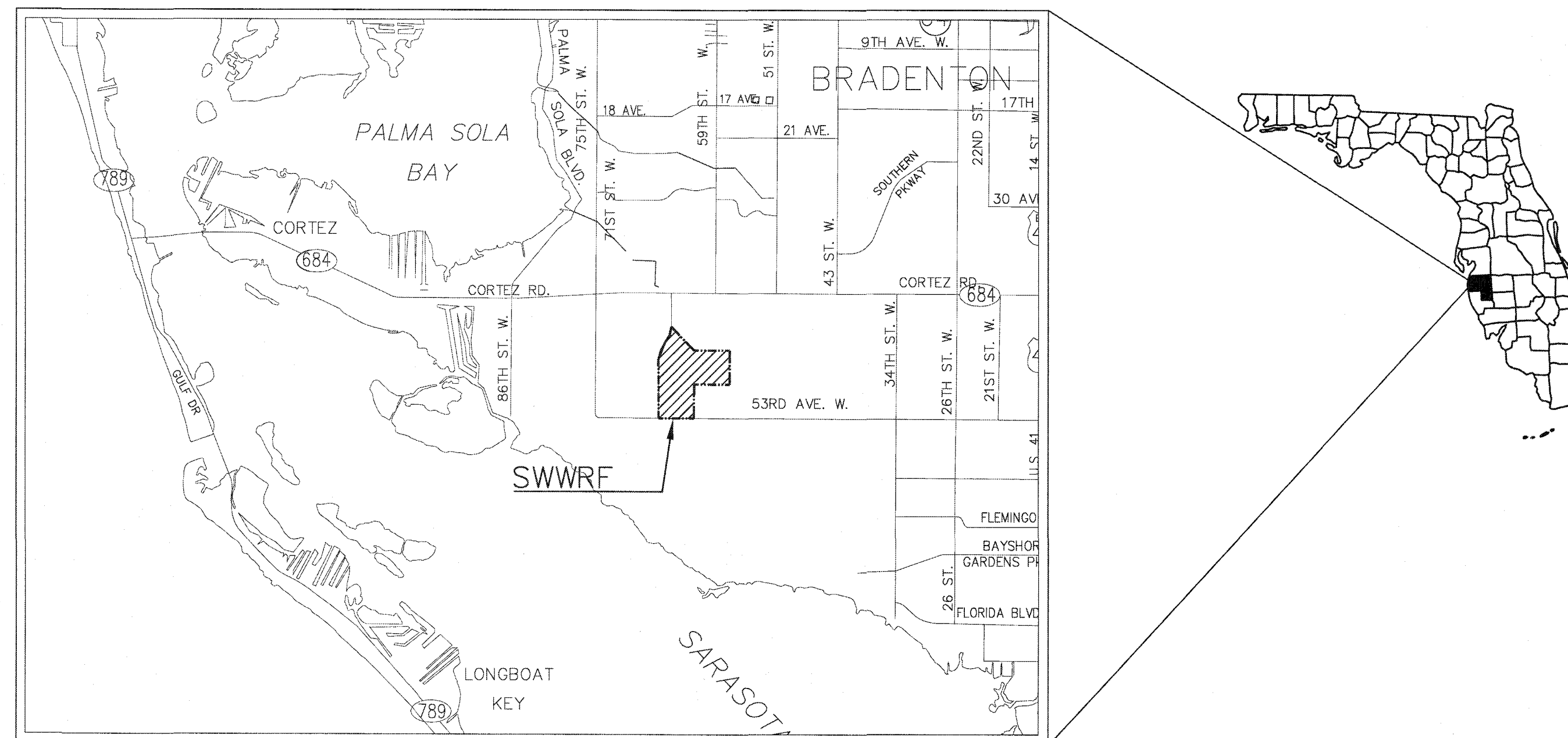


SOUTHWEST WATER RECLAMATION FACILITY NEW HEADWORKS

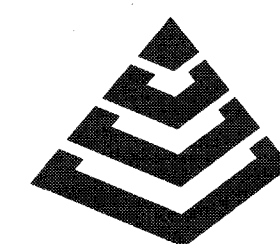
COUNTY PROJECT No. 6083381
ISSUED FOR BID
SEPTEMBER 2019



MANATEE COUNTY, FLORIDA

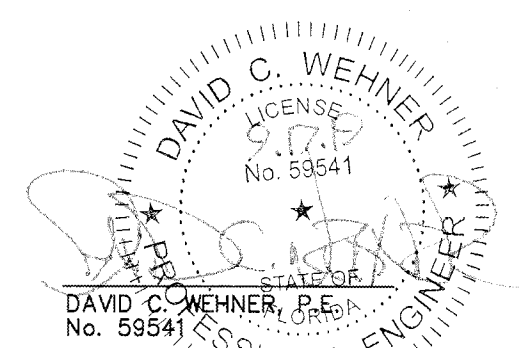


PROJECT VICINITY MAP
SECTION 35S, TOWNSHIP 18E, RANGE 1



MCKIM & CREED

1365 Hamlet Avenue
Clearwater, FL 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



GENERAL NOTES

- THESE PLANS ARE SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE EXISTING CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. CONTRACTORS ARE DIRECTED TO CONDUCT WHATEVER INVESTIGATION THEY DEEM NECESSARY, PRIOR TO BIDDING, TO DETERMINE THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED.
- LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) AFFECTING HIS WORK.
- THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN WRITTEN CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, STORM DRAINS, SEWERS, UTILITIES, AND OTHER FACILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR ANY DAMAGES DUE TO HIS CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.
- WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURERS' MAXIMUM RECOMMENDED DEFLECTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE EXISTING DRAINAGE SYSTEM WITHIN THE LIMITS OF THE PROJECT AREA FOR THE DURATION OF THE PROJECT.
- THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORD DRAWINGS AS OUTLINED IN THE SPECIFICATIONS. RED-LINE DRAWINGS SHALL BE CURRENT WITH EACH PAY APPLICATION SUBMITTED AND WILL BE CHECKED AS PART OF THE PAY APPLICATION REVIEW PROCESS. PAYMENT WILL NOT BE MADE TO CONTRACTOR WITHOUT APPROVED RED-LINE DRAWINGS.
- FIELD CONDITIONS MAY NECESSITATE ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED PIPELINES TO AVOID CONFLICTS. NO ADDITIONAL PAYMENT SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND THE OWNER'S ENGINEER.
- THE CONTRACTOR SHALL INCLUDE IN HIS BID, BY-PASS PUMPING FACILITIES, PUMPS, FITTINGS, LABOR, ETC. AS NECESSARY, BASED ON METHOD AND SEQUENCE OF CONSTRUCTION TO COMPLETE ALL WORK WHILE MAINTAINING THE EXISTING WASTEWATER TREATMENT PLANT OPERATIONS AT ALL TIMES.
- ALL PROPOSED WORK SHALL BE COORDINATED WITH WASTEWATER TREATMENT PLANT PERSONNEL AND MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL OF ALL PIPE CONNECTIONS, TRANSITIONS, AND SPECIALS PRIOR TO FABRICATION OR DELIVERY TO THE JOB SITE.
- CONNECTIONS TO EXISTING FACILITIES SHALL BE ACCOMPLISHED IN A NEAT WORKMANLIKE MANNER. WHEN FIELD CONDITIONS INDICATE ANY VARIANCE FROM DETAILED METHODS, THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE AND DETAILED DRAWINGS FOR OWNER REVIEW AND APPROVAL PRIOR TO MAKING THE CONNECTIONS.
- UNLESS OTHERWISE INDICATED OR APPROVED, ALL BELOW GROUND DUCTILE IRON PIPE SHALL HAVE PUSH-ON OR MECHANICAL JOINTS, AND ALL ABOVE GROUND DUCTILE IRON PIPE SHALL HAVE FLANGED JOINTS. ALL JOINTS SHALL BE FULLY RESTRAINED.
- ALL PIPELINES SHALL HAVE A MINIMUM COVER OF 36" BELOW EXISTING GRADE UNLESS OTHERWISE NOTED OR DIRECTED.
- WATER SHALL NOT BE PERMITTED IN EXCAVATIONS AND TRENCHES DURING CONSTRUCTION. DEWATERING IS REQUIRED TO A MINIMUM OF 18" BELOW BOTTOM OF EXCAVATION.
- THE CONTRACTOR SHALL NOT ALLOW ANY DISCHARGE OF WASTEWATER TO LANDS AND/OR ADJACENT WATER BODIES OR STORM DRAINS. ANY LEAKAGE MUST BE CONTAINED AND TRANSFERRED BY THE CONTRACTOR TO THE PLANT DRAIN PUMP STATION AT THE WASTEWATER TREATMENT PLANT.
- ALL EXPOSED NEW PIPING SHALL BE PAINTED WITH DESIGNATED COLORS ASSOCIATED WITH THEIR USAGE AS PROVIDED IN THE SPECIFICATIONS.
- ALL NEW PIPELINES SHALL BE FLUSHED, PRESSURE TESTED, AND APPROVED PRIOR TO TIE-INS TO EXISTING FACILITIES. THE CONTRACTOR WILL BE ALLOWED TO USE TEMPORARY PLUGS FOR PRESSURE TESTING.
- ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PURPOSES AND NOT REQUIRED FOR THE PIPELINE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE.
- CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL BE REQUIRED TO INSTALL ALL EROSION, SEDIMENT AND TURBIDITY CONTROL MEASURES PRIOR TO CONSTRUCTION OF ANY COMPONENTS ASSOCIATED WITH THE PROJECT. SEDIMENT CONTROL INCLUDES SILT DAMS, TRAPS, EROSION PROTECTION, AND ANY OTHER APPURTENANCES NEEDED BUT NOT NECESSARILY SHOWN ON THESE DRAWINGS.
- CONTRACTOR SHALL PROVIDE PROTECTIVE MATTING, FUEL CONTAINMENT AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR TO PROTECT THE STAGING AREA DURING CONSTRUCTION.
- CONTRACTOR SHALL, PRIOR TO BEGINNING CONSTRUCTION, SUBMIT A "FUELING SPILL PREVENTION PLAN" THAT SHALL CLEARLY INDICATE HOW FUEL SPILLS WILL BE PREVENTED WHEN FUELING BOTH WITHIN AND OUTSIDE OF THE STAGING AREA.
- CONTRACTOR SHALL SUBMIT A DEWATERING PLAN FOR FILING PRIOR TO BEGINNING CONSTRUCTION. DEWATERING SHALL BE CONDUCTED IN ACCORDANCE WITH THE BMPS IDENTIFIED IN CHAPTER 5, "BMPS FOR DEWATERING" OF "THE FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL".
- LINE INACTIVATIONS SHALL BE CONCLUDED AT OFF PEAK TIMES AS DICTATED BY PLANT OPERATIONS STAFF.
- CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR, LICENSED IN THE STATE OF FLORIDA TO PERFORM CONSTRUCTION STAKING IN ACCORDANCE WITH RULE 61G17-6.004 (3) OF THE FLORIDA ADMINISTRATIVE CODE.
- JOINT RESTRAINT SHALL BE INSTALLED AS NECESSARY TO PREVENT MOVEMENT OF EXISTING UNRESTRAINED PRESSURE PIPE AT ALL TIE-IN LOCATIONS WHETHER SPECIFICALLY IDENTIFIED ON THE PLANS OR NOT.
- ALL WORK, EQUIPMENT AND MATERIALS SHALL MEET OR EXCEED CURRENT MANATEE COUNTY STANDARDS, UNLESS OTHERWISE STATED IN CONTRACT DOCUMENTS.
- PIPE LENGTHS SHOWN ON PLAN VIEW DRAWINGS ARE IN LINEAR FEET AND DO NOT TAKE INTO ACCOUNT VERTICAL ELEVATION CHANGES, DEFLECTIONS, BENDS, ETC.

RESTORATION AND MISCELLANEOUS NOTES

- THE CONTRACTOR SHALL PROVIDE AN ASPHALT PATCH FOR TRENCH AREAS CONSTRUCTED IN EXISTING ROADWAYS UNLESS INDICATED OTHERWISE ON THE DRAWINGS. ADJUST ALL CASTINGS TO MATCH NEW PAVEMENT SURFACE.
- WHERE SURFACE IMPROVEMENTS ARE TO BE REPLACED IN KIND, AS INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL REPLACE ALL EXISTING PAVING, STABILIZED EARTH, CURBS, SIDEWALKS, FENCES, LANDSCAPING AND OTHER IMPROVEMENTS WITH THE SAME OR BETTER TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
- ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS OTHERWISE NOTED.
- ALL EXISTING FENCES DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AND REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER UNLESS SHOWN TO BE REMOVED ON CONSTRUCTION PLANS.
- LIMITS OF PROPOSED ROADWAY OVERLAY SHOWN ARE APPROXIMATE. CONTRACTOR SHALL OVERLAY ALL DISTURBED AREAS OF ACCESS ROAD AS PART OF THIS PROJECT IN ACCORDANCE WITH THE DETAILS.
- CONTRACTOR SHALL RESTORE ALL IRRIGATION SYSTEM COMPONENTS TO PRE-CONSTRUCTION CONDITIONS.
- THE CONTRACTOR SHALL RAISE EXISTING MANHOLE FRAMES AND COVERS TO MATCH FINAL GRADE.
- CONTRACTOR SHALL RESTORE GRADE TO PRECONSTRUCTION ELEVATIONS UNLESS OTHERWISE NOTED.

SIDEWALK NOTES

- ALL SIDEWALKS SHALL BE CONSTRUCTED WITH 4 INCH THICK 3000 PSI CLASS I CONCRETE REINFORCED WITH 6X6 NO. 10 MESH.
- SIDEWALKS SHALL BE CONSTRUCTED TO THE SPECIFICATIONS OF THE MANATEE COUNTY DEVELOPMENT STANDARDS AND A MINIMUM OF FIVE (5) FEET WIDE.
- THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL NOT BE MORE THAN 1/2 INCH UNDER A TEN-FOOT STRAIGHTEDGE, NOR MORE THAN 1/8 INCH ON A FIVE-FOOT TRAVERSE SECTION. THE EDGE OF THE SIDEWALK SHALL BE CAREFULLY FINISHED WITH AN EDGING TOOL HAVING A RADIUS OF 1/2 INCH.
- EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE SIDEWALK AND DRIVEWAYS OR AT FIXED OBJECTS AND SIDEWALK INTERSECTIONS SHALL BE 1/2 INCH JOINTS.
- CONTRACTION JOINTS: FIXED OPEN-TYPE CONTRACTION JOINTS SHALL BE FORMED BY STAKING A METAL BULKHEAD IN PLACE AND DEPOSITING THE CONCRETE ON BOTH SIDES. AFTER THE CONCRETE HAS SET SUFFICIENTLY TO PRESERVE THE WIDTH AND SHAPE OF THE JOINT, THE BULKHEAD SHALL BE REMOVED. AFTER THE SIDEWALK HAS BEEN FINISHED OVER THE JOINT, THE SLOT SHALL BE EDGED WITH A TOOL HAVING A 1/2 INCH RADIUS. SAWED JOINTS: A SLOT APPROXIMATELY 3/16 INCH WIDE AND NOT LESS THAN 1-1/2 INCHES DEEP SHALL BE CUT WITH A CONCRETE SAW AFTER THE CONCRETE HAS SET.

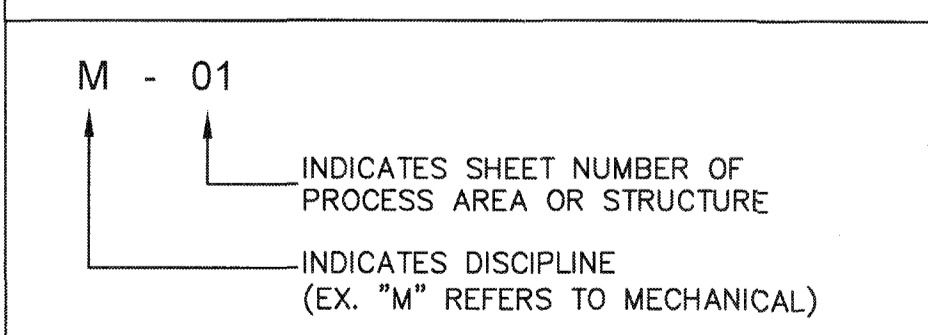
TOPOGRAPHIC SURVEY NOTES

- THIS SURVEY IS REFERENCED TO A GRID PROJECTION OF THE STATE PLANE COORDINATE SYSTEM OF FLORIDA WEST ZONE (NAD 83/11 ADJUSTMENT).
- THE FOLLOWING NGS VERTICAL CONTROL POINT WAS RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREON: "SABAL PALM" NAVD 1988 ELEVATION 14.62'.
- THIS IS NOT A BOUNDARY SURVEY.
- THIS SURVEY IS SUBJECT TO PERTINENT EASEMENTS, ADDITIONAL RIGHTS-OF-WAY AND RESTRICTIONS OF RECORD, IF ANY.
- THIS SURVEY DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF MANATEE COUNTY FOR THE EXPRESS PURPOSE STATED HEREON AND/OR CONTAINED IN THE CONTRACT BETWEEN HYATT SURVEY SERVICES, INC. AND THE CLIENT FOR THIS PROJECT. COPYING, DISTRIBUTING AND/OR USING THIS DRAWING, IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN ORIGINALLY INTENDED WITHOUT WRITTEN CONSENT FROM HYATT SURVEY SERVICES, INC IS STRICTLY PROHIBITED AND RENDERS THE SURVEYOR'S CERTIFICATION, SIGNATURE AND SEAL NULL AND VOID. ANY QUESTIONS CONCERNING THE CONTENT OR PURPOSE OF THIS DRAWING SHOULD BE DIRECTED TO HYATT SURVEY SERVICES, INC.
- ELEVATIONS SHOWN ARE BASED ON NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD 88), UNLESS STATED OTHERWISE. CONTRACTOR SHALL NOTE THAT ELEVATIONS ON RECORD DRAWINGS FOR THIS FACILITY MAY BE BASED ON NATIONAL GEODETIC VERTICAL DATUM, 1929 (NGVD 1929). THE CONVERSION OF VERTICAL DATUM FOR THIS SITE IS NGVD 1929 = NAVD 88+0.99 FT.

SOIL EROSION & SEDIMENTATION CONTROL NOTES:

- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION, DEMOLITION, DEWATERING, OR MOBILIZATION ACTIVITIES, MAINTAINED THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL WORK IS COMPLETE.
- CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES THROUGHOUT DEMOLITION AND CONSTRUCTION.
- SEED BALES AND/OR SILT SCREENS SHALL BE INSTALLED ADJACENT TO THE WORK AREAS TO PREVENT SEDIMENT TRANSPORT PRIOR TO THE COMMENCEMENT OF WORK.
- INLET PROTECTION SHALL BE PLACED AT ALL INLETS IN OR ADJACENT TO THE PROJECT AREA.
- AS SOON AS PRACTICAL, ALL DRESSED SLOPES AND DISTURBED AREAS SHALL BE SODDED OR SEEDDED AND MULCHED TO PREVENT EROSION.
- NO EXCAVATION SHALL EXTEND BELOW THE DEPTHS/ELEVATIONS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS WITHOUT PRIOR APPROVAL.
- CONTRACTOR SHALL PREPARE AND SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES AND PROVIDE APPROVED FDEP NOI TO COUNTY.
- CONTRACTOR SHALL PREPARE AND SUBMIT A DISPOSAL PLAN FOR EXCAVATION MATERIAL INCLUDING THE LOCATION OF DISPOSAL SITE(S) AND DISPOSAL PLANS SHOWING APPLICABLE BEST MANAGEMENT PRACTICES FOR REVIEW AND APPROVAL PRIOR TO ANY EARTHWORK ACTIVITIES.

DRAWING NUMBER DESIGNATION

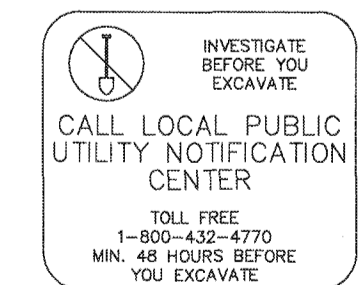


Sheet List Table	
Sheet Number	Sheet Title
GENERAL	
G-01	COVER SHEET
G-02	GENERAL NOTES AND INDEX OF SHEETS
G-03	SYMBOLS AND ABBREVIATIONS
G-04	HYDRAULIC PROFILE AND HEADWORKS FLOW DIAGRAM
G-05	KEY SHEET
CIVIL	
C-01	EXISTING SITE AND YARD PIPING PLAN
C-02	EXISTING SITE AND YARD PIPING PLAN
C-03	EXISTING SITE AND YARD PIPING PLAN
C-04	EXISTING SITE AND YARD PIPING PLAN
C-05	PROPOSED SITE PLAN -- HORIZONTAL CONTROL & GEOMETRICS
C-06	PROPOSED SITE PLAN -- PAVING, GRADING & DRAINAGE
C-07	PROPOSED SITE PLAN -- PAVING, GRADING & DRAINAGE
C-08	PROPOSED YARD PIPING PLAN
C-09	PROPOSED YARD PIPING PLAN
C-10	PROPOSED YARD PIPING PLAN
C-11	YARD PIPING PROFILES
C-12	YARD PIPING PROFILES
C-13	YARD PIPING PROFILES
C-14	POND DETAILS
C-15	CIVIL DETAILS
C-16	CIVIL DETAILS
C-17	CIVIL DETAILS
C-18	CIVIL DETAILS
DEMO	
D-01	DEMOLITION SITE AND YARD PIPING PLAN
D-02	DEMOLITION SITE AND YARD PIPING PLAN
D-03	DEMOLITION -- TOP FLOOR PLAN
D-04	DEMOLITION -- BOTTOM FLOOR PLAN
D-05	DEMOLITION -- SECTIONS
D-06	DEMOLITION -- SECTIONS
D-07	DEMOLITION -- SECTIONS AND DETAILS
D-08	DEMOLITION -- 2015 GRIT CLASSIFIER AND CYCLONE PLAN
D-09	DEMOLITION -- 2015 GRIT CLASSIFIER AND CYCLONE SECTIONS
STRUCTURAL	
S-01	STRUCTURAL NOTES AND DETAILS
S-02	HEADWORKS FOUNDATION PLAN AND SECTIONS
S-03	HEADWORKS FLOOR PLAN AND SECTIONS
S-04	HEADWORKS ELEVATED SLABS AND SECTIONS
S-05	HEADWORKS CHANNEL PLAN
S-06	HEADWORKS PLAN AT TOP
S-07	STRUCTURE SECTIONS
S-08	STRUCTURE SECTIONS
S-09	STRUCTURE SECTIONS
S-10	STRUCTURE SECTIONS
S-11	STRUCTURAL DETAILS
S-12	STRUCTURAL SECTION AND DETAILS
S-13	STRUCTURAL DETAILS
S-14	STRUCTURAL DETAILS
S-15	STRUCTURAL DETAILS
S-16	STAIR TOWER PLAN
S-17	RAILING DETAILS
S-18	STRUCTURE SECTIONS AND DETAILS
LANDSCAPE	
L-01	LANDSCAPE PLAN (NOT INCLUDED)
L-02	LANDSCAPE DETAILS (NOT INCLUDED)
L-03	LANDSCAPE IRRIGATION PLAN (NOT INCLUDED)
L-04	LANDSCAPE IRRIGATION DETAILS (NOT INCLUDED)
L-05	LANDSCAPE IRRIGATION DETAILS (NOT INCLUDED)

UTILITY NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE FOLLOWING JURISDICTIONAL BODIES AND UTILITY COMPANIES:

SUNSHINE STATE ONE CALL OF FLORIDA



MANATEE COUNTY TRANSPORTATION DEPT. ALLEN BRENTLEY 2804 12TH STREET COURT E. BRADENTON, FL 34208 (941) 708-7509

MANATEE COUNTY UTILITIES OPERATIONS KATHY McMAHON 4422-C 66TH STREET W. BRADENTON, FL 34210

PEACE RIVER ELECTRIC COOPERATIVE, INC. KENDELL COKER P.O. BOX 1310 WACHULA, FL 33873 (883) 767-4660 kendell.coker@preco.coop

VERIZON FLORIDA, INC. DON DURDEN 1701 RINGLING BLVD. SARASOTA, FL 34236 (941) 952-5616

PARAGON CABLE-BRIGHTHOUSE NETWORK, LLC WALTER KRUL 5413 S.R. 64 E. BRADENTON, FL 34208 (941) 748-3816 Ext. 24053

MANATEE COUNTY PUBLIC WORKS DEPT. SCOTT MAY, P.E. 1022 26TH AVENUE EAST BRADENTON, FL 34208 (941) 708-7450 EXT. 7650 FAX (941) 708-7415

ATMS VISHAL KAKKAD, P.E. 2101 47TH TERRACE EAST BRADENTON, FL 34203 (941) 749-3500 EXT. 7812 FAX (941) 749-3571 vishalkakkad@mymonatee.org

FLORIDA POWER AND LIGHT GREG COKER 1253 26TH AVENUE EAST PALMETTO, FL 34221 (941) 723-4430 FAX (941) 723-4444 EMERGENCY: 1-800-4-OUTAGE Greg_Coker@fpl.com

TOWN OF LONGBOAT KEY PUBLIC WORKS UTILITIES MANAGER BERT WARNER 600 GENERAL HARRIS STREET LONGBOAT KEY, FL 34228 (941) 361-6411 Ext. 2217

MANATEE COUNTY HEALTH DEPT. 7804 ANDERSON RD. BRADENTON, FL 34208 (941) 748-0747 EXT. 1355 FAX (941) 750-9364

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT SARASOTA SERVICE OFFICE STEVE LOPES 6750 FRUITVILLE ROAD SARASOTA, FL 34240 (941) 377-3722 John.Plott@fr.com FAX (941) 373-7660

TECO/PEOPLES GAS CO DAN SHANAHAN 8261 WCO CT SARASOTA, FL 34240 (941) 342-4030 FAX (941) 342-4011 EMERGENCY: 1-877-832-6911

CHARTER COMMUNICATIONS TOM WRIGHT 5413 E. STATE ROAD, 64 BRADENTON, FL 34208-5535 (941) 748-3816 Ext. 21348 Tom.Wright@charter.com

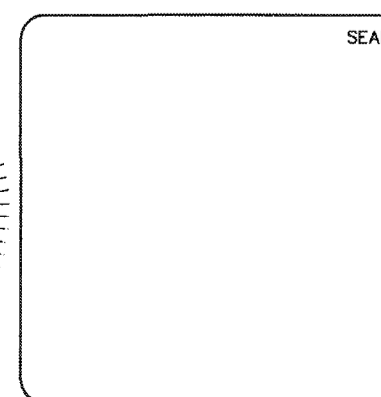
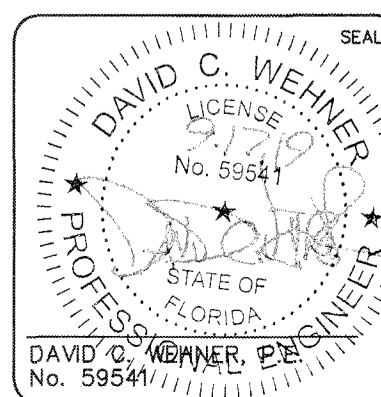
FLORIDA GAS TRANSMISSION CHAD HARRELL 7804 ANDERSON RD. TAMPA, FL 33634 (813) 466-3327 E-mail: chad.harrell@fug.com

FRONTIER COMMUNICATIONS JOHN PLOTT 1701 RINGLING BLVD. SARASOTA, FL 34236 (813) 906-6707 FAX (941) 906-6706 John.Plott@fr.com

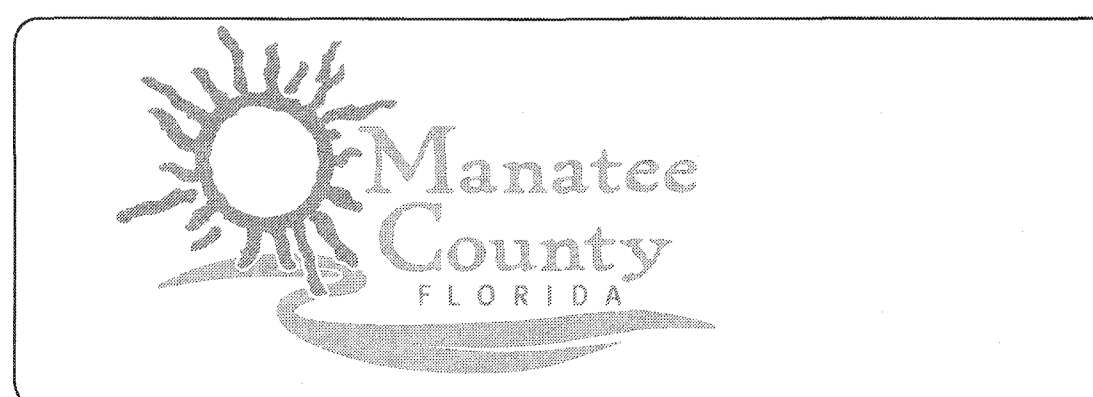
DEPARTMENT OF ENVIRONMENTAL PROTECTION ED WATSON 13051 N. TELECOM PKWY TEMPLE TERRACE, FL 33637 (813) 470-5875 FAX (813) 470-5993

MECHANICAL	
M-01	HEADWORKS TOP PLAN
M-02	HEADWORKS CHANNEL PLAN
M-03	HEADWORKS MECHANICAL FLOOR PLAN
M-04	HEADWORKS WATER SUPPLY PLAN
M-05	HEADWORKS DRAINAGE PLAN
M-06	HEADWORKS MECHANICAL SECTIONS
M-07	HEADWORKS MECHANICAL SECTIONS II
M-08	ODOR CONTROL PIPING PLAN -- UPPER LEVEL
M-09	ODOR CONTROL PIPING SECTIONS
M-10	ODOR CONTROL SECTIONS
M-11	MECHANICAL DETAILS
M-12	MECHANICAL DETAILS
M-13	MECHANICAL DETAILS
ELECTRICAL	
E-01	ELECTRICAL NOTES, ABBREVIATIONS AND LEGEND
E-02	HEADWORKS SINGLE LINE POWER DIAGRAM
E-03	HEADWORKS ELECTRICAL PARTIAL SITE PLAN
E-04	SOUTH ELECTRICAL BUILDING POWER AND CONTROL PLAN
E-05	HEADWORKS LOWER LEVEL POWER AND CONTROL PLANS
E-06	HEADWORKS UPPER LEVEL POWER AND CONTROL PLANS
E-07	HEADWORKS GROUNDING AND LIGHTING PROTECTION SYSTEM PLANS
E-08	HEADWORKS LIGHTING PLANS AND FIRE-GAS DETECTION
E-09	FIXTURE SCHEDULE AND DETAILS
E-10	PANEL SCHEDULES AND LOAD TABLES
E-11	LOW VOLTAGE CONDUIT SCHEDULES
E-12	ELECTRICAL INTERCONNECTION DIAGRAM
E-13	ELECTRICAL SCHEMATICS
E-14	LONGBOAT KEY FLOW METER ELECTRICAL PLAN
E-15	MISCELLANEOUS ELECTRICAL DETAILS I
E-16	MISCELLANEOUS ELECTRICAL DETAILS II
E-17	HEADWORKS AREA CLASSIFICATION
E-18	SITE LIGHTING PLAN
INSTRUMENTATION	
I-01	PROCESS AND INSTRUMENTATION DIAGRAM LEGEND & SYMBOLS
I-02	INSTRUMENTATION DETAILS
I-03	PROCESS AND INSTRUMENTATION DIAGRAM PANEL DETAILS
I-04	NETWORK LAYOUT EXISTING
I-05	NETWORK LAYOUT MODIFICATIONS
I-06	PROCESS AND INSTRUMENTATION DIAGRAM LONGBOAT KEY FLOW
I-07	PROCESS AND INSTRUMENTATION DIAGRAM INFLUENT FLOWS
I-08	PROCESS AND INSTRUMENTATION DIAGRAM SCREENS AND COMPACTORS
I-09	PROCESS AND INSTRUMENTATION DIAGRAM GRIT DEWATERING
I-10	PROCESS AND INSTRUMENTATION DIAGRAM ODOR CONTROL SYSTEM AND HEADWORKS DRAIN PUMP STATION
I-11	PROCESS AND INSTRUMENTATION DIAGRAM SCREEN BOOSTER PUMPS

REVNO.	DESCRIPTIONS	DATE



1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWRF NEW HEADWORKS

GENERAL NOTES AND INDEX OF SHEETS

DATE: SEPTEMBER, 2019	SCALE	DRAWING NUMBER
MCE PROJ. # 1024-0170	HORIZONTAL: NA	G-02
DRAWN: CW	VERTICAL: NA	
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		REVISION

GENERAL ABBREVIATIONS

⊙	AT	LN.	LANE
ABW	AUTOMATIC BACKWASH	LP	LIGHT POLE
A/C	AIR CONDITIONER UNIT	LS	LICENSED SURVEYOR
AC	ACRES	MAS	MASONRY
AC	ASPHALTIC CONCRETE	MAX.	MAXIMUM
ABD	ABANDONED	MCC	MOTOR CONTROL CENTER
AL./ALUM.	ALUMINUM	MES	MITERED END SECTION
ANCH.	ANCHOR	MG	MILLION GALLONS
APPROX.	APPROXIMATE	MGD	MILLION GALLONS PER DAY
BLDG.	BUILDING	MES	MITERED END SECTION
BM.	BEAM	MHW	MEAN HIGH WATER
BOT./BOTT.	BOTTOM	MON.	MONUMENT
(C)	CALCULATED DATA	NG	NATURAL GROUND
C	CHANNEL	N.T.S.	NOT TO SCALE
C.	CONDUIT	NO.	NUMBER
C.B.	CATCH BASIN	NP	NORMAL POOL
CCR	CERTIFIED CORNER RECORD	⊘	DIAMETER/PHASE
CHKR	CHECKERED	O/A	OVERALL
CIR.	CIRCLE	OPNG.	OPENING
CLF	CHAIN LINK FENCE	OR	OFFICIAL RECORDS BOOK
Ⓒ	CENTERLINE	(P)	PLAT BOOK
OMP	CORRUGATED METAL PIPE	PCCP	PRE-STRESSED CYLINDRICAL CONCRETE PIPE
COL.	COLUMN	PG	PAGE
CONN.	CONNECTOR/CONNECTION	PLCS.	PLACES
CONC.	CONCRETE	PLS	PROFESSIONAL LAND SURVEYOR
COR	CORNER	POB	POINT OF BEGINNING
CPB	CONDOMINIUM PLAT BOOK	POC	POINT OF COMMENCEMENT
C/T	CURB TIE	POT	POTABLE
CU.	COPPER	PP	POWER POLE
(D)	DEED DATA	PRM	PERMANENT REFERENCE MONUMENT
D.	DEEP/DRAIN	PROP.	PROPOSED
DB	DEED BOOK	PSM	PROFESSIONAL SURVEYOR & MAPPER
DBL.	DOUBLE	P/T	PAVEMENT TIE
DHW.	DESIGN HIGH WATER	P.V.	PLUG VALVE
DISCH.	DISCHARGE	PVMT	PAVEMENT
DN.	DOWN	R.	RADIUS/RISER/RELAY
DRWY	DRIVEWAY	RCP	REINFORCED CONCRETE PIPE
E.W.	EACH WAY	REF.	REFERENCED
EA.	EACH	REINF.	REINFORCED/REINFORCING
ECMP	ELLIPTICAL CORRUGATED METAL PIPE	REQ'D	REQUIRED
EL./ELEV.	ELEVATION	RESTR.	RESTRAINED
ELEC.	ELECTRICAL CONDUIT	RLS	REGISTERED LAND SURVEYOR
EP	EDGE OF PAVEMENT	RW;R/W	RIGHT-OF-WAY
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE	SAN.	SANITARY
ETC.	AND SO FORTH	SEC.	SECTION
EXIST.	EXISTING	SGL	SINGLE
EXP.	EXPANSION	SHW	SEASONAL HIGH WATER
(F)	FIELD DATA	SIR	SET IRON ROD 3/4" LB 6113
FCM	FOUND CONCRETE MONUMENT	SND	SET NAIL & DISC LB 6113
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	SPRK	SPRINKLER
FF	FINISHED FLOOR	SQ.	SQUARE
FIR	FOUND IRON ROD	SN.	SIGN
FND	FOUND NAIL & DISC	SR	STATE ROAD
FOP	FOUND OPEN PIPE	SSMH	SANITARY SEWER MANHOLE
FPP	FOUND PINCHED PIPE	S/T	SIDEWALK TIE
FRRS	FOUND RAILROAD SPIKE	STL.	STEEL
F/T	FENCE TIE	STY	STORY
FT.	FOOT	S/W;SWK	SIDEWALK
FTG.	FOOTING	SYM.	SYMBOL
FXC	FOUND X-CUT	TBM	TEMPORARY BENCH MARK
GALV.	GALVANIZED	TOB	TOP OF BANK
GDRL	GUARDRAIL	T.&B.	TOP & BOTTOM
GE	GRATE ELEVATION	TEL	TELEPHONE
GEN	GENERATOR	TEMP.	TEMPORARY
GI	GRATED INLET	THK	THICK
GPM	GALLONS PER MINUTE	TOS	TOE OF SLOPE
GRTG.	GRATING	TYP.	TYPICAL
G.S.	GALVANIZED STEEL	UG	UNDERGROUND GAS
GST	GROUND STORAGE TANK	UP	UTILITY POLE
GR./GRD.	GRADE	UT	UNDERGROUND TELEPHONE
GWP	GUY WIRE POLE	VCP	VITRIFIED CLAY PIPE
HDWALL	HEADWALL	VERT.	VERTICAL
H.R.	HANDRAIL	W	WIDE FLANGE/WIDE/WATT
HWL	HIGH WATER LEVEL	W/	WITH
IE	INVERT ELEVATION	WF	WOOD FENCE
IN.	INCH	W/L	WATER LINE
INV.	INVERT	W.L.	WATER LEVEL
IP	IRON PIPE	W/M	WATER MAIN
IR	IRON ROD	W.M.	WATER METER
J.B.	JUNCTION BOX	WRF	WATER RECLAMATION FACILITY
JT.	JOINT	W.P.	WEATHER PROOF
(L)	LEGAL DESCRIPTION DATA	W.S.	WALL SLEEVE/WATER STOP/WATER SERVICE
LB	LICENSED BUSINESS	W/T	WALL TIE
LG.	LONG	WTR.	WATER

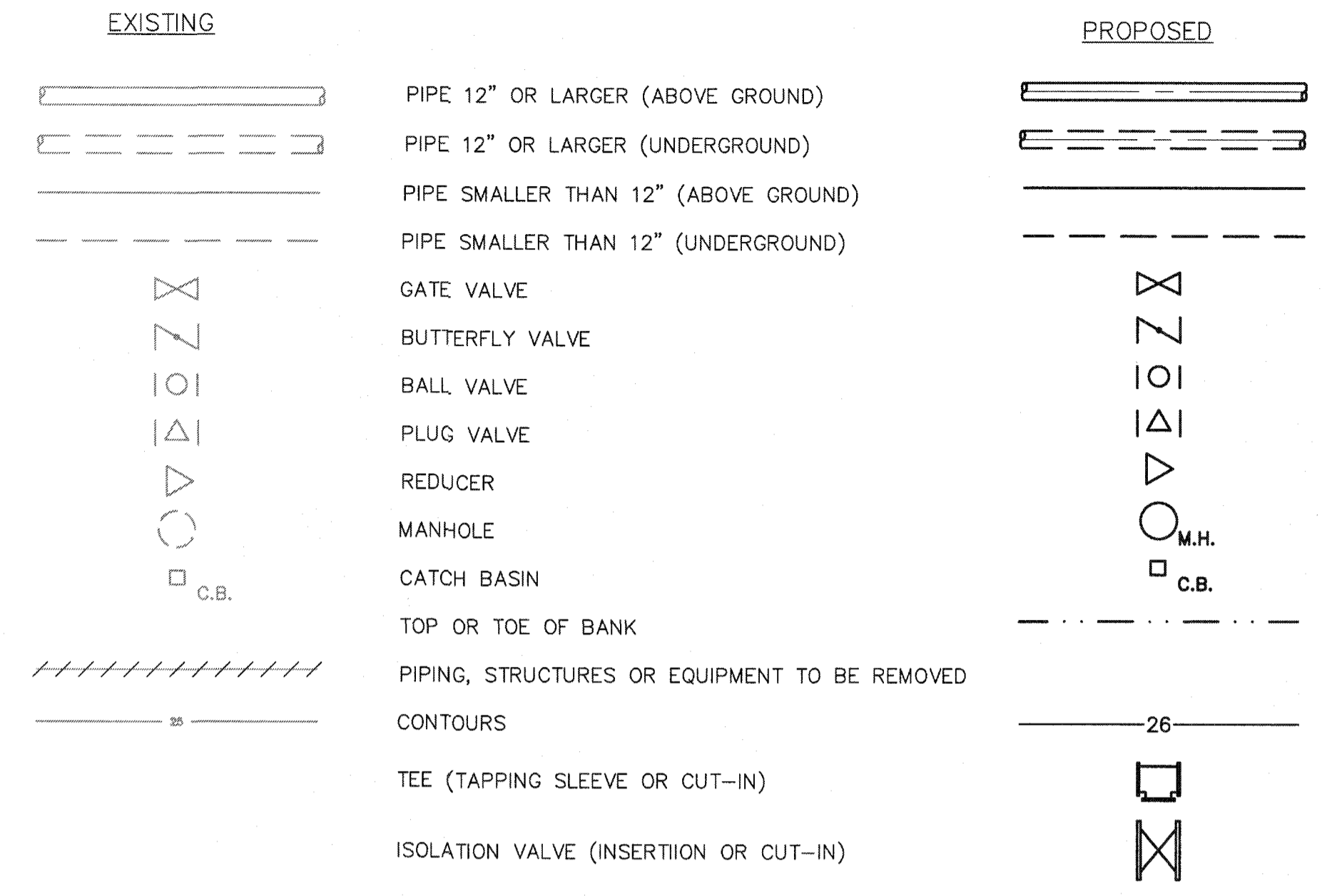
FLOW ABBREVIATIONS

AL	ALUM SOLUTION
AB	AERATION BASIN
AD	AEROBIC DIGESTER
AX	ANOXIC BASIN
BA	BLOWER AIR
BP	BYPASS
BW	BACKWASH
CA	COMPRESSED AIR
CCC	CHLORINE CONTACT CHAMBER
CCE	CHLORINATED EFFLUENT
CF	CLOTH FILTER
CLE	CLARIFIER EFFLUENT
CLG	CHLORINE GAS
CLS/CLZS	CHLORINE SOLUTION
D/DR	DRAIN
DAF	DISSOLVED AIR FLOTATION
DF	NEW CLOTH FILTER
DS	DEWATERED SLUDGE
EFF	EFFLUENT
EXP	EXPANSION
FBW	FILTER BACKWASH
FC	FINAL CLARIFIER
FE	FILTER EFFLUENT
FE	FILTERED LAKE EFFLUENT
FLW	FLOCCULATED WATER
FM	FLOW METER
FW	FILTERED WATER
GBT	GRAVITY BELT THICKENER
GR	GRIT
HDW	HEADWORKS
INF	INFILTRANT
IR	INTERNAL RECYCLE
HSBFP	HIGH SOLIDS BELT FILTER PRESS
ML	MIXED LIQUOR
NRCY	NITROGEN RECYCLE
OF	OVERFLOW
P	POLYMER
PD	PLANT DRAIN
PDFM	PLANT DRAIN FORCE MAIN
PS	PUMP STATION
PW	POTABLE WATER
RAS	RETURNED ACTIVATED SLUDGE
RCW	RECLAIMED WATER
REJ	REJECT
RJ	REJECT
RML	RECIRCULATED MIXED LIQUOR
RS	RAW SEWAGE
RW	REUSE WATER
SAM	SAMPLE
SB	SPLITTER BOX
SC	SCUM
SDR	STORMWATER DRAINAGE
SE	SECONDARY EFFLUENT
SL	SAMPLE LINE
SN	SUPERNATANT
SPW	STORAGE POND WATER
SRS	STORED RAW SEWAGE
SS	SANITARY SEWER
TS	THICKENED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
WBW	WASTE BACKWASH WATER
WW	WASTEWATER

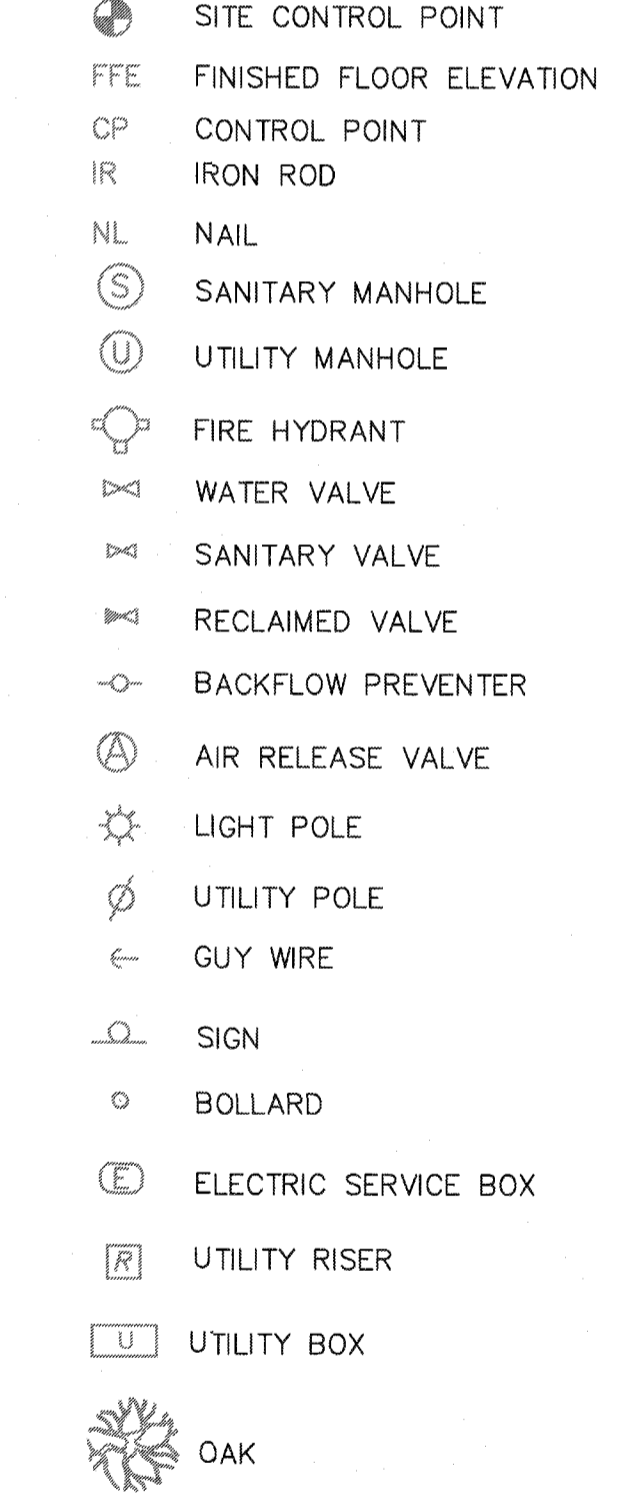
PIPING ABBREVIATIONS

ARV	AIR RELEASE VALVE
ABD	ABANDONED
BP	BYPASS
BFV	BUTTERFLY VALVE
BV	BALL VALVE
CB	CATCH BASIN
CL2	CHLORINE
CO	CLEANOUT
CORP	CORPORATION
CV	CHECK VALVE
D	DRAIN
D.I.	DUCTILE IRON
DIA	DIAMETER
D.I.P.	DUCTILE IRON PIPE
DR	PLANT DRAIN FORCE MAIN
ELEC.	ELECTRICAL
EXIST.	EXISTING
FHA	FIRE HYDRANT ASSEMBLY
FL	FLANGED
GS	GALVANIZED STEEL
GV	GATE VALVE
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
MH	MANHOLE
MJ	MECHANICAL JOINT
PE	PLAIN END
PS	PUMP STATION
PV	PLUG VALVE
PVC	POLYVINYLCHLORIDE
RED.	REDUCER
SCH	SCHEDULE
SDR.	DIAMETER RATIO
SHC	SODIUM HYPOCHLORITE
SS.	STAINLESS STEEL
TBR	TO BE REMOVED
UE	UNDERGROUND ELECTRIC
VERT.	VERTICAL
WM	WATER METER

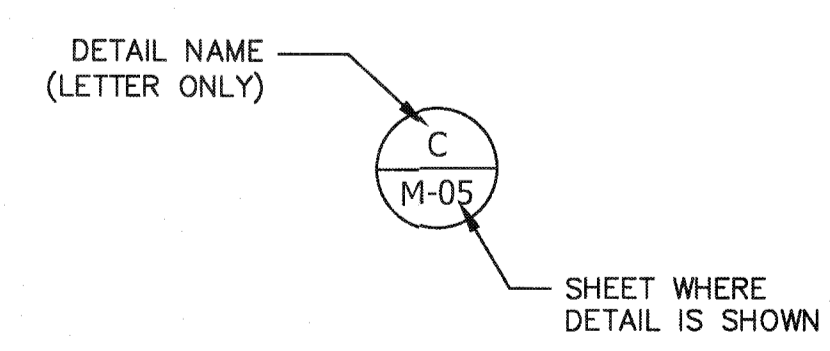
LEGEND



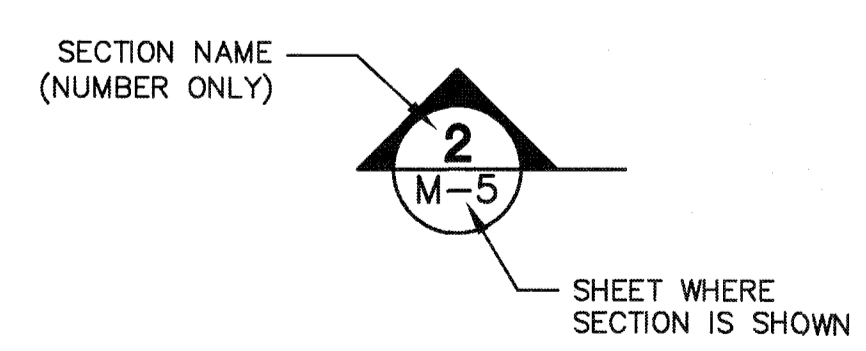
SURVEY LEGEND



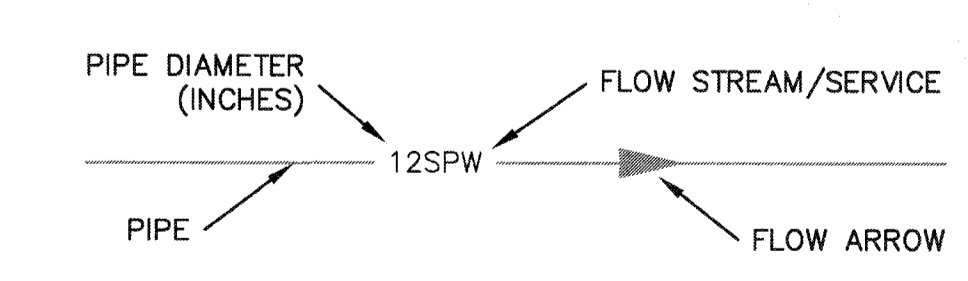
DETAIL DESIGNATION



SECTION DESIGNATION

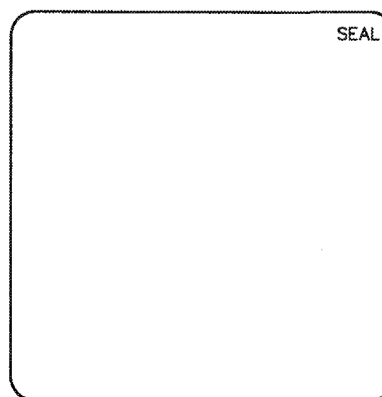
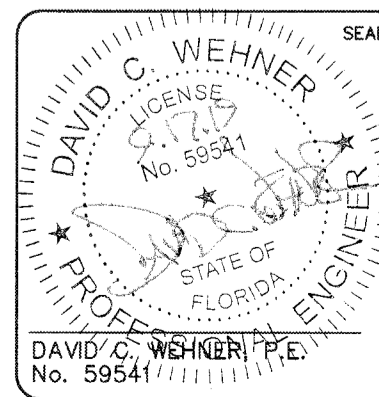


PIPE IDENTIFICATION

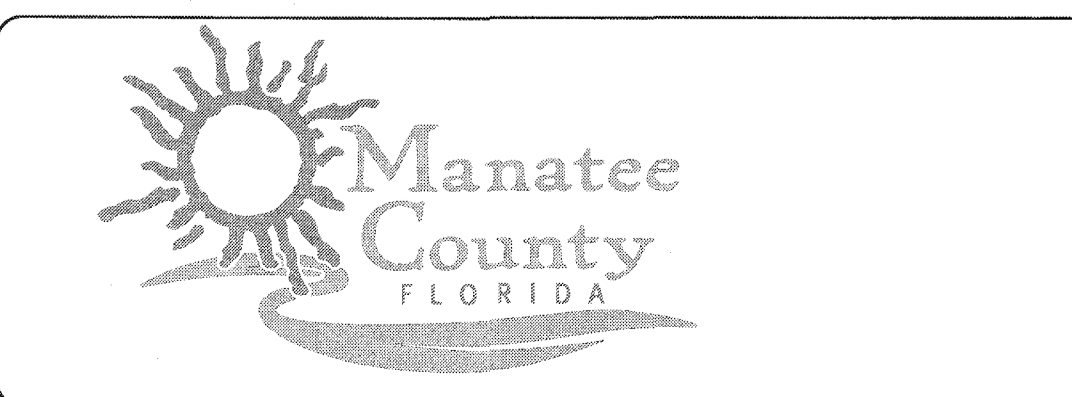


S:\1024\0170\Map-Drawings\General\021-1024\0170.dwg, 9/16/2019, 6:08:31 PM, Cobby Walker

REVNO.	DESCRIPTIONS	DATE



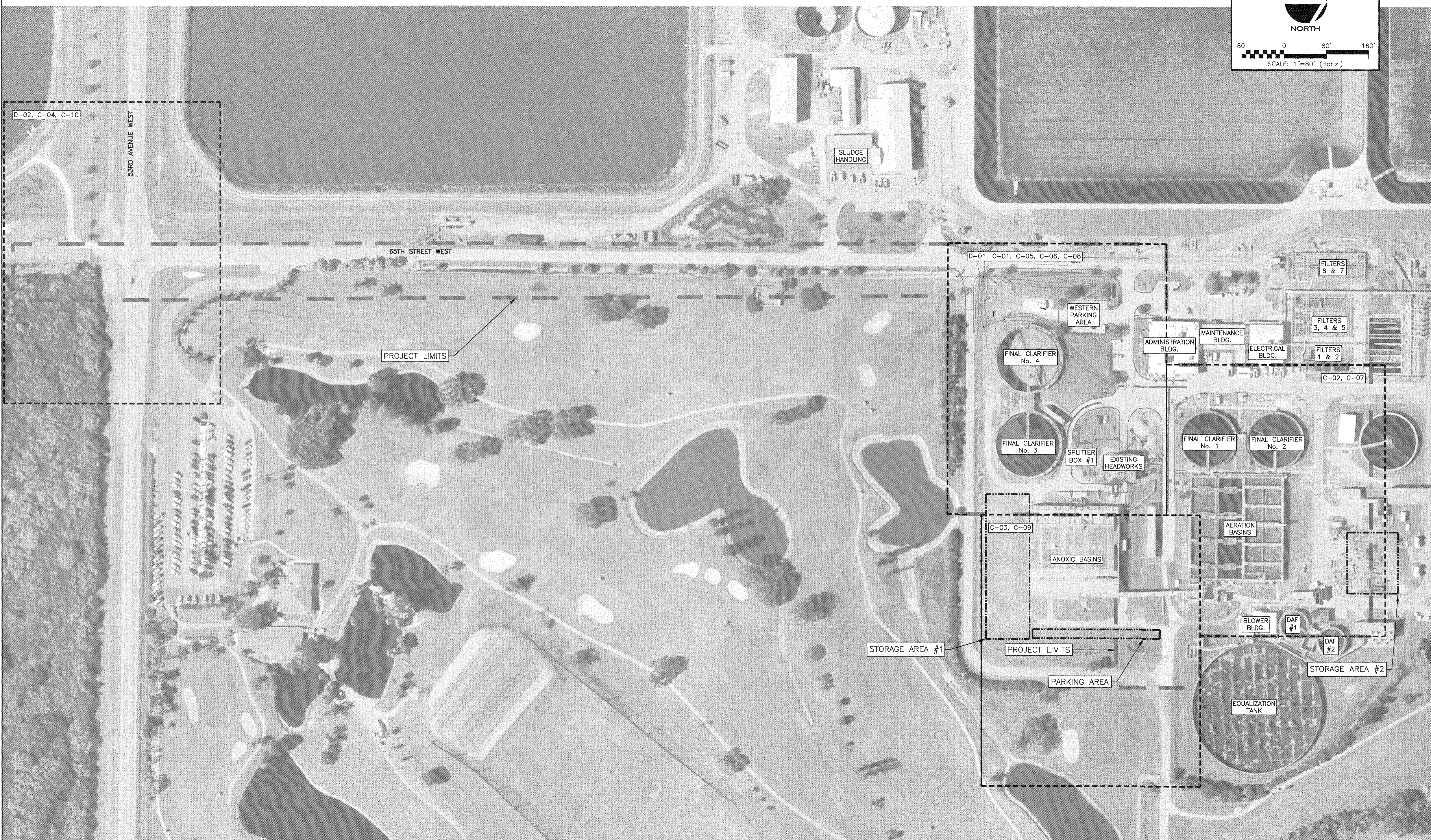
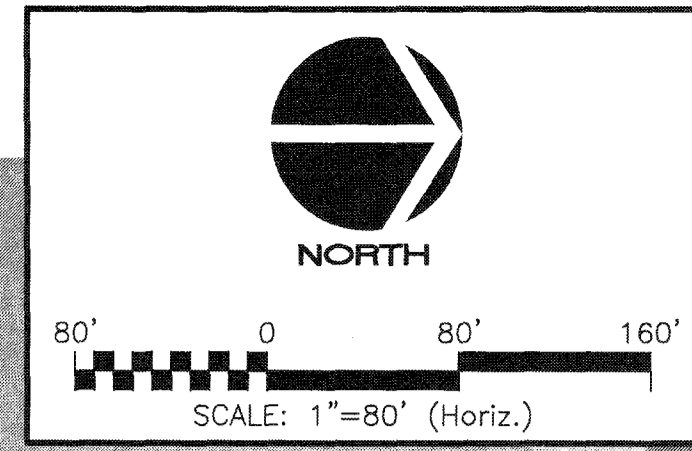
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



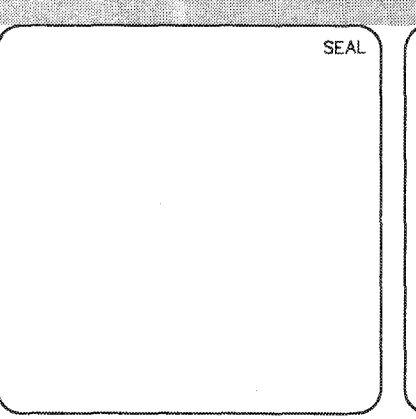
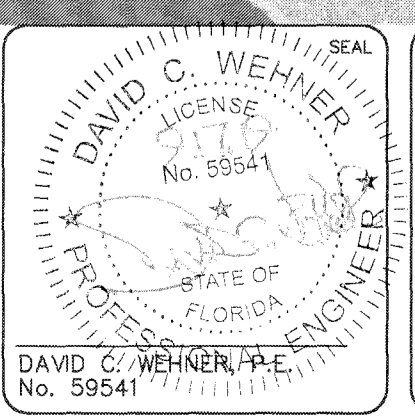
SWWRF NEW HEADWORKS

SYMBOLS AND ABBREVIATIONS

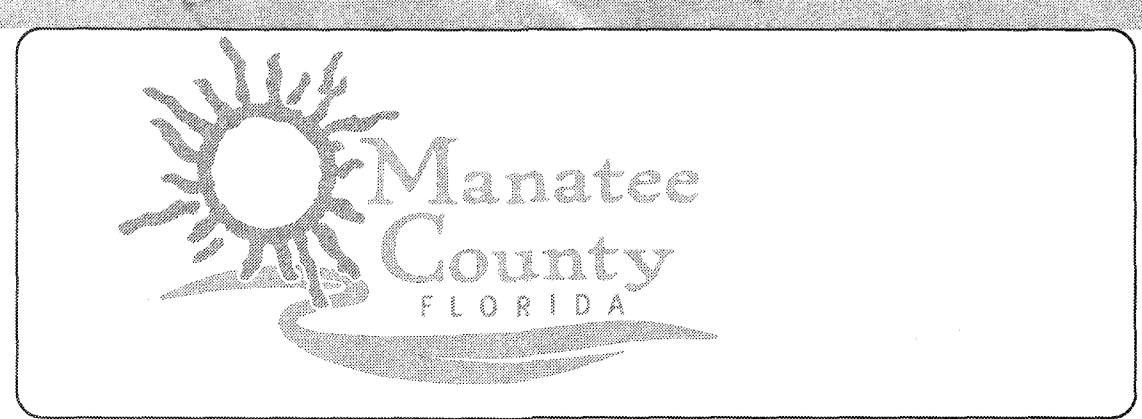
DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: NA	G-03
DRAWN: CON	VERTICAL: NA	
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		



REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

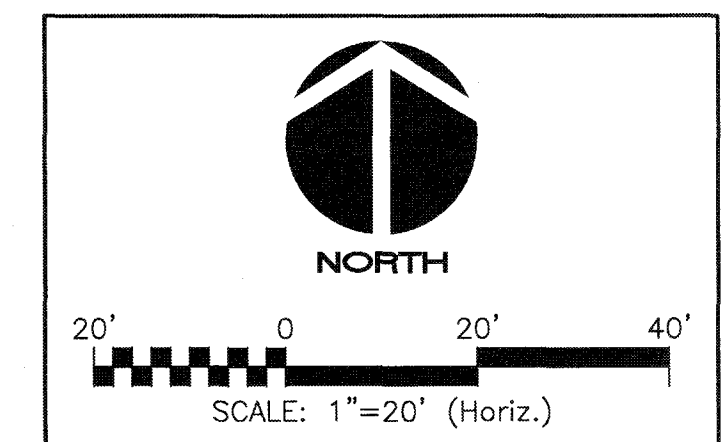


SWWRF NEW HEADWORKS

KEY SHEET

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1" = 80'	DRAWING NUMBER: G-05
MCE PROJ. # 1024-0170	CHECKED: MAC	REVISION: ISSUED FOR BID
DRAWN: CW	PROJ. MGR.: DCW	
DESIGNED: CRB		
VERTICAL: NA		

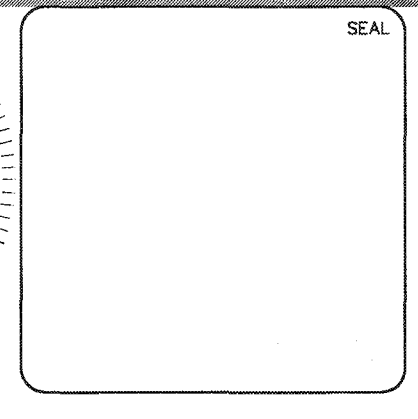
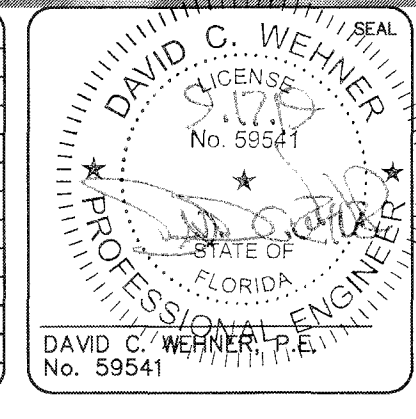
S:\1024\1024-MCE-SWwrf\1024-0170.dwg, 9/16/2019, 6:07:06 PM, Cathy Wehner



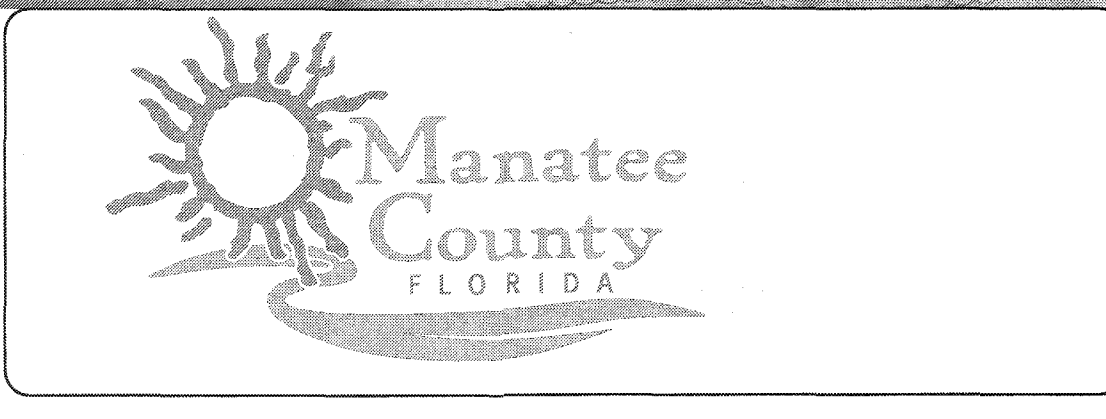
TEST HOLE NUMBER	NORTHING	EASTING	ELEVATION*	DEPTH/COVER	TYPE	SIZE	MATERIAL	NOTE
WH-1	1134462.21	453802.46	15.42					SANITARY MANHOLE MEASURE DOWN TO INV. 4.85 FT
MH-2	1134573.92	453809.91	15.62					SANITARY MANHOLE MEASURE DOWN TO INV. 8.00 FT
VH-08	1134431.21	453780.07	15.10	3.46	PW	6"	PVC	
VH-09								NO UTILITY FOUND
VH-10	1134301.28	453665.00	15.45	3.80	SN	12"	PVC	
VH-11	1134369.22	453712.19	15.60	4.30	RS	20"	PVC	
VH-12	1134418.34	453707.92	15.51	3.82	RJ	20"	DI	
VH-13	1134428.90	453722.03	16.26	5.00	PW	06"	PVC	
VH-15	1134407.66	453774.28	14.89	2.80	RCW	10"	PVC	
VH-16	1134394.81	453791.79	14.64	3.86	SN	12"	PVC	
VH-17	1134383.81	453802.50	15.32	5.70	SE	48"	DI	
VH-18	1134343.03	453801.97	15.63	5.40	SE	48"	DI	
VH-19	1134342.60	453796.78	15.55	9.86	D	12"	PVC	
VH-20	453797.15	1134314.71	15.60	3.7	RCW	10"	PVC	
VH-21	1134339.72	453815.42	15.16	6.80	ML	54"	DI	
VH-22	1134343.29	453836.68	15.60	2.88	DB			ELECTRIC DUCT BANK - UNABLE TO LOCATE 6" DI
VH-23	1134314.47	453774.17	15.58	4.12	RCW	10"	PVC	EDGE OF FITTING
VH-24	1134417.12	453782.01	15.06	4.94	RJ	20"	DI	
VH-25	1134416.77	453811.90	15.38	5.00	RJ	20"	DI	
VH-26	1134410.35	453812.41	15.22	8.96	SN	12"	PVC	
VH-27	1134368.82	453798.92	15.73	3.50	RS	20"	DI	
VH-28	1134431.19	453811.22	15.07	3.54	PW	06"	PVC	
VH-29	1134439.34	453812.84	15.00	4.78	FM	30"	CI	
VH-31	1134402.21	453815.87	15.44	6.22	FM	12"	ST	
VH-33	1134461.08	453801.90	15.25	7.44	SE	48"	DI	
VH-34	1134439.85	453780.07	15.05	4.60	FM	30"	CI	
VH-36	1134436.32	454180.45	14.96	4.94	FM	30"	CI	
VH-38	1132415.39	453531.56	14.85					NO UTILITY FOUND
VH-39	1134438.08	454006.10	16.51	5.90	FM	30"	CI	
VH-40	1134434.00	453865.20	15.50	3.38	FM	12"	DI	
VH-41	1134483.42	453852.28	15.44	3.18	BE	UNK	UNK	
VH-42	1134485.83	453801.92	15.27	6.12	SE	48"	DI	
VH-44	1134498.33	453796.27	15.15	3.20	RCW	06"	PVC	
VH-46	1134646.12	453774.23	15.93	3.40	RCW	10"	PVC	
VH-47	1134772.57	453796.83	16.19	5.40	SE	12"	DI	
VH-48	1134772.36	453802.86	16.16	4.08	SE	54"	DI	
VH-52	1134770.79	453941.28	16.14	2.90	CLG	06"	PVC	
VH-53	1134566.35	453782.63	15.56	4.04	BE	UNK	UNK	
VH-54	1134769.87	454036.72	16.20	2.82	PW	06"	PVC	
VH-55	1134798.64	454175.36	16.05	3.50	ML	12"	PVC	
VH-56	1134536.42	453782.63	15.35	2.70	RCW	06"	PVC	
VH-57	1134623.51	454187.52	15.92	4.00	RCW	06"	DI	
VH-58	1134439.09	453850.32	15.69	5.42	FM	30"	CI	
VH-59	1134378.31	453815.91	15.26	7.76	ML	54"	DI	
VH-60	1134377.93	453768.00	13.14	3.68	SN	12"	PVC	
VH-61	1134160.71	453635.43	15.23	3.6	SLUDGE	10"	PVC	
VH-62	1134170.35	453641.87	15.08	2.52	RCW	10"	PVC	
VH-63	1134170.44	453636.90	15.10	2.50	SN	12"	PVC	
VH-64	1134241.08	453592.14	13.74	3.95	FM	20"	CI	
VH-65	1134243.60	453653.78	14.76	2.00	MISC	1 1/2" & 3"	PVC	
VH-66	1132396.895	453552.303	14.71	4.00	FM	20"	CI	
*NAV D 88								

S:\1024\0170\10-Drawing\DWG\02-10240170.dwg, 9/16/2019 8:41:01 PM, Cathy Walker

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



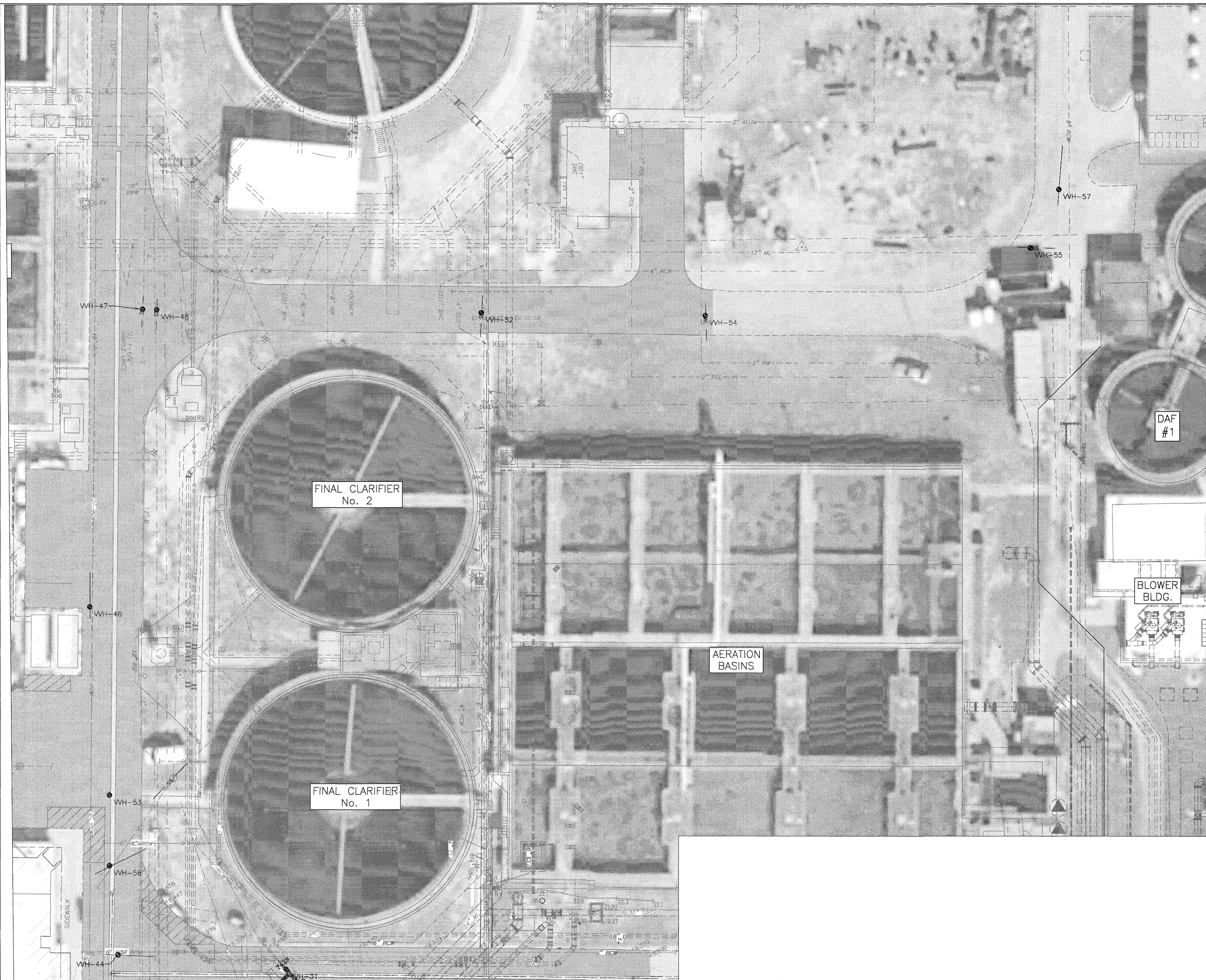
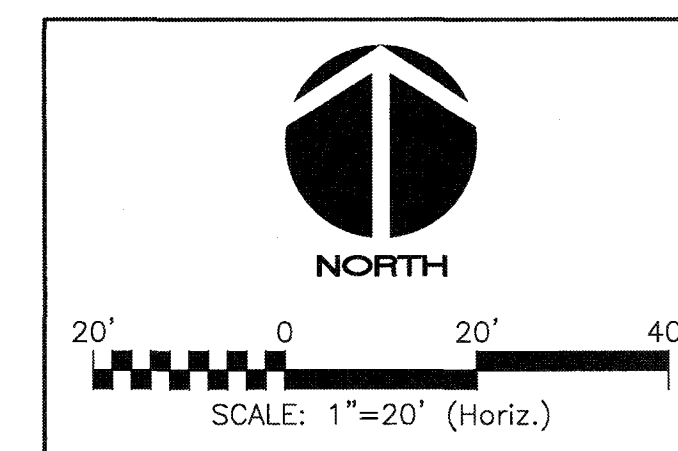
SWWRF NEW HEADWORKS
EXISTING SITE AND YARD PIPING PLAN

DATE: **SEPTEMBER, 2019**
 MCE PROJ. # **1024-0170**
 DRAWN: **CW**
 DESIGNED: **CRB**
 CHECKED: **MAC**
 PROJ. MGR.: **DCW**

SCALE: **HORIZONTAL: 1" = 20'**
VERTICAL: NA

STATUS: **ISSUED FOR BID**

DRAWING NUMBER: **C-01**
 REVISION:

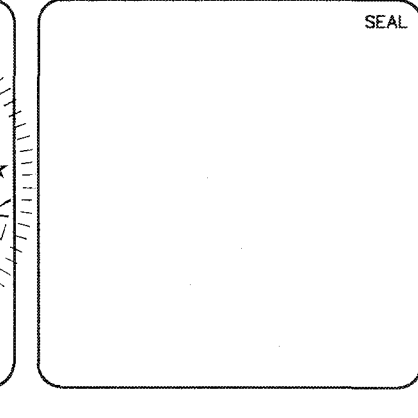
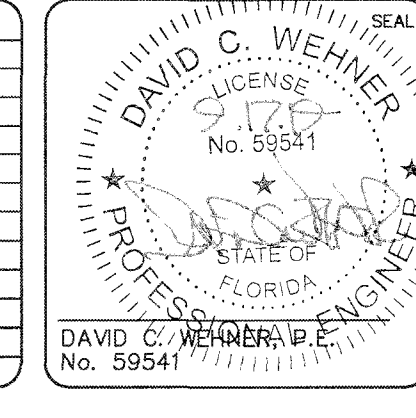


TEST HOLE NUMBER	NORTHING	EASTING	ELEVATION*	DEPTH/COVER	TYPE	SIZE	MATERIAL	NOTE
MH-1	1134446.21	453890.46	15.42					SANITARY MANHOLE MEASURE DOWN TO INV. 4'-8FT
MH-2	1134573.92	453892.91	15.62					SANITARY MANHOLE MEASURE DOWN TO INV. 8'-0FT
VH-08	1134431.21	453780.07	15.10	3.45	PW	6"	PVC	
VH-09								NO UTILITY FOUND
VH-10	1134803.28	453665.00	15.45	3.87	SN	12"	PVC	
VH-11	1134869.22	453712.19	15.60	4.37	RS	20"	PVC	
VH-12	1134418.34	453707.93	15.51	3.82	RJ	20"	DI	
VH-13	1134428.90	453722.03	16.26	5.07	PW	06"	PVC	
VH-15	1134407.66	453774.28	14.89	2.87	RCW	10"	PVC	
VH-16	1134394.81	453791.79	14.64	3.86	SN	12"	PVC	
VH-17	1134388.85	453802.20	15.32	5.79	SE	48"	DI	
VH-18	1134343.03	453861.97	15.63	5.49	SE	48"	DI	
VH-19	1134342.60	453796.78	15.55	9.86	D	12"	PVC	
VH-20	453797.15	1134314.71	15.60	3.7	RCW	10"	PVC	
VH-21	1134339.72	453815.42	15.16	6.87	ML	54"	DI	
VH-22	1134843.29	453836.68	15.60	2.88	DB			ELECTRIC DUCT BANK - UNABLE TO LOCATE 6" DI
VH-23	1134314.47	453774.17	15.58	4.17	RCW	10"	PVC	EDGE OF FITTING
VH-24	1134417.12	453782.01	15.06	4.91	RJ	20"	DI	
VH-25	1134416.77	453811.90	15.38	5.07	RJ	20"	DI	
VH-26	1134410.35	453812.43	15.22	3.96	SN	12"	PVC	
VH-27	1134366.92	453798.92	15.78	3.59	RS	20"	DI	
VH-28	1134413.19	453811.23	15.07	3.54	PW	06"	PVC	
VH-29	1134439.34	453812.86	15.00	4.76	FM	30"	CI	
VH-31	1134402.21	453857.87	15.44	6.22	FM	12"	ST	
VH-33	1134461.08	453801.90	15.25	7.45	SE	48"	DI	
VH-34	1134439.85	453780.07	15.05	4.67	FM	30"	CI	
VH-36	1134436.32	454180.45	14.96	4.94	FM	30"	CI	
VH-38	1132415.39	453511.56	14.85					NO UTILITY FOUND
VH-39	1134438.08	454006.10	16.51	5.97	FM	30"	CI	
VH-40	1134484.00	453865.20	15.50	3.88	FM	12"	DI	
VH-41	1134882.82	453852.28	15.44	3.18	BE	UNK	UNK	
VH-42	1134885.83	453821.92	15.27	4.32	SE	48"	DI	
VH-44	1134838.33	453796.27	15.15	3.27	RCW	06"	PVC	
VH-46	1134646.12	453774.23	15.93	3.47	RCW	10"	PVC	
VH-47	1134772.57	453796.83	16.19	5.07	SE	12"	DI	
VH-48	1134772.36	453802.86	16.16	4.08	SE	54"	DI	
VH-52	1134770.79	453941.28	16.14	2.97	CLG	06"	PVC	
VH-53	1134566.35	453782.63	15.56	4.91	BE	UNK	UNK	
VH-54	1134769.87	454036.72	16.20	2.82	PW	06"	PVC	
VH-55	1134798.64	454175.38	16.05	3.57	ML	12"	PVC	
VH-56	1134636.42	453782.63	15.36	3.20	RCW	06"	PVC	
VH-57	1134823.51	454187.52	15.92	4.07	RCW	06"	DI	
VH-58	1134439.09	453850.32	15.69	5.42	FM	30"	CI	
VH-59	1134378.31	453815.91	15.26	7.76	ML	54"	DI	
VH-60	1134377.93	453768.00	13.14	3.68	SN	12"	PVC	
VH-61	1134160.71	453635.43	15.23	3.6	SLUDGE	10"	PVC	
VH-62	1134170.35	453641.87	15.08	2.52	RCW	10"	PVC	
VH-63	1134170.44	453636.90	15.10	2.57	SN	12"	PVC	
VH-64	1134243.08	453592.14	13.74	3.95	FM	20"	CI	
VH-65	1134243.60	453603.78	14.76	2.00	MISC	1 1/2" & 3"	PVC	
VH-66	1132396.895	453582.305	14.71	4.00	FM	20"	CI	

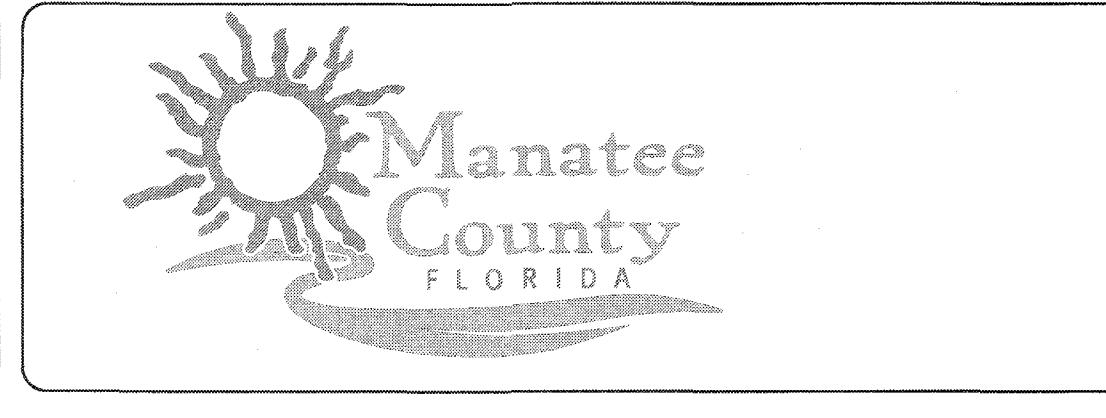
NOTES:
 1. EXISTING ELEVATIONS SHOWN ON THIS DRAWING ARE BASED ON NGVD 1929.

S:\024\07070\08-Drawing\02-1024070.dwg, 9/16/2019 5:41:13 PM, Colin Walker

REVNO.	DESCRIPTIONS	DATE



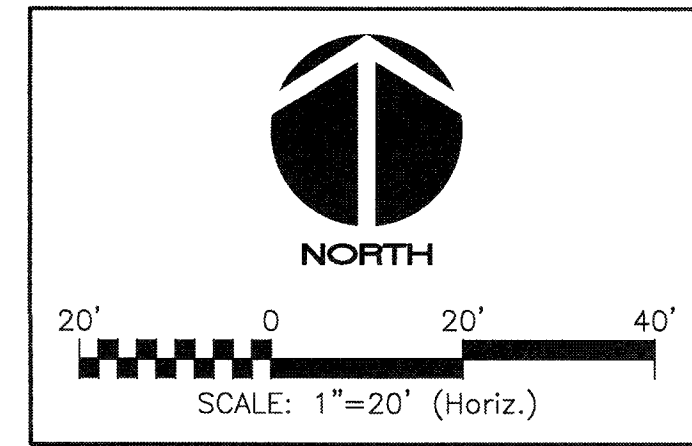
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWRF NEW HEADWORKS
EXISTING SITE AND YARD PIPING PLAN

DATE: SEPTEMBER, 2019	SCALE: 1" = 20'
MCE PROJ. # 1024-0170	HORIZONTAL: 1" = 20'
DRAWN: CW	VERTICAL: NA
DESIGNED: CRB	
CHECKED: MAC	
PROJ. MGR: DCW	

DRAWING NUMBER: C-02
REVISION: ISSUED FOR BID



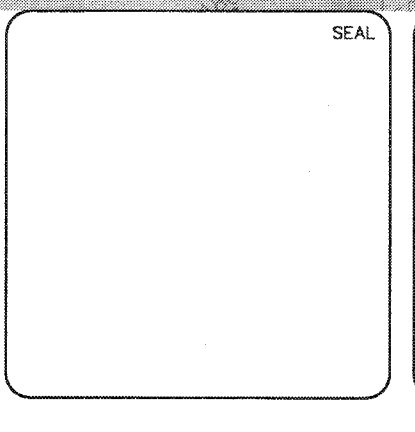
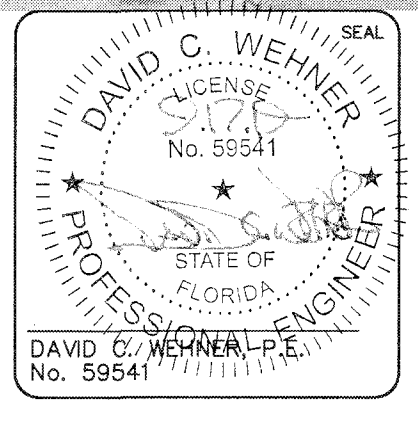
TEST HOLE NUMBER	NORTHING	EASTING	ELEVATION*	DEPTH/COVER	TYPE	SIZE	MATERIAL	NOTE
MH-1	1134466.21	453852.46	15.42					SANITARY MANHOLE MEASURE DOWN TO INV. 4.85FT
MH-2	1134478.92	453889.91	15.62					SANITARY MANHOLE MEASURE DOWN TO INV. 8.05FT
VVH-08	1134431.21	453780.07	15.30	3.45	PW	6"	PVC	
VVH-09								NO UTILITY FOUND
VVH-10	1134401.28	453665.00	15.45	3.80	SN	12"	PVC	
VVH-11	1134409.22	453712.19	15.60	4.30	RS	20"	PVC	
VVH-12	1134418.34	453707.92	15.51	3.82	RJ	20"	DI	
VVH-13	1134438.90	453722.03	16.26	5.00	PW	6"	PVC	
VVH-15	1134407.66	45374.28	14.89	2.80	RCW	30"	PVC	
VVH-16	1134394.81	453751.75	14.64	3.85	SN	12"	PVC	
VVH-17	1134383.81	453802.50	15.32	5.70	SE	48"	DI	
VVH-18	1134343.03	453801.97	15.63	5.40	SE	48"	DI	
VVH-19	1134342.60	453786.78	15.55	9.88	D	12"	PVC	
VVH-20	453797.15	1134314.71	15.60	3.7	RCW	10"	PVC	
VVH-21	1134339.72	453815.42	15.16	6.82	ML	54"	DI	
VVH-22	1134343.29	453836.68	15.60	2.88	DB			ELECTRIC DUCT BANK - UNABLE TO LOCATE 6" DI
VVH-23	1134314.47	453774.17	15.58	4.12	RCW	10"	PVC	EDGE OF FITTING
VVH-24	1134317.12	453782.01	15.05	4.94	RJ	20"	DI	
VVH-25	1134316.77	453811.90	15.38	5.00	RJ	20"	DI	
VVH-26	1134310.35	453812.41	15.22	3.96	SN	12"	PVC	
VVH-27	1134308.82	453786.92	15.73	3.50	RS	20"	DI	
VVH-28	1134311.19	453811.22	15.07	1.54	PW	6"	PVC	
VVH-29	1134319.34	453817.84	15.00	4.78	FM	30"	CI	
VVH-31	1134492.21	453867.87	15.44	6.22	FM	12"	ST	
VVH-33	1134461.08	453801.90	15.25	7.44	SE	48"	DI	
VVH-34	1134319.85	453780.07	15.05	4.60	FM	30"	CI	
VVH-36	1134316.32	454180.65	14.96	4.94	FM	30"	CI	
VVH-38	1134315.39	453815.56	14.85					NO UTILITY FOUND
VVH-39	1134318.08	454026.10	16.51	5.90	FM	30"	CI	
VVH-40	1134481.00	453865.20	15.30	3.38	FM	12"	DI	
VVH-41	1134483.42	453852.28	15.44	3.18	BE	UNK	UNK	
VVH-42	1134485.83	453801.92	15.27	6.12	SE	48"	DI	
VVH-44	1134498.33	453786.27	15.15	3.20	RCW	6"	PVC	
VVH-46	1134646.12	453774.23	15.93	3.40	RCW	10"	PVC	
VVH-47	1134772.57	453796.83	15.19	5.40	SE	12"	DI	
VVH-48	1134772.36	453802.86	16.16	4.08	SE	54"	DI	
VVH-52	1134707.79	453991.28	16.14	2.90	CLG	6"	PVC	
VVH-53	1134666.35	453782.63	15.56	4.04	BE	UNK	UNK	
VVH-54	1134789.87	454026.72	16.30	2.82	PW	6"	PVC	
VVH-55	1134798.64	454125.36	15.05	3.50	ML	12"	PVC	
VVH-56	1134936.42	453782.63	15.35	2.70	RCW	6"	PVC	
VVH-57	1134823.51	454187.52	15.92	4.00	RCW	6"	DI	
VVH-58	1134439.09	453850.52	15.69	5.42	FM	30"	CI	
VVH-59	1134378.11	453815.91	15.26	7.76	ML	54"	DI	
VVH-60	1134377.93	453788.00	13.14	3.68	SN	12"	PVC	
VVH-61	1134360.71	453605.63	15.23	3.6	SLUDGE	10"	PVC	
VVH-62	1134370.35	453641.87	15.08	2.52	RCW	10"	PVC	
VVH-63	1134370.44	453868.90	15.10	2.50	SN	12"	PVC	
VVH-64	1134341.08	453952.14	13.74	3.95	FM	20"	CI	
VVH-65	1134343.60	453653.78	14.76	2.00	NRSC	1 1/2" & 3"	PVC	
VVH-66	1132396.895	453882.903	14.71	4.00	FM	20"	CI	
*NAVD 88								

NOTES:

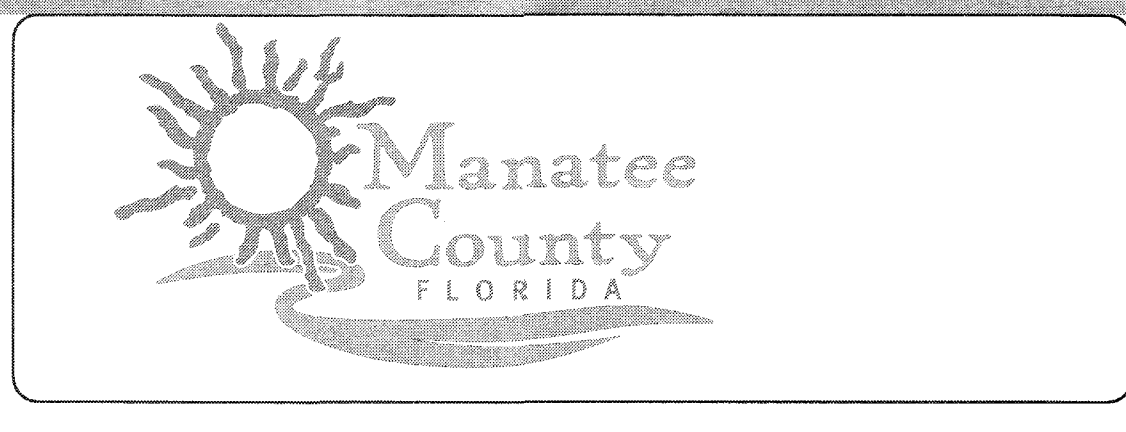
- EXISTING ELEVATIONS SHOWN ON THIS DRAWING ARE BASED ON NGVD 1929.

S:\V04\10\10\10-Drawings\DWG\1024-0170.dwg, 9/16/2019, 5:41:42 PM, Centry Walker

REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS

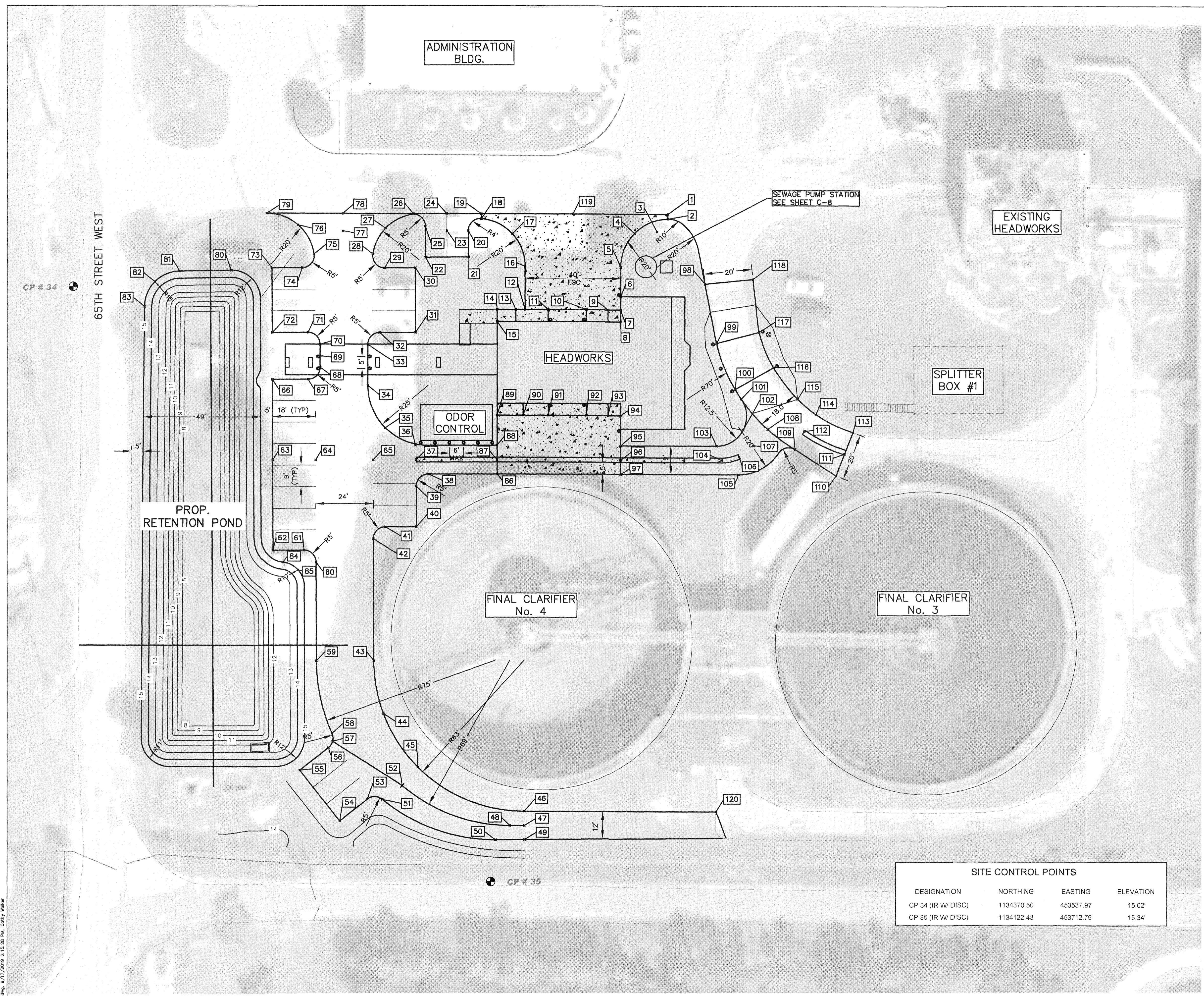
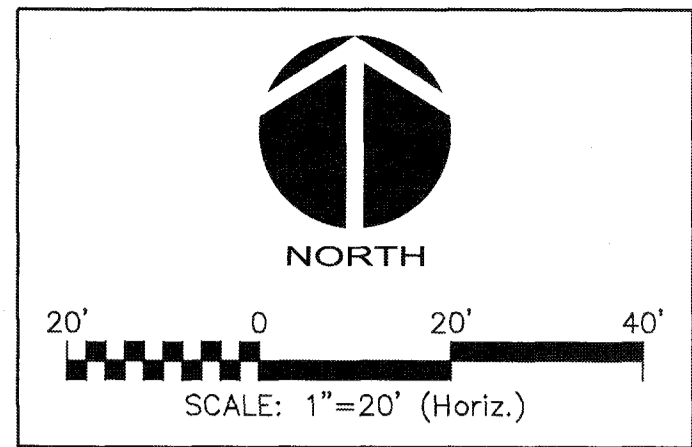
EXISTING SITE AND YARD PIPING PLAN

DATE: SEPTEMBER, 2019
 MCE PROJ. # 1024-0170
 DRAWN: CW
 DESIGNED: CRB
 CHECKED: MAC
 PROJ. MGR.: DCW

SCALE: 1" = 20'
 HORIZONTAL: 1" = 20'
 VERTICAL: NA

DRAWING NUMBER: **C-03**

STATUS: ISSUED FOR BID



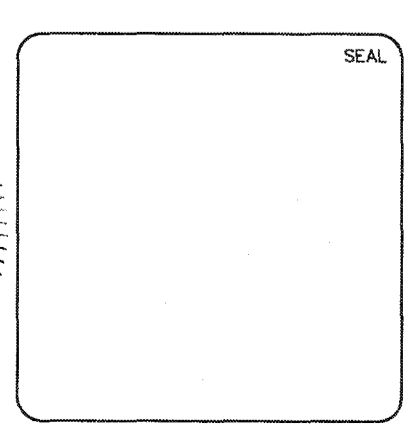
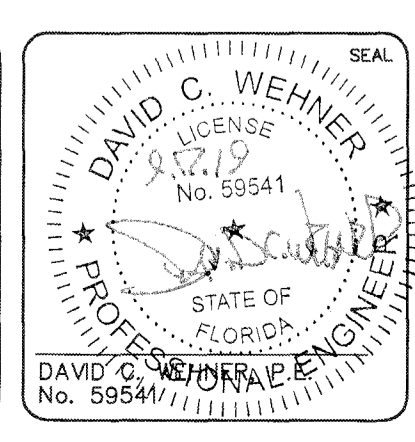
POINT TABLE			POINT TABLE			POINT TABLE		
POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING
1	1134400.69	453786.86	41	1134270.07	453668.60	81	1134376.97	453582.58
2	1134398.68	453786.86	42	1134265.05	453663.60	82	1134372.53	453572.21
3	1134393.36	453782.33	43	1134214.56	453663.78	83	1134362.12	453567.86
4	1134392.74	453772.88	44	1134192.40	453667.89	84	1134255.26	453625.70
5	1134378.63	453767.11	45	1134170.16	453682.31	85	1134252.03	453632.08
6	1134366.40	453767.11	46	1134151.79	453726.78	86	1134292.07	453715.45
7	1134360.82	453767.11	47	1134145.79	453726.84	87	1134298.07	453715.45
8	1134355.82	453767.11	48	1134145.79	453720.78	88	1134304.07	453715.45
9	1134360.82	453761.78	49	1134139.91	453726.90	89	1134316.65	453715.45
10	1134360.83	453752.79	50	1134139.79	453714.78	90	1134316.65	453726.28
11	1134360.82	453736.78	51	1134156.71	453667.33	91	1134316.65	453736.78
12	1134360.82	453727.11	52	1134162.53	453675.73	92	1134316.65	453752.78
13	1134360.82	453723.27	53	1134156.75	453661.06	93	1134316.66	453761.78
14	1134360.82	453715.45	54	1134147.62	453649.53	94	1134316.65	453767.11
15	1134355.82	453715.45	55	1134168.81	453632.81	95	1134304.07	453767.11
16	1134378.86	453727.11	56	1134178.21	453644.82	96	1134298.07	453767.11
17	1134392.38	453721.84	57	1134180.95	453646.59	97	1134292.07	453767.11
18	1134398.71	453708.81	58	1134184.19	453646.30	98	1134371.71	453802.38
19	1134400.85	453708.81	59	1134214.48	453639.78	99	1134346.90	453807.21
20	1134393.80	453703.39	60	1134255.26	453639.63	100	1134327.72	453815.05
21	1134382.86	453703.54	61	1134260.24	453634.63	101	1134323.66	453817.59
22	1134382.65	453685.48	62	1134260.19	453621.62	102	1134310.75	453818.35
23	1134393.76	453694.43	63	1134297.85	453621.48	103	1134304.07	453807.29
24	1134400.93	453694.33	64	1134297.92	453639.48	104	1134298.07	453809.40
25	1134395.69	453685.37	65	1134298.00	453663.60	105	1134292.07	453816.42
26	1134400.91	453680.37	66	1134331.69	453621.36	106	1134299.68	453816.73
27	1134394.84	453668.78	67	1134331.75	453636.33	107	1134304.21	453822.71
28	1134384.00	453663.37	68	1134336.75	453641.31	108	1134311.13	453828.63
29	1134378.23	453668.31	69	1134341.51	453641.31	109	1134302.70	453840.13
30	1134378.28	453681.19	70	1134346.28	453641.31	110	1134291.62	453857.31
31	1134351.28	453681.29	71	1134351.28	453636.29	111	1134300.74	453860.84
32	1134351.22	453666.29	72	1134351.23	453621.29	112	1134310.22	453843.94
33	1134346.22	453661.31	73	1134378.23	453621.20	113	1134309.80	453864.34
34	1134329.07	453661.31	74	1134378.27	453633.84	114	1134317.28	453848.83
35	1134311.39	453668.63	75	1134384.02	453638.76	115	1134323.66	453841.18
36	1134304.07	453681.31	76	1134396.19	453632.05	116	1134336.82	453831.10
37	1134298.07	453681.60	77	1134393.65	453650.88	117	1134351.58	453825.11
38	1134292.07	453686.60	78	1134400.98	453650.90	118	1134373.68	453822.44
39	1134287.07	453681.60	79	1134401.04	453619.03	119	1134400.77	453747.20
40	1134270.07	453681.60	80	1134377.36	453604.15	120	1134151.79	453807.02

DESIGNATION	NORTHING	EASTING	ELEVATION
CP 34 (IR W/ DISC)	1134370.50	453537.97	15.02'
CP 35 (IR W/ DISC)	1134122.43	453712.79	15.34'

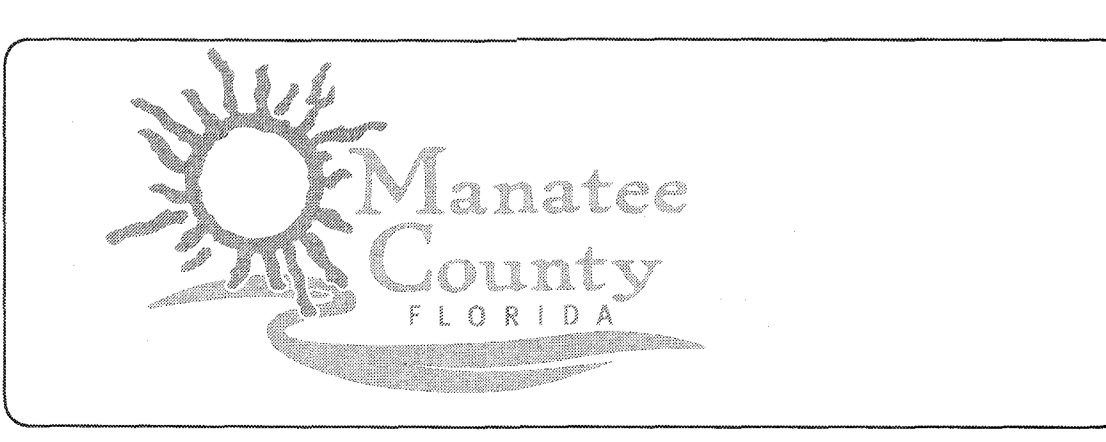
NORTHING	EASTING	
1134336.24	453640.48	NEAR COLUMNS
1134336.24	453662.14	
1134341.24	453640.48	
1134341.24	453662.14	
1134337.56	453832.41	NEAR RAISED ROADWAY
1134351.96	453826.56	
1134326.95	453813.70	
1134336.44	453809.00	
1134346.52	453805.76	
1134346.52	453805.76	

SEE STRUCTURAL DRAWINGS FOR LOCATION OF BOLLARDS NEAR ODOR CONTROL EQUIPMENT AND HEADWORKS BUILDING

REV. NO.	DESCRIPTIONS	DATE



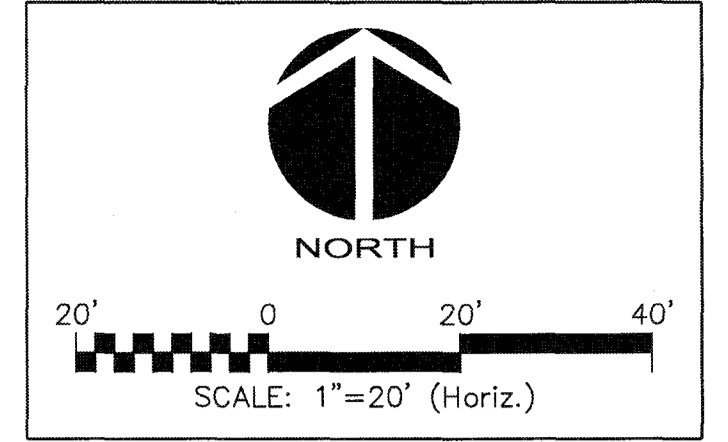
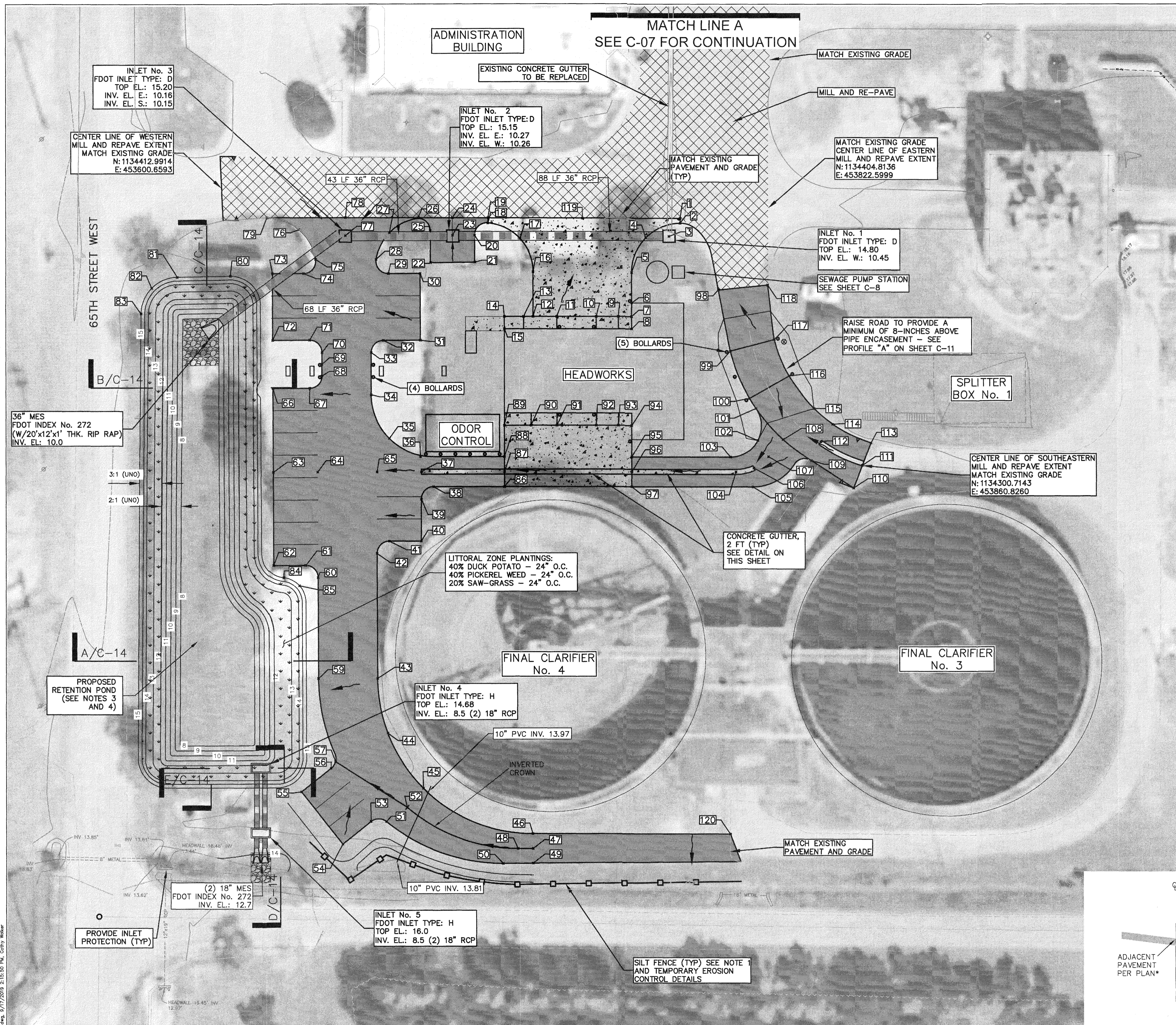
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29558
 www.mckimcreed.com



SWWRF NEW HEADWORKS
PROPOSED SITE PLAN – HORIZONTAL CONTROL & GEOMETRICS

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1" = 20'	DRAWING NUMBER: C-05
MCE PROJ. # 1024-0170	VERTICAL: NA	REVISION: ISSUED FOR BID
DRAWN: CW		
DESIGNED: DCW		
CHECKED: TLW		
PROJ. MGR.: DCW		

S:\024\0170\00-Dwgs\01-CAD\CAD-C05-10240170.dwg, 9/17/2019 2:15:28 PM, Cathy Walker



POINT #	ELEVATION
1	ME
2	ME
3	14.80
4	15.08
5	15.29
6	15.54
7	15.65
8	15.75
9	15.65
10	15.60
11	15.80
12	15.64
13	15.65
14	15.65
15	15.75
16	15.46
17	15.30
18	15.14
19	ME
20	15.25
21	15.45
22	15.45
23	15.15
24	ME
25	15.20
26	ME
27	15.28
28	15.25
29	15.40
30	15.55

POINT #	ELEVATION
31	15.60
32	15.50
33	15.50
34	15.40
35	15.35
36	15.30
37	15.18
38	15.32
39	15.37
40	15.60
41	15.46
42	15.40
43	15.60
44	15.69
45	15.80
46	16.00
47	15.88
48	15.85
49	16.00
50	15.96
51	15.79
52	15.60
53	15.79
54	15.95
55	15.41
56	15.23
57	15.20
58	15.23
59	15.14
60	15.14

POINT #	ELEVATION
61	15.13
62	15.10
63	15.10
64	15.13
65	15.16
66	15.10
67	15.13
68	15.15
69	15.20
70	15.15
71	15.13
72	15.10
73	15.10
74	15.13
75	15.15
76	15.42
77	15.20
78	ME
79	ME
80	15.00
81	15.00
82	15.00
83	15.00
84	15.00
85	15.00
86	15.40
87	15.28
88	15.40
89	15.65
90	15.65

POINT #	ELEVATION
91	15.60
92	15.60
93	15.65
94	15.65
95	15.51
96	15.44
97	15.56
98	15.45
99	16.58
100	16.58
101	16.37
102	16.00
103	15.63
104	15.57
105	15.73
106	15.60
107	15.62
108	15.65
109	15.71
110	ME
111	ME
112	15.66
113	ME
114	15.71
115	16.00
116	16.58
117	16.58
118	ME
119	ME
120	ME

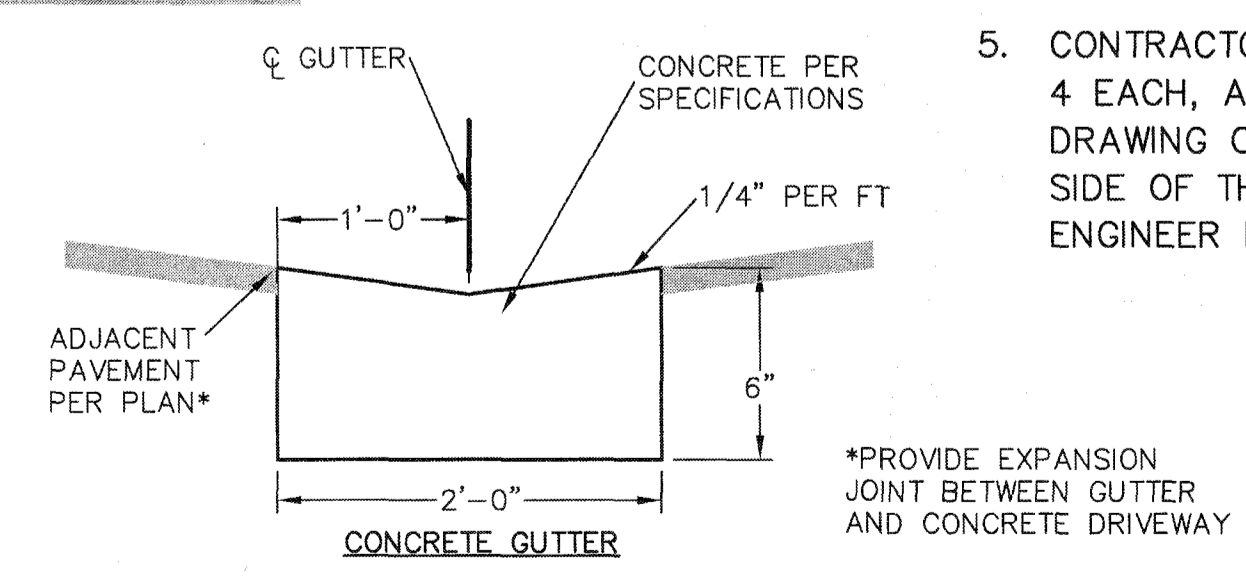
N/A= NOT APPLICABLE OR NECESSARY FOR GRADING PURPOSES.
ME= MATCH EXISTING GRADE

LEGEND

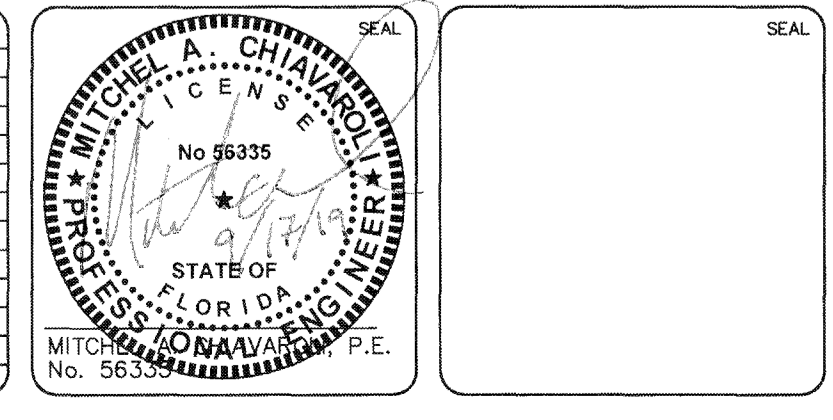
- ASPHALT DRIVEWAY SEE DETAIL A SHEET C-15
- CONCRETE SEE DETAIL J ON SHEET C-15
- MILL AND REPAVE
- FLOW ARROW
- SILT FENCE

NOTES:

1. IT IS ANTICIPATED THAT THERE WILL BE MULTIPLE ARRANGEMENTS OF EROSION CONTROL BASED UPON THE CONTRACTOR'S IMMEDIATE WORK EFFORT AND THE NECESSITY TO MAINTAIN OPERATION OF THE TREATMENT PLANT. CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL PROCEDURES UTILIZING THE PROVIDED DETAILS AS REQUIRED TO PREVENT THE TRANSPORTATION OF SEDIMENT DOWNSTREAM INTO STREETS, STORM SEWERS, DITCHES, PONDS, ETC.
2. VIDEO INSPECTION IS REQUIRED FOR ALL STORMWATER PIPES.
3. NORMAL WATER LEVEL (NWL) AT ELEV. 11.5.
4. 25-YEAR DESIGN HIGH WATER LEVEL (DHWL) AT ELEV. 14.88.
5. CONTRACTOR SHALL SUPPLY "DANGER NO SWIMMING" SIGNS, 4 EACH, AND POSTS IN ACCORDANCE WITH THE DETAIL ON DRAWING C-15. SIGN SHALL BE INSTALLED ONE PER EACH SIDE OF THE RETENTION POND. VERIFY LOCATION WITH ENGINEER PRIOR TO INSTALLATION.

