# Sparks Public Works Bullpen Toilet Room Renovation

215 S 21st St Sparks, NV 89431

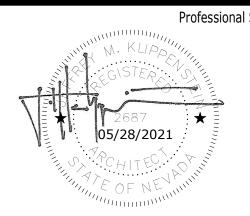
City of Sparks 431 Prater Way Sparks, Nevada 89432

May 28, 2021

Jon R. Ericson, P.E., P.T.O.E. **City Engineer** 

**Date** 

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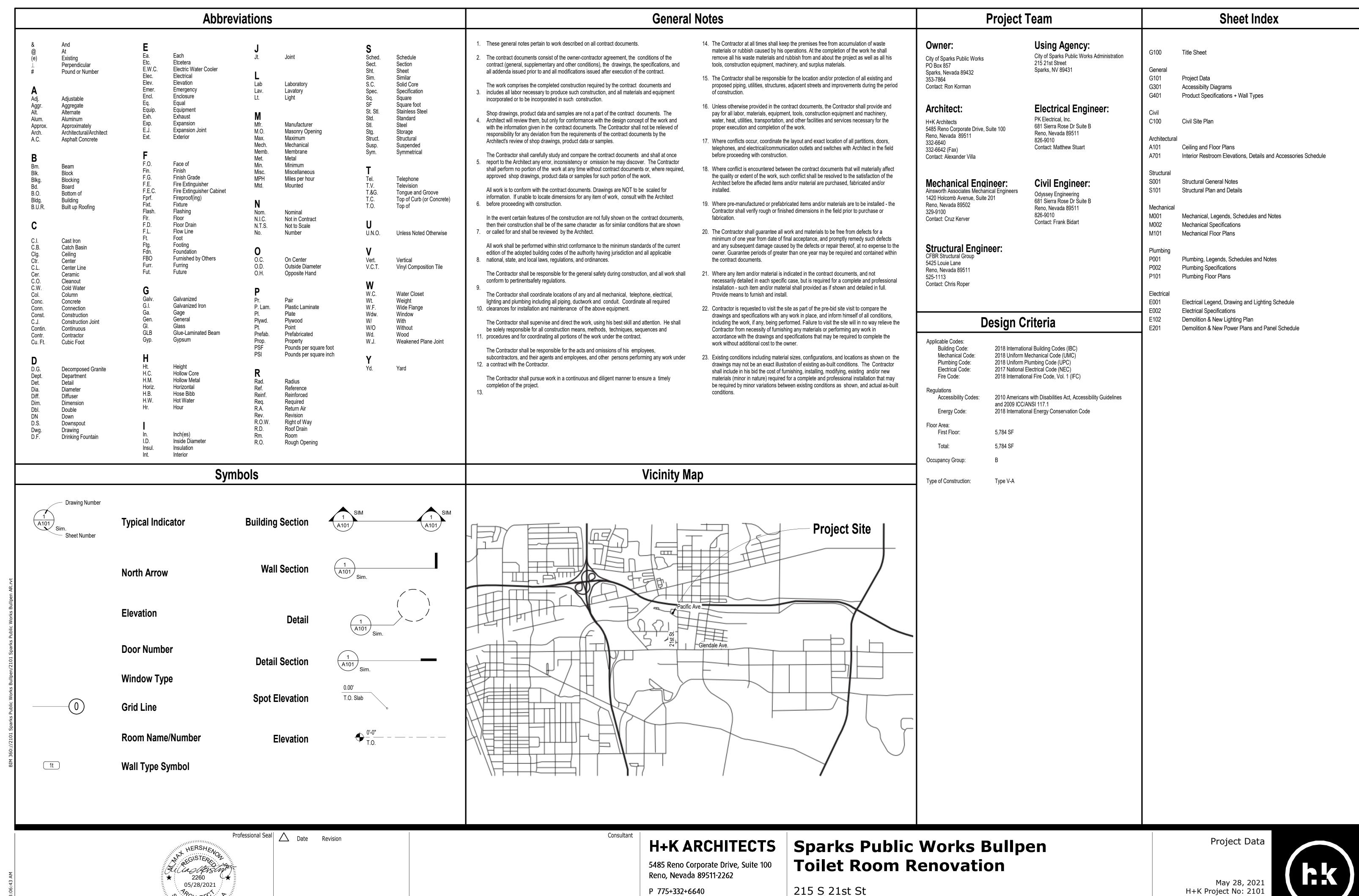
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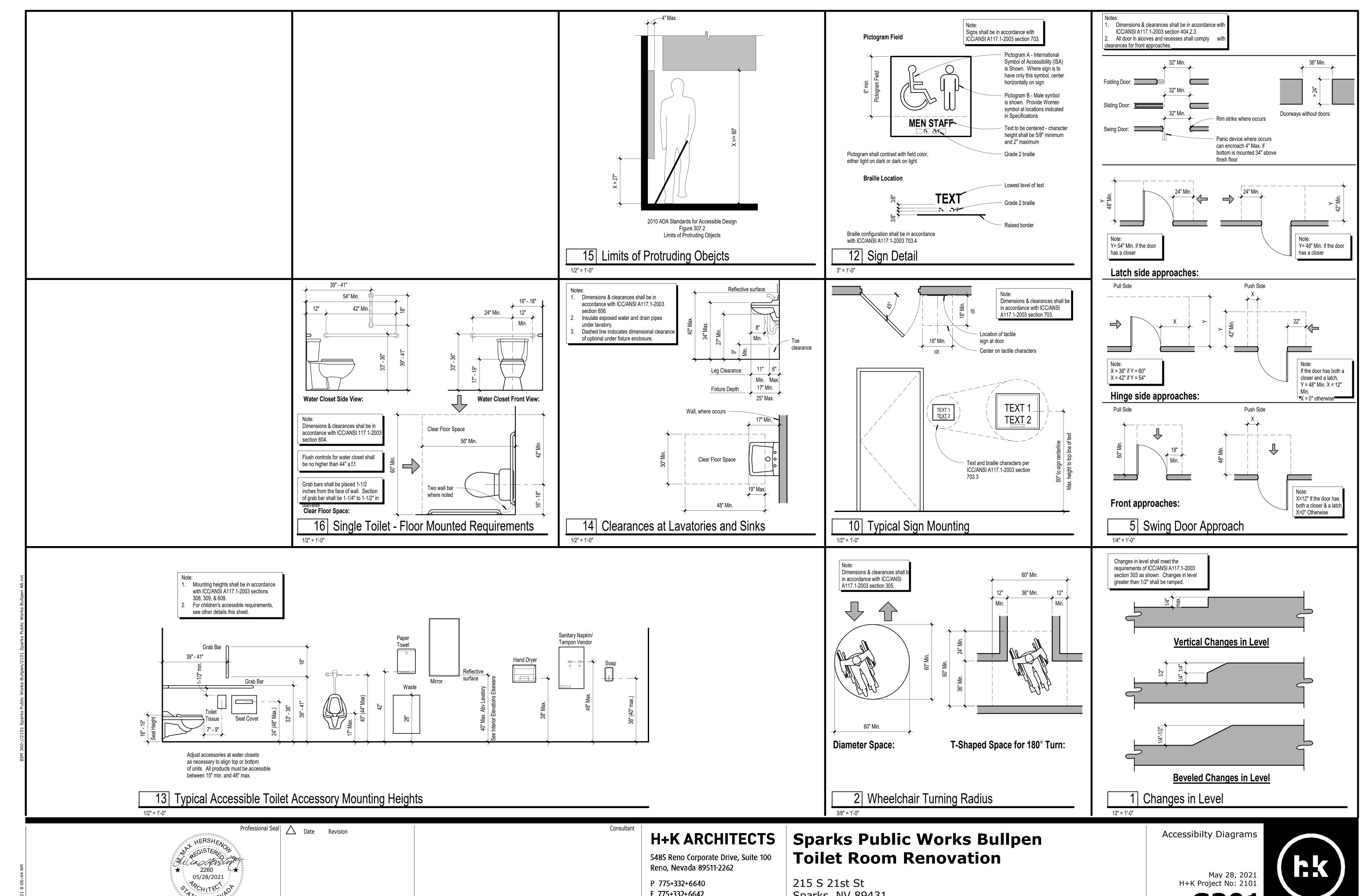
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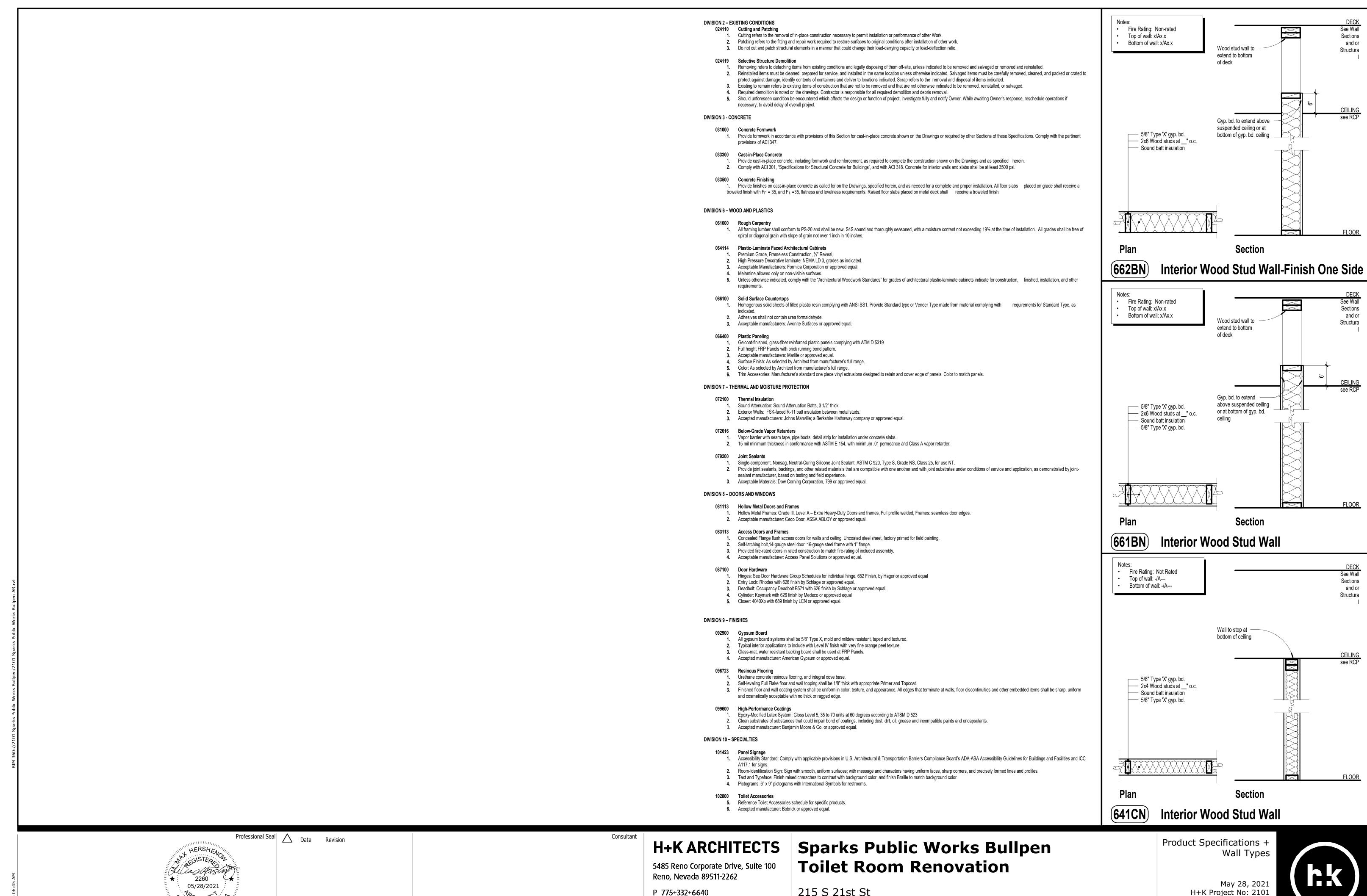
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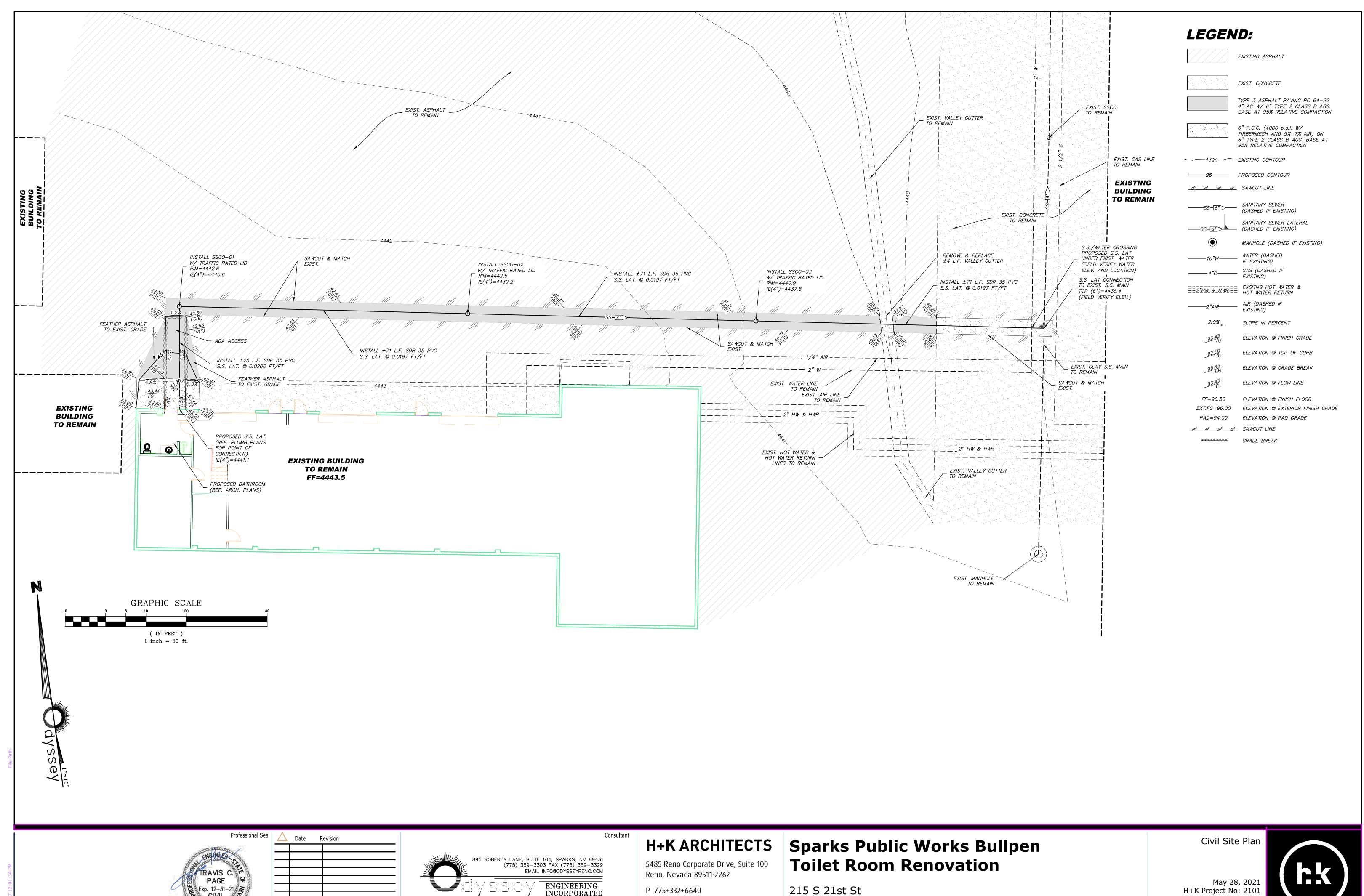


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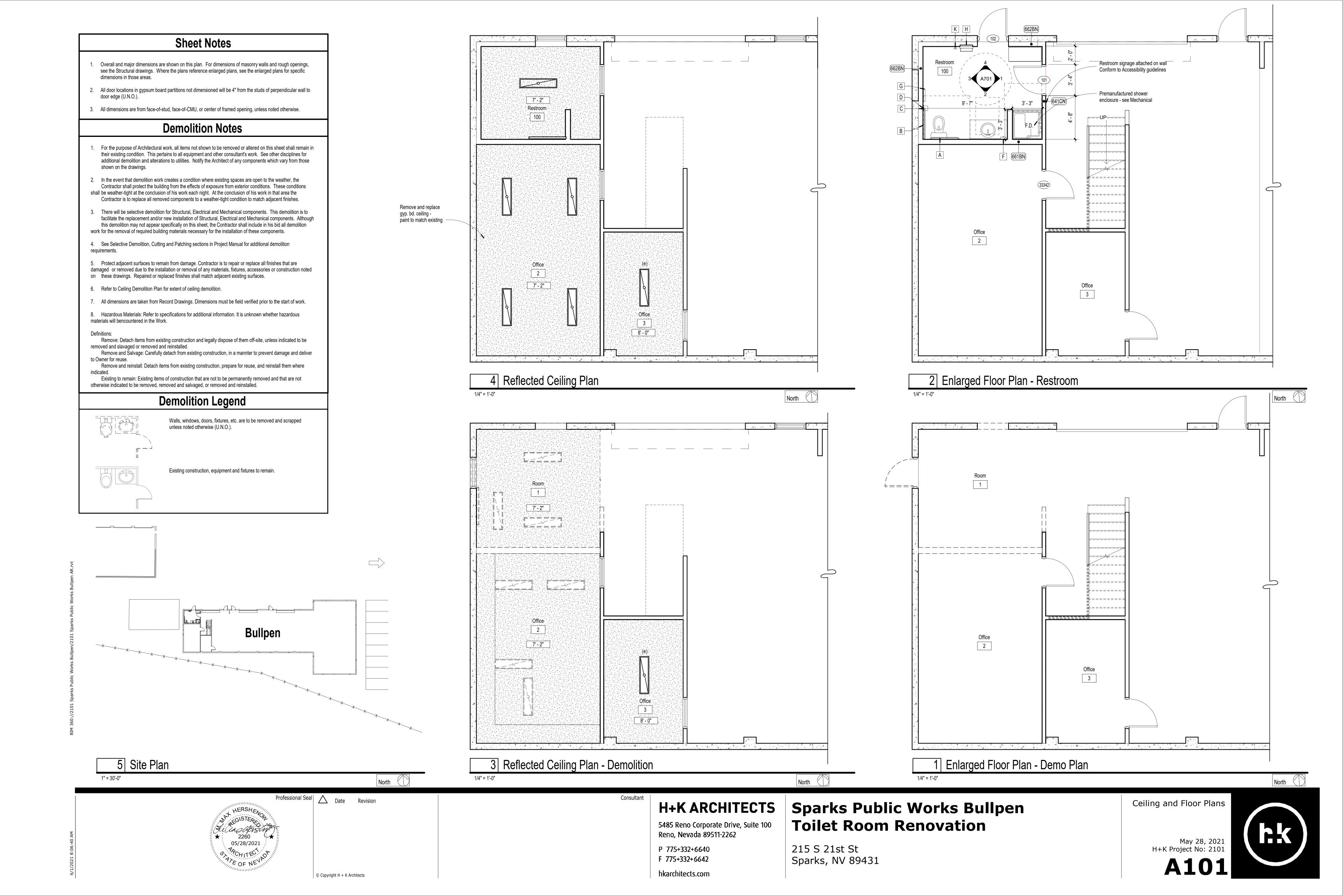


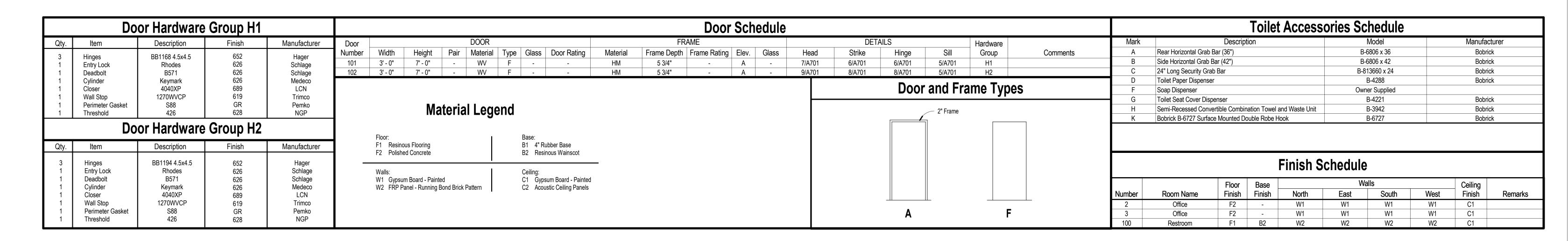


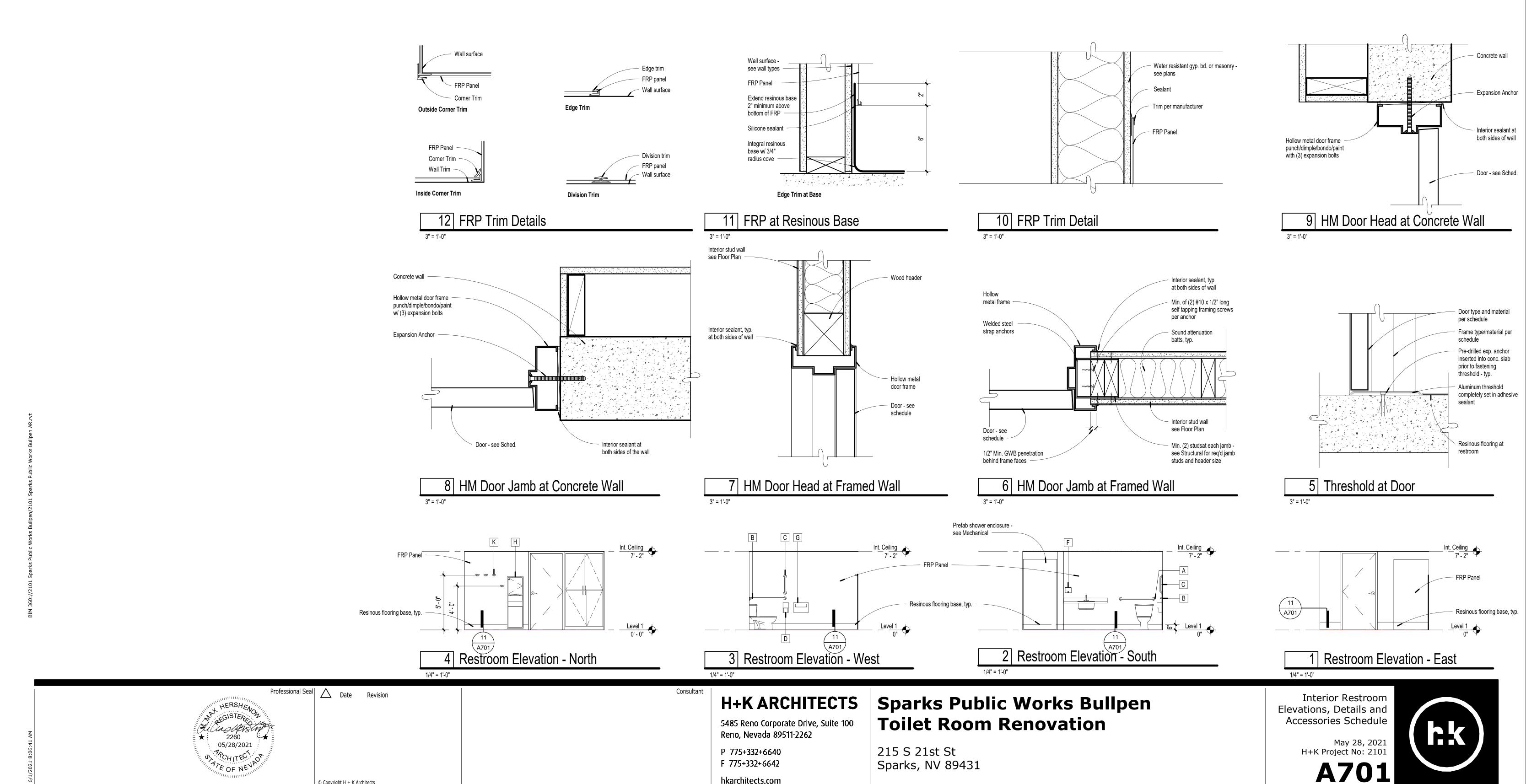
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#### STRUCTURAL DESIGN CRITERIA

