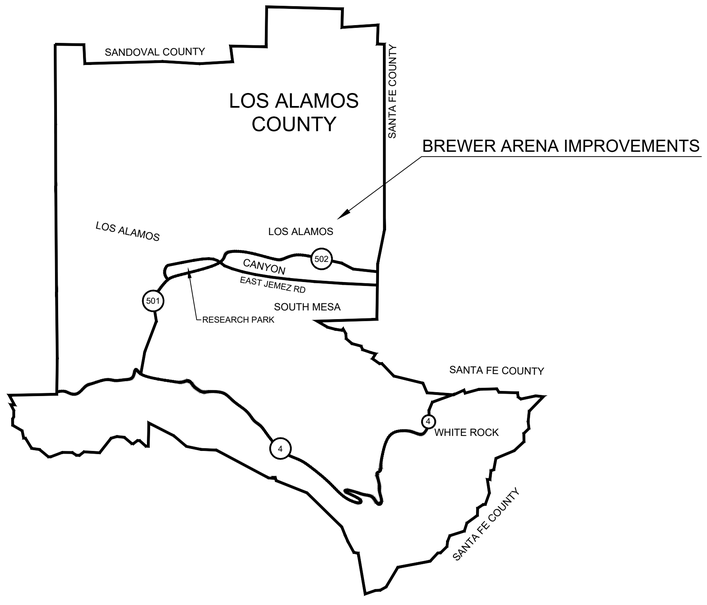
COUNTY OF LOS ALAMOS

LAS ALAMOS BREWER ARENA & UPGRADES

ISSUED FOR CONSTRUCTION

AUGUST 4, 2025

COUNTY MAP



SHEET LIST

COUNTY COUNCIL

DENISE DERKACS	COUNCIL CHAIR
THERESA CULL	COUNCIL VICE-CHAIR
MELANEE HAND	COUNCILOR
SUZIE HAVEMANN	COUNCILOR
KEITH LEPSCH	COUNCILOR
DAVID REAGOR	COUNCILOR
RANDALL RYTI	COUNCILOR

LOS ALAMOS
where discoveries are made

REVIEWED BY:
UTILITIES MANAGER

DATE:

REVIEWED BY:
COUNTY ENGINEER

DATE:

REVIEWED BY:
PUBLIC WORKS DIRECTOR

DATE:

GENERAL NOTES

1. THESE DRAWING UTILIZE A REFERENCE KEYNOTE SYSTEM THAT CONSIST OF A 6-DIGIT NUMERICAL ROOT FOLLOWED BY A PERIOD AND AN ALPHANUMERIC SUFFIX (SUCH AS 05 5000.A01)
2. INFORMATION ASSOCIATED WITH EACH KEYNOTE IS LOCATED IN THAT SHEET'S PERSPECTIVE NOTE BLOCK. THE ROOT OF THE REFERENCE INCLUDES MORE SPECIFIC INFORMATION ON THE ITEM BEING IDENTIFIED. THE SUFFIX IS NOT ASSOCIATED WITH ANY SPECIFIC REFERENCE IN THE SPECIFICATION SECTION.
3. CERTAIN REFERENCE KEYNOTES MAY CONTAIN MODIFIERS(CONTAINED WITHIN PARENTHESIS) LOCATED UNDERNEATH THE REFERENCE KEYNOTE. THE MODIFIER IDENTIFIES TYPE, SIZE, THICKNESS, AND OTHER ADDITIONAL CHARACTERISTICS.
4. THE REFERENCED KEYNOTING SYSTEM SHALL NOT CONTROL THE CONTRACTOR IN DIVIDING THE WORK AMONG SUBCONTRACTORS OR IN ESTABLISHING THE EXTENT OF THE WORK TO BE PERFORMED BY ANY TRADE.
5. ABBREVIATIONS REFERENCED FROM THE CONSTRUCTION SPECIFICATIONS INSTITUTES UNIFORM DRAWING SYSTEM TERMS AND ABBREVIATION MODULE.
6. THE GENERAL CONTRACTOR SHALL INCLUDE THE BID WORK AND MATERIALS REQUIRED, INCLUDING BUT NOT LIMITED TO STRUCTURAL, CIVIL, ARCHITECTURE, MECHANICAL, ELECTRICAL ITEMS WHICH MAY NOT BE ILLUSTRATED IN THESE CONTRACT DRAWINGS, BIDDER SHALL FULLY INSPECT THE WORK PRIOR TO BID, BID SUBMITTAL SHALL CONSTITUTE GENERAL CONTRACTOR'S ACCEPTANCE OF THESE CONDITIONS.
7. THE ESTIMATED SQUARE FOOTAGE OF THE RESTROOM AREA IS 314 GROSS SQUARE FEET (GSF). THE GENERAL CONTRACTOR SHALL VERIFY ACTUAL SQUARE FOOTAGE IN THE FIELD PRIOR TO BID.
8. THE GENERAL CONTRACTOR SHALL DISTRIBUTE COMPLETE BID DOCUMENT SUBMITTAL SETS TO SUBCONTRACTORS.
9. ALL DIMENSIONS ARE APPROXIMATE, THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSION PRIOR TO DEMOLITION START, NO ALLOWANCES SHALL BE MADE FOR ADDITIONAL LABOR OR MATERIAL'S NOT VERIFIED AND CLARIFIED BY THE CONTRACTOR OR THE ENGINEER.

WILSON & COMPANY

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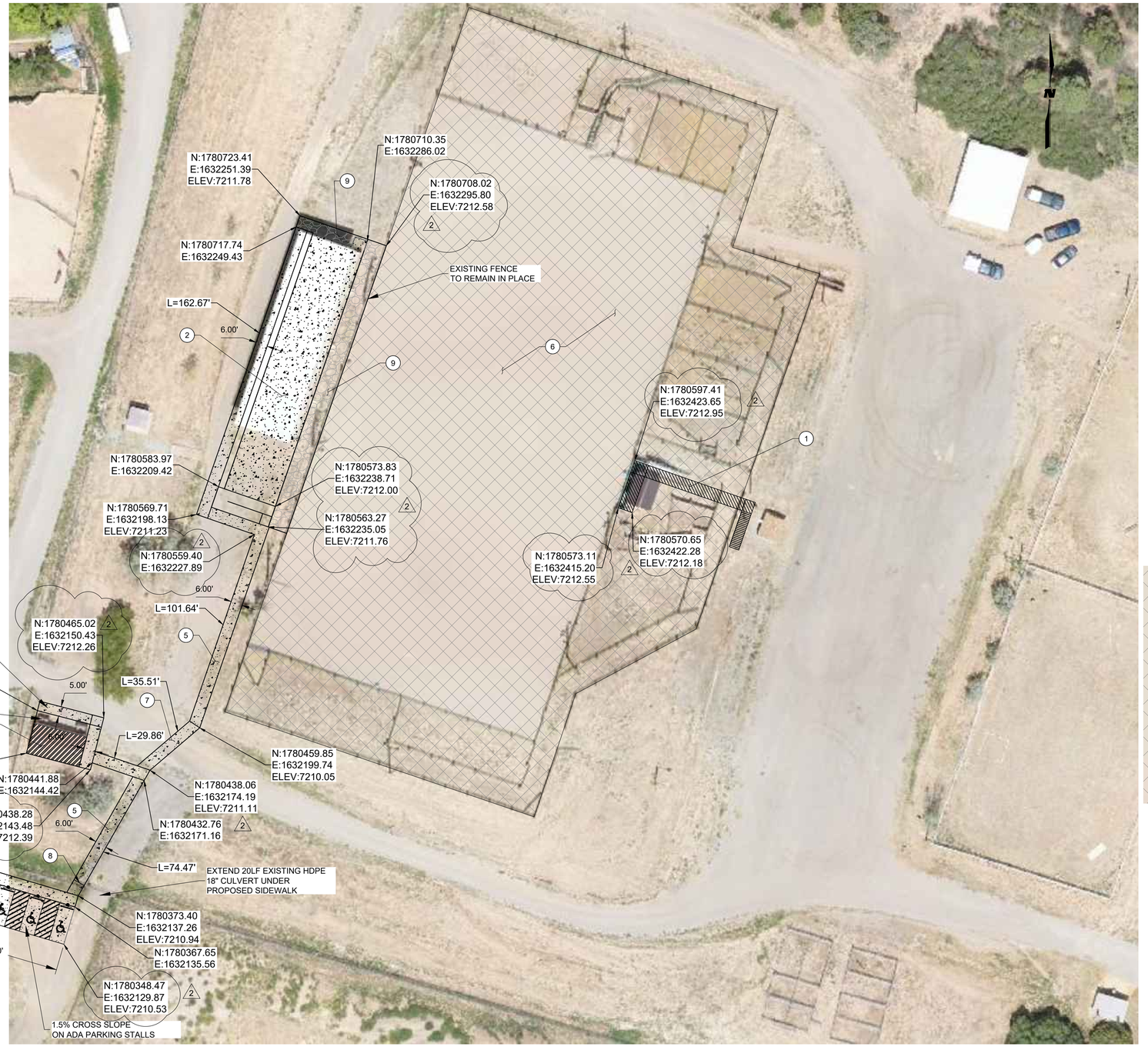
WILSON & COMPANY



CIVIL SITE/GRADING PLAN

SCALE: 1" = 30'

0 15' 30'

GENERAL NOTES

1. DTM AND PLANIMETRY COMPILED BY A COMBINATION OF AERIAL PHOTGRAMMETRIC MAPPING AND CORRELATED SURFACE MODEL.
2. CONTRACTOR TO FIELD VERITY ALL COORDINATES PRIOR TO CONSTRUCTION.
3. COORDINATE SYSTEM BASED ON NEW MEXICO STATE PLANE, CENTRAL ZONE

KEYNOTES

1. PRESS BOX
2. GRAND STANDS
3. EXISTING RESTROOMS
4. ADA PARKING
5. 6' SIDEWALK (APPROX. 3060 SY)
   SEE SHEET C-5000 FOR SECTION DETAILS
6. EXISTING ARENA
7. CONCRETE (APPROX. 210 SY) ROADWAY (HEAVY BROOM FINISH)
   SEE SHEET C-5000 FOR SECTION DETAILS
8. NEW 6' PEDESTRIAN CHAIN LINK GATE (CONTRACTOR TO SET NEW POST TO HANG GATE AND MATCH EXISTING FENCE)
9. SITE GRADING AREA (USE EXISTING ON-SITE MATERIAL AND COMPACT TO 90% ASTM 1557)

CIVIL DEMO PLAN

SCALE: 1"=20'

0 10' 20'

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3	ADDED SPOT ELEVATIONS	7/25	MTP
2	IFC DELIVERABLE	06/25	CLL
1			

CONRAD L. LEE
NEW MEXICO
21229
08/04/25
PROFESSIONAL ENGINEER

DESIGNED BY: CLL
DRAWN BY: DAP
CHECKED BY: ESC
APPROVED BY:
DATE: MAY 2025
SCALE:

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO. IFB 25-XX

CIVIL SITE/GRADING PLAN

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

LOS ALAMOS
where discoveries are made

SHEET
C-1000

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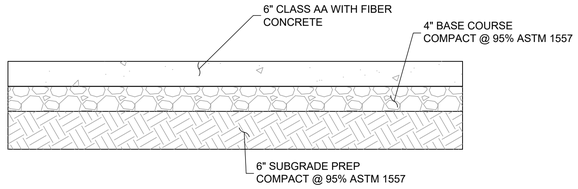
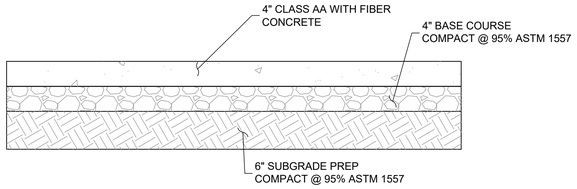


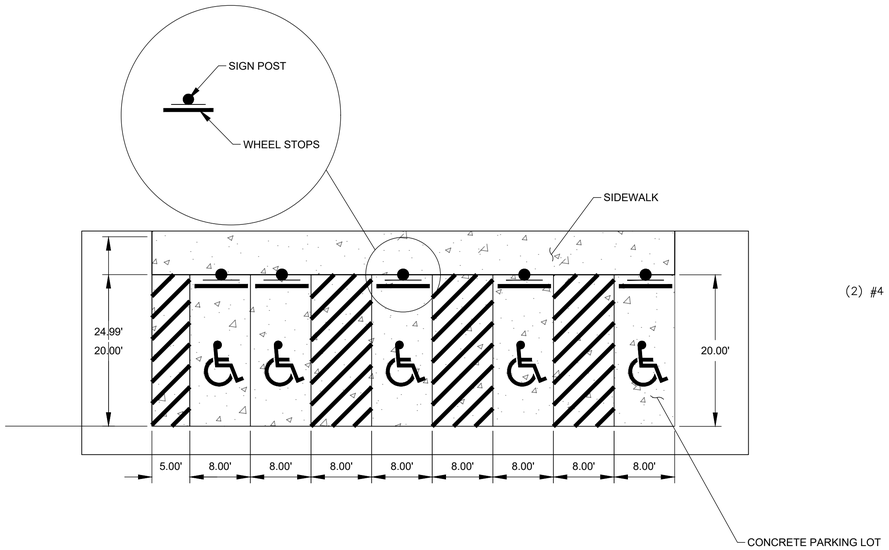
CONCRETE ROADWAY SECTION

SCALE: NONE



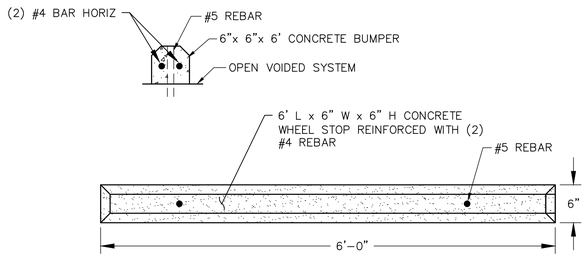
CONCRETE SIDEWALK SECTION

SCALE: NONE



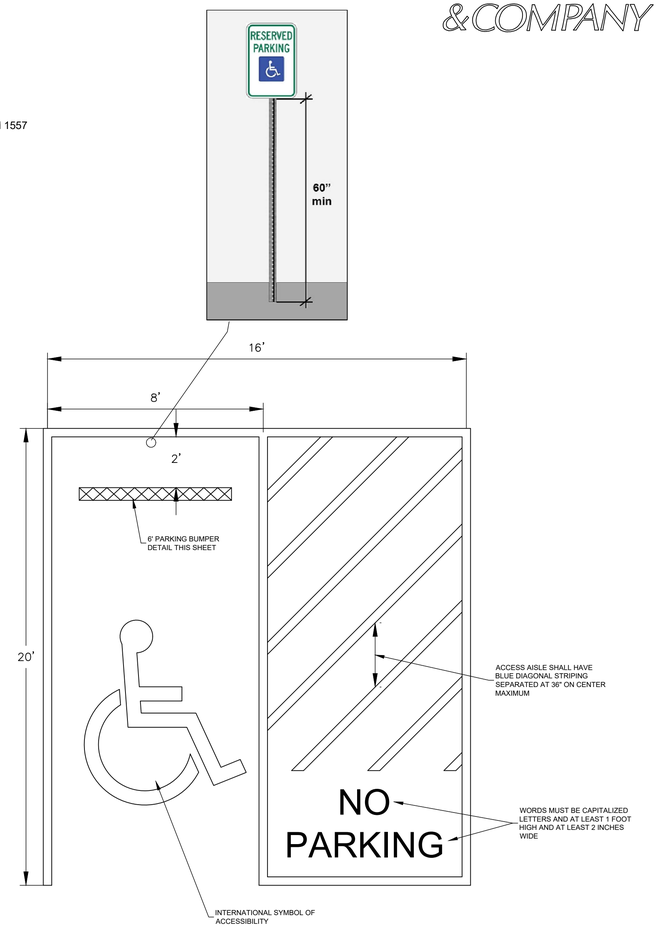
PARKING LOT LAYOUT

SCALE: NONE



CONCRETE WHEEL STOP DETAIL

SCALE: NONE



ADA ACCESSIBLE PARKING DETAIL

SCALE: NONE

NO.	REVISION DESCRIPTION	DATE	BY
4			
3			
2			
1			
0	IFC DELIVERABLE	04/29	CLL

CONRAD L. LEE
NEW MEXICO
21229
04/29/25
PROFESSIONAL ENGINEER

DESIGNED BY: CLL
DRAWN BY: DAP
CHECKED BY: ESC
APPROVED BY:
DATE: MARCH 2025
SCALE:

BREWER ARENA IMPROVEMENT PROJECT

MISCELLANEOUS DETAIL SHEET

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
C-5000

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DELEGATED STRUCTURAL DESIGN:

1. GRANDSTAND, PRESSBOX, AND PRESSBOX PEDESTRIAN BRIDGE MUST BE DESIGNED BY CONTRACTOR SELECTED SUPPLIER TO BE COMPLIANT.
2. PRESSBOX AND PRESSBOX PEDESTRIAN BRIDGE WALKING SURFACE MUST BE AT LEAST 12-FEET ABOVE FINISHED GRADE.
3. ALL DELEGATED DESIGN MUST BE ACCOMPANIED BY DESIGN DRAWINGS AND CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW MEXICO.

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THESE DESIGN DRAWINGS, PROJECT SPECIFICATIONS, THE STRUCTURAL NOTES, AND STRUCTURAL DESIGN CRITERIA THAT FOLLOW.
2. THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS AND DIMENSIONS INCLUDED IN THE DESIGN DRAWINGS AND REPORT DISCREPANCIES TO THE DESIGN ENGINEER PRIOR TO APPROVAL OF FABRICATION.
3. THE CONTRACTOR IS OBLIGATED TO FABRICATE AND CONSTRUCT ALL ITEMS ACCORDING TO THESE DRAWINGS, SPECIFICATIONS, AND RELEVANT BUILDING CODES LISTED UNDER DESIGN CRITERIA. THE CONTRACTOR SHALL NOT MAKE MODIFICATIONS WITHOUT THE ENGINEER'S WRITTEN APPROVAL.
4. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS, SIZES, OR LOCATIONS.
5. IF A DISCREPANCY IS FOUND WITHIN THE CONTRACT DOCUMENTS, IMMEDIATELY SUBMIT THE MATTER IN WRITING TO THE ENGINEER OF RECORD WHO WILL THEN MAKE A DETERMINATION AND WRITTEN CLARIFICATION.
3. WHEN INSTALLING PROPRIETARY PRODUCTS, THE CONTRACTOR MUST READ AND FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PREPARATION, INSTALLATION METHOD, AND INSPECTION.
4. SUBSTITUTIONS OF MATERIALS, STRUCTURAL ELEMENT SIZE, OR STRUCTURAL SHAPE IS PROHIBITED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE PROJECT SPECIFICATIONS FOR APPROVAL BY THE ENGINEER. SHOP DRAWINGS SHALL BE SUBMITTED WITH THE EXPECTATIONS THAT THE ENGINEER WILL REQUIRE ADEQUATE TIME FOR REVIEW AND APPROVAL. ADEQUATE TIME SHALL BE CONSIDERED ROUGHLY TWO WEEKS FROM THE DATE OF SUBMITTAL. ONCE SHOP DRAWINGS, REQUEST FOR INFORMATION (RFI'S), AND OTHER DESIGN QUESTIONS ARE SUBMITTED. TIME FOR ADDITIONAL REVIEW AND ULTIMATE APPROVAL MAY TAKE ADDITIONAL TIME AFTER INITIAL REVIEW.

DELEGATED STRUCTURAL DESIGN CRITERIA:

BUILDING CODES:

IBC - INTERNATIONAL BUILDING CODE 2021 AS REFERENCED IN NMCBC

NEW MEXICO COMMERCIAL BUILDING CODE (NMCBC) 2021
(THE NMCBC SHALL GOVERN OVER THE IBC WHERE THE NMCBC IS APPLICABLE AND DOES NOT REFER TO THE IBC)

ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDING AND OTHER STRUCTURES

ACI 318-14: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

ACI 360-06: AMERICAN CONCRETE INSTITUTE, DESIGN OF SLABS-ON-GROUND, 2006 EDITION.

DELEGATED STRUCTURAL DESIGN MINIMUM VERTICAL LOADS:

USE OR OCCUPANCY:	DEAD LOAD:	LIVE LOAD:
ROOF LOAD	12 PSF	20 PSF
FLOOR LOAD	12 PSF	100 PSF

1) DEAD LOAD INCLUDES SELF WEIGHT OF STRUCTURAL ELEMENTS AND APPURTENANCES.
2) DEAD LOAD INCLUDES UNIFORMLY DISTRIBUTED AND CONCENTRATED LOADS FROM MECHANICAL UNITS, ALL PERMANENT EQUIPMENT, AND ANCILLARY EQUIPMENT, APPLIED APPROPRIATELY.

ALLOWABLE DESIGN FOUNDATION BEARING PRESSURES:

FOUNDATIONS BEARING ON ENGINEERED FILL - 2000 PSF
(GENERAL CONDITION FOR CONCRETE FOOTINGS)

ALL CONSTRUCTION AND WORK RELATED TO THE CONSTRUCTION DOCUMENTS AND DESIGN PLANS NOT EXPLICITLY STATED SHALL COMPLY WITH THE APPROPRIATE SECTION OF THE NEW MEXICO STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION. WHERE A CONFLICT EXIST BETWEEN THESE PLANS AND THE NEW MEXICO STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION, THE MORE STRINGENT SHALL APPLY.

APPLICABLE SUBGRADE EARTH PARAMETER:

COEFFICIENT OF BASE FRICTION - 0.40

DELEGATED STRUCTURAL DESIGN MINIMUM SEISMIC DESIGN CRITERIA:

SEISMIC DESIGN CATEGORY B

SOIL SITE CLASS - D

Ss (SPECTRAL RESPONSE ACCELERATION AT 0.2 SEC) - 0.543 g

S1 (SPECTRAL RESPONSE ACCELERATION AT 01.0 SEC) - 0.175 g

Fa (SITE COEF. FOR 0.2 SEC PERIOD) - 1.366

Fv (SITE COEF. FOR 1.0 SEC PERIOD) - 2.249

SDS (DESIGN SPECTRAL RESPONSE ACCELERATION 0.2 SEC) - 0.494 g

SD1 (DESIGN SPECTRAL RESPONSE ACCELERATION 1.0 SEC) - 0.263 g

DELEGATED STRUCTURAL DESIGN MINIMUM WIND LOADING DESIGN CRITERIA:

BASIC WIND SPEED	105 MPH
EXPOSURE CATEGORY	B
GUST FACTOR (G_fC_r)	0.85
MEAN ROOF HEIGHT	13.9 - FEET

DELEGATED STRUCTURAL DESIGN MINIMUM SNOW LOADING DESIGN CRITERIA:

GROUND SNOW LOAD	30 PSF
EXPOSURE	FULLY ENCLOSED BLDG
SNOW LOAD IMPORTANCE FACTOR	Is = 1.00
FLAT ROOF SNOW LOAD	20 PSF

MATERIAL DESIGN INFORMATION:

CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO THE ACI 350-06 AND ACI 318-19(22) SPECIFICATION. WHERE THERE IS A CONFLICT BETWEEN THE TWO, THE MORE STRINGENT SHALL APPLY.
2. TOLERANCES FOR CONCRETE SHALL MEET THE REQUIREMENTS OF ACI 117.
3. THE MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH (f 'c) SHALL BE A MINIMUM OF 4500 PSI.
4. FREQUENCY OF CONCRETE FIELD TEST TO VERIFY COMPRESSIVE STRENGTH SHALL BE PERFORMED AT A MINIMUM ONCE PER DAY WHEN CONCRETE IS PLACED, NOT LESS THAN ONCE FOR EACH 100 CY OF CONCRETE PLACED, NOR LESS THAN ONCE FOR EACH 5000 FT^2 OF SURFACE AREA FOR WHEN CONCRETE IS PLACED FOR SLABS AND WALLS.
5. ALL CONCRETE SHALL BE AIR ENTRAINED IN ACCORDANCE WITH ACI 350, TABLE 4.2.1/ACI 318, TABLE 19.3.3.1.
6. WATER REDUCING, RETARDING, AND ACCELERATING ADMIXTURES SHALL CONFORM TO THE SPECIFICATION FOR CHEMICAL ADMIXTURES OF CONCRETE PER ASTM C 494 OR ASTM C 1017. FLY ASH OR OTHER PAZZOLANS USED AS ADMIXTURES SHALL CONFORM TO ASTM C 618. BLAST FURNACE SLAG USED AS AN ADMIXTURE SHALL CONFORM TO ASTM C 989. SILICA FUME USED AS AN ADMIXTURE SHALL CONFORM TO ASTM C 240.

LIMITS ON CEMENTITIOUS MATERIALS FOR CONCRETE	
CEMENTITIOUS MATERIAL	MAXIMUM PERCENT OF TOTAL CEMENTITIOUS MATERIALS BY MASS
FLY ASH OR POZZOLANS PER ASTM C 618	25
SLAG CEMENT PER ASTM C 989	50
SILICA FUME PER ASTM C 1240	10
TOTAL OF FLY ASH OTHER POZZOLANS AND SILICA FUME	35
TOTAL OF FLY ASH OR OTHER POZZOLANS, SLAG CEMENT, AND SILICA FUME	50

8. WATER/CEMENT RATIO SHALL NOT EXCEED 0.42.
9. ALL MATERIAL DOCUMENTATION AND INFORMATION REQUIRED TO BE IN COMPLIANCE WITH THE SPECIFICATIONS LISTED SHALL BE MADE AVAILABLE PRIOR TO CONSTRUCTION ACTIVITIES FOR INSPECTION DURING PROGRESS OF THE WORK. A COMPLETE RECORD OF TEST RESULTS AND MATERIALS USED FOR ALL CONCRETE CONSTRUCTION SHALL BE RETAINED BY THE INSPECTOR FOR 2 YEARS AFTER COMPLETION OF THE PROJECT.
10. CEMENT SHALL BE " TYPE II ", " TYPE IP" , " IS " OR " IT " WITH (MS) DESIGNATION, " TYPE V " , " TYPE IP ", " IS " OR " IT " WITH (HS) DESIGNATION. CEMENTITIOUS MATERIALS SHALL CONFORM TO THE SPECIFICATION FOR PORTLAND CEMENT ASTM C 150 OR THE SPECIFICATION FOR BLENDED HYDRAULIC CEMENT ASTM C 595 AS APPLICABLE.
11. CONCRETE AGGREGATES SHALL CONFORM TO ASTM C 33.
12. CONCRETE SHALL NOT BE CONVEYED WITH ALUMINUM OR ALUMINUM ALLOY CONTAINING EQUIPMENT, INCLUDING PUMP LINES, TREMIES, OR CHUTES.
13. CONCRETE SHALL BE PLACED AT A NEAR CONSTANT RATE , WITHOUT SEGREGATION, WITHOUT INTERRUPTION THAT RESULTS ON LOSS OF WORKABILITY AND RESULT IN COLD JOINTS, AND SHALL BE DEPOSITED AS NEAR TO THE FINAL INTENDED LOCATION THAT AVOIDS REHANDLING. CONCRETE SHALL BE VIBRATED BUT SHALL NOT BE CONVEYED INTO FINAL POSITION THROUGH VIBRATING.
14. CURING CONCRETE SHALL BE MAINTAINED AT A TEMPERATURE OF 50° FAHRENHEIT AND KEPT IN A MOIST CONDITION FOR 7 DAYS AFTER PLACEMENT, UNLESS AN ENGINEER APPROVED ACCELERATED CURING ADMIXTURE IS USED, OR IF CONCRETE IS CURED BY AN ENGINEERED APPROVED ALTERNATIVE METHOD.
15. CONCRETE WORK DURING COLD WEATHER SHALL CONFORM TO ACI 306. ADEQUATE EQUIPMENT AND PLANS SHALL BE IN PLACE TO PROTECT CONCRETE AND CONCRETE MATERIALS DURING FREEZING AND NEAR FREEZING TEMPERATURES. CONCRETE FORMS, BLOCK-OUTS AND THE GROUND ON WHICH CONCRETE IS TO BE PLACED SHALL BE FREE FROM FROST AND ICE.
16. THE MAXIMUM CONCRETE TEMPERATURE AT TIME OF PLACEMENT SHALL BE LIMITED TO 95° FAHRENHEIT WHEN PLACING CONCRETE IN HOT WEATHER. METHODS OF HANDLING, PLACING, HOT TEMPERATURE PROTECTION, AND HOT WEATHER CURING PROCEDURES SHALL LIMIT CONCRETE TEMPERATURES BELOW 95°F AND LIMIT WATER EVAPORATION RATES TO LESS THAN 0.2 LB / FT^2 / HR TO MAINTAIN CONCRETE STRENGTHS.
17. THE SURFACE OF CONCRETE CONSTRUCTION JOINTS SHALL BE ROUGHENED TO A MINIMUM OF 1/4" AMPLITUDE.
18. ALL EXPOSED CONCRETE EDGES SHALL BE FINISHED WITH A MINIMUM 3/4" CHAMFER.

