

LAS GALLINAS VALLEY SANITARY DISTRICT



TWAS ENCLOSURE / SLUDGE BASIN AND RECEPTION PAD

BID SET

MAY 2023

VOLUME 4

DESIGN DRAWINGS

DISTRICT BOARD:

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CRAIG K. MURRAY - VICE PRESIDENT
CRYSTAL J. YEZMAN
RONALD FORD
GARY E. ROBARDS**

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MICHAEL P. CORTEZ, PE - DISTRICT ENGINEER
MEL LIEBMANN - PLANT MANAGER
DALE McDONALD - ADMINISTRATIVE SERVICES MANAGER
GREG PEASE - COLLECTION SYSTEM/SAFETY MANAGER**

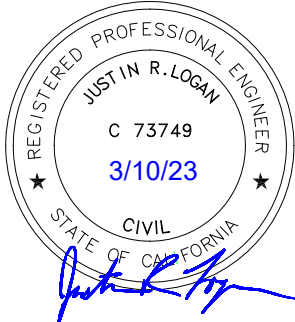


533 W. 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153

**PROJECT
LOCATION**



SITE VICINITY MAP



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

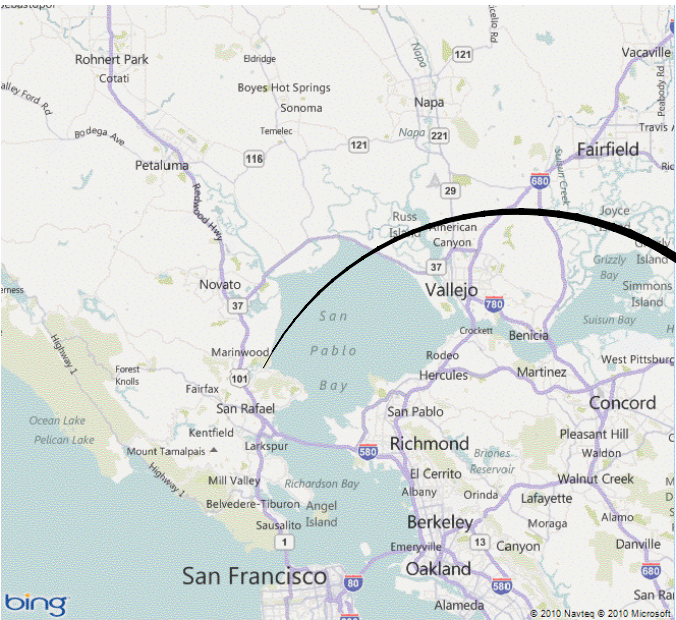
GENERAL COVER

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23

GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
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NO.	DATE	DESCRIPTION	BY	APPRO'D
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SHEET 1 of 74	PLAN NO.	DRAWING NO. G-1	REVISION NO. B
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AREA VICINITY MAP

**PROJECT
LOCATION**

PLOTTED:
SAVED:

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVS D 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

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AQUA
ENGINEERING

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REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

















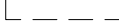
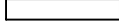


GENERAL INDEX

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	

SHEET 2 of 74	PLAN NO.	DRAWING NO. G-2	REVISION NO. B
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ABBREVIATIONS

PROPOSED

PROPERTY OR R/W LINE	STANDARD SYMBOL	ALTERNATE SYMBOL
EASEMENT LINE	_____	_____
FENCE	_____ X _____ X _____	_____ X _____ X _____
CONTOUR LINE	_____ 4250 _____	_____ 4250 _____
SPOT ELEVATION	+ 4250.00	○ 50.00 TOA
BANK SLOPES	_____ Y _____ Y _____ Y _____	_____ Y _____ Y _____ Y _____
STORM DRAIN LINE	_____ SD _____	_____ SD _____
WATER LINE	_____ W _____	_____ W _____
GAS LINE	_____ G _____	_____ G _____
TELEPHONE CABLE	_____ T _____	_____ T _____
ELECTRIC CABLE	_____ E _____	_____ E _____
SANITARY SEWER LINE	_____ SS _____	_____ SS _____
ASPHALT PAVING	_____	_____
FIRE HYDRANT	_____  _____	_____  _____
WATER VALVE	_____  _____	_____  _____
WATER METER	_____  _____	_____  _____
MANHOLE	_____  _____	_____  _____
CATCH BASIN	_____  _____	_____  _____
CLEAN OUT BOX	_____  _____	_____  _____
OVERHEAD POWER LINE	_____ P _____	_____ P _____
POLE & ANCHOR	_____  _____	_____  _____
STREET LIGHT	_____  _____	_____  _____
STRUCTURE	_____  _____	_____  _____
FLOW DIRECTION	_____  _____	_____  _____
ROADWAY	_____	_____
NON-POTABLE WATER	_____ NPW _____	_____ NPW _____
NON-POTABLE WATER (UNDER GROUND)	_____ NPW (UG) _____	_____ NPW (UG) _____
PRESSURIZED WATER	_____ PW _____	_____ PW _____
PRESSURIZED WATER (UNDER GROUND)	_____ PW (UG) _____	_____ PW (UG) _____
HYPOCHLORITE LINE	_____ HC _____	_____ HC _____
OVERHEAD POWER	_____ OP _____	_____ OP _____
AIR LINE	_____ ALP _____	_____ ALP _____
FLOC LINE	_____ F _____	_____ F _____
DECHLOR CHEM LINE	_____ DC _____	_____ DC _____
SAMPLE LINE	_____ S _____	_____ S _____

Q	AT	FD	FLOOR DRAIN
°	CENTER LINE	FND	FOUNDATION
	DEGREE	FE	FIRE EXTINGUISHER
Ø	DIAMETER	FEN COR	FENCE CORNER
#	NUMBER	FF	FINISHED FLOOR
ℙ	PROPERTY LINE	FG	FINISHED GRADE
		FIN	FINISH
ABUT	ABUTMENT	FLG	FLANGE
AL	AIR LINE	FLR	FLOOR
ASPH	ASPHALT	FL	FLOW LINE
ADT	AVERAGE DAILY TRAFFIC	FP	FLOOR PENETRATION
APPROX	APPROXIMATELY	FPS	FEET PER SECOND
AZ	AZIMUTH	FT	FEET
		FTG	FOOTING
		FW	FLAT WASHER
BAL	BALANCE		
BEG	BEGINNING / BEGIN	G	GAS
BDRY	BOUNDARY	GA	GAGE OR GAUGE
BK	BACK	GAL	GALLONS
BKFL	BACKFILL	GALV	GALVANIZED
BLD FLG	BLIND FLANGE	GEN	GENERAL
BLDG	BUILDING	GM	GAS METER
BLM	BUREAU OF LAND MANAGEMENT	GPH	GALLONS PER HOUR
BM	BENCH MARK	GPM	GALLONS PER MINUTE
BLK	BLOCK	GSP	GALVANIZED STEEL PIPE
BOD	BIOLOGICAL OXYGEN DEMAND	GV	GATE VALVE
BOT	BOTTOM	GYP	GYPSUM
BOW	BOTTOM OF WALL		
BRG	BEARING	H&T	HUB & TACK
BSMT	BASEMENT	HB	HOSE BIBB
BTWN	BETWEEN	HC	HYPOCHLORITE
		HDG	HOT DIPPED GALVANIZE
CALC	CALCULATED	HDPE	HIGH DENSITY POLYETHYLENE PIPE
CB	CATCH BASIN	HDWL	HEADWALL
CCW	COUNTER CLOCKWISE	HORIZ	HORIZONTAL
C-C	CENTER TO CENTER	HP	HORSE POWER
C&G	CURB AND GUTTER	HW	HOT WATER
CEM	CEMETERY	HWL	HIGH WATER LEVEL
CFS	CUBIC FEET PER SECOND	HWY	HIGHWAY
CJ	CONSTRUCTION JOINT	HYD	HYDRANT
CL	CENTERLINE		
CIP	CLEAN IN PLACE	ID	INSIDE DIAMETER
CMP	CORRUGATED METAL PIPE	IJ	ISOLATION JOINT
CMP-A	CORRUGATED METAL PIPE-ARCH	IN	INCH
CMU	CONCRETE MASONRY UNIT	INFO	INFORMATION
CO	CLEAN OUT	IRR	IRRIGATION
COL	COLUMN	INV	INVERT
CONC	CONCRETE		
CONST	CONSTRUCT	JCT	JUNCTION
COR	CORNER		
CPVC	CHLORINATED PVC	KW	KILOWATT
CTR	CENTER		
CU FT	CUBIC FEET	L	LENGTH
CU YD	CUBIC YARD	LB	POUND
CUL	CULINARY	LG	LONG OR LENGTH
CULV	CULVERT	LGVSD	LAS GALLINAS VALLEY SANITRY DISTRICT
CW	COLD WATER	LIC	LICENSE
		LIN	LINEAR / LINEAL
D	DRAIN	LP	LIGHT POST
DEG	DEGREE	LS	LAND SURVEYOR
DET	DETAIL	LT	LEFT
DIA	DIAMETER	LWL	LOW WATER LEVEL
DIP	DUCTILE IRON PIPE		
DIST	DISTANCE	MAINT	MAINTENANCE
DL	DRAIN LINE	MATL	MATERIAL
DN	DOWN	MAX	MAXIMUM
DWG	DRAWINGS	MG	MILIGRAMS
DWV	DRAIN WASTE VENT	MGD	MILLION GALLONS PER DAY
		MH	MANHOLE
E	EAST	MI	MILE
EA	EACH	MIN	MINIMUM
EB	ELECTRICAL BOX	MISC	MISCELLANEOUS
EF	EACH FACE	MJ	MECHANICAL JOINT / MILI-JOULE
EL	ELBOW / ELECTRIC	MKR	MARKER
ELEV	ELEVATION	ML	MILILITERS
ELEC	ELECTRIC	MON	MONUMENT
EMB	EMBANKMENT	MPH	MILES PER HOUR
ENGR	ENGINEER		
ENT	ENTRANCE		
EOA	EDGE OF ASPHALT		
EQ	EQUAL		
EQUIP	EQUIPMENT		
ES	EXIT SIGN		
EST	ESTIMATE		
EW	EACH WAY		
EXC	EXCAVATION		
EXIST/EX	EXISTING		

N	NORTH
NO	NUMBER
NPW	NON-POTABLE WATER
NTS	NOT TO SCALE
NTU	NEPHELOMETRIC TURBIDITY UNITS
OC	ON CENTER
OD	OUTSIDE DIAMETER
O-O	OUTSIDE TO OUTSIDE
OP	OVERHEAD POWER LINES
ORIG	ORIGINAL
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	PLAIN END
PERF	PERFORATED
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
POB	POINT OF BEGINNING
POC	POINT ON CURVE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PROJ	PROJECT
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PW	POTABLE WATER
Q	FLOW RATE
QTY	QUANTITY
R	RANGE / RADIUS
RAS	RETURN ACTIVATED SLUDGE
RCP	REINFORCED CONCRETE PIPE
RCPP	REINFORCED CONCRETE CYLINDER PIPE
RD	ROAD
REF	REFERENCE
REINF	REINFORCED
REQ'D	REQUIRED
REV	REVISION
RJ	RING TYPE JOINT
RP	REFERENCE POINT
RR	RAILROAD
RT	RIGHT / ROUTE
R/W	RIGHT OF WAY
S	SOUTH / SLOPE
SAN	SANITARY
SCH	SCHEDULE
SCFM	STANDARD CUBIC FEET PER MINUTE
SD	STORM DRAIN
SEC COR	SECTION CORNER
SHT	SHEET
SIM	SIMILAR
SJ	SAWED JOINT
SL	SOLIDS LINE
SP	SPACING OR SPACE
SPECS	SPECIFICATIONS
SQ	SQUARE
SQ FT	SQUARE FEET
SQ YD	SQUARE YARD
SS	STAINLESS STEEL
SSL	SECONDARY SEWAGE LINE
ST	STREET
STL	STEEL
STN STL	STAINLESS STEEL
STA	STATION
STD	STANDARD
STRUCT	STRUCTURE

T	TOWNSHIP
TAN	TANGENT
TBC	TOP BACK CURB
TEMP	TEMPORARY
TEL	TELEPHONE
TKN	TOTAL KJELDAHL NITROGEN
TOA	TOP OF ASPHALT
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MANHOLE
TOP	TOP OF PAVEMENT
TOS	TOP OF SLAB
TOW	TOP OF WALL
TP	TELEPHONE POLE
TSS	TOTAL SUSPENDED SOLIDS
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UV	ULTRA VIOLET
UW	UTILITY WATER
uWs	MICRO WATT SECONDS
V	VOLTS
VC	VERTICAL CURVE
VERT	VERTICAL
VIC	VICTAULIC
VOL	VOLUME
VPI	VERTICAL POINT OF INTERSECTION
VPC	VERTICAL POINT OF CURVE
VPT	VERTICAL POINT OF TANGENCY
W	WEST / WATER
WAS	WASTE ACTIVATED SLUDGE
WM	WATER METER
WP	WALL PENETRATION
WS	WATER SURFACE
W/	WITH
W/O	WITHOUT
XING	CROSSING
X-SEC	CROSS SECTION

SECTION IDENTIFICATION

SECTION LETTER

DRAWING NUMBER ON WHICH SECTION APPEARS

DETAIL IDENTIFICATION

DETAIL NUMBER

SEE DETAIL

DRAWING NUMBER ON WHICH DETAIL APPEARS

- 1- IF PLAN AND SECTION (OR DETAIL REFERENCE AND DETAIL) ARE SHOWN ON THE SAME DRAWING, THE DRAWING NUMBER IS REPLACED WITH A LINE.
- 2- STANDARD DETAILS MAY BE SHOWN AS: 116/CD-3 FOR DETAIL # AND SHEET #.



LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

GENERAL LEGEND, SYMBOL & ABBREVIATIONS

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23

				GENERAL MANAGER		DISTRICT ENGINEER	
				Curtis Paxton		Michael P. Cortez	
						RCE # 54039	
NO.		DATE		DESCRIPTION		BY	APPR'D
<div style="text-align: center;"> REVISIONS 3 of 74 </div>							
				SHEET		PLAN NO.	
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M LGVSD 1 FILE:
FD144793

A graphic for an underground service alert. On the left is a circular symbol with a diagonal line through it, indicating prohibition. Inside the circle is a shovel digging into a pipe. Above the circle is the text 'CALL BEFORE' and below it is 'YOU DIG'. To the right of the symbol, the text reads 'Underground Service Alert' followed by 'Call: TOLL FREE 811'. At the bottom, a large banner says 'TWO WORKING DAYS BEFORE DIGGING'.

GENERAL CIVIL NOTES:

1.

EXCAVATIONS SHALL BE ADEQUATELY SHORED, BRACED AND SHEETED SO THAT THE EARTH WILL NOT SLIDE OR SETTLE AND SO THAT ALL EXISTING IMPROVEMENTS OF ANY KIND WILL BE FULLY PROTECTED FROM DAMAGE. ANY DAMAGE RESULTING FROM A LACK OF ADEQUATE SHORING, BRACING AND SHEETING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL EFFECT NECESSARY REPAIRS OR RECONSTRUCTION AT THE EXPENSE OF THE CONTRACTOR. WHERE THE EXCAVATION FOR A CONDUIT TRENCH, AND/OR STRUCTURE IS FIVE FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING, SHORING AND BRACING OR EQUIVALENT METHOD, FOR THE PROTECTION OF LIFE, OR LIMB, WHICH SHALL CONFORM TO THE APPLICABLE CONSTRUCTION SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA, THE CONTRACTOR SHALL ALWAYS COMPLY WITH OSHA REQUIREMENTS. SEE SECTIONS 312000 & 315000 FOR ADDITIONAL DETAILS.
2.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMITS NECESSARY TO PERFORM THE WORK SHOWN IN THESE PLANS FROM THE APPROPRIATE AGENCIES, SEE SECTION 014120.
3.

THE CONTRACTOR SHALL PROVIDE FOR INGRESS AND EGRESS FOR PRIVATE PROPERTY ADJACENT TO WORK THROUGHOUT THE PERIOD OF CONSTRUCTION. SEE SECTION 015000.
4.

THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGGERS OR OTHER DEVICES NECESSARY FOR SAFETY. SEE SECTION 015000.
5.

THE CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBERS FOR POLICE, FIRE, AMBULANCE, AND THOSE AGENCIES RESPONSIBLE FOR MAINTENANCE OF UTILITIES IN THE VICINITY OF JOB SITE.
6.

A COPY OF THE NPDES PERMIT IS PROVIDED IN SECTION 014120. CONTRACTOR SHALL MEET AND FOLLOW ALL REQUIREMENTS IN EFFECT AT THE TIME OF CONSTRUCTION.
7.

THE CONTRACTOR SHALL SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR REVIEW AND APPROVAL BY THE DISTRICT PRIOR TO START OF WORK. THE SWPPP SHALL BE IMPLEMENTED BY THE CONTRACTOR AND ALL SUBCONTRACTORS AND SUPPLIERS OF MATERIAL AND EQUIPMENT. CONSTRUCTION SITE CLEANUP AND CONTROL OF CONSTRUCTION DEBRIS SHALL ALSO BE ADDRESSED IN THE SWPPP. FAILURE TO COMPLY WITH THE APPROVED SWPPP WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS, OR A PROJECT STOP WORK ORDER. SEE SECTION 015600 AND SHEETS CD-11 & CD-12 FOR ADDITIONAL DETAILS.
8.

THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR THE ENTIRE PROJECT AT ALL TIMES. THE SITE SHALL BE SPRINKLED WITH WATER AS NECESSARY TO PREVENT DUST NUISANCE (SEE SECTION 015600). IN THE EVENT THE CONTRACTOR NEGLECTS TO USE ADEQUATE MEASURES TO CONTROL DUST, THE DISTRICT RESERVES THE RIGHT TO TAKE WHATEVER MEASURES ARE NECESSARY TO CONTROL DUST AND CHARGE THE COST TO THE CONTRACTOR.
9.

DURING THE CONSTRUCTION, ADJACENT PUBLIC STREETS SHALL BE CLEANED DAILY TO REMOVE ANY ACCUMULATION OF MUD AND DEBRIS RESULTING FROM THIS CONSTRUCTION. SEE SECTIONS 015000 & 015600.
10.

TRENCHES SHALL NOT BE LEFT OPEN OVERNIGHT. CONTRACTOR SHALL BACKFILL TRENCHES, OR PLACE STEEL PLATING AND / OR HOT-MIX ASPHALT AS REQUIRED TO PROTECT OPEN TRENCHES AT THE END OF EVERY WORK DAY. FENCING & BARRICADES MAY BE USED IN AREAS WITH NO PUBLIC OR OPERATOR ACCESS. CONFIRM WITH OWNER.
11.

THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARD, LAWS AND REGULATIONS. SEE SECTION 315000.
12.

CONTRACTOR SHALL PROVIDE TO THE DISTRICT REPRESENTATIVE A REDLINED COPY OF "AS-BUILT" PLANS FOR PREPARATION OF RECORD DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS. SEE SECTION 017839 FOR ADDITIONAL AS-BUILT REQUIREMENTS.
13.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE DISTRICT REPRESENTATIVE UPON DISCOVERY OF ANY FIELD CONFLICTS. SEE SECTION 015300.
14.

ANY DEVIATIONS OR CHANGES IN THESE PLANS WITHOUT OFFICIAL APPROVAL OF THE DISTRICT REPRESENTATIVE SHALL ABSOLVE THE DISTRICT OF ANY AND ALL RESPONSIBILITY OF SAID DEVIATION OR CHANGE.
15.

SHOULD IT APPEAR THAT THE WORK TO BE DONE OR ANY MATTER RELATIVE THERETO IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL NOT CONTACT DISTRICT DIRECTLY BUT THROUGH THE DISTRICT REPRESENTATIVE RESPONSIBLE FOR THIS CONTRACT IN THE FIELD.
16.

DIMENSIONS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. NOTES AND DETAILS ON SPECIFIC DETAIL DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
17.

WHERE THERE IS A DISCREPANCY BETWEEN THE WRITTEN DIMENSION AND SCALED DIMENSION, WRITTEN DIMENSIONS SHALL GOVERN.
18.

ALL DISCREPANCIES BETWEEN THE INFORMATION SHOWN ON THE DRAWINGS AND THE ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DISTRICT REPRESENTATIVE.
19.

PROVIDE A SITE SAFETY PLAN FOR REVIEW BY THE DISTRICT. THIS SAFETY PLAN MUST BE USED FOR THE ENTIRE DURATION OF THIS WORK BY THE CONTRACTOR AND ALL HIS SUBCONTRACTORS.
20.

WHILE WORKING ON THE PROJECT, THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE, AND FEDERAL CONFINED SPACE ENTRY PROCEDURES AND REQUIREMENTS FOR ALL PERMIT SPACE ENTRIES. THE FOLLOWING SPACES ARE HEREBY DESIGNATED PERMIT SPACES: MANHOLES, PUMP PITS, VALVE PITS, UNDERGROUND PITS.
21.

CONTRACTOR SHALL SUBMIT A SERVICE OUTAGE REQUEST (SOR) PRIOR TO ANY CONSTRUCTION THAT WOULD REQUIRE MODIFICATIONS TO OR SHUTDOWN OF EXISTING SYSTEMS THAT MUST REMAIN IN-PLACE FOR PLANT OPERATIONS.

FAILURE TO SUBMIT AS-BUILT PLANS: CONTRACTOR SHALL PROVIDE TO THE DISTRICT REPRESENTATIVE A REDLINED COPY OF "AS-BUILT" PLANS FOR REVIEW AND PREPARATION OF RECORD DRAWINGS A MINIMUM OF THREE DAYS AFTER APPLICATION FOR FINAL PAYMENT IS SUBMITTED. IF THE CONTRACTOR FAILS TO SUBMIT THE REDLINED COPY WITHIN THE TIME PERIOD SPECIFIED, THE DISTRICT SHALL BE ENTITLED TO WITHHOLD THE FINAL PAYMENT UNTIL CONTRACTOR SUBMITS A REDLINED COPY ACCEPTABLE TO THE DISTRICT REPRESENTATIVE. SEE CONTRACT DOCUMENTS FOR DETAILED REQUIREMENTS.

EXISTING UTILITIES:

1.

EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS MAY OR MAY NOT HAVE BEEN SHOWN BASED UPON RECORD INFORMATION AVAILABLE TO THE DISTRICT AT THE TIME OF PREPARATION OF THESE PLANS. WHERE SHOWN, LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. CALL UNDERGROUND SERVICE ALERT (U.S.A.), AT 800-227-2600. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES.
2.

UNDER NO CIRCUMSTANCES SHALL CONTRACTOR START WORK IN ANY JOBSITE WITHOUT CONTACTING PG&E TO IDENTIFY AND MARK LOCATIONS OF EXISTING GAS MAINS, HIGH PRESSURE OR NOT. CONTRACTOR SHALL EXERCISE EXTREME CAUTION AND PROTECT AND SUPPORT IN PLACE ALL EXISTING GAS UTILITIES DURING CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR ALL COSTS AND LIABILITY IN CONNECTION THEREWITH.
3.

ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED AND MERGED IN THE CONTRACT UNIT PRICE.
4.

ALL EXISTING UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE DISTRICT, AT THE CONTRACTOR'S SOLE EXPENSE.
5.

ANY RELOCATION OF EXISTING UTILITIES NOT SHOWN IN THE PLANS SHALL BE CONDUCTED IN ACCORDANCE WITH ANY AND ALL REQUIREMENTS OF THE UTILITY COMPANY INCLUDING FEES, BONDS, PERMITS AND WORKING CONDITIONS, ETC. THIS WORK SHALL BE DONE ON A TIME AND MATERIALS BASIS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY TO DISCUSS THE COST OF RELOCATION OF SUCH UTILITIES. FAILURE TO NOTIFY THE UTILITY COMPANY PRIOR TO START OF WORK SHALL CAUSE THE CONTRACTOR TO PAY FOR THE COST OF ALL SUCH RELOCATION WORK INCLUDING FEES, BONDS, PERMITS, ETC.
6.

THE CONTRACTOR SHALL PROTECT IN PLACE OVERHEAD INTERFERENCE SUCH AS UTILITIES OR TREES. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD OR UNDERGROUND POWER, GAS, AND/OR OTHER UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COSTS AND LIABILITY IN CONNECTION THEREWITH.
7.

ALL CONTRACTOR WORK AROUND EXISTING UTILITIES SHALL BE IN CONFORMANCE WITH CALIFORNIA GOVERNMENT CODE 4216.
8.

CONTRACTOR TO IDENTIFY UTILITY LOCATION PRIOR TO TRENCHING BY POT HOLING NATIVE GROUND. SUBSURFACE UTILITY LOCATORS ARE NOT DEEMED SUFFICIENT FOR IDENTIFYING UNDERGROUND UTILITIES.
9.

THE LOCATION AND GENERAL ARRANGEMENT OF UNDERGROUND UTILITIES, UNDERGROUND STRUCTURES, PIPES WITH FITTINGS, VALVES, AND APPURTENANCES OWNED BY OTHER AGENCIES ARE NOT SHOWN IN THE DRAWINGS AND SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.
10.

CONTRACTOR SHALL CONTACT UTILITY POLE OWNER PRIOR TO WORKING IN AREA AND UTILITY POLE OWNER WILL DO ALL WORK ON UTILITY POLES. CONTRACTOR SHALL PAY ALL COSTS ASSOCIATED WITH UTILITY POLE MODIFICATIONS AND THE CONTRACTOR SHALL INCLUDE THE TIME NEEDED BY THE UTILITY POLE OWNER AS PART OF THE OVERALL WORK.

PROJECT CONTACTS:

1. OWNER:

LAS GALLINAS VALLEY SANITARY DISTRICT (DISTRICT)
2. CITY & COUNTY:

SAN RAFAEL, MARIN COUNTY
3. SANITARY SEWER:

LAS GALLINAS VALLEY SANITARY DISTRICT
4. STORM DRAIN:

COUNTY OF MARIN
5. WATER:

MARIN MUNICIPAL WATER DISTRICT
ENGINEERING: (415) 945-1560
CONSTRUCTION PROJECTS: (415) 945-1540
EMERGENCY: (415) 945-1500
6. GAS & ELECTRICAL:

PG&E GAS
ENGINEERING: (415) 257-3404, (415) 257-3405
EMERGENCY: (800) 743-5000

PG&E ELECTRIC
SERVICE: (415) 257-3431
ENGINEERING: (415) 257-3174
EMERGENCY: (800) 743-5000
7. TELEPHONE:

SBC/AT&T
SERVICE: (707) 575-2077, (707) 321-6207
ENGINEERING: (415) 499-4828
EMERGENCY: (800) 310-2355
8. CABLE & TELEVISION:

COMCAST
SERVICE: (707) 477-0564
EMERGENCY: (800) 310-2355
9. THE CONTACT INFORMATION SHOWN ABOVE REPRESENTS A PARTIAL LIST OF THE UTILITY OWNERS CURRENTLY AVAILABLE TO THE DISTRICT DURING PREPARATION OF THESE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES AND CONFIRM EACH CONTACT INFORMATION BEFORE THE START OF WORK.

PROJECT NOTES:

1.

ALL APPLICABLE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF THE CURRENT DISTRICT ORDINANCE CODES, CALTRANS STANDARD SPECIFICATIONS, AND DISTRICT STANDARD PLANS. ALL IMPROVEMENTS ARE SUBJECT TO INSPECTION AND APPROVAL BY THE DISTRICT. CONTRACTOR SHALL CONTACT THE DISTRICT AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF ANY WORK TO ARRANGE FOR INSPECTION.
2.

A CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH (CALOSHA) PERMIT SHALL BE OBTAINED FOR TRENCHES FIVE FEET OR GREATER IN DEPTH. A COPY OF THIS PERMIT SHALL BE SUPPLIED TO THE DISTRICT. AN ADDITIONAL COPY SHALL BE KEPT AT THE JOB SITE AT ALL TIMES.
3.

THE CONTRACTOR WILL PROVIDE CONSTRUCTION STAKES. THE NUMBER AND LOCATION OF WHICH SHALL BE DETERMINED BEFORE CONSTRUCTION BEGINS. THE ENGINEER HAS THE AUTHORITY TO REQUIRE THE CONTRACTOR (OR HIS AUTHORIZED AGENT) TO PLACE ADDITIONAL STAKES OR RE-STAKE AS HE DEEMS NECESSARY FOR PROPER CONSTRUCTION OR TO AVOID CONFLICTS.
4.

THE CONTRACTOR SHALL NOT DESTROY ANY PERMANENT SURVEY POINTS WITHOUT THE CONSENT OF THE DISTRICT. ANY PERMANENT MONUMENTS OR POINTS DESTROYED SHALL BE REPLACED BY A LICENSED LAND SURVEYOR IN THE STATE OF CALIFORNIA AT THE CONTRACTOR'S EXPENSE.
5.

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE DISTRICT. ALL REVISIONS TO THESE PLANS MUST BE REVIEWED BY THE DISTRICT PRIOR TO CONSTRUCTION AND SHALL BE ACCURATELY SHOWN ON REVISED PLANS SIGNED BY THE DISTRICT.
6.

PRIOR TO MOVING ANY MATERIAL TO OR FROM THE SITE, THE CONTRACTOR SHALL OBTAIN APPROVAL FOR HAUL ROUTE FROM THE DISTRICT.
7.

WHERE ABANDONED UNDERGROUND STRUCTURES ARE ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE ABANDONED STRUCTURES TO SUFFICIENT DEPTH TO ALLOW NEW UNDERGROUND LINES TO CROSS. THE DISTRICT MAY REQUIRE FURTHER WORK TO BE DONE AFTER A VISUAL INSPECTION.
8.

ALL VALVE BOXES SHALL BE ADJUSTED TO NEW FINISHED GRADE AFTER FINAL PAYING, WHERE APPLICABLE.
9.

CONSTRUCTION EQUIPMENT, INCLUDING COMPRESSORS, GENERATORS, AND MOBILE EQUIPMENT, SHALL BE FITTED WITH PROPERLY WORKING MUFFLERS.
10.

CERTAIN AREAS AND STRUCTURES REQUIRE PRE-LOADING AND SURCHARGING. REFER TO THE DESIGN DRAWINGS AND SECTION 315000 FOR ADDITIONAL DETAILS.
11.

ALL CONSTRUCTION ACTIVITIES ON THE PROJECT SITE SHALL BE LIMITED TO 6:30 A.M. TO 5:00 P.M., MONDAY THROUGH FRIDAY, UNLESS ALTERNATIVE HOURS ARE APPROVED BY THE DISTRICT. THE CONTRACTOR WILL REIMBURSE THE DISTRICT ALL COSTS ASSOCIATED WITH NON-APPROVED AFTER HOUR WORK.

DISCLAIMER:

1.

EXISTING CONSTRUCTION ACTIVITIES MAY BE OCCURRING ON-SITE DURING THE TIME OF PROPOSED CONSTRUCTION. CONTRACTORS TO COORDINATE AS NEEDED TO AVOID SCHEDULE DELAYS OR UNNECESSARY REWORK.

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

GENERAL
GENERAL CONSTRUCTION NOTES

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	

RCE # 54039

NO.	DATE	DESCRIPTION	BY	APPRO'D	SHEET	PLAN NO.	DRAWING NO.	REVISION NO.	
					4 of 74		G-4	B	
REVISIONS									

PLOTTED:
SCALE:
BORDER:

EXTEND
1:1
22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1
FD144793

FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000



533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153

STRUCTURAL DESIGN CRITERIA:


1. DESIGN LOADS:
ROOF 3:12 OR GREATER SLOPE
A. DEAD LOAD = 17 PSF
B. LIVE LOAD = 20 PSF (REDUCIBLE)
FLOOR LOAD: (UNO)
A. DEAD LOAD = 34 PSF
B. LIVE LOAD = 125 PSF


2. ALL REQUIRED FILL AND BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY OBTAINABLE BY THE A.S.T.M. DESIGNATION D-1557-12 TEST METHOD OF COMPACTION. FLOORING OR JETTING IS NOT PERMITTED.


3. SEISMIC DESIGN CRITERIA: 2016 C.B.C. WITH SEISMIC COEFFICIENTS PER SECTION 1613 SEISMIC PROVISIONS
LATITUDE= 38.026° N
LONGITUDE= 122.518° W
SITE CLASS= D
MAPPED SPECTRAL ACCELERATION, Ss= 1.50 g
MAPPED SPECTRAL ACCELERATION, S1= 0.60 g
SITE COEFFICIENT, Fa= 1.0
SITE COEFFICIENT, Fv= 1.5
SPECTRAL ACCELERATION, Sms= 1.50 g
SPECTRAL ACCELERATION, Sd1= 0.90 g
DESIGN SPECTRAL ACCELERATION, Sms= 1.00 g
DESIGN SPECTRAL ACCELERATION, Sd1= 0.60 g


4. WIND LOAD: 115 MPH, EXPOSURE "D"


STRUCTURAL SYMBOLS/LEGEND


1.  DETAIL OR SECTION NUMBER SHEET WHERE DRAWN


2.  DIRECTION OF STRUT


3.  ELEVATION FROM DATUM


4.  MASONRY IN PLAN OR SECTION VIEW


5.  WOOD MEMBER IN SECTION

6.  POST, HOLDOWN OR FDN. OR STRAP FLOOR TO FLOOR SYMBOL

7.  PAD FOOTING OR CONTINUOUS FOOTING SYMBOL

8.  TRUSS OR WALL ELEVATION NUMBER SHEET WHERE DRAWN

9.  ELEVATION TO BOTTOM OF FOOTING OR GRADE BEAM

10.  ROOF DIRECTION AND SLOPE

GENERAL STRUCTURAL NOTES:

1. CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS, INCLUDING ALL EXISTING AND NEW DIMENSIONS, PRIOR TO THE START OF WORK. ANY APPROVAL OF SUBMITTALS OR SHOP DRAWINGS BY THE DISTRICT AND/ OR DISTRICT REPRESENTATIVE SHALL NOT RELIEVE CONTRACTOR OF HIS RESPONSIBILITIES. IT IS CONTRACTOR'S SOLE RESPONSIBILITY TO MEET ALL REQUIREMENTS OF CONTRACT PLANS, CONTRACT SPECIFICATIONS, CURRENT CODES, INDUSTRY STANDARDS AND PRACTICES, AND ALL OTHER APPLICABLE STANDARDS.

2. CONTRACTOR SHALL COORDINATE STRUCTURAL DRAWINGS WITH OTHER DRAWINGS PRIOR TO THE START OF WORK. CONTRACTOR SHALL NOTIFY DISTRICT REPRESENTATIVE OF ANY DISCREPANCY. DO NOT PROCEED WITH WORK UNTIL DISCREPANCY HAS BEEN RESOLVED.

3. UNLESS OTHERWISE NOTED, USE TYPICAL DETAILS WHERE APPLICABLE.

4. SHEET NOTES AND DETAILS SHOWN ON A PARTICULAR STRUCTURAL SHEET SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

5. DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS. TYPICAL DETAILS AND GENERAL NOTES ARE MINIMUM REQUIREMENTS TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE.

6. CONTRACTOR SHALL SUBMIT THE FOLLOWING SHOP DRAWINGS TO THE DISTRICT FOR REVIEW AND APPROVAL PRIOR TO START OF FABRICATION:

A. STRUCTURAL STEEL
B. REINFORCING BARS
C. CONCRETE MIX DESIGN

7. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SAFETY OF ALL PERSONNEL AND THE PROTECTION OF ALL PROPERTY ON THE PROJECT SITE AT ALL TIMES. THE PRESENCE OF DISTRICT REPRESENTATIVE SHALL NOT RELIEVE CONTRACTOR OF HIS RESPONSIBILITIES. SHOULD ANY DAMAGE TO EXISTING PROPERTY OCCUR, CONTRACTOR SHALL SUBMIT PROPOSED REMEDY TO THE DISTRICT FOR REVIEW AND APPROVAL, AND REPAIR THE DAMAGE TO THE SATISFACTION OF DISTRICT REPRESENTATIVE AT NO COST TO THE DISTRICT.

8. CONTRACTOR SHALL SUBMIT ANY SUBSTITUTION OF SPECIFIED MATERIAL TO THE DISTRICT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. SEE GENERAL CONDITION OF CONTRACT SPECIFICATION FOR MINIMUM NUMBER OF DAYS REQUIRED FOR DISTRICT REPRESENTATIVE'S REVIEW AND APPROVAL. ANY DELAY AS A RESULT OF NONCONFORMANCE TO THIS REQUIREMENT SHALL BE THE SOLE RESPONSIBILITY OF CONTRACTOR.

9. ALL WORK SHALL CONFORM TO THE 2016 CALIFORNIA BUILDING CODE STANDARDS, AND THE REGULATIONS OF THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES.

10. THE STRUCTURAL DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, THE CONTRACTOR WILL BE REQUIRED TO CORRECT AT HIS OWN EXPENSE ANY SUBSIDENCE, STRUCTURAL DAMAGE OR OTHER OBJECTIONABLE CONDITIONS CAUSED BY HIS OPERATIONS.

11. STRUCTURAL DRAWINGS, AS PART OF CONTRACT DOCUMENTS, INDICATE INFORMATION SUFFICIENT TO CONVEY DESIGN INTENT. IF ERRORS, INCONSISTENCIES OR OMISSIONS ARE DISCOVERED, PROMPTLY NOTIFY STRUCTURAL ENGINEER BEFORE PROCEEDING WITH WORK.

12. THESE NOTES AND SPECIFICATION ON STRUCTURAL DRAWINGS GOVERN IN CASE OF CONFLICT WITH OTHER SPECIFICATION. NOTIFY ENGINEER OF CONFLICTS WITH OTHER SPECIFICATIONS IMMEDIATELY.

13. NO PORTION OF STRUCTURAL RELATED WORK, INCLUDING SHOP DRAWING DEVELOPMENT, SHALL BE PERFORMED WITHOUT CONSIDERING REQUIREMENTS OF CONTRACT DOCUMENTS IN THEIR ENTIRETY.

14. CONDITIONS SHOWN OR NOTED AS EXISTING ARE BASED ON INFORMATION CURRENTLY AVAILABLE WHEN DRAWINGS WERE PREPARED. NO WARRANTY IS IMPLIED AS TO ACCURACY OF THESE EXISTING CONDITIONS.

15. CONTRACTOR SHALL INVESTIGATE THE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS ETC. IF ANY SUCH STRUCTURES ARE FOUND, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

GENERAL STRUCTURAL NOTES:

16. TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND COMPARE WITH CONTRACT DOCUMENTS. IF ERRORS, INCONSISTENCIES OR OMISSIONS ARE DISCOVERED, PROMPTLY NOTIFY STRUCTURAL ENGINEER BEFORE PROCEEDING WITH WORK.

17. CONTRACT DOCUMENTS DO NOT INDICATE METHOD OF CONSTRUCTION. PROVIDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AS REQUIRED. PROVIDE ADEQUATE PROCEDURES, SHORING, BRACING, AND ERECTION PROCEDURES COMPLYING WITH NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.

18. MODIFICATIONS OR SUBSTITUTIONS: DESIGN, MATERIALS, EQUIPMENT AND PRODUCTS OTHER THAN THOSE INDICATED OR SPECIFIED MAY BE CONSIDERED FOR USE PROVIDED A WRITTEN REQUEST, SUBJECT TO REVIEW, IS SUBMITTED TO OWNER, STRUCTURAL ENGINEER AND GOVERNING CODE AUTHORITY PRIOR TO USE OR INCLUSION ON ANY SHOP DRAWING.

19. ANY CHANGE, MODIFICATION OR ALTERATION OF THESE PLANS SHALL BE AT THE SOLE RISK OF THE PERSON MAKING OR CAUSING THE SAME. ALL CHANGE, MODIFICATION, AND/OR ALTERATION TO THE APPROVED CONSTRUCTION DOCUMENT SHALL BE REVIEWED AND APPROVED BY A LICENSED STRUCTURAL ENGINEER, ARCHITECT OF RECORD AND BY BUILDING AND SAFETY PRIOR TO FABRICATION AND INSTALLATION.

20. SHOP DRAWING SUBMITTALS:

A. SUBMIT SHOP DRAWINGS TO STRUCTURAL ENGINEER AS INDICATED OR SPECIFIED FOR REVIEW AND ACCEPTANCE PRIOR TO FABRICATION. REVIEW WILL BE FOR GENERAL CONFORMANCE WITH DESIGN INTENT CONVEYED IN CONTRACT DOCUMENTS.

B. SHOP DRAWINGS ARE NOT A PART OF CONTRACT DOCUMENTS. THEREFORE, STRUCTURAL ENGINEER'S REVIEW DOES NOT CONSTITUTE AN AUTHORIZATION TO DEVIATE FROM TERMS AND CONDITIONS OF THE CONTRACT.

C. SUBMIT SHOP DRAWINGS AND CALCULATIONS TO GOVERNING CODE AUTHORITY WHEN SPECIFICALLY INDICATED OR REQUESTED.

D. MAINTAIN ALL REVIEWED SHOP DRAWINGS ACCEPTED AT THE SITE DURING CONSTRUCTION.
21. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING.
22. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

CONCRETE REINFORCING STEEL:

1. REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60. ALL REINFORCING BARS TO BE WELDED SHALL BE ASTM A706 GRADE 60.

2. ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," ACI 318, THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315, AND ACI 350.

3. ALL REINFORCING SHALL BE SECURELY TIED AND BRACED IN PLACE PRIOR TO POURING CONCRETE OR PLACING MASONRY.

4. UNO PROVIDE CONTINUOUS REINFORCEMENT WHERE POSSIBLE. REINFORCING BARS MARKED CONTINUOUS SHALL BE SPLICED WITH A LAP OF 55 BAR DIAMETERS IN MASONRY (24" MIN.) AND 48 BAR DIAMETERS IN CONCRETE (24" MIN.). SEE DRAWING SD-4 FOR REINFORCEMENT LAP FOR NON-BUILDING STRUCTURES.

5. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED.

6. BEAM AND SLAB REINFORCING SHALL NOT BE SLEEVED OR OTHERWISE INTERRUPTED EXCEPT AS SHOWN ON THE STRUCTURAL DRAWINGS.

7. CONTRACTOR SHALL SUBMIT REINFORCEMENT MILL TEST REPORTS FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT.

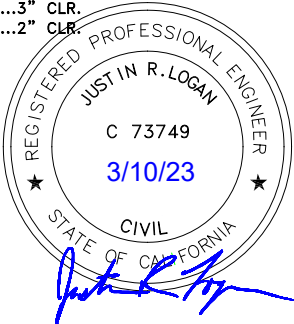
8. CONTRACTOR SHALL SUBMIT REINFORCING BAR LAYOUTS AND DETAILS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. REINFORCEMENT AND EMBEDMENTS SHALL BE ACCURATELY POSITIONED AND SECURED AGAINST DISPLACEMENT PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO PREVENT DAMAGE OR DISPLACEMENT DUE TO CONSTRUCTION TRAFFIC ON REINFORCEMENT.

9. IT IS THE RESPONSIBILITY OF THE REINFORCING BARS SUBCONTRACTOR TO REVIEW THE CONTRACT DRAWINGS. SHOP DRAWINGS MUST INDICATE ALL PENETRATIONS LARGER THAN 6 INCH DIAMETER AND PROVIDE THE NECESSARY TRIM REINFORCEMENT.

10. BEFORE ANY CONCRETE IS PLACED, IN-PLACE REINFORCING STEEL SHALL BE INSPECTED BY THE DISTRICT REPRESENTATIVE. ANY ERRORS OR DISCREPANCIES SHALL BE CORRECTED BEFORE CONCRETE IS PLACED. NOTIFY THE DISTRICT REPRESENTATIVE NOT LESS THAN 72 HOURS BEFORE REINFORCING STEEL INSPECTION IS REQUIRED.

11. USE LOW HYDROGEN ELECTRODES, GRADE E-70 FOR WELDED REINFORCING BARS.

12. PROVIDE THE FOLLOWING MINIMUM COVERING OF CONCRETE:
BELOW GRADE (UNFORMED).....3" CLR.
BELOW GRADE (FORMED).....2" CLR.



NO.	DATE	DESCRIPTION	BY	APPR'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

GENERAL
GENERAL CONSTRUCTION NOTES

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
RCE # 54039		
SHEET 5 of 74	PLAN NO.	DRAWING NO. G-5
		REVISION NO. B

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



STRUCTURAL AND MISCELLANEOUS STEEL NOTES:

1.

ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC 303 CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, LATEST EDITION.

2.

STRUCTURAL SHAPES AND PLATES SHALL CONFORM TO THE FOLLOWING U.N.O.:
W, S, M, HP, AND WT SHAPES ASTM A 992 OR A 572, GRADE 50
PIPE ASTM A 53, GRADE B
HSS ASTM A 500, GRADE B
CHANNELS, ANGLES, AND PLATES ASTM A 36
MISC STEEL ASTM A 36
HEADED STUDS ASTM A 108

3.

ERECTION AND SHOP DETAIL DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION AND ERECTION. SUBMIT AS REQUIRED BY TECHNICAL SPECIFICATION SECTION 013300 – CONTRACTOR SUBMITTALS.

4.

ALL STRUCTURAL STEEL SHALL BE FABRICATED IN THE SHOP OF A LICENSED FABRICATOR AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION.

5.

ALL BOLTS SHALL CONFORM TO A.S.T.M. (A–325) BOLTS SHALL HAVE SPECIAL INSPECTION.

6.

ALL BOLTS FOR STEEL MEMBERS SHALL BE TRUE, BURNING OF HOLES FOR CONNECTIONS WILL NOT BE PERMITTED. BOLT HOLES SHALL BE MAXIMUM 1/16” OVERSIZED, U.N.O.

7.

PROVIDE FULL BEARING ON UNTHREADED PORTION OF BOLT SHANK FOR ALL STEEL CONNECTIONS.

8.

ALL BOLT SPACING IN STRUCTURAL STEEL CONNECTIONS TO BE 3” MIN. BETWEEN BOLTS AND 1 1/2” MIN. EDGE DISTANCE, UNLESS NOTED OTHERWISE.

9.

ALL NUTS FOR STRUCTURAL STEEL CONNECTIONS SHALL BE HEAVY HEXAGONAL NUTS, U.N.O.

10.

PROVIDE BEVELED WASHERS UNDER NUTS AT STEEL CONNECTIONS, WHEN THE BEVEL EXCEEDS 1:2.

11.

PROVIDE LEVELING NUTS FOR ALL BOLTS AT BEAM SEATS AND COLUMN BASE PLATES.

12.

ALL WELDING SHALL COMPLY WITH AWS D1.1 AND SHALL BE DONE BY WELDERS CERTIFIED FOR THE TYPE OF WELDING TO BE PERFORMED. WELDING OF REBAR SHALL CONFORM TO AWS D1.4.

13.

ALL SHOP WELDING SHALL BE DONE BY A FABRICATOR APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY, PER CBC SECTION 1701.7. IN LIEU OF FABRICATOR APPROVAL, THE OWNER MAY EMPLOY A SPECIAL INSPECTOR, WHICH IS TO BE APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY, WHO WILL INSPECT ALL PHASES OF SHOP WELDING DURING SUCH THEIR CREDENTIALS FOR REVIEW AND APPROVAL BY THE DEPARTMENT OF BUILDING AND SAFETY PRIOR TO THE START OF FABRICATION OR INSPECTION.

14.

ALL WELDS USED ON STRUCTURAL MEMBERS AND CONNECTIONS SHALL BE DONE WITH E70XX ELECTRODES OR E7XT–X WIRE THAT CAN PRODUCE WELDS WITH A MINIMUM CHARPY V–NOTCH TOUGHNESS OF 20 FT–LBS @ 0° F, AS DETERMINED BY THE APPROPRIATE AWS CLASSIFICATION TEST METHOD OR MANUFACTURER CERTIFICATION.

15.

WHERE WELDS SHOWN ON THE DESIGN DRAWINGS ARE DESIGNATED AS “DEMAND CRITICAL”, THE E70XX ELECTRODES OR E7XT–X WIRE MUST PROVIDE A MINIMUM CHARPY V–NOTCH TOUGHNESS OF 20 FT–LBS @ –20° F AS DETERMINED BY THE APPROPRIATE AWS CLASSIFICATION TEST METHOD OR MANUFACTURER CERTIFICATION AND 40 FT–LBS @ 70° F AS DETERMINED BY AISC SEISMIC DESIGN MANUAL, APPENDIX X OR OTHER APPROVED METHOD.

16.

ALL FIELD WELDING EXCEPT MINOR OR TACK WELDING SHALL BE DONE BY CERTIFIED WELDERS UNDER THE OBSERVATION OF AN APPROVED SPECIAL INSPECTOR, SUCH INSPECTOR SHALL SUBMIT HIS.HER CREDENTIALS FOR REVIEW OF APPROVAL BY THE DEPARTMENT OF BUILDING AND SAFETY PRIOR TO REPORTING TO THE JOBSITE.

17.

ALL STUDS WELDED TO STEEL BEAMS AND COLUMNS SHALL BE NELSON STUDS OR OTHER APPROVED MFG.

18.

STRUCTURAL STEEL MEMBERS REQUIRED TO BE FIREPROOFED, NEED NOT BE PAINTED.

19.

EXCEPT WHERE NOTED, ALL CARBON STEEL MEMBERS SHALL BE HOT–DIPPED GALVANIZED PER ASTM A 123 AND, IF DAMAGED, SHALL BE TOUCHED UP WITH GALVANOX, AS MANUFACTURED BY CARBOLINE COMPANY, OR APPROVED EQUIVALENT.

20.

20. ALL SPECIAL INSPECTIONS FOR STRUCTURAL AND MISCELLANEOUS STEEL AND THE FREQUENCY OF INSPECTION SHALL BE AS REQUIRED BY CBC SECTION 1705.2 AND AISC 360, LATEST EDITION, AS PRESENTED ON VERIFICATION AND INSPECTION NOTES AND TABLES.

CONCRETE:

1.

NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE WITHOUT THE DISTRICT REPRESENTATIVE’S PRIOR REVIEW AND WRITTEN APPROVAL.
2.

OPENINGS THROUGH SLABS OR WALLS NOT SHOWN ON STRUCTURAL DRAWINGS WHICH WOULD INTERRUPT REINFORCING BARS SHALL NOT BE MADE WITHOUT THE APPROVAL OF THE DISTRICT REPRESENTATIVE. PIPES BIGGER THAN 1” DIAMETER SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY THE DISTRICT REPRESENTATIVE.
3.

ALL REINFORCING, EMBEDMENTS, INSERTS, ETC., SHALL BE POSITIVELY SECURED IN PROPER LOCATION BEFORE CONCRETE IS PLACED. PROVIDE SUFFICIENT SUPPORTS TO PREVENT DISPLACEMENT DURING PLACING AND FINISHING OPERATIONS.
4.

FORMS SHALL BE PROPERLY CONSTRUCTED CONFORMING TO CONCRETE SURFACES AS SHOWN ON THE DRAWINGS. FORMS SHALL BE SUFFICIENTLY TIGHT TO PREVENT LEAKAGE, SUFFICIENTLY STRONG AND BRACED TO MAINTAIN THEIR SHAPE AND ALIGNMENT UNTIL NO LONGER NEEDED TO SUPPORT THE CONCRETE. FORMS AND SHORING SHALL NOT BE REMOVED UNTIL THE CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO WITHSTAND ALL LOADS TO BE IMPOSED WITHOUT EXCESSIVE STRESS, CREEP OR DEFLECTION.
5.

CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH ACI 318–14 AND ACI 350–06.
6.

HORIZONTAL CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS, AND THE HARDENED CONCRETE SURFACES SHALL BE TREATED BY SAND–BLASTING OR OTHER APPROVED MEANS TO EXPOSE FIRMLY EMBEDDED AGGREGATES PRIOR TO POURING ADDITIONAL CONCRETE IN CONTACT WITH THESE SURFACES.
7.

CONCRETE SHALL BE CURED BY KEEPING CONTINUOUSLY WET FOR 14–DAYS.
8.

USE CAST–IN–PLACE CONCRETE FOR ALL CONCRETE WORK.
9.

CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY NOTED ”NOT REINFORCED”.
10.

CONCRETE MIX DESIGN FOR DESIGN COMPRESSIVE STRENGTH GREATER THAN 2500 P.S.I. SHALL BE PREPARED BY AN APPROVED TESTING LABORATORY AND SHALL BE STAMPED AND SIGNED BY A LICENSED ENGINEER, IN THE STATE OF JURISDICTION. MIX DESIGN SHALL THEN BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW.
11.

CONCRETE SHALL BE CURED AND PROTECTED IN ACCORDANCE WITH ACI1301, CHAPTER 12.
12.

CONCRETE SHALL NOT FREE FALL MORE THAN FIVE FEET. USE TREMIE OR PUMP.
13.

ALL CONCRETE WITH 28 DAY STRENGTH GREATER THAN 2500 P.S.I. SHALL BE INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS AND FREQUENCY OF INSPECTION DEFINED IN CBC TABLE 1705.3. ANY EXCEPTIONS TO THIS REQUIREMENT WILL BE STATED ON THE PLANS OR SPECIFIC DETAILS.
14.

SLEEVES NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL BE LOCATED BY THE TRADES INVOLVED AND SHALL BE REVIEWED BY THE ENGINEER BEFORE THE CONCRETE IS PLACED. CHECK WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF OPENINGS, SLEEVES, CURBS, CONDUITS, ETC., RELATED TO THE WORK. PIPES, CONDUITS OR DUCTS MAY PASS THRU STRUCTURAL CONCRETE IN EMBEDDED SLEEVES BUT SHALL NOT BE EMBEDDED IN STRUCTURAL SLABS, WALLS, CONTINUOUS FOOTINGS, GRADE BEAMS, SPREAD FOOTINGS, ETC. UNLESS SPECIFICALLY APPROVED BY THE ENGINEER. THE SPREAD FOOTING MAY BE LOWERED TO ALLOW THE PASSAGE OF PIPES, CONDUITS, OR DUCTS THROUGH NON STRUCTURAL SLABS. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ELEVATIONS OF ALL FOUNDATIONS, COORDINATING WORK OF ALL TRADES PRIOR TO ANY PLACEMENT OF CONCRETE AND SHALL NOTIFY THE ENGINEER OF FIELD MODIFICATIONS.
15.

ALL CONCRETE SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28–DAYS, UNLESS NOTED OTHERWISE. THE WATER TO CEMENT RATIO SHALL NOT EXCEED 6 1/2–GAL. PER SACK OF CEMENT. MINIMUM OF 6 SACKS OF CEMENT PER CUBIC YARD. MAX. SLUMP = 4”
16.

ALL CONCRETE SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE.
17.

ALL CEMENT SHALL CONFORM TO A.S.T.M. C–150, TYPE V, LOW ALKALI FOR PORTLAND CEMENT.
18.

FINE AND COARSE AGGREGATE SHALL CONFORM TO A.S.T.M. C–33 FOR STANDARD WEIGHT CONCRETE.
19.

ALL AGGREGATES SHALL CONFORM TO TECHNICAL SPECIFICATION SECTIONS 32000 AND 33000.
20.

DRYPACK SHALL BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND.
21.

FURNISH AND INSTALL CONCRETE AS INDICATED IN THE PLANS AND FOLLOWING NOTES AND IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

FOUNDATION/SITE PREPARATION

1.

ALL SITE GRADING, FILLS AND SOIL PREPARATION SHALL CONFORM TO THE SPECIFICATIONS AND ALL WORK SHALL BE DONE UNDER THE SUPERVISION OF THE DISTRICT REPRESENTATIVE AND A MATERIAL TESTING LABORATORY HIRED OR EMPLOYED BY THE DISTRICT.
2.

DO NOT BACKFILL BEHIND CONCRETE WALLS UNTIL THE FLOOR, SLABS, BEAMS, ETC., WHICH ARE REQUIRED FOR STABILITY OF THE WALLS HAVE ATTAINED THEIR FULL CONCRETE DESIGN STRENGTH IN 28 DAYS. NOTE THAT IF FULL CONCRETE DESIGN STRENGTH IS ACHIEVED BEFORE 28 DAYS, A MINIMUM OF 21 DAYS OF CURING MUST BE ALLOWED PRIOR TO BACKFILLING.
3.

THE SOIL REPORT IN ITS ENTIRETY IS INCLUDED AS PART OF THE CONTRACT DOCUMENTS. FOR RECOMMENDED SOIL BEARING PRESSURE, FOUNDATION MATERIAL AND SITE GRADING, SEE SOILS AND GEOLOGICAL REPORT BY:
DAC ASSOCIATES
PROJECT NUMBERS: 887–0715G DATED AUGUST 4, 2016
ALLOWABLE BEARING PRESSURE: 1,000 P.S.F.(BASIC)
3,000 P.S.F.(MAX) COMPACTED FILL ON BEDROCK
4.

FILL AND BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT AND ASTM TEST METHOD D–1557–94. FLOODING OR JETTING NOT PERMITTED.
5.

FILL AND FOUNDATION EXCAVATION SHALL BE OBSERVED AND APPROVED BY THE PROJECT SOILS ENGINEER PRIOR TO PLACING CONCRETE.
6.

ALL FILL AND BACKFILL MATERIAL SHALL BE APPROVED BY THE PROJECT SOILS ENGINEER PRIOR TO PLACEMENT.

ADHESIVE ANCHORS FOR CONCRETE:

1.

ANCHOR EMBEDMENT AND NOMINAL DIAMETER OF STUD SHALL BE AS SHOWN ON DRAWINGS.
2.

ADHESIVE STUD ASSEMBLIES SHALL CONSIST OF A THREADED STUD, FLAT WASHER, AND HEX NUT.
3.

OTHER ADHESIVE ANCHORING SYSTEMS SHALL ONLY BE USED WITH THE APPROVAL OF THE ENGINEER.
4.

HILTI ADHESIVE SYSTEMS:
A. FAST CURE: HIT HY–200 PER ICC ESR–3187
B. SLOW CURE: HIT RE–500–SD PER ICC ESR–2322
C. STUD MATERIAL SHALL BE THREADED ROD CONFORMING TO ASTM F568M, CLASS 5.8, FOR CARBON STEEL APPLICATIONS AND ASTM F593 CW2 (316) FOR STAINLESS STEEL APPLICATIONS, U.N.O.
5.

NUTS SHALL CONFORM TO ASTM A 563, AMERICAN STANDARD HEAVY HEX, OR ASTM F594 FOR STAINLESS STEEL APPLICATIONS.
6.

FLAT WASHERS SHALL CONFORM TO ASTM F 435.
7.

GALVANIZED STUDS, WHERE CALLED FOR, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A 123. UNLESS NOTED OTHERWISE NUTS AND WASHERS SHALL BE SUPPLIED WITH A HOT DIP GALVANIZED FINISH. BOLTS AND NUTS SHALL HAVE THEIR THREADS CHASED AFTER GALVANIZING.
8.

STUD PROTECTION FROM FACE OF CONCRETE SHALL BE DETERMINED BY THE CONTRACTOR, CONSIDERING THE THICKNESS OF THE GROUT, THICKNESS OF THE MATERIAL THROUGH WHICH THE BOLT MUST PROJECT, WASHER THICKNESS, NUT THICKNESS, PLUS A MINIMUM OF ¼” PROJECTION BEYOND THE FACE OF NUT.
9.

DRILL TYPE, HOLE DIAMETER AND PREPARATION SHALL BE AS REQUIRED BY THE ADHESIVE SYSTEM MANUFACTURER.
10.

SPECIAL INSPECTION, IN ACCORDANCE WITH THE REQUIREMENTS OF CBC TABLE 1705.3, IS REQUIRED DURING INSTALLATION OF ALL STUD BOLTS.
11.

CONCRETE SHALL HAVE THE DESIGNATED COMPRESSIVE STRENGTH OR HIGHER AT THE TIME ANCHORS ARE INSTALLED.

PLOTTED:
SAVED:

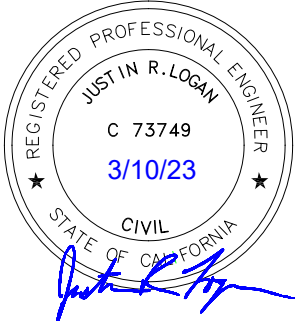
PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
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YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793



533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153



NO.	DATE	DESCRIPTION	BY	APPR'D	
REVISIONS					

JOB NO. 12600–07/16650–02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

GENERAL
GENERAL CONSTRUCTION NOTES

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
RCE # 54039		
SHEET 6 of 74	PLAN NO.	DRAWING NO. G–6
		REVISION NO. B

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



DCH 11/21/2018 x:\Los Gallinas\ASG150119-Secondary Treatment Upgrades\Drawings\General\G-10.dwg

PLOTTED:
SAVED:

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
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YELLOW 0.20MM
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BLUE 0.50MM
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WHITE 0.35MM
GRAY 0.15MM
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LGVSJ 1
FD144793

FILE:

SUMMARY OF SPECIAL INSPECTION

LEVEL B SPECIAL INSPECTION OF MASONRY		
VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1. VERIFICATION OF f'm		X
2. VERIFICATION OF SLUMP FLOW	X	
3. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:		
a. PROPORTIONS OF SITE-PREPARED MORTAR.	—	X
b. CONSTRUCTION OF MORTAR JOINTS.	—	X
c. LOCATION OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES.	—	X
4. THE INSPECTION PROGRAM SHALL VERIFY:		
a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	—	X
b. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.	—	X
c. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT.	—	X
d. WELDING OF REINFORCING BARS.	X	—
e. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)	—	X
5. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:		
a. GROUT IS CLEAN.	—	X
b. PLACEMENT OF REINFORCEMENT AND CONNECTORS AND ANCHORAGES.	—	X
c. PROPORTIONS OF SITE-PREPARED GROUT FOR BONDED TENDONS.	—	X
d. CONSTRUCTION OF MORTAR JOINTS.	—	X
6. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS.	X	—
7. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.	—	X
8. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.	—	X

SUMMARY OF SPECIAL INSPECTION

REQUIRED VERIFICATION AND INSPECTION OF SOILS		
VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	—	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIALS.	—	X
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.	—	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.	X	—
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	—	X

- A. THE SPECIAL INSPECTIONS LISTED ARE IN ADDITION TO THE CALLED INSPECTIONS REQUIRED BY CBC 2016 CHAPTER 1 SECTION 110. THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE IN ADDITION TO, AND NOT SUBSTITUTE FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY THE AUTHORITY'S BUILDING INSPECTOR.
- B. THE SPECIAL INSPECTORS MUST BE CERTIFIED BY THE LOCAL GOVERNING AGENCIES DEVELOPMENT SERVICES, TO PERFORM THE TYPE OF INSPECTION SPECIFIED.
- EXCEPTIONS:
- SOILS INSPECTIONS BY THE SOILS ENGINEER OF RECORD.
 - SMOKE CONTROL SYSTEM, BY THE MECHANICAL ENGINEER OF RECORD.
 - WHEN WAIVED BY THE BUILDING OFFICIAL.
- C. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION.
- D. SPECIALLY INSPECTED WORK THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE.
- E. THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY LOCAL GOVERNING AGENCIES, FOR TESTING OF MATERIALS, SYSTEMS, COMPONENTS AND EQUIPMENTS.
- F. A PROPERTY OWNER'S FINAL REPORT OF WORK REQUIRING SPECIAL INSPECTION MUST BE COMPLETED BY THE PROPERTY OWNER, PROPERTY OWNER'S AGENT OF RECORD, ARCHITECT OF RECORD, OR ENGINEER OF RECORD.
- G. AN APPLICATION TO PERFORM OFF-SITE FABRICATION MUST BE SUBMITTED TO THE AUTHORITY FOR APPROVAL PRIOR TO FABRICATION.
- H. A CERTIFICATE OF COMPLIANCE OF OFF-SITE FABRICATION MUST BE COMPLETED AND SUBMITTED TO THE AUTHORITY PRIOR TO ERECTION OF PREFABRICATED COMPONENTS.
- I. FABRICATOR MUST BE APPROVED BY THE AUTHORITY FOR THE FABRICATION OF MEMBERS AND ASSEMBLIES ON THE PREMISES OF THE FABRICATOR'S SHOP.

