

**DESIGN CRITERIA**

PER INTERNATIONAL BUILDING CODE (IBC-2006) AND ASCE 7-05  
OCCUPANCY CATEGORY----- II

FLOOR LIVE LOADS----- 100 PSF  
LIVE LOAD REDUCTION----- NONE  
SNOW LOAD:  
GROUND SNOW LOAD, Pg:----- 10 PSF  
EXPOSURE CATEGORY:----- C  
SNOW EXPOSURE:----- FULL  
SNOW EXPOSURE FACTOR, Ce:----- 0.90  
THERMAL FACTOR, Ct:----- 1.00  
SNOW IMPORTANCE FACTOR----- 1.00  
FLAT ROOF SNOW LOAD, Pf:----- 6.3 PSF  
SNOW DRIFT:----- NONE  
ROOF LIVE LOAD: (MINIMUM)----- 20 PSF (UNO)  
WIND: BASIC WIND SPEED:----- 90 MPH  
WIND LOAD IMPORTANCE FACTOR (Iw):----- 1.00  
EXPOSURE CATEGORY----- C  
INTERNAL PRESSURE COEFFICIENT----- ±0.18  
WIND PRESSURES: MWFRS----- TABLE 1609.2.1(1)  
HT & EXPOSURE COEFFICIENT----- TABLE 1609.2.1(4)  
SEISMIC: SEISMIC IMPORTANCE FACTOR, Ie----- 1.00  
SITE CLASS----- D  
SPECTRAL RESPONSE ACCELERATION, 0.2 SEC, Ss----- 0.150 g  
SPECTRAL RESPONSE ACCELERATION, 1.0 SEC, S1----- 0.050 g  
SITE COEFFICIENT, Fa----- 1.60  
SITE COEFFICIENT, Fv----- 2.40  
MAX SPECTRAL RESPONSE ACCEL, 0.2 SEC, Sms----- 0.240  
MAX SPECTRAL RESPONSE ACCEL, 1.0 SEC, Sm1----- 0.120  
DESIGN SPECTRAL RESPONSE ACCEL, 0.2 SEC, Sds----- 0.160  
DESIGN SPECTRAL RESPONSE ACCEL, 1.0 SEC, Sd1----- 0.080  
SEISMIC DESIGN CATEGORY----- B  
BASIC FORCE RESISTING SYSTEM----- ORDINARY REINF CMU SHEAR WALLS  
RESPONSE MODIFICATION FACTOR, R----- 2.0  
SYSTEM OVERSTRENGTH FACTOR, 0----- 2.5  
DEFLECTION AMPLIFICATION FACTOR, Cd----- 1.8  
SEISMIC RESPONSE COEFFICIENT, Cs----- 0.080  
EQUIVALENT LATERAL FORCE ANALYSIS

ROOF ANGLE	HORIZONTAL				VERTICAL				OVERHANGS	
	A	B	C	D	E	F	G	H	Go	Ho
0 TO 5	17.9	-9.4	11.9	-5.6	-21.6	-12.3	-15.0	-9.5	-30.2	-23.7

ROOF ANGLE	ROOF			WALL						
	INTERIOR	END	CORNER	INTERIOR	END					
0 TO 7	6.6	-18.6	6.6	-15.8	6.6	-22.1				
WALL							17.4	-19.0	17.4	-21.1

ROOF ANGLE	ZONE	
	END	CORNER
0 TO 7	-27.7	-14.0

LOCATION	CLEARANCE
CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH OR MUD SLAB	3"
COLUMNS AND PIERS (VERT REINF)	2"
COLUMN TIES	1 1/2"
WALLS INTERIOR FACE	1"
WALLS EXTERIOR FACE #5 AND SMALLER	1 1/2"
WALLS EXTERIOR FACE #6 AND LARGER	2"
CURBS	1 1/2"
SLABS ON DECK (WWF)	1"
SLABS ON GRADE (WWF)	1/4 SLAB THICKNESS FROM TOP OF SLAB

**GENERAL NOTES:**

- SEE SPECIFICATIONS FOR QUALITY OF CONSTRUCTION REQUIRED, WORKMANSHIP, MANUFACTURING AND INDUSTRY STANDARDS, PHYSICAL PROPERTIES OF MATERIALS, CONFORMANCE TO CODES AND REGULATIONS GUARANTEE AND WARRANTY REQUIREMENTS.
- SEE ARCHITECTURAL, HVAC, PLUMBING, FIRE PROTECTION & ELECTRICAL DRAWINGS FOR OTHER PERTINENT INFORMATION RELATED TO STRUCTURAL WORK AND COORDINATE AS REQUIRED.
- CONTRACTOR SHALL COORDINATE STRUCTURAL DRAWINGS WITH ALL OTHER DRAWINGS WITHIN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS RELATED TO EXISTING CONSTRUCTION, EXISTING SERVICES, AND THE SITE BEFORE BEGINNING WORK. EXISTING DIMENSIONS ARE PER REFERENCE DRAWINGS AND MUST BE FIELD VERIFIED. THE CONTRACTOR SHALL INCLUDE IN THEIR BID ALL CONTINGENCIES NECESSARY FOR COMPLETION OF WORK REGARDING SUCH EXISTING CONDITIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND THE FINAL CLEARANCE OF ANY TEMPORARY NEEDLING, UNDERPINNING, SHORING, OR BRACING OF EXISTING STRUCTURES.
- CONSTRUCTION LOADS SHALL NOT EXCEED DESIGN LIVE LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DESIGN REQUIRED TO SUPPORT CONSTRUCTION EQUIPMENT USED IN CONSTRUCTING THIS PROJECT. SHORING AND RESHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE FOLLOWING ITEMS THAT WILL NOT BE REVIEWED BY THE OWNER, ARCHITECT OR ENGINEER.
  - DEVIATIONS FROM CONTRACT DOCUMENTS.
  - DIMENSIONS, ELEVATIONS AND CONDITIONS TO BE CONFIRMED AND CORRELATED AT THE SITE.
  - FABRICATION PROCESS INFORMATION.
  - MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OF CONSTRUCTION AND CONSTRUCTION SAFETY.
  - COORDINATION OF THE WORK OF ALL TRADES.
  - QUALITY ASSURANCE SUBMITTALS.

**GEOTECHNICAL REPORT:**

- REFERENCE THE SOILS REPORT COMPLETED FOR THIS SITE BY CMJ ENGINEERING, INC. DATED MARCH 2007 (PROJECT NO. 128-07-19) FOR FURTHER INFORMATION RELATING TO THE EXISTING SUBSURFACE SOIL CONDITIONS.

**EXCAVATION:**

- MASS EXCAVATION WORK SHALL BE COORDINATED WITH SHORING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDANCE AND CLEANUP OF STREET SPILLAGE OF EXCAVATED OR BACKFILL MATERIALS ENTERING OR LEAVING THE SITE. CLEANUP OF MAJOR SPILLS SHALL BE COMPLETED IMMEDIATELY. OTHER SPILLS SHALL BE CLEANED AT A MINIMUM DAILY. ALL CLEANUP SHALL BE COMPLETED TO THE FULL SATISFACTION OF THE CITY OF GATES MILLS AUTHORITIES AND CONSTRUCTION MANAGER.
- THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PROPERLY MOISTEN ALL SURFACES AS REQUIRED TO PREVENT SOILS FROM BECOMING AIRBORNE AND CREATING A NUISANCE TO NEIGHBORING FACILITIES, THE PUBLIC, AND ANY CONCURRENT WORK ACTIVITIES. THE FINAL DETERMINATION OF THE SUCCESS OF THESE DUST CONTROL MEASURES SHALL BE THE CITY OF GATES MILLS AUTHORITIES AND CONSTRUCTION MANAGER.
- ANY SITE DE-WATERING NECESSARY TO MAINTAIN A SAFE AND EFFICIENT EXCAVATION EFFORT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL WORK SHALL BE EXECUTED AND INSPECTED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES, RULES, ORDINANCES AND REGULATIONS PERTAINING TO SITE EXCAVATION, FILL AND SHORING ACTIVITIES.
- ALL SITE GRADING SHALL BE SLOPED AS NOTED ON THE DRAWINGS, AS NOTED IN THE GEOTECHNICAL REPORT, OR AT A SHALLOWER SLOPE IF REQUIRED TO PROTECT WORKERS AND WORK IN PROGRESS FROM SOIL SLIPPAGE. ALL EXCAVATION ACTIVITIES SHALL BE COMPLETED IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) REQUIREMENTS AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
- ALL EXCAVATIONS GREATER THAN TWENTY (20) FEET IN HEIGHT SHALL INCLUDE A FIVE (5) FOOT WIDE BENCH MIDWAY DOWN THE EXCAVATION OR AT A GREATER FREQUENCY IF DICTATED BY LOCAL, STATE OR FEDERAL CODES, RULES, ORDINANCES AND REGULATIONS.
- ANY SHARP OR LARGE OBJECTS PROTRUDING ABOVE THE FINAL ROUGH GRADE SHALL BE REMOVED. RESULTING HOLES SHALL BE FILLED WITH SELECT FILL MEETING THE REQUIREMENTS AS SET IN THE PROJECT SPECIFICATIONS.
- ALL EXCESS EXCAVATED MATERIALS THAT ARE NOT REUSABLE SHALL BE REMOVED FROM THE SITE PROPERLY AND LEGALLY DISPOSED AT AN OFF SITE LOCATION. REFERENCE SPECIFICATIONS FOR REQUIREMENTS RELATED TO THE IDENTIFICATION OF HAZARDOUS MATERIAL IN EXCAVATIONS AND REUSE OF EXCAVATED MATERIAL FOR BACKFILL.
- MUD-MATTING MAY BE REQUIRED TO PROVIDE STABLE SURFACE FOR FORMING AND PLACEMENT OF REINFORCING STEEL AND SUBSEQUENTLY PLACEMENT OF CONCRETE, SEE PROJECT SPECIFICATIONS.

