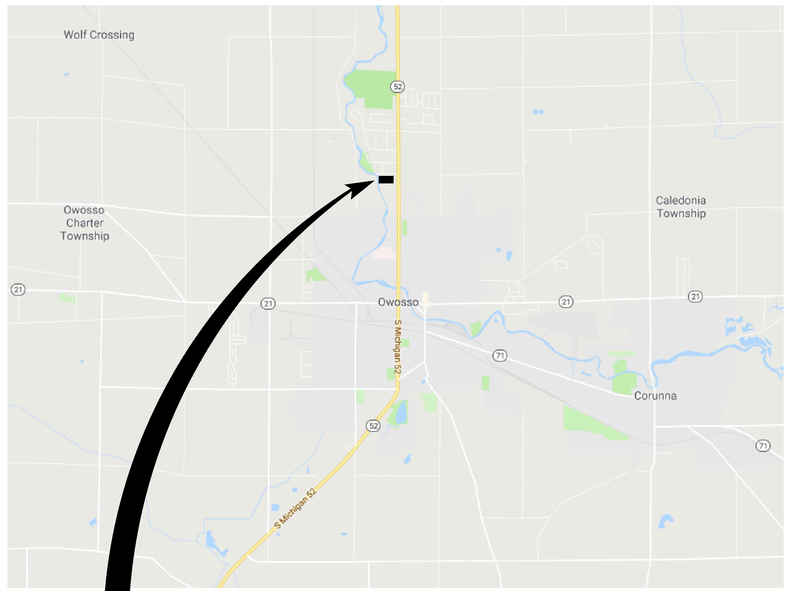
WE RECYCLE

FOR BID PLANS
FOR
CITY OF OWOSSO
SLUDGE THICKENER IMPROVEMENTS
SHIAWASSEE COUNTY, MI
APRIL 2018

MICHIGAN LOCATION MAP

SCALE: NTS



PROJECT LOCATION

PROJECT MAP

SCALE: NTS

SHEET LIST TABLE	
Sheet Number	**Sheet Title**
G-001	COVER SHEET
C-100	EXISTING DEMOLITION PLAN & SECTION
C-101	PIPING DEMOLITION AND PROPOSED LAYOUT
C-102	PROPOSED PLAN & SECTION
S-101	WALL HEADER DETAILS
ED-101	ELECTRICAL DEMOLITION
EP-101	ELECTRICAL PLANS AND SCHEDULE
EP-501	ELECTRICAL DETAILS
EP-502	VENTILATION CONTROL DETAILS

CONTACT PERSON(S)	COMPANY/ROLE	PHONE NUMBER
TIM GUYSKY	OWOSSO WWTP SUPERVISOR	989-725-0599
	OWOSSO BUILDING DEPARTMENT	989-725-0535
	CONSUMER'S ENERGY	800-477-5050

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811 Know what's **below.** **Call** before you dig.

IT IS UNDERSTOOD THAT THE CONTRACTOR SHALL PERFORM ALL WORK UNDER THIS CONTRACT IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS, POLICIES, RULES AND STANDARDS OF THE MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ACT (MIOSHA), BEING ACT 154 OF THE PUBLIC ACTS OF 1974 AND AS AMENDED.

EXCEPT WHERE OTHERWISE INDICATED ON THE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE CURRENT SUPPLEMENTAL SPECIFICATIONS. (AVAILABLE AT WWW.MDOT.STATE.MI.US/SPECBOOK/2012/)

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C2AE STANDARD.STB

C2AE

PROFESSIONAL PERSON IN RESPONSIBLE CHARGE

NAME OF THE LICENSEE
WILLIAM KIMBLE

NUMBER
6201041593

SIGNATURE

SEAL

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CITY OF OWOSSO
SLUDGE THICKENER IMPROVEMENTS
SHIAWASSEE COUNTY, MI

COVER SHEET

REVISIONS

SCALE: AS SHOWN

PROJ. #: 170117

DATE: APRIL 2018

SHEET

G-001

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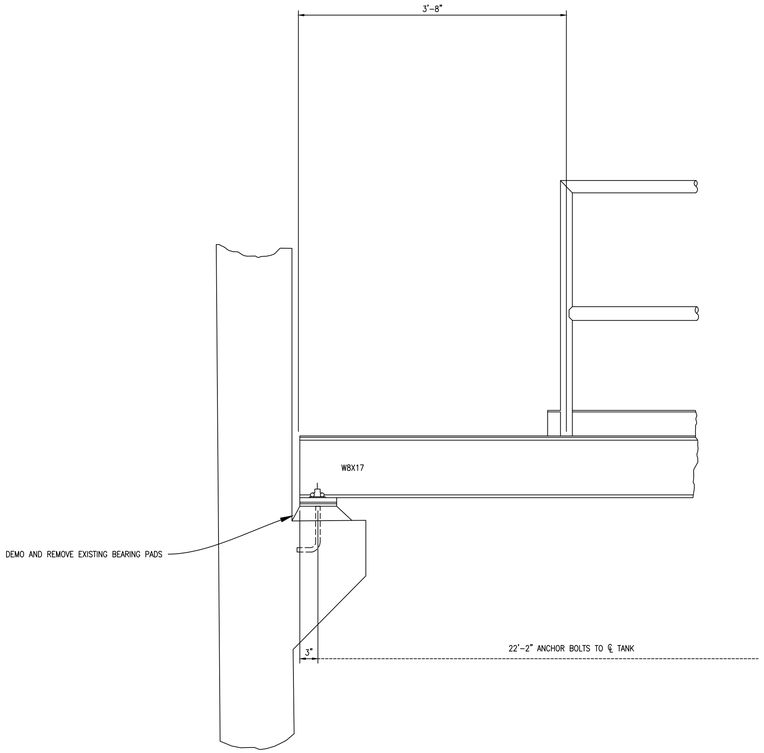
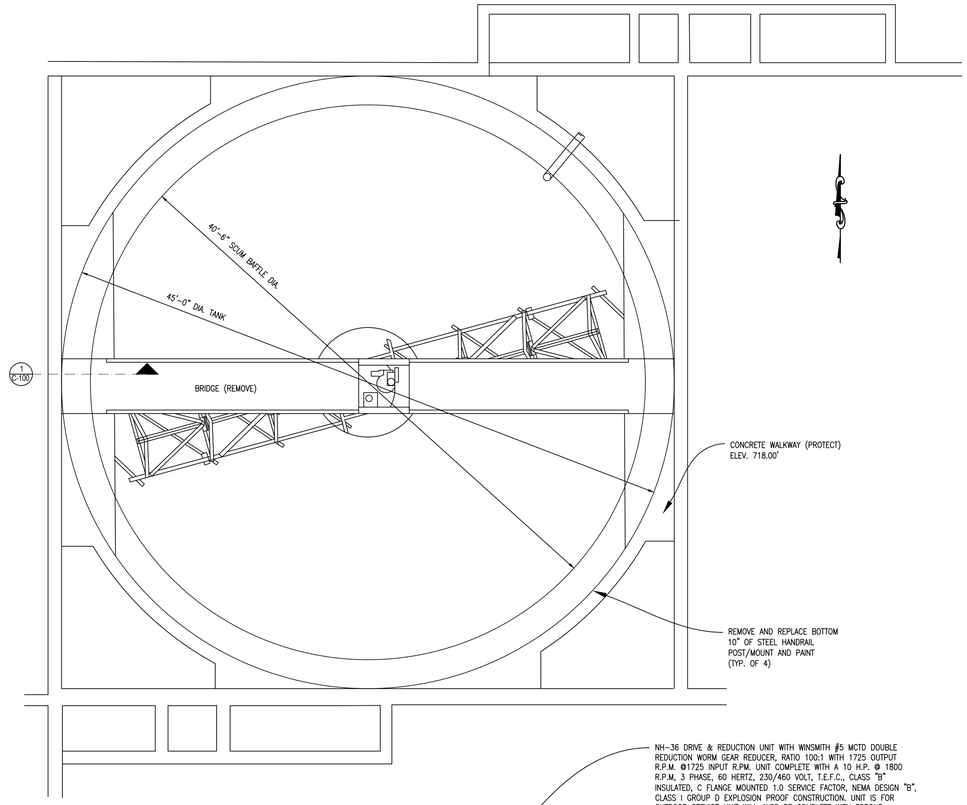
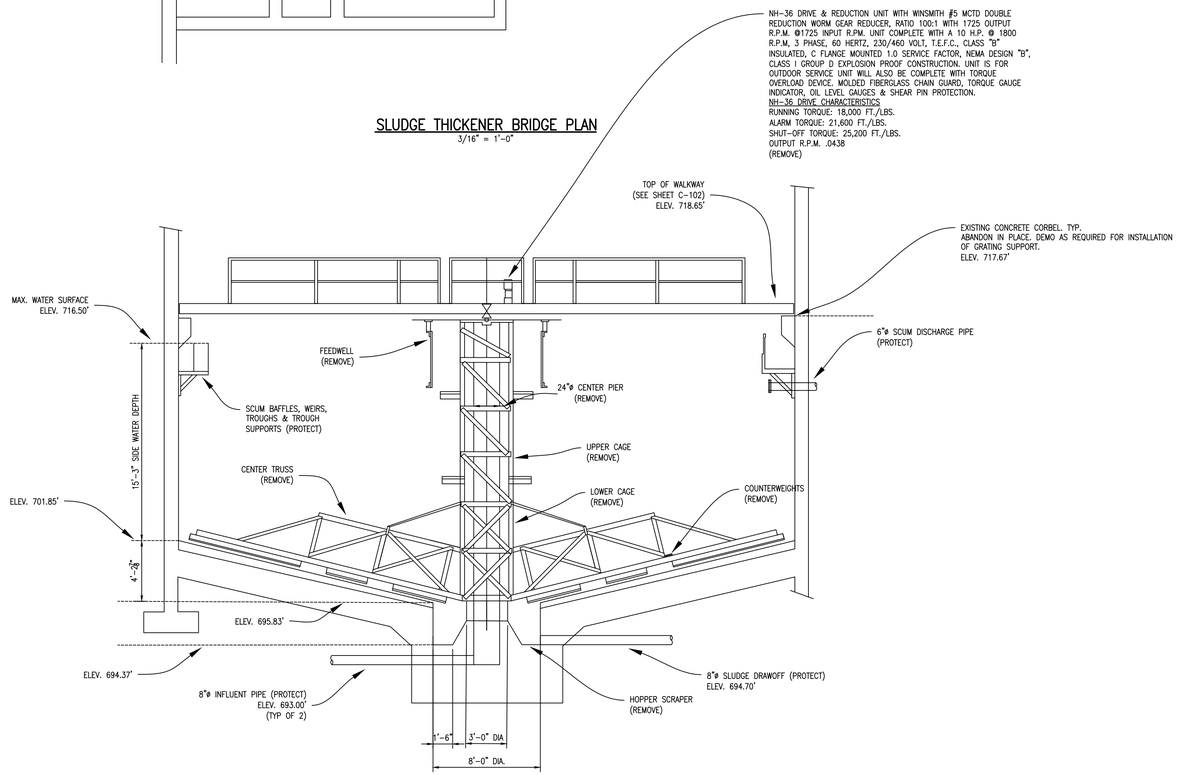


1 / C-100 BRIDGE SUPPORT DETAIL
1" = 1'-0"



SLUDGE THICKENER BRIDGE PLAN
3/16" = 1'-0"



