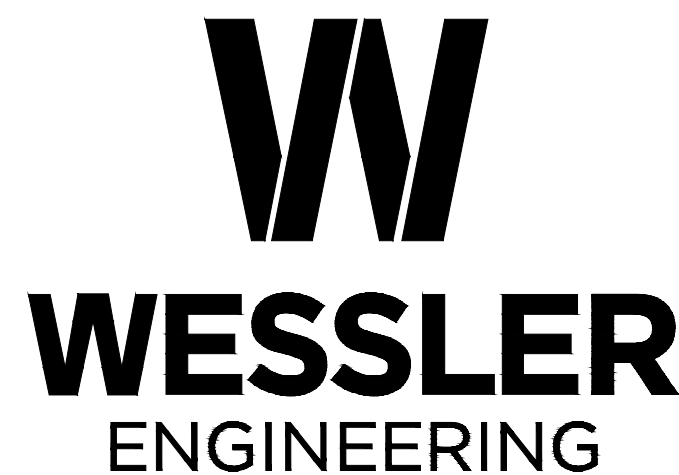
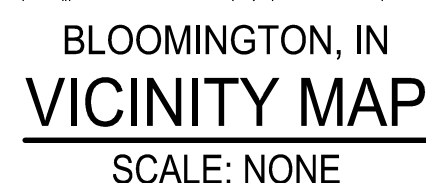


# BLOOMINGTON, INDIANA



**INDIANAPOLIS**  
6219 South East Street  
Indianapolis, Indiana 46227  
Phone: (317) 788-4551 - Fax: (317) 788-4553  
[www.wesslerengineering.com](http://www.wesslerengineering.com)

DRAWINGS PREPARED FOR:

CITY OF BLOOMINGTON UTILITIES

## AUGUST 2020

[illegible]





NOTES:

1. A FIELD SURVEY WAS PERFORMED IN JULY 2008.
2. COORDINATES (INDIANA STATE PLANNED HIGHWAY SYSTEM, NAD 83) AND ELEVATIONS (NAVD 88) ARE LISTED ON TBM LOGS.
3. UNITS ARE U.S. SURVEY FEET AND INCHES.
4. CONTROL POINTS WERE SET USING GPS.
5. A LEVEL LOOK-UP WAS PROVIDED ON THE CONTROL POINTS AND TBMS.

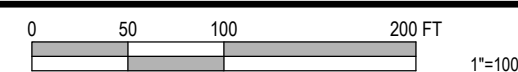
BENCHMARK DESCRIPTION:  
1. TYPICAL SQUARE CUT ON CONCRETE STEP. EL 748.45


CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP 1	1393278.17	3128741.67	745.09	5/8" REBAR
CP 2	1393314.46	3128965.06	749.16	5/8" REBAR
CP 3	1393079.14	3128903.43	744.52	5/8" REBAR

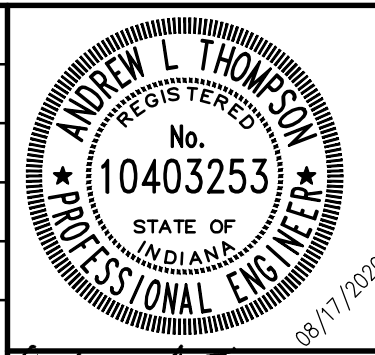
## BLOOMINGTON, IN - MONROE WTP RESIDUALS PUMPING IMPROVEMENTS

PAGE NUMBER	AREA	SHEET TYPE	NUMBER	SHEET DESIGNATION	SHEET TYPE DEFINITIONS: G - GENERAL Y - SITE D - DEMOLITION A - ARCHITECTURAL C - CIVIL/PROCESS S - STRUCTURAL P - PLUMBING M - MECHANICAL E - ELECTRICAL I - INSTRUMENTATION AND CONTROL
<b>GENERAL INFORMATION (AREA 1)</b>					
1	1	G	1.0	1G1	TITLE SHEET
2	1	G	2.0	1G2	LOCATION AND SCOPE OF WORK PLAN, SURVEY CONTROL AND DRAWING INDEX
3	1	G	3.0	1G3	LEGEND, GENERAL NOTES AND UTILITY CONTACT INFORMATION
<b>SITE PLAN (AREA 2)</b>					
4	2	Y	1.0	2Y1	EXISTING SITE PLAN
5	2	Y	2.0	2Y2	ENLARGED SITE PLAN
6	2	E	1.0	2E1	ELECTRICAL SITE PLAN
<b>RESIDUALS HOLDING BASIN AND LAGOONS (AREA 3)</b>					
7	3	D	1.0	3D1	RESIDUALS HOLDING BASIN - DEMOLITION PLAN AND SECTION
8	3	C	1.0	3C1	RESIDUALS HOLDING BASIN - IMPROVEMENTS PLAN AND SECTION
9	3	S	1.0	3S1	STRUCTURAL DETAILS
10	3	E	1.0	3E1	RESIDUALS HOLDING BASIN - POWER PLAN
<b>MISCELLANEOUS DETAILS (AREA 4)</b>					
11	4	EC	1.0	4EC1	EROSION CONTROL DETAILS
12	4	EC	2.0	4EC2	EROSION CONTROL DETAILS
<b>ELECTRICAL (AREA 5)</b>					
13	5	E	1.0	5E1	ELECTRICAL LEGEND
14	5	E	2.0	5E2	CHEMICAL BUILDING ELECTRICAL IMPROVEMENTS
15	5	E	3.0	5E3	CONTROL ONE-LINE DIAGRAMS
<b>INSTRUMENTATION AND CONTROL (AREA 6)</b>					
16	6	N	1.0	6N1	PROCESS AND INSTRUMENTATION DIAGRAM LEGEND
17	6	N	2.0	6N2	PROCESS AND INSTRUMENTATION DIAGRAM

## LOCATION AND SCOPE OF WORK PLAN



SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	CHECKED BY	ALT				
	APPROVED BY	DLL				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
	227120-04-001					



Andrew L. Thorpe









## LOCATION AND SCOPE OF WORK PLAN, SURVEY CONTROL AND DRAWING INDEX

2



Drawing: \\Bloomington\_IN\Projects\227120-GS.dwg | Layout: 1-G3 | Plotter: 08/27/20 @ 06:58:20 | LastSavedBy: CurtisG

EXISTING FEATURES LEGEND					
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BENCH MARK		CISTERN		EASEMENT - CONSTRUCTION/PERMANENT
	TEMPORARY BENCH MARK		ELECTRIC METER		LOT BOUNDARY
	SOIL BORING LOCATION		AIR CONDITIONING UNIT		PROPERTY BOUNDARY
	SECTION CORNER		UTILITY RISER (DEFINED BY UTILITY)		RIGHT-OF-WAY - TEMPORARY/PERMANENT
	DRILL HOLE IN CONCRETE/HARRISON MONUMENT		UTILITY PEDESTAL (DEFINED BY UTILITY)		SECTION BOUNDARY
	CONTROL POINT (SET/FOUND)		UTILITY MARKER (DEFINED BY UTILITY)		WETLANDS
	MAGNETIC NAIL (SET/FOUND)		JOINT POWER/TELEPHONE POLE		CONTOUR - INTERMEDIATE ELEVATION
	BOAT SPIKE (SET/FOUND)		LIGHT POLE		CONTOUR - INDEX ELEVATION
	PK NAIL (SET/FOUND)		LIGHT ON POWER POLE		OVERHEAD ELECTRIC
	RAILROAD SPIKE (SET/FOUND)		LIGHT ON JOINT POLE		OVERHEAD CABLE TV
	R/W MARKER - CONCRETE/GRANITE/STONE		POWER POLE		OVERHEAD TELEPHONE
	IRON PIPE/IRON PIN/REBAR (WITH DIAMETER)		TELEPHONE POLE		UNDERGROUND CABLE TV
	BRASS PLUG		LAMP POST		UNDERGROUND ELECTRIC
	CABLE TV MANHOLE		GUY ANCHOR		UNDERGROUND FIBER OPTIC
	ELECTRIC MANHOLE		GUY POLE OR STUB		GAS MAIN
	GAS MANHOLE		CONTROLLER CABINET		DIGESTER GAS
	OTHER MANHOLE		FLAG POLE		PETROLEUM MAIN
	TELEPHONE MANHOLE		POST		UNDERGROUND TELEPHONE
	TELEPHONE VAULT		GROUND LIGHT		WATER MAIN
	TRAFFIC MANHOLE		MAILBOX		WATER SERVICE
	TRAFFIC HANDHOLE		DOUBLE/MULTIPLE MAILBOX		FORCEMAIN
	WATER MANHOLE		MAST ARM POLE		GRAVITY SEWER PIPE
	AIR RELEASE VALVE		TRAFFIC SIGNAL STRAIN POLE		PLANT CHLORINE PIPE
	SANITARY SEWER MANHOLE		SIGNAL LOOP DETECTOR BOX		TOP OF BANK/TOE OF SLOPE
	DRAINAGE/STORM SEWER MANHOLE		SIGNAL LOOP DETECTOR LOOP		CENTERLINE OF DITCH/SWALE/STREAM
	SANITARY SEWER CLEANOUT		SIGN - SINGLE POST		FENCE - FIELD
	SEPTIC TANK		SIGN - DOUBLE POST		FENCE - METAL
	VALVE VAULT		SIGN - RAILROAD SIGNAL		FENCE - WOOD
	BEEHIVE INLET		SIGN - RAILROAD CROSSING		GUARD RAIL
	CURB INLET		BUSH		STREAM
	DROP INLET		STUMP		TREE/BRUSH LINE
	CATCH BASIN		TREE - CONIFEROUS		
	DOWNSPOUT		TREE - DECIDUOUS		
	GAS METER		ROAD CLOSURE		
	GAS VALVE		SATELLITE		
	GAS SERVICE VALVE		SPRINKLER CONTROL VALVE		
	PETROLEUM VALVE		WATER METER		
	PETROLEUM SHUT OFF VALVE		WATER VALVE		
	GAS STATION NON DRINKING WELL		WATER SERVICE VALVE		
	GAS STATION FILL CAP		WATER WELL		
	NATURAL GAS WELL/STORAGE WELL		WET WELL		
	SPRINKLER HEAD		FIRE HYDRANT		
	YARD HYDRANT		PROCESS VALVE		

\*NOTE: THIS TABLE IS A LISTING OF TYPICAL EXISTING SYMBOLS AND MAY NOT INCLUDE ALL EXISTING SYMBOLS FOUND WITHIN THIS PLAN SET. ALL PROPOSED ITEMS WILL BE CALLED OUT ON THEIR PLAN SHEETS. IF A QUESTION ARISES ON THE MEANING OF ANY SYMBOL NOT LISTED IN THIS TABLE, PLEASE CONTACT THE ENGINEER FOR CLARIFICATION. THE SYMBOLS ARE NOT TO SCALE.

TABLE OF ABBREVIATIONS			
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	IPS	IRON PIPE SIZE
ALUM	ALUMINUM	ISPC	INDIANA STATE PLANE COORDINATE
APP	APPARENT	LB	POUND(S)
APPROX	APPROXIMATE(LY)	LF	LINEAR FEET
ASPH	ASPHALT	LN	LANE
ASSOC	ASSOCIATES	LS	LIFT STATION
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	MA EX	MATCH EXISTING
AVE	AVENUE	MJ	MECHANICAL JOINT
AVG	AVERAGE	MATL	MATERIAL
BLDG	BUILDING	MAX	MAXIMUM
BLVD	BOULEVARD	MH	MANHOLE
BM	BENCHMARK	MIN	MINIMUM
CO	CLEANOUT	MISC	MISCELLANEOUS
CI	CAST IRON	N	NORTHING, NORTH
CL	CENTER LINE	NGS	NATIONAL GEODETIC SURVEY
CMA	COLD MIX ASPHALT	NO.	NUMBER
CMP	CORRUGATED METAL PIPE	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	OD	OUTSIDE DIAMETER
CONC	CONCRETE	PC	POINT OF CURVE (BEGIN CURVE)
CONT	CONTINUOUS	POLY	POLYETHYLENE
CNR	CORNER	PI	POINT OF INTERSECTION
CP	CONTROL POINT	POT	POINT ON TANGENT
CPP	CORRUGATED PLASTIC PIPE	PT	POINT OF TANGENT (END CURVE)
CR STN	CRUSHED STONE	PSI	POUNDS PER SQUARE INCH
CYD	CUBIC YARD	PT	POINT
D	DEPTH	PVC	POLYVINYL CHLORIDE
DI	DUCTILE IRON	R	RADIUS
DI MJ	DUCTILE IRON MECHANICAL JOINT	ROW	RIGHT-OF-WAY
DBL	DOUBLE	RCP	REINFORCED CONCRETE PIPE
DIA	DIAMETER	RD	ROAD
DIP	DUCTILE IRON PIPE	S	SOUTH
DIPS	DUCTILE IRON PIPE SIZE	SR	STATE ROUTE
DR	DUCTILE IRON PIPE	SST	STAINLESS STEEL
E	EAST	SVA	SERVICE VALVE ASSEMBLY
EF	EACH FACE	SB	SOIL BORING
EL	ELEVATION	SCHED	SCHEDULE
EJ	EAST JORDAN IRON WORKS	SECT	SECTION
EL	ELEVATION	SF	SQUARE FEET
EX	EXISTING	SHT	SHEET
EXP	EXPANSION	SPECS	SPECIFICATION(S)
FFE	FINISH FLOOR ELEVATION	SQ	SQUARE
FM	FORCE MAIN	SRF	STATE REVOLVING FUND
FND	FOUND	ST	STREET
FT	FEET	STA	STATION
FTG	FOOTING	SYD	SQUARE YARD
GALV	GALVANIZED	TBM	TEMPORARY BENCHMARK
GPS	GLOBAL POSITIONING SYSTEM	TC	TOP OF CASTING
HMA	HOT MIX ASPHALT	TYP	TYPICAL
HDPE	HIGH DENSITY POLYETHYLENE	USGS	US GEOLOGICAL SURVEY
HORIZ	HORIZONTAL	VERT	VERTICAL
ID	INSIDE DIAMETER	VLV	VALVE
IE	INVERT ELEVATION	W	WIDTH, WEST
INC	INCORPORATED	WSE	WATER SURFACE ELEVATION
INDOT	INDIANA DEPARTMENT OF TRANSPORTATION	YR	YEAR
INSTR	INSTRUMENT		
INV	INVERT		

\*NOTE: THIS TABLE IS A LISTING OF TYPICAL ABBREVIATIONS AND MAY NOT INCLUDE ALL ABBREVIATIONS FOUND WITHIN THIS PLAN SET. IF A QUESTION ARISES ON THE MEANING OF AN ABBREVIATION NOT LISTED IN THIS TABLE, PLEASE CONTACT THE ENGINEER FOR CLARIFICATION.

GENERAL NOTES:

- NOTIFY THE ENGINEER IF ANY CONFLICTING INFORMATION BECOMES APPARENT IN THE CONTRACT DOCUMENTS AS SOON AS POSSIBLE AND PRIOR TO THE COMMENCEMENT OF ANY WORK IN THE VICINITY OF OR RELATIVE TO THE APPARENT CONFLICT SO THAT CLARIFICATION MAY OCCUR PRIOR TO CONSTRUCTION.
- ANY ALTERATIONS TO THESE DRAWINGS NOT AUTHORIZED BY WESSLER ENGINEERING AND NOT IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS AND RECORDS ON FILE AT WESSLER ENGINEERING SHALL RELIEVE WESSLER ENGINEERING OF ANY RESPONSIBILITY FOR THE ACCURACY OF THE DRAWINGS.
- USE CAUTION DURING THE EXECUTION OF WORK TO PREVENT DAMAGE TO STATE, COUNTY, MUNICIPAL, AND PRIVATE PROPERTY. REPAIR ALL DAMAGES AS A RESULT OF OPERATIONS, INCLUDING DAMAGE TO DRAINAGE STRUCTURES, FIELD TILES, PUBLIC/PRIVATE ROADS, AND LANDSCAPING (INCLUDING FENCING). REPAIR AND REPLACE DAMAGED ITEMS AT NO ADDITIONAL COST TO THE OWNER. PERFORM ALL REPAIR AND REPLACEMENT WORK TO THE SATISFACTION OF THE PERMITTING AGENCY, THE OWNER AND THE ENGINEER.
- TAKE CARE TO AVOID DAMAGE TO PAVED AREAS WHICH ARE NOT SPECIFICALLY CALLED OUT FOR REPAIR OR REPLACEMENT. REPAIR, OR REPLACE ALL SUCH PAVEMENTS WHICH ARE DAMAGED BY CONSTRUCTION ACTIVITIES AS A RESULT OF CONSTRUCTION TRAFFIC AT NO ADDITIONAL COST TO THE OWNER.
- OBTAIN ALL TEMPORARY EASEMENTS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
- COMPLY WITH ALL APPLICABLE PERMITS AND REGULATIONS. APPLICABLE PERMITS REQUIRED TO THE OWNER WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT ALL APPLICABLE PERMITTING AGENCIES WITHIN THE TIME PERIOD SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION.
- ALL PRIVATE WELL LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. FIELD VERIFY AND DETERMINE EXACT LOCATIONS OF ALL PRIVATE WELLS IN THE PROJECT AREA.
- ALL EXISTING AND NEW UTILITY INFORMATION, INCLUDING BUT NOT LIMITED TO LOCATION, SIZE AND INVERT ELEVATION, IS SHOWN BASED UPON AVAILABLE INFORMATION. THE ENGINEER DOES NOT GUARANTEE OR ASSUME SUCH INFORMATION TO BE TRUE, ACCURATE, ALL INCLUSIVE OR EVEN APPROXIMATE. CONTACT THE INDIANA UNDERGROUND PLANT PROTECTION SERVICE (IUPPS) AT LEAST FORTY-EIGHT (48) HOURS BEFORE ANY OF ANY CONSTRUCTION ACTIVITY. CONTACT NON-MEMBER UTILITIES DIRECTLY.
- DETERMINE WHICH UTILITIES MAY CONFLICT WITH WORK AND VERIFY THEIR LOCATION, SIZE AND ELEVATION PRIOR TO CONSTRUCTION AND DETERMINE IF THERE ARE ANY DISCREPANCIES OR CONFLICTS. IF ANY DISCREPANCIES OR CONFLICTS ARE DISCOVERED, NOTIFY THE ENGINEER AS SOON AS POSSIBLE.
- EXISTING UTILITY SERVICE LINES TO INDIVIDUAL CUSTOMERS MAY NOT BE SHOWN ON THE DRAWINGS. ASSUME THAT UNDERGROUND SERVICE LINES FOR ALL UTILITIES EXIST TO EACH PROPERTY ALONG THE ROUTE OF THE PLANNED IMPROVEMENTS.
- COORDINATE ALL WORK WITH THE RESPECTIVE UTILITIES. SCHEDULE WORK ACCORDINGLY, AND NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY.
- COORDINATE PLANNED UTILITY SERVICE INTERRUPTIONS WITH THE RESPECTIVE UTILITIES AND THE UTILITIES' AFFECTED CUSTOMERS. SERVICE INTERRUPTIONS SHOULD NOT LAST MORE THAN FOUR (4) HOURS. GIVE WRITTEN NOTICE TO ALL AFFECTED UTILITY CUSTOMERS AND PROPERTY OWNERS AT LEAST TWENTY-FOUR (24) HOURS BUT NOT MORE THAN SEVENTY-TWO (72) HOURS PRIOR TO ANY PLANNED INTERRUPTION OF UTILITY SERVICE.
- USE CAUTION DURING THE EXECUTION OF WORK TO PREVENT DAMAGE TO EXISTING UTILITIES. REPAIR OR REPLACE ALL PUBLIC AND PRIVATE FACILITIES DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS.
- BRACE AND PROTECT ALL UTILITY POLES AND EXISTING STRUCTURES ADJACENT TO NEW EXCAVATIONS. UTILITY POLE BRACING SHALL BE AS DIRECTED BY THE GOVERNING UTILITY.
- MAINTAIN EXISTING STORMWATER DRAINAGE FOR THE ENTIRE DURATION OF THE PROJECT.
- DO NOT DISTURB EXISTING MANHOLES OR INLETS, UNLESS NOTED OTHERWISE.
- ALL EQUIPMENT, APPURTENANCES AND PIPING REMOVED AS PART OF THE DEMOLITION SHALL FIRST BE OFFERED TO THE OWNER FOR SALVAGE. DELIVER SALVAGED ITEMS SELECTED BY OWNER TO A LOCATION DESIGNATED BY THE OWNER OR ENGINEER. IN THE EVENT THE OWNER DOES NOT ELECT TO KEEP THE REMOVED ITEMS, REMOVE SUCH ITEMS FROM THE SITE AND DISPOSE OF AT A LOCATION APPROVED FOR SUCH DISPOSAL AT THE CONTRACTOR'S EXPENSE.
- COORDINATE STAGING AREA LOCATIONS WITH THE OWNER.
- ALL CONSTRUCTION TRAFFIC SHALL USE MAJOR ROADS. NO CONSTRUCTION TRAFFIC SHALL USE LOCAL STREETS FOR INDIRECT ACCESS.
- TO CONTROL DUST, REMOVE SOIL FROM STREETS USED BY CONSTRUCTION TRAFFIC DAILY, VACUUM AND WATER AS NECESSARY AND/OR AS DIRECTED BY THE OWNER.
- PLACE NEW ASPHALT PAVEMENT FLUSH WITH ADA RAMPS.
- ALL EXISTING PIPING MAY NOT BE SHOWN. REFERENCE EXISTING RECORD DRAWINGS ON FILE WITH THE OWNER AND WESSLER ENGINEERING FOR ADDITIONAL INFORMATION OF EXISTING PIPING AND CONDUIT THROUGHOUT THE PLANT SITE.
- THE WORK SHOWN ON THESE DRAWINGS IS OCCURRING ON A PLANT SITE IN WHICH BURIED ELECTRICAL CONDUIT AND SMALL PIPING MAY EXIST THROUGHOUT AND IN THE VICINITY OF THE PROJECT AND MAY NOT BE SHOWN ON THESE DRAWINGS. EXPECT TO ENCOUNTER BURIED ELECTRICAL AND COMMUNICATIONS WIRING, WITH OR WITHOUT CONDUIT, SMALL PIPING, AND FIELD TILE WHILE DIGGING ON THIS SITE.
- NEW PIPING CARRYING LIQUIDS SHALL HAVE MINIMUM COVER AS DEFINED IN THE MISCELLANEOUS SITE DETAILS, UNLESS SPECIFIC ELEVATIONS ON THE DRAWINGS INDICATE OTHERWISE.
- INSPECT THE SITE PRIOR TO BIDDING TO UNDERSTAND THE EXTENT OF THE DEMOLITION WORK INVOLVED AND ADJUST BID ACCORDINGLY.
- COMPLETELY REMOVE UNDERGROUND PIPING THAT HAS PREVIOUSLY BEEN OR WILL BE TAKEN OUT OF SERVICE, IN CONFLICT WITH THE NEW WORK. UNLESS OTHERWISE NOTED, ABANDON IN PLACE ALL UNDERGROUND PIPING NOT IN CONFLICT WITH THE NEW WORK. DO NOT LEAVE ABANDONED PIPING LIVE. SEE SPECIFICATION SECTION 02050 FOR DEMOLITION PROCEDURES. SEE SPECIFICATION SECTION 01550 FOR PLANT OPERATIONS DURING CONSTRUCTION FOR COORDINATION OF DEMOLITION WORK AND NEW CONSTRUCTION.
- ALL EQUIPMENT TO BE REMOVED THAT HAS ELECTRICAL COMPONENTS, CONDUIT AND WIRING, OR SMALL PIPING CONNECTED SHALL HAVE THE ELECTRICAL COMPONENTS AND SMALL PIPING REMOVED BACK TO THE SOURCE.