SUMMARY OF SPECIAL INSPECTION

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION		
VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:		
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	—	X
2. INSPECTION OF HIGH-STRENGTH BOLTING:		
a. BEARING-TYPE CONNECTIONS.	—	X
b. SLIP-CRITICAL CONNECTIONS.	—	X
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:		
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X
b. MANUFACTURERS' CERTIFIED MILL TEST REPORTS.	—	X
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:		
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	—	X
5. INSPECTION OF WELDING:	—	—
a. STRUCTURAL STEEL:	X	—
1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	X	—
2) MULTIPASS FILLET WELDS.	X	—
3) SINGLE-PASS FILLET WELDS > 5/16"	—	X
4) SINGLE-PASS FILLET WELDS < 5/16"	—	X
5) FLOOR AND ROOF DECK WELDS.	—	X
b. REINFORCING STEEL:		
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706.	—	X
2) REINFORCING STEEL-RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT.	X	—
3) SHEAR REINFORCEMENT.	X	—
4) OTHER REINFORCING STEEL.	—	X
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:		
a. DETAILS SUCH AS BRACING AND STIFFENING.	—	X
b. MEMBER LOCATIONS.	—	X
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	—	X

SUMMARY OF SPECIAL INSPECTION

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION		
VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	—	X
2. REINFORCING BAR WELDING:	—	X
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;		X
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND	X	
c. INSPECT ALL OTHER WELDS.		
3. INSPECT ANCHORS CAST IN CONCRETE	—	X
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. b.		
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	X
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.		
5. VERIFYING USE OF REQUIRED DESIGN MIX.	—	X
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	—
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	—
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	—	X

SUMMARY OF SPECIAL INSPECTION

STRUCTURAL OBSERVATION, INSPECTIONS AND TESTING		
VERIFICATION AND INSPECTION	CONTINUOUS INSPECTION	PERIODIC INSPECTION
1. FOR ANY HOLES DRILLED LARGER THAN 1 1/2"Ø OR ANY NOTCHES IN BEAM OR JOIST SHALL BE APPROVED BY THE ENGINEER OF RECORD IN WRITING PRIOR TO INSTALLATION.	X	—
2. ALL SHOP WELDING SHALL BE BY A LICENSED FABRICATOR APPROVED BY DEPARTMENT OF BUILDING AND SAFETY PER 2016 C.B.C. SECTION 1704 IN LIEU OF FABRICATOR APPROVAL. THE OWNER MAY EMPLOY A SPECIAL INSPECTOR, WHICH IS APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY, WHO WILL INSPECT ALL PHASES OF SHOP WELDING DURING SUCH TIMES THE WELDING IS TAKING PLACE.	X	—
3. ALL FIELD WELDING SHALL BE CERTIFIED 2016 C.B.C. WELDERS.	X	—
4. FULL PENETRATION WELDS AND FILLET WELDS 5/16" OR LARGER SHALL BE DONE UNDER THE OBSERVATION OF AN APPROVED SPECIAL INSPECTOR. SUCH INSPECTOR SHALL SUBMIT HIS/HER CREDENTIALS FOR REVIEW AND APPROVAL BY THE DEPARTMENT OF BUILDING AND SAFETY AND ENGINEER OF RECORD PRIOR TO REPORTING TO THE JOB SITE.	—	X
5. IN ADDITION TO THE REGULAR INSPECTION, THE FOLLOWING ITEMS. REQUIRE SPECIAL INSPECTION PER 2016 C.B.C.		
a. SOILS COMPLIANCE PRIOR TO FOUNDATION INSPECTION.	X	—
b. STRUCTURAL CONCRETE OVER 2500 P.S.I.	X	—
c. FIELD WELDING SHALL BE CONTINUOUS INSPECTED BY AN APPROVED LABS SPECIAL INSPECTION.	X	—
d. ANCHORS SYSTEM IN MASONRY: SIMPSON TITEN HD SCREW ANCHORS ICC ES-ESR #1056 HILTI HIT HY-70 EPOXY ANCHORS ICC ES-ESR #2682 OR EQUIVALENT APPROVED BY EOR.	X	—
e. ANCHORS SYSTEM IN CONCRETE: HILTI KWIK BOLT TZ EXPANSION ANCHORS ICC ES-ESR #1917 HILTI HIT HY 200 EPOXY ANCHORS ICC ES-ESR #3187 OR EQUIVALENT APPROVED BY EOR.	X	—
NOTE: PRE-DRILL HOLE 1/8" LARGER THAN ALL THREAD DIAMETER OR REBAR DIAMETER. CLEAN HOLE OUT THOUGHLY FOR EPOXY INSERTED. "SPECIAL INSPECTION REQUIRED".		
f. REINFORCED CONCRETE SLABS OVER MTL. DECKS.	—	X
g. BRACED FRAME AND MOMENT FRAME WELD CONNECTIONS SHALL BE TESTED BY NON-DESTRUCTIVE METHOD PER SECTION 1703. FULL PENETRATION WELDS SHALL BE TESTED 100 PERCENT BY ULTRASONIC TESTING OR BY RADIOGRAPHY. ALL BACKING BARS AND PLATE SHALL BE REMOVED AFTER FULL PENETRATION WELDS AND SHALL BE FOLLOWED UP WITH A 5/16" CONTINUOUS FILLET WELD.	—	X

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

GENERAL
SPECIAL INSPECTION INSTRUCTIONS

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	

RCE # 54039

NO.	DATE	DESCRIPTION	BY	APPRO'D	SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
					7 of 74		G-7	B
REVISIONS								



533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



BPP 04/01/2019 X:\Los Gallinas\LASG150119-Secondary Treatment Upgrades\Drafting\General\G-11.dwg

PLOTTED:
SAVED:

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

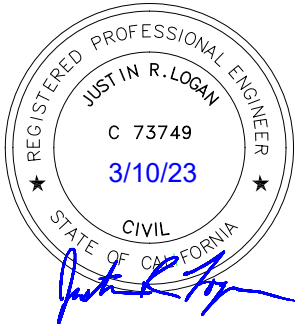
LGVSD 1 FILE:
FD144793

BUILDING CODE DATA TABLE (CBC-2016)	
FACILITY NAME:	TWASS AWNING
OCCUPANCY GROUP:	U
TYPE OF CONSTRUCTION:	TYPE IIB
MAXIMUM STORIES ALLOWED:	2
ACTUAL NUMBER OF STORIES:	1
MAXIMUM HEIGHT ALLOWED:	55 ft
ACTUAL HEIGHT:	12'-3 1/2"
MAXIMUM AREA ALLOWED PER FLOOR:	8,500 sq ft
ACTUAL AREA PER FLOOR:	413 sq ft
ALLOWABLE NUMBER OF OCCUPANTS:	4
ACTUAL NUMBER OF OCCUPANTS:	NOT NORMALLY OCCUPIED
TRAVEL DISTANCE ALLOWED:	300 ft
OCCUPANCY SEPARATION / FIRE RATING:	0 hrs
FIRE SUPPRESSION SYSTEM:	HAND HELD FIRE EXTINGUISHER
FIRE RESISTANCE RATING FOR BUILDING ELEMENTS:	
STRUCTURAL FRAME:	0 hrs
BEARING WALLS:	0 hrs
NON-BEARING WALLS, INTERIOR:	0 hrs
FLOOR CONSTRUCTION:	0 hrs
ELECTRICAL ROOM ENCLOSURES:	0 hrs
ROOF CONSTRUCTION:	0 hrs
EXTERIOR WALL FIRE RESISTANCE BASED ON FIRE SEPARATION DISTANCE:	0 hrs > 10 ft

NOTE:
REFER TO SHEET EBA-1



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NO.	DATE	DESCRIPTION	BY	APPR'D	
REVISIONS					

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

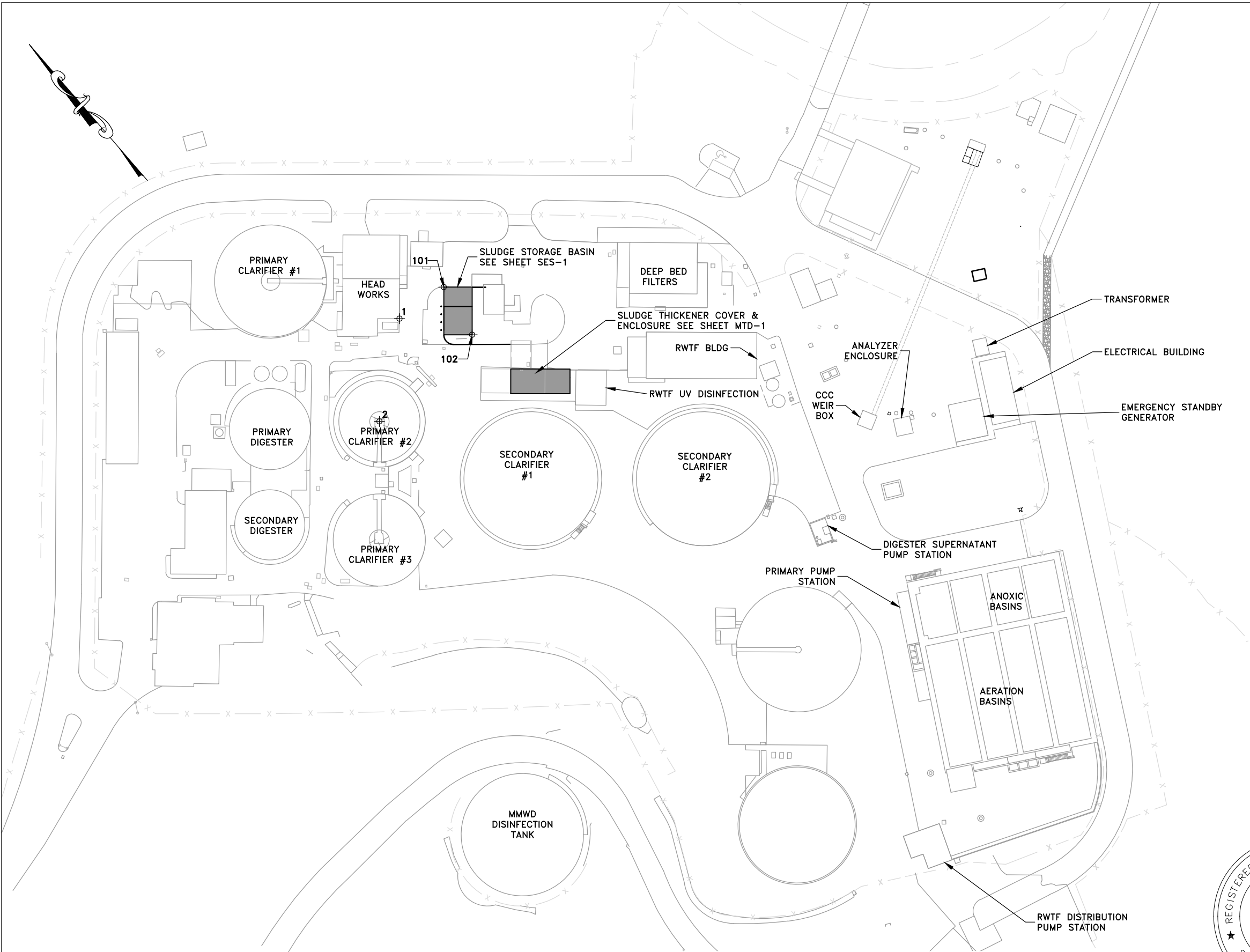
GENERAL
BUILDING CODE DATA TABLE

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	
SHEET 8 of 74	PLAN NO.	DRAWING NO. G-8
		REVISION NO. B

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



HORIZONTAL CONTROL			
PNT	NORTHING	EASTING	DESCRIPTION
1	2202220.45	5980237.50	CORNER OF HEADWORKS BUILDING
2	2202170.32	5980173.34	CENTER OF PRIMARY CLARIFIER #2
101	2202216.30	5980279.53	SLUDGE EQ
102	2202173.95	5980271.85	SLUDGE EQ



PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

SITE AND HORIZONTAL CONTROL PLAN
SCALE: 1"=40'-0"
0 40 80
Scale in Feet



533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153



NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**CIVIL
SITE AND HORIZONTAL CONTROL**

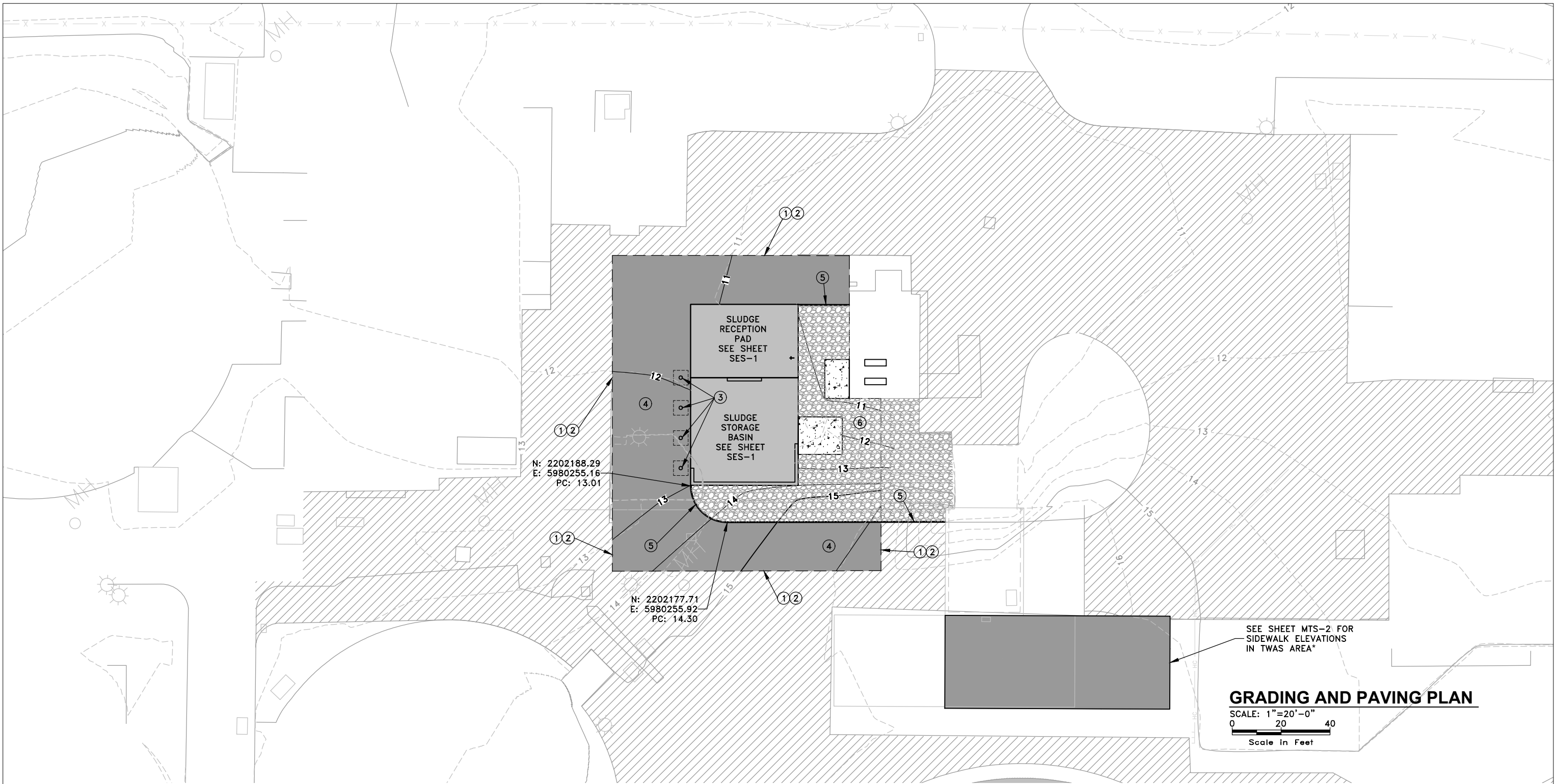
CHECKED JRL	DRAWN DCH	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23

GENERAL MANAGER
Curtis Paxton

DISTRICT ENGINEER
Michael P Cortez

RCE # 54039

SHEET 9 of 74	PLAN NO.	DRAWING NO. C-1	REVISION NO. B
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GRADING AND PAVING PLAN

SCALE: 1"=20'-0"
0 20 40
Scale in Feet

NOTES:

- ① - SAW CUT, PROVIDE CLEAN EDGE.
- ② - MATCH EXISTING ELEVATION.
- ③ - PIPE BOLLARD. 120/CD-2
- ④ - 3" ASPHALT PAVING OVER BASE COURSE. 108/CD-2
- ⑤ - REDWOOD HEADER. 137/CD-1
- ⑥ - 6" DEEP DRAINAGE GRAVEL OVER 8oz. NON WOVEN FABRIC MIRAFI 180N OR EQUAL

SITE PAVING LEGEND

- EXISTING ASPHALT
- NEW ASPHALT
- EXISTING CONCRETE
- NEW CONCRETE
- NEW STRUCTURE

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.25MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

* CONTRACTOR TO REPLACE/REPAIR ASPHALT, PAVING, AND EXISTING SIDEWALK/CONCRETE AROUND TWAS ENCLOSURE AND AWNING AREA AS REQUIRED TO RESTORE PREVIOUS GRADES, SLOPES, AND CONDITION.



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JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

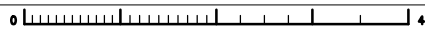
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

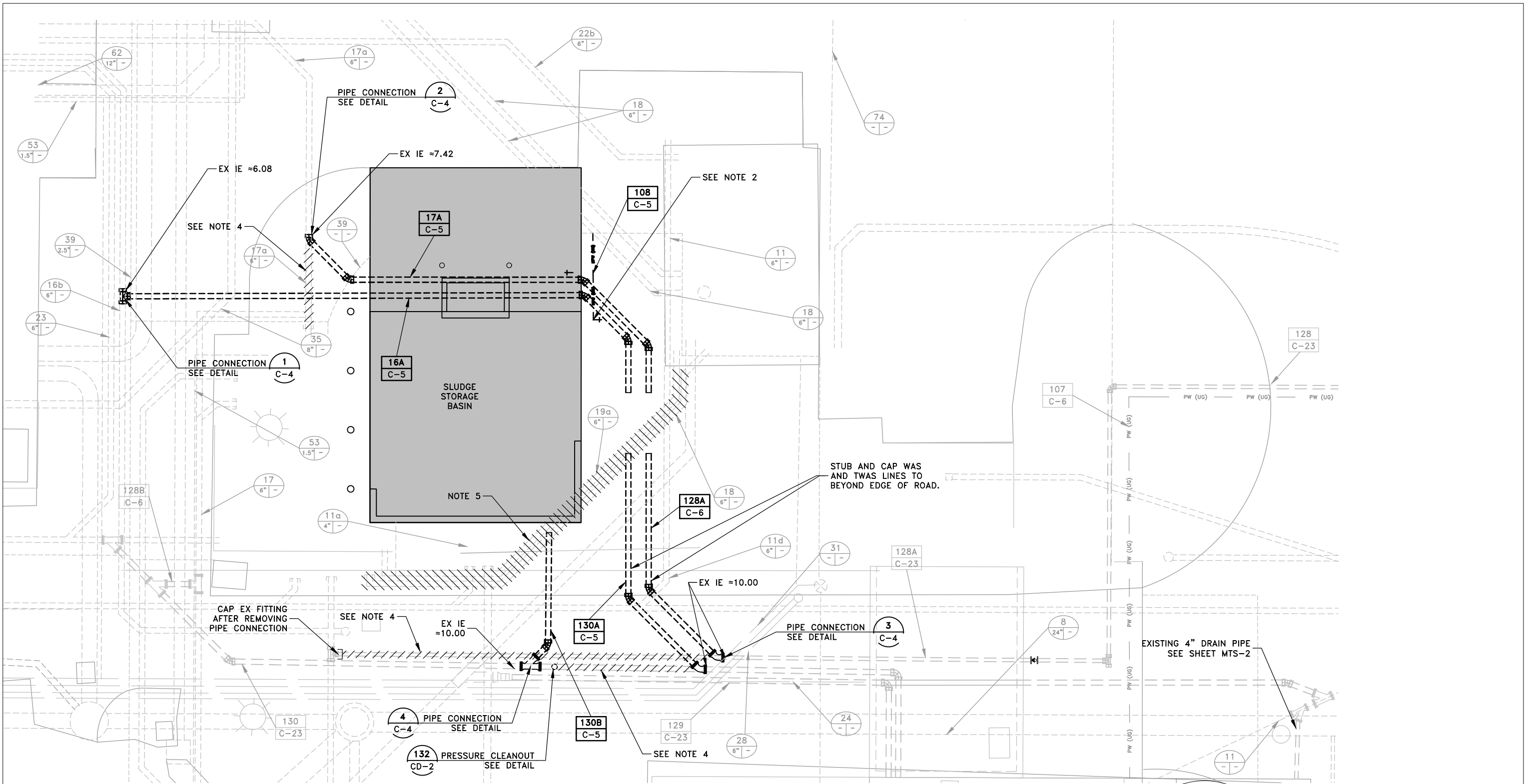
**CIVIL
GRADING PLAN**

CHECKED JRL	DRAWN DCH	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	

NO.	DATE	DESCRIPTION	BY	APPROV
REVISIONS				

SHEET 10 of 74	PLAN NO.	DRAWING NO. C-2	REVISION NO. B
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PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

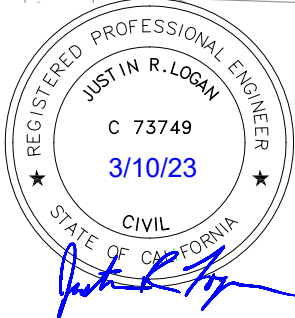
- NOTES:
- 1- SEE PIPE TRENCH DETAIL. 102/CD-1.
 - 2- INSTALL YARD HYDRANT 129/CD-2 WITH HOSE RACK 513/MD-1; CONNECT TO EXISTING NON-POTABLE WATER LINE.
 - 3- EXISTING INVERT ELEVATIONS, LOCATIONS, SIZES, AND PIPE MATERIALS ARE FROM RECORD DRAWINGS; CONFIRM IN FIELD.
 - 4- REMOVE ABANDONED PIPE SEGMENTS AFTER MAKING NEW CONNECTIONS.
 - 5- REMOVE ABANDONED PIPING; SEE SES-2 FOR MORE DETAILS.

YARD PIPING PLAN

SCALE: 1"=5'-0"
0 5 10
Scale in Feet



533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
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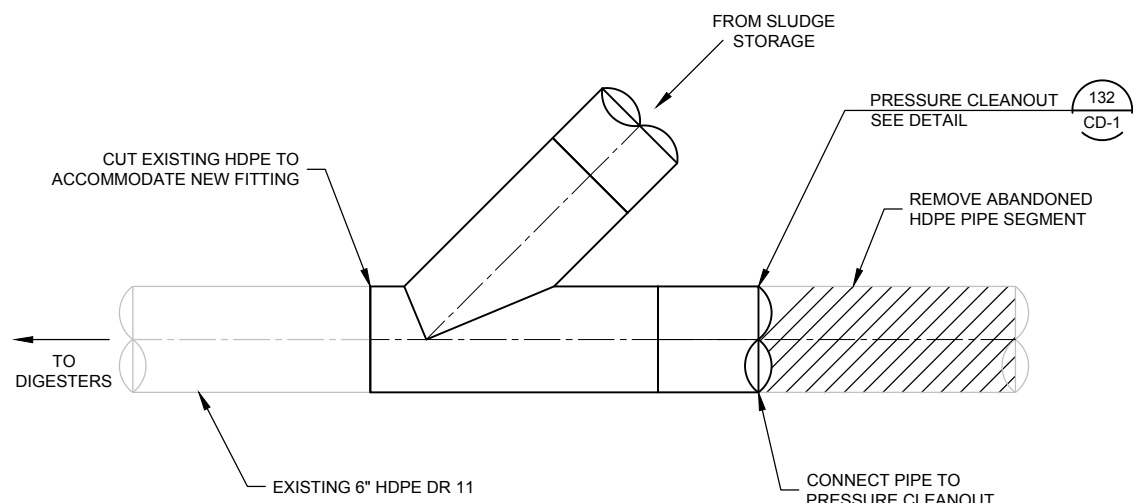
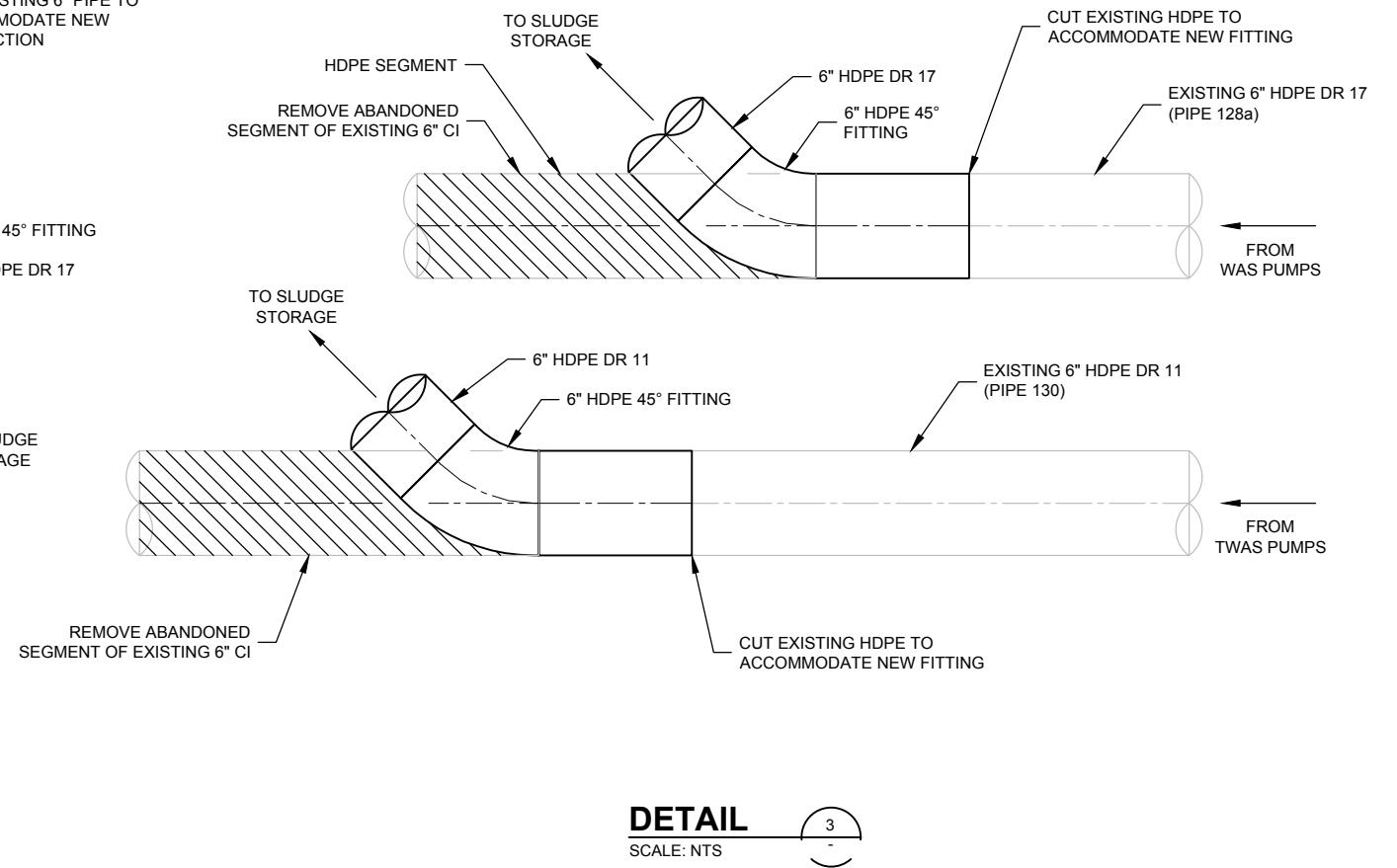
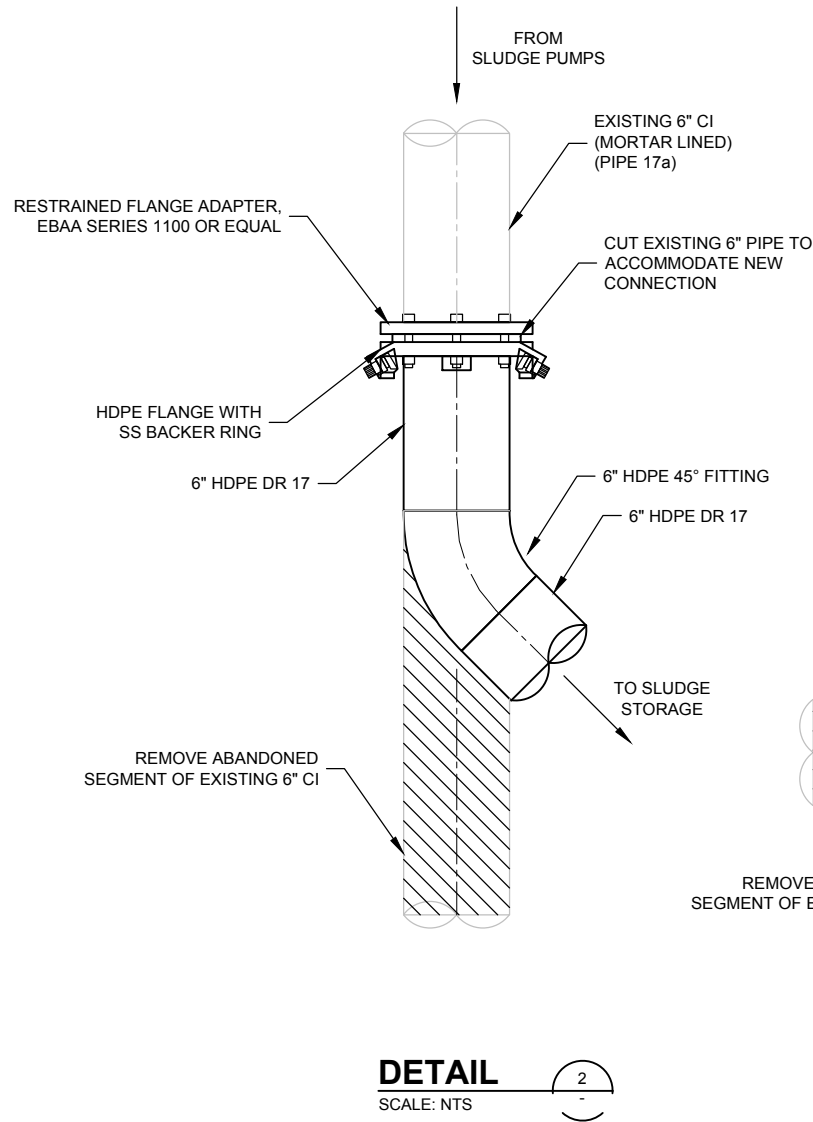
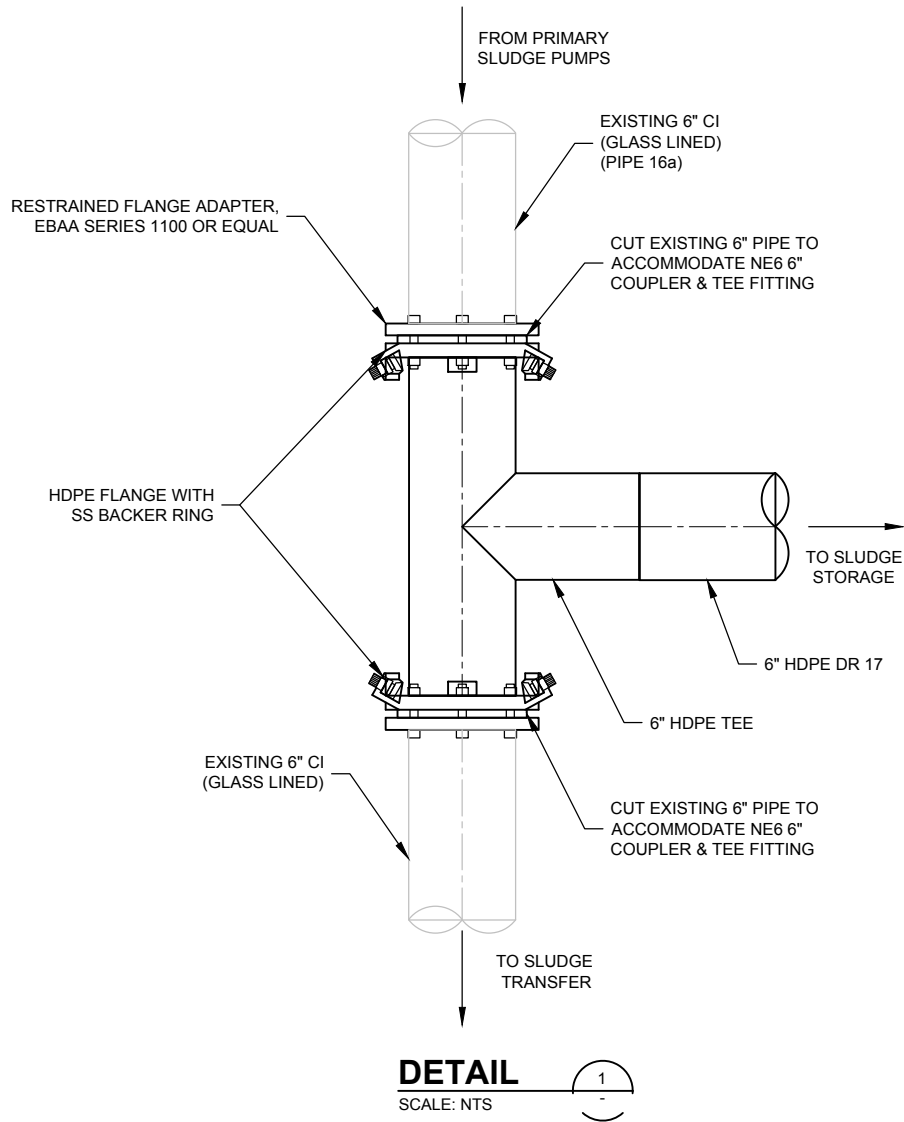
NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

CIVIL YARD PIPING PLAN			
CHECKED JRL	DRAWN DCH	SCALE AS SHOWN	
APPROVED JRL	DESIGNED EES	DATE 03/03/23	
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	RCE # 54039	
		DRAWING NO. C-3	REVISION NO. B



PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



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NO.	DATE	DESCRIPTION	BY	APPRO
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

CIVIL DETAILS

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 12 of 74		REVISION NO. C-4
DRAWING NO. C-4		REVISION NO. B

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

DCH 04/22/2019 X:\Las Gallinas\LASG150119-Secondary Treatment Upgrades\Drafting\Civil\C-6.dwg

PLOTTED:
SAVED:

LGVSD-SECONDARY TREATMENT UPGRADES			
YARD PIPING SCHEDULE (EX)			
PIPE #	SIZE	MATERIAL	DESCRIPTION
1a	12"-30"	WELDED STEEL, CEMENT L/C	RAW INFLUENT
1b	12"-24"	CONCRETE CYLINDER	RAW INFLUENT
1c	18"	POLYETHYLENE (SDR-26)	RAW INFLUENT
1d	12"-20"	WELDED STEEL, FUSION EPOXY COATED	RAW INFLUENT
1e	18"-24"	ASB BONDED CORRUGATED	RAW INFLUENT
2	24"-30"	WELDED STEEL, CEMENT L/C	PRIMARY CLARIFIER INFLUENT
3	20"-24"	WELDED STEEL, CEMENT L/C	INTERMEDIATE CLARIFIERS INFLUENT
4	24"-36"	WELDED STEEL, CEMENT L/C	BIOFILTER PROCESS PIPING
5	30"-36"	WELDED STEEL, CEMENT L/C	SECONDARY CLARIFIER INFLUENT
6a	24"	WELDED STEEL, CEMENT LINED	FIXED FILM REACTOR INFLUENT
6b	24-36"	WELDED STEEL, CEMENT L/C	FIXED FILM REACTOR INFLUENT
7a	18"	WELDED STEEL, CEMENT LINED	FILTER FEED
7b	18"-30"	POLYETHYLENE (SDR-26)	FILTER FEED
8a	18"-30"	WELDED STEEL, CEMENT L/C	PROCESS BYPASS
8b	15"-24"	ASB BONDED CORRUGATED	PROCESS BYPASS
8c	30"	RCP W/RUBBER JOINTS	PROCESS BYPASS
8d	30"	POLYETHYLENE	PROCESS BYPASS
9a	30"-36"	POLYETHYLENE (SDR-26)	CHLORINE CONTACT CHAMBER
9b	60"	POLYETHYLENE SPIRAL WOUND	CHLORINE CONTACT CHAMBER
10a	30"	ASB BONDED CORRUGATED	PLANT EFFLUENT
10b	24"	POLYETHYLENE (SDR-21)	PLANT EFFLUENT
10c	24"	WELDED STEEL, CEMENT L/C	PLANT EFFLUENT
11a	6"-18"	VITRIFIED CLAY PIPE	SEWERS AND DRAINS
11b	4"-6"	CAST IRON SOIL PIPE	SEWERS AND DRAINS
11c	4"-6"	CAST IRON B&S CLASS 150	SEWERS AND DRAINS
11d	6"-12"	PVC C-900 (DR-25)	SEWERS AND DRAINS
11e	24"-60"	ASB BONDED CORRUGATED	SEWERS AND DRAINS
11f	3/4"-2"	GALVANIZED IRON	SEWERS AND DRAINS
11g	6"	ACP	SEWERS AND DRAINS
12a	12"-18"	ASPHALT DIPPED GALV. CMP	STORM DRAIN
12b	12"-18"	RCP T&G	STORM DRAIN
12c	12"	ACP	STORM DRAIN
13a	6"	CAST IRON, CEMENT LINED	CLARIFIER SLUDGE DRAWOFF
13b	6"	CAST IRON, GLASS LINED	CLARIFIER SLUDGE DRAWOFF
14a	6"	CAST IRON, CEMENT LINED	SCUM PIT DRAWOFF
14b	6"	CAST IRON, GLASS LINED	SCUM PIT DRAWOFF
15	6"	CAST IRON, CEMENT LINED	THICKENER SLUDGE DRAWOFF
16a	6"	CAST IRON, CEMENT LINED	SLUDGE SUCTION TRANSFER
16b	6"	CAST IRON, GLASS LINED	SLUDGE SUCTION TRANSFER
17a	6"	CAST IRON, CEMENT LINED	SLUDGE TO THICKENER
17b	6"	CAST IRON, GLASS LINED	SLUDGE TO THICKENER
17c	6"	PVC SOLVENT WELD	SLUDGE TO THICKENER
17d	6"	HDPE (SDR 17)	SLUDGE TO THICKENER
17e	4"	HDPE (SDR 17)	WAS TO THICKENER
18a	6"	CAST IRON, CEMENT LINED	SLUDGE TO DEGRITTER
18b	6"	CAST IRON, GLASS LINED	SLUDGE TO DEGRITTER
19a	6"	CAST IRON, CEMENT LINED	DEGRITTER TO THICKENER
19b	6"	PVC SOLVENT WELD	DEGRITTER TO THICKENER
20	6"	CAST IRON, CEMENT LINED	SLUDGE RETURN
21	6"	CAST IRON, CEMENT LINED	SLUDGE BYPASS
22	6"	CAST IRON, GLASS LINED	SCUM DISCHARGE
23	6"	CAST IRON, GLASS LINED	SLUDGE TO DIGESTER
24	12"-14"	WELDED STEEL, CEMENT L/C	PRIMARY DIGESTER RECIRCULATION
25	6"	CAST IRON, CEMENT LINED	SLUDGE LIQUOR PUMP STATION
26	4"-6"	CAST IRON, CEMENT LINED	HEATED SLUDGE
27a	6"	CAST IRON, CEMENT LINED	DIGESTER OVERFLOW (SUPERNATANT)
27b	6"	VCP	DIGESTER OVERFLOW (SUPERNATANT)
27c	6"	POLYETHYLENE (SDR-26)	DIGESTER OVERFLOW (SUPERNATANT)
28	6"-8"	CAST IRON, CEMENT LINED	SLUDGE DRAWOFF
29a	10"	VCP	DIGESTER SUPERNATANT
29b	10"	CAST IRON, CEMENT LINED	DIGESTER SUPERNATANT
29c	10"	PVC C-900 (DR-25)	DIGESTER SUPERNATANT
30	6"	ACP	LAGOON RETURN
31a	2 1/2"	PVC SCH 40	CENTRATE RETURN
31b	6"	PVC B&S SEWER PIPE	CENTRATE RETURN
32	6"	CAST IRON, CEMENT LINED	PRIMARY EFFLUENT TO THICKENER
33	6"-8"	PVC SOLVENT WELD	THICKENER OVERFLOW
34	10"	WELDED STEEL, CEMENT LINED	CLARIFIER RETURN
35	8"	POLYETHYLENE (SDR-26)	FILTER BACKWASH RETURN
36	6"	PVC B&S SEWER PIPE	FILTER BACKWASH OVERFLOW
37	8"	PVC B&S CLASS 200	CHLORINE CONTACT CHAMBER RETURN
38	1"-2"	PVC SCH 40	DOMESTIC WATER
39	1"-4"	PVC SCH 40	RECLAIMED WATER
40	1"-4"	PVC SCH 40	EFFLUENT WATER
41a	1"	GALVANIZED IRON	HOT WATER HEATING SYSTEM
41b	1 1/4"	COPPER CLASS K	HOT WATER HEATING SYSTEM
42	2"	GALVANIZED IRON	ENGINE COOLANT
1a	3/4"-2"	SCH 40 SMLS STEEL PIPE POLYETHYLENE WRAPPED	COMPRESSED AIR

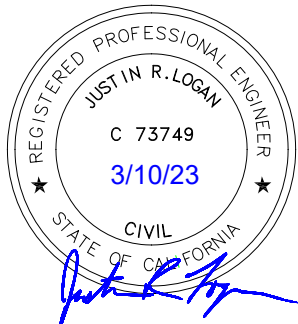
LGVSD - SECONDARY TREATMENT UPGRADES			
YARD PIPING SCHEDULE (EX)			
44	As Shown	PVC SCH 40	CONTROL SYSTEM & INSTRUMENT AIR
45	2"-6"	CAST IRON, CEMENT LINED	BLOWER AIR
46	1 1/4"	GALVANIZED IRON	EXHAUST AIR
47	1/2"	SEAMLESS STEEL, CLASS 3000	HYDRAULIC FLUID LINES
48	2"-4"	PVC SCH 40	DIGESTER GAS
49	4"	PVC SCH 40	COMPRESSED DIGESTER GAS
50	1"	SCH 40 SMLS STEEL PIPE	PROPANE GAS
51	1"	SCH 40 BLK SMLS STEEL	CHLORINE GAS UNDER PRESSURE
52	3/4"-1 1/2"	PVC SCH 80	CHLORINE GAS UNDER VACUUM
53	1 1/2"	PVC SCH 80	CHLORINE SOLUTION
54	1"	SCH 80 BLK SMLS STEEL	SO2 LIQUID & GAS UNDER PRESSURE
55	1"	PVC SCH 80	SO2 GAS UNDER VACUUM
56	1 1/2"	PVC SCH 80	SO2 SOLUTION
57	1 1/2"	PVC SCH 80	ALUM OR FERRIC CHLORIDE
58	1 1/2"	PVC SCH 80	POLYMER
59	1"	PVC SCH 80	INJECTOR WATER
60	1 1/2"	PVC SCH 80	SAMPLE
61	1 1/2"-2"	GALVANIZED IRON	SUMP PUMP SUCTION/DISCHARGE
62a	12"	POLYETHYLENE	RECLAIMED WATER FEED
62b	12"	WELDED STEEL-FUSION EPOXY COATED	RECLAIMED WATER FEED
63	3/4"-2"	FIBERGLASS	FUEL SUPPLY
64	3/4"-2"	FIBERGLASS	FUEL OVERFLOW
65	2"	FIBERGLASS	FUEL VENT
66a	12"	CAST IRON, CEMENT LINED	POND TRANSFER
66b	12"-24"	WELDED STEEL, CEMENT L/C	POND TRANSFER
66c	18"-24"	POLYETHYLENE (SDR-21)	POND TRANSFER
67a	18"	WELDED STEEL, CEMENT L/C	POND EFFLUENT
67b	18"	POLYETHYLENE (SDR-21)	POND EFFLUENT
68a	12"	CAST IRON, CEMENT LINED	POND RETURN
68b	12"	WELDED STEEL, CEMENT L/C	POND RETURN
69	24"	POLYETHYLENE (SDR-21)	POND OVERFLOW
70a	6"-12"	WELDED STEEL, CEMENT L/C	IRRIGATION LINES
70b	4"-12"	PVC B&S CLASS 200	IRRIGATION LINES
70c	1/2"-8"	PVC SCH 80 SOLVENT WELD	IRRIGATION LINES
70d	4"-6"	CAST IRON, CEMENT LINED	IRRIGATION LINES
70e	3"	ALUMINUM CLASS 150	IRRIGATION LINES
71	24"	WELDED STEEL, CEMENT L/C	SCREEN INTAKE
72	8"	CAST IRON, CEMENT LINED	SCREEN BACKWASH
73a	4"-8"	DUCTILE IRON, CEMENT LINED	SUMP PUMP RETURN
73b	8"-10"	POLYETHYLENE (SDR-21)	SUMP PUMP RETURN
73c	8"	WELDED STEEL, CEMENT L/C	SUMP PUMP RETURN
73d	2"	PVC SCH 80	SUMP PUMP RETURN
74a	6"-8"	POLYETHYLENE (SDR-17)	SLUDGE POND FILL
74b	8"	WELDED STEEL	SLUDGE POND FILL
74c	6"-8"	DUCTILE IRON, CEMENT LINED	SLUDGE POND FILL
75	6"-8"	POLYETHYLENE (SDR-21)	SLUDGE POND OVERFLOW
76	8"	POLYETHYLENE (SDR-17)	SLUDGE POND RETURN
77	6"	DUCTILE IRON, CEMENT L/C	SLUDGE POND DRAWOFF
78	6"	POLYETHYLENE (SDR-21)	LEACHATE DRAIN
79	6"	POLYETHYLENE (SDR-21)	POND UNDERDRAIN
80	3"-4"	PVC SCH 80 SOLVENT WELD	MMWD SLUDGE BLOWDOWN
81	18"	HDPE DR 11	MEMBRANE FEED LINE
82	18"	HDPE DR 11	UV FEED LINE
83	18"	HDPE DR 11	DISTRIBUTION LINE (FUTURE CONNECTION)
84	12"	HDPE DR 11	DISTRIBUTION LINE
85	18"	PVC SCH 80	DISTRIBUTION WET WELL OVERFLOW
86	6"	PVC SCH 80	FILTER BACKWASH RETURN LINE
87	6"-12"	PVC SCH 80	PROCESS GRAVITY DRAIN LINE
88	8"	PVC SCH 80	BACKWASH PRESSURE DRAIN LINE
89	6"	PVC SCH 80	HYPOCHLORITE BUILDING GRAVITY DRAIN LINE
90	3"x1"	CPVC SCH 80	HYPOCHLORITE CHEMICAL CONTAINMENT LINES
91	4"	PERFORATED HDPE	FOUNDATION DRAIN LINE
92	30"	HDPE - DR 17	REPLACEMENT BYPASS LINE
93	3"x1"	PVC SCH 80	FLOC CHEMICAL CONTAINMENT LINE
94	1"	SCH 40 SS	COMPRESSED AIR LINE
95	4"	HDPE - DR 17	RAIN GUTTER (ROOF DRAIN) STORM DRAIN LINE
96	20"	HDPE - DR 17	PROCESS BYPASS
90A	3"x1"	DOUBLE WALL CPVC SCH80	HCL TO PRIMARY INJECTION POINT
90B	3"x1"	DOUBLE WALL CPVC SCH80	HCL TO SECONDARY INJECTION POINT
90C	3"x1"	DOUBLE WALL CPVC SCH80	HCL TO RWTF INJECTION POINT
90D	3"x1"	DOUBLE WALL CPVC SCH80	HCL TO BYPASS INJECTION POINT
90E	3"x1"	DOUBLE WALL CPVC SCH80	HCL TO RAS/WAS BOX



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LGVSD - SECONDARY TREATMENT UPGRADES			
YARD PIPING SCHEDULE (EX)			
91A	2"x0.5"	DOUBLE WALL PVC SCH80	DECHLORINATION CHEMICAL CONTAINMENT LINES
97	42"	HDPE (SDR 17)	UV TO OUTFALL BOX (FUTURE)
98	18"	HDPE (SDR 17)	RWTF SPLITTER TO CCC/WATER STORAGE (FUTURE)
99	24"	HDPE (SDR 17)	SECONDARY EFFLUENT FROM UV CHANNEL TO WATER STORAGE
100	18"	HDPE (SDR 17)	MMWD CLEARWELL SUPPLY
101A	16"	HDPE (SDR 11)	NMWD DISTRIBUTION LINE
101B	16"	HDPE (EXISTING)	NMWD DISTRIBUTION LINE
102	12"	HDPE (SDR 17)	MMWD CLEARWELL DRAIN
103	16"	HDPE (SDR 17)	POND RETURN
104	8"	HDPE (SDR 11)	POTABLE WATER MAIN
105 (11)	6"	PVC (C-900)	SEWER & DRAINS
106	10" - 18"	VARIES	TEMPORARY PROCESS BYPASS LINE
107 (38)	1"-2.5"	HDPE (SDR 11)	POTABLE WATER
108 (39)	1"-4"	HDPE (SDR 11)	NON POTABLE WATER
109	12"	HDPE (SDR 11)	RWTF OFFSPEC WATER RETURN
110	16"	HDPE (SDR 11)	NMWD DISTRIBUTION LINE CONNECTION
111	36"/42"	HDPE (SDR 17)	SC#1 EFFLUENT TO SC EFFLUENT BOX
112	36"	HDPE (SDR 17)	SC #2 EFFLUENT
113	36"	HDPE (SDR 17)	SC #3 EFFLUENT (FUTURE)
114	12"	HDPE (SDR 17)	PRESSURE RAW SEWAGE MAIN
115	14"/16"	HDPE (SDR 17)	SC #1 RAS TO RAS SPLITTER BOX
116	14"	HDPE (SDR 17)	SC #2 RAS TO RAS SPLITTER BOX
117	14"	HDPE (SDR 17)	SC #3 RAS TO RAS SPLITTER BOX
118	30"/36"	HDPE (SDR 17)	SC #1 Feed
119	30"	HDPE (SDR 17)	SC #2 Feed
120	30"	HDPE (SDR 17)	SC #3 Feed
121	14"	HDPE (SDR 17)	SC #1 RAS COLLECTION (TEMPORARY)
122	30"	HDPE (SDR 17)	PC #2/#3 EFFLUENT TO PRIMARY PUMP STATION
123A	3/4"	HDPE (SDR 11)	SAMPLE LINE (MISC)
123B	3/4"	HDPE (SDR 11)	SAMPLE LINE (MISC) - ASSOCIATED WITH DECHLOR BID ITEM
124	30"	HDPE (SDR 17)	SC #1 INFLUENT (TEMPORARY)
125	4"	HDPE (SDR 17)	SC #1 SCUM COLLECTION
126	4"	HDPE (SDR 17)	SC #2 SCUM COLLECTION
127	4"	HDPE (SDR 17)	THICKENING (FUTURE - REMOVED FROM PROJECT)
128	4"	HDPE (SDR 17)	WAS TO MECHANICAL THICKENING
128A	4"	HDPE (SDR 17)	WAS MECHANICAL THICKENING BYPASS
129	4" - 6"	DWV (SDR 35)	MISC GRAVITY DRAIN LINES
130 (23)	6"	HDPE (SDR 11)	THICKENED WAS FROM MECHANICAL THICKENERS
131A	30"	HDPE (SDR 17)	PC #1 EFFLUENT TO PRIMARY PUMP STATION
131B	30"	HDPE (SDR 17)	PC #1 EFFLUENT TO PRIMARY PUMP STATION
132A(12)	12"	DWV (SDR 35)	STORM DRAIN PIPING (EXISTING)
132B	15"	DWV (SDR 35)	STORM DRAIN PIPING (NEW & EXISTING AS SHOWN)
132C	18"	DWV (SDR 35)	STORM DRAIN PIPING
132D	24"	DWV (SDR 35)	STORM DRAIN PIPING

YARD PIPING SCHEDULE					
PIPE #	SIZE	MATERIAL	DESCRIPTION	PRESSURE, PSI (SEE NOTE 2)	
				OPERATING	TEST
17A	6"	HDPR (SDR 17)	PRIMARY SLUDGE TRANSFER TO SLUDGE STORAGE	30	60 - HH
16A	6"	HDPR (SDR 17)	SLUDGE TRANSFER TO SLUDGE STORAGE	30	60 - HH
108	1" - 4"	HDPR (SDR 11)	NON POTABLE WATER	100	150 - HH
128A	6"	HDPR (SDR 17)	WAS MECHANICAL THICKENING BYPASS TO SLUDGE STORAGE	30	60 - HH
130A	6"	HDPR (SDR 17)	THICKENED WAS TO SLUDGE STORAGE	100	150 - HH
130B	6"	HDPR (SDR 17)	FROM SLUDGE STORAGE TO DIGESTERS	100	150 - HH



2	12/7/20	SECONDARY CLARIFIER #1 RELOCATION	DCH	JRL
1	4/1/19	REMOVE UV BID ALTERNATE	DCH	JRL
NO.	DATE	DESCRIPTION	BY	APPROD
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE /SLUDGE BASIN AND RECEPTION PAD

CIVIL
YARD PIPING SCHEDULE

CHECKED JRL	DRAWN DCH	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 13 of 74	PLAN NO.	DRAWING NO. C-5
		REVISION NO. B

LGVSD 1
FD144793

FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



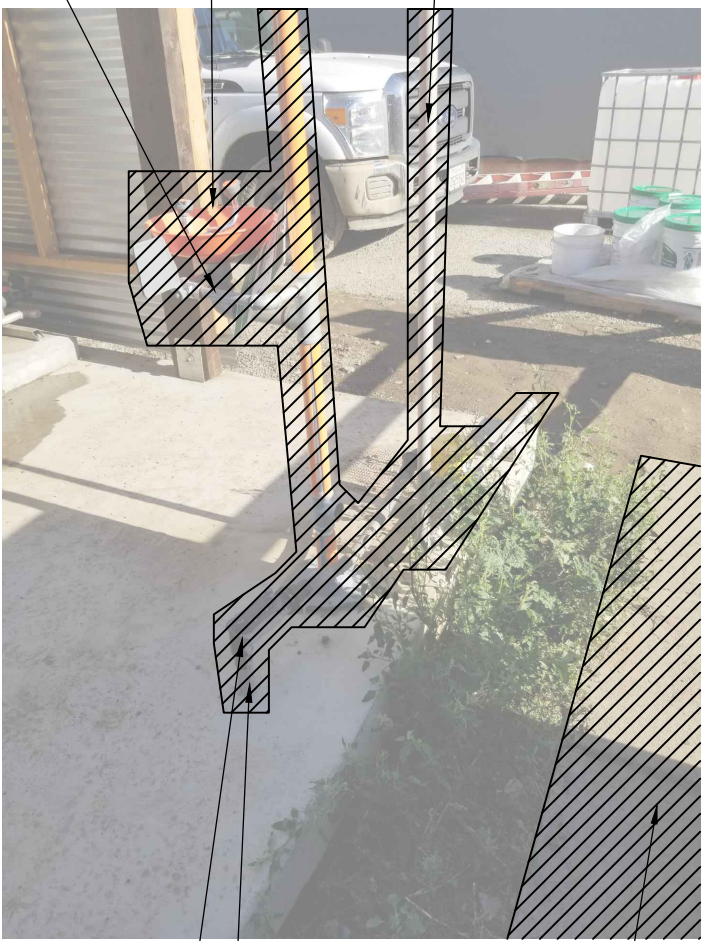
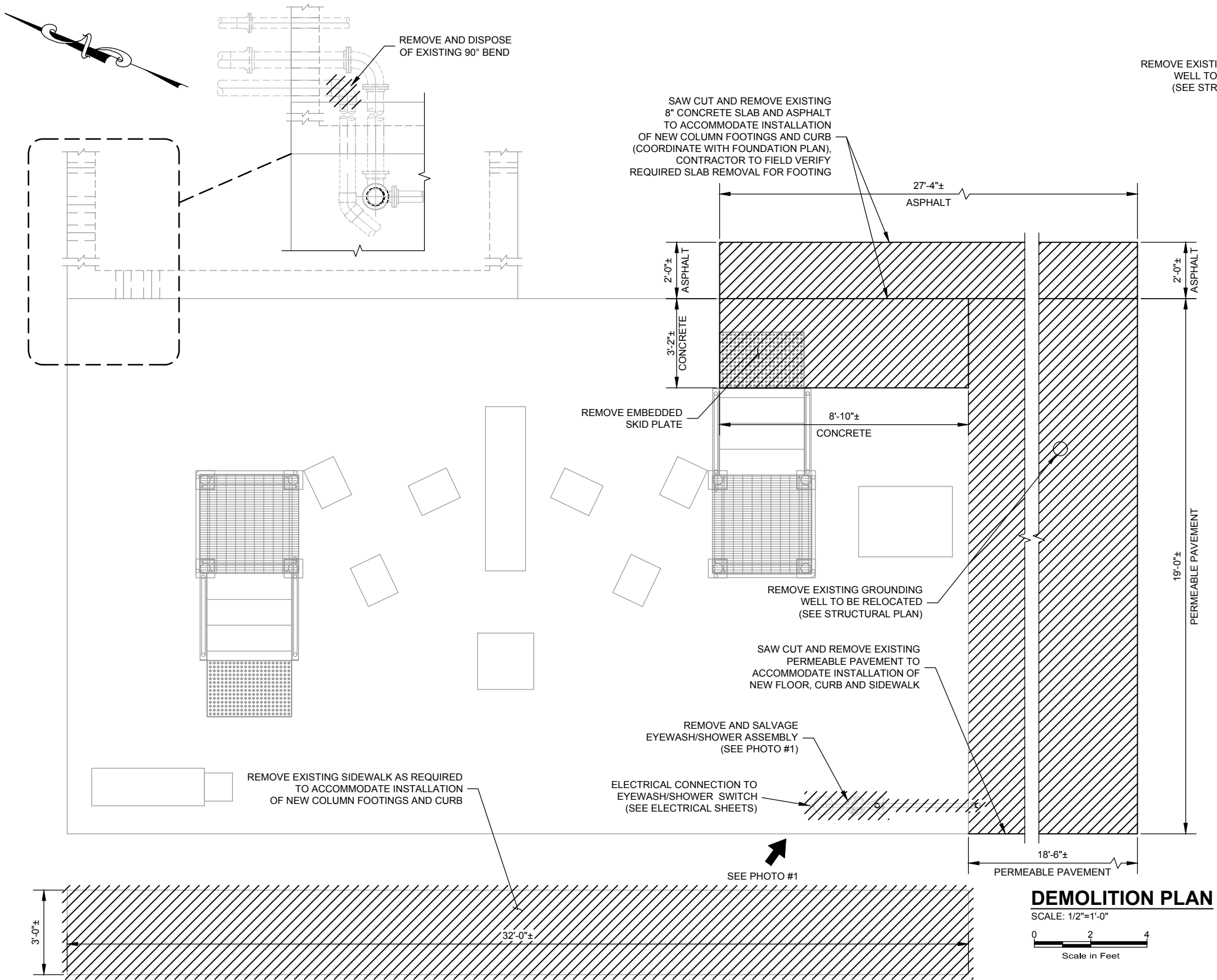


PHOTO #1

ELECTRICAL CONNECTION TO EYEWASH/SOWER SWITCH (SEE ELECTRICAL SHEETS)

REMOVE EXISTING SIDEWALK AS REQUIRED TO ACCOMMODATE INSTALLATION OF NEW COLUMN FOOTINGS, CURB AND SIDEWALK

REMOVE EXISTING GROUNDING WELL TO BE RELOCATED (SEE STRUCTURAL PLAN)

REMOVE AND SALVAGE EYEWASH/SOWER ASSEMBLY (SEE PHOTO #1)

REMOVE EXISTING SIDEWALK AS REQUIRED TO ACCOMMODATE INSTALLATION OF NEW COLUMN FOOTINGS AND CURB

DEMOLITION PLAN
SCALE: 1/2"=1'-0"
0 2 4
Scale in Feet



JOB NO. 12600-07/16650-02			
LAS GALLINAS VALLEY SANITARY DISTRICT MARIN COUNTY, CALIFORNIA			
TWAS ENCLOSURE/SLUDGE BASIN RECEPTION PAD			
TWAS ENCLOSURE DEMOLITION PLAN			
CHECKED JRL	DRAWN BDP	SCALE AS SHOWN	
APPROVED JRL	DESIGNED EES	DATE 03/03/23	
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez	
		RCE # 54039	
NO.	DATE	DESCRIPTION	BY
REVISIONS			
SHEET 14 of 74		DRAWING NO. MTD-1	REVISION NO. B

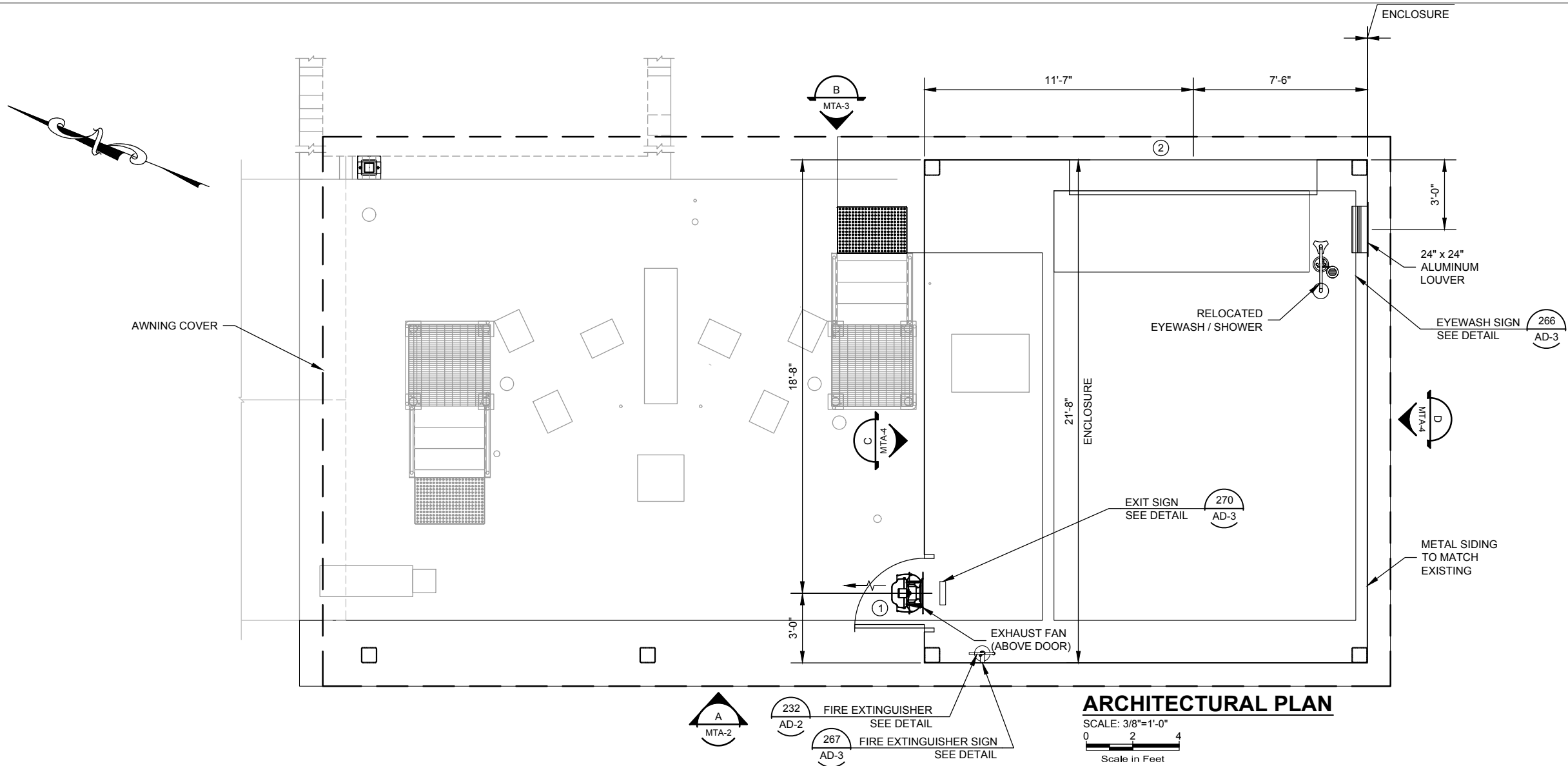
AQUA
ENGINEERING

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PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

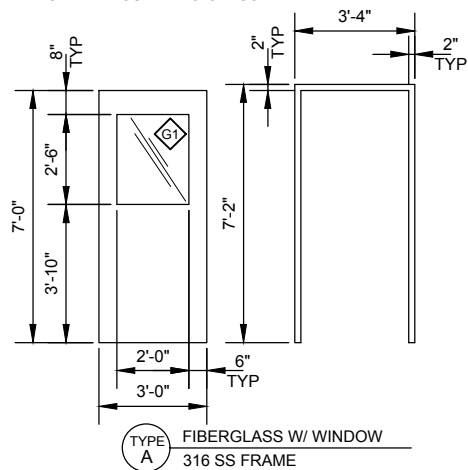
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BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

- NOTES:
- 1- REMOVE EXISTING ELECTRICAL CONDUIT, GRIND FLUSH WITH FLOOR AND PLUG ELECTRICAL PENETRATION FOR EYEWASH / SHOWER. SEE ELECTRICAL DRAWINGS FOR RELOCATED EYEWASH.