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

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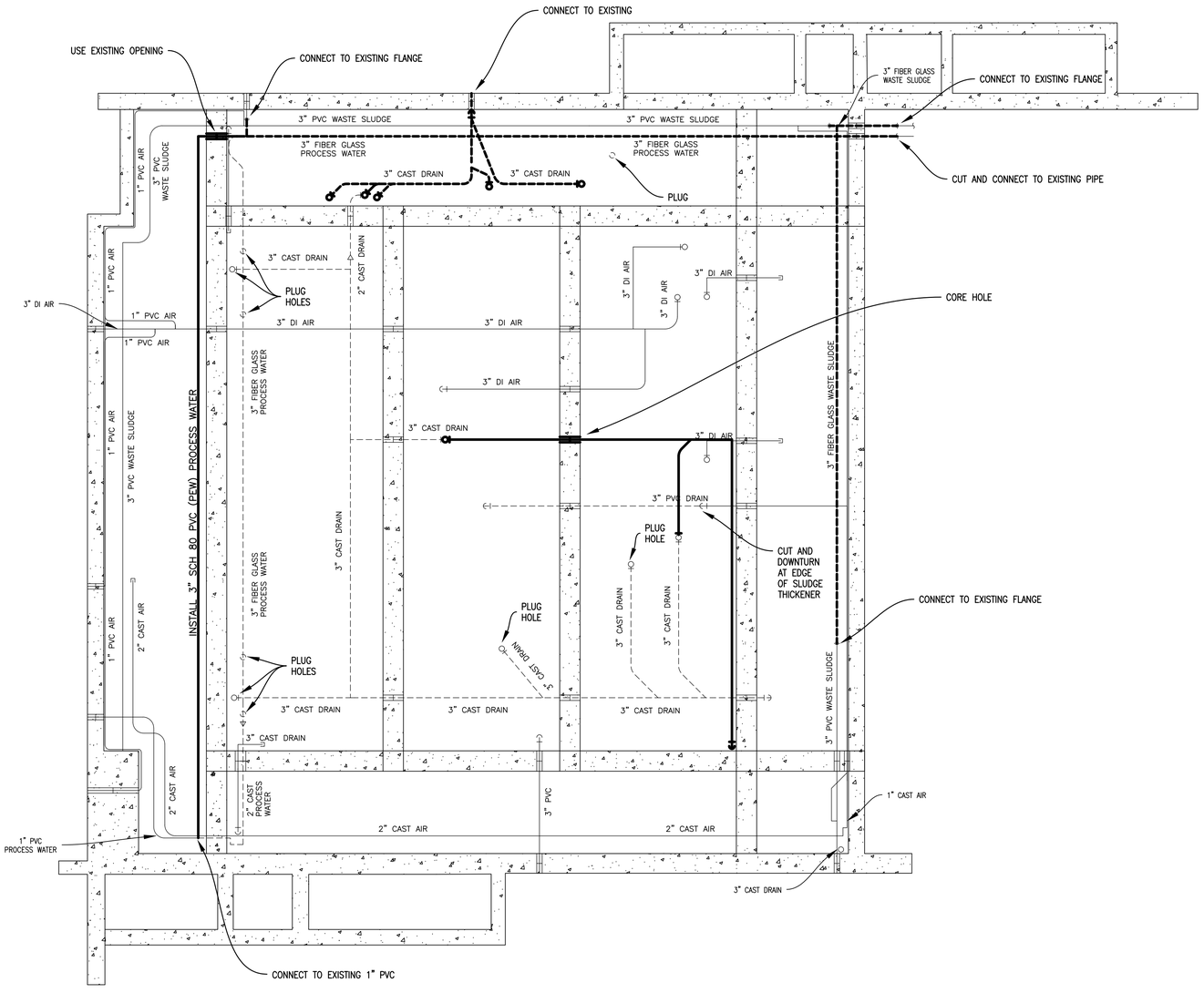
CITY OF OWOSSO
SLUDGE THICKENER IMPROVEMENTS
SHIAWASSEE COUNTY, MI

EXISTING DEMOLITION PLAN & SECTION

REVISIONS
-

SCALE: 3/16" = 1'-0"
PROJ. #: 170117
DATE: APRIL 2018
SHEET
C-100
FOR BID



LEGEND

SYMBOL	DESCRIPTION
	PIPING TO BE DEMOLISHED
	EXISTING PIPING
	PIPING TO BE REPLACED
	PROPOSED PIPING
	PIPE TOWARDS
	PIPE AWAY
	UNION
	REDUCER
	PLUG OR CAP

NOTES:
1. ALL REPLACEMENT PIPE SHALL BE SCH 80 PVC.
2. PROVIDE STAINLESS STEEL PIPE SUPPORTS AS REQUIRED TO PROPERLY HOLD PIPE FROM SAGGING.
3. PLUG ALL HOLES IN CEILING WITH CONCRETE AS SHOWN.

PROPOSED LEGEND

ADJ	ADJUST
U	UTILITY CO. TO RELOCATE
REL	RELOCATE
R	REMOVE
BH	BULKHEAD
AB	ABANDON
B/O	RELOCATE BY OTHERS

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CITY OF OWOSSO SLUDGE THICKENER IMPROVEMENTS

SHIAWASSEE COUNTY, MI

PIPING DEMOLITION AND PROPOSED LAYOUT

REVISIONS

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

PROJ. #: 170117

DATE: APRIL 2018

SHEET

C-101

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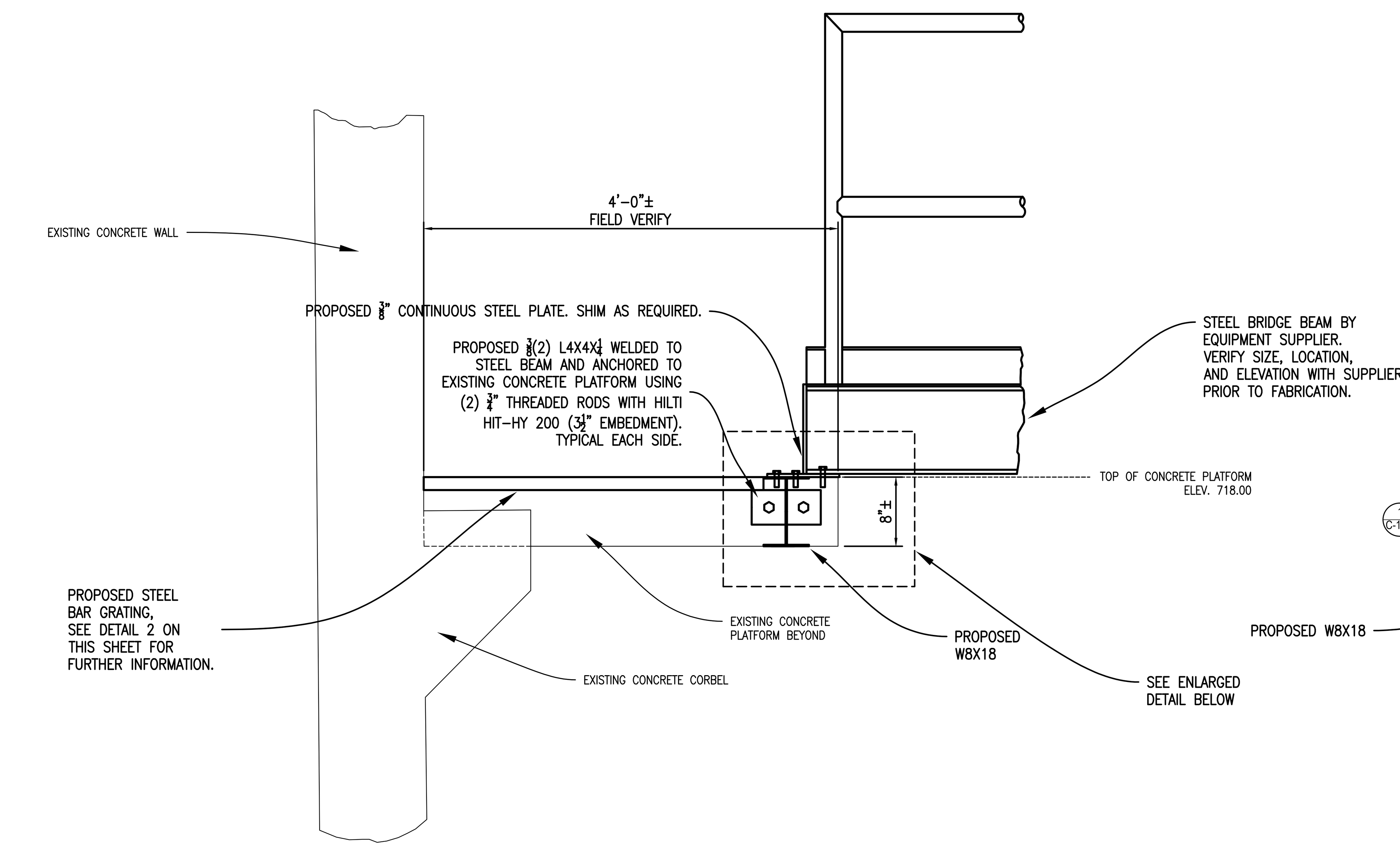
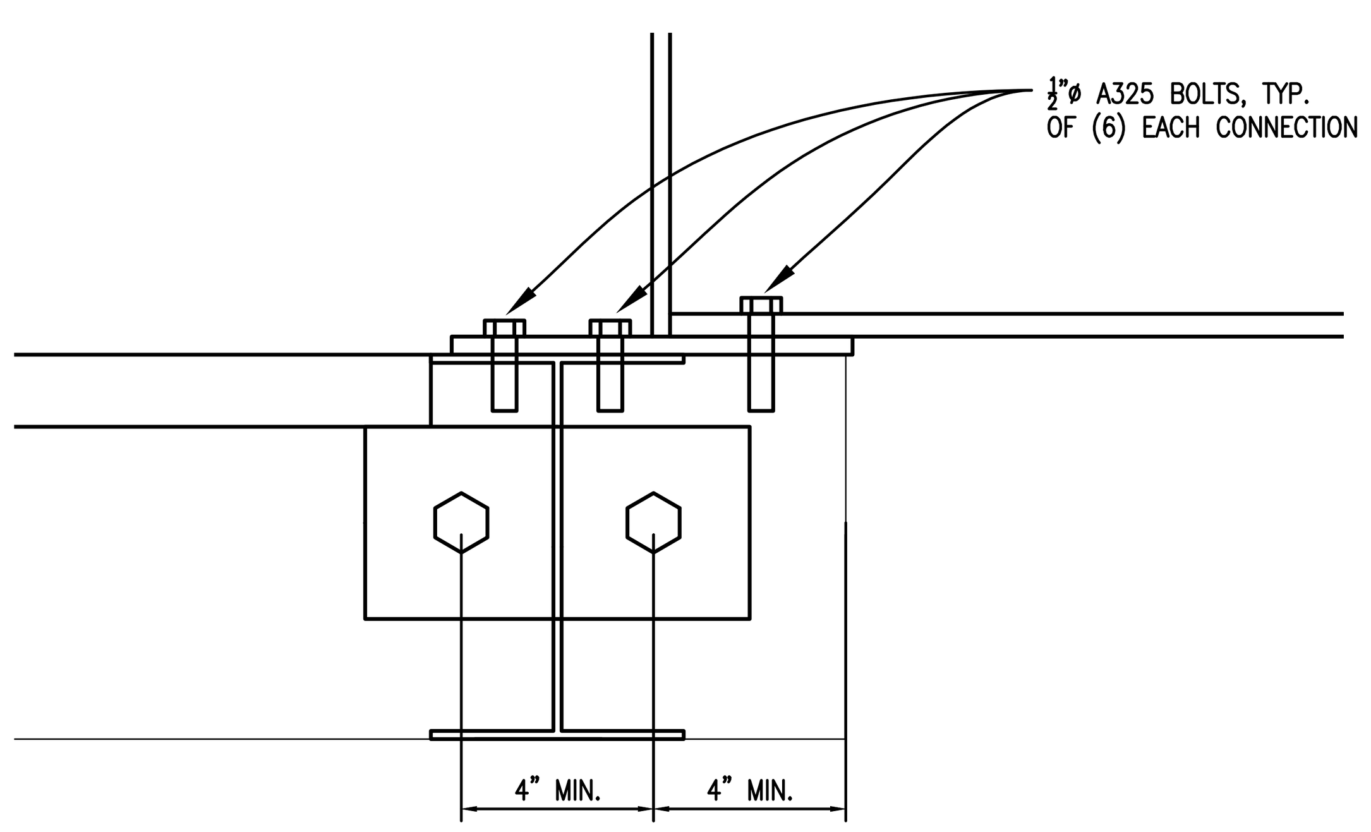
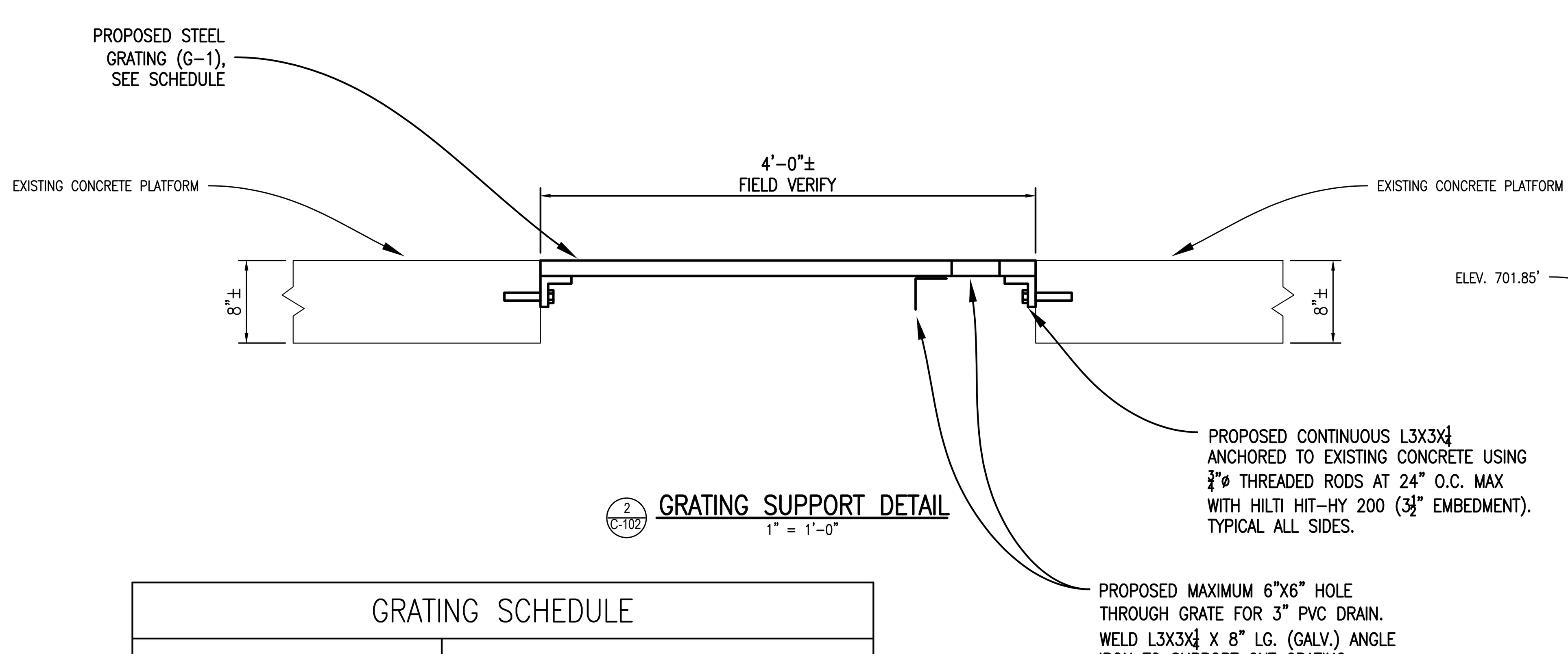


