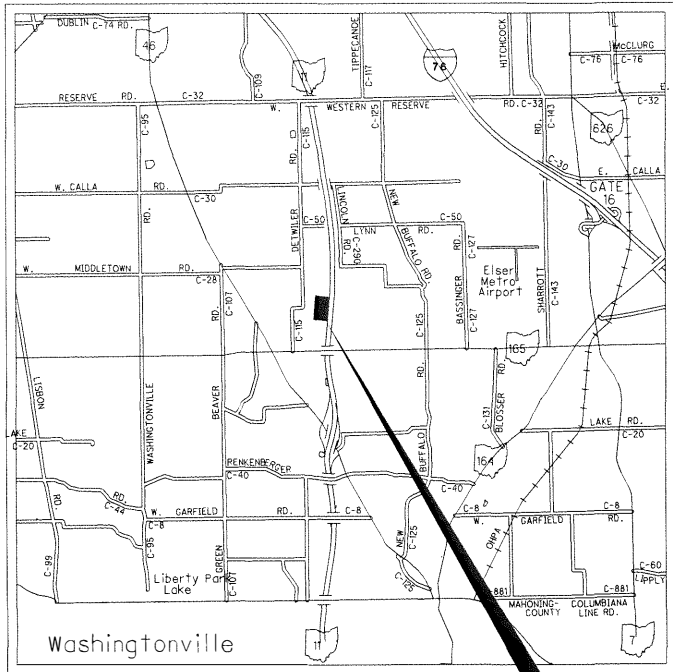




LOCATION MAP

PROJECT LOCATION

LATITUDE: 40°57'05" N LONGITUDE: 80°43'16" W



STATE OF OHIO DEPARTMENT OF TRANSPORTATION FACD04 MAH SR 11 SB OY SALT

BEAVER TOWNSHIP MAHONING COUNTY

FINAL PLANS

INDEX OF SHEETS:

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PROJECT DESCRIPTION

NEW ODOT FABRIC COVERED SALT STRUCTURE, 108' x 60', LOCATED ALONG SOUTHBOUND S.R. 11. BUILDING IS COMPOSED OF CONCRETE WALLS, ASPHALT FLOOR, AND FABRIC ROOF. ADDITIONAL FACILITIES INCLUDE THE CONSTRUCTION OF A NEW AREA FOR BRINE/CALCIUM STORAGE (4 - 10,500 GALLON POLYETHYLENE TANKS).

DOMESTIC STEEL USE REQUIREMENTS AS SPECIFIED IN SECTION 153.011 OF THE OHIO REVISED CODE APPLY TO THIS PROJECT. COPIES OF ORC SECTION 153.011 CAN BE OBTAINED FROM ANY OF THE OFFICES OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES.

SB = SOUTH BOUND
OY = OUTPOST YARD

PROJECT EARTH DISTURBED AREA: 0.90 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)

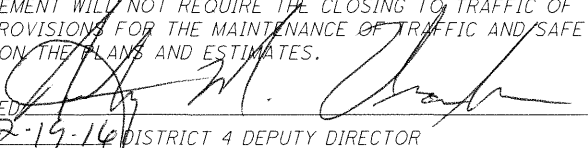
2016 ODOT CMS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL, SHALL GOVERN THIS IMPROVEMENT.

NOTES:

- THE OHIO DEPARTMENT OF COMMERCE, DIVISION OF INDUSTRIAL COMPLIANCE, IS THE AUTHORITY HAVING JURISDICTION FOR THIS PROJECT CONCERNING ALL BUILDING PERMITS AND INSPECTIONS. IN CERTAIN PROJECTS, THE OHIO EPA MAY ALSO HAVE JURISDICTION. THE CONTRACTOR MUST CONFIRM THIS WITH THE ODOT PROJECT ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK.
- IF ANY CONTRACTOR DRAWINGS ARE REQUIRED BY INDUSTRIAL COMPLIANCE FOR PLAN REVIEW PRIOR TO CONSTRUCTION, CONTRACTOR WILL SUPPLY ELECTRONIC FILES (.PDF OR .TIF FORMAT) OF DRAWINGS, STAMPED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OHIO, TO ODOT AND TO THE ENGINEER OF RECORD FOUND ON THE TITLE PAGE OF THESE DRAWINGS. CONTRACTOR DRAWINGS MUST BE DELIVERED A MINIMUM OF 30 DAYS BEFORE MATERIAL DELIVERY TO THE JOB-SITE. THE ENGINEER OF RECORD WILL FILE THE DRAWINGS ELECTRONICALLY TO THE DIVISION OF INDUSTRIAL COMPLIANCE AND PAY FEES FOR PLAN REVIEW AND APPROVAL.
- CONTRACTOR WILL REMAIN RESPONSIBLE TO RESOLVE ALL QUESTIONS OR CONCERNS, AND MAKE ANY DESIGN CHANGES REQUIRED BY INDUSTRIAL COMPLIANCE TO SECURE FINAL PLAN APPROVAL AND BUILDING PERMITS WITHOUT DELAY OR ADDITIONAL COST TO ODOT. CONTRACTOR SHALL NOT ACCEPT DELIVERY OF THE SYSTEM PRIOR TO FINAL PLAN APPROVAL.
- DURING CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO KEEP A SET OF ORIGINAL PERMIT DRAWINGS, BOTH FOR THE PROJECT AND FOR THE SYSTEM(S), SHOWING INDUSTRIAL COMPLIANCE PLAN APPROVAL STAMPS, AND CONSTRUCTION INSPECTION FORMS, ON THE JOB-SITE AT ALL TIMES.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALL INDUSTRIAL COMPLIANCE AT 1-800-822-3208 (NORMAL WORKING HOURS MONDAY-FRIDAY 8:15 AM - 3:15 PM EXCEPT HOLIDAYS) TO SCHEDULE ALL REQUIRED BUILDING PERMIT INSPECTIONS, AND TO RESOLVE ALL ISSUES REQUIRED TO SECURE SIGNED INSPECTION APPROVAL BY THE INSPECTOR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ODOT'S INDEPENDENT INSPECTION/TESTING CONSULTANT FOR EACH SPECIAL INSPECTION AS REQUIRED BY INDUSTRIAL COMPLIANCE IN THE BUILDING PERMITS.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING OF TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE OF TRAFFIC AND SAFETY WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED: 
DATE: 12-19-16 DISTRICT 4 DEPUTY DIRECTOR

APPROVED: _____
DATE: _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES	
CONTACT BOTH SERVICES CALL TWO WORKING DAYS BEFORE YOU DIG	
CALL 1-800-362-2764 (TOLL FREE)	
OHIO UTILITIES PROTECTION SERVICE NON-MEMBERS MUST BE CALLED DIRECTLY	
OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE CALL: 1-800-925-0988	

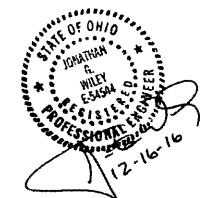
PLAN PREPARED BY:

KZF DESIGN

Architecture | Engineering | Interiors | Planning

700 Broadway Street TEL 513 621 6211
Cincinnati, OH 45202-6010 FAX 513 621 6530

ENGINEERS SEAL:



SIGNED: _____
DATE: _____

STANDARD CONSTRUCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-2.2 7/18/08	800 1/20/17	
BP-3.1 7/18/14	832 1/17/14	
BP-4.1 7/19/13		
DM-1.1 1/15/16		
DM-4.3 1/15/16		
DM-4.4 1/15/16		
HL-10.13 1/20/17		
HL-20.21 1/20/17		
HL-60.11 1/15/16		

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GENERAL NOTES

1. EXISTING UTILITIES: THE INFORMATION SHOWN CONCERNING EXISTING UTILITIES IS APPROXIMATE. THE LOCATION, SIZES AND OTHER INFORMATION SHOWN IS ONLY AS ACCURATE AS THAT PROVIDED BY THE OWNERS OF THE UTILITY. THIS INFORMATION IS NOT REPRESENTED, WARRANTED OR GUARANTEED TO BE COMPLETE OR ACCURATE. THE ENGINEER DOES NOT INDEPENDENTLY VERIFY NOR FIELD LOCATE UTILITIES. THE CONTRACTOR IS RESPONSIBLE TO PHYSICALLY LOCATE AND VERIFY, IN THE FIELD, THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL SUPPORT, PROTECT AND RESTORE ALL EXISTING UTILITIES AND THEIR ASSOCIATED ITEMS. THE CONTRACTOR SHALL NOTIFY THE REGISTERED UTILITY PROTECTION SERVICE AND ALL UTILITY OWNERS HAVING FACILITIES IN THE CONSTRUCTION AREA WHO ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE. THE CONTRACTOR SHALL ADHERE TO SECTION 153.64, OHIO REVISED CODE. THE CONTRACTOR SHALL GIVE NOTIFICATION AS REQUIRED BY OHIO REVISED CODE, AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, AND SHALL COORDINATE HIS WORK WITH THE UTILITY OWNERS UNTIL HIS WORK IS COMPLETED. THE CONTRACTOR SHALL KEEP THE UTILITY OWNERS APPRISED OF HIS SCHEDULE AND REQUIREMENTS AND SHALL PROVIDE THE PROJECT OWNER WITH EVIDENCE OF HAVING NOTIFIED THE UTILITIES AND PROVIDED THEM WITH HIS WORK SCHEDULE PRIOR TO BEGINNING ANY WORK.

CONTRACTORS REQUIRING MORE INFORMATION REGARDING EXISTING UTILITIES SHOULD CONDUCT THEIR OWN FIELD INVESTIGATIONS OR OTHERWISE LOCATE THE UTILITIES PRIOR TO SUBMITTING A BID FOR THE CONSTRUCTION. NOTICE SHALL BE GIVEN TO THE OHIO UTILITIES PROTECTION SERVICE (800-362-2764) FOR THE MEMBER UTILITIES.

2. ALL ELEVATIONS ARE FOR PROJECT USE ONLY AND ARE BASED ON VERTICAL DATUM NAVD 1988 HORIZONTAL COORDINATES ARE IN ACCORDANCE WITH NAD 83 (2011).

3. DIMENSIONS AND NORTHINGS/EASTINGS ARE TO FACE OF CURB/EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

STATE AND U.S. WATERS:

1. NO WASTE MATERIALS WILL BE DISCHARGED INTO STORM WATER INLETS OR TO WATERS OF THE STATE AND WATERS OF THE U.S.

DUST CONTROL:

PERFORM DUST CONTROL OPERATIONS AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER.....2.16 M. GAL

UTILITY CONTACT INFORMATION:

OHIO EDISON ELECTRIC:	AT&T:
MR. MIKE BECK	MR. HAROLD MAYNARD
730 SOUTH AVENUE	50 W. BOWERY ST., 4TH FLOOR
YOUNGSTOWN, OH 44502	AKRON, OH 44308
PHONE: (330) 740-7704	PHONE: (330) 384-8974
E-MAIL: beckm@firstenergycorp.com	E-MAIL: hm2147@att.com

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	2		2

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN
THIS WORK SHALL INCLUDE THE REMOVAL OF ALL EXISTING ASPHALT GRINDINGS CURRENTLY STOCKPILED ON SITE. THESE ASPHALT GRINDINGS SHALL BE COMPLETELY REMOVED FROM THE SITE AS DIRECTED BY THE ENGINEER. ASPHALT GRINDINGS MAY NOT BE USED IN FILL AREAS. THE UNIT BID PRICE SHALL INCLUDE THE COST OF ALL LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

LEGEND

	EXISTING ELECTRIC		SIGN
	EXISTING DOMESTIC WATER		EXISTING ELECTRICAL VAULT
	EXISTING TELECOMMUNICATIONS		EXISTING COMMUNICATIONS VAULT
	NEW UNDERGROUND ELECTRIC		EXISTING BOLLARD

ITEM 607 FENCE, MISC.: 18' SWING GATE
IN ADDITION TO ITEM 607 FENCE, THE CONTRACTOR SHALL ALSO PROVIDE AN 18' SWING GATE, SEE SHEET 12 FOR DETAILS. GATE SHALL CONSIST OF GALVANIZED CHAIN LINK FENCE WITH 3 STRANDS OF BARBED WIRE ACROSS THE TOP. GATE SHALL HAVE TWO PANELS AND SHALL BE LOCKABLE. THE UNIT BID PRICE SHALL INCLUDE THE COST OF ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 607 FENCE, MISC.: PERSONNEL GATE
IN ADDITION TO ITEM 607 FENCE, THE CONTRACTOR SHALL PROVIDE A 4' WIDE PERSONNEL GATE AS SHOWN ON SHEET 12. GATE SHALL CONSIST OF GALVANIZED CHAIN LINK FENCE WITH 3 STRANDS OF BARBED WIRE ACROSS THE TOP. GATE SHALL HAVE TWO PANELS AND SHALL BE LOCKABLE. THE UNIT BID PRICE SHALL INCLUDE THE COST OF ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 690 SPECIAL - BOLLARD

NEW BOLLARDS ARE TO BE INSTALLED AS SHOWN ON SHEET 12, AND SHALL BE MADE OF GALVANIZED SCHEDULE 40 STEEL PIPE AND FILLED WITH CONCRETE. THE EXTERIOR SHALL BE PAINTED YELLOW. BOLLARDS SHALL BE 6" IN DIAMETER AND 4 FEET IN HEIGHT ABOVE GROUND LEVEL. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

EROSION CONTROL

SEEDING AND MULCHING:
THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDING AREAS.

659, SEEDING AND MULCHING - - - - - 2,307 SY
659, WATER
(TWO APPLICATIONS EACH AT 0.0027 M. GAL/ SY OF PERMANENT SEEDED AREA.)
2 x (0.0027 MGAL/SY) x 2,307 SY = 12.46 M.GAL
TOP SOIL - - - - - 257 CY
COMMERCIAL FERTILIZER - - - - - 0.21 TON
LIME - - - - - 0.48 ACRES

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. THE ABOVE QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 950 SPECIAL - FACILITIES: CALCIUM/BRINE TANKS (10,500 GALLON EACH)

NEW (4) 10,500 GALLON POLYMER TANKS TO BE INSTALLED AS SHOWN IN THE PLANS AND SHALL INCLUDE NEW TRANSFER PUMPS AND ASSOCIATED PLUMBING. THIS SHALL BE ANCHORED INTO CONCRETE PAD AS RECOMMENDED BY MANUFACTURER. THE UNIT BID PRICE SHALL INCLUDE THE COST NEEDED FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

MATERIAL OF CONSTRUCTION SHALL BE HIGH DENSITY LINEAR POLYETHYLENE, ONE-PIECE SEAMLESS CONSTRUCTION, RATED FOR SPECIFIC GRAVITY OF 1.9, WITH UV STABILIZERS TO PREVENT DEGRADATION FROM SUNLIGHT EXPOSURE.

MANWAY SHALL BE AT LEAST 16" WITH VENTED LID, OFFSET TO THE EDGE OF TANK FOR EASY ACCESS.

OUTLET SHALL BE BULKHEAD TYPE WITH SINGLE HOLE THROUGH TANK WALL, 3" FNPT, POLYPROPYLENE OR 316 STAINLESS STEEL, DOUBLE FLANGE BOLTED FITTING, EPDM GASKET, DOUBLE THREAD WITH POLY SIPHON TUBE FOR TANK DRAINAGE. THE 3" FNPT FILL PORT LOCATION WILL BE SPECIFIED AT THE TIME OF ORDER. LOCATION OF OUTLET SHALL BE ON THE SIDE OF THE TANK, AT OR AS NEAR TO THE BOTTOM OF TANK, PER TYPICAL TANK STANDARDS.

A METHOD FOR MEASURING QUANTITY LEVELS, SUCH AS GRADUATIONS MOLDED ON THE TANK WALL OR ADHESIVE STRIPS OR OTHER METHODS, IS TO BE PROVIDED FOR SHOWING GALLON CAPACITY MARKS. THESE READINGS SHALL BE VISIBLE ON THE OUTSIDE OF THE STORAGE TANK. THEY SHALL BE LOCATED DIRECTLY ABOVE THE OUTLET DESCRIBED ABOVE, OR WITHIN TWO FEET HORIZONTALLY. IF MOLDED GRADUATIONS ARE NOT WITHIN THE TWO FOOT HORIZONTAL BOUNDARY, THE VENDOR MUST BE RESPONSIBLE FOR PROVIDING A SECOND METHOD FOR MEASURING QUANTITY LEVELS WITHIN THIS BOUNDARY.

TIE DOWN SLOTS SHALL BE MOLDED IN THE TANK TOP.

THE COLOR SHALL BE EITHER NATURAL WHITE OR LIGHT BLUE.

TANKS SHALL HAVE A STRAIGHT WALL TANK CAPACITY OF 10,500 GALLONS.

	EXISTING DRAINAGE CLEANOUT
	EXISTING WATER WELL
	EXISTING CATCH BASIN
	EXISTING STORM MANHOLE
	PROPOSED EDGE OF PAVEMENT

UTILITY NOTES:

1. SEE SHEET 22-23 FOR LOCATIONS OF LIGHT POLE AND CONDUIT ROUTING.

WETLAND AVOIDANCE

NO EXCAVATION, GRADING OR FILLING OPERATIONS SHALL BE PERFORMED IN WETLANDS DELINEATED BEYOND THE PROJECT CONSTRUCTION LIMITS AND DEPICTED IN THE ECOLOGICAL RESOURCES MAP AND THE PROJECT PLANS. THE ECOLOGICAL RESOURCES MAP IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON, AKRON, OHIO 44306. TO PROTECT AND DELINEATE THE BOUNDARY OF THE EXISTING WETLANDS, A FILTER FABRIC FENCE AND TEMPORARY CONSTRUCTION FENCE, PER SUPPLEMENTAL SPECIFICATION 832, SHALL BE INSTALLED AT THE PROPOSED CONSTRUCTION LIMITS BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES, AND MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE CONSTRUCTION EQUIPMENT AND/OR MATERIALS IN ANY WETLANDS. ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS SECTION 107.10 (PROTECTION AND RESTORATION OF PROPERTY) PROHIBIT THE CONTRACTOR FROM CREATING STAGING AREAS NEAR STREAMS AND/OR WETLANDS.

BEST MANAGEMENT PRACTICES/SOIL EROSION AND SEDIMENTATION CONTROL
WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL. ALL SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER. THESE SHALL COMPLY WITH ODOT'S HAND-BOOK FOR SEDIMENT AND ROSION CONTROL, WHICH MAY BE FOUND AT: [HTTP://WWW.DOT.STATE.OH.US/DBRC/](http://www.dot.state.oh.us/DBRC/).

SURVEY INFORMATION

OPUS/NGS HORIZONTAL
THE COORDINATES SHOWN ON THIS MAP ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83 (2011). SAID COORDINATES ARE BASED UPON POSITIONAL SOLUTIONS DERIVED FROM RTK GPS OBSERVATIONS USING THE OHIO DEPARTMENT OF TRANSPORTATION VIRTUAL REFERENCE SYSTEM EQUIPMENT AND SOFTWARE AT TRAVERSE CONTROL POINTS NUMBERED 201, 202, AND 203. THE GRID TO GROUND COMBINED SCALE FACTOR (1.0000408022) WAS APPLIED AT THE LOCATION OF 0, 0, 0 AND CALCULATED AT POINT NUMBER 201 (FIELDWORK COMPLETED 11/2015).

OPUS/NGS VERTICAL

THE ELEVATIONS SHOWN ON THIS MAP ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988. SAID ELEVATIONS ARE BASED UPON POSITIONAL SOLUTIONS DERIVED FROM RTK GPS OBSERVATIONS USING THE OHIO DEPARTMENT OF TRANSPORTATION VIRTUAL REFERENCE SYSTEM EQUIPMENT AND SOFTWARE AND THE NATIONAL GEODETIC SURVEY'S GEOID12A MODEL AT TRAVERSE CONTROL POINTS NUMBERED 201, 202 AND 203. ELEVATIONS FROM SAID TRAVERSE CONTROL POINTS WERE THEN TRANSFERRED BY CONVENTIONAL LEVELING PROCEDURES TO THE PERMANENT BENCHMARKS LISTED HEREON. (FIELDWORK COMPLETE 11/2015).

ITEM 607 - FENCE, TYPE CLT, AS PER PLAN
FENCE SHALL BE INSTALLED IN ACCORDANCE WITH ODOT CMS 607 AND AS SHOWN IN THE PLANS. SEE DETAIL ON SHEET 12. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK CONSTRUCTION OF FENCE.

ITEM 630 - SIGNING, MISC.: "NO TRESPASSING AUTHORIZED PERSONNEL ONLY" SIGN
SIGN TO BE INSTALLED AS SHOWN ON THE PLANS. SEE SHEET FENCE SHALL BE INSTALLED IN ACCORDANCE WITH ODOT CMS 607 AND AS SHOWN IN THE PLANS. SEE SHEET 8 FOR SIGN INFORMATION. THE DIMENSIONS OF THE SIGN ARE TO BE 12" x 18" AND MUST BE INSTALLED PER ODOTCD. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK CONSTRUCTION OF FENCE.

ITEM 202 - REMOVAL MISC.: WOODEN POST
WOOD POSTS TO BE REMOVED IN ACCORDANCE TO CMS 202 AND AS SHOWN IN THE PLANS. SEE SHEET 7 FOR REMOVAL LOCATION. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK CONSTRUCTION OF FENCE.

ITEM 451 - 8" REINFORCED CONCRETE PAVEMENT, AS PER PLAN
8" REINFORCED CONCRETE PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH ODOT CMS 451 AND AS SHOWN IN THE PLANS. THIS SHALL INCLUDE THE TURN DOWN SLAB AND ADDITIONAL MATERIAL AS DETAILED ON SHEET 12. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK CONSTRUCTION OF CONCRETE TANK PAD.