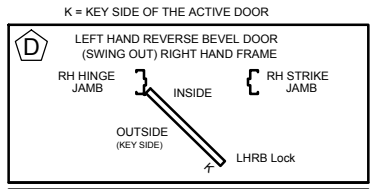
DOOR SCHEDULE										
SYMBOL	TYPE	SIZE	HINGE	CLOSER	LOCKSET	KICKPLATE	DOOR STOP	THRESHOLDS	WEATHERSTRIPPING	DESCRIPTION
①	A	3'-0" x 7'-0"		YES	CORBIN RUSSWIN ED 5600 AL-L9M55 BHMA 630	YES	YES	YES	YES	INSULATED FIBERGLASS DOOR W/ EXIT DEVICE AND WINDOW
②	C	10'-0" x 10'-0"	-	-	-	NO	NO	NO	YES	ROLL-UP DOOR W/ ELECTRIC OPENER

SYMBOL GLASS TYPE
 TEMPERED CLEAR INSULATING GLASS



DOOR SCHEDULE
SCALE: 3/8"=1'-0"

HINGE AND SWING SCHEDULE



- NOTES:
- SEE STRUCTURAL PLAN FOR FLOOR, CURB, AND SIDEWALK ELEVATIONS.



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**TWAS ENCLOSURE
ARCHITECTURAL PLAN**

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 15 of 74		REVISION NO. MTA-1
PLAN NO.		REVISION NO. B



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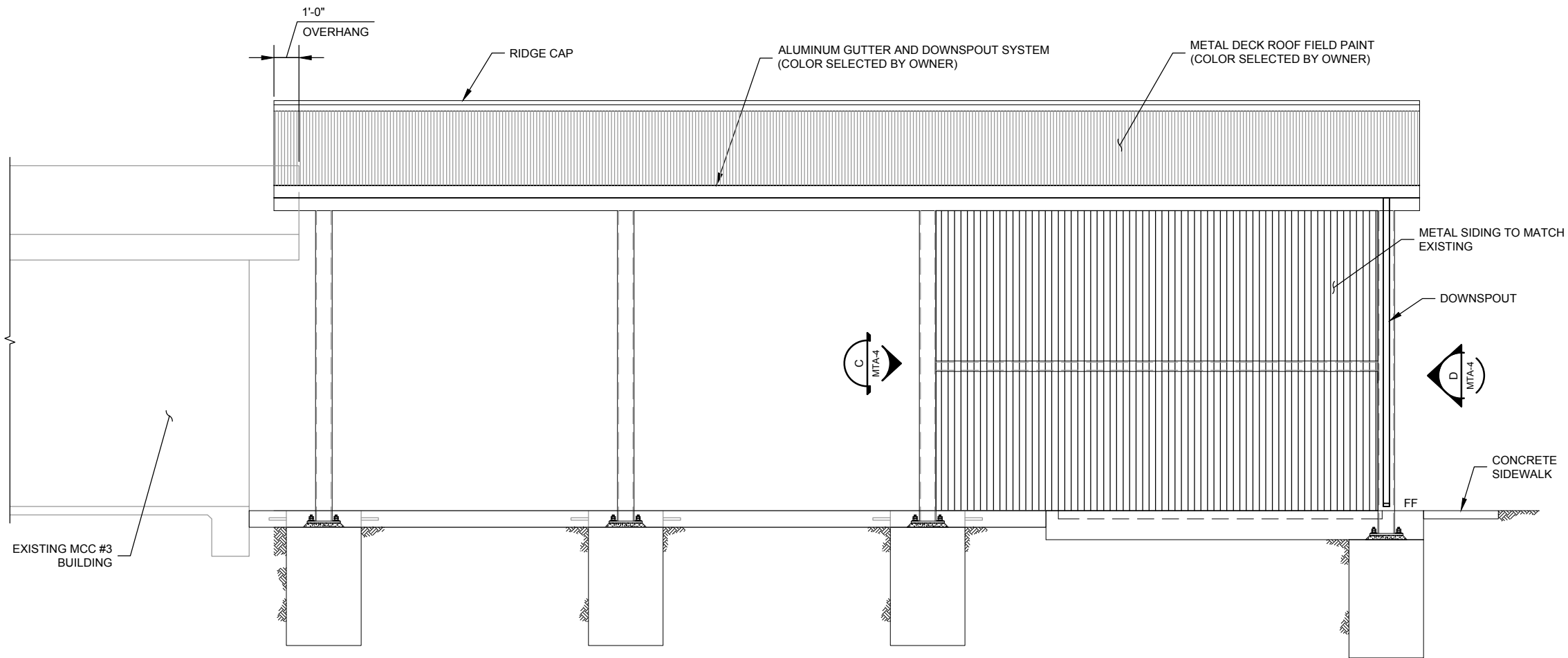
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SCALE: 1:1
BORDER: 22,34

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GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES





SOUTH ELEVATION
SCALE: 3/8"=1'-0"
0 2 4
Scale in Feet



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NO.	DATE	DESCRIPTION	BY	APPROD
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**TWAS ENCLOSURE
ARCHITECTURAL ELEVATION**

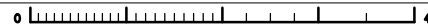
CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 16 of 74		DRAWING NO. MTA-2
		REVISION NO. B

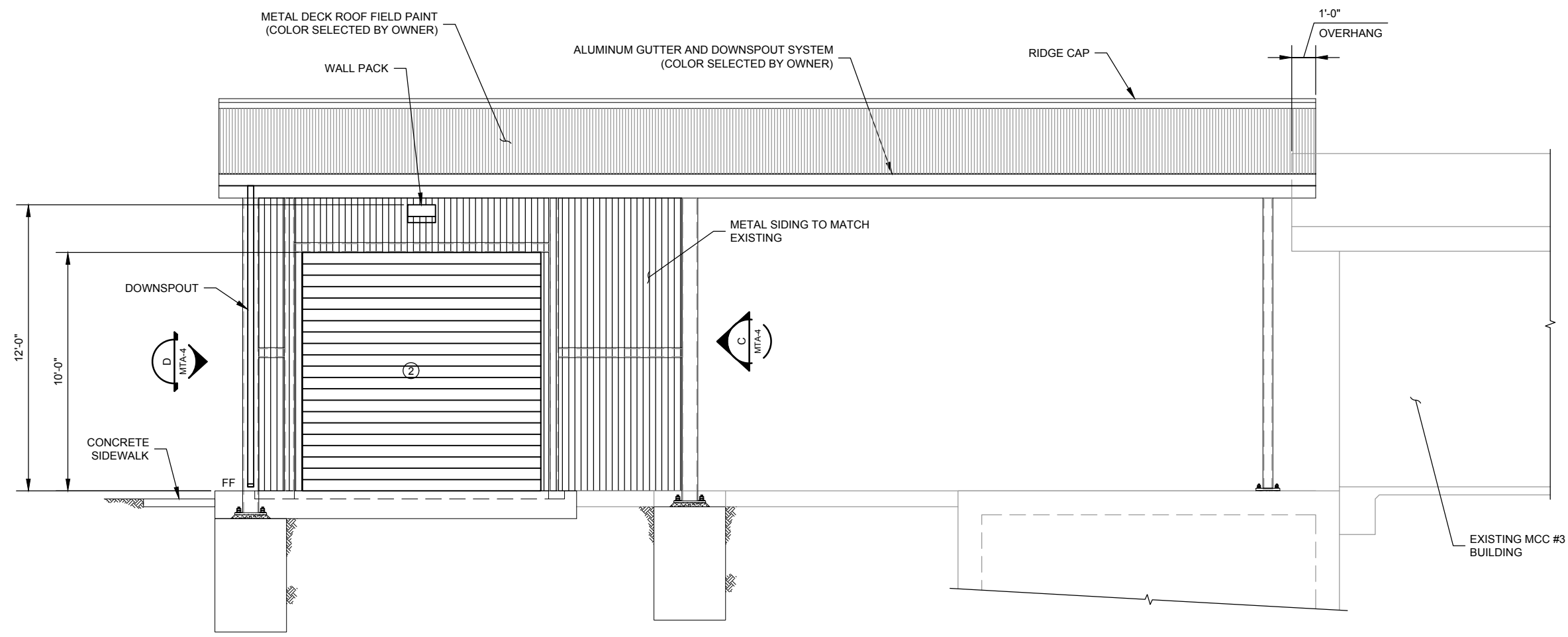
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BORDER: 22,34

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GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES





NORTH ELEVATION B
SCALE: 3/8"=1'-0"
0 2 4
Scale in Feet

PLOTTED: 3/10/23
SAVED: 3/10/23

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



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NO.	DATE	DESCRIPTION	BY	APPROD
REVISIONS				

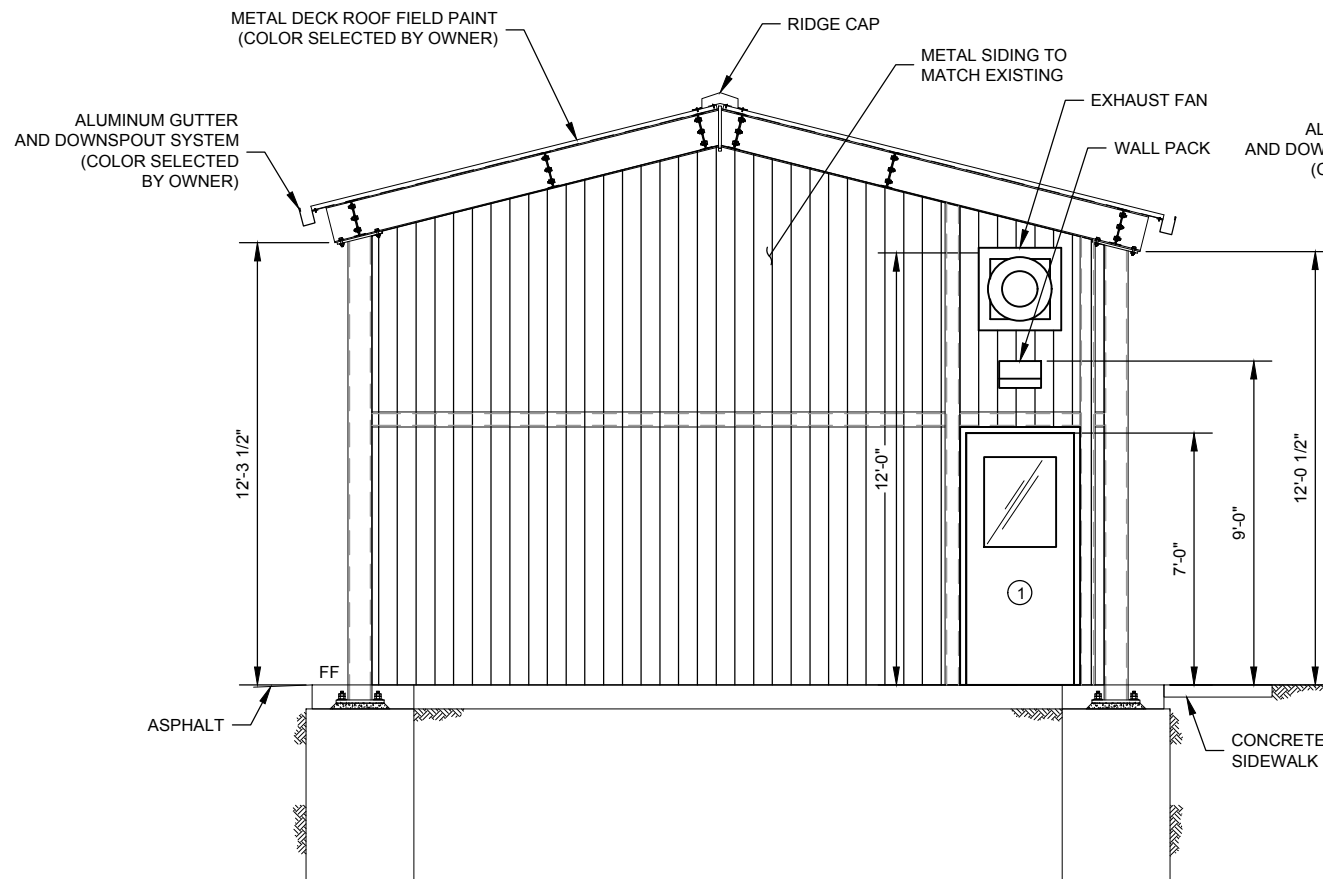
JOB NO. 12600-07/16650-02

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MARIN COUNTY, CALIFORNIA

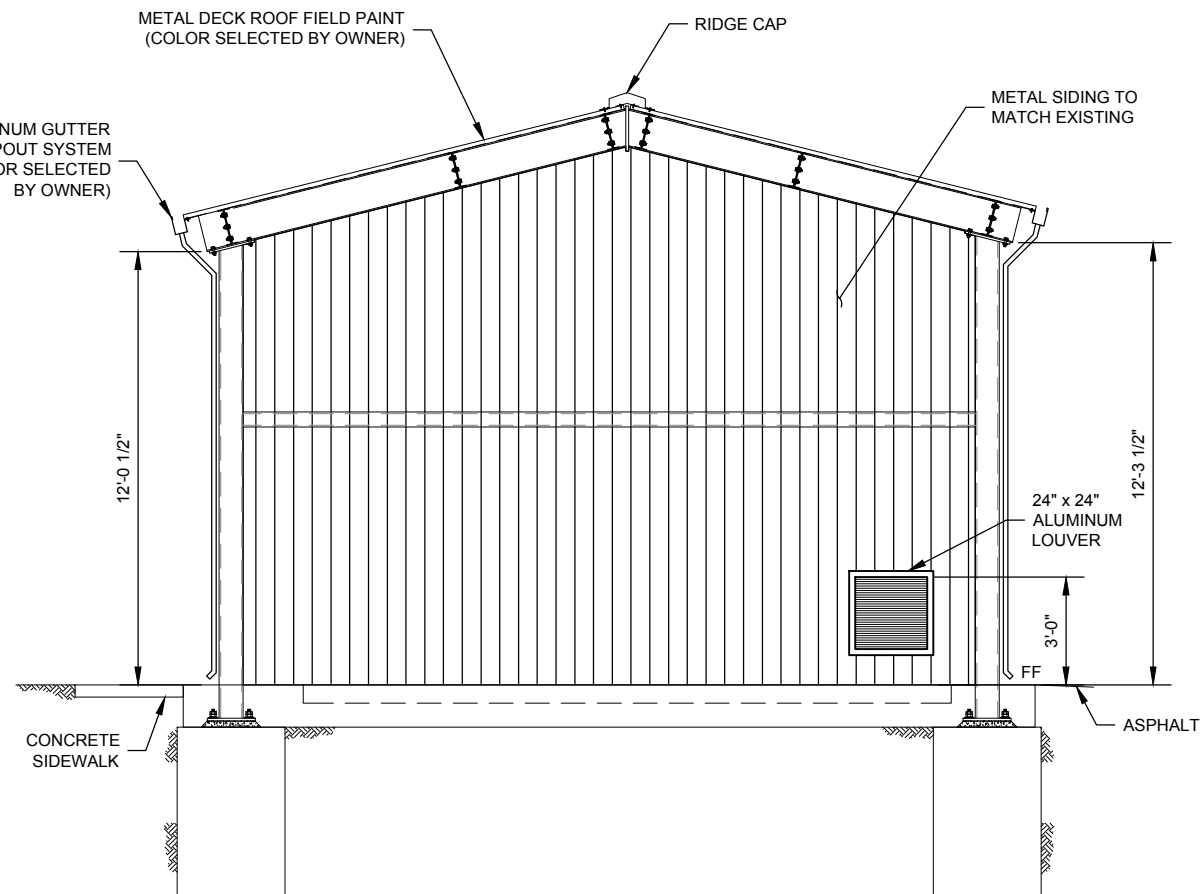
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**TWAS ENCLOSURE
ARCHITECTURAL ELEVATION**

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 17 of 74		DRAWING NO. MTA-3
		REVISION NO. B



WEST ELEVATION C
SCALE: 3/8"=1'-0"
MTA-1
0 2 4
Scale in Feet



EAST ELEVATION D
SCALE: 3/8"=1'-0"
MTA-1
0 2 4
Scale in Feet

PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
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NO.	DATE	DESCRIPTION	BY	APPRO
REVISIONS				

JOB NO. 12600-07/16650-02

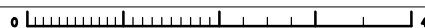
LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

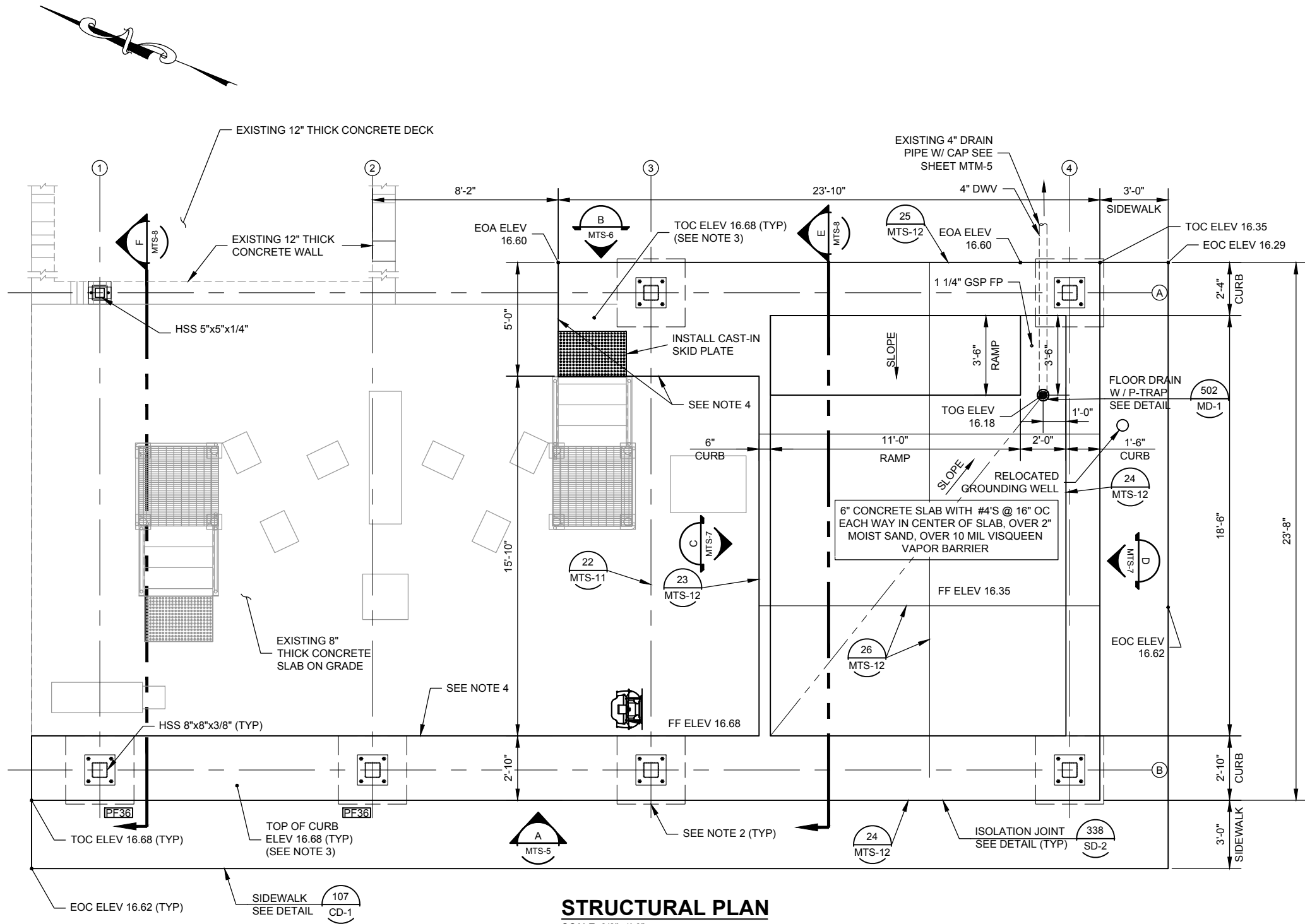
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**TWAS ENCLOSURE
ARCHITECTURAL ELEVATIONS**

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 18 of 74		REVISION NO. MTA-4

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES





- DESIGN CRITERIA**
- DESIGN LOADS:
AWNIMG LOAD:
A. DEAD LOAD = 10 PSF
B. LIVE LOAD = 20 PSF (REDUCIBLE)
 - ALL WORK SHALL BE DONE IN CONFORMANCE WITH CALIFORNIA BUILDING CODE (CBC-2019) AND THE SOIL REPORT AS PREPARED BY DARIUS ABOLHASSANI CONSULTANT & ASSOCIATES
7 MT. LASSEN DR. SUITE A-129
SAN RAFAEL, CA 94903
PHONE: (415) 499-1919
DAC RPT. NO.: 568-1011G DATED: APRIL 29, 2011
 - SITE PREPARATION SHALL BE DONE IN ACCORDANCE THE EARTHWORK SPECIFICATIONS IN THE SOIL REPORT.
 - UNLESS NOTICED OTHERWISE, ALL REQUIRED FILL AND BACKFILL SHALL BE COMPACTED TO AT LEAST 90% OF THE MAXIMUM DRY DENSITY OBTAINABLE BY THE A.S.T.M. DESIGNATION D-1557-12 TEST METHOD OF COMPACTION. DRIVEWAY SHALL BE COMPACTED AT LEAST 95% OF THE SOIL MAXIMUM DRY DENSITY. FLOODING OR JETTING IS NOT PERMITTED.
 - SEISMIC DESIGN CRITERIA: 2019 C.B.C. WITH SEISMIC COEFFICIENTS PER SECTION 1613 SEISMIC PROVISIONS
A. LATITUDE= 33.7805° N & LONGITUDE= -116.5257° W
B. SITE CLASS= D
C. MAPPED SPECTRAL ACCELERATION, Ss= 1.50 g & S1= 0.60 g
D. SITE COEFFICIENT, Fa= 1.0 & Fv= 1.5
E. MAX. SPECTRAL ACCELERATION, Sms= 1.50 g & Sm1= 0.90 g
F. DESIGN SPECTRAL ACCELERATION, Sds= 1.00 g & Sd1= 0.60 g
G. R=8 OMEGA=3.0, Cd=5.5 (SMF)
 - WIND DESIGN CRITERIA:
A. WIND SPEED.....91 mph, EXPOSURE C
B. RISK CATEGORY II

STRUCTURAL PLAN
SCALE: 3/8"=1'-0"
0 2 4
Scale in Feet

- NOTES:**
- SEE GENERAL, CONCRETE, REINFORCING STEEL AND STRUCTURAL STEEL NOTES ON SHEET MTS-9.
 - EDGE OF COLUMN FOOTING (BELOW) EXTENDS 2" BEYOND EDGE OF FLOOR / CURBING.
 - CURBING INSTALLED TO COVER COLUMN BASE PLATES. SEE STRUCTURAL DETAILS. DOWEL INTO EXISTING SLAB PER DETAILS.
 - DOWEL AND EPOXY CURB INTO EXISTING 8" SLAB PER STRUCTURAL DETAILS.



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**TWAS ENCLOSURE
STRUCTURAL PLAN**

WBS 280	CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
	APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez	
		RCE # 54039	
NO. DATE DESCRIPTION BY APPRO		SHEET 19 of 74	PLAN NO. MTS-2
REVISIONS		DRAWING NO. MTS-2	REVISION NO. B

PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

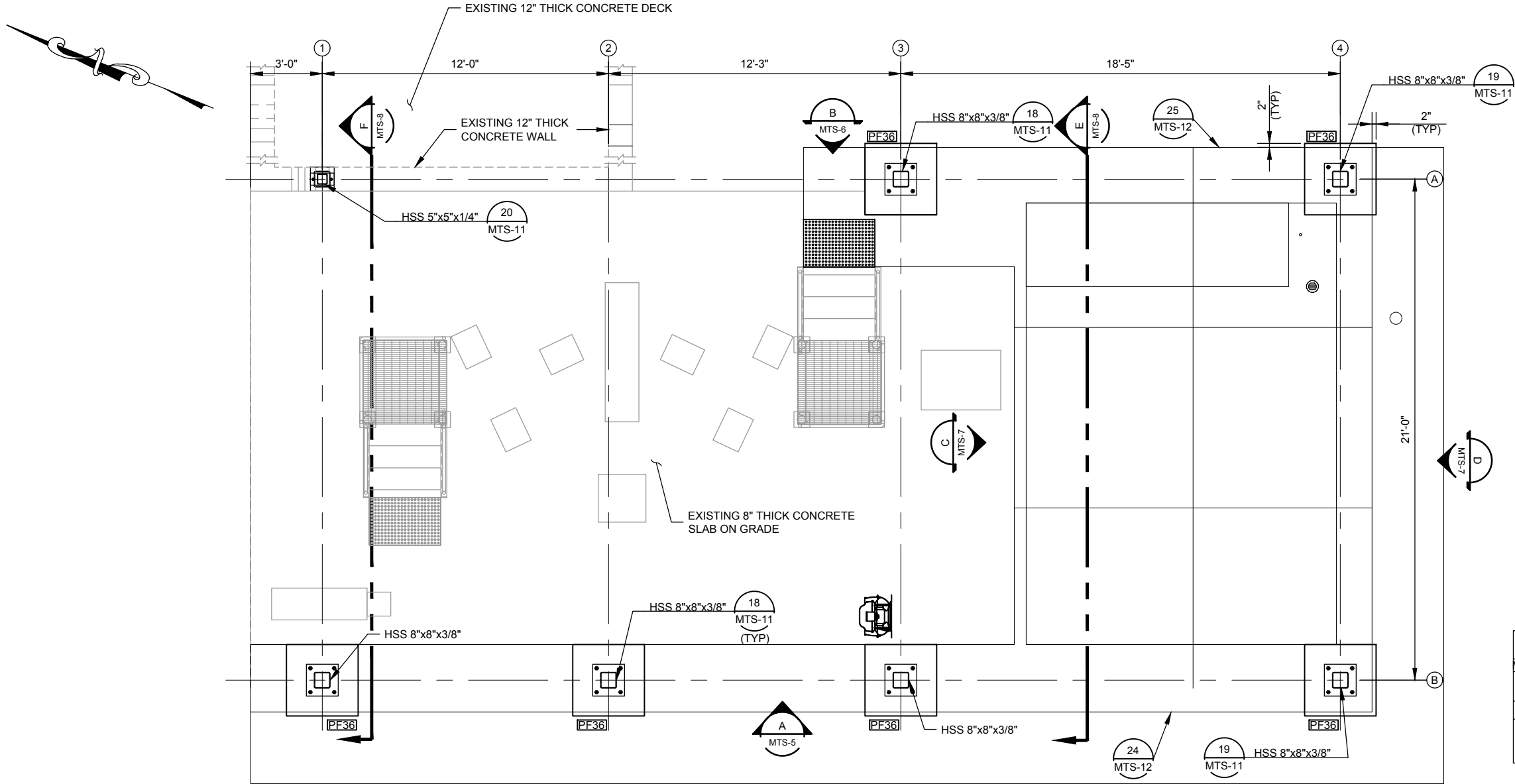
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GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1
FD144793

FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

0 1 2 3 4



PAD FOOTING SCHEDULE, U.N.O.				
MARK	SIZE	DEPTH	REINFORCING	COMMENT
PF36	36" SQ.	4'-9"	(12) #5 VERT. & #4 LOOP TIE @ 12" OC	
NOTE: ALL FOOTING SHALL BE 12" BELOW BOTTOM OF ADJACENT SLAB OR GRADE, UNLESS DETAILED OR NOTED OTHERWISE.				

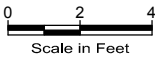
FOUNDATION NOTES:

- 1- ALL HEIGHTS SHOWN ON PLAN ARE FROM ENTRY ELEVATION 0'-0" DATUM.
- 2- 6" CONCRETE SLAB WITH #4 BARS @ 16" OC EACH WAY AT CENTER OF SLAB UNDER ALL INTERIOR CONCRETE FLOOR SLABS ON GRADE, PROVIDE A 2" LAYER OF MOIST SAND OVER A 10 MIL.VISQUEEN VAPOR BARRIER OVER 2" SAND OVER PROPERLY GRADED SUBGRADE.
- 3- ALL FOOTING AND SLAB SHALL REST ON FIRM NATURAL OR COMPACTED FILL APPROVED SOIL ENGINEER.
- 4- FOUNDATION IS TO BE POURED MONOLITHICALLY WITH SLAB. CONTRACTOR SHALL SUBMIT A CONTROL JOINT LAYOUT TO ARCHITECT FOR APPROVAL.
- 5- CONCRETE CONTRACTOR 5 HALL PLACE CONTROL JOINTS PER DETAIL 26/MTS-12 SO AS TO LIMIT SLAB CRACKING.
- 6- PROVIDE CONTROL JOINTS WITHIN FIRST 8 HOURS OF POURING CONCRETE.
- 7- ALL DIMENSIONS ARE TO CENTER LINE TYPICAL U.N.O.
- 8- ANCHOR BOLT, HOLDOWN, AND BASE SIZES AND LOCATION SHALL BE PER STRUCTURAL PLANS. THE PLACEMENT OF THESE ITEMS SHALL BE COORDINATED WITH THE FRAMING CONTRACTOR.
- 9- ALL COLUMN BASES, COLUMN BOLTING, AND HOLDOWN BOLTS, CRITICAL TO THE STRUCTURAL INTEGRITY OF THIS BUILDING, SHALL BE HELD IN PLACE BY MEANS OF TEMPLATE PRIOR TO FOUNDATION INSPECTION.
- 10- ALL EMBEDDED BOLTS, ANCHOR BOLTS, DOWEL INSERTS, ETC. SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE.
- 11- REINFORCING SHALL BE IN PLACE AND SUBJECT TO INSPECTION PRIOR TO POURING THE GRADE BM/SLAB.
- 12- REFER TO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR MISC. ITEMS TO BE CAST INTO CONCRETE AND FOR LOCATIONS OF FLOOR FINISHES, DEPRESSIONS, PITS, ETC.
- 13- PRIOR TO FOUNDATION INSPECTION

A. REINFORCING FOR SLAB AND FOOTING SHALL BE PROPERLY SET. B. ALL EMBEDDED BOLTS AND ANCHOR BOLTS SHALL BE SECURELY TIED IN PLACE.

FOUNDATION PLAN

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



NOTE:

PRIOR TO THE CONTRACTOR REQUESTING FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL ADVISE THE DISTRICT AND ENGINEER OF RECORD IN WRITING THAT:

- A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
- B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
- C. THE FOUNDATION EXCAVATIONS, THE SOILS EXPANSIVE CHARACTERISTIC AND BEARING CAPACITY CONFORM TO THE SOILS REPORT.

PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



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JOB NO. 12600-07/16650-02

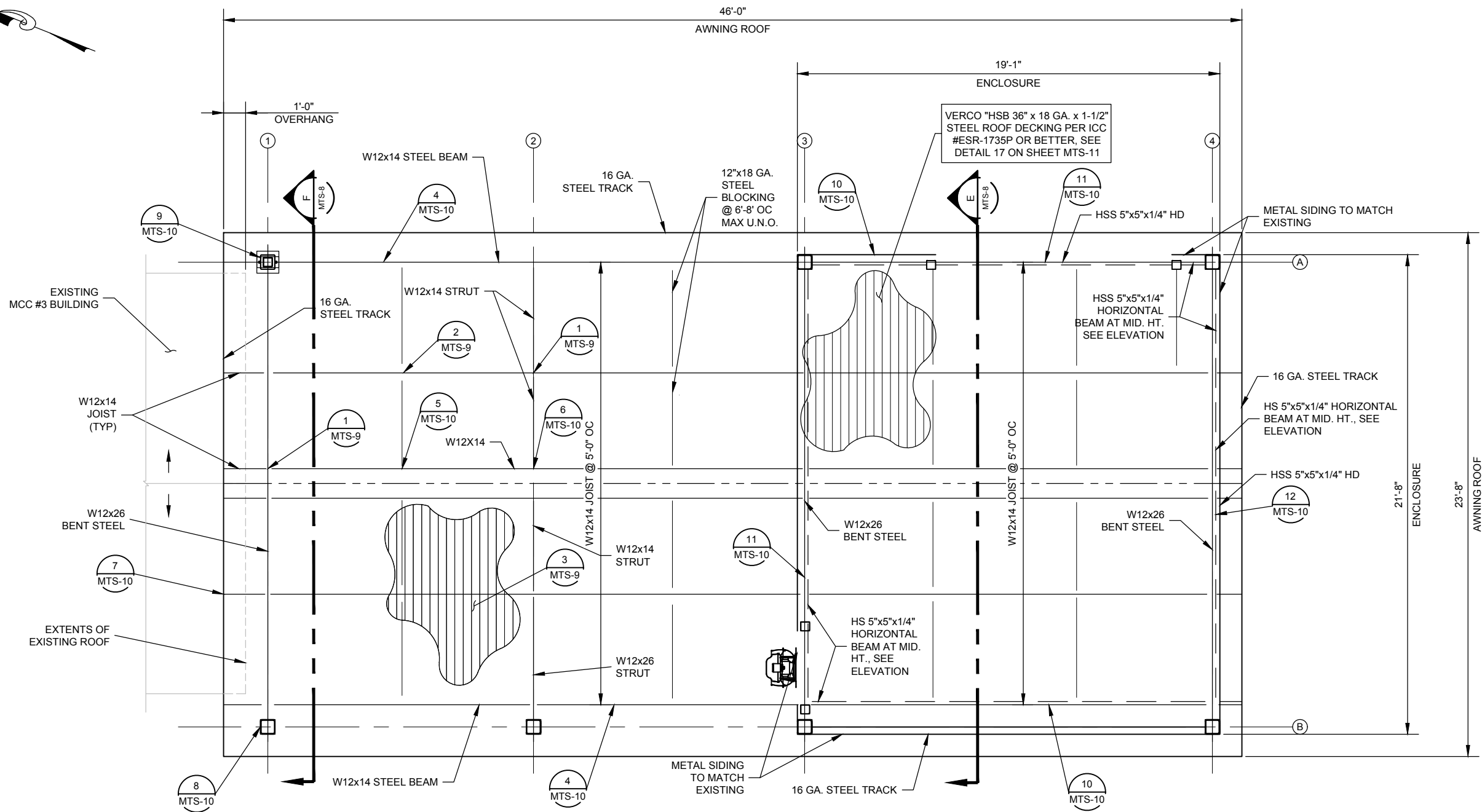
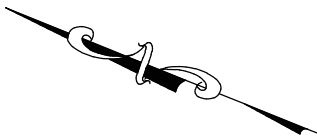
LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

TWAS ENCLOSURE
FOUNDATION PLAN

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez

SHEET 20 of 74		DRAWING NO. MTS-3	REVISION NO. B
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ROOF PLAN

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



PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

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LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



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JOB NO. 12600-07/16650-02

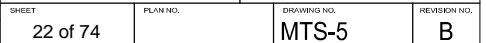
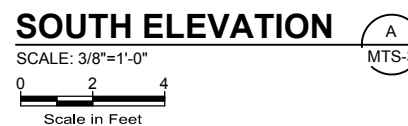
LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

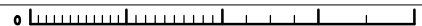
**TWAS ENCLOSURE
ROOF PLAN**

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez

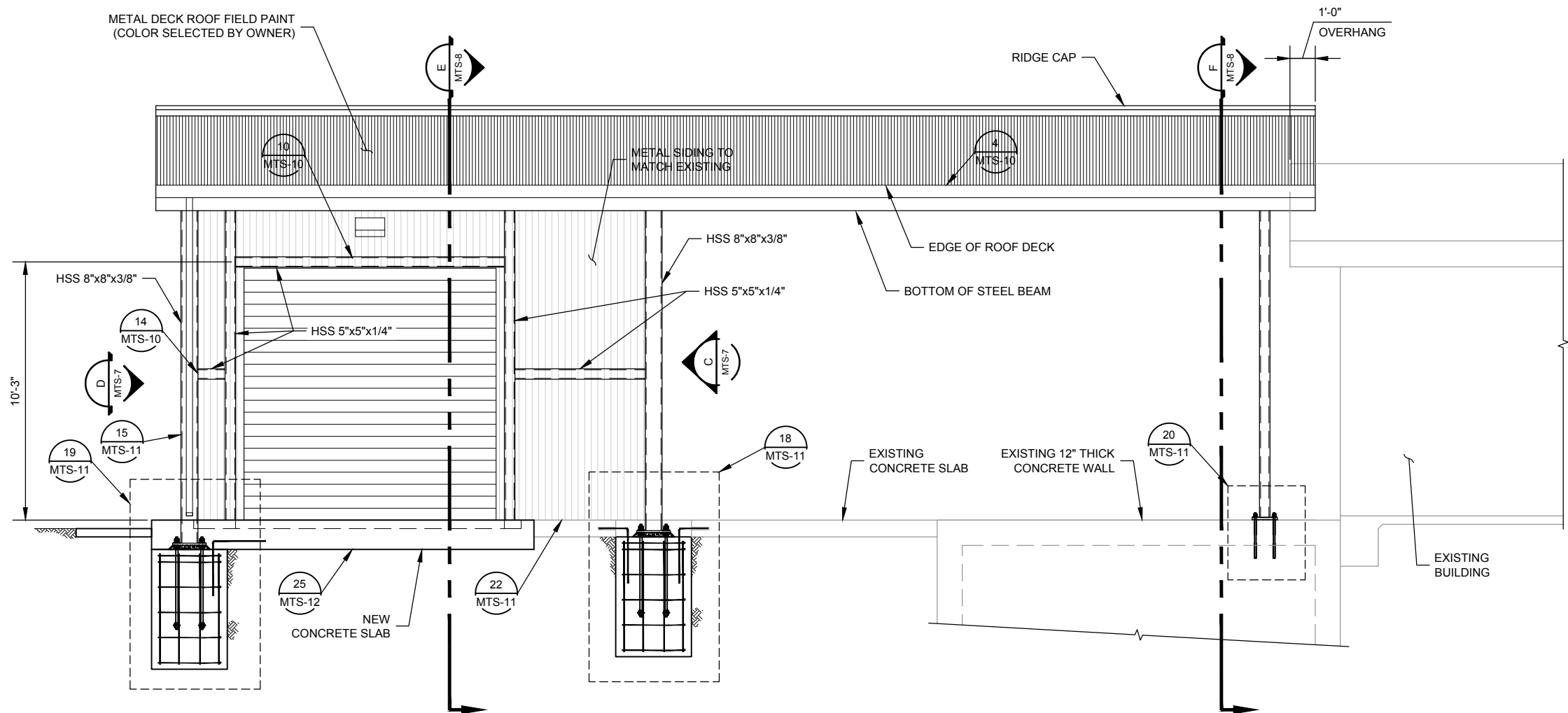
SHEET 21 of 74		PLAN NO.	DRAWING NO. MTS-4	REVISION NO. B
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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



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NORTH ELEVATION B
 SCALE: 3/8"=1'-0" MTS-3

0 2 4
 Scale in Feet



JOB NO. 12600-07/16650-02			
LAS GALLINAS VALLEY SANITARY DISTRICT MARIN COUNTY, CALIFORNIA			
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD			
TWAS ENCLOSURE STRUCTURAL ELEVATION			
WBS	CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
280	APPROVED JRL	DESIGNED EES	DATE 03/03/23
	GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
		RCE # 54039	
NO.	DATE	DESCRIPTION	BY
		REVISIONS	
SHEET		PLAN NO.	DRAWING NO.
23 of 74			MTS-6
			REVISION NO.
			B



PLOTTED: EXTEND
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 BORDER: 22,34

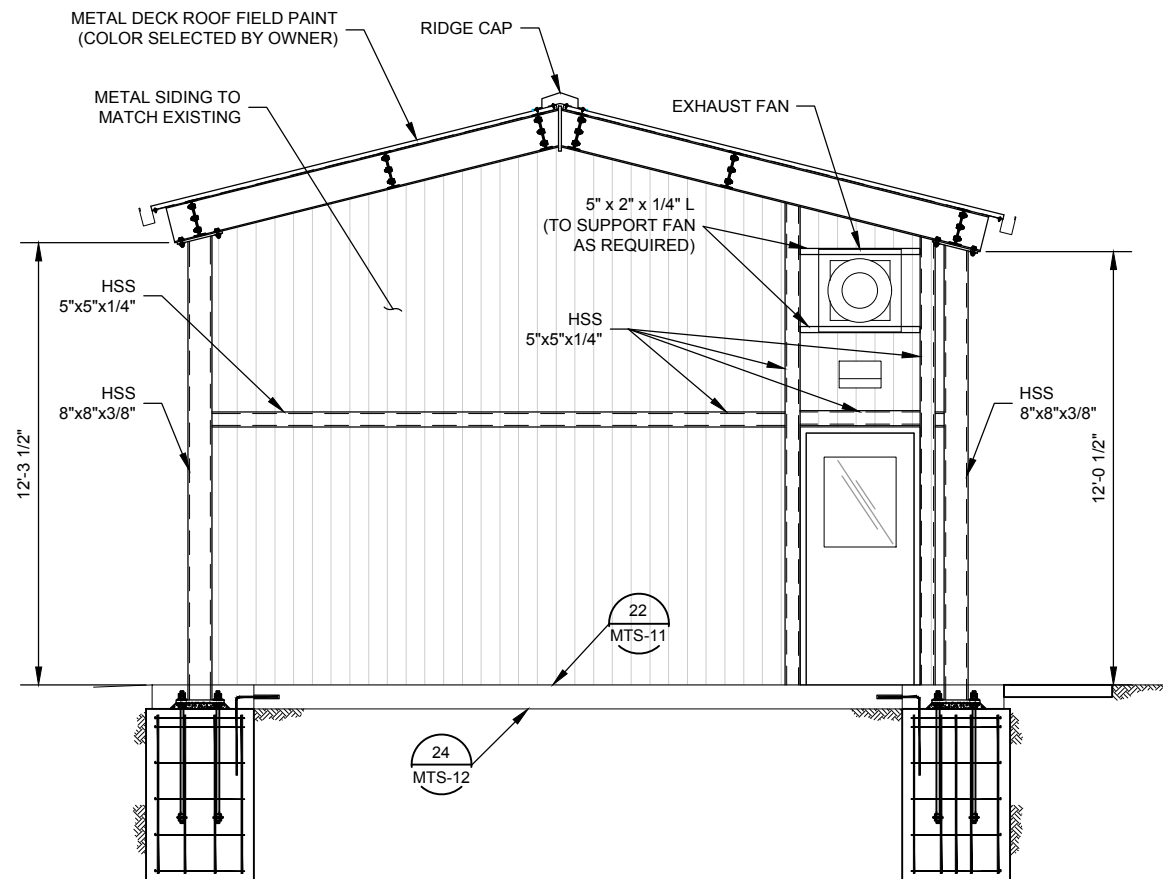
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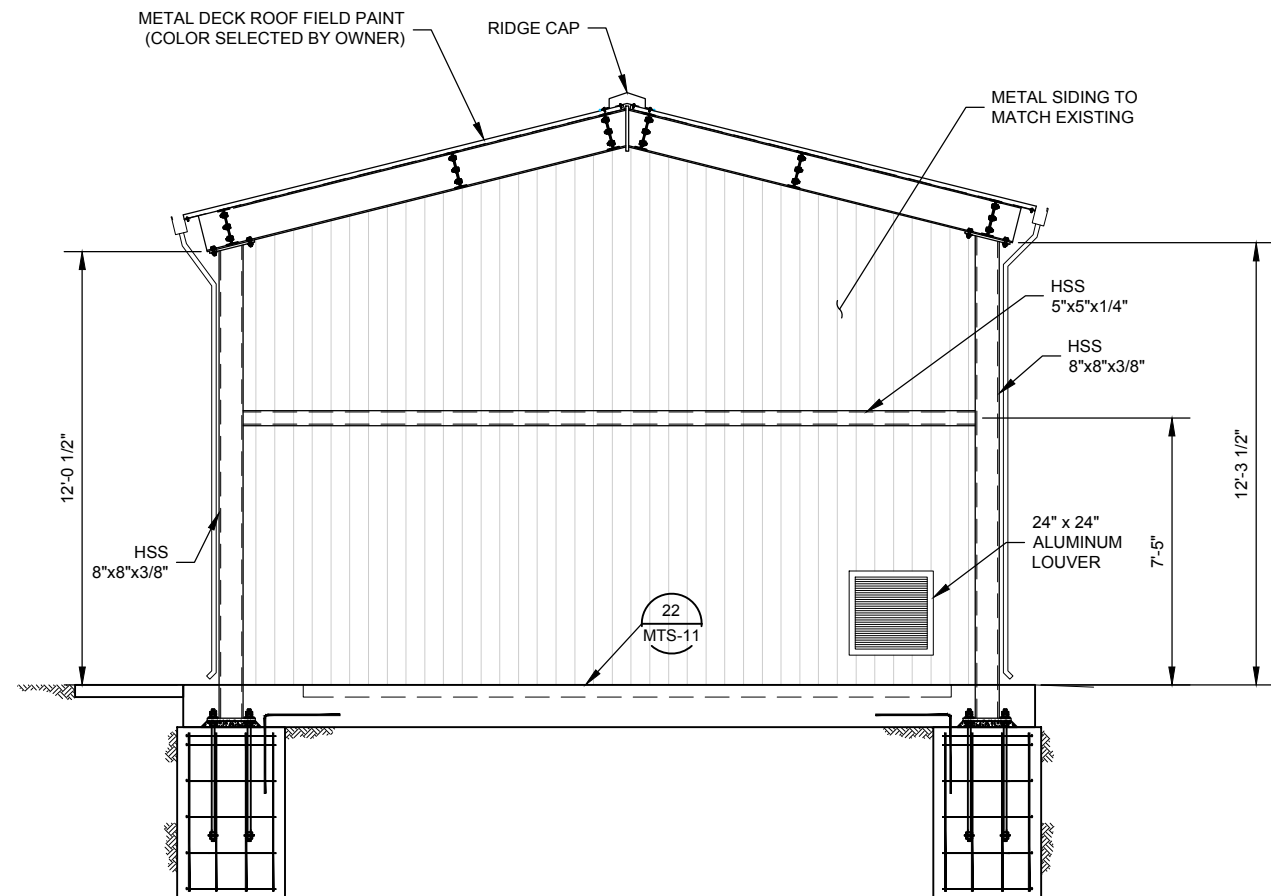
FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES





WEST ELEVATION C
SCALE: 3/8"=1'-0" MTS-3
0 2 4
Scale in Feet



EAST ELEVATION D
SCALE: 3/8"=1'-0" MTS-3
0 2 4
Scale in Feet

PLOTTED: EXTEND
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BORDER: 22,34

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LGVSD 1 FILE:
FD144793

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0 1 2 3 4



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JOB NO. 12600-07/16650-02

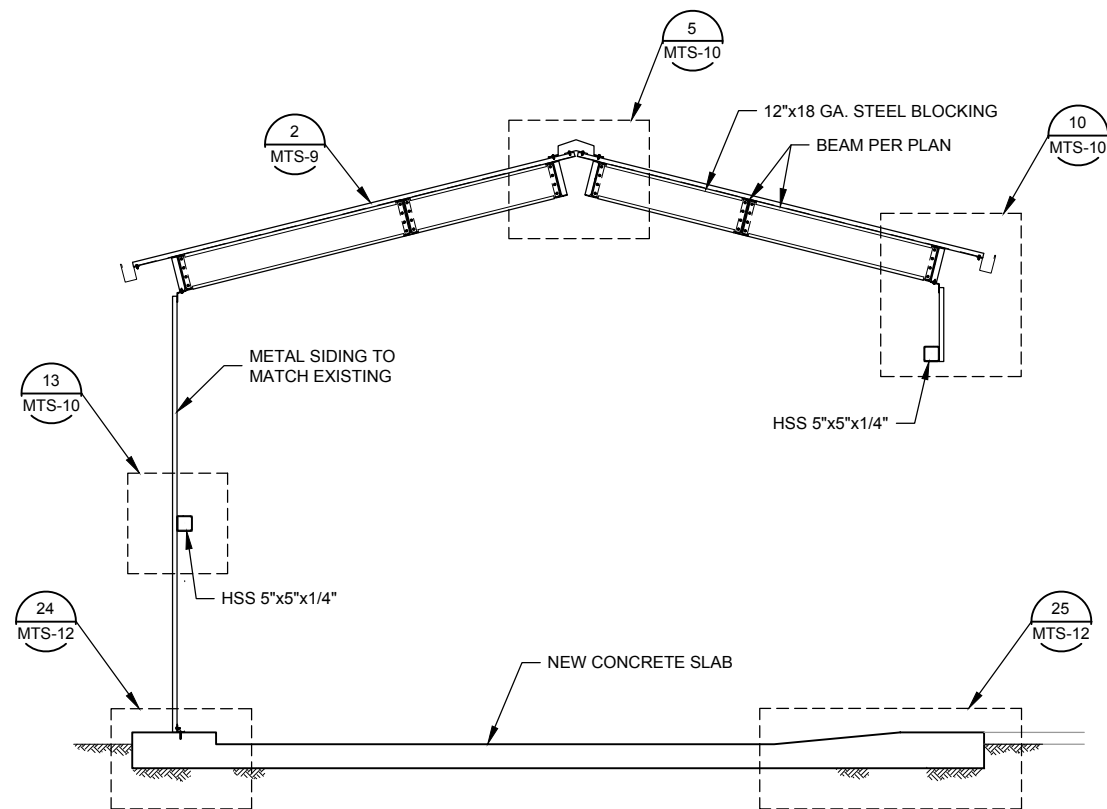
LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

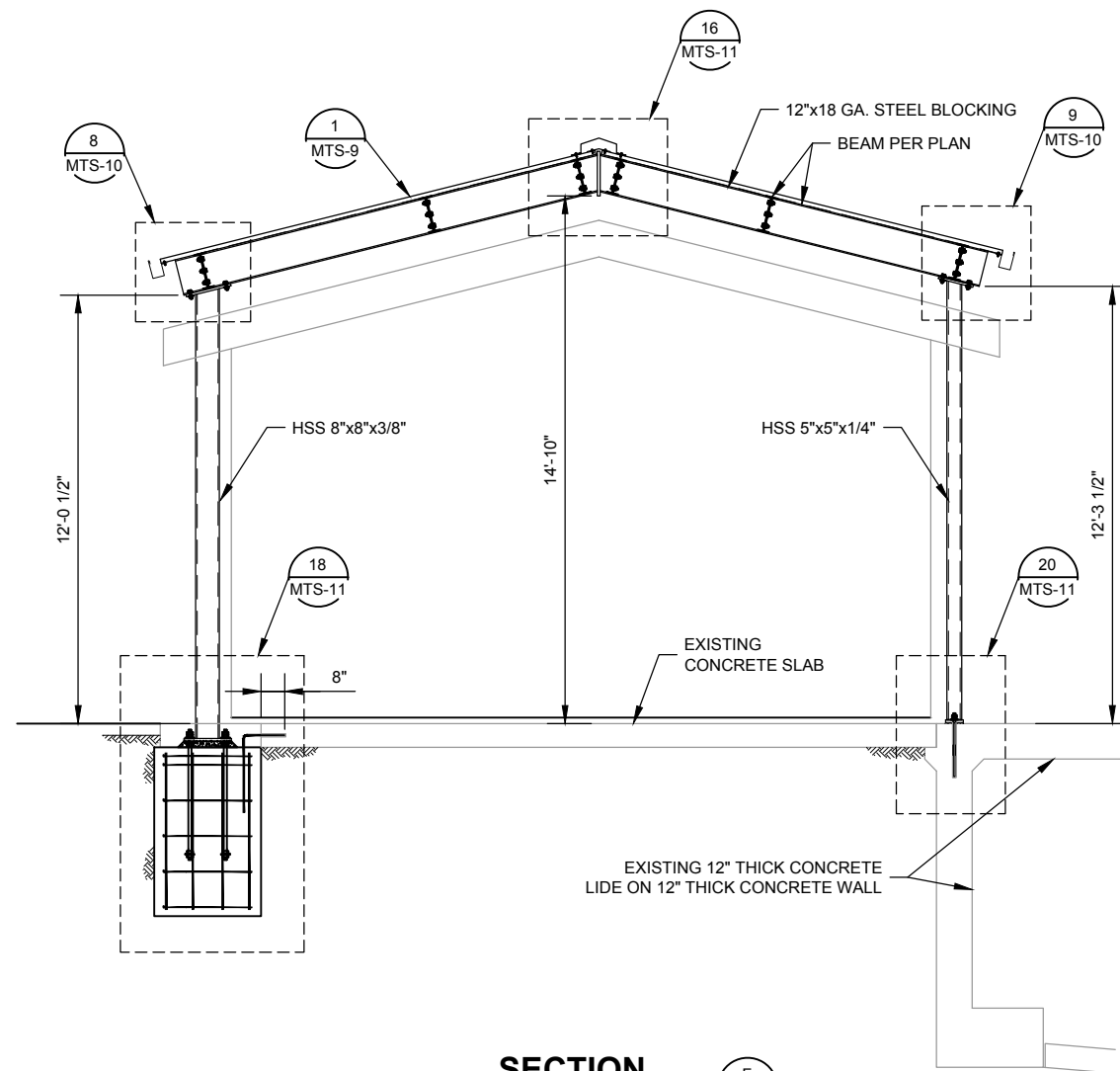
**TWAS ENCLOSURE
STRUCTURAL ELEVATIONS**

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	
SHEET 24 of 74	PLAN NO.	DRAWING NO. MTS-7
		REVISION NO. B

NO.	DATE	DESCRIPTION	BY	APPRO
		REVISIONS		



SECTION E
SCALE: 3/8"=1'-0"
0 2 4
Scale in Feet



SECTION F
SCALE: 3/8"=1'-0"
0 2 4
Scale in Feet



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JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**TWAS ENCLOSURE
STRUCTURAL SECTIONS**

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23

GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
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NO.	DATE	DESCRIPTION	BY	APPRO	SHEET 25 of 74	PLAN NO.	DRAWING NO. MTS-8	REVISION NO. B
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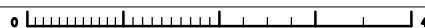
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BORDER: 22,34

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210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



STRUCTURAL SYMBOLS / LEGEND

1. DETAIL OR SECTION NUMBER SHEET WHERE DRAWN
2. DIRECTION OF STRUT
3. ELEVATION FROM DATUM
4. MASONRY IN PLAN OR SECTION VIEW
5. BEAM REFERENCE NUMBER
6. POST, HOLDOWN @ FDN. OR STRAP FLOOR TO FLOOR SYMBOL
7. PAD FOOTING OR CONTINUOUS FOOTING SYMBOL
8. TRUSS OR WALL ELEVATION NUMBER SHEET WHERE DRAWN
9. ELEVATION TO BOTTOM OF FOOTING OR GRADE BEAM
10. ROOF DIRECTION AND SLOPE

GENERAL

1. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE AND TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS AND ANY OTHER REGULATIONS OVER ANY PORTION OF THE WORK, INCLUDING THE CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (CAL/OSHA), AND THOSE LISTED IN THESE NOTES AND SPECIFICATIONS. IF PLANS AND SPECS CONFLICT WITH THE REFERENCED CODES/REGULATIONS, THEN WHATEVER IS MORE RESTRICTIVE GOVERNS.
2. THE STRUCTURAL DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. CONTRACTOR WILL BE REQUIRED TO CORRECT AT HIS OWN EXPENSE ANY SUBSIDENCE, STRUCTURAL DAMAGE OR OTHER OBJECTIONABLE CONDITIONS CAUSED BY HIS OPERATIONS. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE THE INSPECTION OF THE ABOVE ITEMS.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT OR RECORD AND ENGINEER OR RECORD. IMMEDIATELY BEFORE PROCEEDING WITH THE WORK.
4. DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS. TYPICAL DETAILS AND GENERAL NOTES ARE MINIMUM REQUIREMENTS TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE.
5. NOTES AND DETAILS ON STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES, SPECIFICATIONS AND DETAILS CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
6. THESE NOTES AND SPECIFICATIONS ON STRUCTURAL DRAWINGS GOVERN IN CASE OF CONFLICT WITH OTHER SPECIFICATIONS. NOTIFY ENGINEER OF CONFLICTS WITH OTHER SPECIFICATIONS IMMEDIATELY.
7. CONTRACTOR SHALL INVESTIGATE THE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS ETC. IF ANY SUCH STRUCTURES ARE FOUND, ARCHITECT, STRUCTURAL ENGINEER AND GEOTECHNICAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
8. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
9. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.
10. SEE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR PITS, TRENCHES, OPENINGS, DEPRESSIONS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS
11. ANY CHANGE, MODIFICATION OR ALTERATION OF THESE PLANS SHALL BE AT THE SOLE RISK OF THE PERSON MAKING OR CAUSING THE SAME. ALL CHANGE, MODIFICATION, AND/OR ALTERATION TO THE APPROVED CONSTRUCTION DOCUMENT SHALL BE REVIEWED AND APPROVED BY A LICENSED STRUCTURAL ENGINEER, ARCHITECT OF RECORD AND BY BUILDING & SAFETY, DSE, OSHPD PRIOR TO FABRICATION AND INSTALLATION.
12. THE OWNER AGREES TO HOLD HARMLESS, INDEMNIFY, AND DEFEND THE ARCHITECT, HIS EMPLOYEES, AND ENGINEERS AGAINST ANY AND ALL LIABILITY, CLAIMS, DAMAGES, AND COST OF DEFENSE ARISING OUT OF THE ERRORS OR OMISSIONS, OR NEGLIGENT ACTS CAUSED BY THE MODIFICATIONS TO THE PLANS AND SPECIFICATIONS.

CONCRETE

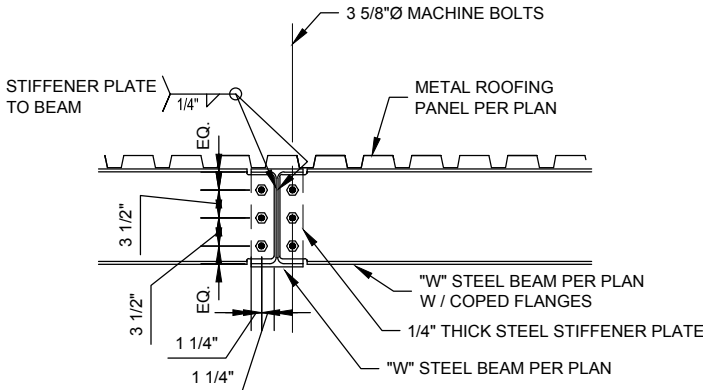
1. ALL CONCRETE SHALL CONFORM TO THE 2019 CALIFORNIA BUILDING CODE. MINIMUM OF 5 SACKS OF CEMENT PER CUBIC YARD, U.N.O. MAX WATER/CEMENT RATIO = .45 AND SLUMP=4" MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS SHALL BE AS FOLLOWS, UNLESS NOTICED OTHERWISE:
- A. FOUNDATION3,000 PSI
- B. SLAB ON GRADE2,500 PSI (DSA & OSHPD PROJECT 3,000 PSI)
- C. SITE CONCRETESEE ARCH. DWGS AND SPEC., MIN. 2,500 PSI
- D. GRADE BEAM4,500 PSI
2. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE, U.N.O.
3. ALL STRUCTURAL CONCRETE WITH f_c GREATER THAN 2500 PSI SHALL HAVE CONTINUOUS SPECIAL INSPECTION.
4. ALL CEMENT SHALL CONFORM TO A.S.T.M. C-150, TYPE II/V, LOW ALKALI (MAXIMUM 15% FLYASH, ASTM C618 & CLASS N OR F, REPLACEMENT MAY BE USED).
5. FINE AND COARSE AGGREGATE SHALL CONFORM TO A.S.T.M. C-33 FOR STANDARD WEIGHT CONCRETE WITH THE AVERAGE DRYING SHRINKAGE AT 28-DAYS OF DRYING NOT EXCEEDING 0.04%.
6. DRYPACK SHALL BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND.
7. ANCHOR BOLTS, DOWELS, INSERTS, EMBED BOLT, ETC. SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE.
8. FURNISH AND INSTALL CONCRETE AS INDICATED IN THE PLANS AND FOLLOWING NOTES AND IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
9. CONCRETE SHALL BE CURED BY KEEPING CONTINUOUSLY WET FOR 10 DAYS OR BY AN APPROVED CURING COMPOUND.
10. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR MISCELLANEOUS ITEMS TO BE CAST INTO CONCRETE AND FOR FLOOR DEPRESSIONS, PITS, ETC.

