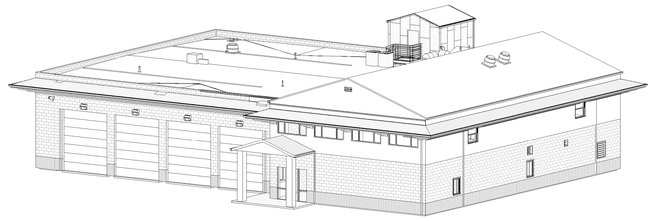
SOUTH KING FIRE & RESCUE

FACILITY IMPROVEMENTS

STATION 64



EXISTING BUILDING:
THE EXISTING BUILDING IS A 2-STOREY, ACTIVE FIRE STATION. THE BUILDING IS FULLY SPRINKLED.

PROPOSED SCOPE OF WORK:
INTERIOR:
- SELECTIVE DEMOLITION OF INTERIOR BUILDING ELEMENTS.
- NEW NON-BEARING INTERIOR WALLS
- SEISMIC UPGRADES
- INCIDENTAL WORK AND IMPROVEMENT TO THE MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEMS
- INSTALLATION OF NEW CASEWORK AND FINISHES
- ALTERATIONS REQUIRED FOR THE SPRINKLER SYSTEM SHALL BE SUBMITTED BY FIRE SPRINKLER CONTRACTOR.

EXTERIOR:
- SELECTIVE DEMOLITION AND RECONFIGURATION OF A CONCRETE CURB
- REMOVAL AND REPLACEMENT OF AN EXISTING GENERATOR.
- ROOF REPLACEMENT
- NEW CLADDING ON A PORTION OF THE REAR OF BUILDING FOR THE ADDITION OF INSULATION AND WATER INTRUSION.
- CONSTRUCTION OF A NEW CHAINLINK FENCE AND MOTOR OPERATED VEHICLE CHAINLINK GATES AND ASSOCIATED WORK.
- REPLACEMENT OF EXISTING SITE LIGHTING IN KIND AND QUANTITY.

3 PROJECT DESCRIPTION

OWNER:

SOUTH KING FIRE & RESCUE
31617 1ST AVENUE
FEDERAL WAY, WASHINGTON 98003
PHONE: 253-927-3118

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EMAIL: james@siderbyers.com

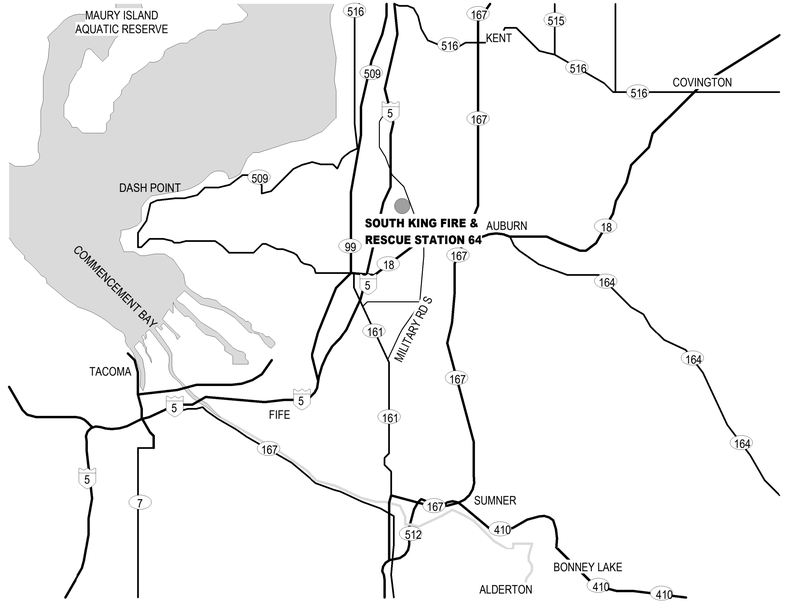
ELECTRICAL:

BCE ENGINEERS, INC
6021 12TH STREET E, SUITE 200
FIFE, WASHINGTON 98424
PHONE: 253-922-0446
CONTACT: CARRIE TAYLOR
EMAIL: carrie.taylor@bceengineers.com

ENVIRONMENTAL:

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SEATTLE, WASHINGTON 98134
PHONE: 206-381-1128
CONTACT: DERICA ESCAMILLA
EMAIL: DericaE@ehsintl.com

2 PROJECT TEAM



N

1 VICINITY MAP
NTS

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PROJECT # 2015137

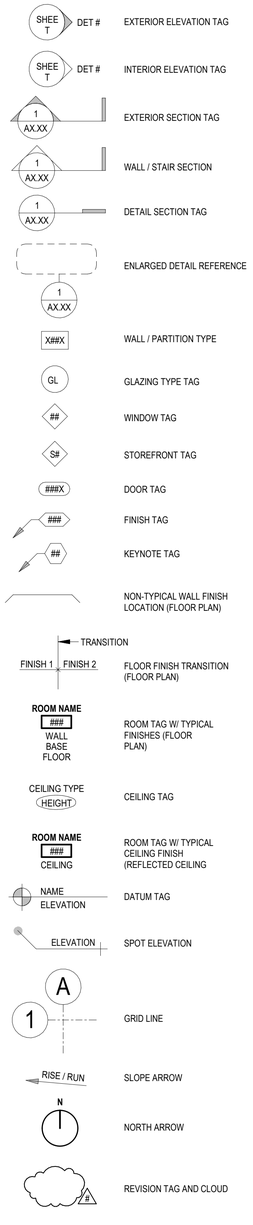
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ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE		

COVER SHEET AND GENERAL PROJECT INFORMATION

SHEET #
A00.01



2 SYMBOL LEGEND

-- A --

A	AMP
A/V	AUDIO VISUAL
AB	ANCHOR BOLT
ACC	ACCESSORIES
ACST	ACOUSTIC(AL)
ACT	ACOUSTIC CEILING TILE
ADJ	ADJACENT, ADJUSTABLE)
AFF	ABOVE FLOOR FINISH
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATELY
ARCH	ARCHITECT(URAL)
AUTO	AUTOMATIC

-- B --

BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BO	BOTTOM OF
BR	BEDROOM
BTWN	BETWEEN
BUR	BUILT UP ROOF(ING)

-- C --

CAB	CABINET
CALC	CALCULATION
CB	CATCH BASIN, CORNER BEAD
CEM	CEMENT
CFOI	CONTRACTOR FURNISHED & OWNER INSTALLED
CG	CORNER GUARD
CH	COAT HOOK
CIP	CAST IN PLACE
CJ	CONTROL JOINT, CONSTRUCTION JOINT
CL	CENTERLINE
CLG	CEILING
CLKJ	CAULKED JOINT
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONF	CONFERENCE
CONN	CONNECT(ION)
CONSTR	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
CONTR	CONTRACTOR
CORRD	CORDINATE
CORR	CORRIDOR
COV	COVE
CP	CEMENT PLASTER
CPT	CARPET
CRK	CORK
CRL	CHAIR RAIL
CS	CONCRETE SEALER
CSMT	CASEMENT
CTR	CENTER

-- D --

D	DEEP, DRYER
DBL	DOUBLE
DEB	DRY ERASE BOARD
DEMO	DEMOLISH, DEMOLISION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPOSAL
DL	DEAD LOAD
DN	DOWN
DP	DECORATIVE PANEL
DR	DOOR, DINING ROOM, DRAIN
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
DWR	DRAWER

-- E --

E	EAST
EA	EACH
EC	EDGE OF CURB
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR, ELEVATION
EMER	EMERGENCY
ENCL	ENCLOSE(D), ENCLOSURE
EP	ELECTRICAL PANELBOARD
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE(D)
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPOSED, EXPANSION
EXT	EXTERIOR

-- F --

FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDMPR	FIRE DAMPER
FDTN	FOUNDATION
FDV	FIRE DEPARTMENT VALVE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FACTORY FINISH, FINISH FACE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK, FIRE HOSE REEL
FIN	FINISHED
FIN FLR	FINISHED FLOOR
FIXT	FIXTURE
FLASH	FLASHING
FLR	FLOOR
FLUOR	FLUORESCENT
FMF	FLEXIBLE MEMBRANE FLASHING
FOB	FACE OF BRICK
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FRTW	FIRE RETARDANT TREATED WOOD
FRCP	FIBER REINFORCED CONCRETE PANEL
FRZ	FREEZER
FS	FULL SIZE
FT	FOOT, FEET
FTG	FOOTING
FURN	FURNITURE
FUT	FUTURE

-- G --

G	GROUND
GA	GAUGE
GALV	GALVANIZED
GAR	GARAGE
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GEN	GENERAL
GFRG	GLASS REINFORCED PLASTER, GLASS FIBER REINFORCED GYPSUM
GI	GALVANIZED IRON
GL	GLASS
GLULAM	GLUE LAMINATED
GR	GROSS
GT	GROUT
GWB	GYPSUM WALL BOARD
GYP	GYPSUM

-- H --

H	HIGH, HEIGHT
HB	HOSE BIB
HC	HOLLOW CORE, HANDICAPPED
HDR	HEADER
HDW	HARDWARE
HDWD	HARDWOOD
HGR	HANGER
HM	HOLLOW METAL
HRL	HANDRAIL
HORIZ	HORIZONTAL
HR	HOURS
HT	HEIGHT
HVAC	HEATING, VENTILATION, & AIR CONDITIONING
HWT	HOT WATER TANK

-- I --

IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER, INSIDE DIMENSION
IFC	INTERNATIONAL FIRE CODE
IIC	IMPACT INSULATION CLASS
IMC	INTERNATIONAL MECHANICAL CODE
IN	INCH(ES)
INC	INCREASE
INCL	INCLUDE(D), INCLUDING
INFO	INFORMATION
INSTL	INSTALL(ATION)
INSUL	INSULATION
INT	INTERIOR

-- J --

JAN	JANITOR
JBOX	JUNCTION BOX
JT	JOINT

-- K --

KD	KILN DRIED
KIT	KITCHEN
KW	KILOWATT

-- L --

L	LEFT, LINEN, LONG
LAB	LABORATORY
LAM	LAMINATE(D)
LAU	LAUNDRY
LAV	LAVATORY
LB(S)	POUND(S)
LDG	LANDING
LINO	LINOLEUM
LL	LIVE LOAD
LOC	LOCATION
LPT	LOW POINT
LR	LIVING ROOM
LRG	LARGE
LT	LIGHT
LTG	LIGHTING
LVR	LOUVER

-- M --

M&S	MIRROR & SHELF
MACH	MACHINE
MAINT	MAINTENANCE
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBR	MASTER BEDROOM
MC	MEDICINE CABINET
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANIC(AL)
MED	MEDIUM
MEDS	MEDICINE, MEDICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MFRREC	MANUFACTURER'S RECOMMENDATION(S)
MGR	MANAGER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING, MONITOR
MTD	MOUNTED
MTL	METAL
MULL	MULLION
MULT	MULTIPLE
MW	MICROWAVE OVEN

-- N --

N	NORTH
NA	NOT APPLICABLE
NC	NOISE CRITERIA, NURSE CALL
NCAP	NURSE CALL ANNUNCIATOR PANEL
NCOMBL	NON-COMBUSTIBLE
NIC	NOT IN CONTRACT

-- O --

O/	OVER
OA	OVERALL
OC	ON CENTER
OCC	OCCUPANTS, OCCUPANT LOAD, OCCUPANCY
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED & CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED & OWNER INSTALLED
OFD	OVERFLOW DRAIN
OFF	OFFICE
OGL	OBSCURE GLASS
OHDR	OVERHEAD DOOR
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
OZ	OUNCE

-- P --

P	PAINT(ED), PANTRY
PC	PORTLAND CEMENT
PCC	PRECAST CONCRETE
PED	PEDESTAL
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PFP	PREPARED FOR PAINT
PIV	POST INDICATOR VALVE
PL	PLATE, PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLYWD	PLYWOOD
PMTL	PAINTED METAL
PNT	POINT
PP	POWER POLE
PR	PAIR
PREFAB	PREFABRICATE
PRELIM	PRELIMINARY
PRKG	PARKING
PROP	PROPERTY
PS	PROJECTOR SCREEN
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESERVATIVE TREATED, PRESSURE TREATED, POST TENSIONED
PTD	PAPER TOWEL DISPENSER
PTDWRC	PAPER TOWEL DISPENSER & WASTE RECEPTACLE
PTN	PARTITION
PVC	POLYVINYL CHLORIDE, POLYVINYL CHLORIDE PIPE
PVD	PROVIDE
PVG	PAVING
PVR	PAVERS

-- Q --

QTY	QUANTITY
QTZ	QUARTZ

-- R --

R	RISER, RANGE, RADIUS
R/S	ROD & SHELF
RA	RETURN AIR
RCF	RAISED COMPUTER FLOOR
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REC	RECESSED
RECPT	RECEPTACLE
REF	REFERENCE, REFRIGERATOR
REINF	REINFORCE(D), REINFORCING
RES	RESILIENT FLOORING
REQD	REQUIRED
REST	RESTROOM
RET	RETAINING
REV	REVISED, REVISION
RH	ROBE HOOK
RM	ROOM
RO	ROUGH OPENING
RP	RADIUS POINT
RR	RESTROOM
RS	ROUGH SAWN
RT	RIGHT
RVL	REVEAL

-- S --

S	SOUTH, SINK
S/R	SHELF & ROD
SAN	SANITARY
SC	SOLID CORE
SCD	SEAT COVER DISPENSER
SCHED	SCHEDULE
SD	SOAP DISH, SOAP DISPENSER, STORM DRAIN
SEAL	SEALER, SEALANT
SECT	SECTION
SEP	SEPARATION
SF	SQUARE FEET
SG	SAFETY GLASS, SAFETY GLAZING
SHR	SHOWER
SHT	SHEET
SHTG	SHEATHING, SHEETING
SHLV	SHELVING
SIM	SIMILAR
SM	SHEET METAL
SND	SANITARY NAPKIN DISPENSER
SOG	SLAB ON GRADE
SOL	SOLID SURFACE
STO	STONE
SPECS	SPECIFICATION(S)
SPKLR	SPRINKLER
SPKR	SPEAKER
SQ	SQUARE
SQIN	SQUARE INCH
SS	SERVICE SINK, SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET, STAIN
STA	STATION
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STIR	STIRRUP
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SU	SOILED UTILITY
SUBFL	SUBFLOOR

-- T --

T	TREAD, TILE
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TB	TOWEL BAR
TEL	TELEPHONE
TEMP	TEMPORARY, TEMPERATURE
TER	TERRAZZO
THK	THICK(NESS)
TI	TENANT IMPROVEMENT
TL	TOTAL LOAD
TMPD	TEMPERED
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CURB, TOP OF CONCRETE
TOF	TOP OF FOOTING, TOP OF FLOOR, TOP OF FRAME
TOS	TOP OF SLAB, TOP OF STEEL
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TR	TRANSITION STRIP
TV	TELEVISION
TYP	TYPICAL

-- U --

UC	UNDERCOUNTER, UNDERCABINET, UNDERCUT
UGND	UNDERGROUND
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
UPC	UNIFORM PLUMBING CODE
UTIL	UTILITY

-- V --

V	VOLT(AGE)
VCT	VINYL COMPOSITION TILE
VEH	VEHICLE
VEND	VENDING MACHINE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VNR	VENEER
VTO	VENT TO OUTSIDE
VTR	VENT THROUGH ROOF

-- W --

W	WEST, WIDE, WASHING MACHINE
W/	WITH
W/D	WASHER & DRYER
W/O	WITHOUT
WB	WALL BASE
WC	WATER CLOSET, WALL COVERING
WCO	WINDOW COVERING
WD	WOOD
WDW	WINDOW
WF	WIDE FLANGE
WH	WATER HEATER
WIC	WALK-IN CLOSET
WM	WIRE MOLD, WATER METER, WIRE MESH
WO	WALK-OFF FLOORING
WP	WORK POINT, WATERPROOFING, WEATHER PROOF
WPM	WATERPROOF MEMBRANE
WR	WATER REPELLENT, WATER RESISTANT
WRB	WATER RESISTANT BARRIER
WRC	WASTE RECEPTACLE
WSCT	WAINSCOT
WSEC	WASHINGTON STATE ENERGY CODE
WSVIAQC	WASHINGTON STATE VENTILATION & INDOOR AIR QUALITY CODE
WT	WEIGHT
WWF	WELDED WIRE FABRIC

--ASSOCIATIONS--

AISI	AMERICAN IRON AND STEEL INSTITUTE
AMCA	AIR MOVING & CONDITIONING ASSOCIATION, INC.
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARIB	ASPHALT ROOFING INDUSTRY BUREAU
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
AWI	AMERICAN WOODWORK INSTITUTE
AWS	AMERICAN WELDING SOCIETY
AWWA	AMERICAN WATER WORKS ASSOCIATION
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CS	COMMERCIAL STANDARD OF THE U.S. DEPARTMENT OF COMMERCE
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE
FGMA	FLAT GLASS MARKETING ASSOCIATION
HUD	US DEPARTMENT OF HEALTH AND URBAN DEVELOPMENT
ICC	INTERNATIONAL CODE COUNCIL
IBC	INTERNATIONAL BUILDING CODE
IEEE	INSTITUTE OF ELECTRICAL & ELECTRONIC ENGINEERS
IPCEA	INSULATED POWER CABLE ENGINEER ASSOCIATION
MLA	METAL LATH ASSOCIATION
NAAMM	NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS
NEMA	NATIONAL FIRE PROTECTION ASSOCIATION
NWMA	NATIONAL WOODWORK MANUFACTURER'S ASSOCIATION
OSHA	OCCUPACTIONAL SAFETY AND HEALTH ADMINISTRATION
PS	PRODUCT STANDARD OF U.S. DEPARTMENT OF COMMERCE
SDI	STEEL DECK INSTITUTE
SDI	STEEL DOOR INSTITUTE
SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SSPC	STEEL STRUCTURES PAINTING COUNCIL
TCA	TILE COUNCIL OF AMERICA
UL	UNDERWRITER'S LABORATORIES
WAC	WASHINGTON ADMINISTRATIVE CODE
WISHA	WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT
WSDOH	WASHINGTON STATE DEPARTMENT OF HEALTH
WSDSHS	WASHINGTON STATE DEPARTMENT OF SOCIAL AND HEALTH SERVICES
WSEC	WASHINGTON STATE ENERGY CODE
WSVIAQC	WASHINGTON STATE VENTILATION & INDOOR AIR QUALITY CODE
WWPA	WESTERN WOOD PRODUCTS ASSOCIATION

1 ABBREVIATION LIST

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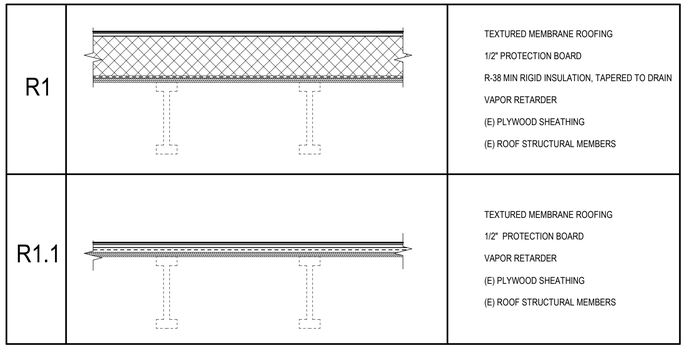
BID SET

ISSUE DATE FEBRUARY 23, 2018

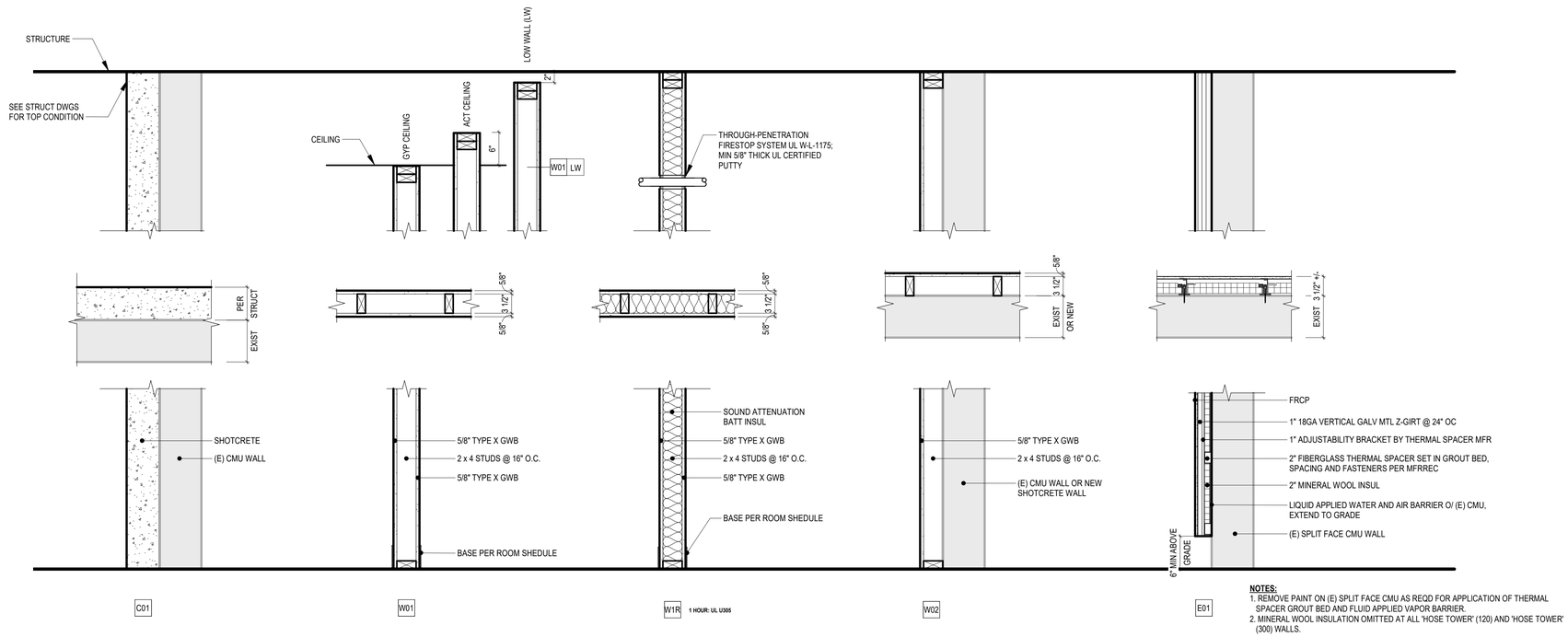
REVISION SCHEDULE		

ABBREVIATIONS AND SYMBOLS

SHEET #
A00.02



2 ROOF ASSEMBLIES
1" = 1'-0"



NOTES:
1. REMOVE PAINT ON (E) SPLIT FACE CMU AS REQD FOR APPLICATION OF THERMAL SPACER GROUT BED AND FLUID APPLIED VAPOR BARRIER.
2. MINERAL WOOL INSULATION OMITTED AT ALL 'HOSE TOWER' (120) AND 'HOSE TOWER' (300) WALLS.

1 WALL ASSEMBLIES
1" = 1'-0"

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4794 REGISTERED ARCHITECT
DAVID A. FERGUS
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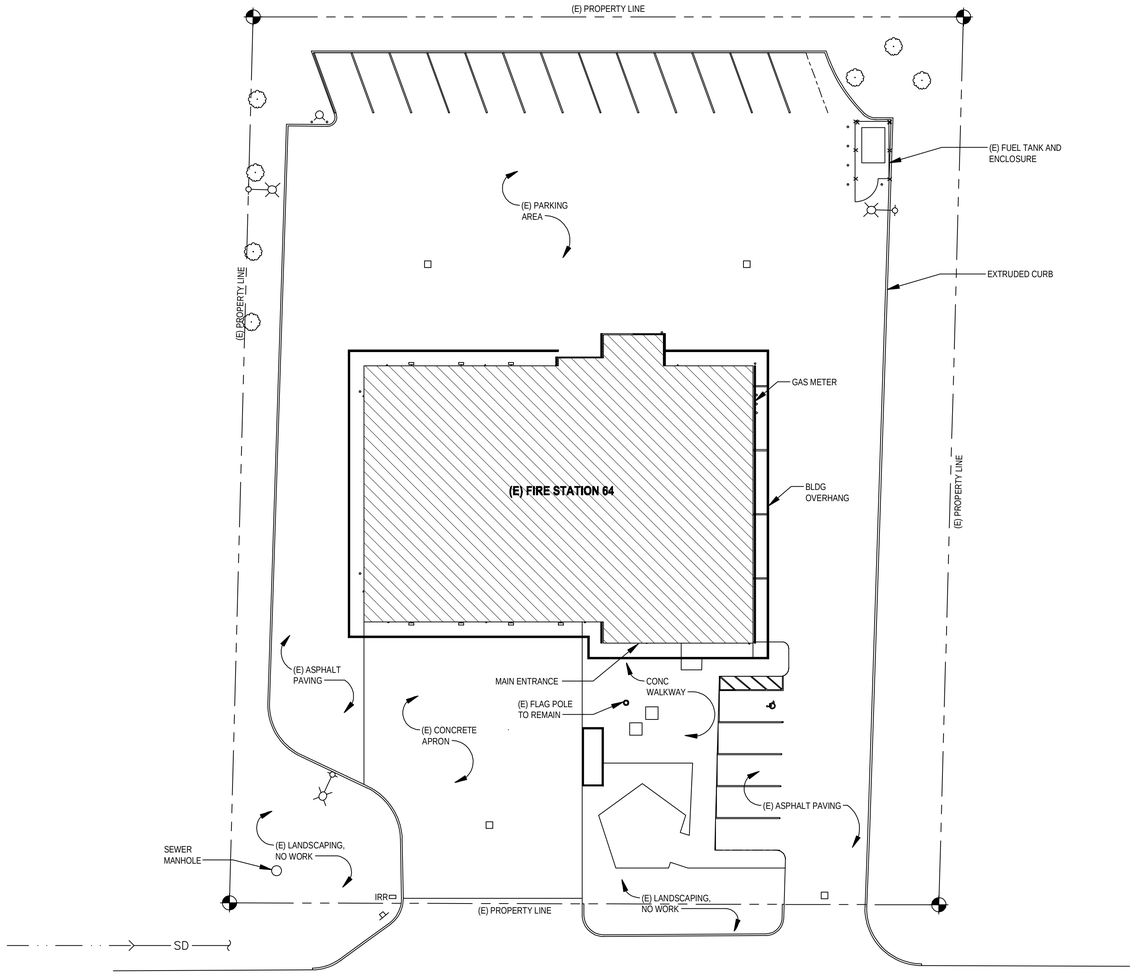
SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS
STATION 64
3700 S 320TH ST
FEDERAL WAY, WA 98001

PROJECT # 2015137
BID SET
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE		

ASSEMBLY SCHEDULES

SHEET #
A01.01



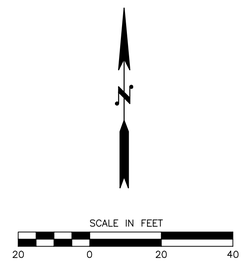
S 320th STREET

LEGEND

- TREE
- CATCH BASIN
- FIRE HYDRANT
- BUILDING
- (E) EXISTING
- IRR IRRIGATION CONTROL BOX
- LIGHT POLE
- DITCH
- SD STORM CULVERT
- SIGN

SURVEY NOTE:

THIS IS A COMPOSITE MAP CONSISTING OF INFORMATION FROM SITE OBSERVATIONS AND RECORD DRAWINGS. SITE FEATURES ARE APPROXIMATE.



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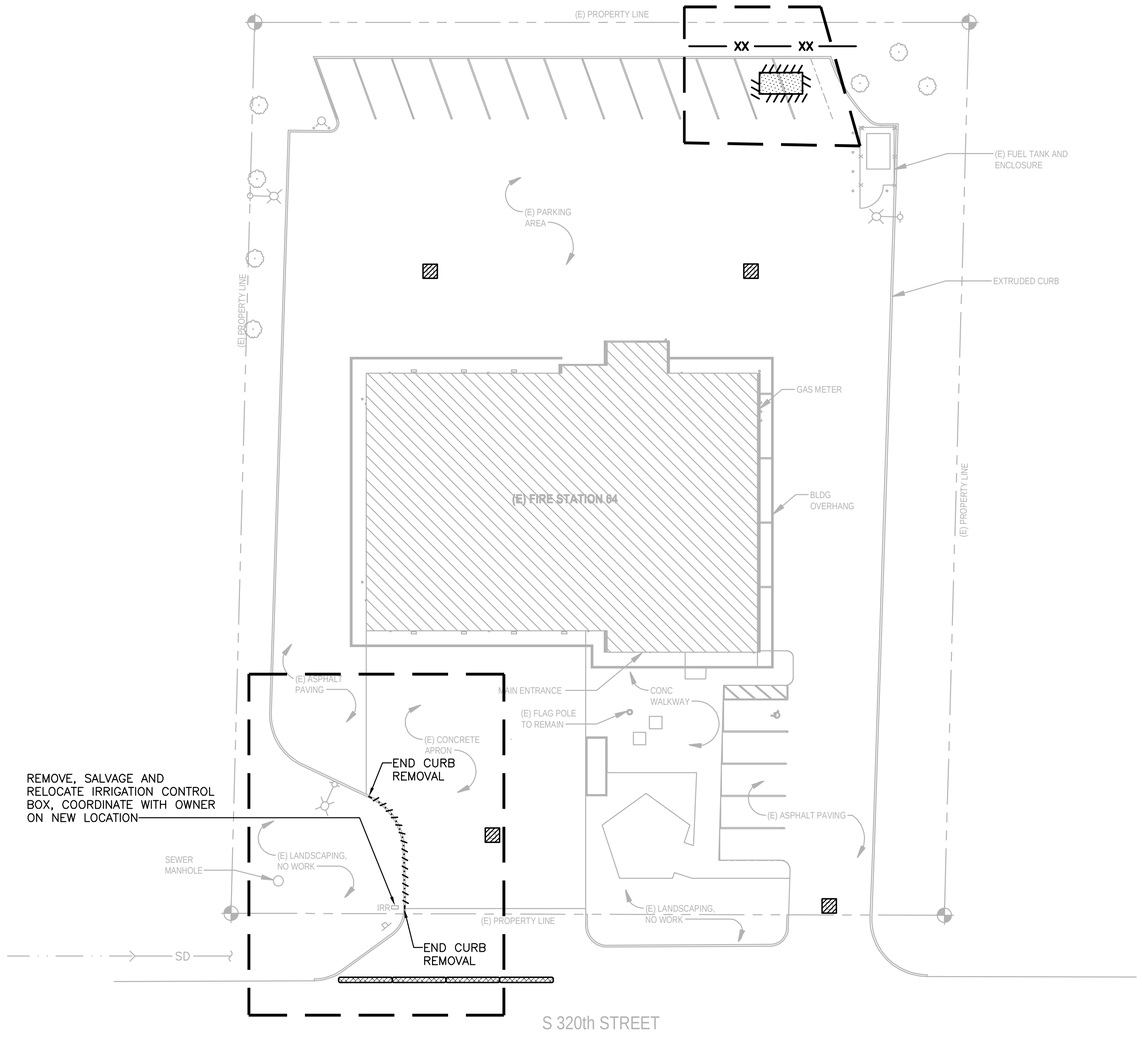
PROJECT # 2015137
BID
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

EXISTING CONDITIONS

SHEET # C00.01

02/23/2018 3:30pm I:\21\2017\004 SKFR Station 64 Facilities Improv\Design\C0.1Existing.dwg



LEGEND

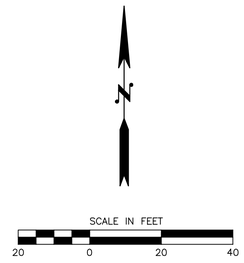
XX	SILT FENCE (1 / C1.00 | C3.00)
	CATCH BASIN FILTER (2 / C1.00 | C3.00)
	FILTRATION SILT SOCK
-/-/-/-/-/-/-/-/-/-/-	REMOVE EXTRUDED CURB
	LIMITS OF CONSTRUCTION
	SAWCUT PAVEMENT
	REMOVE ASPHALT PAVEMENT

NOTES:

1. PROTECT EXISTING UTILITIES AND ABOVE GROUND STRUCTURES TO REMAIN DURING CONSTRUCTION ACTIVITIES.
2. RESTRIPE PAINT MARKINGS REMOVED DURING PROJECT DEMOLITION AND CONSTRUCTION ACTIVITIES, AND IN STAGING AREAS.
3. SEE ELECTRICAL FOR SAWCUTTING AND PAVEMENT REMOVAL LOCATIONS ASSOCIATED WITH CONDUIT INSTALLATION.

CONSTRUCTION LIMIT NOTES:

LIMITS OF CONSTRUCTION ARE FOR SITE IMPROVEMENT CONSTRUCTION AND WILL NEED TO BE TEMPORARILY EXPANDED TO PERMIT WORK OUTSIDE THE AREA INDICATED (AS IN THE CASE OF ELECTRICAL UTILITY CONNECTIONS).



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SOUTH KING FIRE & RESCUE FACILITY IMPROVEMENTS

STATION 64
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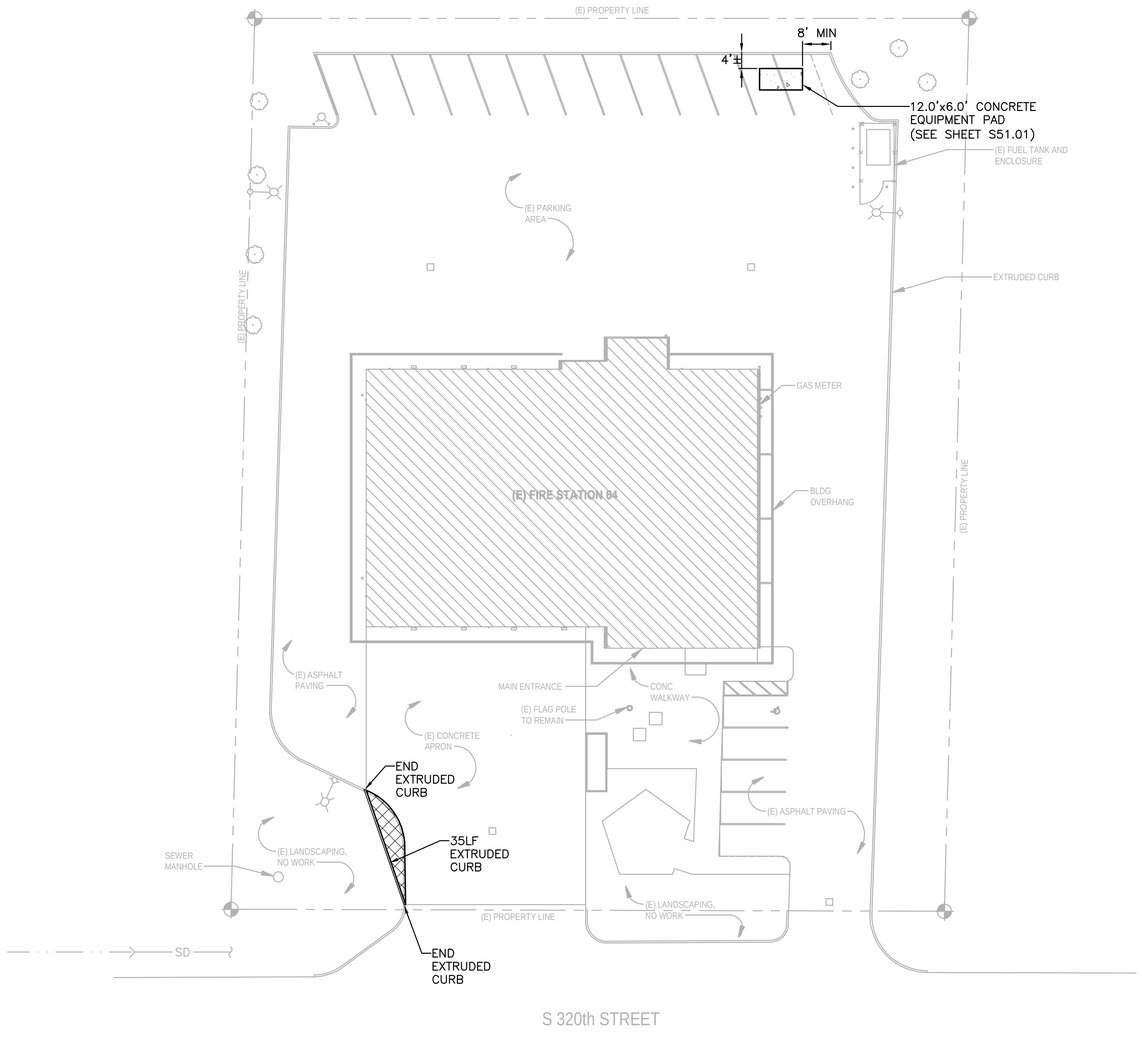
PROJECT #	2015137
	BID
ISSUE DATE	FEBRUARY 23, 2018

REVISION SCHEDULE

DEMOLITION AND EROSION CONTROL PLAN

SHEET #
C01.00

02/23/2018 3:28pm I:\21\2017\004 SKFR Station 64 Facilities Improv\Design\C1.0DemoEros.dwg



LEGEND

CONCRETE PAD

EXTRUDED CURB — 4 / C2.00 C3.00

ASPHALT PAVEMENT PATCH — 3 / C2.00 C3.00

NOTES:

1. REPAIR ASPHALT AND EXTRUDED CURB REMOVED DURING ELECTRICAL CONDUIT INSTALLATION. SEE ELECTRICAL FOR CONDUIT LOCATIONS.
2. COORDINATE WITH OWNER TO INSTALL SALVAGED IRRIGATION CONTROL BOX.
3. SEE SHEET A10.01 FOR CHAIN LINK FENCING AND GATE LOCATIONS.

N

SCALE IN FEET
20 0 20 40

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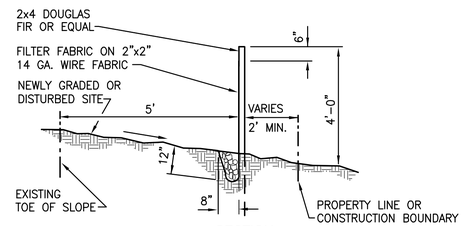
PROJECT # 2015137
BID
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

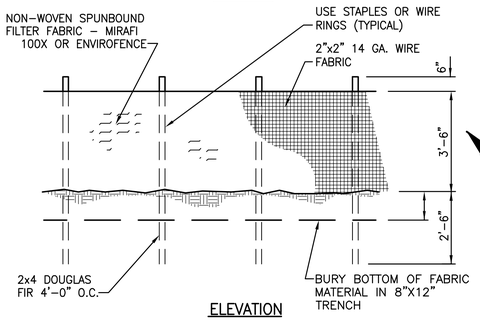
GRADING AND PAVING PLAN

SHEET # C02.00

02/23/2018 3:27pm I:\21\2017\004 SKFR Station 64 Facilities Improv\Design\C2.00radPave.dwg

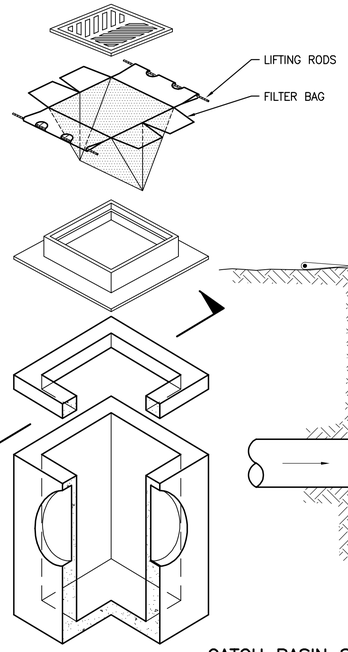


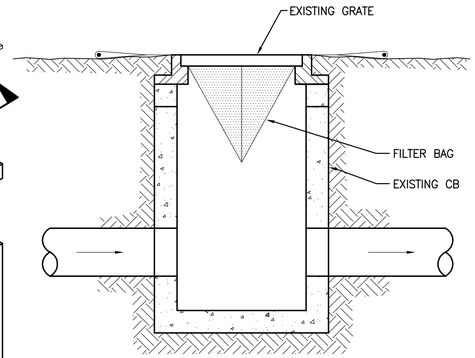
SECTION



ELEVATION

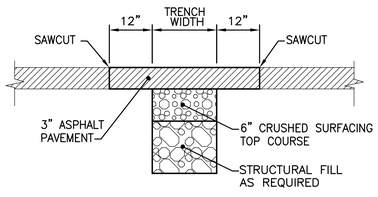
1 DETAIL – FILTER FABRIC FENCE
C1.00 C3.00 NOT TO SCALE



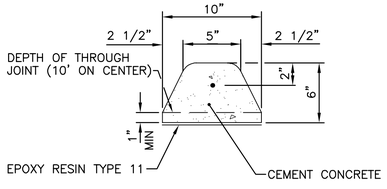


SECTION

2 CATCH BASIN SEDIMENTATION CONTROL WITH FILTER BAG
C1.00 C3.00 NOT TO SCALE



3 ASPHALT PATCH SECTION
C2.00 C3.00 NOT TO SCALE



4 SECTION–EXTRUDED CEMENT CONCRETE CURB
C2.00 C3.00 NOT TO SCALE

EROSION AND SEDIMENT CONTROL NOTES

1. APPROVAL OF THIS TEMPORARY EROSION AND SEDIMENTATION CONTROL (TESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
2. THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE TESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION (SWDM APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPTH CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.

THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZIED.

THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITIONAL COVER MEASURES, ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, PERIMETER PROTECTION, ETC.).

THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.

ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC COVER METHODS (E.G. SEEDING, MULCHING, PLASTIC COVERING, ETC.).

ANY AREA NEEDING ESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.

THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT.

AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE ROUGH GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.

COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX D OF THE SURFACE WATER DESIGN MANUAL.

PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE DDES INSPECTOR FOR REVIEW.

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2/23/18

SOUTH KING FIRE & RESCUE FACILITY IMPROVEMENTS

STATION 64
3700 S 320TH ST
FEDERAL WAY, WA 98001

PROJECT # 2015137
BID
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

DETAILS

SHEET # C03.00

02/23/2018 3:31pm I:\21\2017\004 SKFR Station 64 Facilities Improv\Design\C3.00details.dwg

GENERAL NOTES:
ASBESTOS-CONTAINING MATERIALS

1. THIS PROJECT INCLUDES REMOVAL AND DISPOSAL OF HAZARDOUS BUILDING MATERIALS (ASBESTOS, POLYCHLORINATED BIPHENYLS, AND MERCURY-CONTAINING MATERIALS) FROM FIRE STATION 64 LOCATED AT 3700 S 320TH ST, FEDERAL WAY, WA.

2. LOCATIONS OF ACM SHOWN ON THE DRAWINGS ARE SCHEMATIC AND APPROXIMATE. NOTE: A LIMITED HAZARDOUS MATERIALS SURVEY WAS ACCOMPLISHED FOR IN PREPARATION FOR THE WORK, THAT MEETS THE REQUIREMENTS OF WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES DIVISION OF OCCUPATIONAL SAFETY AND HEALTH (L&I DOSH) "GOOD FAITH INSPECTION" AND PUGET SOUND CLEAN AIR AGENCY (PSCAA) ASBESTOS INSPECTION TO LOCATE AND IDENTIFY ASBESTOS-CONTAINING MATERIALS EXPECTED TO BE IMPACTED BY THE PROJECT (INCLUDED AS APPENDIX OF SECTION 011110 SUMMARY OF HAZARDOUS MATERIALS). ALL IMPACTED ASBESTOS MATERIALS WILL BE REMOVED WITHIN THE SCOPE OF THIS PROJECT. DEMOLITION FOR ACCESS TO CONCEALED ACM AND/OR ASSUMED ACM IS WITHIN THE SCOPE OF WORK. IF ANY IDENTIFIED ACM, OR SUSPECT MATERIAL NOT ADDRESSED BY THE "GOOD FAITH SURVEY" WILL BE IMPACTED AND IS NOT CALLED-OUT BY OTHER WORK AND IS NOT CALLED-OUT FOR REMOVAL, CONSULT THE DISTRICT'S HAZARDOUS MATERIALS CONSULTANT (EHSI) PRIOR TO DISTURBANCE. ANY SUCH MATERIAL MUST BE TREATED AS ACM UNLESS SAMPLED BY A CERTIFIED AHERA BUILDING INSPECTOR AND DETERMINED TO BE NON-ASBESTOS.

3. USE THE PROJECT HAZARDOUS MATERIALS SUMMARY LISTED ON THIS SHEET FOR BASE BID QUANTITIES. QUANTITIES ARE CONSIDERED ACCURATE WITHIN PLUS OR MINUS (+/-) TEN PERCENT (10%). NO CONTRACT CHANGES WILL BE CONSIDERED FOR VARIANCES IN THESE QUANTITIES OF LESS THAN 10%. CONTRACTOR MUST HAVE HAZARDOUS MATERIALS CONSULTANT'S WRITTEN VERIFICATION OF QUANTITIES PRIOR TO THE REMOVAL OF MATERIALS FOR CONSIDERATION OF COMPENSATION FOR ADDITIONAL QUANTITIES OF MATERIAL IN EXCESS OF +10%.

4. THE CONTRACTOR SHALL FIELD VERIFY AND COORDINATE WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DETAILS AND DIMENSIONS THAT MAY IMPACT THE WORK. THE CONTRACTOR SHALL VERIFY THE CONDITION, LOCATION, AND QUANTITIES OF HAZARDOUS MATERIALS IN THIS WORK PRIOR TO SUBMITTING A BID.

5. REFER TO CONTRACT AND CONTRACTOR'S APPROVED WORK PLAN FOR ASBESTOS REMOVAL AND DISPOSAL PROCEDURES AND REQUIREMENTS.

6. PIPE DOPE ON GAS LINE FITTINGS TO STOVE WAS IDENTIFIED AS CONTAINING <1% CHRYSOTILE ASBESTOS AND IS THEREFORE NOT AN ACM AND IS NOT REGULATED BY PSCAA; HOWEVER, L&I DOSH REQUIRES DEMOLITION PERSONNEL TO BE TRAINED IN ACCORDANCE WITH WAC 296-62-07722(5). THEY ARE REQUIRED TO USE WET METHODS, HAVE APPROPRIATE RESPIRATORY PROTECTION, COMPLETE AN EXPOSURE ASSESSMENT, AND A CERTIFIED ASBESTOS SUPERVISOR MUST SUPERVISE THE DEMOLITION.

GENERAL NOTES:
LEAD-CONTAINING MATERIALS

1. REFER TO THE HAZARDOUS MATERIALS REMOVAL SPECIFICATIONS FOR IMPACTS TO LEAD-CONTAINING MATERIALS (LCM). REFER TO SPECIFICATIONS FOR LEAD DISTURBANCES, DISPOSAL, AND TESTING REQUIREMENTS.

2. THE CONTRACTOR SHALL ASSUME THAT LEAD PAINT IS PRESENT ON ANY PAINTED BUILDING MATERIALS NOT TESTED. ALL WORK THAT MAY DISTURB LEAD BUILDING MATERIAL SHALL BE IN ACCORDANCE WITH L&I REGULATION WAC 296-155-176, OSHA REGULATION 29 CFR 1926.62, AND THE SPECIFICATIONS, INCLUDING DUST CONTROL, EMPLOYEE EXPOSURE ASSESSMENTS AND WASTE CHARACTERIZATION.

GENERAL NOTES: MERCURY-CONTAINING LIGHT TUBES AND PCB-CONTAINING BALLASTS

1. INSPECT ALL IMPACTED LIGHT BALLASTS IN THE AREA. ALL IMPACTED MAGNETIC BALLASTS REGARDLESS OF LABELING AS "NO-PCBS" OR "PCB FREE", WILL BE REMOVED AND DISPOSED OF AS HAZARDOUS WASTE IN ACCORDANCE WITH THE REGULATIONS AND THE CONTRACTOR'S APPROVED WORK PLAN. PARTIAL DISASSEMBLY OF FLUORESCENT FIXTURES AND SELECTIVE DEMOLITION FOR ACCESS ARE INCLUDED IN THE SCOPE OF WORK. REFER TO CONTRACT SPECIFICATIONS/DRAWINGS, REGULATIONS, AND CONTRACTOR'S APPROVED WORK PLAN FOR PCB-BALLAST REMOVAL AND DISPOSAL PROCEDURES. IMPACTED BALLASTS LABELED "ELECTRONIC" MAY BE DISPOSED AS CONSTRUCTION DEBRIS.

2. ALL FLUORESCENT LIGHT TUBES CONTAIN MERCURY AND WILL BE RECYCLED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND WITHOUT BREAKAGE ON SITE. REFER TO THE CONTRACT SPECIFICATIONS, REGULATIONS, AND THE CONTRACTOR'S APPROVED WORK PLAN FOR LIGHT TUBE RECYCLING PROCEDURES.

3. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL ISOLATION OF ALL IMPACTED LIGHT FIXTURES AND THE ABATEMENT CONTRACTOR SHALL VERIFY PRIOR TO COMMENCING WORK.

SHEET INDEX

H00.01	GENERAL NOTES, ABBREVIATIONS, SHEET INDEX, AND HAZARDOUS MATERIALS SUMMARY
H01.01	HAZMAT - LEVEL 1 WALL PLAN
H01.02	HAZMAT - LEVEL 2 WALL PLAN
H01.03	HAZMAT - BUILDING ROOF PLAN

ABBREVIATIONS

ACM - ASBESTOS-CONTAINING MATERIAL
AHERA - ASBESTOS HAZARD EMERGENCY RESPONSE ACT
BLDG - BUILDING
CFR - CODE OF FEDERAL REGULATIONS
EA - EACH
EHSI - EHS-INTERNATIONAL, INC.
L&I DOSH - WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
LCM - LEAD-CONTAINING MATERIALS
OD - OUTSIDE DIAMETER
OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PCB - POLYCHLORINATED BIPHENYLS
PSCAA - PUGET SOUND CLEAN AIR AGENCY
TYP - TYPICAL
WAC - WASHINGTON ADMINISTRATIVE CODE

PROJECT HAZARDOUS MATERIALS SUMMARY

QUANTITY/ UNIT	DESCRIPTION
5,000 SF	ACM BLACK ASPHALTIC FIBROUS BUILT-UP ROOFING TOP LAYER (WITH GRANULE SURFACE) WITH NON-ACM BLACK ASPHALTIC TAR WITH MULTIPLE NON-ACM BLACK ASPHALTIC VAPOR BARRIERS EACH WITH NON-ACM BLACK ASPHALTIC TAR ON NON-ACM YELLOW PAPER VAPOR BARRIER WITH YELLOW POLY-ISO INSULATION WITH YELLOW PAPER VAPOR BARRIER ON WOOD DECKING
600 SF	ACM BLACK ASPHALTIC FIBROUS BUILT-UP ROOFING TOP LAYER (WITH GRANULE SURFACE) WITH NON-ACM BLACK ASPHALTIC TAR WITH NON-ACM BLACK ASPHALTIC VAPOR BARRIER WITH NON-ACM BLACK ASPHALTIC TAR ON WOOD PARAPET
4 EA	NON-ACM FADED BLACK ASPHALTIC TAR ON ACM BLACK ASPHALTIC TAR ON 8" VENT PIPE AT PENETRATIONS
4 EA	ACM BLACK ASPHALTIC TAR/SEALANT ON 1" OD PIPING AT PENETRATIONS THROUGH ROOF
150 LF	ACM BLACK ASPHALTIC TAR/SEALANT ON 1" OD NATURAL GAS PIPING
350 SF	3' TALL BASE AND UPPER CASEWORK WITH ASSUMED ACM MASTIC
30 SF	3' TALL UPPER CASEWORK WITH ASSUMED ACM MASTIC
1 EA	2'x2' GENERATOR CONTROL PANEL WITH ASSUMED ACM INTERNAL COMPONENTS
1 EA	4"x8" SMALL ELECTRICAL SWITCH GEAR PANEL WITH ASSUMED ACM INTERNAL COMPONENTS
3 EA	6"x10" AND 7"x16" ELECTRICAL SWITCH GEAR PANELS ASSOCIATED WITH ROOF TOP FAN AND UNITS
1 EA	6'x2' MIRROR WITH ASSUMED ACM MASTIC
2 EA	METAL FIRE DOOR WITH ASSUMED ACM CORE
1 EA	WOOD FIRE DOOR WITH ASSUMED ACM CORE
151 EA	MERCURY-CONTAINING FLUORESCENT LIGHT TUBES
3 EA	PCB-CONTAINING MAGNETIC LIGHT BALLASTS
5 EA	LEAD VENT PIPE SLEEVES

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02/09/2018

SOUTH KING FIRE & RESCUE
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PROJECT # 2015137

BID

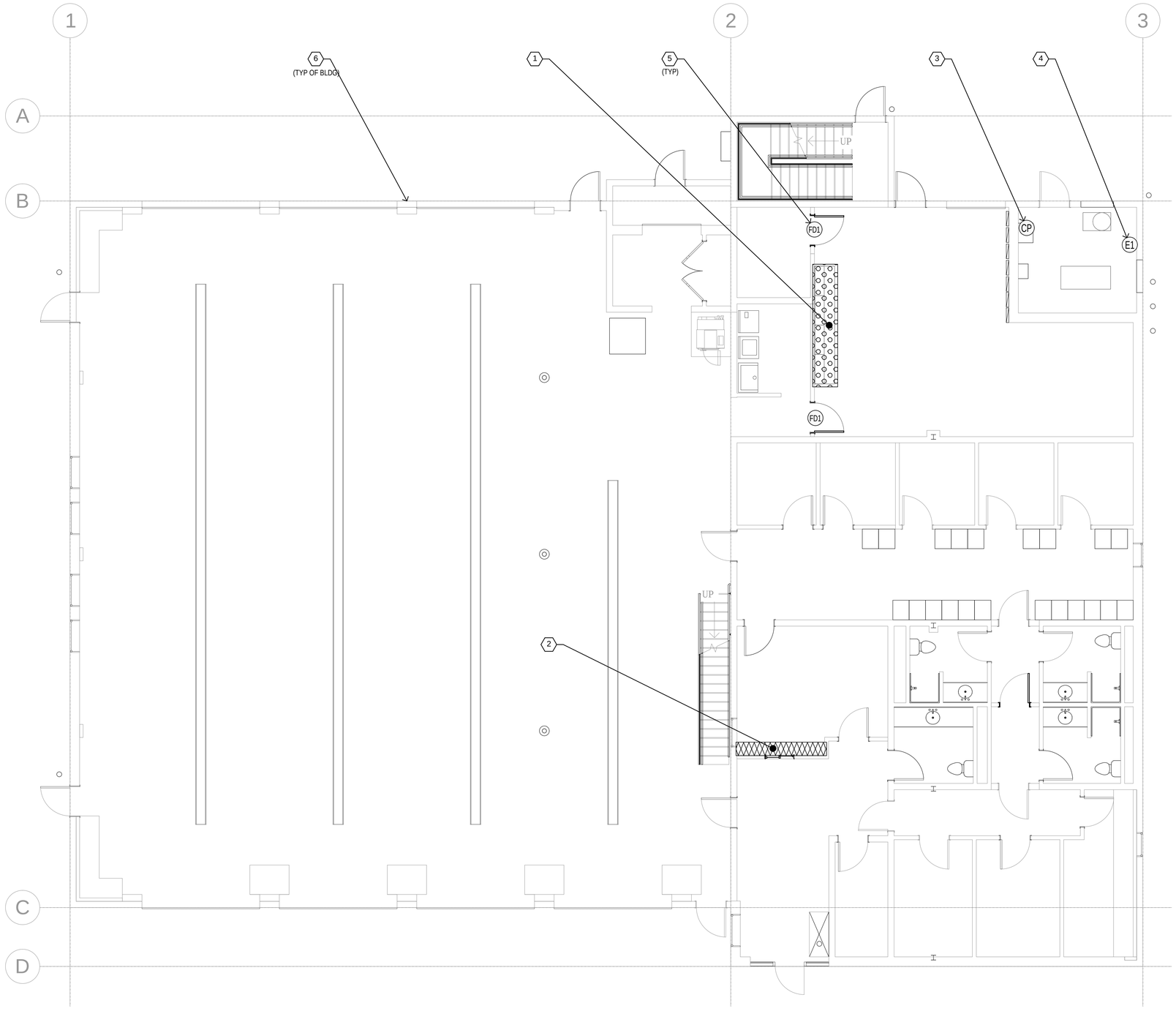
ISSUE DATE FEBRUARY 2, 2018

REVISION SCHEDULE

GENERAL NOTES, ABBREVIATIONS, SHEET INDEX, AND MATERIALS SUMMARY

SHEET #

H00.01



1 LEVEL 1 - FLOOR PLAN
3/16" = 1'-0"

GENERAL NOTES

1. FOR HAZMAT GENERAL NOTES, SEE SHEET H00.01.

(X) HAZMAT SHEET NOTES

1. REMOVE AND DISPOSE OF 3' TALL BASE AND UPPER CASEWORK WITH ASSUMED ACM MASTIC.
2. REMOVE AND DISPOSE OF 3' TALL UPPER CASEWORK WITH ASSUMED ACM MASTIC.
3. REMOVE AND DISPOSE OF 2'x2' GENERATOR CONTROL PANEL WITH ASSUMED ACM INTERNAL COMPONENTS.
4. REMOVE AND DISPOSE OF 4"x8" SMALL ELECTRICAL SWITCH GEAR PANEL WITH ASSUMED ACM INTERNAL COMPONENTS.
5. REMOVE AND DISPOSE OF METAL FIRE DOOR WITH ASSUMED ACM CORE.
6. INSPECT FLUORESCENT FIXTURES. REMOVE AND DISPOSE OF IMPACTED PCB-CONTAINING FLUORESCENT LIGHT BALLASTS AS HAZARDOUS WASTE AND REMOVE AND RECYCLE IMPACTED MERCURY-CONTAINING FLUORESCENT LIGHT TUBES WITHOUT BREAKAGE ON SITE. COORDINATE WITH ELECTRICAL DEMOLITION DRAWINGS.

LEGEND

- 3' TALL BASE AND UPPER CASEWORK WITH ASSUMED ACM MASTIC
- 3' TALL UPPER CASEWORK WITH ASSUMED ACM MASTIC
- (CP) 2'X2' GENERATOR CONTROL PANEL WITH ASSUMED ACM INTERNAL COMPONENTS
- (E1) 4"X8" SMALL ELECTRICAL SWITCH GEAR PANEL WITH ASSUMED ACM INTERNAL COMPONENTS
- (FD1) METAL FIRE DOOR WITH ASSUMED ACM CORE

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SOUTH KING FIRE & RESCUE FACILITY IMPROVEMENTS

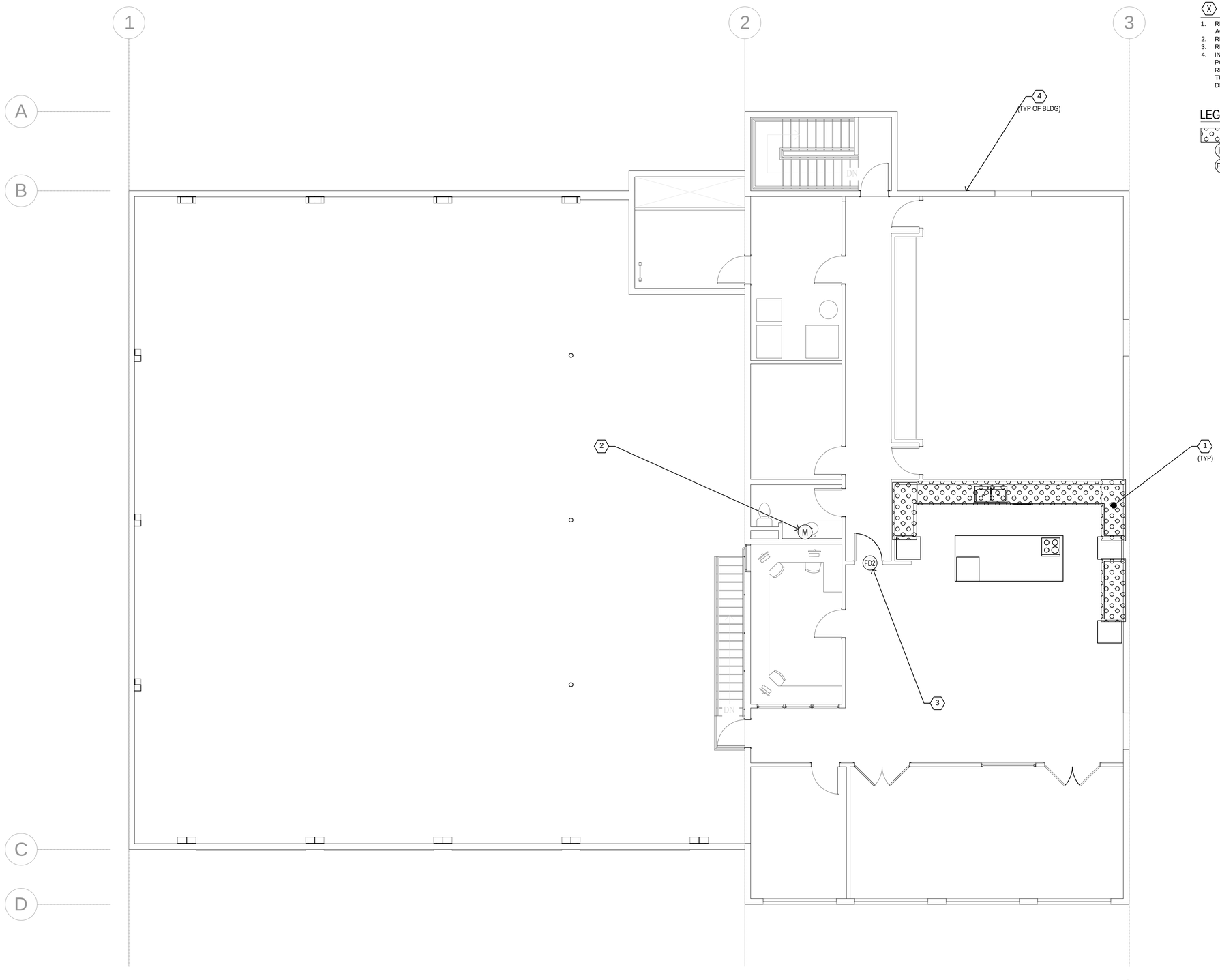
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HAZMAT - LEVEL 1 WALL PLAN

SHEET #
H01.01



1 LEVEL 2 - WALL PLAN
3/16" = 1'-0"

GENERAL NOTES

1. FOR HAZMAT GENERAL NOTES, SEE SHEET HA001.

(X) HAZMAT SHEET NOTES

1. REMOVE AND DISPOSE OF 3' TALL BASE AND UPPER CASEWORK WITH ASSUMED ACM MASTIC.
2. REMOVE AND DISPOSE OF 6'x2' MIRROR WITH ASSUMED ACM MASTIC.
3. REMOVE AND DISPOSE OF WOOD FIRE DOOR WITH ASSUMED ACM CORE.
4. INSPECT FLUORESCENT FIXTURES. REMOVE AND DISPOSE OF IMPACTED PCB-CONTAINING FLUORESCENT LIGHT BALLASTS AS HAZARDOUS WASTE AND REMOVE AND RECYCLE IMPACTED MERCURY-CONTAINING FLUORESCENT LIGHT TUBES WITHOUT BREAKAGE ON SITE. COORDINATE WITH ELECTRICAL DEMOLITION DRAWINGS.

LEGEND

3' TALL BASE AND UPPER CASEWORK WITH ASSUMED ACM MASTIC

(M) 6'x2' MIRROR WITH ASSUMED ACM MASTIC

(FD2) WOOD FIRE DOOR WITH ASSUMED ACM CORE

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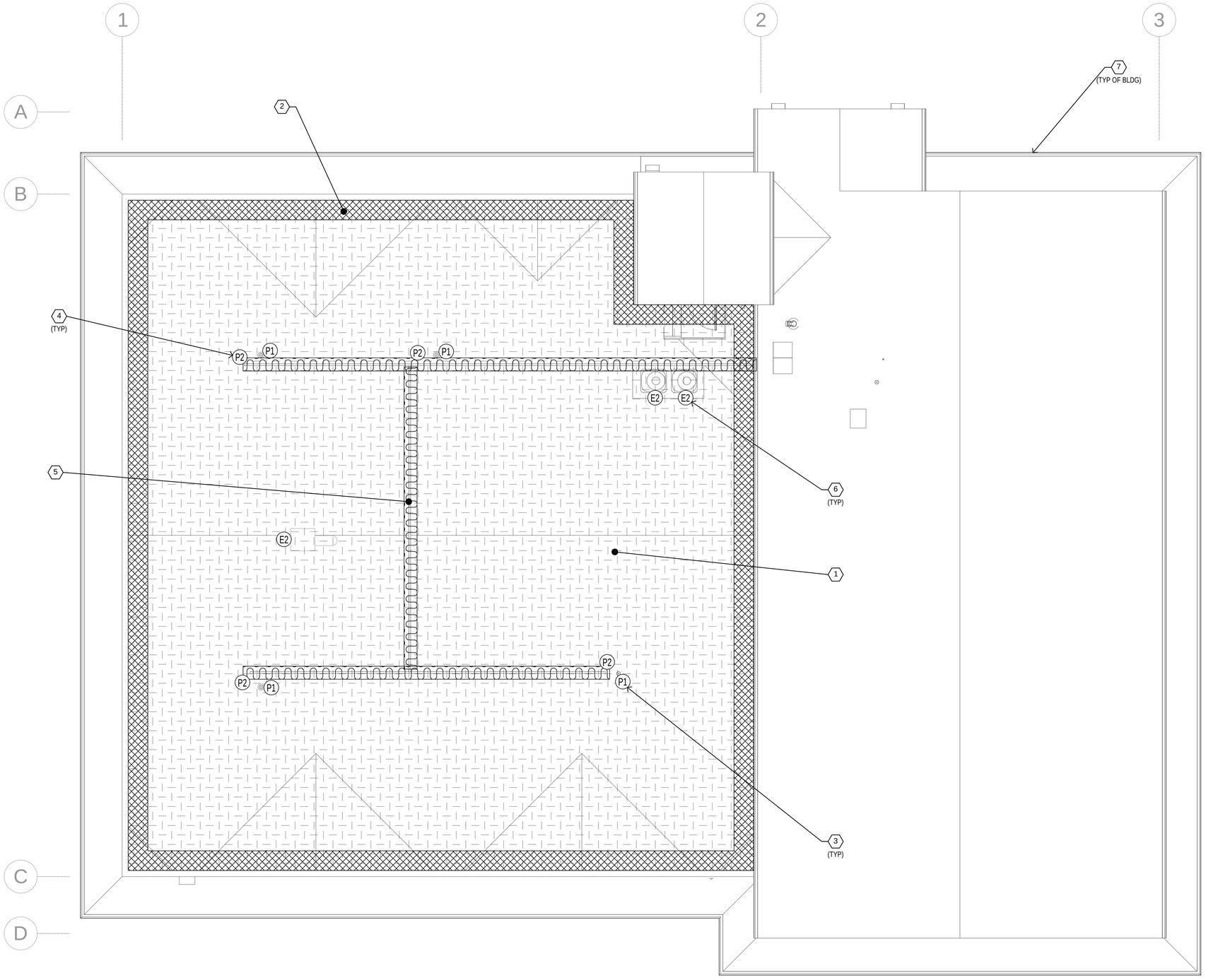
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HAZMAT - LEVEL 2 WALL PLAN

SHEET #
H01.02



1 BUILDING ROOF PLAN
3/16" = 1'-0"

GENERAL NOTES

1. FOR HAZMAT GENERAL NOTES, SEE SHEET HA001.

(X) HAZMAT SHEET NOTES

1. REMOVE AND DISPOSE OF ACM BLACK ASPHALTIC FIBROUS BUILT-UP ROOFING TOP LAYER (WITH GRANULE SURFACE) WITH NON-ACM BLACK ASPHALTIC TAR WITH MULTIPLE NON-ACM BLACK ASPHALTIC VAPOR BARRIERS EACH WITH NON-ACM BLACK ASPHALTIC TAR ON NON-ACM YELLOW PAPER VAPOR BARRIER WITH YELLOW POLY-ISO INSULATION WITH YELLOW PAPER VAPOR BARRIER ON WOOD DECKING.
2. REMOVE AND DISPOSE OF ACM BLACK ASPHALTIC FIBROUS BUILT-UP ROOFING TOP LAYER (WITH GRANULE SURFACE) WITH NON-ACM BLACK ASPHALTIC TAR WITH NON-ACM BLACK ASPHALTIC VAPOR BARRIER WITH NON-ACM BLACK ASPHALTIC TAR ON WOOD PARAPET.
3. REMOVE AND DISPOSE OF NON-ACM FADED BLACK ASPHALTIC TAR ON ACM BLACK ASPHALTIC TAR ON 8" VENT PIPE AT PENETRATIONS.
4. REMOVE AND DISPOSE OF ACM BLACK ASPHALTIC TAR/SEALANT ON 1" OD PIPING AT PENETRATIONS THROUGH ROOF.
5. REMOVE AND DISPOSE OF ACM BLACK ASPHALTIC TAR/SEALANT ON 1" OD NATURAL GAS PIPING.
6. REMOVE AND DISPOSE OF 6"x10" AND 7"x16" ELECTRICAL SWITCH GEAR PANELS ASSOCIATED WITH ROOF TOP FAN AND UNITS. COORDINATE WITH ELECTRICAL DRAWINGS.
7. REMOVE AND DISPOSE OF LEAD VENT PIPE SLEEVES.