**FOUNDATIONS:**

- THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE GEOTECHNICAL REPORT BEFORE STARTING CONSTRUCTION.
- NOTIFY THE OWNER'S REPRESENTATIVE OF ANY UNUSUAL SOIL CONDITIONS THAT ARE IN VARIANCE WITH TEST BORINGS, SUCH AS SPRING OR SEEPAGE WATER ENCOUNTERED, OR WHEN A DIFFERENT BEARING MATERIAL IS EVIDENT AND THERE IS A QUESTION OF THE BEARING CAPACITY.
- SET FOUNDATION AT ELEVATION SHOWN, OR ON FIRM UNDISTURBED MATERIAL OF DESIGN BEARING CAPACITY, WHICHEVER IS LOWER. THE GEOTECHNICAL ENGINEER SHALL VERIFY THAT EACH FOOTING PLACED IS BEARING ON DESIGN MATERIAL.
  - ALL SOIL SURROUNDING AND UNDER ALL FOOTINGS, FLOOR SLABS, ETC. SHALL BE PROTECTED FROM FREEZING AND FROST ACTION DURING CONSTRUCTION.
  - WHERE FOOTINGS ARE IN CLOSE PROXIMITY OF SEWERS, DRAINS, CONDUITS UNDERFLOOR PIPES, ETC. BOTTOM OF ALL FOOTINGS SHALL BE AT OR BELOW INVERT ELEVATIONS OF ELEMENTS NOTED HEREIN.
- BACKFILL AND FILL MATERIALS SHALL BE FREE OF DEBRIS, WASTE, FROZEN MATERIAL, ORGANIC AND OTHER DELETERIOUS MATTER.
  - POROUS FILL SHALL BE CRUSHED LIMESTONE COMPACTED, GRADATION SHALL CONFORM WITH ASTM C33 SIZE #57.
- ALL EXCAVATIONS ARE SUBJECT TO THE APPROVAL OF THE OWNER AND TESTING AGENCY WHO SHALL BE CONSULTED WHEN POOR SOIL, WATER, OBSTRUCTIONS, PIPING, ADJACENT SEWERS, EXISTING FOOTINGS, EXCAVATIONS, ETC. ARE ENCOUNTERED.
- EXCAVATION AND COMPACTION:
  - CARE SHALL BE TAKEN TO NOT TO DISTURB THE BOTTOM OF THE EXCAVATION. EXCAVATION TO FINAL GRADE SHALL NOT BE MADE UNTIL JUST PRIOR TO PLACING CONCRETE.
  - KEEP FOUNDATION EXCAVATIONS FREE OF WATER AT ALL TIMES. REPLACE WEAKENED SOIL WITH LEAN CONCRETE (1500 PSI).
  - BACKFILL AND FILL SHALL BE PLACED IN LIFTS OF 8" MAXIMUM LOOSE DEPTH. EACH LIFT SHALL BE COMPACTED WITH A POWER VIBRATING COMPACTOR OR SIMILAR EQUIPMENT TO ASSURE MAXIMUM COMPACTION OF THE MATERIAL.
- A TESTING AGENCY, PROVIDED BY THE OWNER, SHALL INSPECT THE CONDITION AND ASSURE THE ADEQUACY OF ALL SUBGRADES, FILL AND BACKFILLS BEFORE PLACEMENT OF FOUNDATIONS. TEST RESULTS SHALL BE SENT TO THE ENGINEER AND TO THE OWNER.
- SHALLOW SPREAD FOOTINGS ARE DESIGNED FOR AN ALLOWABLE NET BEARING PRESSURE OF 1000 PSF.
- DRILLED PIER FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE NET BEARING PRESSURE OF 3500 PSF AT AN ELEVATION 12'-0" BELOW FINISHED FLOOR.

**CAST IN PLACE CONCRETE:**

- CAST-IN-PLACE CONCRETE WORK SHALL CONFORM TO THE LATEST AMERICAN CONCRETE INSTITUTE CODES AND STANDARDS LISTED IN THE SPECIFICATIONS, EXCEPT AS MODIFIED THEREIN OR ON THE DRAWINGS.
- ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE IN 28 DAYS:  
FOOTINGS AND GRADE BEAMS----- 4000 PSI  
SLAB-ON-GRADE----- 4000 PSI
- REINFORCING BARS: ASTM 615, GRADE 60 (U.N.O.).
- REINFORCING BARS FOR WELDED APPLICATIONS SHALL CONFORM WITH A706, 60 KSI YIELD STRENGTH.
- WELDED WIRE FABRIC: ASTM A82 AND A185 FOR SMOOTH STEEL WIRE  
ASTM A496 AND A497 FOR DEFORMED STEEL WIRE
- PROVIDE 6 x 6 - W2.9 x W2.9 WELDED WIRE FABRIC IN ALL SLABS ON GRADE, UNLESS NOTED OTHERWISE, USE ONLY FLAT SHEETS.
- ALL WELDED WIRE FABRIC SHALL BE CHAIRED TO ITS PROPER HEIGHT AND MAINTAINED AT THE PROPER LEVEL THROUGHOUT THE CONCRETE PLACING OPERATION. LIFTING OF WELDED WIRE FABRIC WITH A HOOK DURING CONCRETE PLACEMENT SHALL NOT BE PERMITTED.
- REINFORCING BAR LAP SPLICES AND TENSION DEVELOPMENT LENGTHS SHALL CONFORM WITH TABLES SHOWN ON THIS SHEET.
- REINFORCING BARS REQUIRED FOR PROPER SUPPORT OF PRINCIPAL REINFORCING SHALL BE DETAILED AND SUPPLIED BY THE CONTRACTOR WHETHER OR NOT THEY ARE INDICATED ON THE DRAWINGS. THE MINIMUM BAR SIZE SHALL BE #4 AND THE MAXIMUM SPACING SHALL BE 36" ON CENTER FOR ALL BARS THAT NEED SUPPORT. WELDED WIRE FABRIC SHALL NOT BE USED FOR THE SUPPORT OF PRINCIPAL REINFORCING.
- NO CONCRETE SHALL BE PLACED UNTIL THE PROPOSED CONCRETE MIX AND TEST HAVE BEEN SUBMITTED TO AND REVIEWED BY THE ENGINEER AND AFTER THE CONTRACTOR HAS RECEIVED WRITTEN ACKNOWLEDGEMENT.
- ALL CEMENT SHALL BE TYPE I OR TYPE III, BLENDED CEMENTS SHALL NOT BE USED.
- CONCRETE SHALL BE DISCHARGED AT THE SITE WITHIN 1 1/2 HOURS AFTER WATER HAS BEEN ADDED TO THE CEMENT AND AGGREGATES, ADDITION OF WATER TO THE MIX AT THE PROJECT SITE WILL NOT BE PERMITTED. ALL WATER MUST BE ADDED AT THE BATCH PLANT. SLUMP MAY BE ADJUSTED ONLY THROUGH THE USE OF ADDITIONAL WATER REDUCING ADMIXTURE OR HIGH RANGE WATER REDUCING ADMIXTURE.
- ALL CONCRETE SHALL CONTAIN A WATER REDUCING ADMIXTURE CONFORMING TO ASTM C494, TYPE A, F OR G.
- CALCIUM CHLORIDE SHALL NOT BE PERMITTED NOR SHALL ANY ADMIXTURE CONTAINING CALCIUM CHLORIDE BE PERMITTED.
- ALL CONCRETE EXPOSED TO THE WEATHER OR IN A LOCATION VULNERABLE TO DEICERS SHALL CONTAIN AN AIR-ENTRAINED ADMIXTURE CONFORMING TO ASTM C260. THE AMOUNT OF ENTRAINED AIR SHALL BE 6%.
- ALL CONCRETE SHALL BE CURED USING A LIQUID MEMBRANE CURING COMPOUND, UNLESS NOTED OTHERWISE, WITH A MAXIMUM UNIT MOISTURE LOSS OF 0.039 GR/SQ CM AT 72 HOURS AND APPLIED AT A MAXIMUM COVERAGE RATE OF 200 SQ FT/GAL. CURING COMPOUND SHALL BE APPLIED WITHIN 1 HOUR AFTER FINAL TROWELING OF FORM REMOVAL. ALL CONCRETE SHALL BE CURED FOR NOT LESS THAN 7 DAYS.
- BOND BREAKER MATERIAL SHALL BE 30# FELT PAPER.
- 3/4" CHAMFER FOR EXPOSED EDGES OF CONCRETE, UNLESS OTHERWISE NOTED.
- COORDINATE ALL WORK RELATED TO OWNER-SUPPLIED EQUIPMENT OR EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR BY USING ONLY CERTIFIED EQUIPMENT DRAWINGS.
- DETERMINE SIZE AND LOCATION OF MECHANICAL EQUIPMENT, AND MAKE PROVISIONS FOR BOLTS, SLEEVES, PADS, OPENINGS, DRAINS, ANCHOR RODS AND EMBEDDED ITEMS. THIS WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED.