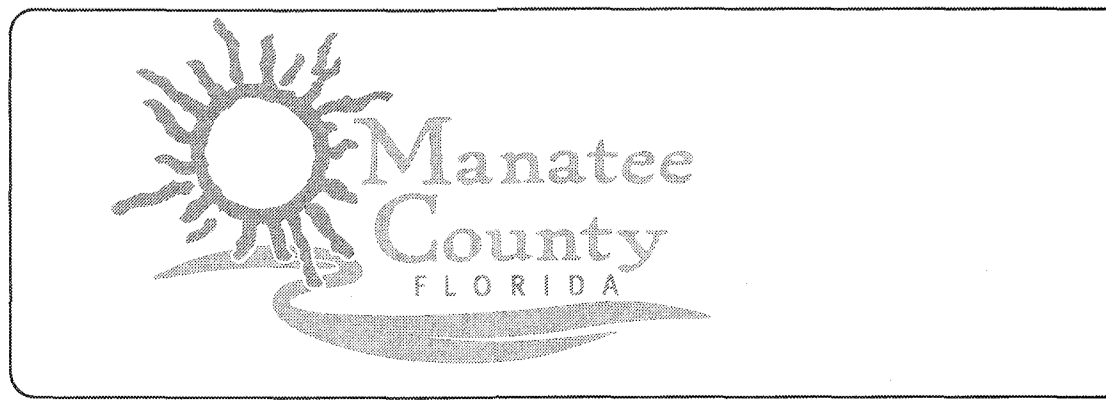


REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED

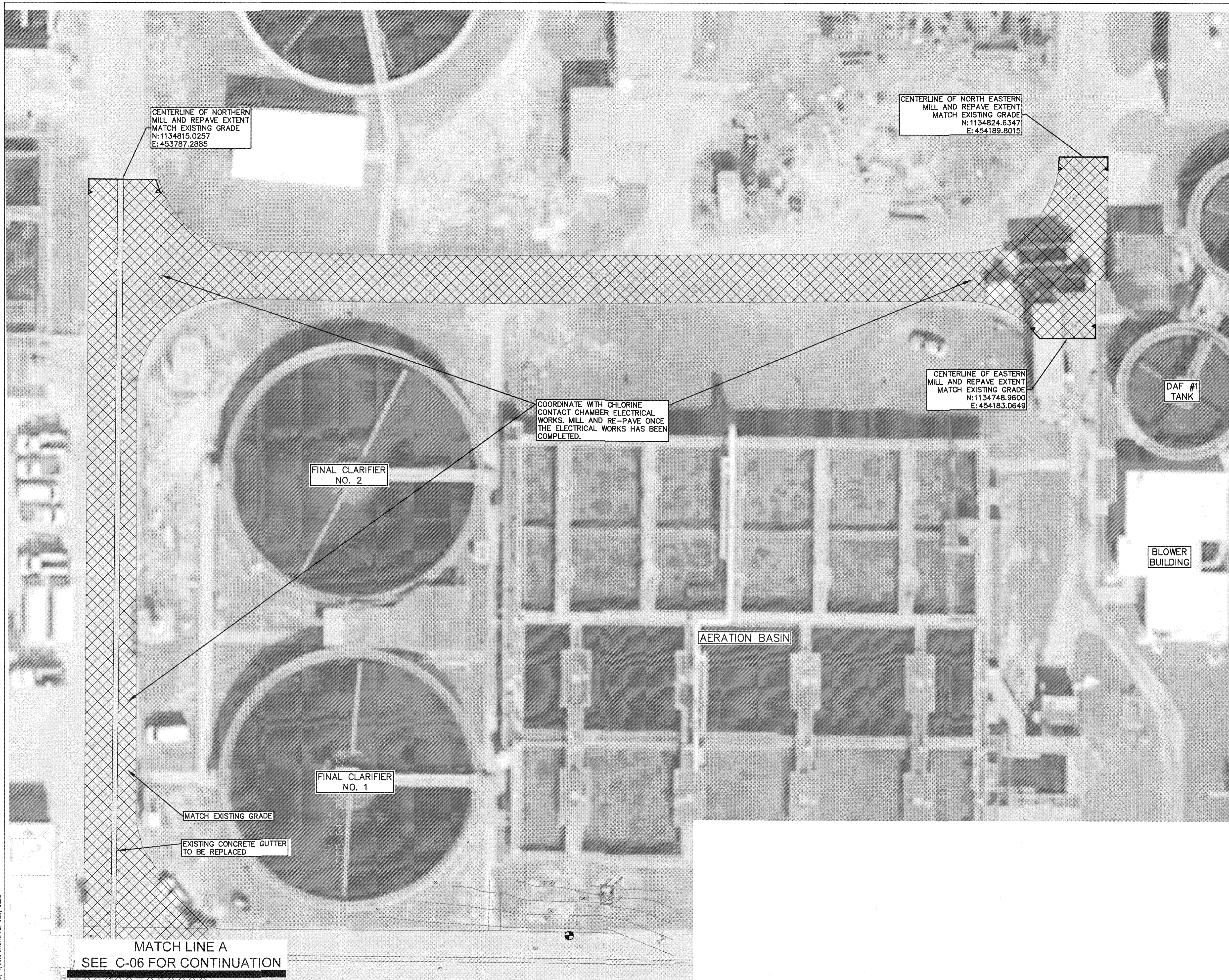
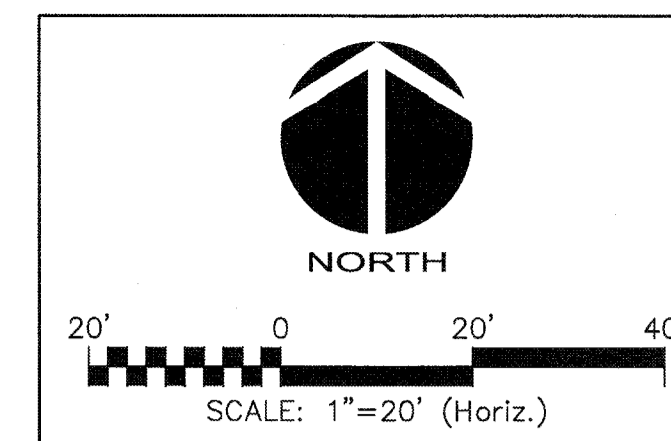
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWWRF NEW HEADWORKS

PROPOSED SITE PLAN - PAVING, GRADING & DRAINAGE

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1" = 20'	DRAWING NUMBER: C-06
MCE PROJ. # 1024-0170	DESIGNED: MAC	CHECKED: TLW
PROJ. MGR. DCW	STATUS: ISSUED FOR BID	

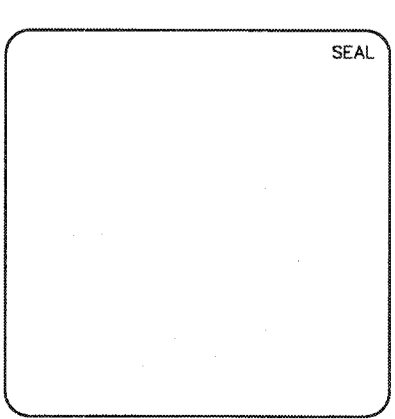
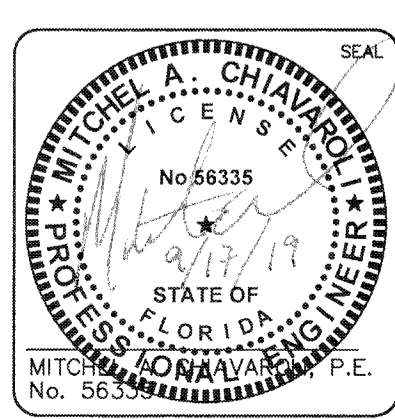


LEGEND

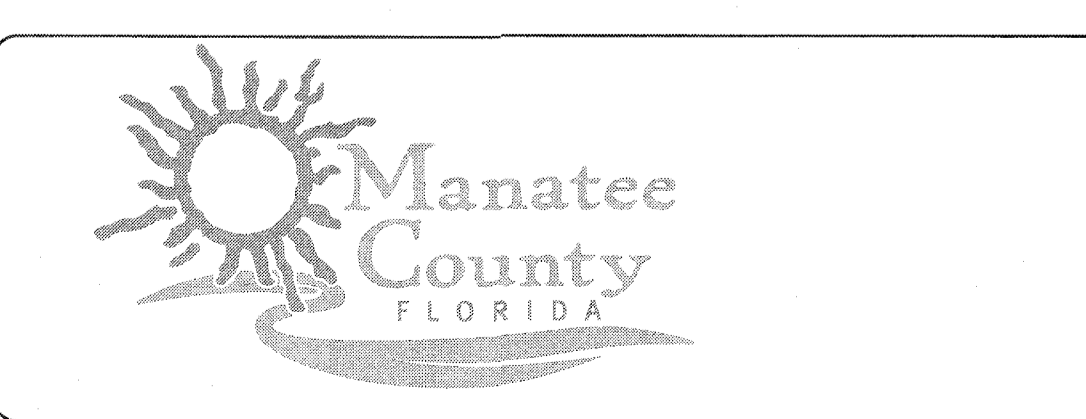
- CONCRETE
SEE DETAIL J ON SHEET C-15
- MILL AND REPAVE

S:\VIZ\A\0720\WB-Drawing\GMA\002-1246070.dwg, 9/17/2019 2:16:13 PM, Cathy Miller

REV. NO.	DESCRIPTIONS	DATE



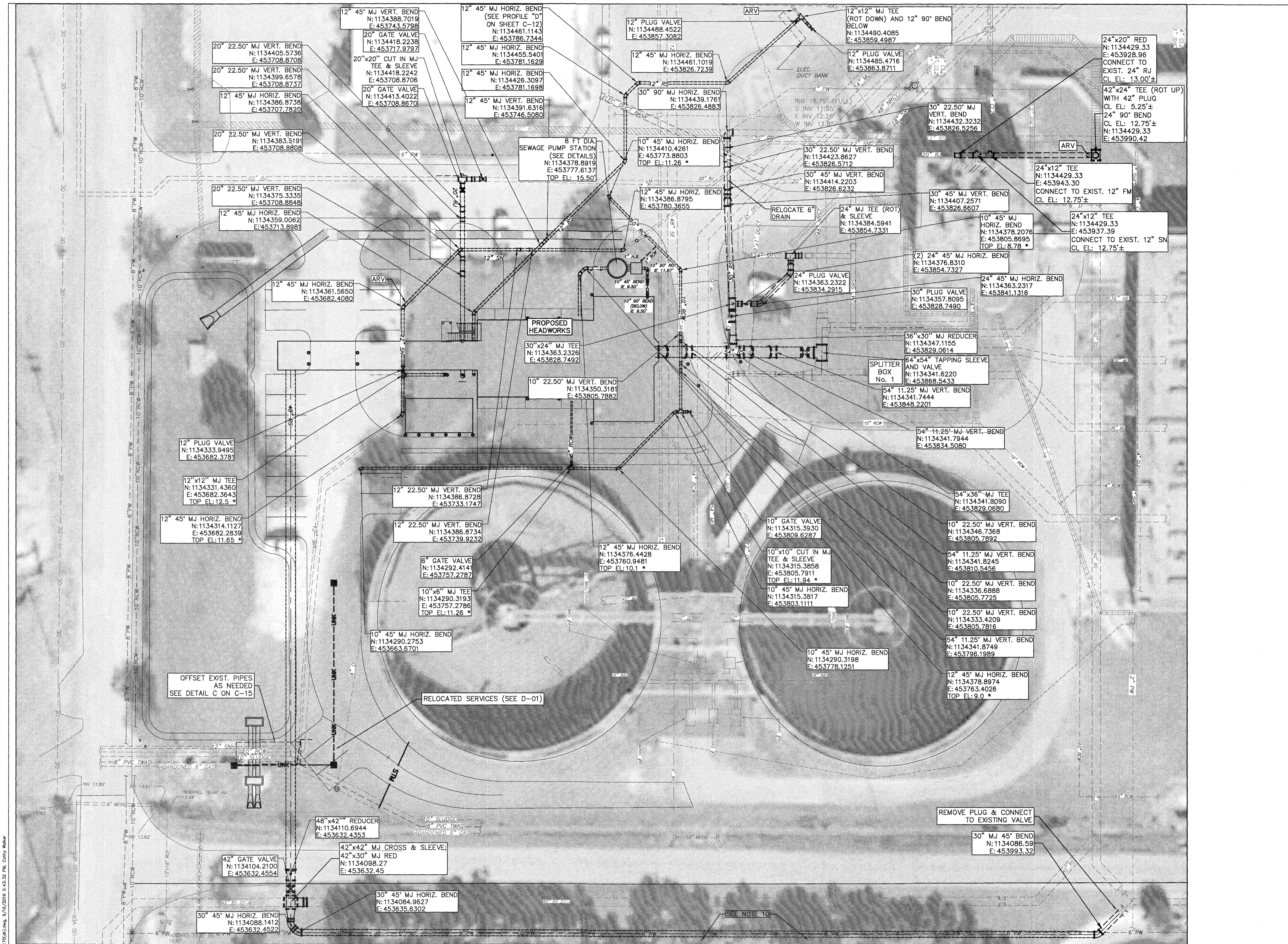
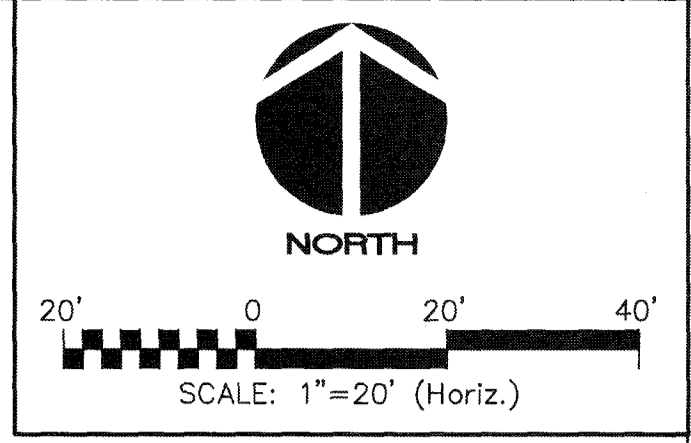
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS

**PROPOSED SITE PLAN –
PAVING, GRADING & DRAINAGE**

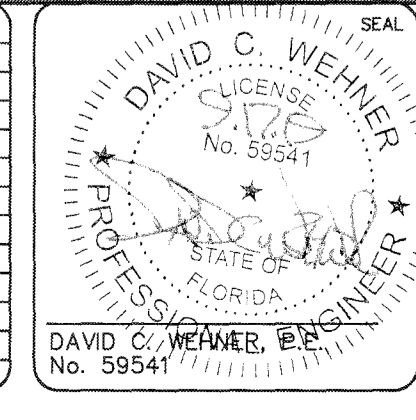
DATE: SEPTEMBER, 2019	SCALE	DRAWING NUMBER
MCE PROJ. # 1024-0170	HORIZONTAL:	C-07
DRAWN CW	1" = 20'	
DESIGNED MAC	VERTICAL:	
CHECKED TLW	NA	
PROJ. MGR. DCW		
STATUS: ISSUED FOR BID		REVISION



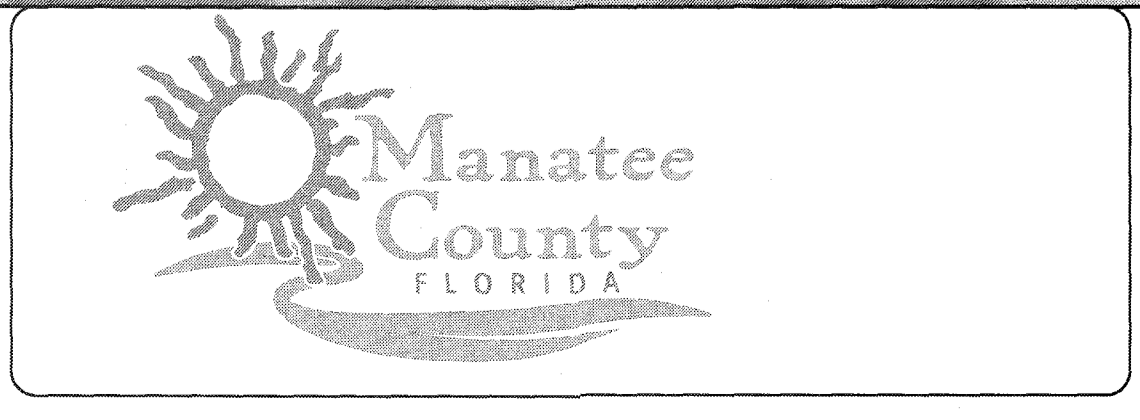
- NOTES:
1. MAINTAIN 3 FEET COVER FOR ALL PIPES UNLESS STATED OTHERWISE.
 2. MAINTAIN 1 FOOT VERTICAL CLEARANCE FROM ALL PIPES UNLESS STATED OTHERWISE.
 3. SEE TECHNICAL SPECIFICATION 01030-SPECIAL PROJECT PROCEDURES FOR PLAN OF OPERATION REQUIREMENTS.
 4. THE LOCATION OF AIR RELEASE VALVES (ARV) SHALL BE FIELD ADJUSTED TO COINCIDE WITH THE ACTUAL HIGH POINT OF THE PIPELINE.
 5. ALL PIPE TO BE RESTRAINED.
 6. PROPOSED UNDERGROUND PIPE WILL BE INSTALLED IN THE VICINITY OF EXISTING PIPE. LOCATE AND/OR EXPOSE EXISTING PIPE IN THE AREA OF CONSTRUCTION AND AVOID INTERFERENCE'S WITH EXISTING PIPE.
 7. WHERE NEW UNDERGROUND PIPE CONNECTS TO EXISTING UNDERGROUND PIPE, INSTALL APPROPRIATE THRUST RESTRAINTS ON BOTH NEW AND EXISTING PIPES IN ACCORDANCE WITH THE THRUST RESTRAINT SCHEDULE ON DWG C-16, OR DESIGN AND INSTALL ENGINEER APPROVED THRUST BLOCK. THE THRUST BLOCK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. SUBMIT SIGNED AND SEALED CALCULATIONS FOR ENGINEER'S APPROVAL.
 8. PROVIDE TEMPORARY SHEETING AND/OR SHORING TO PROTECT EXISTING PIPING AND STRUCTURES DURING CONSTRUCTION.
 9. CONTRACTOR TO FIELD LOCATE AND VERIFY ALL EXISTING PIPING AND UTILITIES PRIOR TO CONSTRUCTION.
 10. CLEAR AND GRUB AREA TO ALLOW INSTALLATION OF NEW FM. PROVIDE DOUBLE ROW OF SILT FENCE SOUTH OF WORK AREA AND INSTALL FLotation BARRIER IN POND TO PREVENT THE TRANSPORTATION OF SEDIMENT DOWNSTREAM INTO POND AND GOLF COURSE AREA.
- * - FITTING TO BE ROTATED AS REQUIRED

S:\WORK\2019\SWWRF-New-Headworks\DWG\08-102467700.dwg, 9/10/2019 8:43:32 PM, Cobby Hubler

REV. NO.	DESCRIPTIONS	DATE

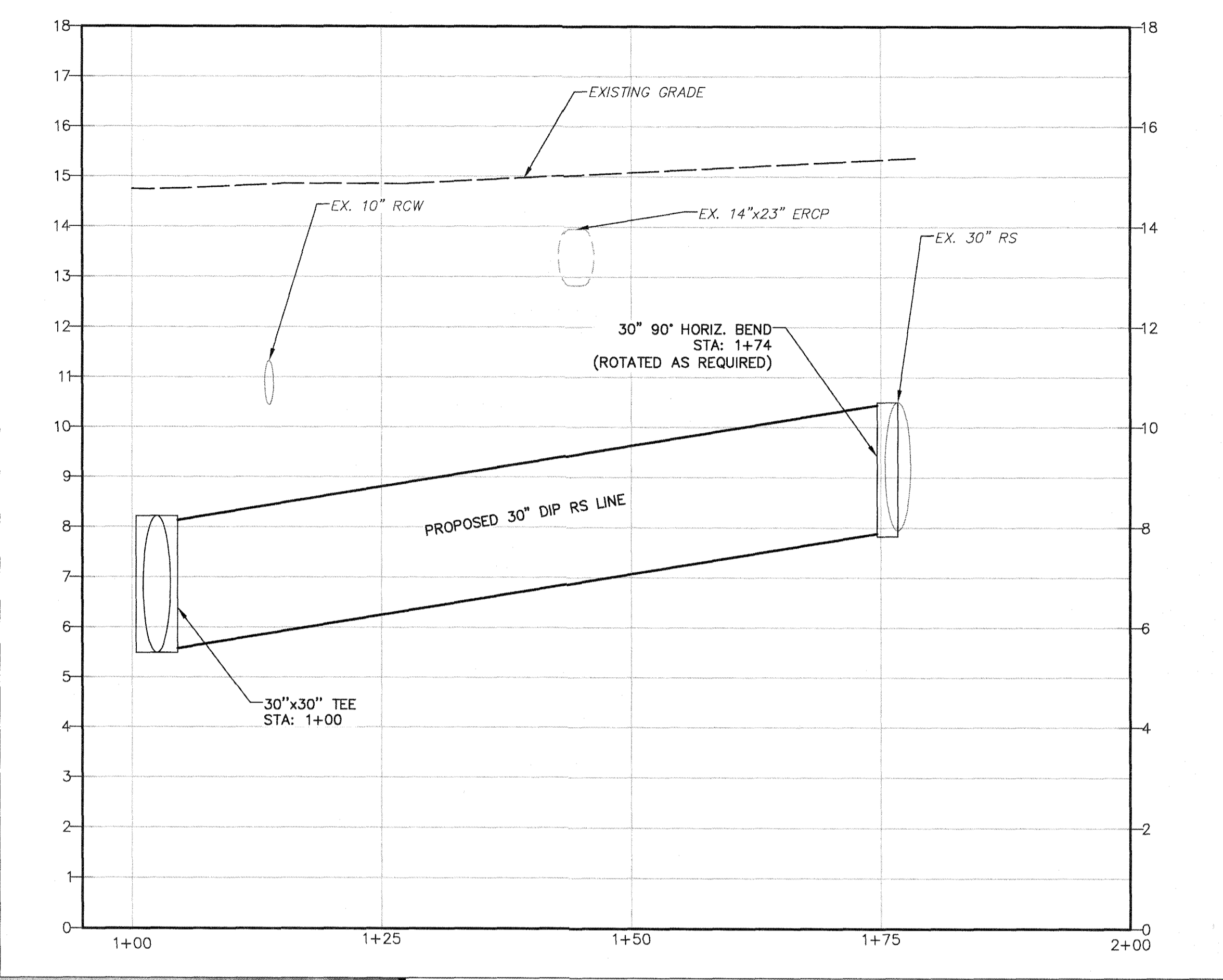
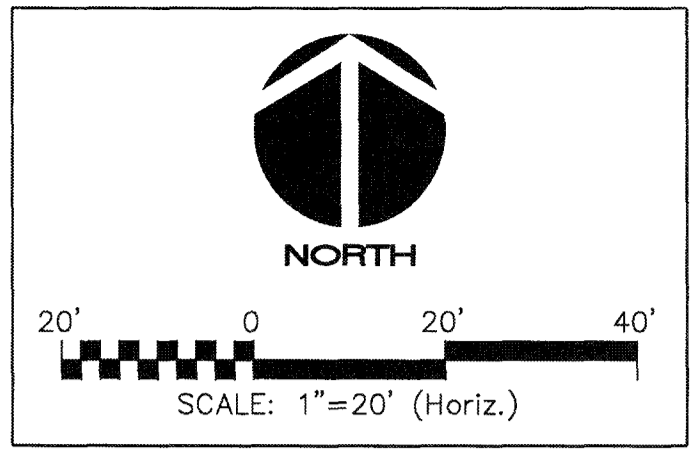


MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS
PROPOSED YARD PIPING PLAN

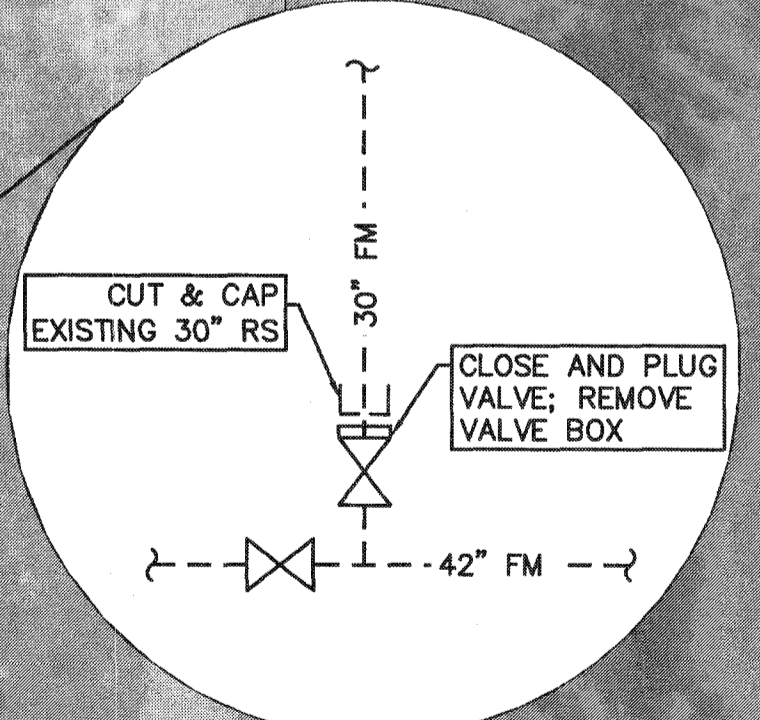
DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1" = 20'	DRAWING NUMBER: C-08
MCE PROJ. # 1024-0170	VERTICAL: NA	
DRAWN: CW		
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR. DCW		
STATUS: ISSUED FOR BID		



PROFILE 1 - 30" DIP RS LINE

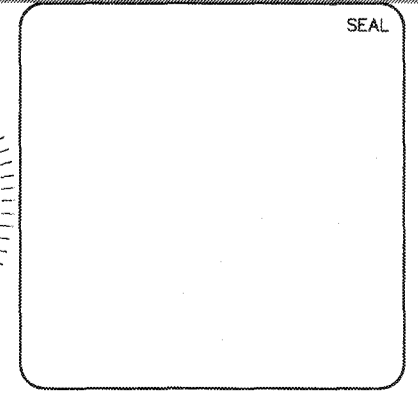
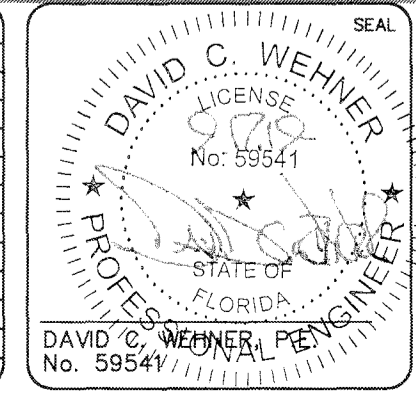
SCALE- HORIZ: 1"=10'
VERT: 1"=4'

- NOTES:
1. ALL PIPE TO BE RESTRAINED.
 2. PROPOSED UNDERGROUND PIPE WILL BE INSTALLED IN THE VICINITY OF EXISTING PIPE. LOCATE AND/OR EXPOSE EXISTING PIPE IN THE AREA OF CONSTRUCTION AND AVOID INTERFERENCE'S WITH EXISTING PIPE.
 3. WHERE NEW UNDERGROUND PIPE CONNECTS TO EXISTING UNDERGROUND PIPE, INSTALL APPROPRIATE THRUST RESTRAINTS ON BOTH NEW AND EXISTING PIPES IN ACCORDANCE WITH THE THRUST RESTRAINT SCHEDULE ON DWG C-16, OR DESIGN AND INSTALL ENGINEER APPROVED THRUST BLOCK. THE THRUST BLOCK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. SUBMIT SIGNED AND SEALED CALCULATIONS FOR ENGINEER'S APPROVAL.
 4. PROVIDE TEMPORARY SHEETING AND/OR SHORING TO PROTECT EXISTING PIPING AND STRUCTURES DURING CONSTRUCTION.
 5. CONTRACTOR TO FIELD LOCATE AND VERIFY ALL EXISTING PIPING AND UTILITIES PRIOR TO CONSTRUCTION.

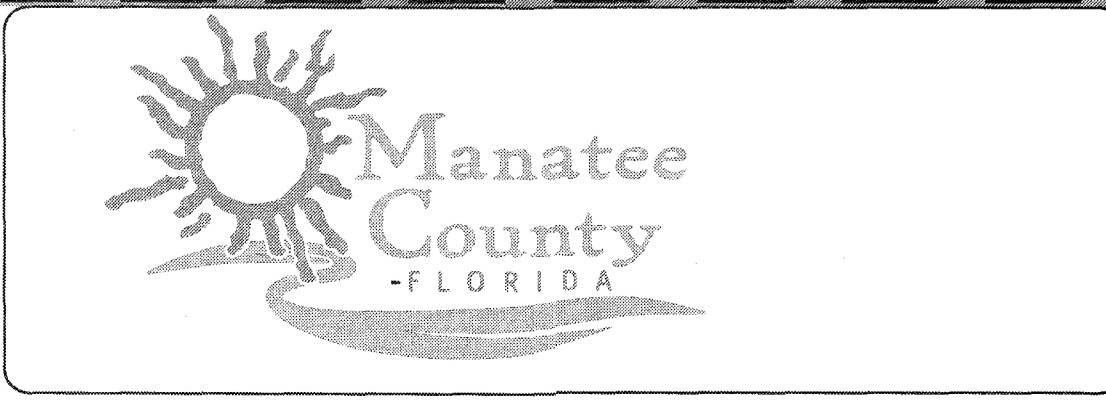


S:\1024\0170\1024-0170.dwg, 9/16/2019, 5:43:50 PM, Cathy Walker

REV. NO.	DESCRIPTIONS / REVISIONS	DATE



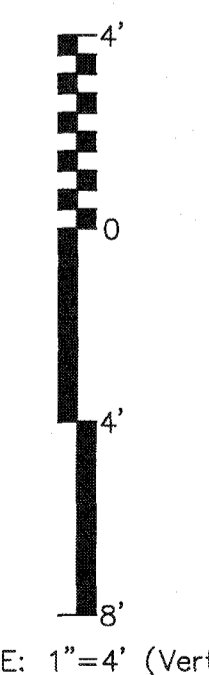
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

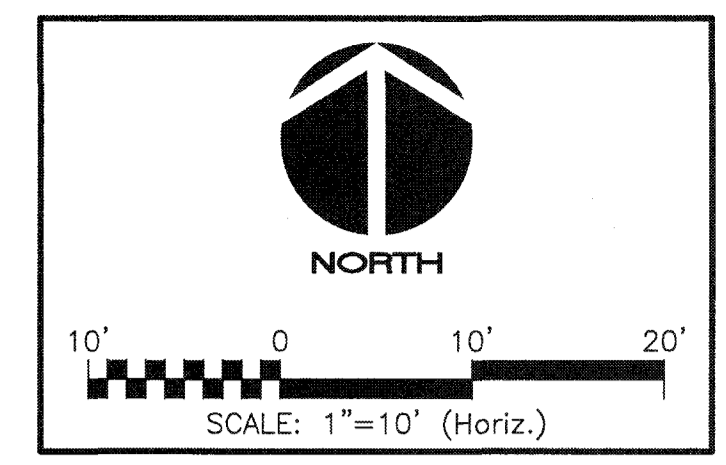


SWWRF NEW HEADWORKS

PROPOSED YARD PIPING PLAN

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1" = 20'	DRAWING NUMBER: C-09
MCE PROJ. # 1024-0170	VERTICAL: NA	REVISION:
DRAWN: CW		
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID		





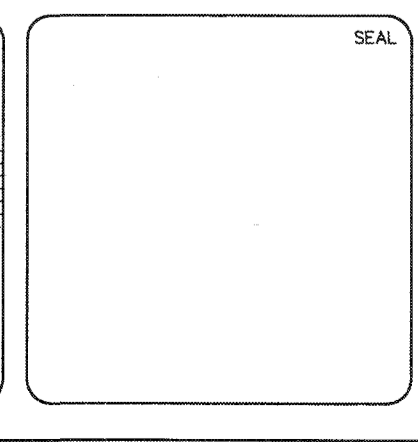
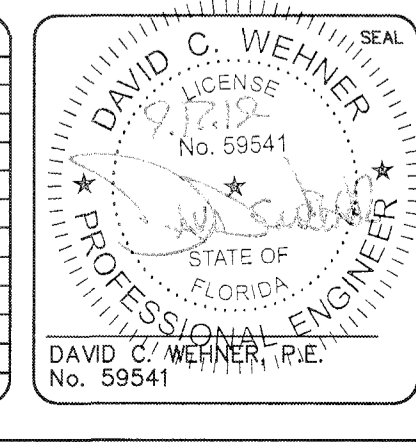
- NOTES:**
1. SEE SHEET M-13 FOR PROPOSED METER SECTIONAL VIEW.
 2. REMOVE PLUG AND CONNECT TO EXISTING 20" VALVE.
 3. NOT USED.
 4. ALL PIPE TO BE RESTRAINED.
 5. PROPOSED UNDERGROUND PIPE WILL BE INSTALLED IN THE VICINITY OF EXISTING PIPE. LOCATE AND/OR EXPOSE EXISTING PIPE IN THE AREAS OF CONSTRUCTION AND AVOID INTERFERENCE'S WITH EXISTING PIPE.
 6. WHERE NEW UNDERGROUND PIPE CONNECTS TO EXISTING UNDERGROUND PIPE, INSTALL APPROPRIATE THRUST RESTRAINTS ON BOTH NEW AND EXISTING PIPES IN ACCORDANCE WITH THE THRUST RESTRAINT SCHEDULE ON DWG C-16, OR DESIGN AND INSTALL ENGINEER APPROVED THRUST BLOCK. THE THRUST BLOCK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. SUBMIT SIGNED AND SEALED CALCULATIONS FOR ENGINEER'S APPROVAL.
 7. PROVIDE TEMPORARY SHEETING AND/OR SHORING TO PROTECT EXISTING PIPING AND STRUCTURES DURING CONSTRUCTION.
 8. CONTRACTOR TO FIELD LOCATE AND VERIFY ALL EXISTING PIPING AND UTILITIES PRIOR TO CONSTRUCTION.

Point Table			
Point #	Description	Northing	Easting
1	16" PLUG VALVE MJ	1132396.01	453531.45
2	20" WYE MJ	1132406.29	453531.47
3	20" 45° BEND MJxPE	1132400.57	453537.12
4	20" 45° BEND MJ	1132400.57	453540.36
5	20"x14" REDUCER FL	1132400.57	453544.21
6	14" 45° BEND FL	1132400.57	453547.76
7	14" WYE FL	1132400.57	453548.97
8	14" PLUG VALVE FL	1132400.57	453551.93
9	14" MAG METER FL	1132400.57	453556.64
10	14" PLUG VALVE FL	1132400.57	453564.84
11	14" WYE FL	1132400.57	453567.80
12	14" 45° BEND FL	1132400.57	453569.11
13	20"x14" REDUCER FL	1132400.56	453572.57
14	20" 45° BEND MJ	1132400.57	453577.34
15	20" 45° BEND MJxPE	1132400.57	453579.85
16	20" 45° BEND MJ	1132397.41	453583.00
17	20" PLUG VALVE MJ	1132388.72	453582.98
18	20" LINE STOP	1132385.35	453582.96
19	20"x16" TAPPING SLEEVE	1132381.43	453582.94
20	16" TAPPING VALVE MJxFL	1132381.43	453579.02
21	20"x16" REDUCER MJ	1132399.60	453531.45
22	14" ADAPTER FL	1132400.57	453559.09
23	14" 45° BEND FL	1132405.06	453553.47
24	14" PLUG VALVE FL	1132405.07	453558.29
25	14" 45° BEND FL	1132405.07	453563.30
26	20" PLUG VALVE MJ	1132402.34	453535.48
27	20"x16" TEE	1132393.06	453582.99
28	16" PLUG VALVE W/PLUG MJ	1132393.06	453578.98

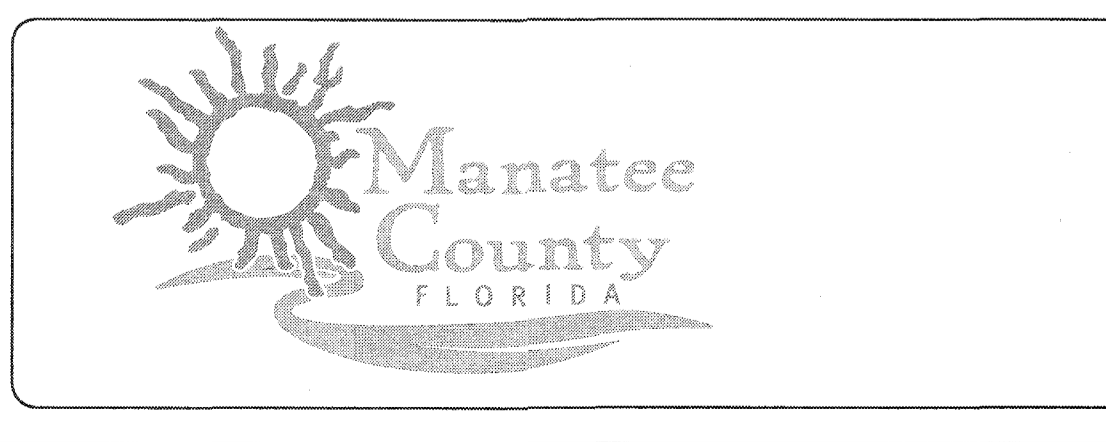
- SUGGESTED CONSTRUCTION SEQUENCE:**
1. CONFIRM EXISTING PIPE ELEVATIONS AND DIAMETERS AND PROPOSED LAYOUT PRIOR TO ORDERING MATERIALS.
 2. CONSTRUCT COMPONENTS 1-14 & 21-26. PRESSURE TEST NEW CONSTRUCTION AND CONNECT TO EXISTING 20" FM GV.
 3. CONSTRUCT PROPOSED ELECTRICAL, INSTRUMENTATION AND CONTROL COMPONENTS.
 4. CONSTRUCT COMPONENTS 19 & 20 AND 16" TEMPORARY BY-PASS PIPING.
 5. CONSTRUCT COMPONENT 18.
 6. UTILIZE 16" TEMPORARY BY-PASS PIPING TO CONSTRUCT COMPONENTS 15-17, 27 & 28.
 7. PLACE NEW METER ASSEMBLY INTO OPERATION. TEST AND CALIBRATE ELECTRICAL, INSTRUMENTATION AND CONTROL COMPONENTS.
 8. REMOVE 16" TEMPORARY BY-PASS PIPING. PROVIDE PLUG ON COMPONENTS 1 & 20.

S:\VDA\2019\SWWRF-Drawings\DWG\C10-0240130.dwg, 8/17/2019, 2:16:57 PM, Gerry Wehner

REVNO.	DESCRIPTIONS	DATE



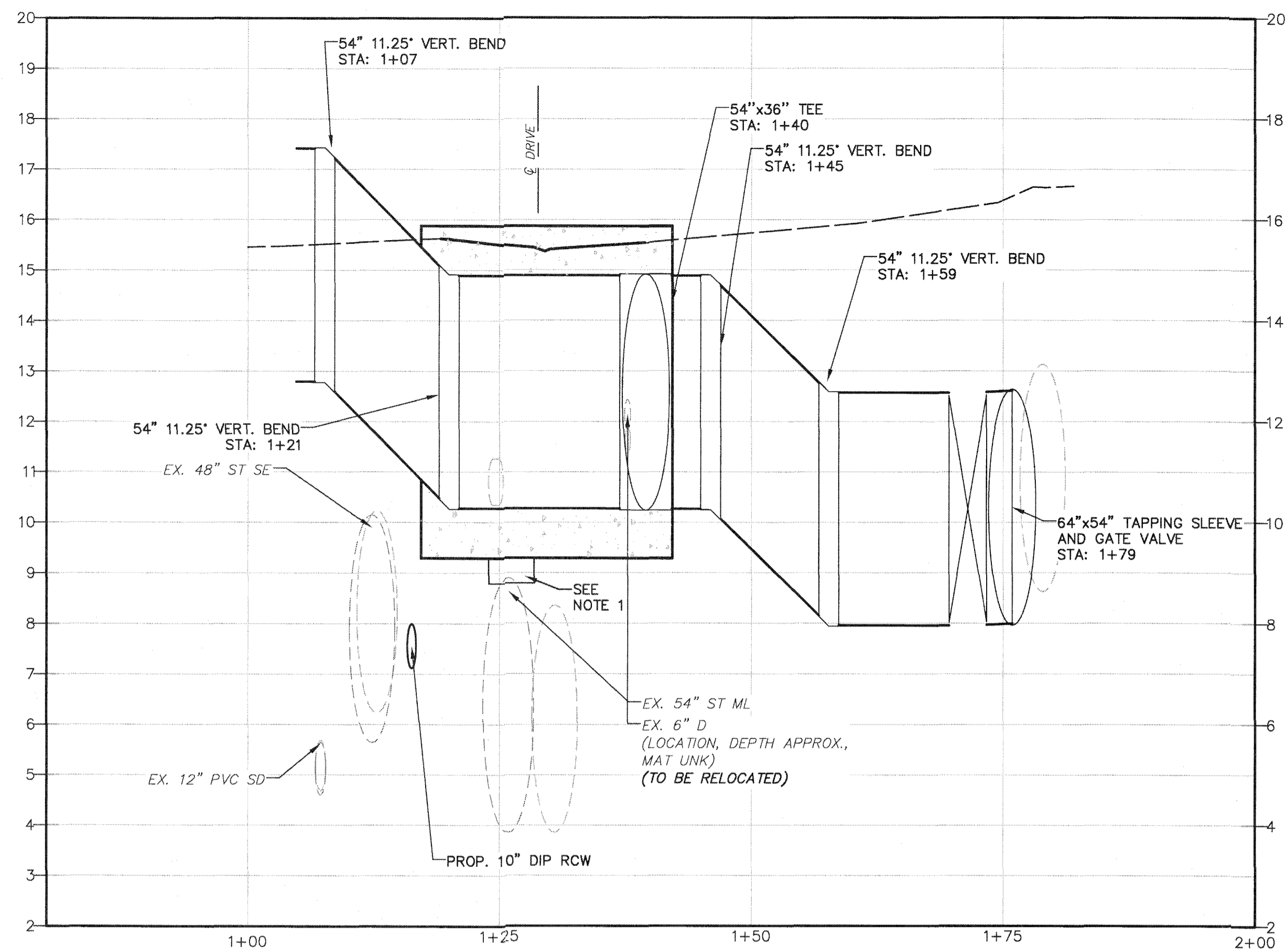
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



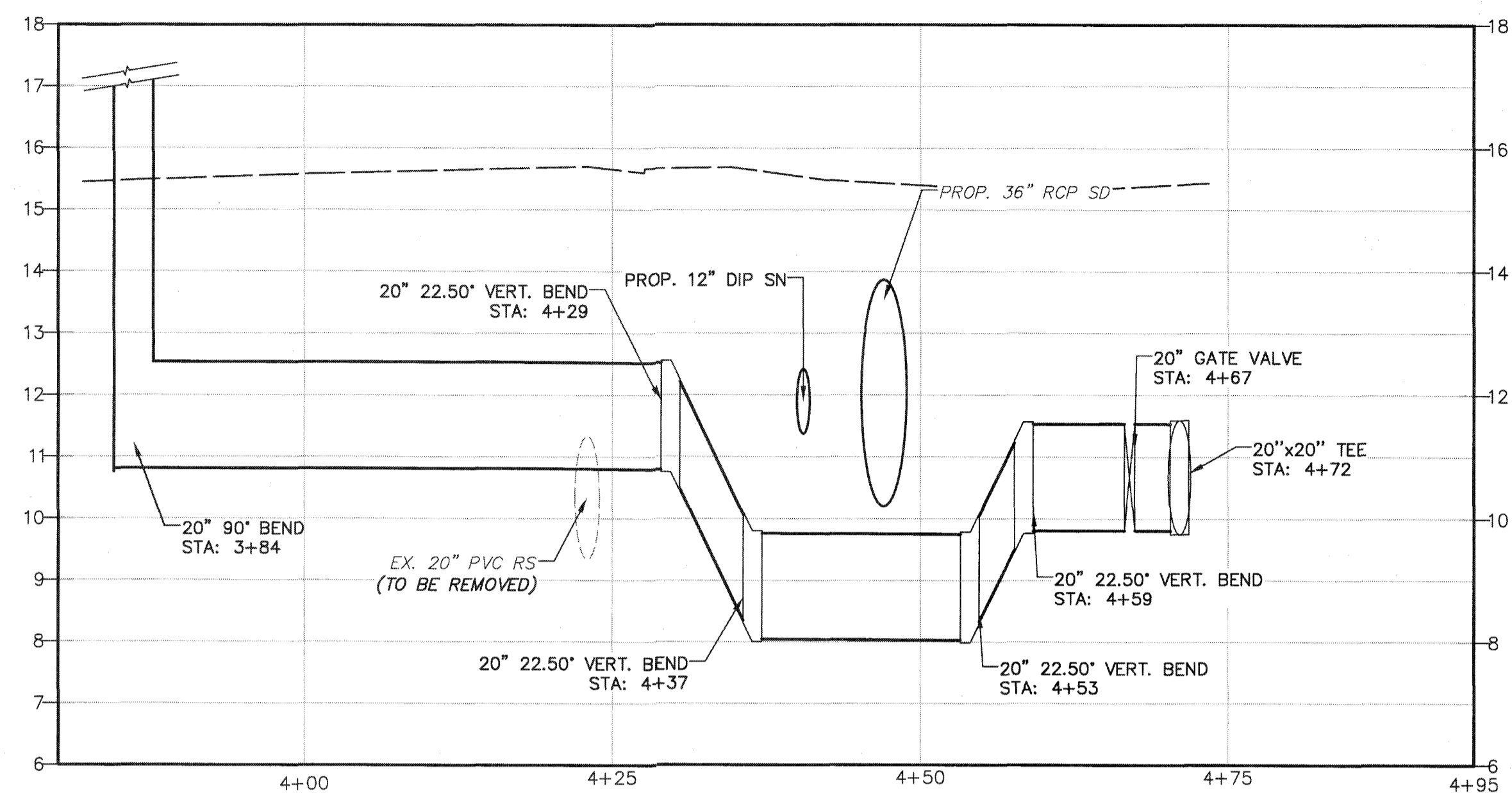
SWWRF NEW HEADWORKS

PROPOSED YARD PIPING PLAN

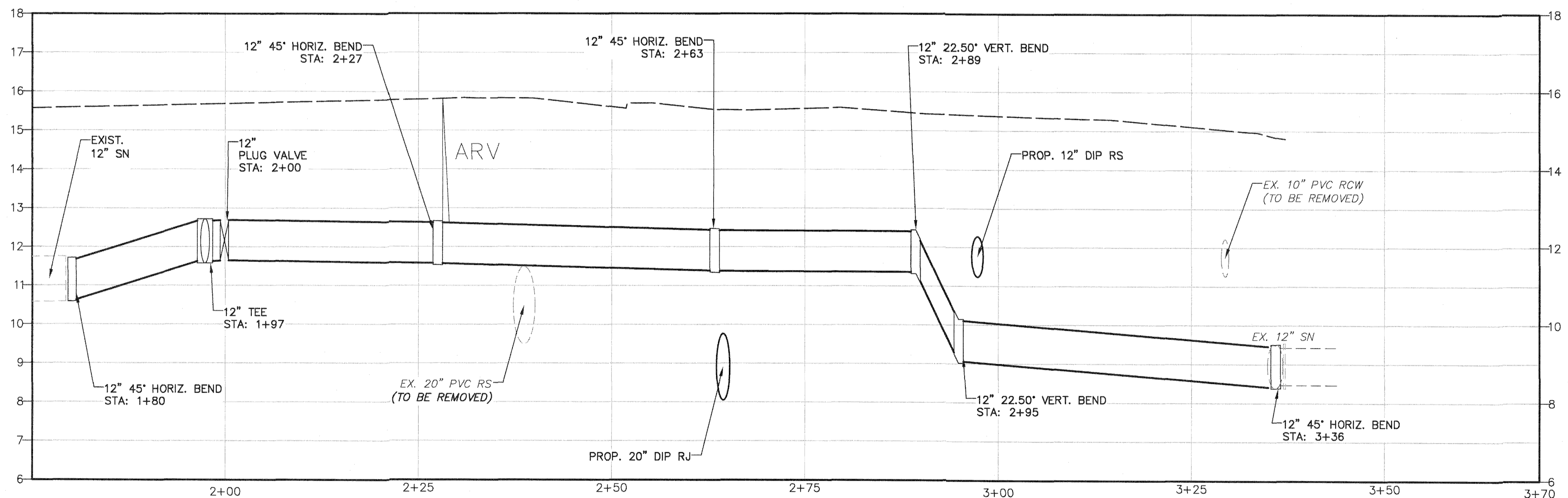
DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1" = 10'	DRAWING NUMBER: C-10
MCE PROJ. # 1024-0170	DRAWN: CW	DESIGNED: EAS
CHECKED: MAC	PROJ. MGR.: DCW	REVISION: NA
STATUS: ISSUED FOR BID		



PROFILE A - 54' DIP RS LINE
 SCALE- HORIZ: 1"=10'
 VERT: 1"=4'

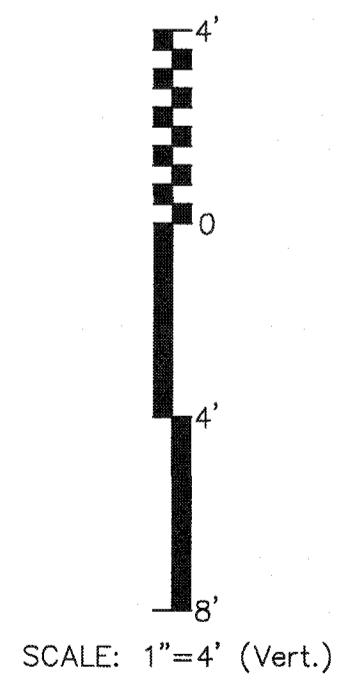


PROFILE C - 20' DIP RJ LINE
 SCALE- HORIZ: 1"=10'
 VERT: 1"=4'



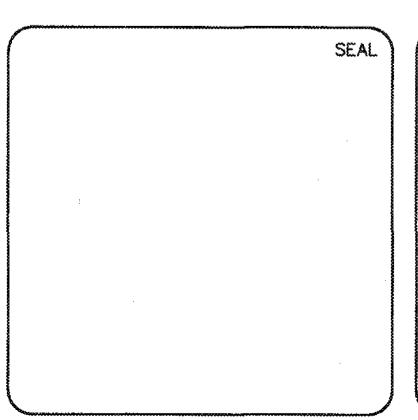
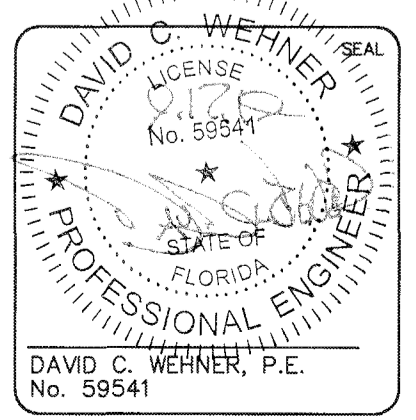
PROFILE B - 12' DIP SN LINE
 SCALE- HORIZ: 1"=10'
 VERT: 1"=4'

NOTES:
 1. COMPRESSIBLE FOAM BOARD TO BE ELASTOPOR RIGID POLYURETHANE FOAM SYSTEM OR APPROVED EQUAL AND EXTEND 6" BEYOND WALL OF EXISTING 54" STORM PIPES.

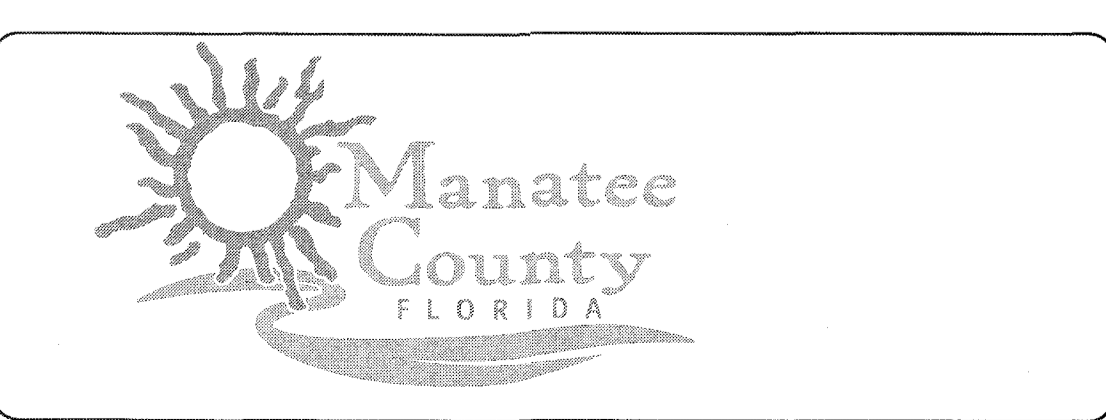


S:\V04\0770\0770-Dwgs\Civil\04-10240170\04-10240170.dwg, 9/17/2019, 2:17:08 PM, Cathy, Water

REVNO.	DESCRIPTIONS	DATE

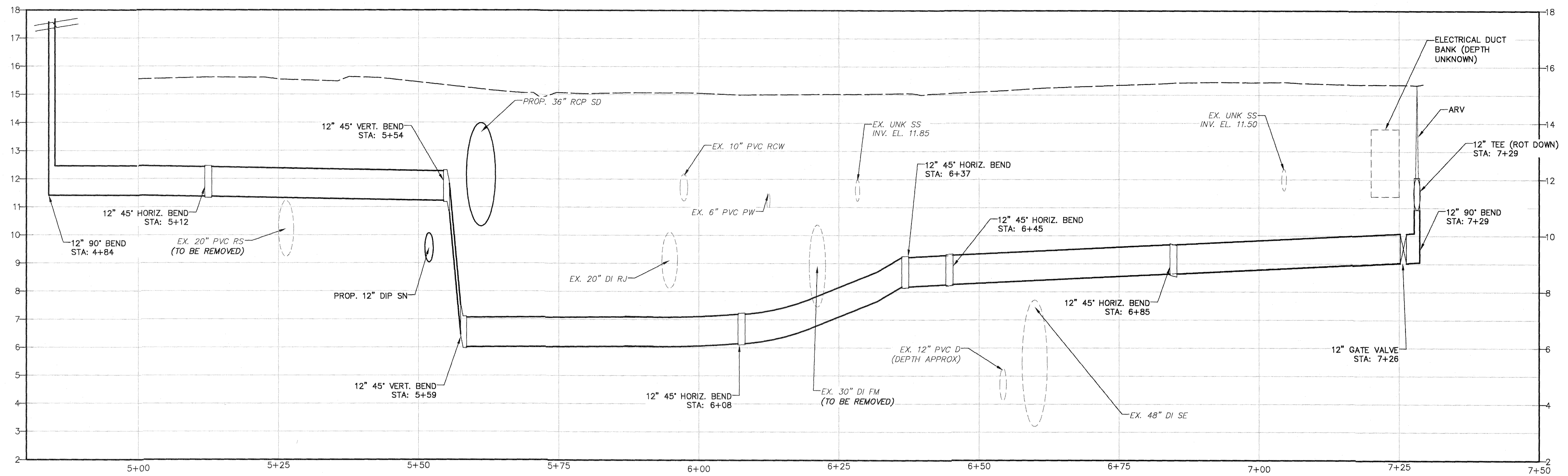


MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

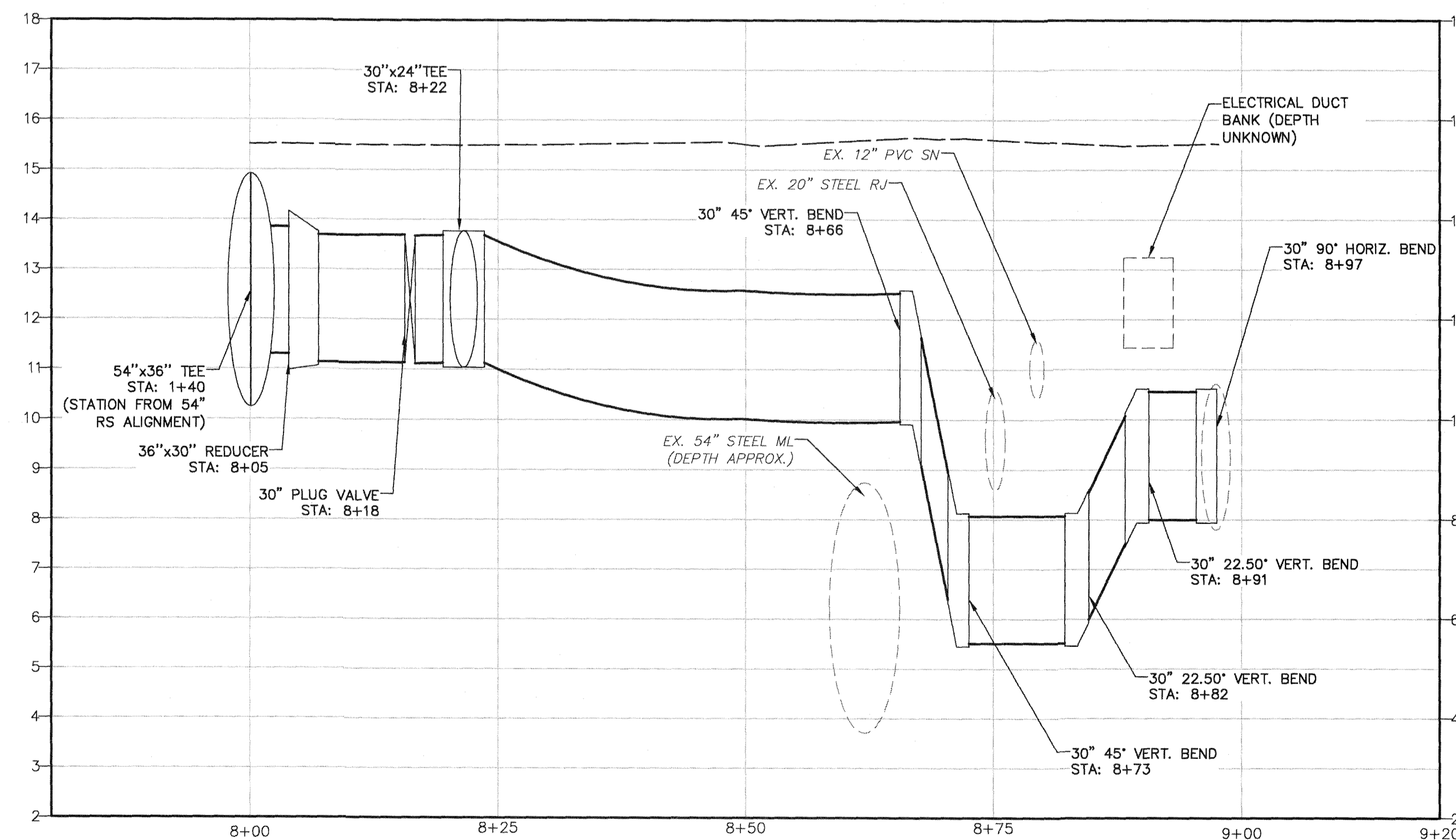


SWWRF NEW HEADWORKS
YARD PIPING PROFILES

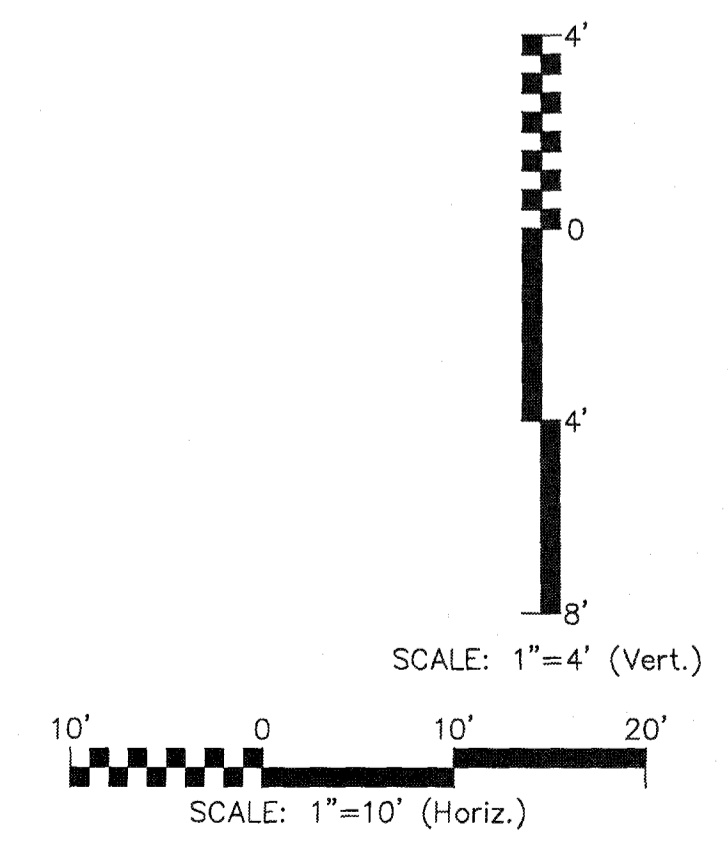
DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1" = 10'	DRAWING NUMBER: C-11
MCE PROJ. # 1024-0170	VERTICAL: NA	REVISION
DRAWN: CW		
DESIGNED: DCW		
CHECKED: MAC		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		



PROFILE D - 12' DIP RS LINE
 SCALE- HORIZ: 1"=10'
 VERT: 1"=4'

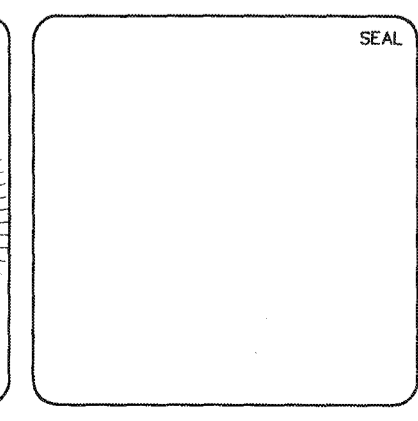
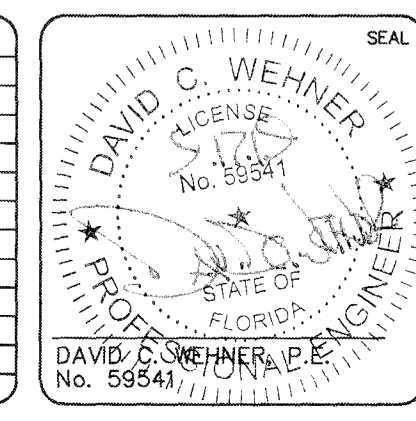


PROFILE E - 30' DIP RS LINE
 SCALE- HORIZ: 1"=10'
 VERT: 1"=4'

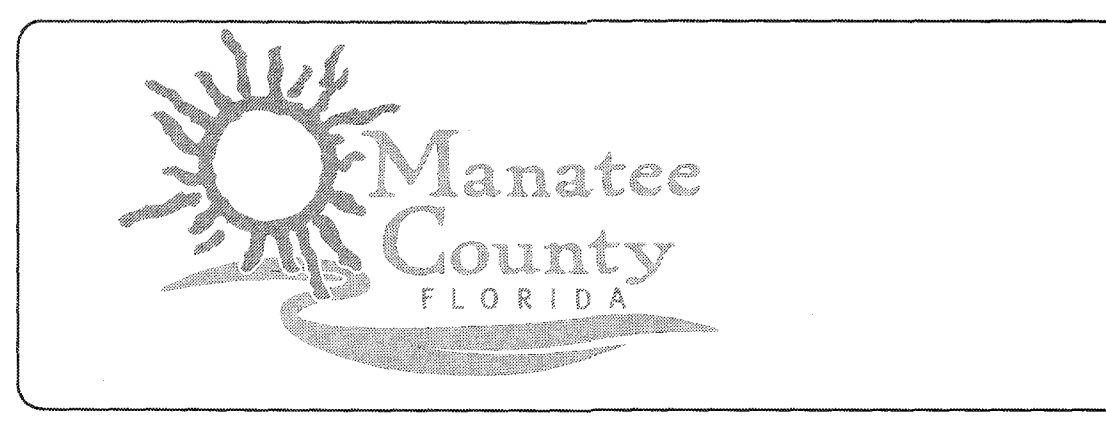


S:\1024\1024-0170\Drawings\DWG\006-10240170.dwg, 9/16/2019, 5:44:59 PM, Cathy Walker

REV. NO.	DESCRIPTIONS	DATE



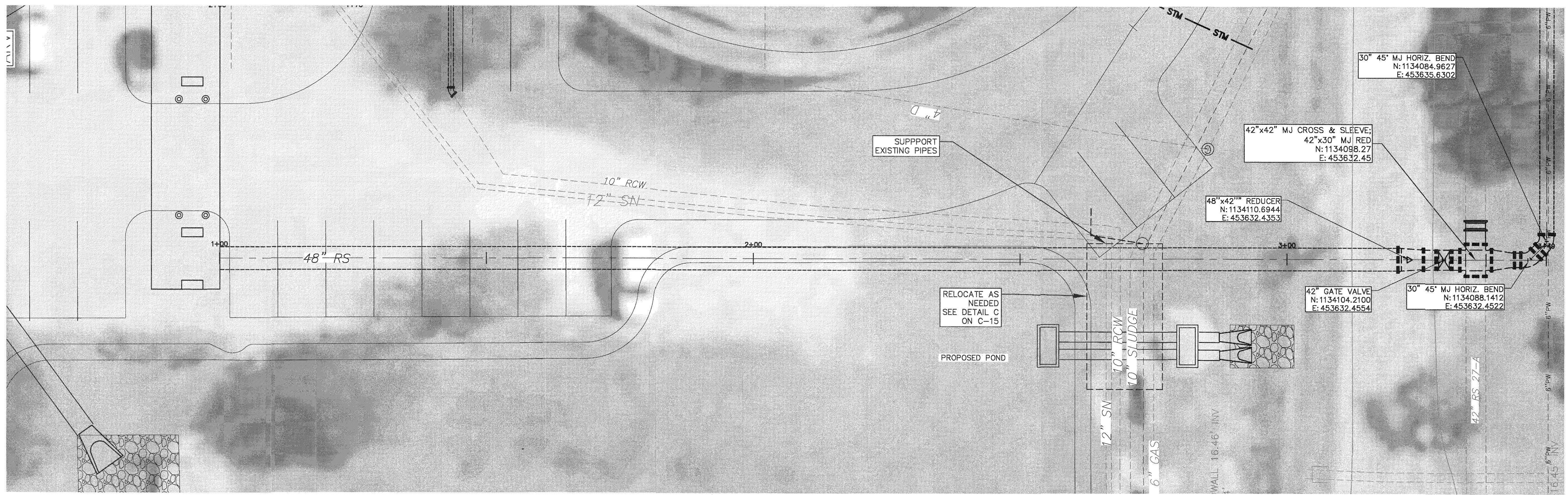
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS

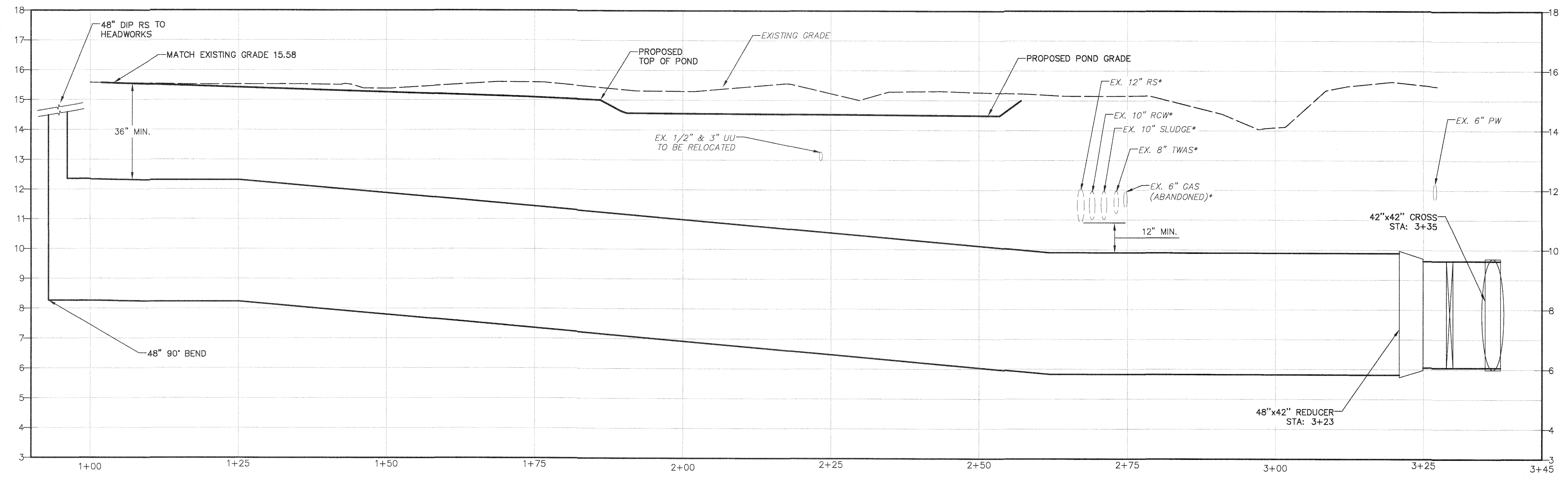
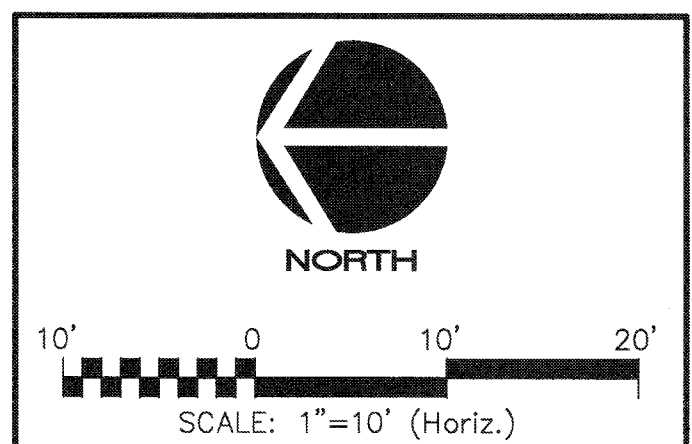
YARD PIPING PROFILES

DATE: SEPTEMBER, 2019	SCALE: 1"=10'	DRAWING NUMBER: C-12
MCE PROJ. # 1024-0170	HORIZONTAL: 1"=10'	
DRAWN: CW	VERTICAL: NA	
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		



PLAN - 48" DIP RS LINE

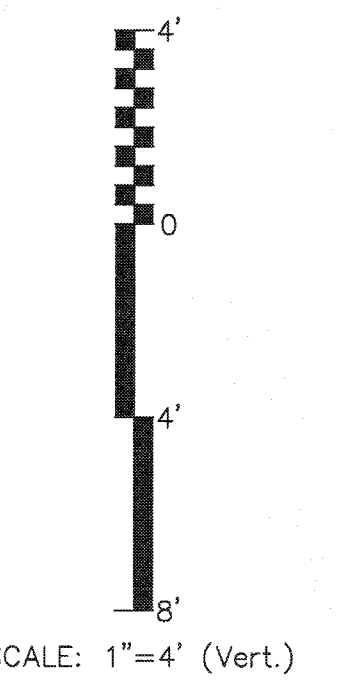
SCALE- HORIZ: 1"=10'



PROFILE G - 48" DIP RS LINE

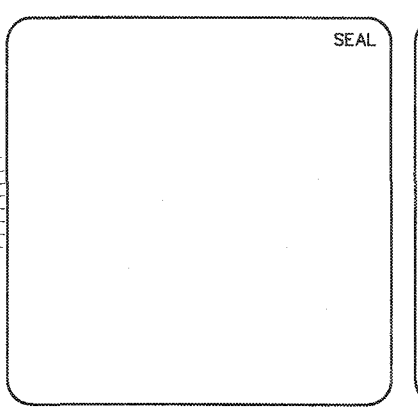
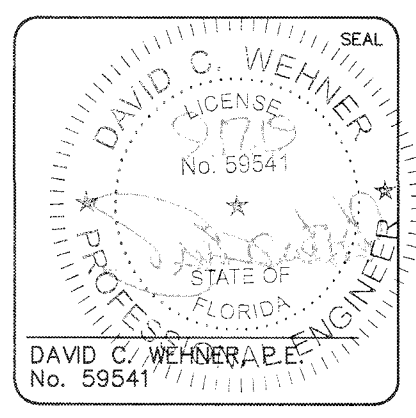
SCALE- HORIZ: 1"=10'
VERT: 1"=4'

* DEPTH OF PIPES PER AVAILABLE RECORD DRAWINGS

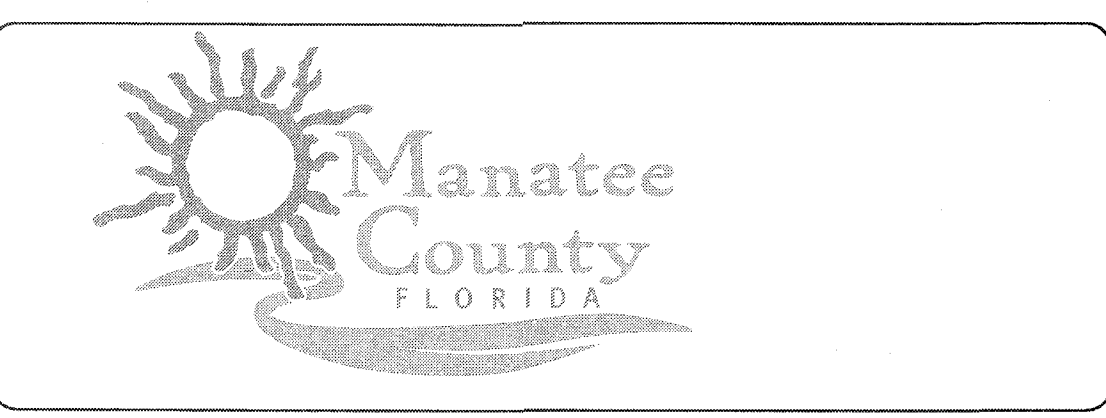


S:\1024\0170\DWG-Drawings\DWG-1024\0170.dwg, 9/16/2019 5:45:10 PM, Cathy Walker

REVNO.	DESCRIPTIONS	DATE



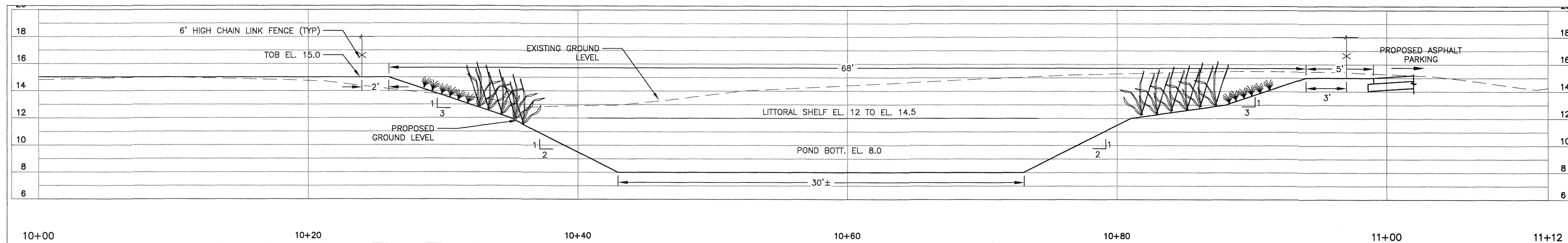
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



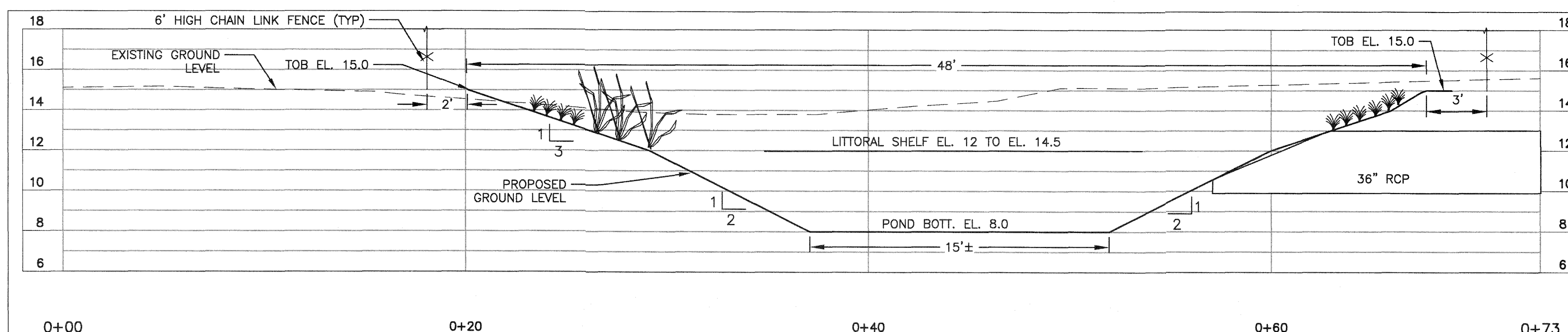
SWWRF NEW HEADWORKS

YARD PIPING PROFILES

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1" = 10'	DRAWING NUMBER: C-13
MCE PROJ. # 1024-0170	DESIGNED: EAS	CHECKED: MAC
DRAWN: CW	PROJ. MGR: DCW	STATUS: ISSUED FOR BID



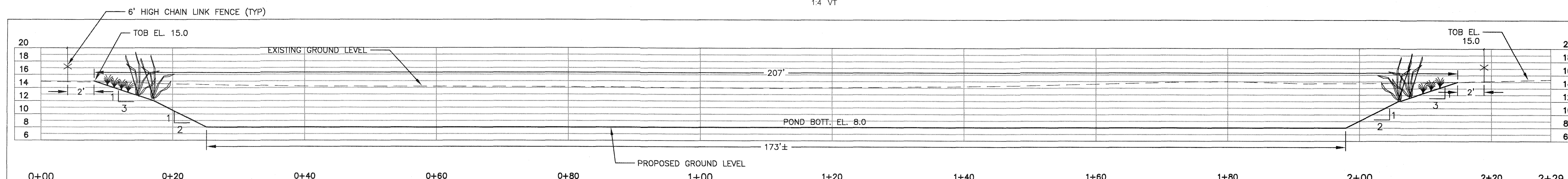
SECTION A/C-06
SCALE: 1:40 HZ
1:4 VT



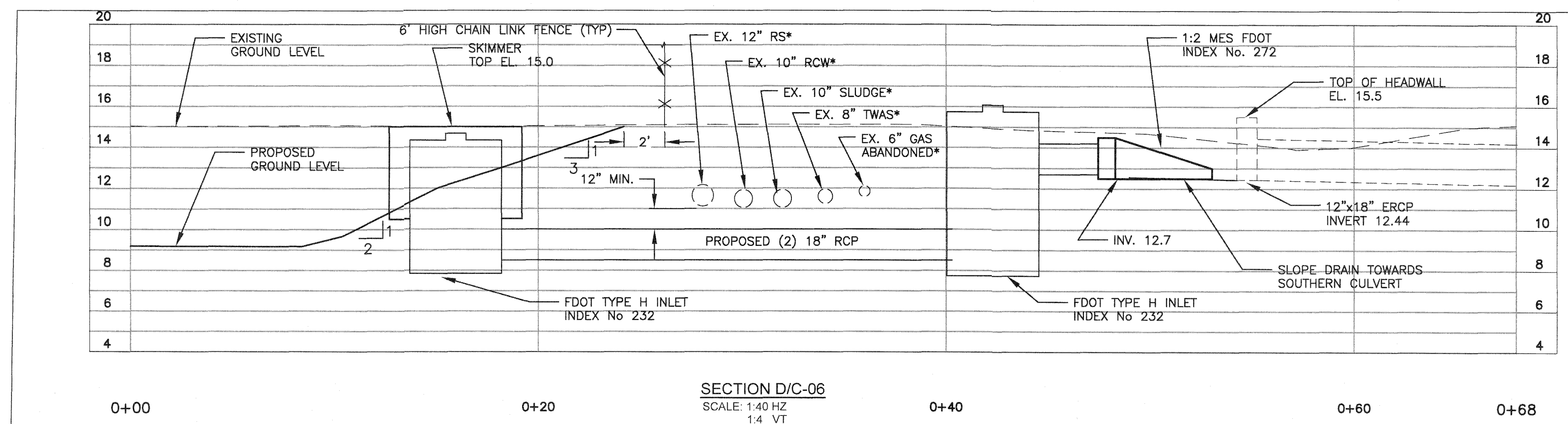
SECTION B/C-06
SCALE: 1:40 HZ
1:4 VT

NOTES:

1. ALL SLOPES AT OR STEEPER THAN 4:1 SHALL BE SODDED.
2. NORMAL WATER LEVEL (NWL) AT ELEV. 11.5.
3. 25-YEAR DESIGN HIGH WATER LEVEL (HWL) AT ELEV. 14.5.

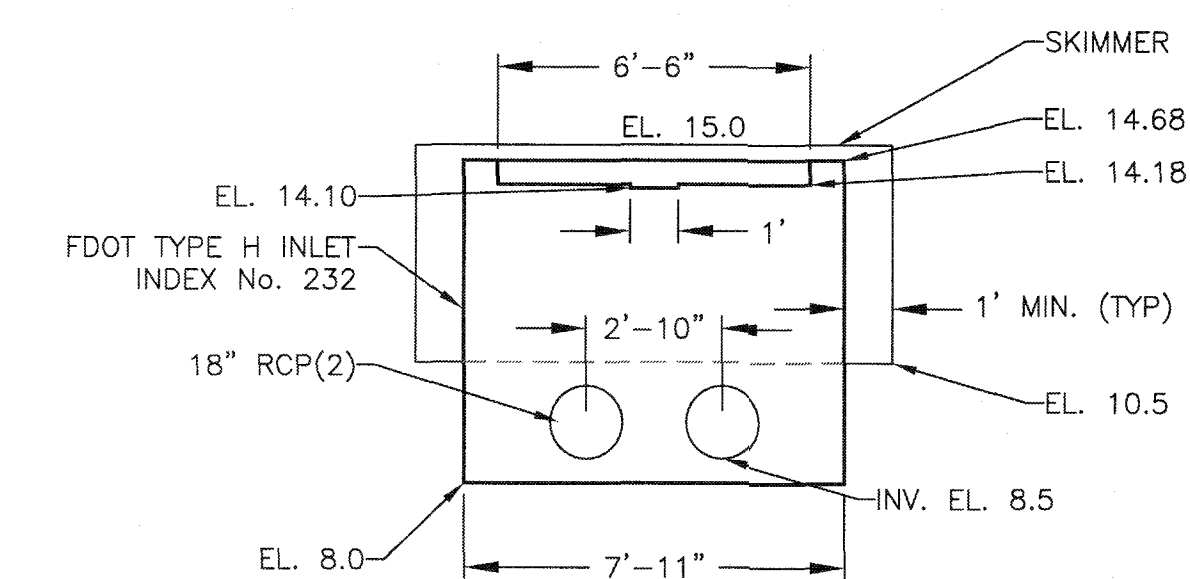


SECTION C/C-06
SCALE: 1:80 HZ
1:8 VT



SECTION D/C-06
SCALE: 1:40 HZ
1:4 VT

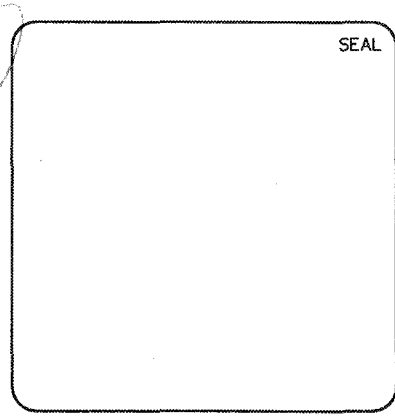
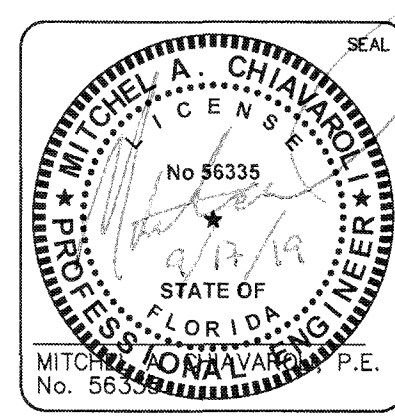
* DEPTH OF PIPES PER AVAILABLE RECORD DRAWINGS



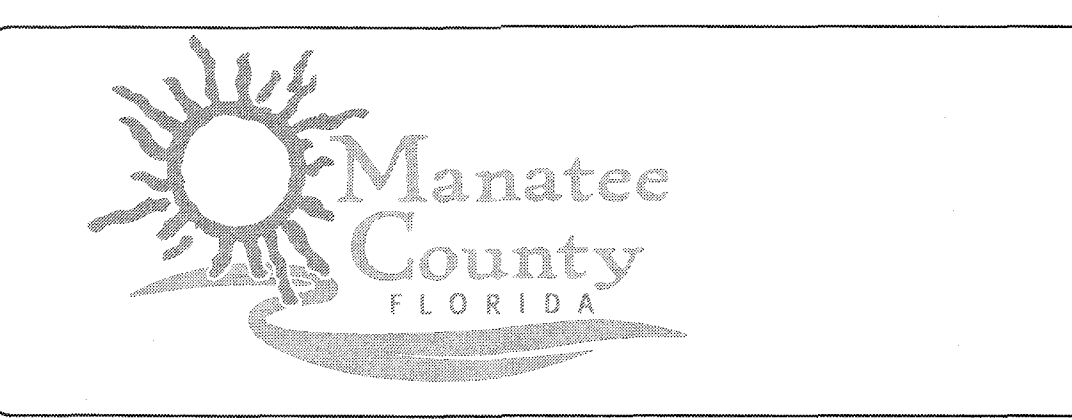
SECTION E/C-06
NTS

S:\026\02610\02610-Drawings\02610-01-C14-0240170.dwg, 9/17/2019, 2:17:28 PM, Colby Walker

REVNO.	DESCRIPTIONS	DATE



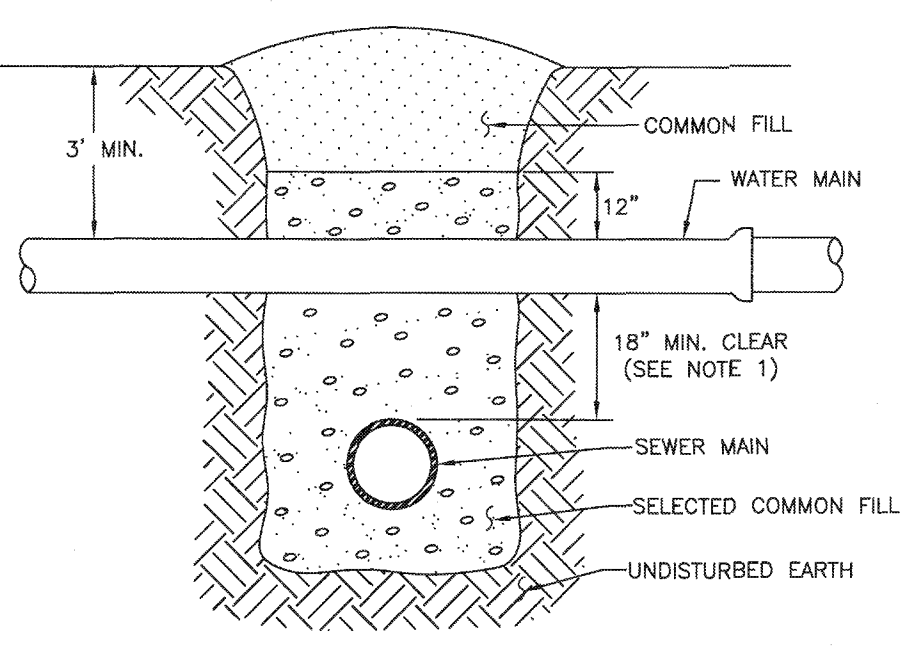
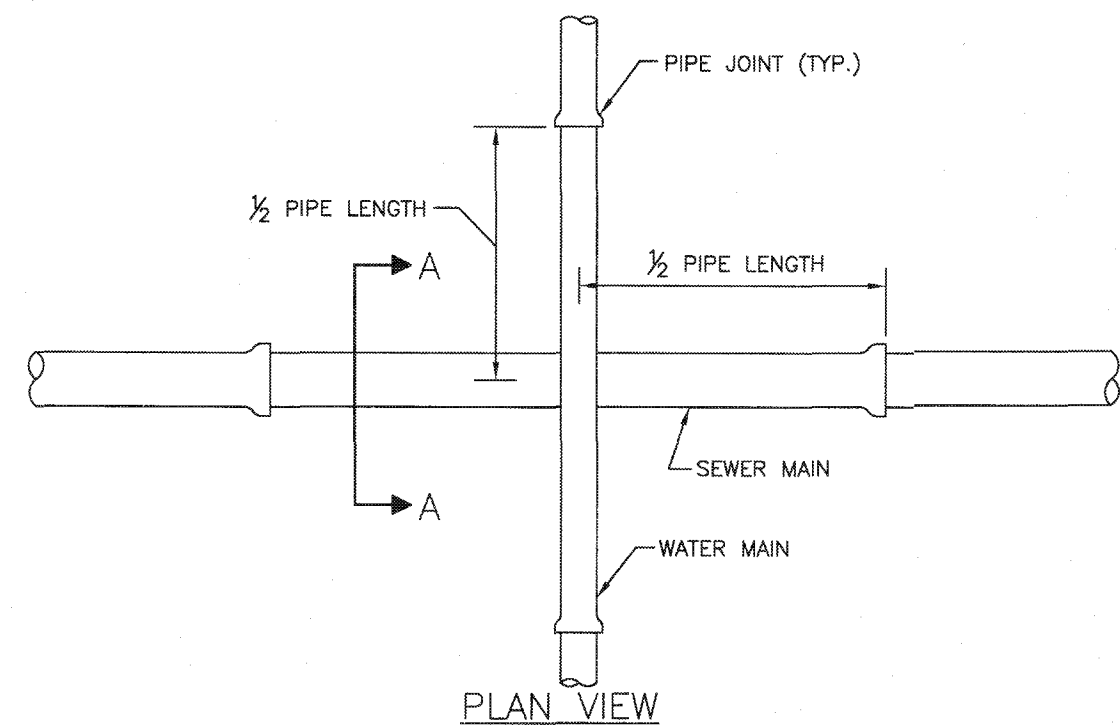
MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWRF NEW HEADWORKS
POND DETAILS

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	C-14
DRAWN: CW	VERTICAL: NA	
DESIGNED: MAC		
CHECKED: MAC		
PROJ. MGR. DCW		

STATUS: ISSUED FOR BID



NOTES:

- CLEARANCE MAY BE REDUCED TO 6" FOR GRAVITY SEWER WHERE WATER MAIN IS DUCTILE IRON OR 3" FOR FORCE MAIN WHERE FORCE MAIN IS ENCASED A MINIMUM OF 10" EACH SIDE OF CROSSING.
- WHERE NO ENCASMENT IS REQUIRED, PIPE SECTIONS SHALL BE FULL-LENGTH AND SHALL BE ADJUSTED HORIZONTALLY SO THAT THE CROSSING IS AT EACH PIPE SECTION'S MIDPOINT REGARDLESS OF THE VERTICAL CLEARANCE.
- REFER TO THE JACK & BORE CROSSING DETAIL FOR CASING AND SPACER REQUIREMENTS.

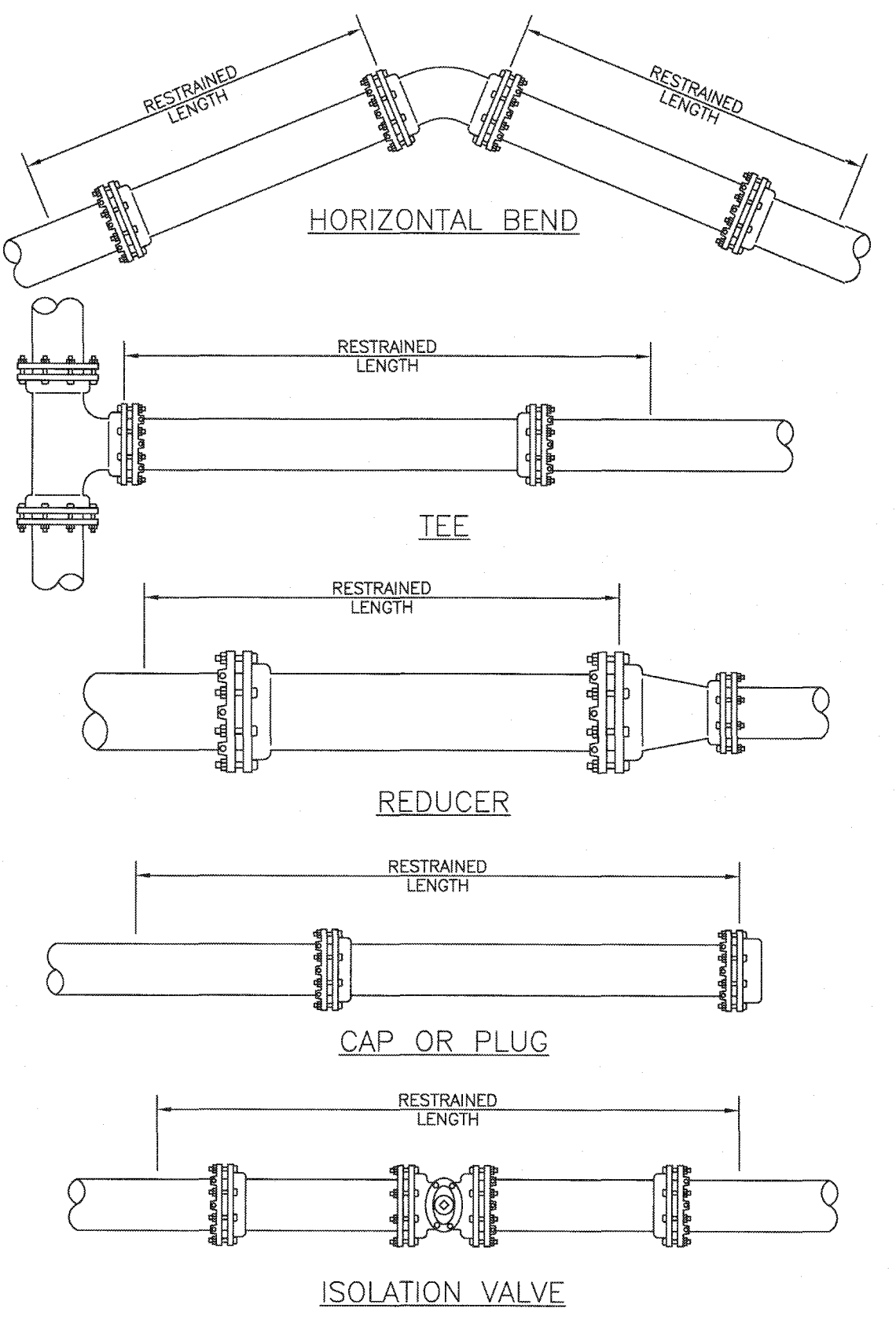
REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES			REDUCERS			PLUGS & VALVES
	90°	45°	22.5°	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	
36	142	59	28	X36	X30	X24	X20	X16	453	
30	124	51	25	X30	X24	X20	X16	X12	391	
24	106	44	21	X24	X20	X16	X12	X10	327	
20	92	38	18	X20	X16	X12	X10	X8	280	
16	77	32	15	X16	X12	X10	X8	X6	231	
12	61	25	12	X12	X10	X8	X6	X4	181	
10	52	22	10	X10	X8	X6	X4	X3	153	
8	44	18	9	X8	X6	X4	X3	X2	128	
6	34	14	7	X6	X4	X3	X2	X1	98	
4	24	10	5	X4	X3	X2	X1		69	

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (NON-WRAPPED)

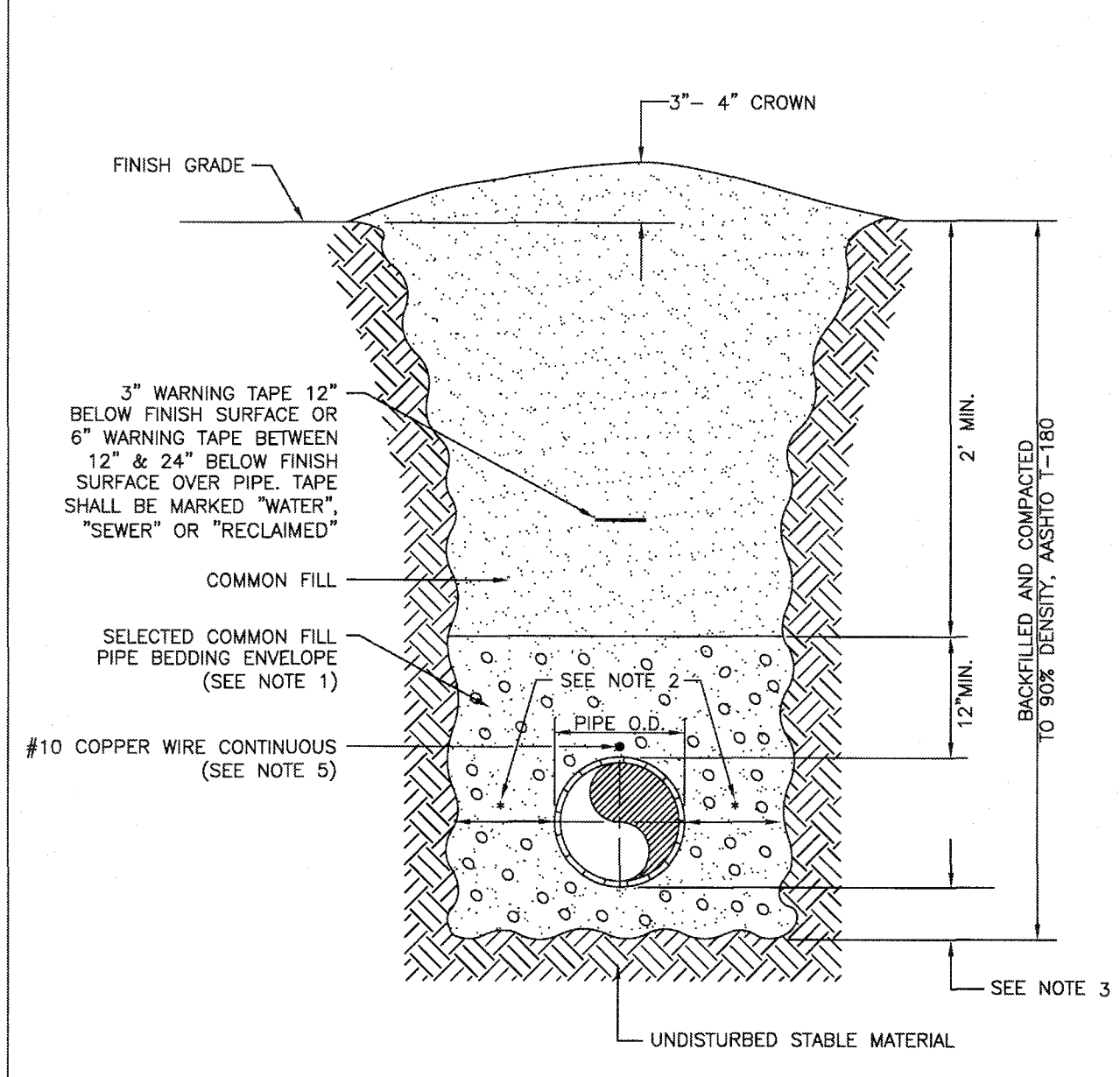
MAIN PIPE SIZE	HORIZ. BENDS			TEES			REDUCERS			PLUGS & VALVES
	90°	45°	22.5°	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	
36	100	42	20	X36	X30	X24	X20	X16	188	
30	88	37	18	X30	X24	X20	X16	X12	162	
24	75	31	15	X24	X20	X16	X12	X10	135	
20	65	27	13	X20	X16	X12	X10	X8	116	
16	54	22	11	X16	X12	X10	X8	X6	96	
12	43	18	8	X12	X10	X8	X6	X4	75	
10	37	15	7	X10	X8	X6	X4	X3	63	
8	30	13	6	X8	X6	X4	X3	X2	53	
6	24	10	5	X6	X4	X3	X2	X1	41	
4	17	7	3	X4	X3	X2	X1		29	

NOTE:
SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.