- 2018 INTERNATIONAL BUILDING CODE (IBC) STRUCTURAL RISK CATEGORY II (NORMAL OCCUPANCY)
- FLOOR LIVE LOAD, L: 100 PSF MEZZANINE (ASSUMED ORIGINAL) ROOF LIVE LOAD, Lr: 20 PSF
- <u>SNOW LOADS:</u> ROOF SNOW LOAD, S: 20 PSF (PER ORIGINAL DESIGN)
- MIND LOADS: BASIC WIND SPEED, V: 120 MPH EXPOSURE CATEGORY: C
- SEISMIC LOADS: Ss: 1.54 51: 0.54 SITE CLASS: D
  - 5ds: 1.03 5d1: 0.61 SEISMIC DESIGN CATEGORY: D
- IBC TABLE 1806.2: CLASS 4 MATERIALS ASSUMED ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF FROST DEPTH: 24"

#### GENERAL

- THESE GENERAL NOTES APPLY TO ALL WORK SHOWN IN THE STRUCTURAL DRAWINGS. THE GENERAL CONTRACTOR AND ALL INVOLVED PARTIES SHALL BE DIRECTLY RESPONSIBLE FOR READING AND COMPLYING WITH ALL INFORMATION PROVIDED IN THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL GENERAL NOTES AND TYPICAL DETAILS SHOWN IN THE DRAWINGS, WHETHER OR NOT SPECIFIC FLAGGING OR REFERENCE HAS BEEN MADE TO THE APPLICABLE GENERAL NOTE OR TYPICAL DETAIL. PROJECT SPECIFIC NOTES AND DETAILS SHOWN ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- ALL WORK SHALL COMPLY WITH THE MINIMUM STANDARDS OF THE CURRENT ADOPTED BUILDING CODE THE LATEST EDITION OF ASTM OR OTHER INDUSTRY STANDARDS REFERENCED, AND ALL APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS AND REGULATIONS. FOR ITEMS, METHODS, AND/OR MATERIALS NOT SHOWN, ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE REGULATING AGENCIES THAT HAVE AUTHORITY OVER SUCH PORTIONS OF WORK.
- THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS, AND OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, PREPARATION AND EXECUTION OF A SAFETY PROGRAM AND DESIGN AND INSTALLATION OF BRACING, SHORING, FORMS AND SCAFFOLDING. THE CONTRACTOR SHALL RETAIN HIS OWN ENGINEER WHERE REQUIRED FOR MEANS AND METHODS AS WELL AS ANY OTHER DELEGATED DESIGN ITEMS.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, ELEVATIONS, GRADES AND CONDITIONS MITH ARCHITECTURAL AND OTHER DRAMINGS (I.E. CIVIL, MECHANICAL, PLUMBING, ELECTRICAL, ETC.) PRIOR TO CONSTRUCTION. THE ARCHITECT AND ENGINEER (A/E) SHALL BE NOTIFIED OF ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES SO REVISIONS OR CLARIFICATIONS CAN BE MADE WHERE NECESSARY.
- IN THE EVENT EXISTING CONDITIONS ARE FOUND TO BE DIFFERENT FROM THOSE SHOWN IN THE DRAWINGS, THE A/E SHALL BE NOTIFIED SO REVISIONS OR CLARIFICATIONS CAN BE MADE WHERE
- NO CHANGES OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS WILL BE ALLOWED WITHOUT WRITTEN AUTHORIZATION FROM THE A/E. ANY DESIRED CHANGES OR DEVIATIONS SHALL BE PRESENTED TO THE A/E FOR REVIEW WITH NO GUARANTEE THAT THE SUBSTUTION WILL BE ALLOWED.
- DO NOT SCALE THE DRAWINGS. DRAWINGS ARE DIAGRAMMATIC AND MAY NOT SCALE ACCURATELY.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS WHICH ARE TYPICALLY SHOWN ON ARCHITECTURAL DRAWINGS: SIZES AND LOCATIONS OF WINDOW AND DOOR OPENINGS, CONCRETE CURBS, FLOOR DRAINS AND DEPRESSED SLAB AREAS, FLOOR AND INTERIOR OR EXTERIOR NON-STRUCTURAL WALLS PARTITIONS, ETC.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS WHICH ARE TYPICALLY SHOWN ON MECHANICAL. PLUMBING, AND ELECTRICAL DRAWINGS: SIZES AND LOCATIONS OF MECHANICAL EQUIPMENT, DUCTWORK RUNS, CONDUIT OR CABLE TRAY RUNS, PIPE RUNS, AND ALL ASSOCIATED SLEEVES, PENETRATIONS, OPENINGS, HANGERS, INSERTS, ETC.

#### EARTHMORK

- EARTHMORK REQUIREMENTS AND FOUNDATIONS DESIGNS ARE BASED ON TYPICAL LOCAL VALUES AND ASSUME THE PRESENCE OF ADEQUATE NATIVE SOILS.
- WHERE REQUIRED. A SOILS ENGINEER SHALL REVIEW AND APPROVE ALL EARTHWORK MATERIALS PRIOR TO PLACEMENT. OBSERVE EARTHWORK OPERATIONS TO VERIFY COMPLIANCE WITH EARTHWORK REQUIREMENTS, AND PROVIDE DIRECTION WHERE UNEXPECTED CONDITIONS ARISE.
- STRIP SITE, CLEAR ALL DEBRIS, PAVING AND ORGANICS, AND EXCAVATE AS REQUIRED TO CONSTRUCT IMPROVEMENTS, ALLOWING ADEQUATE SPACE WHERE NECESSARY TO CONSTRUCT AND REMOVE FORMS.
- AFTER EXCAVATIONS ARE COMPLETE AND PRIOR TO PLACEMENT OF ANY FILL OR FOUNDATIONS, SCARIFY, MOISTURE CONDITION AND RE-COMPACT SUBGRADES TO MINIMUM 90% RELATIVE COMPACTION UNLESS OTHERWISE DIRECTED BY A SOILS ENGINEER. WHERE SOIL STABILIZATION MEASURES ARE REQUIRED, THEY SHALL BE AS DIRECTED BY A SOILS ENGINEER.
- COORDINATE ALL SOIL FILL, BACKFILL AND TRENCH BACKFILL REQUIREMENTS W/ THE CIVIL ENGINEER, ARCHITECT, AND/OR A SOILS ENGINEER WHERE REQ'D.
- PLACE SOIL FILL AND BACKFILL IN UNIFORM HORIZONTAL LIFTS OF 8" MAXIMUM LOOSE THICKNESS AND COMPACT TO MINIMUM 95% RELATIVE COMPACTION UNLESS OTHERWISE DIRECTED BY A SOILS
- ALL CONCRETE SLABS-ON-GRADE, STEPS AND FLATWORK SHALL BE UNDERLAIN WITH AGGREGATE BASE CONFORMING TO NEVADA HIGHWAY DEPARTMENT SPECIFICATIONS FOR TYPE 2, CLASS B AGGREGATE BASE. COMPACT AGGREGATE BASE TO 95% RELATIVE COMPACTION.
- TRENCHING AND BACKFILL FOR UTILITIES SHALL COMPLY WITH THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION AND WITH ALL BEST INDUSTRY PRACTICES.
- CONTRACTOR SHALL PROVIDE DESIGN AND INSTALLATION OF ANY AND ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY AND ADEQUATELY RETAIN EARTH BANKS WHERE REQUIRED.
- CONTRACTOR SHALL COMPLY WITH LOCAL ORDINANCES FOR DUST CONTROL AND SHALL MAINTAIN TEMPORARY DRAINAGE ROUTES TO KEEP SURFACE WATER OUT OF EXCAVATIONS. PUMP FOOTING EXCAVATIONS IF WATER ACCUMULATES. CONTRACTOR SHALL PROVIDE FOR PROPER DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER, SEEPAGE, ETC.

#### CAST-IN-PLACE CONCRETE

- ALL CONCRETE MORK SHALL CONFORM TO THE REQUIREMENTS OF THE ACI MANUAL OF CONCRETE PRACTICE. CONCRETE MIX DESIGNS SHALL BE IN ACCORDANCE WITH ASTM C-94 AS FOLLOWS:
  - INTERIOR CONCRETE: F'C = 4000 PSI AT 28-DAYS, 3/4" NORMAL WEIGHT AGGREGATE, 0.45 MAXIMUM W/C RATIO, ENTRAPPED AIR ONLY. SLABS ON GRADE SHALL CONTAIN 1.5 LB/CY OF
  - FIBERMESH STEALTH POLYPROPYLENE FIBERS OR APPROVED EQUAL. EXTERIOR CONCRETE: I'C = 4000 PSI AT 28-DAYS, 3/4" NORMAL WEIGHT AGGREGATE, 0.45 MAXIMUM W/C RATIO, 6% +/- 1% ENTRAINED AIR, CONTAINING 1.5 LB/CY OF FIBERMESH STEALTH POLYPROPYLENE FIBERS OR APPROVED EQUAL.
- CONCRETE DESIGN ON THIS PROJECT IS BASED ON F'C = 2500 PSI SO SPECIAL INSPECTION IS NOT
- ALL CONCRETE MIXES SHALL UTILIZE ASTM C150 TYPE II LOW ALKALI CEMENT. ASTM C618 CLASS F FLY ASH OR APPROVED NATURAL POZZOLAN MAY BE UTILIZED FOR UP TO 25% CEMENT REPLACEMENT AT
- NORMAL WEIGHT AGGREGATE SHALL CONFORM TO ASTM C33 AND LIGHTWEIGHT AGGREGATE SHALL CONFORM TO ASTM C330. ALL AGGREGATE SHALL BE FROM APPROVED SOURCES AND FREE OF
- CONCRETE SLUMP SHALL NOT EXCEED 3" WHEN TESTED IN ACCORDANCE WITH ASTM C143 FOR HORIZONTAL MEMBERS SUCH AS FOOTINGS, SLABS, AND BEAMS OR 4" FOR VERTICAL MEMBERS SUCH AS WALLS AND COLUMNS. CONCRETE SHALL BE PLACED AT THE MINIMUM PRACTICAL SLUMP, NOT EXCEEDING THE SPECIFIED MAXIMUM SLUMP. IF ADDITIONAL WORKABILITY AND SLUMP IS DESIRED, IT MAY BE OBTAINED WITH APPROVED ADMIXTURES THAT DO NOT INCREASE WATER CONTENT, SHRINKAGE, OR ADVERSELY AFFECT THE CONCRETE.
- ALL NON-SHRINK GROUT AND DRYPACK SHALL BE A PREMIXED, NON-METALLIC, SHRINKAGE COMPENSATING, NON-STAINING FORMULA WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 3 DAYS AND 1000 PSI AT 28 DAYS. GROUT SHALL BE MIXED AND PLACED PER ALL MANUFACTURER REQUIREMENTS IN A FLOWABLE OR PACKABLE STATE AS REQUIRED BY THE CONDITIONS OF INSTALLATION. USE MASTER BUILDERS "CONSTRUCTION GROUT" OR APPROVED EQUAL.
- REINFORCING SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60. ALL BARS TO BE WELDED OR FIELD BENT SHALL BE ASTM A706. ALL WELDING SHALL CONFORM TO AMS D1.4 AND ALL WELDING SHALL BE PERFORMED BY APPROPRIATELY CERTIFIED WELDERS. SUPPORTS AND ACCESSORIES FOR REINFORCING SHALL BE FURNISHED AS SHOWN OR REQUIRED. CHAIRS PLACED AGAINST EXPOSED SURFACES SHALL BE GALVANIZED, STAINLESS, OR PLASTIC.
- ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN CONFORMANCE WITH ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND THE CRSI MANUAL OF STANDARD PRACTICE. ALL REINFORCING BAR BENDS SHALL BE MADE COLD. ALL REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC. SHALL BE ACCURATELY POSITIONED AND SECURED IN PLACE WITH CHAIRS, TIES, BOLSTERS OR DOBIES PRIOR TO PLACEMENT OF CONCRETE, NO "WET-SETTING" IS ALLOWED.
- COVERAGE FOR REINFORCING SHALL BE THE CLEAR DISTANCE FROM FACE OF CONCRETE TO THE FACE OF NEAREST BARS AS FOLLOWS, UNLESS NOTED OTHERWISE:
- CAST AGAINST AND IN PERMANENT CONTACT WITH GROUND (EXCEPT SLABS): 3" EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
- 2" FOR #6 AND LARGER BARS 1-1/2" FOR #5 AND SMALLER BARS
- NOT EXPOSED TO WEATHER OR IN CONACT WITH GROUNDS
- SLABS, JOISTS AND WALLS: 1-1/2" FOR #14 AND #18 BARS SLABS, JOISTS AND WALLS: 3/4" FOR #11 AND SMALLER BARS BEAMS, COLUMNS, PEDESTALS AND TENSION TIES: 1-1/2"
- 4. SLABS-ON-GRADE: 1-1/2" CLR FROM TOP
- REINFORCING SPLICES SHALL BE MADE ONLY WHERE INDICATED ON THE DRAWINGS UNLESS PRIOR APPROVAL IS OBTAINED FROM THE A/E. REINFORCING BARS SHALL BE SPLICED A MINIMUM OF 48 DIAMETERS OR AS NOTED. IN NO CASE SHALL SPLICES BE LESS THAN 24".
- CONSOLIDATE CONCRETE PLACED IN FORMS BY MECHANICAL VIBRATING EQUIPMENT, SUPPLEMENTED BY HAND-SPADING, RODDING OR TAMPING. USE EQUIPMENT AND PROCEDURES FOR CONSOLIDATION OF CONCRETE IN ACCORDANCE WITH THE RECOMMENDED PRACTICES OF ACI 309 TO SUIT THE TYPE CONCRETE AND PROJECT CONDITIONS. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION. IN SUCH CASES HOPPERS AND CHUTES OR TRUNKS OF VARIABLE LENGTHS SHALL BE USED TO LIMIT FREE UNCONFINED FALL OF CONCRETE TO 6
- ADDITIVES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.
- DESIGN CONCRETE FORMS AS RECOMMENDED IN ACI 347. CONSTRUCT FORMS OF ADEQUATE STRENGTH AND STIFFNESS TO OBTAIN REQUIRED FINISHED CONCRETE SURFACE AND LINE TOLERANCES SPECIFIED IN ACI 117. FORMS SHALL BE TIGHT ENOUGH TO PREVENT LEAKAGE OF MORTAR FINES.
- USE NEW OR PROPERLY CLEANED LIKE-NEW FORM MATERIALS. REMOVE ALL DIRT, CHIPS, SAWDUST, RUBBISH, WATER OR ICE FROM FORMS PRIOR TO PLACEMENT OF CONCRETE.
- CLEAN AND ROUGHEN CONSTRUCTION JOINTS AND LIGHTLY MOISTEN FORMS AND SUBGRADE PRIOR TO PLACING CONCRETE. INSTALL W.R. MEADOMS "SEALTIGHT DUOGARD" CHEMICAL RELEASE AGENT OR APPROVED EQUAL PRIOR TO PLACEMENT OF CONCRETE. PLACE CONCRETE USING METHODS WHICH AVOID SEGREGATION. MECHANICALLY VIBRATE ALL CONCRETE, INCLUDING SLABS, TO CONSOLIDATE IN FORMS. COMPLY WITH THE REQUIREMENTS FOR CURING PRIOR TO STRIPPING OF FORMS.

#### CONCRETE FINISHES:

- INTERIOR FLATWORK: SCREED TO AN EVEN, LEVEL PLANE, FLOAT AND STEEL TROWEL TO A SMOOTH DENSE HARD FINISH
- EXTERIOR FLATWORK: AS ABOVE EXCEPT FOLLOWED WITH A MEDIUM BROOM FINISH PERPENDICULAR TO TRAFFIC.
- FORMED SURFACES EXPOSED TO VIEW: IMMEDIATELY AFTER FORMS ARE REMOVED, REMOVE SURFACE PROJECTIONS AND SACK AND PATCH ALL SURFACE DEFECTS.
- FORMED SURFACES NOT EXPOSED TO VIEW: STRIP FORMS AND PATCH LARGE HOLES OR
- COORDINATE AND VERIFY ALL CONCRETE FINISHES WITH THE ARCHITECT.
- FINISH AND MEASURE SLAB SURFACES TO MATCH ADJACENT EXISTING SIMILAR SURFACAES.
- CONCRETE CURING AND PROTECTION REQUIREMENTS:
- FRESHLY DEPOSITED CONCRETE SHALL BE CURED AND PROTECTED FROM PREMATURE DRYING AND EXCESSIVE HOT OR COLD TEMPERATURES FOR A MINIMUM OF 5 DAYS IN ACCORDANCE WITH ACI 305 IN HOT WEATHER AND ACI 306 IN COLD WEATHER.
- INTERIOR SLABS TO BE COVERED: APPLY 1 COAT OF ASTM C309 CURING COMPOUND AS SOON AS POSSIBLE AFTER FINISHING. CURING COMPOUND SHALL BE CERTIFIED TO BE COMPATIBLE WITH FLOORING COVERINGS OR THE CURING COMPOUND SHALL BE REMOVED FROM SLABS
- PRIOR TO APPLICATION OF FLOOR COVERINGS. INTERIOR SLABS TO BE EXPOSED WITH CURE AND SEAL FINISH: APPLY AN INITIAL CURING COAT OF HIGH SOLIDS (20% MINIMUM) ASTM C1315 CURING AND SEALING COMPOUND AS SOON AS POSSIBLE AFTER FINISHING. APPLY A SECOND SEALING COAT PER MANUFACTURER
- RECOMMENDATIONS. EXTERIOR CONCRETE: APPLY 1 COAT OF HIGH SOLIDS (20% MINIMUM) ASTM C309 CURING
- COMPOUND AS SOON AS POSSIBLE AFTER FINISHING. REAPPLY CURING COMPOUNDS TO SAWCUT JOINTS IMMEDIATELY AFTER CUTTING IF CURING COMPOUND IS APPLIED PRIOR TO CUTTING. ALL SAW CUTTING SHALL BE TIMED TO AVOID TEARING OR DAMGE BY THE SAM BLADE.
- DEFECTIVE MORK
  - ANY CONCRETE NOT FORMED AS SHOWN OR NOT MEETING THE INTENDED LINES, ELEVATIONS, FINISHES, TOLERANCES, ETC. SHALL BE DEEMED DEFECTIVE.
  - SLAB CRACKS, EDGE CURLING AND SURFACES NOT MEETING FINISH, FLATNESS OR LEVELNESS REQUIREMENTS SHALL BE DEEMED DEFECTIVE. DEFECTIVE WORK SHALL BE REMOVED AND REPLACED WITH CONFORMING WORK, OR AT THE OPTION OF THE A/E, REPAIRED TO THE SATISFACTION OF THE A/E.
- CONSTRUCTION JOINTS WILL NOT BE PERMITTED, EXCEPT WHERE SHOWN ON THE DRAWINGS, WITHOUT WRITTEN CONSENT OF THE A/E.
- ALL CONDUITS AND UTILITIES AT SLABS ON GRADE SHALL BE PLACED IN THE BASE MATERIALS AND NOT
- LEAVE CONCRETE SURFACES BROOM CLEAN AND REMOVE ALL DEBRIS FROM CONCRETE WORK FROM

#### PENETRATIONS & POST-INSTALLED ANCHORS

- OPENINGS, POCKETS, HOLES, CANS, ETC. SHALL NOT BE PLACED IN ANY SLAB, BEAM, COLUMN, WALL, OR OTHER STRUCTURAL MEMBER UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR WRITTEN PERMISSION IS OBTAINED FROM THE A/E.
- B. DO NOT OVERCUT AT CORNERS WHEN CUTTING A NEW OPENING IN EXISTING CONCRETE OR MASONRY; CORE DRILL, CHIP AND GRIND AS REQUIRED AT CORNERS. A LAYOUT OF ALL PROPOSED OPENINGS SHALL BE REVIEWED BY THE A/E PRIOR TO ANY PENETRATION ACTION.
- UTILIZE CURRENT TECHNOLOGY DETECTION EQUIPMENT TO LOCATE OBSTACLES (REBAR, CONDUITS, ETC.) WITHIN CONCRETE (FLOORS, WALLS, ROOFS, ETC.) AT EVERY LOCATION WHERE CONCRETE IS TO BE PENETRATED (DRILLING, SAWING, CORING, ETC.). PROVIDE RESULTS TO THE A/E AT LEAST 48 HOURS PRIOR TO THE PENETRATION ACTION SO APPROPRIATE DIRECTION MAY BE PROVIDED WHEN OBSTACLES ARE IDENTIFIED. ANY OBSTACLES DAMAGED WITHOUT PRIOR APPROVAL OF THE A/E SHALL BE REPAIRED IN A MANNER ACCEPTABLE TO THE A/E AT THE CONTRACTOR'S EXPENSE.
- EXPANSION ANCHORS SHALL BE AS SPECIFIED. USE SIMPSON "STRONG-BOLT 2"; HILTI "KWIK BOLT 3"; HILTI "KB-TZ"; OR APPROVED EQUAL. PERIODIC SPECIAL INSPECTION REQUIRED.
- EPOXY/ADHESIVE ANCHORS SHALL BE AS SPECIFIED. USE SIMPSON "SET-XP"; HILTI "HIT-RE 500-SD"; HILTI "HIT-HY 150 MAX"; OR APPROVED EQUAL. PERIODIC SPECIAL INSPECTION REQUIRED.
- HEAVY DUTY SCREW ANCHORS SHALL BE AS SPECIFIED. USE SIMPSON "TITEN HD"; HILTI "KWIK HUS-EZ"; OR APPROVED EQUAL. PERIODIC SPECIAL INSPECTION REQUIRED. HEAVY DUTY SCREW ANCHORS SHALL NOT BE USED IN CONDITIONS SUBJECT TO PERMANENT EXTERIOR EXPOSURE UNLESS THEY ARE
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ALL CURRENT EVALUATION REPORT AND MANUFACTURER RECOMMENDATIONS AND SPECIAL INSPECTION SHALL BE PROVIDED WHERE REQUIRED.
- WHERE POST-INSTALLED ANCHORS ARE TO BE USED, IT SHALL BE THE CONTRACTOR'S DIRECT RESPONSIBILITY TO COORDINATE THE LOCATIONS OF REINFORCING STEEL OR OTHER SIMILARLY EMBEDDED ITEMS TO WORK WITH POST-INSTALLED ANCHORS AND TO AVOID CONFLICTS WHEN DRILLING