GENERAL NOTES

ITEM 625 - LUMINAIRE, CONVENTIONAL SOLID STATE (LED), AS PER PLAN (SINGLE HEAD)
SINGLE HEAD LED POLE LIGHTS SHALL BE INSTALLED IN ACCORDANCE WITH ODOT CMS 625 AND AS SHOWN IN THE PLANS. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 625 - LUMINAIRE, CONVENTIONAL SOLID STATE (LED), AS PER PLAN, (FLOOD LIGHT)
FLOOD LIGHTS SHALL BE INSTALLED IN ACCORDANCE WITH ODOT CMS 625 AND AS SHOWN IN THE PLANS. THE LED LAMPS SHALL BE FOR 120V AND 150W. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 950 SPECIAL - FACILIITES: GFI RECEPTACLE (DOUBLE DUPLEX)
THE GFI RECEPTACLE SHALL BE INSTALLED AS SHOWN IN THE PLANS. THE GFI RECEPTACLE SHALL BE TAMPER RESISTENT, WEATHERPROOF, AND DOUBLE DUPLEX. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 950 SPECIAL - FACILITIES: RED EPOXY STRIPE, 6"
EPOXY STRIPE SHALL BE INSTALLED AS SHOWN IN THE PLANS. THE EPOXY STRIPE IS TO BE RED AND 6 INCHES. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 950 SPECIAL - FACILITIES: FABRIC COVERED ROOF STRUCTURE (SALT BUILDING)
FABRIC COVERED ROOF STRUCTURE SHALL BE INSTALLED AS INDICATED IN THE PLANS. THE HEIGHT AND MATERIAL OF THE FABRIC SHALL BE DETERMINED BY THE ROOF MANUFACTURER. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 625 - LIGHT POLE, CONVENTIONAL, AS PER PLAN
LIGHT POLE TO BE SUPPLIED SHALL BE A 35 FOOT TALL, 7 GAUGE STEEL LIGHT POLE WITH TRANSFORMER BASE. FINISH SHALL BE BRONZE TO MATCH LUMINAIRES. PRIOR TO INSTALLATION OF FOUNDATION, CONTRACTOR SHALL COORDINATE WITH POLE MANUFACTURER FOR ANCHOR BOLT REQUIREMENTS. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 511 - CLASS QC1 CONCRETE, MISC.: WALLS & FOOTINGS
THIS ITEM SHALL INCLUDE THE COST FOR ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO CONSTRUCT THE CONCRETE WALLS & FOOTINGS AS SHOWN IN THESE PLANS.

ITEM 625 - LIGHTING MISC.: PANEL BOARD
PANEL BOARD SHALL BE INSTALLED IN ACCORDANCE WITH ODOT CMS 625 AND AS SHOWN IN THE PLANS. THE PANEL BOARD SHALL BE 200 AMP, SINGLE PHASE, AND 120/ 240V. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 625 - DISTRIBUTION CABLE, MISC.: NO. 2/0 AWG 600 VOLT DISTRIBUTION CABLE
NO. 2/0 AWG 600 VOLT DISTRIBUTION CABLE SHALL BE INSTALLED IN ACCORDANCE WITH ODOT CMS 625 AND AS SHOWN IN THE PLANS. THE UNIT BID PRICE SHALL INCLUDE THE COST FOR ALL THE LABOR, MATERIAL AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

ITEM 202 - SPECIAL -PIPE CLEANOUT, 24" AND UNDER
THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER. CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:
SPECIAL, PIPE CLEANOUT, 24" AND UNDER ----- 80 FT.

ITEM 304 - AGGREGATE BASE, AS PER PLAN
GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTITON AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN
703.05 DO NOT USE COURSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM. SURFACE COURSE TO BE PG64-22. SURFACE COURSE SHALL BE PLACED IN (1) 1 1/2" LIFT.

ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), AS PER PLAN
703.05 DO NOT USE COURSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM. INTERMEDIATE COURSE TO BE PG64-22. INTERMEDIATE COURSE SHALL BE PLACED IN (1) 1 1/2" LIFT.

GENERAL NOTES

FACD04 MAH SR 11 SB OY SALT

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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED NPW	CHECKED JGW
					2	7	8	10	11	14	23		01/NFP/OT								
																		ROADWAY			
						LS							LS	201	11000	LS		CLEARING AND GRUBBING			
						7							7	202	98100	7	EACH	REMOVAL MISC.: WOODEN POST	2		
						847							847	202	23000	847	SY	PAVEMENT REMOVED			
						5,964							5,964	202	30000	5,964	SF	WALK REMOVED			
						853							853	202	32000	853	FT	CURB REMOVED			
						107							107	202	34900	107	FT	PIPE REMOVED			
						3							3	202	58100	3	EACH	CATCH BASIN REMOVED			
								21	262				283	203	10000	283	CY	EXCAVATION			
								390	10	30			430	203	20000	430	CY	EMBANKMENT			
								1,775					1,775	204	10000	1,775	SY	SUBGRADE COMPACTION			
					248.5								248.5	503	21101	248.5	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	2		
							644						644	607	23001	644	FT	FENCE, TYPE CLT, AS PER PLAN	2		
							2						2	607	98100	2	EACH	FENCE, MISC.: 18' SWING GATE	2		
							2						2	607	98100	2	EACH	FENCE, MISC.: PERSONNEL GATE	2		
							7						7	630	97700	7	EACH	SIGNING, MISC.: "NO TRESPASSING AUTHORIZED PERSONNEL ONLY" SIGN	2		
							7						7	SPECIAL	69050600	7	EACH	BOLLARD	2		
																		EROSION CONTROL			
					257								257	659	00300	257	CY	TOPSOIL			
					2,307								2,307	659	10000	2,307	SY	SEEDING AND MULCHING			
					0.21								0.21	659	20000	0.21	TON	COMMERCIAL FERTILIZER			
					0.48								0.48	659	31000	0.48	ACRE	LIME			
					12.46								12.46	659	35000	12.46	MGAL	WATER			
					10,000								10,000	832	30000	10,000	EACH	EROSION CONTROL			
																		DRAINAGE			
							80						80	SPECIAL	20270110	80	FT	PIPE CLEANOUT, 24" AND UNDER	3		
							347						347	605	06000	347	FT	4" BASE PIPE UNDERDRAINS			
							2						2	611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET			
																		PAVEMENT			
							1,188						1,188	301	46000	1,188	CY	ASPHALT CONCRETE BASE, PG64-22			
							297						297	304	20001	297	CY	AGGREGATE BASE, AS PER PLAN	3		
							473						473	407	10000	473	GAL	TACK COAT			
							157						157	441	50101	157	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN	3		
							157						157	441	50201	157	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), AS PER PLAN	3		
							140						140	451	13011	140	SY	8" REINFORCED CONCRETE PAVEMENT, CLASS QC1, AS PER PLAN			
																		LIGHTING			
											2		2	625	10491	2	EACH	LIGHT POLE, CONVENTIONAL, AS PER PLAN	3		
											2		2	625	14500	2	EACH	LIGHT POLE FOUNDATION			
											27		27	625	23000	27	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE			
											2,616		2,616	625	23306	2,616	FT	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE			
											81		81	625	23308	81	FT	DISTRIBUTION CABLE, MISC.:NO. 2/0 AWG 600 VOLT DISTRIBUTION CABLE	3		
											188		188	625	25100	188	FT	CONDUIT, 1", 725.04			
											2,680		2,680	625	25408	2,680	FT	CONDUIT, 2", 725.051			
											1,054		1,054	625	25802	1,054	FT	CONDUIT, CONCRETE ENCASED, 2"			
											2		2	625	26253	2	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN (FLOOD LIGHT)	3		
											2		2	625	26253	2	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN (SINGLE HEAD)	3		
						2					1,132		1,132	625	29002	1,132	FT	TRENCH, 24" DEEP			
													2	625	31510	2	EACH	PULL BOX REMOVED			
											1,132		1,132	625	36000	1,132	FT	PLASTIC CAUTION TAPE			
											1		1	625	98000	1	EACH	LIGHTING, MISC.: PANEL BOARD	3		
											1		1	SPECIAL	95051000	1	EACH	FACILITIES: GFI RECEPTACLE (DOUBLE DUPLEX)	3		
																		MISCELLANEOUS STRUCTURE			
										733			733	503	21100	733	CY	UNCLASSIFIED EXCAVATION			
										75,800			75,800	509	10000	75,800	LB	EPOXY COATED REINFORCING STEEL			
										441			441	511	53010	441	CY	CLASS QC1 CONCRETE, MISC.: WALLS & FOOTINGS	3		
										LS			LS	SPECIAL	95050000	LS		FACILITIES: FABRIC COVERED ROOF STRUCTURE (SALT BUILDING)			
										LS			LS	SPECIAL	95050000	LS		FACILITIES: RED EPOXY STRIPE, 6"			

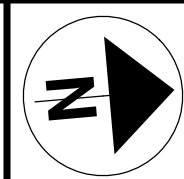
GENERAL SUMMARY

FACD04 MAH SR 11 SB OY SALT

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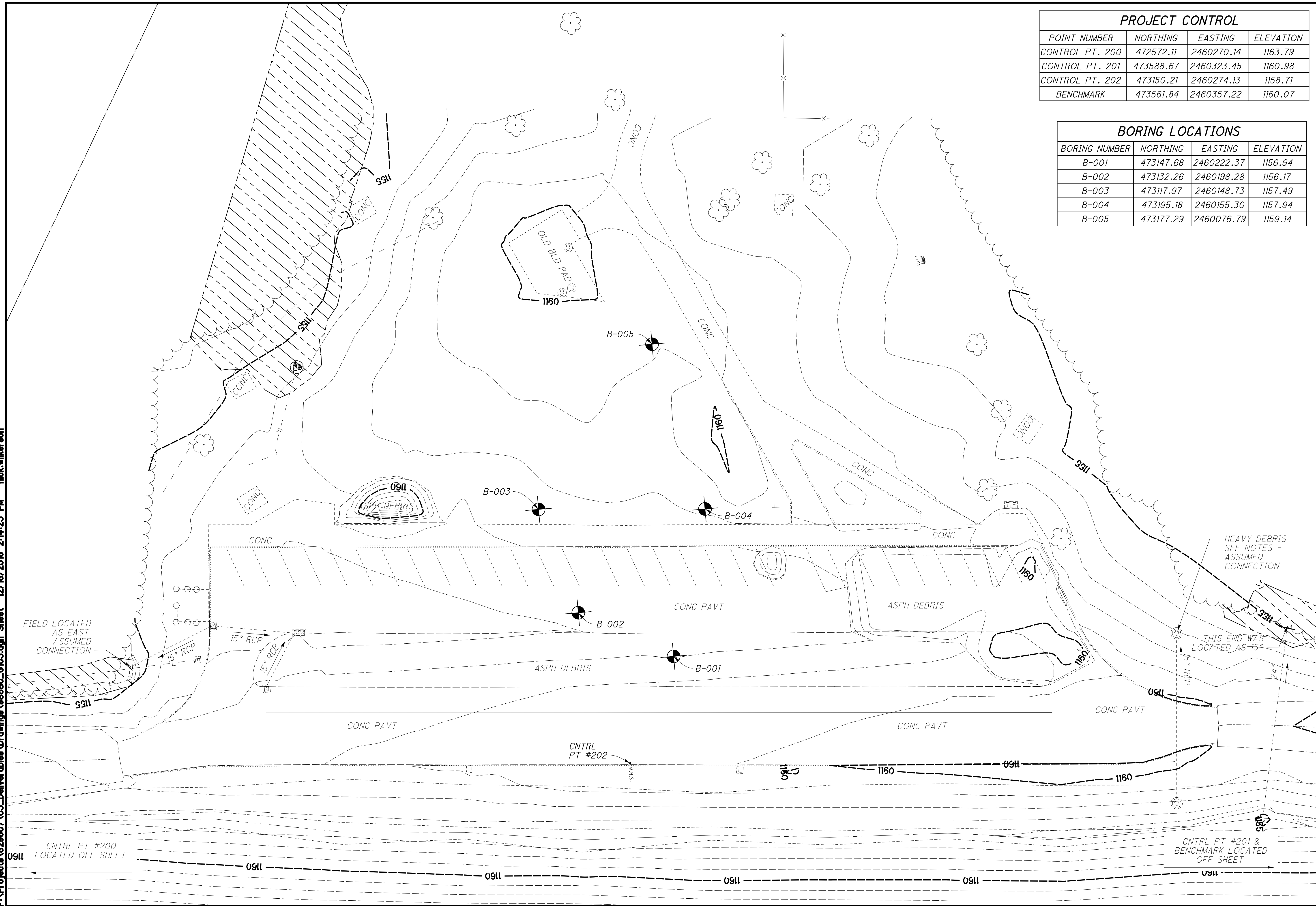
POINT NUMBER	NORTHING	EASTING	ELEVATION
CONTROL PT. 200	472572.11	2460270.14	1163.79
CONTROL PT. 201	473588.67	2460323.45	1160.98
CONTROL PT. 202	473150.21	2460274.13	1158.71
BENCHMARK	473561.84	2460357.22	1160.07

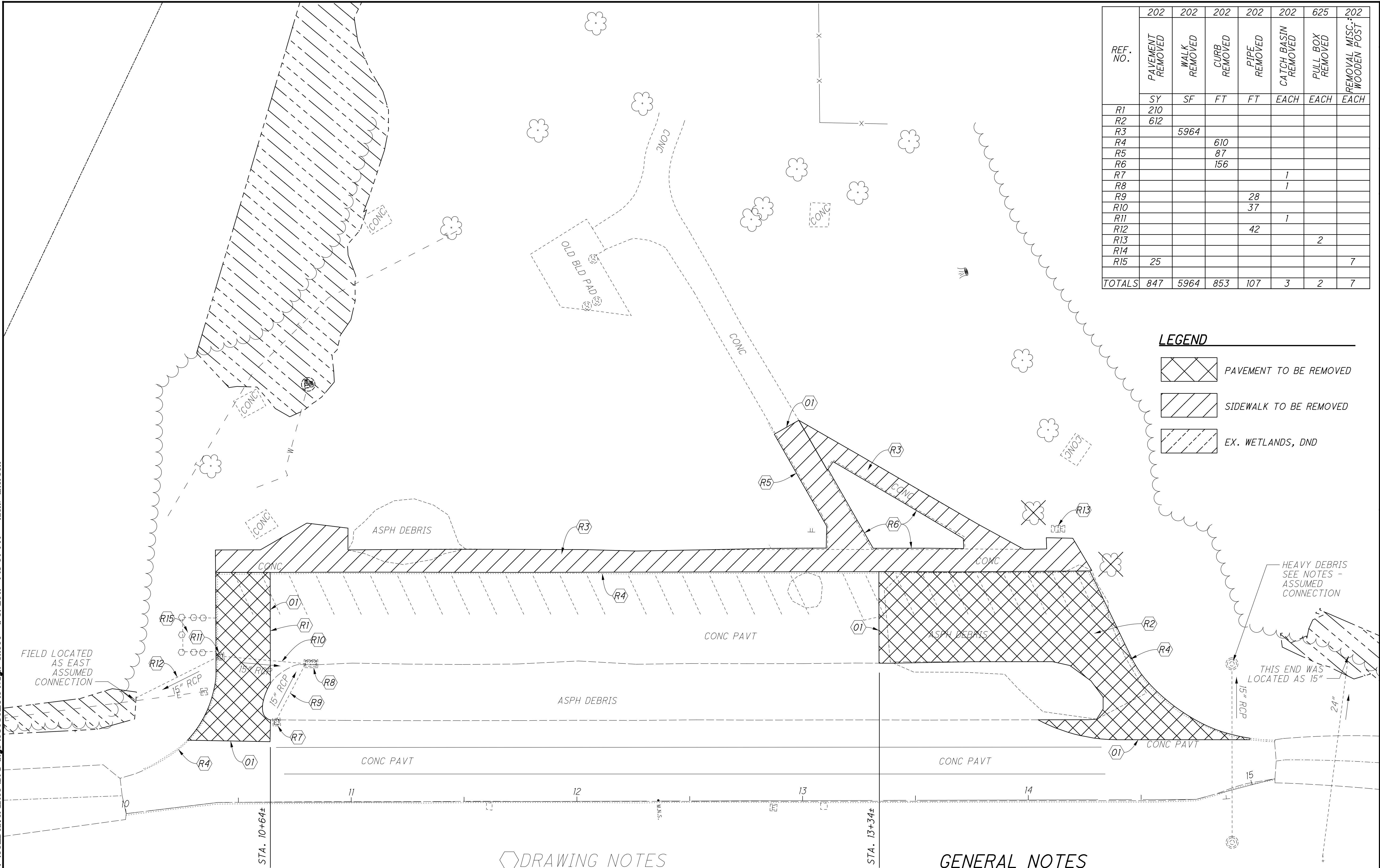
BORING NUMBER	NORTHING	EASTING	ELEVATION
B-001	473147.68	2460222.37	1156.94
B-002	473132.26	2460198.28	1156.17
B-003	473117.97	2460148.73	1157.49
B-004	473195.18	2460155.30	1157.94
B-005	473177.29	2460076.79	1159.14



SITE SURVEY

FACD04 MAH SR 11 SB OY SALT





REF. NO.	202	202	202	202	202	625	202
	PAVEMENT REMOVED	WALK REMOVED	CURB REMOVED	PIPE REMOVED	CATCH BASIN REMOVED	PULL BOX REMOVED	REMOVAL MISC. WOODEN POST
R1	210						
R2	612						
R3		5964					
R4			610				
R5			87				
R6			156				
R7					1		
R8					1		
R9				28			
R10				37			
R11					1		
R12				42			
R13						2	
R14							
R15	25						7
TOTALS	847	5964	853	107	3	2	7

- LEGEND**
- PAVEMENT TO BE REMOVED
 - SIDEWALK TO BE REMOVED
 - EX. WETLANDS, DND

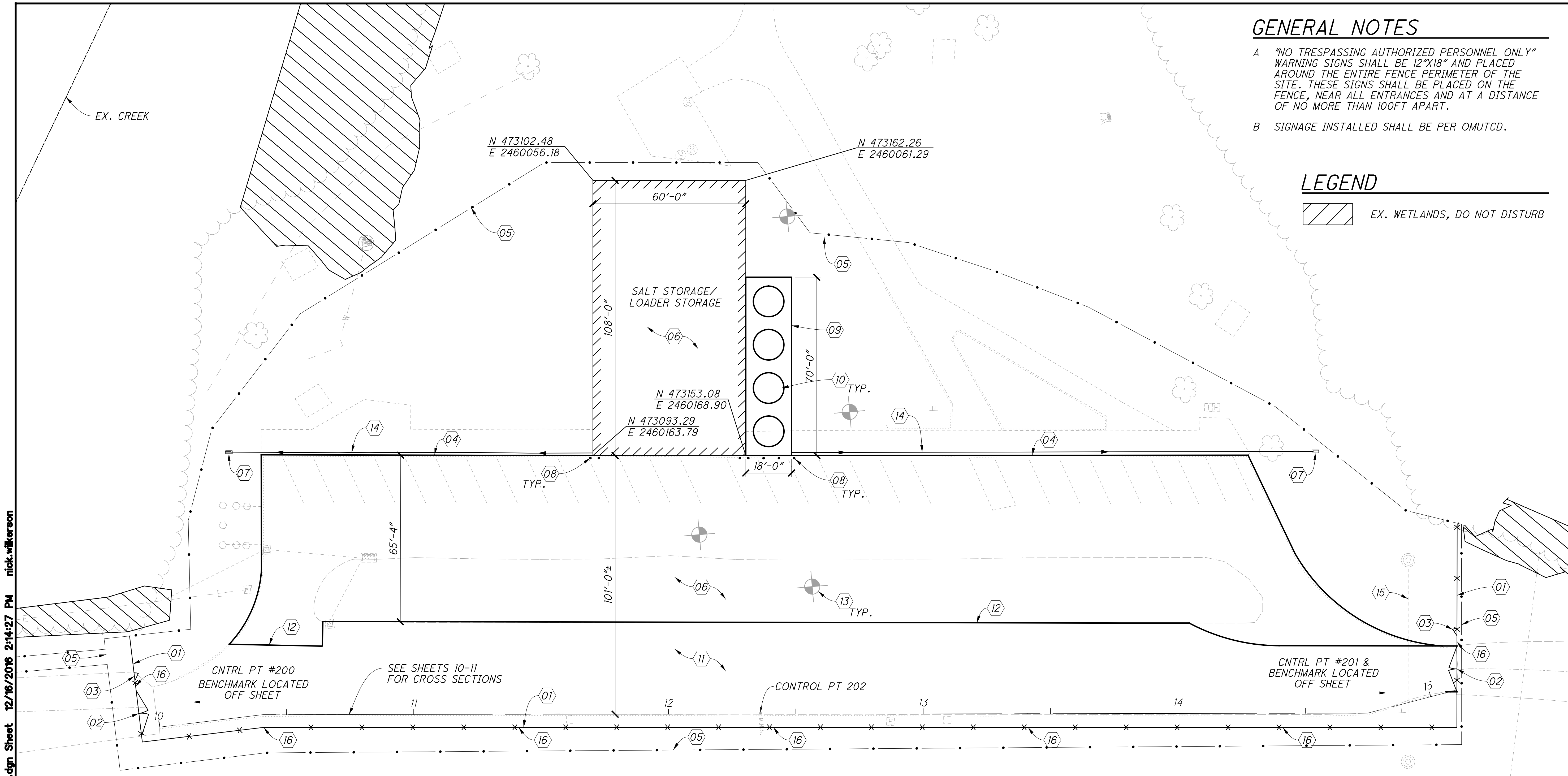
DRAWING NOTES

01 FULL DEPTH SAWCUT

GENERAL NOTES

A FULL DEPTH SAW CUT SHALL BE PERFORMED AT THE NEAREST PAVEMENT JOINT. PRIOR TO PERFORMING THIS WORK, THE CONTRACTOR SHALL COORDINATE THE LOCATION OF THE SAW CUT WITH THE ENGINEER. COST OF SAW CUT SHALL BE INCLUDED WITH ITEM 202 - PAVEMENT REMOVED.