LEGEND

- ACM BLACK ASPHALTIC FIBROUS BUILT-UP ROOFING TOP LAYER (WITH GRANULE SURFACE) WITH NON-ACM BLACK ASPHALTIC TAR WITH MULTIPLE NON-ACM BLACK ASPHALTIC VAPOR BARRIERS EACH WITH NON-ACM BLACK ASPHALTIC TAR ON NON-ACM YELLOW PAPER VAPOR BARRIER WITH YELLOW POLY-ISO INSULATION WITH YELLOW PAPER VAPOR BARRIER ON WOOD DECKING
- ACM BLACK ASPHALTIC FIBROUS BUILT-UP ROOFING TOP LAYER (WITH GRANULE SURFACE) WITH NON-ACM BLACK ASPHALTIC TAR WITH NON-ACM BLACK ASPHALTIC VAPOR BARRIER WITH NON-ACM BLACK ASPHALTIC TAR ON WOOD PARAPET
- (P1) NON-ACM FADED BLACK ASPHALTIC TAR ON ACM BLACK ASPHALTIC TAR ON 8" VENT PIPE AT PENETRATIONS
- (P2) ACM BLACK ASPHALTIC TAR/SEALANT ON 1" OD PIPING AT PENETRATIONS THROUGH ROOF
- ACM BLACK ASPHALTIC TAR/SEALANT ON 1" OD NATURAL GAS PIPING
- (E2) 6"x10" AND 7"x16" ELECTRICAL SWITCH GEAR PANELS ASSOCIATED WITH ROOF TOP FAN AND UNITS

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HAZMAT - BUILDING ROOF PLAN

SHEET #
H01.03

CODE COMPLIANCE

APPLICABLE CODES:
2015 INTERNATIONAL BUILDING CODE (IBC) (WA STATE AMENDMENTS)
2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2015 WASHINGTON ADMINISTRATIVE CODE (WAC)
2009 ICC A117.1-2009

CHAPTER 3 - USE AND OCCUPANCY CLASSIFICATION
EXISTING USE: FIRE SERVICE STATION
PROPOSED USE: FIRE SERVICE STATION (NO CHANGE)

SEPARATED MIXED USE CLASSIFICATION
EXISTING CLASSIFICATION: 'S-2' / 'R-2'
PROPOSED CLASSIFICATION: 'S-2' / 'R-2' (NO CHANGE)

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

NO INCREASE IN STORIES OR BUILDING AREA IS PROPOSED

BUILDING AREA: 8,300 SF

REQUIRED SEPARATION, FULLY SPRINKLED (IBC TABLE 508.4)
S-2 / R-2 = 1 HOUR

CHAPTER 6 - TYPES OF CONSTRUCTION

CONSTRUCTION CLASSIFICATION: TYPE VB (NO CHANGE)

CHAPTER 9 - FIRE PROTECTION SYSTEMS

THE EXISTING BUILDING IS FULLY SPRINKLED. ALTERATIONS TO THE EXISTING SYSTEM SHALL BE SUBMITTED UNDER A SEPARATE COVER.

CHAPTER 10 - MEANS OF EGRESS

OCCUPANT LOAD (NO CHANGE)
FIRST FLOOR = 58 OCCUPANTS
SECOND FLOOR = 32 OCCUPANTS

EXIT ACCESS TRAVEL DISTANCE
250 FT = OCCUPANCY 'R' WITH SPRINKLER SYSTEM
400 FT = OCCUPANCY 'S-2' WITH SPRINKLER SYSTEM

IEBC - EXISTING BUILDINGS

CHAPTER 5 - CLASSIFICATION OF WORK

THE SCOPE OF WORK CONSTITUTES A LEVEL 2 ALTERATION (IEBC 504)

CHAPTER 8 - ALTERATIONS - LEVEL 2

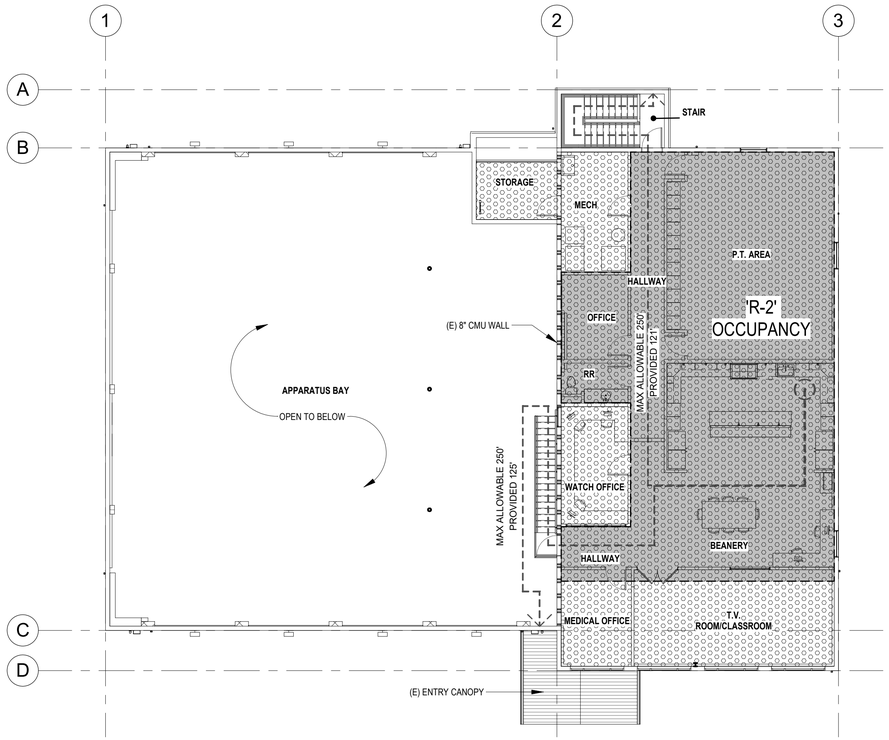
THE REQUIREMENTS OF THIS CHAPTER ARE LIMITED TO WORK AREAS IN WHICH LEVEL 2 ALTERATIONS ARE BEING PERFORMED, AND WHERE SPECIFIED TO APPLY BEYOND THE WORK AREA.

F&LS PLAN LEGEND

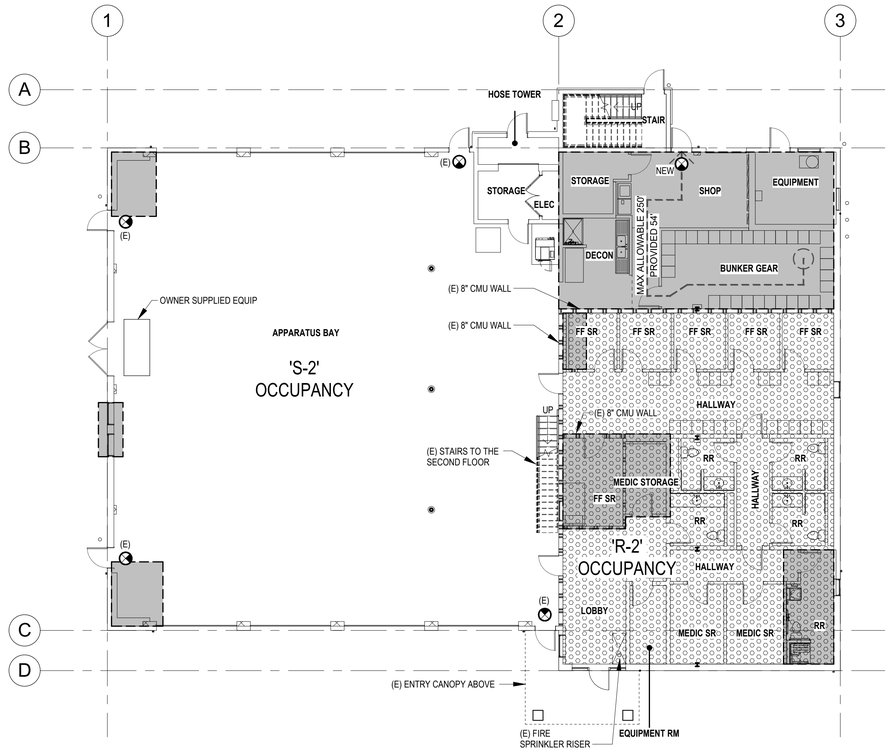
- 1 HOUR FIRE BARRIER
- EXIT SIGN
- PATH OF EGRESS
- 'WORK AREA', AS DEFINED BY THE IEBC
- R-2 OCCUPANCY

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N 2 SECOND FLOOR
3/32" = 1'-0"



N 1 FIRST FLOOR
3/32" = 1'-0"

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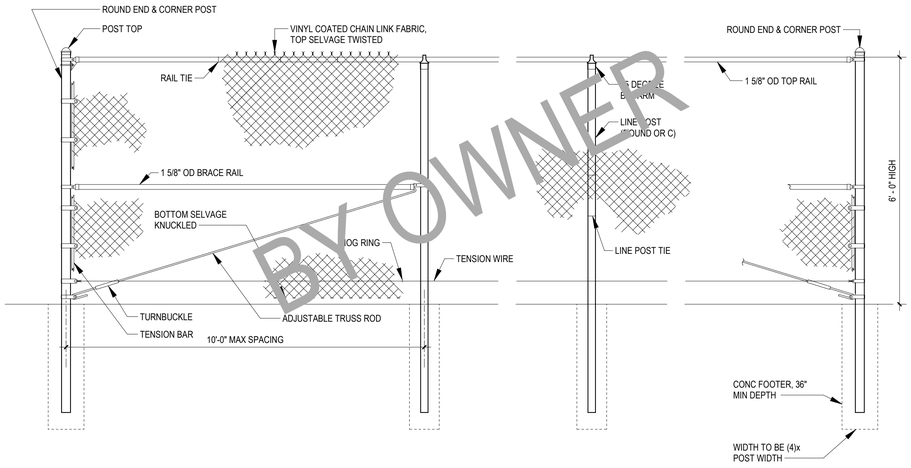
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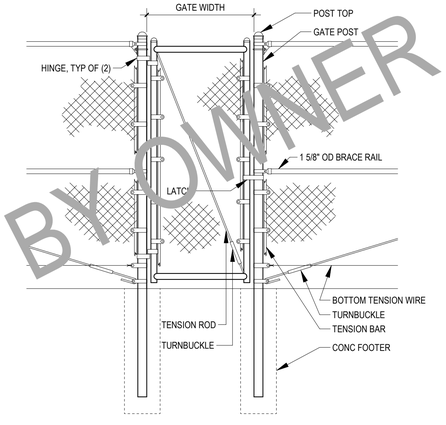
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FIRE & LIFE SAFETY PLAN

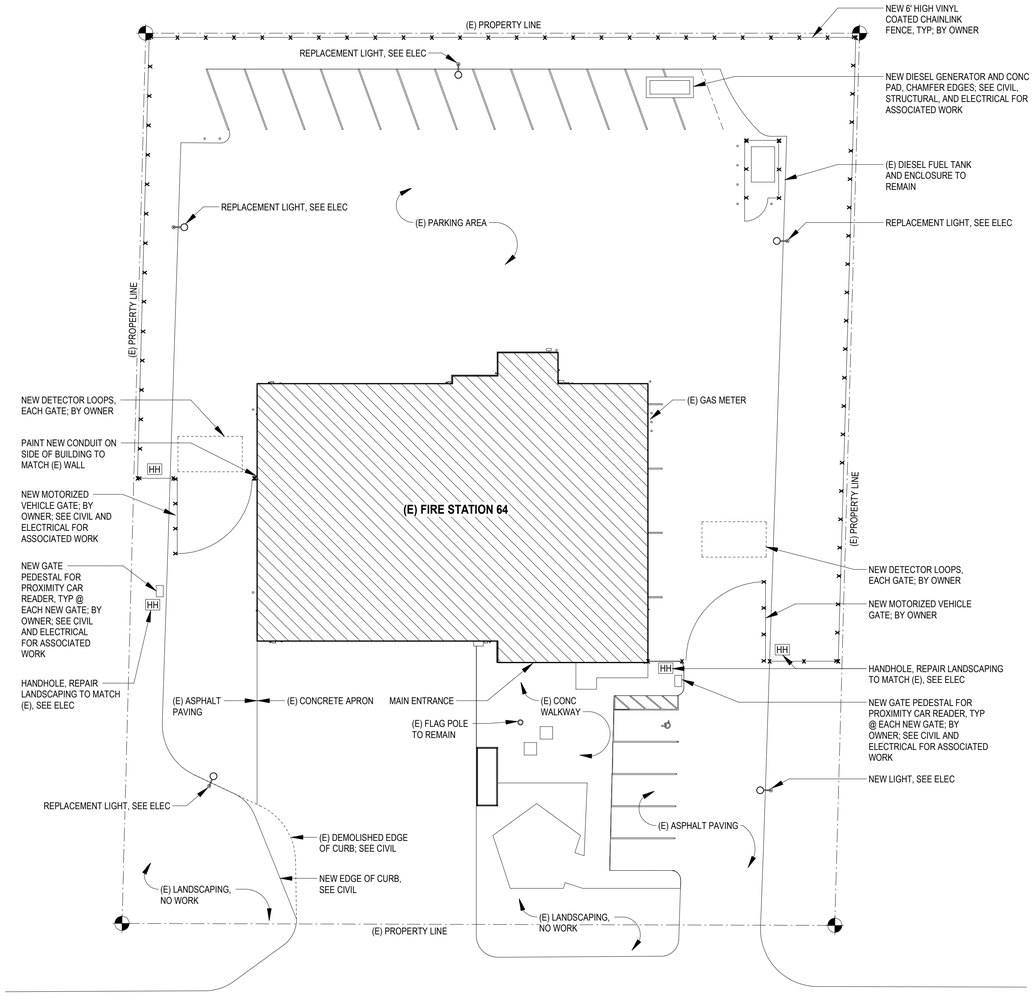
SHEET #
A02.01



4 TYPICAL CHAIN LINK FENCE ELEVATION
1/2" = 1'-0"



3 CHAIN LINK MANUAL GATE ELEVATION
1/2" = 1'-0"



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

GENERAL NOTES - SITE PLAN

1. SEE CIVIL AND ELECTRICAL DRAWINGS FOR ASSOCIATED WORK.

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ARCHITECTURAL SITE PLAN

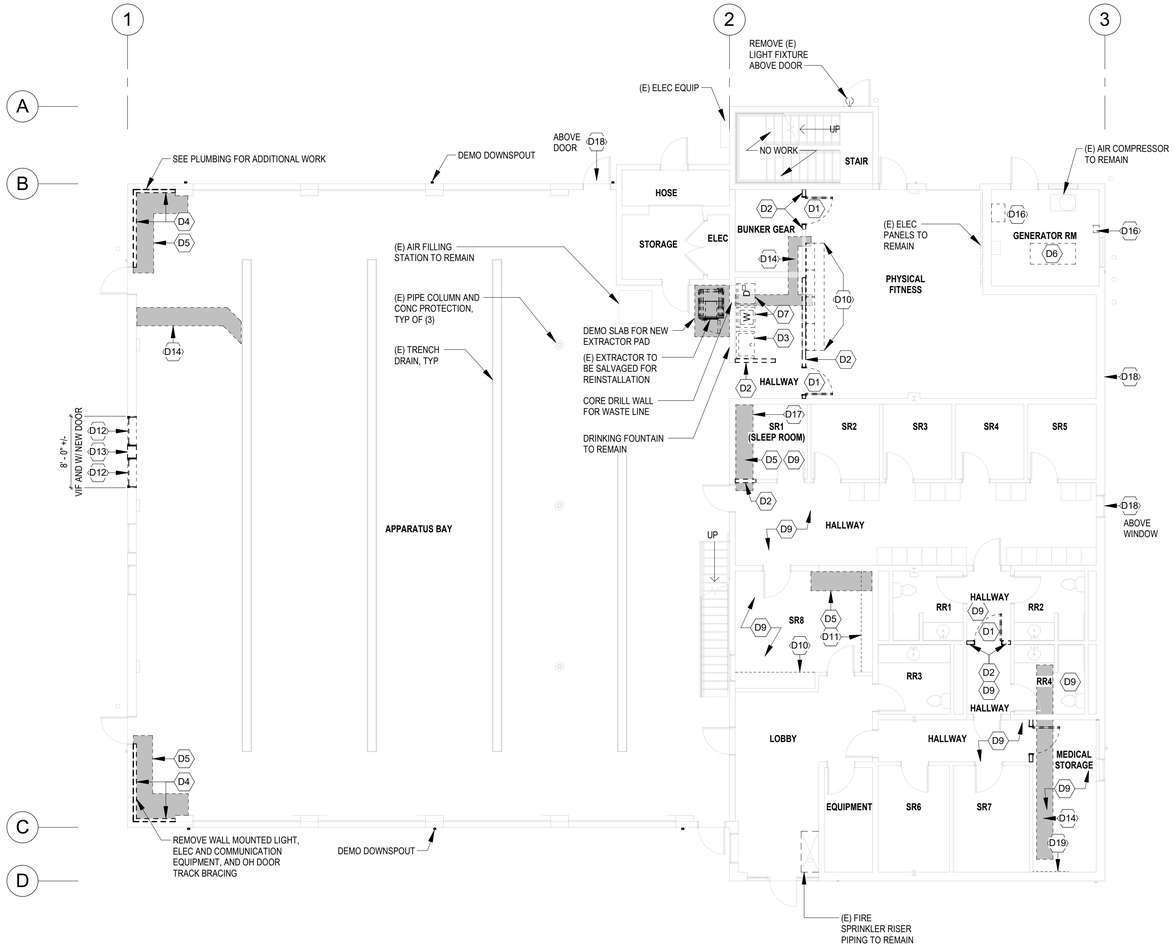
SHEET #
A10.01

KEY NOTES - DEMO PLAN

#	NOTE DESCRIPTION
D1	DEMO (E) DOOR AND FRAME.
D2	DEMO (E) INTERIOR PARTITION. REPAIR AND PREP ADJACENT SURFACES TO RECEIVE NEW FINISH.
D3	DEMO (E) APPLIANCE/FIXTURE, REUSE OR CAP UTILITIES AS NEEDED; SEE PLUMBING AND ELECTRICAL.
D4	DEMO (E) FURRED WALL.
D5	SAW CUT AND REMOVE (E) CONC SLAB FOR NEW FOOTINGS, SEE STRUCTURAL DRAWINGS FOR ASSOCIATED WORK.
D6	DEMO (E) GENERATOR, REMOVE AND CAP UTILITIES; SEE PLUMBING.
D7	REMOVE AND REINSTALL (E) APPLIANCE/FIXTURE.
D9	REMOVE (E) FLOORING AND WALL BASE, PREPARE SUBSTRATE TO RECEIVE NEW FINISH.
D10	DEMO (E) CASEWORK, COUNTERTOP, AND UPPER CABINETS.
D11	DEMO (E) CABINETS AND MURPHY BEDS.
D12	DEMO (E) WINDOW, PREPARE OPENING FOR NEW DOOR.
D13	SAW CUT (E) EXTERIOR MASONRY WALL, PREPARE OPENING FOR NEW DOOR.
D14	SAW CUT AND REMOVE (E) CONC SLAB AS REQUIRED FOR INSTALLATION OF NEW PLUMBING.
D15	DEMO (E) GWB AND BASE THIS WALL FOR STRUCTURAL IMPROVEMENTS.
D16	DEMO (E) ELECTRICAL EQUIPMENT, SEE ELECTRICAL DWGS FOR ASSOCIATED WORK.
D17	DEMO FLOORING AS REQUIRED FOR STRUCTURAL IMPROVEMENTS.
D18	DEMO PORTION OF MASONRY WALL FOR THE INSTALLATION OF A NEW LOUVER. SEE BUILDING ELEVATIONS AND STRUCTURAL AND MECHANICAL DRAWINGS FOR ASSOCIATED WORK.
D19	DEMO (E) GWB AND BASE THIS WALL AS REQUIRED FOR PLUMBING IMPROVEMENTS.
D20	DEMO (E) GWB AND FRAME FOR INSTALLATION OF PLYWOOD SHEATHING.

GENERAL NOTES - DEMO PLAN

1. SEE HAZMAT, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ASSOCIATED DEMOLITION WORK.



N

1 LEVEL 1 - DEMO PLAN

1/8" = 1'-0"

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DEMO PLAN - LEVEL 1

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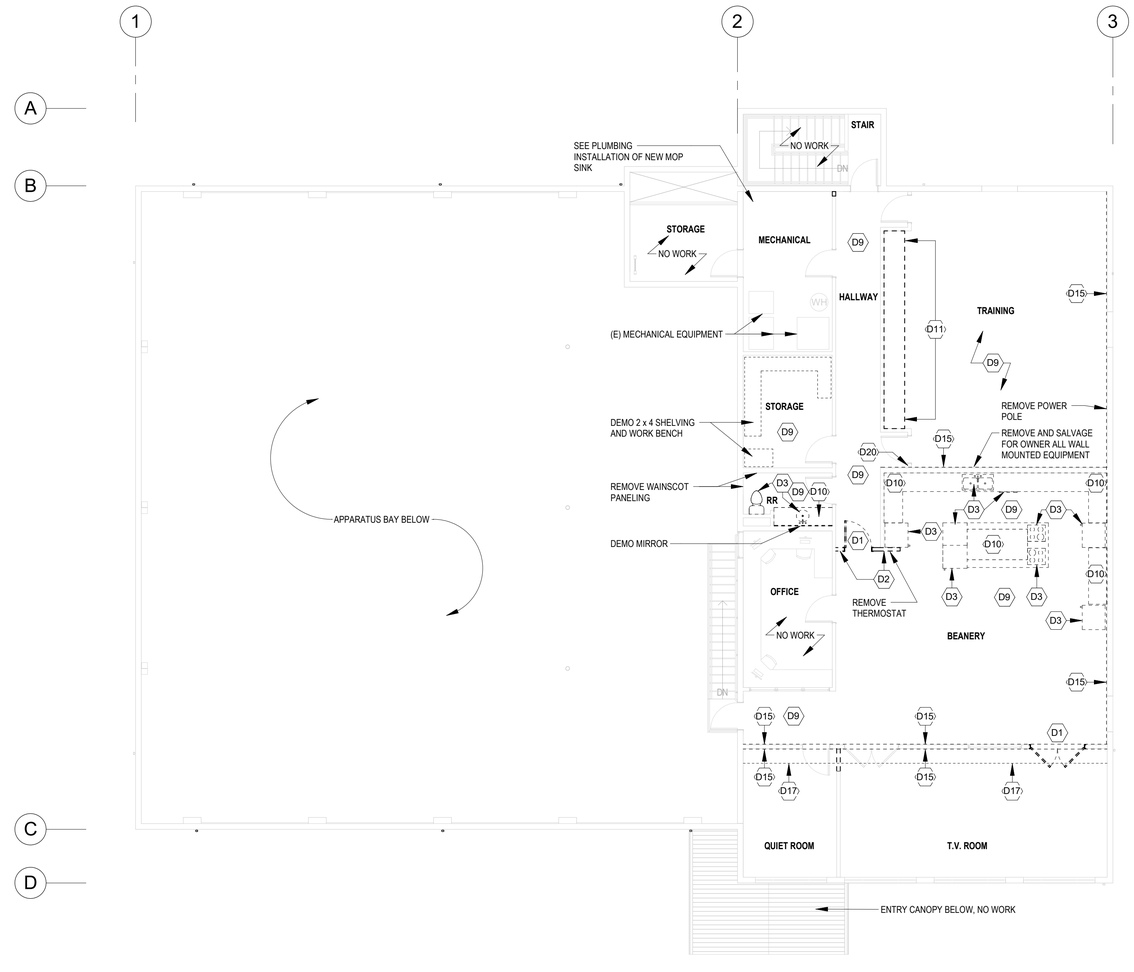
A21.01

KEY NOTES - DEMO PLAN

#	NOTE DESCRIPTION
D1	DEMO (E) DOOR AND FRAME.
D2	DEMO (E) INTERIOR PARTITION. REPAIR AND PREP ADJACENT SURFACES TO RECEIVE NEW FINISH.
D3	DEMO (E) APPLIANCE/FIXTURE, REUSE OR CAP UTILITIES AS NEEDED; SEE PLUMBING AND ELECTRICAL.
D4	DEMO (E) FURRED WALL.
D5	SAW CUT AND REMOVE (E) CONC SLAB FOR NEW FOOTINGS, SEE STRUCTURAL DRAWINGS FOR ASSOCIATED WORK.
D6	DEMO (E) GENERATOR, REMOVE AND CAP UTILITIES; SEE PLUMBING.
D7	REMOVE AND REINSTALL (E) APPLIANCE/FIXTURE.
D9	REMOVE (E) FLOORING AND WALL BASE, PREPARE SUBSTRATE TO RECEIVE NEW FINISH.
D10	DEMO (E) CASEWORK, COUNTERTOP, AND UPPER CABINETS.
D11	DEMO (E) CABINETS AND MURPHY BEDS.
D12	DEMO (E) WINDOW, PREPARE OPENING FOR NEW DOOR.
D13	SAW CUT (E) EXTERIOR MASONRY WALL, PREPARE OPENING FOR NEW DOOR.
D14	SAW CUT AND REMOVE (E) CONC SLAB AS REQUIRED FOR INSTALLATION OF NEW PLUMBING.
D15	DEMO (E) GWB AND BASE THIS WALL FOR STRUCTURAL IMPROVEMENTS.
D16	DEMO (E) ELECTRICAL EQUIPMENT, SEE ELECTRICAL DWGS FOR ASSOCIATED WORK.
D17	DEMO FLOORING AS REQUIRED FOR STRUCTURAL IMPROVEMENTS.
D18	DEMO PORTION OF MASONRY WALL FOR THE INSTALLATION OF A NEW LOUVER. SEE BUILDING ELEVATIONS AND STRUCTURAL AND MECHANICAL DRAWINGS FOR ASSOCIATED WORK.
D19	DEMO (E) GWB AND BASE THIS WALL AS REQUIRED FOR PLUMBING IMPROVEMENTS.
D20	DEMO (E) GWB AND FRAME FOR INSTALLATION OF PLYWOOD SHEATHING.

GENERAL NOTES - DEMO PLAN

1. SEE HAZMAT, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ASSOCIATED DEMOLITION WORK.



N

1 LEVEL 2 - DEMO PLAN

1/8" = 1'-0"

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DEMO PLAN - LEVEL 2

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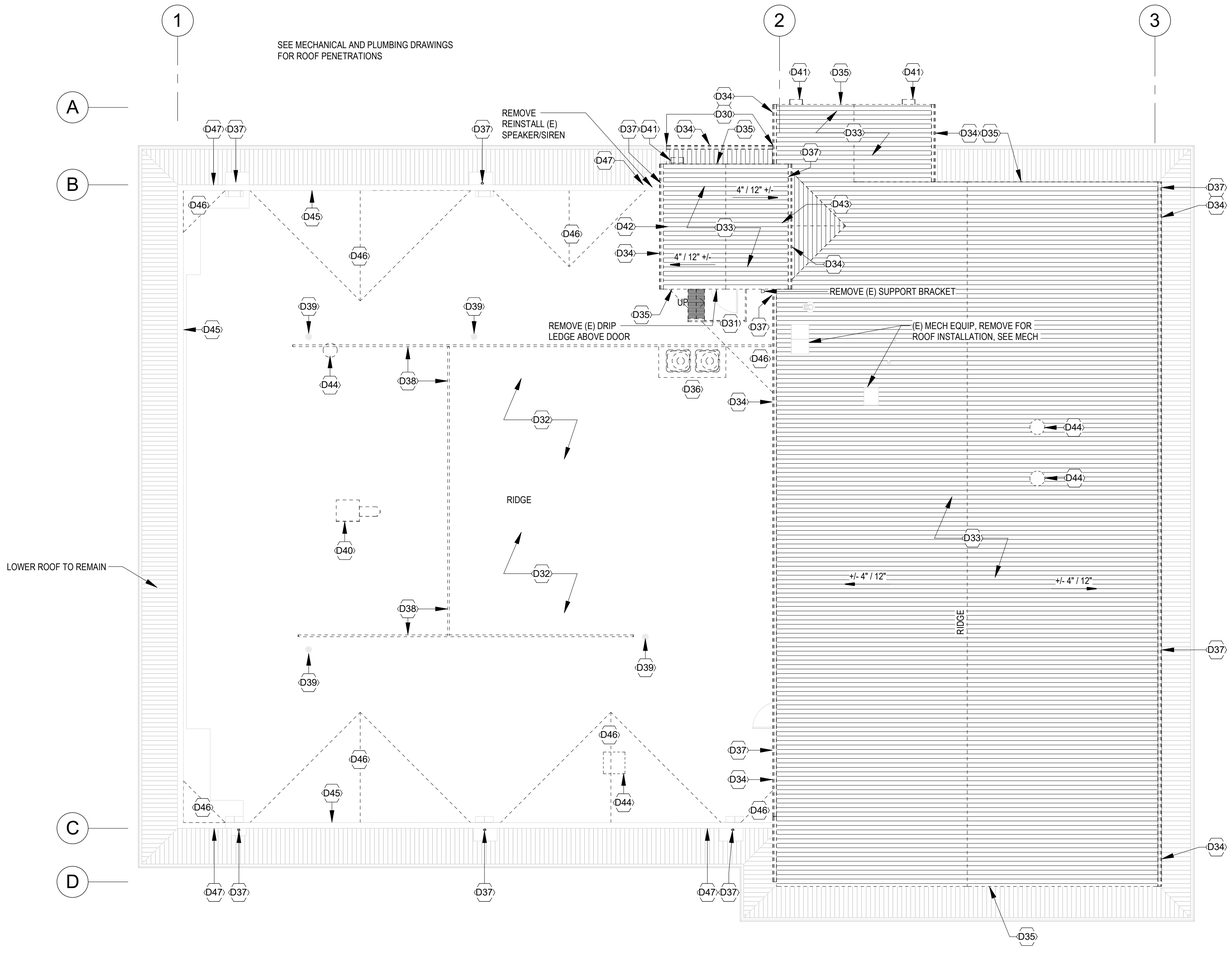
A21.02

KEY NOTES - DEMO ROOF

#	NOTE DESCRIPTION
D30	REMOVE PORTION OF EXISTING ROOF OVERHANG. REPAIR ADJACENT SURFACES OR PREPARE TO RECIEVE NEW FINISH.
D31	SALVAGE (E) WOOD STAIR, LANDING, AND GUARDRAIL FOR REINSTALLATION
D32	REMOVE (E) MEMBRANE ROOFING, INSULATION AND UNDERLAYMENT DOWN TO ROOF DECKING
D33	REMOVE (E) STANDING SEAM METAL ROOFING AND (E) UNDERLAYMENT TO (E) ROOF DECK
D34	REMOVE (E) GUTTER
D35	REMOVE (E) FASCIA
D36	REMOVE (E) MECHANICAL EQUIPMENT AND CURB, SEE MECHANICAL DRAWINGS FOR ASSOCIATED WORK
D37	REMOVE (E) DOWNSPOUT AND SCUPPER
D38	REMOVE (E) GAS PIPING; SEE PLUMBING FOR ASSOCIATED WORK.
D39	REMOVE AND REPLACE (E) VENT PIPE
D40	REMOVE AND SALVAGE (E) VEHICLE EXHAUST SOURCE CAPTURE FAN FOR REINSTALLTION, SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ASSOCIATED WORK
D41	REMOVE AND REINSTALL (E) WALL MOUNTED FLOOD LIGHT
D42	REMOVE (E) LOUVER AND MASONRY SILL FOR LOUVER REINSTALLATION
D43	REMOVE (E) LOUVER AND MASONRY SILL
D44	DEMO (E) ROOF DECKING AS REQUIRED FOR DUCT PENETRATIONS, SEE MECHANICAL
D45	REMOVE AND SALVAGE (E) PARAPET COPING FOR REINSTALLTION
D46	DEMO (E) CRICKET
D47	CORE DRILL PENETRATIONS IN CMU WALL FOR NEW ROOF DRAINS AND OVERFLOW DRAINS, SEE BUILDING ELEVATIONS

GENERAL NOTES - DEMO PLAN

1. SEE HAZMAT, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ASSOCIATED DEMOLITION WORK.



N

1 ROOF DEMO PLAN

1/8" = 1'-0"

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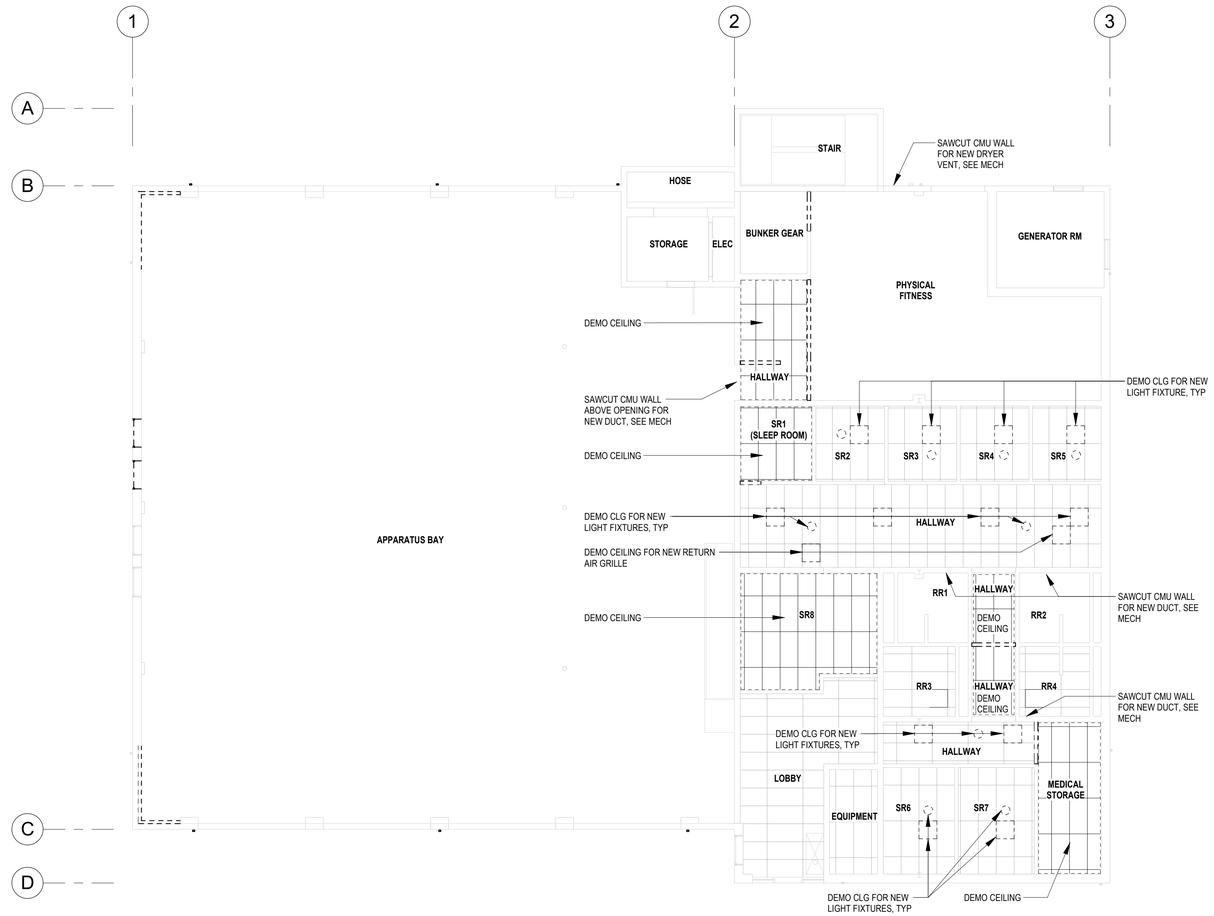
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DEMO ROOF PLAN

SHEET #
A21.03

GENERAL NOTES - DEMO PLAN

1. SEE HAZMAT, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ASSOCIATED DEMOLITION WORK.



1 LEVEL 1 - REFLECTED CEILING DEMO PLAN
1/8" = 1'-0"

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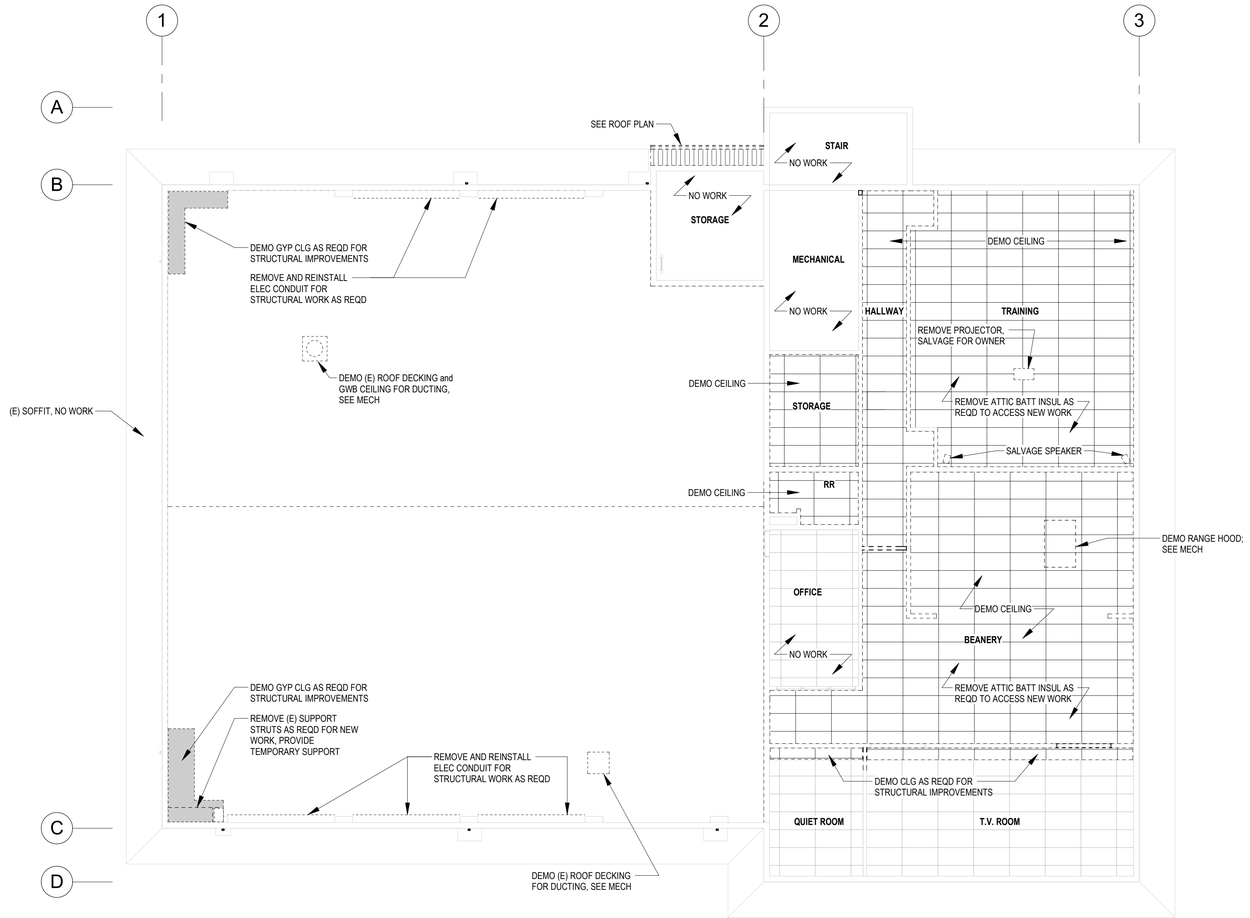
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DEMO REFLECTED CEILING PLAN - LEVEL 1

SHEET #
A21.04

GENERAL NOTES - DEMO PLAN

1. SEE HAZMAT, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ASSOCIATED DEMOLITION WORK.



N

1 LEVEL 2 - REFLECTED CEILING DEMO PLAN

1/8" = 1'-0"

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DEMO REFLECTED CEILING PLAN - LEVEL 2

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A21.05

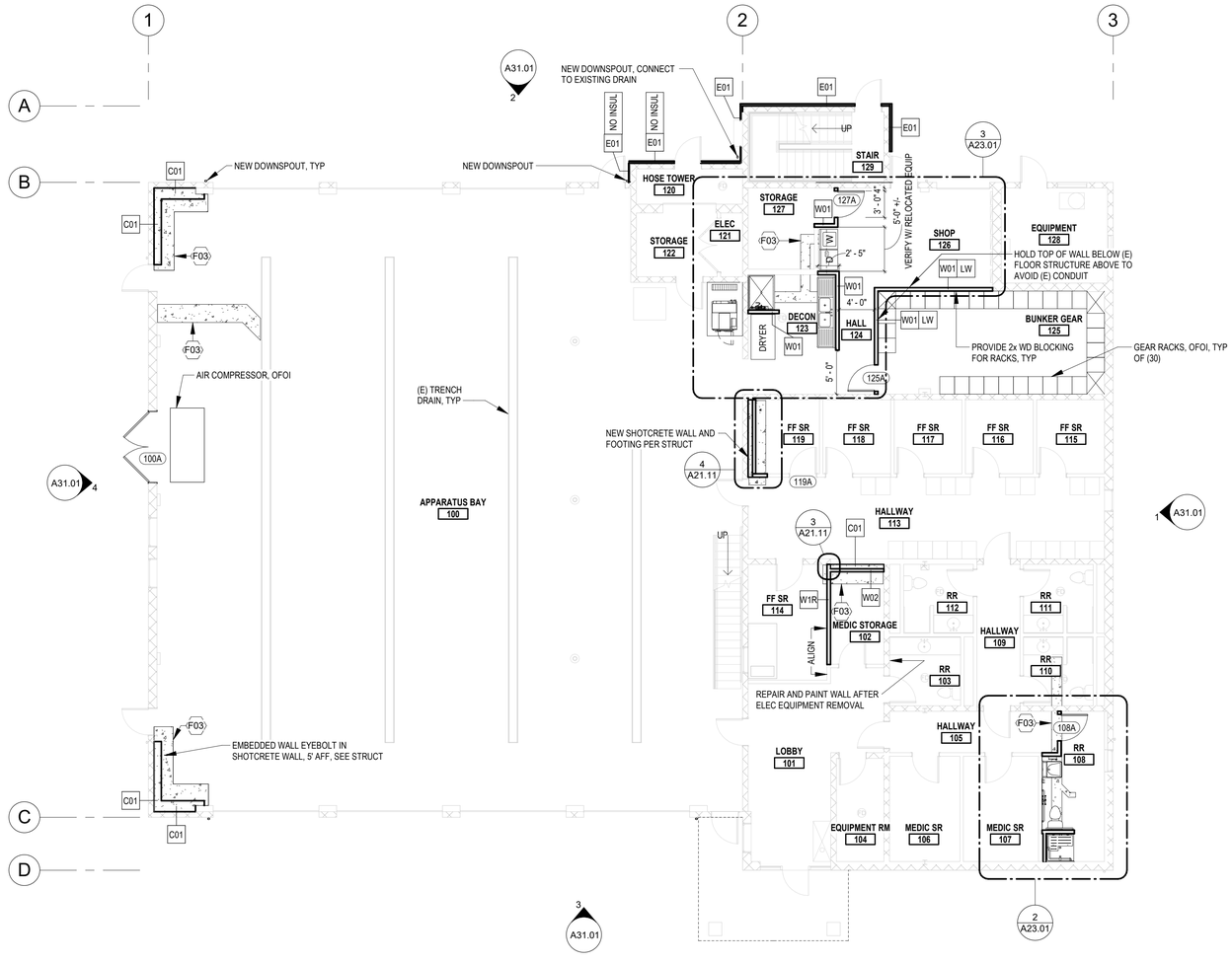
KEY NOTES - FLOOR PLAN	
#	NOTE DESCRIPTION
F01	INFILL WALL OPENING, MATCH EXISTING STUD SIZE; PATCH TO MATCH EXISTING.
F03	NEW CONCRETE SLAB TO REPLACE DEMOLISHED CONCRETE SLAB. SEE STRUCTURAL AND PLUMBING DRAWINGS FOR ASSOCIATED WORK.
F04	ELECTRICAL EQUIPMENT TO REMAIN.

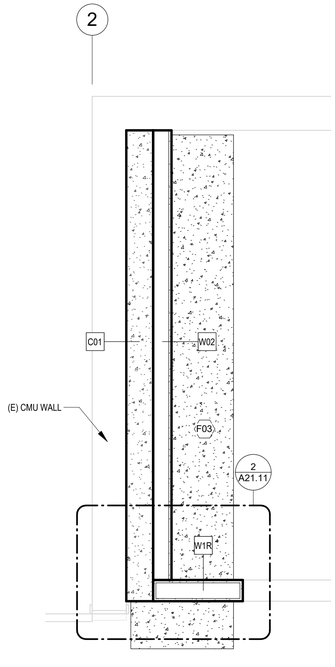
GENERAL NOTES - FLOOR PLAN

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4. VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK OR FABRICATION OF ELEMENTS.
5. DOORS THAT ARE NOT DIMENSIONED SHALL BE LOCATED 4" FROM A WALL INTERSECTION.
6. PROVIDE CONCEALED BLOCKING AS REQUIRED FOR ALL WALL MOUNTED ELEMENTS.
7. WALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNO.

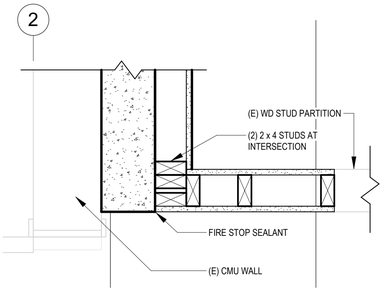
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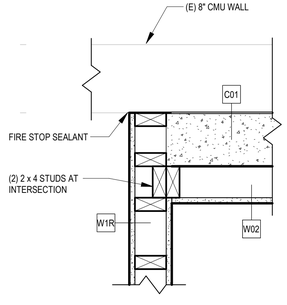




4 ENLARGED PLAN
3/4" = 1'-0"



2 PLAN - WALL INTERSECTION
1 1/2" = 1'-0"



3 PLAN - WALL INTERSECTION
1 1/2" = 1'-0"

N
1 LEVEL 1 - FLOOR PLAN
1/8" = 1'-0"

SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS
STATION 64
3700 S 320TH ST
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PROJECT # 2015137
BID SET
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

FLOOR PLAN - LEVEL 1

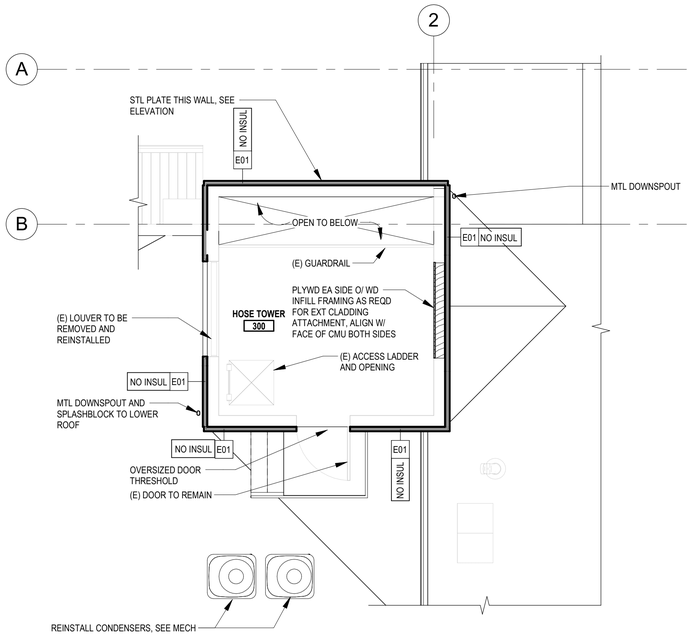
SHEET #
A21.11

GENERAL NOTES - FLOOR PLAN

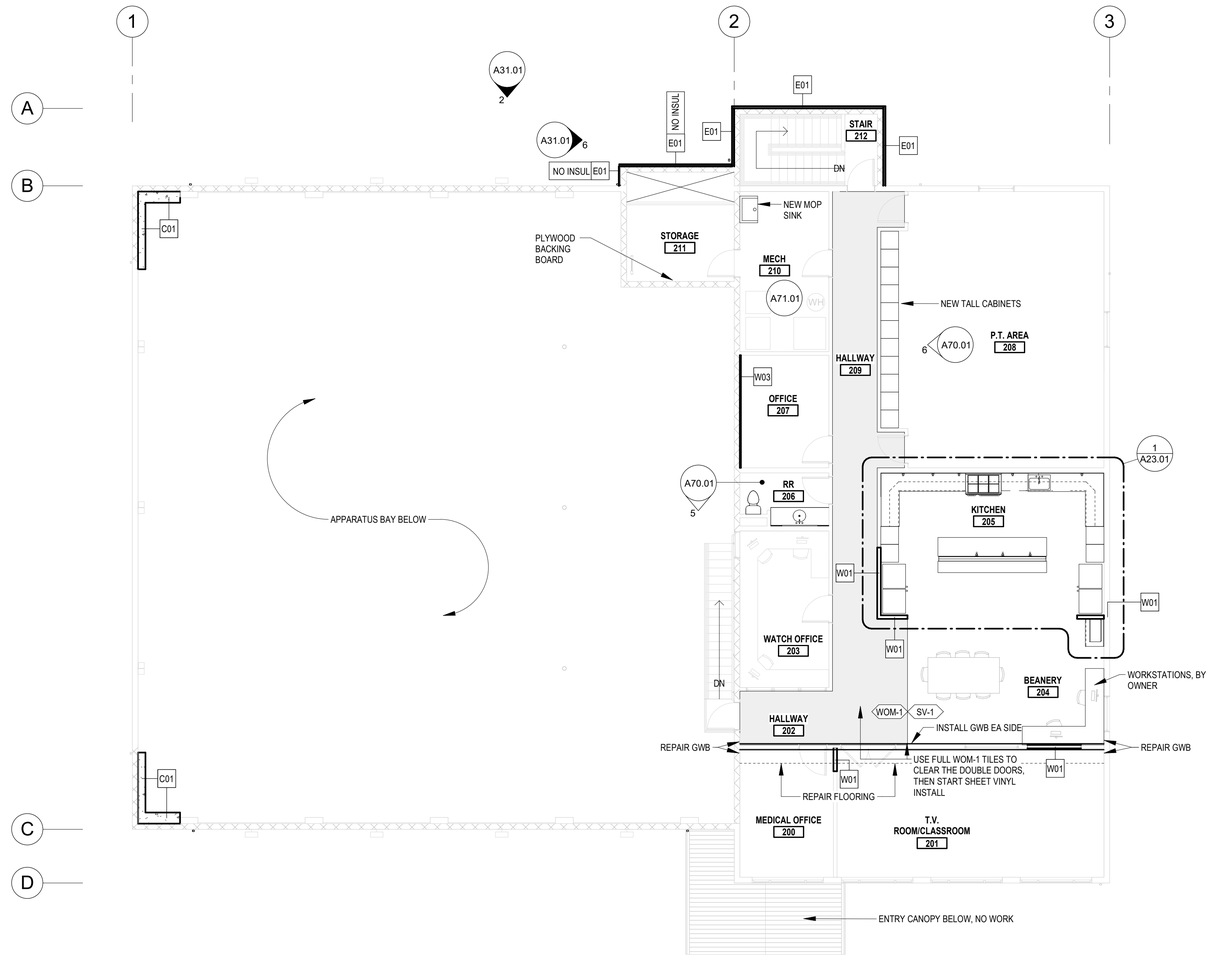
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7. WALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNO

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N 2 HOSE TOWER PLATFORM - FLOOR PLAN
1/4" = 1'-0"



N 1 LEVEL 2 - FLOOR PLAN
1/8" = 1'-0"

SOUTH KING FIRE & RESCUE
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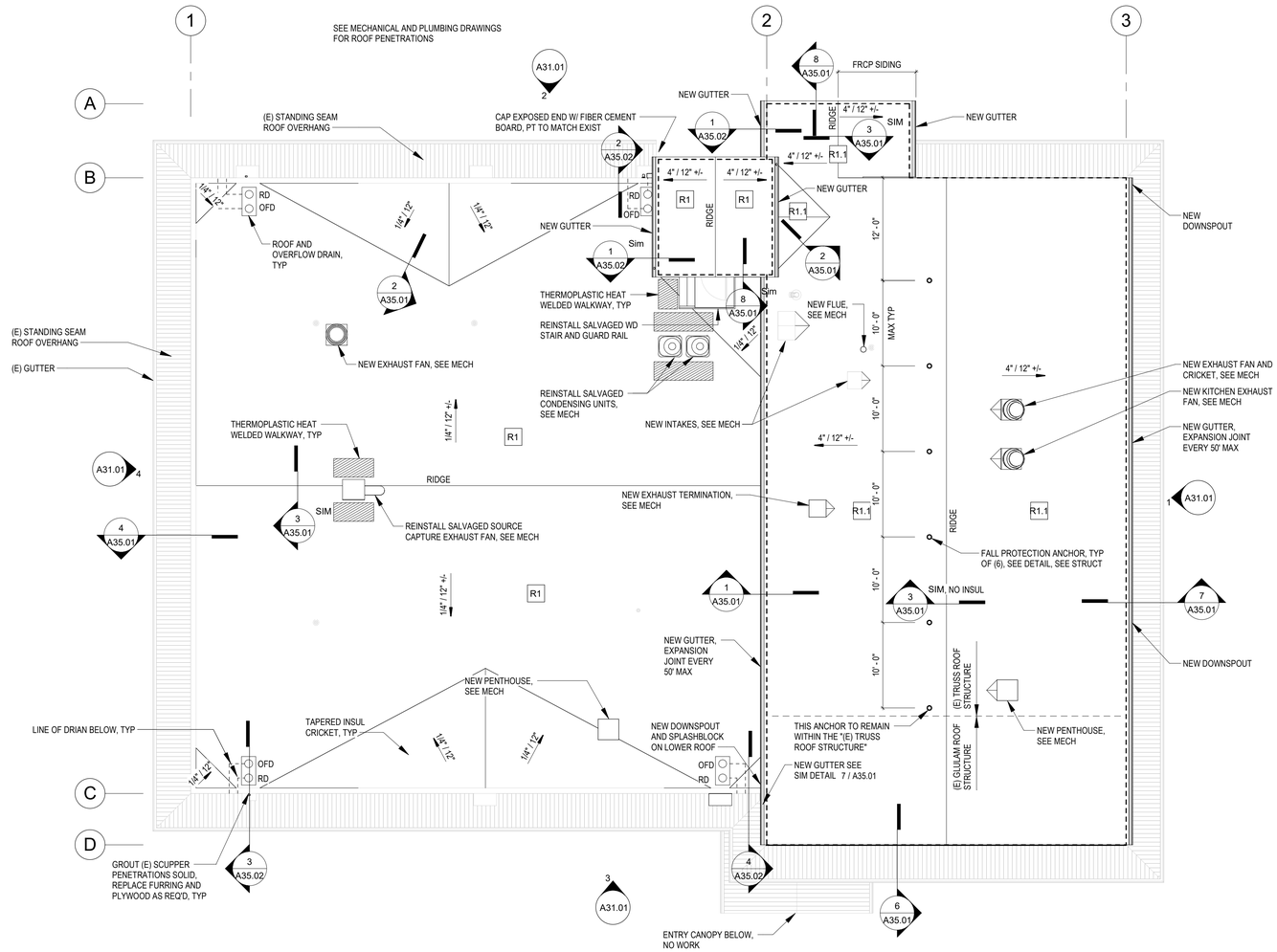
REVISION SCHEDULE		

FLOOR PLAN - LEVEL 2 & 3

SHEET #
A21.12

GENERAL NOTES - FLOOR PLAN

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N

1 ROOF PLAN
1/8" = 1'-0"

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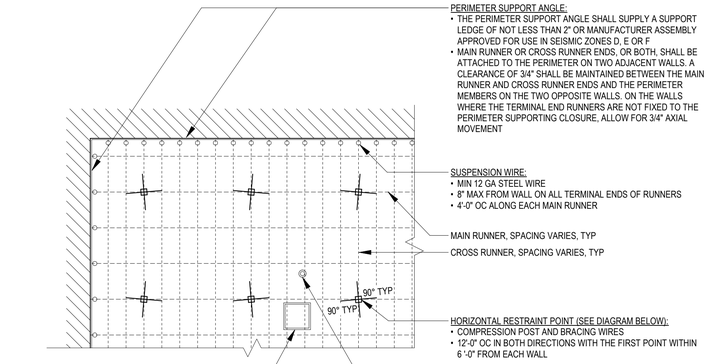
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ISSUE DATE FEBRUARY 23, 2018

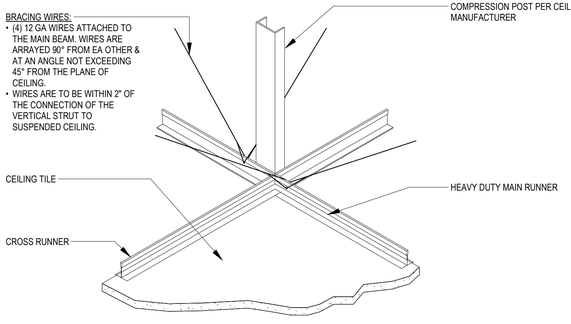
REVISION SCHEDULE		

ROOF PLAN

SHEET #
A21.13



PLAN DIAGRAM



LATERAL FORCE BRACING DIAGRAM

NOTES:

1. SUSPENDED CEILING SYSTEM INSTALLATION SHALL BE INSTALLED PER IBC 2015 (IBC 808 AND IBC 1604.10), ASCE 7-10, AND ASTM E580.

2. THIS DETAIL APPLIES TO SEISMIC DESIGN CATEGORIES D, E, AND F.

3. SPREADER (SPACER) BARS OR OTHER MEANS APPROVED BY THE LOCAL BUILDING DEPT. SHALL BE USED TO PREVENT ENDS OF MAIN BEAMS AT PERIMETER WALLS FROM SPREADING OPEN DURING A SEISMIC EVENT. PERIMETER WIRES SHALL NOT BE USED IN LIEU OF SPREADER BARS.

4. FOR CEILING AREAS EXCEEDING 2,500 SF, A SEISMIC SEPARATION JOINT OR FULL HEIGHT PARTITION THAT BREAKS THE CEILING UP INTO AREAS NOT EXCEEDING 2,500 SF, EACH WITH A RATIO OF THE LONG TO SHORT DIMENSION LESS THAN OR EQUAL TO 4, SHALL BE PROVIDED UNLESS STRUCTURAL ANALYSES ARE PERFORMED OF THE CEILING BRACING SYSTEM FOR THE PRESCRIBED SEISMIC FORCES THAT DEMONSTRATE CEILING PENETRATIONS AND CLOSURE ANGLES OR CHANNELS PROVIDE SUFFICIENT CLEARANCE TO ACCOMMODATE THE ANTICIPATED LATERAL DISPLACEMENT. EACH AREA SHALL BE PROVIDED WITH CLOSURE ANGLES OR CHANNELS IN ACCORDANCE WITH THE PERIMETER SUPPORT ANGLE DESCRIBED ABOVE AND HORIZONTAL RESTRAINTS OR BRACING.

5. CHANGES IN CEILING PLANE ELEVATION SHALL HAVE INDEPENDENT POSITIVE BRACING.

6. PARTITIONS THAT ARE TIED TO THE CEILING AND ALL PARTITIONS GREATER THAN 6 FEET IN HEIGHT SHALL BE LATERALLY BRACED TO THE STRUCTURE. SUCH BRACING SHALL BE INDEPENDENT OF ANY CEILING LATERAL FORCE BRACING.

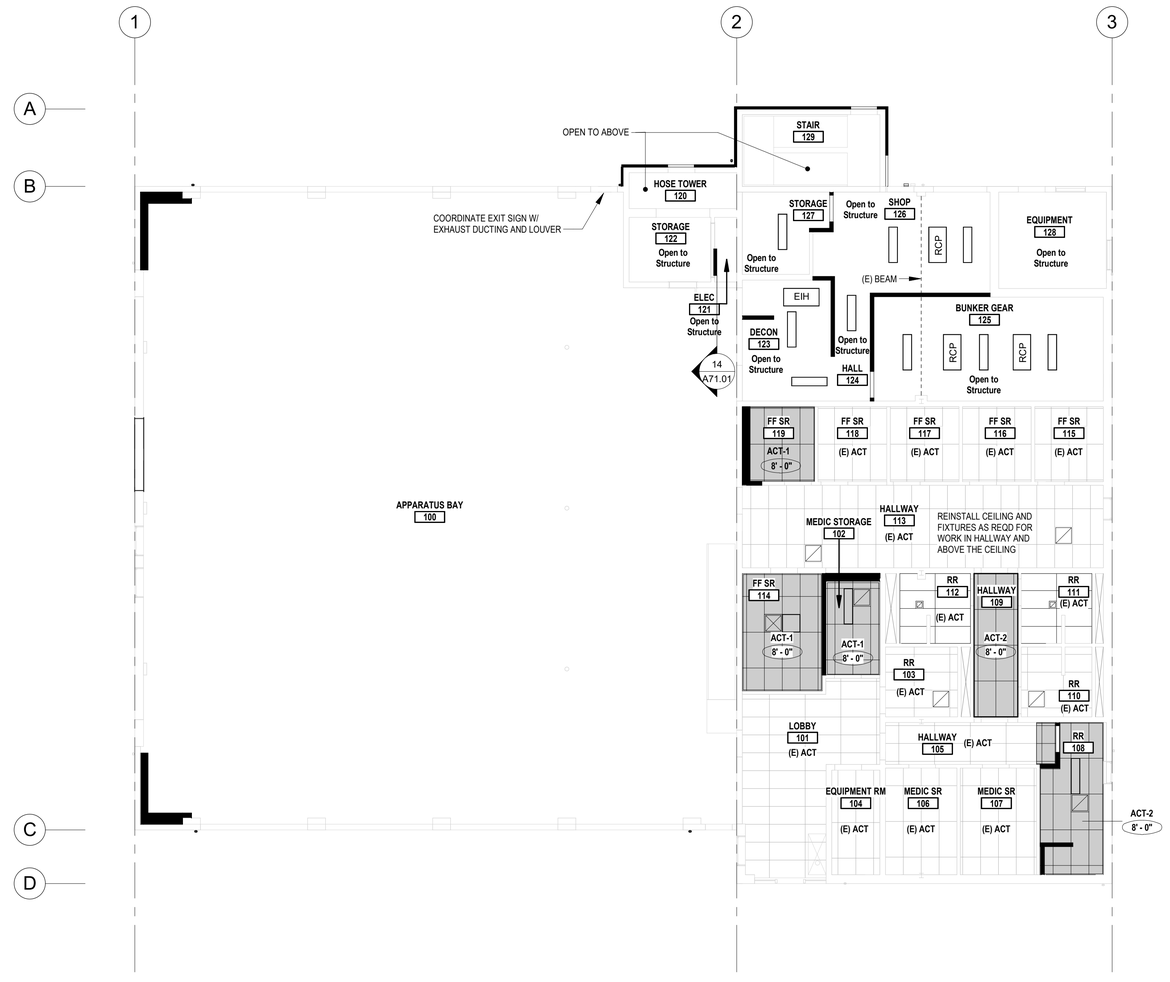
7. POWER ACTUATED FASTENERS IN CONCRETE OR STEEL SHALL NOT BE USED FOR SUSTAINED TENSION LOADS OR FOR BRACE APPLICATIONS IN SEISMIC DESIGN CATEGORIES D, E, OR F UNLESS APPROVED FOR SEISMIC LOADING. POWER ACTUATED FASTENERS IN MASONRY ARE NOT PERMITTED UNLESS APPROVED FOR SEISMIC LOADING.
   A. EXCEPTIONS:
      a. POWER ACTUATED FASTENERS IN CONCRETE USED FOR SUPPORT OF ACOUSTICAL TILE OR LAY-IN PANEL SUSPENDED CEILING APPLICATIONS AND DISTRIBUTED SYSTEMS WHERE THE SERVICE LOAD ON ANY INDIVIDUAL FASTENER DOES NOT EXCEED 90 LB (400N).
      b. POWER ACTUATED FASTENERS IN STEEL WHERE THE SERVICE LOAD ON ANY INDIVIDUAL FASTENER DOES NOT EXCEED 250 LB (1,112N).

RCP LEGEND

- EXISTING GWB CEILING TO REMAIN
- EXISTING SUSPENDED ACOUSTICAL TILE CEILING TO REMAIN
- NEW GWB CEILING
- NEW SUSPENDED ACOUSTICAL TILE CEILING, UNLESS NOTED OTHERWISE
- EIH — ELECTRICAL INFRA RED HEATER
- RCP — RADIANT CEILING PANEL
- RETURN GRILLE
- SUPPLY GRILLE
- EXHAUST GRILLE

GENERAL NOTES - RCP

1. ARCHITECTURAL RCP PROVIDED FOR COORDINATION PURPOSES ONLY. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR DETAILED SCOPE OF SYSTEMS. NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
2. SEISMIC BRACE ALL CEILING HUNG EQUIPMENT, SOFFITS AND ACOUSTICAL CEILINGS.
3. REFER TO FINISH SCHEDULE FOR MANUFACTURER, STYLE, COLOR, ETC.
4. SUSPENDED CEILING SHALL BE PER CODE AND HAVE SEISMIC RESTRAINTS.
5. FIRE BLOCKING SHALL BE REQUIRED PER CODE IN WALL ASSEMBLIES.