- FRAMING LUMBER SHALL BE DOUGLAS FIR WITH A MAXIMUM MOISTURE CONTENT OF 19% AT THE TIME OF DELIVERY TO THE SITE. ALL FRAMING EXPOSED TO VIEW SHALL BE KILN DRIED. ALL LUMBER SHALL BE FREE OF HEART CENTERS TYPICALLY. FRAMING LUMBER SHALL BE AS SPECIFIED BELOW AS A MINIMUM UNLESS NOTED OTHERWISE.
  - PLATES, BRIDGING AND BLOCKING: DF-L #2
  - 2x AND 3x STUDS: DF-L #2
  - 4x AND LARGER STUDS AND POSTS: DF-L #1 2X AND 3X FRAMING, UP TO 8" NOMINAL DEPTH: DF-L #2
  - 2X AND 3X FRAMING, OVER 8" NOMINAL DEPTH: DF-L #1 4X AND LARGER FRAMING: DF-L #1
- MANUFACTURED LUMBER PRODUCTS SHALL BE AS MANUFACTURED BY "TRUS JOIST" OR APPROVED EQUAL AND SHALL BE AS SPECIFIED BELOW UNLESS NOTED OTHERWISE. DESIGN AND FABRICATION SHALL CONFORM TO THE CURRENT BUILDING CODE AND ICC REPORT REQUIREMENTS.
  - PARALLEL STRAND LUMBER (PSL): 2.0E, Fb = 2900 PSI, Fv = 290 PSI
  - LAMINATED VENEER LUMBER (LVL): 2.0E, Fb = 2600 PSI, Fv = 285 PSI LAMINATED STRAND LUMBER (LSL): 1.55E, Fb = 2325 PSI, Fv = 400 PSI
- PLATES, LEDGERS, ETC. ATTACHED DIRECTLY TO CONCRETE OR MASONRY AT GRADE SHALL BE PRESSURE TREATED AND CONNECTORS FOR PRESSURE TREATED LUMBER SHALL BE GALVANIZED OR STAINLESS AS APPROPRIATE FOR THE PRESSURE TREATED MATERIAL BEING FASTENED.
- CUT FRAMING MEMBERS SQUARE AND TO ACCURATE LENGTH TO OBTAIN FULL BEARING AT JOINTS. ERECT PLUMB AND LEVEL AND TO ACCURATE LINE. BOLT HOLES SHALL BE ACCURATELY DRILLED 1/16 INCH LARGER THAN BOLTS. BOLTS SHALL CONFORM TO ASTM A307 WITH STANDARD CUT WASHERS WHERE HEAD OR NUT BEARS AGAINST WOOD. SELECT MEMBERS SO KNOTS OR DEFECTS DO NOT OCCUR AT NAIL OR BOLT LOCATIONS.
- DO NOT NOTCH FRAMING, EXCEPT WHERE SHOWN IN DETAILS. OBTAIN THE ENGINEER'S APPROVAL FOR ANY HOLES OR NOTCHES NOT DETAILED. HOLES THROUGH SILLS, PLATES, STUDS, AND DOUBLE PLATES OF BEARING OR SHEAR WALLS SHALL BE BORED IN THE CENTER OF THE MEMBER AND SHALL NOT EXCEED 1/3 THE MEMBER WIDTH.
- NAILING SHALL BE IN ACCORDANCE WITH THE FASTENING SCHEDULE IN BUILDING CODE CHAPTER 23 WHERE NOT OTHERWISE SHOWN ON DRAWINGS.
- FRAMING ANCHORS, STRAPS, CONNECTIONS, HANGERS, ETC., SHALL BE SIMPSON STRONG TIE, OR APPROVED EQUAL HAVING ICC APPROVAL; PREDRILL NAIL HOLES AS REQUIRED TO AVOID SPLITTING. ALL HANGERS AND CONNECTIONS SHALL BE FASTENED FOR MAXIMUM CAPACITY.
- ALL SOLE PLATE ANCHOR BOLTS TO HAVE MINIMUM 3"X3"X1/4" PLATE WASHERS AND THE WASHER EDGE SHALL BE MITHIN 1/2" OF SHEAR PLYMOOD WHERE OCCURS. IN LOCATIONS OF DOUBLE SIDEDS SHEARMALLS. A RECTANGULAR SIMPSON BPS-6 OR EQUIVELENT MASHER SHAL BE USED TO ADDRESS THE 1/2" MAXIMUM REQUIRED DISTANCE FROM SHEAR PLYWOOD. IF SLOTTED PLATES WASHERS ARE USED, A STANDARD CUT WASHER SHALL ALSO BE USED ON TOP OF THE SLOTTED PLATE WASHER.
- FIELD CUTS AND BOLT HOLES IN PRESSURE TREATED LUMBER SHALL BE PROTECTED IN ACCORDANCE WITH AWPA STANDARD M4.
- SHEATHING SHALL CONFORM STRUCTURALLY TO APA STANDARDS AND TO U.S. PRODUCT STANDARD PS-1. ALL PIECES SHALL BE GRADE STAMPED AND SHALL BE OF THE GRADES AND SIZES SHOWN ON THE DRAWINGS. OSB SHALL NOT BE USED IN CONDITIONS WITH EXTERIOR EXPOSURE.

#### STRUCTURAL STEEL

- ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AISC MANUAL OF STEEL CONSTRUCTION. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO AISC 360 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
- B. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
  - STRUCTURAL STEEL SHAPES, PLATES AND RODS: ASTM A36 (Fy = 36 KSI) TYPICAL UNLESS
  - NOTED OTHERWISE. USE ASTM 572, GRADE 50 (Fy = 50 KSI) WHERE NOTED. "W" STEEL SHAPES: ASTM A992 (Fy = 50 KSI).
  - RECTANGULAR HSS STEEL TUBING: ASTM A500, GRADE B (Fy = 46 KSI). ROUND HSS STEEL TUBING: ASTM A500, GRADE B (Fy = 42 KSI).
- STEEL PIPE: ASTM A53, GRADE B (Fy = 35 KSI).
- ANCHOR BOLTS (AB) SHALL CONFORM TO ASTM F1554, GRADE 36. MACHINE BOLTS (MB) SHALL CONFORM TO ASTM A 307. HIGH STRENGTH BOLTS (HSB) SHALL BE ASTM A325-N. HIGH STRENGTH BOLTS SHALL BE INSTALLED SNUG-TIGHT IN ACCORDANCE WITH RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS. AT THE CONTRACTOR'S OPTION, LOAD INDICATOR OR TENSION CONTROL TYPE BOLTS MAY BE USED TO SIMPLIFY AND ENSURE PROPER INSTALLATION.
- ALL MELDING SHALL CONFORM TO THE AMERICAN MELDING SOCIETY SPECIFICATIONS FOR THE MATERIAL BEING WELDED AND ALL WELDING SHALL BE PERFORMED BY APPROPRIATELY CERTIFIED WELDERS. ALL WELDERS AND FABRICATION SHOPS SHALL BE APPROVED BY THE BUILDING AUTHORITY
- HEADED AND THREADED STUDS SHALL BE NELSON STUD ANCHORS (NSA) OR APPROVED EQUAL, OF THE SIZES INDICATED ON THE DRAWINGS, WITH FLUXED ENDS AUTOMATICALLY END WELDED PER THE MANUFACTURER'S REQUIREMENTS.
- ALL STRUCTURAL AND MISCELLANEOUS STEEL WORK SHALL BE SHOP PRIMED AND TOUCHED UP IN THE FIELD AFTER ERECTION EXCEPT STEEL TO BE EMBEDDED IN CONCRETE, SPRAY FIRE PROOFED, GALVANIZED, OR WHERE REQUIRED FOR SPECIAL CONNECTIONS LIKE FIELD WELDS OR AT CONTACT FACES OF CONNECTIONS USING HIGH STRENGTH BOLTS. COORDINATE PRIMER WITH FINISH REQUIREMENTS TO ENSURE PRIMER IS COMPATIBLE WITH TOPCOATS. PROVIDE 3" MINIMUM CONCRETE COVER FOR ALL STEEL EXPOSED TO EARTH.

STANDARD	ABBREVIATIONS	JG	STEEL JOIST GIRDER
AB	ANCHOR BOLT	JT	JOINT
A/E	ARCHITECT / ENGINEER	K	KING STUD, KIPS
AFF	ABOVE FIN FLR	KSI	KIPS PER SQUARE INCH
AGG	AGGREGATE	KSF	KIPS PER SQUARE FOOT
ALT	ALTERNATE	L	ANGLE
ALUM	ALUMINUM	LBS	POUNDS
APPROX	APPROXIMATELY	LLV	LONG LEG VERTICAL
ARCH	ARCHITECT	LLH	LONG LEG HORIZONTAL
BFF	BELOW FIN FLR	LT MT	LIGHT WEIGHT
BLDG	BUILDING	MAX	MAXIMUM
BLKG	BLOCKING	MB	MACHINE BOLT
BM	BEAM	MECH	MECHANICAL
BN	BOUNDARY NAIL	MFR	MANUFACTURER
B0	BOTTOM OF	MISC	MISCELLANEOUS
BOT	BOTTOM	MIN	MINIMUM
B/S	BOTH SIDES	MTL	METAL
CIP	CAST IN PLACE	(N)	NEM
CJ	CONTROL JOINT	NA	NOT APPLICABLE
CJP	COMPLETE JOINT	NS	NEAR SIDE
	PENETRATION	NSA	NELSON STUD ANCHOR
CL	CENTERLINE	NTS	NOT TO SCALE
CLG	CEILING	00	ON CENTER
CLR	CLEAR	0D	OUTSIDE DIAMETER
CMU	CONC MASONRY UNIT	OH .	OPPOSITE HAND
COL	COLUMN	LMO	OPEN WEB STEEL JOIST
CONC	CONCRETE	PERP	PERPENDICULAR
CONN	CONNECTION	PL	PLATE
CONST	CONSTRUCTION	PLF	POUNDS PER FOOT
CONT	CONTINUOUS	PLY	PLYWOOD
CTSK	COUNTERSUNK	PSI	POUNDS PER SQUARE INC
CY	CUBIC YARDS	PSF	POUNDS PER SQUARE FO
DBL	DOUBLE	PT	PRESSURE TREATED.
DF	DOUGLAS FIR	1 1	POST TENSIONED
		PENE	
DIA	DIAMETER	REINF	REINFORCING
DJ	DOMELED JOINT	REQD	REQUIRED
DMG	DRAMING	SCH	SCHEDULE
EA	EACH	SHTG	SHEATHING
EF (E/F)	EACH FACE	SIM	SIMILAR
ELEV	ELEVATION	50G	SLAB ON GRADE
ELEC	ELECTRICAL	55	STAINLESS STEEL
EN	EDGE NAIL	STAGG	STAGGERED
EOR	ENGINEER OF RECORD	STD	STANDARD
ES	EACH SIDE	STIFF	STIFFENER
EM (E/M)	EACH WAY	STL	STEEL
(E)	EXISTING	STRUC	STRUCTURAL
EXT			
	EXTERIOR	SYM	SYMMETRICAL
FF.	FINISHED FLOOR	<u>T</u>	TRIMMER
FIN	FINISH	TN	TOENAIL
FLR	FLOOR	TO	TOP OF
FN	FACE NAIL	TYP	TYPICAL
FO	FACE OF	T\$G	TONGUE & GROOVE
FS	FAR SIDE	T#B	TOP & BOTTOM
FT	FEET	UNO	UNLESS NOTED OTHERWIS
FTG	FOOTING	VERT	VERTICAL
GA	GAGE, GUAGE	VIF	VERIFY IN FIELD
GALY	•	MF	MIDE FLANGE
	GALVANIZED		
GLB	GLULAM BEAM	MMF	MELDED MIRE FABRIC
HDR	HEADER	M/	MITH
HORIZ	HORIZONTAL	W/O	WITHOUT
HSB	HIGH STRENGTH BOLT	@	AT
ID	INSIDE DIAMETER	#	NUMBER, POUNDS
IN	INCHES	<b>\$</b>	AND
INT	INTERIOR	+/-	PLUS OR MINUS

RAL NOTES		5/28/2021
Sheet Name		Sheet Issue Date
EET INDEX		
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W/ W/O	MITHOUT	
MMF	MELDED MIT	RE FABRIC
MF	MIDE FLANG	
VIF	VERIFY IN F	IELD
UNO VERT	VERTICAL	TED OTHERWISE
T&B	TOP & BOTT	
T\$G	TONGUE & G	
TYP	TYPICAL	
TN TO	TOENAIL TOP OF	
T.	TRIMMER	
SYM	SYMMETRIC	
STRUC	STRUCTURA	L
STIFF STL	STIFFENER STEEL	
STD	STANDARD	
STAGG	STAGGERE	
55	STAINLESS !	
51M 50G	SLAB ON G	RADE
SHT <i>G</i> SIM	SHEATHING SIMILAR	
SCH SUTA	SCHEDULE	
REQD	REQUIRED	
REINF	REINFORCIN	16
	POST TENSI	•
PT	PRESSURE	
PSF		R SQUARE INCH R SQUARE F <i>OC</i>
PLY PSI	PLYMOOD	D COULDE INCL
PLF	POUNDS PE	R F00T
PL	PLATE	
PERP	PERPENDIC	
OWJ		STEEL JOIST
0D 0H	OUTSIDE DIA	
<i>0</i> C	ON CENTER	
NTS	NOT TO SC	
NSA		JD ANCHOR
NS	NEAR SIDE	··
NA	NOT APPLIC	ABLE
(N)	NEW	
MIN MTL	MINIMUM METAL	
MISC	MISCELLAN	EOUS
MFR	MANUFACTU	
MECH	MECHANICA	
MB	MACHINE BO	OLT

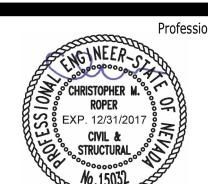
Sheet Number	Sheet Name	Sheet Issue Date
001	STRUCTURAL GENERAL NOTES	5/28/2021
100	STRUCTURAL PLAN & DETAILS	5/28/2021

#### DEMOLITION NOTES

- SAFETY NOTE: THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COMPLIANCE WITH ALL LOCAL. STATE AND NATIONAL CONSTRUCTION SAFETY STANDARDS AND REQUIREMENTS.
- THE A/E AND OWNER SHALL NOT BE RESPONSIBILE FOR THE CONTRACTOR'S FAILURE TO COMPLY WITH ANY SUCH REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL

IMPOSED DURING AND AFTER DEMOLTION AND THROUGH COMPLETION OF THE NEW CONSTRUCTION.

- FORMMORK, BRACING AND SHORING REQUIRED. SHORE OR BRACE THE STRUCTURE (BEAMS, COLUMNS, WALLS, ETC.) AS REQUIRED TO MAINTAIN STABILITY OF THE EXISTING STRUCTURE PRIOR TO DEMOLITION. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING AND BRACING FOR ALL LOADS
- ALL DIMESIONS GIVEN TO EXISTING STRUCTURE ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. WHERE ACTUAL CONDITIONS DEVIATE FROM DETAILS SHOWN ON THE DRAWINGS, NOTIFY THE A/E FOR INSTRUCTIONS BEFORE PROCEEDING WITH THE WORK.
- ANY CONFLICTING ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE A/E PRIOR TO FURTHER
- DEMOLITION AND REMOVAL OF EXISTING CONSTRUCTION SHALL BE MADE IN SUCH A MANNER AS TO AVOID DAMAGE TO ADJACENT CONSTRUCTION.



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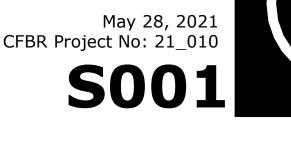
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## **Sparks Public Works Bullpen Toilet Room Renovation**

Sparks, NV 89431

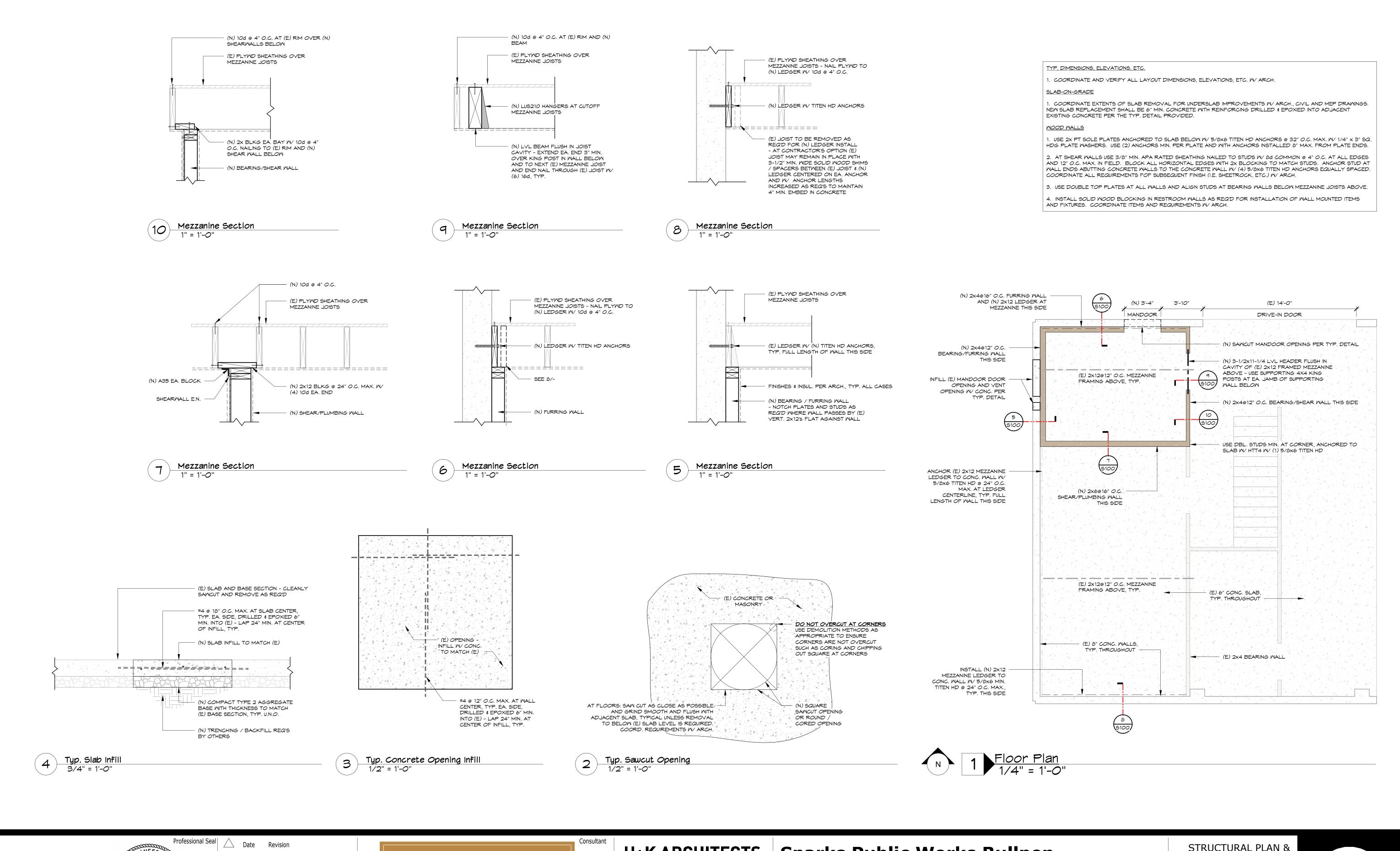
STRUCTURAL GENERAL



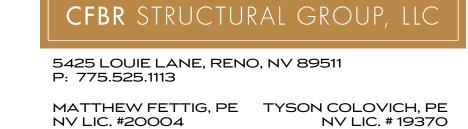
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## **Sparks Public Works Bullpen Toilet Room Renovation**

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## **Sparks Public Works Bullpen Toilet Room Renovation**

Sparks, NV 89431

**GENERAL NOTES** 

ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, AND

3. ALL EQUIPMENT, DUCTWORK, ETC., SHALL BE SUPPORTED AS REQUIRED TO PROVIDE A VIBRATION FREE

4. COORDINATE EXACT LOCATION OF EQUIPMENT AND ALL PENETRATIONS THROUGH ROOF, FLOORS, AND

PROVIDE MANUAL VOLUME DAMPER AT EACH RETURN OR EXHAUST BRANCH AND DOWN STREAM

COORDINATE THE ROUTING OF DUCTWORK WITH PLUMBING AND ELECTRICAL SECTIONS PRIOR TO SHOP

TERMINAL UNIT BRANCH SUPPLY DUCT TAKEOFF. FLEXIBLE DUCT LENGTH SHALL NOT EXCEED 5'-0". MVD

PLANS ARE SCHEMATIC AND ARE INTENDED TO SHOW THE GENERAL NATURE OF THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL MEASUREMENTS AND CONDITIONS. CONTRACTOR

DO NOT FABRICATE FROM THE DRAWINGS. SPACE ALLOCATION SHALL BE DETERMINED IN THE FIELD

**EXHAUST FAN SCHEDULE** 

EQUIPMENT HERE-IN CORRECTED FOR 4,500 FOOT ELEVATION

MECHANICAL EQUIPMENT SCHEDULE

WALL HEATER
QMARK MODEL #CWH1201DSF FORCED FAN WALL HEATER, 1800W, 120V. FURNISH WITH

V / HZ / PHASE

115/60/1

WGT. (LBS)

12

ACCESSORIES

1,2,3,4,5,6,7,8,9

**POWER** 

80 WATTS

IS RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ACCOMPLISH THE INTENT OF THE PROJECT IN A FIRST CLASS MANNER. NOT ALL OFFSETS IN DUCTWORK AND PIPING ARE SHOWN.

