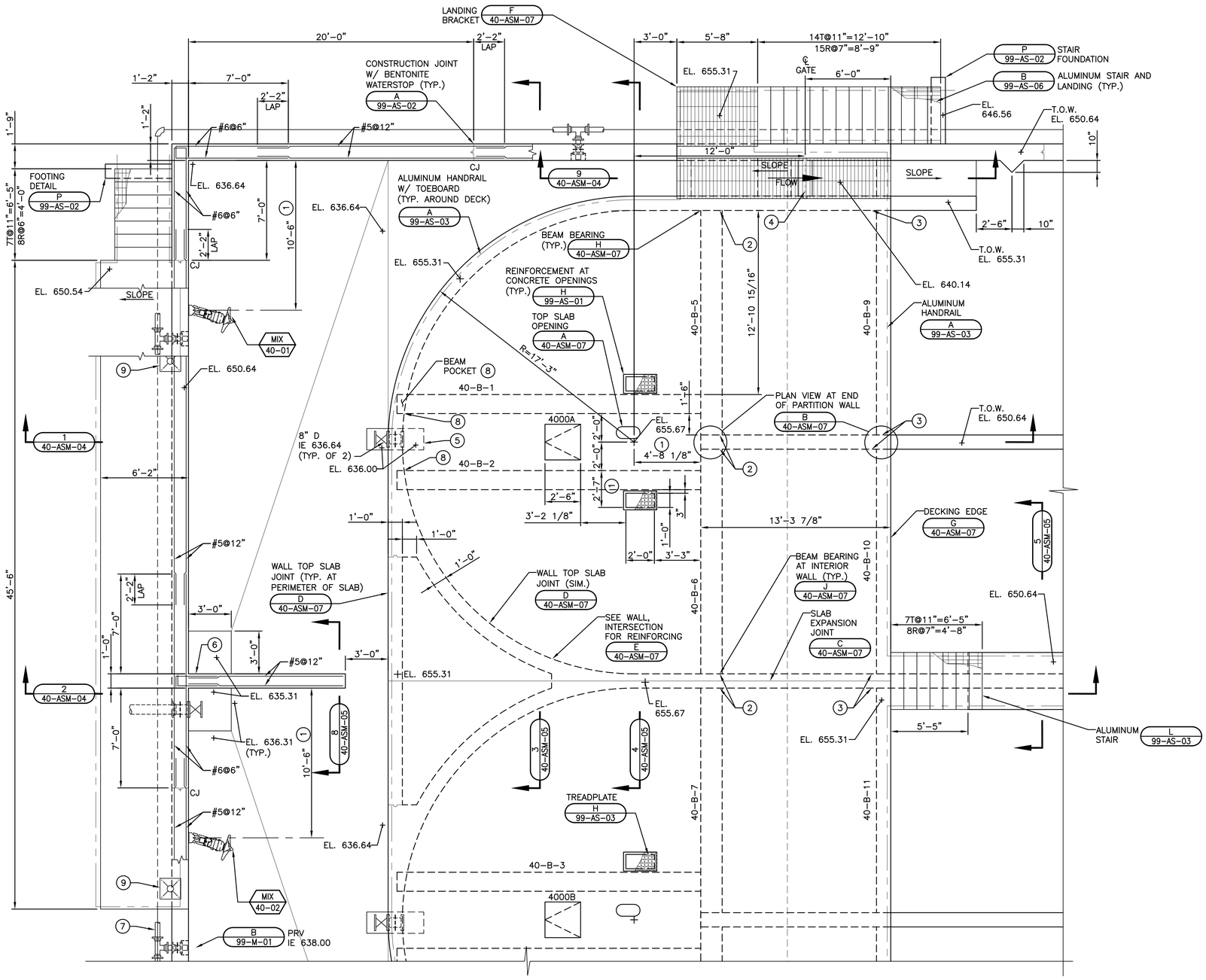


NORTH END PLAN – ELEVATED SLAB

0 1' 2' 4' 8'

GENERAL NOTES:

1. SEE DETAIL A 99-AS-06 FOR BEAM DETAILS.
2. SEE DETAIL C 99-AS-06 FOR COLUMN DETAILS.

KEY NOTES:

(1) VERIFY DIMENSION W/ MANUFACTURER.

(2) PROVIDE BEAM POCKET IN WALL. BOTTOM EL. 653.64.

(3) PROVIDE BEAM POCKET IN WALL. BOTTOM EL. 650.64.

(4) FOR SLIDE AND STOP GATE NUMBERS, SEE SHEET 40-ASM-01.

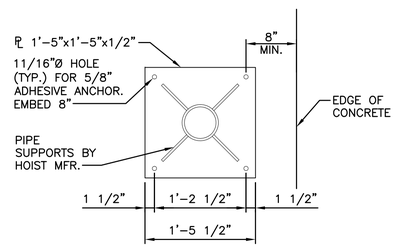
(5) 18"x18" SUMP EACH SIDE OF VALVE. PIPE IE 636.64, BOTTOM OF SUMP EL. 636.00.

(6) PROVIDE 3'-0"x1'-0" OPENING IN WALL BETWEEN DRAINAGE SUMPS.

(7) 4" PDP AROUND ENTIRE PERIMETER OF STRUCTURE. IE=638.00 SEE DETAIL C 99-M-01

(8) PROVIDE BEAM POCKET IN WALL. BOTTOM EL=653.81

(9) PORTABLE DAVIT CRANE PEDESTAL BASE LOCATION AS RECOMMENDED BY MIXER MFR. TYP. OF 2. SEE DETAIL A 40-ASM-03.



A 40-ASM-03 HOIST PEDESTALBASE DETAIL

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BY:
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CONTRACTOR:

OXIDATION DITCH ENLARGED PLAN
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 30 40-ASM-03
JOB NO. 1-879-008

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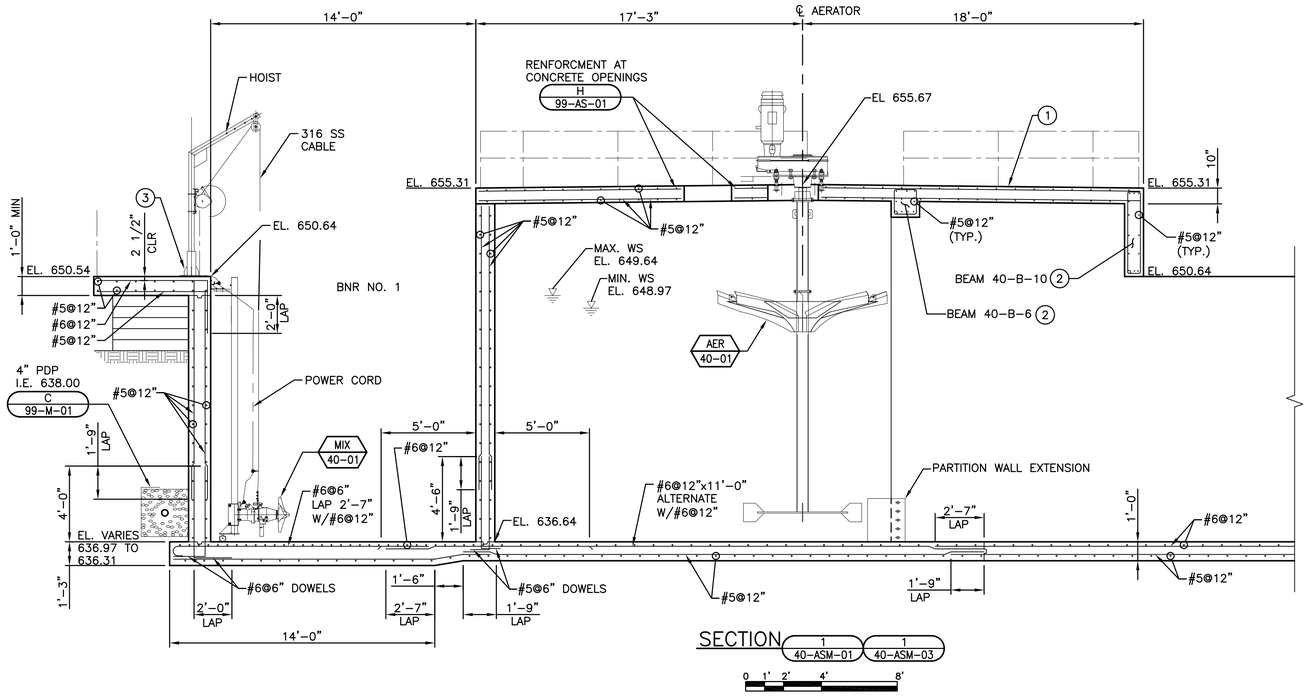
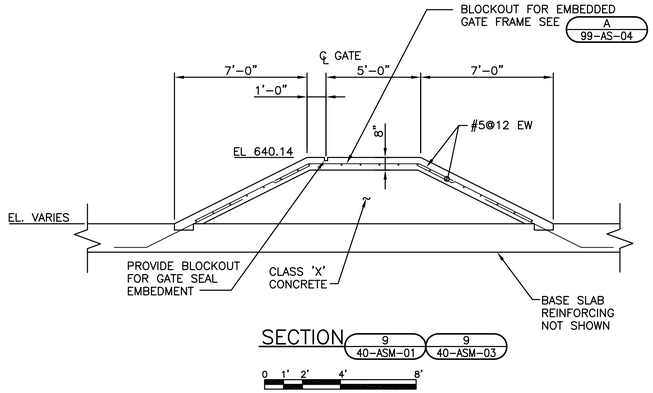


SECTION 1 / 40-ASM-01 — 1 / 40-ASM-03

0 1' 2' 4' 8'

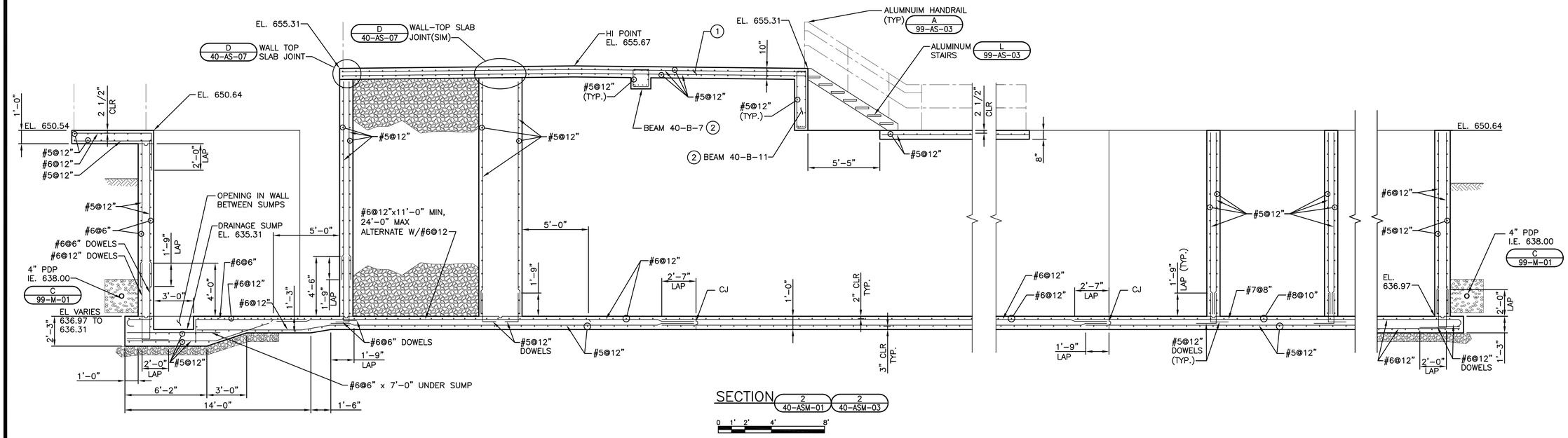
KEY NOTES:

1. 10" DECK SLAB THICKNESS. SEE PLAN VIEWS FOR TOP OF SLAB ELEVATIONS. VARY WALL HEIGHT TO OBTAIN CONSTANT THICKNESS.
2. SEE SHEET 99-AS-06 FOR CONCRETE BEAM DETAILS.
3. PORTABLE DAVIT CRANE PEDESTAL BASES AND ANCHOR BOLTS TO BE FURNISHED BY MIXER MFR. TYP. OF 2.



SECTION 9 / 40-ASM-01 — 9 / 40-ASM-03

0 1' 2' 4' 8'



SECTION 2 / 40-ASM-01 — 2 / 40-ASM-03

0 1' 2' 4' 8'

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RECORD DRAWING
BY: DATE: CONTRACTOR:

OXIDATION DITCH SECTIONS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 31
40-ASM-04
JOB NO. 1-879-008

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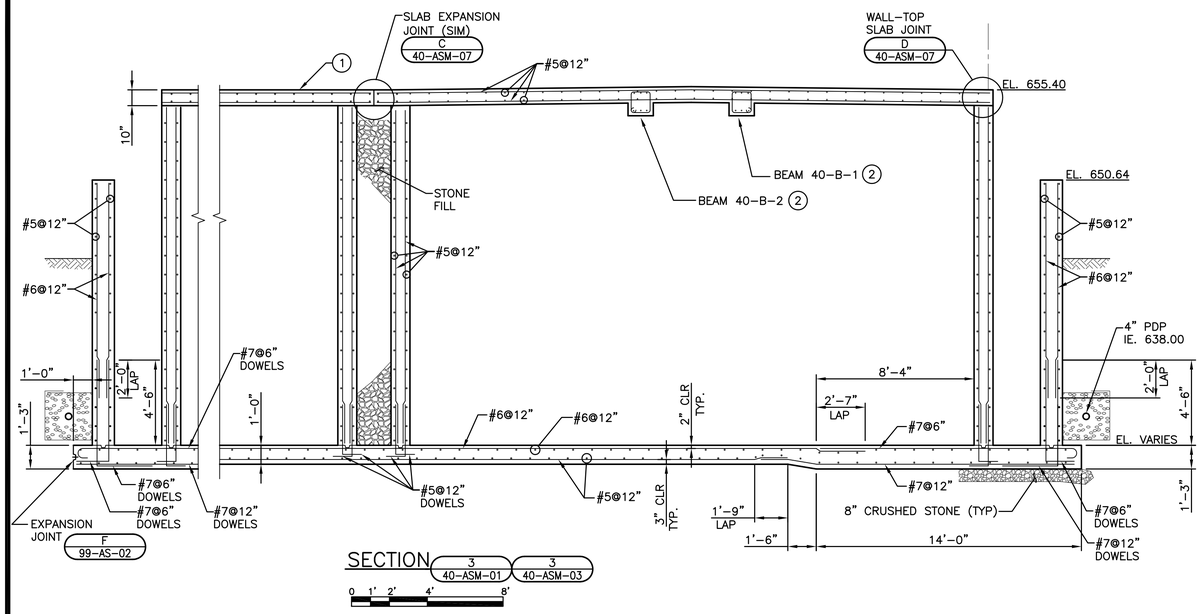

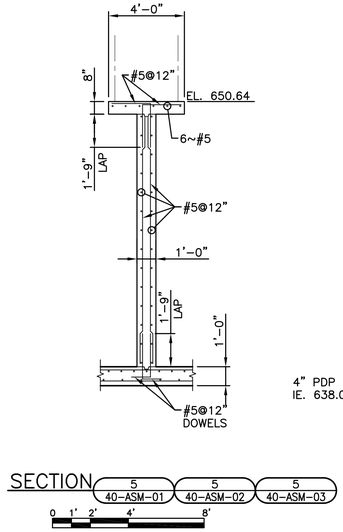

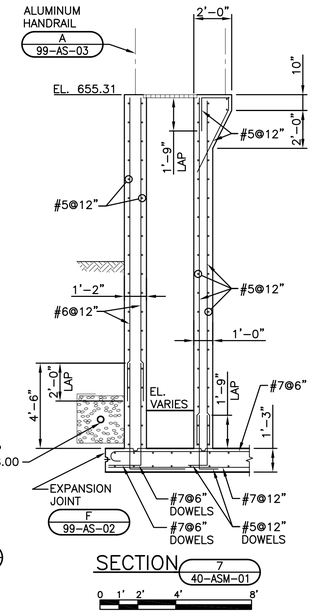

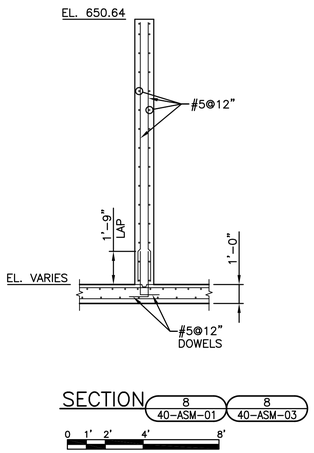

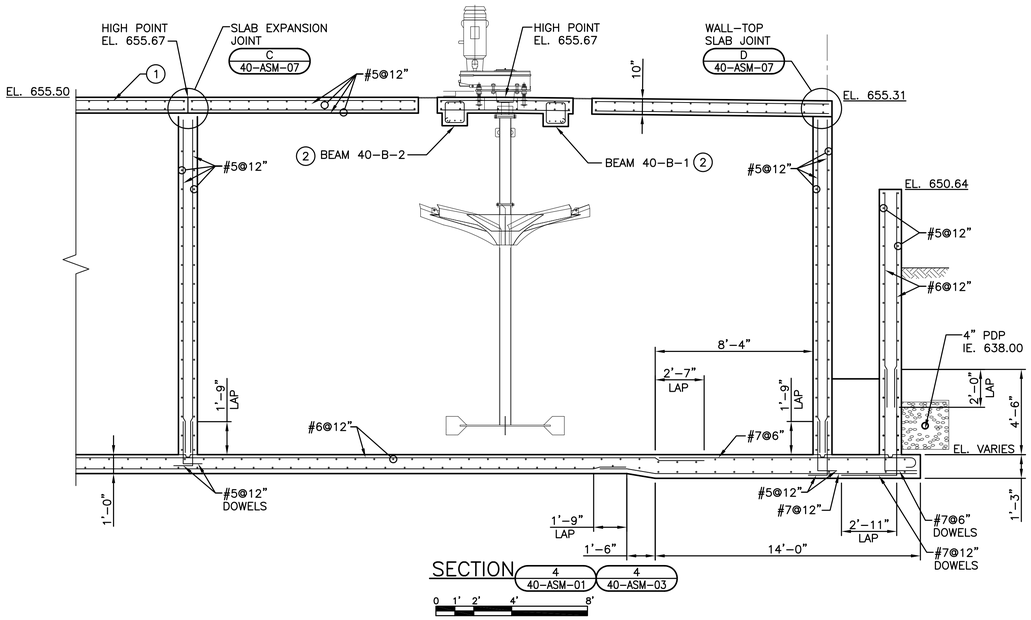

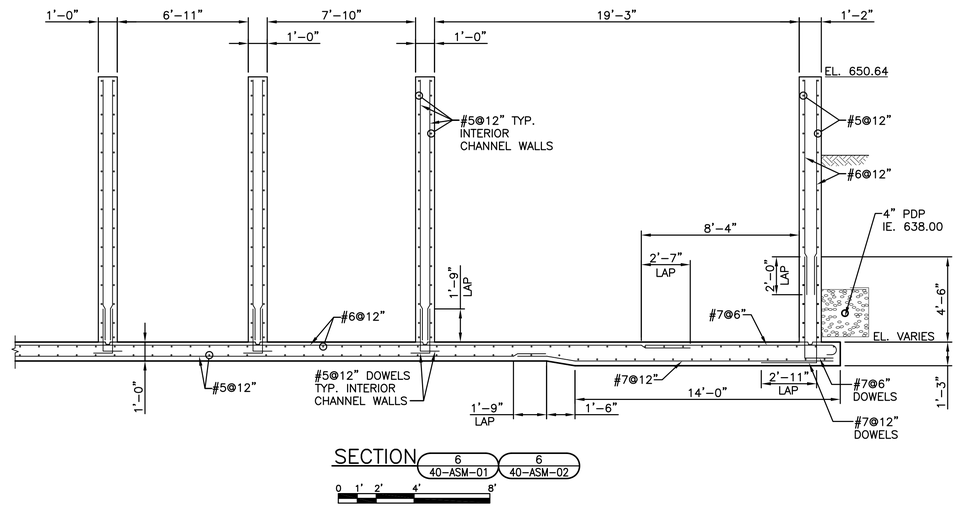

KEY NOTES:

(1) 10" DECK SLAB THICKNESS. SEE PLAN VIEWS FOR TOP OF SLAB ELEVATIONS. VARY WALL HEIGHT TO OBTAIN CONSTANT THICKNESS.

(2) SEE SHEET 99-AS-06 FOR CONCRETE BEAM DETAILS.

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OXIDATION DITCH SECTIONS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 32
40-ASM-05
JOB NO. 1-879-008

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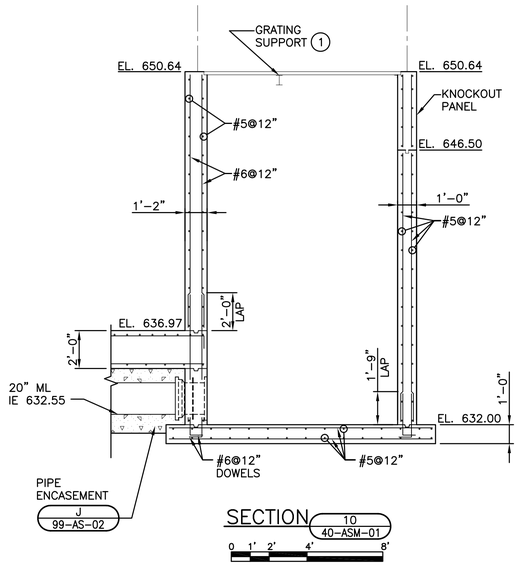
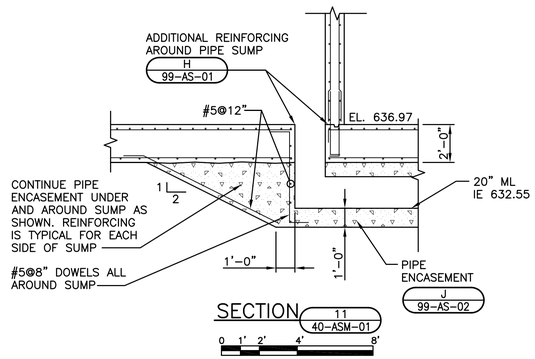


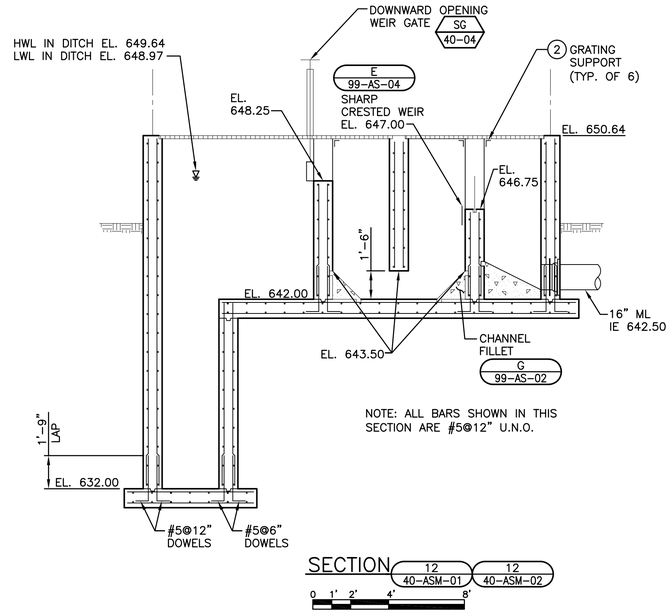
SECTION 10 40-ASM-01

0 1' 2' 4' 8'



SECTION 11 40-ASM-01

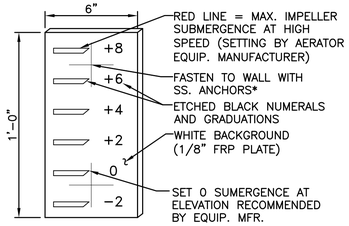
0 1' 2' 4' 8'



SECTION 12 40-ASM-01 12 40-ASM-02

0 1' 2' 4' 8'

*FIELD LOCATE PER MFR. RECOMMENDATIONS
(2 REQ'D – 1 EACH TANK)



A 40-ASM-06 IMPELLER SUBMERGENCE STAFF GAUGE
NO SCALE

KEY NOTES:

1. W6x9 GRATING SUPPORT. ATTACH TO WALLS W/2~4"x4"x3/8"x0'-4" CLIP ANGLES EACH END WITH 1~5/8" EXP. ANCHOR. EMBED 4" INTO WALL. CONNECT CLIP ANGLES TO BEAM WEB WITH 1~5/8" DIA. A307 BOLT.
2. 4"x4"x3/8" ANGLE GRATING SUPPORT. ATTACH TO WALL ON EACH SIDE OF GATE OPENING W/1~1/2" EXP. ANCHOR. EMBED 3" INTO WALL.

NO.
REVISIONS
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CONTRACTOR:

OXIDATION DITCH
SECTIONS AND DETAILS
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
33
40-ASM-06
JOB NO. 1-879-008

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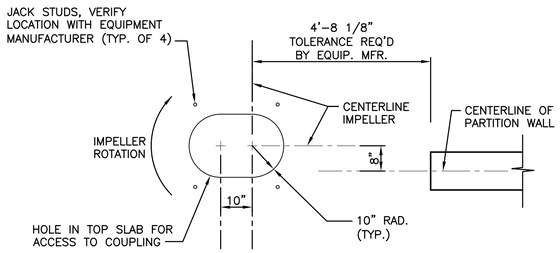
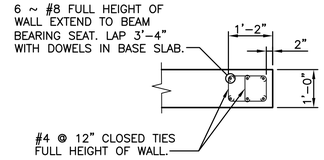
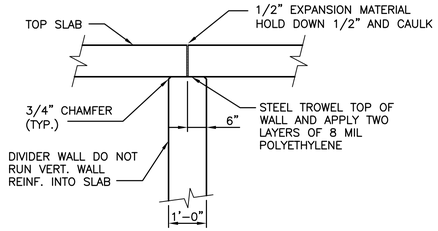


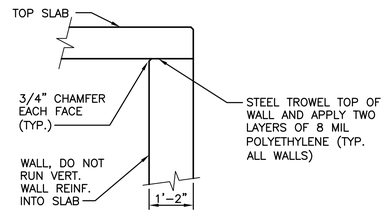
A 40-ASM-07 TOP SLAB OPENING FOR AERATOR SHAFT
NO SCALE



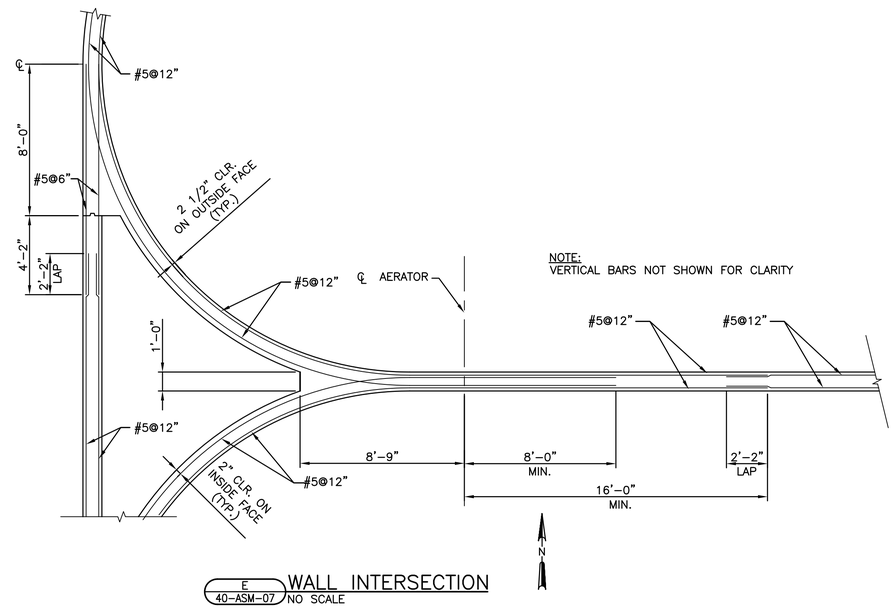
B 40-ASM-07 PLAN VIEW AT END OF PARTITION WALL
NO SCALE



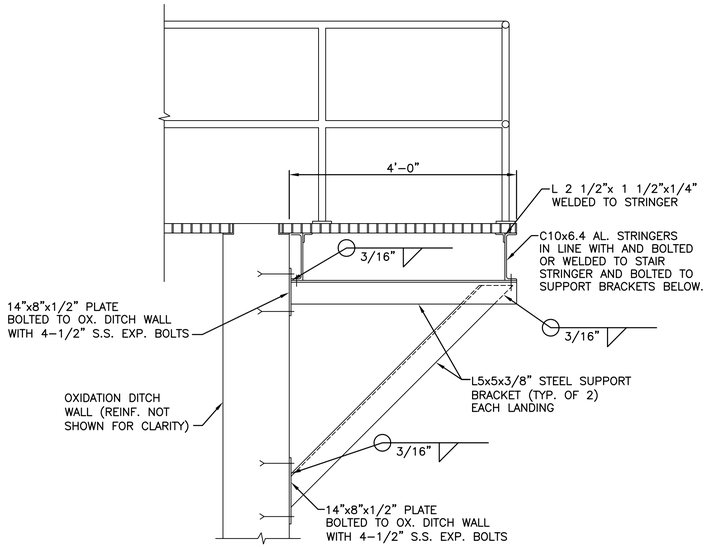
C 40-ASM-07 SLAB EXPANSION JOINT
NO SCALE



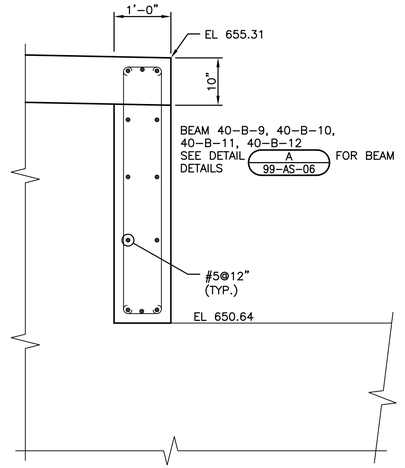
D 40-ASM-07 WALL-TOP SLAB JOINT
NO SCALE



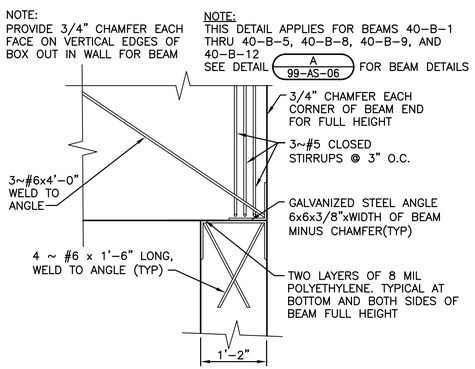
E 40-ASM-07 WALL INTERSECTION
NO SCALE



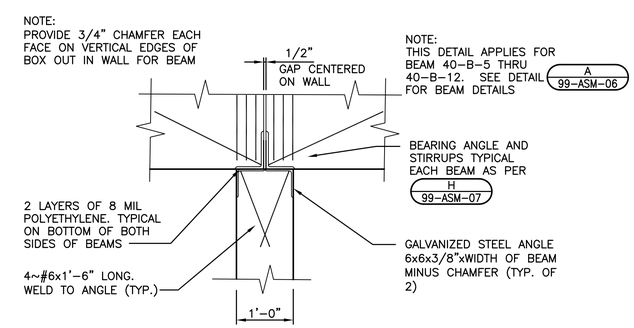
F 40-ASM-07 LANDING BRACKET
0 1' 2'



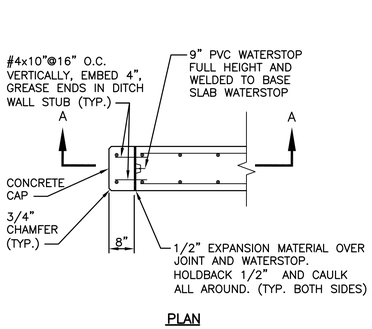
G 40-ASM-07 DECKING EDGE
0 1' 2'



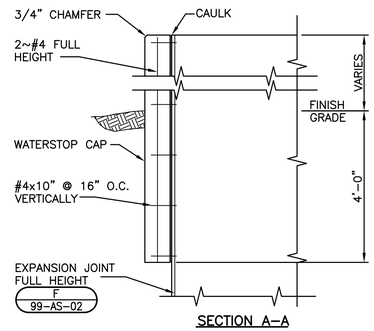
H 40-ASM-07 TYPICAL BEAM BEARING AT WALL
NO SCALE



J 40-ASM-07 TYPICAL BEAM BEARING AT INTERIOR DIVIDER WALL
0 1' 2'



PLAN



SECTION A-A

K 40-ASM-07 WALL STUB CAP
0 1' 2' 4'

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OXIDATION DITCH DETAILS
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
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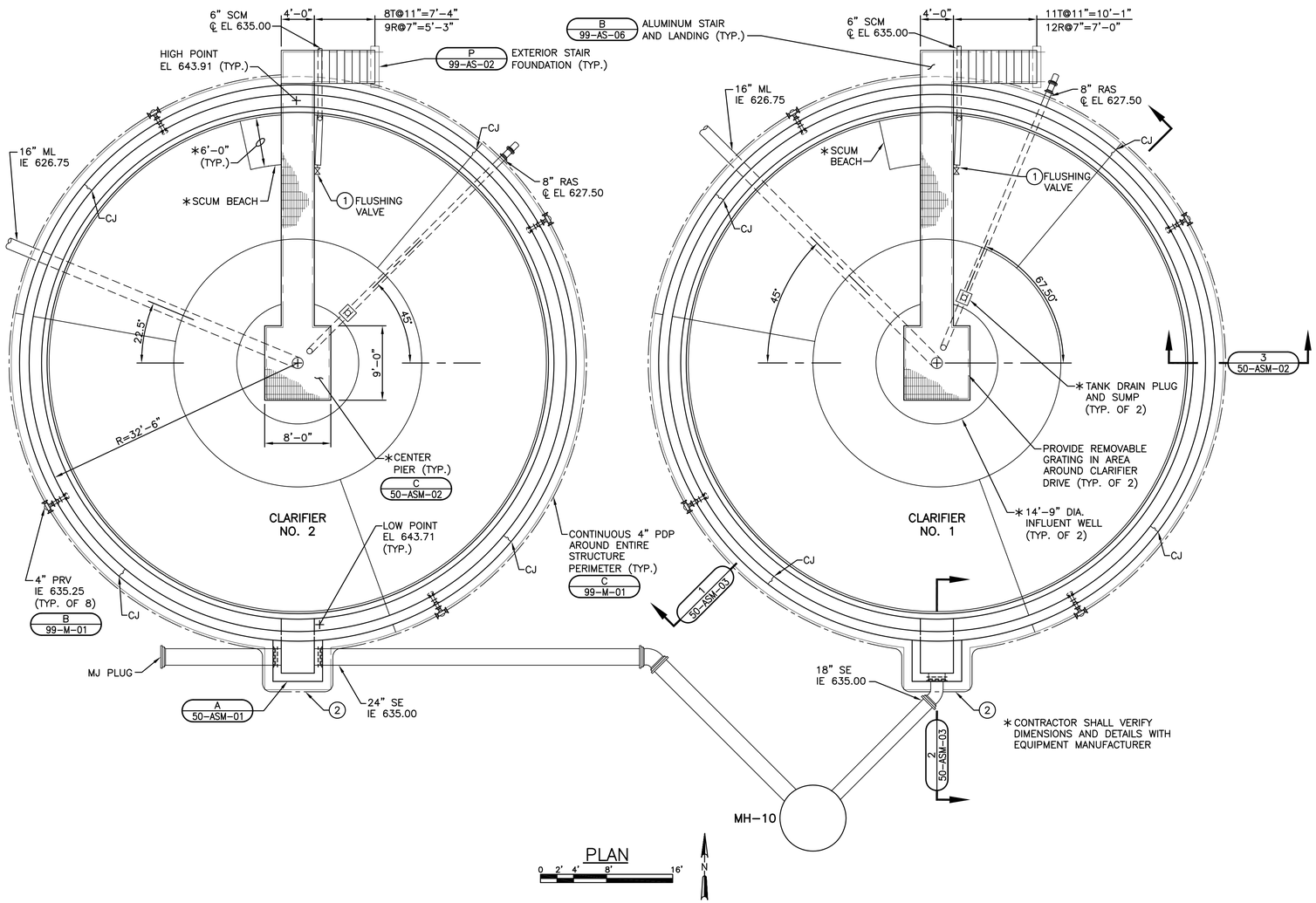
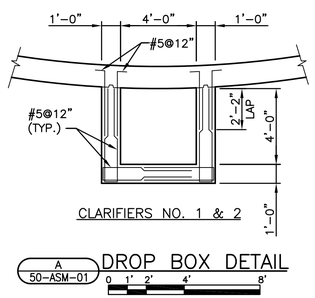
40-ASM-07
JOB NO. 1-879-008





GENERAL NOTES:

1. FOR PLAN OF CENTER AREA OF CLARIFIER NO. 2 (TYP.), SEE CLARIFIER CENTER PIER PLAN (C / 50-ASM-02)
2. ALL HANDRAIL AND GRATING SUPPLIED UNDER DIVISION 5, INCLUDING THAT ON CLARIFIER BRIDGE AND PLATFORM.
3. SEE DRAWING 99-AS-06 FOR GENERAL ARCHITECTURAL/STRUCTURAL NOTES.