REINFORCING STEEL

1. BAR REINFORCING SHALL CONFORM TO ASTM A-615 GRADE 60 DEFORMED FOR NO. 5 AND LARGER; NO. 4 AND SMALLER SHALL CONFORM TO GRADE 40 U.N.O. ALL LONGITUDINAL REINFORCING STEEL IN GRADE BEAMS SUPPORTING STEEL MOMENT FRAMES SHALL CONFORM TO ASTM A-706 GRADE 60.
2. REINFORCING STEEL, TO BE WELDED SHALL BE ASTM A-706 REINFORCING STEEL AND BE DONE IN CONFORMANCE WITH THE "STRUCTURAL WELDING CODE-REINFORCING STEEL" OF THE AMERICAN WELDING SOCIETY AWS D1.4 BY WELDERS QUALIFIED UNDER THE PROCEDURES CONTAINED THEREIN. USE LOW HYDROGEN ELECTRODES, GRADE (E90) FOR GRADE 60 REINFORCING BARS. SPECIAL INSPECTION IS REQUIRED FOR ALL FIELD WELDING OF REBAR PER 1704A.3.1.3 T24 CCR PART 2. PREHEAT IS REQUIRED PER "AWS" STANDARD.
3. PROVIDE THE FOLLOWING MINIMUM CLEAR COVER OF CONCRETE OVER REINFORCING STEEL UNLESS OTHERWISE NOTED ON PLAN:
- A. ON EARTH SIDE WHEN PLACED AGAINST EARTH.....3"
- B. ON EARTH SIDE WHEN FORMED.....2"
- C. EXTERIOR WALL STEEL ABOVE GRADE.....2" (1 1/2" FOR #5 & SMALLER)
- D. INTERIOR WALL STEEL AND SUPPORTED SLABS.....3/4"
- E. TIED COLUMNS (STIRRUPS) ABOVE GRADE.....1-1/2"
- F. BEAMS (STIRRUPS) ABOVE GRADE.....1-1/2"
4. REINFORCING STEEL DETAILING, BENDING AND PLACING SHALL BE IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE", LATEST EDITION, UNLESS NOTED ON THIS DRAWING OR PER TITLE 24 CCR PART 2.
5. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS SHALL BE SECURELY TIED IN PLACE BEFORE PLACING CONCRETE OR MASONRY GROUT.

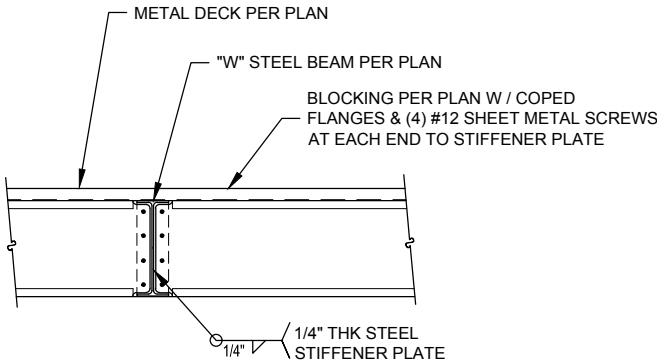
STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE A.I.S.C. SPECIFICATIONS FOR FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (14TH EDITION AND SUPPLEMENTS).
- A. STRUCTURAL STEEL W, S, M & HP - SHAPE SHALL CONFORMS TO A.S.T.M. A992 GRADE 50 SPECIFICATIONS OR EQUIVALENT APPROVED BY EOR, U.N.O.
- B. ALL CHANNEL, ANGLE, PLATE & MISC. STEEL/BAR SHALL CONFORM TO A.S.T.M A36 GRADE 36 SPECIFICATIONS, OR EQUIVALENT APPROVED BY EOR, U.N.O.
- C. ALL STEEL TUBES SHALL CONFORM TO A.S.T.M. A-500, GRADE "B".
- D. ALL STEEL PIPE SHALL CONFORM TO A.S.T.M. A-53 GRADE "B".
2. ALL STRUCTURAL STEEL SHALL BE FABRICATED IN THE SHOP OF A LICENSED FABRICATOR AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION.
3. ALL FIELD AND SHOP WELDING AND HIGH STRENGTH BOLT INSTALLATION SHALL BE SPECIAL INSPECTED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE TITLE 24 SECTION 1704A.3.1 & 1704A.3.3 WELDING INSPECTOR SHALL BE AWS CERTIFIED WELDING INSPECTOR APPROVED BY DEPARTMENT OF STATE ARCHITECT, OSHPD, DEPARTMENT OF BUILDING & SAFETY.
4. ALL STUDS WELDED TO STEEL BEAMS AND COLUMNS SHALL BE NELSON STUDS OR OTHER APPROVED MFG APPROVED BY ENGINEER OF RECORD.
5. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED AFTER FABRICATION. STEEL ITEMS TO BE GALVANIZED SHALL BE COATED IN ACCORDANCE WITH ASTM A123 WITH A MINIMUM OF 25 OUNCES OF ZINC PER SQ FT U.N.O.
6. STRUCTURAL STEEL MEMBERS REQUIRED TO BE FIREPROOFED, NEED NOT BE PAINTED.
7. ALL BOLTS SHALL CONFORM TO A.S.T.M. (A307) FOR UNFINISHED BOLTS, EXCEPT WHERE SPECIFICALLY NOTED AS HIGH STRENGTH BOLTS WHICH SHALL CONFORM TO A.S.T.M. (A325). ALL (A325) BOLTS SHALL HAVE SPECIAL INSPECTION.
8. ALL WELDING SHALL SHALL BE DONE BY A CERTIFIED WELDER AND CONFORM TO THE A.W.S. SPECIFICATIONS, D1.1, USE LOW HYDROGEN ELECTRODES E70XX FOR ALL WELDING.
9. ALL BOLTS FOR STEEL MEMBERS SHALL BE TRUE, BURNING OF HOLES FOR CONNECTIONS WILL NOT BE PERMITTED. BOLT HOLES SHALL BE MAXIMUM 1/16" OVERSIZED, U.N.O.
10. PROVIDE FULL BEARING ON UNTHREADED PORTION OF BOLT SHANK FOR ALL STEEL CONNECTIONS.
11. ALL BOLT SPACING IN STRUCTURAL STEEL CONNECTIONS TO BE 3" MIN. BETWEEN BOLTS AND 1 1/2" MIN. EDGE DISTANCE, UNLESS NOTED OTHERWISE.
12. ALL NUTS FOR STRUCTURAL STEEL CONNECTIONS SHALL BE HEAVY HEXAGONAL NUTS, U.N.O.
13. PROVIDE BEVELED WASHERS UNDER NUTS AT STEEL CONNECTIONS, WHEN THE BEVEL EXCEEDS 1:20.
14. PROVIDE LEVELING NUTS FOR ALL BOLTS AT BEAM SEATS AND COLUMN BASE PLATES.
15. ALL HEADED ANCHOR BOLTS SHALL CONFORM TO A.S.T.M. A307 OR A449 SPECIFICATION. ALL-THREAD RODS IN FOUNDATION SHALL CONFORM TO A.S.T.M. A36 SPECIFICATION. HOLES FOR ANCHOR BOLTS SHALL BE MAXIMUM 1/8" OVERSIZED.
16. PROVIDE 7,000 PSI (@ 28 DAYS) DRYPACK (NON-SHRINK GROUT) UNDER BASE PLATES PER ASTM C1107, U.N.O.
17. ALL STRUCTURAL STEEL SHALL CONFORM TO A.E.S.S. & AISC 303-05.
18. ALL ARCH'L EXPOSED STRUCTURAL STEEL SHALL CONFORM TO A.E.S.S.
19. ANCHOR BOLTS IF OVER 9-1/2" LONG SHALL CONFORM TO ASTM F1554.
20. FIELD WELDING TO BE DONE BY WELDERS CERTIFIED BY THE AWS FOR STRUCTURAL STEEL, REINFORCING STEEL, AND LIGHT GAUGE STEEL. CONTINUOUS INSPECTION BY A SPECIAL INSPECTOR IS REQUIRED.
21. LIGHT GAGE STEEL SHALL CONFORM TO ASTM A653 SS GRADE 33 (Fy=33 ksi) FOR 18 GA. AND LIGHTER, ASTM A653 SS GRADE 50 CLASS 1 OR 3 (Fy=50 ksi) FOR 16 GA. AND HEAVIER, IN ACCORDANCE WITH ICC ESR-3064P OR APPROVED EQUAL. GALVANIZING SHALL COMPLY WITH ASTM A123 COATING CLASS G-60.
22. ALL METAL DECK SCREWS SHALL BE INSTALLED WITH NEOPRENE WASHER.



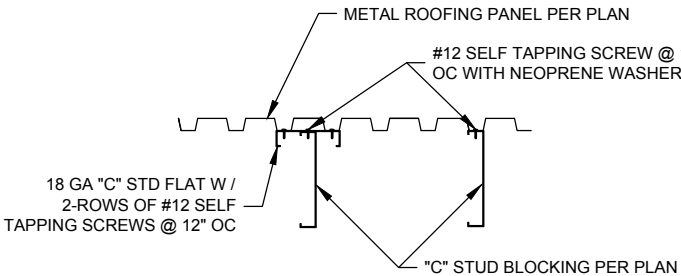
BEAM TO BEAM

SCALE: NTS



BLOCKING TO BEAM

SCALE: NTS



ROOF DECK TO BLOCKING

SCALE: NTS



PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

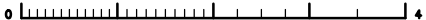
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LGVSD 1 FILE:
FD144793



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PHONE (801) 299-1327 FAX (801) 299-0153

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

TWAS ENCLOSURE
STRUCTURAL DETAILS

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
DISTRICT MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	

SHEET		PLAN NO.	DRAWING NO.	REVISION NO.
26 of 74			MTS-9	B
REVISIONS				
NO.	DATE	DESCRIPTION	BY	APPRO



LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

TWAS ENCLOSURE
STRUCTURAL DETAILS

CHECKED JRL		DRAWN BDP		SCALE AS SHOWN	
APPROVED JRL		DESIGNED EES		DATE 03/03/23	
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P. Cortez			
		RCE # 54039			
RD	SHEET 27 of 74	PLAN NO.	DRAWING NO. MTW-10	REVISION NO. B	

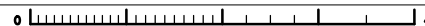
NO.	DATE	DESCRIPTION	BY	APP
REVISIONS				

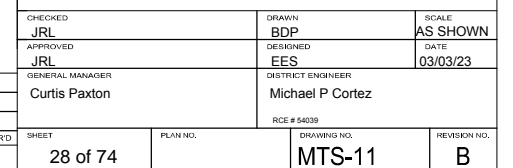
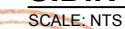
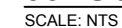
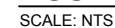
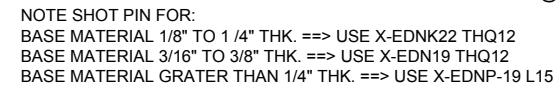
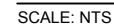
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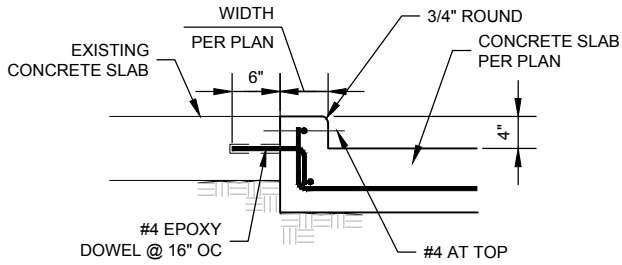
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M LGVSD 1 FILE:
FD14479.3

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

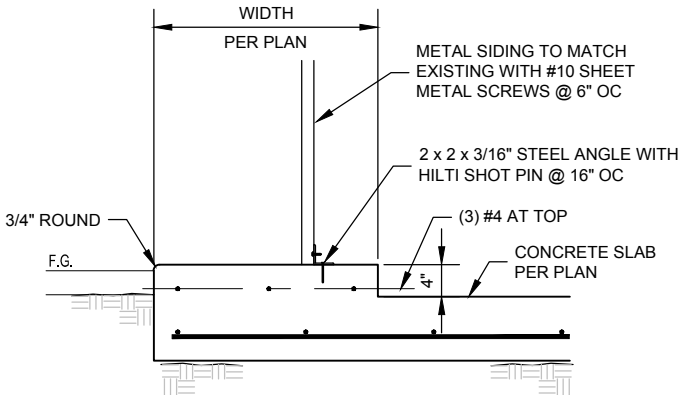






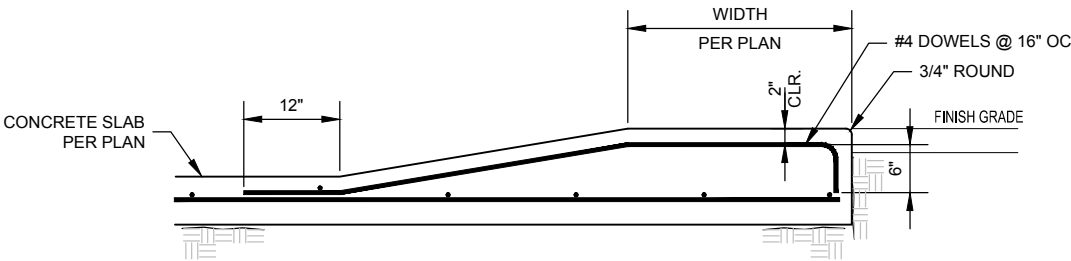
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SCALE: NTS

23



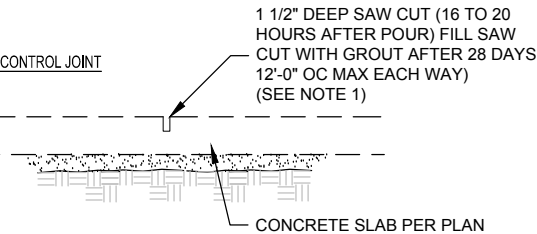
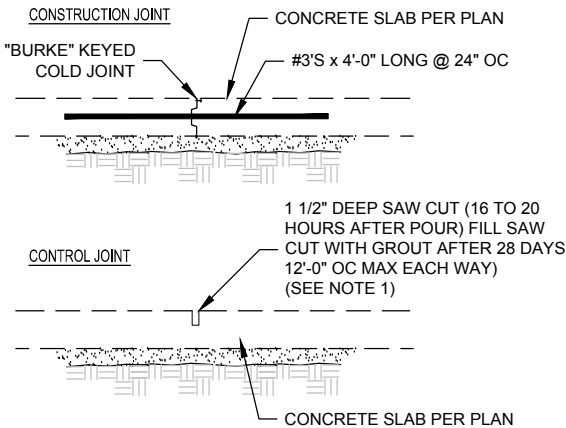
CONCRETE CURB
SCALE: NTS

24



CONCRETE RAMP
SCALE: NTS

25



NOTE:

- 1- 1 1/2" DEEP SAW-CUT 16/20 HOURS AFTER POURING CONCRETE @ 8'-0" O.C. MAX. SPACING EACH WAY FILL w/ GROUT AFTER 28 DAYS

CONTROL JOINT
SCALE: NTS

26

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

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100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

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JOB NO. 12600-07/16650-02

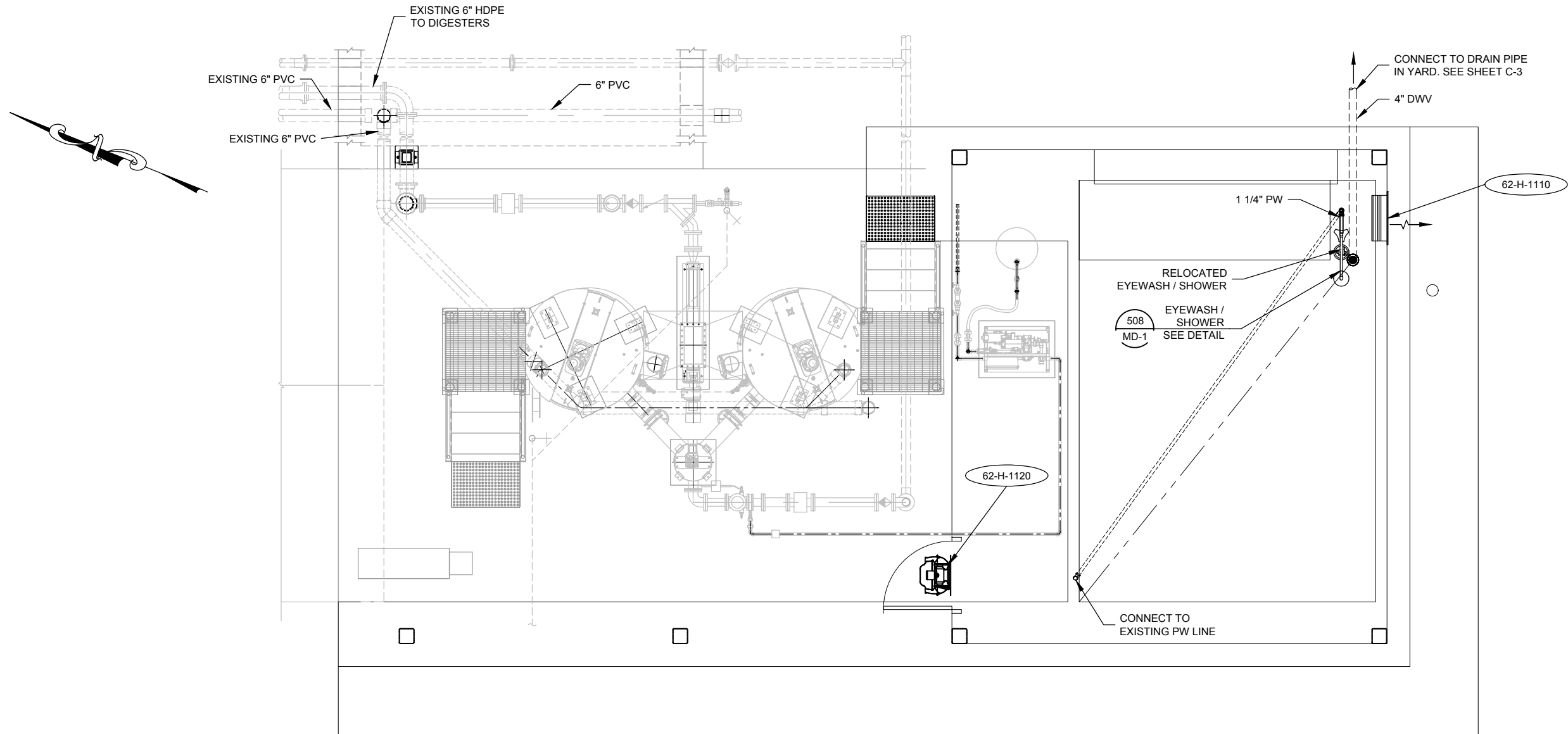
LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

TWAS ENCLOSURE
STRUCTURAL DETAILS

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	

NO.	DATE	DESCRIPTION	BY	APPRO	SHEET 29 of 74	PLAN NO.	DRAWING NO. MTS-12	REVISION NO. B
REVISIONS								



MECHANICAL PLAN

SCALE: 3/8"=1'-0"
0 2 4
Scale in Feet

NO.	LOCATION	SERVICE	TYPE	V / HP	CAPACITY / SIZE	REMARKS
63-H-1110	TWAS ENCLOSURE	ALUMINUM LOUVER	WALL MOUNT	-	24" x 24" ALUMINUM LOUVER W / 316 SS BUG SCREEN	METALLIC PRODUCTS ADJUSTABLE LOUVER FOR METAL BUILDING INSTALLATIONS OR EQUAL
63-H-1120	TWAS ENCLOSURE	EXHAUST FAN	WALL MOUNT	120V; 1/8 HP	1,000 CFM @ .015" WC AND 1075 RPM	LOREN-COOK MODEL 120W10D W / WALL MOUNT SOLID STATE CONTROLLER OR EQUAL W/ DAMPER

PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

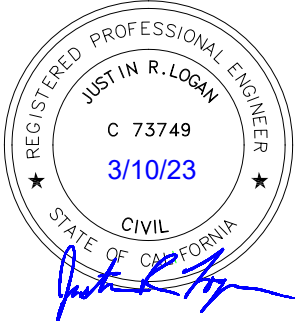
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210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



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NO.	DATE	DESCRIPTION	BY	APPRO
REVISIONS				

JOB NO. 12600-07/16650-02

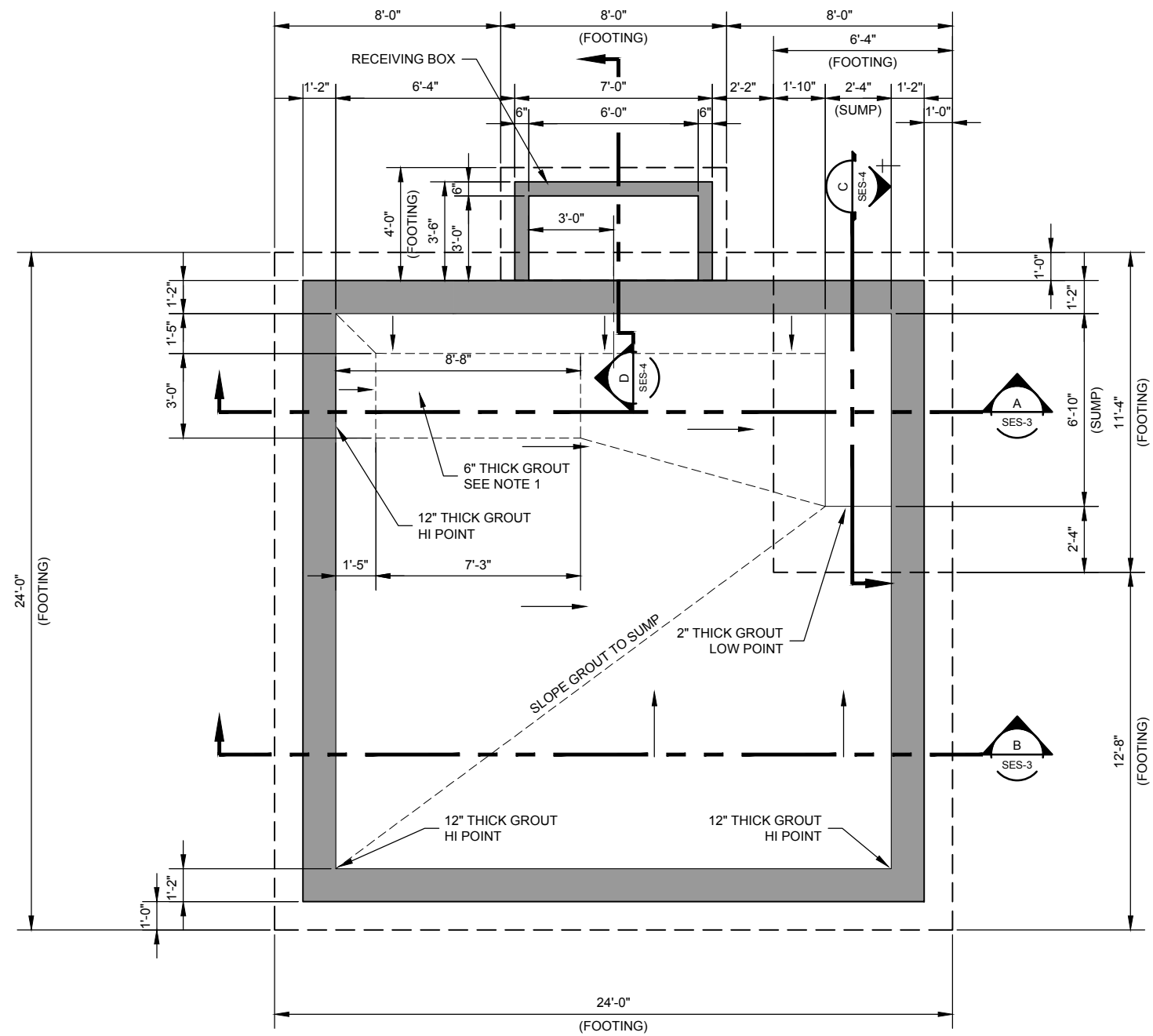
LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**TWAS ENCLOSURE
MECHANICAL PLAN**

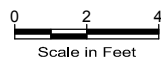
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APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 30 of 74		REVISION NO. B

MTM-5



STRUCTURAL/FOUNDATION PLAN

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



NOTES:

- 1- PROVIDE FLAT, EVEN SURFACE FOR MIXER PER MANUFACTURERS RECOMMENDATIONS.
- 2- SLOPE FLOOR TO SUMP WITH MINIMUM GROUT THICKNESS AT EDGE OF SUMP,USE NON-SHRINK GROUT.
- 3- SEE SES-2 FOR LOCATIONS OF EXISTING PIPING, STRUCTURES AND OTHER IMPROVEMENTS.

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

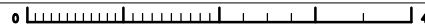
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100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793



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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



JOB NO. 12600-07/16650-02

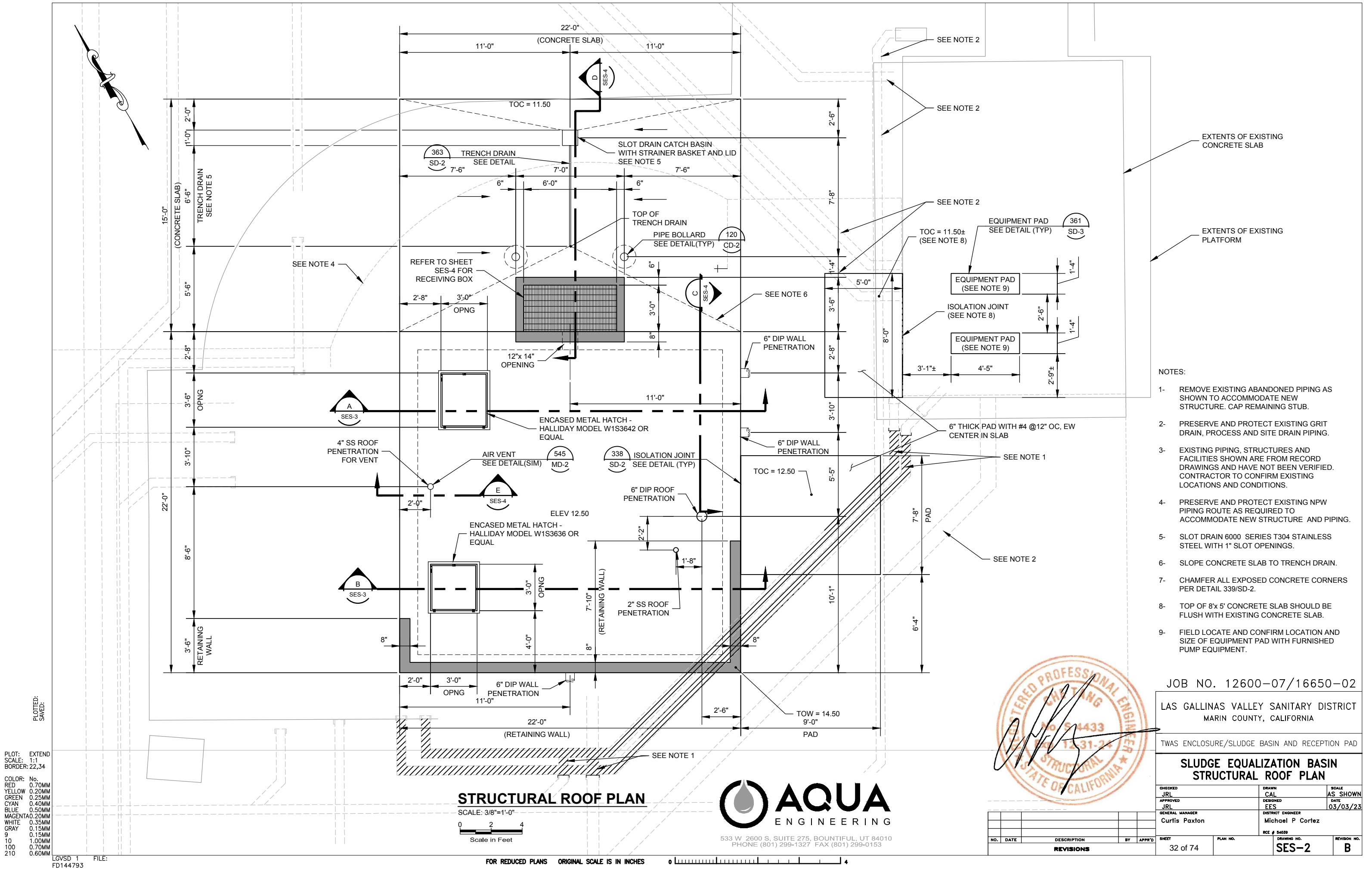
LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**SLUDGE EQUALIZATION BASIN
STRUCTURAL AND FOUNDATION PLAN**

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	

NO.	DATE	DESCRIPTION	BY	APPR'D	SHEET 31 of 74	PLAN NO.	DRAWING NO. SES-1	REVISION NO. B
REVISIONS								



- NOTES:
- 1- REMOVE EXISTING ABANDONED PIPING AS SHOWN TO ACCOMMODATE NEW STRUCTURE. CAP REMAINING STUB.
 - 2- PRESERVE AND PROTECT EXISTING GRIT DRAIN, PROCESS AND SITE DRAIN PIPING.
 - 3- EXISTING PIPING, STRUCTURES AND FACILITIES SHOWN ARE FROM RECORD DRAWINGS AND HAVE NOT BEEN VERIFIED. CONTRACTOR TO CONFIRM EXISTING LOCATIONS AND CONDITIONS.
 - 4- PRESERVE AND PROTECT EXISTING NPW PIPING ROUTE AS REQUIRED TO ACCOMMODATE NEW STRUCTURE AND PIPING.
 - 5- SLOT DRAIN 6000 SERIES T304 STAINLESS STEEL WITH 1" SLOT OPENINGS.
 - 6- SLOPE CONCRETE SLAB TO TRENCH DRAIN.
 - 7- CHAMFER ALL EXPOSED CONCRETE CORNERS PER DETAIL 339/SD-2.
 - 8- TOP OF 8'x 5' CONCRETE SLAB SHOULD BE FLUSH WITH EXISTING CONCRETE SLAB.
 - 9- FIELD LOCATE AND CONFIRM LOCATION AND SIZE OF EQUIPMENT PAD WITH FURNISHED PUMP EQUIPMENT.

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

SLUDGE EQUALIZATION BASIN STRUCTURAL ROOF PLAN

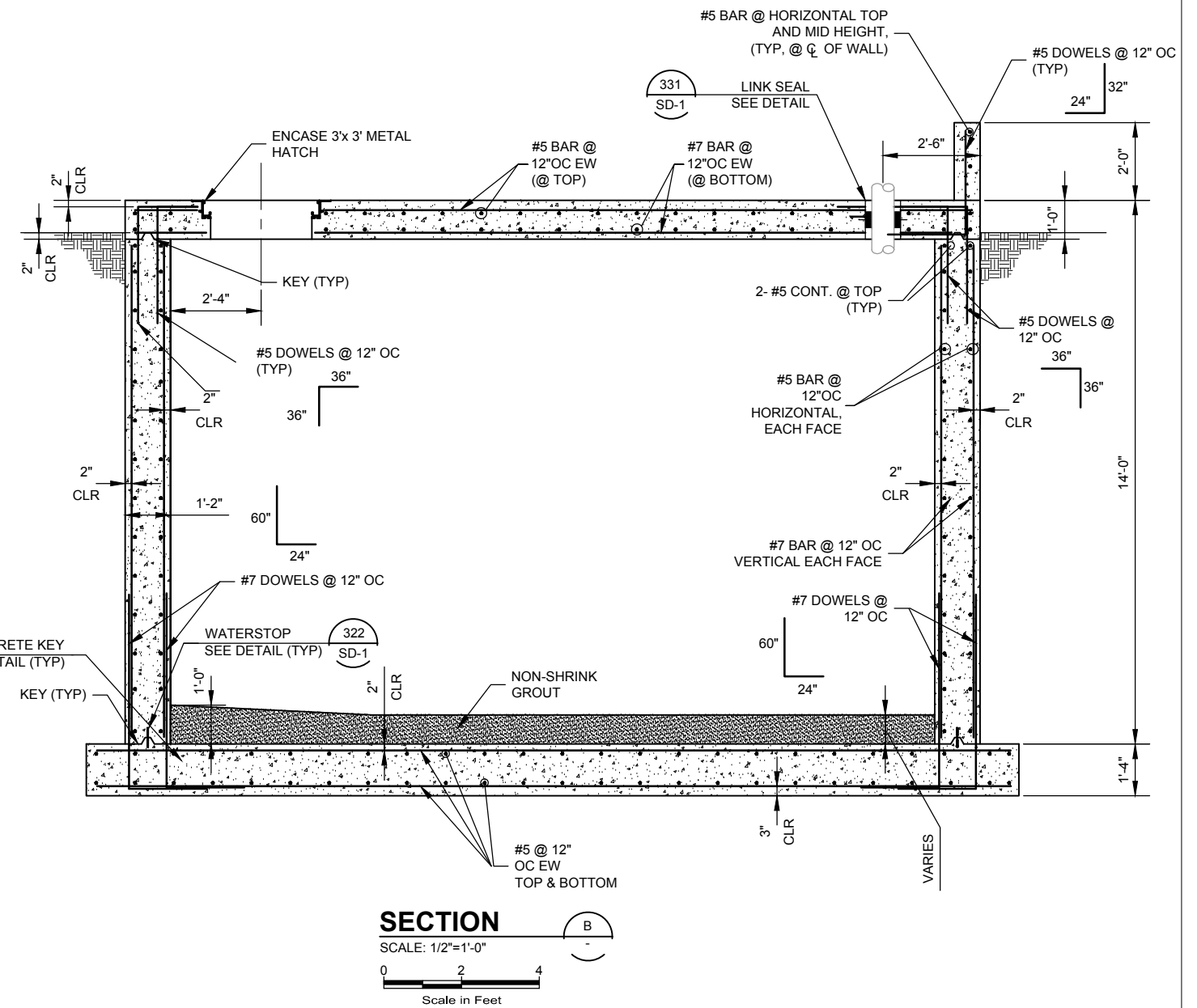
CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	



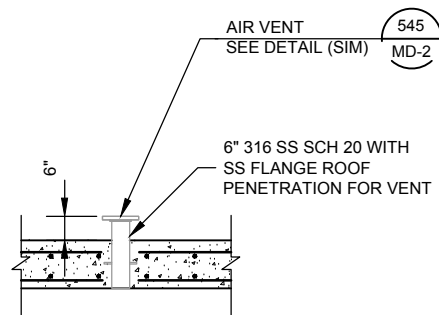
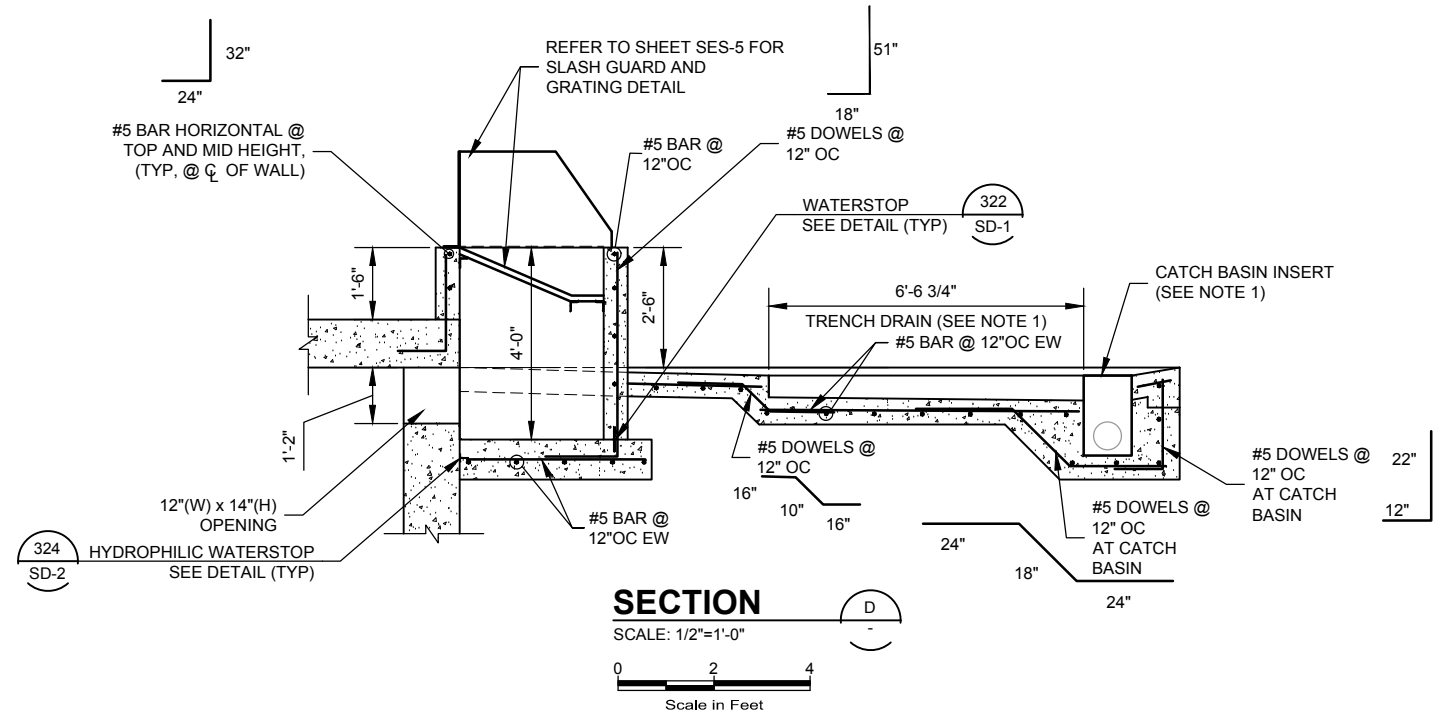
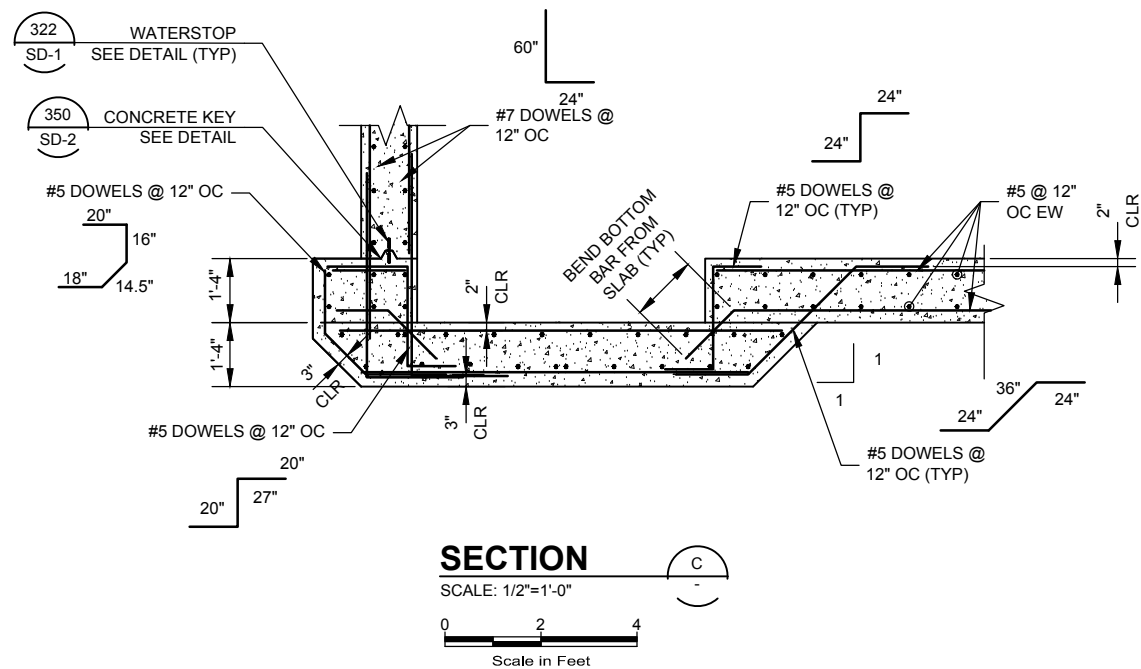
NO.	DATE	DESCRIPTION	BY	APPROVED
REVISIONS				
32	07	74		

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BORDER: 22,34

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100 0.70MM
210 0.60MM



CHECKED JRL		DRAWN/ BDP		SCALE	
APPROVED JRL		DESIGNED EES		DATE 03/03/23	
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez			
		RCE # S4039			
SHEET 33 of 74		PLAN NO.		REVISION NO. SES-3 B	



- NOTES:
- 1- SLOT DRAIN 6000 SERIES T304 STAINLESS STEEL WITH 1" SLOT OPENINGS.

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

SLUDGE EQUALIZATION BASIN
STRUCTURAL SECTIONS

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	



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NO.	DATE	DESCRIPTION	BY	APPRO
		REVISIONS		

SHEET 34 of 74	PLAN NO.	DRAWING NO. SES-4	REVISION NO. B
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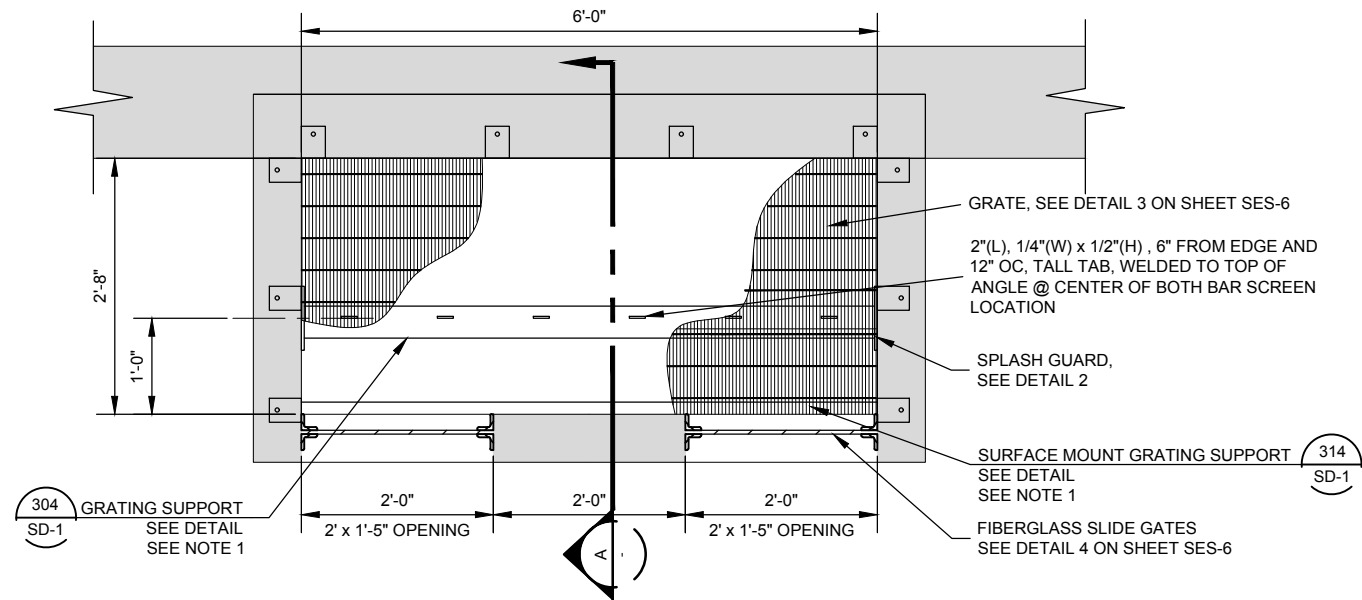
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LGVSD 1 FILE:
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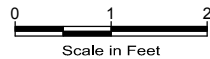
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



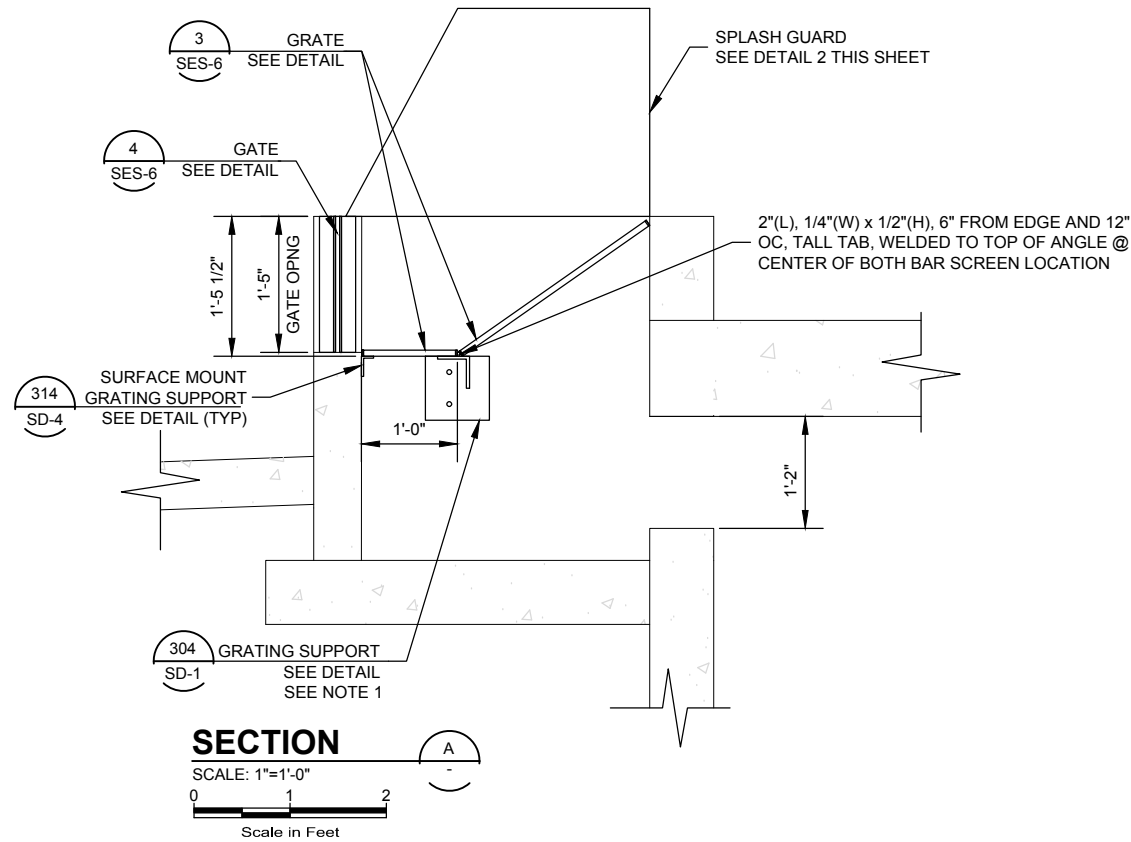


GRATING DETAIL

SCALE: 1"=1'-0"

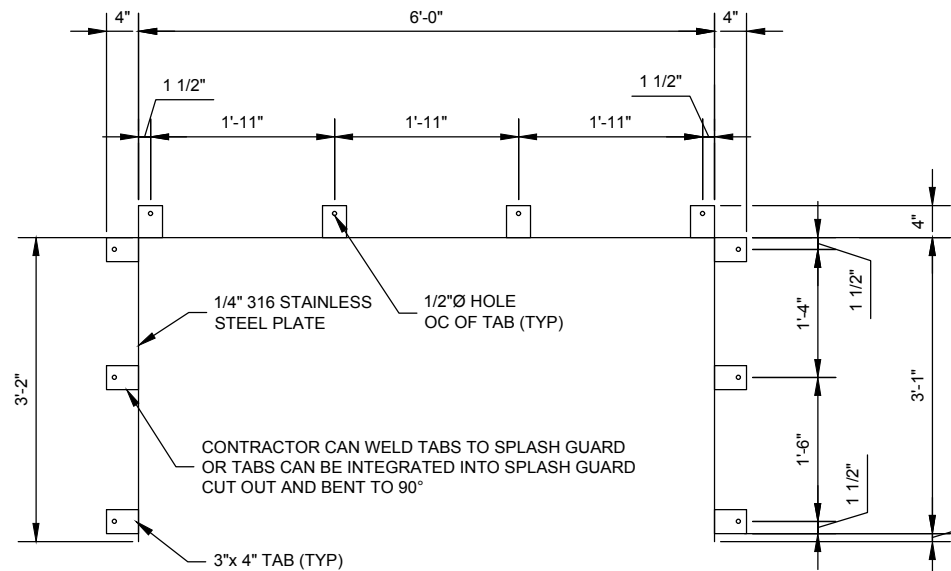
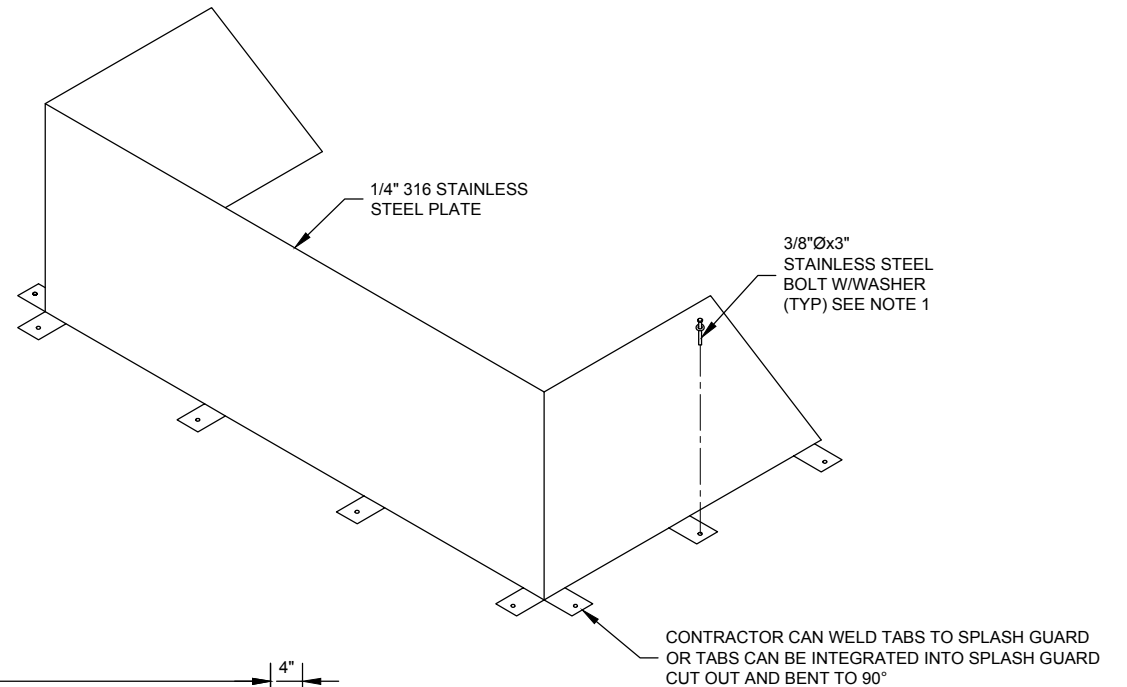


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SES-4

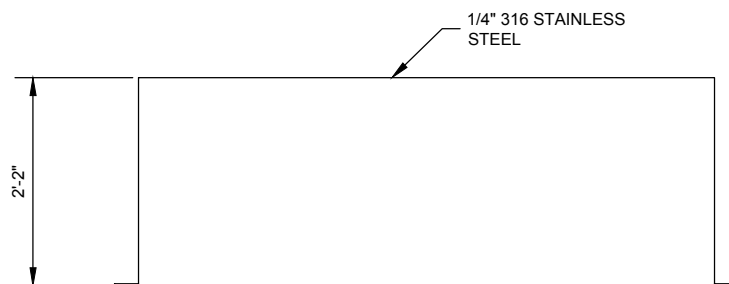


NOTES:

- 1- ALL ANCHORS AND GRATING SUPPORT MEMBERS SHALL BE 316 STAINLESS STEEL.



PLAN



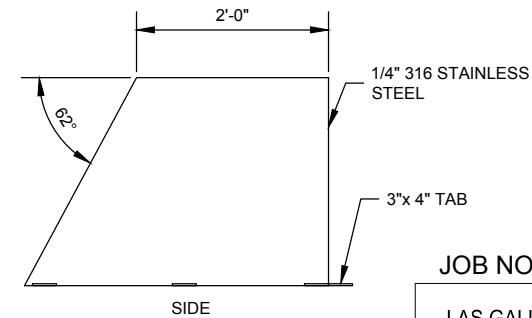
FRONT

SPLASH GUARD DETAIL

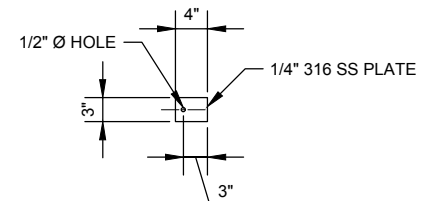
SCALE: 1"=1'-0"



2
SES-4, SES-5



SIDE



TAB

SCALE: NTS



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

SLUDGE EQUALIZATION BASIN
RECEIVING BOX GRATING & SPLASH GUARD

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	
SHEET 35 of 74	PLAN NO. SES-5	REVISION NO. B

NO.	DATE	DESCRIPTION	BY	APPRO
		REVISIONS		



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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



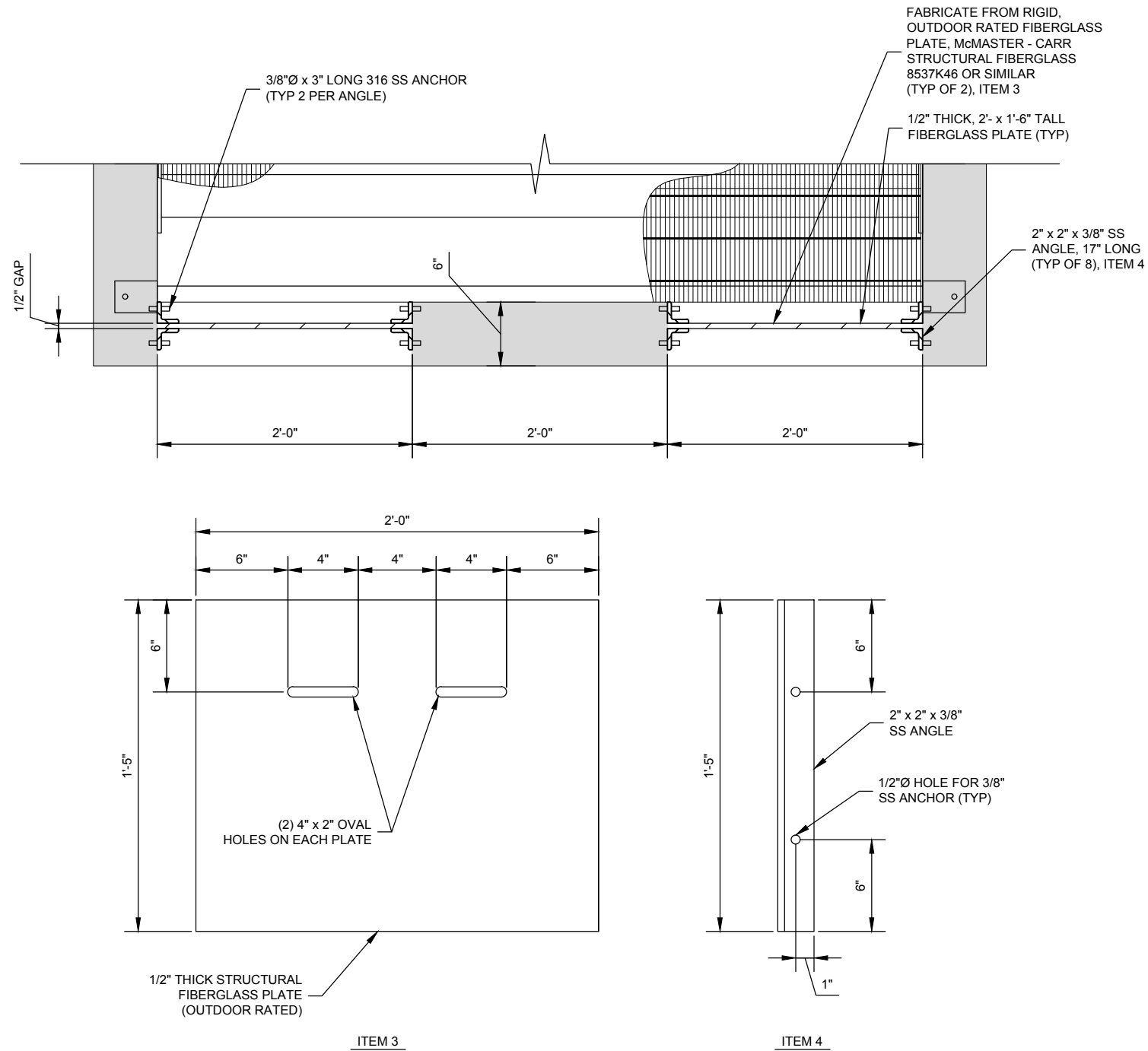
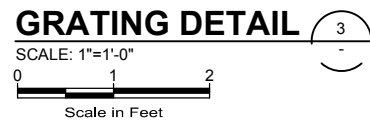
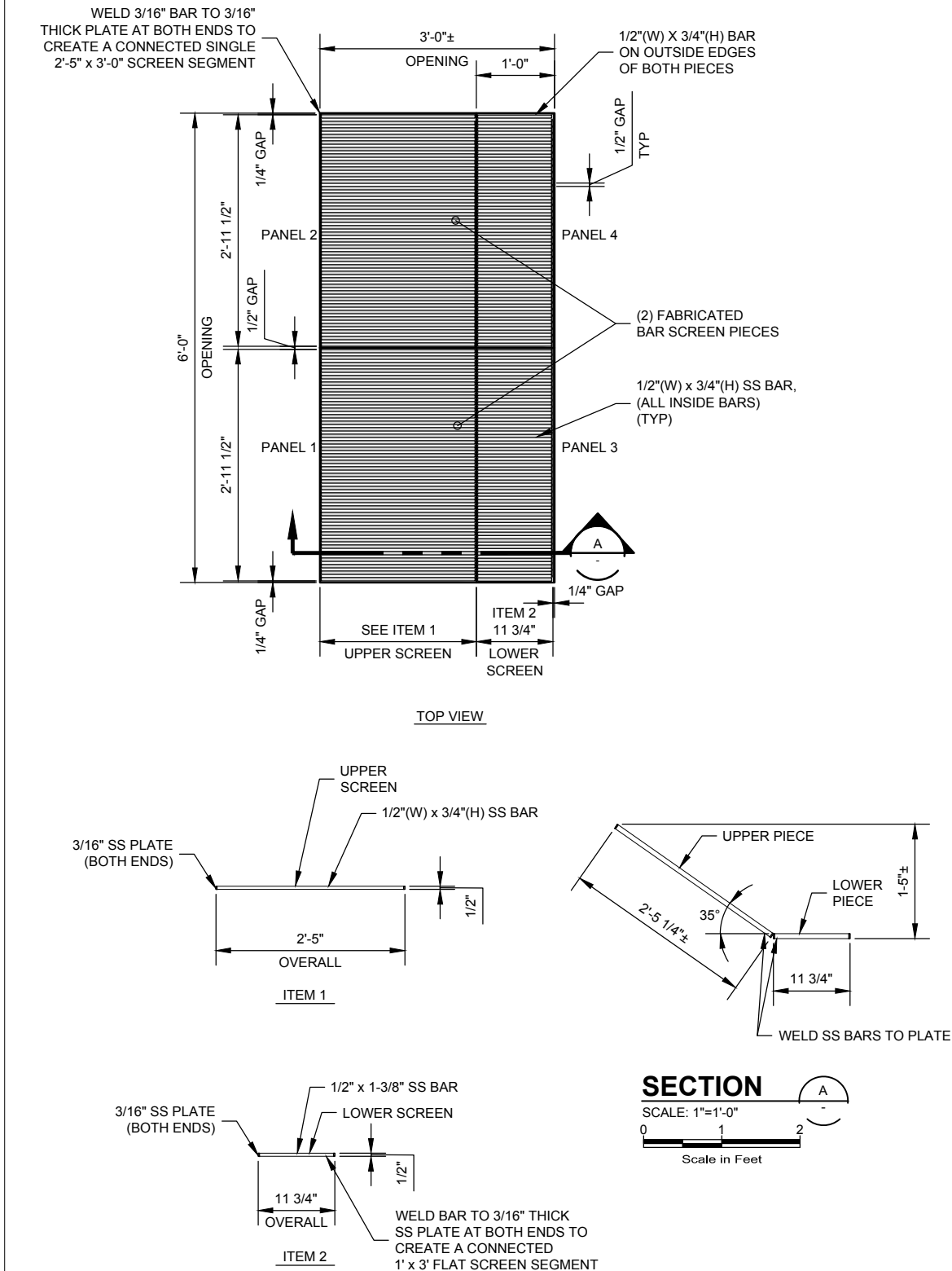
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10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

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WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



GATE DETAIL

SCALE: NTS

4



NO.	DATE	DESCRIPTION	BY	APPRO
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

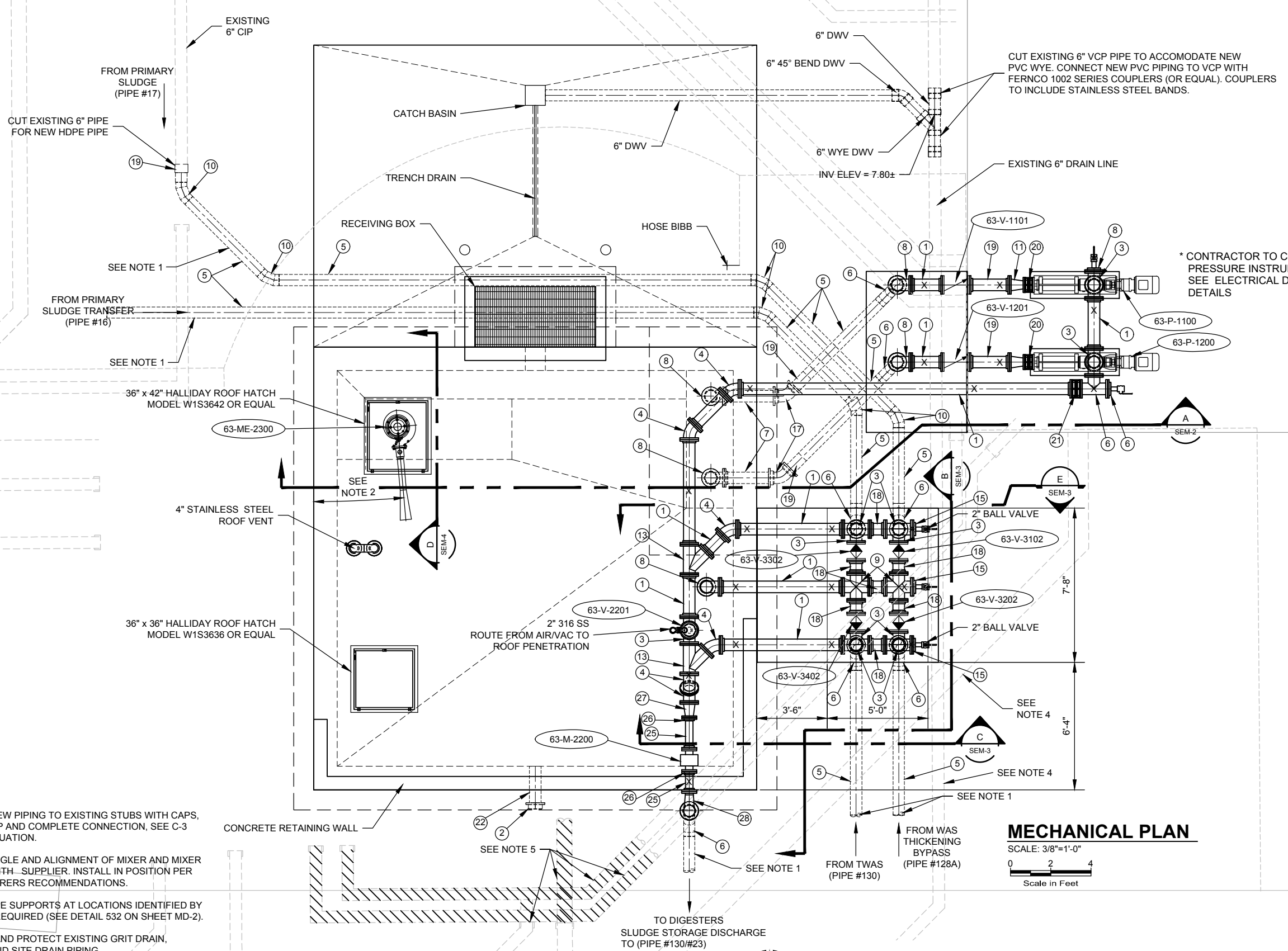
SLUDGE EQUALIZATION BASIN
RECEIVING BOX GRATING & SPLASH GUARD

CHECKED JRL	DRAWN BDP	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 36 of 74		REVISION NO. SES-6
PLAN NO.		REVISION NO. B

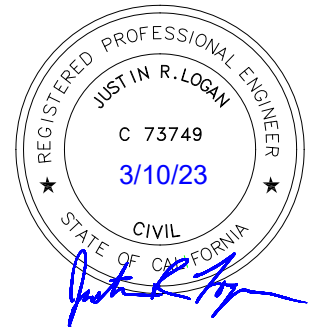
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MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVS 1
FD144793

- NOTES:
- CONNECT NEW PIPING TO EXISTING STUBS WITH CAPS, REMOVE CAP AND COMPLETE CONNECTION, SEE C-3 FOR CONTINUATION.
 - CONFIRM ANGLE AND ALIGNMENT OF MIXER AND MIXER EDUCTOR WITH SUPPLIER. INSTALL IN POSITION PER MANUFACTURERS RECOMMENDATIONS.
 - PROVIDE PIPE SUPPORTS AT LOCATIONS IDENTIFIED BY "X" AND AS REQUIRED (SEE DETAIL 532 ON SHEET MD-2).
 - PRESERVE AND PROTECT EXISTING GRIT DRAIN, PROCESS AND SITE DRAIN PIPING.
 - REMOVE & CAP EXISTING ABANDONED PIPING AS SHOWN ON SES-2 TO ACCOMMODATE NEW STRUCTURE.
 - SEE SHEET SEM-2 FOR PIPE FITTING SCHEDULE.