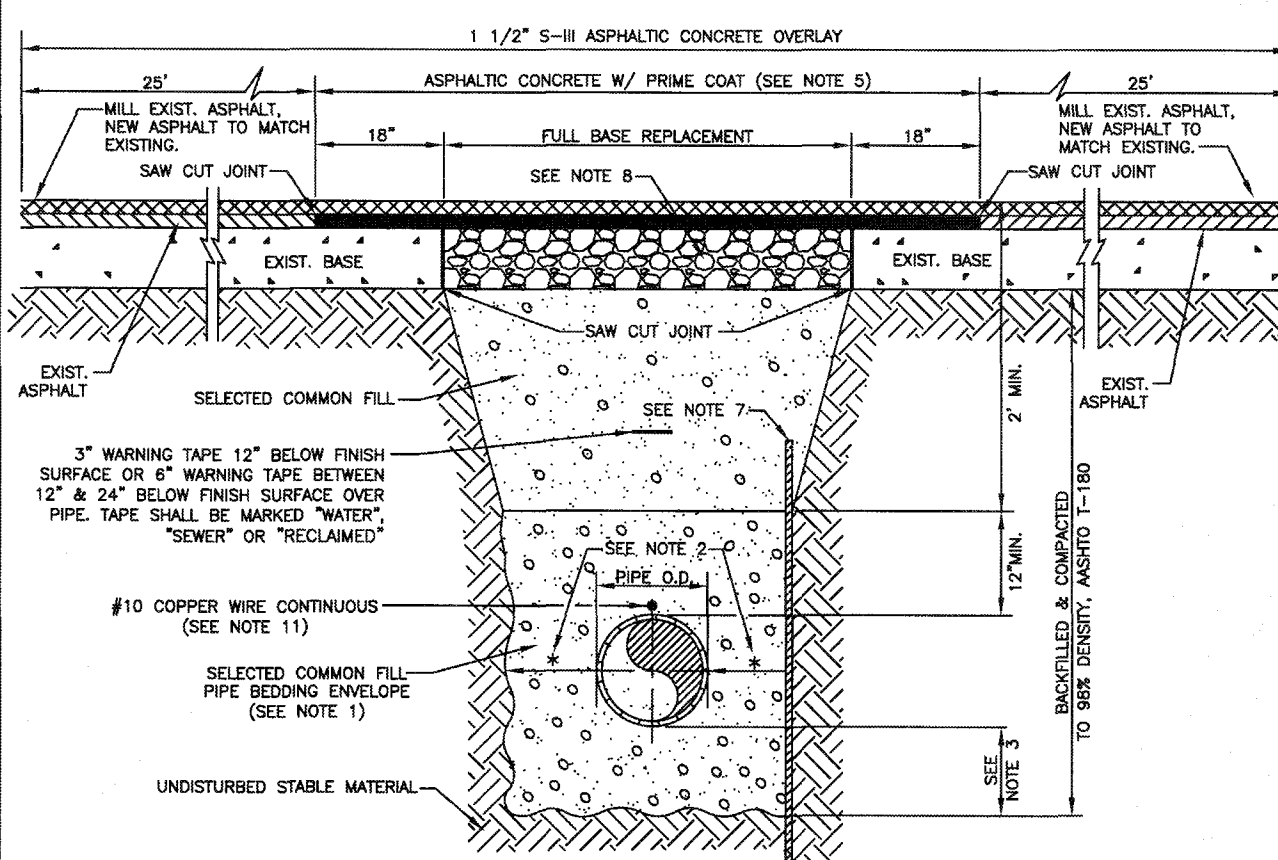
NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1 1/4 INCH, WHICHEVER IS GREATER.
- MILL 25' BACK FROM TRENCH SAW CUT. ADJUST MILLING PER INDIVIDUAL SITE TO NOT IMPACT BASE. BUTT JOINT TO EXIST ASPHALT. FINAL OVERLAY LIMITS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT. FINAL OVERLAY TO MATCH EXISTING WITH NO DISCREPANT "BUMP" AT JOINT. MILLING LIMITS THAT IMPACT INTERSECTION SHALL BE ADDRESSED ON A CASE BY CASE BASIS AND APPROVED BY MANATEE COUNTY.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
- TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- NOTES 5, THRU 10, ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: CLB/BR DATE: 11/7/10 DATE OF APPROVAL: MAY 10, 2011

TYPICAL NEW WATER & SEWER LINE CROSSING

UG-2 PAGE 102

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: CLB/BR DATE: 11/7/10 DATE OF APPROVAL: MAY 10, 2011

RESTRAINED LENGTHS FOR DIP

UG-9 PAGE 109

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: CLB/BR DATE: 11/7/10 DATE OF APPROVAL: MAY 10, 2011

RESTRAINED LENGTHS FOR PIPE

UG-10 PAGE 110

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: WRT/KE DATE: 03/11 DATE OF APPROVAL: MAY 10, 2011

TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING

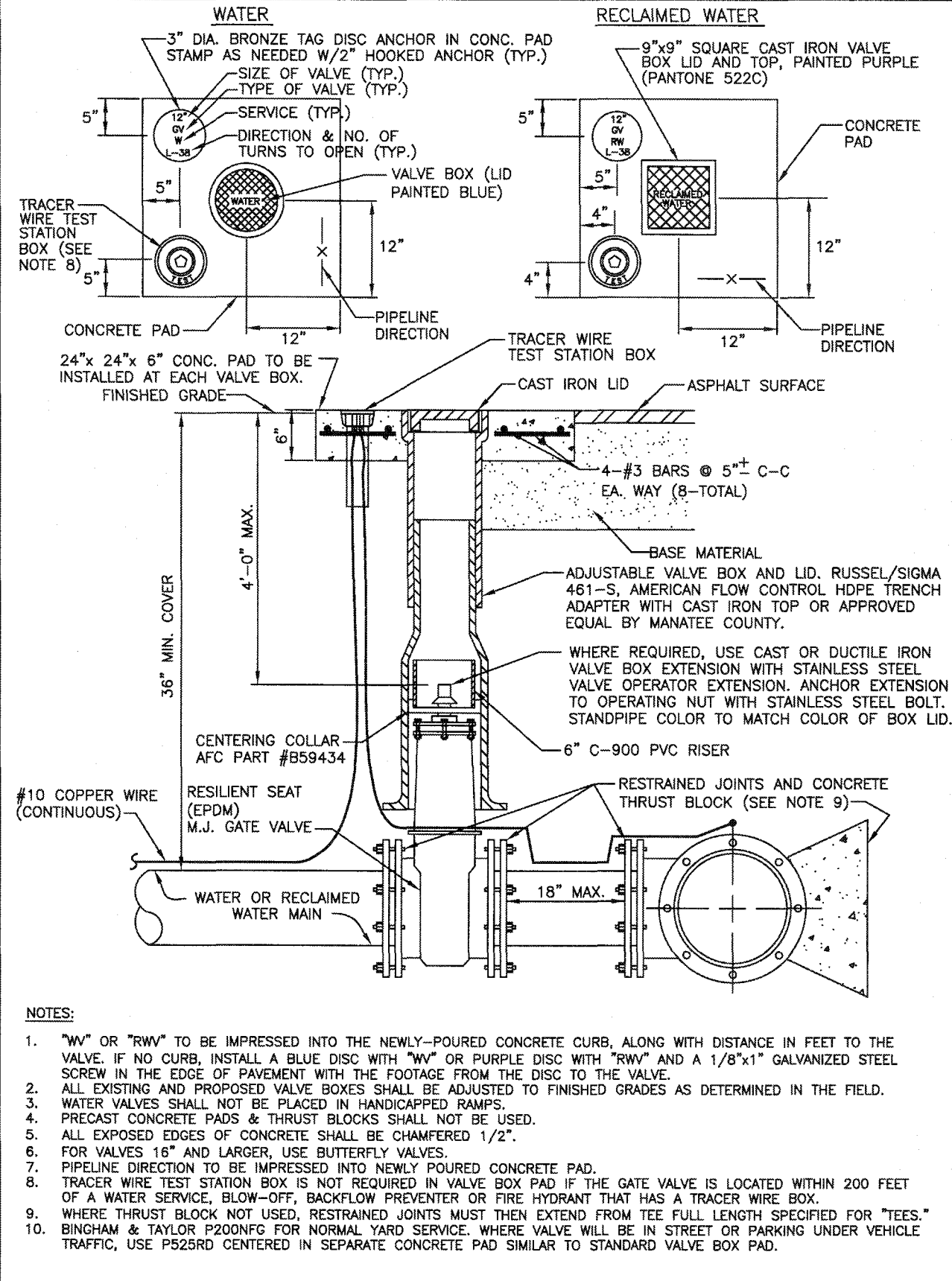
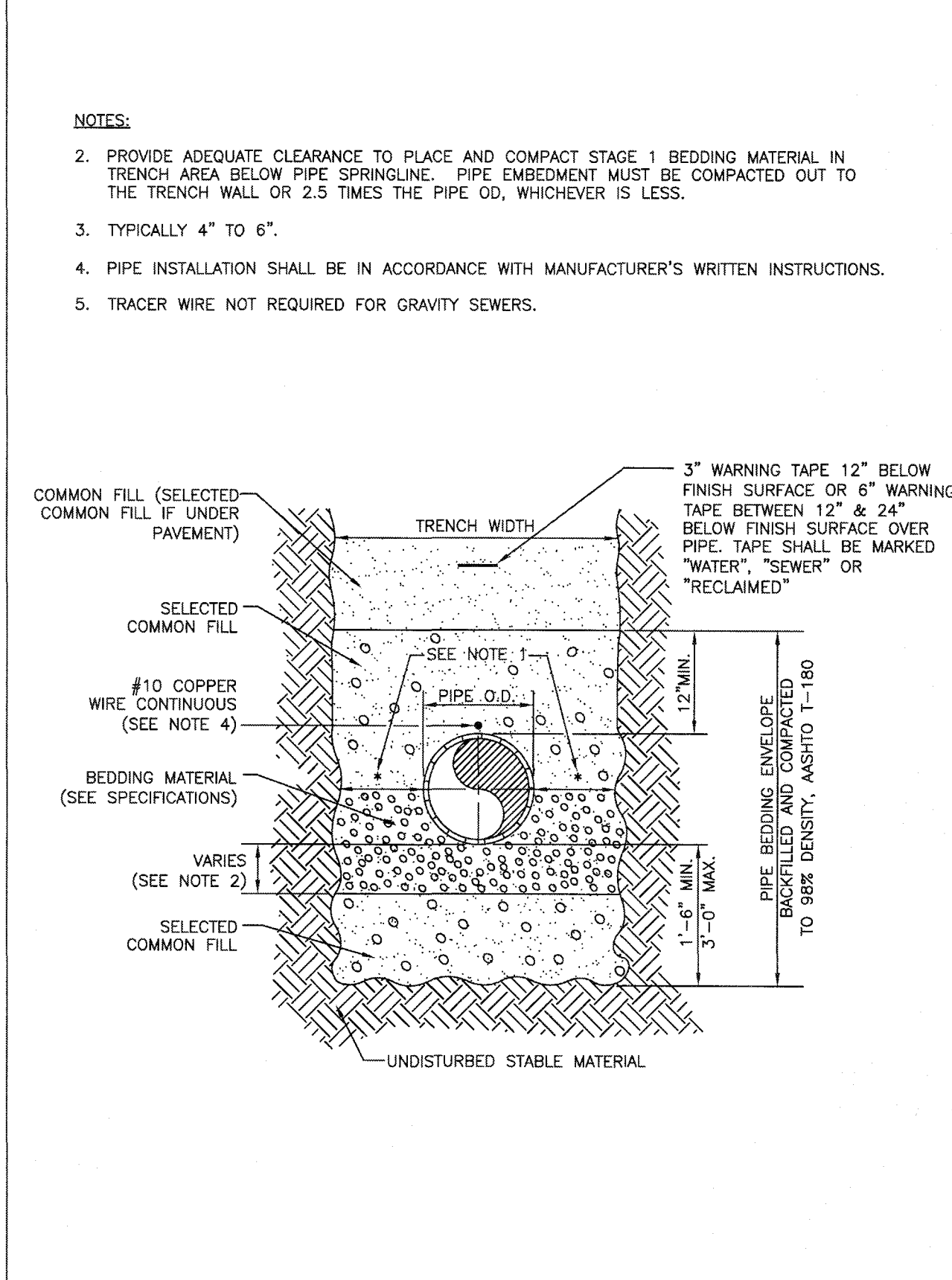
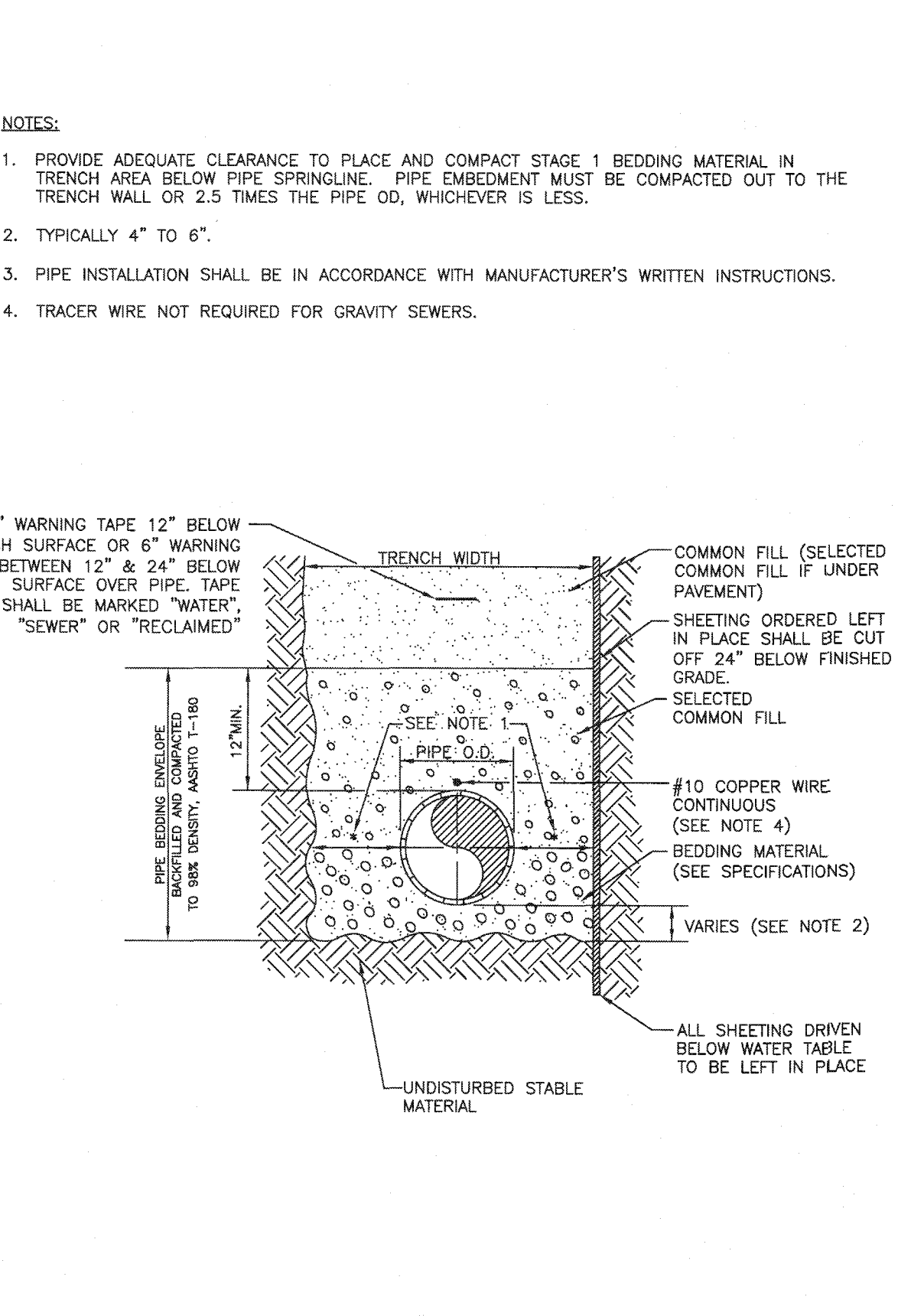
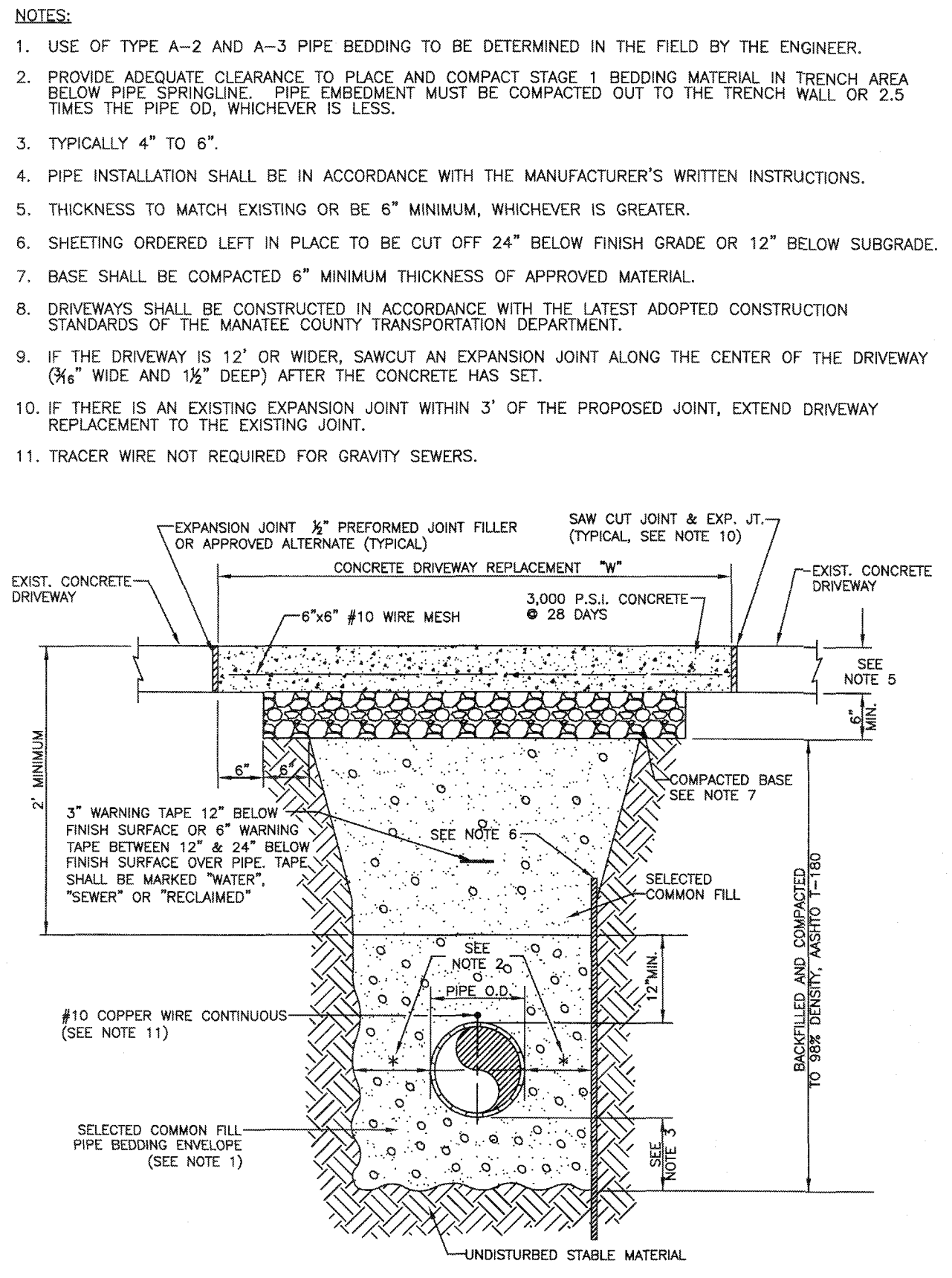
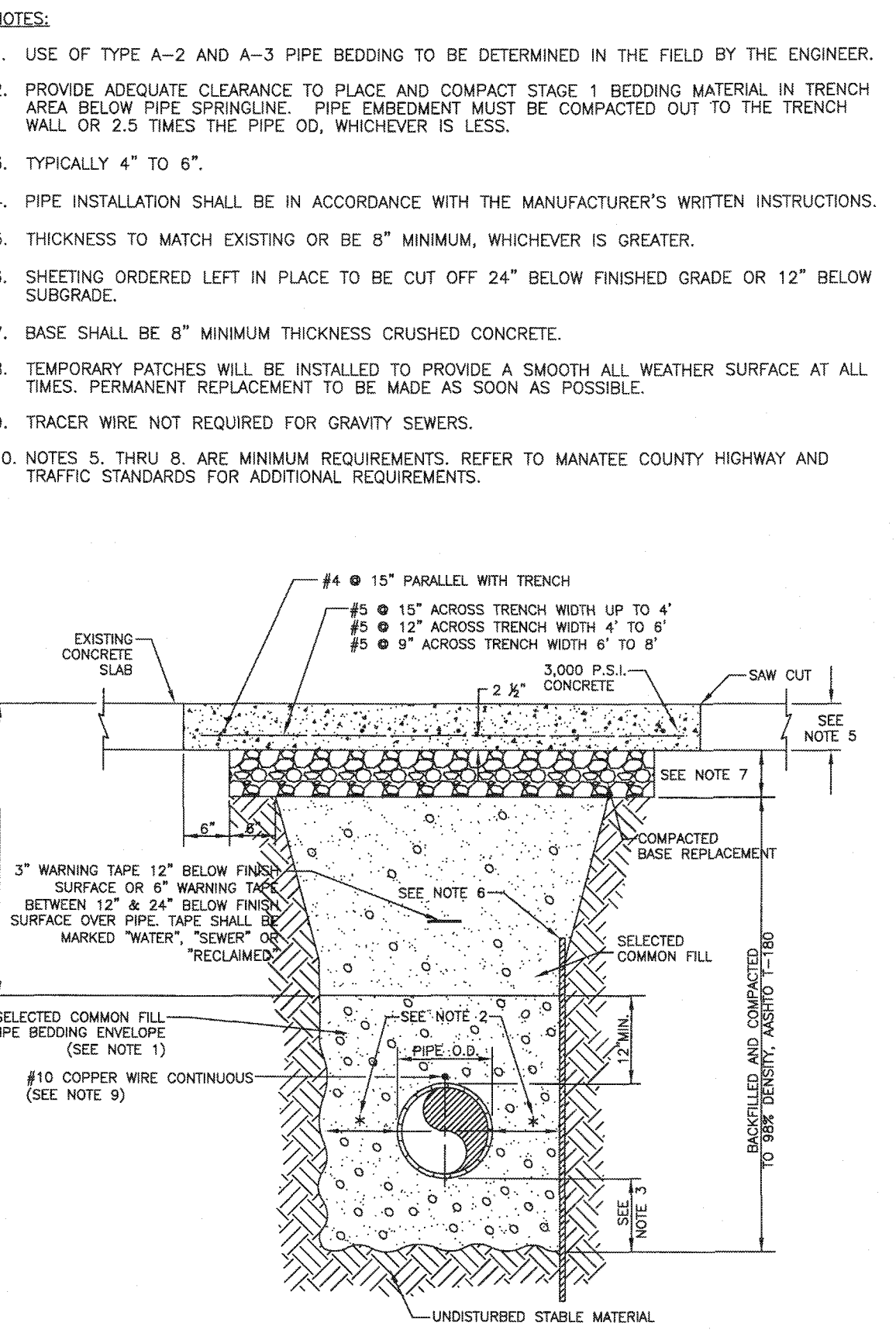
UG-11 PAGE 111

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: WRT/KE DATE: 03/11 DATE OF APPROVAL: MAY 10, 2011

TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING

UG-12 PAGE 112



MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: CLB/BR DATE: 11/7/10 DATE OF APPROVAL: MAY 10, 2011

TRENCH WITH CONCRETE PAVEMENT SURFACE TYPE A-1 PIPE BEDDING

UG-13 PAGE 113

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: CLB/BR DATE: 11/7/10 DATE OF APPROVAL: MAY 10, 2011

TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING

UG-14 PAGE 114

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: CLB/BR DATE: 11/7/10 DATE OF APPROVAL: MAY 10, 2011

TRENCH WITH TYPE A-2 PIPE BEDDING

UG-15 PAGE 115

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: CLB/BR DATE: 11/7/10 DATE OF APPROVAL: MAY 10, 2011

TRENCH WITH TYPE A-3 PIPE BEDDING

UG-16 PAGE 116

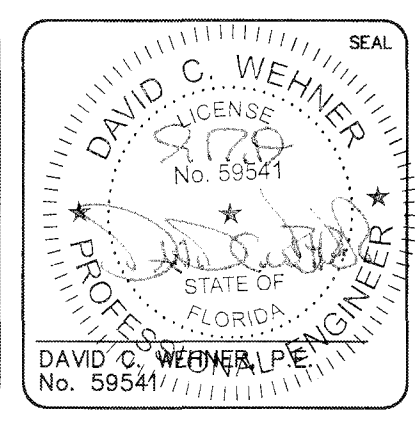
MANATEE COUNTY PUBLIC WORKS DEPARTMENT

REV. BY: CLB/KE DATE: 11/10 DATE OF APPROVAL: MAY 10, 2011

GATE VALVE, BOX, LID AND TAG

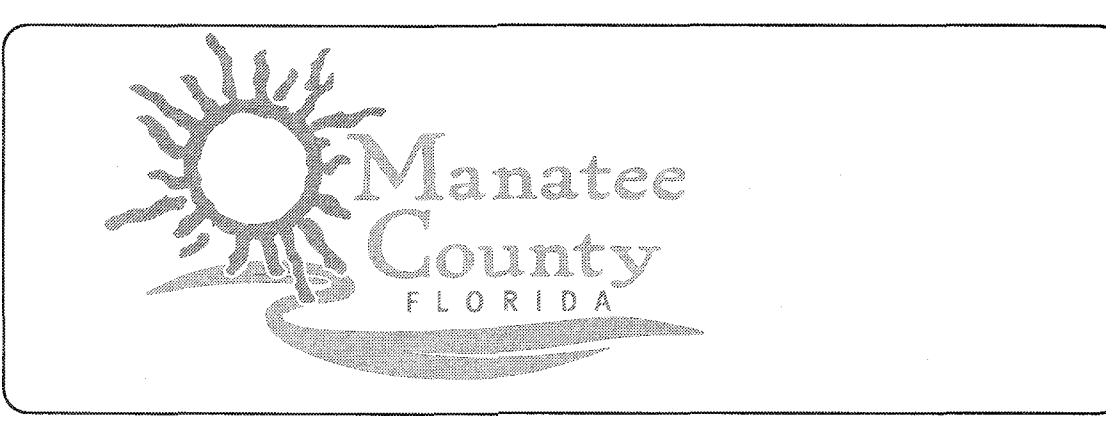
UW-2 PAGE 120

REV. NO.	DESCRIPTIONS	REVISIONS	DATE



MCKIM & CREED

1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWWRF NEW HEADWORKS

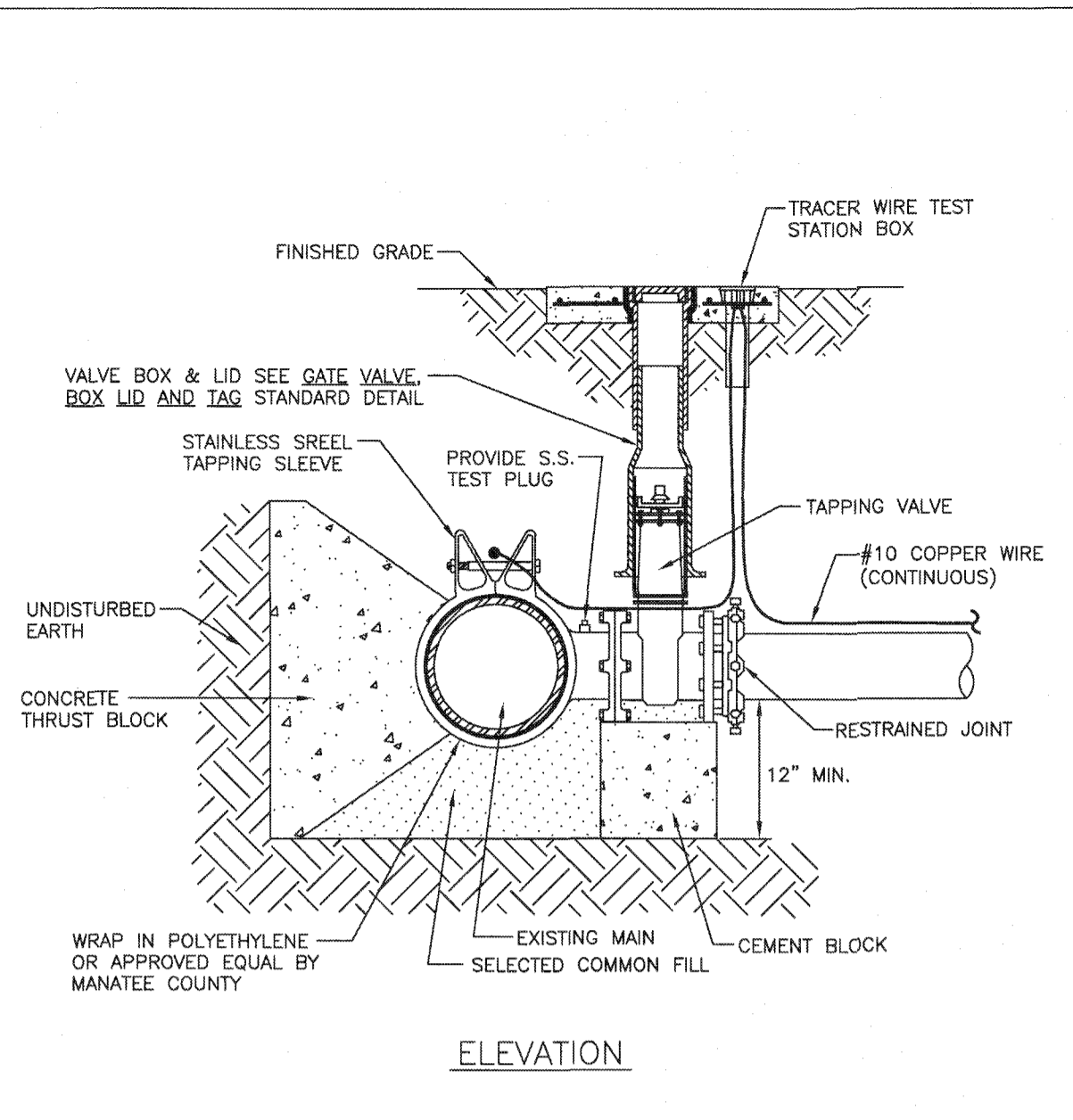
CIVIL DETAILS

DATE: SEPTEMBER, 2019
MCE PROJ. # 1024-0170
DRAWN: CW
DESIGNED: EAS
CHECKED: MAC
PROJ. MGR.: DCW

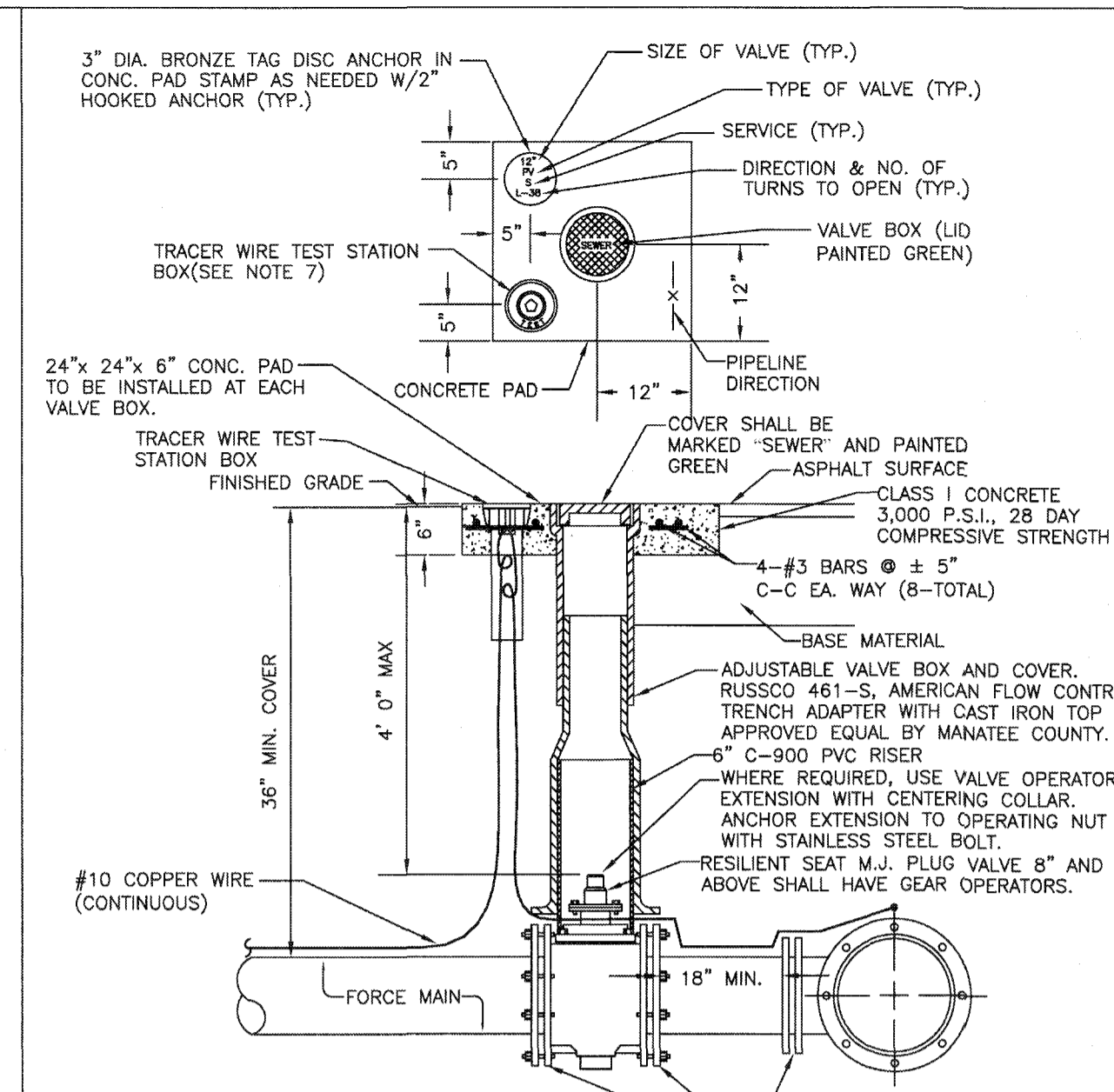
SCALE: HORIZONTAL: AS SHOWN, VERTICAL: NA

DRAWING NUMBER: C-16

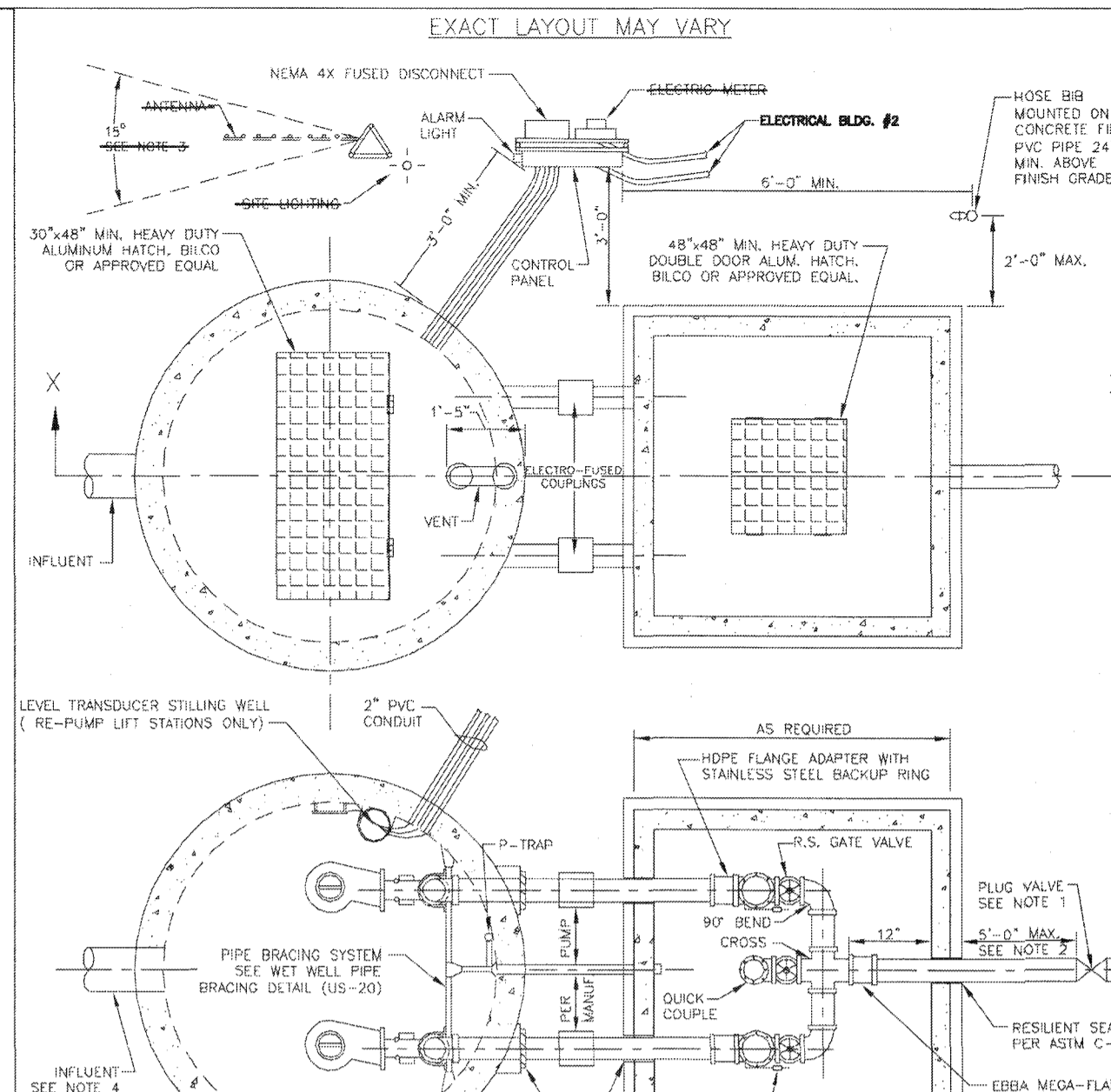
STATUS: ISSUED FOR BID



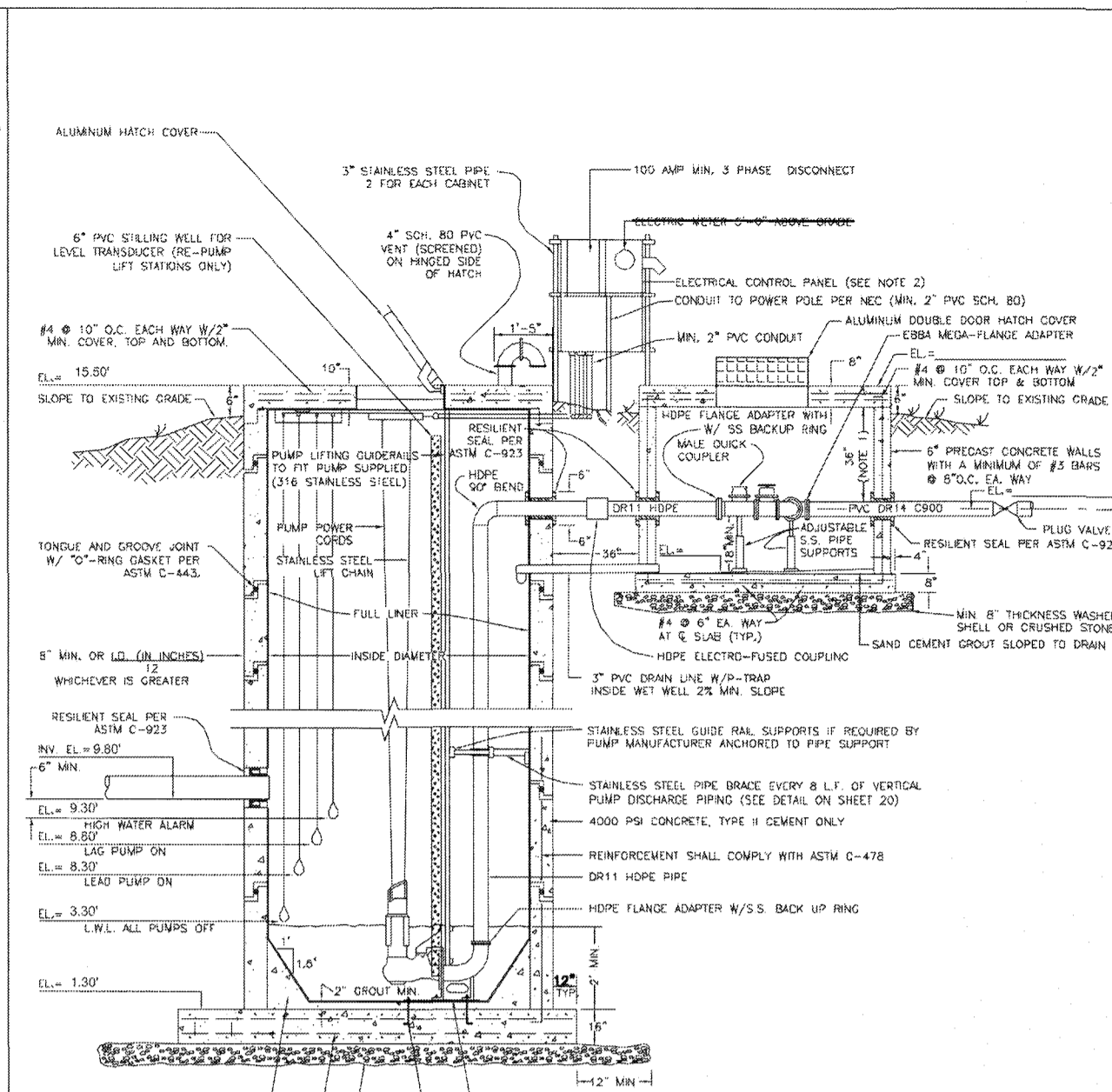
- NOTES:**
- PRIOR TO TAPPING, CONTRACTOR TO DEMONSTRATE 60 MINUTE HYDROSTATIC TEST OF THE TAPPING SLEEVE AND VALVE WITH NO LEAKS AT 180 PSI PRESSURE FOR WATER AND RECLAIMED WATER OR 150 PSI FOR FORCE MAIN.
 - ALL FITTINGS TO BE WRAPPED WITH 20 MIL VISQUEEN AT THRUST BLOCK.
 - ALL TAPS ON CONCRETE WATER MAINS AND LARGER THAN 12" ARE TO BE MADE BY A MANATEE COUNTY APPROVED TAPPING COMPANY. ALL MATERIALS TO BE SUPPLIED BY THE CONTRACTOR.
 - ALL TAPS MUST BE OF A SMALLER SIZE THAN THE MAIN BEING TAPPED & PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP PIPE DIAMETERS (WHICHEVER IS GREATER) FROM A JOINT OR FITTING.
 - CONTRACTOR TO SUPPLY A DRY HOLE FOR TAPPING CREW TO WORK IN AND A BACK-HOE TO LOWER TAPPING MACHINE INTO THE HOLE.
 - WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR "TEES".
 - TRACER WIRE TEST STATION BOX IS REQUIRED AT CONNECTIONS TO EXISTING MAINS.



- NOTES:**
- "SV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A GREEN DISC WITH "SV" AND A 1/8"x1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE DISTANCE (FT) FROM THE DISC TO THE VALVE.
 - ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS ESTABLISHED IN THE FIELD.
 - SEWER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.
 - PRECAST CONCRETE PADS SHALL NOT BE USED.
 - ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
 - PLUG VALVES SHALL NOT BE USED AS A TAPPING VALVE WHERE AN EXISTING FORCE MAIN IS TO BE TAPPED. USE A TAPPING GATE VALVE PER THE TAPPING SLEEVE AND VALVE DETAIL.
 - TEST BOX TO BE BINGHAM & TAYLOR P200NF OR EQUAL FOR NORMAL YARD SERVICE, WHERE VALVE WILL BE IN STREET UNDER VEHICLE TRAFFIC. USE P202RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.



- NOTES:**
- THE INFLUENT GRAVITY SEWER SHALL BE ADJUSTED SO THAT FLOW DROPS BETWEEN THE PUMPS AS SHOWN ABOVE. AS AN OPTION, A DROP PIPE FROM THE GRAVITY SEWER TO THE PUMP BASE ELLS MAY BE INSTALLED AS SHOWN IN STANDARD DETAIL US-20.
 - FOR SECTION X-X SEE WET WELL & VALVE VAULT SECTIONAL VIEW ON DETAIL US-18.
 - CONCRETE SHALL BE TYPE I WITH 4,000 PSI 28-DAY COMPRESSIVE STRENGTH.



- NOTES:**
- FOR PROPER ORIENTATION OF CONTROL PANEL, SEE SHEET US-17.
 - 6" MINIMUM VERTICAL SPACING BETWEEN ALL PUMP AND ALARM CONTROL LEVELS.
 - 4" FILLET ALL AROUND FOR 8-FOOT DIAMETER WET WELL. 12" FILLET FOR 8-FOOT AND LARGER WET WELLS.

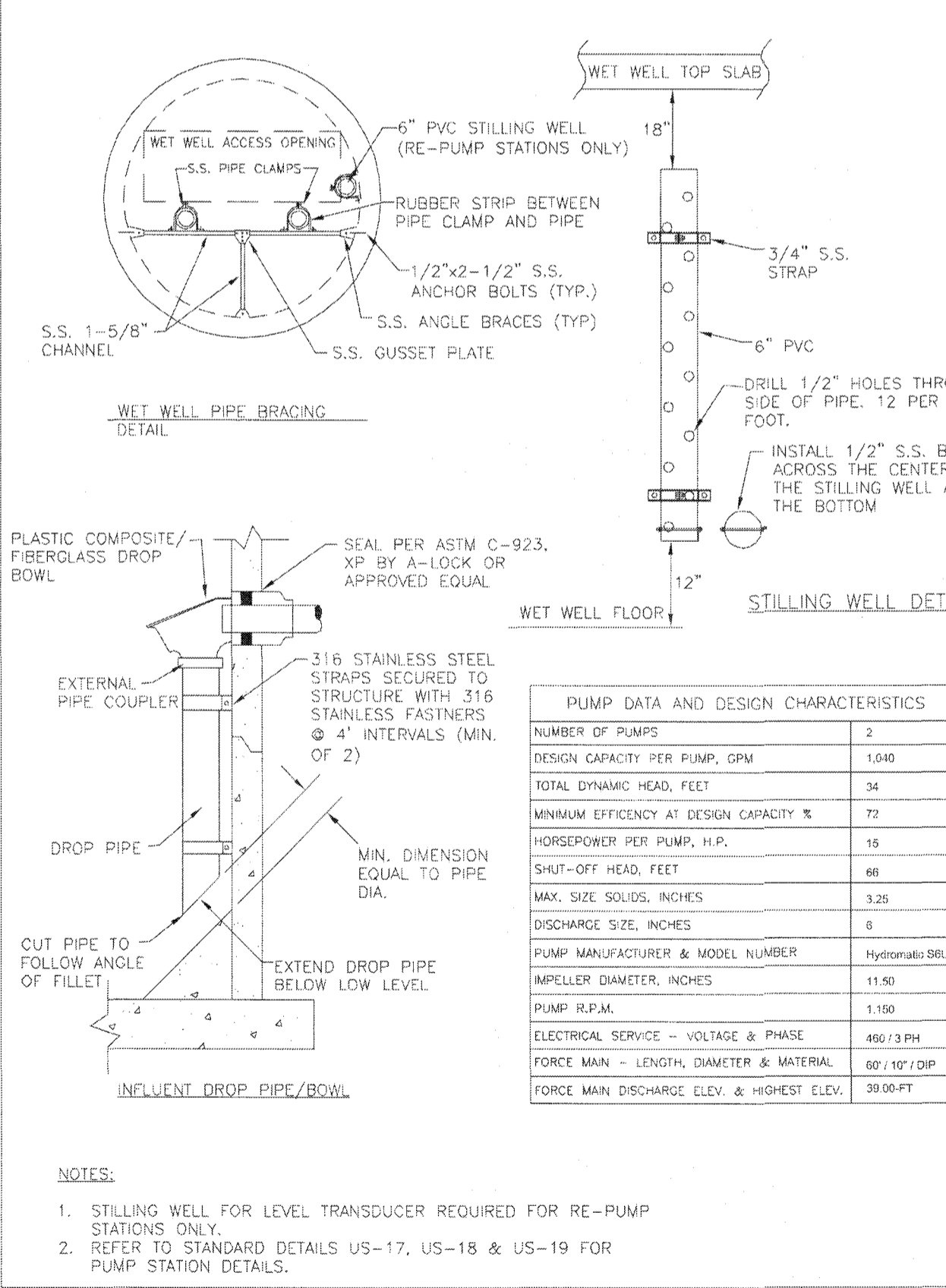
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TAPPING SLEEVE AND VALVE	US-4
REV. BY: DATE	DATE OF APPROVAL		PAGE 122
CLB/XE 11/10	MAY 10, 2011		

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		PLUG VALVE, BOX, COVER AND TAG	US-12
REV. BY: DATE	DATE OF APPROVAL		PAGE 152
CLB/DM 11/10	MAY 10, 2011		

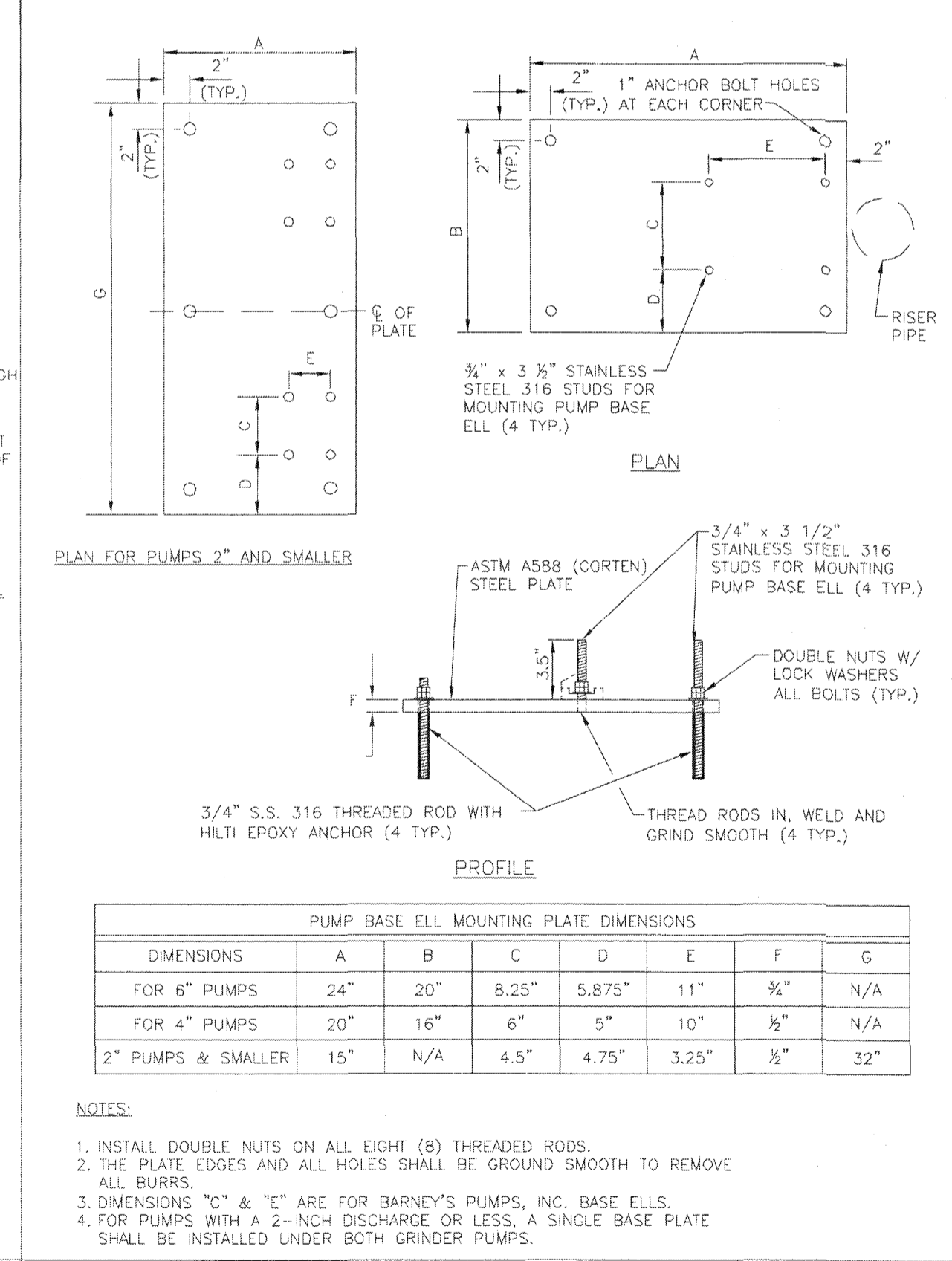
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		SEWAGE PUMP STATION WET WELL & VALVE VAULT PLAN VIEW	US-17
REV. BY: DATE	DATE OF APPROVAL		PAGE 157
CLB/BR 11/10	MAY 10, 2011		

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		SEWAGE PUMP STATION WET WELL & VALVE VAULT SECTIONAL VIEW	US-18
REV. BY: DATE	DATE OF APPROVAL		PAGE 158
CLB/BR 11/10	MAY 10, 2011		

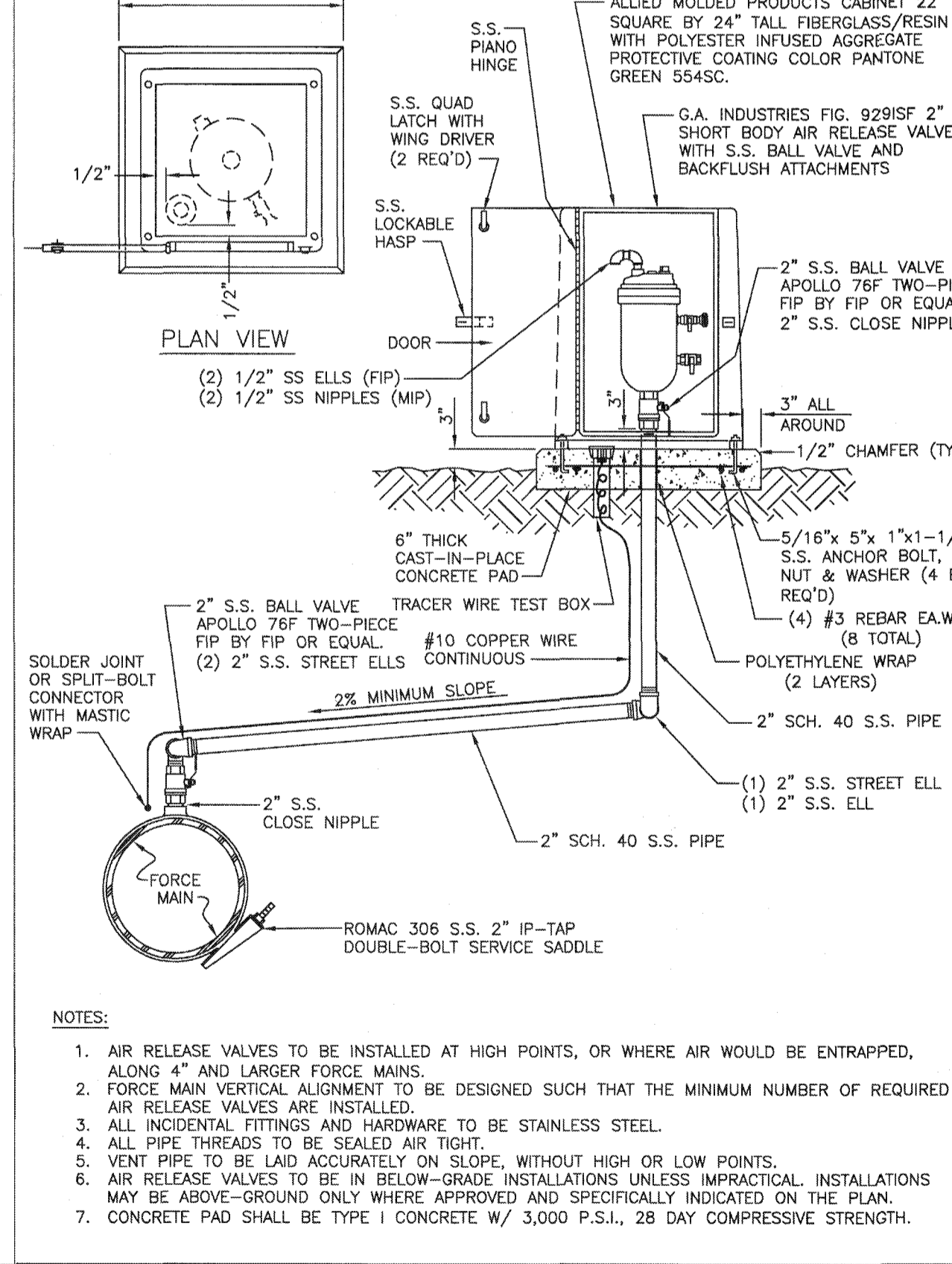
- GENERAL LIFT STATION NOTES:**
- ALL ACCESS COVERS SHALL BE ALUMINUM, WITH STAINLESS STEEL HARDWARE AND RATED FOR 300 P.S.F. LOADING. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL HAVE 2 COATS BITUMASTIC EPOXY, TOTAL 16 MILS DFT. ALL ACCESS COVERS SHALL BE EQUIPPED WITH A LOCKING STAPLE OR BAR FOR USE WITH A PADLOCK. PADLOCKS FOR WETWELL, VALVE VAULT, FENCE GATE AND CONTROL PANELS OF PUBLICLY OWNED & MAINTAINED LIFT STATIONS SHALL BE FURNISHED BY THE MANATEE COUNTY UTILITIES DEPARTMENT.
 - INSTALL WET WELL VENT ON THE HIGHER SIDE OF THE WET WELL MATCH COVER.
 - GROUND SHALL BE SLOPED AWAY FROM SLAB TO NATURAL GROUND ELEVATION IN ALL DIRECTIONS. SITE SHALL INCLUDE A WEED BARRIER FABRIC THAT IS COVERED WITH SHREDDED WOOD TYPE MULCH UNDER THE SHRUBS AND UP TO OUTSIDE OF THE FENCE. WEED BARRIER FABRIC THAT IS COVERED WITH SHREDDED WOOD-TYPE MULCH SHALL BE LOCATED UNDER THE TREES FOR A MINIMUM DISTANCE OF 3 FEET FROM THE TREE. SODDING OR SHREDDED WOOD-TYPE MULCH SHALL BE INSTALLED ON THE REMAINDER OF THE SITE TO THE EDGE OF THE EASEMENT.
 - INSTALL IRON OR CAST IRON VALVES SHALL HAVE A FACTORY APPLIED FUSION BONDED EPOXY OR EPOXY EXTERIOR AND INTERIOR COATING PER AWWA C550. IRON FITTINGS WILL HAVE PROTECTO 401 OR EQUAL COATING INSIDE AND OUTSIDE.
 - ALL FORCE MAIN PIPING AND FITTINGS WITHIN THE WETWELL AND THE VALVE VAULT, FROM THE PUMP BASE ELL TO THE CHECK VALVE, SHALL BE DR11 HOPE. ALL CONNECTIONS TO IRON BODIED FLANGE FITTINGS IN THE WETWELL (PUMP BASE ELLS) AND TO THE VALVE VAULT CHECK VALVES SHALL BE MADE USING HOPE FLANGE ADAPTERS WITH 316 STAINLESS STEEL BACKUP RINGS. ALL HOPE CONNECTIONS SHALL BE THERMAL FUSED OR ELECTRO-FUSED. ALL PIPING DOWNSTREAM OF THE CROSS IN THE VALVE VAULT TO THE PLUG VALVE SHALL BE PVC DR 14 C-900.
 - ALL PIPING SHALL BE COLOR CODED IN ACCORDANCE WITH THESE STANDARDS. GREEN-RAW SEWAGE; PANTONE 522C PURPLE-RECLAIMED BLUE-POTABLE WATER.
 - ANCHORS & LIFTING DEVICES SHALL NOT PENETRATE THE WALLS OF THE WET WELL.
 - ALL INTERIOR SURFACES OF WET WELLS SHALL BE LINED. SEE STANDARD PRE-CAST SANITARY SEWER MANHOLE FOR TURBULENT FLOW DETAIL.
 - ALL METAL APPURTENANCES INCLUDING BOLTS, NUTS AND WASHERS INSIDE THE WET WELL AND VALVE VAULT SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED (TYPE 316). ALL STAINLESS STEEL BOLTS SHALL BE TREATED WITH NEVER-SEIZE PRIOR TO ASSEMBLY.
 - VERTICAL HOPE PUMP DISCHARGE PIPE IN THE WET WELL SHALL BE BRACED EVERY EIGHT (8) LINEAR FEET TO PREVENT EXCESSIVE BOWING. THE PIPE SHALL BE CLAMPED TO A SINGLE LENGTH OF 1-5/8" STAINLESS STEEL CHANNEL INSTALLED HORIZONTALLY AND ANCHORED TO THE WET WELL WALL AT EACH END WITH A CENTER BRACE OF 1-5/8" CHANNEL ATTACHED TO THE BACK OF THE WET WELL. THE PIPE CLAMPS SHALL BE A MINIMUM OF 1-1/2" WIDE, 1/2 GA. STAINLESS STEEL. WET WELLS LARGER THAN 8 FEET OR PIPING LARGER THAN 6 INCHES SHALL HAVE BRACING CONSTRUCTED FROM 1/2 INCH X 4 INCH STAINLESS STEEL ANGLE.
 - VALVE & METER VAULTS SHALL BE PRECAST TYPE II REINFORCED CONCRETE.
 - CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT FLOTATION DURING CONSTRUCTION. ENGINEER SHALL SUBMIT FLOTATION CALCULATIONS ALONG WITH HYDRAULIC CALCULATIONS TO MOPAD CONSTRUCTION SERVICES AT CONSTRUCTION PLAN REVIEW SUBMITTAL.
 - TOP OF WETWELLS' AND VALVE VAULTS' TOP SLABS SHALL BE AT THE SAME ELEVATION.
 - FOR 5/8" WATER METER, PROVIDE POTABLE WATER SERVICE CONNECTION WITH 3/4" BRASS LOCKSHIELD AND LOOSE KEY HOSE BIB. PROVIDE WATTS 909 BACKFLOW PREVENTER (OR APPROVED EQUAL). ALL WATER SERVICE PIPING FROM WATER METER TO BE TYPE "K" COPPER OR BRASS, 3/4" MIN. DIAMETER FOR 5/8" METER AND 2" MIN. DIAMETER PIPING FOR 2" METER.
 - LANDSCAPING SHALL BE IRRIGATED WITH NON-POTABLE WATER. A RAIN SENSOR SHALL BE FURNISHED AND INSTALLED.
 - HOSE BIB TO BE A MAXIMUM OF 2 FEET FROM THE VALVE VAULT, A MINIMUM OF 6 FEET FROM THE ELECTRICAL CONTROL PANEL, 24" ABOVE THE SURROUNDING FINISH GRADE, AND ANCHORED TO A 4" PVC CONCRETE FILLED PIPE.
 - WETWELL METER ASSEMBLY TO BE INSTALLED BY CONTRACTOR AS PART OF WATER SERVICE CONNECTION WITH FEES PAID BY THE DEVELOPER.
 - BASE AND FIRST WALL SECTION SHALL BE MONOLITHIC.
 - EVERY EIGHT FEET SHALL BE MADE BY THE CONTRACTOR TO CONSTRUCT TIGHTWRIGHT STRUCTURES WITH NO VISIBLE LEAKS. COMPLETED STRUCTURES THAT ARE NOT WATER TIGHT AND/OR DO NOT MEET THE REQUIREMENTS OF ASTM C-443 WILL BE REJECTED.
 - FLEXIBLE GASKET CONNECTORS SHALL MEET THE REQUIREMENTS OF ASTM C-923 LATEST REVISION AND ARE REQUIRED IN ALL MANHOLES.
 - ALL GATE VALVES SHALL BE RESILIENT SEAT IN ACCORDANCE WITH THESE STANDARDS.
 - ELECTRICAL SERVICE SHALL BE 3 PHASE MINIMUM UNLESS THE ELECTRICAL UTILITIES PROVIDE CORRESPONDING SERVICE.
 - ELECTRICAL CONDUIT SHALL BE RUN BY THE SHORTEST ROUTE POSSIBLE FROM THE ELECTRICAL SOURCE TO THE CONTROL PANEL AND FROM THE CONTROL PANEL TO THE LIFT STATION WET WELL. NO ELECTRICAL SHALL BE INSTALLED BETWEEN THE WET WELL AND VALVE VAULT STRUCTURES.
 - VALVE & METER VAULT SHALL HAVE A MINIMUM CLEARANCE OF 12" FROM FLANGES TO THE VALVE VAULT WALL, 18" FROM FLANGES TO THE VALVE VAULT FLOOR AND 12" FROM THE CROSS TO THE VALVE VAULT WALL AT THE FORCE MAIN EXIT POINT.
 - A FLOW METER BACKUP POWER GENERATOR, FUEL STORAGE TANK, TRANSDUCER AND FORCE MAIN PRESSURE TRANSDUCER SHALL BE REQUIRED FOR ALL LIFT STATIONS THAT REQUIRE SERVICE FROM OTHER LIFT STATIONS.
 - THE CONTROL PANEL, HOSE BIB, BACKFLOW PREVENTER AND METER SHALL NOT BE LOCATED BETWEEN THE WETWELL, VALVE VAULT AND THE DRIVEWAY. THE GENERATOR SHALL NOT BE LOCATED WITHIN 25 FEET OF THE EDGE OF THE LIFT STATION EASEMENT AT 3'-0" FROM CURB.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		PUMP STATION, DROP, PIPE BRACING, & STILLING WELL DETAILS	US-20
REV. BY: DATE	DATE OF APPROVAL		PAGE 160
CLB/DM 11/10	MAY 10, 2011		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		PUMP BASE ELL MOUNTING PLATE	US-21
REV. BY: DATE	DATE OF APPROVAL		PAGE 161
CLB/DM 11/10	MAY 10, 2011		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		ABOVE-GROUND AIR RELEASE VALVE ASSY. FOR FORCE MAINS	US-25
REV. BY: DATE	DATE OF APPROVAL		PAGE 165
CLB/BR 11/10	MAY 10, 2011		

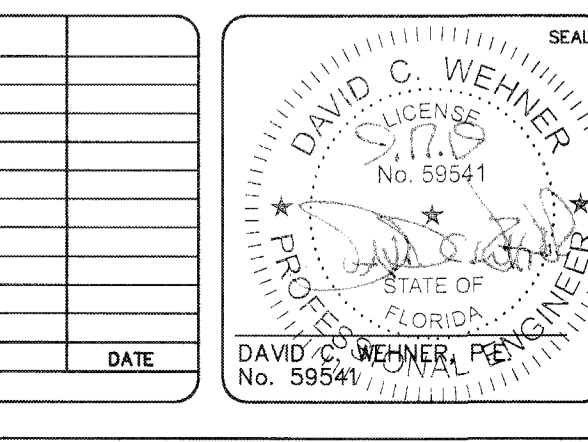
REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DR-18 PVC PIPE

MAIN PIPE SIZE	HORIZ. BENDS			TEES			REDUCERS			PLUGS & VALVES		
	90°	45°	22.5°	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	
24	90	38	18	X24	X24	X24	X18	X18	X18	X12	158	
20	78	32	16	X20	X16	X16	X16	X12	X12	X10	149	
16	66	27	13	X16	X12	X12	X12	X10	X10	X8	111	
12	52	22	10	X12	X10	X10	X10	X8	X8	X6	86	
10	44	18	9	X10	X8	X8	X8	X6	X6	X4	81	
8	37	15	7	X8	X6	X6	X6	X4	X4	X3	60	
6	29	12	6	X6	X4	X4	X4	X3	X3	X2	43	
4	21	8	4	X4	X3	X3	X3	X2	X2	X1	45	

NOTES:

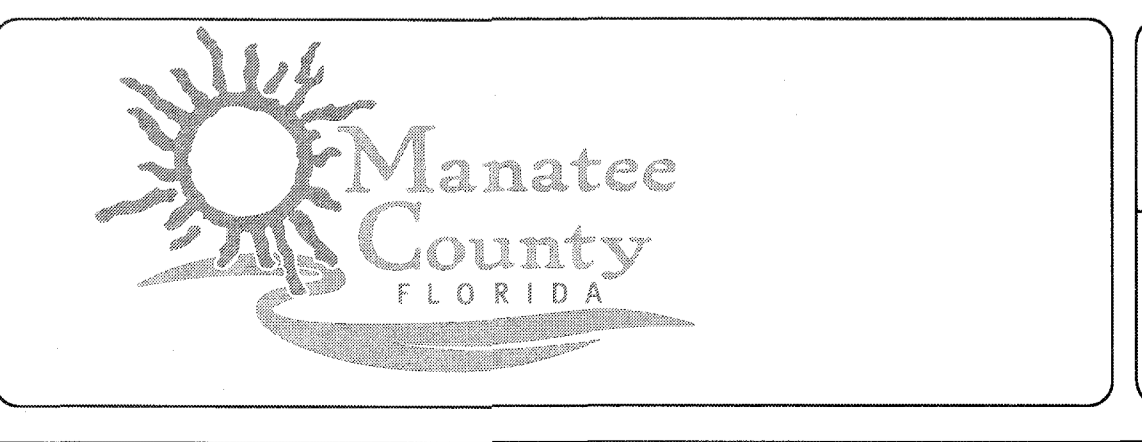
- RESTRAIN 11.25" BENDS 50% OF LENGTH FOR 22.5" BENDS.
- ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTIONS OF THE PIPE.
- ALL ISOLATIONVALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
- PIPE SIZES ARE GIVEN IN INCHES.
- RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
- LENGTHS SHOWN ARE FOR A TEST PRESURE OF 180 PSI.
- THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURIED CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
- RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED

1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWWRP NEW HEADWORKS

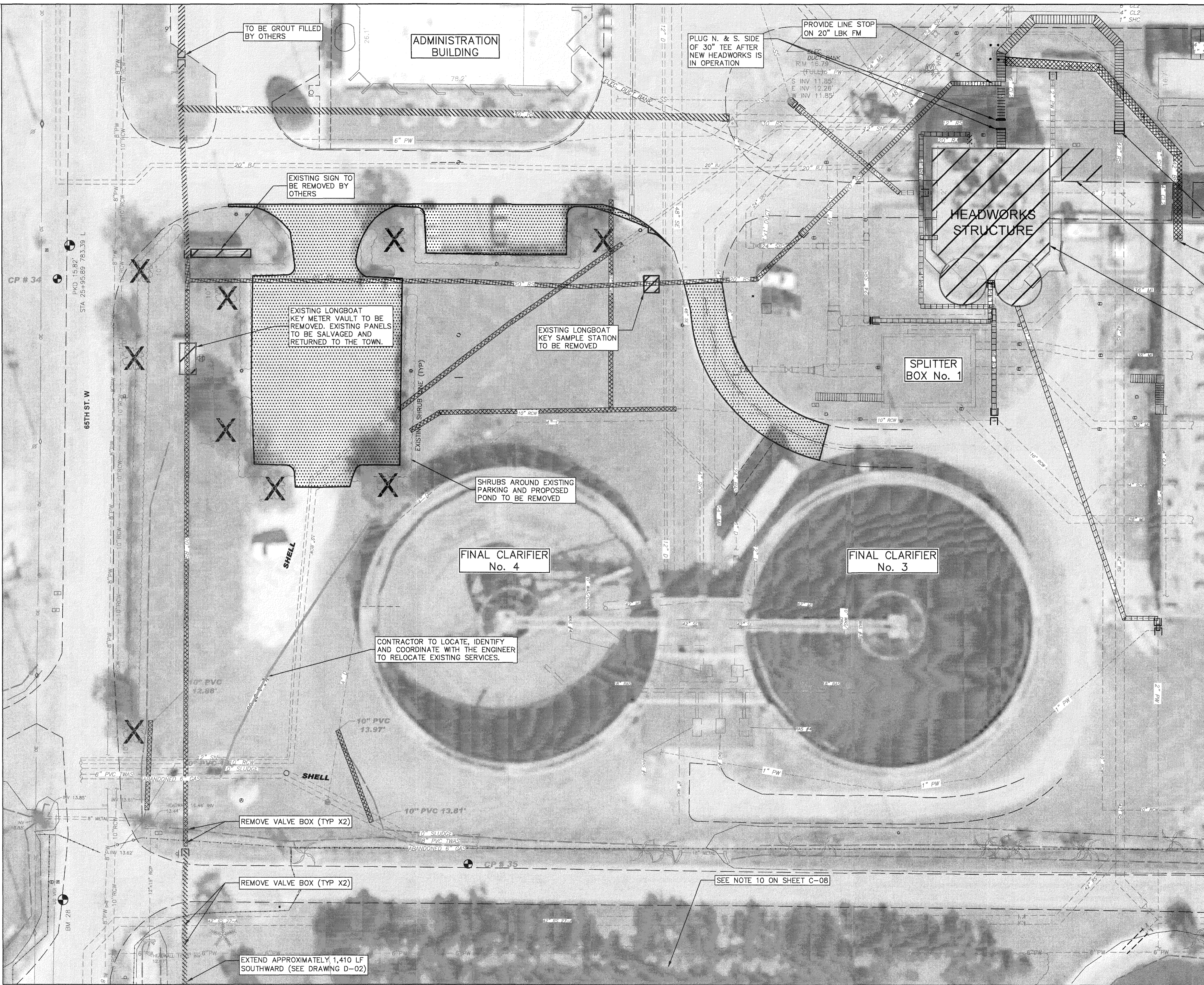
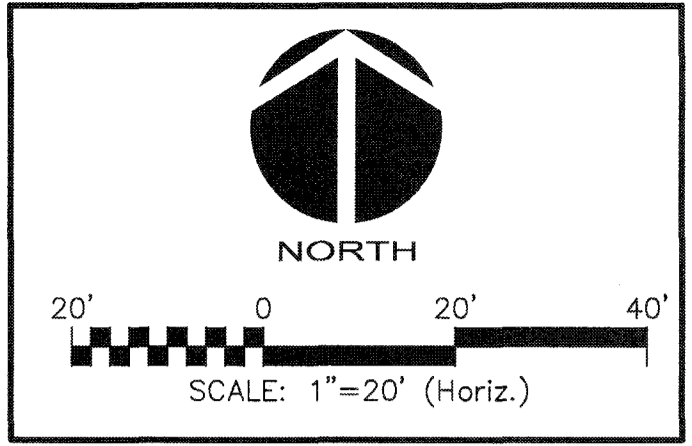
CIVIL DETAILS

DATE: SEPTEMBER, 2019
MCE PROJ. # 1024-0170
DRAWN: CW
DESIGNED: EAS
CHECKED: MAC
PROJ. MGR. DCW

SCALE: HORIZONTAL: AS SHOWN
VERTICAL: NA

DRAWING NUMBER: C-17

STATUS: ISSUED FOR BID



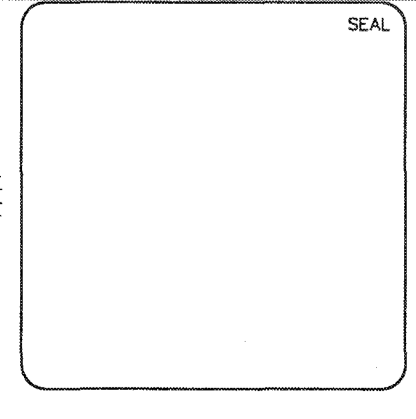
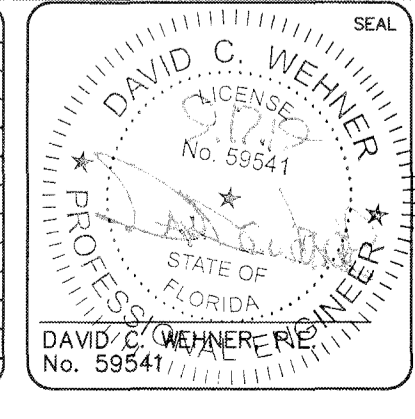
- FILL VOID BETWEEN CAP AND PLUG WITH 3,000 PSI CONCRETE
- SEE CCC REHAB AND RECHARGE WELL PS PROJECT
- ODOR CONTROL EQUIPMENT TO BE REMOVED BY OTHERS. CONTRACTOR TO REMOVE ALL REMAINING COMPONENTS.
- EXISTING HEADWORKS STRUCTURE TO BE REMOVED

LEGEND

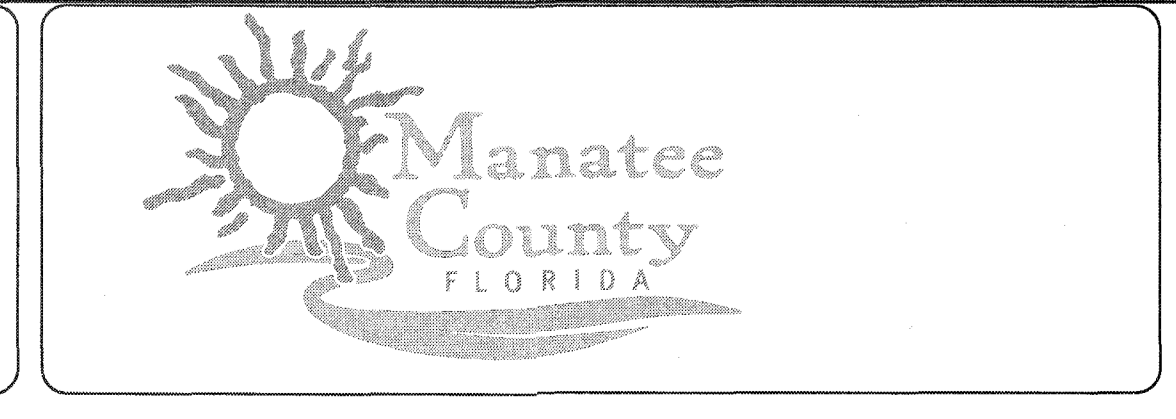
- PLUG
- CAP
- ASPHALT REMOVAL
- TO BE RELOCATED
- STRUCTURE TO BE REMOVED
- ABANDON IN PLACE AND GROUT FILL
- REMOVE PIPE
- ABANDON IN PLACE AND GROUT FILL ONCE NEW HEADWORKS HAS BEEN COMPLETED AND ACCEPTED BY THE COUNTY
- TREE TO BE REMOVED

- NOTES:**
1. CONTRACTOR SHALL CUT AND CAP PIPE AS NECESSARY TO COMPLETE GROUT FILL OPERATIONS.
 2. CONTRACTOR TO COORDINATE EXTENT OF REMOVAL/ABANDONMENT W/ PROPOSED YARD PIPING PLAN.
 3. SEE SHEET C-01 FOR SUBSURFACE UTILITY ENGINEERING LOCATES.
 4. EXISTING CONCRETE CAR BUMPERS TO BE SALVAGED, PROTECTED AND REINSTALLED (TYP 22).

REVNO.	DESCRIPTIONS	DATE



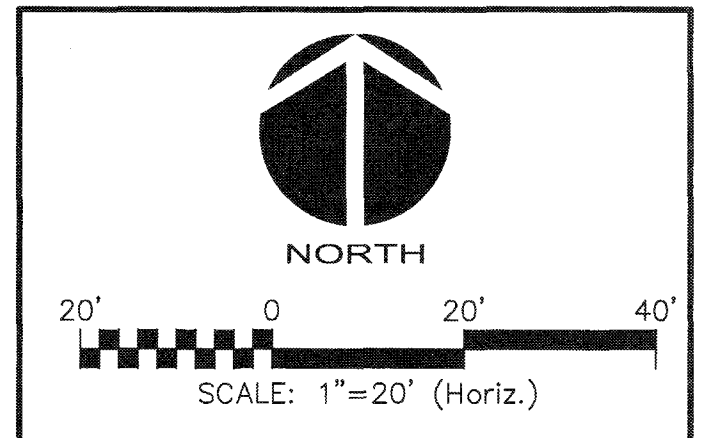
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS

DEMOLITION SITE AND YARD PIPING PLAN

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: 1" = 20'	D-01
DRAWN: CON	VERTICAL: NA	
DESIGNED: EAS	PROJECT MGR.: DCW	
CHECKED: MAC		
STATUS: ISSUED FOR BID		



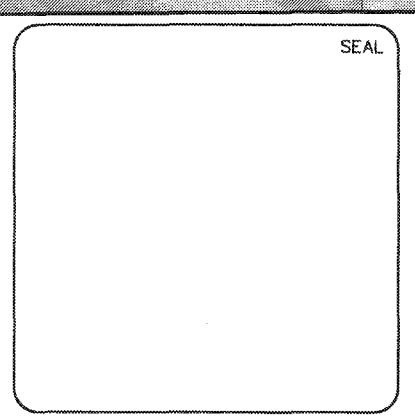
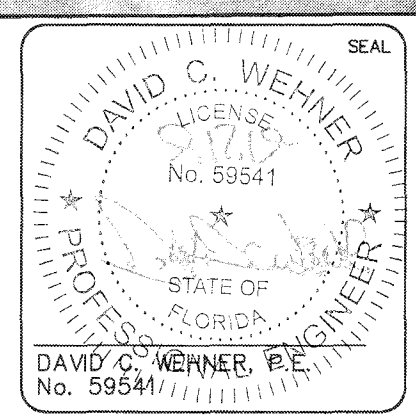
LEGEND

- PLUG
- CAP
- TO BE RELOCATED
- BUILDING TO BE REMOVED
- ABANDON IN PLACE AND GROUT FILL
- REMOVE PIPE
- ABANDON IN PLACE AND GROUT FILL ONCE NEW HEADWORKS HAS BEEN COMPLETED AND ACCEPTED BY THE COUNTY

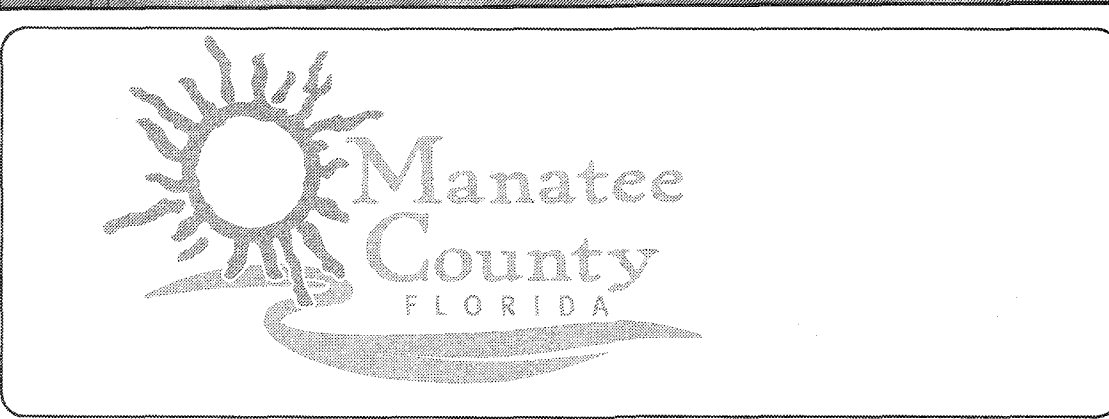
NOTES:

1. CONTRACTOR SHALL CUT AND CAP PIPE AS NECESSARY TO COMPLETE GROUT FILL OPERATIONS.
2. CONTRACTOR TO COORDINATE EXTENT OF REMOVAL/ABANDONMENT W/ PROPOSED YARD PIPING PLAN.
3. SEE SHEET C-01 FOR SUBSURFACE UTILITY ENGINEERING LOCATES.

REV. NO.	DESCRIPTIONS	DATE

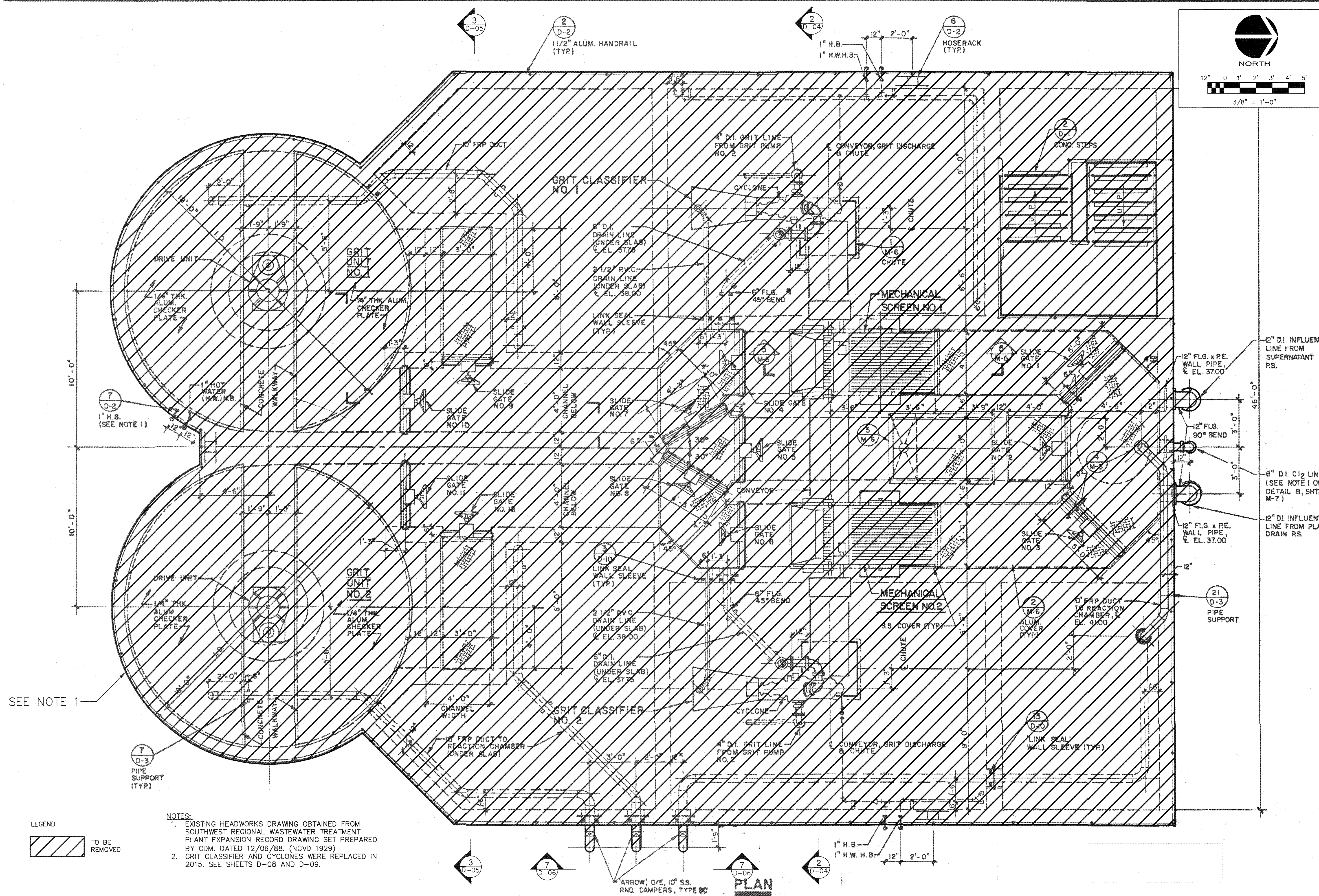
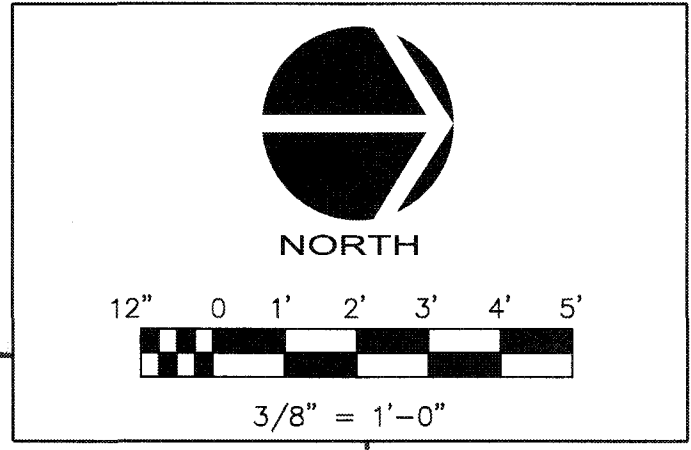


MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

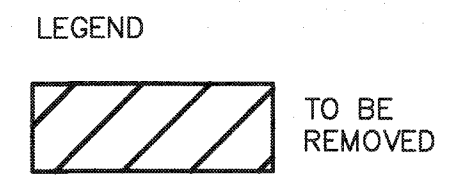


SWWRF NEW HEADWORKS
DEMOLITION SITE AND YARD PIPING PLAN

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL:	D-02
DRAWN: CON	1" = 20'	
DESIGNED: EAS	VERTICAL:	
CHECKED: MAC	NA	
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID	REVISION:	



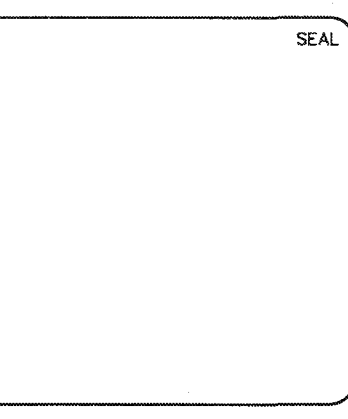
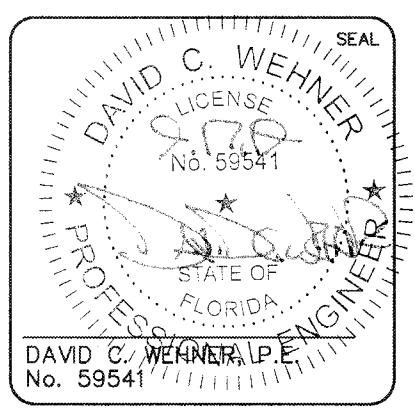
SEE NOTE 1



- NOTES:
1. EXISTING HEADWORKS DRAWING OBTAINED FROM SOUTHWEST REGIONAL WASTEWATER TREATMENT PLANT EXPANSION RECORD DRAWING SET PREPARED BY CDM, DATED 12/06/88. (NGVD 1929)
 2. GRIT CLASSIFIER AND CYCLONES WERE REPLACED IN 2015. SEE SHEETS D-08 AND D-09.

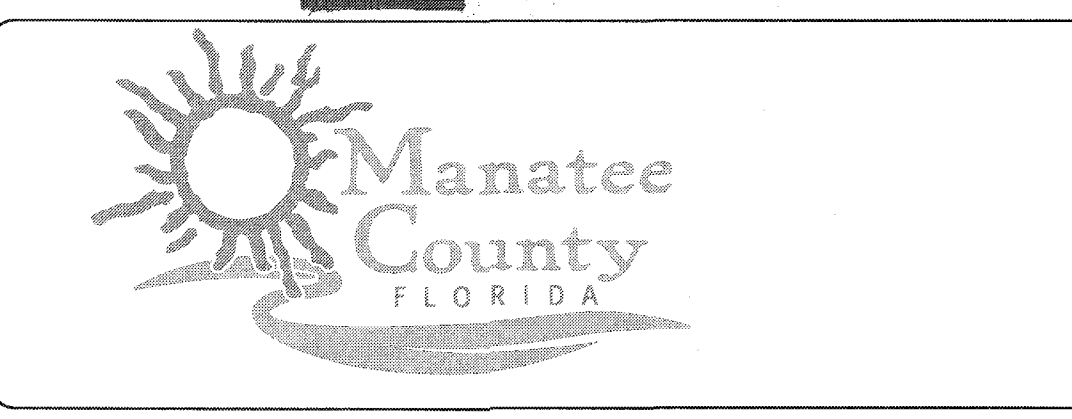
S:\V08A\07101\08-Demolition\03-10240170.dwg, 9/18/2019, 5:46:56 PM, Catty Walker

REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED

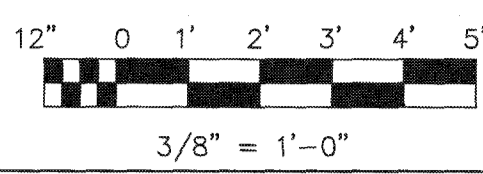
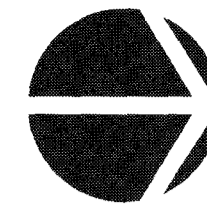
1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



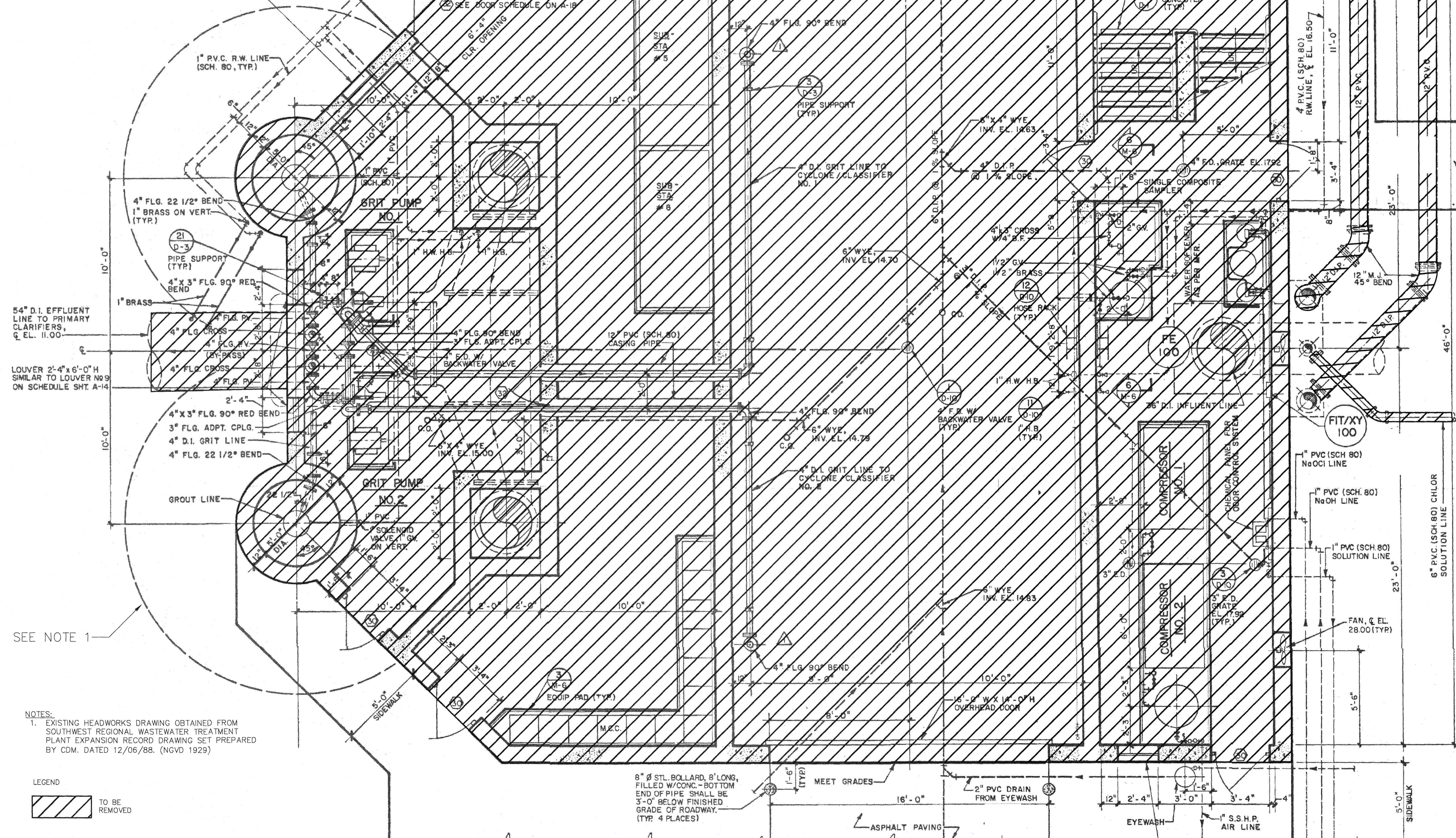
SWRF NEW HEADWORKS

DEMOLITION - TOP FLOOR PLAN

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 3/8"=1'-0"	DRAWING NUMBER: D-03
MCE PROJ. # 1024-0120	DESIGNED: EAS	VERTICAL: NA
DRAWN: CON	CHECKED: MAC	
	PROJ. MGR: DCW	
STATUS: ISSUED FOR BID		



WINDOW - 2'-4" x 6'-0" H FIXED GLASS IN ALUM. SASH - SEE SPECS. AND DETAIL 4 ON SHEET A-9

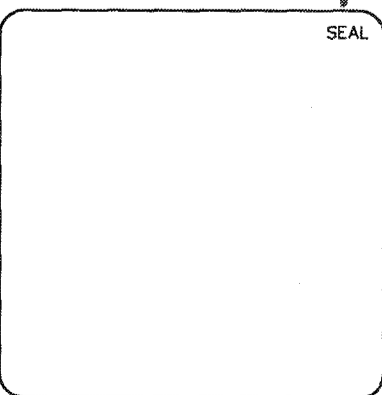
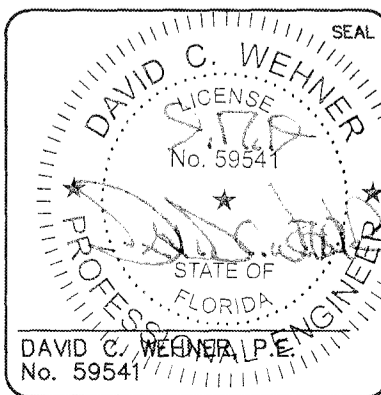


SEE NOTE 1

NOTES:
1. EXISTING HEADWORKS DRAWING OBTAINED FROM SOUTHWEST REGIONAL WASTEWATER TREATMENT PLANT EXPANSION RECORD DRAWING SET PREPARED BY CDM. DATED 12/06/88. (NGVD 1929)

LEGEND
 TO BE REMOVED

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

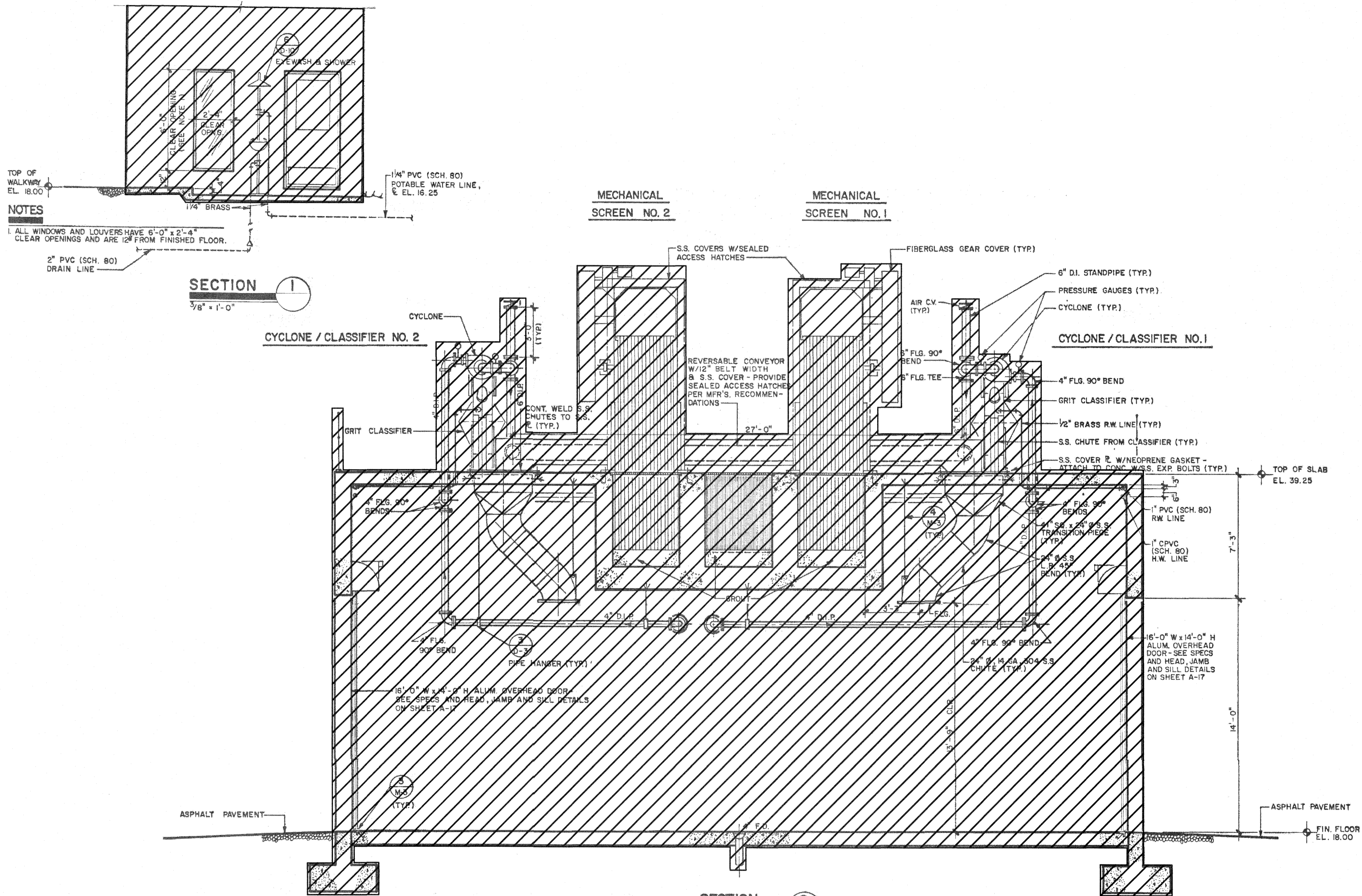


SWRF NEW HEADWORKS
DEMOLITION - BOTTOM FLOOR PLAN

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 3/8"=1'-0"	DRAWING NUMBER: D-04
MCE PROJ. # 1024-0170	VERTICAL: NA	REVISION:
DRAWN: CON		
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR.: DCW		

STATUS: ISSUED FOR BID

S:\1004\1070\1070-Drawings\Drawings\1024-0170.dwg, 9/16/2019, 5:47:34 PM, Cathy Walker



NOTES

1. ALL WINDOWS AND LOUVERS HAVE 6'-0" x 2'-4" CLEAR OPENINGS AND ARE 12" FROM FINISHED FLOOR.

SECTION 1
3/8" = 1'-0"

SECTION 2
SCALE: 3/8" = 1'-0"

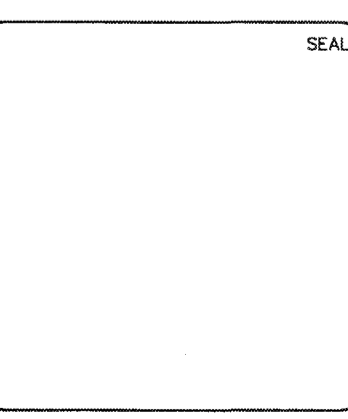
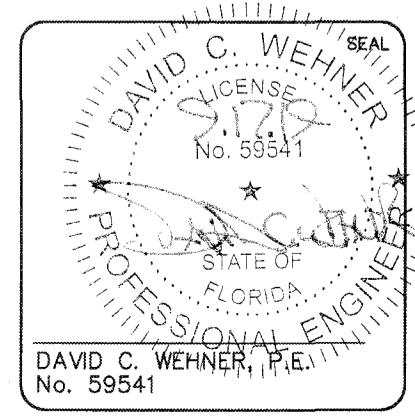
LEGEND

TO BE REMOVED

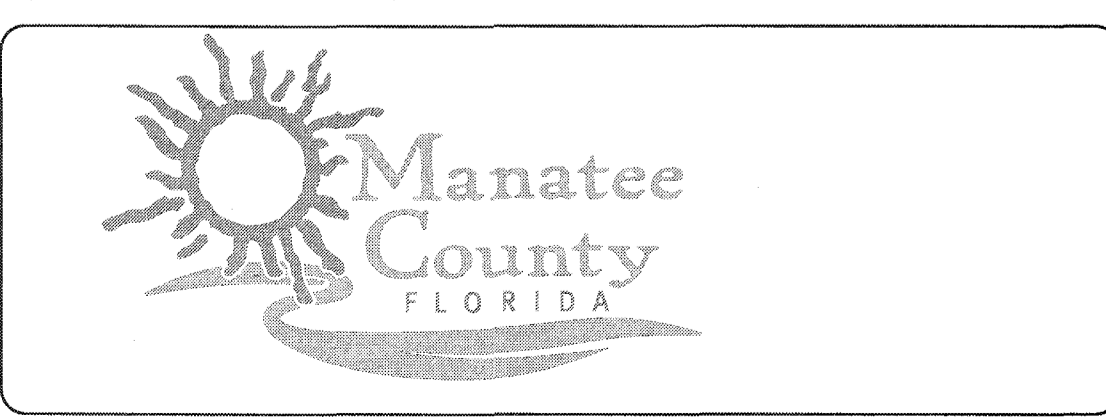
- NOTES:**
- EXISTING HEADWORKS DRAWING OBTAINED FROM SOUTHWEST REGIONAL WASTEWATER TREATMENT PLANT EXPANSION RECORD DRAWING SET PREPARED BY CDM. DATED 12/06/88. (NGVD 1929)
 - GRIT CLASSIFIER AND CYCLONES WERE REPLACED IN 2015. SEE SHEETS D-08 AND D-09.

S:\024\0707\0707-Drawings\05-1024070.dwg, 9/16/2019 5:47:13 PM, Cathy Walker

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS

DEMOLITION - SECTIONS

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	D-05
DRAWN: CON	VERTICAL: NA	
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID	REVISION:	

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT DAMAGED BY CONTRACTOR SHALL BE EXPEDITIOUSLY REPAIRED OR REPLACED AT EXPENSE OF CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.
3. LOCATION AND POSITION OF CLASSIFIER, AND CONVEYOR DEPENDS UPON EQUIPMENT FURNISHED TO MAINTAIN MINIMUM SPACING REQUIREMENTS.

KEY NOTES:

1. PROVIDE ADDITIONAL FITTINGS AND PIPING REQUIRED TO ALIGN NEW 4" GRIT SLURRY LINE TO CYCLONE.
2. PROVIDE ADDITIONAL FITTINGS AND PIPING REQUIRED TO ALIGN NEW 6" CYCLONE OVERFLOW WITH EXISTING 6" LINE TO INFLUENT CHANNEL.
3. PROVIDE ADDITIONAL FITTINGS AND PIPING REQUIRED TO ALIGN NEW 2.5" CLASSIFIER OVERFLOW WITH EXISTING 2.5" LINE TO INFLUENT CHANNEL.
4. FROM GRIT PUMP NO.1
5. CYCLONE VENT.
6. INSTALL CONCRETE PAD FOR CLASSIFIER. S304 TYP
7. CONTRACTOR SHALL COORDINATE AND VERIFY THE ACTUAL DIMENSIONS REQUIRED TO CONSTRUCT THE CONVEYOR ASSEMBLY WITH THE EXISTING MECHANICAL SCREEN AND NEW CLASSIFIER DIMENSIONS & ELEVATIONS WITH MANUFACTURER. MANUFACTURER SHOULD PROVIDE OPENINGS AND REQUIRED CONNECTIONS FOR THE CHUTE, GRIT CLASSIFIER, AND MECHANICAL SCREEN DISCHARGE.
8. INSTALL WASH WATER LINE THROUGH EXISTING FLOOR PENETRATION. LOCATION OF NEW LINE DEPENDS ON EQUIPMENT FURNISHED
9. CONNECT CONVEYOR DROP CHUTE TO EXISTING DROP CHUTE OPENING TO MATCH EXISTING.
10. ECCENTRIC PLUG VALVE
11. CONNECT MECHANICAL SCREEN FLANGED DROP CHUTE TO CONVEYOR PORT TO MATCH EXISTING.
12. DIMENSION TO BE BASED ON SELECTED MANUFACTURER.
13. EXISTING COMPOSITE REFRIGERATED SAMPLER. NO RECORD DRAWING AVAILABLE. LOCATION SHOWN FOR INFORMATION ONLY.
14. ROUTE SAMPLER TUBING THROUGH 2" SCHEDULE 80 PVC

KEY TAGS:

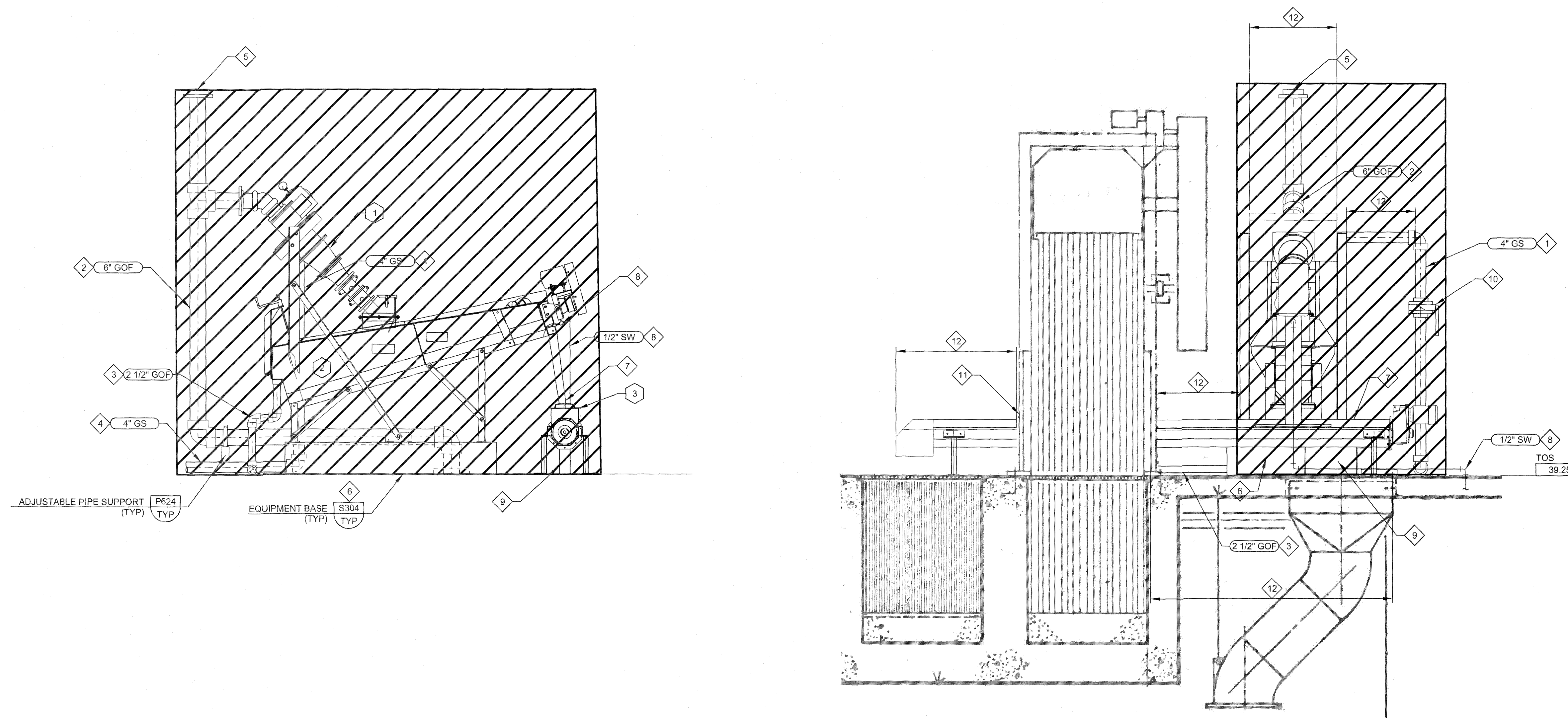
1	CYCLONE NO.1	GC-1011
2	GRIT CLASSIFIER NO.1	GC-1012
3	CONVEYOR NO. 1	SC-1013

LEGEND

TO BE REMOVED

NOTES:

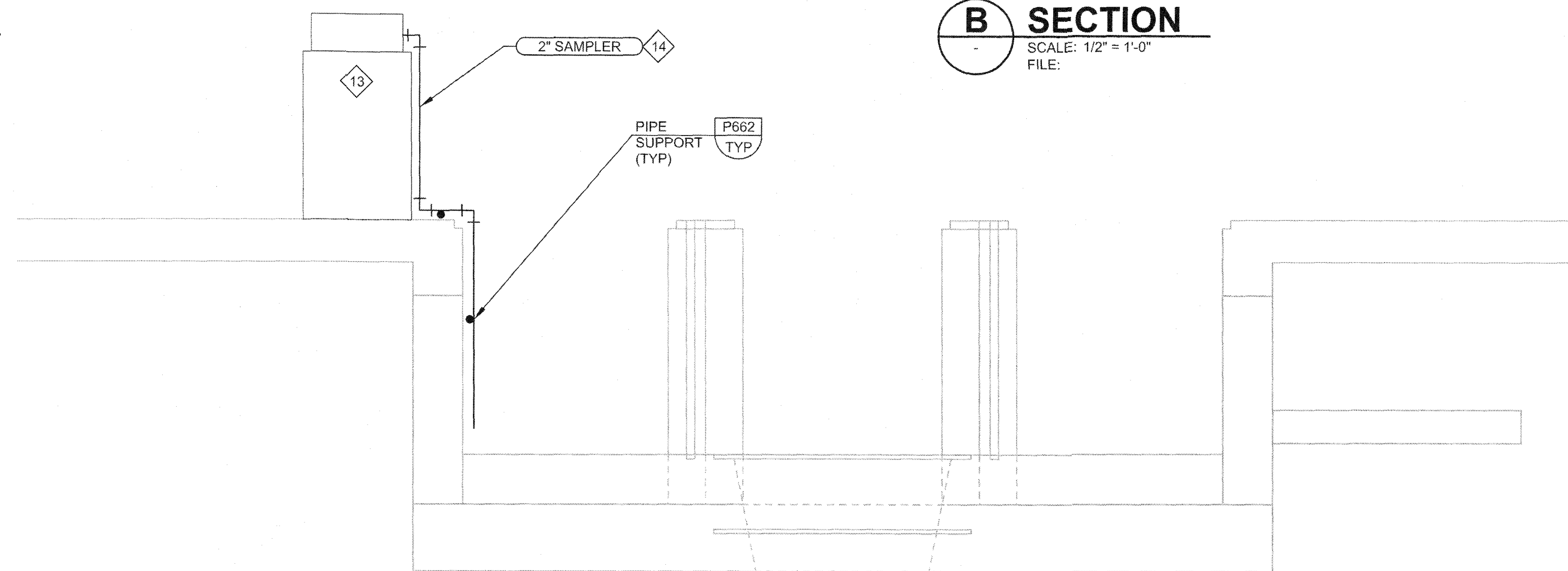
1. DRAWING OBTAINED FROM SWRF HEADWORKS REHABILITATION RECORD DRAWING SET PREPARED BY CAROLLO 6/15.