UTILITY CONTACTS

WATER

CITY OF BLOOMINGTON UTILITIES  
600 E MILLER DR  
BLOOMINGTON, IN 47401  
(812) 349-3632  
ATTN: BRAD SCHROEDER

GAS

VECTREN (ENGINEERING)  
1800 W 26TH ST  
MUNCIE, IN  
(765) 287-2119  
ATTN: JONATHAN EASTHAM

VECTREN (CONSTRUCTION)  
205 S MADISON  
BLOOMINGTON, IN  
(812) 330-4061  
ATTN: EVAN HAMILTON

ELECTRIC

DUKE ENERGY  
1100 W 2ND ST  
BLOOMINGTON, IN 47403  
(800) 521-2232  
(812) 337-3033  
ATTN: JACK URRUTIZ

TELEPHONE/FIBER/CABLE

AT&T DISTRIBUTION  
4517 E INDIANA BELL CT  
BLOOMINGTON, IN 47408  
(812) 334-4629  
ATTN: RUSS OWEN

COMCAST  
(812) 360-3090  
ATTN: STEVE MCARTER

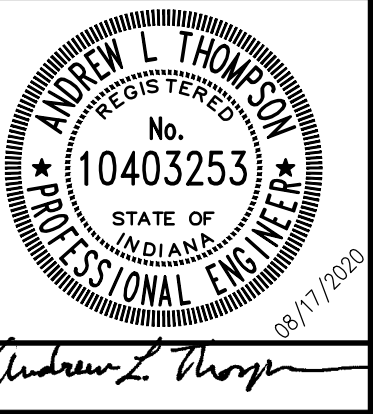
MCCSC

315 E. NORTH DRIVE  
BLOOMINGTON, IN 47401  
(812) 330-7700

STREET

MONROE HIGHWAY DEPARTMENT  
501 N MORTON ST  
STE 216  
BLOOMINGTON, IN 47404  
(812) 349-2554  
ATTN: PAUL SATTERLY

SCALE VERIFICATION		DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING <div></div>	CHECKED BY	ALT					
	APPROVED BY	DLL					
	ISSUE DATE						
	AUGUST 2020						
	PROJECT NUMBER						
	227120-04-001						




MONROE WTP RESIDUALS PUMPING IMPROVEMENTS	
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA	
LEGEND, GENERAL NOTES AND UTILITY CONTACT INFORMATION	

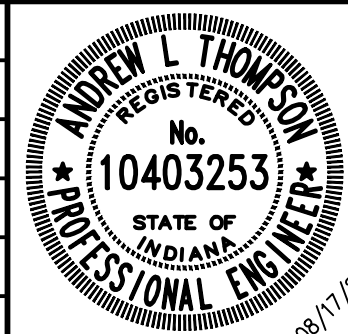
SHEET NO.
1G3
PAGE NO.
3





0 40 80 160 FT 1"=80'

SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING  	CHECKED BY	ALT				
	APPROVED BY	DLL				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
	227120-04-001					



Andrew L. Thompson



*More than a Project™*

## MONROE WTP RESIDUALS PUMPING IMPROVEMENTS

CITY OF BLOOMINGTON UTILITIES  
BLOOMINGTON, INDIANA

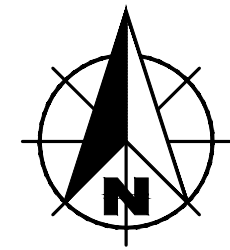
## EXISTING SITE PLAN

SHEET NO.

# 2Y1

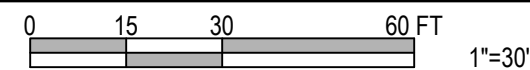
PAGE NO.





- NOTES:
1. PROVIDE A PRIVATE UTILITY LOCATE SERVICE TO LOCATE ALL BURIED UTILITIES AND STRUCTURES IN THE AREA OF NEW BUBBLER CONTROL STRUCTURE AND PIPING. EXCAVATE FOR NEW STRUCTURES AND PIPING BY VACUUM EXCAVATION. AT A MINIMUM, VACUUM EXCAVATE THE PERIMETER OF THE STRUCTURE TO THE DEPTH OF THE STRUCTURE TO LOCATE ANY UTILITIES THAT CROSS THE WORK.
  2. NOT ALL EXISTING PIPING IS SHOWN FOR CLARITY. SEE GENERAL NOTES 22 AND 23 ON SHEET 1G3.

ENLARGED SITE PLAN



Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\Improvements\DWG\Sheets\227120-SI.dwg | Layout: 2Y2 | Plotted: 09/27/20 @ 07:25:03 | LastSavedBy: CurtisG

<div>SCALE VERIFICATION</div> <div>BAR IS ONE INCH LONG ON ORIGINAL DRAWING</div> <div><div></div></div>	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	<div><div>ANDREW L. THOMPSON</div><div>REGISTERED</div><div>No. 10403253</div><div>STATE OF INDIANA</div><div>PROFESSIONAL ENGINEER</div><div>08/17/2020</div></div> <div><div>ANDREW L. THOMPSON</div></div>	<div><div>W</div><div>WESSLER</div><div>ENGINEERING</div><div>More than a Project™</div></div>	MONROE WTP RESIDUALS PUMPING IMPROVEMENTS			SHEET NO.
	CHECKED BY	ALT							CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA			2Y2
	APPROVED BY	DLL							ENLARGED SITE PLAN			PAGE NO.
	ISSUE DATE											5
	AUGUST 2020											
	PROJECT NUMBER											
	227120-04-001											



Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\Improv\CAD\DWG\Sheets\227120-EL-SI.dwg | Layout: 2E1 | Plotted: 08/27/20 @ 07:12:13 | LastSavedBy: CurtissG

POWER CONDUIT AND WIRE

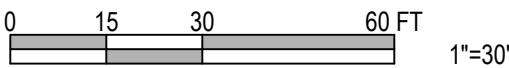
- A** NEW 3#3, #8G  
FROM MCC CAB 6DL TO RESIDUALS  
TRANSFER PUMP PANEL VIA PATH:  
6DL, EXISTING 2"C (MC-8), RESIDUALS  
PULL BOX, NEW 2"C (RTP-1), RESIDUALS  
TRANSFER PUMP PANEL
- B** NEW 3#8, #10G  
FROM MCC CAB 6DR TO RESIDUALS  
MIXING PANEL VIA PATH:  
EXISTING 2"C (MC-11), RESIDUALS PULL  
BOX, NEW 2"C (RM-1)
- C** NEW 2"C SPARE (RTP-3)
- D** NEW 2"C SPARE (RM-2)
- E** EXISTING 8 - 2"C SPARE  
EXISTING 1 - 2"C UNKNOWN CONDUCTOR  
LP-LCF
- F** EXISTING 2"C, 3#4, #8G
- G** NEW 3/4"C SPARE (MC-26)

L & C CONDUIT AND WIRE

- A** NEW FIBER OPTIC CABLE  
FROM CP-CHEM TO CP-RTP VIA PATH:  
CP-CHEM, EXISTING 2"C, RESIDUALS PULL  
BOX, NEW 2"C (RTP-2)
- F** EXISTING 2"C, NEW 2/C#16TPS
- G** NEW 3/4"C, 2/C#16TPS (MC-27)
- H** NEW 2"C SPARE (RTP-4)
- I** NEW 1"C, CAT6 ETHERNET (RX-1)  
NEW 1"C, SPARE (RX-2)



ENLARGED ELECTRICAL SITE PLAN



- KEYED NOTES:
1. OLD WIRE TO BE REMOVED FROM CONDUIT MC-8 THRU MC-13
  2. ELECTRIC HAND HOLE IN MIDDLE OF MC-26 AND MC-27 TO ASSIST IN INSTALLATION OF WIRE

For Viewing Purposes Only - Visit wesslerengineering.com to Purchase

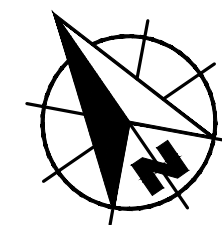
SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING <div></div>	CHECKED BY	WCM				
	APPROVED BY	WCM				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
	227120-04-001					



MONROE WTP RESIDUALS PUMPING IMPROVEMENTS	
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA	
ELECTRICAL SITE PLAN	

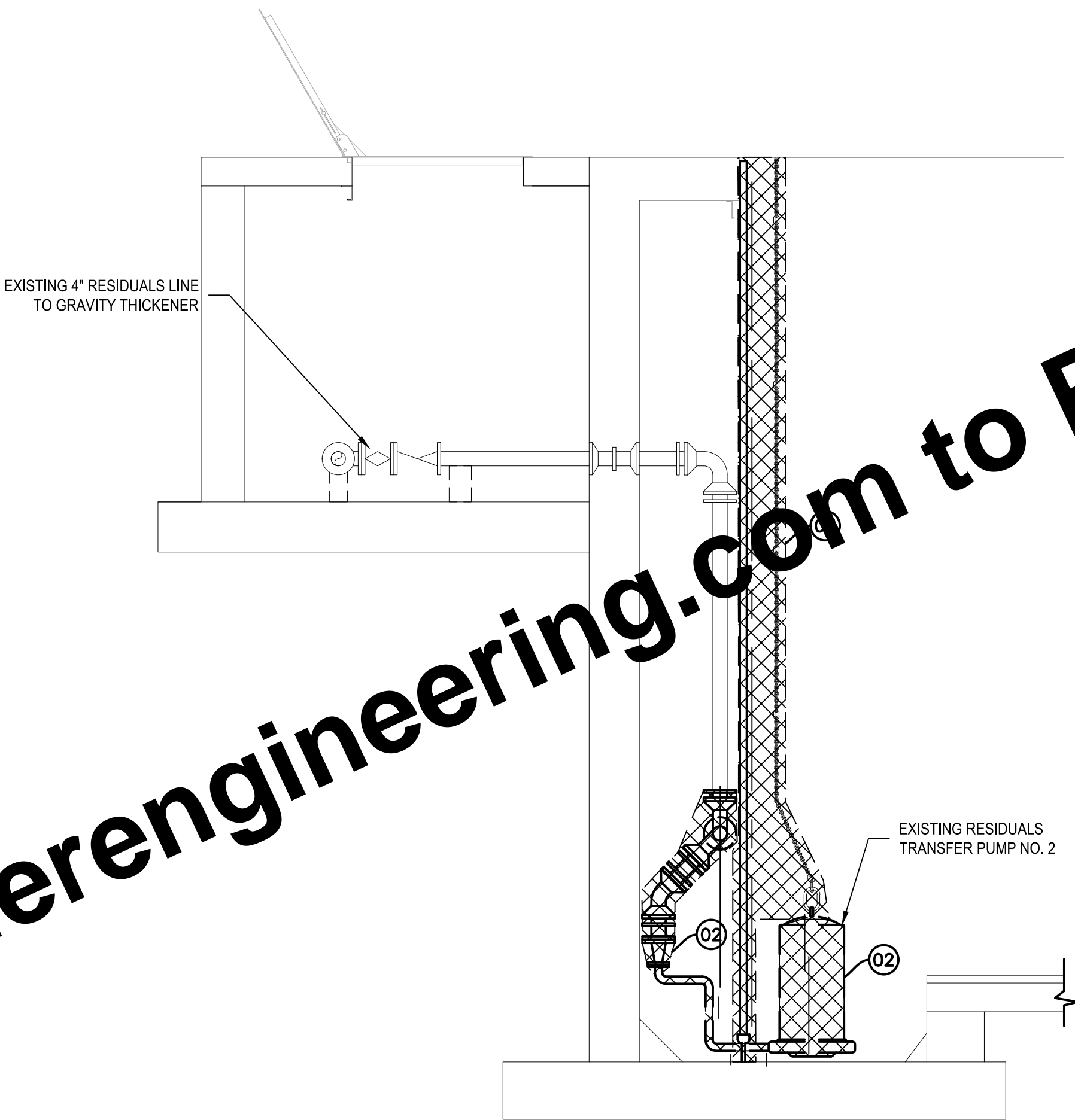
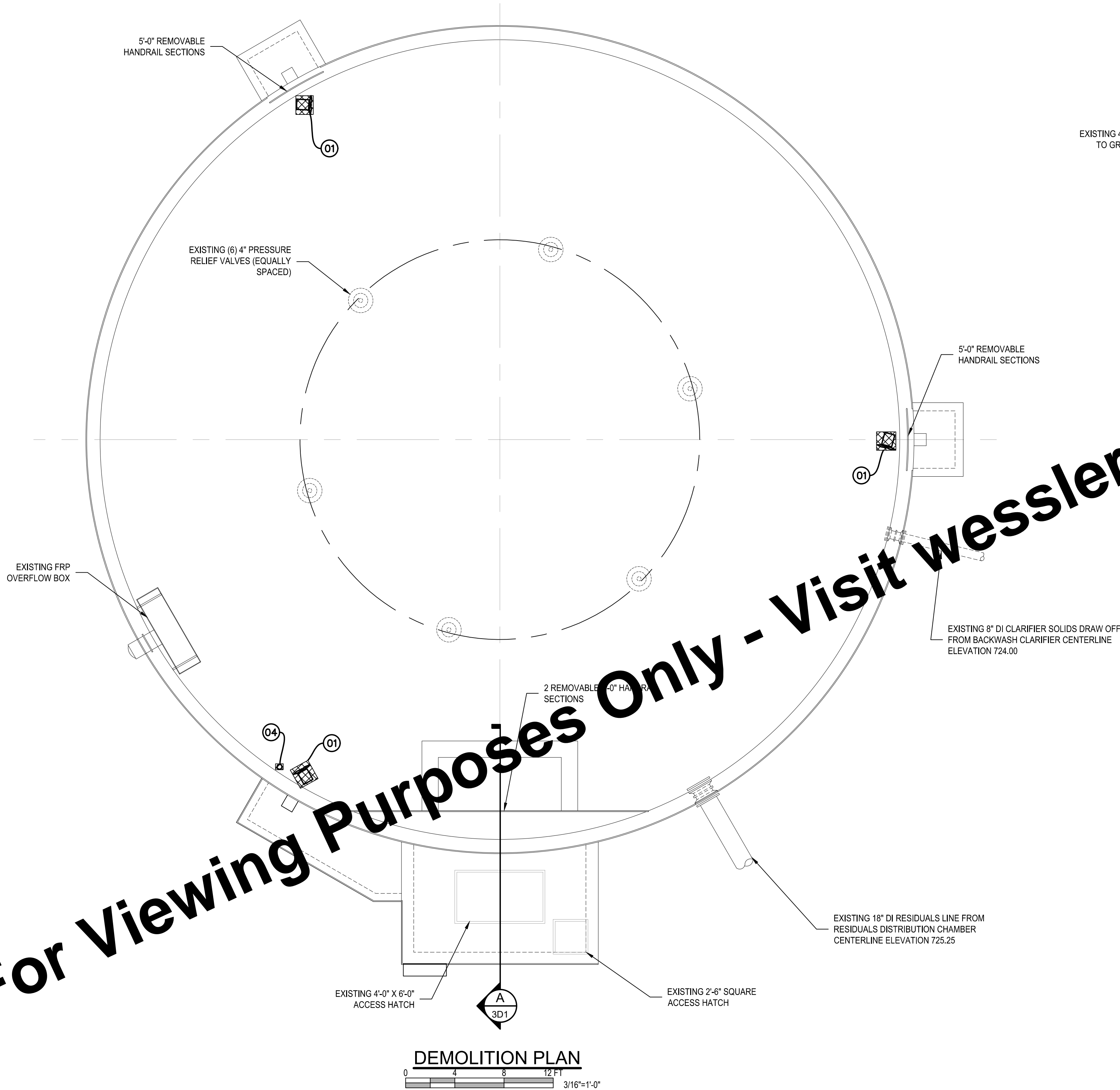
SHEET NO.
2E1
PAGE NO.
6



