FUEL TANK REPAIR AND REPLACEMENT PROJECT KUGAARUK, NUNAVUT

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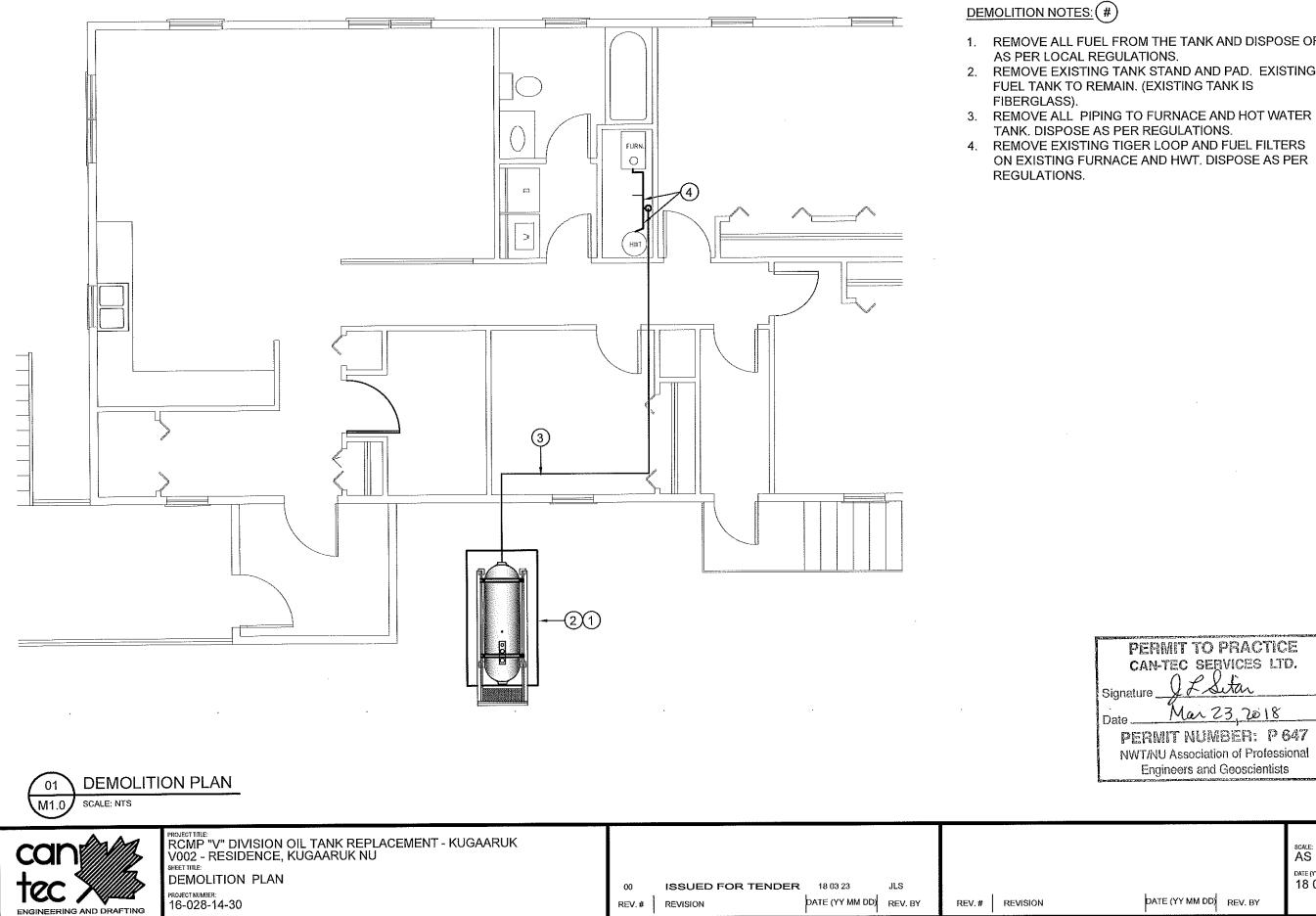
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<u>V002 - F</u>	RESIDENCE	<u></u>	ACIENT BOILDING	<u></u>	
M1.0	DEMOLITION PLAN	M1.0	MAIN FLOOR PLAN	S1	STRUCTURAL PROJEC
M1.1	CONSTRUCTION PLAN	M1.1	REPAIR DETAILS	S2	TYP TANK SLAB, BOLL
M2.0	TANK ELEVATIONS	M2.0	REPAIR DETAILS		ISOMETRIC VIEW OF N
M2.1	2" FUEL LINE SUPPORT DETAIL			S3	CONNECTION #1 DETA
M3.0	SCHEMATICS			S4	CONNECTION #2 DETA
110.0				S5	TANK #1 - PLAN VIEW
				S6	TANK #1 - PLAN VIEW
V120 - F	RESIDENCE			S7	TANK #2 - PLAN VIEW
				S8	TANK #2 - ELEVATION
M1.0	DEMOLITION PLAN			S9	TANK #2 - ELEVATION
M1.1	CONSTRUCTION PLAN			S10	TANK #3 - PLAN VIEW
M2.0	TANK ELEVATIONS			S11	TANK #3 - ELEVATION
M2.1	2" FUEL LINE SUPPORT DETAIL			S12	TANK #3 - ELEVATION
M3.0	SCHEMATICS			S13	TANK #4 - PLAN VIEW
				S14	TANK #4 - ELEVATION
				S15	TANK #4 - ELEVATION
				S16	TANK #5 - PLAN VIEW
				S17	TANK #5 - ELEVATION
				S18	TANK #5 - ELEVATION

	RCMP "V" DIVISION OIL TANK REPLACEMENT - KUGAARUK						
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ENGINEERING AND DRAFTING	PROJECT NUMBER: 16-028-14-30	REV.#		DATE (YY MM DD)	REV, BY	REV.#	REVISION

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JECT NOTES LLARD AND BASE PLATE DETAILS AND F METAL STAND TAILS TAILS W OF TANK ON SLAB W OF TANK ON SLAB W OF TANK ON LOW METAL STAND ONS OF LOW METAL STAND ONS OF LOW METAL STAND W OF TANK ON HIGH METAL STAND ONS OF HIGH METAL STAND ONS OF HIGH METAL STAND W OF TANK ON LOW DOUBLE METAL STAND ONS OF LOW DOUBLE METAL STAND ONS OF LOW DOUBLE METAL STAND W OF TANK ON HIGH DOUBLE METAL STAND ONS OF HIGH DOUBLE METAL STAND ONS OF HIGH DOUBLE METAL STAND

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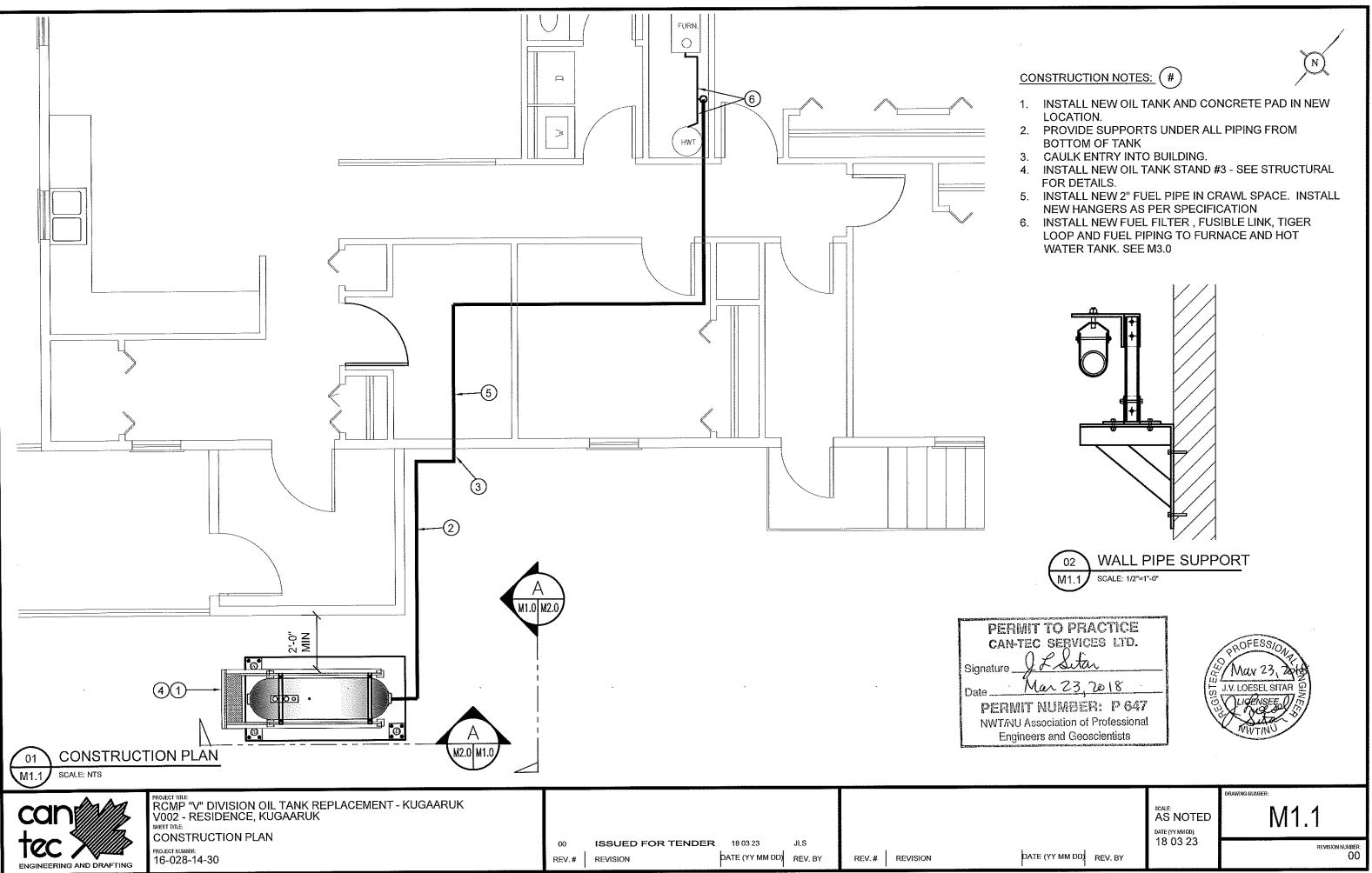
1. REMOVE ALL FUEL FROM THE TANK AND DISPOSE OF 2. REMOVE EXISTING TANK STAND AND PAD. EXISTING