CONCRETE REINFORCING STEEL:

1. CONCRETE REINFORCING STEEL SHALL BE BLACK (UNCOATED) DEFORMED BILLET BARS, GRADE 60, AND CONFORM TO ASTM A615.
2. REINFORCING SHALL BE PLACED AND FABRICATED PER THE CRSI MANUAL OF STANDARD PRACTICE.
3. CONCRETE STEEL REINFORCING IS TO HAVE A MINIMUM OF 2-INCHES OF CLEAR COVER TO FINISHED EDGES OF CONCRETE WHEN CONCRETE IS PLACED AGAINST FORMS, 3-INCHES OF CLEAR COVER WHEN CONCRETE IS PLACED AGAINST EARTH, AND A MINIMUM OF 1 1/2" OF CLEARANCE BETWEEN INDIVIDUAL BARS FOR TYPICAL AGGREGATE SIZE UNLESS OTHERWISE NOTED.

MINIMUM REINFORCING SPLICE LENGTHS
(SPLICE LENGTHS ASSUME F'c= 4500 psi, AND Fy= 60,000 psi)

#3	#4	#5	#6	#7	#8	#9	#10	#11
1'-2"	1'-6"	2'-0"	2'-4"	3'-4"	3'-10"	4'-4"	4'-10"	5'-4"

CONCRETE JOINTS:

1. EXPANSION JOINT MATERIAL SHALL BE 1/2" AND SHALL MEET ASTM SPECIFICATION D1751, AASHTO M 213.
2. CONTROL JOINTS IN SLABS-ON-GRADE SHALL BE LOCATED ACCORDING TO THE RELATIVE PLAN AND JOINT CALLOUTS. CONTROL JOINTS SHALL BE CONSTRUCTED ACCORDING TO THE CONTROL JOINT DETAIL PROVIDED ON SHEET S-101 (DETAIL4-S101).

EARTHWORK - EXCAVATION AND STRUCTURAL BACKFILL:

1. STRUCTURE EXCAVATION AND BACKFILL SHALL CONSIST OF EXCAVATION AND BACKFILL FOR THE CONSTRUCTION OF FOUNDATIONS FOR ALL STRUCTURES.
2. ANY EXISTING ABOVE GROUND OR UNDERGROUND FEATURES ENCOUNTERED DURING CONSTRUCTION IN CONFLICT WITH THE STRUCTURES IN THE DESIGN PLANS SHALL BE DEMOLISHED AND COMPLETELY REMOVED. ANY LOOSE OR DISTURBED SOILS FROM THE DEMOLITION SHOULD ALSO BE REMOVED OR RECOMPACTED AS ENGINEERED FILL ACCORDING TO THE RECOMMENDATIONS PRESENTED HEREIN.
3. BOTTOM OF FOOTINGS ARE TO BE CONSTRUCTED A MINIMUM OF 3-FEET BELOW FINISHED GRADE. PRIOR TO FOOTING CONSTRUCTION EXCAVATIONS BENEATH STRUCTURE FOOTINGS AND FOUNDATIONS SHALL BE REMOVED TO A MINIMUM DEPTH OF 1-FOOT BELOW THE BOTTOM OF FOOTINGS, OR TO A TOTAL DEPTH OF 4-FEET BELOW FINISHED GRADE. THE 1-FOOT DEPTH BELOW THE BOTTOM OF FOOTINGS SHALL EXTEND 2-FEET BEYOND THE FOOTING LIMITS REPRESENTED IN PLAN VIEW.
4. STRUCTURE EXCAVATION, OR EXCAVATION BENEATH FOOTINGS EXTENDED 2-FEET IN ALL DIRECTIONS AROUND FOOTINGS IN PLAN VIEW, SHALL BE REPLACED WITH APPROVED BACKFILL MATERIAL. FOUNDATIONS BEARING ON BEDROCK DO NOT REQUIRE OVER EXCAVATION AND STRUCTURE BACKFILL.
5. ON-SITE CLAY SOILS SHALL NOT BE USED BENEATH STRUCTURE FOOTINGS AS STRUCTURE BACKFILL.
6. STRUCTURE EXCAVATION INCLUDES: ALL REQUIRED PUMPING, BAILING, OR SLOPING; THE CONSTRUCTION AND REMOVAL OF ALL SHEETING, SHORING AND BRACING REQUIRED TO SUPPORT AND DE-WATER EXCAVATIONS; REMOVAL AND DISPOSAL OF ALL MATERIAL REMOVED FROM THE EXCAVATION, INCLUDING OLD STRUCTURES OR PORTIONS THEREOF; AND CLEARING AND GRUBBING FOR CONSTRUCTION OF THE STRUCTURE.
7. THE CONTRACTOR SHALL ADEQUATELY SHORE STRUCTURE EXCAVATIONS THROUGHOUT ALL CONSTRUCTION ACTIVITIES RELATED TO THE DESIGN PLANS.
8. THE CONTRACTOR IS RESPONSIBLE FOR PLANNING AND EXECUTING ALL PROCEDURES NECESSARY TO CONSTRUCT, MAINTAIN AND REMOVE THE TEMPORARY SHORING.
9. SHORING AT A MINIMUM SHALL COMPLY WITH ALL APPLICABLE OSHA SHORING STANDARDS AND OSHA REGULATIONS, INCLUDING BUT NOT LIMITED TO 29CFR PART 1926, SUBPART P - EXCAVATIONS, TRENCHING, AND SHORING.
10. EXISTING ON-SITE SOILS MAY BE CONSIDERED ACCEPTABLE FOR BACKFILL, BUT NOT FOR STRUCTURAL OR ENGINEERED BACKFILL TO BE PLACED BELOW CONCRETE FOOTINGS. EXISTING ON-SITE SOILS CONSIDERED ACCEPTABLE BACKFILL SHALL HAVE A MAXIMUM PLASTICITY INDEX (PI) OF 5 AND MAXIMUM SOLUBLE SULFATES OF 0.10%. THE CONTRACTOR SHALL COORDINATE WHETHER SOIL REMOVED CAN BE USED AS BACKFILL WITH THE DESIGN ENGINEER.
11. STRUCTURE BACKFILL SHALL CONSIST OF FURNISHING, PLACING AND COMPACTING BACKFILL MATERIAL 2-FEET AROUND AND 1-FEET BENEATH STRUCTURE FOOTINGS TO THE LINES DESIGNATED ON THE PLANS AND SPECIFIED OR DIRECTED BY THE ENGINEER. BOTTOM OF FOOTINGS ARE TO BE A MINIMUM OF 3-FEET BELOW FINISHED GRADE.
12. THE ENGINEER SHALL BE NOTIFIED OF ANY CONDITIONS NOT IN AGREEMENT WITH THE PLANS INCLUDING ANY WEAK OR SOFT SOILS, OR OTHER CONDITIONS CAUSING ADDITIONAL EXCAVATION.
13. PRIOR TO PLACING CONCRETE FOR FOOTINGS, THE BOTTOM OF THE EXCAVATION SHALL BE SCARIFIED TO THE DEPTH REQUIRED, 4-FEET BELOW FINISHED GRADE, AND COMPACTED. ALL LOOSE, SPONGY, OR FROZEN MATERIAL EXISTING AT THE BOTTOM OF THE EXCAVATION SHALL BE REMOVED AND REPLACED WITH ADDITIONAL PERVIOUS BACKFILL. THE ADDITIONAL PERVIOUS BACKFILL SHALL BE PROPERLY COMPACTED PER STANDARD SPECIFICATIONS PRIOR TO THE PLACEMENT OF THE ENGINEERED FILL PLACED AND COMPACTED A MINIMUM OF 1-FOOT BELOW BOTTOM OF FOOTINGS, OR 4 FEET BELOW FINISHED GRADE, AS SHOWN ON THE DESIGN PLANS. WATER SHALL NOT BE ALLOWED TO STAND AT THE BOTTOM OF THE EXCAVATION OF ANY FOOTING OR FOUNDATION.
14. STRUCTURE BACKFILL PLACED BELOW CONCRETE FOOTINGS AND FOUNDATIONS SHALL BE A PERVIOUS BACKFILL MATERIAL. PERVIOUS BACKFILL MATERIAL SHALL CONSIST OF CRUSHED ROCK, CRUSHED GRAVEL, OR A COMBINATIONS OF THE TWO. THE GRADATION OF THE PERVIOUS BACKFILL (OR ENGINEERED STRUCTURAL BACKFILL) SHALL COMPLY WITH ASTM C 136, AND IS GIVEN IN PERCENT OF FINES BY WEIGHT.
15. FOR STRUCTURE BACKFILL BENEATH FOOTINGS, AND FOR BASE COURSE BELOW SLABS-ON-GRADE, PLACE AND COMPACT FILL PER NEW MEXICO STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION IN 10-INCH MIN LIFTS AND COMPACTED TO 95% MAXIMUM DRY DENSITY PER ASTM D 1557.
16. FOR BACKFILL BENEATH SLABS-ON-GRADE, AND NON-STRUCTURAL BACKFILL, PLACE AND COMPACT FILL PER NEW MEXICO STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION IN 10-INCH MIN LIFTS AND COMPACTED TO 90% MAXIMUM DRY DENSITY PER ASTM D 1557.
17. SUBGRADE PREPARATION BENEATH SLABS-ON-GRADE SHALL EXTEND TO THE REQUIRED FROST DEPTH. THE SLAB-ON-GRADE SUBGRADE SHALL BE EXCAVATED TO 3-FOOT BELOW FINISHED GRADE, EXTENDING AROUND THE PERIMETER OF THE SLAB A MINIMUM OF 2-FEET IN PLAN VIEW. AN APPROVED PERVIOUS FILL SHALL BE BE PLACED AND COMPACTED PER NEW MEXICO STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION IN 10-INCH MIN LIFTS AND COMPACTED TO 90% MAXIMUM DRY DENSITY PER ASTM D 1557.
18. PERVIOUS BACKFILL MATERIAL SHALL CONSIST OF CRUSHED ROCK, CRUSHED GRAVEL, OR A COMBINATIONS OF THE TWO. THE GRADATION OF THE PERVIOUS BACKFILL (OR ENGINEERED STRUCTURAL BACKFILL) SHALL COMPLY WITH ASTM C 136, AND IS GIVEN IN PERCENT OF FINES BY WEIGHT.
19. ALL OTHER REQUIREMENTS NOT EXPLICITLY STATED ABOVE SHALL BE IN ACCORDANCE WITH SECTION 501 OF THE NEW MEXICO STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION - FILL AND BACKFILL OF THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENT SHALL GOVERN WHERE A CONFLICT OCCURS BETWEEN THE TWO.

WILSON & COMPANY

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2	IFC DELIVERABLE	05/25	MAB
1			

STATE OF NEW MEXICO
JOHN D. MCNAMARA
20561
08/04/2025
PROFESSIONAL ENGINEER

DESIGNED BY: JM
DRAWN BY: MAB
CHECKED BY: JM
APPROVED BY:
DATE: MAY 2025
SCALE:

BREWER ARENA IMPROVEMENT PROJECT
PROJECT BID NO. IFB 25-XX

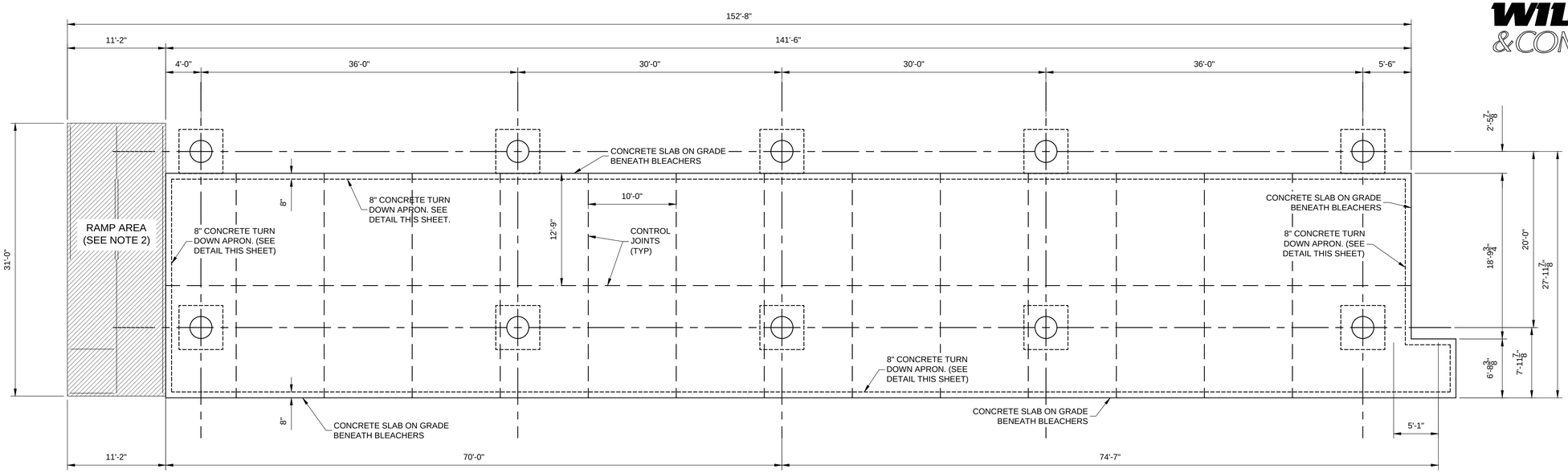
STRUCTURAL NOTES

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

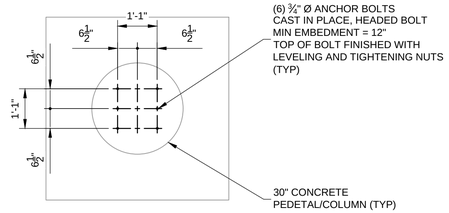
SHEET
S-001

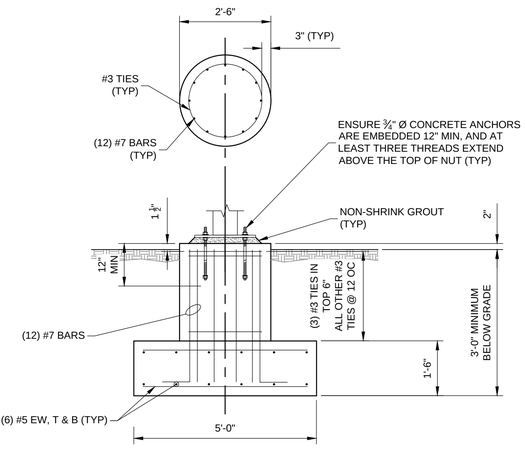
W:\PROJECTS\2100035099\3_DISCIPLINES_SHEETS\4_SHEETS - STRUCTURAL\BREWER ARENA_STRUCTURAL.DWG 5/22/2025 1:16 PM



1 FOUNDATION PLAN

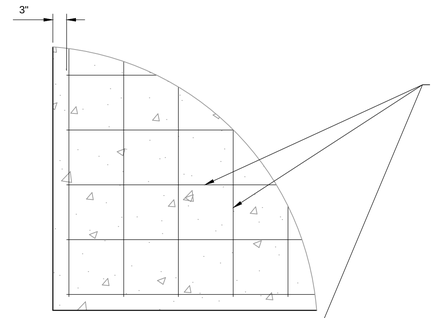
SCALE: 1' = 80'





2 COLUMN AND FOOTING DETAILS

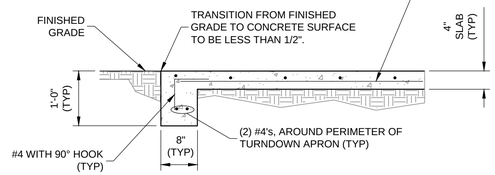
SCALE: 1/2" = 1'-0"



REINFORCEMENT OPTIONS:

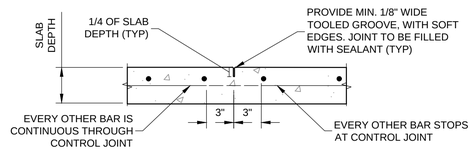
#4 @ 16" C/C EW OR
#3 @ 12" C.C EW OR
— REBAR

4x4 - W/D4 x W/D4 OR
6x6 - W/D.4 x W/D7.4 OR
12 x 12 - W/D9.4 x W/D9.4
— WELDED WIRE MESH



3 CONCRETE DETAILS

SCALE: 3/4" = 1'-0"



4 TYPICAL CONTROL JOINT

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

THIS SHEET IS INTENDED TO BE CONCEPTUAL DESIGN FOR BIDDING PURPOSES. ALL WORK ON THIS SHEET IS CONTRACTOR DELEGATED DESIGN.

NOTES:

1. STAND AREA OF SLAB, EXCEPT SHADED AREA, MUST BE FLAT & EVEN SURFACE WITH OPTION OF 1/8" MAX PER FOOT SLOPE FROM FIELD SIDE TO REAR.
2. THE ENTIRE SHADED AREA OF THE CONCRTE SLAB MUST BE FLAT & LEVEL, WITH ELEVATIONS MATCHING THE FRONT LINE OF THE STAND FOUNDATION.
3. SLAB SHOWN IS MINIMUM REQUIRED NEEDED FOR BLEACHER SYSTEM & EGRESS.
4. DASH LINES DENOTE CENTER LINES OF STRUCTURAL STEEL STRINGERS FOR BLEACHERS.
5. ALL GRANDSTAND CONCRETE WORK IS DELEGATED DESIGN TO CONTRACTOR CHOSEN GRANDSTAND PRE-ENGINEERED MANUFACTURER. CONTRACTOR TO OFFICIALLY SUBMIT DESIGN CALCULATIONS AND DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW MEXICO, FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURING OR CONSTRUCTION. ANY MANUFACTURING OR CONSTRUCTION PRIOR TO WRITTEN SUBMITTAL APPROVAL IS DONE AT THE CONTRACTOR'S SOLE RISK.

CONCRETE:

1. 28 DAY CONCRETE COMPRESSIVE STRENGTH F'c = 3000 PSI LOCAL READI MIX DESIGN
2. REINFORCING, ASTM A615, GRADE 60

WILSON & COMPANY

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2	IFC DELIVERABLE	05/25	MAB
1			

STATE OF NEW MEXICO
JOHN D. MCNAMARA
20561
08/04/2025
PROFESSIONAL ENGINEER

DESIGNED BY: JM
DRAWN BY: MAB
CHECKED BY: JM
APPROVED BY:
DATE: MAY 2025
SCALE:

BREWER ARENA IMPROVEMENT PROJECT
PROJECT BID NO. IFB 25-XX

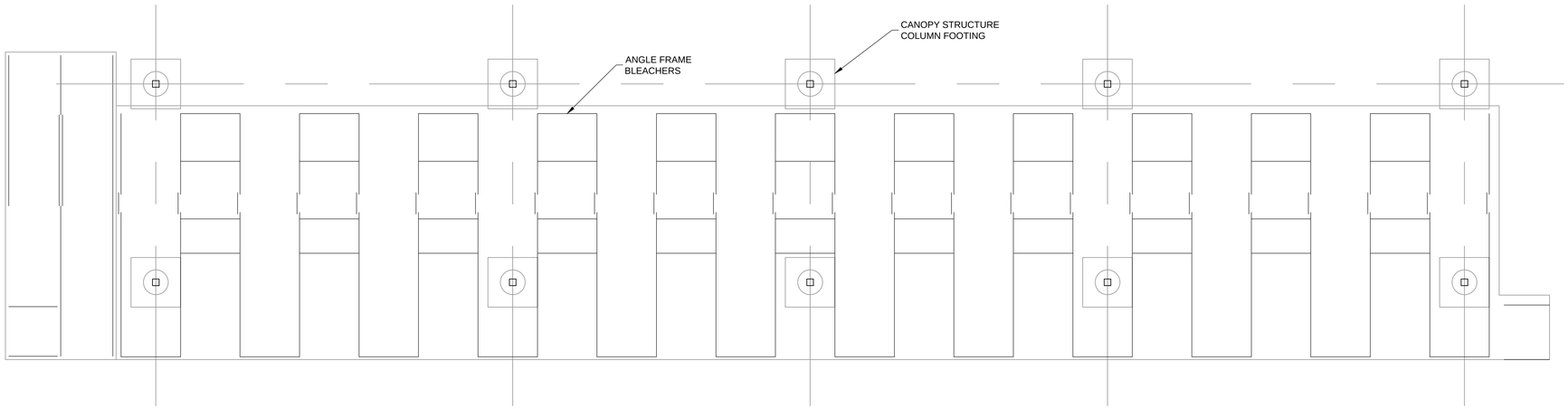
GRANDSTANDS GENERAL LAYOUT

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

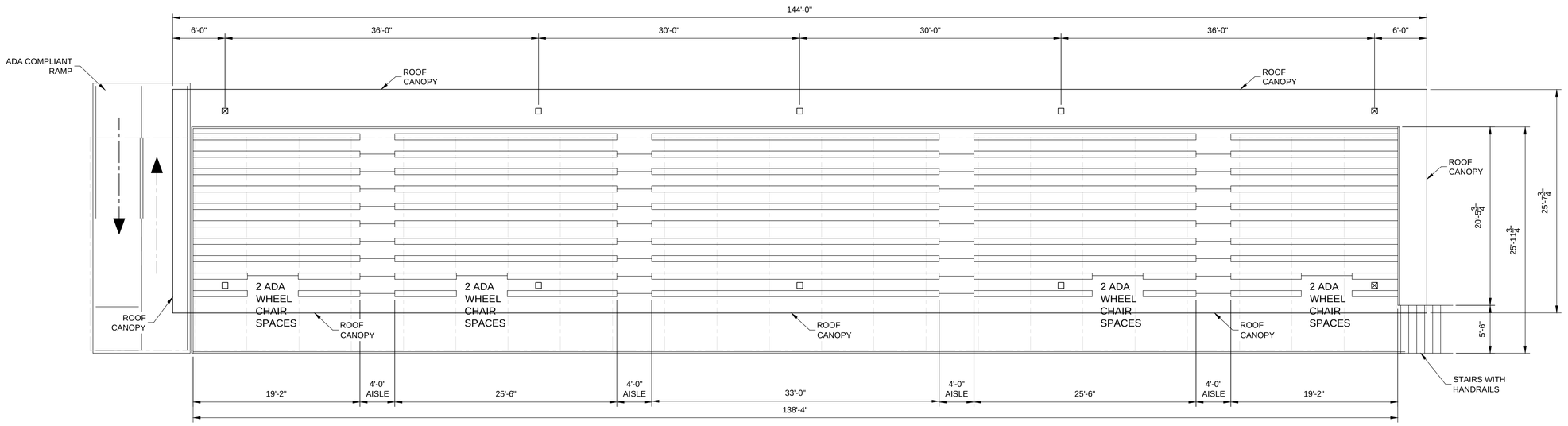
SHEET
S-101

W:\PROJECTS\2310003509\3_DISCIPLINES_SHEETS\4_SHEETS - STRUCTURAL\BREWER ARENA_STRUCTURAL.DWG 5/22/2025 1:16 PM



1 FRAMING PLAN

SCALE: 1' = 80'



2 SEATING PLAN

SCALE: 1' = 80'

DELEGATED DESIGN REQUIREMENTS:

10 ROW X 138'-0" BCR-2CL (ELEV. = 30")
920 GROSS SEATS - APPROXIMATELY 780 NET SEATS W/ 8 WC SPACES

1. ALUMINUM (2x10) ANODIZED SEAT BOARDS.
2. MILL FINISH ALUMINUM FOOTBOARDS AT EACH ROW, FULL DECK.
3. CLEAR ANODIZED ALUMINUM RISERS AT EACH ROW.
4. GALVANIZED STEEL ANGLE FRAME UNDERSTRUCTURE, CROSS BRACES, AND GUARDRAIL POSTS.
5. TWO (2) LINE RAIL SYSTEM WITH CHAIN LINK FENCE.
6. FOUR (4) AISLES TO MEET IBC 2020/ICC300.
7. ONE (1) RAMP AND TWO (2) STAIR 8.8" RISE WITH 24-INCH TREAD.

THIS SHEET IS INTENDED TO BE CONCEPTUAL DESIGN FOR BIDDING PURPOSES. ALL WORK ON THIS SHEET IS CONTRACTOR DELEGATED DESIGN.

MINIMUM SEATING CAPACITY:

768	-	STANDARD 18-INCH SEATS
8	-	W/C SPACES
8	-	COMPANION SEATS
784	-	TOTAL SEATING

WILSON & COMPANY

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2			
1	IFC DELIVERABLE	05/25	MAB

STATE OF NEW MEXICO
JOHN D. MCNAMARA
20561
08/04/2025
PROFESSIONAL ENGINEER

DESIGNED BY: JM
DRAWN BY: MAB
CHECKED BY: JM
APPROVED BY:
DATE: MAY 2025
SCALE:

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO. IFB 25-XX

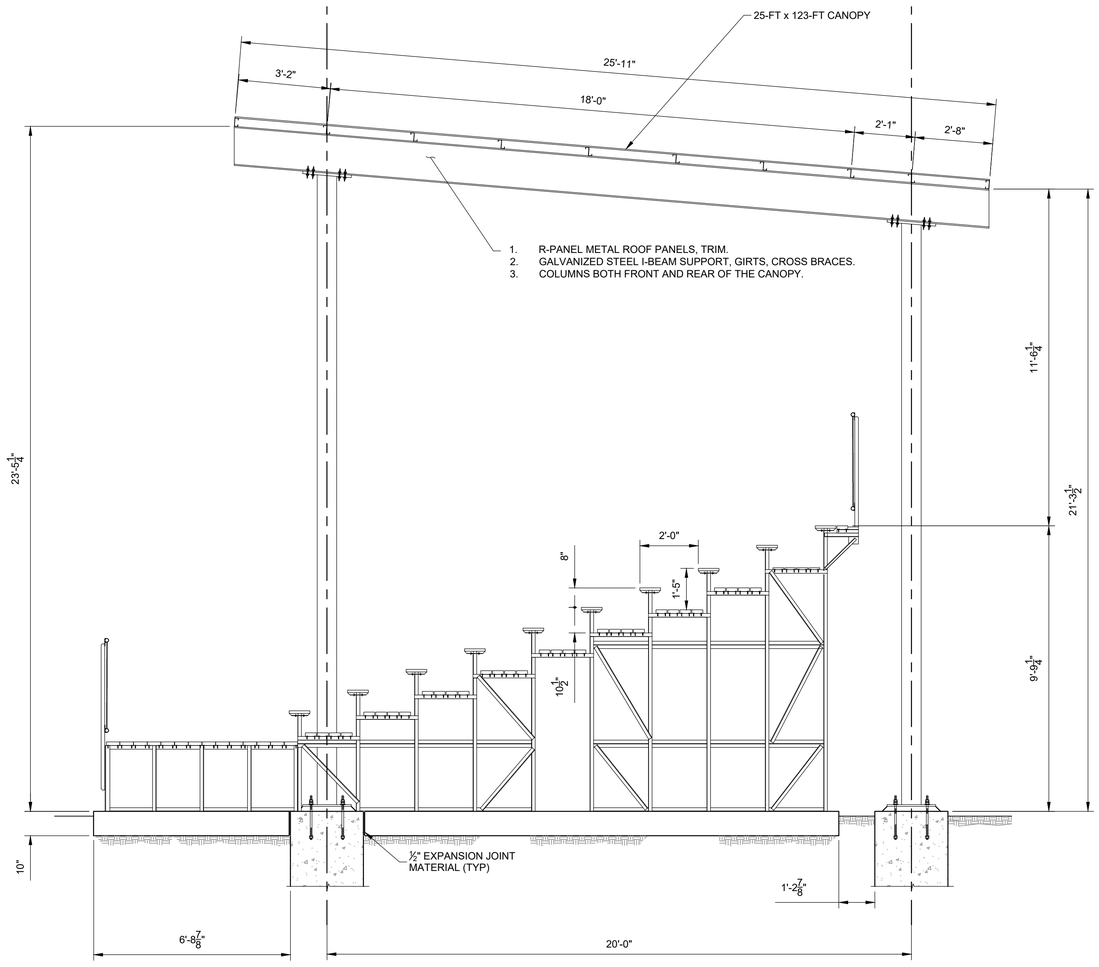
FRAMING AND
SEATING PLANS

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

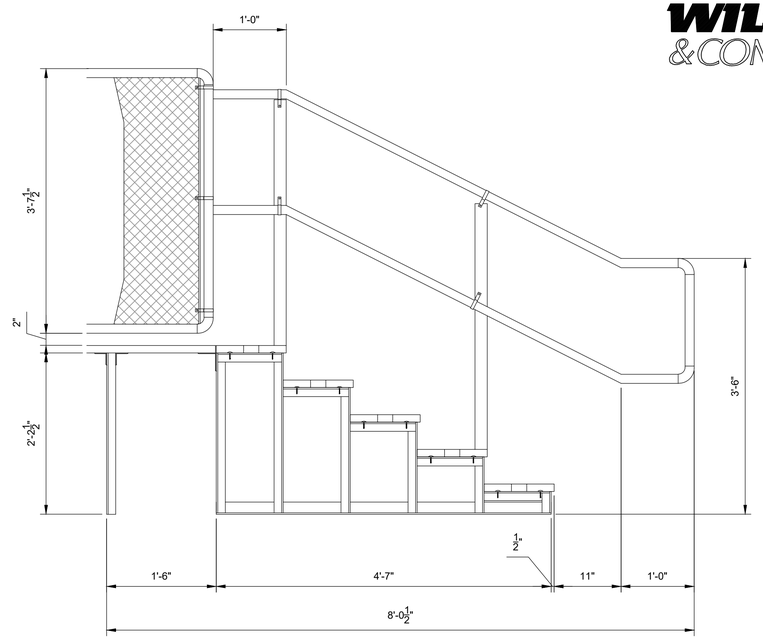
SHEET
S-102

W:\PROJECTS\210003509\3_DISCIPLINES_SHEETS\4_SHEETS - STRUCTURAL\BREWER ARENA_STRUCTURAL.DWG 5/22/2025 1:17 PM



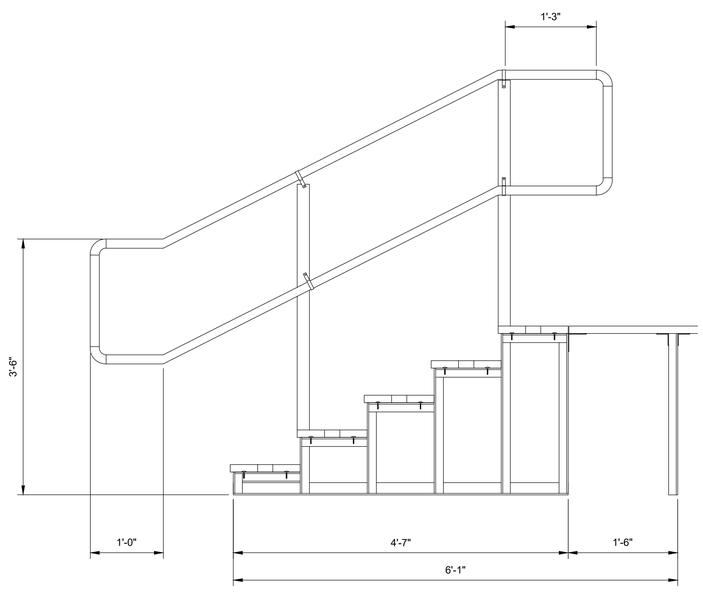
1 COLUMN PLAN

SCALE: 1"= 40'



2 ELEVATION

SCALE: 1" = 40'



3 ELEVATION

SCALE: 1" = 40'

THIS SHEET IS INTENDED TO BE CONCEPTUAL DESIGN FOR BIDDING PURPOSES. ALL WORK ON THIS SHEET IS CONTRACTOR DELEGATED DESIGN.