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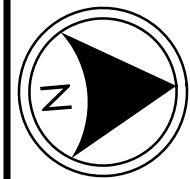


GENERAL NOTES

- A "NO TRESPASSING AUTHORIZED PERSONNEL ONLY" WARNING SIGNS SHALL BE 12"x18" AND PLACED AROUND THE ENTIRE FENCE PERIMETER OF THE SITE. THESE SIGNS SHALL BE PLACED ON THE FENCE, NEAR ALL ENTRANCES AND AT A DISTANCE OF NO MORE THAN 100FT APART.
- B SIGNAGE INSTALLED SHALL BE PER OMTCD.

LEGEND

EX. WETLANDS, DO NOT DISTURB



0 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED
NPW
CHECKED
JCW

SITE LAYOUT PLAN

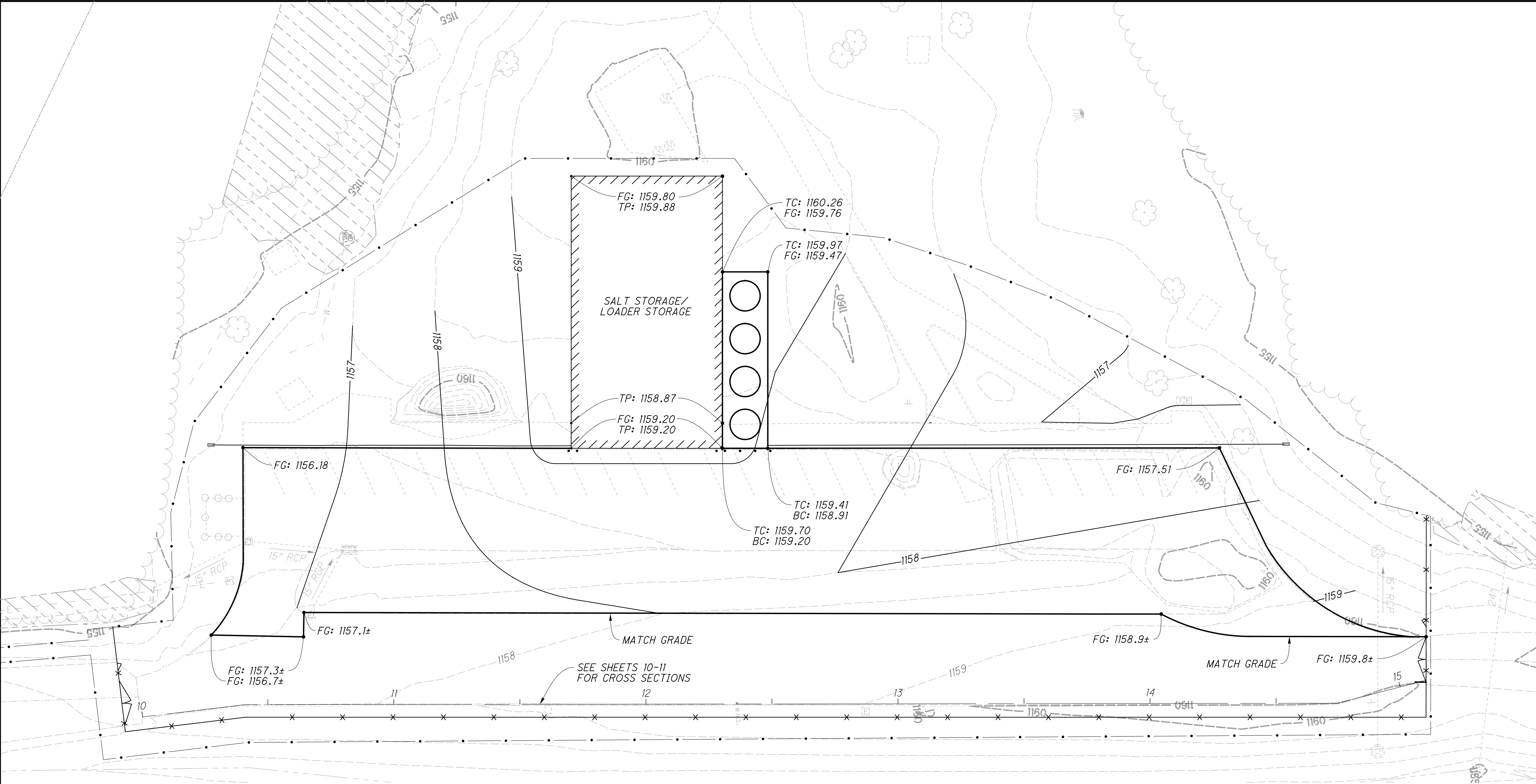
FACD04 MAH SR 11 SB OY SALT

8
23

REF. NO.	202	204	301	304	407	441	441	451	605	607	607	607	611	630	690
	PIPE CLEANOUT, 24" AND UNDER	SUBGRADE COMPACTION	ASPHALT CONCRETE BASE, PG64-22	AGGREGATE BASE, AS PER PLAN	(GAL) TACK COAT	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, (448), AS PER PLAN	ASPHALT CONCRETE SURFACE COURSE, TYPE I, (448), AS PER PLAN	8" REINFORCED CONCRETE PAVEMENT, CLASS. OC, AS PER PLAN	4" BASE PIPE UNDERDRAINS	FENCE, TYPE CLT, AS PER PLAN	FENCE, MISC.: 18" SWING GATE	FENCE, MISC.: PERSONNEL GATE	PRECAST REINFORCED CONCRETE OUTLET	SIGNING, MISC.: "NO TRESPASSING AUTHORIZED PERSONNEL ONLY" SIGN	BOLLARD
	FT	SY	CY	CY	GAL	CY	CY	SY	FT	FT	EACH	EACH	EACH	EACH	EACH
01										644					
02											2	2			
03													2		
06		1775	1188	297	473	157	157								
07															7
08															
09								140							
14									347						
15	80													7	
16														7	7
TOTALS	80	1775	1188	297	473	157	157	140	347	644	2	2	2	7	7

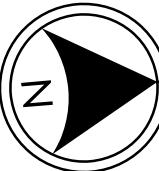
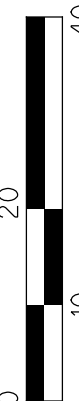
DRAWING NOTES

- 01 ITEM 607, 6' CHAINLINK FENCE, SEE DETAIL 01, SHEET 12
- 02 ITEM 607, 18' SWING GATE, TWO LEAF SWING GATE, SEE DETAIL 05, SHEET 12
- 03 ITEM 607, PERSONNEL GATE, SEE DETAIL 02, SHEET 12
- 04 EDGE OF PAVEMENT
- 05 CONSTRUCTION LIMITS
- 06 ASPHALT PAVEMENT, SEE DETAIL 06, SHEET 12
- 07 ITEM 611, PRECAST REINFORCED CONCRETE OUTLET
- 08 ITEM 690, SPECIAL - BOLLARD, SEE DETAIL 07, SHEET 12
- 09 ITEM 451, STORAGE TANK PAD, SEE DETAIL 04, SHEET 12
- 10 10,500 GALLON STORAGE TANK, SEE DETAIL 03, SHEET 12
- 11 EX. CONCRETE PAVEMENT, TO REMAIN
- 12 PAVEMENT BUTT JOINT
- 13 PROP. SOIL BORING LOCATION
- 14 ITEM 605, 4" BASE PIPE UNDERDRAIN
- 15 ITEM 202, SPECIAL - PIPE CLEANOUT, 24" AND UNDER
- 16 ITEM 630 - "NO TRESPASSING AUTHORIZED PERSONNEL ONLY" WARNING SIGN. SEE GENERAL NOTES THIS SHEET FOR DETAILS.

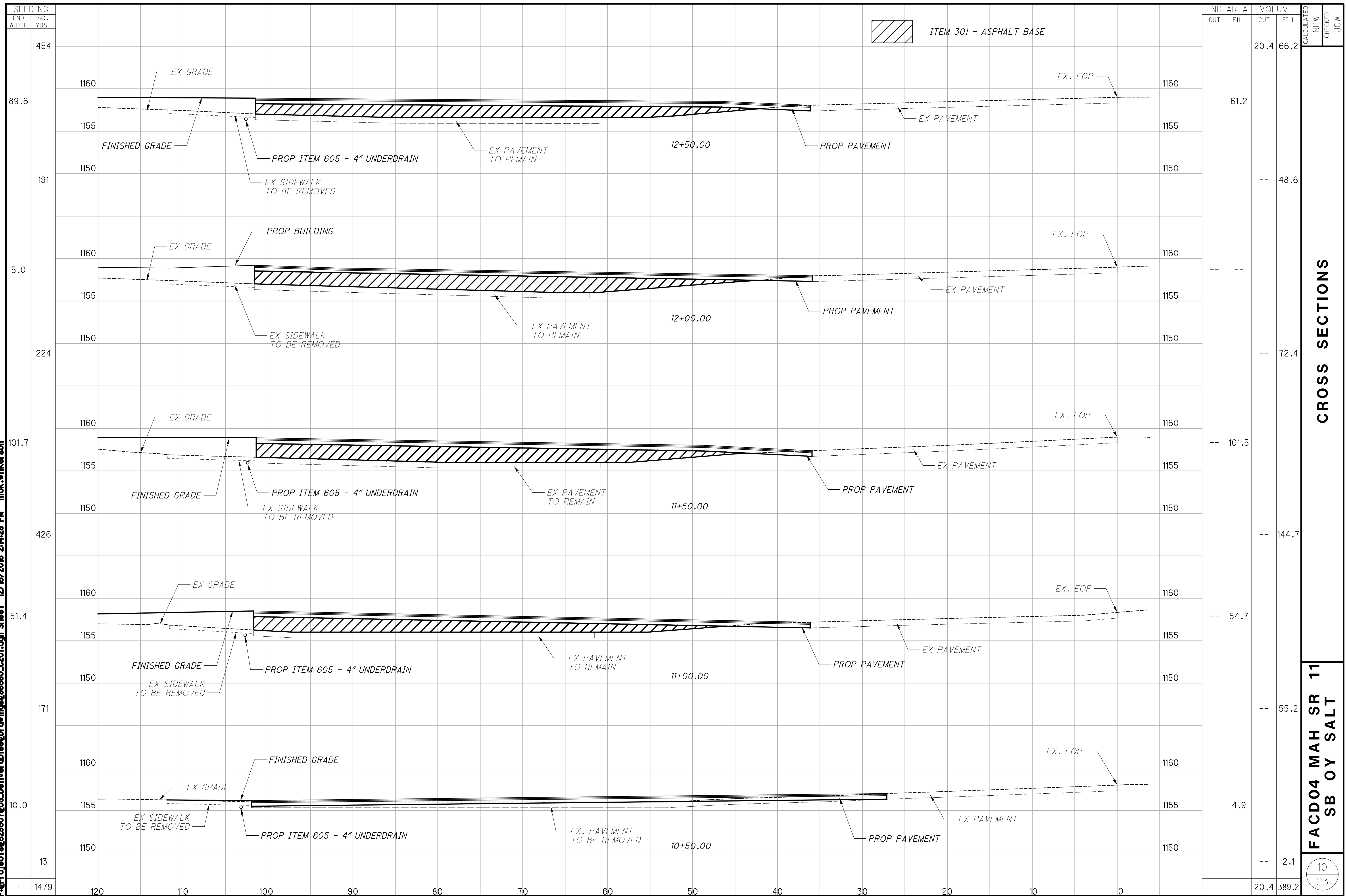


LEGEND

FG FINISHED GRADE (EXTERIOR OF BUILDING)
TP TOP OF PAVEMENT (INTERIOR OF BUILDING)
TC TOP OF CURB (STORAGE TANKS)
BC BOTTOM CURB (STORAGE TANKS)

CALCULATED NPW	CHECKED JCW	 N	 HORIZONTAL SCALE IN FEET

SITE GRADING PLAN



SEEDING END WIDTH	SQ. YDS.	END AREA		VOLUME		CALCULATED NPW	CHECKED JGW
		CUT	FILL	CUT	FILL		
52				7.0	--		
16.6				6.7	--		
148				84.5	--		
36.7				84.5	--		
263				114.0	--		
57.7				38.6	--		
365				56.2	9.5		
73.6				22.0	10.2		
828				261.7	9.5		

CROSS SECTIONS

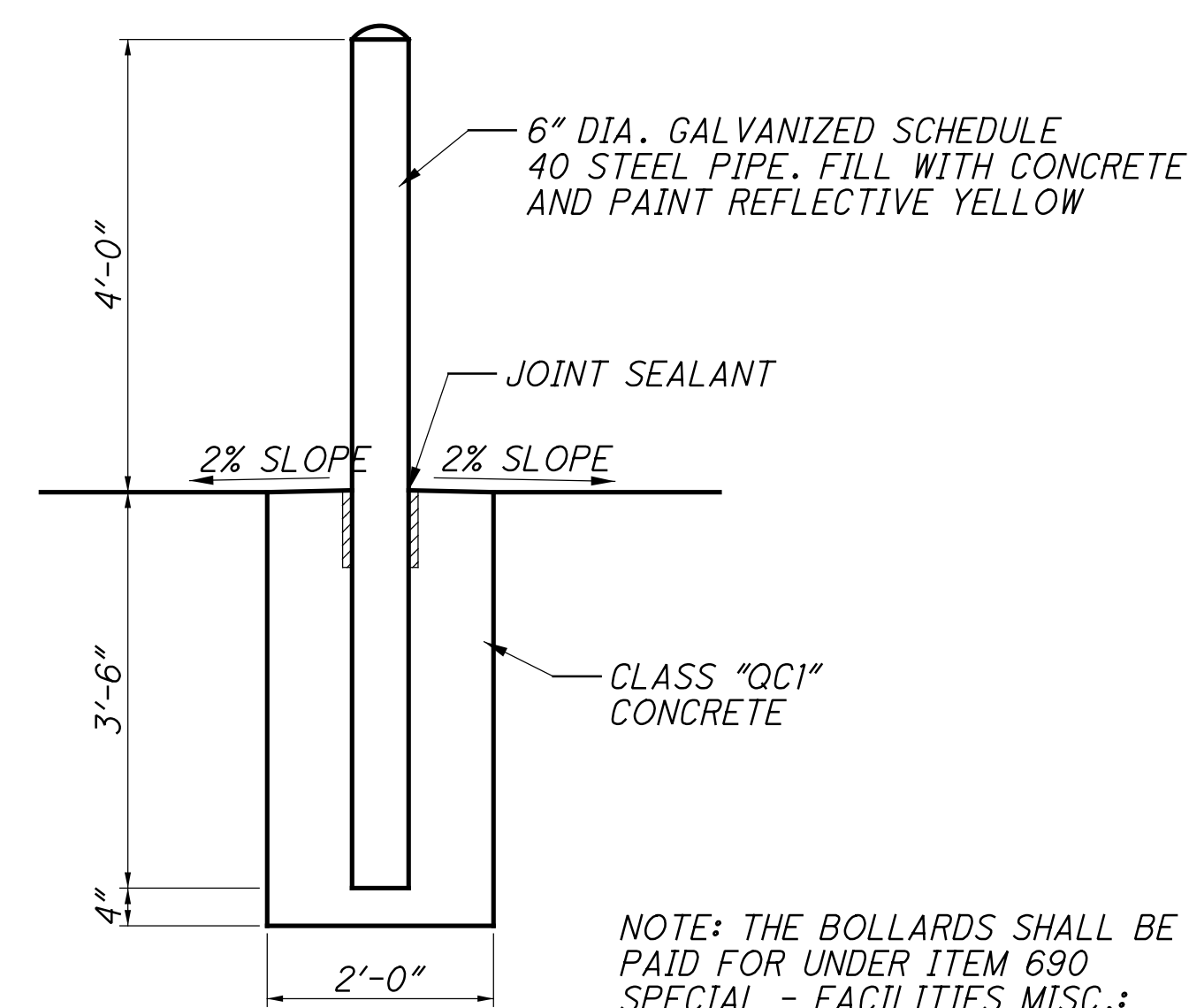
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SB OY SALT

11

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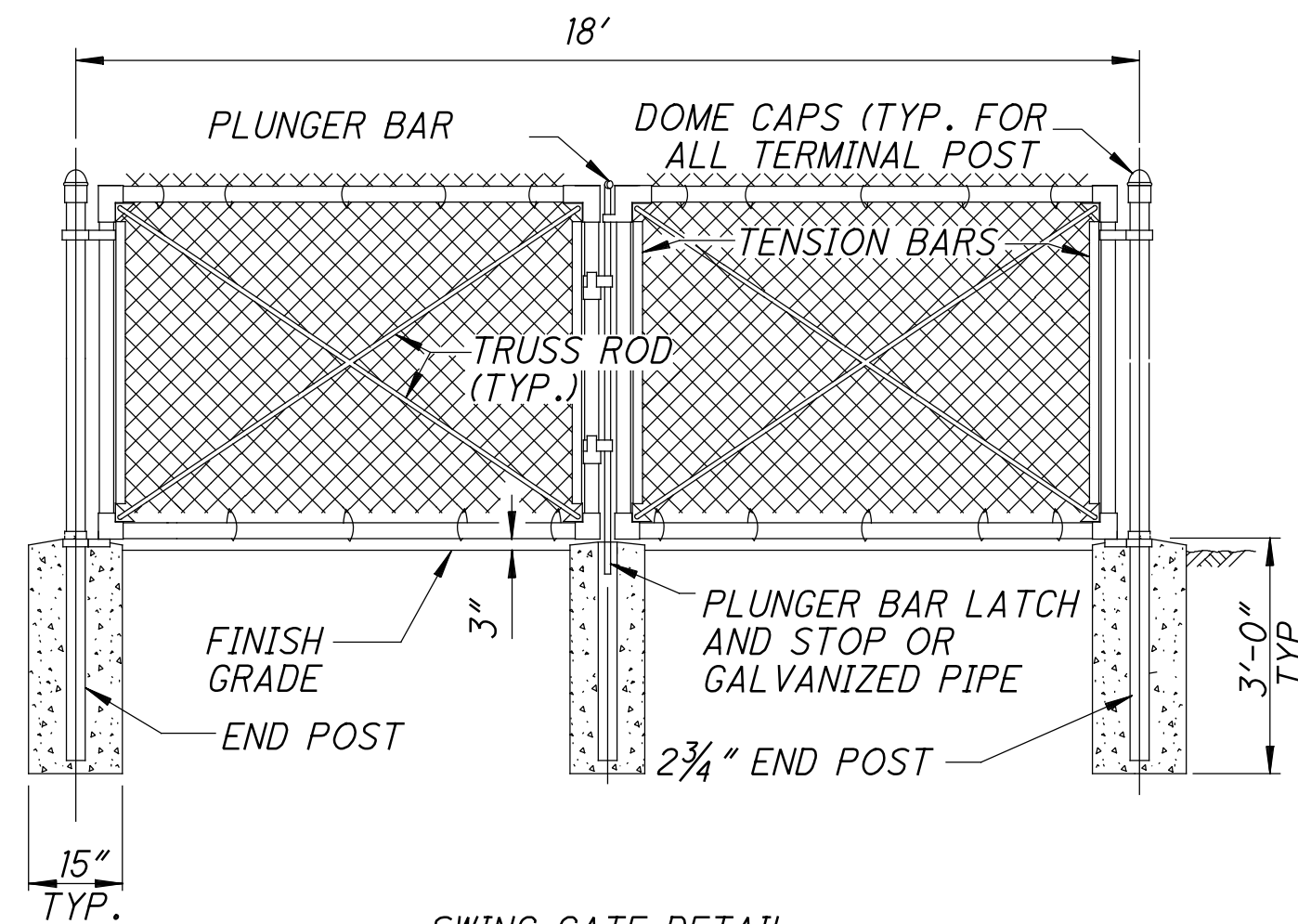


NOTE: THE BOLLARDS SHALL BE PAID FOR UNDER ITEM 690 SPECIAL - FACILITIES MISC.: BOLLARD.

