

ABBREVIATIONS

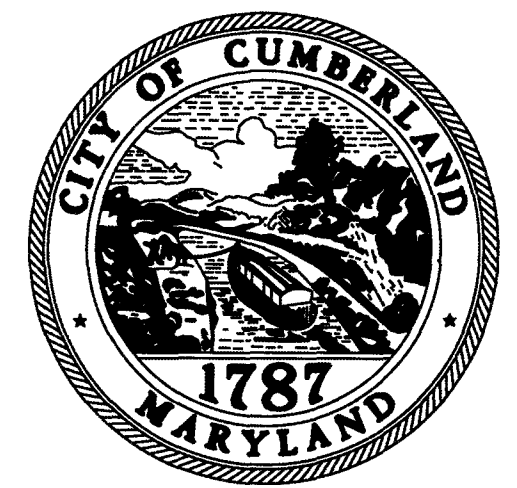
A, AMP	AMPERE	MAX	MAXIMUM
AC	AIR COMPRESSOR	MCB	MAIN CIRCUIT BREAKER
A/C	AIR CONDITIONING	MCC	MOTOR CONTROL CENTER
AFF	ABOVE FINISHED FLOOR	MCP	MOTOR CIRCUIT PROTECTOR
AHU	AIR HANDLING UNIT	MDP	MAIN DISTRIBUTION PANEL
APPROX	APPROXIMATE	MH	MANHOLE, METAL HALIDE
AT	AMPERE TRIP	MIN.	MINIMUM
ATS	AUTOMATIC TRANSFER SWITCH	MISC	MISCELLANEOUS
AWG	AMERICAN WIRE GAUGE	MSP	METHANOL SUMP PUMP
		MTD	MOUNTED, MOUNTING
BKR	BREAKER	MWP	MUDWELL PUMP
BLDG	BUILDING		
C	CONDUIT	N.C.	NORMALLY CLOSED
CAB	CABINET	NEC	NATIONAL ELECTRICAL CODE
CB	CIRCUIT BREAKER	NEUT	NEUTRAL
CKT	CIRCUIT	N.O.	NORMALLY OPEN
CM	CIRCULAR MILS	NO.	NUMBER
CT	CURRENT TRANSFORMER	NTS	NOT TO SCALE
CU	COPPER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
DB	DIRECT BURIED, DUCTBANK		
DIA, Ø	DIAMETER	P	POLE
DISC	DISCONNECT	PB	PULL BOX, PUSH BUTTON
DWG	DRAWING	PH	PHASE
EA	EACH	PLC	PROGRAMMABLE LOGIC CONTROLLER
EF	EXHAUST FAN	PNL	PANEL
EL, ELEV	ELEVATION	PVC	POLYVINYL CHLORIDE
ELEC	ELECTRIC		
EMH	ELECTRIC MANHOLE	RECEP	RECEPTACLE
EMT	ELECTRICAL METALLIC TUBING	REQD	REQUIRED
EUH	ELECTRICAL UNIT HEATER	REV	REVISION
EWB	ELECTRIC WATER HEATER	RGS	RIGID GALVANIZED STEEL
EX, EXIST	EXISTING	RVSS	REDUCED VOLTAGE SOFT STARTER
F	FUSE, FUSIBLE	SCH	SCHEDULE
FDR	FEEDER	SP	SINGLE POLE, SUMP PUMP
FLA	FULL LOAD AMPERES	SPEC	SPECIFICATION
FLUOR	FLUORESCENT	STD	STANDARD
FR	FRAME	STOR	STORAGE
FT	FEET, FOOT	STR	STRUCTURAL
FVNR	FULL VOLTAGE NON REVERSIBLE	SW	SWITCH
		SWBD	SWITCHBOARD
GFI	GROUND FAULT INTERRUPTER	SWGR	SWITCHGEAR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER		
GRD	GROUND	TEL	TELEPHONE
HOA	HAND-OFF-AUTOMATIC	TEMP	TEMPORARY
HP	HORSEPOWER	TERM	TERMINAL
HPS	HIGH PRESSURE SODIUM	3/C	THREE CONDUCTOR
HZ	HERTZ	3/P	THREE POLE
INT	INTERIOR	3 WAY	THREE WAY
JB	JUNCTION BOX	THRU	THROUGH
		TMH	TELEPHONE MANHOLE
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY	TP	TRIP
KCMIL	THOUSAND CIRCULAR MIL	TTB	TELEPHONE TERMINAL BOARD
KV	KILOVOLT	TV	TELEVISION
KVA	KILOVOLT-AMPERE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
KW	KILOWATT	TYP.	TYPICAL
LP	LIFT PUMP	U/G	UNDERGROUND
LSI	LONG TIME, SHORT TIME, INSTANTANEOUS	UH	UNIT HEATER
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS GROUND FAULT	UHE	UNIT HEATER, ELECTRICAL
LTG	LIGHTING	UON	UNLESS OTHERWISE NOTED
LTS	LIGHTS	UV	UNIT VENTILATOR
LV	LOW VOLTAGE	V	VOLT
		VA	VOLT AMPERE
		W	WATTS
		W X D	WIDTH X DEPTH
		W/	WITH
		W/O	WITHOUT
		WP	WATERPROOF, WEATHERPROOF
		XFMR	TRANSFORMER