KEY NOTES:

(1) PROVIDE 3 INCH MANUAL FLUSHING VALVE AS DETAILED BY EQUIPMENT MANUFACTURER. PROVIDE TEE HANDLE VALVE OPERATOR EXTENDING TO TOP BRIDGE HANDRAIL WITH INTERMEDIATE SUPPORT FROM BRIDGE.

(2) ℄ PDP TRENCH AT ELEV. 634.5 AT 18" AND 24" SE PIPES.

(3) PROVIDE STEEL SHEET PILE WALL AS REQUIRED TO PROTECT EXISTING ROAD DURING CLARIFIER EXCAVATION. ROAD MUST REMAIN IN SERVICE DURING CONSTRUCTION. CONTRACTOR TO DESIGN SHEET PILING FOR EARTH AND TRUCK TRAFFIC LOADS.

NO.	REVISIONS	DATE:

DATE: JUNE 2009
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CONTRACTOR:

FINAL CLARIFIERS
OVERALL PLAN AND DETAILS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
35
50-ASM-01
JOB NO. 1-879-008

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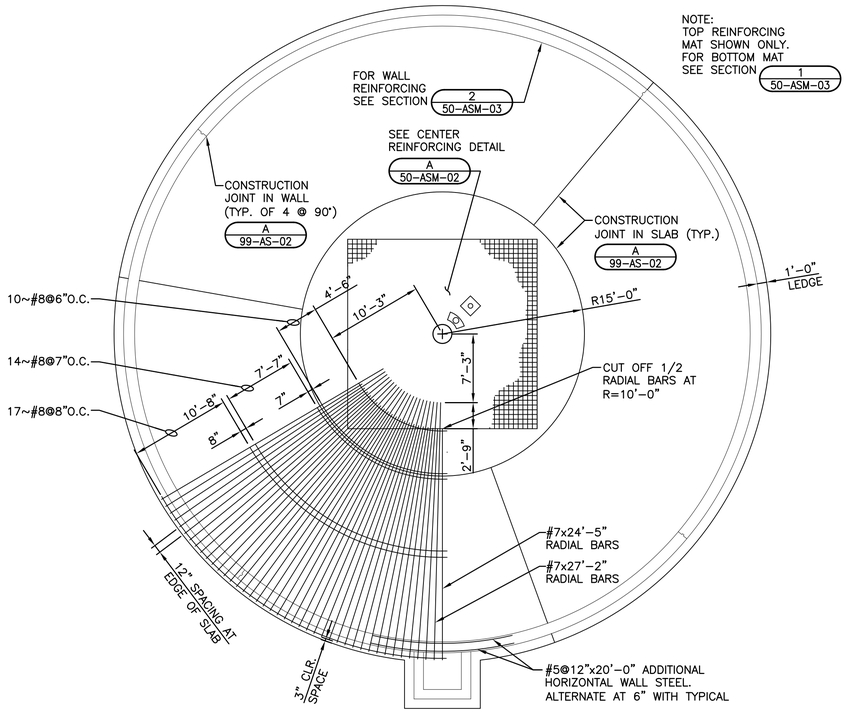
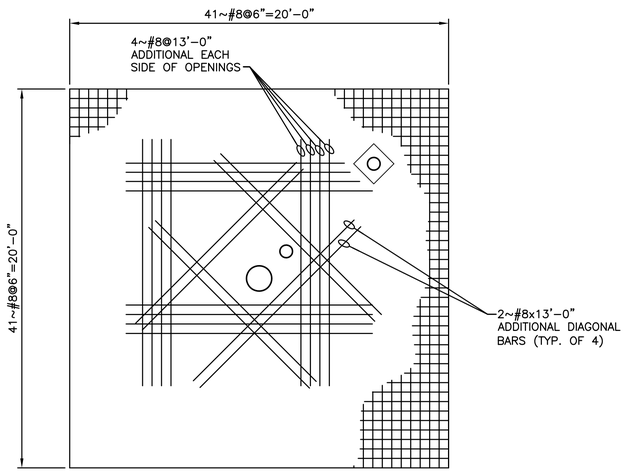


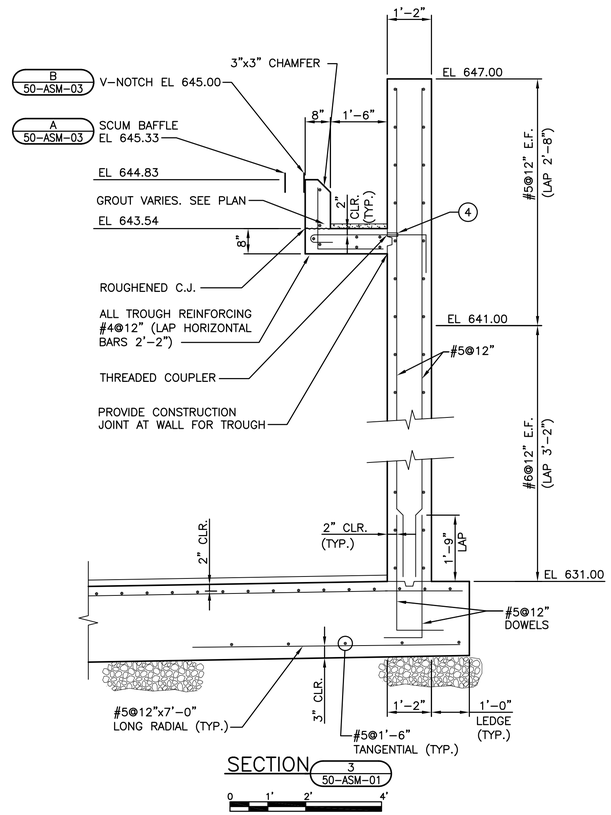
TOP REINFORCING SLAB PLAN (TYP. OF 2)

0 2' 4' 8' 16'



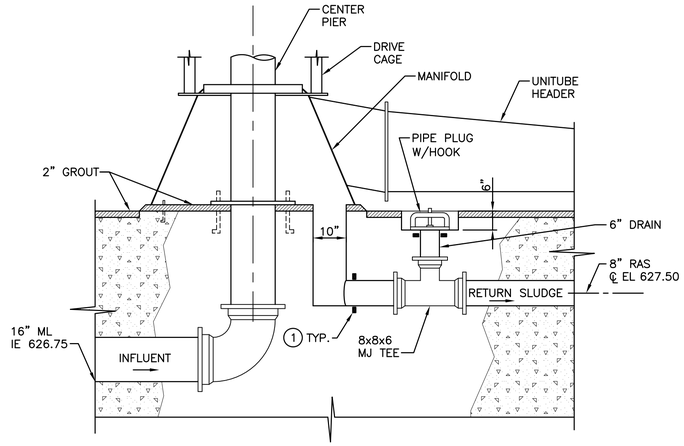
A / 50-ASM-02 CENTER REINFORCING DETAIL

0 1' 2' 4' 8'

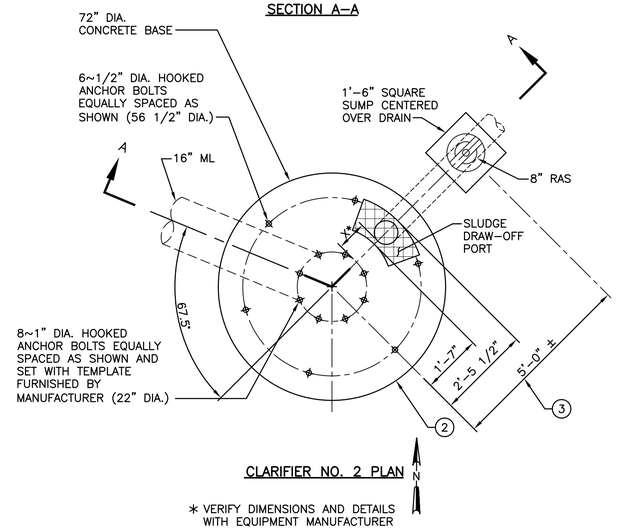


SECTION 3 / 50-ASM-01

0 1' 2' 4'



SECTION A–A



CLARIFIER NO. 2 PLAN

∗ VERIFY DIMENSIONS AND DETAILS WITH EQUIPMENT MANUFACTURER

C / 50-ASM-01 CENTER PIER AND MANIFOLD DETAIL∗ NO SCALE

KEY NOTES:

1. CONFIRM ARRANGEMENT OF RAS DRAW–OFF AND DRAIN WITH EQUIPMENT MANUFACTURER. IF VERTICAL SLOT IS REQUIRED IN LIEU OF VERTICAL PIPE AND 90 DEGREE ELBOW FOR 8" RAS, PROVIDE PLAIN END PIPE INTO SLOT WITH BENTONITE WATER STOP AROUND PIPE. PROVIDE PLAIN END PIPE WITH BENTONITE WATER STOP AROUND PIPE FOR 6 INCH DRAIN.
2. VERIFY CONCRETE PLACEMENT, ELEVATION, AND GROUTING REQUIREMENTS AT CLARIFIER CENTER AREA WITH EQUIPMENT MANUFACTURER.
3. COORDINATE WITH EQUIPMENT MANUFACTURER SUCH THAT PLUG IS ACCESSIBLE FROM BRIDGE.
4. THREADED BAR SPLICER MAY BE USED IN PLACE OF CONTINUOUS HOOKED DOWEL BAR.

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY:BTM CHK BY:TWS
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FINAL CLARIFIERS
FOUNDATION PLAN, SECTIONS AND DETAILS
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
36
50–ASM–02
JOB NO. 1–879–008

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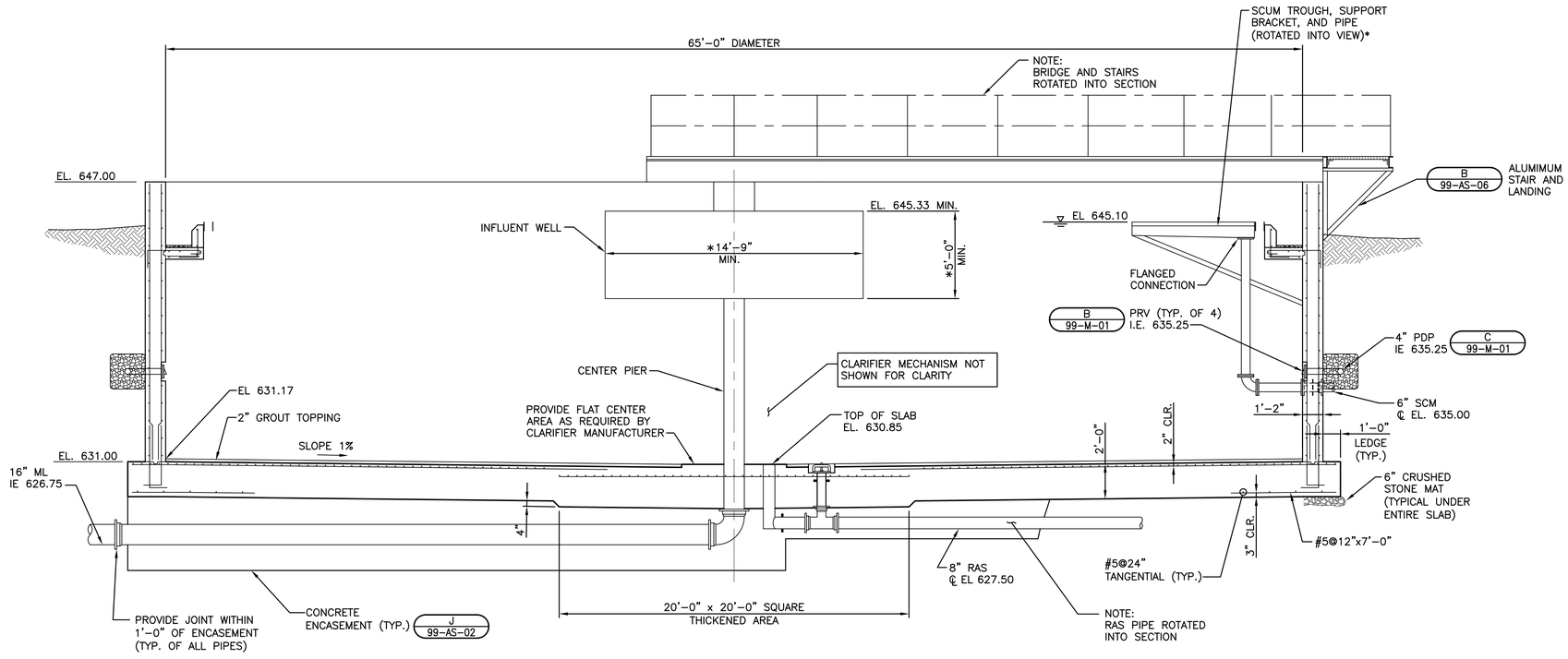

*CONFIRM WITH MANUFACTURER

SECTION 1 / 50-ASM-01

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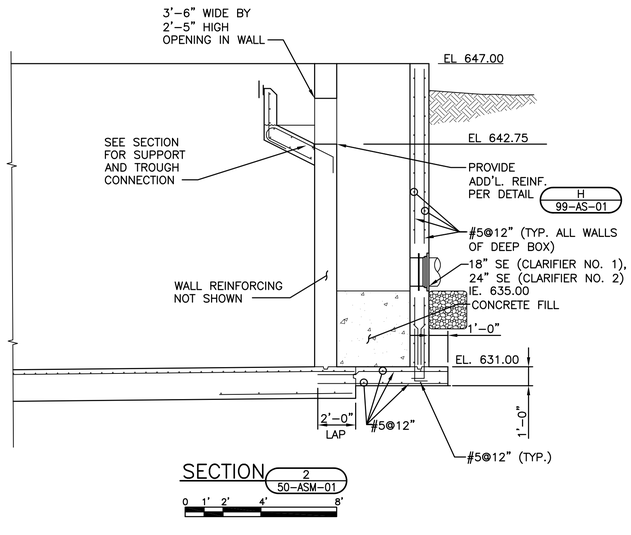

SECTION 2 / 50-ASM-01

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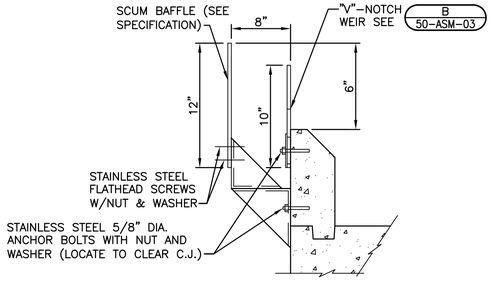
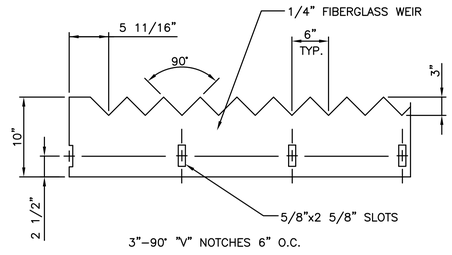
NOTE: SCUM BAFFLE SUPPORT & ANCHORAGE SYSTEM SHALL BE DETAILED BY EQUIPMENT MFR. AND APPROVED BY THE ENGINEER.



A / 50-ASM-03 SCUM BAFFLE NO SCALE



3"-90° "V" NOTCHES 6" O.C.

NOTES:

1. ATTACH WEIR TO CONCRETE WALL WITH 1/2" STAINLESS STEEL EXP. ANCHORS AND NUTS AT 18" O.C. FOR STRAIGHT WALLS, 24" O.C. FOR CURVED WALLS OR AS NOTED ON THE DRAWINGS. (MINIMUM OF 3 FASTENERS PER PLATE SECTION.)

2. INSTALL 1/8" X 6" NEOPRENE GASKET FULL LENGTH BETWEEN WEIR AND CONCRETE OR STEEL TROUGH.

3. PLACE FIBERGLASS REINFORCED POLYESTER FLAT WASHER BEHIND EACH NUT (FOR FIBERGLASS WEIRS ONLY).

4. SPLICES SHALL BE WATER TIGHT.

B / 50-ASM-03 "V" NOTCH WEIR PLATE NO SCALE

NO. | REVISIONS | DATE:

DATE: JUNE 2009 DES BY:BTM CHK BY:TWS

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FINAL CLARIFIERS
SECTIONS AND DETAILS
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
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STRAND ASSOCIATES, INC.®
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37
50-ASM-03
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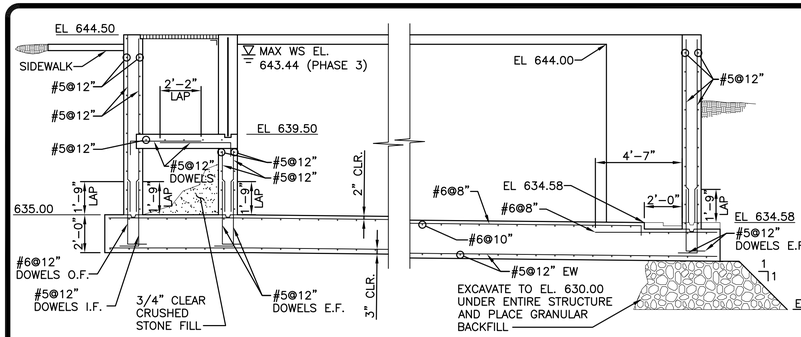
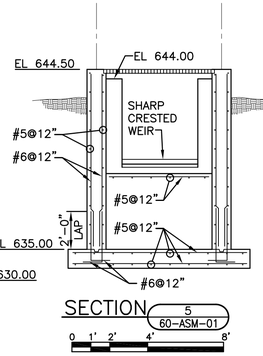


SECTION 1 / 60-ASM-01



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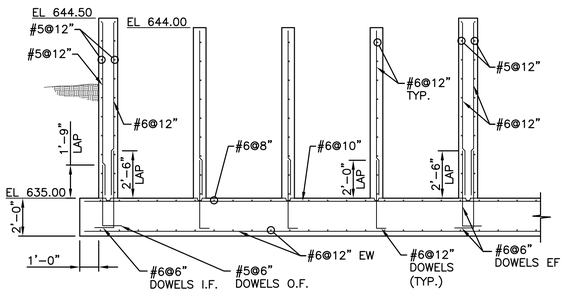
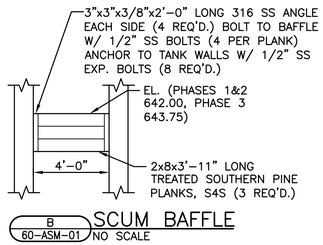


SECTION 2 / 60-ASM-01



B / 60-ASM-01 SCUM BAFFLE NO SCALE

GENERAL NOTES:

1. SEE DRAWING 99-AS-06 FOR GENERAL ARCHITECURAL/STRUCTURAL NOTES.

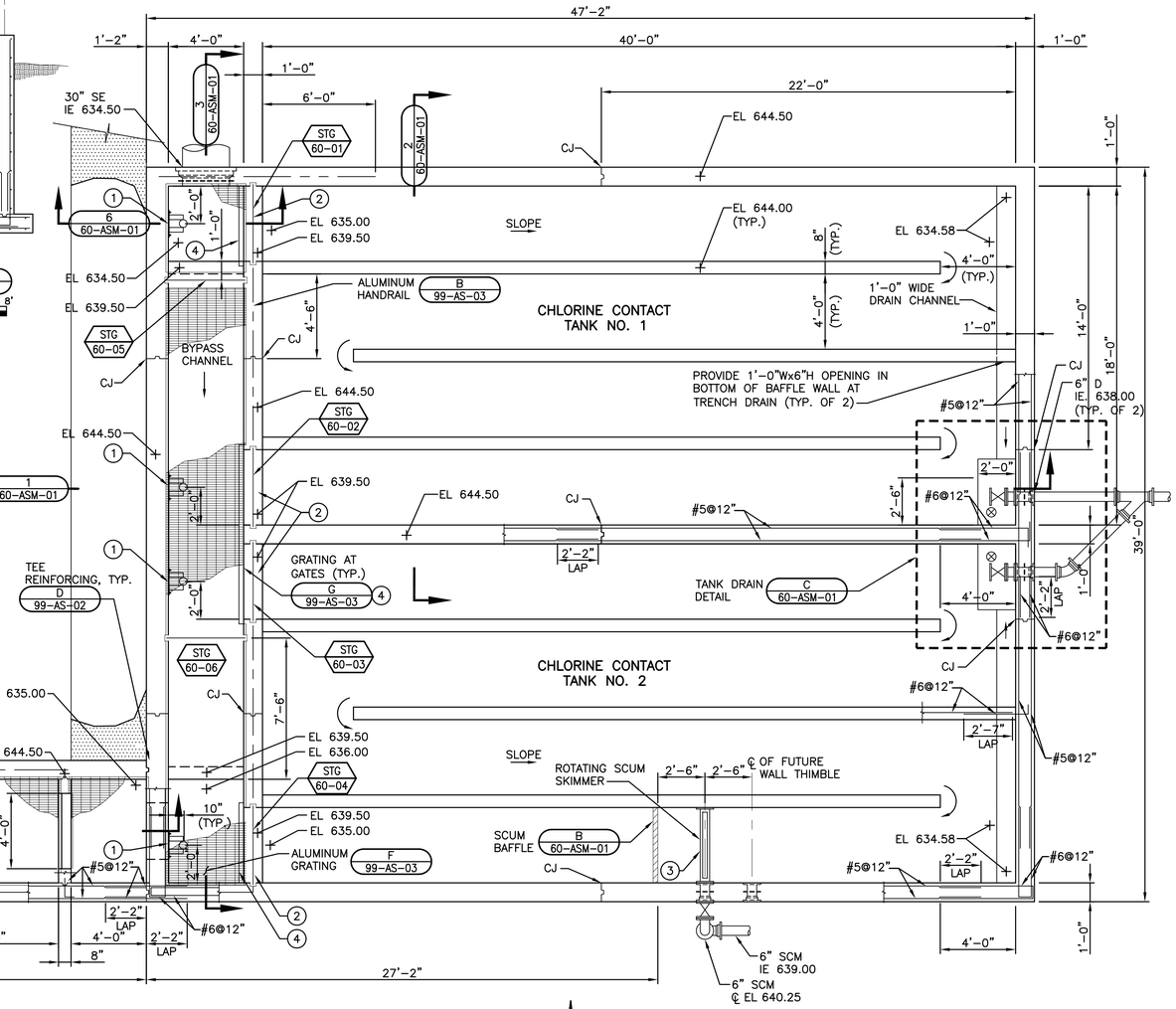
KEY NOTES:

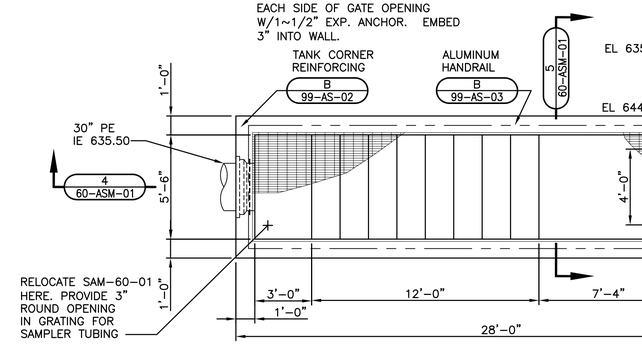
(1) PORTABLE HOIST WALL MOUNTED BASE SOCKET. MOUNT FLUSH WITH BOTTOM OF GRATING ANGLE. F / 99-AS-04

(2) PROVIDE REMOVABLE HANDRAIL OVER GATES.

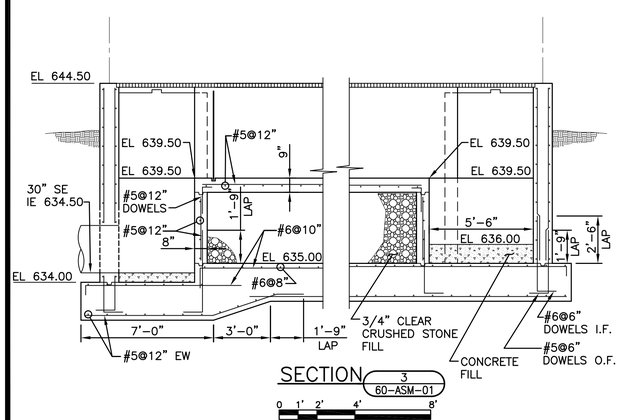
(3) CONTRACTOR SHALL PROVIDE 6" ROTATING SCUM SKIMMER ENVIREX, WALKER PROCESS, OR EQUAL. FURNISH COMPLETE UNIT W/ WALL THIMBLE AND LEVER OPERATOR W/ LOCK. PROVIDE WALL THIMBLE W/ DOUBLE BLIND FLANGE AT ℄ EL. 642.50 FOR FUTURE SKIMMER.

(4) 4"x4"x3/8" ANGLE GRATING SUPPORT. ATTACH TO WALL ON EACH SIDE OF GATE OPENING W/1~1/2" EXP. ANCHOR. EMBED 3" INTO WALL.

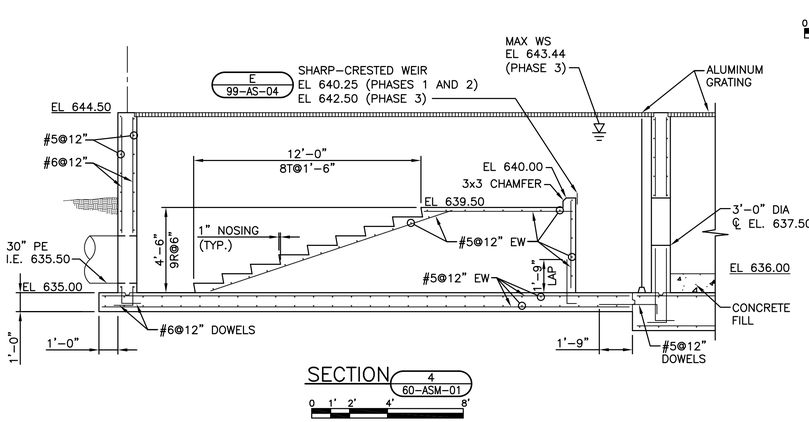




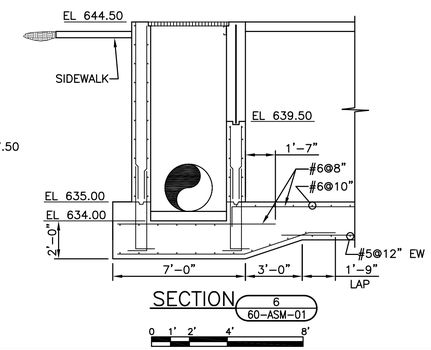
PLAN 0 1' 2' 4' 8' N



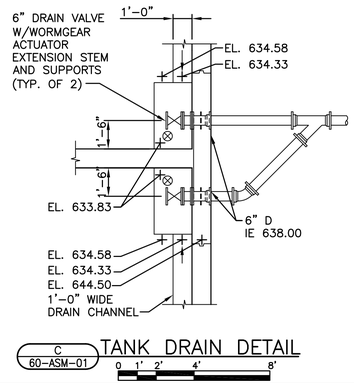
SECTION 3 / 60-ASM-01



SECTION 4 / 60-ASM-01



SECTION 6 / 60-ASM-01



C / 60-ASM-01 TANK DRAIN DETAIL

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY: CHK BY:
RECORD DRAWING
BY: DATE: CONTRACTOR:

CHLORINE CONTACT TANK PLAN, SECTIONS, AND DETAILS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 38
60-ASM-01
JOB NO. 1-879-008

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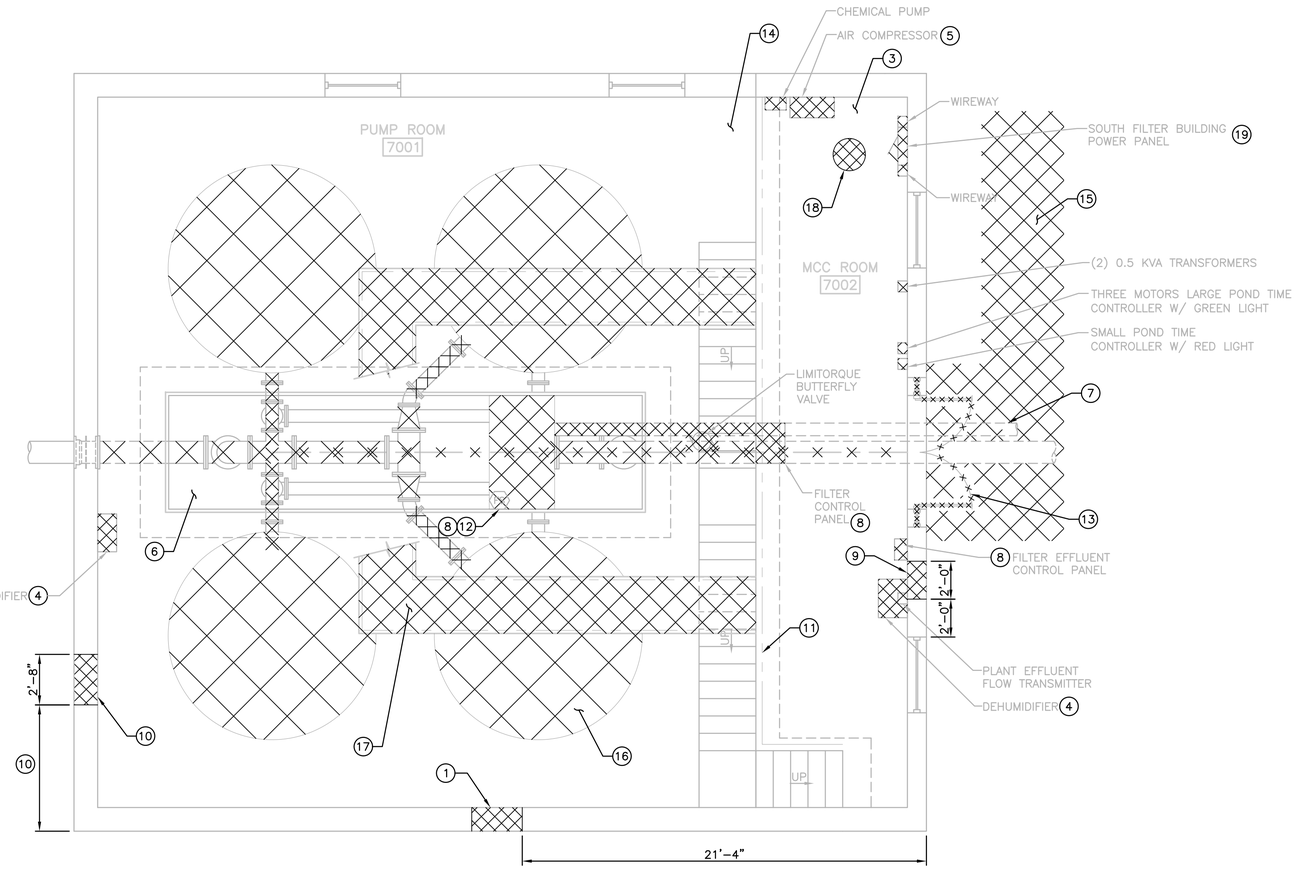

DEMOLITION PLAN

0 1' 2' 4' 8'

N

GENERAL NOTES

1. REMOVE FOUR (4) 10 KW ELECTRIC UNIT HEATERS AND ASSOCIATED CONTROLS.

2. REMOVE EXHAUST FAN, ASSOCIATED DUCTWORK, LOUVER, CONTROLS, AND APPURTENANCES. RETURN PUMPS TO OWNER.

3. REMOVE EXISTING FILTER BACKWASH PUMPS, CONTROLS, AND APPURTENANCES.

4. CONTRACTOR SHALL REMOVE ALL WIRE, EXPOSED CONDUIT, AND JUNCTION BOXES ASSOCIATED WITH ALL DEVICES AND EQUIPMENT BEING REMOVED UNLESS OTHERWISE NOTED. PATCH ALL HOLES AND DEFORMATIONS WITH NON-SHRINK GROUT. FINISH TO MATCH EXISTING.