BOLLARD DETAIL

07

18' SWING GATE

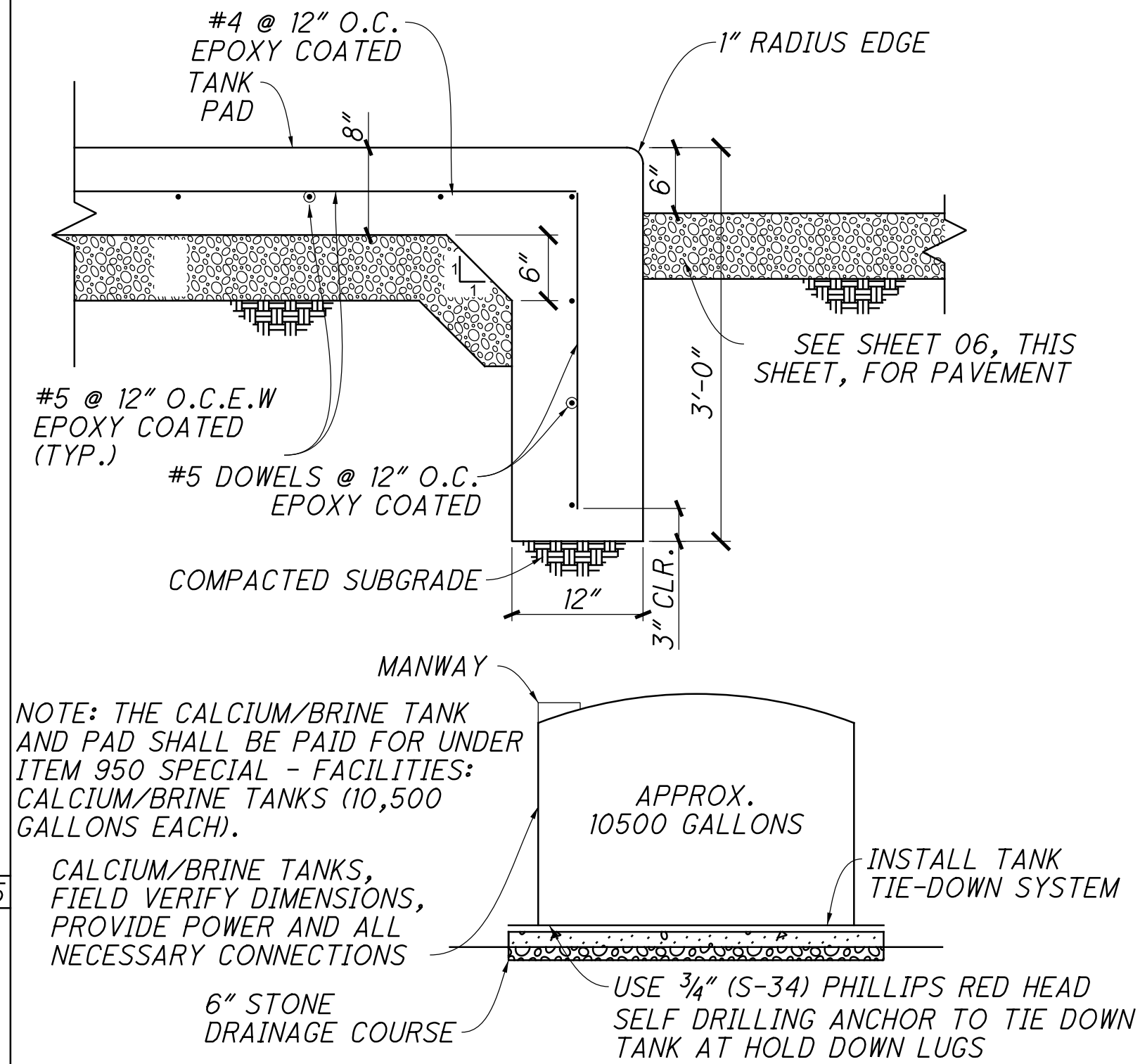


SWING GATE DETAIL

DOUBLE LEAF GATES		
NOM HEIGHT (H)	UPRIGHT HT (U)	FRAME HT (F)
WITH BARBED WIRE	ACTUAL DIM	ACTUAL DIM
7'-0"	5'-10"	5'-8 1/2"

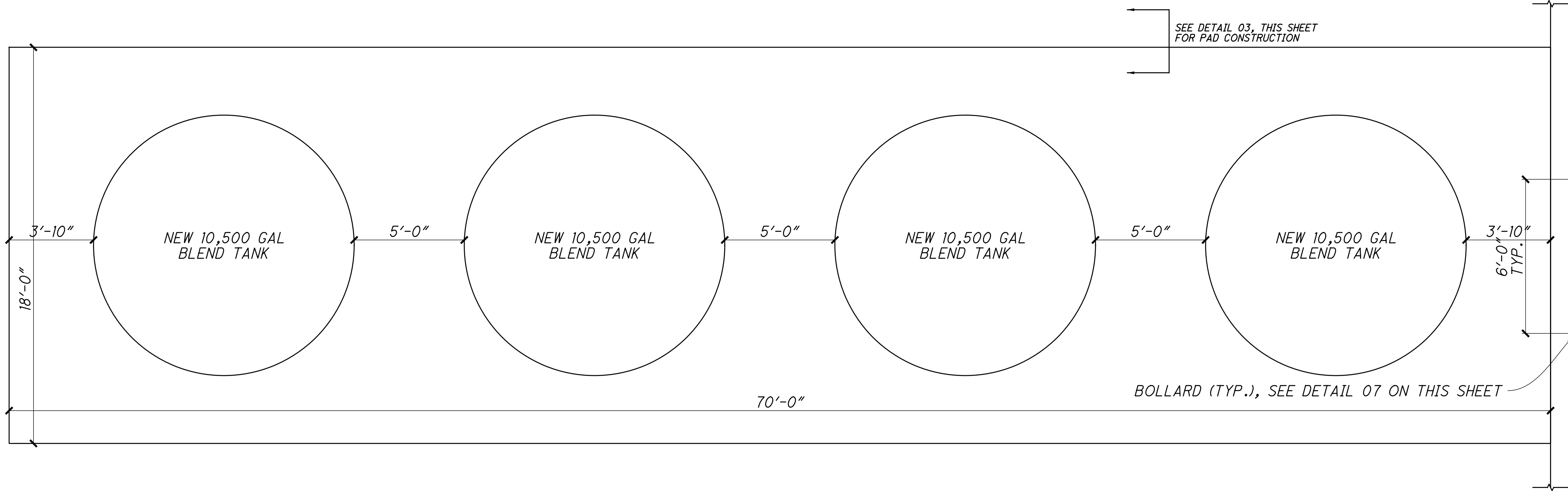
DOUBLE LEAF GATE		
OPENING	GATE POSTS	HINGE SPACE (S)
FACE TO FACE	SQ & RND SIZES	POST TO UPRIGHT
18'-0"	6.625" OD	FOR GATE POSTS: RND-3 1/2"

NOTE:
- LOCKABLE GATE



CALCIUM/BRINE TANK AND PAD

03

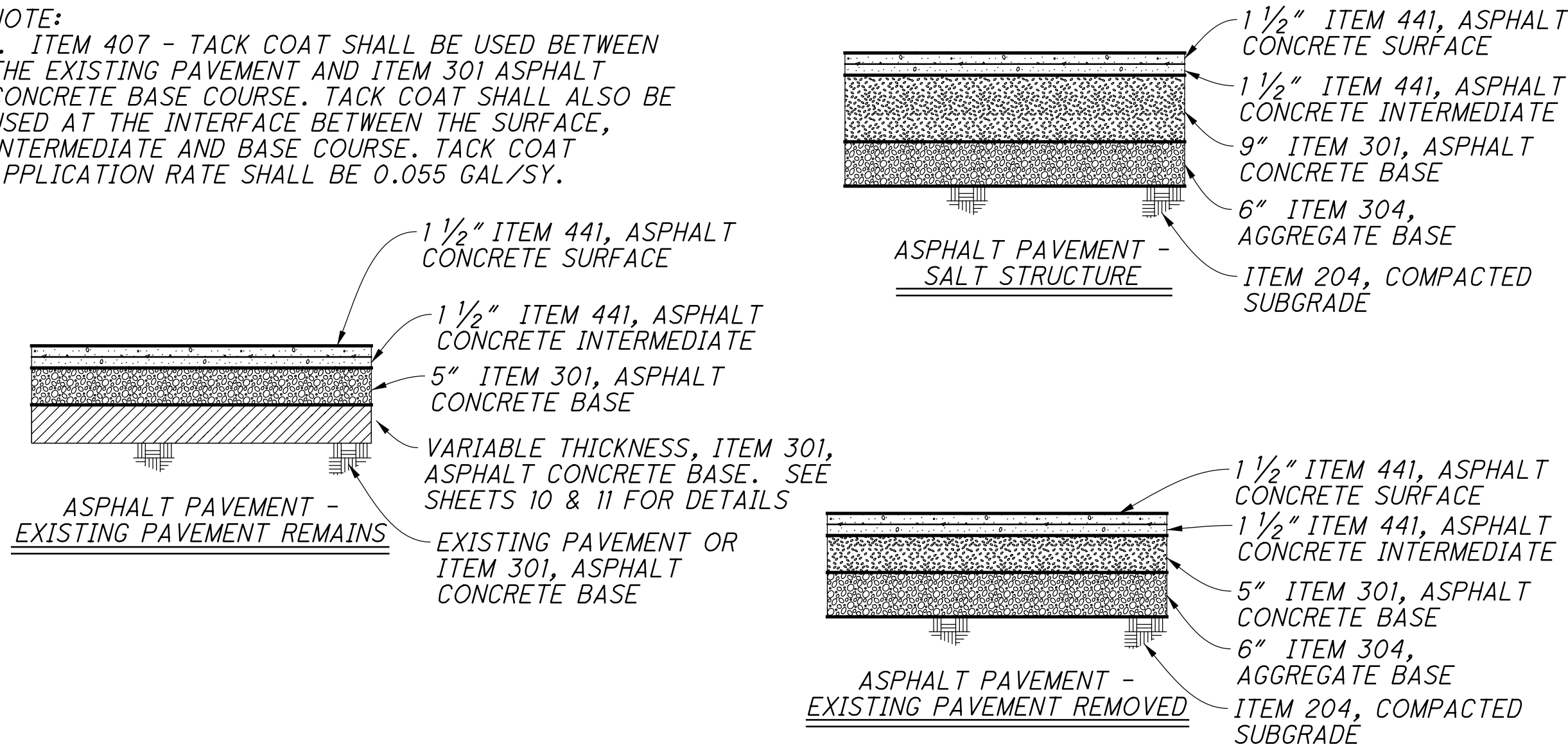


STORAGE TANK, LAYOUT PLAN

04 6' PERSONEL GATE DETAIL

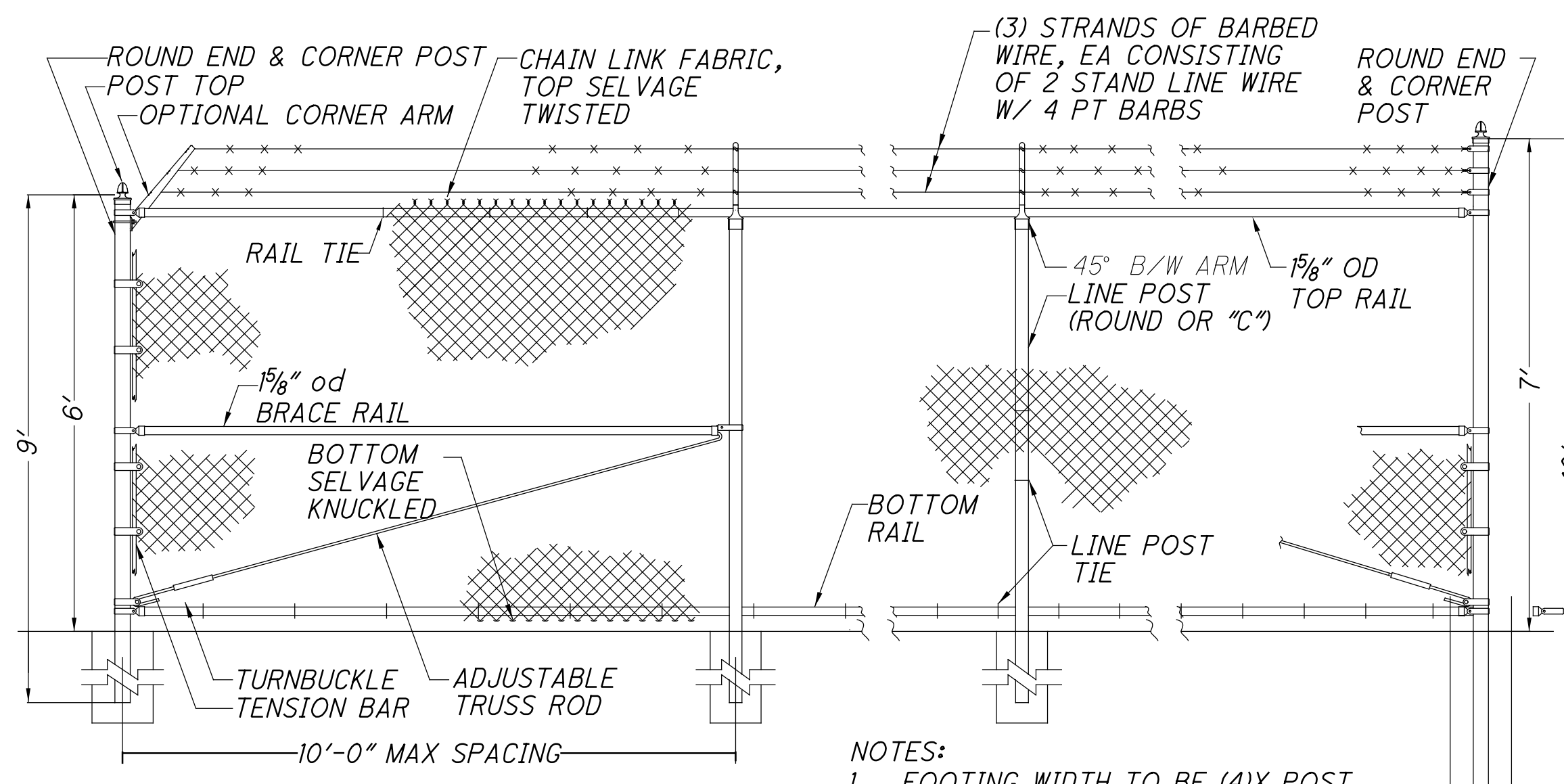
02

NOTE:
1. ITEM 407 - TACK COAT SHALL BE USED BETWEEN THE EXISTING PAVEMENT AND ITEM 301 ASPHALT CONCRETE BASE COURSE. TACK COAT SHALL ALSO BE USED AT THE INTERFACE BETWEEN THE SURFACE, INTERMEDIATE AND BASE COURSE. TACK COAT APPLICATION RATE SHALL BE 0.055 GAL/SY.

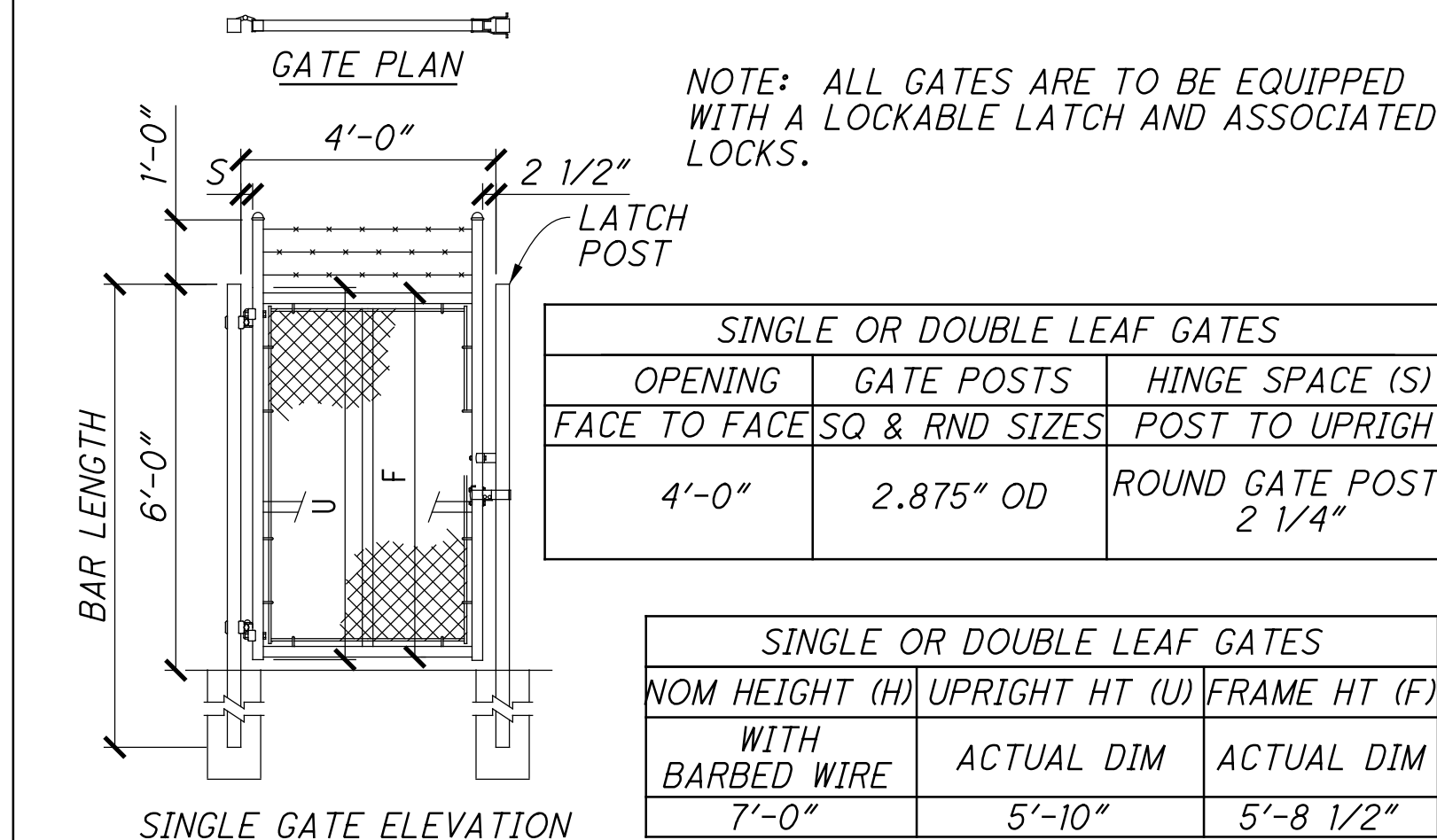


PAVEMENT DETAILS - TYPICAL SECTION

06 CHAIN LINK FENCE DETAIL



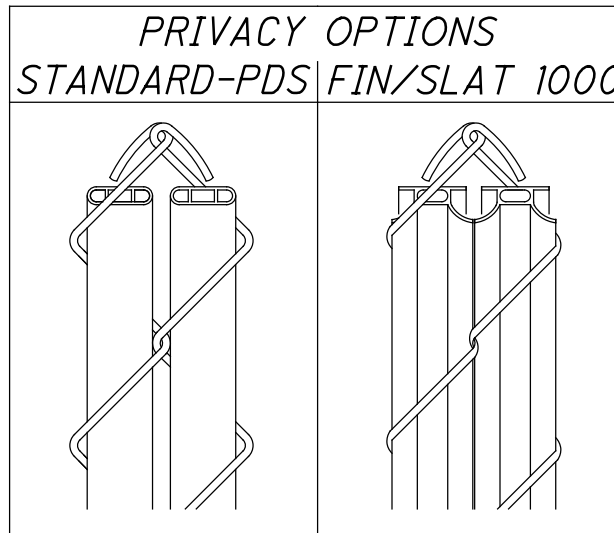
NOTES:
1. FOOTING WIDTH TO BE (4)X POST WIDTH. MINIMUM DEPTH 36" [914MM].



SINGLE OR DOUBLE LEAF GATES		
OPENING	GATE POSTS	HINGE SPACE (S)
FACE TO FACE	SQ & RND SIZES	POST TO UPRIGHT
4'-0"	2.875" OD	ROUND GATE POSTS: 2 1/4"

SINGLE OR DOUBLE LEAF GATES		
NOM HEIGHT (H)	UPRIGHT HT (U)	FRAME HT (F)
WITH BARBED WIRE	ACTUAL DIM	ACTUAL DIM
7'-0"	5'-10"	5'-8 1/2"

END & CORNER POST TOP OPTIONS		TOP & BOTTOM FABRIC OPTIONS	
STANDARD	DOME	TWIST	KNUCKLE



SITE DETAILS

FACD04 MAH SR 11 SB OY SALT

CALCULATED
NPW
CHECKED
JGW

12
23

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GENERAL NOTES

DESIGN CRITERIA:

USE GROUP S-2
CONSTRUCTION TYPE II-B
FABRIC TYPE NFPA 701

OCCUPANCY CATEGORY, TABLE 1604.5 - II

1.

GRAVITY LOADS

A. SALT STORAGE LOADS (SECTION 1607):

ROOF LIVE LOADS5.0 PSF

FIRST FLOOR-SLAB ON GRADE2000 PSF

ROOF DEAD LOAD1.5 PSF

ROOF COLLATERAL LOAD2.0 PSF
2.

SNOW LOAD (OHIO BUILDING CODE-2011, SECTION 1609):

GROUND SNOW LOAD, Pg = 20 PSF
3.

WIND LOAD (OBC-2011, SECTION 1609):

i. BASIC WIND SPEED (3 SECOND GUST, 90 MPH

ii. WIND IMPORTANCE FACTOR, Iw = 1.0

iii. BUILDING OCCUPANCY CATEGORY = II

iv. WIND EXPOSURE CATEGORY = C

v. INTERNAL PRESSURE COEFFICIENT, Gcpi = +/-0.18
4.

EARTHQUAKE DESIGN DATA (SECTION 1613):

SEISMIC LOADS

i. OCCUPANCY CATEGORY = II

ii. MAPPED SPECTRAL RESPONSE: Ss = 0.124, S1 = 0.053

iii. SITE CLASS = D

iv. SPECTRAL RESPONSE COEFFICIENTS: SDS = 0.132, SD1 = 0.085

v. SEISMIC DESIGN CATEGORY = B

vi. BASIC SEISMIC FORCE RESISTING SYSTEM = ORDINARY REINFORCED CONCRETE SHEAR WALLS

vii. SEISMIC RESPONSE COEFFICIENT, Cs = 0.033

viii. RESPONSE MODIFICATION FACTOR, R = 4

CONCRETE FOUNDATIONS:

1.

SALT STORAGE BUILDING - ASSUMED ALLOWABLE SOIL BEARING 3,000 KSF

DIVISION 13 - SPECIAL CONSTRUCTION

- 1.2

SUMMARY: THIS SECTION INCLUDES FRAME STRUCTURE WITH TENSION MEMBRANE FOR SALT STORAGE.

A. THE FABRIC MEMBRANE SHALL BE TENSIONED OVER THE FRAMEWORK TO FORM A WATER TIGHT SEAL. AT NO TIME SHALL THE MEMBRANE COME INTO CONTACT WITH THE STEEL FRAMING SYSTEM.

B. THE BUILDINGS SYSTEM SHALL ALSO INCLUDE ACCESSORIES AND ITEMS REQUIRED AND NECESSARY FOR THE SCOPE AND INTENDED USE AND AS SPECIFIED; INCLUDING VENTILATION LOUVERS AND SUPPORT AND SUPPORT FOR LIGHTING.
- 1.3

PERFORMANCE REQUIREMENTS

A. STRUCTURAL PERFORMANCE: PROVIDE STRUCTURES CAPABLE OF WITHSTANDING THE EFFECTS OF GRAVITY AND LATERAL LOADS IN ACCORDANCE WITH THE OHIO BUILDING CODE.