MECHANICAL PLAN
SCALE: 3/8"=1'-0"
0 2 4
Scale in Feet



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

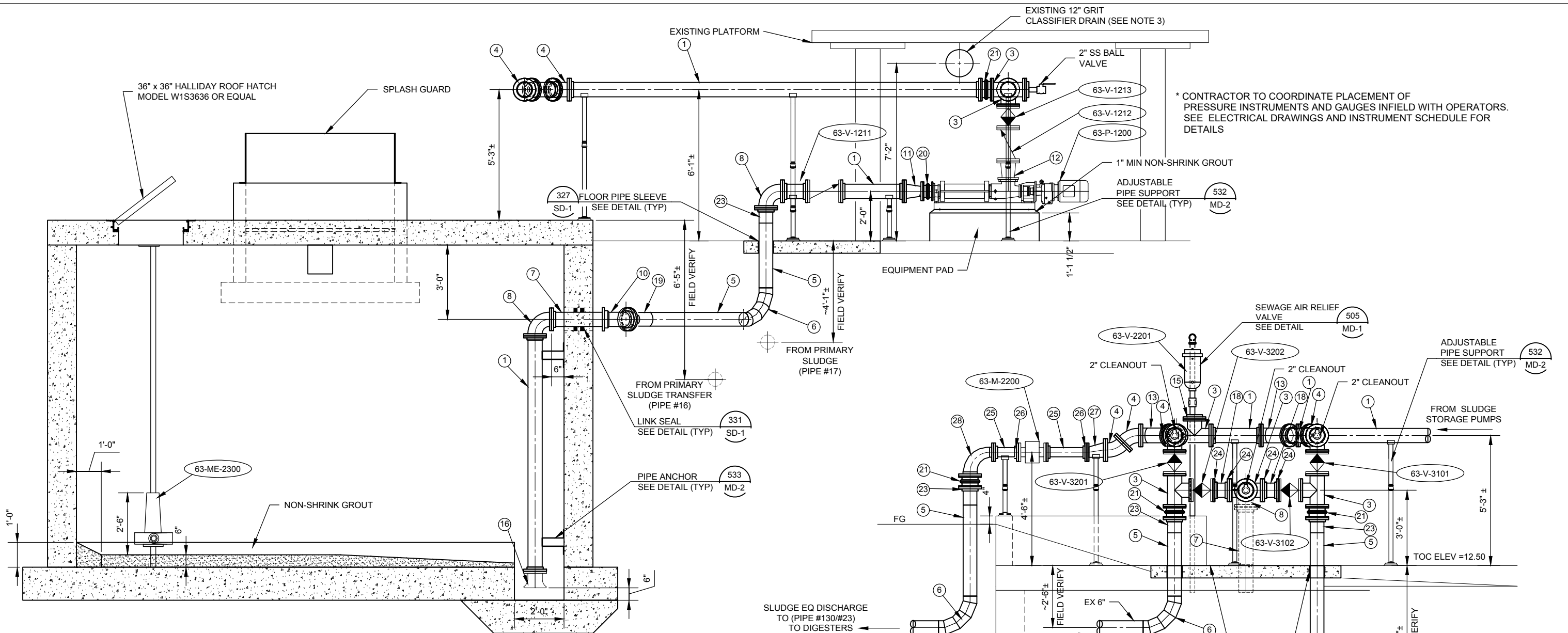
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**SLUDGE EQUALIZATION BASIN
MECHANICAL PLAN**

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	
NO.	DATE	DESCRIPTION
		BY
		APPRO'D
		REVISIONS
SHEET	37 of 74	PLAN NO.
DRAWING NO.	SEM-1	REVISION NO.
		B

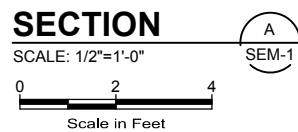


FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4



PIPE SCHEDULE				
NO.	DESCRIPTION	SIZE	JOINT	MATERIAL
1	SPOOL	6"	FLG	DIP
2	CAP	6"	MJ	HDPE
3	TEE	6"	FLG	DIP
4	45° BEND	6"	FLG	DIP
5	SPOOL	6"	FUSED	HDPE
6	90° BEND	6"	FUSED	HDPE
7	SPOOL	6"	FLG x PE	DIP
8	90° BEND	6"	FLG	DIP
9	CROSS	6"	FLG	DIP
10	45° BEND	6"	FUSED	HDPE
11	REDUCER	6" x 4"	FLG	DIP
12	REDUCER	6" x 5"	FLG	DIP
13	WYE	6"	FLG	DIP
14	SPOOL	6"	FLGxGROOVE	DIP
15	COMPANION FLANGE	6" x 2"	FLG	DIP
16	FLARE	6"	FLG	DIP
17	45° BEND	6"	FLG	STEEL
18	SPOOL	6"	GROOVE	DIP
19	TRANSITION	6"	PExFUSED	DIPxHDPE
20	EXPANSION JOINT	4"	FLG	DIPxRUBBER
21	EXPANSION JOINT	6"	FLG	DIPxRUBBER
22	SPOOL	6"	PE	DIP
23	FLANGE ADAPTOR W/ SS RING	6"	FUSED	HDPE
24	GROOVED FLANGE ADAPTOR	6"	GROOVE	DIP
25	SPOOL	4"	FLGxGROOVE	DIP
26	GROOVED FLANGE ADAPTOR	4"	GROOVE	DIP
27	REDUCER (ECCENTRIC)	4" x 6"	FLG	DIP
28	90° REDUCING BEND (LONG)	4" x 6"	FLG	DIP

* = ULTRASPOOL SINGLE 4" MODEL 10400 OR EQUAL
 ** = ULTRASPOOL SINGLE 6" MODEL 10600 OR EQUAL

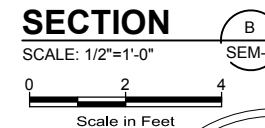


NOTES:

- ROUTE DRAIN LINE FROM AIR RELIEF VALVE TO STORAGE TANKS. DRAIN LINE TO PENETRATE CONCRETE ROOF AND MAKE PENETRATION AIR TIGHT.
- CONFIRM ANGLE AND ALIGNMENT OF MIXER AND MIXER EDUCATOR WITH SUPPLIER. INSTALL IN POSITION PER MANUFACTURERS RECOMMENDATIONS.
- LOCATION OF EXISTING 12" DRAIN PIPE IS APPROXIMATE FIELD VERIFY.



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NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

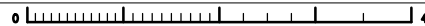
LAS GALLINAS VALLEY SANITARY DISTRICT
 MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

SLUDGE EQUALIZATION BASIN MECHANICAL SECTIONS

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	RCE # 54039
SHEET 38 of 74		DRAWING NO. SEM-2
		REVISION NO. B

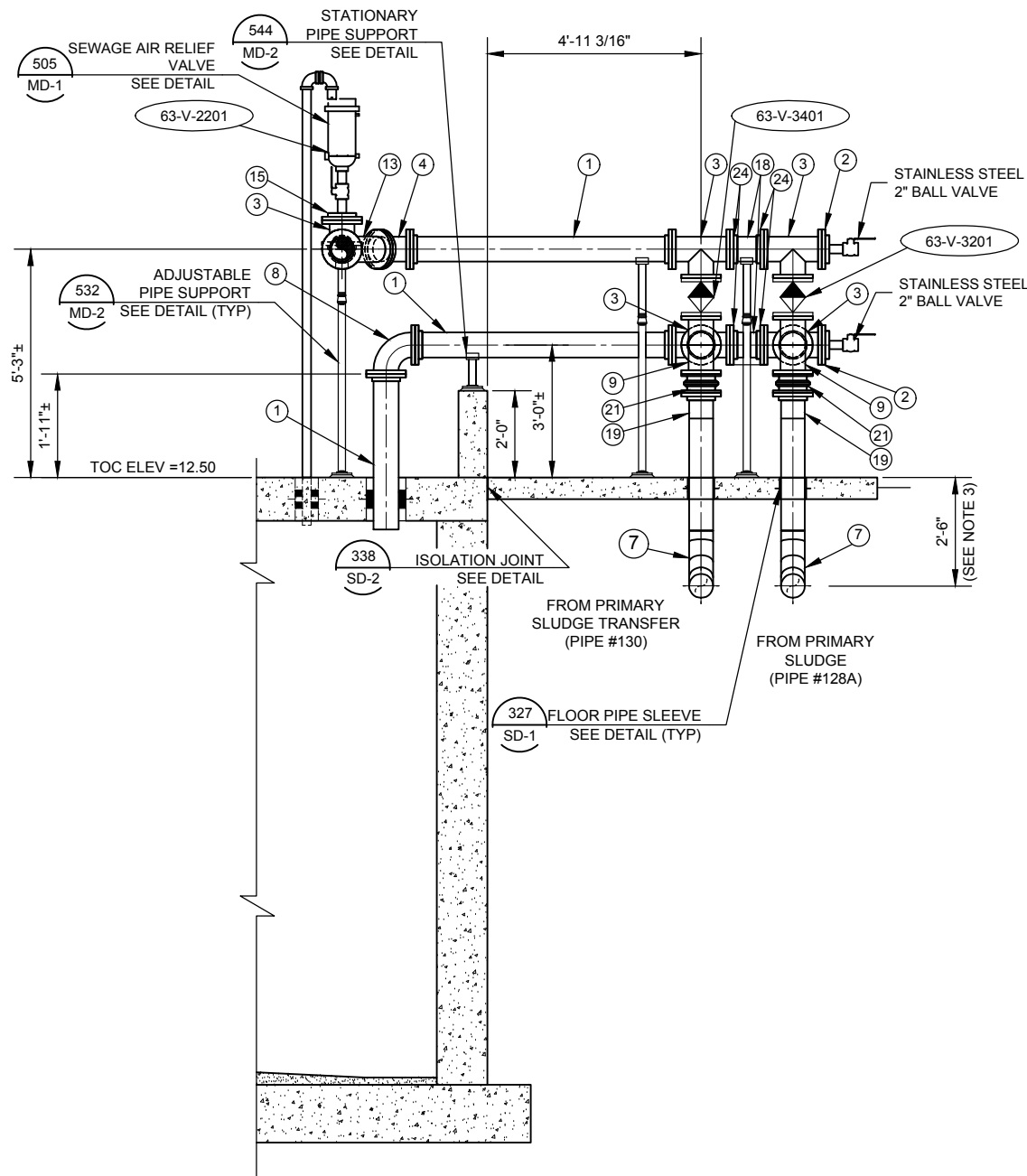
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



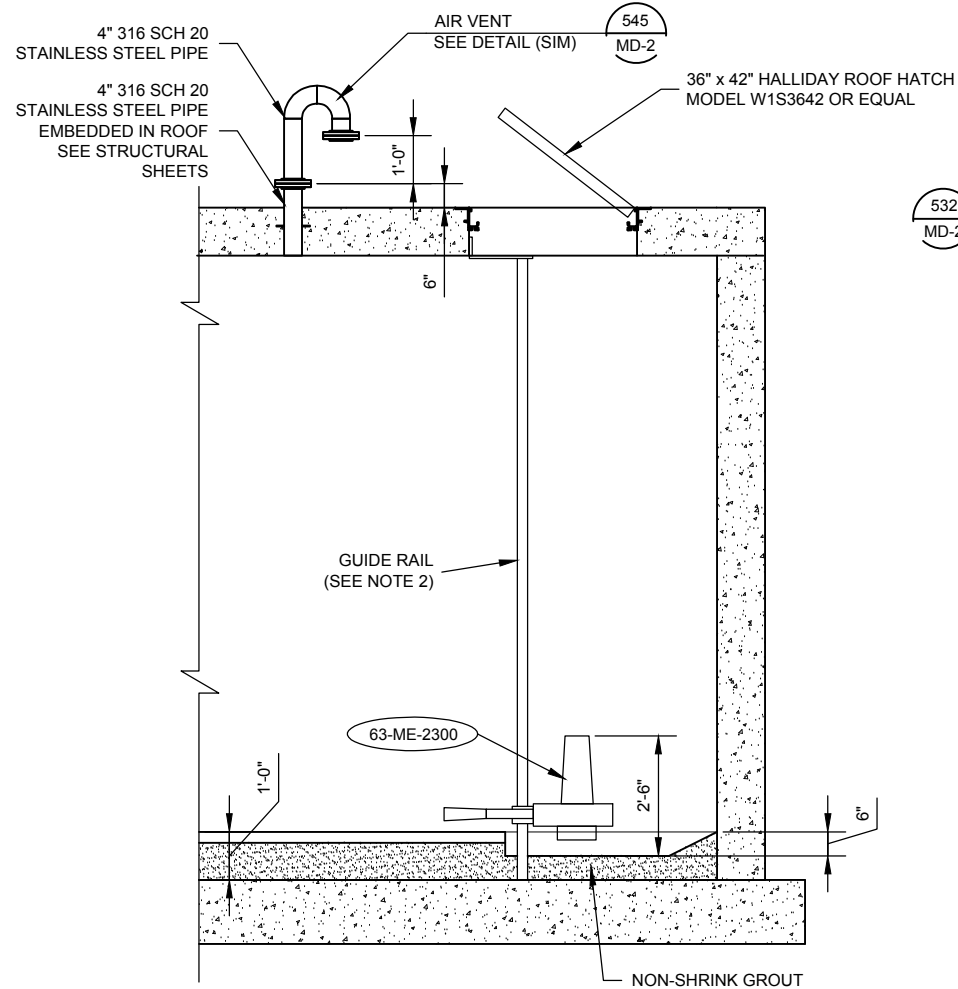
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 SCALE: 1:1
 BORDER: 22,34

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 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 0.70MM
 100 0.70MM
 210 0.60MM

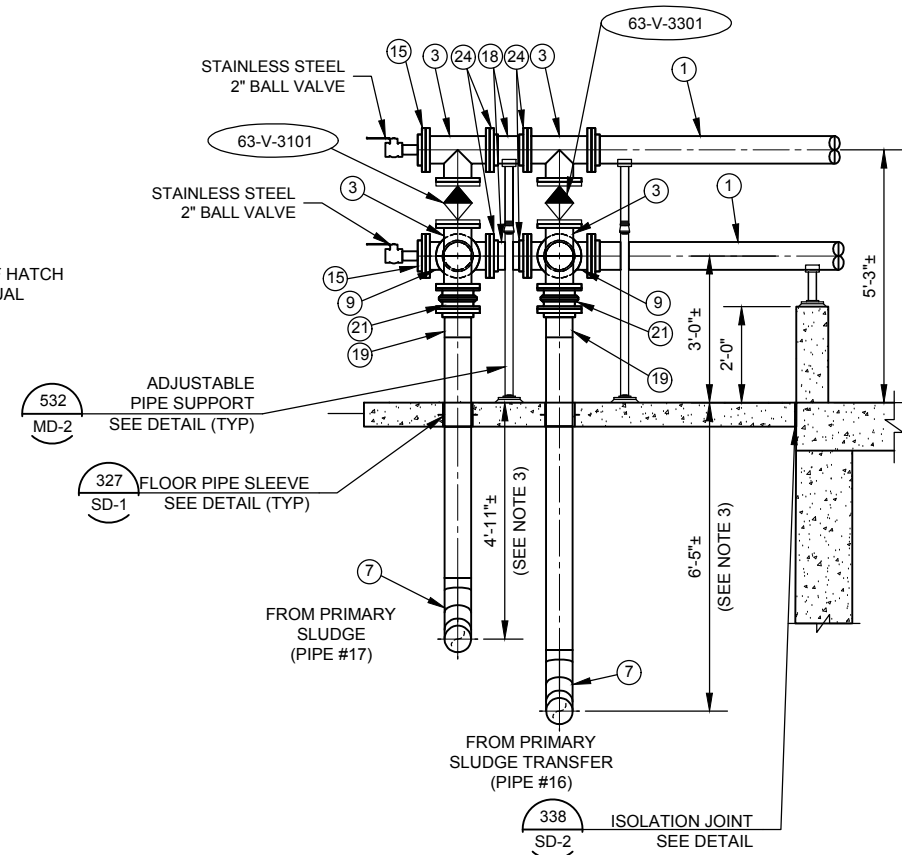
LGVSD 1 FILE:
 FD144793



SECTION C
SCALE: 1/2"=1'-0"
0 2 4
Scale in Feet



SECTION D
SCALE: 1/2"=1'-0"
0 2 4
Scale in Feet



SECTION E
SCALE: 1/2"=1'-0"
0 2 4
Scale in Feet

- NOTE:
- AIR VENT PIPE HAS BEEN ROTATED FOR CLARIFY.
 - COORDINATE GUIDE RAIL REQUIREMENTS AND INSTALLATION WITH MIXER SUPPLIES.
 - EXISTING PIPE ELEVATIONS FROM RECORD DRAWINGS, CONTRACTOR TO CONFIRM IN FIELD.
 - SEE SHEET SEM-2 FOR PIPE FITTING SCHEDULE.



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NO.	DATE	DESCRIPTION	BY	APPROD
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**SLUDGE EQUALIZATION BASIN
MECHANICAL SECTIONS**

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	RCE # 54039
SHEET 39 of 74	PLAN NO.	DRAWING NO. SEM-3
		REVISION NO. B

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

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WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



PUMP SCHEDULE							
P#	LOCATION	SERVICE	TYPE	HP (KW)	FLOW (GPM)	TDH	REMARKS
63-P-1100	SLUDGE EQ PUMP STATION	SLUDGE EQ TO DIGESTER FEED	PROGRESSIVE CAVITY	10	60	100 PSI	SEEPEx MODEL BN-17-12/A1-C1-L8-F0-GAM - NO EQUAL
63-P-2100	SLUDGE EQ PUMP STATION	SLUDGE EQ TO DIGESTER FEED	PROGRESSIVE CAVITY	10	60	100 PSI	SEEPEx MODEL BN-17-12/A1-C1-L8-F0-GAM - NO EQUAL

MECHANICAL EQUIPMENT SCHEDULE					
M#	LOCATION	ITEM	SERVICE	HP (KW)	REMARKS
63-ME-2300	SLUDGE EQ BASIN	SUBMERSIBLE MIXER	SLUDGE EQ TANK MIXING	12	LANDIA MODEL DIG-I AIRJET DG-I 105 W/ FIXED EJECTOR TUBE OR APPROVED EQUAL
63-M-2200	SLUDGE EQ BASIN	FLOW METER	SLUDGE EQ TO DIGESTER FLOW MEASUREMENT	-	SEE INSTRUMENT SCHEDULE

VALVE SCHEDULE								
V#	LOCATION	SERVICE	TYPE	SIZE	MATERIAL	CONNECTION	ACTUATOR	REMARKS
63-V-1101	SLUDGE EQ PUMP STATION	SLUDGE EQ PUMP SUCTION BACKFLOW PREVENTION	CHECK	6"	DIP	FLXFL	-	VALMATIC SERIES 500A SWING CHECK OR EQUAL
63-V-1102	SLUDGE EQ PUMP STATION	SLUDGE EQ PUMP BACKFLOW PREVENTION	CHECK	6"	DIP	FLXFL	-	VALMATIC SERIES 500A SWING CHECK OR EQUAL
63-V-1103	SLUDGE EQ PUMP STATION	SLUDGE EQ PUMP DISCHARGE ISOLATION	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-2101	SLUDGE EQ PUMP STATION	SLUDGE EQ PUMP SUCTION BACKFLOW PREVENTION	CHECK	6"	DIP	FLXFL	-	VALMATIC SERIES 500A SWING CHECK OR EQUAL
63-V-2102	SLUDGE EQ PUMP STATION	SLUDGE EQ PUMP BACKFLOW PREVENTION	CHECK	6"	DIP	FLXFL	-	VALMATIC SERIES 500A SWING CHECK OR EQUAL
63-V-2103	SLUDGE EQ PUMP STATION	SLUDGE EQ PUMP DISCHARGE ISOLATION	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-2201	SLUDGE EQ BASIN	SLUDGE EQ TO DIGESTER FEED AIR RELIEF	AIR RLF	2"	DIP	FLXFL	-	VALMATIC MODEL #48A OR EQUAL
63-V-3101	SLUDGE EQ BASIN	PRIMARY SLUDGE TO DIGESTER ISOLATOIN (PIPE #17)	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-3102	SLUDGE EQ BASIN	PRIMARY SLUDGE TO SLUDGE EQ ISOLATION (PIPE #17)	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-3201	SLUDGE EQ BASIN	WAS THICKENING BYPASS TO DIGESTER ISOLATOIN (PIPE #128A)	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-3202	SLUDGE EQ BASIN	WAS THICKENING BYPASS TO SLUDGE EQ ISOLATION (PIPE #128A)	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-3301	SLUDGE EQ BASIN	PRIMARY SLUDGE TRANSFER TO DIGESTER ISOLATION (PIPE #16)	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-3302	SLUDGE EQ BASIN	PRIMARY SLUDGE TRANSFER TO SLUDGE EQ ISOLATION (PIPE #16)	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-3401	SLUDGE EQ BASIN	TWAS TO DIGESTER ISOLATION (PIPE #130)	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL
63-V-3402	SLUDGE EQ BASIN	TWAS TO SLUDGE EQ ISOLATION (PIPE #130)	PLUG	6"	DIP	FLXFL	WHEEL	DEZURIK FULL PORT ECCENTRIC PLUG VALVE OR EQUAL

PROTECTIVE COATINGS SCHEDULE		
AREA	ITEM	COATING
GENERAL PIPING		
	FERROUS METAL PIPING, VALVES, FITTINGS, AND APPURTENANCES EXTERIOR, NON-IMMERSION	COATING SYSTEM F
	INTERIOR FERROUS METAL PIPING, VALVES, FITTINGS, AND APPURTENANCES	COATING SYSTEM G
	SUBMERGED FERROUS METAL PIPING, VALVES, FITTINGS, AND APPURTENANCES	COATING SYSTEM H
	BURIED FERROUS METAL PIPING AND FITTINGS	COATING SYSTEM M
	EXPOSED PVC OR CPVC PIPING, VALVES, FITTINGS, AND APPURTENANCES	COATING SYSTEM L
	STAINLESS STEEL PIPE	NO COATING REQUIRED
	FIBERGLASS REINFORCED PIPING, FITTINGS, AND APPURTENANCES	NO COATING REQUIRED
	PIPE BOLLARDS	COATING SYSTEM F
	MANHOLES (INTERIOR)	COATING SYSTEM B
MISC. METALS		
	STRUCTURAL STEEL	COATING SYSTEM F
	MISC. MILD STEEL	COATING SYSTEM F
	ALUMINUM PLANK OR GRATING	NO COATING REQUIRED
	STRUCTURAL ALUMINUM	NO COATING UNLESS EMBEDED OR IN CONTACT WITH CONCRETE - SYSTEM J
	STAINLESS STEEL HANDRAIL	NO COATING REQUIRED
	ALUMINUM HANDRAIL	FACTORY FINISH - CLEAR ANODIC
	ALUMINUM STAIRS	NO COATING UNLESS EMBEDED OR IN CONTACT WITH CONCRETE - SYSTEM J
SLUDGE STORAGE TANK		
	EXTERIOR CONCRETE WALLS BELOW GROUND	NO COATING REQUIRED
	EXTERIOR CONCRETE WALLS ABOVE GROUND	NO COATING REQUIRED
	EXTERIOR CONCRETE ROOF/SLABS	NO COATING REQUIRED
	INTERIOR CONCRETE WALLS	COATING SYSTEM A
	INTERIOR CONCRETE CEILING	COATING SYSTEM A
	INTERIOR CONCRETE SLABS/FLOOR	NO COATING REQUIRED
TWAS AWNING AND ENCLOSURE		
	PRIMARY STRUCTURAL STEEL MEMBERS	SYSTEM N - HDG SEE STRUCTURAL STEEL NOTES ON SHEET MTS-9
	SECONDARY STRUCTURAL STEEL MEMBERS	SYSTEM N - HDG SEE STRUCTURAL STEEL NOTES ON SHEET MTS-9
	ROOF PANELS	GALVANIZING G-60 SEE STRUCTURAL STEEL NOTES ON SHEET MTS-9
	WALL PANELS	SEE SECTION 056500 FOR WALL PANEL COATINGS
	INTERIOR CONCRETE FLOORS	COATING SYSTEM Q
	EXTERIOR CONCRETE FLOORS/WALKWAYS	NO COATING REQUIRED

NOTES:

- 1- SEE SHEET MTM-5 FOR TWAS ENCLOSURE HVAC SCHEDULE.



NO.	DATE	DESCRIPTION	BY	APPRO	
REVISIONS					

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

SLUDGE EQUALIZATION BASIN
PUMP, MECHANICAL & VALVE SCHEDULES

CHECKED JRL	DRAWN DNS	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez

SHEET 40 of 74		PLAN NO.	DRAWING NO. SCH-1	REVISION NO. B
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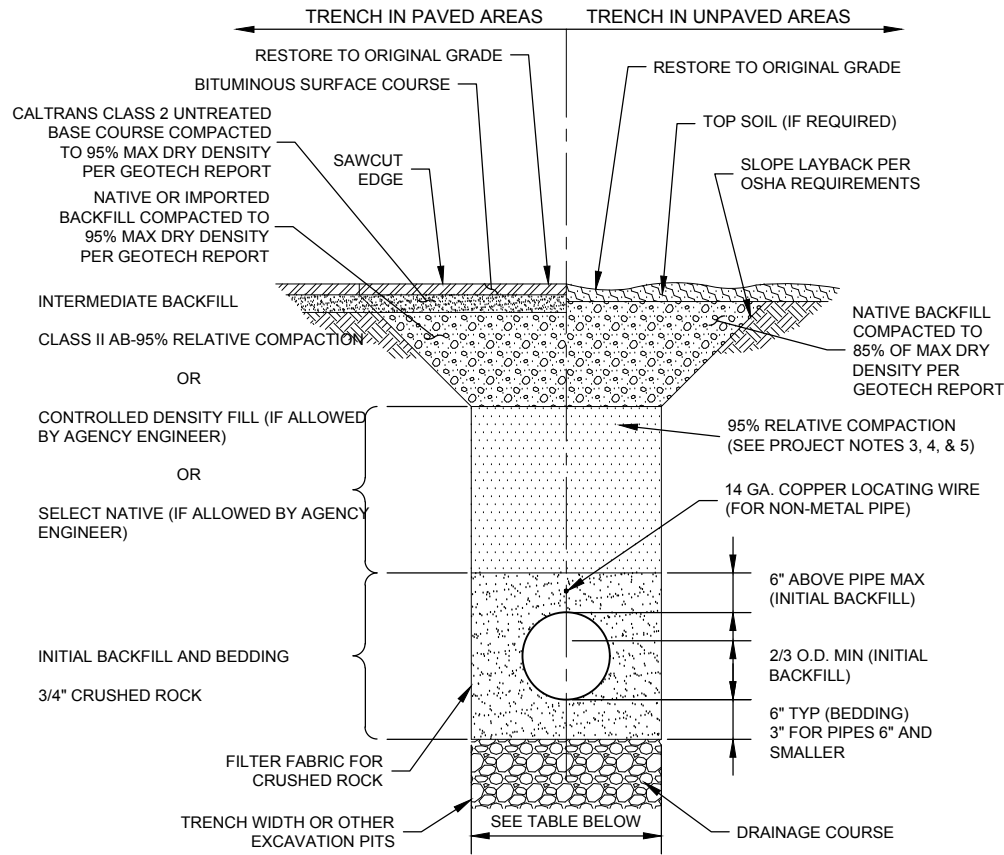
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BORDER: 22,34

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9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES





CONDUIT SIZE	LESS THAN 8"	6" TO 24"	OVER 24" TO 60"	OVER 60"
TRENCH WIDTH	O.D. + 12"	O.D. + 24"	O.D. + 24"	O.D. + 24"

FOR PIPES WITH MORE THAN 36" COVER, THE AGENCY ENGINEER MAY ALLOW A REDUCED TRENCH WIDTH INCLUDING A CHANGE TO A SELF-COMPACTING ENGINEERED TYPE OF INITIAL BACKFILL MATERIAL.

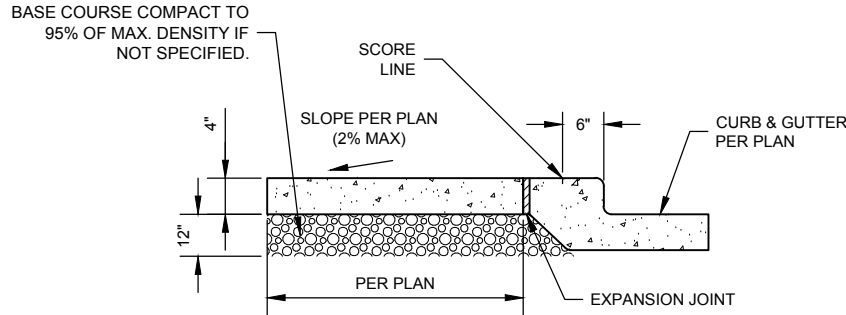
TYPICAL TRENCH

SCALE: NTS



MATERIAL AND COMPACTION REQUIREMENT FOR TRENCH BACKFILL

- 1- INTERMEDIATE BACKFILL SHALL BE CLASS II AGGREGATE BASE. SUITABLE NATIVE OR IMPORTED GRANULAR MATERIAL MAY BE USED IF ALLOWED BY AGENCY ENGINEER. RELATIVE COMPACTION SHALL BE AT LEAST 95%.
- 2- CLASS II AGGREGATE BASE SHALL CONFORM TO THE STATE STANDARD SPECIFICATIONS. MINIMUM RELATIVE COMPACTION SHALL BE 95% IF PAVEMENT HAVING A STRUCTURAL SECTION GREATER THAN 15" IS CUT. ADDITIONAL BASE MATERIAL MAY BE REQUIRED BY THE AGENCY ENGINEER. BASE SHALL BE PLACED AND COMPACTED PRIOR TO PLACING OF TEMPORARY PAVING.
- 3- TESTING OF MATERIALS AND PERFORMANCE SHALL BE IN CONFORMANCE WITH THE METHODS STATED IN THE LATEST EDITION OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, EXCEPT THAT RELATIVE COMPACTION MAY BE TESTED BY AASHTO METHOD T180, ASTM D-1557, OR TEST METHOD CALIF. 231 (NUCLEAR DENSITOMETER).
- 4- PLACE AC IN 3" MAX. LIFTS, EXCEPT FINAL LIFT SHALL BE 2 1/2" MAX. ADDITIONAL THICKNESS AND LIFTS OF ASPHALT CONCRETE MAY BE REQUIRED TO MATCH EXISTING STRUCTURAL SECTION ON MAJOR ROADS, OR PER LOCAL JURISDICTION REQUIREMENTS.
- 5- "JETTING" OF BACKFILL MATERIAL IS NOT PERMITTED.
- 6- THE USE OF PEA GRAVEL (OR SIMILAR ROUNDED AGGREGATE), IS NOT PERMITTED.
- 7- THE USE OF CONTROLLED DENSITY FILL (CDF) SHALL BE APPROVED BY THE AGENCY ENGINEER PRIOR TO PLACEMENT.
- 8- TRENCH EDGES SHALL BE TRIMMED TO A NEAT LINE AS REQUIRED BY THE AGENCY ENGINEER. TRIMMING SHALL BE BY SAW CUT OR ROTARY GRINDER.
- 9- THE SURFACE COURSE OF TRENCH RESTORATION SHALL EXTEND TO THE LIP OF GUTTER IF THE EDGE OF TRENCH IS WITHIN 4' OF THE LIP OF GUTTER, AND TO THE EDGE OF PAVEMENT IF THE EDGE OF TRENCH IS WITHIN 4' OF AN UNPAVED SHOULDER.
- 10- CONTRACTOR MUST SHORE ALL TRENCHES IN CONFORMANCE WITH OSHA AND STATE SAFETY STANDARDS.

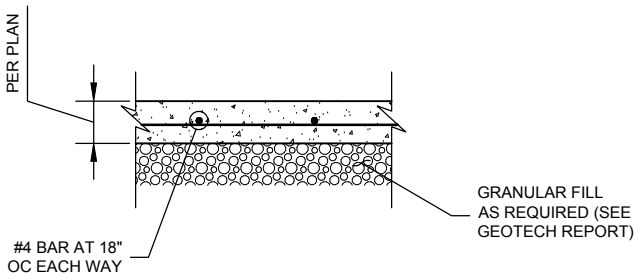


NOTES:

1. CONTRACTOR SHALL PROVIDE CONTROL JOINTS EVERY 5 FEET AND EXPANSION JOINTS EVERY 20 FEET.
2. SIDEWALK ADJACENT TO STRUCTURES SHALL HAVE 2% CROSS SLOPE AWAY FROM STRUCTURE UNLESS OTHERWISE NOTED.
3. IF ADJACENT TO STRUCTURE, SIDEWALK SHALL BE DOWELED TO STRUCTURE WITH #4 BARS AT 18" OC. DOWELS SHALL BE 12" LONG WITH 4" OF EMBEDMENT.
4. IF ADJACENT TO BUILDING, EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN SIDEWALK CONCRETE AND STRUCTURE WITH SEALANT BEING PLACED ALONG TOP EDGE OF JOINT.

SIDEWALK

SCALE: NTS



CONCRETE SLAB ON GRADE

SCALE: NTS



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

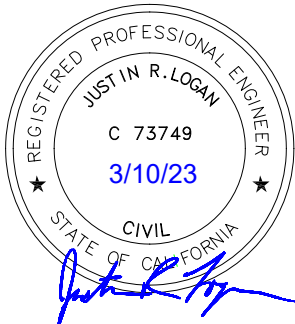
DETAILS CIVIL

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23

GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
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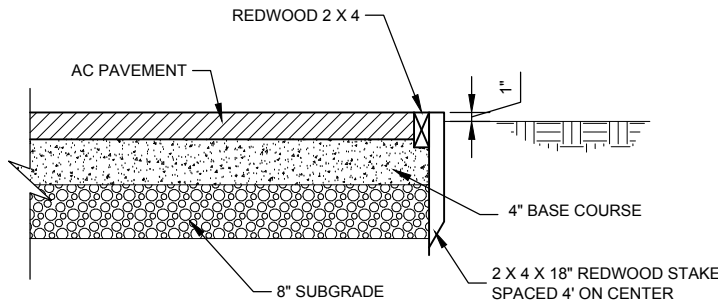
RCE # 54039

NO.	DATE	DESCRIPTION	BY	APPROD	SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
		REVISIONS			41 of 74		CD-1	B



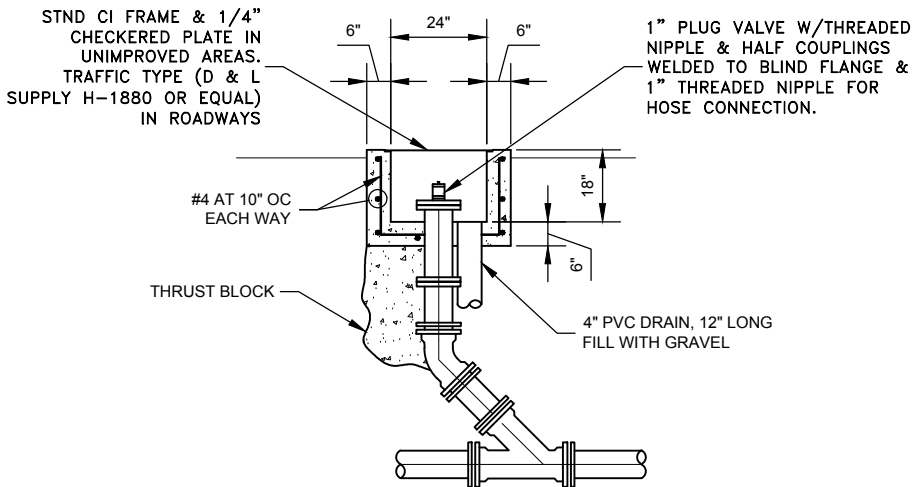
533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153

NOTE: ON CURVES USE 4 LAYERED REDWOOD BENDER BOARDS



REDWOOD HEADER

SCALE: NTS



PRESSURE CLEANOUT

SCALE: NTS



PLOTTED:
SAVED:

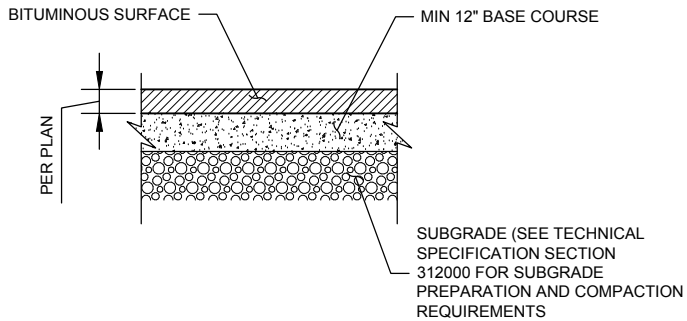
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100 0.70MM
210 0.60MM

LGUSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

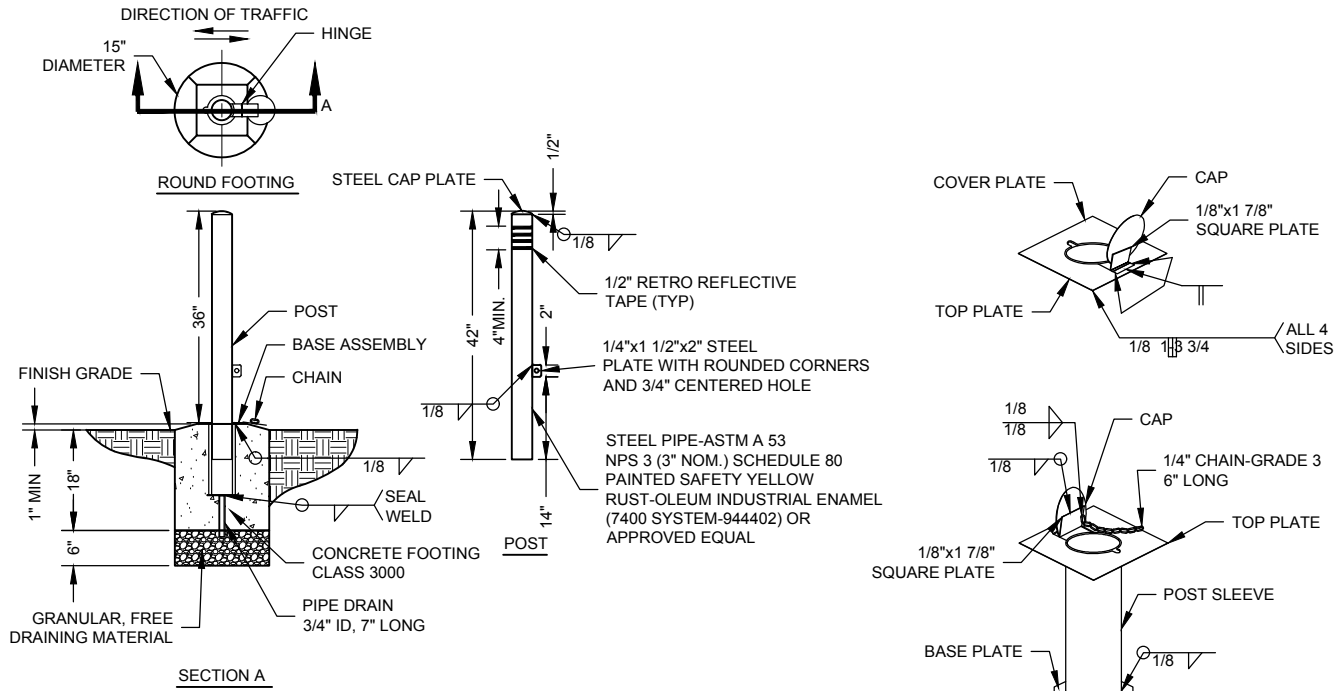




ROADWAY SECTION

SCALE: NTS

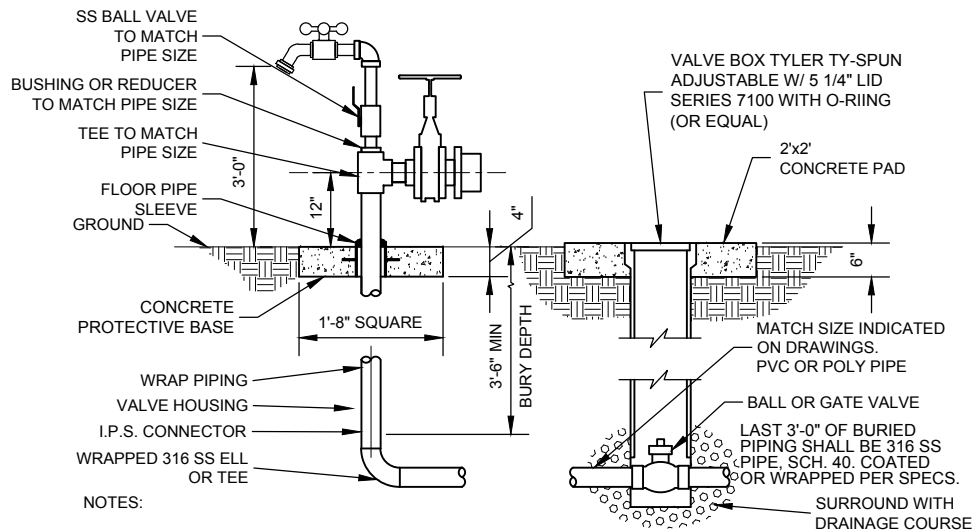
108



REMOVABLE BOLLARD

SCALE: NTS

120



YARD HYDRANT

SCALE: NTS

129

- NOTES:
- 1- PROVIDE WARNING SIGN, WHEN USED FOR NON-POTABLE WATER SEE DETAIL 261 ON SHEET AD-4
 - 2- VALVE BOX LID SHALL BE LABELED ACCORDING TO SERVICE.
 - 3- 3" IS STANDARD NPW LINE CONNECTION TO EACH RISER.



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NO.	DATE	DESCRIPTION	BY	APPRO'D
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LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

DETAILS CIVIL

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	RCE # 54039
SHEET 42 of 74	DRAWING NO. CD-2	REVISION NO. B

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

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LGVSD 1 FILE:
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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

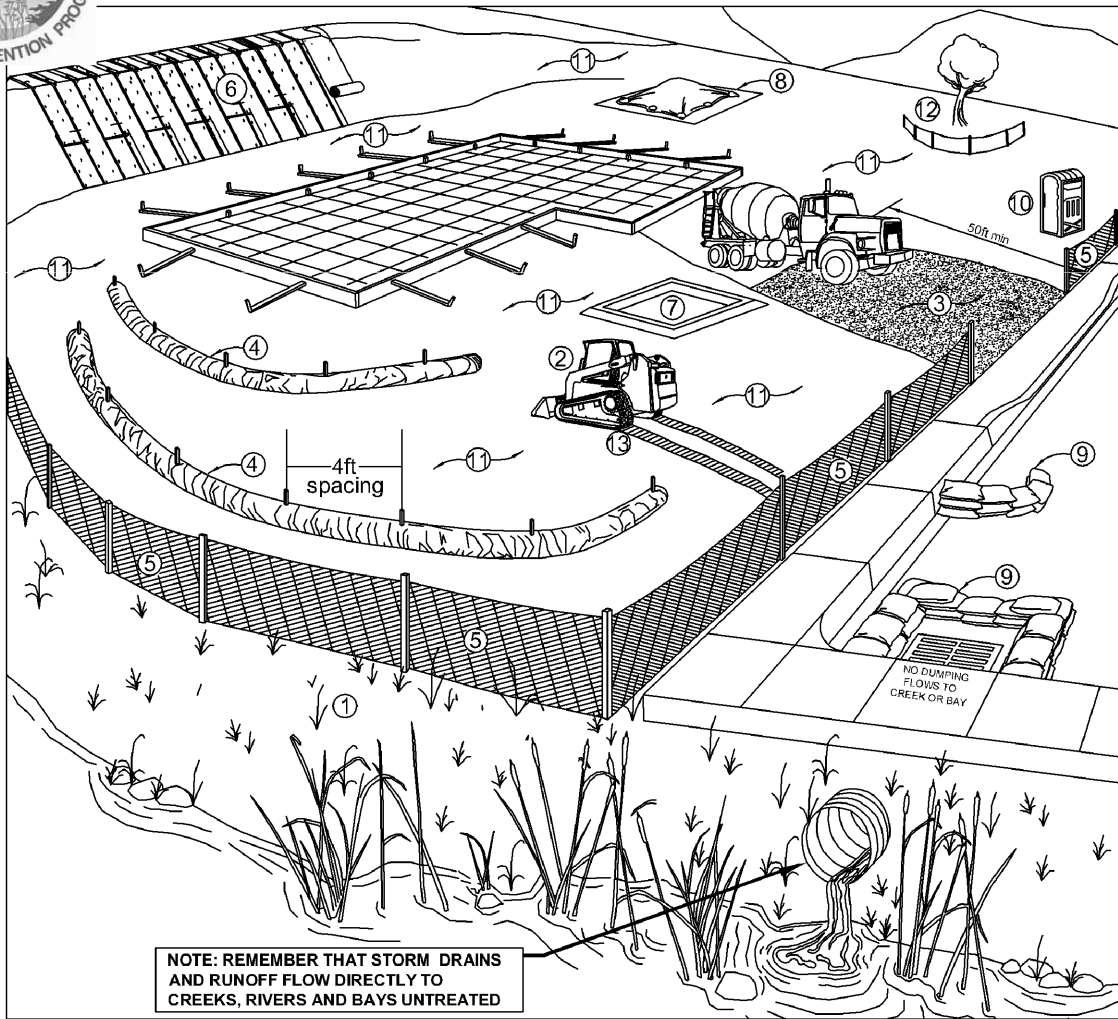


SWPPP GENERAL NOTES:

- ALL WORK IN THIS PROJECT SHALL COMPLY TO THE REQUIREMENTS OF MARIN COUNTY STORMWATER POLLUTION PREVENTION PROGRAM (MCSTOPPP). MCSTOPPP IS ADMINISTERED BY THE MARIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, AND CAN BE CONTACTED AT P. O. BOX 4186, SAN RAFAEL, CA 94913-4186, PHONE (415) 499-6528, FAX (415) 499-7221, OR E-MAIL: MCSTOPPP@CO.MARIN.CA.US.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND FILING ALL PLANS WITH MCSTOPPP AND RELATED AGENCIES ASSOCIATED WITH THEIR WORK. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, PERMITS FOR STORAGE OF HAZARDOUS MATERIALS, BUSINESS PLANS, PERMITS FOR STORAGE OF FLAMMABLE LIQUIDS, GRADING PERMITS, OR OTHER PLANS OR PERMITS REQUIRED BY ALL AGENCIES HAVING JURISDICTION.
- ALL SUBCONTRACTORS WORKING ON-SITE ARE INDIVIDUALLY RESPONSIBLE FOR OBTAINING AND SUBMITTING ANY BUSINESS PLANS OR PERMITS REQUIRED BY CITY, STATE OR LOCAL AGENCIES.
- ALL PROJECT SITES SHALL BE WINTERIZED PRIOR TO OCTOBER 15, PER MCSTOPPP REQUIREMENTS TO MINIMIZE EROSION AND COLLECT SEDIMENT.
- ALL EROSION, SEDIMENTATION, AND SPILL PREVENTION CONTROL MEASURES SHALL BE MAINTAINED, DURING THE RAINY SEASON (OCT. 1 TO MAY 1), UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THIS PLAN TO MEET FIELD CONDITIONS WILL BE MADE ONLY WITH THE APPROVAL OF, OR AT THE DIRECTION OF THE DISTRICT.
- ALL EROSION, SEDIMENTATION, AND SPILL PREVENTION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY OR DAILY DURING THE RAINY SEASON.
- CONTRACTOR IS RESPONSIBLE FOR INSPECTION AND RESTORATION OF ALL ASPECTS OF THE PLAN.
- SEDIMENT ON THE SIDEWALKS AND GUTTERS SHALL BE REMOVED BY SHOVEL OR BROOM AND DISPOSED APPROPRIATELY.
- ALL DUMPSTERS OR OTHER TRASH STORAGE ENCLOSURES SHALL BE UTILIZED SOLELY FOR NON-HAZARDOUS MATERIALS.
- REMOVE SPOILS PROMPTLY AND AVOID STOCKPILING OF FILL MATERIAL WHEN RAIN IS FORECAST. IF RAIN IS FORECAST OR APPARENT, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE COVERED WITH PLASTIC OR A TARP. SEE PROJECT NOTES FOR ADDITIONAL REPORTING OR PERMITTING REQUIREMENT FOR THIS PROJECT BEFORE A STORM EVENT.
- DURING THE RAINY SEASON, ALL PAVED AREAS WILL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THIS SITE SHALL BE MAINTAINED SO THAT A MINIMUM OF SEDIMENT- LADEN RUNOFF ENTERS THE STORM DRAIN SYSTEM.
- STORE, HANDLE AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES SO AS TO PREVENT THEIR ENTRY INTO THE STORM DRAIN SYSTEM.
- CONTRACTOR MUST NOT ALLOW CONCRETE, WASHWATERS, SLURRIES, PAINT OR OTHER MATERIALS TO ENTER THE CATCH BASINS, STORM DRAINAGE DITCHES, CREEKS, ETC.
- USE FILTRATION OR OTHER APPROVED MEASURES TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.
- NO CLEANING, FUELING OR MAINTAINING VEHICLES ON SITE SHALL BE PERMITTED TO ALLOW DELETERIOUS MATERIALS FROM ENTERING THE CATCH BASINS, STORM DRAINAGE, OR ENTER SITE RUNOFF.
- UNLESS NOTED OTHERWISE, ADDITIONAL REQUIREMENTS NOT SHOWN HEREIN SHALL COMPLY TO THE 'EROSION AND SEDIMENT CONTROL FIELD MANUAL', CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD- SAN FRANCISCO BAY REGION AND ENVIRONMENTAL MITIGATIONS NOTES.
- UNLESS NOTED OTHERWISE, CONTRACTOR SHALL EMPLOY BEST MANAGEMENT PRACTICES (BMP'S) IN ACCORDANCE WITH THE ASSOCIATION OF BAY AREA GOVERNMENTS (ABAG) LATEST RECOMMENDATIONS.



Marin County Stormwater Pollution Prevention Program
Minimum Erosion/Sediment Control Measures
For Small Construction Projects



LEGEND:

- ① KEY ITEMS OF WORK, SEE BELOW.

KEY ITEMS:

- CHECK WITH MARIN COUNTY PLANNING AND PUBLIC WORKS DEPARTMENTS FOR CREEK SETBACK REQUIREMENTS. GRADING AND/OR BUILDING MAY BE LIMITED WITHIN CREEKSIDE BUFFERS.
- DURING GRADING PHASE, TRACK-WALK UP AND DOWN SLOPES NOT PARALLEL TO THEM.
- STABILIZE SITE ENTRANCE AND TEMPORARY DRIVEWAY. USE 3-4" CRUSHED ROCK FOR A MINIMUM OF 50', OR AS FAR AS POSSIBLE, TO PREVENT TRACKING SOIL OFFSITE. THIS CAN BE USED IN CONJUNCTION WITH A TIRE WASH OR RUMBLE PLATES. SEE BMP TC-1 NEXT PAGE.
- USE STRAW WATTLES ALONG CONTOURS OF SHORT SLOPES OR SLOPES 3:1 OR FLATTER, KEYED INTO GROUND AT LEAST 3' DEEP, TYPICALLY 25' APART. SEE BMP SE-5 NEXT PAGE.
- INSTALL SILT FENCE ALONG CONTOURS AS SECONDARY MEASURE TO KEEP SEDIMENT ONSITE AND TO MINIMIZE VEHICLE AND FOOT TRAFFIC BEYOND LIMITS OF SITE DISTURBANCE. SILT FENCING MUST BE KEYED IN. SEE BMP SC-1 NEXT PAGE.
- INSTALL EROSION CONTROL BLANKETS OR EQUIVALENT ON ANY DISTURBED SITE WITH 3:1 SLOPES OR STEEPER, AND KEYED INTO THE GROUND AT LEAST 3'.
- CONSTRUCT A CONCRETE WASHOUT SITE ADJACENT TO STABILIZED ENTRANCE. CLEAN AS NEEDED AND REMOVE AT END OF PROJECT. SEE BMP WM-8 NEXT PAGE.
- COVER ALL STOCKPILES AND LANDSCAPE MATERIAL AND BERM PROPERLY WITH STRAW WATTLES OR SAND BAGS. KEEP BEHIND SILT FENCE, AWAY FROM WATER BODIES. HAZARDOUS MATERIALS MUST BE KEPT IN CLOSED CONTAINERS THAT ARE COVERED AND UTILIZE SECONDARY CONTAINMENT, NOT DIRECTLY ON SOIL.
- USE PEA-GRAVEL BAGS OR SIMILAR PRODUCT AROUND DRAIN INLETS LOCATED BOTH ONSITE AND IN GUTTER AS A LAST LINE OF DEFENSE.
- PLACE PORT-A-POTTY NEAR STABILIZED SITE ENTRANCE, BEHIND THE CURB AND AWAY FROM GUTTERS, STORM DRAIN INLETS, AND WATER BODIES.
- COVER ALL EXPOSED SOIL WITH STRAW MULCH AND TACKIFIER, OR EQUIVALENT.

PROJECT NOTES:

- THIS PLAN IS INTENDED TO SHOW THE MINIMUM REQUIREMENTS FOR EROSION, SEDIMENTATION, AND SPILL PREVENTION CONTROL ONLY. INFORMATION SHOWN HEREIN MAY NOT BE THE MOST CURRENT. PRIOR TO SUBMITTING A BID, CONTRACTOR IS REQUIRED TO VISIT WWW.MCSTOPPP.ORG AND WWW.WATERBOARDS.CA.GOV FOR MORE INFORMATION ON THE MOST CURRENT CONSTRUCTION SITE MANAGEMENT AND PERMITTING REQUIREMENTS FOR MARIN COUNTY.
- CONTRACTOR SHALL HIRE THE SERVICES OF A QUALIFIED SWPPP DEVELOPER (QSD) TO EVALUATE SPECIFIC STORMWATER CONTROL REQUIREMENTS FOR EACH JOB SITE SHOWN IN THE DRAWINGS.
- UNLESS NOTED OTHERWISE, STORMWATER POLLUTION PREVENTION REQUIREMENTS, SHOWN OR NOT SHOWN HEREIN, SHALL BE IN ACCORDANCE WITH MCSTOPPP AND WATER BOARD GUIDELINES, AND WILL BE PAID FOR UNDER THE LUMP SUM BID ITEM FOR STORMWATER POLLUTION PREVENTION PROGRAM AND/OR APPLICABLE BID ITEMS SHOWN IN THE BID SCHEDULE. NO EXTRA COMPENSATION SHALL BE MADE FOR ADDITIONAL CONTROL MEASURES REQUIRED BY REGULATORY AGENCIES NOT SHOWN IN THESE PLANS.
- CONTRACTOR SHALL VISIT ALL JOB SITES TO FAMILIARIZE HIMSELF WITH THE EXISTING IMPROVEMENTS AND APPLICABLE REGULATORY REQUIREMENTS PRIOR TO BID OPENING, AND INCLUDE AN ALLOWANCE FOR SUCH REQUIREMENTS IN THE APPLICABLE UNIT OR LUMP SUM BID ITEM SHOWN IN THE BID SCHEDULE.
- SEE NEXT PAGE FOR MINIMUM BEST MANAGEMENT PRACTICES (BMPs) REQUIRED FOR THIS PROJECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORRECTIVE MEASURES REQUIRED BY THE DISTRICT AND/OR REGULATORY AGENCIES PRIOR TO THE RAIN EVENT. MEASUREMENT AND PAYMENT FOR SUCH REQUIREMENTS ARE CONSIDERED PART OF THE STORMWATER POLLUTION PREVENTION PROGRAM AND NO ADDITIONAL COMPENSATION SHALL BE MADE THEREFOR.
- NO GROUNDWATER INVESTIGATION HAS BEEN CONDUCTED BY THE DISTRICT IN ANY OF THE PROJECT SITES. GROUND WATER ELEVATION IS ASSUMED AT EXISTING GROUND SURFACE. IF REQUIRED, CONTRACTOR SHALL SUBMIT A GROUNDWATER DEWATERING PERMIT TO MCSTOPPP PRIOR TO START OF CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR PERMITTING, OR ANY ADDITIONAL DEWATERING OR BYPASS PUMPING REQUIREMENT, AS A RESULT OF GROUNDWATER NOT SHOWN IN THE DRAWINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO PRIVATE AND PUBLIC PROPERTIES, INCLUDING PAYMENT FOR DISTRICT STAFF TIME AND FINES THAT MAY BE IMPOSED BY THE REGULATORY AGENCIES, AS A RESULT OF HIS FAILURE TO IMPLEMENT STORMWATER CONTROL MEASURES REQUIRED IN THE CONTRACT DOCUMENTS AND BY ALL AGENCIES HAVING JURISDICTION, SHOWN OR NOT SHOWN IN THESE DRAWINGS.

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SCALE: 1:1
BORDER: 22,34

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GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVS D 1
FD144793

FILE:



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NO.	DATE	DESCRIPTION	BY	APPROD
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

DETAILS
CIVIL

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	
	DRAWING NO. CD-3	REVISION NO. B

43 of 74

533 W 2600 S, SUITE 275, BOUNTIFUL, UT 84010
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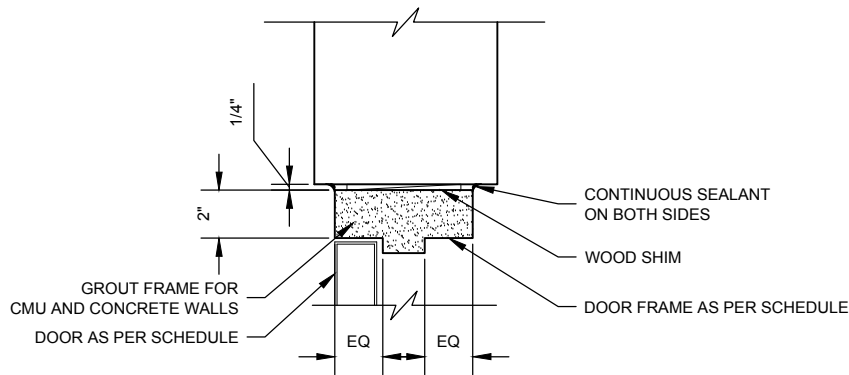
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PLOTTED:
SAVED:

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BORDER: 22,34

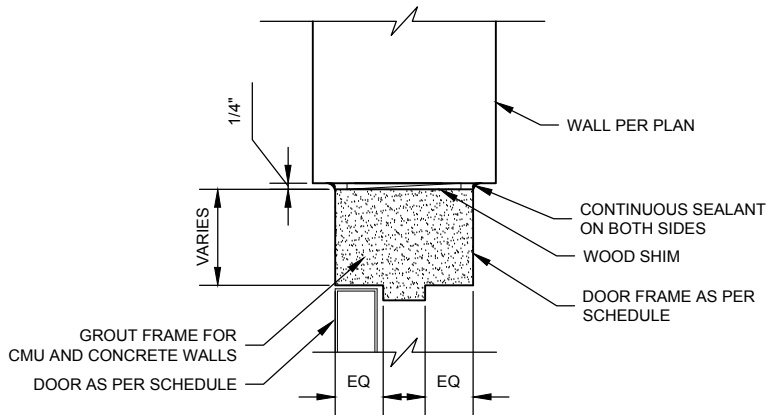
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FD144793



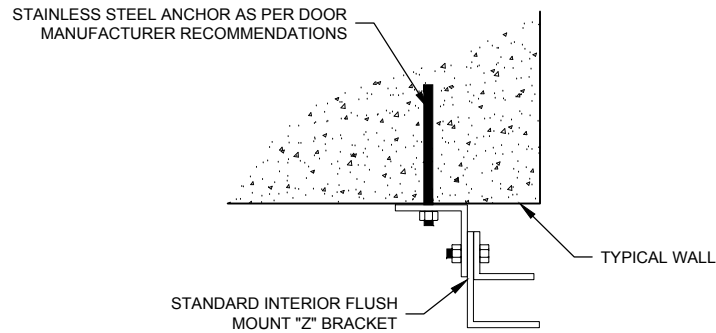
DOOR JAMB
SCALE: NTS

205
—



DOOR HEAD
SCALE: NTS

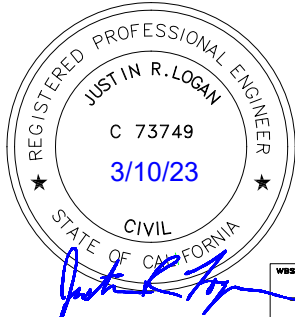
206
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SECTIONAL GARAGE DOOR
SCALE: NTS

207
—

NOTE:
ALL STRUCTURAL STEEL ON FRAME SHALL
BE EPOXY COATED OR SS.