WALLS WITH STRUCTURAL PRIOR TO SHOP DRAWING SUBMITTAL.

SHALL BE AS FAR AWAY FROM THE DIFFUSER/GRILLE AS POSSIBLE.

AND COORDINATED WITH OTHER TRADES PRIOR TO FABRICATION.

10. DUCT DIMENSIONS SHOWN ON PLANS ARE NET INSIDE DIMENSIONS.

CFM S.P.

100 0.235

MFR AND

MODEL NO.

GREENHECK

SP-B110

2. WHITE DESIGNER NON-YELLOWING GRILLE

3. INTEGRAL BACKDRAFT DAMPER

ADJUSTABLE MOUNTING BRACKET

4. PLUG TYPE DISCONNECT

6. POLYPROPYLENE WHEEL

8. ROUND HOODED WALL CAP 9. ROUND DUCT CONNECTION

5. UL/cUL 507 LISTED

1. CORROSION RESISTANT GALVANIZED STEEL HOUSING

RECSSED MOUNTING FRAME.

SYMBOL

ACCESSORIES:

7. COORDINATE EXACT SIZE AND LOCATION OF DUCTWORK WITH ALL OTHER TRADES.

2. ALL MATERIALS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.

INDUSTRY STANDARDS.

DRAWING SUBMITTAL.

INSTALLATION.

#### MECHANICAL LEGEND **→** AIR IN (OUTSIDE AIR OR RETURN AIR, RESPECTIVELY) EXHAUST AIR DUCT SECTION SUPPLY AIR DUCT SECTION 12x10 DUCT (FIRST FIGURE SIDE SHOWN SECOND FIGURE SIDE NOT SHOWN) TURNING VANES MANUAL DAMPER T ROOM TEMPERATURE SENSOR DIAMETER **ROOM NAME** ROOM NAME AND NUMBER AIR CONDITIONING AD, AP ACCESS DOOR, ACCESS PANEL CFM, f CUBIC FEET OF AIR PER MINUTE AIR CHANGES PER HOUR **EXHAUST FAN** DEGREES FAHRENHEIT FROM ABOVE. TO BELOW FA, TB FB, TA FROM BELOW, TO ABOVE GAUGE GALV. GALVANIZED AAV. / MAV. AUTOMATIC / MANUAL AIR VENT MAX., MIN. MAXIMUM, MINIMUM M.D. MANUAL DAMPER PITCH DOWN IN DIRECTION OF ARROW RA, EA RETURN AIR, EXHAUST AIR SA, OSA SUPPLY AIR, OUTSIDE AIR TYPICAL TYP ABOVE FINISHED FLOOR AFF AFG ABOVE FINISHED GRADE NORMALLY CLOSED N.C. NORMALLY OPEN

## DRAWING SHEET INDEX

MECHANICAL LEGENDS, SCHEDULES, AND NOTES

MECHANICAL SPECIFICATIONS MECHANICAL FLOOR PLANS

AINSWORTH ASSOCIATES

215 S 21st St.

MECHANICAL LEGENDS, SCHEDULES, AND May 28, 2021 H+K Project No: 2101 M001

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# **H+K ARCHITECTS**



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- COMPLY WITH APPLICABLE PORTIONS OF SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION (SMACNA) GUIDELINES FOR ALL WORK IN THIS SECTION.
- 2. COMPLY WITH AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS (ASHRAE)
- RECOMMENDATIONS, LATEST EDITION, FOR ALL WORK IN THIS SECTION. COMPLY WITH ANSI/NFPA 90A, 'STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS', AND ANSE/NFPA 90B, 'STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS' FOR ALL WORK IN THIS SECTION.
- 4. RECTANGULAR AND ROUND DUCTWORK SHALL BE GALVANIZED STEEL. DUCT GAUGES, CONSTRUCTION, AND INSTALLATION SHALL CONFORM TO THE RECOMMENDATIONS OF THE LATEST SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS. ALL INTERIOR EXPOSED DUCTWORK SHALL BE ETCHED FOR PAINTING.
- 5. DUCT FITTINGS AND CIRCUMFERENTIAL JOINTS SHALL BE SEALED WITH WATER BASED VINYL ACRYLIC DUCT SEALER, DESIGN POLYMERICS DP1010. OR APPROVED EQUAL.
- 6. DUCT INSULATION SHALL COMPLY WITH THE REQUIREMENTS LISTED IN 2018 INTERNATIONAL ENERGY CONSERVATION CODE SECTION C403.11. 7. DUCT WRAP: ALL CONCEALED METAL SUPPLY, RETURN, AND EXHAUST AIR DUCTWORK AND FITTINGS SHALL BE WRAPPED WITH 2-1/5" THICK FIBERGLASS INSULATION, 3/4 LB DENSITY, WITH REINFORCED FOIL FACING, AND AN R-

VALUE OF 6.0. END SEAMS SHALL BE SEALED WITH PRESSURE-SENSITIVE TAPE. LONGITUDINAL SEAMS SHALL BE

OVERLAPPED A MINIMUM OF 4 INCHES AND SECURED WITH BOTH STAPLES AND PRESSURE-SENSITIVE TAPE. 8. SUPPORT ALL INTERIOR DUCTWORK IN ACCORDANCE WITH THE CURRENT SMACNA GUIDELINES. 9. FLEXIBLE DUCTWORK SHALL BE THERMAFLEX M-KE OR APPROVED EQUAL, CONFORMING TO UL181 CLASS 1

## REQUIREMENTS. SECURE WITH PANDUIT FASTENERS.

- 1. THE AIR AND WATER SYSTEMS TEST AND BALANCE SCOPE OF WORK SHALL BE PERFORMED BY AN AABC CERTIFIED
- AIR BALANCE CONTRACTOR: RAGLEN SYSTEM BALANCE OR RS ANALYSIS, NO EXCEPTIONS. 2. ALL AIR AND WATER SYSTEMS AND DEVICES SHALL BE BALANCED TO WITHIN +0% TO +10% OF DESIGN
- 3. SET ALL VOLUME DAMPERS AND BALANCE SYSTEMS SUCH THAT THE VOLUME INDICATED ON THE DRAWINGS IS BEING DELIVERED. A WRITTEN REPORT SHOWING 'KA' FACTORS, FPM, AND CFM FOR EACH GRILLE, REGISTER, CEILING DIFFUSER IS TO BE PREPARED.
- 4. INSTALL ANY DAMPERS, BAFFLES, AND SHEAVES NECESSARY TO ACCOMPLISH THE DESIRED RESULTS. 5. A FINAL 'COMFORT BALANCE' SHALL BE PERFORMED AS NECESSARY.
- 1. COMPLY WITH APPLICABLE PORTIONS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL

GREATER QUANTITY, OR HIGHER STANDARDS THAN CALLED FOR WITHOUT EXTRA CHARGE.

1. THE GENERAL AND SPECIAL CONDITIONS OF THE SPECIFICATIONS APPLY TO ALL WORK OF THIS SECTION. CONSULT

1. THE WORK INCLUDES LABOR, MATERIALS, TOOLS, EQUIPMENT, AND TRANSPORTATION REQUIRED TO FURNISH AND

PROPERLY INSTALL ALL WORK SHOWN ON THE DRAWINGS AND AS HEREINAFTER DESCRIBED, READY FOR SERVICE TO

1. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE UPC,

WHEN THE CONTRACT DOCUMENTS DIFFER FROM GOVERNING CODES, FURNISH AND INSTALL THE LARGER SIZE,

THEM IN DETAIL AND ASSUME ALL OBLIGATIONS OR CONDITIONS THEREIN WHICH AFFECT THIS WORK.

- ASSOCIATION (SMACNA) GUIDELINES FOR ALL WORK IN THIS SECTION. 2. COMPLY WITH AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS (ASHRAE) RECOMMENDATIONS, LATEST EDITION, FOR ALL WORK IN THIS SECTION.
- 3. COMPLY WITH ANSI/NFPA 90A, 'STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS', AND ANSE/NFPA 90B, 'STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS' FOR ALL WORK IN THIS SECTION.

#### E. DRAWINGS AND COORDINATION:

1. THE GENERAL ARRANGEMENT AND LOCATION OF PIPING, DUCTWORK, EQUIPMENT, ETC. ARE SHOWN ON THE DRAWINGS OR ARE HEREIN SPECIFIED. INSTALL WORK IN ACCORDANCE THEREWITH, EXCEPT FOR MINOR CHANGES THAT MAY BE NECESSARY ON ACCOUNT OF OTHER WORK. CAREFULLY EXAMINE OTHER WORK THAT MAY CONFLICT WITH THIS WORK. INSTALL THIS WORK IN HARMONY WITH OTHER CRAFTS AND EXISTING WORK. ALL CHANGES SHALL HAVE THE PRIOR APPROVAL OF THE ARCHITECT/ENGINEER.

ARRANGE FOR REQUIRED INSPECTIONS AND PERMITS REQUIRED FOR INSTALLATION OF THE WORK.

2. COSTS FOR PERMITS REQUIRED WILL BE PAID BY THE OWNER.

THE ENTIRE SATISFACTION OF THE ARCHITECT/ENGINEER.

C. CODE RULES AND SAFETY ORDERS FOR MECHANICAL AND ELECTRICAL WORK:

CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

- 1. PROVIDE EACH ITEM LISTED HEREIN AND/OR SHOWN ON THE DRAWINGS OF THE QUALITY NOTED, OR APPROVED EQUAL. ALL MATERIAL SHALL BE NEW, FULL WEIGHT, STANDARD IN ALL RESPECTS, AND IN FIRST CLASS CONDITION. INSOFAR AS POSSIBLE, ALL MATERIALS USED SHALL BE OF THE SAME BRAND OR MANUFACTURER THROUGHOUT FOR EACH CLASS OF MATERIAL OR EQUIPMENT. MATERIALS SHALL BE OF DOMESTIC MANUFACTURE AND SHALL BE TESTED WITHIN THE CONTINENTAL UNITED STATES.
- 2. THE GRADE OR QUALITY OF MATERIALS DESIRED IS INDICATED BY THE TRADE NAMES OR CATALOG NUMBERS STATED
- 3. DIMENSIONS, SIZES, AND CAPACITIES SHOWN ARE A MINIMUM AND SHALL NOT BE CHANGED WITHOUT THE
- PERMISSION OF THE ARCHITECT/ENGINEER. 4. NO MATERIAL INSTALLED AS PART OF THIS WORK SHALL CONTAIN ASBESTOS IN ANY FORM.

#### H. MATERIAL LIST AND SUBSTITUTIONS:

1. EQUIPMENT OR MATERIAL DAMAGED DURING TRANSPORTATION, INSTALLATION, OR OPERATION IS CONSIDERED AS TOTALLY DAMAGED. REPLACE WITH NEW EQUIPMENT. VARIANCE FROM THIS REQUIREMENT WILL BE PERMITTED ONLY WITH WRITTEN CONSENT OF THE ARCHITECT/ENGINEER.

#### I. PLACEMENT OF EQUIPMENT AND WORK:

- 1. THE PLACEMENT OF EQUIPMENT AND MECHANICAL WORK IN THE LOCATIONS AND SPACES SHOWN ON THE DRAWINGS IS THE CONTRACTOR'S RESPONSIBILITY.
- 2. MOVE EQUIPMENT AND/OR WORK INTO SPACES THROUGH OPENINGS PROVIDED OR LOCATED IN THE SPACES DURING CONSTRUCTION, AS REQUIRED.

## J. OPERATING AND MAINTENANCE INSTRUCTIONS:

- 1. FURNISH TWO COMPLETE SETS OF OPERATING AND MAINTENANCE INSTRUCTIONS, DESCRIPTIVE LITERATURE, CATALOG CUTS, AND DIAGRAMS COVERING ALL ITEMS OF OPERATION AND MAINTENANCE FOR EACH AND EVERY MECHANICAL SYSTEM AND PIECE OF EQUIPMENT FURNISHED UNDER THESE SPECIFICATIONS. INCLUDE IN EACH SET A COPY OF THE AIR BALANCE TEST REPORT SPECIFIED HEREIN.
- 2. BIND AND INDEX EACH SET IN A DURABLE, HARDBOARD BINDER. FINAL OBSERVATION WILL NOT BE MADE UNTIL THE OPERATING AND MAINTENANCE BOOKLETS ARE SUBMITTED AND HAVE BEEN REVIEWED AND APPROVED BY THE ARCHITECT/ENGINEER.
- 3. PROVIDE COMPLETE OPERATING MANUALS FOR ALL EQUIPMENT LISTED IN INDIVIDUAL SECTIONS OF THE
- 4. INCORPORATE COMPLETE OPERATING INSTRUCTIONS INCLUDING STARTING, STOPPING, AND DESCRIPTION OF EMERGENCY MANUAL OPERATION METHODS FOR THE FOLLOWING:
  - A. AIR CONDITIONING AND HEATING SYSTEMS B. TEMPERATURE CONTROL SYSTEMS
  - C. WATER HEATING SYSTEMS
- D. TESTING AND BALANCING REPORTS PROVIDE MAINTENANCE INSTRUCTIONS FOR EACH ITEM OF INDIVIDUAL EQUIPMENT COVERING PERTINENT MAINTENANCE DATA, SUCH AS LUBRICANTS TO BE USED, FREQUENCY OF LUBRICATION, INSPECTIONS REQUIRED.
- 6. PROVIDE PARTS BULLETINS CONTAINING MANUFACTURER'S BULLETINS WITH PART NUMBERS, INSTRUCTIONS, ETC. FOR EACH ITEM OF EQUIPMENT. STRIP BULLETINS SO THAT USELESS BULK IS AVOIDED.

### K. GUARANTEE:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR WORK DONE AND MATERIALS INSTALLED UNDER THESE PLANS AND SPECIFICATIONS. REPAIR OR REPLACE, AS MAY BE NECESSARY, ANY DEFECTIVE WORK, MATERIALS, OR PARTS WHICH ARE IDENTIFIED AS DEFECTIVE WITHIN ONE YEAR OF THE DATE OF FILING OF THE NOTICE OF SUBSTANTIAL COMPLETION AND BE RESPONSIBLE FOR DAMAGE TO OTHER MATERIALS, FURNISHINGS, EQUIPMENT OR PREMISES CAUSED BY SUCH DEFECTS DURING THIS PERIOD, IF IN THE OPINION OF THE ENGINEER SAID DEFECT IS DUE TO IMPERFECTION OF MATERIAL OR WORKMANSHIP.
- REPAIRS OR REPLACEMENT OF DEFECTIVE WORK SHALL BE PROMPTLY COMPLETED UPON NOTIFICATION BY THE

### L. CARE AND CLEANING:

- REPAIR OR REPLACE BROKEN, DAMAGED, OR OTHERWISE DEFECTIVE PARTS, MATERIALS, AND WORK. LEAVE THE ENTIRE WORK IN A CONDITION SATISFACTORY TO THE ARCHITECT/ENGINEER. AT COMPLETION, CAREFULLY CLEAN AND ADJUST ALL EQUIPMENT AND TRIM WHICH ARE INSTALLED AS PART OF THIS WORK. LEAVE SYSTEMS AND EQUIPMENT IN A SATISFACTORY OPERATING CONDITION.
- 2. CLEAN OUT AND REMOVE SURPLUS MATERIALS AND DEBRIS RESULTING FROM THE WORK.

## M. DRAWINGS AND COORDINATION

- 1. EXECUTE ANY WORK OR APPARATUS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, THE SAME AS IF SPECIFICALLY MENTIONED BY BOTH. OMISSION FROM DRAWINGS OR SPECIFICATIONS OF ANY MINOR DETAILS OF CONSTRUCTION, INSTALLATION, MATERIALS, OR ESSENTIAL SPECIALTIES DOES NOT RELIEVE
- THE CONTRACTOR FROM FURNISHING SAME IN PLACE COMPLETE. 2. FURNISH AND INSTALL ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED WHICH CAN REASONABLY BE INFERRED AS PART OF THE WORK AND NECESSARY TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.

- N. FORMING, CUTTING AND PATCHING 1. COORDINATE WITH OTHER CONTRACTORS AS NECESSARY TO PROVIDE ANY SPECIAL FORMING, RECESSES, CHASES, ETC. PROVIDE WOOD BLOCKING AND BACKING AS NECESSARY FOR PROPER INSTALLATION OF ALL MECHANICAL
- 2. IF THIS CONTRACTOR FAILS TO COORDINATE WITH OTHER CONTRACTORS AT THE PROPER TIME OR FAILS TO LOCATE ITEMS PROPERLY, RESULTING IN EXTRA WORK, THEN THE CONTRACTOR IS RESPONSIBLE.

#### P. OPERATING AND MAINTENANCE INSTRUCTIONS

FURNISH COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS, DESCRIPTIVE LITERATURE, CATALOG CUTS, AND DIAGRAMS COVERING ALL ITEMS OF OPERATION AND MAINTENANCE FOR EACH AND EVERY MECHANICAL SYSTEM AND PIECE OF EQUIPMENT FURNISHED UNDER THESE SPECIFICATIONS. INCLUDE IN EACH SET A COPY OF THE TEST AND BALANCE REPORT SPECIFIED HEREIN.

# **Sparks Public Works Bullpen**

Sparks, NV 89431

**MECHANICAL SPECIFICATIONS** May 28, 2021 H+K Project No: 2101

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UMC, IBC, NEC, THE NEVADA STATE FIRE MARSHAL, THE NATIONAL FIRE PROTECTION ASSOCIATION, AND OTHER APPLICABLE STATE AND/OR LOCAL LAWS AND REGULATIONS. NOTHING IN THESE PLANS OR SPECIFICATIONS SHALL BE

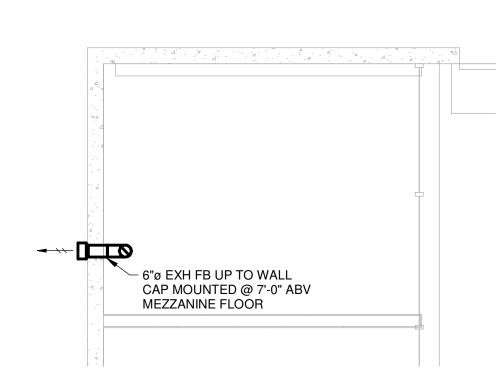
A. GENERAL CONDITIONS:

Reno, Nevada 89511-2262

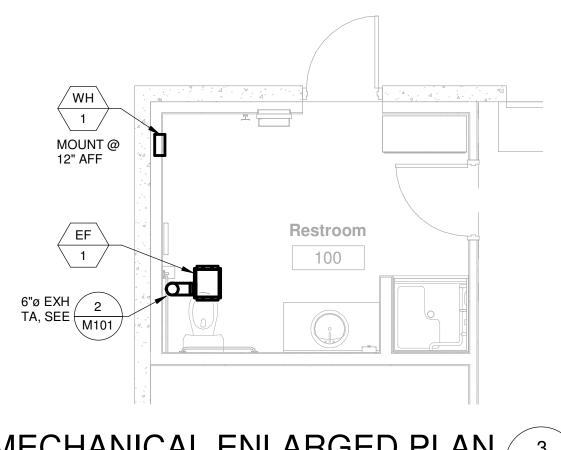
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**H+K ARCHITECTS** 

**Toilet Room Renovation** 



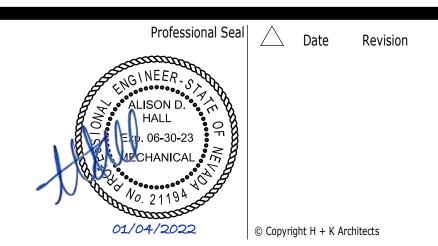


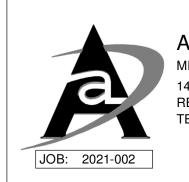


MECHANICAL ENLARGED PLAN

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

M101





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# **Sparks Public Works Bullpen Toilet Room Renovation**



VENT THRU ROOF (3)

COUNTER FLASHING -

VENT PIPE, SEE

PLANS FOR SIZE

18" HIGH

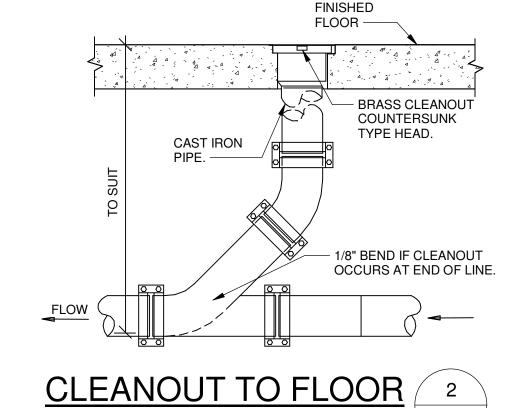
- FLASHING

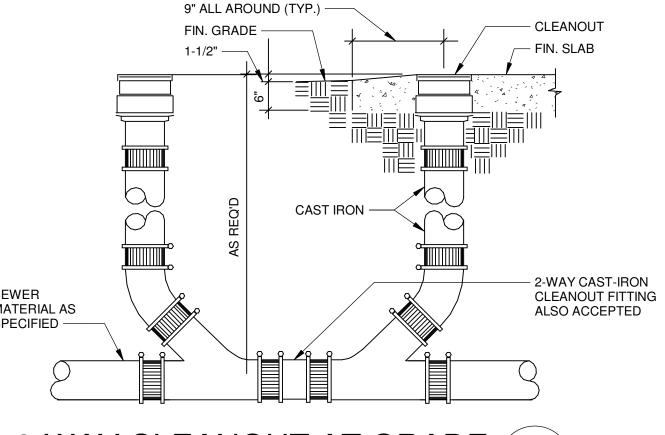
FINISHED ROOF

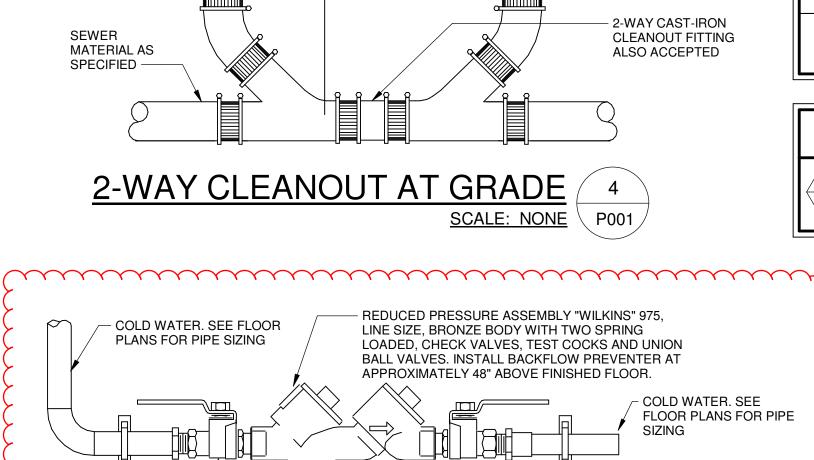
ROOF DECK

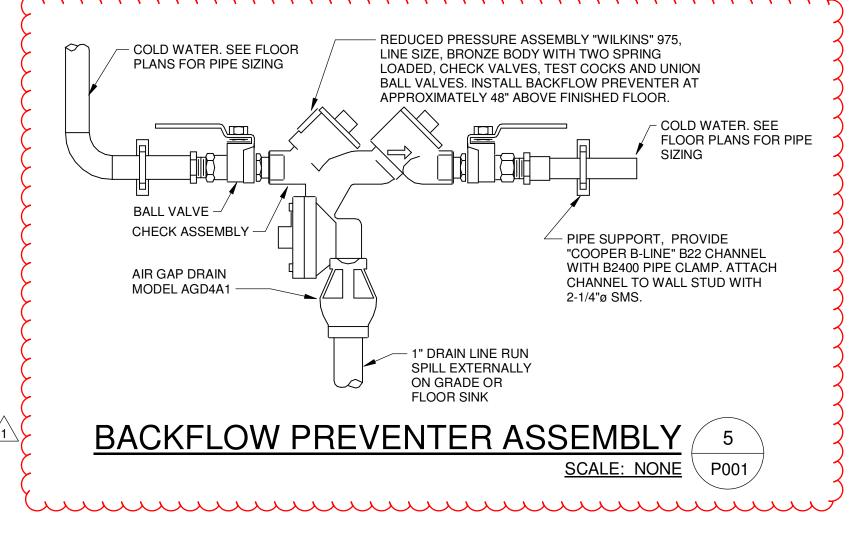
12" MIN.