B. THERMAL MOVEMENTS: PROVIDE STRUCTURES THAT ALLOW FOR THERMAL MOVEMENTS REACHING FROM THE MAXIMUM CHANGE (RANGE) OF 100 °F IN AMBIENT AND 120 °F IN SURFACE TEMPERATURES BY PREVENTING BUCKLING, OPENING OF JOINTS, OVERDRESS RIG OF COMPONENTS, FAILURE OF JOINT SEALANTS, FAILURE OF CONNECTIONS, AND OTHER DETRIMENTAL EFFECTS. BASE ENGINEERING CALCULATION ON SURFACE TEMPERATURES OF MATERIALS DUE TO BOTH SOLAR HEAT GAIN AND NIGHTTIME-SKY HEAT LOSS.

C. MEMBRANE PERFORMANCE: THE MEMBRANE SHALL NOT BE DESIGNED TO FUNCTION AS A STRUCTURAL MEMBER SUCH THAT, SHOULD ANY DAMAGE TO OR PENETRATIONS OF THE MEMBRANE OCCUR, THE INTEGRITY OF THE STRUCTURAL FRAMEWORK WOULD BE AFFECTED.

- 1.4

SUBMITTALS

A. SHOP DRAWINGS: INCLUDE SPECIFICATIONS AND ERECTION NOTES, PLANS, ELEVATIONS, SECTIONS AND DETAILS OF ANCHORAGE TO WALLS.

1. IN ACCORDANCE WITH THE BUREAU OF BUILDING CODE COMPLIANCE AND THE OBC, THE TENSION FABRIC STRUCTURE SHALL BE SUBMITTED FOR PERMIT APPROVAL AS A DEFERRED SUBMITTAL. THE CONTRACTOR SHALL SUBMIT A "FINAL APPROVED" SUBMITTAL TO THE ENGINEER OF RECORD COMPLIANCE. SUBMITTALS CONTAINING REVIEW COMMENTS, CORRECTIONS OR OTHER EXCEPTIONS ARE NOT ACCEPTABLE TO THE BUILDING DEPARTMENT. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE ENGINEER OF RECORD AND THE BUREAU OF BUILDING CODE COMPLIANCE HAVE APPROVED THEIR DESIGN AND SUBMITTAL DOCUMENTS.

2. FOR INSTALLED PRODUCTS INDICATED TO COMPLY WITH DESIGN LOADS, INCLUDE STRUCTURAL ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION

3. FOR INSTALLED PRODUCTS THAT VARY FROM DESIGN, SUBMIT COMPLETE INFORMATION TO FACILITATE CONSTRUCTION OF CONCRETE RETAINING WALLS AND BASE.

4. DESIGN AND CONSTRUCTION SHALL CONFORM TO OHIO BUILDING CODE SECTION 3102. CONSTRUCTION DOCUMENTS SHALL SHOW COMPLIANCE, IN ACCORDANCE WITH SECTION 106.1.1, 106.1.1(12), AND 106.2.

5. SHOP DRAWINGS ARE TO BE AS PER CMS 501.
- 1.5

QUALITY ASSURANCE

A. SOURCE LIMITATIONS: OBTAIN TENSIONED FABRIC STRUCTURE COMPONENTS THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER

B. WELDING: QUALITY PROCEDURES AND PERSONNEL ACCORDING TO THE FOLLOWING:

1. AWS D1.1, "STRUCTURAL WELDING CODE - STEEL."

2. AWS D1.2, "STRUCTURAL WELDING CODE - ALUMINUM."

3. AWS D1.3, "STRUCTURAL WELDING CODE - SHEET STEEL."
- 1.6

WARRANTY

A. SPECIAL WARRANTY ON BUILDING SYSTEM: MANUFACTURER AGREES TO REPAIR OR REPLACE BUILDING COMPONENTS THAT SHOW EVIDENCE OF DETERIORATION OF FACTORY OR FIELD APPLIED FINISHES WITHIN SPECIFIED WARRANTY PERIOD.

1. WARRANTY PERIOD FROM DATE OF CONTRACT COMPLETION

a. MEMBRANE: MINIMUM 15 YEARS INCLUDING ALL EQUIPMENT AND LABOR

b. STEEL CORROSION: 4 YEARS FULL COVERAGE AGAINST CORROSION ON ALL MAIN TRUSS COMPONENTS INCLUDING END WALLS, NUTS, AND BOLTS.
- 2.1

MATERIALS

ALL MATERIALS USED IN THE STRUCTURE SHALL BE NEW, WITHOUT DEFECTS AND FREE OF REPAIRS. THE QUALITY OF THE MATERIALS USED SHALL BE SUCH THAT THE STRUCTURE IS IN CONFORMANCE WITH THE PERFORMANCE REQUIREMENTS SPECIFIED HEREIN.

A. CLADDING MEMBRANE: THE STRUCTURE SHALL BE CLAD WITH A HDPE COATED POLYESTER FABRIC MANUFACTURED BY AN APPROVED AND REPUTABLE SUPPLIER WITH DEMONSTRATED LONG TERM PERFORMANCE. LAMINATED MATERIALS ARE NOT ACCEPTABLE FOR USE ON THE OUTER WEATHER MEMBRANE. THE HDPE COATED MEMBRANE FABRIC SHALL BE WATERPROOF AND FREE FROM DEFECTS. ALL ROOFS, END WALLS AND CONNECTING SECTIONS SHALL BE WEATHER TIGHT. THE MATERIAL FOR THE SIDE WALLS AND ROOF SHALL BE TRANSLUCENT WHITE.

B. THE MATERIAL MUST BE UV STABILIZED AND FLAME RETARDANT, MUST CARRY A MINIMUM FIFTEEN YEAR MANUFACTURER'S WARRANTY (STANDARD MANUFACTURER'S WARRANTY PLUS ADDITIONAL WARRANTY FOR A TOTAL OF 15 YEAR WARRANTY) AND MUST HAVE LIFE EXPECTANCY OF 15 TO 20 YEARS. THE MINIMUM FABRIC SPECIFICATION IS AS FOLLOWS:

C. PROVIDE SINGLE PIECE TENSION MEMBRANE: FABRIC SPECIFICATIONS:

1. BASE SCRIM HDPE (600 DARNIER YARN) HIGH DENSITY POLYETHYLENE

2. COATING THICKNESS 4 MIL EACH SIDE MINIMUM 4 TO 8 MIL EXTERIOR COATING EACH SIDE OF BASE SCRIM

3. SURFACE TYPE MODIFIED LDPE C/W UV MODIFIED LOW DENSITY POLYETHYLENE COATING WITH UV INHIBITORS

4. WEIGHT 12.6 OZ./SY MINIMUM 12.6 OZ./SY

5. GRAB TENSILE STRENGTH 360 LB. ASTM D-5034

6. TEAR TORQUE STRENGTH 120 LB. ASTM D-2261

7. STRIP TENSILE STRENGTH 250 LB. ASTM D-5035

8. MULLEN BURST 690 LB. ASTM D-3786

9. THICKNESS 23 MILS ASTM D-5199

10. HYDROSTATIC RESISTANCE 171 PSI ASTM D-7514

11. COLD CRACK -60 DEGREES F ASTM D-2136

12. LIGHT TRANSMISSION 13% ASTM E-403

13. UV & WEATHERING 90% RET. 2000 HR. ASTM D-4399

14. PERMEABILITY 2.5 X 10E ASTM D-1491

15. SCALE FLAME SPREAD PASS CHAR 6.5 FS 10 SD 58 ASTM E-84 CLASS 1

- D.

EXTERIOR FABRIC IS NOT AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. EXTERIOR FABRIC WILL DEFLECT UNDER LOAD, THEREFORE, ALL BUILDING ACCESSORIES MUST BE LOCATED BENEATH THE INNER CHORD OF THE TRUSS. ANYTHING ABOVE THE INNER CHORD MUST BE REVIEWED AND APPROVED IN WRITING BY THE BUILDING MANUFACTURER. SEVERE DAMAGE TO THE BUILDING AND ACCESSORIES MAY RESULT FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
- E.

FOR SALT STORAGE, END WALL FABRIC SHALL HAVE AT LEAST TWO LOUVERS (EACH 2 FEET BY 2 FEET MINIMUM) OR MESH FABRIC AS AN ALTERNATE.
- F.

ANCHOR BOLTS

1. ANCHOR BOLT DIAMETERS ARE DETERMINED IN ACCORDANCE WITH ASTM F-1554 STANDARD STAINLESS STEEL.

2. ANCHOR BOLT PROJECTIONS BASED ON NO GROUT ARE AS FOLLOWS: 2" MINIMUM

3. THE FOUNDATION MUST BE LEVEL, SQUARE (AT RIGHT ANGLES); AND SMOOTH. ANCHOR BOLTS MUST BE ACCURATELY PLACED AS SHOWN ON THE ROOF MANUFACTURER'S DRAWINGS.

4. DRILL-IN EXPANSION ANCHORS ARE PERMITTED.
- G.

STRUCTURAL BOLTS

1. BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS OR WHERE LOOSENING DUE TO VIBRATION OR LOAD FLUCTUATIONS ARE NOT DESIGN CONSIDERATIONS NEED ONLY BE SNUG TIGHTENED, WHICH IS DEFINED AS THE TIGHTNESS THAT OCCURS WHEN ALL PIECES IN A JOINT ARE IN FIRM CONTACT.

2. ALL BOLTS LARGER THAN 1" DIAMETER CONFORM TO ASTM A325.

3. ALL OTHER BOLTS CONFORM TO SAE GR5 OR EQUIVALENT.

4. ALL BOLTS SHALL BE PLATED WITH GALVANIZED COATING.

5. ALL BOLT REFERENCES REQUIRE BOTH BOLT, WASHER, AND NUT.

6. BOLTS IN CONNECTIONS WITH TENSION LOADS REQUIRE PRE-TENSIONING TO MINIMUM TENSION.
- H.

STEEL SPECIFICATIONS

1. STRUCTURAL PLATE CONFORMS TO THE FOLLOWING SPECIFICATIONS: ASTM A5721 GR 44

2. HSS (HOLLOW STEEL SECTION) A572 GR 44

3. COATINGS OF STRUCTURAL PLATES ARE DONE IN-LINE, HOT DIPPED GALVANIZED TO A NOMINAL COATING ZINC WEIGHT 2.0 OZ./SF.

4. COATINGS OF TUBES ARE DONE IN-LINE, HOT DIPPED GALVANIZED TO A NOMINAL ZINC WEIGHT 0.6 OZ./SF.

5. STEEL FINISHING - POST FABRICATION, HOT DIPPED GALVANIZED.

6. DIAGONAL BRACE STEEL CABLE EXTRA HIGH STRENGTH PER ASTM A475.

7. CROSS CABLES - 1/2" DIAMETER.

8. SWAY CABLES - 3/4" DIAMETER

9. STRUCTURAL COMPONENTS ARE AS FOLLOWS:

a. 4: TUBES - 32" C-C USING 1.9" WEB.

b. 1" X 14 GA & 5" X 7 GA GA/8 - MIN. YIELD STRENGTH - 50 KSI

c. ALL OTHER SIZE/GAUGES - MIN. YIELD STRENGTH - 55 KSI

10. MISCELLANEOUS STEEL::

d. STEEL POSTS A 500 GRADE B

e. STEEL COLUMNS AND BEAMS A 500 GRADE B

f. HOT DIPPED GALVANIZED

i. STRUCTURAL SUPPORTS SHALL NOT BE SPACED MORE THAN 12 FEET ON CENTER MAX

- 3.1

INSTALLATION

A. SET STRUCTURAL FRAME PLUMB AND ALIGNED. LEVEL BASE PLATES TRUE TO PLANE WITH FULL BEARING ON CONCRETE BASES.

B. FASTEN FRAME SYSTEM TO CONCRETE BASES PER MANUFACTURER'S STANDARD DESIGN UTILIZING STAINLESS STEEL COMPONENTS ONLY.

BUILDING NOTES

1.

CONCRETE

REINFORCED CONCRETE FLOOR AND WALLS:

F'c = 4000 PSI ODOT CLASS 'QC1' CONCRETE

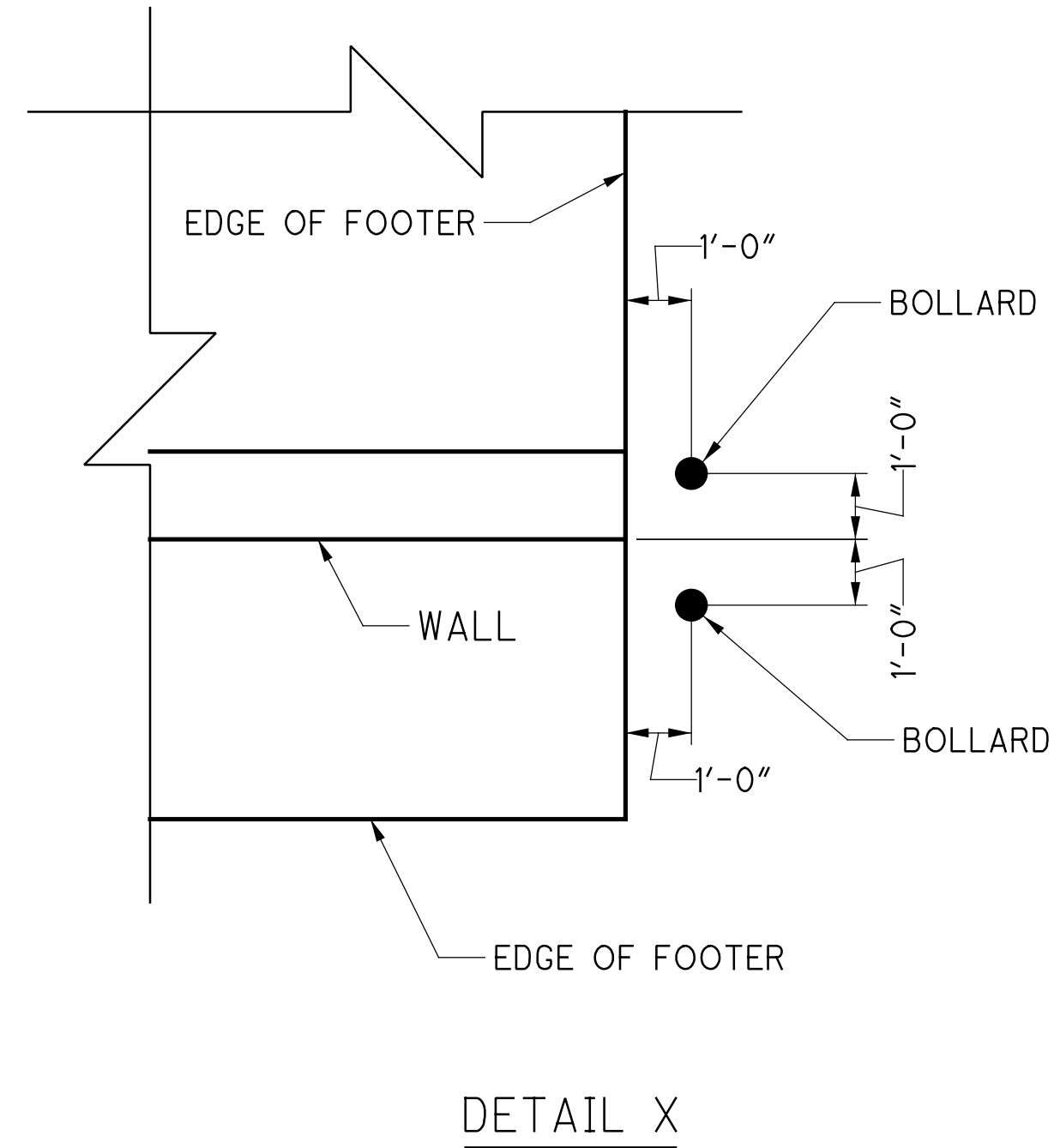
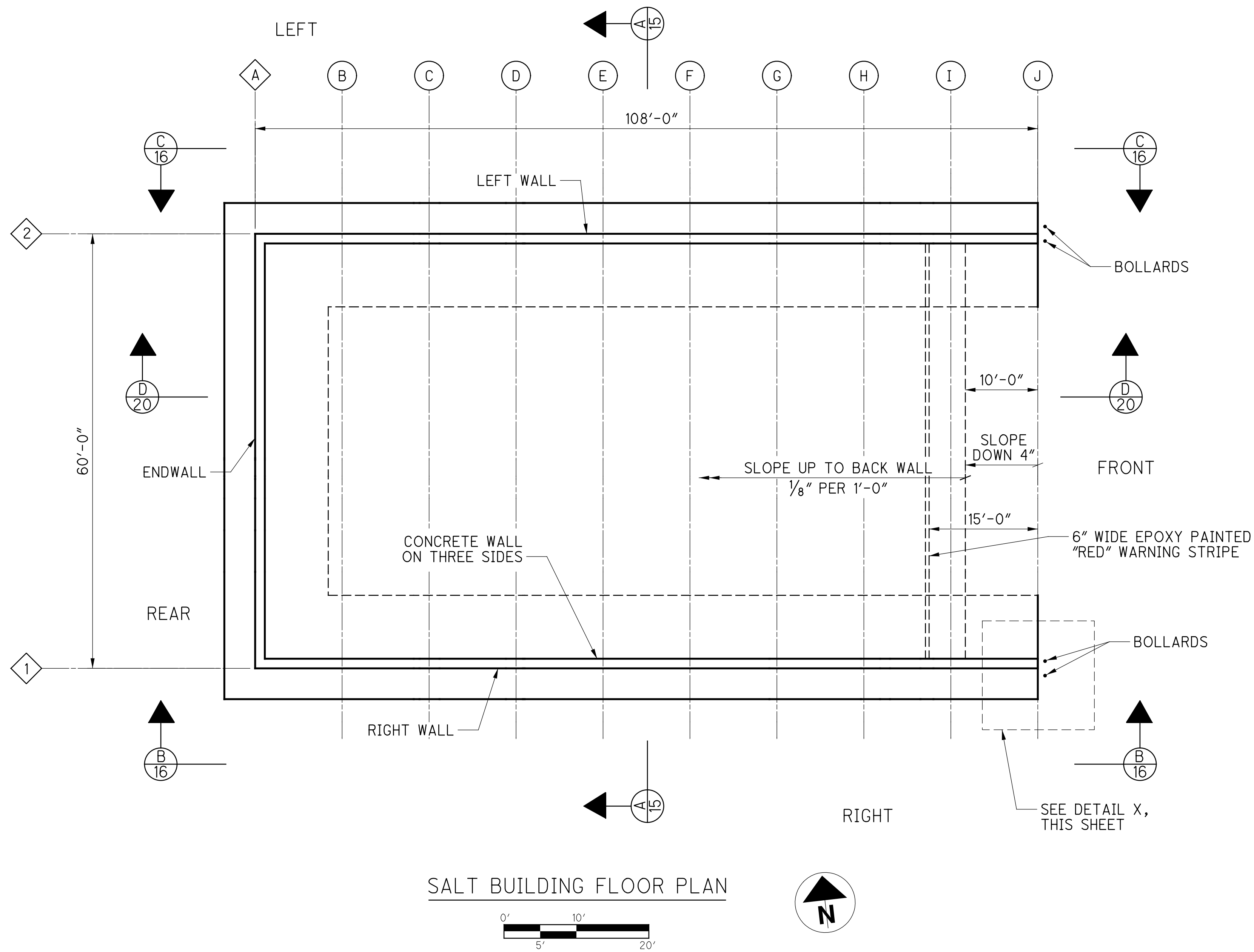
ACCORDING TO ODOT CMS 499

40 LB/CY SILICA FUME, ODOT 511
2.

REINFORCING REQUIREMENTS:

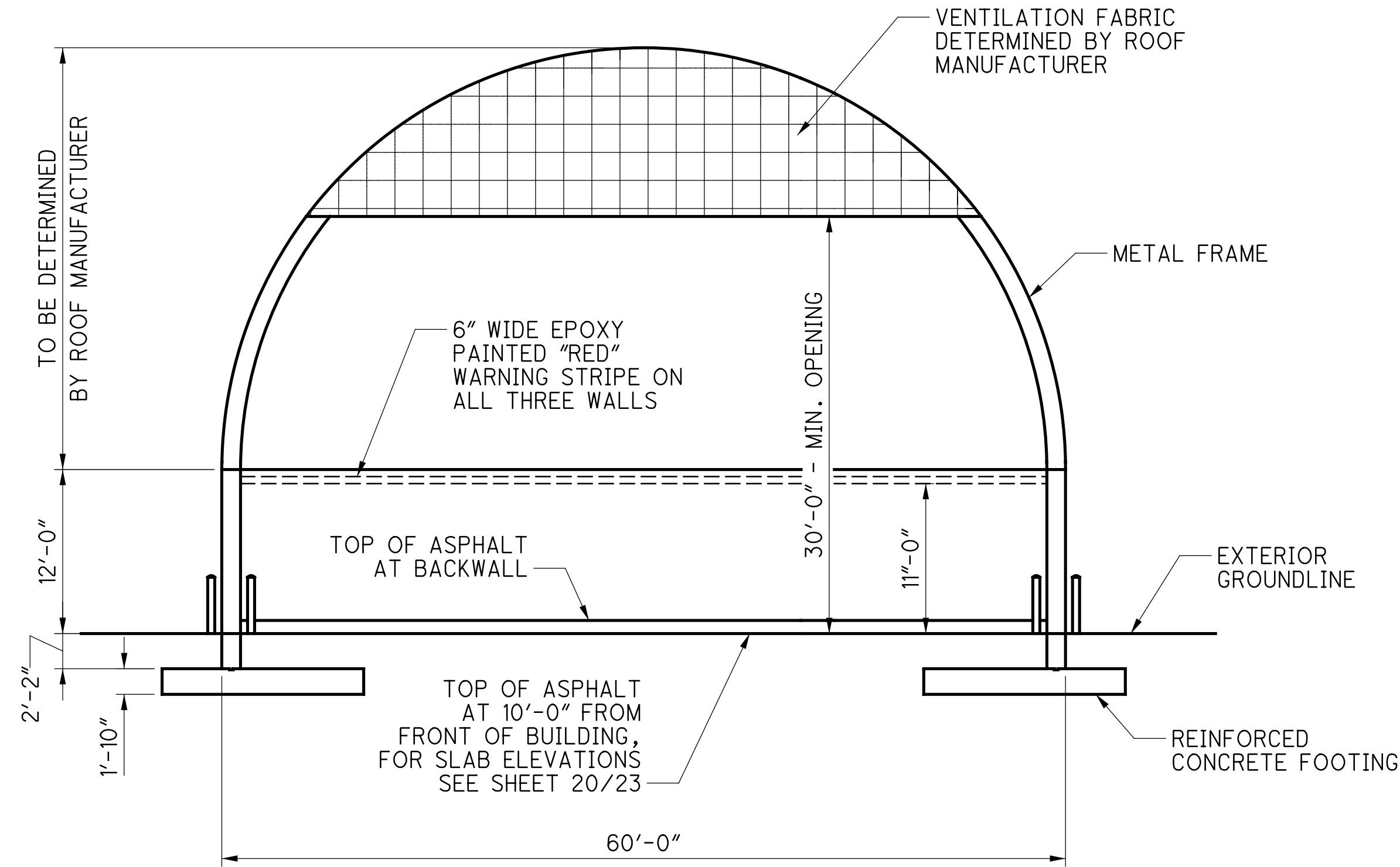
STEEL BARS: ODOT 709 - GRADE 60 EPOXY COATED