1 C-102 BRIDGE SUPPORT DETAIL
1" = 1'-0"

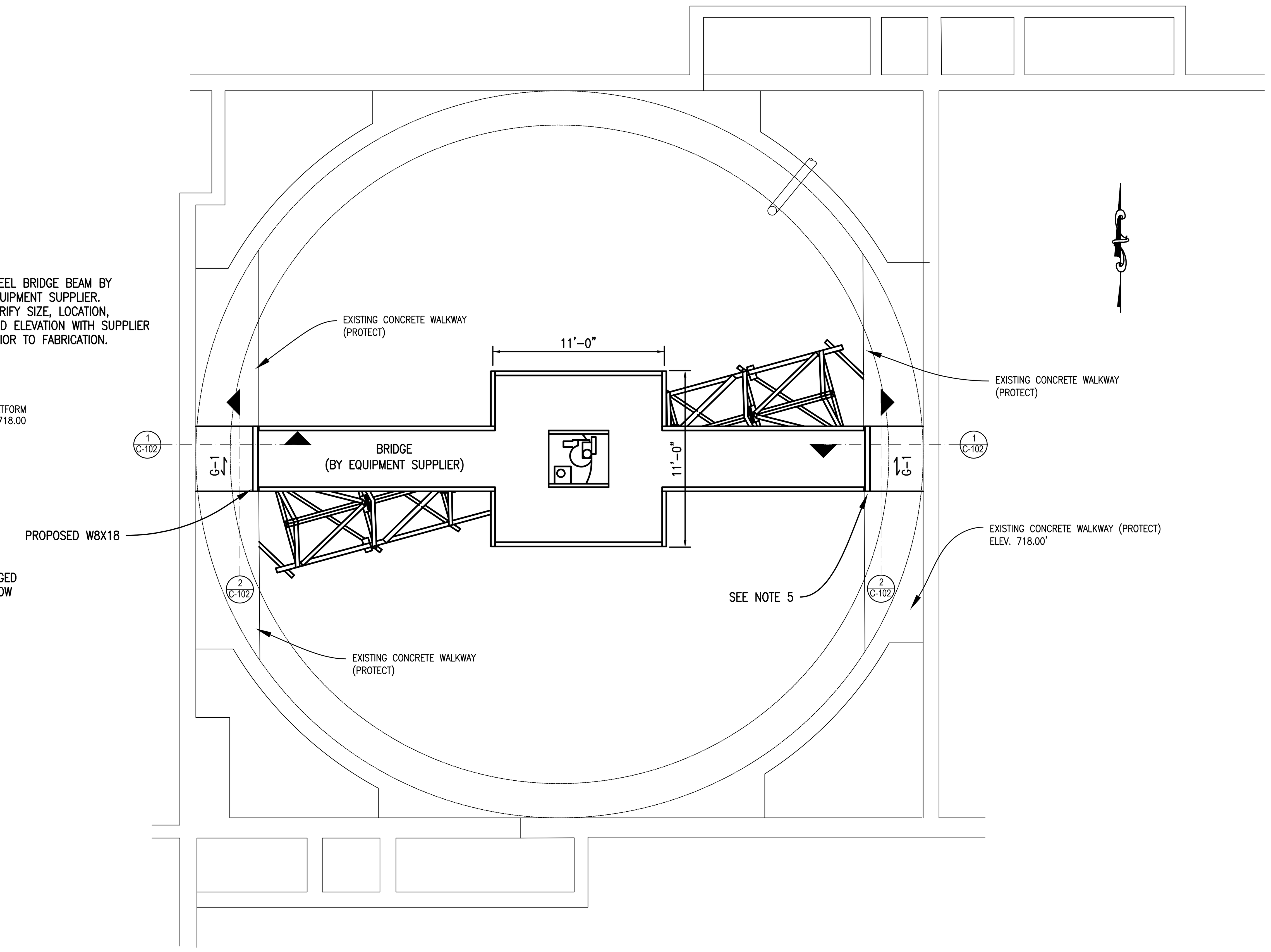


1 C-102 ENLARGED BRIDGE SUPPORT DETAIL
3" = 1'-0"

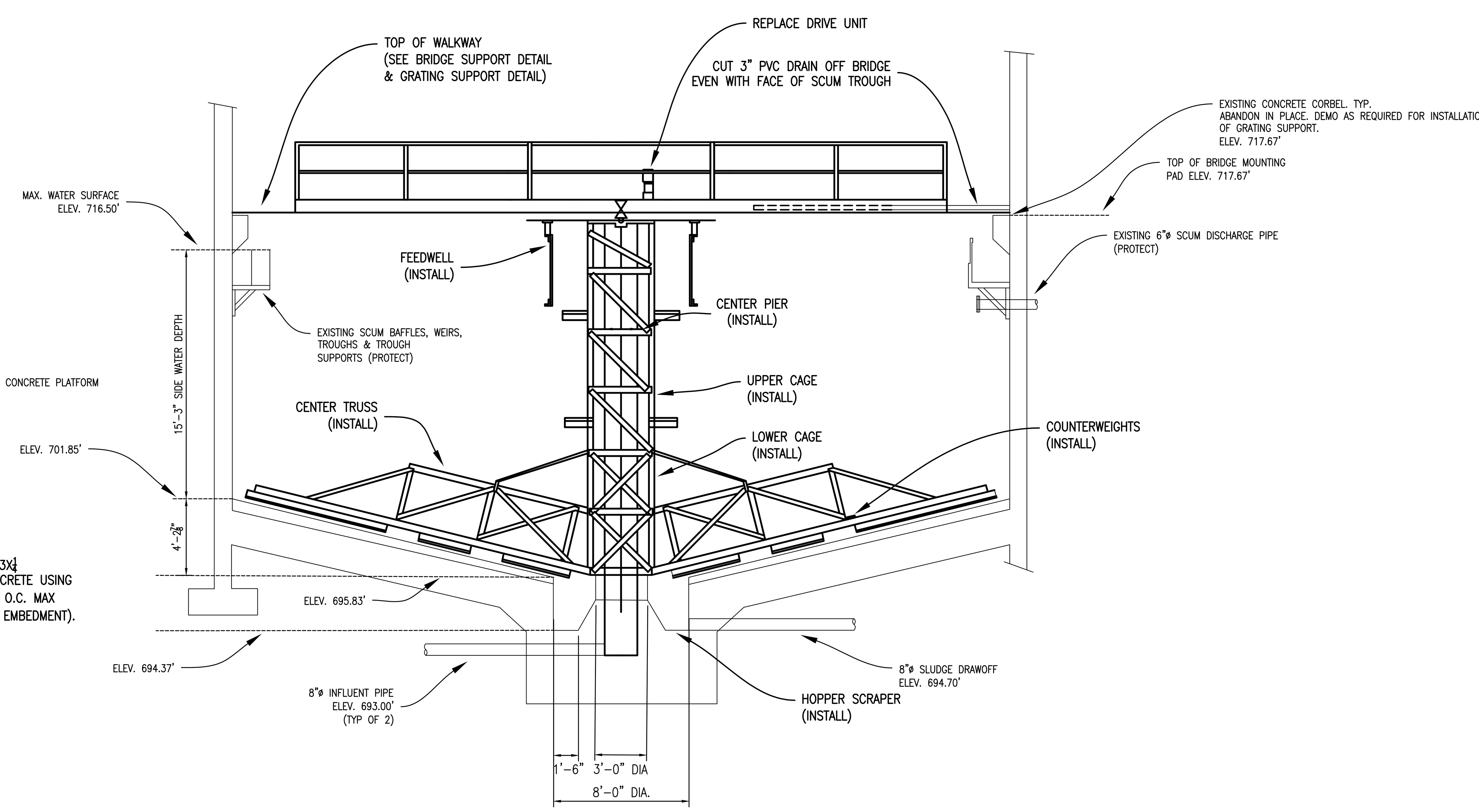


2 C-102 GRATING SUPPORT DETAIL
1" = 1'-0"

GRATING SCHEDULE	
G-1	1½"X3⁄16" 19-W-4 GALVANIZED STEEL BAR GRATING



SLUDGE THICKENER BRIDGE PLAN
3/16" = 1'-0"



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

NOTES:
1. ALL STEEL MEMBERS,THREADED RODS, AND BOLTS SHALL BE HOT-DIP GALVANIZED.
2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO FABRICATION.
3. COORDINATE BRIDGE BEAM BEARING LOCATIONS WITH EQUIPMENT SUPPLIER.
4. REPLACE BOTTOM 10" OF EXISTING STEEL RAILING POST AND MOUNT AND PAINT TO MATCH AS REQUIRED.
5. REMOVE EXISTING GUARDRAIL END POST WITH BRIDGE REMOVAL. GRIND REMAINING GUARDRAIL SMOOTH. INSTALL NEW GALVANIZED 1½"ø SCHEDULE 40 END POST AND ANCHOR TO EXISTING CONCRETE SLAB USING (2) ⅜"øX4" LG. HILTI KH SCREW ANCHORS (GALV. OR SS). WELD TO EXISTING GUARDRAIL. PAINT TO MATCH. TYPICAL (4) LOCATIONS.