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WILSON & COMPANY

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2			
1	IFC DELIVERABLE	05/25	MAB

STATE OF NEW MEXICO
JOHN D. MCNAMARA
20561
08/04/2025
PROFESSIONAL ENGINEER

DESIGNED BY: JM
DRAWN BY: MAB
CHECKED BY: JM
APPROVED BY:
DATE: MAY 2025
SCALE:

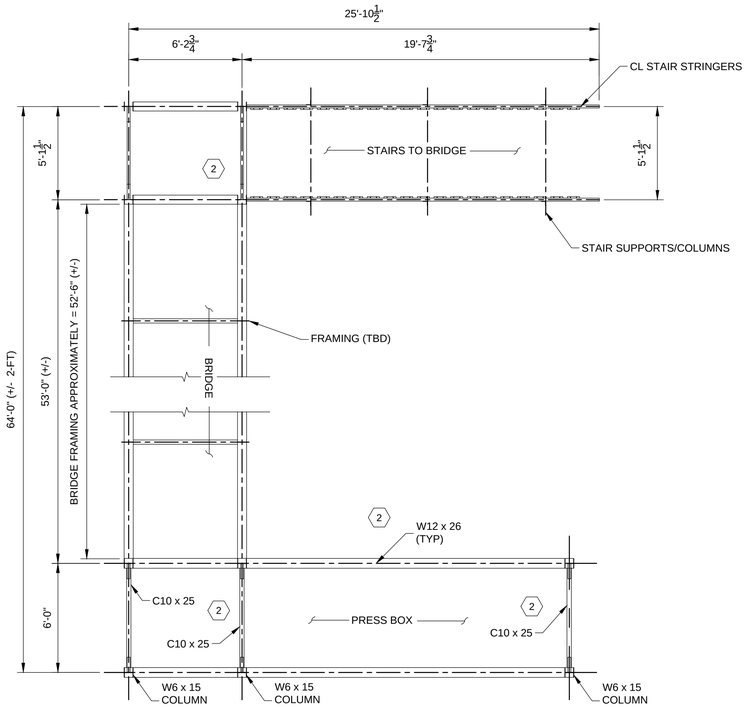
BREWER ARENA IMPROVEMENT PROJECT
PROJECT BID NO. IFB 25-XX

GRANDSTAND TYPICAL SECTION AND DETAILS

LOS ALAMOS
Where discoveries are made

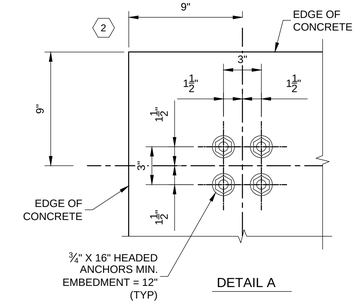
COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
S-103

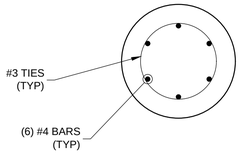


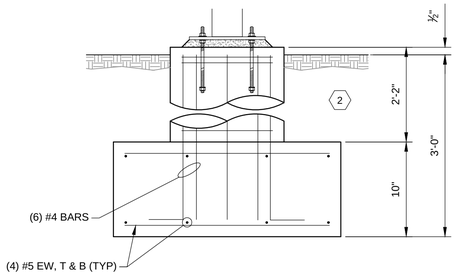
1 FRAMING PLAN

SCALE: 1"= 50'



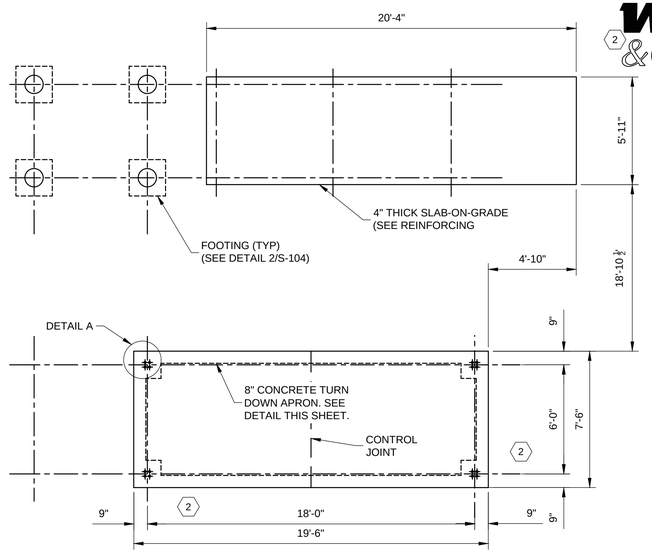
DETAIL A





2 FOOTING

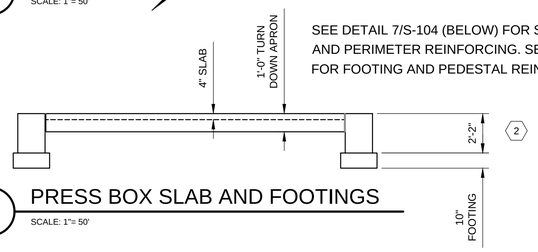
SCALE: 1 1/2"= 1'-0"



3 SLAB PLAN

SCALE: 1"= 50'

SEE DETAIL 7/S-104 (BELOW) FOR SLAB AND PERIMETER REINFORCING. SEE DETAIL 2/S-104 FOR FOOTING AND PEDESTAL REIN. DETAILS (TYP).

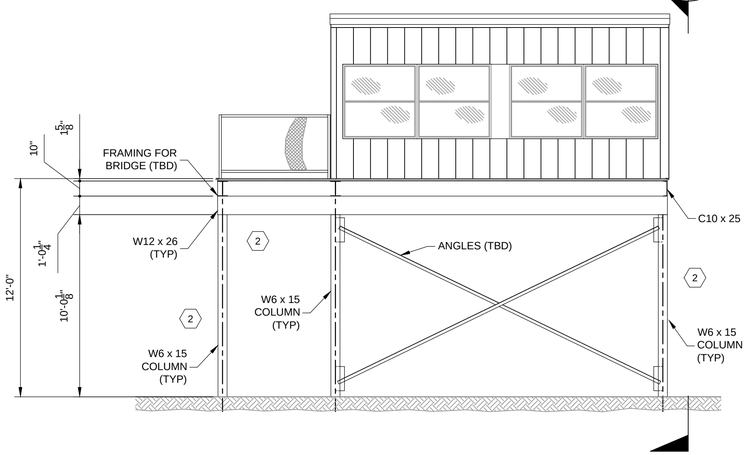


4 PRESS BOX SLAB AND FOOTINGS

SCALE: 1"= 50'

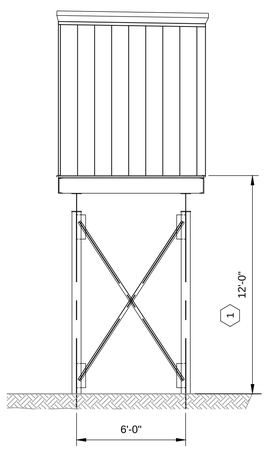
DELEGATED DESIGN REQUIREMENTS - PRESS BOX:

1. 26 GAUGE METAL "R" PANEL SIDING WITH METAL FRAMING, LIGHTS, VINYL FRAMED SLIDING WINDOWS WITH SCREENS AND ELECTRICAL OUTLETS.
2. LANDING AT ONE END, WITH ELEVATED PEDESTRIAN BRIDGE TO LANDING AND STAIRS.
3. THROUGH WALL PTAC/HVAC..
4. COUNTER TOPS, FULL LENGTH AT FRONT WINDOWS WITH 2-INCH CORD SPACE AGAINST THE FRONT WALL.
5. GALVANIZED STEEL I-BEAM SUPPORT STRUCTURE.
6. WINDOWS TO OPEN UP AND DOWN.



5 ELEVATION

SCALE: 1" = 50'



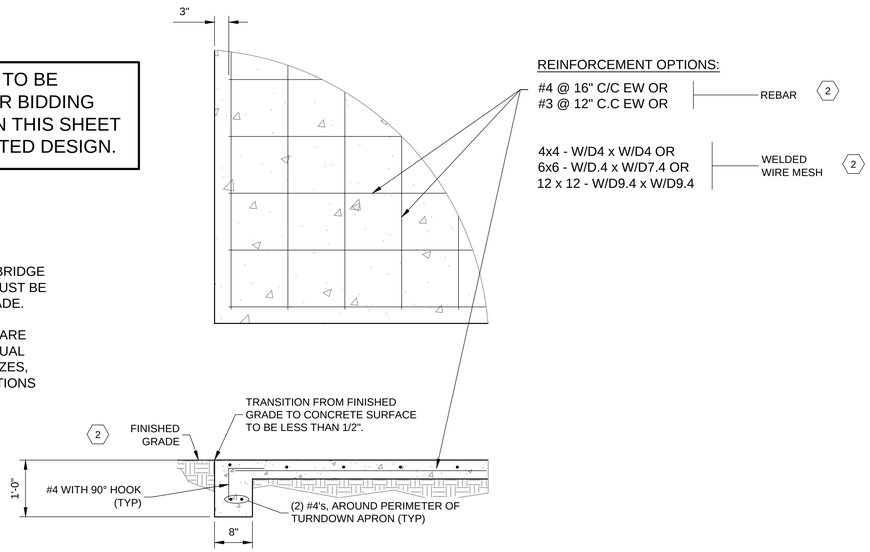
6 ELEVATION

SCALE: 1" = 50'

THIS SHEET IS INTENDED TO BE CONCEPTUAL DESIGN FOR BIDDING PURPOSES. ALL WORK ON THIS SHEET IS CONTRACTOR DELEGATED DESIGN.

KETNOTE:

1. PRESS BOX AND PRESS BOX BRIDGE TOP OF WALKING SURFACE MUST BE 12-FEET ABOVE FINISHED GRADE.
2. STRUCTURAL MEMBER SIZES ARE APPROXIMATE FOR CONCEPTUAL PURPOSES. FINAL MEMBER SIZES, CONNECTIONS, AND FOUNDATIONS TO BE DELEGATED DESIGN.



7 CONCRETE SLAB-ON-GRADE DETAILS

SCALE: 3/4" = 1'-0"

NO.	REVISION DESCRIPTION	DATE	BY
6			
4			
3			
2	ADDED SPOT ELEVATIONS	7/25	MTP
1	IFC DELIVERABLE	05/25	CLL

WILSON & COMPANY

STATE OF NEW MEXICO
JOHN D. MCNAMARA
20561
08/04/2025
PROFESSIONAL ENGINEER

DESIGNED BY: CLL
DRAWN BY: DAP
CHECKED BY: ESC
APPROVED BY:
DATE: MAY 2025
SCALE:

BREWER ARENA IMPROVEMENT PROJECT
PROJECT BID NO. IFB 25-XX

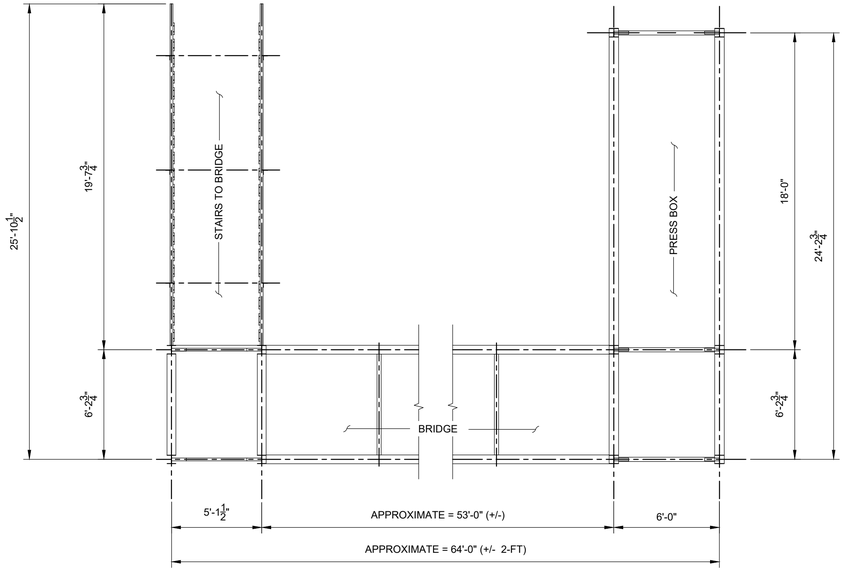
PRESS BOX GEREREAL LAYOUT

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

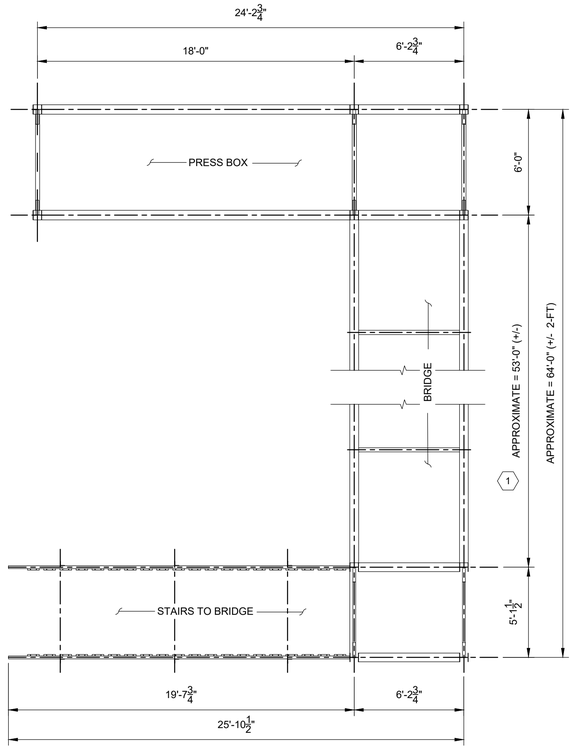
SHEET
S-104

W:\PROJECTS\2310003509\3_DISCIPLINES_SHEETS\4_SHEETS - STRUCTURAL\BREWER ARENA_STRUCTURAL.DWG 8/5/2025 8:36 AM



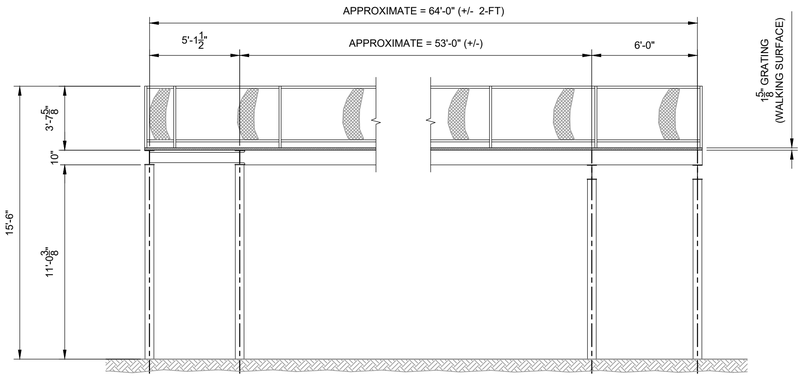
1 PLAN VIEW - BRIDGE

SCALE: 1"= 50'



2 PLAN VIEW - STAIRS

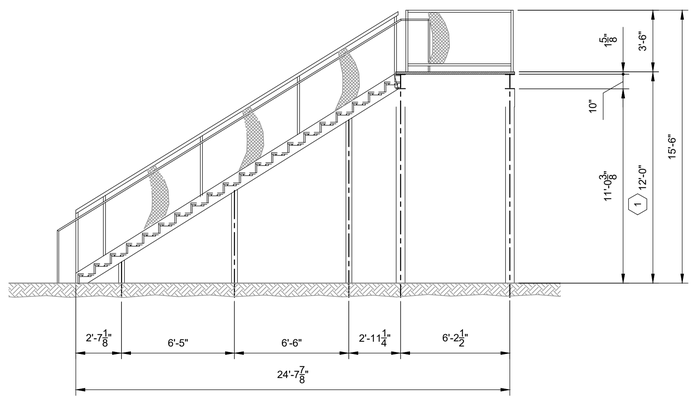
SCALE: 1"= 50'



3 ELEVATION - BRIDGE

SCALE: 1"= 50'

THIS SHEET IS INTENDED TO BE CONCEPTUAL DESIGN FOR BIDDING PURPOSES. ALL WORK ON THIS SHEET IS CONTRACTOR DELEGATED DESIGN.



4 ELEVATION - STAIRS

SCALE: 1"= 50'

KETNOTE:

1. PRESS BOX AND PRESS BOX BRIDGE TOP OF WALKING SURFACE MUST BE 12-FEET ABOVE FINISHED GRADE.

WILSON & COMPANY

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2	IFC DELIVERABLE	05/25	MAB
1			

STATE OF NEW MEXICO
JOHN D. MCNAMARA
20561
08/04/2025
PROFESSIONAL ENGINEER

DESIGNED BY: JM
DRAWN BY: MAB
CHECKED BY: JM
APPROVED BY:
DATE: MAY 2025
SCALE:

BREWER ARENA IMPROVEMENT PROJECT
PROJECT BID NO. IFB 25-XX

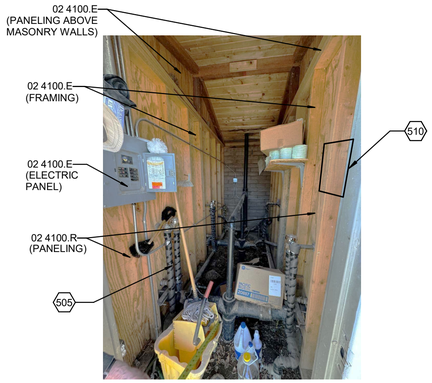
BRIDGE & STAIRS GENERAL LAYOUTS

LOS ALAMOS
where discoveries are made

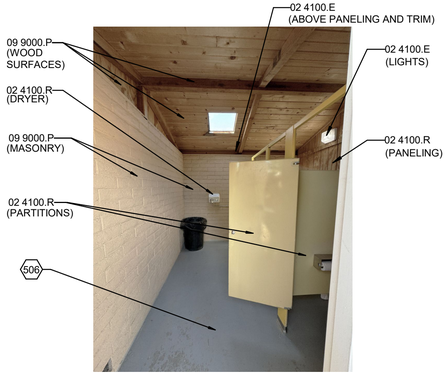
COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
S-105

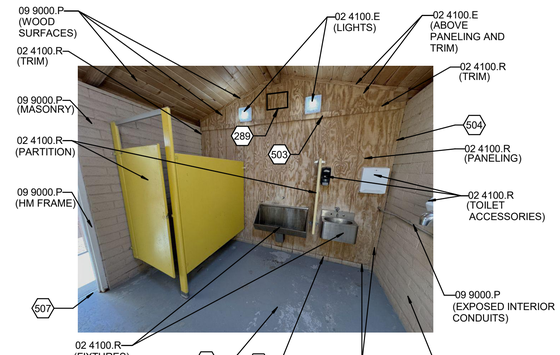
W:\PROJECTS\23100035\99\3_DISCIPLINES_SHEETS\4_SHEETS - STRUCTURAL\BREWER ARENA_STRUCTURAL.DVG 5/22/2025 1:18 PM



E1 PHOTO IMAGE - CHASE 103
NOT TO SCALE

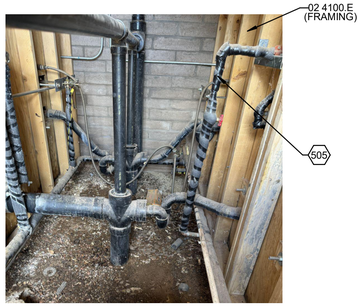


C1 PHOTO IMAGE - WOMEN 101
NOT TO SCALE

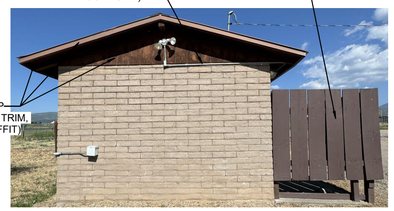


A1 PHOTO IMAGE - MEN 102
NOT TO SCALE

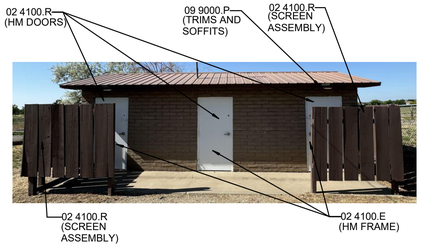
G3 PHOTO IMAGE - EAST ELEVATION
NOT TO SCALE



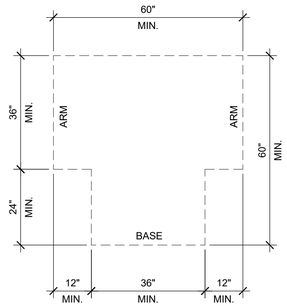
E3 PHOTO IMAGE 1
NOT TO SCALE



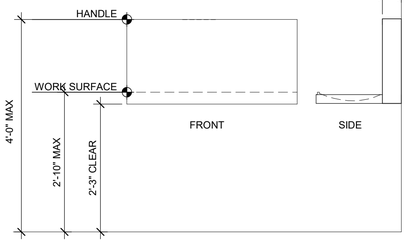
C3 PHOTO IMAGE - WEST ELEVATION
NOT TO SCALE



G5 PHOTO IMAGE - SOUTH ELEVATION
NOT TO SCALE

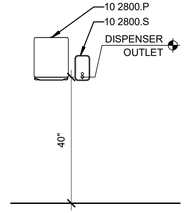


E5 ADA T-SHAPED TURNING SPACE
1/2" = 1'-0"

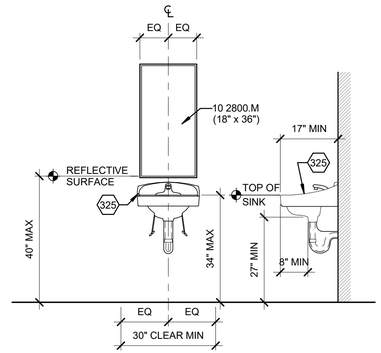


C5 CHANGING STATION ELEVATIONS
3/4" = 1'-0"

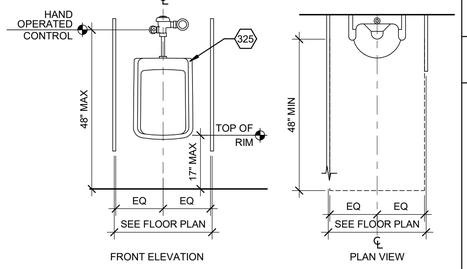
A5 PHOTO IMAGE- NORTH ELEVATION
1 1/2" = 1'-0"



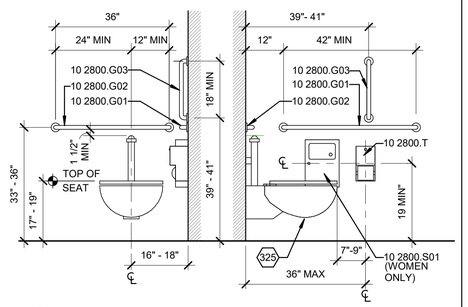
G7 FIXTURE MOUNTING HEIGHTS
1/2" = 1'-0"



E7 FIXTURE MOUNTING HEIGHTS
1/2" = 1'-0"



C7 URINAL ELEVATION AND PLAN
1/2" = 1'-0"



A7 FIXTURE MOUNTING HEIGHTS
1/2" = 1'-0"

GENERAL NOTES

1. REGULATORY INFORMATION:
   A. GENERAL:
      GOVERNING REGULATIONS:
      2021 NEW MEXICO COMMERCIAL BUILDING CODE (2021 IBC, AS AMENDED)
      2021 NEW MEXICO EXISTING BUILDING CODE (2021 IEBC, AS AMENDED)
      2018 NEW MEXICO ENERGY CONSERVATION CODE (2018 IECC, AS AMENDED)
      2021 NEW MEXICO PLUMBING CODE (2021 UPC, AS AMENDED)
      2021 NEW MEXICO MECHANICAL CODE (2021 UMC, AS AMENDED)
      2020 NEW MEXICO ELECTRICAL CODE (2020 NEC, AS AMENDED)
      2021 INTERNATIONAL FIRE CODE
      ICC A117.-2017 ACCESSIBLE AND USABLE BUILDING AND FACILITIES

      ALTERATION TYPE: REPAIRS (SECTION 502, IEBC)
      ALTERATION LEVEL 1 (SECTION 503, IEBC)

      CONSTRUCTION TYPE: VB (TABLES 601 AND 602, AND SECTION 602.5, IBC)

   B. ACCESSIBILITY: 60" TURNING SPACE WITHIN TOILETS IS TECHNICALLY INFEASIBLE BECAUSE EXISTING STRUCTURAL CONDITIONS WOULD REQUIRE REMOVING OR ALTERING LOAD- BEARING MEMBERS THAT ARE AN ESSENTIAL PART OF THE STRUCTURAL FRAME. OTHER ACCESSIBLE FEATURES ARE PROVIDED TO THE EXTENT TECHNICALLY FEASIBLE (106.2.1, ICC A117.1 AND 2.2.3, ADA).

   C. ENERGY: BUILDING THERMAL ENVELOPE: EXEMPT - BUILDING DOES NOT CONTAIN CONDITIONED SPACE (402.1.1, IECC)

GENERAL SHEET NOTES

1. IMAGES OF PLUMBING FIXTURES ARE DIAGRAMMATIC - REFER TO PLUMBING PLAN FOR ACTUAL PRODUCTS.
2. IMAGES OF TOILET ACCESSORIES ARE DIAGRAMMATIC - REFER TO SPECIFICATION SECTION 10 2800 FOR ACTUAL PRODUCTS.
3. PHOTO IMAGES ON THIS SHEET ARE FOR GENERAL INFORMATION ONLY AND MAY NOT ACCURATELY REPRESENT CURRENT CONDITIONS OF THE PROJECT. FIELD VERIFY ACTUAL CONDITIONS AND NOTIFY ARCHITECT IMMEDIATELY OF DISCREPANCIES.
4. PROVIDE INSULATED SAFETY COVERS AT EXPOSED WATER SUPPLY AND DRAIN PIPES UNDER LAVATORIES.
5. LOCATE OPERABLE PART OF HAND-OPERATED FLUSH CONTROLS OF WATER CLOSETS ON OPEN SIDE OF FIXTURE.
6. MOUNT HORIZONTAL GRAB BARS WITHIN THE SAME ROOM OR STALL AT THE SAME HEIGHT.