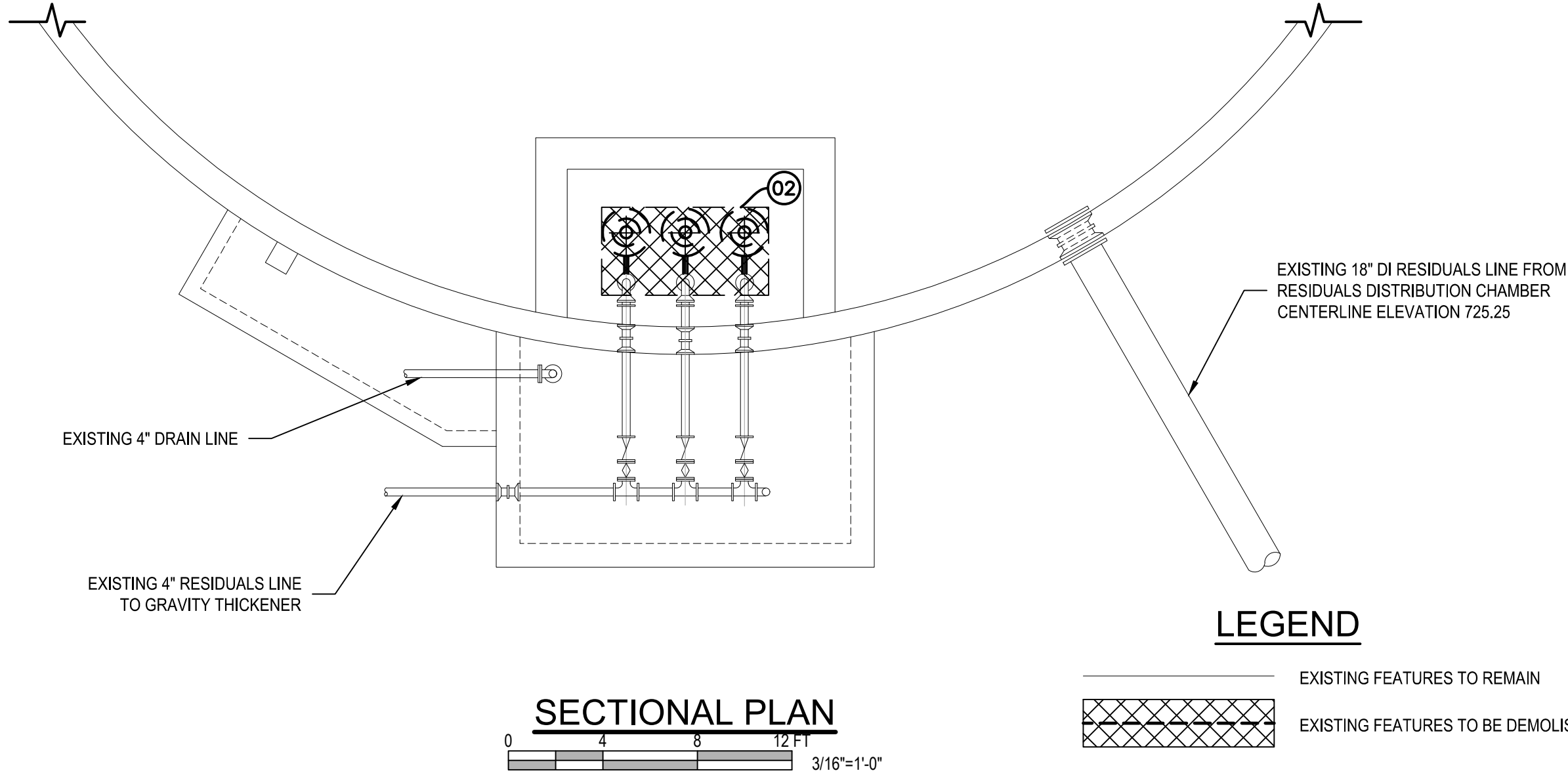


KEYED NOTES (DEMOLITION ITEMS)

- 1 REMOVE EXISTING RESIDUALS TRANSFER PUMPS AND ASSOCIATED APPURTENANCES FOR COMPLETE REMOVAL OF EXISTING PIPING AND WIRING BACK TO SOURCE
- 2 REMOVE EXISTING RESIDUALS TRANSFER PUMPS AND ASSOCIATED PIPING
- 3 REMOVE EXISTING LIFTING CHAIN, GUIDE RAILS AND GUIDE RAIL SUPPORTS
- 4 REPLACE EXISTING LEVEL SENSOR



SECTION  
0 2 4 6 FT  
3/16"=1'-0"

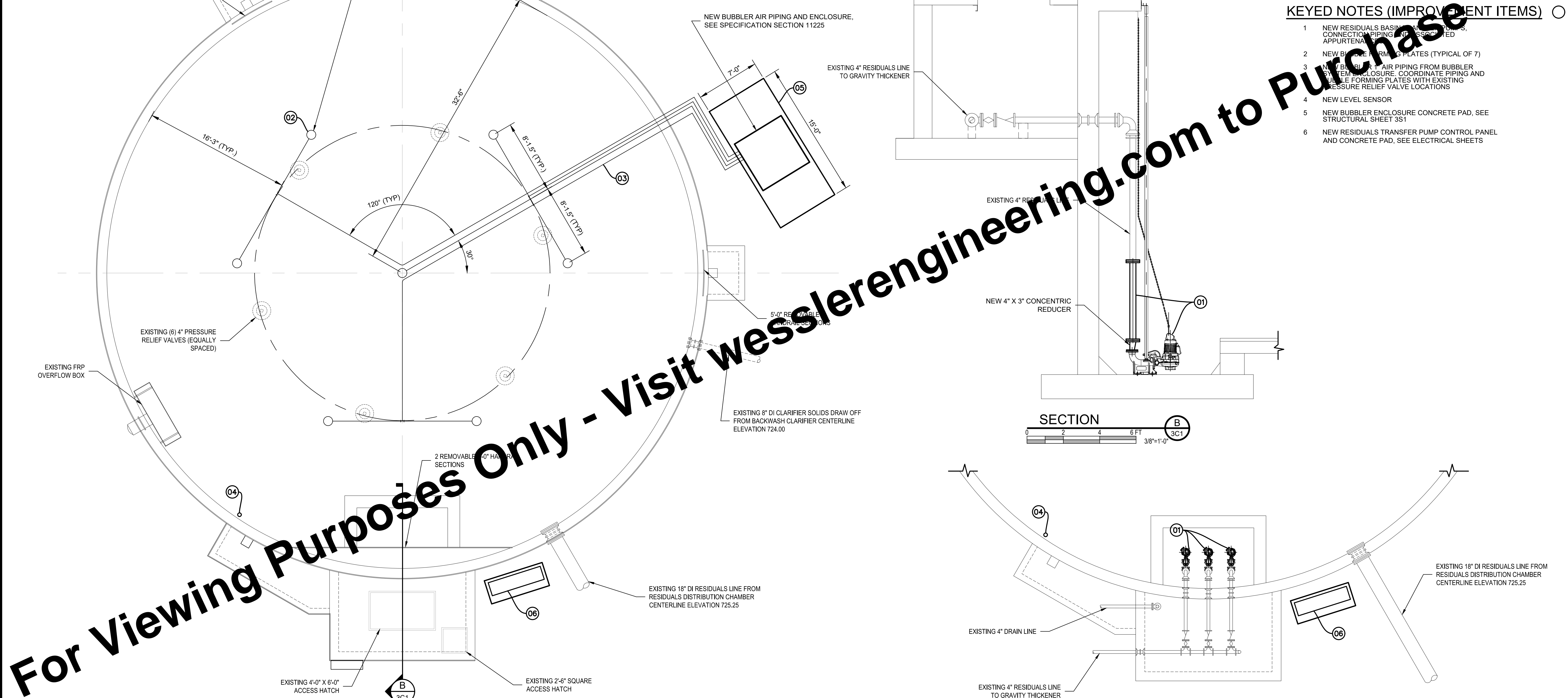
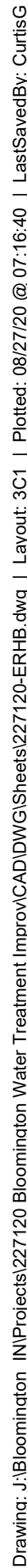



LEGEND  
EXISTING FEATURES TO REMAIN  
EXISTING FEATURES TO BE DEMOLISHED

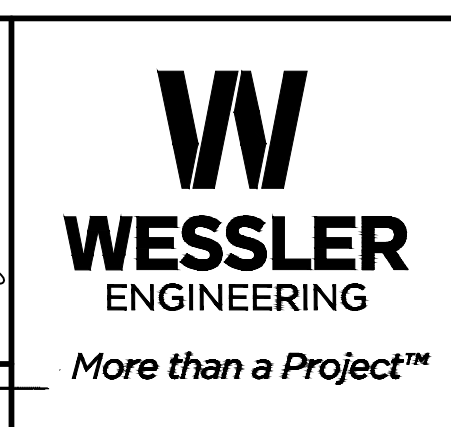
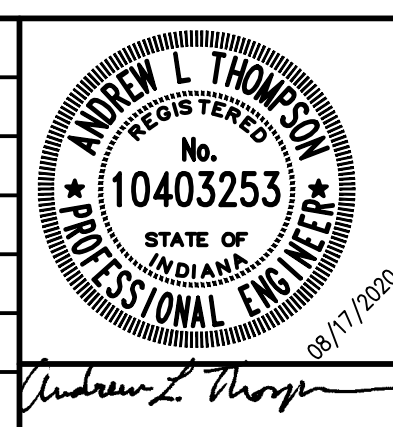
SECTIONAL PLAN  
0 4 8 12 FT  
3/16"=1'-0"

Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\Improv\CAD\DWG\Sheets\227120-ERRHB.dwg | Layout: 3D1 | Plotted: 08/27/20 @ 07:16:04 | LastSavedBy: CurtisG

<div>SCALE VERIFICATION</div> <div>BAR IS ONE INCH LONG ON ORIGINAL DRAWING</div> <div><div></div></div>	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	<div>ANDREW L. THOMPSON</div> <div>REGISTERED</div> <div>No. 10403253</div> <div>STATE OF INDIANA</div> <div>PROFESSIONAL ENGINEER</div> <div>08/17/2020</div> <div>Andrew L. Thompson</div>	<div>W</div> <div>WESSLER</div> <div>ENGINEERING</div> <div>More than a Project™</div>	MONROE WTP RESIDUALS PUMPING IMPROVEMENTS		SHEET NO.
	CHECKED BY	ALT							3D1		
	APPROVED BY	DLL									
	ISSUE DATE										
	AUGUST 2020								PAGE NO.		
PROJECT NUMBER						7					
227120-04-001											



SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	CHECKED BY	ALT				
	APPROVED BY	DLL				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
	227120-04-001					



<b>MONROE WTP RESIDUALS PUMPING IMPROVEMENTS</b>	
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA	
<b>IMPROVEMENTS PLAN AND SECTION</b>	

SHEET NO.

**3C1**

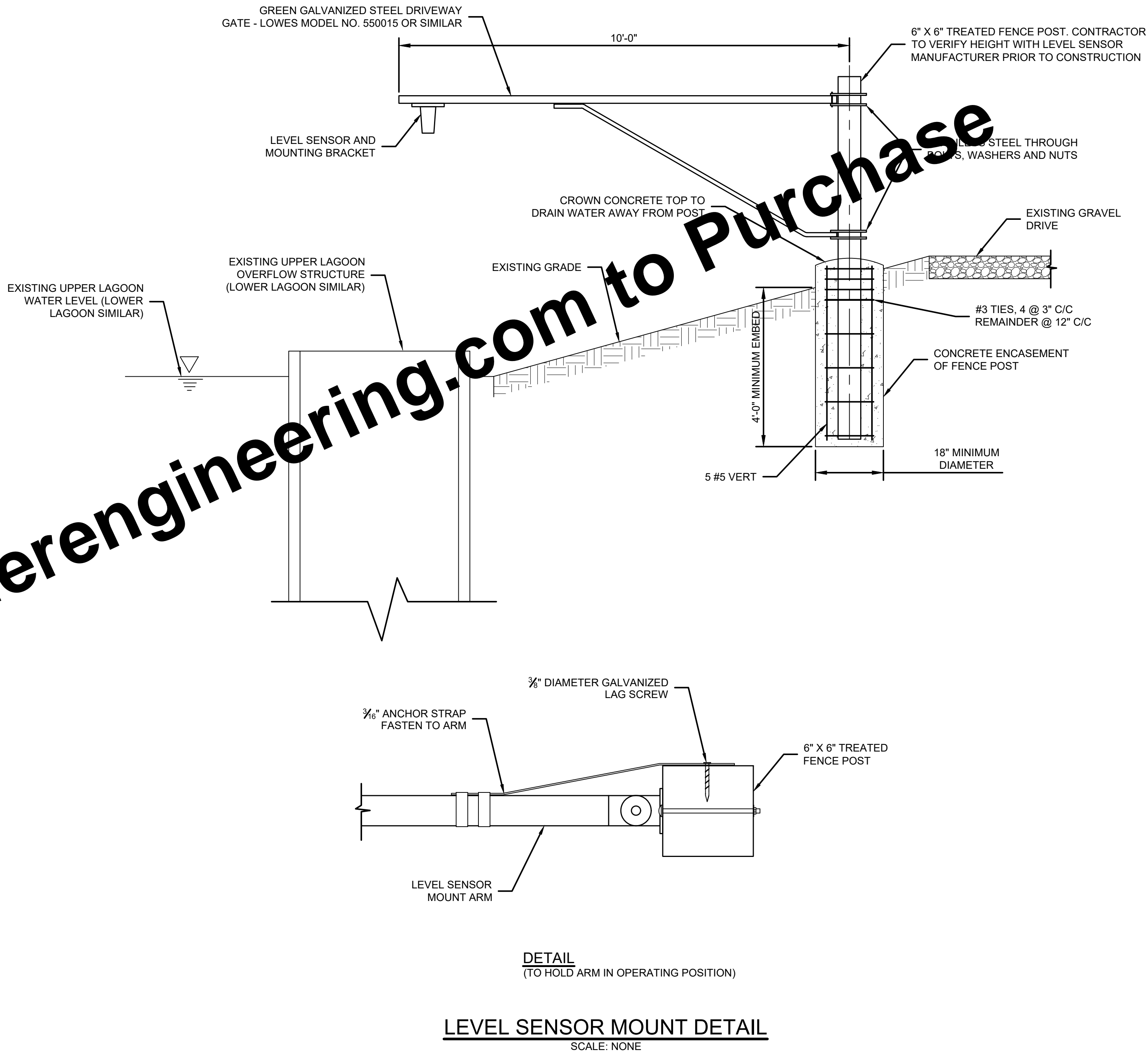
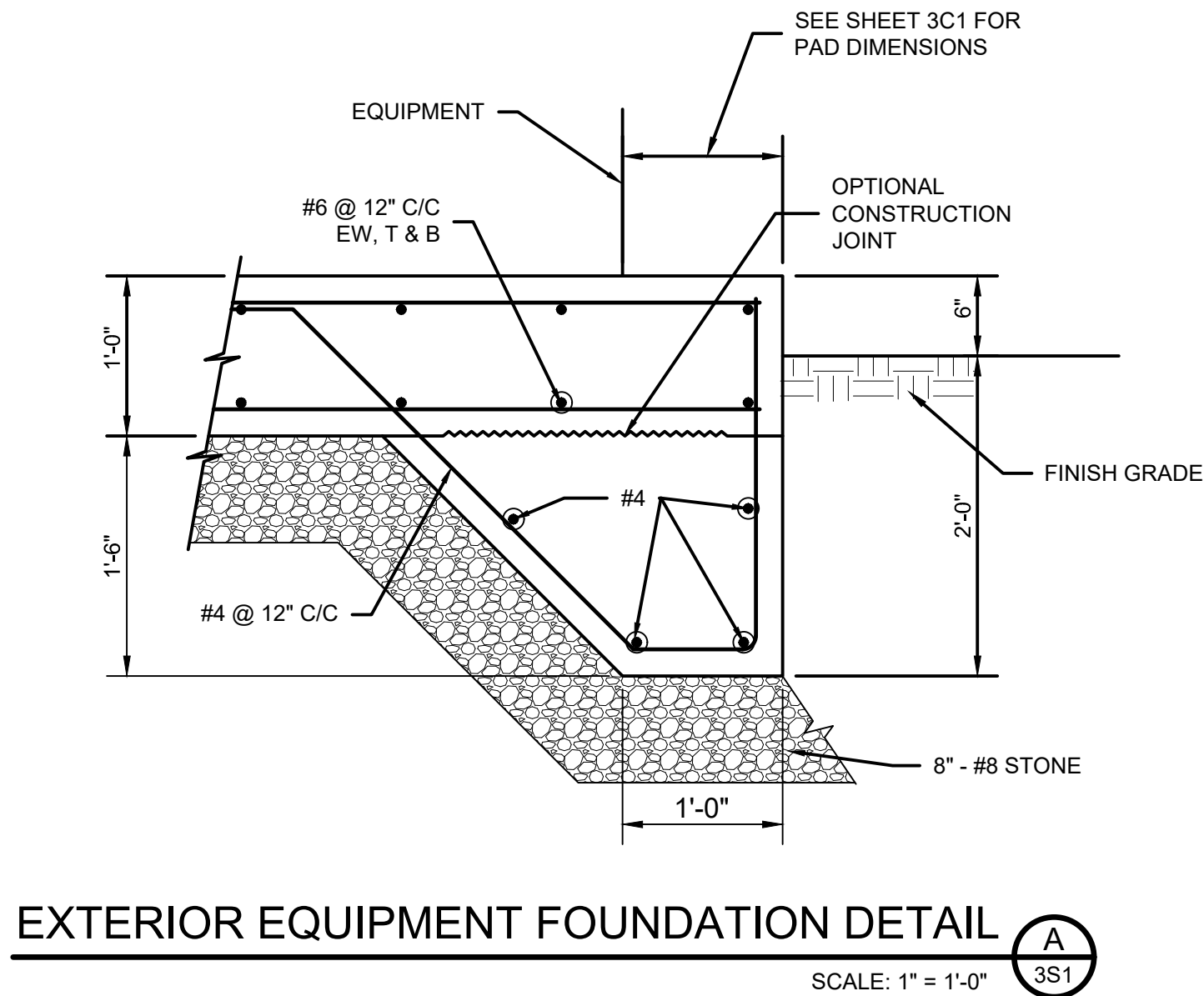
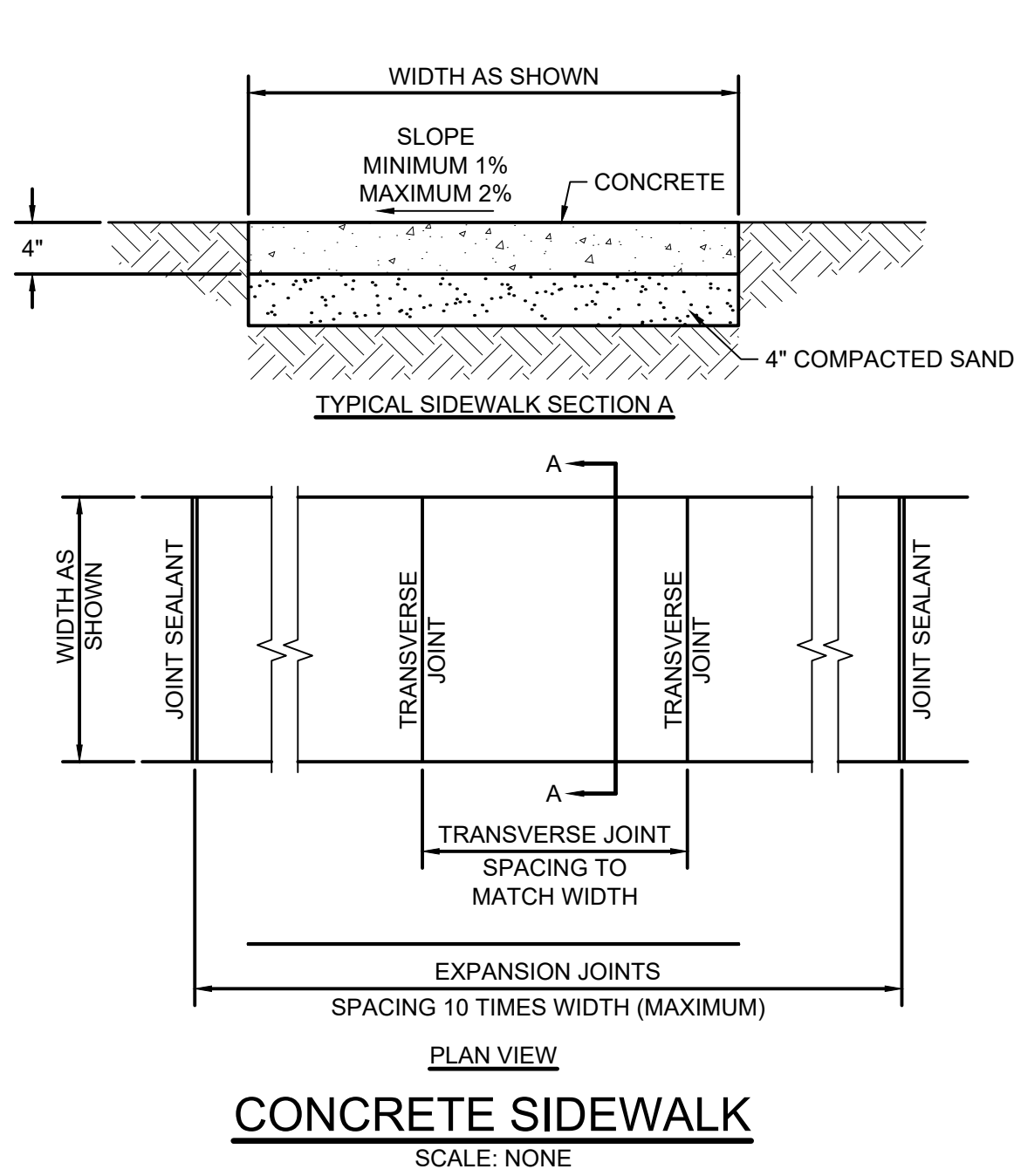
PAGE NO.