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CITY OF OWOSSO
SLUDGE THICKENER IMPROVEMENTS
SHIAWASSEE COUNTY, MI

PROPOSED PLAN & SECTION

REVISIONS

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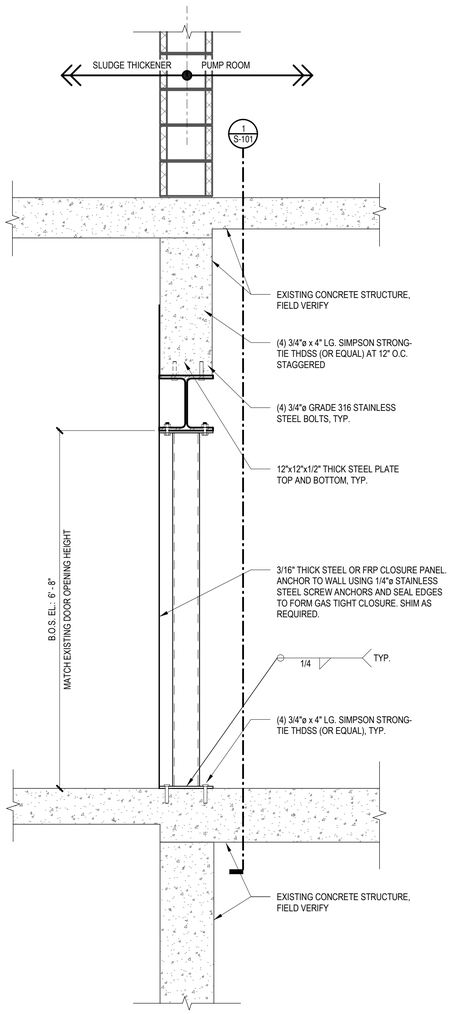
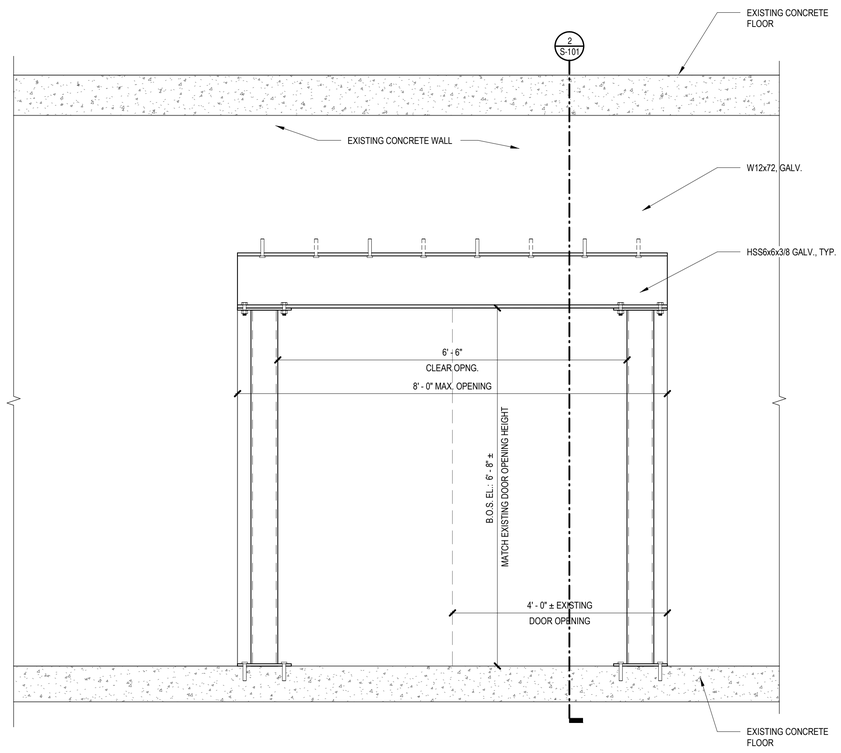


2 HEADER SECTION
3/4" = 1'-0"



1 LOWER LEVEL WALL ELEVATION
3/4" = 1'-0"

NOTES:

1. SHORE SUSPENDED SLAB ON EACH SIDE OF WALL PRIOR TO SAWCUTTING WALL.
2. REMOVE LIVE LOAD FROM UPPER LEVEL PRIOR TO SAWCUTTING WALL. MAINTAIN LIMITED LIVE LOAD ON UPPER LEVEL UNTIL WALL HEADER IS IN PLACE.
3. PERFORM WORK WHEN LITTLE TO NO SNOW IS ACCUMULATED ON THE ROOF TO MINIMIZE APPLIED STRESS IN CONCRETE BEARING WALL.
4. DO NOT OPERATE UPPER LEVEL CRANE DURING CONSTRUCTION.
5. APPLY COLD GALVANIZING MATERIAL OR EPOXY COATING TO EXPOSED REINFORCEMENT BARS AFTER SAWCUTTING WALL.

GENERAL STRUCTURAL NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND TO CROSS-CHECK DETAILS AND DIMENSIONS ON THE STRUCTURAL DRAWINGS WITH THE RELATED REQUIREMENTS FOUND AT JOB SITE.
2. ALL ENGINEERING DESIGN, CONSTRUCTION, AND TESTING SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENT EDITION OF THE MICHIGAN BUILDING CODE.
3. ALL STRUCUTRAL WORK MUST BE TEMPORARILY BRACED AND SUPPORTED UNTIL THE STRUCTURE IS SUFFICIENTLY COMPLETED AND CAN SAFELY CARRY THE DESIGN AND CONSTRUCTION LOADS.
4. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK THAT IS INVOLVED IN THE CONFLICT.

STRUCTURAL STEEL:

1. MATERIAL STANDARDS:

WIDE FLANGE	ASTM A992	Fy = 50,000 PSI
ANGLE, CHANNELS, PLATES	ASTM A36	Fy = 36,000 PSI
SQUARE AND RECTANGLE HSS	ASTM A500 Gr. B	Fy = 46,000 PSI
CONNECTION BOLTS	ASTM A325 OR A490	
ANCHOR RODS	ASTM F1554 Gr. 36	Fy = 36,000 PSI
GROUT	HIGH STRENGTH, NON-SHRINK, NON-METALLIC	

2. STRUCTURAL AND MISC. STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF AISC STEEL CONSTRUCTION MANUAL AND CODE OF STANDARD PRACTICE. STEEL JOISTS SHALL CONFORM TO THE MOST RECENT EDITION OF STANDARD SPECIFICATIONS OF THE STEEL JOIST INSTITUTE. METAL DECK SHALL CONFORM TO THE MOST RECENT EDITION OF THE STANDARD SPECIFICATION OF THE STEEL DECK INSTITUTE.
3. USE BOLTED CONNECTIONS AS SPECIFIED IN FRAMING DETAIL FOR SIZE AND NUMBER OF BOLTS AND WELDS FOR ALL STRUCTURAL STEEL CONNECTIONS. ALL BOLTED CONNECTIONS SHALL BE STANDARD ROUND HOLES (UNLESS NOTED OTHERWISE).
4. FABRICATOR SHALL PROVIDE SAFETY CLIPS OR SEATS WHERE APPLICABLE TO FACILITATE SAFE ERECTION.
5. CONNECTIONS UTILIZING STRUCTURAL BOLTS SHALL BE BEARING TYPE AND TIGHTENED PER AISC TURN-OF NUT (FOR SLIP CRITICAL APPLICATIONS IF SPECIFIED) OR SNUG-TIGHT SPECIFICATIONS.
6. CONNECTIONS MADE WITH HIGH STRENGTH STEEL BOLTS SHALL CONFORM IN ALL RESPECTS TO THE CURRENT SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS AS ENDORSED BY THE AISC. NO PAINT ON FAYING SURFACES.
7. WELDING SHALL BE DONE IN ACCORDANCE WITH THE "AMERICAN WELDING SOCIETY" (AWS) D1.1, USING E70 ELECTRODES. WELDING SHALL BE PERFORMED BY AN APPROVED CERTIFIED WELDER.
8. ALL EXPOSED WELDS SHALL BE FILLED AND GROUND SMOOTH WHERE METAL MAY COME INTO CONTACT WITH THE PUBLIC.
9. NO CHANGES SHALL BE MADE IN THE STEEL STRUCTURE NOR ANY MATERIAL CUT IN THE FIELD (UNLESS NOTED AS "FIELD CUT OR TRIM" ON DRAWINGS), WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.
10. NO CUTTING, BURNING, OR HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS WITHOUT THE PRIOR CONSENT OF THE ENGINEER. BOLT HOLES SHALL CONFORM WITH THE GOVERNING AISC SPECIFICATION, AND SHALL BE STANDARD HOLES UNLESS NOTED OTHERWISE.
11. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THE DESIGN AND ACTUAL CONDITIONS NOTED IN THE FIELD.
12. CONTRACTOR SHALL PROVIDE NECESSARY LABOR, MATERIAL, AND EQUIPMENT TO ERECT ALL MISCELLANEOUS IRON AND STEEL AS DETAILED ON THESE DRAWINGS.
13. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
14. ALL STEEL ITEMS SHALL BE GALVANIZED AFTER FABRICATION BY THE HOT DIP PROCESS IN ACCORDANCE WITH ASTM A123 OR A386, AS APPLICABLE.

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CITY OF OWOSSO
OWOSSO SLUDGE THICKENER IMPROVEMENTS
1410 CHIPPEWA TRAIL, OWOSSO, MI 48867

WALL HEADER DETAILS

REVISIONS

REV	DESCRIPTION	DATE

SCALE: As indicated
PROJ. #: 17-0117
DATE: 03/09/2018
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GENERAL NOTES

A. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST ACCEPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL STATE AND LOCAL CODES.

B. AREAS ADJACENT TO THE PROJECT WORK AREA WITHIN THE FACILITY ARE TO REMAIN OPERATIONAL DURING NORMAL HOURS OF FACILITY OPERATION. COORDINATE ALL REQUIRED SYSTEM SHUTDOWNS WITH THE OWNER TO MINIMIZE DISRUPTION OF STAFF WITHIN THE FACILITY.

C. WHERE ELECTRICAL DEMOLITION WORK IS REQUIRED, IT SHALL INCLUDE REMOVAL OF ELECTRICAL MATERIALS AND EQUIPMENT. INCLUDE REMOVAL OF SERVICE, FEEDER AND BRANCH CIRCUIT CONDUCTORS, EXPOSED CONDUIT, HANGERS, ETC BACK TO SOURCE. CONDUIT CONCEALED IN BUILDING CONSTRUCTION SHALL BE CUT OFF FLUSH WITH SURFACE AND PLUGGED WITH NON-SHRINK GROUT. UNDERGROUND CONDUIT SHALL BE CUT OFF 24 INCHES BELOW GRADE AND PLUGGED.

D. COORDINATE THE INSTALLATION OF ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS WITH ARCHITECTURAL AND MECHANICAL PLANS, SPECIFICATIONS AND EQUIPMENT DRAWINGS. PROVIDE ALL NECESSARY EQUIPMENT POWER AND CONTROL CONNECTIONS NOT PROVIDED BY OTHERS WHETHER INDICATED ON THE DRAWINGS OR NOT.

E. UNLESS OTHERWISE NOTED, ALL SINGLE PHASE BRANCH CIRCUITS FOR LIGHTING AND POWER SHALL BE 2#12 AND 1#12G IN ¾" CONDUIT.

F. 20A/120V BRANCH DIRCUITS EXCEEDING 100 FEET IN LENGTH FROM PANEL TO FARTHESE DEVICE SHALL USE NO. 10 AWG CONDUCTORS. CIRCUITS EXCEEDING 200 FT IN LENGTH SHALL USE NO. 8 CONDUCTORS. FINAL CONNECTION TO DEVICES IS NOT REQUIRED TO BE LARGER THAN NO. 12 AWG.

G. MULTIWIRE BRANCH CIRCUITS AS DEFINED BY THE NEC SHALL NOT BE USED. PROVIDE EACH SINGLE POLE CIRCUIT BREAKER/CIRCUIT WITH A SEPARATE NEUTRAL CONDUCTOR.

H. INSTALL NO MORE THAN THREE SINGLE POLE BRANCH CIRCUITS IN A SINGLE CONDUIT (UP TO 3 PHASE CONDUCTORS, 3 GROUNDED CONDUCTORS AND 1 GROUNDING CONDUCTOR).

I. INSTALL A HANDLE LOCK-ON DEVICE ON ALL CIRCUIT BREAKERS SUPPLYING NIGHT LIGHTS, EMERGENCY LIGHTS AND EXIT LIGHTS.

J. BRANCH CIRCUIT CONDUCTORS SUPPLYING NIGHT LIGHTS, EMERGENCY LIGHTS AND EXIT LIGHTS SHALL BE 10-AWG MINIMUM.

K. ALL LOW VOLTAGE ELECTRICAL POWER CONDUCTORS SHALL BE STRANDED COPPER.

L. INSTALL AN INSULATED, GREEN, GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT RACEWAYS.

M. SPLICE CABLES OR CONDUCTORS IN OUTLET BOXES, DEVICE BOXES, PULL BOXES, JUNCTION BOXES, MANHOLES OR HANDHOLES. DO NOT SPLICE CABLES OR CONDUCTORS IN CONDUIT BODIES.

N. RECEPTACLES INDICATED AS GROUND FAULT CIRCUIT INTERRUPTER (GFI) TYPE MAY BE EITHER GFI RECEPTACLES OR DUPLEX RECEPTACLES CONNECTED TO A BRANCH CIRCUIT PROTECTED BY A GFI CIRCUIT BREAKER.

O. BRANCH CIRCUITS FROM CIRCUIT BREAKER TYPE DISTRIBUTION EQUIPMENT WHICH SUPPLY MOTOR LOADS THAT ARE LESS THAN 6.0 AMP SHALL BE PROTECTED BY A 15 AMP CIRCUIT BREAKER.