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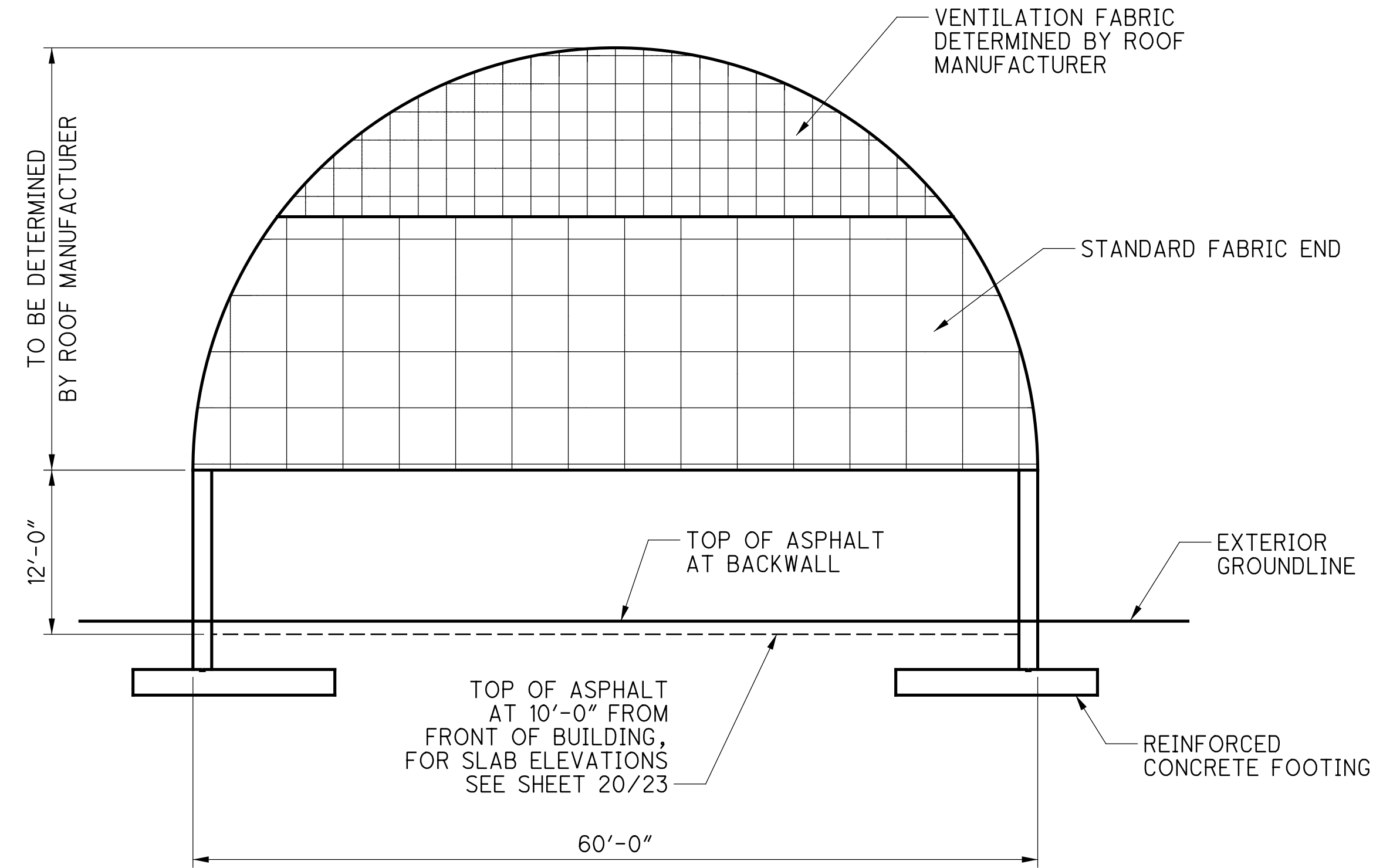


SALT BUILDING ESTIMATED QUANTITIES				
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
203	20000	30	CY	EMBANKMENT
503	21100	733	CY	UNCLASSIFIED EXCAVATION
509	10000	75800	LB	EPOXY COATED REINFORCING STEEL
511	53010	441	CY	CLASS QC1 CONCRETE, MISC.: WALLS & FOOTINGS
SPECIAL	95050000	LS		FACILITIES: RED EPOXY STRIPE, 6"
SPECIAL	95050000	LS		FACILITIES: FABRIC COVERED ROOF STRUCTURE
SPECIAL	95051000	4	EACH	FACILITIES: CALCIUM/BRINE TANKS (10,500 GALLONS EACH)

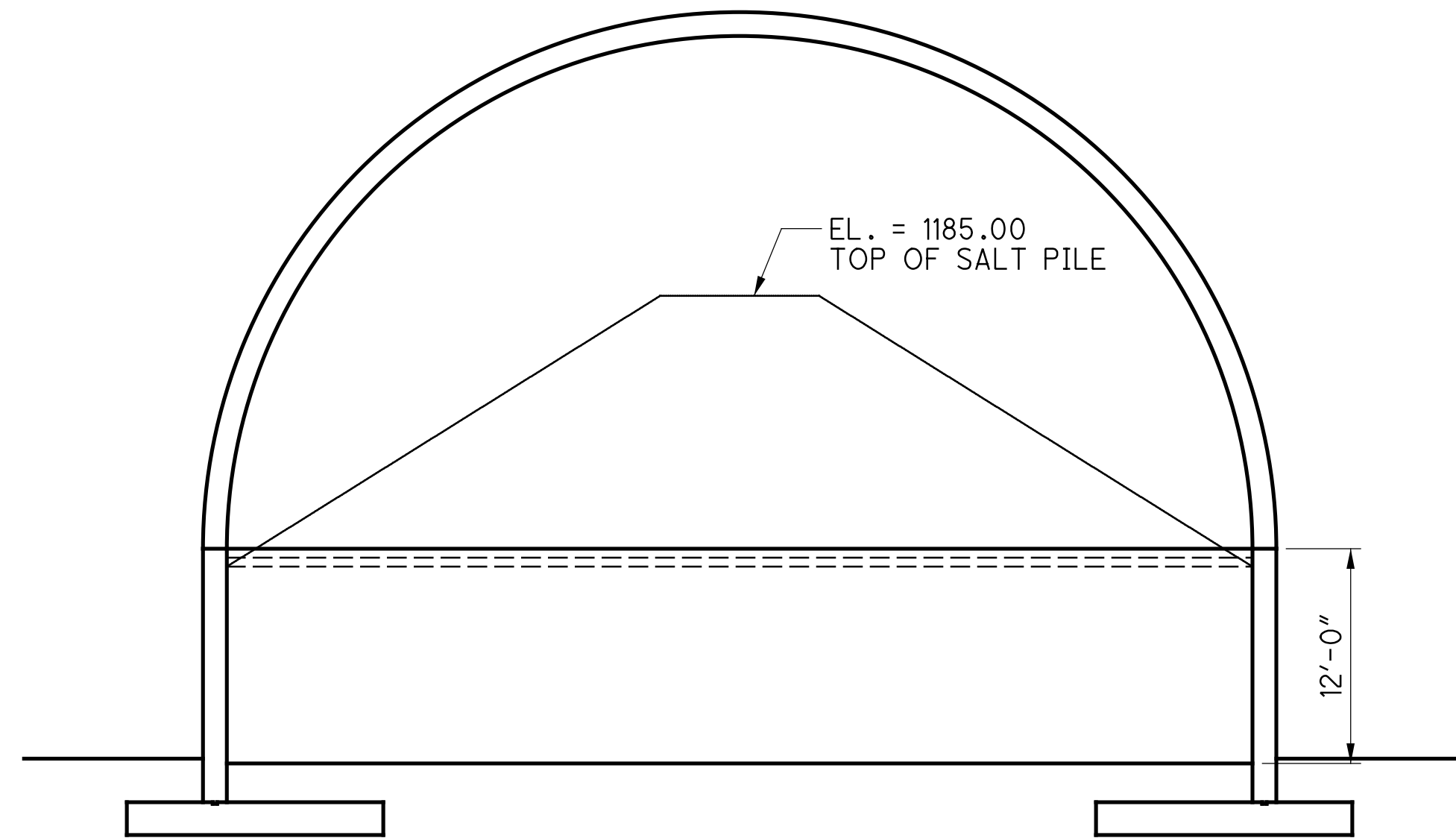
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FRONT ELEVATION
NOT TO SCALE



REAR ELEVATION
NOT TO SCALE



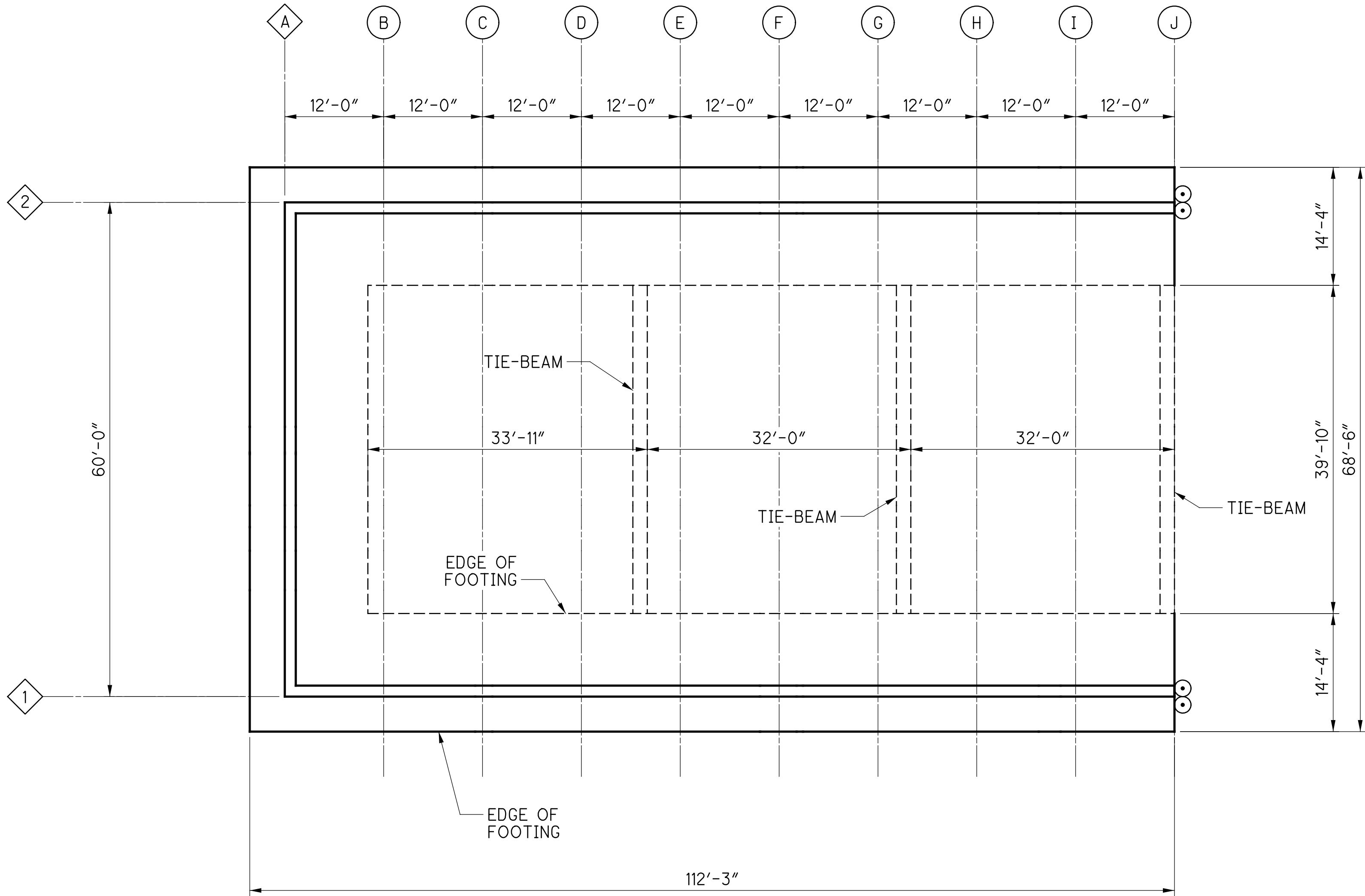
A
14 SALT BUILDING SECTION
NOT TO SCALE

LEGEND:
EL. = ELEVATION

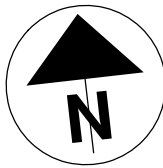
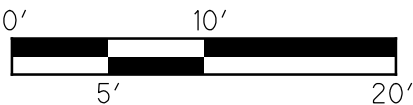


EL. = ELEVATION

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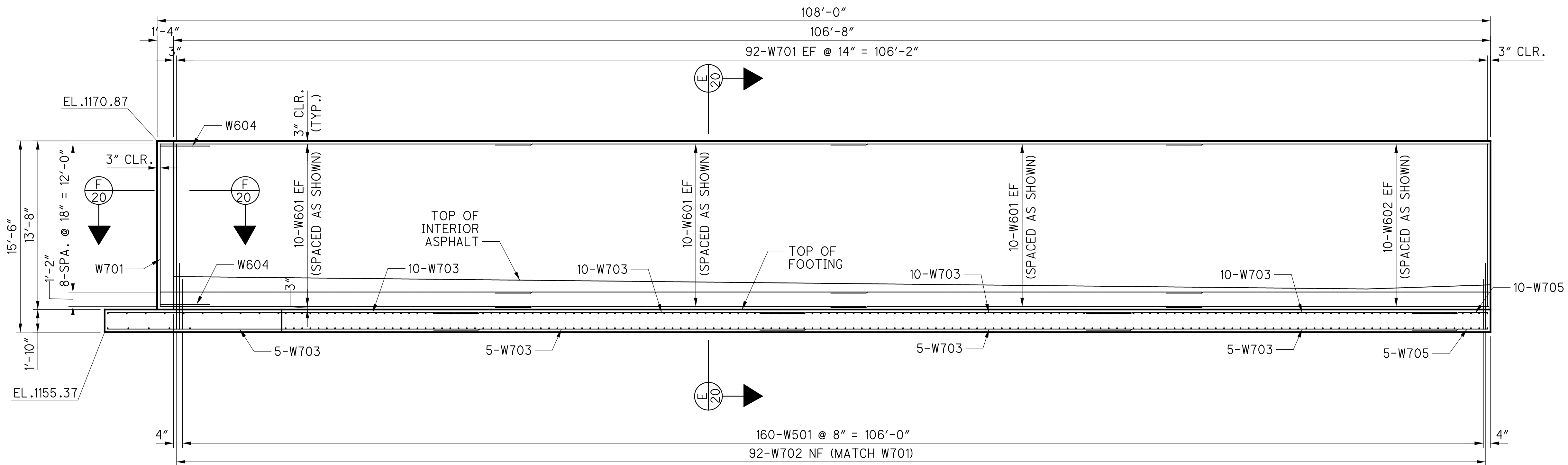
FOUNDATION PLAN



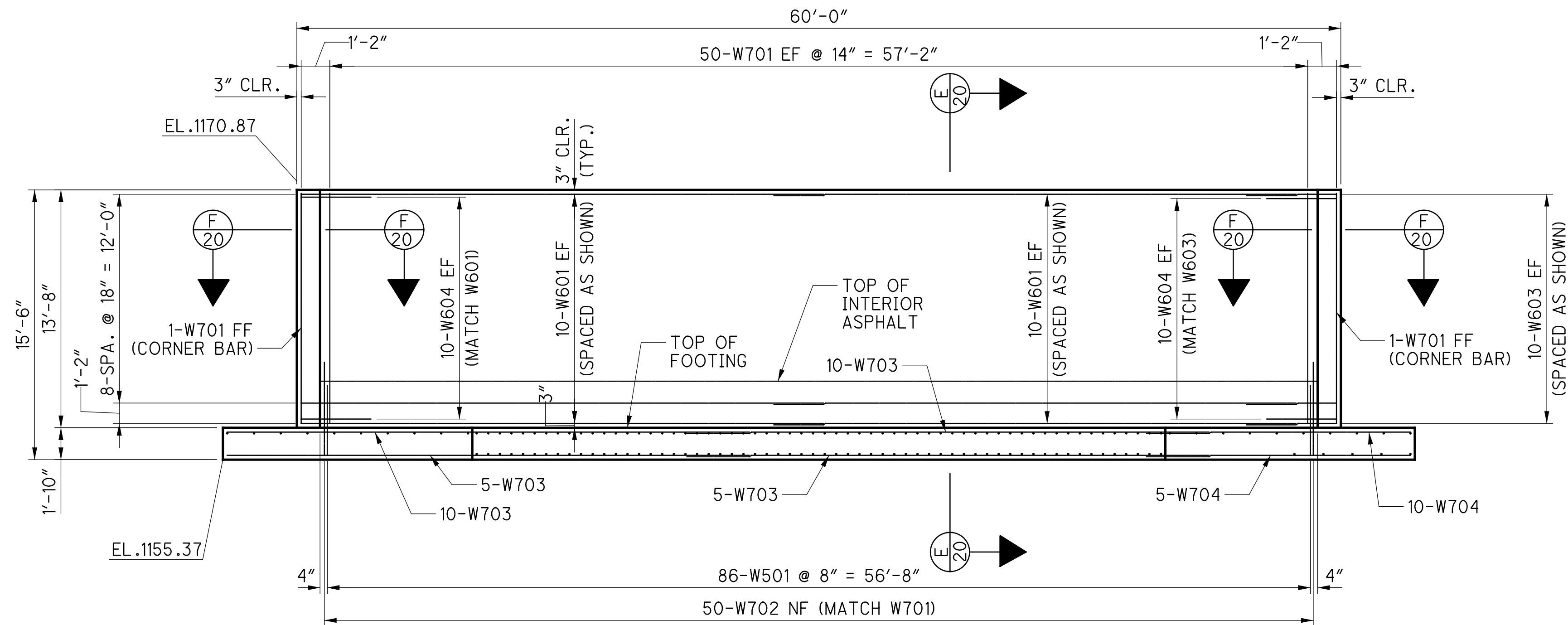
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LEGEND
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
EL. = ELEVATION

LAP SPLICE LENGTHS	
BAR SIZE	LENGTH
#5	2'-5"
#6	2'-10"
#7	3'-7"
#8	4'-11"



SALT/LOADER BUILDING SIDE WALL ELEVATION
(RIGHT WALL SHOWN, LEFT WALL OPPOSITE HAND)

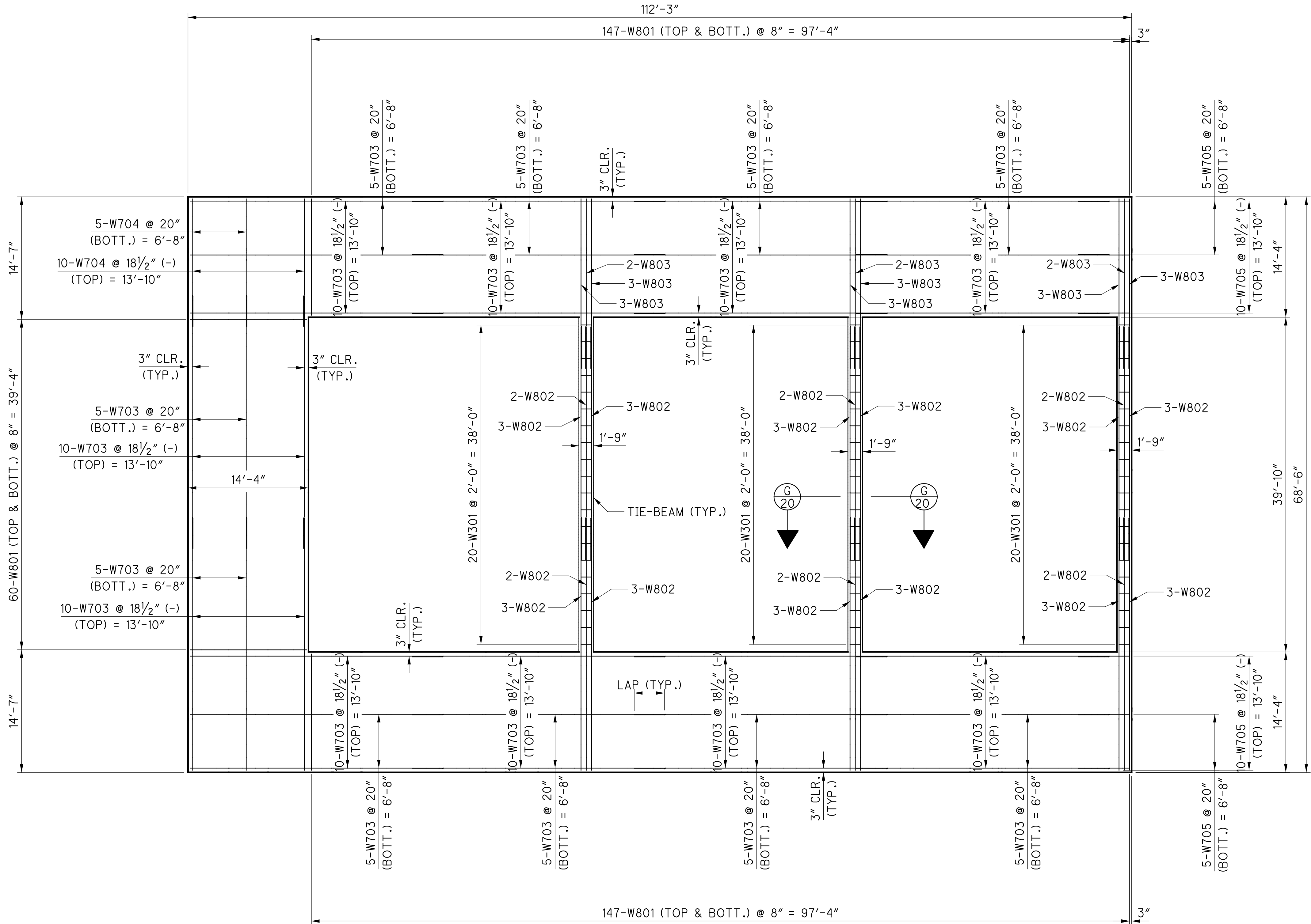


SALT/LOADER BUILDING REAR WALL ELEVATION

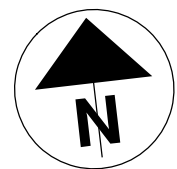
NOTES:
1. FOR REINFORCING STEEL LIST SEE SHEET 21/23

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LAP SPLICE LENGTHS	
BAR SIZE	LENGTH
#5	2'-5"
#6	2'-10"
#7	3'-7"
#8	4'-11"