SYMBOL LIST

	MOTOR # INDICATES HORSEPOWER
	DISCONNECT, SIZE AS INDICATED
	JUNCTION BOX, SIZE AS REQUIRED BY NEC, UNLESS OTHERWISE NOTED ON THE DRAWING
	1-POLE, 3-WAY, 120/277V, 20A, 1HP MOTOR RATED (AT 120V) SWITCH, 54" AFF, UON.
	1-POLE, 1-WAY, 120/277V, 20A, 1HP SWITCH IN NEMA 7 ENCLOSURE, 1' BELOW CEILING HEIGHT, SUITABLE FOR CLASS 1 DIVISION 1.
	1-POLE, 1-WAY, 120/277V, 20A, 1HP MOTOR RATED SWITCH, 54" AFF, UON
	1HP RATED MANUAL STARTER, 120V
	HOMERUN WIRING AND CONDUIT TO PANELBOARD. SIZE AND QUANTITY OF WIRING AND CONDUIT SHALL BE AS SHOWN ON THE PANELBOARD SCHEDULES AND/OR POWER ONE-LINE DIAGRAMS. U.O.N. LETTER DENOTES PANELBOARD DESIGNATION. NUMBER DENOTES CIRCUIT NUMBER. THE NUMBER OF ARROWS INDICATE THE NUMBER OF CIRCUITS IN THE SAME CONDUIT. SIZE AND QUANTITY OF WIRES PER CIRCUIT SHALL BE AS SHOWN ON THE SCHEDULES AND/OR POWER ONE-LINE DIAGRAMS.
	WIRING AND CONDUIT U.O.N. IF NO HATCH MARKS ARE SHOWN, SIZE AND QUANTITY OF WIRING AND CONDUIT SHALL BE EQUAL TO THE HOMERUN WIRING AND CONDUIT SHOWN ON THE PANELBOARD SCHEDULES, AND/OR THE POWER ONE-LINE DIAGRAMS. U.O.N. IF HATCH MARKS ARE SHOWN, THE HATCH MARKS WILL INDICATE THE QUANTITY OF CONDUCTORS. THE QUANTITY OF HATCH MARKS DOES NOT INCLUDE THE GROUND WIRE. A SEPARATE GROUND WIRE SHALL BE PROVIDED PER PANEL SCHEDULE AND/OR ONE LINE DIAGRAM U.O.N.
	GFCI DUPLEX RECEPTACLE, 20 AMPS, 120V, NEMA 5-20R, 24" AFF U.O.N. WITH WP COVER WHILE IN UNATTENDED USE
	DUPLEX RECEPTACLE, 20 AMPS, 120V, NEMA 5-20R, 36" AFF U.O.N. WITH WP COVER WHILE IN UNATTENDED USE
	NUMBER REPRESENT CIRCUIT NUMBER
	RA REPRESENT PANELBOARD DESIGNATION
	DUPLEX RECEPTACLE, 20 AMPS, 120V, NEMA 5-20R, 1' BELOW CEILING HEIGHT U.O.N. IN NEMA 7 ENCLOSURE SUITABLE FOR CLASS 1 DIVISION 1 PER NEC.
	3/4" DIAMETER X 10' LONG COPPER CLAD STEEL GROUND ROD
	GROUND
	CONCRETE ENCASED DUCT OR DUCTBANK AS SHOWN ON DRAWING
	DIRECT BURIED DUCT OR DUCTBANK AS SHOWN ON DRAWING
	DETAIL/SECTION TAG: "DETAIL X/Y" DETAIL/SECTION NUMBER DRAWING NUMBER WHERE SHOWN
	SWITCH
	CIRCUIT BREAKER
	TRANSFORMER
	POWER QUALITY MONITOR
	SURGE PROTECTION DEVICE
	FULL VOLTAGE NON REVERSIBLE STARTER
	FVNR STARTER, MCP TYPE U.O.N., SIZE AS NOTED
	CURRENT TRANSFORMER
	TERMINATOR
	HANDHOLE/HANDBOX