**8**

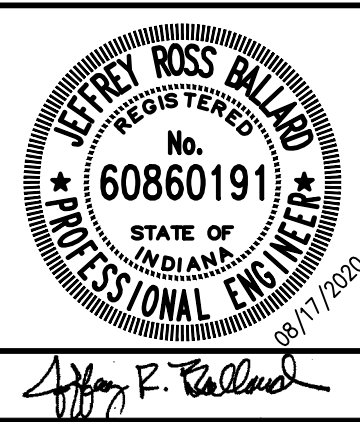


Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\Improv\CAD\DWG\Sheets\227120-ST.dwg | Layout: 3S1 | Plotted: 08/27/20 @ 07:18:04 | LastSavedBy: CurtisG

For Viewing Purposes Only - Visit [wesslerengineering.com](http://wesslerengineering.com) to Purchase



SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	CHECKED BY	ALT				
	APPROVED BY	JRB				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
		227120-04-001				



MONROE WTP RESIDUALS PUMPING IMPROVEMENTS
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA
STRUCTURAL DETAILS

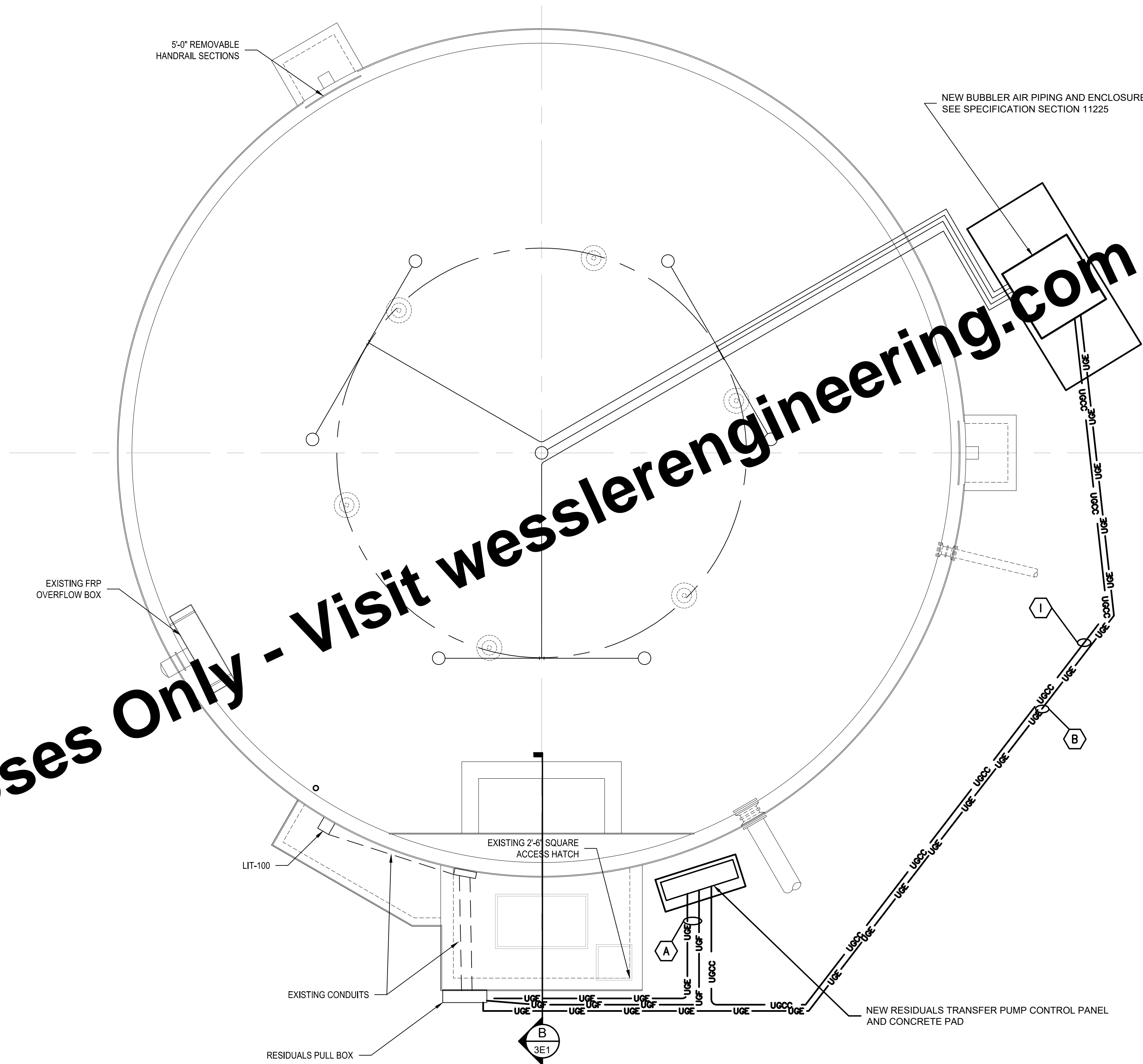
SHEET NO.
3S1
PAGE NO.
9



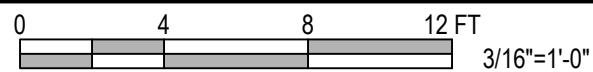
Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\Improvements\DWG\Sheets\227120-EL-ERRHB.dwg | Layout: 3E1 | Plotted: 08/27/20 @ 07:20:12 | LastSavedBy: CurtisG



RESIDUALS PULL BOX



ELECTRICAL IMPROVEMENTS PLAN



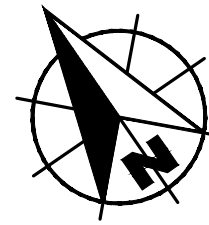
POWER CONDUIT AND WIRE

- A NEW 3#3, #8G  
FROM MCC CAB 6DL TO RESIDUALS  
TRANSFER PUMP PANEL VIA PATH:  
6DL, EXISTING 2\"C (MC-8), RESIDUALS  
PULL BOX, NEW 2\"C (RTP-1), RESIDUALS  
TRANSFER PUMP PANEL
- B NEW 3#8, #10G  
FROM MCC CAB 6DR TO RESIDUALS  
MIXING PANEL VIA PATH:  
EXISTING 2\"C (MC-11), RESIDUALS PULL  
BOX, NEW 2\"C (RM-1)
- C NEW 2\"C SPARE (RTP-3)
- D NEW 2\"C SPARE (RM-2)
- E EXISTING 8 - 2\"C SPARE  
EXISTING 1 - 2\"C UNKNOWN CONDUCTOR  
LP-LCF
- F EXISTING 2\"C, 3#4, #8G
- G NEW 3/4\"C SPARE (MC-26)

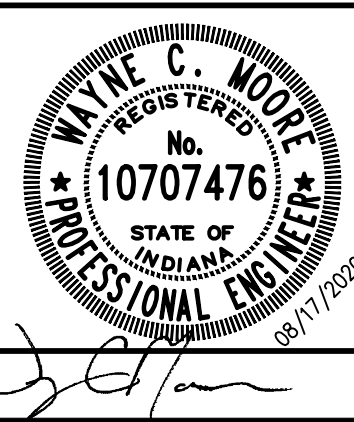
I & C CONDUIT AND WIRE

- A NEW FIBER OPTIC CABLE  
FROM CP-CHEM TO CP-RTP VIA PATH:  
CP-CHEM, EXISTING 2\"C, RESIDUALS PULL  
BOX, NEW 2\"C (RTP-2)
- F EXISTING 2\"C, NEW 2/C#16TPS
- G NEW 3/4\"C, 2/C#16TPS (MC-27)
- H NEW 2\"C SPARE (RTP-4)
- I NEW 1\"C, CAT6 ETHERNET (RX-1)  
NEW 1\"C, SPARE (RX-2)

For Viewing Purposes Only - Visit [wesslerengineering.com](http://wesslerengineering.com) to Purchase



SCALE VERIFICATION	DRAWN BY	EAS	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	CHECKED BY	WCM				
	APPROVED BY	WCM				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
	227120-04-001					



MONROE WTP RESIDUALS PUMPING IMPROVEMENTS
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA
RESIDUALS HOLDING BASIN - POWER PLAN

SHEET NO. <b>3E1</b>
PAGE NO. 10



Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\ImprovCAD\DWG\Sheets\227120-CD.dwg, J Layout: 4EC1 | Plotted: 08/27/20 @ 07:29:49 | LastSavedBy: CurtisG

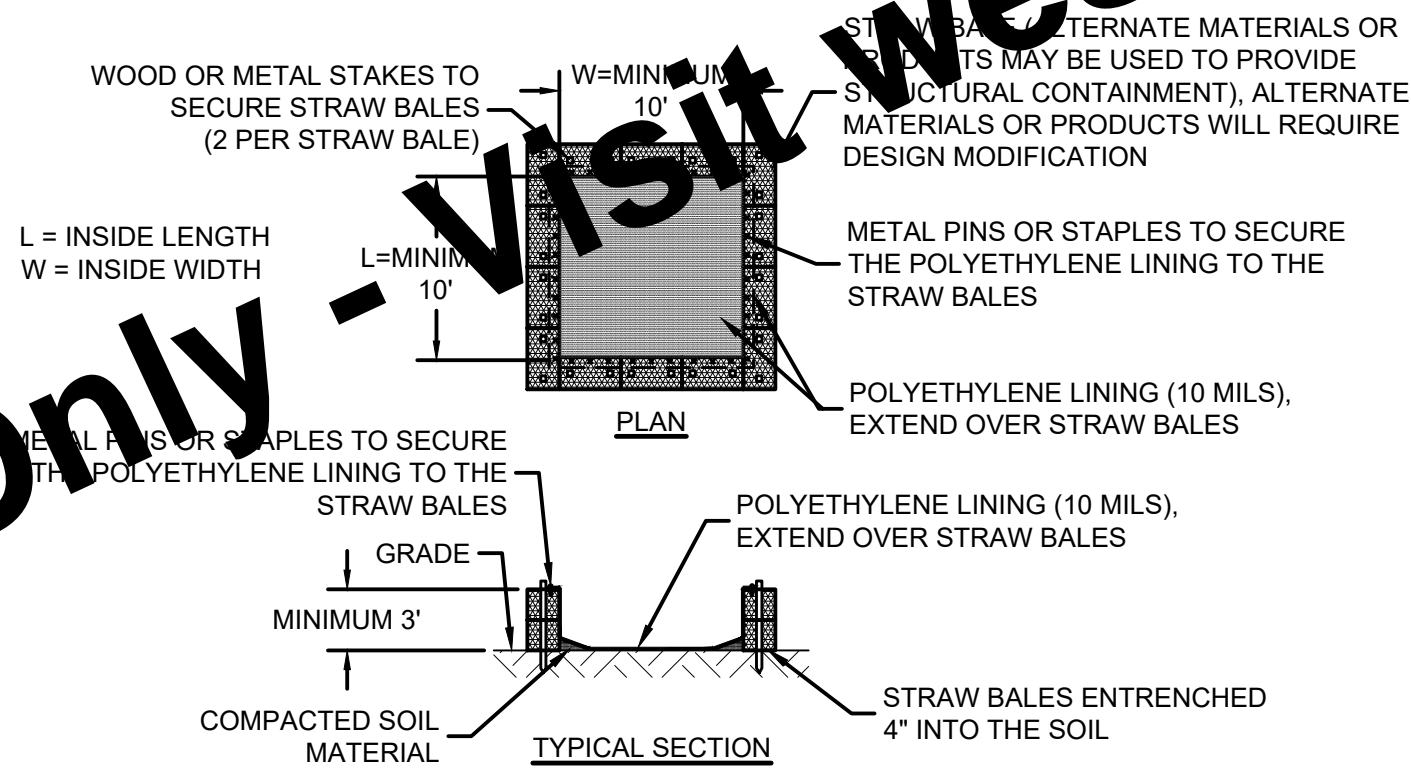
EROSION CONTROL SCHEDULE	
CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
NOTIFY IDEM RULE 5 COORDINATOR (317-233-1864) AND THE STORMWATER AUTHORITY WITHIN 48 HOURS PRIOR TO STARTING CONSTRUCTION. POST THE CONTACT INFORMATION AT THE CONSTRUCTION ENTRANCE. INCLUDE A COPY OF THE NOTICE OF INTENT (NOI) AND THE ONSITE PERSON WHO IS RESPONSIBLE FOR IMPLEMENTING THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE SWPPP SHOULD BE ONSITE AND WEEKLY SITE INSPECTION REPORTS MUST BE AVAILABLE WITHIN 48 HOURS OF REQUEST.	WITHIN 48 HOURS PRIOR TO STARTING CONSTRUCTION.
CONSTRUCTION ACCESS - ENTRANCE TO SITE, CONSTRUCTION ROUTES, AREAS DESIGNATED FOR EQUIPMENT PARKING OR MATERIAL STAGING.	THIS IS THE FIRST LAND-DISTURBING ACTIVITY. AS SOON AS CONSTRUCTION BEGINS, STABILIZE ANY BARE AREAS WITH AGGREGATE AND TEMPORARY VEGETATION.
SEDIMENT TRAPS AND BARRIERS - BASIN TRAPS, SILT FENCE.	AFTER CONSTRUCTION IS ACCESSED, BASINS SHALL BE INSTALLED, WITH THE ADDITION OF MORE TRAPS AND BARRIERS AS NEEDED DURING GRADING.
RUNOFF CONTROL - DIVERSIONS, PERIMETER PROTECTION, CHECK DAMS, OUTLET PROTECTION.	RUNOFF CONTROL PRACTICES SHALL BE INSTALLED AFTER THE INSTALLATION OF SEDIMENT TRAPS AND BEFORE LAND GRADING. ADDITIONAL RUNOFF CONTROL MEASURES MAY BE INSTALLED DURING GRADING.
RUNOFF CONVEYANCE SYSTEM - STABILIZE STREAM BANKS, STORM DRAINS, CHANNELS, INLET AND OUTLET PROTECTION, SLOPE DRAINS.	AS NECESSARY, STABILIZE STREAM BANKS AND SIDE SLOPES OF RUNOFF SYSTEMS AS SOON AS POSSIBLE. USE EROSION CONTROL BLANKETS OR SLOPE DRAINS TO PREVENT EROSION. INSTALL INLET PROTECTION TO PREVENT SEDIMENTS FROM ENTERING STORM DRAINAGE SYSTEMS. PROTECT STORM OUTLETS TO PREVENT EROSION.
LAND CLEARING AND GRADING - SITE PREPARATION (CUTTING, FILLING, AND GRADING, SEDIMENT TRAPS, BARRIERS, DIVERSIONS, DRAINS, SURFACE ROUGHENING).	IMPLEMENT CLEARING AND GRADING AFTER INSTALLATION OF SEDIMENT TRAPS AND RUNOFF CONTROL MEASURES, AND INSTALL ADDITIONAL CONTROL MEASURES AS GRADING CONTINUES. CLEAR BORROW AND DISPOSAL AREAS AS NEEDED, AND MARK TREES AND BUFFER AREAS FOR PRESERVATION.
SURFACE STABILIZATION - TEMPORARY AND PERMANENT SEEDING, MULCHING, SODDING, RIPRAP, EROSION CONTROL BLANKET.	APPLY TEMPORARY OR PERMANENT STABILIZING MEASURES IMMEDIATELY TO ANY DISTURBED AREAS WHERE WORK HAS BEEN EITHER COMPLETED OR DELAYED.
CONSTRUCTION - STRUCTURES, UTILITIES, PAVING.	DURING CONSTRUCTION, INSTALL ANY EROSION AND SEDIMENTATION CONTROL MEASURES THAT ARE NEEDED.
LANDSCAPING AND FINAL STABILIZATION - TOPSOILING, TREES AND SHRUBS, PERMANENT SEEDING, MULCHING, SODDING, RIPRAP.	THIS IS THE LAST CONSTRUCTION PHASE. STABILIZE ALL DISTURBED AREAS, INCLUDING BORROW AND SPOIL AREAS, AND REMOVE ALL TEMPORARY CONTROL MEASURES. A UNIFORM DENSITY OF 70% VEGETATED COVER IS REQUIRED.