REFERENCE SPECIFICATION SECTION
XX XXXX.XX

REFERENCE KEYNOTES

02 4100.E	EXISTING TO REMAIN
02 4100.R	REMOVE
09 9000.P	PAINT
10 2800.G01	GRAB BAR TYPE A
10 2800.G02	GRAB BAR TYPE B
10 2800.G03	GRAB BAR TYPE C
10 2800.M	MIRROR
10 2800.P	PAPER TOWEL DISPENSER
10 2800.S	SOAP DISPENSER
10 2800.S01	SANITARY NAPKIN DISPOSAL UNIT
10 2800.T	TOILET PAPER DISPENSER

SHEET KEYNOTES

289	MECHANICAL EXHAUST FAN.
325	PLUMBING FIXTURE.
502	REMOVE PANELING USED FOR BASE IN WOMEN 101 AND MEN 102.
503	REMOVE PANELING USED FOR TRIM IN WOMEN 101 AND MEN 102.
504	REMOVE VERTICAL TRIM ABUTTING MASONRY IN WOMEN 101 AND MEN 102.
505	REFER TO PLUMBING PLANS FOR REPLACEMENT OF EXISTING PIPING.
506	PROVIDE FLUID-APPLIED FLOORING OVER EXISTING SLAB WITH COVE BASE AT MASONRY WALLS. REFER TO SPECIFICATION SECTION 09 6700.
507	PROVIDE ADA-COMPLIANT HALF-SADDLE THRESHOLD AT DOORS TO TOILET ROOMS - REFER TO SPECIFICATION SECTION 08 7100.
508	MISSING ROOF PANEL TO BE REPLACED TO MATCH EXISTING.
510	SIGNAGE FOR MAINTENANCE FOR WINTERIZING PROCEDURES.

WILSON & COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2			
1	IFC DELIVERABLE	5/22/25	RLM

STATE OF NEW MEXICO
R. LAWRENCE MEAD
No. 3825
5/22/2025
REGISTERED ARCHITECT

DESIGNED BY: Designer
DRAWN BY: MEY
CHECKED BY: RLM
APPROVED BY:
DATE: MAY 2025
SCALE: As indicated

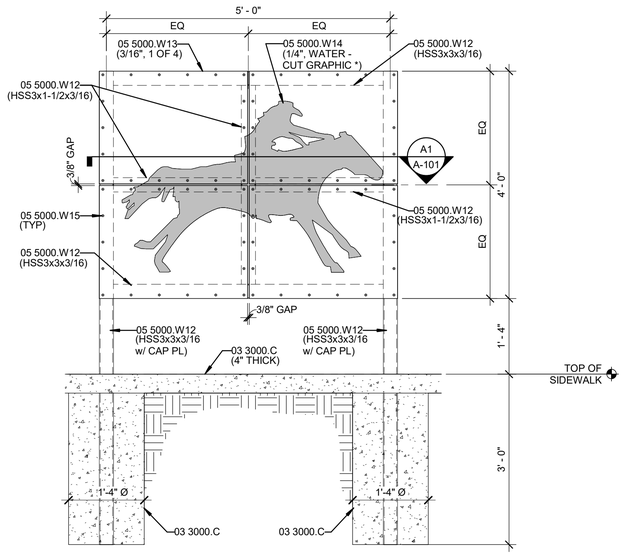
BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.: 23.100.035.09

ACCESSIBILITY DETAILS & PHOTO IMAGES

LOS ALAMOS
where discoveries are made

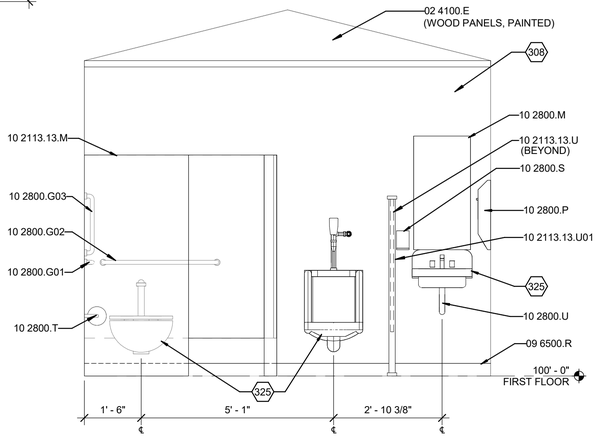
COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
A-001



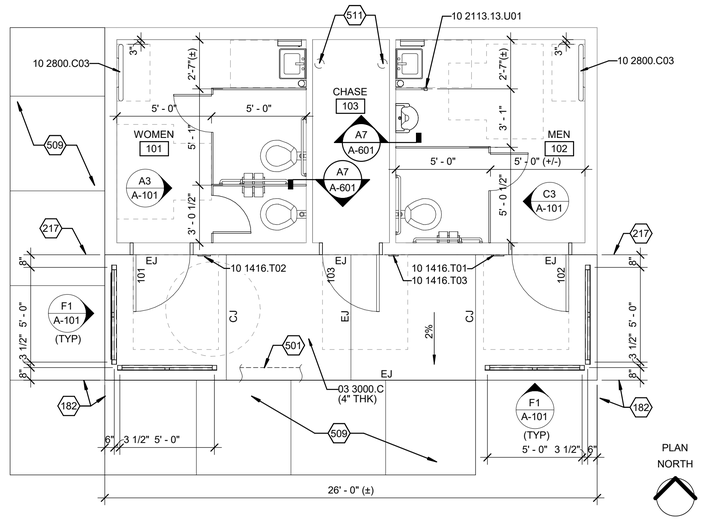
F1 PRIVACY SCREEN - ELEVATION (TYPICAL- 1 OF 4)

3/4" = 1'-0"



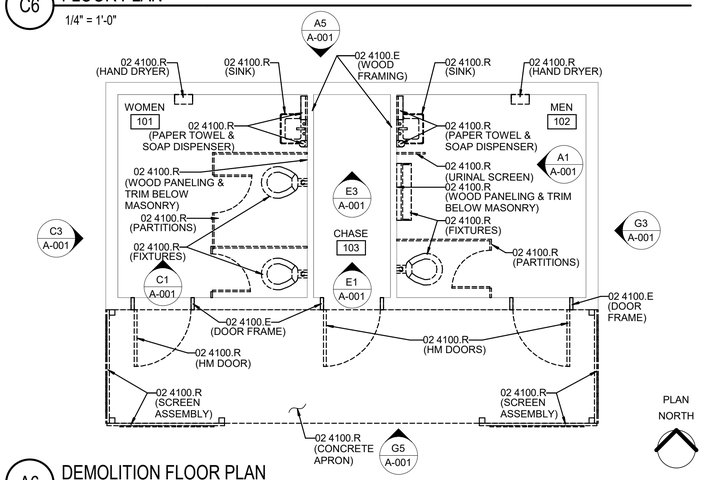
C3 INTERIOR ELEVATION MEN 102

1/2" = 1'-0"



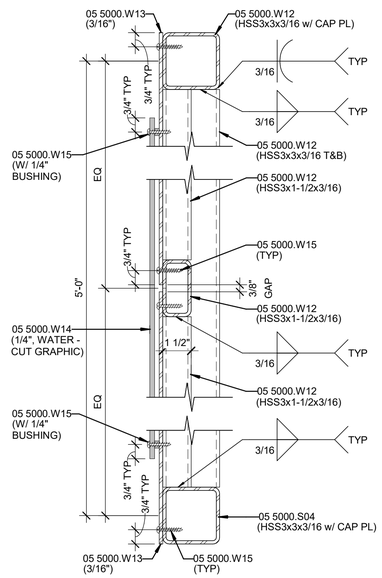
C6 FLOOR PLAN

1/4" = 1'-0"



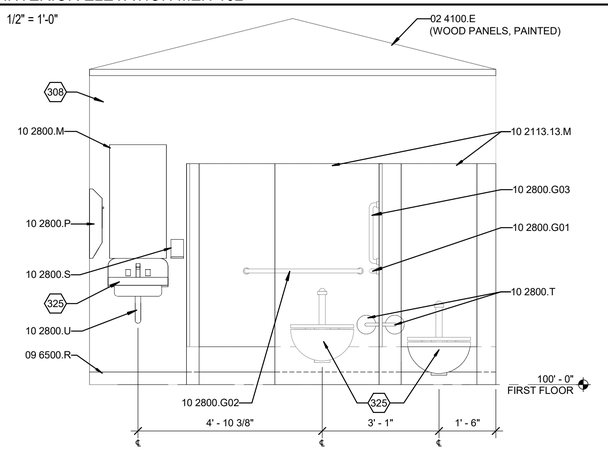
A6 DEMOLITION FLOOR PLAN

1/4" = 1'-0"



A1 SIGN FRAMING - SECTION

3" = 1'-0"



A3 INTERIOR ELEVATION WOMEN RESTROOM 101

1/2" = 1'-0"

GENERAL SHEET NOTES

1. WATER-CUT GRAPHIC IMAGE ON PRIVACY SCREEN IS A REPRESENTATIVE EXAMPLE TO DEMONSTRATE GENERAL SIZE AND LOCATION. FOUR DIFFERENT ELECTRONIC IMAGES WILL BE PROVIDED TO CONTRACTOR BY ARCHITECT.
2. REFER TO SHEET **A-601** FOR ROOM FINISH SCHEDULE.

REFERENCE KEYNOTES

REFERENCE SPECIFICATION SECTION XX XXXX.XX

02 4100.E	EXISTING TO REMAIN
02 4100.R	REMOVE
03 3000.C	CAST-IN-PLACE CONCRETE
05 5000.S04	STEEL TUBE
05 5000.W12	WEATHERING STEEL TUBE
05 5000.W13	WEATHERING STEEL SHEET
05 5000.W14	WEATHERING STEEL PLATE
05 5000.W15	WEATHERING STEEL FASTENER
09 6500.R	RESILIENT BASE
10 1416.T01	TACTILE PLAQUE TYPE A
10 1416.T02	TACTILE PLAQUE TYPE B
10 1416.T03	TACTILE PLAQUE TYPE C
10 2113.13.M	METAL TOILET COMPARTMENT
10 2113.13.U	URINAL SCREEN
10 2113.13.U01	URINAL SCREEN SUPPORT POST
10 2800.C03	CHANGING STATION
10 2800.G01	GRAB BAR TYPE A
10 2800.G02	GRAB BAR TYPE B
10 2800.G03	GRAB BAR TYPE C
10 2800.M	MIRROR
10 2800.P	PAPER TOWEL DISPENSER
10 2800.S	SOAP DISPENSER
10 2800.T	TOILET PAPER DISPENSER
10 2800.U	UNDER-LAVATORY PIPE AND SUPPLY COVERS

SHEET KEYNOTES

182	EDGE OF PAVING.
217	FACE OF BUILDING.
308	PARTITION AS SCHEDULED.
325	PLUMBING FIXTURE.
501	DAHED LINE INDICATES 8" WIDE X 16" DEEP TURN DOWN EDGE ON EAST, SOUTH
509	CONCRETE SIDEWALK - REFER CIVIL PLANS.
511	MECHANICAL EXHAUST. REFERENCE DETAIL C3/A-601 FOR ADDITIONAL INFORMATION.

LEGEND

- 101 — DOOR TAG AND SYMBOL REFER TO DOOR SCHEDULE
- CJ — TOOLED CONTROL JOINT
- EJ — EXPANSION JOINT W/ SEALANT
- CLEAR FLOOR AREA

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4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2			
1	IFC DELIVERABLE	5/22/25	RLM

STATE OF NEW MEXICO
R. LAWRENCE MEAD
No. 3825
5/22/2025
REGISTERED ARCHITECT

DESIGNED BY: Designer
DRAWN BY: MEY
CHECKED BY: RLM
APPROVED BY:
DATE: MAY 2025
SCALE: As indicated

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.: 23.100.035.09

FLOOR PLAN

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
A-101

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4401 Masthead St Ne, Suite 150
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Phone: (505) 348-4000

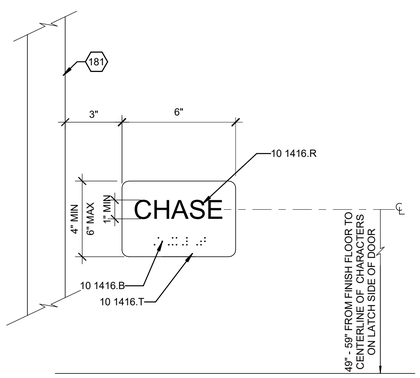
REFERENCE SPECIFICATION SECTION
XX XXXX.XX

REFERENCE KEYNOTES

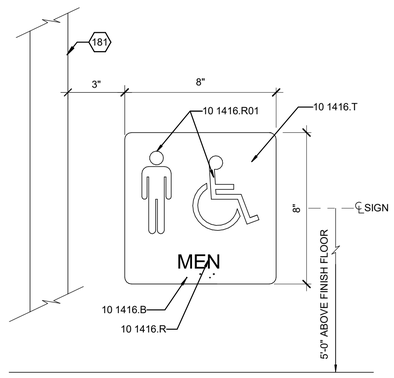
10 1416.B	BRAILLE
10 1416.R	RAISED CHARACTERS
10 1416.R01	RAISED PICTOGRAM
10 1416.T	TACTILE PLAQUE10 1416

SHEET KEYNOTES

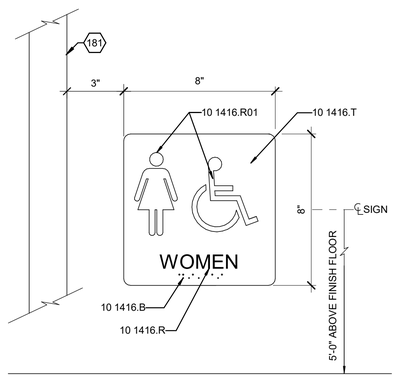
181	EDGE OF DOOR FRAME (OR WALL) ON LATCH SIDE OF DOOR.



A3 TACTILE PLAQUE TYPE C
3" = 1'-0"



A5 TACTILE PLAQUE TYPE A
3" = 1'-0"



A7 TACTILE PLAQUE TYPE B
3" = 1'-0"

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2			
1	IFC DELIVERABLE	5/22/25	RLM

STATE OF NEW MEXICO
R. LAWRENCE MEAD
No. 3825
5/22/2025
REGISTERED ARCHITECT

DESIGNED BY: RLM
DRAWN BY: MEY
CHECKED BY: RLM
APPROVED BY:
DATE: MAY 2025
SCALE: 3" = 1'-0"

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.: 23.100.035.09

INTERIOR SIGNAGE DETAILS

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

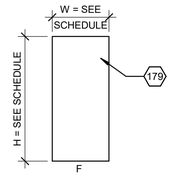
SHEET
A-571

FINISH SCHEDULE

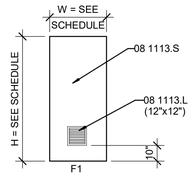
ROOM NO	ROOM NAME	FLOOR	BASE	WALLS					CEILING	NOTES
				N	E	S	W	WAINSCOT	MATL	
101	WOMEN	FAF	FAF, FRP	PAINT	PAINT / FRP	PAINT	PAINT	NA	NA	PROVIDE FRP BASE ON WALLS WITH FRP
102	MEN	FAF	FAF, FRP	PAINT	PAINT	PAINT	PAINT / FRP	NA	NA	PROVIDE FRP BASE ON WALLS WITH FRP
103	CHASE	NA	NA	NA	NA	NA	NA	NA	NA	

DOOR SCHEDULE

MARK	DOOR QTY	SIZE W	SIZE H	SIZE THK	MATL	EL	FIRE RATING LABEL	SET NO	KEYSIDE	NOTES - SEE LEGEND BELOW
101	1	3' - 0"	6' - 7"	1 3/4"	HM	F1	NA	HW-1	EXTERIOR	1, 2, 3, 4, 5
102	1	3' - 0"	6' - 7"	1 3/4"	HM	F1	NA	HW-1	EXTERIOR	1, 2, 3, 4, 5
103	1	3' - 0"	6' - 7"	1 3/4"	HM	F	NA	HW-2	EXTERIOR	1, 2, 3, 4, 5



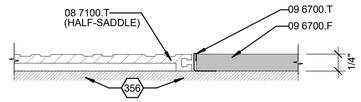
DOOR ELEVATION



DOOR ELEVATION

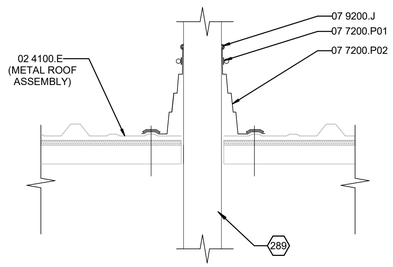
LEGEND - DOOR SCHEDULE

1. CUSTOM DOOR SIZE AS REQUIRED FOR INSTALLATION IN EXISTING FRAME.
2. REUSE EXISTING DOOR FRAME.
3. REFER TO SPECIFICATION SECTION 08 7100 FOR DOOR HARDWARE.
4. PAINT DOOR AND FRAME IN ACCORDANCE WITH SPECIFICATION SECTION 09 9000.
5. FASTENER HOLES, MISCELLANEOUS HOLES, AND HARDWARE CUTOUTS IN EXISTING HOLLOW METAL DOOR FRAMES: REMOVE PAINT, OILS, AND CORROSION. PATCH FASTENER HOLES WITH SPOT WELDS; FILL HARDWARE CUTOUTS AND OTHER CUTOUTS WITH 16 GAUGE SHEET METAL FLUSH WITH EXTERIOR SURFACE AND CONTINUOUS WELDS; GRIND WELDS SMOOTH AS REQUIRED SO AREA OF PATCHING IS AS INVISIBLE AS POSSIBLE.



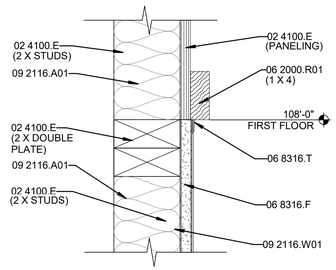
E5 TRANSITION - FLUID - APPLIED FLOORING TO HALF-SADDLE THRESHOLD

NOT TO SCALE



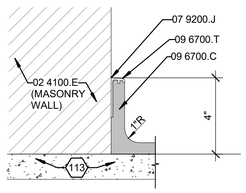
C3 MECHANICAL EXHAUST THRU ROOF DETAIL

1 1/2" = 1'-0"



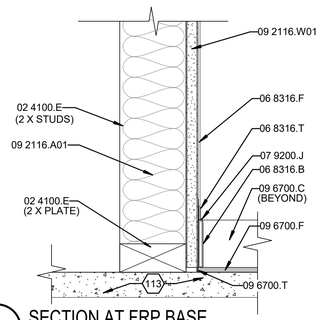
C5 SECTION AT FRP / WOOD TRIM

3" = 1'-0"



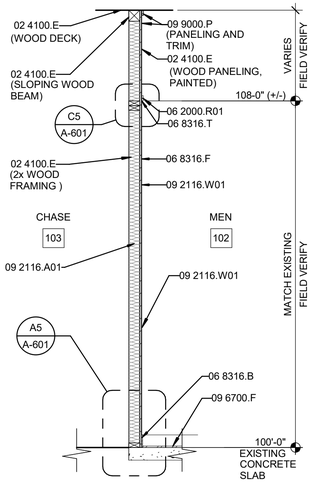
A3 TRANSITION -FLUID APPLIED FLOORING INTEGRAL COVE BASE

NOT TO SCALE



A5 SECTION AT FRP BASE

3" = 1'-0"



A7 SECTION AT CHASE PARTITION - TYPICAL

1/2" = 1'-0"

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4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

GENERAL SHEET NOTES

1. PAINT HOLLOW METAL DOORS AND FRAMES IN ACCORDANCE WITH SPECIFICATION SECTION 09 9000.

REFERENCE SPECIFICATION SECTION XX XXXX.XX

REFERENCE KEYNOTES

02 4100.E	EXISTING TO REMAIN
06 2000.R01	RUNNING TRIM
06 8316.B	BASE
06 8316.F	FIBERGLASS REINFORCED PLASTIC PANEL
06 8316.T	TRIM
07 7200.P01	PIPE FLASHING CLAMPING RING
07 7200.P02	PIPE BOOT
07 9200.J	JOINT SEALANT
08 1113.L	LOUVER
08 1113.S	STEEL DOOR
08 7100.T	THRESHOLD
09 2116.A01	ACOUSTICAL INSULATION
09 2116.W01	WATER-RESISTANT GLASS MAT FACED GYPSUM BOARD
09 6700.C	COVE BASE
09 6700.F	FLUID-APPLIED FLOORING
09 6700.T	TRANSITION STRIP
09 9000.P	PAINT

SHEET KEYNOTES

113	CAST-IN-PLACE CONCRETE SLAB.
179	DOOR AS SCHEDULED.
289	MECHANICAL EXHAUST FAN.
356	REFER TO PLANS FOR SUBSTRATE.

ABBREVIATIONS LEGEND

ROOM FINISH SCHEDULE:

FAF	FLUID-APPLIED FLOORING
MATL	MATERIAL
NO	NUMBER

DOOR SCHEDULE:

EL	ELEVATION
H	HEIGHT
HDW	HARDWARE SET NUMBER
HM	HOLLOW METAL
MATL	MATERIAL
MIN	MINUTE
NA	NOT APPLICABLE
NO	NUMBER
QTY	QUANTITY
THK	THICKNESS
W	WIDTH

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2			
1	IFC DELIVERABLE	5/22/25	RLM

STATE OF NEW MEXICO
R. LAWRENCE MEAD
No. 3825
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REGISTERED ARCHITECT

DESIGNED BY: Designer
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BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.: 23.100.035.09

SCHEDULES & DETAILS

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
A-601

WILSON & COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

PLUMBING LEGEND

MARK	DEFINITION
CW	DOMESTIC COLD WATER TAG
	DOMESTIC COLD WATER LINE
HW	DOMESTIC HOT WATER TAG (110°F)
	DOMESTIC HOT WATER LINE (110°F)
HWR	HOT WATER RETURN TAG
	HOT WATER RETURN LINE
GAS	NATURAL GAS LINE
SS	SANITARY SEWER LINE
GT	GREASE TRAP LINE
V	SANITARY VENT LINE
CD	CONDENSATE DRAIN LINE
	PIPE DROP
	PIPE RISER
	PIPE HEADER
	END-OF LINE CLEANOUT
	FLOW DIRECTION
	RAG; LINE IS EXTENDED ELSEWHERE
	PLUMBING OFFSET (SCHEMATIC ONLY)
	FREEZE PROOF WALL HYDRANT
	BALANCING VALVE WITH PRESSURE PORTS (CIRCUIT SETTER)
	ISOLATION VALVE
	CONNECT TO EXISTING AT THIS POINT
	REMOVE PORTION OF WORK AND PROPERLY CAP AND SEAL
	SANITARY SEWER 90° TURN UTILIZING TWO 1/4 BENDS - THIS PREVENTS THE REQUIREMENT FOR A C.O.
	PIPING TO BE PART OF DEMOLITION
RS/RL	REFRIGERANT PIPING - SUCTION AND LIQUID
XXX 1	EQUIPMENT TAG (EQUIPMENT ABBREVIATION - NUMBER)
	ROOF-MOUNTED EXHAUST FAN

PLUMBING ABBREVIATIONS

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
AFF	ABOVE FINISHED FLOOR	LDBT	LEAVING DRY BULB TEMPERATURE
AFG	ABOVE FINISHED GRADE	LWBT	LEAVING WET BULB TEMPERATURE
AHJ	AUTHORITY HAVING JURISDICTION	LWT	LEAVING WATER TEMPERATURE
ARCH	ARCHITECT	MAT	MIXED AIR TEMPERATURE
C/C	COOLING COIL	MBH	THOUSAND BTU PER HOUR
CFH	CUBIC FEET PER HOUR	MCA	MINIMUM CIRCUIT AMPACITY
CFM	CUBIC FEET PER MINUTE	MH	MANHOLE
CL	CENTERLINE	MISC	MISCELLANEOUS
CLG	CEILING	MOCP	MAXIMUM OVERCURRENT PROTECTION
CO	CARBON MONOXIDE	NC	NOISE CRITERIA
CO	CLEANOUT	NEC	NATIONAL ELECTRICAL CODE
COTG	CLEANOUT TO GRADE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CO2	CARBON DIOXIDE	NTS	NOT TO SCALE
CU	CONDENSING UNIT	OA	OUTSIDE AIR
CW	COLD WATER	OFD	OVERFLOW DRAIN
DB	DRY BULB	PC	PLUMBING CONTRACTOR
DDC	DIRECT DIGITAL CONTROLS	PPM	PARTS PER MILLION
DEG F	DEGREES FAHRENHEIT	PRV	PRESSURE REDUCING VALVE
DS	DOWNSPOUT	PSI	POUNDS PER SQUARE INCH
DWH	DOMESTIC WATER HEATER	QA	QUALITY ASSURANCE
EC	ELECTRICAL CONTRACTOR	QC	QUALITY CONTROL
EDBT	ENTERING DRY BULB TEMPERATURE	R	RADIUS
EF	EXHAUST FAN	RA	RETURN AIR
EL	ELEVATION	RAT	RETURN AIR TEMPERATURE
ETC	ET CETERA	RD	ROOF DRAIN
EWBT	ENTERING WET BULB TEMPERATURE	RH	RELATIVE HUMIDITY
EWT	ENTERING WATER TEMPERATURE	RM	ROOM
FCO	FLOOR CLEAN-OUT	RPM	REVOLUTIONS PER MINUTE
FD	FLOOR DRAIN	RTU	ROOF TOP UNIT
FDC	FIRE DEPARTMENT CONNECTION	RV	RELIEF VALVE
FIN FLR	FINISHED FLOOR	SA	SUPPLY AIR
FH	FIRE HYDRANT	SD	STORM DRAIN
FPHB	FREEZE-PROOF HOSE BIBB	SF	SQUARE FOOT
FPM	FEET PER MINUTE	SHR	SHOWER
FPWH	FREEZE-PROOF WALL HYDRANT	SS	SANITARY SEWER
FS	FLOOR SINK	SS	SERVICE SINK
GALV	GALVANIZED	SUB	SUBSTITUTE
GAS	NATURAL GAS	TG	TRAP GUARD
GC	GENERAL CONTRACTOR	TP	TRAP PRIMER
GCO	GRADE CLEANOUT	TSTAT	THERMOSTAT
GPD	GALLONS PER DAY	TYP	TYPICAL
GPM	GALLONS PER MINUTE	UNO	UNLESS NOTED OTHERWISE
GT	GREASE TRAP	UR	URINAL
HB	HOSE BIBB	V	VENT
HC	HEATING COIL	VIF	VERIFY IN FIELD
HD	HEAVY DUTY	VOLT	VOLTAGE
HT	HEIGHT	W/	WITH
HW	HOT WATER	W/O	WITHOUT
HWR	HOT WATER RETURN	WB	WET BULB
HWS	HOT WATER SUPPLY	WC	WATER CLOSET
IBC	INTERNATIONAL BUILDING CODE	WCO	WALL CLEANOUT
I/O	INPUT/OUTPUT	WH	WALL HYDRANT
LAT	LEAVING AIR TEMPERATURE	WHA	WATER HAMMER ARRESTOR

MECHANICAL ABBREVIATIONS

ABBREVIATION	DEFINITION
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
CC	COOLING COIL
CFH	CUBIC FEET PER HOUR
CL	CENTERLINE
CLG	CEILING
CRAH	COMPUTER ROOM AIR HANDLER
CRCU	COMPUTER ROOM CONDENSING UNIT
CU	CONDENSING UNIT
CW	COLD WATER
DN	DOWN
DS	DOWNSPOUT
EA	EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEV	ELEVATION
F	FURNACE
FCO	FLOOR CLEAN-OUT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FF	FINISHED FLOOR
FPHB	FREEZE-PROOF HOSE BIBB
FPWH	FREEZE-PROOF WALL HYDRANT
FS	FLOOR SINK
FS	COMBINATION FIRE/SMOKE DAMPER
GAS	NATURAL GAS
GC	GENERAL CONTRACTOR
GCO	GRADE CLEANOUT
HLAV	LAVATORY (ADA COMPLIANT)
HT	HEIGHT
HUR	URINAL (ADA COMPLIANT)
HW	HOT WATER (110°F UNO)
HWC	WATER CLOSET (ADA COMPLIANT)
HWR	HOT WATER RETURN (110°F UNO)
JB	JOIST BEARING
KF	KITCHEN FAN
L	LOUVER
LAV	LAVATORY
MC	MECHANICAL CONTRACTOR
OA	OUTSIDE AIR
OF	OVERFLOW DRAIN
PC	PLUMBING CONTRACTOR
RA	RETURN AIR
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DAMPER
SS	SANITARY SEWER
ST	STORM DRAIN
T	THERMOSTAT
TDL	TOTAL DEVELOPED LENGTH
TMV	THERMOSTATIC MIXING VALVE
TS	TEMPERATURE SENSOR
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
V	VENT
WC	WATER CLOSET
WCO	WALL CLEAN-OUT
WH	DOMESTIC WATER HEATER
WHA	WATER HAMMER ARRESTOR

GENERAL PLUMBING REQUIREMENTS:

1. ALL CAPACITIES ARE SCHEDULED AT JOBSITE ALTITUDE OF 7,300 FT.
2. SUSPEND EACH TRADE'S WORK SEPARATELY FROM THE STRUCTURE. DUCTWORK SHALL BE HELD TIGHT TO STRUCTURE EXCEPT WHERE SHOWN.
3. INSTALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
4. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AROUND EQUIPMENT.
5. PROVIDE FOR SAFE CONDUCT OF THE WORK, CAREFUL REMOVAL AND DISPOSITION OF MATERIALS AND PROTECTION OF PROPERTY WHICH IS TO REMAIN UNDISTURBED.
6. PROVIDE ACCESS DOORS FOR EQUIPMENT, VALVES, CLEANOUTS, ACTUATORS AND CONTROLS WHICH REQUIRE ACCESS FOR ADJUSTMENT OR SERVICING AND WHICH ARE LOCATED IN OTHERWISE UNACCESSIBLE LOCATIONS. FOR EQUIPMENT LOCATED IN "ACCESSIBLE LOCATIONS" SUCH AS LAY-IN CEILINGS: LOCATE EQUIPMENT TO PROVIDE ADEQUATE SERVICE CLEARANCE FOR NORMAL MAINTENANCE WITHOUT REMOVING ARCHITECTURAL, ELECTRICAL OR STRUCTURAL ELEMENTS SUCH AS THE CEILING SUPPORT SYSTEM, ELECTRICAL FIXTURES, ETC. "NORMAL MAINTENANCE" INCLUDES, BUT IS NOT LIMITED TO: FILTER CHANGING; GREASING OF BEARINGS; USING P/T PORTS FOR PRESSURE OR TEMPERATURE MEASUREMENTS; SERVICING CONTROL VALVES AND SERVICING CONTROL PANELS.
7. DOMESTIC WATER, HEATING WATER OR CONDENSER WATER LINES SHALL NOT BE EXPOSED IN FINISHED SPACES OR BELOW THE BUILDING SLAB UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
8. CURBS, ROOF JACKS, ROOF THIMBLES, SANITARY VENTS, ROOF DRAINS, ETC. SHALL BE COMPATIBLE WITH ROOFING SYSTEM TO BE PROVIDED. REFERENCE ARCHITECTURAL DIVISION FOR REQUIRED FLASHING DETAILS.
9. THE ELECTRICAL POWER FOR CERTAIN EQUIPMENT PROVIDED UNDER MECHANICAL SPECIFICATIONS, HAS NOT BEEN SPECIFICALLY INDICATED ON THE ELECTRICAL DRAWINGS AND MUST BE FIELD COORDINATED BY THE DIVISION REQUIRING SUCH POWER. SUCH EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO:
   A. TEMPERATURE CONTROL PANELS, AND JUNCTION BOXES FOR 24V CONTROL TRANSFORMERS. REQUIRED CONNECTION ARE INCLUDED IN MECHANICAL SPECIFICATIONS AND WILL BE SHOWN BY THAT CONTRACTOR'S CONTROL SUBMITTAL DRAWINGS.
   B. CONTRACTOR SHALL PROVIDE POWER TO THESE DEVICES.
10. PROVIDE REQUIRED PERMITS, INSPECTIONS AND COORDINATION WITH GOVERNING AUTHORITIES.
11. QUALITY CONTROL:
    A. QUALIFICATION OF PRODUCTS: WHEN PRODUCTS ARE SPECIFIED BY MANUFACTURER AND MODEL NUMBER, EQUIVALENT PRODUCTS BY OTHER MANUFACTURERS LISTED MAY BE PROVIDED. PRODUCT EQUIVALENCY SHALL BE DETERMINED BY ENGINEER.
    B. SUBMITTALS SHALL INCLUDE REVISED AND SUPPLEMENTED CONTROL DIAGRAMS.
    C. SUBMIT CUT-SHEETS ON SPECIFIED EQUIPMENT.
12. CONTRACTOR SHALL CREATE A LOG SHEET FOR REQUIRED TESTS. THE LOG SHEET WILL HAVE A COLUMN FOR REQUIRED TESTS, A COLUMN FOR ACCEPTANCE OF TEST, A COLUMN FOR REMARKS, AND A COLUMN FOR APPROVAL SIGNATURE.
13. CONTRACTOR SHALL CREATE A LOG SHEET OF REQUIRED TRAINING. THE LOG SHEET WILL HAVE A COLUMN FOR THE TRAINED ITEM, A COLUMN FOR THE TIME, DATE AND DURATION OF THE TRAINING, AND A COLUMN FOR ACCEPTANCE OF TRAINING BY OWNER, ARCHITECT, OR ENGINEER.
14. AFTER INSTALLATION OF SYSTEM, PERFORM AN OPERATIONAL TEST IN THE PRESENCE OF THE OWNER, ARCHITECT, OR ENGINEER. THIS TEST WILL CONSIST OF SUCCESSFULLY DEMONSTRATING:
    A. APPEARANCE OF INSTALLATION.
    B. FUNCTION OF ALL CONTROLS.
    C. THE CONTROLS SHALL BE OPERATED IN THE FOLLOWING MODES IN EACH ZONE: OCCUPIED/UNOCCUPIED.
    D. IF THE TEST IS NOT SUCCESSFUL IN THE OPINION OF THE ARCHITECT OR ENGINEER, DEFICIENCIES WILL BE REMEDIED AND THE SYSTEM WILL BE RE-TESTED UNTIL THE TEST IS SUCCESSFUL.
15. PIPING:
    A. PIPE INSTALLATION:
       a. PIPING SHALL BE ADEQUATELY SUPPORTED FROM THE BUILDING STRUCTURE TO PREVENT SAGGING, POCKETING, SWAYING OR DISPLACEMENT BY MEANS OF HANGERS AND SUPPORTS. PIPING IS NOT TO BE SUPPORTED BY EQUIPMENT.
       b. PROVIDE DIELECTRIC UNIONS BETWEEN DISSIMILAR MATERIALS.
       c. PROVIDE MANUAL AIR VENTS AND CAPPED HOSE-END DRAINS WITH ISOLATION VALVE AT PIPING HIGH AND LOW POINTS.
       d. WELD PIPE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS. WELDERS SHALL BE CERTIFIED FOR TYPE OF WELD BEING PERFORMED.
       e. FLUSH OUT PIPING AND REMOVE CONTROL DEVICES BEFORE PERFORMING PRESSURE TEST. DO NOT USE PIPING SYSTEM VALVES TO ISOLATE SECTIONS WHERE TEST PRESSURE EXCEEDS VALVE PRESSURE RATING. PRESSURIZE PIPING AT 100 PSIG. IF LEAKAGE IS OBSERVED OR IF TEMPERATURE COMPENSATED PRESSURE DROP EXCEEDS 1% OF TEST PRESSURE, REPAIR LEAKS AND RETEST. DO NOT USE AIR PRESSURE TO TEST PLASTIC PIPE.
       f. PROVIDE SUPPORT UNDER ELBOWS ON PUMP SUCTION AND DISCHARGE LINES.
       g. STRAINERS SHALL BE FURNISHED WITH A "ROUGHING" SCREEN AND TWO (2) SCREENS FOR NORMAL OPERATION. INSTALL STRAINER WITH ROUGHING SCREEN AND OPERATE SYSTEM FOR 24 HOURS MINIMUM (RUN DOMESTIC WATER SYSTEMS AT MAX FLOW FOR A MINIMUM OF ONE HALF (1/2) HOUR. REMOVE ROUGHING SCREEN AND INSTALL NORMAL SCREEN. AFTER TWO WEEKS OF NORMAL OPERATION INSTALL NEW NORMAL SCREEN.
16. OWNER HAS FIRST RIGHT OF REFUSAL ON EXISTING EQUIPMENT, FIXTURES, MATERIALS, ETC. BEING REMOVED AS PART OF THIS PROJECT.

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2			
1	IFC DELIVERABLE	5/22/25	CGA

CLAYTON G. ABBOTT NEW MEXICO 23856 PROFESSIONAL ENGINEER
05-21-25

DESIGNED BY: CDC
DRAWN BY: EG
CHECKED BY: CGA
APPROVED BY:
DATE: MAY 2025
SCALE: 12" = 1'-0"

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.:23-100-035-09

MECHANICAL & PLUMBING
GENERAL NOTES & LEGENDS

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
M-001

WILSON & COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

MECHANICAL & PLUMBING SPECIFICATIONS:

BASIC MECHANICAL MATERIALS AND METHODS:

1. THE DRAWINGS AND GENERAL PROVISION OF THE CONTRACT, INCLUDING GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND GENERAL REQUIREMENTS APPLY TO THE WORK SPECIFIED IN DIVISION 23 - MECHANICAL.
2. THE MECHANICAL CONTRACT INCLUDES ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR THE COMPLETE MECHANICAL SYSTEMS AS SHOWN AND HEREIN SPECIFIED.
3. EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS, MODEL NUMBER AND RATING ON A NAMEPLATE SECURELY AFFIXED.
4. ALL EQUIPMENT OF ONE TYPE (SUCH AS FURNACES, CONDENSING UNITS, ETC. SHALL BE THE PRODUCTS OF ONE MANUFACTURER, UNLESS OTHERWISE SPECIFIED.
5. THE QUANTITY OR QUALITY LEVEL SHOWN OR SPECIFIED SHALL BE MINIMUM PROVIDED OR PERFORMED. THE ACTUAL INSTALLATION MAY COMPLY EXACTLY WITH THE MINIMUM QUANTITY OR QUALITY SPECIFIED, OR IT MAY EXCEED THE MINIMUM WITHIN REASONABLE LIMITS. TO COMPLY WITH THESE REQUIREMENTS, INDICATED NUMERIC VALUES ARE MINIMUM OR MAXIMUM, AS APPROPRIATE, FOR CONTEXT OF REQUIREMENTS. REFER TO UNCERTAINTIES TO ARCHITECT FOR A DECISION BEFORE PROCEEDING. WHERE THE QUALITY OF REQUIRED MATERIAL IS NOT SPECIFIED, THE CONTRACTOR SHALL FURNISH A FIRST CLASS STANDARD ITEM AS APPROVED BY THE ARCHITECT/ENGINEER.
6. MANUFACTURER'S NAMES ARE INTENDED TO ESTABLISH TYPE AND QUALITY OF ITEMS TO BE PROVIDED VIA CONTRACT. THE MATERIALS, PRODUCTS, AND EQUIPMENT DESCRIBED IN THE SPECIFICATIONS OR ON THE DRAWINGS ESTABLISH A STANDARD OF REQUIRED FUNCTION, DIMENSION, APPEARANCE, AND QUALITY TO BE MET BY PROPOSED SUBSTITUTION. LISTING OF THESE MANUFACTURERS SHALL IN NO WAY BE CONSTRUED AS A DEVICE INTENDED TO LIMIT THE BIDDERS TO THOSE SPECIFICALLY LISTED.
7. ELECTRICAL CHARACTERISTICS FOR MECHANICAL EQUIPMENT: EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICES, CIRCUIT BREAKERS, AND CONDUIT SIZE ARE APPROPRIATELY MODIFIED. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES ARE SPECIFIED; EQUIPMENT SHALL COMPLY WITH REQUIREMENTS.
8. THE DRAWINGS ARE SCHEMATIC ONLY AND ARE NOT INTENDED TO SHOW THE EXACT ROUTING OF PIPING, DUCTWORK, ETC. FINAL DETERMINATION OF ROUTING SHALL BE MADE AT THE JOBSITE, IN COORDINATION WITH OTHER TRADES.
9. INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
10. ALL WORK UNDER THIS CONTRACT SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODE REQUIREMENTS. IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.
11. ALL COMPONENTS, ACCESSORIES, AND INSTALLATIONS REQUIRED FOR A COMPLETE MECHANICAL INSTALLATION SHALL BE PROVIDED. WHERE MATERIALS OR LABOR ARE REQUIRED FOR COMPLETION OF A SYSTEM, SUCH MATERIAL OR LABOR SHALL BE INCLUDED AS IF FULLY SPECIFIED HEREIN.
12. PERIODICALLY DURING CONSTRUCTION AND PRIOR TO OWNER ACCEPTANCE OF THE BUILDING, CONTRACTOR SHALL REMOVE FROM THE PREMISES AND DISPOSE OF ALL PACKING MATERIAL AND DEBRIS RELATED TO WORK PERFORMED UNDER THIS DIVISION.
13. BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL VISIT THE ACTUAL LOCATION OF THE JOB AND SHALL FULLY UNDERSTAND SCOPE OF WORK TO BE DONE AND THE CONDITIONS UNDER WHICH IT IS TO BE PERFORMED.
14. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SETTING HIS OWN PIPE SLEEVES, AND BE WELL AWARE OF THE JOB PROGRESS TO AVOID UNNECESSARY DELAY FOR SETTING OF SAME.
15. THE MECHANICAL CONTRACTOR SHALL DO ALL EXCAVATING AND BACKFILLING NECESSARY TO COMPLETE WORK UNDER THIS CONTRACT. LINES SHALL BE USED TO LAY OUT THE TRENCHES FOR UNDERGROUND WORK. TRENCHES SHALL BE OF SUFFICIENT WIDTH AND SHALL BE CRIBBED OR BRACED TO PREVENT CAVE IN OR SETTLEMENT. TRENCHES CLOSE TO WALLS AND COLUMNS OF THE BUILDING SHALL NOT BE EXCAVATED WITHOUT THE ARCHITECT'S PRIOR CONSENT. THE BOTTOMS OF TRENCHES SHALL BE TAMPED HARD AND GRADED TO SECURE THE REQUIRED FALL BEFORE LAYING PIPE. BELL HOLES SHALL BE EXCAVATED SO THE PIPE WILL REST ON SOLID GROUND FOR IT'S ENTIRE LENGTH. HAND BACKFILL AND TAMP BACKFILL INTO PLACE AT SIDES OF PIPES LEAVING TOPS AND JOINTS EXPOSED UNTIL PIPE RUNS HAVE BEEN TESTED AND APPROVED.
16. NOTIFY THE ENGINEER OF ERRORS, DISCREPANCIES, OR OMISSIONS IN THE DRAWINGS AND SPECIFICATIONS BEFORE CONSTRUCTION OR FABRICATION OF AFFECTED WORK, OR FAILING SUCH NOTICE, BE RESPONSIBLE FOR CORRECTION OF SUCH WORK WITHOUT COST TO OWNER, ARCHITECT, OR ENGINEER.

PIPE AND FITTINGS:

1. ABOVE GRADE PIPING AND FITTINGS:
   - A. TYPE L HARD COPPER PIPE WITH SWEAT TYPE FITTINGS AND 50/50 SOLDER SHALL BE USED FOR ALL DISCHARGE PIPE FROM RELIEF VALVES, CONDENSATE DRAIN, AND NON-POTABLE DOMESTIC WATER PIPING.
   - B. DOMESTIC WATER PIPING: TYPE L HARD COPPER PIPE WITH SWEAT TYPE FITTING AND 95/5 LEAD FREE SOLDER.
   - C. AT CONTRACTORS OPTION, A DEDUCTION TO THE BID MAY BE OFFERED FOR CROSS-LINKED POLYETHYLENE (PEX) WITH BRASS BARBED FITTINGS. ALL COMPONENTS SHALL BE MADE FROM SAME MANUFACTURER, AND INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. SYSTEMS USED MUST HAVE BEEN IN PRODUCTION FOR A MINIMUM OF 5 YEARS. ALL PIPING INSTALLED WHERE SUBJECT TO DAMAGE SHALL BE COPPER.
   - D. SCHEDULED 40 PVC DRAIN WASTE AND VENT PIPING WITH SOLVENT WELDED JOINTS SHALL BE USED FOR ALL SOIL, WASTE AND VENT LINES. ALL CHANGES IN DIRECTIONS SHALL BE MADE BY THE USE OF 45 WYES, HALF WYES, LONG SWEEP 1/4 BENDS, 1/8, OR 1/16 BENDS. SANITARY TEES MAY BE USED WHERE CHANGES IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL. WHERE SPACE CONDITIONS NECESSITATE THE USE OF SHORT RADIUS FITTING, APPROVAL SHALL BE OBTAINED BEFORE INSTALLATION. PVC PIPING USED IN RETURN AIR PLENUMS SHALL BE WRAPPED IN INSULATION TO MEET THE CODE FLAME SPREAD RATINGS.
   - E. SCHEDULE 40 BLACK STEEL PIPE SHALL BE USED FOR NATURAL GAS PIPING. FITTINGS SHALL BE MALLEABLE IRON OR WROUGHT STEEL WELDING TYPE WITH THREADED OR WELDED JOINTS.
2. BELOW GRADE PIPE AND FITTINGS:
   - A. SCHEDULED 40 PVC DRAIN WASTE AND VENT PIPING WITH SOLVENT WELDED JOINTS SHALL BE USED FOR ALL SOIL, WASTE AND VENT LINES. ALL CHANGES IN DIRECTIONS SHALL BE MADE BY THE USE OF 45 WYES, HALF WYES, LONG SWEEP 1/4 BENDS, 1/8, OR 1/16 BENDS. SANITARY TEES MAY BE USED WHERE CHANGES IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL. WHERE SPACE CONDITIONS NECESSITATE THE USE OF SHORT RADIUS FITTING, APPROVAL SHALL BE OBTAINED BEFORE INSTALLATION.
3. SOIL, WASTE AND VENT PIPING:
   - A. THE ARRANGEMENT OF THE SYSTEMS MUST BE AS DIRECT AS POSSIBLE AVOIDING ALL UNNECESSARY OFFSETS. ALL PIPE SHALL RUN AS INDICATED ON THE DRAWINGS, UNLESS SOME CONDITION SHOULD ARISE WHICH WOULD MAKE IT NECESSARY OR SEEM ADVISABLE TO ALTER SAME; IN WHICH CASE, THE ARCHITECT OR HIS REPRESENTATIVE MUST BE CONSULTED BEFORE MAKING ANY CHANGE. HORIZONTAL LINES SHALL BE GRADED 1/8" PER FOOT, UNLESS NOTED OTHERWISE. WHERE NECESSARY, LINES MAY PITCH AT 1/10" PER FOOT WHEN APPROVED NOTED.
   - B. EVERY VENT FOR TRAPS SHALL BE CONNECTED TO THE WASTE LINE BY AS SHORT A CONNECTION AS POSSIBLE, BUT IN NO CASE SHALL SUCH CONNECTION HAVE A LENGTH GREATER THAN 2' IN LENGTH, MEASURING HORIZONTALLY FROM THE CENTER OF THE FIXTURE TO THE VENT. HORIZONTAL VENTS SHALL CONNECT INTO THE MAIN STACK AT LEAST 18"ABOVE THE HIGHEST FIXTURE.
   - C. EACH FIXTURE AND PIECE OF EQUIPMENT REQUIRING CONNECTIONS TO THE SANITARY DRAINAGE SYSTEM SHALL BE EQUIPPED WITH A TRAP. EACH TRAP SHALL BE PLACED AS NEAR THE FIXTURE AS POSSIBLE AND NO FIXTURE SHALL BE DOUBLE TRAPPED. COMBINATION DRAIN/VENT PIPING IS ACCEPTABLE WHERE INDICATED AND ALLOWED BY BUILDING CODES.
   - D. ALL UNDER SLAB PLASTIC PIPING SHALL BE INSTALLED IN STRICT COMPLIANCE WITH BUILDING CODES AS WELL AS ALL MANUFACTURER'S RECOMMENDATIONS.
4. DOMESTIC WATER PIPING:
   - A. ALL RUNS OF PIPE SHALL BE INSTALLED AS SHOWN ON DRAWINGS, UNLESS SOME CONDITION SHOULD ARISE WHICH WOULD MAKE IT NECESSARY OR SEEM ADVISABLE TO ALTER SAME; IN WHICH CASE, THE ARCHITECT OR HIS REPRESENTATIVE MUST BE CONSULTED BEFORE MAKING ANY CHANGE.

MECHANICAL INSULATION:

1. ALL DOMESTIC HOT AND COLD WATER PIPING SHALL BE INSULATED WITH 1/2" THICK PERFORMED FIBERGLASS PIPE INSULATION, OWENS CORNING, "FIBERGLAS 25 ASJ/SSL," OR EQUAL KNAUF OR CERTAIN-TEED. INSULATION THICKNESS IS BASED ON C=4.0. INCREASE THICKNESS AS REQUIRED FOR LOWER C.
2. VAPOR BARRIER SHALL BE PROVIDED ON COLD WATER PIPING. VAPOR BARRIER SHALL BE CONTINUOUS THROUGHOUT PIPING SYSTEM WITH ALL OPENINGS SEALED. FITTING INSULATION ON PIPE REQUIRING SAME SHALL RECEIVE A 1 MIL ALUMINUM FOIL BARRIER SANDWICHED BETWEEN TWO COATS OF #1C501 VAPOR BARRIER MASTIC.
3. FITTINGS, VALVES BODIES, HANGERS, ETC SHALL BE INSULATED WITH FIBERGLASS WRAP BUILT UP TO ADJACENT INSULATION THICKNESS, WIRED IN PLACE. PROVIDE PRE-FORMED PVC FITTINGS SHALL CARRY A 25 OR LESS FLAMESPREAD AND 50 OR LESS SMOKE DEVELOPMENT RATING.
4. IF THE LINES ARE TO HUNG FROM THE EXTERIOR OF THE INSULATION, PERFORMED SHEET-METAL INSULATION SHIELDS SHALL BE PROVIDED.
5. ALL JOINTS IN INSULATION SHALL BE SEALED WITH #520 ADHESIVE APPLIED IN STRICT ACCORDANCE WITH THE MAN MANUFACTURER'S RECOMMENDATIONS.
6. INSULATE REFRIGERANT SUCTION LINES WITH 3/4" FOAM PIPE INSULATION, "ARMACELL ARMAFLEX" OR EQUIVALENT. PAINT EXTERIOR INSULATION WITH TWO COATS OF "ARMACELL ARMAFLEX" FINISH.

PIPING SPECIALTIES AND VALVES:

1. VALVES SHALL BE INSTALLED AT LOCATIONS SHOWN AND SPECIFIED; THE LOCATIONS SHALL BE ACCESSIBLE. ALL VALVES SHALL BE INSTALLED WITH THEIR STEMS OR SPINDLES HORIZONTAL OR ABOVE.
2. PROVIDE UNIONS WHERE SHOWN AT ALL EQUIPMENT CONNECTIONS AND AT OTHER POINTS WHERE DISCONNECTION OF PIPING WILL BE REQUIRED.
3. APOLLO BRONZE BODY BALL VALVES, SERIES 70 OR APPROVED EQUAL, WITH THREADED OR SOLDERED END, SHALL BE USED IN 3" AND SMALLER COPPER STEEL LINES FOR DOMESTIC WATER DUTIES. PROVIDE WITH EXTENDED STEM WHEN USED IN INSULATED LINES.
4. SCREWED OR SOLDER TYPE GROUND JOINT UNIONS SHALL BE USED ON PIPING 2" AND SMALLER.
5. UNIONS SHALL NOT BE INSTALLED IN WALLS OR PARTITIONS OR ABOVE NON ACCESSIBLE CEILINGS.
6. DIELECTRIC UNIONS SHALL BE USED WHERE COPPER LINES CONNECT TO OTHER TYPES OF MATERIALS.
7. PROVIDE CHROME PLATED ESCUTCHEONS ON EXPOSED PIPES WHERE THEY PASS THROUGH WALLS AND CEILINGS.

PIPING SUPPORTS, ANCHORS AND SEALS:

1. PROVIDE PIPE SLEEVES, HANGERS AND SUPPORTS.
2. PIPE SHALL BE SECURELY SUPPORTED FROM STRUCTURE. HANGERS SHALL BE PROVIDED WHERE REQUIRED. NO PLASTIC HANGERS OR STRAPS SHALL BE USED.
3. PIPE SLEEVES WILL BE REQUIRED IN ALL PIPE PENETRATIONS THROUGH EXTERIOR WALLS AND FLOORS. SLEEVES SHALL BE SCHEDULE 5 STEEL PIPE, FIELD FABRICATED FROM MINIMUM 16 GAUGE OVERLAP STEEL WITH 2" OVERLAP AT THE SEAM.
4. SPACE BETWEEN SLEEVES AND PIPES IN OUTSIDE WALLS SHALL BE FILLED OR TIGHTLY CAULKED WITH OAKUM, BUTYL RUBBER, LINK SEALS OR OTHER APPROVED EQUALLY EFFECTIVE MATERIAL TO RESIST THE PENETRATION OF WATER. PIPE SLEEVE SHALL BE SUFFICIENT DIAMETER TO PROVIDE APPROXIMATELY 1/2" AROUND PIPE, AND IN THE CASE OF INSULATED PIPE, APPROXIMATELY 1/2" AROUND INSULATION.
5. SLEEVES SHALL BE SET NO CLOSER THAN 3 PIPE DIAMETERS CENTER TO CENTER, BESET 3/4" PAST ALL WALL SURFACES, AND SECURELY ANCHORED TO THE WALL.
6. HANGER AND SUPPORT SPACING FOR HORIZONTAL STEEL AND COPPER PIPING SHALL NOT EXCEED THE FOLLOWING:

PIPE SIZE	STEEL PIPE	COPPER PIPE
1/2" - 1-1/4"	7'	5'
1-1/2" - 2"	9'	6'
2-1/2" - 3"	11'	10'

7. SOIL, WASTE, VENT AND DRAIN PIPE SHALL HAVE A MINIMUM OF ONE HANGER PER PIPE SECTION AT THE JOINTS AND AT CHANGES OF DIRECTION AND BRANCH CONNECTIONS.
8. SPACING OF SUPPORTS AND BRACES FOR EXPOSED VERTICAL PIPING SHALL NOT EXCEED THE HANGER SPACING SPECIFIED FOR HORIZONTAL PIPE, UNLESS OTHERWISE INDICATED.

PLUMBING SPECIALTIES:

1. PROVIDE ZURN, SMITH, WADE, JOSAM, OR APPROVED EQUAL CLEANOUTS WHERE SHOWN. CLEANOUTS SHALL BE THE SAME SIZED PIPE FOR PIPE 4" AND SMALLER, AND 4" FOR LINES 4" AND LARGER.
2. FLOOR AND EXTERIOR CLEANOUTS SHALL BE ZURN ZN-1400. SET IN 12"X12"X4" CONCRETE FOR EXTERIOR USE.
3. WALL CLEANOUTS SHALL BE "NO-HUB" CAPS BEHIND ZURN Z1446 ROUND STAINLESS STEEL COVER.

PLUMBING FIXTURES AND TRIM:

1. PROVIDE COMPLETE, ALL FIXTURES INDICATED. ALL FIXTURES SHALL BE SET FIRM AND TRUE, CONNECTED ALL PIPE AND READY FOR USE. ALL FIXTURES SHALL BE OF ONE MANUFACTURER THROUGHOUT THE ENTIRE INSTALLATION, UNLESS OTHERWISE SPECIFIED. STOP VALVES SHALL BE PROVIDED ON THE WATER CONNECTIONS TO ALL FIXTURES.
2. REFER TO PLUMBING FIXTURE SCHEDULE ON DRAWINGS. FIXTURE FROM ELJER, AMERICAN STANDARD, CRANE, AND KOHLER ARE EQUALLY ACCEPTED PROVIDED COMPARABLE UNITS ARE PROVIDED.
3. REFER TO ELEVATIONS ON THE ARCHITECT'S DRAWINGS FOR INSTALLATION HEIGHT OF WALL MOUNTED FIXTURES.
4. PLUMBING TRIM UTILIZED SHALL BE PROVIDED WITH RENEWABLE SEATS AND REPLACEABLE INTERNAL WORKING COMPONENTS.
5. ALL FIXTURES SHALL BE SUBSTANTIALLY SUPPORTED IN AN APPROVED MANNER. FURNISH AND INSTALL ADJUSTABLE CARRIERS AS REQUIRED FOR ALL WALL HUNG FIXTURES.
6. ALL SPACES BETWEEN FIXTURES AND FURNISHED SURFACES SHALL BE CALKED AND POINTED SQUARE WITH AN APPROVED WHITE SILICONE SEALANT RESULTING IN A NEAT AND SMOOTH APPEARANCE.
7. THE CONTRACT SHALL BE RESPONSIBLE FOR THE PROTECTION CLEANNESS OF ALL FIXTURES, EQUIPMENT AND ACCESSORIES.