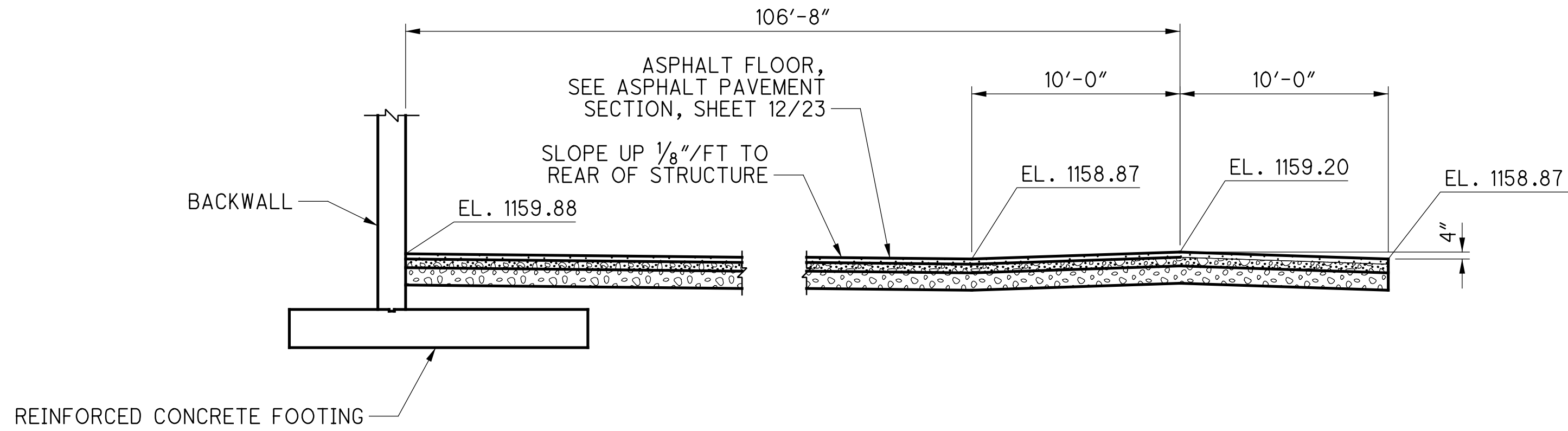


SALT/LOADER BUILDING FOOTING REINFORCING PLAN



NOTES:
1. FOR REINFORCING STEEL LIST SEE SHEET 21/23

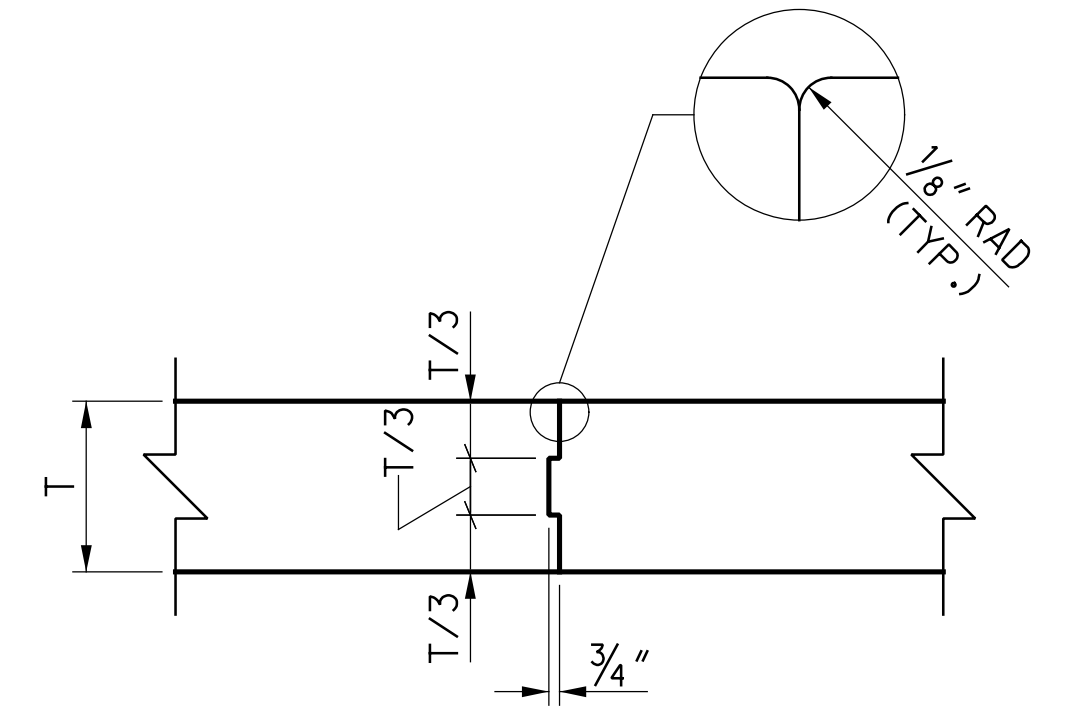
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D BUILDING SLAB SECTION
14 NOT TO SCALE

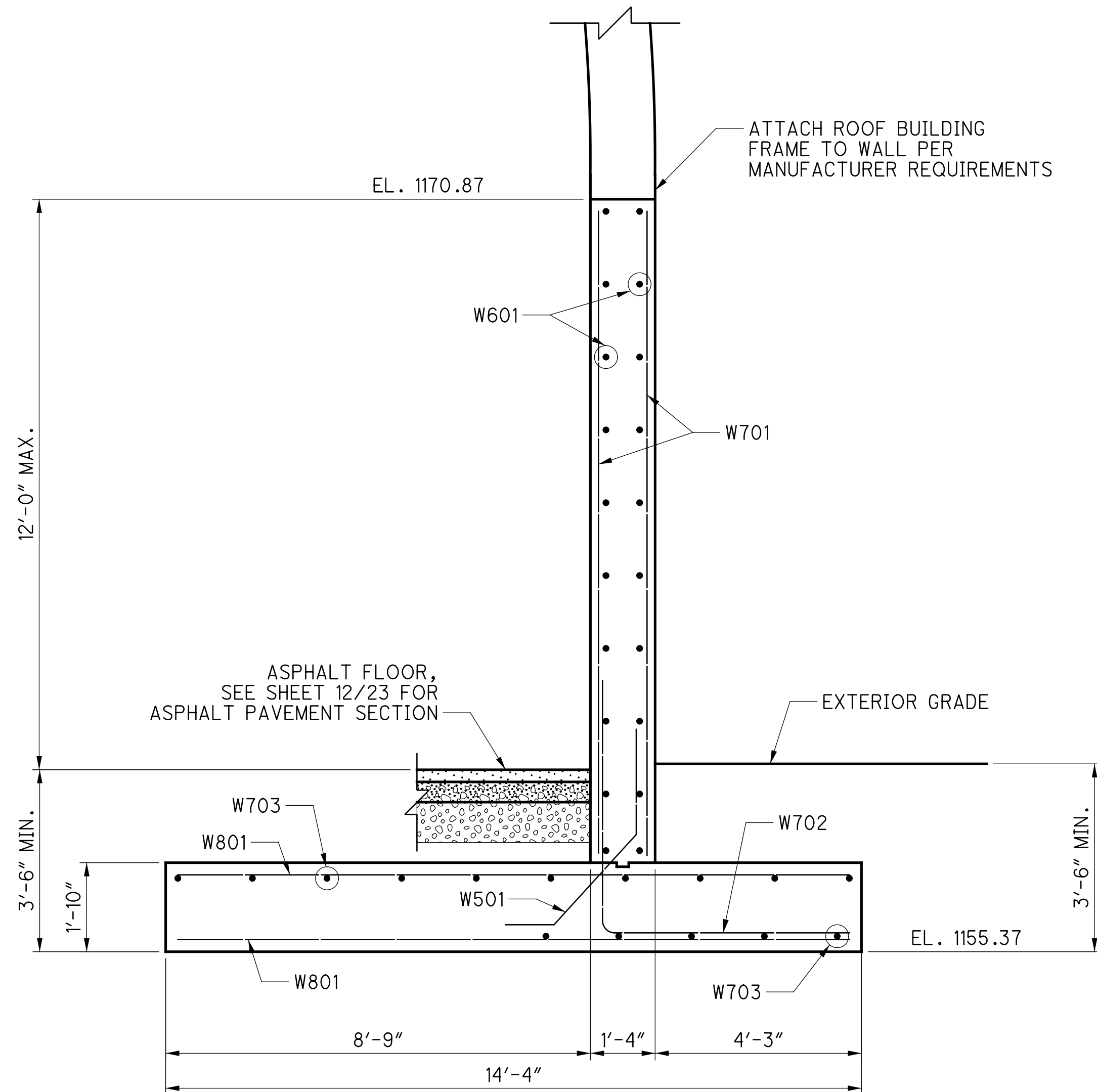
ITEM 203 - EMBANKMENT

EMBANKMENT IS TO BE PLACED BENEATH THE BUILDING ASPHALT PAVEMENT AS SPECIFIED BELOW. A SUITABLE MATERIAL AS DETERMINED BY THE ENGINEER SHALL BE PLACED ABOVE THE EXISTING GRADE AND BELOW THE 304 AGGREGATE BASE REQUIRED FOR ASPHALT PAVEMENT CONSTRUCTION. ALL ASPECTS OF ITEM 203 - EMBANKMENT APPLY. THE UNIT BID PRICE FOR THIS ITEM SHALL INCLUDE ALL LABOR MATERIALS AND EQUIPMENT NEEDED TO COMPLETE THIS WORK.

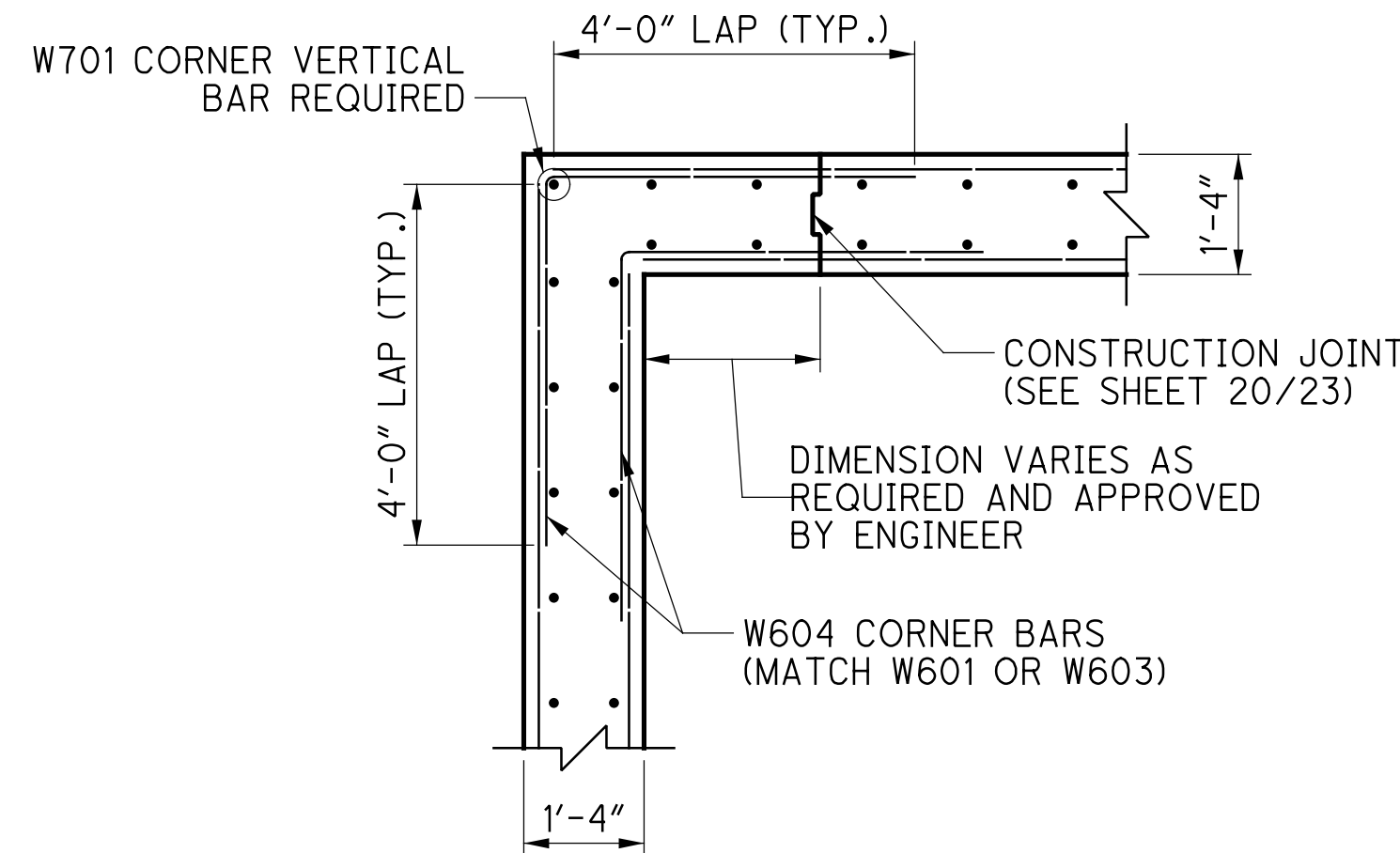


NOTE:
PERMANENT FORMS MAY BE USED ONLY WITH
THE WRITTEN PERMISSION OF THE ENGINEER.

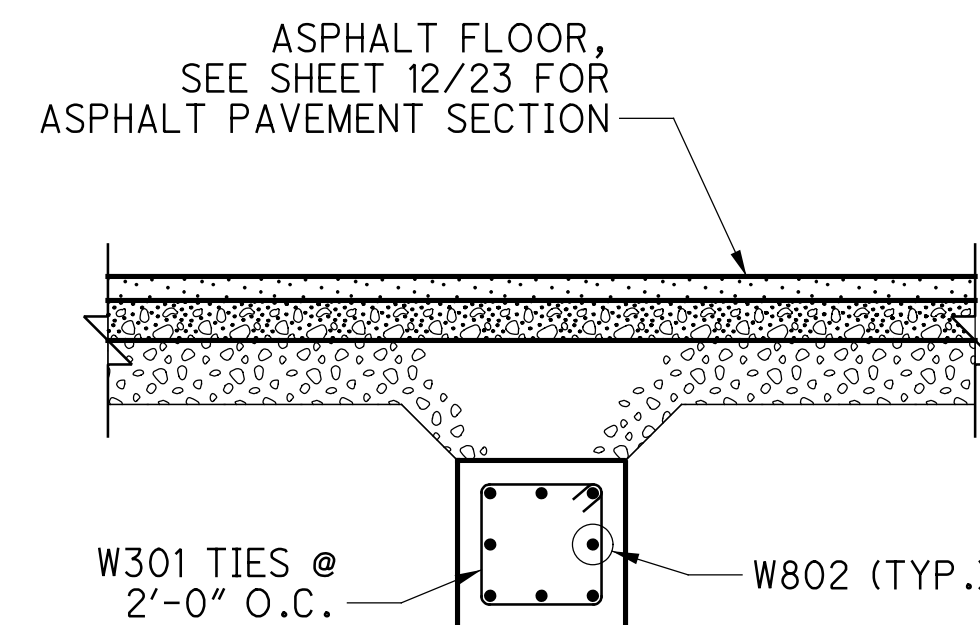
CONSTRUCTION JOINT
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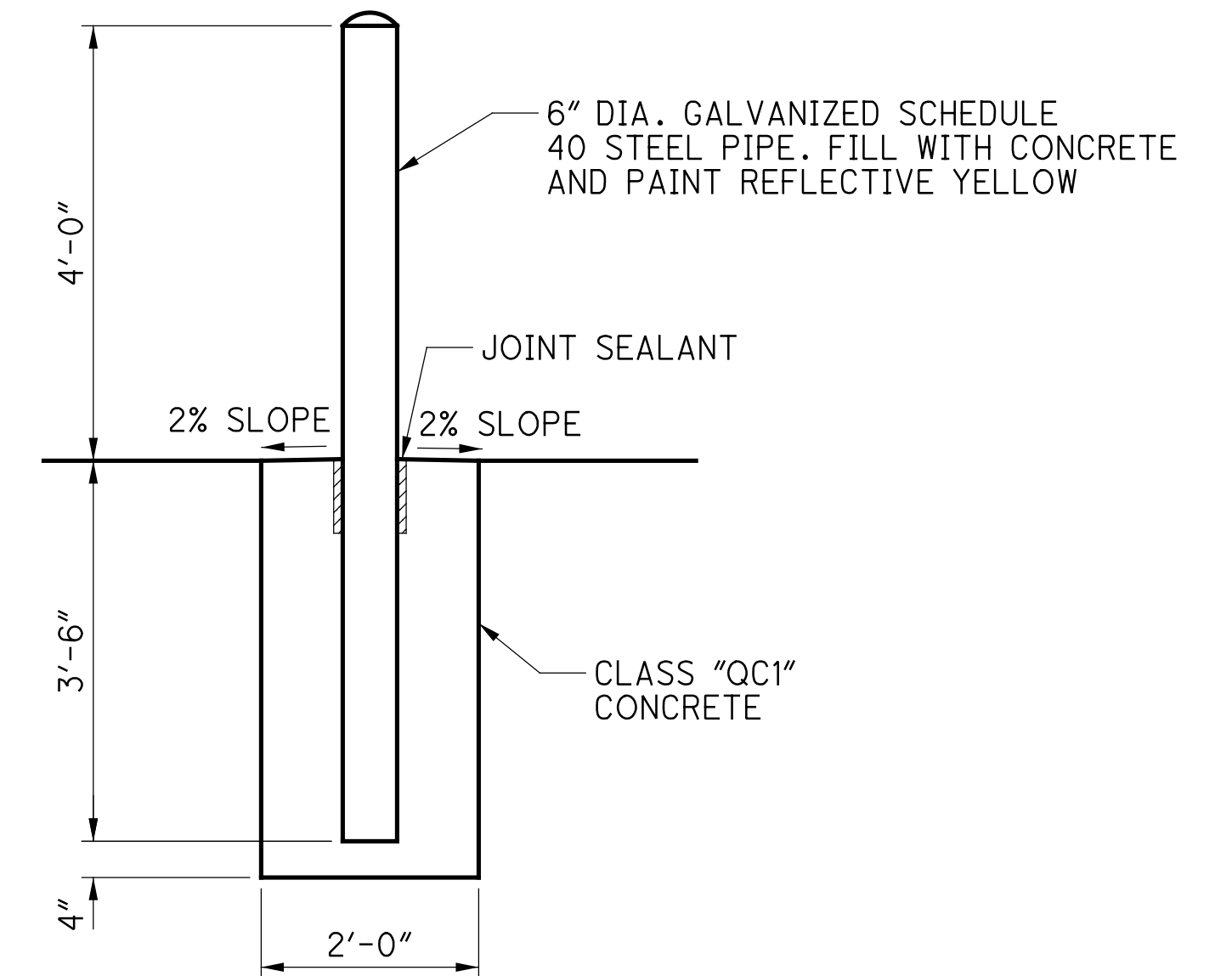
E SALT BUILDING WALL SECTION
18 NOT TO SCALE



F CORNER REINFORCING
18 NOT TO SCALE



G TIE-BEAM SECTION
19 NOT TO SCALE



BOLLARD DETAIL
NOT TO SCALE

LEGEND:
EL. = ELEVATION

NOTES:
1. ALL REINFORCING STEEL TO BE EPOXY COATED.
2. FOR REINFORCING STEEL LIST SEE SHEET 21/23.