EROSION CONTROL SCHEDULE  
SCALE: NONE

SEASONAL SOIL PROTECTION CHART												
STABILIZATION PRACTICE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDING			A									
DORMANT SEEDING	B										D	
TEMPORARY SEEDING			C					E		D		
SODDING			F									
MULCHING	G											

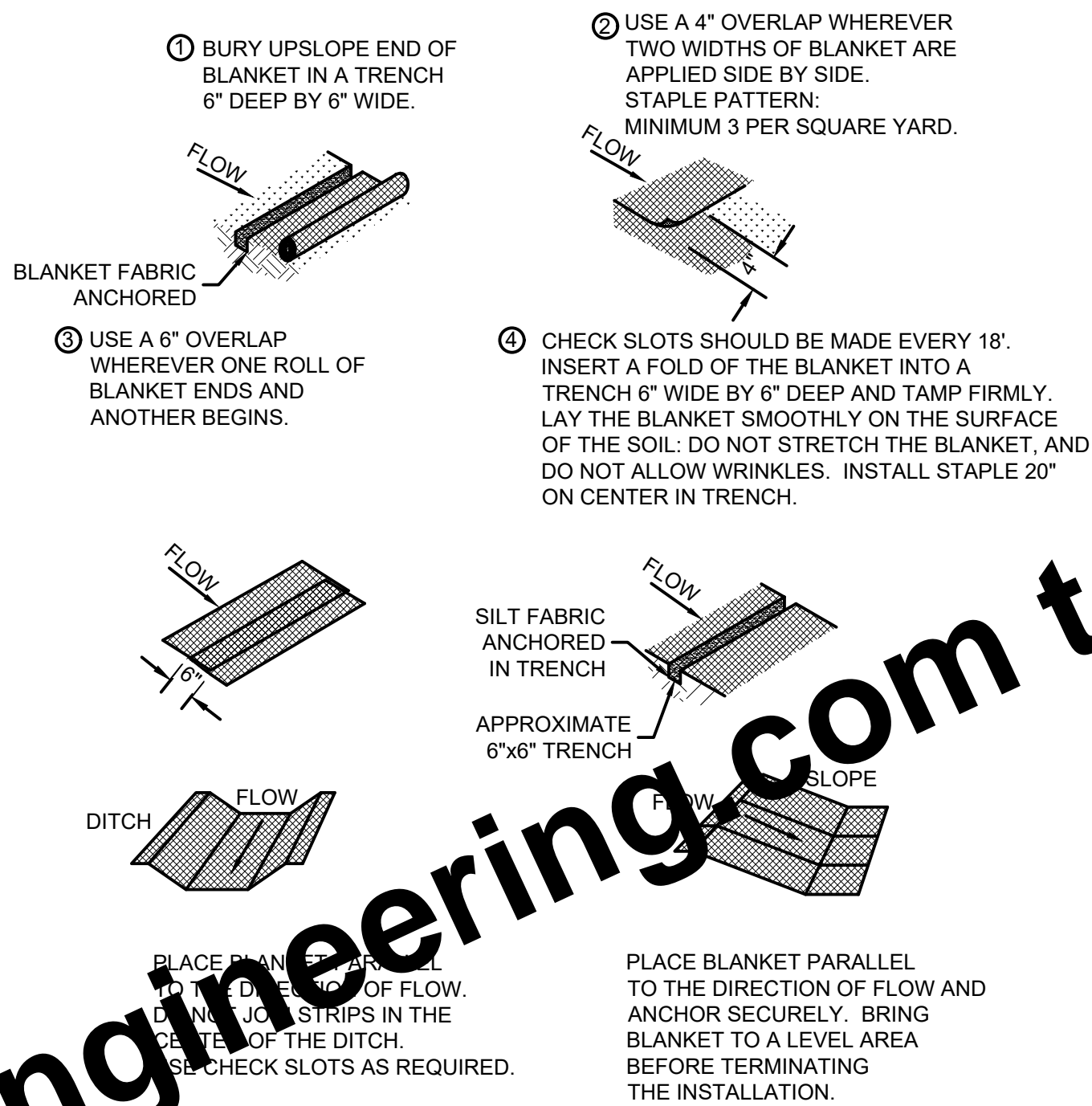
- A. = KENTUCKY BLUEGRASS 40 LB/ACRE  
B. = KENTUCKY BLUEGRASS 210 LB/ACRE  
C. = SPRING OATS 100 LB/ACRE (1" PLANTING DEPTH)  
D. = WHEAT OR RYE 150 LB/ACRE (1" - 1.5" PLANTING DEPTH)  
E. = ANNUAL RYEGRASS 40 LB/ACRE (1/4" PLANTING DEPTH)  
F. = SOD  
G. = ANCHORED STRAW/HAY (2 TONS/ACRE) OR WOOD FIBER/CELLULOSE (1 TON/ACRE)

- NOTES:  
1. IRRIGATION NEEDED DURING MAY THROUGH SEPTEMBER.  
2. IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD.  
3. ANCHORED MULCH IS REQUIRED FOR PERMANENT, DORMANT AND TEMPORARY SEEDING.  
4. OPTIMUM SEEDING DATES PROVIDED. DATES MAY BE EXTENDED OR SHORTENED BASED ON PROJECT LOCATION.  
5. SEED MIXTURES PROVIDED FOR LAWNS AND HIGH MAINTENANCE AREAS.
- MAINTENANCE:  
1. INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.  
2. CHECK FOR EROSION AND MOVEMENT OF MULCH AND REPAIR IMMEDIATELY.  
3. MONITOR FOR EROSION DAMAGE AND ADEQUATE COVER (70% DENSITY).  
4. RESEED, FERTILIZE OR APPLY MULCH WHERE NECESSARY.



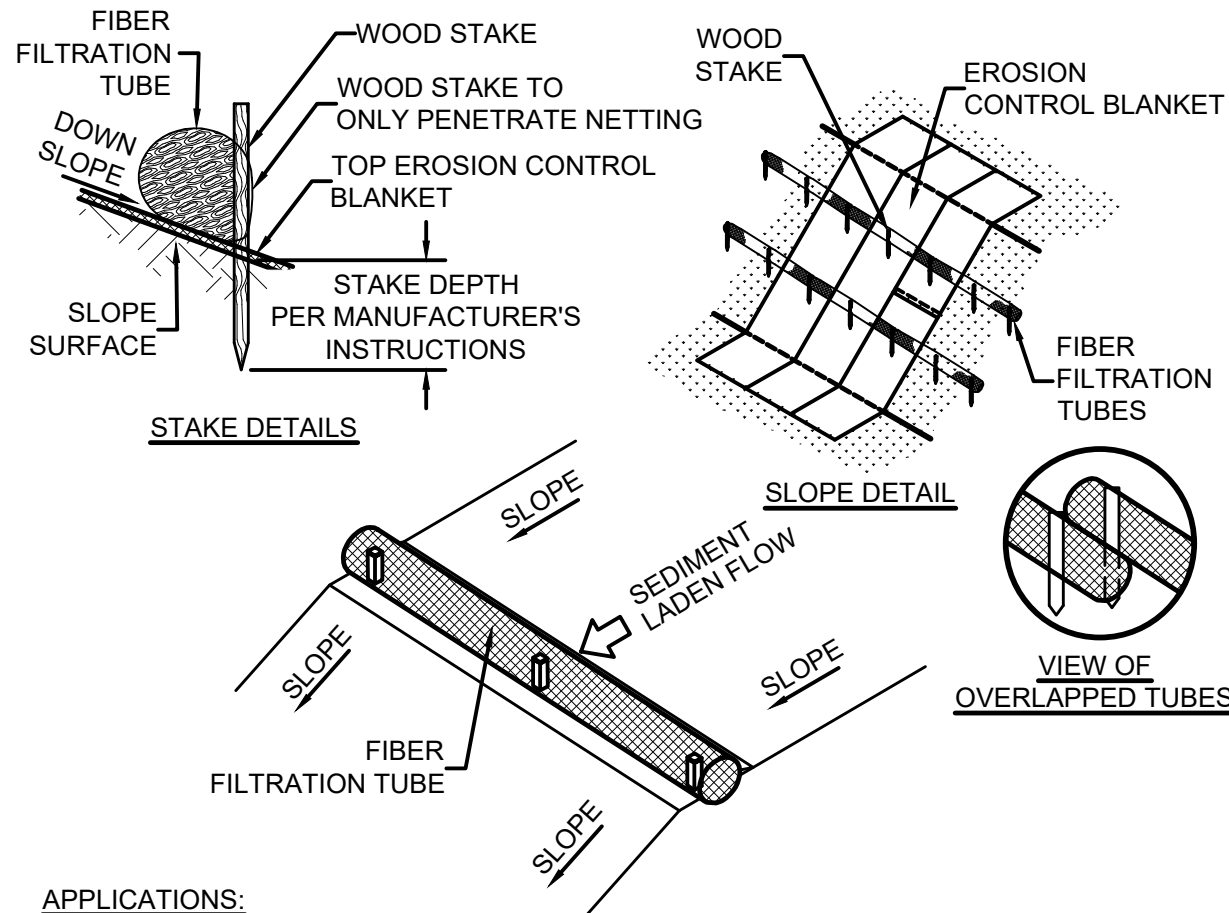
- NOTES:  
1. LOCATE WASHOUTS AT LEAST 50' FROM ANY CREEKS, WETLANDS, DITCHES, KARST FEATURES, OR STORM DRAIN/CONVEYANCES.
- WASHOUT PROCEDURES:  
1. DO NOT LEAVE EXCESS MUD IN THE CHUTES OR HOPPER AFTER POURING CONCRETE. MAKE EVERY EFFORT TO EMPTY THE CHUTE AND HOPPER AT THE POUR. THE LESS MATERIAL LEFT IN THE CHUTES AND HOPPER, THE QUICKER AND EASIER THE CLEANOUT. SMALL AMOUNTS OF EXCESS CONCRETE (NOT WASHOUT WATER) MAY BE DISPOSED OF IN AREAS THAT WILL NOT FLOW TO AN AREA THAT IS TO BE PROTECTED.  
2. SCRAPE AS MUCH MATERIAL FROM THE CHUTES AS POSSIBLE BEFORE WASHING THEM. USE NON-WATER CLEANING METHODS TO MINIMIZE THE CHANCE FOR WASTE TO FLOW OFF SITE.  
3. STOP WASHING OUT IN AN AREA IF YOU OBSERVE WATER RUNNING OFF THE DESIGNATED AREA OR IF THE WATER IS NOT BEING CONTAINED WITHIN THE WASHOUT AREA.  
4. DO NOT BACK FLUSH EQUIPMENT AT THE PROJECT SITE.  
5. DO NOT USE ADDITIVES WITH WASH WATER.  
6. DO NOT WASH OUT OR DRAIN WASTE WATERS TO STORM DRAINS, WETLANDS, STREAMS, RIVERS, CREEKS, DITCHES OR STREETS.
- MAINTENANCE:  
1. MAINTENANCE REQUIREMENTS PROVIDED IN SPECIFICATIONS.

CONCRETE WASHOUT  
SCALE: NONE



- PRODUCT:  
1. NORTH AMERICAN GREEN SC150, OR EQUAL.
- NOTES:  
1. PROTECT THE SLOPES WITH AN EROSION CONTROL BLANKET WHERE CONSTRUCTION DISTURBS SLOPES EQUAL OR STEEPER THAN 3:1.
- MAINTENANCE:  
1. INSPECT FOR EROSION AFTER EACH STORM EVENT DURING VEGETATION ESTABLISHMENT, AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.  
2. IF ANY AREAS SHOW EROSION, PULL BACK THAT PORTION OF THE BLANKET, ADD SOIL, RESEED, RELAY AND STAPLE THE BLANKET.  
3. CHECK AREAS PERIODICALLY AFTER VEGETATION ESTABLISHMENT.

EROSION CONTROL BLANKET  
SCALE: NONE

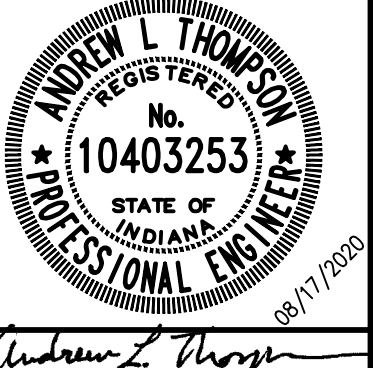


- APPLICATIONS:  
1. TOP OF SLOPES.  
2. AT PROJECT PERIMETER.
- INSTALLATION:  
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.  
2. USE THE APPROPRIATE SIZE, LENGTH AND DISTANCE BETWEEN TUBES AS SPECIFIED BY THE MANUFACTURER.  
3. ENTRENCH PER MANUFACTURER'S INSTRUCTIONS.
- MAINTENANCE:  
1. REMOVE ALL ACCUMULATED SEDIMENT WHEN IT REACHES 1/4 THE HEIGHT OF THE TUBE.  
2. REPAIR ERODED AND DAMAGED AREAS.  
3. IF PONDING BECOMES EXCESSIVE DUE TO REDUCED FILTERING CAPACITY, REMOVE THE TUBE AND EITHER RECONSTRUCT OR REPLACE WITH NEW PRODUCT.  
4. INSPECT WITHIN 24 HOURS OF A RAIN EVENT AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.

FIBER FILTRATION TUBES - SLOPE  
SCALE: NONE

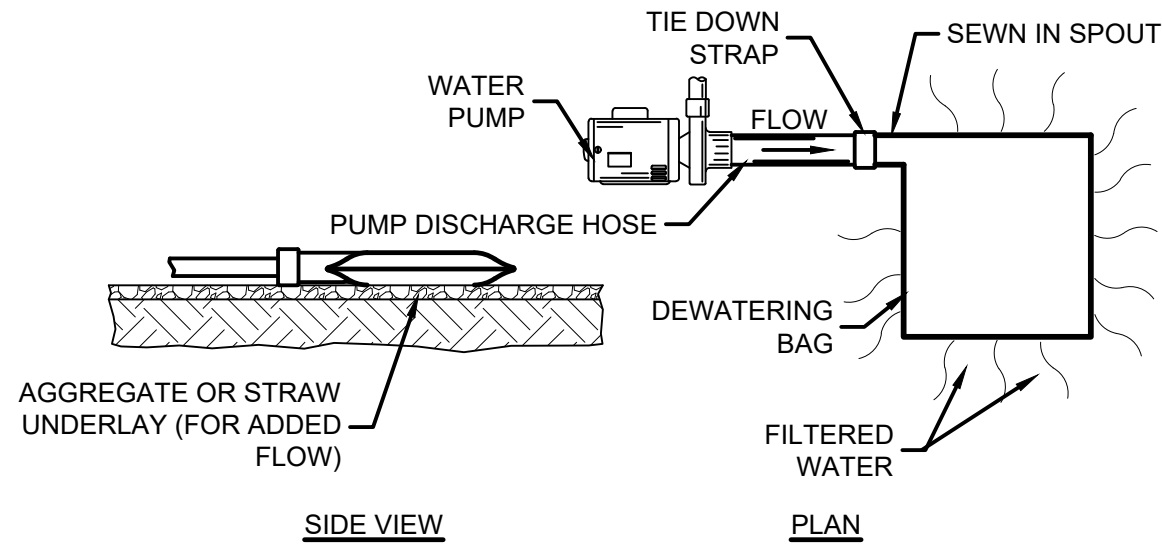
CONSTRUCTION ENTRANCE  
SCALE: NONE

For Viewing Purposes Only - Visit wesslerengineering.com to Purchase

SCALE VERIFICATION  BAR IS ONE INCH LONG ON ORIGINAL DRAWING  [Bar]	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	 <b>W</b> <b>WESSLER</b> ENGINEERING <i>More than a Project™</i>	MONROE WTP RESIDUALS PUMPING IMPROVEMENTS		SHEET NO.	
	CHECKED BY	ALT						CITY OF BLOOMINGTON UTILITIES		4EC1	
	APPROVED BY	DLL						BLOOMINGTON, INDIANA		PAGE NO.	
	ISSUE DATE							EROSION CONTROL DETAILS		11	
	PROJECT NUMBER										
		227120-04-001									



Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\Improv\CAD\DWG\Sheets\227120-CD.dwg | Plotted: 08/27/20 @ 07:29:51 | LastSavedBy: Curtis G



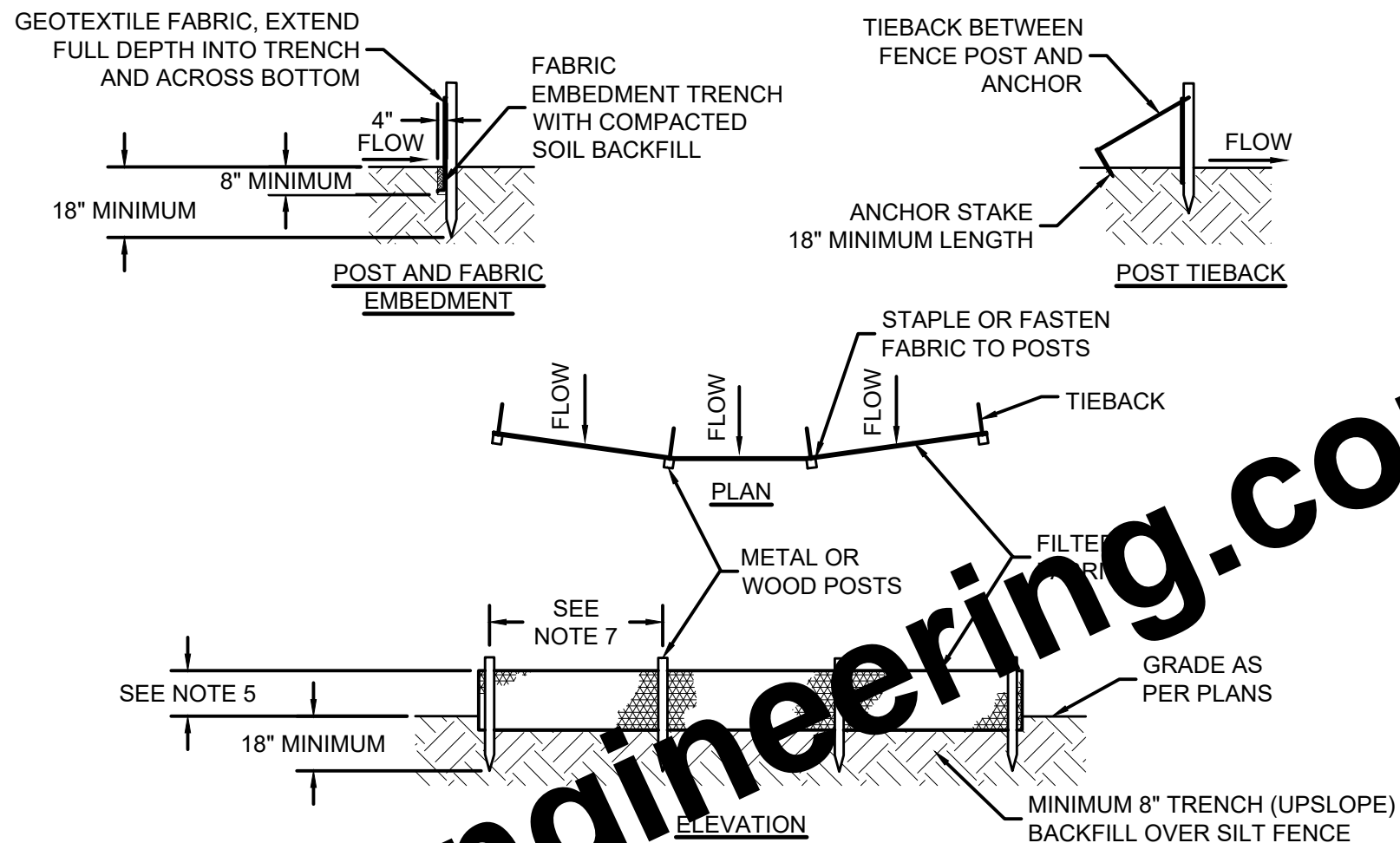
MECHANICAL PROPERTIES	TEST METHOD	UNITS	INDUSTRY STANDARD
GRAB TENSILE STRENGTH	ASTM D4632	kN (LB)	0.9 (205) X 0.9 (205)
GRAB TENSILE ELONGATION	ASTM D4632	%	50 X 50
PUNCTURE STRENGTH	ASTM D4833	kN (LB)	0.58 (130)
MULLEN BURST STRENGTH	ASTM D3786	kPa (PSI)	2618 (380)
TRAPEZOID TEAR STRENGTH	ASTM D4533	kN (LB)	0.36 (80) X 0.36 (80)
UV RESISTANCE	ASTM D4355	%	70
APPARENT OPENING SIZE	ASTM D4751	Mm (US STD SIEVE)	0.180 (80)
FLOW RATE	ASTM D4491	1/MIN/M² (GAL/MIN/FT²)	3866 (95)
PERMITTIVITY	ASTM D4491	S <sup>-1</sup>	1.2

MAINTENANCE:

- DURING THE ACTIVE DEWATERING PROCESS, INSPECTION OF THE PUMPING BAG SHOULD BE REVIEWED FREQUENTLY. SPECIAL ATTENTION SHOULD BE PAID TO THE BUFFER AREA FOR ANY SIGN OF EROSION AND CONCENTRATION OF FLOW. OBSERVE WHERE POSSIBLE THE VISUAL QUALITY OF THE EFFLUENT AND DETERMINE IF ADDITIONAL TREATMENT CAN BE PROVIDED.
- DISPOSE OF ACCUMULATED SEDIMENT REMOVED DURING PUMPING OPERATIONS IN CONFORMANCE WITH THE SPECIFICATIONS.
- REPLACE THE BAG OR DISPOSE OF SILT WHEN HALF FULL OF SEDIMENT OR WHEN SEDIMENT HAS REDUCED THE FLOW RATE TO AN IMPRACTICAL RATE.