**STRUCTURAL STEEL:**

- DETAIL, FABRICATE AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE LATEST AISC AND OTHER RELATED CODES, STANDARDS AND SPECIFICATIONS LISTED IN THE PROJECT SPECIFICATIONS, EXCEPT AS MODIFIED THEREIN OR ON THE DRAWINGS.
- STRUCTURAL STEEL :----- ASTM A992 Fy = 50 KSI FOR SHAPES  
ASTM A36 FOR PLATES, BARS & RODS, UNO
- HOLLOW STRUCTURAL SECTIONS (HSS):----- ASTM A500 GRADE 'B' Fy = 46 KSI
- HIGH STRENGTH BOLTS:----- ASTM A325 OR A490
- ANCHOR RODS:----- ASTM F1554 GR. 55
- WORK STRUCTURAL DRAWINGS WITH ARCHITECTURAL, HVAC, PLUMBING, FIRE PROTECTION & ELECTRICAL DRAWINGS FOR CLEARANCES, ATTACHMENTS, ETC.
- SUBMIT STRUCTURAL STEEL SHOP DRAWINGS PER THE SPECIFICATIONS. DO NOT REPRODUCE THE STRUCTURAL DRAWINGS FOR USE AS SHOP DRAWINGS.
- WHERE BRACING MEMBERS DO NOT HAVE FORCES OR DETAILED CONNECTIONS SHOWN ON THE DRAWINGS, DESIGN THE CONNECTIONS FOR 85% OF THE FULL MEMBER AREA TIMES THE ALLOWABLE TENSION STRESS.
- STRUCTURAL STEEL CONNECTIONS SHALL BE WELDED OR BOLTED WITH 3/4" DIA A325 BEARING BOLTS AS REQUIRED (UNLESS OTHERWISE NOTED). EXCEPT WHERE REACTIONS ARE INDICATED ON DRAWINGS, NON-COMPOSITE BEAM CONNECTIONS MUST DEVELOP 50% OF THE TOTAL BEAM ALLOWABLE UNIFORM LOAD THE AISC TABLES (CURRENT EDITION BASED ON SIZE, SPAN, & YIELD STRENGTH) OR PER BOLT SCHEDULE
- TWO SIDED (DOUBLE SHEAR) CONNECTIONS ARE PREFERRED. SINGLE SIDED CONNECTIONS MAY BE USED WHERE NECESSARY.
- WELDING DESIGNS, WHERE DETAILED, HAS ASSUMED E70XX ELECTRODES. WELDING SHALL BE BY CERTIFIED OPERATORS AND CONFORM TO AWS STANDARDS.
- TYPICAL CONNECTION DETAILS INDICATED ON THE STRUCTURAL DESIGN DRAWINGS SHALL DICTATE THE FORM AND GEOMETRY OF THE CONNECTIONS. THE FABRICATOR SHALL DETERMINE OR VERIFY TYPE, SIZE AND NUMBER OF BOLTS, PLATE THICKNESSES AND SIZES, WELD SIZES AND LENGTHS, AND ALL REQUIRED INFORMATION NOT SPECIFIED ON THE TYPICAL CONNECTION DETAILS.
- ANCHOR ROD AND GROUT PLACEMENT AT COLUMN BASEPLATES TO FOLLOW CURRENT AISC CODE OF STANDARD PRACTICE TOLERANCES.
- LOCATION OF ANCHOR RODS SHALL BE CONFIRMED BY A LICENSED SURVEYOR BEFORE ERECTION OF STEEL.
- THE DESIGN OF ALL STEEL CONNECTIONS (EXCEPT PREDESIGNED CONNECTIONS AS SPECIFIED BELOW AND DETAILS THAT HAVE BEEN ENGINEERED ON THESE DRAWINGS) SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS, EMPLOYED BY THE FABRICATOR. THE FABRICATOR'S REGISTERED PROFESSIONAL ENGINEER SHALL SUBMIT COMPLETE DESIGN CALCULATIONS FOR EACH CONNECTION. SUCH CALCULATIONS SHALL SHOW DETAILS OF THE ASSEMBLED JOINT WITH ALL BOLTS AND WELDS REQUIRED. WHERE PREDESIGNED CONNECTIONS ARE TAKEN DIRECTLY FROM TABLES IN THE AISC MANUAL, CALCULATIONS NEED NOT BE SUBMITTED, PROVIDED THE JOBS DESIGN CONDITIONS PRECISELY MATCH THOSE ASSUMED IN THE AISC MANUAL. ALL DATA EXTRACTED FROM THE TABLES IS CLEARLY IDENTIFIED WITH THE TABLE NUMBER AND ALL SUCH CONNECTIONS ARE SO INDICATED IN THE CALCULATIONS SUBMITTED.
- ALL DESIGN CALCULATIONS SHALL BE SEALED BY THE FABRICATOR'S PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS. SHOP DRAWINGS SUBMITTED WITHOUT COMPLETE DESIGN CALCULATIONS WILL NOT BE REVIEWED.
- STEEL CONNECTIONS ARE TO BE DESIGNED TO ALLOW FOR VARIABILITY IN EXISTING DIMENSIONS. PROVISIONS FOR SLOTTED HOLES, OR OTHER MEANS APPROVED BY THE ENGINEER, ARE TO BE INCORPORATED INTO THE DESIGN OF STEEL CONNECTIONS.
- COLUMNS AND BEAMS WITH BASE, CAP OR END PLATES SHALL HAVE SQUARE CUT OR MILLED ENDS.
- THE FRAMING SHALL BE ERECTED TRUE AND PLUMB. TEMPORARY BRACING SHALL BE PROVIDED AND SHALL REMAIN IN PLACE UNTIL THE LATERAL BRACING SYSTEM IS IN PLACE AND CONNECTIONS OF ALL MEMBERS ARE FINAL.
- NON-METALLIC, NON-SHRINK, NON-STAINING GROUT UNDER ALL COLUMN BASE PLATES AND BEAM BEARING PLATES SHALL CONSIST OF A PREMIXED PRODUCT COMPLYING WITH ALL REQUIREMENTS OF CRD-C621, ASTM C827, AND C109.
- ADHESIVE ANCHOR SYSTEM SHALL CONSIST OF ALL-THREAD ANCHOR ROD, NUT, WASHER, AND ADHESIVE CAPSULE(S). THE ADHESIVE CAPSULE SHALL CONTAIN AN EPOXY RESIN. ANCHOR RODS SHALL CONFORM WITH THE FOLLOWING REQUIREMENTS :
  - ASTM A36
  - AISI 4140, 4142, 4145, 4140H MEETING REQUIREMENTS OF ASTM A193, GRADE B7.
  - ASTM F593, GROUP 1, ALLOY 304 STAINLESS STEEL.
 ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- DO NOT PAINT:
  - SURFACES OF CONNECTIONS INDICATED AS SLIP CRITICAL.
  - SURFACES OF CONNECTIONS TO BE FIELD WELDED.
  - MEMBERS TO BE EMBEDDED IN CONCRETE OR MASONRY.
  - SURFACES TO RECEIVE SPRAYED ON INSULATION.
  - MEMBERS TO BE GALVANIZED.
- TESTING:
  - THE OWNER SHALL ENGAGE AN INDEPENDENT TESTING AND INSPECTION AGENCY TO INSPECT BOLTED CONNECTIONS WELDED CONNECTIONS, PERFORM TESTS, AND SUBMIT TEST REPORTS. THE CONTRACTOR SHALL REMAIN SOLELY RESPONSIBLE FOR ALL WORK PERFORMED, REGARDLESS OF THE DEGREE OF INSPECTION PROVIDED BY THE OWNER.
  - THE TESTING AGENCY SHALL CONDUCT AND INTERPRET THE TESTS, STATE IN EACH REPORT WHETHER THE TEST SPECIMENS COMPLY WITH CONTRACT DOCUMENTS, AND SPECIFICALLY STATE ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS.