SCALE: NONE \ P001









## **GENERAL NOTES**

- ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, AND INDUSTRY
- 2. ALL PIPING SHALL NOT OBSTRUCT ACCESS OR REMOVAL OF MECHANICAL EQUIPMENT. eta. ALL WATER PIPING IN EXTERIOR WALLS SHALL BE INSULATED AND INSTALLED INSIDE THE BUILDING INSULATION.
- 4. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS REQUIRED TO PROVIDE A VIBRATION FREE
- SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES TO MEET ADA REQUIREMENTS. 3. ADA WATER CLOSETS SHALL HAVE WATER ROUGH-IN LOCATED TO PROVIDE FLUSH VALVE HANDLE FACING WIDE SIDE
- ALL SEWER AND WASTE SHALL BE SLOPED AT 1/4" = 1'-0".
- COORDINATE THE ROUTING OF DUCTWORK WITH PLUMBING AND ELECTRICAL SECTIONS PRIOR TO BEGINNING WORK. 9. ALL ROOF PENETRATIONS SHALL BE FLASHED AND COUNTER FLASHED WATER TIGHT.
- 10. ALL MATERIALS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE ALL PLUMBING FIXTURES AND EQUIPMENT WITH ACCESSIBLE STOPS. 12. COORDINATE CLEANOUT LOCATIONS WITH ALL TRADES. PROVIDE SIZES AND TYPE TO SUIT FLOORING AS SPECIFIED. 13. BALANCED VALVES IN DOMESTIC HOT WATER RECIRCULATING PIPING SHALL BE AUTOMATIC PRESSURE

COMPENSATING TYPE.

## PLUMBING FIXTURE SCHEDULE

- "AMERICAN STANDARD" MODEL 3517A.101 FLOOR MOUNTED RIGHT HEIGHT FLUSH TANK VITREOUS CHINA TOILET WITH ELONGATED BOWL. FURNISH WITH CENTOCO SEAT #500.
- AMERICAN STANDARD MODEL #0491.019 "RONDALYN" VITREOUS CHINA COUNTERTOP LAVATORY. FURNISH WITH CHICAGO FAUCETS MODEL #802-E70XKABCP MANUAL FAUCET WITH 0.5 GPM FLOW, GRID STRAINER, 17 GAUGE CHROME PLATED P-TRAP. AND McQUIRE ANGLE STOPS.
- SHOWER
  AQUATIC MODEL 1363BFS ADA COMPLIANT GELCOAT SHOWER WITH 1-3/4" SKIRT HEIGHT AND 1/2" INTERIOR THRESHOLD. FULLY EQUIPPED FOR ADA. FURNISHED WITH L-SHAPED GRAB BAR, L-SHAPED FOLD-UP SEAT, PRESSURE BALANCING MIXING VALVE, AND HAND HELD SHOWER ASSEMBLY PER ADA GUIDELINES. FURNISH
- $\frac{\text{FLOOR DRAIN}}{\text{ZURN MODEL }\#\text{Z-415 WITH TYPE }"\text{B" NICKEL BRONZE STRAINER AND BOTTOM OUTLET. FURNISH WITH CAST TRAP.}$ SIZE AS SHOWN ON DRAWINGS.
- ZURN MODEL #Z-415 WITH TYPE "E" NICKEL BRONZE STRAINER AND BOTTOM OUTLET. FURNISH WITH CAST TRAP.
- SIZE AS SHOWN ON DRAWINGS. <u>TRAP GUARD</u> ZURN MODEL #Z1072-4 ZSHIELD BARRIER TRAP SEAL DEVICE, IAPMO AND ASSE LISTED. SEE DRAWINGS FOR SIZES
- <u>CIRCULATION PUMP</u> GRUNDFOS MODEL UP15-18-B5, 0.25 GPM AT 10 FEET. 85 WATTS AT 120 V/1PH WITH AQUASTAT.

## PLUMBING FIXTURE CONNECTION SCHEDULE

FIVTURE	SYMBOL	WASTE		\/ENIT	COLD WATER		HOT WATER	
FIXTURE		BRANCH	OUTLET	VENT	BRANCH	OUTLET	BRANCH	OUTLET
WATER CLOSET	WC	4"	4"	2"	1"	1/2"	-	-
LAVATORY	L	2"	1 1/2"	2"	1/2"	1/2"	1/2"	1/2"
SHOWER	SH	-	-	-	1/2"	1/2"	1/2"	1/2"
FLOOR DRAIN	FD	2"	2"	2"	-	-	-	-
NOTES 1. WATER BRANCH LINES WHERE LESS THAN 10'-0" LONG MAY BE SAME SIZE AS OUTLETS SCHEDULED ABOVE.								

## PLUMBING EQUIPMENT SCHEDULE

<u>DOMESTIC WATER HEATER</u> BRADFORD WHITE MODEL #BW20-L "LOWBOY" 19 GALLON ELECTRIC WATER HEATER, 120V, 2000W

#### SOIL OR WASTE LINE ABOVE GRADE COLD WATER LINE HOT WATER LINE VENT LINE BALL VALVE BALANCE VALVE CHECK VALVE LEVER HANDLE GAS COCK THERMOMETER UNION TEMPERATURE AND PRESSURE RELIEF LINE ABC ABOVE CEILING UNDER FLOOR COTF CLEANOUT TO FLOOR COTG CLEANOUT TO GRADE CO, WCO, FCO CLEANOUT, WALL CLEANOUT, FLOOR CLEANOUT CW (D)(R) COLD WATER (DROP) (RISER) HOT WATER (DROP) (RISER) HW (D)(R) WASTE, WASTE DROP W, WD FA, TB FROM ABOVE, TO BELOW FB, TA FROM BELOW, TO ABOVE INVERT ELEVATION

PLUMBING LEGEND

SOIL OR WASTE LINE BELOW GRADE

VENT, VENT RISER, VENT THRU ROOF **HOSE BIB** DIAMETER **TYPICAL** REF. REFERENCE FLOOR DRAIN DEM DEMAND FIXTURE UNITS **GPM GALLONS PER MINUTE** R.I.O. ROUGH IN ONLY UNO UNLESS NOTED OTHERWISE N.C. NORMALLY CLOSED O.C. ON CENTER AFF ABOVE FINISH FLOOR AFG ABOVE FINISHED GRADE **ROOMNAME** ROOM NAME AND NUMBER LINEAR FEET ABOVE

## DRAWING SHEET INDEX

PLUMBING LEGENDS, SCHEDULES, AND NOTES

V, VR, VTR

PLUMBING SPECIFICATIONS P002

P003 PLUMBING SITE PLAN

P101 PLUMBING FLOOR PLANS

1 1/31/22 Plan Review #1

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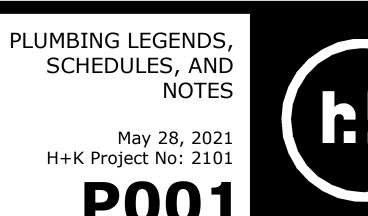
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## **Sparks Public Works Bullpen Toilet Room Renovation**



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**Toilet Room Renovation** 

1. WASTE AND VENT PIPING SHALL BE STANDARD WEIGHT CAST IRON WITH NO-HUB STAINLESS STEEL BANDS AND NEOPRENE COLLARS CONFORMING TO CISPI 301 AND 310.

2. WATER PIPING INSIDE THE BUILDING SHALL BE TYPE 'L' HARD DRAWN COPPER TUBING WITH WROUGHT COPPER FITTINGS. SOLDER SHALL BE 95:5 TIN-ANTIMONY.

BALL VALVES: THREE PIECE, FULL PORT, BRONZE BODY, BLOW-OUT PROOF STEM, SCREWED OR SOLDERED JOINT,

1. PROVIDE AND INSTALL CLEANOUTS WHERE REQUIRED AND AT ALL BENDS, ANGLES AND UPPER TERMINALS. ALL CLEANOUTS SHALL BE ACCESSIBLE. AND SHALL BE THE SAME SIZE AS PIPE SERVED.

2. ALL CLEANOUTS SHALL BE CAST IRON CLEANOUT TEE WITH CAST BRONZE COUNTER SINK PLUG COMPLETE WITH A ROUND, STAINLESS STEEL ACCESS COVER WITH SECURING SCREW. APPROVED TYPES ARE: ZURN Z-1440-1 OR Z-1460-1, WADE 2-8550-S OR W-89470-R, AND SMITH 4402 OR 4477. 3. INTERIOR CLEANOUTS IN FINISHED FLOORS SHALL BE ADJUSTABLE TO FLOOR LEVEL AFTER THE SLAB HAS BEEN

POURED AND SET WITH A SQUARE SCORIATED TOP OF NICKEL BRONZE, VANDAL-PROOF SCREWS, CAST BRASS CLEANOUT PLUG. APPROVED TYPES ARE ZURN 1400, WADE W-7000, AND SMITH 4020.

1. TEST PIPING AT COMPLETION OF ROUGH-IN, IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: PRESSURE TEST MEDIUM DURATION

WATER

WASTE & VENT HIGHEST VENT WATER

125 PSI

TENSILE STRENGTH OF THE MATERIAL USED.

WATER

1. INSULATION SHALL BE FURNISHED AND INSTALLED BY A FIRM WITH AT LEAST 5 YEARS SUCCESSFUL INSTALLATION EXPERIENCE AND IN STRICT ACCORDANCE WITH BEST TRADE PRACTICES. WHERE INSPECTION OF WORK INDICATES THAT THE SPECIFICATION IS NOT BEING COMPLIED WITH, THE ENTIRE SECTION SHALL BE REMOVED AND REINSTALLED

8 HOURS

2. PIPE INSULATION SHALL COMPLY WITH THE REQUIREMENTS LISTED IN 2018 INTERNATIONAL ENERGY CONSERVATION CODE TABLE C403.11.3. 3. INSULATION SHALL BE APPLIED TO CLEAN, DRY SURFACES ONLY, AND AFTER TESTING TO ENSURE TIGHTNESS. 4. INSULATE HOT WATER WITH FIBERGLASS INSULATION, JOHNS MANVILLE MICROLOK HP, OR APPROVED EQUAL,

FINISHED WITH FACTORY APPLIED FIRE RETARDANT VAPOR BARRIER JACKET STAPLED IN PLACE PER MANUFACTURER'S RECOMMENDATIONS. INSULATION ON PIPES 1" AND SMALLER SHALL BE 1" THICK, AND INSULATION ON PIPES 1-1/4" AND LARGER SHALL BE 1-1/2" THICK. FITTINGS SHALL BE INSULATED WITH FIBERGLASS INSULATION AND ZESTON PRE-MOLDED INSULATED COVERINGS SECURED WITH STANDARD FASTENERS. INSTALL A SEGMENT OF RIGID INSULATION AT EACH PIPE HANGER.

F. INSTALLATION OF PIPING

UNIONS ARE TO BE PROVIDED WHERE NECESSARY FOR PROPER SERVICING OF VALVES, PIPING, AND EQUIPMENT. DIELECTRIC PIPE UNIONS SHALL BE UTILIZED AT CONNECTIONS BETWEEN DISSIMILAR METAL PIPING. 3. PIPING SUBJECT TO EXPANSION AND/OR CONTRACTION SHALL BE ANCHORED IN A MANNER PERMITTING THE STRAINS

TO BE EVENLY DISTRIBUTED, AND ALLEVIATED USING SWING JOINTS OR EXPANSION LOOPS. 4. HANGERS AND SUPPORTS SHALL BE DESIGNED TO SUPPORT THE COMBINED WEIGHT OF THE PIPE, THE FLUID, AND INSULATION. HANGERS AND SUPPORTS SHALL HAVE A MINIMUM FACTOR OF SAFETY OF FIVE BASED ON THE ULTIMATE

5. EACH PIPING SYSTEM FURNISHED AND INSTALLED UNDER THIS WORK SHALL BE IDENTIFIED AND THE DIRECTION OF FLOW INDICATED BY MEANS OF PREFABRICATED COILED PLASTIC LABELS. LABELS SHALL COMPLY WITH ASME A13.1 WITH REGARD TO COLOR, LETTER HEIGHT, AND MARKER SIZE. LABELS SHALL HAVE BLACK OR WHITE LETTERING AND FLOW ARROWS ON COLORED BACKGROUNDS AND SHALL NOT REQUIRE ADHESIVE.

G. STERILIZATION OF WATER LINES

 ALL DOMESTIC COLD AND HOT WATER PIPING SHALL BE FLUSHED CLEAN BEFORE INSTALLATION AND THOROUGHLY FLUSHED AND DRAINED AFTER INSTALLATION. ACCOMPLISH STERILIZATION BY OPENING TAPS AT ENDS OF ALL BRANCHES AND INJECTING A SOLUTION OF LIQUID CHLORINE OR SODIUM HYPOCHLORITE AND WATER CONTAINING NOT LESS THAN 50 PPM OF FREE CHLORINE INTO THE SYSTEM NEAR THE SOURCE MAIN. DURING THIS PROCEDURE, OPERATE ALL VALVES AND OUTLETS AND TEST FOR RESIDUAL CHLORINE. LET STAND FOR 24 HOURS MINIMUM, THEN DRAIN AND THOROUGHLY FLUSH UNTIL ALL TRACES OF CHLORINE HAVE BEEN REMOVED (LESS THAN 0.2 PPM) IN ACCORDANCE WITH THE NEVADA DIVISION OF HEALTH WATER SUPPLY REGULATIONS. APPROVAL OF THE STATE HEALTH DIVISION SHALL BE OBTAINED PRIOR TO PLACING THE SYSTEM IN SERVICE.

A. GENERAL CONDITIONS: 1. THE GENERAL AND SPECIAL CONDITIONS OF THE SPECIFICATIONS APPLY TO ALL WORK OF THIS SECTION. CONSULT THEM IN DETAIL AND ASSUME ALL OBLIGATIONS OR CONDITIONS THEREIN WHICH AFFECT THIS WORK.

1. THE WORK INCLUDES LABOR, MATERIALS, TOOLS, EQUIPMENT, AND TRANSPORTATION REQUIRED TO FURNISH AND PROPERLY INSTALL ALL WORK SHOWN ON THE DRAWINGS AND AS HEREINAFTER DESCRIBED, READY FOR SERVICE TO

THE ENTIRE SATISFACTION OF THE ARCHITECT/ENGINEER.

C. CODE RULES AND SAFETY ORDERS FOR MECHANICAL AND ELECTRICAL WORK: 1. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE UPC, UMC, IBC, NEC, THE NEVADA STATE FIRE MARSHAL, THE NATIONAL FIRE PROTECTION ASSOCIATION, AND OTHER APPLICABLE STATE AND/OR LOCAL LAWS AND REGULATIONS. NOTHING IN THESE PLANS OR SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

WHEN THE CONTRACT DOCUMENTS DIFFER FROM GOVERNING CODES, FURNISH AND INSTALL THE LARGER SIZE, GREATER QUANTITY, OR HIGHER STANDARDS THAN CALLED FOR WITHOUT EXTRA CHARGE.

1. COMPLY WITH APPLICABLE PORTIONS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL

ASSOCIATION (SMACNA) GUIDELINES FOR ALL WORK IN THIS SECTION. 2. COMPLY WITH AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS (ASHRAE)

RECOMMENDATIONS, LATEST EDITION, FOR ALL WORK IN THIS SECTION. 3. COMPLY WITH ANSI/NFPA 90A, 'STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS', AND ANSE/NFPA 90B, 'STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS' FOR ALL WORK IN THIS SECTION.

E. DRAWINGS AND COORDINATION:

1. THE GENERAL ARRANGEMENT AND LOCATION OF PIPING, DUCTWORK, EQUIPMENT, ETC. ARE SHOWN ON THE DRAWINGS OR ARE HEREIN SPECIFIED. INSTALL WORK IN ACCORDANCE THEREWITH, EXCEPT FOR MINOR CHANGES THAT MAY BE NECESSARY ON ACCOUNT OF OTHER WORK. CAREFULLY EXAMINE OTHER WORK THAT MAY CONFLICT WITH THIS WORK. INSTALL THIS WORK IN HARMONY WITH OTHER CRAFTS AND EXISTING WORK. ALL CHANGES SHALL HAVE THE PRIOR APPROVAL OF THE ARCHITECT/ENGINEER.

 ARRANGE FOR REQUIRED INSPECTIONS AND PERMITS REQUIRED FOR INSTALLATION OF THE WORK. 2. COSTS FOR PERMITS REQUIRED WILL BE PAID BY THE OWNER.

1. PROVIDE EACH ITEM LISTED HEREIN AND/OR SHOWN ON THE DRAWINGS OF THE QUALITY NOTED, OR APPROVED EQUAL. ALL MATERIAL SHALL BE NEW, FULL WEIGHT, STANDARD IN ALL RESPECTS, AND IN FIRST CLASS CONDITION. INSOFAR AS POSSIBLE, ALL MATERIALS USED SHALL BE OF THE SAME BRAND OR MANUFACTURER THROUGHOUT FOR EACH CLASS OF MATERIAL OR EQUIPMENT. MATERIALS SHALL BE OF DOMESTIC MANUFACTURE AND SHALL BE TESTED WITHIN THE CONTINENTAL UNITED STATES.

2. THE GRADE OR QUALITY OF MATERIALS DESIRED IS INDICATED BY THE TRADE NAMES OR CATALOG NUMBERS STATED

3. DIMENSIONS, SIZES, AND CAPACITIES SHOWN ARE A MINIMUM AND SHALL NOT BE CHANGED WITHOUT THE PERMISSION OF THE ARCHITECT/ENGINEER.

4. NO MATERIAL INSTALLED AS PART OF THIS WORK SHALL CONTAIN ASBESTOS IN ANY FORM.

H. MATERIAL LIST AND SUBSTITUTIONS:

1. EQUIPMENT OR MATERIAL DAMAGED DURING TRANSPORTATION, INSTALLATION, OR OPERATION IS CONSIDERED AS TOTALLY DAMAGED. REPLACE WITH NEW EQUIPMENT. VARIANCE FROM THIS REQUIREMENT WILL BE PERMITTED ONLY WITH WRITTEN CONSENT OF THE ARCHITECT/ENGINEER.

I. PLACEMENT OF EQUIPMENT AND WORK:

1. THE PLACEMENT OF EQUIPMENT AND PLUMBING WORK IN THE LOCATIONS AND SPACES SHOWN ON THE DRAWINGS IS THE CONTRACTOR'S RESPONSIBILITY.

MOVE EQUIPMENT AND/OR WORK INTO SPACES THROUGH OPENINGS PROVIDED OR LOCATED IN THE SPACES DURING CONSTRUCTION, AS REQUIRED.

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WORK DONE AND MATERIALS INSTALLED UNDER THESE PLANS AND SPECIFICATIONS. REPAIR OR REPLACE, AS MAY BE NECESSARY, ANY DEFECTIVE WORK, MATERIALS, OR PARTS WHICH ARE IDENTIFIED AS DEFECTIVE WITHIN ONE YEAR OF THE DATE OF FILING OF THE NOTICE OF SUBSTANTIAL COMPLETION AND BE RESPONSIBLE FOR DAMAGE TO OTHER MATERIALS, FURNISHINGS, EQUIPMENT OR PREMISES CAUSED BY SUCH DEFECTS DURING THIS PERIOD, IF IN THE OPINION OF THE ENGINEER SAID DEFECT IS DUE TO

IMPERFECTION OF MATERIAL OR WORKMANSHIP. REPAIRS OR REPLACEMENT OF DEFECTIVE WORK SHALL BE PROMPTLY COMPLETED UPON NOTIFICATION BY THE

1. REPAIR OR REPLACE BROKEN, DAMAGED, OR OTHERWISE DEFECTIVE PARTS, MATERIALS, AND WORK. LEAVE THE ENTIRE WORK IN A CONDITION SATISFACTORY TO THE ARCHITECT/ENGINEER. AT COMPLETION, CAREFULLY CLEAN AND ADJUST ALL EQUIPMENT AND TRIM WHICH ARE INSTALLED AS PART OF THIS WORK. LEAVE SYSTEMS AND

EQUIPMENT IN A SATISFACTORY OPERATING CONDITION. 2. CLEAN OUT AND REMOVE SURPLUS MATERIALS AND DEBRIS RESULTING FROM THE WORK.

M. DRAWINGS AND COORDINATION EXECUTE ANY WORK OR APPARATUS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, THE SAME AS IF SPECIFICALLY MENTIONED BY BOTH. OMISSION FROM DRAWINGS OR SPECIFICATIONS OF ANY MINOR DETAILS OF CONSTRUCTION, INSTALLATION, MATERIALS, OR ESSENTIAL SPECIALTIES DOES NOT RELIEVE

THE CONTRACTOR FROM FURNISHING SAME IN PLACE COMPLETE. 2. FURNISH AND INSTALL ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED WHICH CAN REASONABLY BE INFERRED AS PART OF THE WORK AND NECESSARY TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.