A SECTION
SCALE: 1/2" = 1'-0"
FILE:

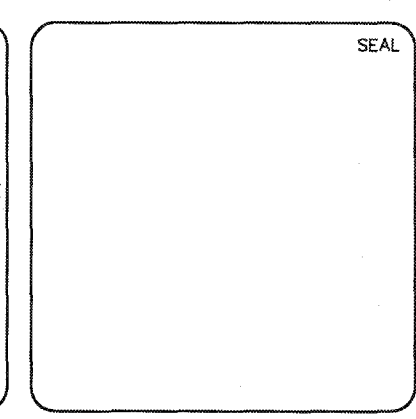
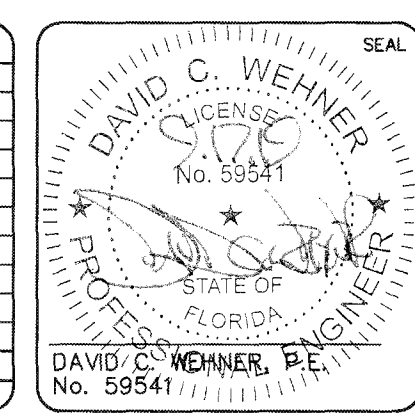
B SECTION
SCALE: 1/2" = 1'-0"
FILE:

C SECTION
M-01
SCALE: 1/2" = 1'-0"
FILE:

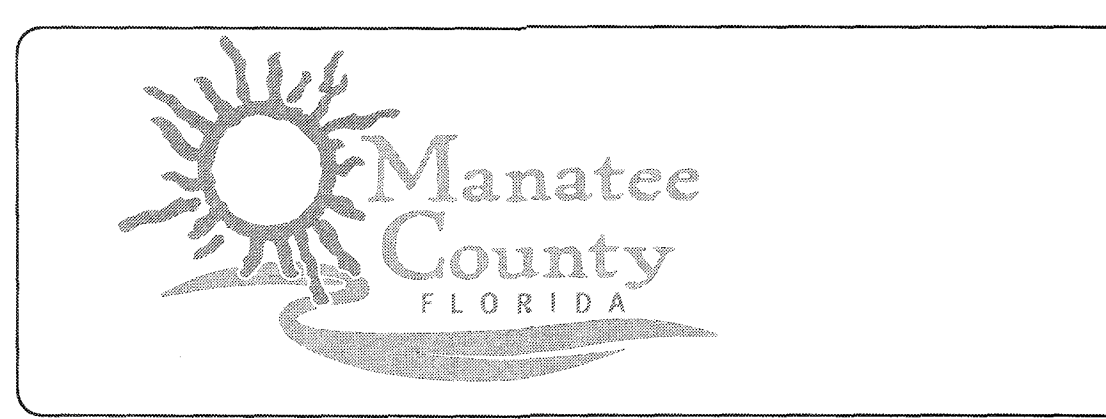


S:\1024\0170\10-Drawing\Demo\009-10240170.dwg, 9/16/2019 5:48:01 PM, Cathy Weber

REV. NO.	DATE	DESCRIPTIONS

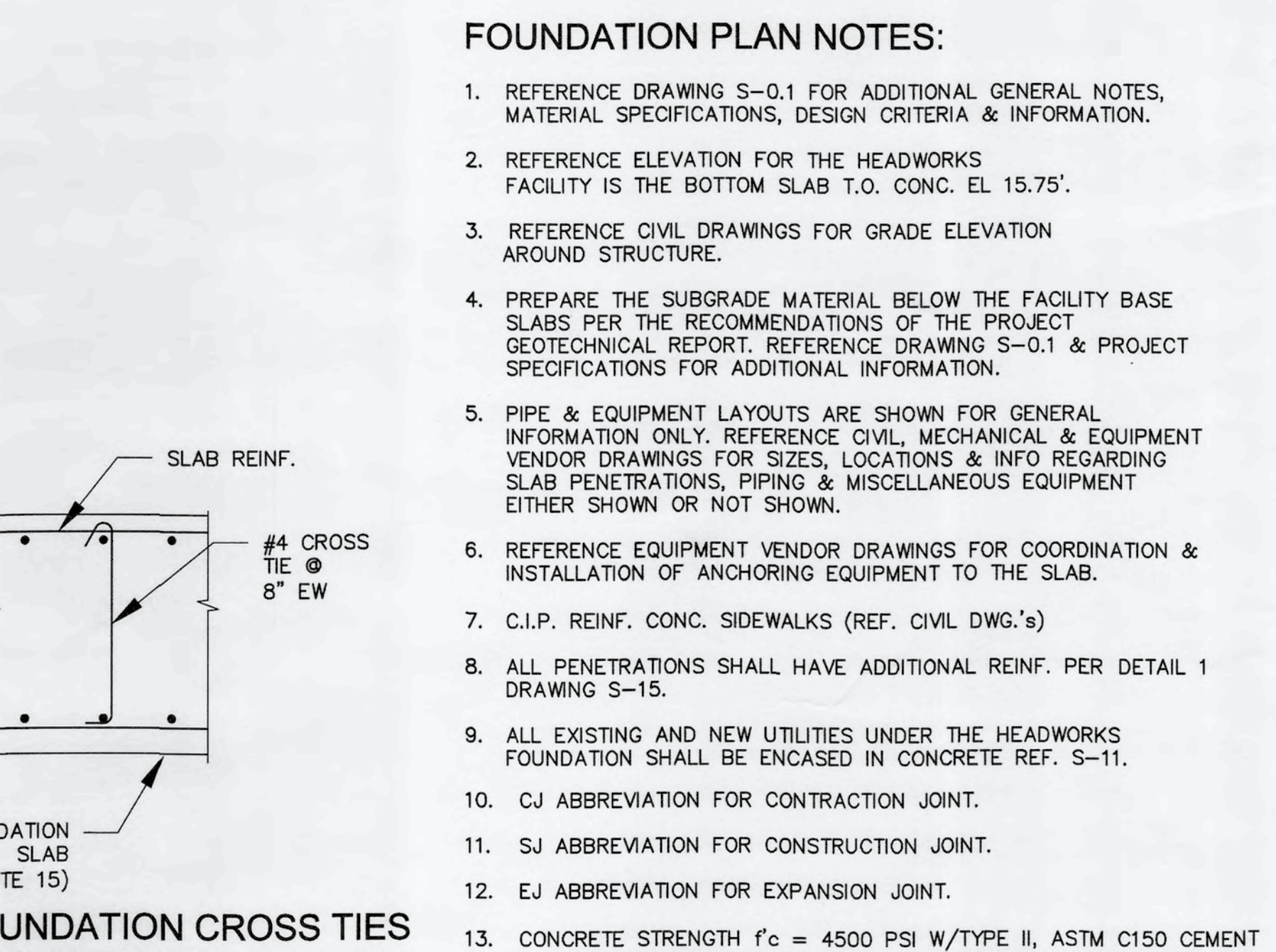
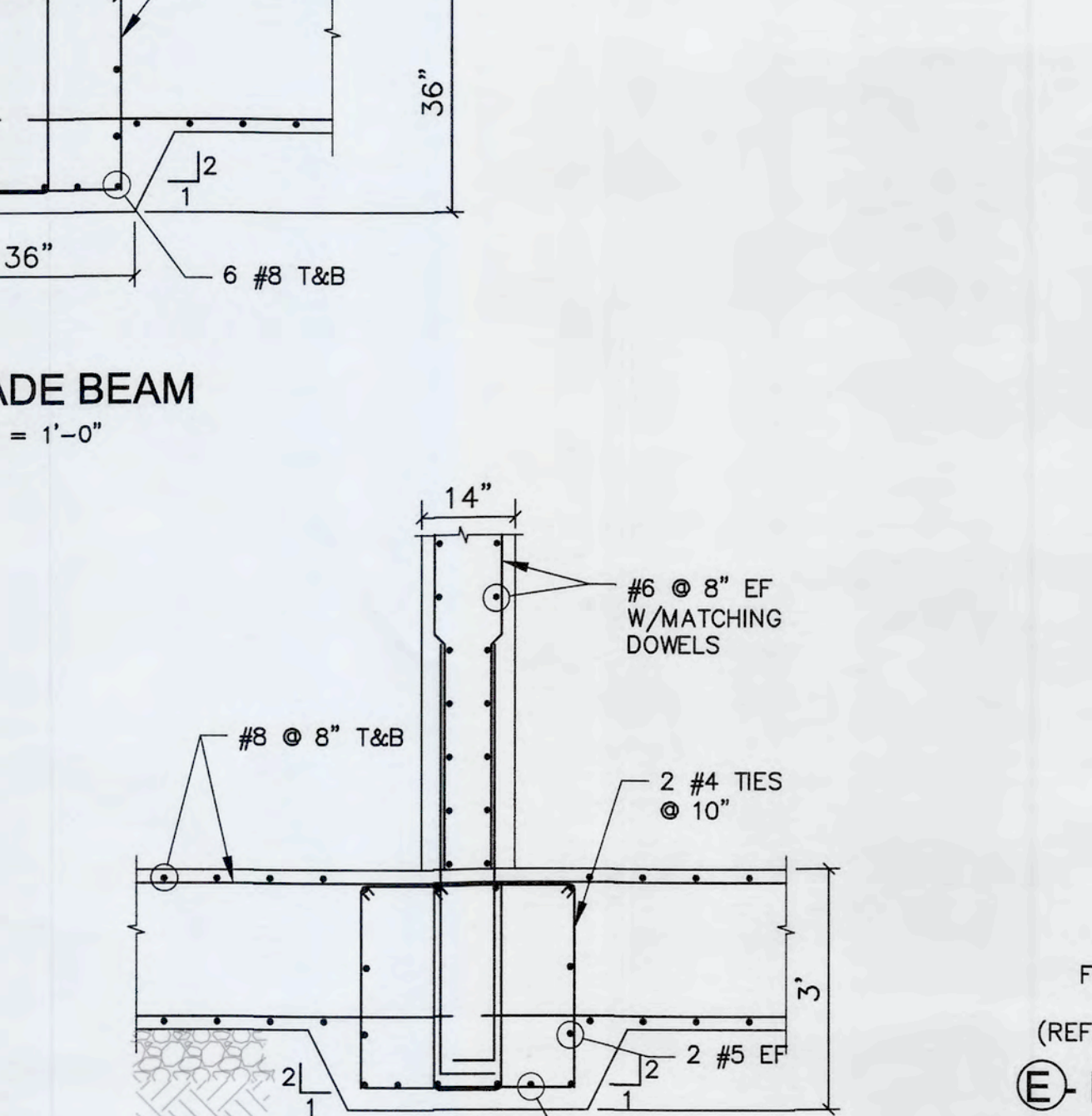
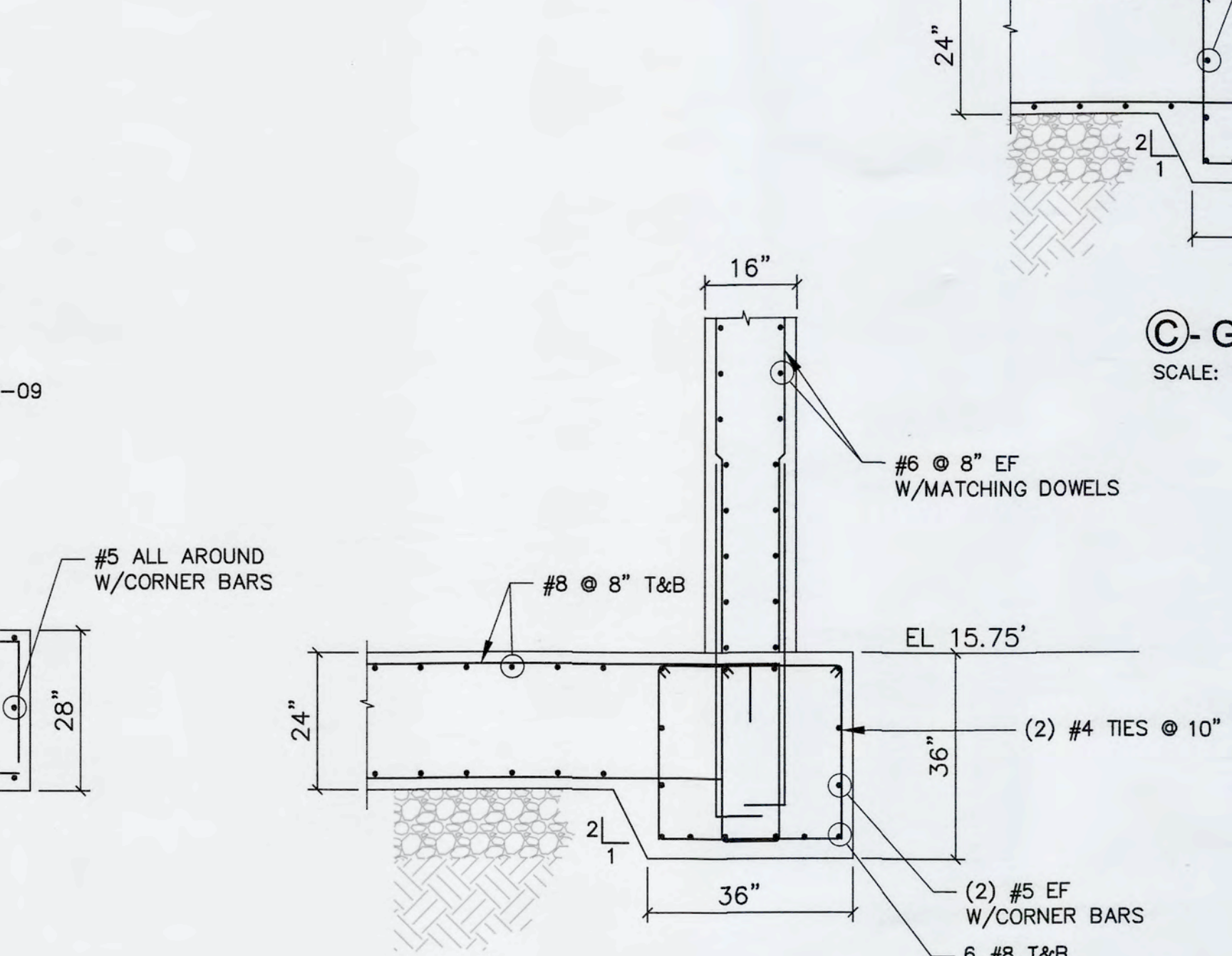
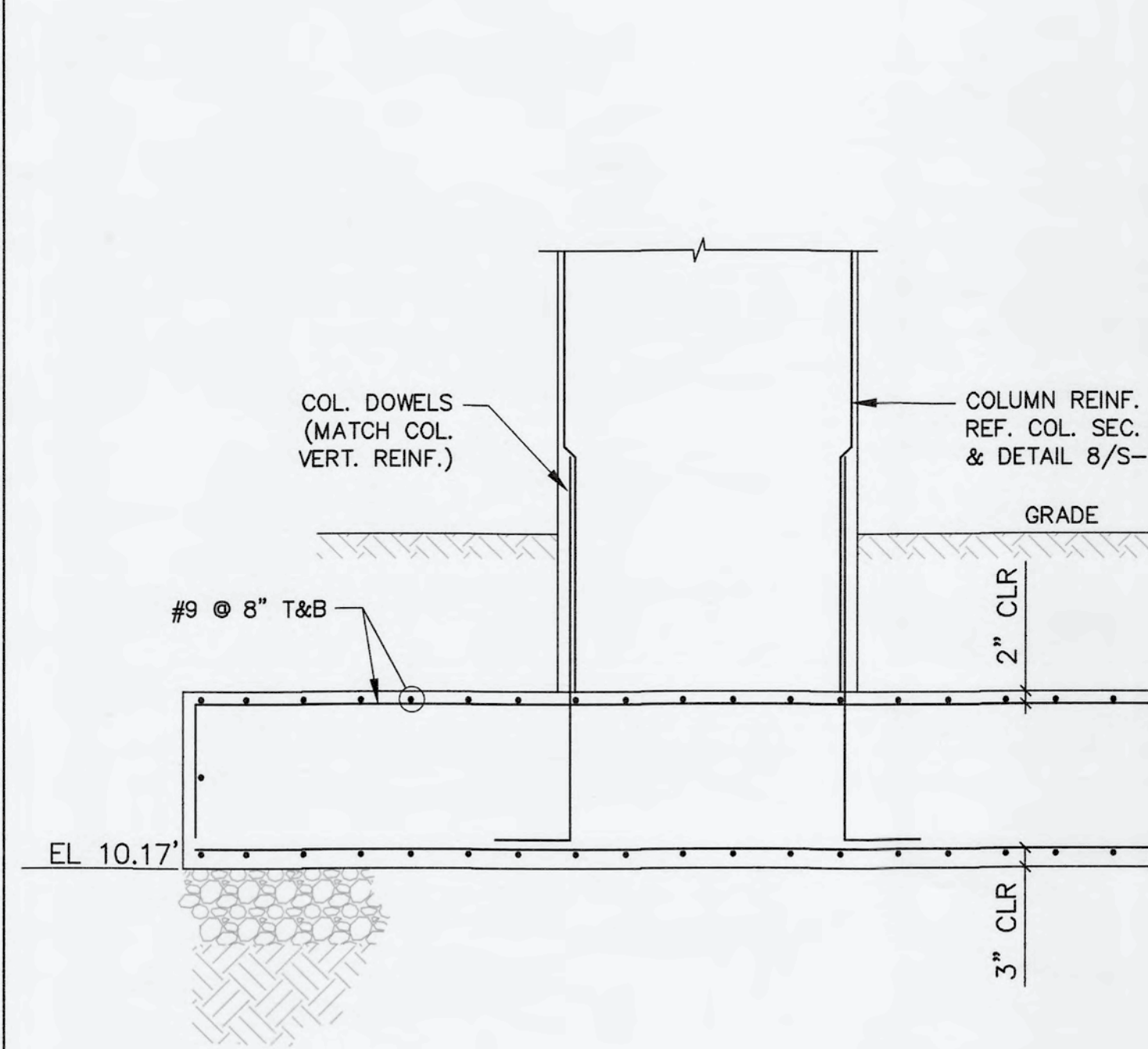
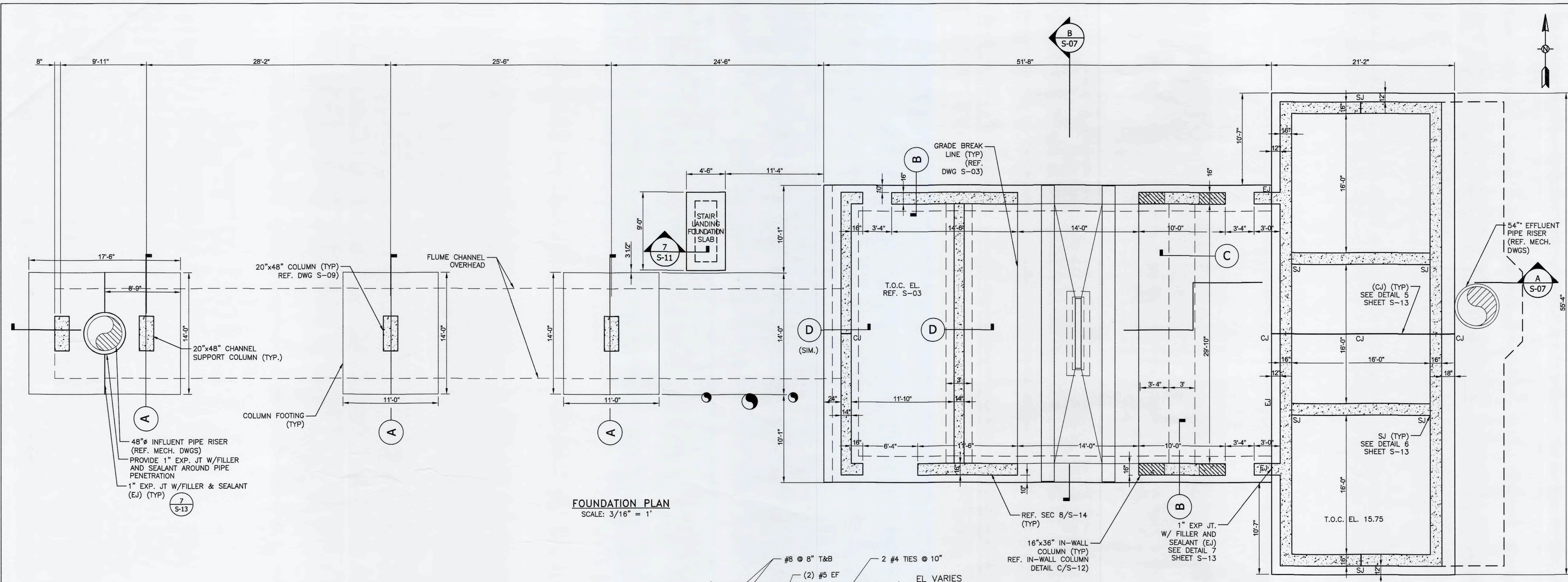


MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



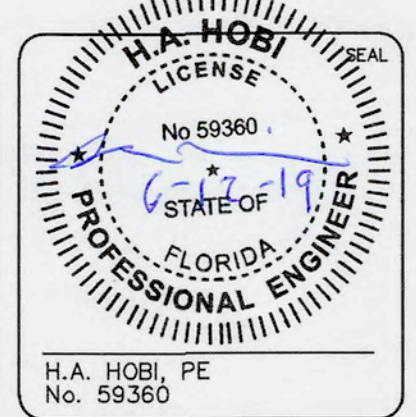
SWRF NEW HEADWORKS
DEMOLITION - 2015 GRIT CLASSIFIER AND CYCLONE SECTIONS

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	D-09
DRAWN: CON	VERTICAL: NA	
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID	REVISION:	



- FOUNDATION PLAN NOTES:**
- REFERENCE DRAWING S-0.1 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS, DESIGN CRITERIA & INFORMATION.
 - REFERENCE ELEVATION FOR THE HEADWORKS FACILITY IS THE BOTTOM SLAB T.O. CONC. EL. 15.75'.
 - REFERENCE CIVIL DRAWINGS FOR GRADE ELEVATION AROUND STRUCTURE.
 - PREPARE THE SUBGRADE MATERIAL BELOW THE FACILITY BASE SLABS PER THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT. REFERENCE DRAWING S-0.1 & PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - PIPE & EQUIPMENT LAYOUTS ARE SHOWN FOR GENERAL INFORMATION ONLY. REFERENCE CIVIL, MECHANICAL & EQUIPMENT VENDOR DRAWINGS FOR SIZES, LOCATIONS & INFO REGARDING SLAB PENETRATIONS, PIPING & MISCELLANEOUS EQUIPMENT EITHER SHOWN OR NOT SHOWN.
 - REFERENCE EQUIPMENT VENDOR DRAWINGS FOR COORDINATION & INSTALLATION OF ANCHORING EQUIPMENT TO THE SLAB.
 - C.I.P. REINF. CONC. SIDEWALKS (REF. CIVIL DWG.'s)
 - ALL PENETRATIONS SHALL HAVE ADDITIONAL REINF. PER DETAIL 1 DRAWING S-15.
 - ALL EXISTING AND NEW UTILITIES UNDER THE HEADWORKS FOUNDATION SHALL BE ENCASED IN CONCRETE REF. S-11.
 - CJ ABBREVIATION FOR CONTRACTION JOINT.
 - SJ ABBREVIATION FOR CONSTRUCTION JOINT.
 - EJ ABBREVIATION FOR EXPANSION JOINT.
 - CONCRETE STRENGTH $f'_c = 4500$ PSI W/TYPE II, ASTM C150 CEMENT AND MAXIMUM 20% BY WEIGHT SLAG AND/OR FLY ASH CONTENT.
 - ALLOW 3" REINFORCEMENT CONCRETE COVER AT PVC WATERSTOPS.
 - ADD CROSS TIES IN 3'x3' AREA UNDER WALL INTERSECTIONS AND CORNERS IN HEADCELL FOUNDATION SLAB, REF. DETAIL E THIS SHEET.

REV. NO.	DESCRIPTION	DATE

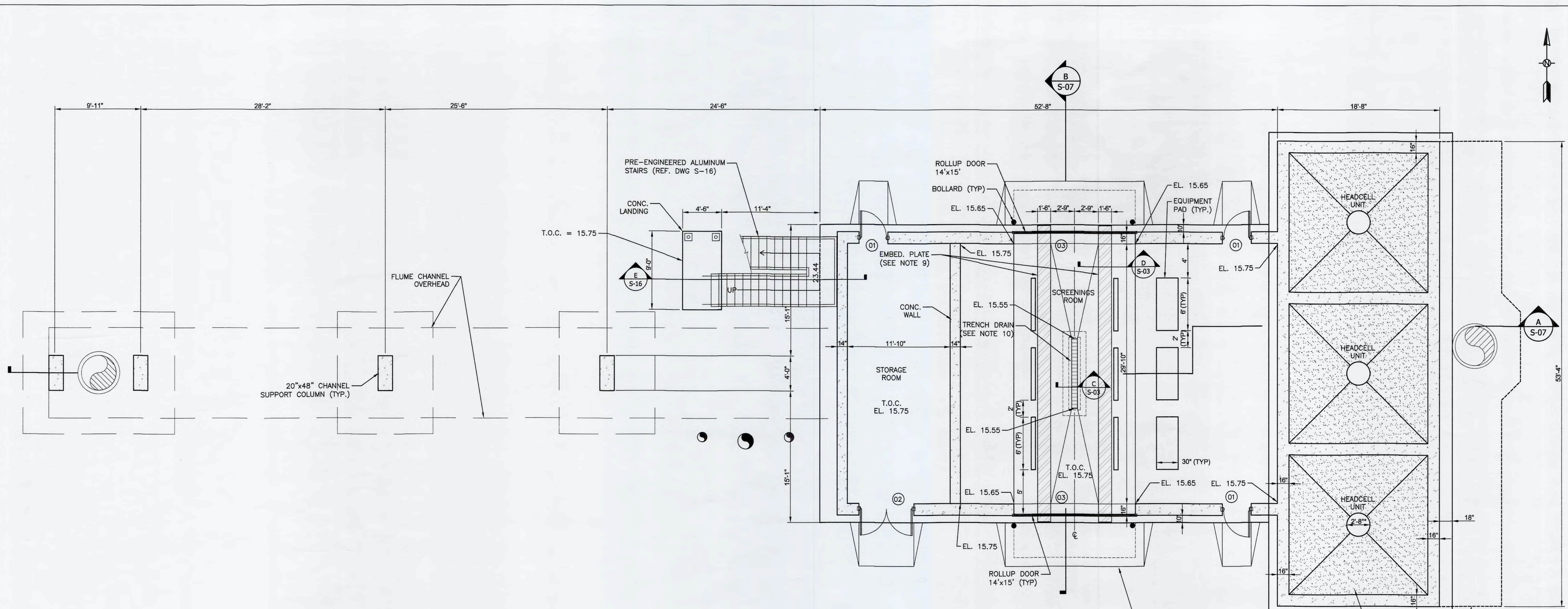


MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com

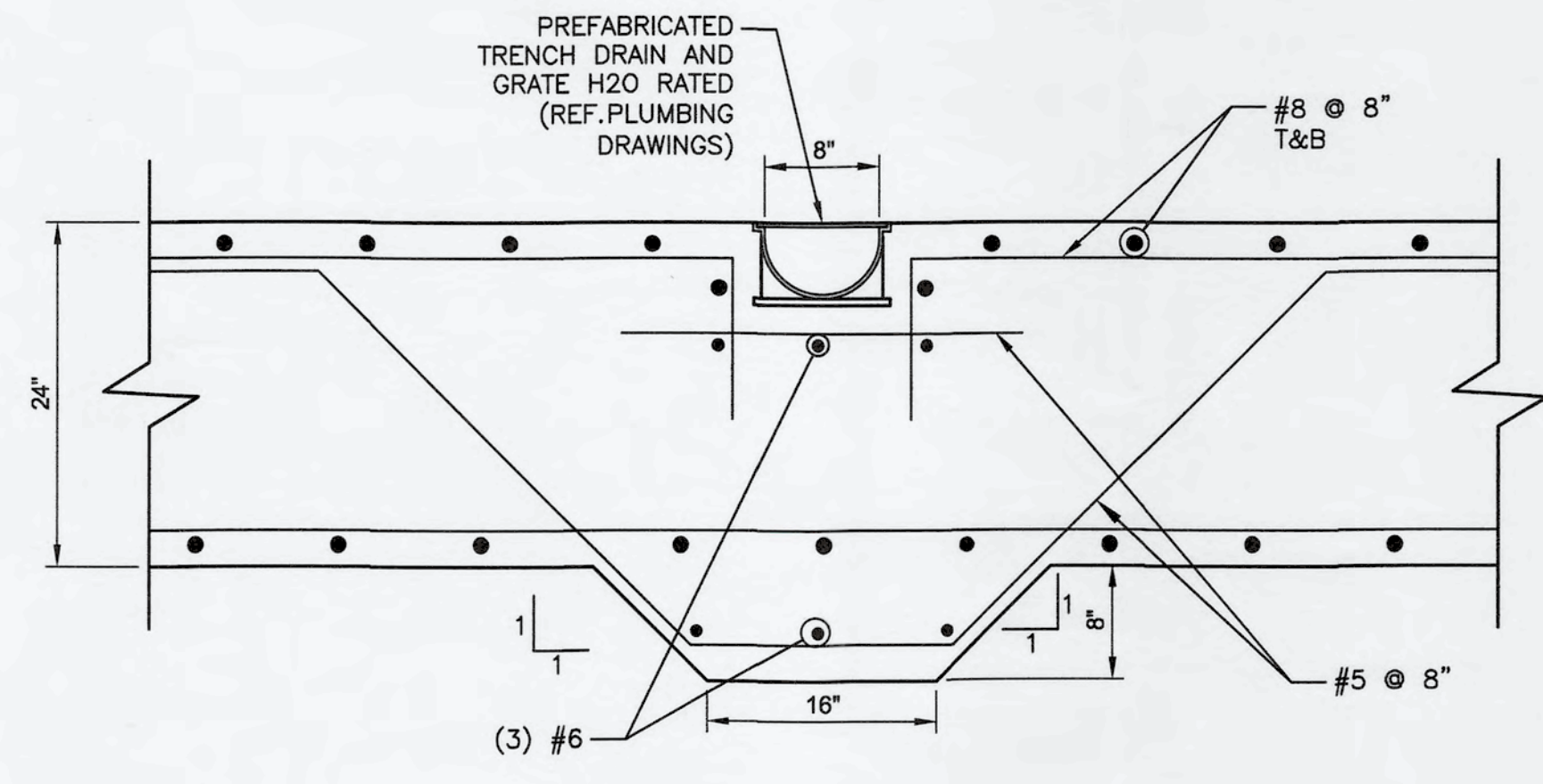


SWWRF NEW HEADWORKS
HEADWORKS FOUNDATION PLAN AND SECTIONS

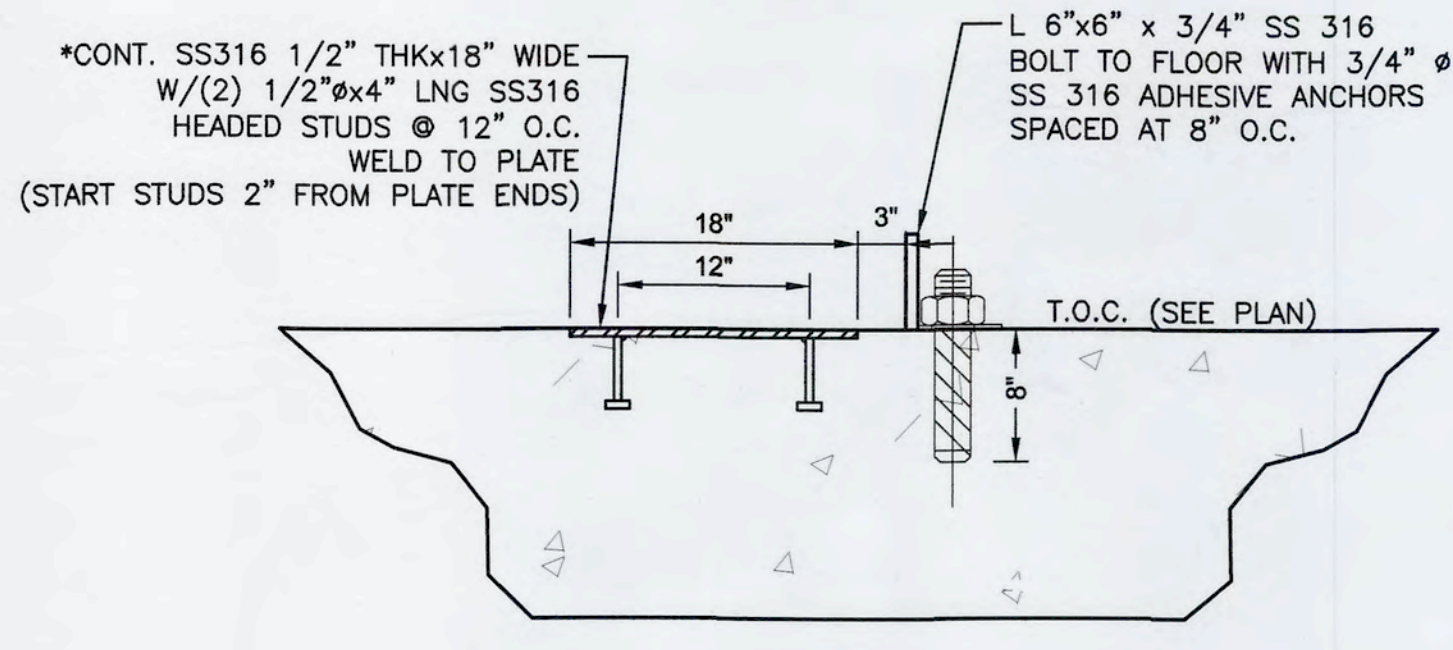
DATE: MAY, 2019	SCALE: HORIZONTAL: AS SHOWN	DRAWING NUMBER: S-02
MCE PROJ. # 1024-0170	VERTICAL: NA	REVISION: ISSUED FOR BID
DRAWN: CW		
DESIGNED: SH		
CHECKED: EA		
PROJ. MGR.: DCW		



FLOOR PLAN
SCALE: 3/16" = 1'



TRENCH DRAIN SECTION
SCALE: 1" = 1'



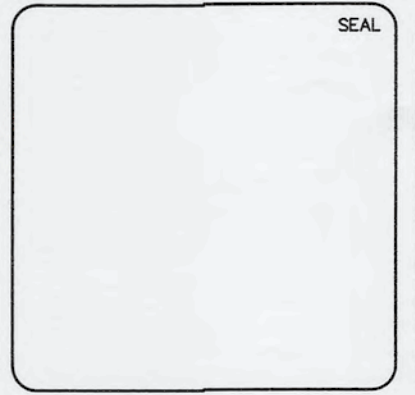
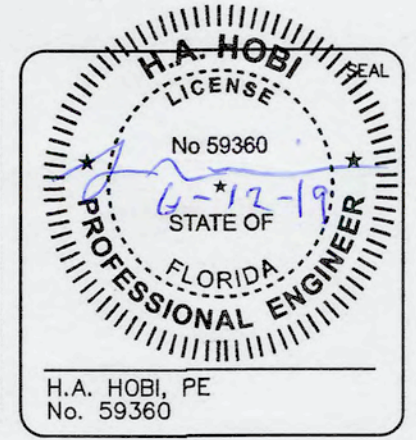
*SHIFT SLAB REINF. AS NEEDED TO ACCOMMODATE THE HEADED STUDS

EMBED. PLATE SECTION
SCALE: 1" = 1'

- NOTES:**
- REF. STRUCTURAL NOTES SHEET S-01.
 - SLOPE FLOOR EFFECTIVELY TO DRAINS AT 1/8" PER FT. (MIN.).
 - SLOPE CONCRETE COVER AND TOP REINFORCING STEEL TO ARCHIVE REQUIRE FLOOR DRAINAGE SLOPE. MAINTAIN 2" MIN. CONCRETE COVER.
 - REF. MECH. DRAWINGS FOR FLOOR DRAINS LOCATION AND DETAILS.
 - REF. MECH. DRAWINGS FOR EQUIPMENT PADS SIZE AND LOCATION.
 - FLOOR SURFACE SHALL BE TESTED FOR PROPER DRAINAGE ANY FLOOR AREAS WITH PONDING WATER SHALL BE PROPERLY GROUTED FOR ADEQUATE DRAINAGE.
 - ALL CONCRETE WALL AND MASONRY WALL SURFACES SHALL BE PAINTED.
 - ALL FLOORS SHALL BE COATED WITH SEALANT PER SPECS.
 - TRASH DUMPSTER WHEEL CONTINUOUS EMBEDDED FLOOR PLATES 1/2" SS316 x18" WIDE, SEE DETAIL D/S03.
 - PREFABRICATED TRENCH DRAIN AND GRATE, H2O RATED, EMBED IN CONCRETE PER MANUFACTURER'S INSTRUCTIONS. REF. MECHANICAL DRAWINGS FOR ADDITIONAL DETAILS.
 - ⓪1 DESIGNATES DOOR NUMBER. REF. DOOR SCHEDULE, DWG S-16.
 - ALL CONCRETE OPENINGS SHALL BE REINFORCED PER DETAIL 1 SHEET S-15.
 - CONCRETE STRENGTH $f'c = 4500$ PSI W/TYPE II, ASTM C150 CEMENT AND MAXIMUM 20% BY WEIGHT SLAG AND/OR FLY ASH CONTENT.

S:\02A\07070\00-Domaga\Structural\S-03 10240170.dwg, 6/11/2019 1:52:44 PM, Colby Walker

REV. NO.	DESCRIPTIONS	DATE



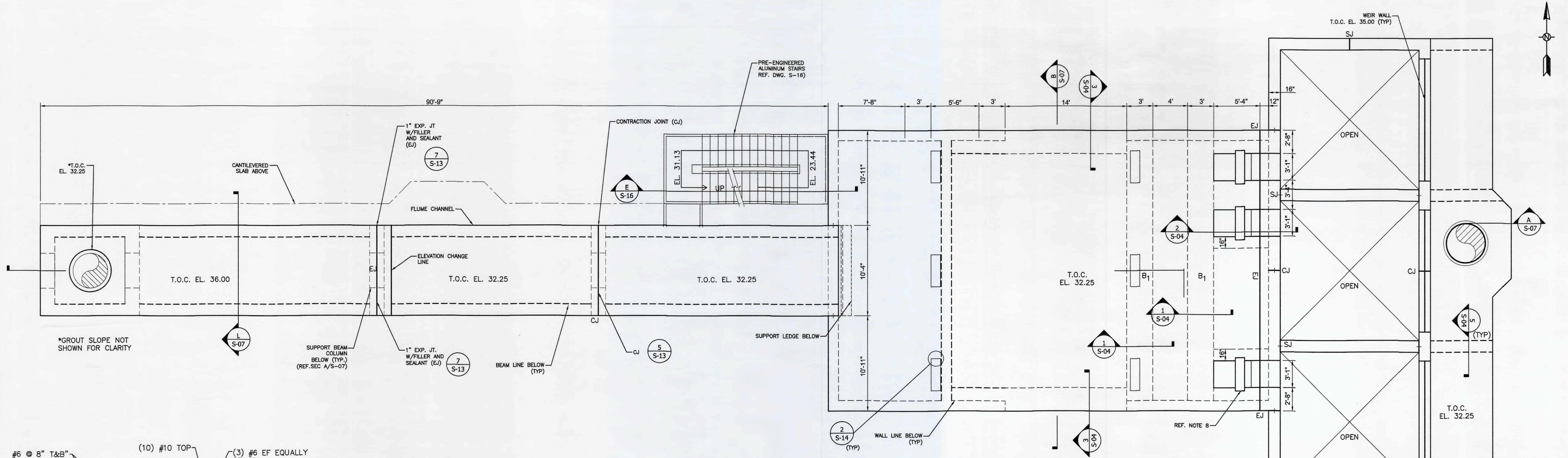
MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



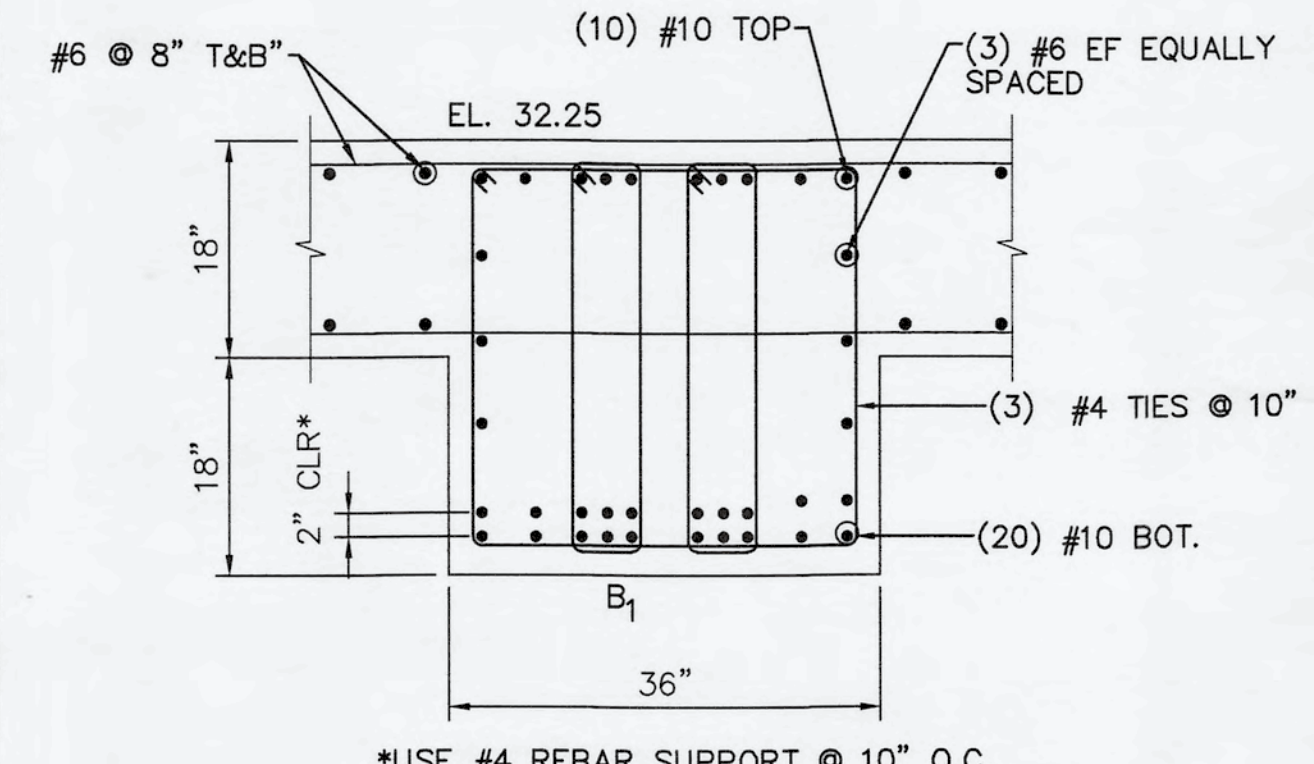
SWWRF NEW HEADWORKS

HEADWORKS FLOOR PLAN AND SECTIONS

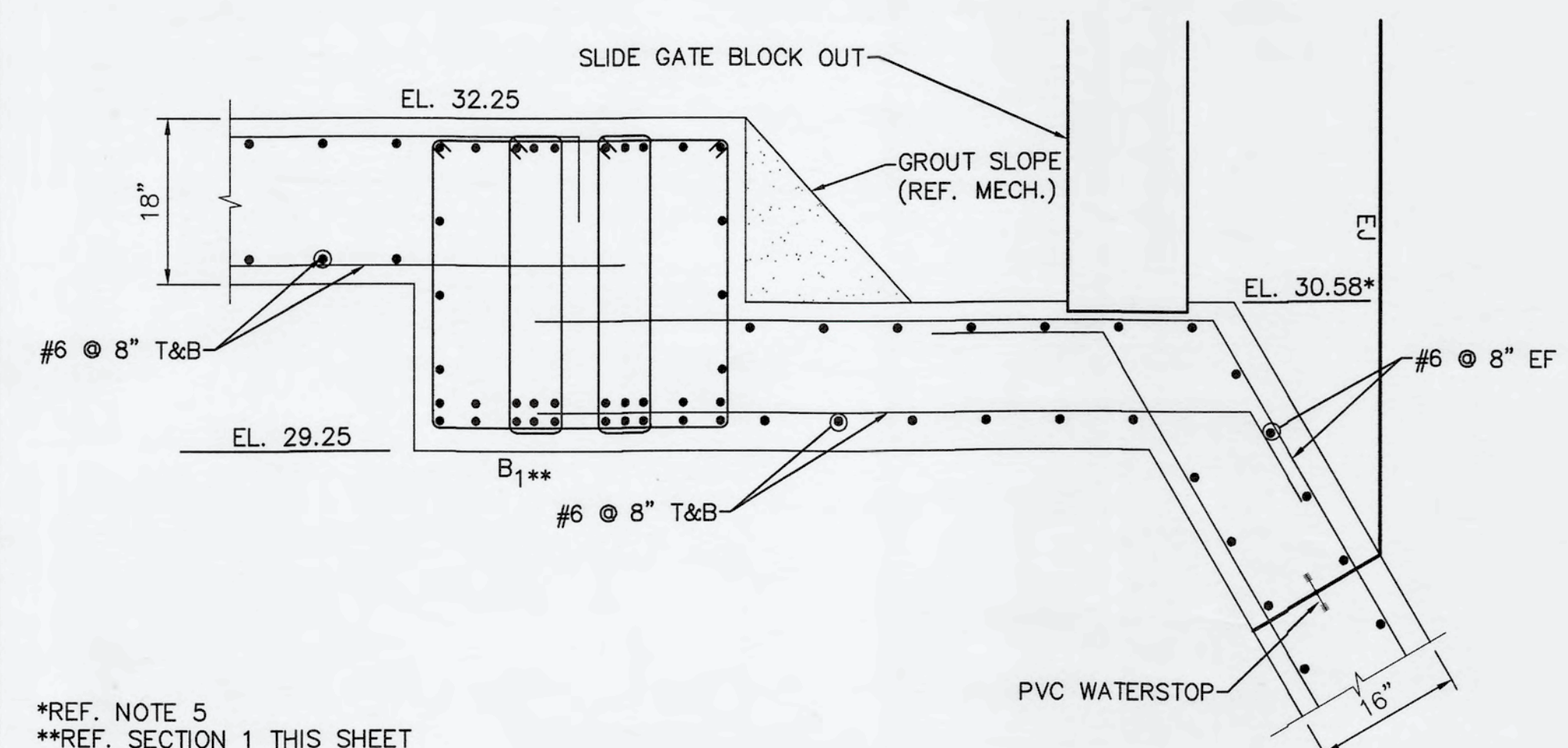
DATE: MAY, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	S-03
DRAWN: CW	VERTICAL: NA	
DESIGNED: SH		
CHECKED: EA		
PROJ. MGR.: DCW		
STATUS:	REVISION:	
	ISSUED FOR BID	



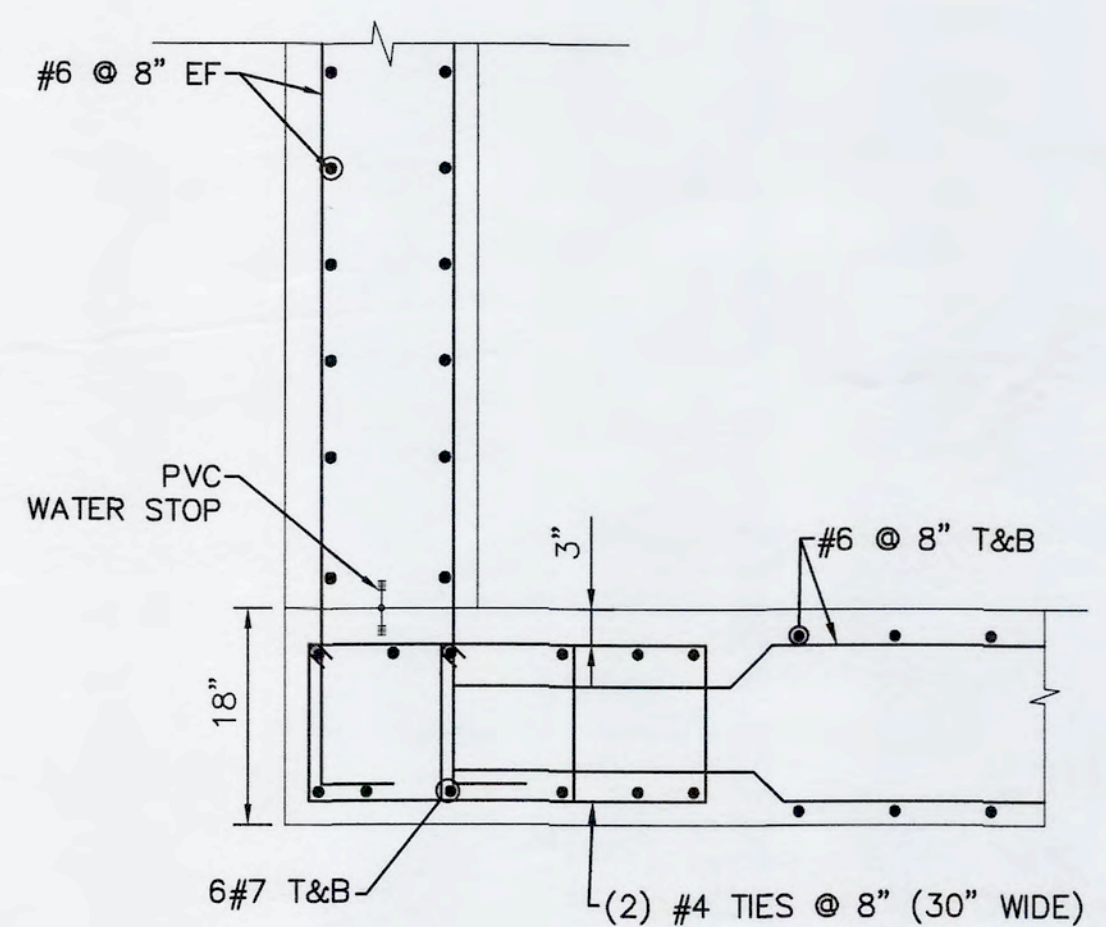
ELEVATED SLABS PLAN ELEV. @ 32.25 & 36.00
SCALE: 3/16" = 1'



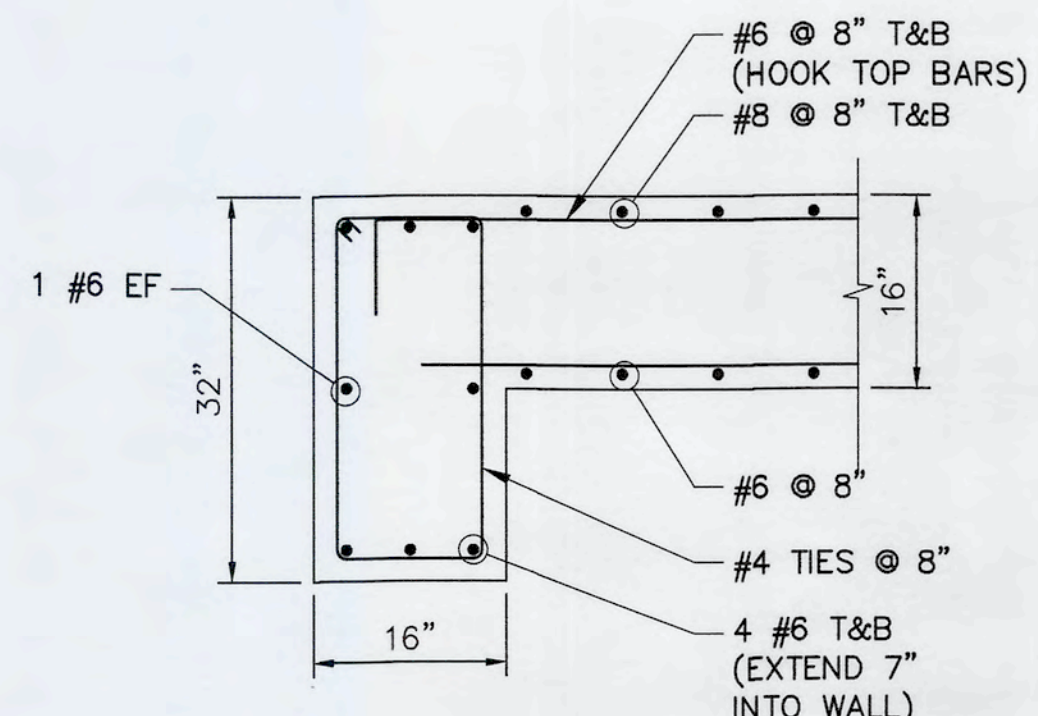
1 ELEVATED SLAB BEAM B1
SCALE: 3/4" = 1'-0"



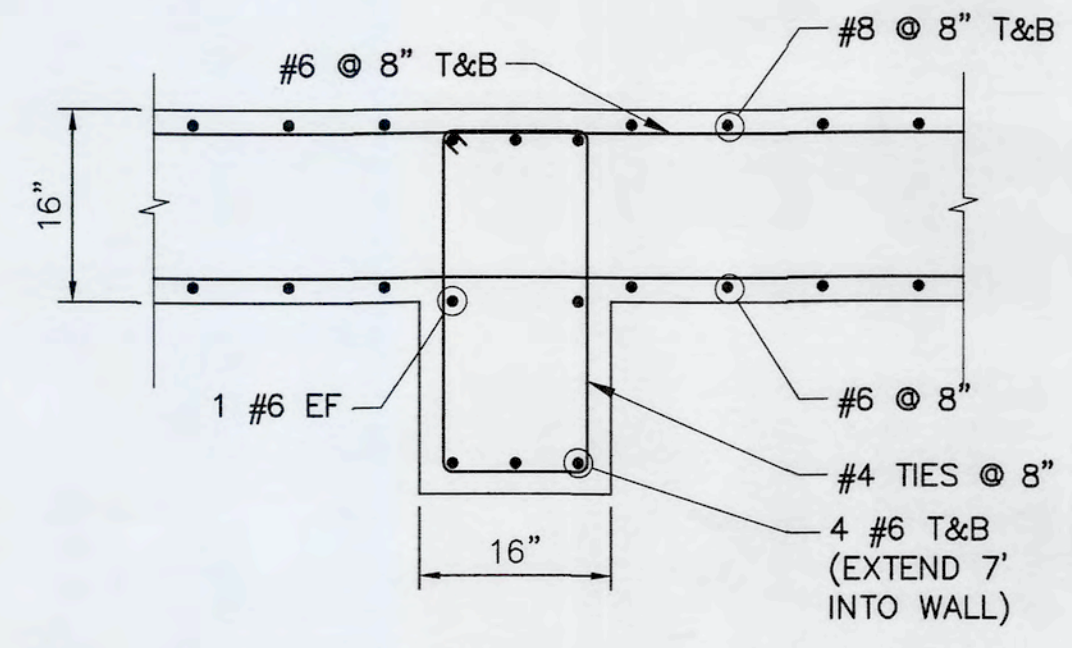
2 HEADCELL INTAKE SECTION
SCALE: 3/4" = 1'-0"



3 IN SLAB BEAM AT ROLL UP DOOR
SCALE: 3/4" = 1'-0"



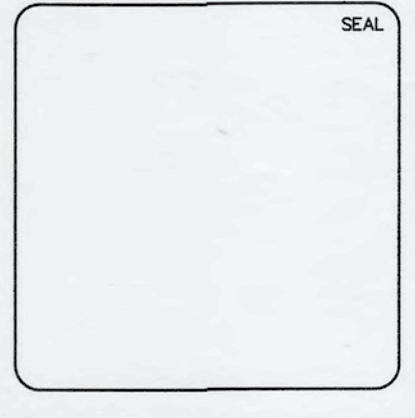
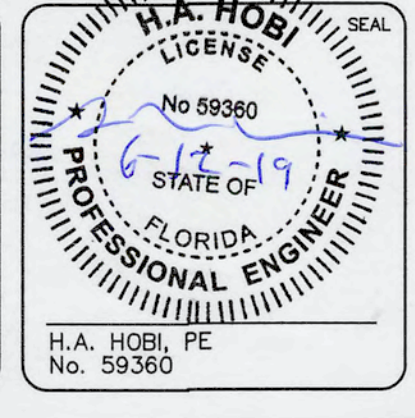
4 EFFLUENT CHANNEL SLAB BEAM
SCALE: 3/4" = 1'-0"



5 EFFLUENT CHANNEL SLAB BEAM
SCALE: 3/4" = 1'-0"

- NOTES:**
- CJ ABBREVIATED FOR CONTRACTION JOINT.
 - SJ ABBREVIATED FOR CONSTRUCTION JOINT.
 - EJ ABBREVIATED FOR EXPANSION JOINT.
 - WALLS SUPPORTED BY THE SLABS AND BEAMS ARE NOT SHOWN FOR CLARITY. ALL VERTICAL WALL REINF. SHALL BE EMBEDDED IN THE SLABS AND BEAMS SHOWN ON THE DRAWINGS.
 - CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH SELECTED EQUIPMENT DIMENSIONS.
 - PROTECTIVE COATING SHALL BE APPLIED TO ALL CONCRETE SURFACES EXPOSED TO WASTEWATER. (REF. SPECS. SECT. 09970).
 - ALL CONCRETE OPENINGS SHALL BE REINFORCED PER DETAIL 1 SHEET S-15.
 - REF. MECH. DWGS FOR SIZE AND LOCATION OF SLIDE GATE BLOCKOUTS.
 - CONCRETE STRENGTH $f'c=4500$ PSI W/TYPE II, ASTM C150 CEMENT AND MAXIMUM 20% BY WEIGHT SLAG AND/OR FLY ASH CONTENT.
 - ALLOW 3" REINFORCEMENT CONCRETE COVER AT PVC WATER STOPS.

REV. NO.	DESCRIPTIONS	DATE



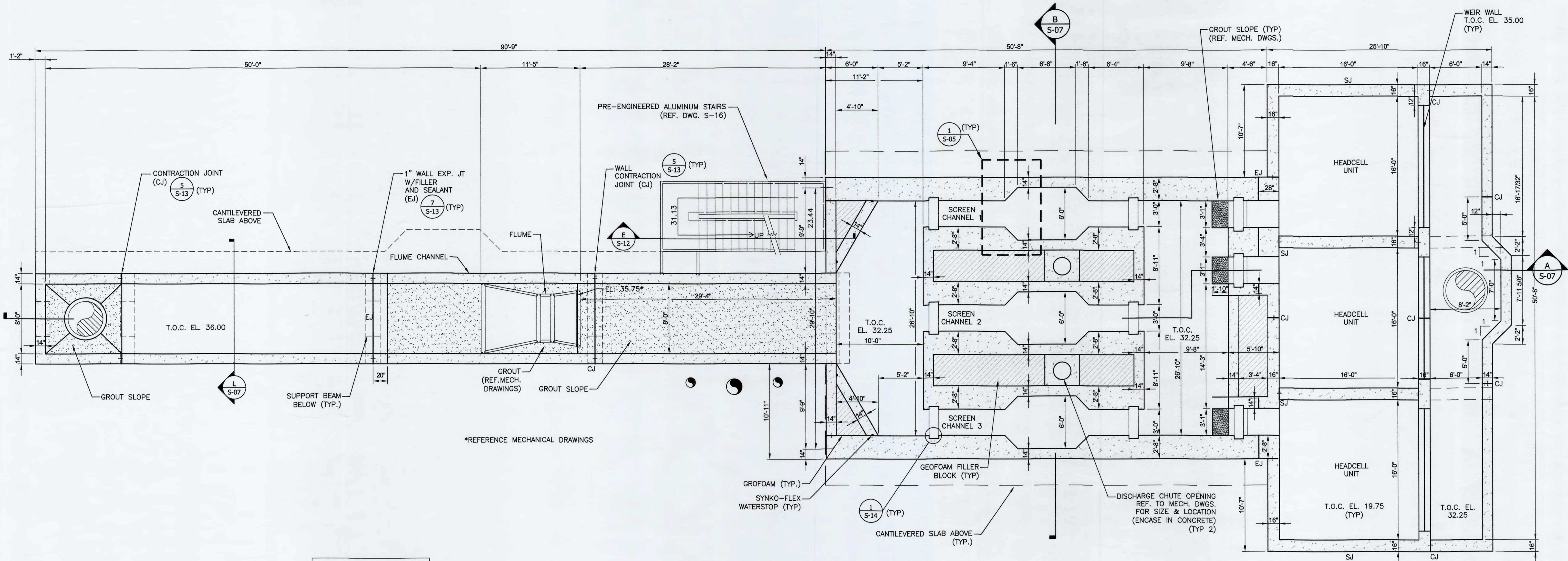
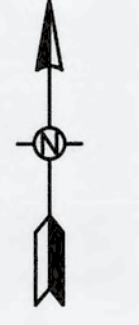
MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



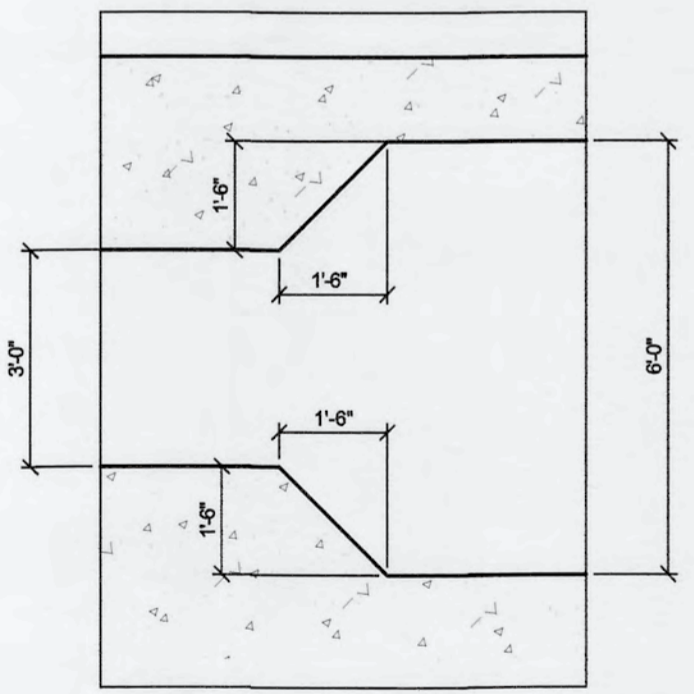
SWWRF NEW HEADWORKS
HEADWORKS ELEVATED SLABS AND SECTIONS

DATE: MAY, 2019	SCALE: AS SHOWN	DRAWING NUMBER: S-04
MCE PROJ. # 1024-0170	HORIZONTAL: NA	REVISION: ISSUED FOR BID
DRAWN: CW	VERTICAL: NA	
DESIGNED: SH		
CHECKED: EA		
PROJ. MGR.: DCW		

S:\VDC\017010-00-Drawings\Structure\S-04 10240170.dwg, 6/1/2019, 1:52:57 PM, Cathy Walker



CHANNEL PLAN ELEV. @ 32.25 & 36.00
SCALE: 3/16" = 1'

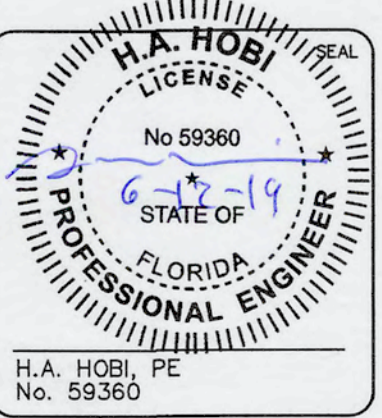


DETAIL 1
SCALE: 1" = 3/8"

NOTES:

- GEOFOAM SHALL BE ASTM D6817 TYPE EPS15, CUT FOAM BLOCK TO COMPLETELY FILL DESIGNATED SPACES. BOND GEOFOAM BLOCKS TO FLOOR SLAB AND TO EACH OTHER.
- REF. MECHANICAL DRAWINGS FOR LOCATION OF SLIDE GATE BLOCKOUTS.
- CONTRACTOR SHALL COORDINATE SIZE OF SLIDE GATE BLOCKOUTS WITH SLIDE GATE MANUFACTURER.
- ALL CONCRETE OPENINGS SHALL BE REINFORCED PER DETAIL 1 SHEET S-15.
- CJ ABBREVIATED FOR CONTRACTION JOINT.
- SJ ABBREVIATED FOR CONSTRUCTION JOINT.
- EJ ABBREVIATED FOR EXPANSION JOINT.
- CONCRETE STRENGTH $f'c=4500$ PSI W/TYPE II, ASTM C150 CEMENT MAXIMUM 20% BY WEIGHT SLAG AND/OR FLY ASH CONTENT.
- ALLOW 3" REINFORCEMENT CONCRETE COVER AT PVC WATER STOPS.

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com

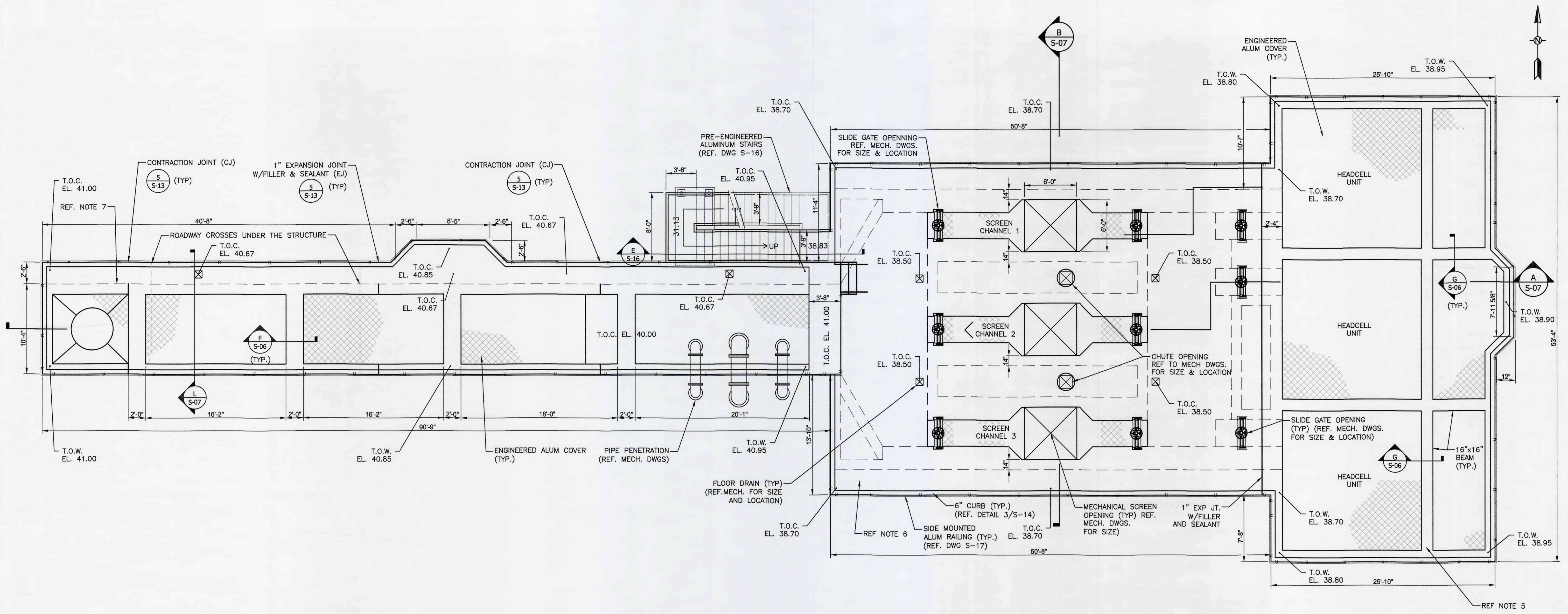


SWWRF NEW HEADWORKS

HEADWORKS CHANNEL PLAN

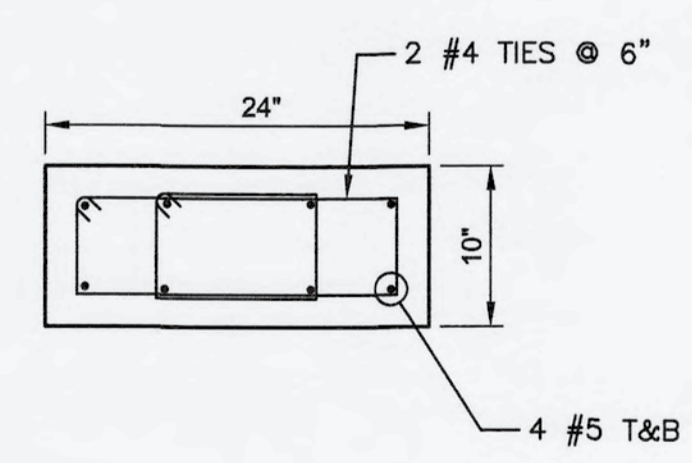
DATE: MAY, 2019	SCALE: AS SHOWN	DRAWING NUMBER: S-05
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	REVISION: ISSUED FOR BID
DRAWN: CW	VERTICAL: NA	
DESIGNED: SH		
CHECKED: EA		
PROJ. MGR.: DCW		

S:\VDC\107070\BP-Drawings\Structure\5-05_10240170.dwg, 6/17/2019 2:28:05 PM, Cathy Walker

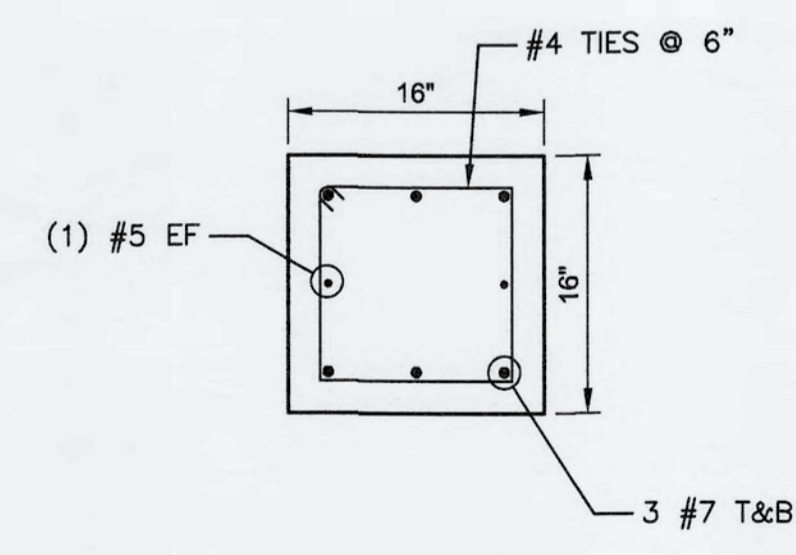


UPPER LEVEL @ EL. 40.67 AND 38.50
SCALE: 3/16" = 1'

- NOTES:
1. REF. MECHANICAL DRAWINGS FOR PIPE PENETRATIONS SIZE AND LOCATIONS.
 2. REF. MECHANICAL DRAWINGS FOR ODOR CONTROL DUCT OPENINGS SIZE AND LOCATIONS.
 3. ALL CONCRETE OPENINGS SHALL BE REINFORCED PER DETAIL 1 SHEET S-15.
 4. SLIDE GATE BLOCK OUT SIZE AND LOCATION SHALL BE AS SHOWN ON MECH. DRAWINGS. CONTRACTOR SHALL VERIFY BASED ON SLIDE GATE MANUFACTURER REQUIREMENTS.
 5. SLOPE TOP OF EFFLUENT CHANNEL WALLS AND HEADCELL WALLS TO PROVIDE DRAINAGE SLOPE (REF. MECHANICAL DWGS FOR DRAIN LOCATIONS).
 6. SLOPE TOP OF HEADWORKS TO PROVIDE 1% DRAINAGE SLOPE (REF MECHANICAL DWGS FOR DRAINAGE LOCATIONS).
 7. SLOPE TOP OF FLUME CHANNEL WALKWAY TO PROVIDE 1% DRAINAGE SLOPE TO DRAIN. (REF MECHANICAL DWGS FOR DRAINAGE LOCATIONS).
 8. CONTRACTOR SHALL SUBMIT ENGINEERED ALUMINUM COVER SHOP DRAWING FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INCLUDE PLATE COVERS, EDGE CONNECTIONS, SEALS AND RECOMMENDED ANCHOR BOLT SIZE AND SPACING THAT ARE ANCHORED TO WALLS AND SLABS. COVER DESIGN LIVE LOAD 50 PSF.
 9. CONCRETE STRENGTH $f'c=4500$ PSI W/TYPE II, ASTM C150 CEMENT AND MAXIMUM 20% BY WEIGHT SLAG AND/OR FLY ASH CONTENT.

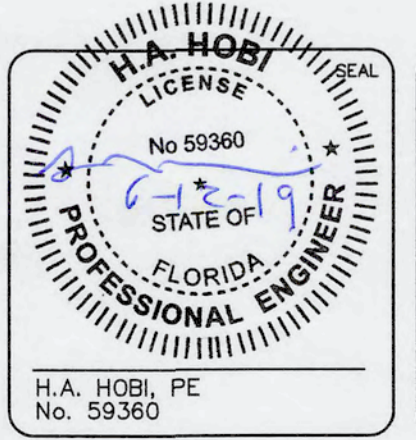


F BEAM SECTION
SCALE: 1" = 1'



G BEAM SECTION
SCALE: 1" = 1'

REV. NO.	DESCRIPTIONS	DATE



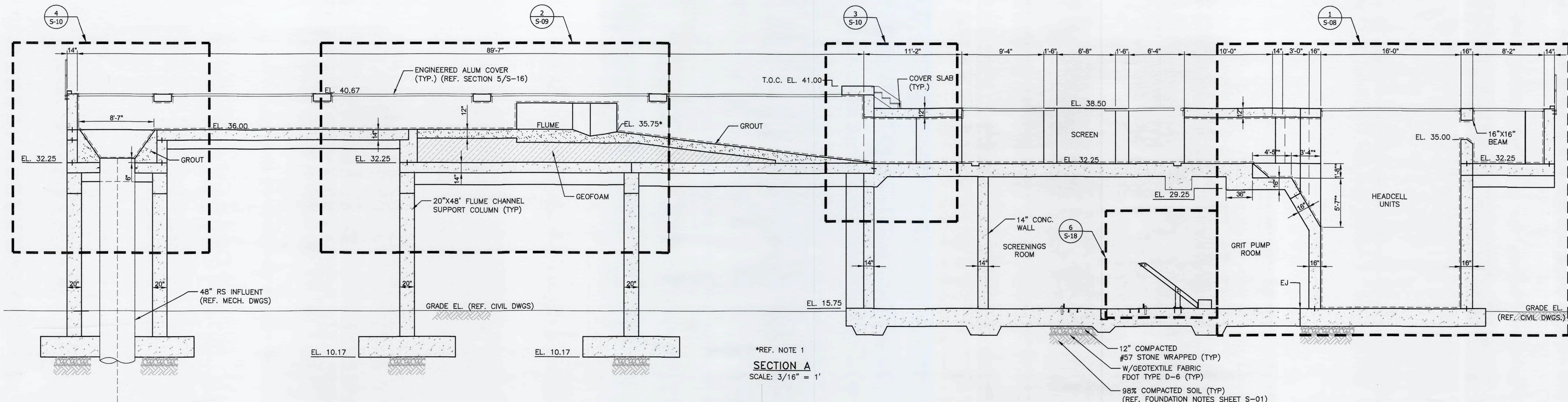
MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



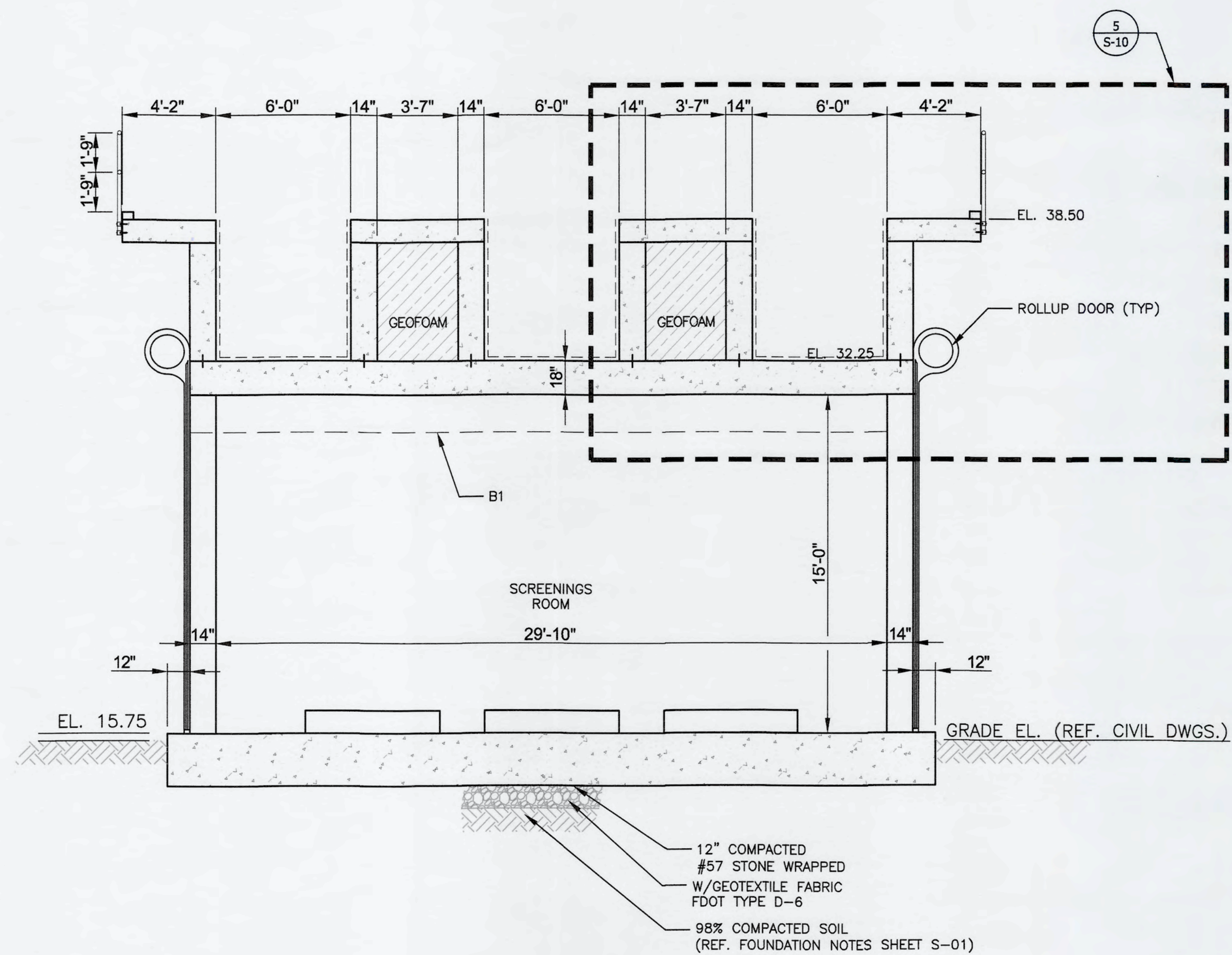
SWRF NEW HEADWORKS
HEADWORKS PLAN AT TOP

DATE: MAY, 2019	SCALE: AS SHOWN	DRAWING NUMBER: S-06
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	
DRAWN: CW	VERTICAL: NA	
DESIGNED: SH		
CHECKED: EA		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		

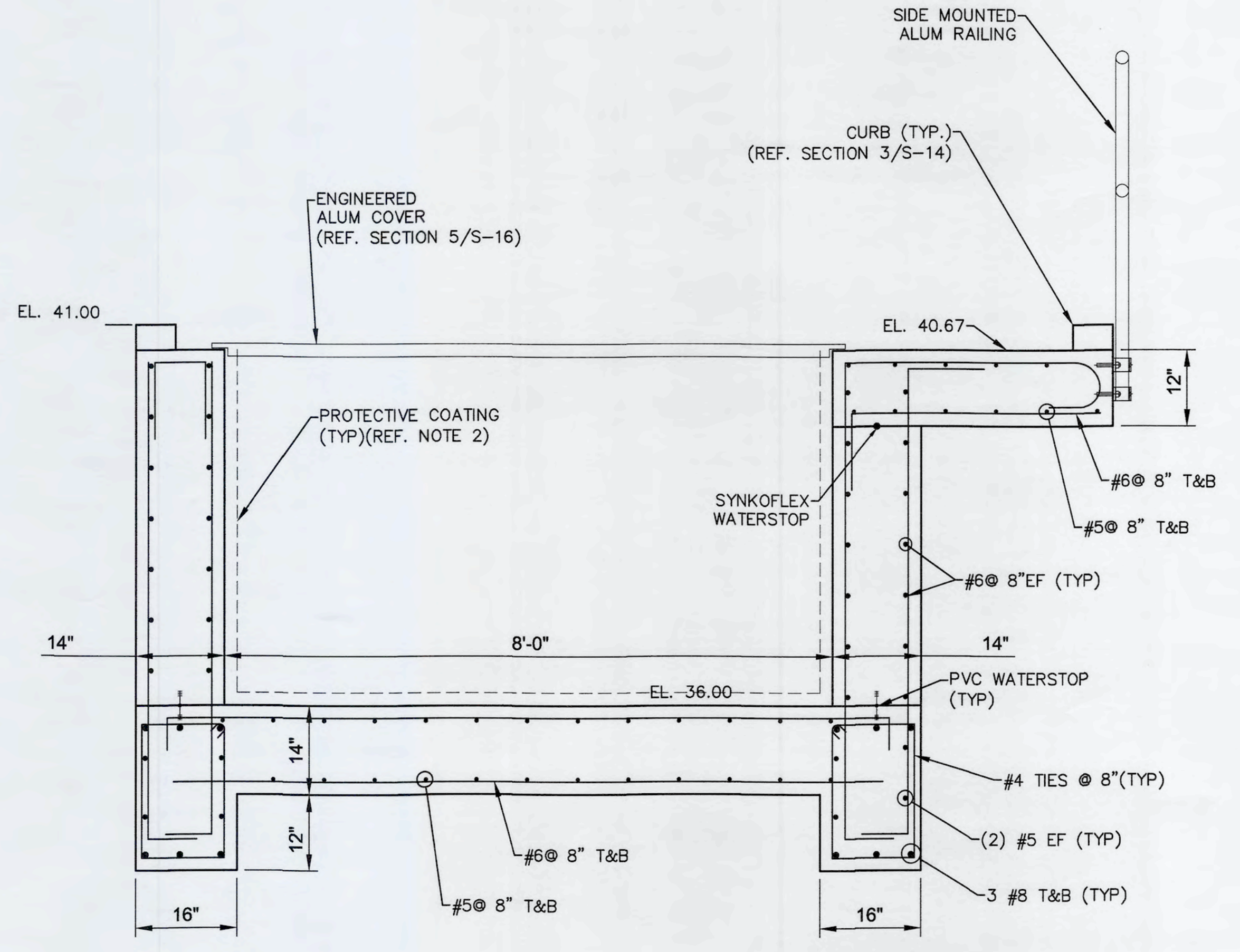
S:\UTDA\070700-Drawings\Structure\S-06_10240170.dwg, 6/7/2019 1:53:25 PM, Cathy Walker



*REF. NOTE 1
SECTION A
 SCALE: 3/16" = 1'



SECTION B
 SCALE: 1/4" = 1'

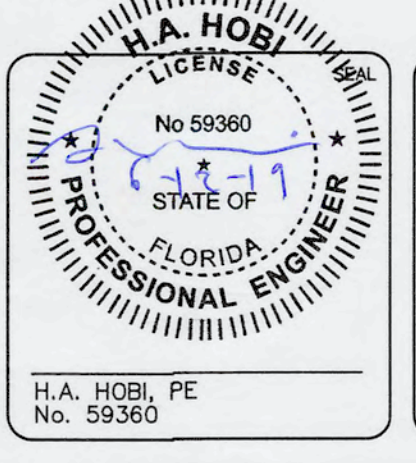


SECTION L
 SCALE: 3/4" = 1'

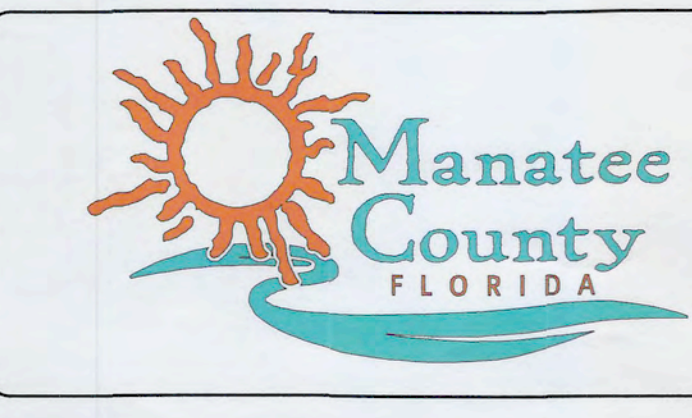
- NOTES:**
- CONTRACTOR SHALL COORDINATE ALL DIMENSION AND ELEVATIONS WITH SELECTED EQUIPMENT DIMENSIONS.
 - PROTECTIVE COATING SHALL BE APPLIED TO ALL CONCRETE SURFACES EXPOSED TO WASTEWATER. (REF. SPECS. SECT. 09970)
 - CONCRETE STRENGTH $f'_c=4500$ PSI W/TYPE II, ASTM C150 CEMENT AND MAXIMUM 20% BY WEIGHT SLAG AND/OR FLY ASH CONTENT.

S:\024\0170\00-Drawing\Structure\5-07-08 10240170.dwg, 6/11/2010 1:53:34 PM, Cathy Walker

REVNO.	DESCRIPTIONS	DATE

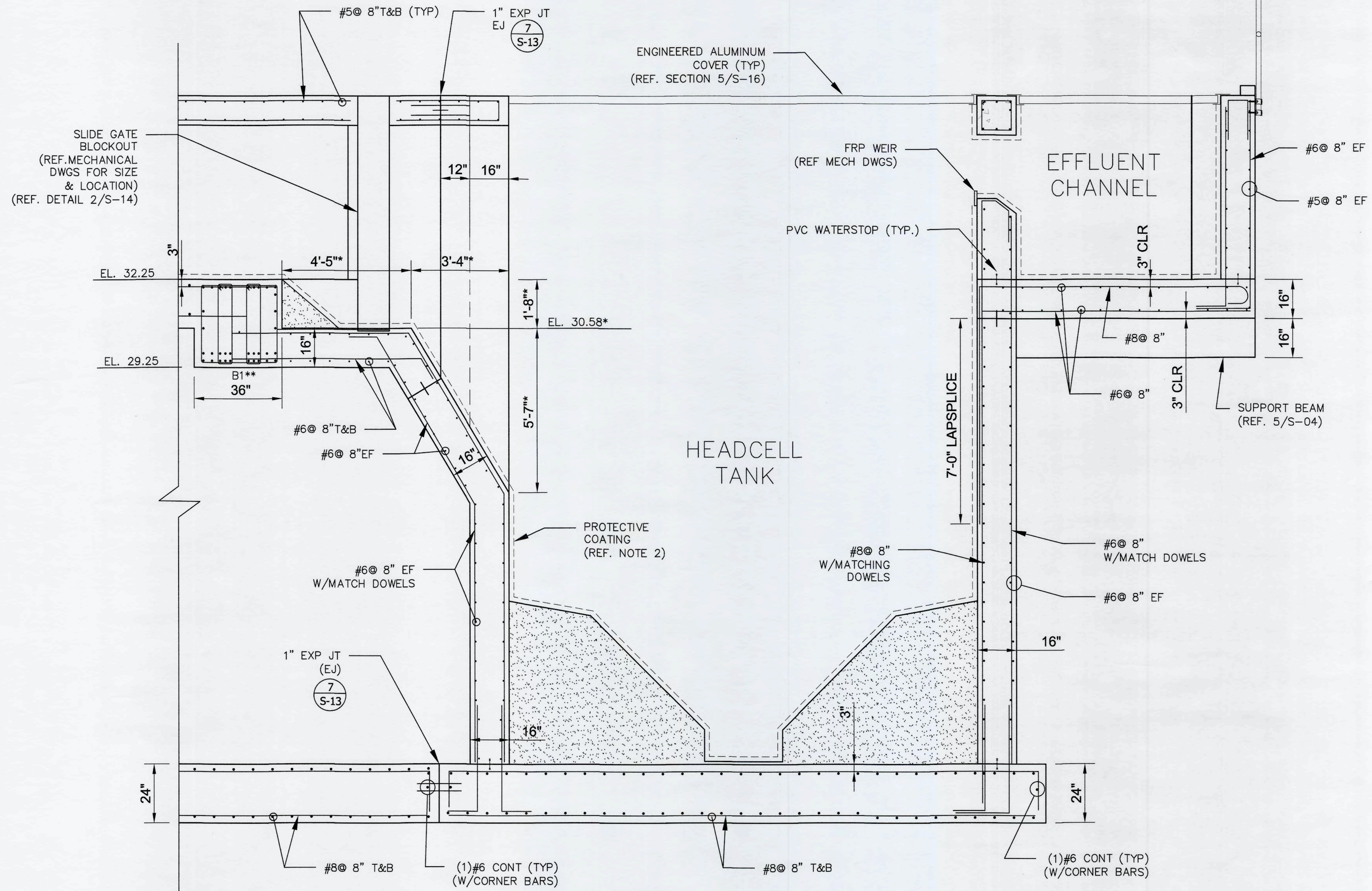


MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS
STRUCTURE SECTIONS

DATE: MAY, 2010	SCALE: AS SHOWN	DRAWING NUMBER: S-07
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	
DRAWN: CW	VERTICAL: NA	
DESIGNED: SH		
CHECKED: EA		
PROJ. MGR. DCW		
STATUS: ISSUED FOR BID		



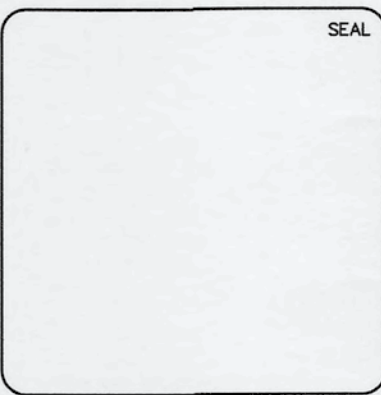
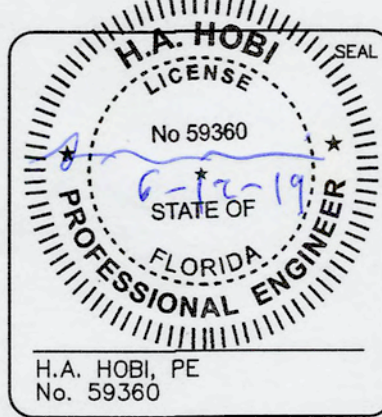
* REF. NOTE 1
 ** REF. SECTION 1/S-04

DETAIL 1
 SCALE: 1/2" = 1'-0"

- NOTES:**
1. CONTRACTOR SHALL COORDINATE ALL DIMENSION AND ELEVATIONS WITH SELECTED EQUIPMENT DIMENSIONS.
 2. PROTECTIVE COATING SHALL BE APPLIED TO ALL CONCRETE SURFACES EXPOSED TO WASTEWATER. (REF. SPECS. SECT. 09970)
 3. CONCRETE STRENGTH $f'_c=4500$ PSI W/TYPE II, ASTM C150 CEMENT AND MAXIMUM 20% BY WEIGHT SLAG AND/OR FLY ASH CONTENT.

S:\024\0170\00-Drawings\Structural\5-07-08 10240170.dwg, 6/11/2019 11:03:38 PM, Cathy Walker

REV. NO.	DESCRIPTION	DATE



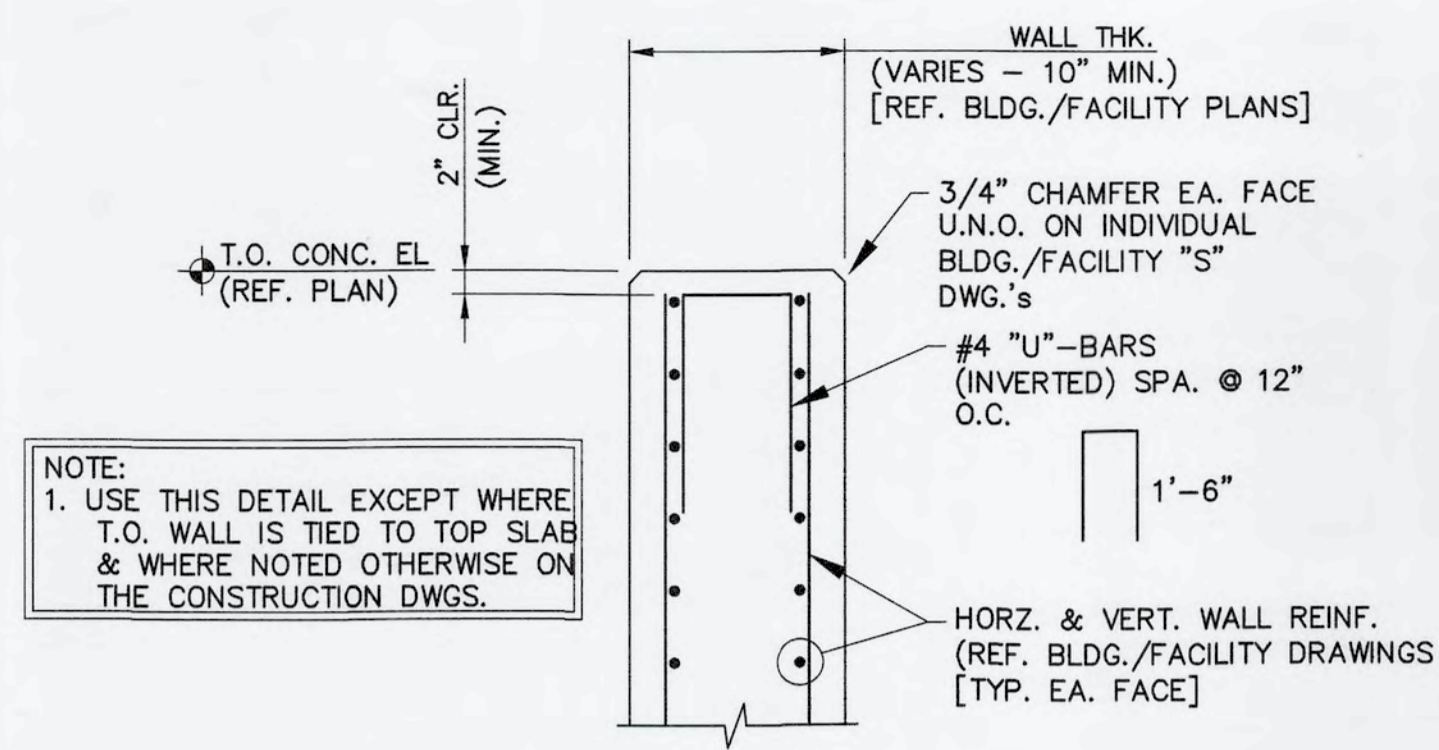
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS

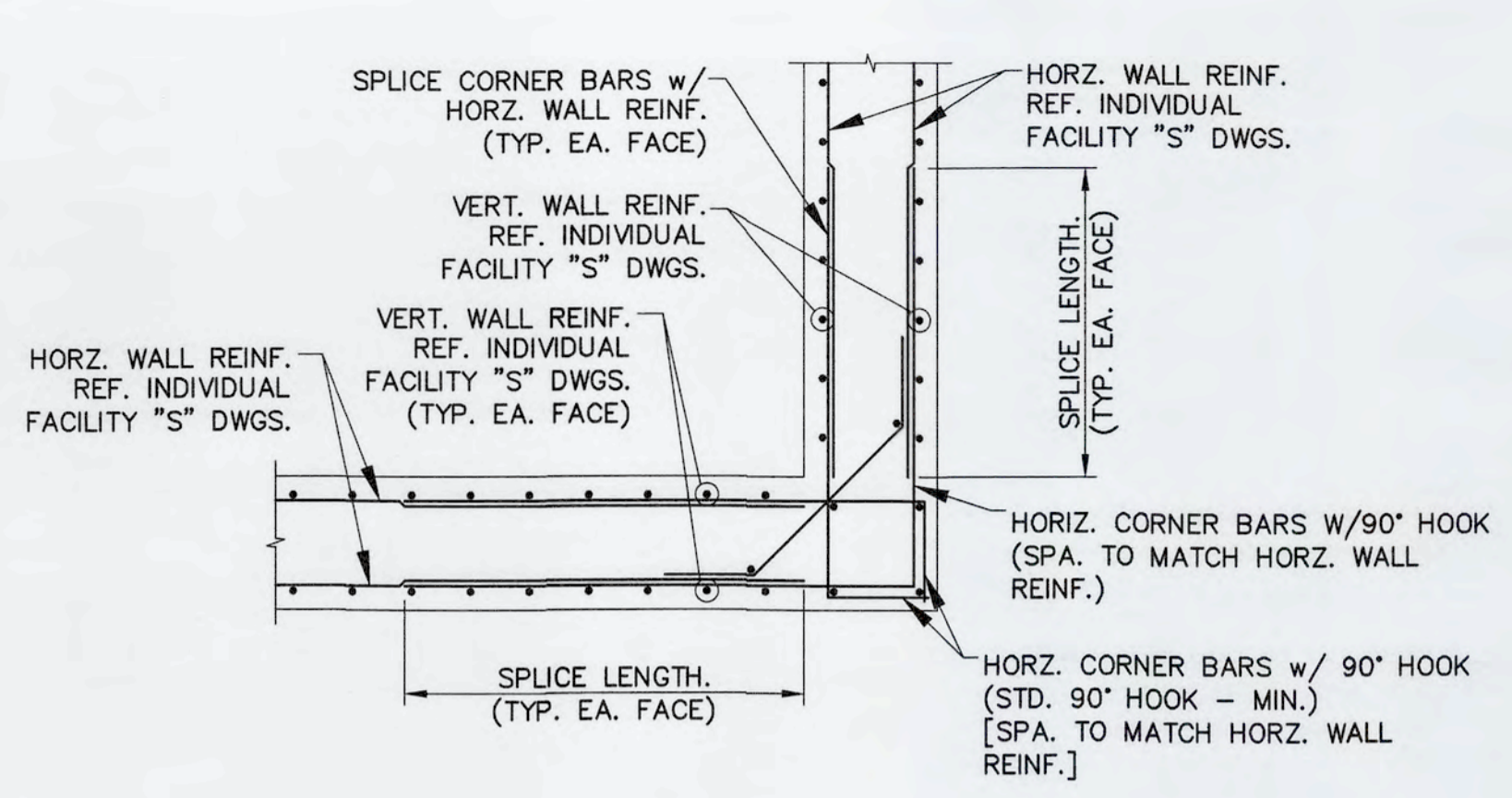
STRUCTURE SECTIONS

DATE: MAY, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	S-08
DRAWN: CW	VERTICAL: NA	REVISION:
DESIGNED: SH		ISSUED FOR BID
CHECKED: EA		
PROJ. MGR. DCW		

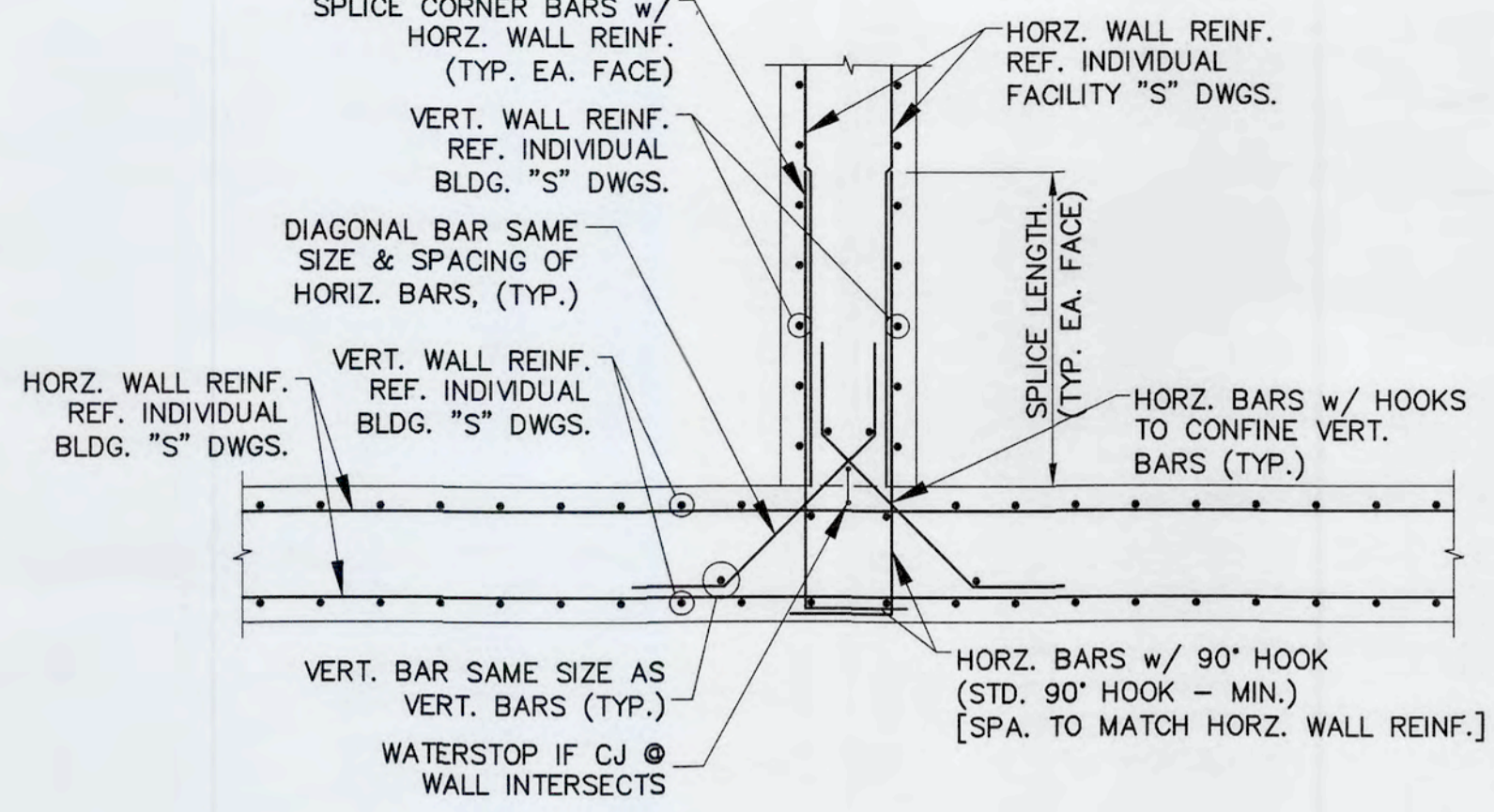


NOTE:
1. USE THIS DETAIL EXCEPT WHERE T.O. WALL IS TIED TO TOP SLAB & WHERE NOTED OTHERWISE ON THE CONSTRUCTION DWGS.

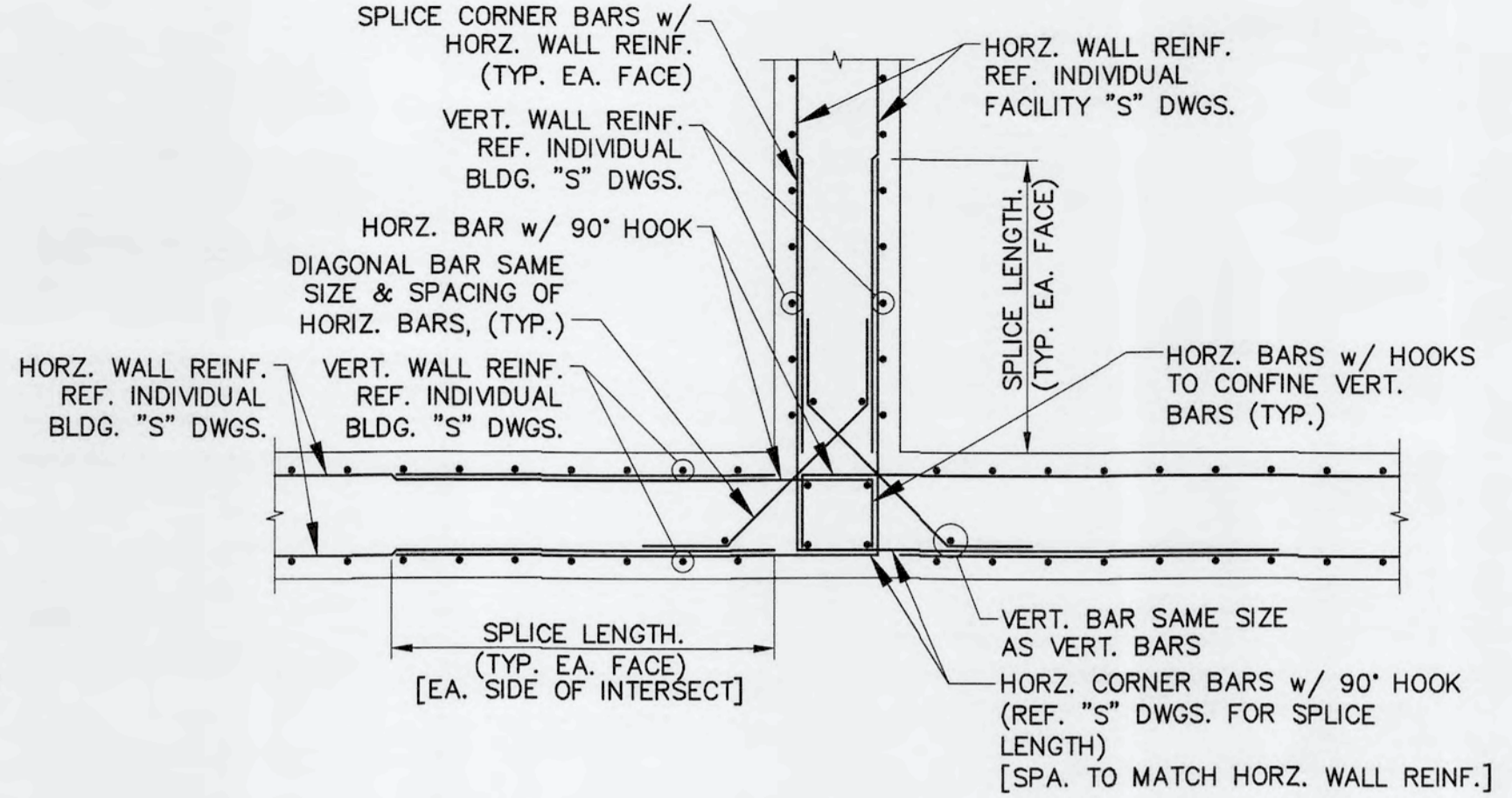
1 - DETAIL - TYP. T.O. WALL REINF.
SCALE: 3/4" = 1'-0"



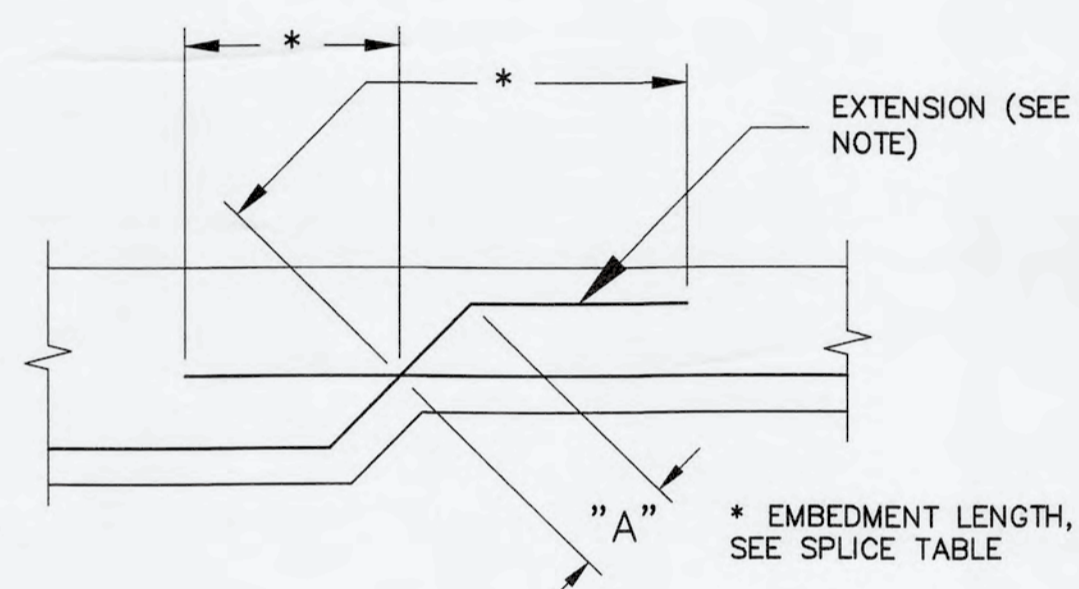
2 - DETAIL - TYP. CORNER BAR REINF.
SCALE: 1/2" = 1'-0"



3 - DETAIL - TYP. T-WALL INTERSECTION BAR REINF. / WITH COLD JOINT
SCALE: 1/2" = 1'-0"

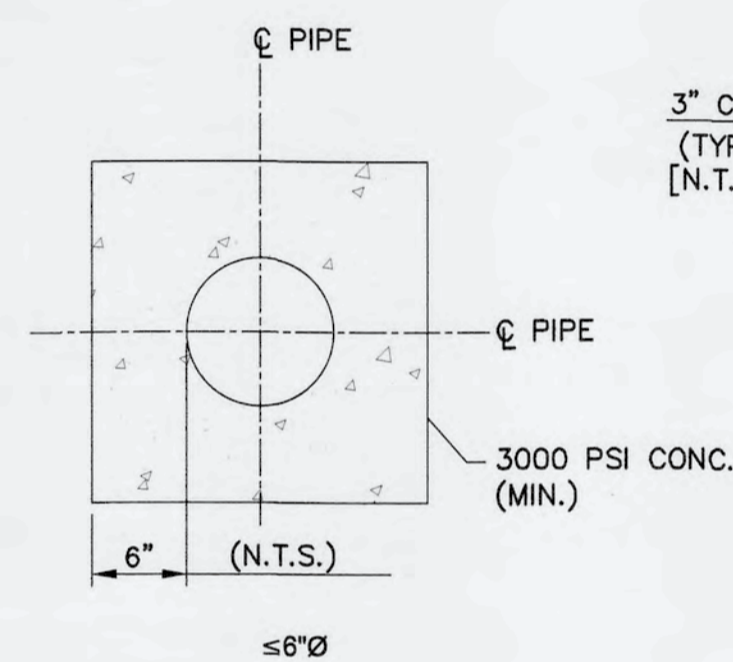


4 - DETAIL - TYP. T-WALL INTERSECTION BAR REINF. / WITHOUT COLD JOINT
SCALE: 1/2" = 1'-0"

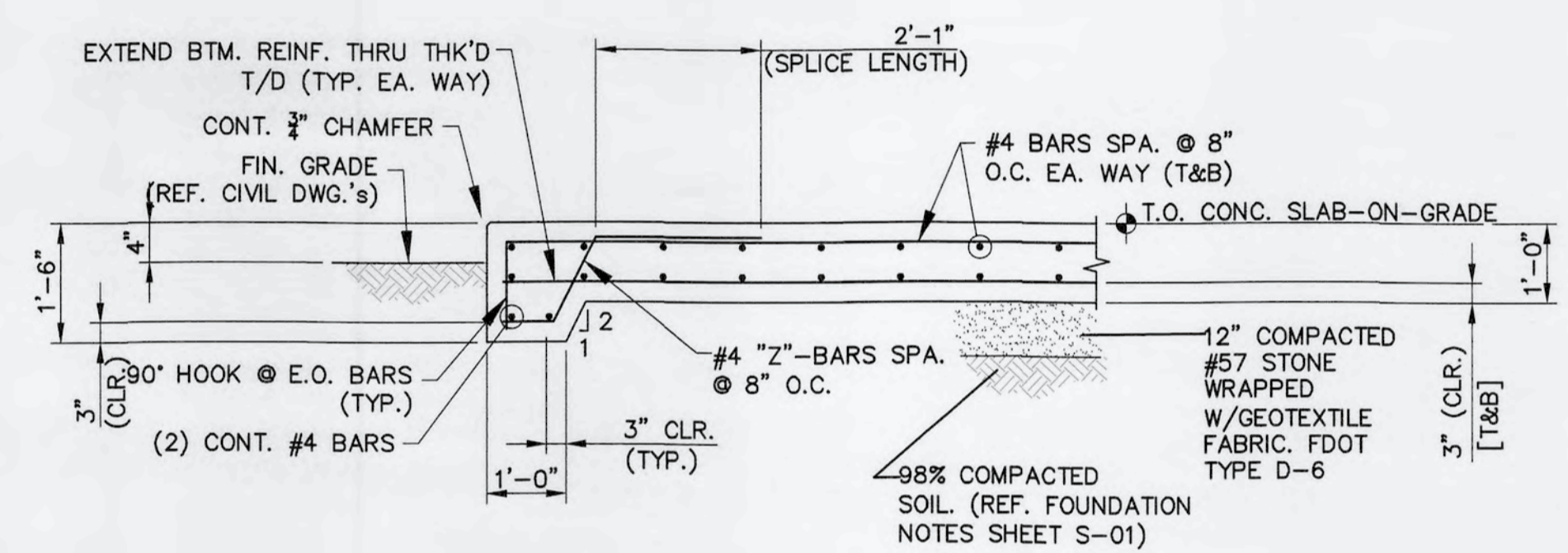
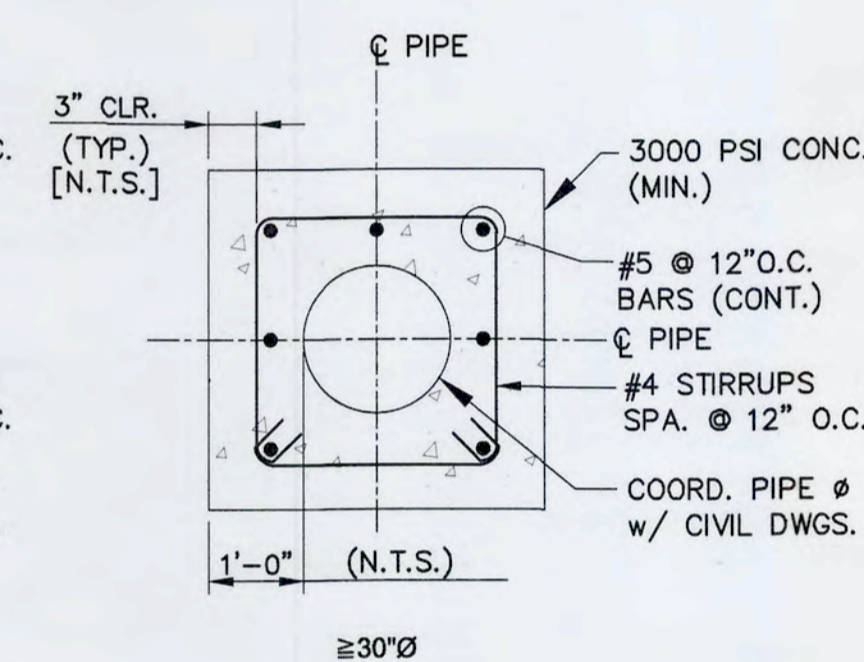
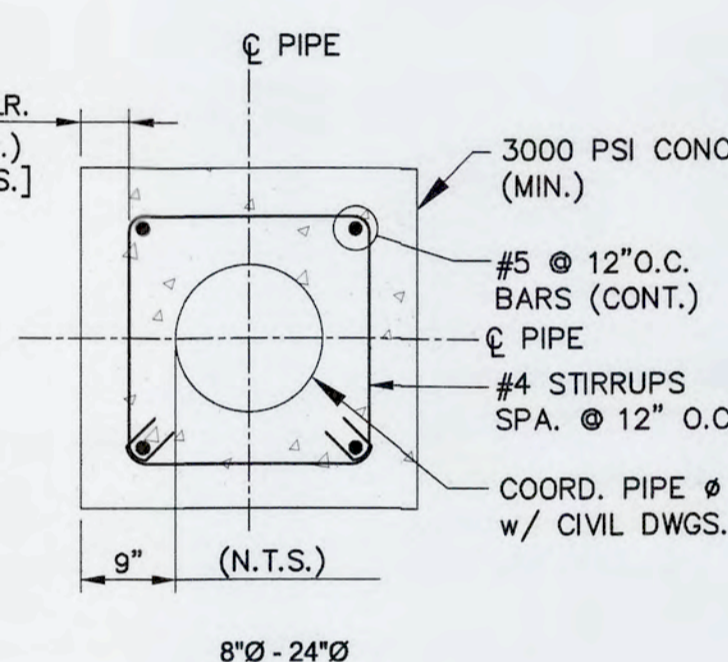


NOTE:
EXTENSION SHOWN IS REQUIRED (12\"/>

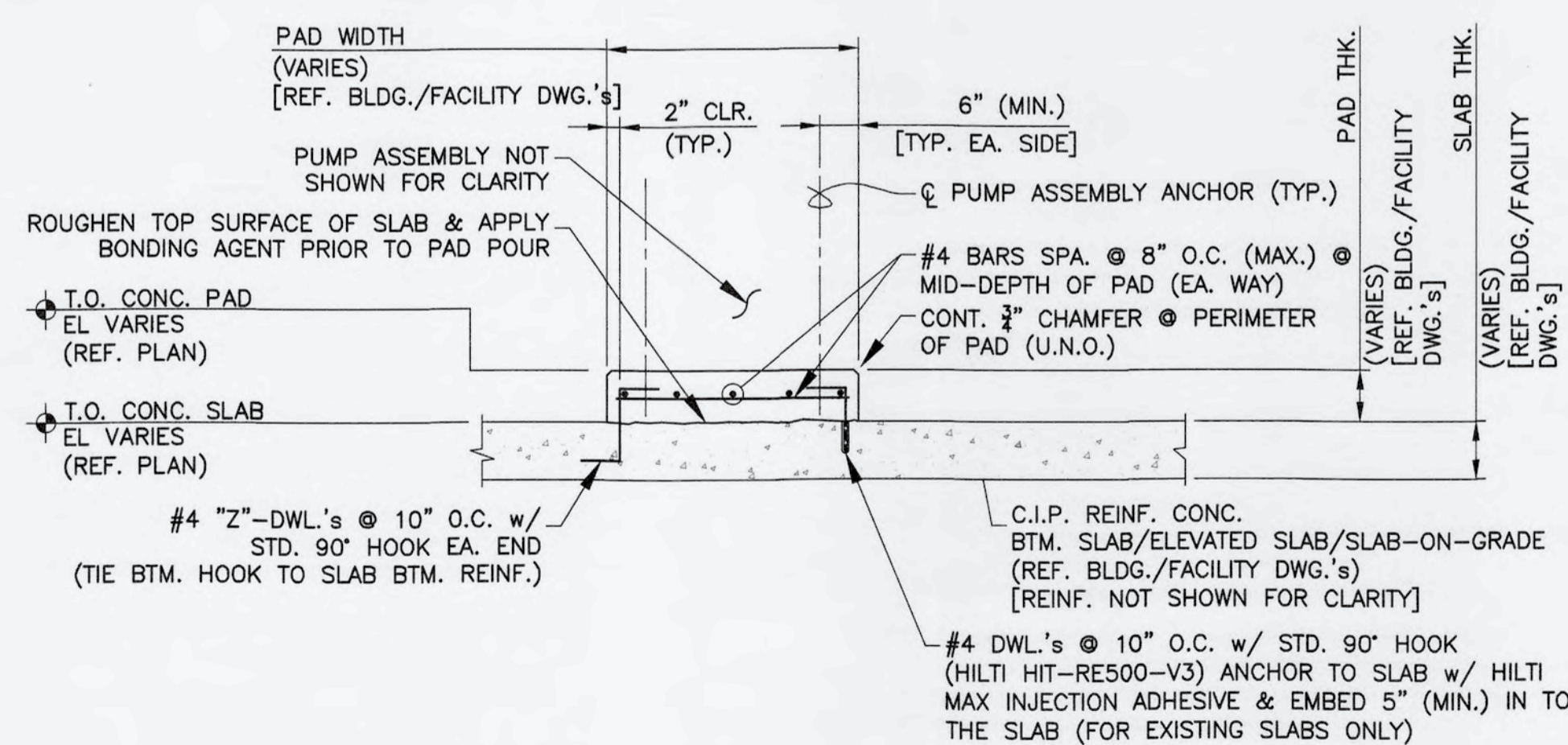
5 - DETAIL - SPLICE LENGTH OF DIAGONAL REINFORCEMENT
SCALE: 3/4" = 1'-0"