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BID SET

ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

FIRST FLOOR REFLECTED CEILING PLAN

SHEET # **A22.01**

2 SEISMIC BRACING DETAILS
NOT TO SCALE

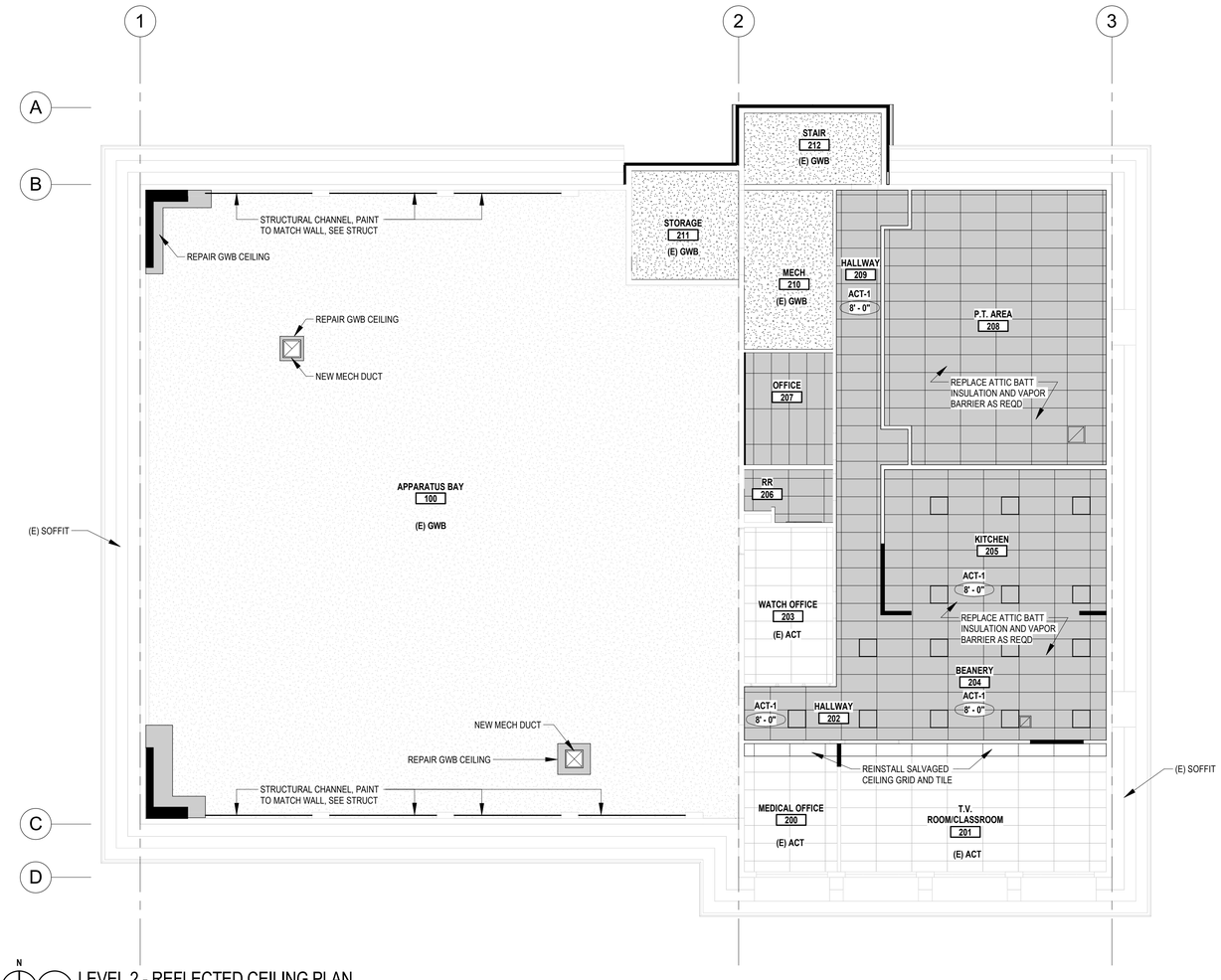
N
1 LEVEL 1 - REFLECTED CEILING PLAN
1/8" = 1'-0"

RCP LEGEND

- EXISTING GWB CEILING TO REMAIN
- EXISTING SUSPENDED ACOUSTICAL TILE CEILING TO REMAIN
- NEW GWB CEILING
- NEW SUSPENDED ACOUSTICAL TILE CEILING, UNLESS NOTED OTHERWISE
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N

1 LEVEL 2 - REFLECTED CEILING PLAN

1/8" = 1'-0"

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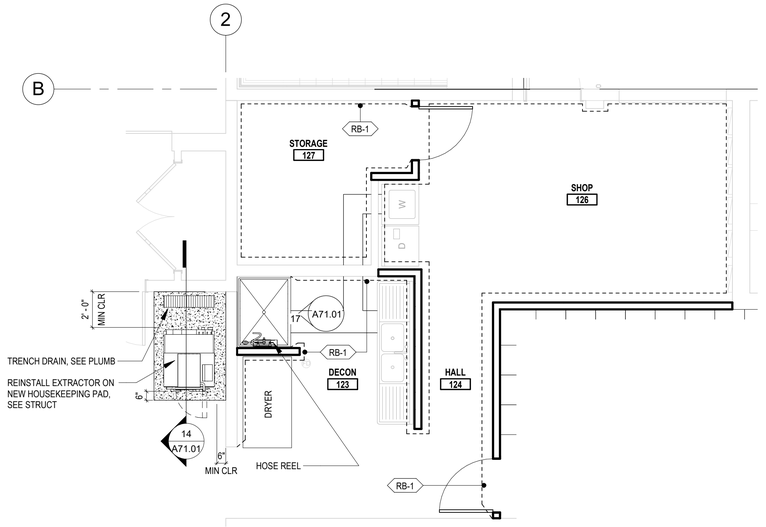
SECOND FLOOR REFLECTED CEILING PLAN

SHEET #

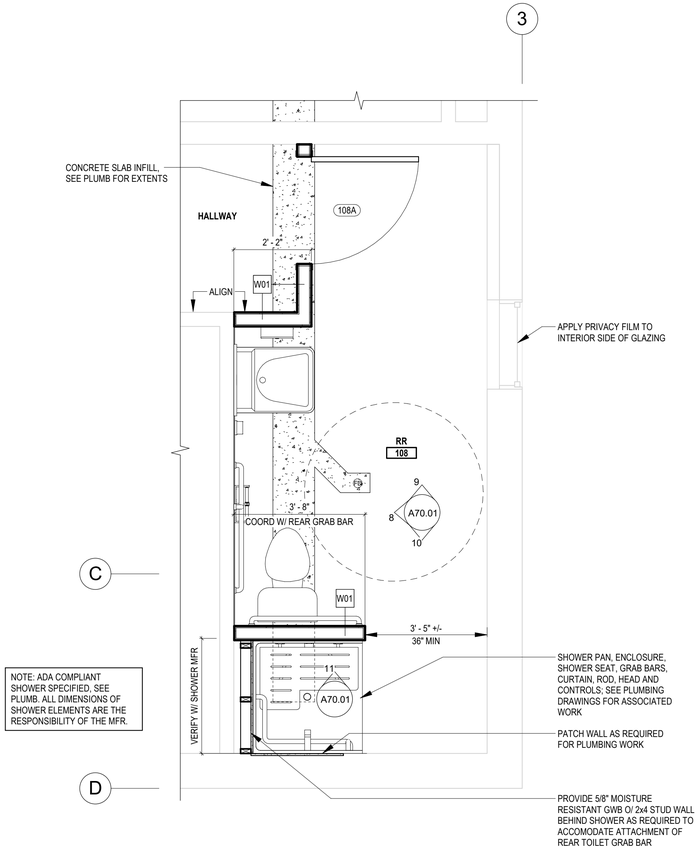
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GENERAL NOTES - FLOOR PLAN

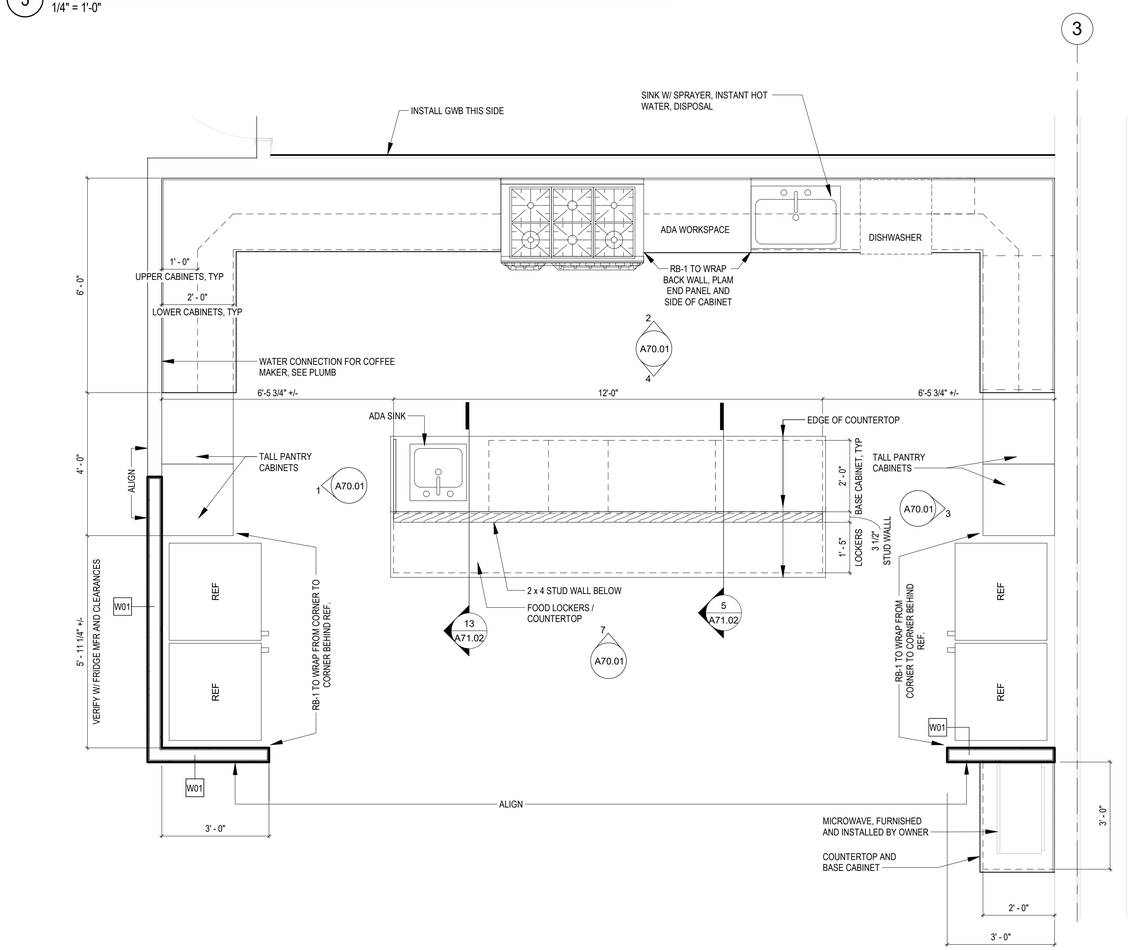
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3 LEVEL 1 - WALL BASE EXTENTS
1/4" = 1'-0"



2 ENLARGED PLAN
1/2" = 1'-0"



1 ENLARGED PLAN - KITCHEN
1/2" = 1'-0"

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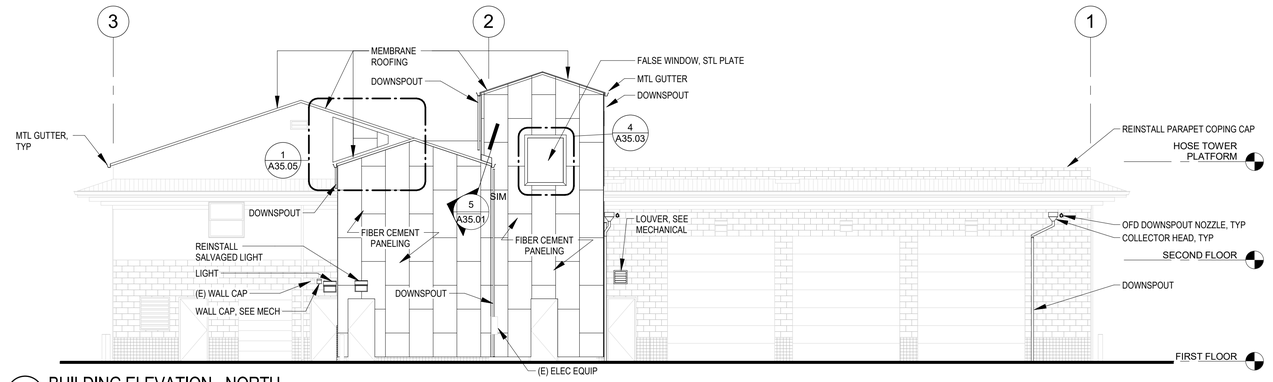
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REVISION SCHEDULE

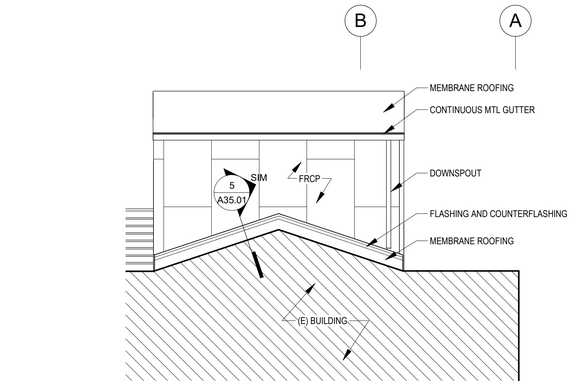
ENLARGED FLOOR PLANS

SHEET #
A23.01

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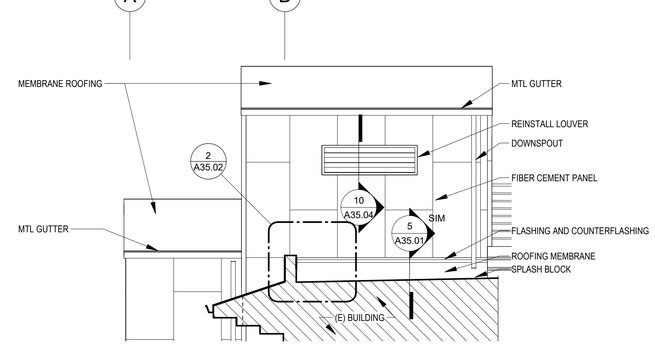


2 BUILDING ELEVATION - NORTH
1/8" = 1'-0"

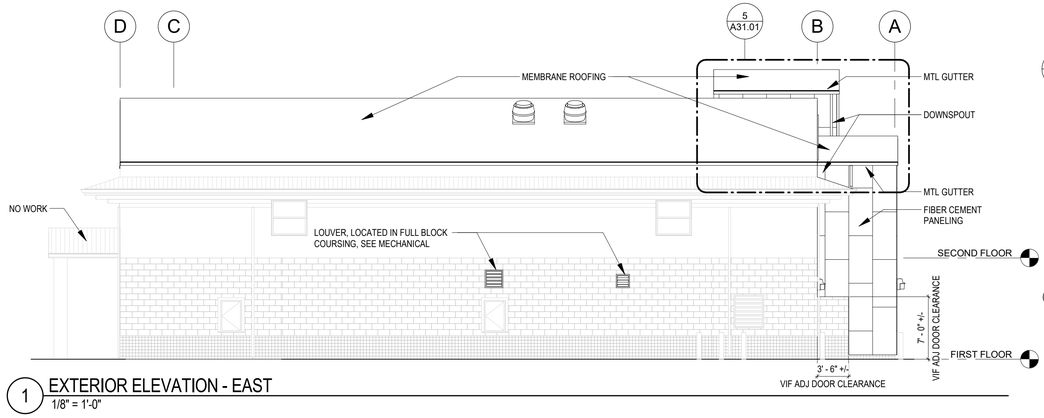


5 EXTERIOR ELEVATION - HOSE TOWER
1/4" = 1'-0"

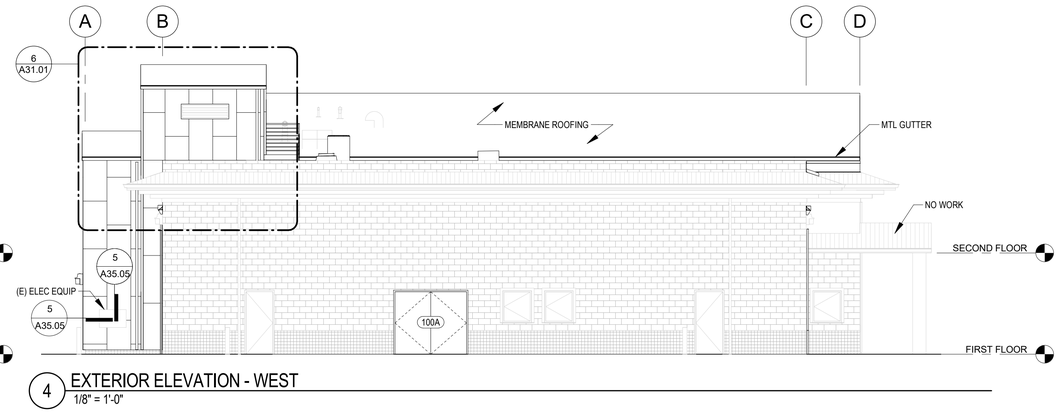
3 EXTERIOR ELEVATION - SOUTH
1/8" = 1'-0"



6 EXTERIOR ELEVATION - HOSE AND STAIR TOWER
1/4" = 1'-0"



1 EXTERIOR ELEVATION - EAST
1/8" = 1'-0"



4 EXTERIOR ELEVATION - WEST
1/8" = 1'-0"

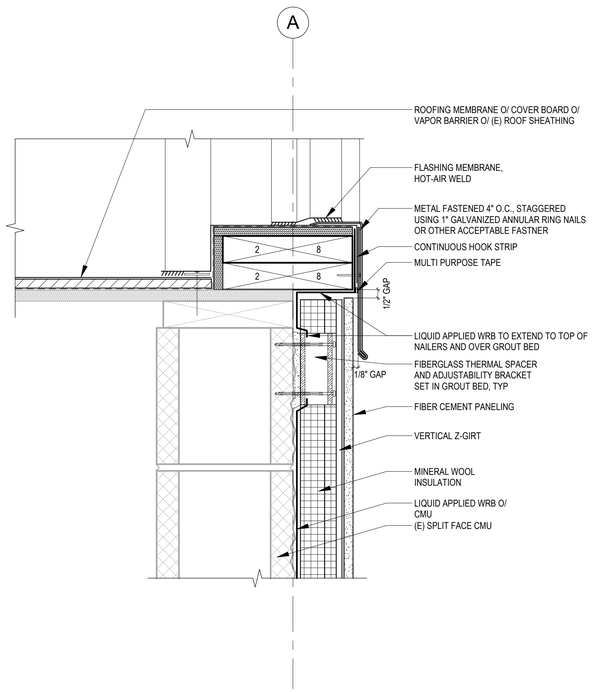
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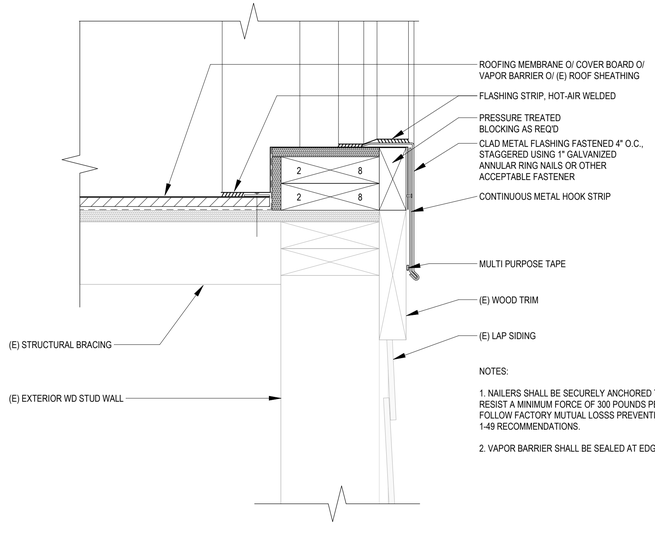
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BUILDING ELEVATIONS

SHEET #
A31.01



8 TYP DETAIL - GABLE ROOF RAKE/NEW SIDING
3" = 1'-0"

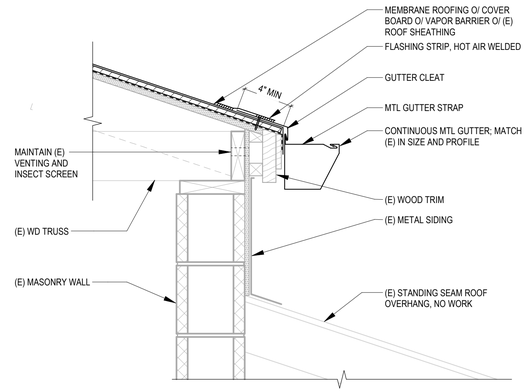


NOTES:

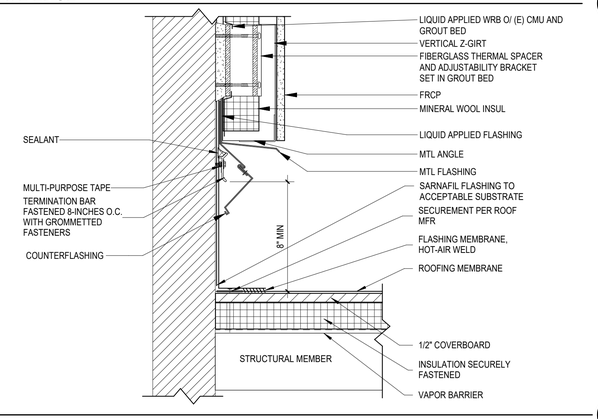
1. NAILERS SHALL BE SECURELY ANCHORED TO THE DECK TO RESIST A MINIMUM FORCE OF 300 POUNDS PER LINEAR FOOT. FOLLOW FACTORY MUTUAL LOSSS PREVENTION DATA SHEET 1-49 RECOMMENDATIONS.

2. VAPOR BARRIER SHALL BE SEALED AT EDGES.

6 DETAIL - GABLE ROOF RAKE EDGE
3" = 1'-0"



7 DETAIL - GABLE ROOF EAVE EDGE
1 1/2" = 1'-0"



NOTES:

1. SEALANT IS A TWO STEP APPLICATION:
   A) BEHIND TOP OF SARNFIL FLASHING
   B) TOP OF SARNAREGLET

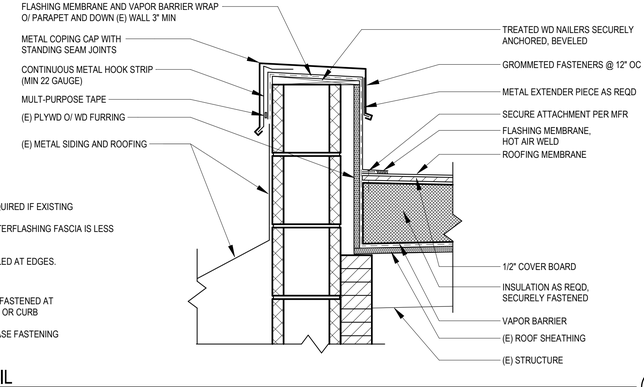
2. SEALANT SHALL BE APPLIED TO CLEAN ACCEPTABLE SURFACES

3. SEALANT IS A MAINTENANCE ITEM. MAINTENANCE IS NOT COVERED UNDER SARNAFIL WARRANTY

4. SARNAREGLET SHALL BE SECURELY ANCHORED WITH GROMMETTED FASTENERS AND PROVIDE ADEQUATE COMPRESSION OF MEMBRANE FLASHING AND SEALANT.

5. VAPOR BARRIER SHALL BE SEALED AT EDGES.

5 TYP ROOFING AT WALL
3" = 1'-0"



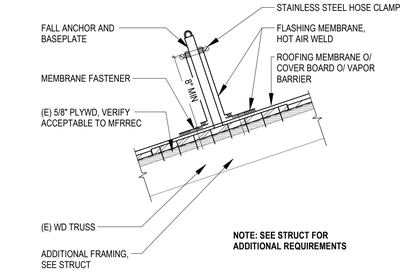
NOTES:

1. METAL EXTENDER PIECE IS REQUIRED IF EXISTING COUNTERFLASHING IS CONTAMINATED AND OR COUNTERFLASHING FASCIA IS LESS THAN 4 IN. WIDE

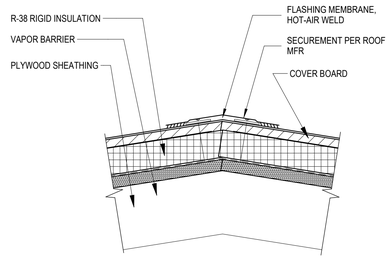
2. VAPOR BARRIER SHALL BE SEALED AT EDGES.



4 TYP COPING DETAIL
1 1/2" = 1'-0"



9 DETAIL - FALL ANCHOR
1 1/2" = 1'-0"

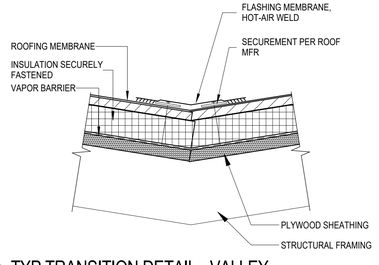


3 TYP TRANSITION DETAIL - RIDGE
3" = 1'-0"

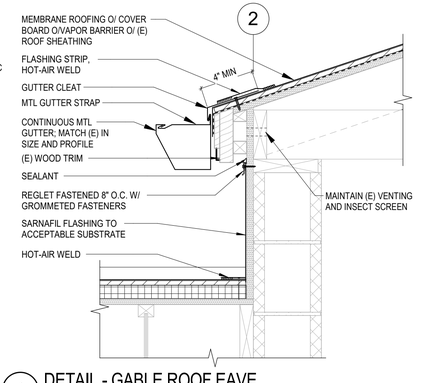
NOTES:

1. WOOD NAILER TO MATCH HEIGHT OF INSULATION MAY BE REQUIRED AT PEAK IF INSULATION THICKNESS EXCEEDS 2 INCHES.

2. OPTION DETAIL USING SARNAFASTENERS AND SARNADISC SPACING MAY VARY. CONSULT SIKA SARNAFIL TECHINICAL DEPARTMENT.



2 TYP TRANSITION DETAIL - VALLEY
3" = 1'-0"



1 DETAIL - GABLE ROOF EAVE
1 1/2" = 1'-0"

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STATE OF WASHINGTON

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FACILITY IMPROVEMENTS
STATION 64
3700 S 320TH ST
FEDERAL WAY, WA 98001

PROJECT # 2015137

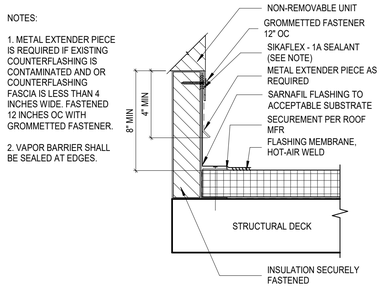
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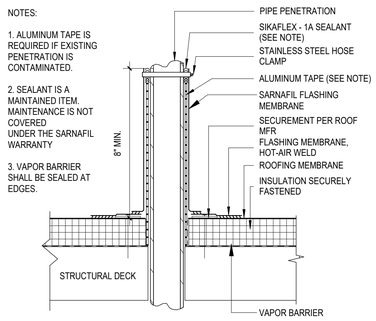
REVISION SCHEDULE

EXTERIOR DETAILS

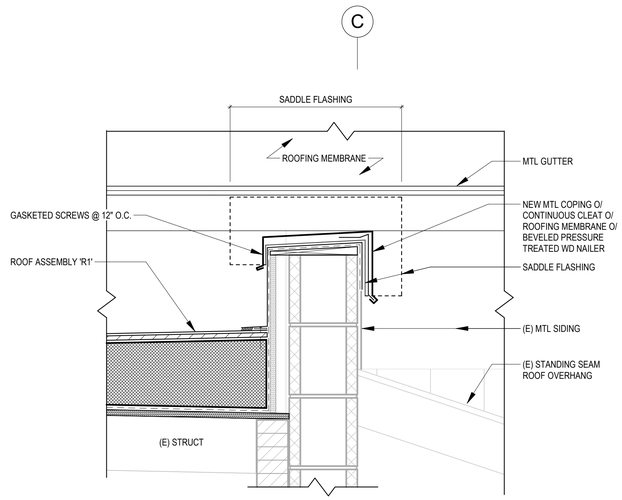
SHEET #
A35.01



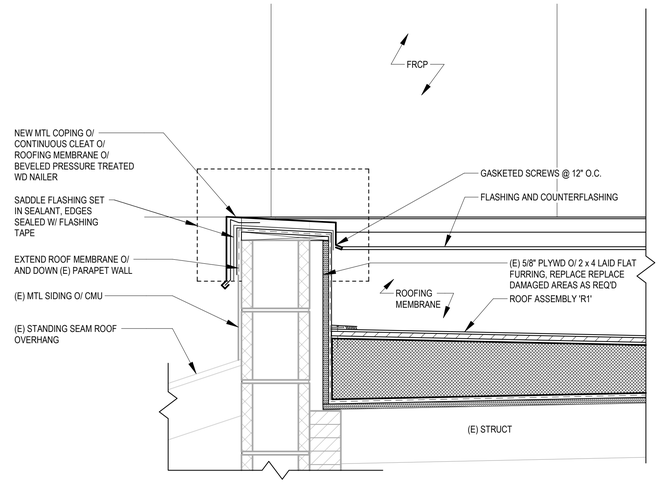
6 TYP DETAIL - CURB FLASHING
3" = 1'-0"



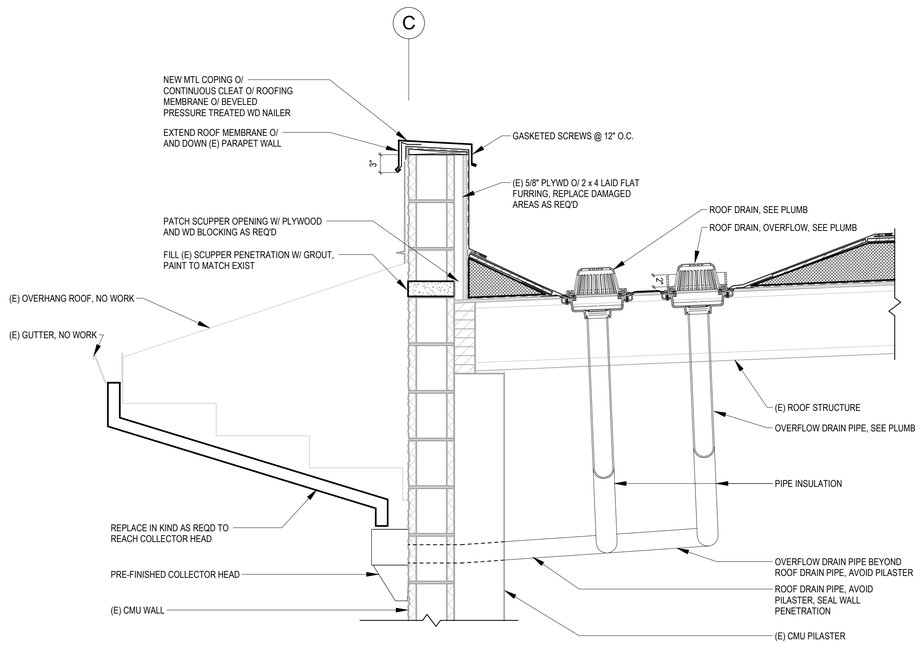
5 PIPE PENATRATED FLASHING
3" = 1'-0"



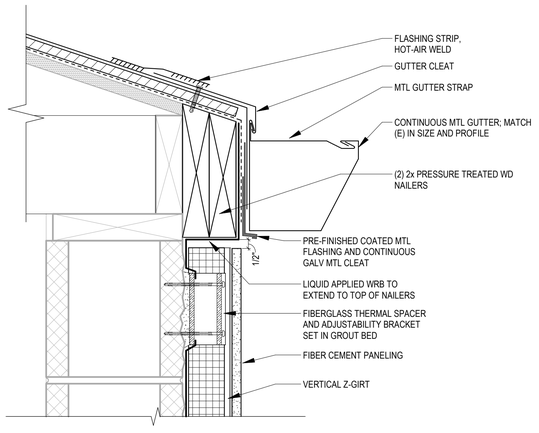
4 DETAIL SECTION - SADDLE FLASHING
1 1/2" = 1'-0"



2 DETAIL SECTION - SADDLE FLASHING
1 1/2" = 1'-0"



3 ROOF DRAIN DETAIL
1" = 1'-0"



1 TYPICAL DETAIL - GUTTER / SIDING
3" = 1'-0"

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STATE OF WASHINGTON

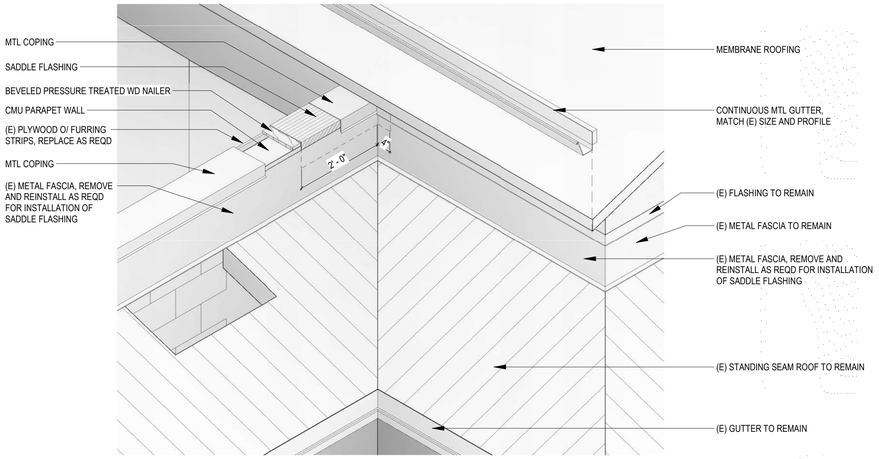
SOUTH KING FIRE & RESCUE
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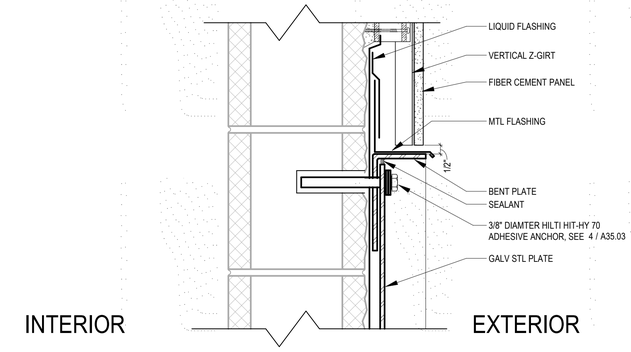
REVISION SCHEDULE

ROOF DETAILS

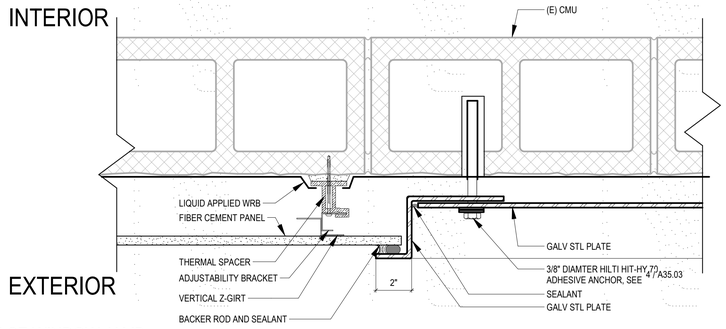
SHEET #
A35.02



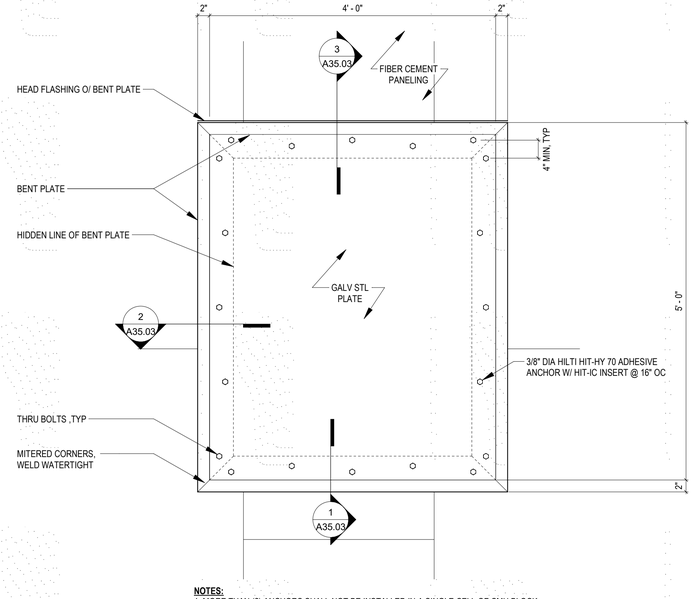
5 AXO - PARAPET SADDLE FLASHING



3 FALSE WINDOW HEAD
3" = 1'-0"

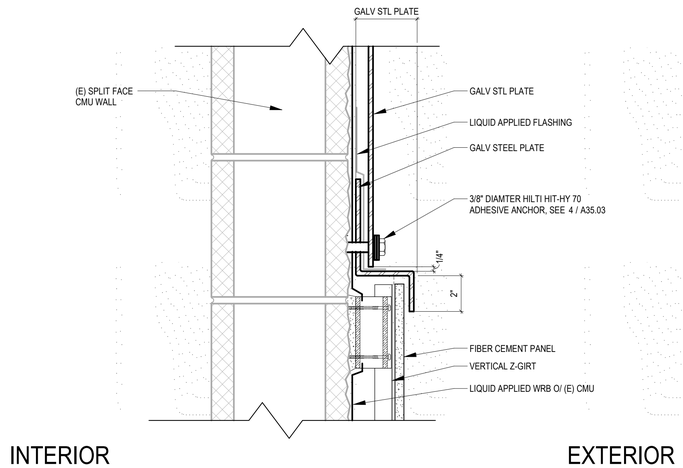


2 FALSE WINDOW JAMB
3" = 1'-0"



NOTES:
1. MORE THAN (2) ANCHORS SHALL NOT BE INSTALLED IN A SINGLE CELL OF CMU BLOCK.
2. ANCHORS SHALL NOT BE INSTALLED ON MORTAR JOINTS, FLANGE, OR CELL WEB.

4 FALSE WINDOW ELEVATION
1" = 1'-0"



1 FALSE WINDOW SILL
3" = 1'-0"

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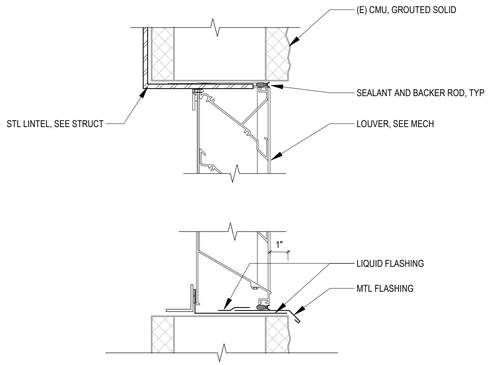
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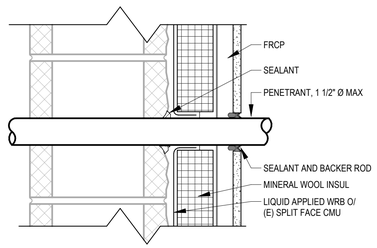
REVISION SCHEDULE

EXTERIOR DETAILS

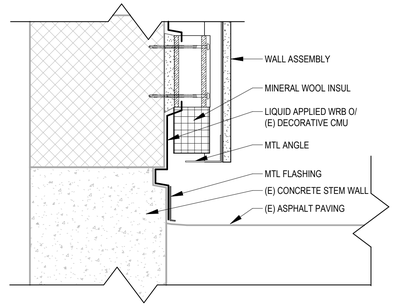
SHEET #
A35.03



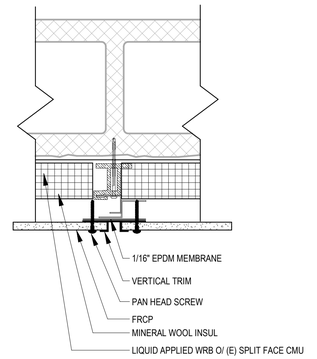
12 LOUVER HEAD & SILL (JAMB SIM)
3" = 1'-0"



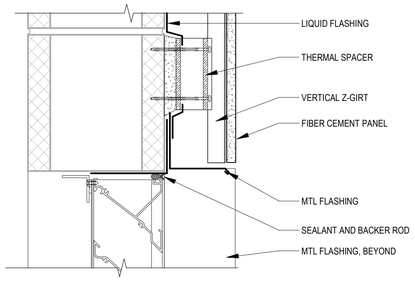
5 DETAIL - FRCP PENETRATION
3" = 1'-0"



6 DETAIL - FRCP AT GRADE
3" = 1'-0"

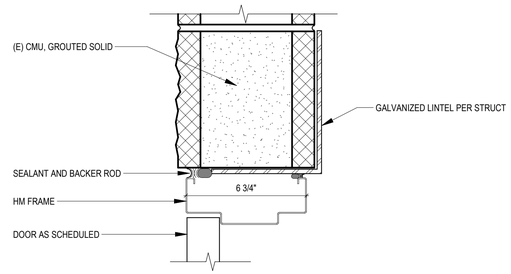


4 DETAIL - FRCP VERTICAL TRIM
3" = 1'-0"



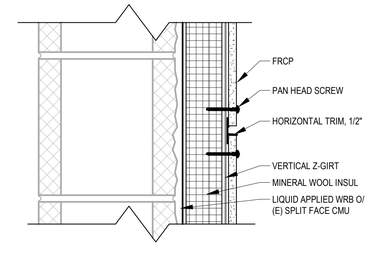
NOTES:
1. MORE THAN (2) ANCHORS SHALL NOT BE INSTALLED IN A SINGLE CELL OF CMU BLOCK.
2. ANCHORS SHALL NOT BE INSTALLED ON MORTAR JOINTS, FLANGE, OR CELL WEB.

10 DETAIL - LOUVER SECTION
3" = 1'-0"

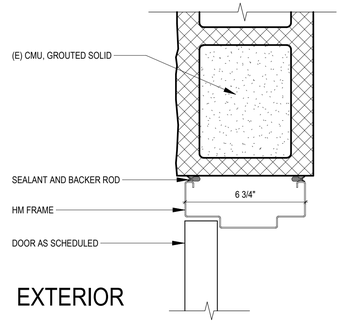


EXTERIOR INTERIOR

7 DETAIL - EXTERIOR DOOR HEAD
3" = 1'-0"

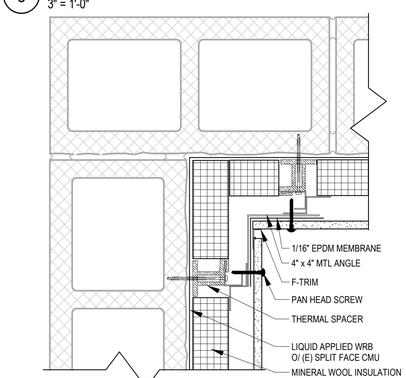


3 DETAIL - FRCP HORIZONTAL TRIM
3" = 1'-0"

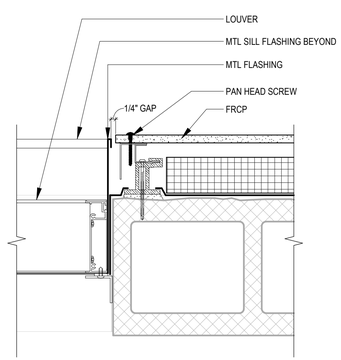


EXTERIOR INTERIOR

9 DETAIL - EXTERIOR DOOR JAMB
3" = 1'-0"

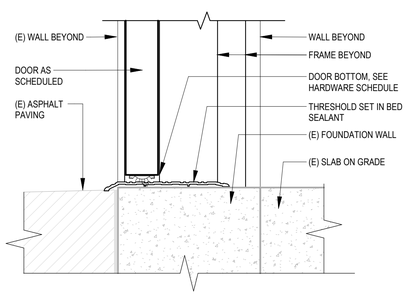


2 DETAIL - INSIDE CORNER FRCP
3" = 1'-0"

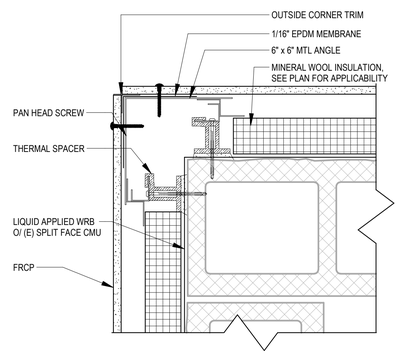


11 LOUVER JAMB
3" = 1'-0"

EXTERIOR INTERIOR



8 DETAIL - TYPICAL EXTERIOR DOOR THRESHOLD
3" = 1'-0"



1 DETAIL - OUTSIDE CORNER FRCP
3" = 1'-0"

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STATE OF WASHINGTON

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PROJECT # 2015137
BID SET
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

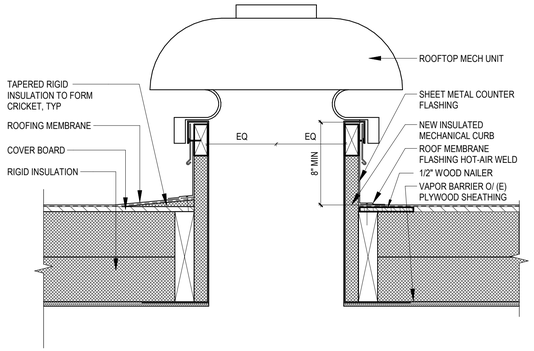
EXTERIOR DETAILS

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7 MECHANICAL CURB
1 1/2" = 1'-0"

SECUREMENT FASTENED AT BASE OF WALL OR CURB

ALTERNATE BASE FASTENING

NOTES:

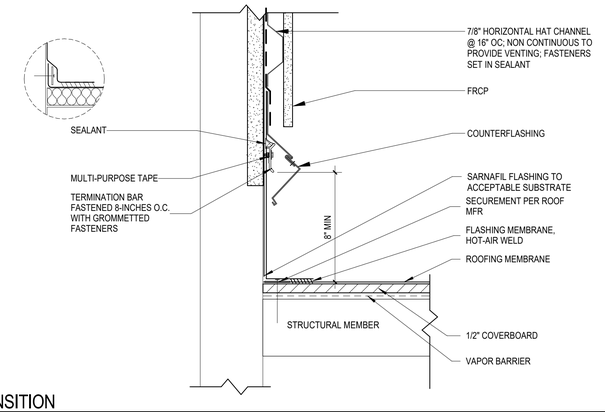
1. SEALANT IS A TWO STEP APPLICATION:
   A) BEHIND TOP OF SARNFIL FLASHING
   B) TOP OF SARNAREGLET

2. SEALANT SHALL BE APPLIED TO CLEAN ACCEPTABLE SURFACES

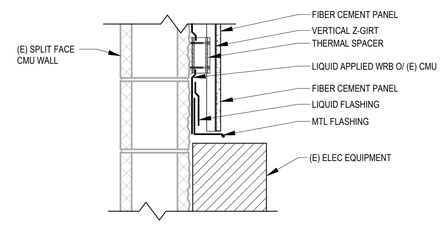
3. SEALANT IS A MAINTENANCE ITEM. MAINTENANCE IS NOT COVERED UNDER SARNAFIL WARRANTY

4. SARNAREGLET SHALL BE SECURELY ANCHORED WITH GROMMETTED FASTENERS AND PROVIDE ADEQUATE COMPRESSION OF MEMBRANE FLASHING AND SEALANT.

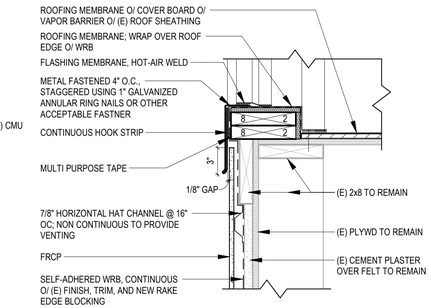
5. VAPOR BARRIER SHALL BE SEALED AT EDGES.



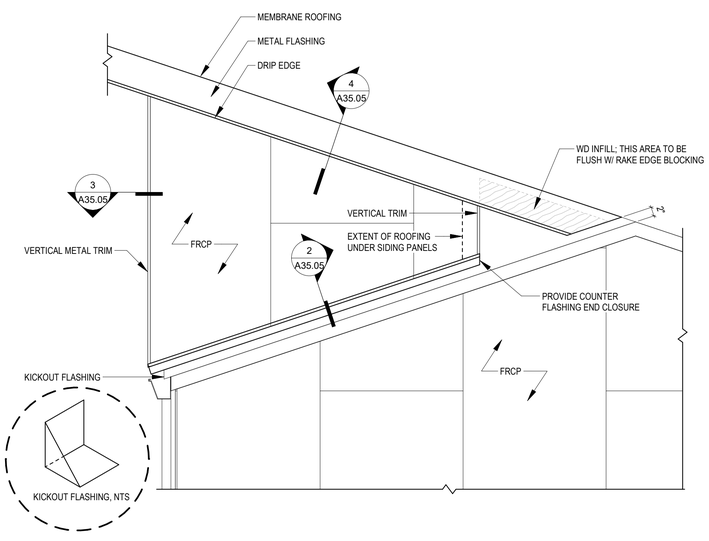
2 ROOF TO WALL TRANSITION
3" = 1'-0"

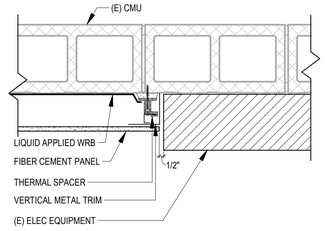


6 ELEC BOX SIDING TRIM
1 1/2" = 1'-0"

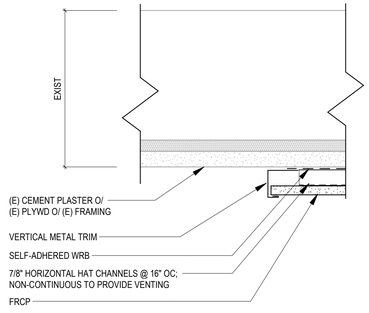


4 DETAIL - RAKE EDGE W/ SIDING O/ STUCCO
1 1/2" = 1'-0"





5 ELEC BOX TRIM
1 1/2" = 1'-0"



3 DETAIL - FRCP VERTICAL TRIM
3" = 1'-0"

1 ENLARGED ELEVATION
3/4" = 1'-0"

PROJECT # 2015137

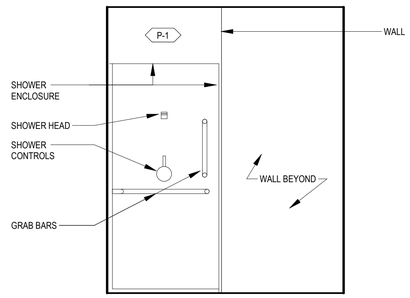
BID SET

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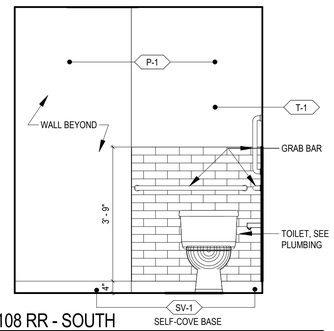
REVISION SCHEDULE

EXTERIOR DETAILS

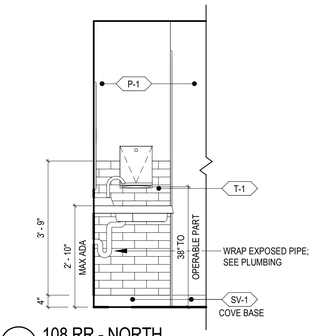
SHEET #
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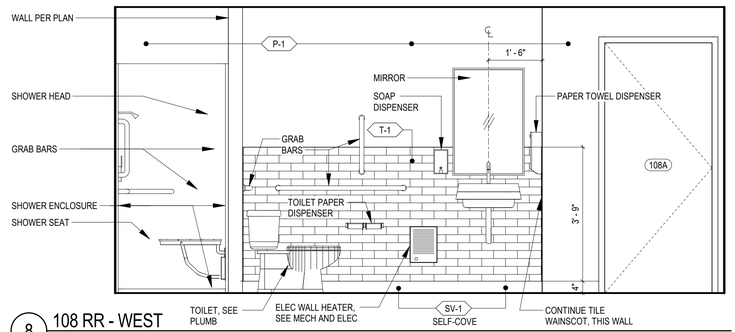
11 108 RR - SHOWER
1/2" = 1'-0"



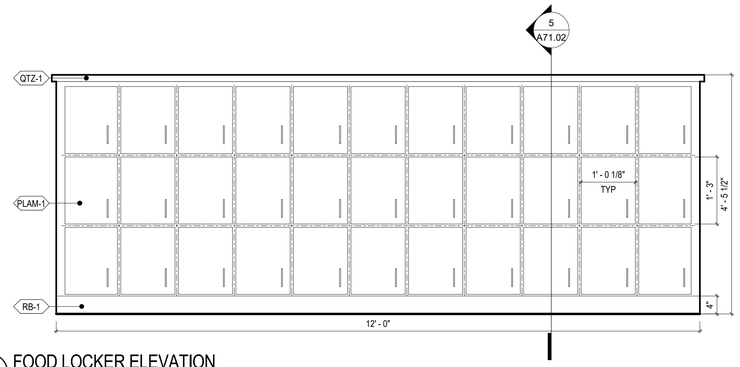
10 108 RR - SOUTH
1/2" = 1'-0"



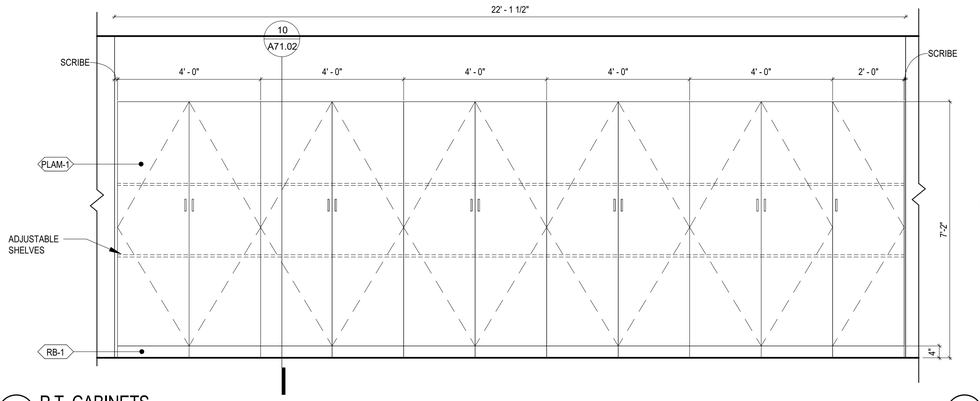
9 108 RR - NORTH
1/2" = 1'-0"



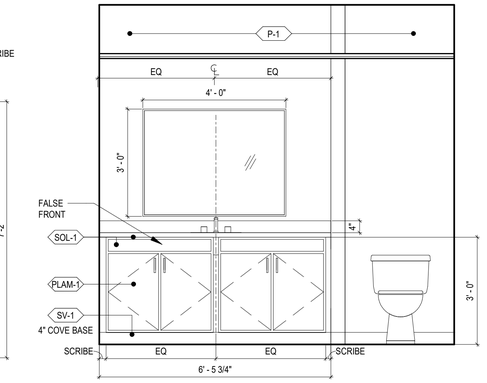
8 108 RR - WEST
1/2" = 1'-0"



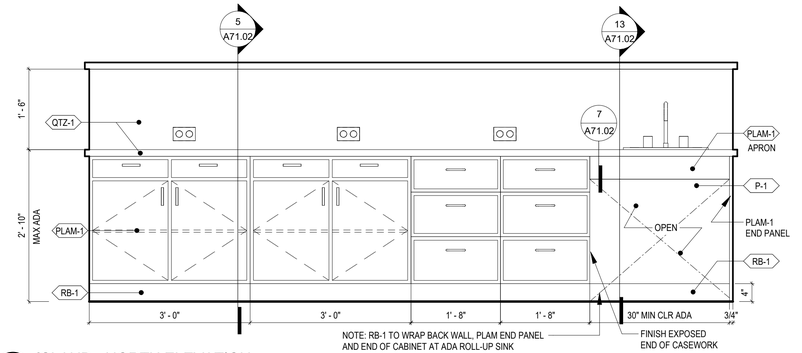
7 FOOD LOCKER ELEVATION
3/4" = 1'-0"



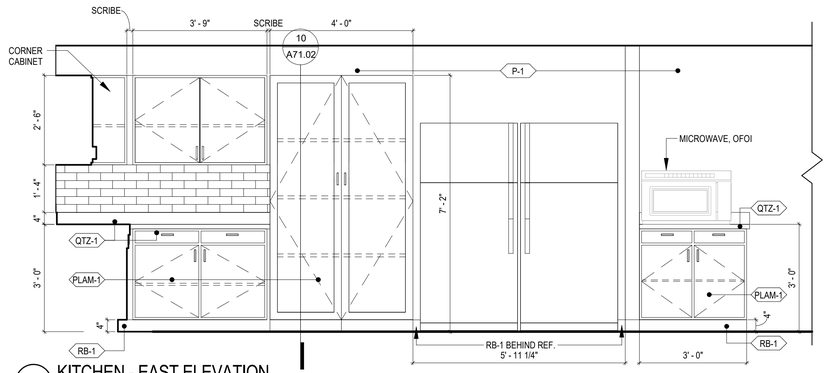
6 P.T. CABINETS
1/2" = 1'-0"



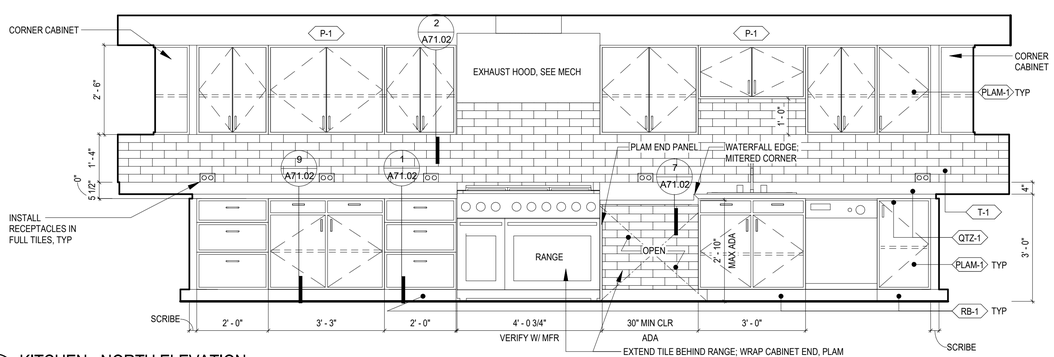
5 RR 206 - SOUTH
1/2" = 1'-0"



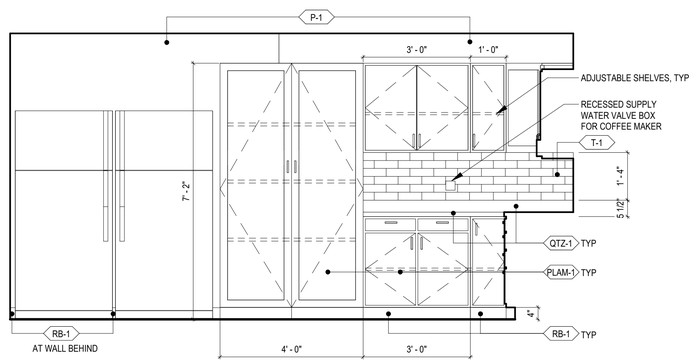
4 ISLAND - NORTH ELEVATION
3/4" = 1'-0"



3 KITCHEN - EAST ELEVATION
1/2" = 1'-0"



2 KITCHEN - NORTH ELEVATION
1/2" = 1'-0"



1 KITCHEN - WEST ELEVATION
1/2" = 1'-0"

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BID SET

ISSUE DATE FEBRUARY 23, 2018

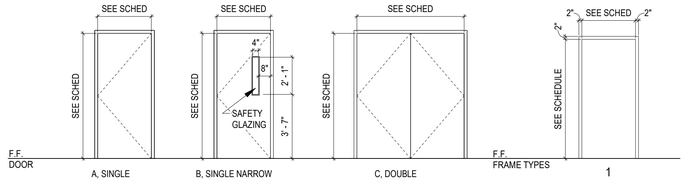
REVISION SCHEDULE

INTERIOR ELEVATIONS

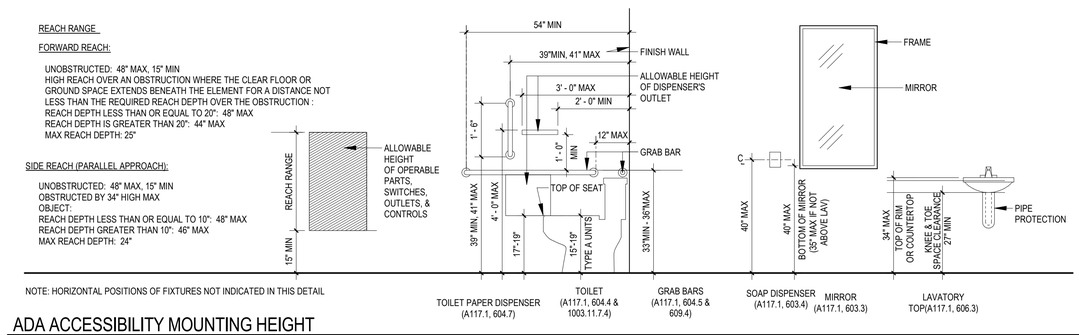
SHEET #
A70.01

DOOR SCHEDULE

DOOR #	ROOM NUMBER	ROOM NAME	DOOR INFORMATION TYPE	MATERIAL	FINISH	GLAZING	HEIGHT	WIDTH	THICKNESS	FRAME INFORMATION TYPE	MATERIAL	FINISH	FIRE RATING	HARDWARE GROUP	COMMENTS
100A	100	APPARATUS BAY	C	HM	PAINT	-	7' - 0"	8' - 0"	1 3/4"	1	HM	PAINT	NA	2	PAINT TO MATCH EXIST DOORS AND FRAMES
108A	108	RR	A	WD	STAIN	-	7' - 0"	3' - 0"	1 3/4"	1	HM	PAINT	NA	1	FACTORY FINISH STAIN TO MATCH EXIST DOOR; PAINT TO MATCH EXIST FRAME
125A	125	BUNKER GEAR	B	HM	PAINT	G1	7' - 0"	3' - 0"	1 3/4"	1	HM	PAINT	NA	3	PAINT TO MATCH EXIST DOORS AND FRAMES
127A	127	STORAGE	A	HM	PAINT	-	7' - 0"	3' - 0"	1 3/4"	1	HM	PAINT	NA	3	PAINT TO MATCH EXIST DOORS AND FRAMES



DOOR & FRAME TYPES



NOTE: HORIZONTAL POSITIONS OF FIXTURES NOT INDICATED IN THIS DETAIL

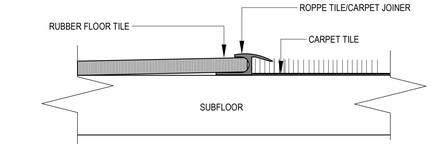
ADA ACCESSIBILITY MOUNTING HEIGHT

ROOM SCHEDULE

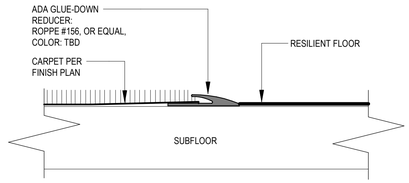
NUMBER	NAME	AREA	WALL	BASE	FLOOR	CEILING	COMMENTS
100	APPARATUS BAY	4520 SF	P-2				-PAINT NEW SHOTCRETE WALLS TO MATCH EXISTING
102	MEDIC STORAGE	63 SF	P-1	RB-1	SV-1	ACT-1	-
105	HALLWAY	90 SF	P-1	RB-1	CPT-1		-
108	RR	106 SF	P-1/T-1	SV-1 COVE	SV-1	ACT-2	-SEE ELEVATIONS FOR WALL TILE INSTALL
109	HALLWAY	78 SF	P-1	RB-1	SV-1	ACT-2	-
110	RR	60 SF		RB-1	SV-1		-
113	HALLWAY	374 SF	P-1	RB-1	CPT-1		-
114	FF SR	117 SF	P-1	RB-1	CPT-1	ACT-1	-
119	FF SR	61 SF	P-1	RB-1	CPT-1	ACT-1	-
123	DECON	137 SF	P-2/FRP	RB-1			-SEE ENLARGED PLAN FOR BASE EXTENTS; 8' HIGH FRP ALL WALLS
124	HALL	48 SF	P-2	RB-1			-SEE ENLARGED PLAN FOR BASE EXTENTS
125	BUNKER GEAR	298 SF	P-2	RB-1			-
126	SHOP	209 SF	P-2	RB-1			-
127	STORAGE	78 SF	P-2	RB-1			-
200	MEDICAL OFFICE	151 SF	P-1	RB-2			-RB-2 AT NEW GWB LOCATIONS
201	T.V. ROOM/CLASSROOM	431 SF	P-1	RB-2			-RB-2 AT NEW GWB LOCATIONS
202	HALLWAY	62 SF	P-1	RB-1	WOM-1	ACT-1	-SEE FLOOR PLAN FOR FLOOR TRANSITION LOCATION
204	BEANERY	467 SF	P-1	RB-1	SV-1	ACT-1	-
205	KITCHEN	405 SF	P-1/T-1	RB-1	SV-1	ACT-1	-SEE ELEVATIONS FOR WALL TILE INSTALL
206	RR	54 SF	P-1	SV-1 COVE	SV-1	ACT-1	-
207	OFFICE	124 SF	P-1	RB-1	CPT-1	ACT-1	-
208	P.T. AREA	745 SF	P-1	RB-1	RT-1	ACT-1	-
209	HALLWAY	225 SF	P-1	RB-1	WOM-1	ACT-1	-

FINISH LEGEND

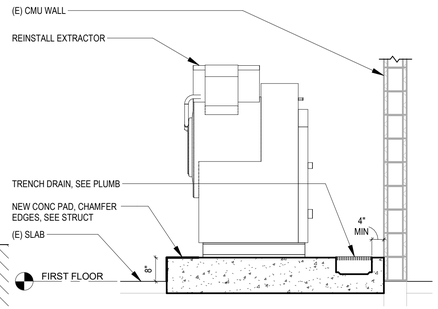
TAG	MATERIAL
FLOOR	
CPT-1	CARPET, SHEET
EXIST	EXISTING FLOORING
RT-1	RUBBER TILE
SV-1	SHEET VINYL
WOM-1	CARPET, MODULAR
CASEWORK	
PLAM-1	PLASTIC LAMINATE CABINETRY
QTZ-1	QUARTZ COUNTERTOP
SOL-1	SOLID SURFACE COUNTERTOP
WALL	
FRP	FIBER REINFORCED PANEL
P-1	PAINT - NEW
P-2	PAINT - MATCH EXISTING
RB-1	RUBBER BASE
RB-2	RUBBER BASE
T-1	TILE BACKSPLASH
CEILING	
ACT-1	ACOUSTICAL CEILING TILE
ACT-2	ACOUSTICAL CEILING TILE - ANTIMICROBIAL



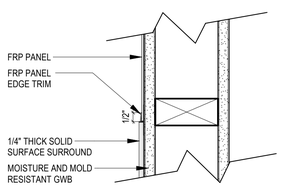
4 FLOOR TRANSITION - RUBBER TILE / CARPET
6" = 1'-0"



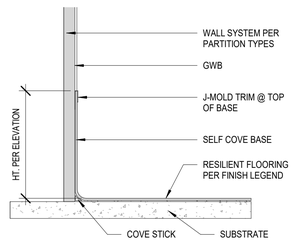
3 FLOOR TRANSITION - CARPET / RESILIENT
6" = 1'-0"



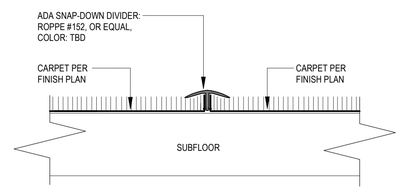
14 EXTRACTOR PAD DETAIL
1/2" = 1'-0"



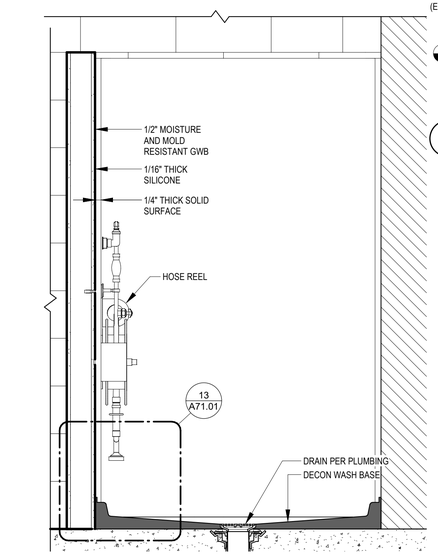
10 DECON ROOM SHOWER PANEL CONNECTION
3" = 1'-0"



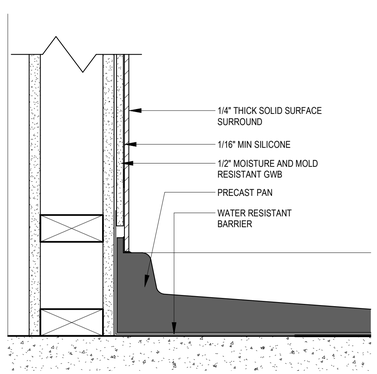
6 TYP. SELF COVE BASE DETAIL
3" = 1'-0"



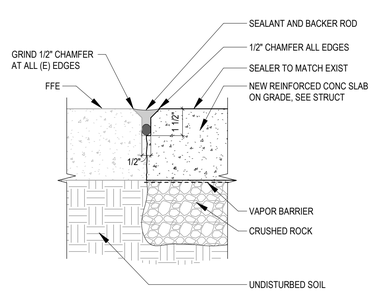
2 FLOOR TRANSITION - CARPET / CARPET
6" = 1'-0"



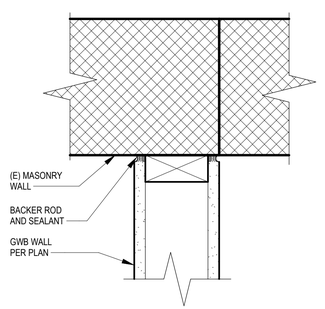
17 DECON SHOWER
1" = 1'-0"



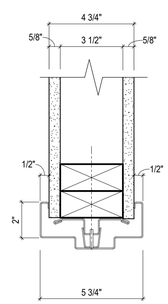
13 DECON SHOWER DETAIL
3" = 1'-0"



9 TYPICAL DETAIL - SLAB JOINT
3" = 1'-0"



5 DETAIL - TYP WALL INTERSECTION
3" = 1'-0"



1 TYP INT DOOR JAMB DETAIL (HEAD SIM)
3" = 1'-0"

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4794
REGISTERED ARCHITECT
DAVID A. FERGUS
STATE OF WASHINGTON

SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS
STATION 64
3700 S 320TH ST
FEDERAL WAY, WA 98001

PROJECT # 2015137
BID SET
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

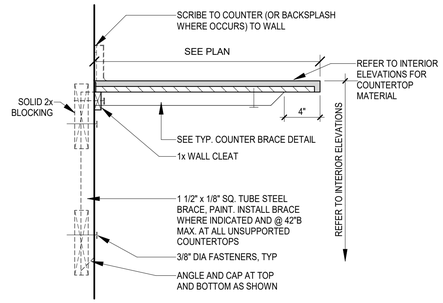
INTERIOR DETAILS AND SCHEDULES

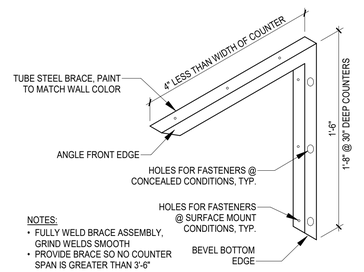
SHEET #
A71.01

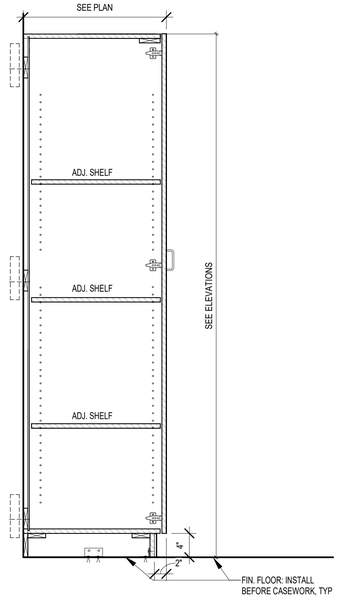
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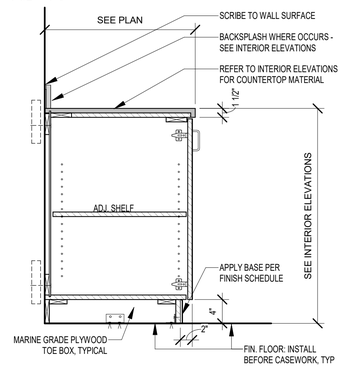
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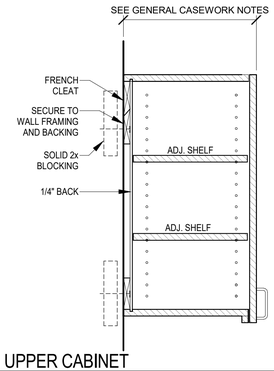


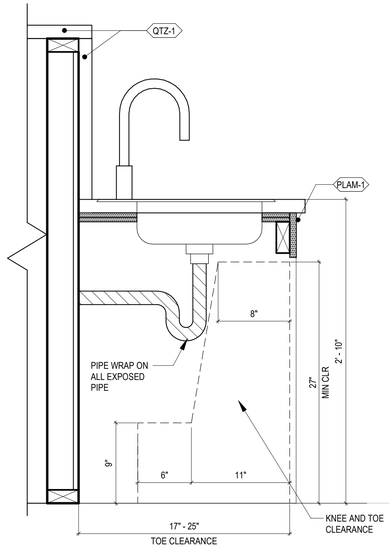


7 TYP. COUNTER SUPPORT
1 1/2" = 1'-0"



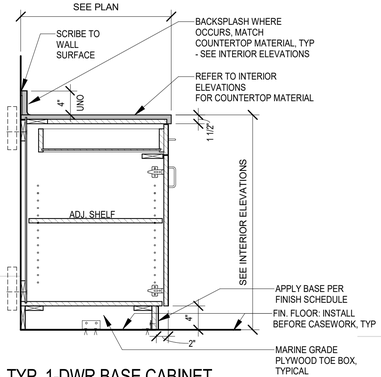
3 TYP. COUNTER BRACE DETAIL
1 1/2" = 1'-0"



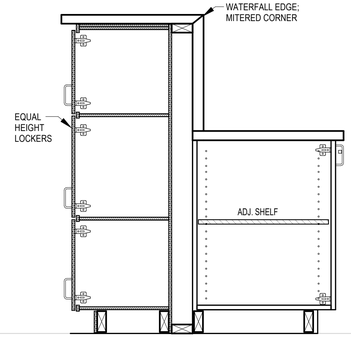


13 ADA KNEE AND TOE CLEARANCES AT ISLAND
1 1/2" = 1'-0"

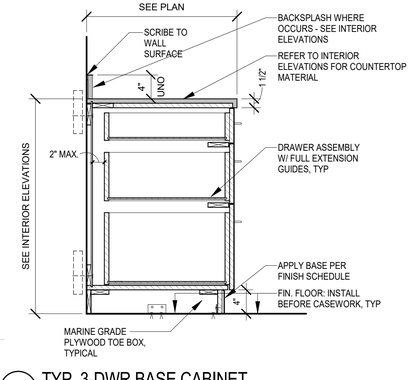
10 TYP. TALL PANTRY AND PT CABINET
1" = 1'-0"



9 TYP. 1-DWR BASE CABINET
1" = 1'-0"



6 TYP. BASE CABINET W/DOOR
1" = 1'-0"



2 TYP. UPPER CABINET
1 1/2" = 1'-0"

5 DETAIL - CASEWORK AT ISLAND
1" = 1'-0"

1 TYP. 3-DWR BASE CABINET
1" = 1'-0"

PROJECT # 2015137

BID SET

ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

CASEWORK DETAILS

SHEET #
A71.02

ABBREVIATIONS

&	AND
@	AT
AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT, ADJUSTABLE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALT	ALTERNATE
ANCH	ANCHOR
APA	AMERICAN PLYWOOD ASSOCIATION
APPROX	APPROXIMATE
AR	ANCHOR ROD
ARCH	ARCHITECT, ARCHITECTURAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
BAL	BALANCE
BC	BOTTOM CHORD
BF	BRACED FRAME
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BP, B PL	BASE PLATE
BRG	BEARING
BTWN	BETWEEN
BU	BUILT-UP
C	CAMBER, CHANNEL
CA	CONCRETE (EXPANSION) ANCHOR
CANTIL	CANTILEVER
CAP	CAPACITY
CC	CENTER-TO-CENTER
CDF	CONTROL DENSITY FILL
CG	CENTER OF GRAVITY
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT, CONSTRUCTION JOINT

CJP, CP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CRSI	CONCRETE REINFORCED STEEL INSTITUTE
CTR	CENTER, CENTERED
CU YD	CUBIC YARD
d	PENNYWEIGHT (NAILS)
DB	DIVIDER BEAM, DROPPED BEAM
D-B	DESIGN-BUILD
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG, °	DEGREE
DEMO	DEMOLISH, DEMOLITION
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DICA	DRILLED-IN CONCRETE ANCHOR
DIM	DIMENSION
DIST	DISTANCE
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DP	DEEP
DS	DRAG STRUT
DWG	DRAWING
DWL	DOWEL
(E) EXIST	EXISTING
EA	EACH, EPOXY (ADHESIVE) ANCHOR
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR

EMBED	EMBEDMENT
ENGR	ENGINEER
EQ	EARTHQUAKE, EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
ETC	ET CETERA
E-W	EAST-WEST
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
EXT GR	EXTERIOR GRADE
FD	FLOOR DRAIN
FDN	FOUNDATION
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FF	FAR FACE, FINISH FLOOR
FIN	FINISH
FLR	FLOOR
FLG	FLANGE
FS	FAR SIDE
FT, '	FEET
FTG	FOOTING
GA	GAGE, GAUGE
GALV	GALVANIZED
GB, GR BM	GRADE BEAM
GEN	GENERAL
GL, GLU LAM	GLUE LAMINATED WOOD
GLB	GLUE LAMINATED BEAM
GRD	GIRDER
GRND	GROUND
HDR	HEADER
HGR	HANGER
HK	HOOK
HD	HOLD DOWN
HORIZ	HORIZONTAL
HPT	HIGH POINT
HSB	HIGH STRENGTH BOLT
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER

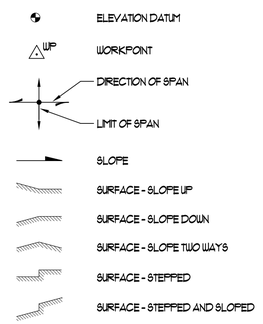
IF	INSIDE FACE
IN, "	INCH
INCL	INCLUDE
INFO	INFORMATION
INT	INTERIOR
IJ	ISOLATION JOINT
JST	JOIST
JT	JOINT
K	KIP (1000 LB)
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	LENGTH, ANGLE
LB, #	POUND
LEV	LEVEL
LF	LINEAL FOOT
LL	LIVE LOAD
LLBB	LONG LEGS BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION, LOCATE
LONGIT	LONGITUDINAL
LPT	LOW POINT
LSH	LONG SLOTTED HOLE
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MF	MOMENT FRAME
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MPH	MILES PER HOUR
MTL	METAL
NF	NEAR FACE
NIC	NOT IN CONTRACT
NLG	NAILING
NOM	NOMINAL
NO, #	NUMBER
N-S	NORTH-SOUTH
NS	NEAR SIDE
NTS	NOT TO SCALE

OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OSH	OVERSIZED HOLE
OWJ	OPEN WEB JOIST
PA	POWDER ACTUATED
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE, PROPERTY LINE
PLCS	PLACES
PLF	POUNDS PER LINEAR FOOT
PLWD	PLYWOOD
PNL	PANEL
PP, PJP	PARTIAL JOINT PENETRATION
PRCST	PRECAST
PREFAB	PREFABRICATED
PS	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	POINT, PRESSURE TREATED
P-T	POST-TENSIONED
PVC	POLYVINYL CHLORIDE
R, RAD	RADIUS
RD	ROOF DRAIN
REBAR	REINFORCING STEEL BARS
REF	REFERENCE
REINF	REINFORCING
REM	REMAINDER
REQD	REQUIRED
RTN	RETURN
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SOG	SLAB ON GRADE
SPC	SPACE, SPACED, SPACING

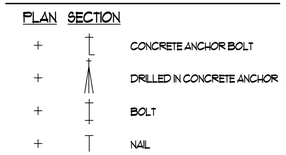
SPEC	SPECIFICATION
SQ	SQUARE
SST	STAINLESS STEEL
SSH	SHORT SLOTTED HOLE
STAG	STAGGER, STAGGERED
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STRUCT	STRUCTURAL
SPRT	SUPPORT
SW	SHEAR WALL
SWS	SHEAR WALL SCHEDULE
SYMM	SYMMETRICAL, SYMMETRY
T/	TOP OF
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TC	TOP CHORD
TBD	TO BE DETERMINED
TEMP	TEMPERATURE
THK	THICK, THICKNESS
THP	TENDON HIGH POINT
THRU	THROUGH
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TR	THREADED ROD
TRANS	TRANSVERSE
TYP	TYPICAL
TWS	THREADED WELDED STUD
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WIDTH, WIDE FLANGE
W/	WITH
WD	WOOD
WF	WIDE FLANGE
WHS	WELDED HEADED STUD
WJ	WOOD I-JOIST
W/O	WITHOUT
WP	WORK POINT
WT	WEIGHT
WWF	WELDED WIRE FABRIC

SYMBOLS

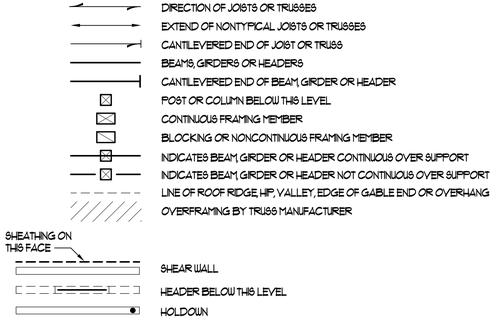
GENERAL SYMBOLS



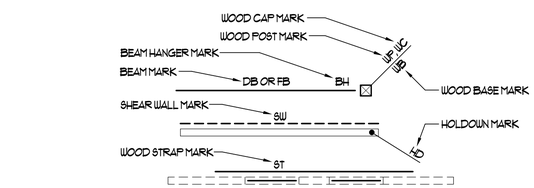
CONNECTORS



WOOD SYMBOLS



WOOD FRAMING ANNOTATIONS



RICEfergusMILLER
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SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS
STATION 64
3700 S 320TH ST,
FEDERAL WAY, WA 98001

PROJECT 2015137

BID

ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE		

ABBREVIATIONS AND SYMBOLS

SHEET
S00.01

GENERAL STRUCTURAL NOTES

GENERAL

ALL TYPICAL DETAILS AND NOTES SHOWN ON THESE DRAWINGS ARE PART OF THE CONSTRUCTION CONTRACT AND SHALL BE PROVIDED BY THE CONTRACTOR. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS, BUT SHALL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS.