F'c = 4000 P.S.I. NORMAL WEIGHT												
BAR SIZE	TOP BAR LENGTH (IN.)						OTHER BAR LENGTH (IN.)					
	CATEGORY						CATEGORY					
	1	2	3	4	5	6	1	2	3	4	5	6
3	18	18	18	18	18	18	16	16	16	16	16	16
4	26	24	24	24	24	24	20	19	19	19	19	19
5	40	32	30	30	30	30	31	25	23	23	23	23
6	57	45	40	36	36	36	44	35	31	28	28	28
7	77	62	54	43	42	42	59	48	42	33	33	33
8	102	81	71	57	51	48	78	63	55	44	39	37
9	129	103	90	72	64	55	99	79	69	56	50	42
10	163	131	114	92	82	65	126	101	88	70	63	50
11	200	160	140	112	100	80	154	123	108	86	77	62

CONCRETE COVER	CENTER TO CENTER BAR SPACING				STRUCTURAL ELEMENTS
	≤ 3d	> 3d < 4d	≥ 4d < 6d	≥ 6d	
< d	1	3	5	6	LONGITUDINAL BARS IN BEAMS, COLUMNS, INNER LAYER OF WALLS AND SLABS
> d, < 2d	1	3	3	4	ALL OTHER REINFORCING BARS
> 2d	1	3	5	6	ALL OTHER REINFORCING BARS

d = NOMINAL BAR DIAMETER.

MARK	DESCRIPTION OF ISSUE	DATE	BY	MARK	DESCRIPTION OF REVISION	DATE	BY
1	ISSUED FOR PERMIT	8/12/08	OEC				
2	RE-ISSUED FOR PERMIT	11/11/08	OEC				



1300 East 9th Street - Suite 1500 | Cleveland, OH 44114  
441 Wolf Ledges Parkway - Suite 300 | Akron, OH 44311

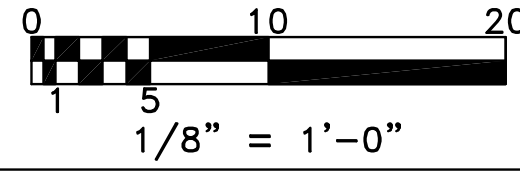
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VC CAPITAL, LLC.

