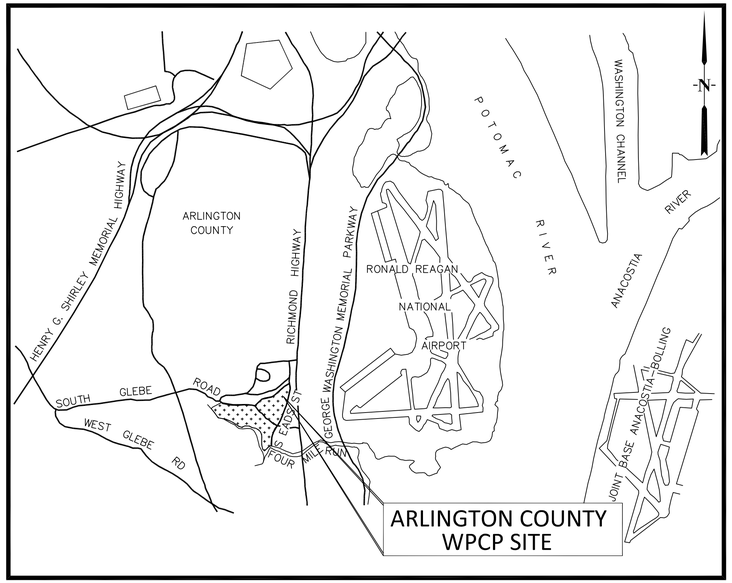
ARLINGTON COUNTY, VIRGINIA
WATER POLLUTION CONTROL PLANT

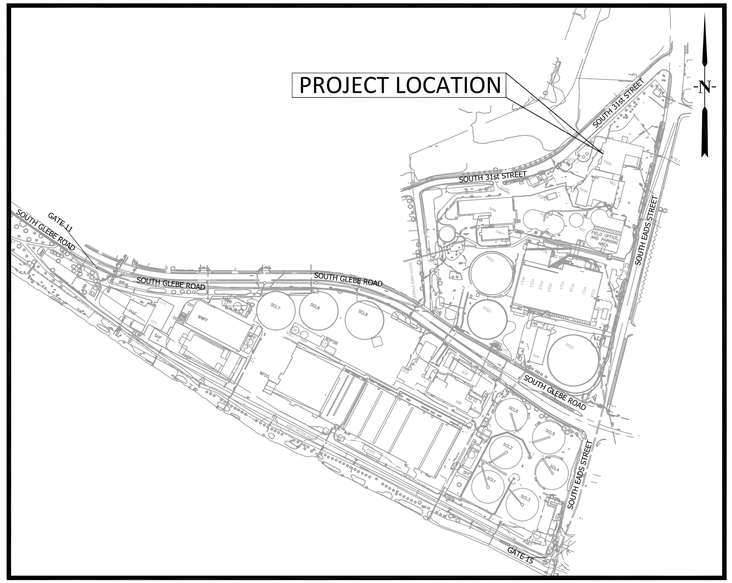
ARLINGTON WATER POLLUTION CONTROL PLANT PHASE 10C

BIOSOLIDS UPGRADES – EARLY WORK RFP PLANS

JULY 2022



VICINITY MAP



LOCATION PLAN

OWNER:
ARLINGTON COUNTY WPCP
3402 S. GLEBE ROAD
ARLINGTON, VA 22202

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ABBREVIATIONS

AS	AIR SUPPLY
ALP	AIR LOW PRESSURE
APPROX	APPROXIMATELY
AUX	AUXILIARY
BBD	BOILER BLOWDOWN
BCT	BOILER CHEMICAL TREATMENT
BF	BUTTERFLY VALVE
BFP	BELT FILTER PRESS
BFW	BOILER FEED WATER
BM	BENCHMARK, BEAM
BMP	BEST MANAGEMENT PRACTICES
BYP	BYPASS
CA	COMPRESSED AIR
℄	CENTERLINE
CCK	CAKE
CCT	CENTRATE
CDR	CHEMICAL DRAIN
CHEX	COOLING HEAT EXCHANGER
CHD	CHORD
CHH	COMMUNICATION OR CONTROL HANDHOLE
CHP	COMBINED HEAT AND POWER
CI	CURB INLET
CIP	CAST-IN-PLACE
CIRC	CIRCULATION, CIRCULAR
CKT	CIRCUIT
CL	CENTERLINE, CLASS, CLOSE
CLKG	CAULKING
CONC	CONCENTRATION, CONCENTRATED, CONCRETE
COND	CONDENSATE
COW	COUNTY WATER
CUW	CHLORINATED UTILITY WATER
CUYD	CUBIC YARD
CWR	COOLING WATER RETURN
CWS	COOLING WATER SUPPLY
DBR	DIRTY BACKWASH RETURN
DCR	DISTRIBUTED CONTROL SYSTEM
DEG	DEGREE
DEG C	DEGREE CENTIGRADE
DEG F	DEGREE FAHRENHEIT
Ø	DIAMETER
DG	DIGESTER GAS
DN	DOWN
DR	DRAIN
DS	DIGESTED SLUDGE
DSR	DIGESTED SLUDGE RECYCLE
DSRF	DIGESTED SLUDGE RECYCLE PLUS FEED
DTON	DRY TON
DW	DILUTION WATER
DWB	DEWATERING BUILDING
EH	ENGINE EXHAUST
EL	ELEVATION
EX, EXIST	EXISTING
EXH	EXHAUST
F	DEGREES FAHRENHEIT
FA	FOUL AIR
FAD	FOUL AIR DUCT
FE	FLOW SENSOR
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIT	FLOW INDICATING TRANSMITTER
FL	FLOOR
FLA	FULL LOAD AMPERES
FLT	FILTRATE
FM	FLOW METER, FORCE MAIN
FOG	FATS OIL AND GREASE
FPW	FIRE PROTECTION WATER
FS	FLASH STEAM
FVNR	FULL VOLTAGE NON-REVERSING
GEN	GENERAL, GENERATOR
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GTI	GRAVITY THICKENER INFLUENT
GTO	GRAVITY THICKENER OVERFLOW
HB	HOSE BIB
HDG	HIGH PRESSURE DIGESTER GAS
HEX	HEXAGONAL, HEAT EXCHANGER
HOA	HAND/OFF/AUTO
HOR	HAND/OFF/REMOTE
HT - LOOP	HIGH TEMPERATURE LOOP (JACKET WATER)
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
H2S	HYDROGEN SULFIDE
IN	INCH
INF	INFLUENT
IN WC	INCHES WATER COLUMN
LB/D	POUNDS PER DAY
LBVS	POUND OF VOLATILE SOLIDS
LCS	LOCAL CONTROL STATION
LE	LEVEL ELEMENT
LI	LEVEL INDICATOR
LIT	LEVEL INDICATING TRANSMITTER
LO	LOADOUT
LOD	LIMITS OF DISTURBANCE
LPOL	LIQUID POLYMER
LS	LEVEL SWITCH, LIMIT SWITCH
LSH	LEVEL SWITCH
L-STOP	LOCAL STOP
LSL	LEVEL SWITCH LOW
LT - LOOP	LOW TEMPERATURE LOOP (AFTER COOLER)
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MG	MILLION GALLONS
mg/L	MILLIGRAMS PER LITER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE, METAL HALIDE, MOUNTING HEIGHT
MIN	MINIMUM
MISC	MISCELLANEOUS
MOV	MOTOR OPERATED VALVE
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
MTR	MOTOR
MW	MAKE UP WATER
N/A	NOT APPLICABLE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NG	NATURAL GAS (NG)
NGM	NATURAL GAS METER
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NOS	NUMBERS
NTS	NOT TO SCALE
NaOH	SODIUM HYDROXIDE
OA	ODOROUS AIR
OCS	ODOR CONTROL STATION
OFLW	OVERFLOW
ORP	OXIDATION REDUCTION POTENTIAL
OVRF	OVERFLOW
PD	PLANT DRAIN
PDS	DIFFERENTIAL PRESSURE SWITCH
PDSH	DIFFERENTIAL PRESSURE SWITCH HIGH
PDSL	DIFFERENTIAL PRESSURE SWITCH LOW
PEW	PLANT EFFLUENT WATER
PG	PROCESS GAS
PGCON	PROCESS GAS CONDENSATE
PGU	PROCESS GAS UNIT
PIT	PRESSURE INDICATING TRANSMITTER
PL	PROPERTY LINE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PMP	PUMP
PNL	PANEL
POLY	POLYMER
POLYS	POLYMER SOLUTION
PS	PIPE SUPPORT, PRESSURE SWITCH, PUMP STATION, PRIMARY SLUDGE
PSH	PRESSURE SWITCH HIGH
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PSL	PRESSURE SWITCH LOW
PW	POTABLE WATER
Q	RATE OF FLOW
QTY	QUANTITY
RAS	RETURN ACTIVATED SLUDGE
RDB	RENOVATE DEWATERING BUILDING
RG	RAW GAS
RNG	RENEWABLE NATURAL GAS
RSL	RECIRCULATED SLUDGE
SA	SERVICE AIR
SCE	SECONDARY CLARIFIER EFFLUENT
SC	SCUM
SCFM	STANDARD CUBIC FEET PER MINUTE
SDB	SOLIDS DISTRIBUTION BOX
SDS	STORED DIGESTED SOLIDS
SEPT	SEPTAGE
SHC	SODIUM HYPOCHLORITE
SL	SLUDGE
SNT	SUPERNATANT
SR	SCRUBBER RECIRCULATION
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STS	SCREENED THICKENED SLUDGE
SUL	SULFURIC ACID
SWM	STORMWATER MANAGEMENT
TBD	TO BE DETERMINED
TD	TIME DELAY
T/GRADE	TOP OF GRADE
THP	THERMAL HYDROLYSIS PROCESS
THPF	THERMAL HYDROLYSIS FEED (SOLIDS CAKE)
THS	THERMALLY HYDROLYZED SLUDGE
THSR	THERMALLY HYDROLYZED SOLIDS RECYCLE
TIT	TEMPERATURE INDICATING TRANSMITTER
TPS	THICKENED PRIMARY SLUDGE
TSH	TEMPERATURE SWITCH HIGH
TSL	TEMPERATURE SWITCH LOW
TS	THICKENED SLUDGE
	THICKENED SOLIDS, TEMPERATURE SWITCH
TSS	TOTAL SUSPENDED SOLIDS
TWAS	THICKENED WASTE ACTIVATED SLUDGE
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UV	UTILITY VAULT, ULTRAVIOLET
W/O	WITHOUT
WAS	WASTE ACTIVATED SLUDGE
WSE	WATER SURFACE ELEVATION
YH	YARD HYDRANT

GENERAL NOTES:

1. THE BACKGROUNDS FOR ALL DRAWINGS, WITH THE EXCEPTION OF THE CIVIL DRAWINGS, IS FROM THE ARLINGTON COUNTY WATER POLLUTION CONTROL PLANT UPGRADE AND EXPANSION-PHASE IIIA SOLIDS PROCESSING FACILITIES CONTRACT, PREPARED BY HAZEN AND SAWYER.
2. THE DESIGN BUILDER SHALL CONFIRM THE EXISTENCE AND LOCATION OF UTILITIES SHOWN.

ABBREVIATION NOTES:

1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF DRAWINGS.
2. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ALL ABBREVIATIONS ARE USED IN THE DRAWINGS.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY
NOT FOR
CONSTRUCTION

ARLINGTON
VIRGINIA

ARLINGTON COUNTY
WPCP
RE-GEN
EARLY WORK

DRAWING INDEX, ABBREVIATIONS
AND GENERAL NOTES

0 1" 2"

FILENAME G-002.dwg
SCALE NOT TO SCALE

SHEET
G-002

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GENERAL SYMBOLOGY

ARROW INDICATES DIRECTION OF TRUE/PLAN NORTH

N

PLAN

1/4" = 1'-0"

PLAN TITLE

SECTION LETTER

FLAG INDICATES DIRECTION OF SECTION CUT

X / XXX

SHEET WHERE SECTION IS LOCATED

SECTION CUT MARKER

SECTION LETTER

X / XXX — SECTION

3" = 1'-0"

SHEET WHERE DETAIL WAS CALLED OUT *

SECTION TITLE

DETAIL NUMBER

/ XXX

SHEET WHERE DETAIL IS LOCATED *

DETAIL MARKER

FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.

XXXXXXXXX

DETAIL MARKER

FOR REFERENCING DETAILS BOUND IN SPECIFICATIONS OR SEPARATE VOLUME.

DETAIL NUMBER

X / XXX — DETAIL

3" = 1'-0"

SHEET WHERE DETAIL WAS CALLED OUT *

DETAIL TITLE

ELEVATION NUMBER

ARROW INDICATES POINT OF VIEW

X / XXX

SHEET WHERE ELEVATION IS LOCATED *

SINGLE ELEVATION OR PHOTO MARKER

A / B / C / D

ELEVATION NUMBER

ARROW INDICATES POINT OF VIEW ELEVATION

X / XXX

INDICATES SHEET WHERE ELEVATION IS LOCATED

MULTIPLE ELEVATION OR PHOTO MARKER

ELEVATION IDENTIFICATION NUMBER

X / XXX — ELEVATION

3" = 1'-0"

SHEET WHERE POINT OF VIEW MARKER CAN BE FOUND *

ELEVATION TITLE

* EXCEPTIONS WHERE THE SHEET NUMBER IS REPLACED BY A DASH (-).
1) FOR COMMON DETAILS, SECTIONS, ELEVATIONS OR DETAILS THAT ARE CUT OR CALLED OUT ON MULTIPLE SHEETS.
2) SECTIONS, ELEVATIONS OR DETAILS THAT ARE LOCATED ON THE SAME SHEET THEY ARE CUT OR CALLED OUT ON.