CODES

THE EXISTING STRUCTURE DOES NOT CONFORM TO PRESENT EARTHQUAKE CODE REQUIREMENTS FOR NEW BUILDINGS. IT HAS BEEN SEISMICALLY REINFORCED IN ACCORDANCE WITH THE INTERNATIONAL EXISTING BUILDING CODE (IEBC), AS ALLOWED BY SECTION 3401 OF THE INTERNATIONAL BUILDING CODE (IBC), 2015 EDITION, AND IS WITHIN THE CURRENT PRACTICE FOR THE RENOVATION OF EXISTING BUILDINGS OF THIS AGE AND TYPE OF CONSTRUCTION.

STANDARDS: REFERENCE TO ASTM AND OTHER STANDARDS SHALL MEAN THE LATEST EDITION IN EFFECT ON THE BID DATE, UNLESS NOTED IN THESE DOCUMENTS OR DESIGNATED BY THE GOVERNING CODE.

CRITERIA

EARTHQUAKE DESIGN DATA:

EXISTING SEISMIC-FORCE-RESISTING SYSTEM:	MASONRY AND WOOD SHEAR WALLS WOOD DECKING ROOF DIAPHRAGM CONCRETE PANEL FLOOR DIAPHRAGM
ANALYSIS PROCEDURE	LINEAR STATIC PROCEDURE (LSP)
PSEUDO SEISMIC BASE SHEAR: (ASCE 41-13 SECTION 7.4.1.3.1)	V_{BSE-E} (N-S) = 691 KIPS V_{BSE-E} (E-W) = 788 KIPS V_{BSE-2E} (N-S) = 1,052 KIPS V_{BSE-2E} (E-W) = 1200 KIPS
SEISMIC RESPONSE COEFFICIENT: (ASCE 41 SECTION 7.4.1.3.1)	CI C2 CM S_a-IE = 0.952 CI C2 CM S_a-2E = 1.449

SITE CLASS = D (ASCE 41-13 SECTION 2.4.1.6.2)

S_S-IE	= 0.482 (ASCE 41-13 SECTION 2.4.1.4)
S_1-IE	= 0.175 (ASCE 41-13 SECTION 2.4.1.4)
S_{XS}-IE	= 0.682 (ASCE 41-13 SECTION 2.4.1.6)
S_{X1}-IE	= 0.368 (ASCE 41-13 SECTION 2.4.1.6)
S_S-2E	= 0.915 (ASCE 41-13 SECTION 2.4.1.3)
S_1-2E	= 0.355 (ASCE 41-13 SECTION 2.4.1.3)
S_{XS}-2E	= 1.038 (ASCE 41-13 SECTION 2.4.1.6)
S_{X1}-2E	= 0.600 (ASCE 41-13 SECTION 2.4.1.6)

LEVEL OF SEISMICITY = HIGH (ASCE 41-13 SECTION 2.5)

GEOTECHNICAL

ALLOWABLE SOIL PRESSURE, LATERAL EARTH PRESURE, AND SOIL PROFILE TYPE ARE ASSUMED AND THEREFORE MUST BE VERIFIED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER OR INSPECTOR. IF SOILS ARE FOUND TO BE OTHER THAN ASSUMED OR FOUND TO BE EXPANSIVE, NOTIFY THE ARCHITECT OR STRUCTURAL ENGINEER FOR POSSIBLE REDESIGN.

FOOTINGS SHALL BEAR ON FIRM, UNDISTRUBED EARTH OR CONTROLLED, COMPACTED STRUCTURAL FILL AT LEAST 18" BELOW LOWEST ADJACENT EXTERIOR FINISHED GRADE. FOOTING DEPTHS AND ELEVATIONS SHOWN ON DRAWINGS ARE MINIMUM AND FOR GUIDANCE ONLY; CONTRACTOR SHALL ESTABLISH ACTUAL ELEVATIONS IN FIELD. BACKFILL BEHIND ALL WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE IN AN APPROVED MANNER.

SOIL PROFILE TYPE	SITE CLASS "D"
ALLOWABLE VERTICAL DESIGN PRESSURE	2,000 PSF

LATERAL EARTH PRESSURE, LEVEL BACKFILL:

UNRESTRAINED (ACTIVE)	35 PCF
RESTRAINED (AT-REST)	55 PCF

SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION OR CONSTRUCTION OF THESE ITEMS:

- CONCRETE MIX DESIGN
- CONCRETE REINFORCING
- STRUCTURAL STEEL

CONTRACTOR SHALL REVIEW AND STAMP SUBMITTALS PRIOR TO SUBMISSION. DIMENSIONS AND QUANTITIES ARE CONTRACTOR'S RESPONSIBILITY AND WILL NOT BE REVIEWED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS PLACED PRIOR TO RECEIPT OF REVIEWED SHOP DRAWINGS. CONTRACTOR SHALL ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW.

SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

DEFERRED SUBMITTALS: DRAWINGS AND CALCULATIONS FOR BIDDER-DESIGNED COMPONENTS, SEALED BY THE WASHINGTON STATE REGISTERED PROFESSIONAL STRUCTURAL ENGINEER RESPONSIBLE FOR THE DESIGN, SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. DEFERRED SUBMITTALS INCLUDE:

SEISMIC BRACING AND ANCHORAGE OF MECHANICAL EQUIPMENT PER NOTES BELOW

FALL PROTECTION AND ANCHORAGE TO ROOF

SUBMITTALS OF BIDDER-DESIGNED COMPONENTS SHALL INCLUDE LOCATIONS, MAGNITUDES, AND DIRECTIONS OF ALL FORCES TRANSFERRED TO THE STRUCTURE. CALCULATIONS SUBMITTED FOR BIDDER-DESIGNED COMPONENTS ARE FOR INFORMATION ONLY AND WILL NOT BE REVIEWED.

SEISMIC BRACING AND ANCHORAGE OF MECHANICAL UNITS AND OTHER MECHANICAL AND ELECTRICAL FIXTURES NOT SPECIFICALLY SHOWN ON THE PROJECT DRAWINGS SHALL BE DESIGNED BY A WASHINGTON STATE REGISTERED STRUCTURAL ENGINEER. THE MECHANICAL AND ELECTRICAL CONTRACTORS MUST RETAIN THE SERVICES OF A STRUCTURAL ENGINEER AND IS RESPONSIBLE FOR ALL COSTS RELATED TO THE PURCHASE AND INSTALLATION OF SEISMIC BRACING AND ANCHORAGE OF THEIR SYSTEMS.

SPECIAL INSPECTION PER IBC SECTION 1704, SHALL BE PERFORMED BY AN AGENCY APPROVED BY THE BUILDING OFFICIAL AND AS OUTLINED IN THE STRUCTURAL INSPECTION SCHEDULE, SHEETS S00.03 AND S00.04.

STRUCTURAL OBSERVATION SHALL BE PERFORMED PER IBC SECTION 1704.

EXISTING CONDITIONS: CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED. EXISTING CONDITIONS SHOWN ON DRAWINGS ARE BASED EITHER ON SITE OBSERVATIONS, ORIGINAL DRAWINGS, OR WERE ASSUMED BASED ON EXPECTED CONDITIONS. IF EXISTING CONDITIONS DO NOT CLOSELY MATCH CONDITIONS SHOWN ON DRAWINGS, OR IF EXISTING MATERIALS ARE OF QUESTIONABLE OR SUBSTANDARD QUALITY, NOTIFY ENGINEER PRIOR TO COMMENCING ANY WORK.

CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT FOR APPROVAL AT LEAST 10 WORKING DAYS PRIOR TO FABRICATION AND CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS OR SUBMITTALS ONLY WILL NOT SATISFY THIS REQUIREMENT.

CONTRACTOR RESPONSIBILITIES: DRAWINGS REPRESENT DESIGN OF STRUCTURE IN COMPLETED FORM. CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS, SEQUENCES, AND SAFETY PRECAUTIONS REQUIRED TO PERFORM WORK.

CONTRACTOR SHALL DESIGN AND PROVIDE TEMPORARY SHORING AND BRACING OF ALL STRUCTURAL MEMBERS, EXISTING CONSTRUCTION, AND SOIL EXCAVATION AS REQUIRED. SHORING AND BRACING SHALL NOT BE REMOVED UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS, AND MATERIALS HAVE ACHIEVED DESIGN STRENGTH.

DISCREPANCIES: IN CASE OF DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS, REFERENCE STANDARDS, OR GOVERNING CODE, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES AND OBTAIN DIRECTION PRIOR TO PROCEEDING. NOTES ON INDIVIDUAL NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS.

SPECIFICATIONS: REFER TO SPECIFICATIONS FOR INFORMATION IN ADDITION TO THESE NOTES AND DRAWINGS.

ARCHITECTURAL: REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS, SLOPES, DEPRESSIONS, NON-BEARING WALLS, FASCIA, ELEVATORS, STAIRS, CURBS, DRAINS, RAILINGS, WATERPROOFING, FINISHES, ETC.

RENOVATION

DEMOLITION: CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING ANY DEMOLITION. SHORING SHALL BE INSTALLED TO SUPPORT EXISTING CONSTRUCTION AS REQUIRED AND IN A MANNER SUITABLE TO THE WORK SEQUENCES. EXISTING REINFORCING SHALL BE SAVED WHERE POSSIBLE AND AS NOTED ON DRAWINGS. SAW-CUTTING, IF AND WHERE USED, SHALL NOT CUT EXISTING REINFORCING THAT IS TO BE SAVED. DEMOLITION DEBRIS SHALL NOT BE ALLOWED TO DAMAGE OR OVERLOAD THE EXISTING STRUCTURE. CONSTRUCTION LOADING (INCLUDING DEMOLITION DEBRIS) ON EXISTING FLOOR SYSTEMS SHALL BE LIMITED TO 40 PSF.

1. ALL NEW OPENINGS THROUGH EXISTING CONCRETE OR MASONRY WALLS, SLABS, AND BEAMS SHALL BE ACCOMPLISHED BY SAWCUTTING WHEREVER POSSIBLE. ALL NEW OPENINGS SHALL BE SAWCUT NEAT AND CLEAN; NO OVERCUTTING AT OPENING CORNERS SHALL BE ALLOWED, UNLESS NOTED OTHERWISE. AS REQUIRED, CORE DRILL CORNERS AND CHIP, GRIND, OR CUT THE CORNERS TO PROVIDE REQUIRED DIMENSIONS.
2. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND LOCATION OF MEMBERS PRIOR TO CUTTING ANY OPENINGS.
3. SMALL ROUND OPENINGS SHALL BE ACCOMPLISHED BY CORE DRILLING.

CONTRACTOR SHALL CHECK FOR DRYROT AT ALL EXTERIOR WALLS, EXISTING TOILET ROOM FLOORS AND WALLS, AREAS SHOWING WATER STAINS, AND ALL WOOD MEMBERS IN BASEMENT AND CRAWL SPACES. ALL ROT SHALL BE REMOVED AND DAMAGED MEMBERS SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE ENGINEER.

CONCRETE

REFERENCE STANDARDS: CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF THE FOLLOWING DOCUMENTS, EXCEPT AS MODIFIED BELOW:

ACI 308	"STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE"
ACI 318	"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
ACI 304	"GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE"
ACI 311	"GUIDE FOR CONCRETE INSPECTION"
ACI SP-15*	"FIELD REFERENCE MANUAL"

*A COPY SHALL BE KEPT IN THE CONTRACTOR'S FIELD OFFICE AT ALL TIMES.

MATERIALS

CEMENT	ASTM C150, C595
* AGGREGATES	ASTM C33
ADMIXTURES	ASTM C260, C494, C1017
** FLY ASH	ASTM C618, CLASS F OR C

* AGGREGATES THAT EXHIBIT DELETERIOUS ACTIVITY WHEN EVALUATED IN ACCORDANCE WITH ASTM C33 APPENDIX XI SHALL NOT BE USED. SAND EQUIVALENT FOR FINE AGGREGATE SHALL NOT EXCEED 75.

** MAXIMUM LOSS ON IGNITION SHALL BE 1%.

CONCRETE SHALL BE PROPORTIONED TO ACHIEVE A WORKABLE MIX THAT CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER. MIX DESIGNS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BY ENGINEER PRIOR TO USE. COMPLY WITH IBC SECTION 1904. MIXES SHALL MEET OR EXCEED THE FOLLOWING CRITERIA:

TYPE OF CONSTRUCTION	SPECIFIED COMPRESSIVE STRENGTH (f'c)	TEST AGE	MAXIMUM WATER / CEMENT RATIO	EXPOSURE CLASS (ACI 318-11 TABLES 4.2.1 AND 4.3.1)
CONCRETE EXPOSED TO WEATHER	4,500 PSI	28 DAYS	0.5	F1, S0, P0, C1
CONCRETE EXPOSED TO EARTH	4,000 PSI	28 DAYS	0.4**	F0, S0, P0, C1
COLUMNS AND SHEAR WALLS (SHOTCRETE)	6,000 PSI	28 DAYS		AS INDICATED ABOVE
ALL OTHER CONCRETE (UNLESS SPECIFIED BELOW)	4,000 PSI	28 DAYS	**	F0, S0, P0, C0

** WATER-CEMENTITIOUS MATERIAL RATIO FOR INTERIOR SLABS SHALL BE 0.4 UNLESS OTHERWISE NOTED.

ADMIXTURES: ALL CONCRETE, INCLUDING SLABS ON GRADE, SHALL HAVE A WATER-REDUCING ADMIXTURE COMPLYING WITH ASTM C494 ADDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CALCIUM CHLORIDE OR OTHER CHLORIDE ADMIXTURES SHALL NOT BE USED.

ALL HORIZONTAL SURFACES EXPOSED TO WEATHER SHALL CONTAIN AN AIR-ENTRAINING AGENT COMPLYING WITH ASTM C260. THE AMOUNT OF ENTRAINED AIR SHALL BE IN ACCORDANCE WITH TABLE 1 OF ASTM C94 FOR MODERATE EXPOSURE. TESTS FOR AIR CONTENT SHALL BE MADE AT THE DISCHARGE END OF THE TRUCKS PLACING HOSE IN ACCORDANCE WITH ASTM C173.

WATER/CEMENT RATIO SHALL BE MEASURED BY WEIGHT AND BE BASED ON TOTAL CEMENTITIOUS MATERIAL, INCLUDING CEMENT AND POZZOLANS SUCH AS FLY ASH AND SILICA FUME.

MAXIMUM AGGREGATE SIZE SHALL BE 1 1/2", BUT NOT MORE THAN 3/4 TIMES THE CLEAR DISTANCE BETWEEN REINFORCING BARS NOR 1/5 TIMES THE NARROWEST DIMENSION BETWEEN SIDES OF FORMS. MAXIMUM AGGREGATE SIZE FOR SLABS ON GRADE SHALL BE 1/3 TIMES THE SLAB THICKNESS.

SLUMP REQUIRED FOR PROPER PLACEMENT SHALL BE DETERMINED BY CONTRACTOR AND SUPPLIER, AND INCLUDED IN MIX DESIGN SUBMITTALS. FIELD MEASURED SLUMP SHALL CONFORM TO SUBMITTED CONCRETE MIX DESIGN. SLUMP SHALL CONFORM TO ASTM C94.

CAST-IN-PLACE MAY BE USED IN LIEU OF SHOTCRETE AS INDICATED ON THE DRAWINGS OR WHERE APPROVED BY THE STRUCTURAL ENGINEER. CONTRACTOR SHALL OBTAIN THE APPROVALS, TESTS, AND INSPECTIONS REQUIRED BY THE BUILDING DEPARTMENT FOR SHOTCRETE INSTALLATIONS.

SHOTCRETE PROCEDURE MATERIALS, EQUIPMENT, PROPORTIONS, BATCHING AND MIXING, AND PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 506R-90 AND IBC SECTION 1910. REINFORCING LAP SPLICES SHALL BE DETAILED ON SHOP DRAWINGS AS NON-CONTACT LAP SPLICES WITH A MINIMUM OF 2" CLEARANCE BETWEEN BARS.

EMBEDDED ITEMS: CONDUIT AND SLEEVES SHALL NOT BE EMBEDDED IN OR PASS THROUGH CONCRETE WITHOUT APPROVAL. ALUMINUM ITEMS SHALL NOT BE EMBEDDED IN CONCRETE. SUBMIT CONDUIT LAYOUT AND EMBEDDED ITEM PLANS TO THE ARCHITECT FOR REVIEW BY ENGINEER PRIOR TO PLACING CONCRETE.

BONDING AGENT SHALL BE "CONCRESIVE 1080 LIQUID" BASF, OR APPROVED EQUAL, AND SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE. PLACE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, INCLUDING PREPARATION OF EXISTING SURFACES.

NON-SHRINK GROUT SHALL BE "CONSTRUCTION GROUT" BY BASF, OR APPROVED EQUAL, AND SHALL BE MIXED AND PLACED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3,000 PSI MINIMUM).

CONCRETE REINFORCEMENT

REFERENCE STANDARDS: CONCRETE REINFORCEMENT SHALL CONFORM TO ALL REQUIREMENTS OF THE FOLLOWING CODES, SPECIFICATIONS, AND STANDARDS, EXCEPT AS MODIFIED BELOW:

ACI 301	"STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE"
ACI SP-66	"ACI DETAILING MANUAL"
ACI 318	"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
CRSI	"PLACING REINFORCING BARS"
CRSI	"MANUAL OF STANDARD PRACTICE" MSP-1
WRI	"WELDED WIRE FABRIC MANUAL OF STANDARD PRACTICE"

MATERIALS:

DEFORMED BARS	ASTM A615, GRADE 60
SEISMIC DEFORMED BARS*	ASTM A706, GRADE 60 LOW ALLOY
SMOOTH WELDED WIRE	ASTM A185, F_y = 56 KSI (< W1.2) AND 65 KSI (≥ W1.2)
DEFORMED BAR ANCHORS	ASTM A496, 75 KSI YIELD
BAR SUPPORTS	CONFORM TO CHAPTER 3, CRSI MSP-1
WELDED HEADED STUDS	ASTM A108

* SEISMIC DEFORMED BARS SHALL BE USED FOR LONGITUDINAL REINFORCEMENT IN COLUMNS, PILES, STRUT MEMBERS, COUPLING BEAMS, VERTICAL REINFORCEMENT IN SHEAR WALLS. ASTM A615, GRADE 60 BARS MAY BE USED IF:
(1) ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED STRENGTH BY MORE THAN 18 KSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3 KSI) AND
(2) RATIO OF ACTUAL TENSILE STRENGTH TO ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25.
IF MILL TEST REPORTS ARE NOT AVAILABLE, REINFORCEMENT SHALL BE TESTED (PER THE SPECIFICATIONS) AT THE CONTRACTOR'S EXPENSE.

REINFORCEMENT SHALL BE PLACED AND SUPPORTED IN ACCORDANCE WITH CRSI MSP-1. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH ACI SP-66. NO BENDING OR STRAIGHTENING OF REINFORCEMENT WILL BE PERMITTED AFTER PARTIAL EMBEDMENT IN CONCRETE.

LAP ALL CONTINUOUS REINFORCEMENT (#5 AND SMALLER) 40 BAR DIAMETERS OR 2'-0" MINIMUM UNLESS OTHERWISE NOTED. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS (#5 AND SMALLER) 40 BAR DIAMETERS OR 2'-0" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-08, CLASS B. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 1 CROSS WIRE SPACING + 2" OR 8" WHICHEVER IS GREATER.

MECHANICAL SPLICING OF REINFORCING BARS SHALL BE THE FOLLOWING SYSTEMS AND SHALL DEVELOP A MINIMUM OF 125% OF THE SPECIFIED YIELD STRENGTH OF THE BARS:

LENTON (ER-3967), DAYTON/RICHMOND (ER-4028), OR BAR-LOCK (ESR-2495)

CONCRETE COVER: UNLESS NOTED OTHERWISE, MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE:

SLABS ON GRADE	2" BOTTOM
INTERIOR WALL FACES	3/4" (#11 AND SMALLER), 1 1/2" (#14 AND #18)
EXPOSED FORMED WALL FACES	1 1/2" (#5 AND SMALLER), 2" (#6 AND LARGER)
FOOTINGS	3" (EXCEPT 2" TOP AND FORMED SIDES)

CONCRETE ANCHORAGE

POST-INSTALLED ANCHORS INTO NORMAL-WEIGHT CONCRETE SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND NOTED ICC-ES REPORTS. SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW BY ENGINEER WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. ANCHORS SHALL BE THE FOLLOWING TYPES:

EXPANSION ANCHORS SHALL BE HILTI "KWIK BOLT TZ" (ESR-1917) OR SIMPSON STRONG BOLT (ESR-1771) OR DEWALT "POWER STUD+ SD2" (ESR - 2502).

ADHESIVE ANCHORS SHALL BE HILTI HIT-HY 200 (ESR-3187) OR DEWALT AC100 + GOLD (ESR - 2582).

SCREW ANCHORS INTO CONCRETE SHALL BE SIMPSON TITEN HD (ESR-2713) OR DEWALT WEDGE - BOLT + (ESR - 2526).

DRIVE PINS AND OTHER POWDER-ACTUATED FASTENERS SHALL BE ITW RAMSET/RED HEAD (ESR-1799).

NO REINFORCING BARS SHALL BE CUT TO INSTALL ANCHORS. ALL DEFECTIVE ANCHOR HOLES SHALL BE GROUTED WITH EPOXY ADHESIVE AND A NEW HOLE DRILLED A MINIMUM OF 3 BOLT DIAMETERS AWAY.

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02/23/18

SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS
STATION 64
3700 S 320TH ST,
FEDERAL WAY, WA 98001

PROJECT 2015137
BID
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE		

GENERAL STRUCTURAL NOTES

SHEET
S00.02

GENERAL STRUCTURAL NOTES

STEEL

REFERENCE STANDARDS: STRUCTURAL STEEL SHALL CONFORM TO ALL REQUIREMENTS OF THE FOLLOWING DOCUMENTS:

AISC 360	"SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
AISC 341	"SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS"
AISC 303	"CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
AWS D1.1	"STRUCTURAL WELDING CODE - STEEL"
AISC 348	"SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"
AISC 358	"PREQUALIFIED CONNECTIONS FOR SPECIAL AND INTERMEDIATE STEEL MOMENT FRAMES FOR SEISMIC APPLICATIONS"

STRUCTURAL STEEL, INCLUDING PLATES, ANGLES, CHANNELS, AND RODS, SHALL CONFORM TO ASTM A36, F_y = 36 KSI. WIDE FLANGE AND WT STEEL SHAPES SHALL CONFORM TO ASTM A992, F_y = 50 KSI. STEEL PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B, F_y = 35 KSI. STRUCTURAL TUBING (HSS) SHALL CONFORM TO ASTM A500, GRADE B, F_y = 46 KSI. ANCHOR BOLTS AND CONNECTION BOLTS SHALL CONFORM TO ASTM A307.

WELDING: ALL WELDS SHALL COMPLY WITH AWS D1.1. WELDS SHALL BE MADE USING LOW HYDROGEN E7XXX ELECTRODES ONLY. AWS PREQUALIFIED WELDED JOINTS SHALL BE USED. SHOP DRAWINGS SHALL SHOW ALL WELDING WITH AWS A2.4 STANDARD SYMBOLS. WELDS SHOWN ON DRAWINGS ARE MINIMUM SIZES. INCREASE WELD SIZE TO AWS MINIMUM SIZES BASED ON PLATE THICKNESS. WELDS NOT SPECIFIED SHALL BE CONTINUOUS 1/4" FILLET WELDS.

WELDS SHOWN ON DRAWINGS ARE FOR FINAL CONNECTIONS. UNLESS FIELD WELD SYMBOLS ARE SHOWN, CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING IF A WELD SHOULD BE SHOP OR FIELD WELDED IN ORDER TO FACILITATE STEEL ERECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL JOINT PREPARATIONS AND WELDING PROCEDURES, INCLUDING ROOT OPENINGS AND FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, TAPERS, AND SURFACE ROUGHNESS.

WELDER CERTIFICATION: AWS OR WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO).

ANCHOR RODS SHALL BE INSTALLED TO AISC SNUG-TIGHT CRITERIA WITH HEX NUTS AND LOCK WASHERS OR JAM NUTS AT THE TOP. AT THE BOTTOM, PROVIDE A STANDARD SIZE HEAD, TACK-WELDED NUT OR DOUBLE NUT. NO HEATING OR BENDING OF ANCHOR RODS IS PERMITTED. ENLARGEMENT OF ANCHOR ROD HOLES BY BURNING IS NOT PERMITTED. BASE PLATE HOLES FOR ANCHOR RODS SHALL BE AS SHOWN BELOW:

AIR DIAMETER	MAXIMUM HOLE DIAMETER	MINIMUM WASHER DIAMETER	MINIMUM WASHER THICKNESS
5/8"	11/16"	1 1/2"	3/16"
3/4"	13/16"	2"	1/4"
7/8"	1 3/16"	2 1/2"	5/16"
1"	1 13/16"	3"	3/8"

MASONRY ANCHORAGE

POST-INSTALLED MASONRY ANCHORS INTO SOLID GROUTED MASONRY SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS AND NOTED ICC-ES REPORTS. SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BY ENGINEER WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. ANCHORS SHALL BE THE FOLLOWING TYPES:

EXPANSION ANCHORS SHALL BE SIMPSON WEDGE-ALL (ESR-1396) OR HILTI KWIK BOLT3 (ICC-ESR 1385).

ADHESIVE ANCHORS SHALL BE SIMPSON SET (ESR-1772) OR HILTI HY-200 (ESR-3187).

WOOD

REFERENCE STANDARDS: WOOD SHALL CONFORM TO ALL REQUIREMENTS OF THE FOLLOWING DOCUMENTS:

AITC	"TIMBER CONSTRUCTION MANUAL"
NDS	"NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION"
AF AND PA SDPWS	"SUPPLEMENT SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC"

PLYWOOD: WOOD STRUCTURAL PANELS SHALL CONFORM TO REQUIREMENTS OF US DEPARTMENT OF COMMERCE PS-1 OR PS-2. EACH PANEL SHALL BEAR THE AMERICAN PLYWOOD ASSOCIATION (APA) GRADE MARK. SEE DRAWINGS FOR GRADE, GLUE TYPE AND THICKNESS.

SHEATHING: UNLESS NOTED OTHERWISE, ROOF AND FLOOR PANELS SHALL BE INSTALLED WITH LONG DIMENSION PERPENDICULAR TO SUPPORTS AND CONTINUOUS OVER 2 OR MORE SPANS. PLACE NAILS 3/8" FROM PANEL ENDS AND EDGES. DRIVE ALL NAILS FLUSH WITH SHEATHING SURFACE.

SAWN LUMBER: SAWN LUMBER SHALL BE IDENTIFIED BY THE GRADE MARK OF A LUMBER GRADING OR INSPECTIONAGENCY APPROVED BY AN ACCREDETITATION BODY COMPLYING WITH US DEPARTMENT OF COMMERCE PS20. SAWN LUMBER SPECIES AND GRADES SHALL BE AS FOLLOWS:

USE	SIZE	SPECIES	GRADE
WALL STUDS	2x 3x	HEM-FIR	STUD
SILL PLATES	2x 3x	HEM-FIR	UTILITY

STRUCTURAL COMPOSITE LUMBER: DESIGN SHOWN ON DRAWINGS IS BASED ON LUMBER MANUFACTURED BY TRUS-JOIST IN ACCORDANCE WITH ICC-ES ESR-1387. SUBSTITUTES SHALL BE SUBMITTED WITH A CURRENT ICC-ES EVALUATION REPORT AND AN ITEMIZED SUBSTITUTION LIST FOR APPROVAL.

CONNECTORS: DESIGN SHOWN ON DRAWINGS IS BASED ON CONNECTORS MANUFACTURED BY SIMPSON STRONG-TIE IN ACCORDANCE WITH CATALOG C-2315. SUBSTITUTES SHALL BE SUBMITTED WITH A CURRENT ICC-ES EVALUATION REPORT AND AN ITEMIZED SUBSTITUTION LIST FOR APPROVAL. CONNECTORS SHALL BE INSTALLED IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS.

NAILING: NOT SHOWN SHALL BE PER IBC TABLE 2304.9.1. NAILS SHALL COMPLY WITH ASTM F1667. MINIMUM NAIL DIMENSIONS SHALL BE AS FOLLOWS:

SIZE	DIAMETER	LENGTH
6d	0.113"	2"
8d	0.131"	2 1/2"
10d	0.148"	3"
12d	0.148"	3 1/4"
16d	0.162"	3 1/2"
20d	0.192"	4"

BOLTS AND LAG SCREWS SHALL CONFORM TO ASTM A307.

PRESERVATIVE TREATED WOOD: ALL WOOD MEMBERS EXPOSED TO WEATHER AND SPECIFIED AS "PT" ON THE DRAWINGS SHALL BE PRESERVATIVE-TREATED IN ACCORDANCE WITH AWPA U. EACH MEMBER SHALL BE IDENTIFIED BY THE QUALITY MARK OF AN INSPECTION AGENCY LISTED BY THE AMERICAN LUMBER STANDARDS TREATED WOOD PROGRAM, AND COMPLYING WITH IBC SECTION 2303.1.8.1. FASTENERS IN SUCH WOOD MEMBERS SHALL BE HOT DIPPED ZINC COATED GALVANIZED PER ASTM A153.

SEE EARTHQUAKE DESIGN DATA SECTION OF THE GENERAL STRUCTURAL NOTES ON SHEET S00.02 FOR SEISMIC-FORCE RESISTING SYSTEMS. SEISMIC-FORCE-RESISTING SYSTEMS INCLUDING DRAG STRUTS AND CHORDS ARE SUBJECT TO SPECIAL INSPECTION NACCORDANCE WITH THE FOLLOWING SEISMIC AND NON-SEISMIC TABLES. STRUCTURAL SYSTEMS NOT PART OF THE SEISMIC-FORCE-RESISTING SYSTEM NEED ONLY BE INSPECTED IN ACCORDANCE WITH NON-SEISMIC TABLES.

STRUCTURAL STEEL SPECIAL INSPECTION

SPECIAL INSPECTION FOR STRUCTURAL STEEL SHALL BE ACCORDANCE WITH AISC 341, AISC 360, AND THE FOLLOWING INFORMATION.

TASK - INDICATES WHETHER TO OBSERVE OR PERFORM (OR BOTH) THE INSPECTION TASK.
DOC - THE INSPECTOR SHALL PREPARE REPORTS INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
O - OBSERVE THESE FUNCTIONS ON A RANDOM, DAILY BASIS, OPERATIONS NEED NOT BE DELAYED PENDING INSPECTIONS, FREQUENCY OF OBSERVATIONS SHALL BE ADEQUATE TO CONFIRM THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPLICABLE DOCUMENTS.
P - PERFORM, FOR EACH JOINT OR MEMBER PRIOR TO THE FINAL ACCEPTANCE OF THE ITEM.
QC - TASKS INDICATED AS "QC" SHALL BE EXECUTED BY THE FABRICATOR AND ERECTOR IN ACCORDANCE WITH AISC 360 CHAPTER N
QA - TASKS INDICATED AS "QA" SHALL BE EXECUTED BY THE SPECIAL INSPECTOR IN ACCORDANCE WITH AISC 360 CHAPTER N.

WELDING

INSPECTION TASKS PRIOR TO WELDING	QC	QA	REFERENCED STANDARD	IBC REFERENCE
INSPECTION TASKS PRIOR TO WELDING			AISC 360 CH. N & AWS D1.1	1705.2.1
WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	P	P		
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P		
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O		
WELDER IDENTIFICATION SYSTEM[1]	O	O		
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY), JOINT PREPARATION, DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL), CLEANLINESS (CONDITION OF STEEL SURFACES)BACKING (TACK WELD QUALITY AND LOCATION), BACKING TYPE AND FIT (IF APPLICABLE)	O	O		
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O		
FIT-UP OF FILLET WELDS, DIMENSIONS (ALIGNMENT, GAPS AT ROOT), CLEANLINESS (CONDITION OF STEEL SURFACES), TACKING (TACK WELD QUALITY AND LOCATION)	O	O		
CHECK WELDING EQUIPMENT	O	-		
INSPECTION TASKS DURING WELDING			REFERENCED STANDARD	IBC REFERENCE
INSPECTION TASKS DURING WELDING	QC	QA	AISC 360 CH. N & AWS D1.1	1705.2.1
USE OF QUALIFIED WELDERS	O	O		
CONTROL AND HANDLING OF WELDING CONSUMABLES, PACKAGING, EXPOSURE CONTROL	O	O		
NO WELDING OVER CRACKED TACK WELDS	O	O		
ENVIRONMENTAL CONDITIONS, WIND SPEED WITHIN LIMITS, PRECIPITATION AND TEMPERATURE	O	O		
WPS FOLLOWED, SETTINGS ON WELDING EQUIPMENT, TRAVEL SPEED, SELECTED WELDING MATERIALS, SHIELDING GAS TYPE/FLOW RATE, PREHEAT APPLIED, INTERPASS TEMPERATURE MAINTAINED (MIN/MAX), PROPER POSITION (F, V, H, OH)	O	O		
WELDING TECHNIQUES, INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, EACH PASS MEETS QUALITY REQUIREMENTS	O	O		
INSPECTION TASKS AFTER WELDING			REFERENCED STANDARD	IBC REFERENCE
INSPECTION TASKS AFTER WELDING	QC	QA	AISC 360 CH. N & AWS D1.1	1705.2.1
WELDS CLEANED	O	O		
SIZE, LENGTH AND LOCATION OF WELDS	P	P		
WELDS MEET VISUAL ACCEPTANCE CRITERIA, CRACK PROHIBITION, WELD / BASE-METAL FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, POROSITY	P	P		
ARC STRIKES	P	P		
K-AREA[2]	P	P		
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P		
REPAIR ACTIVITIES	P	P		
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P		

[1] THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.

[2] WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 INCHES OF WELD.

BOLTING

INSPECTION TASKS PRIOR TO BOLTING	QC	QA	REFERENCED STANDARD	IBC REFERENCE
INSPECTION TASKS PRIOR TO BOLTING			AISC 360 CH. N	1705.2.1
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P		
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O		
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O		
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O		
CONNECTING ELEMENTS, NCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O		
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O		
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O		
INSPECTION TASKS DURING BOLTING			REFERENCED STANDARD	IBC REFERENCE
INSPECTION TASKS DURING BOLTING	QC	QA	AISC 360 CH. N	1705.2.1
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	O		
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O		
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O		
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O		
INSPECTION TASKS AFTER BOLTING			REFERENCED STANDARD	IBC REFERENCE
INSPECTION TASKS AFTER BOLTING	QC	QA	AISC 360 CH. N	1705.2.1
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P		

SEISMIC WELDING

VISUAL INSPECTION TASK PRIOR TO WELDING	QC		QA		REFERENCED STANDARD	IBC REFERENCE
	TASK	DOC	TASK	DOC		
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	-	O	-	AISC 341 CH. J, AWS D1.1 & AWS D1.8	1705.2.1
WELDER IDENTIFICATION SYSTEM	O	-	O	-		
FIT-UP OF GROOVE (INCLUDING JOINT GEOMETRY) - JOINT PREPARATION - DIMENSION (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION) - BACKING TYPE AND FIT (IF APPLICABLE)	P/O**	-	O	-		
CONFIGURATION AND FINISH TO ACCESS HOLES	O	-	O	-		
FIT-UP OF GROOVE (INCLUDING JOINT GEOMETRY) - DIMENSION (ALIGNMENT, GAPS OF ROOT) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION)	P/O**	-	O	-		
VISUAL INSPECTION TASK DURING TO WELDING	QC		QA		REFERENCED STANDARD	IBC REFERENCE
	TASK	DOC	TASK	DOC		
WPS FOLLOWED - SETTINGS ON WELDING EQUIPMENT - TRAVEL SPEED - SELECTED WELDING MATERIALS - SHIELDING GAS TYPE/FLOW RATE - PREHEAT APPLIED - INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) - PROPER POSITION (F, V, H, OH) - INTERMIX OF FILLER METALS AVOIDED UNLESS APPROVED	O	-	O	-	AISC 341 CH. J, AWS D1.1 & AWS D1.8	1705.2.1
CONFIGURATION AND FINISH TO ACCESS HOLES	O	-	O	-		
CONTROL AND HANDLING OF WELDING CONSUMABLES - PACKAGING - EXPOSURE CONTROL	O	-	O	-		
ENVIRONMENTAL CONDITIONS - WIND SPEED WITHIN LIMITS - PRECIPITATION AND TEMPERATURE	O	-	O	-		
WELDING TECHNIQUES - INTERPASS AND FINAL CLEANING - EACH PASS WITHIN PROFILE LIMITATIONS - EACH PASS MEET QUALITY REQUIREMENTS	O	-	O	-		
NO WELDING OVER CRACKED TACKS	O	-	O	-		
VISUAL INSPECTION TASK AFTER TO WELDING	QC		QA		REFERENCED STANDARD	IBC REFERENCE
	TASK	DOC	TASK	DOC		
WELDS CLEANED	O	-	O	-	AISC 341 CH. J, AWS D1.1 & AWS D1.8	1705.2.1
SIZE, LENGTH, AND LOCATION OF WELDS	P	-	P	-		
WELDS MEET VISUAL ACCEPTANCE CRITERIA - CRACK PROHIBITION - WELDS MEET VISUAL ACCEPTANCE CRITERIA - CRATER CROSS SECTION - WELD PROFILES AND SIZE - UNDERCUT - POROSITY	P	D	P	D		
PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS (IF REQUIRED)	P	D	P	D		
BACKING REMOVED, WELD TABS REMOVED AND FINISHED, AND FILLET WELDS ADDED (IF REQUIRED)	P	D	P	D		
REPAIR ACTIVITES	P	-	P	D		

**FOLLOWING PERFORMANCE OF THIS INSPECTION TASK FOR TEN WELDS TO BE MADE BY A GIVEN WELDER, WITH THE WELDER DEMONSTRATING UNDERSTANDING OF REQUIREMENTS AND POSSESSION OF SKILLS AND TOOLS TO VERIFY THESE ITEMS, THE PERFORM DESIGNATION OF THIS TASK SHALL BE REDUCED TO OBSERVE AND THE WELDER SHALL PERFORM THIS TASK. SHOULD THE INSPECTOR DETERMINE THAT THE WELDER HAS DISCONTINUED PERFORMANCE OF THIS TASK, THE TASK SHALL BE RETURNED TO PERFORM UNTIL SUCH TIME AS THE INSPECTOR HAS RE-ESTABLISHED ADEQUATE ASSURANCE THAT THE WELDER WILL PERFORM THE INSPECTION TASKS LISTED.

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02/23/18

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PROJECT 2015137
BID
ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

GENERAL STRUCTURAL NOTES AND SPECIAL INSPECTION SCHEDULES

SHEET
S00.03

SPECIAL INSPECTION SCHEDULES

SEISMIC BOLTING

VISUAL INSPECTION TASK PRIOR TO WELDING	QC		QA		REFERENCED STANDARD	IBC REFERENCE
	TASK	DOC	TASK	DOC		
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL	O	-	O	-	AISC 341 CH. J	1705.12.1
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	-	O	-		
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	-	O	-		
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED FOR FASTENER ASSEMBLIES AND METHOD USED	P	D	P	D		
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	-	O	-		
VISUAL INSPECTION TASK DURING BOLTING	**QC**		**QA**		**REFERENCED STANDARD**	**IBC REFERENCE**
	TASK	DOC	TASK	DOC		
FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHER (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	-	O	-	AISC 341 CH. J	1705.12.1
JOINT BOUGHT TO THE SNUG TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	-	O	-		
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	-	O	-		
BOLTS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	-	O	-		
VISUAL INSPECTION TASK AFTER BOLTING	**QC**		**QA**		**REFERENCED STANDARD**	**IBC REFERENCE**
	TASK	DOC	TASK	DOC		
DOCUMENT ACCEPTED AND REJECTED CONNECTIONS	P	D	P	D	AISC 341 CH. J	1705.12.1

SPECIAL INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD[1]	IBC REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT	-	X	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. REINFORCING BAR WELDING:				
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	-	X	AWS D1.4 ACI 318: 26.6.4	-
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	-	X		
c. INSPECT ALL OTHER WELDS	X	-		
3. INSPECT ANCHORS CAST IN CONCRETE	-	X	ACI 318: 17.8.2	-
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS[2]				
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	-	ACI 318: 17.8.2.4	-
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a	-	X	ACI 318: 17.8.2	-
5. VERIFY USE OF REQUIRED DESIGN MIX	-	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3, 1908.10
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	-	ASTM C 172 ASTM C 31 ACI 318: 26.4, 26.12	1908.10
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X	ACI 318: 26.5.3-26.5.5	1908.9
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	X	ACI 318: 26.11.2[2]	-

[1] WHERE APPLICABLE, SEE ALSO IBC SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.

[2] SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF WORK.

WOOD CONSTRUCTION

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. HIGH LOAD DIAPHRAGMS PER IBC SECTION 2306.2:				
a. CONFIRM SHEATHING IS OF THE GRADE AND THICKNESS AS SHOWN ON THE APPROVED BUILDING PLANS		X	AF&PA SDPWS-2015	1705.5
b. VERIFY NOMINAL SIZE OF FRAMING AT PANEL EDGES		X	AF&PA SDPWS-2015	1705.5
c. VERIFY NAIL OR STAPLE DIAMETER AND LENGTH		X	AF&PA SDPWS-2015	1705.5
d. VERIFY NUMBER OF FASTENER LINES, THE SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE		X	AF&PA SDPWS-2015	1705.5

SEISMIC REQUIREMENTS FOR WOOD CONSTRUCTION

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
2. NAILING, BOLTING, ANCHORING AND FASTENING OF WOOD SHEAR WALLS, WOOD DIAPHRAGM, COLLECTORS/DRAG STRUTS, BRACES, SHEAR PANELS AND HOLDOWNS		X	AF&PA SDPWS-2015	1705.12.2

REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCE STANDARD	IBC REFERENCE
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	-	X	-	1705.6
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	-	X	-	1705.6
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	-	X	-	1705.6
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	-	-	1705.6
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	-	X	-	1705.6

NONSTRUCTURAL COMPONENTS

SEISMIC REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. DESIGNATED SEISMIC SYSTEM				
a. VERIFY THE LABEL, ANCHORAGE AND MOUNTING CONFORMS TO THE CERTIFICATE OF COMPLIANCE		X	ASCE 7 SECTION 13.2	1705.12.4
2. ARCHITECTURAL COMPONENTS				
a. ERECTION AND FASTENING OF b. EXTERIOR CLADDING[1, 2]		X	-	1705.12.5
b. ERECTION AND FASTENING OF INTERIOR AND[3] EXTERIOR NONBEARING WALLS[1, 2]		X	-	1705.12.5
c. ERECTION AND FASTENING OF INTERIOR AND EXTERIOR VENEER[1, 2]		X	-	1705.12.5
d. ANCHORAGE OF ACCESS FLOORS		X	-	1705.12.5.1
3. PLUMBING, MECHANICAL AND ELECTRICAL COMPONENTS				
a. ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY AND STANDBY POWER SYSTEMS		X	-	1705.12.6
b. ANCHORAGE OF OTHER ELECTRICAL EQUIPMENT		X	-	1705.12.6
c. INSTALLATION AND ANCHORAGE OF PIPING SYSTEM DESIGNED TO CARRY HAZARDOUS MATERIALS AND THERE ASSOCIATED MECHANICAL UNITS		X	-	1705.12.6
d. INSTALLATION AND ANCHORAGE OF DUCTWORK DESIGNED TO CARRY HAZARDOUS MATERIALS		X	-	1705.12.6
e. INSTALLATION AND ANCHORAGE OF VIBRATION ISOLATION SYSTEM WHERE THE NOMINAL CLEARANCE BETWEEN THE EQUIPMENT SUPPORT FRAME AND RESTRAIN IS 1/4 INCH OR LESS		X	-	1705.12.6
4. STORAGE RACK				
a. ANCHORAGE OF STORAGE RACKS 8 FEET OR GREATER IN HEIGHT		X	-	1705.12.7

[1] SPECIAL INSPECTION IS NOT REQUIRED FOR EXTERIOR CLADDING, INTERIOR AND EXTERIOR NONBEARING WALLS AND INTERIOR AND EXTERIOR VENEER 30FT OR LESS IN HEIGHT ABOVE GRADE [OR A WALKING SURFACE].

[2] SPECIAL INSPECTION IS NOT REQUIRED FOR EXTERIOR CLADDING AND INTERIOR AND EXTERIOR VENEER WEIGHING 5 PSF OR LESS.

[3] SPECIAL INSPECTION IS NOT REQUIRED FOR INTERIOR NONBEARING WALLS WEIGHING 15 PSF OR LESS.

TESTS

CONCRETE

a. VERIFICATION OF SPECIFIED CONCRETE COMPRESSIVE STRENGTH, f'_c, IN ACCORDANCE WITH ACI 318-14 SECTION 26.12.

b. VERIFICATION OF SPECIFIED AIR CONTENT, SLUMP, AND TEMPERATURE IN ACCORDANCE WITH ACI 318-14 SECTION 26.12 AT TIMES FRESH CONCRETE IS SAMPLED.

c. VERIFICATION OF SPECIFIED SHOTCRETE COMPRESSIVE STRENGTH, f'_c, IN ACCORDANCE WITH IBC 1908.10 AT LEAST ONCE PER SHIFT, BUT NOT LESS THAN 50 CUBIC YARDS OF SHOTCRETE.

GEOTECHNICAL

a. VERIFICATION OF SPECIFIED FILL CLASSIFICATION MOISTURE CONTENT, AND DENSITY IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

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02/23/18

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PROJECT 2015137

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ISSUE DATE FEBRUARY 23, 2018

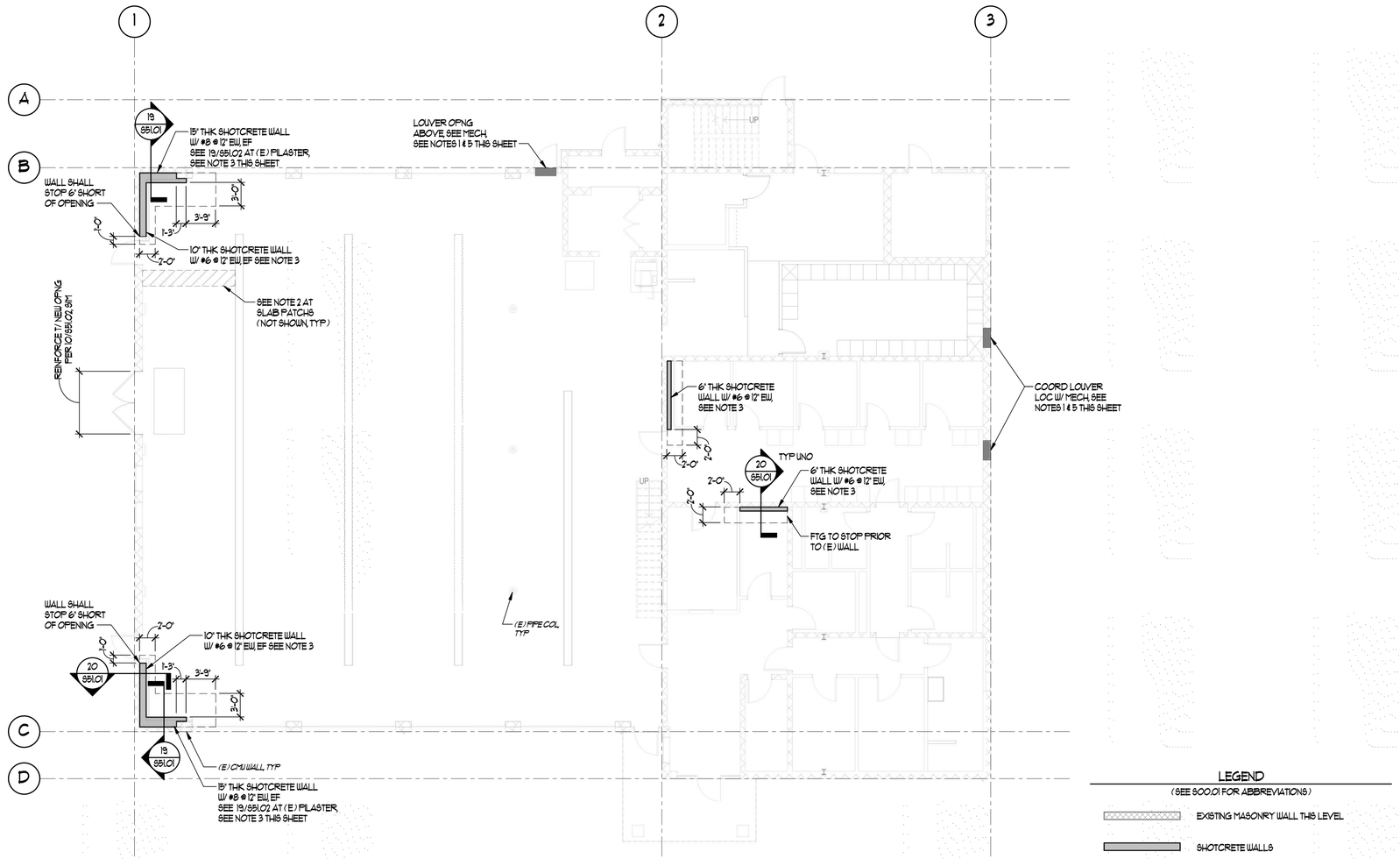
REVISION SCHEDULE		

SPECIAL INSPECTION SCHEDULES

SHEET
S00.04

NOTES:

1. COORDINATE MASONRY WALL OPENINGS FOR MECHANICAL WITH MECHANICAL DRAWINGS. PROVIDE OPENING HEADER PER 10/S51.02 SIMILAR. LOCATE OPENINGS SO THEY DO NOT REQUIRE THE REMOVAL OF GROUTED CELLS WHERE POSSIBLE.
2. PATCH CONCRETE SLAB AT FOOTINGS AND AS REQUIRED FOR PLUMBING OR MECHANICAL OR ARCHITECTURAL PER 2/S50.01. COORDINATE LOCATIONS WITH ARCHITECTURAL AND PLUMBING. LOCATIONS NOT SHOWN.
3. DOWEL ALL SHOTCRETE WALLS TO EXISTING WALLS PER 1/S50.01.
4. REFERENCE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF CMU INFILLS (NOT SHOWN). INFILL WALLS PER 17/S51.02.
5. LOCATE LOUVER OPENINGS BETWEEN EXISTING REINFORCED CELLS (REINFORCING APPROXIMATELY 24" OC VERTICALLY AND 32" OC HORIZONTALLY PER RECORD DRAWINGS). CONTRACTOR TO LOCATE REINFORCING PRIOR TO DEMO FOR LOUVER INSTALLATION. SEE 10/S51.02 SIM FOR SUPPORT AT OPENINGS.
6. GENERATOR PAD NOT SHOWN: SEE DETAIL 15/S51.01 COORDINATE REQUIRED SIZE AND LOCATION WITH ELECTRICAL AND CIVIL.
7. COORDINATE WALL OPENING LOCATIONS NOT SHOWN WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL. WALL OPENINGS SHALL NOT DAMAGE EXISTING GROUTED CELLS OR REINFORCING AND SHALL NOT BE LARGER THAN ONE CMU BRICK.



FOUNDATION AND FIRST FLOOR PLAN

1/8" = 1'-0"

N

LEGEND

(SEE S00.01 FOR ABBREVIATIONS.)

- EXISTING MASONRY WALL THIS LEVEL
- SHOTCRETE WALLS

SHEET NOTE:

ALL DIMENSIONS, ELEVATION, AND LOCATIONS OF EXISTING STRUCTURAL COMPONENTS ARE BASED ON INFORMATION GATHERED FROM ORIGINAL DRAWINGS OR CURSORY FIELD MEASUREMENTS AND ARE SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL FIELD MEASURE AND VERIFY ALL CONDITIONS PRIOR TO COMMENCING ANY WORK. NOTIFY ENGINEER WHERE CONDITIONS VARY FROM THOSE SHOWN.

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STATE OF WASHINGTON · 43107 · CHRISTOPHER J. MILLER · STRUCTURAL ENGINEER · PROFESSIONAL ENGINEER

02/23/18

SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS
STATION 64
3700 S 320TH ST,
FEDERAL WAY, WA 98001

PROJECT 2015137

BID

ISSUE DATE FEBRUARY 23, 2018

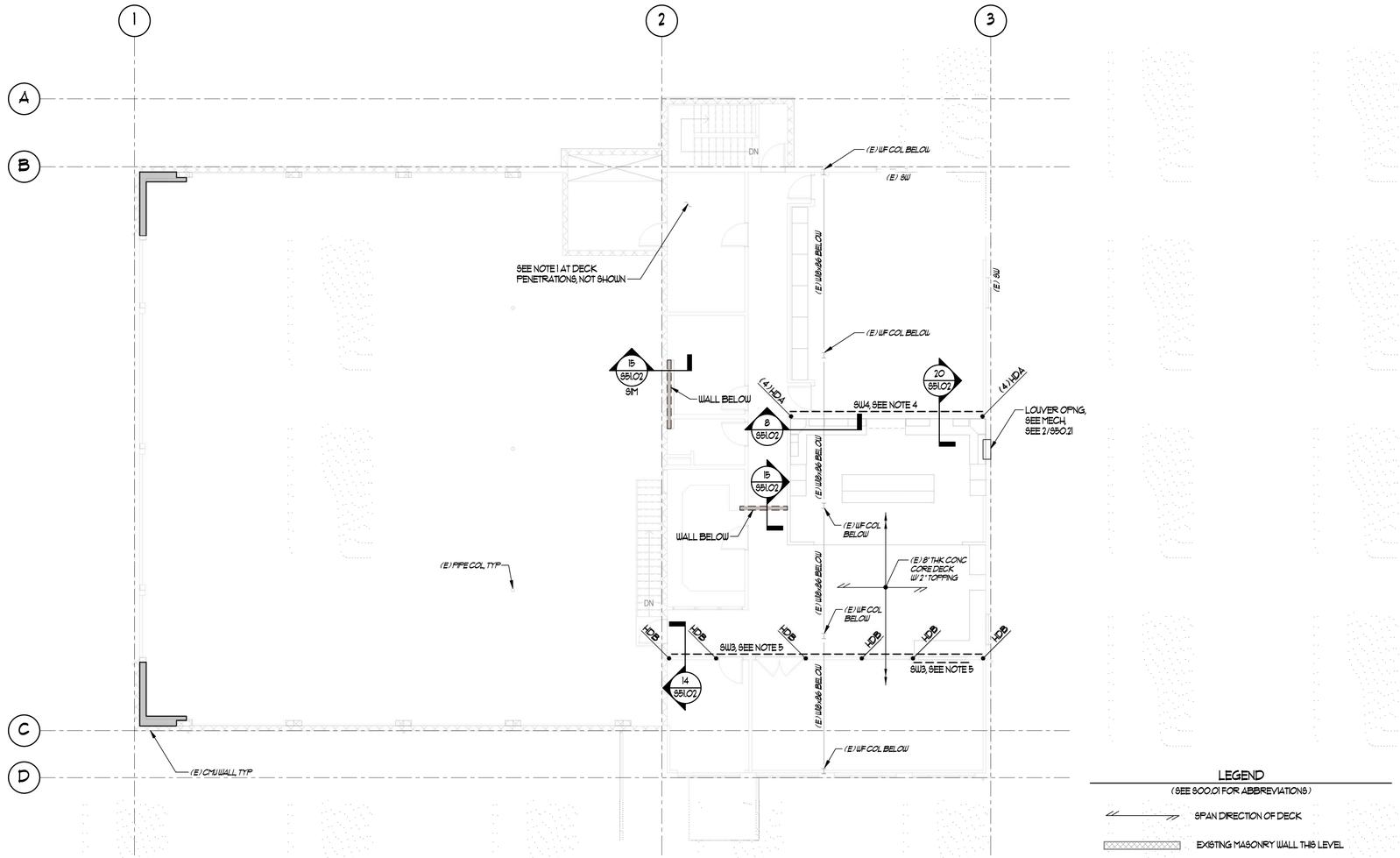
REVISION SCHEDULE		

FOUNDATION AND FIRST FLOOR PLAN

SHEET
S21.11

NOTES:

1. COORDINATE PENETRATIONS INTO CONCRETE CORE DECK WITH PLUMBING. PENETRATIONS SHALL BE 4 INCHES MAXIMUM DIAMETER AND CORE DRILLED INTO HOLLOW PORTIONS OF DECK. DO NOT DAMAGE REINFORCING.
2. DOWEL ALL SHOTCRETE WALLS TO EXISTING WALLS PER 1/S50.01.
3. REFERENCE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF CMU INFILLS (NOT SHOWN). INFILL WALLS PER 1T/S51.02.
4. REMOVE EXISTING 3/8" PLYWOOD PRIOR TO INSTALLATION OF BLOCKING AND SHEATHING PER SW4. DO NOT DAMAGE EXISTING SHEATHING AND NAILING ON OPPOSITE SIDE OF WALL. INSTALL SIMPSON H8S2-8DS15 AND H8S2-2-8DS3 AT ALL STUDS WITH MECHANICAL / PLUMBING PIPING. SIMPSON CTS218 ONE SIDED WITH (24) SD #9 x 11/2" FASTENERS MAY BE USED AS ALTERNATE.
5. REMOVE EXISTING PLYWOOD SHEETS REQUIRED TO INSTALL HOLDOWNS AND POSTS. INSTALL STRAPS PER 5/S50.21. INSTALL FULL SHEETS PER REQUIREMENTS OF SW3 PER SHEARWALL SCHEDULE AT OPENING TO BE FILLED. INSTALL FULL HEIGHT STUDS AND SHEATING AS REQUIRED PER SHEARWALL SCHEDULE.



SECOND FLOOR FRAMING PLAN

1/8" = 1'-0"

N

LEGEND

(SEE S00.01 FOR ABBREVIATIONS)

- SPAN DIRECTION OF DECK
- EXISTING MASONRY WALL THIS LEVEL
- SHOTCRETE WALLS THIS LEVEL
- SWX — SHEAR WALLS THIS LEVEL, SEE 20/S50.21
- HDT — HOLDOWN PER SCHEDULE 18/S50.21

SHEET NOTE:

ALL DIMENSIONS, ELEVATION, AND LOCATIONS OF EXISTING STRUCTURAL COMPONENTS ARE BASED ON INFORMATION GATHERED FROM ORIGINAL DRAWINGS OR CURSORY FIELD MEASUREMENTS AND ARE SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL FIELD MEASURE AND VERIFY ALL CONDITIONS PRIOR TO COMMENCING ANY WORK. NOTIFY ENGINEER WHERE CONDITIONS VARY FROM THOSE SHOWN.