5. CONTRACTOR SHALL REMOVE EXISTING SOLENOID VALVES (20) FOR PNEUMATICALLY ACTUATED VALVES, ASSOCIATED JUNCTION BOXES, AND ALL ASSOCIATED WIRE AND CONDUIT BACK TO FILTER CONTROL PANEL.

6. REMOVE EXISTING PRESSURE FILTERS, PIPING, APPURTENANCES, AND CONTROLS.

7. REMOVE EXISTING NPW PIPING, PUMPS, APPURTENANCES, AND CONTROLS. 3-INCH PIPING TO EXTERIOR TO BE REUSED.

8. SAW CUT FLOOR AS NECESSARY TO INSTALL NEW PLUMBING DRAIN AND VENT PIPING. PATCH FLOOR TO MATCH EXISTING.

KEY NOTES:

(1) ENLARGE EXISTING LOUVER OPENING 1'-4" UPWARDS. TOP ELEV. 647.00 VERIFY EXISTING OPENING DIMENSIONS AND LOCATIONS.

(2) NOT USED.

(3) DEMOLISH AND SEAL CHEMICAL FEED CARRIER PIPE.

(4) REMOVE DEHUMIDIFIERS AND RETURN TO OWNER.

(5) REMOVE EXISTING AIR COMPRESSOR AND RETURN TO OWNER. DEMOLISH ALL PIPING, APPURTENANCES, AND CONTROLS.

(6) REMOVE BACKWASH PUMPS AND TURN OVER TO OWNER. DEMOLISH PIPING, APPURTENANCES, AND CONTROLS.

(7) DEMOLISH AND REMOVE 8-INCH PIPE EXCEPT WHERE REUSED FOR BUILDING DRAIN.

(8) DIVISION 16 CONTRACTOR SHALL SALVAGE EXISTING FILTER EFFLUENT CONTROL PANEL AND TURN OVER TO OWNER. REMOVE CONDUIT AND WIRE ASSOCIATED WITH SPLITTER BOX HIGH WATER ALARM AND EFFLUENT STRUCTURE FLOAT SWITCHES.

(9) REMOVE EXISTING WALL 2'-0"x2'-8" FOR NEW WALL LOUVER. TOP ELEV. 648.34 VERIFY OPENING DIMENSIONS ANY LOCATION WITH HVAC EQUIPMENT. (MATCH TOP OF WINDOW)

(10) REMOVE EXISTING WALL SECTION 2'-8"x2'-8" FOR HVAC. TOP ELEV. 645.22 VERIFY OPENING DIMENSIONS AND LOCATION WITH HVAC EQPT. AND BRICK MODULAR WALL OPENING REQUIREMENTS.

(11) REMOVE EXISTING RAILING.

CONTRACTOR SHALL REMOVE EXISTING FLOAT SWITCH AND ALL ASSOCIATED WIRE AND CONDUIT.

(12) REMOVE EXISTING DOORS AND WINDOWS.

(13) DEMOLISH AND SEAL PENETRATIONS FOR 2" AND 4" PIPING LOCATED IN THIS VICINITY.

(14) REMOVE EXISTING ASPHALT AS REQUIRED FOR RAMP CONSTRUCTION.

(15) REMOVE FILTERS (TYP. OF 4)

(16) REMOVE CATWALK AND APPURTENANCES.

(17) CUT 20 1/2"x20 1/2" OPENING IN CEILING AND ROOF FOR NEW EXHAUST FAN. LOCATE TO MISS EXISTING TRUSSES.

(18) PANEL SHALL BE REMOVED. REFER TO ONE-LINE DIAGRAMS (EXISTING AND NEW) FOR ADDITIONAL DETAILS ON EQUIPMENT TO BE REMOVED.

NO.	REVISIONS	DATE:

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RAS PUMPING BUILDING
DEMOLITION PLAN
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
39
70-D-01
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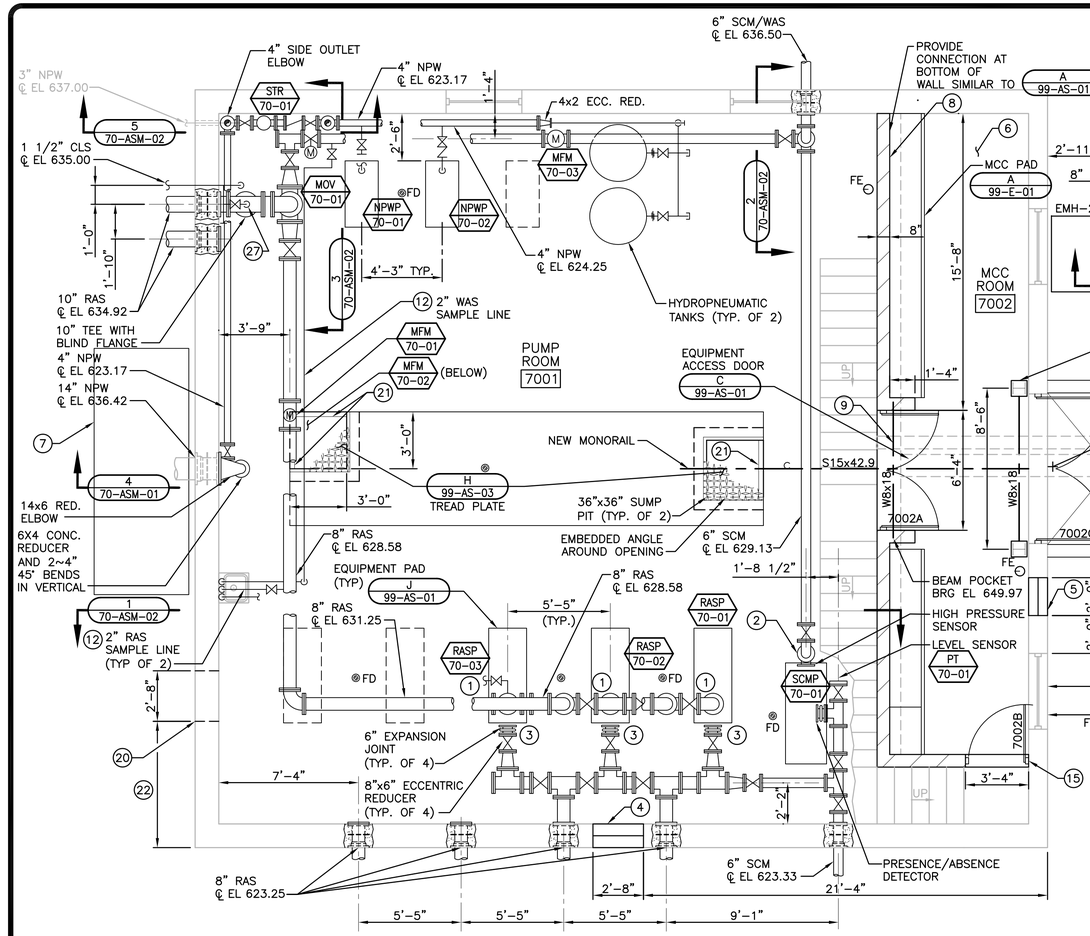
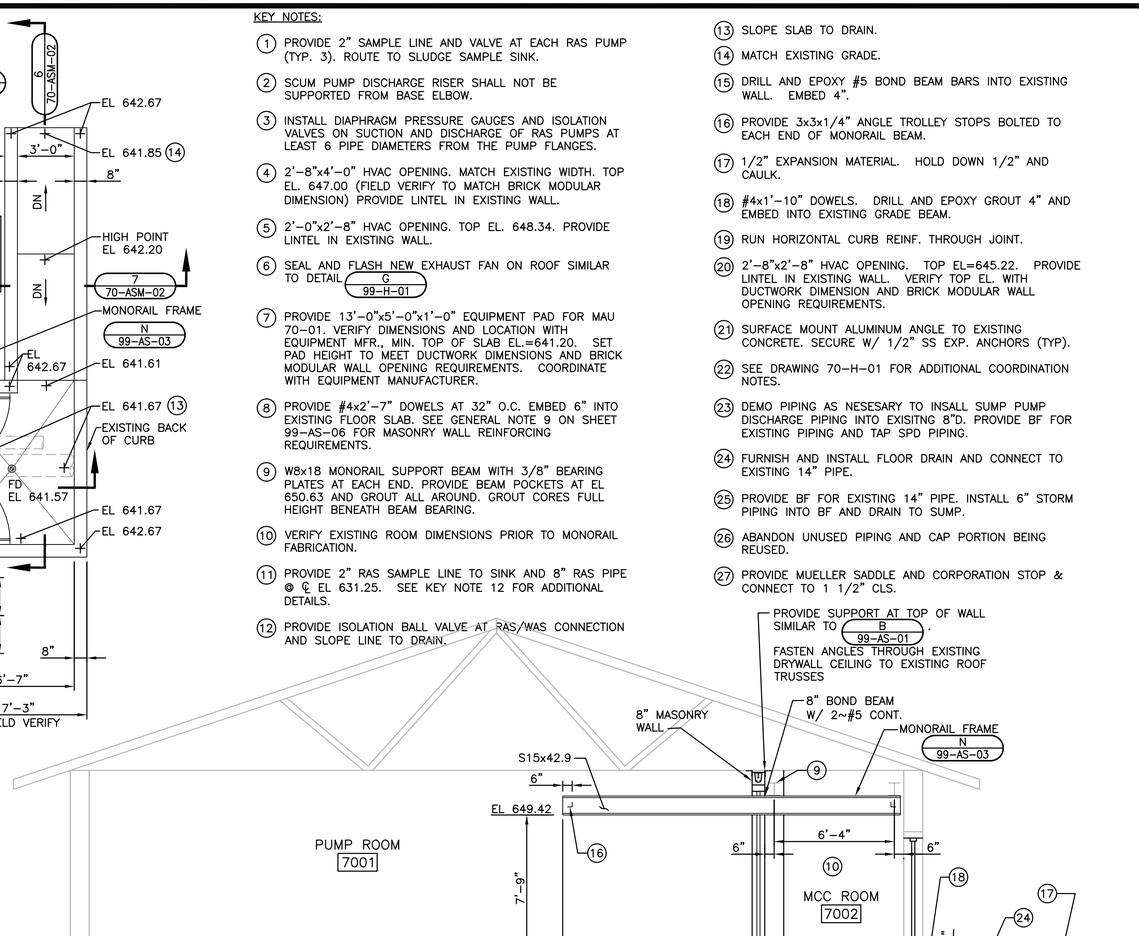


KEY NOTES:

1. PROVIDE 2" SAMPLE LINE AND VALVE AT EACH RAS PUMP (TYP. 3). ROUTE TO SLUDGE SAMPLE SINK.
2. SCUM PUMP DISCHARGE RISER SHALL NOT BE SUPPORTED FROM BASE ELBOW.
3. INSTALL DIAPHRAGM PRESSURE GAUGES AND ISOLATION VALVES ON SUCTION AND DISCHARGE OF RAS PUMPS AT LEAST 6 PIPE DIAMETERS FROM THE PUMP FLANGES.
4. 2'-8"x4'-0" HVAC OPENING. MATCH EXISTING WIDTH. TOP EL. 647.00 (FIELD VERIFY TO MATCH BRICK MODULAR DIMENSION) PROVIDE LINTEL IN EXISTING WALL.
5. 2'-0"x2'-8" HVAC OPENING. TOP EL. 648.34. PROVIDE LINTEL IN EXISTING WALL.
6. SEAL AND FLASH NEW EXHAUST FAN ON ROOF SIMILAR TO DETAIL G 99-H-01
7. PROVIDE 13'-0"x5'-0"x1'-0" EQUIPMENT PAD FOR MAU 70-01. VERIFY DIMENSIONS AND LOCATION WITH EQUIPMENT MFR., MIN. TOP OF SLAB EL.=641.20. SET PAD HEIGHT TO MEET DUCTWORK DIMENSIONS AND BRICK MODULAR WALL OPENING REQUIREMENTS. COORDINATE WITH EQUIPMENT MANUFACTURER.
8. PROVIDE #4x2'-7" DOWELS AT 32" O.C. EMBED 6" INTO EXISTING FLOOR SLAB. SEE GENERAL NOTE 9 ON SHEET 99-AS-06 FOR MASONRY WALL REINFORCING REQUIREMENTS.
9. W8x18 MONORAIL SUPPORT BEAM WITH 3/8" BEARING PLATES AT EACH END. PROVIDE BEAM POCKETS AT EL 650.63 AND GROUT ALL AROUND. GROUT CORES FULL HEIGHT BENEATH BEAM BEARING.
10. VERIFY EXISTING ROOM DIMENSIONS PRIOR TO MONORAIL FABRICATION.
11. PROVIDE 2" RAS SAMPLE LINE TO SINK AND 8" RAS PIPE @ ℄ EL 631.25. SEE KEY NOTE 12 FOR ADDITIONAL DETAILS.
12. PROVIDE ISOLATION BALL VALVE AT RAS/WAS CONNECTION AND SLOPE LINE TO DRAIN.
13. SLOPE SLAB TO DRAIN.
14. MATCH EXISTING GRADE.
15. DRILL AND EPOXY #5 BOND BEAM BARS INTO EXISTING WALL. EMBED 4".
16. PROVIDE 3x3x1/4" ANGLE TROLLEY STOPS BOLTED TO EACH END OF MONORAIL BEAM.
17. 1/2" EXPANSION MATERIAL. HOLD DOWN 1/2" AND CAULK.
18. #4x1'-10" DOWELS. DRILL AND EPOXY GROUT 4" AND EMBED INTO EXISTING GRADE BEAM.
19. RUN HORIZONTAL CURB REINF. THROUGH JOINT.
20. 2'-8"x2'-8" HVAC OPENING. TOP EL=645.22. PROVIDE LINTEL IN EXISTING WALL. VERIFY TOP EL. WITH DUCTWORK DIMENSION AND BRICK MODULAR WALL OPENING REQUIREMENTS.
21. SURFACE MOUNT ALUMINUM ANGLE TO EXISTING CONCRETE. SECURE W/ 1/2" SS EXP. ANCHORS (TYP).
22. SEE DRAWING 70-H-01 FOR ADDITIONAL COORDINATION NOTES.
23. DEMO PIPING AS NESESARY TO INSALL SUMP PUMP DISCHARGE PIPING INTO EXISITNG 8"D. PROVIDE BF FOR EXISTING PIPING AND TAP SPD PIPING.
24. FURNISH AND INSTALL FLOOR DRAIN AND CONNECT TO EXISTING 14" PIPE.
25. PROVIDE BF FOR EXISTING 14" PIPE. INSTALL 6" STORM PIPING INTO BF AND DRAIN TO SUMP.
26. ABANDON UNUSED PIPING AND CAP PORTION BEING REUSED.
27. PROVIDE MUELLER SADDLE AND CORPORATION STOP & CONNECT TO 1 1/2" CLS.



GENERAL NOTES:

1. SUPPORT ALL PIPING FROM FLOOR OR WALLS. NO PIPING SHALL BE SUPPORTED FROM CEILING.
2. PROVIDE LINTELS FOR ALL WALL OPENINGS. SEE SHEET 99-AS-05 FOR LINTEL SCHEDULE.
3. PROVIDE GEAR OPERATORS ON ALL VALVES 6-INCH AND LARGER. PROVIDE CMAIN OPERATORS ON VALVES 6'-0" AFF.

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RAS PUMPING BUILDING PLAN AND SECTIONS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

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70-ASM-01
JOB NO. 1-879-008

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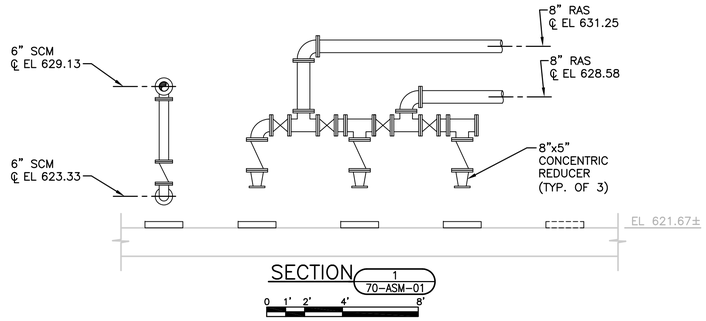

SECTION 1 70-ASM-01

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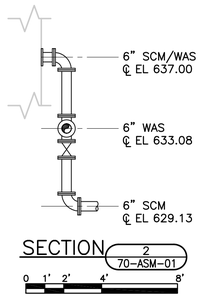

SECTION 2 70-ASM-01

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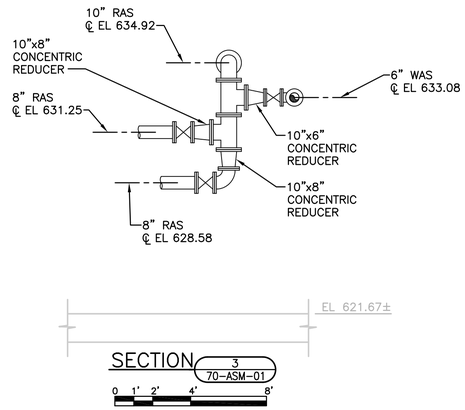

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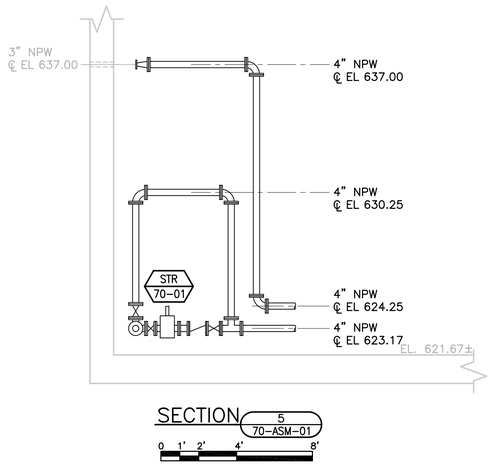

SECTION 5 70-ASM-01

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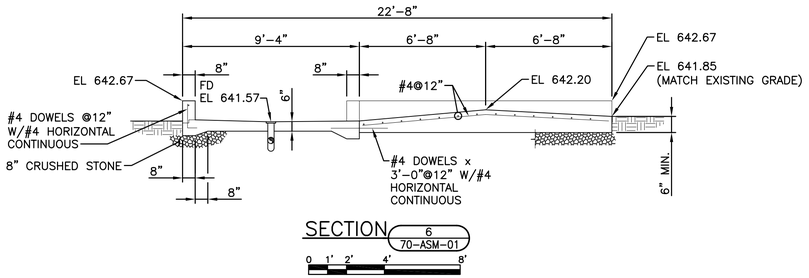

SECTION 6 70-ASM-01

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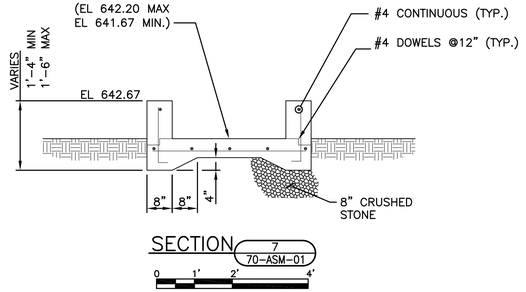

SECTION 7 70-ASM-01

0 1' 2' 4'

NO.	REVISIONS	DATE:

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RAS PUMPING BUILDING SECTIONS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

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41
70-ASM-02
JOB NO. 1-879-008

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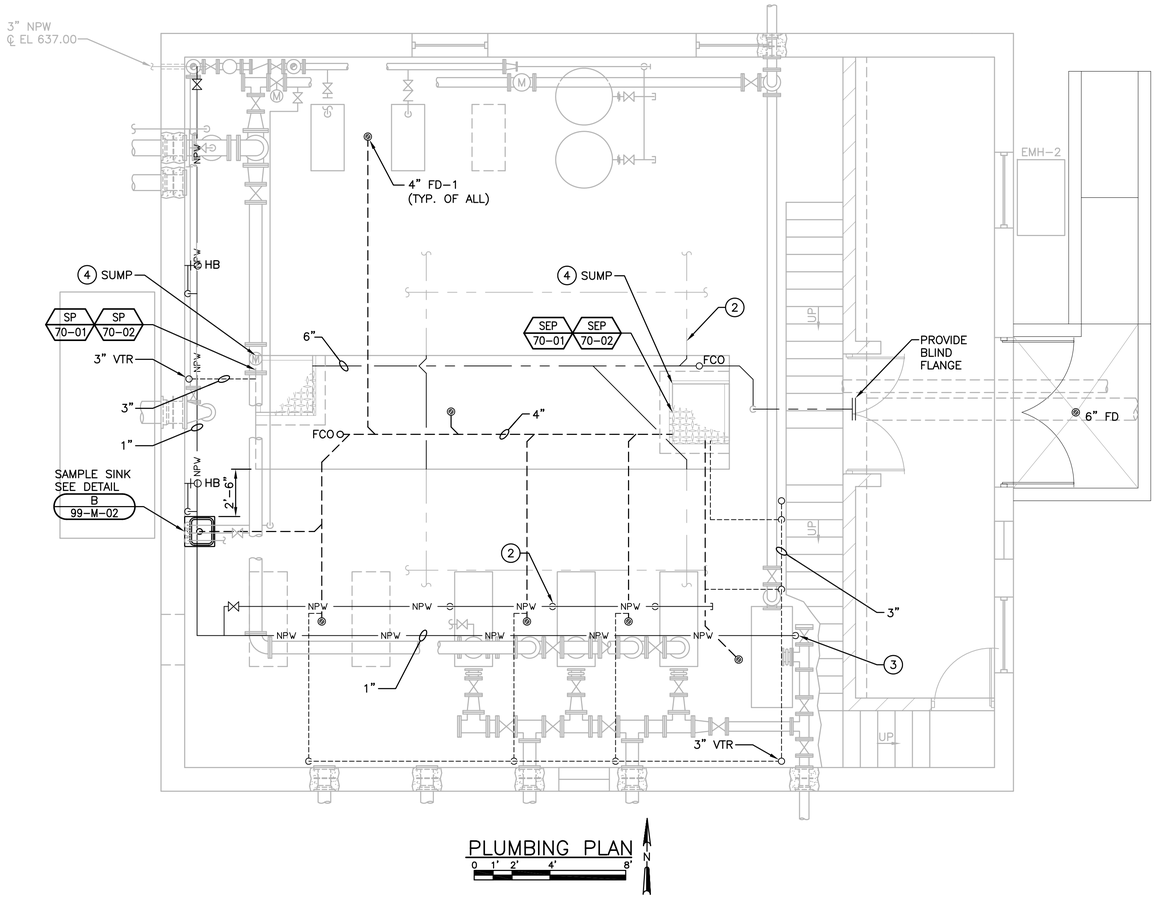
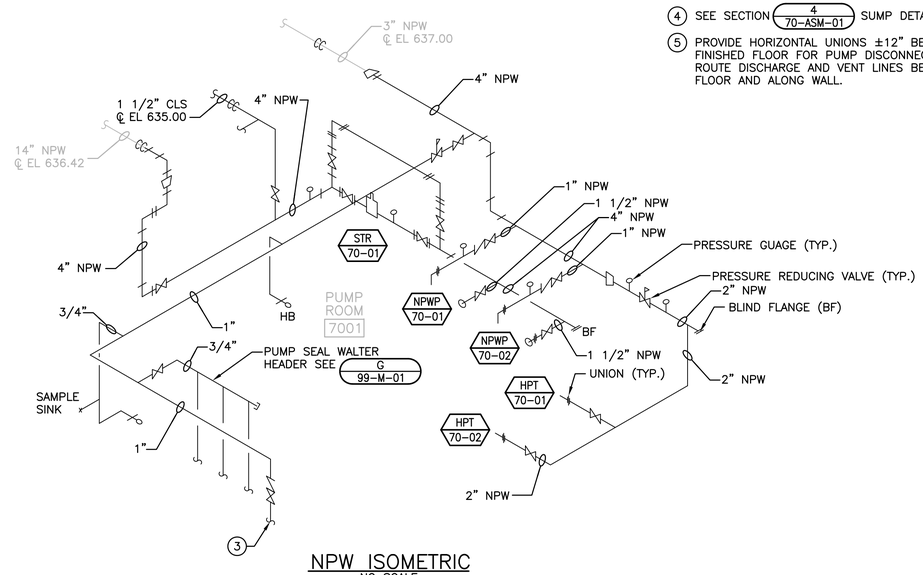


PLUMBING PLAN

0 1' 2' 4' 8'

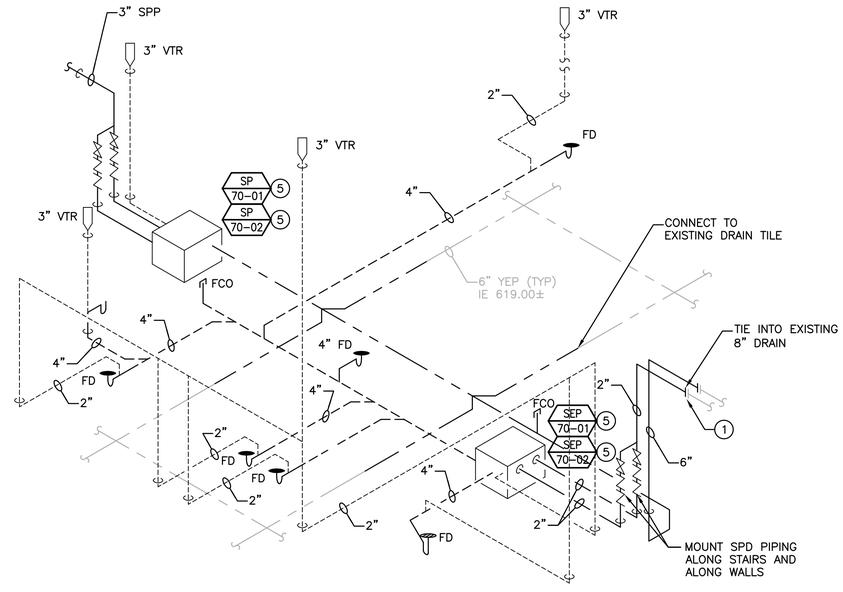
KEY NOTES:

1. CONNECT SPD PIPING INTO EXISTING 8" DI PIPE WITH BLIND FLANGE.
2. EXISTING UNDERGROUND 6" VCP DRAIN TILE SHALL BE CONNECTED TO NEW SUMP PUMP, APPROXIMATE IE 619.00±.
3. SCM FLUSH CONNECTION TO 6" PUMP SUCTION.
4. SEE SECTION 4 / 70-ASM-01 SUMP DETAILS.
5. PROVIDE HORIZONTAL UNIONS ±12" BELOW FINISHED FLOOR FOR PUMP DISCONNECT. ROUTE DISCHARGE AND VENT LINES BELOW FLOOR AND ALONG WALL.



NPW ISOMETRIC

NO SCALE



DRAINAGE ISOMETRIC

NO SCALE

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY:BTM CHK BY:TWS

RECORD DRAWING

BY:

DATE:

CONTRACTOR:

RAS PUMPING BUILDING
PLUMBING

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
42
70-P-01
JOB NO. 1-879-008

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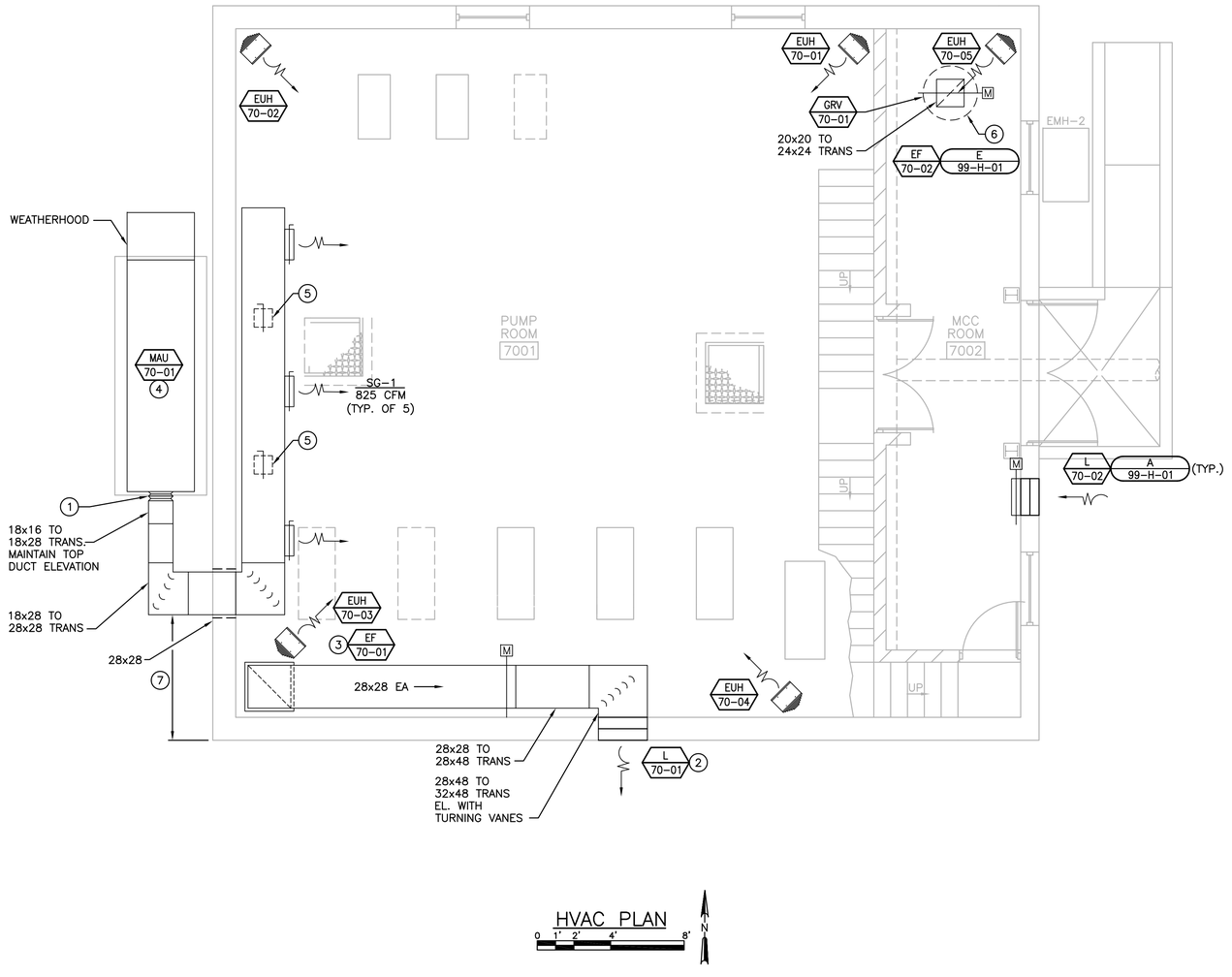

HVAC PLAN

0 1' 2' 4' 8'

N

KEY NOTES:

1. PROVIDE FLEXIBLE CONNECTION TO EQUIPMENT.
2. LOCATE NEW LOUVER IN EXISTING WALL OPENING. CUT BLOCK AND BRICK ABOVE EXISTING OPENING TO NEW LOUVER SIZE. CONTRACTOR SHALL VERIFY EXISTING WALL OPENING PRIOR TO ORDERING LOUVER.
3. MOUNT INLINE EXHAUST FAN SUCH THAT TOP OF FAN ELEVATION IS 5'-0" AFF. ROUTE 28x28 DUCTWORK TO 12" AFF WITH SCREENED INLET.
4. ALL ACCESS TO MAU 70-01 SHALL BE FROM THE WEST SIDE OF THE UNIT. VERIFY ALL ACCESS DOORS, FILTERS, CONTROLS, ETC. ARE LOCATED ON WEST SIDE OF UNIT.
5. SG-1 LOCATED ON BOTTOM OF DUCT.
6. PROVIDE SCREENED INLET.
7. LOCATE DUCT OPENING TO MATCH BRICK MODULAR DIMENSION. SEE DRAWING 70-ASM-01 FOR ADDITIONAL COORDINATION NOTES.