N. FORMING, CUTTING AND PATCHING COORDINATE WITH OTHER CONTRACTORS AS NECESSARY TO PROVIDE ANY SPECIAL FORMING, RECESSES, CHASES. ETC. PROVIDE WOOD BLOCKING AND BACKING AS NECESSARY FOR PROPER INSTALLATION OF ALL MECHANICAL

2. IF THIS CONTRACTOR FAILS TO COORDINATE WITH OTHER CONTRACTORS AT THE PROPER TIME OR FAILS TO LOCATE ITEMS PROPERLY, RESULTING IN EXTRA WORK, THEN THE CONTRACTOR IS RESPONSIBLE.

P. OPERATING AND MAINTENANCE INSTRUCTIONS FURNISH COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS, DESCRIPTIVE LITERATURE, CATALOG CUTS, AND DIAGRAMS COVERING ALL ITEMS OF OPERATION AND MAINTENANCE FOR EACH PIECE OF EQUIPMENT FURNISHED UNDER THESE SPECIFICATIONS. INCLUDE IN EACH SET A COPY OF THE TEST AND BALANCE REPORT SPECIFIED

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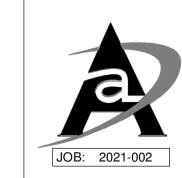
215 S 21st St.

**Sparks Public Works Bullpen** 

Sparks, NV 89431

May 28, 2021 H+K Project No: 2101

**SPECIFICATIONS** 



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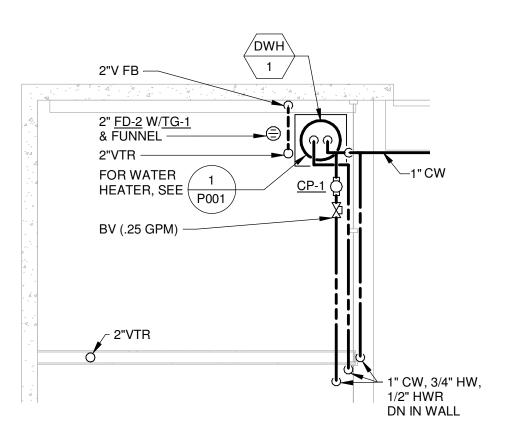
## Sparks Public Works Bullpen **Toilet Room Renovation**

215 S 21st St. Sparks, NV 89431

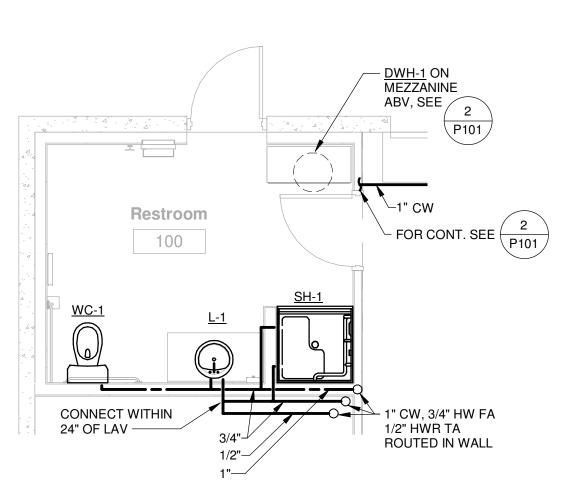


1 1/31/22 Plan Review #1







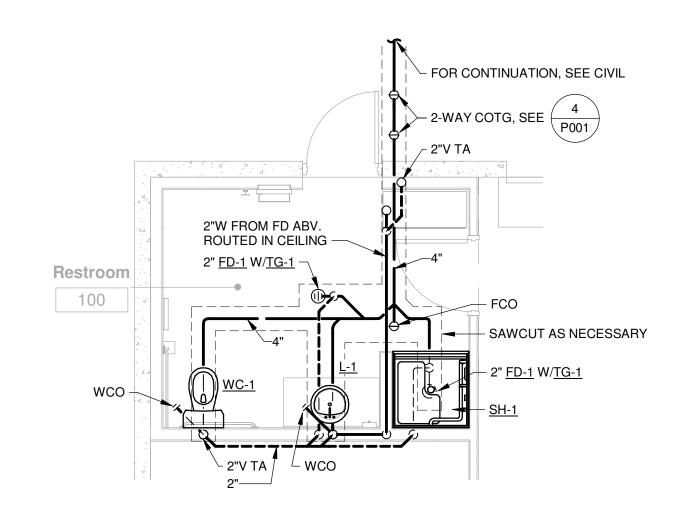


PLUMBING ENLARGED PLAN - DOMESTIC WATER

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

P101

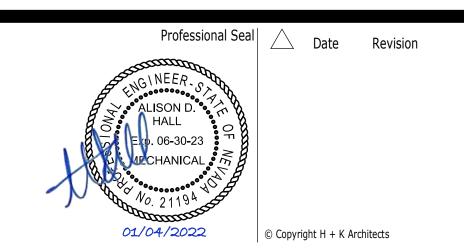
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PLUMBING ENLARGED PLAN - WASTE/VENT

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

P101





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## Sparks Public Works Bullpen **Toilet Room Renovation**

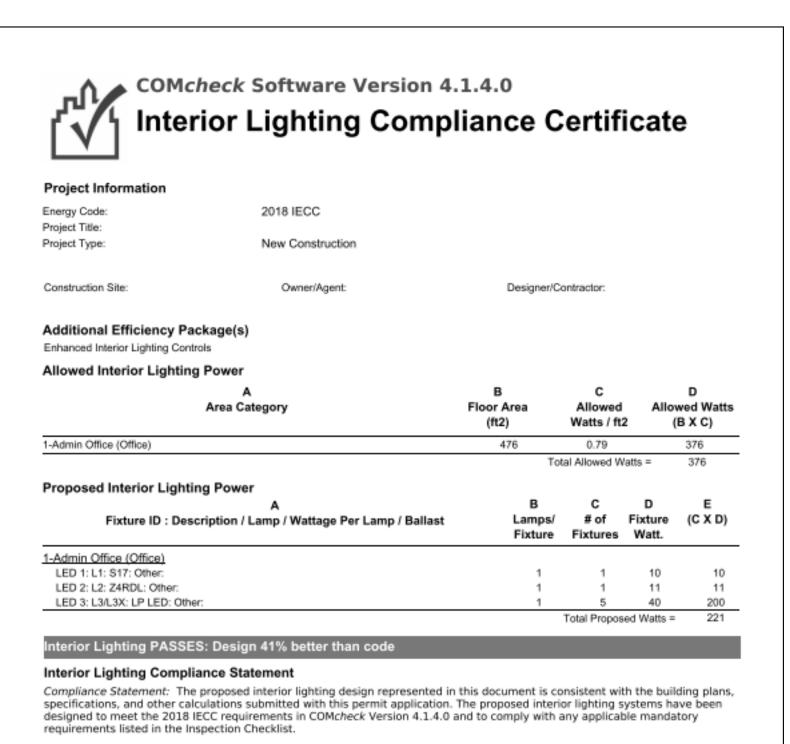
#### LIGHTING FIXTURE SCHEDULE LIGHTING FIXTURE CATALOG NUMBERS ARE SERIES TYPE ONLY. PROVIDE TRIMS, BALLASTS, MOUNTING EQUIPMENT, FITTINGS AND LAMPS AS REQUIRED BY THE SPECIFICATIONS AND PROJECT CONDITIONS FOR A COMPLETE INSTALLATION.THIS IS NOT A STANDALONE SCHEDULE AND FIXTURES MUST INCORPORATE ALL WORK INDICATED OR IMPLIED THROUGHOUT THE DRAWINGS AND SPECIFICATIONS. LIGHTING SYSTEM FOOTCANDLE LEVELS ARE BASED ON THE UTILIZATION OF STANDARD REFLECTANCES OF 80-50-20 (CEILING-WALL-FLOOR) PER I.E.S. (ILLUMINATED ENGINEERING SOCIETY). THE ROOM SURFACES ARE USED AS AN INTEGRAL COMPONENT OF THE LIGHTING SYSTEMS. THE REFLECTANCE OF THE SURFACE PAINT COLOR, MATERIAL, AND OTHER ROOM SURFACES DIRECTLY AFFECTS THE DELIVERY OF LIGHT TO THE WORK PLANE, A SIGNIFICANT DROP IN OVERALL LIGHTING LEVELS WILL OCCUR IF REFLECTANCES ARE LOWERED. THE ARCHITECT/OWNER SHALL NOTIFY THE ENGINEER IMMEDIATELY IF FINISHES DO NOT FALL INLINE WITH THE REFLECTANCES MENTIONED ABOVE. SUBSTITUTION: DEFINITIONS OR EQUAL = EQUAL OR SUPERIOR TO SPECIFIED IN ALL RESPECTS WILL BE ALLOWED. ENGINEER'S PRE-BID APPROVAL IS NOT REQUIRED. PROPOSED EQUAL FIXTURES ARE SUBJECT TO REVIEW DURING THE NO EQUAL = PROVIDE SPECIFIED FIXTURE. SUBSTITUTIONS ARE NOT ALLOWED. SUBJECT TO REVIEW = EQUAL OR SUPERIOR TO SPECIFIED IN ALL RESPECTS MAY BE ALLOWED ONLY WITH ENGINEER'S APPROVAL. ALL SUBSTITUTIONS MUST BE SUBMITTED AS REQUIRED BY SPECIFICATIONS AND ACCOMPANIED WITH POINT BY POINT LIGHTING CALCULATIONS. DETERMINATION OF EQUAL IS ENGINEER'S SOLE DISCRETION. 2' LED WALL MOUNT VANITY, PERFORATED VERTICAL FASCIA WITH ACRLIC LENSED DIFUSER, TOP AND BOTTOM FROSTED ACRLIC DIFFUSERS, WHITE FINISH, DIMMING DRIVER TO BE WIRED FOR NON-DIMMING LED, 1711 LUMENS, 4000K MANUFACTURER: FINELITE #S17-LED-VCF-PF-2-B-840-120-SC SUBSTITUTIONS: OR EQUAL SUBJECT TO REVIEW ONO EQUAL 4" ROUND LED DOWNLIGHT OPEN MATTE WHITE REFLECTOR, WHITE FLANGE, CONNECT TO ITS OWN 0-10V DIMMER. LED, 1237 LUMENS, 4000K MANUFACTURER: LIGHTOLIER #4-R-N-Z4RDL-10-840-W-O-WH-Z10-U SUBSTITUTIONS: OR EQUAL SUBJECT TO REVIEW NO EQUAL 1'x4' LED EDGE-LIT FLAT PANEL, RECESSED WITH DRYWALL FRAME-IN KIT, WHITE FINISH, 0-10V DIMMING LED, 4029 LUMENS, 4000K MANUFACTURER: H.E. WILLIAMS #LP-14-L40/840-DFK-1248W-DIM-UNV SUBSTITUTIONS: ○ OR EQUAL ● SUBJECT TO REVIEW ○ NO EQUAL SAME AS L3 EXCEPT WITH 10 WATT EMERGENCY BATTERY PACK.

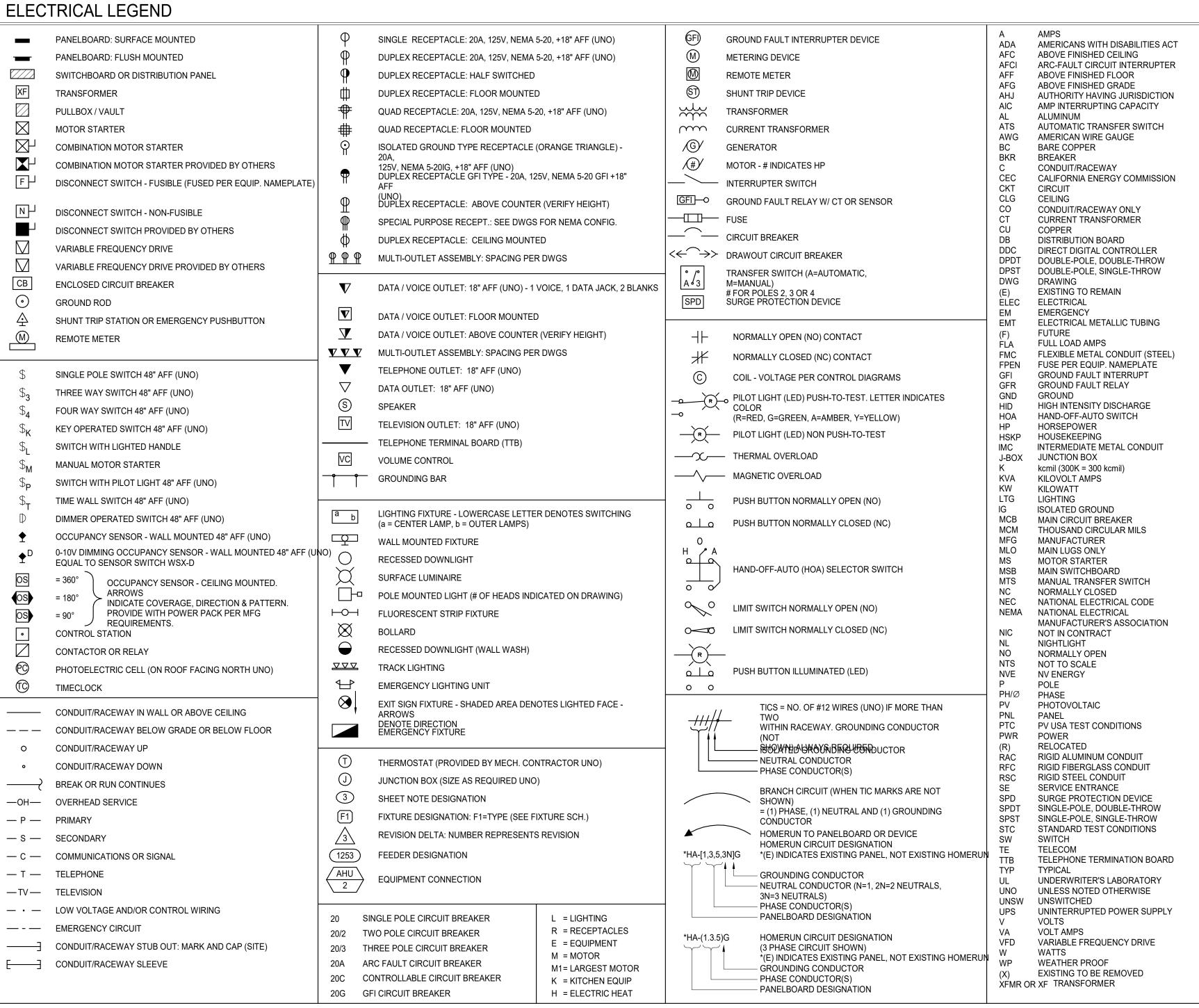
LED, 4029 LUMENS, 4000K

MANUFACTURER: H.E. WILLIAMS #LP-14-L40/840-DFK-1248W-EM/10WRM-DIM-UNV

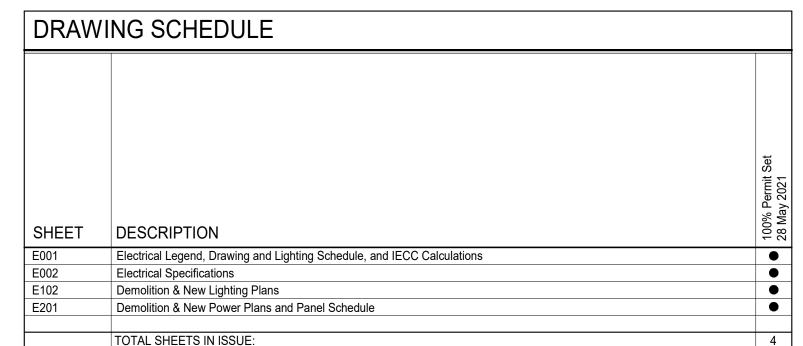
SUBSTITUTIONS: OR EQUAL SUBJECT TO REVIEW NO EQUAL

VOLTAGE





NOTE: THIS IS A MASTER SYMBOL LIST. IT MAY BE THAT NOT ALL SYMBOLS SHOWN ARE USED WITHIN THIS SET OF PLANS. HEIGHTS GIVEN ARE TO CENTER LINE OF DEVICE.





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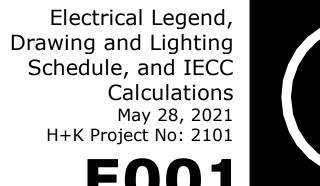
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Sparks Public Works Bullpen **Toilet Room Renovation** 



ITEM | DESCRIPTION

PART 1 - GENERAL

ITEM | DESCRIPTION THESE PLANS, SPECIFICATIONS, AND ALL RELATED ADDENDA AND DOCUMENTS CONSTITUTE COPYRIGHT MATERIALS OF PK ELECTRICAL. ALL RIGHTS CONFERRED BY THE COPYRIGHT AND SIMILAR LAWS ARE RESERVED TO PK ELECTRICAL. THESE MATERIALS SHALL REMAIN THE SOLE PROPERTY OF PK ELECTRICAL AND MAY NOT BE REPRODUCED, DISTRIBUTED TO OTHERS OR USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE PRIOR WRITTEN CONSENT OF PK ELECTRICAL. BEFORE ORDERING ANY EQUIPMENT, CONTRACTOR SHALL SUBMIT SIX COPIES OF FACTORY SHOP DRAWINGS FOR ALL LIGHTING FIXTURES, LIGHTING CONTROLS, SWITCHGEAR, PANELS, CIRCUIT BREAKERS, MOTOR CONTROLLERS, DISCONNECTS WIRING DEVICES, PLATES, RACEWAYS AND FITTINGS, ETC. PROPOSED FOR THIS 3.1 PROJECT. PROPOSED SUBSTITUTIONS SHALL BE EQUAL OR SUPERIOR TO SPECIFIED ITEMS IN ALL RESPECTS. DETERMINATION OF EQUALITY RESTS SOLELY WITH ENGINEER. SUBSTITUTIONS MUST BE SUBMITTED A MINIMUM OF 10 WORKING DAYS PRIOR TO BID FOR CONSIDERATION. PROPOSED SUBSTITUTIONS PROVIDED LATER WILL NOT BE REVIEWED OR ALLOWED. BID SUBSTITUTED MATERIAL WILL ONLY BE ALLOWED IF ACCEPTED IN WRITING BY ENGINEER EXAMINATION OF SITE AND EXISTING CONDITIONS
BEFORE SUBMITTING A PROPOSAL, CONTRACTOR SHALL EXAMINE THE SITE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING OF THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO ATTENTION OF THE ENGINEER BEFORE

CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE DRAWINGS OR SPECIFICATIONS SUBMITTING A PROPOSAL. **EXISTING OUTLETS** EXISTING OUTLETS AND CIRCUITING NOT IN CONFLICT WITH NEW CONDITIONS SHALL REMAIN. EXTEND OUTLETS TO NEW SURFACES, CAULK AND PROVIDE JUMBO PLATES AS REQUIRED TO PRESENT A SERVICEABLE AND FINISHED APPEARANCE.

REUSE EXISTING SWITCHGEAR AND PANELS IN PLACE WHERE SO INDICATED. MODIFY AS REQUIRED TO ACCOMMODATE NEW WORK. PROVIDE NEW CIRCUIT BREAKERS AND/OR FUSES AS REQUIRED. MATCH AIC RATINGS. REARRANGE EXISTING CIRCUITS WITHIN PANELS TO AGREE WITH NEW PANEL SCHEDULES. TRACE AND IDENTIFY ALL EXISTING CIRCUITS ON NEW RECORD PANEL SCHEDULES. EXISTING PANELBOARDS RING OUT CIRCUITS IN EXISTING PANELS. WHERE ADDITIONAL CIRCUITS ARE NEEDED REUSE CIRCUITS AVAILABLE FOR REUSE. INSTALL NEW BREAKERS AS INDICATED ON DRAWINGS. MATCH AIC RATINGS.

TAG UNUSED CIRCUITS AS SPARE WHERE EXISTING CIRCUITS ARE INDICATED TO BE REUSED, USE SENSING MEASURING DEVICES TO VERIFY THAT CIRCUITS FEEDING PROJECT AREA ARE NOT IN USE OR OVERLOADED. REMOVE EXISTING WIRE NO LONGER IN USE FROM PANEL TO EQUIPMENT. PROVIDE NEW UPDATED TYPED DIRECTORIES.

PART 2 - PRODUCTS

**MATERIALS** ALL MATERIAL SHALL BE NEW, AND HAVE A UL LABEL WHERE AVAILABLE. IF UL LABEL IS NOT AVAILABLE, MATERIAL SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE NEMA, IEEE AND FEDERAL STANDARDS. USE UL LABELED COMPONENTS IN ASSEMBLIES THAT DO NOT HAVE OVERALL UL LABEL. ALL EQUIPMENT SHALL COMPLY WITH THE TERMS "LISTED AND LABELED" AS DEFINED IN THE NEC 70, ARTICLE 100. SUBMIT LETTER STATING COMPLIANCE WITH THESE REQUIREMENTS. UTILIZE ONE OF THE MANUFACTURER'S LISTED TO FURNISH ALL OF THE MAJOR EQUIPMENT (I.E. PANELS, TRANSFORMERS, BUS DUCT, SWITCHGEAR, CIRCUIT BREAKERS, ETC.) REQUIRED FOR THIS PROJECT. ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE ("SPECIFICATION GRADE"). SERVICE EQUIPMENT SHALL BE FACTORY-ASSEMBLED COMMERCIAL-GRADE, CONFIGURED PER SERVING UTILITY STANDARDS. WIRING DEVICES SHALL BE SPECIFICATION GRADE WITH NYLON PLATES, WHITE UNLESS OTHERWISE NOTED, RAISED STEEL BOX COVERS MAY BE USED IN UTILITY AREAS. ALL EQUIPMENT AND CIRCUITING ACCESSIBLE BY THE PUBLIC SHALL BE TAMPER-PROOF AND VANDAL RESISTANT. OPENABLE DEVICES AND EQUIPMENT SHALL BE PADLOCKABLE.