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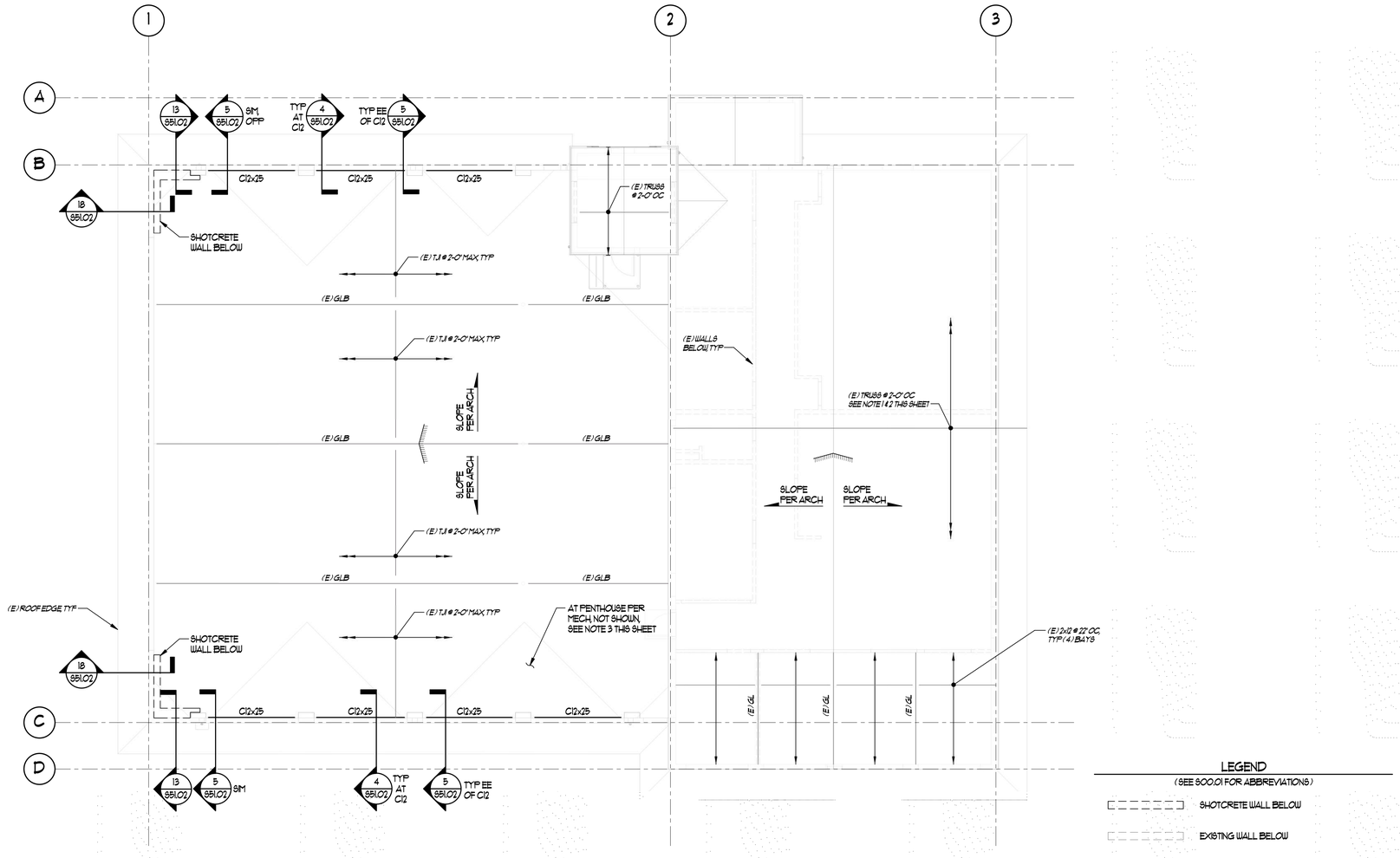
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SECOND FLOOR FRAMING PLAN

SHEET
S21.12

NOTES:

1. SEE 10/S50.21 AND 13/S50.21 FOR FALL PROTECTION FRAMING NOT SHOWN. SEE ARCHITECTURAL FOR LOCATIONS.
2. OPENINGS IN ROOF PER MECHANICAL AND ARCHITECTURAL NOT SHOWN. PROVIDE 2x6 FRAMING AT OPENING EDGES PER 13/S50.21 AND 10/S50.21 SIMILAR.
3. PROVIDE 2x6 FRAMING WITH SIMPSON HUS26 INSTALLED UPSIDE DOWN AT EDGES OF PENTHOUSE. 2x6 TO SPAN BETWEEN EXISTING FRAMING. BLOCK I-JOISTS AS REQUIRED FOR HANGER INSTALLATION.



ROOF FRAMING PLAN
1/8" = 1'-0"

N

LEGEND
(SEE S000.01 FOR ABBREVIATIONS)

- SHOTCRETE WALL BELOW
- EXISTING WALL BELOW
- ROOF PEAK

SHEET NOTE:

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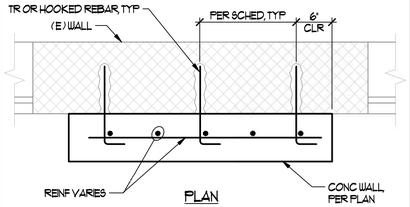
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ROOF FRAMING PLAN

SHEET
S21.13



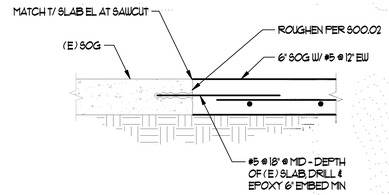
PLAN

SCHEDULE				
(E) WALL	DETAIL	MAX SPACING (SEE NOTE 2)	MIN EMBED	BAR SIZE
FILLED CMU	3/S50.01	1'-6" EW	4"	3/4" DIA TR OR #6
HOLLOW CMU	3/S50.01	1'-6" EW	PER 3/S50.01	3/4" DIA TR

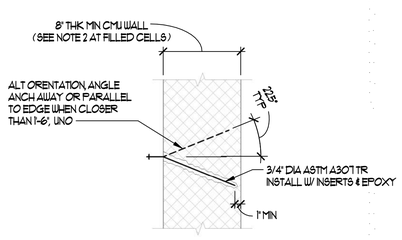
NOTES:

1. THIS OCCURS AT ALL CONCRETE, MASONRY, AND URM WALLS.
2. SPACING NOTED IS MAXIMUM. SPACING MAY NEED TO DECREASE TO MATCH WALL SPACING TO ENGAGE HOOKS / THREADED RODS WITH WALL REINFORCING.

CONCRETE WALL DETAIL AND SCHEDULE 1
NTS



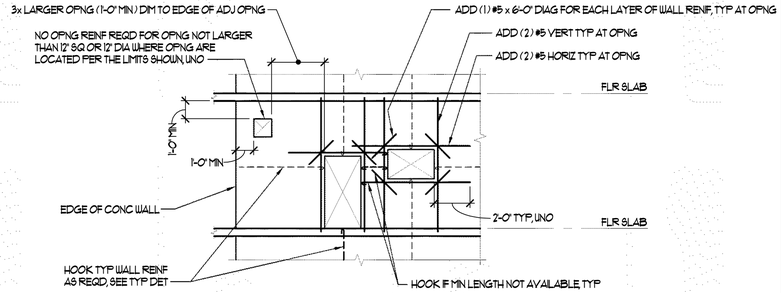
SOG TO EXISTING CONNECTION 2
NTS



NOTES:

1. INSTALL ANCHOR WITH REBAR WHERE REQUIRED. SEE DETAILS FOR REBAR SIZE.
2. 22.5° HOLE ANGLE NOT REQUIRED FOR REBAR INSTALLED IN EXISTING FILLED CELLS. 1" DISTANCE TO EXISTING SIDE IS NOT APPLICABLE AT EXISTING CONCRETE WALLS. 4" MINIMUM EMBED PER 1/S50.01 REQUIRED.
3. DRILLING METHODS SHALL BE SELECTED TO AVOID DAMAGE TO THE WALL.

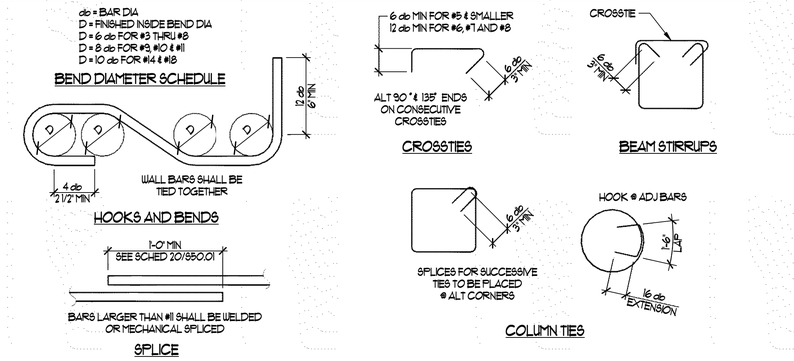
ANCHOR IN EXISTING WALLS 3
NTS



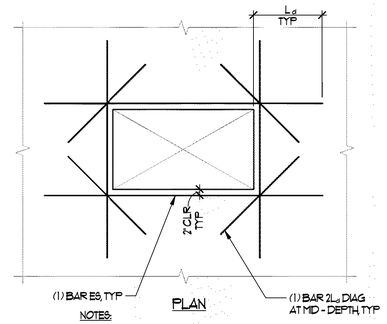
NOTE

1. TYPICAL WALL REINFORCING NOT SHOWN FOR CLARITY, EXCEPT AS NOTED.

CONCRETE WALL ELEVATION DETAIL 5
NTS



TYPICAL REINFORCING BAR BEND AND LAP DETAILS 7
NTS

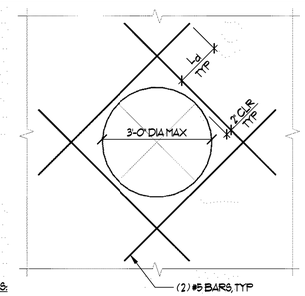


PLAN

NOTES:

1. BAR SIZE TO MATCH SLAB REINFORCING.
2. IF TWO LAYERS OF STEEL IN SLAB, PROVIDE OPENING REINFORCEMENT FOR EACH LAYER.

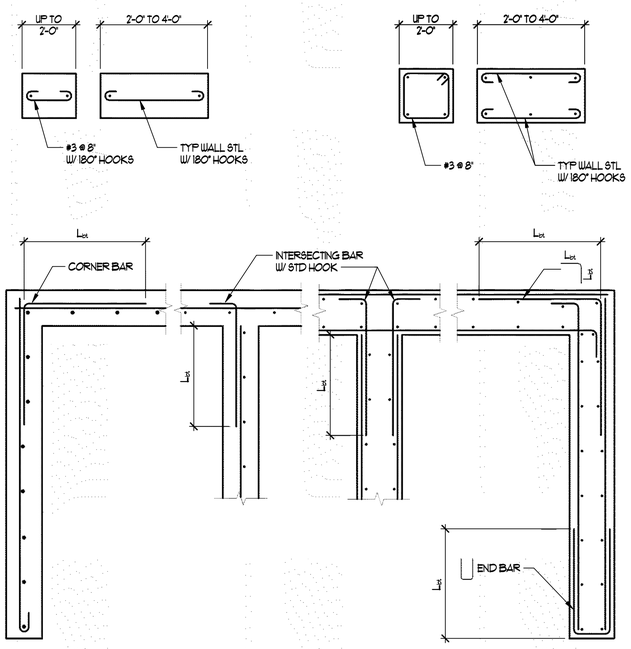
TYP REINFORCING AT WALL OPENING 8
NTS



NOTES:

1. HORIZONTAL AND VERTICAL WALL REINFORCING NOT SHOWN FOR CLARITY.
2. TERMINATE INTERRUPTED HORIZONTAL AND VERTICAL REINFORCEMENT WITH A STANDARD HOOK.
3. REFER TO CIVIL AND MECHANICAL DRAWINGS FOR LOCATIONS OF PIPE PENETRATIONS.

REINF AT PIPE PENETRATION IN WALL 9
NTS



TYPICAL CONCRETE WALL PLAN DETAILS 18
NTS

Fc = 4,000 PSI / 4,500 PSI									
SIZE	L_a (2,3,4) & L_{at} (2,3,4)	L_b (2,3,4)	L_{dh}	L_c	L_{cl}	L_{ds} (4,5,6)	L_{bs} (4,5,6)	L_{dhs}
3	15	13	8	8	12	15	20	6
4	19	25	10	10	15	19	24	8
5	24	31	12	12	19	23	30	10
6	29	37	15	15	23	28	36	11
7	42	54	17	17	27	32	42	13
8	48	62	19	19	30	37	48	15
9	54	70	22	22	34	42	54	17
10	61	79	25	25	39	47	61	19
11	67	87	27	27	43	52	67	21

Fc = 6,000 PSI									
SIZE	L_a (2,3,4) & L_{at} (2,3,4)	L_b (2,3,4)	L_{dh}	L_c	L_{cl}	L_{ds} (4,5,6)	L_{bs} (4,5,6)	L_{dhs}
3	12	16	6	8	12	15	20	6
4	16	21	8	9	15	15	20	6
5	20	26	10	12	19	19	25	8
6	24	31	12	14	23	23	29	9
7	34	45	14	16	27	27	34	11
8	39	51	16	18	30	30	39	12
9	44	57	18	21	34	34	44	14
10	50	64	20	23	39	38	50	16
11	55	71	22	26	43	42	55	17

ABBREVIATIONS:

- db BAR DIAMETER
- L_d TENSION DEVELOPMENT LENGTH
- L_{dt} TENSION DEVELOPMENT LENGTH FOR A TOP BAR (SEE NOTE 3)
- L_a CLASS A LAP SPLICE LENGTH
- L_{at} CLASS A LAP SPLICE LENGTH FOR A TOP BAR (SEE NOTE 3)
- L_b CLASS B LAP SPLICE LENGTH
- L_{bt} CLASS B LAP SPLICE LENGTH FOR A TOP BAR (SEE NOTE 3)
- L_{dh} TENSION DEVELOPMENT LENGTH FOR A STANDARD HOOK
- L_c COMPRESSION DEVELOPMENT LENGTH
- L_{cl} COMPRESSION LAP SPLICE LENGTH
- L_{ds} SEISMIC TENSION DEVELOPMENT LENGTH
- L_{dts} SEISMIC TENSION DEVELOPMENT LENGTH FOR A TOP BAR (SEE NOTE 6)
- L_{bs} SEISMIC LAP SPLICE LENGTH
- L_{bts} SEISMIC LAP SPLICE LENGTH FOR A TOP BAR (SEE NOTE 6)
- L_{dhs} SEISMIC DEVELOPMENT LENGTH FOR A STANDARD HOOK

NOTES:

1. USE THE LENGTHS IN THIS SCHEDULE UNLESS NOTED OTHERWISE.
2. FOR BARS WITH LOW COVER OR SPACING, INCREASE LENGTH BY 50%. IF BARS ARE ENCLOSED IN STIRRUPS OR TIES, INCREASE APPLIES WHEN BAR COVER OR CLEAR BAR SPACING IS LESS THAN db. IF BARS ARE NOT ENCLOSED IN STIRRUPS OR TIES, INCREASE APPLIES WHEN BAR COVER IS LESS THAN db OR CLEAR BAR SPACING IS LESS THAN 2db.
3. FOR TOP BARS INCREASE LENGTH BY 30%. A TOP BAR IS A HORIZONTAL BAR WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW IT.
4. FOR EPOXY COATED REINFORCING, INCREASE STRAIGHT BAR LENGTHS BY 50% AND HOOKED BAR LENGTHS BY 20%.
5. FOR PORTIONS NOT WITHIN A CONFINED COLUMN OR BOUNDARY ZONE CORE, INCREASE LENGTH BY 60%.
6. FOR SEISMIC TOP BARS INCREASE LENGTH BY 40%. SEISMIC TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW.

REINF BAR DEVELOPMENT & SPLICE LENGTH TABLES 20
NTS

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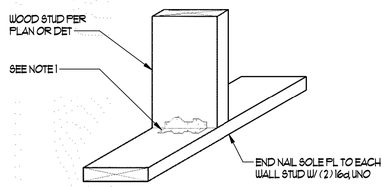
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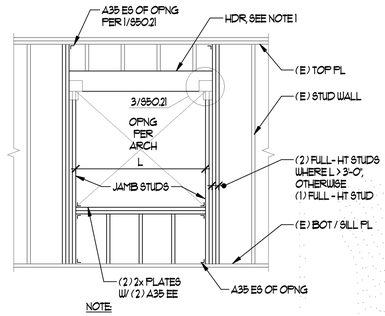
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TYPICAL CONCRETE AND CMU DETAILS

SHEET
S50.01



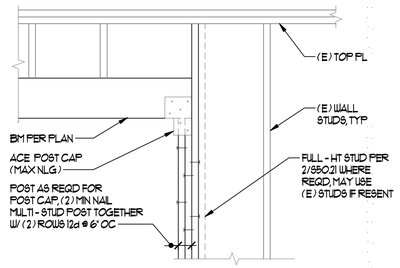
WOOD STUD TO WALL PLATE 1
NTS



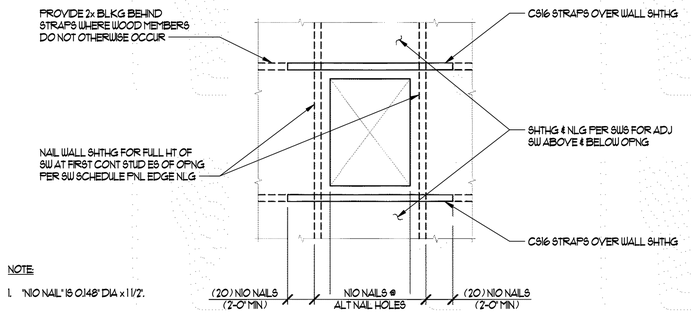
NOTE:

1. WHERE L < 3'-0" HEADER SHALL BE 6x8. WHERE 3'-0" ≤ L < 5'-0", HEADER SHALL BE 6x10.

LOUVER OPENING IN EXTERIOR WALL 2
NTS



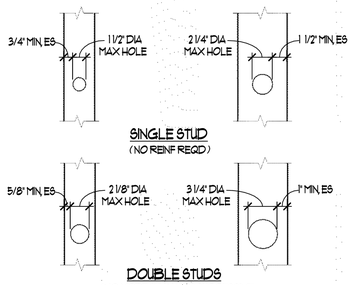
TYPICAL HEADER DETAIL 3
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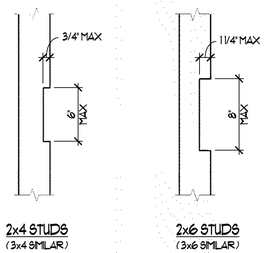
NOTE:

1. "NIO NAIL" IS 0.148" DIA x 1 1/2".

STRAPS AT WINDOWS AND DOORS 5
NTS



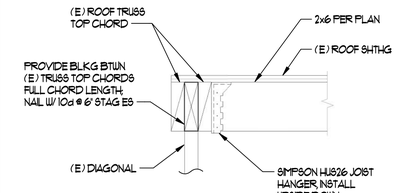
HOLES ALLOWED THRU STUDS 8
NTS



NOTE:

1. NOTCHES SHALL NOT OCCUR IN MORE THAN (2) SUCCESSIVE STUDS.

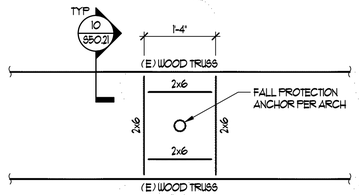
ALLOWABLE NOTCHES IN STUDS 9
NTS



NOTE:

1. AT SIMILAR LOCATIONS, BLOCKING IS ONLY REQUIRED BEHIND HANGERS.

2x ATTACHMENT 10
NTS



NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF FALL PROTECTION ANCHORS.
2. FALL PROTECTION ANCHORS TO STRUCTURAL FRAMING PER MANUFACTURER.

ROOF ANCHOR SUPPLEMENTAL FRAMING PLAN 13
NTS

HOLDOWN SCHEDULE					
MARK	MODEL (NOTE 1)	WOOD POST, UNO PER PLAN OR DETAILS (NOTES 2 & 4)	2x POST NAILING (NOTE 3)	ANCHOR ROD DIAMETER	DETAIL REF
HDA	DTT1Z	2x	-	3/8"	20/S51.02
HDB	HDU4-SDS2.5	(2) 2x	(2) ROWS 12d @ 6"	5/8"	14/S51.02

NOTES:

1. HOLDOWN MODELS REFER TO SIMPSON STRONG TIE CATALOG CALLOUTS. INSTALL FASTENERS PER HOLDOWN MANUFACTURER.
2. SIZES LISTED IN THE SCHEDULE ARE FOR THE NOMINAL THICKNESS OF WOOD POST PERPENDICULAR TO THE HOLDOWN. WIDTH OF THE POST IS THE SAME AS THE WIDTH OF THE WALL IN WHICH THE HOLDOWN IS LOCATED.
3. FASTEN TOGETHER 2x MEMBERS OF POST AT THE SPECIFIED SPACING. 12d" NAIL IS 0.148" DIA x 3 1/4" AT (3) 2x POSTS, FASTEN SECOND TO FIRST STUD AND THIRD TO SECOND STUD AT THE SPECIFIED SPACING.
4. NAIL PLYWOOD OR OSB SHEATHING TO HOLDOWN STUDS OR POST WITH SCHEDULED PANEL EDGE NAILING. STAGGER NAILS SO THAT EACH STUD IS NAILED, AT SOLID HOLDOWN POSTS, NAIL SHEATHING WITH (2) ROWS OF PANEL EDGE NAILING.
5. WHERE HOLDOWN MARK ON PLAN NOTES MULTIPLE HOLDOWNS, IE (4), INSTALL A HOLDOWN AT EACH STUD/POST FOR THE NUMBER NOTED.

HOLDOWN SCHEDULE 18
NTS

SHEAR WALL SCHEDULE									
WALL MARK	WALL SHEATHING	PANEL EDGE NAILING	FRAMING AT ADJ PANEL EDGES	(2) 2x FRAMING NAILING	BOTTOM PLATE NAILING	TOP PLATE CONNECTION		FDN SILL PLATE	SILL PL AT / BRG PL TR
						A35	LTP4		
	NOTES #1, #8	NOTE #2	NOTES #5, #6	NOTE #6	NOTES #3, #12	NOTES #4, #11	NOTES #4, #11	NOTE #3	NOTE #3
SW4	15/32" OSB (1) SIDE	0.148 x 2 1/2 @ 4" OC	2x	-	0.148 x 3 1/4 @ 6" OC	@ 1'-10" OC	@ 1'-10" OC	2x	5/8" DIA @ 3'-2" OC
SW3	15/32" (1) SIDE	0.148 x 2 1/2 @ 3" OC	3x ((2) 2x)	0.148 x 3 1/4 @ 4 1/2" OC	0.148 x 3 1/4 @ 4 1/2" OC	@ 1'-4" OC	@ 1'-4" OC	2x	5/8" DIA @ 2'-6" OC

SHEAR WALL NOTES:

1. UNLESS INDICATED AS "OSB", WALL SHEATHING SHALL BE APA RATED SHEATHING, C-D INT (CDX), EXP1 24/16 (PSR). WALL PANELS MAY BE INSTALLED VERTICALLY OR HORIZONTALLY. WALLS NOTED AS OSB SHALL BE APA RATED ORIENTED STRAND BOARD SHEATHING (OSB), EXP1 WITH PANEL SPAN RATING 24/16. WALL PANELS SHALL BE INSTALLED HORIZONTALLY.
2. THE SPECIFIED PANEL EDGE NAILING IS REQUIRED AT ALL PANEL EDGES AND ENDS. INSTALL 2x SOLID BLOCKING AT ALL UNSUPPORTED PANEL EDGES AND ENDS WITH MINIMUM 2x SOLID BLOCKING, UNO (SEE NOTES 5 AND 6.). MAXIMUM SPACING OF NAILING AT INTERMEDIATE FRAMING MEMBERS IS 12" OC. SPACE NAILS MINIMUM 3/8" FROM EDGES AND ENDS OF WALL PANELS, WALL STUDS, TOP AND BOTTOM PLATES, AND BLOCKING.
3. TOP AND BOTTOM PLATE NAILS ARE 0.148" DIA x 3 1/4", SPACE BOTTOM PLATE NAILS 1/2" MINIMUM FROM EDGES AND 2" MINIMUM FROM ENDS OF THE BLOCKING (OR JOIST OR RIM BOARD) BELOW. INSTALL THE TOP AND BOTTOM PLATE NAILS AT THE TOP AND BOTTOM, RESPECTIVELY, OF THE SCHEDULED SHEAR WALL AT THE SPECIFIED SPACING. INSTALL THE BOTTOM PLATE NAILS SO THAT THEY ARE CENTERED IN THE BLOCKING (OR JOIST OR RIM BOARD) BELOW.
4. SEE WOOD DETAILS FOR LOCATION OF TOP PLATE CONNECTIONS. INSTALL AT THE TOP OF THE SCHEDULED SHEAR WALL AT THE SPECIFIED SPACING. "N8 NAIL" IS 0.131" DIA x 1 1/2" LONG. "N10 NAIL" IS 0.148" DIA x 1 1/2" LONG.
5. WHERE 3x WALL STUDS ARE SPECIFIED, INSTALL 3x WALL STUDS AT ADJOINING PANEL EDGE AND ENDS. INSTALL 3x SOLID BLOCKING AT ALL UNSUPPORTED PANEL EDGES AND ENDS WITH STAGGER PANEL EDGES NAILING 1/2" AT ALL WALL STUDS, PLATES AND BLOCKING. MAINTAIN SUFFICIENT EDGE DISTANCE TO AVOID SPLITTING OF WOOD.
6. (2) 2x WALL STUDS ARE PERMITTED TO BE SUBSTITUTED FOR 3x STUDS WHERE SPECIFIED IN ( ). INSTALL (2) 2x WALL STUDS AT ADJOINING PANEL EDGES AND ENDS. FASTEN STUDS TOGETHER WITH 0.148" DIA x 3 1/4" NAILS AT THE SPECIFIED SPACING. WHERE (2) ROWS OF NAILS ARE SPECIFIED, PLACE THE ROWS 1 1/2" APART. SEE WSWM-1. PROVIDE ALL UNSUPPORTED PANEL EDGES AND ENDS WITH MINIMUM 3x SOLID BLOCKING. (2) 2x SOLID BLOCKING PERMITTED PROVIDED THE 2x BLOCKS ARE FASTENED TOGETHER AS SPECIFIED ABOVE FOR THE (2) 2x STUDS. STAGGER PANEL EDGE NAILING 1/2" AT ALL WALL STUDS, PLATES AND BLOCKING. MAINTAIN SUFFICIENT EDGE DISTANCE TO AVOID SPLITTING OF WOOD.
7. SEE WTP-3 FOR STEEL STRAPS AT TOP PLATES FOR CUTS, NOTCHES AND BORED HOLES.
8. NAIL SHEATHING AT INTERMEDIATE FRAMING WITH SAME SIZE NAILS AS PANEL EDGE NAILING @ 12" OC. WHERE SHEATHING IS 7/16" THICK AND STUD SPACING IS 24" OC, NAIL SHEATHING TO INTERMEDIATE FRAMING AT 6" OC.
9. AT EXISTING WALL CONFIRM EXISTING ANCHOR ROD SPACING DOES NOT EXCEED MINIMUM NOTE IN TABLE. NOTIFY ENGINEER IF SPACING IS EXCEEDED FOR ANCHOR INSTALLATION DETAIL AT SILL PLATES, EMBED ANCHOR RODS A MINIMUM OF 7" INTO CONCRETE, SEE DETAILS. INSTALL 3" x3"x0.229" STEEL PLATE WASHER BETWEEN THE SILL PLATE AND NUT AT EACH ANCHOR ROD. HOLE IN PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A MAXIMUM WIDTH 5/16" x BOLT DIAMETER AND MAXIMUM LENGTH OF 1 3/4". PROVIDED STANDARD CUT WASHER INSTALLED BETWEEN PLATE WASHER AND NUT.
10. INSTALL LSL BLOCKING/RIM BOARD FOR TOP PLATE CONNECTION. SEE WOOD DETAILS.
11. TOP PLATE CONNECTIONS IDENTIFIED AS "A35", AND "LTP4" ARE MANUFACTURED BY SIMPSON STRONG-TIE. SEE GENERAL STRUCTURAL NOTES FOR FURTHER INFORMATION.
12. WHERE (2) ROWS OF NAILS ARE SPECIFIED, PLACE THE ROWS 1 1/2" APART. 3 1/2" LSL BLOCKING/RIM BOARD IS REQUIRED. SEE WDBLF-1 AND WDBLF-2.

SHEAR WALL SCHEDULE 20
NTS

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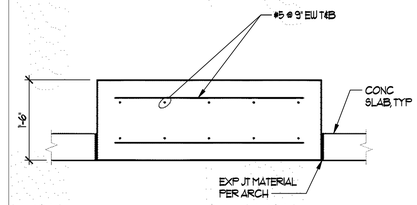
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ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE		

TYPICAL WOOD DETAILS

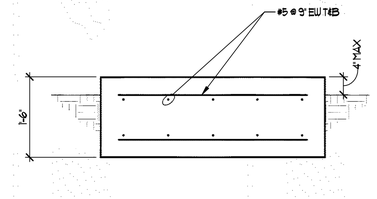
SHEET
S50.21



NOTE:

1. LOCATION AND SIZE PER ARCHITECTURAL.

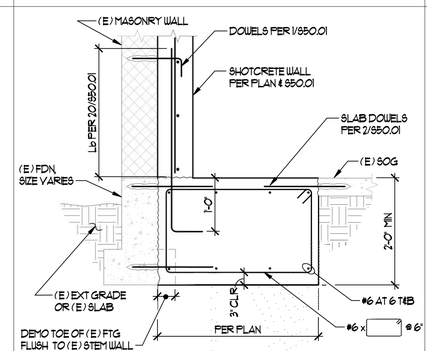
EXTRACTOR PAD 14
3/4" = 1'-0"



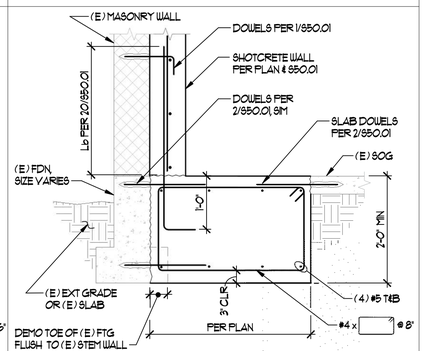
NOTE:

1. LOCATION AND SIZE PER ELECTRICAL AND CIVIL.

GENERATOR PAD 15
3/4" = 1'-0"



SHOTCRETE WALL FOOTING AT 15" WALL 19
3/4" = 1'-0"



SHOTCRETE WALL FOOTING 20
3/4" = 1'-0"

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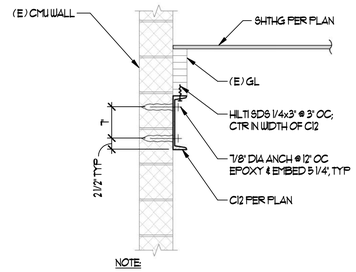
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ISSUE DATE FEBRUARY 23, 2018

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FOUNDATION DETAILS

SHEET
S51.01

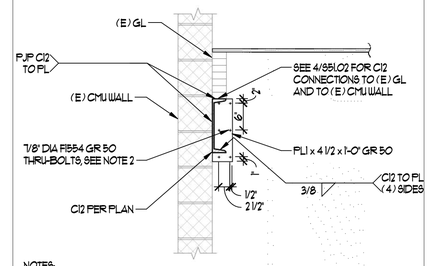


NOTE:

1. OPENING BELOW NOT SHOWN.

C12 DRAG CONNECTIONS 4

NTS

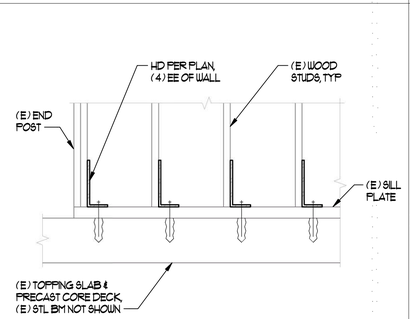


NOTES:

1. EXISTING MASONRY PILASTER BEYOND NOT SHOWN.
2. INSTALL BOLTS THRU EXISTING MASONRY PILASTER TO C12 END PLATE ON OPPOSITE SIDE AT SIMILAR CONDITION EMBED F554 RODS INTO SHOTCRETE WALL 45 INCHES. AT EASTERN MOST END EPOXY EMBED ANCHORS 1-0" INTO PILASTER.

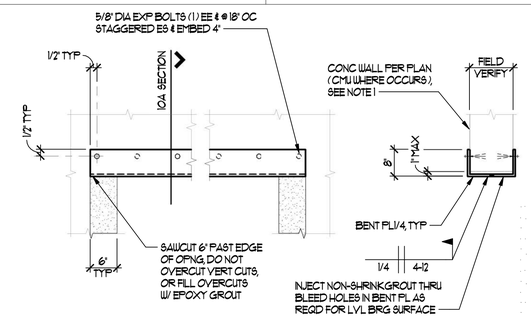
C12 DRAG END PLATE 5

NTS



(4) HDA ELEVATION 8

NTS



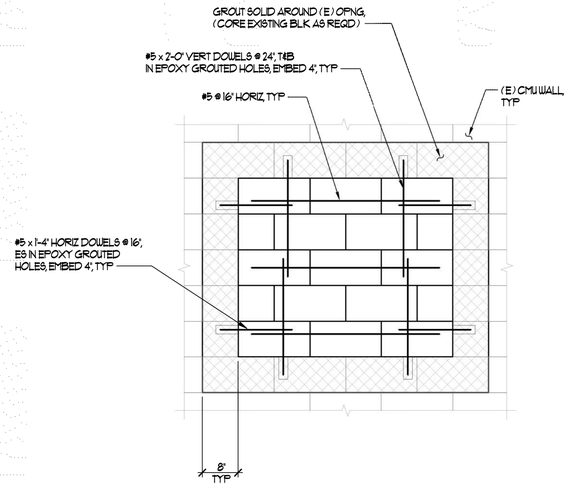
10A SECTION

NOTES:

1. AT CMU WALL VERIFY CELLS ARE FULLY GROUTED PRIOR TO SAWCUTTING OPENING. GROUT AROUND OPENING PER 11/S51.02 SIMILAR WHERE CMU IS NOT FULLY GROUTED.
2. AT SIMILAR CONDITION INSTALL SINGLE L6x6x3/8 ANGLE. VERTICAL LEG SHALL BE INSTALLED FLUSH ON INTERIOR WALL FACE.

STEEL HEADER ABOVE NEW OPENING 10

NTS

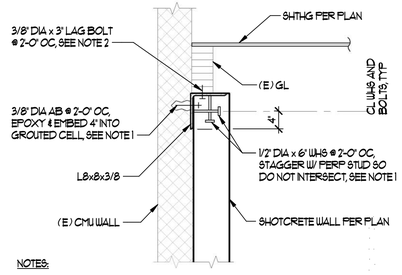


NOTE:

1. AT FOUNDATION PROVIDE SIMILAR INSTALLATION. EPOXY REINFORCING TO EXISTING CONCRETE.

TYPICAL MASONRY INFILL 17

NTS

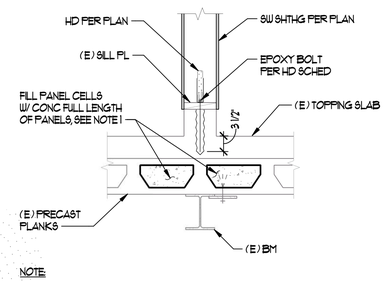


NOTES:

1. LAG BOLT AND WELDED HEADED STUD TO BE IN LINE WITH EACH OTHER. (4" FROM ANGLE EDGE). STAGGER SPACING SO THE WELDED HEADED STUD AND BOLT HAVE 1'-0" SPACE.
2. LAG BOLT TO BE LOCATED SO CENTERED IN EXISTING GLULAM BEAM WELDED HEADED STUD TO BE 4" FROM ANGLE EDGE.

SHOTCRETE TOP ANGLE 13

NTS

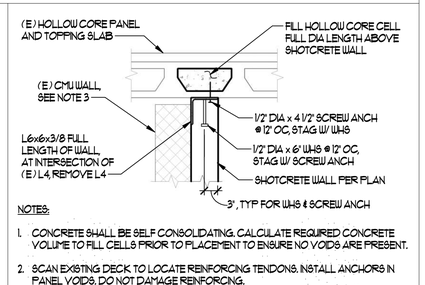


NOTE:

1. CONCRETE SHALL BE SELF CONSOLIDATING. CALCULATE REQUIRED CONCRETE VOLUME TO FILL CELLS PRIOR TO PLACEMENT TO ENSURE NO VOIDS ARE PRESENT.

HOLDOWN AT PRECAST CORE DECK WITH CURB 14

3/4" = 1'-0"

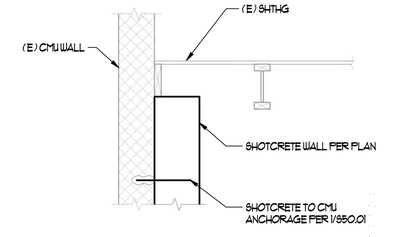


NOTES:

1. CONCRETE SHALL BE SELF CONSOLIDATING. CALCULATE REQUIRED CONCRETE VOLUME TO FILL CELLS PRIOR TO PLACEMENT TO ENSURE NO VOIDS ARE PRESENT.
2. SCAN EXISTING DECK TO LOCATE REINFORCING TENDONS. INSTALL ANCHORS IN PANEL VOIDS. DO NOT DAMAGE REINFORCING.
3. EXISTING L4x4x5/16x0'-9" WITH (2) BOLTS TYPICAL EACH SIDE OF EXISTING WALL @ 6'-0" OC NOT SHOWN.
4. AT SIMILAR CONDITION, DECK RUNS IN OPPOSITE DIRECTION AND IS SOLID GROUTED.

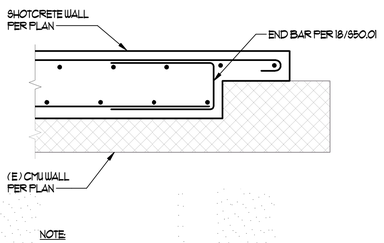
SHOTCRETE WALL PARALLEL TO HOLLOW CORE CONN 15

3/4" = 1'-0"



SHOTCRETE WALL TO DIAPHRAGM CONNECTION 18

NTS

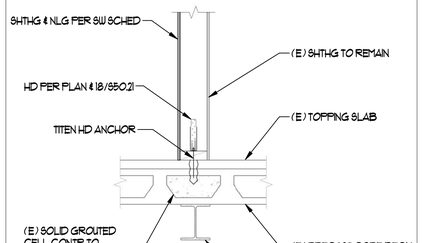


NOTE:

1. SEE PLANS FOR REINFORCING SIZES AND SPACING AND FOR SHOTCRETE WALL THICKNESS.

SHOTCRETE WALL REINFORCING AT PILASTER 19

NTS



HOLDOWN AT PRECAST CORE DECK 20

NTS

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PROJECT 2015137

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ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

FRAMING DETAILS

SHEET

S51.02

MECHANICAL SYMBOLS LEGEND

DUCTWORK LABELS

- INTERNALLY LINED DUCT
- HIDDEN DUCT
- DUCT (1ST DIMENSION SIDE SHOWN, 2ND DIMENSION OTHER SIDE) — 16X12
- REMOVE DUCT, PIPE OR MECH. EQUIPMENT
- FLEX DUCT
- RECTANGULAR SUPPLY DUCT OUT OF PAGE
- RECTANGULAR SUPPLY DUCT INTO PAGE
- SUPPLY DIFFUSER
- RECTANGULAR RETURN DUCT OUT OF PAGE
- RECTANGULAR RETURN DUCT INTO PAGE
- RETURN OR EXHAUST GRILLE — OR
- TURNING VANES
- STRAIGHT TAP
- TAPERED FITTING
- BELL MOUTH FITTING
- CONICAL FITTING
- 45 DEG. ANGLE TAP
- ROUND ELBOW OUT OF PAGE
- ROUND ELBOW INTO PAGE
- ROUND DUCT OUT OF PAGE
- ROUND DUCT INTO PAGE
- ROUND DUCT BREAK (CONTINUATION)
- RECTANGULAR DUCT BREAK (CONTINUATION)
- FLEX CONNECTION

REFERENCE SYMBOLS

- M-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- AHU-1 — MECHANICAL EQUIPMENT
- D / 0 — DIFFUSER/GRILLE TYPE / CFM
- 1 — SECTION NUMBER / SHEET NUMBER

LIFE SAFETY SYMBOLS

- CEILING RADIATION DAMPER
- OR — COMBINATION SMOKE/FIRE DAMPER
- HORIZONTAL SMOKE DAMPER
- FIRE DAMPER

CONTROL SYMBOLS

- VOLUME DAMPER
- M — MOTORIZED CONTROL DAMPER
- T — THERMOSTAT IN DUCT
- REMOTE OPERATED VOLUME DAMPER
- BACKDRAFT DAMPER
- T — THERMOSTAT, MOUNT @ 4'-0" A.F.F.
- S — SENSOR
- CO GEF-1 — CARBON MONOXIDE DETECTOR WITH FAN INDICATED
- CO2 — CARBON DIOXIDE DETECTOR

HVAC ENERGY CODE NOTES

1. SEE SCHEDULES FOR EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. ALL EQUIPMENT SHALL MEET MINIMUM EFFICIENCY PER C403.2.3.
2. THERMOSTATIC CONTROLS IN THE SAME ZONE OR IN NEIGHBORING ZONES CONNECTED BY OPENINGS LARGER THAN 10% OF THE FLOOR AREA OF EITHER ZONE SHALL BE INTERLOCKED TO NOT ALLOW SIMULTANEOUS HEATING AND COOLING.
3. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC HEAT SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE ELECTRIC HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE. CONTROLS SHALL INDICATE WHEN ELECTRIC HEAT IS BEING USED THROUGH VISUAL MEANS. ELECTRIC HEAT SHALL NOT OPERATE ABOVE 40 F OUTSIDE AIR TEMPERATURE.
4. THERMOSTATIC CONTROLS SHALL BE CONFIGURED WITH AT LEAST A 5F DEADBAND BETWEEN HEATING AND COOLING SETPOINTS.
5. THERMOSTATS (OTHER THAN GROUP R) SHALL BE 7-DAY PROGRAMMABLE WITH AUTOMATIC SETBACK CONTROLS SET DOWN TO 55F AND UP TO 85F. CONTROLS SHALL MAINTAIN PROGRAMMING FOR AT LEAST 10 HOURS DURING LOSS OF POWER. CONTROLS SHALL HAVE A MANUAL 2 HR OVERRIDE FOR TEMPORARY OPERATION. CONTROLS SHALL ADJUST THE DAILY START TIME FOR MORNING WARMUP PRIOR TO SCHEDULED OCCUPANCY.
6. PROVIDE AMCA CLASS 1 MOTORIZED CONTROL DAMPERS FOR OUTSIDE AIR INTAKES, EXHAUST OUTLETS, RELIEF OPENINGS, STAIRWAY AND SHAFT VENTS AND RETURN SIDE OF AIRSIDE ECONOMIZERS.
7. AIR-COOLED UNITARY DIRECT-EXPANSION UNITS WITH A COOLING CAPACITY OF 54 MBH OR GREATER THAT ARE EQUIPPED WITH AN ECONOMIZER SHALL INCLUDE FAULT DETECTION AND DIAGNOSTICS (FDD).
8. PROVIDE GAS-FIRED HEATING EQUIPMENT WITH MODULATING OR STAGED COMBUSTION CONTROL FOR ALL EQUIPMENT OVER 225 MBH.
9. THERMOSTATS (GROUP R) SHALL BE 5-2 PROGRAMMABLE SCHEDULE WITH AT LEAST 2 SETBACK PERIODS PER DAY.
10. PROVIDE DUCT, SHAFT AND PLENUM INSULATION PER C403.2.8 AND SPECIFICATION SECTION 23 07 00.
11. SEAL ALL TRANSVERSE AND LONGITUDINAL SEAMS, JOINTS AND CONNECTIONS OF ALL DUCTWORK WITH WELDS, GASKETS OR
12. PROVIDE PIPE INSULATION PER ENERGY CODE SECTION C403.2.9 AND SPECIFICATION SECTION 23 07 00.
13. INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, SUNLIGHT, MOISTURE AND WIND. PROVIDE JACKET AND ALUMINUM COVERS. ADHESIVE TAPE IS NOT PERMITTED.
14. SINGLE FAN OR MULTIPLE FANS IN PARALLEL WITH COMBINED MOTOR NAMEPLATE OVER 5HP SHALL HAVE A FAN EFFICIENCY GRADE (FEG) OF 67 OR HIGHER AND SHALL BE SELECTED TO OPERATE WITHIN 15% OF THE MAXIMUM TOTAL EFFICIENCY OF THE FAN.
15. COOLING SYSTEMS 65 MBH AND GREATER SHALL HAVE TWO SPEED FAN CONTROL OR MODULATING FAN CONTROL.
16. FAN AND PUMP MOTORS 7.5 HP AND GREATER SHALL BE PROVIDED WITH A VFD.
17. ECONOMIZERS SHALL BE INTEGRATED WITH MECHANICAL COOLING AND SHALL BE CAPABLE OF PROVIDING PARTIAL ECONOMIZER COOLING EVEN WHEN ADDITIONAL MECHANICAL COOLING IS REQUIRED.
18. AIR ECONOMIZERS SHALL HAVE FIXED DRY-BULB HIGH-LIMIT SHUTOFF CONTROL NOT TO EXCEED 75 DEG. F.
19. ALL ELECTRIC MOTORS SHALL MEET THE EFFICIENCY REQUIREMENTS OF TABLES C405.8(1) THROUGH C405.8(4).
20. FAN MOTORS 1/12 HP UP TO 1 HP SHALL BE ECM.
21. PROVIDE A MEANS OF BALANCING EVERY AIR INLET AND OUTLET AND EVERY AIR OR WATER TERMINAL DEVICE.
22. ALL PIPE AND DUCT INSULATION SHALL BE LABELLED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).

HVAC GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET, WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE WASHINGTON MECHANICAL CODE, WASHINGTON BUILDING CODE, WASHINGTON FIRE CODE AND LOCAL CODES AND ORDINANCES.
3. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH THE LATEST SMC AND WITH CURRENT SMACNA STANDARDS.
4. JOINTS OF DUCT SYSTEM SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
5. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS TO MEET THE REQUIREMENTS OF THE CURRENT WASHINGTON ENERGY CODE AND SPECIFICATION.
6. FLEXIBLE DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 6 FT IN LENGTH UNLESS NOTED OTHERWISE.
7. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH THE CURRENT SBC.
8. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOOR SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
9. PROVIDE RETURN DUCT SMOKE DETECTOR(S) FOR AUTOMATIC SHUT DOWN OF ALL HEATING OR COOLING EQUIPMENT DELIVERING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH THE CURRENT WASHINGTON MECHANICAL CODE. POWER WIRING AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR.
10. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS, UNLESS SHOWN ON ARCHITECTURAL DRAWINGS. REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
11. HVAC CONTRACTOR MUST COORDINATE WITH LIGHTING FIXTURES PRIOR TO DUCT AND PIPING INSTALLATION.

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	MEP	MECHANICAL, ELECTRICAL
ADA	AMERICANS WITH DISABILITIES ACT		& PLUMBING
ADJ	ADJUSTABLE	MEZZ	MEZZANINE
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM OR MINUTE
AFG	ABOVE FINISHED GRADE	MISC	MISCELLANEOUS
ALT	ALTERNATE		
AP	ACCESS PANEL	N/A	NOT APPLICABLE
APPROX	APPROXIMATE	NC	NORMALLY CLOSED
ARCH	ARCHITECTURAL/ARCHITECT	NEG	NEGATIVE
AS	AIR SEPARATOR	NIC	NOT IN CONTRACT
AUX	AUXILIARY	NO	NORMALLY OPEN
		NOM	NOMINAL
BFF	BELOW FINISHED FLOOR	NPT	NATIONAL PIPE THREAD
BHP	BRAKE HORSE POWER	NTS	NOT TO SCALE
BLDG	BUILDING		
BOP	BOTTOM OF PIPE	OA	OUTSIDE AIR
BTU	BRITISH THERMAL UNIT	OBD	OPEN BLADE DAMPER
BTUH	BRITISH THERMAL UNIT PER HOUR	OC	ON CENTER
		OD	OUTSIDE DIAMETER
CA	COMBUSTION AIR	OFCI	OWNER FURNISHED
CFH	CUBIC FEET PER HOUR		CONTRACTOR INSTALLED
CFM	CUBIC FEET PER MINUTE	OFOI	OWNER FURNISHED
CLG	CEILING		OWNER INSTALLED
CO	CARBON MONOXIDE		
CO2	CARBON DIOXIDE	ΔP	PRESSURE DIFFERENTIAL
COND	CONDENSATE	PERF	PERFORATED
CW	COLD WATER	Φ OR PH	PHASE
CX	CONNECT TO EXISTING	PLBG	PLUMBING
		POC	POINT OF CONNECTION
dB	DECIBEL	PRESS	PRESSURE
DB °F	DRY BULB TEMPERATURE	PRV	PRESSURE REDUCING VALVE
° OR DEG.	DEGREE	PSF	POUNDS PER SQUARE FOOT
Ø OR DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
D/L	DOOR LOUVER	PSIG	POUNDS PER INCH GAUGE
DN	DOWN	PTAC	PACKAGE TERMINAL
DWG(S)	DRAWING(S)		AIR CONDITIONER
DWV	DRAIN, WASTE, VENT		
		QTY	QUANTITY
EX	EXISTING/EXISTING TO REMAIN		
EA	EACH	REQD	REQUIRED
EA	EXHAUST AIR	RH	RELATIVE HUMIDITY
EAT	ENTERING AIR TEMPERATURE	RM	ROOM
ERU	ENERGY RECOVERY UNIT	RPBP	REDUCED PRESSURE
ESP	EXTERNAL STATIC PRESSURE		BACKFLOW PREVENTER
ET	EXPANSION TANK	RPM	REVOLUTIONS PER MINUTE
EXP	EXPANSION	RLX	RELOCATE EXISTING
		RTU	ROOF TOP UNIT
FC	FAIL CLOSED	RV	RELIEF VALVE
FF	FINISHED FLOOR	RX	REMOVE EXISTING
FLA	FULL LOAD AMPS		
FO	FAIL OPEN	SD	SMOKE DETECTOR
FP	FIRE PROTECTION	SF	SQUARE FOOT
FPM	FEET PER MINUT	S.L.	SOUND LINER
FPS	FEET PER SECOND	SP	STATIC PRESSURE
FT	FEET/FOOT	SPEC	SPECIFICATION
FTG	FOOTING	S/S, OR SS	STAINLESS STEEL
		STD	STANDARD
G	NATURAL GAS	SYM	SYMBOL
GA	GAUGE		
GAL	GALLON	T&P	TEMPERATURE AND PRESSURE
GALV	GALVANIZED		RELIEF VALVE
G.C.	GENERAL CONTRACTOR	TBD	TO BE DETERMINED
GSM	GALVANIZED SHEET METAL	TEMP	TEMPERATURE
		TOB	TOP OF BEAM
H	HEIGHT	TOC	TOP OF CONCRETE
HD	HEAD	TOD	TOP OF DECK
HP	HORSEPOWER	TOJ	TOP OF JOIST
HVAC	HEATING VENTILATING AND	TOS	TOP OF SLAB/TOP OF STEEL
	AIR CONDITIONING	T&P	TEMPERATURE & PRESSURE
HW	HOT WATER	TSP	TOTAL STATIC PRESSURE
HX	HEAT EXCHANGER	TYP	TYPICAL
HZ	HERTZ		
		UL	UNDERWRITERS LABORATORY
ID	INSIDE DIAMETER/DIMENSION	UNO	UNLESS NOTED OTHERWISE
IN	INCH/INCHES		
IN WC	INCHES WATER COLUMN	V	VOLT
		VAV	VARIABLE AIR VOLUME
KW	KILOWATT/KILOWATTS	VERT	VERTICAL
		VFD	VARIABLE FREQUENCY DRIVE
LAT	LEAVING AIR TEMPERATURE	VIB	VALVE-IN-BOX
LBS	POUNDS	VOL	VOLUME
LF	LINEAL FOOT		
LRA	LOCKED ROTOR AMPS	W/	WITH
LTG	LIGHTING	W/IN	WITHIN
LWT	LEAVING WATER TEMPERATURE	W/O	WITHOUT
		WB °f	WET BULB TEMPERATURE
MBH	1000 BRITISH THERMAL	WC	WATER COLUMN
	UNIT PER HOUR	WPD	WATER PRESSURE DROP
MED	MEDIUM	WT	WEIGHT

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STATE OF WASHINGTON — BRYAN DYKAS — 25615 — REGISTERED PROFESSIONAL ENGINEER

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FACILITY IMPROVEMENTS
STATION 64
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PROJECT # 16064

BID

ISSUED: FEBRUARY 23, 2018

REVISION SCHEDULE

MECHANICAL
COVER SHEET

SHEET:

M00.01

DIFFUSER AND GRILLE SCHEDULE

ITEM	MAKE	MODEL	DESCRIPTION	SIZE	MARK
RETURN GRILLE	TITUS	S8F	3/16" PERFORATED HOLE ON 1/4" CETNERS, ALUMINUM, RADIUS ENDCAPS, WHITE ENAMEL		G-21
RETURN GRILLE	TITUS	50F	1/2" EGG CRATE, ALUM., WHITE ENAMEL	12"X24"	G-1
				24"X24"	G-2
RETURN GRILLE	TITUS	355RL	1/2" BLADE SPACING, 35 DEG DEFLECTION, BLADES PARALLEL TO LONG DIMENSION, STEEL, WHITE	12X12"	G-12

NOTES:
1. CEILING UNIT FRAME SHALL BE COMPATIBLE WITH CEILINGS; FLAT FRAME SURFACE MOUNT (TITUS BORDER TYPE 1) FOR DRYWALL CEILINGS AND WITH LAY-IN PANEL FOR EXPOSED GRID CEILINGS (TITUS BORDER TYPE 3). SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. BEVELED DROP FACE DIFFUSERS (TITUS BORDER TYPE 6) ARE NOT ACCEPTABLE.
3. SIZE INDICATES DUCT COLLAR (EXCEPT FOR TROX SWIRL DIFFUSERS).

ELECTRIC DUCT HEATER SCHEDULE

MARK	MAKE	MODEL	SERVES	DUCT SIZE	HEAT KW	STAGES	VOLT / PH	NOTES:
DH-1	INDEECO	QUZ	SF-1	16X14	18.0	SCR	208/3	ALL

NOTES:
1. FLANGE DUCT CONNECTION
2. AIR FLOW SWITCH SAFETY & HIGH LIMIT
3. PROPORTIONAL SCR CONTROL
4. MAGNETIC CONTACTS
5. CONTROL TRANSFORMER

A. SINGLE DOWNSTREAM DUCT THERMOSTAT.

ELECTRIC WALL HEATER SCHEDULE

MARK	MAKE	MODEL	HEAT W	ELEC VOLT/PH	NOTES:
EWH-1	CADET	CS078	750 W	208/1	1, 2, 3, 4

NOTES:
1. HIGH TEMPERATURE MANUAL RESET AND OVERTEMPERATURE SAFEGUARD.
2. BUILT IN THERMOSTAT.
3. SEE UNIT PLANS FOR QUANTITY.
4. 30 MIN WALL TIMER.

KITCHEN HOOD SCHEDULE

MARK	MAKE	MODEL	WIDTH	LENGTH	HEIGHT	EXHAUST CFM	EXHAUST S.P.	SUPPLY CFM	SUPPLY S.P.	WEIGHT	VOLTAGE	NOTES:
HOOD	GREENHECK	GHFW	42"	60"	24"	1250	0.434	1125	0.12	200	115/1	ALL

NOTES:
1. THREE (3) INCANDESCENT LIGHT FIXTURES. (40 FC MIN)
2. GREASE CUP MOUNTED ON RIGHT END OF HOOD.
3. ALL 18GA TYPE 430 STAINLESS STEEL CONSTRUCTION.
4. 20" STAINLESS BAFFLE FILTERS WITH FILTER REMOVAL TOOL.
5. DUCT COLLAR WITH MOUNTING FLANGE.
6. SWITCHES FOR LIGHT & EXHAUST FAN, HOOD MOUNTED ON RIGHT SIDE.
7. WITHOUT ANSUL SYSTEM.

ELECTRIC INFRARED HEATER SCHEDULE

MARK	MAKE	MODEL	LENGTH	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WEIGHT	NOTES:
EIH	BLACK BODY THERMAZONE	21-2000U	24"	2000	208/1	20	ALL

NOTES:
1. PROVIDE SEISMIC RESTRAINT PER MANUFACTURES RECOMMENDATIONS.
2. LINE-VOLTAGE THERMOSTAT FURNISHED BY MECHANICAL, INSTALLED BY ELECTRICAL

RADIANT CEILING PANEL SCHEDULE

MARK	SERVES	MANUFACTURER	MODEL	SIZE	ELECTRICAL WATTS	ELECTRICAL VOLT/PH	WEIGHT	NOTES:
RCP	SEE PLANS	MARKEL	CP-807	24"X48"	750	208/1	40	1, 2, 3

NOTES:
1. LINE-VOLTAGE THERMOSTAT FURNISHED BY MECHANICAL, INSTALLED BY ELECTRICAL
2. SURFACE MOUNT, PROVIDE FRAME. VERIFY W/ ARCHITECT PRIOR TO ORDERING
3. CEILING PANEL TO BE FURNISHED AND INSTALLED BY MECHANICAL

LOUVER SCHEDULE

MARK	MAKE	MODEL	WIDTH	HEIGHT	FREE AREA	MATERIAL	FINISH	NOTES:
L-1	GREENHECK	ESD-403	18	18	0.83	ALUMINUM	KYNAR	1, 2, 3
L-2	GREENHECK	ESD-403	18	18	0.83	ALUMINUM	KYNAR	1, 2, 3
L-3	GREENHECK	ESD-403	24	24	1.78	ALUMINUM	KYNAR	1, 2, 3
L-4	GREENHECK	ESD-403	24	24	1.78	ALUMINUM	KYNAR	1, 2, 3

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT.
2. PROVIDE ALUMINUM BIRDSCREEN.
3. PROVIDE INSTALLATION HARDWARE AS REQUIRED.

PENTHOUSE SCHEDULE

MARK	MAKE	MODEL	SIZE	AIRFLOW DIRECTION	CFM	FREE AREA	MATERIAL	WEIGHT (LBS)	NOTES:
PH-1	GREENHECK	WIH	24X24	INTAKE	3000	4.07	ALUMINUM	70	ALL
PH-2	GREENHECK	WIH	16X16	INTAKE	1125	2.9	ALUMINUM	50	ALL

NOTES:
1. 1" HOOD INSULATION
2. ALUMINUM BIRDSCREEN AND ALUMINUM INSECT SCREEN
3. FACTORY CURB W/ LINER, MATCH ROOF SLOPE
4. INSULATED MOTORIZED CONTROL DAMPER.
5. ALUMINUM INTAKE FILTERS.

FAN SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	CFM	LOW SPEED	ESP INCH WC	RPM	BHP	HP (WATTS)	ELEC VOLT/PH	WT. LBS	MAX SOUND	NOTES:
EF-1	BUNKER GEAR	GREENHECK	SQ-98-VG	INLINE CENT	400	N/A	0.375	1346	0.1	1/4	120/1	50	58 DBA	B, 1, 3, 4, 7, 10
EF-2	DECON	GREENHECK	SQ-98-VG	INLINE CENT	300	N/A	0.375	1184	0.07	1/4	120/1	50	55 DBA	B, 1, 3, 4, 7, 10
EF-3	RESTROOMS	GREENHECK	SQ-100-VG	INLINE CENT	950	N/A	0.4	1403	0.13	1/4	120/1	50	57 DBA	B, 1, 3, 4, 7, 10
EF-4	FITNESS	GREENHECK	G-95-VG	ROOF CENT	500	200	0.25	1152	0.05	1/6	120/1	35	48 DBA	C, 1, 2, 3, 4, 7
EF-5	APP BAY	GREENHECK	GB-240-VG	ROOF CENT	6000	N/A	0.375	743	1.11	1-1/2	208/3	150	64 DBA	A, 1, 2, 3, 5
SF-1	KITCHEN MAKE UP AIR	GREENHECK	SQ-130-VG	INLINE CENT	1125	N/A	0.52	1162	0.19	3/4	120/1	70	53 DBA	D, 1, 3, 5, 10
KEF	KITCHEN HOOD EXHAUST	GREENHECK	CUE-161HP-VG	UPBLAST CENT	1250	N/A	0.684	1036	0.24	1/2	120/1	150	60 DBA	D,1, 2, 5, 8, 9

NOTES:
1. FAN SPEED CONTROL
2. FACTORY INSULATED CURB W/ SEAL.
3. ALUMINUM BIRD SCREEN
4. BACKDRAFT DAMPER
5. INSULATED, MOTORIZED SHUTOFF DAMPER, CLASS 1A
7. TWO SPEED SELECTABLE CONTROL
8. CLEAN-OUT PORT, VENTED CURB EXT, GREASE TRAP WITH ABSORBANT MATERIAL, PERMATECTOR COATING, HINGED CURB BASE
9. NON-STICK WHEEL
10. NEOPRENE HANGING ISOLATION

A. RUNS ON CO / NO2 SENSOR AND WALL MOUNTED 2 HR TIMER.
B. RUNS CONTINUOUSLY.
C. RUNS CONTINUOUSLY AT LOW SPEED. HIGH SPEED ACTIVATED BY OCCUPANCY SENSOR (PROVIDED BY MC).
D. SWITCHED WITH HOOD. SEE CONTROL DIAGRAM.

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SEQUENCE OF OPERATIONS

1. CONTROL SYSTEM.

   PROVIDE ELECTRIC/ELECTRONIC CONTROLS TO PERFORM FUNCTIONS IN ACCORD WITH THE FOLLOWING.

2. BUNKER GEAR EXHAUST FAN EF-1:

   FAN OPERATES CONTINUOUSLY.

3. DECON EXHAUST FAN EF-2:

   FAN OPERATES CONTINUOUSLY.

4. RESTROOM EXHAUST FAN EF-3:

   FAN OPERATES CONTINUOUSLY.

5. FITNESS EXHAUST FAN EF-4:

   FAN OPERATES CONTINUOUSLY ON LOW SPEED. HIGH SPEED IS ACTIVATED BY OCCUPANCY SENSOR (PROVIDED BY MC).

6. APPARATUS BAY EXHAUST FAN EF-5:

   FAN OPERATES WITH 2-HOUR WALL TIMER (BY M.C.) OR RELAY FROM CO/NO2 SENSORS. FAN ACTIVATES ON CARBON MONOXIDE (CO) LEVEL OF 50 PPM (ADJ) OR NITROGEN DIOXIDE (NO2) LEVEL OF 3 PPM (ADJ).

   FAN INTERLOCK OPENS FAN MOTORIZED DAMPER AND ASSOCIATED PENTHOUSE MOTORIZED DAMPERS WHEN FAN IS OPERATING.

   ON A CO LEVEL OF 100 PPM (ADJ) OR A NO2 LEVEL OF 5 PPM RELAYS TO ACTIVATE AUDIBLE WARNING BELLS (BY M.C.)

7. KITCHEN HOOD MAKEUP AIR: SF-1/DH-1

   HOOD SWITCH ACTIVATES SF-1. WHEN FAN IS RUNNING MOTORIZED OUTSIDE AIR DAMPER OPENS AND DH-1 MODULATES TO MAINTAIN DUCT SUPPLY TEMP OF 65F (ADJ). INTERLOCK OPERATION WITH KEF.

8. KITCHEN HOOD EXHAUST FAN: KEF

   FAN OPERATES WITH HOOD MOUNTED SWITCH. WHEN FAN IS RUNNING, MOTORIZED DAMPER OPENS. INTERLOCK OPERATION WITH SF-1 AND KITCHEN RANGE GAS SOLENOID.

9. KITCHEN RANGE GAS SOLENOID VALVE

   GAS SOLENOID IS NORMALLY CLOSED (WITHOUT POWER). VALVE IS OPEN FOR STANDARD OPERATION. VALVE CLOSES ON RELAY FROM STATION ALERTING SYSTEM, REST BY MANUAL WALL SWITCH (BY EC).

10. ELECTRIC INFRARED HEATER: EIH

    UNIT OPERATES WITH ELECTRONIC LINE/LOW VOLTAGE HEATING ONLY WALL THERMOSTAT.

11. ELECTRIC WALL HEATERS: EWH

    UNITS OPERATE WITH INTEGRAL THERMOSTAT. UNIT IS INTERLOCKED WITH 30-MINUTE WALL TIMER.

12. RADIANT CEILING PANELS: RCP

    UNITS OPERATE WITH ELECTRONIC LINE/LOW VOLTAGE HEATING ONLY WALL THERMOSTATS.

COMMISSIONING NOTES

1. COMMISSIONING OF THE MECHANICAL SYSTEMS, SERVICE WATER HEATING SYSTEMS AND ENERGY METERING SYSTEMS IS REQUIRED ON THIS PROJECT IN ACCORD WITH THE COMMERCIAL ENERGY CODE SECTION C408 AND SPECIFICATION SECTION 230800. THE GOAL OF COMMISSIONING IS TO VERIFY THAT EQUIPMENT, CONTROLS AND THE SEQUENCING OF SUCH OPERATE AS INTENDED. THE COMMISSIONING DOCUMENTATION THAT IS REQUIRED IS THE PROOF OF THIS OPERATION. THE FOLLOWING TASKS ARE REQUIRED FOR COMMISSIONING. SEE SECTION 230800 FOR ADDITIONAL REQUIREMENTS.
2. A COMMISSIONING PLAN: THE PLAN PROVIDES THE DESIGN INTENT, OUTLINES EQUIPMENT AND SYTEMS TO BE TESTED, DETAILS TEST PROCEDURES AND INCLUDES FORMS FOR RESULTS.
3. PRELIMINARY COMMISSIONING REPORT: COMPLETION OF THE COMMISSIONING PLAN NOTING DEFICIENCIES FOUND DURING TESTING, CORRECTIVE ACTION TAKEN OR THE ANTICIPATED DATE OF CORRECTION, CONDITIONS UNDER WHICH THE TESTING WAS PERFORMED AND RECORD OF COMPLETED OWNER TRAINING.
   A. VERIFICATION OF THIS REPORT IS REQUIRED FOR FINAL MECHANICAL INSPECTION AND CERTIFICATE OF OCCUPANCY.
   B. CODE OFFICIAL MAY REQUEST COPY OF REPORT.
4. WITHIN 90 DAYS OF RECEIPT OF THE BUILDING CERTIFICATE OF OCCUPANCY, THE RECORD DRAWINGS, O&M MANUALS, FINAL BALANCING REPORT, FINAL COMMISSIONING REPORT AND DOCUMENTATION OF COMPLETED OWNER TRAINING SHALL BE SUBMITTED FOR REVIEW.
5. RECORD DRAWINGS: LOCATION AND PERFORMANCE DATA ON EACH PIECE OF INSTALLED EQUIPMENT, AS-INSTALLED CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM, INCLUDING SIZES, AND THE TERMINAL AIR AND WATER DESIGN FLOW RATES OF THE ACTUAL INSTALLATION.
6. OPERATION & MAINTENANCE MATERIALS: SUBMIT ALL THE FOLLOWING.
   A. EQUIPMENT SIZE, SELECTED OPTIONS, AND REQUIRED MAINTENANCE.
   B. MANUFACTURER'S O&M MANUAL FOR EACH PIECE OF EQUIPMENT.
   C. NAME AND ADDRESS OF SERVICE AGENCY.
   D. CONTROLS MAINTENANCE AND CALIBRATION INFORMATION INCLUDING WIRING DIAGRAMS, SCHEMATICS, RECORD DRAWINGS AND CONTROL SEQUENCES. SETPOINTS SHALL BE PERMANENTLY RECORDED IN THESE DOCUMENTS. NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE.
7. BALANCING: ALL HVAC AND SERVICE HOT WATER SYSTEMS SHALL BE BALANCED BY A LICENSED CONTRACTOR IN ACCORDANCE WITH ACCEPTED ENGINEERING STANDARDS AND SECTION 230593.
8. FUNCTIONAL PERFORMANCE TESTING: DEMONSTRATE THE CORRECT INSTALLATION AND OPERATION OF EACH COMPONENT, SYSTEM, AND SYSTEM-TO-SYSTEM INTERTIE RELATIONSHIP. CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED, ADJUSTED AND OPERATE IN ACCORDANCE WITH THE SEQUENCE OF OPERATION.
9. OWNER TRAINING: SYSTEM/EQUIPMENT OVERVIEW (WHAT IT IS, WHAT IT DOES AND WHICH OTHER SYSTEMS AND OR EQUIPMENT DOES IT INTERFACE WITH). REVIEW OF THE AVAILABLE O&M MATERIALS. REVIEW OF THE RECORD DRAWINGS ON THE SUBJECT SYSTEM/EQUIPMENT. HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES, NORMAL OPERATING MODES, AND ALL EMERGENCY SHUTDOWN AND START-UP PROCEDURES.
10. FINAL COMMISSIONING REPORT: RESULTS OF ALL FUNCTIONAL PERFORMANCE TESTS.
    A. DISPOSITION OF ALL DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
    B. ALL FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE, PROVIDED HEREIN FOR REPEATABILITY.
11. BUILDINGS OR PORTIONS THEREOF, SHALL NOT BE ISSUED A FINAL CERTIFICATE OF OCCUPANCY UNTIL SUCH TIME THAT THE BUILDING OFFICIAL DETERMINES THAT THE PRELIMINARY COMMISSIONING REPORT REQUIRED BY THIS SECTION HAS BEEN COMPLETED. THIS MAY BE ACCOMPLISHED BY SUBMITTING THE COMMISSIONING COMPLIANCE CHECKLIST.
12. THE MECHANICAL CONTRACTOR SHALL NOT BE CONSIDERED SUBSTANTIALLY COMPLETE UNTIL THE PRELIMINARY COMMISSIONING REPORT HAS BEEN APPROVED BY THE ENGINEER.