GENERAL LEGEND AND SYMBOLS NOTES:

1. THIS SHEET IS A STANDARD SHEET SHOWING COMMON SYMBOLOGY. NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

TARGET ELEVATION

ARCHITECTURAL

ROOM NAME / XX-XX — ROOM NUMBER

XXX — DOOR NUMBER

A — COLUMN GRID LINE

X — WALL TYPE

KEY NOTE DESIGNATION

KEY NOTE NUMBER

#

IDENTIFICATION SYMBOLOGY

PIPING

FIGURE — 36-NPW — EXAMPLE

LINE SIZE — 36"

SERVICE — NON POTABLE WATER

CIVIL SYMBOLOGY

CO — CLEAN OUT

MANHOLE

FIRE HYDRANT

YH — YARD HYDRANT

TRUCK, WB-67

TRUCK, WB-40

TRUCK, SU-30

BENCHMARK

TEST PITS

BR-1 — BORING

VALVE (GENERIC)

LIGHT POLE

POWER POLE

10 — CONTOUR

CIVIL SYMBOLOGY CONTINUED

VEGETATION

10.3 — SPOT ELEVATION

T — TRANSFORMER

CB — CATCH BASIN

PD — PROCESS DRAIN MANHOLE

SD — STORM DRAIN MANHOLE

SS — SANITARY SEWER MANHOLE

PIPE SUPPORT (FOR PIPE LARGER THAN 12" DIA.)

CONCRETE WASHOUT

EXISTING CIVIL CONDITIONS

EXISTING VALVE

EXISTING PIPELINE

EXISTING LARGE PIPELINE

EXISTING LIGHT POLE

EXISTING POWER POLE

10 — EXISTING CONTOUR

EXISTING VEGETATION

10.3 — EXISTING SPOT ELEVATION

X — EXISTING FENCE

LINE SYMBOLOGY

T — TELEPHONE LINE

E — ELECTRIC LINE

F — FIBER OPTIC

C — COMMUNICATION

HANDRAIL AND GUARDRAIL

PIPELINE

LARGE PIPELINE

DRAINAGE FLOW

NATURAL WATERWAY

X — X — BARBED WIRE CHAIN LINK FENCE

O — O — CHAIN LINK FENCE

XX — XX — TEMPORARY BARRIER

PROPERTY LINE

CENTERLINE

SF — SILT FENCE

EASEMENT

ALUMINUM COVER

LIMITS OF CONSTRUCTION

ROW

LIMITS OF WETLANDS

VEGETATED SWALE

MATCH LINE

DRAINAGE DITCH

COLUMN GRID LINE/CENTERLINE

EQUIPMENT SYMBOLOGY

ARCHIMEDES SCREW

CENTRIFUGE

CENTRIFUGAL PUMP

CHEMICAL FEED PUMP

COMPRESSOR

DOUBLE DISC POSITIVE DISPLACEMENT PUMP

GRINDER

HEAT EXCHANGER

RADIATOR

U-TUBE HEAT EXCHANGER

TUBE IN TUBE HEAT EXCHANGER

M — MIXER - PROPELLER TYPE

M OR M — MOTOR

PLATE TYPE HEAT EXCHANGER

PROGRESSING CAVITY PUMP

ROTARY LOBE PUMP

POSITIVE DISPLACEMENT PUMP

INCLINED BELT CONVEYOR

SCREW CONVEYOR

SHELL AND TUBE TYPE HEAT EXCHANGER

SLUDGE GATE / WEIR GATE

VERTICAL TURBINE CAN PUMP

EDUCTOR

SOLIDS SCREEN

POSITIVE DISPLACEMENT BLOWER

PIPING AND VALVE SYMBOLOGY

BALL VALVE

BUTTERFLY VALVE

DIAPHRAGM VALVE

GATE VALVE

GLOBE VALVE

KNIFE GATE VALVE

NEEDLE VALVE

PINCH VALVE

PLUG VALVE

THREE WAY BALL VALVE

THREE WAY PLUG VALVE

BALL CHECK VALVE

CHECK VALVE

DOUBLE DISK CHECK VALVE

CONE VALVE

OR — PRESSURE RELIEF VALVE

PRESSURE REDUCING VALVE

X — AIR RELEASE VACUUM VALVE
A = AIR RELEASE
V = VACUUM

AIR RELEASE VALVE

PRESSURE REGULATING VALVE

BACK PRESSURE VALVE

S — SOLENOID VALVE

36"-RWI — TYPICAL PIPE LINE CALLOUT

OA DAMPER

BACKFLOW PREVENTER

M — FLOW METER

NGM — NATURAL GAS METER

UNION

WYE-STRAINER

FLEXIBLE HOSE OR TUBING

FLEXIBLE PIPING CONNECTION

LINE SIZE CHANGE

LINE TURNING DOWN

LINE TURNING UP

BLIND FLANGE

PIPE BREAK

V-PORT BALL VALVE

THREE-WAY CONTROL VALVE

3-WAY VALVE

4-WAY VALVE

CALIBRATION POT

BASKET STRAINER

QUICK CONNECT

PNEUMATIC ACTUATOR

SUCTION DIFFUSER-STRAINER

PUMP DISCHARGE (TRIPLE DUTY) VALVE

THERMOSTATIC MIXING VALVE

INJECTION RING

PIPE JOINT (SEE SPECIFICATIONS FOR REQUIREMENTS)

PIPE JOINT (SEE SPECIFICATIONS FOR REQUIREMENTS)

PIPE JOINT (SEE SPECIFICATIONS FOR REQUIREMENTS)

PIPE JOINT (SEE SPECIFICATIONS FOR REQUIREMENTS)

PIPE JOINT (SEE SPECIFICATIONS FOR REQUIREMENTS)

COMPRESSION SLEEVE TYPE COUPLING

FLANGED COUPLING ADAPTER (FCA)

FLEXIBLE CONNECTION

HARNESSED MECHANICAL COUPLING

EXPANSION COUPLING/JOINT

PRESSURE GAUGE (WITH COCK)

TRAP

QUICK DISCONNECT CAM & GROOVE COUPLING

CAP OR PLUG

CO — INTERIOR CLEANOUT

HOSE BIBB -1

HOSE BIBB -2

HR — HOSE REEL

FD-X — FLOOR DRAIN

X = TYPE DESIGNATED IN SPECIFICATIONS

PIPE IN SECTION

BU — BELL UP (PLAN)

BU — BELL UP (SECTION OR SCHEMATIC)

D — DRAIN (SECTION OR SCHEMATIC)

NOTE:
1. VALVES SHOWN AS BLACK /SOLID ARE TO INDICATE NORMALLY CLOSED VALVES.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

GENERAL LEGEND AND SYMBOLS

0 1" 2"

FILENAME: G-003.dwg

SCALE: NOT TO SCALE

SHEET: **G-003**

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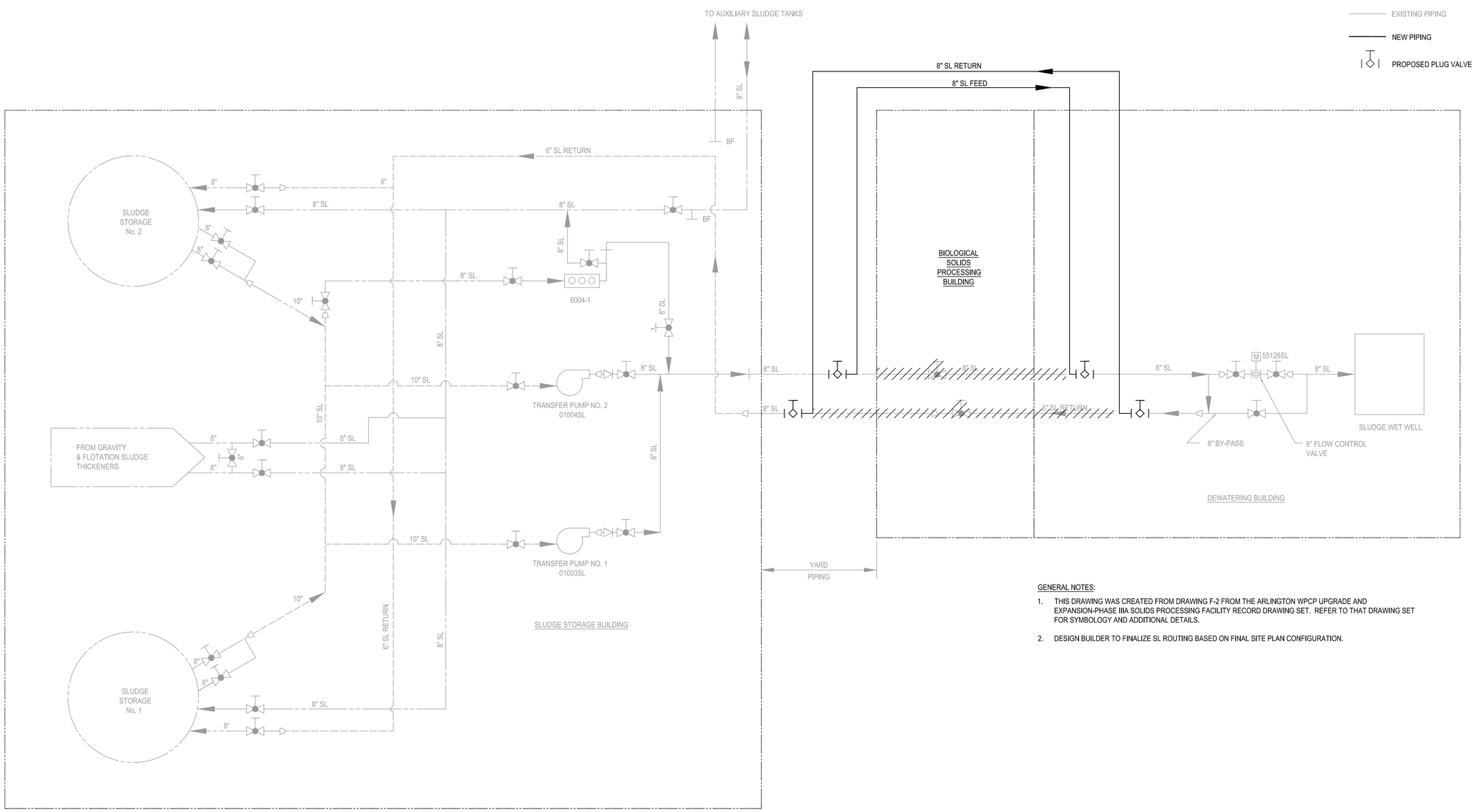

GENERAL NOTES:

1. THIS DRAWING WAS CREATED FROM DRAWING F-2 FROM THE ARLINGTON WPCP UPGRADE AND EXPANSION-PHASE IIIA SOLIDS PROCESSING FACILITY RECORD DRAWING SET. REFER TO THAT DRAWING SET FOR SYMBOLOGY AND ADDITIONAL DETAILS.
2. DESIGN BUILDER TO FINALIZE SL ROUTING BASED ON FINAL SITE PLAN CONFIGURATION.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
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ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

PROCESS FLOW DIAGRAM SLUDGE TRANSFER

0 1" 2"

FILENAME: G-004.dwg

SCALE: NOT TO SCALE

SHEET: **G-004**

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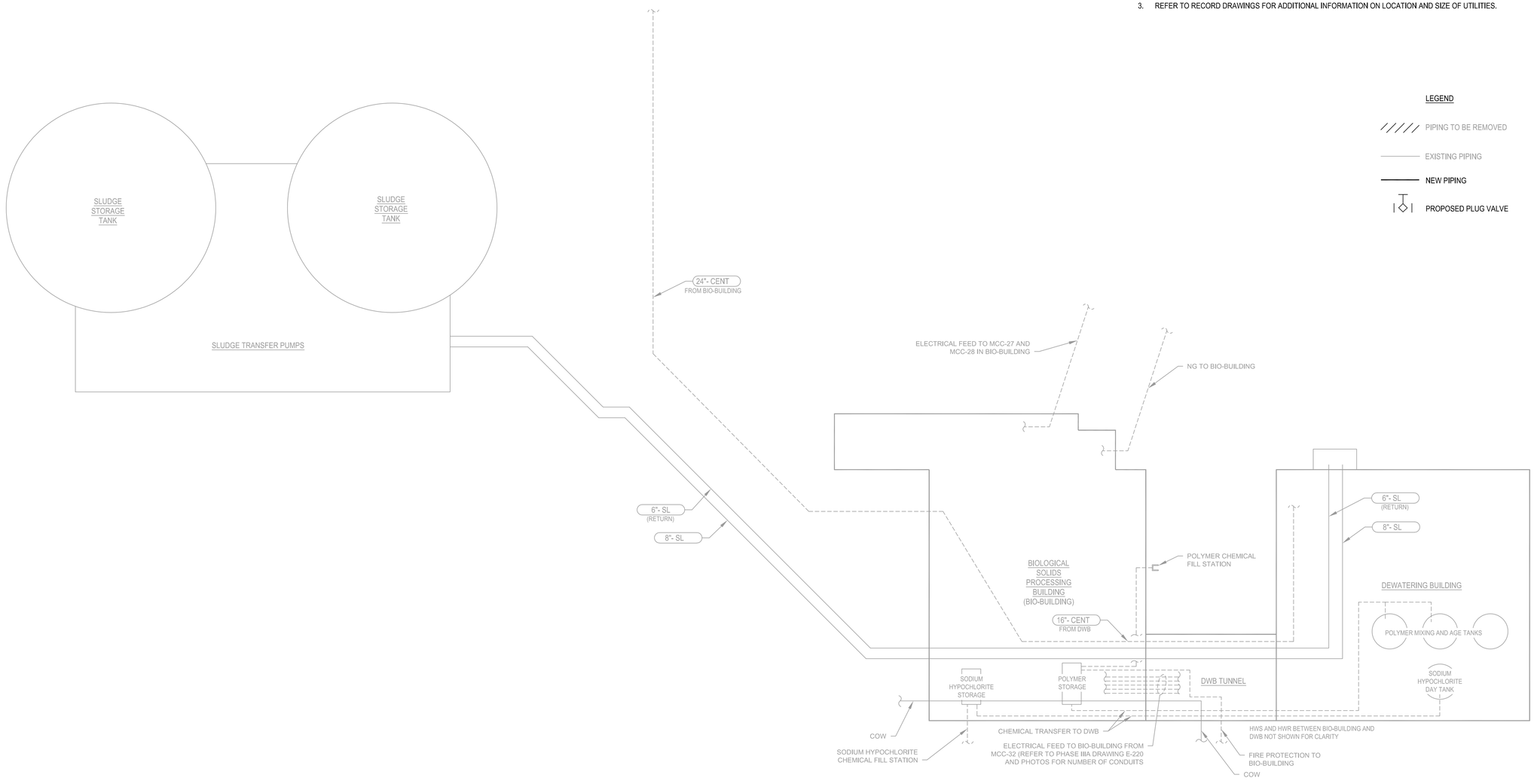
GENERAL NOTES:

1. THIS DRAWING IS SCHEMATIC AND NOT TO SCALE.
2. INTENT OF SCHEMATIC IS TO SHOW UTILITIES IMPACTED BY DEMOLITION OF BIO-BUILDING ONLY. DESIGN BUILDER SHALL COORDINATE AS NECESSARY, INCLUDING IMPACTS TO OTHER UTILITIES NOT SHOWN.
3. REFER TO RECORD DRAWINGS FOR ADDITIONAL INFORMATION ON LOCATION AND SIZE OF UTILITIES.

LEGEND

- PIPING TO BE REMOVED
- EXISTING PIPING
- NEW PIPING
- PROPOSED PLUG VALVE



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INSTRUMENTATION	
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PRELIMINARY
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CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY
WPCP
RE-GEN
EARLY WORK

EXISTING UTILITIES SCHEMATIC BIOLOGICAL SOLIDS PROCESSING BUILDING

0 1" 2"

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SCALE NOT TO SCALE

SHEET
G-005

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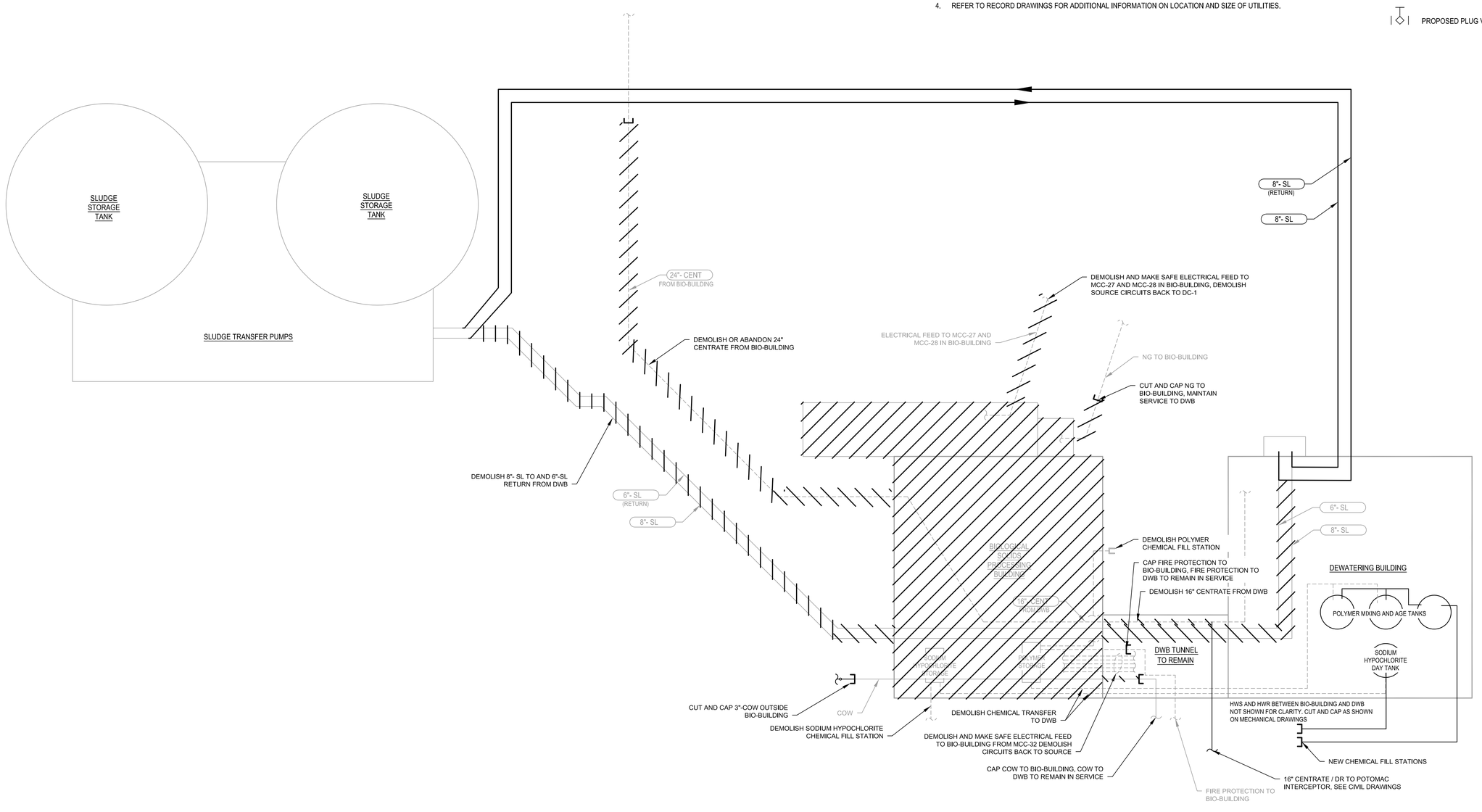
GENERAL NOTES:

1. THIS DRAWING IS SCHEMATIC AND NOT TO SCALE.
2. INTENT OF SCHEMATIC IS TO SHOW UTILITIES IMPACTED BY DEMOLITION OF BIO-BUILDING ONLY. DESIGN BUILDER SHALL COORDINATE AS NECESSARY, INCLUDING IMPACTS TO OTHER UTILITIES NOT SHOWN.
3. SCHEMATIC DOES NOT SHOW ABANDONED EQUIPMENT AND UTILITIES.
4. REFER TO RECORD DRAWINGS FOR ADDITIONAL INFORMATION ON LOCATION AND SIZE OF UTILITIES.

LEGEND

- PIPING TO BE REMOVED
- EXISTING PIPING
- NEW PIPING
- PROPOSED PLUG VALVE



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CIVIL	L. PEELE
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INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

POST DEMOLITION UTILITIES SCHEMATIC

0 1" 2"

FILENAME: G-006.dwg

SCALE: NOT TO SCALE

SHEET: **G-006**

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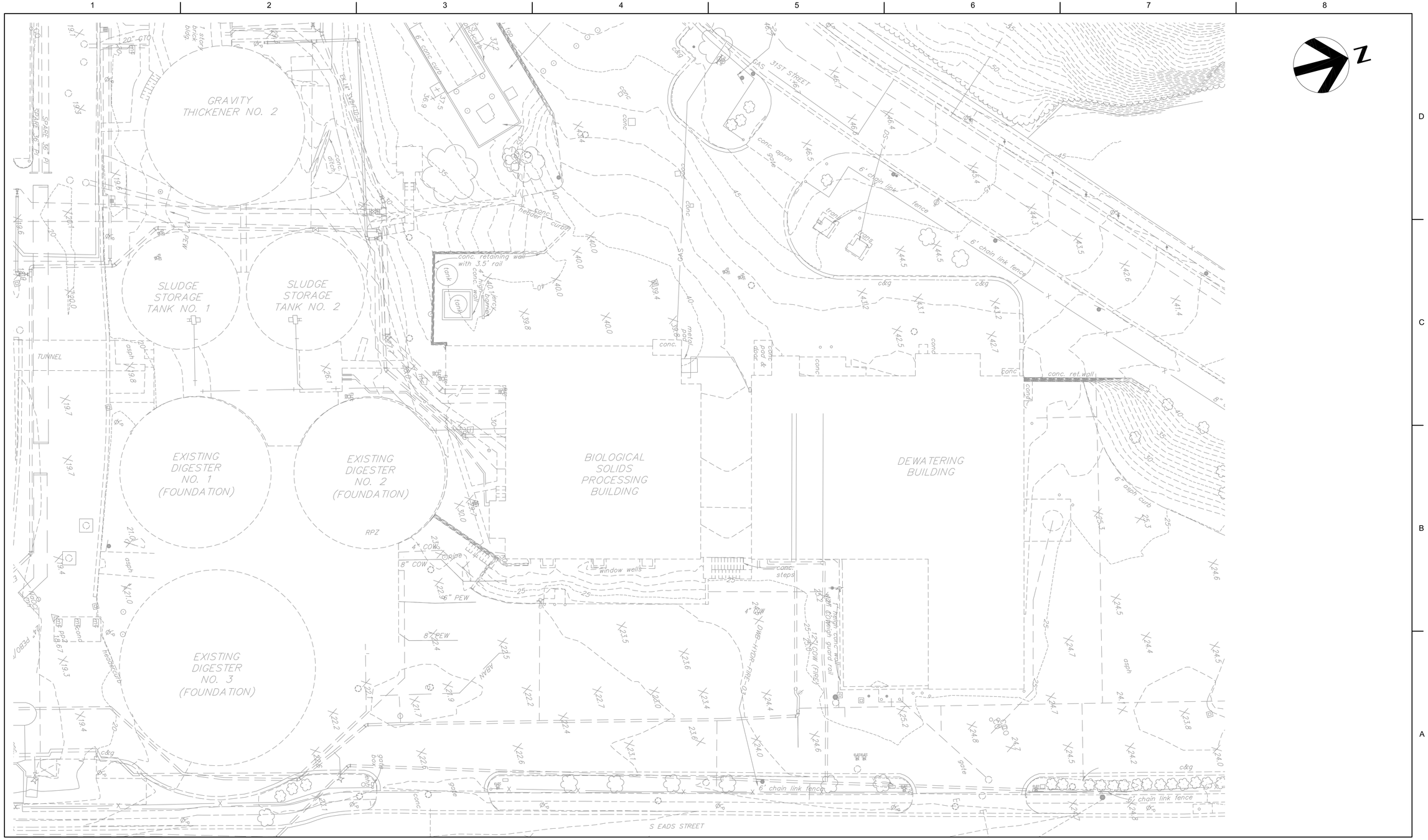

ISSUE	DATE	DESCRIPTION
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CIVIL	L. PEELE
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INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

EXISTING SITE PLAN

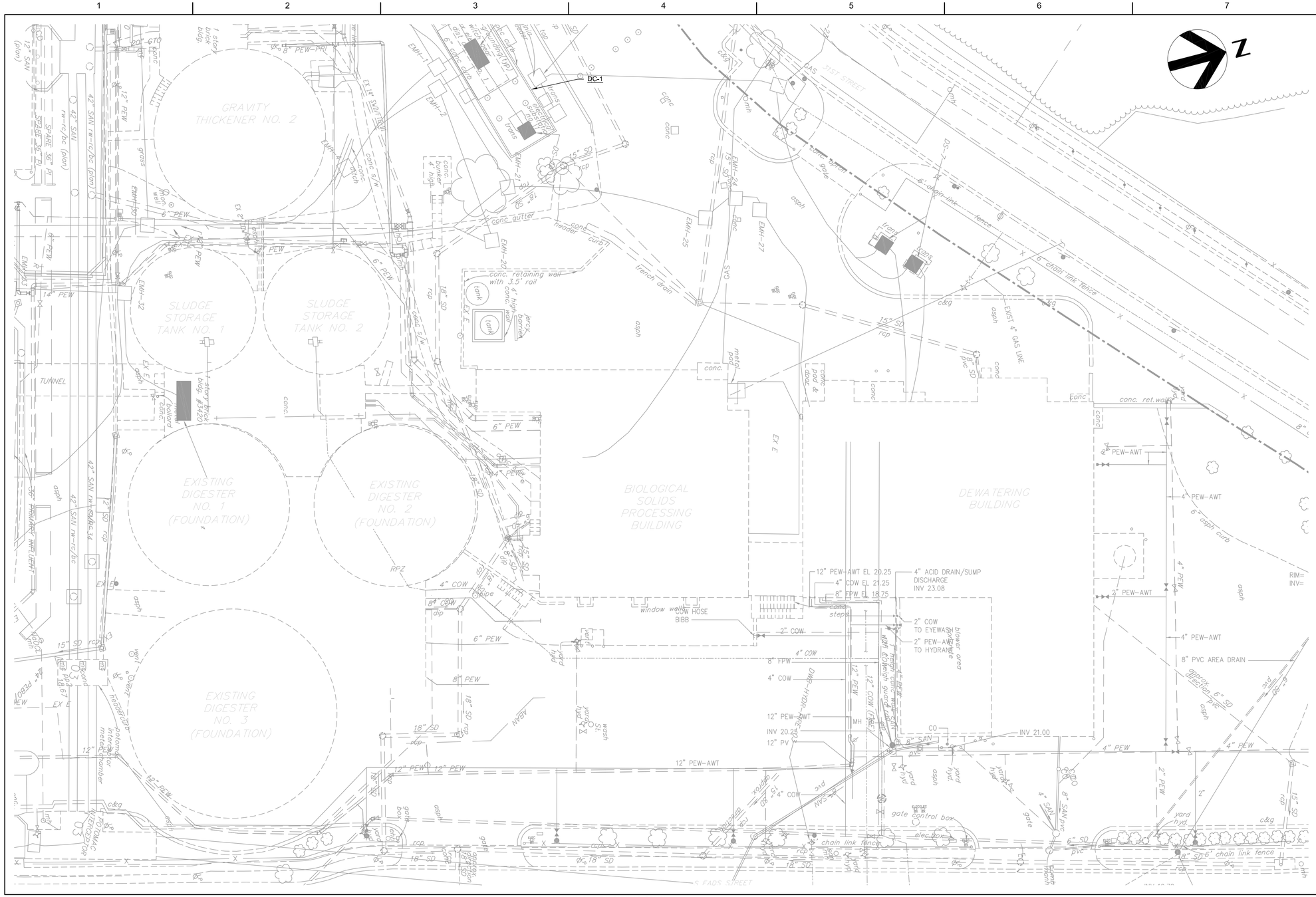
0 1" 2"