SHEET METAL WORK:

1. PROVIDE ALL SHEET METAL WORK FOR SUPPLY, RETURN, AND EXHAUST AIR SYSTEMS. PROVIDE ALL GRILLES, LOUVERS, HAND DAMPERS, AND ALL WORK REQUIRED TO MAKE THE JOB COMPLETE AS SHOWN ON DRAWINGS. REFER TO ARCHITECTURAL FOR FINISHES FOR LOUVERS AND GRILLES.
2. ALL DUCT CONSTRUCTION, GAUGES, METHODS OF CONSTRUCTION, AND METHODS FOR HANGING AND SUPPORTING SHALL CONFORM TO SMACNA STANDARDS APPLICABLE SECTIONS OF THE MECHANICAL CODE.
3. ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL TO 2" SMACNA PRESSURE CLASS "C" SEALING.
4. MAKE JOINTS IN RECTANGULAR DUCTWORK AIRTIGHT AND PATCH OR SOLDER OPEN CORNERS.
5. ALL CONCEALED ROUND DUCTWORK SHALL BE 26 GAUGE GALVANIZED "SNAP LOCK" PIPE WITH ALL CHANGES IN DIRECTION MADE VIA ADJUSTABLE ELBOWS. EXPOSED ROUND DUCTWORK SHALL BE SINGLE WALL SPIRAL DUCT WITH PAINTLOCK FINISH OR GALVANIZED FINISH AS DIRECTED BY OWNER. ALL SEEMS AND CONNECTIONS SHALL BE SEALED WITH FOIL FACED PRESSURE SENSITIVE TAPE. SILVER-COATED POLYETHYLENE CLOTH TAPE IS NOT ACCEPTABLE. DUCT SIZES SHOWN ON DRAWINGS ARE SIR STREAM SIZE.
6. PROVIDE VENTFABRICS, INC., "METALEDGE VENTGLASS" CANVAS CONNECTIONS FOR ALL DUCT SYSTEMS AT CONNECTIONS TO MOTORIZED EQUIPMENT.
7. COORDINATE DUCTWORK INSTALLATION WITH OTHER TRADES AND VERIFY THE LOCATION OF ALL LIGHT FIXTURES, PIPES, BEAMS. AND OTHER POSSIBLE OBSTRUCTIONS, AND ADJUST ROUTING OF DUCTWORK AS REQUIRED TO ACCOMMODATE SAME.
8. ALL ROUND EXPOSED DUCTWORK SHALL BE SPIRAL DUCT WITH PAINT-GRIP FINISH. DUCT SHALL BE FIELD PAINTED.

TESTING, ADJUSTING, AND BALANCING:

1. ALL TESTING AND BALANCING WORK SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR IN ACCORDANCE WITH NEBB NATIONAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS.
2. ADJUST ALL FANS AND AIR OUTLETS TO WITHIN 10% OF SPECIFIED AIRFLOW.

END OF MECHANICAL SPECIFICATIONS

NO.	REVISION DESCRIPTION	DATE	BY
5			
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1	IFC DELIVERABLE	5/22/25	CGA

CLAYTON G. ABBOTT NEW MEXICO 23856 PROFESSIONAL ENGINEER 05-21-25

DESIGNED BY: CDC
DRAWN BY: EG
CHECKED BY: CGA
APPROVED BY:
DATE: MAY 2025
SCALE: 12" = 1'-0"

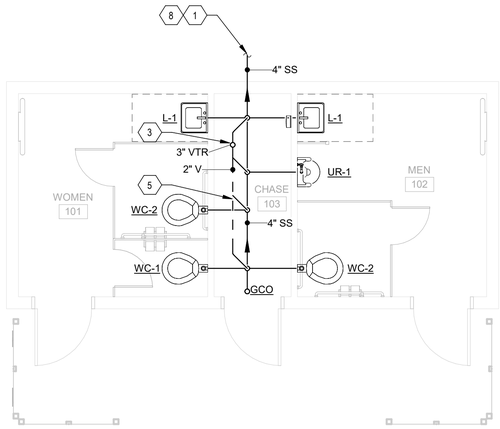
BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.:23-100-035-09

MECHANICAL & PLUMBING SPECIFICATIONS

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

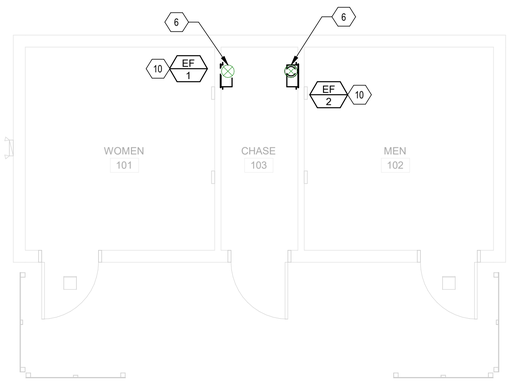
SHEET
M-002



PLAN NORTH

D6 LEVEL 1 PLUMBING WASTE & VENT PLAN

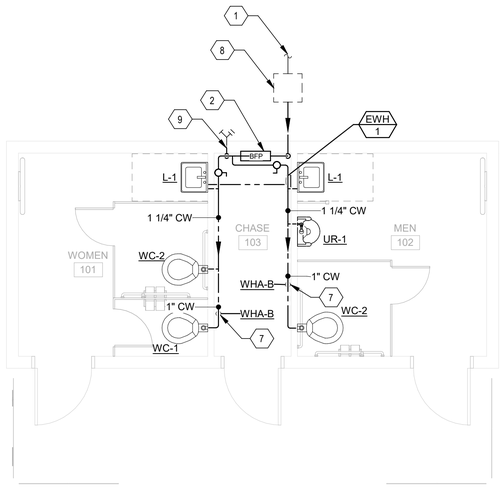
SCALE: 1/4" = 1'-0"



PLAN NORTH

A3 MECHANICAL HVAC FLOOR PLAN

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



PLAN NORTH

A6 LEVEL 1 PLUMBING DOMESTIC WATER PLAN

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

WILSON & COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

GENERAL SHEET NOTES

A. COORDINATE EXACT LOCATION OF ROOF PENETRATIONS WITH ROOF STRUCTURE LOCATIONS. ALL PENETRATIONS TO BE A MIN. OF 18" FROM WALLS, CURBS, PIPES, VENT STACKS, AND OTHER ROOF PENETRATIONS.

B. COORDINATE ALL PLUMBING AND PIPING WITH OTHER EQUIPMENT.

C. INSTALL ALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

D. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND INSTALLATION HEIGHT OF ALL PLUMBING FIXTURES & EXACT BUILDING DIMENSIONS.

E. INSULATE ALL HOT WATER, COLD WATER AND P-TRAPS WITH TRAP WRAP TO ADA REQUIREMENTS.

F. SEE SHEET M-501 FOR PLUMBING FIXTURE SCHEDULE. ALL PLUMBING FIXTURE SUBSTITUTIONS SHALL BE ENGINEER APPROVED EQUAL. REFER TO PLUMBING FIXTURE SCHEDULE ON M-501 FOR FIXTURE ROUGH-IN SIZES.

G. MANIFOLD ALL PLUMBING VENTS ABOVE FLOOD LEVEL OF PLUMBING FIXTURES.

H. PROVIDE CHROME-PLATE STEEL ESCUTCHEONS FOR PIPES AT WALL PENETRATIONS.

I. HOT AND COLD WATER RUNS ARE 1/2" UNLESS OTHERWISE SPECIFIED.

J. ALL WATER RUNS ARE OVERHEAD AND SHALL BE CONCEALED WHEREVER POSSIBLE (EXCEPT IN PLUMBING CHASES). ANY EXPOSED PIPING SHALL BE COORDINATED WITH AN ARCHITECT PRIOR TO INSTALLATION. SLOPE TO DRAIN.

K. HOT AND COLD WATER PIPING IS TO BE INSTALLED ACCORDING TO UPC. INSULATE HOT WATER AND COLD WATER SUPPLY PIPING WITH 1-1/2" FIBERGLASS INSULATION.

L. PIPE MATERIAL: TYPE L COPPER PIPE FOR DOMESTIC WATER.

M. VERIFY EXISTING SANITARY SEWER SIZE AND INVERT AS WELL AS EXISTING DOMESTIC WATER SIZE, LOCATION, AMD PRESSURE. NOTIFY THE ENGINEER IF THERE ARE ISSUES WITH EITHER.

N. CONTRACTOR RESPONSIBLE FOR LOCATING ALL UTILITY LINES.

O. ALL AIR VENTS, GAUGES, THERMOMETERS, AND TRAP PRIMERS SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION, OR BEHIND AN ACCESS PANEL, PROVIDED BY PLUMBING CONTRACTOR.

P. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND WITH THE LATEST EDITION OF THE PREVAILING STATE MECHANICAL/PLUMBING AND BUILDING CODES AS WELL AS ALL REGULATIONS THAT MAY APPLY. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE GOVERNING CODE OF ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.

Q. THIS PLAN HAS BEEN CREATED USING FIELD OBSERVATIONS MADE DURING SITE VISIT. THE EXISTING CONDITIONS OF THE MECHANICAL/PLUMBING AND FIRE PROTECTION SHALL BE VERIFIED AND REVIEWED BY THE CONTRACTOR PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR STARTING WORK MEANS THEY HAVE ACCEPTED THE EXISTING CONDITIONS AS WORKABLE FOR THE PROJECT PRESENTED IN THESE CONTRACT DOCUMENTS. CONTRACTOR SHALL VISIT THE SITE AND REVIEW THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID.

SHEET KEYNOTES

1. 4" SS (18 DFU); REFER TO CIVIL PLANS FOR CONTINUATION TO EXISTING.
2. 1-1/2" DCW SERVICE ENTRANCE (39 WSFU; 46 GPM) TO BUILDING W/ SHUT-OFF VALVE AND BACKFLOW PREVENTER; REFER TO DETAIL A6/M-501 REFER TO CIVIL PLANS FOR CONTINUATION FROM EXISTING WATER SERVICE.
3. 3" VTR - RE-USE EXISTING VENT THRU ROOF PENETRATION.
4. INSTALL DOMESTIC WATER PIPING ROUTED HORIZONTALLY TIGHT TO WALL, PIPING SHOWN SCHEMATICALLY FOR CLARITY, COORDINATE ACCESS TO ISOLATION VALVES (TYPICAL).
5. INSTALL SANITARY VENT HORIZONTALLY TIGHT TO TOP OF WALL, PIPING SHOWN SCHEMATICALLY FOR CLARITY (TYPICAL).
6. ROUTE 8"⌀ EXHAUST DUCT THRU ROOF TO ROOF CAP. PROVIDE BACKDRAFT DAMPER. (TYPICAL OF 2)
7. PROVIDE J.R. SMITH 5010 WATER HAMMER ARRESTOR.
8. VALVE PIT FOR WINTERIZING DOMESTIC WATER PIPING. PROVIDE VALVE FOR SHUTOFF OF WATER AND DRAIN VALVE FOR DRAINING SYSTEM.
9. RECONNECT TO EXISTING HOSE BIBB MOUNTED ON EXTERIOR WALL. FIELD VERIFY EXACT LOCATION OF HOSE BIBB AND THAT THE INSTALLATION IS FREEZE-PROOF.
10. MOUNT EF VERTICALLY TO BACKSIDE OF PLYWOOD WALL. PROVIDE ADDITIONAL FRAMING TO SUPPORT WEIGHT (~10 LBS) OF EXHAUST FAN.
11. POINT OF USE WATER HEATER INSTALLED IN THE PLUMBING CHASE. MOUNT PER MANUFACTURER'S RECOMMENDATIONS AND PROVIDE REQUIRED SERVICE CLEARANCES AROUND UNIT.

NO.	REVISION DESCRIPTION	DATE	BY
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1	IFC DELIVERABLE	5/22/25	CGA

CLAYTON G. ABBOTT
NEW MEXICO
23856
PROFESSIONAL ENGINEER
05-21-25

DESIGNED BY: CDC
DRAWN BY: EG
CHECKED BY: CGA
APPROVED BY:
DATE: MAY 2025
SCALE: 1/4" = 1'-0"

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.:23-100-035-09

MECHANICAL & PLUMBING PLANS

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
M-101

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE DESCRIPTION	MANUFACTURER / MODEL NO.	FIXTURE MOUNTING	ROUGH IN SCHEDULE				COMMENTS
				CW (IN.)	HW (IN.)	W (IN.)	V (IN.)	
L-1	LAVATORY	ACORN	34" TOP OF RIM	1/2"	1/2"	2"	1-1/2"	1 STATION 17 3/8" X 27 3/4" STAINLESS STEEL SECURITY LAVATORY WITH PNEUMATICALLY OPERATED. HOT AND COLD PUSH BUTTON ACTIVATION. AIR CONTROL VALVE AND ADJUSTABLE VALVE TIME FROM 5-60 SECONDS.
UR-1	URINAL	ACORN	17" TOP OF RIM	3/4"	-	3"	2"	STAINLESS STEEL ADA COMPLIANT WALL MOUNTED SECURITY URINAL WITH -FVH CONCEALED HYDRAULIC FLUSH VALVE. PROVIDE WITH ZURN Z1222-WALL CARRIER.
WC-1	WATER CLOSET	ACORN	15" TOP OF RIM	1"	-	4"	2"	STAINLESS STEEL WALL MOUNTED SECURITY WATER CLOSET WITH -FVH CONCEALED HYDRAULIC FLUSH VALVE. PROVIDE WITH ZURN Z1201-N CK WAKK CARRIER.
WC-2	ADA WATER CLOSET	ACORN	17-1/2" TOP OF RIM	1"	-	4"	"2	HANDICAP STAINLESS STEEL WALL MOUNTED SECURITY WATER CLOSET WITH -FVH CONCEALED HYDRAULIC FLUSH VALVE. PROVIDE WITH ZURN Z1201-N CL WALL CARRIER.

EXHAUST FAN SCHEDULE

MARK	NO.	MANUFACTURER/ MODEL NO.	LOCATION	TYPE	CFM	ESP (IN. W.C.)	SONES	ELECTRICAL						REMARKS
								VOLT	PHASE	WATTS	HP	MCA	MOCP	
EF	1	GREENHECK / SP-B200	SEE PLANS	CABINET	210	0.36	4.5	120	1	172	0.03	3.4	15	A-D
EF	2	GREENHECK / SP-B200	SEE PLANS	CABINET	210	0.36	4.5	120	1	172	0.03	3.4	15	A-D

GENERAL NOTES:

1. INSTALL FAN PER MANUFACTURER'S REQUIREMENTS.
2. PROVIDE MANUFACTURERS RECOMMENDED SERVICE CLEARANCE AROUND ENTIRE UNIT.

REMARK NOTES:

A. PROVIDE WITH BACKDRAFT DAMPER.
B. PROVIDE WITH PEST SCREEN.
C. PROVIDE WITH SPEED CONTROLLER.
D. EXHAUST FAN SHALL BE INTERLOCKED TO TURN ON/OFF WITH OCCUPANCY SENSOR STYLE LIGHT SWITCH. COORDINATE WITH ELECTRICAL.

DOMESTIC WATER HEATER SCHEDULE (ELECTRIC)

MARK	NO.	MANUFACTURER / MODEL NO.	MINIMUM FLOW (GPM)	MAX FLOW RATE (52°F RISE)	kW	ELECTRICAL		REMARKS
						VOLT	PHASE	
EWH	1	STIEBEL ELTRON / MINI-E 6-2	0.48	1.4	5.7	240	1	A

GENERAL NOTES:

1. BASED ON 62°F INLET WATER TEMPERATURE.

REMARKS:

A. MUST BE NSF 61 APPROVED.

PIPE INSULATION SCHEDULE - PLUMBING

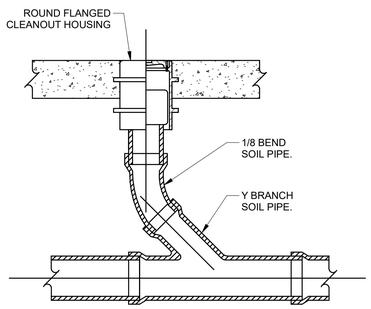
PIPING SYSTEM	INSULATION TYPE	JACKET TYPE	VAPOR BARRIER MASTIC	PIPE INSULATION THICKNESS (INCHES) FOR NOMINAL PIPE DIAMETERS (INCHES)		REMARKS
				< 1"	1" TO < 1-1/2"	
DOMESTIC COLD WATER	FIBERGLASS	ALL SERVICE JACKET	YES	1"	1"	A
DOMESTIC HOT WATER	FIBERGLASS	ALL SERVICE JACKET	YES	1"	1"	A

GENERAL NOTES:

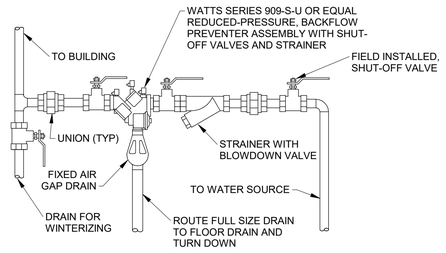
1. ALL EXTERIOR PIPING & PIPING EXPOSED WITHIN INTERIOR SPACES SHALL BE INSTALLED WITH EMBOSSED ALUMINUM JACKET.

REMARKS:

A. PIPING SHALL BE INSULATED IN ACCORDANCE WITH IECC SECTION C403.11.3.

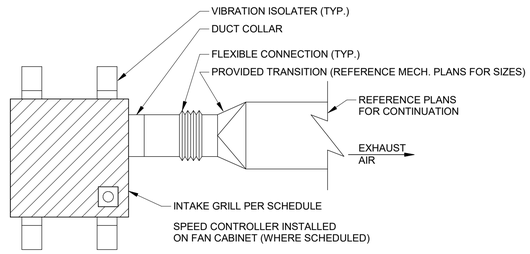


A4 SANITARY CLEANOUT FLOOR SLAB DETAIL
NTS



NOTE: CONFIRM THAT STREET WATER PRESSURE IS NOT IN EXCESS OF 70 PSI. IF PRESSURES EXCEED 70 PSI NOTIFY ENGINEER AND A PRESSURE REDUCING VALVE AND/OR VALVE(S) IN SERIES WILL BE REQUIRED.

A6 WATER SERVICE ENTRANCE DETAIL
NTS



A8 CABINET EXHAUST FAN
NTS

WILSON & COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

NO.	REVISION DESCRIPTION	DATE	BY
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1	IFC DELIVERABLE	5/22/25	CGA

CLAYTON G. ABBOTT NEW MEXICO 23856 PROFESSIONAL ENGINEER 05-21-25

DESIGNED BY: CDC
DRAWN BY: EG
CHECKED BY: CGA
APPROVED BY:
DATE: MAY 2025
SCALE: As indicated

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.:23-100-035-09

MECHANICAL & PLUMBING DETAILS

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
M-501

SYMBOL LEGEND - POWER PLANS

SYMBOL	DESCRIPTION
—⊖	RECEPTACLE, NEMA 5-20R SIMPLEX UNLESS OTHERWISE INDICATED, SEE PLANS FOR MOUNTING HEIGHT, COORDINATE EXACT LOCATION WITH ARCHITECTURAL PLANS
=⊖	RECEPTACLE, NEMA 5-20R DUPLEX UNLESS OTHERWISE INDICATED, MOUNT AT 18" AFF, UNLESS OTHERWISE INDICATED, COORDINATE EXACT LOCATION WITH ARCHITECTURAL PLANS
=⊖ A	RECEPTACLE, NEMA 5-20R DUPLEX UNLESS OTHERWISE INDICATED, MOUNT AT 4" ABOVE COUNTER-TOP TO CENTER OF DEVICE WHEN COUNTER HAS NO SPLASH BLOCK OR MOUNT AT 4" ABOVE SPLAH BLOCK CENTER OF DEVICE WHEN COUNTER HAS SPLASH BLOCK, COORDINATE EXACT LOCATION AND HEIGHT OF OUTLET WITH ARCHITECTURAL PLANS
=⊖ G	RECEPTACLE, WITH GFCI PROTECTION, NEMA 5-20R DUPLEX UNLESS OTHERWISE INDICATED
=⊖ WP	RECEPTACLE, WITH GFCI PROTECTION, MOUNTED IN WEATHERPROOF-IN-USE HOUSING, NEMA 5-20R DUPLEX UNLESS OTHERWISE INDICATED
=⊖ S	RECEPTACLE, SWITCHED, NEMA 5-20R DUPLEX, UNLESS OTHERWISE INDICATED
⊖ C	RECEPTACLE, CEILING MOUNTED, NEMA 5-20R DUPLEX, UNLESS OTHERWISE INDICATED
=●	RECEPTACLE, EMERGENCY POWER, NEMA 5-20R DUPLEX, UNLESS OTHERWISE INDICATED
⊕ C	RECEPTACLE, CEILING MOUNTED, NEMA 5-20R QUADRAPLEX, UNLESS OTHERWISE INDICATED
=⊕	RECEPTACLE, NEMA 5-20R QUADRAPLEX, UNLESS OTHERWISE INDICATED
⊢◯	RECEPTACLE, SPECIAL PURPOSE, SEE PLANS FOR NEMA TYPE OR RATING
⊡	RECEPTACLE, FLOOR MOUNTING, NEMA 5-20R DUPLEX UNLESS OTHERWISE INDICATED
⊞	RECEPTACLE, FLOOR MOUNTING, NEMA 5-20R QUADRAPLEX UNLESS OTHERWISE INDICATED
▬■▬■▬	MULTI-OUTLET RECEPTACLE STRIP, NEMA 5-20R DUPLEX UNLESS OTHERWISE INDICATED, SEE PLANS FOR OUTLET SPACING AND MOUNTING HEIGHT
▬■▬▼▬	MULTI-OUTLET STRIP, TYPE RJ-45 VOICE DATA OUTLETS, UNLESS OTHERWISE INDICATED AND RECEPTACLE, NEMA 5-20R DUPLEX, UNLESS OTHERWISE INDICATED, SEE PLANS FOR OUTLET SPACING AND MOUNTING HEIGHT
⊡▼	COMBINATION FLOOR-MOUNTED TYPE RJ-45 VOICE/DATA OUTLET, UNLESS OTHERWISE INDICATED AND RECEPTACLE, NEMA 5-20R DUPLEX, UNLESS OTHERWISE INDICATED
⊞▼	COMBINATION FLOOR-MOUNTED TYPE RJ-45 VOICE/DATA OUTLET, UNLESS OTHERWISE INDICATED AND RECEPTACLE, NEMA 5-20R QUADRAPLEX, UNLESS OTHERWISE INDICATED
Ⓙ	JUNCTION BOX, FLUSH MOUNTED IN FINISHED SPACES OR OTHERWISE SURFACE MOUNTED, MINIMUM BOX VOLUME SHALL BE 21 CUBIC INCHES (344 CC)
[Ⓙ]	JUNCTION BOX, FLOOR MOUNTED
Ⓣ	THERMOSTAT, MOUNT AT 46" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED
⊡	PUSH BUTTON, MOUNT AT 46" TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, SEE PLANS FOR FURTHER DETAILS
——⊣	RACEWAY STUB, INDICATE LOCATION AND DIMENSION ON RECORD DRAWINGS
⍁	DISCONNECT SWITCH, FUSED, MOUNT AT MAXIMUM OF 66"AFF TO CENTER OF OPERABLE HANDLE OR ACCESSIBLE ABOVE FINISHED CEILING
□	DISCONNECT SWITCH, NON-FUSED, MOUNT AT MAXIMUM OF 66"AFF TO CENTER OF OPERABLE HANDLE OR ACCESSIBLE ABOVE FINISHED CEILING
⧗	COMBINATION MOTOR STARTER WITHOUT DISCONNECT SWITCH, MOUNT AT MAXIMUM OF 66" AFF TO TOP OF PANEL OR ACCESSIBLE ABOVE FINISHED CEILING
┘⧗	COMBINATION MOTOR STARTER WITH DISCONNECT SWITCH, MOUNT AT MAXIMUM OF 66" AFF TO TOP OF PANEL OR ACCESSIBLE ABOVE FINISHED CEILING
⑤	MOTOR CONNECTION WITH HORSEPOWER (HP) INDICATED
HOT GROUND 10 10 NEUTRAL	CONDUIT AND WIRING -ARROWS INDICATE HOMERUN TO PANEL. HATCH MARKS INDICATE NUMBER OF CONDUCTORS IF MORE THAN TWO PLUS ONE GROUND. NUMBER INDICATES SIZE IF OTHER THAN #12 AWG. DOES NOT APPLY TO CONDUCTORS USED FOR LIGHTING CIRCUITS- FOR LIGHTING CIRCUITS, PLANS SHOW SPECIFIC CONDUCTORS ONLY FOR UNSWITCHED POWER FEED TO FIXTURES OR GROUPS OF FIXTURES. PLANS DO NOT SHOW WHAT CONDUCTORS ARE REQUIRED TO ACCOMPLISH LIGHTING SCHEMES SHOWN. CONTRACTOR MUST DETERMINE WHAT CONDUCTORS ARE NEEDED AMONG FIXTURES, SWITCHES, ETC, AND INCLUDE REQUIRED WIRING.
LA-1ab	LETTER AND NUMBER DENOTES PANELBOARD AND CIRCUIT. LETTER DENOTES SUB CIRCUIT AND SWITCHING. (IF REQUIRED)
☐☐☐	CABLE TRAY OR LADDER RACK, POWER OR SPECIAL SYSTEMS, SEE PLANS FOR DETAILS
▭	PANELBOARD OR DISTRIBUTION BOARD, MOUNT AT MAXIMUM OF 66" AFF TO CENTER OF HIGHEST OPERABLE HANDLE
[Ⓜ]	METER IN CABINET OR PANEL FOR ELECTRICAL UTILITY, SEE ONE-LINE DIAGRAM, MOUNT AT MAXIMUM OF 66" AFF TO TOP OF ENCLOSURE, MOUNT WITHIN 48" MEASURED HORIZONTALLY TO MAIN SERVICE DISCONNECT SWITCH EXCEPT WITH UNDERGROUND RACEWAYS BETWEEN THEM
—|||	GROUND OR EARTH CONNECTION, SEE ONE-LINE DIAGRAM
[T]	TRANSFORMER, SEE SITE PLANS OR TRANSFORMER SCHEDULES FOR SIZE AND TYPE
⫘	TRANSFORMER, SEE ONE-LINE DIAGRAMS OR TRANSFORMER SCHEDULES FOR SIZE AND TYPE
—UEC—	UNDERGROUND ELECTRICAL CONDUITS
—UDC—	UNDERGROUND DATA CONDUITS
—LTNG—	LIGHTNING PROTECTION CONDUCTOR
—T—	TELEPHONE RACEWAY, SEE PLANS FOR SIZE AND OTHER DETAILS
—C—	COMPUTER DATA RACEWAY, SEE PLANS FOR SIZE AND OTHER DETAILS