ALL WIRING SHALL BE CONDUIT, CONCEALED EXCEPT WHERE NOTED. EMT WITH STELL SET SCREW INSULATED-THROAT FITTINGS SHALL BE USED IN DRY, PROTECTED INTERIOR LOCATIONS. PVC SCHEDULE 40 SHALL BE USED BELOW GRADE AT MINIMUM-24". WRAPPED RIGID ELBOWS AND RISERS SHALL BE USED FOR ALL THROUGH-GRADE AND CONCRETE SLAB TRANSITIONS AND STUB-UPS. RGS OR IMC CONDUIT WITH THREADED FITTINGS SHALL BE USED IN ALL LOCATIONS WHERE EXPOSED TO THE ELEMENTS OR SUBJECT TO PHYSICAL DAMAGE. FMC MAY BE USED FOR FINAL CONNECTION TO LIGHTING FIXTURE FROM J-BOX. FIXTURE WHIPS MAY NOT EXCEED 6' IN LENGTH. METAL CLAD CABLE (TYPE MC) WILL BE ACCEPTABLE FOR SINGLE CIRCUIT BRANCH CIRCUITING. FLEXIBLE WHIPS FROM JUNCTION BOXES TO LIGHTING FIXTURES AND WITHIN CASEWORK. TYPE MC CABLE MAY NOT BE USED FOR HOMERUNS. ENT IS NOT ALLOWED. CONNECT RECESSED AND SUSPENDED LIGHTING FIXTURES. MOTORIZED AND VIBRATING EQUIPMENT WITH STEEL FLEX. ALL CONDUIT SHALL HAVE A PULL CORD IF OTHERWISE EMPTY. CONNECT PUMP MOTORS WITH LIQUID TIGHT FLEXIBLE METAL CONDUIT.

WIRE SHALL BE COPPER UNLESS OTHERWISE INDICATED. MINIMUM WIRE SIZE SHALL BE #12 AWG. WHERE ALUMINUM IS ALLOWED. WIRE SHALL BE TERMINATED IN AN INSULATED CU/AL RATED COMPRESSION TERMINAL FITTING (MAC-ADAPT OR EQUAL). INSULATION SHALL BE THW. THWN OR THHN. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES, GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE WHITE (120V) OR GREY (277V) AND PHASE WIRES SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C) FOR A 120/208 VOLT SYSTEM AND BROWN (PHASE A), ORANGE (PHASE B), AND YELLOW (PHASE C) FOR A 277/480 VOLT SYSTEM.

WIRING DEVICES SHALL BE AS FOLLOWS: RECEPTACLES - 120V, 20A, NEMA 5-20R, SPECIFICATION GRADE, SIDE AND BACK WIRED WITH CLAMP TYPE TERMINALS, NYLON, WHITE, 2 POLE, 3 WIRE GROUNDING. SWITCHES - 120V/277V, 20A, WHITE, HEAVY DUTY, SILENT TYPE SPECIFICATIONS GRADE.

DEVICE PLATE SHALL BE NYLON, WHITE COLOR WITH MATCHING SCREWS. RECEPTACLES IN WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET COVER/ENCLOSURE CLEARLY MARKED SUITABLE FOR WET LOCATIONS WHILE IN USE AND UL LISTED EQUAL TO TAY MAC SPECIFICATIONS GRADE.

ITEM | DESCRIPTION 2.5 FIRE ALARM EXISTING FIRE ALARM SYSTEM TO REMAIN. MAINTAIN IN CONSTANT OPERATION DURING THIS PROJECT. NEW COMPONENTS AND CIRCUITING SHALL BE FACTORY-CERTIFIED AS BEING PROJECT-SPECIFIC COMPATIBLE WITH EXISTING SYSTEM. ALL CONNECTIONS TO EXISTING SYSTEM SHALL BE PERFORMED BY FACTORY-CERTIFIED TECHNICIAN AND SHALL BE ACCEPTED BY OWNER'S SYSTEM-MONITORING AGENCY. PLANS DO NOT INDICATE ALL DEVICES, CONNECTIONS OR CIRCUITING REQUIRED FOR A COMPLETE SYSTEM. SUBMIT PROPOSED DESIGN TO THE FIRE MARSHAL AND RECIEVE APPROVAL PRIOR TO ROUGH-IN.

VISIT TO SITE
VISIT SITE, AND SURVEY EXISTING CONDITIONS AFFECTING WORK PRIOR TO BID. INCLUDE NECESSARY MATERIALS AND LABOR TO ACCOMPLISH THE ELECTRICAL WORK, INCLUDING RELOCATION OF EXISTING SERVICES AND UTILITIES ON BUILDING SITE IN BID. NO CONSIDERATION SHALL BE GIVEN TO FUTURE CLAIMS DUE TO EXISTING CONDITIONS. ANY DISCREPANCIES OR INTERFERENCES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

ALL WORK PERFORMED SHALL BE FIRST CLASS WORK IN EVERY ASPECT. THE WORK SHALL BE PERFORMED BY MECHANICS SKILLED IN THEIR RESPECTIVE TRADES, WHO SHALL AT ALL TIMES BE UNDER THE SUPERVISION OF COMPETENT PERSONS. ALL WORK SHALL BE INSTALLED TO COMPLY WITH NECA'S

IN ADDITION TO THE MATERIALS SPECIFIED ELSEWHERE, FURNISH AND INSTALL ALL OTHER MESCELLANEOUS ITMES NECESSARY FOR THE COMPLETION OF THE WORK TO THE EXTENT THAT ALL SYSTEMS ARE COMPLETE AND OPERATIVE.

ALL WORK UNDER THIS SECTION SHALL BE PERFORMED IN COOPERATION WITH THE WORK PERFORMED UNDER ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR THE PROJECT IN ORDER TO AVOID INTERFERENCE WITH OTHER WORK AND TO SECURE THE PROPER INSTALLATION OF ALL WORK. REFER TO THE DRAWINGS AND SPECIFICATIONS COVERING THE WORK TO BE PERFORMED UNDER ALL SECTIONS, SO THAT THE RELATION AND EXTENT OF THE WORK OF THIS SECTION WITH RESPECT TO THE WORK OF ALL OTHER SECTIONS IS UNDERSTOOD. GIVE RIGHT OF WAY TO RACEWAYS AND PIPING SYSTEMS INSTALLED AT A REQUIRED SLOPE. CONDUIT SYSTEMS MUST BE COMPLETE PRIOR TO INSTALLATION OF WIRING.

3.3 CHANGE ORDERS ADDITIONAL WORK MAY BE REQUIRED ON THE PROJECT WHICH IS OUTSIDE THE SCOPE OF THE CONTRACT SUCH ADDITIONAL WORK WILL BE DESCRIBED IN SUPPLEMENTAL INSTRUCTIONS AND/OR CLARIFICATIONS, TO BE ESTIMATED AND PRICED BY THE CONTRACTOR, AND ACCEPTED BY THE OWNER, PRIOR TO COMMENCING WORK. PROPOSALS SHALL INCLUDE A LIST OF QUANTITIES OF ALL MATERIAL BEING USED WITH UNIT COSTS BROKEN DOWN INTO MATERIAL AND LABOR COSTS PER UNIT. CONTRACTOR SHALL PROVIDE ACTUAL EQUIPMENT QUOTES WHEN REQUESTED BY ENGINEER.

MATERIAL COSTS AND LABOR UNITS SHALL NOT EXCEED THE LATEST EDITION OF RS MEANS ELECTRICAL COST DATA. 3.4 FURNISH THE OWNER A WRITTEN GUARANTEE, STATING THAT IF THE WORKMANSHIP AND/OR MATERIAL

WARRANTIES PROVIDED SHALL BE REFERENCED TO THIS PROJECT.

EXECUTED UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN (1) YEAR AFTER THE FINAL ACCEPTANCE BY THE OWNER, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED. SUBMIT WITH OPERATION AND MAINTENANCE MANUALS. OBTAIN FROM THE VARIOUS MANUFACTURER'S OR VENDORS GUARANTEES OR WARRANTIES FOR THEIR PARTICULAR EQUIPMENT OR COMPONENTS, AND DELIVER THEM TO THE OWNER. ALL GUARANTEES AND

IN EVENT THAT SYSTEMS ARE PLACED IN OPERATION IN SEVERAL PHASES AT THE OWNER'S REQUEST GUARANTEE WILL BEGIN ON DATE EACH SYSTEM OR ITEM OF EQUIPMENT IS ACCEPTED FOR SERVICE BY THE OWNER. PROVIDE 0&M MANUALS FOR ALL EQUIPMENT WHEN EQUIPMENT IS ACCEPTED FOR SERVICE

ALL GUARANTEES AND WARRANTIES SHALL INCLUDE LABOR AND MATERIAL AT THE SITE OF INSTALLATION FOR THE DURATION OF THE GUARANTEE PERIOD.

3.5 OBSERVATIONS OF WORK AND DEMONSTRATION OF OPERATION (ACCEPTANCE) AT ALL OBSERVATIONS OF WORK, OPEN PANEL COVERS, JUNCTION BOX COVERS, PULL BOX COVERS, DEVICE COVERS, AND OTHER EQUIPMENT WITH REMOVABLE PLATES FOR OBSERVATION AS REQUESTED BY AHJ OR ENGINEER. PROVIDE SUFFICIENT PERSONNEL TO EXPEDITE COVER REMOVAL AND

CONTRACTOR TO DEMONSTRATE OPERATION OF NEW EQUIPMENT AND/OR SYSTEMS TO SATISFACTION OF OWNER/ENGINEER. CONTRACTOR TO HAVE MANUFACTURER AVAILABLE FOR DEMONSTRATION OF EQUIPMENT AND/OR SYSTEMS WHERE REQUESTED BY OWNER/ENGINEER. FURNISH AFFIDAVIT SIGNED BY OWNER'S REPRESENTATIVE INDICATING THAT DEMONSTRATION OF OPERATION HAS BEEN PERFORMED.

CAREFULLY COORDINATE WORK WITH OTHER CONTRACTORS AND SUBCONTRACTORS. REFER CONFLICTS BETWEEN TRADES TO ENGINEER. PROVIDE NECESSARY INFORMATION TO OTHER TRADES FOR SUCH COORDINATION. SUCH INFORMATION SHALL INCLUDE SHOP DRAWINGS, PRODUCT DATA AND ALL OTHER PLUMBING AND ARCHITECTURAL FOR INSTALLATION IN CONGESTED AREAS, WHEN REQUESTED. WHENEVER SUCH INFORMATION IS NOT PROVIDED IN A TIMELY MANNER OR WHENEVER SUCH INFORMATION IS INCORRECT, THIS CONTRACTOR SHALL BEAR ALL COSTS FOR PROVIDING OR

CORRECTING AFFECTED WORK OR RELATED TRADES WITH NO CHANGE TO THE CONTRACT PRICE OR CONSTRUCTION SCHEDULE. WORK TO BE INSTALLED AS PROGRESS OF PROJECT WILL ALLOW. SCHEDULE OF WORK DETERMINED BY GENERAL CONTRACTOR, OWNER, AND/OR ARCHITECT/ENGINEER.

COORDINATION OF UTILITY SERVICES DRAWINGS INDICATE PROPOSED SERVICE LAYOUTS. THE CONTRACTOR SHALL PROVIDE ALL CONCRETE STRUCTURES, PULLBOXES, VAULTS, TRENCHING, RACEWAYS, PROTECTIVE BOLLARDS, ETC., AS REQUIRED PER NV ENERGY STANDARDS (ELECTRICAL UTILITY), AT&T (TELEPHONE COMPANY) AND CHARTER (CATV UTILITY) STANDARDS.

CONTRACTOR IS RESPONSIBLE FOR SUBMITTING PROJECT DRAWINGS, APPLICATION, AND EQUIPMENT SHOP DRAWINGS TO THE UTILITY. UTILITY FEES TO BE PAID BY PROJECT OWNER. 3.8 <u>DELIVERY, STORAGE</u> AND HANDLING

DELIVER EQUIPMENT AND MATERIALS TO JOB SITE IN ORIGINAL, UNOPENED, LABELED CONTAINER. PRODUCTS SHALL BE PROPERLY IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, GRADES, COMPLIANCE LABELS AND OTHER INFORMATION NEEDED FOR IDENTIFICATION. STORE TO PREVENT DAMAGE AND INJURY. STORE MATERIALS TO PREVENT CORRODING. STORE FINISHED MATERIALS AND EQUIPMENT TO PREVENT STAINING AND DISCOLORING. STORE MATERIALS AFFECTED BY CONDENSATION IN WARM DRY AREAS, PROVIDE HEATERS, CONTRACTOR SHALL VERIFY THE AVAILABILITY OF ON SITE STORAGE SPACE, IF NO ON SITE STORAGE SPACE IS AVAILABLE THEN THE CONTRACTOR SHALL COVER THE COST FOR OFF SITE STORAGE. MATERIALS STORED AT THE PROJECT SITE THAT BECOMES SOILED WITH CONSTRUCTION DIRT, CONCRETE, OR MOISTURE SHALL BE REMOVED FROM THE SITE AND REPLACE WITH NEW. DO NOT INSTALL SOILED MATERIAL

INSTALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. CONFLICTS BETWEEN CONTRACT DOCUMENTS AND THESE RECOMMENDATIONS SHALL BE REFERRED TO ENGINEER FOR REMEDY. ELECTRICAL OR ELECTRONIC EQUIPMENT THAT HAS BEEN DAMAGED, EXPOSED TO WEATHER OR IS, IN THE OPINION OF THE ENGINEER OR ARCHITECT, OTHERWISE UNSUITABLE BECAUSE OF IMPROPER FABRICATION, STORAGE OR INSTALLATION SHALL BE REMOVED AND REPLACED BY THIS CONTRACTOR AT

ITEM | DESCRIPTION

PROVIDE ANCHORS FOR ALL EQUIPMENT, RACEWAYS, HANGERS, ETC. TO SAFELY SUPPORT WEIGHT OF ITEM INVOLVED PLUS 100% FOR DEAD LOADS. LIVE LOADS SHALL BE CONSIDERED IN ADDITION TO DEAD

ANCHORS TO CONSIST OF EXPANSION TYPE DEVICES SIMILAR TO "REDHEAD" OR LEAD EXPANSION ANCHORS. PLASTIC ANCHORS ARE NOT ACCEPTABLE. USE PRESET ANCHOR STEEL INSERTS IN CONCRETE SLABS. PROVIDE PRESET ANCHOR SIZE AND TYPE FOR

ANTICIPATED OR SPECIFIED ROD/BOLT SIZE AND LIVE/DEAD LOAD. CLEAN EQUIPMENT FURNISHED IN THIS DIVISION AFTER COMPLETION OF WORK. CLEAN WIPE THE INTERIOR

OF ALL CONDUIT, PULLBOXES, JUNCTION BOXES, OUTLET BOXES, AND PANELBOARD BACKBOXES SOILED WITH DIRT AND DEBRIS PRIOR TO INSTALLATION OF WIRING. TOUCH-UP OR RE-PAINT DAMAGED PAINTED FINISHES AS DETERMINED BY THE ENGINEER.

FOLLOWING INFORMATION: EXACT ROUTING OF ALL CONDUITS LARGER THAN ONE INCH. EXACT LOCATION OF ALL SERVICE GROUNDING/BONDING CONNECTIONS.

CONTRACTORS NAME, ADDRESS, AND TELEPHONE NUMBER. RECORD NOTATIONS SHALL BE CLEARLY DRAWN AT A DRAFTING APPEARANCE EQUAL TO THE ORIGINAL DRAWINGS. CONTRACTOR SHALL ALSO PROVIDE ALL OPERATING AND MAINTENANCE MANUALS PRIOR TO FINAL PAYMENT.

CONTRACTOR SHALL PROVIDE, PRIOR TO FINAL ACCEPTANCE AND OBSERVATION, ONE-SET OF REVISED

RECORD ELECTRICAL CONSTRUCTION DOCUMENTS ON REPRODUCIBLE MEDIUM. ALSO INCLUDE THE

3.12 PRIOR TO PLACING IN SERVICES, ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR OPENS, GROUNDS, AND PHASE ROTATION. THE MAIN SERVICE GROUND AND ALL LOCAL TRANSFORMER MADE GROUNDS SHALL BE MEGGER-TESTED. PROVIDE GFI TESTING FOR SERVICE SWITCHBOARD.

<u>IDENTIFICATION</u> PROVIDE ENGRAVED NAMEPLATES FOR ALL SWITCHBOARDS, PANELS, TRANSFORMERS, DISCONNECTS MOTOR STARTERS, CONTACTORS, TIME SWITCHES AND CABINETS. NAMEPLATES SHALL BE WHITE LETTERS ON BLACK FOR NORMAL EQUIPMENT AND WHITE LETTERS ON RED FOR EMERGENCY EQUIPMENT. NAMEPLATES SHALL INCLUDE THE FOLLOWING INFORMATION AS APPLICABLE:

DESIGNATION (I.E. PANEL A); FUNCTION (I.E. AIR HANDLER AH-1); VOLTAGE, PHASE, WIRE (I.E. 480 VOLT, 3 PHASE, 4W); FEEDER SIZE (I.E. 4-#4/0 THWN CU IN 2" C); SOURCE (I.E. SWITCHBOARDS MSB) JUNCTION, PULL AND CONNECTION BOXES: IDENTIFICATION OF SYSTEMS AND CIRCUITS SHALL INDICATE SYSTEM VOLTAGE AND CONTAINED CIRCUITS ON OUTSIDE OF BOX COVER. USE SELF-ADHESIVE MARKING TAPE LABELS AT EXPOSED LOCATIONS AND INDELIBLE BLACK MARKER AT CONCEALED BOXES. ALL FIRE ALARM BOXES SHALL HAVE COVERS PAINTED RED. ALL TEMPERATURE CONTROL BOXES SHALL HAVE

BRANCH CIRCUIT CONDUCTORS SHALL BE IDENTIFIED IN EACH JUNCTION BOX AND PULL BOX WITH WIRE MARKERS AS MANUFACTURED BY T&B, PANDUIT, 3M, OR IDEAL TO INDICATE PANEL/CIRCUIT NUMBER. JUNCTION BOX COVERS IN BRANCH CIRCUIT WIRING SHALL BE LABELED WITH PANEL AND CIRCUIT NUMBERS. JUNCTION BOX COVERS FOR SPECIAL SYSTEMS SHALL BE LABELED WITH SYSTEM NAME AND OTHER IDENTIFICATION AS DIRECTED; FOR EXAMPLE, "FIRE ALARM-ZONE 1". WHERE BOXES ARE INSTALLED FLUSH MOUNTED IN FINISHED AREAS OR SURFACE MOUNTED IN FINISHED AREAS, LABELING SHALL BE WITH ENGRAVED PLASTIC NAMEPLATE AS SPECIFIED HEREIN. WHERE BOXES ARE INSTALLED ABOVE ACCESSIBLE CEILINGS, LABELING MAY BE NEAT HAND WRITTEN LETTERING WITH INDELIBLE MARKER. DEVICE PLATES - SWITCHES AND RECEPTACLES: IDENTIFY THE PANELBOARD AND BRANCH CIRCUIT NUMBER FROM WHICH SERVED ON THE FRONT OF THE DEVICE PLATE WITH PERMANENT POLYESTER TAPE.

ALL LAY-IN FIXTURES SHALL BE INDEPENDENTLY SUPPORTED BY TWO #12 SLACK WIRES ATTACHED TO TWO OPPOSITE CORNERS OF THE FIXTURE PER IBC & NEC REQUIREMENTS. THESE WIRES SHALL BE SECURED TO THE STRUCTURAL FRAMING SUCH THAT FAILURE OF THE SUSPENDED CEILING SHALL NOT ALLOW THE FIXTURE

LOCATED ALL LABELS AT THE BOTTOM OF THE PLATE IN THE SAME LOCATION THROUGHOUT.

ONGOING OPERATION CONDUCT WORK TO MINIMIZE DISRUPTION OF OWNER'S ONGOING OPERATIONS. PROVIDE BARRICADES, NOISE ABATEMENT AND DUST CONTAINMENT MEASURES TO ENSURE THE SAFETY AND COMFORT OF PATRONS, STAFF, AND WORKERS. INTERRUPTIONS OF EXISTING POWER, COMMUNICATIONS OR FIRE ALARM SYSTEMS SHALL BE PERFORMED ONLY AT SUCH TIMES AS DIRECTED BY GENERAL CONTRACTOR / OWNER. OUTAGES SHALL BE MOMENTARY IN NATURE. EACH SUCH OUTAGE (OR OPERATION WHICH MAY POSE RISK OF AN

ACCIDENTAL OUTAGE) SHALL BE SCHEDULED 48 HOURS IN ADVANCE. PROVIDE FLEXIBLE ELECTRICAL CONDUIT AND CONDUCTORS HAVING A SLACK, 90-DEGREE BEND OR LOOP IN ANY PLANE BETWEEN CONNECTIONS AT ALL VIBRATION ISOLATED EQUIPMENT AND THE FIRST ATTACHMENT

TO BUILDING STRUCTURE OR CABINETS, PANELS OR BOXES MOUNTED THERON. DISPOSAL PROCEDURES (FLUORESCENT BULBS, BALLASTS, AND LIGHT FIXTURES) THESE MATERIALS DO NOT REQUIRE SPECIAL TRAINING TO REMOVE OR PACKAGE

THE CONTRACTOR SHALL CONTRACT WITH WASTE MANAGMENT LAMPTRACKER OR SIMILAR RECYCLING COMPANY TO RECYCLE THE LAMPS (FLUORESCENT BULBS) AND BALLASTS REMOVED DURING THE PROJECT. THE COSTS TO RECYCLE THESE MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE DISPOSAL AND COSTS OF NON-REGULATED MATERIALS (LIGHT FIXTURES) IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS REQUIRED TO RECYLCE AS MUCH MATERIAL AS POSSIBLE.

3.18 ALL EXISTING EQUIPMENT REMOVED DURING THE COURSE OF THIS PROJECT SHALL BE OFFERED TO OWNER FOR SALVAGE. ANY EQUIPMENT SELECTED BY OWNER SHALL BE DELIVERED TO OWNER ON SITE. ALL REMAINING EQUIPMENT BECOMES THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THIS

THIS PROJECT IS SUBJECT TO THE SEISMIC BRACING REQUIREMENT OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION. THE FOLLOWING CRITERIA ARE APPLICABLE TO THIS PROJECT:

SEISMIC USE GROUP: II: SEISMIC CLASS CATEGORY: D: SEISMIC DESIGN CATEGORY: D. IT IS RECOMMENDED THAT THE CONTRACTOR ENLIST THE SERVICES OF A QUALIFIED SEISMIC BRACING VENDOR/SUPPLIER. PROVIDE BRACING FOR IDENTIFIED EQUIPMENT AND SYSTEM.

ELECTRICAL EQUIPMENT: ELECTRICAL EQUIPMENT SHALL INCLUDE THE FOLLOWING ITEMS TO THE EXTENT

REQUIRED ON THE DRAWINGS OR IN OTHER SECTIONS OF THESE SPECIFICATIONS TO BE SEISMICALLY

PROTECTED: LIGHT FIXTURES, TRANSFORMERS, SWITCHBOARDS, PANELBOARDS. ELECTRICAL SYSTEMS: THE FOLLOWING ELECTRICAL SYSTEMS SHALL BE SEISMICALLY PROTECTED IN

ACCORDANCE WITH THIS SPECIFICATION: LIGHTING, POWER, SECURITY, COMMUNICATIONS AND FIRE ALARM.