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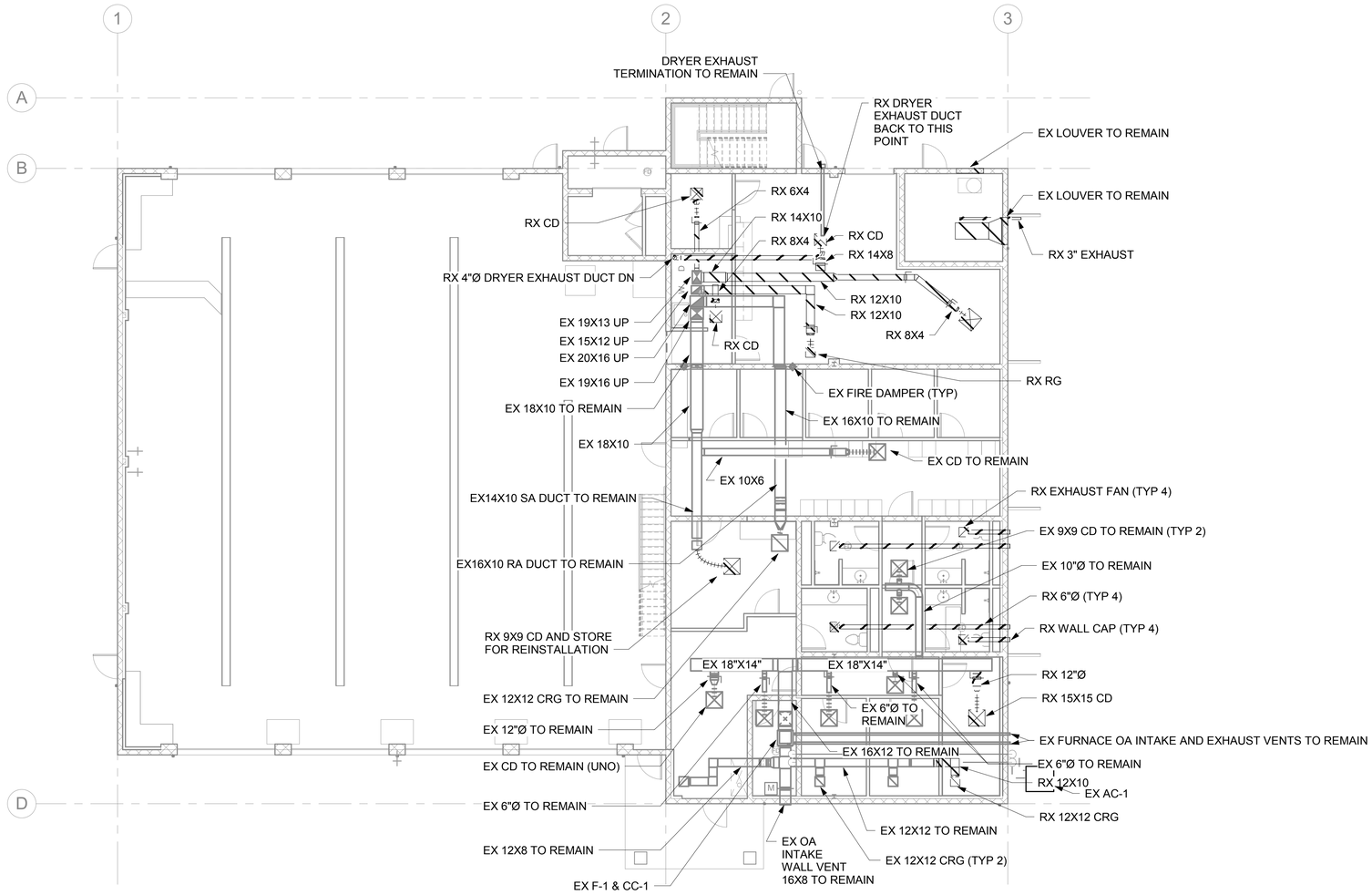
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REVISION SCHEDULE

MECHANICAL SCHEDULES

SHEET:

M00.03



1 HVAC FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0"

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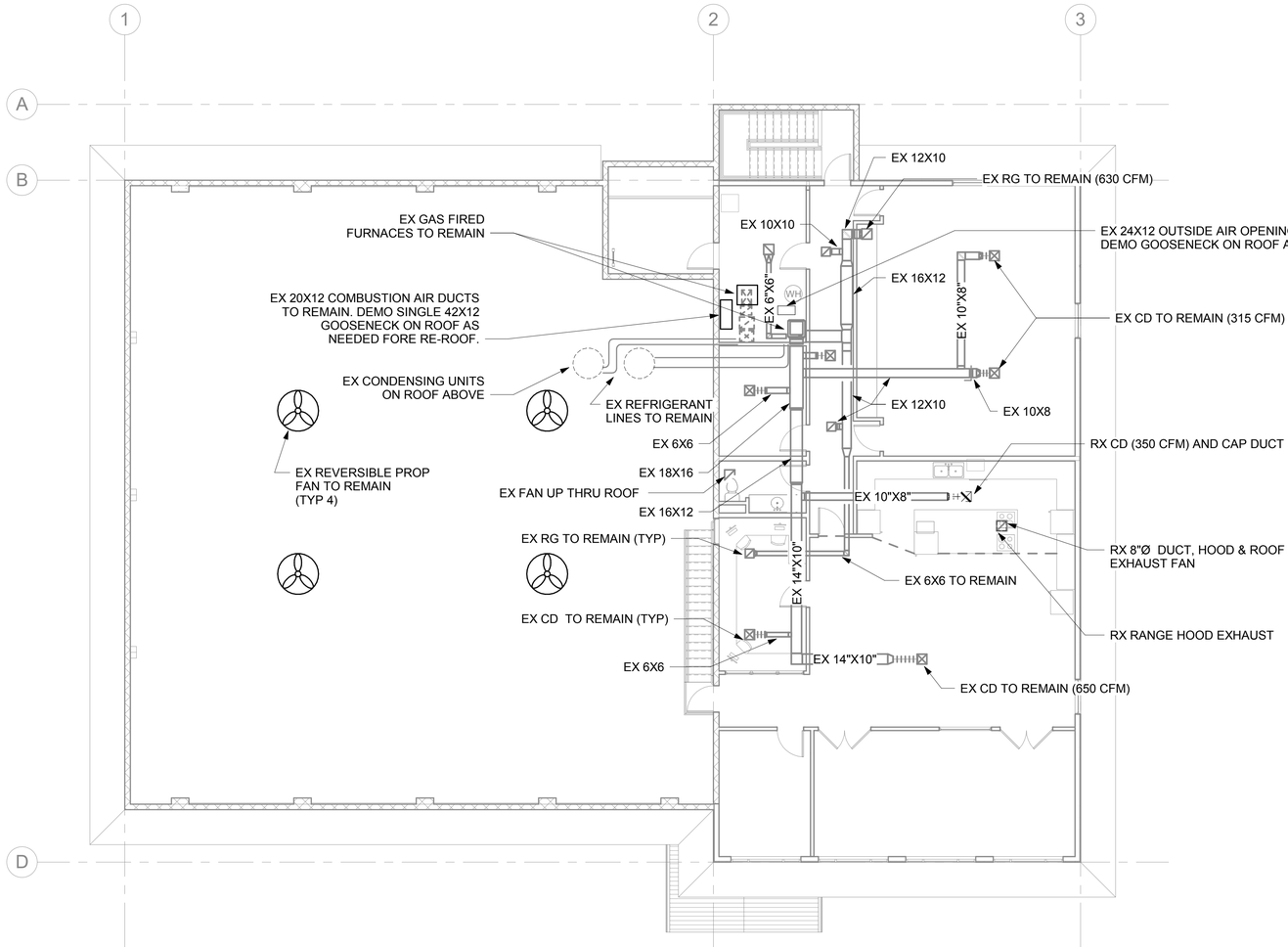
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HVAC FIRST FLOOR DEMOLITION PLAN

SHEET #
M20.01



1 HVAC SECOND FLOOR DEMOLITION PLAN
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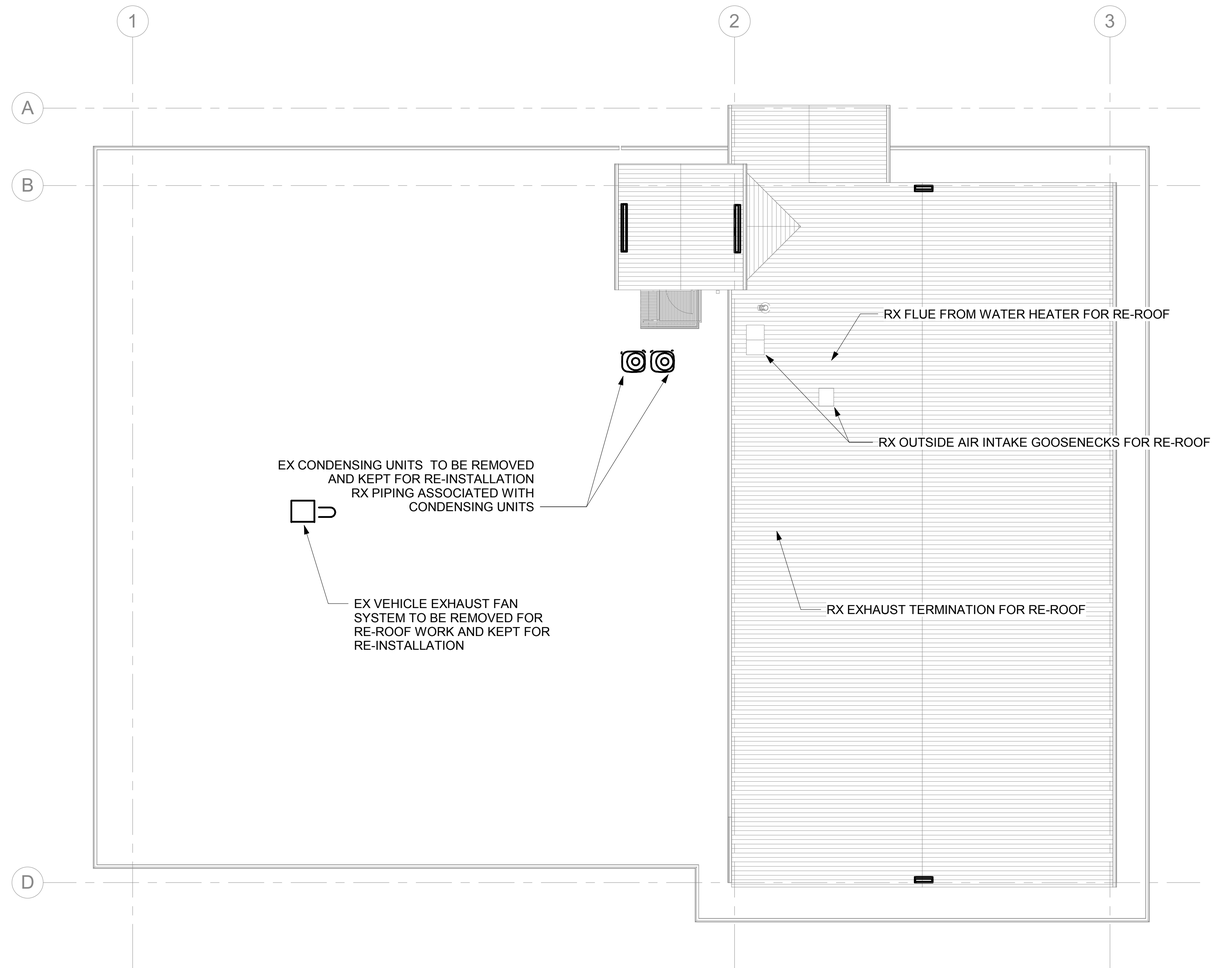
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HVAC SECOND FLOOR DEMOLITION PLAN

SHEET # M20.02



1 HVAC ROOF DEMOLITION PLAN
1/8" = 1'-0"

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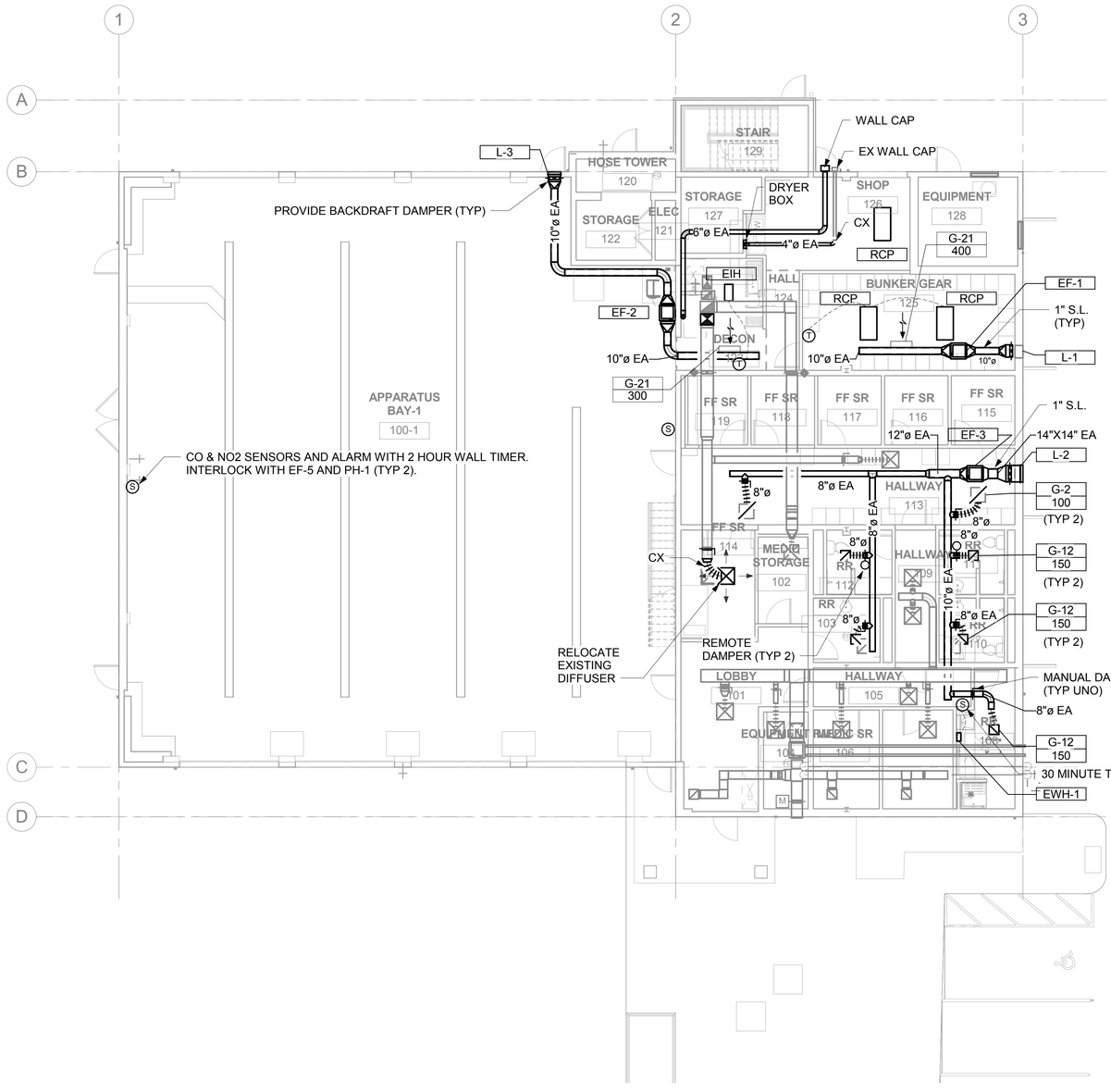
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HVAC ROOF DEMOLITION PLAN

SHEET # M20.03

GENERAL NOTES:

1. PROVIDE EQUIPMENT ANCHORING AND SEISMIC BRACING PER ASCE 7-10.
2. KEEP EXPOSED DUCT WORK TIGHT TO STRUCTURE WHERE POSSIBLE UNLESS NOTED OTHERWISE.
3. EXACT LOCATION OF EXISTING DUCT WORK MAY VARY. ROUTE NEW DUCT WORK AROUND EXISTING DUCT WORK AS NEEDED..
4. CONFIRM EXACT LOCATION OF ALL NEDERMAN DUCTWORK AND SUPPORTS. ROUTE ALL DUCTWORK AROUND EXISTING NEDERMAN SYSTEM AS NEEDED.
5. LOCATE LOUVERS WITHIN 24"X36" SOLID-GROUTED SPACINGS, SEE STRUCTURAL SHEETS FOR DETAILS.



1 HVAC FIRST FLOOR PLAN
1/8" = 1'-0"

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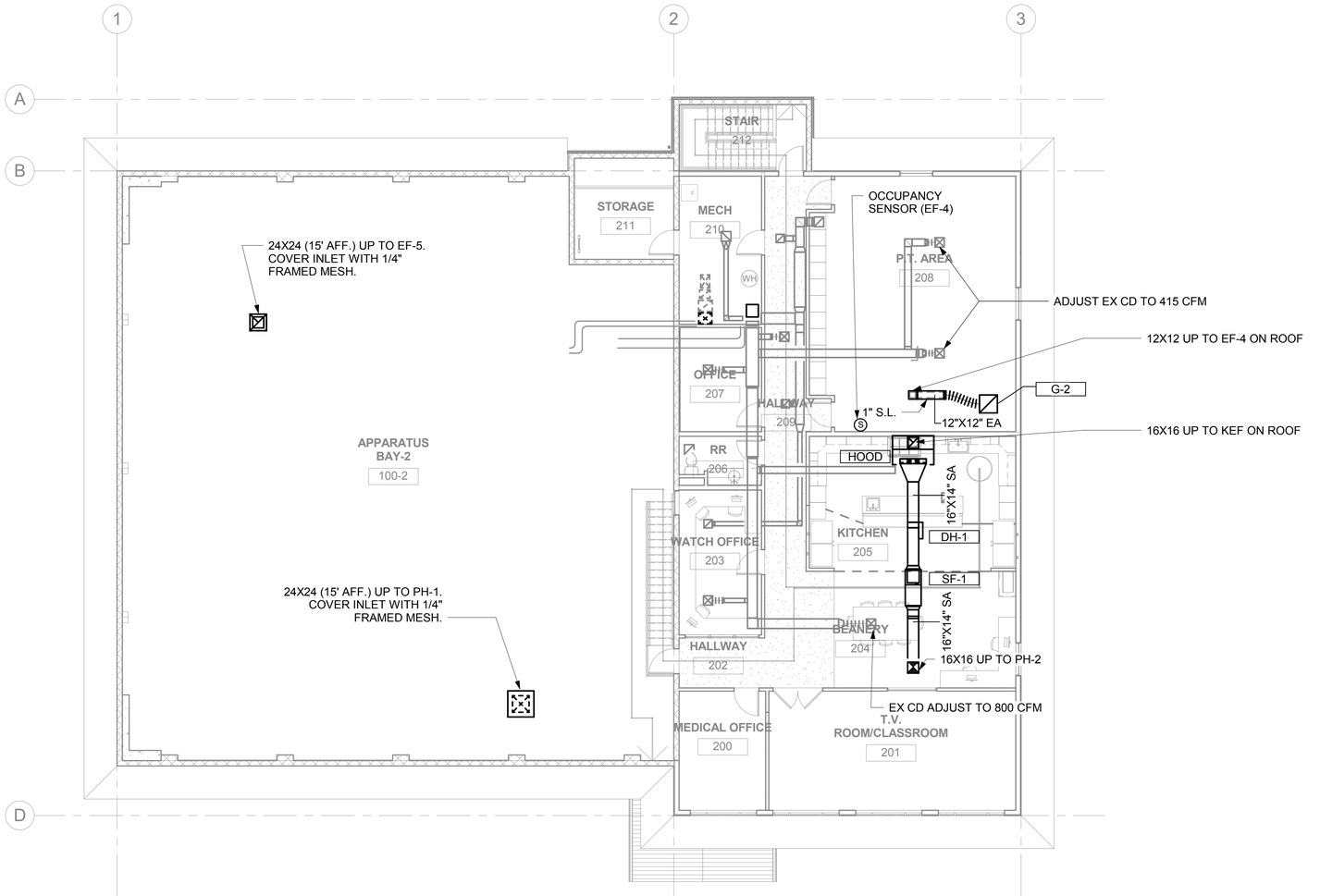
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HVAC FIRST FLOOR PLAN

SHEET # **M30.01**

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4. CONFIRM EXACT LOCATION OF ALL NEDERMAN DUCTWORK AND SUPPORTS. ROUTE ALL DUCTWORK AROUND EXISTING NEDERMAN SYSTEM AS NEEDED.



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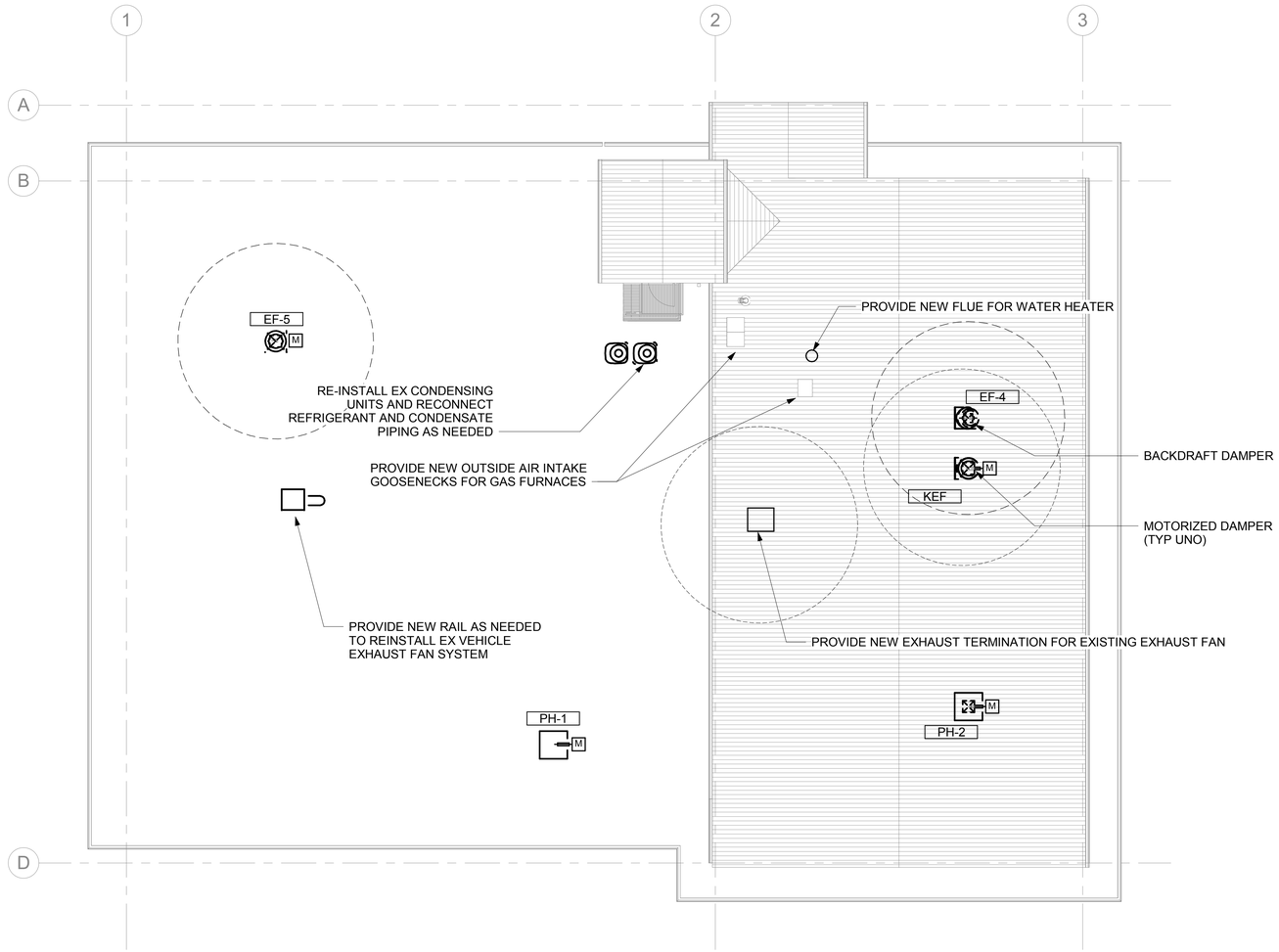
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HVAC SECOND FLOOR PLAN

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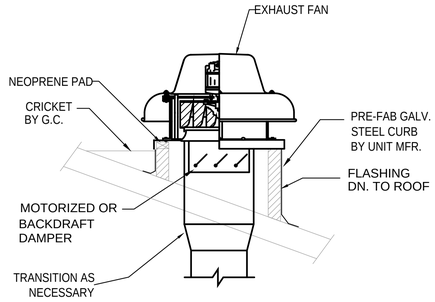
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ISSUE DATE FEBRUARY 23, 2018

REVISION SCHEDULE

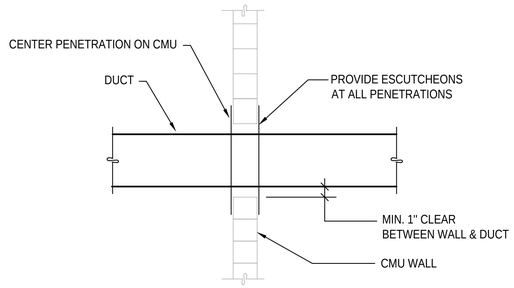
HVAC ROOF PLAN

SHEET # **M30.03**



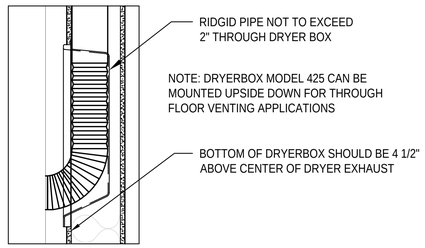
ROOF EXHAUST FAN DETAIL

1 M40.01 **Scale: NONE**



CHASE FOR INTERIOR PENETRATION DETAIL

2 M40.01 **N.T.S.**

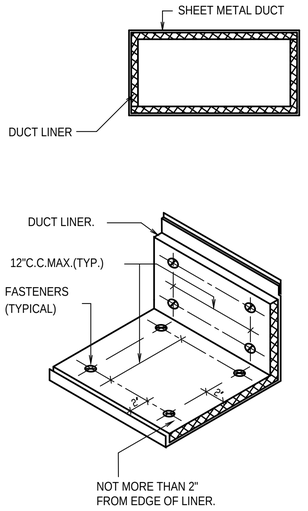


DRYERBOX INSTALLATION

DRYER VENTING: MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RUNNING ALL DUCTWORK FOR THE DRYER EXHAUST SYSTEM. ALL CONCEALED DRYER DUCTING MUST BE RIGID METAL (GALVANIZED OR ALUMINUM) MINIMUM OF 4" IN DIAMETER, SMOOTH 30 GA. CLEAN, UNOBSTRUCTED, FRICTIONLESS DUCTS (NO FLEXIBLE DUCT ALLOWED IN CONCEALED AREAS). SEAL ALL JOINTS WITH FOIL BACKED PRESSURE SENSITIVE DUCT TAPE MEETING THE REQUIREMENTS OF UL 181. DUCT JOINTS SHALL BE INSTALLED SO THAT THE MALE END OF THE DUCT POINTS IN THE DIRECTION OF THE AIRFLOW. DO NOT USE RIVETS OR SCREWS IN THE JOINTS OR ANYWHERE ELSE IN THE DUCT AS THESE WILL ENCOURAGE LINT COLLECTION.

DRYERBOX® RECEPTACLE (WWW.DRYERBOX.COM) SHALL BE METAL AND BE INSTALLED AS LOW AS POSSIBLE AS TO PERMIT THE PROPER AND SAFE COLLECTION OF THE DRYER TRANSITION HOSE. DRYERBOX SHOULD BE RESTING ON THE BOTTOM PLATE AND BE LOCATED AT OR NEAR THE CENTERLINE OF THE PROPOSED DRYER APPLIANCE. RIGID DUCT SHOULD PENETRATE DRYERBOX PORT 2 INCHES TO PROVIDE FOR FUTURE CONNECTION AND STORAGE OF TRANSITION HOSE. BASEBOARD SHALL BE "BUTTED" UP TO THE FIXED EXTENSION RIM AND SLIGHTLY BACK-CUT. DRYERBOX SHOULD BE CAULKED AND THEN PAINTED WITH THE TRIM PAINT. FOR USAGE IN A ONE-HOUR WALL ASSEMBLY, UL REQUIRES THAT BATT INSULATION BE STUFFED AROUND THE DRYERBOX AND IN THE ENTIRE WALL CAVITY CELL.

LENGTH OF CONCEALED RIGID METAL DUCTING SHALL NOT EXCEED 25 FEET. DEDUCT 5 FEET FROM THE ALLOWABLE LENGTH FOR EVERY 3.5" RADIUS 90 DEGREE ELBOW AND TWO AND A HALF FEET FOR EVERY 45 DEGREE FITTING. DRYER VENTING SHALL BE INDEPENDENT OF ANY OTHER SYSTEMS (CHIMNEYS OR EXHAUST VENTS). TERMINATION OF DRYER VENTING MUST BE TO THE EXTERIOR WITH A PROPER HOOD OR ROOF JACK EQUIPPED WITH A BACK-DRAFT DAMPER. SMALL ORIFICE METAL SCREENING SHOULD NOT BE PART OF THE HOOD OR ROOF JACK AS THIS WILL ACCELERATE LINT ACCUMULATION AND BLOCKAGE. THE HOOD OPENING SHOULD POINT DOWN AND EXHIBIT 12 INCHES OF CLEARANCE BETWEEN THE BOTTOM OF THE HOOD AND THE GROUND OR OTHER OBSTRUCTION. VERIFY MANUFACTURER'S RECOMMENDATIONS FOR ANY OTHER FACTORS.

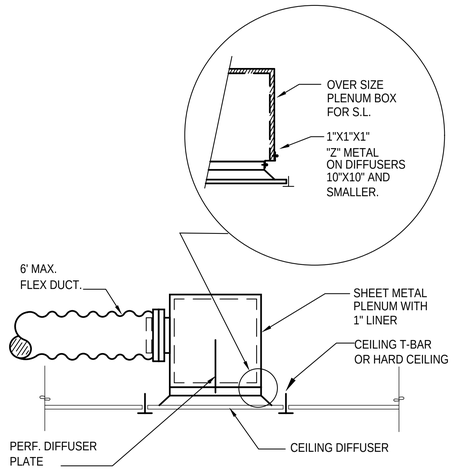


NOTES:

1. PROVIDE S/M NOSING AT EXPOSED EDGES OF INSULATION.
2. ALL TRANSVERSE AND LONGITUDINAL ENDS OF LINER TO BE COATED WITH ADHESIVE.

DUCT LINER DETAIL

3 M40.01 **N.T.S.**

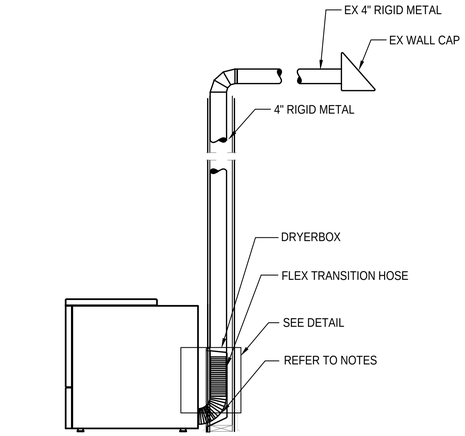


NOTES:

1. SEE ARCHITECTURAL PLANS FOR CEILING TYPES.
2. SUPPLY SHOWN, DETAIL WITHOUT PERF PLATE IS TYPICAL FOR CEILING RETURN OR EXHAUST GRILLE INSTALLATION.

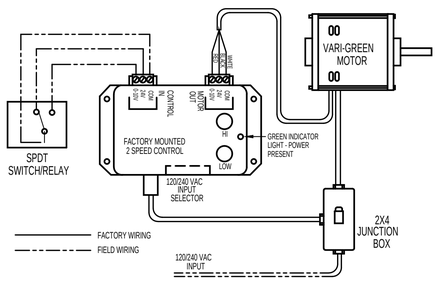
CEILING INSTALLATION TYPICAL DIFFUSER DETAIL

4 M40.01 **Scale: NONE**



DRYER VENT WALL BOX

5 M40.01 **N.T.S.**



VARI-GREEN 2 SPEED ASSEMBLY

6 M40.01 **N.T.S.**

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PROJECT # 16064

BID

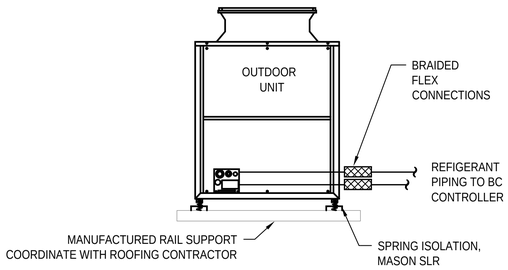
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REVISION SCHEDULE

MECHANICAL DETAILS

SHEET:

M40.01



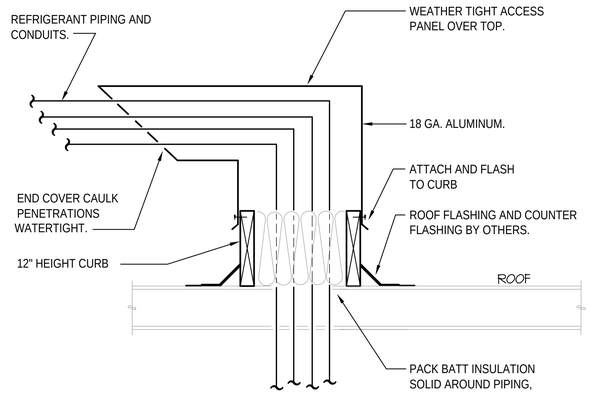
NOTE:

MECH. CONTRACTOR TO HIRE THIRD PARTY STRUCTURAL ENGINEER TO PROVIDE EXACT NUMBER AND SIZE OF BOLTS/FASTENERS AND PROVIDE EQUIPMENT SEISMIC CALCULATIONS.

1 M40.02 CONDENSING UNIT SUPPORT

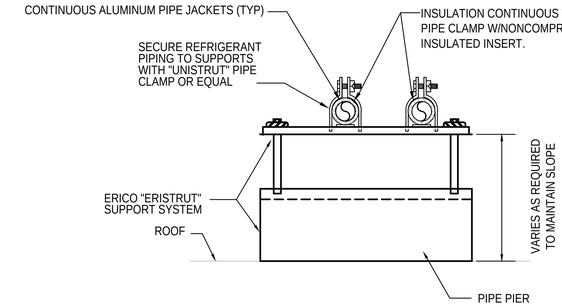
N.T.S.

NOTE:
CURB AND PORTAL DIMENSIONS
AS INDICATED ON PLAN.



2 M40.02 REFRIGERANT PIPING ROOF PENETRATION DETAIL

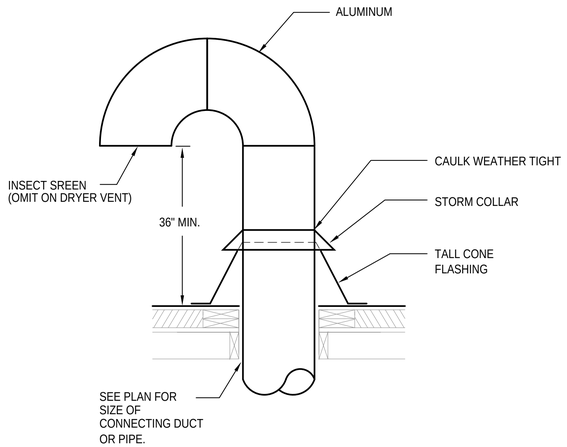
N.T.S. PIPE PORTAL



NOTE:
PROVIDE ADDITIONAL WIDTH ON PIPE SUPPORT FOR ELECTRICAL CONDUIT(S) AND CONTROL CONDUIT(S). COORDINATE WITH ELECTRIC AND CONTROL CONTRACTORS.

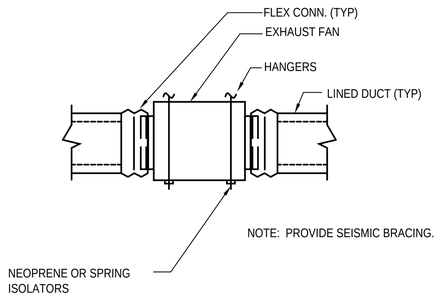
3 M40.02 ROOF REFRIGERANT PIPE SUPPORT DETAIL

N.T.S.



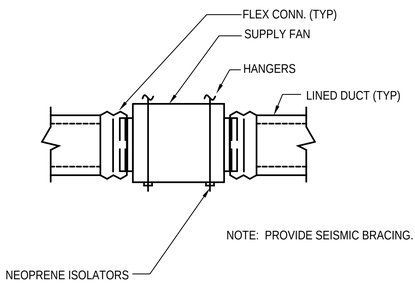
4 M40.02 ROUND GOOSENECK DETAIL

N.T.S.



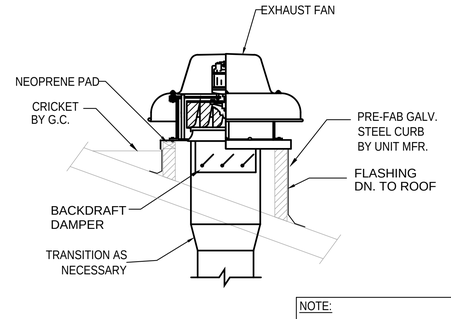
5 M40.02 INLINE EXHAUST FAN DETAIL

Scale: NONE



7 M40.02 INLINE SUPPLY FAN DETAIL

Scale: NONE

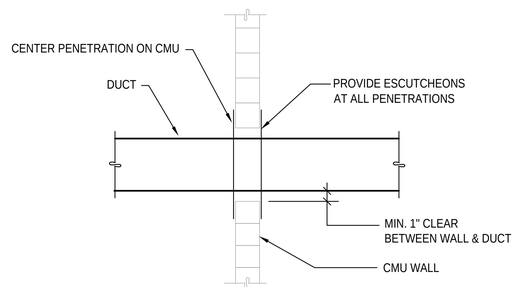


NOTE:

MECH. CONTRACTOR TO HIRE THIRD PARTY STRUCTURAL ENGINEER TO PROVIDE EXACT NUMBER AND SIZE OF BOLTS/FASTENERS AND PROVIDE EQUIPMENT SEISMIC CALCULATIONS.

6 M40.02 ROOF EXHAUST FAN DETAIL

Scale: NONE



8 M40.02 CHASE FOR INTERIOR PENETRATION DETAIL

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PROJECT # 16064

BID

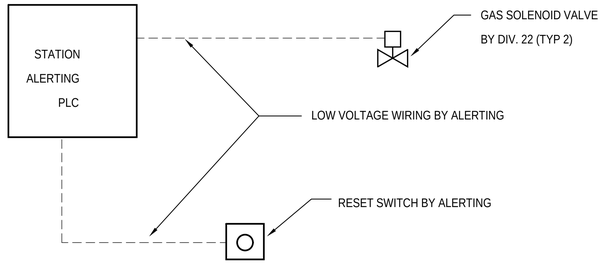
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REVISION SCHEDULE

MECHANICAL DETAILS

SHEET:

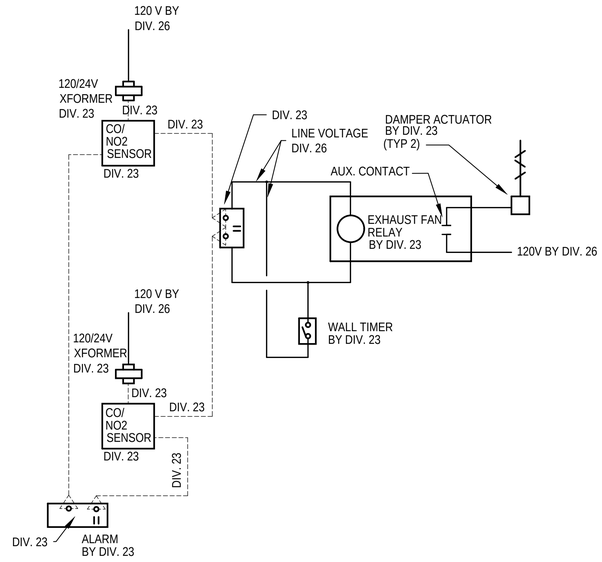
M40.02



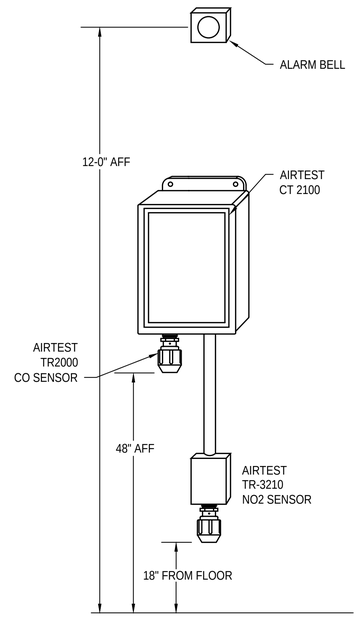
NOTE:
1. COORDINATE VOLTAGE OF VALVE WITH ALERTING CONTRACTOR..

(TYPICAL FOR BBQ & KITCHEN RANGE)

1 M50.01 **GAS VALVE/RESET CONTROL**
N.T.S.



2 M50.01 **CO/NO2 (EF-5) SENSOR CONTROL SCHEMATIC**
Scale: NONE



3 M50.01 **CO/N02 DETECTOR DETAIL**
N.T.S.

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MECHANICAL
CONTROLS

SHEET:
M50.01

PLUMBING SYMBOLS LEGEND

LINETYPE LEGEND

- EXISTING
- NEW WORK DARK/HEAVY

PIPING SYSTEM LABELS

- CW — COLD WATER
- HW — HOT WATER
- (140) — HOT WATER (TEMPERATURE)
- HWC — HOT WATER CIRCULATING
- SD — STORM DRAIN
- PW — PUMPED WASTE
- WASTE (BURIED)
- W — WASTE (ABOVE GRADE)
- GW — GREASE WASTE
- V — VENT
- RL — RAINLEADER
- OD — OVERFLOW DRAIN
- NPW — NON-POTABLE COLD WATER
- G OR P — NATURAL GAS OR PROPANE
- F — FIRE SERVICE
- DIRECTION OF FLOW
- CA — COMPRESSED AIR
- DI — DIONIZED WATER
- V — VACUUM
- C — CONDENSATE
- PC — PUMPED CONDENSATE
- X" — SLOPE SYMBOL (X' PER FOOT)

PIPE FITTINGS

- PIPE DOWN
- PIPE UP
- TEE UP
- TEE DOWN
- UNION
- PIPE ANCHOR POINT
- PIPE GUIDE
- FLANGE
- CAP

DRAINS AND CLEANOUTS

- FLOOR SINK
- FLOOR DRAIN
- HIDDEN FLOOR DRAIN
- ROOF DRAIN
- OVERFLOW DRAIN
- FLOOR CLEANOUT
- GRADE CLEANOUT
- TRENCH DRAIN
- WALL CLEANOUT
- UP TO CLEANOUT
- FUNNEL DRAIN
- STANDPIPE FUNNEL DRAIN

PIPE VALVES AND SPECIALTIES

- P-1 — PLUMBING EQUIPMENT
- X — MEDICAL TAG
- M-1 — DETAIL NUMBER / SHEET
- FLAG NOTE
- 1 — REVISION TAG
- 1 / P-1 — PLUMBING RISER NO. / SHEET
- 1 — SECTION NUMBER / SHEET NUMBER

PIPE VALVES AND SPECIALTIES

- GATE VALVE
- GLOBE VALVE
- NON RISING STEM VALVE
- RISING STEM GATE VALVE
- BALANCING VALVE (CIRCUIT SETTER)
- AUTOFLOW VALVE
- CHECK VALVE
- BALL VALVE
- PRESSURE REDUCING VALVE
- SOLENOID VALVE
- PRESSURE GAUGE
- THERMOMETER
- STRAINER
- SAFETY VALVE
- PIPING FLEXIBLE CONNECTIONS
- BUTTERFLY VALVE
- OR — CAP
- HOSE BIBB
- DOUBLE CHECK VALVE
- RPBA
- TRIPLE DUTY VALVE
- BALL VALVE MANUAL LEVER
- BUTTERFLY VALVE MANUAL LEVER
- BUTTERFLY GEAR VALVE
- GLOBE VALVE MANUAL LEVER
- BALANCE VALVE (PRESSURE INDEPENDENT)
- PUMP
- M — METER
- M — METER

PLUMBING NOTES

1. PLUMBING FIXTURES SHALL BE DESIGNED OR EQUIPPED TO MEET FOLLOWING MAXIMUM WATER USE EFFICIENCY STANDARDS:
   - A. WATER CLOSETS (TANK STYLE OR FLUSH VALVE). 1.6 GPF
   - B. SHOWER HEADS 2.0 GPM
   - C. RESIDENTIAL LAVATORY FAUCETS. 1.0 GPM
   - D. PUBLIC LAVATORY FAUCETS. 0.5 GPM
   - E. KITCHEN SINK FAUCETS 1.5 GPM

   SINK AND LAVATORY DRAINS SHALL BE CHROME PLATED 17 GA. BRASS TUBING BY ENGINEERED BRASS, DEARBORN BRASS OR BRASSCRAFT. PROVIDE INSULATED P-TRAP AND SUPPLY COVERS (TRUEBRO OR EQUAL) AT ALL EXPOSED P-TRAPS AND SUPPLIES PER A.D.A. STANDARDS.
2. PLUMBING FIXTURE MOUNTING SHALL COMPLY WITH CONTRACT DOCUMENTS, ADA, AND WASHINGTON STATE ACCESSIBILITY CODE.
3. INSTALL WATER HAMMER ARRESTORS ON HOT & COLD WATER PIPING OF EACH FIXTURE GROUP AND AT ALL FIXTURES W/QUICK ACTING VALVES. UNITS SHALL BE ZURN "SHOKTROLL" OR EQUAL. SELECT UNIT SIZE AND LOCATION PER MANUFACTURERS RECOMMENDATIONS AND IN ACCORD WITH PDI STANDARD WH-201. PROVIDE ACCESS PANELS AT ARRESTORS ABOVE GWB CEILINGS. ALL ACCESS PANELS AND DOORS SHALL BE ELMDOR FAB. STEEL SLK SERIES OR EQUAL WITH 14 GAUGE DOOR AND FRAME. PROVIDE WITH CYLINDER LOCK, CONTINUOUS PIANO HINGE AND PRIME COATED READY FOR PAINTING.
4. COLD WATER AND HOT WATER PIPING SHALL BE INSULATED AND ROUTED FULL SIZE WITH APPROPRIATE SIZE REDUCTION AT POINT OF CONNECTION TO FIXTURE. 1/2" WATER LINE LIMITED TO 10'-0" DISTANCE FROM FIXTURE. "DEAD-LEGS" OR "FUTURE" STUBS ON ACTIVE POTABLE WATER LINES SHALL BE LIMITED TO 4" TO PREVENT STAGNANT WATER CONDITIONS.
5. INSTALL WATER PIPING ON WARM SIDE OF BUILDING INSULATION. SEE SPEC. FOR INSULATION SYSTEMS. SEE DWGS. FOR ELEC. HEAT TRACE REQUIREMENTS. SEE PLUMBING DETAILS FOR PIPE HANGER STYLE. SEE SPEC. FOR HANGER SPACING.
6. WHEN CONNECTING TO EXISTING BURIED WASTE PIPING VERIFY PROPER FLOW CONDITIONS BEFORE COVERING. BURIED WASTE & VENT PIPING SHALL BE MIN. 2" DIA. & SLOPED 1/4"/FT., UNLESS OTHERWISE NOTED. PVC OR ABS PIPING SHALL BE USED ONLY IF APPROVED BY ADMINISTRATIVE AUTHORITY, SEE SPECIFICATIONS FOR FURTHER INFO.
7. PROVIDE TRAP PRIMERS ON ALL FLOOR DRAINS EXCEPT IN SHOWER STALLS OR OTHERWISE NOTED ON DWGS. CONTRACTOR SHALL INSTALL ACCESS PANELS WHERE PRIMERS ARE CONCEALED IN WALLS.
8. COORDINATE VENT THROUGH ROOF (VTR) LOCATIONS WITH HVAC UNITS. MAINTAIN MIN. 10'-0" CLEARANCE. OFFSET VTR AS NECESSARY. COORDINATE PIPE ROUTING WITH HVAC AND SPRINKLER CONTRACTORS.
9. RISER DIAGRAMS & PLANS DO NOT SHOW SOME PIPING OFFSETS REQUIRED FOR STRUCTURAL CLEARANCES. EXACT ROUTING MAY VARY FROM THAT INDICATED. ALL WASTE PIPING INCLUDING RISERS ON RESIDENTIAL LEVELS TO BE CAST IRON.
10. PROVIDE ELECTRIC HEAT TRACE UNDER PIPING INSULATION FOR ALL WATER PIPING INSTALLED IN UNHEATED GARAGE SPACES.
11. CONFIGURE PIPING FOR SUDS RELIEF AS REQUIRED BY THE UPC.
12. ALL LEVER CONTROLLED WATER CLOSETS TO BE INSTALLED WITH THE LEVER ON THE OPEN SIDE OF THE BATHROOM.

ENERGY CODE NOTES

1. SEE SCHEDULE FOR WATER HEATER EQUIPMENT TYPE, CAPACITY AND EFFICIENCY. MINIMUM EFFICIENCY SHALL MEET TABLE C404.2
2. PUBLIC LAVATORIES SHALL BE EQUIPPED WITH AN ASSE 1070 MIXING VALVE SET TO DELIVERY 110 F HOT WATER.
3. NONCIRCULATING HOT WATER SYSTEMS WITHOUT AN INTEGRAL HEAT TRAP SHALL BE PROVIDED WITH HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING.
4. ELECTRIC WATER HEATERS IN UNCONDITIONED SPACES OR ON CONCRETE FLOORS SHALL BE PLACED ON INCOMPRESSIBLE R-10 INSULATION.
5. PROVIDE PIPE INSULATION PER ENERGY CODE SECTION C403.2.9 AND SPECIFICATION SECTION 22 07 00.
6. INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, SUNLIGHT, MOISTURE AND WIND. PROVIDE JACKET AND ALUMINUM COVERS. ADHESIVE TAPE IS NOT PERMITTED.
7. ALL PIPE AND WRAP INSULATION SHALL BE LABELED WITH ITS THICKNESS AND INSULATING VALUE (R OR K).
8. THE MAXIMUM ALLOWABLE PIPING LENGTH FROM THE NEAREST SOURCE OF HOT WATER TO THE TERMINATION OF THE FIXTURE SUPPLY SHALL COMPLY WITH C404.3
9. CIRCULATING HOT WATER PUMPS OR HEAT TRACE SHALL BE EQUIPPED WITH AUTOMATIC TIMERS.

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	MBH	1000 BRITISH THERMAL UNITS PER HOUR
ADA	AMERICANS WITH DISABILITIES ACT	MED	MEDIUM
ADJ	ADJUSTABLE	MEP	MECHANICAL, ELECTRICAL, PLUMBING
AFF	ABOVE FINISHED FLOOR	MEZZ	MEZZANINE
AFG	ABOVE FINISHED GRADE	MIN	MINIMUM
ALT	ALTERNATE	MISC	MISCELLANEOUS
AP	ACCESS PANEL		
APPROX	APPROXIMATE	N/A	NOT APPLICABLE
ARCH	ARCHITECTURAL/ARCHITECT	NC	NORMALLY CLOSED
AS	AIR SEPARATOR	NEG	NEGATIVE
AUX	AUXILIARY	NIC	NOT IN CONTRACT
		NOM	NOMINAL
BFF	BELOW FINISHED FLOOR	NPC	NON-POTABLE COLD WATER
BFG	BELOW FINISHED GRADE	NPCW	NON POTABLE COLD WATER
BHP	BRAKE HORSE POWER	NPH	NON-POTABLE HOT WATER
BLDG	BUILDING	NPHR	NON-POTABLE HOT WATER RETURN
BOP	BOTTOM OF PIPE	NPT	NATIONAL PIPE THREAD
BTU	BRITISH THERMAL UNIT	NTS	NOT TO SCALE
BTUH	BRITISH THERMAL UNIT PER HOUR		
		OD	OUTSIDE DIAMTER/OVERLOW DRAIN
CA	COMBUSTION AIR	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CLG	CEILING	OFOI	OWNER FURNISHED OWNER INSTALLED
CMU	CONCRETE MASONRY UNIT	ORD	OVERFLOW ROOF DRAIN
CO	CLEANOUT	ORL	OVERFLOW RAINWATER LEADER
COND	CONDENSATE		
CW	COLD WATER	ΔP	PRESSURE DIFFERENTIAL
CX	CONNECT TO EXISTING		
		PD	PLANTER DRAIN; PRESSURE DROP
dB	DECIBEL	PERF	PERFORATED
DCVA	DOUBLE CHECK VALVE ASSEMBLY	PH	PHASE
DDCV	DOUBLE DETECTOR CHECK VALVE	PIV	POST INDICATOR VALVE
DDCVA	DOUBLE DETECTOR CHECK VAVLE ASSEMBLY	PLBG	PLUMBING
DF	DRINKING FOUNTAIN	PRESS	PRESSURE
DFU	DRAINAGE FIXTURE UNIT	PRV	PRESSURE REDUCING VALVE
DHW	DOMESTIC HOT WATER	PSF	POUNDS PER SQUARE FOOT
DHWC	DOMESTIC HOT WATER RECIRCULATION	PSI	POUNDS PER SQUARE INCH
Ø OR DIA	DIAMETER	PSIG	POUNDS PER INCH GAUGE
DN	DOWN		
DWG(S)	DRAWING(S)	QTY	QUANTITY
DWV	DRAIN, WASTE, VENT		
		RD	ROOF DRAIN
EA	EACH	REQD	REQUIRED
EEW	EMERGENCY EYEWASH	RL	RAIN WATER LEADER
EFF	EFFICIENCY	RM	ROOM
ELEV	ELEVATION	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
EQUIP	EQUIPMENT	RPM	REVOLUTIONS PER MINUTE
ES	EMERGENCY SHOWER	RLX	RELOCATE EXISTING
ET	EXPANSION TANK	RV	RELIEF VALVE
EX	EXISTING/EXISTING TO REMAIN	RX	REMOVE EXISTING
EXP	EXPANSION		
		S	SINK
FC	FAIL CLOSED	S	STORM
FCO	FLOOR CLEANOUT	SCFM	STANDARD CUBIC FEET PER MINUT
FD	FLOOR DRAIN	SD	STORM DRAIN
FDC	FIRE DEPARTMENT CONNECTION	SF	SQUARE FOOT
FF	FINISHED FLOOR	SFU	SUPPLY FIXTURE UNIT
FLA	FULL LOAD AMPS	SH	SHOWER
FM	FORCE MAIN	S.O.V.	SHUTOFF VALVE
FO	FAIL OPEN	SPEC	SPECIFICATION
FP	FIRE PROTECTION	SS	STAINLESS STEEL
FPM	FEET PER MINUTE	STD	STANDARD
FPS	FEET PER SECOND	SYM	SYMBOL
FS	FLOOR SINK		
FSZV	FIRE SPRINKLER ZONE VALVE ASSEMBLY	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
FT	FEET/FOOT	TBD	TO BE DETERMINED
FTG	FOOTING	TD	TRENCH DRAIN
FV	FLUSH VALVE	TEMP	TEMPERATURE
		TOB	TOP OF BEAM
G	NATURAL GAS	TOC	TOP OF CONCRETE
GA	GAUGE	TOD	TOP OF DECK
GAL	GALLON	TOJ	TOP OF JOIST
G.C.	GENERAL CONTRACTOR	TOS	TOP OF SLAB/TOP OF STEEL
GCO	GRADE CLEANOUT	TP	TRAP PRIMER
GD	GARAGE DRAIN	T&P	TEMPERATURE & PRESSURE
GPF	GALLONS PER FLUSH	TYP	TYPICAL
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE	UL	UNDERWRITERS LABORATORY
GW	GREASE WASTE	UNO	UNLESS NOTED OTHERWISE
		UR	URINAL
H	HEIGHT		
HB	HOSE BIBB	V	VENT(S)
HBVB	HOSE BIBB VACUUM BREAKER	V	VOLT
HD	HEAD	VERT	VERTICAL
HP	HORSEPOWER	VFD	VARIABLE FREQUENCY DRIVE
HS	HAND SINK	VIB	VALVE-IN-BOX
HW	HOT WATER	VTR	VENT THROUGH ROOF
HX	HEAT EXCHANGER		
		W	WASTE/WATER
IE	INVERT ELEVATION	W/	WITH
IN	INCH/INCHES	W/IN	WITHIN
		W/O	WITHOUT
KW	KILOWATT/KILOWATTS	WC	WATER CLOSET
		WCO	WALL CLEANOUT
LAV	LAVATORY	WH	WATER HEATER
LB	LAUNDRY BOX	WPD	WATER PRESSURE DROP
LBS	POUNDS	WT	WEIGHT
LF	LINEAL FOOT		
LTG	LIGHTING	YCO	YARD CLEANOUT
LWT	LEAVING WATER TEMPERATURE		

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PROJECT # 16064

BID

ISSUED: FEBRUARY 23, 2018

REVISION SCHEDULE

PLUMBING COVER SHEET

SHEET:

P00.01

PLUMBING FIXTURE SCHEDULE

MARK	ITEM	MFR: MODEL	DESCRIPTION
WC-1	WATER CLOSET	KOHLER: K-3493-T-0	FLOOR-MOUNT, TANK TYPE, PRESSURE ASSIST, ELONGATED BOWL 30 1/8" X 21 1/4" X 31 1/4. TWO PIECE, 1.6 GPF. 17" RIM HEIGHT. FLUSH HANDLES TOWARDS OPEN SIDE OF RESTROOM PER ADA.
	SEAT	BEMIS: 1955C	WHITE PLASTIC, OPEN FRONT, W/O COVER.
LAV-1	LAVATORY	KOHLER: 2196-4	17" X 20" OVAL, COUNTER TOP, SELF RIM, VIT. CHINA, 4" CTRS, WHITE.
	FAUCET	SYMMONS: S-20-2	4 1/2" SPOUT, 1.0 GPM AERATOR, SGL. LEVER HANDLE, 4" CTRS, CHROME PLATE, POP-UP DRAIN, VANDAL RES. ADA
	DRAIN		INSULATE DRAIN AND STOPS PER ADA REQUIREMENTS
	LAVATORY MIXING VALVE	SYMMONS: 7-210-CK-B	THERMOSTATIC MIXING VALVE, INTEGRAL CHECKS, 3/8" INLETS AND OUTLET, PROVIDE WHITE ENAMEL WALL CABINET AND MOUNT BELOW LAVATORIES. MUST COMPLY WITH ASSE 1070. SET OUTLET TEMPERATURE TO 110° F PER WSEC SECTION C404.3 REQUIREMENTS.
SH-1	TRANSFER SHOWER (A.D.A.)	AQUATIC: 1363BFS	38" DP. X 38-1/4" WIDE X 77-1/8" HIGH, ONE PIECE GEL-COATED FIBERGLASS, SS THROUGH BOLTED CURTAIN ROD, FOLD DOWN SEAT AND GRAB BARS (HORIZONTAL & VERTICAL), ORDER SHOWER WITH FACTORY INSTALLED BACKING FOR SEAT AND GRAB BARS. BEFORE ORDERING VERIFY RIGHT OR LEFT HAND PLUMBING. INSTALL PER ADA.
	SHOWER HEAD	SYMMONS: T-600B-36-V	36" SLIDE BAR, ADA, 2.5 GPM HAND HELD SHOWER HEAD.
	SHOWER VALVE	SYMMONS: 4700-X	PRESSURE BALANCING MIXING VALVE, INTERGRAL STOPS, ADA.
	DRAIN		PERFORATED GRID STRAINER, CHROME.
SH-2	DECON SHOWER	SWANSTONE: SK-364872	36" X 48" X 72" SOLID SURFACE SHOWER WALLS WITH SOLID SURFACE PAN. VERIFY COLOR WITH ARCH
	DRAIN		PERFORATED GRID STRAINER, CHROME.
S-1	DECON SINK	ELKAY: CUSTOM	94" LONG X 27-1/2" DEEP, 14 GAUGE 304 STAINLESS STEEL, FULL LENGTH 8" HIGH BACKSPLASH, 24" X 18" X 14" DEEP BOWLS, LEFT AND RIGHT END DRAINBOARDS, DRAINBOARDS SLOPE TO SINK. CENTERED DRAINS, STAINLESS STEEL TUBULAR LEGS. PROVIDE FAUCET HOLES ON BACKSPLASH ABOVE BOTH BOWLS TO MATCH SCHEDULED FAUCETS. PROVIDE HOLE ON BACKSPLASH ABOVE RIGHT DRAINBOARD FOR THE EYEWASH.
	FAUCET	T & S BRASS: B-2187	WALL MOUNTED FITTING, 10" SWING SPOUT W/AERATOR, INDEXED LEVER HANDLES, 8" CTRS., PRE-RINSE FAUCET W/ RUBBER HOSE & SPRAY VALVE. CHROME FINISH.
	EMERGENCY EYE WASH	HAWS: 7610	BACKSPLASH MOUNTED, ABS PLASTIC HEADS, 2.5 GPM FLOW CONTROLS,PULL DOWN ACTIVATIONS, UNIVERSAL EMERGENCY SIGN. PROVIDE WITH HAWS PREPACKAGED TEMPERED WATER SYSTEM MODEL 9201EFE. MOUNT EYEWASH ON BACKSPLASH ABOVE RIGHT DRAINBOARD.
	DRAIN	ELKAY: LK25RT	2" DIAMETER TAILPIECE, ROTARY LEVER OPERATED DRAIN OUTLET
KS-1	SINK	ELKAY: DLRS332212	33"X22"X12" DEEP, SINGLE COMPARTMENT, #18 GAUGE STAINLESS STEEL, SELF-RIMMING SOUND DEADENED, 5 HOLES ON 4" CENTERS.
	FAUCET	T&S BRASS: MPZ-2DLN-06	6" SWING NOZZLE, 8" RISER, 24" FLEXIBLE STAINLESS STEEL HOSE, 1.42 GPM, SINGLE HOLE FAUCET.
	DRAIN		CRUMB CUP STRAINER, 1 1/2" TAILPIECE, STAINLESS STEEL.
	HOT/COLD WATER DISPENSER	INSINKERATOR: F-HC3300	2/3 GALLON HOT WATER TANK, ADJUSTABLE TEMPERATURE, SELF CLOSING VALVE, F-1000S FILTRATION SYSTEM, BRASS FAUCET
	DISPOSER	INSINKERATOR: EVOLUTION EXCEL	1 HP, 1725 RPM 120 VOLT
KS-2	PREP SINK (ADA)	ELKAY: ELUHAD191655	21-1/2" X 18-1/2" X 5-3/8" DEEP, SINGLE COMPARTMENT, #18 GAUGE STAINLESS STEEL, UNDERMOUNT, ADA DEPTH, 3 HOLES ON 4" CENTERS.
	FAUCET	CHICAGO: 786-ABCP	9" HIGH X 5" SWINGING GOOSENECK, 2.0 GPM, LEVER HANDLES.
	DRAIN		CRUMB CUP STRAINER, 1 1/2" TAILPIECE, STAINLESS STEEL.
HB-1	HOSE BIBB (HOT & COLD)	LEONARD: CW75-VBD	RECESSED CABINET, INTERNAL VACUUM BREAKER, 16 GA. SS, 3/4" HOSE THREAD.
	HOSE	LEONARD: 25-HDH	25' HEAVY DUTY HOSE
	NOZZLE	LEONARD: N-2	STANDARD NOZZLE
RD-1	ROOF DRAIN	ZURN: Z-100-C-R	15" DIAMETER CAST IRON BODY, 3" PIPE SIZE, ALUMINUM DOME, UNDER-DECK CLAMP.
OD-1	ROOF DRAIN	ZURN: Z-100-C-R-W2	15" DIAMETER CAST IRON BODY, 3" PIPE SIZE, ALUMINUM DOME, UNDER-DECK CLAMP. 2" HIGH DAM.
FD-1	FLOOR DRAIN	ZURN: Z-415-S	2" C.I. BODY, 5" SQ. ADJ. NICKEL BRONZE STRAINER, TRAP PRIMER TAPPING. PROVIDE TRAP PRIMER FOR ALL INSTALLATIONS EXCEPT SHOWERS.
TD-1	TRENCH DRAIN	ZURN: Z874-E1-DGC	12" WIDE X 48" LONG X 16" DEEP SECTIONAL DRAIN. HIGH-DENSITY COMPOSITE CONST. W/ HEAVY-DUTY STEEL TOP FRAME & DUCTILE IRON SLOTTED GRATE. PROVIDE OPENING IN GRATE FOR EXTRACTOR DRAIN PROVIDE BOTTOM DOME STRAINER.
LB	LAUNDRY BOX	OATEY: 38470SP	FIRE-RATED ABS OUTLET BOX 1/2" HW & 1/2" CW, 2" DRAIN.
SV	SERVICE VALVE	SIOUX CHIEF: 696-G1010MF	1/2" SERVICE STOP FOR SUPPLY WATER, WATER HAMMER ARRESTOR, OUTLET BOX, 5-3/4" X 7-1/4" BOX.

PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	PIPE SIZE C.W	H.W	WASTE	VENT	WATER FIXTURE UNITS	WASTE FIXTURE UNITS	REMARKS
LAV-1	LAVATORY	1/2"	1/2"	1-1/4"	1-1/4"	1	1	OVAL, COUNTER TOP
WC-1	WATER CLOSET	1"	-	4"	2"	5	4	FLOOR MOUNT, TANK TYPE
SH-1	SHOWER	1/2"	1/2"	2"	1-1/2"	2	2	
SH-2	SHOWER	1/2"	1/2"	2"	1-1/2"	2	2	DECON SHOWER
S-1	SINK	1/2"	1/2"	2"	1-1/2"	2	2	DECON SINK
KS-1	KITCHEN SINK	1/2"	1/2"	2"	2"	1.5	2	
KS-2	KITCHEN SINK	1/2"	1/2"	2"	2"	1.5	2	
LB	LAUNDRY BOX	1/2"	1/2"	2"	2"	4	3	
SV	SERVICE VALVE	1/2"	-	-	-	0.5	-	
FD-1	FLOOR DRAIN	-	-	2"	2"	-	2	
TD-1	TRENCH DRAIN	-	-	4"	-	-	8	EXTRACTOR TRENCH DRAIN
HB-1	HOSE BIBB	3/4"	3/4"	-	-	2.5	-	HOT AND COLD, DECON.