P. FINAL CONNECTIONS TO ITEMS SUBJECT TO VIBRATION SHALL BE MADE WITH FLEXIBLE METAL CONDUIT OR LIQUID TIGHT FLEXIBLE METAL CONDUIT. FLEXIBLE METAL CONDUIT AND LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL NOT BE USED AS A GROUNDING CONDUCTOR. PROVIDE A SEPARATE GREEN GROUNDING CONDUCTOR.

Q. IN THE EVENT OF CONFLICTS BETWEEN THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS OR WITHIN THE DRAWINGS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL BE ASSUMED TO BE CORRECT. REFER UNCERTAINTIES IN REQUIREMENTS TO THE ENGINEER FOR CLARIFICATION.

R. ALL BELOW GRADE LOCATIONS WITHIN BUILDINGS ARE DAMP LOCATIONS UNLESS OTHERWISE NOTED.

S. IN GENERAL, 4 TO 20 MADC SIGNAL CABLES, DATA CABLES, COMMUNICATIONS CABLES, ETC SHALL BE RUN IN RACEWAYS DEDICATED TO THAT SYSTEM. WITHIN ANY ROOM OR AREA, CABLES FOR ANY OF THESE SYSTEMS MAY BE COMBINED IN THE SAME DEDICATED RACEWAY.

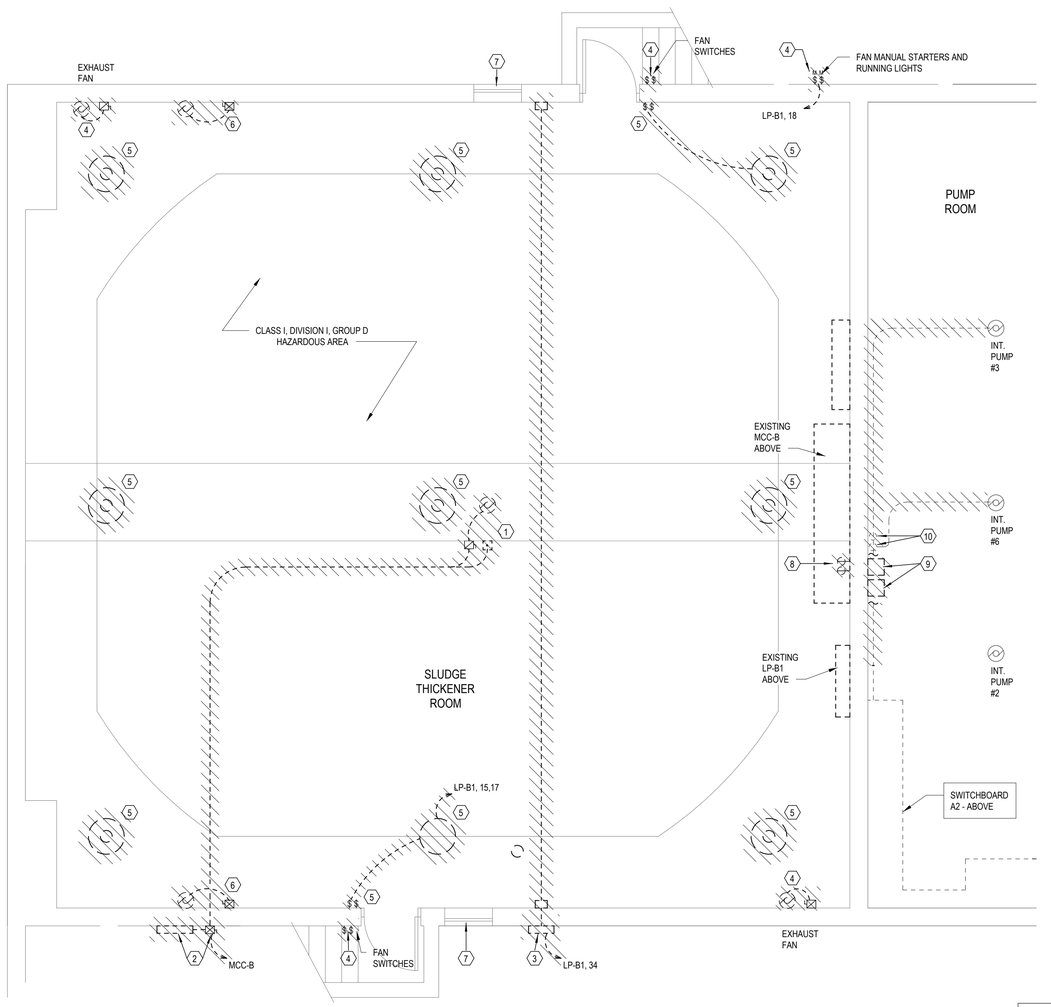
T. PROVIDE 3-INCH CONCRETE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. SIZE PADS 2 INCHES LARGER THAN EQUIPMENT AND CHAMFER UPPER CORNERS.

U. 2/C AND 3/C #18 SHIELDED SIGNAL CABLE SHALL BE BELDEN 9340 AND BELDEN 1121A RESPECTIVELY OR EQUAL.

V. IF COMPLIANCE WITH TWO OR MORE DIFFERING STANDARDS, REQUIREMENTS, DRAWINGS OR SPECIFICATIONS OR ANY COMBINATION THEREOF IS SPECIFIED AND THESE ESTABLISH DIFFERENT OR CONFLICTING REQUIREMNENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT, THE MOST STRINGENT REQUIREMENT WILL BE THE BETTER QUALITY OR GREATER QUANTITY OF WORK AND WILL TYPICALLY BE THE MORE EXPENSIVE OPTION. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ENGINEER FOR A DECISION BEFORE PROCEEDING.

W. COORDINATE LOCATIONS OF ALL ELECTRICAL DEVICES WITH STRUCTURAL, MECHANICAL, AND CIVIL PRIOR TO ROUGH-IN. ALL CONFLICTS WITH FINISHES, ADJACENT CONSTRUCTION AND CONSTRUCTION DOCUMENTS ARE TO GENERATE AN RFI FROM THE CONTRACTOR TO THE ENGINEER PRIOR TO PROCEEDING WITH AND COMPLETION OF THE WORK.

X. ALL CONDUIT SHALL BE GALVANIZED RIGID STEEL AND SURFACE MOUNTED UNLESS OTHERWISE INDICATED. WITHIN THE THICKENER ROOM ALL CONDUIT SHALL BE PVC COATED GALVANIZED RIGID STEEL.



SLUDGE THICKENING BUILDING ELECTRICAL DEMOLITION PLAN
1/4" = 1'-0"

GENERAL DEMOLITION NOTES

1. EXISTING ELECTRICAL INFORMATION AS BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION RECORD DRAWINGS PREPARED BY AYRES, LEWIS, NORRIS, AND MAY IN FEBRUARY, 1983; PROJECT NUMBER 51312. EXISTING ELECTRICAL INFORMATION HAS NOT BEEN FIELD VERIFIED IN ITS ENTIRETY.
2. CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING TO SURVEY THE EXISTING CONDITIONS AFFECTING WORK AND SHALL INCLUDE THE NECESSARY MATERIALS AND LABOR TO ACCOMPLISH THE WORK. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND RESOLVED PRIOR TO BID.
3. THE SCOPE OF THE REQUIRED DEMOLITION IS NOT LIMITED TO THE ITEMS OR WORK INDICATED ON THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL DETERMINE THE NATURE AND EXTENT OF WORK REQUIRED. THE CONTRACTOR ACCEPTS EXISTING SITE CONDITIONS AT THE START OF DEMOLITION.
4. WHERE ELECTRICAL COMPONENTS ARE SHOWN TO BE REMOVED, RECONNECT REMAINING COMPONENTS TO EXISTING CIRCUIT(S) AND PROVIDE TEMPORARY CIRCUIT(S) DURING CONSTRUCTION AS REQUIRED.
5. WHERE THE DRAWINGS SHOW DEVICES OR EQUIPMENT TO BE PERMANENTLY REMOVED, REMOVE CONDUCTORS BACK TO SOURCE, TURN CIRCUIT BREAKER OFF AND LABEL THE CIRCUIT BREAKER AS A SPARE.
6. WHERE CIRCUITS ARE REMOVED, REMOVE ALL CONDUIT, CONDUCTORS, CABLES, FITTINGS, JUNCTION BOXES, HANGERS AND DEVICES ASSOCIATED WITH THE CIRCUITS BEING REMOVED. CUT CONDUIT FLUSH WITH WALLS AND FLOORS AND PLUG. UNLESS OTHERWISE NOTED, PATCH ALL SURFACES. CUT UNDERGROUND CONDUIT OFF 24 INCHES BELOW GRADE AND ABANDON.
7. REPAIR DAMAGE TO ALL ADJACENT CONSTRUCTION AND FINISHES. REPAIRS SHALL BE MADE TO RETURN SPACE TO ORIGINAL CONDITION PRIOR TO COMPLETION OF THE PROJECT.
8. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN OPERATION OF EXISTING SYSTEMS DURING CONSTRUCTION. CONDITIONS SHALL BE RETURNED TO NORMAL AT THE CLOSE OF THE PROJECT.
9. PROVIDE BLANK COVERS ON ALL JUNCTION AND DEVICE BOXES WHERE DEVICE HAS BEEN REMOVED AND BOX IS TO REMAIN FOR FUTURE USE.
10. DISPOSE OF ALL MATERIALS AND EQUIPMENT REMOVED THAT ARE NOT TO BE TURNED OVER TO THE OWNER.
11. COORDINATE ALL DISRUPTIONS OF SERVICE WITH THE OWNER.
12. EXISTING CONDUITS MAY REMAIN FOR RE-USE WHERE IN GOOD CONDITION.

KEY DEMOLITION NOTES

1. DISCONNECT EXISTING THICKENER MECHANISM DRIVE AND REMOVE ASSOCIATED ELECTRICAL DEVICES AND CIRCUIT CONDUCTORS BACK TO MCC-B. CONDUIT MAY BE REUSED FOR NEW CIRCUIT WHERE IN GOOD CONDITION.
2. DISCONNECT AND REMOVE THICKENER MECHANISM MOTOR STARTER, ALARM ENCLOSURE AND ALARM LIGHT. REMOVE ASSOCIATED CONDUCTORS AND CONDUITS.
3. DISCONNECT AND REMOVE EXISTING GAS DETECTOR ALARM PANEL, ALARM LIGHT, THICKENER ROOM SENSORS AND ASSOCIATED CONDUCTORS. CONDUIT MAY BE REUSED FOR NEW CIRCUITS WHERE IN GOOD CONDITION.
4. DISCONNECT AND REMOVE EXISTING EXHAUST FANS AND ASSOCIATED MOTOR STARTERS, PILOT LIGHTS, CONTROL SWITCHES, CONDUCTORS AND CONDUIT. NOTE THAT THE NORTH FAN HAS BEEN REMOVED.
5. DISCONNECT AND REMOVE EXISTING LIGHT FIXTURES, SWITCHES AND ASSOCIATED CONDUCTORS. CONDUIT MAY BE REUSED FOR NEW LIGHTING WHERE IN GOOD CONDITION.
6. DISCONNECT EXISTING SCUM PUMP AND REMOVE EXISTING MOTOR STARTER AND ASSOCIATED CONDUCTORS BACK TO MCC-B. EXISTING SCUM PUMP AND POWER CORD TO REMAIN FOR RECONNECTION. EXISTING CONDUIT MAY BE REUSED FOR NEW CIRCUIT WHERE IN GOOD CONDITION.
7. REMOVE EXISTING AIR INLET LOUVER. SEE EP101 FOR NEW LOUVER REQUIREMENTS.
8. DISCONNECT AND REMOVE TWO EXISTING 120V, SIMPLEX RECEPTACLES AND ASSOCIATED CONDUIT AND CONDUCTORS AS REQUIRED TO ACCOMMODATE NEW WALL OPENING. SEE SHEET S-101. EXISTING CIRCUIT SHALL BE EXTENDED TO NEW RECEPTACLES – SEE SHEET EP101.
9. DISCONNECT AND REMOVE TWO ABANDONED METERS AND ASSOCIATED CONDUCTORS AND CONDUIT.
10. EXISTING CONDUITS TO PUMP MOTORS ARE ROUTED DOWN WALL AND INTO PUMP WELL BELOW. DISCONNECT AND REMOVE PUMP POWER CONDUCTORS. REMOVE ENOUGH OF THE CONDUIT IN THE PUMP ROOM TO ALLOW NEW WALL OPENING TO BE CUT – SEE SHEET S-101. EXISTING CONDUIT FROM SWITCHBOARD TO PUMP MOTORS SHALL BE EXTENDED TO EXISTING PUMP MOTORS – SEE SHEET EP101.