ON EXISTING FURNACE AND HWT, DISPOSE AS PER

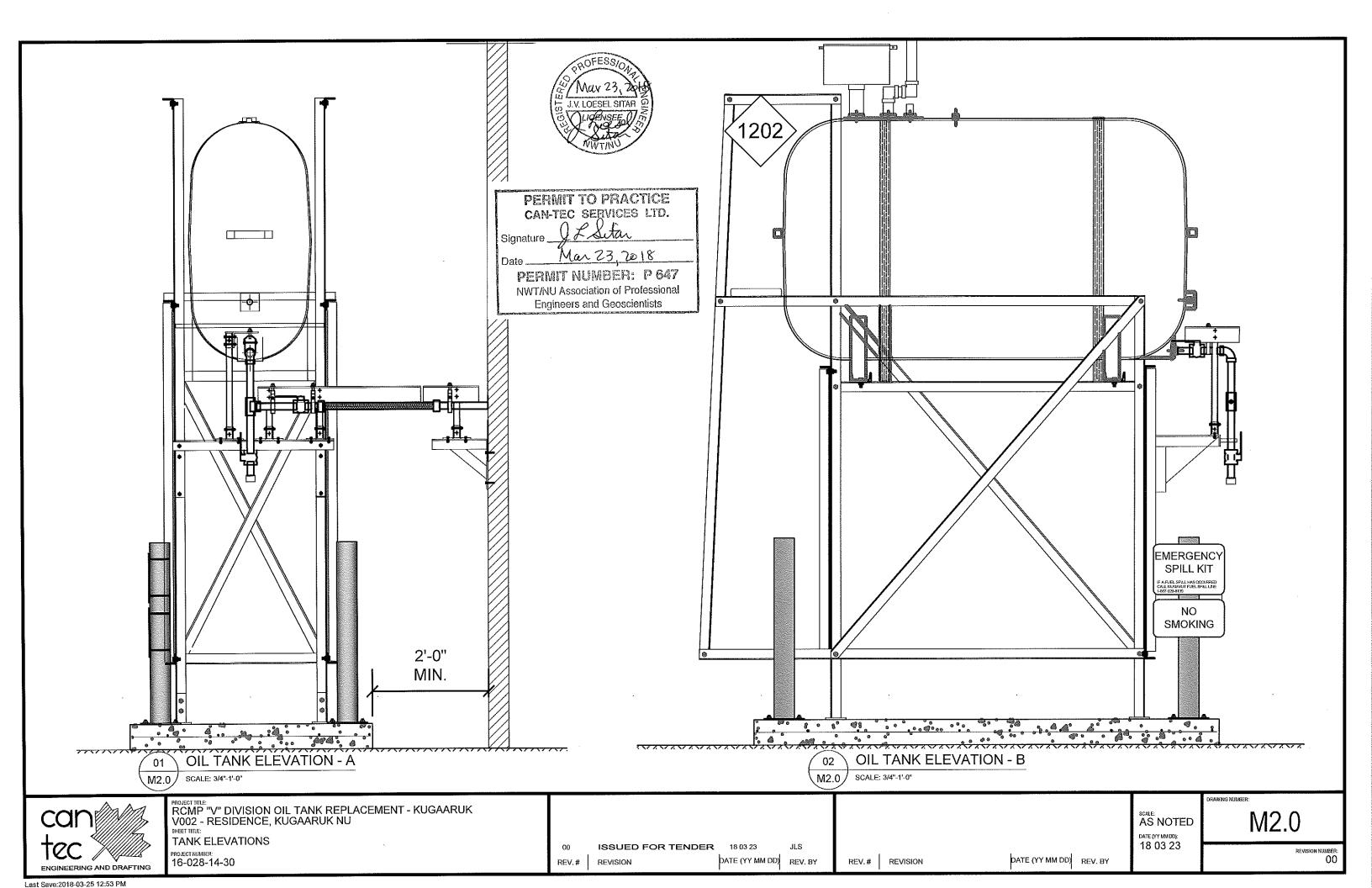
PERMIT TO PRACTIC CAN-TEC SERVICES LT Iture <u>J. L. Sutan</u> Mar 23, 2018 ERMIT NUMBER: P (VT/NU Association of Professi Engineers and Geoscientists	D. 347 Jonal	PROFESSION Wax 23, 2019 JV LOESEL SITAR OF LIGENSEE NWTINU
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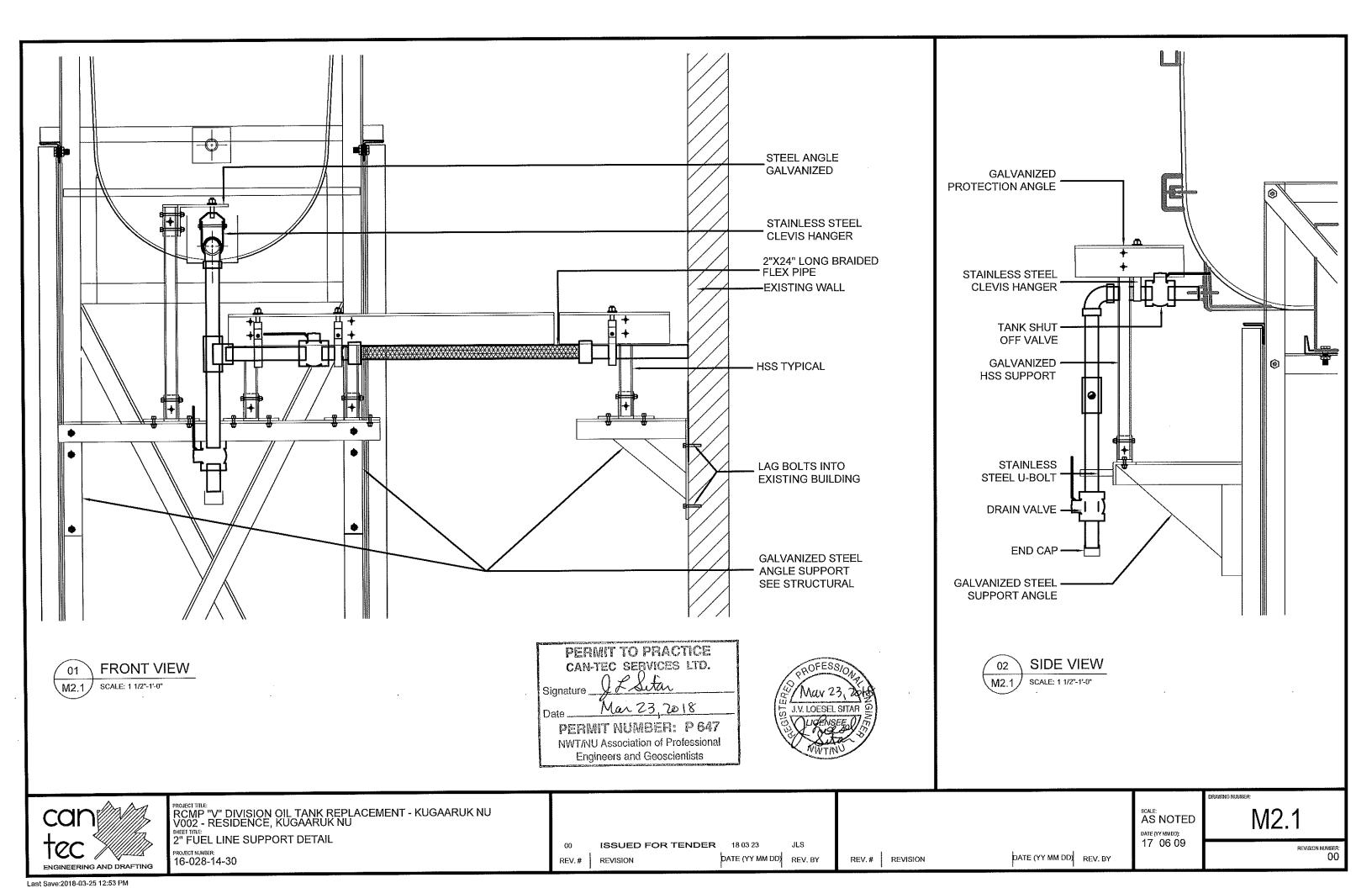
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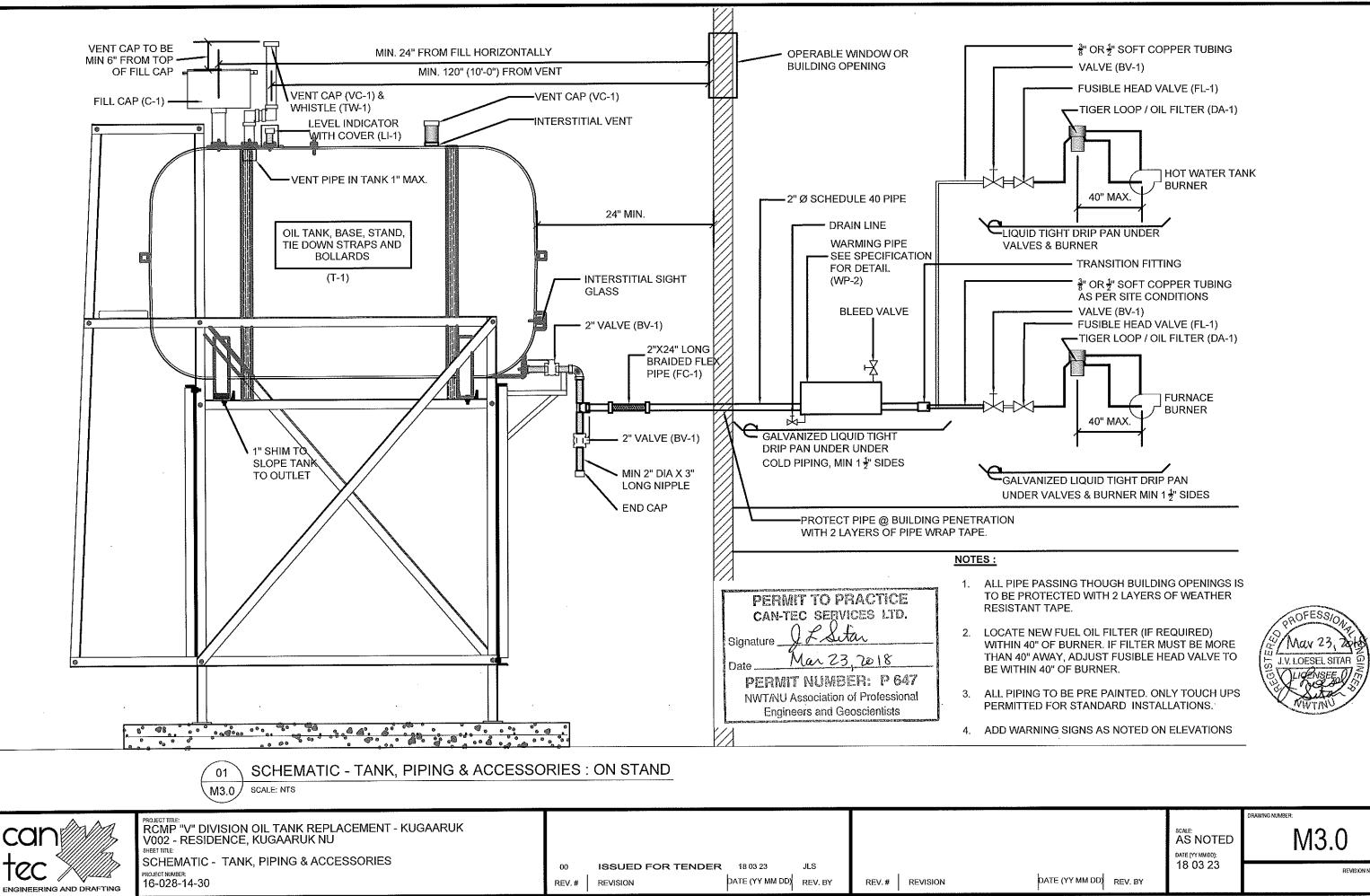
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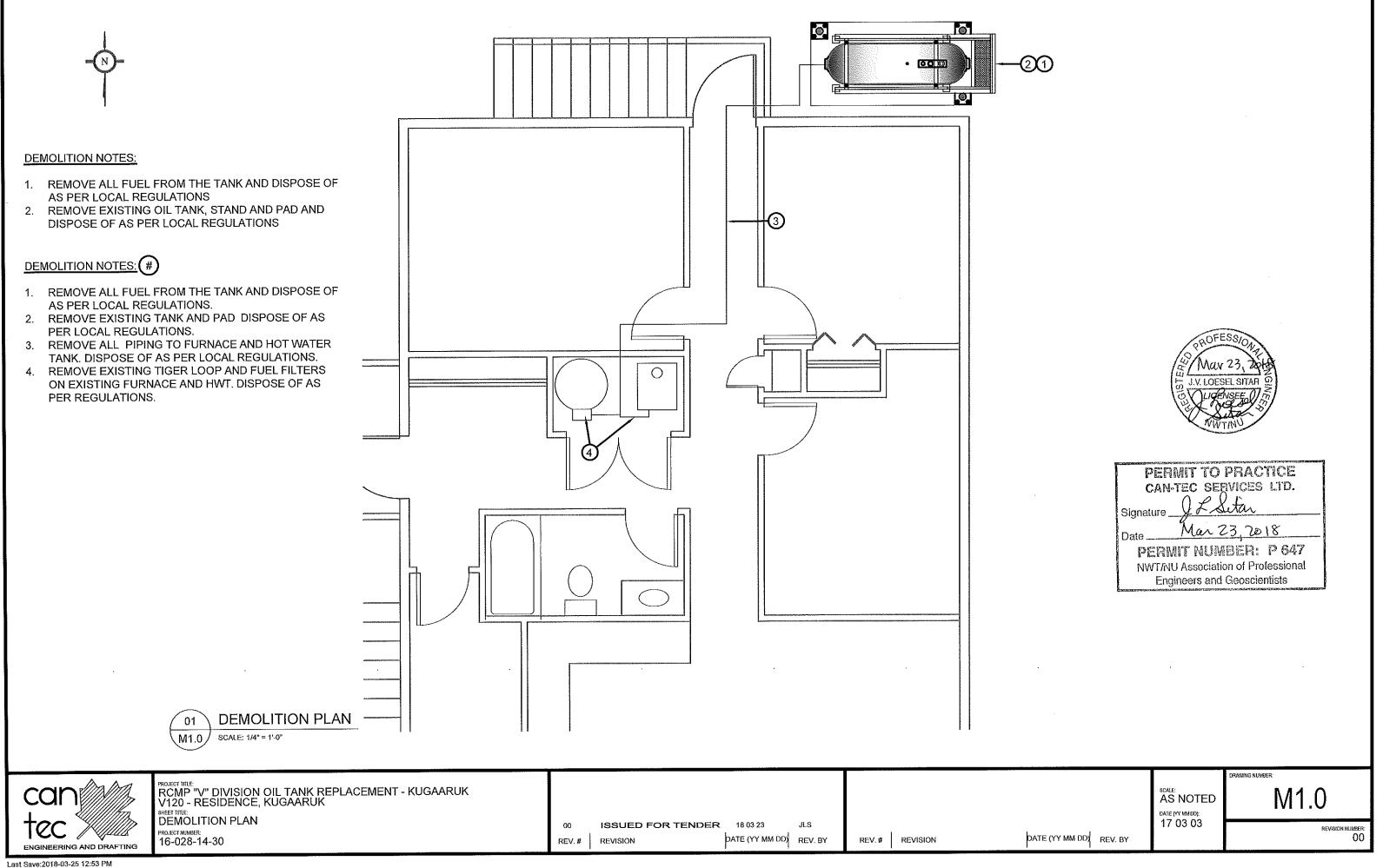