GENERAL ELECTRICAL NOTES

- COORDINATE WITH OTHER CONTRACTORS/TRADES, UTILITIES AND CITY FOR ENTIRE CONSTRUCTION/INSTALLATION WORK TO GUARANTEE SMOOTH COMPLETION OF THE PROJECT.
- COORDINATE EXACT LOCATION OF MECHANICAL EQUIPMENT AND CONTROL DEVICES WITH THE MECHANICAL, VENTILATION AND INSTRUMENTATION DRAWINGS. MECHANICAL EQUIPMENT INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING: UNIT HEATERS, PUMPS, FANS, AND DAMPERS.
- FIELD SURVEY AND VERIFY EXACT LOCATION OF EXISTING EQUIPMENT AND CONTROL DEVICES TO REMAIN.
- ALL PENETRATIONS OF WALLS, FLOORS, OR CEILINGS SHALL BE CORE-DRILLED. SEAL AROUND CORE-DRILL OPENINGS AND RACEWAY/SLEEVES.
- SIZE AND QUANTITY OF WIRING AND CONDUIT INDICATED ON THE PANELBOARD SCHEDULES SHALL APPLY TO THE ENTIRE LENGTH OF THE BRANCH CIRCUIT OR FEEDER, THROUGH ANY SWITCHES/DISCONNECTS/STARTERS/JUNCTION BOXES OR OTHER INTERMEDIATE POINTS, ALL THE WAY UP TO THE FINAL LOAD UNLESS OTHERWISE NOTED.
- PROVIDE INDEPENDENT SUPPORTS FOR ALL FREESTANDING EQUIPMENT AND DEVICES. SUPPORTS SHALL BE BOLTED TO THE FLOOR AND/OR CEILING.
- ADJUST EXACT LOCATION OF EQUIPMENT AND DEVICES TO SUIT FIELD CONDITIONS.
- CONTRACTOR IS RESPONSIBLE FOR PROCURING ELECTRICAL PERMITS REQUIRED BY THE CITY AND STATE.
- DO NOT COMBINE BRANCH CIRCUIT WIRING FOR DIFFERENT LOADS IN THE SAME RACEWAY UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.
- COORDINATE ALL PENETRATIONS OF WALLS, FLOORS AND CEILINGS WITH THE NEW AND EXISTING BUILDING STRUCTURE.
- CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR TEMPORARY POWER. CONTRACTOR SHALL MAKE THE APPLICATION TO THE ELECTRICAL UTILITY; PAY FOR ALL REQUIRED FEES; AND, PROVIDE ALL TEMPORARY ELECTRICAL CONNECTIONS AND EQUIPMENT.
- ADDITIONAL CONDUITS AND CONDUCTOR REQUIREMENTS ARE SHOWN ON 'I' DRAWINGS. CONTRACTOR SHALL COORDINATE INSTALLATION REQUIREMENTS FOR ELECTRICAL AND INSTRUMENTATION & CONTROL EQUIPMENT.
- ALL CONDUIT AND WIRING INSIDE CSO STORAGE AREA AND GALLERY SHALL BE SUITABLE FOR CLASS 1 DIV 1 PER NEC. PROVIDE EXPLOSION PROOF SEAL USING RGS CONDUIT PER NEC.
- CONTRACTOR SHALL PROVIDE A COMPLETE ELECTRICAL SYSTEM AS INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN, IN ACCORDANCE WITH ALL APPLICABLE CODES.
- ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF LOCAL JURISDICTION HAVING AUTHORITY.
- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL SYSTEM, WIRING AND OTHER WORK. IF ACTUAL ROUTING/LENGTH OF CIRCUITS DEVIATES FROM THE DRAWINGS CONTRACTOR SHALL SUBMIT IT TO THE ENGINEER FOR APPROVAL.
- ALL NEUTRAL CONDUCTORS SHALL BE FULL SIZE 100% AMPACITY OF PHASE CONDUCTORS.
- USE VFD CABLES TO ALL MOTORS CONNECTED THROUGH VFD



CITY OF CUMBERLAND MARYLAND

ENGINEERING DEPARTMENT

PROJECT TITLE

PHASE I
CSO STORAGE FACILITY AT THE
WASTEWATER TREATMENT PLANT



DRAWING TITLE

**ABBREVIATIONS,
SYMBOLS AND GENERAL
NOTES**

GRAPHIC SCALE

FOR LIST OF DRAWINGS SEE
SHEET 2. FOR GENERAL LEGEND AND
ABBREVIATIONS SEE SHEET 3 AND
REFER TO NOTE 23.

REVISION

REVISION	No.	DATE

REFERENCE DRAWING

REFERENCE DRAWING	No.

FIELD BOOK REF.

FIELD BOOK REF.	BOOK	PAGE

DESIGNED BY: KKK

DRAWN BY: KKK

CHECKED BY: SSS

SURVEYED BY:

FIELD BOOK No.:

TRACED BY:

SCALE

HORIZONTAL: NONE
VERTICAL: NONE

DATE: JULY 2016

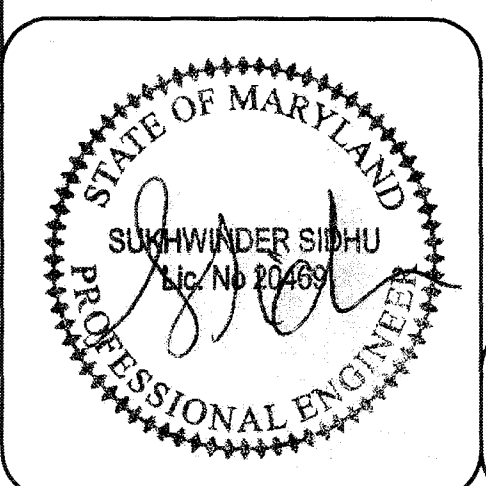
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CITY PROJ. No. 01-10-WWTP

SHEET 100 OF 136

CITY DRAWING REFERENCE NUMBER: C2509

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July 21, 2010 - 1:27pm



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 29469, EXPIRATION DATE: 09/03/2016.

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