ELECTRICAL SYMBOL LEGEND

BACKBOX & RACEWAY BY	FURNISHED BY	INSTALLED BY	WIRED BY	SYMBOL	DESCRIPTION	TYP. HT AFF
					C - CONTRACTOR O - OWNER V - OWNER'S VENDOR	
C	C	C	C		SWITCH, SINGLE POLE	BOD 44"
C	C	C	C		SWITCH, 3-WAY SWITCH	BOD 44"
C	C	C	C		SWITCH, MANUAL MOTOR STARTER - SIZE PER EQUIPMENT, MOUNT TO EQUIPMENT OR	BOD 44"
C	C	C	C		LIGHT FIXTURE, SURFACE MOUNT PENDANT	
C	C	C	C		SIMPLEX RECEPTACLE	BOD 44"
C	C	C	C		DISCONNECT, NON-FUSED	TOD 72"
C	C	C	C		DISCONNECT, FUSED	TOD 72"
C	C	C	C		STARTER	TOD 72"
C	C	C	C		COMBINATION STARTER/DISCONNECT, NON-FUSED	TOD 72"
C	C	C	C		COMBINATION STARTER/DISCONNECT, FUSED	TOD 72"
C	C	C	C		VARIABLE FREQUENCY DRIVE	TOD 72"
C	C	C	C		MOTOR	
C	C	C	C	Z	LIMIT SWITCH	BOD 44"
C	C	C	C	GBB	GROUNDING BUS BAR	18"
C	C	C	C		ELECTRICAL PANEL, SURFACE OR RECESSED	TOD 72"
C	C	C	C		LOCAL CONTROL STATION	BOD 44"
C	C	C	C	T	THERMOSTAT	BOD 44"
C	C	C	C	T	TEMPERATURE SWITCH	BOD 44"
C	C	C	C	VCP	VENTILATION CONTROL PANEL	
C	C	C	C	VCS	VENTILATION CONTROL STATION	

NOTE:
NOT ALL DEVICES IN LEGEND ARE USED. MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF BOX, UON.
WP WEATHER PROOF
AFF ABOVE FINISH FLOOR
= DENOTES ITEM TO BE DEMOLISHED
= DENOTES NEW CONSTRUCTION
= DENOTES EXISTING CONSTRUCTION

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ELECTRICAL DEMOLITION

REVISIONS

REV	DESCRIPTION	DATE

SCALE: As indicated
PROJ. #: 17-0117
DATE: 04/06/2018
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(E)PANELBOARD LP-B1 SCHEDULE

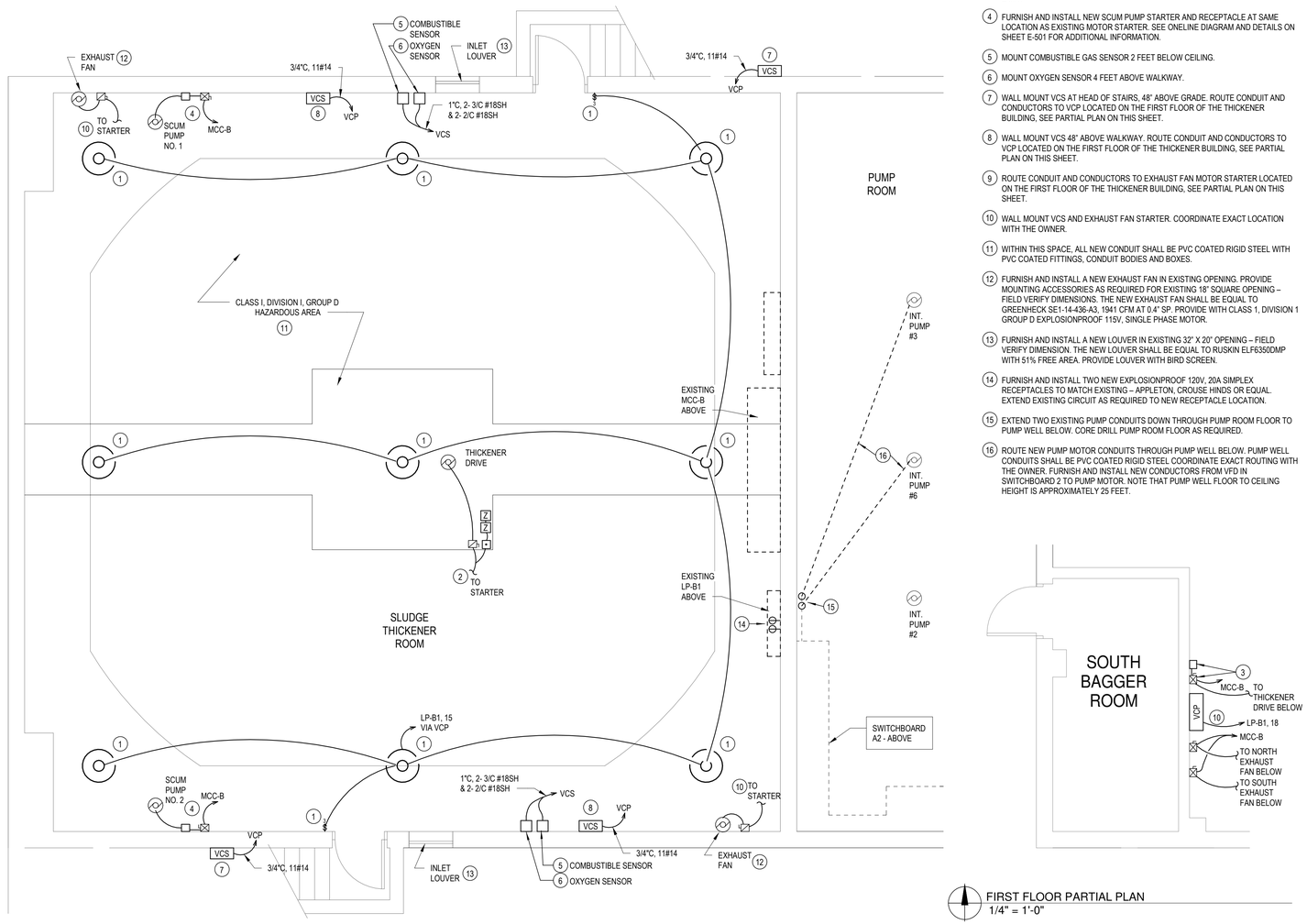
PANEL NAME: LP-B1 — **VOLTS:** 120/240V — **AIC RATING:** 10KAIC
LOCATION: SLUDGE THICKENER BLDG — **PHASES:** 1 — **MAINS RATING:** 225 A
SOURCE: MCC-B VIA 35.7 KVA TRANSF — **WIRES:** 3 — **MAINS TYPE:** 170A MAIN CB
MOUNTING: SURFACE — **ENCLOSURE:** NEMA 1
NOTES: EXISTING GENERAL ELECTRIC TYPE NLTQ PANELBOARD

CCT NO	CIRCUIT DESCRIPTION	TRIP AMPS	POLES	A (VA)	B (VA)	POLES	TRIP AMPS	CIRCUIT DESCRIPTION	CCT NO
1	INTERMEDIATE PUMP RM LTS	20	1	1500 / 720		1	20	INTERMEDIATE PUMP RM RECEPTS	2
3	INTERMEDIATE PUMP RM LTS	20	1		925 / 720	1	20	INTERMEDIATE PUMP RM RECEPTS	4
5	CHEMICAL FEED RM LTS	20	1	1875 / 720		1	20	CHEM FEED RM RECEPTS	6
7	CHEMICAL FEED RM LTS	20	1		1250 / 720	1	20	CHEM FEED RM RECEPTS	8
9	CHEMICAL FEED RM EM LTS	20	1	150 / 720		1	20	CHEM FEED RM RECEPTS - NORTH	10
11	CHEMICAL FEED RM NIGHT LTS	20	1		350 / 0	2	30	SPARE	12
13	SPARE	20	1	0 / 0		--	--	--	14
15	**SLUDGE THICKENER RM LTS**	20	1		950 / 0	1	20	SPARE	16
17	**SPARE**	20	1	750 / 700		1	20	**VENTILATION CONTROL PANEL**	18
19	SLUDGE THICKENER RM RECEPTS	20	1		1500 / 0	1	20	SPARE	20
21	SPARE	60	1	0 / 0		1	20	SPARE	22
23	AIR COMPRESSOR CONTROLS	20	1		360 / 0	1	20	SPACE	24
25	AIR COMPRESSOR CONTROLS	20	1	360 / 0		2	20	SPARE	26
27	AIR COMPRESSOR CONTROLS	20	1		360 / 0	--	--	--	28
29	THICKENER BLDG CTRL PANEL	20	1	1500 / 0		2	20	SPARE	30
31	SPARE	20	1		0 / 0	--	--	--	32
33	SPARE	20	1	0 / 180		1	20	**GAS DETECTORS**	34
35	HONEYWELL CTRL PANEL	20	1		360 / 0	1	20	SPARE	36
37	TELEPHONE RECEPT	20	1	360 / 1100		1	20	BATHROOM HEATER, LTS & FAN	38
39	WATER HEATER	30	2		2900 / 0	1	20	SPARE	40
41	--	--	--	2900 / 0		1	20	SPARE	42
	TOTAL PHASE LOAD:			13535 VA	10395 VA				
	TOTAL PHASE CURRENT:			113 A	87 A				
	PANEL TOTALS								
	TOTAL CONNECTED LOAD:	23930 VA							
	TOTAL CONNECTED CURRENT:	100 A							

MOTOR CONTROL CENTER - (E)MCC-B

LOCATION: SL THICK BLDG — **VOLTS:** 277/480V WYE — **AIC RATING:** 42KAIC
SOURCE: MAIN SWITCHBOARD — **PHASES:** 3 — **MAINS RATING:** 600A MAIN BUS
MOUNTING: SURFACE — **WIRES:** 4 — **MAINS TYPE:** 400A MAIN CB
ENCLOSURE: NEMA 1
NOTES: EXISTING GENERAL ELECTRIC 7700 LINE CONTROL CENTER

CCT NO	CIRCUIT DESCRIPTION	CCT BKR	STARTER	LOAD (HP/KVA)	LOAD (AMP)	REMARKS
1	LP-B1 VIA 37.5 KVA TRANSF	80A		37.5	78.0	
2	BLOWER NO. 1	70A		30	40.0	
3	BLOWER NO. 2	70A		30	40.0	
4	AIR COMPRESSORS	150A		80	80.0	TWO @ 40HP EA
5	SPARE	15A	SIZE 1			
6	SPARE	15A	SIZE 1			
7	SPARE	15A	SIZE 1			
8	WATER HEATER	15A		12	14.4	
9	BRIDGE CRANE	30A		5	7.6	
10	SPARE	15A	SIZE 1			
11	SPARE	15A	SIZE 1			
12	HV-3 - CHEM BLDG	15A		2	3.4	
13	SL RECIRC PUMP NO. 1	30A	SIZE 2	20	27.0	
14	SL RECIRC PUMP NO. 2	30A	SIZE 2	20	27.0	
15	WELDING RECEPT	60A		0	0.0	
16	SPARE	60A				
17	**SLUDGE THICKENER DRIVE**	**15A**		**1.5**	**3.0**	**INSTALL NEW CIRCUIT BREAKER**
18	**SCUM PUMP NO. 1**	**15A**		**2**	**3.4**	**INSTALL NEW CIRCUIT BREAKER**
19	**SCUM PUMP NO. 2**	**15A**		**2**	**3.4**	**INSTALL NEW CIRCUIT BREAKER**
20	N FLEX RAKE WASH/COMP	15A	SIZE 1	1.5	3.0	
21	S FLEX RAKE WASH/COMP	15A	SIZE 1	1.5	3.0	
22	**THICKENER ROOM EXH FANS**	15A		**2 @ 0.5**	**2.2**	**INSTALL NEW CIRCUIT BREAKER**
23	SPARE	15A	SIZE 1			
24	SPARE	15A	SIZE 1			
25	SPARE	15A	SIZE 1			
26	SPARE	15A	SIZE 1			
27	SPARE	15A	SIZE 1			
28	SPARE	100A				
29	SPARE	100A				
	TOTAL CONNECTED CURRENT:				335.4	**AMPS**



FIRST FLOOR PARTIAL PLAN
1/4" = 1'-0"

SLUDGE THICKENING BUILDING ELECTRICAL PLAN
1/4" = 1'-0"