SOURCE:  
KRISTAR  
DANDY DEWATERING BAG  
SEDCATCH


PUMPING BAG  
SCALE: NONE

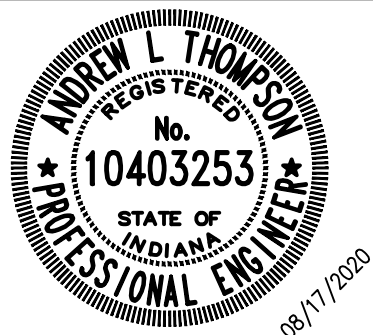


NOTES:

- SYNTHETIC FILTER FABRIC SHALL BE EITHER WOVEN OR NON-WOVEN GEOTEXTILE FABRIC AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER TO CONFORM TO THE FOLLOWING REQUIREMENTS:
    - TEXTILE STRENGTH - AT LEAST 0.9 KN/LINEAR INCH (MINIMUM), NON-WOVEN EXTRA STRENGTH - 70 LB/INCH (MINIMUM).
    - WOVEN EXTRA STRENGTH - AT LEAST 30 LB/LINEAR INCH (MINIMUM), NON-WOVEN EXTRA STRENGTH - 70 LB/INCH (MINIMUM).
    - WOVEN STANDARD STRENGTH - AT LEAST 30 LB/LINEAR INCH (MINIMUM), NON-WOVEN STANDARD STRENGTH - 50 LB/INCH (MINIMUM).
    - APPARENT OPENING SIZE (AOS) (U.S. SIEVE) - NO. 30 PARTICLE SIZE OF 0.6 mm (MAXIMUM), ASTM D4751.
    - PERMITTIVITY - NO. 30 PARTICLE SIZE OF 0.6 mm (MAXIMUM), ASTM D4491.
  - POSTS FOR SILT FENCES SHALL BE EITHER 2"x2" SQUARE WOOD OR EQUIVALENT METAL POSTS WITH A MINIMUM LENGTH OF 5'. METAL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE TO THEM.
  - ANCHOR STAKES FOR SILT FENCES SHALL BE 1"x2" WOOD (PREFERRED) OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 18". WIRE FENCE REINFORCEMENT FOR SILT FENCES USING STANDARD STRENGTH FILTER CLOTH SHALL BE A MINIMUM OF 42" IN HEIGHT, A MINIMUM OF 14 GAUGE, AND SHALL HAVE A MAXIMUM MESH SPACING OF 6".
  - THE HEIGHT OF THE BARRIER SHALL BE A MINIMUM OF 18" AND A MAXIMUM OF 30".
  - THE FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER FABRIC SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6" OVERLAP, AND SECURELY SEALED.
  - POSTS SHALL BE SPACED A MAXIMUM OF 6' APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 18"). WHEN STANDARD STRENGTH FABRIC IS USED WITH THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 8'.
  - THE SPACING OF TIEBACKS SHALL EQUAL THE SPACING OF THE POSTS. ADDITIONAL POST DEPTH OR TIEBACKS MAY BE REQUIRED IN UNSTABLE SOILS.
  - A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4" WIDE AND A MINIMUM OF 8" DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
  - WHEN STANDARD STRENGTH FILTER FABRIC IS USED WITH A WIRE MESH SUPPORT FENCE IT SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY 1" WIRE STAPLES, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2" AND SHALL NOT EXTEND MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE.
  - THE STANDARD STRENGTH FILTER FABRIC, WITHOUT A WIRE MESH SUPPORT FENCE, SHALL BE STAPLED OR WIRED TO THE FENCE, AND A MINIMUM 8" OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE. DO NOT STAPLE FILTER FABRIC TO EXISTING TREES.
  - WHEN EXTRA STRENGTH FILTER FABRIC OR BURLAP AND POST SPACING IS LESS THAN THE MAXIMUM SPECIFIED SPACING OF 6', THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED.
  - BACKFILL THE TRENCH AND COMPACT THE SOIL OVER THE FILTER FABRIC.
  - REMOVE SILT FENCES WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
  - SILT FENCE SHALL NOT BE USED AS A DIVERSION AND SHALL NOT BE INSTALLED ACROSS A STREAM, CHANNEL, DITCH, SWALE, ETC.
- MAINTENANCE:
- INSPECT AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. INSPECT AT LEAST ONCE EVERY 7 CALENDAR DAYS.
  - REPLACE OR REPAIR FABRIC IMMEDIATELY IF IT DECOMPOSES OR IS INEFFECTIVE.
  - SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY HALF THE HEIGHT OF THE BARRIER.
  - SPREAD ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED AND DRESS TO CONFORM WITH THE FINISHED GRADING.

SILT FENCE  
SCALE: NONE

SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	CHECKED BY	ALT				
	APPROVED BY	DLL				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
		227120-04-001				



MONROE WTP RESIDUALS PUMPING IMPROVEMENTS
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA
EROSION CONTROL DETAILS

SHEET NO. <b>4EC2</b>
PAGE NO. 12



Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment Improv\CAD\DWG\Sheets\227120-EL-S&L.dwg | Layout: SE1 | Plotted: 09/27/20 @ 07:32:25 | LastSavedBy: CurtissG

LIGHTING

A #  
SURFACE/PENDANT MOUNTED LED 1X4 FIXTURE  
LETTER DENOTES TYPE, # DENOTES CIRCUIT,  
SHADING DENOTES EMERGENCY AND/OR NIGHT  
LIGHT

A # OR #  
WALL MOUNTED LED FIXTURE, LETTER  
DENOTES TYPE, # DENOTES CIRCUIT

A  
WALL MOUNTED PHOTOCELL

CEILING MOUNTED EXIT SIGN

WALL MOUNTED EXIT SIGN

EMERGENCY LIGHT FIXTURE #  
DENOTES CIRCUIT

RECEPTACLE

#  
DUPLEX RECEPTACLE  
SUBSCRIPT DENOTES TYPE: UPS  
DENOTES UNINTERRUPTIBLE POWER SUPPLY  
# DENOTES CIRCUIT

MULTI-OUTLET RECEPTACLE SINGLE

MULTI-OUTLET RECEPTACLE DUPLEX

240 VOLT RECEPTACLE

PANELS AND BOXES

JB  
JUNCTION BOX

PB  
PULL BOX

PANEL

HVAC AND FIRE ALARM

HORN/LIGHT DEVICE

SMOKE DETECTOR SUBSCRIPT  
DENOTES TYPE:  
Z DENOTES IONIZATION  
P DENOTES PHOTOELECTRIC  
T DENOTES THERMAL

T  
THERMOSTAT

R  
AMBIENT TEMPERATURE TRANSMITTER

UNIT HEATER

#  
WALL MOUNTED GAS DETECTION FIXTURE

SWITCHES

WALL SWITCH  
SUBSCRIPT DENOTES TYPE:  
NO SUBSCRIPT DENOTES SINGLE POLE  
3 DENOTES 3 WAY  
4 DENOTES 4 WAY

☒  
MOTOR STARTER

☒  
COMBINATION MOTOR STARTER

☒  
DISCONNECT SWITCH

☒  
FUSED DISCONNECT SWITCH

LS  
DOOR LIMIT SWITCH

•  
LOCAL CONTROL STATION

WIRING

CONDUIT HOME RUN

CONDUIT EXPOSED

CONDUIT CONCEALED

FLEXIBLE CONDUIT

SCHEMATICS

H O A  
X00  
3-POSITION SELECTOR SWITCH  
HAND - OFF - AUTO  
O0X

START  
PUSHBUTTON SWITCH N.O.  
TEXT DENOTES LEGEND PLATE

STOP  
PUSHBUTTON SWITCH N.C. TEXT  
DENOTES LEGEND PLATE

E-STOP  
MUSHROOM HEAD EMERGENCY  
STOP PUSHBUTTON SWITCH N.C.  
MAINTAINED TEXT DENOTES  
LEGEND PLATE

STOP  
PUSHBUTTON SWITCH N.C. WITH  
LOCK-OUT TEXT DENOTES  
LEGEND PLATE

DISCONNECT SWITCH N.O.

DISCONNECT SWITCH N.C.

TS  
TEMPERATURE SWITCH OR  
THERMOSTAT N.O. TEXT DENOTES  
TAG NUMBER

TS  
TEMPERATURE SWITCH OR  
THERMOSTAT N.C. TEXT DENOTES  
TAG NUMBER

PS  
PRESSURE SWITCH N.O. TEXT  
DENOTES TAG NUMBER

PS  
PRESSURE SWITCH N.C. TEXT  
DENOTES TAG NUMBER

LS  
LEVEL SWITCH N.O.  
TEXT DENOTES TAG NUMBER

LS  
LEVEL SWITCH N.C. TEXT  
DENOTES TAG NUMBER

TR  
ON DELAY TIMED SWITCH N.O.T.C. TEXT  
DENOTES TAG NUMBER

TR  
ON DELAY TIMED SWITCH N.C.T.O. TEXT  
DENOTES TAG NUMBER

TR  
OFF DELAY TIMED SWITCH N.O.T.C. TEXT  
DENOTES TAG NUMBER

TR  
OFF DELAY TIMED SWITCH N.C.T.C. TEXT  
DENOTES TAG NUMBER

TR  
TORQUE SWITCH  
TEXT DENOTES TAG NUMBER

LS  
LIMIT SWITCH  
TEXT DENOTES TAG NUMBER

#  
CONTACT (NORMALLY OPEN) #  
DENOTES COIL NUMBER

#  
CONTACT (NORMALLY CLOSED) #  
DENOTES COIL NUMBER

R  
INDICATOR LIGHT - LETTER  
DENOTES COLOR

PIT  
PUSH-TO-TEST INDICATOR LIGHT  
LETTER DENOTES COLOR

ETM  
ELAPSED TIME METER

SV  
SOLENOID VALVE

COIL  
M DENOTES MOTOR STARTER  
CR DENOTES CONTROL RELAY  
TR DENOTES TIME DELAY RELAY  
LC DENOTES LIGHTING CONTACTOR  
PR DENOTES INTERPOSING PILOT RELAY  
XXX DENOTES REFERENCE LINE NUMBER

SINGLE LINE

EXISTING TO REMAIN

EXISTING TO BE DEMOLISHED

NEW

FUTURE

TX-STRUCTURE DESIGNATION  
XXX KVA  
480-120/208V

TRANSFORMER

3P/4W  
TYPE OF TRANSFORMER

100 A  
FUSE

XXA  
MOLDED CASE CIRCUIT BREAKER

THERMAL OVERLOAD RELAY

GROUND

600-5A  
(3)  
CURRENT TRANSFORMER NUMBER  
DENOTES QUANTITY

480-120V  
(3)  
POTENTIAL TRANSFORMER  
NUMBER DENOTES QUANTITY

800 A  
30 3W ATS  
OF  
AUTOMATIC OR MANUAL  
TRANSFER SWITCH

25  
MOTOR NUMBER DENOTES  
HORSEPOWER

30 3W  
30 3W  
GENERATOR KVA NUMBER DENOTES  
REQUIRED KW RATING AND  
VOLTAGE

COMBINATION POWER UNIT

LP-#

VFD

VARIABLE FREQUENCY DRIVE

SITE DUCTBANKS

UGC  
UNDERGROUND CONTROL

UGE  
UNDERGROUND ELECTRICAL

UGF  
UNDERGROUND FIBER

MISC PLAN VIEW SYMBOLS

E OR  
EQUIPMENT CONNECTION

GROUND ROD

INSTRUMENT TRANSMITTER

COMMUNICATIONS

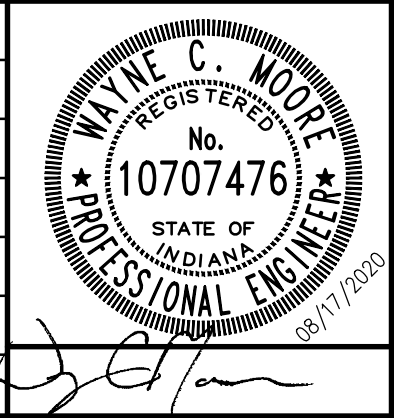
TELEPHONE OR NETWORK DROP

N  
ETHERNET JACK

ABBREVIATIONS

A	AMPERE(S)	MAU	MAKEUP AIR UNIT
AE	ANALYTICAL SENSOR	MCC	MOTOR CONTROL CENTER
AFF	ABOVE FINISHED FLOOR	MH	MANHOLE
AHU	AIR HANDLING UNIT	MOL	MOTOR OPERATED LOUVER
AIT	ANALYTICAL INDICATOR TRANSMITTER	N	NEUTRAL
AM	AMMETER	N/A	NOT APPLICABLE
AMP	AMPERE(S)	N.C.	NORMALLY CLOSED
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAUGE	NF	NATIONAL FIRE PROTECTION ASSOCIATION
BKR	BREAKER	N.O.	NORMALLY OPEN
BLDG	BUILDING	N	NOT TO SCALE
C	CONDUIT	OL	OVERLOAD
CB	CIRCUIT BREAKER	PB	PUSHBUTTON
CKT	CIRCUIT	PLC	PROGRAMMABLE LOGIC CONTROLLER
CR	CORROSION RESISTANT	PM	POWER METER/MONITOR
CU	COPPER	PNL	PANEL
DISC	DISCONNECT	RCPT	RECEPTACLE
E	EXHAUST FAN	RGS	RIGID GALVANIZED STEEL
ELEV	ELEVATION	R/S	RING SWITCH
EMT	ELECTRICAL METALLIC TUBING	SF	SUPPLY FAN
EQUIP	EQUIPMENT	SHLD	SHIELDED
EWG	ELECTRICAL WATER COOLER	SP	SINGLE POLE
EXP	EXPLOSION PROOF	SPD	SURGE PROTECTIVE DEVICE
F	FUSED OR FUSE	SST	STAINLESS STEEL
FE	FLOW SENSOR	STR	STARTER
FIT	FLOW INDICATOR TRANSMITTER	SW	SWITCH
FLA	FULL LOAD AMPS	SWBD	SWITCHBOARD
G	GROUND	SWGR	SWITCHGEAR
GF	GROUND FAULT	TB	TERMINAL BOX
GFI	GROUND FAULT INTERRUPTER	TPS	TWISTED PAIR SHIELDED
HOA	HAND-OFF-AUTOMATIC	TYP	TYPICAL
HOR	HAND-OFF-REMOTE	UGE	UNDERGROUND ELECTRICAL
HP	HORSEPOWER	UGT	UNDERGROUND SIGNAL
HPS	HIGH PRESSURE SODIUM	UH	UNIT HEATER
JB	JUNCTION BOX	UL	UNDERWRITERS LABORATORIES
KV	KILOVOLTS	UNO	UNLESS NOTED OTHERWISE
KVA	KILOVOLTS AMPS	V	VOLTS
KVAR	KILOVAR	VFD	VARIABLE FREQUENCY DRIVE
KW	KILOWATTS	VM	VOLTMETER
LCP	LOCAL CONTROL PANEL	VS	VOLTMETER SWITCH
LE	LEVEL SENSOR	W	WIRE/WATT
LIT	LEVEL INDICATING TRANSMITTER	WH	WATER HEATER
LOR	LOCAL-OFF-REMOTE	WP	WEATHERPROOF
LTG	LIGHTING	XFMR	TRANSFORMER

SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	WCM				
	APPROVED BY	WCM				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
		227120-04-001				