THE PIPELINE AUTO SPA

STRUCTURAL

GENERAL NOTES

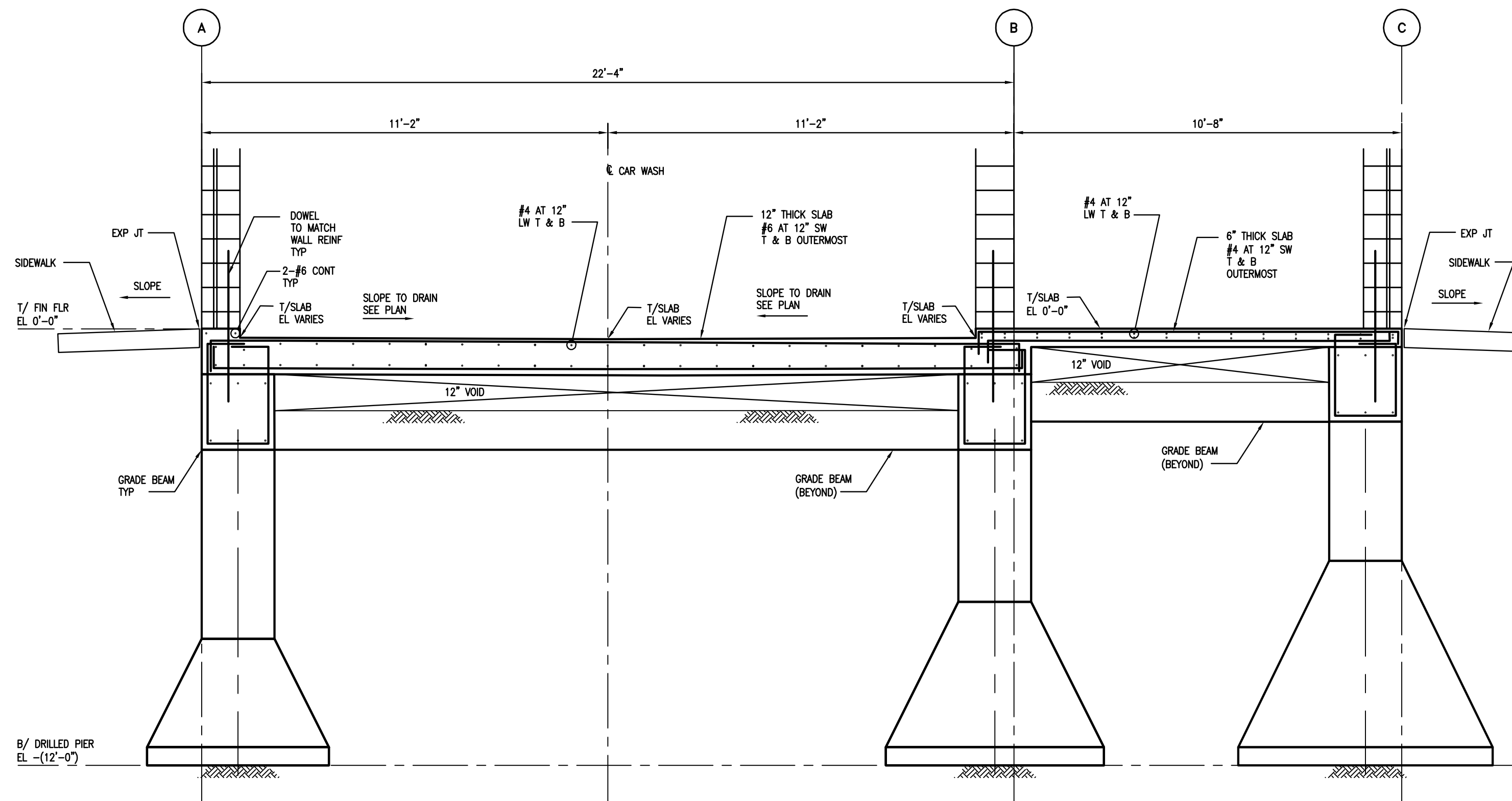


SCALE NONE

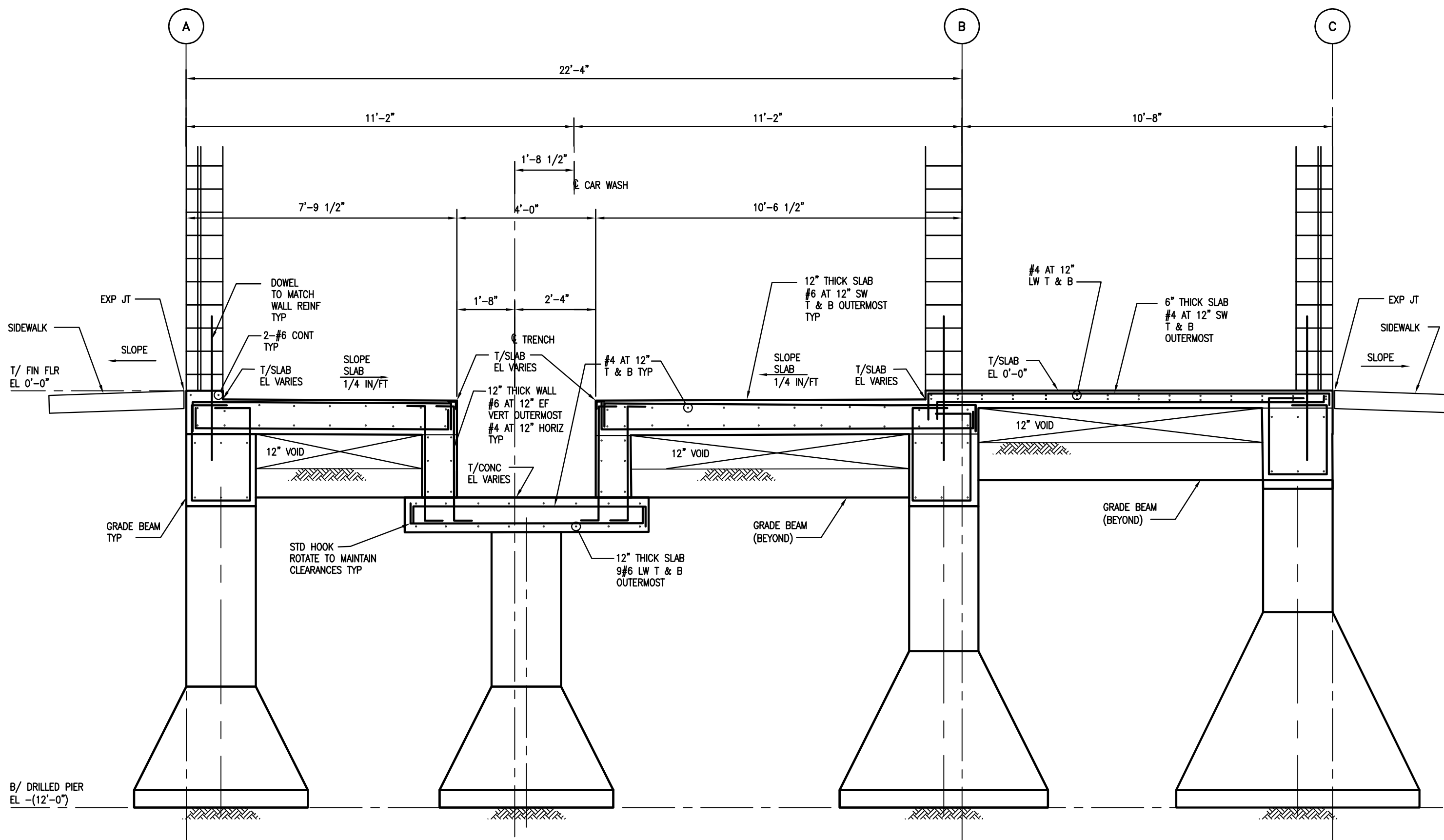
OSBORN PROJECT NO. 13666

DRAWING NO	DRAWN	DATE	UNIT	ISSUE NO
S-1	CHECKED	5/9/08	UW	1
	PRINTED			

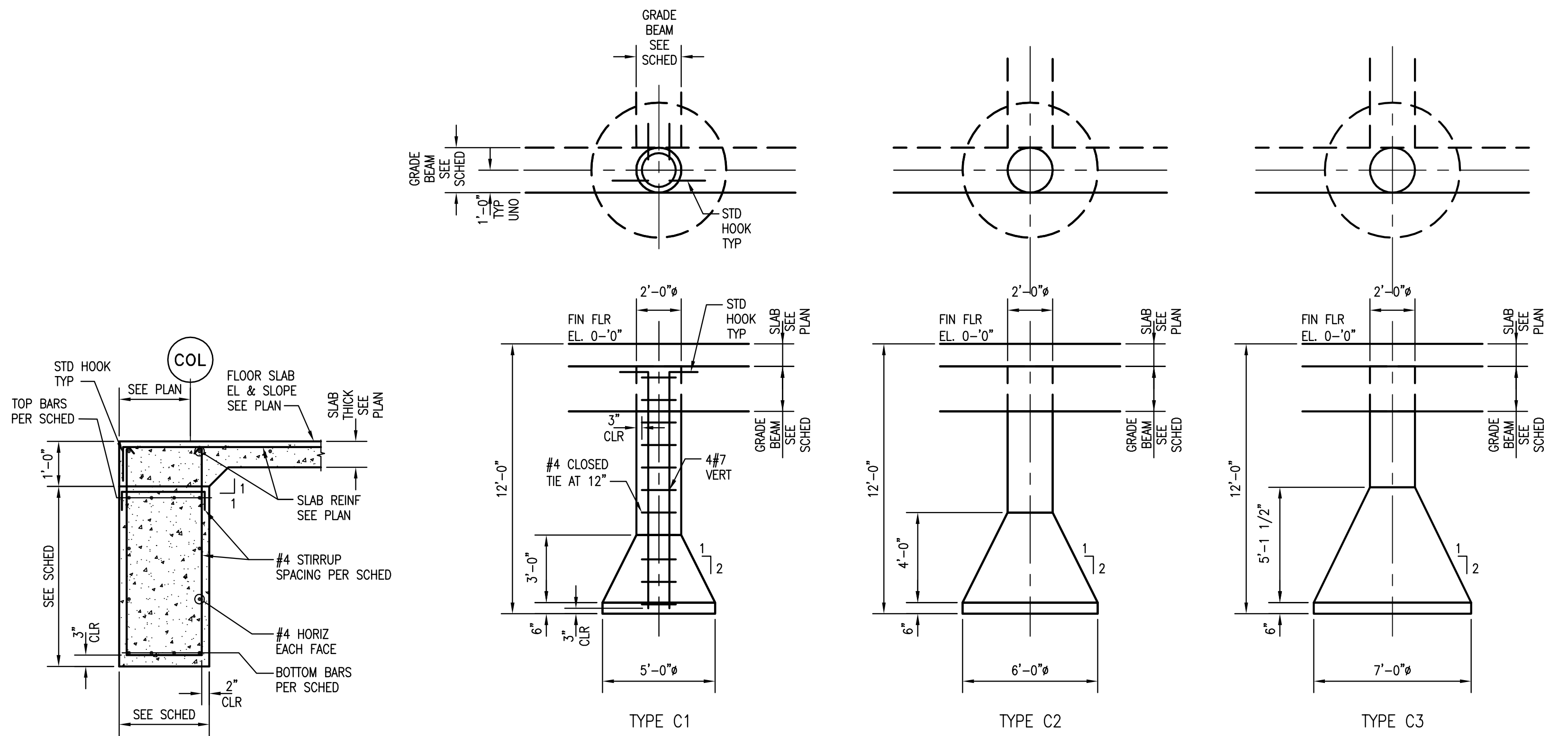




**SECTION A**  
SCALE: 3/8" = 1'-0"

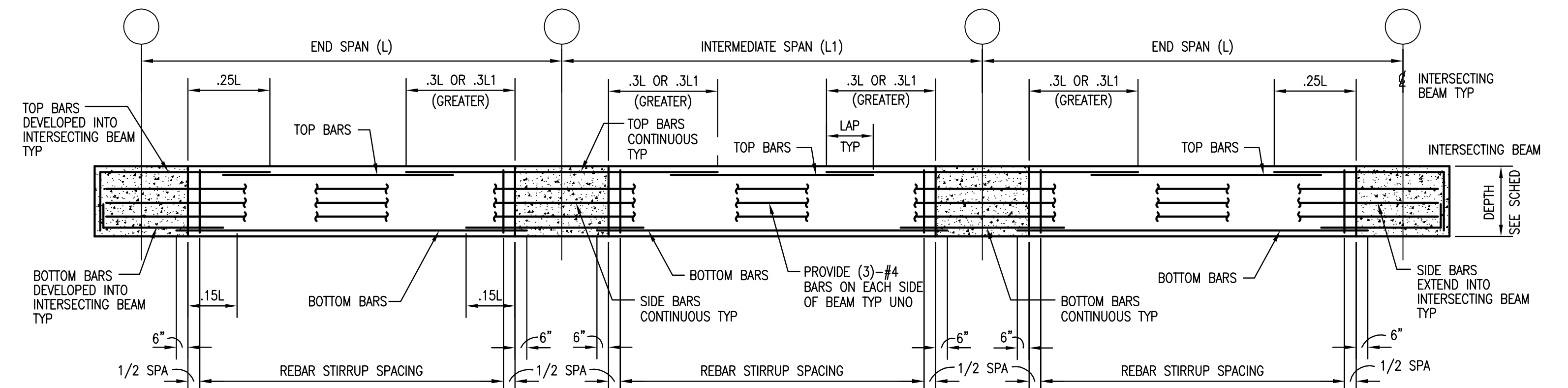


**SECTION B**  
SCALE: 3/8" = 1'-0"



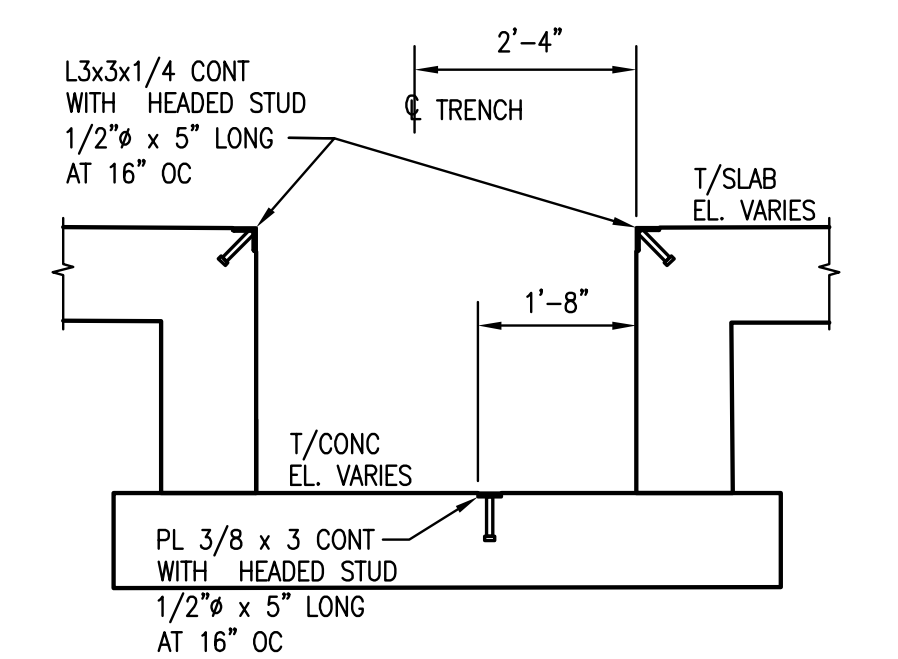
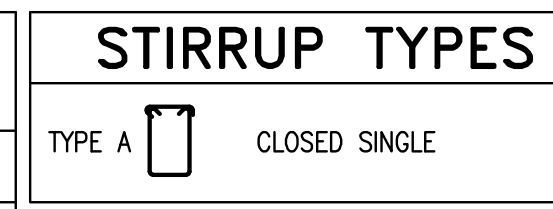
**GRADE BEAM TYPICAL SECTION**  
SCALE: N.T.S.