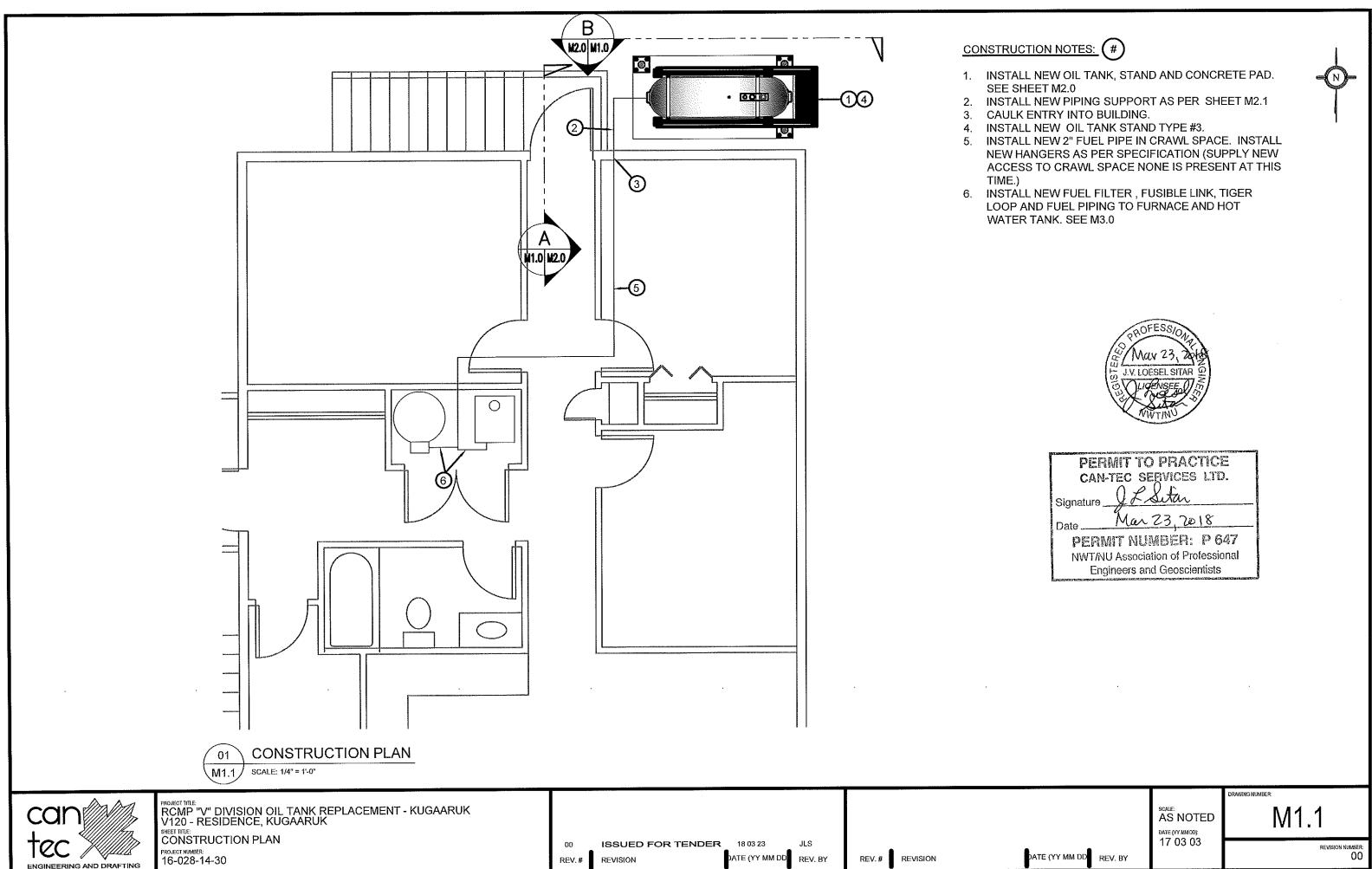
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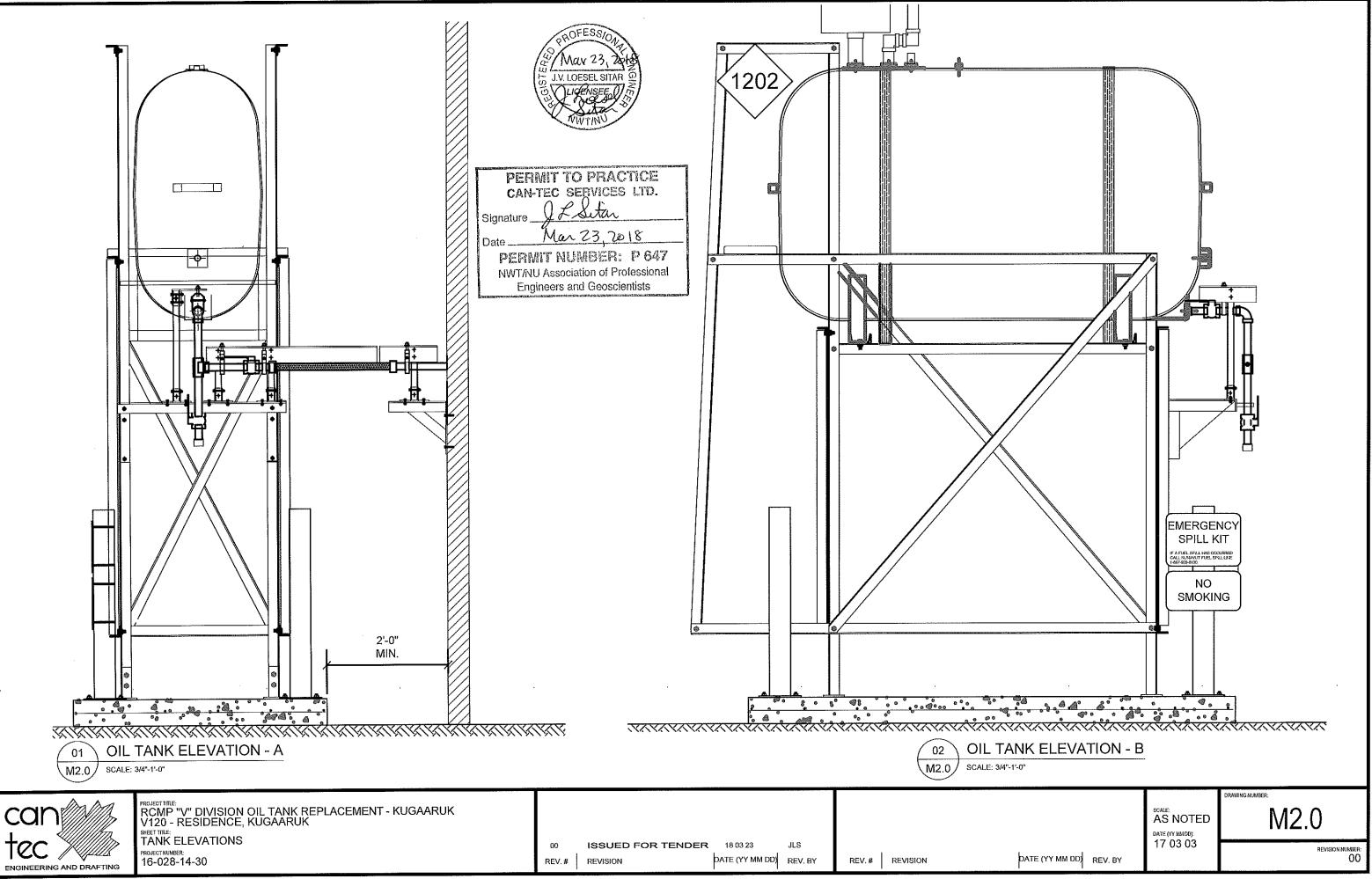


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PERMIT TO PRACTICE	
CAN-TEC SERVICES LTD.	
Signature <u>J.F. Sutan</u>	
Date Mar 23, 2018	
PERMIT NUMBER: P 647	
NWT/NU Association of Professional	
Engineers and Geoscientists	