FILENAME: C-001.dwg

SCALE: 1"=20'

SHEET: **C-001**

C:\pwworking\east01\d0293097\C-001.dwg, EXISTING SITE PLAN, 8/9/2022 4:21:41 PM, TLONEY



GENERAL NOTES:

1. DRAWING IS FOR REFERENCE ONLY. FIELD LOCATE ALL UTILITIES.
2. REFER TO G-004 AND G-005 FOR SCHEMATIC REPRESENTATION OF UTILITIES IMPACTED BY EARLY WORK.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

EXISTING SITE PLAN UNDERGROUND UTILITIES

0 1" 2"

FILENAME C-002.dwg

SCALE 1"=20'

SHEET **C-002**

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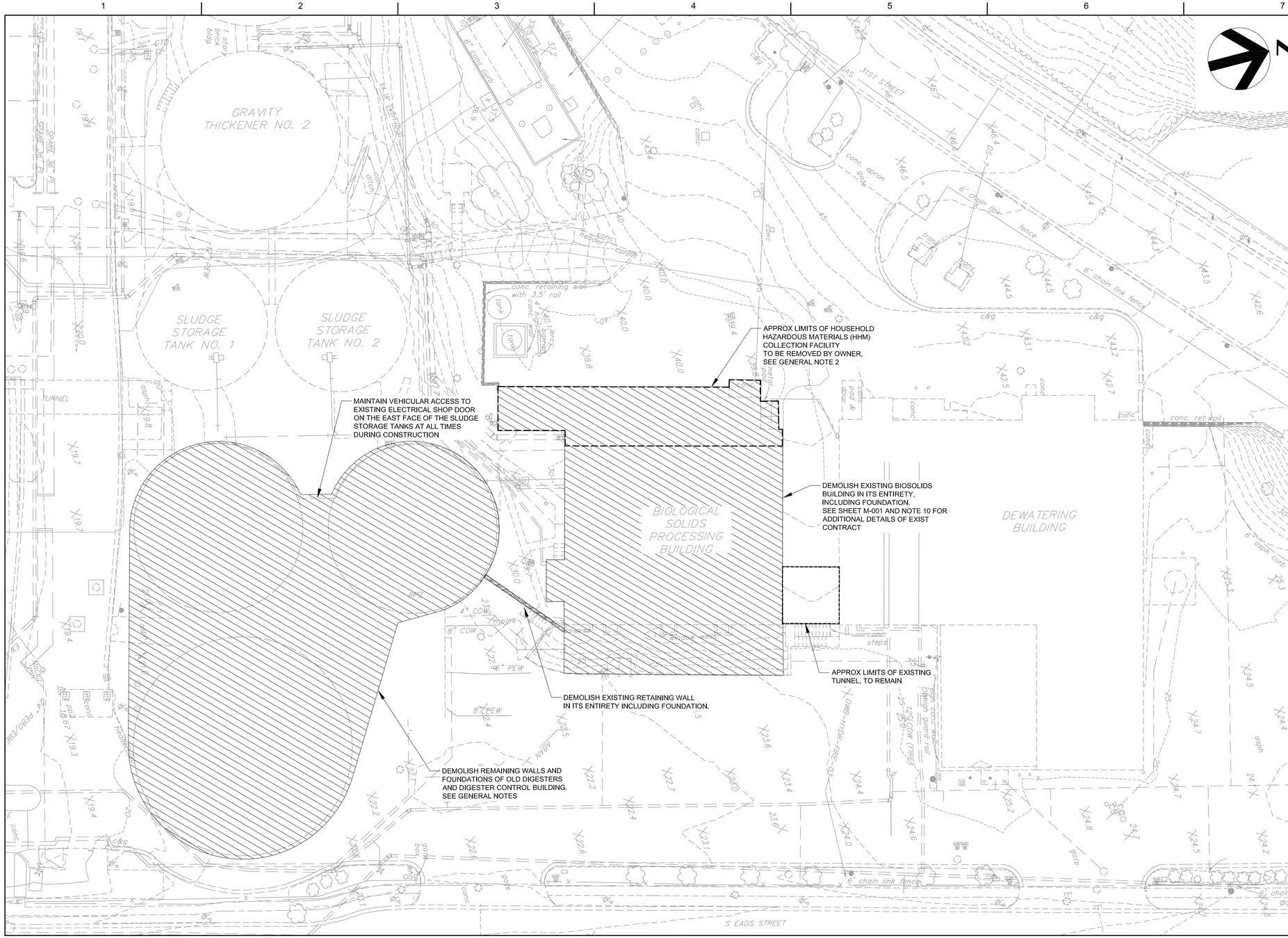

GENERAL NOTES:

1. REFERENCE THE FOLLOWING DRAWING SETS FOR INFORMATION ABOUT EXISTING EQUIPMENT AND STRUCTURES IN BIOLOGICAL SLUDGE PROCESS BUILDING THAT WILL NEED TO BE DEMOLISHED:

   a. ARLINGTON WPCP UPGRADE AND EXPANSION PHASE 7E, HOUSEHOLD HAZARDOUS MATERIALS FACILITY.

   b. ARLINGTON WPCP UPGRADE AND EXPANSION-PHASE IIIA, SOLIDS PROCESSING FACILITIES.

   c. ARLINGTON WPCP ADVANCED WASTE TREATMENT BIOLOGICAL SLUDGE PROCESSING BUILDING, CONTRACT 72-47-S.

   d. ARLINGTON SEWAGE TREATMENT PLANT SECONDARY TREATMENT FACILITIES, CONTRACT I.

   e. ARLINGTON COUNTY SEWAGE TREATMENT PLANT (FIRST PLANT EXPANSION), 1946.

2. OWNER WILL RELOCATE ARLINGTON COUNTY HOUSEHOLD HAZARDOUS MATERIALS (HHM) COLLECTION FACILITIES PRIOR TO START OF CONSTRUCTION. ALL TEMPORARY EQUIPMENT AND FACILITIES ASSOCIATED WITH THE HHM FACILITY WILL BE REMOVED. PERMANENT FIXTURES, INCLUDING LIGHTING, WALLS, ELECTRICAL, AND HVAC WILL BE DEMOLISHED BY DESIGN BUILDER.

3. AN ALLOWANCE IS INCLUDED FOR ABATEMENT OF HAZARDOUS MATERIALS. REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.

4. DESIGN BUILDER IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF EARTH RETENTION SYSTEMS AS NECESSARY TO SUPPORT THE DEMOLITION AND FUTURE WORK.

5. DESIGN BUILDER IS RESPONSIBLE FOR PROTECTION OF EXISTING DWB TUNNEL AND DWB DURING DEMOLITION. SEE M-001, GENERAL REQUIREMENTS, AND DIVISION 2 SPECIFICATIONS. THE DEWATERING BUILDING TO REMAIN FULLY OPERATIONAL DURING DEMOLITION.

6. EXISTING SLUDGE TRANSFER PUMPING STATION BETWEEN SLUDGE STORAGE TANKS AND OLD DIGESTERS TO REMAIN IN TACT AND OPERATIONAL. DEMOLISH ABANDONED DIGESTERS AS FAR AS POSSIBLE TO KEEP FACILITY IN OPERATION.

7. DEMOLITION AND RELOCATION OF UTILITIES NOT SHOWN THIS PLAN. REFER TO G-005, G-006 AND MECHANICAL DRAWINGS.

8. FINAL SITE LAYOUT AT END OF EARLY WORK TO BE DETERMINED BY DESIGN BUILDER. ALL FOUNDATIONS TO BE COMPLETELY DEMOLISHED AND AREAS BACK FILLED TO APPROPRIATE GRADE TO FACILITATE FUTURE MAIN PROJECT CONSTRUCTION.

9. EXISTING DIGESTERS WERE CONSTRUCTED IN MULTIPLE PHASES (FIRST PLANT EXPANSION, 1946; SECONDARY TREATMENT FACILITIES, CONTRACT I). DIGESTERS WERE PARTIALLY DEMOLISHED UNDER CONTRACT 7C. NO RECORD DRAWINGS EXIST OF DEMOLITION. ASSUME WALLS TO GRADE AND FOUNDATIONS REMAIN. APPROXIMATE FOUNDATION ELEVATIONS ARE 10.0 AT PERIMETER AND 0.0 AT CONE.

10. THE BIOLOGICAL SLUDGE PROCESSING BUILDING (BIO-BUILDING) WAS CONSTRUCTED IN 1977 AS PART OF CONTRACT 72-47-S. THE BIO-BUILDING IS APPROXIMATELY 72.5 FEET TALL AND WAS CONSTRUCTED BY A COMBINATION OF CONCRETE, BLOCK, BRICK AND METAL FRAMING ON AN APPROXIMATELY 4 FEET THICK MAT FOUNDATION. THE BIO-BUILDING INCLUDES ABANDONED EQUIPMENT FOR DEWATERING AND TREATING SLUDGE, INCLUDING BUT NOT LIMITED TO FILTER PRESSES, CAKE PUMPS, MULTIPLE HEARTH INCINERATORS, ASH HANDLING EQUIPMENT, AIR POLLUTION CONTROL EQUIPMENT, AND OTHER ANCILLARY COMPONENTS.

20 0 20 40
HORIZONTAL SCALE 1" = 20'

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

SITE DEMOLITION PLAN

0 1" 2"

FILENAME C-003.dwg
SCALE 1"=20'

SHEET **C-003**

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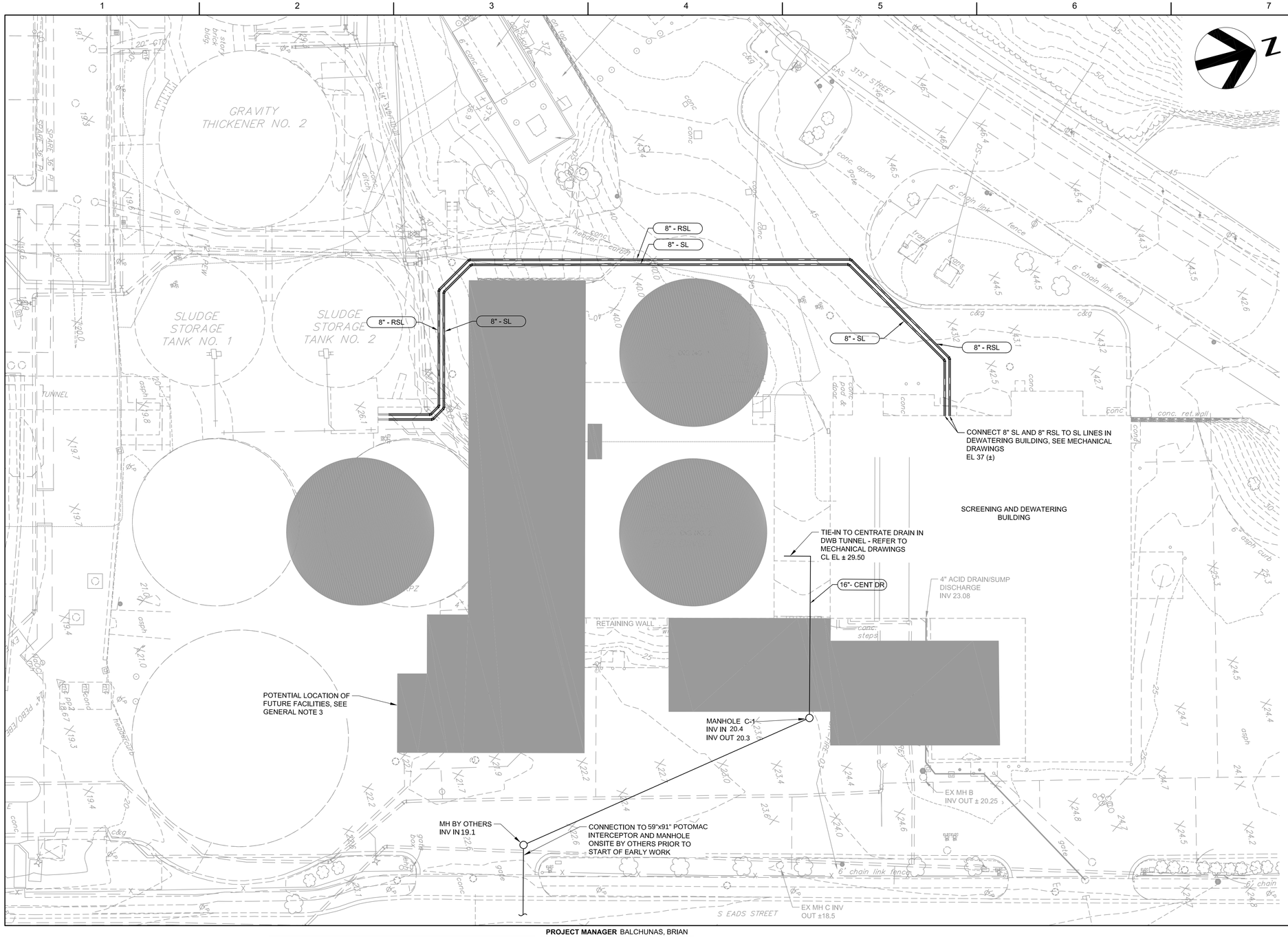