NO.	REVISIONS	DATE:

DATE: JUNE 2009
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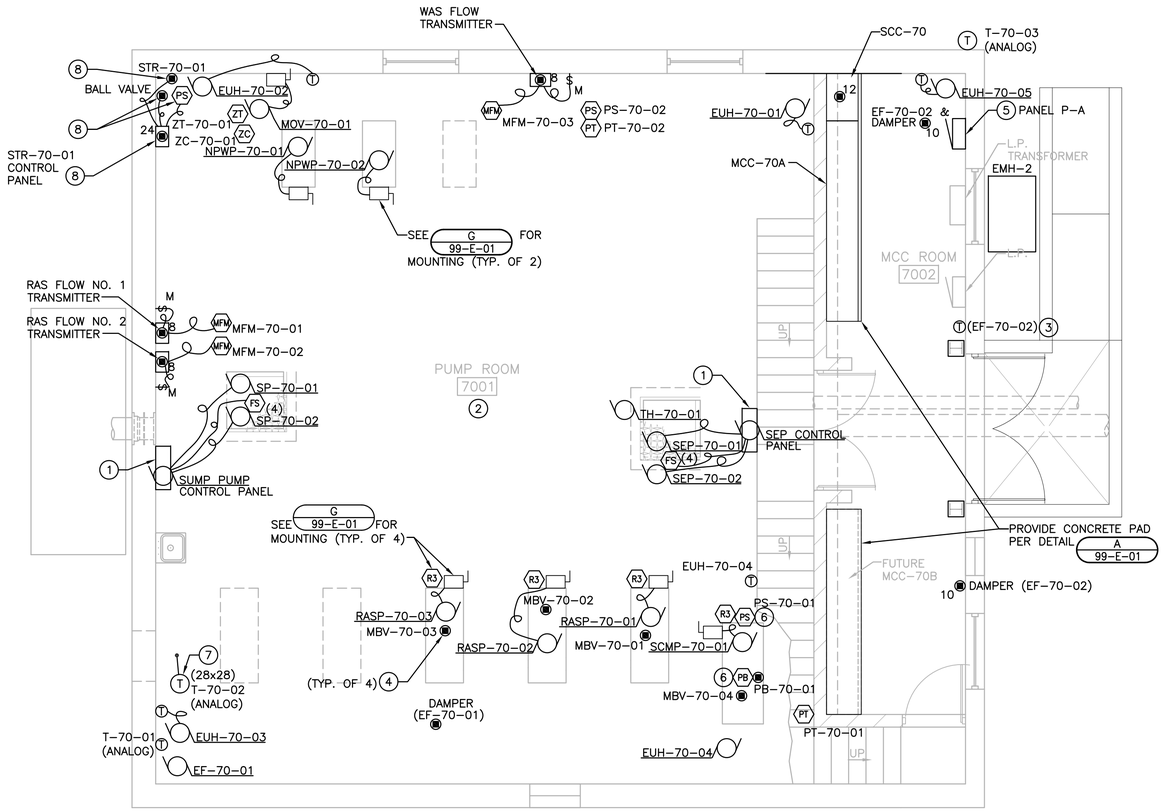
DATE:
CONTRACTOR:

RAS PUMPING BUILDING
HVAC
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
43
70-H-01
JOB NO. 1-879-008

File: S:\MAD\1800--1899\1879\008\Acad\DRAWINGS\70-H-01.dwg Time: Jun 17, 2009 - 11:29am



ELECTRICAL PLAN

0 1' 2' 4' 8'

N

GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE PLANT SCADA SYSTEM.
2. REFER TO SHEET 70-D-01 FOR ADDITIONAL ELECTRICAL DEMOLITION WORK REQUIRED IN THIS BUILDING.
3. THERMOSTATS MOUNTED ON EXTERIOR WALLS SHALL BE PROVIDED WITH NISULATED BASES.

KEY NOTES:

(1) CONTROL PANEL, ASSOCIATED PUMPS AND FLOATS FURNISHED AS SPECIFIED IN DIVISION 15 AND WIRED BY THIS CONTRACTOR. PROVIDE WIRE AND CONDUIT AS NECESSARY.

(2) ALL ELECTRICAL WORK AND EQUIPMENT IN THIS AREA SHALL BE RATED FOR A NEMA 4X LOCATION.

(3) WIRE THERMOSTAT SUCH THAT FAN RUNS AND DAMPERS OPEN WHEN THE ROOM TEMPERATURE RISES ABOVE THE THERMOSTAT SETTING.

(4) SEAL WATER MOTORIZED VALVE PROVIDED AS SPECIFIED IN DIVISION 11 AND WIRED TO STARTER BUCKET IN MCC-70 BY THIS CONTRACTOR. SEE MCC SCHEDULE FOR ADDITIONAL DETAILS.

(5) PANEL P-A SHALL BE A 42 CIRCUIT PANELBOARD. PROVIDE CIRCUIT BREAKERS FOR LOADS POWERED FROM THIS PANEL AS SHOWN ON SINGLE-LINE DIAGRAM. ADDITIONALLY, PROVIDE TWO SPARE 20/3 AND ONE SPARE 30/3 CIRCUIT BREAKERS.

(6) EQUIPMENT FURNISHED AND INSTALLED AS SPECIFIED IN DIVISION II AND WIRED BY THIS CONTRACTOR.

(7) THERMOSTAT SHALL BE INSTALLED WITHIN MAU-70-01 DISCHARGE DUCTWORK.

(8) STRAINER STR-70-01, CONTROL PANEL, AND ACCESSORIES PROVIDED AS SPECIFIED IN DIVISION 11 AND WIRED BY THIS CONTRACTOR.

EXISTING LIGHTING PANEL LP

Service:	120/208 V, 3Ø, 4W					Enclosure NEMA 1G			**Mounting:**		Surface			
Main Breaker:	225/3 M.L.O.								**Main Bus:**		Copper			
Location:	RAS PUMPING BUILDING								**SCIC:**		10 kAIC			
Room Number/Description	**Amps**	**Poles**	**Cct. #**	**Phase A**	**Phase B**	**Phase C**	**Phase A**	**Phase B**	**Phase C**	**Cct. #**	**Amps**	**Poles**	**Room Number/Description**	
Lights	20	1	1	0			0			2	20	1	Lights	
Lights	20	1	3		0			0		4	20	1	Lights	
Recp.	20	1	5			0			0	6	20	1	Lights	
Spare	**20**	**1**	**7**	0			300			8	20	1	**MFM-70-01, MFM-70-02, MFM-70-03**	
Recp.	20	1	9		0			1400		10	20	1	**EF-70-02 & Dampers (2)**	
Recp.	20	1	11			0			1000	12	20	1	**SCC-70**	
Spare	**20**	**1**	**13**	0			1000			14	20	1	**Final Clarifier, Oxidation Ditch Lights**	
Final Clarifier, Oxidation Ditch, Site Recepts.	**20**	**1**	**15**		1260			1650		16	20	1	**Effluent Sampler**	
Outside Lights	20	2	17			0			200	18	20	1	**UFM-60-01, DOC-40-01**	
/	/	/	19	0			0			20	20	1	**Spare**	
Spare	**20**	**2**	**21**		0			0		22	20	1	**Spare**	
/	/	/	23			0			900	24	20	1	**STR-70-01 Control Panel**	

Total Load per Phase per Side (VA)			0	1260	0	1300	3050	2100			
Total Load Phase A (VA)	1300	VA	**Total Connected Load (A)**	21	A
Total Load Phase B (VA)	4310	VA	**Total Connected Load + 25%**	27	A
Total Load Phase C (VA)	2100	VA	**Spare 25%**	7	A
Total Connected Load (VA)	7710	VA	**Feeder Load**	33	A

NO.	REVISIONS	DATE:

DATE: JUNE 2009 DES BY:RGT CHK BY:BMS
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BY:
DATE:
CONTRACTOR:

RAS PUMPING BUILDING
ELECTRICAL
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
44
70-E-01
JOB NO. 1-879-008

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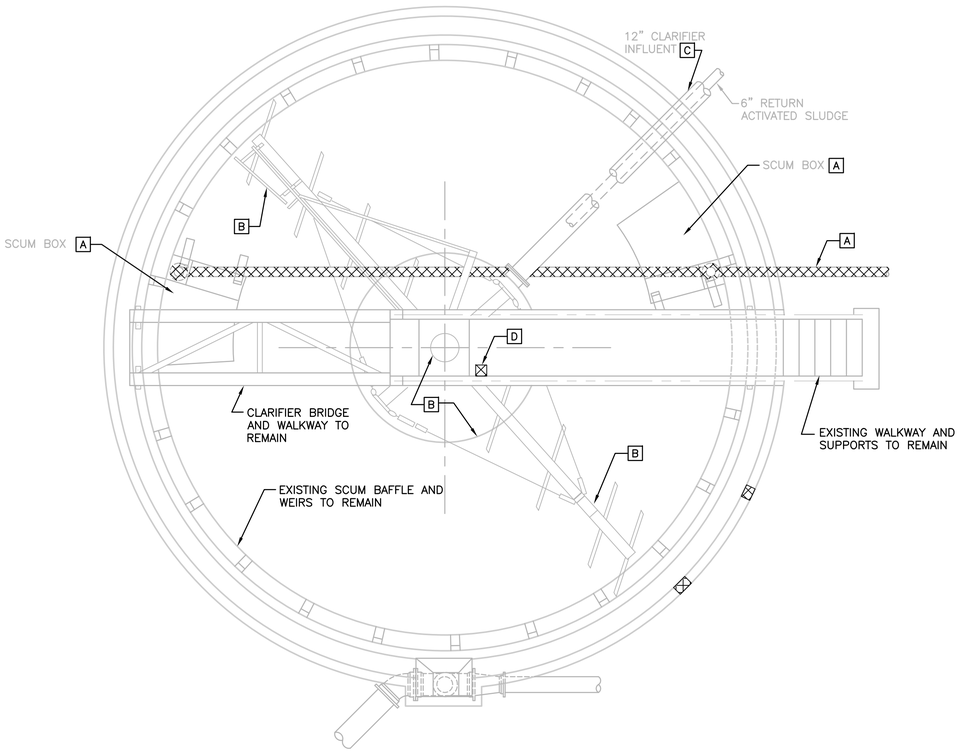
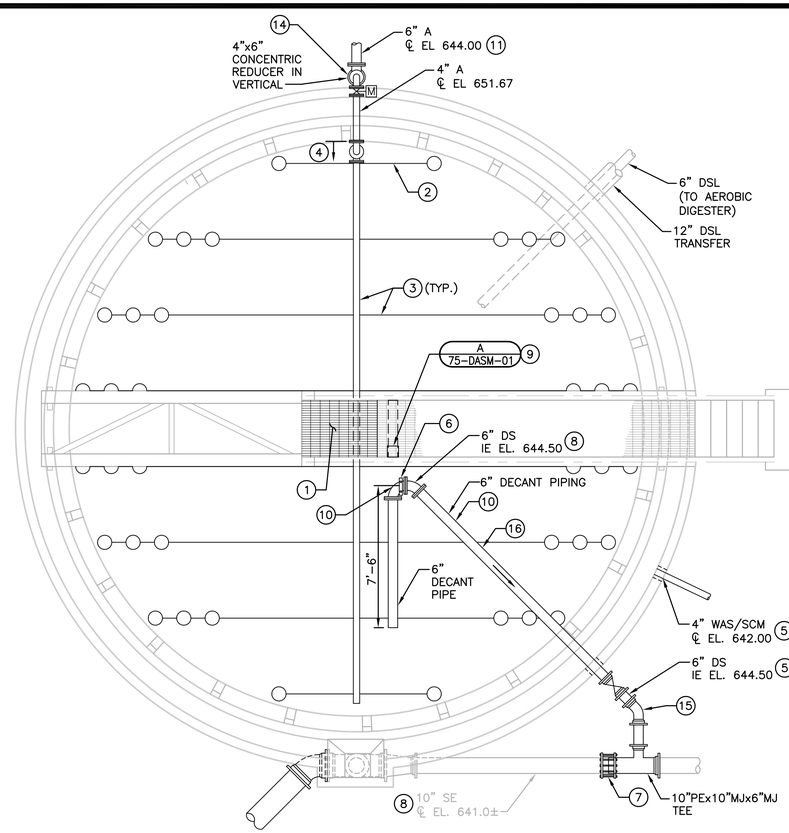


DEMOLITION PLAN – GRAVITY THICKENER NO. 1 (FORMER CLARIFIER NO. 1)

0 1' 2' 4' 8'



PLAN – GRAVITY THICKENER NO. 1

0 1' 2' 4' 8'

GENERAL NOTE:

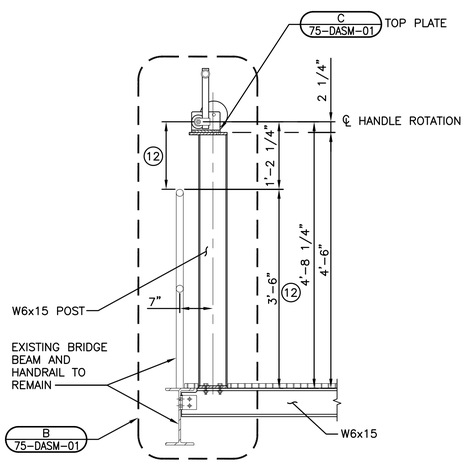
1. KEY NOTES AND DEMOLITION KEY NOTES APPLY TO BOTH GRAVITY THICKENERS/CLARIFIERS NO. 1 & NO. 2.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.

DEMOLITION KEY NOTES:

- A DEMOLISH AND REMOVE SCUM BOX AND SCUM PIPING INSIDE CLARIFIER. SEAL WALL PENETRATIONS WATERTIGHT.
- B DEMOLISH AND REMOVE CLARIFIER DRIVE, GEAR REDUCER, RAKE MECHANISM, INFLUENT WELL, SKIMMER ARM, CONDUIT, WIRE, AND APPURTENANCES.
- C DEMOLISH AND REMOVE 12" CLARIFIER INFLUENT PIPE TO SIDE WALL OF CLARIFIER.
- D REMOVE SECTION OF GRATING AS REQUIRED FOR WINCH SUPPORT INSTALLATION.

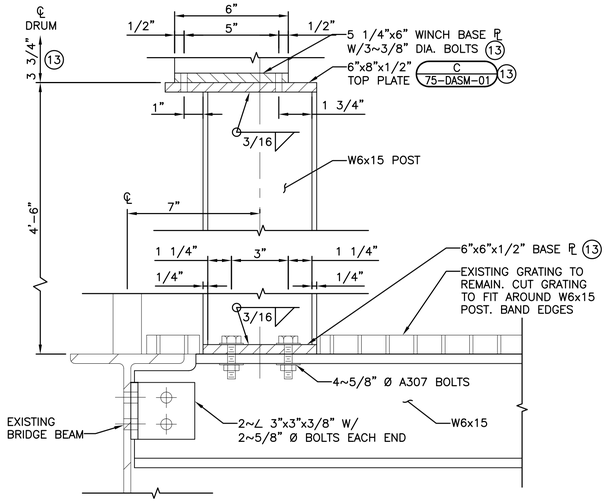
KEY NOTES:

1. PROVIDE NEW GRATING OVER FORMER CLARIFIER DRIVE LOCATION. FIELD VERIFY DIMENSIONS.
2. EACH TANK SHALL HAVE 8 HEADERS WITH A TOTAL OF 112 DIFFUSERS. SEE DIVISION 11 SPECIFICATIONS FOR DETAILS. CONTRACTOR AND MANUFACTURER SHALL COORDINATE DIFFUSER LAYOUT WITH EXISTING CONDITIONS.
3. DIFFUSER LAYOUT SHOWN IS FOR ILLUSTRATION PURPOSES. DIFFUSER SUPPLIER SHALL PROVIDE LAYOUT DRAWINGS AND DIMENSIONS.
4. AERATION EQUIPMENT SUPPLIER SHALL PROVIDE PIPING AFTER BUTTERFLY VALVE. STAINLESS STEEL PIPE SUPPORTS FOR DROP PIPE SHALL BE DETAILED BY EQUIPMENT MANUFACTURER.
5. CONTRACTOR SHALL CORE HOLE IN CLARIFIER WALL AND PROVIDE WATERTIGHT MECHANICAL LINK SEAL AROUND PENETRATION. SEAL W/NON SHRINK GROUT.
6. CONTRACTOR SHALL PROVIDE 6–INCH DUCTILE IRON SWIVEL JOINT (HPF, INC. STYLE 30, OR EQUAL).
7. SAWCUT EXISTING 10–INCH SE. PROVIDE PIPE COUPLINGS AT CONNECTION TO EXISTING 10–INCH SE PIPING.
8. VERIFY ELEVATION OF EXISTING 10–INCH SE PIPING PRIOR TO INSTALLING 6–INCH DS PIPING. PROVIDE ADDITIONAL FITTINGS AS REQUIRED.
9. PROVIDE WINCH, SUPPORT, AND STAND FOR DECANT PIPE WINCH. PROVIDE 20–FT OF 1/4" STAINLESS STEEL CABLE. MODIFY HANDRAIL AS REQUIRED.
10. LOCATE DECANT PIPE ASSEMBLY TO AVOID CONFLICTS. PROVIDE ADDITIONAL FITTINGS AS REQUIRED.
11. UNDERGROUND AIR PIPING SHALL BE 304L SCH 40 WELDED STAINLESS STEEL.
12. VERIFY ℄ HANDLE ELEVATION W/WINCH MFR. TO PROVIDE 3" MIN. CLEARANCE W/HANDRAIL DURING ROTATION.
13. VERIFY SUPPORT DIMENSIONS W/WINCH MFR.
14. PROVIDE WELDED 3/4" 304 SCH 40 SS CONDENSATE BLOW OFF FROM BOTTOM OF UNDERGROUND ELBOW AND ROUTE LINE TO AEROBIC DIGESTER. TERMINATE W/SS BALL VALVE AND ELBOW INTO TANK.
15. ROTATE 45° BEND AND TEE TO MATCH EIXSTING 10" SE PIPE ELEVATION. PROVIDE ADDITIONAL FITTINGS AS REQUIRED.
16. PROVIDE STAAINLESS STEEL SUPPORT STANDS PER SPECIFICATIONS.



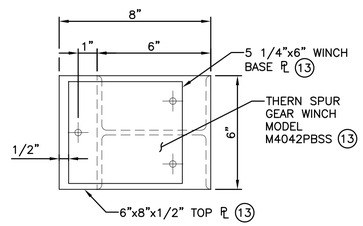
A 75-DASM-01 WINCH SUPPORT DETAIL

0 1' 2'



B 75-DASM-01 WINCH SUPORT DETAIL

0 3" 6"



C 75-DASM-01 WINCH TOP PLATE DETAIL

0 3" 6"

NO.	REVISIONS	DATE:

DATE: JUNE 2009
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RECORD DRAWING
BY:
DATE:
CONTRACTOR:

GRAVITY THICKENER DEMOLITION AND PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
45
75–DASM–01
JOB NO. 1–879–008

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GENERAL NOTES:

1. CONTRACTOR SHALL MINIMIZE TIME THE AERATION SYSTEM IS OUT OF SERVICE AND COORDINATE DEMOLITION AND PIPING TIE–INS WITH OWNER.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.

KEY NOTES:

(1) CONTRACTOR SHALL DEMOLISH AND REMOVE ABOVEGROUND AERATION PIPING WITHIN BUILDING FROM FINISHED FLOOR UP TO AND INCLUDING ELBOW ON BLOWER DISCHARGE. UNDERGROUND PIPING SHALL BE ABANDONED IN PLACE. CUT AND PATCH FLOOR AROUND AND INCLUDING PENETRATION TO MATCH EXISTING.

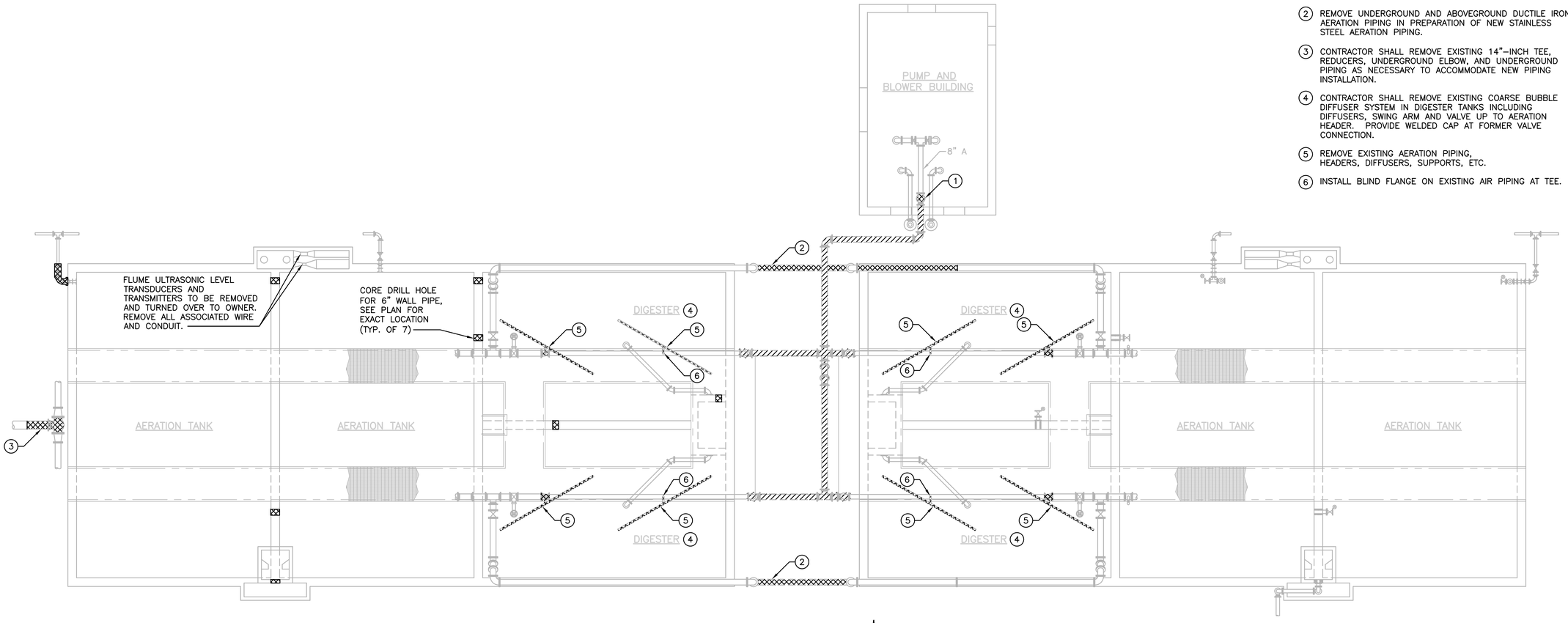
(2) REMOVE UNDERGROUND AND ABOVEGROUND DUCTILE IRON AERATION PIPING IN PREPARATION OF NEW STAINLESS STEEL AERATION PIPING.

(3) CONTRACTOR SHALL REMOVE EXISTING 14"–INCH TEE, REDUCERS, UNDERGROUND ELBOW, AND UNDERGROUND PIPING AS NECESSARY TO ACCOMMODATE NEW PIPING INSTALLATION.

(4) CONTRACTOR SHALL REMOVE EXISTING COARSE BUBBLE DIFFUSER SYSTEM IN DIGESTER TANKS INCLUDING DIFFUSERS, SWING ARM AND VALVE UP TO AERATION HEADER. PROVIDE WELDED CAP AT FORMER VALVE CONNECTION.

(5) REMOVE EXISTING AERATION PIPING, HEADERS, DIFFUSERS, SUPPORTS, ETC.

(6) INSTALL BLIND FLANGE ON EXISTING AIR PIPING AT TEE.



DEMOLITION PLAN

0 2' 4' 8' 16'

N

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY:SAI CHK BY:SAI
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

AEROBIC DIGESTION
DEMOLITION PLAN
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
46
80–D–01
JOB NO. 1–879–008

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GENERAL NOTES:

1. CONTRACTOR SHALL MINIMIZE TIME THE AERATION SYSTEM IS OUT OF SERVICE AND COORDINATE DEMOLITION AND PIPING TIE–INS WITH OWNER.
2. UNDERGROUND AIR PIPING SHALL BE 304L SCH 40 WELDED STAINLESS STEEL UNLESS OTHERWISE NOTED.

KEY NOTES:

(1) REMOVE EXISTING ELBOW AND CAP EXISTING ABOVEGROUND AIR PIPING W/BLIND FLANGE. ABANDON EXISTING UNDERGROUND AIR PIPING BELOW GRADE.

(2) CONTRACTOR SHALL PROVIDE A NEW WELDED 10–INCH SCH 40 304L STAINLESS STEEL AERATION PIPE BETWEEN TANKS. PROVIDE FLANGED CONNECTION TO CONNECT TO EXISTING ABOVEGROUND DUCTILE IRON ELBOWS. PROVIDE ALL NECESSARY TRANSITIONS.

(3) PROVIDE NEW 14–INCH DUCTILE IRON TEE AND 10x14 REDUCERS.

(4) PROVIDE NEW 10–INCH WELDED STAINLESS STEEL AIR CROSS CONNECTION. SUPPORT PIPING FROM TANK WALL AND PROVIDED FLANGED CONNECTION TO EXISTING DUCTILE IRON PIPING.

(5) PROVIDE A 10"X10"X6" WELDED STAINLESS STEEL TEE IN UNDERGROUND PIPING TO ATTACH TO 6–INCH A PIPING.

(6) EACH TANK SHALL HAVE 5 HEADERS WITH A TOTAL OF 144 DIFFUSERS. SEE DIVISION 11 SPECIFICATIONS FOR DETAILS. CONTRACTOR AND MANUFACTURER SHALL COORDINATE DIFFUSER LAYOUT WITH EXISTING CONDITIONS.

(7) DIFFUSER LAYOUT SHOWN IS FOR ILLUSTRATION PURPOSES. DIFFUSER SUPPLIER SHALL PROVIDE LAYOUT DRAWINGS AND DIMENSIONS.

(8) AERATION EQUIPMENT SUPPLIER SHALL PROVIDE PIPING AFTER BUTTERFLY VALVE. STAINLESS STEEL PIPE SUPPORTS FOR DROP PIPE SHALL BE DETAILED AND PROVIDED BY EQUIPMENT MANUFACTURER.

(9) INSTALL NEW TEE AT LOCATION OF EXISTING TEE. PROVIDE ADDITIONAL PIPE, PIPE SUPPORTS, AND FITTINGS AS REQUIRED. MODIFY OPENING IN DECK AS REQUIRED FOR NEW PIPING.

(10) UNDERGROUND AIR PIPING SHALL BE SCH 40 304L WELDED STAINLESS STEEL.

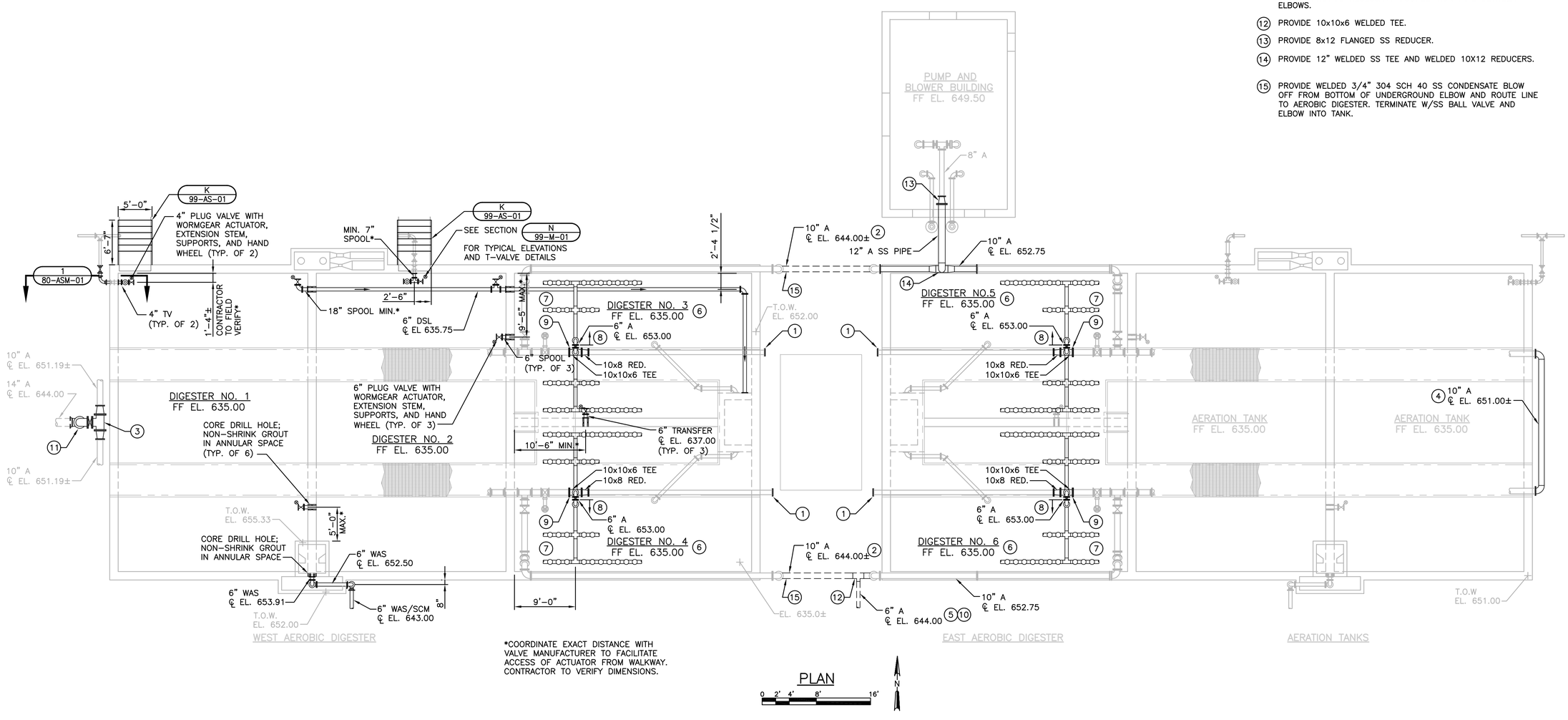
(11) PROVIDE DUCTILE IRON 14–INCH FLANGED ELBOW ABOVEGROUND AND 14–INCH MECHANICAL JOINT ELBOW BELOW GRADE. PROVIDE NECESSARY DUCTILE IRON PIPE BETWEEN ELBOWS.

(12) PROVIDE 10x10x6 WELDED TEE.

(13) PROVIDE 8x12 FLANGED SS REDUCER.

(14) PROVIDE 12" WELDED SS TEE AND WELDED 10X12 REDUCERS.

(15) PROVIDE WELDED 3/4" 304 SCH 40 SS CONDENSATE BLOW OFF FROM BOTTOM OF UNDERGROUND ELBOW AND ROUTE LINE TO AEROBIC DIGESTER. TERMINATE W/SS BALL VALVE AND ELBOW INTO TANK.



*COORDINATE EXACT DISTANCE WITH VALVE MANUFACTURER TO FACILITATE ACCESS OF ACTUATOR FROM WALKWAY. CONTRACTOR TO VERIFY DIMENSIONS.