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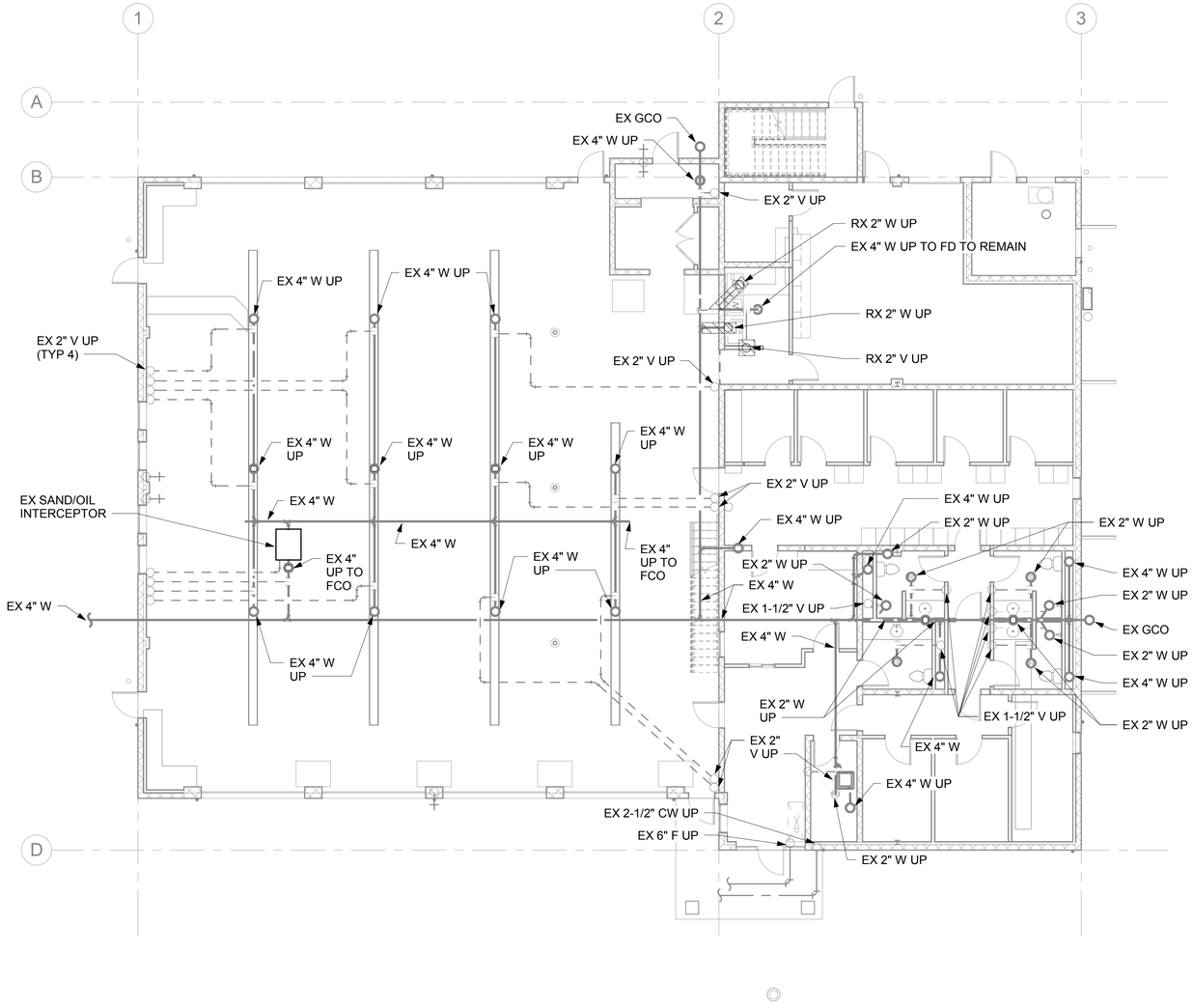
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PLUMBING SCHEDULES

SHEET:
P00.02



1 PLUMBING FOUNDATION DEMOLITION PLAN
1/8" = 1'-0"

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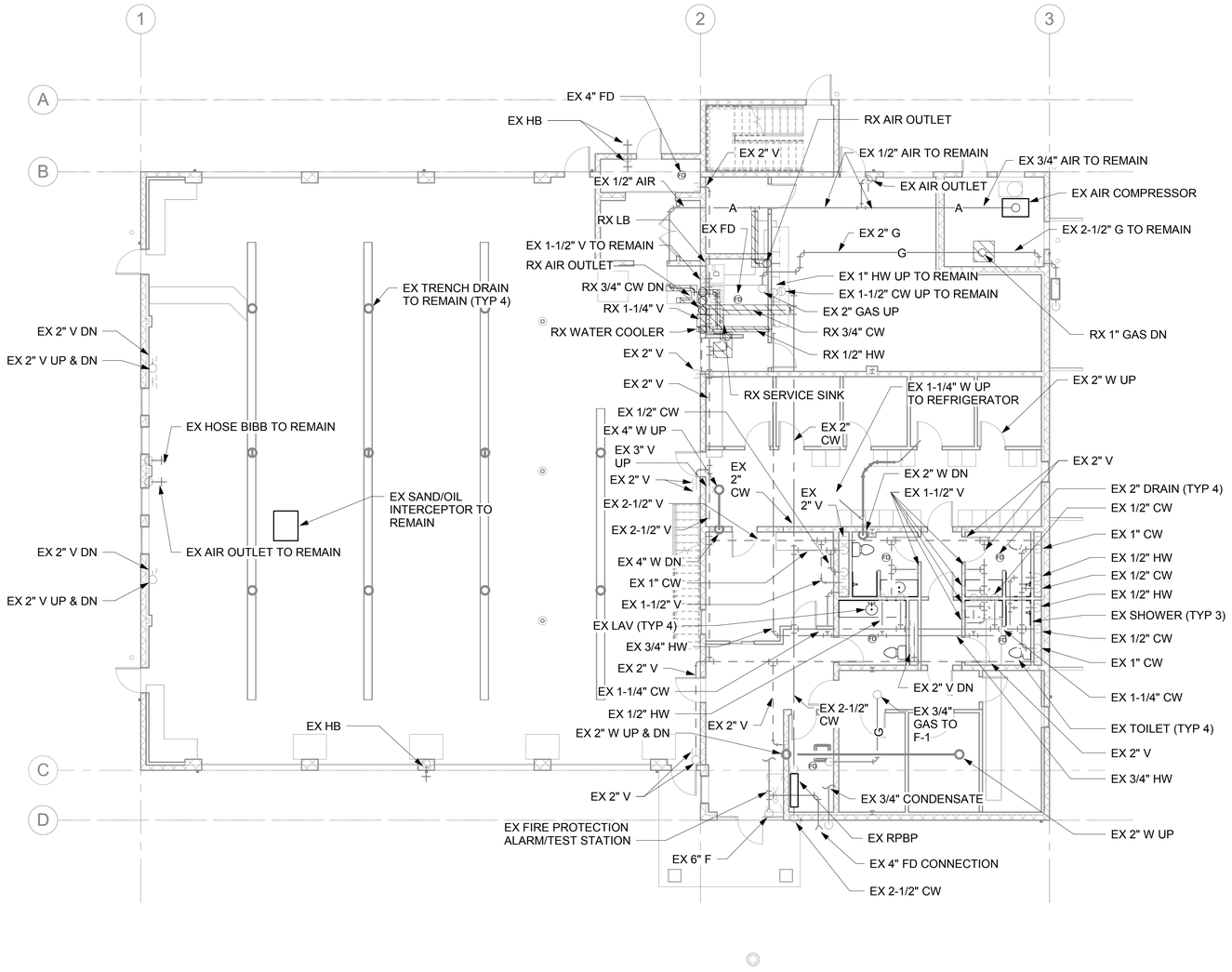
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PLUMBING DEMOLITION FOUNDATION PLAN

SHEET #
P20.00



1 PLUMBING FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0"

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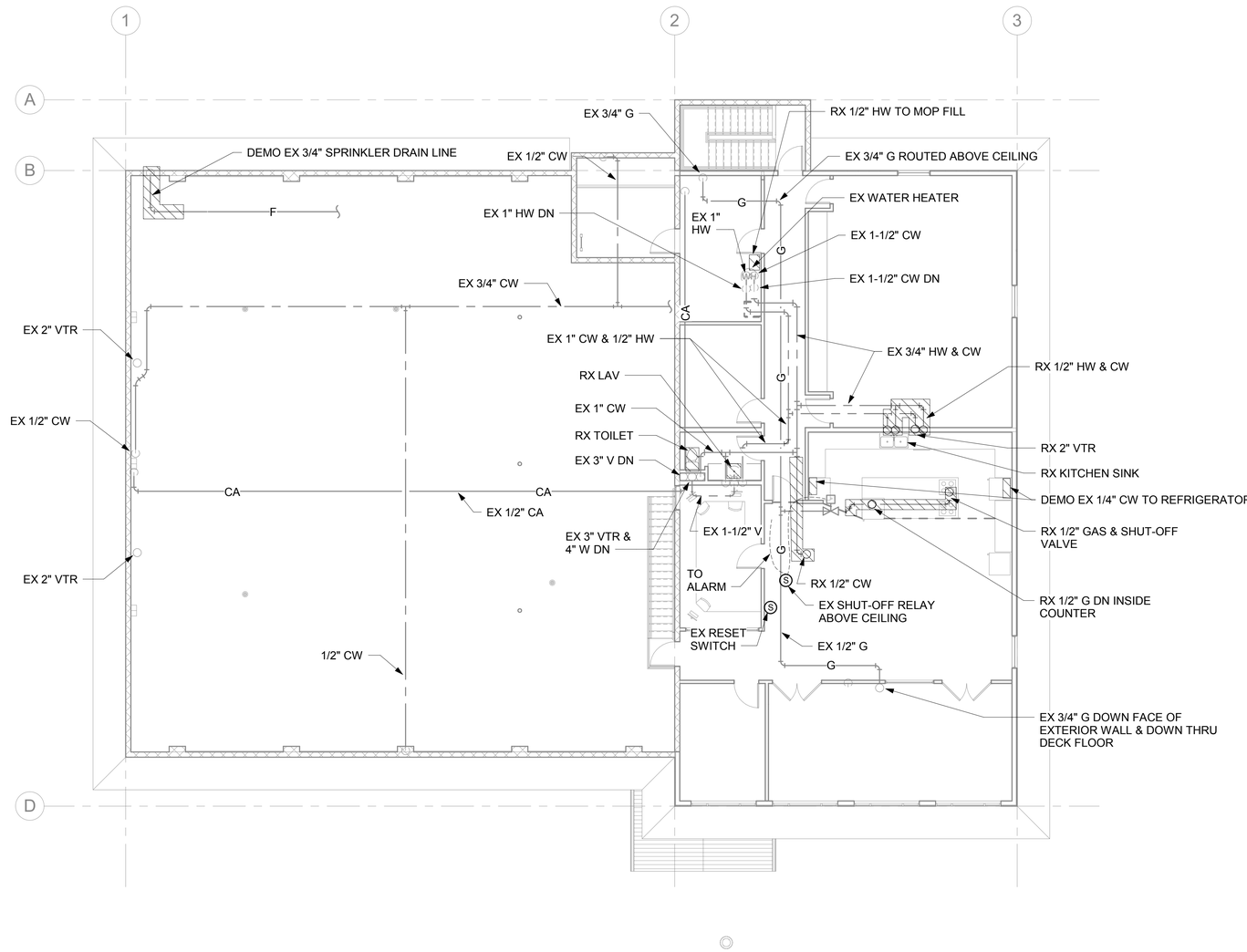
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PLUMBING FIRST FLOOR DEMOLITION PLAN

SHEET #
P20.01



1 PLUMBING SECOND FLOOR DEMOLITION PLAN
1/8" = 1'-0"

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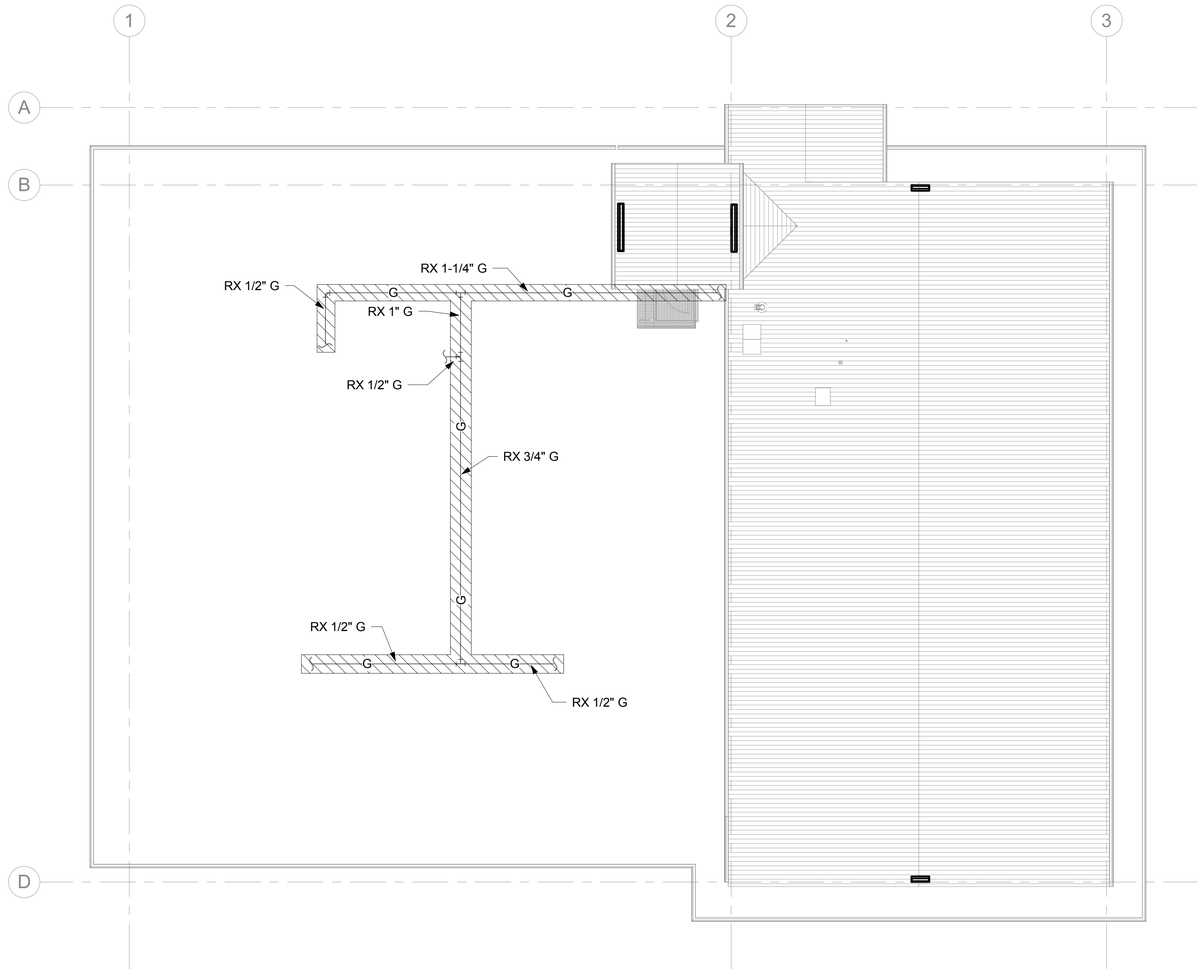
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PLUMBING SECOND FLOOR DEMOLITION PLAN

SHEET # **P20.02**



1 PLUMBING ROOF DEMOLITION PLAN
1/8" = 1'-0"

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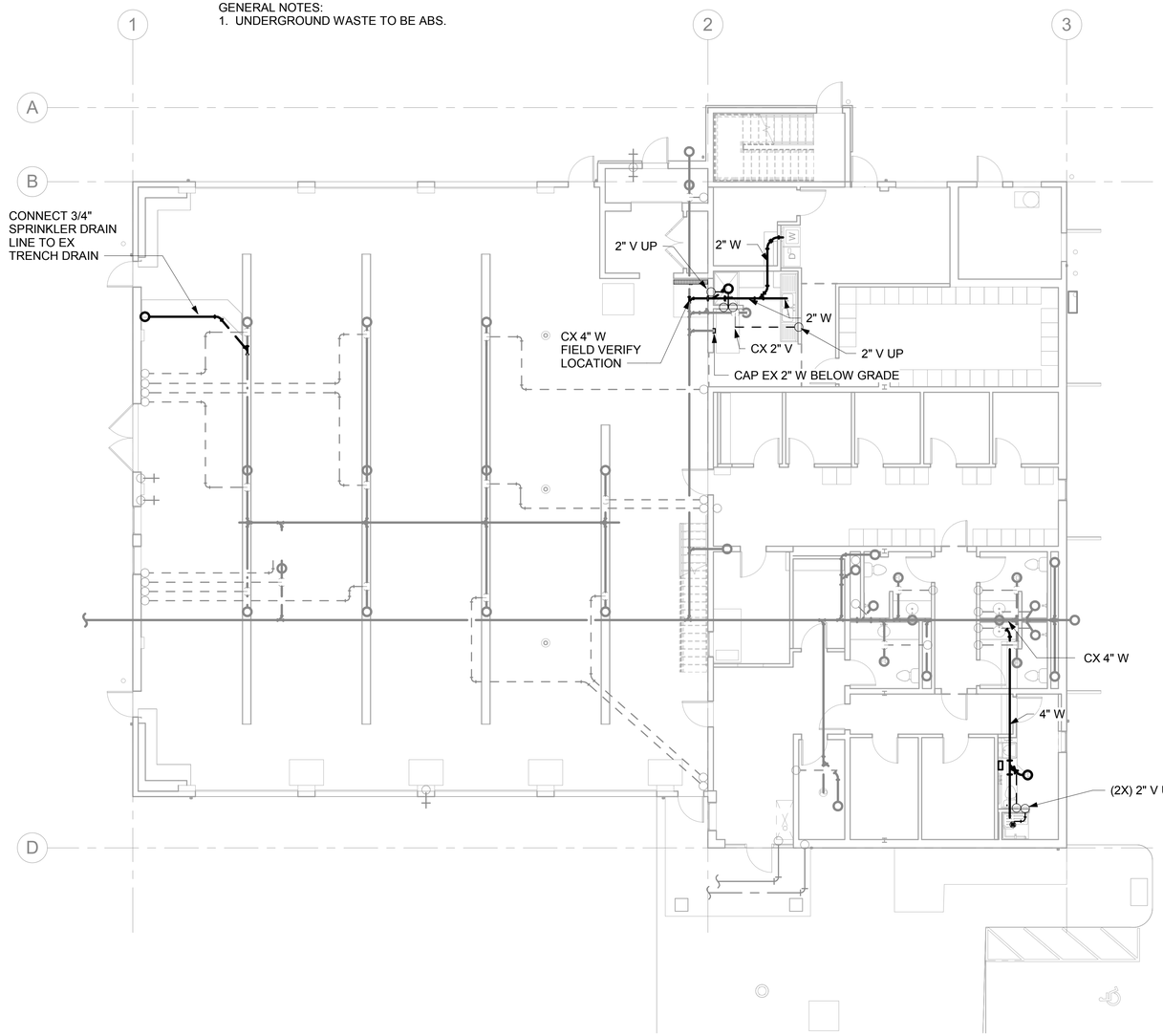
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PLUMBING ROOF DEMOLITION PLAN

SHEET # P20.03

GENERAL NOTES:
1. UNDERGROUND WASTE TO BE ABS.



1 PLUMBING FOUNDATION PLAN
1/8" = 1'-0"

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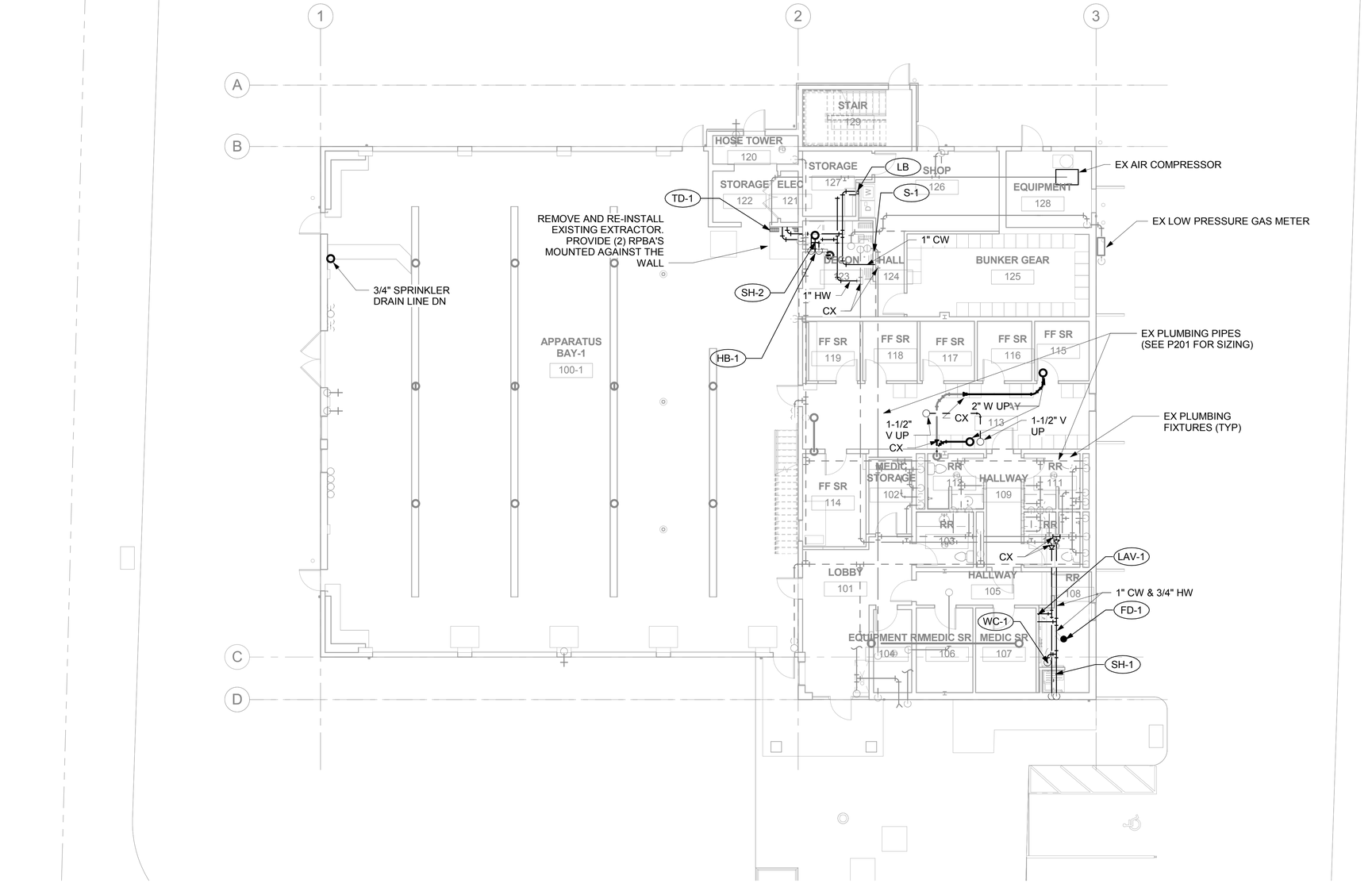
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PLUMBING FOUNDATION PLAN

SHEET # **P30.00**



1 PLUMBING FIRST FLOOR PLAN
1/8" = 1'-0"

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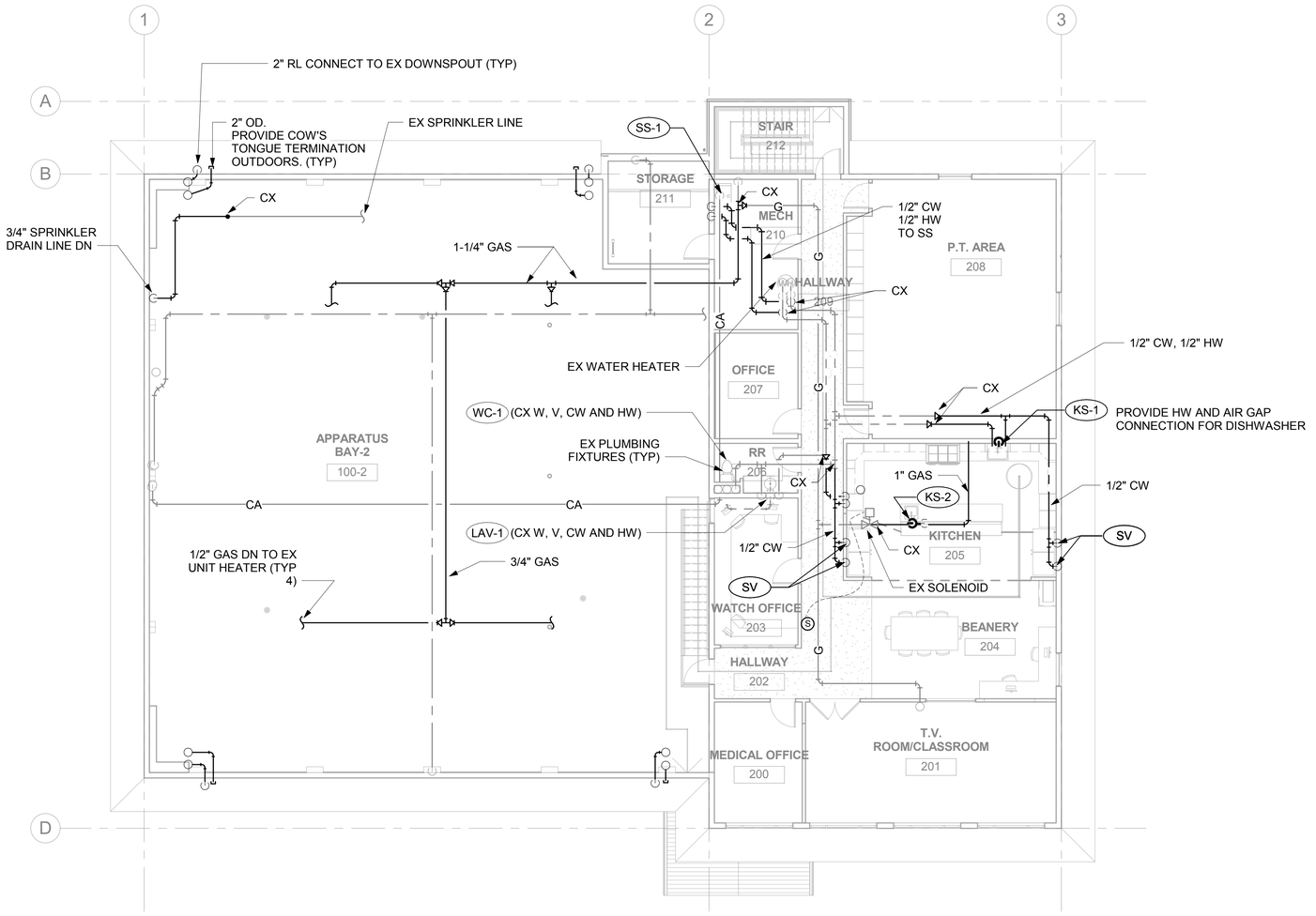
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PLUMBING FIRST FLOOR PLAN

SHEET # **P30.01**



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1/8" = 1'-0"

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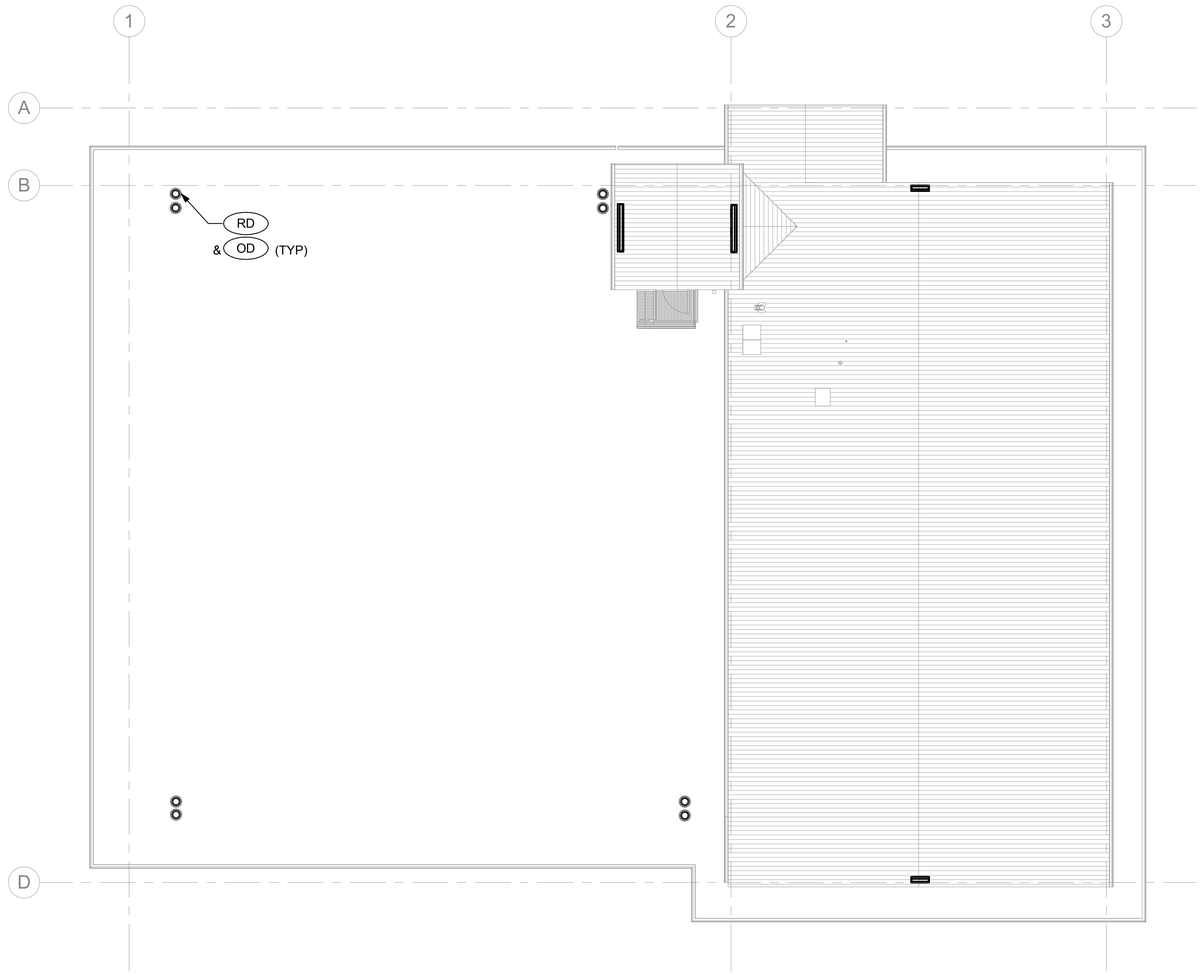
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1	PERMIT COMMENTS	11.16.17

PLUMBING SECOND FLOOR PLAN

SHEET # **P30.02**



1 PLUMBING ROOF PLAN
1/8" = 1'-0"

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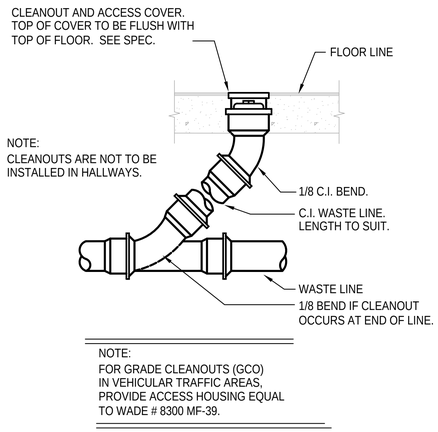
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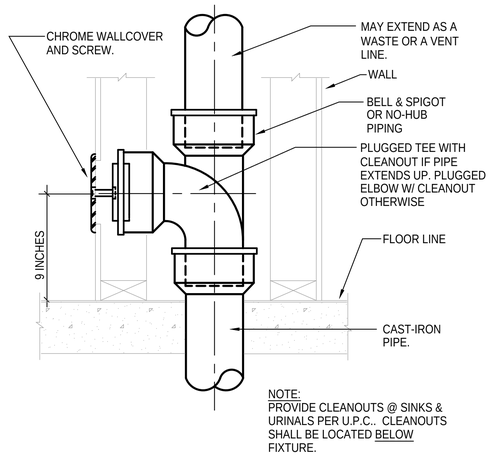
REVISION SCHEDULE

PLUMBING ROOF PLAN

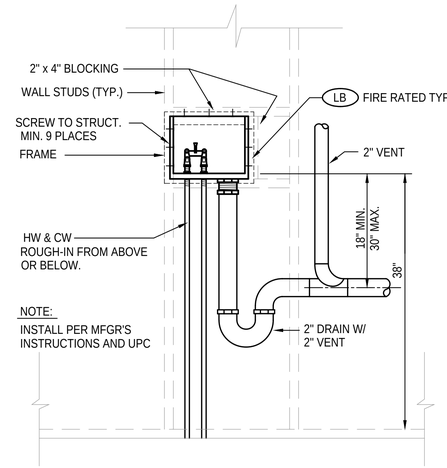
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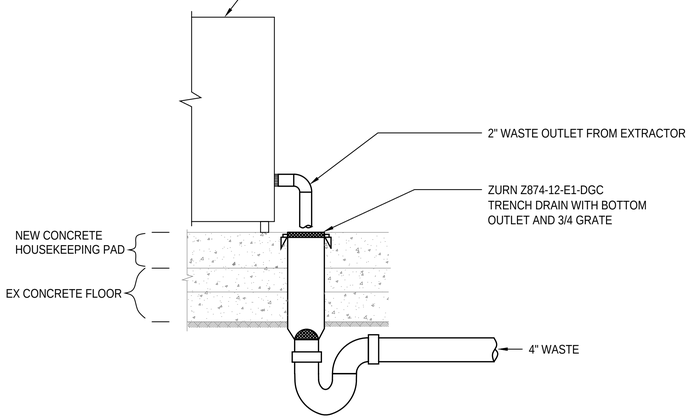
1 P40.01 **FLOOR CLEANOUT DETAIL**
N.T.S.



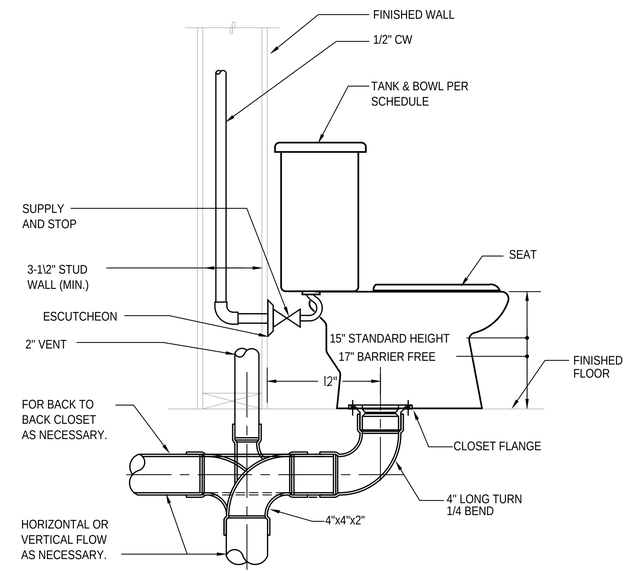
2 P40.01 **WALL CLEANOUT DETAIL**
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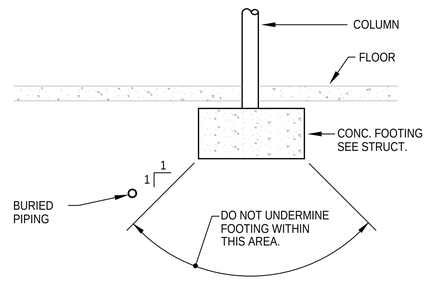
3 P40.01 **LAUNDRY BOX DETAIL**
N.T.S.



4 P40.01 **EXTRACTOR TRENCH DRAIN DETAIL**
N.T.S.



5 P40.01 **WATER CLOSET DETAIL**
N.T.S.



6 P40.01 **BURIED PIPING DETAIL**
N.T.S.

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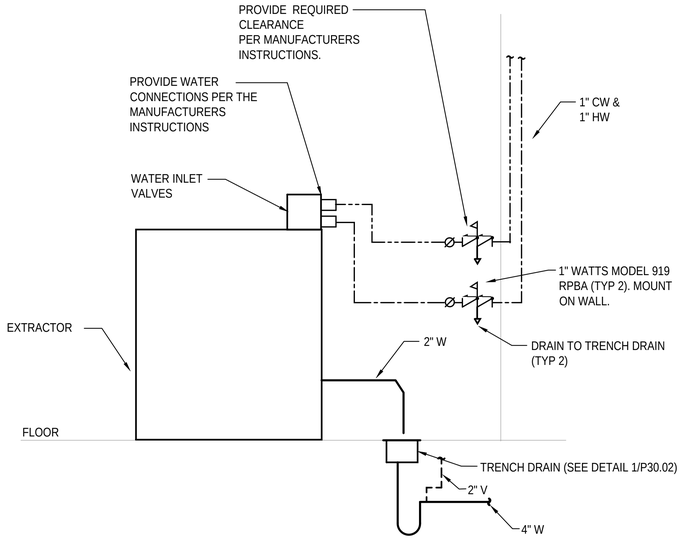
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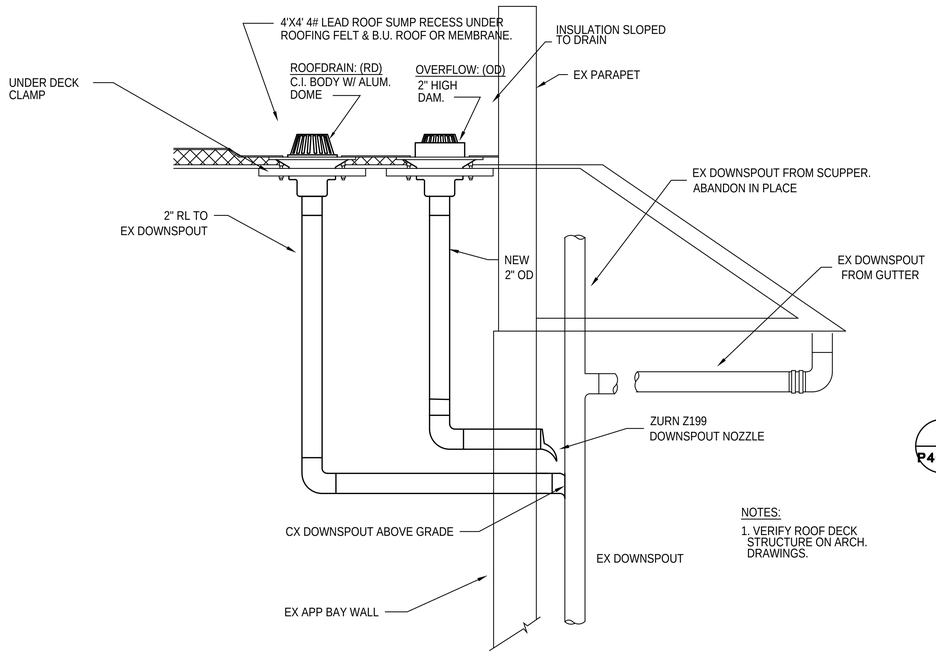
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PLUMBING
DETAILS

SHEET:
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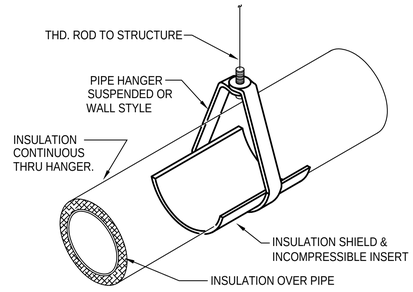


1 EXTRACTOR DETAIL
P40.02 N.T.S.



NOTES:
1. VERIFY ROOF DECK STRUCTURE ON ARCH. DRAWINGS.

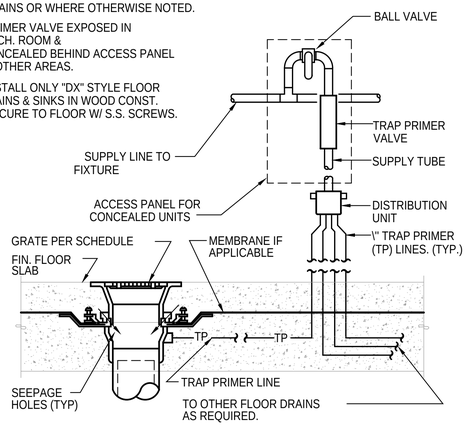
2 ROOF DRAIN PIPING SCHEMATIC
P40.02 N.T.S.



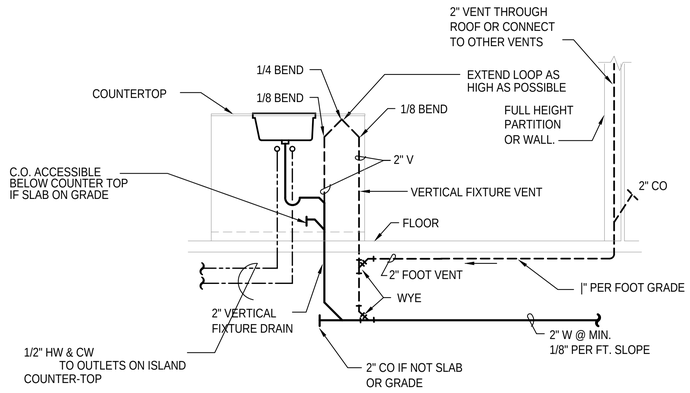
NOTE:
INSULATE & LABEL PIPING PER. SPEC.

3 PIPE HANGER DETAIL
P40.02 N.T.S.

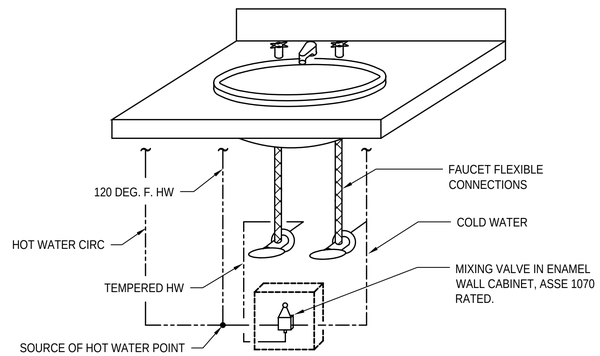
NOTES:
1. PROVIDE TRAP PRIMERS ON ALL FLOOR DRAINS & FLOOR SINKS EXCEPT SHOWER DRAINS OR WHERE OTHERWISE NOTED.
2. PRIMER VALVE EXPOSED IN MECH. ROOM & CONCEALED BEHIND ACCESS PANEL IN OTHER AREAS.
3. INSTALL ONLY "DX" STYLE FLOOR DRAINS & SINKS IN WOOD CONST. SECURE TO FLOOR W/ S.S. SCREWS.



4 TRAP PRIMER DETAIL
P40.02 N.T.S.



5 ISLAND VENT DETAIL
P40.02 N.T.S.



1. LOCATE MIXING VALVE AS CLOSE AS POSSIBLE TO FIXTURE HW STOP.
2. FOR MULTIPLE LAVATORY INSTALLATION, SUPPLY HW AT FIRST FIXTURE, PIPE IN SERIES AND RECIRC FROM LAST FIXTURE.

NOTE:
PROVIDE INSULATED P-TRAP AND SUPPLY COVERS AT ALL EXPOSED P-TRAPS AND SUPPLIES PER ADA STANDARDS.

6 PUBLIC LAVATORY WATER CONNECTION DETAIL
P40.02 N.T.S.

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PROJECT # 16064
BID
ISSUED: FEBRUARY 23, 2018

REVISION SCHEDULE

PLUMBING DETAILS

SHEET:
P40.02

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	LIGHTING
	RECESSED LIGHT FIXTURE
	SURFACE OR PENDANT MOUNT LIGHT FIXTURE (CIRCLE INDICATES RECESSED OR CONCEALED JUNCTION BOX)
	WALL MOUNT LIGHT FIXTURE
	WALL SCONCE LIGHT FIXTURE
	SURFACE OR RECESSED LIGHT FIXTURE
	SURFACE OR RECESSED LIGHT FIXTURE
	SURFACE OR PENDANT MOUNT STRIP LIGHT (CIRCLE INDICATES RECESSED OR CONCEALED JUNCTION BOX)
	EGRESS FIXTURE WITH EMERGENCY BATTERY PACK. PROVIDE UNSWITCHED HOT LEG.
	EXIT LIGHT FIXTURE (PROVIDE DIRECTION ARROWS AS INDICATED) PROVIDE UNSWITCHED HOT LEG.
	WALL MOUNTED EXIT LIGHT FIXTURE (PROVIDE DIRECTION ARROWS AS INDICATED) PROVIDE UNSWITCHED HOT LEG.
	RECEPTACLES
	DUPLEX RECEPTACLE
A	ARC FAULT DUPLEX RECEPTACLE
G	DUPLEX RECEPTACLE (G INDICATES GROUND FAULT CIRCUIT INTERRUPTER)
C	DUPLEX RECEPTACLE (C INDICATES ABOVE COUNTER)
S	SWITCHED DUPLEX RECEPTACLE
	FOURPLEX RECEPTACLE
	DOUBLE DUPLEX DROP CORD WITH KELLUM GRIP
	SPECIAL PURPOSE OUTLET - 1Ø, VOLTAGE AND AMPERES AS INDICATED
	EQUIPMENT, WIRING AND RACEWAYS
	CONDUIT STUB OUT (PROVIDE CONCRETE MARKER ON EXTERIOR)
	DEDICATED CONDUIT HOMERUN TO PANEL & CIRCUIT NUMBERS AS INDICATED ON PLANS
	RACEWAY CONCEALED IN WALL OR CEILING
	RACEWAY CONCEALED UNDERGROUND OR UNDER FLOOR SLAB
	MARKS INDICATE NUMBER OF #12 AWG UNLESS NOTED OTHERWISE
	GROUNDING CONDUCTOR
	FLEXIBLE CONDUIT
	GROUNDING SYSTEM PER CODE
J	JUNCTION BOX - SIZE PER CODE
	MOTOR CONNECTION
M	MANUAL STARTER
	FUSED DISCONNECT SWITCH
	120/208 VOLT PANELBOARD (OR AT RATED VOLTAGE AS NOTED)
	MAIN DISTRIBUTION BOARD
	ENCLOSED CIRCUIT BREAKER, AMPERES AS INDICATED
M	METER
SPD	SURGE PROTECTION DEVICE
ATS	AUTOMATIC TRANSFER SWITCH

SYMBOL	DESCRIPTION
	SWITCHES
$	SINGLE POLE SWITCH
$T	TIMER SWITCH
$VS	COMBINATION SWITCH / OCCUPANCY SENSOR
	PUSH BUTTON EMERGENCY SHUTOFF SWITCH
	PUSH-BUTTON CONTROLLER
$D,LV	LOW VOLTAGE DIMMER SWITCH
LC	LOW VOLTAGE LIGHTING CONTROL PANEL
PC	PHOTOCELL CONTROL
TC	TIME CLOCK CONTROL
OS	OCCUPANCY SENSOR (LIGHTING CONTROL)
VS	CEILING MOUNTED VACANCY SENSOR (LIGHTING CONTROL)
R	RELAY - SEE LOW VOLTAGE CONTROL DIAGRAMS
	FIRE STATION ALERTING SYSTEM
S	70V SPEAKER, FLUSH MOUNT ROUND, WHITE BAFFLE WITH BACKCAN; 5W TRANSFORMER. PROVIDE WITH VOLUME CONTROL INTEGRAL TO THE SPEAKER WHERE IDENTIFIED ON THE DRAWINGS. ATLAS SOUND SD72W/SD72WV. PROVIDE 18 GAUGE UL LISTED SPEAKER WIRE FOR CONNECTION TO EXISTING AMPLIFICATION SYSTEM.
VC	WALL MOUNTED VOLUME CONTROL 10W ATTENUATOR WITH 3dB STEPS, WHITE. MATCH 70V SPEAKER ASSEMBLY. PROVIDE WIRING BETWEEN VOLUME CONTROL AND SPEAKER IN EACH ROOM INDICATED.
DB	DOOR BELL. MOUNT AT +48" AFF. OWNER PROVIDED, CONTRACTOR INSTALLED.
RS	RESET BUTTON FOR POWER CONTACTORS AND GAS SOLENOIDS.
	SYSTEMS
FSD	FIRE / SMOKE DAMPER. PROVIDE 120 - VOLT AND FIRE ALARM CONNECTION.
TV	TV OUTLET. PROVIDE F-TYPE WALL PLATE, WHITE PLASTIC WITH RG6 COAX CABLE TO ROOM 115 TELECOM BACKBOARD. PROVIDE 6' OF COILED COAX FOR TERMINATION BY TELEVISION SERVICE PROVIDER. VERIFY MOUNTING HEIGHT AT EACH LOCATION WITH OWNER PRIOR TO ROUGH-IN. MOUNT CABLING IN 3/4"C., UP TO ABOVE ACCESSIBLE CEILING.
	PROVIDE (2) CATEGORY 6 DATA JACK WITH 2-PORT FACEPLATE AND CATEGORY 6 CABLES. HOMERUN CABLES TO ROOM 115 TELECOM BACKBOARD. TERMINATE CABLES ON OWNER PROVIDED PATCH PANELS PROVIDE 10' OF COILED CABLING AT THE RACK LOCATION. MOUNT CABLING IN 1"C., UP TO ABOVE ACCESSIBLE CEILING.
	CEILING MOUNTED DATA JACK FOR WIRELESS ACCESS POINT
	TELEPHONE / DATA OUTLET TO REMAIN
	CABLE TRAY - 12"W X 4"D. SUPPORT WITH UNISTRUT AND THREADED ROD FROM STRUCTURE
	MISCELLANEOUS
1	CONSTRUCTION NOTES
1	DEMOLITION NOTES
W	W INDICATES WEATHERPROOF FOR ALL DEVICES, PROVIDE LOCKING COVER ON RECEPTACLES.
	ALL DEVICES WITH LIGHT LINE WEIGHT INDICATES EXISTING TO BE RETAINED
	ALL DEVICES WITH DASH LINE INDICATES EXISTING TO BE REMOVED
A / X	DETAIL CALL OUT - A INDICATES DETAIL IDENTIFICATION, X INDICATES SHEET DRAWN ON
AH1 / 1	MECHANICAL EQUIPMENT CONNECTION

ABBREVIATIONS

G	GROUND FAULT CIRCUIT INTERRUPTER	UC	UNDERCOUNTER
C	MOUNT ABOVE COUNTER	UG	UNDERGROUND
DW	DISHWASHER	C.	CONDUIT
EC	ELECTRICAL CONTRACTOR	CO	CONDUIT ONLY
MC	MECHANICAL CONTRACTOR	GR	GROUND
REQ'D	REQUIRED	SPD	SURGE PROTECTIVE DEVICE
TTB	TELEPHONE TERMINAL BOARD	CU	COPPER
MW	MICROWAVE	XFMR	TRANSFORMER
REF	REFRIGERATOR	GC	GENERAL CONTRACTOR
E	EXISTING	WS	WASHER

GENERAL DEMOLITION NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INCLUDE IN HIS/HER BID ALL COSTS ASSOCIATED WITH NECESSARY DEMOLITION TO ALLOW NEW CONSTRUCTION SHOWN IN CONTRACT DOCUMENTS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, LIGHTING FIXTURES, DEVICES, ABANDONED RACEWAYS, CONDUCTORS, TOGETHER WITH ANY AUXILIARY ITEMS TO ALLOW NEW CONSTRUCTION AND FINISH TO OCCUR AS COMPLIMENTED BY THE CONTRACT DOCUMENTS. DASHED LINES INDICATE EXISTING DEVICES AND EQUIPMENT TO BE REMOVED.
2. THESE PLANS DELINEATE THE BASIC SCOPE OF WORK FOR THE REMOVAL OF EXISTING MATERIAL. THE DEMOLITION DRAWINGS AND NOTES ARE PROVIDED WITH THE INTENT TO GENERALLY DESCRIBE AREAS AND LIMITS OF WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SITE AND CONDITIONS THERE AND SHALL NOT RELY SOLELY ON REVIEW OF THE BIDDING DOCUMENTS IN DETERMINING THE EXTENT OF DEMOLITION WORK REQUIRED. COORDINATION OF THESE DRAWINGS WITH REQUIREMENTS FOR CONTRACT WORK IS THE RESPONSIBILITY OF THE CONTRACTOR. DISCREPANCIES BETWEEN OR WITHIN THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL PROVIDE CLARITY SKETCHES, DIAGRAMS, AND FIELD DIMENSTIONS OF EXISTING CONDITIONS AT THE REQUEST OF THE ENGINEER IF/WHEN CONFLICTS ARE IDENTIFIED.
3. E.C. TO REMOVE ELECTRICAL CONNECTIONS TO ALL MECHANICAL EQUIPMENT TO BE DEMOLISHED. E.C. SHALL CHECK ALL DEMOLITION PLANS AND ACTUAL FIELD CONDITIONS FOR UNIT LOCATIONS. ALL CONDUITS PENETRATING THROUGH THE ROOF AND ACCESSIBLE SHALL BE REMOVED.
4. THE DEMOLITION PLANS HAVE NO INTENT TO SHOW ALL ELECTRICAL DEVICES TO BE REMOVED. ELECTRICAL CONTRACTOR SHALL VERIFY DEMOLITION WORK INVOLVED PRIOR TO BID.
5. REMOVE ALL ELECTRICAL AND SIGNALING DEVICES (INCLUDING, BUT NOT LIMITED TO REMOVAL OF ALL ELECTRICAL PANELS, LIGHTING FIXTURES, RECEPTACLES, MOTOR DISCONNECTS, FIRE ALARM AND OTHER LOW VOLTAGE DEVICES). UNLESS NOTED OTHERWISE.
6. REMOVE ALL WIRES, CABLES AND SURFACE MOUNT RACEWAYS AND APPURTENANCES WHICH SERVE DEVICES BEING REMOVED, CUT CONDUIT FLUSH TO CEILING OR WALL WHEN CONCEALED, AND SEAL OFF WITH SPRAY FOAM. ABANDON FLUSH BOXES AND NON-ACCESSIBLE CONDUIT. PROVIDE COVER PLATES FOR ALL BOXES TO REMAIN.
7. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR ALL CUTTING, PATCHING AND FINISH WORK.
8. CONTRACTOR TO REMOVE AND DELIVER TO OWNER ALL DEVICES THAT ARE IDENTIFIED BY OWNER TO BE RETAINED. CONTRACTOR SHALL COORDINATE WITH OWNER TO ASSURE THAT ALL ITEMS TO BE RETAINED ARE IDENTIFIED PRIOR TO THE START OF DEMOLITION. ALL ITEMS NOT SO IDENTIFIED SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSE OF OFF SITE.
9. FIELD VERIFY EXISTING CONDITIONS AND RACEWAYS CAST IN CONCRETE.

GENERAL NOTES

1. PRIOR TO BIDDING, THE CONTRACTOR/INSTALLING VENDOR SHALL VERIFY ALL CMU/CONCRETE WALLS, BRICK WALLS, EXISTING UNDERGROUND CONDUIT CAPACITIES, CABLE ROUTING AND ALL WORK REQUIRED TO FACILITATE A COMPLETE AND FULLY FUNCTIONAL SYSTEM. ALL WALLS SHALL BE CORE DRILLED AS REQUIRED.
2. BIDS SHALL INCLUDE ALL CORE DRILLING REQUIRED TO FACILITATE ALL CONDUIT WORK.
3. CONTRACTOR SHALL REFER TO STRUCTURAL DRAWINGS FOR BRACE FRAMED WALLS. CONTRACTOR SHALL MOUNT DEVICES AND ROUTE CONDUIT SO AS NOT TO INTERFERE WITH THE STRUCTURAL INTEGRITY OF THE WALL.
4. CONDUITS ARE NOT ALLOWED TO BE ROUTED IN ANY CONCRETE SLAB. CONDUITS MAY BE ROUTED UNDER THE SLAB ONLY.
5. ALL CONDUITS ROUTED UNDER THE CONCRETE SLAB SHALL BE ROUTED PARALLEL TO ONE ANOTHER AND MAY NOT CROSS OVER EACH OTHER UNLESS SPECIFICALLY ALLOWED BY THE ENGINEER.
6. ALL SPARE CONDUITS (FOR FUTURE USE) SHALL BE LABELED "SPARE/FUTURE CONDUIT" AT EACH END OF THE CONDUIT WITH 1/2" TALL LETTERS, USING A PERMANENT MARKER.
7. ALL CABLING SHALL BE RUN IN CONDUIT AND CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE STRUCTURE. THE CONTRACTOR/INSTALLING VENDOR SHALL COORDINATE ALL CONDUIT ROUTING WITH THE OWNER. NEATLY SURFACE MOUNT EXPOSED CONDUIT.
8. ALL OUTLETS, SWITCHES, AND DEVICES MOUNTED BACK TO BACK IN A WALL MUST BE SPACED A MINIMUM OF 24" APART TO MEET ACOUSTICAL REQUIREMENTS.
9. THE CABLING AND EQUIPMENT REQUIREMENTS FOR ALL SYSTEMS SHALL BE INCLUDED IN THE CONTRACTOR'S/INSTALLING VENDOR'S BID.
10. WHEN PENETRATING FIRE RATED WALLS, FLOORS, OR CEILINGS, THE CONTRACTOR/ INSTALLING VENDOR SHALL UTILIZE FIRE RATED PENETRATION METHODS. THE FIRE RATING OF THE WALL SHALL BE MAINTAINED AFTER THE CONDUIT OR WIREWAY HAS BEEN INSTALLED.
11. REPAIRS FOR ANY DAMAGE DONE DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO REPAIRS WHERE EXISTING DEVICES ARE REMOVED, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR/INSTALLING VENDOR AT NO ADDITIONAL COST TO THE OWNER.
12. CONTRACTOR/INSTALLING VENDOR MAY UTILIZE ANY SPARE OR ABANDONED CONDUIT PER OWNERS APPROVAL.

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PROJECT # 2015137
BID
ISSUE DATE FEBRUARY 27, 2018

REVISION SCHEDULE

GENERAL NOTES FOR LIGHTING FIXTURE SCHEDULE

1. SEE DRAWINGS FOR EMERGENCY LIGHTING FIXTURES. PROVIDE UN-SWITCHED HOT LEG TO BATTERY PACK.

2. FOR LIGHTING CONTROLS WHICH INCLUDE DAYLIGHT, OCCUPANCY SENSORS AND TIME CLOCK CONTROLS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE TESTING OF THE CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS TO MAKE SURE THEY ARE CALIBRATED, ADJUSTED AND OPERATE IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. SEQUENCES OF OPERATION SHALL BE FUNCTIONALLY TESTED IN THE PRESENCE OF THE ENGINEER. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PREPARED AND FILED WITH THE OWNER.

3. FIXTURE TYPES LISTED ARE TO INDICATE THE TYPE OF STYLE, LAMPING CHARACTERISTICS AND MOUNTING REQUIRED TO FACILITATE THE DESIGN. OTHER FIXTURE MANUFACTURERS MEETING THE LIGHT FIXTURE TYPE CRITERIA ARE ACCEPTABLE UPON EVALUATION BY THE ENGINEER.

4. ALL LIGHT FIXTURE COLORS AND FINISHES SHALL BE COORDINATED AND SELECTED BY THE ARCHITECT.

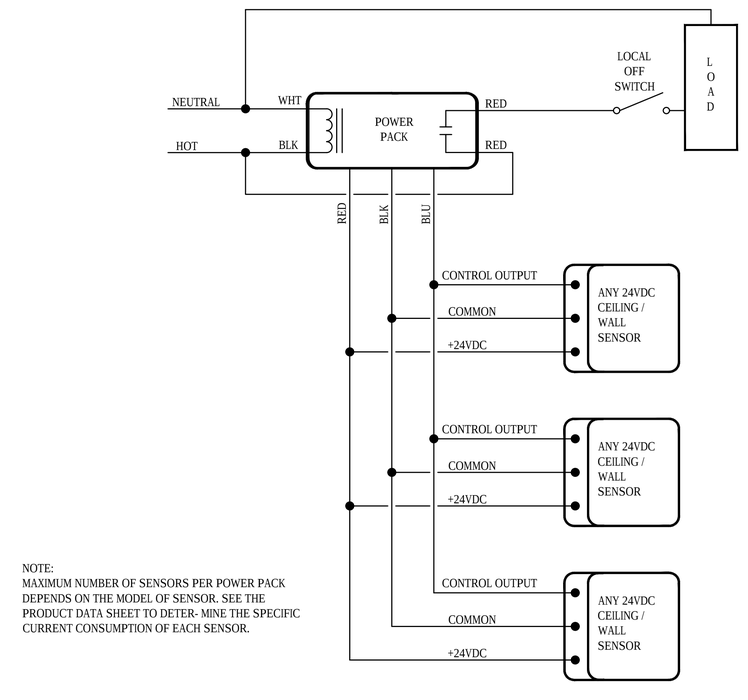
LIGHTING FIXTURE SCHEDULE

DESIGNATION	FIXTURE DESCRIPTION	MANUFACTURER/MODEL #	LAMPS	LUMENS	V	W	MOUNTING & REMARKS
AL1	PARKING LOT LIGHTING - SINGLE HEAD; TYPE IV DISTRIBUTION; LED; ON 18' HIGH POLE WITH BI-LEVEL MOTION/AMBIENT SENSOR	LITHONIA DSX1-40C-700-40K-T4M-208-SPA-PIRH1FC3V-*/SQUARE POLE-RATED WITH HEAD FOR 100 MPH	LED - 40K	10,000	208	100	ARCHITECT TO SELECT COLOR. POLE TO BE MOUNTED ON A CONCRETE BASE - 30" ABOVE FINISHED GRADE; 6 FEET BELOW GRADE
EX1	EMERGENCY EXIT SIGN	LITHONIA LQM-S-W-R-120	LED	--	120	0.62	
SL1	1X4 SURFACE MOUNT WALL LIGHT FIXTURE	LITHONIA LIGHTING #MNSL-MV-M6	LED - 35K	2100	120	24	
SL1E	1X4 SURFACE MOUNT WALL LIGHT FIXTURE WITH EMERGENCY BATTERY PACK	LITHONIA LIGHTING #MNSL-MV-M6-EML	LED - 35K	2100	120	24	
PL1	1X4 PENDANT MOUNT	LITHONIA LIGHTING #WL4-30L-LP835	LED - 35K	3095	120	28.2	PROVIDE WITH CHAIN MOUNTING HARDWARE. MOUNT AT +8'-0" ABOVE FLOOR
PL1E	1X4 PENDANT MOUNT & EMERGENCY BATTERY PACK	LITHONIA LIGHTING #WL4-30L-LP835-EM	LED - 35K	3095	120	28.2	PROVIDE WITH CHAIN MOUNTING HARDWARE. MOUNT AT +8'-0" ABOVE FLOOR
PL2	1X4 PENDANT MOUNT WITH OCCUPANCY SENSOR	LITHONIA LIGHTING #WL4-30L-SLD-LP835-NESPDT7	LED - 35K	3095	120	28.2	PROVIDE WITH CHAIN MOUNTING HARDWARE. MOUNT AT +8'-0" ABOVE FLOOR
PL2E	1X4 PENDANT MOUNT WITH OCCUPANCY SENSOR & EMERGENCY BATTERY PACK	LITHONIA LIGHTING #WL4-30L-SLD-LP835-NESPDT7-EM	LED - 35K	3095	120	28.2	PROVIDE WITH CHAIN MOUNTING HARDWARE. MOUNT AT +8'-0" ABOVE FLOOR
WL1	EXTERIOR WALL MOUNT WITH EMERGENCY BATTERY	LITHONIA LIGHTING #WSTM-LED-40-120-PE-*	LED - 40K	1277	120	17	ARCHITECT TO SELECT COLOR
RL1	1X4 LED RECESSED ACT	COLUMBIA LIGHTING #LZPT-14-35-VW-G-LSR-0-ED-U/ZPTSMK14	LED - 35K	3401	120	33	
RL1E	1X4 LED RECESSED ACT WITH EMERGENCY BATTERY PACK	COLUMBIA LIGHTING #LZPT-14-35-VW-G-LSR-0-ED-U/ZPTSMK14	LED - 35K	3401	120	33	
RL2	6" RECESSED SHOWER DOWNLIGHT FIXTURE	PATHWAY #6VFLX-1100L-120-6VLEDCL-SCLPF-WL	LED - 35K	1100	120	15	
RL3	2X2 RECESSED LIGHT FIXTURE	FOCAL POINT #FEQ2-22-AC-3000LH-35K-1C-UNV-WH	LED - 35K	3000	120	35	
RL3E	2X2 LED RECESSED ACT WITH EMERGENCY BATTERY PACK	FOCAL POINT #FEQ2-22-AC-3000LH-35K-1C-UNV-EM-WH	LED - 35K	3000	120	35	
RL5	6" RECESSED LED RED LENSED DOWNLIGHT FIXTURE	PATHWAY LIGHTING #6VFLX-1500-4K-RED LENSE	LED - 40K	1500	120	18	
UC1	22" FOOT LONG UNDER COUNTER LIGHT	FINELITE #UC-E-22"-S-PS-8W-ES1	LED - 35K	196	120	4	

MECHANICAL EQUIPMENT CONNECTION SCHEDULE (EXHAUST FANS, AIR HANDLING UNITS, ETC)

EQUIP.	VOLT/PH	LOAD VA	LOAD MCA	LOAD HP	CIRCUIT PANEL	CIRCUIT BKR	CONDUIT/WIRE SIZE	MANUAL STARTER (NOTE 1)	MAGNETIC STARTER (NOTE 1)	FUSED DISC. (NOTE 1)	MOTOR RATED DISC. SWITCH (NOTE 1)	REMARKS
DH- 1	208/3	18000	62.6		MDB	7,9,11	1-1/4"C., (4) #4 & (1) #8 GR.			EC	EC	
EWH- 1	208/1	750	4.5		B	38,40	3/4" C., (3)#12 & (1) #12 GR					EC TO PROVIDE CONNECTION TO 30-MINUTE WALL TIMER FOR CONTROL
HOOD	120/1	500			B	7	1/2" C., (2)#12 & (1) #12 GR.					PROVIDE WALL MOUNTED SWITCH FOR CONTROL
EIH- 1	208/1	2000	12		A	28,30	3/4" C., (3)#12 & (1) #12 GR.					EC TO INSTALL LINE VOLTAGE THERMOSTAT FOR CONTROL
RCP- 1	208/1	750	4.5		A	32,34	3/4" C., (3)#12 & (1) #12 GR.					EC TO INSTALL LINE VOLTAGE THERMOSTAT FOR CONTROL
RCP- 2	208/1	750	4.5		A	32,34	3/4" C., (3)#12 & (1) #12 GR.					EC TO INSTALL LINE VOLTAGE THERMOSTAT FOR CONTROL
RCP- 3	208/1	750	4.5		A	32,34	3/4" C., (3)#12 & (1) #12 GR.					EC TO INSTALL LINE VOLTAGE THERMOSTAT FOR CONTROL
EF- 1	120/1	670	5.6	1/4	X2	19	1/2" C., (2)#12 & (1) #12 GR.				EC	
EF- 2	120/1	670	5.6	1/4	X2	21	1/2" C., (2)#12 & (1) #12 GR.				EC	
EF- 3	120/1	670	5.6	1/4	X2	23	1/2" C., (2)#12 & (1) #12 GR.				EC	
EF- 4	120/1	500	4.2	1/6	B	6	1/2" C., (2)#12 & (1) #12 GR.		EC	EC	EC	PROVIDE WEATHERPROOF DEVICES AND CONNECTIONS
EF- 5	208/3	2484	609	1-1/2	A	18,20,22	3/4" C., (4)#12 & (1(#12 GR.		EC	EC	EC	PROVIDE WEATHERPROOF DEVICES AND CONNECTIONS
SF- 1	120/1	1656	13.8	3/4	B	8	1/2" C., (2)#12 & (1) #12 GR.		EC	EC	EC	
KEF	120/1	1176	9.8	1/2	B	7	1/2" C., (2)#12 & (1) #12 GR.		EC	EC	EC	PROVIDE WEATHERPROOF DEVICES AND CONNECTIONS
KS- 1	120/1	1920	16	1	B	17	1/2" C., (2)#12 & (1) #12 GR.					DISPOSER - PROVIDE SINGLE POLE WALL SWITCH FOR CONTROL

NOTE: 1. CONTRACTOR LISTED SHALL FURNISH AND INSTALL THE LISTED DEVICE.
2. EQUIPMENT GROUND CONDUCTOR IS REQUIRED



NOTE:
MAXIMUM NUMBER OF SENSORS PER POWER PACK DEPENDS ON THE MODEL OF SENSOR. SEE THE PRODUCT DATA SHEET TO DETER- MINE THE SPECIFIC CURRENT CONSUMPTION OF EACH SENSOR.

1 OCCUPANCY SENSOR W/ POWER PACK WIRING DIAGRAM
SCALE: DIAGRAMMATIC

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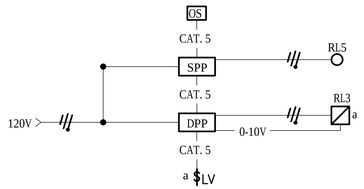
REVISION SCHEDULE

SCHEDULES

SHEET #
E-002

Room Lighting Control Schedule (For Commissioning Purposes)

Sheet Number	Room Number	Daylight Zone	Daylight Zone - Sq. Ft.	LV Lighting Control System	LV Occ/Vacancy Sensor	LV Photocell sensor	Stand alone occ/vacancy sensor	Stand alone photocell sensor	Wall mount timer switch	Wall mount occ/vacancy switch	Line voltage wall/Dimmer switch	Low voltage wall/Dimmer switch	Switched Recepts	Alert System Override	Wiring Diagram	Comments
E1.21	102	N								Y						
E1.21	108	N							Y	Y						
E1.21	114	N		Y								Y		Y	3/E003	2-button - on/off; up/down
E1.21	123	N					Y				Y					occupancy sensor integral to fixture
E1.21	124	N					Y				Y					occupancy sensor integral to fixture
E1.21	125	N					Y				Y					occupancy sensor integral to fixture
E1.21	126	N					Y				Y					occupancy sensor integral to fixture
E1.21	127	N					Y				Y					occupancy sensor integral to fixture
E1.22	204	Y	48	Y	Y	Y						Y			1/E003	2-button - on/off; up/down
E1.22	205	N		Y	Y							Y			1/E003	1 button - on/off
E1.22	209	N					Y				Y					



5 HALLWAYS 105, 109, 113 & 209

SCALE: DIAGRAMATIC

NON-RESIDENTIAL ENERGY CODE SUMMARY (LIGHTING)

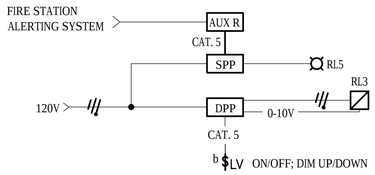
Building Sq. Ft.	Total Watts Allowed	Proposed Lighting Wattage	Interior Lighting Power Allowance
2278	1153	1068	Comlies with C406.3 Reduced Interior Lighting Power
EGRESS LIGHTING POWER DENSITY (C405.2.5- ITEM 7)			
2278	.02 W/SQ.FT (455W)	252	Egress lighting to be shut-off during unoccuppied hours

ALERT LIGHTS ZONING AS FOLLOWS:
BUNK ROOMS:
ENGINE ZONE - (ROOM NUMBERS TO BE DETERMINED)
AID CAR ZONE - (ROOM NUMBERS TO BE DETERMINED)
MEDIC ZONE - ROOMS 106 & 107
COMMON AREA ZONE - ALL HALLWAYS, BEANERY, WORKOUT & TV ROOM

LIGHTING CONTROLS LEGEND

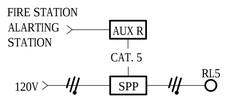
SYMBOL	DESCRIPTION
	DEVICES AND CABLING
TC	TIME CLOCK
DPP	DIMMING 0-10V POWER PACK.
DPPE	EMERGENCY DIMMING 0-10V POWER PACK.
PC	PHOTOCELL.
OS	OCCUPANCY SENSOR.
CAT. 5	CATEGORY 5 CABLING.
VS	VACANCY SENSOR.
0-10V	DIMMING CONTROL CABLING
	120V LINE VOLTAGE WIRE
	LIGHT FIXTURE
	EGRESS LIGHT FIXTURE

NOTE :
1. COORDINATE PROGRAMMING AND OCCUPANCY/VACANCY TIMEOUT SETTINGS WITH THE OWNER.