CONDUITS REQUIRING NO SPECIAL SEISMIC RESTRAINTS: SEISMIC RESTRAINTS MAY BE OMITTED FROM ELECTRICAL CONDUIT LESS THAN 2-1/2 INCHES TRADE SIZE. ALL OTHER INTERIOR OCNDUIT SHALL BE SEISMICALLY PROTECTED AS SPECIFIED.

END OF SECTION 260000

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**Toilet Room Renovation** 

215 S 21st St

Electrical Specifications May 28, 2021 H+K Project No: 2101

Sparks Public Works Bullpen

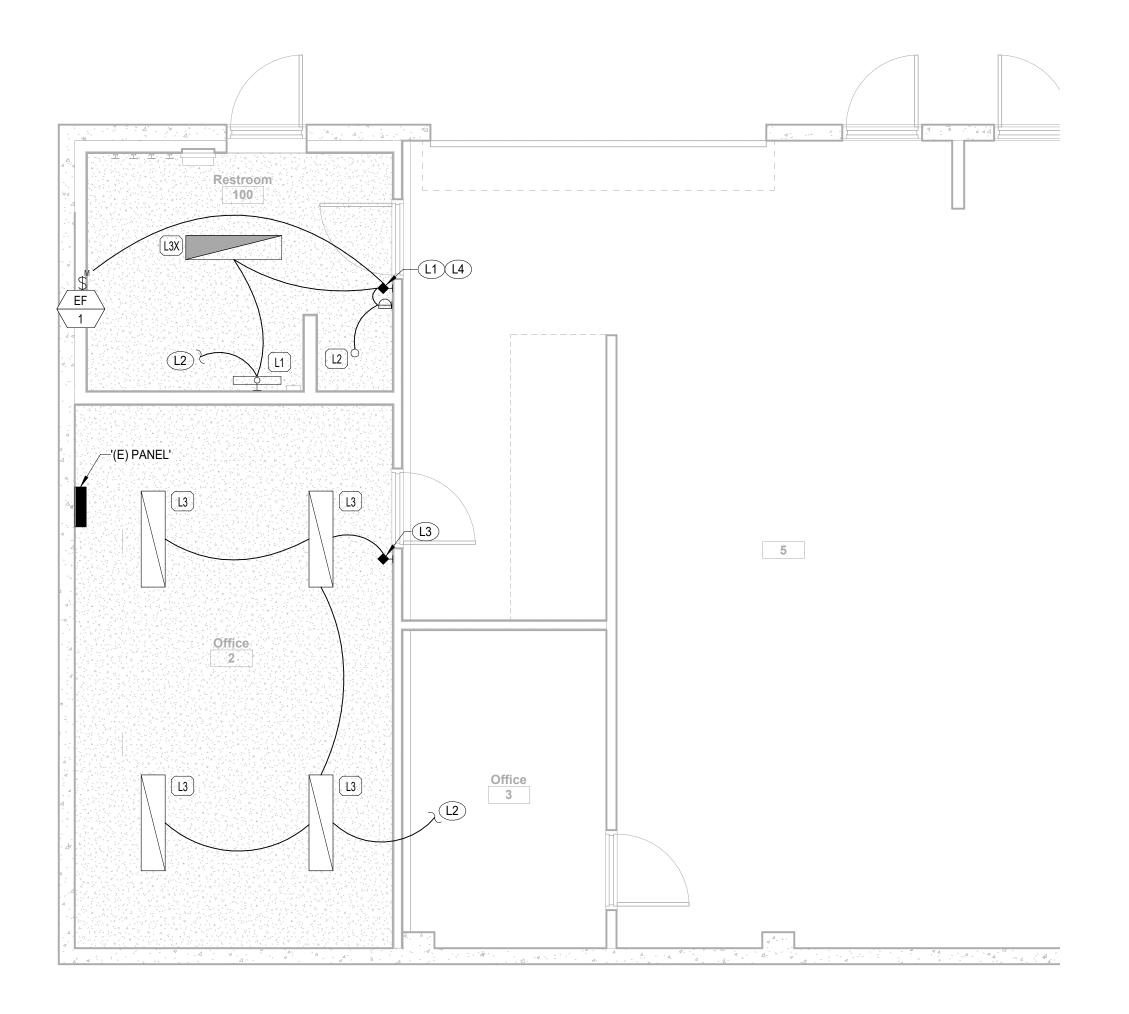
- (E) AND/OR SOLID HALFTONE LINES INDICATE EXISTING EQUIPMENT, (R) AND/OR DASHED LINES INDICATE RÉLOCATED EQUIPMENT, (N) AND/OR SOLID LINES INDICATE NEW EQÙIPMENT UNLESS NOTED OTHERWISE.
- LIGHTING FIXTURES DESIGNATED AS 'EMERGENCY' SHALL BE WIRED TO OPERATE WITH LOCAL SWITCHING UNDER NORMAL POWER CONDITIONS AND SHALL OPERATE VIA EMERGENCY BATTERY PACK OR INVERTER UPON LOSS OF BUILDING UTILITY POWER ONLT, UNLESS NOTED OTHERWISE.
- ELECTRICAL CONDUITS SHALL BE RUN CONCEALED WHERE BUILDING CONSTRUCTION ALLOWS. ANY EXPOSED CONDUIT SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION. ANY EXPOSED CONDUIT, FITTING, SUPPORTS, ETC SHALL BE PAINTED TO MATCH THE SURFACE ON WHICH THEY ARE INSTALLED.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS, SECTIONS, ELEVATIONS, ETC. FOR EXACT LOCATION OF LIGHTING FIXTURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING FINAL FIXTURE LOCATIONS, ABOVE-CEILING HOUSING CLEARANCES, ETC. WITH MECHANICAL, PLUMBING, SPRINKLER CONTRACTOR AND OTHER TRADES PRIOR TO ROUGH-IN.

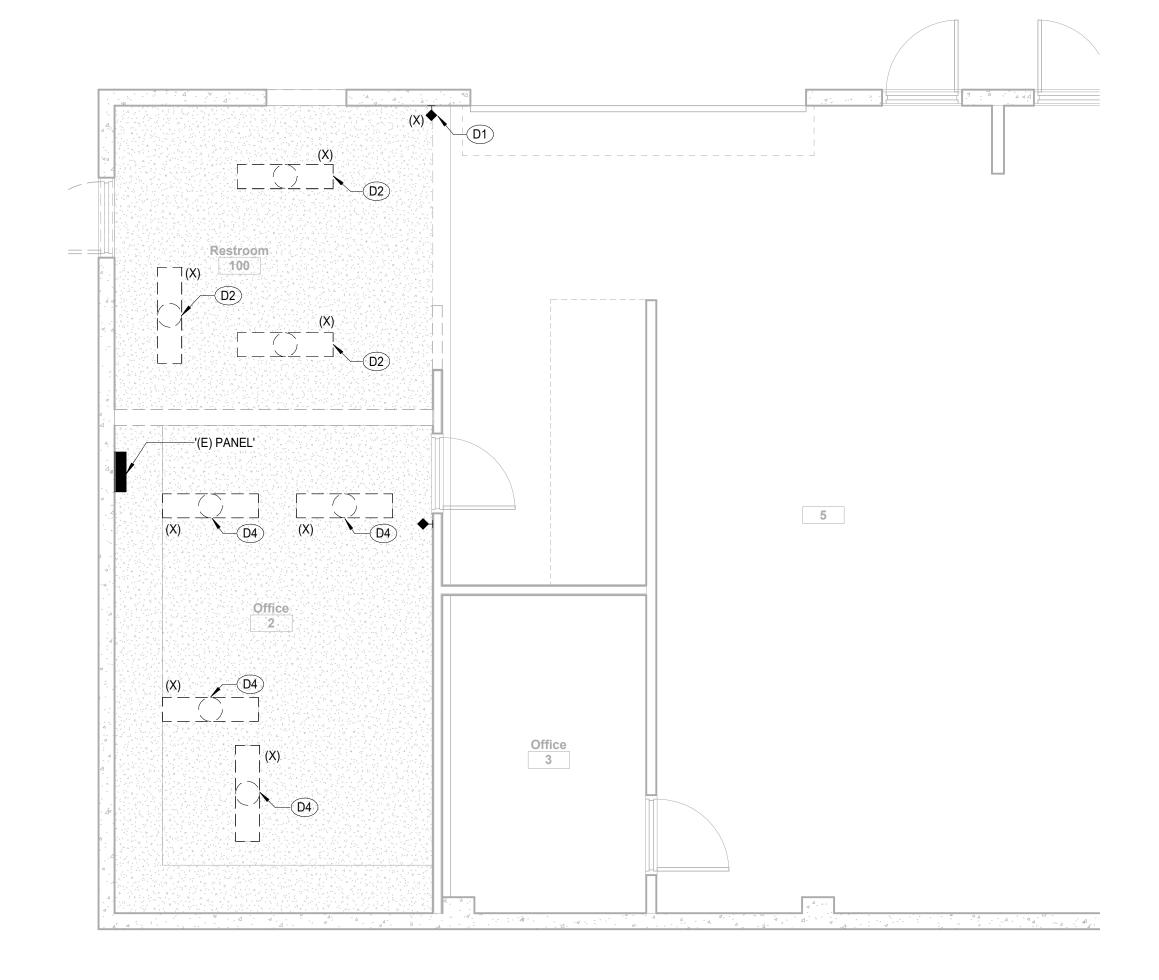
#### ### SHEET NOTES

- D1 EXISTING DEVICE SHALL BE DISCONNECTED AND REMOVED. REMOVE ALL CONDUIT AND WIRE BACK TO TERMINATION POINT. REMOVE ALL ABANDONED, EXPOSED CONDUIT AND RACEWAY.
- D2 DEMOLISH LIGHT FIXTURE. REMOVE ALL ABANDONED, EXPOSED CONDUIT AND RACEWAY.
- D4 DEMOLISH LIGHT FIXTURE. MAINTAIN INTEGRITY OF EXISTING CIRCUITING FOR CONNECTION TO NEW FIXTURE. SEE NEW WORK PLAN.
- L1 CONNECT EXHAUST FAN CONTROL TO OCCUPANCY SENSOR.
- L2 CONNECT TO EXISTING CIRCUIT MADE AVAILABLE DURING DEMOLITION.
- L3 CONNECT EXISTING DEVICE TO NEW LIGHTING FIXTURES.
- L4 PROVIDE ULTRASONIC DUAL RELAY WALL SWITCH OCCUPANCY SENSOR. SENSOR SWITCH #UW-200-W OR

#### DEMOLITION GENERAL NOTES

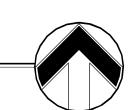
- (X) AND/OR DASHED LINES INDICATE EXISTING EQUIPMENT TO BE REMOVED, (E) AND/OR SOLID HALFTONE LINES INDICATE EXISTING EQUIPMENT TO REMAIN UNLESS NOTED OTHERWISE. Fo Sho
- SALVAGEABLE ITEMS REMOVED DURING DEMOLITION SHALL BE OFFERED TO OWNER PRIOR TO DISPOSAL OR REMOVAL FROM SITE.
- EXISTING CIRCUITS AS INDICATED ARE BASED ON CASUAL FIELD OBSERVATION AND INFORMATION PER RECORD DRAWINGS AND SHALL BE FIELD VERIFIED BY ELECTRICAL CONTRACTOR PRIOR TO START OF DEMOLITION WORK.
- THE CONTRACTOR MAY SALVAGE AND REUSE EXISTING BOXES AND CONDUIT WHERE POSSIBLE. DAMAGED CONDUIT, FITTINGS BOXES, ETC. MAY NOT BE RE-USED. NEW CIRCUITING AS INDICATED ON THE DRAWINGS IS SHOWN FOR INTENT ONLY AND MAY VARY BASED ON ACTUAL FIELD CONDITIONS (NEW CIRCUITING SHALL MATCH EXISTING WHERE POSSIBLE TO UTILIZE EXISTING HOME-RUN CONDUITS, ETC.). KEEP AS-BUILT DRAWINGS CURRENT WITH ANY DEVIATION IN CIRCUITING FROM WHAT IS INDICATED WITHIN THESE PLANS.
- THE CONTRACTOR SHALL REMOVE FROM THE JOB SITE ALL DISCARDED AND ABANDONED MATERIALS LEFT OVER FROM DEMOLITION AND INSTALLATION. THIS INCLUDES, BUT IS NOT LIMITED TO, CONDUIT, FASTENERS AND BOXES. MATERIALS EMBEDDED IN GRADE AND / OR CONCRETE MAY BE ABANDONED IN PLACE. ALL ABANDONED CONDUIT SHALL BE CAPPED.













PK Electrical, Inc. Engineering Design Consulting

## **H+K ARCHITECTS**

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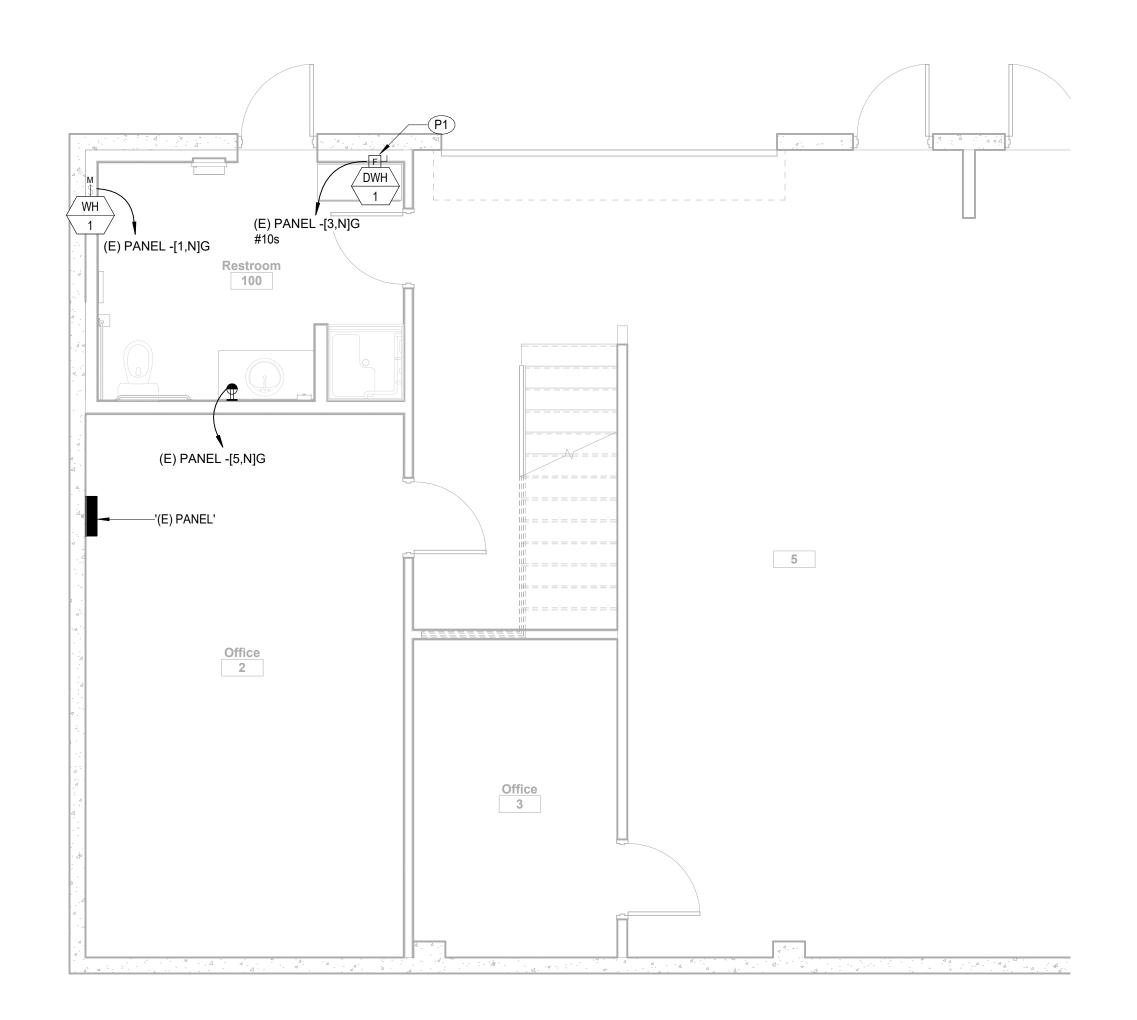
hkarchitects.com

## **Sparks Public Works Bullpen Toilet Room Renovation**



Lo	Load Classification NEC Referen		Connected Load	Demand Factor	Est. Demand	Load Totals
I	Lighting	NEC 220.42				Total Connected Load: 28259 VA
F	Receptacle	NEC 220.44	180 VA	100.00%	180 VA	Total Demand Load: 28759 VA
E	Equipment					
N	1 Motor	NEC 430.24	3800 VA	113.16%	4300 VA	120/208 Wye System Current
k	Kitchen	NEC 220.56				Connected Amps: 78 A
F	Heating	NEC 220.51				Demand Amps: 80 A
	•		•			

·				
Copper Bus Size	125	Ground	Standard	Notes:
Voltage	120/208 Wye	Mounting		BOLD INDICATES NEW OR MODIFED LOAD.
Phase	3	Enclosure	NEMA 1	[1] - PROVIDE NEW BREAKER TO MATCH EXISTING MANUFACTURE AND AIC
Wire	4	# of 1-Pole Circuits	18	RATING.
Lugs	MLO	Neutral	100.00%	
<b>Breaker AIC Rating</b>	EXISTING	Feeder OCPD Size	100	





#### **DEMOLITION GENERAL NOTES**

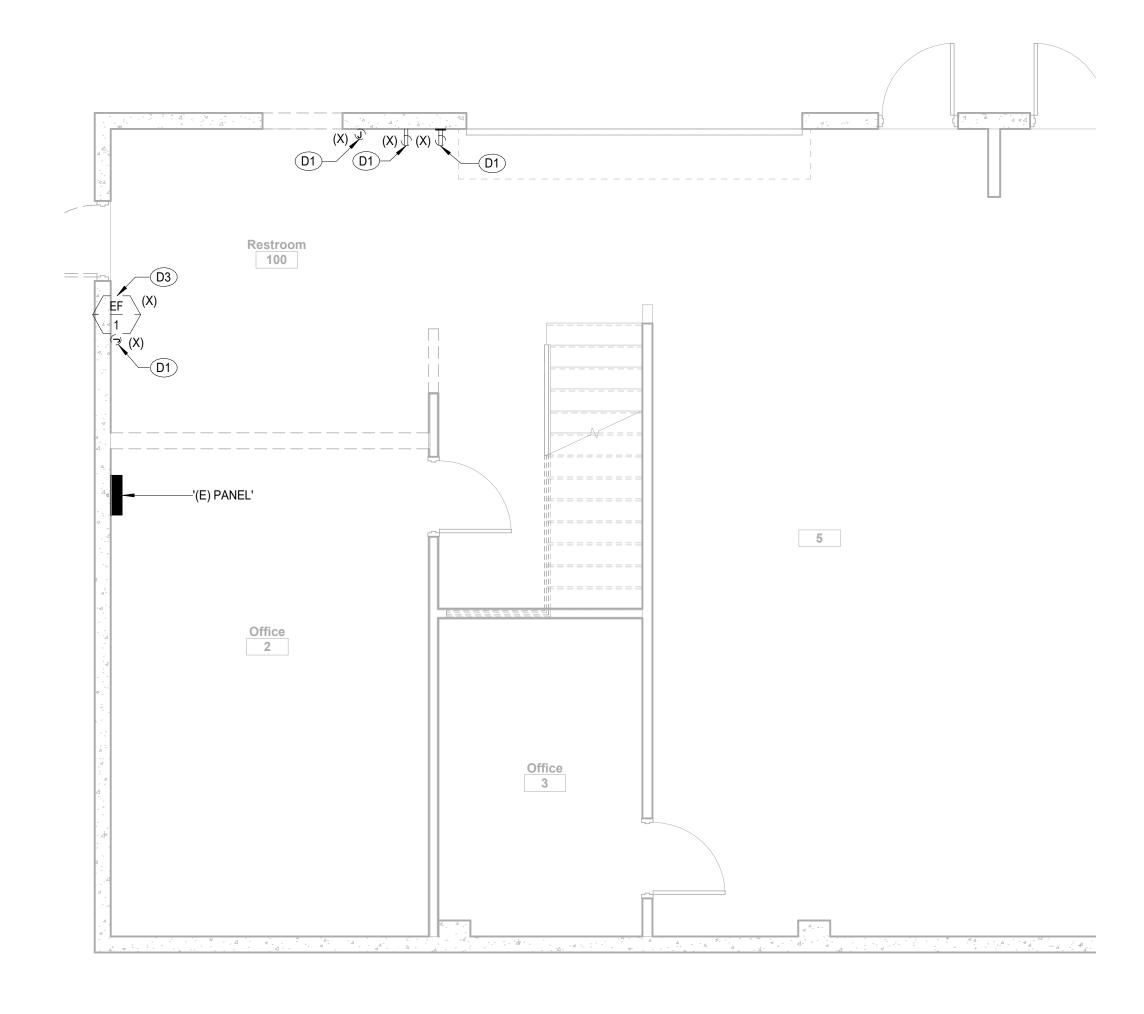
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#### POWER GENERAL NOTES

- 1. (E) AND/OR SOLID HALFTONE LINES INDICATE EXISTING EQUIPMENT, (R) AND/OR DASHED LINES INDICATE RÉLOCATED EQUIPMENT, (N) AND/OR SOLID LINES INDICATE NEW EQUIPMENT UNLESS NOTED OTHERWISE.
- COORDINATE EXACT MOUNTING HEIGHTS AND LOCATIONS OF GENERAL RECEPTACLES, SPECIAL OUTLETS AND DISCONNECT SWITCHES IN SHOP AREAS WITH OWNER AND EQUIPMENT SUPPLIERS PRIOR TO ROUGH-IN.
- VERIFY EXACT ELECTRICAL REQUIREMENTS, PLUG CONFIGURATIONS, ETC., AND FINAL LOCATIONS OF OWNER-PROVIDED EQUIPMENT WITH OWNER'S REPRESENTATIVE PRIOR TO ORDERING OF MATERIALS AND

#### ### SHEET NOTES

- D1 EXISTING DEVICE SHALL BE DISCONNECTED AND REMOVED. REMOVE ALL CONDUIT AND WIRE BACK TO TERMINATION POINT. REMOVE ALL ABANDONED, EXPOSED CONDUIT AND RACEWAY.
- D3 EQUIPMENT TO BE DISCONNECTED BY ELECTRICAL CONTRACTOR AND REMOVED BY OTHERS. REMOVE DISCONNECT, CONDUIT, AND WIRE BACK TO POINT OF TERMINATION AND ALL OTHER ASSOCIATED ELECTRICAL COMPONENTS.
- P1 30A/1P/FUSED DISCONNECT SWITCH, NEMA 1 CONSTRUCTION, 120V RATED.







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