PLAN

0 2' 4' 8' 16'

N

NO. | REVISIONS | DATE:

DATE: JUNE 2009
DES BY:XYZ CHK BY:XXX
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

AEROBIC DIGESTION PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 47
80–ASM–01
JOB NO. 1–879–008

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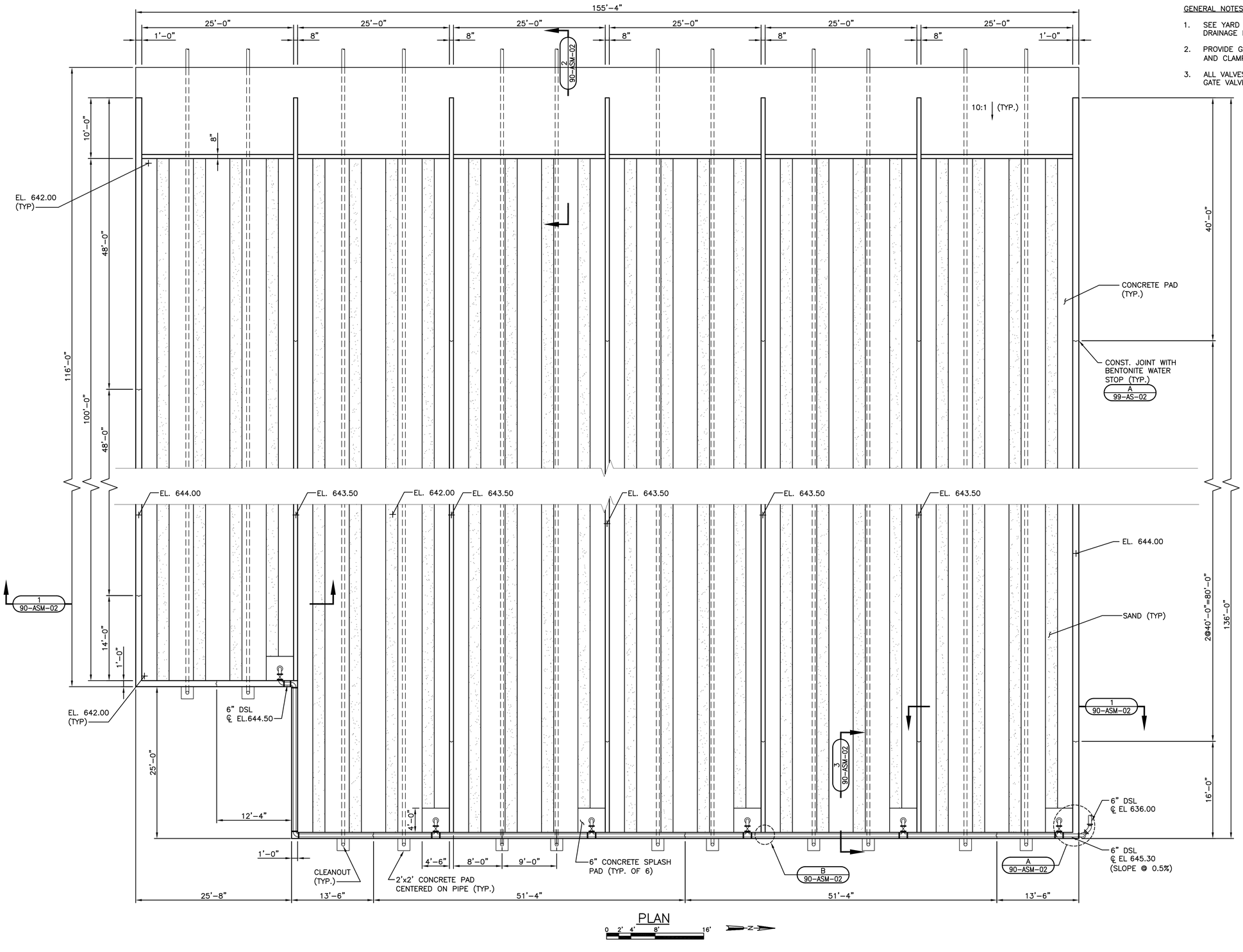
GENERAL NOTES:

1. SEE YARD PIPING PLAN FOR CONTINUATION OF DRAINAGE PIPING.
2. PROVIDE GALVANIZED STEEL PIPE SUPPORT STAND AND CLAMP ANCHORED TO WALL AT 10'–0" O.C.
3. ALL VALVES ON SLUDGE DRYING BEDS SHALL BE GATE VALVES AS SPECIFIED IN DIVISION 15.



PLAN

0 2' 4' 8' 16'

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY:XYZ CHK BY:XXX
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

SLUDGE DRYING BEDS PLAN

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
48
90–ASM–01
JOB NO. 1–879–008

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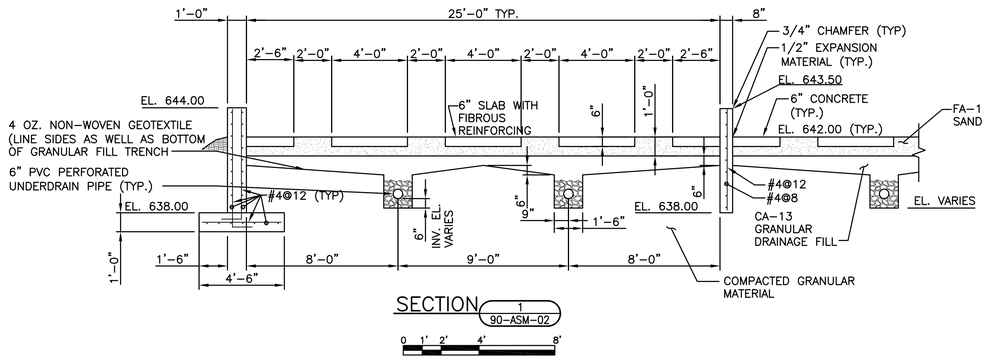

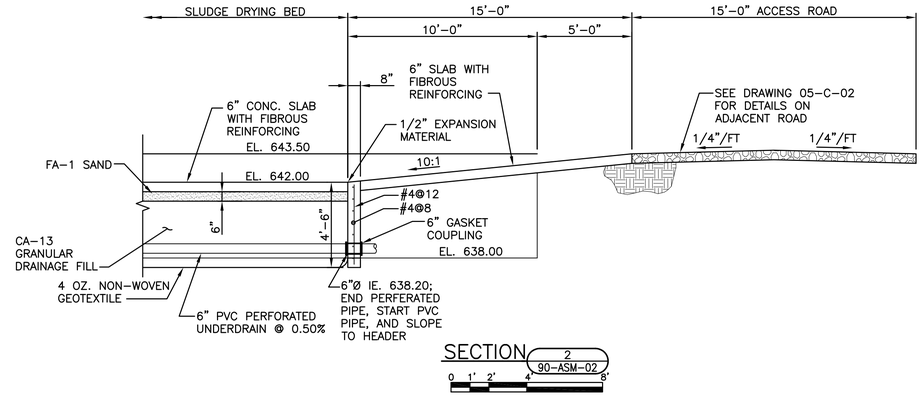

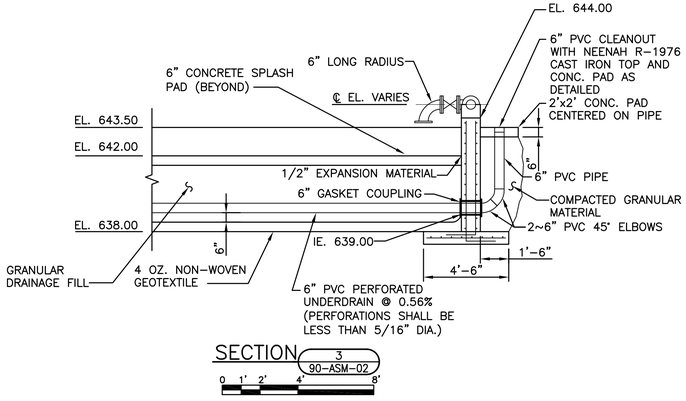

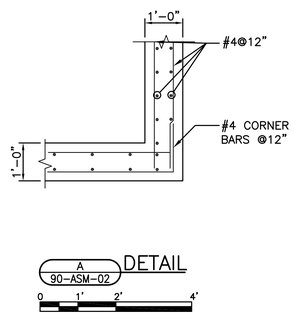

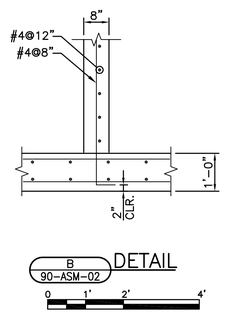

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY:XYZ CHK BY:XXX
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

SLUDGE DRYING BEDS
SECTIONS AND DETAILS
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
49
90-ASM-02
JOB NO. 1-879-008

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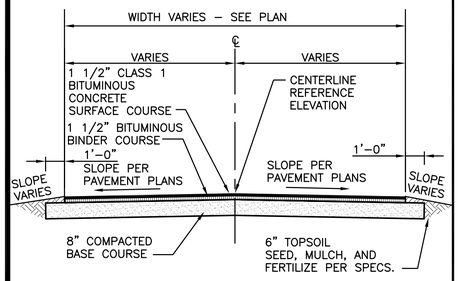
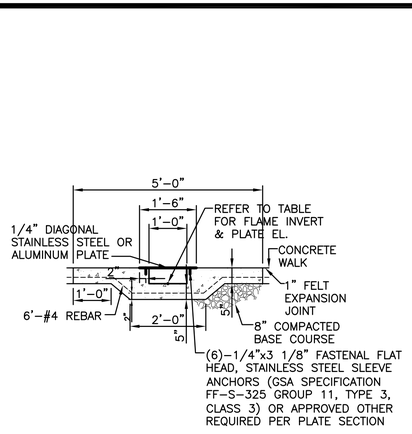
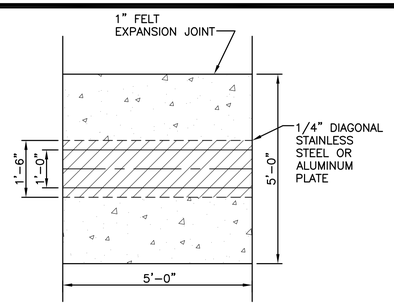


A 99-C-01 NEW PAVEMENT SECTION
NO SCALE

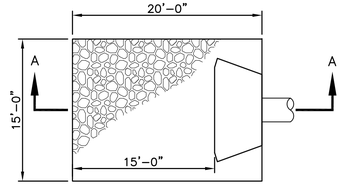




FLUME ELEVATION TABLE

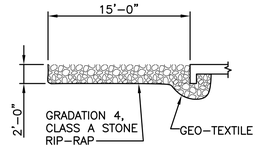
FLUME NO.	PLATE EL.	UPSTREAM INV. EL.	DOWNSTREAM INV. EL.
1	646.4	645.6, E	645.5, W
2	641.7	640.7, N	640.6, S
3	641.0	640.1, E	640.0, W

B 99-C-01 SIDE WALK FLUME
0 1' 2' 4'



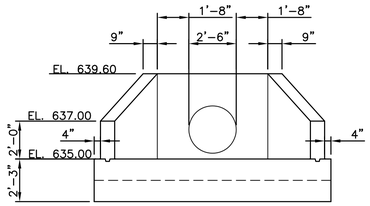
GRADATION 4, CLASS A STONE RIP–RAP

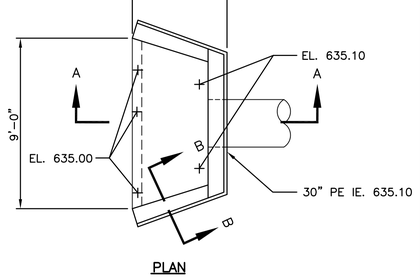
PLAN



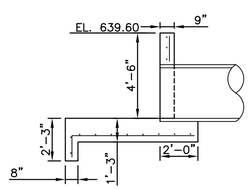
SECTION A–A

C 99-C-01 RIP–RAP APRON
0 2' 4' 8' 16'

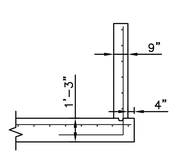




PLAN

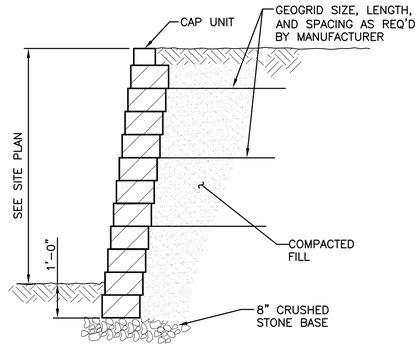


SECTION A–A

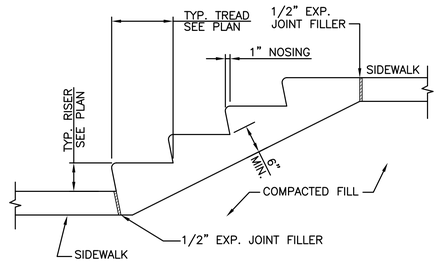


SECTION B–B

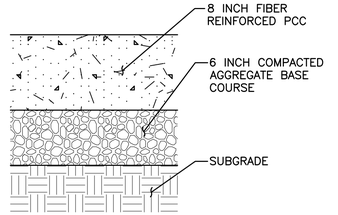
D 99-C-01 CAST IN PLACE APRON END WALL
0 1' 2' 4' 8'



E 99-C-01 BLOCK RETAINING WALL
NO SCALE



F 99-C-01 EXTERIOR CONCRETE STAIRS
NO SCALE

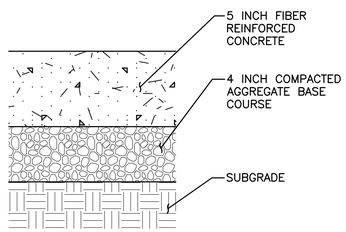


NOTE:

PROVIDE CONTROL JOINTS AT APPROXIMATELY 15 FT. ON CENTER PER DETAIL J 99-C-01

PROVIDE CONSTRUCTION JOINTS AS REQUIRED PER DETAIL K 99-C-01

G 99-C-01 CONCRETE PAVEMENT
NO SCALE

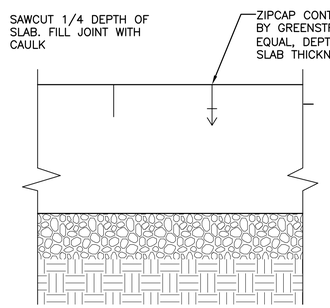


NOTE:

PROVIDE CONTROL JOINTS AT APPROXIMATELY 15 FT. ON CENTER PER DETAIL J 99-C-01

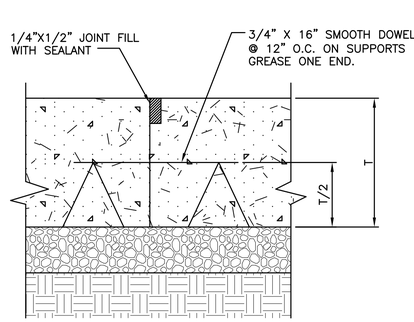
PROVIDE CONSTRUCTION JOINTS AS REQUIRED PER DETAIL K 99-C-01

H 99-C-01 CONCRETE SIDEWALK
NO SCALE



NOTE: JOINT TYPE AT CONTRACTOR'S OPTION.

J 99-C-01 TYPICAL SLAB CONTROL JOINT
NO SCALE



SLAB–ON–GRADE CONSTRUCTION JOINT

K 99-C-01 NO SCALE

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY: SAI CHK BY: SAI
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

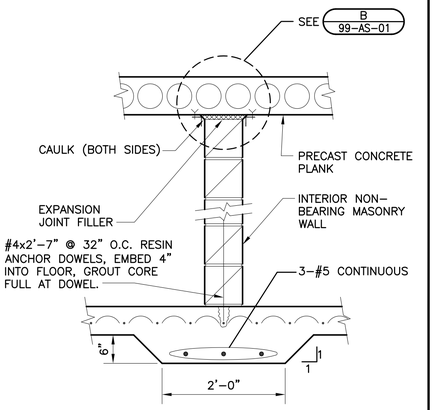
CIVIL DETAILS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

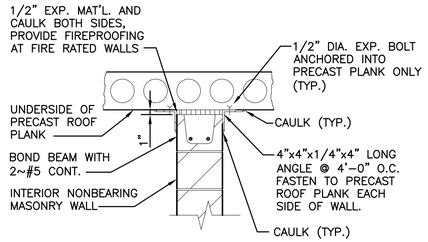
STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
50
99–C–01
JOB NO. 1–879–008

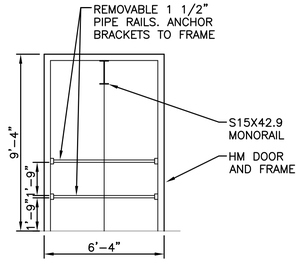
File: S:\MAD\1800--1899\1879\008\Acad\DRAWINGS\99-C-01.dwg Time: Jun 17, 2009 – 11:30am



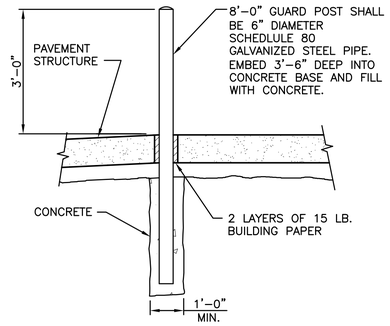
A 99-AS-01 INTERIOR NON-BEARING WALL
NO SCALE



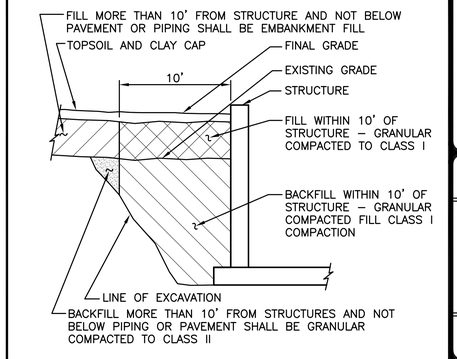
B 99-AS-01 INTERIOR NON-BEARING WALL TOP CONNECTION
NO SCALE



C 99-AS-01 EQUIPMENT ACCESS DOOR
0 1' 2' 4' 8'



D 99-AS-01 GUARD POST
NO SCALE



E 99-AS-01 FILL & BACKFILL REQUIREMENTS
NO SCALE

F 99-AS-01 TYPICAL SLAB SAWN JOINT
NO SCALE

G 99-AS-01 SLAB ON GRADE JOINT
NO SCALE

NOTES:

1. MOVE REINF. MAX. OF 2" TO CLEAR OPENING, CUT REMAINING BAR THROUGH OPENING. WHERE REINF. MUST BE CUT, ADD REINF. "A" AT LEAST EQUAL IN AREA TO THAT WHICH WAS CUT AND EXTEND BEYOND OPENING DISTANCE "Y".
2. DIAGONAL BARS "B" TO BE PLACED: A. AT ℄ OF WALL WHERE ONE LAYER OF REINF. IS PROVIDED. B. AT EACH FACE OF WALL WHERE TWO LAYERS OF REINF. ARE PROVIDED. C. AT TOP & BOTTOM OF ALL SLABS.
3. UNLESS OTHERWISE NOTED, SIZE OF REINF. "B" SHALL BE THE SIZE OF THE LARGEST REINF. BAR CUT.
4. Y = CLASS B LAP
5. THIS DETAIL IS TO BE USED WHEN NO OTHER DETAIL IS SPECIFIED.
6. MINIMUM REINF. "A" & "B" AROUND ANY AND ALL OPENINGS SHALL BE #4.

H 99-AS-01 REINFORCEMENT AT CONCRETE OPENINGS
NO SCALE

NOTES:

1 CONCRETE PAD BY CONTRACTOR SUPPLYING EQUIPMENT.
2 ANCHOR CONCRETE BASE TO FLOOR WITH 1/2" EXPANSION BOLTS @ 18" O.C., MINIMUM 4 PER PAD. IF CONCRETE PAD IS LESS THAN 10" HIGH, ANCHOR EQUIPMENT PAD DIRECTLY TO CONCRETE FLOOR.
3 APPLY BONDING AGENT TO FLOOR PRIOR TO PLACING CONCRETE PAD.

J 99-AS-01 CONCRETE EQUIPMENT PAD
NO SCALE

K 99-AS-01 DETAIL
NO SCALE

DATE: JUNE 2009
DES BY:SAI CHK BY:SAI
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

NO. REVISIONS DATE:

ARCHITECTURAL/STRUCTURAL DETAILS - 1

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 51
99-AS-01
JOB NO. 1-879-008

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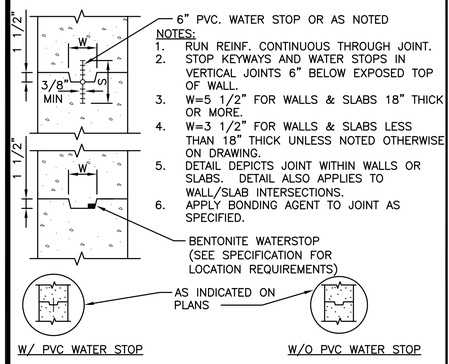
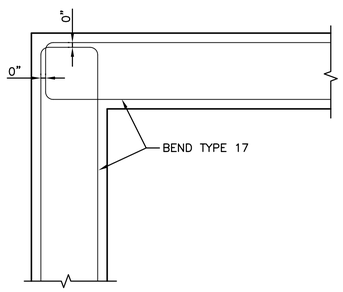


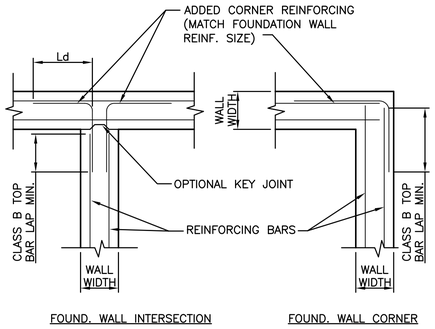
NOTES:

1. RUN REINF. CONTINUOUS THROUGH JOINT.
2. STOP KEYWAYS AND WATER STOPS IN VERTICAL JOINTS 6" BELOW EXPOSED TOP OF WALL.
3. W=5 1/2" FOR WALLS & SLABS 18" THICK OR MORE.
4. W=3 1/2" FOR WALLS & SLABS LESS THAN 18" THICK UNLESS NOTED OTHERWISE ON DRAWING.
5. DETAIL DEPICTS JOINT WITHIN WALLS OR SLABS. DETAIL ALSO APPLIES TO WALL/SLAB INTERSECTIONS.
6. APPLY BONDING AGENT TO JOINT AS SPECIFIED.

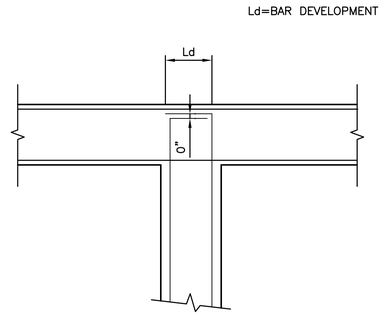
A 99-AS-02 CONSTRUCTION JOINT
NO SCALE



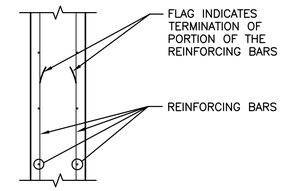
B 99-AS-02 TANK CORNER REINFORCING
NO SCALE



C 99-AS-02 FOUNDATION WALL CORNER REINFORCEMENT
NO SCALE



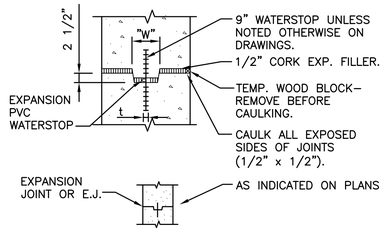
D 99-AS-02 TANK TEE REINFORCING
NO SCALE



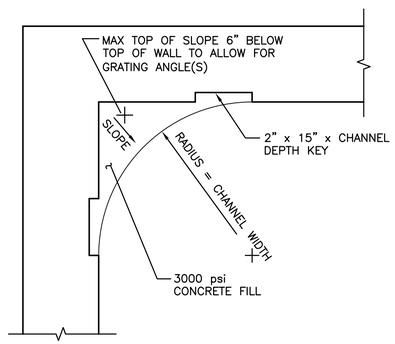
E 99-AS-02 REINFORCING TERMINATION
NO SCALE

NOTES:

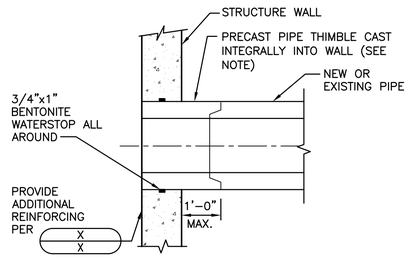
1. STOP KEYWAYS AND WATERSTOPS IN VERTICAL JOINTS 6" BELOW EXPOSED TOP OF WALL.
2. WATERSTOP TO ELONGATE 1" WITHOUT STRESSING RIBS OR CONCRETE. DO NOT RUN REINF. THRU JOINT.
3. t = 3/8" MIN.
4. W=5 1/2" FOR WALLS & SLABS 18" THICK OR MORE.
5. W=3 1/2" FOR WALLLS & SLABS LESS THAN 18" THICK UNLESS NOTED OTHERWISE ON DRAWING.



F 99-AS-02 EXPANSION JOINT
NO SCALE

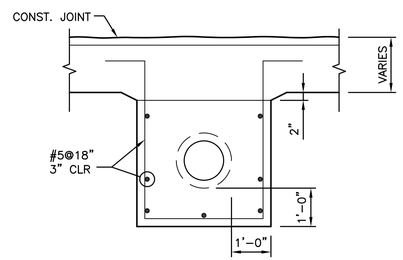


G 99-AS-02 TYPICAL CHANNEL FILLET
NO SCALE

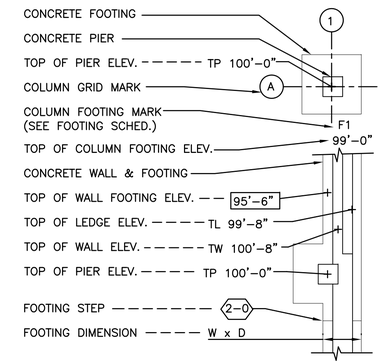


NOTE: CAST BELL OR SPIGOT END INTO WALL DEPENDING ON DIRECTION OF PIPE LAY

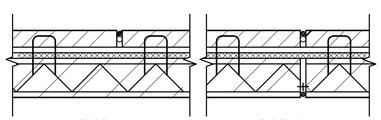
H 99-AS-02 CONCRETE–STRUCTURE JOINT
NO SCALE



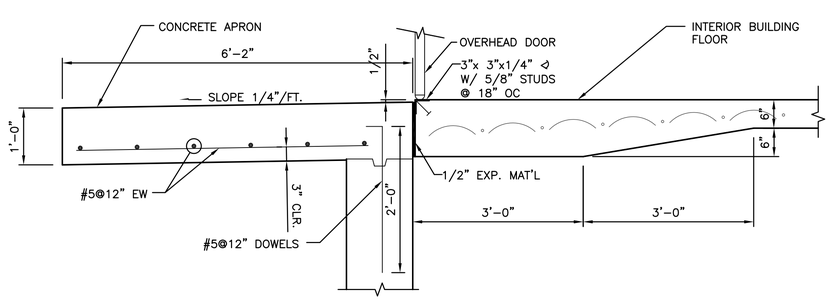
J 99-AS-02 PIPE ENCASEMENT
NO SCALE



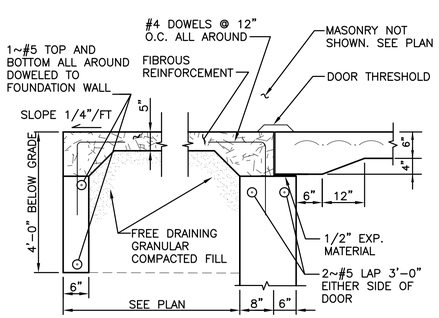
K 99-AS-02 FOUNDATION LEGEND
NO SCALE



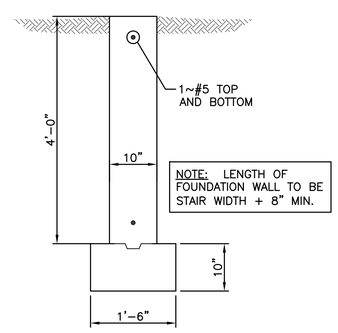
L 99-AS-02 MASONRY CONTROL JOINT
NO SCALE



M 99-AS-02 OVERHEAD DOOR SILL SECTION
NO SCALE



N 99-AS-02 TYPICAL STOOP SECTION
NO SCALE



P 99-AS-02 EXTERIOR STAIR/ LANDING FOUNDATION
NO SCALE

DATE: JUNE 2009
DES BY:SAI CHK BY:SAI
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

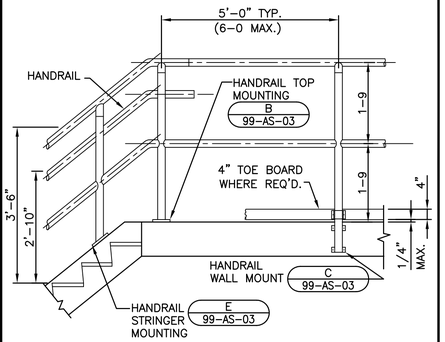
NO. | REVISIONS | DATE:

ARCHITECTURAL/STRUCTURAL DETAILS - 2
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

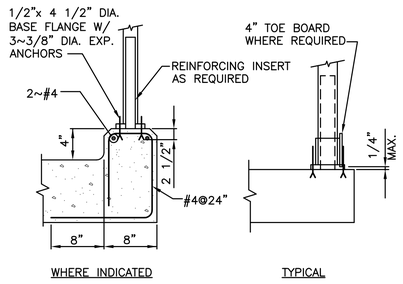
STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
52
99-AS-02
JOB NO. 1-879-008

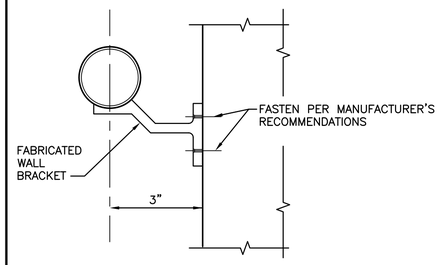
File: S:\MAD\1800--1899\1879\008\Acad\DRAWINGS\99-AS-02.dwg Time: Jun 17, 2009 – 11:30am



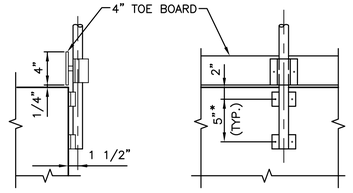
A 99-AS-03 ALUMINUM HANDRAIL
NO SCALE



B 99-AS-03 HANDRAIL TOP MOUNTING
NO SCALE

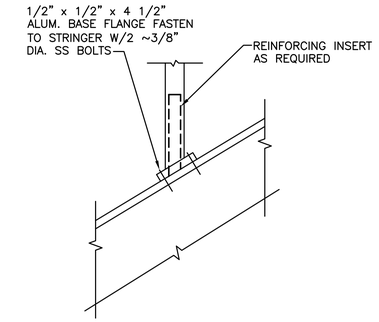


C 99-AS-03 HANDRAIL WALL MOUNTING
NO SCALE



* 5" DIMENSION MAY BE REDUCED IF BEARING FACE IS LESS THAN 9" DEEP.

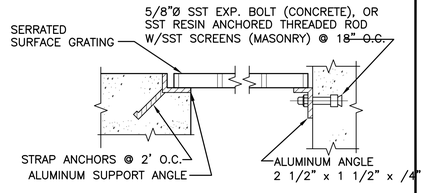
D 99-AS-03 HANDRAIL SIDE MOUNTING
NO SCALE



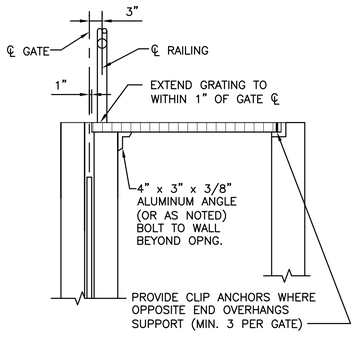
E 99-AS-03 HANDRAIL STRINGER MOUNTING
NO SCALE

NOTES
1. PROVIDE 4 x 3 x 3/8" ALUMINUM GRATING SUPPORT ANGLES ACROSS OPENINGS. BOLT ENDS OF ANGLE TO SIDES OF OPENINGS LOCATE ANCHOR BOLTS MINIMUM 4" FROM EDGE OF CONRETE
2. CONTRACTOR SHALL CUT GRATING SUPPORT ANGLES FOR CLEARANCE FOR STOP PLATE GROOVES.
3. ALL ALUMINUM IN CONTACT WITH CONCRETE SHALL BE COATED WITH BITUMASTIC.