**TYPICAL DRILLED PIERS**  
SCALE: 1/4" = 1'-0"



**GRADE BEAM TYPICAL ELEVATION**  
SCALE: N.T.S.

MARK	SIZE (WIDTH x DEPTH)	REINFORCING		STIRRUPS			REMARKS		
		BOT BARS	TOP BARS	SIZE	TYPE	LEFT SPACING		CENTER SPACING	RIGHT SPACING
GB1	16"x24"	4-#6	4-#6	#4	A	3 @ 6"	REST @ 12"	3 @ 6"	-
GB2	22"x24"	8-#6	8-#6	#4	A	6 @ 3"	REST @ 12"	6 @ 3"	-
GB3	18"x24"	4-#6	4-#6	#4	A	12"	REST @ 12"	12"	-
GB4	22"x30"	5-#6	5-#6	#4	A	3 @ 6"	REST @ 12"	3 @ 6"	-
GB5	16"x18"	3-#6	3-#6	#4	A	12"	REST @ 12"	12"	-



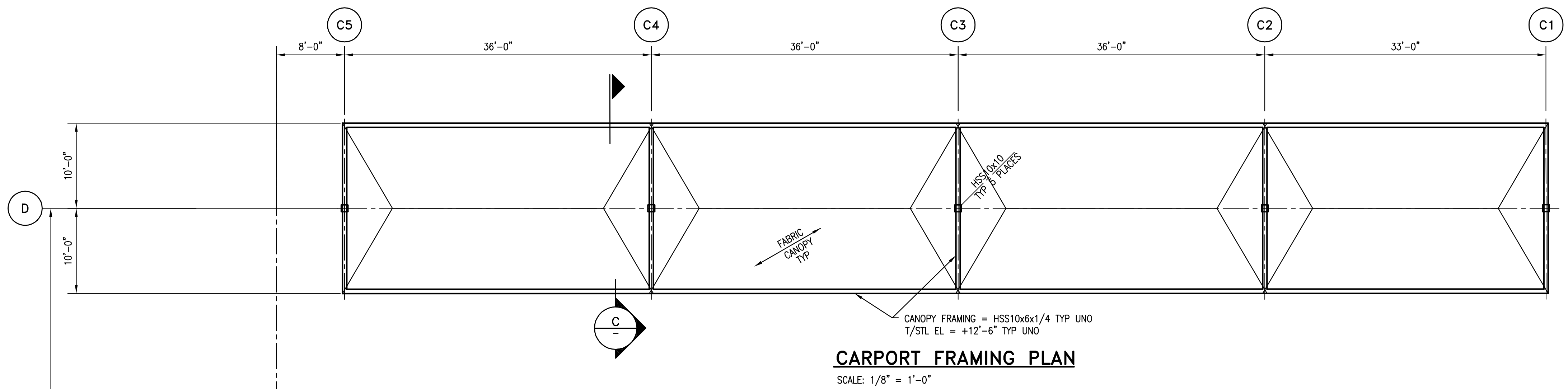
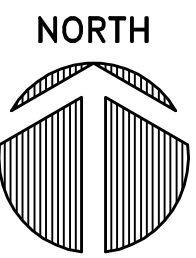
**TRENCH EMBEDMENTS TYPICAL SECTION**  
SCALE: N.T.S.

MARK	DESCRIPTION OF ISSUE	DATE	BY	MARK	DESCRIPTION OF REVISION	DATE	BY
1	ISSUED FOR PERMIT	8/12/08	OEC				
2	RE-ISSUED FOR PERMIT	11/11/08	OEC				

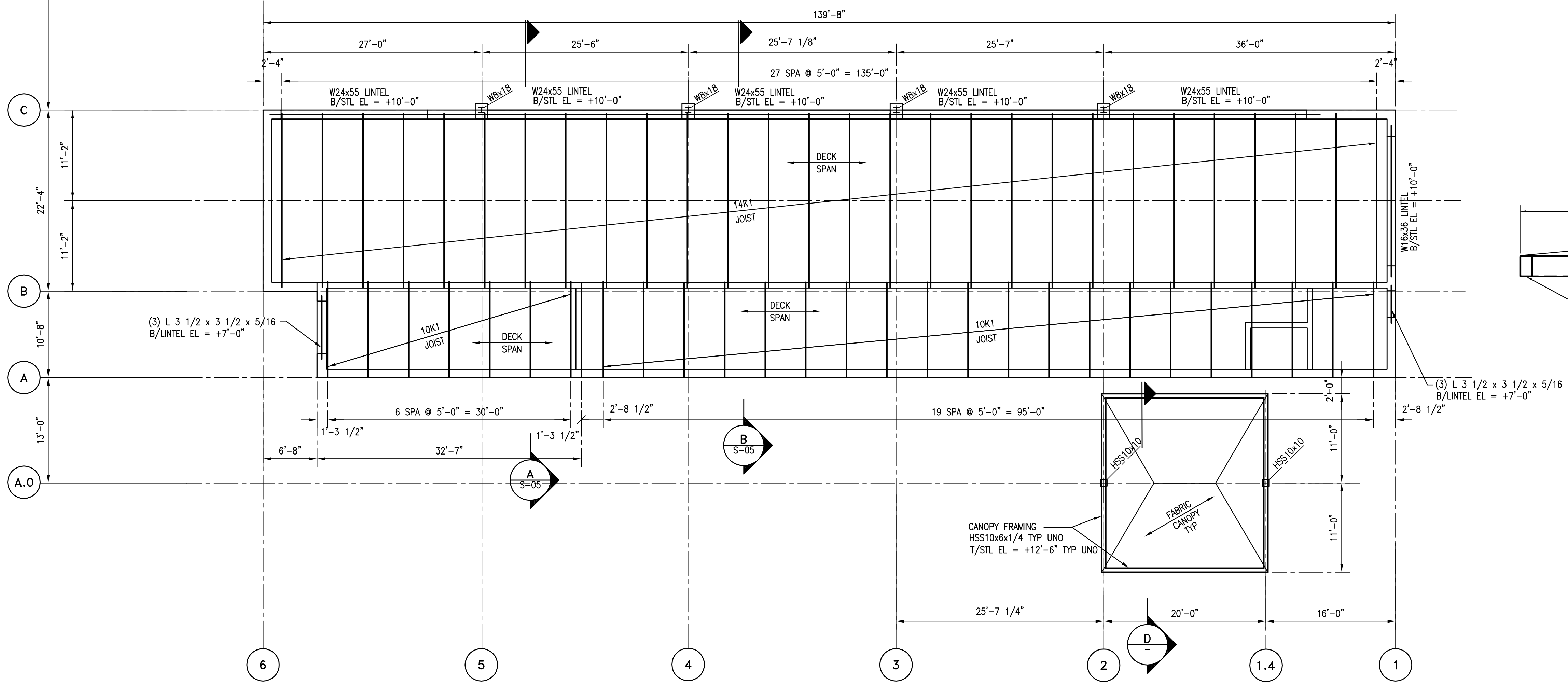
**OSBORN ENGINEERING**  
1300 East 9th Street - Suite 1500 | Cleveland, OH 44114  
441 Wolf Ledges Parkway - Suite 300 | Akron, OH 44311

**VC CAPITAL, LLC.**  
**THE PIPELINE AUTO SPA**  
**FOUNDATIONS**  
**SECTIONS AND DETAILS**

0 10 20 SCALE  
1 5 1/8" = 1'-0"  
OSBORN PROJECT NO. 13666  
DRAWING NO. S-3  
DRAWN 5/22/08  
CHECKED  
PRINTED  
UW  
ISSUE NO. 1