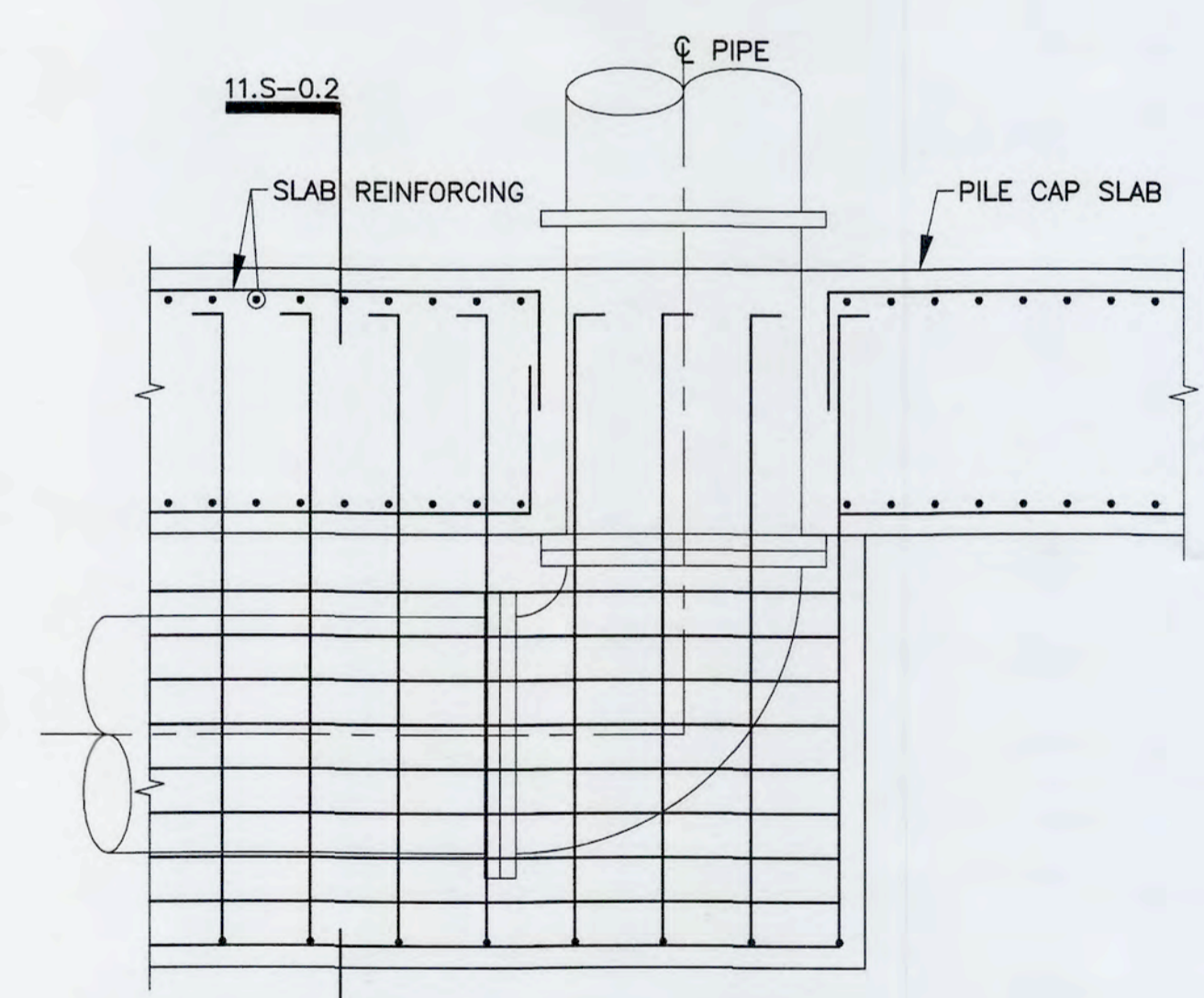
6 - DETAIL - TYP. CONC. PIPE ENCASING
SCALE: 1/2" = 1'-0"



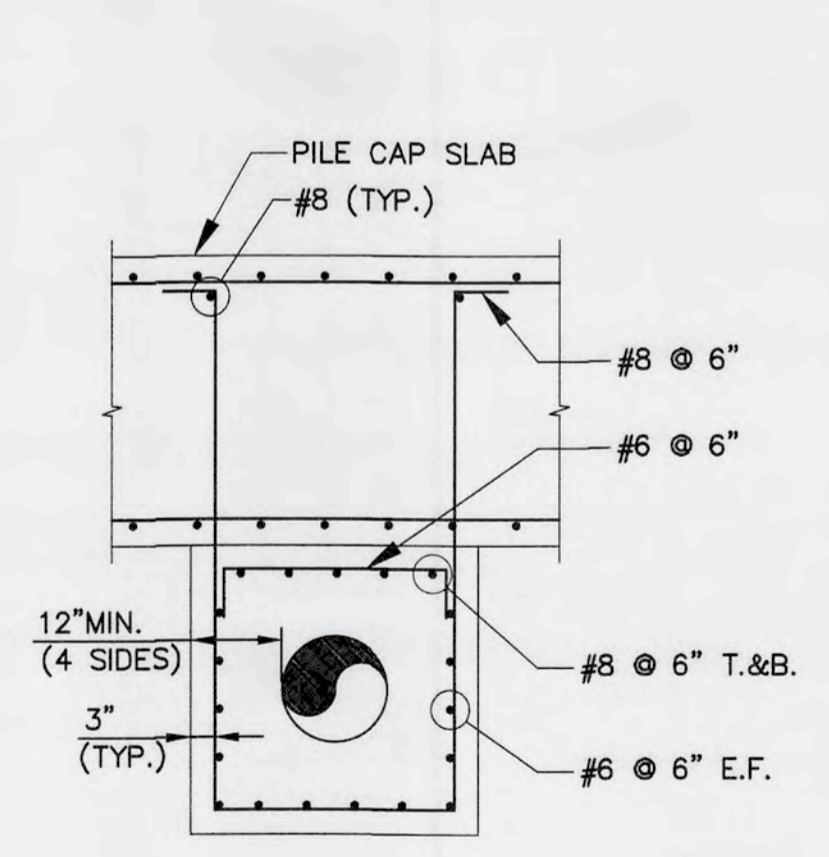
7 - SECTION - TYP. EQUIPMENT PAD
SCALE: 1/2" = 1'-0"



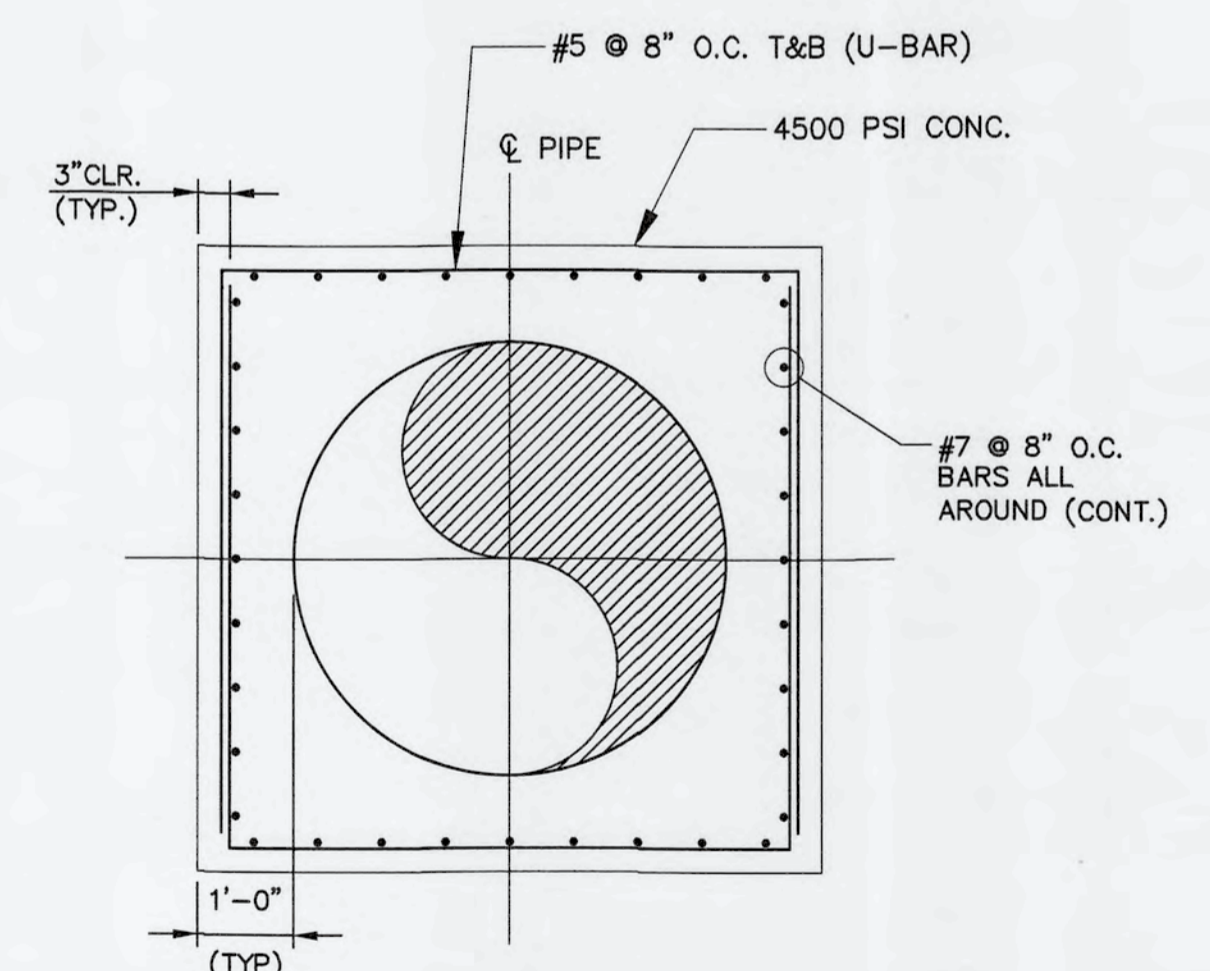
8 - DETAIL - TYP. CONC. HOUSEKEEPING PAD
SCALE: 1/2" = 1'-0"



9 - DETAIL - TYP. PIPE ENCASEMENT UNDER FOUNDATION SLAB
SCALE: 1/2" = 1'-0"



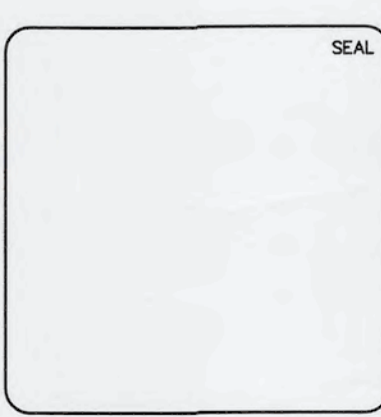
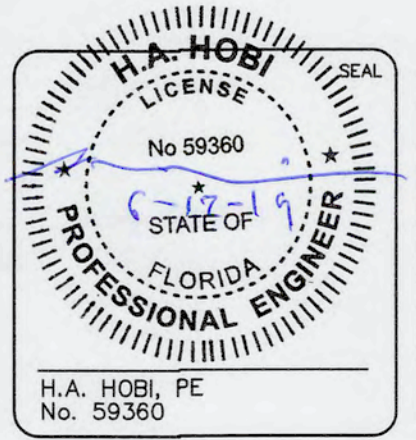
10 - SECTION - TYP. PIPE ENCASEMENT UNDER FOUNDATION SLAB
SCALE: 1/2" = 1'-0"



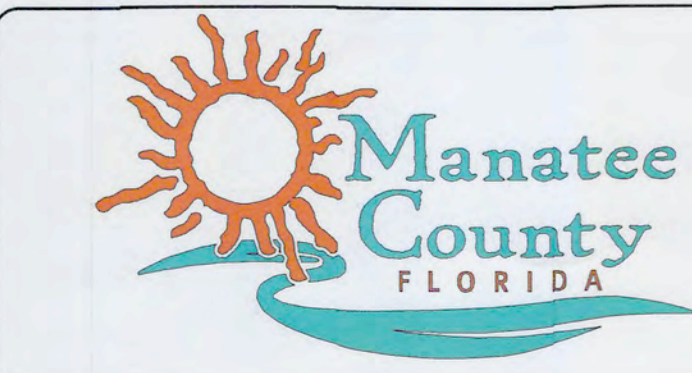
11 - DETAIL - 54\"/>

S:\1024\0170\90-Drawing\Structural\S-11-17 10240170.dwg, 6/11/2019 11:54:00 PM, Cathy Walker

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com

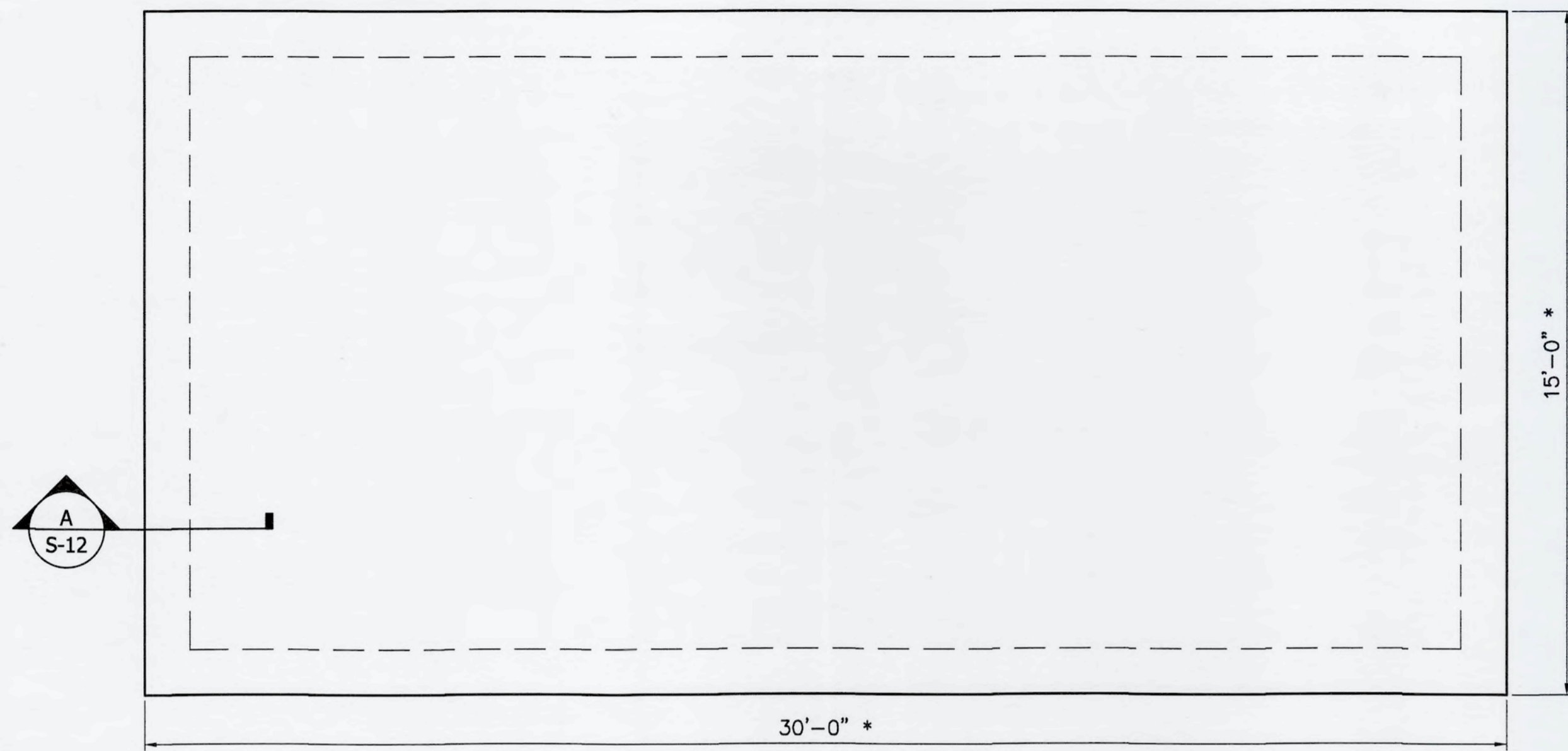


SWRF NEW HEADWORKS

STRUCTURAL DETAILS

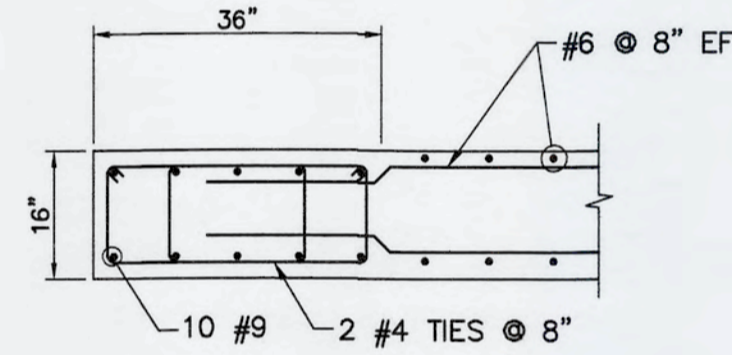
DATE: MAY, 2019	SCALE: AS SHOWN	DRAWING NUMBER: S-11
MCE PROJ. # 1024-0170	HORIZONTAL: NA	
DRAWN: CW	VERTICAL: NA	REVISION
DESIGNED: SH		ISSUED FOR BID
CHECKED: EA		
PROJ. MGR: DCW		

STATUS: **ISSUED FOR BID**

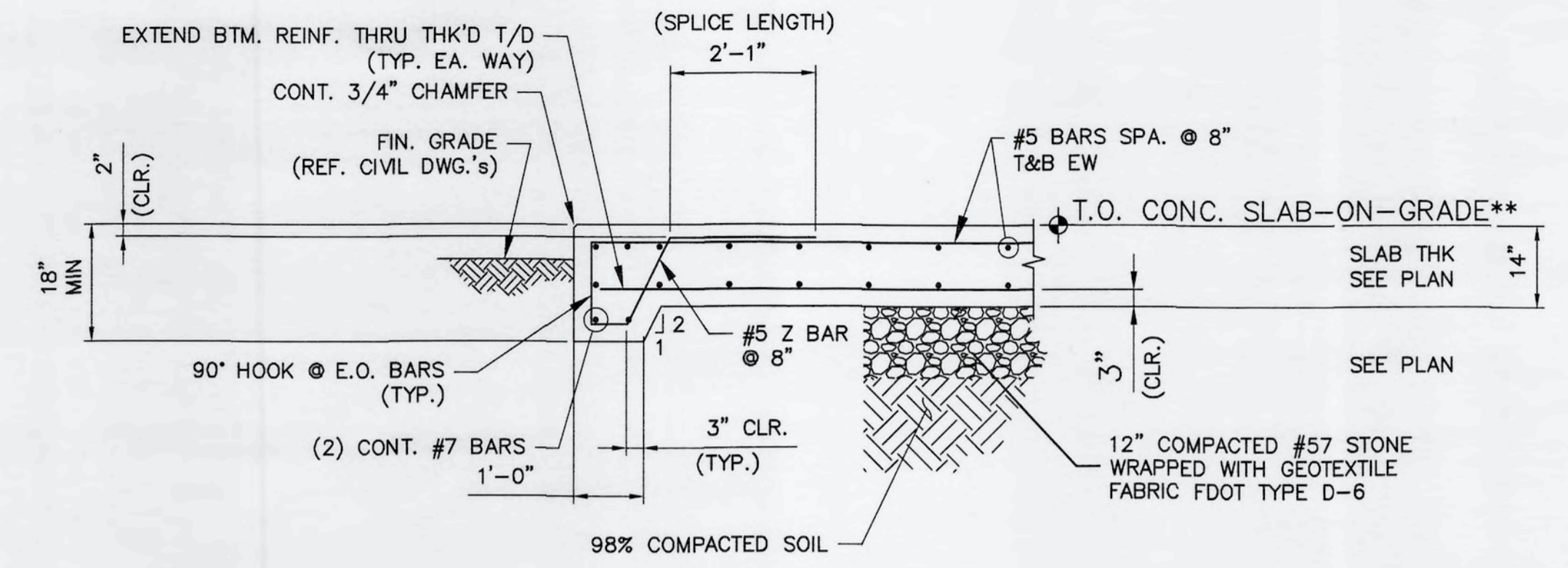


(B) PLAN - ODOR CONTROL PAD
SCALE: 3/8" = 1'-0"
* SEE NOTE (1)

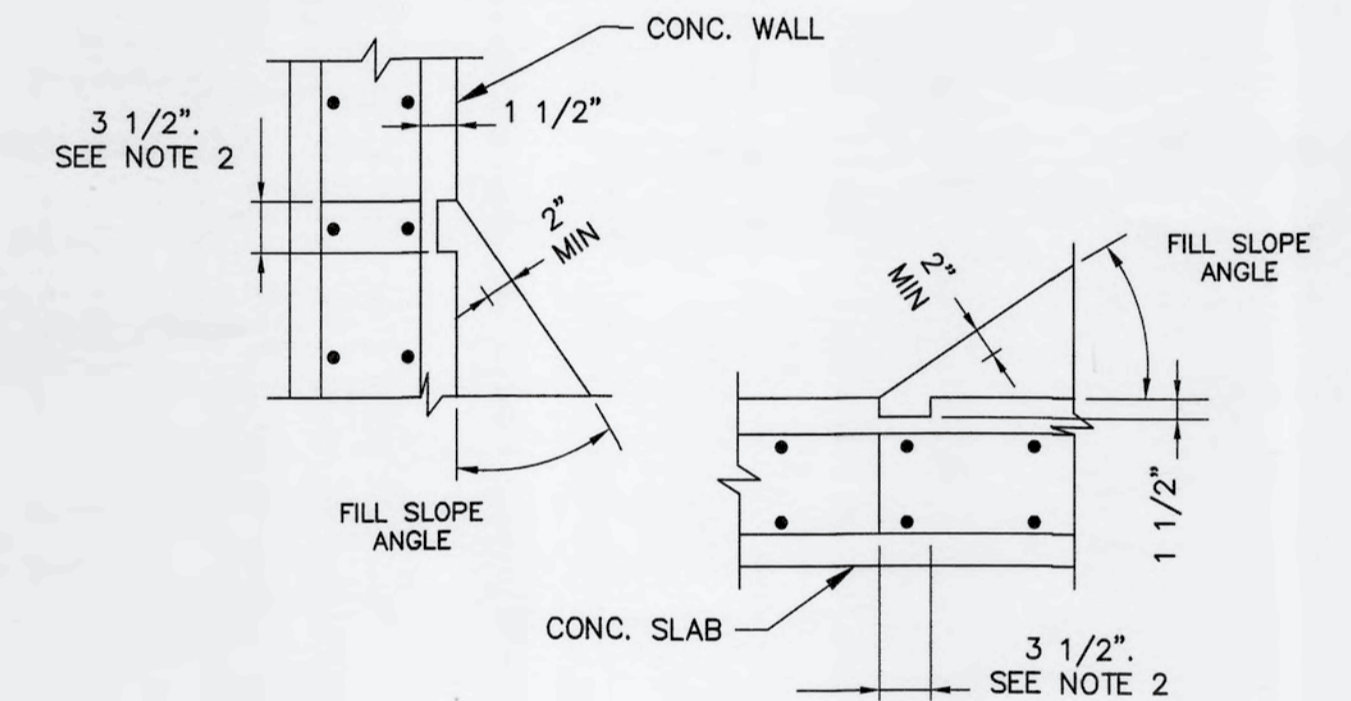
- NOTES:
- CONTRACTOR SHALL COORDINATE PAD SIZE WITH EQUIPMENT MANUFACTURER.
 - MIN SLAB THICKNESS 14". SLAB THICKNESS MAY INCREASE BASED ON EQUIPMENT USED. CONTRACTOR SHALL SUBMIT TO THE ENGINEER ALL EQUIPMENT DATA, INCLUDING ALL EQUIPMENT DIMENSIONAL INFORMATION TO CALCULATE THE REQUIRED SLAB THICKNESS.



(C) IN-WALL COLUMN DETAIL
SCALE: 1/2" = 1'-0"



(A) SECTION
SCALE: 1/2" = 1'-0"
** SEE NOTE (2)



- NOTES:
- PROVIDE KEY FOR ALL FILL WHERE FILL SLOPE ANGLE TO WALL OR SLAB IS LESS THAN 45 DEGREES.
 - LENGTHEN 3 1/2" BLOCKOUT AS REQUIRED TO MAINTAIN 2" MINIMUM THICKNESS OF GROUT OR CONCRETE FILL.

(D) DETAIL - CONCRETE OR GROUT FILL KEY
SCALE: N.T.S.

BAR SIZE	DEVELOPMENT LENGTH, l_{dh}	
	BASIC	W/ CONC COVER *
#3	8"	6"
#4	10"	7"
#5	1'-0"	9"
#6	1'-2"	10"
#7	1'-5"	1'-0"
#8	1'-7"	1'-1"
#9	1'-9"	1'-3"
#10	2'-0"	1'-5"
#11	2'-2"	1'-6"

*SIDE COVER NORMAL TO PLANE OF HOOK AT LEAST 2 1/2"; AND FOR 90° HOOK END COVER BEYOND OUTSIDE END OF HOOK AT LEAST 2".

BASIC DEVELOPMENT LENGTH	CONFINEMENT *	BAR SIZE	SPLICE LENGTH	
			BASIC	CONFINEMENT **
8"	8"	# 3	12"	12"
10"	8"	# 4	1'-3"	13"
1'-0"	9"	# 5	1'-7"	1'-4"
1'-3"	1'-0"	# 6	1'-11"	1'-7"
1'-5"	1'-1"	# 7	2'-2"	1'-10"
1'-7"	1'-3"	# 8	2'-6"	2'-1"
1'-9"	1'-4"	# 9	2'-10"	2'-4"
2'-0"	1'-6"	# 10	3'-2"	2'-7"
2'-2"	1'-8"	# 11	3'-6"	2'-10"

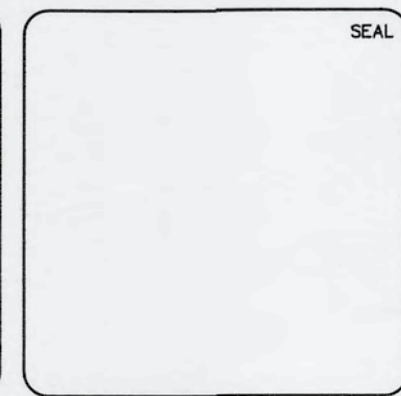
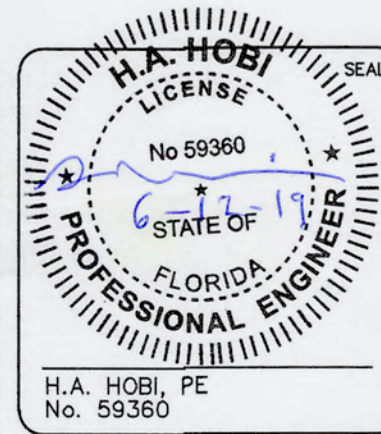
* BAR ENCLOSED WITHIN SPIRALS OF NOT LESS THAN 1/4 INCH DIAMETER AND NOT MORE THAN 4 INCH PITCH OR WITHIN #4 TIES IN CONFORMANCE WITH ACI 318. SECTION 7.10.5 AT NOT MORE THAN 4 INCHES ON CENTER, FACTOR 0.75 USED.
** BAR ENCLOSED WITHIN TIES PER ACI 350-01 SECTION 12.17.2.4.

BASIC DEVELOPMENT LENGTH AND SPLICE LENGTH												
FOR BARS IN TENSION												
fy = 60,000 psi fc' = 4000 psi OR GREATER, NORMAL WEIGHT CONCRETE												
CLEAR SPACING >= 4db	BASIC DEVELOPMENT LENGTH **					BAR SIZE	CLASS B SPLICE LENGTH **					
	1.3 x l_d						1.3 x l_d					
	BASIC	TOP *	BASIC	TOP *	BASIC		TOP *	BASIC	TOP *	BASIC	TOP *	
9"	12"	1'-3"	1'-7"	1'-10"	2'-4"	# 3	12"	1'-3"	1'-7"	2'-0"	2'-4"	3'-0"
12"	1'-3"	1'-7"	2'-1"	2'-5"	3'-1"	# 4	1'-3"	1'-10"	2'-1"	2'-8"	3'-1"	4'-0"
1'-3"	1'-7"	2'-0"	2'-7"	3'-0"	3'-10"	# 5	1'-7"	2'-1"	2'-7"	3'-4"	3'-10"	5'-0"
1'-6"	1'-11"	2'-5"	3'-1"	3'-7"	4'-8"	# 6	1'-11"	2'-5"	3'-1"	4'-0"	4'-8"	6'-0"
2'-1"	2'-9"	3'-6"	4'-6"	5'-2"	6'-9"	# 7	2'-9"	3'-7"	4'-6"	5'-10"	6'-9"	8'-9"
2'-5"	3'-1"	4'-0"	5'-2"	6'-0"	7'-9"	# 8	3'-1"	4'-1"	5'-2"	6'-8"	7'-9"	10'-0"
2'-9"	3'-6"	4'-6"	5'-9"	6'-8"	8'-8"	# 9	3'-6"	4'-7"	5'-9"	7'-6"	8'-8"	11'-3"
3'-0"	3'-11"	4'-11"	6'-5"	7'-5"	9'-8"	# 10	3'-11"	5'-1"	6'-5"	8'-4"	9'-8"	12'-6"
3'-4"	4'-3"	5'-5"	7'-1"	8'-2"	10'-8"	# 11	4'-3"	5'-7"	7'-1"	9'-2"	10'-8"	13'-9"

* TOP REINFORCEMENT IS HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
** LENGTHS SHOWN IN CHART SHALL BE MODIFIED WHERE REQUIRED TO CONFORM TO THE PROVISIONS OF ACI 318, SECTION 12.2.

(E) SCHEDULE - REINF. BAR SPLICE REQUIREMENTS
SCALE: N.T.S.

REVNO.	DESCRIPTIONS	DATE



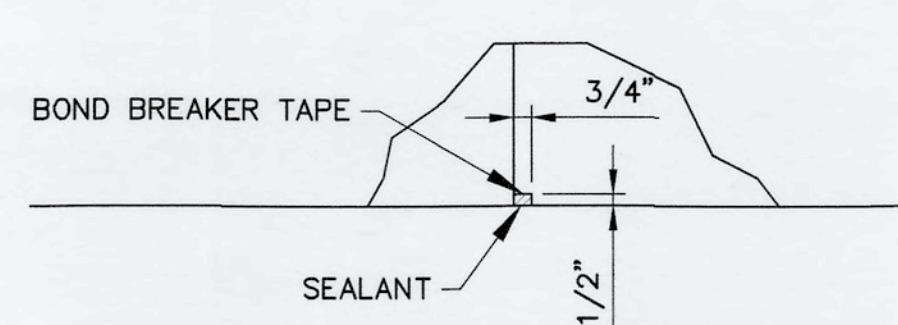
MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



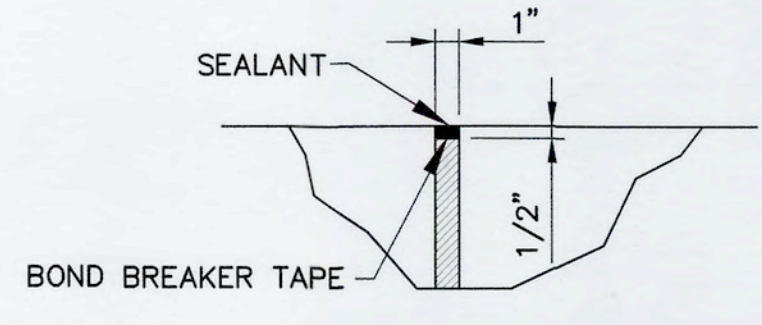
SWRF NEW HEADWORKS
STRUCTURAL SECTION AND DETAILS

DATE: MAY, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	S-12
DRAWN: CW	VERTICAL: NA	
DESIGNED: SH		
CHECKED: EA		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		

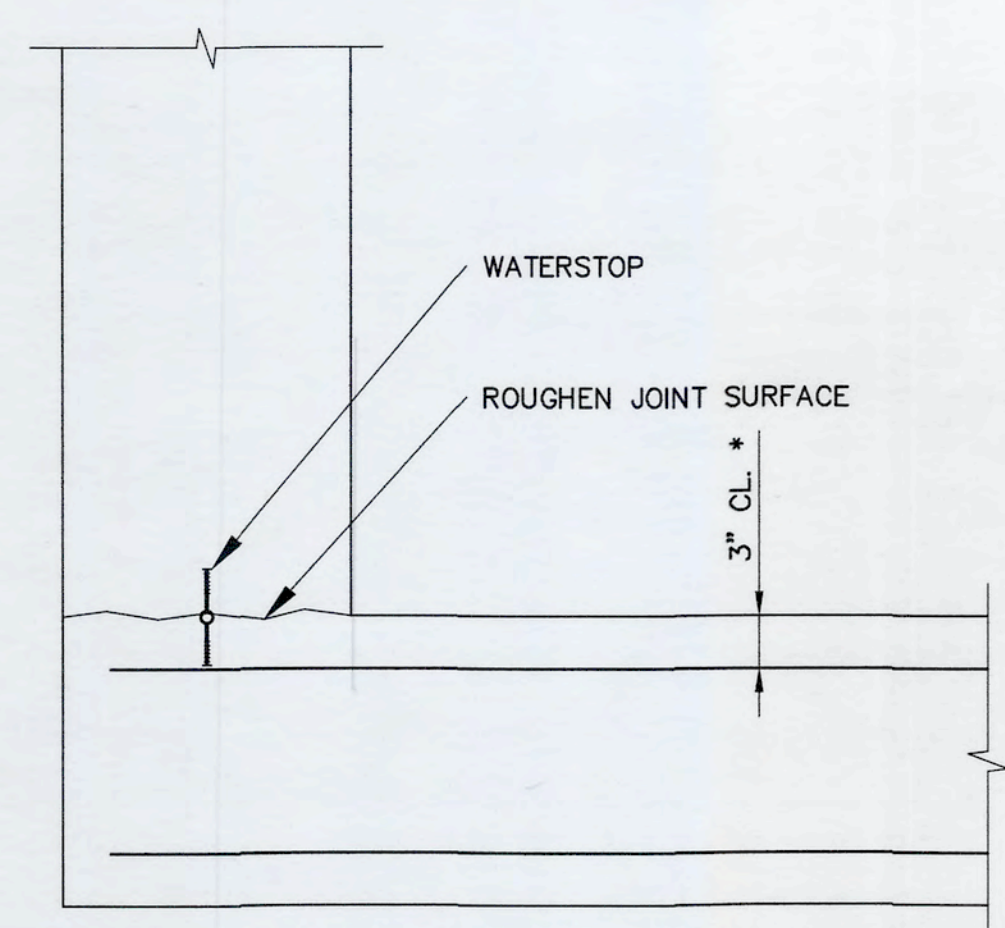
S:\024\0170\00-Drawing\Structure\11-17_10240170.dwg, 6/12/2019 3:21:19 PM, Cathy Walker



2 - DETAIL - CONTRACTION JOINT
SCALE: 1 1/2" = 1'-0"

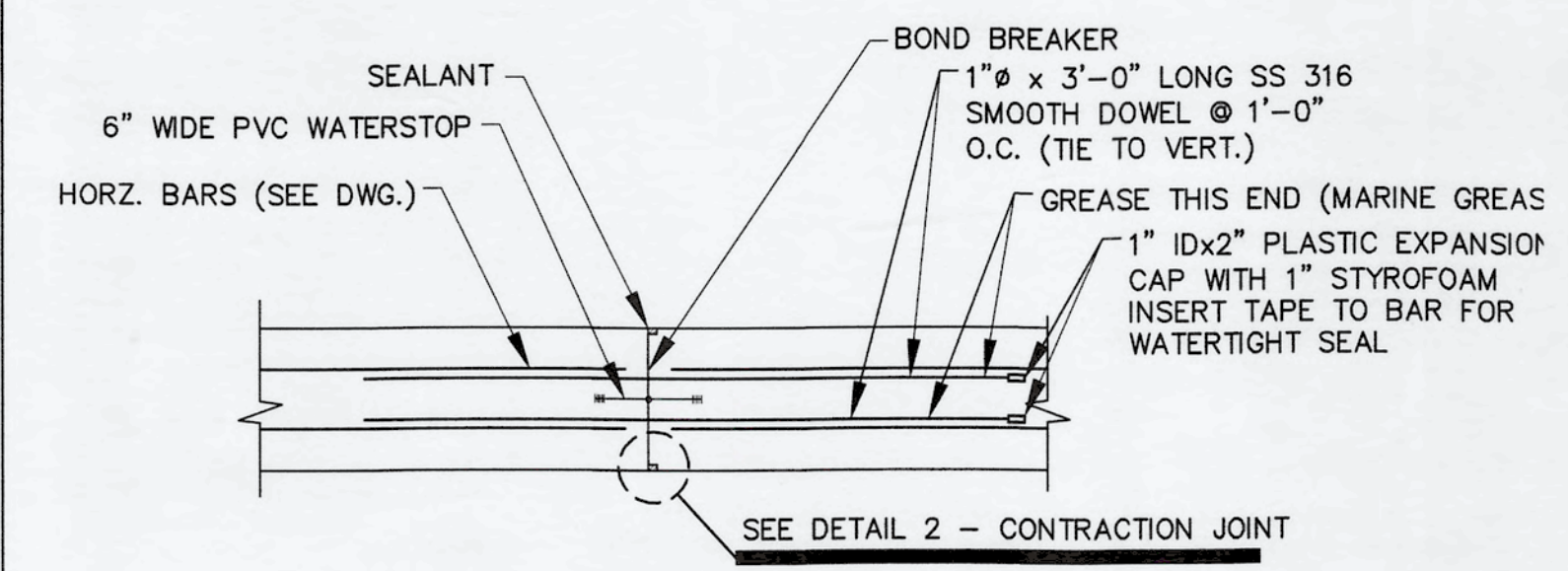


3 - DETAIL - EXPANSION JOINT
SCALE: 1 1/2" = 1'-0"

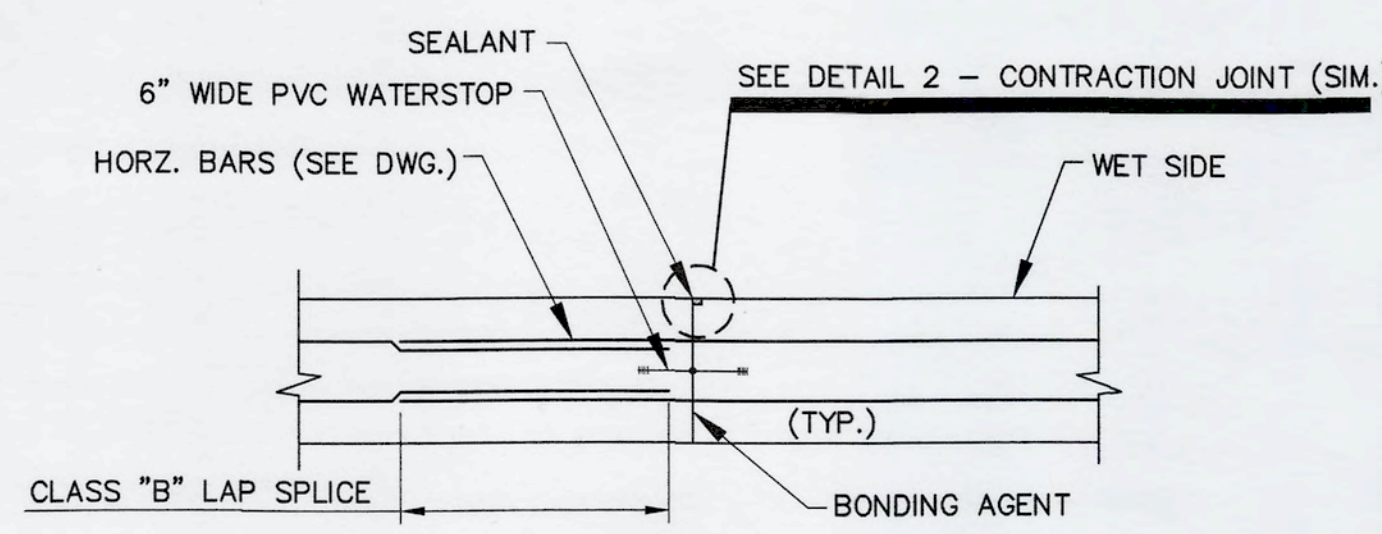


* PROVIDE 3" COVER TO TOP BARS WHERE 6" PVC WATERSTOP IS REQ'D.
WALL AND FLOOR SLAB.

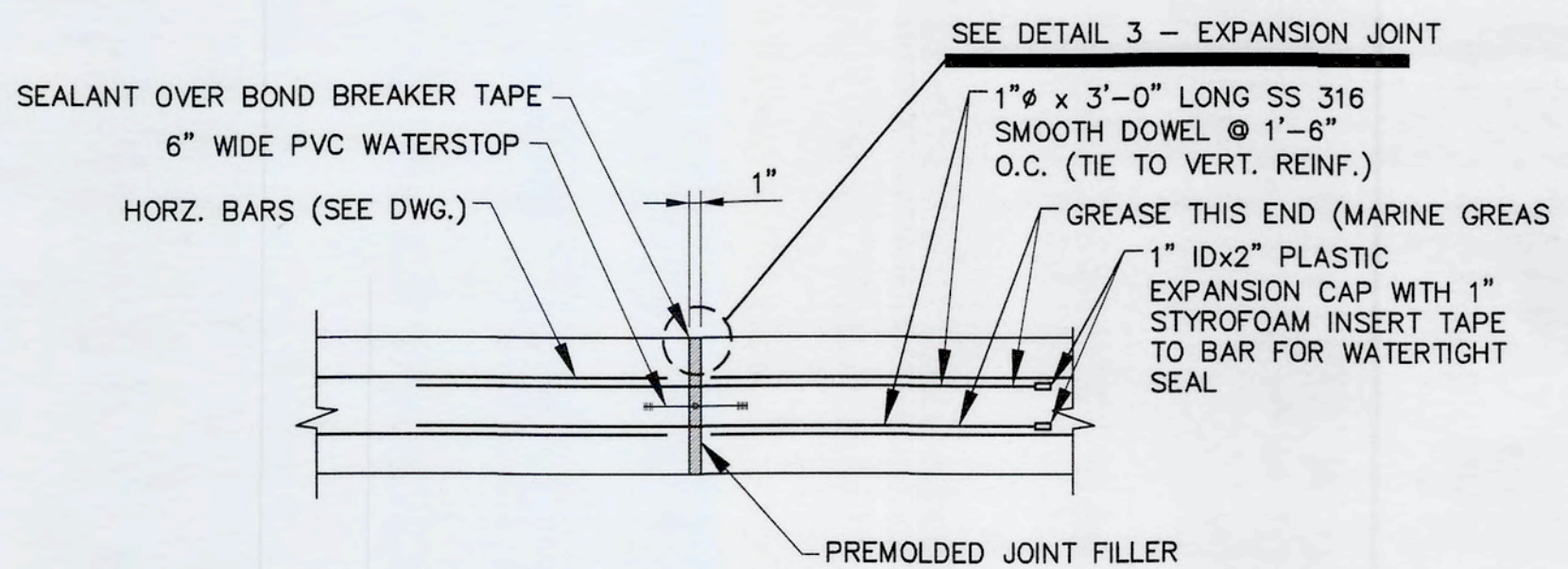
4 - DETAIL - TYP. WALL / FLOOR SLAB CONST. JOINT
SCALE: 1" = 1'-0"



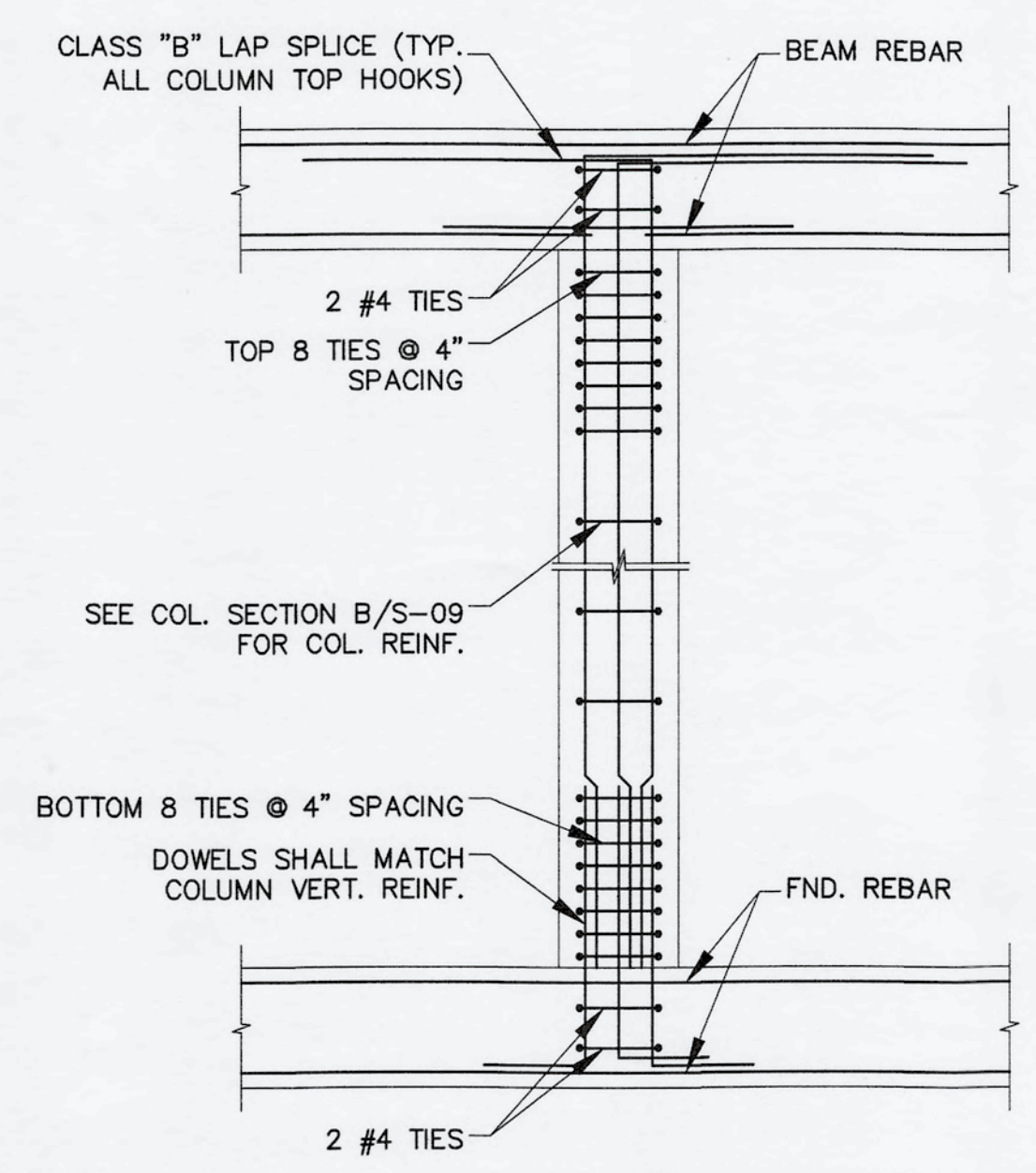
5 - DETAIL - WALL/SLAB CONTRACTION JOINT (CJ)
SCALE: 3/4" = 1'-0"



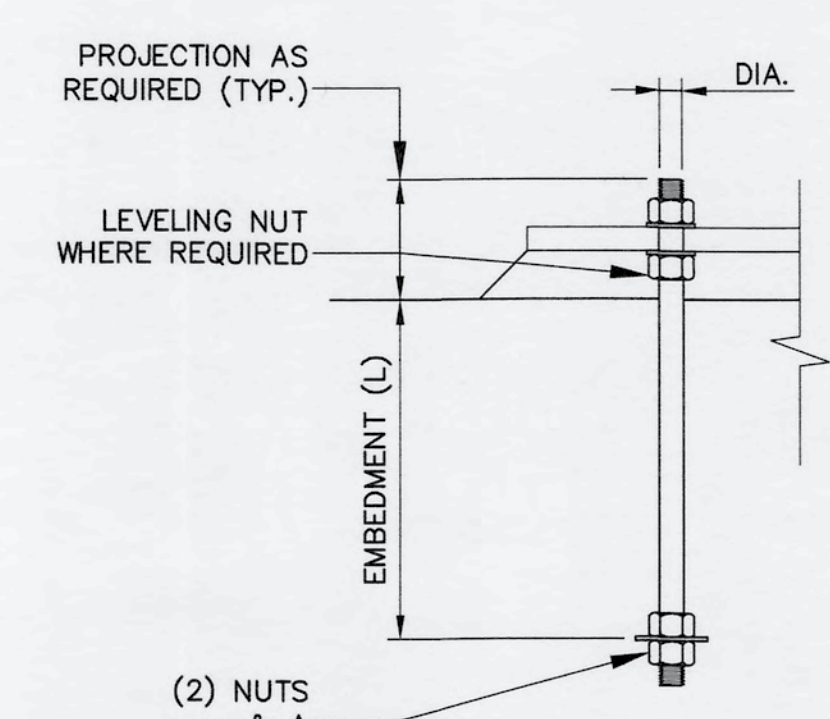
6 - DETAIL - WALL/SLAB CONSTRUCTION JOINT (SJ)
SCALE: 3/4" = 1'-0"



7 - DETAIL - WALL/SLAB EXPANSION JOINT (EJ)
SCALE: 3/4" = 1'-0"



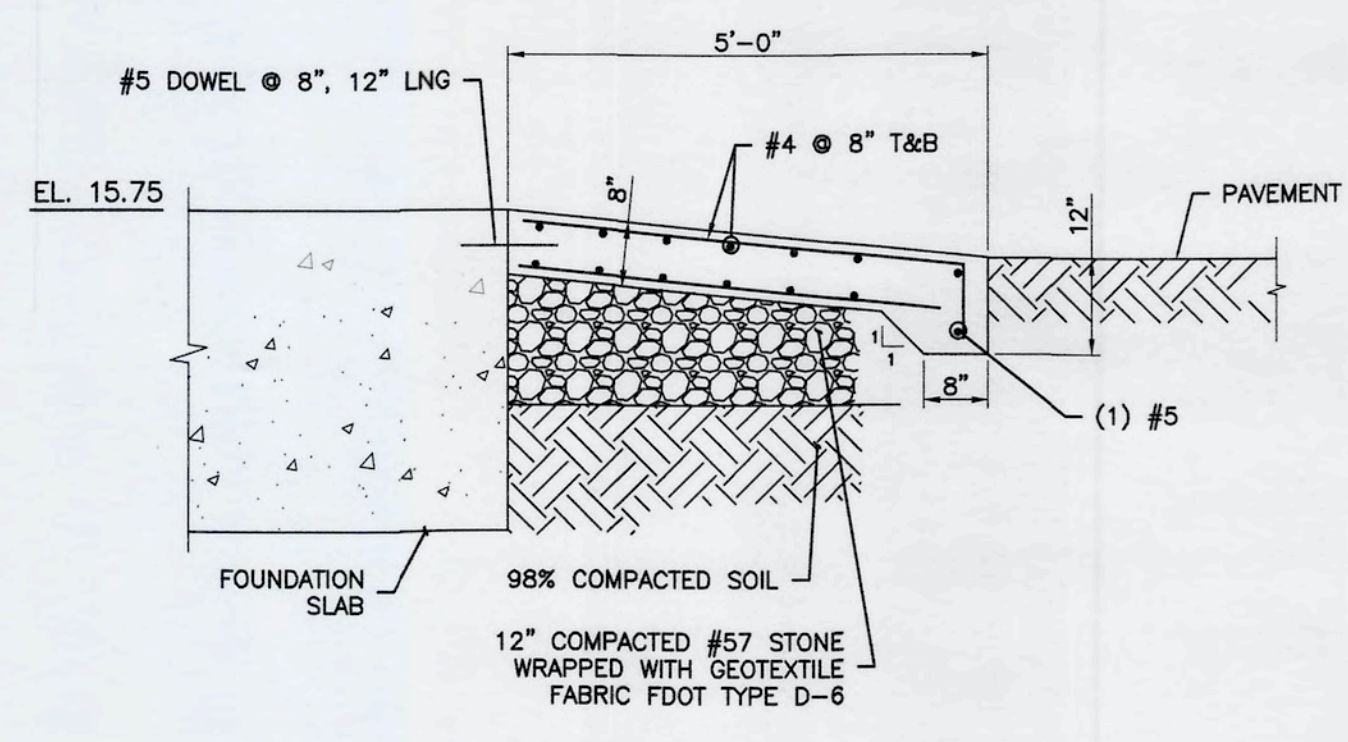
8 - DETAIL - COLUMN ENDS CONNECTION DETAIL
N.T.S.



NOTE:
1. REFER TO SPECIFICATIONS FOR ANCHOR BOLT MATERIAL REQUIREMENTS.

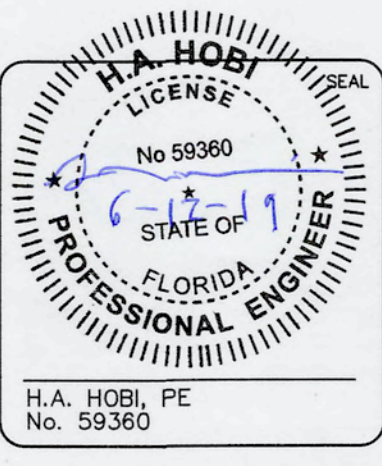
9 - TYPICAL ANCHOR BOLT DETAIL
N.T.S.

EMBEDMENT CHART	
BOLT DIA. (IN.)	L (IN.)
S.S. TYPE 316	
1/2	6
5/8	7 1/2
3/4	9
7/8	10 1/2
1	12
1 1/8	13 1/2
1 1/4	15
1 3/8	16 1/2
1 1/2	18

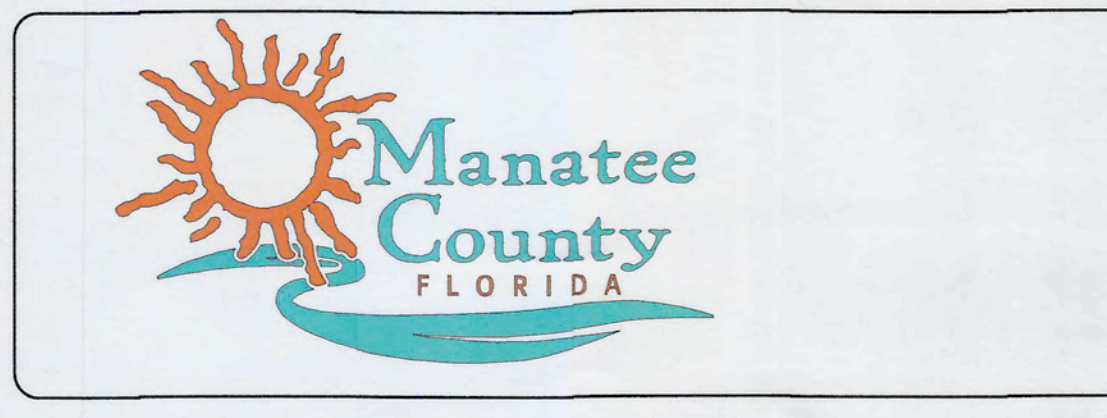


10 - ENTRANCE PAD DETAIL
SCALE: 1/2" = 1'-0"

REVNO.	DATE	DESCRIPTIONS



MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com

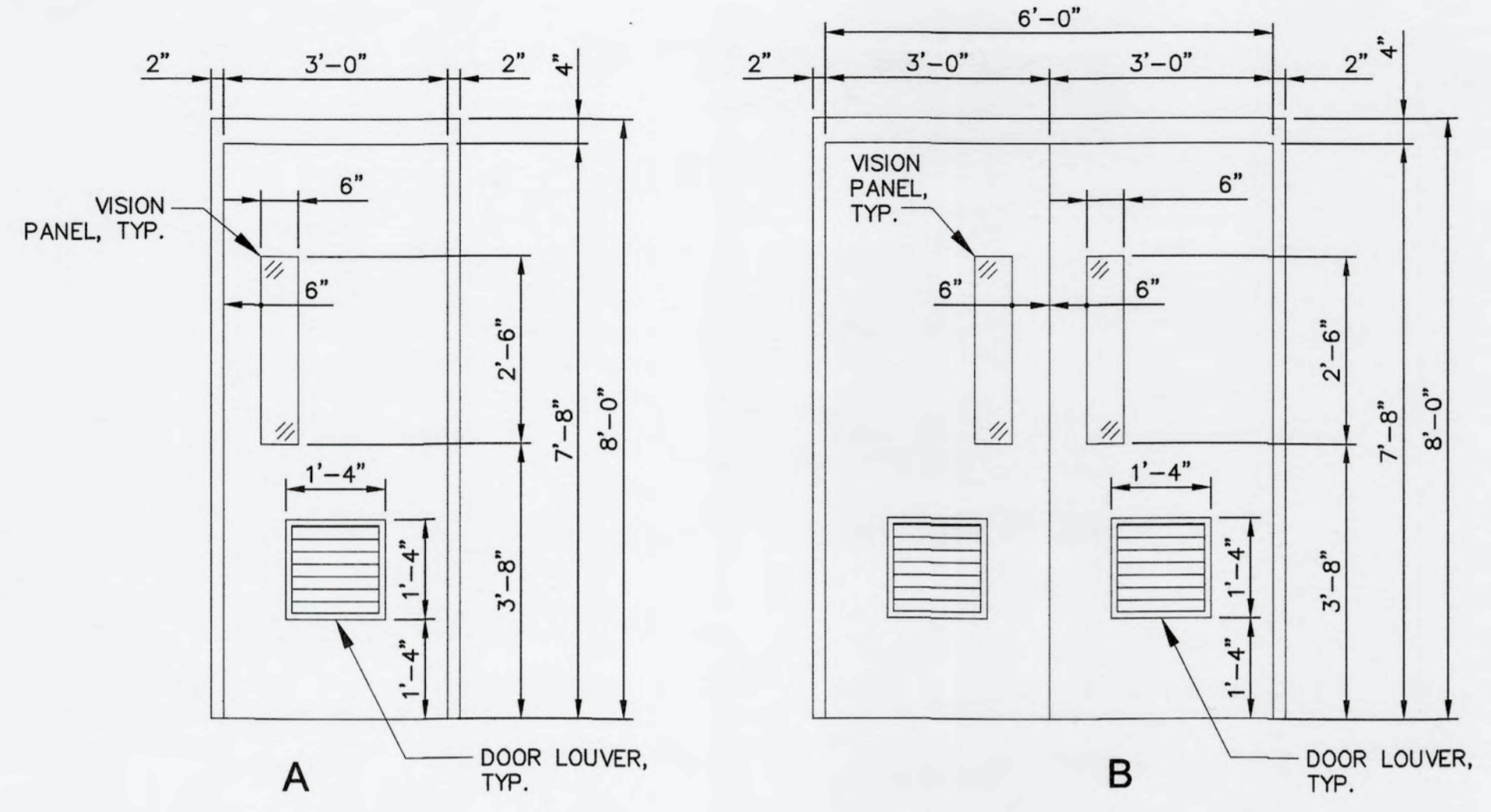


SWRF NEW HEADWORKS

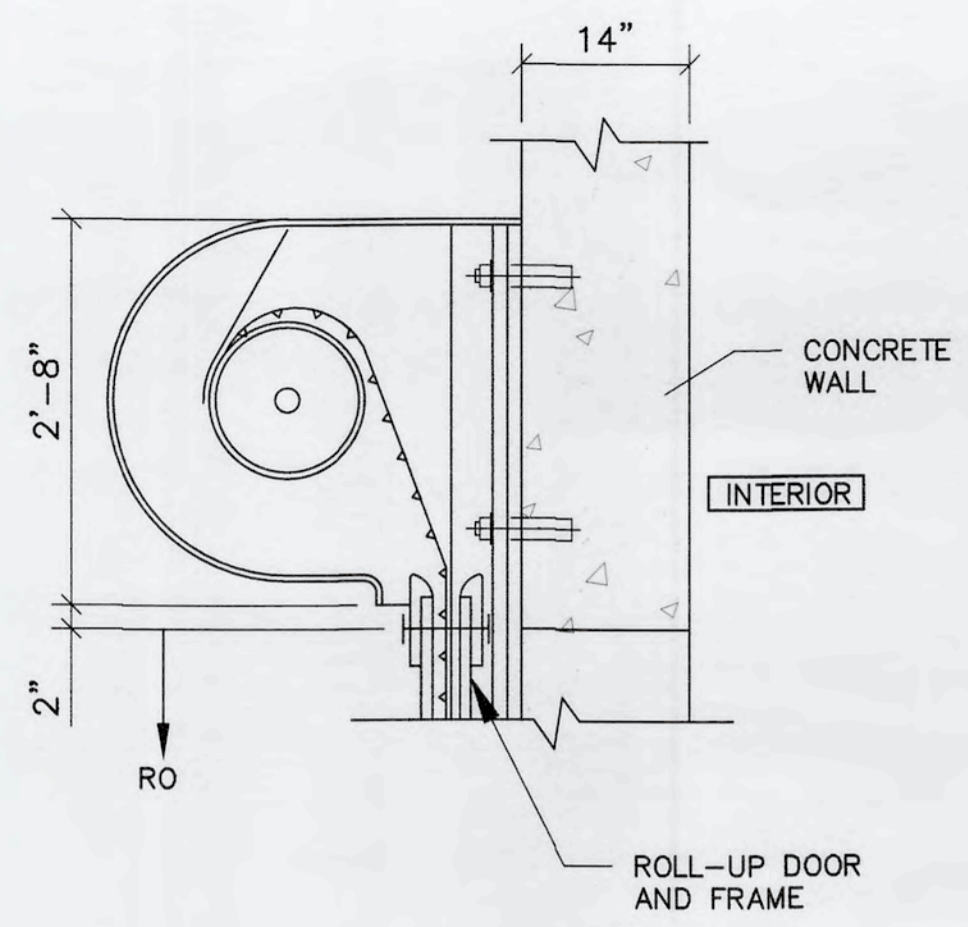
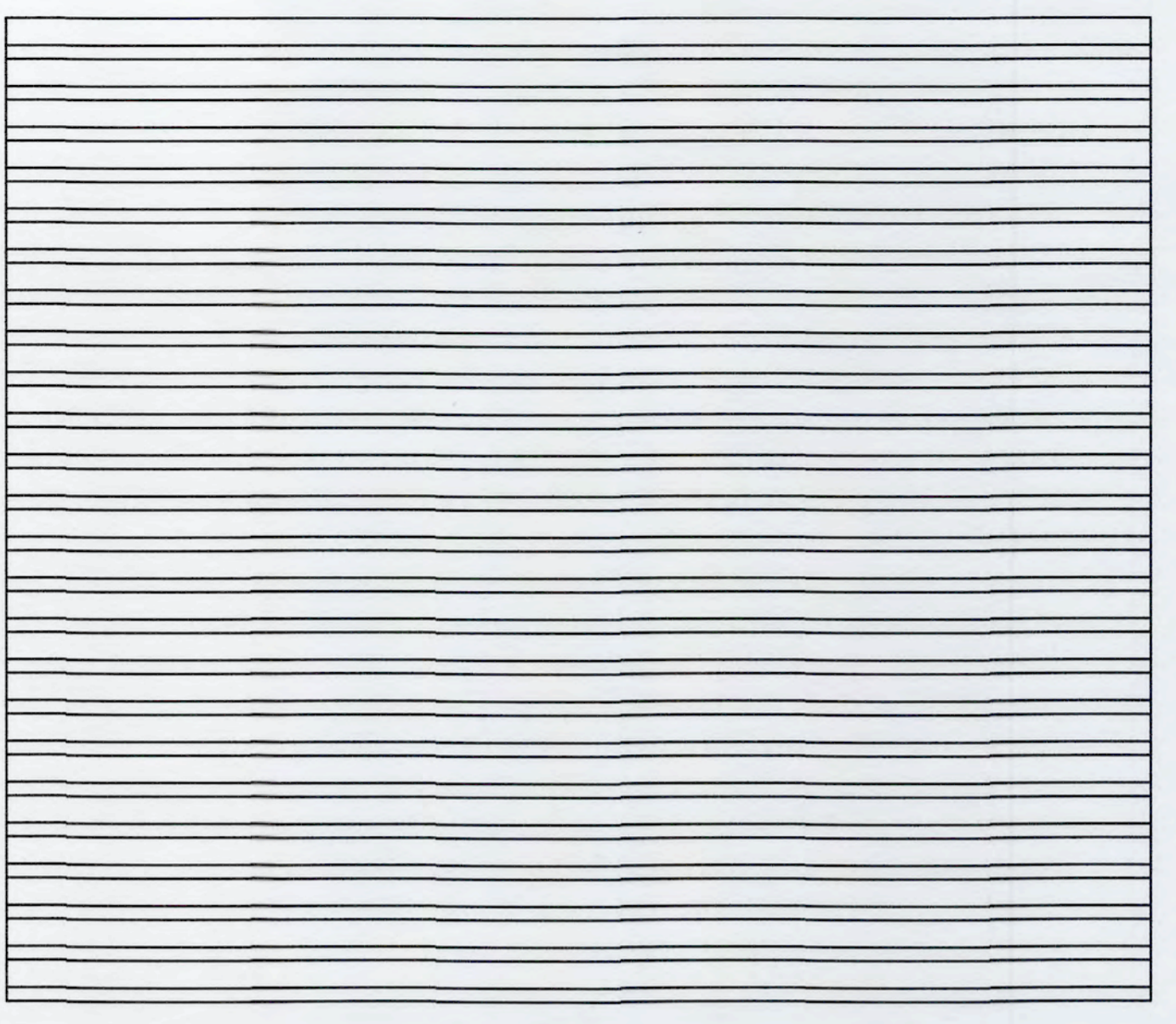
STRUCTURAL DETAILS

DATE: MAY, 2019	SCALE: AS SHOWN	DRAWING NUMBER: S-13
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	REVISION: ISSUED FOR BID
DRAWN: CW	VERTICAL: NA	
DESIGNED: SH		
CHECKED: EA		
PROJ. MGR.: DCW		

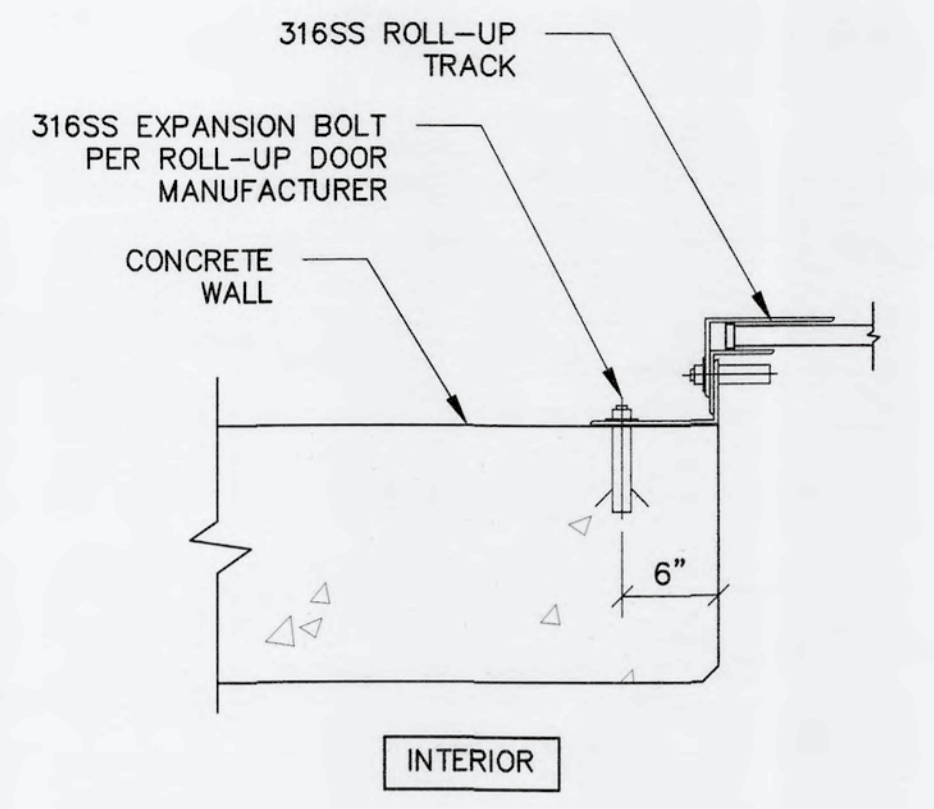
S:\024\1070100-Drawings\Structural\3-11-17 10240170.dwg, 6/1/2019, 1:54:17 PM, Cathy Walker



DOOR FRAME TYPES
SCALE: 1/2" = 1'-0"

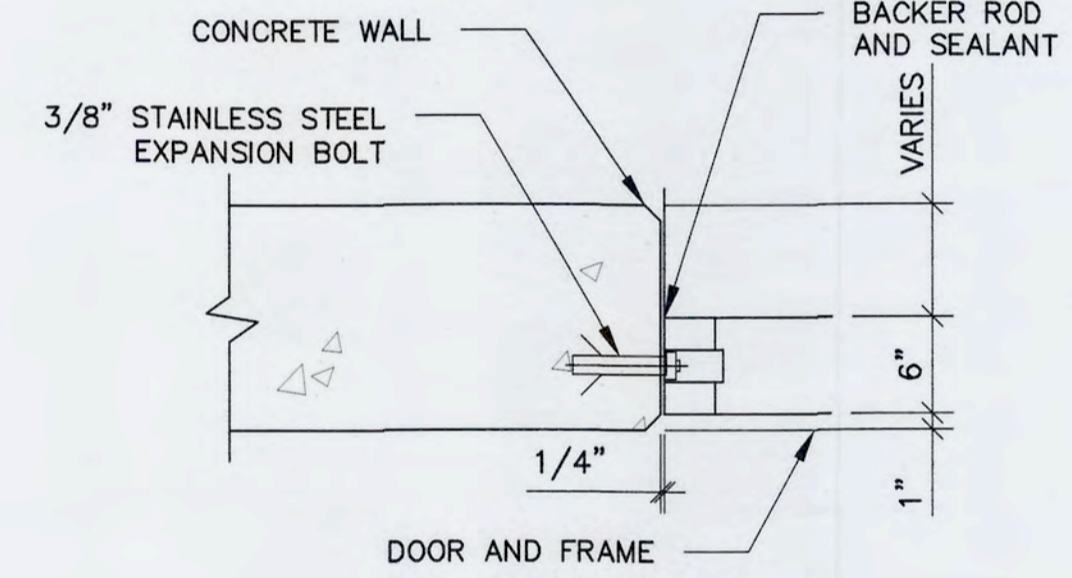


1 - SECTION ROLL-UP DOOR HEAD
SCALE: 3/4" = 1'-0"

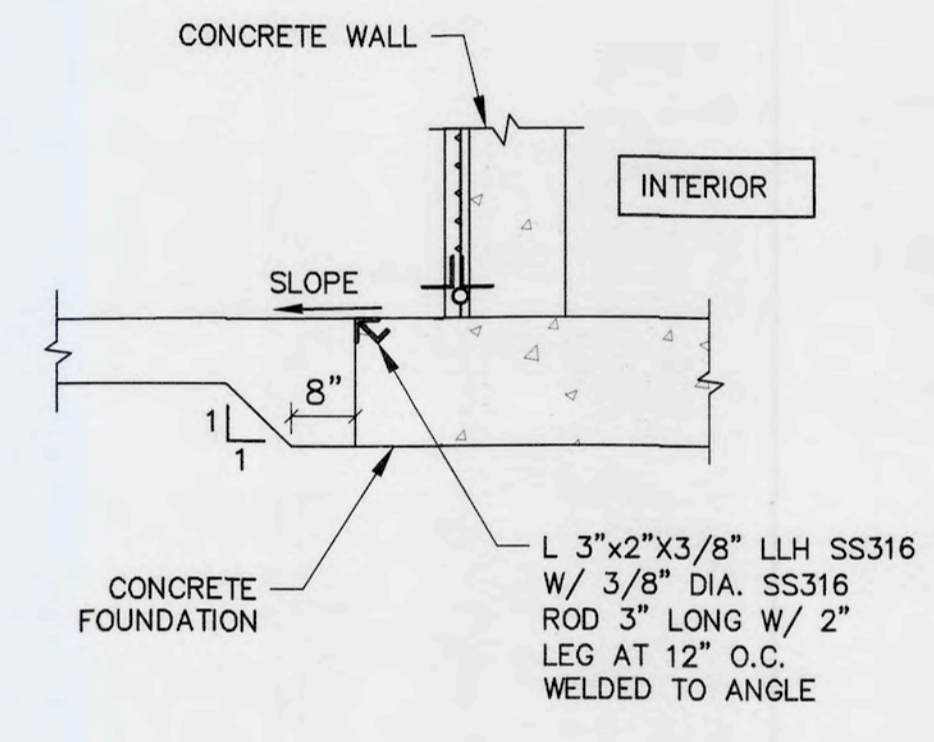


2 - SECTION DOOR THRESHOLD
SCALE: 1" = 1'-0"

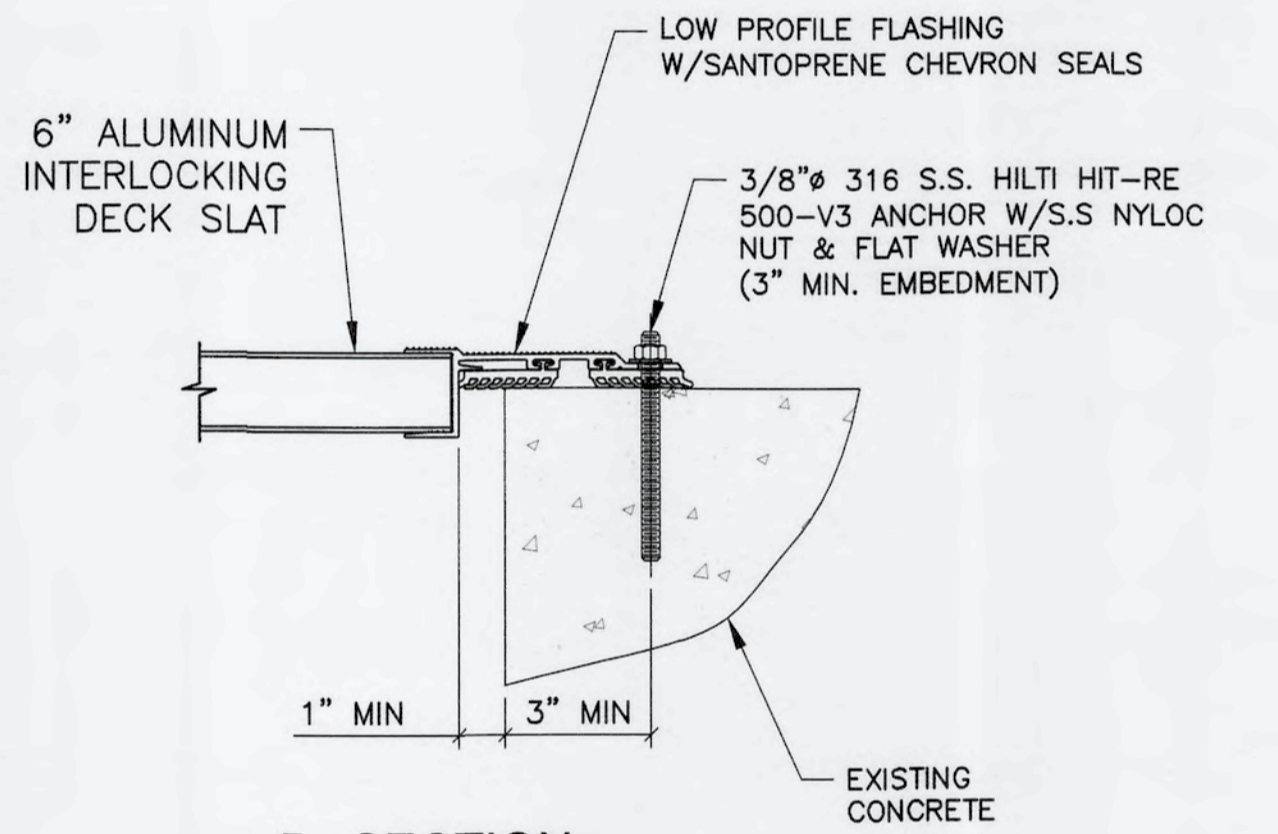
DOOR SCHEDULE							
DOOR NUMBER	WIDTH	HEIGHT	THICKNESS	MATERIAL	DOOR TYPE	FRAME MATERIAL	REMARKS
01	3'-0"	7'-10"	1-3/4"	FRP	A	FRP	WITH LOUVERS*
02	6'-0"	7'-10"	1-3/4"	FRP	B	FRP	WITH LOUVER
03	14'-4"	15'-0"	-	GALV. STEEL	C	SS316	ROLL-UP DOOR-CHAIN OPERATED



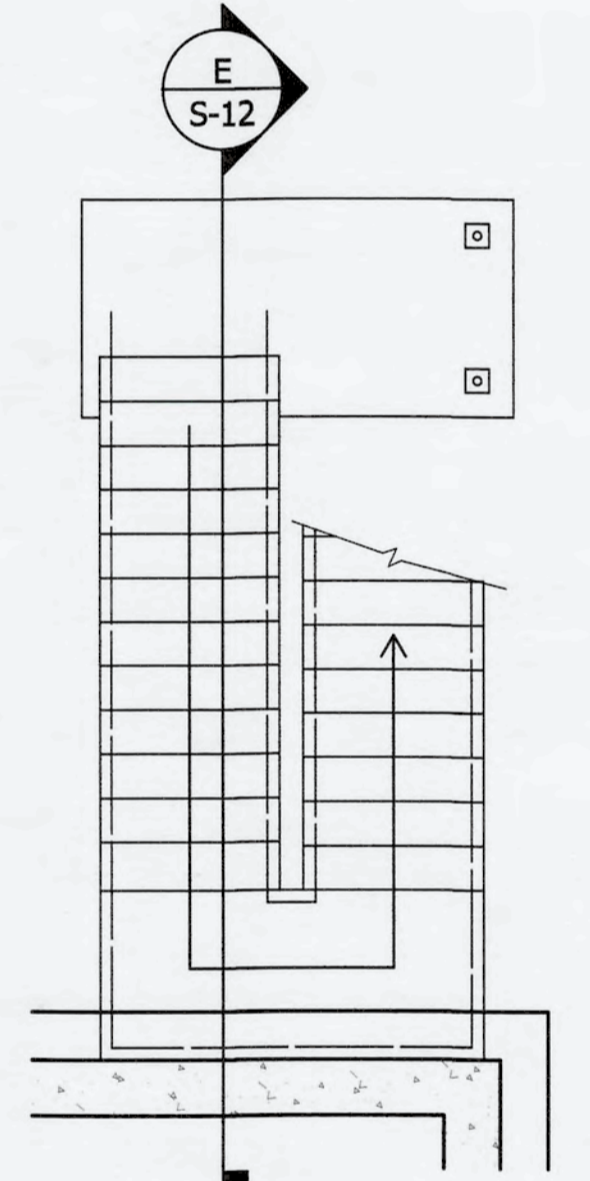
3 - SECTION DOOR HEAD/JAMB
SCALE: 1" = 1'-0"



4 - SECTION ROLL-UP DOOR THRESHOLD
SCALE: 1/2" = 1'-0"

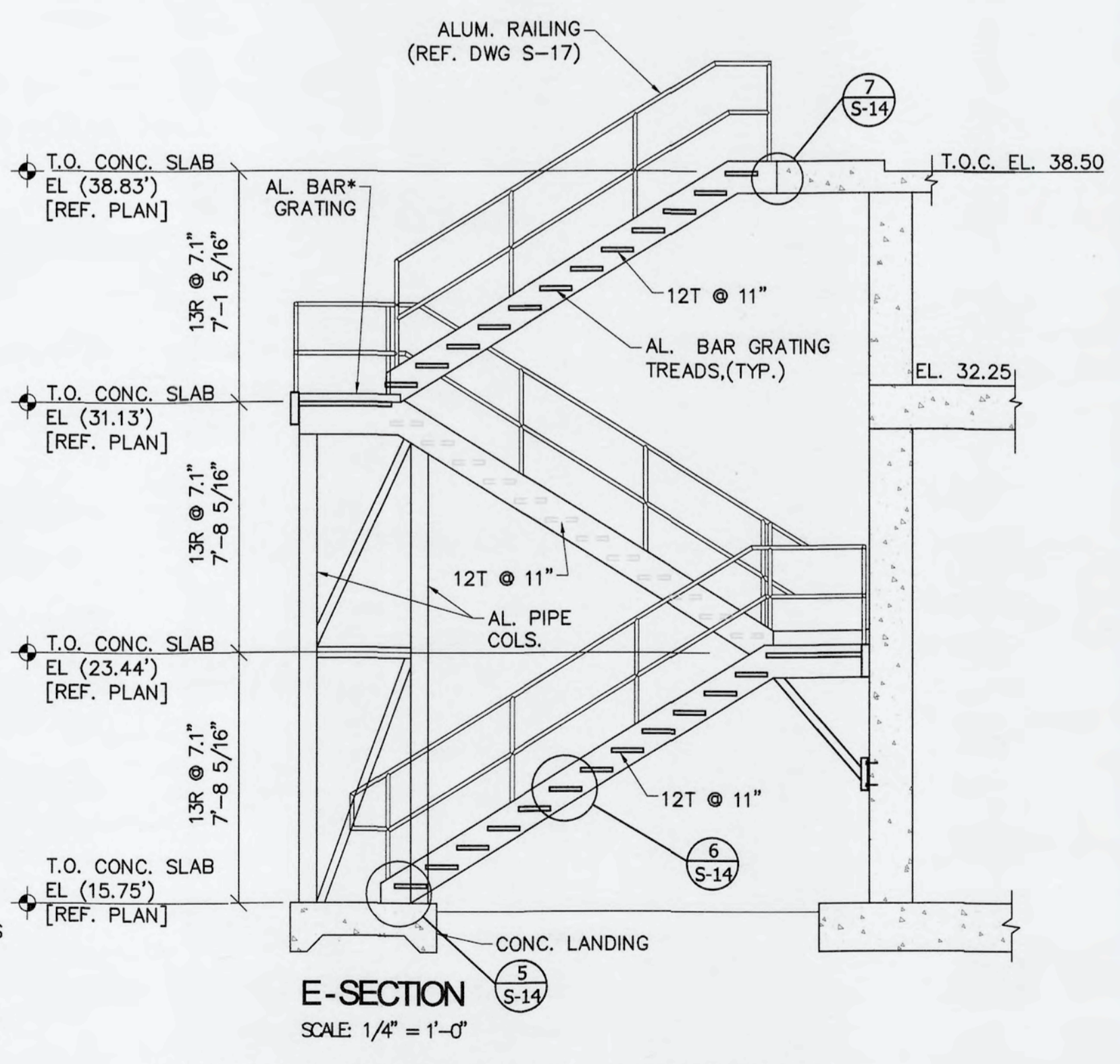


5 - SECTION LOW PROFILE ENGINEERED ALUMINUM COVER
SCALE: 1/2" = 1'-0"



PLAN - STAIR DETAIL
SCALE: 1/4" = 1'-0"

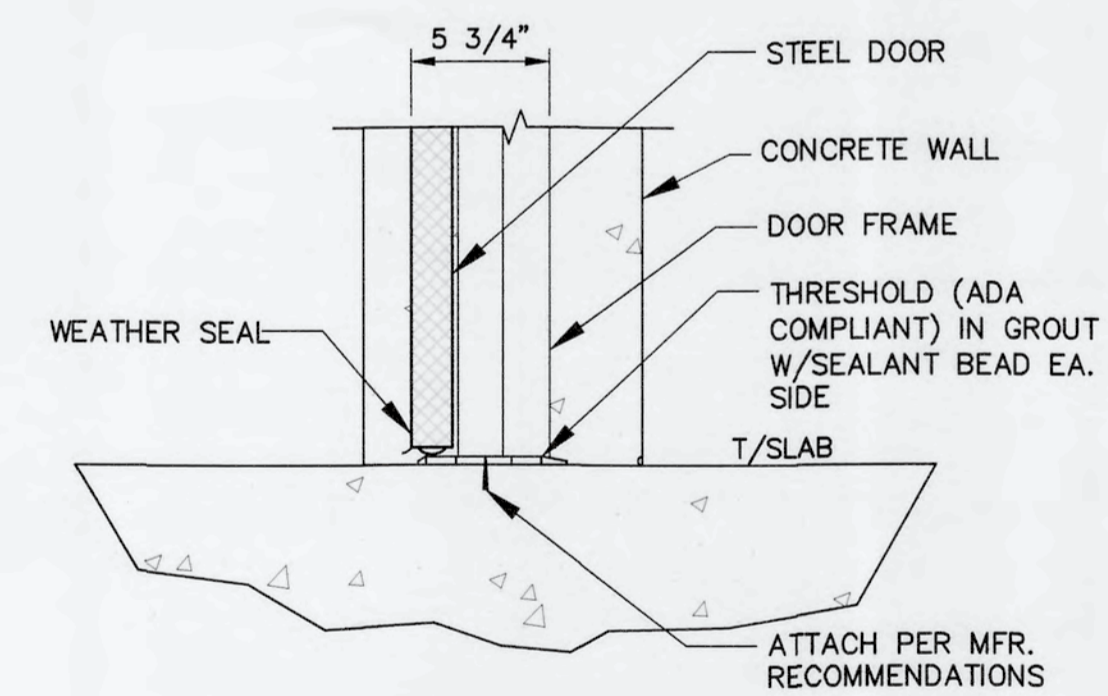
- STAIR NOTES:**
- COAT OR ISOLATE ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE.
 - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR PRE-ENGINEERED ALUMINUM STAIRS AND PLATFORMS, BOTH SHALL BE SIGNED AND SEALED BY FLORIDA PROFESSIONAL ENGINEER.
 - ALL ALUMINUM SECTIONS SHALL BE SIZED BY MANUFACTURER TO RESIST APPLICABLE LOADS.
 - ALL STAIRS LANDINGS SHALL BE PROPERLY SUPPORTED BY ALUMINUM FRAMING THAT IS PROPERLY ANCHORED TO CONCRETE. ALL ANCHORS SHALL BE MIN. 3/4" SS316 ADHESIVE ANCHORS.
 - ALL ADHESIVE ANCHORS SHALL BE DESIGNED BY STAIRS MANUFACTURER. USE HILTI HLT-RE 500 V3 EPOXY ADHESIVE.
 - THE SOUTH END OF THE STAIR LANDING AT ELEVATION 31.13 SHALL BE SUPPORTED BY THE FLUME CHANNEL STRUCTURE. REQUIRED FRAMING SHALL BE PROVIDED BY MANUFACTURER.



* EXTEND LANDING FRAMING AND BOLT TO CHANNEL BOTTOM SLAB

- HARDWARE SETS:**
- HW-1**
- 4 HINGES - 1/2"x4 1/2", HALF SURFACE, STAINLESS STEEL OHEM-PRUF HS55 US 32DP
 - 1 9957E0 4'x8' US28 299 STK, 304L STK VON DUPRIN SVR 3-POINT EXIT DEVICE
 - 1 DOOR CLOSER, STAINLESS STEEL ARM, 1600 SERIES, NORTON SB1604 SS ARM
 - 1 315CR (2) 96" (1) 48" PEMKO WEATHERSTRIP SET
 - 1 THRESHOLD-FIBERGLASS, WITH GRIT FINISH, CHEM-PRNF CP FRP W/GRIT FIN.
 - 1 345AV 48" - PEMKO SWEEP
 - KICK PLATES - 10"x34" STAINLESS STEEL, TRIMCO 10X34 SS 32D

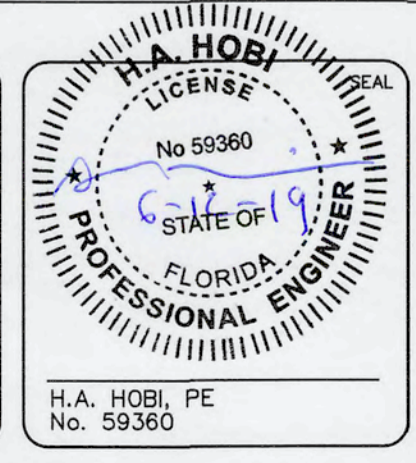
- HARDWARE SETS:**
- hHW2**
- 2 9957E0 4'x8' US28 299 STK., 304L STK VON DUPRIN SVR 3-POINT EXIT DEVICE
 - 1 4954 8' SP28 X 156 SP28 VON DUPRIN REMOVABLE MULLION W/STABILIZER
 - 1 315CR (5) 96" PEMKO WEATHERSTRIP SET
 - 2 345AV 48" - PEMKO SWEEP
 - 4 HINGES - 1/2"x4 1/2", HALF SURFACE, STAINLESS STEEL OHEM-PRUF HS55 US 32DP
 - 1 DOOR CLOSER, STAINLESS STEEL ARM, 1600 SERIES, NORTON SB1604 SS ARM
 - 1 THRESHOLD-FIBERGLASS, WITH GRIT FINISH, CHEM-PRNF CP FRP W/GRIT FIN.
 - KICK PLATES - 10"x34" STAINLESS STEEL, TRIMCO 10X34 SS 32D



6 - DETAIL TYP. DOOR SILL
SCALE: 1" = 1'-0"

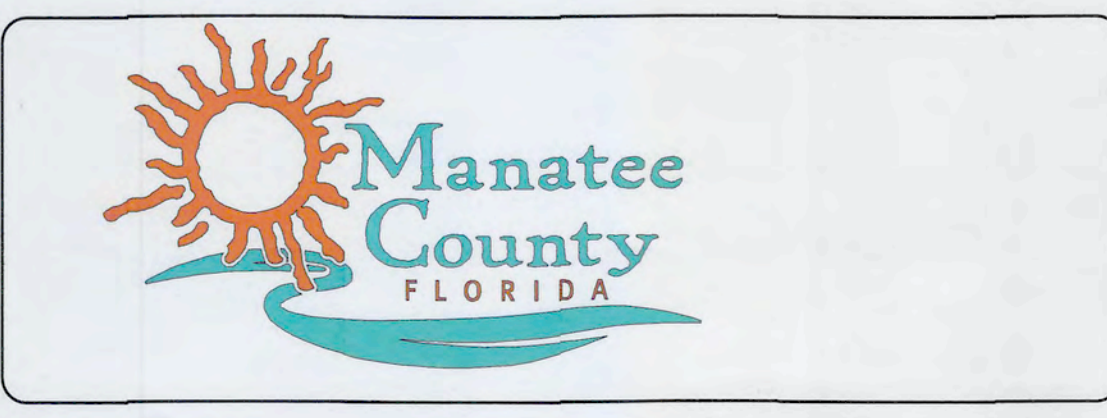
S:\1024\1024\DWG\Drawings\Structure\11-17-10\1024\1024.dwg, 6/17/2010 1:54:37 PM, Cathy Walker

REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED

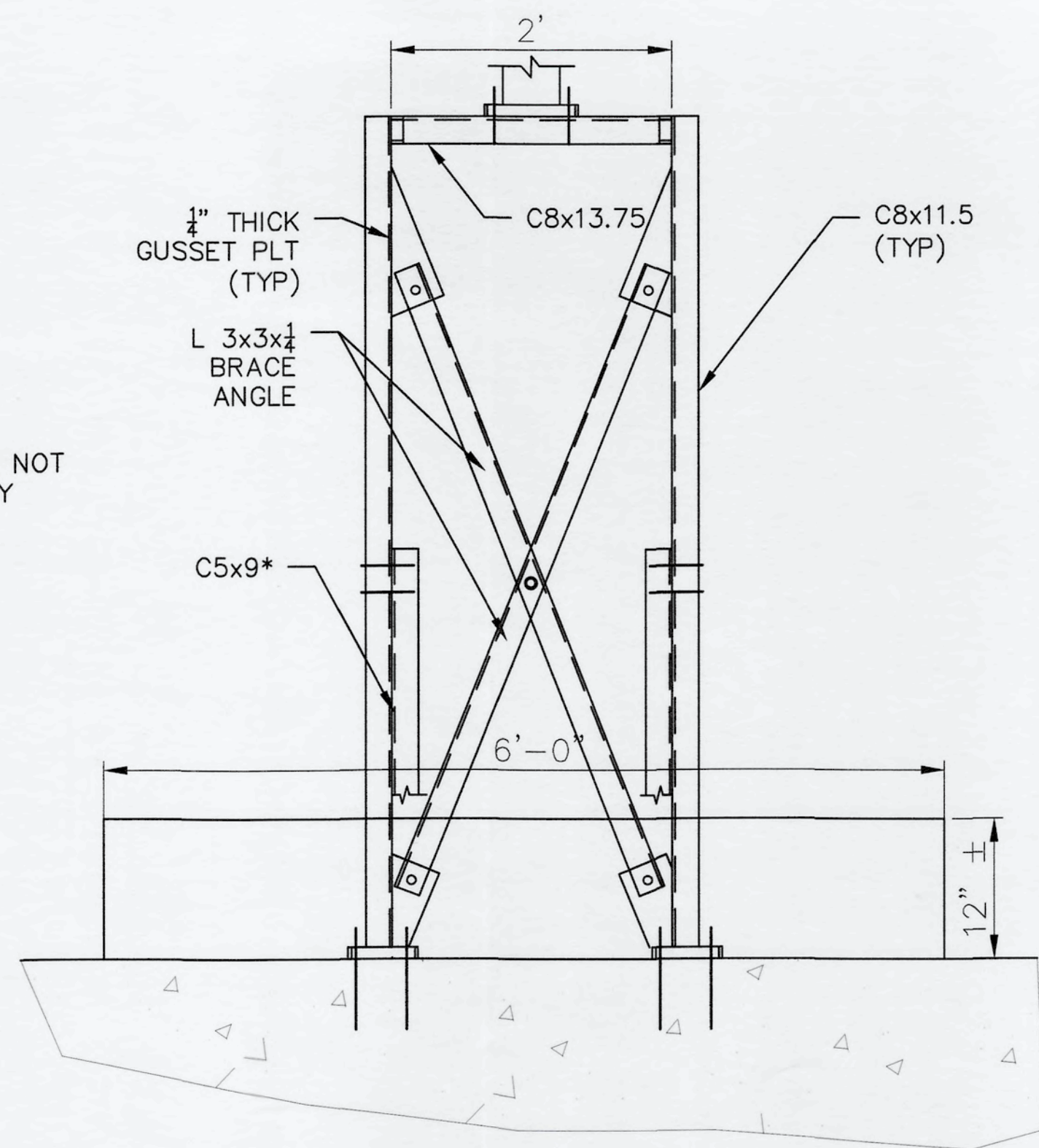
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



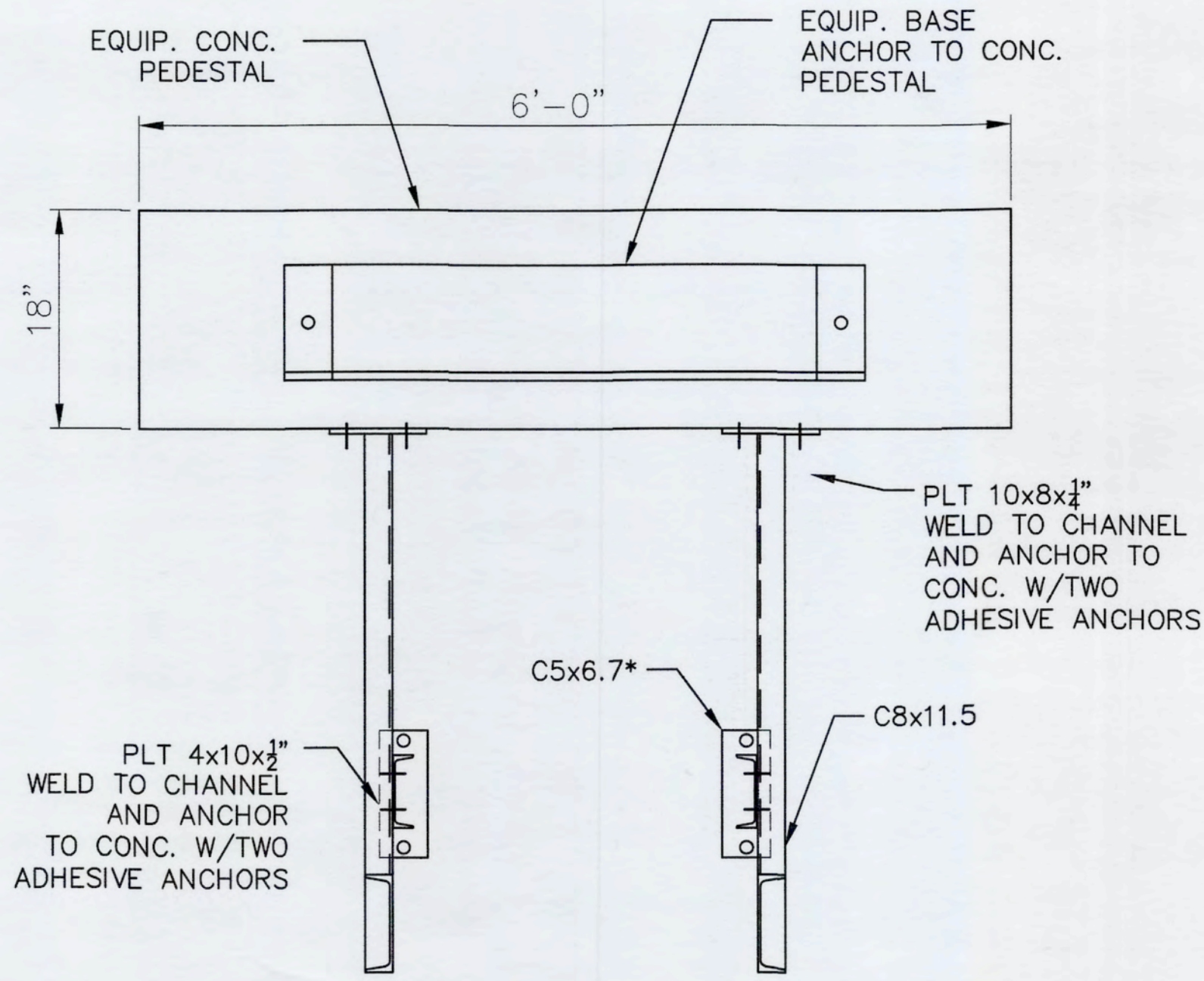
SWWRF NEW HEADWORKS

STAIR TOWER PLAN

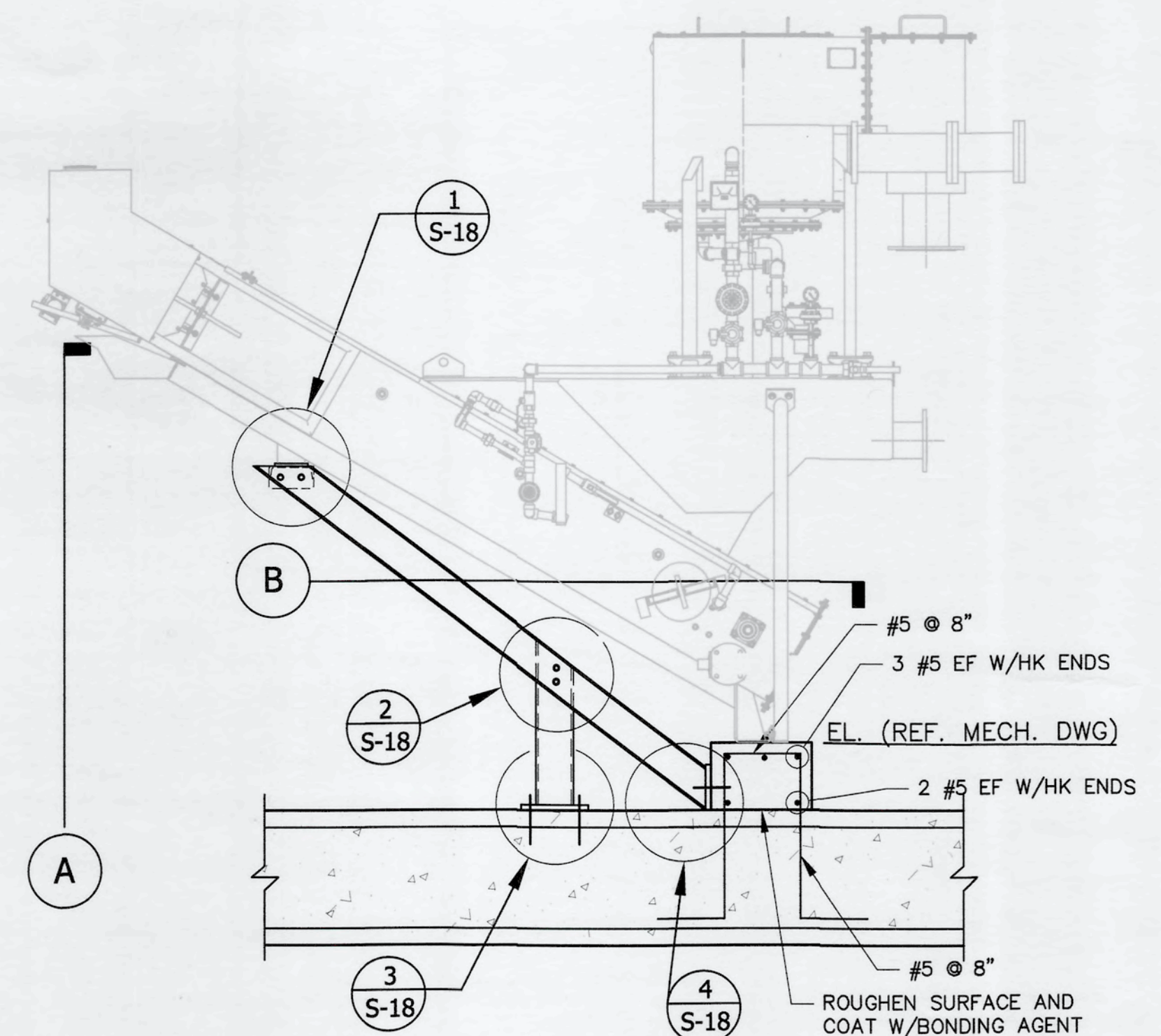
DATE: MAY, 2019	SCALE: HORIZONTAL: AS SHOWN	DRAWING NUMBER: S-16
MCE PROJ. # 1024-0170	DESIGNED: CW	CHECKED: EA
PROJ. MGR. DCW	DESIGNED: SH	CHECKED: EA
STATUS: ISSUED FOR BID	DESIGNED: SH	CHECKED: EA



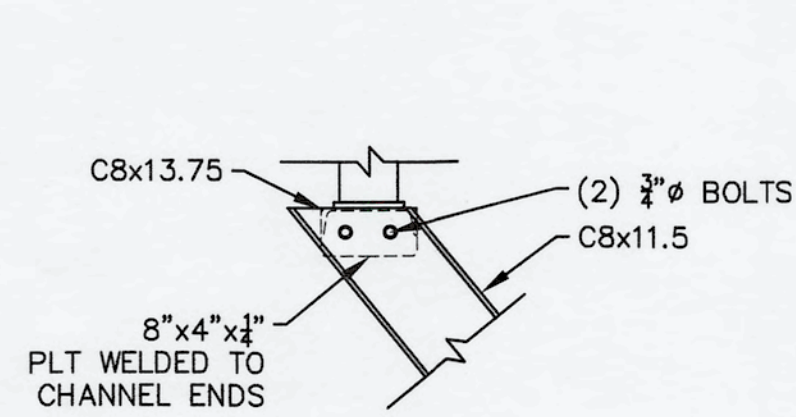
A SECTION
SCALE: 1" = 1'-0"



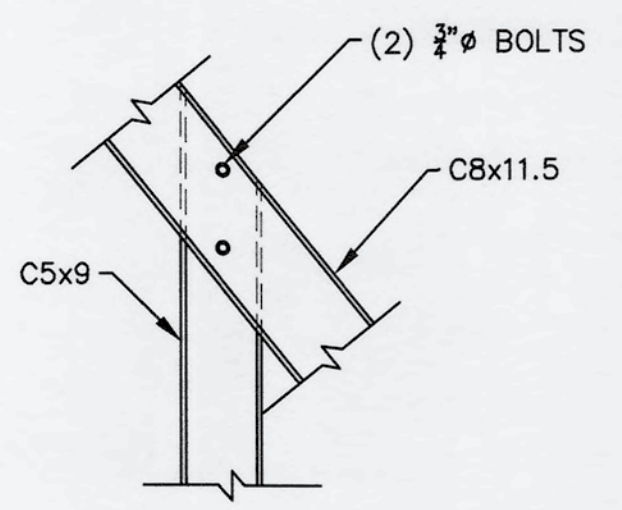
B SECTION
SCALE: 1" = 1'-0"



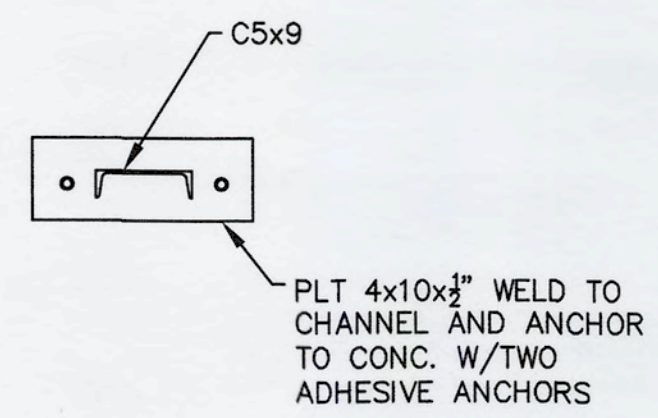
GRIT SNAIL SUPPORT
SCALE: 1/2" = 1'-0"



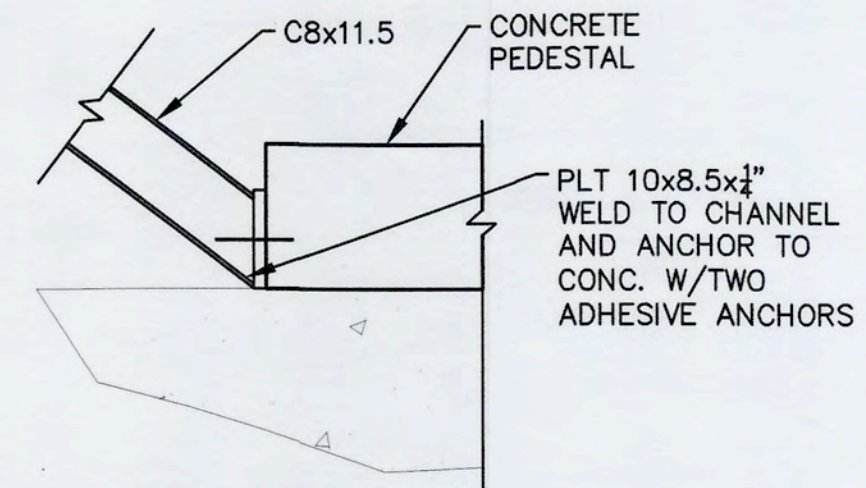
1 - DETAIL
SCALE: 3/4" = 1'-0"



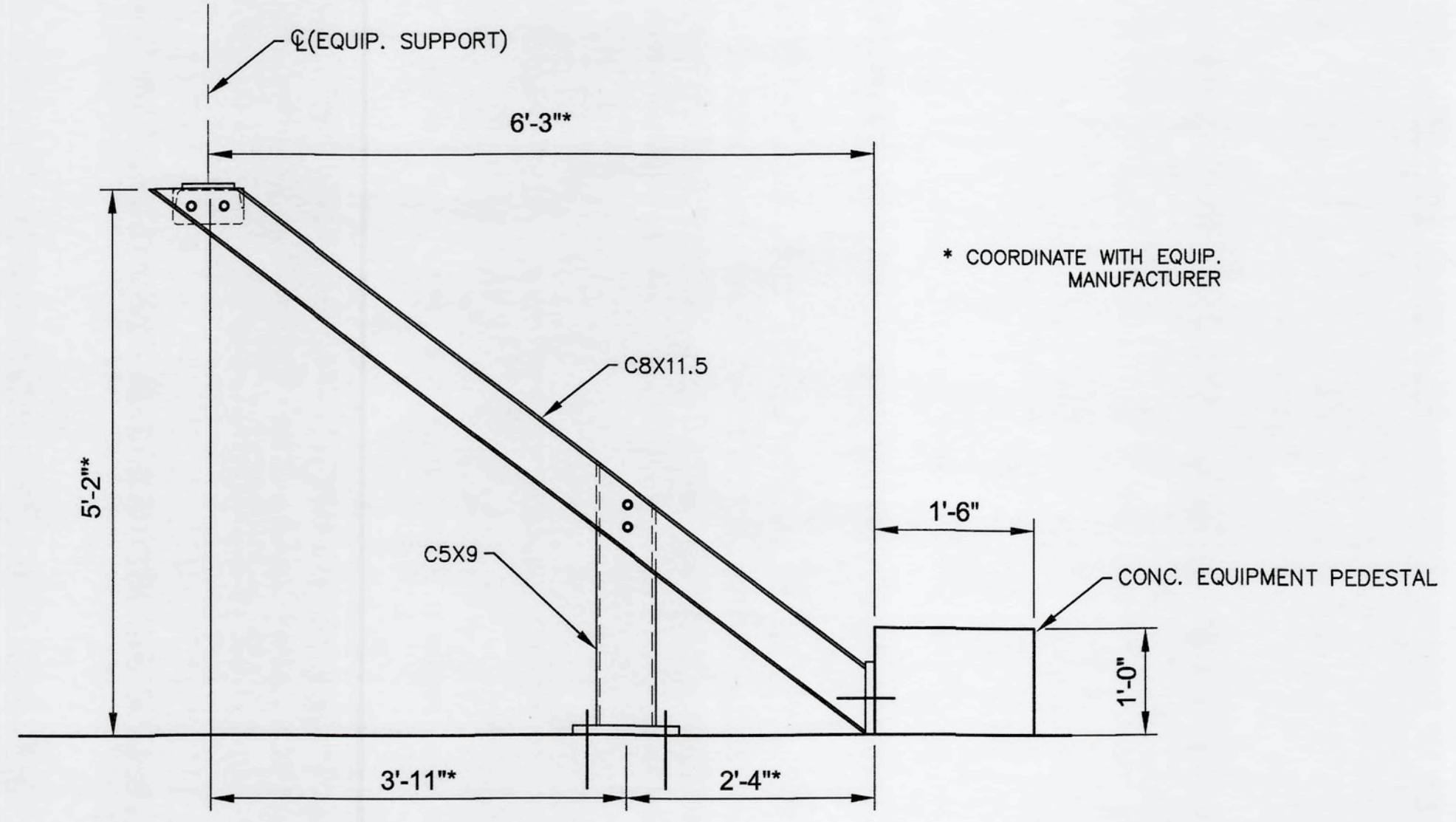
2 - DETAIL
SCALE: 3/4" = 1'-0"



3 - DETAIL
SCALE: 3/4" = 1'-0"



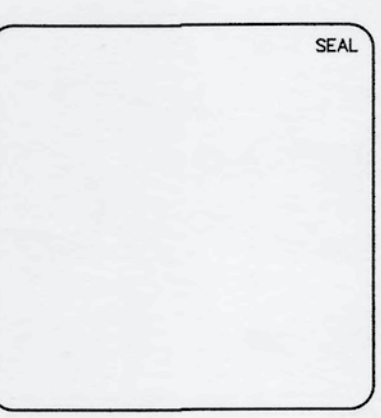
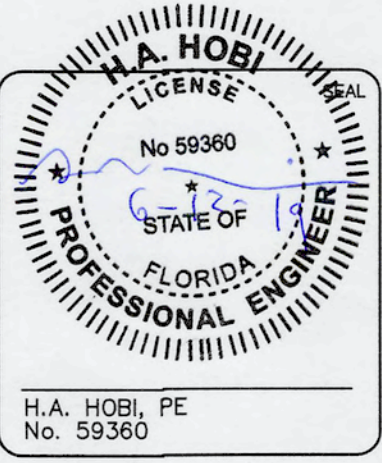
4 - DETAIL
SCALE: 3/4" = 1'-0"



GRIT SNAIL SUPPORT DIMENSIONS
SCALE: 3/4" = 1'-0"

- NOTES:
- ALL BOLTS SHALL BE 3/4" SS316.
 - ALL STEEL SECTIONS AND PLATES SHALL BE SS316.
 - ALL WELDS SHALL BE 1/4" CONTINUOUS.
 - ALL ADHESIVE ANCHORS SHALL BE 3/4" SS316 WITH 6" EMBEDMENT AND HILTI HIT-RE 500 V3 EPOXY ADHESIVE.
 - CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH EQUIPMENT MANUFACTURER.
 - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY ENGINEER BEFORE FABRICATION.