SIZE	SUPPORT ANGLE	MAX. SPAN
1" X 3/16"	1 1/4" x 1 3/4" x 1/4"	2'-6"
1 3/4" X 3/16"	2" X 2" X 1/4"	5'-0"
2" X 3/16"	2" X 2" X 1/4"	6'-0"

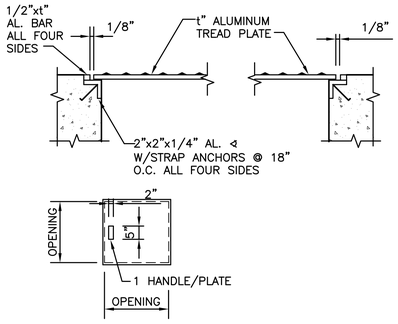


F 99-AS-03 GRATING
NO SCALE

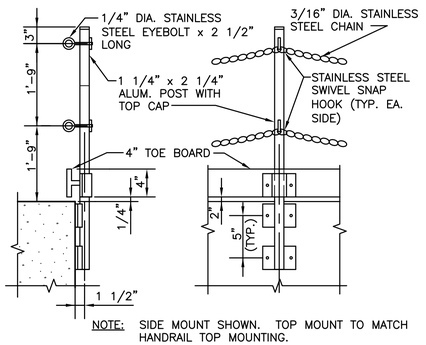


G 99-AS-03 GRATING AT GATES
NO SCALE

LOCATION	PLATE "t"
OXIDATION DITCH	3/8"
RAS PUMP STATION	1/2"

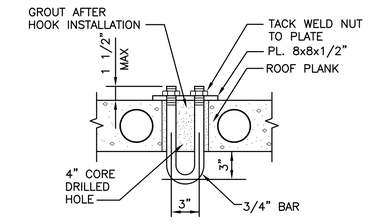


H 99-AS-03 TREAD PLATE
NO SCALE

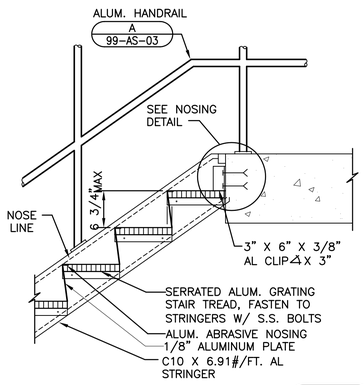


NOTE: SIDE MOUNT SHOWN. TOP MOUNT TO MATCH HANDRAIL TOP MOUNTING.

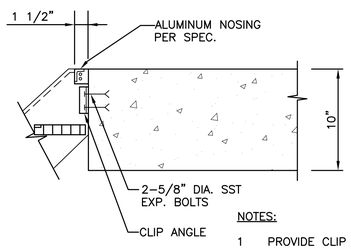
J 99-AS-03 SAFETY CHAIN
NO SCALE



K 99-AS-03 CHAIN HOIST HOOK
NO SCALE

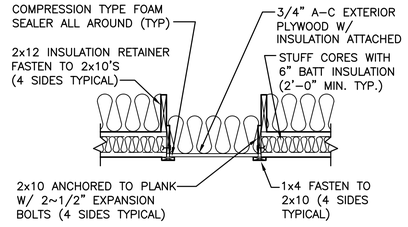


L 99-AS-03 ALUMINUM STAIR
NO SCALE



NOSING DETAIL

NOTES:
1 PROVIDE CLIP ANGLES AND EXPANSION BOLTS AT LOWER STAIRS ON FOUNDATION WALL.
2 STAIR WIDTH= 3'-4" OUT-TO-OUT OF STRINGERS, UNLESS NOTED OTHERWISE.



NOTE: PLANK SUPPORT ANGLES (NOT SHOWN)

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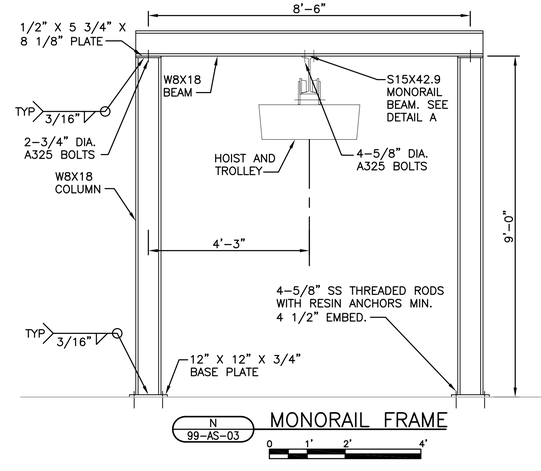
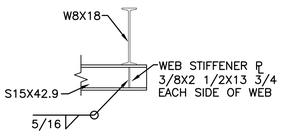


N 99-AS-03 MONORAIL FRAME



DETAIL A

DATE:
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DATE: JUNE 2009 DES BY:SAI CHK BY:SAI
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BY:
DATE:
CONTRACTOR:

ARCHITECTURAL/STRUCTURAL DETAILS - 3
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
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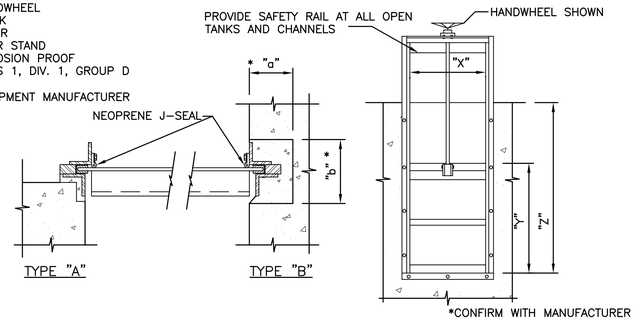
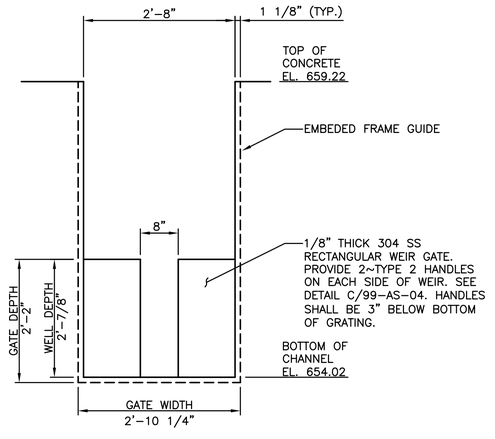
REFERENCE DWG. NUMBER	EQUIPMENT NUMBER (SG-XX-XX)	DIMENSION "X"	DIMENSION "Y"	DIMENSION "Z"	MOUNTING TYPE, SLIDES	MOUNTING TYPE, INVERT	OPERATOR TYPE**	ELECTRICAL RATING	MOTOR (HP)	CONTROL SERVICE	REMARKS
20-ASM-02	SG-20-01	4'-0"	2'-4"	6'-6"	B	B	H	--	--	--	--
20-ASM-02	SG-20-02	4'-0"	2'-4"	6'-6"	B	B	H	--	--	--	--
20-ASM-02	SG-20-03	4'-0"	2'-4"	6'-6"	B	B	H	--	--	--	--
40-ASM-01	SG-40-01	2'-6"	10'-0"	*	B	B	H	--	--	--	* Z1=10'-6", Z2=17'-6"
40-ASM-01	SG-40-02	2'-6"	10'-0"	*	B	B	H	--	--	--	* Z1=10'-6", Z2=17'-6"
40-ASM-01	SG-40-03	4'-0"	2'-2"	4'-10"	A	A	H	--	--	--	SEE PLAN FOR OPERATING LEVELS
40-ASM-02	SG-40-04	5'-0"	1'-0"	3'-2"	A	A	H	--	--	--	SEE PLAN FOR OPERATING LEVELS

** H – HANDWHEEL
C – CRANK
M – MOTOR
F.S. – FLOOR STAND
E.P. – EXPLOSION PROOF CLASS 1, DIV. 1, GROUP D
† BY EQUIPMENT MANUFACTURER

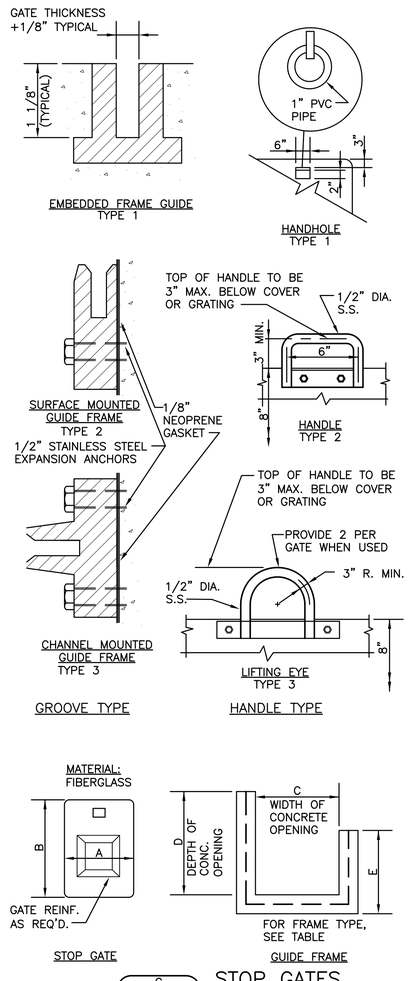


A 99-AS-04 SLIDE GATE DETAILS
NO SCALE

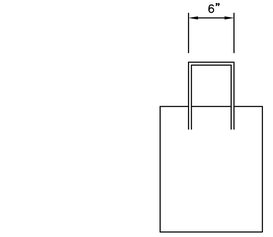


B 99-AS-04 RECTANGULAR WEIR GATE
NO SCALE

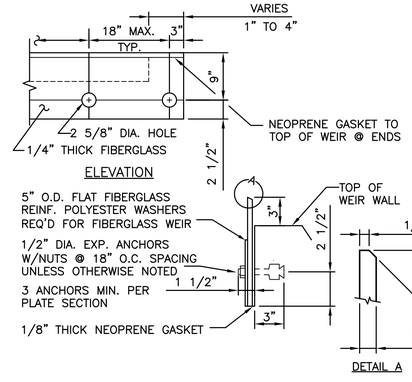
STOP GATE								GROOVES			
REFERENCE DWG. NUMBER	GATE NUMBER (STG-XX-XX)	NUMBER REQUIRED	THICKNESS	DIMENSION "A"	DIMENSION "B"	NO. OF HANDLES	TYPE OF HANDLES	TYPE OF GROOVES	DIMENSION "C"	DIMENSION "D"	DIMENSION "E"
20-ASM-03	STG-20-01	1	1/4"	3'-2"	3'-9"	2	3	1	3'-0"	4'-5"	
20-ASM-03	STG-20-02	1	1/4"	3'-2"	3'-9"	2	3	1	3'-0"	4'-5"	
20-ASM-03	STG-20-03	1	1/4"	3'-2"	2'-8"	2	3	1	3'-0"	4'-8"	
20-ASM-03	STG-20-04	1	1/4"	3'-2"	2'-8"	2	3	1	3'-0"	4'-8"	
20-ASM-03	STG-20-05	1	1/4"	2'-2"	3'-2"	2	1	1	2'-0"	5'-2"	
40-ASM-02	STG-40-01	0	-	-	-	-	-	1	4'-0"	3'-11"	
40-ASM-02	STG-40-02	1	1/2"	4'-2"	1'-9"	2	3	1	4'-0"	3'-11"	
40-ASM-02	STG-40-03	1	1/2"	4'-2"	1'-9"	2	3	1	4'-0"	3'-11"	
40-ASM-02	STG-40-04	1	1/4"	1'-2"	3'-3"	1	2	1	1'-0"	3'-8"	
60-ASM-01	STG-60-01	1	1/2"	4'-2"	4'-7"	2	3	1	4'-0"	5'-0"	
60-ASM-01	STG-60-02	1	1/2"	4'-2"	4'-7"	2	3	1	4'-0"	5'-0"	
60-ASM-01	STG-60-03	1	1/2"	4'-2"	4'-7"	2	3	1	4'-0"	5'-0"	
60-ASM-01	STG-60-04	1	1/2"	4'-2"	4'-7"	2	3	1	4'-0"	5'-0"	
60-ASM-01	STG-60-05	0	-	-	-	-	-	1	4'-0"	5'-0"	
60-ASM-01	STG-60-06	0	-	-	-	-	-	1	4'-0"	5'-0"	



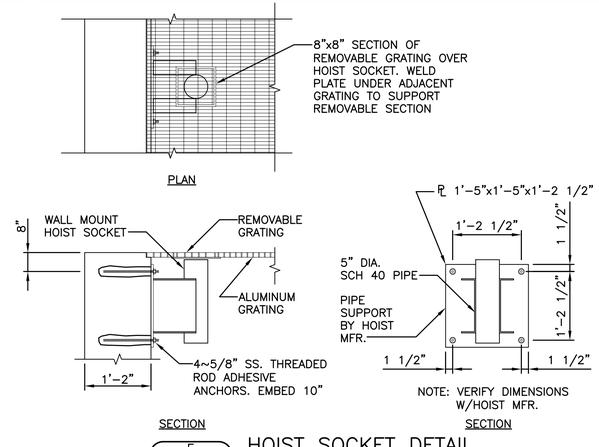
C 99-AS-04 STOP GATES
NO SCALE



D 99-AS-04 SCUM RELEASE PLATE
NO SCALE



E 99-AS-04 SHARP CRESTED WEIR
NO SCALE



F 99-AS-04 HOIST SOCKET DETAIL
NO SCALE

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY: SAI CHK BY: SAI
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DATE:
CONTRACTOR:

ARCHITECTURAL/STRUCTURAL DETAILS - 4
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CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

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STRUCTURAL DESIGN CRITERIA

FLOOR LIVE LOAD	UNIFORMLY DISTRIBUTED (PSF)		100
	CONCENTRATED (LBS)		EQUIPMENT OPERATING WEIGHTS VARY
	IMPACT		FROM EQUIP. MFR.
	REDUCTION		PER IBC
ATTIC LIVE LOAD	UNIFORMLY DISTRIBUTED (PSF)		25
ROOF LIVE LOAD	MINIMUM ROOF LIVE LOAD (PSF)		20
FLAT ROOF RAIN LOAD	AVG. EFF. RAIN DEPTH		NA
	ADDTL. DEPTH ABOVE SCUPPER I.E. TO PASS DESIGN FLOW (d_h)		NA
	FLAT ROOF RAIN LOAD (PSF)		NA
ROOF SNOW LOAD	GROUND SNOW LOAD (P_g) (PSF)		20
	FLAT ROOF SNOW LOAD		NA
	SLOPED ROOF SNOW LOAD		15
	UNBALANCED ROOF SNOW LOAD		25
	SNOW EXPOSURE FACTOR (C_e)		0.9
	SNOW LOAD IMPORTANCE FACTOR (I_s)		1.1
	THERMAL FACTOR (C_t) -		1.1
	DRIFT LOADS		PER IBC
WIND LOAD	BASIC 3-SECOND GUST WIND SPEED (MPH)		90
	WIND IMPORTANCE FACTOR (I_w)		1.15
	BUILDING CATEGORY		II
	WIND EXPOSURE		C
	INTERNAL PRESSURE COEFFICIENT (GC_{pi})		0.18
	COMPONENTS AND CLADDING DESIGN WIND PRESSURE (PSF)		PER IBC
EARTHQUAKE DESIGN DATA	SEISMIC USE GROUP		II
	SEISMIC IMPORTANCE FACTOR (I_E)		1.25
	SITE CLASS		D
	SPECTRAL RESPONSE COEFFICIENTS	S_{DS}	0.189
		S_{D1}	0.138
	SEISMIC DESIGN CATEGORY		C
	BASIC SEISMIC FORCE RESISTING SYSTEM (ALL CONCRETE BLOCK BUILDINGS)		ORDINARY REINFORCED MASONRY SHEAR WALLS
	RESPONSE MODIFICATION COEFFICIENT (R)		2.5
	DESIGN BASE SHEAR		.0945 W
	ANALYSIS PROCEDURE		EQUIV. LATERAL FORCE
FLOOD LOAD	LOCATED IN FLOOD HAZARD AREA?		NO
	HIGH VELOCITY WAVE ACTION?	LOWEST HORIZONTAL STRUCTURAL MEMBER ELEVATION	N/A
	NON-HIGH VELOCITY WAVE ACTION?	LOWEST FLOOR ELEVATION	EL. 649.00
		DRY FLOOD PROOF ELEVATION	N/A
OTHER LOADS	LATERAL EARTH PRESSURE (PCF EQUIV. FLUID)	DRY - UNRESTRAINED TOP	45
		DRY - RESTRAINED TOP	65
		BELOW WATER TABLE	
	LATERAL FLUID PRESSURE (PCF)		62.4
	BUOYANCY (PCF X DEPTH BELOW GROUNDWATER LEVEL)		62.4

ALLOWABLE STRESSES AND LOADS

MATERIAL	MATERIAL STRESS, DESIGNATION, OR ALLOWABLE LOAD
CIP CONCRETE	f_c' = 4000 psi
PRECAST CONCRETE	f_c' = 5000 psi
CONCRETE BLOCK	f_m' = 1500 psi
REINFORCING STEEL (GRADE 60)	F_y = 60 ksi
STRUCTURAL STEEL - TUBE STEEL	F_y = 46 ksi
STRUCTURAL STEEL - ROLLED SHAPES AND PLATES	F_y = 36 ksi
STRUCTURAL STEEL - WIDE FLANGES	F_y = 50 ksi
STRUCTURAL ALUMINUM (6061-T6)	F_y = 35 ksi
WELDING ELECTRODES	E70XX
ANCHOR BOLTS	ASTM A307
CONNECTION BOLTS	ASTM A325
ALLOWABLE SOIL BEARING (NET):	
20 - SCREENING BUILDING	2000 PSF
40 - OXIDATION DITCH	3000 PSF
50 - FINAL CLARIFIER	4500 PSF
60 - CHLORINE CONTACT TANK	4000 PSF
DRYING BEDS	1000 PSF

DOOR SCHEDULE

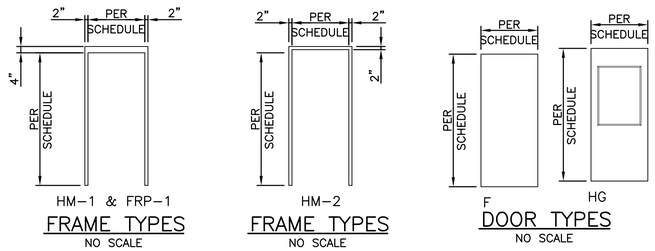
NUMBER	DOOR	FRAME	DOOR SIZE (WxH)	DOOR TYPE/SWING	HARDWARE GROUP	NOTES
20 - SCREENING BUILDING						
2001A	HM	HM-1	3'-0" x 7'-0"	HG-LHR	1	4
2001B	OHD-S	--	9'-0" x 8'-0"	--	MANUAL	
2002A	FRP	FRP-1	3'-8" x 7'-0"	HG-RHR	2	4
2003A	HM	HM-1	3'-0" x 7'-0"	F-LHR	1	4
2003B	HM	HM-1	(2) 3'-0" x 7'-0"	F-RHR (ACTIVE) / F-LHR	1(ACTIVE),3(INACTIVE)	4
2004A	HM	HM-1	3'-0" x 7'-0"	F-LHR	1	4
40 - OXIDATION DITCH						
4000A	FD	AL	2'-6" x 2'-6"	--	--	
4000B	FD	AL	2'-6" x 2'-6"	--	--	
70 - RAS PUMPING BUILDING						
7002A	HM	HM-1	(2) 3'-0" x 9'-0"	F-LH (ACTIVE) / F-RH	4(ACTIVE),3(INACTIVE)	1,2,4
7002B	HM	HM-1	3'-0" x 7'-0"	F-RH	4	1,4
7002C	HM	HM-2	(2) 3'-9 3/8" x 6'-8"	HG- RHR (ACTIVE) / HG-LHR	1(ACTIVE),3(INACTIVE)	3,4

DOOR SCHEDULE NOTES AND LEGEND

LEGEND:

HM	= HOLLOW METAL (INSULATED)	F	= FLUSH (NO GLASS)	LH	= LEFT HAND		
AL	= ALUMINUM	HG	= HALF GLASS	RH	= RIGHT HAND		
FRP	= FIBERGLASS			LHR	= LEFT HAND REVERSE		
FD	= FLOOR DOOR			RHR	= RIGHT HAND REVERSE		
OHD-S	= OVERHEAD SECTIONAL DOOR						

NOTES:
1 PROVIDE WEATHER STRIPPING, SWEEP AND THRESHOLD
2 PROVIDE CUT-OUT FOR MONORAIL, VERIFY DIMENSIONS
3 PROVIDE NEW DOORS IN EXISTING OPENINGS. VERIFY OPENING DIMENSIONS
4 SEE SPECIFICATIONS FOR HARDWARE GROUPS



ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	N. WALL	E. WALL	S. WALL	W. WALL	CEILING		NOTES
								TYPE	HGT.	
20 - SCREENING BUILDING										
2001	DUMPSTER ROOM	F1	--	W2	W3	W3	W3	C2	9'-4"	
2002	CHEMICAL ROOM	F1/F2	--	W2/F2	W3/F2	W3/F2	W3/F2	C2	9'-4"	1
2003	SCREENING ROOM	F1	--	W3	W3	W3	W3	C2	10'-5 1/2"	
2004	SAMPLER ROOM	F1	--	W3	W3	W3	W3	C2	10'-5 1/2"	
		--	--	--	--	--	--	--	--	
70 - RAS PUMPING BUILDING										
7001	PUMP ROOM	--	--	W3	W3	--	--	C1	30'-1 1/4"	2
7002	MCC ROOM	--	--	--	--	W3	W3	C1	10'-1 1/4"	

ROOM FINISH SCHEDULE LEGEND

FLOOR		BASE		WALL		CEILING	
CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
F1	SEALED CONCRETE			W1	PAINT EXISTING GYPSUM BOARD	C1	EXISTING GYPSUM BOARD
F2	CHEMICAL RESISTANT COATING			W2	PAINT CONCRETE	C2	PAINT PRECAST CONCRETE PLANK
				W3	PAINT CONCRETE BLOCK		

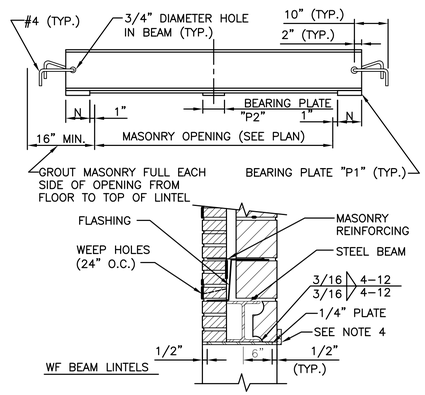
ROOM FINISH SCHEDULE NOTES

NOTES:
1 PROVIDE CHEMICAL RESISTANT COATING ON SUMP FLOOR AND WALLS
2 PAINT NORTH WALL IN STAIRWELL AREA SE CORNER OF BLDG.

LINTEL SCHEDULE

LOCATION		OPENING TYPE	OPENING CLEAR WIDTH(S)	LINTEL TYPE	NOTES
20 - SCREENING BUILDING					
DUMPSTER RM 2001	SOUTH WALL	DOOR/HVAC	3'-4"	B-2	1,3
DUMPSTER RM 2001	SOUTH WALL	OH DOOR	9'-0"	L-2	1
CHEMICAL RM 2002	EAST WALL	DOOR/HVAC	4'-0"	B-2	1,3
SCREENING RM 2003	WEST WALL	DOOR	3'-4"	A-2	1
SCREENING RM 2003	EAST WALL	DOOR	6'-4"	L-2	1
SCREENING RM 2003	NORTH WALL	HVAC	3'-4"	A-2	1
SCREENING RM 2003	SOUTH WALL	HVAC	2'-8"	A-2	1
SAMPLER RM 2004	WEST WALL	DOOR/HVAC	3'-4"	A-2	1,3
30- CONTROL BUILDING					
HALLWAY RM 3001	WEST WALL	HVAC	2'-0"	A-2	1,4
70- RAS PUMPING BUILDING					
MCC ROOM 7002	WEST WALL	DOOR	6'-4"	B-1	1
MCC ROOM 7002	EAST WALL	HVAC	2'-0"	A-3	1,4
MCC ROOM 7002	SOUTH WALL	DOOR	3'-4"	B-1	1
PUMP ROOM 7001	SOUTH WALL	HVAC	2'-8"	A-3	1,2
PUMP ROOM 7001	WEST WALL	HVAC	2'-8"	A-3	1,4

NOTES:
1. SEE DETAIL A/99-AS-05 FOR LINTEL TYPES AND DETAILS.
2. INSTALL LINTEL IN MODIFIED OPENING IN EXISTING WALL. VERIFY EXISTING WALL DIMENSIONS.
3. PROVIDE 1/4" PLATE BETWEEN HVAC UNIT AND DOOR FRAME.
4. INSTALL LINTEL IN NEW OPENING CUT INTO EXISTING WALL.



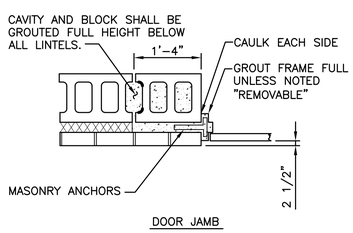
WALL & OPENING	MISCELLANEOUS LINTEL SECTIONS
TYPE B-1 8" OR 12" BLOCK TO 5-0	LINTEL BLOCK; 2~#5 CONTINUOUS
TYPE B-2	FLASHING; 3 1/2"x3 1/2"x3/8"; 4"x3 1/2"x5/16"; WEEPHOLES @ 24" O.C.; 3/16 4-12 3/16 4-12; 2~#5; 1/4" PL
TYPE A-2 14" MASONRY TO 4'-0"	3 1/2"x2 1/2"x5/16"; 5"x3"x5/16"; 3/16 4-12 3/16 4-12; 1/4" PL
TYPE A-3	4"x3 1/2"x5/16"

NOTES:
1. LINTELS ARE REQUIRED OVER ALL MASONRY OPENINGS.
2. LINTELS SHALL HAVE A MINIMUM BEARING OF 8".
3. GROUT MASONRY FULL 16" EACH SIDE OF OPENINGS UNDER ALL LINTELS TO FLOOR.
4. PROVIDE 4" LIP AT OH DOOR OPENINGS.

A / 99-AS-05 LINTEL DETAILS
NO SCALE

WF BEAM LINTELS				
LINTEL	BEAM	N	BEARING PLATE "P_1"	"P_2"
L-2	W8x24	8"	8" x 6" x 3/8"	----

SEE WF BEAM LINTEL FOR DETAILS



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NO. REVISIONS

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BY:
DATE:
CONTRACTOR:

ARCHITECTURAL/STRUCTURAL DETAILS - 5
PHASE 1 IMPROVEMENTS
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TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET 55
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JOB NO. 1-879-008

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MINIMUM LAP LENGTHS FOR REINFORCING BARS				
BAR SIZE	WALLS		SLABS	
	VERT. BARS	HORIZ. BARS	TOP MAT BARS	BOTTOM MAT BARS
#4	1'-6"	1'-10"	1'-10"	1'-6"
#5	1'-9"	2'-2"	2'-2"	1'-9"
#6	2'-0"	2'-7"	2'-7"	2'-0"
#7	2'-11"	3'-8"	3'-8"	2'-11"
#8	3'-3"	4'-2"	4'-2"	3'-3"
#9	4'-0"	5'-2"	5'-2"	4'-0"
#10	4'-11"	6'-4"	6'-4"	4'-11"

NOTES:

1. WHERE TWO BARS OF DIFFERENT SIZE ARE LAPPED, USE LAP
2. USE LAP LENGTHS IN THIS TABLE WHERE LAP LENGTH IS NOT SHOWN ON DRAWING.
3. TABLE DOES NOT APPLY FOR BEAMS AND COLUMNS.

CLEAR COVER TO REINFORCING BARS	
ITEM	CLEAR COVER
BOTTOM MAT OF SLABS ON GRADE	3"
SLABS AND WALLS WITH TWO MATS OF REINFORCING AND EXPOSED TO WEATHER , LIQUID, OR GROUND, EXCEPT SLABS ON GRADE	2"
SLABS AND WALLS WITH TWO MATS OF REINFORCING AND NOT EXPOSED TO WEATHER, LIQUID, OR GROUND	1"
BEAMS AND COLUMNS NOT EXPOSED TO WEATHER LIQUID, OR GROUND	1 1/2"

NOTES:

1. CLEAR COVER IS MEASURED FROM MEMBER FACE TO NEAREST EDGE OF REINFORCING BAR
2. CLEAR COVER FOR BEAMS AND COLUMNS IS MEASURED TO NEAREST EDGE OF STIRRUPS.
3. FOR WALLS AND SLABS WITH SINGLE MAT OF REINFORCING, PLACE REBAR WHERE SHOWN ON THE DRWGS. WHERE COVER IS NOT INDICATED, CENTER SINGLE MAT OF REINFORCING IN WALL OR SLAB.

COLUMN SCHEDULE						
COLUMN	TYPE	DIA.	VERT. REINF.	DOWELS	TIES	DOWEL LAP
40-C-01	Cast-in-Place	12"	4#6	4#6	#3 @ 12"	2'-6"
40-C-02	Cast-in-Place	12"	4#6	4#6	#3 @ 12"	2'-6"

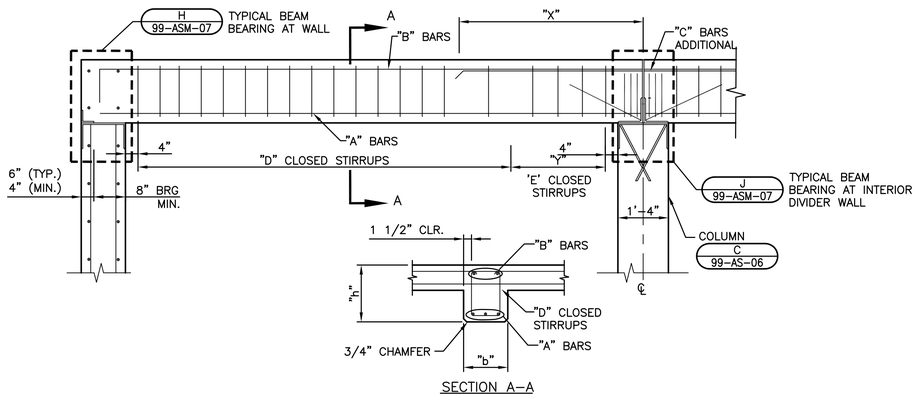
NOTES:

1. See Detail C/99-AS-06 for Cast-in-Place Column details

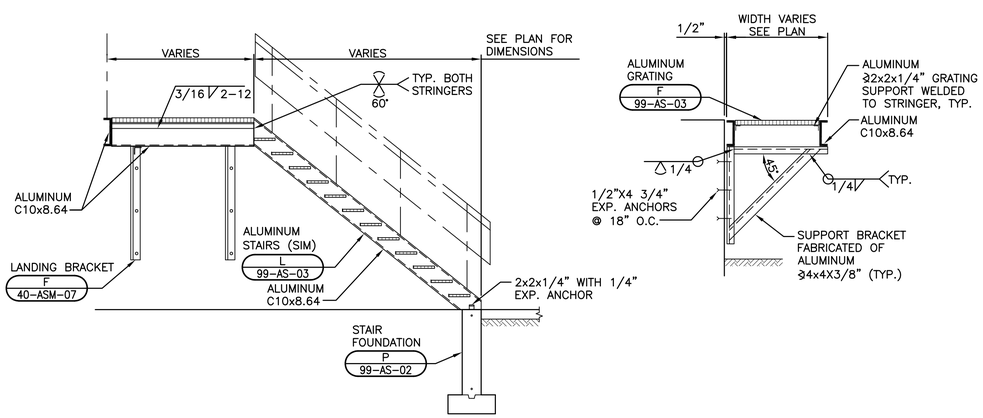
BEAM SCHEDULE									
BEAM DESIGNATION	HEIGHT h	WIDTH b	BOTTOM BARS A	TOP BARS B	TOP BARS C	X	CLOSED STIRRUPS D	CLOSED STIRRUPS E	CLOSED STIRRUPS Y
40 - OXIDATION DITCH									
40-B-1 THRU 40-B-4	18	16	3#9	3#6	N/A	N/A	#4 @ 7"	N/A	N/A
40-B-5 THRU 40-B-8	20	18	4#8	3#8	N/A	N/A	#4 @ 8"	N/A	N/A
40-B-9 THRU 40-B-12	56	12	3#5	3#5	N/A	N/A	#4 @ 24"	N/A	N/A

NOTES:

1. See Detail A/99-AS-06 for Concrete Beam details.



A 99-AS-06 CONCRETE FLOOR BEAM
NO SCALE



B 99-AS-06 ALUMINUM STAIR AND LANDING
NO SCALE

GENERAL ARCHITECTURAL/STRUCTURAL NOTES:

1. STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE DESIGN CRITERIA, MATERIAL STRESSES , AND ALLOWABLE LOADS INDICATED ON SHEET 99-AS-05.
2. PROVIDE CRUSHED STONE MAT AND GEOTEXTILE UNDER BASE SLABS AT LOCATIONS WHERE NOTED IN SPECIFICATION SECTION 02222.
3. FILL AND BACKFILL SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS AND DETAIL E 99-AS-01
4. PROVIDE CLEAR COVER TO REINFORCING AS SPECIFIED AND PER SCHEDULE ON THIS DRAWING, UNLESS NOTED OTHERWISE.
5. UNLESS SHOWN OR NOTED OTHERWISE, WALL AND SLAB REINFORCING BAR LAPS SHALL BE AS NOTED IN THE SCHEDULE ON THIS DRAWING.
6. PROVIDE ADDITIONAL REINFORCING AT OPENINGS IN REINFORCED CONCRETE WALLS AND SLABS PER DETAIL H 99-AS-01
7. PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WALLS PER DETAIL A 99-AS-05 . SEE LINTEL SCHEDULES FOR LINTEL TYPE TO BE PROVIDED AT EACH OPENING.
8. SEE SHEET 99-AS-05 FOR DOOR AND FINISH SCHEDULES. DOOR SCHEDULE INCLUDES OVERHEAD DOORS AND FLOOR DOORS.
9. ALL CONCRETE BLOCK WALLS (INTERIOR AND EXTERIOR) SHALL BE REINFORCED WITH #4@32" O.C. VERTICAL IN GROUTED CORE FOR FULL HEIGHT OF WALL. LAP BARS MIN. 2'-1". PROVIDE VERTICAL #4 BAR WITHIN 16" OF ENDS OF WALLS, AT WALL CORNERS, WALL INTERSECTIONS, AND WALL OPENINGS. PROVIDE #4@32" X 2'-7" LONG DOWELS EMBEDDED MIN. 6" INTO FOUNDATION WALL OR FLOOR SLAB THAT BLOCK WALL BEARS ON.
10. HORIZONTAL REINFORCING BARS IN CONCRETE WALLS SHALL BE PLACED OUTSIDE VERTICAL BARS UNLESS SHOWN OTHERWISE.