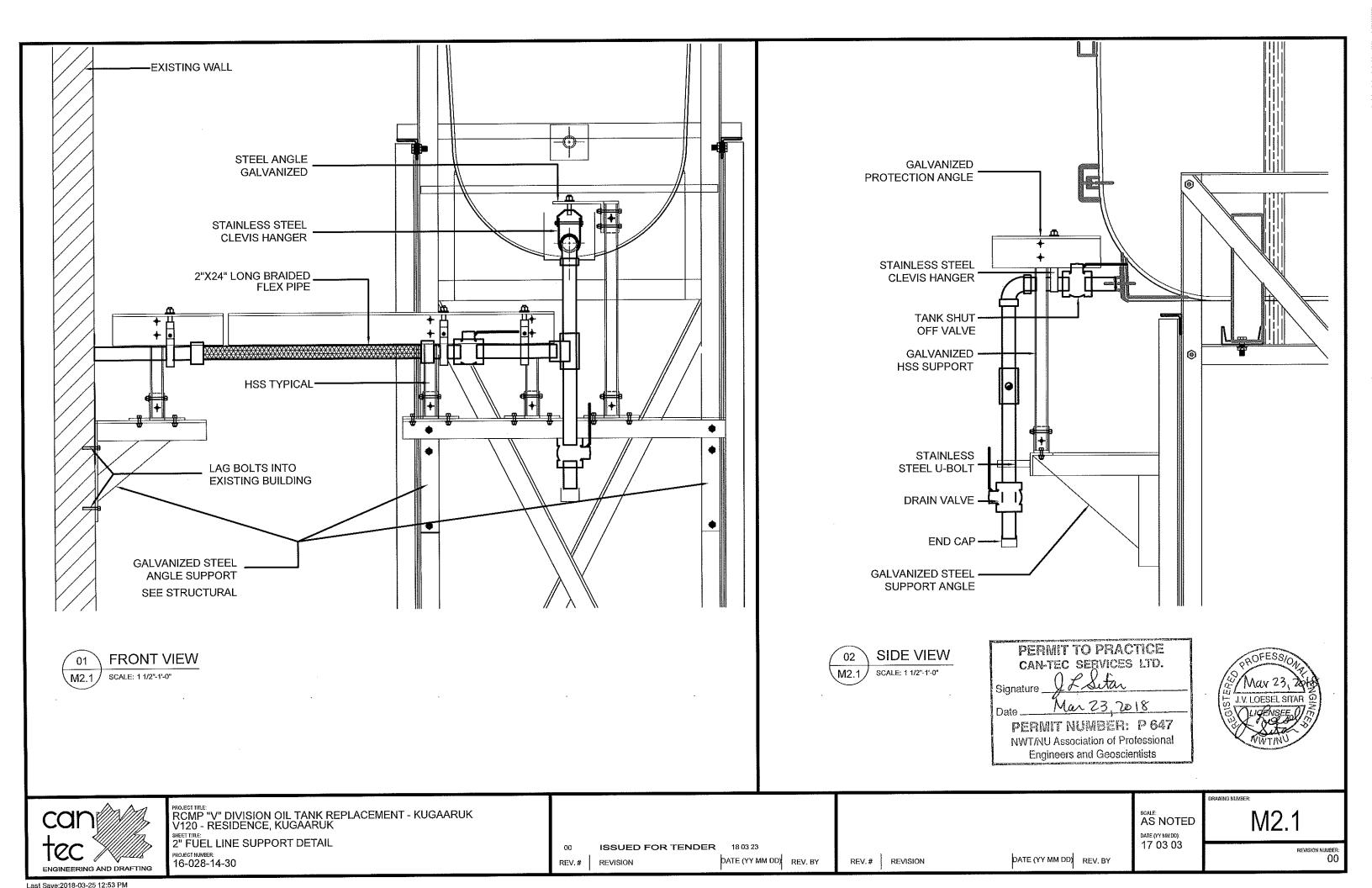


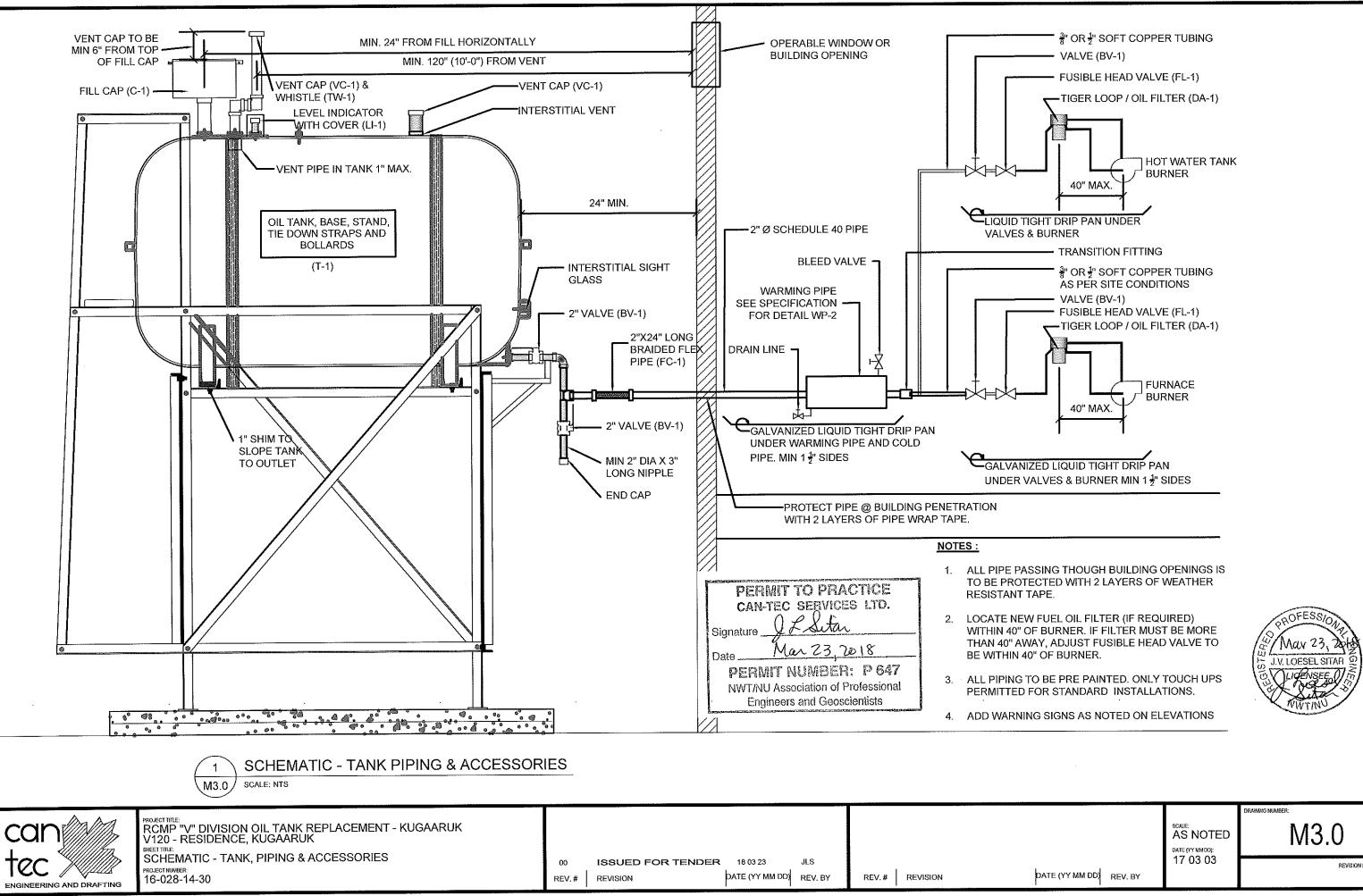


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Signature QL Sitan
Date Mar 23, 2018
PERMIT NUMBER: P 647
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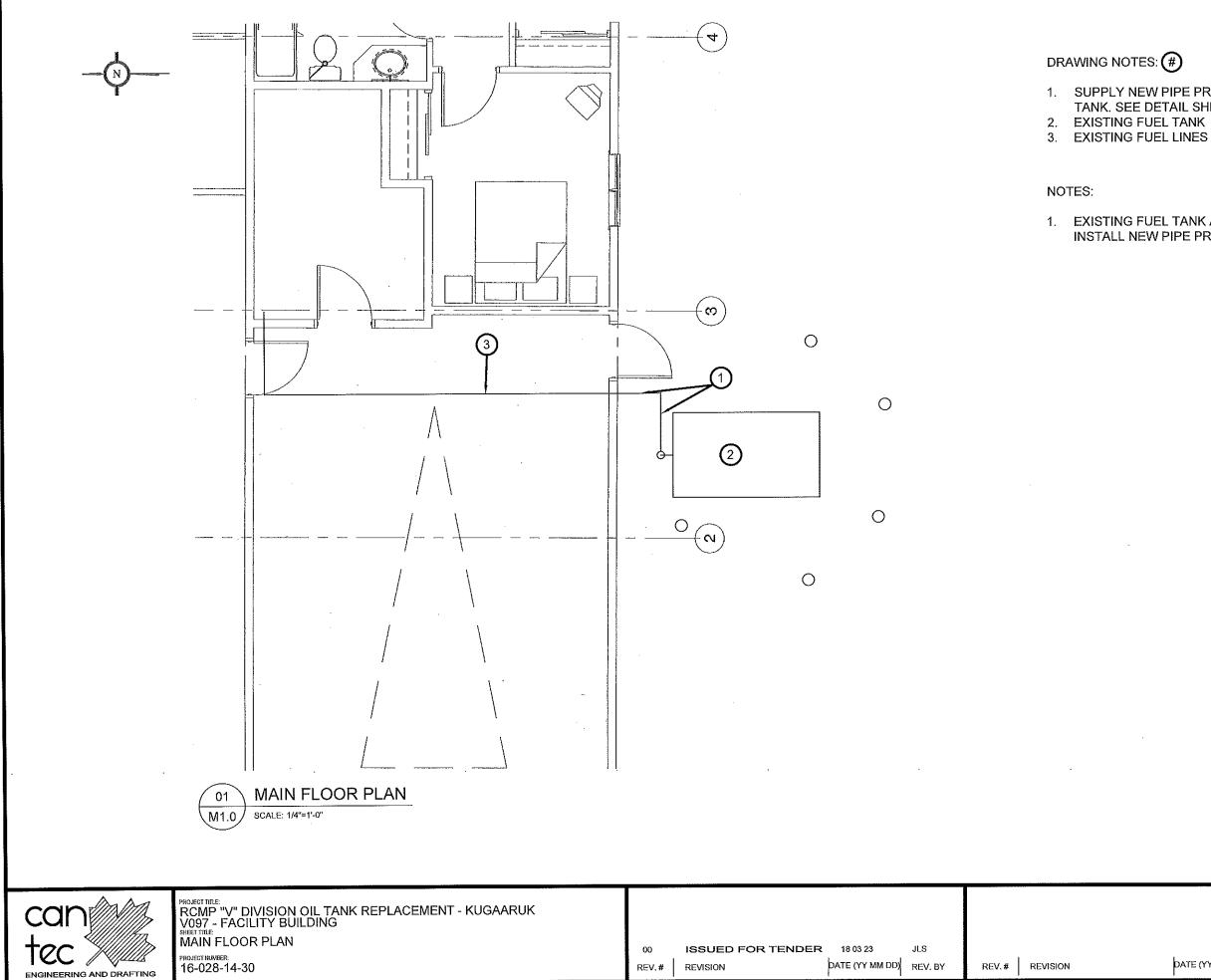
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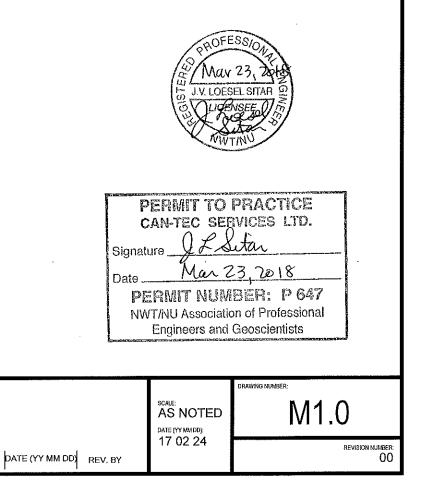
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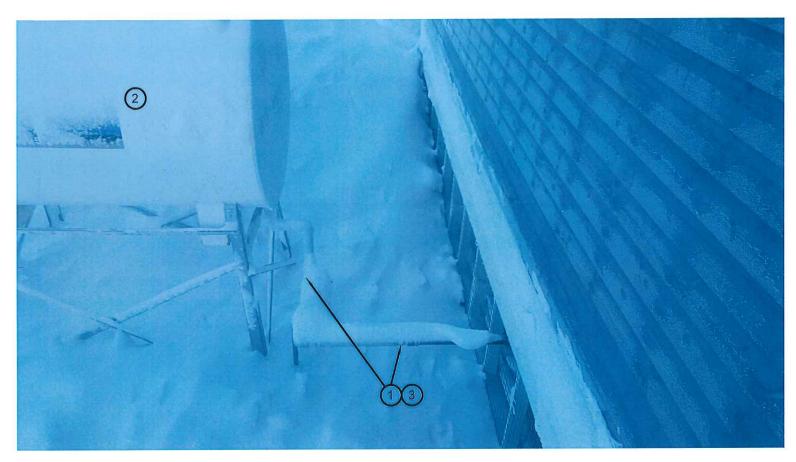


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1. SUPPLY NEW PIPE PROTECTION FOR EXISTING FUEL TANK. SEE DETAIL SHEET M2.0

1. EXISTING FUEL TANK AND SYSTEM TO REMAIN. INSTALL NEW PIPE PROTECTION AS REQUIRED.





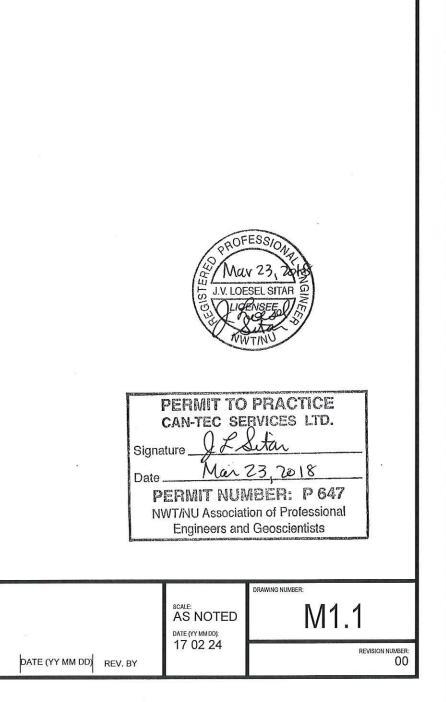


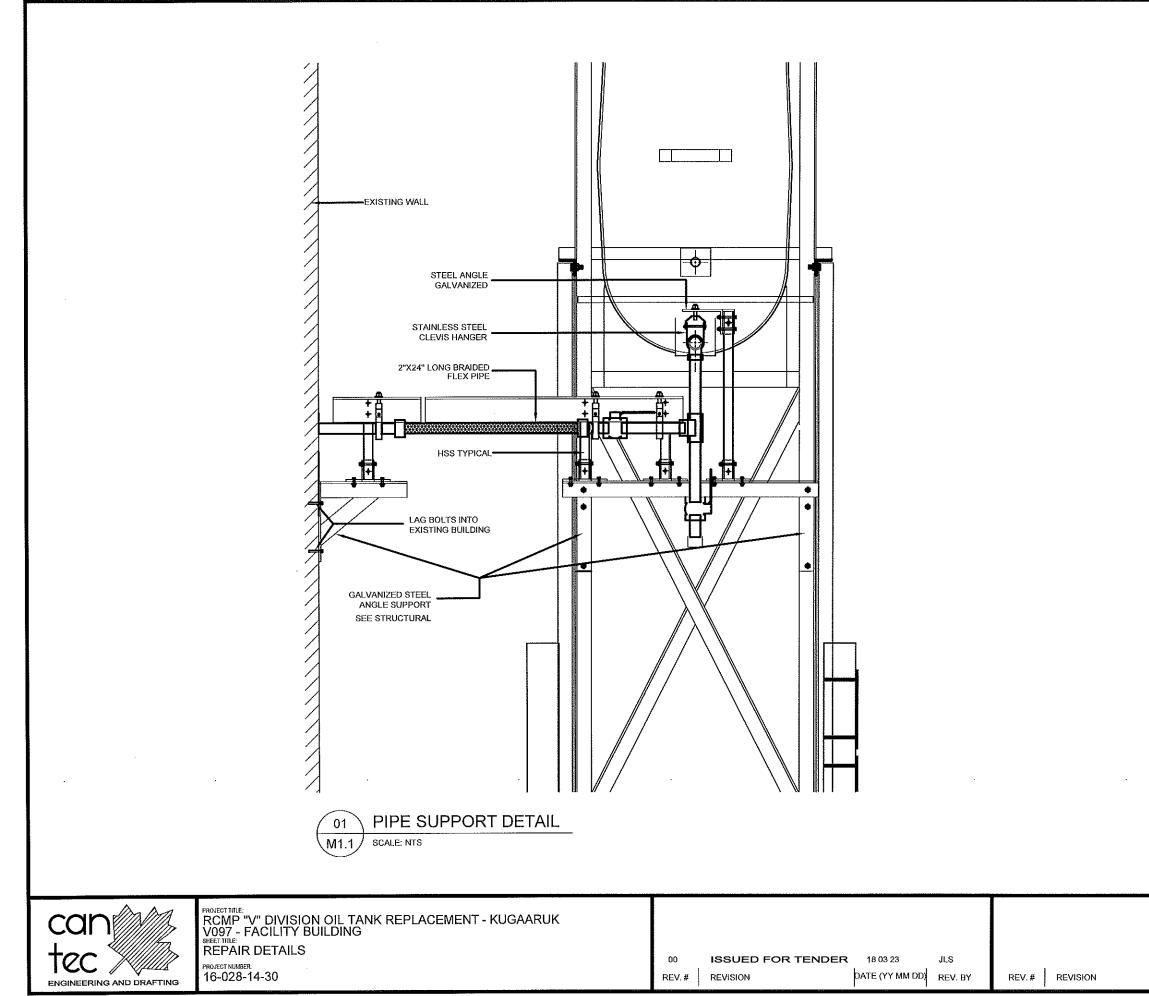
DRAWING NOTES:

- 1. SUPPLY NEW PIPE PROTECTION FOR EXISTING FUEL TANK. SEE DETAIL SHEET M2.0
- 2. EXISTING FUEL TANK
- 3. EXISTING FUEL LINES

can tec	PROJECT TITLE: RCMP "V" DIVISION OIL TANK REPLACEMENT - KUGAARUK V097 - FACILITY BUILDING SHEET TITLE: REPAIR DETAILS PROJECT NUMBER:	00	ISSUED FOR TENDER	1 1	JLS		12	
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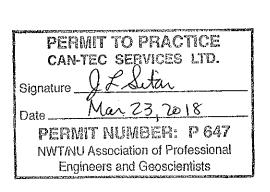




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GENERAL NOTES:

DO NOT SCALE DRAWINGS

- COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO COMMENCING CONSTRUCTION. 2
- SEE ARCHITECTURAL DRAWINGS FOR ELEVATIONS, SLOPES, ROUGH OPENING DIMENSIONS FOR WINDOWS, DOORS, ETC. 3
- SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENINGS IN FLOORS, ROOF, WALLS, ETC.
- DO NOT CUT OR DRILL OPENINGS IN ANY STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM BEACH ROCKE ENGINEERING LTD. 5
- BEACH ROCKE ENGINEERING LTD. SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF REQUIRED SITE INSPECTIONS. (TEL: 1-204-255-7251, 6 FAX: 1-204-257-7239)
- STRUCTURAL DRAWINGS SHOW THE COMPLETED STRUCTURE. THEY DO NOT SHOW COMPONENTS WHICH MAY BE NECESSARY FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SITE SAFETY AND TO ENSURE THAT ALL SUBTRADES CONFORM TO THE LATEST REGULATIONS OF THE PROVINCIAL "BUILDING PROTECTION ACT", TO PROVIDE ALL NECESSARY SAFETY EQUIPMENT AS REQUIRED THEREIN AND TO NOTIFY LOCAL AUTHORITIES AS REQUIRED BY LAW.
- 8 THE CONTRACTOR SHALL CONFORM TO THE COLD WEATHER REQUIREMENTS OF THE CSA STANDARD A23.1/A23.2 AND THE NATIONAL BUILDING CODF
- IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO LOCATE ALL SITE SERVICES PRIOR TO CONSTRUCTION. q
- THE GENERAL CONTRACTOR SHALL DESIGN ALL SHORING, FORM WORK, AND BRACING TO ENSURE PROPER CONSTRUCTION AND ERECTION.
- THE CONTRACTOR SHALL VISIT THE SITE, AND NOTE ALL CHARACTERISTICS AND IRREGULARITIES AFFECTING THE WORK OF THIS SECTION. 11.
- 12. SHOP DRAWINGS NOT STAMPED, SIGNED, AND DATED BY THE CONTRACTOR WILL BE RETURNED AND SHALL BE CONSIDERED REJECTED. SHOP DRAWINGS FOR WORK DESIGNED BY THE CONTRACTOR SHALL BEAR THE SEAL AND SIGNATURE OF A QUALIFIED PROFESSIONAL ENGINEER IN THE PROJECTS PROVINCE
- THE CONTRACTOR SHALL SUBMIT AT LEAST 3 COPIES OF STAMPED SHOP DRAWINGS FOR ALL PRE-FABRICATED STRUCTURAL ASSEMBLIES. INCLUDING REINFORCING STEEL TO BEACH ROCKE ENGINEERING LTD. FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. ALL SHOP DRAWINGS, EXCEPT REINFORCING STEEL, SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE PROJECTS PROVINCE.

SLAB-ON-GRADE NOTES:

ALL SLAB-ON-GRADE WILL EXPERIENCE MOVEMENT AND CRACKING DUE TO HEAVING AND SOIL EXPANSION RESULTING FROM THE NATURE OF THE CLAY SOIL, PREVIOUS AND PRESENT LEVEL OF VEGETATION AT THE SITE, SOIL MOISTURE LEVEL AND CONSTRUCTION PRACTICES. BEACH ROCKE ENGINEERING LTD. ACCEPTS NO LIABILITY FOR THIS CRACKING AND /OR MOVEMENT.