NO.		DATE	DESCRIPTION	BY	APPRO'D	SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
			REVISIONS			45 of 74		AD-1	B

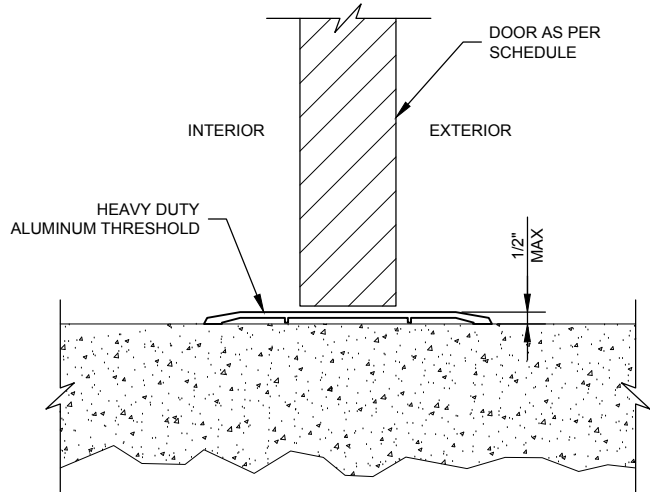
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APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
		RCE # 54039

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

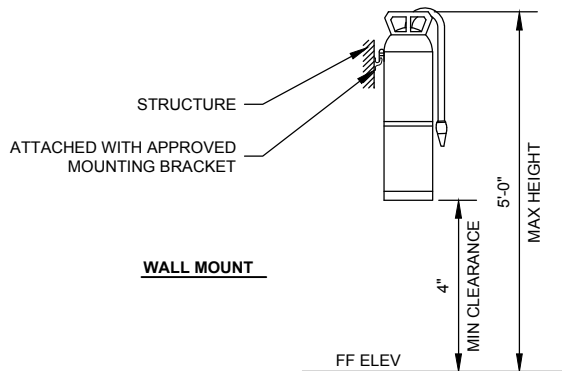
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**DETAILS
ARCHITECTURAL**



DOOR THRESHOLD
SCALE: NTS

210
—



CLASS	SIZE	TYPE	UL CLASSIFICATION
ABC	PER PLAN	DRY CHEMICAL	4A:80B:C
CO ₂	PER PLAN	CARBON DIOXIDE	10B:C

FIRE EXTINGUISHER
SCALE: NTS

232
—



NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02			
LAS GALLINAS VALLEY SANITARY DISTRICT MARIN COUNTY, CALIFORNIA			
TWS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD			
DETAILS ARCHITECTURAL			
CHECKED JRL	DRAWN CAL	SCALE AS SHOWN	
APPROVED JRL	DESIGNED EES	DATE 03/03/23	
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez	
SHEET 46 of 74		DRAWING NO. AD-2	REVISION NO. B



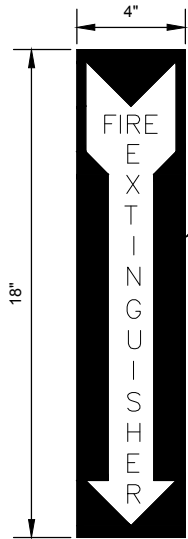
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100 0.70MM
210 0.60MM

BDP

PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

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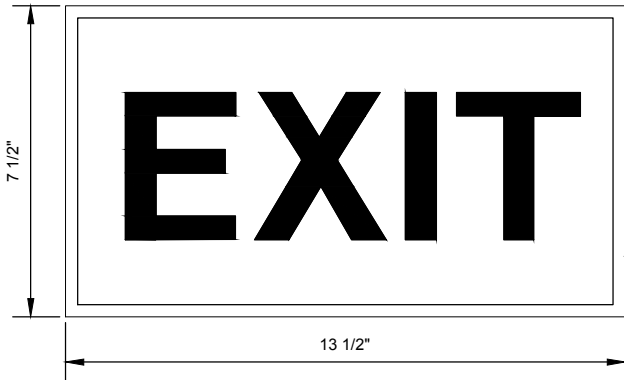
INDELIBLE RED LETTERS
ON WHITE ARROW WITH
RED BACKGROUND

NOTE:
MATERIAL TO BE SEMI-RIGID
BUTYRATE OR APPROVED EQUAL.

FIRE EXTINGUISHER SIGN

SCALE: NTS

267
—

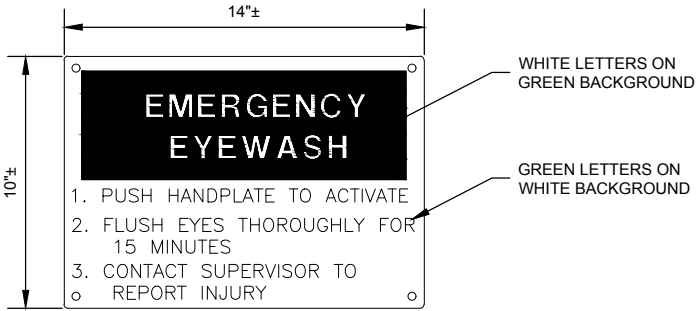


WHITE BACKGROUND
WITH RED LETTERS

EXIT SIGN

SCALE: NTS

270
—



WHITE LETTERS ON
GREEN BACKGROUND

GREEN LETTERS ON
WHITE BACKGROUND

NOTE:
MATERIAL TO BE SEMI-RIGID BUTYRATE OR APPROVED EQUAL.
COLORS AND LETTER SIZES TO BE PER OSHA STANDARDS FOR
CAUTION SIGNS.

EYEWASH SIGN

SCALE: NTS

266
—

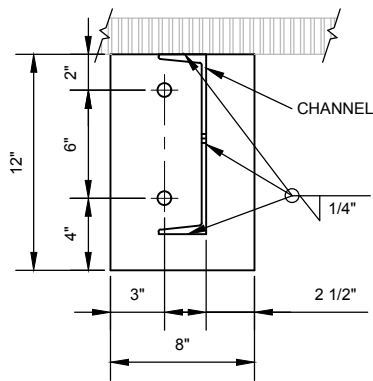


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NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02			
LAS GALLINAS VALLEY SANITARY DISTRICT MARIN COUNTY, CALIFORNIA			
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD			
DETAILS ARCHITECTURAL			
CHECKED JRL	DRAWN CAL	SCALE AS SHOWN	
APPROVED JRL	DESIGNED EES	DATE 03/03/23	
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez	
SHEET 47 of 74		DRAWING NO. AD-3	REVISION NO. B



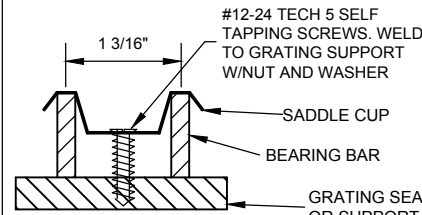
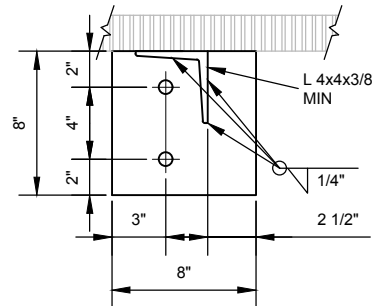
GREATER THAN 6' SPAN

- NOTES:
- 1- ALL MEMBERS SHALL BE 316 SS OR ALUMINUM.
 - 2- SUPPORT SIZE AND LOCATION TO BE DETERMINED BY GRATING/MISC METALS SUPPLIER.
 - 3- TO BE USED FOR GRATING SUPPORT WHERE IMBEDS ARE NOT APPLICABLE, OR AVAILABLE.
 - 4- ANCHOR BOLTS SHALL BE MIN 5/8"Ø SS AND 6" MIN IMBED.
 - 5- ANCHOR BOLT HOLE SIZE SHALL BE MIN 11/16".

GRATING / PLANK SUPPORT

SCALE: NTS

6' OR SMALLER SPAN



NOTES:

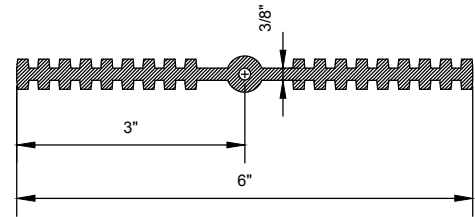
- 1- PROVIDE 4 CUPS PER GRATING PANEL APPROXIMATELY 4" FROM PANEL CORNERS. MAXIMUM CUP SPACING @ 36" OC.
- 2- SELF TAPPING SCREW AND CUP TO BE THE SAME MATERIAL AS THE GRATING.
- 3- COAT ALUMINUM IN CONTACT WITH GROUT CONCRETE PER SPECIFICATIONS.

OR

SURFACE MOUNT ALUMINUM GRATING

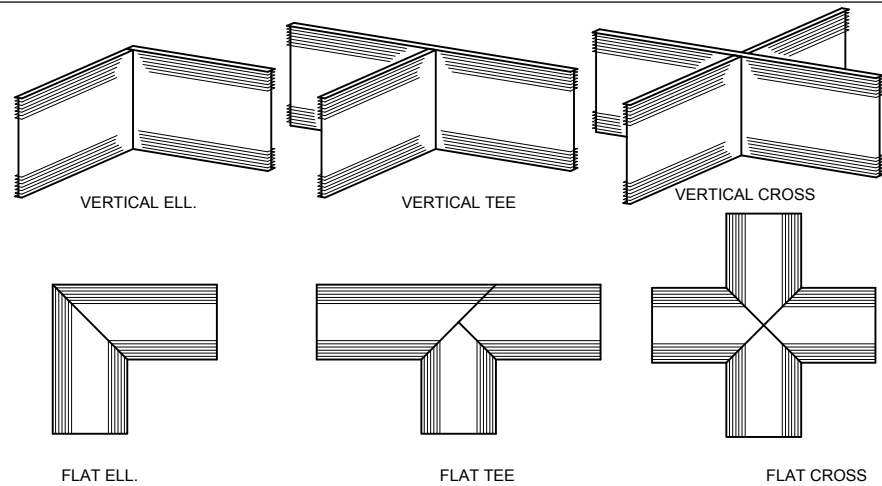
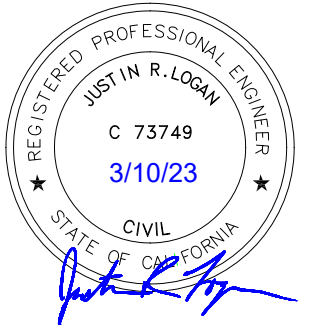
SCALE: NTS

NOTE:
ALL CONSTRUCTION JOINTS BELOW GRADE MUST HAVE WATERSTOP. THE WATERSTOP MUST BE PVC SERRATED TYPE WITH CENTER BULB, NOT LESS THAT 3/8" THICK AND 6" WIDE.



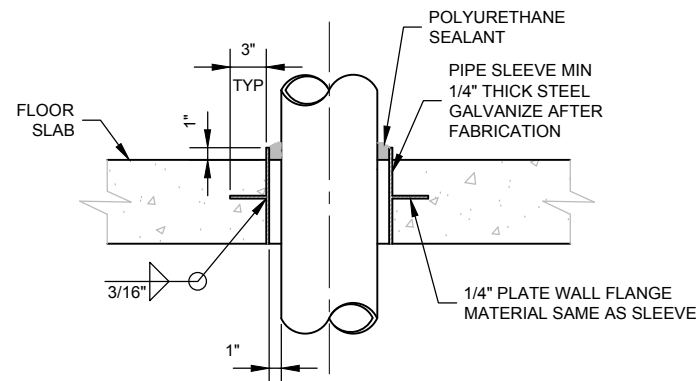
WATERSTOP

SCALE: NTS



FLAT STRIP WATERSTOPS

SCALE: NTS

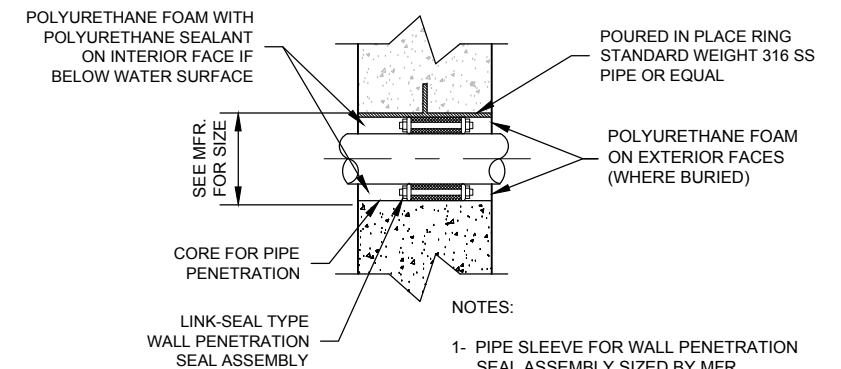


NOTE:

- 1- ALL FLOOR PENETRATIONS FOR HARD PIPING OF EQUIPMENT SHALL HAVE A FLOOR SLEEVE.

FLOOR PIPE SLEEVE

SCALE: NTS

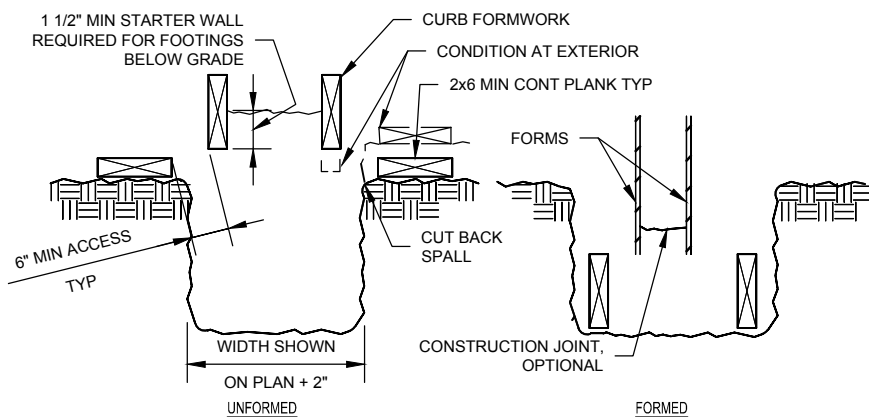


NOTES:

- 1- PIPE SLEEVE FOR WALL PENETRATION SEAL ASSEMBLY SIZED BY MFR.
- 2- BOLTS SHALL BE 316 SS.
- 3- FOR WALLS GREATER THAN OR EQUAL TO 12" THICK, PROVIDE DOUBLE LINK SEAL MODEL FS OR FD.

LINK SEAL

SCALE: NTS

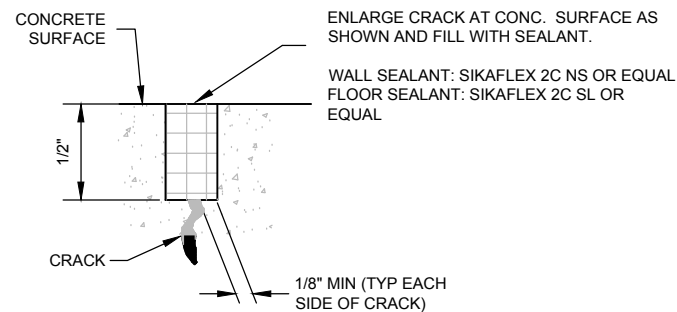


NOTES:

1. FOUNDATION CONCRETE MAY BE PLACED IN UNFORMED EXCAVATIONS, PROVIDED THE TRENCH WALLS ARE STABLE.
2. CONTINUOUS CLEAN OUT. AFTER CONCRETE HAS SET REMOVE LAITANCE AND SCUM.
3. WHEN SIDES OF FOOTINGS PADS ARE FORMED PADS & STEM MAY BE POURED MONOLITHICALLY.
4. FORM WORK NOT PERMITTED BELOW GRADE UNLESS FULLY FORMED
5. STAKES ARE NOT PERMITTED WITHIN FOOTINGS SECTION.

FOUNDATION FORMWORK

SCALE: NTS



NOTES:

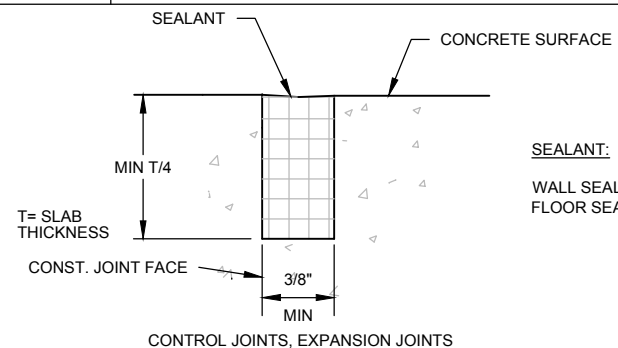
- 1- PRIOR TO FILLING, STRUCTURES TO CONTAIN WATER SHALL HAVE ALL CRACKS REPAIRED AS SHOWN IN THIS DETAIL.
- 2- ALL SUBMERGED CONDITIONS REQUIRE PRIMER.

CONCRETE CRACK REPAIR

SCALE: NTS



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SEALANT GROOVE

SCALE: NTS

SEALANT:

WALL SEALANT: SIKAFLEX 2C NS OR EQUAL
FLOOR SEALANT: SIKAFLEX 2C SL OR EQUAL

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

DETAILS STRUCTURAL

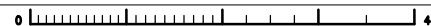
CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	RCE # 54039
NO.	DATE	DESCRIPTION
48	74	REVISIONS

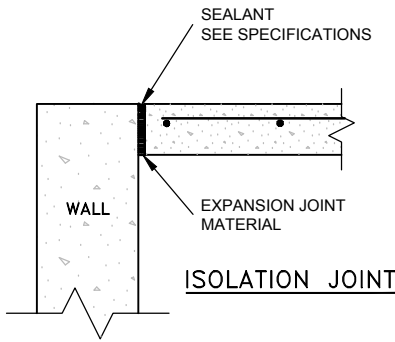
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SCALE: 1:1
BORDER: 22,34

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WHITE 0.35MM
GRAY 0.15MM
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LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

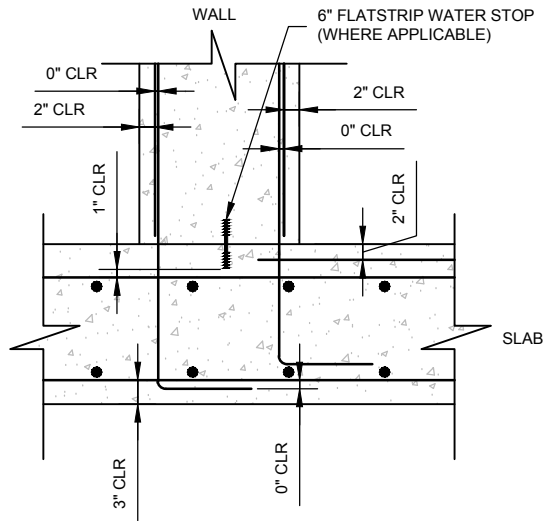




ISOLATION JOINT

SCALE: NTS

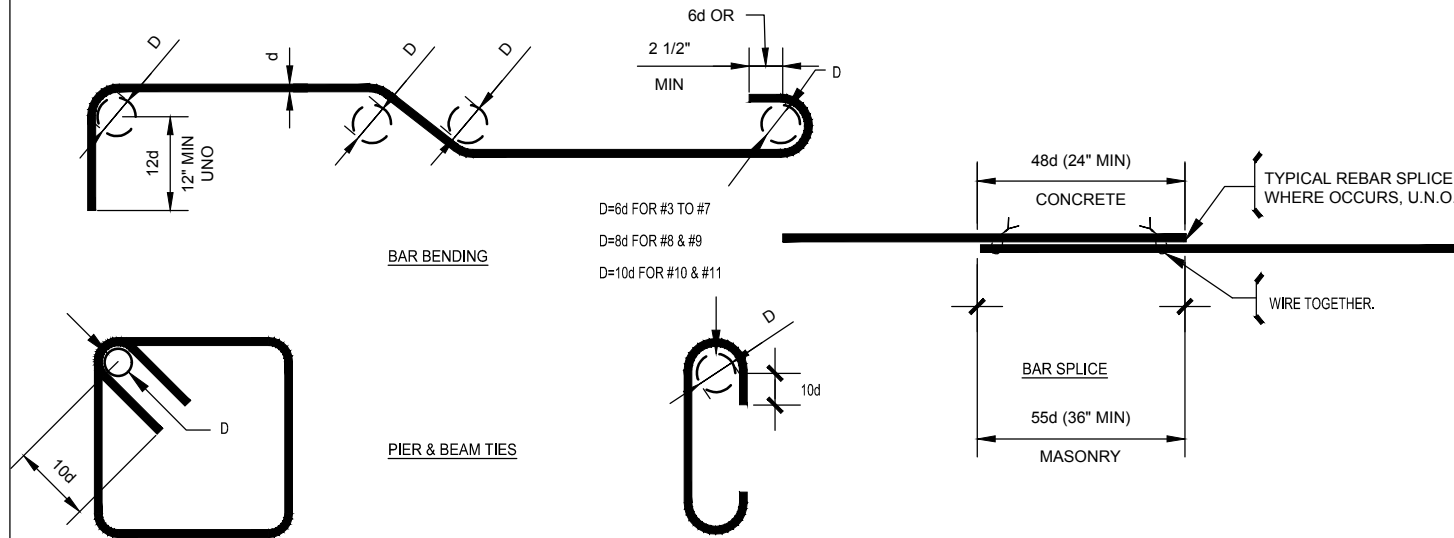
338



TYPICAL REBAR CLEARANCE

SCALE: NTS

343

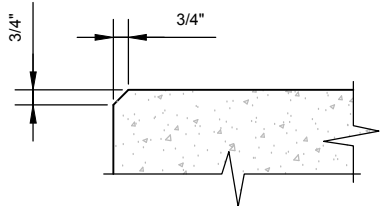


TYPICAL REBAR BENDING

SCALE: NTS

345

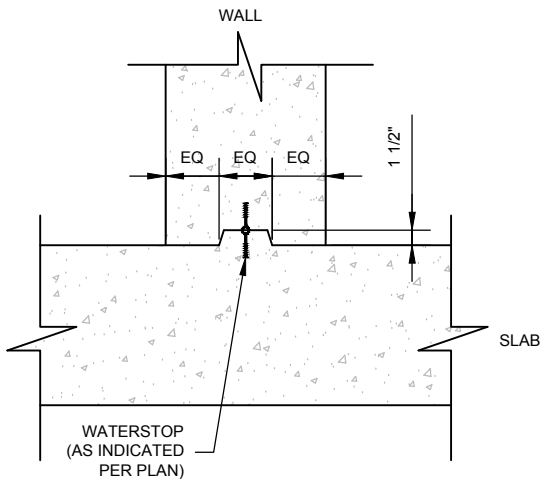
ALL EXPOSED
CONCRETE CORNERS
TO BE CHAMFERED



CONCRETE CHAMFER

SCALE: NTS

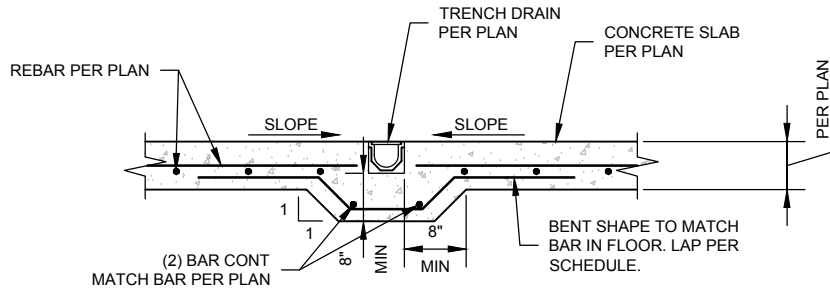
339



CONCRETE KEY

SCALE: NTS

350

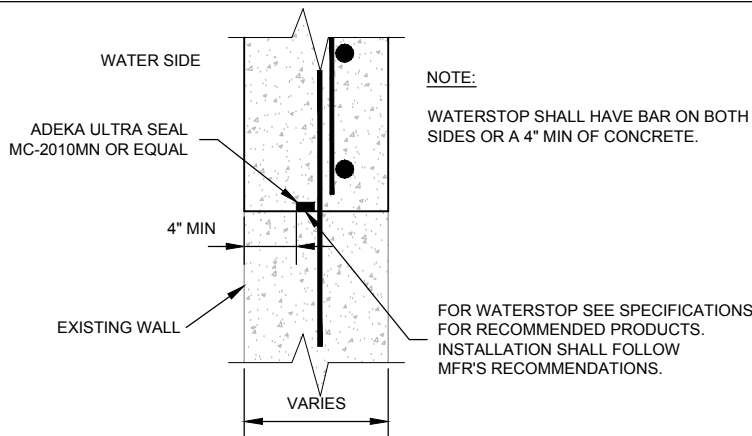


CONCRETE THICKNESS SHALL BE VERIFIED AS PER
MANUFACTURERS REQUIREMENTS FOR SPECIFIC
DRAIN CLASS SPECIFICATIONS.

TRENCH DRAIN

SCALE: NTS

363



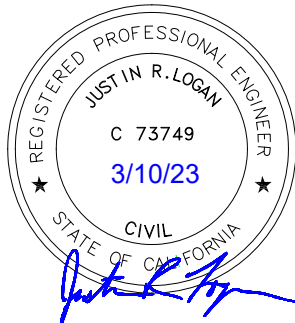
HYDROPHILIC WATERSTOP

SCALE: NTS

324



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NO.	DATE	DESCRIPTION	BY	APPROD
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

DETAILS STRUCTURAL

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
SHEET 49 of 74		DRAWING NO. SD-2
		REVISION NO. B

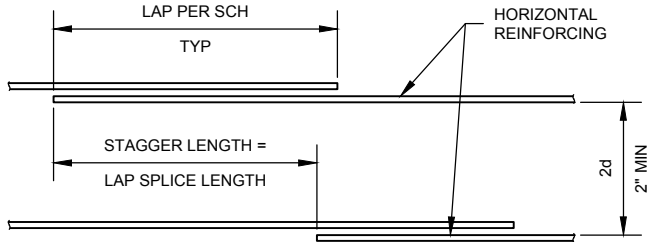
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LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

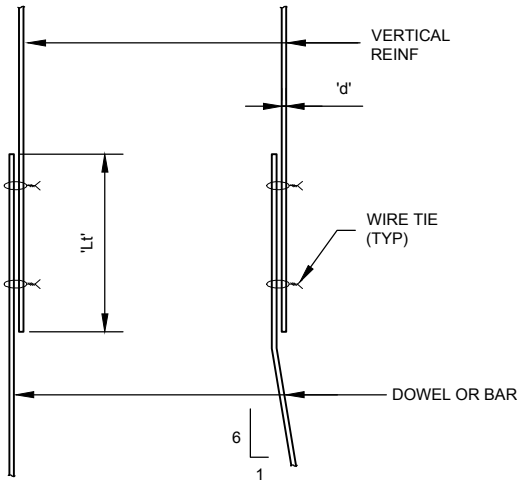




NOTES:

- 1- SPLICE LENGTH SHALL BE DETERMINED FROM THE SIZE OF THE SMALLER BAR SPLICED.
- 2- MINIMUM COVER 1.5", MINIMUM BAR CLEAR SPACING 2 BAR DIAMETERS.
- 3- TOP BARS ARE DEFINED AS BARS WITH 12" OR MORE OF FRESH CONCRETE PLACED THEM.
- 4- CONCRETE MASONRY UNITS LAP 48d MIN HORIZ & VERT REINF.
- 5- L_t VALUES IN SCHEDULE SHALL BE MULTIPLIED BY 1.3 FOR LIGHT WEIGHT CONCRETE.

BAR SIZE	TENSION LAP 'L _t ' (IN)					
	F'c=3,000 PSI		F'c=4,000 PSI		F'c=5,000 PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	29	23	25	20	22	17
#4	38	30	33	26	29	23
#5	47	37	41	32	36	28
#6	56	44	49	38	44	34
#7	82	64	71	55	63	49
#8	94	73	81	63	72	56
#9	106	82	91	70	81	63
#10	119	92	103	80	91	70
#11	131	101	113	87	101	78



NOTES:

- 1- ALL VERTICAL REINFORCING FOR COLUMN, PIERS AND WALLS SHALL BE DOWELED AS SHOWN UNO.
- 2- MINIMUM CLEAR SPACING 2d, MINIMUM COVER 1.5".
- 3- DOWELS SHALL BE THE SAME GRADE, SIZE, QUANTITY AND/OR SPACING AS VERTICAL REINFORCING.

BAR SIZE	TENSION LAP 'L _t ' (IN)			HOOK EMBED (IN)
	F'c=3,000 PSI	F'c=4,000 PSI	F'c=5,000 PSI	
#3	22	19	17	8
#4	29	25	23	11
#5	36	31	28	14
#6	43	37	34	16
#7	63	54	49	19
#8	72	62	56	22
#9	81	70	63	25
#10	91	79	70	28
#11	101	87	78	31

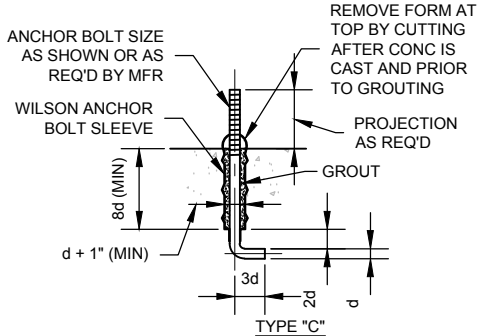
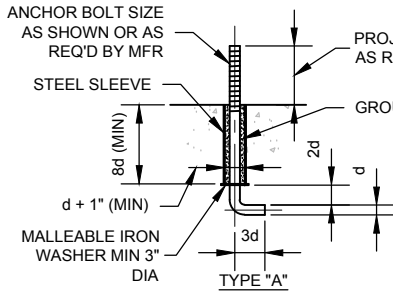
F_y = 60 KSI

REINFORCING LAP SCHEDULE

SCALE: NTS

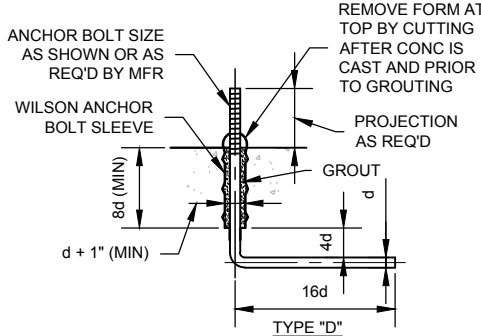
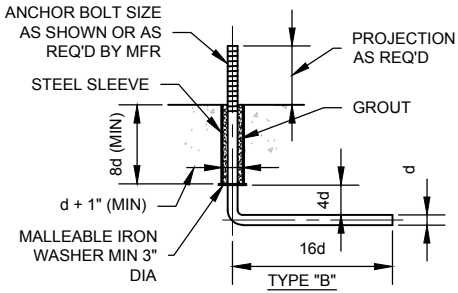
EQUIPMENT ANCHOR BOLT NOTES:

- 1- PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS DETERMINED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER. OR AS
- 2- THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE WHILE PAD IS BEING POURED.
- 3- A.B. SLEEVES SHALL BE USED TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
- 4- A.B. SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
- 5- EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.
- 6- THE SURROUNDING FLOOR SLAB SHALL NOT BE PLACED UNTIL THE SIZE AND LOCATION OF THE PAD IS KNOWN. EXACT
- 7- WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. IF LEFT IN, THE WEDGES OR SHIMS SHALL NOT BE EXPOSED TO VIEW.
- 8- ALL ANCHOR BOLTS TO BE STAINLESS STEEL.

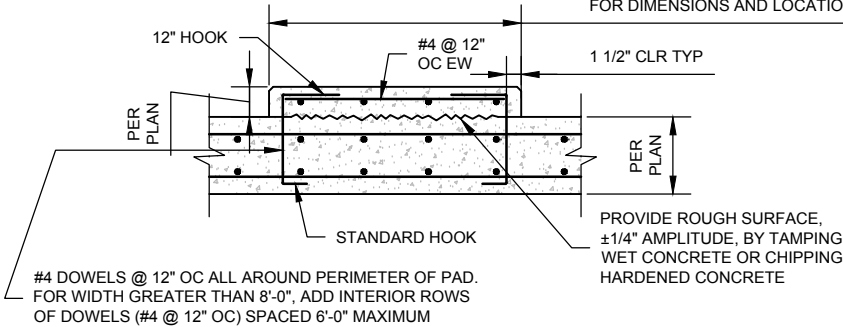


ANCHOR BOLT

SCALE: NTS



SEE MECHANICAL, ELECTRICAL, OR ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND LOCATIONS

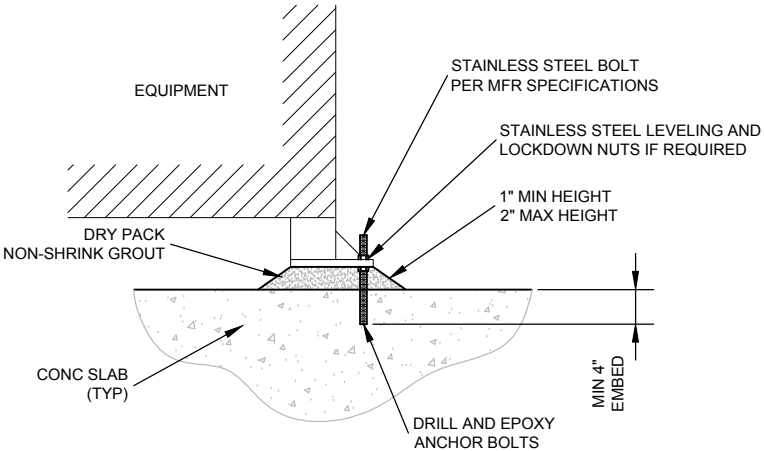


NOTES:

- 1- CONTRACTOR SHALL POUR PADS SEPARATELY FROM FLOOR SLAB AT PADS ON STRUCTURAL FLOOR.
- 2- EQUIPMENT ANCHORAGE EMBEDMENT IS UNIQUE TO EACH PIECE OF EQUIPMENT AND ARE NOT SHOWN. IF EMBEDMENT IS LESS THAN THE HEIGHT OF THE PAD, THE EMBEDMENT LENGTH CAN BE MEASURED FROM TOP OF PAD. OTHERWISE, EMBEDMENT LENGTH SHALL BE MEASURED FROM TOP OF FLOOR SLAB.
- 3- EQUIPMENT ANCHORAGE DESIGN SHALL BE PERFORMED BY MANUFACTURER PRE SEISMIC AND WIND PROVISIONS OF THE LATEST VERSION OF THE CURRENT BUILDING CODE ENFORCED.

EQUIPMENT PAD

SCALE: NTS



EQUIPMENT GROUT PAD

SCALE: NTS



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

DETAILS
STRUCTURAL

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	RCE # 54039
NO.	DATE	DESCRIPTION
BY	APPROD	REVISIONS
50 of 74	PLAN NO.	DRAWING NO. SD-3
		REVISION NO. B



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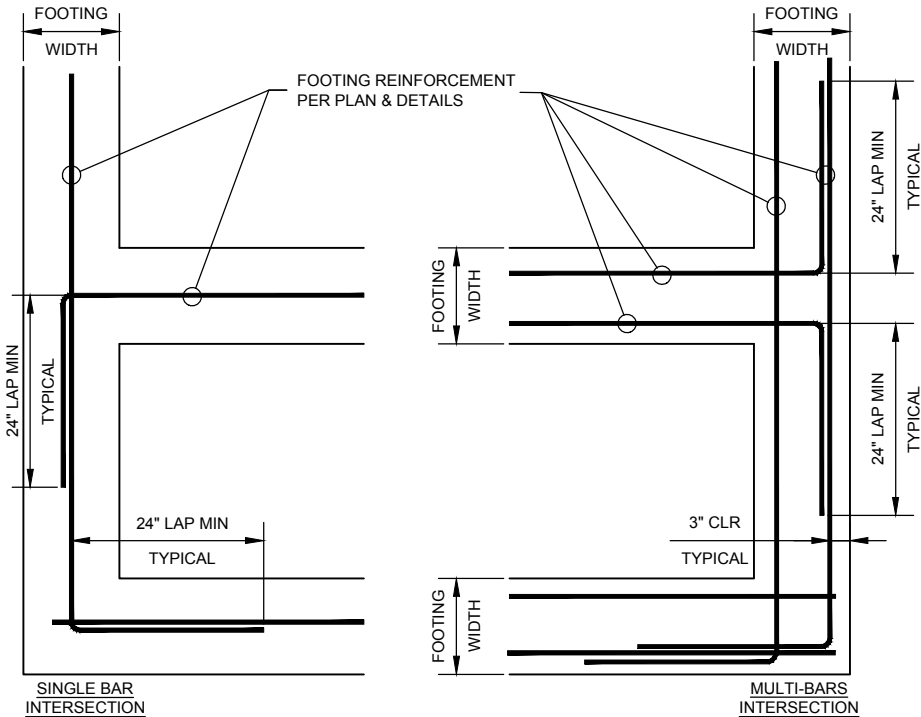
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34

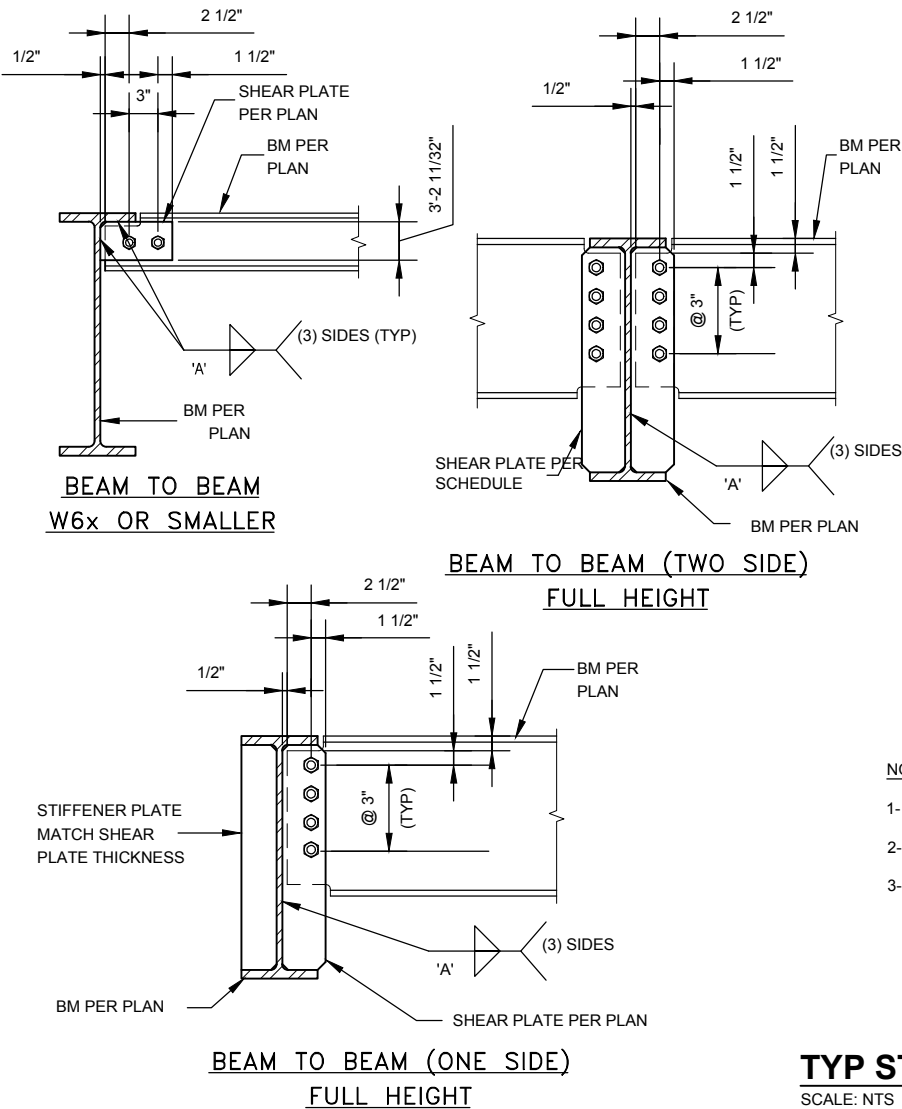
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YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793



FOOTING INTERSECTION
SCALE: NTS

344



STEEL BEAM CONNECTION SCHEDULE						
STEEL BEAM DEPTH	SHEAR PLATE THICKNESS	BOLTS			WELD 'A'	REMARKS
		NUMBER	DIAMETER	TYPE		
W 6x	1/4"	2	3/4"	A325N	1/4"	
W 8x	1/4"	2	3/4"	A325N	1/4"	
W 10x	3/8"	2	3/4"	A325N	1/4"	
W 12x	3/8"	3	7/8"	A325N	1/4"	
W 14x	3/8"	3	7/8"	A325N	1/4"	
W 16x	3/8"	4	7/8"	A325N	1/4"	
W 18x	3/8"	5	7/8"	A325N	5/16"	
W 21x	3/8"	6	7/8"	A325N	5/16"	
W 24x	3/8"	7	7/8"	A325N	5/16"	
W 27x	3/8"	8	7/8"	A325N	3/8"	
W 30x	1/2"	9	7/8"	A325N	3/8"	
W 33x	1/2"	10	7/8"	A325N	3/8"	
W 36x	1/2"	10	1"	A325N	7/16"	

- NOTES:
- 1- FOR SPECIAL STEEL CONNECTIONS NOT NOTED, SEE FRAME ELEVATIONS, SECTIONS AND DETAILS
 - 2- SLOTTED HOLES ARE NOT PERMITTED, UNO.
 - 3- SPECIAL INSPECTION IS REQUIRED FOR HIGH STRENGTH BOLTS (A-325)

TYP STEEL BEAM CONNECTION & SCHEDULE
SCALE: NTS

432

PLOTTED: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1
FD144793

FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



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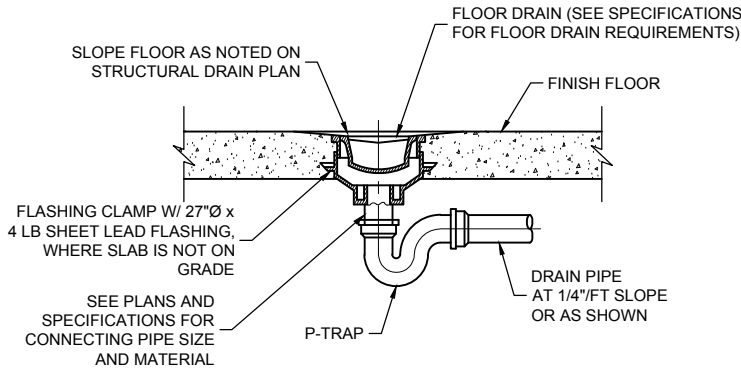
CHECKED JRL		DRAWN CAL		SCALE AS SHOWN	
APPROVED JRL		DESIGNED EES		DATE 03/03/23	
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez		RCE # 54039	
NO.		DATE		SHEET	
				51 of 74	
				PLAN NO.	
				DRAWING NO.	
				SD-4	
				REVISION NO.	
				B	

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

DETAILS
STRUCTURAL



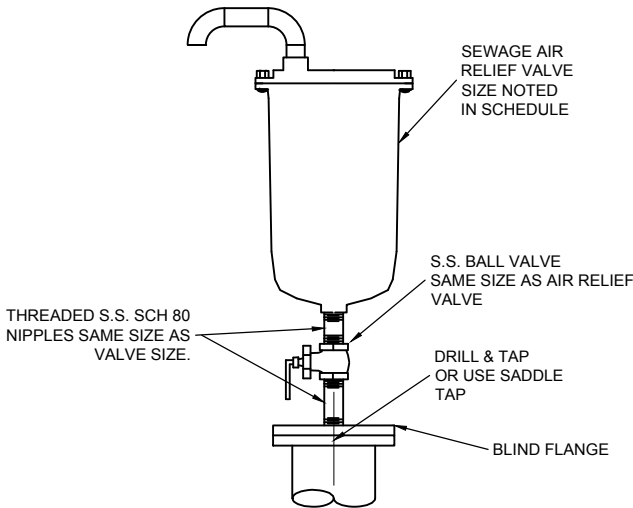
NOTE:

CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPE FITTINGS TO CONNECT FLOOR DRAIN TO DRAIN PIPE

FLOOR DRAIN W/P-TRAP

SCALE: NTS

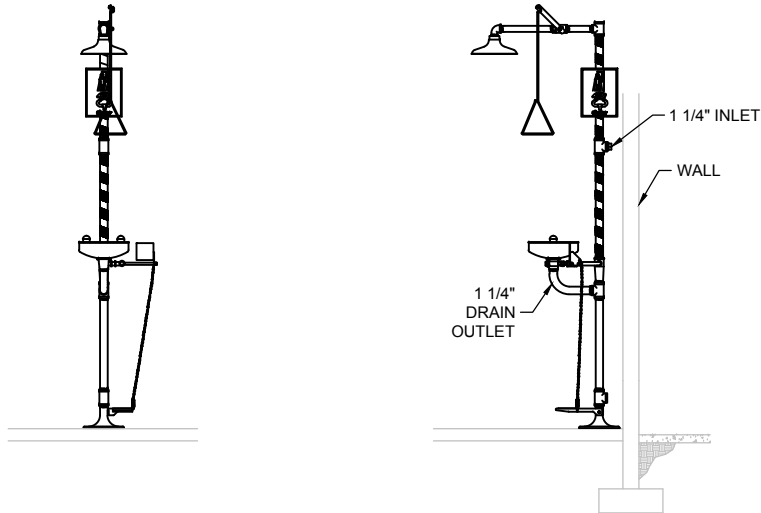
502



SEWAGE AIR RELIEF VALVE

SCALE: NTS

505



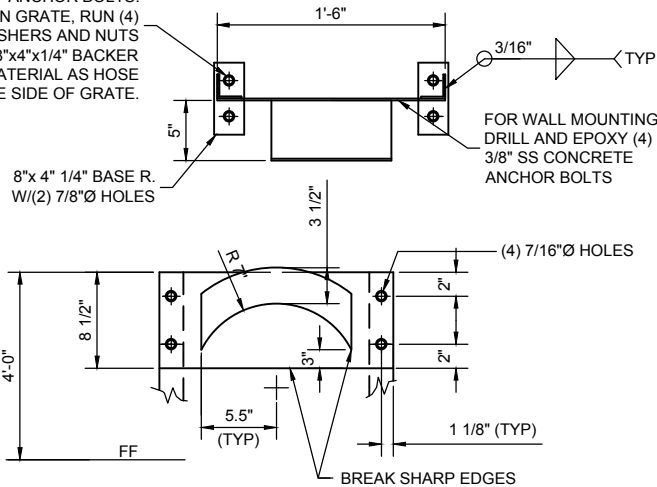
SEE MECHANICAL SCHEDULE FOR PRODUCT SPECIFICATIONS

EMERGENCY EYE WASH AND SHOWER

SCALE: NTS

508

FOR CONCRETE BASE MOUNT DRILL AND EPOXY (4) 3/4\"/>



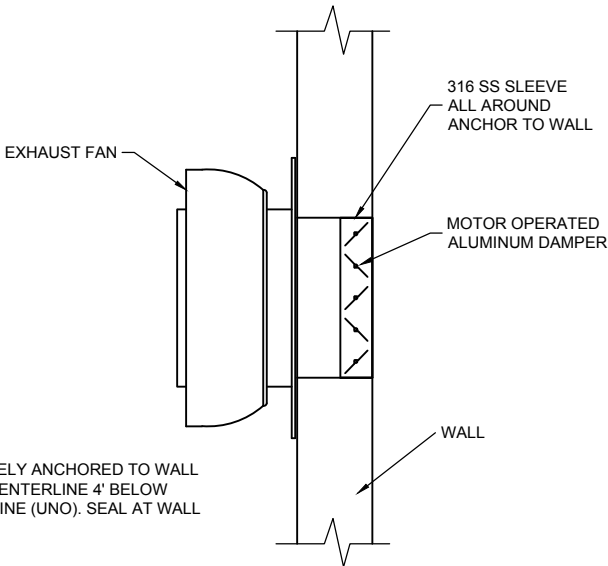
NOTES:

- WHERE HOSE RACK IS FREE-STANDING, PROVIDE (2) 316 SS L'S 2x2x1/4 W/ BASE PLATES OVER 2\"/>

HOSE RACK

SCALE: NTS

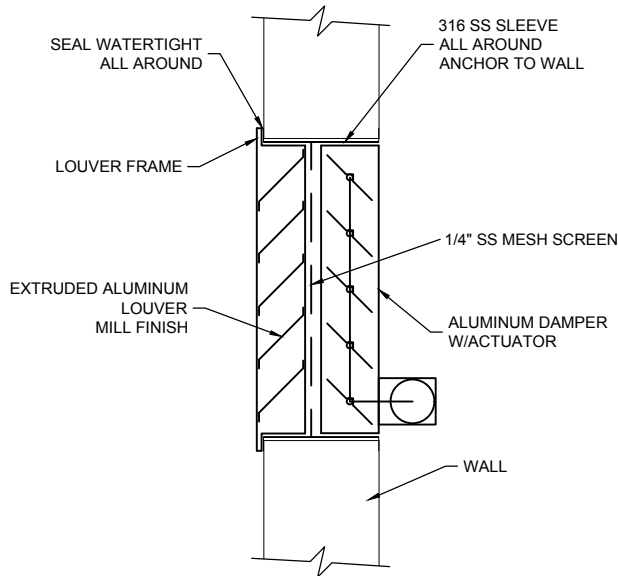
513



FAN W/DAMPER

SCALE: NTS

562



LOUVER W/DAMPER

SCALE: NTS

565

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793



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PHONE (801) 299-1327 FAX (801) 299-0153



NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

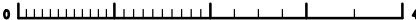
LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

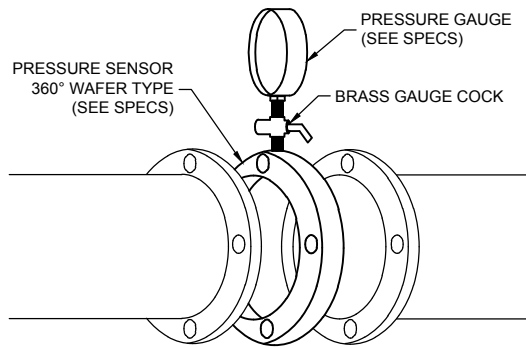
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

DETAILS MECHANICAL

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	
SHEET 52 of 74	DRAWING NO. MD-1	REVISION NO. B

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES





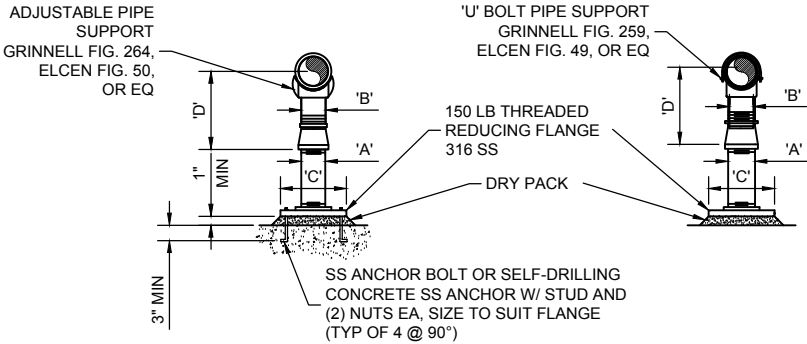
- NOTES:
- 1- SERIES 40 FLANGED SENSOR AS MANUFACTURED BY RED VALVE COMPANY OR EQUAL. TO BE USED ON ALL SLUDGE LINES.
 - 2- SEE P&ID'S FOR ACTUAL INSTRUMENTATION COMPONENTS.

PRESSURE GAUGE W/PRESSURE SENSOR
SCALE: NTS

527

ADJUSTABLE PIPE SUPPORT APPROXIMATE DIMENSIONS IN INCHES					
PIPE DIA	'A'	'B'	'C'	'D' MINIMUM	'D' MAXIMUM
2 1/2	2 1/2	1 1/2	9	8	11 1/2
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	12
4	3	*2 1/2	9	10 1/4	14
6	3	*2 1/2	9	11 5/8	15 1/4
8	3	*2 1/2	9	13 5/8	16 1/2
10	3	*2 1/2	9	14 5/8	18 1/4
12	3	*2 1/2	9	15 5/8	19 3/4
14	4	3	11	18 7/8	20 3/4
16	4	3	11	19 7/8	22 1/4
18	6	3 1/2	13 1/2	21 1/4	24
20	6	3 1/2	13 1/2	23 1/4	25 1/2
24	6	4	13 1/2	26 1/2	28 1/1
30	6	4	13 1/2	29 5/8	31 1/2
32	6	4	13 1/2	30 5/8	32 3/4
36	6	4	13 1/2	32 5/8	34 3/4

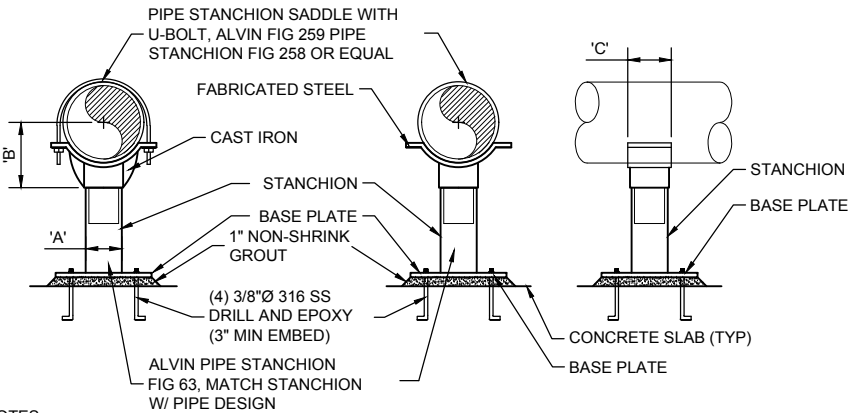
*SEE MFR.



ADJUSTABLE PIPE SUPPORT
SCALE: NTS

532

PIPE SUPPORT DIMENSIONS IN INCHES				
PIPE DIA	'A'	'B'	'C' fig 258	'C' fig 259
4	3"	4 3/16	3 5/8	3 5/8
5		4 13/16		
6		5 7/16		
8		6 15/16		
10		8 7/16		
12		9 15/16		
14		10 1/2		
16	11 1/2			
18	13 1/2	5		
20	14 1/2			
22	15 1/2			
24	17 1/2			
26	18 1/2			
30	20 1/2			
32	21 5/8			8 3/4
36	23 5/8			

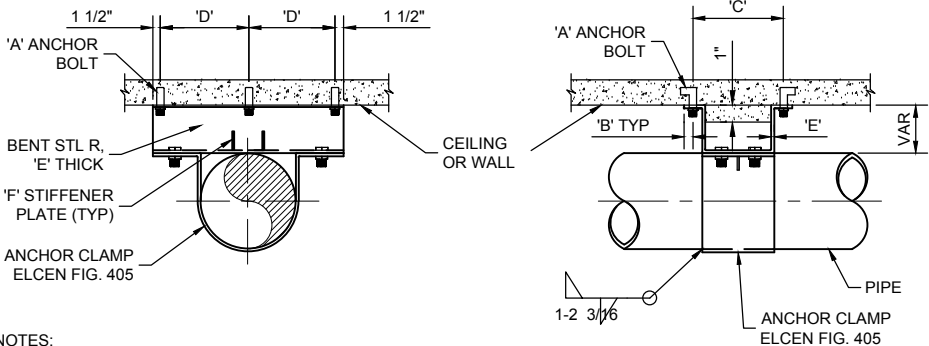


- NOTES:
- 1- UNLESS NOTED OTHERWISE PIPE STANCHIONS AND ACCESSORIES SHALL BE 316 SS.
 - 2- PROVIDE INDIVIDUAL CONCRETE SUPPORT PAD WITH #4 AT 12" OC TOP AND BOTTOM FOR PIPE STANCHIONS NOT LOCATED ON CONCRETE SLABS OF 6" MIN THICKNESS.

STATIONARY PIPE SUPPORT
SCALE: NTS

544

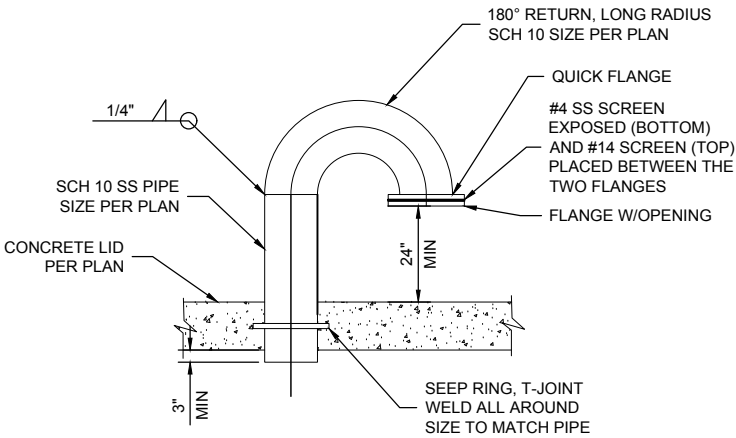
DIMENSIONS IN INCHES						
PIPE DIA	'A'	'B'	'C'	'D' (APPROX)	'E'	'F'
2 TO 4	(4) 5/8x6	1 1/4	5 3/4	8 1/2 (OMIT ONE)	3/8	1/4
6 TO 10	(4) 3/4x7	1 1/2	11	7 5/8 (OMIT ONE)	1/2	3/8
12 TO 16	(6) 7/8x8 1/2	1 1/2	13	10 1/4	1/2	3/8
18 TO 30	(6) 1x9	1 1/2	15	7 1/4	5/8	1/2



- NOTES:
1. WHEN THICKNESS OF CONCRETE LIMITS THE USE OF ANCHOR BOLT LENGTHS AS TABULATED, SHORTER BOLTS WELDED TO REINFORCING BARS MAY BE USED.
 2. MATERIALS SHALL BE 316 SS.