NO.	REVISIONS	DATE:

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DATE:
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ARCHITECTURAL/STRUCTURAL DETAILS - 6

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
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99-AS-06
JOB NO. 1-879-008

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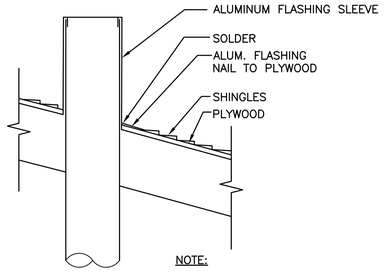
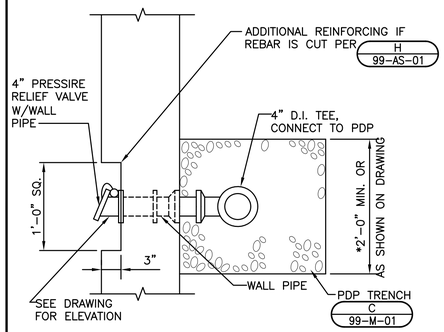
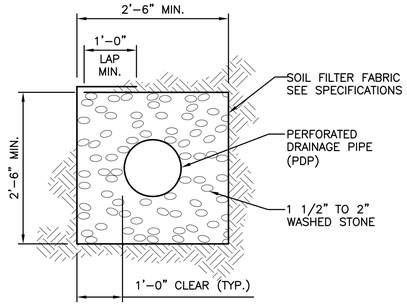


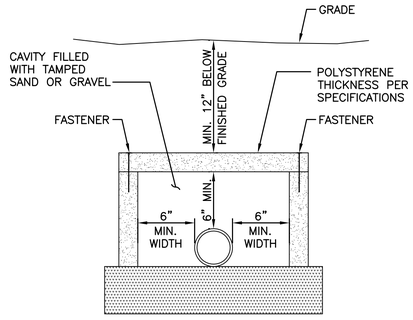
A 99-M-01 COLD PIPE ROOF PENETRATION
NO SCALE



B 99-M-01 PRESSURE RELEASE VALVE
NO SCALE

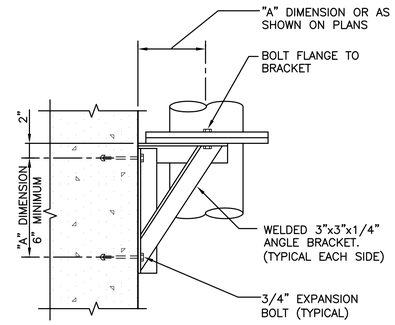


C 99-M-01 TYPICAL PDP TRENCH
NO SCALE



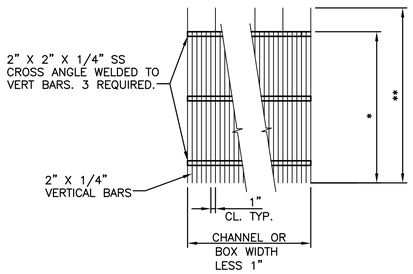
NOTE: INSULATION REQUIRED ON ALL PIPES HAVING LESS THAN 6'-6" OF COVER.

D 99-M-01 UNDERGROUND PIPE INSULATION
NO SCALE



E 99-M-01 WALL MOUNT PIPE SUPPORT
NO SCALE

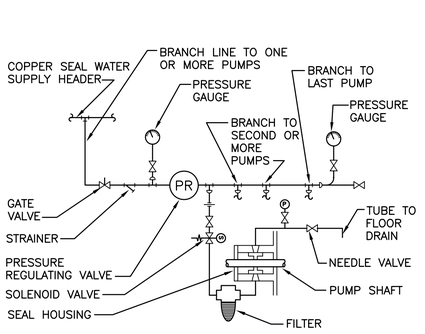
HOT DIP GALVANIZE BAR SCREEN AFTER FABRICATION



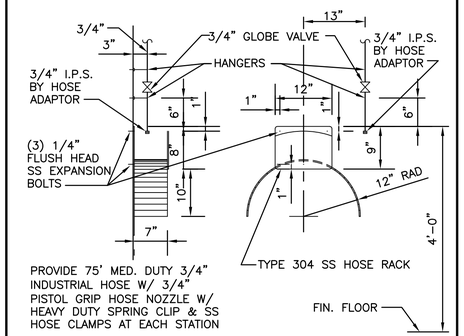
* AS REQUIRED WITH BARS MOUNTED AT 45° ANGLE TO 1' BELOW BOTTOM OF FLOOR SLAB

** EXTEND 9 SUPPORT BARS @ 6" SPACING

F 99-M-01 BAR SCREEN
NO SCALE



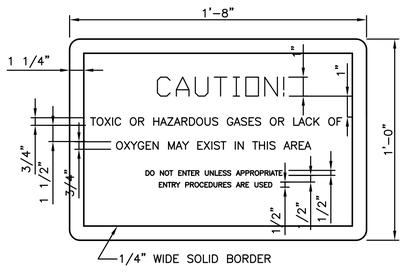
G 99-M-01 MECHANICAL TYPE WATER SEAL
NO SCALE



PROVIDE 75' MED. DUTY 3/4" INDUSTRIAL HOSE W/ 3/4" PISTOL GRIP HOSE NOZZLE W/ HEAVY DUTY SPRING CLIP & SS HOSE CLAMPS AT EACH STATION

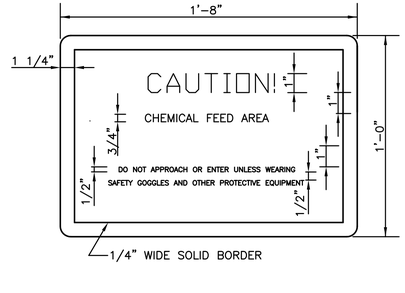
J 99-M-01 3/4" WASH HOSE STATION
NO SCALE

CONTRACTOR SHALL PROVIDE SIGN NEAR ENTRANCE TO ALL WETWELLS. SIGN SHALL BE FIBERGLASS WITH BLACK LETTERS ON A YELLOW BACKGROUND AND MOUNTED TO MASONRY WALLS WITH 4~3/16" DIA. STAINLESS STEEL EXPANSION ANCHORS OR TO RAILING WITH STAINLESS STEEL HARDWARE.



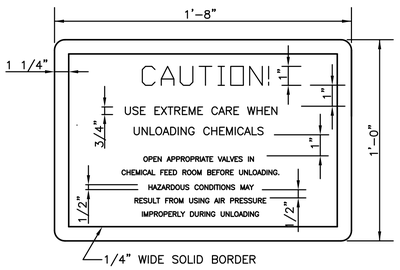
K 99-M-01 WARNING SIGN
NO SCALE

CONTRACTOR SHALL PROVIDE SIGN AS SHOWN ON DRAWINGS. SIGN SHALL BE FIBERGLASS WITH BLACK LETTERS ON A YELLOW BACKGROUND AND MOUNTED TO MASONRY WALLS WITH 4~3/16" DIA. STAINLESS STEEL EXPANSION ANCHORS OR TO STAINLESS STEEL UNISTRUT WITH STAINLESS STEEL HARDWARE.

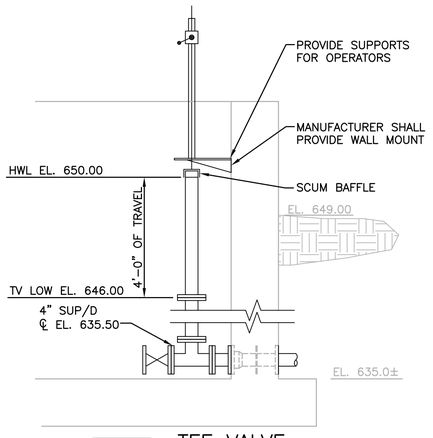


L 99-M-01 CAUTION SIGN 1
NO SCALE

CONTRACTOR SHALL PROVIDE SIGN AT CHEMICAL UNLOADING AREA. SIGN SHALL BE FIBERGLASS WITH BLACK LETTERS ON A YELLOW BACKGROUND AND MOUNTED TO MASONRY WALLS WITH 4~3/16" DIA. STAINLESS STEEL EXPANSION ANCHORS OR TO RAILING WITH STAINLESS STEEL HARDWARE.



M 99-M-01 CAUTION SIGN 2
NO SCALE



N 99-M-01 TEE VALVE
NO SCALE

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MECHANICAL DETAILS
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SEWAGE TREATMENT PLANT NO. 2
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TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
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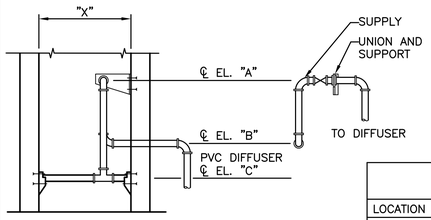
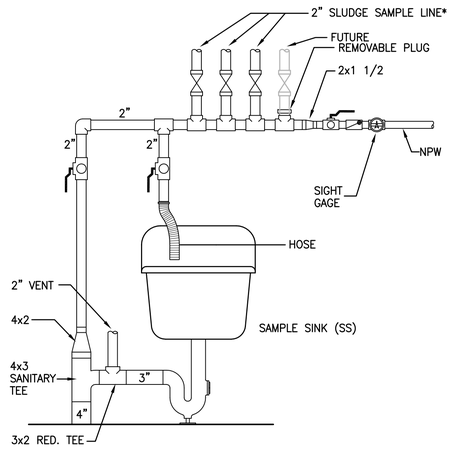


SCHEDULE						
LOCATION	QUANTITY	"A"	"B"	"C"	"X"	DIFFUSER SIZE
OXIDATION DITCH INFLUENT SPLITTER BOX	1	658.68	658.50	651.00	3'–0"	1"
ML DIVISION BOX	1	650.00	643.00	643.00	13'–0"	1"

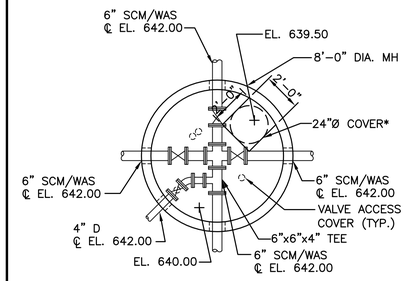
A 99–M–02 DIFFUSER
NO SCALE



SAMPLE SINK NOTES:
INCLUDE WATERLESS HAND SANITIZER DISPENSER MTD. ADJACENT TO SINK @ 48"AFF, McMASTER–CARR #2777K1 OR EQ. INCLUDE SIGNAGE IDENTIFING EACH SAMPLE LINE AND NPW LINE AS PER SPECIFICATIONS.

*PROVIDE ADDITIONAL SAMPLE LINES AS NEEDED.

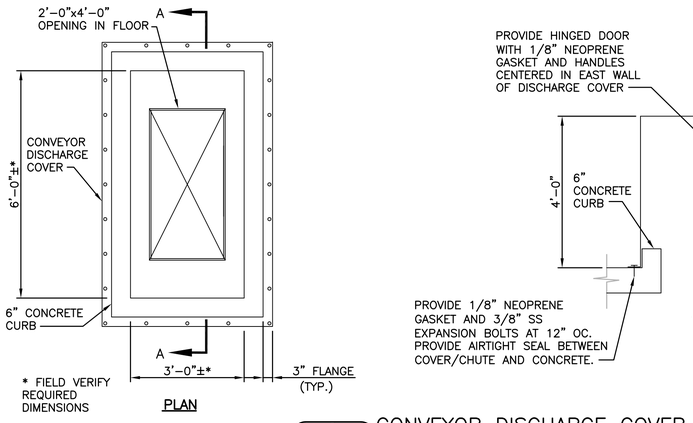
B 99–M–02 SLUDGE SAMPLE SINK
NO SCALE

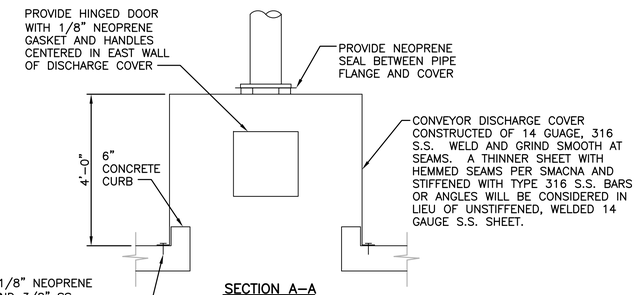


* PROVIDE 5–GALLON SUMP UNDER MH COVER.

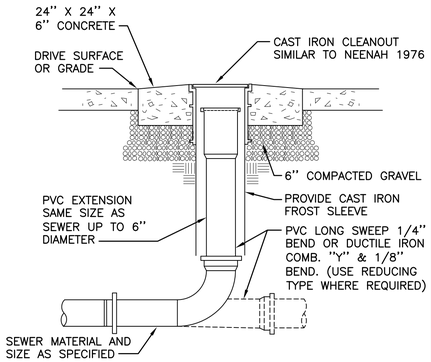
** PROVIDE GEAR OPERATORS FOR ALL VALVES 6–INCH AND LARGER.

C 99–M–02 MH–9 DETAIL
0 1' 2' 4' 8'





D 99–M–02 CONVEYOR DISCHARGE COVER
0 1' 2' 4'



E 99–M–02 EXTERIOR CLEANOUT
NO SCALE

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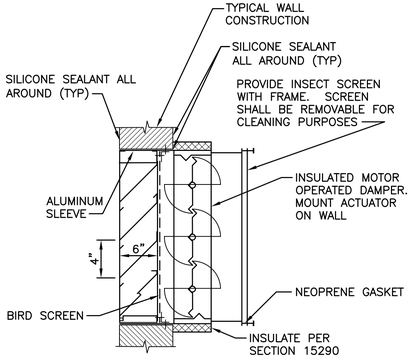
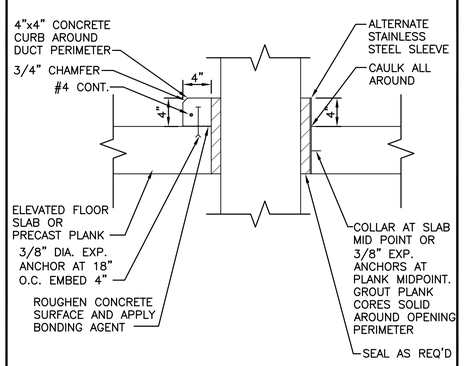


NOTE: ACTUATOR SHALL BE DIRECT–COUPLED TO DAMPER

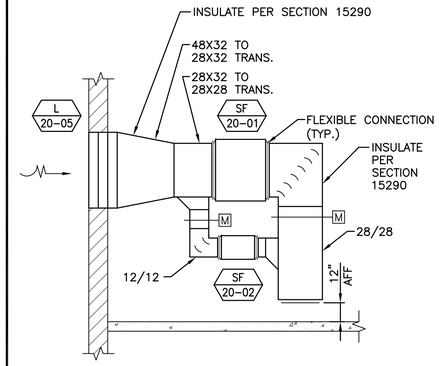
A 99–H–01 WALL LOUVER AND DAMPER NO SCALE



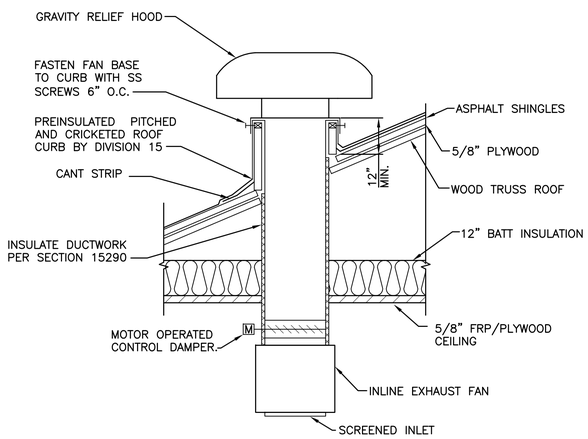
B 99–H–01 DUCT PENETRATION AT INTERIOR FLOOR SLAB NO SCALE

BRANCH TAKE–OFF RECTANGULAR TO RECTANGULAR	L=.25D (4" MIN.) 45° D	BRANCH TAKE–OFF RECTANGULAR TO ROUND	L=.25D (4" MIN.) 45° D
BRANCH TAKE–OFF ROUND TO ROUND	L=5.25 IN. 1"	ROUND TRANSITION FITTING	15°
ELBOW	D R R=1.5 X D (MIN.)	TEE	R D R=1.5 X D (MIN.)

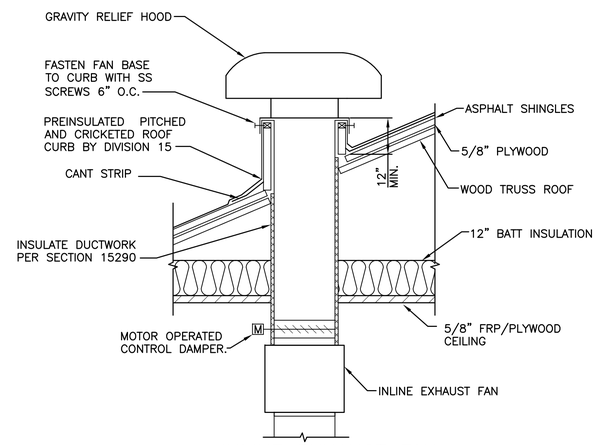
C 99–H–01 TYPICAL DUCT TAKE–OFF DETAIL NO SCALE



D 99–H–01 SF–20–01 AND SF–20–02 ELEVATION 0 1' 2' 4' 8'



E 99–H–01 INLINE EXHAUST FAN NO SCALE



F 99–H–01 INLINE EXHAUST FAN NO SCALE

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PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

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FAN SCHEDULE

UNIT NO.	SERVICE	GREENHECK MODEL NO.	AIRFLOW (CFM)	EXT. S.P. (IN. W.C.)	MOTOR SIZE (HP)	FAN TYPE	MOTOR TYPE	DRIVE	ELECTRICAL				REMARKS
									VOLTAGE	PHASE	STARTER BY	DISCONNECT BY	
SF-20-01	SCREENING ROOM	BSQ-200	4830	0.50	1 1/2	INLINE	EXP	BELT	460	3	DIV. 16	MFR.	①
SF-20-02	SCREENING ROOM	BSQ-070	322	0.50	1/4	INLINE	EXP	BELT	115	1	DIV. 16	MFR.	①
EF-20-01	DUMPSTER ROOM	BSQ-120	1003	0.50	1/4	INLINE	EXP	BELT	115	1	DIV. 16	MFR.	①
EF-20-02	CHEMICAL ROOM	BSQ-90	574	0.50	1/4	INLINE	TEFC	BELT	115	1	DIV. 16	MFR.	②
EF-20-03	SAMPLER ROOM	BSQ-120	948	0.50	1/4	INLINE	TEFC	BELT	115	1	DIV. 16	MFR.	
EF-30-01	VFD ROOM	BSQ-100	800	0.50	1/4	INLINE	TEFC	BELT	115	1	DIV. 16	MFR.	
EF-70-01	RAS PUMP ROOM	BSQ-200	4183	0.50	1	INLINE	TEFC	BELT	460	3	DIV. 16	MFR.	②
EF-70-02	MCC ROOM	BSQ-160HP	2100	0.50	1/2	INLINE	TEFC	BELT	115	1	DIV. 16	MFR.	

① FAN AND ACCESSORIES SHALL BE SUITABLE FOR CLASS 1 DIV.1 GROUPS C&D ENVIRONMENTS.
② FAN AND ACCESSORIES SHALL BE SUITABLE FOR CORROSIVE (NEMA 4X) ENVIRONMENTS.

MAKE UP AIR UNIT SCHEDULE

UNIT NO. MAU-	SERVICE	GREENHECK MODEL NO.	AIRFLOW (CFM)	EXT. STATIC PRESSURE (IN W.C.)	ELECTRICAL									OPERATING WEIGHT (Lb)	REMARKS
					EAT (°F)	LAT (°F)	MOTOR (HP)	HEAT OUTPUT (KW)	VOLTAGE	PHASE	FLA	STARTER BY	DISCONNECT BY		
70-01	DRYWELL	MSX-112-H22	4183	0.5	-1	50	2	70.0	460	3	87.9	MFR.	MFR.	1160	①

① PROVIDE 12" TALL CURB FOR MAKE-UP AIR UNIT.

GRAVITY ROOF VENTILATOR SCHEDULE

UNIT NO. GRV-	LOCATION	SERVICE	GREENHECK MODEL NO.	THROAT WIDTH (IN.)	THROAT LENGTH (IN.)	AIRFLOW (CFM)	STATIC PRESSURE (IN. W.C.)	THROAT VELOCITY (FPM)	THROAT AREA (SQ. FT)	REMARKS
20-01	DUMPSTER ROOM	EXHAUST	GRSR-16	16	16	1003	.053	692	1.45	
20-02	CHEMICAL ROOM	EXHAUST	GRSR-12	12	12	574	.06	700	.82	
20-03	SAMPLER ROOM	EXHAUST	GRSR-16	16	16	948	.048	654	1.45	
30-01	VFD ROOM	EXHAUST	GRSR-12	12	12	800	.117	976	.82	
70-01	MCC ROOM	EXHAUST	GRSR-20	20	20	2100	.107	933	2.25	

WALL LOUVER SCHEDULE

UNIT NO. L-	SERVICE	GREENHECK MODEL NO.	AIRFLOW (CFM)	WIDTH (IN)	HEIGHT (IN)	BLADE DEPTH (IN)	MAX. APD (IN WG)	MAX. FACE VEL. (FPM)	FREE AREA (SQ. FT.)	TOP ELEVATION	REMARKS
20-01	DUMPSTER ROOM	ESD-635	1003	40	16	6	0.08	643	1.56	657.66	
20-02	CHEMICAL ROOM	ESD-635	574	48	16	6	0.02	304	1.89	657.66	
20-03	SAMPLER ROOM	ESD-635	948	40	16	6	0.05	579	1.64	667.88	
20-04	SCREENING ROOM	ESD-635	5152	40	40	6	0.095	838	6.15	668.33	
20-05	SCREENING ROOM	ESD-635	5152	32	48	6	0.11	848	6.08	668.33	
30-01	VFD-ROOM	ESD-635	800	24	16	6	0.102	828	0.94	655.67	
70-01	PUMP ROOM	ESD-635	4183	32	48	6	0.08	688	6.08	647.00	②
70-02	MCC ROOM	ESD-635	2100	24	32	6	0.09	796	2.63	648.34	①

① TOP OF LOUVER SHALL MATCH WITH TOP ELEVATION OF EXISTING WINDOW.
② LOUVER WIDTH SHALL MATCH EXISTING WALL OPENING. CONTRACTOR SHALL VERIFY WALL OPENING PRIOR TO ORDERING.

ELECTRIC HEATER SCHEDULE

UNIT NO.	SERVICE	Q-MARK MODEL NO.	CAPACITY (WATTS)	CAPACITY (BTU)	ELECTRICAL				REMARKS
					VOLTAGE	PHASE	FLA	DISCONNECT BY	
EUH-20-01	DUMPSTER ROOM	GUX-300	3000	10236	480	3	4.3	MFR.	①
EUH-20-02	CHEMICAL ROOM	JUW-200	2000	6824	208	1	10.1	MFR.	②
EUH-20-03	SCREENING ROOM	GUX-750	7500	25590	480	3	9.7	MFR.	①
EUH-20-04	SCREENING ROOM	GUX-750	7500	25590	480	3	9.7	MFR.	①
EUH-20-05	SCREENING ROOM	GUX-500	5000	17060	480	3	6.0	MFR.	①
EWH-20-01	SAMPLER ROOM	CWH-2101	1000	3413	120	1	8.4	MFR.	③
EUH-30-01	VFD ROOM	MUH-05-41	5000	17000	480	3	6.0	MFR.	
EUH-70-01	PUMP ROOM	MUH-10-41	10000	34100	480	3	12	MFR.	
EUH-70-02	PUMP ROOM	MUH-10-41	10000	34100	480	3	12	MFR.	
EUH-70-03	PUMP ROOM	MUH-10-41	10000	34100	480	3	12	MFR.	
EUH-70-04	PUMP ROOM	MUH-10-41	10000	34100	480	3	12	MFR.	
EUH-70-05	MCC ROOM	MUH-07-41	7500	25600	480	3	9.7	MFR.	

① HEATER AND ACCESSORIES SHALL BE SUITABLE FOR CLASS1 DIV.1 GROUPS C&D ENVIRONMENTS.
② HEATER AND ACCESSORIES SHALL BE SUITABLE FOR CORROSIVE (NEMA 4X) ENVIRONMENTS.
③ PROVIDE SURFACE MOUNTING FRAME AND DISCONNECT ON FACE.

AIR REGISTER AND GRILLE SCHEDULE

UNIT NO.	CARNES MODEL NO.	FINISH	TYPE	MATERIAL	NOMINAL SIZE	OBD DAMPER	MOUNTING			REMARKS
							LAY-IN	SURFACE	SIDEWALL	
SG-1	RSDB	MILL	SUPPLY GRILLE	STEEL	12X12	NO		*		

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RECORD DRAWING
BY: DATE: CONTRACTOR:

HVAC SCHEDULES
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SHEET **60** 99-H-02
JOB NO. 1-879-008

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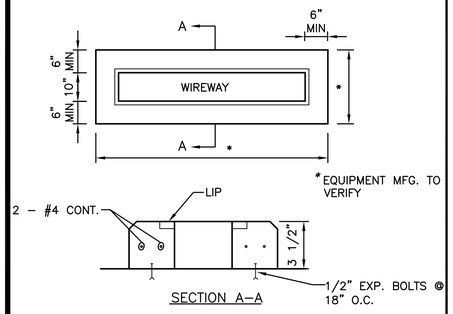
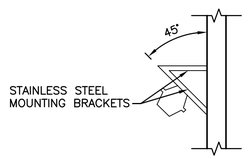
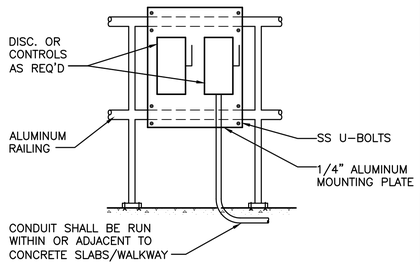


NOTE: PROVIDE FLUSH METAL COVER FOR EXPOSED WIREWAY

A 99-E-01 SCC/MCC PAD NO SCALE



B 99-E-01 FIXTURE MOUNTED DETAIL NO SCALE



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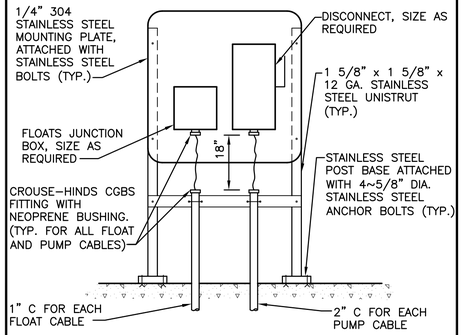
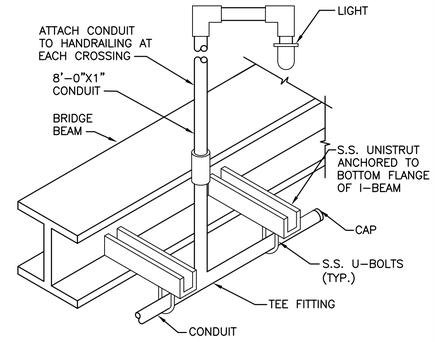
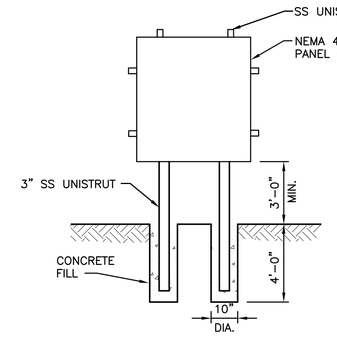


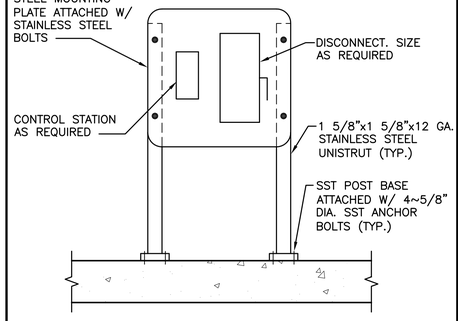
D 99-E-01 CONTROL STATION MOUNTING NO SCALE



E 99-E-01 LIGHT POLE MOUNTING NO SCALE



F 99-E-01 CONTROL PANEL MOUNTING NO SCALE



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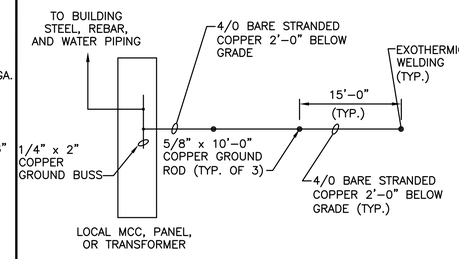
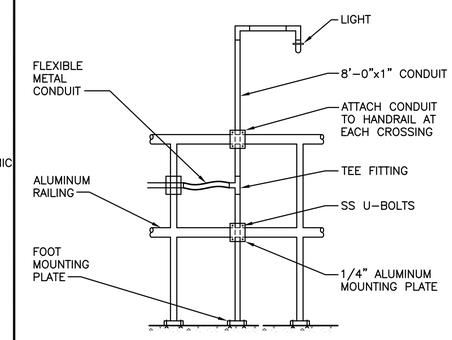


H 99-E-01 GROUND GRID NO SCALE



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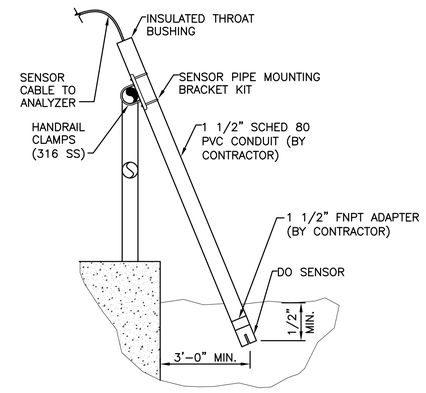

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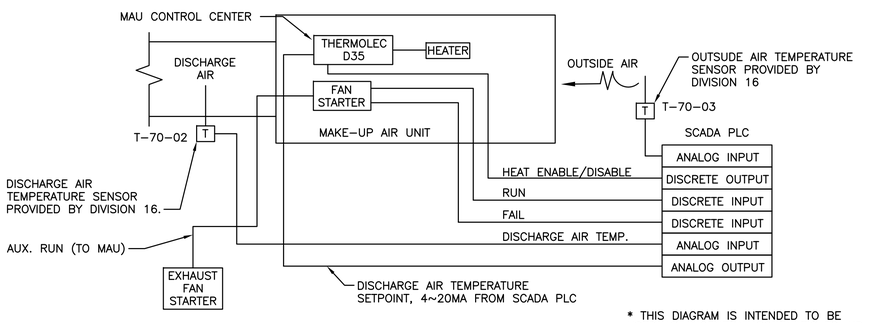

* THIS DIAGRAM IS INTENDED TO BE USED AS A GENERAL SCHEMATIC TO AID IN UNDERSTANDING OF OPERATIONAL CONTROLS FOR THIS EQUIPMENT. REFER TO THE RESPECTIVE DRAWINGS AND SPECIFICATIONS FOR A COMPLETE LISTING OF REQUIREMENTS.