SYMBOL LEGEND-SPECIAL SYSTEMS

SYMBOL	DESCRIPTION
◀ X	DATA OUTLET, WHERE X INDICATES NUMBER OF CABLES OR OUTLETS REQUIRED IF MORE THAN ONE (1), MOUNT AT 18" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED,PROVIDE 3/4" CONDUIT STUBBED ABOVE NEAREST ACCESSIBLE CEILING WITH PLASTIC BUSHINGS AT EACH END MEASURED PULL STRING, SUBSTITUTE 1"CONDUIT WHEN MORE THAN 3 CABLES OR 1.25" CONDUIT WHEN MORE THAN 6 CABLES ARE INDICATED, PROVIDE OUTLET BOX APPROPRIATE FOR CONDUIT SIZE, WHEN CABLING IS INSTALLED CONTRACTOR SHALL PROVIDE CATEGORY 5E PLENUM-RATED CABLING, UNLESS OTHERWISE INDICATED
◁ X	TELEPHONE OUTLET, WHERE X INDICATES NUMBER OF CABLES OR OUTLETS REQUIRED IF MORE THAN ONE (1), MOUNT AT 18" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 3/4" CONDUIT STUBBED ABOVE NEAREST ACCESSIBLE CEILING WITH PLASTIC BUSHINGS AT EACH END MEASURED PULL STRING, SUBSTITUTE 1"CONDUIT WHEN MORE THAN 3 CABLES OR 1.25" CONDUIT WHEN MORE THAN 6 CABLES ARE INDICATED, PROVIDE OUTLET BOX APPROPRIATE FOR CONDUIT SIZE, WHEN CABLING IS INSTALLED CONTRACTOR SHALL PROVIDE CATEGORY 5E PLENUM-RATED CABLING, UNLESS OTHERWISE INDICATED
◭ X	TELEPHONE/DATA OUTLET, WHERE X INDICATES NUMBER OF CABLES OR OUTLETS REQUIRED IF MORE THAN ONE (1), MOUNT AT 18" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 3/4" CONDUIT STUBBED ABOVE NEAREST ACCESSIBLE CEILING WITH PLASTIC BUSHINGS AT EACH END MEASURED PULL STRING, SUBSTITUTE 1"CONDUIT WHEN MORE THAN 3 CABLES OR 1.25" CONDUIT WHEN MORE THAN 6 CABLES ARE INDICATED, PROVIDE OUTLET BOX APPROPRIATE FOR CONDUIT SIZE, WHEN CABLING IS INSTALLED CONTRACTOR SHALL PROVIDE CATEGORY 6 PLENUM-RATED CABLING, UNLESS OTHERWISE INDICATED
◁ W	WALL TELEPHONE OUTLET, MOUNT AT 46" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 3/4" CONDUIT STUBBED ABOVE NEAREST ACCESSIBLE CEILING WITH PLASTIC BUSHINGS AT EACH END AND MEASURED PULL STRING, WHEN CABLING IS INSTALLED CONTRACTOR SHALL PROVIDE CATEGORY 6 PLENUM-RATED CABLING, UNLESS OTHERWISE INDICATED
[◀] X	DATA OUTLET, FLOOR MOUNTED, WHERE X INDICATES NUMBER OF CABLES OR OUTLETS REQUIRED IF MORE THAN ONE (1), PROVIDE 1" CONDUIT STUBBED ABOVE NEAREST ACCESSIBLE CEILING WITH PLASTIC BUSHINGS AT EACH END AND MEASURED PULL STRING, SUBSTITUTE 1.25" CONDUIT WHEN MORE THAN 3 CABLES OR 1.5" CONDUIT WHEN MORE THAN 6 CABLES ARE INDICATED, WHEN CABLING IS INSTALLED CONTRACTOR SHALL PROVIDE CATEGORY 6 PLENUM-RATED CABLING, UNLESS OTHERWISE INDICATED
[◁] X	TELEPHONE OUTLET, FLOOR MOUNTED, WHERE X INDICATES NUMBER OF CABLES OR OUTLETS REQUIRED IF MORE THAN ONE (1), PROVIDE 1" CONDUIT STUBBED ABOVE NEAREST ACCESSIBLE CEILING WITH PLASTIC BUSHINGS AT EACH END AND MEASURED PULL STRING, SUBSTITUTE 1.25" CONDUIT WHEN MORE THAN 3 CABLES OR 1.5" CONDUIT WHEN MORE THAN 6 CABLES ARE INDICATED, WHEN CABLING IS INSTALLED CONTRACTOR SHALL PROVIDE CATEGORY 6 PLENUM-RATED CABLING, UNLESS OTHERWISE INDICATED
[◭] X	TELEPHONE/DATA OUTLET, FLOOR MOUNTED, WHERE X INDICATES NUMBER OF CABLES OR OUTLETS REQUIRED IF MORE THAN ONE (1), PROVIDE 1" CONDUIT STUBBED ABOVE NEAREST ACCESSIBLE CEILING WITH PLASTIC BUSHINGS AT EACH END AND MEASURED PULL STRING, SUBSTITUTE 1.25" CONDUIT WHEN MORE THAN 3 CABLES OR 1.5" CONDUIT WHEN MORE THAN 6 CABLES ARE INDICATED, WHEN CABLING IS INSTALLED CONTRACTOR SHALL PROVIDE CATEGORY 6 PLENUM-RATED CABLING, UNLESS OTHERWISE INDICATED
◉	WIRELESS ACCESS DATA POINT OR CEILING MOUNTED DATA OUTLET, WHERE X INDICATES NUMBER OF CABLES OR OUTLETS REQUIRED IF MORE THAN ONE (1), WHEN CABLING IS INSTALLED CONTRACTOR SHALL PROVIDE CATEGORY 6 PLENUM-RATED CABLING, UNLESS OTHERWISE INDICATED
▯	TELEPHONE TERMINAL BOARD (TTB), PROVIDE 3/4" THICK PLYWOOD, FIRE TREATED AND PAINTED ON BOTH SIDES, MOUNT ON WALL, AS SHOWN ON PLANS, PROVIDE 3" WIDE x 6" LONG x 1/4" THICK COPPER GROUNDING BUSBAR WITH 6 AWG GROUNDING CONDUCTOR CONNECTED TO THE NEAREST BUILDING STEEL, PLYWOOD SHALL BE 4' x 4' UNLESS OTHERWISE INDICATED ON PLANS, SEE VOICE/DATA RISER DETAIL ON PLANS FOR FURTHER INFORMATION
[F]	FIRE ALARM PULL STATION , MOUNT AT 46" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 2-GANG BOX WITH 1-GANG PLASTER RING
¤ [F]◁	FIRE ALARM HORN/STROBE, MOUNT AT 84" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 2-GANG BOX WITH 1-GANG PLASTER RING
□◁	FIRE ALARM HORN/STROBE, MOUNT AT 90" AFF TO CENTER OF DEVICE BUT NO HIGHER THAN 6" BFC TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 2-GANG BOX WITH 1-GANG PLASTER RING
¤ [F]	FIRE ALARM STROBE, MOUNT AT 84" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 2-GANG BOX WITH 1-GANG PLASTER RING
¤ [F]◁ C	FIRE ALARM HORN/STROBE WITH CHIME, MOUNT AT 84" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 2-GANG BOX WITH 1-GANG PLASTER RING
[F]◁ C	FIRE ALARM HORN WITH CHIME, MOUNT AT 90" AFF TO CENTER OF DEVICE BUT NO HIGHER THAN 6" BFC TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, PROVIDE 2-GANG BOX WITH 1-GANG PLASTER RING
⟨FS⟩	FIRE ALARM FLOW SWITCH, MOUNT AT FIRE SPRINKLER RISER
⟨TS⟩	FIRE ALARM TAMPER SWITCH, MOUNT AT FIRE SPRINKLER RISER
[MM]	FIRE ALARM MONITOR MODULE
[CM]	FIRE ALARM CONTROL MODULE
⊢◎	MAGNETIC HOLD-OPEN FOR DOOR, PROVIDE CONTROL MODULE FOR RELEASE BY FIRE ALARM SYSTEM, MAY ALSO REQUIRE 120V AC POWER
⟨S⟩	DETECTOR, SMOKE, PROVIDE 4" SQUARE BOX FOR MOUNTING
$\langle S\rangle_H$	DETECTOR, HEAT AND SMOKE, PROVIDE 4" SQUARE BOX FOR MOUNTING
$\langle S\rangle_I$	DETECTOR, IONIZATION SMOKE, PROVIDE 4" SQUARE BOX FOR MOUNTING
$\langle S\rangle_{IH}$	DETECTOR, IONIZATION AND HEAT SMOKE, PROVIDE 4" SQUARE BOX FOR MOUNTING
$\langle S\rangle_{IHP}$	DETECTOR, IONIZATION, PHOTOELECTRIC AND HEAT SMOKE, PROVIDE 4" SQUARE BOX FOR MOUNTING
$\langle S\rangle_P$	DETECTOR, PHOTO ELECTRIC HEAT SMOKE, PROVIDE 4" SQUARE BOX FOR MOUNTING
(WAP)	CEILING MOUNTED WIRELESS ACCESS POINT. MOUNT AT LOCATION SHOWN ON PLANS.
▭⊐	SECURITY ACCESS AND CONTROL VIDEO CAMERA AND LENS, MOUNT AS SHOWN ON PLANS
[M]⊐ PTZ	SECURITY ACCESS AND CONTROL CAMERA AND LENS WITH PTZ, MOUNT AS SHOWN ON PLANS
[CI>	SECURITY ACCESS AND CONTROL DOOR CONTACT OR CONTACT INDICATOR, MOUNT IN DOOR FRAME
[CR]	SECURITY ACCESS AND CONTROL KEY PAD READER COMBINATION, MOUNT AT 46" AFF TO CENTER OF DEVICE, UNLESS OTHERWISE INDICATED, COORDINATE EXACT LOCATION WITH ARCHITECTURAL PLANS, PROVIDE 2-GANG BOX WITH 1-GANG PLASTER RING
Ⓜ	MICROPHONE INPUT, COORDINATE EXACT LOCATION WITH ARCHITECTURAL PLANS, PROVIDE 1-GANG BOX
Ⓢ	SPEAKER SWITCH, COORDINATE EXACT LOCATION WITH ARCHITECTURAL PLANS, PROVIDE 1-GANG BOX
[FACP]	FIRE ALARM CONTROL PANEL
[FAA]	FIRE ALARM ANNUNCIATOR PANEL

SYMBOL LEGEND-LIGHTING PLANS

SYMBOL	DESCRIPTION
$\oslash_A$	MONO-POINT FLUSH MOUNTED OR RECESSED LUMINAIRE (DOWNLIGHT), SEE FIXTURE SCHEDULE FOR DETAILS
◐ A	MONO-POINT SURFACE OR RECESSED EMERGENCY LUMINAIRE (DOWNLIGHT), SEE FIXTURE SCHEDULE FOR DETAILS
▭ A	1' WIDE RECESSED OR FLUSH MOUNTED LUMINAIRE, LETTER DENOTES FIXTURE CALLOUT IN LIGHTING FIXTURE SCHEDULE, SEE FIXTURE SCHEDULE FOR DETAILS
◢ AE	1' WIDE RECESSED OR FLUSH MOUNTED LUMINAIRE, LETTER DENOTES FIXTURE CALLOUT IN LIGHTING FIXTURE SCHEDULE. THE FOLLOWING LETTER 'E' DENOTES EMERGENCY FIXTURE. SEE FIXTURE SCHEDULE FOR DETAILS
⧄ A	2' x 2' SURFACE OR RECESSED LUMINAIRE, LETTER DENOTES FIXTURE CALLOUT IN LIGHTING FIXTURE SCHEDULE. SEE FIXTURE SCHEDULE FOR DETAILS
◪ AE	2' x 2' SURFACE OR RECESSED LUMINAIRE, LETTER DENOTES FIXTURE CALLOUT IN LIGHTING FIXTURE SCHEDULE. THE FOLLOWING LETTER 'E' DENOTES EMERGENCY FIXTURE. SEE FIXTURE SCHEDULE FOR DETAILS
▭ A	2' x 4' SURFACE OR RECESSED LUMINAIRE, LETTER DENOTES FIXTURE CALLOUT IN LIGHTING FIXTURE SCHEDULE. SEE FIXTURE SCHEDULE FOR DETAILS
◢ AE	2' x 4' SURFACE OR RECESSED LUMINAIRE, LETTER DENOTES FIXTURE CALLOUT IN LIGHTING FIXTURE SCHEDULE. THE FOLLOWING LETTER 'E' DENOTES EMERGENCY FIXTURE. SEE FIXTURE SCHEDULE FOR DETAILS
▭⊥ A	SURFACE MOUNTED WALLPACK LUMINAIRE, LETTER DENOTES FIXTURE CALLOUT IN LIGHTING FIXTURE SCHEDULE. SEE FIXTURE SCHEDULE FOR DETAILS
∘—○ A	POLE MOUNTED LUMINAIRE, SEE FIXTURE SCHEDULE FOR DETAILS, LUMINAIRE AND POLE
⊢▽△▽⊣	TRACK LIGHTING
◁■▷	EMERGENCY LIGHT WITH DUAL HEADS AND BATTERY, SURFACE OR FLUSH MOUNTED, SEE FIXTURE SCHEDULE FOR DETAILS, MOUNT AT 84" AFF TO CENTER UNLESS OTHERWISE INDICATED
↓⊗↓	EXIT LIGHT, CEILING OR WALL MOUNTED, ARROWS INDICATE DIRECTIONAL ARROW ON LUMINAIRE AND SHADED AREAS INDICATE FACE OF EXIT LIGHT, SEE FIXTURE SCHEDULE FOR DETAILS
⊗ ↙↘	COMBINATION EXIT AND EMERGENCY LIGHT, CEILING OR WALL MOUNTED, ARROWS INDICATE DIRECTIONAL ARROW ON LUMINAIRE AND SHADED AREAS INDICATE FACE OF EXIT LIGHT, SEE FIXTURE SCHEDULE FOR DETAILS
S	SWITCH, SINGLE POLE, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_2	SWITCH, DOUBLE POLE, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_3	SWITCH, 3-WAY, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_4	SWITCH, 4-WAY, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_T	SWITCH, TIMER OPERATED, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_D	SWITCH, SINGLE POLE DIMMER, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_{3D}	SWITCH, 3-WAY DIMMER, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_K	SWITCH, KEY OPERATED, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_M	MOTOR SWITCH, SINGLE OR TWO POLE MOMENTARY CONTACT, 3 POSITIONS, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
[OS]	SWITCH, OCCUPANCY SENSOR, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
S_P	SWITCH, PILOT LIGHT, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
(OS)	OCCUPANCY SENSOR, CEILING MOUNTED, ARROW INDICATES APPROXIMATE AIMING DIRECTION, COORDINATE LOCATION WITH ARCHITECTURAL PLANS AND OTHER TRADES
(PC)	PHOTOCELL, MOUNT FACING THE NORTH WHERE POSSIBLE, SEE DETAIL PLANS FOR WIRING
[TC]	TIME CLOCK, MOUNT AT MAXIMUM OF 66" AFF TO TOP OF ENCLOSURE, SEE DETAIL PLANS FOR WIRING

ABBREVIATIONS AND DEFINITIONS

TERM	DESCRIPTION
A	AMPERES OR AMPS
ABBR	ABBREVIATION
ADA	AMERICANS WITH DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BD	BOARD
BDF	BUILDING DISTRIBUTION FRAME
BFC	BELOW FINISHED GRADE
BLDG	BUILDING
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TELEVISION (CABLE TELEVISION)
CCTV	CLOSED CIRCUIT TELEVISION
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISH, OWNER INSTALLED
CMU	CONCRETE MASONRY UNIT
CO	CONVENIENCE OUTLET (RECEPTACLE)
CONT	CONTINUOUS
CT	CURRENT TRANSFORMER
CTR	COUNTER
DEMO	DEMOLITION
DET	DETAIL
DIV	DIVISION
DIM	DIMENSION
DPDT	DOUBLE-POLE, DOUBLE THROW
DPST	DOUBLE-POLE, SINGLE THROW
DWG	DRAWING
ELEC	ELECTRICAL
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENT	ELECTRICAL NON-METALLIC TUBING
EPO	EMERGENCY POWER OFF
EQP	EQUIPMENT
EXT	EXTERIOR
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL-LOAD AMPS
FMT	FLEXIBLE METALLIC TUBING
FSD	FIRE SMOKE DAMPER (OR SFD)
FURNISH	SUPPLY AND DELIVER TO OWNER AT THE LOCATION OF INSTALLATION
FVNR	FULL-VOLTAGE, NON-REVERSING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER (ALSO GFI)
HH	HAND HOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HPS	HIGH PRESSURE SODIUM
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
IDC	INSULATION DISPLACEMENT CONNECTOR
IDF	INTERMEDIATE DISTRIBUTION FRAME
IMC	INTERMEDIATE METALLIC CONDUIT
INSTALL	MOUNT AND CONNECT EQUIPMENT AND ASSOCIATED MATERIALS READY FOR FULLY FUNCTIONAL USE BY OWNER
INT	INTERIOR
KAIC	KILO-AMPERES INTERRUPTING CURRENT
KVA	KILO-VOLT-AMPERES OR 1000 VOLT-AMPERES
KW	KILOWATTS OR 1000 WATTS
LAN	LOCAL AREA NETWORK
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
LFNC	LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPS
LV	LOW VOLTAGE

TERM	DESCRIPTION
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCP	MOTOR CIRCUIT PROTECTION
MEP	MECHANICAL ELECTRICAL PLUMBING
MH	MAN OR MAINTENANCE HOLE
MHO	MAGNETIC HOLD OPEN
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVER-CURRENT PROTECTION
MTS	MANUAL TRANSFER SWITCH
NEC	NATIONAL ELECTRICAL CODE
NECA	NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NESC	NATIONAL ELECTRICAL SAFETY CODE
NFPA	NATIONAL FIRE PREVENTION ASSOCIATION
NIC	NOT IN CONTRACT
NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY
NTS	NOT TO SCALE
OC	ON CENTER
OCPD	OVER-CURRENT PROTECTIVE DEVICE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PB	PULL BOX
PBX	PRIVATE BRANCH EXCHANGE (PHONE SWITCH)
POE	POWER OVER ETHERNET
PSMH	PULSE-START MEAL HALIDE
PT	POTENTIAL TRANSFER
PTZ	PAN, TILT AND ZOOM VIDEO CAMERA
PVC	POLYVINYL CHLORIDE
RCP	REFLECTED CEILING PLAN
REV	REVISION
RM	ROOM
RMC	RIGID METAL CONDUIT
RNC	RIGID NON-METALLIC (PVC) CONDUIT
RPM	REVOLUTIONS PER MINUTE
RTE	REQUEST TO EXIT
SD	SMOKE DAMPER
SF	SQUARE FEET
SHALL	DENOTES A REQUIRED MEANS PRACTICE, PROCEDURE, OR METHOD
SHOULD	DENOTES A RECOMMENDED MEANS, PRACTICE, PROCEDURE, OR METHOD
SPDT	SINGLE POLE, DOUBLE THROW
SPEC(S)	SPECIFICATION (S)
SPST	SINGLE POLE, SINGLE THROW
STP	SHIELDED TWISTER PAIR
TGB	TELECOMMUNICATIONS GROUNDED BUS
TO	TELECOMMUNICATIONS OUTLET
TR	TELECOMMUNICATIONS ROOM
TTB	TELEPHONE TERMINAL BOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTILITY SERVICE	TELECOMMUNICATIONS, ELECTRICAL POWER, CATV OR INFRASTRUCTURE SOURCES PROVIDED EXTERNAL TO THE SITE, FACILITY, OR BUILDING
UTP	UNSHIELDED TWISTED PAIR
V	VOLTAGE OR VOLTS
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVER
VIF	VERIFY IN FIELD
VOIP	VOICE OVER INTERNET PROTOCOL
WAP	WIRELESS ACCESS POINT
WOW OR COW	WORKSTATION OR COMPUTER ON WHEELS
XFMR	TRANSFORMER

ELECTRICAL GENERAL NOTES

A. COORDINATE LOCATIONS FOR DEVICES, GEAR AND EQUIPMENT SHOWN WITH ARCHITECTURAL, PLUMBING AND MECHANICAL PLANS PRIOR TO BEGINNING ELECTRICAL ROUGH-IN WORK AND VERIFY FINAL LOCATIONS OF THESE BEFORE STARTING ROUGH-IN WORK. WHERE THERE ARE CONCERNS OR QUESTIONS ABOUT COORDINATION OR CLEARANCE PROBLEMS, PREPARE A WRITTEN RECOMMENDATION AND SUBMIT TO ENGINEER FOR REVIEW AND APPROVAL.

B. CONTACT UTILITY COMPANIES (POWER, GAS, WATER, SEWER, TELEPHONE, CATV, ETC.) BEFORE BEGINNING TRENCHING TO IDENTIFY UNDERGROUND UTILITIES AND OTHER UNDERGROUND LINES BEFORE TRENCHING AND REPAIR ANY DAMAGE TO THESE UNDERGROUND SERVICES OR LINES.

C. UPON COMPLETION OF THE WORK THOROUGHLY CLEAN WORK AREAS AND SPACES AND REMOVE FOREIGN MATTER, PAINT, DIRT, GREASE AND UN-USED EQUIPMENT, TOOLS, PARTS AND MATERIAL. REMOVE LABELS, STICKERS AND PROTECTIVE COVERS FROM LUMINARIES, EQUIPMENT AND ELECTRICAL GEAR AND REMOVE RUBBISH, DEBRIS, TRASH AND OTHER WASTE MATERIALS ACCUMULATED DURING THE PROCESS OF COMPLETING THE WORK.

D. COORDINATE AND VERIFY WIRING REQUIREMENTS FOR EQUIPMENT PRIOR TO ROUGH-IN USING WIRING DIAGRAMS SUPPLIED BY EQUIPMENT VENDORS AND SUPPLIERS. SUCH ROUGH-IN WORK OR WIRING INSTALLED PRIOR TO HAVING THESE WIRING DIAGRAMS SHALL BE CORRECTED. FOLLOW WIRING INSTRUCTIONS GIVEN BY MANUFACTURER.

E. MINIMUM RACEWAY TRADE SIZE SHALL BE 0.5 (16 MM) AND MINIMUM CONDUIT TRADE SIZE SHALL BE 0.75 (21 MM), UNLESS OTHERWISE INDICATED. EXCEPT WHERE SURFACE MOUNTED RACEWAY IS INDICATED, RACEWAY SHALL BE CONCEALED WHEN INSTALLED BELOW 8' AFF. EXPOSED CONDUIT SHALL BE EMT, EXCEPT WHERE EXPOSED TO PHYSICAL DAMAGE RMC OR IMC SHALL BE INSTALLED. UNDERGROUND RACEWAYS SHALL BE SCHEDULE 40 RNC, EXCEPT WHERE EXPOSED TO PHYSICAL DAMAGE SCHEDULE 80 RNC SHALL BE INSTALLED. RMC ELBOWS SHALL BE PROVIDED AT ANY POINT WHERE AN UNDERGROUND RACEWAY PENETRATES THE CONCRETE FLOOR TO PREVENT DAMAGE DURING INSTALLATION. PROVIDE EXPANSION FITTINGS FOR RACEWAYS CROSSING EXPANSION JOINTS.

F. RACEWAYS, LUMINARIES, ENCLOSURES, PANELBOARDS, PULL BOXES AND JUNCTION BOXES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE OR STRUCTURAL MEMBERS. DUCTS, PIPING, CEILING GRIDS OR OTHER MECHANICAL OR ARCHITECTURAL FEATURES SHALL NOT BE USED FOR SUPPORT.

G. JOINTS AND SPLICES FOR CONDUCTORS SMALLER THAN #8 AWG SHALL BE MADE USING SOLDERLESS OR TWIST-ON TYPE CONNECTORS LISTED AND APPROVED FOR THE PURPOSE. JOINTS AND SPLICES FOR OTHER CONDUCTOR SIZES SHALL BE MADE USING HIGH COMPRESSION BARREL-TYPE SPLICING DEVICES WITH SHRINK WRAP INSULATION LISTED AND APPROVED FOR THE PURPOSE. SPLICES AND JOINTS SHALL BE MADE IN LISTED AND APPROVED BOXES, ENCLOSURES, GUTTERS OR WIREWAYS AND NO SPLICES OR JOINTS SHALL BE MADE IN RACEWAYS.

H. CONDUIT CONNECTIONS SHALL BE MADE USING SLEEVES, UNIONS, COUPLINGS OR CONNECTORS. EMT COUPLINGS AND CONNECTORS SHALL BE STEEL, COMPRESSION TYPE. DIE CAST COUPLINGS AND CONNECTORS SHALL NOT BE USED. COMPRESSION GLAND-TYPE COUPLINGS AND CONNECTORS SHALL BE USED FOR EMT INSTALLED IN DAMP OR WET LOCATIONS.

I. TYPES NM, NMC OR NMS (ROMEX CABLE) SHALL NOT BE USED OR PERMITTED WITHOUT HAVING SPECIFIC WRITTEN APPROVAL TO DO SO. TYPE MC MAY BE PERMITTED TO BE INSTALLED FROM THE LAST JUNCTION BOX TO EACH BRANCH OUTLET UPON, APPROVAL FROM THE ENGINEER.

J. PROPERLY IDENTIFY PANELBOARDS, DISTRIBUTION BOARDS, DISCONNECT SWITCHES, TRANSFER SWITCHES, SWITCHBOARDS AND OTHER DEVICES, GEAR AND EQUIPMENT WITH LAMINATED LABELS, AS REQUIRED BY SPECIFICATIONS. PROVIDE TYPEWRITTEN SCHEDULES FOR NEW PANELBOARDS, DISTRIBUTION BOARDS AND SWITCHBOARDS AND UPDATE SCHEDULES IN EXISTING GEAR WITH NEW TYPEWRITTEN SCHEDULES.

K. EXISTING SMOKE DETECTORS WITHIN THE WORK AREA SHALL BE SEALED OR BAGGED FOR PROTECTION FROM CONTAMINATION UNTIL WORK IS COMPLETED. REPLACE SMOKE DETECTORS THAT ARE DAMAGED.

L. REFER TO MECHANICAL PLANS FOR THE LOCATIONS OF MECHANICAL EQUIPMENT, HVAC UNITS, THERMOSTATS, AND RELATED DEVICES. COORDINATE THE PLACEMENT OF RACEWAYS, JUNCTION BOXES, AND ASSOCIATED WIRING FOR THESE DEVICES WITH THE MECHANICAL DRAWINGS.

M. ALL ELECTRICAL WORK SHALL COMPLY WITH THE REQUIREMENTS OF NEC, NESC, OSHA, AND SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES. ADDITIONALLY, THE WORK SHALL COMPLY WITH OTHER REFERENCES REQUIRED BY CONTRACT DOCUMENTS.

N. ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED.

O. ALL 120 VOLT AND 277 VOLT CIRCUITS SHALL HAVE INDIVIDUAL NEUTRAL CONDUCTORS. NEUTRALS SHALL NOT BE SHARED ON MULTI-PHASE HOMERUN CIRCUITS.

WILSON & COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

NO.	REVISION DESCRIPTION	DATE	BY
5			
4			
3			
2			
1	IFC DELIVERABLE	5/22/25	MWW

MARC T. HESS
NEW MEXICO
28476
5-22-2025
PROFESSIONAL ENGINEER

DESIGNED BY: MTH
DRAWN BY: IRG
CHECKED BY: MWW
APPROVED BY:
DATE: MAY 2025
SCALE: 1" = 1'-0"

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.:23-100-035-09

ELECTRICAL GENERAL
NOTES & LEGENDS

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MXICO 87544

SHEET
E-001

5/22/2025 1:40:44 AM Autodesk Docs://LAC Brewer Arena Assessment and Upgrades/Brewer Arena - MEP - R24.rvt

WILSON & COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

GENERAL ELECTRICAL REQUIREMENTS:

1. THE DRAWING AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND GENERAL REQUIREMENTS APPLY TO THE WORK SPECIFIED.
2. THE ELECTRICAL CONTRACT INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED FOR THE COMPLETE ELECTRICAL SYSTEMS AS SHOWN AND SPECIFIED.
3. EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS, MODEL NUMBER, AND U.L. LABEL SECURELY AFFIXED IN A CONSPICUOUS PLACE.
4. ALL EQUIPMENT OF ONE TYPE (SUCH AS PANELBOARDS, SWITCHES, WIRING DEVICES, ETC.) SHALL BE THE PRODUCT OF ONE MANUFACTURER, UNLESS SPECIFIED OTHERWISE.
5. WHERE THE QUALITY OF A REQUIRED MATERIAL IS NOT SPECIFIED, THE CONTRACTOR SHALL FURNISH A NEW COMMERCIALLY AVAILABLE PRODUCT THAT MEETS APPLICABLE INDUSTRY STANDARDS AND IS SUBJECT TO APPROVAL BY THE ARCHITECT OR ENGINEER..
6. THE QUANTITY OR QUALITY LEVEL SHOWN OR SPECIFIED SHALL BE THE MINIMUM PROVIDED OR PERFORMED. THE ACTUAL INSTALLATION MAY COMPLY EXACTLY WITH THE MINIMUM QUANTITY OR QUALITY SPECIFIED, OR IT MAY EXCEED THE MINIMUM WITHIN REASONABLE LIMITS. TO COMPLY WITH THESE REQUIREMENTS, INDICATED NUMERIC VALUES ARE MINIMUM OR MAXIMUM, AS APPROPRIATE FOR THE CONTEXT OF REQUIREMENTS. REFER UNCERTAINTIES TO ARCHITECT FOR A DECISION BEFORE PROCEEDING. WHERE THE QUALITY OF REQUIRED MATERIAL IS NOT SPECIFIED, THE CONTRACTOR SHALL FURNISH A FIRST-CLASS STANDARD ITEM AS APPROVED BY THE ARCHITECT/ENGINEER.
7. MANUFACTURER'S NAMES ARE INTENDED TO ESTABLISH TYPE AND QUALITY OF ITEMS TO BE PROVIDED VIA THE CONTRACT. THE MATERIALS, PRODUCTS, AND EQUIPMENT DESCRIBED IN THE SPECIFICATIONS OR ON THE DRAWINGS ESTABLISH A STANDARD OF REQUIRED FUNCTION, DIMENSION, APPEARANCE, AND QUALITY TO BE MET BY ANY PROPOSED SUBSTITUTION. LISTING OF THESE MANUFACTURERS SHALL BE IN NO WAY BE CONSTRUED AS A DEVICE INTENDED TO LIMIT THE BIDDERS TO THOSE LISTED.
8. INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE SHOP DRAWINGS APPROVED BY THE ENGINEER.
9. ALL WORK UNDER THIS CONTRACT SHALL COMPLY WITH THE REQUIREMENTS OF THE 2020 NATIONAL ELECTRIC CODE, 2020 NEW MEXICO ELECTRICAL CODE, AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODE REQUIREMENTS. IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.
10. PERIODICALLY DURING CONSTRUCTION AND PRIOR TO OWNER ACCEPTANCE OF THE BUILDING, CONTRACTOR SHALL REMOVE FROM THE PREMISES AND DISPOSE OF ALL PACKING MATERIAL AND DEBRIS ASSOCIATED WITH THE WORK SPECIFIED UNDER THIS DIVISION.
11. BEFORE SUBMITTING BID, THE CONTRACTOR SHALL VISIT THE ACTUAL LOCATION OF THE JOB AND SHALL FULLY UNDERSTAND THE SCOPE OF WORK TO BE DONE AND THE CONDITION UNDER WHICH IT IS TO BE PERFORMED.
12. ELECTRICAL CONTRACTOR SHALL COORDINATE REQUIREMENTS FOR THE ELECTRICAL SERVICES WITH LOCAL UTILITY COMPANY AND FACILITATE INSTALLATION OF SUCH EQUIPMENT BY PROVIDING ADDITIONAL ELECTRICAL INSTALLATION WHERE REQUIRED.
13. PROCURE AND PAY FOR ALL PERMITS AND SERVICE CHARGES REQUIRED AS RELATED TO THIS WORK.
14. NOTIFY THE ENGINEER OF ERRORS, DISCREPANCIES, OR OMISSIONS IN THE DRAWINGS AND SPECIFICATIONS BEFORE BEGINNING CONSTRUCTION OR FABRICATION OF THE AFFECTED WORK. IF SUCH NOTICE IS NOT PROVIDED, THE CONTRACTOR WILL BE RESPONSIBLE FOR CORRECTING THE WORK AT NO ADDITIONAL COST TO THE OWNER, ARCHITECT, OR ENGINEER.
15. WHERE FIRE RATED CONSTRUCTION IS PENETRATED BY THIS WORK, FIRE SEAL AT PENETRATIONS WITH U.L. LISTED FIRE SEALING SYSTEM. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
16. PROVIDE SHOP DRAWINGS FOR ELECTRICAL EQUIPMENT, REFER TO DIVISION 1 SPECIFICATIONS FOR SUBMITTAL PROCESS. SHOP DRAWINGS SHALL INCLUDE PRODUCT DATA INDICATING PERFORMANCE, DIMENSIONS, FINISH/COLOR, CONFIGURATION, AND ALL ACCESSORIES AND INSTALLED COMPONENTS ASSOCIATED WITH THE EQUIPMENT. ELECTRICAL EQUIPMENT LISTED BELOW SHALL NOT BE ORDERED OR INSTALLED UNTIL SHOP DRAWINGS HAVE SUBMITTED AND REVIEWED:
    a. PANELBOARDS
    b. LOAD CENTERS
    c. LIGHT FIXTURES
    d. WIRING DEVICES
    e. LIGHTING CONTROL DEVICES
    f. DISCONNECT SWITCHES

ELECTRICAL CONNECTIONS:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUIT AND WIRING AND SHALL CONNECT COMPLETE AND READY FOR OPERATION ALL ELECTRICAL MOTORS AND EQUIPMENT IN THE OTHER CONTRACTS. THE OTHER CONTRACTORS SHALL FURNISH TO THE ELECTRICAL CONTRACTOR ALL SWITCHES, ELECTRICAL CONTROLS, CAPACITORS AND OTHER ACCESSORIES REQUIRED. INSTALLATION OF ALL MOTORS, EQUIPMENT, ETC., SHALL BE MADE BY THE CONTRACTOR FURNISHING THE EQUIPMENT, EXCEPT WHERE OTHERWISE INDICATED.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECT SWITCHES AS SHOWN AND WHERE OTHERWISE REQUIRED TO COMPLY WITH APPLICABLE ELECTRICAL CODES.