GENERAL NOTES

1. EXISTING CONDUITS MAY BE REUSED WHERE IN GOOD CONDITION.

KEY NOTES

1. FURNISH AND INSTALL NEW LIGHTING FIXTURES AT SAME LOCATION AS EXISTING. NEW FIXTURES SHALL BE EQUAL TO APPLETON CMLED-A (OR C)-15-2-G-5-BU, 120V, 64W, 4838 LUMEN OUTPUT. CEILING OR PENDANT MOUNT. TYPICAL OF NINE.
2. TO THICKENER DRIVE MOTOR STARTER LOCATED ON EXTERIOR WALL. SEE ONELINE DIAGRAM ON SHEET E-501.
3. THICKENER DRIVE MOTOR STARTER AND ALARM ENCLOSURE. COORDINATE EXACT LOCATION WITH THE OWNER. SEE ONELINE DIAGRAM AND DETAILS ON SHEET E-501.
4. FURNISH AND INSTALL NEW SCUM PUMP STARTER AND RECEPTACLE AT SAME LOCATION AS EXISTING MOTOR STARTER. SEE ONELINE DIAGRAM AND DETAILS ON SHEET E-501 FOR ADDITIONAL INFORMATION.
5. MOUNT COMBUSTIBLE GAS SENSOR 2 FEET BELOW CEILING.
6. MOUNT OXYGEN SENSOR 4 FEET ABOVE WALKWAY.
7. WALL MOUNT VCS AT HEAD OF STAIRS, 48" ABOVE GRADE. ROUTE CONDUIT AND CONDUCTORS TO VCP LOCATED ON THE FIRST FLOOR OF THE THICKENER BUILDING, SEE PARTIAL PLAN ON THIS SHEET.
8. WALL MOUNT VCS 48" ABOVE WALKWAY. ROUTE CONDUIT AND CONDUCTORS TO VCP LOCATED ON THE FIRST FLOOR OF THE THICKENER BUILDING, SEE PARTIAL PLAN ON THIS SHEET.
9. ROUTE CONDUIT AND CONDUCTORS TO EXHAUST FAN MOTOR STARTER LOCATED ON THE FIRST FLOOR OF THE THICKENER BUILDING, SEE PARTIAL PLAN ON THIS SHEET.
10. WALL MOUNT VCS AND EXHAUST FAN STARTER. COORDINATE EXACT LOCATION WITH THE OWNER.
11. WITHIN THIS SPACE, ALL NEW CONDUIT SHALL BE PVC COATED RIGID STEEL WITH PVC COATED FITTINGS, CONDUIT BODIES AND BOXES.
12. FURNISH AND INSTALL A NEW EXHAUST FAN IN EXISTING OPENING. PROVIDE MOUNTING ACCESSORIES AS REQUIRED FOR EXISTING 18" SQUARE OPENING – FIELD VERIFY DIMENSIONS. THE NEW EXHAUST FAN SHALL BE EQUAL TO GREENHECK SE1-14-436-A3, 1941 CFM AT 0.4" SP. PROVIDE WITH CLASS 1, DIVISION 1 GROUP D EXPLOSIONPROOF 115V, SINGLE PHASE MOTOR.
13. FURNISH AND INSTALL A NEW LOUVER IN EXISTING 32" X 20" OPENING – FIELD VERIFY DIMENSION. THE NEW LOUVER SHALL BE EQUAL TO RUSKIN ELF6350DMP WITH 51% FREE AREA. PROVIDE LOUVER WITH BIRD SCREEN.
14. FURNISH AND INSTALL TWO NEW EXPLOSIONPROOF 120V, 20A SIMPLEX RECEPTACLES TO MATCH EXISTING – APPLETON, CROUSE HINDS OR EQUAL. EXTEND EXISTING CIRCUIT AS REQUIRED TO NEW RECEPTACLE LOCATION.
15. EXTEND TWO EXISTING PUMP CONDUITS DOWN THROUGH PUMP ROOM FLOOR TO PUMP WELL BELOW. CORE DRILL PUMP ROOM FLOOR AS REQUIRED.
16. ROUTE NEW PUMP MOTOR CONDUITS THROUGH PUMP WELL BELOW. PUMP WELL CONDUITS SHALL BE PVC COATED RIGID STEEL COORDINATE EXACT ROUTING WITH THE OWNER. FURNISH AND INSTALL NEW CONDUCTORS FROM VFD IN SWITCHBOARD 2 TO PUMP MOTOR. NOTE THAT PUMP WELL FLOOR TO CEILING HEIGHT IS APPROXIMATELY 25 FEET.

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ELECTRICAL PLANS AND SCHEDULES

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REV	DESCRIPTION	DATE

SCALE: As indicated
PROJ. #: 17-0117
DATE: 04/06/2018
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THE BAR BELOW SHOWS GRAYSCALE FROM WHITE TO SOLID BLACK
WHITE — BLACK

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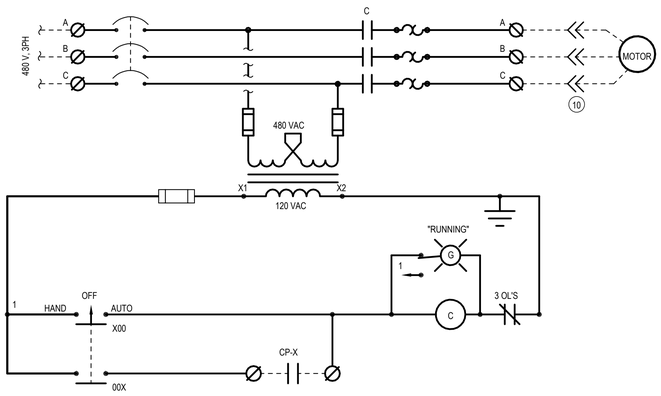
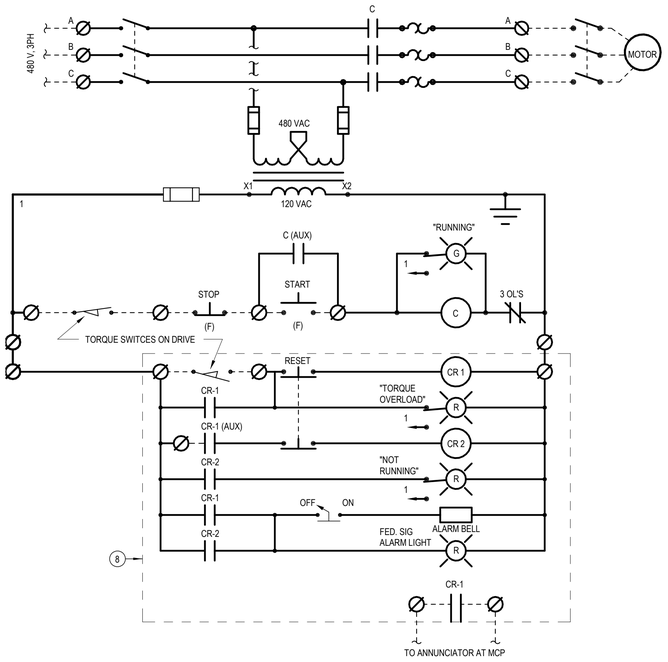
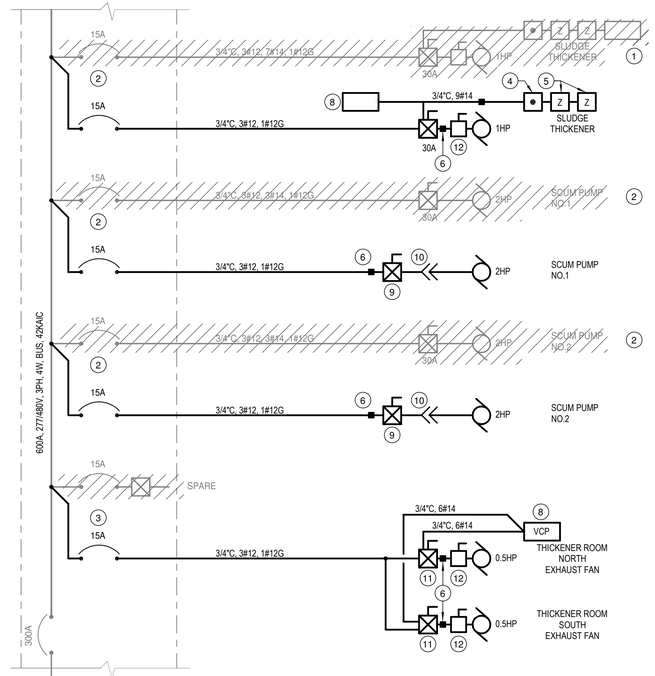


4 SCUM PUMPS NO.1 & 2 MOTOR STARTER DETAIL (9)
N.T.S.

(9)



2 SLUDGE THICKENER MECHANISM DRIVE DETAIL (7)
N.T.S.



1 EXISTING 480V MCC-B PARTIAL ONE-LINE DIAGRAM
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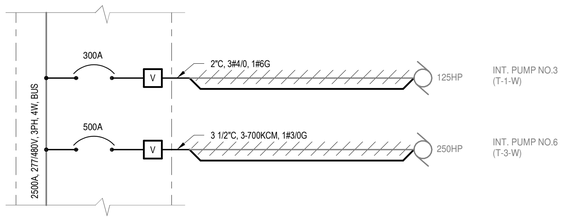
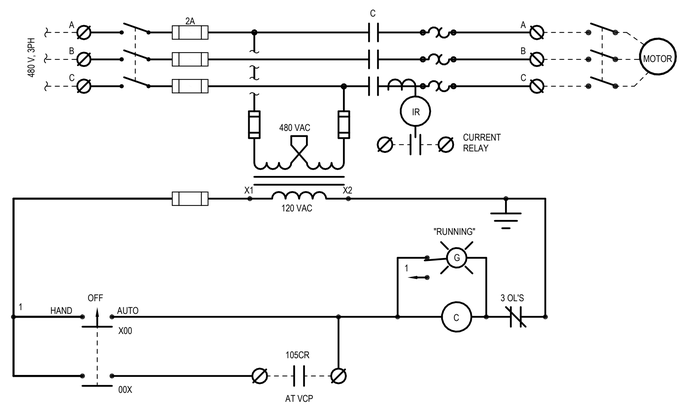


5 EXISTING SWITCHBOARD A2 PARTIAL ONELINE DIAGRAM
N.T.S.



3 EXHAUST FAN MOTOR STARTER DETAIL (11)
N.T.S.

GENERAL NOTES

1. SWITCHES AND CIRCUIT BREAKERS ARE THREE POLE UNLESS OTHERWISE NOTED.
2. EXISTING ELECTRICAL INFORMATION AS BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION RECORD DRAWINGS PREPARED BY AYRES, LEWIS, NORRIS AND MAY IN FEBRUARY, 1983; PROJECT NUMBER 51312. EXISTING ELECTRICAL INFORMATION HAS NOT BEEN FIELD VERIFIED IN ITS ENTIRETY.
3. CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING TO SURVEY THE EXISTING CONDITIONS AFFECTING WORK AND SHALL INCLUDE THE NECESSARY MATERIALS AND LABOR TO ACCOMPLISH THE WORK. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND RESOLVED PRIOR TO BID.

KEY NOTES

(1) DISCONNECT AND REMOVE ALL BRANCH CIRCUIT WIRE, CONDUIT, HANGERS, BOXES, CONTROLLERS, AND SWITCHES ASSOCIATED WITH THE EXISTING MCC CIRCUIT. TURN ANY SALVAGED EQUIPMENT OVER TO THE OWNER. REMOVE CIRCUIT CONDUCTORS BACK TO MCC.

(2) REMOVE EXISTING CIRCUIT BREAKER AND FURNISH AND INSTALL NEW CIRCUIT BREAKER. NEW CIRCUIT BREAKERS WITH NEW IDENTIFYING NAMEPLATES. THE EXISTING MCC IS GENERAL ELECTRIC 7700 INSTALLED WITH THE ORIGINAL BUILDING CONSTRUCTION.

(3) REMOVE EXISTING UNUSED MOTOR STARTER AS REQUIRED TO ACCOMMODATE NEW CIRCUIT BREAKER. FURNISH AND INSTALL NEW CIRCUIT BREAKER. PROVIDE NEW CIRCUIT BREAKER WITH EXTERIOR MCC DOORS AND IDENTIFYING NAMEPLATE. THE EXISTING MCC IS GENERAL ELECTRIC 7700 INSTALLED WITH THE ORIGINAL BUILDING CONSTRUCTION.

(4) FURNISH AND INSTALL NEMA 4 CONTROL STATION; SEE CIRCUIT DIAGRAM ON THIS SHEET.