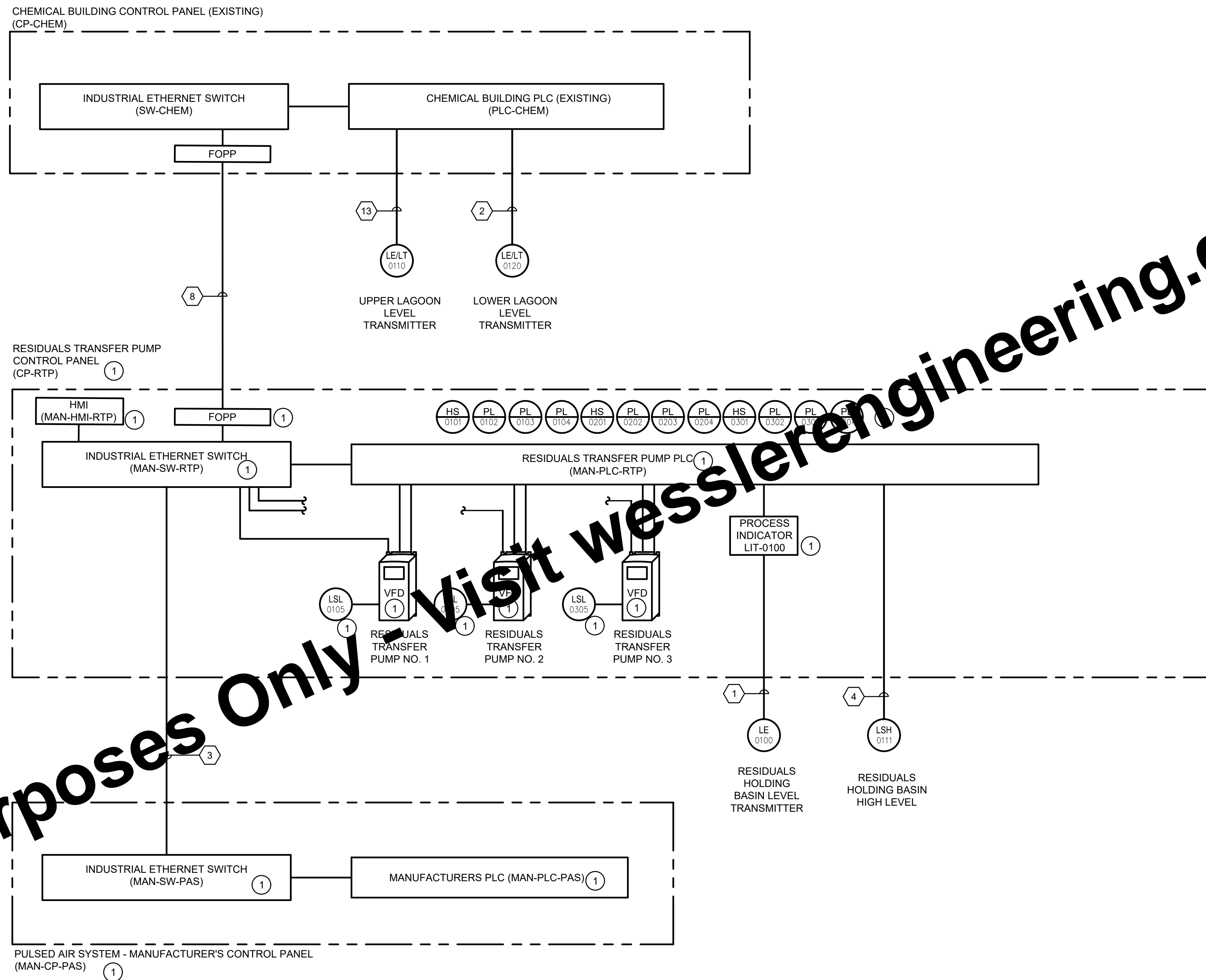


MONROE WTP RESIDUALS PUMPING IMPROVEMENTS
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA
ELECTRICAL LEGEND

SHEET NO.
5E1
PAGE NO.
13



For Viewing Purposes Only - Visit [wesslerengineering.com](http://wesslerengineering.com) to Purchase



PANEL MOUNTED INSTRUMENT SCHEDULE			
PANEL	EQUIP ID	TYPE	DESCRIPTION
MAN-CP-RTP	LIT-0100	PROCESS INDICATOR	RESIDUALS HOLDING TANK LEVEL
MAN-CP-RTP	HS-0101	SEL. SWITCH	RTP NO. 1 H/O/A
MAN-CP-RTP	PL-0102	PILOT LIGHT	RTP NO. 1 RUNNING LIGHT
MAN-CP-RTP	PL-0103	PILOT LIGHT	RTP NO. 1 SEAL FAIL LIGHT
MAN-CP-RTP	PL-0104	PILOT LIGHT	RTP NO. 1 FAIL LIGHT
MAN-CP-RTP	HS-0201	SEL. SWITCH	RTP NO. 2 H/O/A
MAN-CP-RTP	PL-0202	PILOT LIGHT	RTP NO. 2 RUNNING LIGHT
MAN-CP-RTP	PL-0203	PILOT LIGHT	RTP NO. 2 SEAL FAIL LIGHT
MAN-CP-RTP	PL-0204	PILOT LIGHT	RTP NO. 2 FAIL LIGHT
MAN-CP-RTP	HS-0301	SEL. SWITCH	RTP NO. 3 H/O/A
MAN-CP-RTP	PL-0302	PILOT LIGHT	RTP NO. 3 RUNNING LIGHT
MAN-CP-RTP	PL-0303	PILOT LIGHT	RTP NO. 3 SEAL FAIL LIGHT
MAN-CP-RTP	PL-0304	PILOT LIGHT	RTP NO. 3 FAIL LIGHT

CONDUIT AND WIRE SCHEDULE:

1	3/4" C, MANUFACTURER'S CABLE
2	3/4"C, 2/C#16TPS
3	1"C, CAT6 ETHERNET
4	3/4"C, 3#14
5	3/4"C, 6#14
6	3/4"C, 8#14
7	3/4"C, 2 - 2/C#16TPS
8	2"C, FIBER OPTIC CABLE (EXISTING CONDUIT, NEW CABLE)
9	3/4"C, 2/C#16TPS
10	3/4"C, 6#14
11	3/4"C, MANUFACTURER'S CABLE
12	3/4"C, FIBER
13	EXISTING 2"C, 2/C#16TPS

KEYED NOTES:

- 1 PROVIDED BY MANUFACTURER

SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	WCM				
	APPROVED BY	WCM				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
	227120-04-001					



**W**  
**WESSLER**  
ENGINEERING  
More than a Project™

**MONROE WTP RESIDUALS PUMPING IMPROVEMENTS**

CITY OF BLOOMINGTON UTILITIES  
BLOOMINGTON, INDIANA

**CONTROL ONE-LINE DIAGRAM**

SHEET NO.

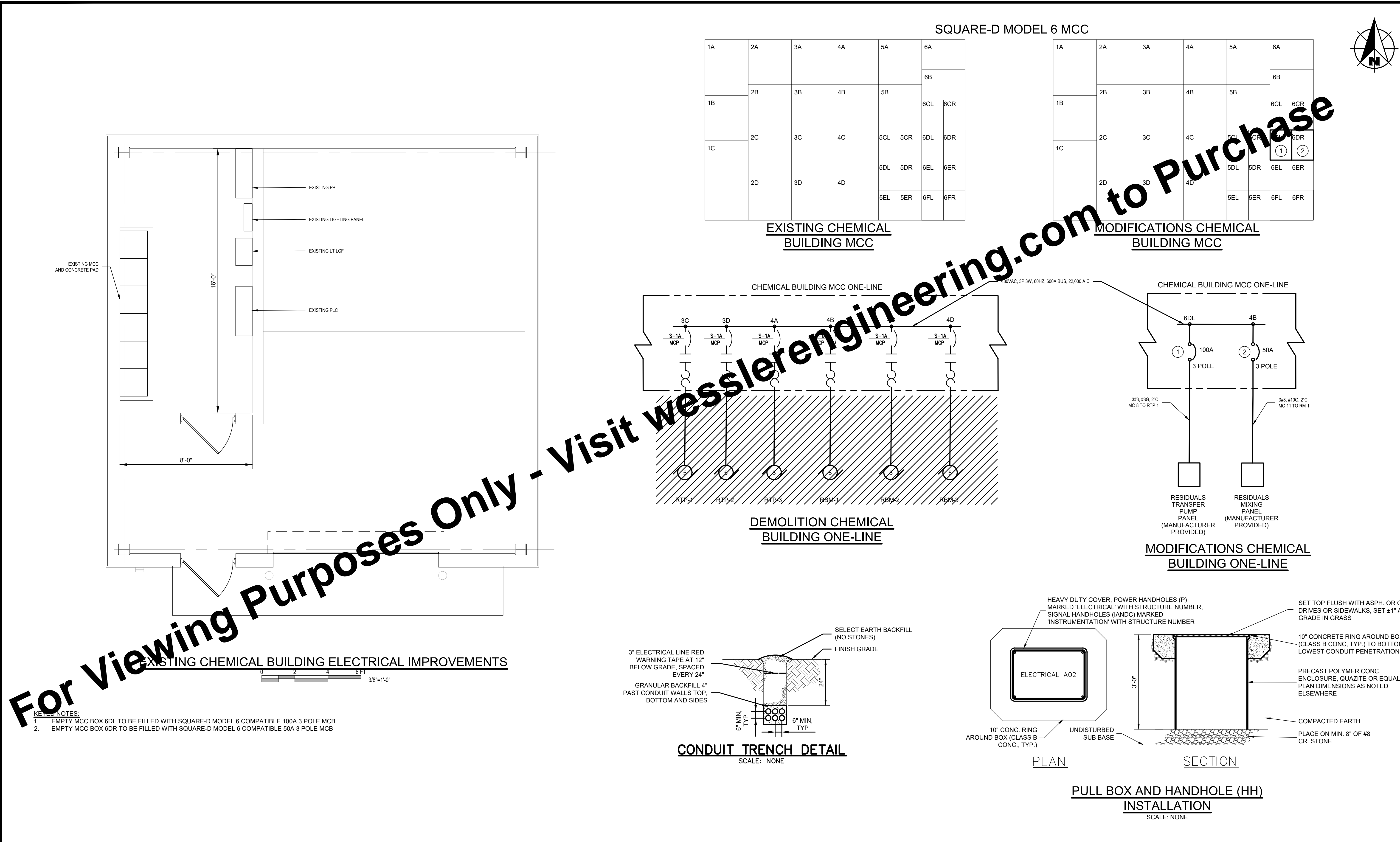
**5E2**

PAGE NO.

14



Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\Improvements\227120-EL-ECB.dwg | Layout: 5E2 | Plotted: 08/27/20 @ 07:34:41 | LastSavedBy: Curtis G



SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING <div></div>	CHECKED BY	WCM				
	APPROVED BY	WCM				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
	227120-04-001					

WAYNE C. MOORE  
REGISTERED  
No. 10707476  
STATE OF INDIANA  
PROFESSIONAL ENGINEER  
08/17/2020

W

WESSLER  
ENGINEERING

More than a Project™

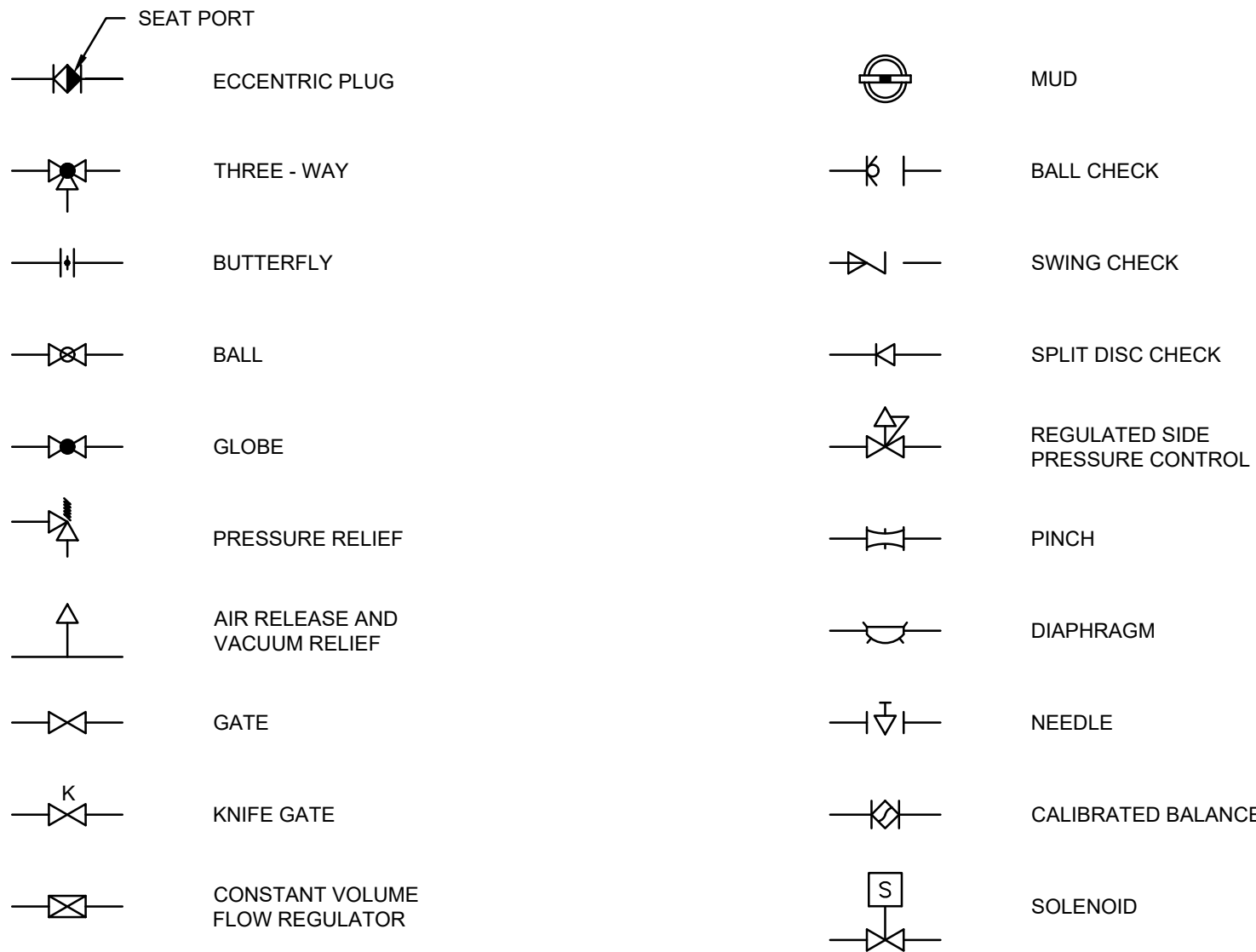
MONROE WTP RESIDUALS PUMPING IMPROVEMENTS
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA
CHEMICAL BUILDING ELECTRICAL IMPROVEMENTS

SHEET NO.
5E3
PAGE NO.
15

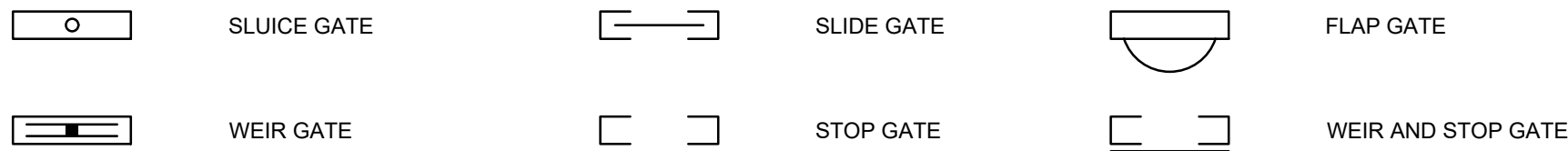


Drawing: J:\Bloomington\_IN\Projects\227120-Bloomington Water Treatment\Improv\CAD\DWG\Sheets\227120-EL-FID.dwg | Layout: 6N1 | Plotted: 08/27/20 @ 07:41:24 | LastSavedBy: CurisG