GENERAL NOTES:

1. DRAWING IS FOR REFERENCE ONLY. FIELD LOCATE ALL UTILITIES.
2. REFER TO G-004 AND G-005 FOR SCHEMATIC REPRESENTATION OF UTILITIES IMPACTED BY EARLY WORK.
3. SITE LAYOUT FOR RENOVATE DEWATERING BUILDING SHOWN. SITE LAYOUT IS SCHEMATIC AND TO BE FINALIZED BY DESIGN BUILDER. COORDINATE UTILITY RELOCATION WITH FINAL SITE LAYOUT.
4. PROVIDE PROVISIONS FOR TWICE ANNUAL PUMP AROUND OF CENTRATE / DR TO PRIMARY CLARIFIER EFFLUENT CHANNEL. REFER TO SPECIFICATIONS.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

SITE LAYOUT UTILITY RELOCATION CONCEPT

0 1" 2"

FILENAME C-004.dwg

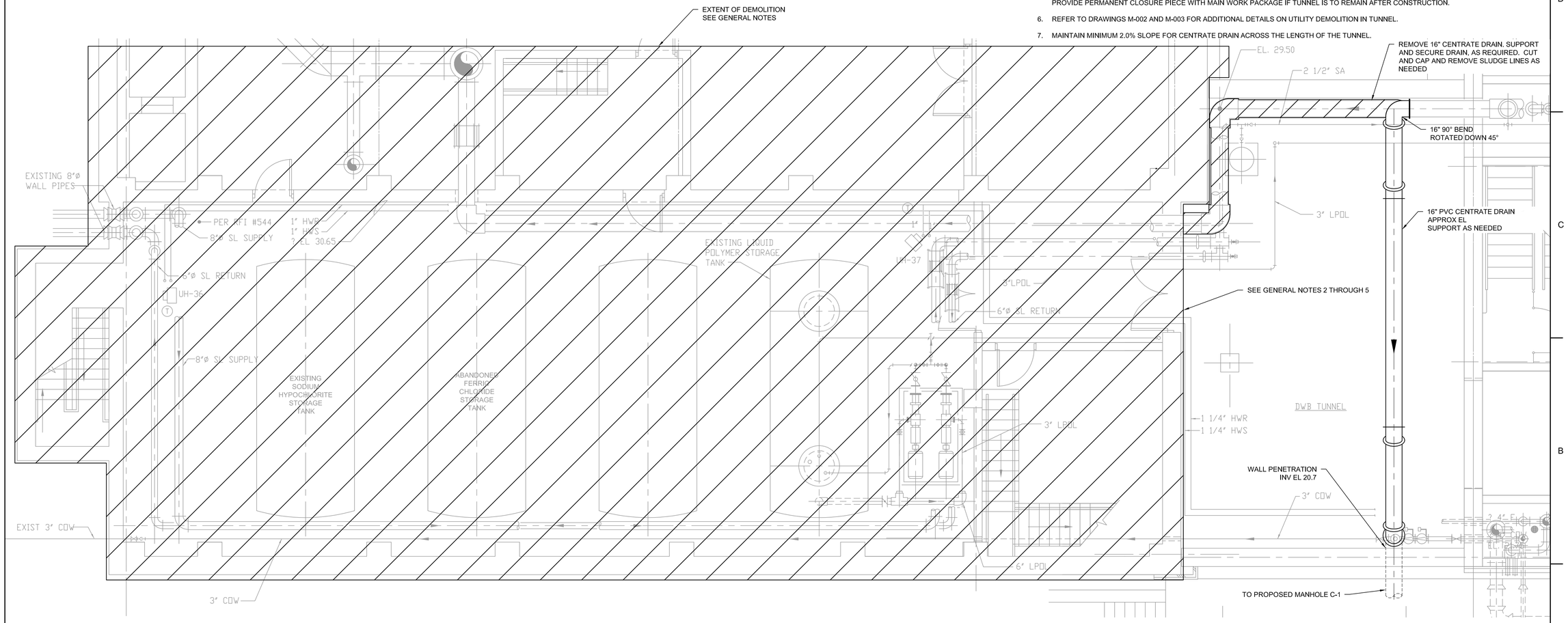
SCALE 1"=20'

SHEET **C-004**

C:\pwworking\eas01\d2693097\C-004.dwg, PLOT1, 8/9/2022 4:22:31 PM, TLONEY

GENERAL NOTES:

1. DRAWING M-001 WAS RECREATED FROM WPCP UPGRADE AND EXPANSION PHASE IIIA SOLIDS PROCESS FACILITIES DRAWING M-301. ACCURACY OF THIS DRAWING IS NOT GUARANTEED - FIELD VERIFY ALL INFORMATION.
2. DWB TUNNEL WAS CONSTRUCTED WITH ARLINGTON WPCP UPGRADE AND EXPANSION-PHASE IIIA SOLIDS PROCESSING FACILITIES. REFER TO PHASE IIIA DRAWINGS S-209, S-220, S-223 AND OTHERS FOR DETAILS.
3. PROTECT COMPLETE TUNNEL ENVELOPE AND DWB DURING DEMOLITION.
4. EXISTING TYPE 2 WATER STOPS AT DEMOLITION BOUNDRY MAY BE REMOVED IF ALTERNATIVE PROVISIONS ARE MADE TO PROTECT REMAINING CONSTRUCTION.
5. PROVIDE SECURE AND DURABLE CLOSURE FOR OPEN END REMAINING AFTER DEMOLITION FOR FULL DURATION OF CONSTRUCTION. PROVIDE PERMANENT CLOSURE PIECE WITH MAIN WORK PACKAGE IF TUNNEL IS TO REMAIN AFTER CONSTRUCTION.
6. REFER TO DRAWINGS M-002 AND M-003 FOR ADDITIONAL DETAILS ON UTILITY DEMOLITION IN TUNNEL.
7. MAINTAIN MINIMUM 2.0% SLOPE FOR CENTRATE DRAIN ACROSS THE LENGTH OF THE TUNNEL.



ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

BIO-BUILDING BASEMENT AND DWB TUNNEL PLAN

0 1" 2"

FILENAME: M-001.dwg

SCALE: 3/16" = 1'-0"

SHEET: **M-001**

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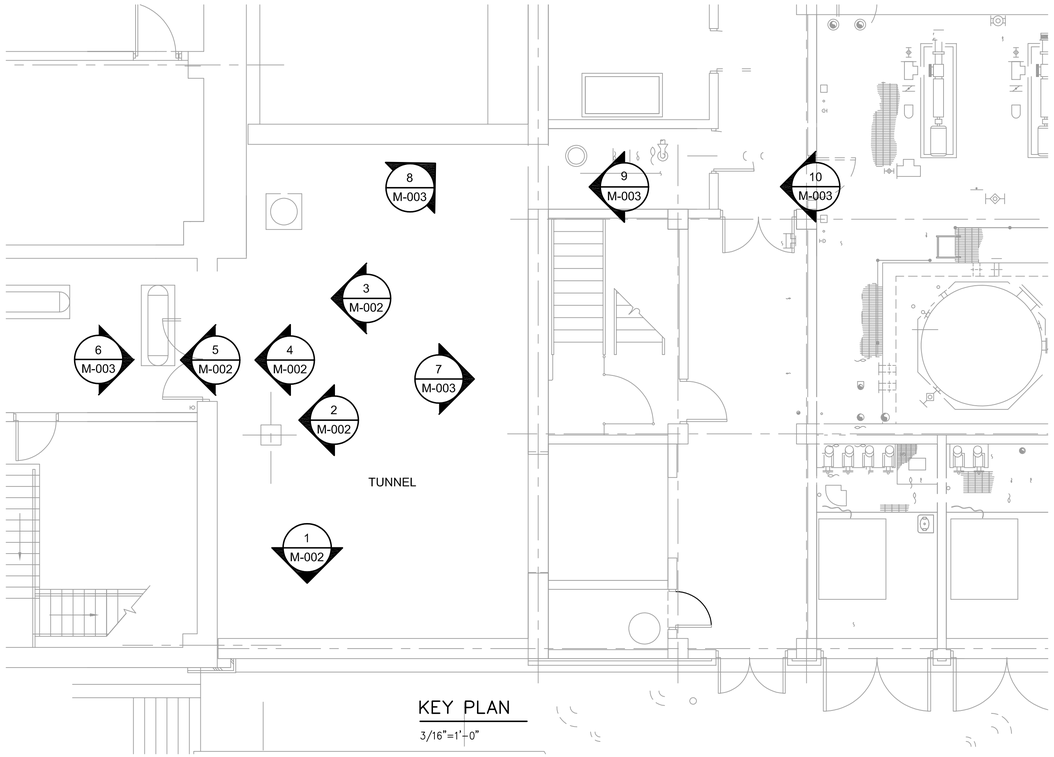

KEY PLAN

3/16"=1'-0"

1 M-002 DWB TUNNEL–SE CORNER

2 M-002 DWB TUNNEL–UPPER SOUTH WALL

3 M-002 DWB TUNNEL–LOWER SOUTH WALL

4 M-002 DWB TUNNEL–SOUTH WALL

5 M-002 DWB TUNNEL–CEILING

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

TUNNEL PHOTO PLAN 1

0 1" 2"

FILENAME M-002.dwg

SCALE NOT TO SCALE

SHEET **M-002**

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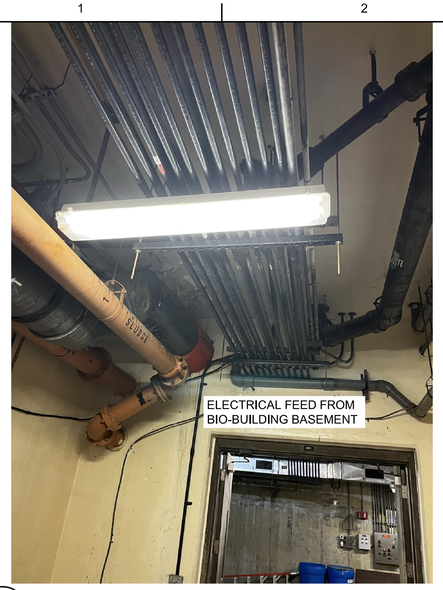
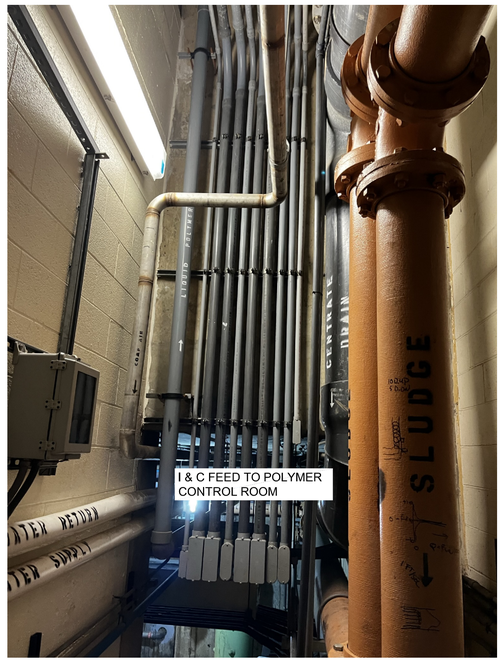


6 M-002 BIO–BUILDING LOOKING TOWARD DWB TUNNEL

7 M-002 DWB TUNNEL–NORTH WALL AND CEILING

8 M-002 DWB TUNNEL–NORTHWEST CORNER

9 M-002 PIPE CLOSET LOOKING SOUTH TOWARD DWB TUNNEL



10 M-002 PIPE CLOSET LOOKING SOUTH TOWARD DWB TUNNEL

GENERAL NOTES:

1. PHOTOGRAPHS PROVIDED ON THIS DRAWING ARE FOR INFORMATION ONLY. REFER TO OTHER DRAWINGS FOR UTILITY RELOCATION AND DEMOLITION AND ABANDONMENT.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY
NOT FOR
CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY
WPCP
RE-GEN
EARLY WORK