CONCRETE NOTES:

- CONCRETE SHALL BE MANUFACTURED AND PLACED IN ACCORDANCE WITH THE CSA STANDARDS A23.1-09/A23.2-09.
- THE CONTRACTOR SHALL PROVIDE ONE SET OF STANDARD CONCRETE CYLINDER TEST RESULTS CONDUCTED BY AN INDEPENDENT TESTING FIRM FOR EACH DAYS POUR AND AN ADDITIONAL SET OF CYLINDERS FOR EVERY 50 CUBIC METERS POURED AT NO EXTRA COST TO THE OWNER. TEST RESULTS ARE TO BE FORWARDED TO BEACH ROCKE ENGINEERING LTD. IMMEDIATELY UPON RECEIPT FROM THE TESTING FIRM.
- PROVIDE A MINIMUM 150mm (6") VOID UNDER ALL BEAMS, WALLS AND STRUCTURAL SLABS. VOID TO BE SHEARMAT OR APPROVED CARDBOARD VOIDFORM
- VIBRATE ALL CONCRETE TO ENSURE COMPLETE CONSOLIDATION.
- THE LOCATIONS OF CONSTRUCTION JOINTS IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY BEACH ROCKE ENGINEERING LTD
- WHEN THE OUTSIDE TEMPERATURE FALLS BELOW 5 DEGREES CENTIGRADE, THE CONTRACTOR SHALL CONFORM TO CSA STANDARD A23.1-09/A23.2-09 AND THE NATIONAL BUILDING CODE FOR COLD WEATHER CONCRETING PROCEDURES, AND SHALL RECIEVE WRITTEN APPROVAL FROM BEACH ROCKE ENGINEERING LTD. PRIOR TO COMMENCING CONCRETE CONSTRUCTION
- PROVIDE 18" x 1" SAW CUTS AT 20' O.C. BOTH WAYS IN FLOOR SLABS UNLESS OTHERWISE NOTED ON DRAWINGS
- CONCRETE SHALL CONFORM TO THE FOLLOWING: NAME CONC. TYPE STRENGTH MAX. AGG. SLUMP(MAX) AIR EXPOSURE CLASS 32MPA @ 28 DAYS 120mm 5-8% C-2

SLABS TYPE 10 20mm **REINFORCING STEEL NOTES:**

- REINFORCING STEEL SHALL BE NEW BILLET DEFORMED BARS MANUFACTURED AND DETAILED IN ACCORDANCE WITH CAN/CSA-G30.18-M92 WITH MINIMUM YEILD STRENGTH AS FOLLOWS: 10M BARS-300MPA, 15M BARS & LARGER - 400MPA.
- 2 REINFORCING STEEL SHALL BE FREE FROM LOOSE RUST. MUD. OIL OR OTHER COATINGS WHICH MAY REDUCE THE BOND OR HARM THE CONCRETE
- REINFORCING STEEL SHALL BE HELD IN PLACE AND TIED WITH PROPER ACCESSORIES SUCH AS HI-CHAIRS, SPACERS, TIES, ETC. SUPPLIED BY THE REINFORCING STEEL PROVIDER. APPROPRIATE SUPPORT SHALL BE PROVIDED UNDER ALL SUPPORT ACCESSORIES TO ENSURE THAT THE REINFORCING STEEL IS ACCURATELY POSITIONED.

75mm (3"

50mm (2")

 $40 \text{mm} \left(1 \frac{1}{2}\right)$

40mm (1 ¹/₂")

- LAP TOP BARS AT MID-SPAN AND BOTTOM BARS OVER SUPPORTS.
- BEND ALL HORIZONTAL STEEL 18" AROUND CORNERS. OR USE EXTRA 36"x36" CORNER BARS TO MATCH HORIZONTALS.
- PROVIDE 2-15M AROUND ALL SLAB, WALL, & BEAM OPENINGS, UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS.
- CONCRETE COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS:
- CONCRETE CAST IN DIRECT CONTACT WITH SOIL 71
- 7.2 FORMED CONCRETE IN CONTACT WITH SOIL 15M OR SMALLER
- 7.3. FORMED CONCRETE IN CONTACT WITH SOIL 20M OR LARGER
- 7.4. FORMED CONCRETE NOT IN CONTACT WITH SOIL (BEAMS AND COLUMNS)
- FORMED CONCRETE NOT IN CONTACT WITH SOIL (SLABS AND WALLS) 7.5 20mm (³/₄")
- MISCELLANEOUS CONCRETE HOUSEKEEPING PADS AND CURBS SHALL BE REINFORCED WITH A MINIMUM 10M AT 18" O.C. EACH WAY UNLESS NOTED. SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.



PRO JECT TIT RCMP "V" DIVISION OIL TANK REPLACEMENT

PROJECT NOTES ROJECT NUMBER

17-122-CG-39



STRUCTURAL STEEL NOTES:

- STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE CAN/CSA-S16-09 BY FULLY CERTIFIED MEMBERS OF THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION.
- ALL STRUCTURAL STEEL SHALL CONFORM TO THE CAN/CSA G40.21-350W CLASS C TO SIZES AND SHAPES INDICATED ON THE DRAWINGS. NO 2. SUBSTITUTIONS IN GRADES OR SIZES ARE PERMITTED WITHOUT WRITTEN APPROVAL OF BEACH ROCKE ENGINEERING LTD. ALL ANGLES AND PLATES TO BE G40 21-300W
- ALL FABRICATION SHALL BE CARRIED OUT IN PLANT FACILITIES CERTIFIED BY THE CANADIAN WELDING BUREAU TO CSA S16-09 AND S136. SITE FABRICATION IS NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM BEACH ROCKE ENGINEERING LTD.
- 4 ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE CSA W59 BY WELDERS FULLY CERTIFIED FOR STRUCTURAL WELDING BY THE CANADIAN BUREAU TO CSA W47.1, ALL BASE AND CAP PLATES SHALL BE FULLY WELDED TO COLUMNS.
- 5 STRUCTURAL FASTENERS SHALL BE A325 BOLTS. ANCHOR BOLTS SHALL BE 18" LG. C/W 3"HOOK (A307) UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. BASE AND CAP PLATES TO BE 3/4" THICK. CAP PLATES TO HAVE MIN. 4 BOLT (A325) CONNECTION UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS
- 6 PROVIDE TEMPORARY GUYING AND BRACING AS NECESSARY TO PROVIDE STABILITY FOR THE WHOLE STRUCTURE UNTIL DECKING AND PERMANENT BRACING ARE SECURED IN PLACE.
- 7. PROVIDE 3/8" STIFFENER PLATES IN ALL BEAMS CONTINUOUS OVER SUPPORTS. HOLES ARE NOT PERMITTED IN THE TOP FLANGES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- CLEAN ALL FIELD WELDS AND TOUCH UP WITH PRIMER TO MATCH SHOP COAT ZINC PAINT
- 9 DESIGN AND FABRICATE CONNECTIONS FOR THE FULL STRENGTH OF THE MEMBER. SPLICING OF MEMBERS IS NOT PERMITTED UNLESS WRITTEN APPROVAL FROM THE DESIGN ENGINEER HAS BEEN PROVIDED.
- 10. ALL STEEL SHALL BE GALVANIZED.
- STRUCTURAL STEEL SUPPLIER SHALL PROVIDE STAMPED SHOP DRAWINGS TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO 11. FABRICATION.

STRUCTURAL DRAWING LIST:

- S1 STRUCTURAL PROJECT NOTES
- S2 - TYP TANK SLAB, BOLLARD AND BASE PLATE DETAILS & ISOMETRIC VIEW OF METAL STAND
- S3 - CONNECTION #1 DETAILS
- S4 - CONNECTION #2 DETAILS
- TANK #1 PLAN VIEW OF TANK ON SLAB S5
- S6 - TANK #1 - ELEVATIONS OF TANK ON SLAB
- S7 - TANK #2 - PLAN VIEW OF TANK ON LOW METAL STAND
- S8 - TANK #2 - ELEVATIONS OF LOW METAL STAND
- TANK #2 -ELEVATIONS OF LOW METAL STAND S9
- S10 TANK #3 PLAN VIEW OF TANK ON HIGH METAL STAND
- S11 - TANK #3 - ELEVATIONS OF HIGH METAL STAND
- S12 TANK #3 ELEVATIONS OF HIGH METAL STAND
- S13 TANK #4 PLAN VIEW OF TANK ON LOW DOUBLE METAL STAND
- S14 TANK #4 ELEVATIONS OF LOW DOUBLE METAL STAND
- S15 TANK #4 ELEVATIONS OF LOW DOUBLE METAL STAND
- S16 TANK #5 PLAN VIEW OF TANK ON HIGH DOUBLE METAL STAND
- S17 TANK #5 ELEVATIONS OF HIGH DOUBLE METAL STAND
- S18 TANK #5 ELEVATIONS OF HIGH DOUBLE METAL STAND

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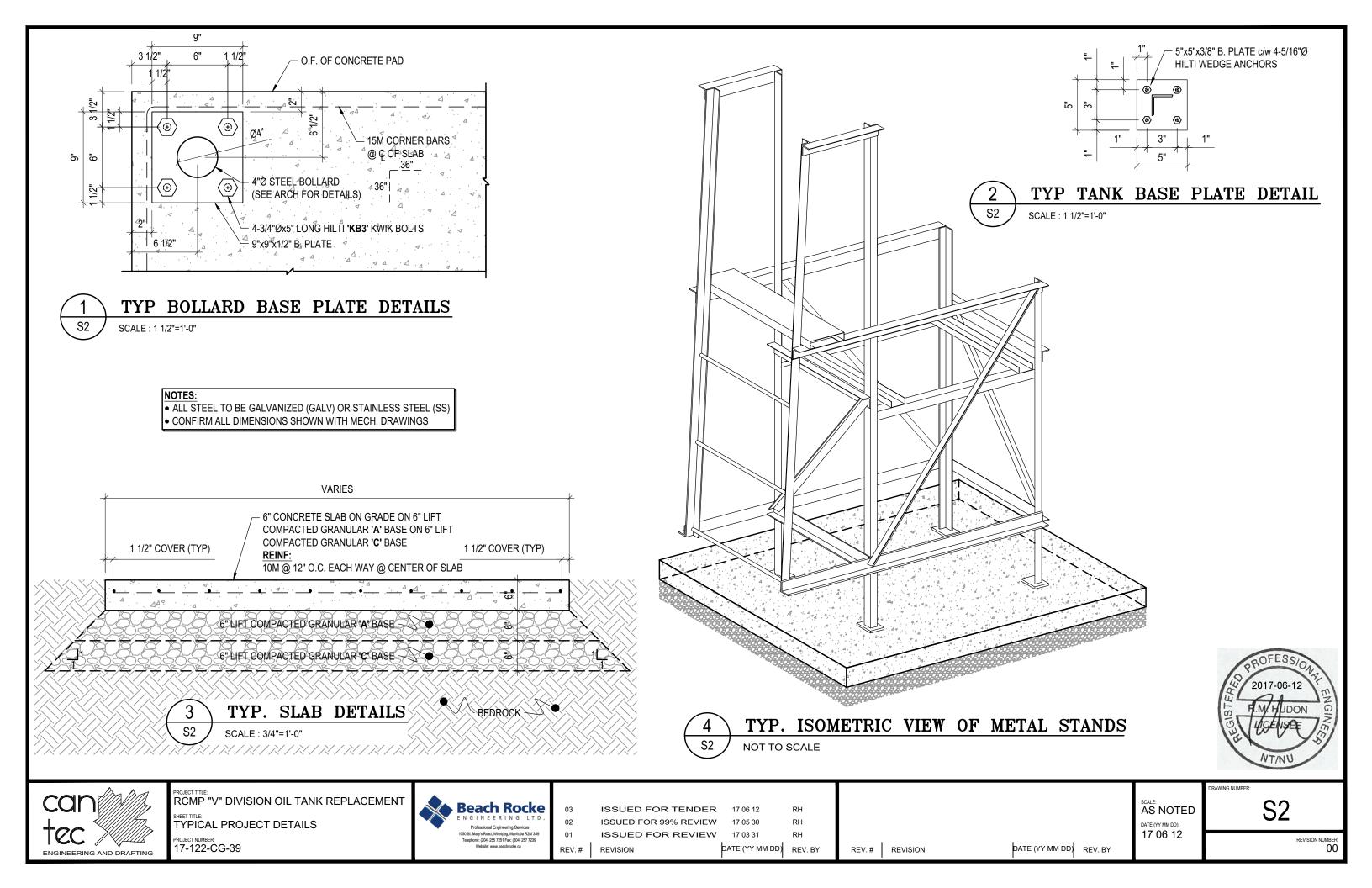
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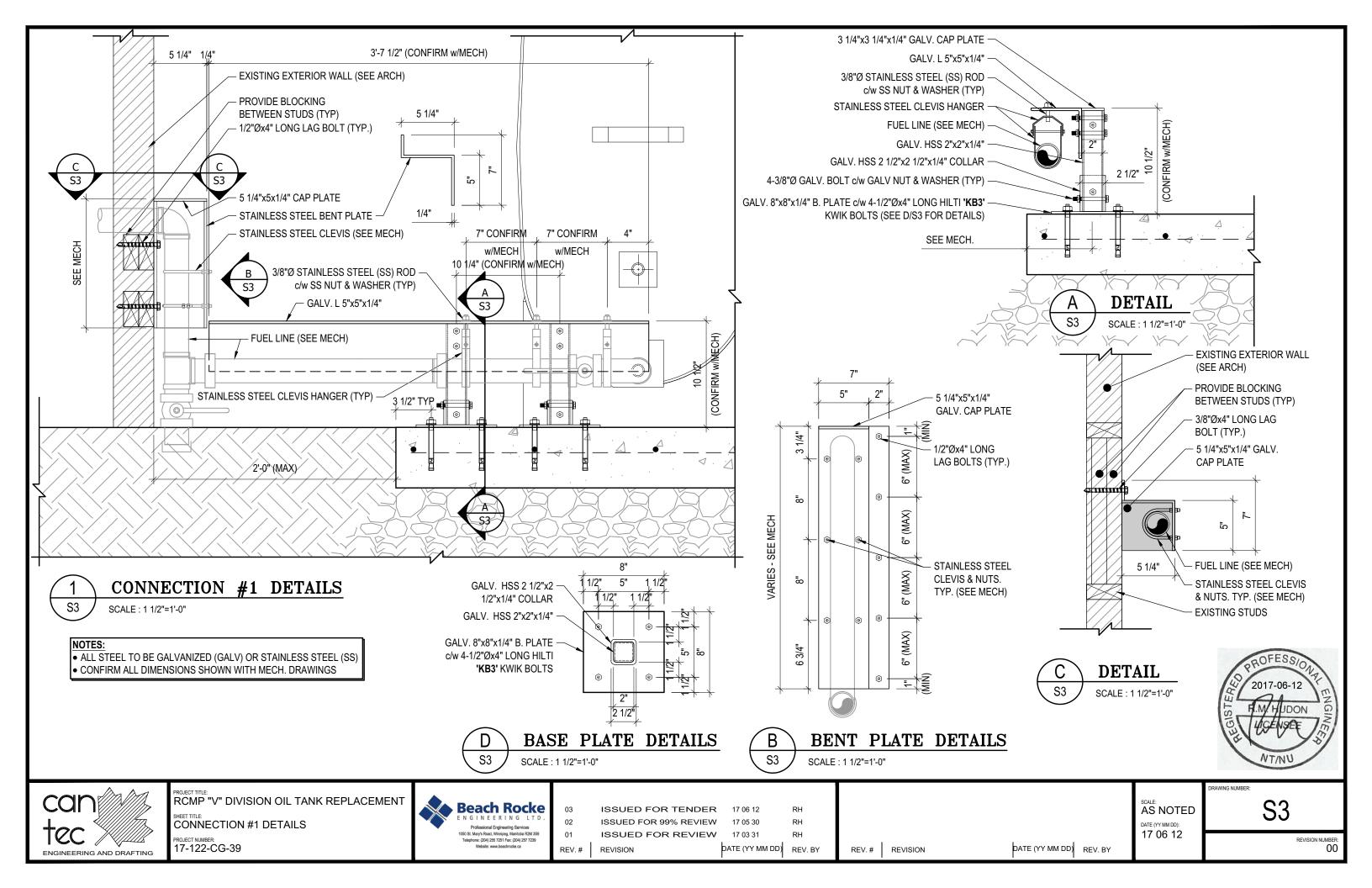