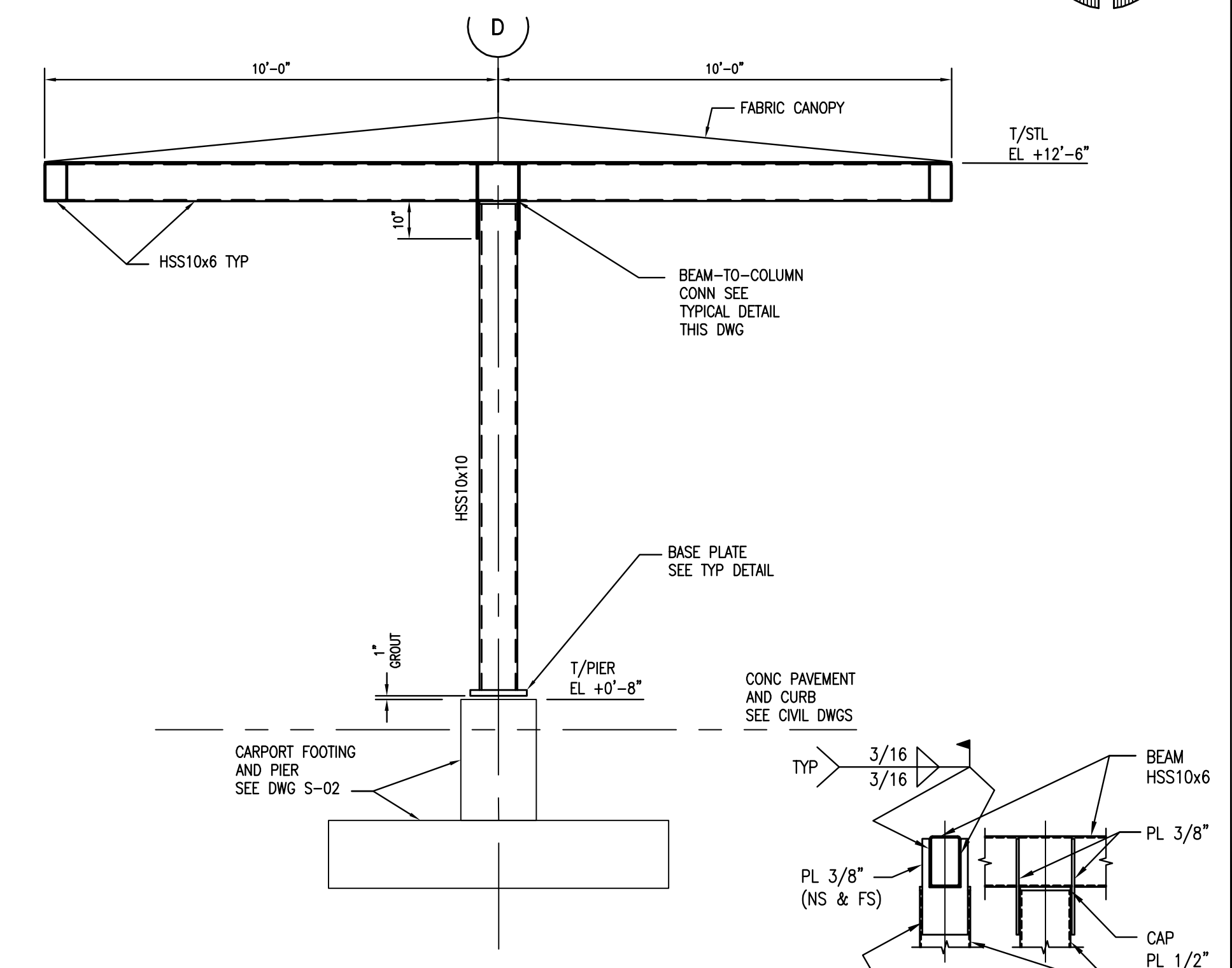
**CARPORT FRAMING PLAN**  
SCALE: 1/8" = 1'-0"



**ROOF FRAMING PLAN**  
SCALE: 1/8" = 1'-0"

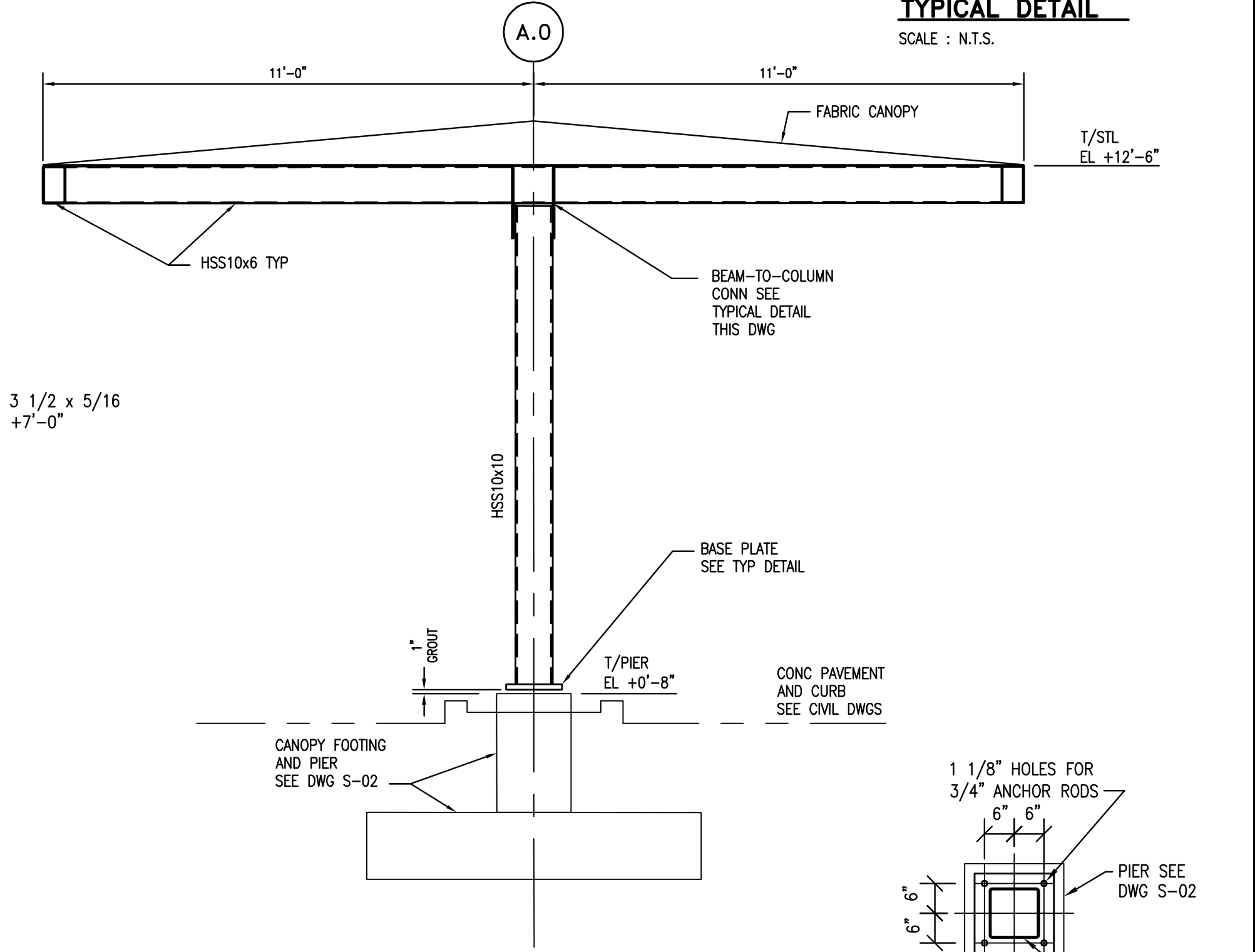
- NOTES:**
1. TOP OF FLOOR SLAB = 0'-0" = ELEVATION 585.50.
  2. SEE DWG S-01 FOR STRUCTURAL GENERAL NOTES.