(5) CONNECT TORQUE SWITCHES FURNISHED WITH THICKENER DRIVE MECHANISM.

(6) CONDUIT SEAL FITTING, TYPICAL. INSTALL FITTINGS IN ACCORDANCE WITH THE NEC FOR A CLASS 1, DIVISION I, GROUP D SPACE.

(7) NON-FUSIBLE SWITCH TYPE SIZE 1 COMBINATION MOTOR STARTER IN NEMA 12 ENCLOSURE. PROVIDE WITH INTEGRAL FUSED CONTROL POWER TRANSFORMER, GREEN PUSH TO TEST LED PILOT LIGHT AND COVER MOUNTED OVERLOAD RESET BUTTON. VERIFY STARTER SIZE WITH EQUIPMENT SUPPLIED. PROVIDE NAMEPLATE INDICATING LOAD CONTROLLED AND POWER CIRCUIT DESIGNATION, VOLTAGE AND PHASE.

(8) FURNISH AND INSTALL NEMA 12 ALARM ENCLOSURE. MOUNT RESET, PTT PILOT LIGHTS, ALARM BELL AND BELL ON/OFF SWITCH ON THE FACE OF THE ENCLOSURE. MOUNT THE ALARM LIGHT ON TOP OF THE ENCLOSURE. THE BELL SHALL BE EQUAL TO FEDERAL SIGNAL A6-500-120-1 WITH 6-INCH BELL. THE ALARM LIGHT SHALL BE RED FLASHING LED EQUAL TO FEDERAL SIGNAL SLM100R WITH PANEL MOUNT BASE. MOUNT CONTROL RELAYS ON SUBPLATE WITHIN ENCLOSURE.

(9) CIRCUIT BREAKER TYPE SIZE 1 COMBINATION MOTOR STARTER IN NEMA 7 EXPLOSION-PROOF ENCLOSURE (CLASS 1, DIVISION I, GROUP D); APPLETON AEB OR EQUAL. PROVIDE WITH INTEGRAL FUSED CONTROL POWER TRANSFORMER, GREEN LED RUNNING INDICATED AND COVER MOUNTED HOA SWITCH. PROVIDE NAMEPLATE INDICATING LOAD CONTROLLED AND POWER CIRCUIT DESIGNATION, VOLTAGE AND PHASE.

(10) FURNISH AND INSTALL A 30A, EXPLOSION PROOF (CLASS 1, DIVISION I, GROUP D) PIN AND SLEEVE TYPE 3W, 4P RECEPTACLE/SWITCH AND PLUG SUITABLE FOR 480V OPERATION. EQUIPMENT SHALL BE EQUAL TO APPLETON FSQC POWERTITE. INSTALL PLUG ON EXISTING SCUM PUMP CORD. INTERCONNECT WITH THE MOTOR STARTER AS REQUIRED.

(11) FUSIBLE SWITCH TYPE SIZE 1 COMBINATION MOTOR STARTER IN NEMA 12 ENCLOSURE. PROVIDE WITH INTEGRAL FUSED CONTROL POWER TRANSFORMER, GREEN PUSH TO TEST LED PILOT LIGHT AND COVER MOUNTED OVERLOAD RESET BUTTON. VERIFY STARTER SIZE WITH EQUIPMENT SUPPLIED. FURNISH AND INSTALL A CURRENT RELAY WITHIN THE ENCLOSURE EQUAL TO ACUAMP ACSX200,PROVIDE NAMEPLATE INDICATING LOAD CONTROLLED AND POWER CIRCUIT DESIGNATION, VOLTAGE AND PHASE.

(12) NEMA 7, 30A/3P NON-FUSIBLE DISCONNECT SWITCH.

(13) DISCONNECT AND REMOVE EXISTING PUMP CIRCUIT CONDUIT AND CONDUCTORS TO ACCOMMODATE NEW WALL OPENING. REROUTE PUMP CIRCUITS AROUND NEW WALL OPENING AND THROUGH PUMP WELL BELOW PUMP ROOM AS REQUIRED. EXISTING CONDUIT MAY BE REUSED WHERE PRACTICAL. FURNISH AND INSTALL NEW CONDUCTORS FROM SWITCHBOARD TO PUMP. NEW CONDUIT IN PUMP WELL SHALL BE PVC COATED RIGID STEEL. THE PUMP ROOM AND PUMP WELL ARE UNCLASSIFIED SPACES.

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ELECTRICAL DETAILS

REVISIONS

REV	DESCRIPTION	DATE

SCALE: 12" = 1'-0"
PROJ. #: 17-0117
DATE: 04/06/2018
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EP501

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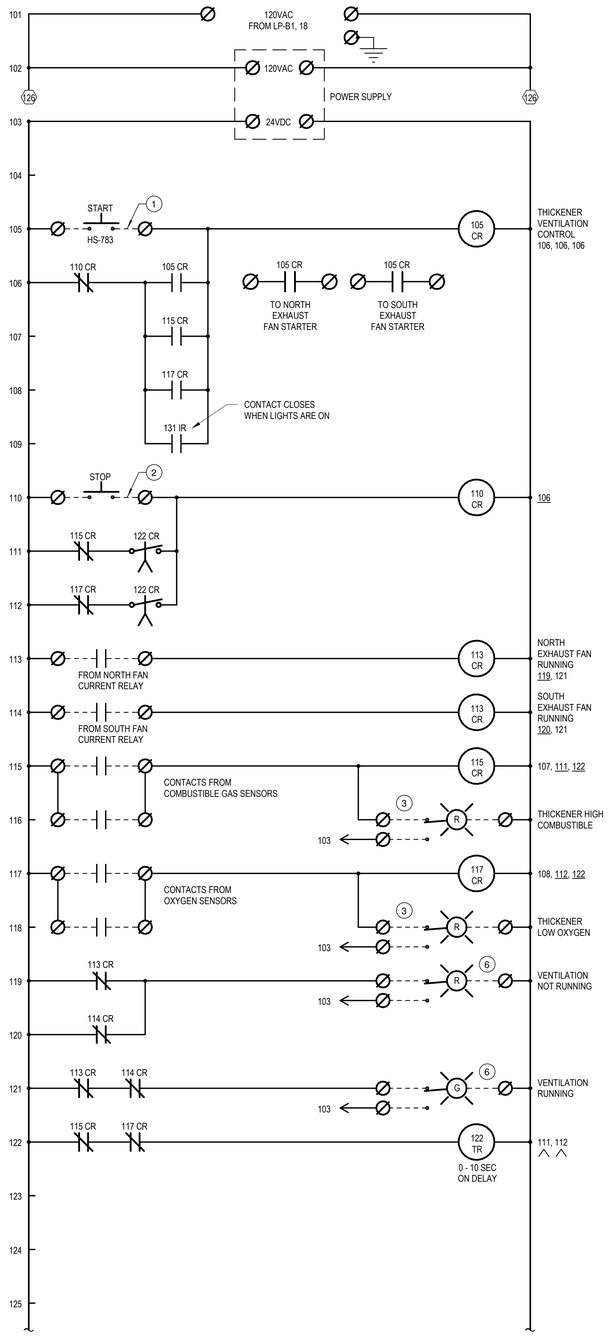
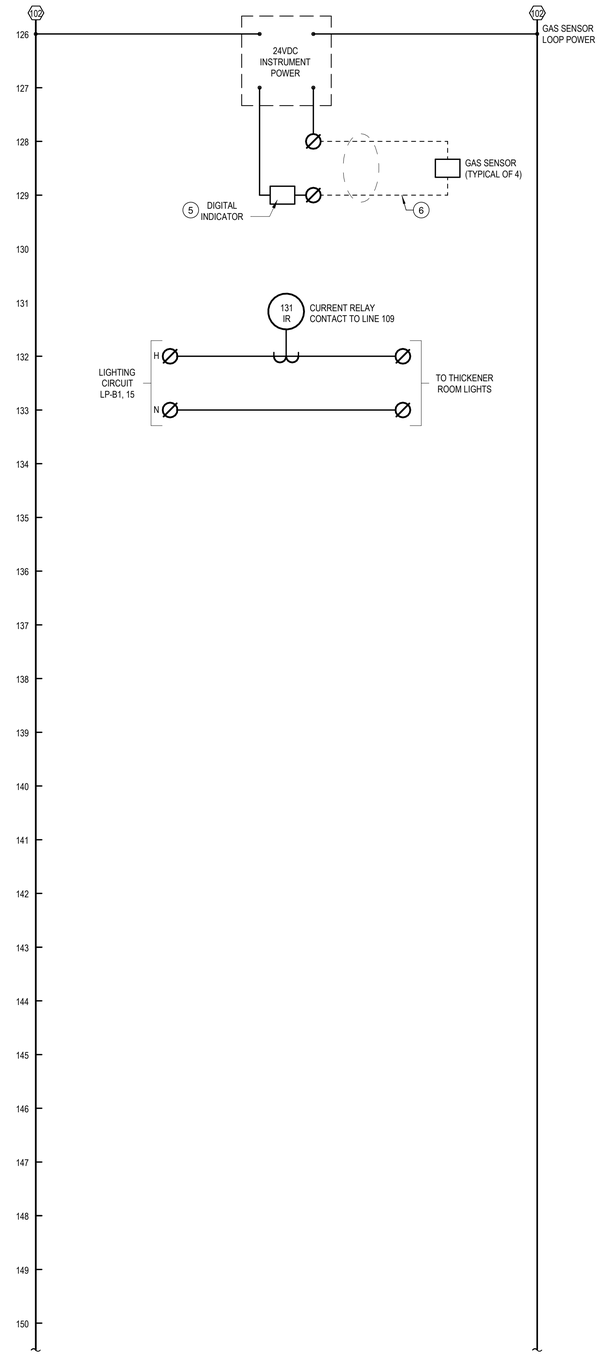
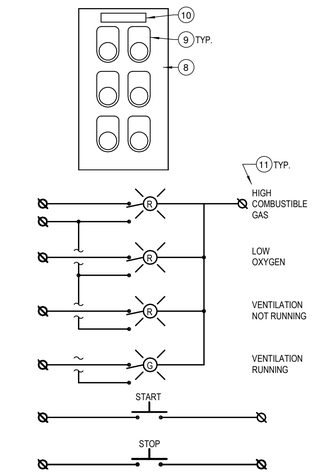


2 VENTILATION CONTROL PANEL - VCP (7)
N.T.S.





1 VENTILATION CONTROL STATION - VCS
N.T.S.

KEY NOTES

1. CONNECT MULTIPLE START PUSHBUTTONS IN PARALLEL.
2. CONNECT MULTIPLE STOP PUSHBUTTONS IN PARALLEL.
3. CONNECT MULTIPLE FIELD PILOT LIGHTS IN PARALLEL.
4. PROVIDE LOOP POWER SUPPLIES AS REQUIRED FOR GAS DETECTORS. VCP SHALL POWER ALL GAS DETECTOR LOOPS, COMBUSTIBLE AND OXYGEN.
5. LOOP POWERED DIGITAL INDICATOR – MOUNT IN FACE OF VCP.
6. TWO OR THREE WIRE SHIELDED CABLE AS REQUIRED BY SENSOR MANUFACTURER.
7. VCP ENCLOSURE SHALL BE WALL MOUNT, NEMA 12, GASKETED, HINGED DOOR WITH TWO OR THREE POINT LATCH, DIMENSIONS AS REQUIRED FOR COMPONENTS INSTALLED PLUS 20% SPARE SUBPLATE SPACE. MOUNT DIGITAL INDICATORS ON FACE OF CONTROL PANEL WITH ENGRAVED NAMEPLATES.
8. 6 BUTTON, NEMA 4X STAINLESS STEEL FOR OUTDOOR UNITS – SAGINAW SCE OR EQUAL; NEMA 7, CLASS 1, DIVISION I, GROUP D FOR INDOOR UNITS – AKRON ELECTRIC OR EQUAL. NEMA 7 ENCLOSURES SHALL BE GASKETED.
9. ON NEMA 4X UNITS – 30MM, MOMENTARY CONTACT PUSHBUTTON SWITCH OR PUSH TO TEST PILOT LIGHT WITH LED LAMP, COLOR AS INDICATED. ON NEMA 7 UNITS, SIZE MAY BE MANUFACTURERS'S STANDARD.
10. ENGRAVE NAMEPLATE: THICKENER VENTILATION CONTROL STATION.
11. PROVIDE ENGRAVED DEVICE TAGS.

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VENTILATION CONTROL DETAILS

REVISIONS

REV	DESCRIPTION	DATE

SCALE: 12" = 1'-0"
PROJ. #: 17-0117
DATE: 04/06/2018
SHEET
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