REV. NO.	DESCRIPTIONS	DATE



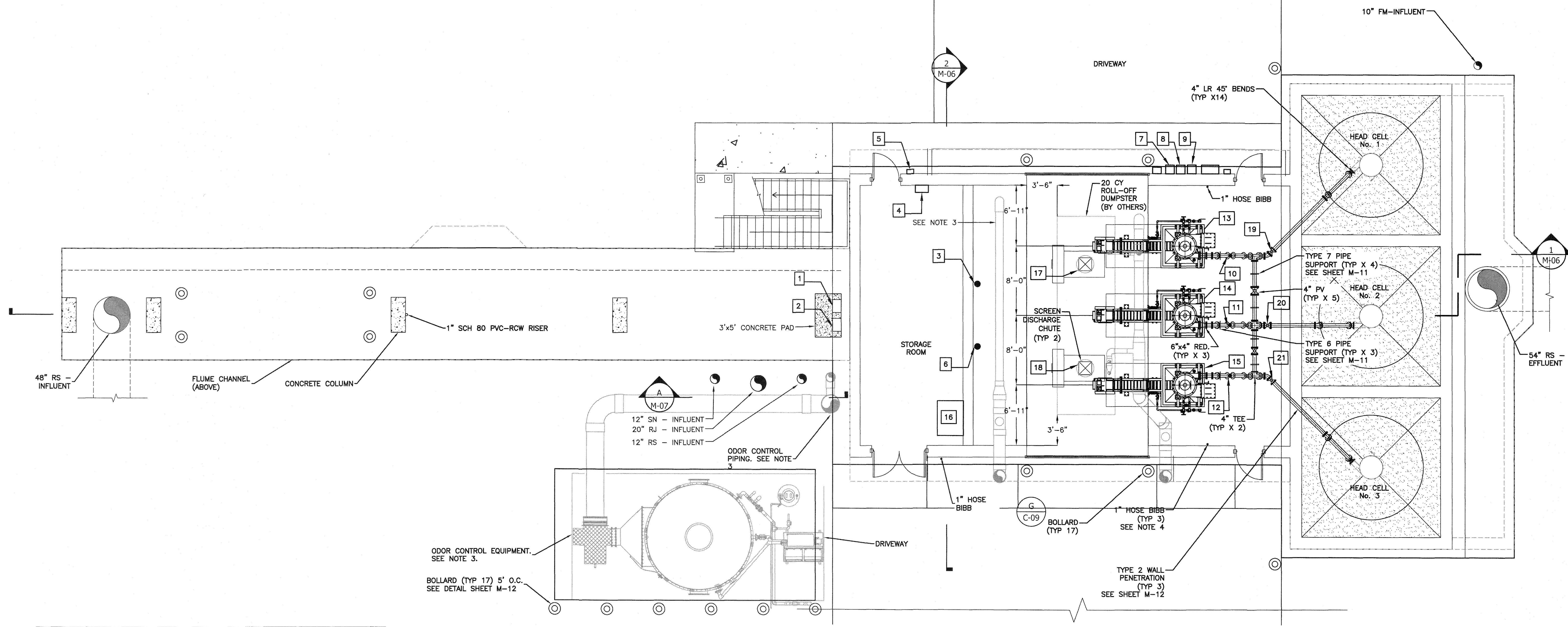
MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWRF NEW HEADWORKS

STRUCTURE SECTIONS AND DETAILS

DATE: MAY, 2019	SCALE: HORIZONTAL: AS SHOWN	DRAWING NUMBER: S-18
MCE PROJ. # 1024-0170	DESIGNED: SH	VERTICAL: NA
DRAWN: CW	CHECKED: EA	PROJ. MGR.: DCW
STATUS: ISSUED FOR BID	REVISION:	

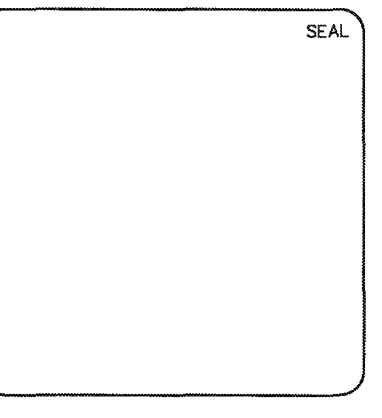
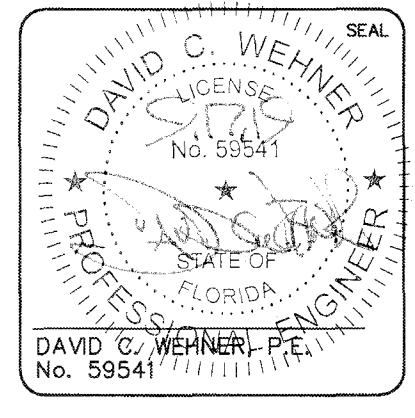


FLOOR PLAN (ELEV 30.5)
3/16"=1'-0"

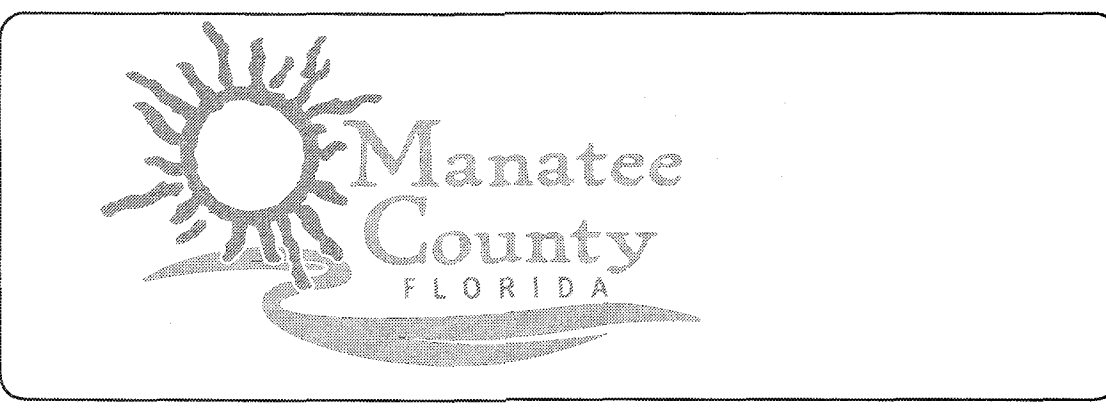
EQUIPMENT LIST			
NUMBER	DESCRIPTION	TAG	NOTES
1	SUPERNATANT FLOW METER TRANSMITTER	FIT-80011	SEE NOTE 5
2	PLANT DRAIN PS FLOW METER TRANSMITTER	FIT-10211	SEE NOTE 5
3	H2S SENSOR	AE-20407	SEE NOTE 5
4	FIRE ALARM CONTROL PANEL	FACP-20051	
5	FIRE ALARM PULL STATION		
6	LEL SENSOR	AE-20406	SEE NOTE 5
7	GRIT No. 1 FLOW METER TRANSMITTER	FIT-20401	SEE NOTE 5
8	GRIT No. 2 FLOW METER TRANSMITTER	FIT-20402	SEE NOTE 5
9	GRIT No. 3 FLOW METER TRANSMITTER	FIT-20403	SEE NOTE 5
10	GRIT No. 1 FLOW METER	FE-20401	SEE NOTE 5
11	GRIT No. 2 FLOW METER	FE-20402	SEE NOTE 5
12	GRIT No. 3 FLOW METER	FE-20403	SEE NOTE 5
13	GRIT No. 1 CLASSIFIER/CONVEYOR	MS-20401	
14	GRIT No. 2 CLASSIFIER/CONVEYOR	MS-20402	
15	GRIT No. 3 CLASSIFIER/CONVEYOR	MS-20403	
16	SCREEN WASH BOOSTER PUMP SKID	P-20131, 32 & 33	
17	KNIFE GATE NO. 3	MOV-20119	SEE NOTE 5
18	KNIFE GATE NO. 4	MOV-20120	SEE NOTE 5
19	PINCH VALVE No. 1	MOV-20401	SEE NOTE 5
20	PINCH VALVE No. 2	MOV-20402	SEE NOTE 5
21	PINCH VALVE No. 3	MOV-20403	SEE NOTE 5

- NOTES:**
- ALL IMPROVEMENTS SHOWN ARE PROPOSED. FEATURES SHOWN AS FADED ARE DONE SO FOR CLARITY.
 - SEE CIVIL SHEETS FOR CONTINUATION.
 - FOR ODOR CONTROL EQUIPMENT AND AIR PIPING, SEE SHEETS M-08, M-09 & M-10.
 - REFER TO SHEET M-04 AND M-05 FOR DRAINAGE AND WATER SUPPLY PIPING. SEE SHEET M-12 FOR HOSE BIB DETAIL.
 - REFER TO INSTRUMENTATION DRAWINGS AND SPECIFICATIONS FOR DIMENSIONS, MOUNTING AND INSTALLATION DETAILS.

REVNO.	DESCRIPTIONS	DATE



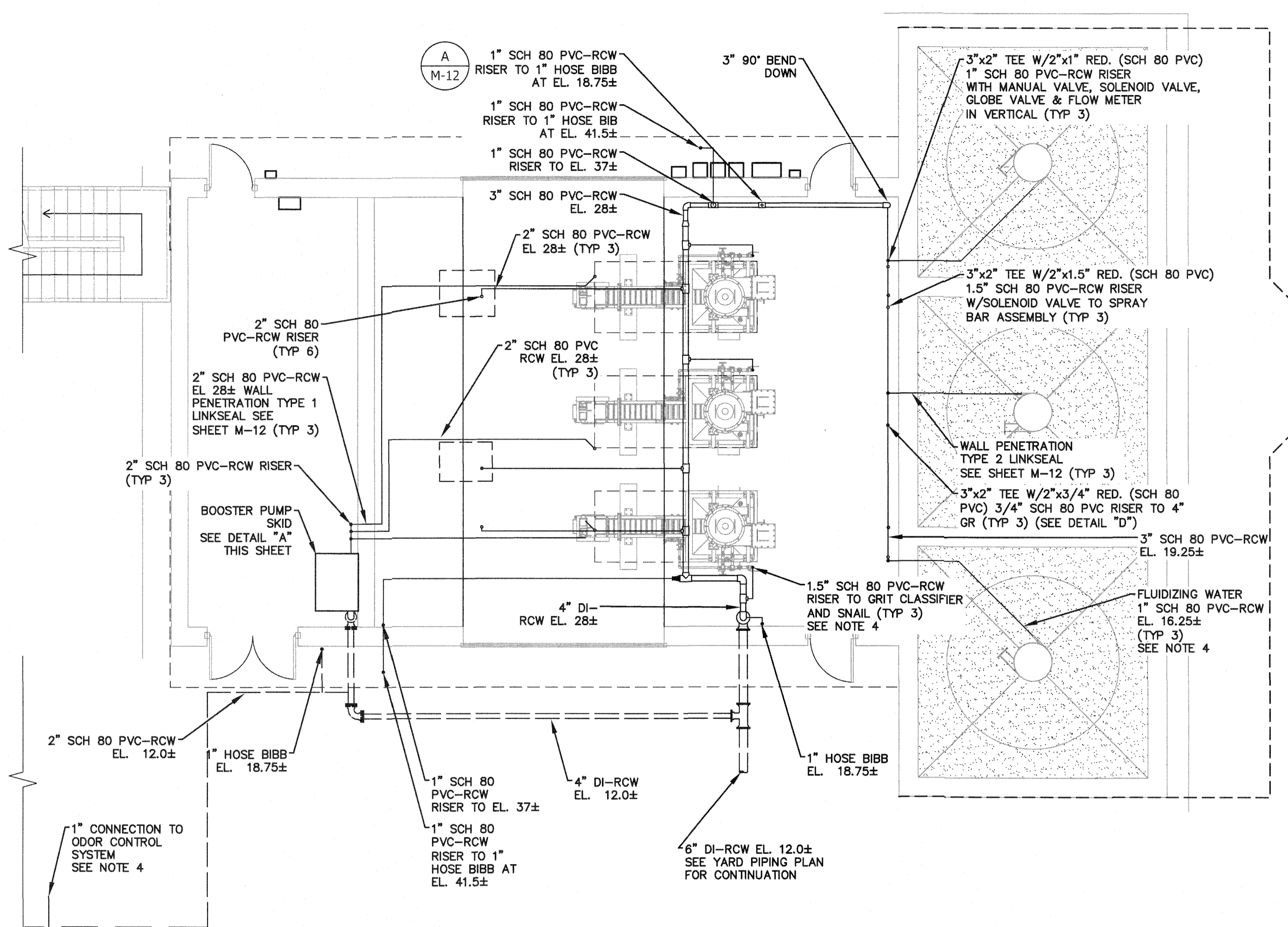
MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



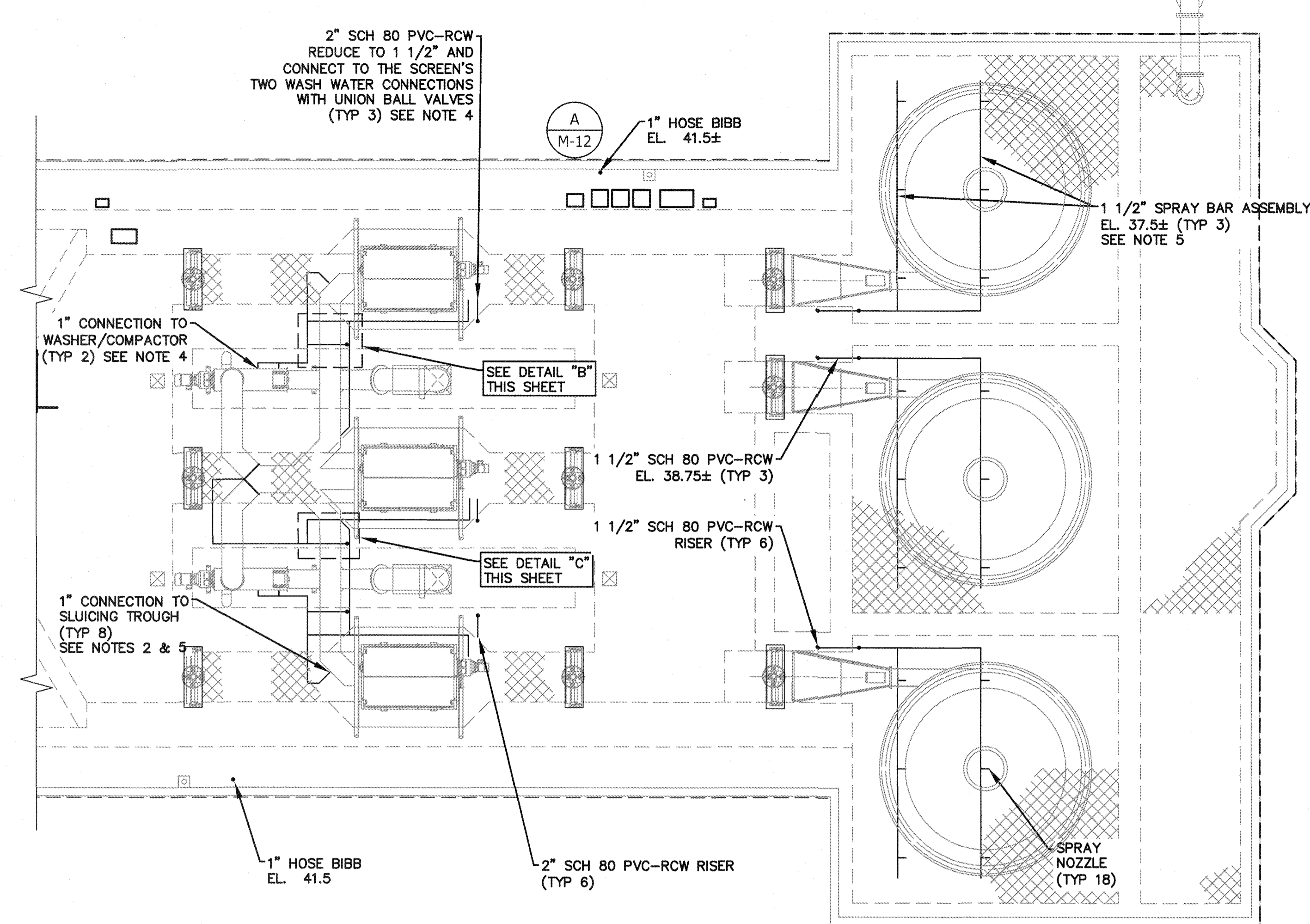
SWWRF NEW HEADWORKS
HEADWORKS MECHANICAL FLOOR PLAN

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 3/16"=1'-0"	DRAWING NUMBER: M-03
MCE PROJ. # 1024-0170	DESIGNED: EAS	VERTICAL: NA
DRAWN: CW	CHECKED: MAC	PROJ. MGR.: DCW
STATUS: ISSUED FOR BID		REVISION:

S:\UZA\0170\00-Drawings\Mechanical\FLOOR PLAN.dwg, 9/17/2019 10:35:25 AM, Cathy Walker

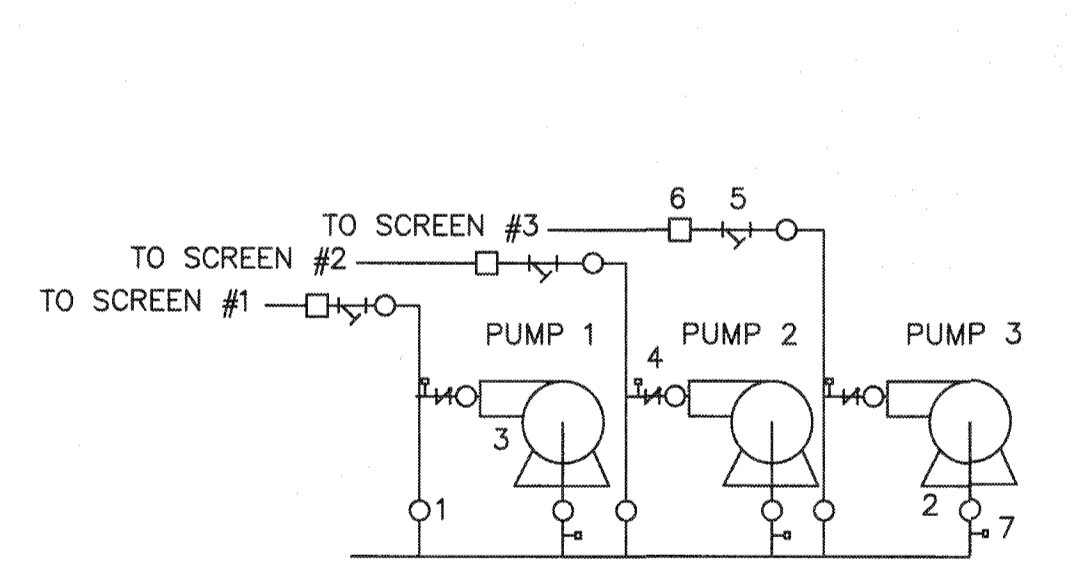


FLOOR PLAN
3/16"=1'-0"



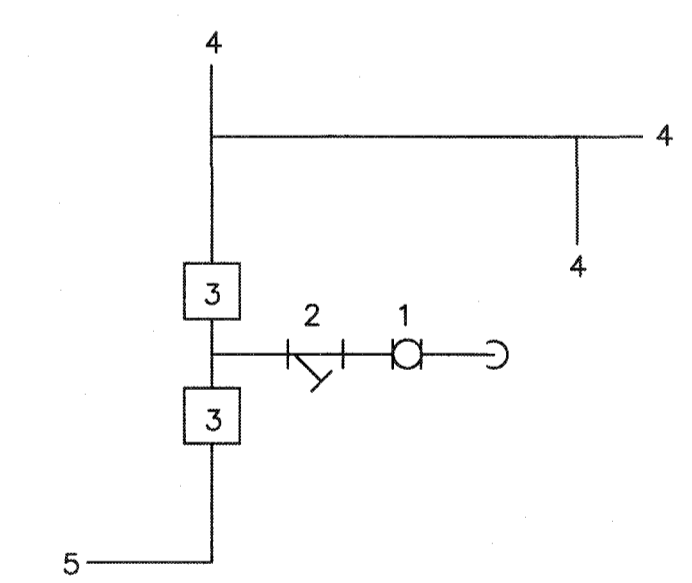
UPPER LEVEL PLAN
3/16"=1'-0"

- NOTES:
- ELEVATIONS SHOWN FOR WATER SUPPLY PIPING ARE APPROXIMATE. CONTRACTOR SHALL ADJUST AS NECESSARY TO AVOID CONFLICTS WITH OTHER FEATURES.
 - PIPING SHALL BE INSTALLED TO ALLOW EQUIPMENT ACCESS AND TO AVOID GENERATING A TRIP HAZARD.
 - DASHED LINES REPRESENT BURIED PIPE.
 - COORDINATE CONNECTION WITH EQUIPMENT MANUFACTURER AND APPROVED SHOP DRAWING.
 - SPRAY BAR ASSEMBLIES TO BE INSTALLED PER MANUFACTURER RECOMMENDATIONS BELOW ALUMINUM COVERS AND SHALL BE SUPPORTED FROM COVERS USING TYPE 4 SUPPORTS (SEE SHEET M-11).
 - SUPPORT WATER SUPPLY PIPING FROM CEILING USING TYPE 6 SUPPORT. SPACE SUPPORTS 5 FEET O.C. (SEE SHEET M-11).
 - SUPPORT WATER SUPPLY PIPING FROM WALL USING TYPE 5 SUPPORT. SPACE SUPPORTS 5 FEET O.D. (SEE SHEET M-11).



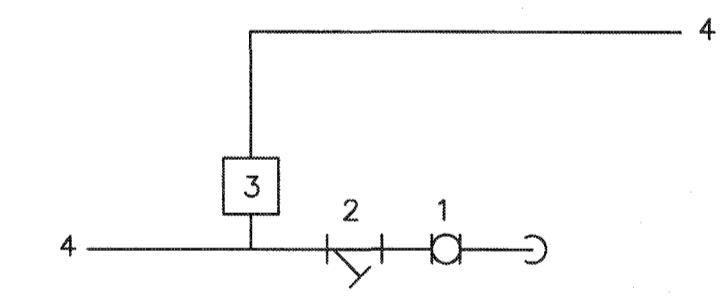
DETAIL "A"
BOOSTER PUMP SCHEMATIC

- 2" UNION BALL VALVE (TYP 6)
- 1 1/4" UNION BALL VALVE (TYP 6)
- BOOSTER PUMPS (TYP 3) SEE SPECIFICATIONS SECTION 11330.
- 1 1/4" CHECK VALVE (TYP 3)
- 2" "Y" STRAINER 1/32" (TYP 3)
- 2" SOLENOID VALVE (TYP 3)
- PRESSURE GAUGE (0-120 PSI) W/ GAUGE COCK (TYP 6)



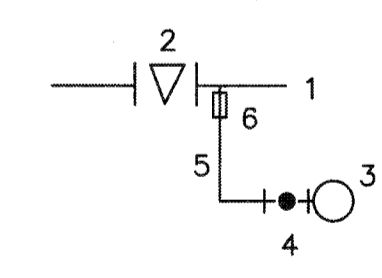
DETAIL "B"

- 2" PVC UNION BALL VALVE
- 2" "Y" STRAINER (1/32" OPENING)
- 2" SOLENOID VALVE
- 1" SCH 80-RCW TO SLUICE TROUGH (PROVIDE 1" UNION BALL VALVE AT EACH CONNECTION)
- 2" SCH 80 PVC-RCW TO WASHER/COMPACTOR AND DRAIN PAN (REDUCE TO EQUIPMENT CONNECTION SIZE AND PROVIDE UNION BALL VALVE AT EACH CONNECTION)
- SCHEMATIC SHOWN FOR TRAIN #1. MIRROR SCHEMATIC FOR TRAIN #3



DETAIL "C"

- 2" PVC UNION BALL VALVE
- 2" "Y" STRAINER (1/32" OPENING)
- 2" SOLENOID VALVE
- 1" SCH 80 PVC-RCW TO SLUICE TROUGH (PROVIDE 1" UNION BALL VALVE AT EACH CONNECTION)

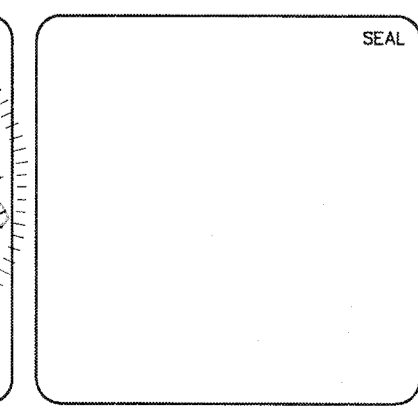
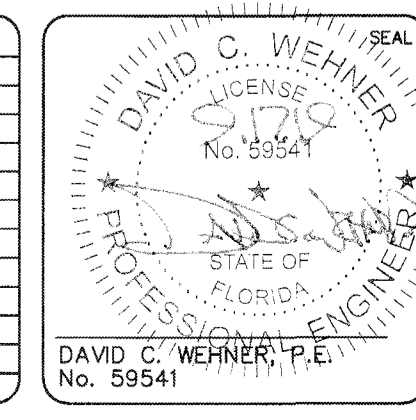


DETAIL "D"

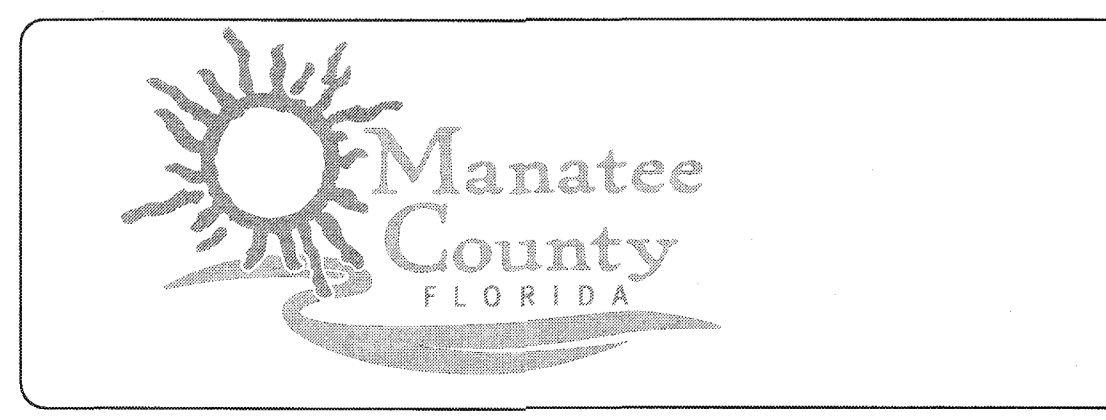
- 4" DI GR
- 4" PINCH VALVE
- 3" SCH 80 PVC RCW
- 3/4" PVC UNION BALL VALVE
- 3/4" SCH 80 PVC
- 3/4" SS BALL CORP STOP

S:\024\0717\024-Drainage\Mechanical\MECHANICAL\DWG\DWG PLAN.dwg 9/17/2018 7:51:18 AM Cathy Walker

REV. NO.	DESCRIPTION	DATE

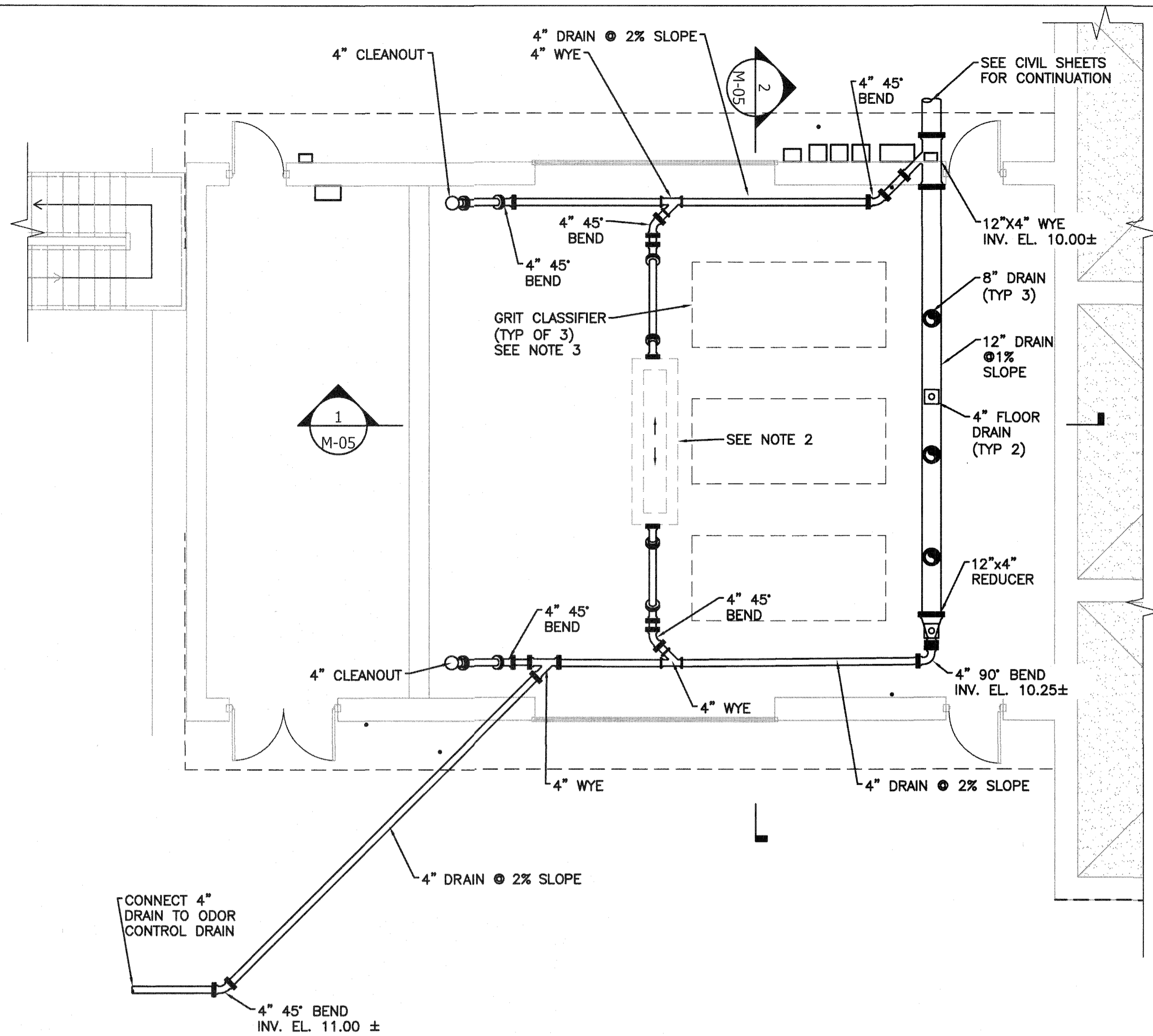


MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com

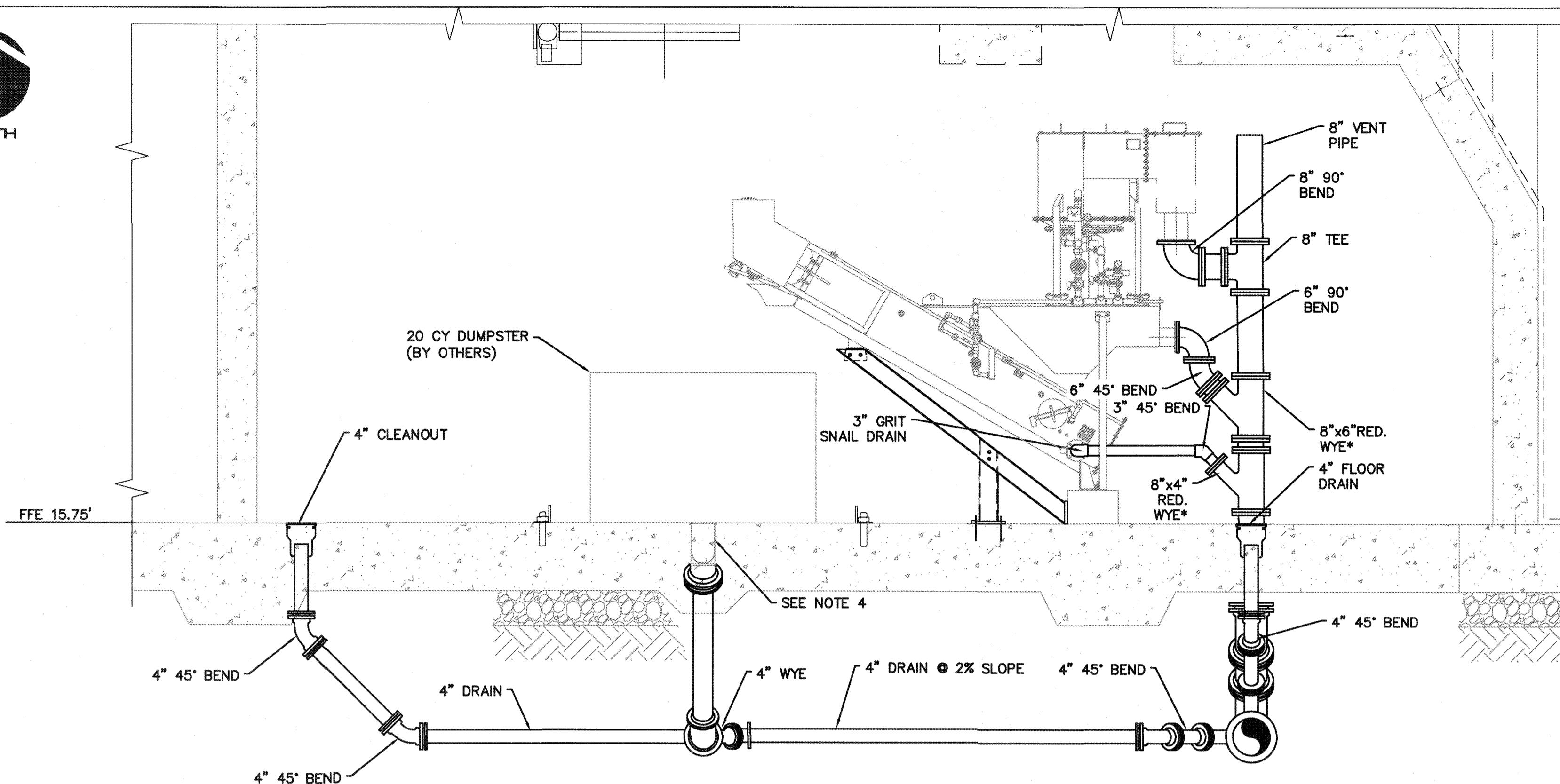


SWWRF NEW HEADWORKS
HEADWORKS WATER SUPPLY PLAN

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 3/16"=1'-0"	DRAWING NUMBER: M-04
MCE PROJ. # 1024-0170	DESIGNED: EAS	CHECKED: MAC
DRAWN: CW	PROJ. MGR: DCW	REVISION: ISSUED FOR BID

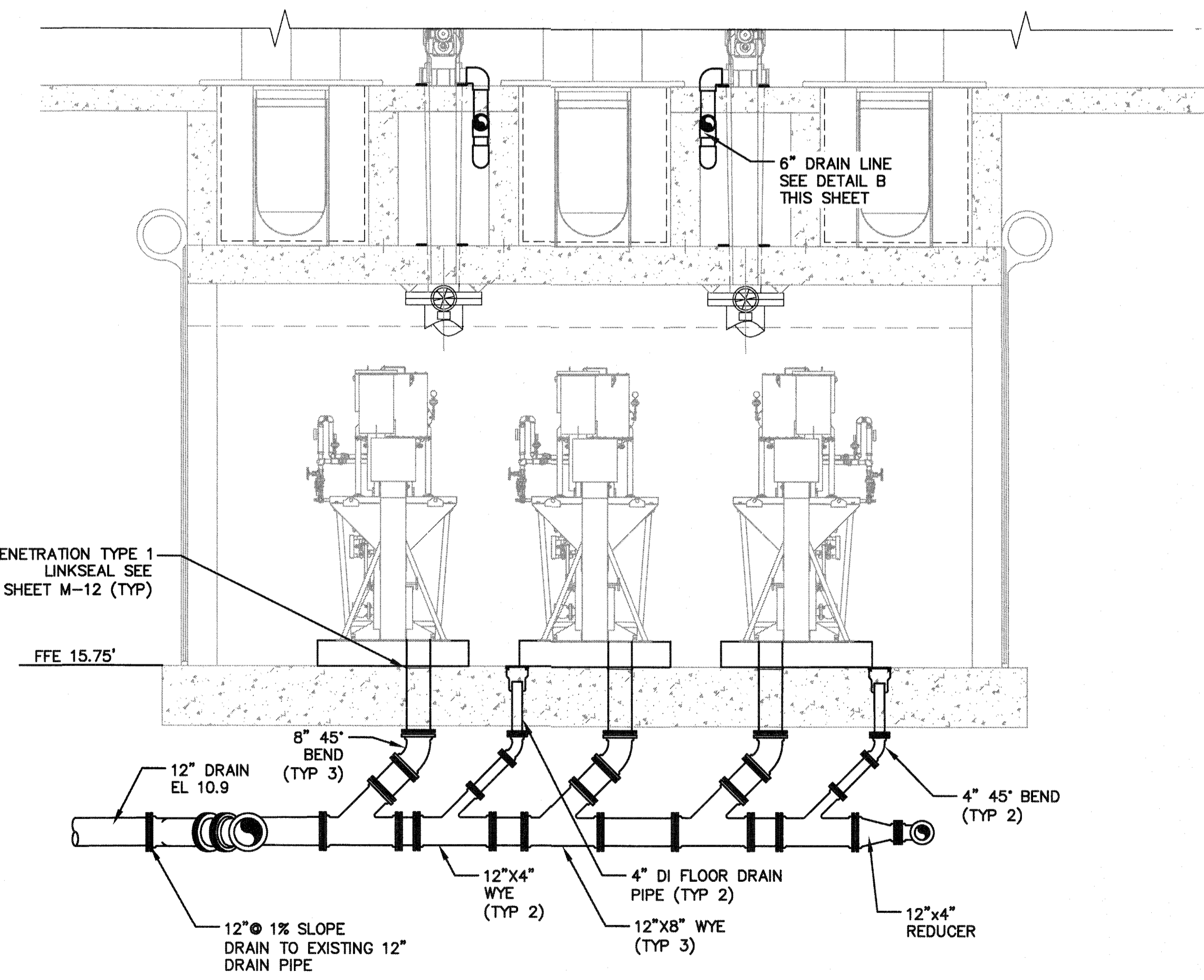


FLOOR PLAN (ELEV. 15.75)
3/16"=1'-0"

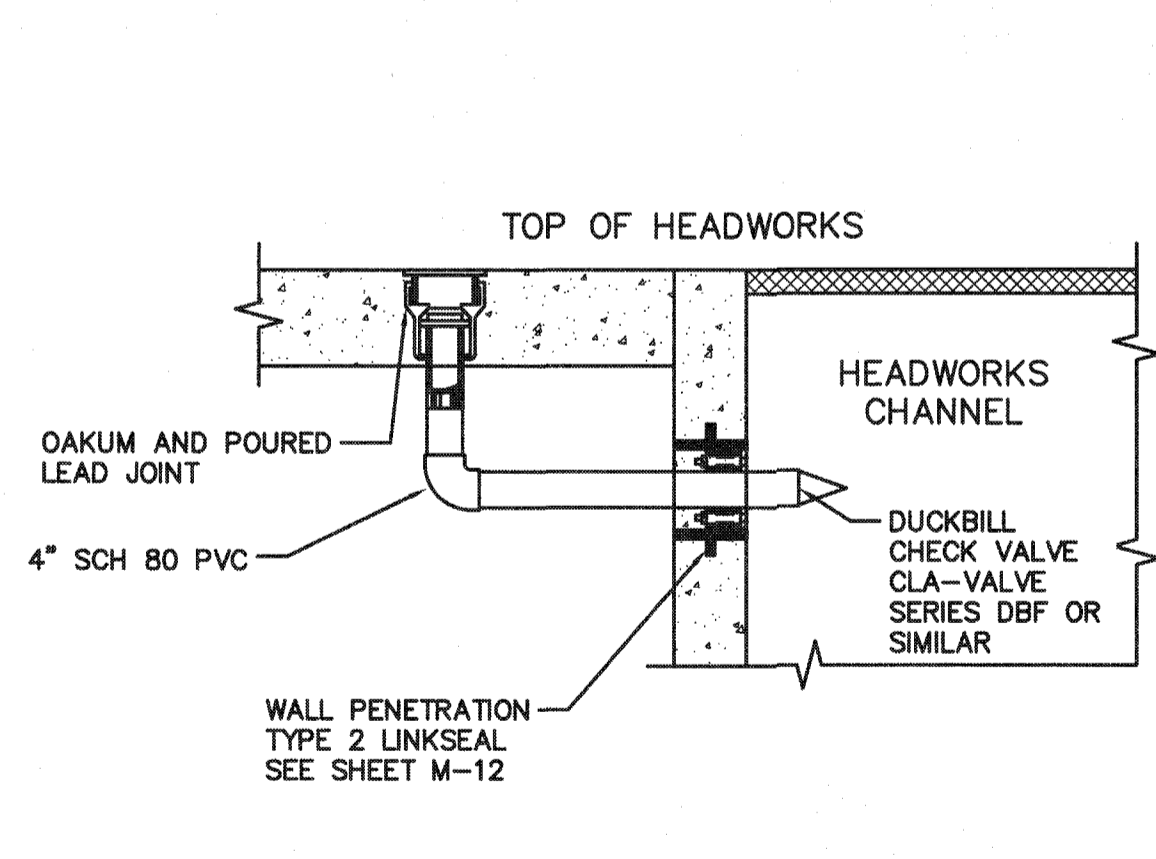


SECTION 1
3/8"=1'-0"
*ROTATED FOR CLARITY

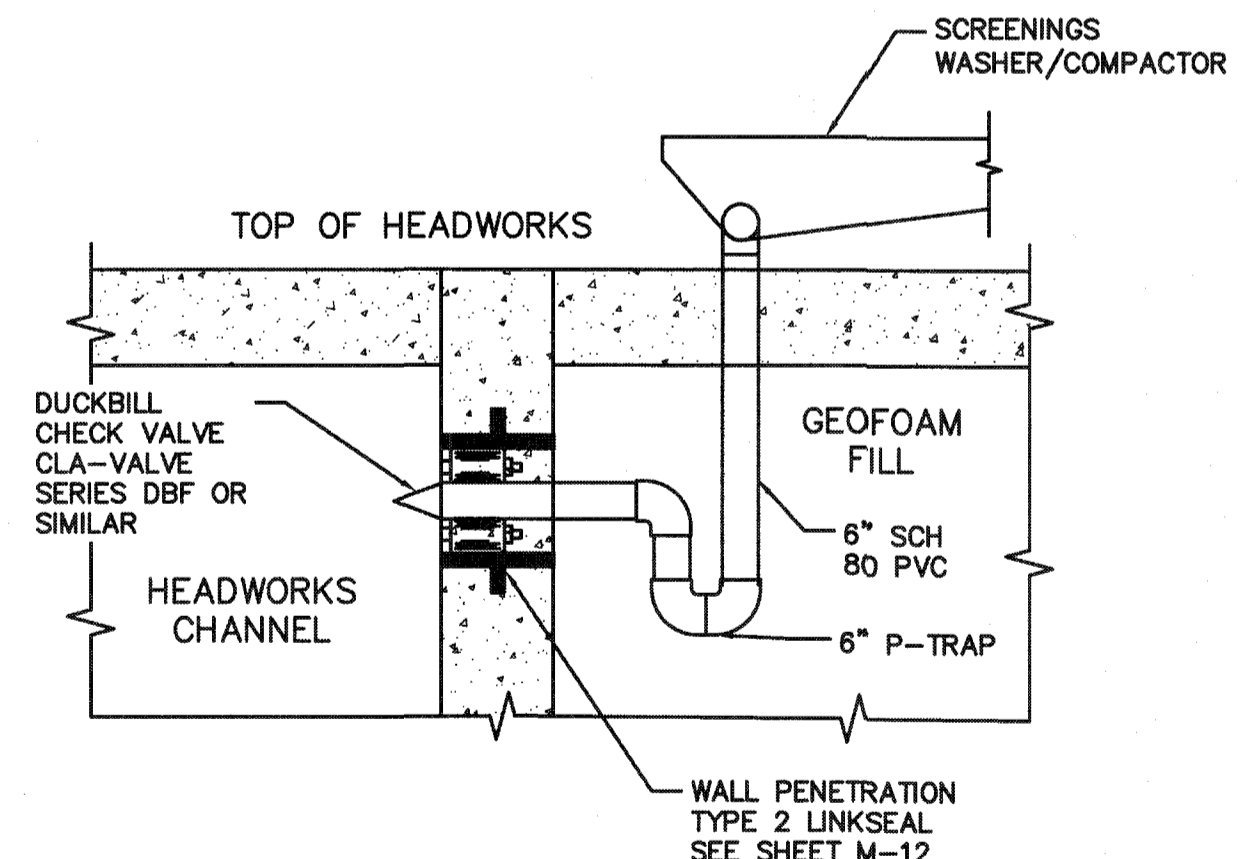
- NOTES:
- COORDINATE EQUIPMENT CONNECTION LOCATION WITH FINAL APPROVED SHOP DRAWING.
 - 4" FIBERGLASS TRENCH DRAIN WITH SLOTTED IRON RATED FOR H20 LOADING. DRAIN SHALL BE ACO POWERDRAIN S200K OR EQUAL.
 - GRIT SYSTEM NOT SHOWN IN FLOOR PLAN FOR CLARITY.



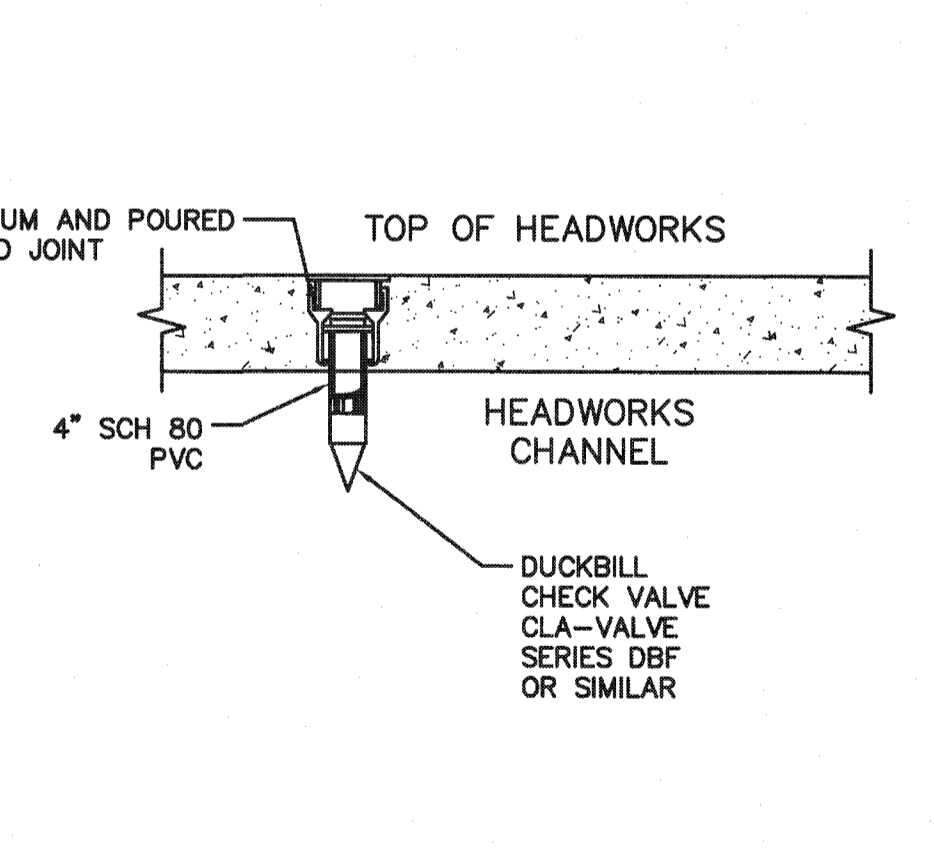
SECTION 2
1/4"=1'-0"



DETAIL A-4" FLOOR DRAIN
NOT TO SCALE



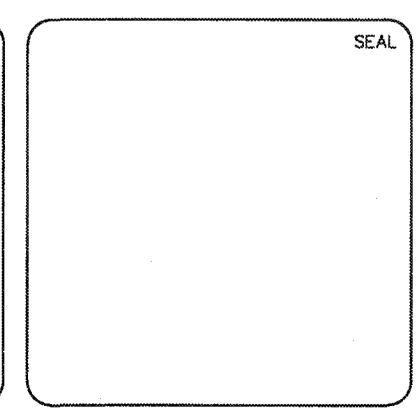
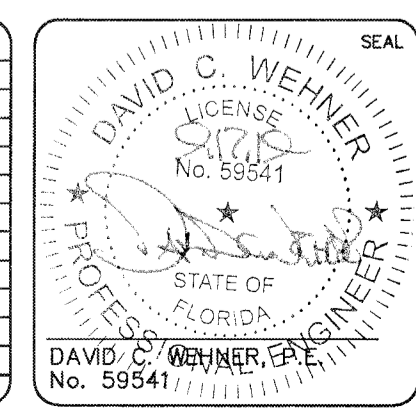
DETAIL B-6" WASHER/COMPACTOR DRAIN
NOT TO SCALE



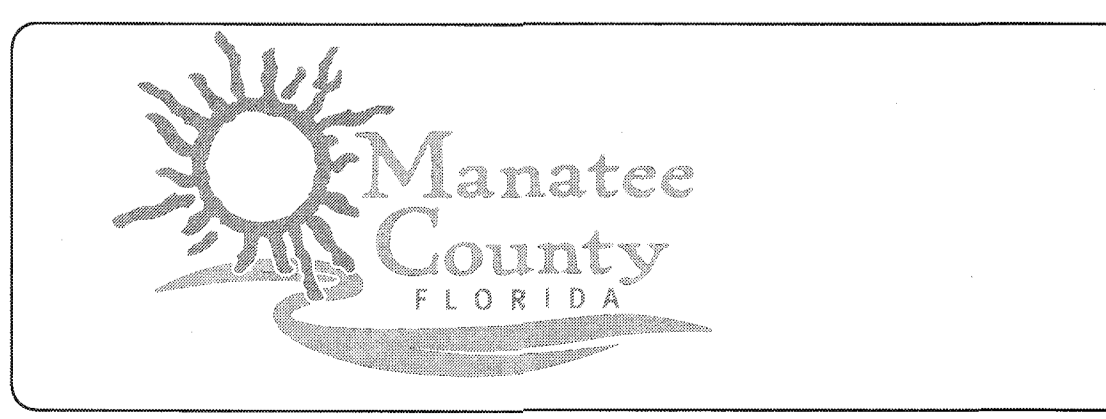
DETAIL C-4" FLOOR DRAIN
NOT TO SCALE

S:\VDC\071910\DWG-Drawing\Mechanical\VD\DWG\DRN\DWG_R\A\DWG_9/17/2019 7:52:39 AM Cully Miller

REV. NO.	DESCRIPTIONS	DATE

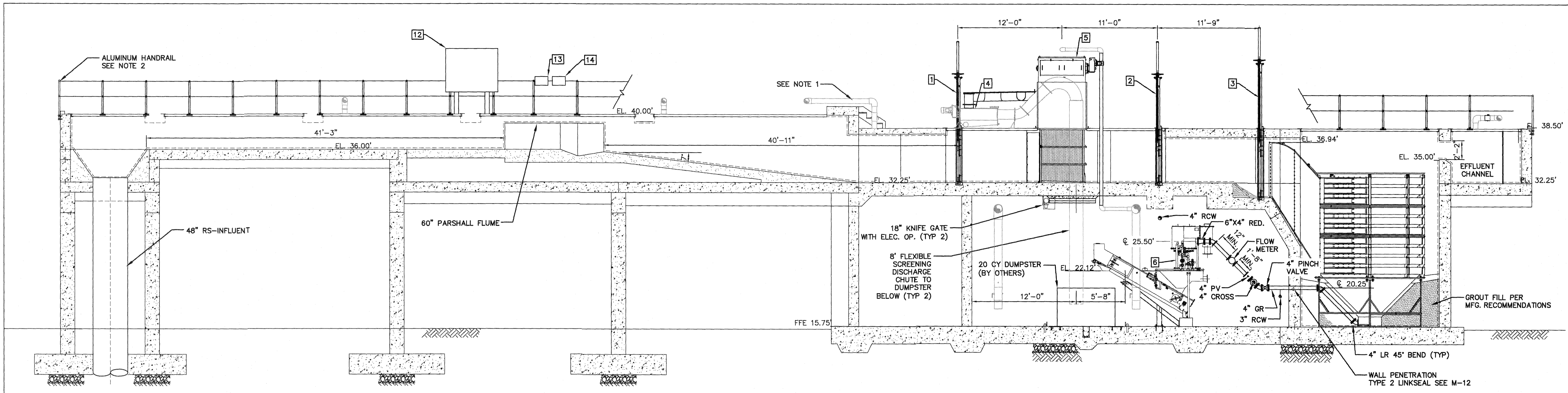


MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



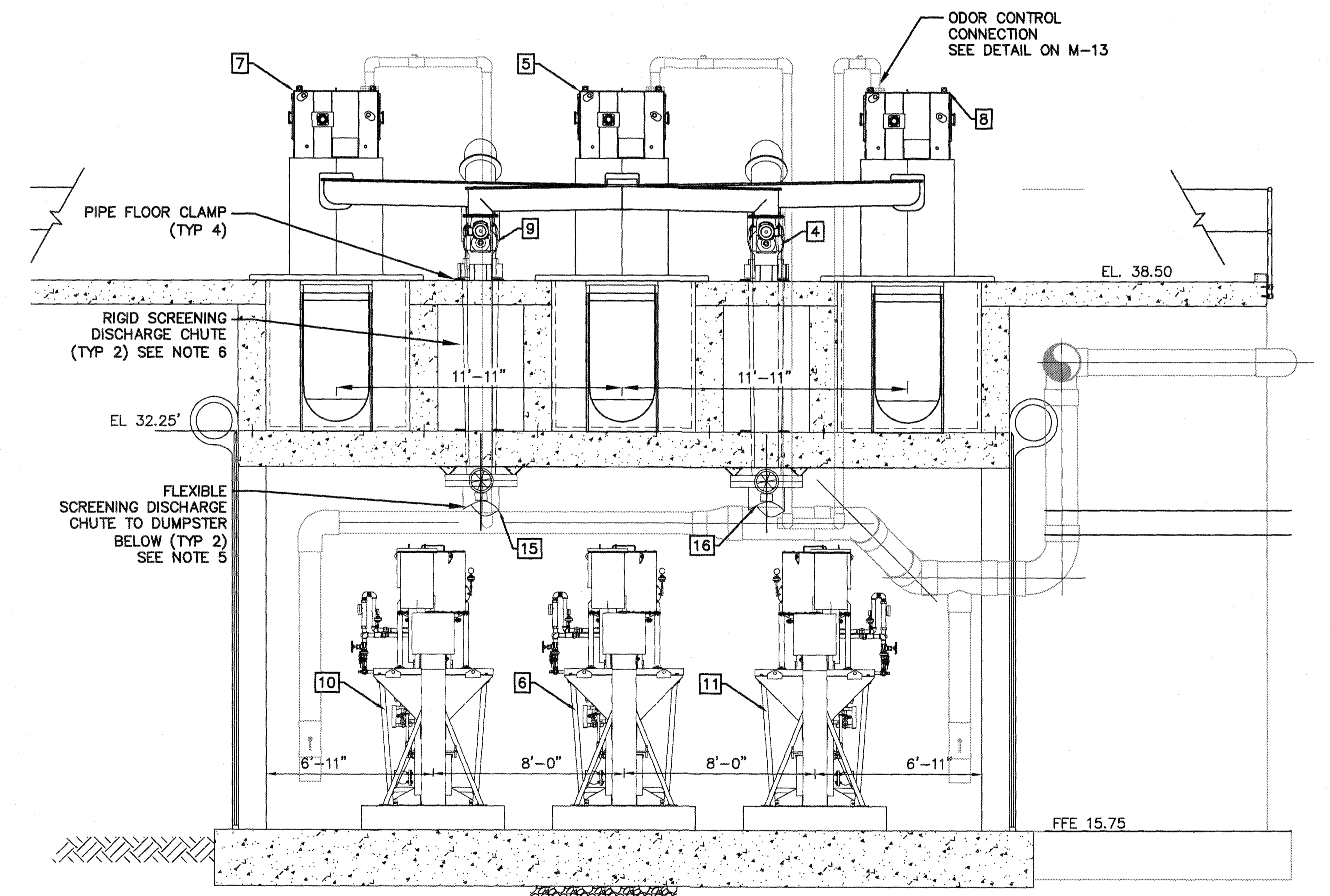
SWWRF NEW HEADWORKS
HEADWORKS DRAINAGE PLAN

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: VARIES	M-05
DRAWN: CW	VERTICAL: NA	
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID		



SECTION 1
3/16"=1'-0"

EQUIPMENT LIST			
NUMBER	DESCRIPTION	TAG	NOTES
1	SLIDE GATE No 2 (MOTORIZED)	SG-20112	
2	SLIDE GATE No 5 (MOTORIZED)	SG-20115	
3	SLIDE GATE No 8 (MOTORIZED)	MS-20212	
4	SCREENING WASHER/COMPACTOR No 2	MS-20106	
5	MECHANICALLY CLEANED CENTER-FLOW SCREEN No 2	MS-20102	
6	GRIT CLASSIFIER/CONVEYOR No 2	MS-20402	
7	MECHANICALLY CLEANED CENTER-FLOW SCREEN No 1	MS-20101	
8	MECHANICAL INFLUENT PH/TEMPERATURE TRANSMITTER	MS-20103	
9	SCREENING WASHER/COMPACTOR No 1	MS-20105	
10	GRIT CLASSIFIER/CONVEYOR No 1	MS-20401	
11	GRIT CLASSIFIER/CONVEYOR No 3	MS-20403	
12	INFLUENT COMPOSITE SAMPLER	CS-20501	SEE NOTE 4
13	INFLUENT OPEN CHANNEL TRANSMITTER	FIT-20011	SEE NOTE 4
14	INFLUENT PH/TEMPERATURE TRANSMITTER	AIT-20031/TIT-20032	SEE NOTE 4
15	KNIFE GATE No. 3	MOV-20119	
16	KNIFE GATE No. 4	MOV-20120	



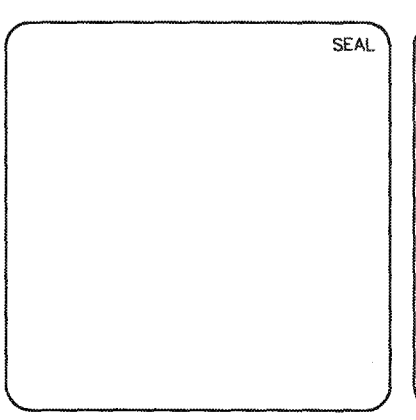
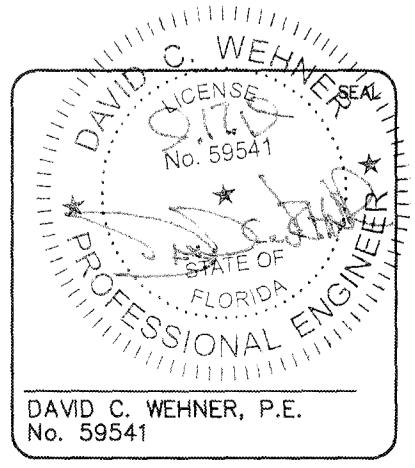
SECTION 2
1/4"=1'-0"

* SLIDE GATES NOT SHOWN FOR CLARITY.

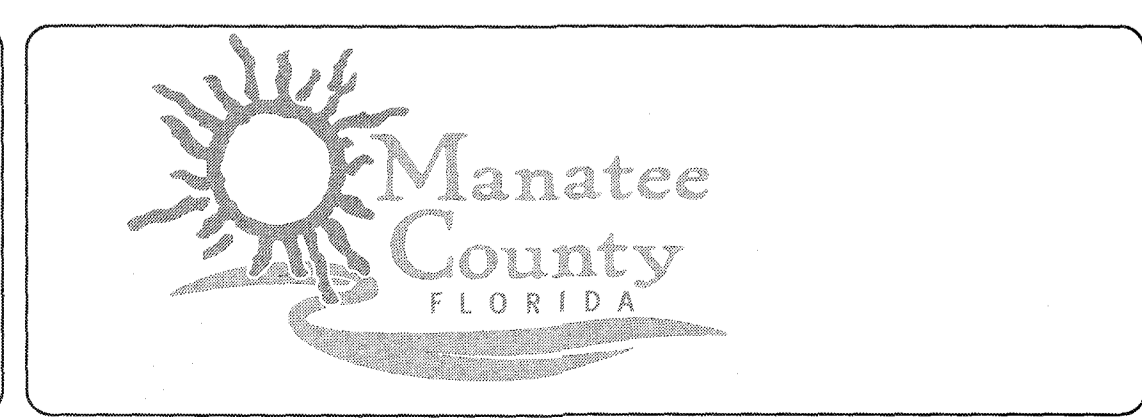
- NOTES:
- FOR ODOR CONTROL EQUIPMENT AND AIR PIPING, SEE SHEETS M-08, M-09 & M-10.
 - ALUMINUM HANDRAIL NOT FULLY SHOWN FOR CLARITY. REFER TO STRUCTURAL DRAWINGS FOR HANDRAIL LOCATIONS.
 - REFER TO INSTRUMENTATION DRAWINGS FOR DIMENSIONS AND MOUNTING DETAILS.
 - WATER SUPPLY AND DRAIN PIPING NOT SHOWN FOR CLARITY. REFER TO SHEETS M-04 & M-05.
 - FLEXIBLE SCREENING DISCHARGE CHUTE SHALL BE 8' LONG AND MADE FROM 22 OZ YELLOW VINYL (PVC). PROVIDE FLANGE AT TOP TO CONNECT WITH KNIFE GATE FLANGE AND COLLAR AT BOTTOM. ALL HARDWARE TO BE 316 SS. FLEXIBLE DISCHARGE SCREENING CHUTE, FLANGE AND COLLAR TO BE MANUFACTURED BY SUPERCHUTE APPROVED EQUAL.
 - RIGID DISCHARGE CHUTE TO BE SUPPORTED BY PIPE FLOOR CLAMPS AND CONNECT TO WASHER/COMPACTOR DISCHARGE FLANGE ABOVE AND KNIFE GATE FLANGE BELOW. KNIFE GATE TO BE SUPPORTED FROM CEILING. ALL HARDWARE TO BE 316 SS.

S:\024\0170-WD-Drawing\MECHANICAL\HEADWORKS MECHANICAL SECTIONS.dwg, 9/16/2019, 5:01:12 PM, Cathy Wehner

REV.	DESCRIPTION	DATE

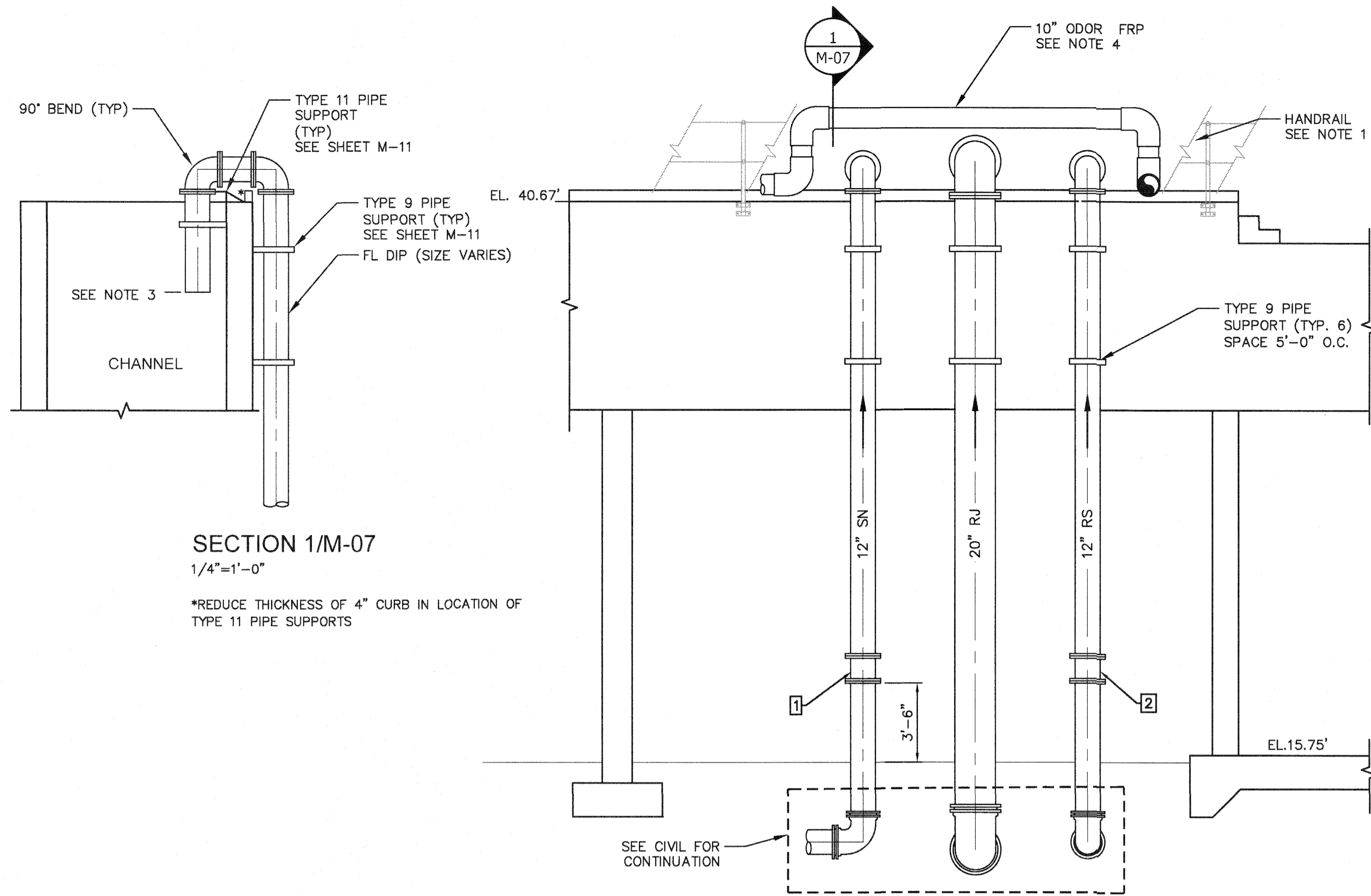


MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

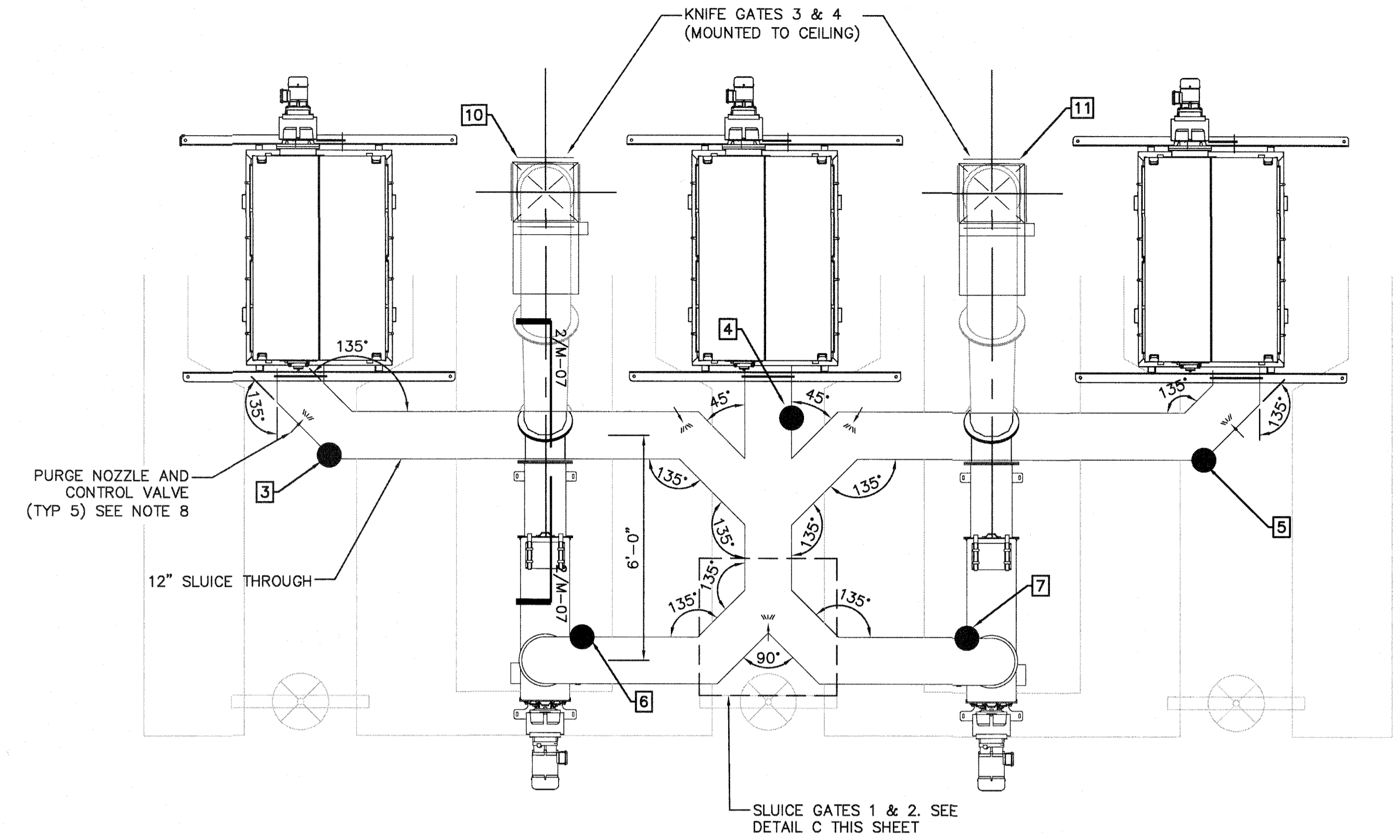


SWWRF NEW HEADWORKS
HEADWORKS MECHANICAL SECTIONS

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: AS SHOWN	DRAWING NUMBER: M-06
MCE PROJ. # 1024-0170	DESIGNED: EAS	CHECKED: MAC
DRAWN: CW	VERTICAL: NA	PROJ. MGR: DCW
STATUS: ISSUED FOR BID		

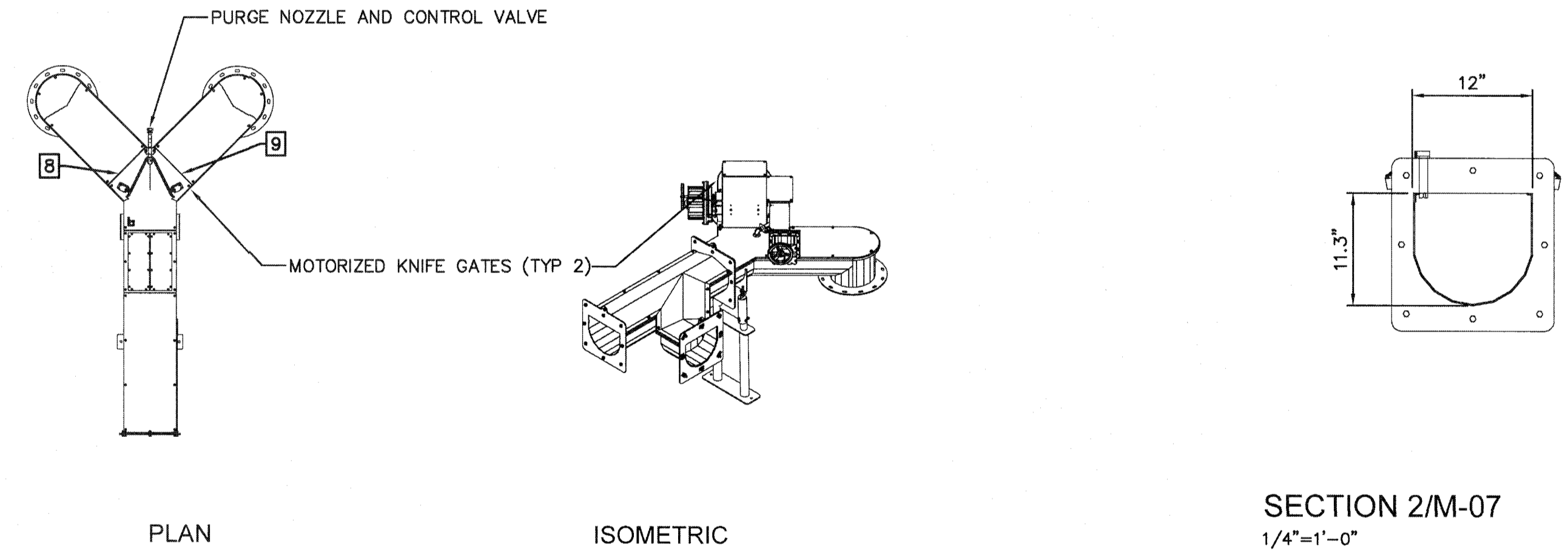


SECTION 1/M-07
1/4"=1'-0"
*REDUCE THICKNESS OF 4" CURB IN LOCATION OF TYPE 11 PIPE SUPPORTS



DETAIL B/M-07
3/8"=1'-0"

DETAIL A/M-07
1/4"=1'-0"



DETAIL C/M-07
3/8"=1'-0"

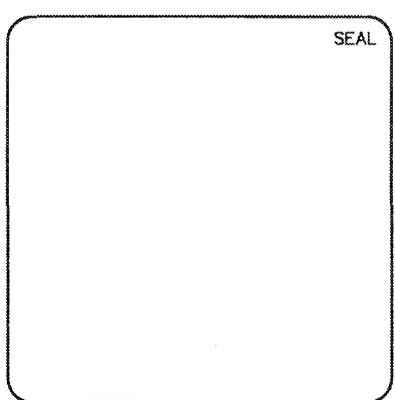
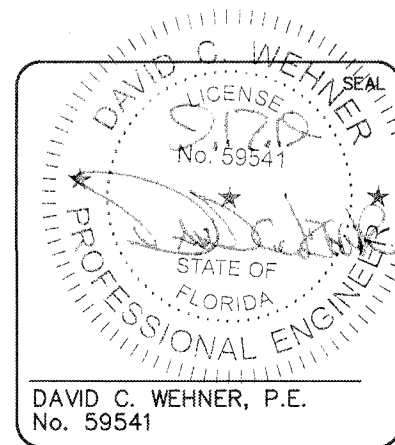
NOTES:

1. ADD ADDITIONAL VERTICAL SUPPORTS AT INTERRUPTION POINTS AS NECESSARY.
2. NOT USED
3. 12" SN, 12" RS, 20" RJ = 36.7'. 10" FM = 32.7'.
4. ODOR CONTROL PIPING ABOVE INFLUENT ROUTE FM'S. SUPPORT FROM HEADWORKS STRUCTURE USING TYPE 9 PIPE SUPPORT (SEE SHEET M-11)
5. REFER TO INSTRUMENTATION DRAWINGS AND SPECIFICATIONS FOR INSTALLATION DETAILS.
6. COORDINATE LOCATION AND INSTALLATION DETAILS WITH SCREEN MANUFACTURER.
7. SLUICE GATE TROUGH DESIGN SHALL BE THE RESPONSIBILITY OF SCREEN MANUFACTURER.
8. REFER TO SHEET M-04 FOR WATER SUPPLY PIPING. COORDINATE CONNECTION LOCATION WITH APPROVED SHOP DRAWING.

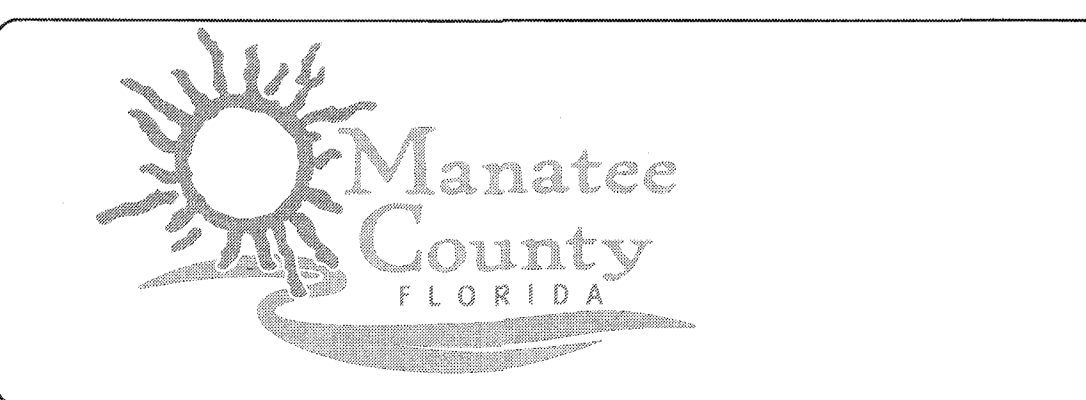
EQUIPMENT LIST		
NUMBER	DESCRIPTION	TAG
1	SUPER NATANT FLOW METER	FE-80011
2	PLANT DRAIN PS FLOW METER	FE-10211
3	SLUICE TROUGH LEVEL SWITCH NO. 1	LS-20101
4	SLUICE TROUGH LEVEL SWITCH NO. 2	LS-20102
5	SLUICE TROUGH LEVEL SWITCH NO. 3	LS-20103
6	SLUICE TROUGH LEVEL SWITCH NO. 4	LS-20104
7	SLUICE TROUGH LEVEL SWITCH NO. 5	LS-20105
8	KNIFE GATE No. 1	MOV-20117
9	KNIFE GATE No. 2	MOV-20118
10	KNIFE GATE No. 3	MOV-20119
11	KNIFE GATE No. 4	MOV-20120

S:\VDC\1017018-Drawing\Mechanical\MECHANICAL SECTIONS II.dwg 9/12/2019 5:51:52 PM, Cathy Weber

REVNO.	DESCRIPTIONS	DATE

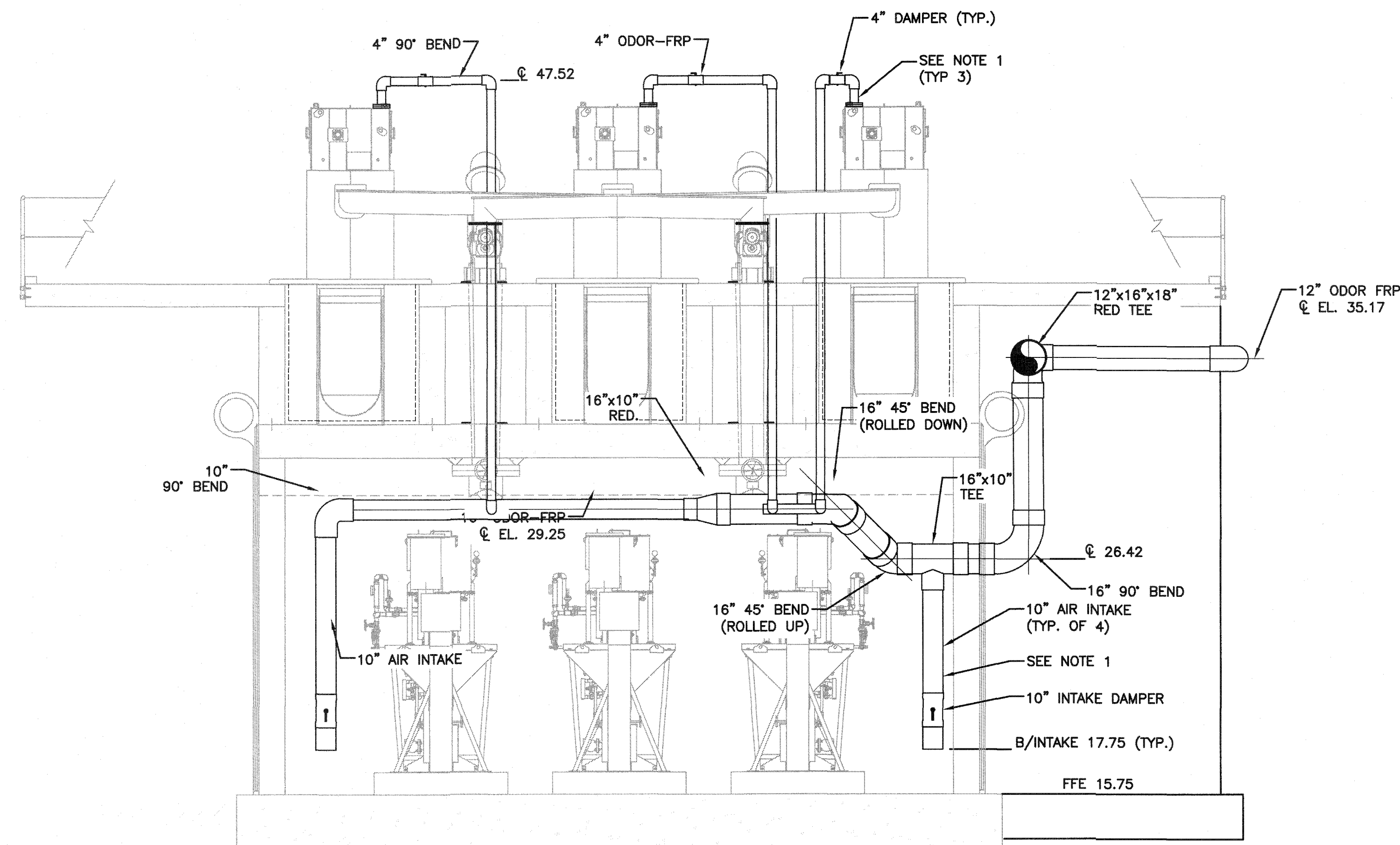


MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWWRF NEW HEADWORKS
HEADWORKS MECHANICAL SECTIONS II

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: AS SHOWN	DRAWING NUMBER: M-07
MCE PROJ. # 1024-0170	DESIGNED: EAS	CHECKED: MAC
PROJ. MGR. DCW	STATUS: ISSUED FOR BID	REVISION: NA



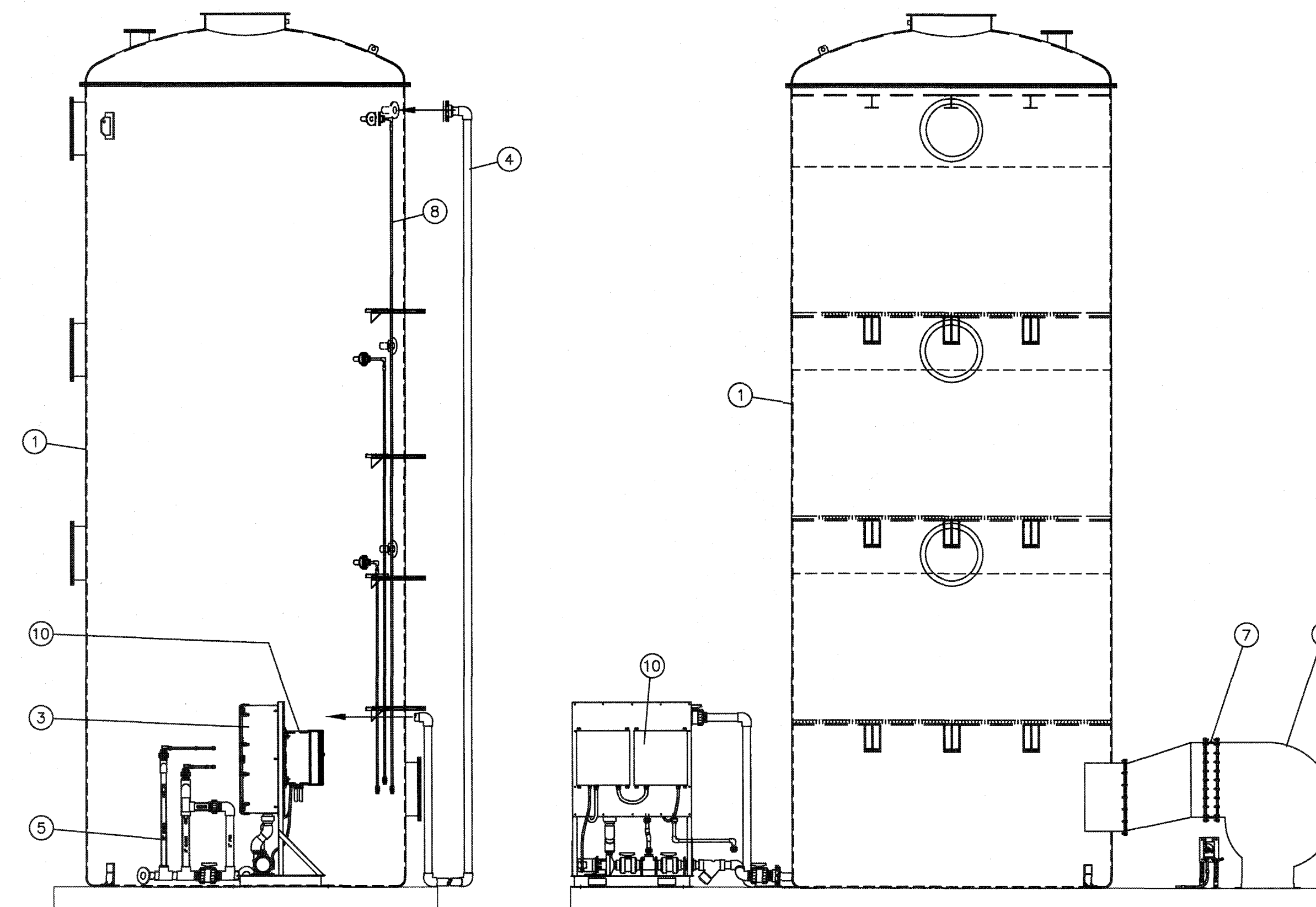
NOTES:
1. PROVIDE 1/2" HOLE IN FRP DUCT AT CENTERLINE W/ TAPERED EPDM PLUG (TYP.)

SECTION 1/M-08 AND M-09
1/4"=1'-0"

MAJOR COMPONENTS *

- ① BTF-12 3-STG VESSEL ASSEMBLY
- ② BLOWER FOR AIR INTAKE
- ③ LIQUID PIPING PANEL
- ④ NOZZLE FEED PIPING
- ⑤ LEVEL SENSOR ASSEMBLY
- ⑥ NUTRIENT TANK
- ⑦ FLEX DUCT CONNECTION
- ⑧ SAMPLE PIPING ASSEMBLY
- ⑨ VESSEL DRAIN ASSEMBLY
- ⑩ ELECTRICAL CONTROL PANEL

* PROVIDED BY EVOQUA WATER TECHNOLOGIES



SIDE VIEW

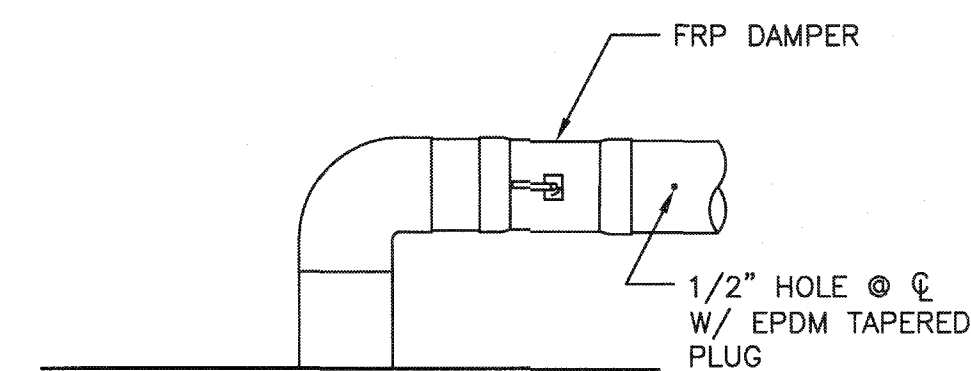
FRONT VIEW

ODOR CONTROL SYSTEM
(BY OTHERS)

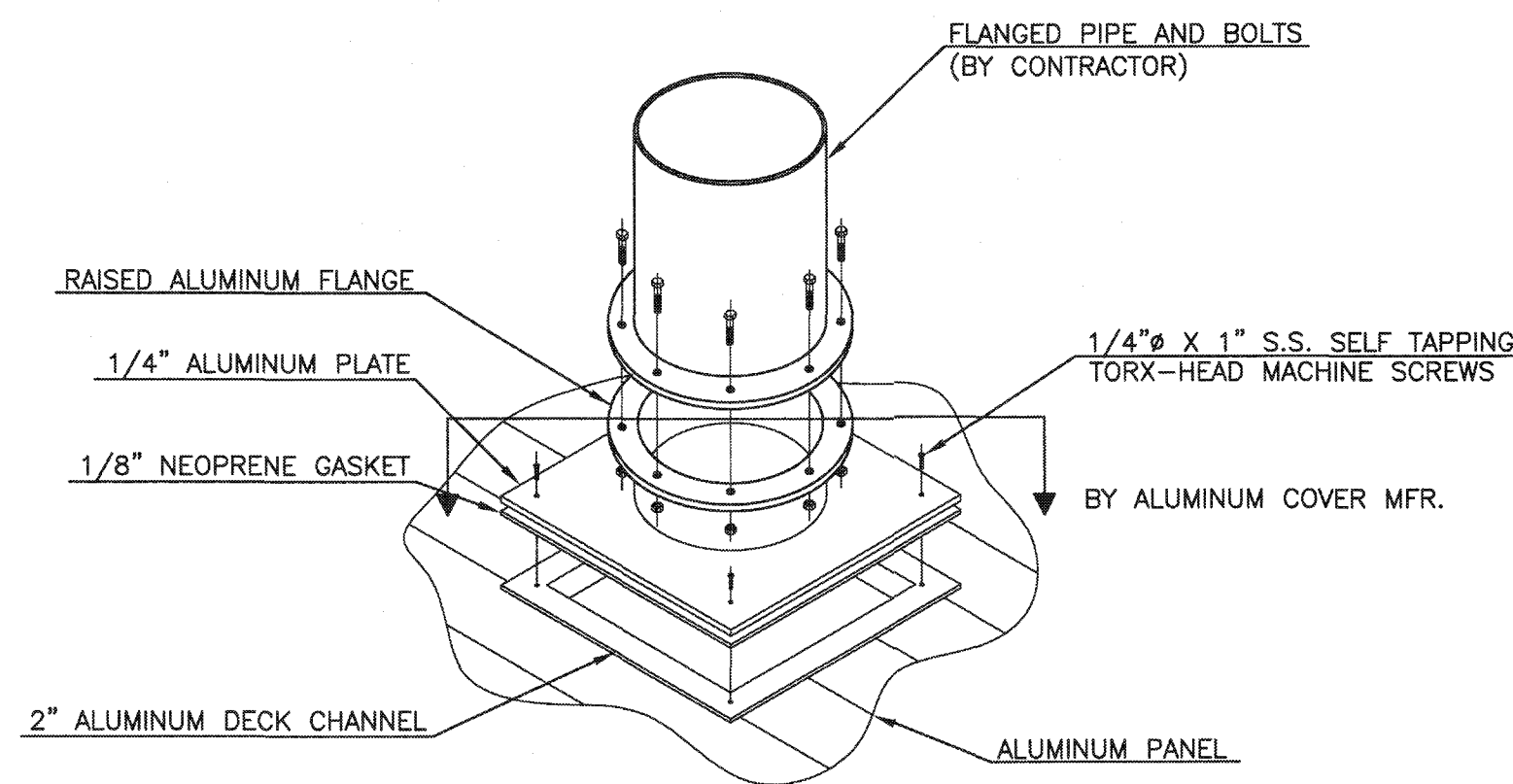
1/4"=1'-0"

NOTES:

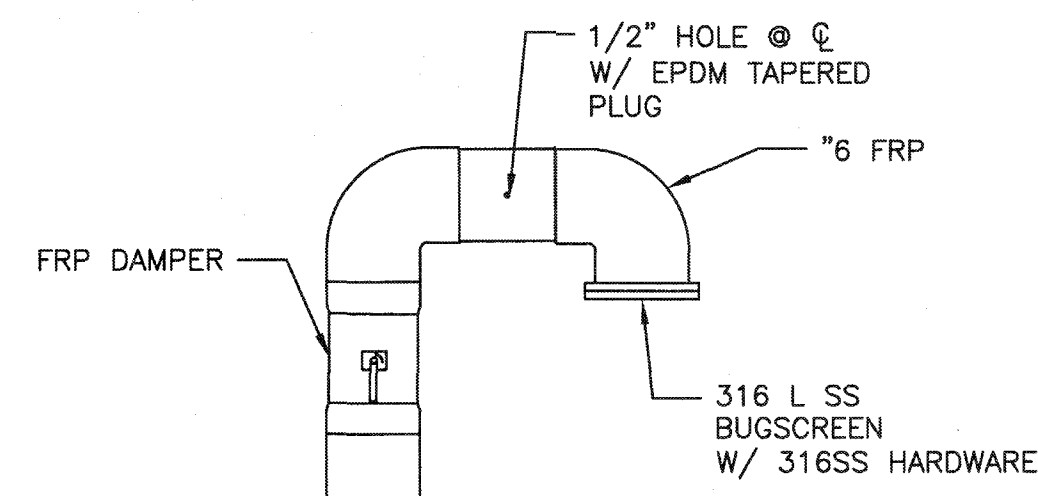
- COORDINATE CONNECTION TO SCREEN ODOR OUTLET WITH SCREEN MFR.
- ODOR CONTROL PIPE ELEVATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE ELEVATIONS WITH OTHER IMPROVEMENTS AND ADJUST ACCORDINGLY.
- ODOR CONTROL EQUIPMENT WITHIN DASHED BOUNDARY SUPPLIED AND INSTALLED BY OTHERS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CONCRETE SLAB, BOLLARDS, DRAIN PIPING, WATER SUPPLY PIPING, ELECTRICAL FEED CONDUIT AND WIRING, AND PLAIN-END FRP DUCTING TO 6'-0" FROM FAN INLET. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL CONDUIT AND WIRING FEED REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ODOR CONTROL SYSTEM VENDOR REGARDING FINAL LOCATION OF SUPPLY DUCTING, WATER AND DRAIN PIPING, AND ELECTRICAL CONDUIT LOCATION.



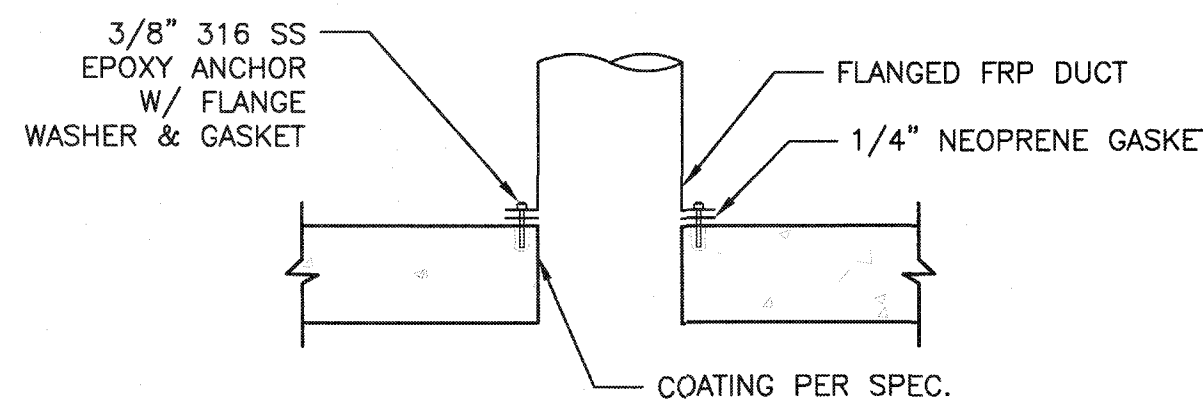
TYPICAL ODOR DUCT CONNECTION ASSEMBLY DETAIL
NTS



ALUMINUM COVER DUCT CONNECTION DETAIL
NTS



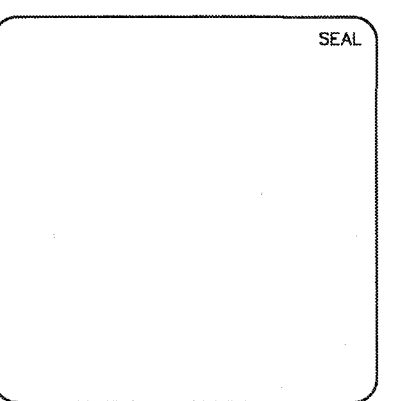
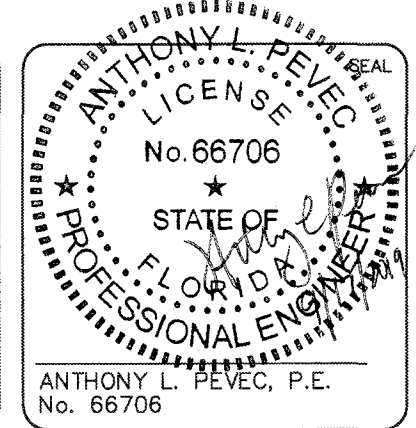
FRESH AIR INTAKE ASSEMBLY DETAIL
NTS



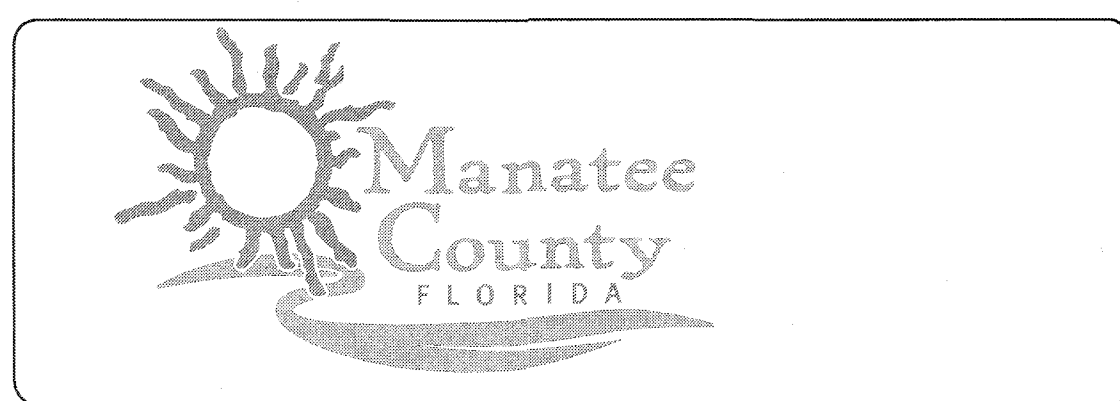
DUCT CONNECTION FOR CONCRETE PENETRATION DETAIL
NTS

V:\projects\1024\1024-0170-Drawings\Mechanical\ODOR CONTROL SECTIONS.dwg, 9/17/2019 9:28:46 AM, Corina Najera

REVNO.	DESCRIPTIONS	DATE



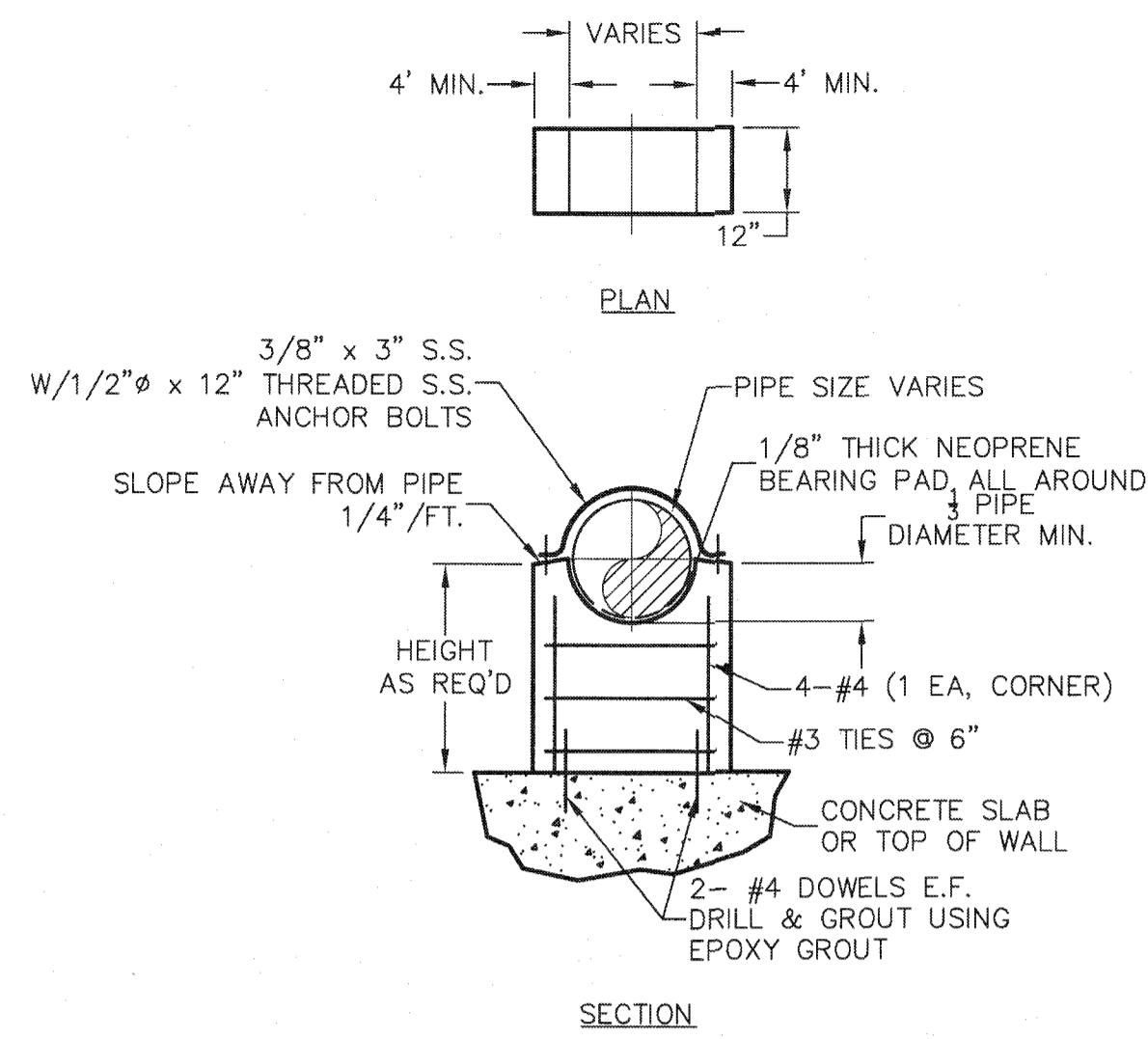
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



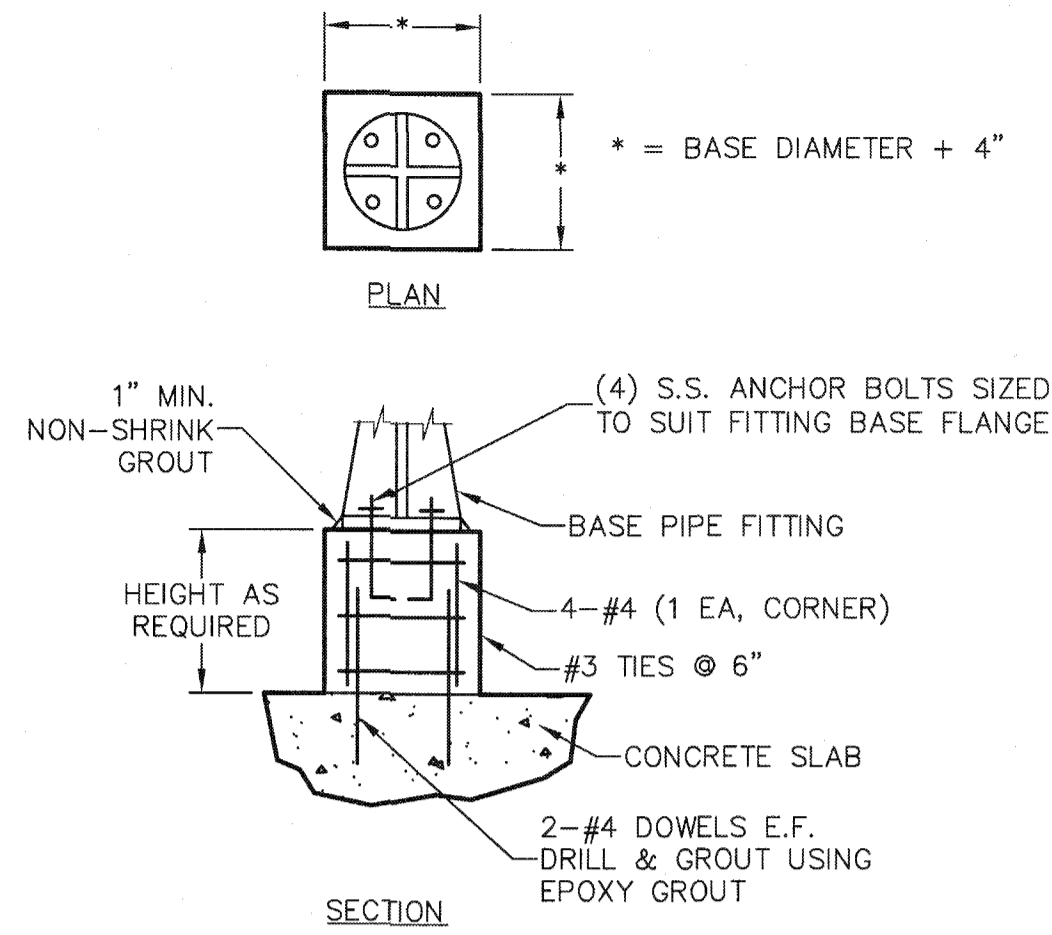
SWWRF NEW HEADWORKS

ODOR CONTROL SECTIONS

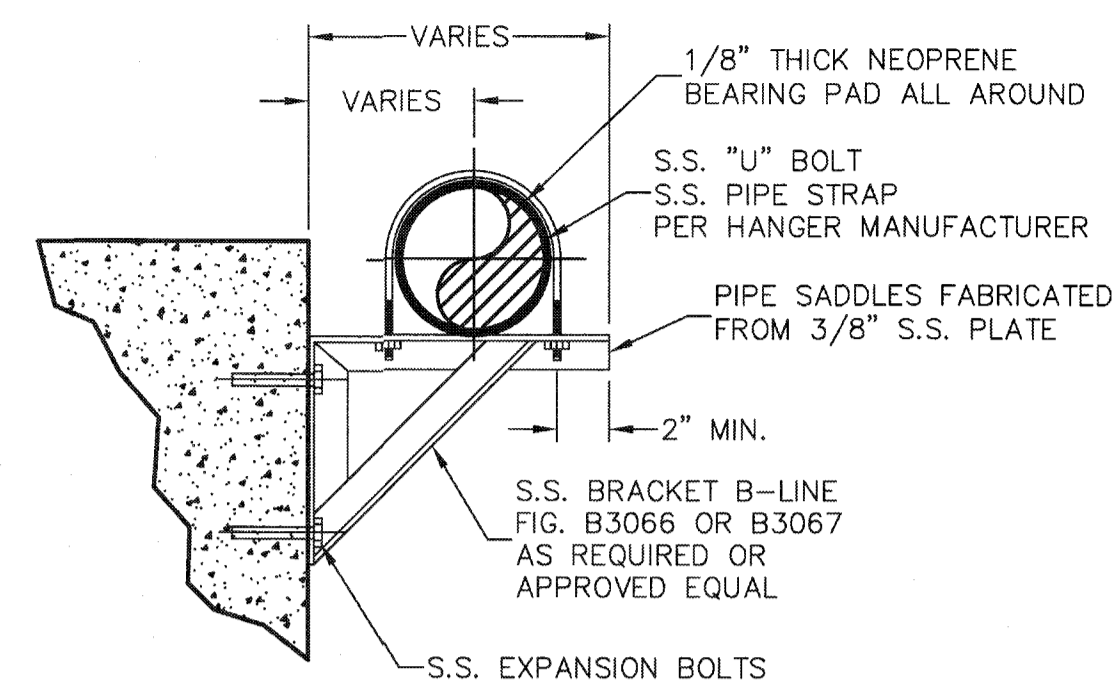
DATE: SEPTEMBER, 2019	SCALE	DRAWING NUMBER
MCE PROJ. # 1024-0170	HORIZONTAL: AS SHOWN	M-10
DRAWN: CW	VERTICAL: NA	
DESIGNED: EAS		
CHECKED: MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID		



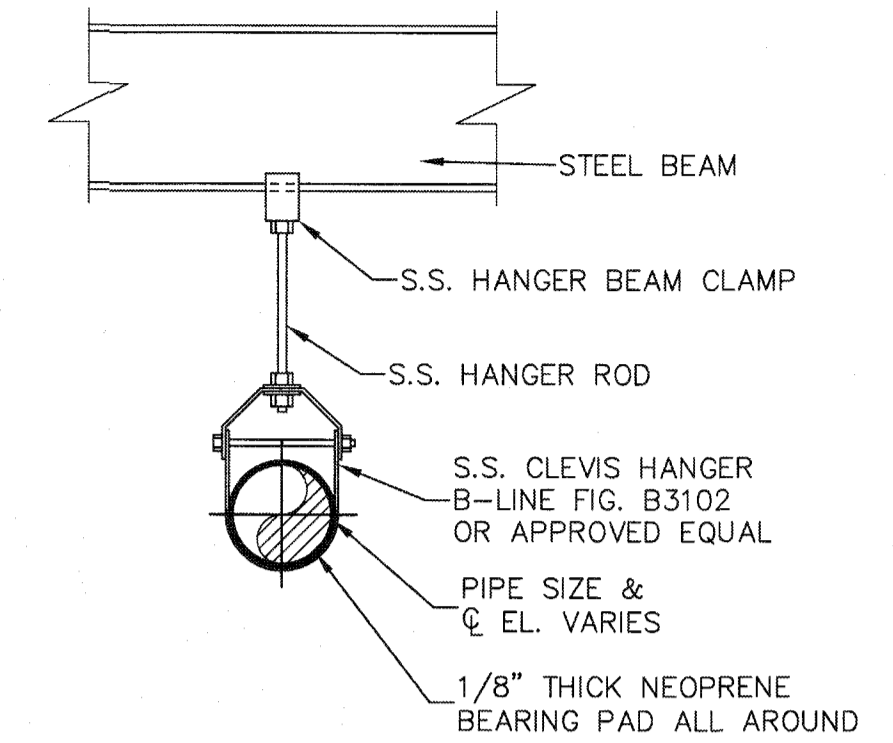
PIPE SUPPORT TYPE 1
NOT TO SCALE



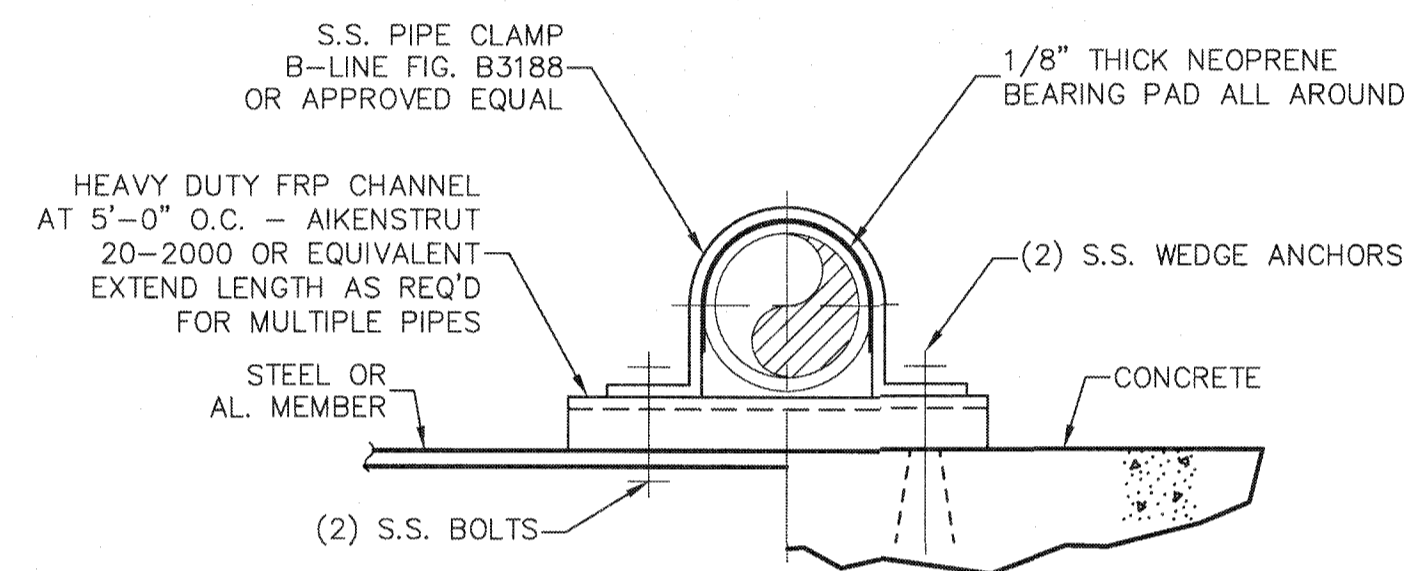
PIPE SUPPORT TYPE 2
NOT TO SCALE



PIPE SUPPORT TYPE 3
NOT TO SCALE

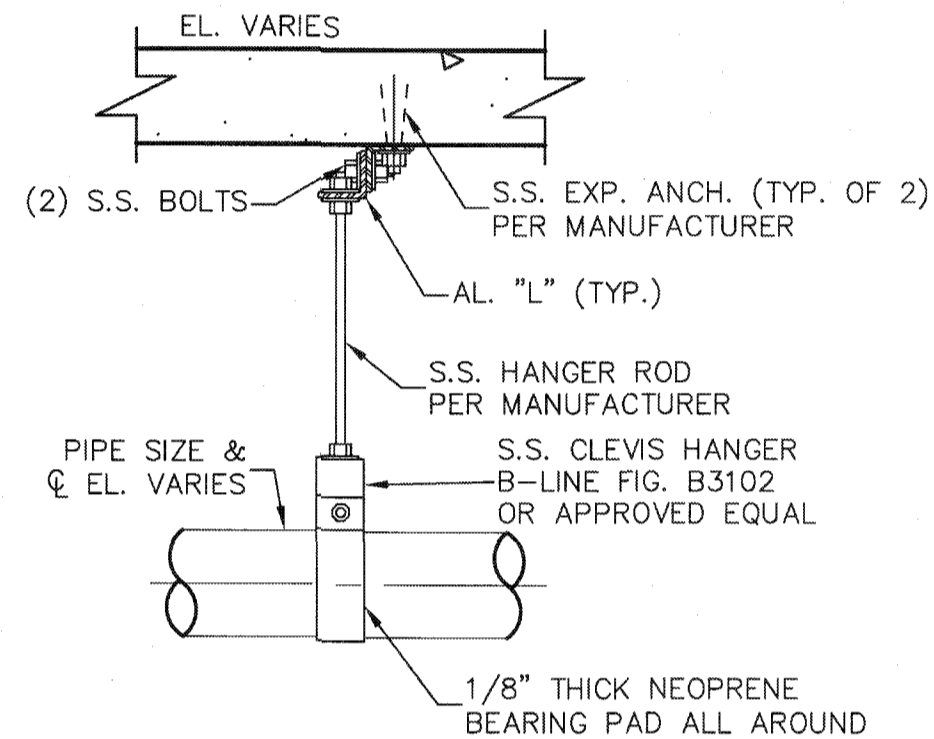


PIPE SUPPORT TYPE 4
NOT TO SCALE

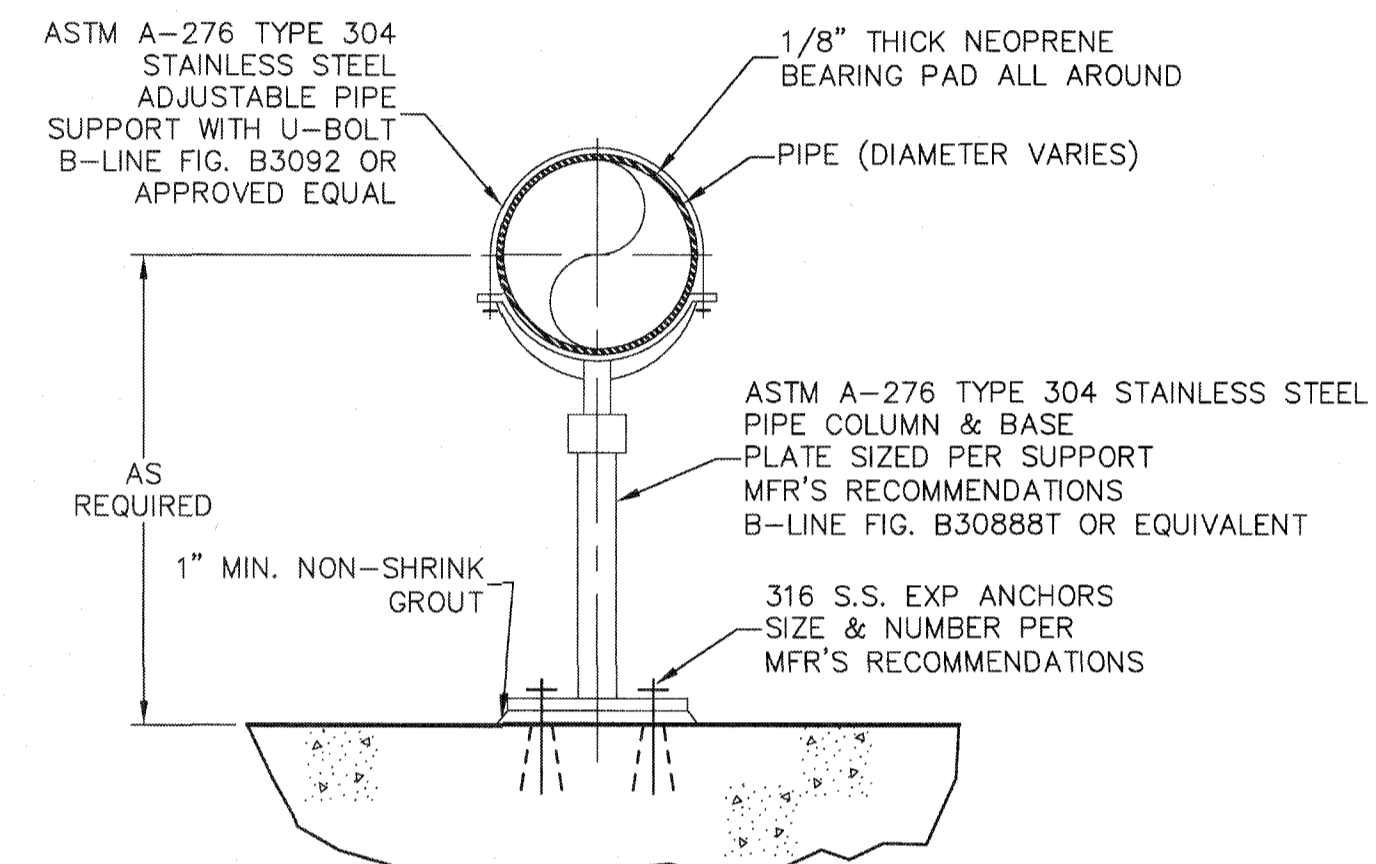


NOTE:
USE THIS DETAIL FOR SMALL DIA. PIPING OR CONDUIT ATTACHED TO CONCRETE SLAB, WALL, CEILING, METAL FRAMING MEMBERS OR EQUIPMENT MOUNTING BOARDS.