**CANOPY FRAMING PLAN**  
SCALE: 1/8" = 1'-0"



**CARPORT FRAMING TYPICAL SECTION C**  
SCALE: N.T.S.

**CARPORT AND CANOPY BEAM TO COLUMN TYPICAL DETAIL**  
SCALE: N.T.S.



**CANOPY FRAMING TYPICAL SECTION D**  
SCALE: N.T.S.

**CARPORT AND CANOPY BASE PLATE TYPICAL DETAIL**  
SCALE: N.T.S.

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**OSBORN ENGINEERING**

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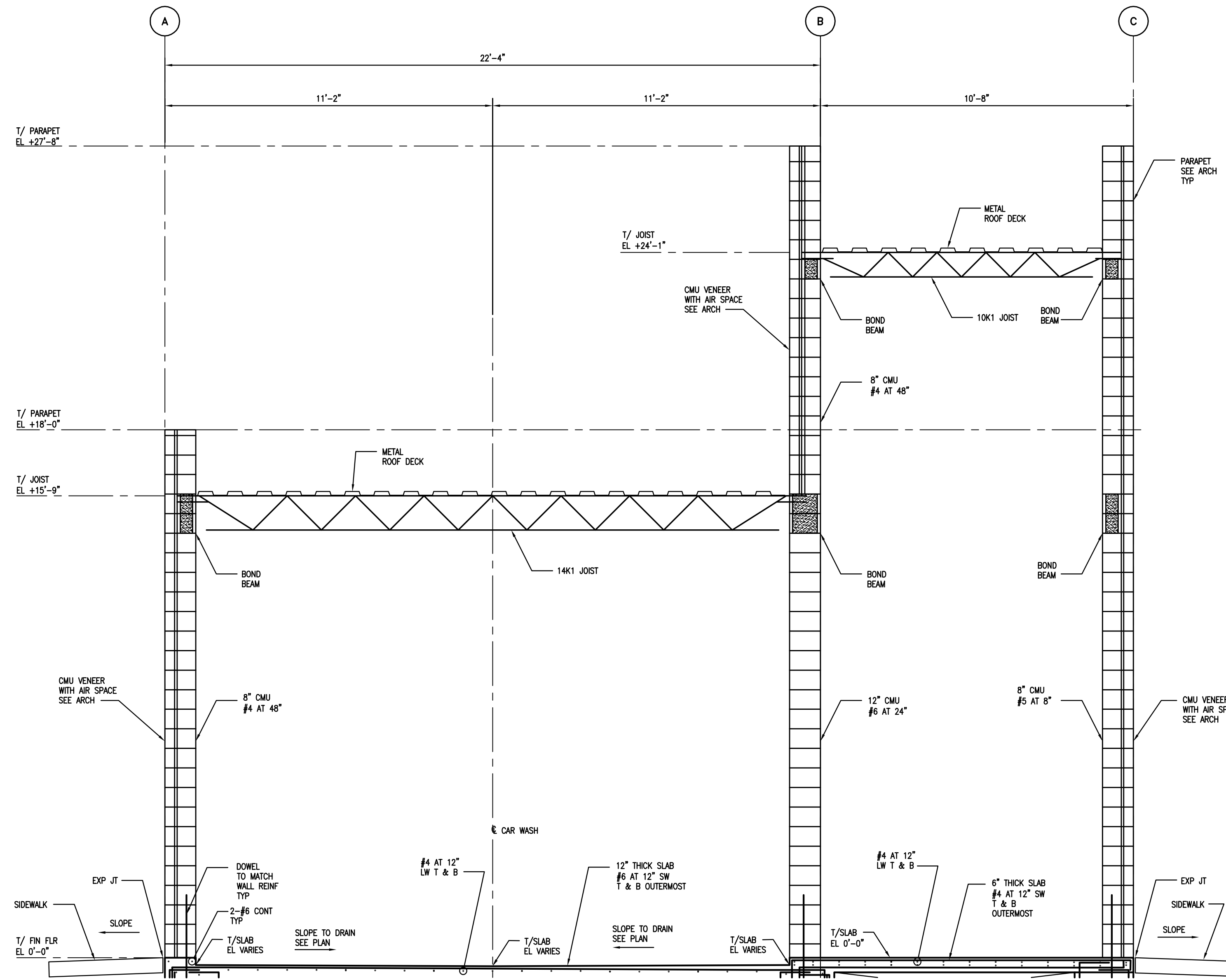
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**VC CAPITAL, LLC.**  
**THE PIPELINE AUTO SPA**  
**ROOF FRAMING PLAN**

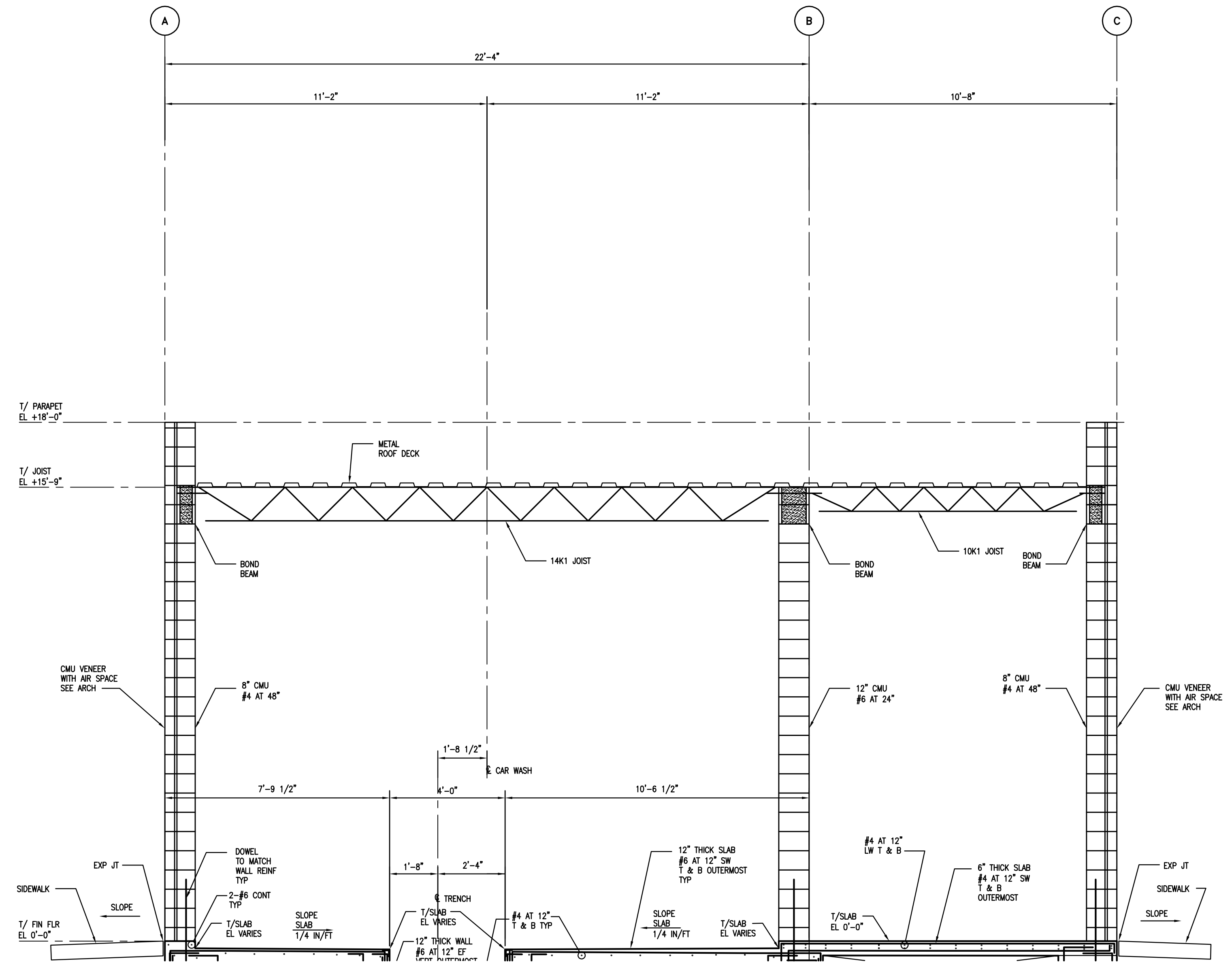
0 10 20  
1 5  
1/8" = 1'-0"

OSBORN PROJECT NO. 13666  
DRAWING NO. S-4  
DRAWN 5/22/08  
CHECKED  
PRINTED

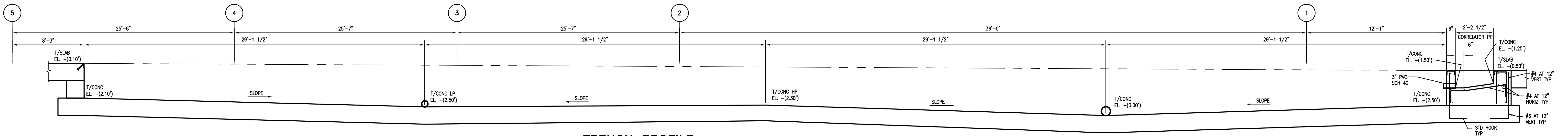
SCALE 1/8" = 1'-0"  
ISSUE NO. 1



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



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



**TRENCH PROFILE SECTION D**  
SCALE: N.T.S.

MARK	DESCRIPTION OF ISSUE	DATE	BY	MARK	DESCRIPTION OF REVISION	DATE	BY
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VC CAPITAL, LLC.		0 10 20 1 5 1/8" = 1'-0"		SCALE 3/8" = 1'-0"	
THE PIPELINE AUTO SPA		OSBORN PROJECT NO. 13666		DRAWN 6/23/08 UW	
BUILDING SECTIONS		DRAWING NO. S-5		CHECKED PRINTED	
				ISSUE NO. 1	