TUNNEL PHOTO PLAN 2

0 1" 2"

FILENAME M-003.DWG
SCALE NOT TO SCALE

SHEET M-003

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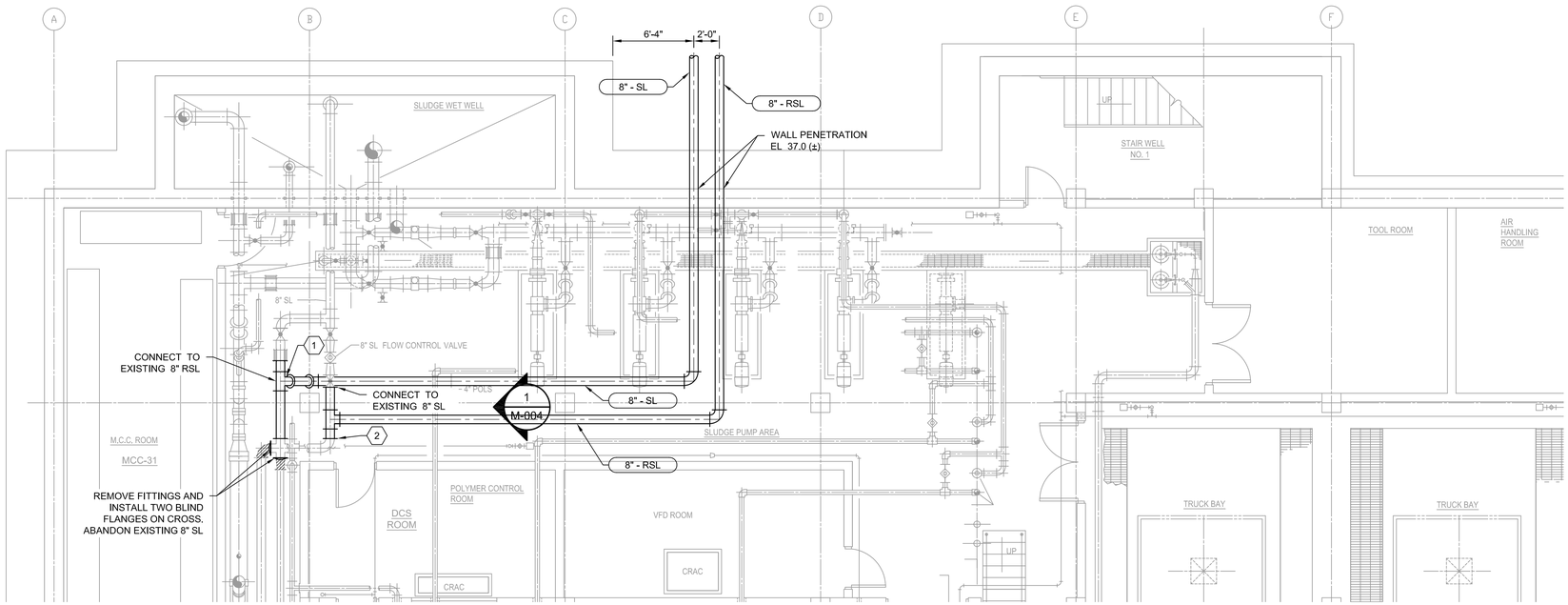
GENERAL NOTES:

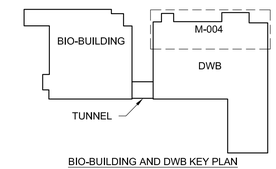
1. DRAWING M-004 WAS RECREATED FROM WPCP UPGRADE AND EXPANSION PHASE IIIA SOLIDS PROCESS FACILITIES DRAWING M-201. ACCURACY OF THIS DRAWING IS NOT GUARANTEED - FIELD VERIFY ALL INFORMATION.
2. PROVIDE PIPE SUPPORT AS NEEDED TO SAFELY CONSTRUCT BOTH LINES.
3. DESIGN BUILDER TO INSTALL NECESSARY BENDS TO AVOID EXISTING PIPING.

KEY NOTES: (#)

1. INSTALL NEW 8" PIPE FROM EXISTING PLUG VALVE TO EXISTING 8"x8" CROSS TO INCLUDE 8" TEE, ROTATED DOWN, AND REQUIRED BENDS, TO ALLOW SLUDGE RETURN TO RUN BELOW 8" SL. SEE PHOTO BELOW.
2. INSTALL NEW 8" PIPE FROM EXISTING PLUG VALVE TO EXISTING 90° ELBOW TO INCLUDE 8" TEE.



1 M-004 DWB LOOKING SOUTH EL 25.0



BIO-BUILDING AND DWB KEY PLAN

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY
NOT FOR
CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY
WPCP
RE-GEN
EARLY WORK

DWB SLUDGE FEED PIPING
RELOCATION PLAN

0 1" 2"

FILENAME M-004.dwg
SCALE 3/16" = 1'-0"

SHEET
M-004

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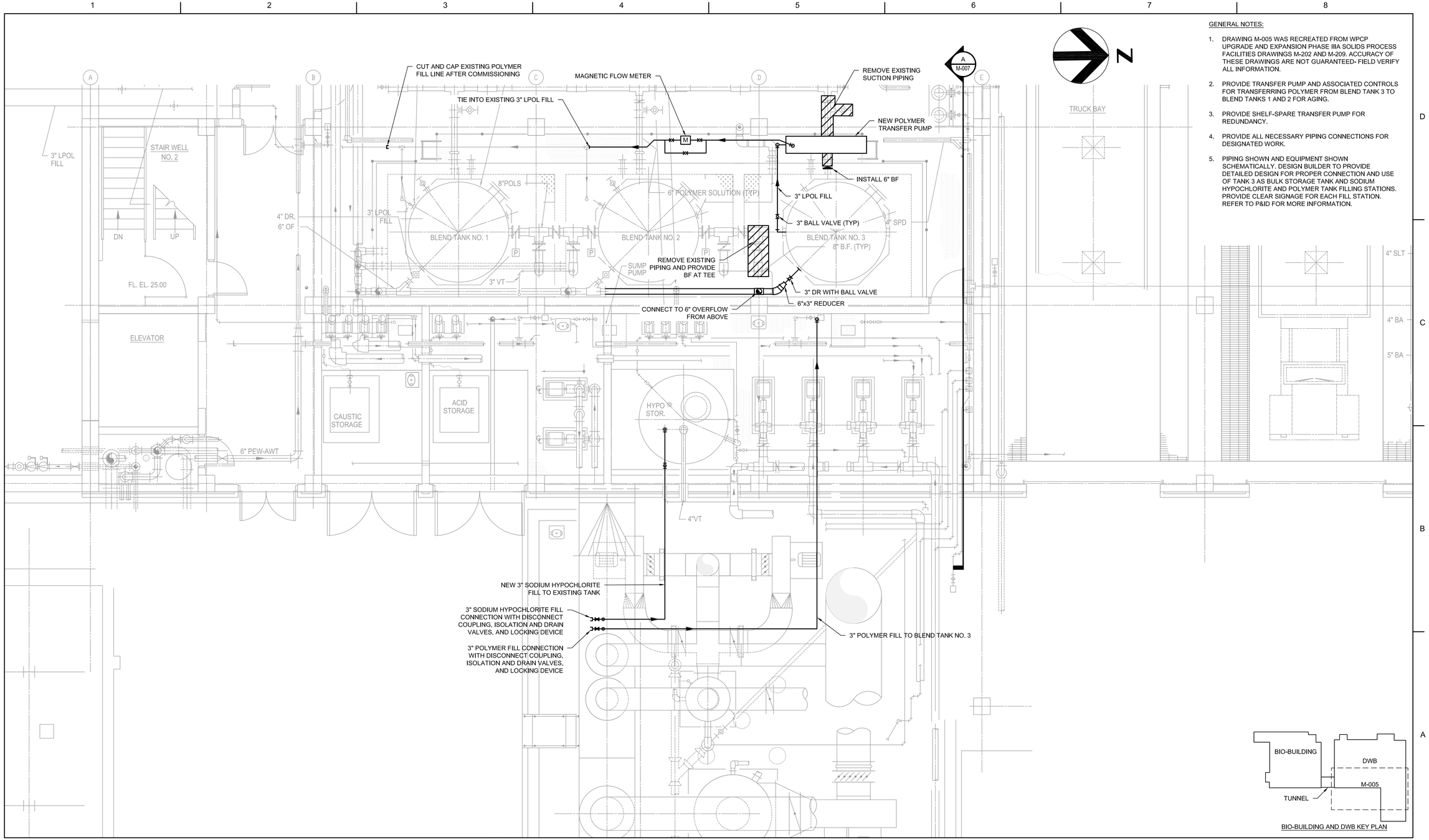

GENERAL NOTES:

1. DRAWING M-005 WAS RECREATED FROM WPCP UPGRADE AND EXPANSION PHASE IIIA SOLIDS PROCESS FACILITIES DRAWINGS M-202 AND M-209. ACCURACY OF THESE DRAWINGS ARE NOT GUARANTEED- FIELD VERIFY ALL INFORMATION.
2. PROVIDE TRANSFER PUMP AND ASSOCIATED CONTROLS FOR TRANSFERRING POLYMER FROM BLEND TANK 3 TO BLEND TANKS 1 AND 2 FOR AGING.
3. PROVIDE SHELF-SPARE TRANSFER PUMP FOR REDUNDANCY.
4. PROVIDE ALL NECESSARY PIPING CONNECTIONS FOR DESIGNATED WORK.
5. PIPING SHOWN AND EQUIPMENT SHOWN SCHEMATICALLY. DESIGN BUILDER TO PROVIDE DETAILED DESIGN FOR PROPER CONNECTION AND USE OF TANK 3 AS BULK STORAGE TANK AND SODIUM HYPOCHLORITE AND POLYMER TANK FILLING STATIONS. PROVIDE CLEAR SIGNAGE FOR EACH FILL STATION. REFER TO P&ID FOR MORE INFORMATION.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

DWB CHEMICAL SYSTEM MODIFICATIONS
FIRST FLOOR PLAN - EL 25.0

0 1" 2"

FILENAME M-005.dwg

SCALE 3/16" = 1'-0"

SHEET **M-005**

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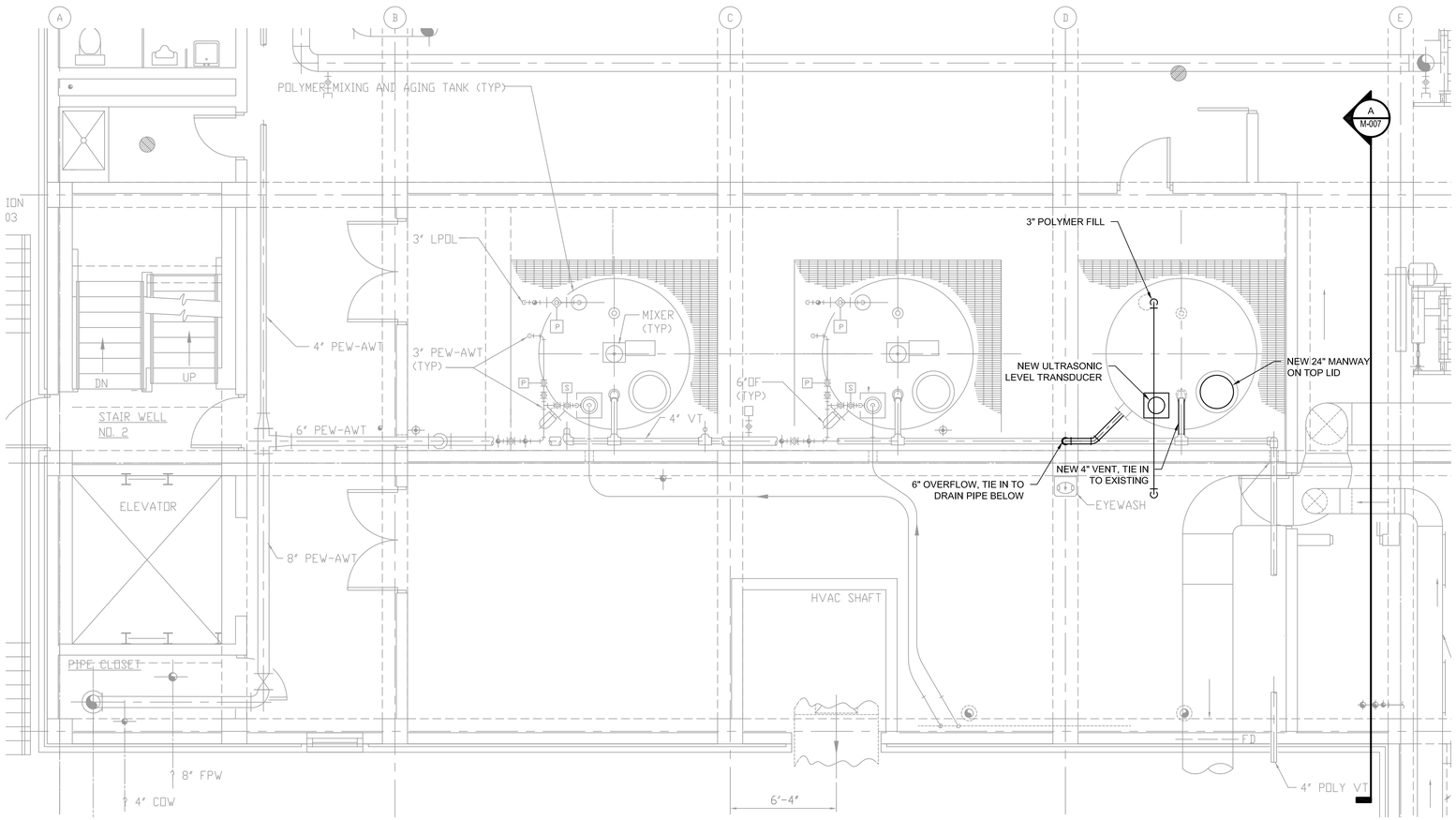
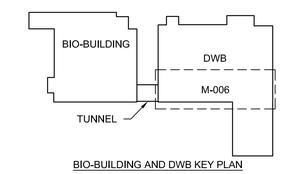