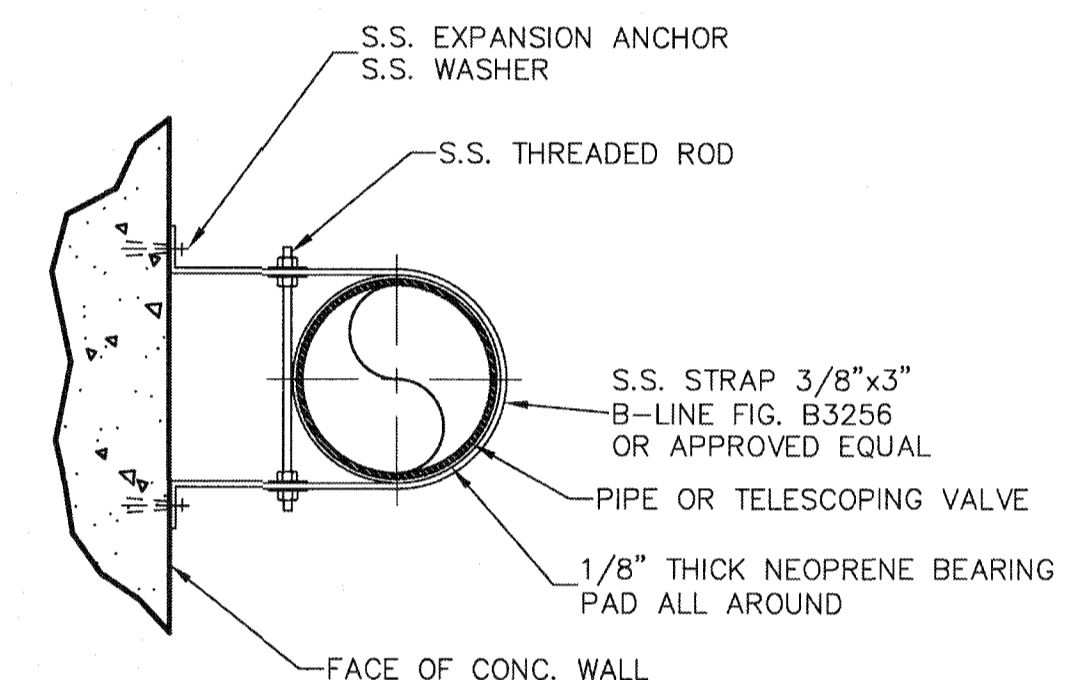
PIPE SUPPORT TYPE 5
NOT TO SCALE



PIPE SUPPORT TYPE 6
NOT TO SCALE

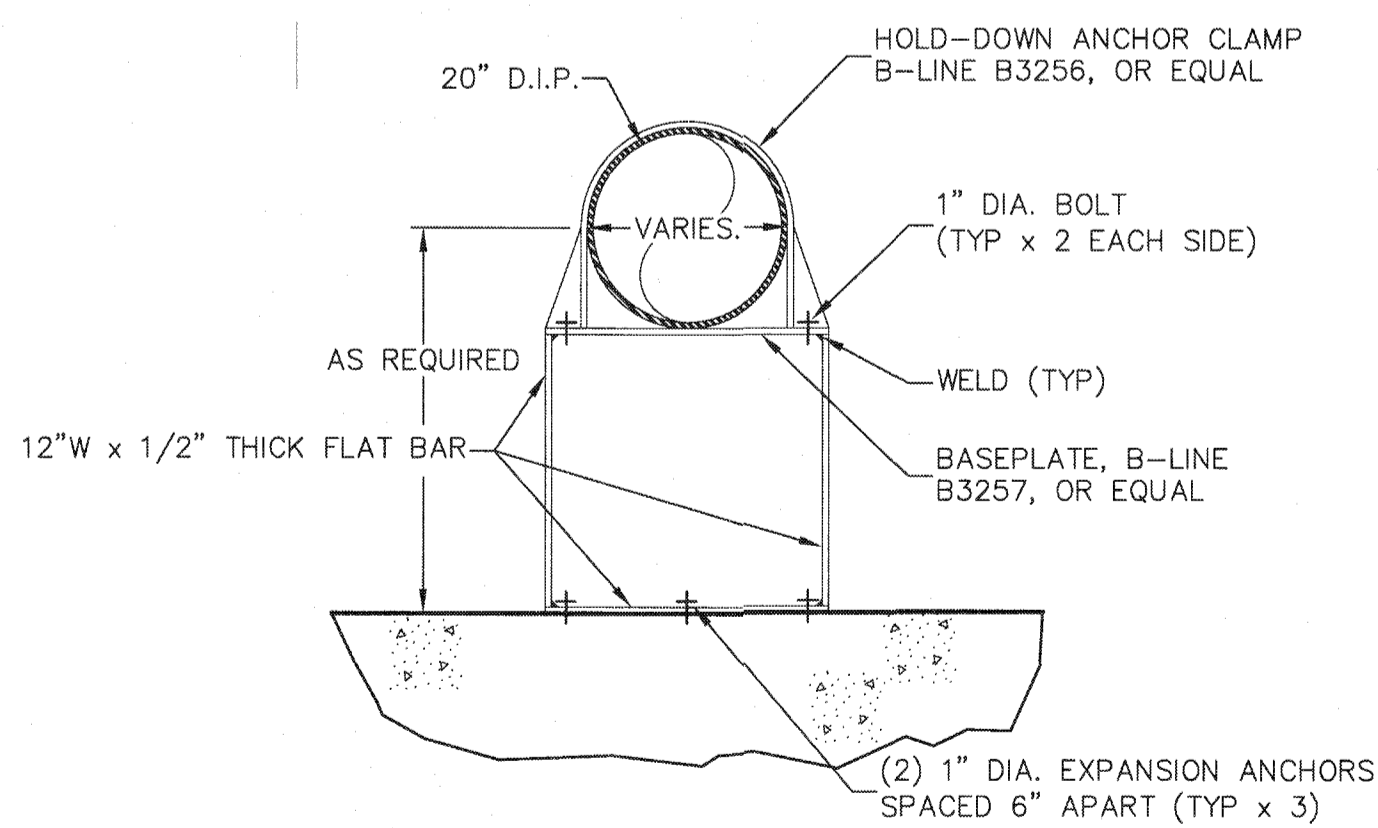


PIPE SUPPORT TYPE 7
NOT TO SCALE

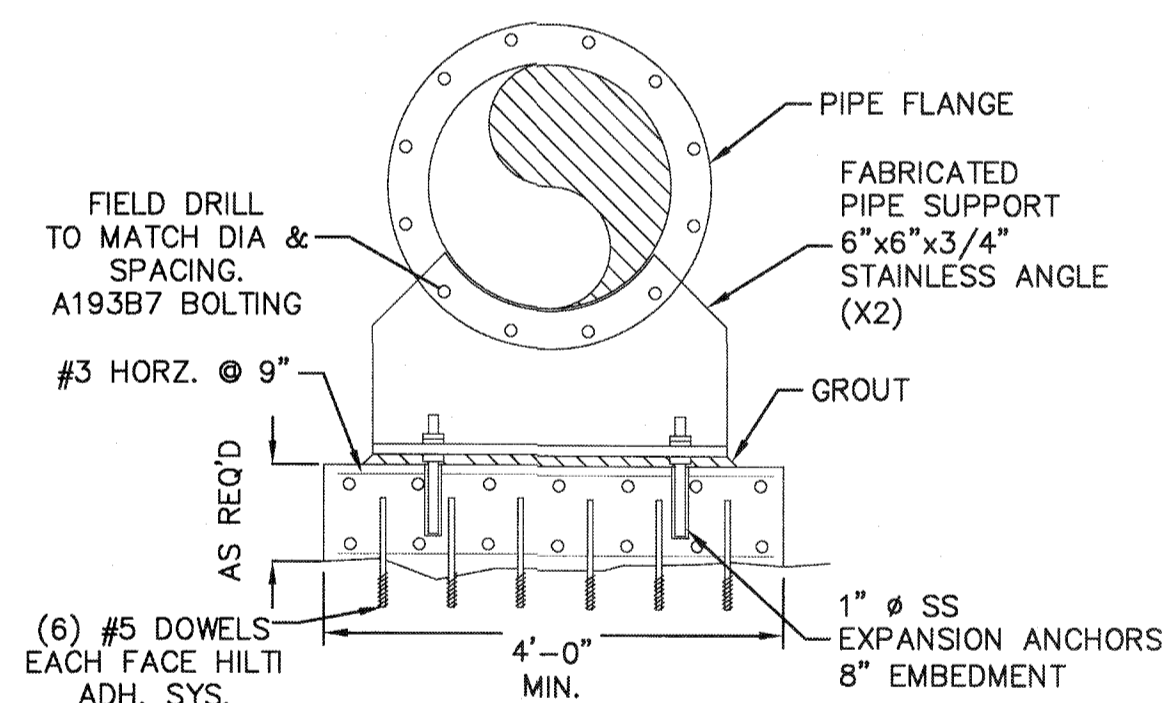


PIPE STAND-OFF BRACKET TYPE 8
NOT TO SCALE

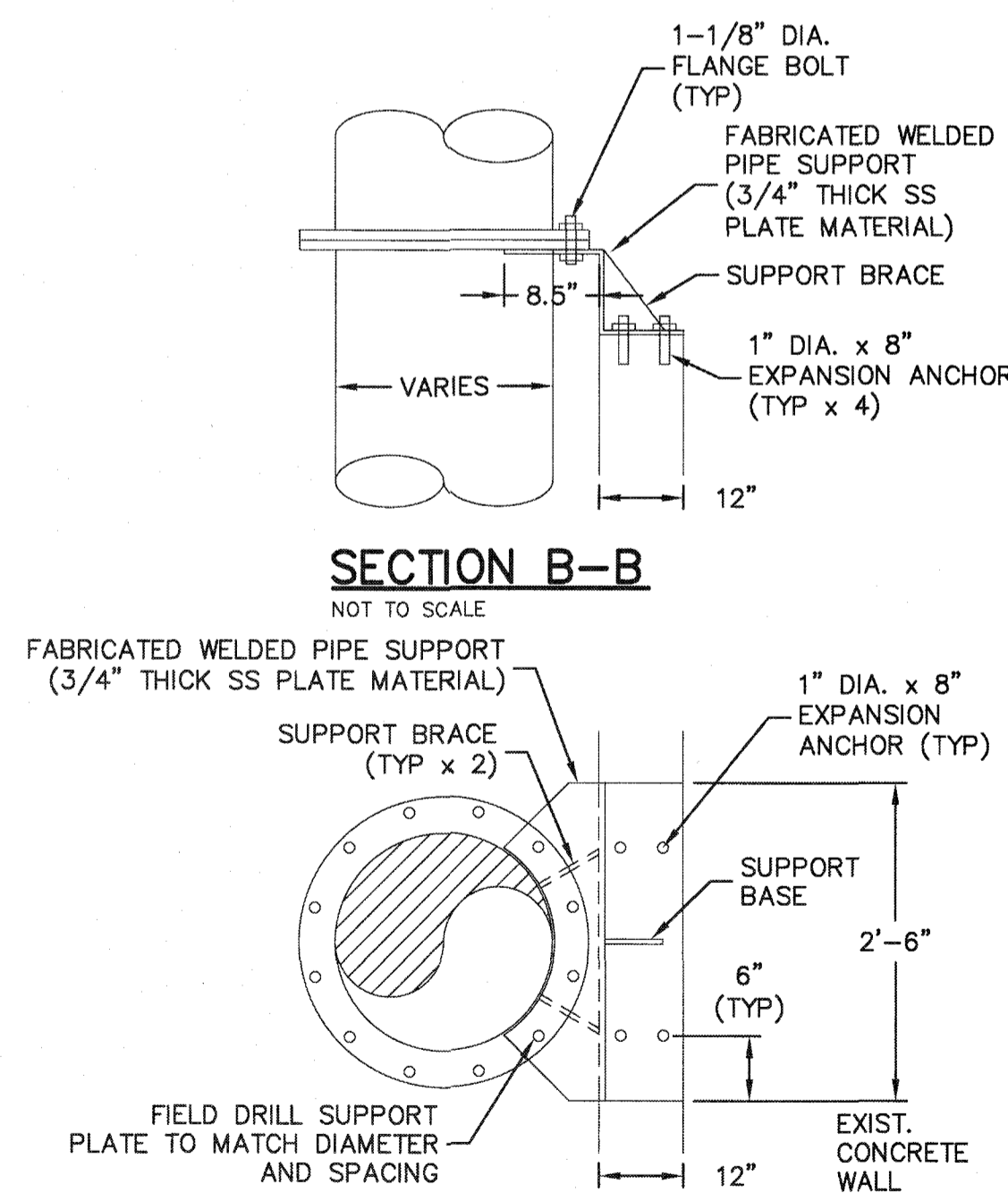
NOTE:
1. ALL PIPE SUPPORTS AND ASSOCIATED HARDWARE SHALL BE 316 SS.



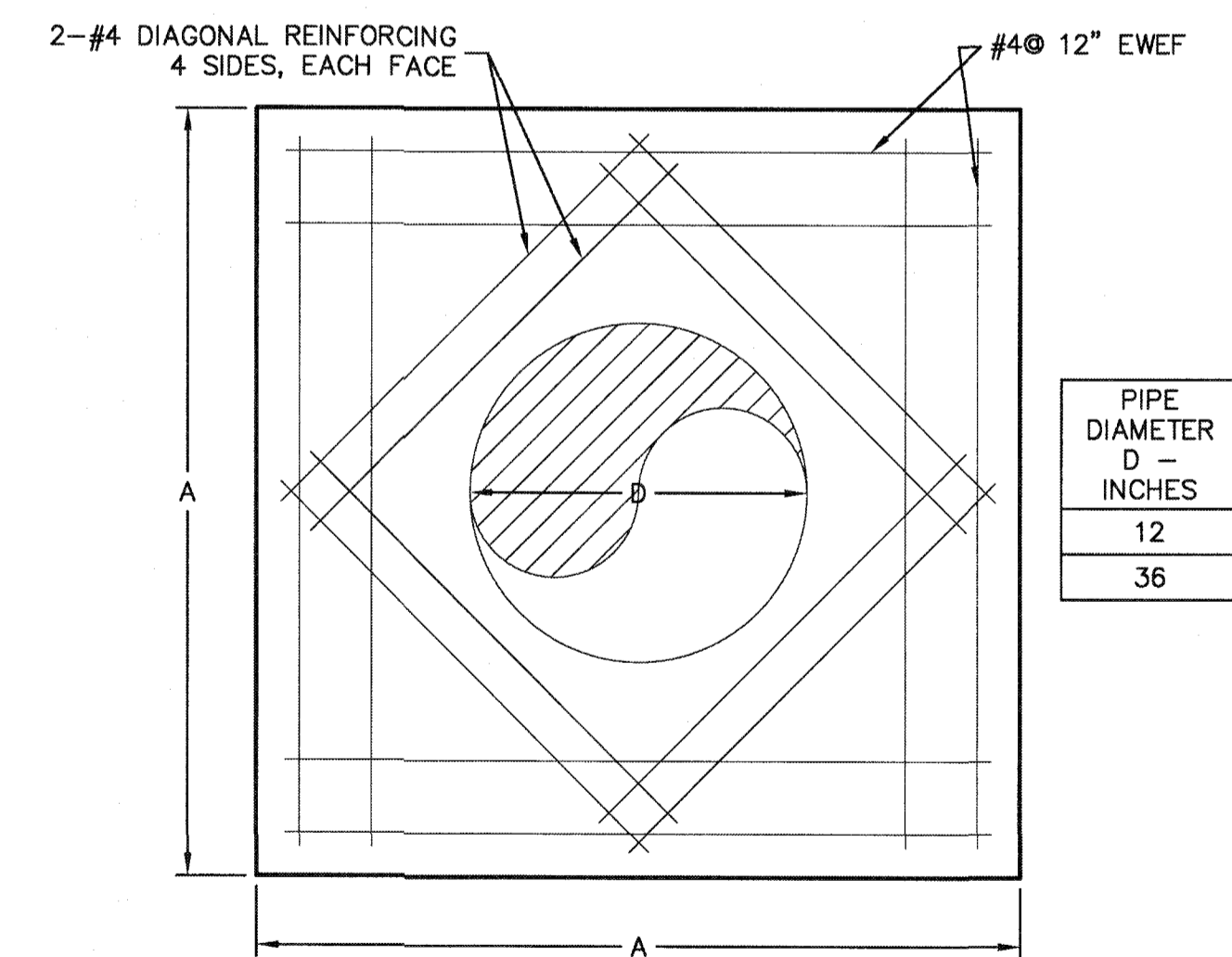
PIPE SUPPORT TYPE 9
NOT TO SCALE



PIPE SUPPORT TYPE 10
NOT TO SCALE



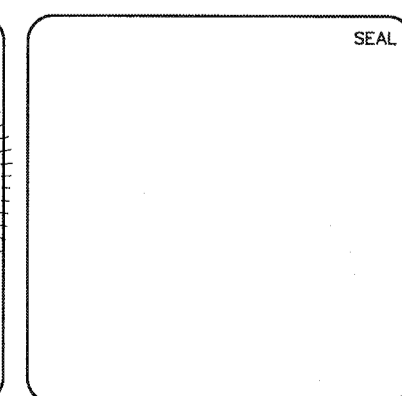
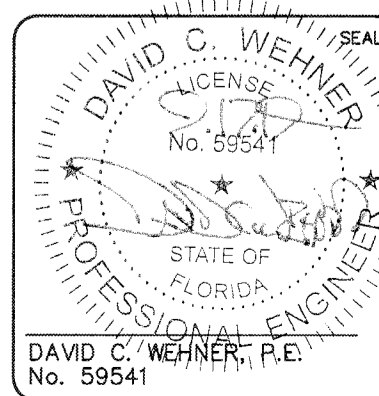
PIPE SUPPORT TYPE 11
NOT TO SCALE



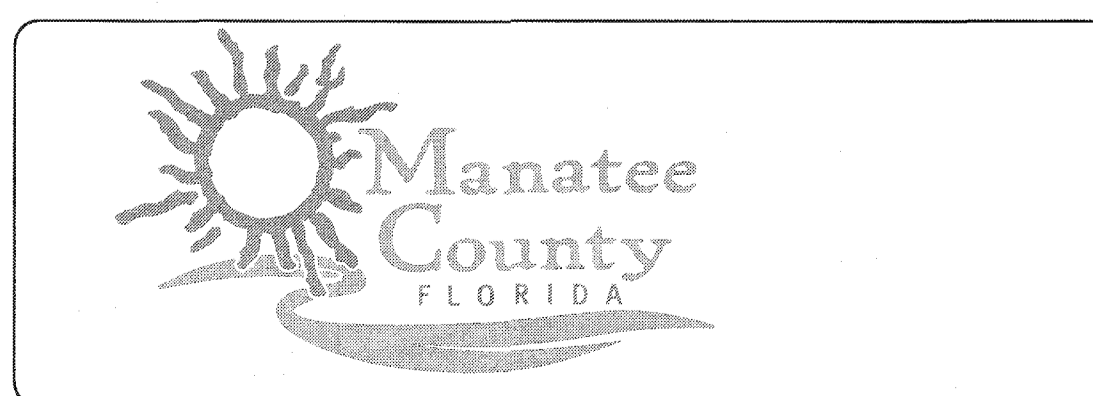
CONCRETE COLLAR DETAIL
NOT TO SCALE

PIPE DIAMETER D - INCHES	SIDE LENGTH A - FEET	CONCRETE COLLAR THICKNESS INCHES
12	4	24
36	7	24

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com

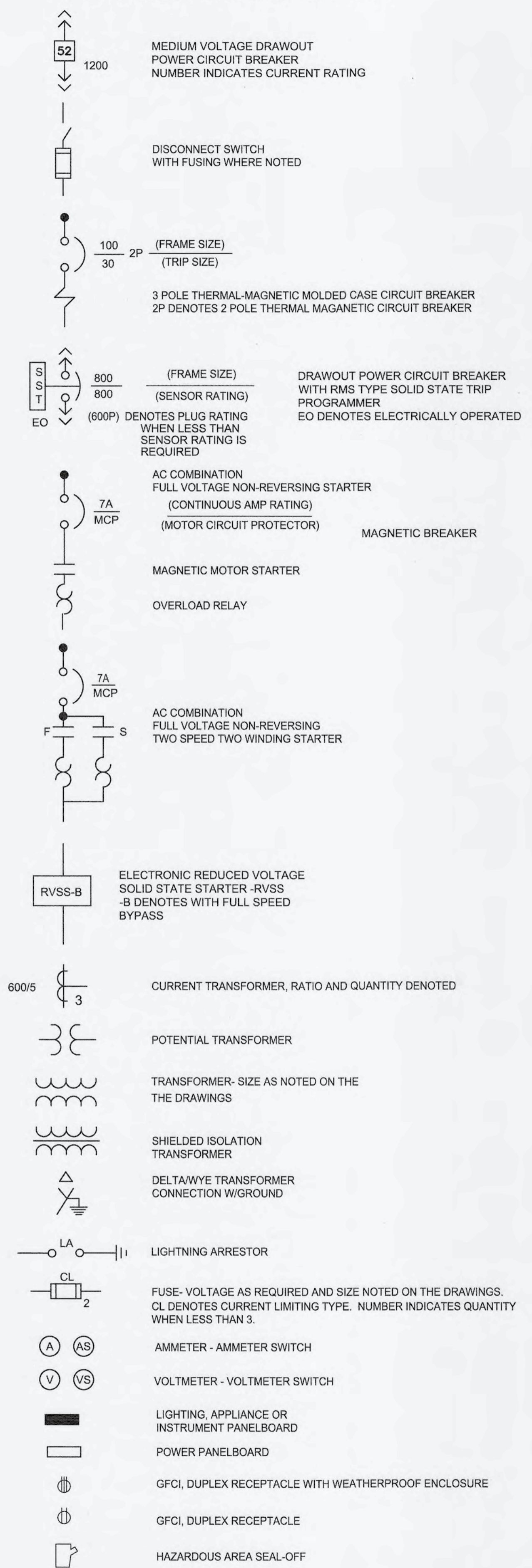


SWWRF NEW HEADWORKS
MECHANICAL DETAILS

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: NA	M-11
DRAWN: CON	VERTICAL: NA	
DESIGNED: -	STATUS:	REVISION:
CHECKED: TP	ISSUED FOR BID	
PROJ. MGR: DCW		

S:\V024\0770\ME-Mechanical\MECHANICAL DETAILS.dwg, 9/19/2019 5:54:08 PM, Catty Wisker

POWER DISTRIBUTION SYSTEM



	CP - CONTROL PANEL
	MOTOR CONTROL CENTER
	VARIABLE FREQUENCY DRIVE - VFD -B WHEN INDICATED DENOTES WITH STARTING AND FULL SPEED BYPASS
	SELECTOR SWITCH
	INDICATING LIGHT
	EMERGENCY STOP MAINTAINED CONTACT PUSH BUTTON
	DISCONNECT SWITCH - 480V 3POLE UNFUSED OR FUSED F DENOTES FUSING, ONLY WHERE INDICATED FIRST NUMBER DENOTES SWITCH AMP RATING SECOND NUMBER DENOTES FUSE SIZE WHEN PROVIDED.
	JUNCTION BOX; SIZE AS REQUIRED BY N.E.C.
	TERMINAL BOX; SIZE AS REQUIRED BY N.E.C. AND TO ACCOMMODATE ALL TERMINATIONS ON TERMINAL BLOCKS. TERMINATIONS TO INCLUDE SPARE WIRING.
	PULL BOX; SIZE AS REQUIRED BY N.E.C.
	MOTOR STARTER/CONTROLLER (NON-COMBINATION - COMBINATION - MANUAL) RV DENOTES REDUCED VOLTAGE
	ELECTRIC MOTOR (NUMBER INDICATES HORSEPOWER).
	ELECTRIC NON-MOTOR LOAD (NUMBER INDICATES KVA).
	MOTORIZED VALVE WITH CONTROLLER BY VENDOR
	MOTORIZED VALVE OR GATE
	ZONE INTERLOCK, METER FUNCTIONS
	INSTANTANEOUS OVERCURRENT RELAY
	AC INVERSE TIME OVERCURRENT RELAY
	GROUND TIME OVERCURRENT
	LIMIT SWITCH CLOSED
	PRESSURE TRANSMITTER (I DENOTES INDICATING TYPE, AND PE DENOTES PRESSURE ELEMENT)
	LEVEL TRANSMITTER (LE DENOTES LEVEL ELEMENT)
	FLOW TRANSMITTER (FE DENOTES FLOW ELEMENT)
	TEMPERATURE SWITCH (TSH DENOTES TEMPERATURE SWITCH HIGH AND TSL DENOTES TEMPERATURE SWITCH LOW)
	LEVEL SWITCH (LSH DENOTES LEVEL SWITCH HIGH AND LSL DENOTES LEVEL SWITCH LOW. LE DENOTES LEVEL ELEMENT)
	STROKE POSITIONER

LIGHTING SYSTEM

	LED LIGHTING FIXTURE - SURFACE OR PENDANT MOUNTED. FIRST NUMERAL DENOTES LIGHTING PANEL (LP1), SECOND NUMBER DENOTES BRANCH CIRCUIT NUMBER. LOWER CASE LETTER DENOTES SWITCHED CIRCUIT.
	LED LIGHTING FIXTURE WITH BATTERY PACK SURFACE OR PENDANT.
	PENDANT OR CEILING MOUNTED LIGHTING FIXTURE.
	WALL MOUNTED LIGHTING FIXTURE.
	POLE OR STANCHION MOUNTED LIGHTING FIXTURE.
	TWO (2) POLE OR STANCHION MOUNTED LIGHTING FIXTURES
	POLE MOUNTED FIXTURE WITH GF RECEPTACLE
	EXIT SIGN WALL MOUNTED (SINGLE FACE WITH INDICATING ARROWS) WITH BATTERY PACK ARROW INDICATES DIRECTION OF EXIT DOOR

	10'-0" AFF
	I-2 GF/SS
	SINGLE POLE SWITCH - LOWER CASE LETTER DENOTES SWITCHING.
	TWO POLE SWITCH
	THREE-WAY SWITCH
	FOUR-WAY SWITCH
	BRANCH CIRCUIT HOME RUN TO PANELBOARD LETTERS AND NUMERALS INDICATE PANEL AND CIRCUIT NUMBER. AS A MINIMUM, ALL WIRING SHALL BE 3#12 AWG IN 3/4" CONDUIT. #10 AWG WIRE SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE EXCEEDING 50 FEET, UNLESS OTHERWISE NOTED ON DRAWING.
	LETTERS AND NUMBERS INDICATE PANEL AND CIRCUIT NUMBER (LP1-2). CROSS LINES INDICATE NUMBER OF CONDUCTORS. HALF HASH MARKS INDICATES NEUTRAL. NUMBER (10) DENOTES WIRE SIZE WHEN NOT #12 AWG. CONTINUE CONDUIT AND WIRE RUN FROM BOX TO DEVICE IN ROOM OR AREA AS NOTED BY BRANCH CIRCUIT NUMBER. #10 AWG WIRING SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE EXCEEDING 50 FEET, UNLESS OTHERWISE NOTED ON DRAWING.
	INDICATES GROUND CONDUCTOR
	INDICATES HOMERUN AND CONDUIT TAG
	LIGHTNING AIR TERMINAL

CONTROL DIAGRAM

	GROUND TEST POINT
	GROUND ROD
	GROUND GRID CABLE CONNECTION
	GROUND
	DEVICE LOCATED IN FIELD AT OR NEAR MOTOR
	DEVICE LOCATED IN CONTROL PANEL
	INDICATING LIGHT, PT-DENOTES PUSH TO TEST TYPE, ABBREVIATION INDICATES LENS COLOR
	SWITCH - TOGGLE OPEN
	MAINTAINED CONTACT PUSH BUTTON NORMALLY OPEN
	MOMENTARY CONTACT PUSH BUTTON NORMALLY OPEN
	MAINTAINED CONTACT PUSH BUTTON NORMALLY CLOSED
	MOMENTARY CONTACT PUSH BUTTON NORMALLY CLOSED
	SWITCH - TEMPERATURE NORMALLY CLOSED. OPENS ON RISING TEMPERATURE
	SWITCH - TEMPERATURE NORMALLY OPEN. CLOSSES ON RISING TEMPERATURE
	SWITCH - LIMIT NORMALLY OPEN
	NORMALLY OPEN CONTACT, NUMBER INDICATES RELAY.
	NORMALLY CLOSED CONTACT
	THERMALLY ACTUATED MOTOR OVERLOAD RELAY, LATCHES CLOSED ON OVERLOAD
	THERMALLY ACTUATED MOTOR OVERLOAD RELAY, LATCHES OPEN ON OVERLOAD

	NORMALLY OPENED CONTACT - TIMED CLOSED TIME DELAY AFTER COIL ENERGIZED
	NORMALLY CLOSED CONTACT - TIMED OPEN TIME DELAY AFTER COIL ENERGIZED
	MOTOR STARTER CONTACTOR COIL COIL DESIGNATION: M-COIL
	CONTROL RELAY COIL DESIGNATION: CR-CONTROL RELAY MX-AUXILIARY RELAY TR-TIMING RELAY AR-ALARM RELAY RR-READY RELAY
	SELECTOR SWITCH, 2 POSITION MAINTAINED CONTACT (O,X) DENOTES CONTACT BLOCK CONFIGURATION X INDICATES CONTACT CLOSED, O DENOTES CONTACT OPEN.
	SELECTOR SWITCH, 3 POSITION MAINTAINED CONTACT
	ELECTRIC SPACE HEATER ELEMENT
	ELAPSED TIME METER
	MANUAL SPEED CONTROL

FIRE ALARM SYSTEM

	FIRE ALARM CONTROL PANEL
	HORN
	MANUAL PULL STATION
	SMOKE DETECTOR, MULTISENSOR

ABBREVIATIONS

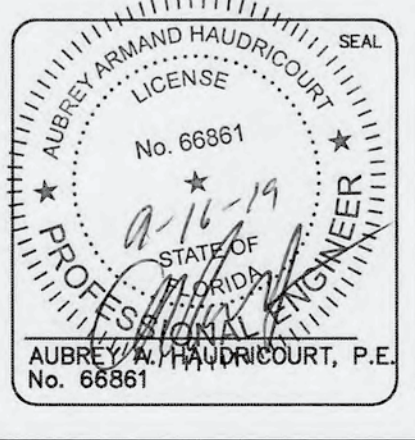
A	AMPERES	LV	LOW VOLTAGE
AC	ALTERNATING CURRENT	mA	MILLIAMPERE
AMB	AMBER	M	MOTOR
BKR	BREAKER	MCC	MOTOR CONTROL CENTER
BLU	BLUE	MDP	MAIN DISTRIBUTION PANEL
C, CND	CONDUIT	MFR	MANUFACTURER
CA	CONDUIT, ANALOG	MH	MANHOLE
CB	CIRCUIT BREAKER	MIN	MINIMUM
CBV	CABLE BY VENDOR, INSTALLED BY CONTRACTOR	MTG	MOUNTING
CJB	CONTROL JUNCTION BOX	MV	MEDIUM VOLTAGE
CLG	CEILING	NA	NOT APPLICABLE
CTRL	CONTROL	NC	NORMALLY CLOSED
COM	COMMUNICATION	NO	NORMALLY OPEN
CP	CONTROL PANEL	NEC	NATIONAL ELECTRIC CODE
CPB	CONTROL PULL BOX (-X DISCRETE, -XA ANALOG)	NTS	NOT TO SCALE
CPT	CONTROL POWER TRANSFORMER	OL	OVERLOAD RELAY
CS	CONTROL STATION	PB	PULL BOX
DC	DIRECT CURRENT	PJB	POWER JUNCTION BOX
DWG	DRAWING	PLC	PROGRAMMABLE LOGIC CONTROLLER
EC	EMPTY CONDUIT	PMD	PANEL MOUNTED SWITCH, 5KV TYP.
EHH	ELECTRICAL HANDHOLE	PNL	PANEL
EL, ELEV	ELEVATION	PRI	PRIMARY
EMH	ELECTRICAL MANHOLE	PS	PRESSURE SWITCH
EMT	ELECTRICAL METALLIC TUBING	PT	POTENTIAL TRANSFORMER
EXIST	EXISTING	PVC	POLYVINYL CHLORIDE
FDR	FEEDER	RECP	RECEPTACLE
FIXT	FIXTURE	RGS	RIGID GALVANIZED STEEL
FS	FLOW SWITCH	REQD	REQUIRED
FT	FEET OR FOOT	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
FUT	FUTURE	SEC	SECONDARY
FVNR	FULL VOLTAGE NON-REVERSING	SP	SPARE
GALV	GALVANIZED	SPD	SURGE PROTECTION DEVICE
GEC	GROUNDING ELECTRODE CONDUCTOR	SS, SST	STAINLESS STEEL
G, GND	GROUND	SWBD	SWITCHBOARD
GF, GFI	GROUND FAULT INTERRUPTER	SWGR	SWITCHGEAR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TEMP	TEMPERATURE
GRN	GREEN	TEW	THERMOCOUPLE EXTENSION WIRE
GRN	GREEN	TS	TEMPERATURE SWITCH
HH	HAND HOLE	TSP	TWISTED SHIELDED PAIR
HOA	HAND/OFF/AUTO	TYP	TYPICAL
HOR	HAND/OFF/REMOTE	UG	UNDERGROUND
HTR	HEATER	UON	UNLESS OTHERWISE NOTED
IN, "	INCHES	UPS	UNINTERRUPTIBLE POWER SUPPLY
JB	JUNCTION BOX	V	VOLTS
KAIC	THOUSAND AMPERES INTERRUPTING CURRENT	VAC	VOLTS ALTERNATING CURRENT
KMIL	THOUSAND CIRCULAR MILS	VFD	VARIABLE FREQUENCY DRIVE
KVA	THOUSAND VOLT AMPERES	WHI	WHITE
KW	KILOWATTS	WP	WEATHERPROOF
LA	LIGHTNING ARRESTOR	WTR	TRANSFORMER
LCP	LOCAL CONTROL PANEL	XP	EXPLOSION PROOF
LS	LEVEL SWITCH	W/	WITH
LTG	LIGHTING		

- ### GENERAL NOTES:
- THE SYMBOLS AND ABBREVIATIONS LIST ON THIS SHEET IS A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
 - THE CONTRACTOR SHALL READ AND UNDERSTAND THE ENTIRE SET OF CONSTRUCTION DOCUMENTS. THIS INCLUDES BUT IS NOT LIMITED TO THE PLANS AND SPECIFICATIONS FOR ALL DISCIPLINES. THIS WILL ENSURE THAT HE UNDERSTANDS THE FULL SCOPE OF WORK AND IS ABLE TO CONVEY THE REQUIRED MATERIALS AND METHODS OF INSTALLATION TO HIS ESTIMATORS, SUPPLIERS AND INSTALLERS.
 - THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS.
 - PROVIDE MEANS TO FURNISH AND INSTALL.
 - COORDINATE ANY AND ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION IN ORDER TO AVOID CONFLICTS DURING CONSTRUCTION.
 - THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. DO NOT SCALE FROM THESE DRAWINGS. REFER TO CIVIL, MECHANICAL AND STRUCTURAL DRAWINGS FOR SCALING.
 - WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF THE WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ANY ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN CONSENT FROM THE ENGINEER AND OWNER.
 - ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENFORCED EDITION OF THE NATIONAL ELECTRIC CODE, NATIONAL ELECTRIC SAFETY CODE, LIFE SAFETY CODE, FLORIDA BUILDING CODE AND ALL LOCAL AND STATE CODES AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
 - MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE U.O.N.

LINE WEIGHT DESIGNATIONS

	EXISTING ABOVE GROUND
	EXISTING UNDER GROUND
	NEW ABOVE GROUND
	NEW UNDER GROUND
	FUTURE
	DEMO

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWRF NEW HEADWORKS

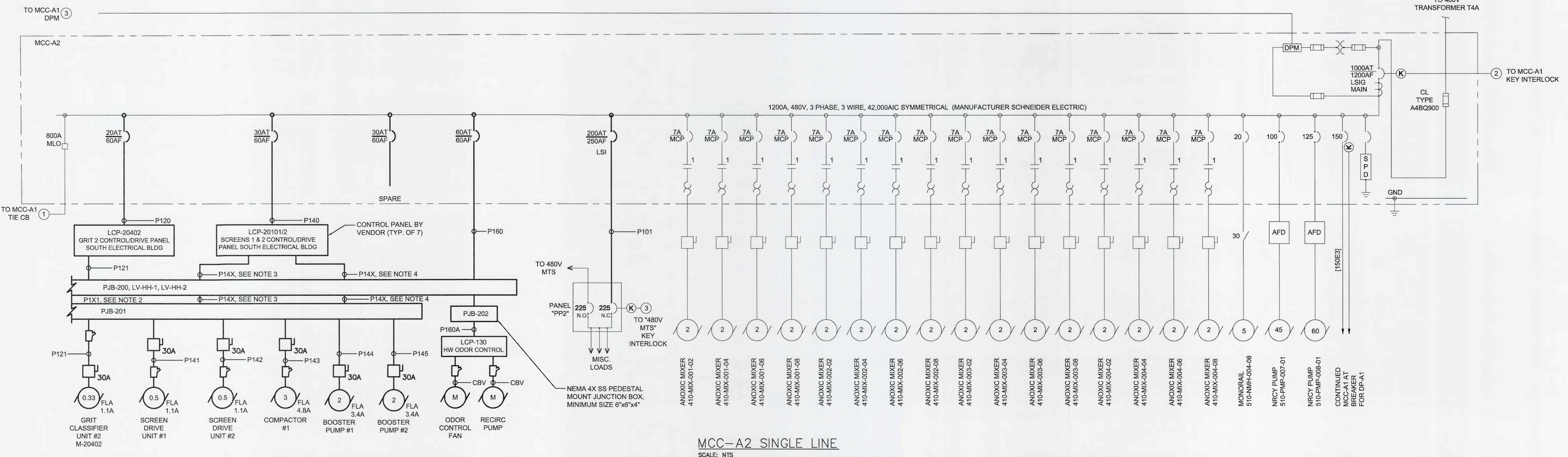
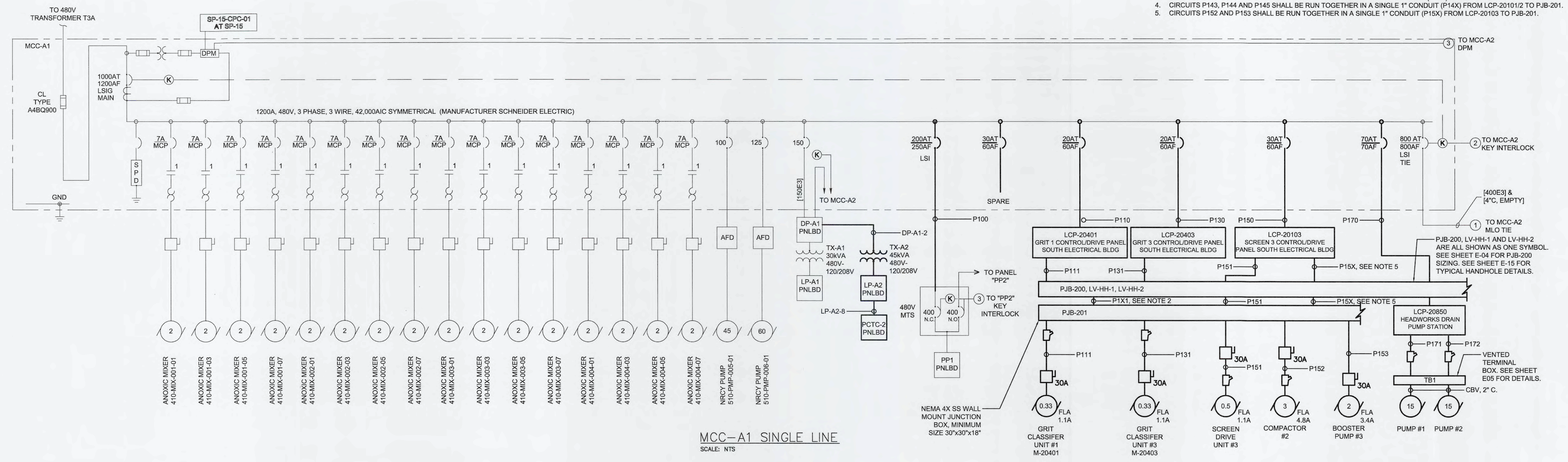
ELECTRICAL NOTES, ABBREVIATIONS AND LEGEND

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL:	E-01
DRAWN: LLS	VERTICAL:	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID	REVISION:	

S:\1024 - Manatee Co\1024-0170-Drawings\Electrical\E-01-1024-0170 - MCKIM.dwg, 9/17/2019 4:30:08 PM, Sunith Seng

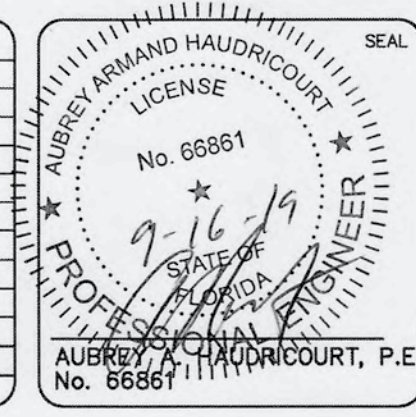
NOTES:

- 1. REFER TO SHEET E-11 FOR CONDUIT SCHEDULES AND E-12 FOR CONTROL WIRING REQUIREMENTS.
- 2. CIRCUITS P111, P121 AND P131 SHALL BE RUN TOGETHER IN A SINGLE 2" CONDUIT (P1X1) FROM PJB-200 TO PJB-201.
- 3. CIRCUITS P141 AND P142 SHALL BE RUN TOGETHER IN A SINGLE 1.5" CONDUIT (P14X) FROM LCP-20101/2 TO PJB-201.
- 4. CIRCUITS P143, P144 AND P145 SHALL BE RUN TOGETHER IN A SINGLE 1" CONDUIT (P14X) FROM LCP-20101/2 TO PJB-201.
- 5. CIRCUITS P152 AND P153 SHALL BE RUN TOGETHER IN A SINGLE 1" CONDUIT (P15X) FROM LCP-20103 TO PJB-201.



3/1/2019 - Manatee CAD/IT/048-Drawing/048-Headworks/048-02-10401701 - MFC SINGLE LINE.dwg, 9/13/2019 8:20:29 PM, Edwin Seng

REV. NO.	DESCRIPTION	DATE



MCKIM & CREED

1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com

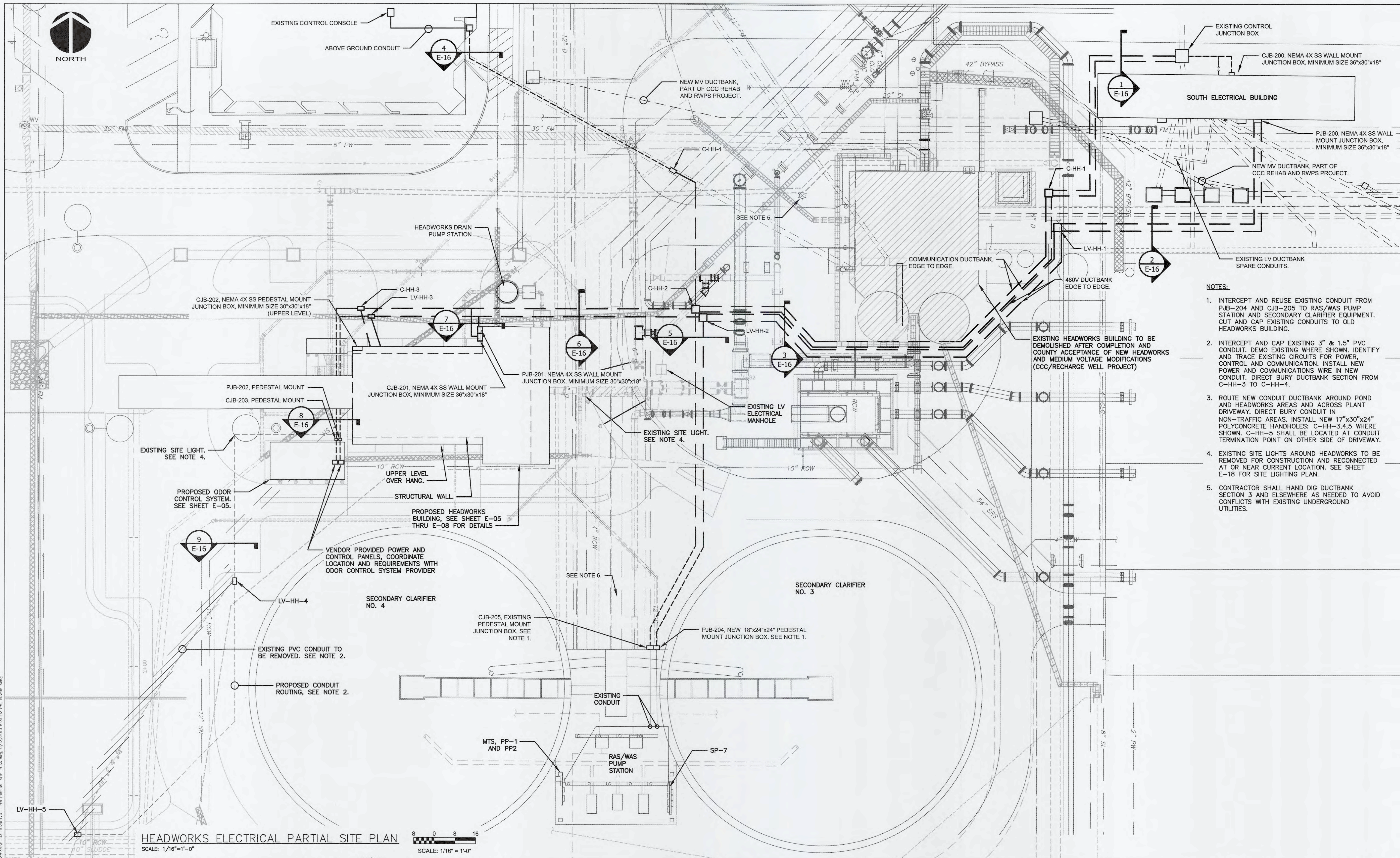


SWWRF NEW HEADWORKS

HEADWORKS SINGLE LINE POWER DIAGRAM

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL	DRAWING NUMBER: E-02
MCE PROJ. # 1024-0170	HORIZONTAL: NA	REVISION
DRAWN: LLS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR: DCW		

STATUS: ISSUED FOR BID



- NOTES:**
1. INTERCEPT AND REUSE EXISTING CONDUIT FROM PJB-204 AND CJB-205 TO RAS/WAS PUMP STATION AND SECONDARY CLARIFIER EQUIPMENT. CUT AND CAP EXISTING CONDUITS TO OLD HEADWORKS BUILDING.
 2. INTERCEPT AND CAP EXISTING 3" & 1.5" PVC CONDUIT. DEMO EXISTING WHERE SHOWN, IDENTIFY AND TRACE EXISTING CIRCUITS FOR POWER, CONTROL AND COMMUNICATION. INSTALL NEW POWER AND COMMUNICATIONS WIRE IN NEW CONDUIT. DIRECT BURY DUCTBANK SECTION FROM C-HH-3 TO C-HH-4.
 3. ROUTE NEW CONDUIT DUCTBANK AROUND POND AND HEADWORKS AREAS AND ACROSS PLANT DRIVEWAY. DIRECT BURY CONDUIT IN NON-TRAFFIC AREAS. INSTALL NEW 17"x30"x24" POLYCONCRETE HANDHOLES: C-HH-3,4,5 WHERE SHOWN. C-HH-5 SHALL BE LOCATED AT CONDUIT TERMINATION POINT ON OTHER SIDE OF DRIVEWAY.
 4. EXISTING SITE LIGHTS AROUND HEADWORKS TO BE REMOVED FOR CONSTRUCTION AND RECONNECTED AT OR NEAR CURRENT LOCATION. SEE SHEET E-18 FOR SITE LIGHTING PLAN.
 5. CONTRACTOR SHALL HAND DIG DUCTBANK SECTION 3 AND ELSEWHERE AS NEEDED TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES.

HEADWORKS ELECTRICAL PARTIAL SITE PLAN
SCALE: 1/16"=1'-0"

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

REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



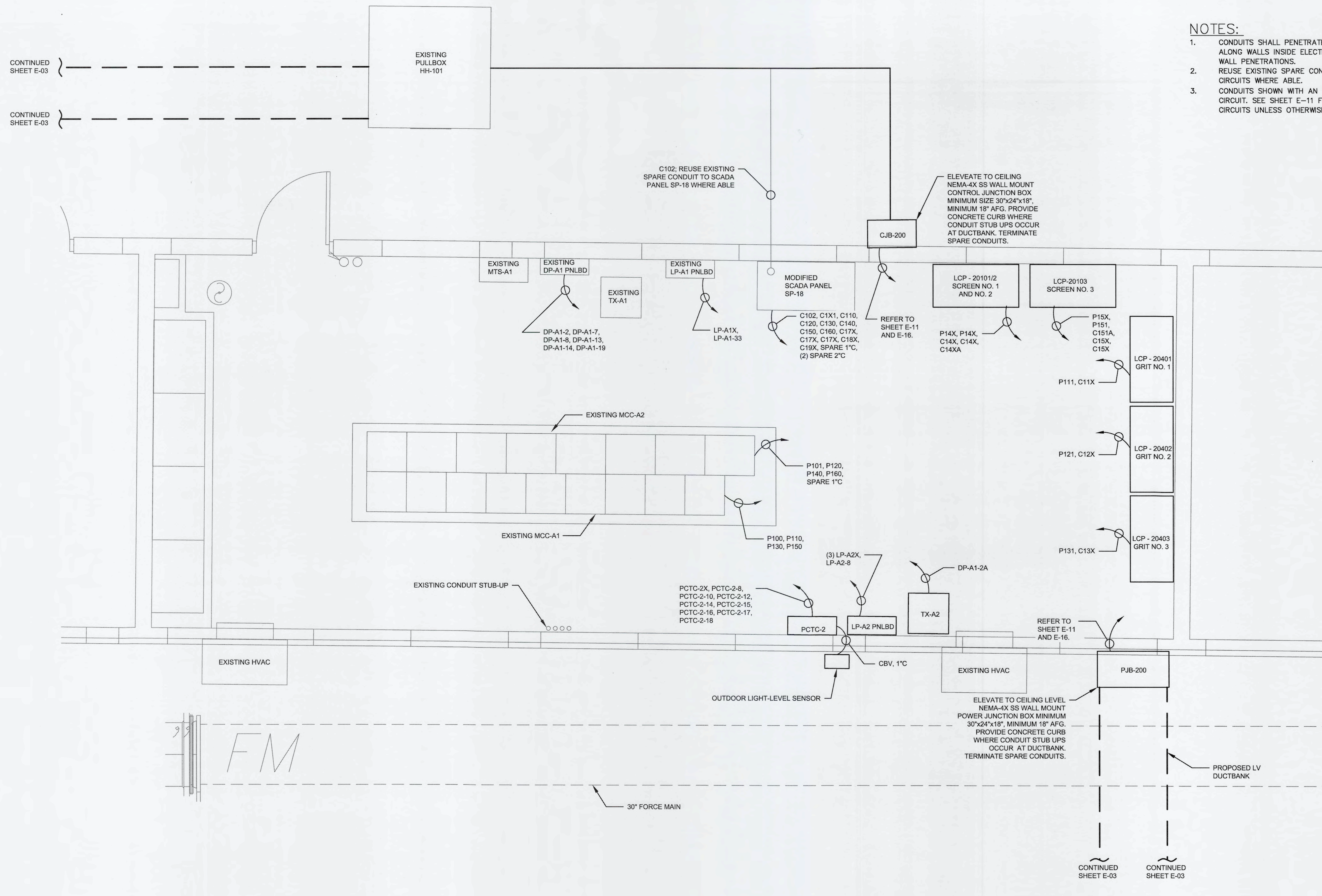
SWRF NEW HEADWORKS
HEADWORKS ELECTRICAL PARTIAL SITE PLAN

DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1/16" = 1'-0"	DRAWING NUMBER: E-03
MCE PROJ. # 1024-0170	VERTICAL: NA	REVISION:
DRAWN: LLS		
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID		

S:\1024 - Manatee Co\1024\1024-0170-Drawings\Electrical\E-03-10240170 - HW PARTIAL SITE PLAN.dwg, 9/13/2019, 6:31:02 PM, llls@lls.com



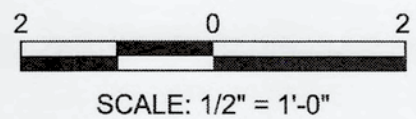
NORTH



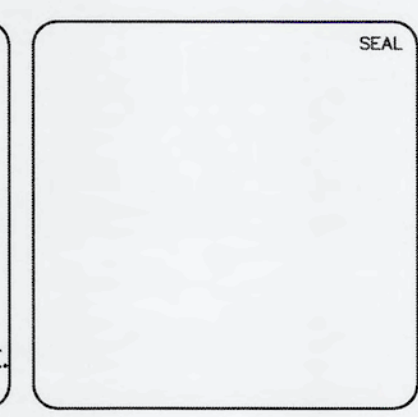
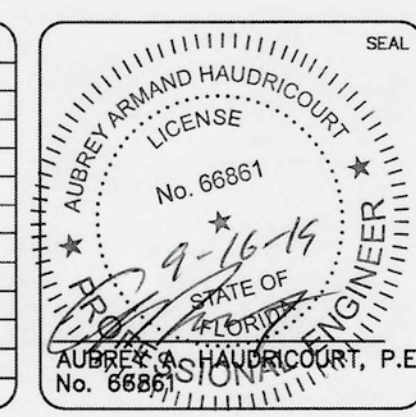
NOTES:

1. CONDUITS SHALL PENETRATE BUILDING AT CEILING LEVEL AND ROUTE ALONG WALLS INSIDE ELECTRICAL BUILDING. PATCH AND SEAL ALL WALL PENETRATIONS.
2. REUSE EXISTING SPARE CONDUIT FROM HH-101 TO SP-18 FOR NEW CIRCUITS WHERE ABLE.
3. CONDUITS SHOWN WITH AN "X" IN THE TAG CONTAIN MORE THAN ONE CIRCUIT. SEE SHEET E-11 FOR CIRCUIT DESIGNATIONS. EVENLY SPLIT CIRCUITS UNLESS OTHERWISE DESIGNATED.

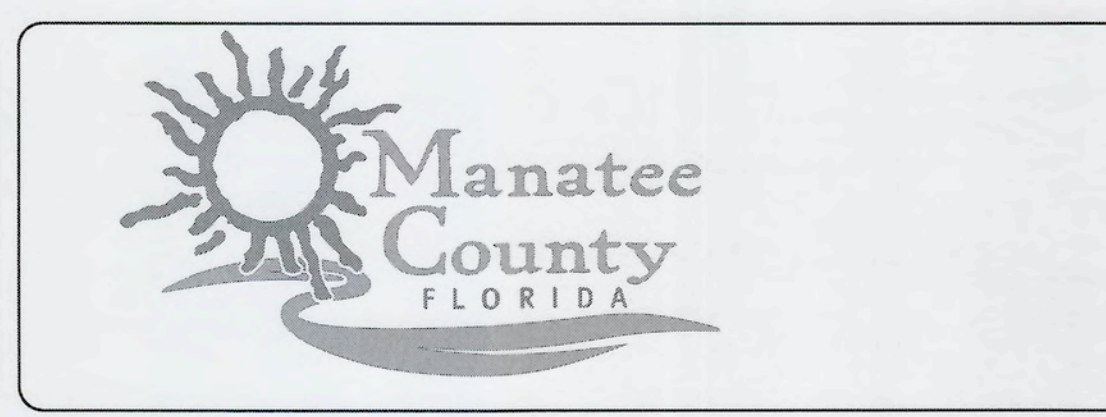
SOUTH ELECTRICAL BUILDING POWER AND CONTROL PLAN
SCALE: 1/2" = 1'-0"



REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS

SOUTH ELECTRICAL BUILDING POWER AND CONTROL PLAN

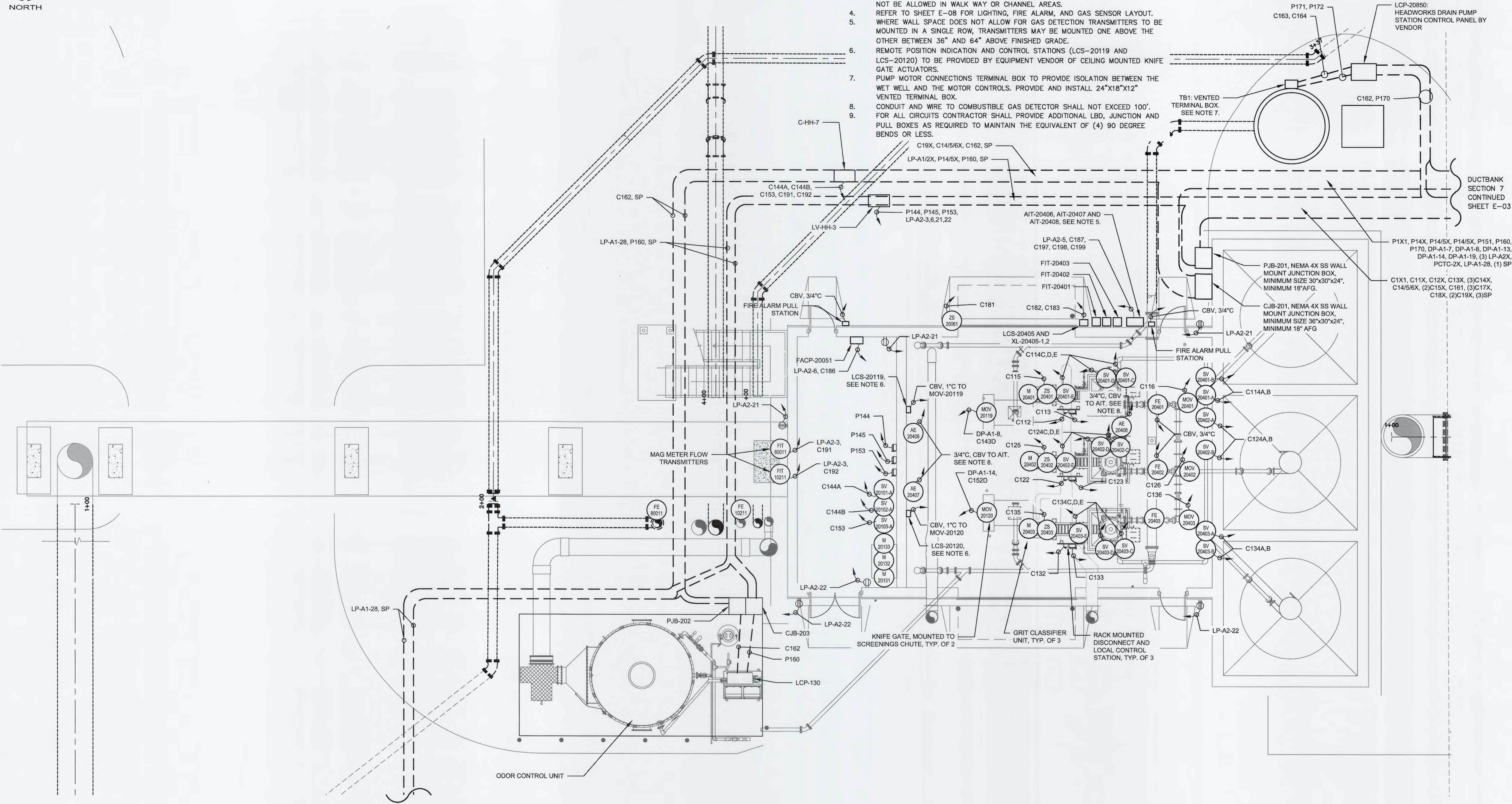
DATE: SEPTEMBER, 2019	SCALE: 1/2" = 1'-0"	DRAWING NUMBER: E-04
MCE PROJ. # 1024-0170	HORIZONTAL: 1/2" = 1'-0"	REVISION: NA
DRAWN: LLS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		

15/02/19 - Manatee County Public Works - Drawing: Electrical - E-04 - 10/24/2018 - 9:51:26 PM, Suresh, Suresh



NOTES:

1. REFER TO SHEET E-17 FOR HAZARDOUS AREA CLASSIFICATION REQUIREMENTS.
2. USE CONDUIT WALL SEALS ON ALL WALL PENETRATIONS.
3. RUN CONDUITS FOR 1ST FLOOR EQUIPMENT UNDER SLAB. CONDUIT RUNS SHALL NOT BE ALLOWED IN WALK WAY OR CHANNEL AREAS.
4. REFER TO SHEET E-08 FOR LIGHTING, FIRE ALARM, AND GAS SENSOR LAYOUT. WHERE WALL SPACE DOES NOT ALLOW FOR GAS DETECTION TRANSMITTERS TO BE MOUNTED IN A SINGLE ROW, TRANSMITTERS MAY BE MOUNTED ONE ABOVE THE OTHER BETWEEN 36" AND 64" ABOVE FINISHED GRADE.
5. REMOTE POSITION INDICATION AND CONTROL STATIONS (LCS-20119 AND LCS-20120) TO BE PROVIDED BY EQUIPMENT VENDOR OF CEILING MOUNTED KNIFE GATE ACTUATORS.
6. PUMP MOTOR CONNECTIONS TERMINAL BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND THE MOTOR CONTROLS. PROVIDE AND INSTALL 24"x18"x12" VENTED TERMINAL BOX.
7. CONDUIT AND WIRE TO COMBUSTIBLE GAS DETECTOR SHALL NOT EXCEED 100'. FOR ALL CIRCUITS CONTRACTOR SHALL PROVIDE ADDITIONAL LBD, JUNCTION AND PULL BOXES AS REQUIRED TO MAINTAIN THE EQUIVALENT OF (4) 90 DEGREE BENDS OR LESS.



HEADWORKS LOWER LEVEL POWER AND CONTROL PLANS
 SCALE: 3/16"=1'-0" SCALE: 3/16"=1'-0"

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS

HEADWORKS LOWER LEVEL POWER AND CONTROL PLANS

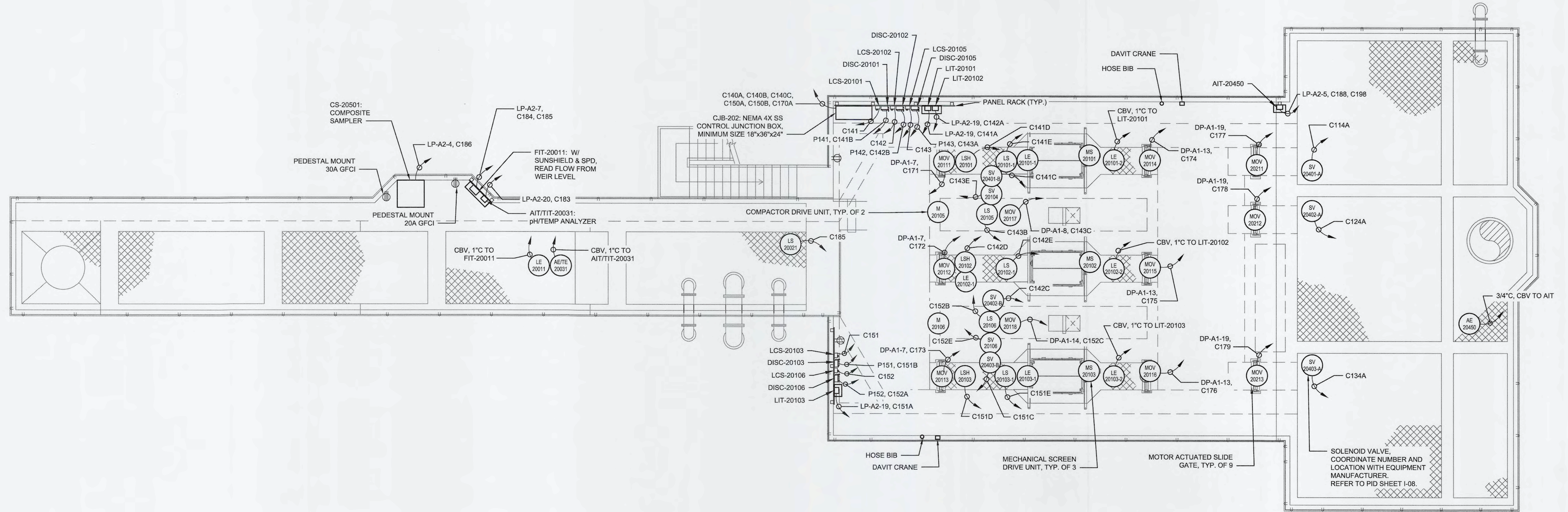
DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 3/16"=1'-0"	DRAWING NUMBER: E-05
MCE PROJ. # 1024-0170	VERTICAL: NA	REVISION:
DRAWN: LLS		
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR. DCW		
STATUS: ISSUED FOR BID		

S:\1024 - Manatee SWWRF\1024-0170-Drawings\1024-0170-117-LOWER HEADWORKS\9/13/2019 6:31:53 PM - South.dwg

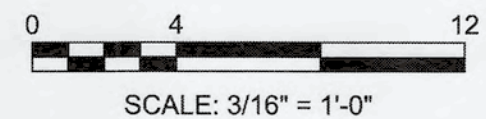


NOTES:

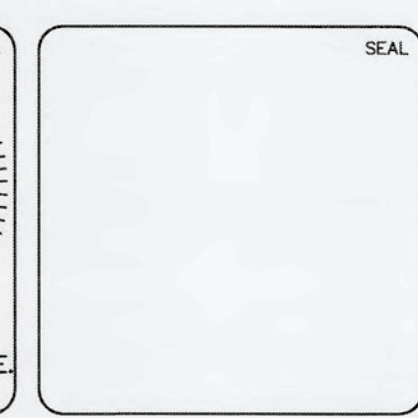
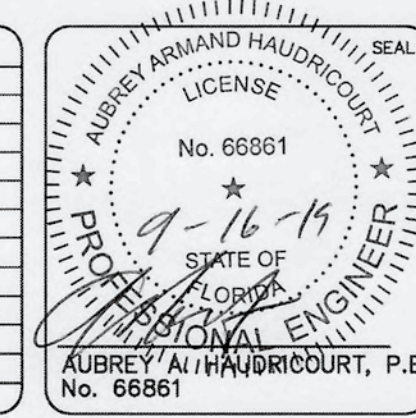
1. REFER TO SHEET E-17 FOR HAZARDOUS AREA CLASSIFICATION REQUIREMENTS.
2. PATCH AND SEAL ALL WALL PENETRATIONS.
3. RUN CONDUITS FOR SECOND FLOOR EQUIPMENT IN SLAB PER STRUCTURAL DETAIL 2, SHEET S-15. CONDUIT RUNS SHALL NOT BE ALLOWED IN WALK WAY OR CHANNEL AREAS.
4. CONDUITS ALONG THE CATWALK AREA SHALL RUN ALONGSIDE THE CHANNEL BELOW THE WALKWAY. NO CONDUIT PENETRATIONS SHALL BE ALLOWED INTO THE CHANNEL ABOVE THIS WALKWAY.
5. CONDUIT AND WIRE TO COMBUSTIBLE GAS DETECTOR SHALL NOT EXCEED 100'.
6. FOR ALL CIRCUITS CONTRACTOR SHALL PROVIDE ADDITIONAL LBD, JUNCTION AND PULL BOXES AS REQUIRED TO MAINTAIN THE EQUIVALENT OF (4) 90 DEGREE BENDS OR LESS.



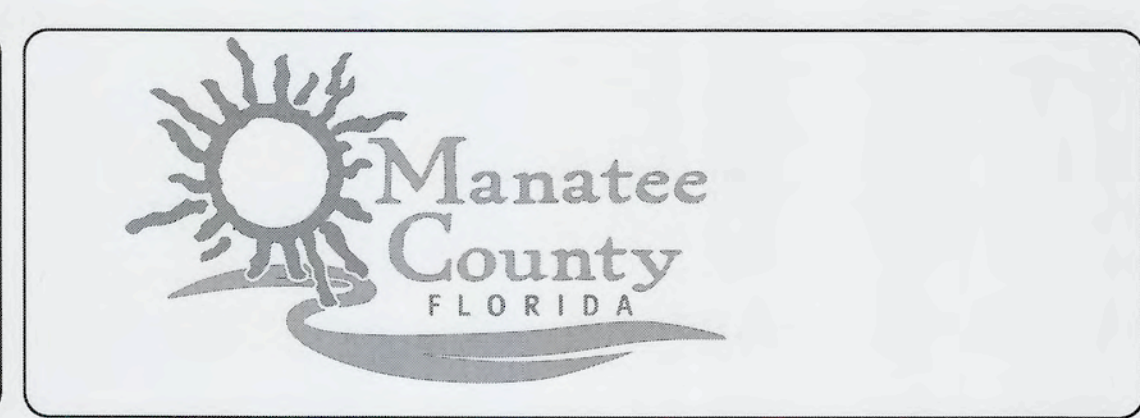
HEADWORKS UPPER LEVEL POWER AND CONTROL PLANS
 SCALE: 3/16"=1'-0"



REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS
HEADWORKS UPPER LEVEL POWER AND CONTROL PLANS

DATE: SEPTEMBER, 2019	SCALE: 3/16" = 1'-0"	DRAWING NUMBER: E-06
MCE PROJ. # 1024-0170	HORIZONTAL: 3/16" = 1'-0"	REVISION: ISSUED FOR BID
DRAWN: LLS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR. DCW		

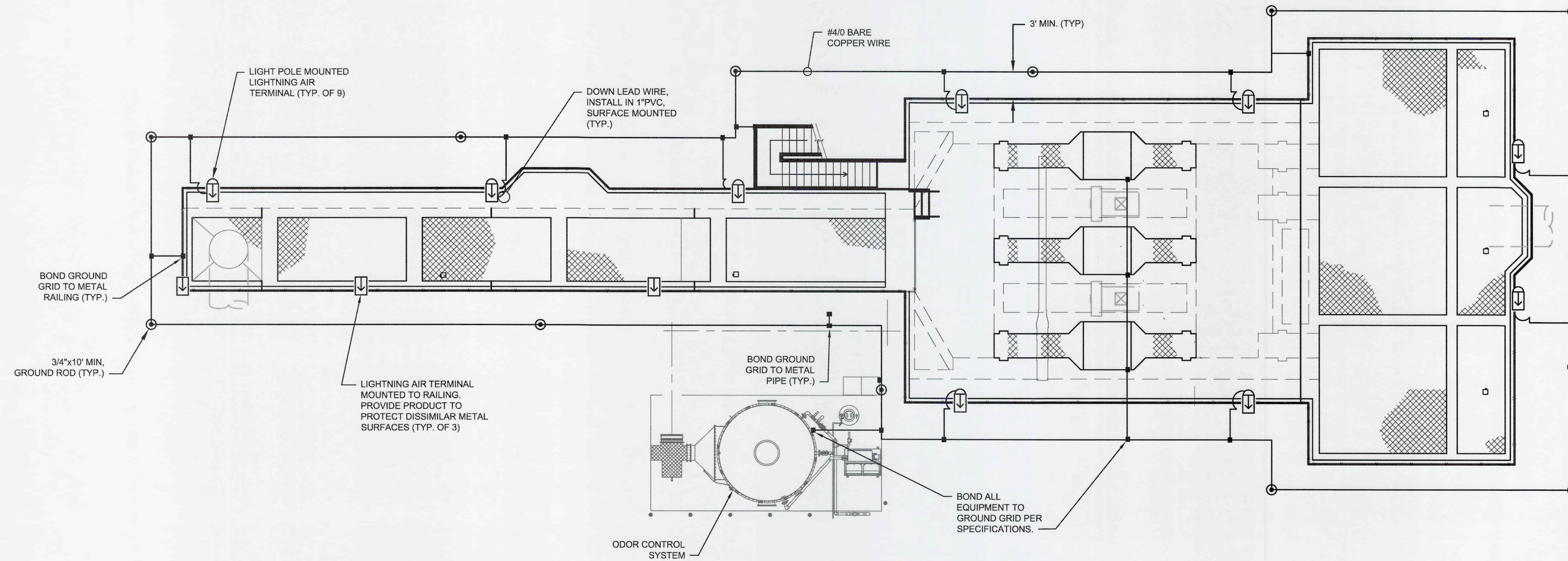
DATE: SEPTEMBER, 2019	SCALE: 3/16" = 1'-0"	DRAWING NUMBER: E-06
MCE PROJ. # 1024-0170	HORIZONTAL: 3/16" = 1'-0"	REVISION: ISSUED FOR BID
DRAWN: LLS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR. DCW		

S:\024 - Manatee\0170-0170-Drawings\Electrical\E-06-10240170 - HW UPPER LEVEL.dwg 9/13/2019 6:32:08 PM, South, Bing



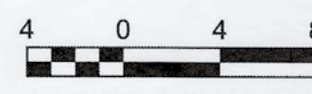
NOTES:

1. PROVIDE LIGHTNING PROTECTION SYSTEM PER SPECIFICATIONS
2. BOND LIGHTNING PROTECTION SYSTEM TO BUILDING GROUND GRID.
3. INSTALL LIGHTNING AIR TERMINAL LEADS AND DOWN LEADS IN PVC CONDUIT.
4. INSTALL BONDING CONDUCTORS IN PVC CONDUIT WHERE IN CONTACT WITH CONCRETE OR DISSIMILAR METAL SURFACES.
5. DOWN LEADS FOR INFLUENT CHANNEL LIGHTING SHALL RUN ALONG UNDERSIDE OF CHANNEL AND DOWN SUPPORT COLUMNS. SEE SHEET E-09 FOR DETAILS.



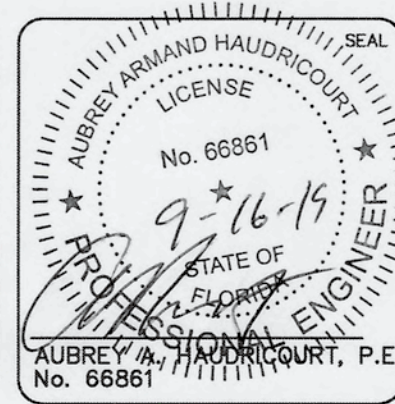
HEADWORKS GROUNDING AND LIGHTNING PROTECTION SYSTEM PLANS

SCALE: 1/8"=1'-0"

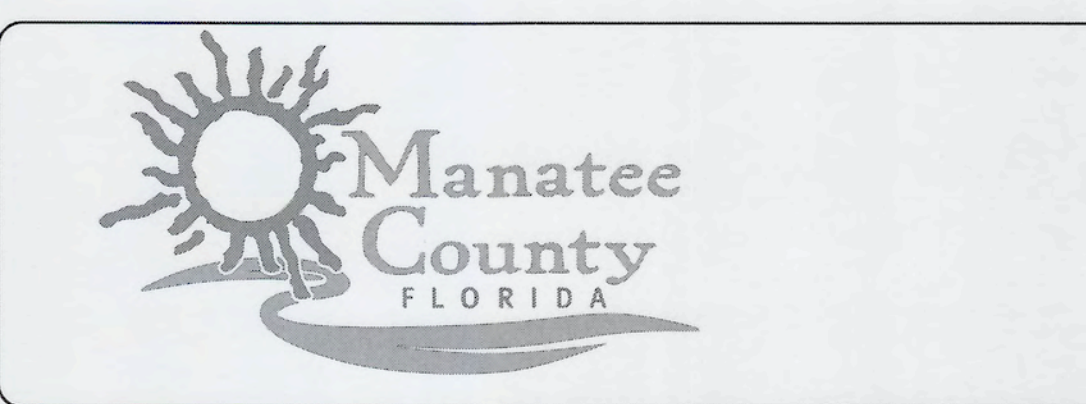


SCALE: 1/8" = 1'-0"

REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWRF NEW HEADWORKS
HEADWORKS GROUNDING AND LIGHTNING PROTECTION SYSTEM PLANS

DATE: SEPTEMBER, 2019	SCALE	DRAWING NUMBER
MCE PROJ. # 1024-0170	HORIZONTAL: 1/8" = 1'-0"	E-07
DRAWN: LLS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID		

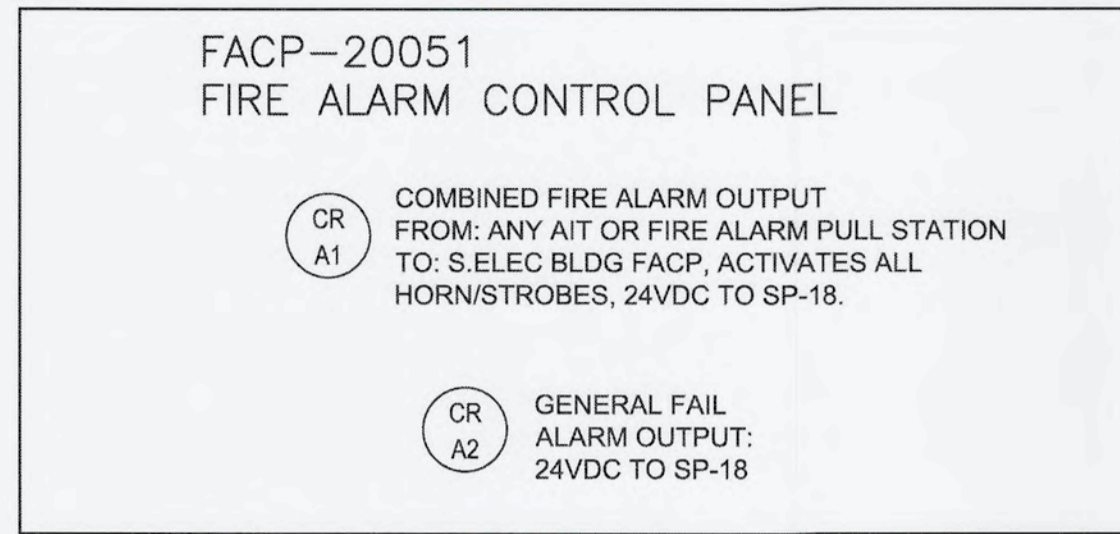
S:\1024 - Manatee Co\1024\1024-0170-01-02-0170 - HEADWORKS GND AND LPT.dwg, 9/13/2019 6:25:17 PM, South 58mg



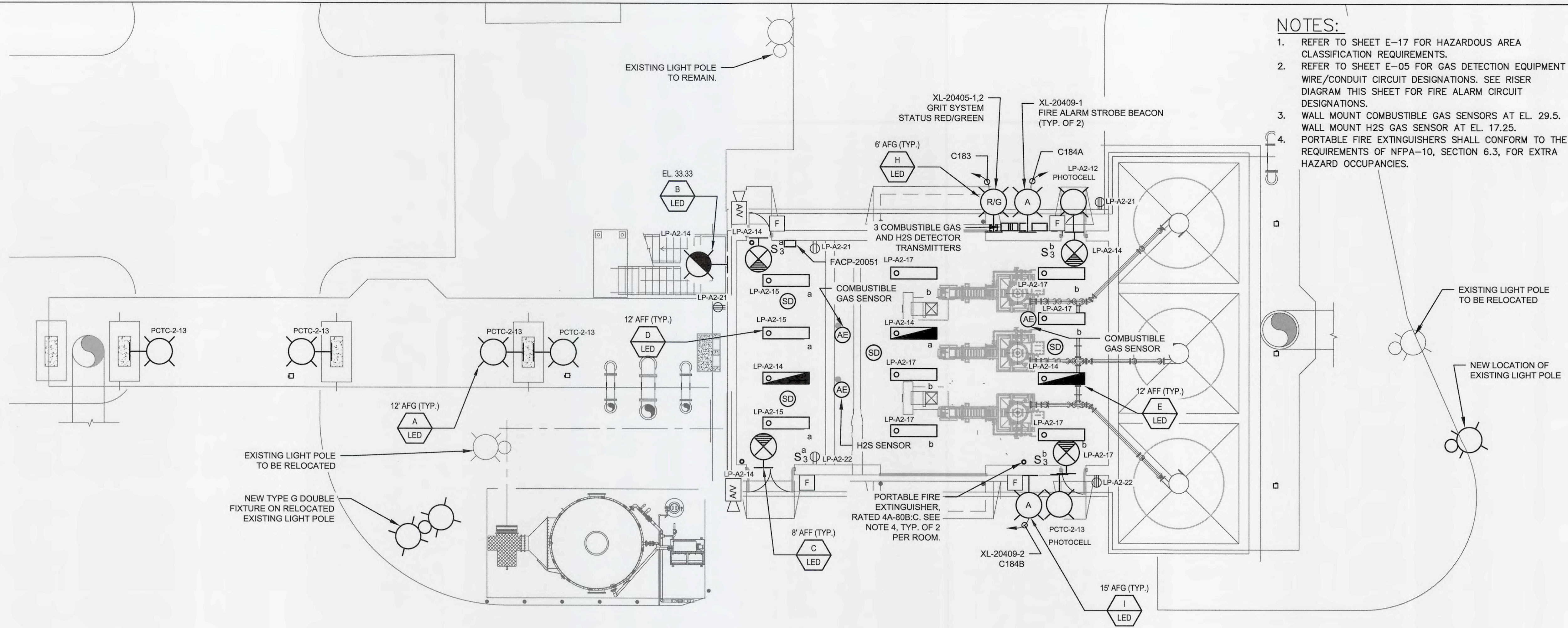
NORTH

NOTES:

- REFER TO SHEET E-17 FOR HAZARDOUS AREA CLASSIFICATION REQUIREMENTS.
- REFER TO SHEET E-05 FOR GAS DETECTION EQUIPMENT WIRE/CONDUIT CIRCUIT DESIGNATIONS. SEE RISER DIAGRAM THIS SHEET FOR FIRE ALARM CIRCUIT DESIGNATIONS.
- WALL MOUNT COMBUSTIBLE GAS SENSORS AT EL. 29.5. WALL MOUNT H2S GAS SENSOR AT EL. 17.25.
- PORTABLE FIRE EXTINGUISHERS SHALL CONFORM TO THE REQUIREMENTS OF NFPA-10, SECTION 6.3, FOR EXTRA HAZARDOUS OCCUPANCIES.

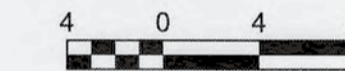


**FACP-1: FIRE ALARM CONTROL PANEL
RISER DIAGRAM**

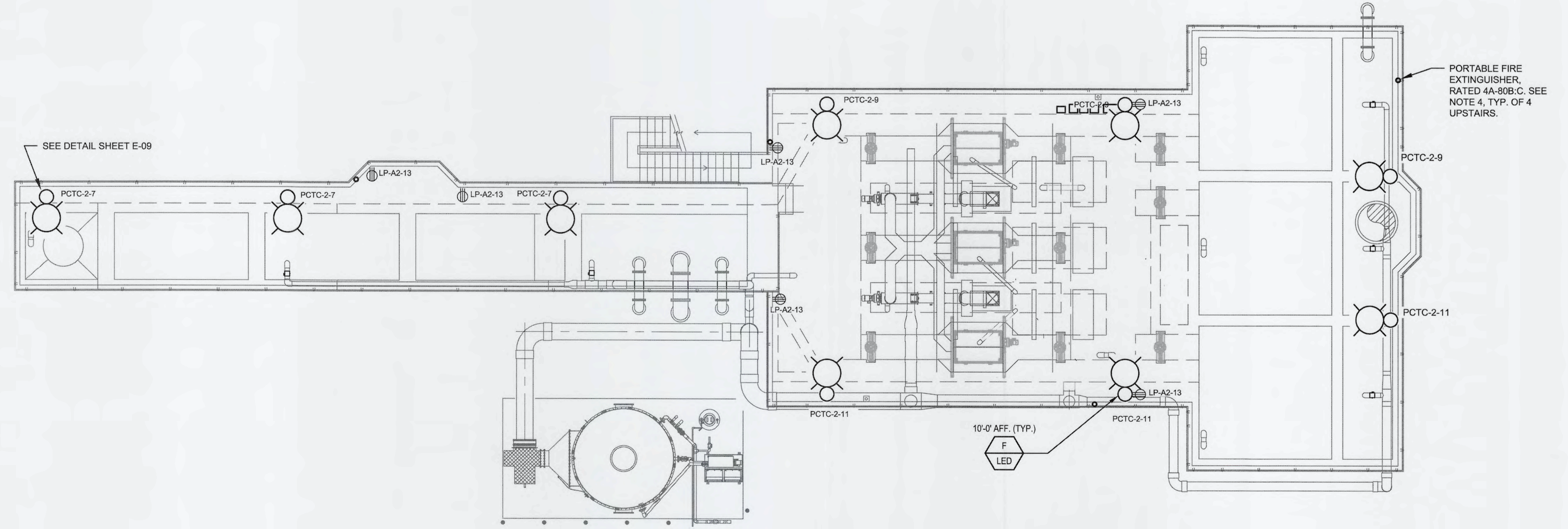


HEADWORKS LIGHTING PLAN LOWER LEVEL

SCALE: 1/8" = 1'-0"

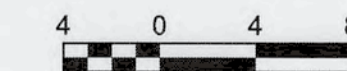


SCALE: 1/8" = 1'-0"



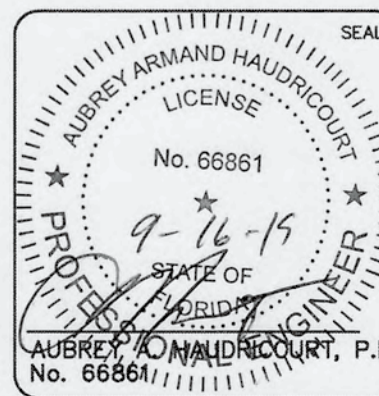
HEADWORKS LIGHTING PLAN UPPER LEVEL

SCALE: 1/8" = 1'-0"



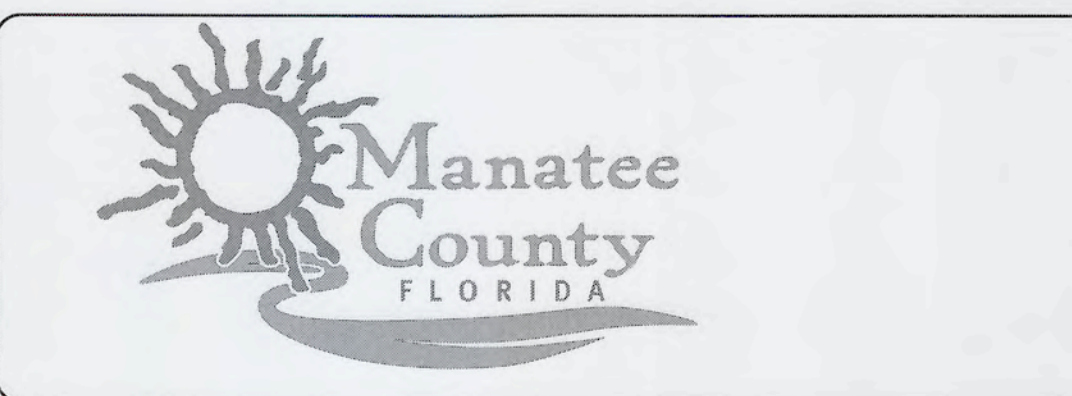
SCALE: 1/8" = 1'-0"

REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED

1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWRF NEW HEADWORKS

**HEADWORKS LIGHTING PLANS AND
FIRE-GAS DETECTION**

DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: 1/8" = 1'-0"	E-08
DRAWN: ILS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		

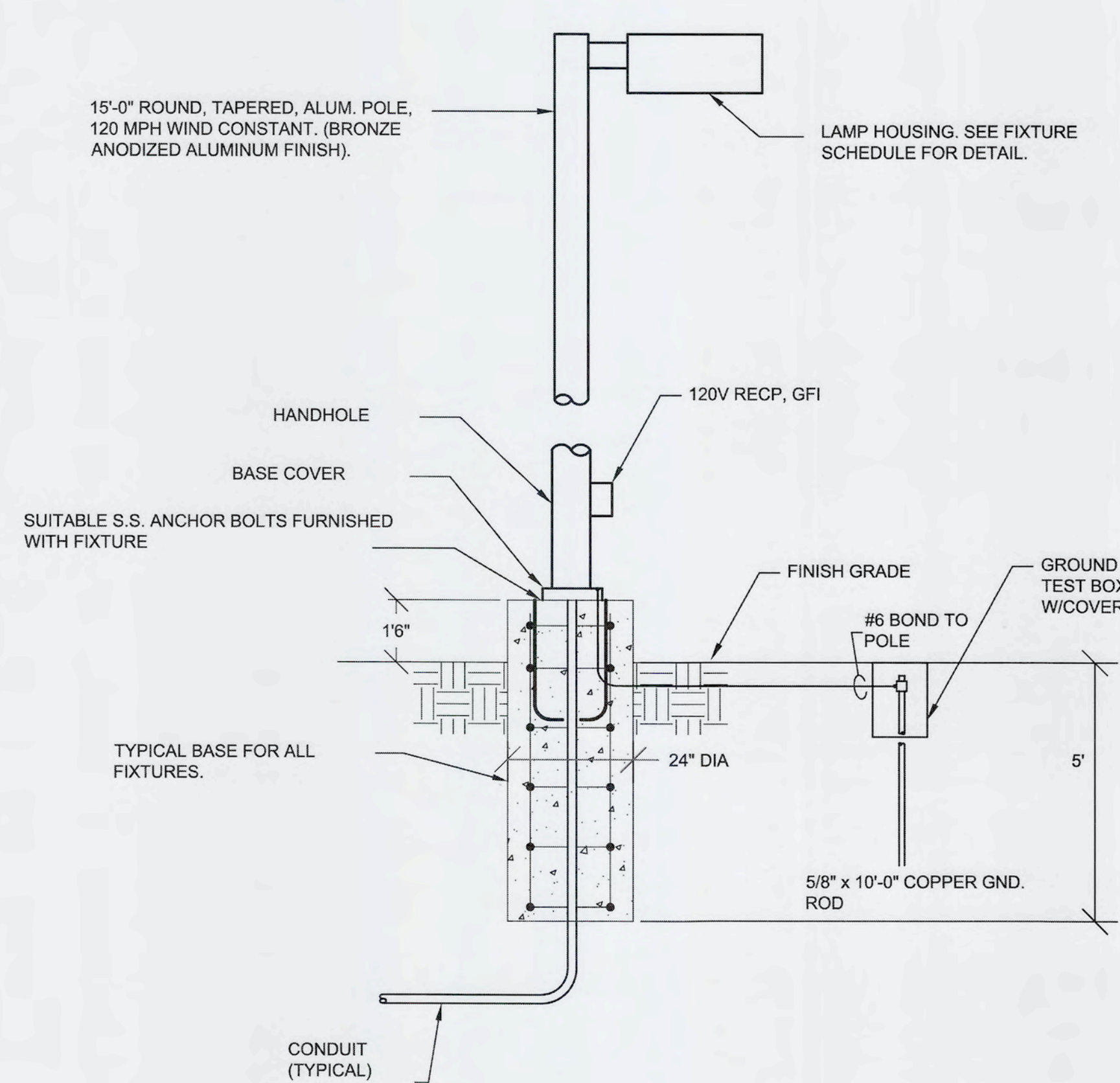
DATE: SEPTEMBER, 2019	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0170	HORIZONTAL: 1/8" = 1'-0"	E-08
DRAWN: ILS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		

S:\1024 - Manatee Co\10750\10-Drawing\Electrical\E-08-10240170 - HEADWORKS LTD PLANS.dwg, 9/13/2019 8:53:30 PM, B. Smith - Bing

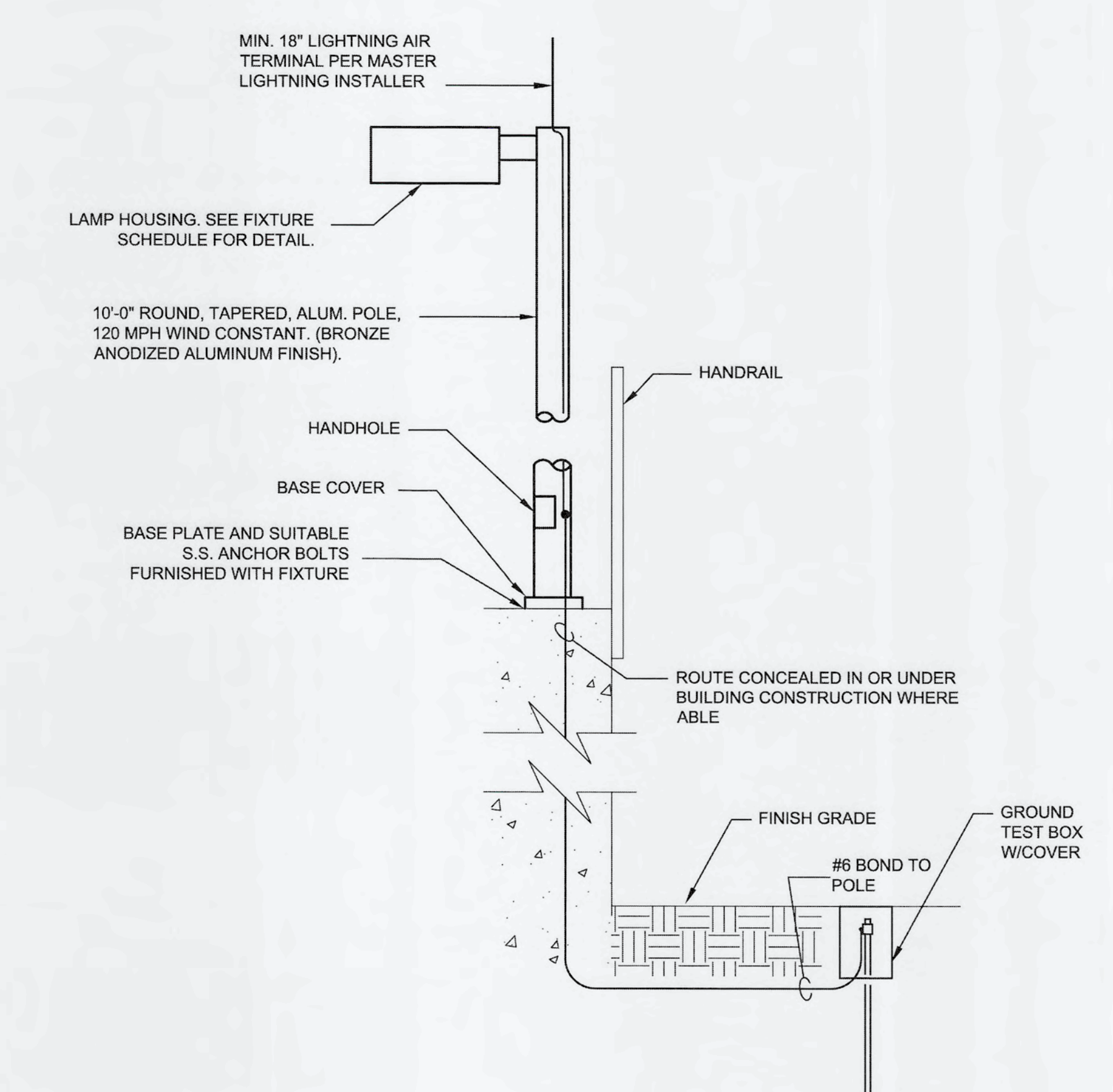
LIGHTING SCHEDULE				
LETTER	DESCRIPTION	LAMPS	REMARKS	SYMBOL
A	DIECAST ALUMINUM WALL MOUNTED FIXTURE W/ DEBIS SCREEN ALLOWING FOR AIR FLOW. COMPLETELY SEAL WEATHERPROOF HOUSING. ACRYLIC LENS TM2 DISTRIBUTION. DARK BRONZE FINISH. PHOTOELECTRIC CELL, BUTTON TYPE.	30-LED, L90/100,000HRS, 700mA, 67W, 4000K, 120V	LITHONIA LIGHTING MOD. CSXW LED OR APPROVED EQUAL	
B	DIECAST ALUMINUM WALL MOUNTED FIXTURE W/ DEBIS SCREEN ALLOWING FOR AIR FLOW. COMPLETELY SEAL WEATHERPROOF HOUSING. ACRYLIC LENS TM2 DISTRIBUTION. DARK BRONZE FINISH. EMERGENCY BATTERY BACKUP.	30-LED, L90/100,000HRS, 700mA, 67W, 4000K, 120V	LITHONIA LIGHTING MOD. CSXW LED OR APPROVED EQUAL	
C	CLASS 1 DIV 2 REAR MOUNT EMERGENCY EXIT SIGN. INJECTION-MOLDED, FLAME-RETARDANT, HIGH-IMPACT, THERMOPLASTIC HOUSING. BATTERY BACKUP. TEST SWITCH FOR MANUAL ACTIVATION OF 30-SECOND DIAGNOSTIC TESTING. SELF DIAGNOSTIC TESTING EVERY 30 DAYS. ON UPS.	LED, RED LENS <1W, 120V	LITHONIA LIGHTING MOD. LZ, EMERGENSEE MOD. SEEXCD OR APPROVED ALTERNATE	
D	1' X 4' CLASS 1 DIV 2 RATED, GASKETED W/ ONE PIECE POLYCARBONATE LENS AND SURGE PROTECTION. PENDANT MOUNT. 120 VOLT INPUT.	FIELD REPLACEABLE LED, 4000K, 80W OUTPUT, 7453 LUMENS (MIN.)	AZZ MHL LED OR APPROVED ALTERNATE. MHL-07-L-D-4-U-RIG	
E	1' X 4' CLASS 1 DIV 2 RATED, GASKETED W/ ONE PIECE POLYCARBONATE LENS AND SURGE PROTECTION. PENDANT MOUNT. 120 VOLT INPUT, EMERGENCY BATTERY BACKUP.	FIELD REPLACEABLE LED, 4000K, 80W OUTPUT, 7453 LUMENS (MIN.)	AZZ MHL LED OR APPROVED ALTERNATE. MHL-07-L-D-4-U-RIG-EM	
F	LED OUTDOOR POLE MOUNTED AREA LIGHT. EPA 1.2sqft. DK BRONZE FINISH. TYPE 3 DISTRIBUTION. PROVIDE POLE AND BASE PER DETAIL II THIS SHEET. WIND 120MPH CONSTANT.	30 LED L90/>80,000HRS, 69WATTS, 700mA, 4000K	LITHONIA LIGHTING MOD. KADT LED OR APPROVED EQUAL.	
G	LED OUTDOOR POLE MOUNTED AREA LIGHT. EPA 1.2sqft. DK BRONZE FINISH. TYPE 4 DISTRIBUTION. PROVIDE POLE AND BASE PER DETAIL I THIS SHEET. WIND 120MPH CONSTANT.	60 LED L90/>80,000HRS, 137WATTS, 700mA, 4000K	LITHONIA LIGHTING MOD. KADT LED OR APPROVED EQUAL.	
H	LED RED/GREEN TOWER/STACK SIGNAL LIGHT. WALL MOUNT NEMA 4X ALUMINUM HOUSING. NON-FLASHING.	LED 1-RED/ 1-GREEN LENS 12 WATT EACH, 24VDC	LARSON ELECTRONICS WAL-TL-2X12W-C OR APPROVED EQUAL	
I	LED AMBER WARNING/SIGNAL LIGHT. WALL MOUNT NEMA 4X POLYCARBONATE HOUSING. 1.5HZ FLASHING.	LED 1-AMBER LENS 16 WATT, 24VDC	LARSON ELECTRONICS LEDB-8-LV-M OR APPROVED EQUAL	

LIGHTING NOTES:

- UNLESS OTHERWISE NOTED MINIMUM CIRCUIT SIZE IS 2#12, 1#12G IN 3/4" CONDUIT. WHERE DISTANCE FROM PANEL TO THE FIRST FIXTURE IN A STRING IS 50'-200', MINIMUM CIRCUIT SIZE SHALL BE #10AWG. WHERE DISTANCE FROM PANEL TO THE FIRST FIXTURE IN A STRING IS MORE THAN 200', MINIMUM CIRCUIT SIZE SHALL BE #8AWG.