GROUNDING:

1. THE ENTIRE ELECTRICAL SYSTEM, INCLUDING ALL SPECIAL POWER SYSTEMS, SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
2. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL CONDUITS. THE CONDUIT SYSTEM SHALL NOT BE USED AS THE SOLE MEANS OF GROUNDING.

RACEWAYS:

1. PROVIDE ALL CONDUITS AND RACEWAYS AS SPECIFIED AND INDICATED ON THE PLAN DRAWINGS.
2. ALL EXTERIOR ABOVE GRADE RACEWAYS SHALL BE GALVANIZED RIGID METAL CONDUIT (RMC) OR INTERMEDIATE METAL CONDUIT (IMC) WITH THREADED COUPLINGS AND FITTINGS.
3. ALL EXTERIOR BELOW GRADE RACEWAYS SHALL BE SCHEDULE 40 PVC (MIN.) OR GALVANIZED RIGID METAL CONDUIT (RMC). WHEN UTILIZING PVC, TRANSITION TO GALVANIZED RMC BEFORE TURNING UP AND PENETRATING FINISHED GRADE OR FLOOR SLAB.
4. ALL INTERIOR DRY LOCATION RACEWAYS SHALL BE ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION OR SETSCREW COUPLINGS AND FITTINGS.
5. FLEXIBLE METAL CONDUIT (FMC) MAY BE USED FOR FINAL CONNECTIONS TO LIGHT FIXTURES AND VIBRATING EQUIPMENT IN LENGTHS NOT TO EXCEED 6'-0". UTILIZE LIQUID TIGHT FLEXIBLE METAL CONDUIT (LFMC) WHERE EXPOSED TO MOISTURE.
6. SINGLE CONDUITS SHALL BE USED FOR ALL CIRCUITS, BUT MORE THAN ONE CIRCUIT MAY BE CARRIED IN EACH CONDUIT. PROVIDE THE NUMBER OF CONDUCTORS AND SIZE OF CONDUCTORS ARE PROPORTIONED IN ACCORDANCE WITH THE RULES OF THE NEC, AND CONDUITS ARE AMPLY LARGE TO ALLOW FOR REMOVAL AND REPLACEMENT OF CONDUCTORS WHEN NECESSARY.
7. WHERE CONDUIT IS CARRIED IN WALLS, IT SHALL BESECURELY EMBEDDED AND CONCEALED FROM VIEW. THE PLACEMENT OF CONDUITS SHOULD BE DONE IN A MANNER THAT DOES NOT COMPROMISE OR DAMAGE THE BUILDING'S STRUCTURAL INTEGRITY.
8. JOINTS MUST BE MADE SO THE ENDS OF THE PIPES COME TOGETHER IN THE CENTER OF THE COUPLING.
9. ALL CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING SURFACES.
10. ALL EMPTY CONDUIT SYSTEMS SHALL BE PROVIDED WITH SUITABLE PULL STRINGS.

WIRES AND CABLES:

1. PROVIDE THE WIRE AS SPECIFIED AND THE CIRCUITING AS SHOWN ON THE DRAWINGS.
2. ALL WIRE AND CABLE SHALL BE COPPER, #12 AWG, UNLESS NOTED OTHERWISE. CONDUCTORS #8 AND SMALLER SHALL BE SOLID. ALL WIRE SHALL BE CODE TYPE THWN OR THNN, UNLESS NOTED OTHERWISE, AND SHALL BE ROME CABLE, CENTRAL CABLE, CRESCENT, SOUTHWIRE, OR GENERAL ELECTRIC.
3. ALL WIRING, EXCEPT CONTROL, SPECIAL SYSTEMS AND LOW VOLTAGE WIRING SHALL BE IN A CONDUIT, UNLESS NOTED OTHERWISE.
4. THE CIRCUITING OF ALL LIGHTING, RECEPTACLE OUTLETS AND MOTORS HAS BEEN SHOWN ON THE PLANS, AND THE CONTRACTOR SHALL FOLLOW THIS CIRCUITING LAYOUT.
5. CIRCUITRY SIZES SHOWN ARE MINIMUM, AND ALLOWANCES SHALL BE MADE TO LIMIT VOLTAGE DROP. CIRCUITS OVER 75' LONG SHALL BE INCREASED BY ONE WIRE SIZE, CIRCUITS OVER 150' LONG SHALL BE INCREASED BY TWO WIRE SIZES.
6. MACHINE OR POWER PULLING OF CABLE INTO RACEWAYS SHALL BE ACCOMPLISHED SUCH THAT PULLING STRESSES SHALL NOT EXCEED THOSE RECOMMENDED BY THE MANUFACTURER.
7. ALL CABLES SHALL BE LUBRICATED WITH "POLYWATER," OR EQUALLY EFFECTIVE CABLE LUBRICATING MATERIAL.
8. MC CABLE MAY BE USED WITHIN FIRST FLOOR COMMERCIAL SPACES FOR FINAL CONNECTIONS (WHIPS) TO LIGHT FIXTURES IN LENGTHS NOT TO EXCEED 6'-0". MC CABLE SHALL HAVE STEEL OR ALUMINUM CLADDING AND INTEGRAL INSULATED COPPER EQUIPMENT GROUNDING/BONDING CONDUCTOR.

ELECTRICAL BOXES AND FITTINGS:

1. PROVIDE ALL ELECTRICAL, JUNCTION AND OUTLET BOXES AS SPECIFIED AND SHOWN ON THE DRAWINGS, AS WELL AS THOSE REQUIRED FOR A COMPLETE AND CODE ACCEPTABLE INSTALLATION.
2. JUNCTION AND PULL BOXES SHALL BE GALVANIZED METAL OF THE KNOCKOUT TYPE.
3. ALL OUTLET BOXES FOR LIGHT FIXTURES, RECEPTACLES, AND WALL SWITCHES IN DRY LOCATIONS SHALL BE OF THE STEEL CITY, OR EQUAL, GALVANIZED KNOCKOUT TYPE OR ALLIED MOLDED PRODUCTS REINFORCED FIBERGLASS TYPE. GANGABLE TYPE BOXES SHALL BE USED IN A GYPBOARD SURFACES, PLUG UNUSED OPENINGS IN ALL BOXES.
4. JUNCTION AND PULL BOXES SHALL BE PROVIDED THROUGHOUT, IN ACCESSIBLE LOCATIONS.
5. SWITCHES AND OUTLETS SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE DRAWINGS. OUTLETS MAY BE MOVED 4 FEET IN EITHER DIRECTION IF REQUIRED BEFORE ROUGH-IN, WITHOUT ADDITIONAL COSTS TO THE OWNER. BOXES SHALL BE FLUSH MOUNTED ON ALL WALLS FOR CONCEALED WORK IN OCCUPIED/FINISHED AREAS.
6. ELECTRICAL BOXES LOCATED IN 1-HOUR FIRE RATED WALLS SHALL BE INSTALLED AS FOLLOWS:
    a. BOXES SHALL BE U.L. LISTED FOR USE IN FIRE RATED ASSEMBLIES.
    b. ANNULAR SPACE AROUND LISTED BOXES SHALL NOT EXCEED 1/8"
    c. BOXES ON OPPOSITE SIDES OF THE FIRE RATED WALL SHALL COMPLY WITH ONE OF THE FOLLOWING:
        1. BE SEPARATED BY THE HORIZONTAL DISTANCE SPECIFIED IN THE LISTING OF THE ELECTRICAL BOX OR BE SEPARATED BY FIRE BLOCKING MATERIAL IN ACCORDANCE WITH 2021 IBC SECTION 714.
        2. PROTECT BOTH BOXES WITH LISTED FIRE RATED PUTTY PADS
7. ELECTRICAL BOXES LOCATED IN FIRE RATED CEILING/FLOOR ASSEMBLIES SHALL:
    a. BE STEEL CONSTRUCTED AND NOT EXCEED 16 SQUARE INCHES IN AREA
    b. ANNULAR SPACE AROUND CEILING BOXES SHALL NOT EXCEED 1/8"
    c. THE AGGREGATE AREA OF CEILING BOXES DOES NOT EXCEED 100 SQUARE INCHES FOR EVERY 100 SQUARE FEET OF CEILING AREA

WIRING DEVICES:

1. PROVIDE THE WIRING DEVICES AND COVER PLATES AS SPECIFIED.
2. WIRING DEVICES SHALL BE AS MANUFACTURED BY: PASS & SEYMOUR, LEVITON, HUBBELL, COOPER, OR APPROVED EQUAL. DEVICES SHALL BE COMMERCIAL SPECIFICATION GRADE, RATED AT 20 AMPS, 120 VOLTS, UNLESS SPECIFIED OTHERWISE. COORDINATE DEVICE COLOR WITH ARCHITECT.
3. ALL FLUSH-MOUNTED WIRING DEVICES IN FINISHED AREAS SHALL BE PROVIDED WITH STAINLESS STEEL COVER PLATES. PROVIDE THERMOPLASTIC COVER PLATES.
4. COVER PLATES FOR WIRING DEVICES IN SURFACE-MOUNTED BOXES AND UNFINISHED AREAS SHALL BE GALVANIZED UTILITY BOX COVERS, RAISED 1/4".
5. WHERE MORE THAN ONE DEVICE IS IN A SINGLE LOCATION, A ONE-PIECE MULTIGANG COVER PLATE SHALL BE USED.
6. TERMINATIONS AT WIRING DEVICES SHALL BE MADE USING SCREW TERMINALS ONLY. USE OF "STAB-IN" CONNECTIONS IS NOT ACCEPTABLE.
7. DEVICES SHALL BE SET AT THE FOLLOWING ELEVATIONS FROM THE FINISHED FLOOR TO THE CENTER OF THE BOX, UNLESS OTHERWISE INDICATED ON THE PLANS:
    - LIGHT SWITCHES 48"
    - CONVENIENCE RECEPTACLES 18"
    - TELECOMMUNICATIONS OUTLETS 18"

LIGHTING CONTROL DEVICES:

1. PROVIDE THE LIGHTING CONTROL DEVICES AS SPECIFIED AND SHOWN ON PLANS. DEVICES SHALL BE AS MANUFACTURED BY: WATTSTOPPER, PASS & SEYMOUR, LEVITON, HUBBELL, COOPER, OR APPROVED EQUAL
2. PHOTOCELLS SHALL BE 120 VOLT, THERMAL TYPE WITH CADMIUM SULFIDE PHOTOCELL AND POLYCARBONATE CASE AND LENS TO SEAL OUT MOISTURE. PHOTOCELLS SHALL HAVE A DELAY ACTION TO ELIMINATE NUISANCE "OFF" SWITCHING AND LOADS. FURNISH COMPLETE WITH 1/2" THREADED STEM AND SWIVEL MOUNT, AND LIGHT LEVEL SLIDE ADJUSTMENT. MOUNT PHOTOCELLS AS DIRECTED MANUFACTURER.

SAFETY SWITCHES:

1. PROVIDE HEAVY-DUTY SAFETY SWITCHES AS INDICATED ON THE PLANS SPECIFIED. ALL SAFETY SWITCHES SHALL BE NEMA TYPE HD AND UNDERWRITERS LABORATORIES LISTED.
2. PROVIDE SQUARE D, SIEMENS ITE, GENERAL ELECTRIC, OR EATON CUTLER-HAMMER HEAVY-DUTY GRADE SAFETY SWITCHES IN CONFIGURATION NOTED.
3. ALL SWITCHES SHALL HAVE SWITCHBLADES, WHICH ARE FULLY VISIBLE IN THE "OFF" POSITION WHEN THE SWITCH IS DOOR IS OPEN. ALL CURRENT CARRYING PARTS SHALL BE PLATED TO RESIST CORROSION AND PROMOTE COOL OPERATION. SWITCHES SHALL HAVE REMOVABLE ARC SUPPRESSORS WHERE NECESSARY TO PERMIT EASY ACCESS TO LINE SIDE LUGS. LUGS SHALL BE FRONT REMOVABLE AND U.L. LISTED FOR 60° C OR 75° C ALUMINUM OR COPPER WIRES. SWITCHES SHALL BE QUICK-MAKE, QUICK-BREAK, SUCH THAT DURING NORMAL OPERATION OF THE SWITCH, THE OPERATION OF THE CONTACTS SHALL NOT BE CAPABLE OF BEING RESTRAINED BY THE OPERATING HANDLE AFTER THE CLOSING OR OPENING ACTION OF THE CONTACTS HAS STARTED. THE OPERATING HANDLE SHALL NOT BE AN INTEGRAL PART OF THE BOX, NOR THE COVER. PROVISIONS FOR PADLOCKING THE SWITCH IN THE "OFF" POSITION SHALL BE PROVIDED. SWITCHES SHALL HAVE A DUAL COVER INTERLOCK TO PREVENT UNAUTHORIZED OPENING OF THE SWITCH DOOR WHEN THE HANDLE IS IN THE "ON" POSITION, AND TO PREVENT CLOSING OF THE SWITCH MECHANISM WITH THE DOOR OPEN. THE HANDLE POSITION SHALL INDICATE WHETHER THE SWITCH IS "ON" OR "OFF."
4. SWITCHES SHALL BE FURNISHED WITH ENCLOSURES AS INDICATED ON THE DRAWINGS. IF A NEMA DESIGNATION IS NOT GIVEN, INDOOR ENCLOSURES SHALL BE NEMA 1 RATED, OUTDOOR ENCLOSURES SHALL BE NEMA 3R RATED.

PANELBOARDS:

1. PROVIDE SQUARE D, SIEMENS ITE, GENERAL ELECTRIC, OR EATON CUTLER HAMMER, 1-PHASE, 3-WIRE PANELBOARDS OR LOAD CENTERS WITH CIRCUIT BREAKERS AS SCHEDULED.
2. PROVIDE PANELS WITH EQUIPMENT GROUND BARS, SURFACE MOUNTED OR RECESSED CABINETS AND UL LABEL.
3. CIRCUIT BREAKERS SHALL BE SQUARE D TYPE QO (PLUG-ON) OR QDB (BOLT-ON) THERMAL-MAGNETIC MOLDED CASE CIRCUITED BREAKERS OR EQUAL. BREAKERS SHALL BE 1, 2 OR 3-POLE WITH AN INTEGRAL CROSSBAR TO ASSURE SIMULTANEOUS OPENING OF ALL POLES IN MULTIPLE CIRCUIT BREAKERS. BREAKERS SHALL HAVE AN OVERCENTER, TRIP-FREE, TOGGLE-TYPE OPERATING MECHANISM WITH QUICK-MAKE, QUICK-BREAK ACTION AND POSITIVE HANDLE INDICATION. HANDLES SHALL HAVE "ON," "OFF" AND "TRIPPED" POSITIONS. CIRCUIT BREAKERS SHALL BE U.L. LISTED IN ACCORDANCE WITH U.L. STANDARD 489 AND SHALL HAVE CONTINUOUS CURRENT RATINGS AS NOTED ON THE PLANS. INTERRUPTING RATINGS SHALL BE 22,000 RMS SYMMETRICAL AMPS MAXIMUM AT 240 VOLTS AC, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
4. PANELBOARD BUS STRUCTURE AND MAIN LUGS OR MAIN CIRCUIT BREAKER SHALL HAVE CURRENT RATINGS AS SCHEDULED. SUCH RATINGS SHALL BE ESTABLISHED BY HEAT RISE TESTS, CONDUCTED IN ACCORDANCE WITH U.L. STANDARD 67. BUS STRUCTURE SHALL BE INSULATED. BUS BAR CONNECTIONS TO THE BRANCH CIRCUIT BREAKERS SHALL BE THE "DISTRIBUTED PHASE" TYPE. ALL CURRENT CARRYING PARTS OF THE BUS STRUCTURE SHALL BE PLATED.
5. THE PANELBOARD BUS ASSEMBLY SHALL BE ENCLOSED IN A STEEL CABINET. THE RIGIDITY AND GAUGE OF STEEL TO BE AS SPECIFIED IN U.L. STANDARD 50 FOR CABINETS. WIRING GUTTER SPACE SHALL BE IN ACCORDANCE WITH U.L. STANDARD 67 FOR PANELBOARDS. THE BOX SHALL BE FABRICATED FROM GALVANIZED STEEL OR EQUIVALENT RUST RESISTANT STEEL. EACH FRONT SHALL INCLUDE A DOOR AND HAVE A FLUSH, CYLINDER TUMBLER-TYPE LOCK WITH CATCH AND SPRING-LOADED STAINLESS-STEEL DOOR PULL. ALL PANELBOARDS LOCKS SHALL BE KEYED ALIKE. FRONTS SHALL HAVE ADJUSTABLE TRIM CLAMPS WHICH SHALL BE COMPLETELY CONCEALED STEEL HINGES. FRONTS SHALL NOT BE REMOVABLE WITH DOOR IN THE LOCKED POSITION. A CIRCUIT DIRECTORY FRAME AND CARD WITH A CLEAR PLASTIC COVERINGS SHALL BE PROVIDED ON THE INSIDE OF THE DOOR.
6. INSIDE EACH PANEL DOOR, PROVIDE AN APPROVED TYPEWRITTEN SCHEDULE CARD SHOWING WHAT EACH CIRCUIT FEEDS.

LIGHT FIXTURES:

1. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL THE LIGHT FIXTURES AS SPECIFIED ON THE DRAWINGS OR IN THE LIGHT FIXTURE SCHEDULE. MATERIAL, EQUIPMENT OR SERVICES NECESSARY TO COMPLETE THE INSTALLATION OF THESE FIXTURES, BUT NOT SPECIFICALLY MENTIONED SHALL BE FURNISHED AS THOUGH SPECIFIED.
2. IT SHALL BE THE DUTY OF THE CONTRACTOR TO CHECK THE FIXTURES CAREFULLY AGAINST THE WIRING PLANS AND TO FURNISH A UNIT OF PROPER SIZE AND TYPE.
3. ALL LIGHT FIXTURES SHALL BE LED. ALL SUBSTITUTIONS SHALL BE REVIEWED BY OWNER PRIOR TO INSTALLATION. ALL FIXTURE WARRANTIES SHALL BE PROVIDED DIRECT TO THE OWNER.

END OF SPECIFICATION - ELECTRICAL

NO.	REVISION DESCRIPTION	DATE	BY
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1	IFC DELIVERABLE	5/22/25	MWW

MARC T. HESS
NEW MEXICO
28476
5-22-2025
PROFESSIONAL ENGINEER

DESIGNED BY: MTH
DRAWN BY: JRG
CHECKED BY: MWW
APPROVED BY:
DATE: MAY 2025
SCALE: 1" = 1'-0"

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.:23-100-035-09

ELECTRICAL SPECIFICATION SHEET

LOS ALAMOS
where discoveries are made

COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
E-002

1 ELECTRICAL SITE PLAN
1" = 20'-0"

PLAN NORTH

WILSON & COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000

GENERAL SHEET NOTES

A. PLAN DRAWINGS ARE DIAGRAMMATIC IN NATURE AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL CONDUCTORS AND REQUIRED MATERIALS FOR A COMPLETE AND FUNCTIONAL INSTALLATION.

B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES.

C. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY SERVICES THAT RELATE TO THIS PROJECT.

D. ROUTING OF NEW FEEDERS SHOWN IS APPROXIMATE. CONTRACTOR TO ROUTE ALL NEW FEEDERS BASED ON FIELD CONDITIONS.

E. EXISTING SERVICE EQUIPMENT AND SITE LIGHTING TO REMAIN. PROTECT IN PLACE.

SHEET KEYNOTES

1. REMOVE ALL ELECTRICAL DEVICES AND CONNECTIONS FROM CROWS NEST BUILDING PRIOR TO DEMOLITION. SALVAGE PA SYSTEM EQUIPMENT FOR OWNER.
2. NEW PREFABRICATED PRESSBOX INSTALLED IN THIS LOCATION. EXTEND CIRCUIT TO PANEL SUPPLIED WITH PRESSBOX.
3. EXISTING 300A SERVICE AND PANELBOARD. EXISTING 100A BREAKER TO BE USED. FOR NEW PRESSBOX. PROVIDE 2-20A 1P BREAKERS AND 1-30A 2P BREAKER.
4. EXTEND EXISTING 100A CIRCUIT AND CONDUIT TO NEW PRESSBOX.
5. PROVIDE LOCKABLE RECEPTACLE POST WITH TWO DUPLEX RECEPTACLE. SEE DETAIL 2 ON SHEET E-101 FOR ADDITIONAL INFORMATION.
6. LOCATE RECEPTACLE ALONG THE SLOPED EDGE OF THE PATHWAY. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION. PROVIDE LOCKABLE RECEPTACLE POST WITH 30A, 240V RECEPTACLE FOR FOOD TRUCK.
7. PROVIDE 2" HDPE DIRECTIONALLY BORED AT A MINIMUM OF 24" BELOW GRADE. ROUTE 6-#8, 3-#8G THROUGH THE HDPE FOR RECEPTACLES.
8. PROVIDE 1" HDPE DIRECTIONALLY BORED AT A MINIMUM OF 24" BELOW GRADE. ROUTE 2-#8, #8G THROUGH THE HDPE FOR RECEPTACLES.
9. PROVIDE TWO BOLLARDS AT EACH RECEPTACLE POST PER THE DETAIL THIS SHEET.

NO.	REVISION DESCRIPTION	DATE	BY
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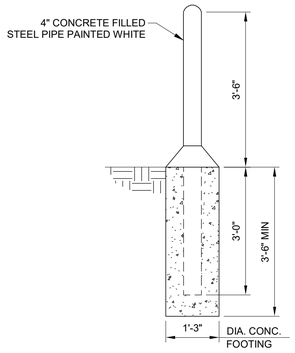
ELECTRICAL SITE PLAN

LOS ALAMOS
where discoveries are made

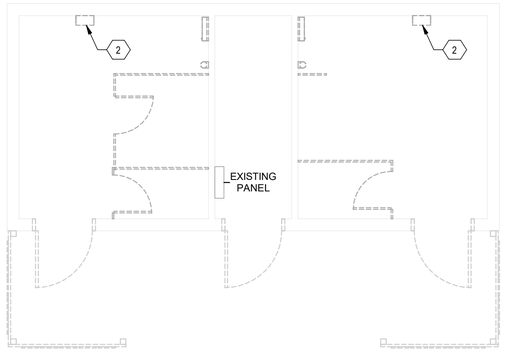
COUNTY OF LOS ALAMOS
PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
ES101

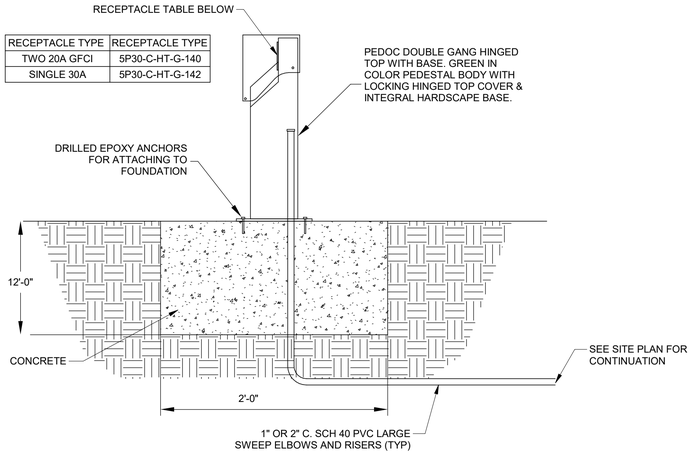
WILSON &COMPANY
4401 Masthead St Ne, Suite 150
Albuquerque, NM 87109
Phone: (505) 348-4000



1 BOLLARD DETAIL
SCALE: 1/8" = 1'-0"

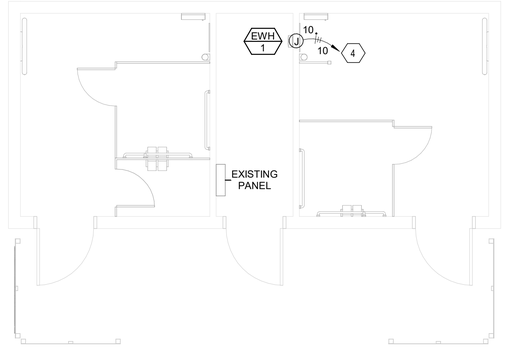


3 DEMO POWER PLAN
SCALE: 1/4" = 1'-0"

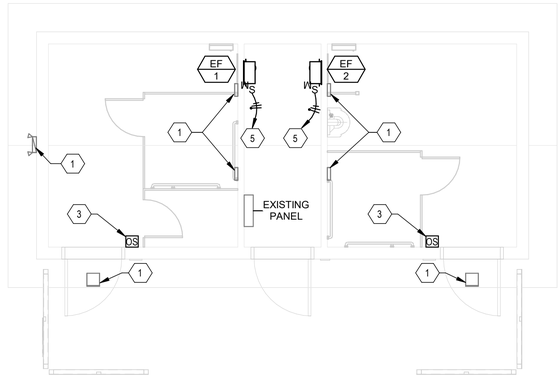


PEDOC POWER 5P30-C-HT OR APPROVED EQUAL

2 RECEPTACLE STATION STANDARD DETAIL
NTS



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



5 LIGHTING PLAN
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

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B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES.

C. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY SERVICES THAT RELATE TO THIS PROJECT.

D. ROUTING OF NEW FEEDERS SHOWN IS APPROXIMATE. CONTRACTOR TO ROUTE ALL NEW FEEDERS BASED ON FIELD CONDITIONS.

SHEET KEYNOTES

1. EXISTING FIXTURE TO REMAIN.
2. EXISTING HAND DRYER TO BE REMOVED. REMOVE ALL ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE IT ORIGINATES FROM.
3. REPLACE LIGHT SWITCH WITH BLANK COVER PLATE. EXTEND CIRCUIT UP TO OCCUPANCY SENSOR, MOUNTED AS HIGH AS POSSIBLE. PROVIDE VANDAL PROOF COVER AND MOTOR RATED OCCUPANCY SENSOR.
4. PROVIDE 2 POLE, 30A BREAKER IN EXISTING PANEL FOR WATER HEATER.
5. CONNECT EXHAUST FANS TO LIGHTING CIRCUIT FOR CONTROL BY OCCUPANCY SENSOR. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE COMPATIBILITY AND PROPER INTERFACE BETWEEN THE OCCUPANCY SENSOR AND THE EXHAUST FAN.

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SCALE: As indicated

BREWER ARENA
IMPROVEMENT PROJECT
PROJECT BID NO.:23-100-035-09

ELECTRICAL FLOOR PLANS AND DETAILS

LOS ALAMOS
where discoveries are made

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PUBLIC WORKS DEPARTMENT
1000 CENTRAL AVE
LOS ALAMOS, NEW MEXICO 87544

SHEET
E-101