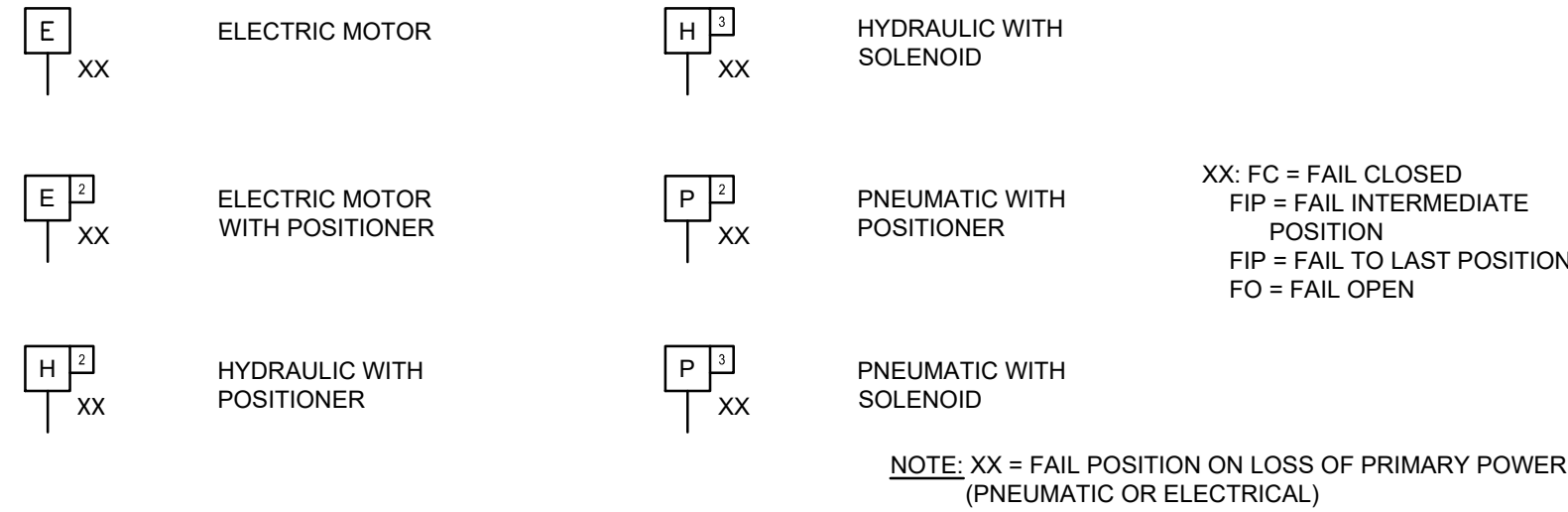
VALVE SYMBOLS



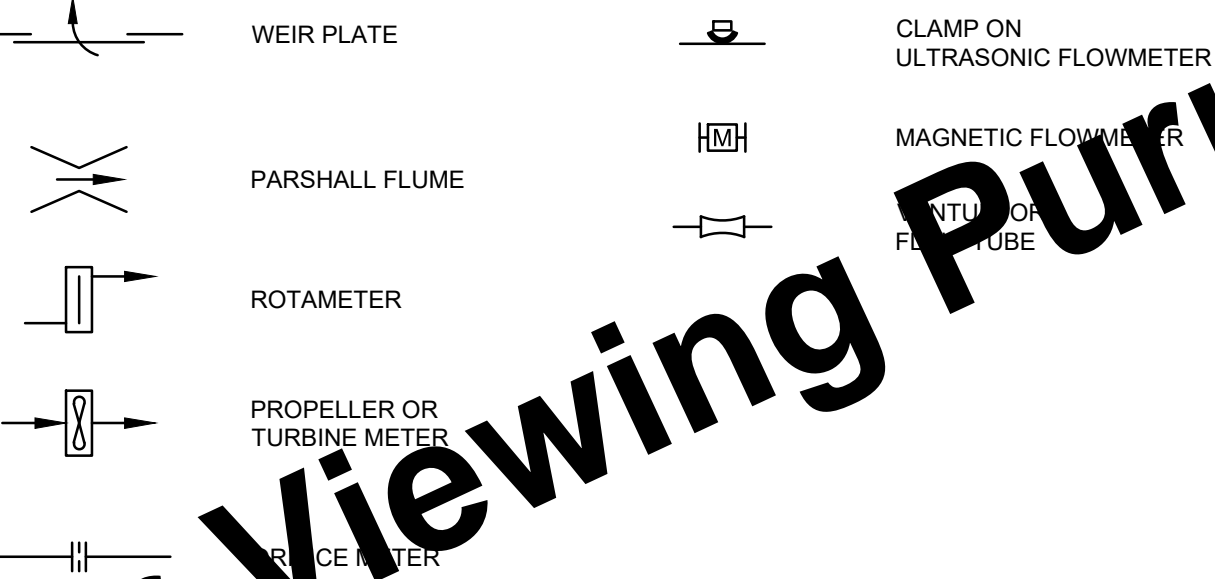
GATE SYMBOLS



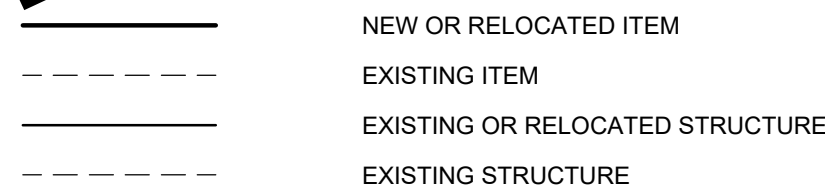
VALVE AND GATE POWER ACTUATOR SYMBOLS



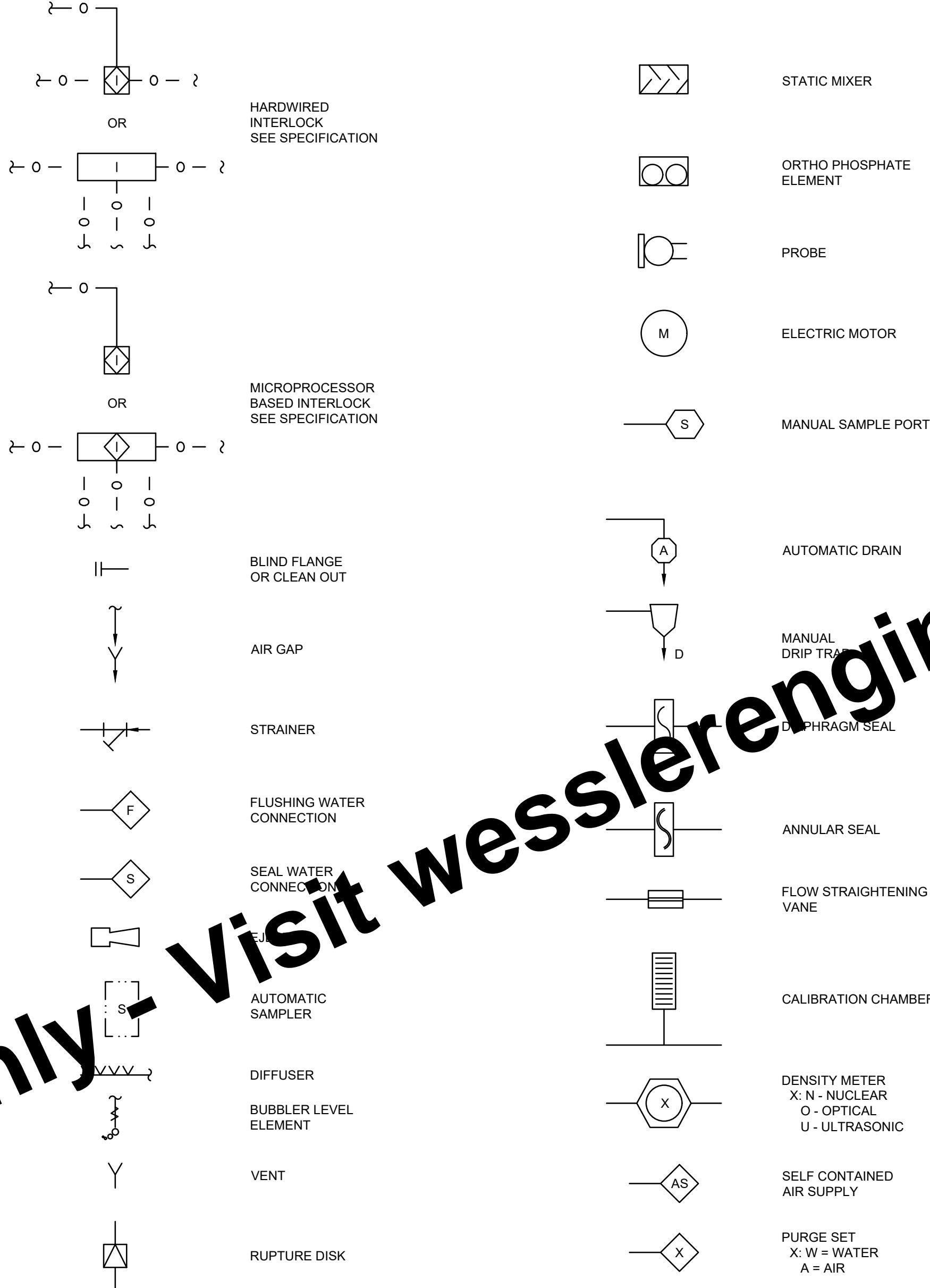
FLOW ELEMENTS SYMBOLS



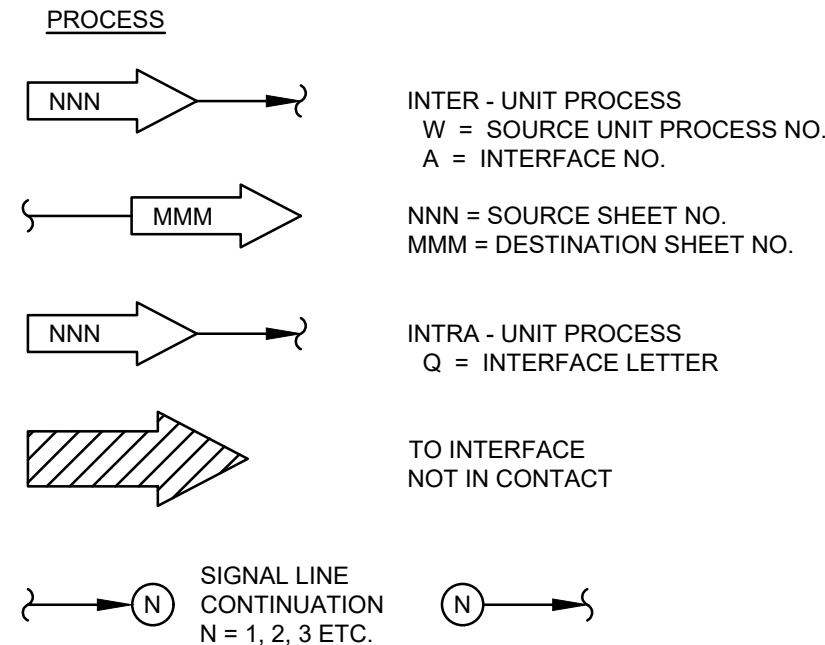
STRUCTURES AND EQUIPMENT



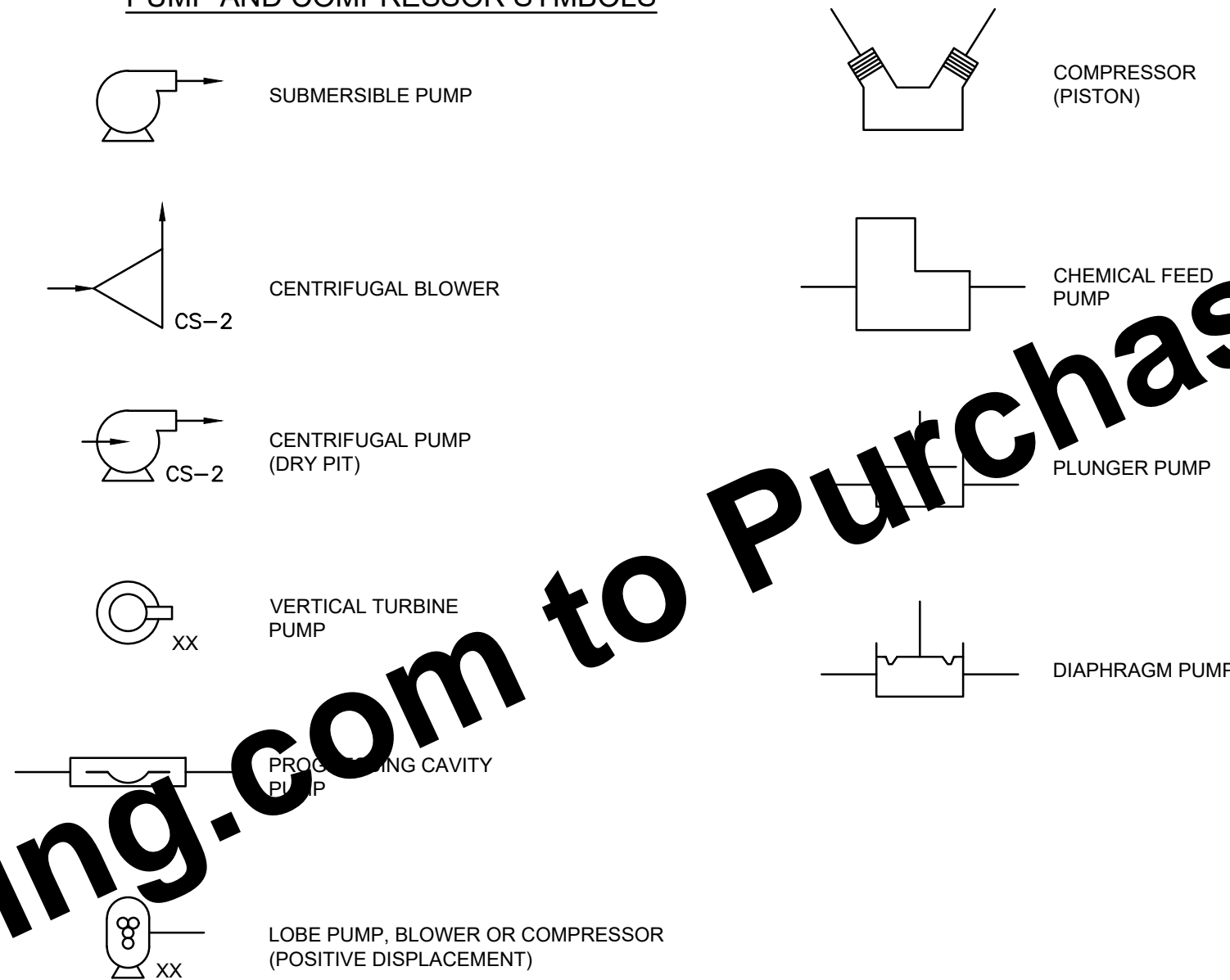
MISCELLANEOUS SYMBOLS



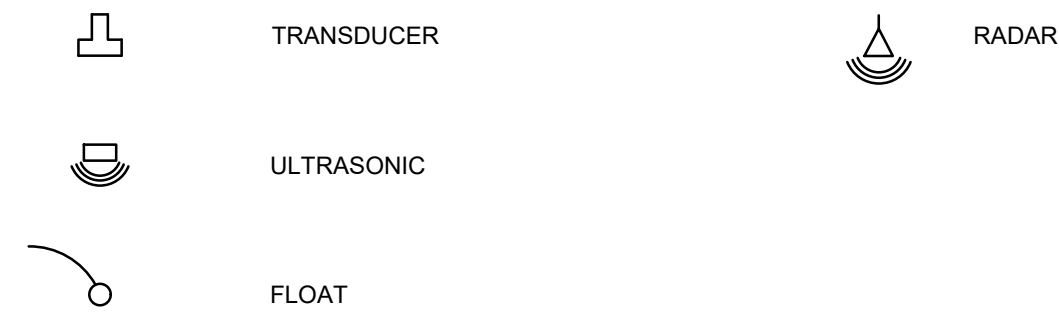
INTERFACE SYMBOLS



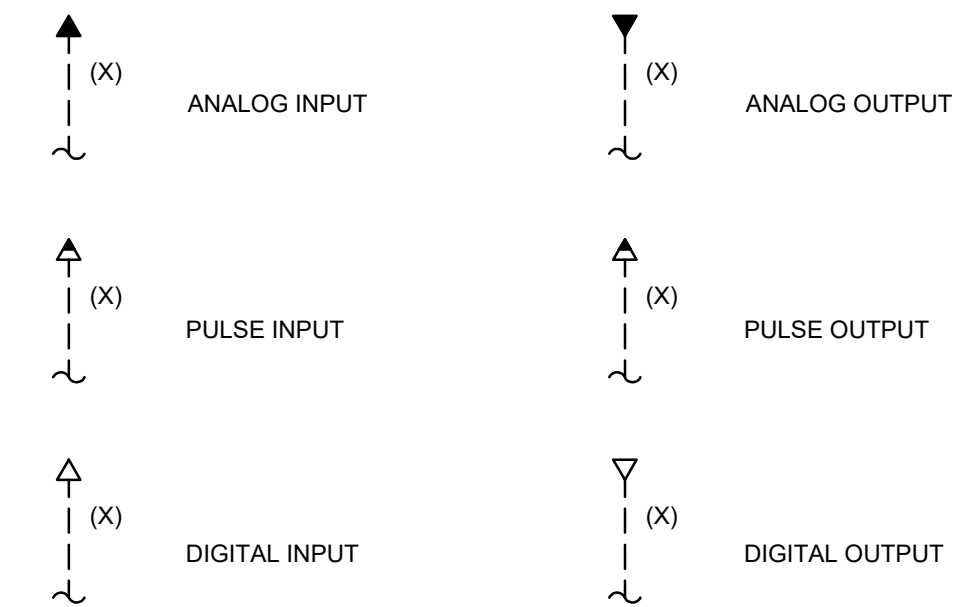
PUMP AND COMPRESSOR SYMBOLS



LEVEL ELEMENTS SYMBOLS



INPUTS AND OUTPUTS TO PLC OR DISTRIBUTED CONTROL



GENERAL NOTE:

- THIS IS A STANDARD LEGEND. NOT ALL THE INFORMATION SHOWN ON THIS LEGEND IS USED IN THESE CONTRACT DRAWINGS.
- ALL I/O MAY NOT BE REFERENCED WITHIN THE N-SERIES DRAWINGS. REFER TO E-SERIES DRAWINGS, INCLUDING CONTROL ONE-LINES, ELECTRICAL WIRING SCHEMATICS, AND THE I/O LISTING IN SECTION 13482 FOR ADDITIONAL I/O REQUIREMENTS.

SCALE VERIFICATION

BAR IS ONE INCH LONG ON ORIGINAL DRAWING

DRAWN BY

BDP

NO.

DATE

INITIALS

REVISION DESCRIPTIONS

CHECKED BY

BDP

APPROVED BY

WCM

ISSUE DATE

AUGUST 2020

PROJECT NUMBER

227120-04-001



**W**  
**WESSLER**  
ENGINEERING  
More than a Project™

**MONROE WTP RESIDUALS PUMPING IMPROVEMENTS**

CITY OF BLOOMINGTON UTILITIES  
BLOOMINGTON, INDIANA

**PROCESS AND INSTRUMENTATION LEGEND**

SHEET NO.

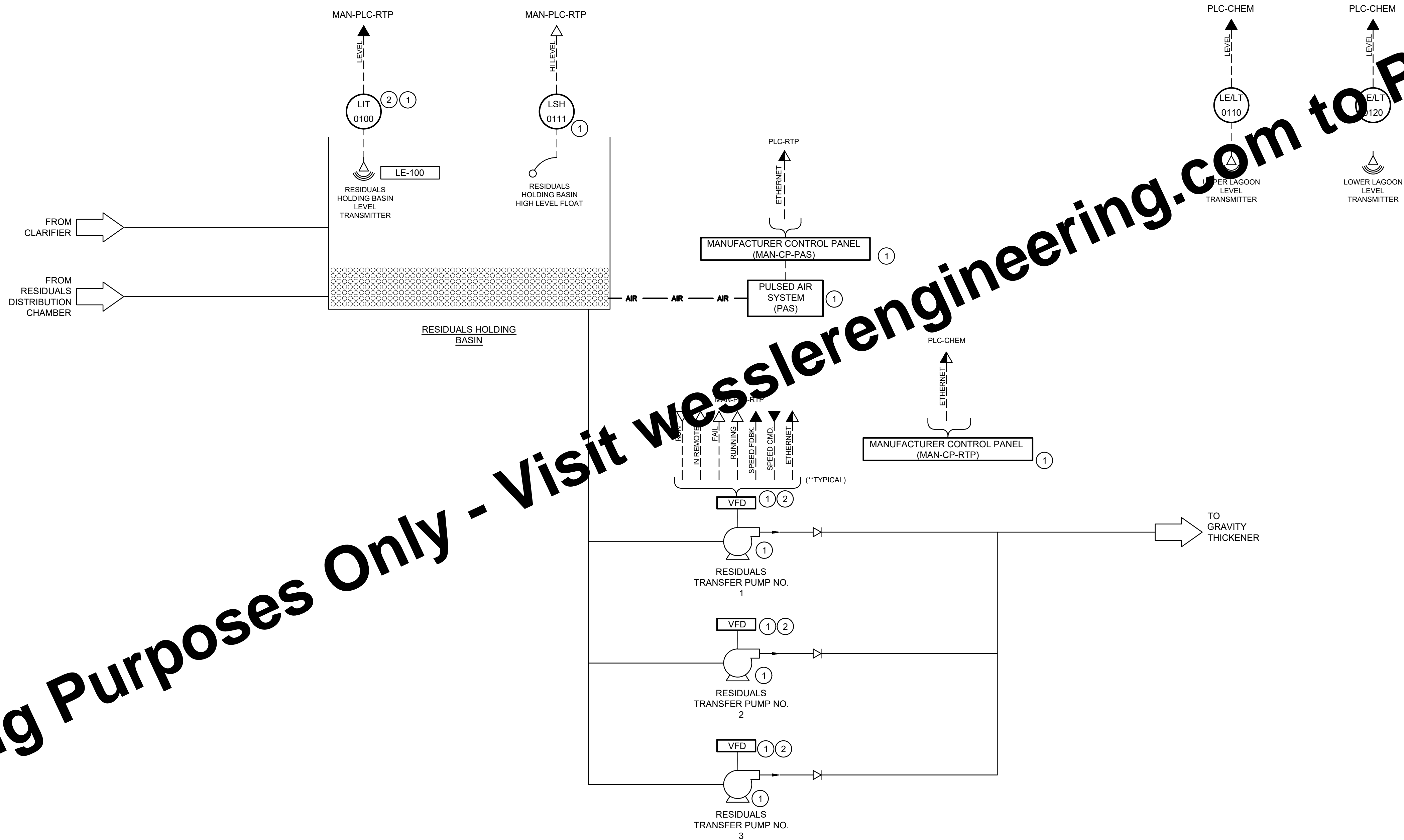
**6N1**

PAGE NO.

16



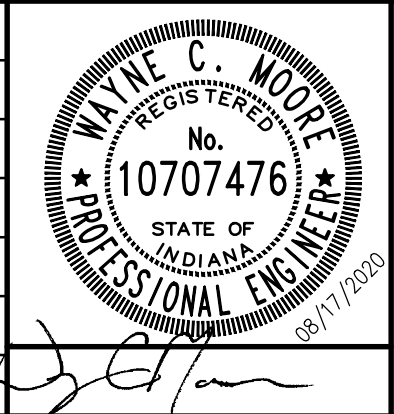
For Viewing Purposes Only - Visit [wesslerengineering.com](http://wesslerengineering.com) to Purchase



KEYED NOTES:

- ① PROVIDED BY MANUFACTURER  
② TO BE LOCATED IN MAN-CP-RTP

SCALE VERIFICATION  BAR IS ONE INCH LONG ON ORIGINAL DRAWING 	DRAWN BY	BDP	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
	CHECKED BY	BDP				
	APPROVED BY	WCM				
	ISSUE DATE					
	AUGUST 2020					
	PROJECT NUMBER					
	227120-04-001					



MONROE WTP RESIDUALS PUMPING IMPROVEMENTS	
CITY OF BLOOMINGTON UTILITIES BLOOMINGTON, INDIANA	
PROCESS AND INSTRUMENTATION DIAGRAM	

SHEET NO. <b>6N2</b>
PAGE NO. 17