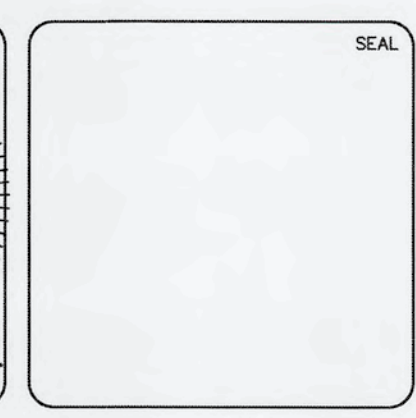
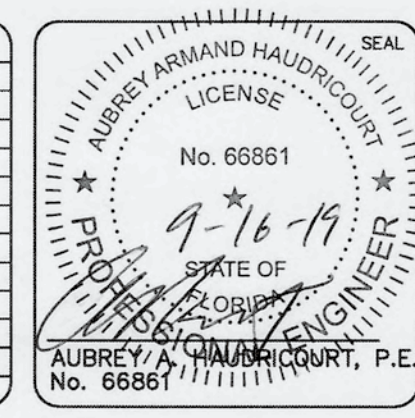
LIGHTING POLE BASE DETAIL I
NTS



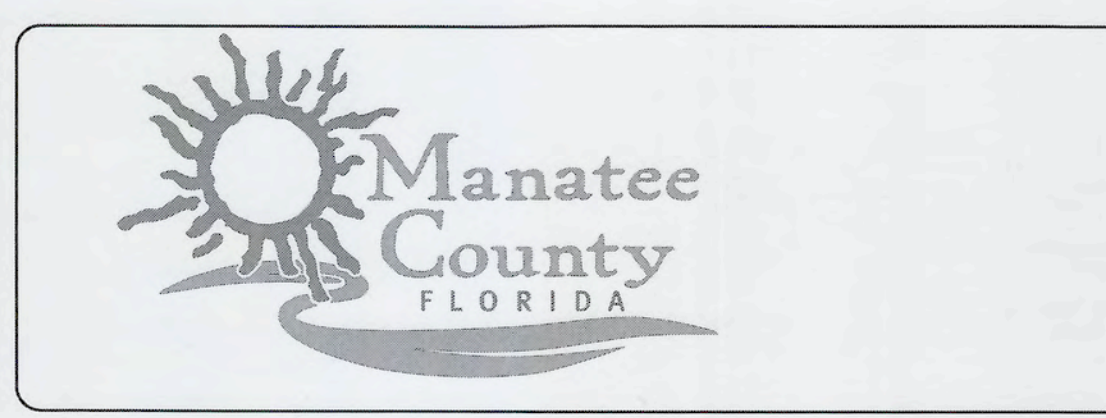
LIGHTING POLE BASE DETAIL II
NTS

S:\1024 - Manatee Co\1024\1024-0170\1024-0170-0170.dwg - 9/17/2019 6:32:30 PM, S:\1024.dwg

REV.	DESCRIPTION	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



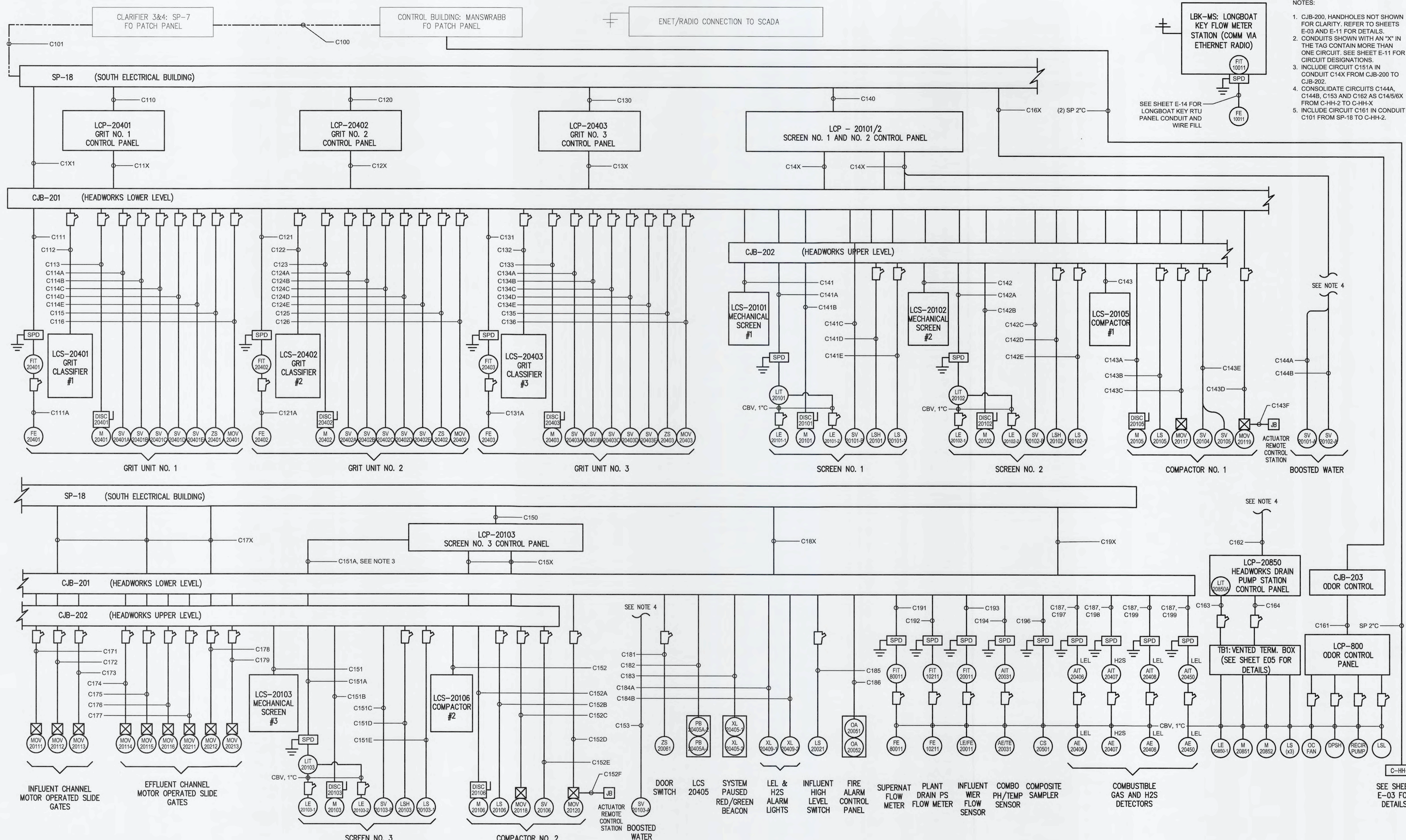
SWRF NEW HEADWORKS

FIXTURE SCHEDULE AND DETAILS

DATE: SEPTEMBER, 2019	SCALE	DRAWING NUMBER
MCE PROJ. # 1024-0170	HORIZONTAL: NA	E-09
DRAWN: LLS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID		REVISION

ID	FROM	TO	SETS	WIRES	WIRE SIZE (MIN)	EQUIPMENT GROUND	CONDUIT SIZE (MIN)	SPARE?	NOTES	DUCT BANK(S)
P100	MCC-A1	MTS-PP1	(1)	3 #	1/0	6 G	1.25" C		RAS/WAS PS	2P,3P,5P
P101	MCC-A2	PP2	(1)	3 #	1/0	6 G	1.25" C		RAS/WAS PS	2P,3P,5P
P110	MCC-A1	GRIT1-PLC PANEL	(1)	3 #	12	12 G	0.75" C			
P111	GRIT1-PLC PANEL	CLASSIFIER #1	(1)	3 #	12	12 G	1.0" C		VFD CABLE	
P1X1	PJB-200	PJB-201	(1)	9 #	12	12 G	2.0" C		P111, P121, P131: VFD CABLES	2P,3P,6P,7P
P130	MCC-A1	GRIT3-PLC PANEL	(1)	3 #	12	12 G	0.75" C			
P131	GRIT3-PLC PANEL	CLASSIFIER #3	(1)	3 #	12	12 G	1.0" C		VFD CABLE	
P150	MCC-A1	SCREEN3-PLC PANEL	(1)	3 #	2	6 G	1.25" C			
P14/5X	PJB-200	PJB-201	(1)	6 #	12	12 G	1.0" C		P143, P152	2P,3P,6P,7P
P151	SCREEN3-PLC PANEL	SCREEN #3	(1)	3 #	12	12 G	1.0" C		VFD CABLE	2P,3P,6P,7P
P152	SCREEN3-PLC PANEL	COMPACTOR #2	(1)	3 #	12	12 G	0.75" C			
P153	SCREEN3-PLC PANEL	BOOSTER PUMP #3	(1)	3 #	12	12 G	0.75" C			
P120	MCC-A2	GRIT2-PLC PANEL	(1)	3 #	12	12 G	0.75" C			
P121	GRIT2-PLC PANEL	CLASSIFIER #2	(1)	3 #	12	12 G	1.0" C		VFD CABLE	
P140	MCC-A2	SCREEN1/2-PLC PANEL	(1)	3 #	12	12 G	0.75" C			
P14X	SCREEN1/2-PLC PANEL	PJB-201	(1)	6 #	12	12 G	1.5" C		P141, P142: VFD CABLES	2P,3P,6P,7P
P14/5X	PJB-200	LV-HH-3	(1)	9 #	12	12 G	1.0" C		P144, P145, P153	2P,3P,6P2
P141	SCREEN1/2-PLC PANEL	SCREEN #1	(1)	3 #	12	12 G	1.0" C		VFD CABLE	
P142	SCREEN1/2-PLC PANEL	SCREEN #2	(1)	3 #	12	12 G	1.0" C		VFD CABLE	
P143	SCREEN1/2-PLC PANEL	COMPACTOR #1	(1)	3 #	12	12 G	0.75" C			
P144	SCREEN1/2-PLC PANEL	BOOSTER PUMP #1	(1)	3 #	12	12 G	0.75" C			
P145	SCREEN1/2-PLC PANEL	BOOSTER PUMP #2	(1)	3 #	12	12 G	0.75" C			
P160	MCC-A2	PJB-206 (O.C.)	(1)	3 #	6	8 G	1.0" C	1	HEADWORKS ODOR CONTROL SYSTEM	2P,3P,6P2,8
P170	MCC-A1	LCP-20850 (HW DPS)	(1)	3 #	6	8 G	1.0" C		HEADWORKS DRAIN PUMP STATION	2P,3P,6P
P171	LCP-20850 (HW DPS)	TB-1	(1)	3 #	10	10 G	0.75" C		MOTOR 1	
P172	LCP-20850 (HW DPS)	TB-1	(1)	3 #	10	10 G	0.75" C		MOTOR 2	
DP-A1-2	DP-A1	TX-A2	(1)	3 #	10	10 G	0.75" C			
DP-A1-2A	TX-A2	LP-A2	(1)	3 #	3	8 G	1.0" C			
DP-A1-7	DP-A1	PJB-201	(1)	9 #	8	10 G	1.5" C		DP-A1, HW INFLUENT CHAN. SLIDE GATES	2P,3P,6P,7P
DP-A1-7A	PJB-201	MOV-20111	(1)	3 #	10	10 G	0.75" C			
DP-A1-7B	PJB-201	MOV-20113	(1)	3 #	10	10 G	0.75" C			
DP-A1-7C	PJB-201	MOV-20115	(1)	3 #	10	10 G	0.75" C			
DP-A1-8	DP-A1	PJB-201	(1)	6 #	8	10 G	1.0" C		DP-A1, HW COMPACTOR 1 KNIFE GATE VALVES	2P,3P,6P,7P
DP-A1-8A	PJB-201	MOV-2017	(1)	3 #	10	10 G	0.75" C			
DP-A1-8B	PJB-201	MOV-20119	(1)	3 #	10	10 G	0.75" C			
DP-A1-13	DP-A1	PJB-201	(1)	9 #	8	10 G	1.5" C			
DP-A1-13A	DP-A1	MOV-20112	(1)	3 #	10	10 G	0.75" C		DP-A1, HW EFFLUENT CHAN. SLIDE GATES 1	2P,3P,6P,7P
DP-A1-13B	PJB-201	MOV-20114	(1)	3 #	10	10 G	0.75" C			
DP-A1-13C	PJB-201	MOV-20116	(1)	3 #	10	10 G	0.75" C			
DP-A1-14	DP-A1	PJB-201	(1)	6 #	8	10 G	1.0" C		DP-A1, HW COMPACTOR 2 KNIFE GATE VALVES	2P,3P,6P,7P
DP-A1-14A	PJB-201	MOV-20118	(1)	3 #	10	10 G	0.75" C			
DP-A1-14B	PJB-201	MOV-20120	(1)	3 #	10	10 G	0.75" C			
DP-A1-19	DP-A1	PJB-201	(1)	9 #	8	10 G	1.5" C			
DP-A1-19A	PJB-201	MOV-20211	(1)	3 #	10	10 G	0.75" C		DP-A1, HW EFFLUENT CHAN. SLIDE GATES 2	2P,3P,6P,7P
DP-A1-19B	PJB-201	MOV-20212	(1)	3 #	10	10 G	0.75" C			
DP-A1-19C	PJB-201	MOV-20213	(1)	3 #	10	10 G	0.75" C			
LP-A1X	LP-A1	LV-HH-2	(1)	18 #	8	10 G	1.5" C	1	LP-A1, NEW CIRCUITS: 27-32,34-36	2P,3P
LP-A1X	LV-HH-2	RAS/WAS PS	(1)	16 #	8	10 G	1.5" C	1	LP-A1, RAS/WAS AND SC3,4 CIRCUITS:27, 29-32,34-36	5P
LP-A1-27	LP-A1	BLNKT CP, CLAR1-4	(1)	4 #	12	12 G	0.75" C			
LP-A1-28	LP-A1	SOUTH GATE	(1)	2 #	10	10 G	0.75" C		LP-A2X FROM PJB-200 TO LV-HH-3	6P2,8,9
LP-A1-29	LP-A1	RECT BLNKT CP	(1)	2 #	12	12 G	0.75" C			
LP-A1-31	LP-A1	LTG, FIT-450	(1)	2 #	12	12 G	0.75" C			
LP-A1-32	LP-A1	LTG-RAS	(1)	2 #	12	12 G	0.75" C			
LP-A1-33	LP-A1	ANOX ISCO SAMPL	(1)	2 #	12	12 G	0.75" C		HOMERUN	
LP-A1-34	LP-A1	LTG-SCUM	(1)	2 #	12	12 G	0.75" C			
LP-A1-35	LP-A1	FIT-450	(1)	2 #	12	12 G	0.75" C			
LP-A1-36	LP-A1	FIT-426/FIT-460	(1)	2 #	12	12 G	0.75" C			
LP-A2X	LP-A2	LV-HH-3	(1)	10 #	8	10 G	1.25" C		LP-A2, HW LOWER EAST CIRCUITS: 3,6,21,22; LP-A1-28 (PARTIAL)	2P,3P,6P2
LP-A2X	LP-A2	PJB-201	(1)	20 #	8	10 G	2.0" C		LP-A2, HW LOWER WEST CIRCUITS: 5,8,14,15,16,17,19,20	2P,3P,6P,7P
LP-A2X	LP-A2	PJB-204	(1)	14 #	8	10 G	1.5" C		LP-A2, HW UPPER CIRCUITS: 4,7,11,13,18	2P,3P,6P,7P
LP-A2-3	LP-A2	FIT-INFL	(1)	2 #	12	12 G	0.75" C			
LP-A2-4	LP-A2	HW INFLUENT SAMPLER	(1)	2 #	12	12 G	0.75" C			
LP-A2-5	LP-A2	GAS DETECT EQUIP	(1)	2 #	12	12 G	0.75" C			
LP-A2-6	LP-A2	FACP-1	(1)	2 #	12	12 G	0.75" C			
LP-A2-7	LP-A2	HW PH/TEMP AITS	(1)	2 #	12	12 G	0.75" C			
LP-A2-8	LP-A2	PCTC-2	(1)	3 #	3	8 G	1.0" C			
LP-A2-11	LP-A2	HW SAMPLE PUMP	(1)	2 #	12	12 G	0.75" C			
LP-A2-13	LP-A2	HW UPPER LEVEL RECP	(1)	2 #	12	12 G	0.75" C			
LP-A2-14	LP-A2	EMERG. LTG	(1)	2 #	12	12 G	0.75" C			
LP-A2-15	LP-A2	HW INSIDE LTG 1	(1)	2 #	12	12 G	0.75" C			
LP-A2-16	LP-A2	HW EXIT SIGNS	(1)	2 #	12	12 G	0.75" C			
LP-A2-17	LP-A2	HW INSIDE LTG 2	(1)	2 #	12	12 G	0.75" C			
LP-A2-18	LP-A2	HW MECH SCREEN LEVEL	(3)	2 #	12	10 G	0.75" C			
LP-A2-19	LP-A2	HW GRIT FLOW METERS	(3)	2 #	12	10 G	0.75" C			
LP-A2-20	LP-A2	HW INFLUENT MAGMETER	(2)	2 #	12	10 G	0.75" C			
LP-A2-21	LP-A2	HW INSIDE RECP N	(1)	2 #	12	12 G	2.0" C			
LP-A2-22	LP-A2	HW INSIDE RECP S	(1)	2 #	12	12 G	2.0" C			
PCTC-2X	PCTC-2	PJB-201, PJB-204	(1)	8 #	8	10 G	1.5" C		PCTC-2, HW OUTSIDE LIGHTS	2P,3P,6P,7P
PCTC-2-7	PCTC-2	HW CATWALK LTG	(1)	2 #	12	12 G	0.75" C			
PCTC-2-8	PCTC-2	SITE LTG, SOUTH ROAD	(1)	2 #	8	10 G	0.75" C		HOMERUN	
PCTC-2-9	PCTC-2	HW POLE LTG 1	(1)	2 #	12	12 G	0.75" C			
PCTC-2-10	PCTC-2	SITE LTG, WEST ANOX	(1)	2 #	8	10 G	0.75" C		HOMERUN	
PCTC-2-11	PCTC-2	HW POLE LTG 2	(1)	2 #	12	12 G	0.75" C			
PCTC-2-12	PCTC-2	SITE LTG, EAST ANOX	(1)	2 #	10	10 G	0.75" C		HOMERUN	
PCTC-2-13	PCTC-2	HW OUTSD WALL PACKS	(1)	2 #	12	12 G	0.75" C			
PCTC-2-14	PCTC-2	SITE LTG, SOUTH AERA	(1)	2 #	10	10 G	0.75" C		HOMERUN	
PCTC-2-15	PCTC-2	ANOX, NW POLE LTG	(1)	2 #	8	10 G	0.75" C		HOMERUN	
PCTC-2-16	PCTC-2	CLARIFIER 3, POLE LTG	(1)	2 #	8	10 G	0.75" C		HOMERUN	
PCTC-2-17	PCTC-2	ANOX, SE POLE LTG	(1)	2 #	8	10 G	0.75" C		HOMERUN	
PCTC-2-18	PCTC-2	CLARIFIER 4, POLE LTG	(1)	2 #	8	10 G	0.75" C		HOMERUN	
SP	ADMIN BLDG	SOUTH GATE	(1)				2.0" C			4C,6C2,8,9
C101	CONTROL BLDG PLC	SP-7	(1)	12 PAIR		FO	2.0" C	1	FIBER OPTIC	4C,5C
C102	SP-7	SP-18	(1)	12 PAIR		FO	2.0" C	1	FIBER OPTIC	1C,3C,5C

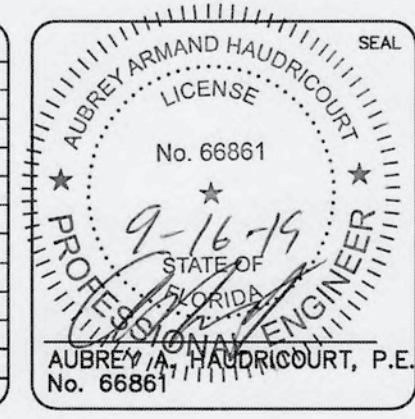
ID	FROM	TO	SETS	WIRES	WIRE SIZE (MIN)	EQUIPMENT GROUND	CONDUIT SIZE (MIN)	SPARE?	NOTES	DUCT BANK(S)
C110	CONTROLS CONTINUED	SP-18								
C1X1	SP-18	GRIT1-PLC	(1)	1 #						
C11X	GRIT1-PLC PANEL	CJB-201	(1)	3-PAIR	2C#16 SH	CAT-6, SH	1.0" C		C111, C121, C131	1C,3C,6C,7C
C111	SP-18	CJB-201	(1)	20 #	14	14 G	1.0" C		C112, C113, C114	1C,3C,6C,7C
C112	GRIT1-PLC PANEL	FIT-20401	(1)	1-PAIR	2C#16 SH	16 G	1.0" C			
C113	GRIT1-PLC PANEL	LCS-CLAS1	(1)	16 #	14	14 G	1.0" C			
C114A-E	GRIT1-PLC PANEL	DISC-20401	(1)	2 #	14	14 G	0.75" C			
C115	GRIT3-PLC PANEL	SV-20401A-E	(5)	2 #	14	14 G	0.75" C		2 STAND-ALONE SOLENOID VALVES AND 3 ON SKID	
C116	GRIT3-PLC PANEL	ZS-20401	(1)	2 #	14	14 G	0.75" C			
C120	SP-18	MOV-20401	(1)	12 #	14	14 G	0.75" C			
C12X	GRIT2-PLC PANEL	GRIT2-PLC	(1)	1 #		CAT-6, SH	1.0" C			
C121	SP-18	CJB-201	(1)	20 #	14	14 G	1.0" C		C122, C123, C124	1C,3C,6C,7C
C122	GRIT2-PLC PANEL	FIT-20402	(1)	1-PAIR	2C#16 SH	16 G	1.0" C			
C123	GRIT2-PLC PANEL	LCS-CLAS2	(1)	16 #	14	14 G	1.0" C			
C123	GRIT2-PLC PANEL	DISC-20402	(1)	2 #	14	14 G	0.75" C			
C124A-E	GRIT2-PLC PANEL	SV-20402A-E	(5)	2 #	14	14 G	0.75" C		2 STAND-ALONE SOLENOID VALVES AND 3 ON SKID	
C125	GRIT3-PLC PANEL	ZS-20402	(1)	2 #	14	14 G	0.75" C			
C126	GRIT3-PLC PANEL	MOV-20402	(1)	12 #	14	14 G	0.75" C			
C130	SP-18	GRIT3-PLC	(1)	1 #		CAT-6, SH	1.0" C			
C13X	GRIT3-PLC PANEL	CJB-201	(1)	20 #	14	14 G	1.0" C		C132, C133, C134	1C,3C,6C,7C
C131	SP-18	FIT-20403	(1)	1-PAIR	2C#16 SH	16 G	1.0" C			
C132	GRIT3-PLC PANEL	LCS-CLAS3	(1)	16 #	14	14 G	1.0" C			
C133	GRIT3-PLC PANEL	DISC-20403	(1)	2 #	14	14 G	0.75" C			
C134A-E	GRIT3-PLC PANEL	SV-20403A-E	(5)	2 #	14	14 G	0.75" C		2 STAND-ALONE SOLENOID VALVES AND 3 ON SKID	
C135	GRIT3-PLC PANEL	ZS-20403	(1)	2 #	14	14 G	0.75" C			
C136	GRIT3-PLC PANEL	MOV-20403	(1)	12 #	14	14 G	0.75" C			
C140	SP-18	SCRN1/2-PLC	(1)	1 #		CAT-6, SH	1.0" C			
C14X	SCRN1/2-PLC	CJB-202	(1)	6 #	2C#16 SH	16 G	2.0" C		C141A, C142A, C151A	1C,3C,6C,7C
C14X	SCRN1/2-PLC	CJB-202	(1)	70 #	14	14 G	2.0" C		C141, C141(B,C,D,E), C142, C142(B,C,D,E)	1C,3C,6C,7C
C14X	SCRN1/2-PLC	CJB-202	(1)	54 #	14	14 G	1.5" C		C143, C143(A, B, C, D, E), C144(A,B)	1C,3C,6C,7C
C141	SCRN1/2-PLC	LCS-SCREEN1	(1)	16 #	14	14 G	1.0" C			
C141A	SCRN1/2-PLC	LIT-20101	(1)	2 #	2C#16 SH	16 G	1.5" C			
C141B	SCRN1/2-PLC	DISC-20101	(1)	2 #	14	14 G	0.75" C			
C141C	SCRN1/2-PLC	SV-20101-A	(1)	2 #	14	14 G	0.75" C		BOOSTED WATER	
C141D	SCRN1/2-PLC	LSH-20101	(1)	2 #	14	14 G	0.75" C			
C141E	SCRN1/2-PLC	LS-20101	(1)	2 #	14	14 G	0.75" C			
C142	SCRN1/2-PLC	LCS-SCREEN2	(1)	16 #	14	14 G				



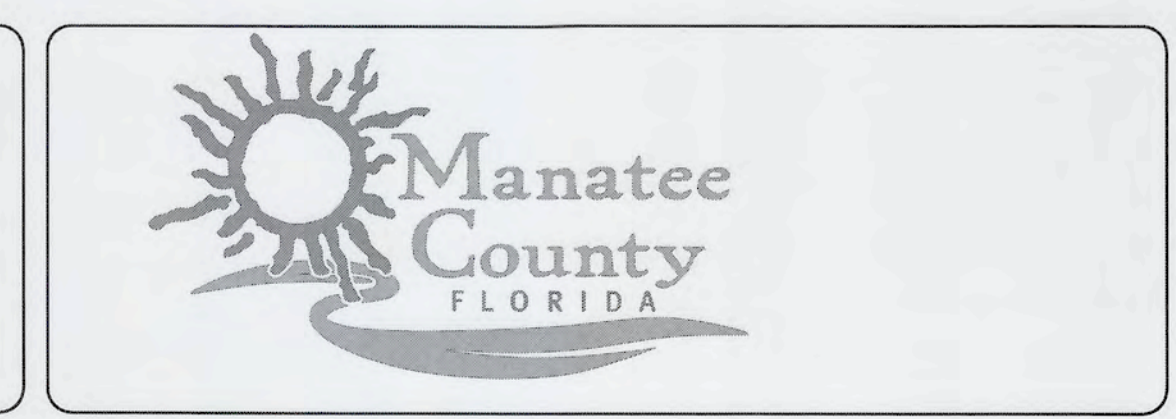
- NOTES:
- CJB-200, HANDHOLES NOT SHOWN FOR CLARITY. REFER TO SHEETS E-03 AND E-11 FOR DETAILS.
 - CONDUITS SHOWN WITH AN "X" IN THE TAG CONTAIN MORE THAN ONE CIRCUIT. SEE SHEET E-11 FOR CIRCUIT DESIGNATIONS.
 - INCLUDE CIRCUIT C151A IN CONDUIT C14X FROM CJB-200 TO CJB-202.
 - CONSOLIDATE CIRCUITS C144A, C144B, C153 AND C162 AS C145/6X FROM C-HH-2 TO C-HH-X
 - INCLUDE CIRCUIT C161 IN CONDUIT C101 FROM SP-18 TO C-HH-2.

ELECTRICAL INTERCONNECTION DIAGRAM
SCALE: NTS

REV. NO.	DESCRIPTION	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWRF NEW HEADWORKS
 ELECTRICAL INTERCONNECTION
 DIAGRAM

DATE: SEPTEMBER, 2019	SCALE: NA	DRAWING NUMBER: E-12
MCE PROJ. # 1024-0170	HORIZONTAL: NA	REVISION: ISSUED FOR BID
DRAWN: LLS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR: DCW		

S:\1024 - Manatee SWRF\1024-0170\Drawings\Electrical\E-12-10240170 - INTERCONNECT.dwg, 9/13/2019 6:33:30 AM, South, Sany



CLASS I DIV-1:



- ENCLOSED SPACE WITH EXPOSED WASTEWATER WITH VENTILATION AT LESS THAN 12 AIR CHANGES PER HOUR.

CLASS I DIV-2:

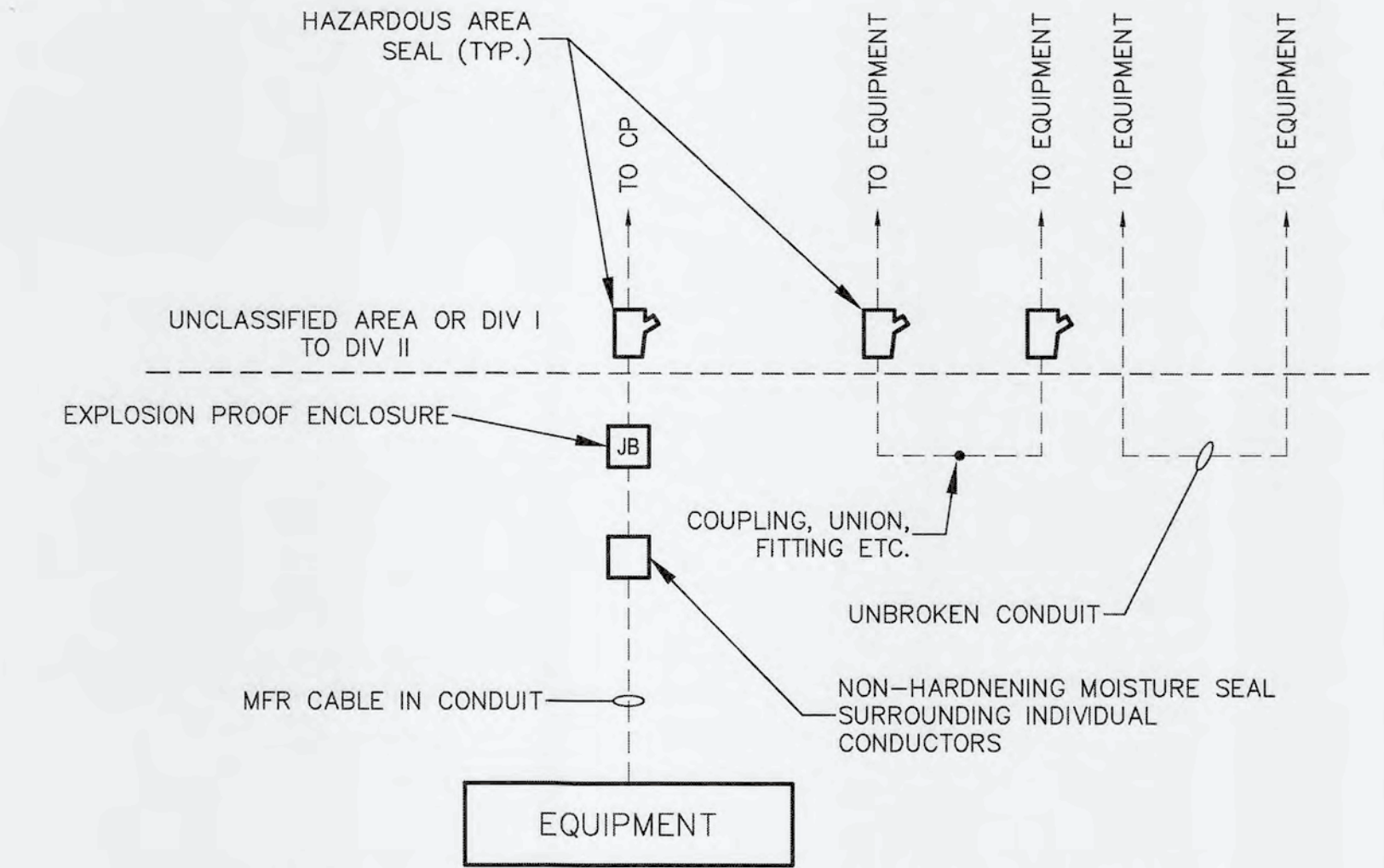
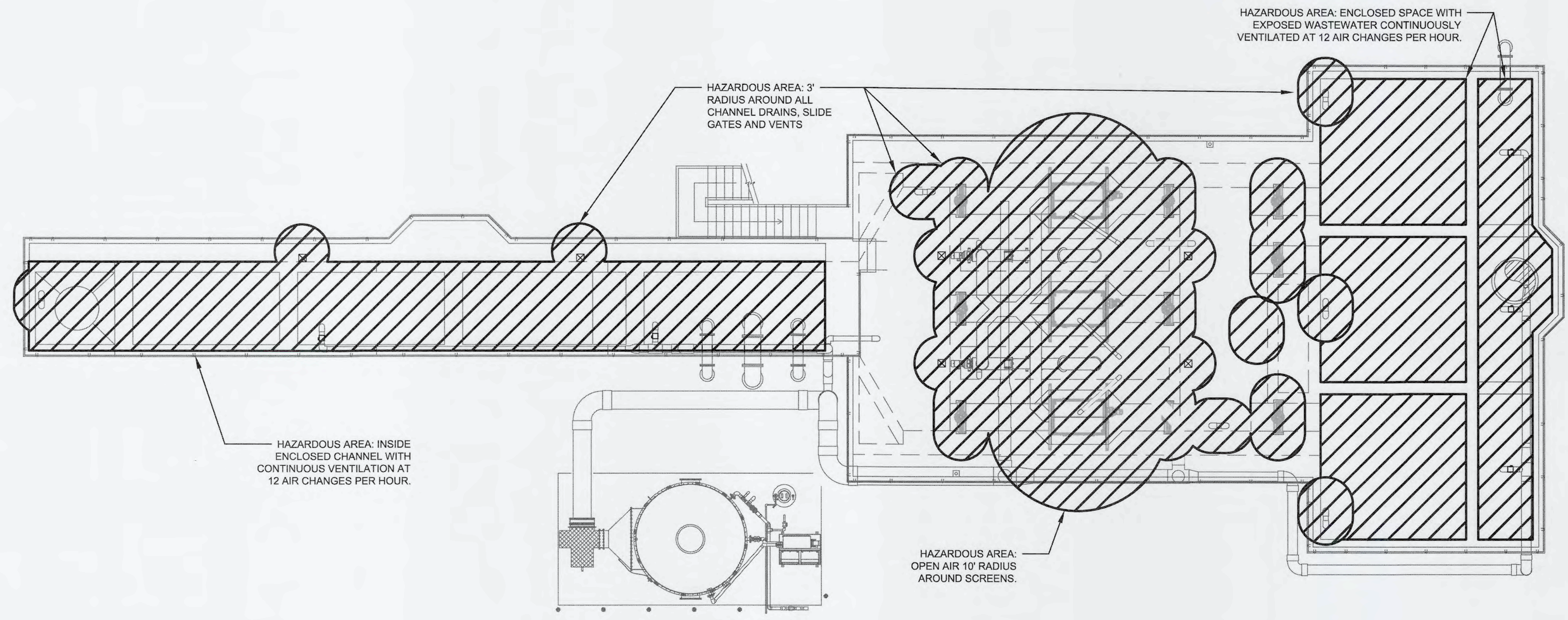
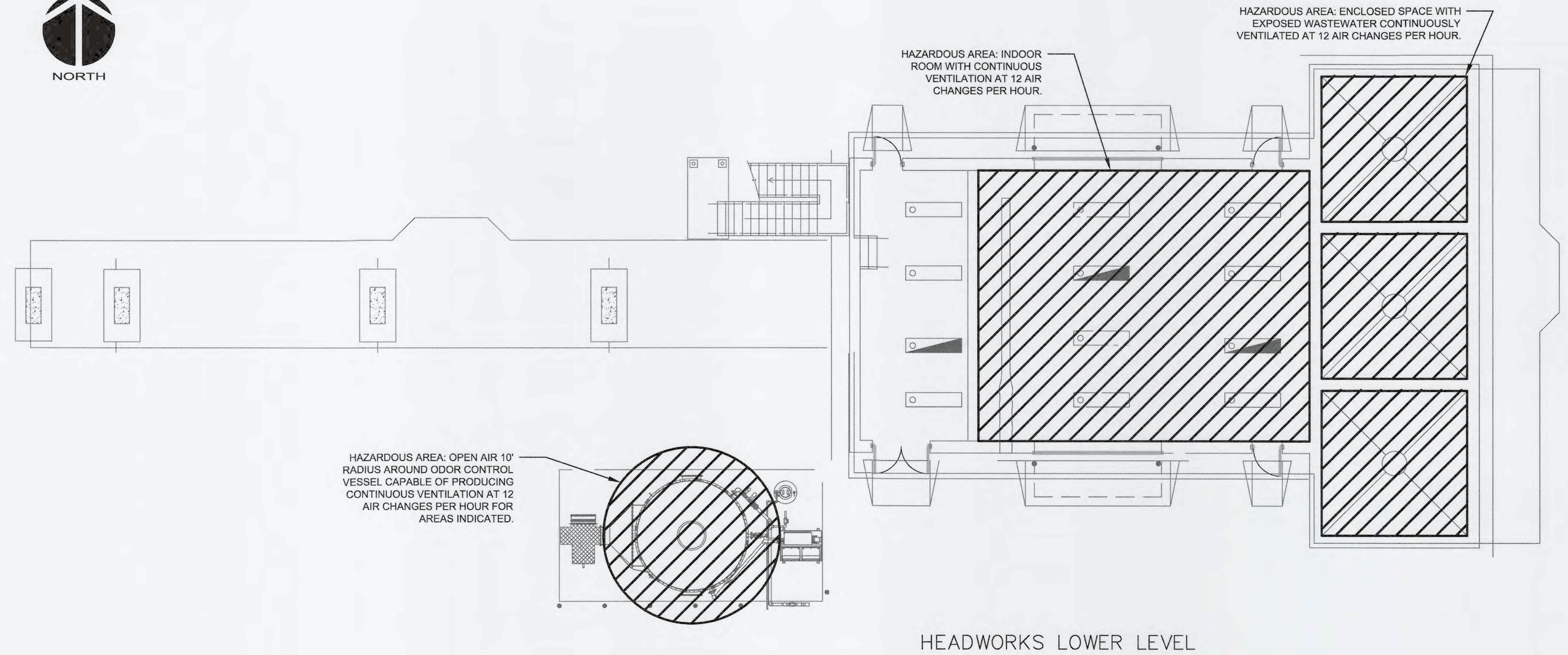


- 10'-0" RADIUS AROUND EQUIPMENT INDICATED
- 3'-0" RADIUS AROUND ODOR CONTROL VESSEL
- 3'-0" AROUND VENTS (DRAINS)
- 18" ABOVE COVER OR OPEN TANK WALL EXTENDING 18" FROM OUTSIDE OF WALL TO GROUND OR DECK 10' EXTENDED OUTWARDS FROM WALL.
- ENCLOSED SPACE WITH VENTILATION AT 12 AIR CHANGES PER HOUR.
- 18" ABOVE HATCHES TO SPACES WITH EXPOSED WASTEWATER VENTILATION AT LESS THAN 12 AIR CHANGES PER HOUR, EXTENDED 3' OUTWARDS.

- NOTES:**
- REFER TO NEC CHAPTER 5 FOR HAZARDOUS WIRING REQUIREMENTS. HAZARDOUS AREA TABLE SUMMARIZES NEC REQUIREMENTS, BUT NEC SHALL GOVERN.
 - REFER TO NFPA 820, FIGURE A.4.2(C)(B) TABLE 5.2.2, ROW 5B,C.
 - REFER TO NFPA 820, FIGURE A.4.2(C)(B) TABLE 5.2.2, ROW 2B,2C.

HAZARDOUS AREA TABLE

CLASSIFICATION	APPLICATION	LOCATION OF SEAL
CONDUIT SEALS CLASS I, DIVISION I	SWITCH ENCLOSURE CIRCUIT BREAKER ENCLOSURE FUSE ENCLOSURE RELAY ENCLOSURE RESISTOR ENCLOSURE ARCING OR SPARKING APPARATUS HIGH-TEMPERATURE APPARATUS	IN CONDUIT RUN WITHIN 18 IN. OF ENCLOSURE
	EXPLOSION PROOF ENCLOSURE CONTAINING ARCING OR SPARKING CONTACTS THAT ARE HERMETICALLY SEALED AGAINST GAS OR VAPOR ENTRY	IN CONDUIT RUNS OF 1.5 IN. AND SMALLER, NO SEAL IS REQUIRED. IF CONDUIT IS LARGER THAN 1.5 IN., IN CONDUIT RUN WITHIN 18 IN. OF ENCLOSURE
	ENCLOSURE CONTAINING TERMINALS, SPLICES, OR TAPS FITTING CONTAINING TERMINALS, SPLICES, OR TAPS	IN CONDUIT RUNS SMALLER THAN TRADE SIZE 2, NO SEAL IS REQUIRED. IF CONDUIT IS 2 IN. OR LARGER, IN CONDUIT RUN WITHIN 18 IN. OF ENCLOSURE
	TWO EXPLOSION PROOF ENCLOSURES WITH A CONDUIT RUN BETWEEN THEM OF 36 IN. OR LESS	IN CONDUIT RUN WITHIN 18 IN. OF EACH ENCLOSURE. PERMITTED TO USE A SINGLE SEAL IN EACH RUN AS LONG AS THE SEAL IS WITHIN 18 IN. OF EACH ENCLOSURE
	CONDUIT RUN LEAVING DIVISION 1 LOCATION	ON EITHER SIDE OF BOUNDARY, NO UNIONS, COUPLINGS, BOXES, OR FITTINGS (OTHER THAN EXPLOSION PROOF REDUCERS) PERMITTED BETWEEN THE SEAL FITTING AND THE POINT WHERE THE CONDUIT LEAVES THE DIVISION 1 LOCATION.
	METAL CONDUIT CONTAINING NO UNIONS, COUPLINGS, BOXES, OR FITTINGS THAT PASSES COMPLETELY THROUGH A CLASS I, DIVISION 1 LOCATION, WITH NO FITTINGS LESS THAN 12 IN. BEYOND EACH BOUNDARY	NOT REQUIRED TO BE SEALED IF THE TERMINATION POINTS OF THE UNBROKEN CONDUIT ARE IN UNCLASSIFIED LOCATIONS.
CLASSIFICATION CLASS I, DIVISION II	ENCLOSURE REQUIRED TO BE EXPLOSION PROOF	SEAL AS REQUIRED FOR SIMILAR EQUIPMENT IN DIVISION 1 LOCATION
	CONDUIT RUN LEAVING DIVISION 2 LOCATION	ON EITHER SIDE OF BOUNDARY, NO UNIONS, COUPLINGS, BOXES, OR FITTINGS (OTHER THAN EXPLOSION PROOF REDUCERS) PERMITTED BETWEEN THE SEAL FITTING AND THE POINT WHERE THE CONDUIT LEAVES THE DIVISION 2 LOCATION.
	METAL CONDUIT CONTAINING NO UNIONS, COUPLINGS, BOXES, OR FITTINGS THAT PASSES COMPLETELY THROUGH A DIVISION 2 LOCATION WITH NO FITTINGS LESS THAN 12 IN. BEYOND EACH BOUNDARY	NOT REQUIRED TO BE SEALED IF THE TERMINATION POINTS OF THE UNBROKEN CONDUIT ARE IN UNCLASSIFIED LOCATIONS.
	CONDUIT SYSTEMS TERMINATING AT AN UNCLASSIFIED LOCATION WHERE A WIRING METHOD TRANSITION IS MADE TO CABLE TRAY, CABLE BUS, VENTILATED BUSWAY, TYPE MI CABLE, OR OPEN WIRING	NOT REQUIRED TO BE SEALED IF PASSING FROM THE CLASS I, DIVISION 2 LOCATION INTO AN OUTDOOR UNCLASSIFIED LOCATION OR AN INDOOR LOCATION IF THE CONDUIT SYSTEM IS ALL IN ONE ROOM. THE CONDUITS DO NOT TERMINATE AT AN ENCLOSURE CONTAINING AN IGNITION SOURCE IN NORMAL OPERATION.
CONDUIT SEALS CLASS I, DIVISION I	MULTICONDUCTOR CABLES	SEAL IN THE DIVISION 1 LOCATION AFTER REMOVING THE JACKET AND ANY OTHER COVERINGS, SO THAT THE SEALING COMPOUND SURROUNDS EACH INDIVIDUAL INSULATED CONDUCTOR AND THE OUTER JACKET.

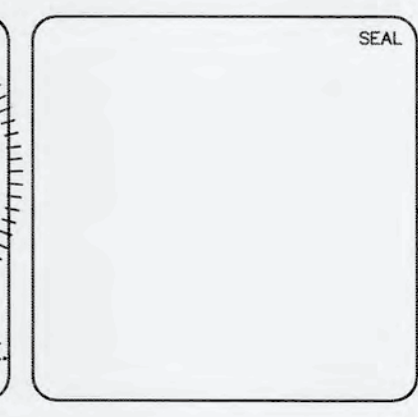
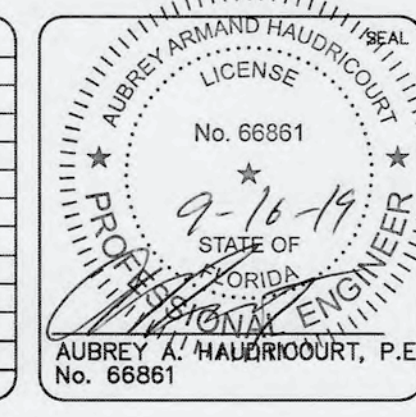


HEADWORKS AREA CLASSIFICATION
SCALE: 1/8" = 1'-0"

HEADWORKS UPPER LEVEL

CLASS-I DIVISION-I/II HAZARDOUS AREA
TYPICAL WIRING

REVNO.	DESCRIPTIONS	DATE



MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
CA Lic. No. 29588
www.mckimcreed.com



SWWRF NEW HEADWORKS
HEADWORKS AREA CLASSIFICATION

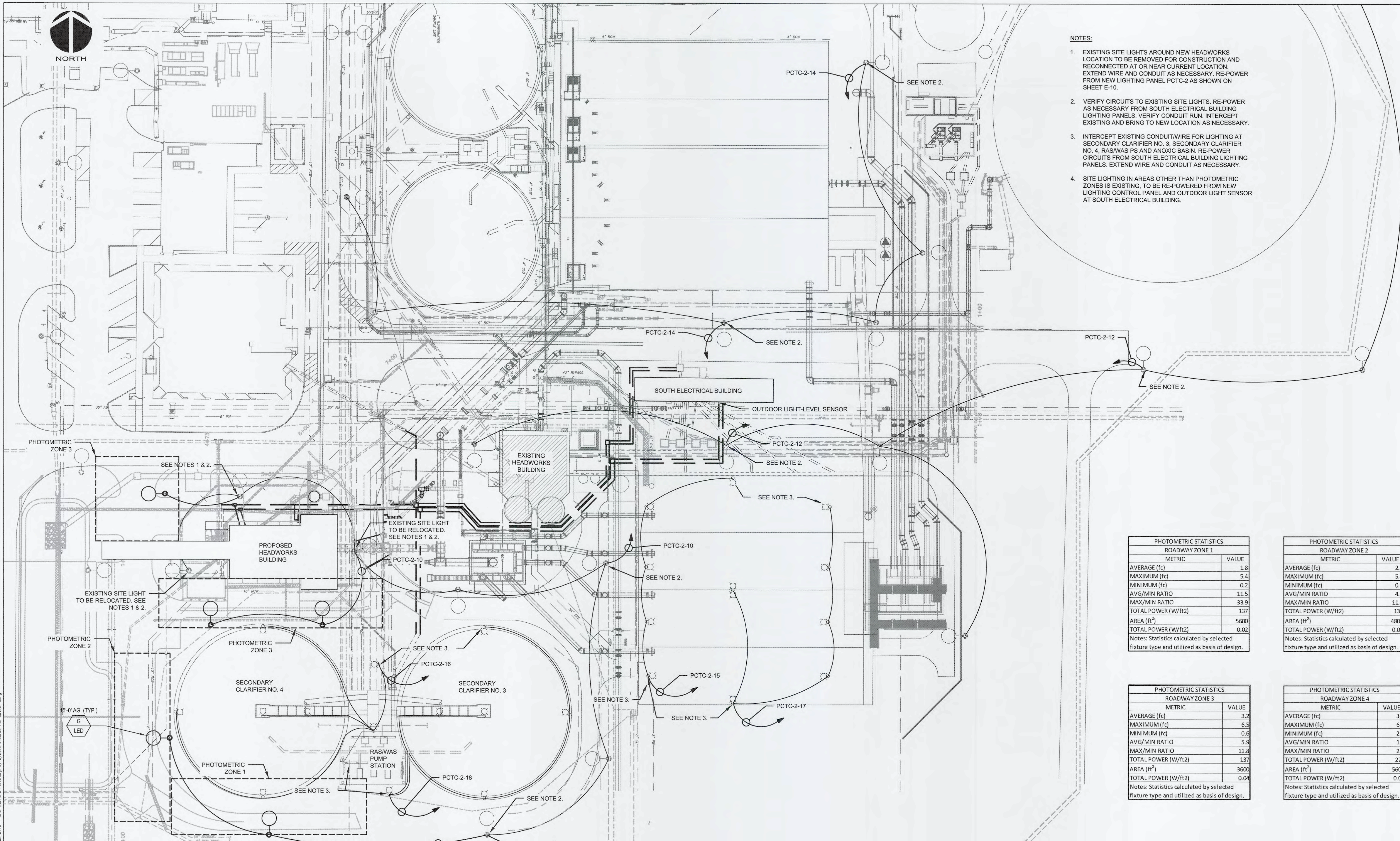
DATE: SEPTEMBER, 2019	SCALE: HORIZONTAL: 1/8" = 1'-0"	DRAWING NUMBER: E-17
MCE PROJ. # 1024-0170	DESIGNED: AAH	CHECKED: JAG/MAC
DRAWN: LLS	PROJ. MGR: DCW	REVISION:
STATUS: ISSUED FOR BID		

S:\11024 - Manatee SWWRF\11024-0170-Drawings\11024-0170-HEADWORKS AREA CLASSIFICATION.dwg, 9/17/2019 8:36:38 PM, South Spring



NOTES:

- EXISTING SITE LIGHTS AROUND NEW HEADWORKS LOCATION TO BE REMOVED FOR CONSTRUCTION AND RECONNECTED AT OR NEAR CURRENT LOCATION. EXTEND WIRE AND CONDUIT AS NECESSARY. RE-POWER FROM NEW LIGHTING PANEL PCTC-2 AS SHOWN ON SHEET E-10.
- VERIFY CIRCUITS TO EXISTING SITE LIGHTS. RE-POWER AS NECESSARY FROM SOUTH ELECTRICAL BUILDING LIGHTING PANELS. VERIFY CONDUIT RUN. INTERCEPT EXISTING AND BRING TO NEW LOCATION AS NECESSARY.
- INTERCEPT EXISTING CONDUIT/WIRE FOR LIGHTING AT SECONDARY CLARIFIER NO. 3, SECONDARY CLARIFIER NO. 4, RAS/WAS PS AND ANOXIC BASIN. RE-POWER CIRCUITS FROM SOUTH ELECTRICAL BUILDING LIGHTING PANELS. EXTEND WIRE AND CONDUIT AS NECESSARY.
- SITE LIGHTING IN AREAS OTHER THAN PHOTOMETRIC ZONES IS EXISTING, TO BE RE-POWERED FROM NEW LIGHTING CONTROL PANEL AND OUTDOOR LIGHT SENSOR AT SOUTH ELECTRICAL BUILDING.



PHOTOMETRIC STATISTICS	
ROADWAY ZONE 1	
METRIC	VALUE
AVERAGE (fc)	1.8
MAXIMUM (fc)	5.4
MINIMUM (fc)	0.2
AVG/MIN RATIO	11.5
MAX/MIN RATIO	33.9
TOTAL POWER (W/ft ²)	137
AREA (ft ²)	5600
TOTAL POWER (W/ft ²)	0.02

Notes: Statistics calculated by selected fixture type and utilized as basis of design.

PHOTOMETRIC STATISTICS	
ROADWAY ZONE 2	
METRIC	VALUE
AVERAGE (fc)	2.1
MAXIMUM (fc)	5.7
MINIMUM (fc)	0.5
AVG/MIN RATIO	4.5
MAX/MIN RATIO	11.8
TOTAL POWER (W/ft ²)	137
AREA (ft ²)	4800
TOTAL POWER (W/ft ²)	0.03

Notes: Statistics calculated by selected fixture type and utilized as basis of design.

PHOTOMETRIC STATISTICS	
ROADWAY ZONE 3	
METRIC	VALUE
AVERAGE (fc)	3.2
MAXIMUM (fc)	6.3
MINIMUM (fc)	0.6
AVG/MIN RATIO	5.9
MAX/MIN RATIO	11.8
TOTAL POWER (W/ft ²)	137
AREA (ft ²)	3600
TOTAL POWER (W/ft ²)	0.04

Notes: Statistics calculated by selected fixture type and utilized as basis of design.

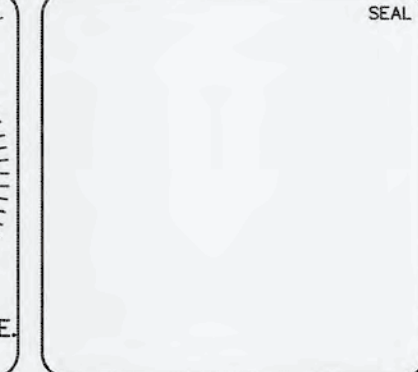
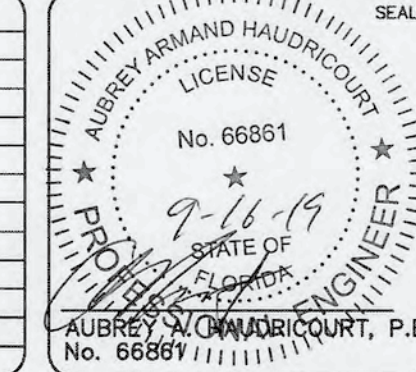
PHOTOMETRIC STATISTICS	
ROADWAY ZONE 4	
METRIC	VALUE
AVERAGE (fc)	3.5
MAXIMUM (fc)	6.6
MINIMUM (fc)	2.4
AVG/MIN RATIO	1.5
MAX/MIN RATIO	2.8
TOTAL POWER (W/ft ²)	274
AREA (ft ²)	5600
TOTAL POWER (W/ft ²)	0.05

Notes: Statistics calculated by selected fixture type and utilized as basis of design.

SITE LIGHTING PLAN

SCALE: 1/32" = 1'-0" SCALE: 1/32" = 1'-0"

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

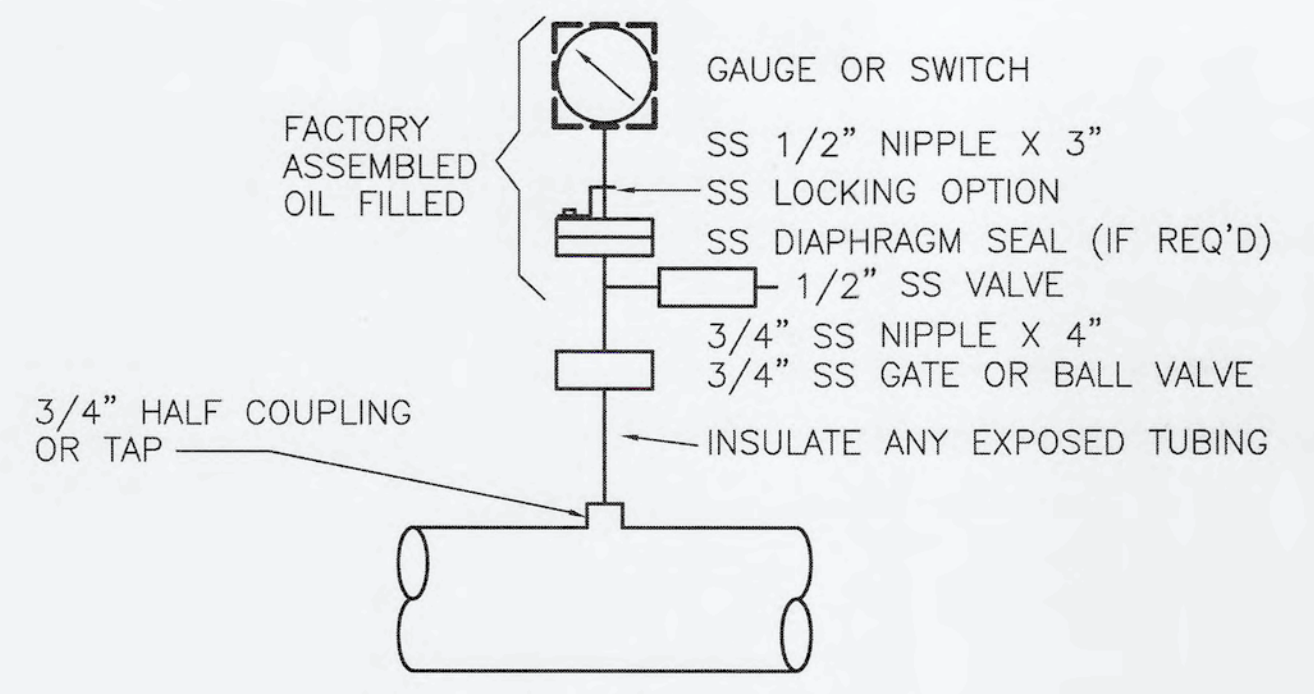


SWWRF NEW HEADWORKS

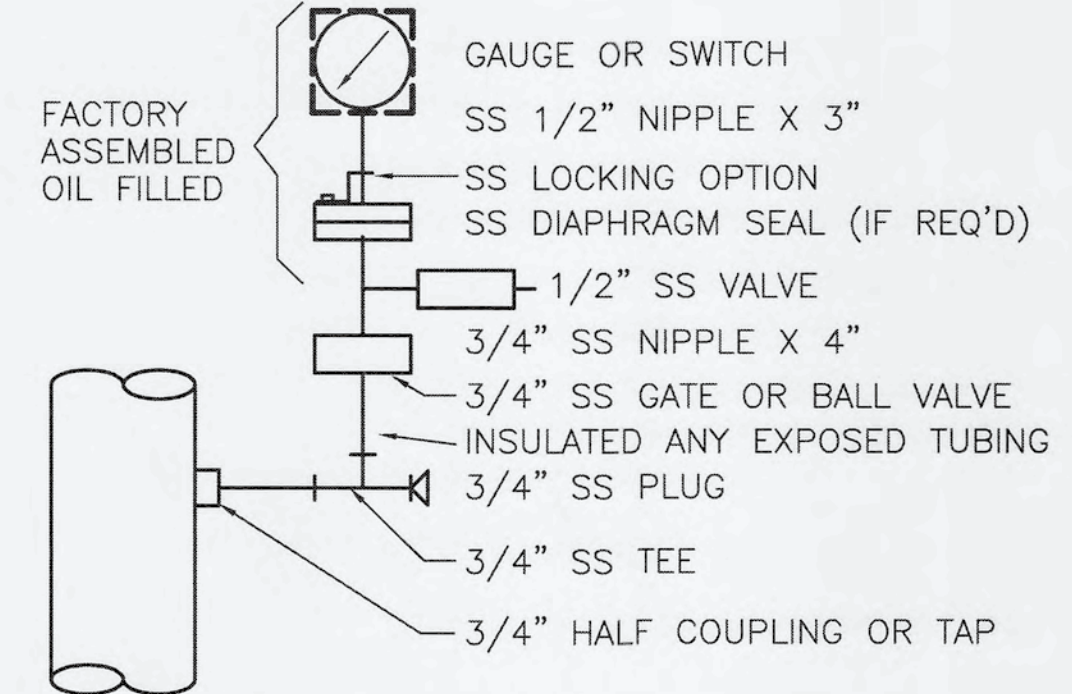
SITE LIGHTING PLAN

DATE: SEPTEMBER, 2019	SCALE: 1/32" = 1'-0"	DRAWING NUMBER: E-18
MCE PROJ. # 1024-0170	HORIZONTAL: NA	REVISION
DRAWN: LLS	VERTICAL: NA	
DESIGNED: AAH		
CHECKED: JAG/MAC		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		

S:\1024 - Manatee Co\1024-0170\Drawings\Electrical\E-18-10240170 - SITE LIGHTING PLAN.dwg, 9/13/2019, 6:30:05 PM, South.Berry

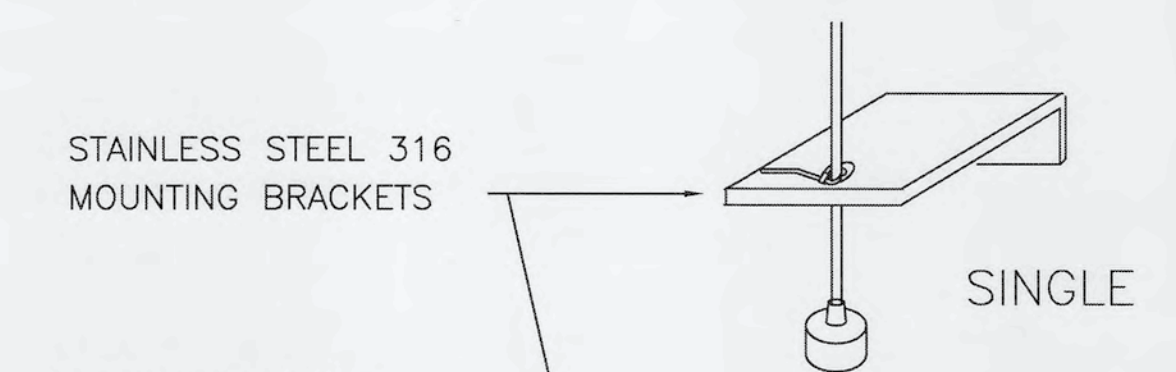


HORIZONTAL MOUNTING

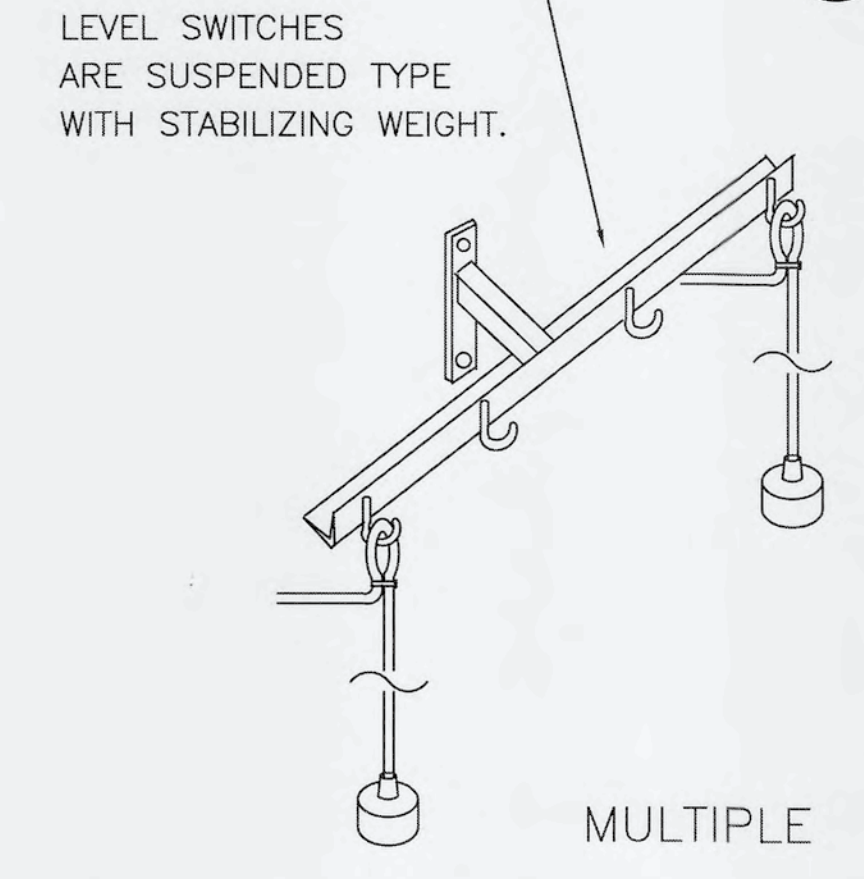


VERTICAL MOUNTING

TYPICAL PRESSURE INDICATOR/
SWITCH DETAIL

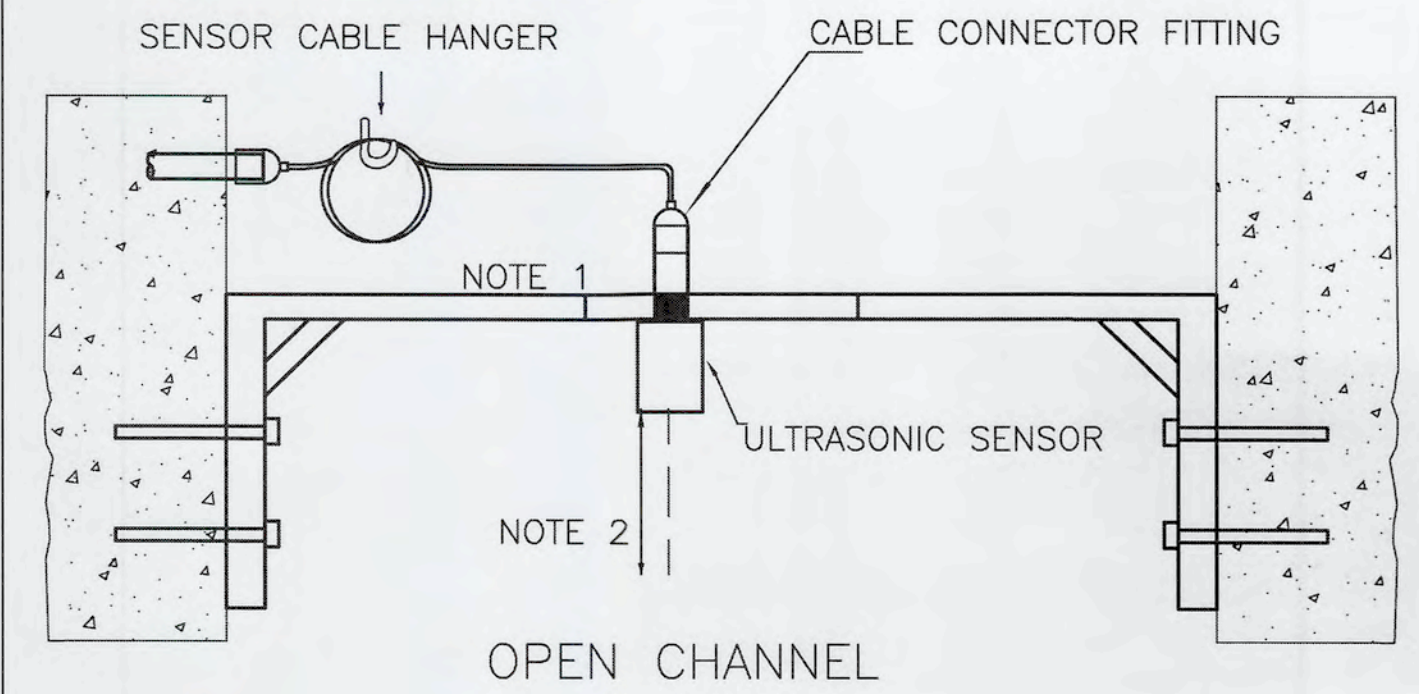


SINGLE



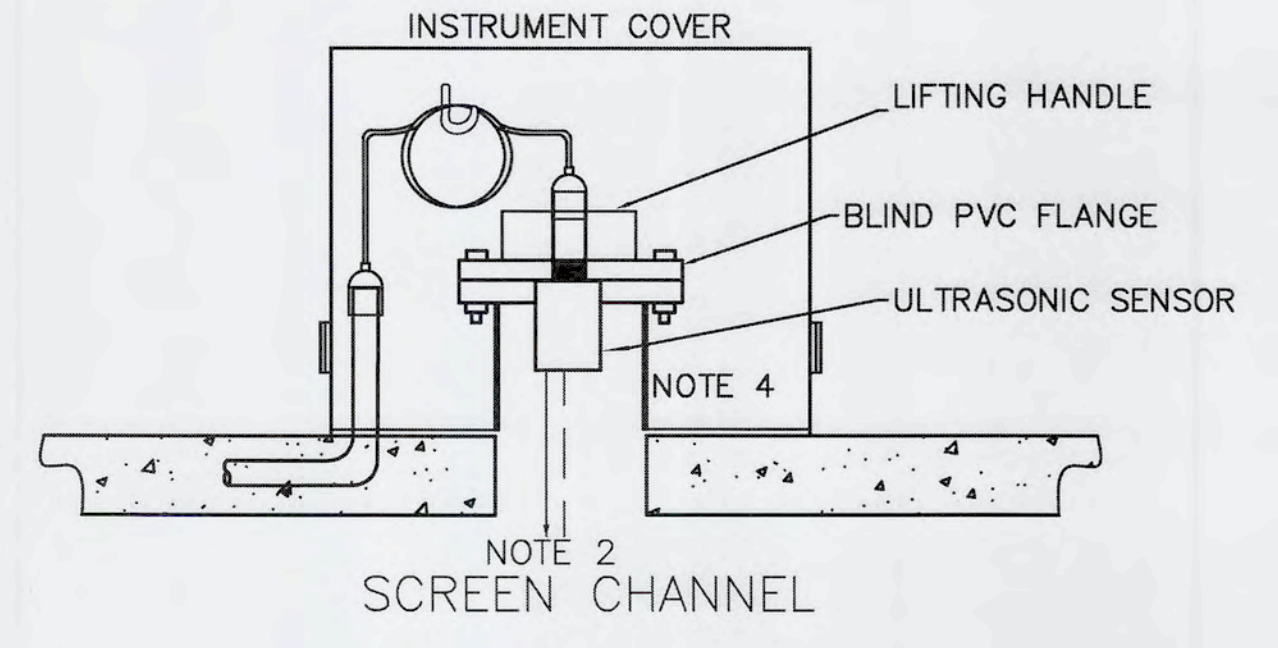
MULTIPLE

TYPICAL LEVEL SWITCH MOUNTING DETAIL



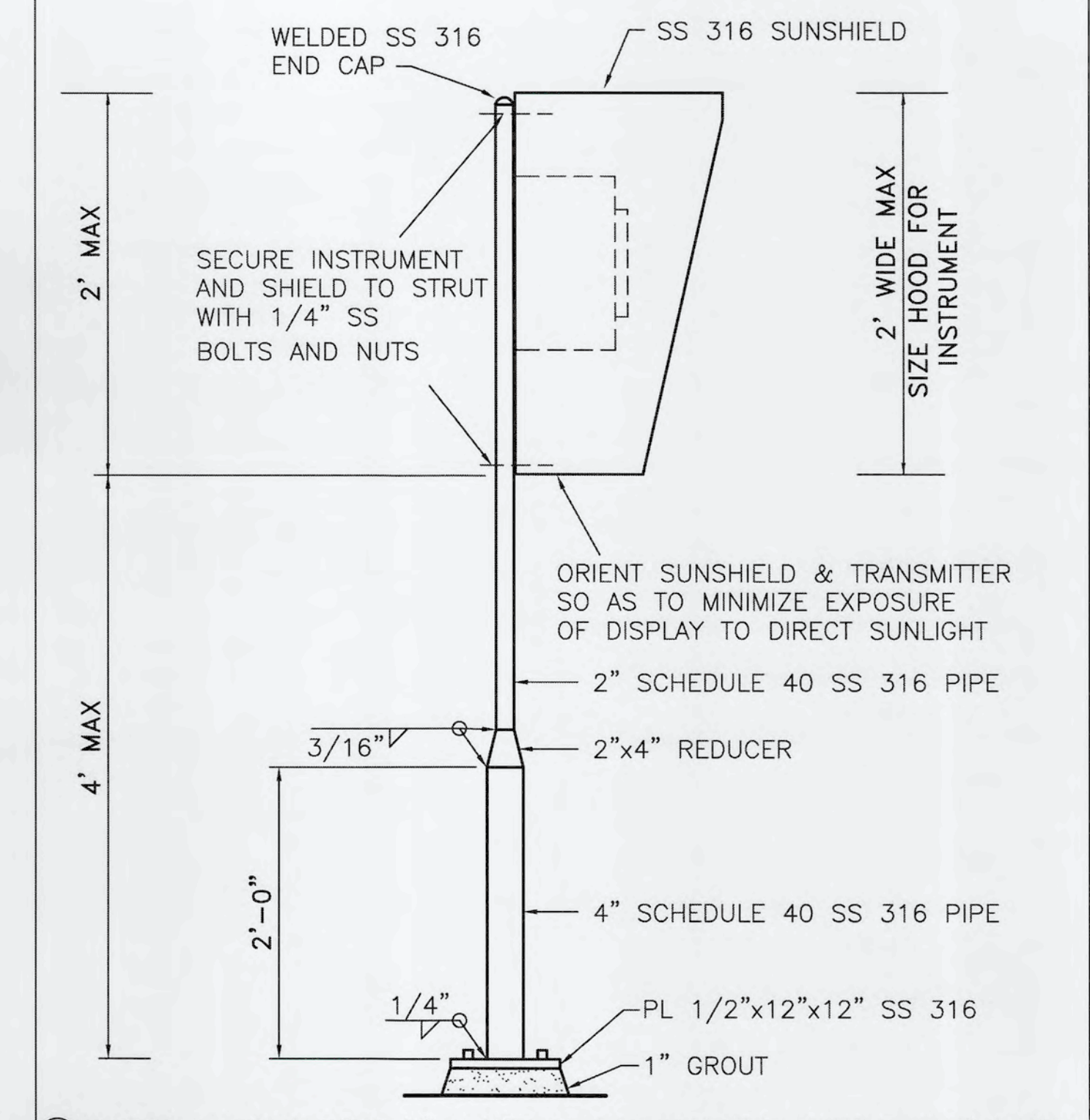
OPEN CHANNEL

- NOTES:
 1. 316 STAINLESS STEEL MOUNTING BRACKET INSTALLATION
 2. MANUFACTURER'S MINIMUM BLANKING DISTANCE TO MAX HIGH LEVEL.
 3. MOUNT SENSOR AWAY FROM TANK FILL AND OTHER OBSTRUCTIONS.
 4. FLANGED PVC STANDPIPE.



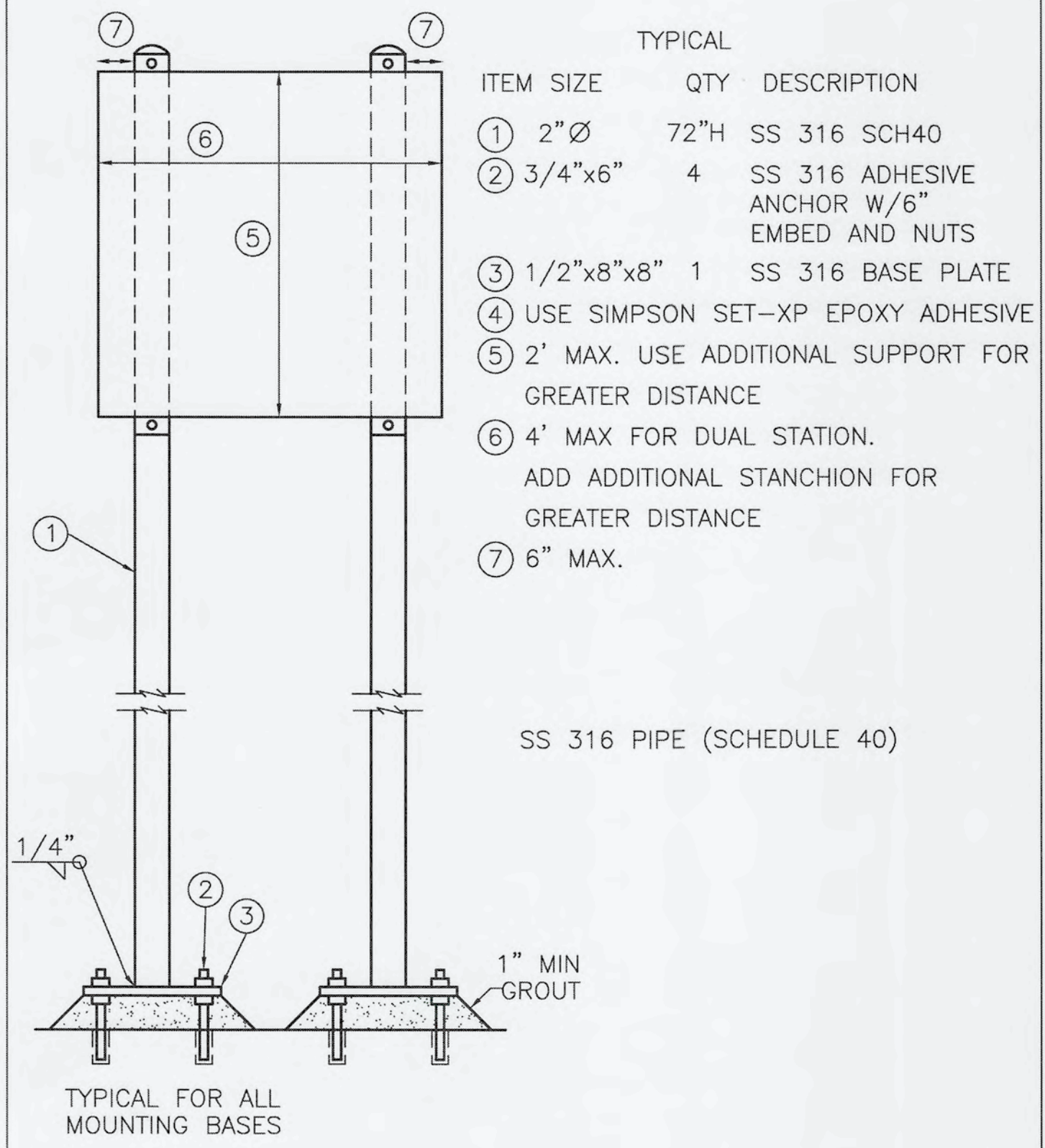
SCREEN CHANNEL

ULTRASONIC SENSOR
MOUNTING DETAIL



- ① SECURE TO SLAB WITH (4) 3/4"Ø SS 316 ADHESIVE ANCHOR W/6" EMBED
 ② USE SIMPSON SET-XP EPOXY ADHESIVE

SINGLE INSTRUMENT
STANCHION MOUNT DETAIL

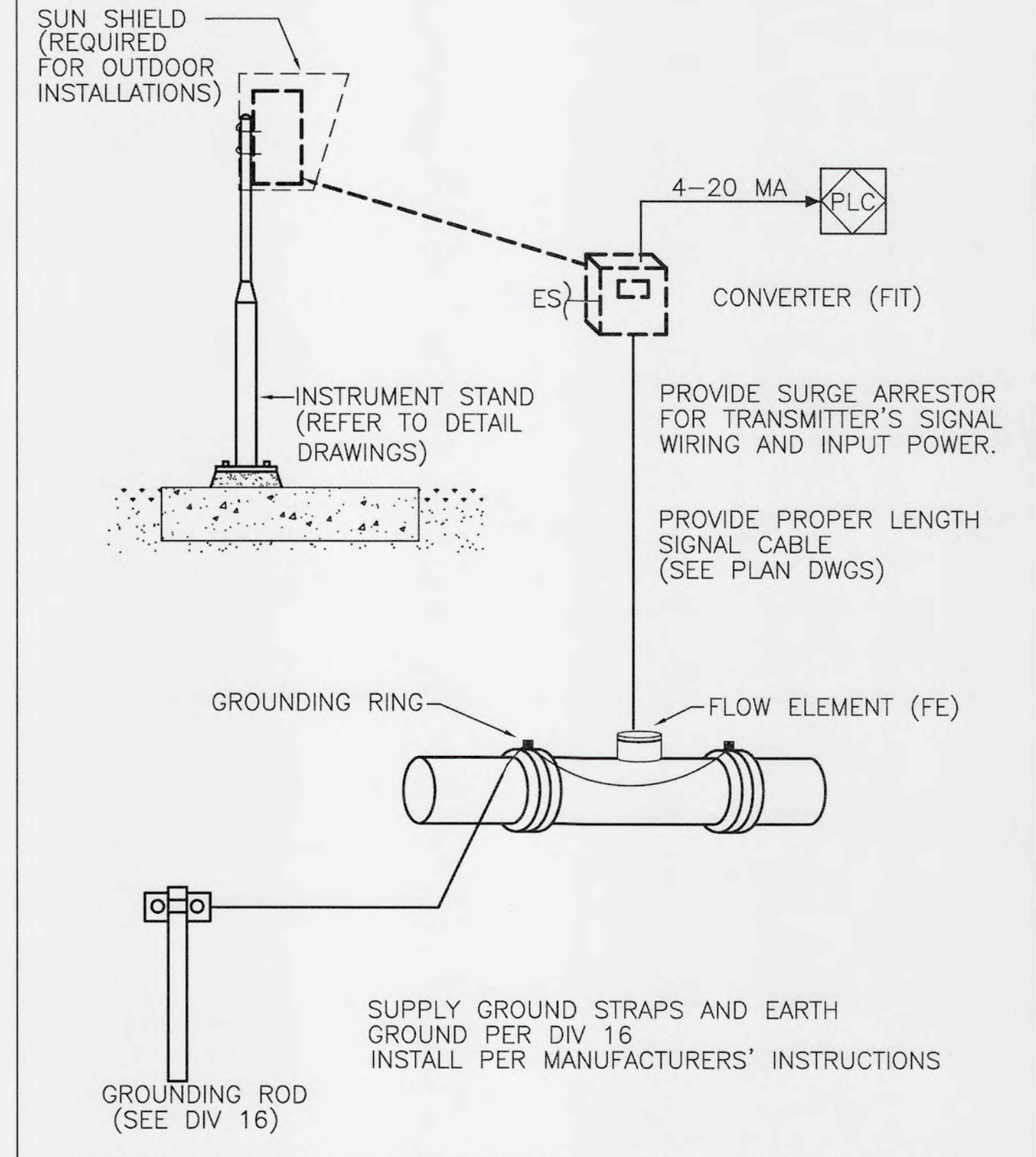


ITEM	SIZE	QTY	DESCRIPTION
①	2"Ø	72"H	SS 316 SCH40
②	3/4"x6"	4	SS 316 ADHESIVE ANCHOR W/6" EMBED AND NUTS
③	1/2"x8"x8"	1	SS 316 BASE PLATE
④			USE SIMPSON SET-XP EPOXY ADHESIVE
⑤	2' MAX.		USE ADDITIONAL SUPPORT FOR GREATER DISTANCE
⑥	4' MAX		FOR DUAL STATION. ADD ADDITIONAL STANCHION FOR GREATER DISTANCE
⑦	6" MAX.		

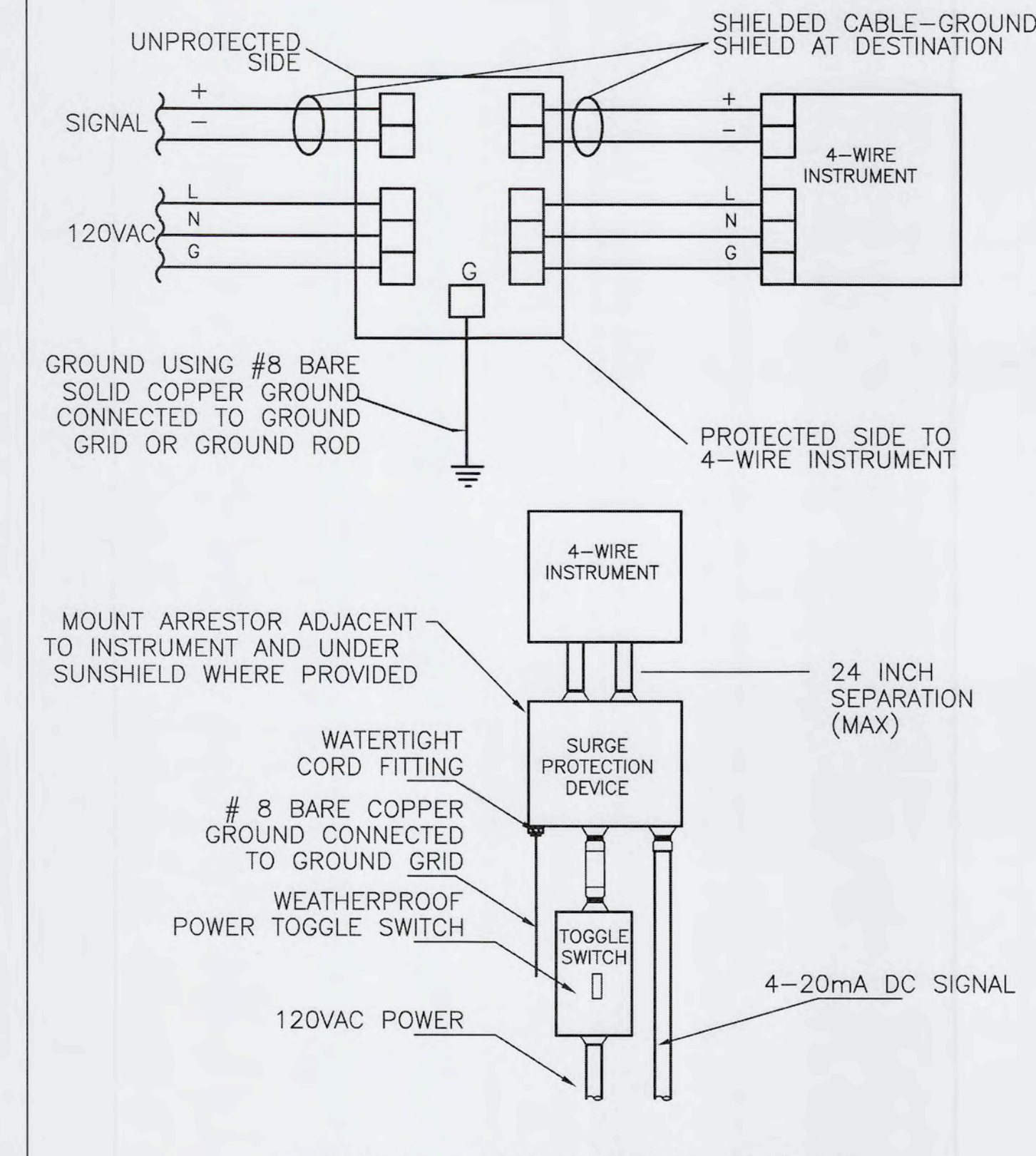
SS 316 PIPE (SCHEDULE 40)

TYPICAL FOR ALL MOUNTING BASES

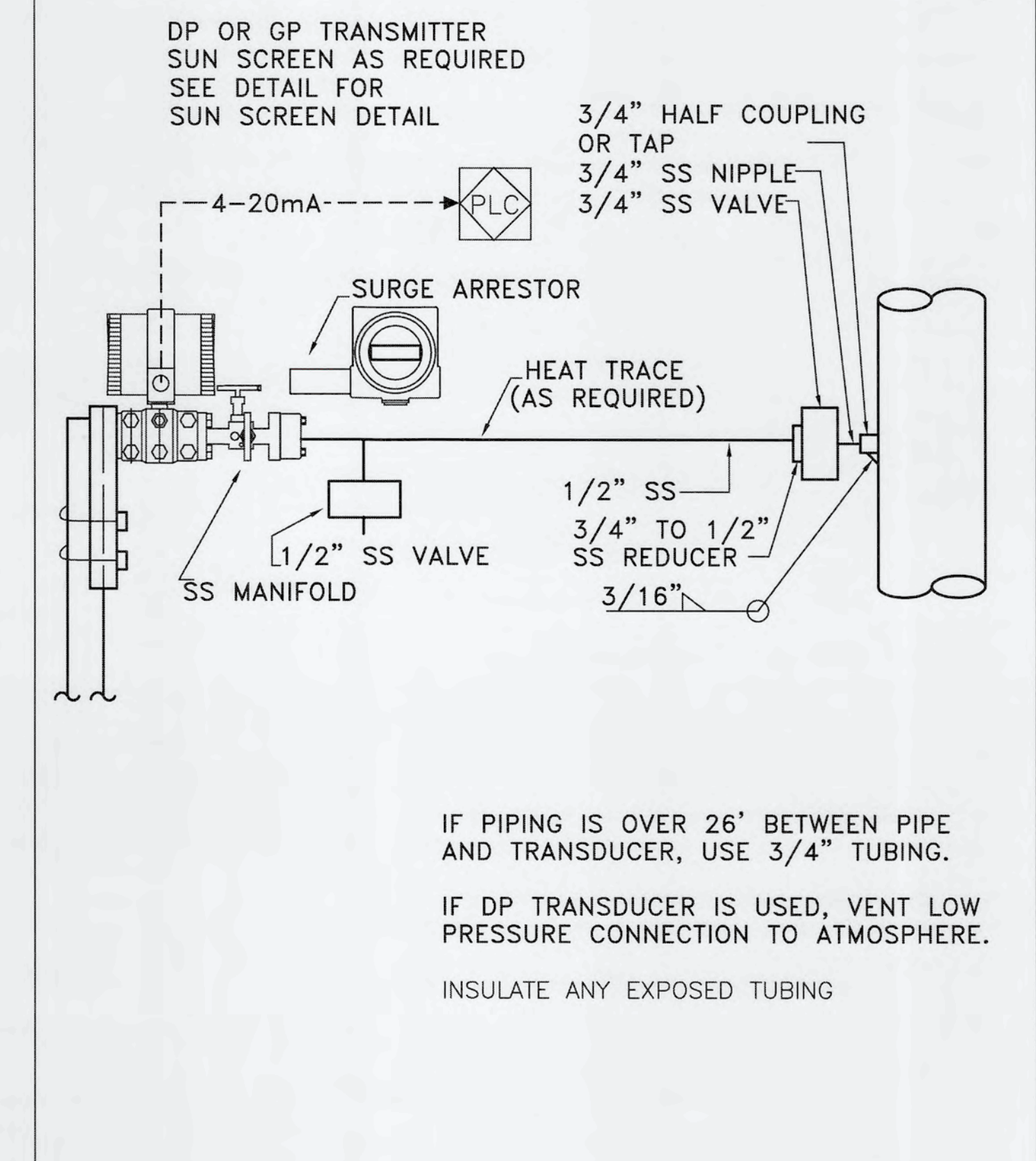
TYPICAL DUAL STANCHION MOUNT



TYPICAL MAGNETIC FLOWMETER INSTALLATION



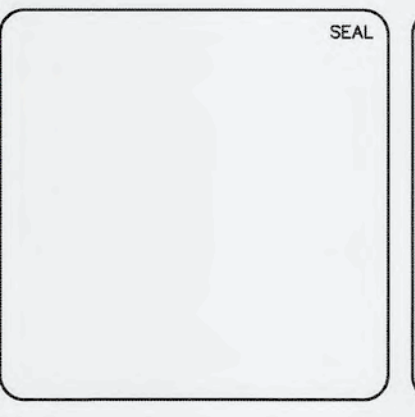
4-WIRE INSTRUMENT SURGE
ARRESTOR INSTALLATION



TYPICAL PRESSURE TRANSDUCER PIPING

\\mckimcreed.com\user\mike\Drawings\Instrumentation\1024-1024\1024.dwg, 9/12/2019 8:58:09 AM, P.02 of 02

REV. NO.	DESCRIPTION	DATE

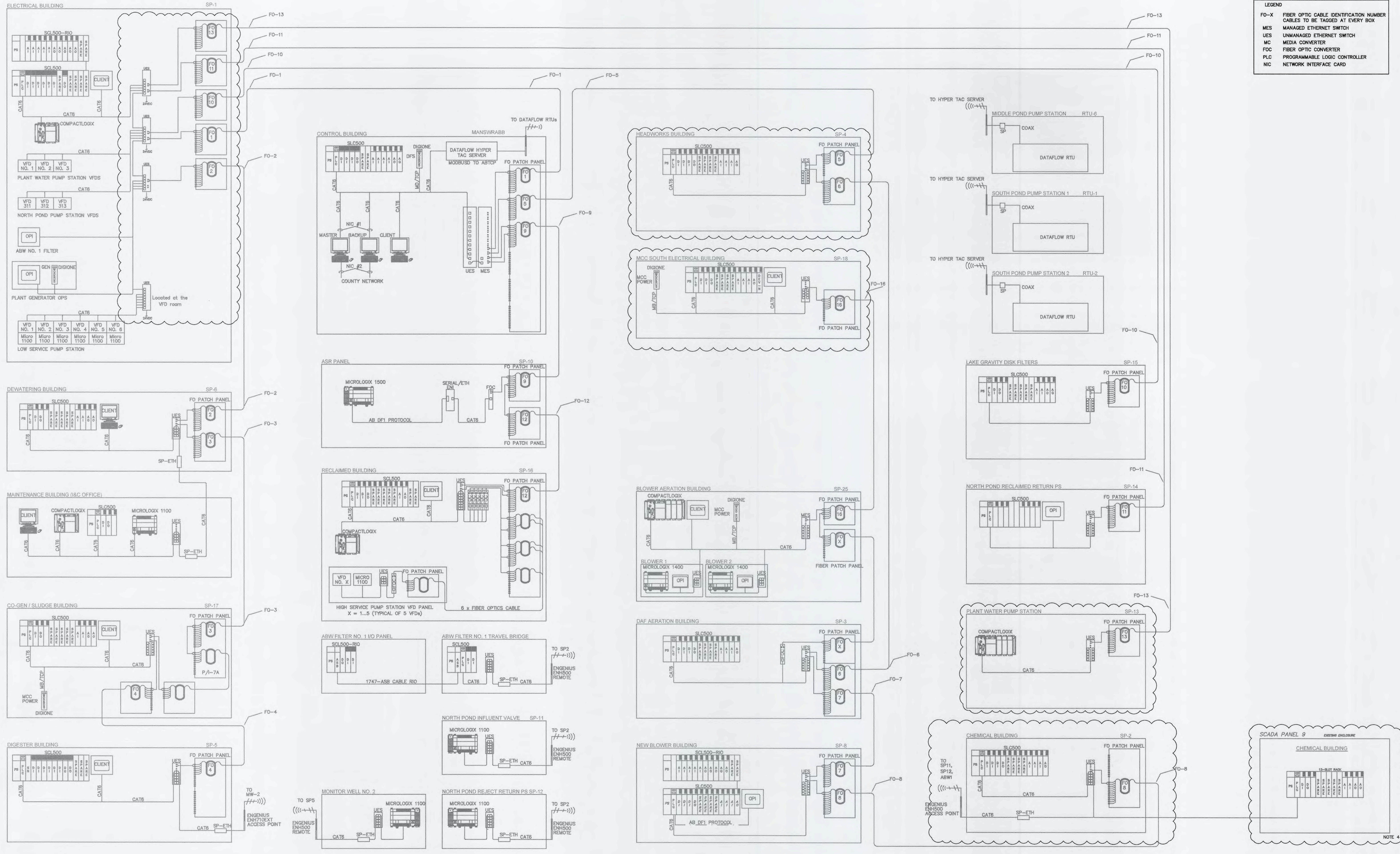


MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29558
 www.mckimcreed.com



SWWRF NEW HEADWORKS
INSTRUMENTATION DETAILS

DATE: SEPTEMBER, 2019	SCALE: N/A
MCE PROJ. # 1024-0170	HORIZONTAL: N/A
DRAWN: FEV	VERTICAL: I-02
DESIGNED: FEV	
CHECKED: MDT	
PROJ. MGR: DCW	
STATUS: ISSUED FOR BID	



LEGEND

FO-X	FIBER OPTIC CABLE IDENTIFICATION NUMBER
CABLES TO BE TAGGED AT EVERY BOX	
MES	MANAGED ETHERNET SWITCH
UES	UNMANAGED ETHERNET SWITCH
MC	MEDIA CONVERTER
FOC	FIBER OPTIC CONVERTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
NIC	NETWORK INTERFACE CARD

V:\mckimcreed.com\vacant\Drawings\Network\1024-0170.dwg, 9/17/2019 8:59:20 AM, Florida, Weede

REVNO.	DESCRIPTIONS	DATE

MICHAEL D. TWEDEL
 LICENSE
 No. 60940
 PROFESSIONAL ENGINEER
 STATE OF FLORIDA
 MICHAEL TWEDEL, P.E.
 No. 60940

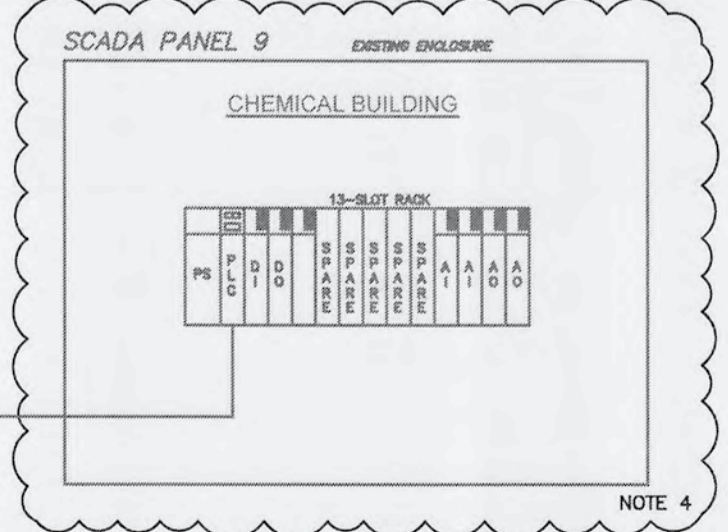
SEAL

MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 23588
 www.mckimcreed.com



SWWRF NEW HEADWORKS
NETWORK LAYOUT EXISTING

DATE: SEPTEMBER, 2019	SCALE: N/A	DRAWING NUMBER: N/A
MCE PROJ. # 1024-0170	HORIZONTAL: N/A	
DRAWN: FEV	VERTICAL: N/A	
DESIGNED: FEV		
CHECKED: MDT		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		



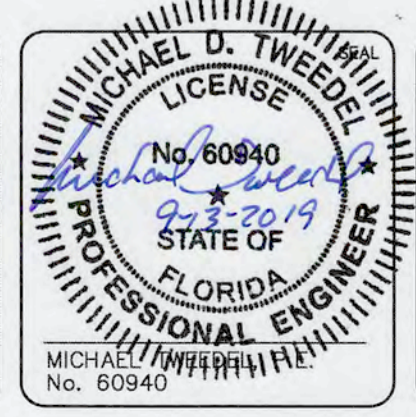


LEGEND

FO-X	FIBER OPTIC CABLE IDENTIFICATION NUMBER
MES	MANAGED ETHERNET SWITCH
UES	UNMANAGED ETHERNET SWITCH
MC	MEDIA CONVERTER
FDC	FIBER OPTIC CONVERTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
NIC	NETWORK INTERFACE CARD

- NOTES:**
- SP-1 (HEADWORKS):**
 - 1.1 PROVIDE AND INSTALL (1) NEW ENCLOSURE WITH 72-STRAND FIBER OPTIC PATCH PANEL OUTSIDE OF SP-1 PANEL. RE-ROUTE EXISTING FIBER CABLES TO NEW PATCH PANEL. LABEL ALL CABLES AND TERMINATE ALL STRANDS. PROVIDE AND INSTALL NEW PATCH CORDS FROM PATCH PANEL TO SP-1 NETWORK SWITCH. COORDINATE LABELS AND LOCATION WITH OWNER.
 - 1.2 PROVIDE AND INSTALL ONE (1) ALLEN BRADLEY STRATIX 5700 20-PORT MANAGED ETHERNET SWITCH. PROVIDE SIX (6) 100M MULTIMODE FIBER SFP MODULES FOR CONNECTION TO SCADA FIBER OPTICS NETWORK. PROVIDE AND INSTALL TWO (2) ALLEN BRADLEY STRATIX 5700 10-PORT MANAGED ETHERNET SWITCH. SEE SPECIFICATIONS FOR MODEL AND REQUIREMENTS.
 - 1.3 PROVIDE AND INSTALL NEW CONDUIT AND CAT. 6 NETWORK CABLES TO PROVIDE DIRECT CONNECTIONS BETWEEN THE ELECTRICAL ROOM VFDs AND SP-1. DECOMMISSION THE EXISTING ELECTRICAL ROOM NETWORK SWITCH AND CABINET AFTER TRANSFER OF ALL CONNECTIONS.
 - 1.4 PROVIDE AND INSTALL CONDUIT AND CAT. 6 NETWORK CABLES FROM THE NEW SWITCHROOM MONITORING RELAYS TO THE NEW SP-1 NETWORK SWITCH.
 - 1.5 PROVIDE AND INSTALL CONDUIT AND CAT. 6 NETWORK CABLES FROM THE NEW RECHARGE WELL VFDs TO THE NEW SP-1 NETWORK SWITCH.
 - 1.6 PROVIDE NEW 24VDC DIGITAL INPUT CARD FOR THE ADDITIONAL SIGNALS LISTED ON THE I/O SCHEDULE. PROVIDE SURGE PROTECTION AND FIELD WIRE TERMINALS FOR NEW DISCRETE INPUTS.
 - SP-4 (HEADWORKS):**
 - 2.1 DECOMMISSION SP-4 CONTROL PANEL AND REMOVE SCADA NETWORK FIBER OPTIC CABLE AS PART OF EXISTING HEADWORKS DEMOLITION.
 - 2.2 FOR THE ORIGINAL FIBER OPTICS CABLE RUN SP-4 TO CONTROL ROOM, REPLACE THE CONNECTION FROM THE CONTROL BUILDING WITH A NEW CONNECTION TO SP-7.
 - 2.3 DECOMMISSION ORIGINAL FIBER OPTICS CABLE RUN SP-4 TO SP-3.
 - 2.4 PROVIDE NEW CONNECTION FROM THE SOUTH ELECTRICAL BUILDING SP-18 TO SP-7.
 - 2.5 PROVIDE AND INSTALL (1) NEW 24 STRAND FIBER OPTIC PATCH PANEL FOR TERMINATION OF NEW AND EXISTING FIBER OPTIC CABLES. TERMINATE ALL FIBER STRANDS TO THE PATCH PANEL.
 - SP-18 (HEADWORKS):**
 - 3.1 PROVIDE AND INSTALL (1) NEW 24 STRAND FIBER OPTIC PATCH PANEL FOR TERMINATION OF NEW AND EXISTING FIBER OPTIC CABLES. TERMINATE ALL FIBER STRANDS TO THE PATCH PANEL.
 - 3.2 PROVIDE AND INSTALL ONE (1) ALLEN BRADLEY STRATIX 5700 20-PORT MANAGED ETHERNET SWITCH. PROVIDE FOUR (4) 100M MULTIMODE FIBER SFP MODULES FOR CONNECTION TO SCADA FIBER OPTICS NETWORK. SEE SPECIFICATIONS FOR MODEL AND REQUIREMENTS.
 - 3.3 PROVIDE AND INSTALL CONDUIT AND CAT6 NETWORKING CABLE FROM THE NEW HEADWORKS EQUIPMENT CONTROL PANELS TO THE NEW SP-18 NETWORK SWITCH.
 - 3.4 REPLACE EXISTING SLC500 PROCESSOR, INPUTS AND OUTPUTS MODULES, AND DEVICE NETWORK CONNECTION WITH A NEW SP18 PROCESSOR, DIGITAL INPUT CARDS, DIGITAL OUTPUT CARDS, ANALOG INPUT CARDS, ANALOG OUTPUT CARDS, DEVICE NETWORK CARD AND ADDITIONAL HARDWARE. MODIFY EXISTING SP18 PANEL TO PROVIDE SPACE FOR NEW HARDWARE, ADDITIONAL POWER, DISCRETE AND ANALOG SURGE PROTECTIONS, TERMINALS, RELAYS AND CAT6 NETWORKING CABLE. WIRE ALL EXISTING AND NEW SIGNALS TO TERMINALS.
 - 3.5 PROVIDE AND INSTALL A NEW 6-STRAND FIBER OPTIC CABLE CONNECTION BETWEEN SP-18 AND NEW SP-19. TERMINATE ALL STRANDS AND CONNECT TO THE NEW FIBER OPTICS PATCH PANELS AT EACH END.
 - SP-13 (CCC/RWPS):**
 - 4.1 PROVIDE AND INSTALL NEW SP-13 SCADA CONTROL PANEL. PROVIDE PLC MODULES TO ACCOMMODATE NEW AND EXISTING FIELD SIGNALS PER I/O SCHEDULE. COORDINATE DECOMMISSIONING, SIGNAL TRANSFERS AND COMMUNICATION CONVERSION WITH OWNER.
 - 4.2 PROVIDE AND INSTALL A NEW 12-STRAND FIBER OPTIC CABLE CONNECTION BETWEEN SP-1 AND NEW SP-13. TERMINATE ALL STRANDS AND CONNECT TO THE NEW FIBER OPTICS PATCH PANELS AT EACH END.
 - 4.3 PROVIDE AND INSTALL A NEW 12-STRAND FIBER OPTIC CABLE CONNECTION BETWEEN THE NEW SP-13 AND THE NEW SP-2. TERMINATE ALL STRANDS AND CONNECT TO THE NEW FIBER OPTICS PATCH PANEL AT EACH END.
 - 4.4 PROVIDE AND INSTALL CONDUIT, CAT. 6 NETWORKING CABLE AND SURGE PROTECTION DEVICES ON EACH END FROM THE NEW SP-13 TO EACH REDUNDANT ANALYTICAL CONTROLLER IN THE NEW CCC ANALYTICAL PANEL.
 - SP-2 (CCC/RWPS):**
 - 5.1 PROVIDE AND INSTALL NEW SP-2 SCADA CONTROL PANEL. PROVIDE PLC MODULES TO ACCOMMODATE NEW AND EXISTING FIELD SIGNALS PER I/O SCHEDULE. COORDINATE PROCESS CONTROL, SIGNAL TRANSFERS AND COMMUNICATION CONVERSIONS WITH THE OWNER.
 - 5.2 DECOMMISSION EXISTING SP-2 AND SP-9 AS PART OF DAF POLYMER BUILDING DEMOLITION.
 - 5.3 PROVIDE AND INSTALL A NEW 12-STRAND FIBER OPTICS CABLE CONNECTION BETWEEN THE NEW SP-2 AND SP-8. TERMINATE ALL STRANDS AND CONNECT TO THE FIBER OPTICS PATCH PANELS AT EACH END.
 - LCP-20850 (HEADWORKS DRAIN PS):**
 - 6.1 PROVIDE AND INSTALL NEW LCP-20850 HEADWORKS DRAIN PS CONTROL PANEL. PROVIDE EMBEDDED I/O AND PLC MODULES TO ACCOMMODATE FIELD SIGNALS PER I/O SCHEDULE.
 - REVIEW NETWORK DIAGRAMS FOR ADDITIONAL COMMUNICATION ADDITIONS AND MODIFICATIONS.**
 - COMMUNICATION SYSTEM MODIFICATIONS MUST MAINTAIN ACTIVE COMMUNICATIONS WITH SITE LOCATIONS. SUBMIT AND REVIEW TRANSITION PLANS AS PART OF ICS PROJECT PLAN. COORDINATE ALL TRANSFER AND OUTAGES WITH OWNER BEFORE PROCEEDING.**

REV. NO.	DESCRIPTIONS	DATE



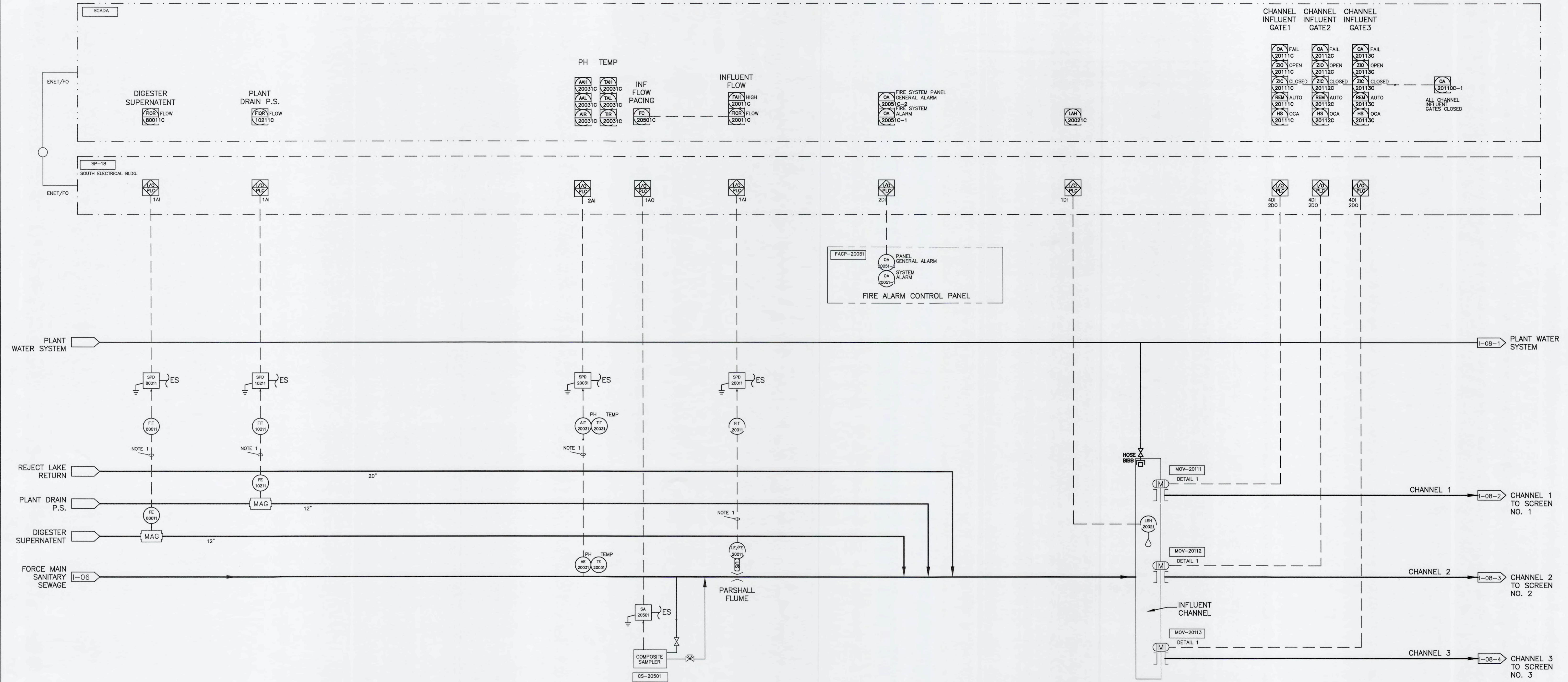
MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWRF NEW HEADWORKS
NETWORK LAYOUT MODIFICATIONS

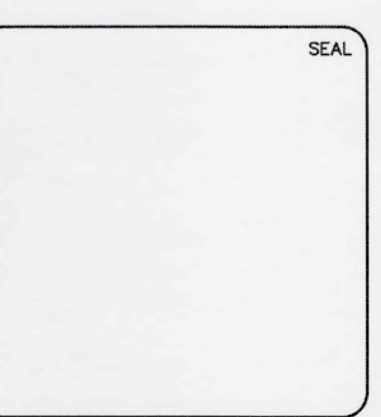
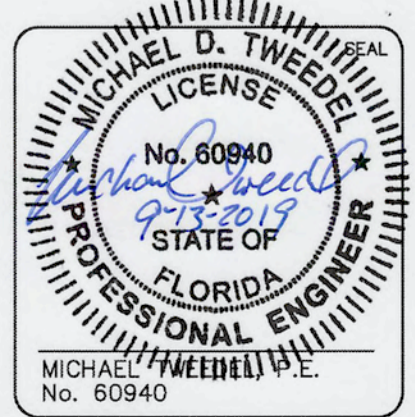
DATE: SEPTEMBER, 2019	SCALE: N/A
MCE PROJ. # 1024-0170	HORIZONTAL: N/A
DRAWN: FEV	VERTICAL: N/A
DESIGNED: FEV	
CHECKED: MDT	
PROJ. MGR. DCW	
STATUS: ISSUED FOR BID	REVISION:

\\mckimcreed.com\user\Draw\Draw_Swrf\Draw\Draw_Headworks\Instrumentation\1024-0170.dwg, 9/13/2019 8:59:25 AM, Fev, Velasco

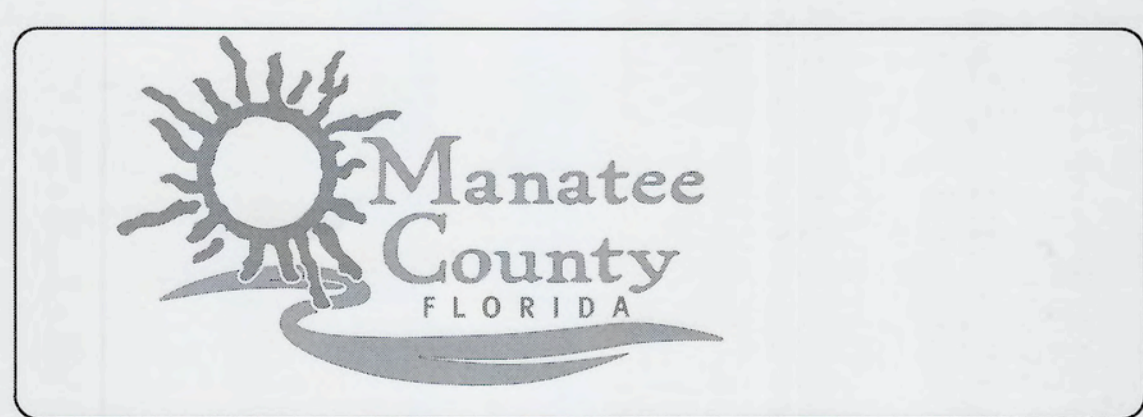


- NOTES:
1. MANUFACTURER CABLE W/NO SPLICES.
 2. DETAIL1 SEE SHEET I-03 TYPICAL PID DETAILS
 3. DETAIL2 SEE SHEET I-03 TYPICAL PID DETAILS
 4. DETAIL3 SEE SHEET I-03 TYPICAL PID DETAILS

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

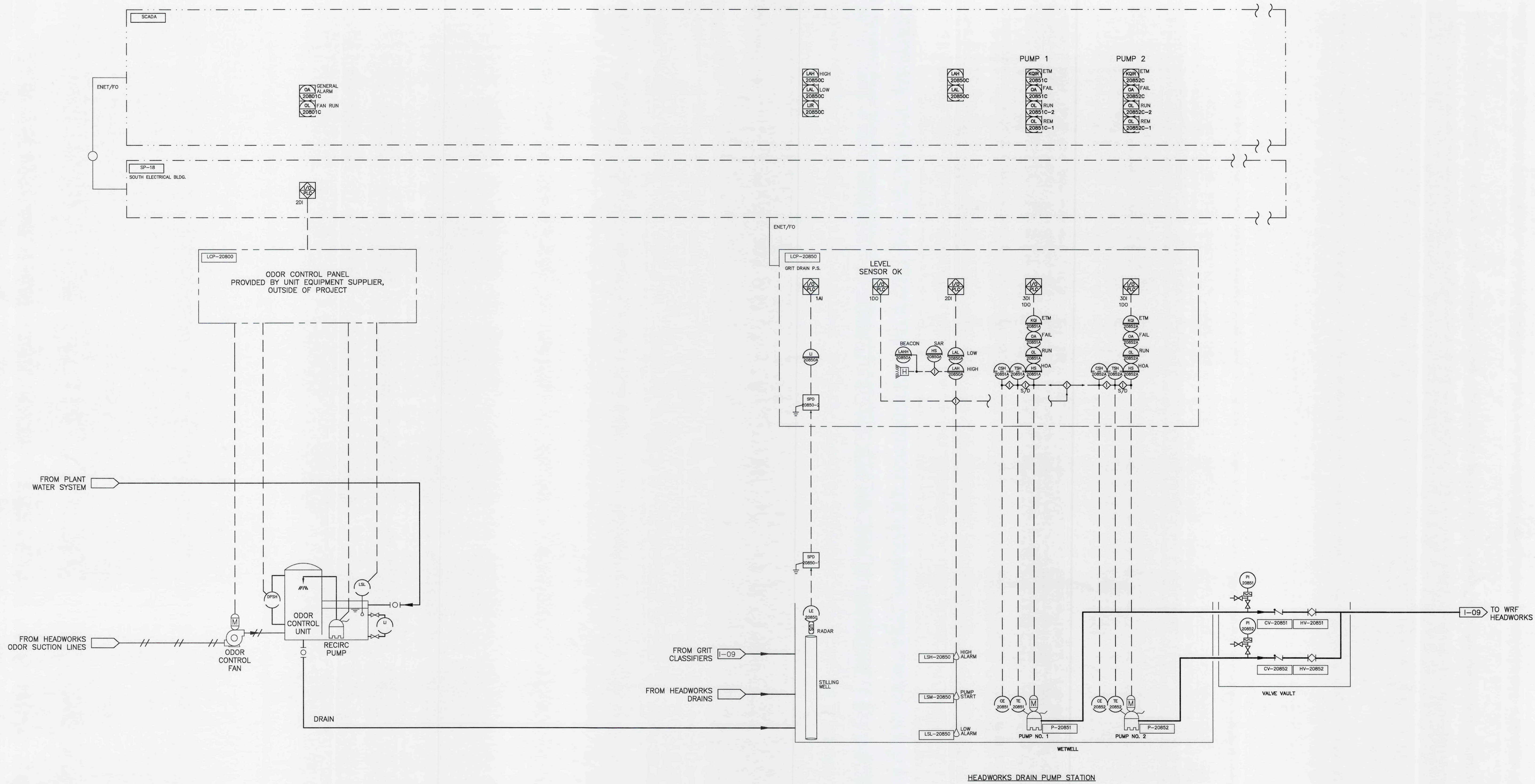


SWWRF NEW HEADWORKS

PROCESS AND INSTRUMENTATION DIAGRAM
INFLUENT FLOWS

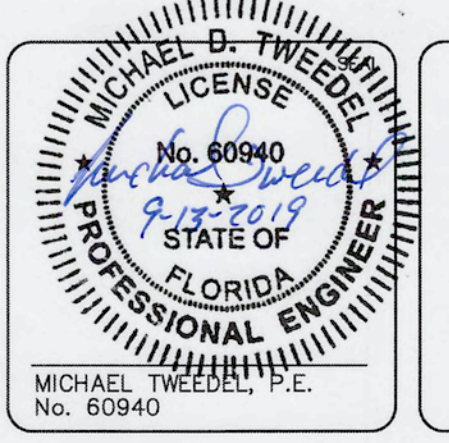
DATE: SEPTEMBER, 2019	SCALE: N/A	DRAWING NUMBER: N/A
MCE PROJ. # 1024-0170	HORIZONTAL: N/A	
DRAWN: FEV	VERTICAL: N/A	DRAWING NUMBER: I-07
DESIGNED: FEV		
CHECKED: MDT		
PROJ. MGR: DCW		
STATUS: ISSUED FOR BID		

\\mckimcreed.com\manatee\Drawings\Instrumentation\000-1040170.dwg, 9/13/2019 8:59:34 AM, F.velez

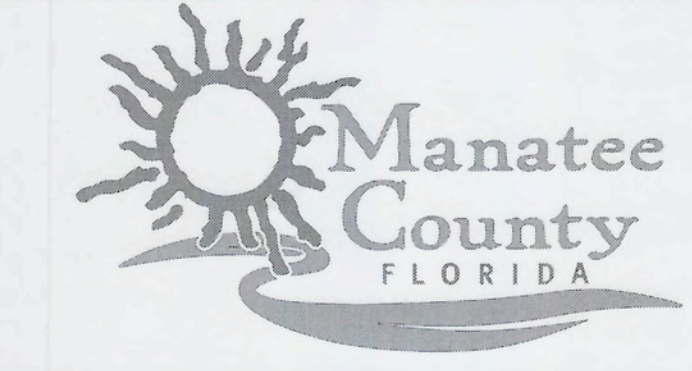


- NOTES:
1. CONTRACTOR TO COORDINATE WITH OWNER ODOR CONTROL SYSTEM SUPPLIER FOR EQUIPMENT POWER REQUIREMENTS AND SIGNAL MONITORING
 2. BACKUP PUMP CONTROL WILL OPERATE ON LEVEL TRANSMITTER OR PLC FAILURE USING HARDWARE CONTROLS AND WET WELL FLOAT SWITCHES

REV. NO.	DESCRIPTIONS	DATE



MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



SWWRF NEW HEADWORKS
PROCESS AND INSTRUMENTATION DIAGRAM
ODOR CONTROL SYSTEM AND
HEADWORKS DRAIN PUMP STATION

DATE: SEPTEMBER, 2019	SCALE: N/A	DRAWING NUMBER: I-10
MCE PROJ. # 1024-0170	HORIZONTAL: N/A	REVISION: N/A
DRAWN: FEV	VERTICAL: N/A	
DESIGNED: FEV		
CHECKED: MDT		
PROJ. MGR.: DCW		
STATUS: ISSUED FOR BID		

V:\mckimcreed.com\Users\David_V..._Sewer_Data\CA-0170\DWG-Schematic\Instrumentation\1024-0170\1024-0170-0170.dwg, 9/13/2019 8:59:49 AM, Photo: WebShare