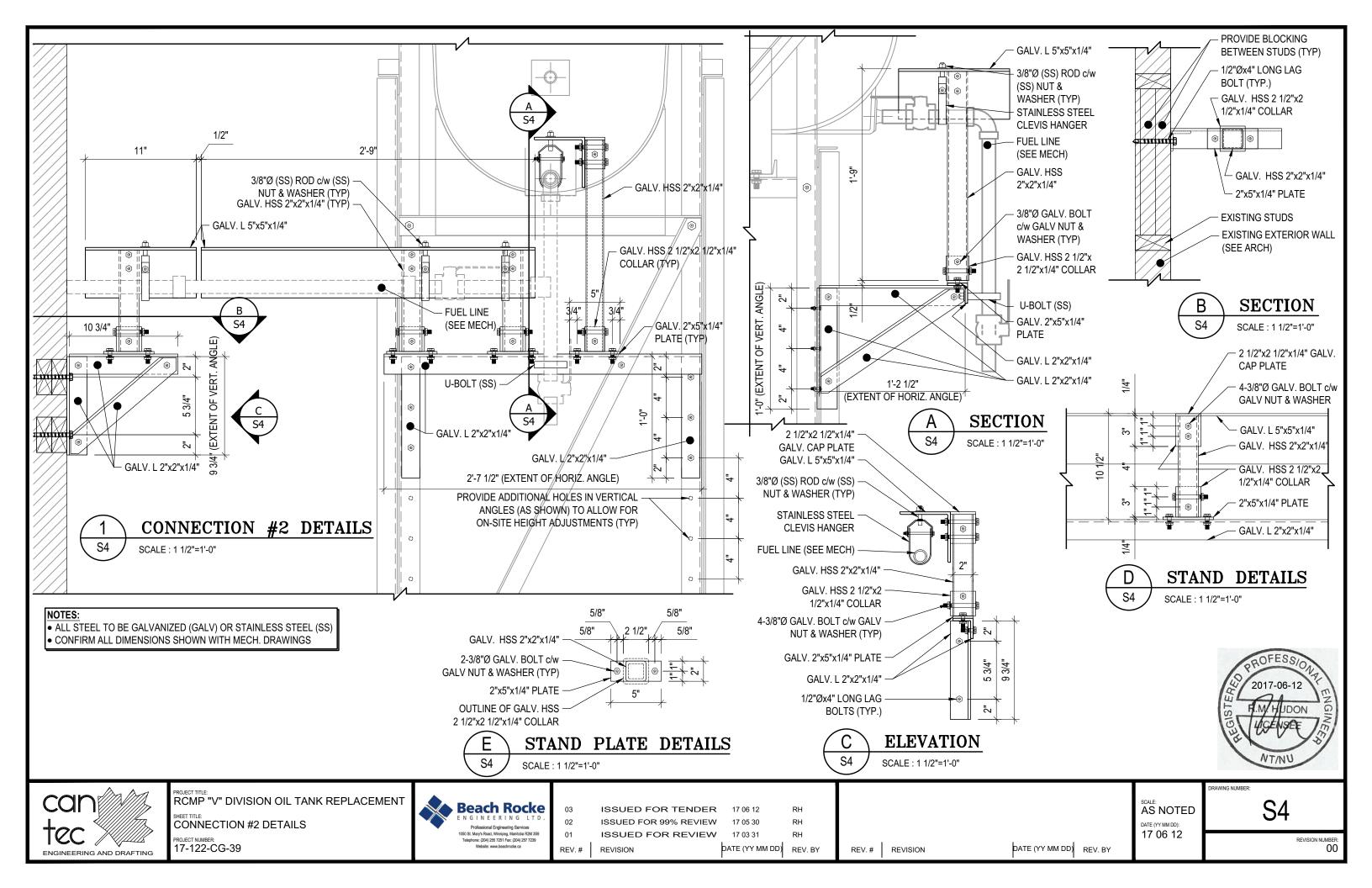
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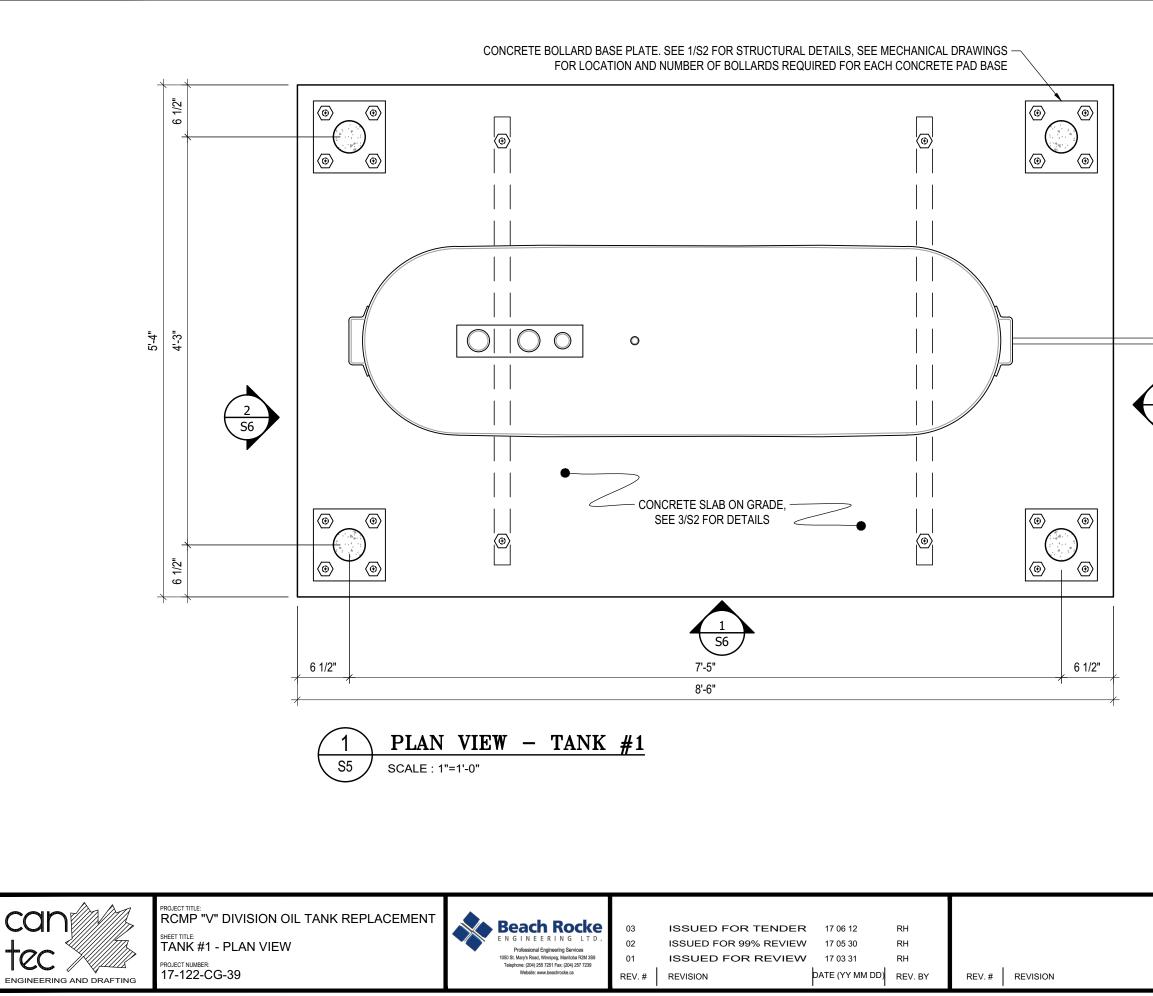
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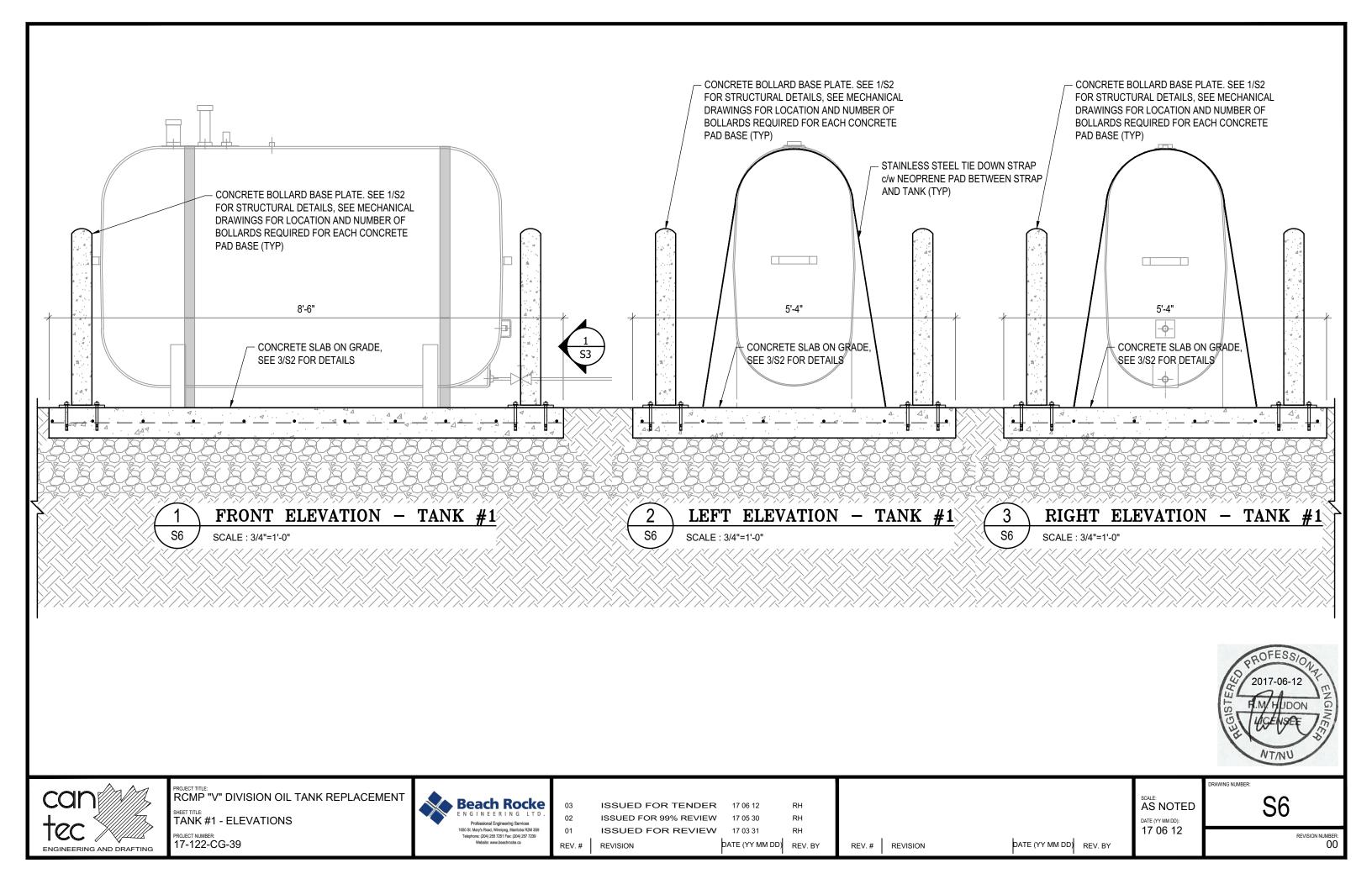