PIPE ANCHOR
SCALE: NTS

533



AIR VENT
SCALE: NTS

545



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**DETAILS
MECHANICAL**

CHECKED JRL	DRAWN CAL	SCALE AS SHOWN
APPROVED JRL	DESIGNED EES	DATE 03/03/23

GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
----------------------------------	---------------------------------------

RCE # 54039

NO.	DATE	DESCRIPTION	BY	APPROD	SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
REVISIONS					53 of 74		MD-2	B

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



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PHONE (801) 299-1327 FAX (801) 299-0153

C:\USERS\JUNG\KIMAQUA\ENGINEERING\LG\VSD - LASG190119-SECONDARY TREATMENT UPGRADES\PHASE 22 TASK 2\DRAWING\987 ELECTRICAL\00 GL-01 LEGEND.DWG

ISA INSTRUMENT IDENTIFICATION TABLE					
PRECEEDING LETTERS			SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE		MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		EMERGENCY	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROL	
D	DENSITY OR SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOTOR	MOMENTARY	MOISTURE		MIDDLE
N	VIDEO		USER'S CHOICE	USER'S CHOICE	NORMAL
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT CONNECTION		STOP
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD, OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X-AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y-AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z-AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT	

EQUIPMENT TAG	(3) PROCESS IDENTIFIER LOOP NUMBER
<div><div>XX-V-2001A</div><div>DEVICE LETTER (SEQUENTIAL AS NEEDED)</div><div>LOOP NUMBER</div><div>DEVICE IDENTIFIER (1)</div><div>PROCESS IDENTIFIER (3)</div></div>	<div><div>PRELIMINARY TREATMENT (10)</div><div>EQUIPMENT</div><div>SCREENING</div><div>GRIT REMOVAL</div><div>FOUL AIR SYSTEM</div><div>SEPTAGE</div><div>21</div><div>22</div><div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>PRIMARY TREATMENT (20)</div><div>PRIMARY CLARIFICATION</div><div>PRIMARY SLUDGE PUMPING</div><div>PRIMARY RECIRCULATION</div><div>INTERMEDIATE CLARIFIERS</div><div>INTERMEDIATE CLARIFIER SLUDGE PUMPING</div><div>28</div><div>29</div><div>30</div><div>31</div><div>32</div><div>33</div><div>36</div><div>DISINFECTION (40)</div><div>CHLORINE CONTACT BASIN</div><div>CHLORINATION SYSTEM</div><div>DECHLORINATION SYSTEM</div><div>NEW UV DISINFECTION SYSTEM</div><div>41</div><div>42</div><div>43</div><div>44</div><div>EFFLUENT DISPOSAL AND REUSE (50)</div><div>DISCHARGE</div><div>RECLAMATION</div><div>MEMBRANE FILTERS / UV</div><div>CHEMICAL HANDLING</div><div>51</div><div>52</div><div>53</div><div>54</div><div>BIOSOLIDS HANDLING (60)</div><div>GRAVITY THICKENER</div><div>GRAVITY BELT THICKENING</div><div>ANAEROBIC DIGESTION SYSTEM</div><div>61</div><div>62</div><div>63</div><div>64</div><div>65</div><div>66</div><div>67</div><div>68</div><div>SLUDGE DISPOSAL (70)</div><div>SLUDGE LAGOONS</div><div>71</div><div>72</div><div>DRYING BEDS</div><div>SLUDGE LOADING FACILITY</div><div>73</div><div>MISCELLANEOUS SUPPORT SYSTEMS (80)</div><div>PLANT WATER</div><div>WELL PUMP SYSTEM</div><div>POWER DISTRIBUTION</div><div>81</div><div>82</div><div>83</div><div>85</div><div>86</div><div>PLANT DRAIN SYSTEM</div><div>PLANT HIGH PRESSURE AIR</div><div>NON PROCESS SYSTEMS (90)</div><div>CONTROL BUILDING</div><div>91</div><div>MAINTENANCE BUILDING</div><div>92</div><div>IRRIGATION SYSTEM</div><div>93</div><div>FUEL SYSTEM</div><div>94</div><div>WEATHER STATION</div><div>95</div><div>FLARES</div><div>96</div><div>STORAGE BUILDING</div><div>97</div><div>COLLECTION SYSTEM (100)</div><div>PUMP STATION</div><div>101</div><div>FORCE MAIN</div><div>102</div><div>GRAVITY LINE</div><div>103</div></div>
INSTRUMENT/SCADA TAG	
<div><div>12-LSL-0001A</div><div>LETTER FOR MULTIPLE INSTRUMENTS</div><div>LOOP NUMBER</div><div>ISA IDENTIFIER</div><div>PROCESS IDENTIFIER (3)</div></div>	
LOOP NUMBER CRITERIA	
<div><div>12-(H/P)0001</div><div>LOOP NUMBER</div><div>IF EXISTING H=HVAC P=POWER</div><div>PROCESS IDENTIFIER (3)</div></div>	

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1
FD144793

FILE:

TAG NUMBERS AND ADDITIONAL DESIGNATIONS	
<div><div>SUCCEEDING LETTER(S)</div><div>PRECEDING LETTER(S)</div><div>CCC</div><div>AAA</div><div>BBB</div><div>ADDITIONAL IDENTIFICATION SEE ABBREVIATIONS AND HAND SWITCH DESIGNATIONS</div><div>LOOP DESIGNATION NUMBER</div></div>	
P&ID INTERFACE SYMBOLS	
<div>NOTE: REFER TO ISA INSTRUMENT IDENTIFICATION TABLE FOR DEFINITION OF LETTERS AAA INSIDE THE BUBBLES. BBB REPRESENTS LOOP ID (IF USED). SEE ABBREVIATIONS LIST FOR SUPERSCRIT CCC.</div> <div><div>CCC</div><div>AAA</div><div>BBB</div><div>PILOT LIGHT</div><div>X= LENS COLOR, R=RED, G=GREEN, A=AMBER B=BLUE</div></div> <div><div>CCC</div><div>AAA</div><div>BBB</div><div>DEVICE MOUNTED IN SUBPANEL</div></div> <div><div>CCC</div><div>AAA</div><div>BBB</div><div>FIELD DEVICE</div></div> <div><div>CCC</div><div>AAA</div><div>BBB</div><div>PLC I/O TERMINAL</div></div> <div><div>CCC</div><div>AAA</div><div>BBB</div><div>PANEL DEVICE</div></div> <div><div>CCC</div><div>AAA</div><div>BBB</div><div>SCADA FUNCTION</div></div>	
INPUT/OUTPUT SYMBOLS	
<div><div>▲</div><div>ANALOG INPUT</div></div> <div><div>▼</div><div>ANALOG OUTPUT</div></div> <div><div>△</div><div>DISCRETE INPUT</div></div> <div><div>▽</div><div>DISCRETE OUTPUT</div></div> <div><div>▲</div><div>PULSE INPUT</div></div> <div><div>▼</div><div>PULSE OUTPUT</div></div>	
P&ID LINETYPES	
<div><div>_____</div><div>CHANNEL</div></div> <div><div>-----</div><div>ELECTRICAL SIGNAL</div></div> <div><div>_____</div><div>EQUIPMENT</div></div> <div><div>-----</div><div>EXISTING/FUTURE PIPING AND EQUIPMENT</div></div> <div><div>_____</div><div>HYDRAULIC SIGNAL</div></div> <div><div>_____</div><div>INTERNAL SYSTEM SIGNAL LINK (SOFTWARE OR DATA LINK)</div></div> <div><div>_____</div><div>LOOP DIVIDER</div></div> <div><div>_____</div><div>PNEUMATIC SIGNAL</div></div> <div><div>_____</div><div>PROCESS PIPING</div></div> <div><div>_____</div><div>SUBPROCESS PIPING</div></div> <div><div>_____</div><div>VENDOR SUPPLIED</div></div>	

P&ID ABBREVIATIONS	
AI	ANALOG INPUT
AO	ANALOG OUTPUT
ARV	AIR RELIEF VALVE
AS	AIR SUPPLY
BLD	BUILDING
BWL	BOTTOM WATER LEVEL
CL2	CHLORINE
CV	CONTROL VALVE/CONTROL VARIABLE
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISSOLVED OXYGEN
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
ETM	ELAPSED TIME METER
ETM	ELAPSED TIME METER (FAST SPEED)
ETMs	ELAPSED TIME METER (SLOW SPEED)
ES	EMERGENCY STOP
FA	FOUL AIR
FC	FAIL CLOSED
FE	FLOW ELEMENT
FEX	FIRE EXTINGUISHER
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
GA	GALLONS
GCP	GENERATOR CONTROL PANEL
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
IO	INPUT/OUTPUT
ISB	INTRINSICALLY SAFE BARRIER
LAN	LOCAL AREA NETWORK
LCP	LOCAL CONTROL PANEL
M	MOTOR
MIAMP	MILLIAMPER
MCC	MOTOR CONTROL CENTER
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MGL	MILLIGRAMS PER LITER
MLR	MIXED LIQUOR RETURN
MO	MOISTURE
MOD	MODULATING
MTU	MASTER TELEMETRY UNIT
NTU	TURBIDITY
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
PER	PERMISSIVE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PANL	PANEL
POS	POSITION
POT	POTENTIOMETER
PPM	PARTS PER MILLION
PR	PAIR
PSI	POUNDS PER SQUARE INCH
PV	PROCESS VARIABLE
RF	RADIO FREQUENCY
RIO	REMOTE INPUT OUTPUT
RST	RESET
RTU	REMOTE TELEMETRY UNIT
RVSS	REVERSE VOLTAGE SOFT START
SB	SLUDGE BLANKET
SD	SMOKE DETECTOR
SLC	SINGLE LOOP CONTROLLER
SMP	SAMPLE PUMP
SO2	SULFUR DIOXIDE
SP	SET POINT/SPARE
SPD	SPEED
SV	SOLENOID OPERATED VALVE
T/M	TEMPERATURE AND/OR MOISTURE
TWK	TANK
TSS	TOTAL SUSPENDED SOLIDS
TWL	TOP WATER LEVEL
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
VTP	VERTICAL TURBINE PUMP

HAND SWITCH DESIGNATIONS	
ES	EMERGENCY STOP
FOR	FORWARD-OFF-REVERSE
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORA	HAND-OFF-REMOTE-AUTO
IOE	INTERNAL-OFF-EXTERNAL
JOA	JOG-OFF-AUTO
LOAR	LOWER-OFF-AUTO-RAISE
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MOA	MANUAL-OFF-AUTO
MOR	MOMENTARY-OFF-RUN
OC	OPEN-CLOSE
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOC	ON-OFF-CLOSE
OOR	ON-OFF-REMOTE
OSC	OPEN-STOP-CLOSE
POT	POTENTIOMETER
ROO	RESET-OFF-ON
RST	RESET PUSHBUTTON
SS	START-STOP

PROCESS IDENTIFIERS	
A	AERATION
AIR	COMPRESSED AIR
AS	AIR SUPPLY
BD	BOTTOM DRAIN
BS	BENDED SLUDGE
C	CONDENSATE
CD	CHEMICAL DRAIN AND VENT
CV	CHLORINE (GAS OR LIQUID STATE)
CLS	CHLORINE SOLUTION
CLV	CHLORINE GAS UNDER VACUUM
CSL	CIRCULATED SLUDGE
CV	CHLORINATOR VENT AND DETECTION LINE
DN	DECANT
DSL	DIGESTED SLUDGE
DW	DEMINERALIZED WATER
EE	ENGINE EXHAUST
EV	EVAPORATIVE COOLING
EWR	ENGINE COOLING WATER RETURN
EWS	ENGINE COOLING WATER SUPPLY
EX	AIR EXHAUST
FA	FOUL AIR
FE	FINAL EFFLUENT
FM	FORCE MAIN
FOR	FUEL RETURN
FOS	FUEL SUPPLY
FS	FROTH SPRAY
FSP	FIRE PROTECTION SPRINKLER SYSTEM
FW	FINISHED WATER
G	GRIT
GPR	GRIT CHAMBER
H	HYPOCHLORITE
HR	HEATING WATER RETURN
HS	HEATING WATER SUPPLY
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HY	HYDRAULIC
IA	INSTRUMENT AIR
LO	LUBE OIL
LSP	LANDSCAPING SPRINKLER SYSTEM
ML	MIXED LIQUOR
NG	NOT USED NATURAL GAS
NPW	NON-POTABLE WATER
OF	OVERFLOW
PA	PLANT AIR
PD	PLANT DRAIN
PEA	POLYMER-ANIONIC
PEC	POLYMER-CATIONIC
PEF	PRIMARY EFFLUENT
PEN	POLYMER-NONIONIC
PI	PLANT INFLUENT
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
RSL	RAW SLUDGE
RW	RAW WATER
RWL	RAINWATER LEADER
S	SCUM
SA	SAMPLE LINE (SEE LIST AT RIGHT)
SB	SODIUM BISULFITE
SD	SANITARY DRAIN AND VENT
SDR	STORM DRAIN
SE	SECONDARY EFFLUENT
SF	SLUDGE FILTRATE
SG	SLUDGE GAS
SN	SUBSTRANT
SPD	SUMP PUMP DISCHARGE
SS	SANITARY SEWER
ST	STEAM
SU	STRUCTURE UNDERDRAIN
SUC	STRUCTURE UNDERDRAIN COLLECTOR
TSL	THICKENED SLUDGE
TWK	TANK
WAS	WASTE ACTIVATED SLUDGE
WLO	WASTE LUBE OIL
WW	WASTEWATER

DEVICE IDENTIFIERS	
ACU	AIR CONDITIONING UNIT
ADR	AIR DRYER
AER	AERATOR
AHU	AIR HANDLING UNIT
ARR	AIR RECEIVER TANK
BF	BIOFILTER
BLR	BLOWER
BOL	BOILER
CGN	COGEN ENGINE
CMP	AIR COMPRESSOR
CMX	CHEMICAL MIXER
CRN	CRANE / HOIST
DBF	DEEP BED FILTER
DGC	DIGESTER GAS COMPRESSOR
EF	EXHAUST FAN
FCV	FLOW CONTROL VALVE
FFR	FIXED FILM REACTOR
FLR	FLARE
G	GATE
GEN	GENERATOR
GST	HVAC
H	GRAVITY SLUDGE THICKENER
HXR	HEAT EXCHANGER
LCP	LOCAL CONTROL PANEL
ME	MECHANICAL EQUIPMENT
M	METER
MXR	MIXER
PBU	POLYMER BLEND UNIT
P	PUMP
PMP	PUMP
SF	SUPPLY FAN
SG	SLUICE GATE
UVM	UV DISINFECTION MODULE
V	VALVE
VLV	VALVE
WG	WEIR GATE

GENERAL NOTES	
1.	ADDITIONAL INSTRUMENTATION AND CONTROL SYMBOLS MAY BE USED AS REQUIRED. SYMBOLS AND NOMENCLATURE ARE BASED ON ISA STANDARD S-5.1.
2.	SEE ASSOCIATED ELECTRICAL SYMBOL SHEETS FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
PROCESS/SIGNAL LINE TO/FROM A PRECEDING SHEET	
<div><div>LINE 1</div><div>LINE 2</div><div>TO (LOCATION)</div><div>DESTINATION SHEET NUMBER</div><div>LINE NUMBER CORRESPONDING TO DESTINATION SHEET LINE NUMBER</div></div> <div><div>LINE 1</div><div>LINE 2</div><div>FROM (LOCATION)</div><div>PREVIOUS SHEET NUMBER</div><div>LINE NUMBER CORRESPONDING TO PREVIOUS SHEET LINE NUMBER</div></div>	
CONTINUATION	
<div><div>BREAK IN SIGNAL/PROCESS</div><div>TO I-X</div><div>FROM I-X</div><div>CONTINUATION OF SIGNAL/PROCESS</div><div>SHEET NUMBERS USED WHEN SIGNAL/PROCESS IS CONTINUED ON A PREVIOUS OR FUTURE PAGE.</div></div>	
JOB NO. 12600-07/16650-02	
LAS GALLINAS VALLEY SANITARY DISTRICT MARIN COUNTY, CALIFORNIA	
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD	
INSTRUMENTATION – GENERAL LEGEND	
CHECKED MPJ	DRAWN DCL
APPROVED MPJ	DESIGNED LAR
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
RCE # 54039	
NO.	DATE
DESCRIPTION	BY
APPRO'D	
REVISIONS	
SHEET	54 of 74
PLAN NO.	
DRAWING NO.	GI-01
REVISION NO.	B

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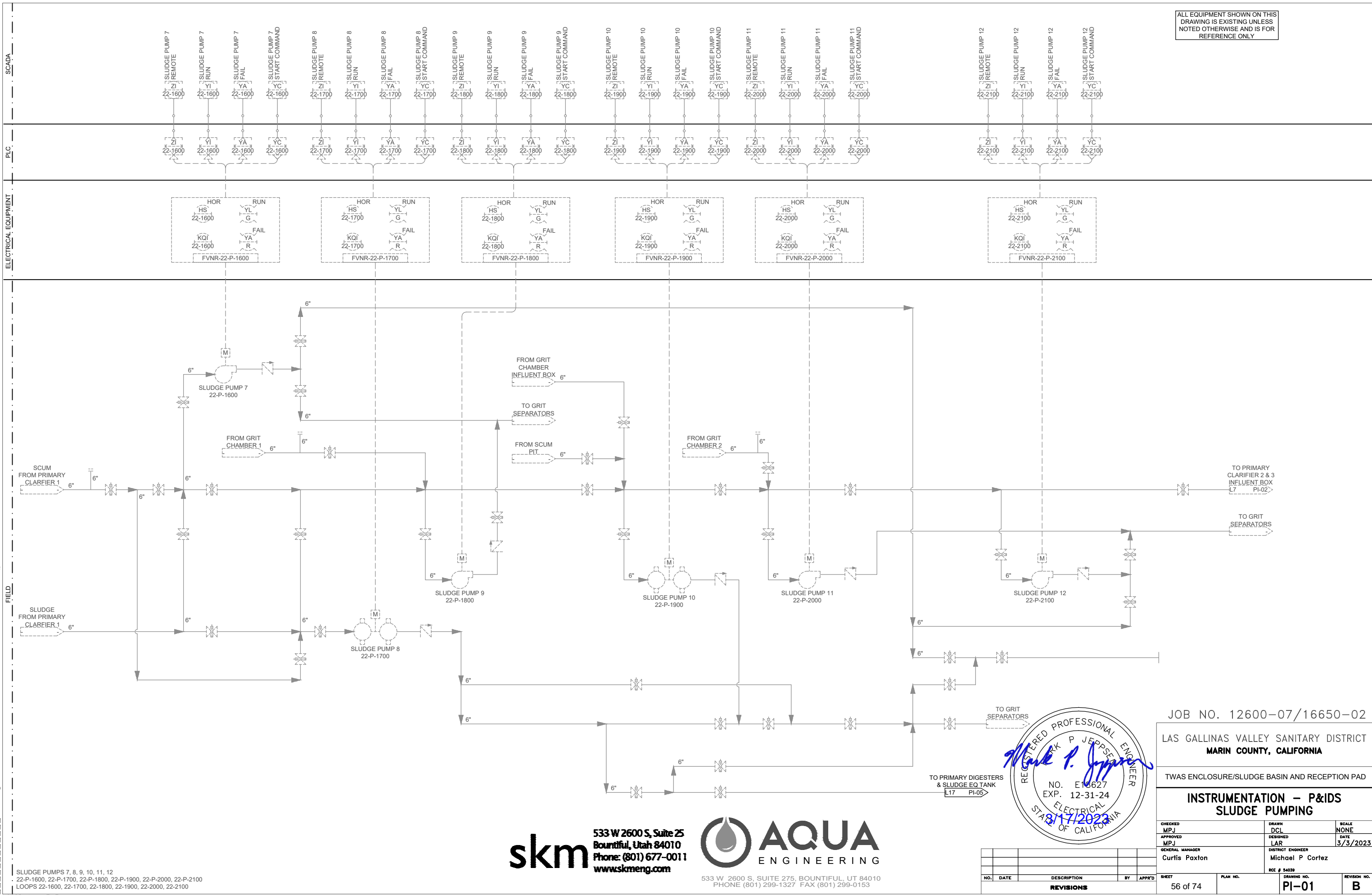


FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LGVS-D - LAS GALLINAS VALLEY SECONDARY TREATMENT UPGRADE\PHASE 22 TASK 2\DRAWING\987 ELECTRICAL\01 PI-01 SLUDGE PUMPING.DWG

PLOTTED: 3/10/2023
SAVED: 3/10/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

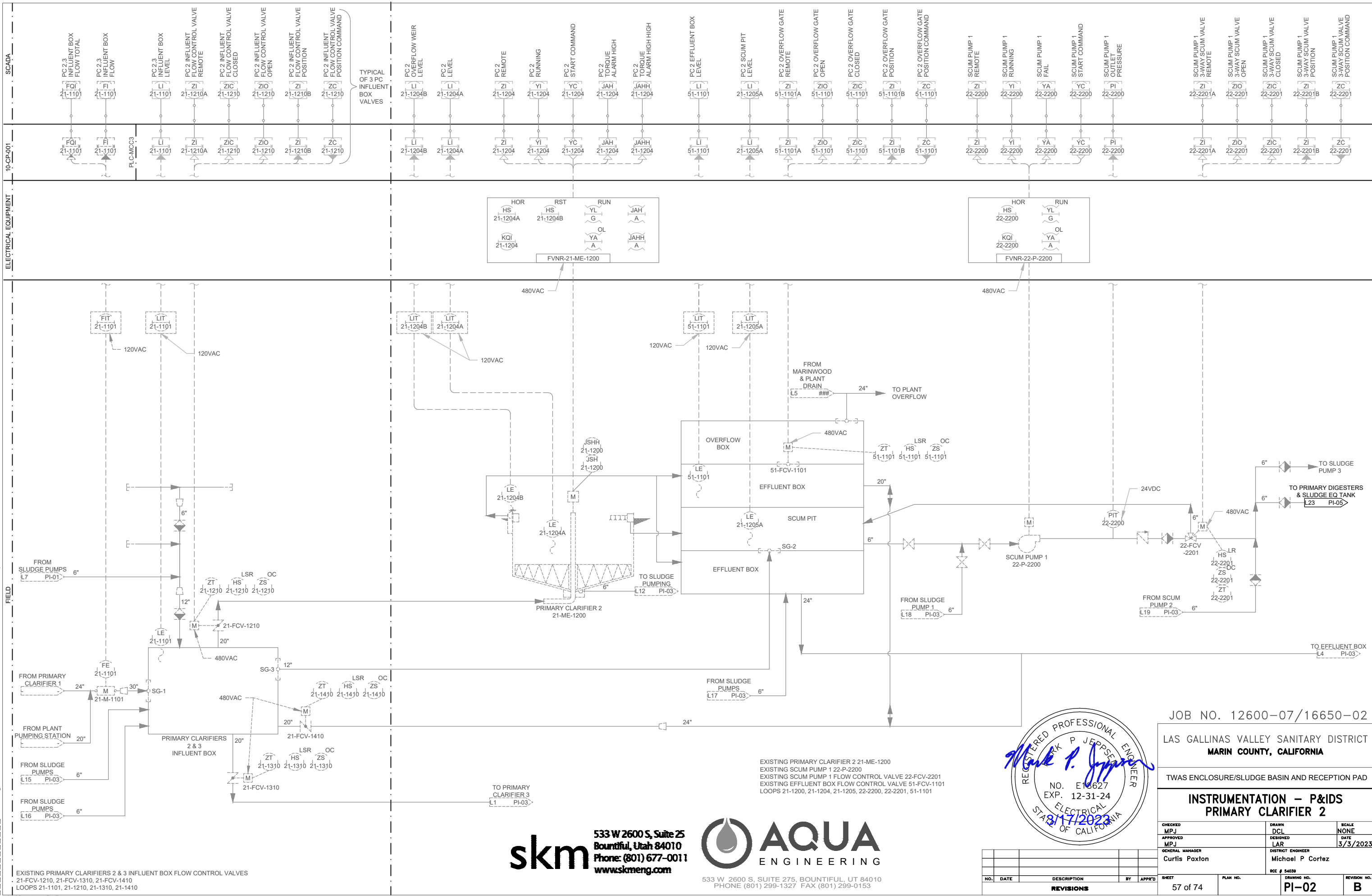


C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LGVSD - LAS GALLINAS VALLEY - SECONDARY TREATMENT UPGRADE\PHASE 22 TASK 2\DRAWING\987 ELECTRICAL\01 PI-02 PRIMARY CLARIFIER 2.DWG

PLOTTED: 3/10/2023
SAVED: 3/10/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

EXISTING PRIMARY CLARIFIERS 2 & 3 INFLUENT BOX FLOW CONTROL VALVES
21-FCV-1210, 21-FCV-1310, 21-FCV-1410
LOOPS 21-1101, 21-1210, 21-1310, 21-1410



FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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NO.	DATE	DESCRIPTION	BY	APPROV.

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

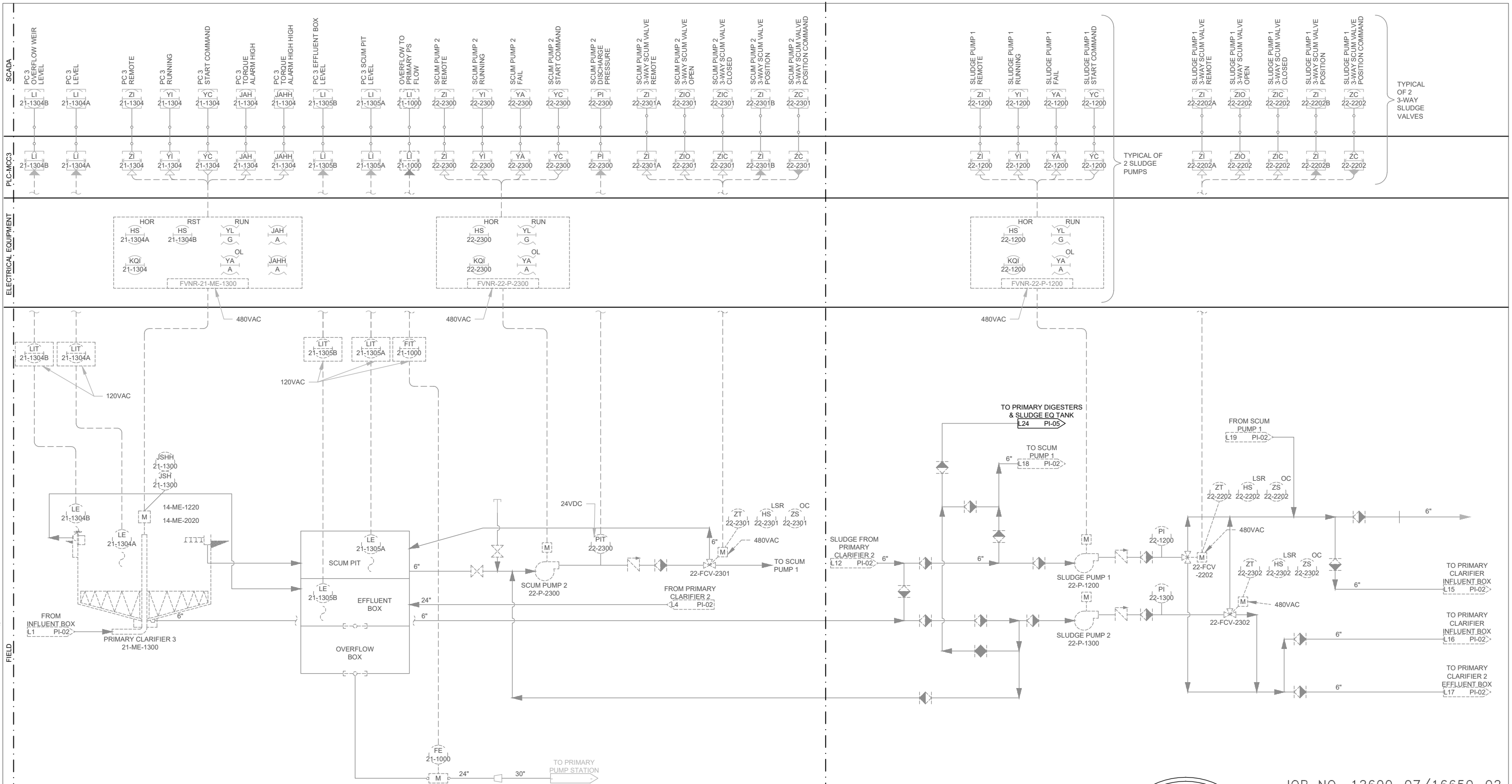
INSTRUMENTATION - P&IDS
PRIMARY CLARIFIER 2

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	REVISION NO. B
SHEET 57 of 74	PLAN NO.	DRAWING NO. PI-02

3/10/2023
3/10/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

C:\USERS\ENGINEER\KIM\AQUA\ENGINEERING\LGVS-D-LAS\G180119-SECONDARY TREATMENT UPGRADE\PHASE 22 TASK 2\DRAWING\987 ELECTRICAL\01 PI-03 PC 3 & SLUDGE PUMP 1 & 2.DWG



EXISTING PRIMARY CLARIFIER 3 21-ME-1300
EXISTING SCUM PUMP 2 22-P-2300
EXISTING SCUM PUMP 2 FLOW CONTROL VALVE 22-FCV-2301
LOOPS 21-1300, 21-1304, 21-1305, 22-2300, 22-2301

LGVS-D 1
FD144793

FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

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NO.	DATE	DESCRIPTION	BY	APPROD
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

INSTRUMENTATION - P&IDS
PC 3 & SLUDGE PUMP 1 & 2

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	RCE # 54039
SHEET 58 of 74		REVISION NO. PI-03 B

PLOTTED: 3/10/2023
SAVED: 3/10/2023

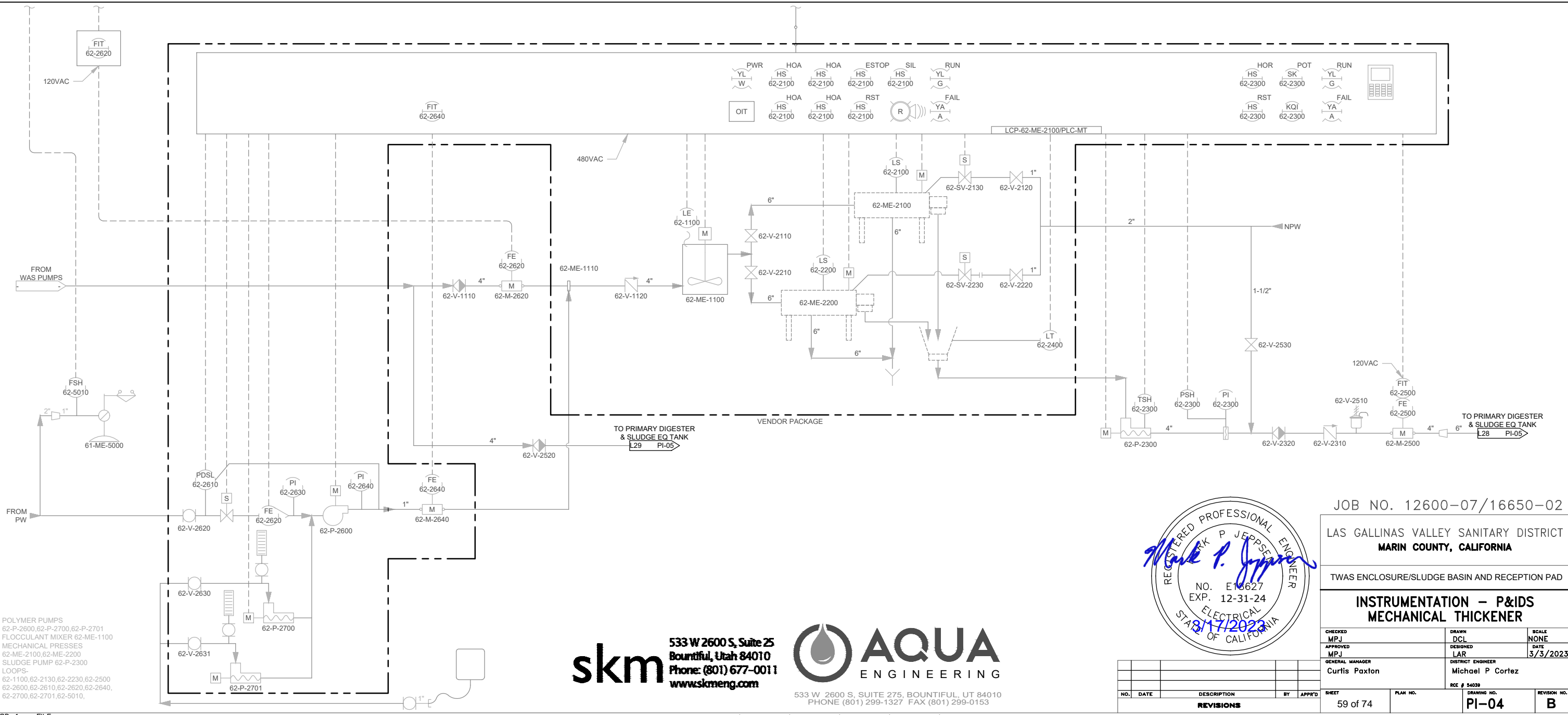
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GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

POLYMER PUMPS
62-P-2600, 62-P-2700, 62-P-2701
FLOCCULANT MIXER 62-ME-1100
MECHANICAL PASSES
62-ME-2100, 62-ME-2200
SLUDGE PUMP 62-P-2300
LOOPS
62-1100, 62-2130, 62-2230, 62-2500
62-2600, 62-2610, 62-2620, 62-2640,
62-2700, 62-2701, 62-5010,

C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LGVS-D-LAS\G180119-SECONDARY TREATMENT UPGRAD\PHASE 2\ TASK 2\DRAWING\397 ELECTRICAL\01 PI-04 MECHANICAL THICKENER.DWG

SCADA
PLC-MC3
ELECTRICAL EQUIPMENT

FIELD



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NO.	DATE	DESCRIPTION	BY	APPROV'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

INSTRUMENTATION - P&IDS
MECHANICAL THICKENER

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	RCE # 54039
SHEET 59 of 74	PLAN NO.	DRAWING NO. PI-04
		REVISION NO. B

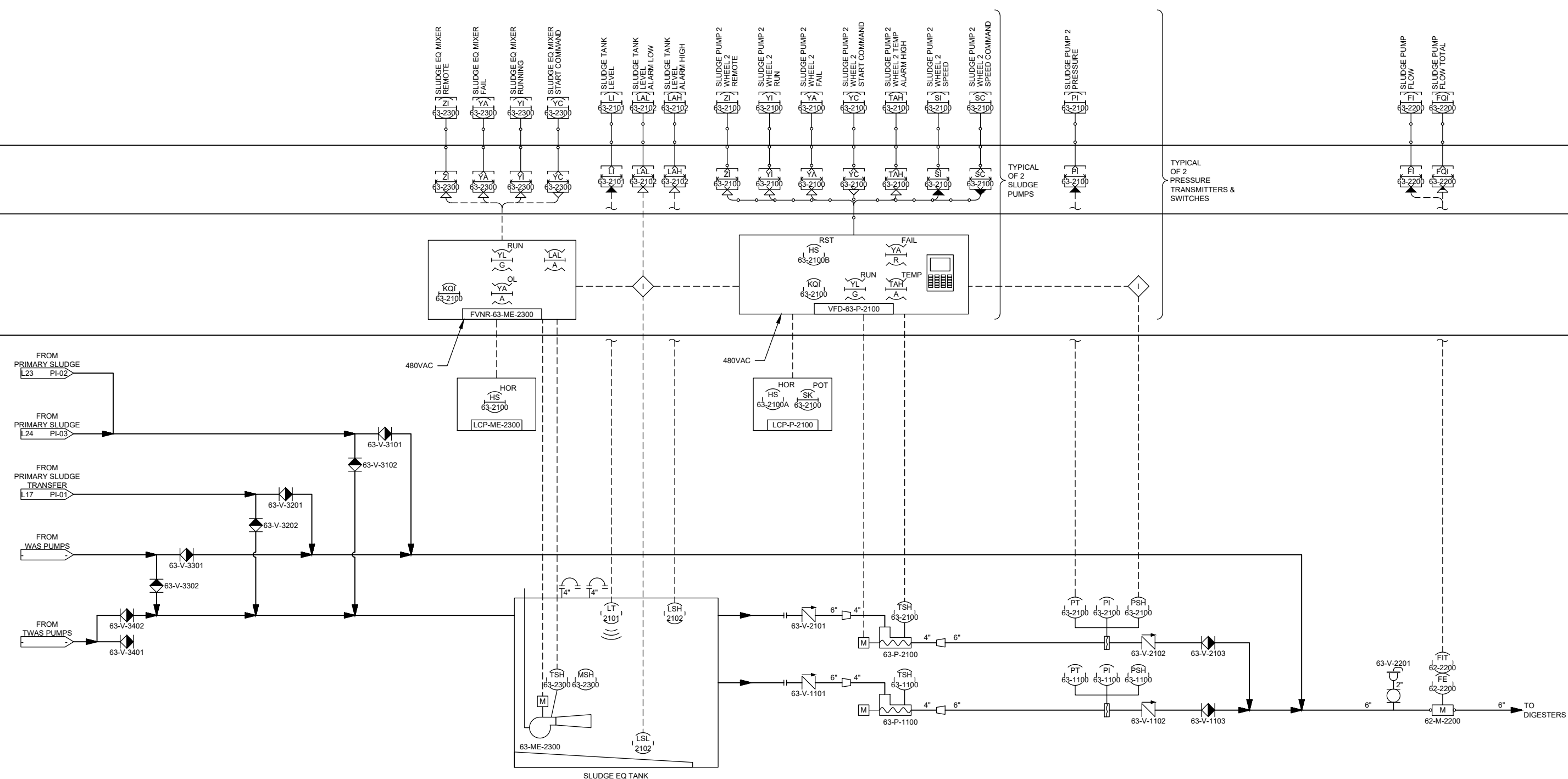
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CYAN	0.40MM
BLUE	0.50MM
MAGENTA	0.20MM
WHITE	0.35MM
GRAY	0.15MM
9	0.15MM
10	1.00MM
100	0.70MM
210	0.60MM

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

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JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

INSTRUMENTATION – P&IDS
SLUDGE EQ TANK

CHECKED MPJ		DRAWN DCL		SCALE NONE	
APPROVED MPJ		DESIGNED LAR		DATE 3/3/2021	
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez			
		RCE # 54039			
SHEET 60 of 74		PLAN NO.		DRAWING NO. PI-05	
				REVISION NO. B	

				GENERAL MANAGER		DISTRICT ENGINEER		
				Curtis Paxton		Michael P Cortez		
						RCE # 54039		
NO.	DATE	DESCRIPTION	BY	APP'D	SHEET	PLAN NO.	DRAWING NO.	REVISION
					60 of 74		P1-05	B

C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LG\VSD - LASG190119-SECONDARY TREATMENT UPGRADE\PHASE 22 TASK 2\DRAWING\987 ELECTRICAL\10 GE-01 NOTES & SYMBOLS.DWG

PLOTTED: 3/19/2023
SCALE: 1:1
BORDER: 22,34

COLOR: No. 0.70MM
RED 0.20MM
YELLOW 0.25MM
GREEN 0.40MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

SCHEMATIC LINETYPES			
	ELECTRICAL BUS		EXISTING OR FUTURE MANUFACTURER/SHOP WIRE
	EXISTING OR FUTURE ELECTRICAL BUS		FIELD/CONTRACTOR INSTALLED WIRE
	MANUFACTURER/SHOP WIRE TYPICALLY INSTALLED OFF-SITE		EXISTING OR FUTURE FIELD/CONTRACTOR INSTALLED WIRE
SCHEMATIC SYMBOLS			
	DEVICE CONNECTION LUG OR TERMINAL		HARMONIC FILTER
	SCHEMATIC POINT OF CONNECTION		LOAD REACTOR
	POWER STABS BUS CONNECTION		VARIABLE FREQUENCY DRIVE
	POWER STABS LOAD CONNECTION		REDUCED VOLTAGE SOFT STARTER
CIRCUIT BREAKER			GROUND CONNECTION
	100AF FRAME SIZE		MOTOR, NUMBER DESIGNATES NEMA HORSEPOWER SIZE
	50AT TRIP RATING		MOTOR STARTER, CONTACTOR, RELAY OR TIMER COIL
	MCP BREAKER TYPE		NORMALLY OPEN CONTACT
DISCONNECT			NORMALLY CLOSED CONTACT
	30A AMPERE RATING		SOLENOID VALVE
	4X NEMA RATING		EQUIPMENT PROGRAMMING CONSOLE
FUSE			2 POSITION SELECTOR SWITCH POSITION LEGEND: X=CLOSED O=OPEN
	30A AMPERE RATING		3 POSITION SELECTOR SWITCH HAND - OFF - AUTO POSITION LEGEND: X=CLOSED O=OPEN
	4X NEMA RATING		3 POSITION SELECTOR SWITCH OPEN - CLOSE - AUTO POSITION LEGEND: X=CLOSED O=OPEN
	30A AMPERE RATING		3 POSITION SELECTOR SWITCH FORWARD - OFF - REVERSE POSITION LEGEND: X=CLOSED O=OPEN
	4X NEMA RATING		NORMALLY CLOSED PUSH BUTTON
FUSED DISCONNECT			NORMALLY OPEN PUSH BUTTON
	30A AMPERE RATING	TYPICAL SWITCH CONFIGURATION	
	4X NEMA RATING		FLOAT SWITCH - MAKE ON FALL
	TRANSFORMER		FLOAT SWITCH - MAKE ON RISE
CURRENT TRANSFORMER			FLOAT SWITCH - BREAK ON FALL
	100:5 CT TURNS RATIO		FLOAT SWITCH - BREAK ON RISE
	3 NUMBER OF CT'S		SWITCH TYPE SYMBOL (SEE BELOW)
POTENTIAL TRANSFORMER			LEVEL SWITCH
	480:120 PT VOLTAGE RATIO		PRESSURE SWITCH
	3 NUMBER OF PT'S		FLOW OR TORQUE SWITCH
METERING EQUIPMENT			TEMPERATURE SWITCH
	METER TYPE DESIGNATION		LIMIT SWITCH
AM = AMMETER			TIMER RELAY CONTACT NORMALLY OPEN TIME DELAY CLOSE
SSM = SOLID STATE METER			ELAPSED TIME METER
UM = UTILITY METER			CONTROL RELAY
VM = VOLTMETER			TIME DELAY RELAY
WHM = WATT HOUR METER			ALARM RELAY
WM = WATT METER			PILOT LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE, G=GREEN
	GENERATOR		INSTANTANEOUS SHORT-CIRCUIT TRIP DEVICE
MANUAL OR AUTOMATIC TRANSFER SWITCH			TIME OVERCURRENT TRIP DEVICE
	600A AMPERE RATING		GROUND FAULT TRIP DEVICE
	3R NEMA RATING		
TRANSIENT VOLTAGE SURGE SUPPRESSOR			
	TVSS CLASS C		
MOTOR OVERLOAD RELAY			
	MOTOR OVERLOAD RELAY		
FULL VOLTAGE NON-REVERSING STARTER (FVNR)			
	NEMA SIZE		
	STARTER TYPE AND SIZE		
FULL VOLTAGE REVERSING STARTER (FVR)			
	NEMA SIZE		
	STARTER TYPE AND SIZE		
TWO-SPEED STARTER			
	NEMA SIZE		
	STARTER TYPE AND SIZE		

ELECTRICAL PLAN LINETYPES			
	EXPOSED CONDUIT		ELECTRICAL EQUIPMENT
	EXISTING OR FUTURE EXPOSED CONDUIT		EXISTING OR FUTURE ELECTRICAL EQUIPMENT
	UNDERGROUND CONDUIT		DEMOLITION
	EXISTING OR FUTURE UNDERGROUND CONDUIT		CAPPED UNDERGROUND CONDUIT
	BARE COPPER GROUND CONDUCTOR		

ELEC. PLAN SYMBOLS	TB'S & PLC SYMBOLS
<p><u>SITE PLAN DEVICES</u></p> <p> X= (SEE BELOW)</p> <p>AE - ANALYZER ELEMENT AIT - ALALYZING INDICATING TRANSMITTER FE - FLOW ELEMENT FIT - FLOW INDICATING TRANSMITTER FS - FLOW SWITCH J - JUNCTION BOX JS - TORQUE SWITCH LE - LEVEL ELEMENT LIT - LEVEL INDICATING TRANSMITTER LS - LEVEL SWITCH M - MOTOR MH - MANHOLE MV - MOTOR OPERATED VALVE PB - PULLBOX PIT - PRESSURE INDICATING TRANSMITTER PS - PRESSURE SWITCH PT - PRESSURE TRANSMITTER SV - SOLENOID VALVE TS - TEMPERATURE SWITCH WE - WEIGHT ELEMENT WIT - WEIGHT INDICATING TRANSMITTER ZS - LIMIT SWITCH</p> <p> GROUND ROD</p> <p> WP DUPLEX RECEPTACLE</p> <p> DENOTES RECEPTACLE TYPE (BLANK) = STANDARD INDOORS GFCI = GND FLT CURRENT INT. WP = WEATHER PROOF & GFCI</p> <p> QUADRAPLEX RECEPTACLE</p> <p> WP DUPLEX RECEPTACLE MOUNTED AT 44" AFF</p> <p> DATA JACK</p> <p> SINGLE POLE SWITCH</p> <p> 3-WAY SWITCH</p> <p> 4-WAY SWITCH</p> <p> MOTION SENSOR LIGHT SWITCH</p> <p> CONDUIT SEALOFF</p> <p> LTC CONNECTION</p> <p> MC CONNECTION</p> <p> DISCONNECT SWITCH</p> <p> THERMOSTAT</p> <p> CONDUIT HOME RUN NUMBER INDICATES QUANTITY OF CONDUCTORS INCLUDING GROUND</p>	<p><u>LOCAL PANEL OR DEVICE TERMINAL BLOCK</u></p> <p> TERMINAL LABEL</p> <p> PLC PANEL TERMINAL BLOCK</p> <p> TERMINAL LABEL</p> <p> MCC TERMINAL BLOCK</p> <p> TERMINAL LABEL</p> <p> DEVICE TERMINAL BLOCK</p> <p> TERMINAL LABEL</p> <p> PLC DISCRETE INPUT</p> <p> DISCRETE INPUT LABEL</p> <p> PLC DISCRETE OUTPUT (NORMALLY OPEN)</p> <p> DISCRETE OUTPUT LABEL</p> <p> PLC DISCRETE OUTPUT (NORMALLY CLOSED)</p> <p> DISCRETE OUTPUT LABEL</p> <p> PLC ANALOG INPUT</p> <p> ANALOG INPUT LABEL</p> <p> PLC ANALOG OUTPUT</p> <p> ANALOG OUTPUT LABEL</p> <p> PLC RTD</p> <p> RTD LABEL</p>
<p>EQUIPMENT CALLOUT</p> <p> EQUIP. TAG EQUIPMENT CALLOUT</p> <p>DESCRIPTOR #1 DESCRIPTOR #2 DESCRIPTOR #3</p> <p> DETAIL CALLOUT</p> <p> FIELD INSTRUMENT CALLOUT</p>	<p>CONDUIT CALLOUT</p> <p> GROUPED CONDUIT AND CIRCUIT IDENTIFICATION TAGS. REFER TO THE POWER ONE-LINE AND CONTROL ONE-LINE DIAGRAMS OR CONDUIT SCHEDULES FOR CONDUIT SIZES AND CONTENTS.</p> <p>SXXX CXXX PXXX FXXX SPXXX</p> <p>S-SIGNAL C-CONTROL/INSTRUMENTATION P-POWER F-FIBER OPTIC/NETWORK SP-SPARE CONDUITS</p>

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ABBREVIATIONS	
A	AMPERE
AFF	ABOVE FINISHED FLOOR
AI	ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CL2	CHLORINE
CPT	CONTROL POWER TRANSFORMER
CTC	COMMUNICATIONS TERMINATION CABINET
CU	COPPER, BARE
CV	CONTROL VALVE
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT
DP	DISTRIBUTION PANEL
DS	DISCONNECT SWITCH
DV/DT	DIFFERENTIAL VOLTAGE/TIME
DWG	DRAWING
ETM	ELAPSED TIME METER
EOL	ELECTRONIC OVERLOAD
FE	FLOW ELEMENT
FLA	FULL LOAD AMPS
FOC	FIBER OPTIC CABLE
FOR	FORWARD-OFF-REVERSE
FS	FLOW SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND	GROUND
GPM	GALLONS PER MINUTE
GRS	GALVANIZED RIGID STEEL
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE CURRENT
I	INSTRUMENTATION CABLE
IO	INPUT/OUTPUT
ISC	SHORT CIRCUIT CURRENT
J	JUNCTION BOX
LAN	LOCAL AREA NETWORK
LCP	LOCAL CONTROL PANEL
LOS	LOCK-OUT-STOP
LP	LIGHTING PANEL
LR	LOCAL/REMOTE
LS	LEVEL SWITCH
LTC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
M	MOTOR
MA	MANUAL/AUTO, MILLIAMPER
MC	MANUFACTURER'S CABLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MOV	MOTOR OPERATED VALVE
MTU	MASTER TELEMETRY UNIT
NEC	NATIONAL ELECTRICAL CODE
NOTC	NORMALLY OPEN/TIME CLOSED
NPW	NON-POTABLE WATER
NTS	NOT TO SCALE
NTU	TURBIDITY
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
OO	ON/OFF (MAINTAINED)
OR	OFF-REMOTE
PB	PULL BOX
PC	PERSONAL COMPUTER
PFR	PHASE/POWER FAILURE RELAY
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PPM	PARTS PER MILLION
PR	PAIR
P	PRESSURE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PV	PROCESS VARIABLE
RCP	REMOTE CONTROL PANEL
RF	RADIO FREQUENCY
RIO	REMOTE INPUT OUTPUT
RST	RESET
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TELEMETRY UNIT
RVSS	REDUCED VOLTAGE SOFT STARTER
SEQ	SERVICE ENTRANCE EQUIPMENT
SES	SERVICE ENTRANCE SECTION
SLOS	START-LOCK-OFF-STOP
SMC	SUBMERSIBLE MANUFACTURER CABLE
SO2	SULFUR DIOXIDE
SP	SET POINT/SPARE
SPD	SURGE PROTECTION DEVICE
SS	START/STOP
ST	SHUNT TRIP
TC	TELEPHONE CABLE
TS	TEMPERATURE SWITCH
TYP	TYPICAL
UG	UNDERGROUND
V	VOLT
VA	VOLT TAMP
VFD	VARIABLE FREQUENCY DRIVE
W	WATT, WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER
ZS	POSITION SWITCH

NOTES			
1. THE COMPLETED INSTALLATION SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. ALL WORK SHALL BE COMPLETED IN A NEAT, WORKMANLIKE MANNER IN ACCORDANCE WITH THE LATEST NEC STANDARDS OF INSTALLATION UNDER COMPETENT SUPERVISION. INSTALL GROUNDING PER NEC.			
2. VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND OTHER FACTORS, WHICH MAY AFFECT THE EXECUTION OF THE WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.			
3. THE CONTRACTOR SHALL COORDINATE WORK WITH THE UTILITIES PROVIDING SERVICES ON THIS PROJECT, AND SHALL COMPLY WITH ALL THEIR INSTALLATION REQUIREMENTS.			
4. ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, UL, OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURERS' NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS, AND BID PRICE.			
5. PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS, OR ANY OTHER PREVENTABLE CAUSES. EQUIPMENT DAMAGED DURING SHIPPING OR CONSTRUCTION, PRIOR TO ACCEPTANCE BY THE ENGINEER OR THE OWNER, WILL BE REJECTED AS DEFECTIVE.			
6. LEAVE THE SITE CLEAN. REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS, LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK. DAMAGED PAINT AND FINISHES SHALL BE TOUCHED UP OR REPAINTED WITH MATCHING COLOR PAINT AND FINISH.			
7. CIRCUIT CONDUCTORS SHALL BE XHHW-2 STRANDED COPPER. MINIMUM POWER CONDUCTOR SIZE SHALL BE #12 AWG WITH #12 AWG GROUND. ALL WIRE TO BE SIZED PER NEC TABLE 316-10, 75° C BASED ON A 40°C AMBIENT.			
8. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. MINIMUM CONDUIT DEPTH SHALL BE 24 INCHES. MINIMUM UNDERGROUND CONDUIT SIZE SHALL BE 1 INCH. MINIMUM CONDUIT DEPTH UNDER SLAB SHALL BE 1 INCH.			
9. CONDUITS SHALL BE MARKED AT EACH END WITH MATCHING NUMBERED BRASS OR NYLON TAGS. SPARE CONDUITS SHALL HAVE A PULL STRING INSTALLED AND SECURED.			
10. EXPOSED CONDUITS SHALL BE STAINLESS STEEL. MINIMUM SIZE 3/4 INCH, UNLESS OTHERWISE NOTED ON THE PLANS.			
11. SAFETY SWITCHES, ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, AND OTHER ELECTRICAL DEVICES SHALL BE UL LISTED, AND RATED FOR HEAVY DUTY SERVICE.			
12. WIRING DEVICES SHALL BE SPECIFICATION GRADE.			
13. THE CONTRACTOR IS RESPONSIBLE FOR MANAGING, SCHEDULING, DOCUMENTING, AND PERFORMING THE WORK SO THAT A COMPLETE ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEM FOR THE FACILITY IS PROVIDED. ACCURATE SHOP AND RECORD DRAWINGS, AND OEM MANUALS SHALL BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF THE WORK.			
14. TYPICAL DETAILS SHALL APPLY IN ALL CASES, WHETHER SPECIFICALLY REFERRED TO OR NOT.			
15. REFER TO SPECIFICATION 260533 "RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS" FOR CONDUIT SPACING AND ROUTING REQUIREMENTS.			
16. A PORTION OF THE JOB SITE IS CLASS 1 DIVISION II. FOLLOW NFPA 70 STANDARD FOR ELECTRICAL WORK IN THE AREAS DESIGNATED AS SUCH.			
JOB NO. 12600-07/16650-02			
LAS GALLINAS VALLEY SANITARY DISTRICT MARIN COUNTY, CALIFORNIA			
TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD			
ELECTRICAL – GENERAL NOTES & SYMBOLS			
CHECKED MPJ		DRAWN DCL	
APPROVED MPJ		DESIGNED LAR	
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez	
NO.		DATE	
DESCRIPTION		BY	
REVISIONS		APPRO'D	
SHEET		DRAWING NO.	
61 of 74		REVISION NO.	
		GE-01	
		B	

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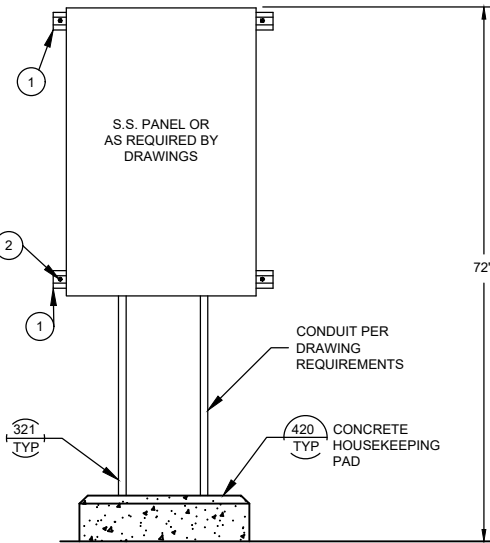
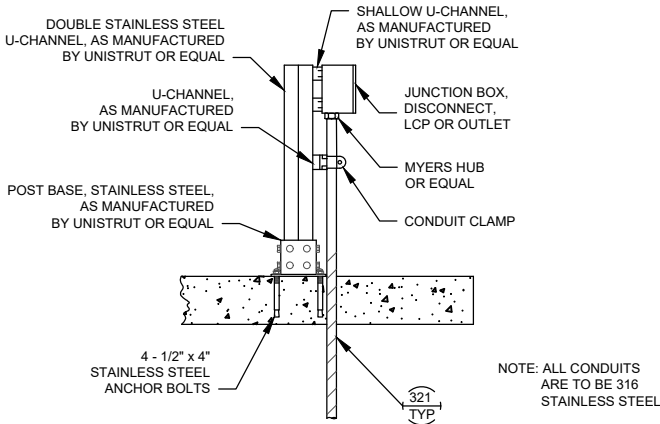
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LG\VS-D - LASG190119-SECONDARY TREATMENT UPGRADES\PHASE 22 TASK 2\DRAWING\987 ELECTRICAL\10 GE-02 DETAILS 1.DWG

PLOTTED: 3/17/2023
SAVED: 3/10/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

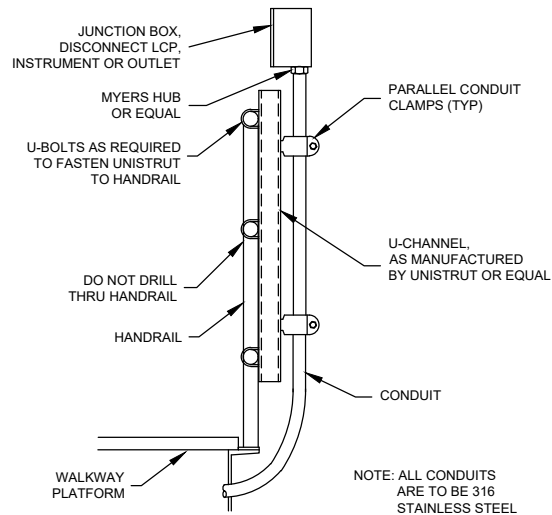
ELECTRICAL PANEL MOUNTING DETAIL



- 1 STAINLESS STEEL 1-5/8" X 1-5/8" UNISTRUT CHANNEL.
- 2 1/2" X 3" S.S. ANCHOR BOLT OR LAG BOLT WITH WASHER, ANCHORED TO WALL (EVERY 18", 2 MIN.)
- 3 MAXIMUM PANEL HEIGHT NOT TO EXCEED 72".
- 4 CENTER OF INSTRUMENT DISPLAYS SHALL BE 62".
- 5 CENTER OF LOCAL CONTROL STATIONS SHALL BE 48".

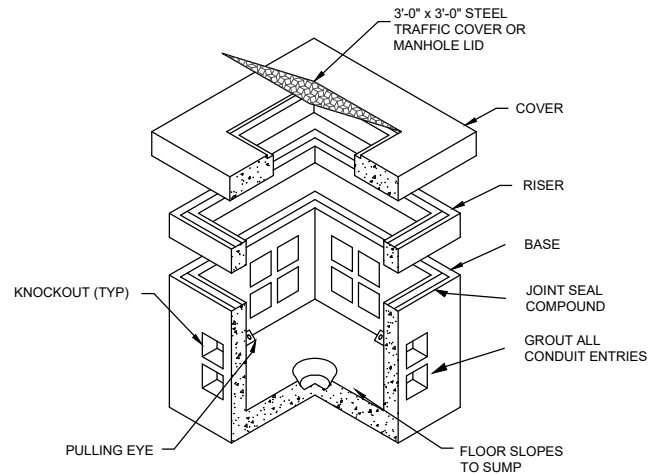
WALL MOUNTED PANEL

002 TYP SCALE: NONE



PANEL/JUNCTION BOX MOUNTING DETAIL

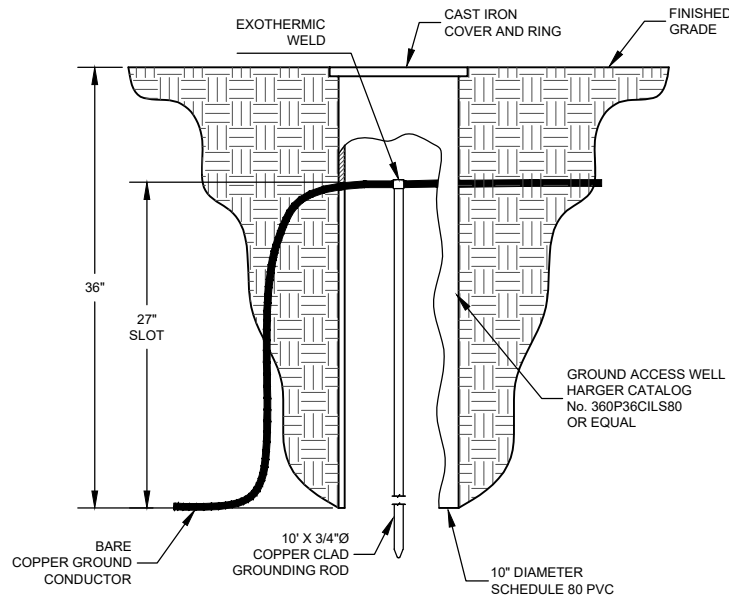
013 TYP SCALE: NONE



NOTE:
3'-11" x 3'-11" x 4'-1" MINIMUM INSIDE DIMENSIONS.
INSTALL A GROUND ROD AND CONNECT TO DUCT BANK GROUND.
TRAIN CABLES AROUND INTERIOR PERIMETER ON CABLE RACKS.

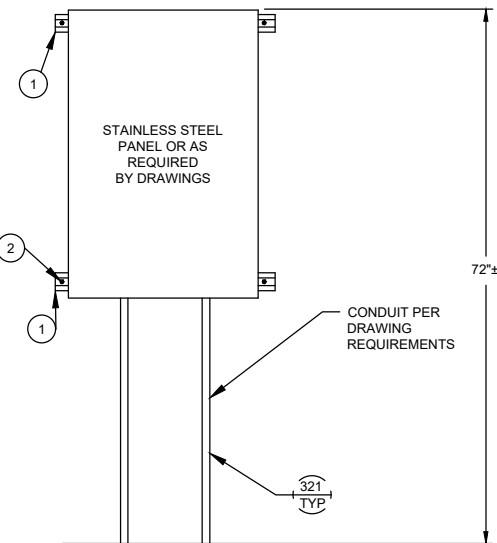
UNDERGROUND CONCRETE PULLBOX

021 TYP SCALE: NONE



GROUND ROD WITH ACCESS WELL

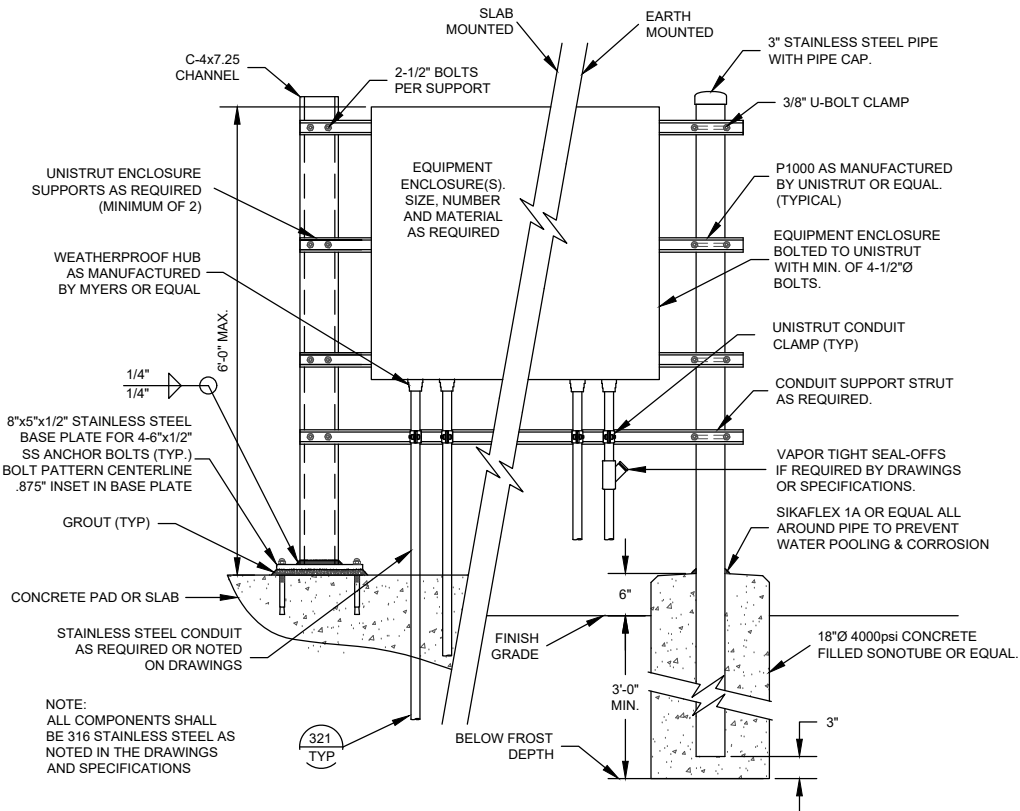
100 TYP SCALE: NONE



- 1 STAINLESS STEEL 1-5/8 X 1-5/8 UNISTRUT CHANNEL
- 2 1/2"x3" SS ANCHOR BOLT OR LAG BOLT WITH WASHER ANCHORED TO WALL (EVERY 18" 2 MINIMUM)

WALL MOUNTED J-BOX

012 TYP SCALE: NONE



EQUIPMENT RACK DETAIL

015 TYP NO SCALE

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JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

ELECTRICAL - GENERAL DETAILS 1

CHECKED MPJ
APPROVED MPJ
GENERAL MANAGER Curtis Paxton

DRAWN DCL
DESIGNED LAR
DISTRICT ENGINEER Michael P Cortez

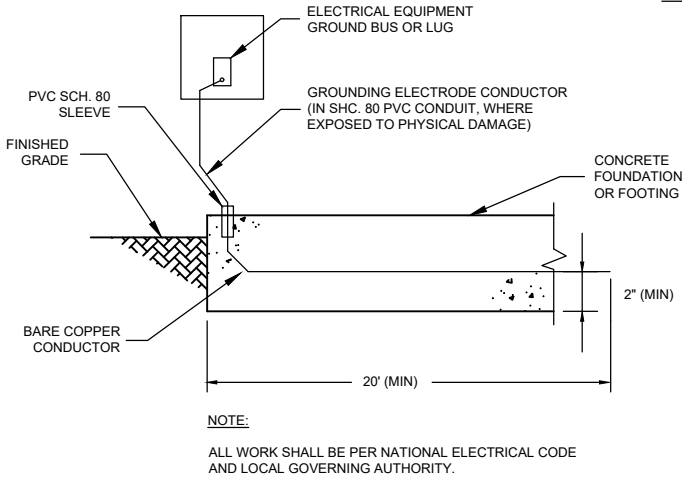
SCALE NONE
DATE 3/3/2023

NO.	DATE	DESCRIPTION	BY	APPROV	SHEET	PLAN NO.	DRAWING NO.	REVISION NO.
					62 of 74		GE-02	B

C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LG\VD - LASG190119-SECONDARY TREATMENT UPGRADES\PHASE 22 TASK 2\DRAWING\987 ELECTRICAL\10 GE-03 DETAILS 2.DWG

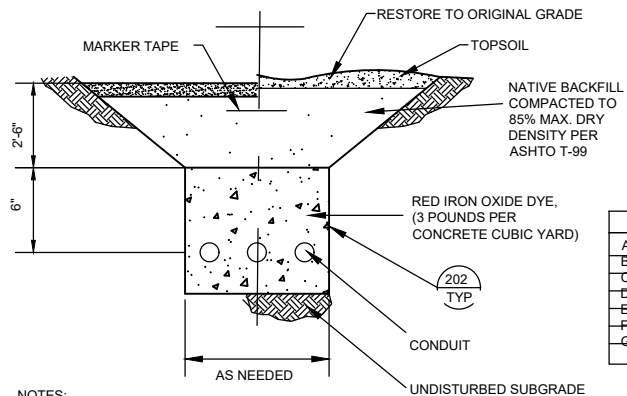
PLOTTED: 3/17/2023
SAVED: 3/17/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



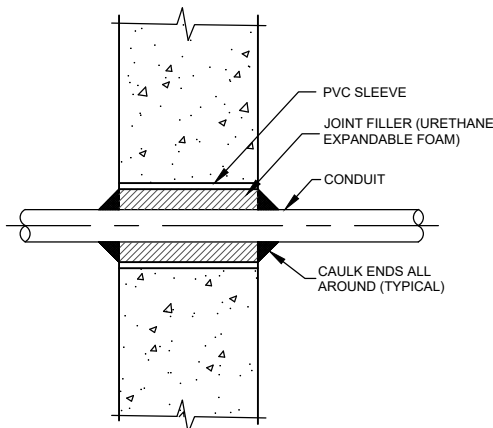
GROUNDING DETAIL ("UFER")

SCALE: NONE



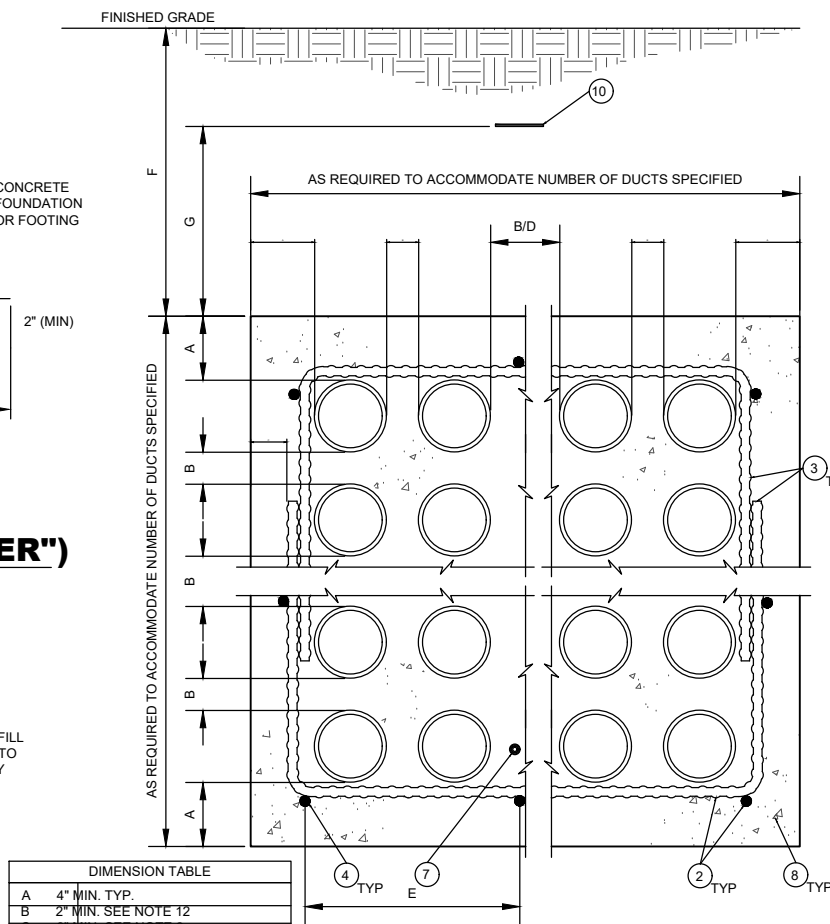
TYPICAL TRENCH DETAIL FOR BELOW 600 VOLTS

SCALE: NONE



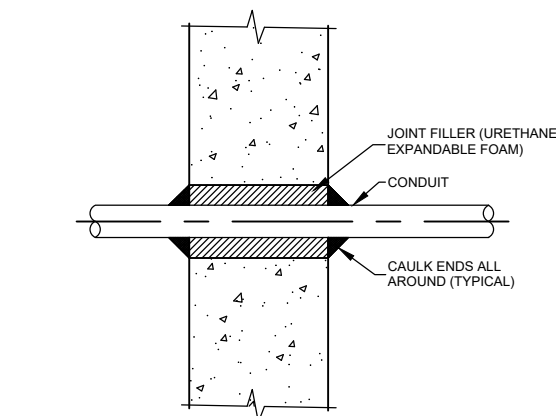
CONDUIT PENETRATION AT NEW WALL OR SLAB

SCALE: NONE



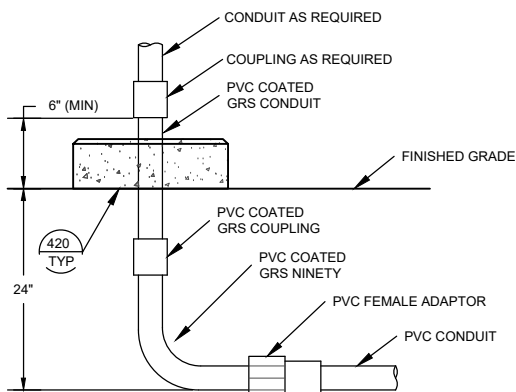
MULTIPLE DUCT DUCTBANK DETAIL

SCALE: N.T.S.