L 99-E-01 MAKE-UP AIR UNIT RISER DIAGRAM NO SCALE

NO. | REVISIONS | DATE:

DATE: JUNE 2009
DES BY: RGT CHK BY: SPZ
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

ELECTRICAL DETAILS

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
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99-E-01
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MOTOR AND MOTOR CONTROL CENTER SCHEDULE MCC–70A

EQUIPMENT AND NAMEPLATE TITLES			EQUIPMENT LOCATION	PANEL MCC	MOTOR INFORMATION				MOTOR STARTER INFORMATION					CONTROL & INTERLOCKS				REMARKS***
EQUIPMENT NUMBER	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP/ KW	VOLTS	F.L.I. IN AMPS	RPM	SIZE	TYPE	BREAKER BKR. TYPE	BREAKER I IN AMPS	CONTROL DEVICE (SEE INFO)	DESCRIPTION	FURN. BY	WIRED BY	CONDUIT AND WIRE** 1ST ROW=CONTROL* 2ND ROW=POWER	
TH–70–01	TROLLEY HOIST		RAS PUMPING BUILDING	MCC–70A	–	–	–	–	–	–	A	15	–	CONTROLS PROVIDED WITH EQUIPMENT	DIV. 14	DIV. 16	3~#12 3/4"C	
AER–40–01	OXIDATION DITCH NO. 1	AERATOR NO. 1	OXIDATION DITCH NO. 1	MCC–70A	50	460	65	1800	3	VFD	M	125	H–O–A,R,R,R,G,ETM,4	PS–40–01 OIL AND SPACE HEATERS INTRL THERMAL OVERLOADS	DIV. 11	DIV. 16	4~#14, 3/4" C 4~#12, 3/4" C 3~#4, 1 1/4" C	SEE NOTE C. R=VFD FAILED, R=MOTOR OVERTEMP, R=LOW OIL PRESSURE SHUTDOWN
AER–40–02	OXIDATION DITCH NO. 1	AERATOR NO. 2	OXIDATION DITCH NO. 1	MCC–70A	50	460	65	1800	3	VFD	M	125	H–O–A,R,R,R,G,ETM,4	PS–40–02 OIL AND SPACE HEATER INTRL THERMAL OVERLOADS	DIV. 11	DIV. 16	4~#14, 3/4" C 4~#12, 3/4" C 3~#4, 1 1/4" C	SEE NOTE C. R=VFD FAILED, R=MOTOR OVERTEMP, R=LOW OIL PRESSURE SHUTDOWN
RASP–70–01	RAS PUMP	NO. 1	RAS PUMPING BUILDING	MCC–70A	7.5	460	11	1200	1	VFD	M	20	H–O–A,R,R,G,ETM,4	MBV–70–01, R3 AT UNIT. INTRL THERMAL OVERLOADS	DIV. 11/16	DIV. 16	7~#14, 3/4" C 3~#12 3/4" C	SEE NOTE B. R=VFD FAILED, R=MOTOR OVERTEMP
RASP–70–02	RAS PUMP	NO. 2	RAS PUMPING BUILDING	MCC–70A	7.5	460	11	1200	1	VFD	M	20	H–O–A,R,R,G,ETM,4	MBV–70–02, R3 AT UNIT, INTRL THERMAL OVERLOADS	DIV. 11/16	DIV. 16	7~#14, 3/4" C 3~#12 3/4" C	SEE NOTE B. R=VFD FAILED, R=MOTOR OVERTEMP
RASP–70–03	RAS PUMP	NO. 3	RAS PUMPING BUILDING	MCC–70A	7.5	460	11	1200	1	VFD	M	20	H–O–A,R,R,G,ETM,4	MBV–70–03, R3 AT UNIT INTRL THERMAL OVERLOADS	DIV. 11/16	DIV. 16	7~#14, 3/4" C 3~#12 3/4" C	SEE NOTE B. R=VFD FAILED, R=MOTOR OVERTEMP
SCMP–70–01	SCUM PUMP	NO. 1	RAS PUMPING BUILDING	MCC–70A	10	460	14	1200	1	FVNR	M	35	H–O–A,R,R,G,ETM,4	PS–70–01, PB–70–01, MBV–70–04, R3 AT UNIT	DIV. 11	DIV. 16	9~#14, 2~#12, 3/4"C 3~#8 3/4" C	SEE NOTES D AND H. R=STARTER OVERLOAD, R=HIGH PRESSURE/LOSS OF SLUDGE
NPWP–70–01	NPW PUMP	NO. 1	RAS PUMPING BUILDING	MCC–70A	15	460	21	3550	2	FVNR	M	45	H–O–A,R,G,ETM		DIV. 11	DIV. 16	3~#8 3/4" C	SEE NOTE G.
NPWP–70–02	NPW PUMP	NO. 2	RAS PUMPING BUILDING	MCC–70A	15	460	21	3550	2	FVNR	M	45	H–O–A,R,G,ETM		DIV. 11	DIV. 16	3~#8 3/4" C	SEE NOTE G.
EF–70–01	RAS PUMP ROOM	EXHAUST FAN	RAS PUMPING BUILDING	MCC–70A	1	460	2.1	–	1	FVNR	M	15	H–O–A,R,G,ETM	MAU–70–01, DAMPER	DIV. 15	DIV. 16	2~#14, 3/4"C 2~#12, 3~#12 3/4" C	SEE NOTE F.
MIX–40–01	OXIDATION DITCH NO. 1	MIXER NO. 1	OXIDATION DITCH NO. 1	MCC–70A	2.3	460	4	1100	1	FVNR	M	15	O–O,R,R,R,G,4,ETM	INTERNAL THERMAL OVERLOADS, MOISTURE SENSOR	DIV. 11	DIV. 16	4~#14, 3/4"C 3~#12 3/4" C	SEE NOTE E. R=MOISTURE DETECTED, R=STARTER OVERLOAD, R=INTERNAL THERMAL OVERLOAD
MIX–40–02	OXIDATION DITCH NO. 1	MIXER NO. 2	OXIDATION DITCH NO. 1	MCC–70A	2.3	460	4	1100	1	FVNR	M	15	O–O,R,R,R,G,4,ETM	INTERNAL THRMAL OVERLOADS, MOISTURE SENSOR	DIV. 11	DIV. 16	4~#14, 3/4"C 3~#12 3/4" C	SEE NOTE E. R=MOISTURE DETECTED, R=STARTER OVERLOAD, R=INTERNAL THERMAL OVERLOAD
FCD–50–01	FINAL CLARIFIER	NO. 1	FINAL CLARIFIER NO. 1	MCC–70A	0.5	460	1.1	–	1	FVNR	M	15	O–O,R,R,R,G,ETM,4	TS–50–01, TS–50–02	DIV. 11	DIV. 16	4~#12, 3/4" C 3~#12 3/4" C	SEE NOTE A. R=STARTER OVERLOAD, R=TORQUE ALARM, R=TORQUE SHUTDOWN
FCD–50–02	FINAL CLARIFIER	NO. 2	FINAL CLARIFIER NO. 2	MCC–70A	0.5	460	1.1	–	1	FVNR	M	15	O–O,R,R,R,G,ETM,4	TS–50–03, TS–50–04	DIV. 11	DIV. 16	4~#12, 3/4" C 3~#12 3/4" C	SEE NOTE A. R=STARTER OVERLOAD, R=TORQUE ALARM, R=TORQUE SHUTDOWN

MOTOR AND MOTOR CONTROL CENTER SCHEDULE MCC–20

EQUIPMENT AND NAMEPLATE TITLES			EQUIPMENT LOCATION	PANEL MCC	MOTOR INFORMATION				MOTOR STARTER INFORMATION					CONTROL & INTERLOCKS				REMARKS***
EQUIPMENT NUMBER	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP/ KW	VOLTS	F.L.I. IN AMPS	RPM	SIZE	TYPE	BREAKER BKR. TYPE	BREAKER I IN AMPS	CONTROL DEVICE (SEE INFO)	DESCRIPTION	FURN. BY	WIRED BY	CONDUIT AND WIRE** 1ST ROW=CONTROL* 2ND ROW=POWER	
SSE–20–01	STEP SCREEN	NO. 1	SCREENINGS BUILDING	MCC–20	2	460	3.4	1400	1	FVNR	M	15	R,R,G,ETM	CRNT RELAY,H–O–A,Z AT UNIT,HPS–20–01,FS–20–01, ES–20–01, BS–20–01	DIV. 11/16	DIV. 16	12~#14, 1" C 4~#14, 3~#12 3/4" C	SEE NOTE A. R=STARTER OVERLOAD, R=OVERCURRENT, Z=OVERCURRENT RESET
SSE–20–02	SCREENINGS	WASHER NO. 1	SCREENINGS BUILDING	MCC–20	5	460	7.6	1400	1	FVR	M	15	R,R,G,B,ETM	CURRENT RELAY H–O–A, F–O–R, Z AT UNIT ES–20–01	DIV. 11/16	DIV. 16	12~#14, 1" C 2~#14, 4~#12 3/4" C	SEE NOTE B. B=REVERSE, R=STARTER OVERLOAD, R=OVERCURRENT, Z=OVERCURRENT RESET
SF–20–01	SCREENING ROOM	SUPPLY FAN NO. 1	SCREENING BUILDING	MCC–20	1.5	460	3	–	1	FVNR	M	15	H–O–A,R,G,ETM	DAMPER	DIV. 15	DIV. 16	2~#12 3~#12 3/4" C	SEE NOTE C.
EUH–20–01	DUMPSTER ROOM	ELECTRIC UNIT HEATER	SCREENING BUILDING	MCC–20	3KW	480	4.3	–	–	–	A	20	–	–	DIV. 15	DIV. 16	3~#12 3/4" C	
EUH–20–03	SCREENING ROOM	WEST EUH	SCREENING BUILDING	MCC–20	7.5KW	480	9.7	–	–	–	A	20	–	–	DIV. 15	DIV. 16	3~#12 3/4" C	
EUH–20–04	SCREENING ROOM	NORTHWEST EUH	SCREENING BUILDING	MCC–20	7.5KW	480	9.7	–	–	–	A	20	–	–	DIV. 15	DIV. 16	3~#12 3/4" C	
EUH–20–05	SCREENING ROOM	SOUTHEAST EUH	SCREENING BUILDING	MCC–20	5KW	480	6.0	–	–	–	A	20	–	–	DIV. 15	DIV. 16	3~#12 3/4" C	

CONTROL DEVICES (OIL TIGHT, HEAVY DUTY)

PUSHBUTTONS		INDICATING LIGHTS PUSH TO TEST, TRANSFER TYPE
1 START	7 FAST	R RED (FAIL)
2 STOP	8 SLOW	G GREEN (RUN)
3 LOCK OUT STOP	9 JOG FWD.	A AMBER (CALL)
4 RESET	O JOG REV.	B BLUE
5 FORWARD	Z SPECIAL	W WHITE
6 REVERSE	M MAINT. CONT.	C CLEAR

SELECTOR SWITCHES AND AUXILLARY DEVICES			
H–O–R	HAND–OFF–REMOTE	AM	AMMETER
H–L–O–A	HIGH–LOW–OFF–AUTO	F–R	FORW.–REV.
H–O–A–L	HAND–OFF–AUTO–LOCAL	O–O	ON–OFF
H–O–A	HAND–OFF–AUTO	R3	LOCKOUT STOP AT MOTOR
F–O–R	FOR.–OFF–REV.	L–R	LOCAL REMOTE
ETM	ELAPSED TIME METER		

BREAKER TYPE, CODE	SUPERVISORY INDICATION KEY
A AMB. COMP.	A STATUS
M MAG. ONLY	B FAILURE
N NON AUTO	C CALL TO RUN
P TRI PAC	FAIL
H MARK 75	D HIGH LEVEL
S STATIC TRIP	E LOW LEVEL

* IF APPLICABLE

** PROVIDE GROUND WIRE FOR EACH PIECE OF EQUIPMENT SIZED PER THE NEC

*** SEE SPECIFICATIONS SECTION 16940–CONTROLS AND INSTRUMENTATION, PART 3 FOR NOTES REFERENCED

DATE:
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BY:
DATE:
CONTRACTOR:

ELECTRICAL
MCC SCHEDULES
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

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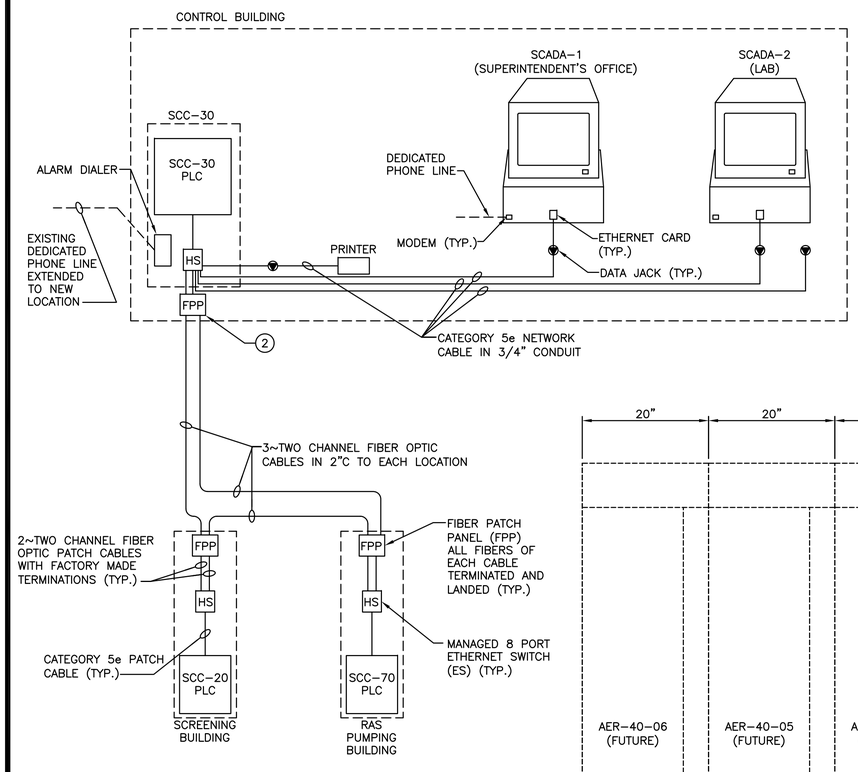
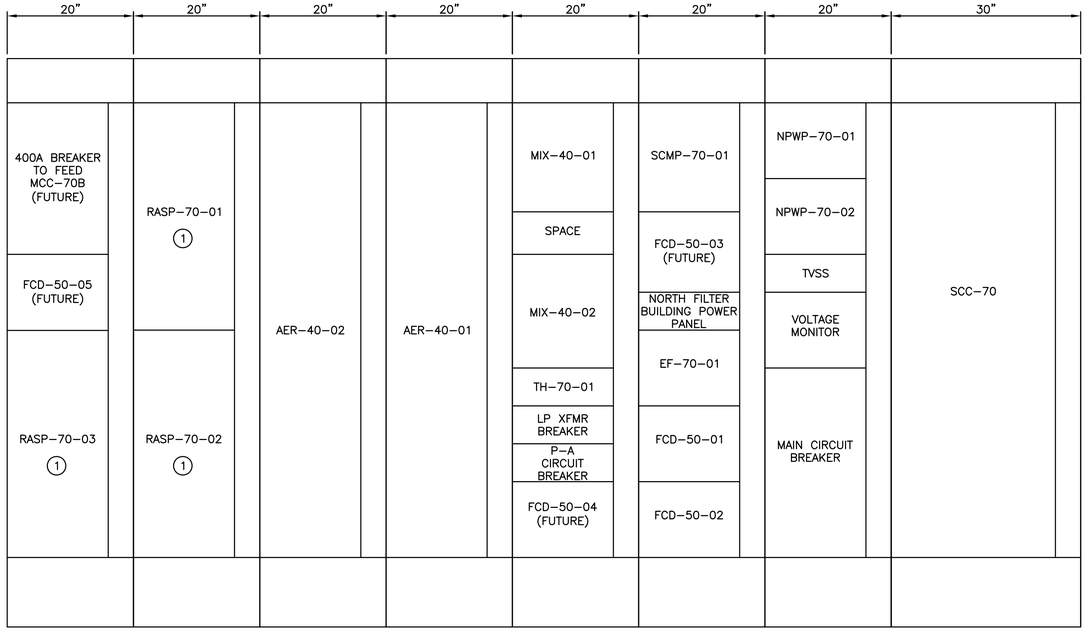
FIXTURE SCHEDULE

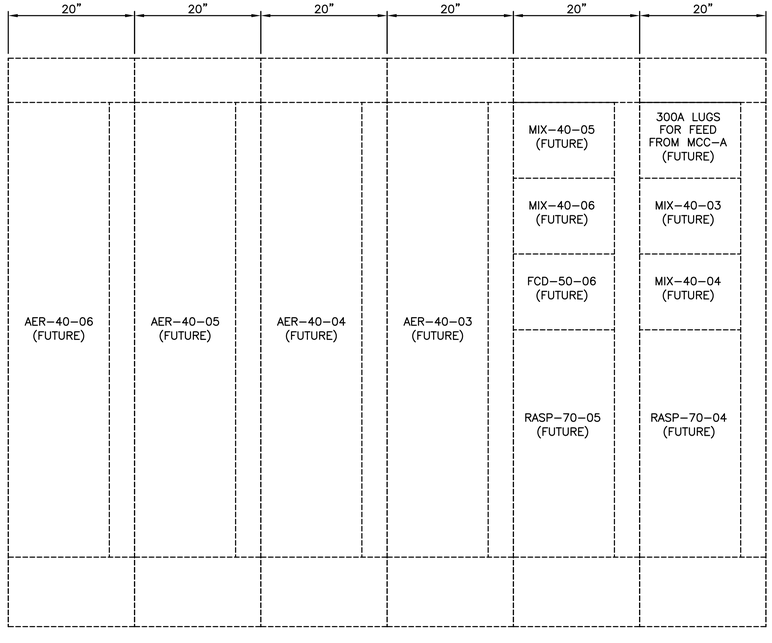
Fixture Type	Manufacturer(s)	Model Number	Lamp Type	Mounting	Remarks
A	Phoenix	LFX232-120-ELB	2~F32T8/SP41	Surface/Pendant	Contractor shall specify stem length to match mounting heights as shown on the drawings, Class I, Div 1, Groups C & D Rated. Provide wire lens guard.
B	Canlet	GFPF32H1G-GS(C,O)	1~32WCOMP.FI.	Surface	Provide titanium mounting screws and a 32W four pin triplex tube(Hex) lamp with type Gx24q-3 lamp holder.
C	Lightolier	TF-4-S-2-32-120-HI-AWG5WCSP	2~F32T8/SP35	Ceiling	Low Harmonic Ballast (<10%)
D	Lumark	MPIP-T-70-120V-PE120	1~70W MH	Wall	Provide individual photocell for control of fixture.
E	Crouse-Hinds	EVIJ4301-RD636	200W Incand	Pole	Class I, Div. 1, Groups C and D Rated.
F	Crouse-Hinds	VXHA42GPRA	200W Incand	Pole	



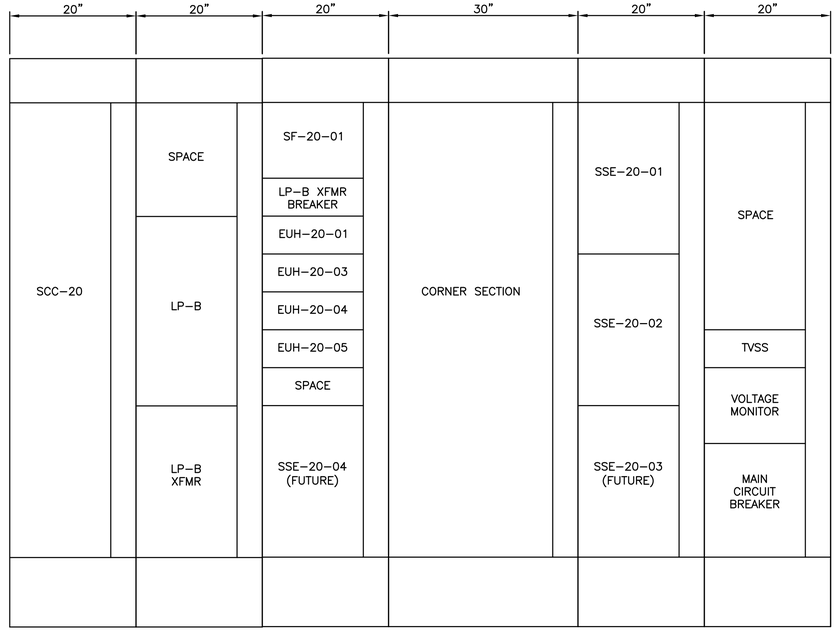
SCADA RISER
NO SCALE



MCC–70A ELEVATION
NO SCALE



MCC–70B ELEVATION (FUTURE)
NO SCALE



MCC–20 ELEVATION
NO SCALE

KEY NOTES:

1. PROVIDE FORCED VENTILATION ON FRONT OF MCC BUCKET TO MEET VFD MANUFACTURER'S REQUIREMENTS.
2. FIBER PATCH PANEL SHALL BE MOUNTED TO THE OUTSIDE OF SCC–30.

REVISIONS

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ELECTRICAL
MCC ELEVATIONS AND SCADA RISER
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

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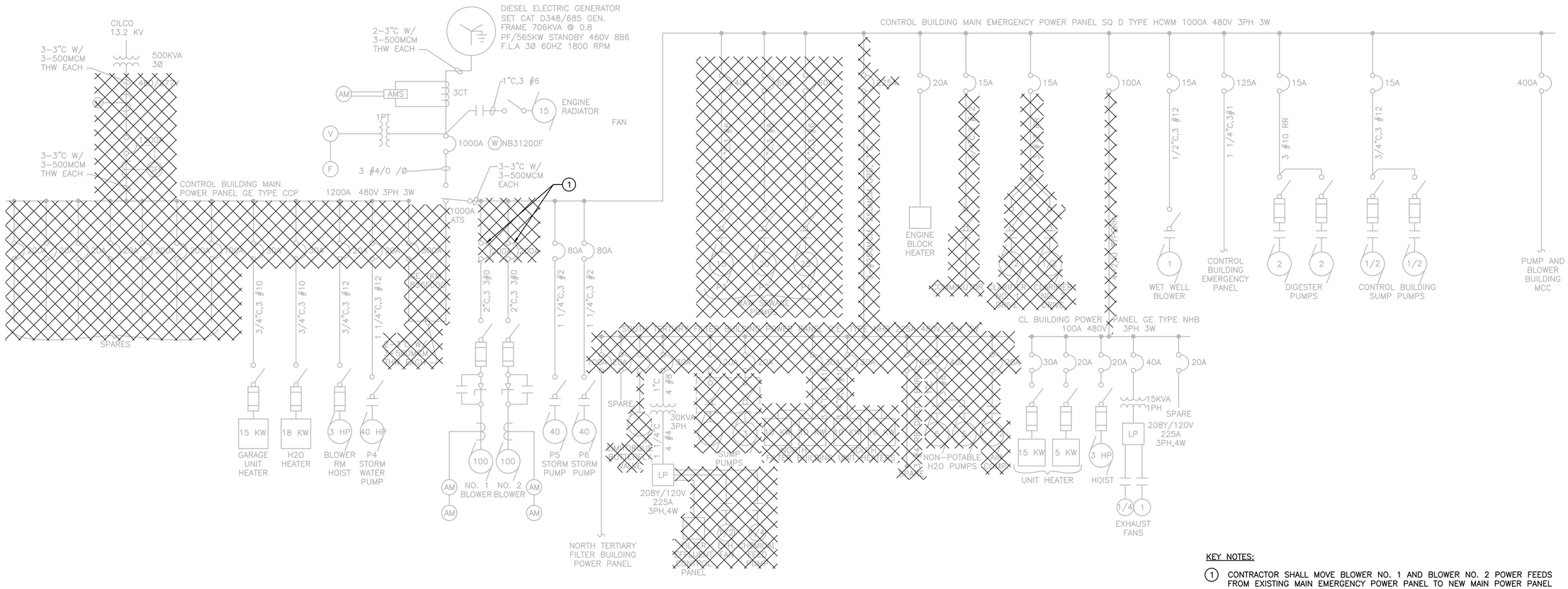
RAW SEWAGE PUMP VARIABLE FREQUENCY DRIVES SCHEDULE

EQUIPMENT AND NAMEPLATE TITLES			EQUIPMENT LOCATION	PANEL	MOTOR INFORMATION				MOTOR STARTER INFORMATION				CONTROL & INTERLOCKS				REMARKS
EQUIPMENT NUMBER	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP/ KW	VOLTS	F.L.I. IN AMPS	RPM	SIZE	TYPE	BREAKER BKR. TYPE	BREAKER I IN AMPS	CONTROL DEVICE (SEE INFO)	DESCRIPTION	FURN. BY	WIRED BY	CONDUIT AND WIRE* 1ST ROW=CONTROL 2ND ROW=POWER	
RSP-30-01	RAW SEWAGE	PUMP NO. 1	CONTROL BUILDING	WALL MOUNTED ENCLOSURE	25	460	81.4	1175	4	VFD	M	150	L-R,R,G,ETM	MOTOR THERMOSTATS, MBV-30-01	DIV. 11	DIV. 16	5~#14, 3/4"C 3~1/0 1 1/2"C	SEE KEY NOTE (2)
RSP-30-02	RAW SEWAGE	PUMP NO. 2	CONTROL BUILDING	WALL MOUNTED ENCLOSURE	30	460	81	1185	4	VFD	M	150	L-R,R,G,ETM	MOTOR THERMOSTATS, MBV-30-02	DIV. 11	DIV. 16	5~#14, 3/4"C 3~1/0 1 1/2"C	SEE KEY NOTE (2)
RSP-30-03	RAW SEWAGE	PUMP NO. 3	CONTROL BUILDING	WALL MOUNTED ENCLOSURE	30	460	81	1185	4	VFD	M	150	L-R,R,G,ETM	MOTOR THERMOSTATS, MBV-30-03	DIV. 11	DIV. 16	5~#14, 3/4"C 3~1/0 1 1/2"C	SEE KEY NOTE (2)



KEY NOTES:

(1) CONTRACTOR SHALL MOVE BLOWER NO. 1 AND BLOWER NO. 2 POWER FEEDS FROM EXISTING MAIN EMERGENCY POWER PANEL TO NEW MAIN POWER PANEL AS SHOWN ON SHEET 99-E-05. MODIFY EXISTING WIRE AND CONDUIT AS NECESSARY.

(2) RAW SEWAGE PUMPS SHALL EACH BE CONTROLLED THROUGH A DRIVE MOUNTED LOCAL-REMOTE SWITCH PROVIDED WITH THE DRIVE AS FOLLOWS. IN THE "LOCAL" POSITION, THE PUMP SHALL BE STARTED AND STOPPED AND THE SPEED CONTROLLED AT THE DRIVE HIM. IN THE "REMOTE" POSITION, THE DRIVE SHALL BE CONTROLLED FROM SCC-30 AS SPECIFIED IN SECTION 16940. PROVIDE AUXILIARY RUN CONTACTS SUCH THAT THE SEAL WATER MOTORIZED VALVE WILL BE OPENED WHENEVER THE MOTOR IS RUNNING. VALVE REQUIRES POWER TO OPEN AND POWER TO CLOSE. PROVIDE EXTRA CAPACITY CONTROL POWER TRANSFORMER FOR 120V POWER TO MOTORIZED VALVE. MOTORS HAVE INTERNAL THERMAL OVERLOADS WHICH SHALL SHUTDOWN THE MOTOR IN THE EVENT OF OVER-TEMPERATURE (ALL CONTROL MODES). MANUAL RESET SHALL BE REQUIRED TO RESTART MOTOR.

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DATE: JUNE 2009 DES BY:RGT CHK BY:BMS
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CONTRACTOR:

ELECTRICAL
EXISTING ONE-LINE DIAGRAM DEMOLITION AND SCHEDULE
PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.® ENGINEERS

SHEET
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99-E-04
JOB NO. 1-879-008

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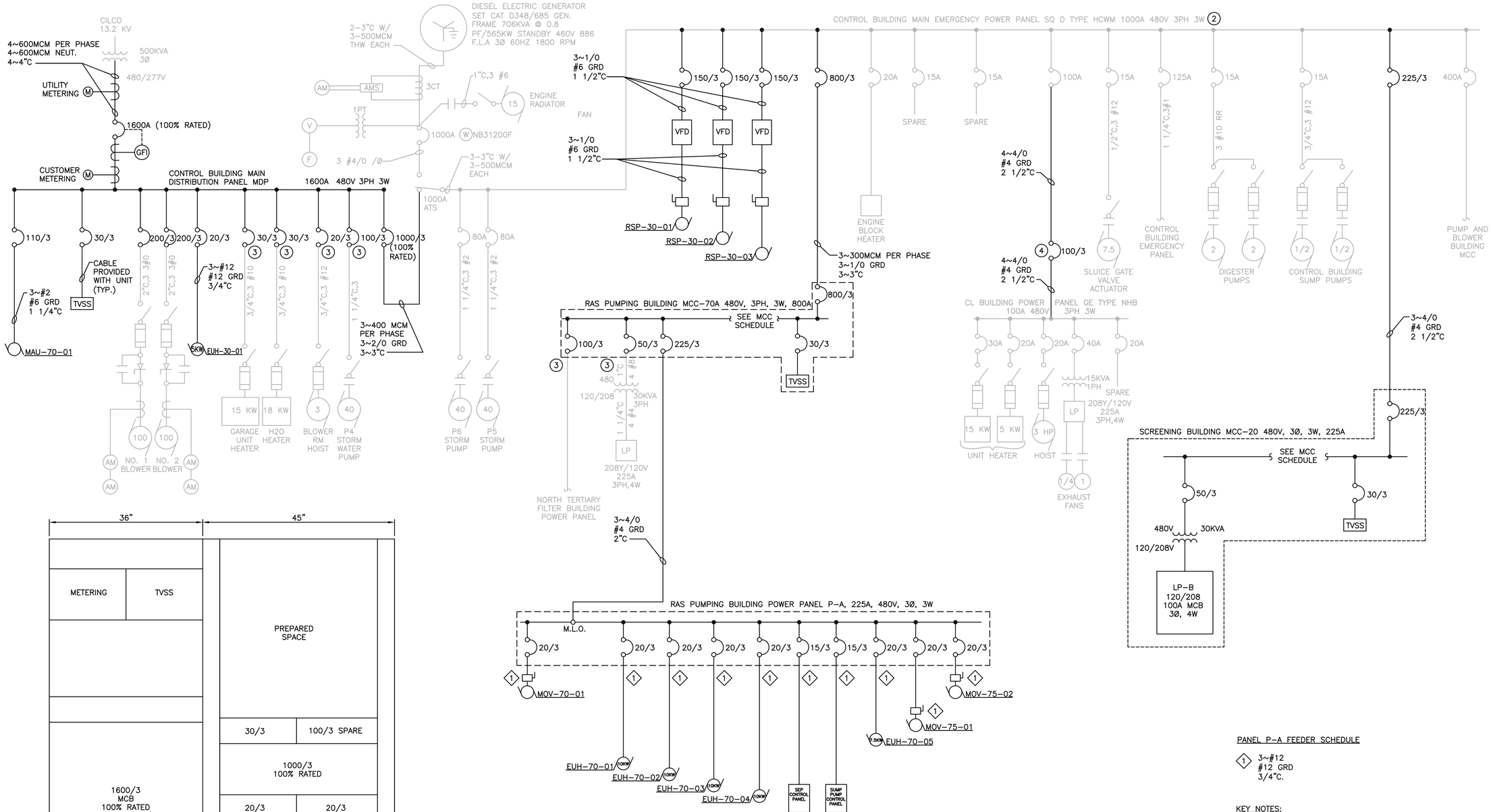

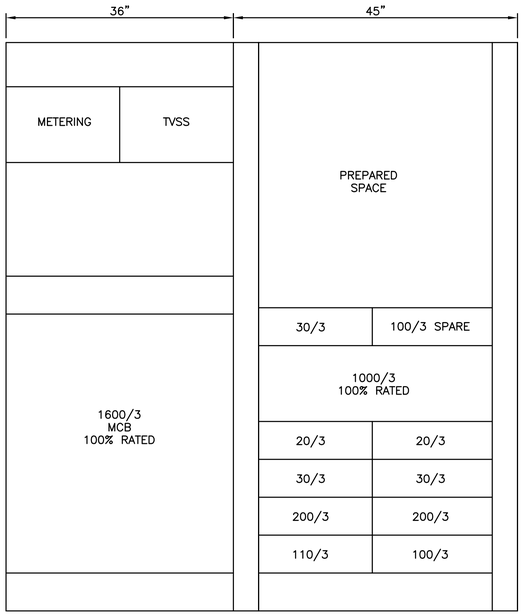

MAIN BREAKER/MDP ELEVATION
NO SCALE

PANEL P-A FEEDER SCHEDULE

(1) 3~#12 #12 GRD 3/4"C.

KEY NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING CIRCUIT BREAKER AND ALL ASSOCIATED CONDUIT AND WIRE.
2. NEW CIRCUIT BREAKERS SHALL BE SAME MANUFACTURER, MODEL NUMBER, AND STYLE AS EXISTING BREAKERS.
3. EXTEND EXISTING WIRE AND CONDUIT AND RECONNECT TO NEW BREAKER.
4. PROVIDE NEW MAIN CIRCUIT BREAKER FOR EXISTNG PANEL IN A NEMA 4X ENCLOSURE. CIRCUIT BREAKER SHALL BE WALL-MOUNTED NEXT TO EXISTING PANEL WITHIN THE CHLORINE BUILDING.

NO.	REVISIONS	DATE:

DATE: JUNE 2009
DES BY:RGT CHK BY:BMS
RECORD DRAWING
BY:
DATE:
CONTRACTOR:

ELECTRICAL ONE-LINE DIAGRAM

PHASE 1 IMPROVEMENTS
SEWAGE TREATMENT PLANT NO. 2
CITY OF WASHINGTON
TAZEWELL COUNTY, ILLINOIS

STRAND ASSOCIATES, INC.®
ENGINEERS

SHEET
65
99-E-05
JOB NO. 1-879-008

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