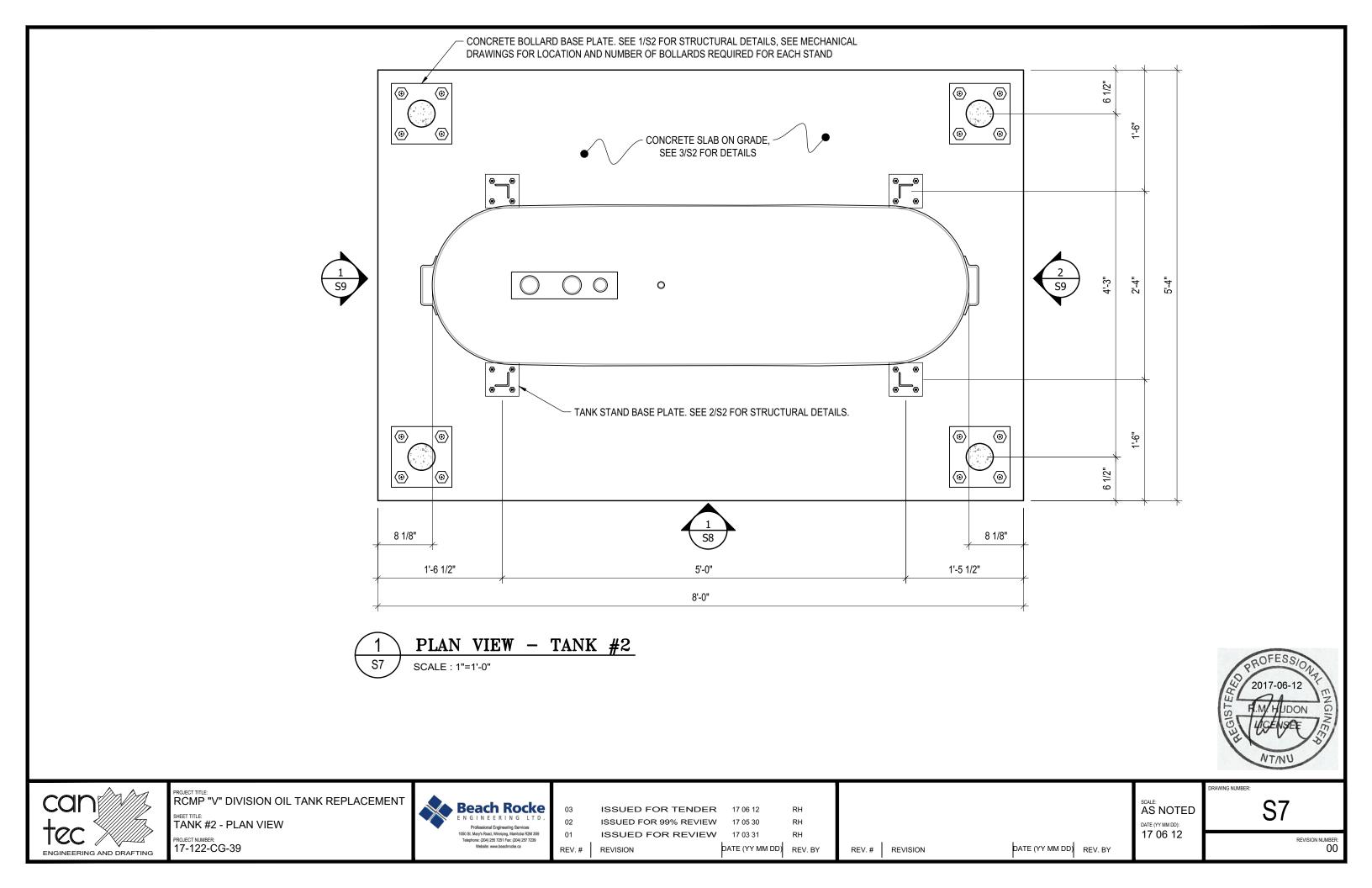
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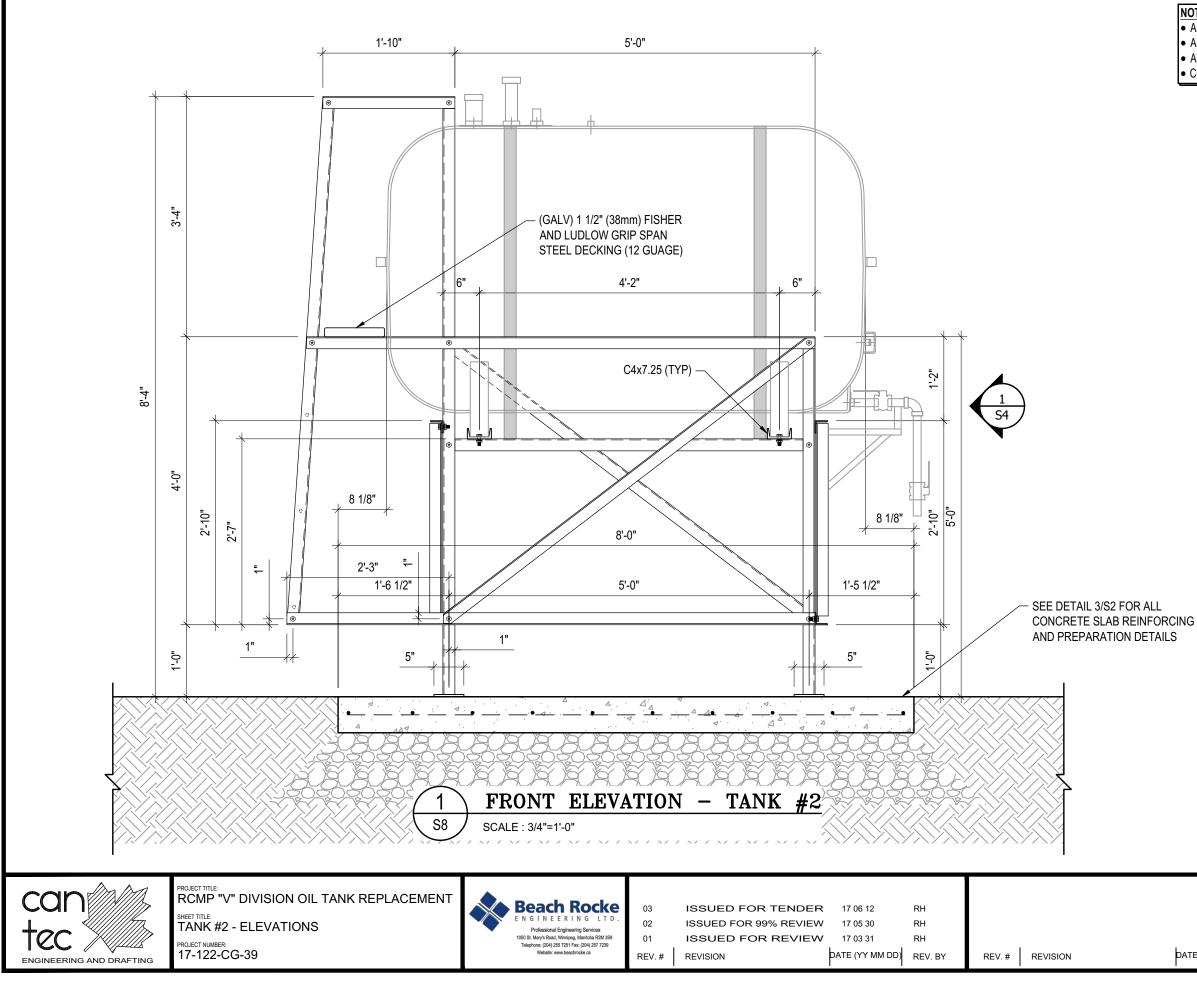
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REVISION NUMBER:

DATE (YY MM DD) REV. BY







NOTES:

- ALL STEEL TO BE GALVANIZED (GALV) OR STAINLESS STEEL (SS)
- ALL ANGLES SHOWN ARE L2"x2"x3/16" (U/N/O)
- ALL BOLTS SHOWN ARE 1/2"Øx2" LONG (U/N/O)
 CONFIRM ALL DIMENSIONS SHOWN WITH MECH. DRAWINGS