CONDUIT PENETRATION AT EXISTING WALL OR SLAB

SCALE: NONE



STUB UP DETAIL

SCALE: NONE

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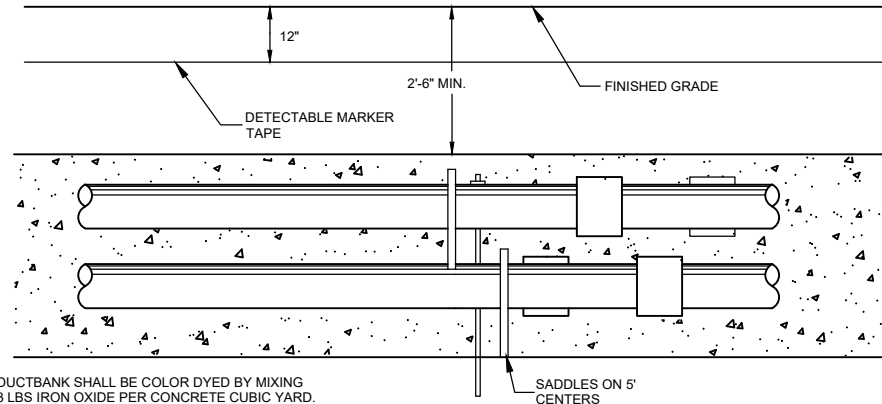
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NOTES:

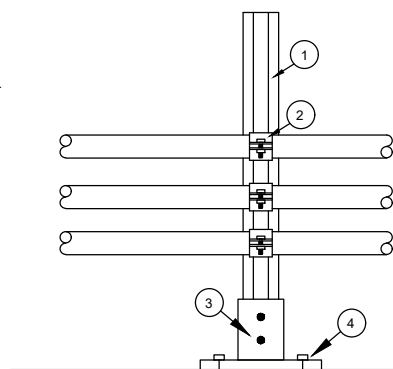
- ALL DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS. UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- ALL REBAR SHALL BE #4 BAR AND HAVE A MINIMUM CONCRETE EMBEDMENT OF 2" (EDGE OF REBAR TO OUTSIDE SURFACE OF CONCRETE).
- REBAR HOOPS SHALL OVERLAP 9" MINIMUM AND SHALL BE PROVIDED EVERY 4 FEET HORIZONTALLY. HOOPS SHALL NOT BE REQUIRED ON SINGLE ROW DUCTBANKS.
- HORIZONTAL REBAR SHALL BE PLACED @ A MAXIMUM OF 18" ON CENTER ALL AROUND THE DUCTBANK ENVELOPE AND SHALL BE SUPPORTED EVERY 4 FEET LONGITUDINALLY. SINGLE ROW DUCTBANKS LESS THAN 24" WIDE SHALL HAVE A MIN. OF 2 HORIZONTAL BARS.
- DUCT SPACERS (SADDLES) SHALL BE PROVIDED FOR PROPER SUPPORT OF CONDUIT DUCTS. SPACERS SHALL BE PROVIDED HORIZONTALLY AS RECOMMENDED BY THE MANUFACTURER AND TO PREVENT ANY SAGGING OF THE DUCTS (LOW SPOTS WILL NOT BE ALLOWED).
- DUCTS SHALL BE SECURED TO PREVENT FLOATING DURING THE CONCRETE ENCASEMENT.
- PROVIDE A 4/0 BARE CONTINUOUS COPPER GROUND. SEE GROUNDING SPECIFICATION SECTION 16170.
- DUCTBANK CONCRETE SHALL BE COLOR DYED RED BY MIXING 3 LBS. IRON OXIDE PER CUBIC YARD OF CONCRETE.
- ALL DUCTBANKS SHALL BE SLOPED @ 1/4" PER 10 FEET TO ALLOW DRAINAGE.
- A 3" WIDE DETECTABLE PLASTIC MARKER TAPE WITH INSCRIPTION "CAUTION ELECTRICAL LINES BURIED BELOW" (BLACK LETTERS ON RED BACKGROUND) SHALL BE INSTALLED 12" ABOVE THE TOP OF ALL CONCRETE ENCASED DUCTBANKS.
- REFER TO CONDUIT SCHEDULE FOR WIRE FILL OF ALL DUCTS.
- ALL DUCTS OF THE SAME DUTY (480V POWER, 120V POWER, 120V CONTROLS, AND SIGNAL) SHALL BE SEPARATED BY A MINIMUM OF 2".
- SIGNAL DUCTS SHALL BE SEPARATED FROM 480V POWER BY A MIN. OF 12". SIGNAL DUCTS SHALL BE SEPARATED FROM 120V POWER DUCTS BY 6" MIN. AND FROM 120V CONTROL BY MIN. OF 4" UNLESS NOTED OTHERWISE ON THE DRAWINGS.



ALL DUCTBANKS SHALL BE SLOPED 1/4" PER DUCT 10' TO ALLOW DRAINAGE. NO LOW SPOTS WILL BE ALLOWED IN RACEWAY

DUCTBANK DETAIL

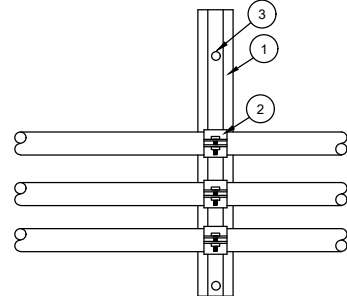
SCALE: NONE



- UNISTRUT CHANNEL
- UNISTRUT CONDUIT STRAP
- UNISTRUT POST BASE
- 3/8"x3-1/2" ANCHOR BOLT GROUTED INTO CONCRETE (4 PER POST BASE)

EXPOSED SURFACE CONDUIT SUPPORT

SCALE: NONE



- UNISTRUT P1000 CHANNEL
- UNISTRUT CONDUIT STRAP
- 3/8"x3-1/2" ANCHOR BOLT GROUTED INTO CONCRETE (1 PER FOOT 2 MINIMUM)

EXPOSED SURFACE CONDUIT

SCALE: NONE



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

ELECTRICAL - GENERAL DETAILS 2

CHECKED: MPJ
APPROVED: MPJ
GENERAL MANAGER: Curtis Paxton

DRAWN: DCL
DESIGNED: LAR
DISTRICT ENGINEER: Michael P Cortez

SCALE: NONE
DATE: 3/3/2023

RCE # 54039

DRAWING NO. GE-03

REVISION NO. B

REVISIONS

63 of 74

LGVSD 1
FD144793

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

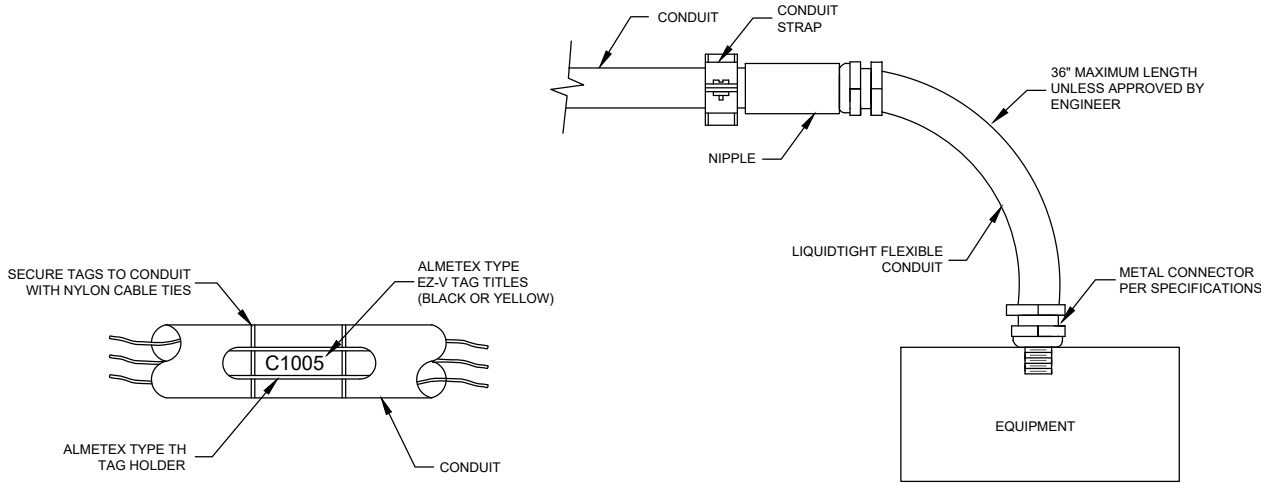
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LG\VD - LAS\G180119-SECONDARY TREATMENT UPGRADES\PHASE 22 TASK 2\DRAWING\987 ELECTRICAL\10 GE-04 DETAILS 3.DWG

PLOTTED: 3/17/2023
SAVED: 3/17/2023

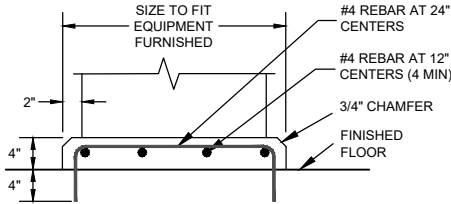
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SCALE: 1:1
BORDER: 22,34
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YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

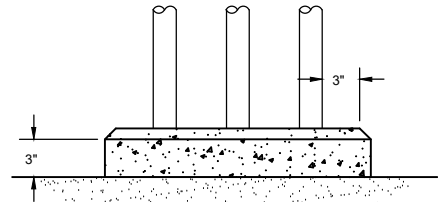


360 TYP **CONDUIT MARKING SYSTEM**
SCALE: NONE

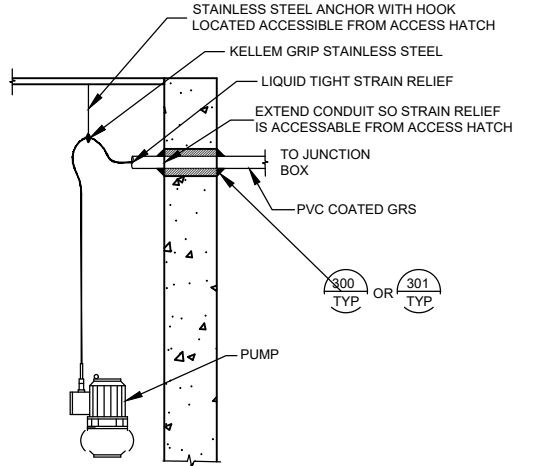
365 TYP **FLEXIBLE CONDUIT DETAIL**
SCALE: NONE



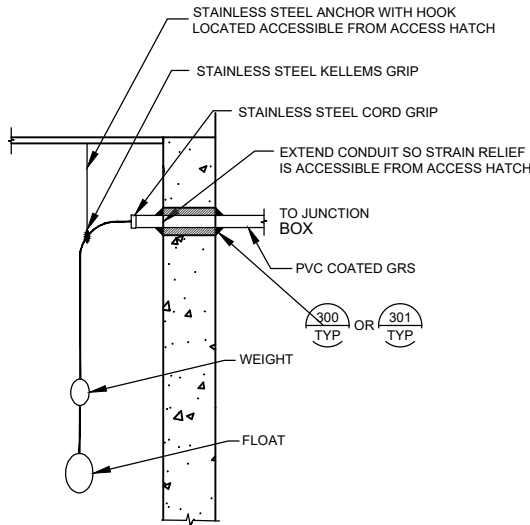
400 TYP **EQUIPMENT PAD DETAIL**
SCALE: NONE



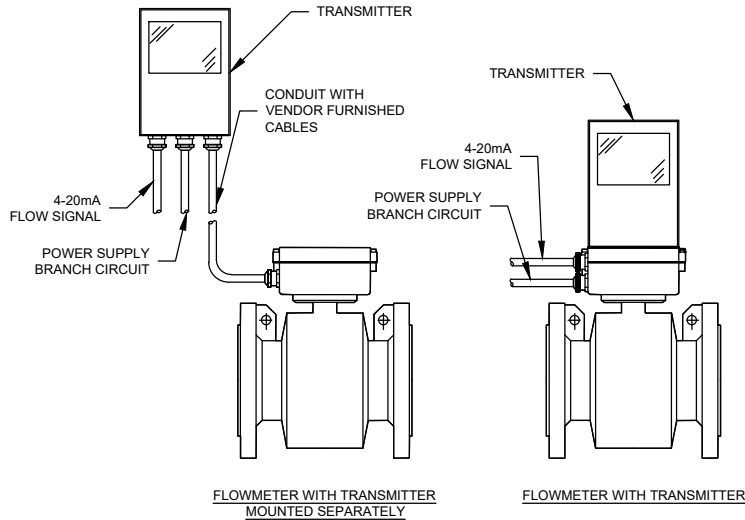
420 TYP **CONCRETE HOUSEKEEPING CURB DETAIL**
SCALE: NONE



513 TYP **CEILING SUSPENDED MOTOR LEADS DETAIL**
SCALE: NONE

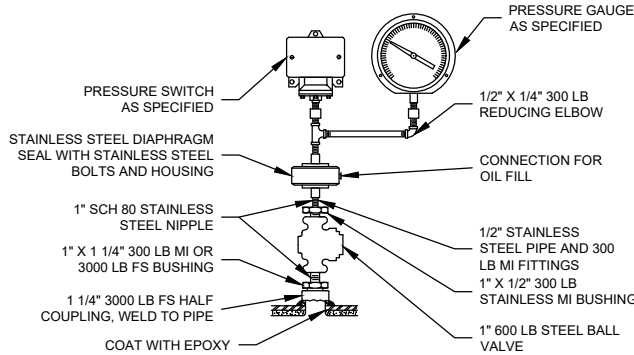


512 TYP **CEILING SUSPENDED FLOAT DETAIL**
SCALE: NONE

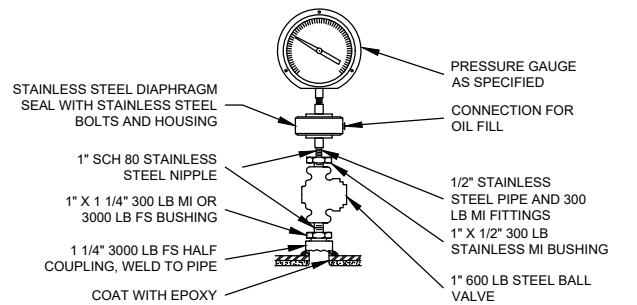


- NOTES:
1. ALL VENDOR FURNISHED CABLES SHALL BE CUT TO LENGTH AND TERMINATED PER MANUFACTURER'S RECOMMENDATIONS.
 2. GROUND PER MANUFACTURER'S RECOMMENDATIONS.

551 TYP **MAGNETIC FLOWMETER DETAIL**
SCALE: NONE



592 TYP **PRESSURE SWITCH AND GAUGE**
SCALE: NONE



593 TYP **PRESSURE GAUGE**
SCALE: NONE



NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**ELECTRICAL – GENERAL
DETAILS 3**

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	REVISION NO. B
SHEET 64 of 74		DRAWING NO. GE-04

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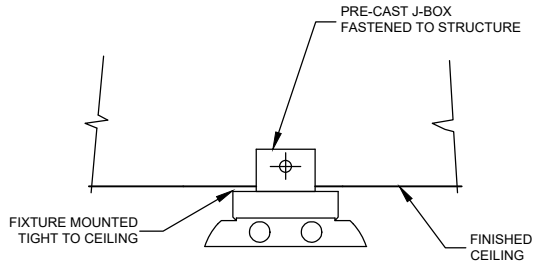
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

C:\USERS\IEUNG\KIM\AQUA\ENGINEERING\LGVS\D - LAS\G150119-SECONDARY TREATMENT UPGRADE\PHASE 2\ TASK 2\DRAWING\987 ELECTRICAL\10 GE-J05 DETAILS 4.DWG

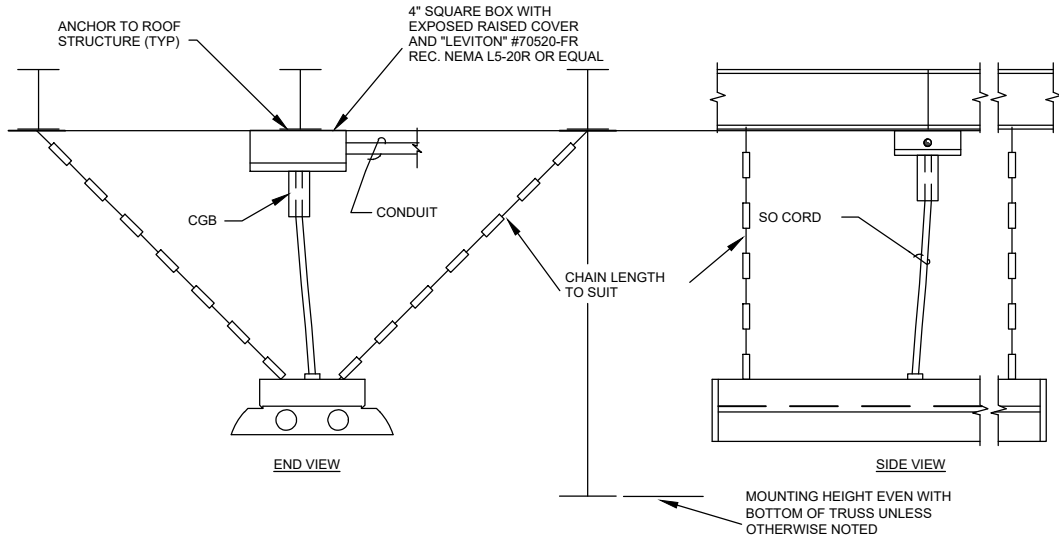
PLOTTED: 3/17/2023
SAVED: 3/17/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
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YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

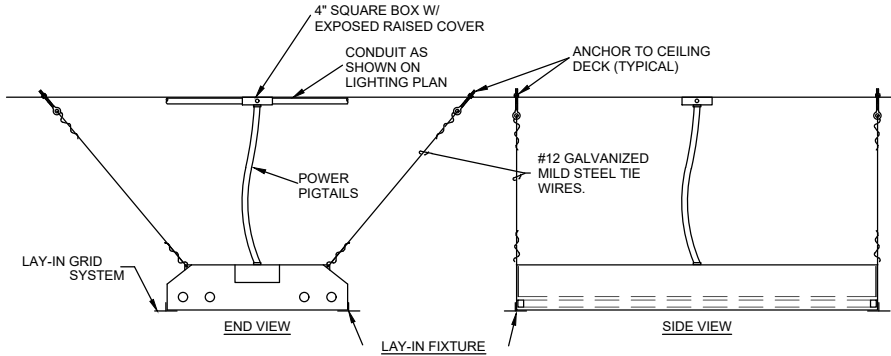
LGVS\D 1 FILE:
FD144793



800
TYP
CEILING HUNG FIXTURE DETAIL
SCALE: NONE



802
TYP
LIGHT FIXTURE INSTALLATION DETAIL
SCALE: NONE



803
TYP
LIGHT FIXTURE INSTALLATION DETAIL
SCALE: NONE



NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**ELECTRICAL – GENERAL
DETAILS 4**

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 65 of 74		DRAWING NO. GE-05
		REVISION NO. B

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C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LG\VD - LAS GALLINAS VALLEY SECONDARY TREATMENT UPGRADE\PHASE 22 TASK 2\DRAWING\3987 ELECTRICAL\12 SE-01 SITE PLAN 1.DWG

3/17/2023
3/17/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
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YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1
FD144793

FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

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NO.	DATE	DESCRIPTION	BY	APPROD
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

ELECTRICAL - SITE
SITE PLAN 1

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023

GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
----------------------------------	---------------------------------------

SHEET 66 of 74	PLANNING NO. SE-01	REVISION NO. B
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NOTES:

- CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED GRS. PANELS SHALL BE STAINLESS STEEL NEMA 4X.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ELECTRICAL ENGINEER FOR APPROVAL.
- LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.

SITE PLAN 1

1:10
0 10 20
Scale in Feet

ELECTRICAL LEGEND

- EXISTING SITE LIGHT
- RELOCATED EXISTING OR NEW 15' SITE LIGHT. EXISTING LIGHT IS LUMEC MODEL LEN4-82LED63L6K-4-240-14-NP. EXISTING 15' POLE IS LUMEC MODEL APR4F-15-LBC3-NP. MATCH EXISTING LIGHT & POLE AND INSTALL PHOTOCCELL OR EQUAL.

C:\USERS\IEUNG\OL KIM\AQUA ENGINEERING\LGVS-D - LAS G150119-SECONDARY TREATMENT UPGRADE\PHASE 2\ TASK 2\DRAWING\3987 ELECTRICAL\13 LE-01 MCC-3 BUILDING PLAN.DWG

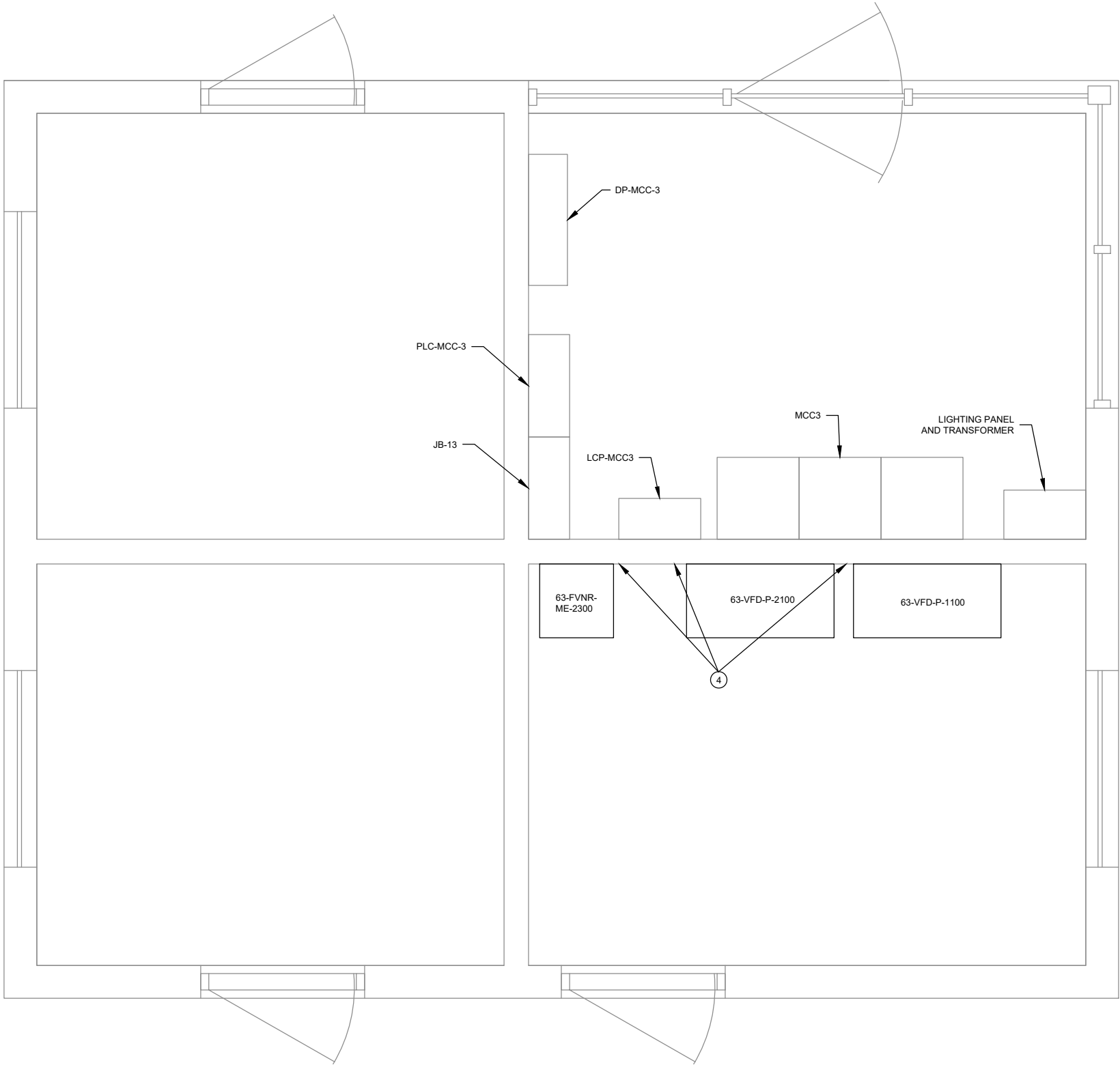
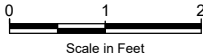
PLOTTED: 3/17/2023
SAVED: 3/17/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

NOTES:

- ① CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL OUTDOOR EXPOSED CONDUIT SHALL BE PVC COATED GRS. INDOOR SHALL BE GRS. OUTDOOR PANELS SHALL BE STAINLESS STEEL NEMA 4X, INDOOR PANELS SHALL BE NEMA 3R.
- ② CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ELECTRICAL ENGINEER FOR APPROVAL.
- ③ LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.
- ④ IF EXISTING GROUNDING MEETS NEC CODE REQUIREMENTS, IT MAY BE USED TO GROUND THE NEW EQUIPMENT. IF INSUFFICIENT, INSTALL NEW GROUNDING PER NEC REQUIREMENTS, FOR EQUIPMENT BEING INSTALLED.

MCC 3 BUILDING PLAN



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

ELECTRICAL – LAYOUT
MCC-3 BUILDING PLAN

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023
GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez	
	RCE # 54039	
SHEET 67 of 74	PLAN NO.	DRAWING NO. LE-01
		REVISION NO. B



NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

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PHONE (801) 299-1327 FAX (801) 299-0153

COLOR:	No.
RED	0.70MM
YELLOW	0.20MM
GREEN	0.25MM
CYAN	0.40MM
BLUE	0.50MM
MAGENTA	0.20MM
WHITE	0.35MM
GRAY	0.15MM
9	0.15MM
10	1.00MM
100	0.70MM
210	0.60MM

FILE:

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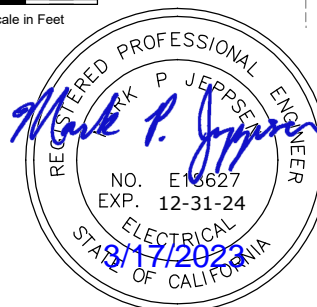
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PHONE (801) 299-1327 FAX (801) 299-0153

SLUDGE EQ BASIN PLAN

$\frac{3}{8}" = 1'-0"$

0 2

Scale in Feet



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

ELECTRICAL - LAYOUT
SLUDGE EQ BASIN PLAN

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED LAP	DATE 3/3/2022

				TITLE GENERAL MANAGER Curtis Paxton		DRAWING NO. DISTRICT ENGINEER Michael P Cortez RCE # 54039		REVISION NO. 10/5/2022	
				SHEET 68 of 74		PLAN NO.		DRAWING NO. LE-02	
NO. DATE DESCRIPTION BY APPR'D								REVISIONS B	



C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LGVS-D - LAS G160119-SECONDARY TREATMENT UPGRADE\PHASE 2\ TASK 2\DRAWING\3987 ELECTRICAL\13 LE-03 TWAS ENCLOSURE PLAN.DWG

PLOTTED: 3/10/2023
SAVED: 3/10/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
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CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

L7

L8

L5

EXIT

WP

\$

DAY-BRITE 66W 1'X4' WET LOCATION LED FIXTURE WITH EMERGENCY DRIVER. MOUNT AT 12'-0" AFF. MODEL DWAE70L840-4-UNV-EMLED OR APPROVED EQUAL

DAY-BRITE 47W 1'X4' WET LOCATION LED FIXTURE WITH EMERGENCY DRIVER. MOUNT AT 12'-0" AFF. MODEL DWAE51L840-4-UNV-EMLED OR APPROVED EQUAL

MAXLITE LED FULL CUTOFF 40W WALL LIGHT (WALL PACK) WITH PHOTO CELL CONTROL. MODEL MLLWP40LED50DSPC12 OR APPROVED EQUAL.

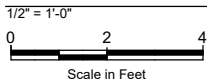
CHLORIDE VE SERIES EXIT SIGN. MODEL VEGW OR APPROVED EQUAL.

DUPLEX OUTLET
G: GFCI PROTECTED OUTLET
WP: WEATHER-PROOF OUTLET GFCI PROTECTED.

LIGHT SWITCH

NOTES:
1 EXISTING EMERGENCY EYEWASH SHOWER IS TO BE RELOCATED TO THIS LOCATION. REMOVE EXISTING WIRE BACK TO SOURCE AND CAP UNUSED CONDUIT. CONTRACTOR IS TO FEED A NEW CONDUIT AND WIRE TO THE NEW LOCATION.

TWAS ENCLOSURE PLAN



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NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

ELECTRICAL – LAYOUT
TWAS ENCLOSURE PLAN

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023
GENERAL MANAGER Curtis Paxton		DISTRICT ENGINEER Michael P Cortez
SHEET 69 of 74		DRAWING NO. LE-03
		REVISION NO. B

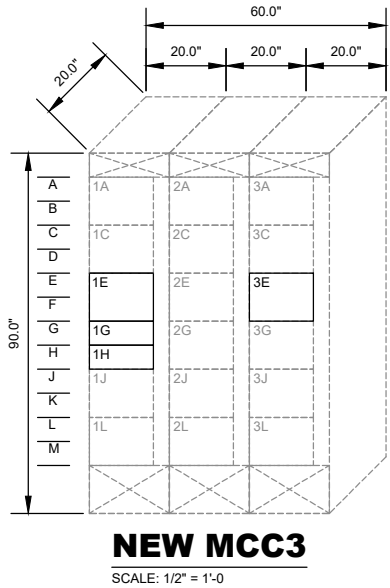
C:\USERS\ENGINEOL KIMMQUA\ENGINEERING\LGVS\D - LASG\50115-SECONDARY TREATMENT UPGRADES\PHASE 22 TASK 2\DRAWING\997 ELECTRICAL\14 E-01 MSB & MCC3 ONELINE.DWG

PLOTTED: 3/17/2023
SAVED: 3/17/2023

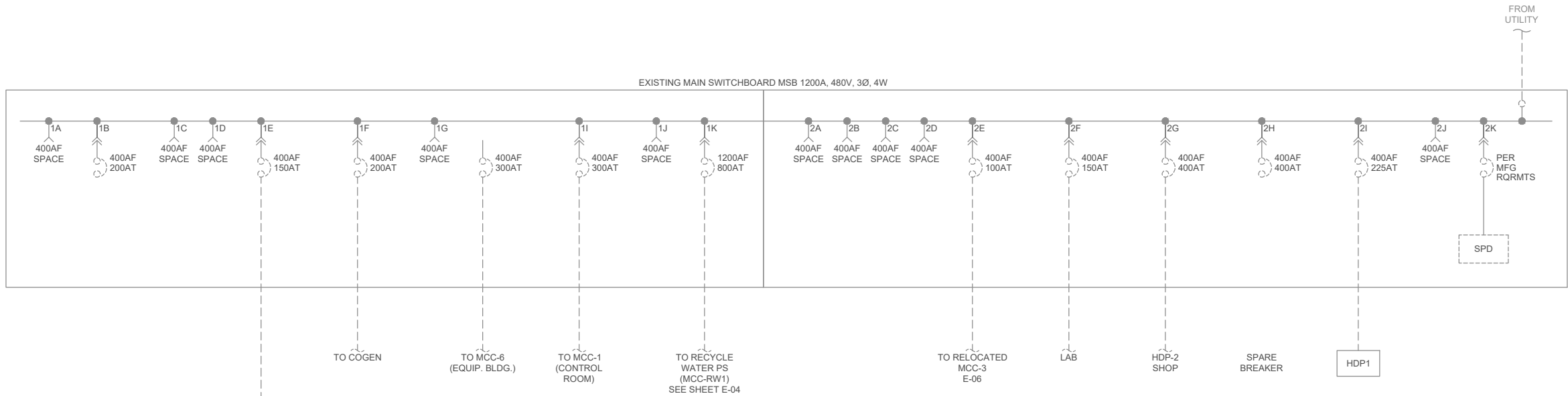
PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34
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CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVS D 1 FILE:
FD144793

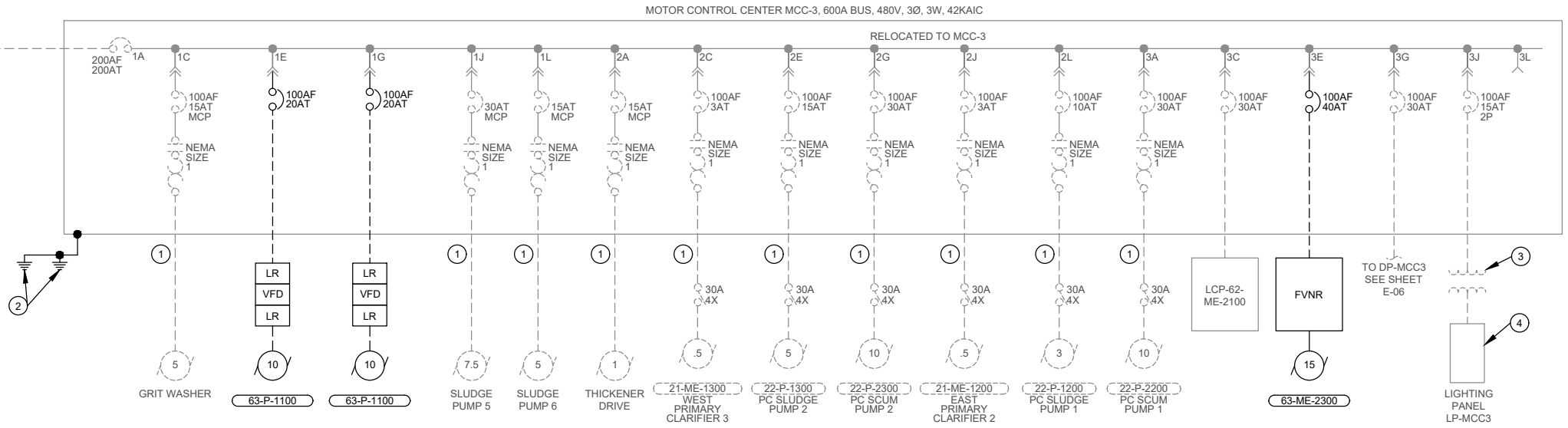
- NOTES:
- 1 INSTALL NEW CABLE TO EXISTING EQUIPMENT
 - 2 EXISTING GROUNDING GRID
 - 3 15KVA XFMR, 480V PRIMARY, 120/240V 1Ø SECONDARY, NEMA 1
 - 4 LIGHTING PANEL LP-MCC3, 120/240V, 1Ø, 3W



NEW MCC3
SCALE: 1/2" = 1'-0"



EXISTING MSB ONELINE DIAGRAM



MCC-3 ONELINE DIAGRAM



JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**ELECTRICAL – POWER DISTRIBUTION
MSB & MCC3 ONELINE**

CHECKED: MPJ
APPROVED: MPJ
GENERAL MANAGER: Curtis Paxton
DISTRICT ENGINEER: Michael P Cortez
RCE # 54039

DRAWN: DCL
DESIGNED: LAR
DATE: 3/3/2023

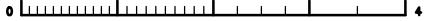
SHEET: 70 of 74
DRAWING NO.: E-01
REVISION NO.: B

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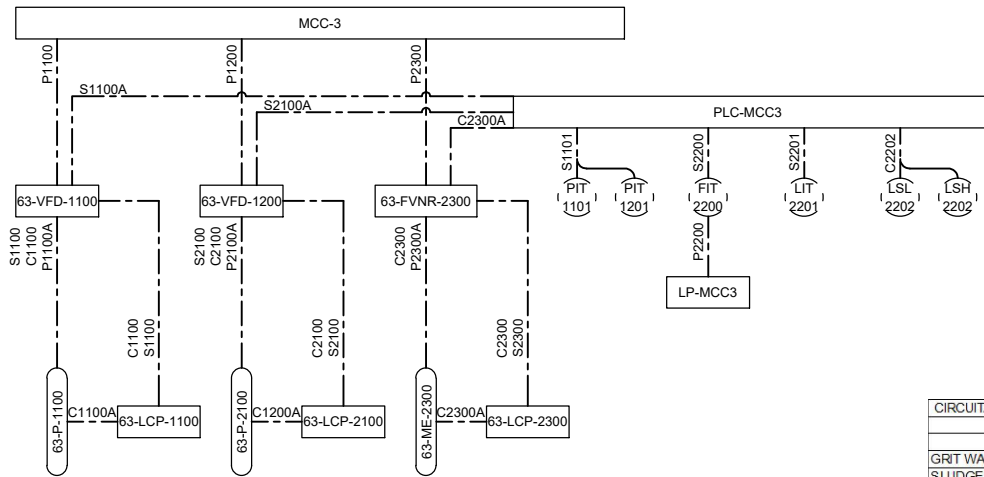
C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LG\VS-D - LAS\G150119-SECONDARY TREATMENT UPGRADE\PHASE 2\ TASK 2\DRAWING\987 ELECTRICAL\14 E-02 SLUDGE EQ CONDUITS & SCHEDULES.DWG

PLOTTED: 3/17/2023
SAVED: 3/17/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793



CONDUIT DEVELOPMENT

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
GRIT WASHER		5.0	7.6
SLUDGE PUMP 5		7.5	11.0
SLUDGE PUMP 6		5.0	7.6
THICKENER DRIVE		1.0	2.1
EAST PRIMARY CLARIFIER 2 (21-ME-1200)		0.5	1.1
WEST PRIMARY CLARIFIER 3 (21-ME-1300)		0.5	1.1
PC SLUDGE PUMP 1 (22-P-1200)		3.0	4.4
PC SLUDGE PUMP 2 (22-P-1300)		5.0	7.6
PC SCUM PUMP 1 (22-P-2200)		10.0	14.0
PC SCUM PUMP 2 (22-P-2300)		10.0	14.0
SECONDARY CLARIFIER 2 (32-ME-1200)		1.5	3.0
SECONDARY CLARIFIER 1 (32-ME-1100)		1.5	3.0
63-P-1100		10.0	14.0
63-P-2100		10.0	14.0
63-ME-2300		15.0	21.0
NON-MOTOR LOADS			
LCP-62-ME-2100			30.0
DP-MCC3			8.8
SUBTOTAL			
+ 25% OF LARGEST MOTOR			5.3
TOTAL AMPS @ 480V/3PHASE			129.6
SERVICE SIZE (AMPS)			160.0

MCC-3 LOAD CALCULATIONS

SHEET	TAG	DESCRIPTION	MAKE	MODEL	SUPPLY	RANGE	COMMENTS
PI-05	63-PIT-1100	SLUDGE PUMP DISCHARGE PRESSURE	E+H	CERABAR PMC51B	LOOP	0-120 psig	WITH ASHCROFT 81 ANNULAR RING
PI-05	63-PSH-1100	SLUDGE PUMP DISCHARGE PRESSURE HIGH	ASHCROFT	B4 SERIES	120V	100 psig	
PI-05	63-PIT-2100	SLUDGE PUMP DISCHARGE PRESSURE	E+H	CERABAR PMC51B	LOOP	0-120 psig	WITH ASHCROFT 81 ANNULAR RING
PI-05	63-PSH-2100	SLUDGE PUMP DISCHARGE PRESSURE HIGH	ASHCROFT	B4 SERIES	120V	100 psig	
PI-05	63-FIT-2200	SLUDGE FLOW	E+H	PROMAG W 400	120V	0-200 gpm	
PI-05	63-LIT-2101	SLUDGE BASIN LEVEL	VEGA	VEGAPULS C21	LOOP	0-14 feet	INTRINSICALLY SAFE CIRCUIT REQUIRED
PI-05	63-LSL-2102	SLUDGE BASIN LOW LEVEL	ROTO-FLOAT	47739	24VDC		INTRINSICALLY SAFE CIRCUIT REQUIRED
PI-05	63-LSH-2102	SLUDGE BASIN HIGH LEVEL	ROTO-FLOAT	47739	24VDC		INTRINSICALLY SAFE CIRCUIT REQUIRED

INSTRUMENT SCHEDULE

CONDUIT	SIZE	CONDUCTORS	SERVICE	FROM	TO	DUCTBANKS	NOTES
P1100	1"	3 #12 W/#12 GND	480V/120V	MCC-3	63-VFD-P-1100		
P1100A	1"	5 #12 W/#12 GND		63-VFD-P-1100	63-P-1100		CONDENSATION HEATER
P2100	1"	3 #12 W/#12 GND	480V/120V	MCC-3	63-VFD-P-2100		
P2100A	1"	5 #12 W/#12 GND		63-VFD-P-2100	63-P-2100		CONDENSATION HEATER
P2300	1"	3 #8 W/#10 GND	480V	MCC-3	63-FVNR-ME-2300		
P2300A	1"	3 #10 W/#10 GND	480V	63-FVNR-ME-2300	63-JB-2300		
P2300B	1"	FACTORY CABLE	480V	63-JB-2300	63-ME-2300		
P2200	1"	2 #12 W/#12 GND	120V	LP-MCC3	63-FIT-2200		
C1100	1"	8 #14	120V	63-VFD-P-1100	63-LCP-1100		HOR, PUMP TEMP SWITCH
C1100A	1"	3 #14	120V	63-LCP-1100	63-TSH-1100		
C1100B	1"	3 #14	120V	63-LCP-1100	63-PSH-1100		
C2100	1"	6 #14	120V	63-VFD-P-2100	63-LCP-2100		HOR, PUMP TEMP SWITCH
C2100A	1"	2 #14	120V	63-LCP-2100	63-TSH-2100		
C2100B	1"	3 #14	120V	63-LCP-2100	63-PSH-2100		
C2202	1"	3 #14	24VDC	PLC-MCC3	63-LSL/LSH-2202		INTRINSICALLY SAFE CIRCUIT
C2300	1"	8 #14	120V	63-FVNR-ME-2300	63-LCP-2300		HOR, MOISTURE/TEMP SWITCHES
C2300A	1"	FACTORY CABLE	120V	63-LCP-2300	MOISTURE/TEMP SWITCH		
C2300B	1"	8 #14	120V	PLC-MCC3	63-FVNR-ME-2300		
S1100	1"	TRIAD	SIGNAL	63-LCP-1100	63-VFD-P-1100		LOCAL SPEED POT
S1100A	1"	CAT6	SIGNAL	63-VFD-P-1100	PLC-MCC3		
S1101	1"	2X TSP	SIGNAL	PLC-MCC3	PIT-1101, PIT-1201		
S2100	1"	TRIAD	SIGNAL	63-LCP-2100	63-VFD-P-2100		LOCAL SPEED POT
S2100A	1"	CAT6	SIGNAL	63-VFD-P-2100	PLC-MCC3		
S2200	1"	TSP, 2 #14	SIGNAL	PLC-MCC3	FIT/FIL-2200		
S2201	1"	TSP	SIGNAL	PLC-MCC3	LIT-2201		

CONDUIT SCHEDULE

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www.skmeng.com



533 W. 2600 S, SUITE 275, BOUNTIFUL, UT 84010
PHONE (801) 299-1327 FAX (801) 299-0153



NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

ELECTRICAL – POWER DISTRIBUTION SLUDGE EQ CONDUITS & SCHEDULES

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023

GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
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SHEET 71 of 74	PLAN NO.	DRAWING NO. E-02	REVISION NO. B
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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



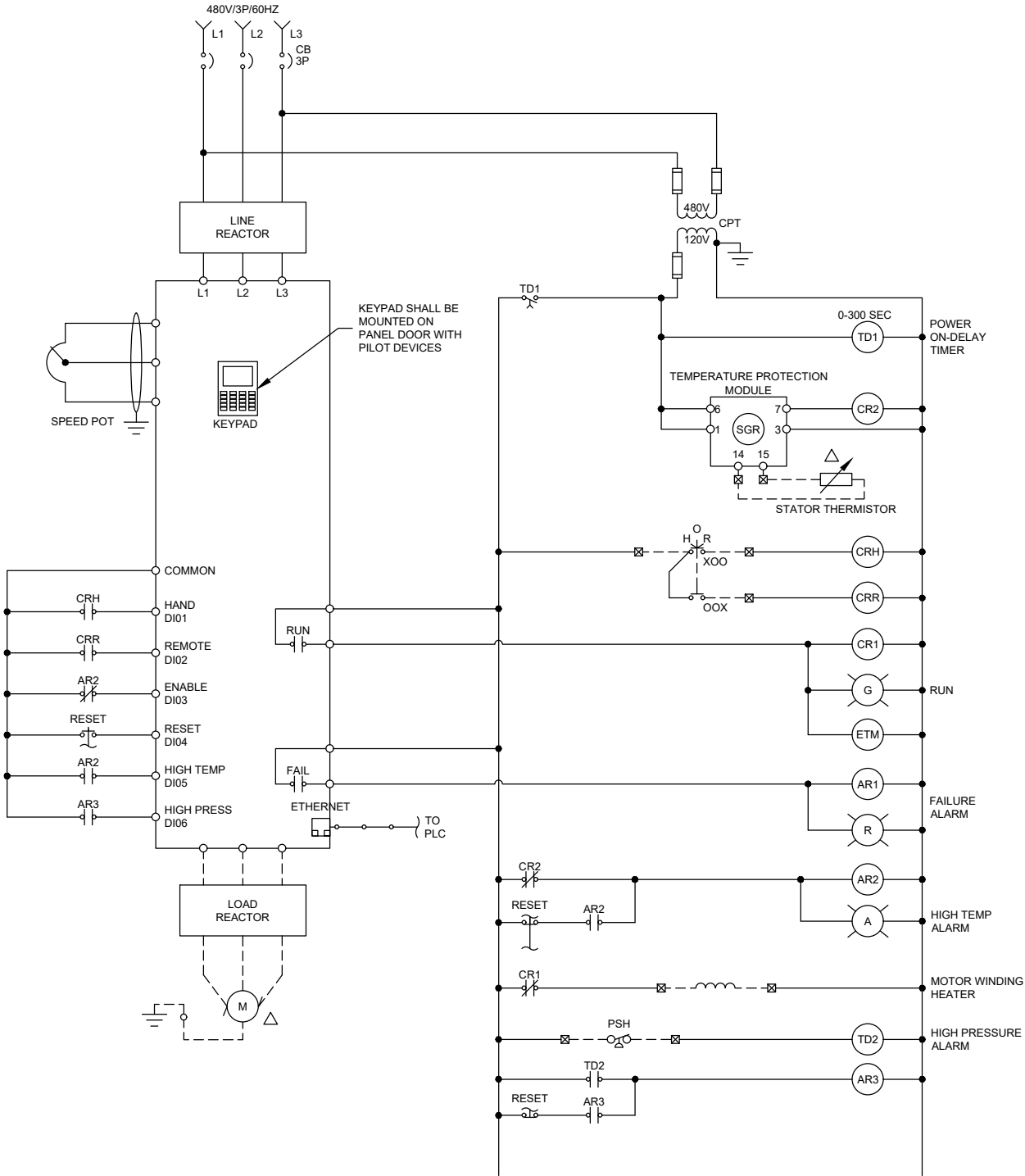
C:\USERS\IEUNG\OL KIM\AQUA ENGINEERING\LGVSD - LAS G180119-SECONDARY TREATMENT UPGRADE\PHASE 2\ TASK 2\DRAFTING\987 ELECTRICAL\14 E-03 VFD SCHEMATIC DIAGRAM.DWG

PLOTTED: 3/17/2023
SAVED: 3/17/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793



SLUDGE EQ VFD CONTROL SCHEMATIC

TYP. OF 63-P-1100, 63-P-2100

NOTES:

1. TYPICAL SCHEMATIC DIAGRAMS ARE INTENDED TO REFLECT THE GENERAL CONTROL STRATEGY. ACTUAL CIRCUITRY MAY VARY FOR SPECIFIC EQUIPMENT SUPPLIED. THE NUMBER AND TYPE OF DEVICES SHALL BE FURNISHED AS REQUIRED FOR PROPER OPERATION OF THE EQUIPMENT.
2. CONTROL POWER TRANSFORMERS (CPT) SHALL BE ADEQUATELY SIZED AND SHALL BE PROVIDED WITH PROPERLY SIZED FUSES FOR BOTH THE PRIMARY AND SECONDARY WINDINGS.
3. FUSES SHALL BE ADEQUATELY SIZED PER THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
4. ADJUST TIME DELAY RELAYS PRIOR TO STARTUP. STAGGER TIMER SETTINGS FOR POWER ON-DELAY RELAYS.
5. ALL THERMOSTATS AND CONTROL SWITCHES SHALL BE DOOR MOUNTED ON THEIR RESPECTIVE PANELS. DEVICES SHALL BE RATED FOR LINE VOLTAGE AND 125% OF LOAD CURRENT.

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ENGINEERING

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PHONE (801) 299-1327 FAX (801) 299-0153



NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**ELECTRICAL – POWER DISTRIBUTION
VFD SCHEMATIC DIAGRAM**

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023

GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
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SHEET 72 of 74	PLAN NO.	DRAWING NO. E-03	REVISION NO. B
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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



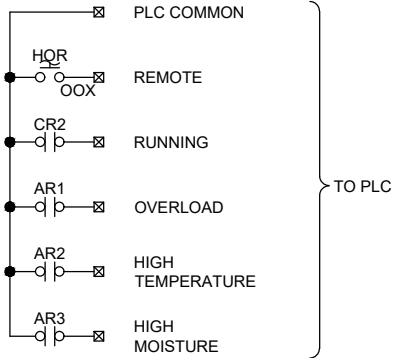
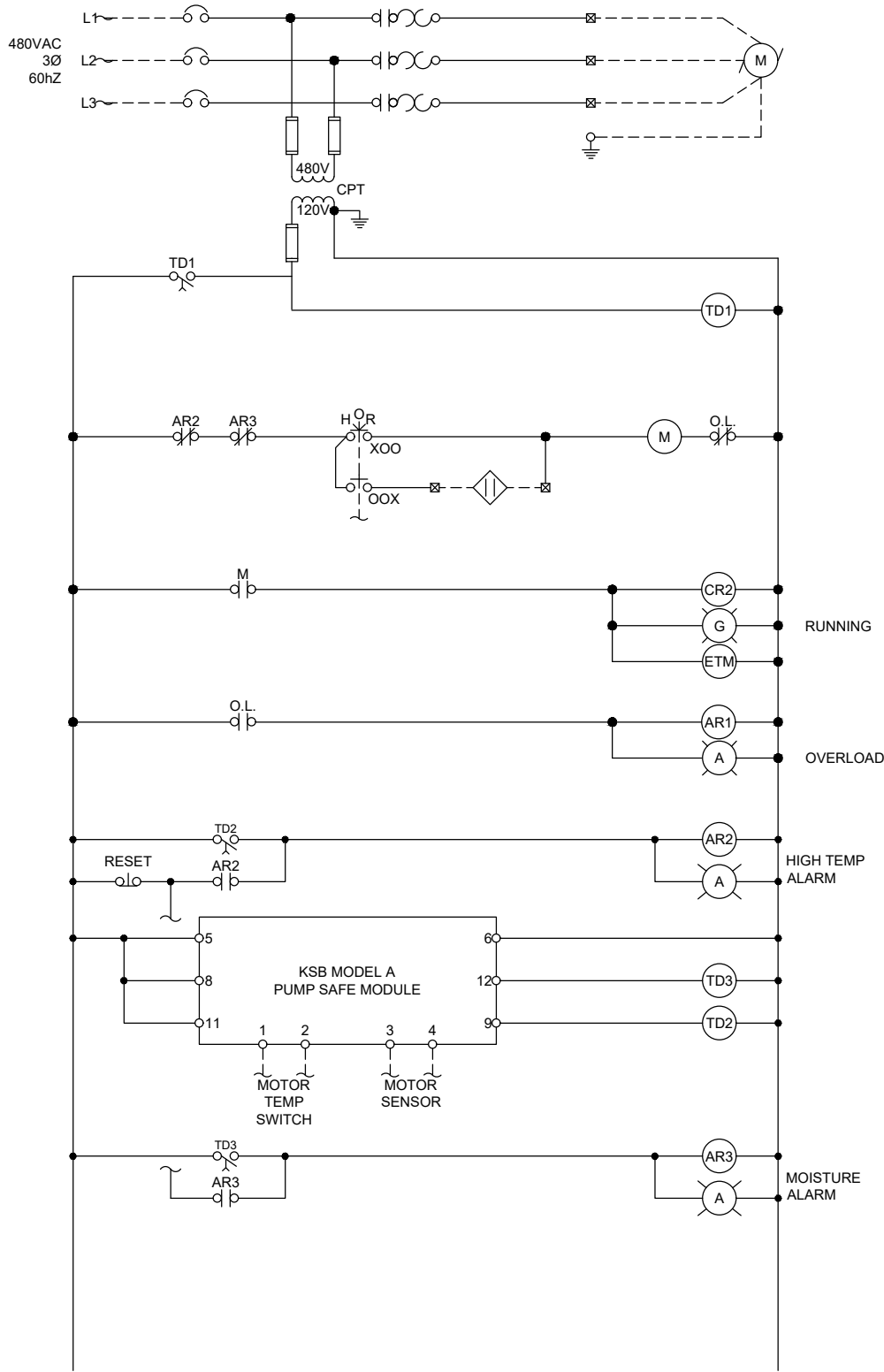
C:\USERS\JUNG\KIM\AQUA\ENGINEERING\LGVSD - LAS GALLINAS VALLEY - SECONDARY TREATMENT UPGRADE\PHASE 2\ TASK 2\DRAWING\987 ELECTRICAL\14 E-04 FVNR SCHEMATIC DIAGRAM.DWG

PLOTTED: 3/16/2023
SAVED: 3/16/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793



TYPICAL STANDARD FVNR CONTROL SCHEMATIC

NOTES:

1. TYPICAL SCHEMATIC DIAGRAMS ARE INTENDED TO REFLECT THE GENERAL CONTROL STRATEGY. ACTUAL CIRCUITRY MAY VARY FOR SPECIFIC EQUIPMENT SUPPLIED. THE NUMBER AND TYPE OF DEVICES SHALL BE FURNISHED AS REQUIRED FOR PROPER OPERATION OF THE EQUIPMENT.
2. CONTROL POWER TRANSFORMERS (CPT) SHALL BE ADEQUATELY SIZED AND SHALL BE PROVIDED WITH PROPERLY SIZED FUSES FOR BOTH THE PRIMARY AND SECONDARY WINDINGS.
3. FUSES SHALL BE ADEQUATELY SIZED PER THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
4. ADJUST TIME DELAY RELAYS PRIOR TO STARTUP. STAGGER TIMER SETTINGS FOR POWER ON-DELAY RELAYS.
5. ALL THERMOSTATS AND CONTROL SWITCHES SHALL BE DOOR MOUNTED ON THEIR RESPECTIVE PANELS. DEVICES SHALL BE RATED FOR LINE VOLTAGE AND 125% OF LOAD CURRENT.

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NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

**ELECTRICAL – POWER DISTRIBUTION
FVNR SCHEMATIC DIAGRAM**

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023

GENERAL MANAGER
Curtis Paxton

DISTRICT ENGINEER
Michael P Cortez

SHEET 73 of 74	PLAN NO.	DRAWING NO. E-04	REVISION NO. B
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C:\USERS\IEUNG\KIM\AQUA\ENGINEERING\LGVSD - LAS\G180119-SECONDARY TREATMENT UPGRADE\PHASE 2\ TASK 2\DRAWING\3897 ELECTRICAL\14 E-05 LIGHTING PANEL CALCULATIONS 1.DWG

PLOTTED: 3/16/2023
SAVED: 3/16/2023

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LGVSD 1 FILE:
FD144793

PANEL: LP-MCC3		VOLTAGE: 120/240		MAIN CB: 100 AMP		BUS AMPS: 100 AMP	
CB TYPE BOLT-ON		MOUNTING SURFACE		BUS BRACING: 22KA		BKR AIC: 22KA	
CIRCUIT DESCRIPTION	BKR	CIRCUIT	LINE 1	LINE 2	CIRCUIT	BKR	CIRCUIT DESCRIPTION
62-FIT-2620	20/1	1	100		2	20/1	OUTLETS AT THICKENER
THICKENER LIGHTS	20/1	3	500	240	4	20/1	LIGHTS
PLC-MCC3	20/1	5	500	220	6	20/1	OUTLETS
OUTDOOR LIGHTS	20/1	7	380	220	8	20/1	AWNING OUTLETS (2)
EXHAUST FAN	20/1	9	500		10	20/1	LP-MCC3
AWNING LIGHTS (6) & WALL PACKS (2)	20/1	11	100	362	12	20/1	SC-1 LIGHTING
63-FIT-2100	20/1	13	120	200	14	20/1	SC-2 LIGHTING
AWNING LIGHTS (4)	20/1	15	200	188	16	20/1	SC-3 LIGHTING
CONNECTED VA PER PHASE			2400.0	1990.0	NOTES:		
CONNECTED AMPS PER PHASE			20.0	16.6			
25% OF CONTINUOUS & LIGHTING LOAD (VA)			600.0	497.5			
LARGEST MOTOR (25%)			0.0	0.0			
CODE VA PER PHASE			3000.0	2487.5			
CODE AMPS PER PHASE			25.0	20.7			

LP-MCC3 SCHEDULE

3 SHEET HAS BEEN REVISED

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NO.	DATE	DESCRIPTION	BY	APPRO'D
REVISIONS				

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA

TWAS ENCLOSURE/SLUDGE BASIN AND RECEPTION PAD

ELECTRICAL – POWER DISTRIBUTION
LIGHTING PANEL CALCULATIONS 1

CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED LAR	DATE 3/3/2023

GENERAL MANAGER Curtis Paxton	DISTRICT ENGINEER Michael P Cortez
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RCE # 54039

SHEET 74 of 74	PLAN NO.	DRAWING NO. E-05	REVISION NO. B
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