GENERAL NOTES:

1. DRAWING M-006 WAS RECREATED FROM WPCP UPGRADE AND EXPANSION PHASE IIIA SOLIDS PROCESS FACILITIES DRAWING M-204. ACCURACY OF THIS DRAWING IS NOT GUARANTEED- FIELD VERIFY ALL INFORMATION.
2. PROVIDE TRANSFER PUMP AND ASSOCIATED CONTROLS FOR TRANSFERRING POLYMER FROM BLEND TANK 3 TO BLEND TANKS 1 AND 2 FOR AGING.
3. PROVIDE SHELF-SPARE TRANSFER PUMP FOR REDUNDANCY.
4. PROVIDE ALL NECESSARY PIPING CONNECTIONS FOR DESIGNATED WORK.
5. PIPING SHOWN AND EQUIPMENT SHOWN SCHEMATICALLY. DESIGN BUILDER TO PROVIDE DETAILED DESIGN FOR PROPER CONNECTION AND USE OF TANK 3 AS BULK STORAGE TANK.
6. EXISTING 6,200 GALLON FRP BLEND TANK NO. 3 TO BE CONVERTED TO BULK POLYMER STORAGE. FABRICATE PENETRATIONS AS NECESSARY FOR POLYMER FILL, MANWAY, AND ULTRASONIC LEVEL DETECTOR CONNECTIONS TO TANK LID.



BIO-BUILDING AND DWB KEY PLAN

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

DWB CHEMICAL SYSTEM MODIFICATIONS SECOND FLOOR PLAN - EL 43.0

0 1" 2"

FILENAME: M-006.dwg

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

SHEET: **M-006**

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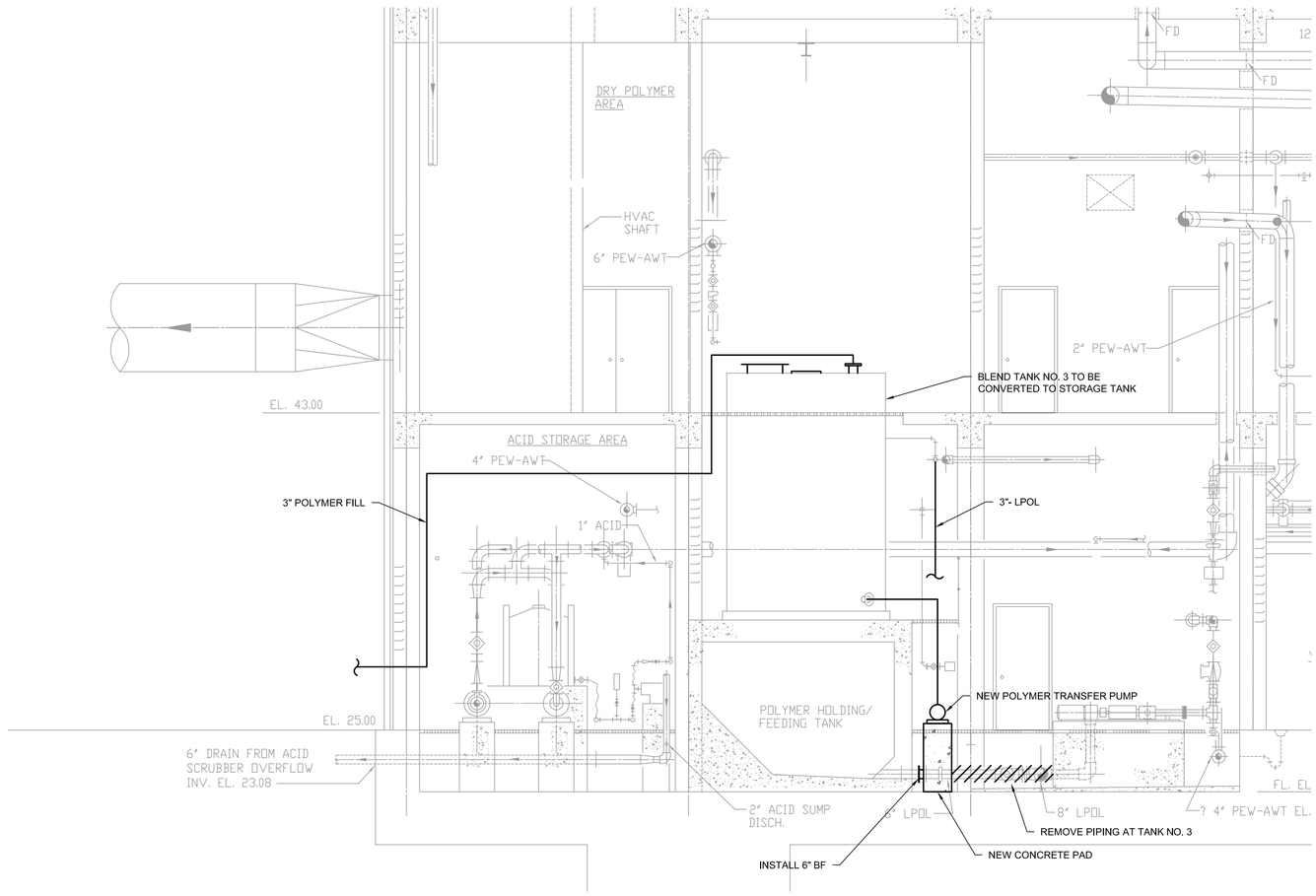
GENERAL NOTES:

1. DRAWING M-007 WAS RECREATED FROM WPCP UPGRADE AND EXPANSION PHASE IIIA SOLIDS PROCESS FACILITIES DRAWING M-214. ACCURACY OF THIS DRAWING IS NOT GUARANTEED- FIELD VERIFY ALL INFORMATION.
2. PROVIDE TRANSFER PUMP AND ASSOCIATED CONTROLS FOR TRANSFERRING POLYMER FROM BLEND TANK 3 TO BLEND TANKS 1 AND 2 FOR AGING.
3. PROVIDE SHELF-SPARE TRANSFER PUMP FOR REDUNDANCY.
4. PROVIDE ALL NECESSARY PIPING CONNECTIONS FOR DESIGNATED WORK.
5. PIPING SHOWN AND EQUIPMENT SHOWN SCHEMATICALLY. DESIGN BUILDER TO PROVIDE DETAILED DESIGN FOR PROPER CONNECTION AND USE OF TANK 3 AS BULK STORAGE TANK.
6. FABRICATE PENETRATIONS AS NECESSARY FOR POLYMER FILL, MANWAY, AND ULTRASONIC LEVEL DETECTOR CONNECTIONS TO TANK LID.



A / M-005 SECTION
SCALE: 1/4" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

DWB CHEMICAL SYSTEM MODIFICATIONS SECTION

0 1" 2"

FILENAME M-007.dwg
SCALE 1/4" = 1'-0"

SHEET M-007

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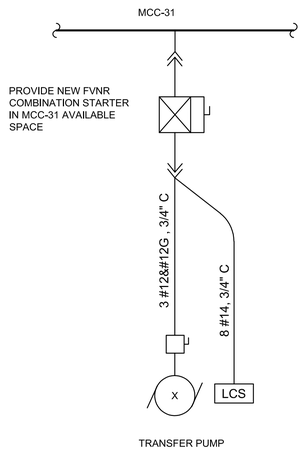
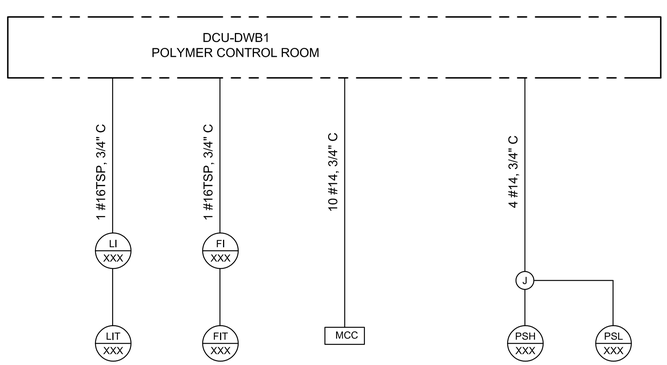
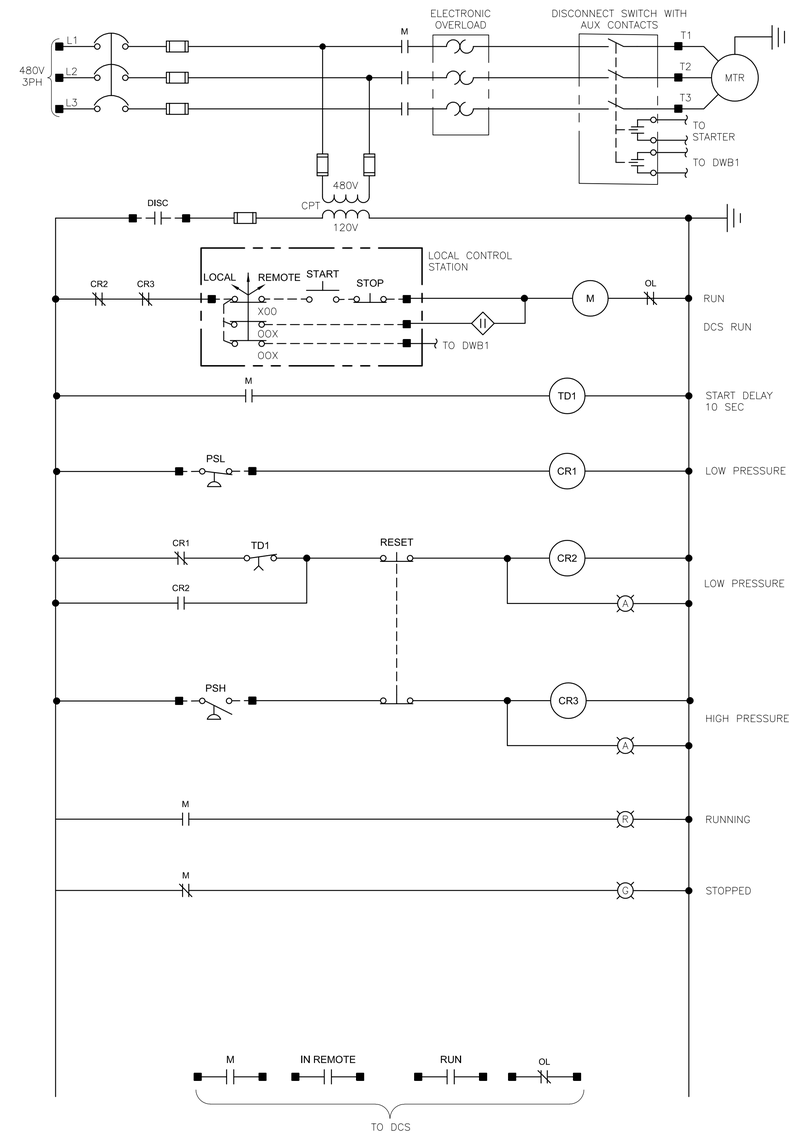


POWER ONE-LINE DIAGRAM



INSTRUMENT ONE-LINE DIAGRAM



TRANSFER PUMP SCHEMATIC

N

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH THE 2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
2. ALL EQUIPMENT SHALL BE UL LISTED FOR THE INTENDED APPLICATION.
3. CONDUIT SHALL BE PVC COATED RGS. WIRE SHALL BE THHN-2.
4. MOTOR STARTERS SHALL MATCH EXISTING MANUFACTURER AND COMPLYWITH NEMA ICS-2. PILOT AND CONTROL DEVICES SHALL MEET NEMA ICS-5

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

ELECTRICAL WIRING DIAGRAMS

0 1" 2"

FILENAME E-001.dwg

SCALE NONE

SHEET **E-001**

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PRIMARY ELEMENT SYMBOLOGY

- ORIFICE PLATE
- PITOT TUBE OR ANNUBAR
- FI — ROTAMETER
- SONIC OR ULTRASONIC FLOWMETER
- M — MAGNETIC FLOWMETER
- FT — MASS DISPERSION FLOWMETER
- FLUME
- WEIR
- PROPELLER OR TURBINE METER
- VENTURI TUBE
- FLOAT SWITCH
- TE — TEMPERATURE ELEMENT WITH THERMOWELL
- FG — SIGHT FLOW GLASS
- TD — THERMAL DISPERSION METER
- ULTRASONIC LEVEL TRANSMITTER
- RADAR TYPE LEVEL TRANSMITTER
- DIFFERENTIAL PRESSURE FLOW METER

LINE TYPES

- MAIN PROCESS LINE
- SECONDARY PROCESS LINE
- AUXILIARY PROCESS LINE
- DIRECTION OF FLOW
- PNEUMATIC SIGNAL
- ELECTRICAL SIGNAL
- HYDRAULIC SIGNAL
- SOFTWARE OR DATA LINK
- SIGNAL CONNECTION
- CROSSOVER - NO CONNECTION
- CAPILLARY