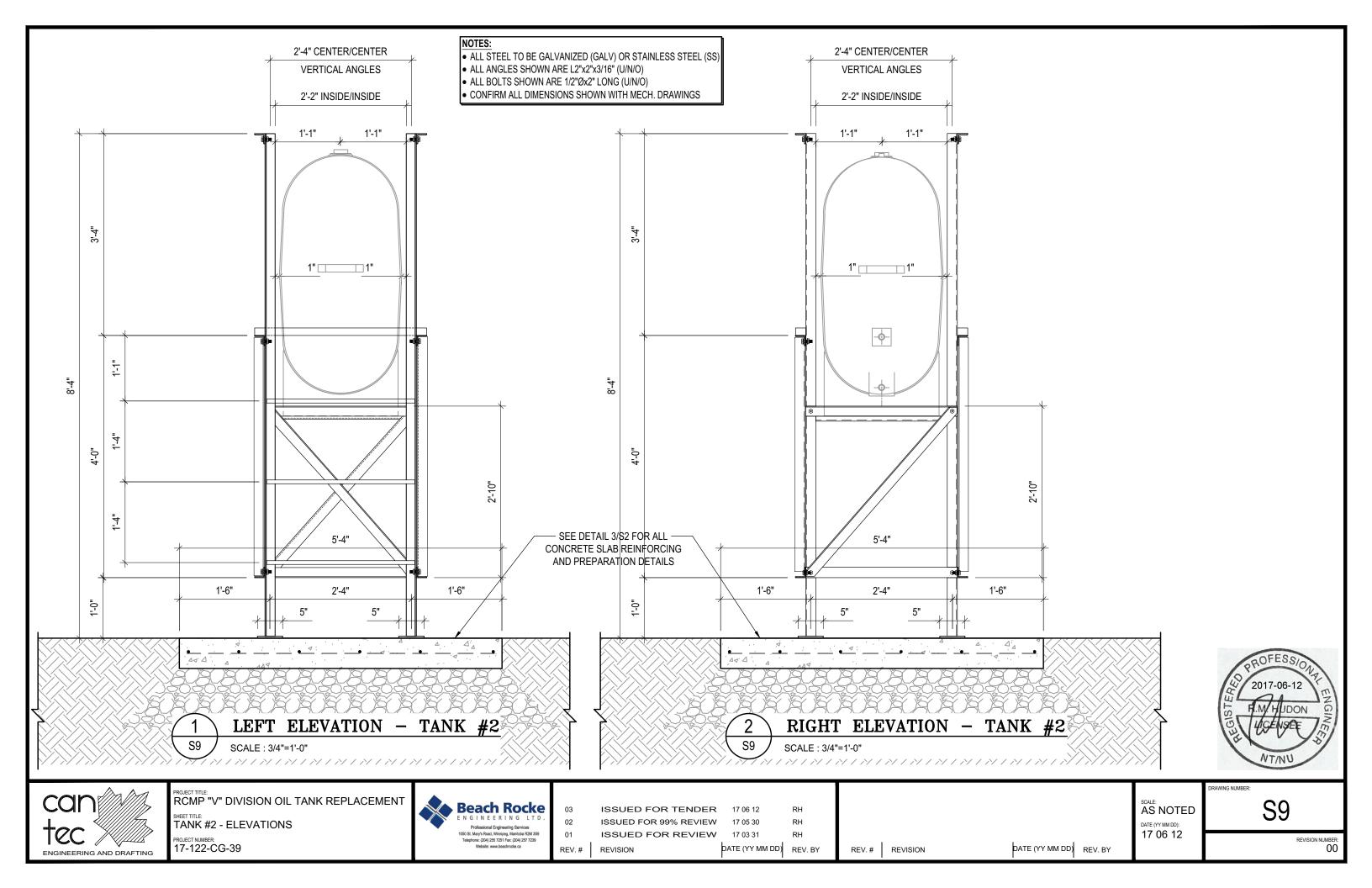


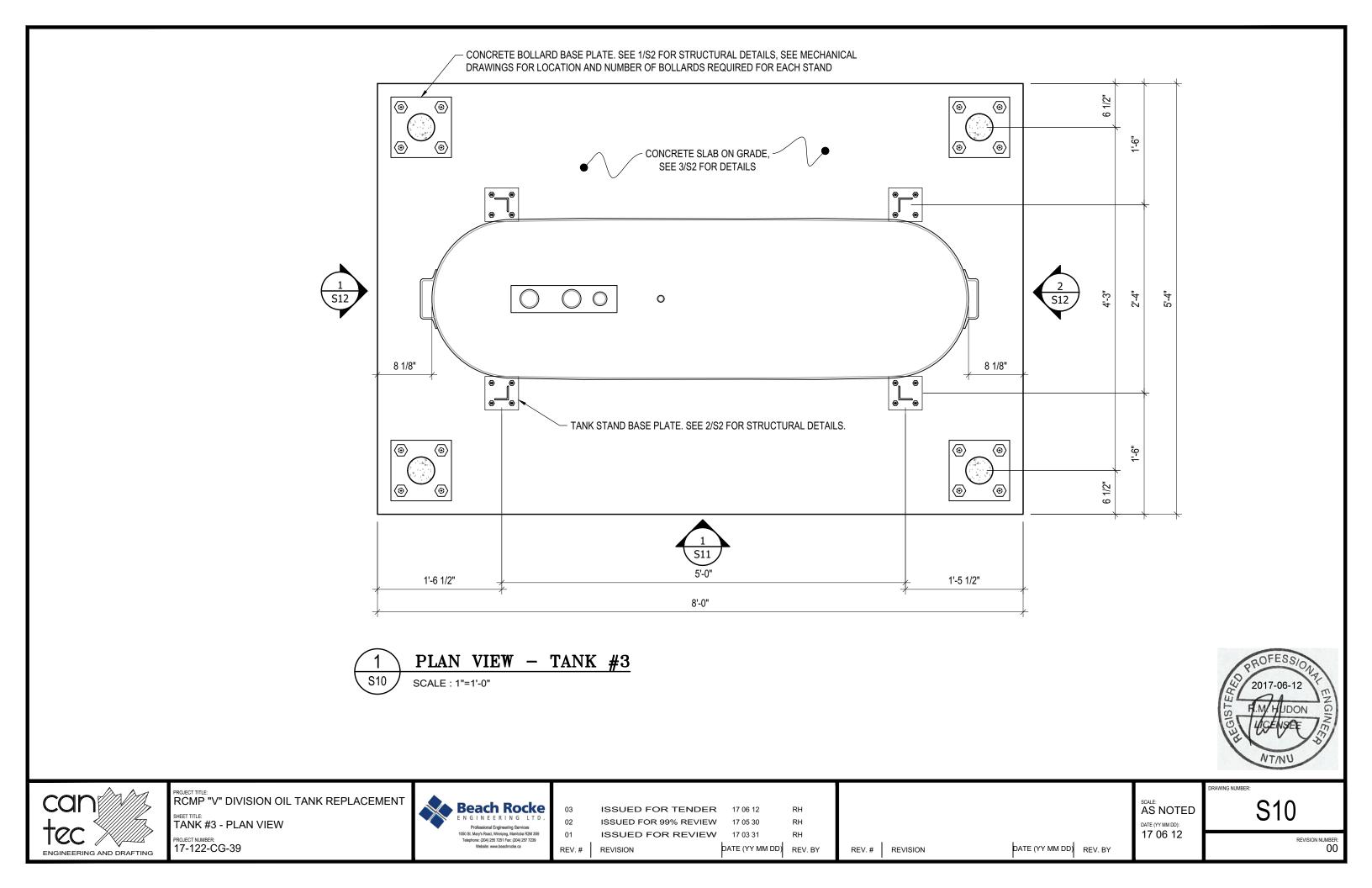
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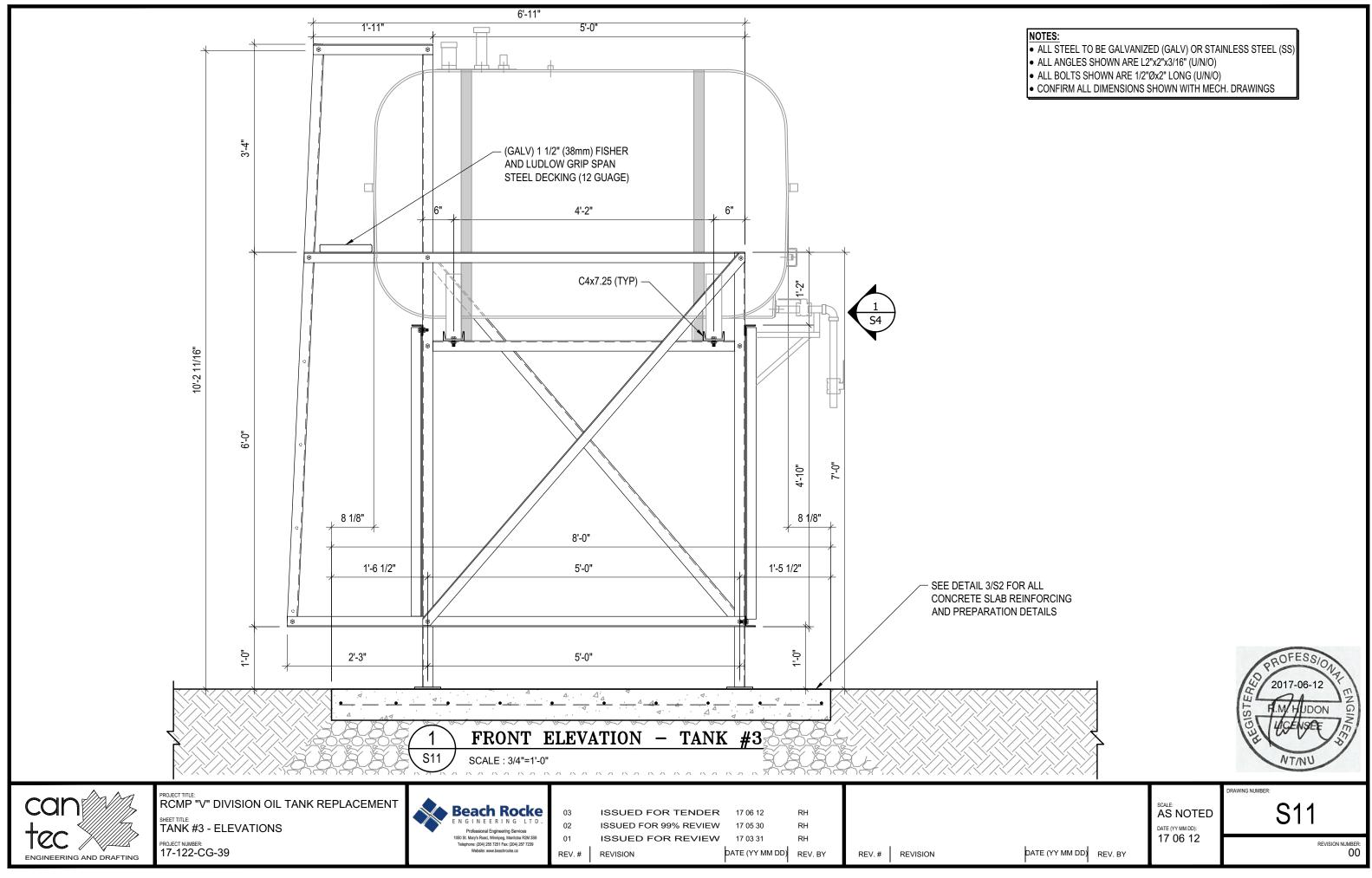
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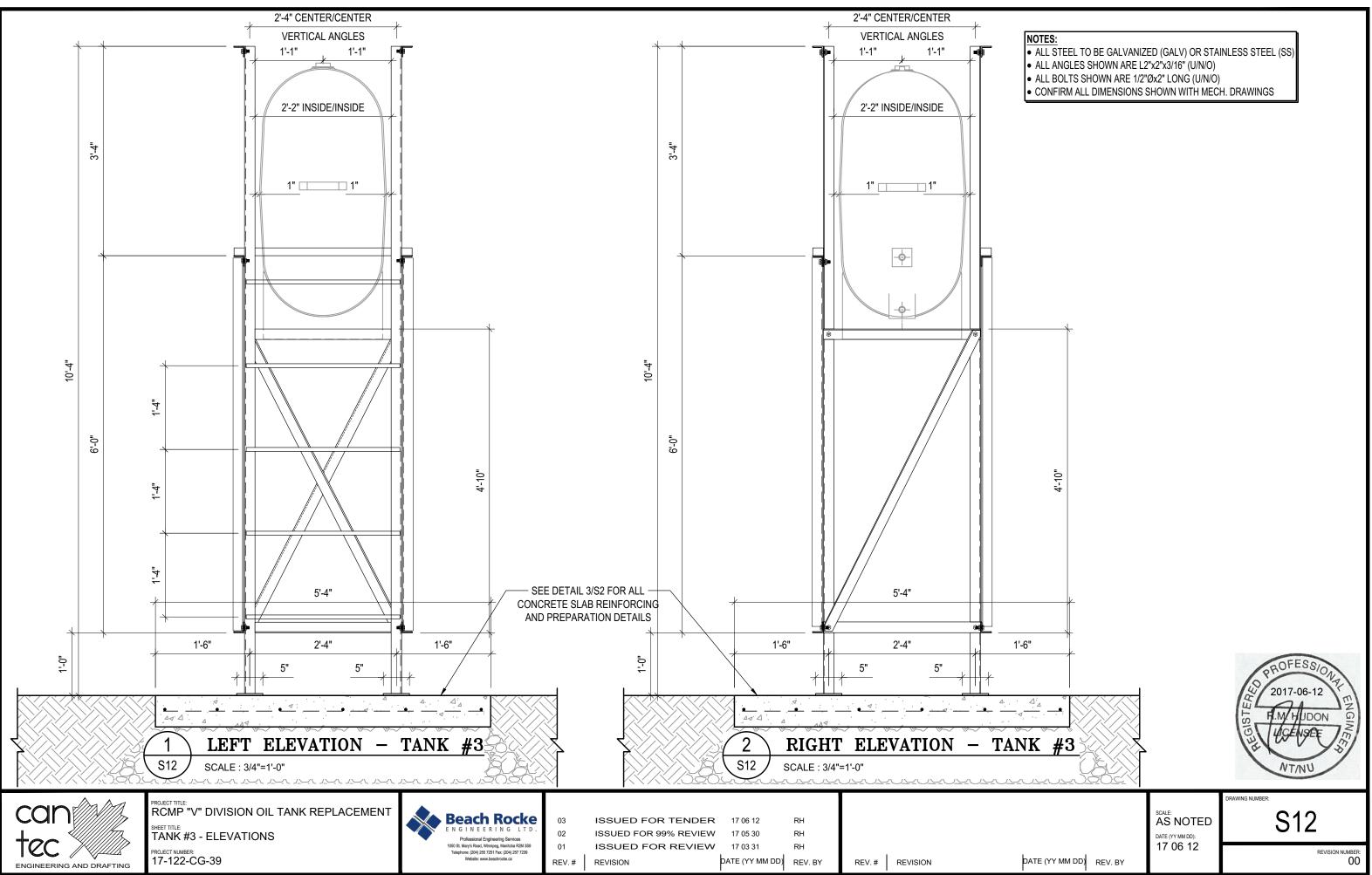
S8

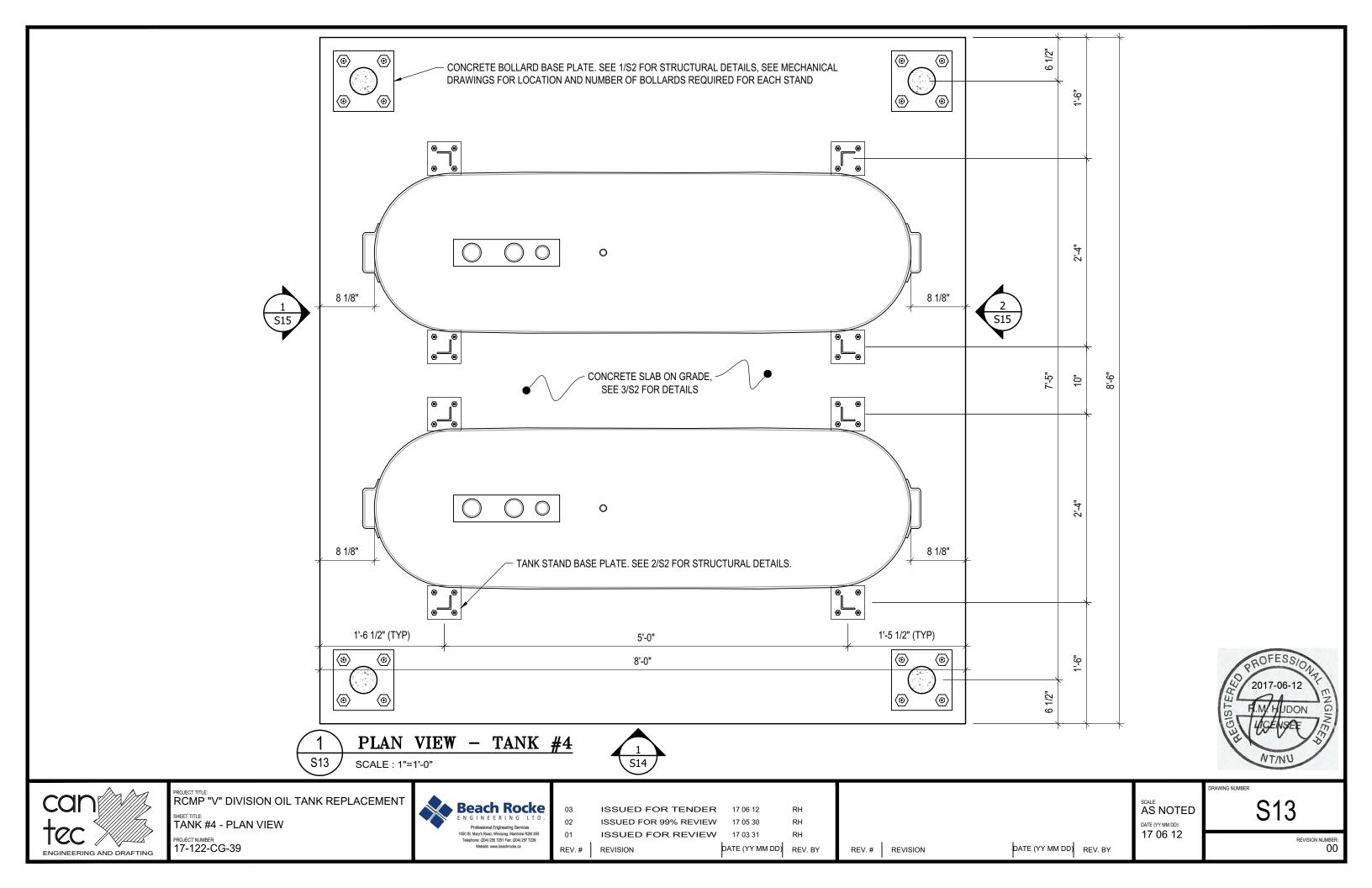
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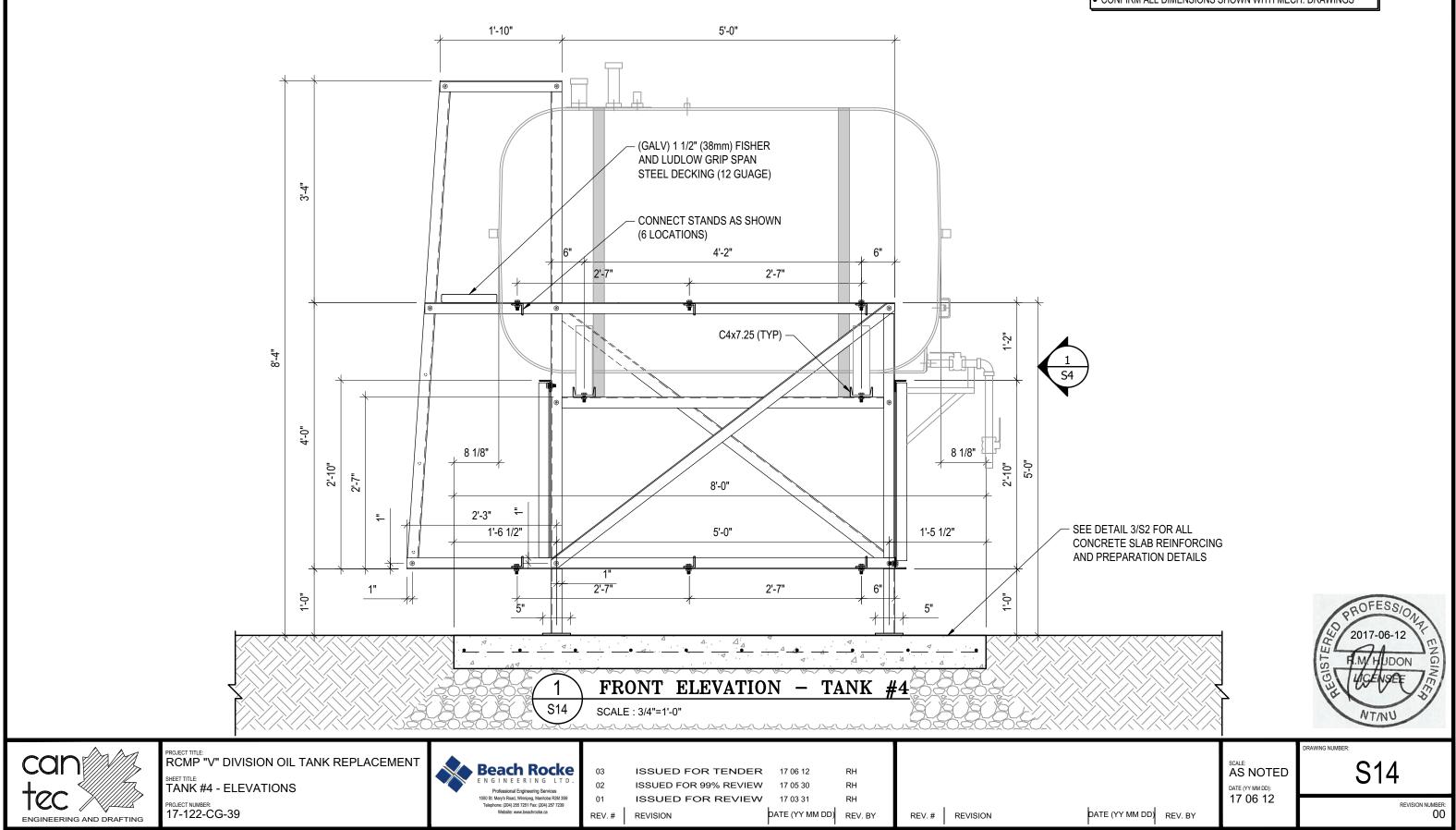












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