CALCULATED
TLC
CHECKED
MAB

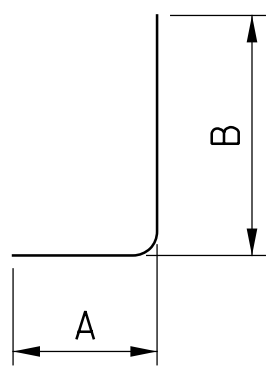
SALT BUILDING STRUCTURAL DETAILS

FACD04 MAH SR 11 SB OY SALT

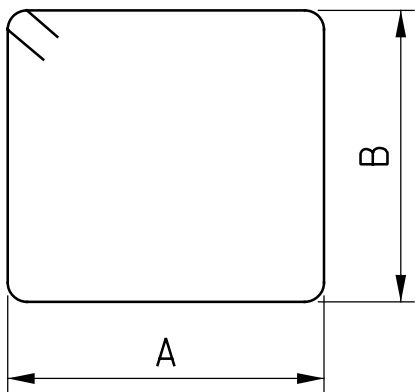
20
23

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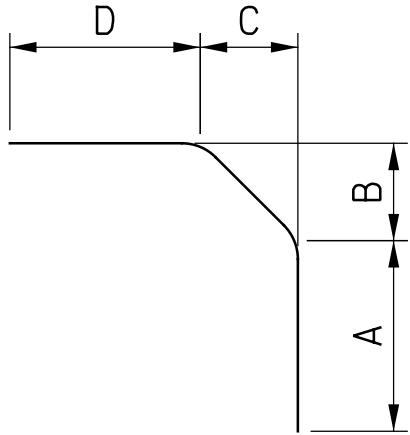
MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SALT BUILDING											
W301	60	4'-8"	105	3	1'-3"	1'-3"					
W501	406	6'-0"	2541	13	1'-0"	1'-10"	2'-2"	2'-2"			
W601	160	30'-0"	7210	STR							
W602	40	26'-0"	1562	STR							
W603	20	5'-2"	155	STR							
W604	40	8'-2"	491	1	4'-2"	4'-2"					
W701	554	15'-7"	17646	STR							
W702	236	10'-3"	4944	1	5'-2"	5'-4"					
W703	150	30'-0"	9198	STR							
W704	15	15'-2"	465	STR							
W705	15	6'-1"	187	STR							
W801	708	13'-10"	26150	STR							
W802	48	30'-0"	3845	STR							
W803	24	20'-2"	1292	STR							
		TOTAL	75791								
TOTAL CARRIED TO GENSUM			75800								



TYPE-1



TYPE-3

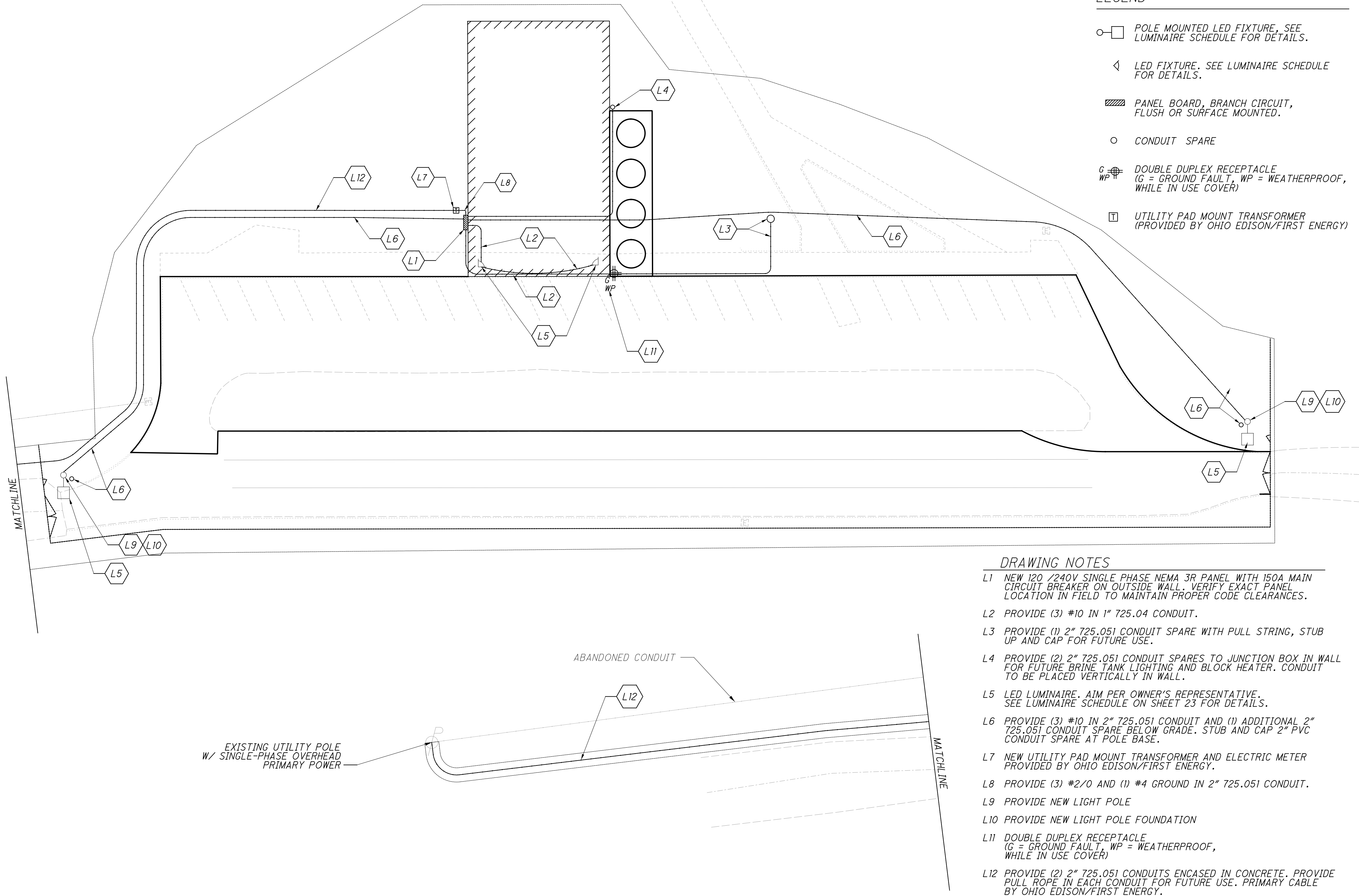


TYPE-13

BENDING DIAGRAMS

NOTES:

- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, W601 IS A NUMBER 6 BAR.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR, UNLESS OTHERWISE NOTED.
- RADIUS DIMENSIONS ARE SHOWN TO THE INSIDE OF THE BAR, EXCEPT AS SHOWN ON THE BENDING DIAGRAM.



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SECTION 260500

BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 GENERAL

A. PRODUCTS

- 1. MATERIAL AND EQUIPMENT BUILT INTO THE WORK FOR WHICH EXAMINATION SERVICE IS PROVIDED SHALL BEAR THE UNDERWRITER'S LABEL.
- 2. MATERIALS AND EQUIPMENT PROVIDED UNDER THIS CONTRACT SHALL BE NEW AND OF THE QUALITY HEREIN SPECIFIED. EACH CLASS OF MATERIALS SHALL BE OF THE SAME TYPE AND MAKE THROUGHOUT THE BUILDING.

PART 2 - PRODUCTS AND EXECUTION

2.01 CONDUITS

A. MATERIALS

- 1. ALL EXPOSED CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS) AND ALL UNDERGROUND CONDUIT SHALL BE PVC UNLESS OTHERWISE NOTED.
- 2. NON-METALLIC CONDUIT SHALL BE POLYVINYL CHLORIDE TYPE, SCHEDULE 80, 90 DEGREES C. U.L. RATED, HEAVY WALL APPROVED NON-METALLIC CONDUIT. MANUFACTURERS ARE CARLON, OLIN, ROBROY INDUSTRIES, OR TRIANGLE CONDUIT AND CABLE COMPANY.
- 3. ALL THIN WALL FITTINGS SHALL BE OF THE STEEL SET SCREW TYPE.

B. EXECUTION

- 1. CONDUITS SHALL BE CONTINUOUS AND BE SECURED TO ALL BOXES IN A MANNER THAT EACH SYSTEM SHALL BE ELECTRICALLY CONTINUOUS FROM POINT OF SERVICE TO ALL OUTLETS. TERMINALS OF ALL CONDUITS SHALL BE PROVIDED WITH LOCKNUTS AND BUSHINGS. PLUG ENDS OF EACH CONDUIT WITH AN APPROVED CAP OR DISC TO PREVENT THE ENTRANCE OF FOREIGN MATERIALS DURING CONSTRUCTION.
- 2. ALL CONDUITS TERMINATING IN SHEET STEEL ENCLOSURES SHALL HAVE DOUBLE LOCKNUTS AND A BUSHING. LOCKNUTS SHALL BE A TYPE WHICH WILL "BITE" INTO THE METAL OF THE BOX. ALL BUSHINGS SHALL BE OF THE INSULATING TYPE.
- 3. CONDUIT SHALL BE RUN CONCEALED WHEREVER POSSIBLE IN FINISHED AREAS. THE ROUTING OF SURFACE RACEWAYS SHALL BE APPROVED BY THE ENGINEER PRIOR TO ROUGH-IN.
- 4. HOMERUNS TO PANELS SHALL BE 2" MINIMUM UNLESS OTHERWISE NOTED.
- 5. CONDUIT SUPPORTING SYSTEMS SHALL BE ATTACHED TO THE DECK, SLAB, OR STRUCTURAL FRAMING ONLY AND NOT TO ANY OTHER APPURTENANCES AT THE CEILING SUCH AS MECHANICAL DUCTS, PIPES, AND SUSPENDED CEILING HANGER WIRES OR FRAMING MEMBERS.
- 6. CONDUITS OR OTHER RACEWAY SYSTEMS THAT PENETRATE DECKS, PARTITIONS, ETC., SHALL BE CONSTRUCTED SO AS TO MAINTAIN THE INTEGRITY OF THE FIRE OR SMOKE RATED AREAS.

2.02 WIRE AND CABLE

A. MATERIALS

- 1. WIRE AND CABLE FOR FEEDERS SHALL BE 600-VOLT TYPE THHW OR XHHW COPPER.
- 2. WIRE AND CABLE FOR POWER AND LIGHTING BRANCH CIRCUITS SHALL BE THHN COPPER FOR #10 AND SMALLER AND THHW OR XHHW COPPER FOR #8 AND LARGER.
- 3. JOINTS IN #10 AND SMALLER WIRE SHALL BE MADE WITH MINNESOTA MINING AND MANUFACTURING COMPANY INSULATED "SCOTCH LOCKS", IDEAL COMPANY "WING-NUT", T & B COMPANY "PIGGY" CONNECTORS, OR WITH MECHANICALLY CRIMPED SLEEVES AS MANUFACTURED BY T & B COMPANY, OR IDEAL COMPANY CONNECTOR SLEEVES SHALL BE INSULATED WITH PRESSURE SENSITIVE ELECTRICAL TAPE EQUAL TO MINNESOTA MINING AND MANUFACTURING COMPANY SCOTCH NO. 33 "PLUS" OR RAYCHEM CORPORATION HEAT SHRINKABLE TAPE.
- 4. COLOR CODE WIRE AND CABLE FOR CIRCUITS AS CALLED FOR IN THE NATIONAL ELECTRIC CODE.

SECTION 262000

SERVICE AND DISTRIBUTION

PART 1 - GENERAL

1.01 GROUNDING

- A. GROUND ALL CONDUITS, CABINETS, PANELS AND OTHER EXPOSED NONCURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ALL PROVISIONS OF NATIONAL ELECTRIC CODE AND LOCAL CODES.
- B. GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE BY MEANS OF AN INSULATED GROUNDING CONDUCTOR INSTALLED WITH CIRCUIT CONDUCTORS IN ALL CIRCUITS. GROUNDING CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH N.E.C. 250-95 AND SHALL RUN FROM GROUNDING BUS OF SERVING PANEL TO GROUND BUS OF SERVED PANEL, LIGHTING FIXTURE HOUSINGS, LIGHT OR METAL ENCLOSURES OF SERVED EQUIPMENT OR METAL ENCLOSURES OF SERVED EQUIPMENT.

2.01 CIRCUIT BREAKER ENCLOSURE

- A. ENCLOSURE SHALL BE NEMA 3R TYPE SUITABLE FOR SURFACE MOUNTING.
- B. CIRCUIT BREAKER SHALL BE QUICK-MAKE, QUICK BREAK, BOLT-ON TYPE WITH THERMAL-MAGNETIC TRIPS. CIRCUIT BREAKER SHALL BE 10,000 AMPERE SYMMETRICAL SHORT CURCUIT CAPACITY MINIMUM.
- C. PROVIDE TYPEWRITTEN LABEL INDICATING PANELBOARD SERVED.

SECTION 265000

LIGHTING

PART 1 - GENERAL

1.01 GENERAL

- A. REFER TO THE LUMINAIRE SCHEDULE ON DRAWINGS.

PART 2 - EXECUTION

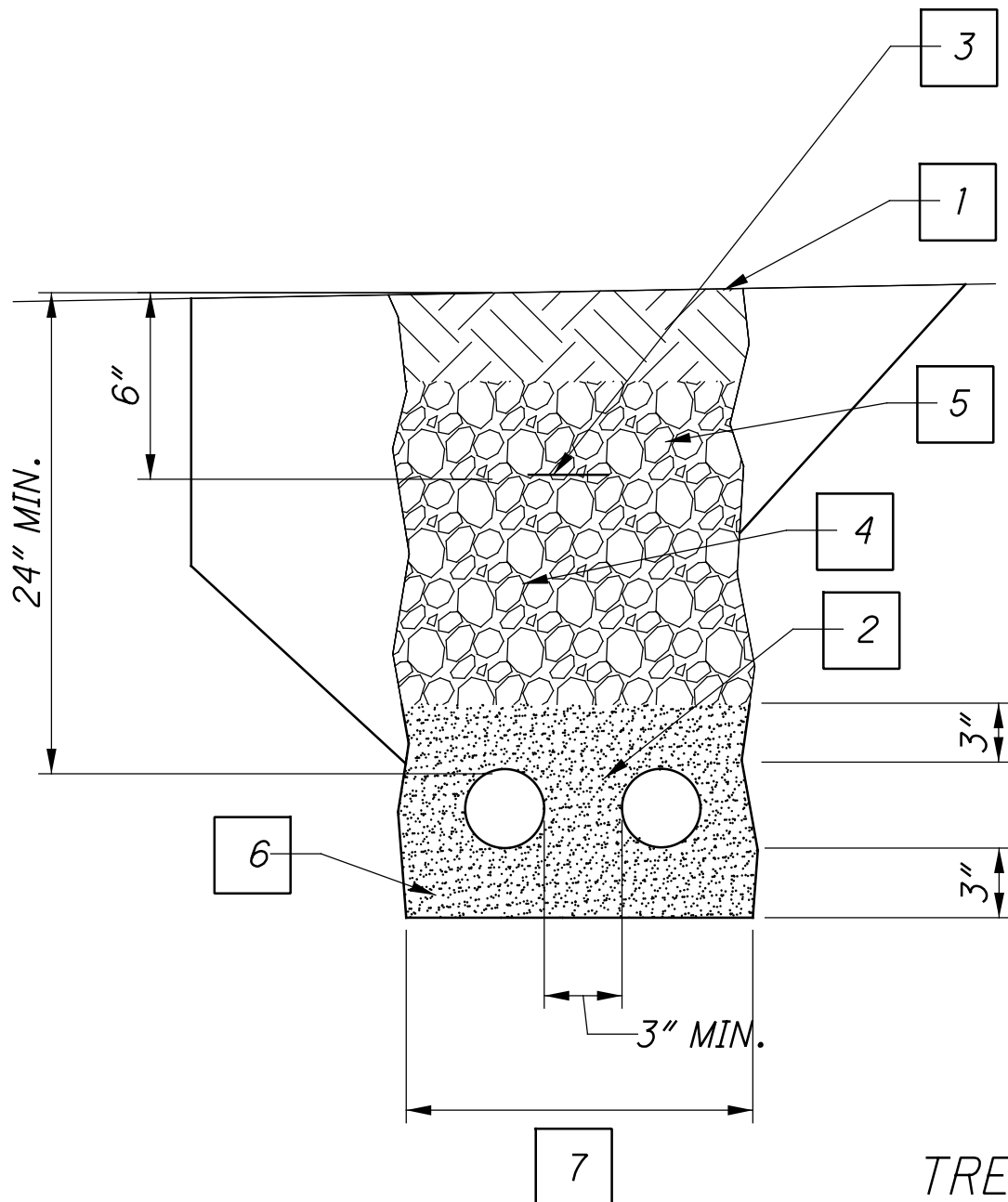
2.01 EXECUTION

- A. ALL FIXTURES SHALL BE SECURELY SUPPORTED WITH APPROVED HANGERS.
- B. FEED INDIVIDUALLY MOUNTED LIGHTING FIXTURES WITH 1/2-INCH FLEXIBLE METALLIC CONDUIT AS APPLICABLE. FACTORY INSTALLED OR SUPPLIED WHIPS ARE ACCEPTABLE.

REF. NO.	625	625	625	625	625	625	625	625	625	625	625	625	625	625
	LIGHT POLE CONVENTIONAL, AS PER PLAN	LIGHT POLE FOUNDATION	DISTRIBUTION CABLE, MISC.: NO. 2/0 AWG 600 VOLT DISTRIBUTION CABLE	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	CONDUIT, 1", 725.04	CONDUIT, 2", 725.051	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN (SINGLE HEAD)	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN (FLOOD LIGHT)	TRENCH, 24" DEEP	LIGHTING, MISC.: PANEL BOARD	FACILITIES: GFI RECEPTACLE (DOUBLE DUPLEX)	PLASTIC CAUTION TAPE	CONDUIT, CONCRETE ENCASED
	EACH	EACH	FT	FT	FT	FT	FT	EACH	EACH	FT	EACH	EACH	FT	FT
L1											1			
L2					654	188							71	
L3							97			71				
L4							260							
L5								2	2					
L6					1962		1268			535			535	535
L8			81	27			17			7			7	
L9	2													
L10		2												
L11												1		
L12							1038			519			519	519
TOTALS	2	2	81	27	2616	188	2680	2	2	1132	1	1	1132	1054

LUMINAIRE SCHEDULE									
SYMBOL	CALLOUT	DESCRIPTION	MODEL	VOLTS	INPUT WATTS	LAMP	BALLAST	MOUNTING	NOTES
	P4	LED AREA LIGHT TYPE IV W/SPILL CONTROL DISTRIBUTION	McGRAW EDISON GLEON SERIES, LITHONIA, DAY-BRITE COLUMBIA	120	213	(4) LED SQUARES, 22,000 TOTAL LUMENS, 70 CRI, 4000K	DRIVER	NEW POLE	7" ARM BRONZE FINISH INTEGRAL PHOTOCCELL
	W4	MARINE GRADE EXTERIOR LED FLOOD LIGHT	LARSON ELECTRONICS LED-BL SERIES	120	150	(1) 150W LED, 14790 LUMENS,	DRIVER	YOKE MOUNTED	WET LABEL IP68 RATED

- A. PROVIDE MINIMUM #10 AWG SIZE CONDUCTORS TO ALL EXTERIOR LUMINAIRES UNLESS NOTED OTHERWISE.
- B. ALL LUMINAIRES WITHIN A ROOM OR AREA SHALL BE CONTROLLED BY SWITCHES, OCCUPANCY SENSORS AND/OR PHOTOCELLS.
- C. LUMINAIRES SHALL BE LOCATED OVER ACCESS PATHWAYS AROUND EQUIPMENT AND NOT OVER TOP OF DUCTWORK WHERE INACCESSIBLE. DO NOT SUSPEND LUMINAIRES FROM PIPING OR DUCTWORK. PROVIDE APPROPRIATE MOUNTING HARDWARE, UNISTRUT, ALL THREAD, ETC., AS REQUIRED TO SUPPORT FIXTURES.
- D. OWNER'S REPRESENTATIVE SHALL BE PRESENT FOR ALL LUMINAIRES DURING FINAL AIMING. SCHEDULE AND COORDINATE FINAL AIMING WITH OWNER'S REPRESENTATIVE. PROVIDE FINAL AIMING OF ADJUSTABLE LUMINAIRES ONE HOUR AFTER SUNSET OR ONE HOUR BEFORE SUN RISE PRIOR TO COMPLETION OF PROJECT.
- E. ALL LIGHT FIXTURES SHALL BE U.L. LISTED AND LABELED. INSTALL FIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



TRENCH DETAIL
NTS

TRENCH DETAIL NOTES:

- 1. TOPSOIL AND SEED OR PAVEMENT.
- 2. 2" PVC SCHEDULE 80. IF MULTIPLE CONDUITS ARE ROUTED TOGETHER IN A COMMON TRENCH, PROVIDE 3" (MINIMUM) OF SEPARATION BETWEEN EACH CONDUIT.
- 3. DETECTABLE WARNING TAPE RED WITH BLACK LETTERING INDICATING "ELECTRIC" AND ROUTED ALONG CONDUIT PATH.
- 4. CLEAN ON-SITE MATERIALS MAY BE USED FOR BACKFILL IN LANDSCAPED AREAS. MATERIALS SHALL BE FREE OF STONES, RUBBLE, AND FROZEN BACKFILL; OTHERWISE, CONTRACTOR SHALL BRING IN CLEAN BACKFILL. COMPACT BACKFILL IN LIFTS.
- 5. CLEAN ON-SITE MATERIALS MAY BE USED FOR BACKFILL UNDER PAVEMENT AND IN RIGHT OF WAY, TO A DEPTH PER ODOT STANDARDS, WITH COMPACTED BACKFILL FOR REMAINDER, PER ODOT STANDARDS.
- 6. CONCRETE ENCASEMENT.
- 7. EXCAVATE WIDTH OF TRENCH AS REQUIRED. REFER TO ELECTRICAL SITE PLAN ON SHEET 22 FOR NUMBER OF CONDUITS/ROUTING.

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 11/17/16 11:30 - N:\PROJECTS\2016\N4165387\WORKING FILES\LABORATORY-FIELD DATA-BORING LOGS\N4165387.MAH-COL		P
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EXHIBIT A-4

EXHIBIT A-4

EXHIBIT A-5

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6 STANDARD UDO / SOIL BORING LOG (8.5 X 11) - OH DO J.GD] - 11/17/16 11:30 - N:\PROJECT\SI2016W416538\WORKING FILES\LABORATORY-FIELD DATA-BORING LOGS\NA 165387_MAH-COU				

EXHIBIT A-6