CROSS REFERENCE SYMBOLOGY

- Y-3 — CONTINUATION ON SHEET Y-3
- Y-3 — CONTINUATION ON SHEET Y-3

INSTRUMENT SYMBOLOGY

- LOCALLY MOUNTED FIELD INSTRUMENTATION
- MOUNTED ON PANEL FRONT
- MOUNTED INSIDE PANEL
- XXX — FRONT PANEL MOUNTED ON AUXILIARY PANEL (SUBSCRIPT INDICATES PANEL)
- MOUNTED INSIDE AUXILIARY PANEL
- PILOT LIGHT
- INSTRUMENT FUNCTIONS SHARING COMMON HOUSING
- I — COMPLEX INTERLOCK AS DEFINED IN CONTROL DIAGRAM OR IN SPECIFICATIONS
- SHARED DISPLAY, SHARED CONTROL, FIELD MOUNTED
- SHARED DISPLAY, SHARED CONTROL, PRIMARY LOCATION - NORMALLY ACCESSIBLE TO OPERATOR
- PROGRAMMABLE LOGIC CONTROL, PRIMARY LOCATION - NORMALLY ACCESSIBLE TO OPERATOR
- PROGRAMMABLE LOGIC CONTROL, FIELD MOUNTED

ACTUATOR SYMBOLOGY

- X — OPERATOR ABBREVIATIONS:
  - M = MOTOR
  - P = PNEUMATIC
  - S = SOLENOID
- FLOAT OPERATOR
- SPRING-OPPOSED SINGLE-ACTING PNEUMATIC CYLINDER
- DOUBLE-ACTING PNEUMATIC CYLINDER
- PNEUMATIC DIAPHRAGM
- PNEUMATIC DIAPHRAGM WITH POSITIONER

TYPES OF POWER SUPPLY

A	PLANT COMPRESSED AIR
IA	INSTRUMENTATION AIR
ES	ELECTRIC SUPPLY
NG	NATURAL GAS
HYD	HYDRAULIC

INSTRUMENT IDENTIFICATION LETTERS

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USERS CHOICE			CONTROL	CLOSED
D	USERS CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME; RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECH. ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

MISCELLANEOUS INSTRUMENTATION ABBREVIATIONS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
CL2	CHLORINE (ANALYZER MODIFIER)
CO	CARBON MONOXIDE (ANALYZER MODIFIER)
CO2	CARBON DIOXIDE (ANALYZER MODIFIER)
COMB	COMBUSTIBLES (ANALYZER MODIFIER)
COND	CONDUCTIVITY (ANALYZER MODIFIER)
DEN	DENSITY (ANALYZER MODIFIER)
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DO	DISSOLVED OXYGEN (ANALYZER MODIFIER)
E/P	VOLTAGE TO PNEUMATIC
H2S	HYDROGEN SULFIDE (ANALYZER MODIFIER)
HCL	HYDROGEN CHLORIDE (ANALYZER MODIFIER)
I/O	INPUT/OUTPUT
I/P	CURRENT TO PNEUMATIC
NOX	NITROGEN OXIDE (ANALYZER MODIFIER)
OI	OPERATOR INTERFACE
OIT	OPERATOR INTERFACE TERMINAL
O2	OXYGEN (ANALYZER MODIFIER)
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
SS	SUSPENDED SOLIDS (ANALYZER MODIFIER)
TURB	TURBIDITY (ANALYZER MODIFIER)
WAN	WIDE AREA NETWORK

CONTROL SWITCH NOTATION ABBREVIATIONS

XXX / XXXX — XXX

ACK	ACKNOWLEDGE
E-STOP	EMERGENCY STOP
FAIL	FAILURE
FOR	FORWARD-OFF-REVERSE
FR	FORWARD-REVERSE
FS	FAST-SLOW
HA	HAND-AUTO
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
LL	LEAD-LAG
LLS	LEAD-LAG-STANDBY
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
LS	LEAD-STANDBY
MA	MANUAL-AUTO
OAC	OPEN-AUTO-CLOSE
OC	OPEN-CLOSE
OO	ON-OFF
OSC	OPEN-STOP-CLOSE
RJ	RUN-JOG
RJR	RUN-JOG-REVERSE
SIL	SILENCE
SS	START-STOP

VALVES

- BALL VALVE
- BUTTERFLY VALVE
- CONE VALVE
- CHECK VALVE
- DOUBLE-DISK CHECK VALVE
- BALL CHECK VALVE
- DIAPHRAGM VALVE
- GATE VALVE
- GLOBE VALVE
- KNIFE GATE VALVE
- NEEDLE VALVE
- PINCH VALVE
- PLUG VALVE
- THREE-WAY BALL VALVE
- THREE-WAY PLUG VALVE
- PRESSURE-REDUCING VALVE
- PRESSURE-REGULATING VALVE
- THREE-WAY CONTROL VALVE
- OR — PRESSURE-RELIEF VALVE
- X — AIR-RELEASE VACUUM VALVE
  - A = AIR RELEASE
  - VAC = VACUUM
- LUBRICATED PLUG VALVE
- NORMALLY CLOSED VALVE (FILLED IN)

MISCELLANEOUS SYMBOLOGY

- PROGRESSIVE CAVITY PUMP
- PROGRESSIVE CAVITY CAKE PUMP
- M — MIXER - PROPELLER TYPE
- SUMP PUMP
- CHEMICAL FEED PUMP
- CENTRIFUGAL PUMP
- M — MOTOR
- BAG FILTER
- FLEXIBLE CHUTE
- CALIBRATION COLUMN
- SIGHT GLASS
- FLEXIBLE CONNECTION
- R — ROTAMETER
- QUICK DISCONNECT COUPLING WITH BALL VALVE (CAMBI'S INTERPRETATION)
- GRINDER
- 3W — C — 3W=NPW, THE "C" STANDS FOR A SEAL WATER CONTROL UNIT
- D — DRAIN
- DT — D — DRIP TRAP
- DRAIN WITH CONCRETE CONTAINMENT
- SLIDE GATE
- REDUCER
- PULSATION DAMPENER
- FLAME ARRESTER

GENERAL NOTES:

1. THIS IS A STANDARD INSTRUMENTATION SYMBOLOGY AND ABBREVIATIONS SHEET. LISTING OF SYMBOLS AND ABBREVIATIONS DOES NOT IMPLY ALL SYMBOLS AND ABBREVIATIONS HAVE BEEN USED ON THIS PROJECT.
2. SEE PROCESS, MECHANICAL AND PLUMBING LEGEND SHEET FOR MISCELLANEOUS PIPING SYMBOLS.
3. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
4. VALVE SYMBOLS SHOWN HERE ARE APPLICABLE ONLY TO INSTRUMENTATION DIAGRAMS. SEE PROCESS, MECHANICAL AND PLUMBING LEGEND SHEET FOR VALVE SYMBOLS USED ELSEWHERE ON THE SHEETS.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
CIVIL	L. PEELE
STRUCTURAL	H. ANTSHEL
ELECTRICAL	B. CUNNINGHAM
INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

INSTRUMENTATION LEGEND AND SYMBOLS

0 1" 2"

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SHEET: I-001

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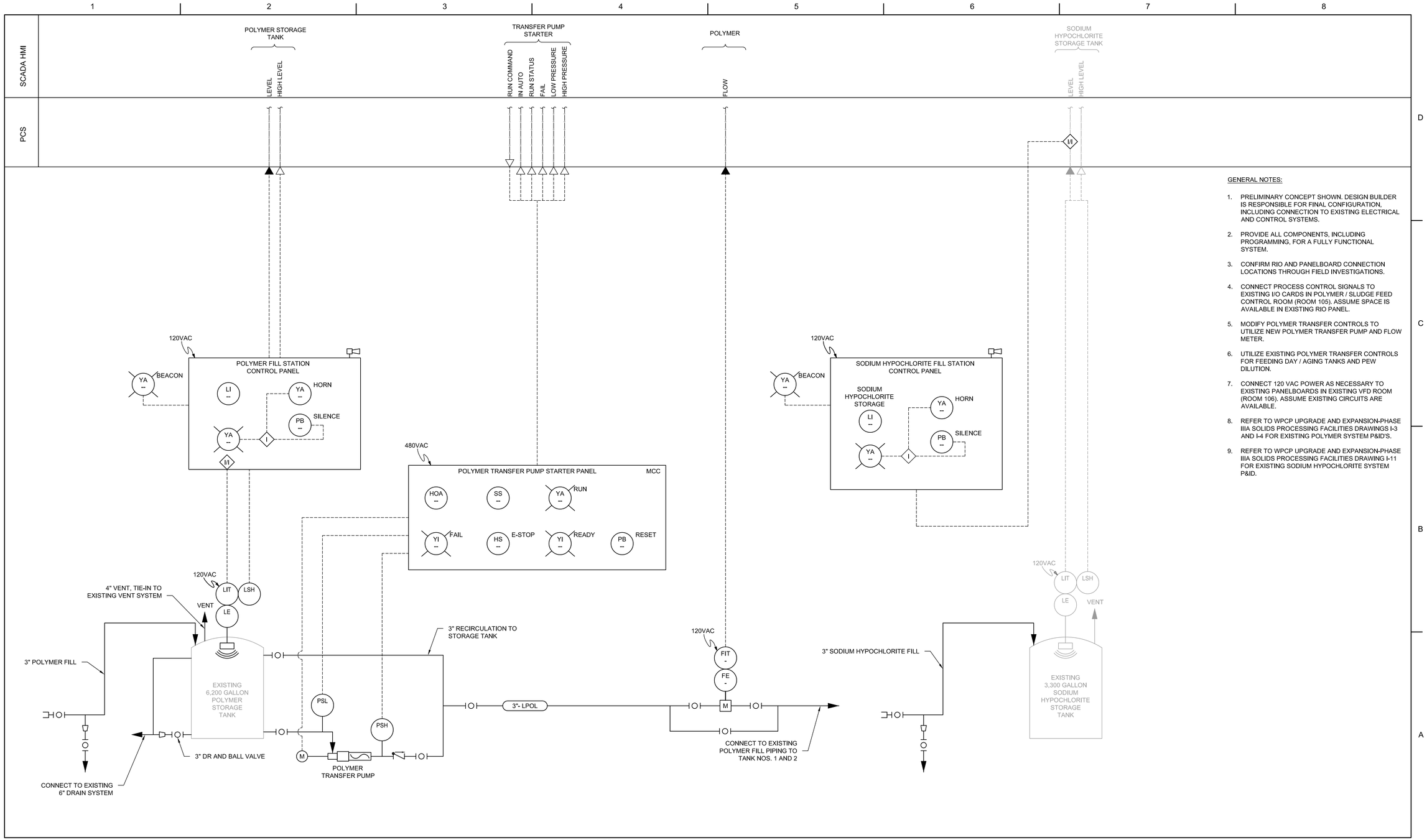

GENERAL NOTES:

1. PRELIMINARY CONCEPT SHOWN. DESIGN BUILDER IS RESPONSIBLE FOR FINAL CONFIGURATION, INCLUDING CONNECTION TO EXISTING ELECTRICAL AND CONTROL SYSTEMS.
2. PROVIDE ALL COMPONENTS, INCLUDING PROGRAMMING, FOR A FULLY FUNCTIONAL SYSTEM.
3. CONFIRM RIO AND PANELBOARD CONNECTION LOCATIONS THROUGH FIELD INVESTIGATIONS.
4. CONNECT PROCESS CONTROL SIGNALS TO EXISTING I/O CARDS IN POLYMER / SLUDGE FEED CONTROL ROOM (ROOM 105). ASSUME SPACE IS AVAILABLE IN EXISTING RIO PANEL.
5. MODIFY POLYMER TRANSFER CONTROLS TO UTILIZE NEW POLYMER TRANSFER PUMP AND FLOW METER.
6. UTILIZE EXISTING POLYMER TRANSFER CONTROLS FOR FEEDING DAY / AGING TANKS AND PEW DILUTION.
7. CONNECT 120 VAC POWER AS NECESSARY TO EXISTING PANELBOARDS IN EXISTING VFD ROOM (ROOM 106). ASSUME EXISTING CIRCUITS ARE AVAILABLE.
8. REFER TO WPCP UPGRADE AND EXPANSION-PHASE IIIA SOLIDS PROCESSING FACILITIES DRAWINGS I-3 AND I-4 FOR EXISTING POLYMER SYSTEM P&ID'S.
9. REFER TO WPCP UPGRADE AND EXPANSION-PHASE IIIA SOLIDS PROCESSING FACILITIES DRAWING I-11 FOR EXISTING SODIUM HYPOCHLORITE SYSTEM P&ID.

ISSUE	DATE	DESCRIPTION
A	06/2022	35% SUBMITTAL

PROJECT MANAGER	BALCHUNAS, BRIAN
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INSTRUMENTATION	
PROJECT NUMBER	10263882

PRELIMINARY NOT FOR CONSTRUCTION

ARLINGTON VIRGINIA

ARLINGTON COUNTY WPCP RE-GEN EARLY WORK

POLYMER FILL, STORAGE, AND TRANSFER AND SODIUM HYPOCHLORITE FILL PROCESS AND INSTRUMENTATION DIAGRAM

0 1" 2"

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SCALE: NOT TO SCALE

SHEET: I-002

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