3 TYPICAL SLEEPING ROOMS

SCALE: DIAGRAMATIC



4 HALLWAYS 105, 113 & PT 208

SCALE: DIAGRAMATIC

LIGHTING CONTROL SEQUENCE OF OPERATION

GENERAL REQUIREMENTS

1. PROVIDE AUXILIARY CONTACT FOR INTERFACE TO FIRE FIGHTER CALL RELAY FOR CONTROL OF NOTIFICATION LIGHTS IN HALLWAYS, BEANERY AND SLEEPING ROOMS.
2. VACANCY/OCCUPANCY SENSORS SHALL BE CONNECTED TOGETHER FOR CONTROL OF ALL LIGHTS IN THE ROOM. SET UP SENSORS IN VACANCY MODE.
3. PHOTOCELLS TO BE INSTALLED IN EDGE OF PRIMARY AND SECONDARY DAYLIGHT ZONES. TRIGGER 1 OF PHOTOCELL TO CONTROL LIGHTS IN PRIMARY DAYLIGHT ZONES, TRIGGER 2 OF PHOTOCELL TO CONTROL LIGHTS IN SECONDARY DAYLIGHT ZONES. DIMMING SHALL BE CONTINUOUS AND SHALL BE CONFIGURED TO COMPLETELY SHUT OFF ALL CONTROLLED LIGHTS WITH IN THE DAY LIGHTING ZONE.
4. PROGRAMMING SHALL BE PROVIDED FOR ADJUSTMENT OF LIGHTS ON SITE.
5. ALL LIGHTS WHERE INDICATED SHALL BE CONTROLLED VIA 0-10V DIMMING.

KITCHEN/BEANERY

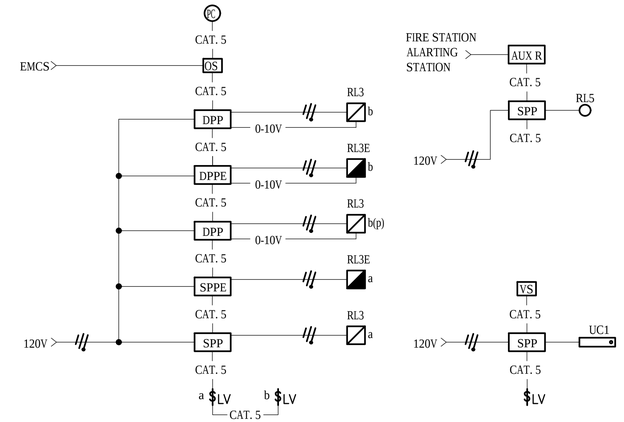
1. EMERGENCY LIGHTS ARE TO BE ON DURING OCCUPIED TIMES.
2. DAYLIGHT ZONES (DESIGNATION 'a (p)').
   a. PRIMARY DAYLIGHT ZONE - DIM CONTROLLED WITH PHOTOCELL - TRIGGER LEVEL 1.
   b. SECONDARY DAYLIGHT ZONE - DIM CONTROLLED WITH PHOTOCELL - TRIGGER LEVEL 2.
3. OCCUPANCY SENSORS TO CONTROL NON-EMERGENCY LIGHTS DURING OCCUPIED MODE DIMMING TO 50% OF OUTPUT.
4. WALL CONTROL STATIONS
   a. SWITCH 1 - LIGHTS 'a' - ON/OFF
   b. SWITCH 2 - LIGHTS 'b' - ON/OFF; UP/DOWN
5. ALERTING STATION LIGHTS SHALL COME ON UPON CONTACT CLOSURE OF THE ALERTING SYSTEM. STATION CONTACTOR TO TIME LIGHTS 'OFF'.

SLEEPING ROOMS

1. ROOM LIGHTS TO BE CONTROLLED VIA VACANCY SENSOR AND MANUAL DIMMING CONTROL AT ENTRANCE.
2. WALL CONTROL STATION
   a. BUTTON 1 - FUNCTION: ON/OFF
   b. BUTTON 2 - FUNCTION; DIM UP/DOWN
3. ALERTING STATION LIGHTS SHALL COME ON UPON CONTACT CLOSURE OF THE ALERTING SYSTEM. STATION CONTACTOR TO TIME LIGHTS 'OFF'.

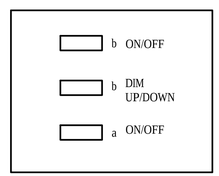
HALLWAYS 105, 109, 113 & 209

1. OCCUPANCY SENSOR TO DIM LIGHTS 50% DURING UN-OCCUPIED MODE WHILE SWITCH IS 'ON'.
2. 'OFF' BUTTON ON SWITCH TO TURN 'RL3' LIGHTS 'OFF' AND 'ON'.
3. ALERTING STATION LIGHTS SHALL COME ON UPON CONTACT CLOSURE OF THE ALERTING SYSTEM. STATION CONTACTOR TO TIME LIGHTS 'OFF'.



1 KITCHEN 102 & BEANARY 101

SCALE: DIAGRAMATIC



2 TYPICAL LOW VOLTAGE BUTTON DETAIL

SCALE: DIAGRAMATIC

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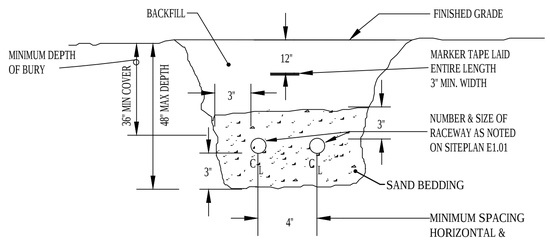
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SCHEDULES & LIGHTING CONTROL DIAGRAMS

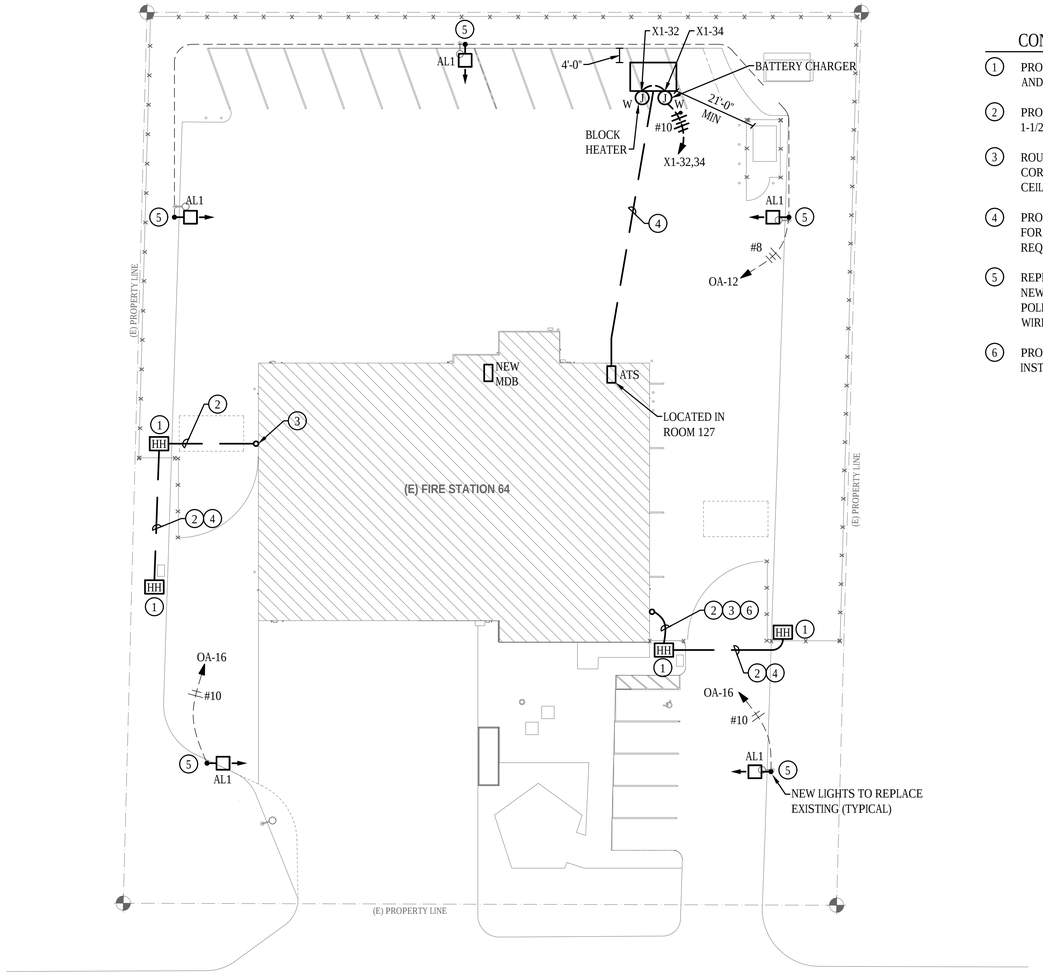
SHEET #

E-003



2 TRENCH DETAIL

SCALE: DIAGRAMMATIC



1 ELECTRICAL SITE PLAN

SCALE: 1"=20'-0"

N

CONSTRUCTION NOTES

1. PROVIDE FOG-TITE TYPE 2 HANDHOLE WITH GALVANIZED LID AND INTERIOR DIVIDING PLATE.
2. PROVIDE 1-1/2"C.O. FOR POWER TO MOTORIZED GATE AND 1-1/2"C.O. FOR GATE CONTROL.
3. ROUTE CONDUIT UP SIDE OF BUILDING. PROVIDE 'LB's' AND CORE DRILL THROUGH EXTERIOR WALL INTO ACCESSIBLE CEILING SPACE.
4. PROVIDE SAWCUTTING AND PATCHING OF EXISTING ASPHALT FOR INSTALLATION OF CONDUITS. SEE CIVIL DRAWINGS FOR REQUIREMENTS.
5. REPLACE EXISTING LIGHTS AND POLES WITH NEW. INSTALL NEW LIGHTS ON EXISTING CONCRETE BASES. PROVIDE NEW POLES TO MATCH EXISTING BOLT PATTERN. PROVIDE BRANCH WIRING FROM BASE OF POLE TO FIXTURE HEAD.
6. PROVIDE SAWCUTTING AND PATCHING OF CONCRETE FOR INSTALLATION OF CONDUITS.

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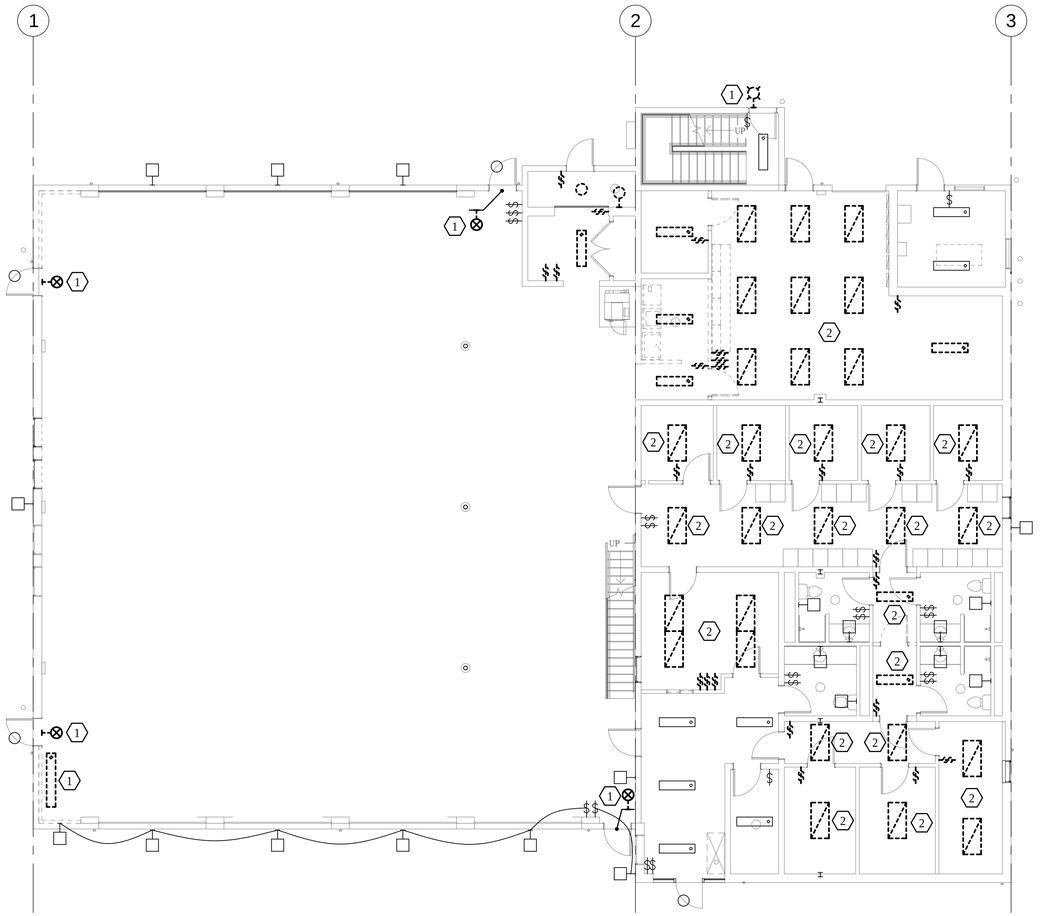
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ELECTRICAL SITE PLAN

SHEET #

E-101



GENERAL NOTES

1. E.C. TO FIELD VERIFY ALL EXISTING LIGHTING CIRCUITS WITH PANEL DESIGNATION AND CIRCUIT NUMBERING. E.C. TO CORRECT ALL EXISTING PANEL SCHEDULES AND CONTACTORS TO PROPERLY IDENTIFY EXISTING LOADS.

DEMOLITION NOTES

(1) DISCONNECT AND REMOVE EXISTING WALL MOUNTED LIGHT FIXTURE.

(2) MAINTAIN EXISTING LIGHT CIRCUIT FOR RECONNECTION TO NEW LIGHTS.

1 ELECTRICAL FIRST FLOOR LIGHTING DEMO PLAN
SCALE: 1/8"=1'-0"

N

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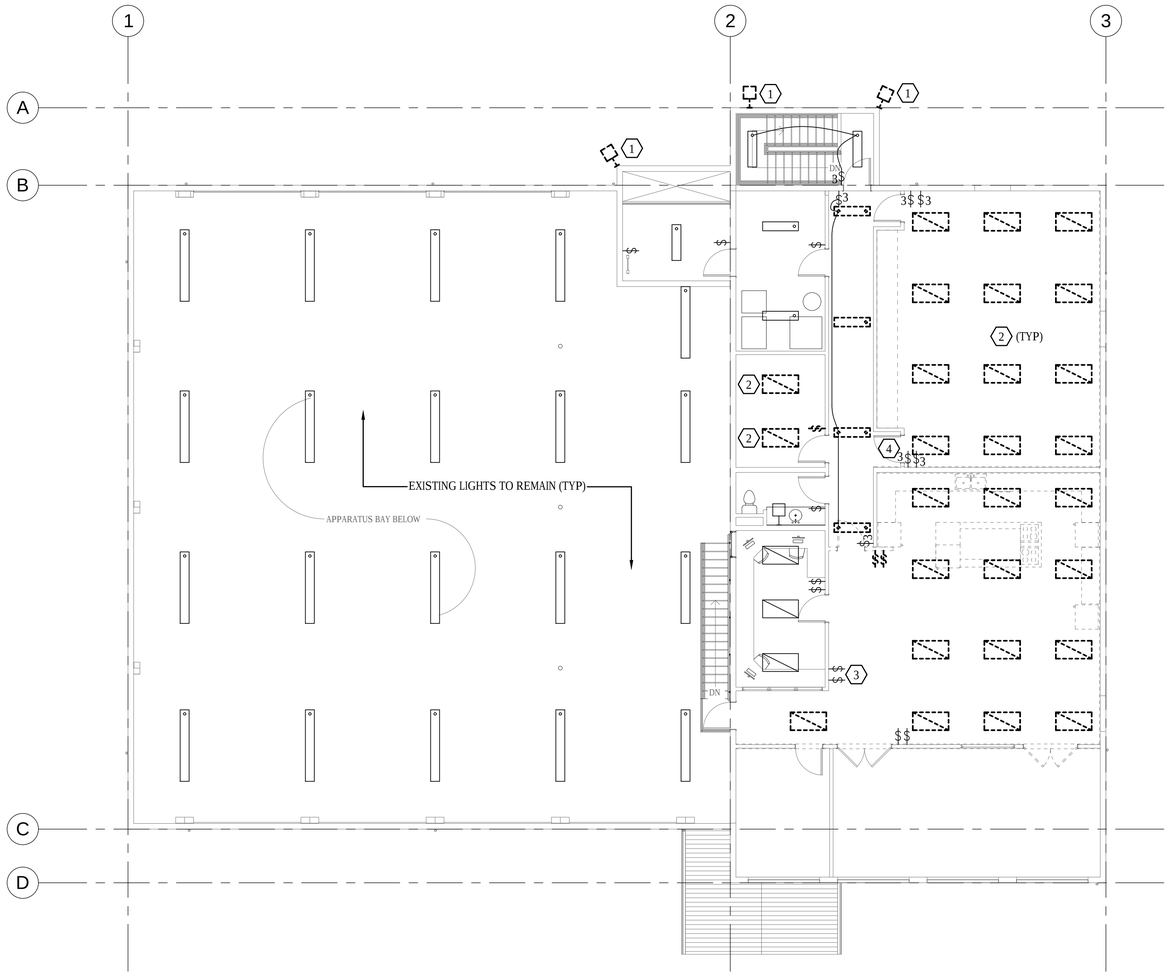
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ELECTRICAL FIRST FLOOR LIGHTING DEMO PLAN

SHEET #
ED121



1 ELECTRICAL SECOND FLOOR LIGHTING DEMO PLAN

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

GENERAL NOTES

1. E.C. TO FIELD VERIFY ALL EXISTING LIGHTING CIRCUITS WITH PANEL DESIGNATION AND CIRCUIT NUMBERING. E.C. TO CORRECT ALL EXISTING PANEL SCHEDULES AND CONTACTORS TO PROPERLY IDENTIFY EXISTING LOADS.

DEMOLITION NOTES

1. DISCONNECT, REMOVE AND RETAIN EXISTING LIGHT FIXTURE FOR REINSTALLATION AFTER STRUCTURAL UPGRADE.
2. DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE. RETAIN LIGHT FIXTURE FOR REINSTALLATION.
3. VERIFY SWITCH OPERATION - IF SWITCHES WILL BE ABANDONED AFTER NEW LIGHTING AND CONTROL INSTALLATION - REMOVE AND PROVIDE BLANK PLATES.
4. DISCONNECT, REMOVE AND RETAIN EXISTING SWITCHES AND REINSTALLATION AFTER WALL WORK.

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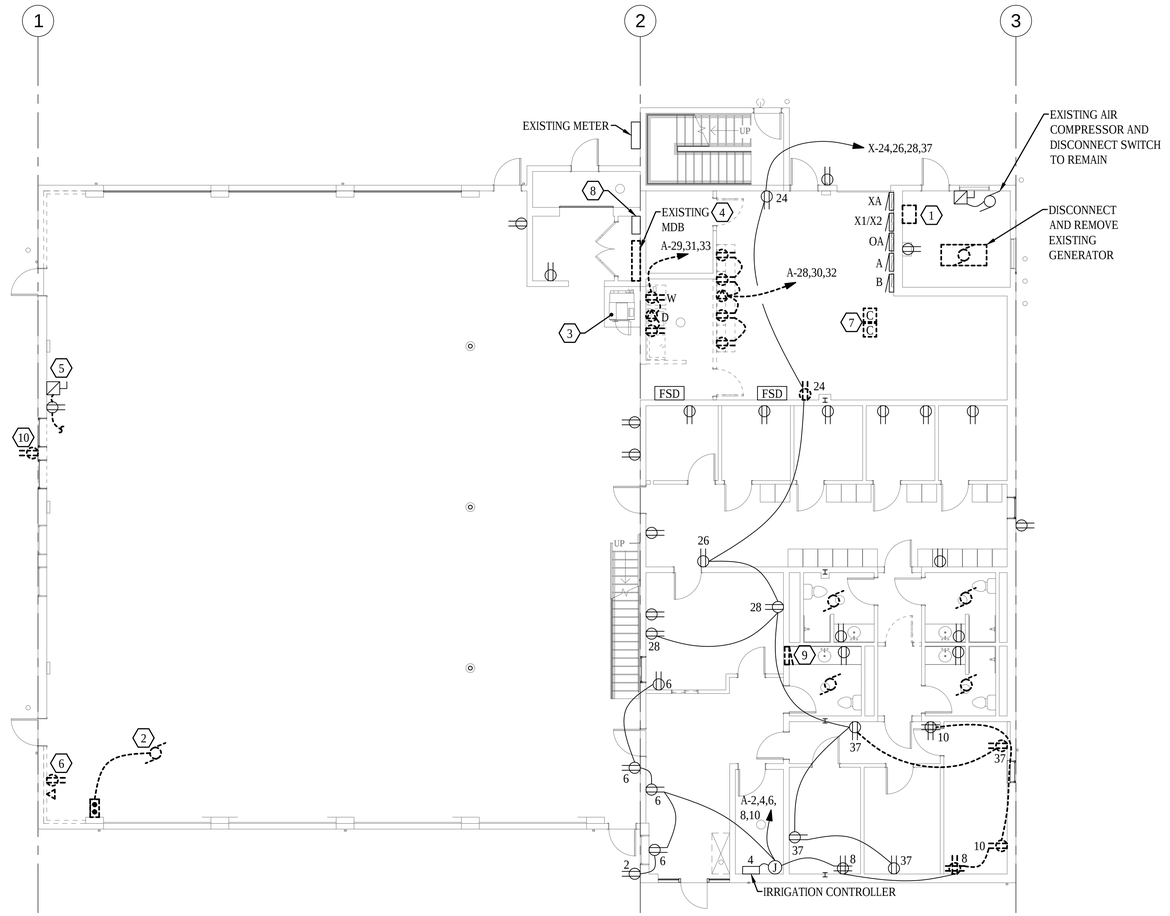
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ELECTRICAL SECOND FLOOR LIGHTING DEMO PLAN

SHEET #

ED122



GENERAL NOTES

1. E.C. TO FIELD VERIFY ALL EXISTING POWER CIRCUITS WITH PANEL DESIGNATION AND CIRCUIT NUMBERING. E.C. TO CORRECT ALL EXISTING PANEL SCHEDULES AND CONTACTORS TO PROPERLY IDENTIFY EXISTING LOADS. PROVIDE LABELS ON ALL RECEPTACLES AND DISCONNECT SWITCHES; NEW AND EXISTING STATING PANEL AND CIRCUIT NUMBER.

2. ALL EXISTING FIRE ALARM DEVICES AND WIRING TO BE REMOVED. SEE 'FA' SERIES SHEETS FOR NEW WORK.

DEMOLITION NOTES

1. DISCONNECT AND REMOVE EXISTING AUTOMATIC TRANSFER SWITCH.
2. DISCONNECT EXISTING DOOR OPERATOR AND CONTROL PANEL. MAINTAIN CIRCUIT FOR CONNECTION TO NEW DOOR OPERATOR AND CONTROL PANEL.
3. DISCONNECT EXISTING EXTRACTOR TO ALLOW FOR INSTALLATION OF CONCRETE PAD. RECONNECT EXTRACTOR AFTER WORK IS COMPLETE.
4. EXISTING MDB TO BE DISCONNECTED, REMOVED AND REPLACED WITH NEW.
5. DISCONNECT EXISTING SCBA COMPRESSOR. MAINTAIN EXISTING DISCONNECT SWITCH FOR RECONNECTION TO SCBA COMPRESSOR NEW LOCATION.
6. REMOVE EXISTING RECEPTACLE. EXTEND EXISTING BACKBOX TO ACCOMMODATE NEW STRUCTURAL WALL.
7. DISCONNECT AND REMOVE EXISTING OVEN CONTACTORS.
8. EXISTING CT CAN W/CT'S TO REMAIN. COORDINATE WITH PUGET SOUND ENERGY FOR DISCONNECTION AND RECONNECTION OF POWER TO ACCOMMODATE REMOVAL AND NEW INSTALLATION OF MDB.
9. DISCONNECT AND REMOVE EXISTING GENERATOR REMOTE ANNUNCIATOR.
10. EXISTING RECEPTACLE TO BE REMOVED. RE-ROUTE EXISTING CIRCUIT AROUND NEW DOOR OPENING TO MAINTAIN EXISTING CIRCUIT.

1 ELECTRICAL FIRST FLOOR POWER & SYSTEMS DEMO PLAN
SCALE: 1/8"=1'-0"

N

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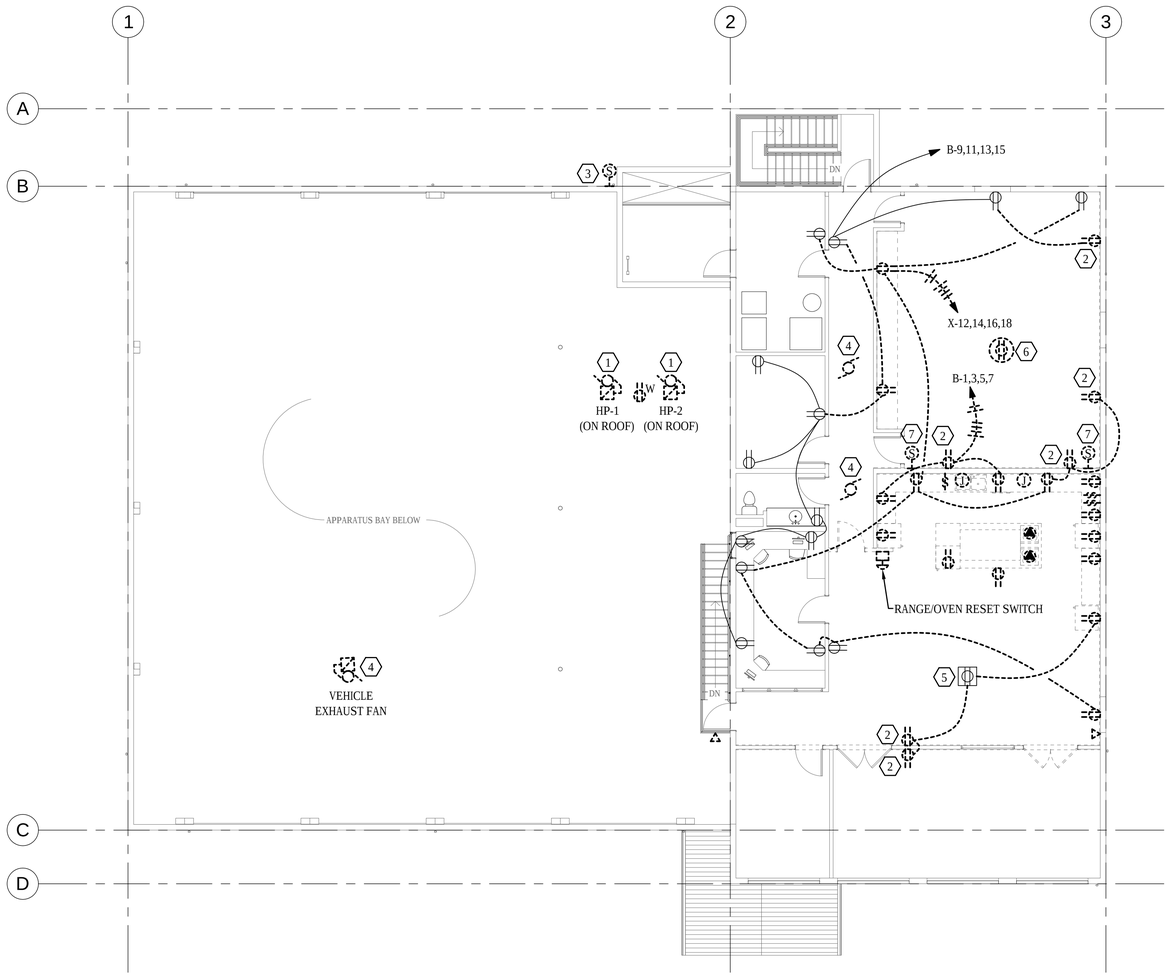
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ELECTRICAL FIRST FLOOR POWER & SYSTEMS DEMO PLAN

SHEET #
ED131



1 ELECTRICAL SECOND FLOOR POWER & SYSTEMS DEMO PLAN

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

N

GENERAL NOTES

1. E.C. TO FIELD VERIFY ALL EXISTING POWER CIRCUITS WITH PANEL DESIGNATION AND CIRCUIT NUMBERING. E.C. TO CORRECT ALL EXISTING PANEL SCHEDULES AND CONTACTORS TO PROPERLY IDENTIFY EXISTING LOADS. PROVIDE LABELS ON ALL RECEPTACLES AND DISCONNECT SWITCHES; NEW AND EXISTING STATING PANEL AND CIRCUIT NUMBER.

DEMOLITION NOTES

1. DISCONNECT EXISTING CONDENSING UNITS TO ACCOMMODATE REMOVAL FOR RE-ROOFING PROJECT.
2. DISCONNECT AND REMOVE EXISTING DEVICES, CONDUIT AND WIRING TO ACCOMMODATE STRUCTURAL WALL UPGRADE. MAINTAIN EXISTING CIRCUIT FOR RE-USE.
3. DISCONNECT AND REMOVE EXISTING SPEAKER / SIREN FROM SIDE OF HOSE TOWER. REINSTALL ONTO NEW SIDING.
4. DISCONNECT EXISTING MECHANICAL EQUIPMENT TO ALLOW FOR NEW ROOF. REINSTALL AFTER ROOF IS COMPLETE.
5. EXISTING FLOOR BOX TO BE MAINTAINED.
6. DISCONNECT AND REMOVE EXISTING PROJECTOR AND RECEPTACLE. TURN PROJECTOR OVER TO THE OWNER.
7. DISCONNECT AND REMOVE EXISTING SOUND SPEAKERS AND WIRING. TURN SPEAKERS OVER TO THE OWNER.

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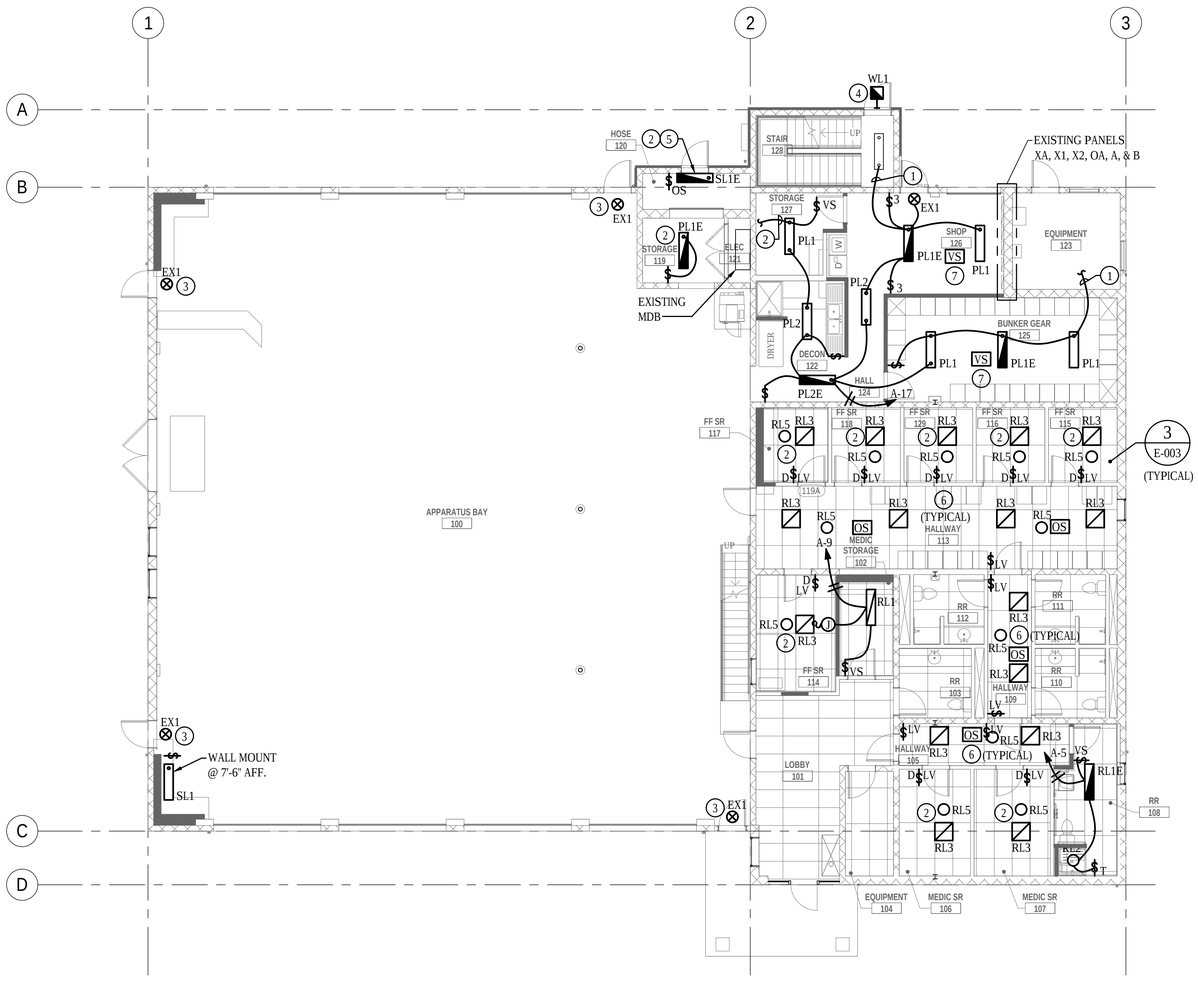
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ELECTRICAL SECOND FLOOR POWER & SYSTEMS DEMO PLAN

SHEET #

ED132



1 ELECTRICAL FIRST FLOOR LIGHTING PLAN

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

N

CONSTRUCTION NOTES

1. RECONNECT LIGHTING CIRCUIT TO EXISTING LIGHTS.
2. CONNECT NEW LIGHTS AND LIGHTING CONTROLS TO THE EXISTING LIGHTING CIRCUIT. SEE DETAIL 3/E-003.
3. REPLACE EXISTING EXIT SIGN WITH NEW.
4. CONNECT NEW LIGHT FIXTURE TO EXISTING LIGHTING CIRCUIT AND CONTROLS.
5. MOUNT LIGHT FIXTURE ON WALL ABOVE THE DOOR.
6. CONNECT LIGHTS TO LOW VOLTAGE LIGHTING CONTROL SYSTEM & EXISTING LIGHTING CIRCUITS.
7. SEE DETAIL 1/E-002 FOR LIGHTING CONTROL DIAGRAM FOR THIS SPACE.

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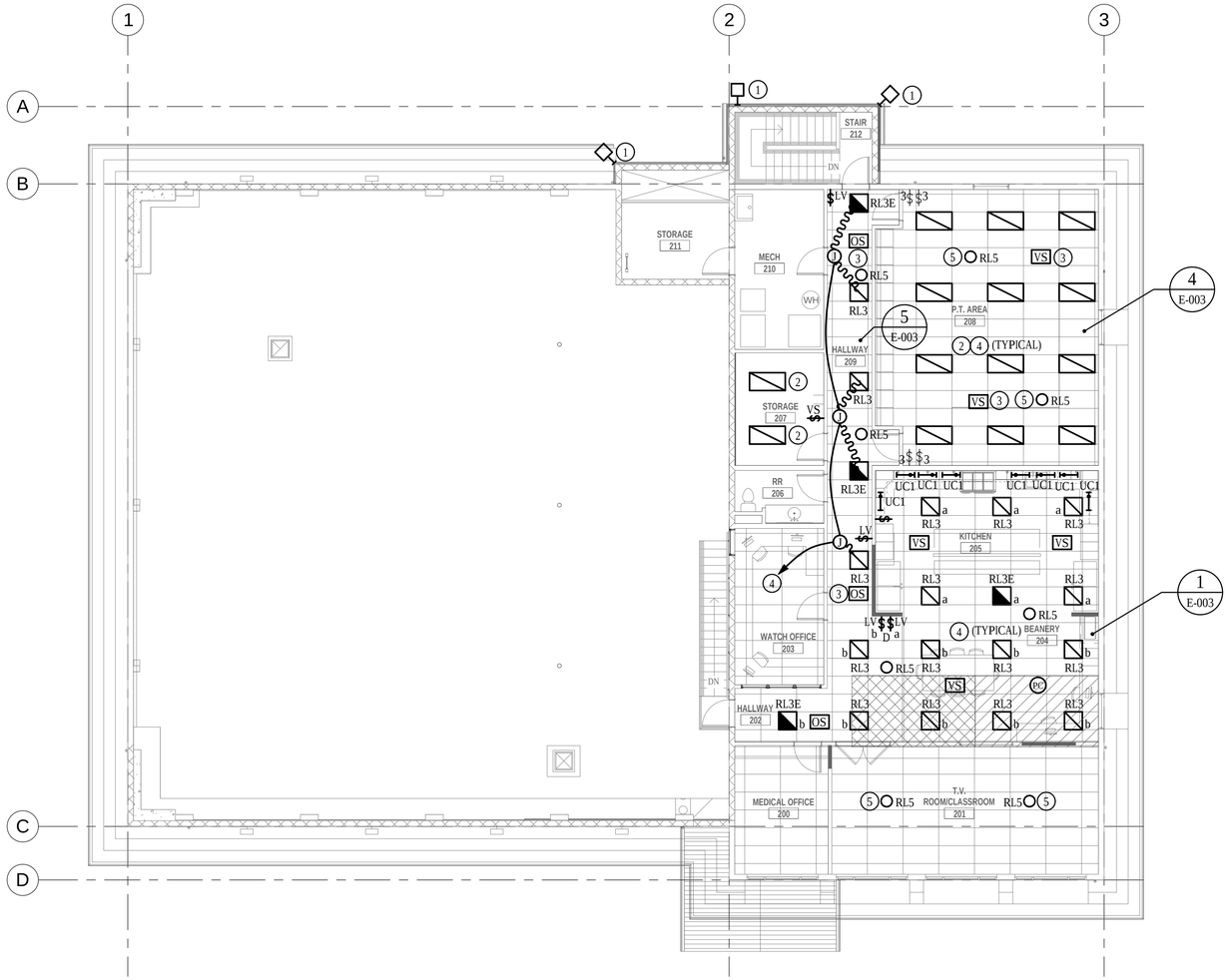
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ELECTRICAL FIRST FLOOR LIGHTING PLAN

SHEET #

E-121



CONSTRUCTION NOTES

1. REINSTALL EXISTING LIGHTS AFTER EXTERIOR RECLADDING IS COMPLETE.
2. REINSTALL EXISTING LIGHTS AND CONNECT TO EXISTING LIGHT CIRCUIT AND LIGHTING CONTROLS.
3. PROVIDE NEW VACANCY SENSORS AND POWER PACKS TO TURN OFF LIGHTS UPON NO OCCUPANCY. SEE DETAIL 1 ON SHEET E-002.
4. CONNECT NEW LIGHTS TO EXISTING LIGHTING CIRCUIT. PROVIDE NEW LIGHTING CONTROLS. SEE DETAILS ON SHEET E-003.
5. CONNECT LIGHTS TO SWITCHING POWER PACK CONNECTED TO STATION ALERTING SYSTEM. SEE SHEET E-003.

1 ELECTRICAL SECOND FLOOR LIGHTING PLAN

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

N

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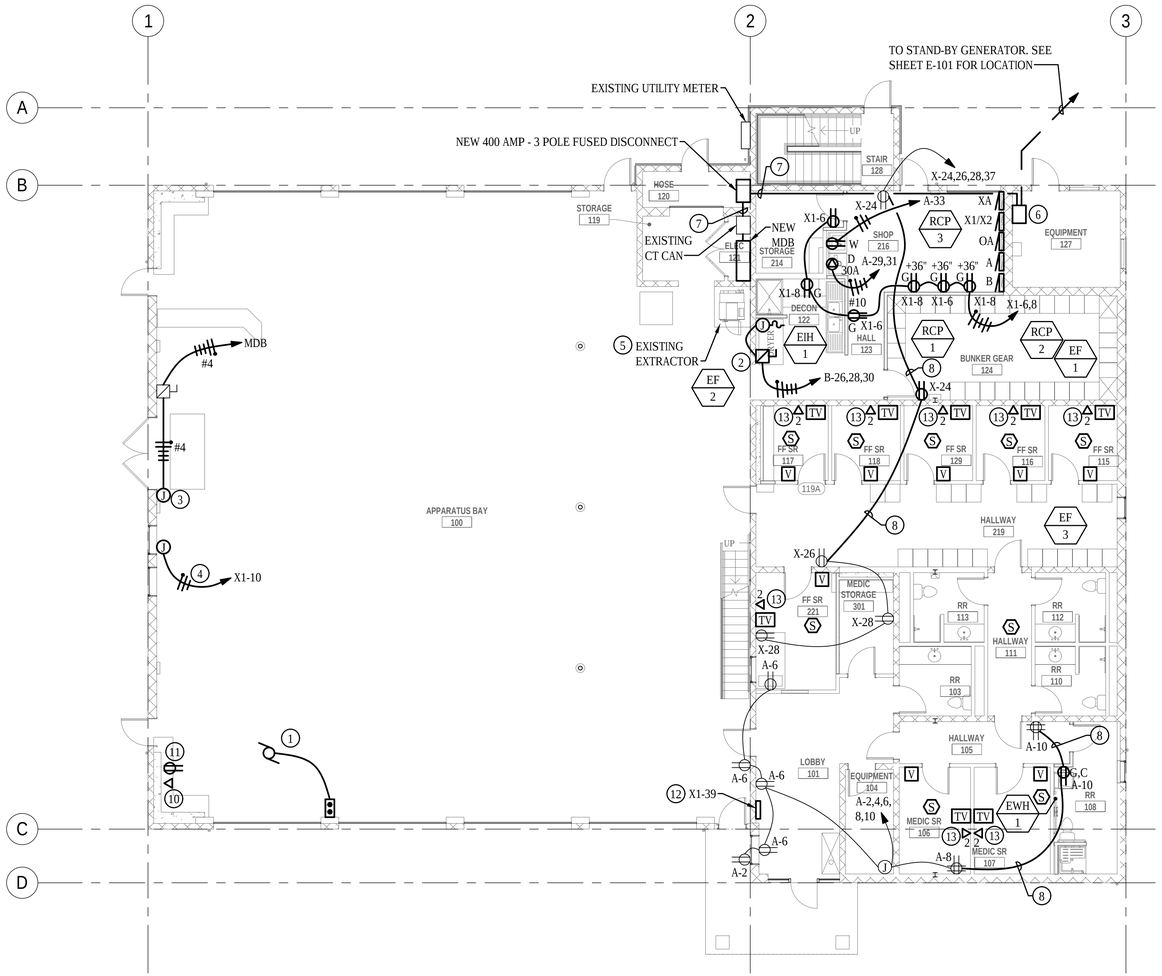
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ELECTRICAL SECOND FLOOR LIGHTING PLAN

SHEET #

E-122



1 ELECTRICAL FIRST FLOOR POWER & SYSTEMS PLAN

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

GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT TRACING OF ALL EXISTING DEVICES. PROVIDE LABELING ON ALL DEVICES INDICATING PANEL AND CIRCUIT NUMBER. PROVIDE NEW INDEX CARDS IN PANELS.

CONSTRUCTION NOTES

1. PROVIDE CONNECTION TO NEW DOOR OPERATOR AND CONTROL PANEL CONNECT TO EXISTING CIRCUIT.
2. PROVIDE 60 AMP - 3 POLE DISCONNECT SWITCH FOR THE NEW DRYER. PROVIDE 1"C., (4) #6 AND (1) #8 GR.
3. PROVIDE CONNECTION TO SCBA AIR COMPRESSOR.
4. PROVIDE CONNECTION TO CO/NO2 SENSORS CONTROL FOR EF-5. PROVIDE A VIBRATONE HORN 350 FOR CONNECTION TO THE CO/NO2 SYSTEM. SURFACE MOUNT HORN @ 12'-0" AFF. SEE MECHANICAL DETAIL 2/M50.01 AND 3/M50.01.
5. DISCONNECT EXISTING EXTRACTOR TO ALLOW FOR REMOVAL AND INSTALLATION OF NEW HOUSEKEEPING PAD. RECONNECT EXTRACTOR AFTER IT IS REINSTALLED.
6. NEW 400 AMP AUTOMATIC TRANSFER SWITCH.
7. PROVIDE CORE DRILLING THROUGH EXISTING CONCRETE WALL FOR INSTALLATION OF CONDUITS. SEAL AROUND ALL CONDUIT PENETRATIONS.
8. PROVIDE NEW CONNECTIONS TO EXISTING DEVICES TO MAINTAIN EXISTING CIRCUITING.
9. PROVIDE 1-1/4"C., W/(4) #4 AND (1) #8 GR. FROM EXISTING DISCONNECT SWITCH, ACROSS DOOR OPENING TO NEW POWER FEED LOCATION.
10. REINSTALL EXISTING DATA OUTLET IN NEW WALL.
11. INSTALL NEW RECEPTACLE IN NEW WALL. CONNECT TO EXISTING CIRCUIT.
12. PROVIDE 120. VOLT CONNECTION TO FIRE ALARM CONTROL PANEL, POWER SUPPLY AND AES TRANSMITTER.
13. SURFACE MOUNT DEVICES IN WIREMOLD ADJACENT TO EXISTING RECEPTACLE AT +18" AFF. PROVIDE ALL WIRING HOMERUN BACK TO TELCO ROOM 211.

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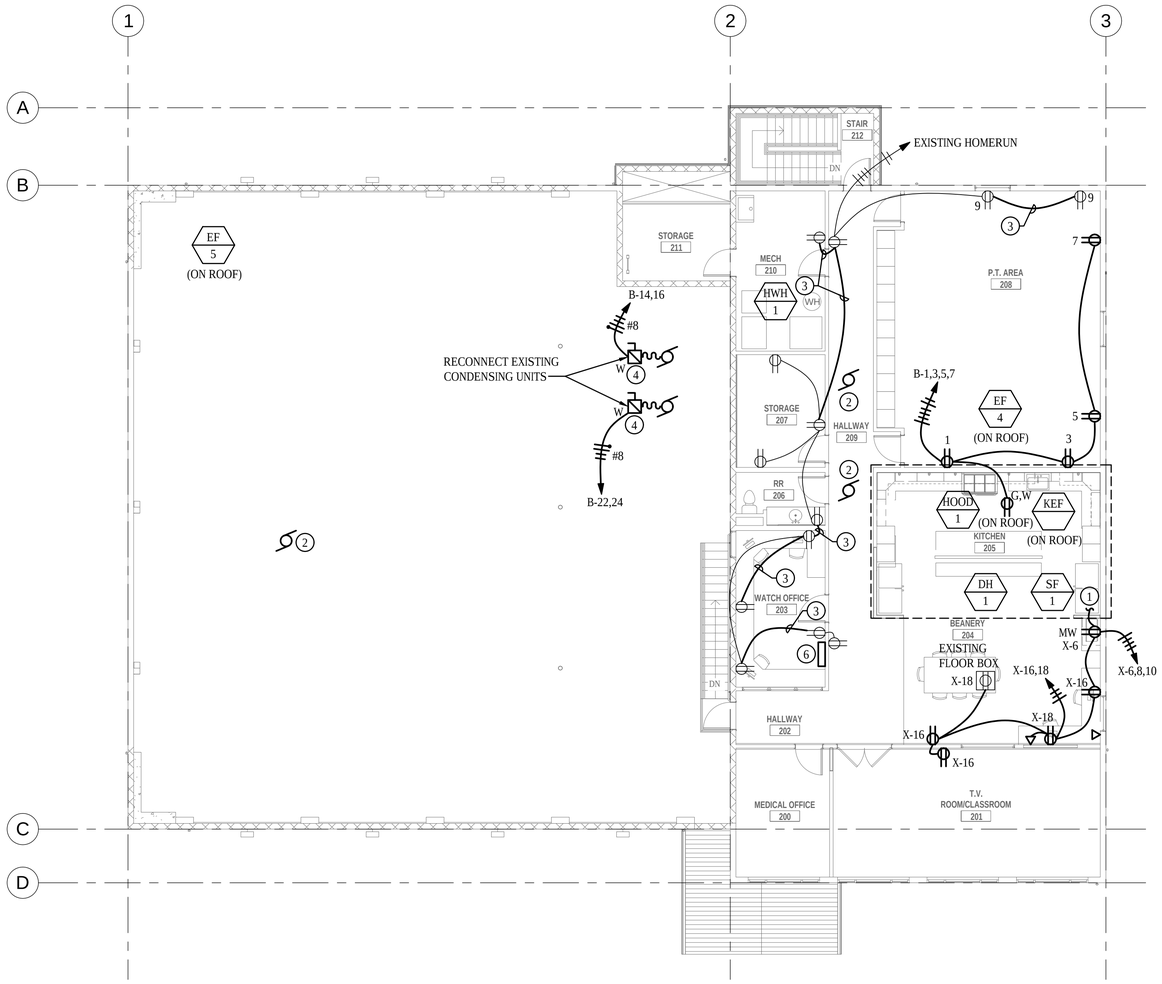
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ELECTRICAL FIRST FLOOR POWER PLAN

SHEET #

E-131



1 ELECTRICAL SECOND FLOOR POWER & SYSTEMS PLAN

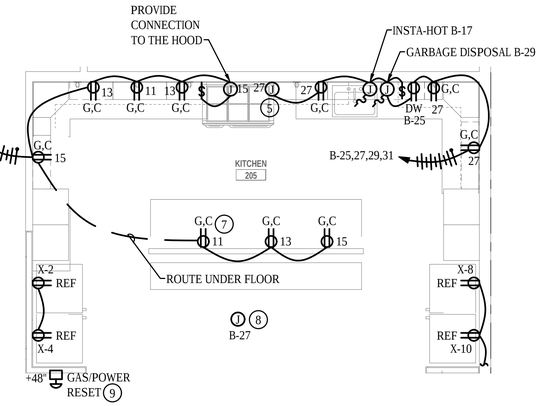
SCALE: 1/8"=1'-0"

GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT TRACING OF ALL EXISTING DEVICES. PROVIDE LABELING ON ALL DEVICES INDICATING PANEL AND CIRCUIT NUMBER. PROVIDE NEW INDEX CARDS IN PANELS.
2. ALL HOLES IN PRECAST HOLLOW CORE FLOOR SHALL BE LOCATED SUCH THAT THEY ARE LOCATED IN HOLLOW SECTIONS AND NOT DAMAGE THE EXISTING REINFORCING.

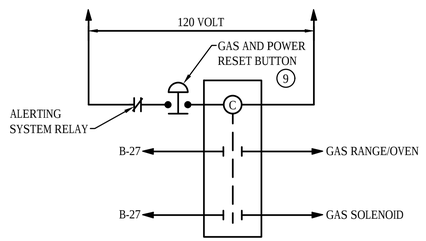
CONSTRUCTION NOTES

1. SEE ENLARGED KITCHEN PLAN ON THIS SHEET FOR CONTINUATION.
2. RECONNECT EXISTING MECHANICAL EQUIPMENT ON ROOF.
3. PROVIDE NEW CONNECTIONS TO EXISTING DEVICES TO MAINTAIN EXISTING CIRCUITING.
4. PROVIDE NEW WEATHERPROOF 60-AMP - 2 POLE DISCONNECT SWITCHES FOR EXISTING EQUIPMENT. PROVIDE UNISTRUT SUPPORT FOR MOUNTING.
5. PROVIDE CONNECTION THROUGH A CONTACTOR TO DISCONNECT POWER TO THE RANGE / OVEN AND IGNITER CIRCUIT.
6. NEW GENERATOR REMOTE ANNUNCIATOR.
7. PROVIDE CORE DRILL HOLE THROUGH EXISTING PRECAST HOLLOW CORE FLOOR FOR ROUTING OF CONDUIT.
8. PROVIDE CONNECTION TO GAS SOLENOID FOR KITCHEN EQUIPMENT.
9. PROVIDE 'YELLOW' STI STOPPER STATION WITH MOMENTARY PUSH-BUTTON; TURN TO RESET. PROVIDE LABEL STATING "EMERGENCY POWER AND GAS OFF".



2 ENLARGED KITCHEN POWER PLAN

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



3 POWER & GAS SHUT-OFF DIAGRAM

SCALE: NTS

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SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS

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PROJECT # 2015137

BID

ISSUE DATE FEBRUARY 27, 2018

REVISION SCHEDULE

ELECTRICAL SECOND FLOOR POWER & SYSTEMS PLAN

SHEET #

E-132

SYSTEMS LEGEND

SYMBOL	DESCRIPTION
	ACCESS CONTROL SYSTEM
ACP	ACCESS CONTROL PANEL
ACPS	ACCESS CONTROL POWER SUPPLY
CR	PROXIMITY CARD READER - WALL MOUNT TO SINGLE-GANG BOX FLUSH TO WALL SURFACE UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL FOR MOUNTING HEIGHT. M INDICATES MULLION MOUNT.
ELD	EMERGENCY LOCKDOWN BUTTON.
DR	DOOR RELEASE BUTTON.
D	DOOR POSITION SWITCH (A DPDT SHALL BE PROVIDED AT EACH LOCATION SHOWN [FOR BOTH THE INTRUSION ALARM SYSTEM AND ACCESS CONTROL SYSTEM]). PROVIDED AND INSTALLED BY THE INTRUSION ALARM SYSTEM INSTALLING VENDOR. COORDINATE WITH ALL TRADES, AS REQUIRED.
ES	ELECTRIC STRIKE
EL	ELECTRIC LOCK
ED	ELECTRIFIED EXIT DEVICE
EDPS	ELECTRIFIED EXIT DEVICE POWER SUPPLY
REX	REQUEST TO EXIT MOTION SENSOR
	CCTV SYSTEM
C	INTERIOR FIXED IP MINI-DOME MEGA-PIXEL CAMERA - MOUNT BACKBOX FLUSH TO CEILING OR WALL AND MOUNT CAMERA TO BACKBOX, UNLESS NOTED OTHERWISE. CAMERA HOUSING INSTALLATION SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER. PROVIDE (1) ACTIVE DATA JACK AND (1) CAT 6 CABLE FOR EACH CAMERA SHOWN ON THE DRAWINGS. LOCATE THE TELECOMMUNICATIONS OUTLET IN THE BACKBOX (WITH A 25-FOOT SERVICE LOOP IN THE ACCESSIBLE CEILING, SECURED TO THE CEILING STRUCTURE) UNLESS NOTED OTHERWISE. MAINTAIN THE TELECOMMUNICATIONS OUTLET REQUIREMENTS.
C	INTERIOR IP MEGA-PIXEL MULTI-SENSOR CAMERA - MOUNT BACKBOX FLUSH TO CEILING OR WALL AND MOUNT CAMERA TO BACKBOX, UNLESS NOTED OTHERWISE. CAMERA HOUSING INSTALLATION SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER. PROVIDE (1) ACTIVE DATA JACK AND (1) CAT 6 CABLE FOR EACH CAMERA SHOWN ON THE DRAWINGS. LOCATE THE TELECOMMUNICATIONS OUTLET IN THE BACKBOX (WITH A 25-FOOT SERVICE LOOP IN THE ACCESSIBLE CEILING, SECURED TO THE CEILING STRUCTURE) UNLESS NOTED OTHERWISE. MAINTAIN THE TELECOMMUNICATIONS OUTLET REQUIREMENTS.
C	OUTDOOR IP MEGA-PIXEL DOME CAMERA (DIGITAL PAN/TILT/ROLL/ZOOM) - WALL MOUNT AT +10'-0" AFF, UNLESS NOTED OTHERWISE. CAMERA HOUSING INSTALLATION SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER. (S INDICATES MANUFACTURERS CAMERA SPECIFIC SURFACE MOUNT ADAPTER) (ARROW INDICATES DIRECTION OF FIELD OF VIEW). PROVIDE (1) ACTIVE DATA JACK AND (1) CAT 6 CABLE FOR EACH CAMERA SHOWN ON THE DRAWINGS. LOCATE THE TELECOMMUNICATIONS OUTLET IN THE BACKBOX UNLESS NOTED OTHERWISE. MAINTAIN THE TELECOMMUNICATIONS OUTLET REQUIREMENTS.
MON	CCTV SPOT MONITOR. WALL MOUNT AT HEIGHT SHOWN ON PLANS.

GENERAL NOTES

1 REVIEW ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF AREAS WITH ACCESSIBLE CEILING SPACES, HARD LID CEILINGS, AND AREAS WITH CEILINGS THAT ARE OPEN TO STRUCTURE. PROVIDE SURFACE-MOUNTED DEVICES AND THEIR RELATED SURFACE MOUNT BACK BOXES IN AREAS WITH CEILINGS THAT ARE OPEN TO STRUCTURE. PAINT EACH BACKBOX TO MATCH THE ADJACENT SURFACE.

2 ROOMS AND/OR AREAS WITH EXPOSED CEILINGS SHALL HAVE ALL CABLES ROUTED IN CONDUIT. CONDUIT SHALL BE TIGHT TO STRUCTURE, ROUTED PARALLEL AND ADJACENT TO STRUCTURE, AND SHALL BE PAINTED TO MATCH ADJACENT SURFACE. SURFACE MOUNTED CONDUITS SHALL NOT BE UTILIZED IN OCCUPIED SPACES.

3 FIRE WALLS SHOWN ARE DIAGRAMMATIC, REFER TO FINAL ARCHITECTURAL DRAWINGS FOR RATED WALLS, AND PROVIDE FIRE RATED PENETRATIONS FOR ALL CABLES TRANSITIONING THROUGH RATED WALLS. EC SHALL FIRE SEAL AROUND ALL CONDUITS PENETRATING THROUGH FLOORS, ROOF, AND FIRE RATED WALLS.

4 WHERE OPEN CABLING IS PERMITTED BY CODE, EACH LOW VOLTAGE SYSTEM SHALL HAVE THEIR CABLES SUSPENDED SEPARATE FROM OTHER LOW VOLTAGE SYSTEMS (I.E. FIRE ALARM CABLES IN ONE J-HOOK, INTRUSION ALARM IN ANOTHER J-HOOK, AND SO ON). ALL CABLES MUST BE ROUTED IN CONDUIT IN AREAS WITH EXPOSED CEILINGS.

5 ALL OUTLETS, SWITCHES AND DEVICES MOUNTED BACK TO BACK IN A WALL, MUST LOCATED IN SEPARATE STUD BAYS, OR FURNISHED WITH SOUND ATTENUATING MATERIAL AROUND THE BOX TO MEET ACOUSTICAL REQUIREMENTS.

6 ALL TYPICAL DEVICES SHALL BE MOUNTED AT CONSISTENT LOCATIONS AND HEIGHTS THROUGHOUT THIS PROJECT, UNLESS NOTED OTHERWISE.

7 SEE THE SITE PLANS FOR ADDITIONAL WORK.

8 CAMERAS SHALL BE LOCATED AS SUCH TO AVOID RESTRICTING THE CAMERAS FIELD OF VIEW FROM: EXIT SIGNS, LIGHTING, DOOR HEADERS, BUILDING FEATURES, BANNERS, OR OTHER (ART) ITEMS HANGING FROM THE CEILING. COORDINATE WITH ALL TRADES AS REQUIRED PRIOR TO ROUGH-IN.

9 SEE THE ACCESS CONTROL SYSTEM RISER DIAGRAM, RELATED DETAIL SHEETS, AND THE ELECTRICAL LEGEND, FOR EQUIPMENT THAT IS NOT SHOWN ON THE FLOOR PLANS, BUT SHALL BE PROVIDED AND INSTALLED FOR THIS PROJECT.

10 ALL TELECOMMUNICATIONS OUTLETS HORIZONTAL CABLING SHALL BE ROUTED TO THE CLOSEST TELECOMMUNICATIONS ROOM AS REQUIRED BY SECTION 272000.

11 REVIEW ALL EXTERIOR MOUNTED EQUIPMENT FOR AIR BARRIER PENETRATIONS. SEE ARCHITECTURAL DETAILS FOR REQUIREMENTS ON MAINTAINING THE BUILDING'S ENVELOPE.

12 SEE ALL DETAIL SHEETS AND RISER DIAGRAMS FOR ADDITIONAL WORK REQUIRED BY SECTION 272000.

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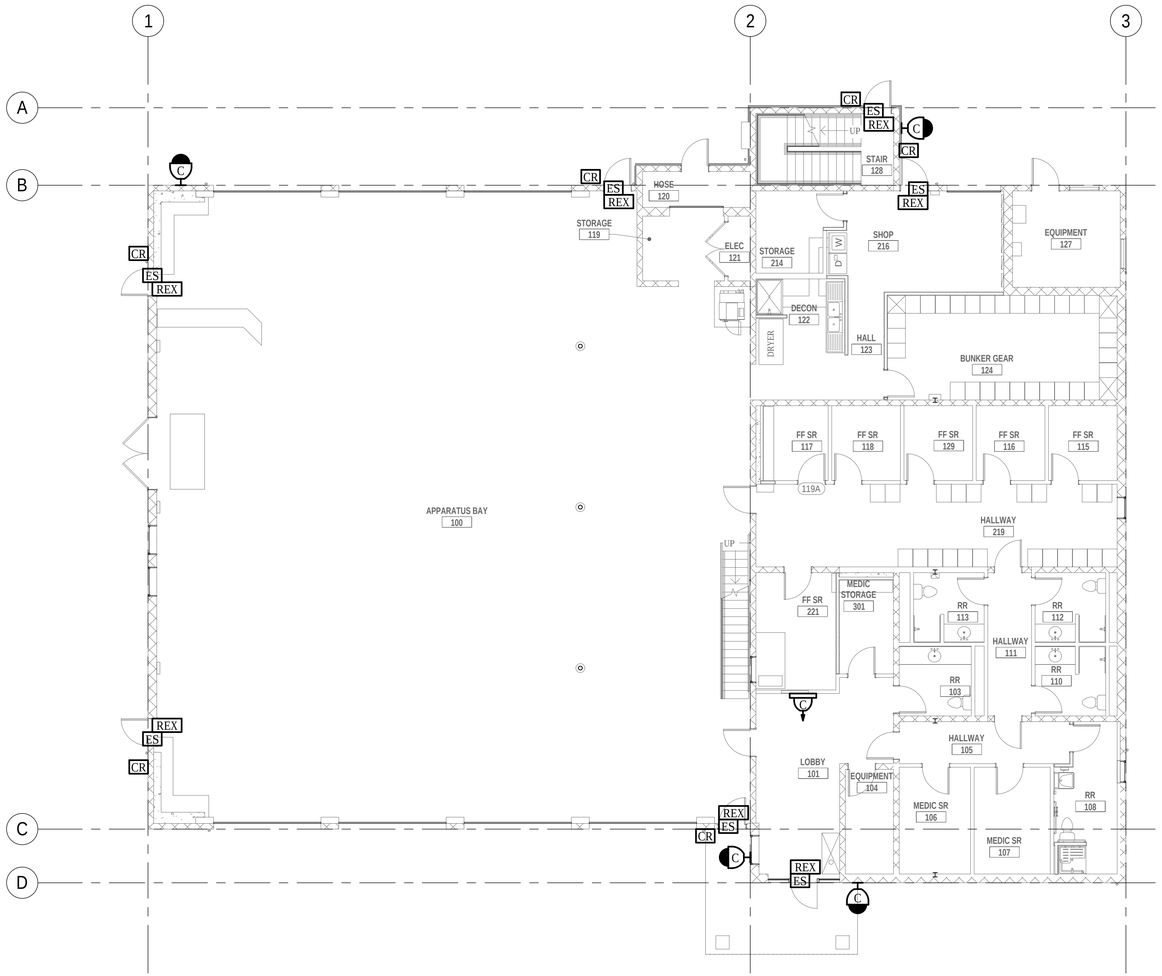
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SYSTEMS LEGEND

SHEET #

E-230



GENERAL NOTES

1. PROVIDE COMMUNICATION OUTLET FOR ALL CAMERA. SEE SHEET E-233 FOR ADDITIONAL INFORMATION.

1 FIRST FLOOR ACCESS CONTROL / CCTV PLAN

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

N

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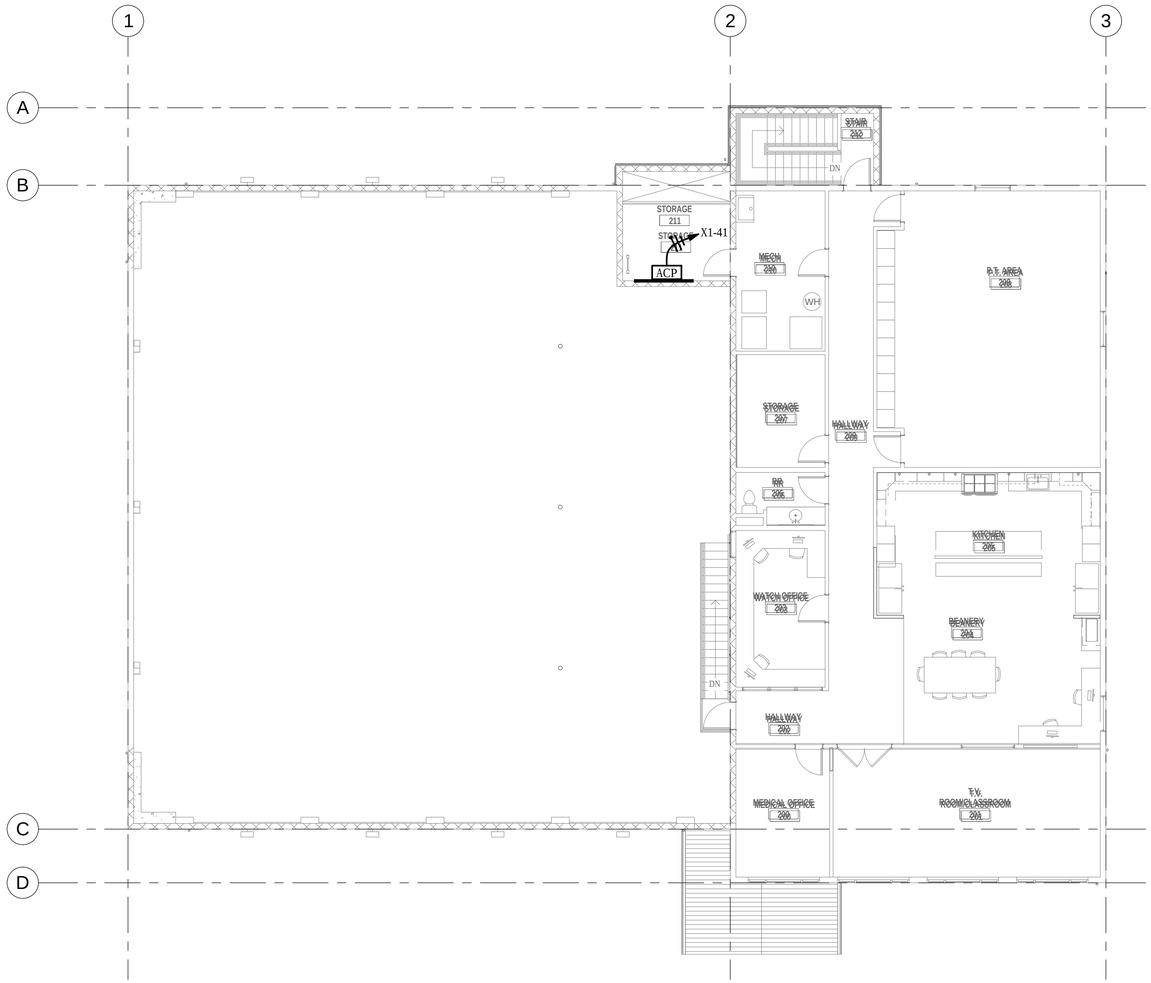
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REVISION SCHEDULE

FIRST FLOOR ACCESS CONTROL / CCTV PLAN

SHEET #

E-231



1 SECOND FLOOR ACCESS CONTROL / CCTV PLAN

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

N

CONSTRUCTION NOTES

1. PROVIDE 4'x4'x5/8" THICK FIRE RETARDANT PLYWOOD BACKBOARD.

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SECOND FLOOR ACCESS CONTROL / CCTV PLAN

SHEET #

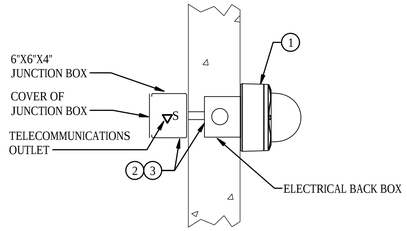
E-232

GENERAL NOTES

1. FOR CLARITY, CONDUITS ARE NOT SHOWN, EXCEPT WHERE NOTED. SEE FLOOR PLANS FOR CONDUIT REQUIREMENTS.
2. SECTION 27 2000 SHALL PROVIDE THE TELECOMMUNICATIONS OUTLET AND THE PATCH CABLES (SIZED TO FIT).
3. MOUNT THIS CAMERA TYPE AS RECOMMENDED BY THE MANUFACTURER AND AS SHOWN.

CONSTRUCTION NOTES

1. REINFORCE THE WALL AND WALL SURFACE FOR CAMERA MOUNTING, AS REQUIRED. SECURE CAMERA HOUSING TO THE WALL SURFACE/STRUCTURE AS RECOMMENDED BY THE MANUFACTURER. PROVIDE WEATHER-PROOF SEALANT TO PREVENT MOISTURE PENETRATION.
2. EXPOSED CONDUITS ARE NOT ALLOWED.
3. PROVIDE A CABLE PATHWAY FROM THE JUNCTION BOX TO THE CAMERA, AS REQUIRED. PROVIDE (1) 3/4" CONDUIT FROM JUNCTION BOX TO THE ACCESSIBLE CEILING SPACE AS REQUIRED.



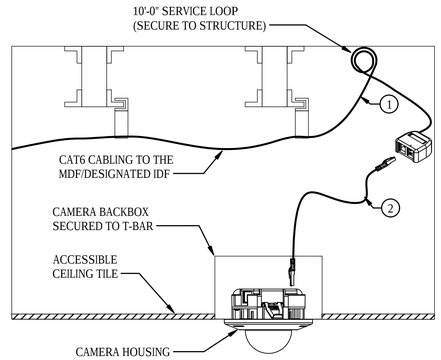
1 TYPICAL WALL MOUNT CCTV CAMERA MOUNTING DETAIL
SCALE: DIAGRAMMATIC

GENERAL NOTES

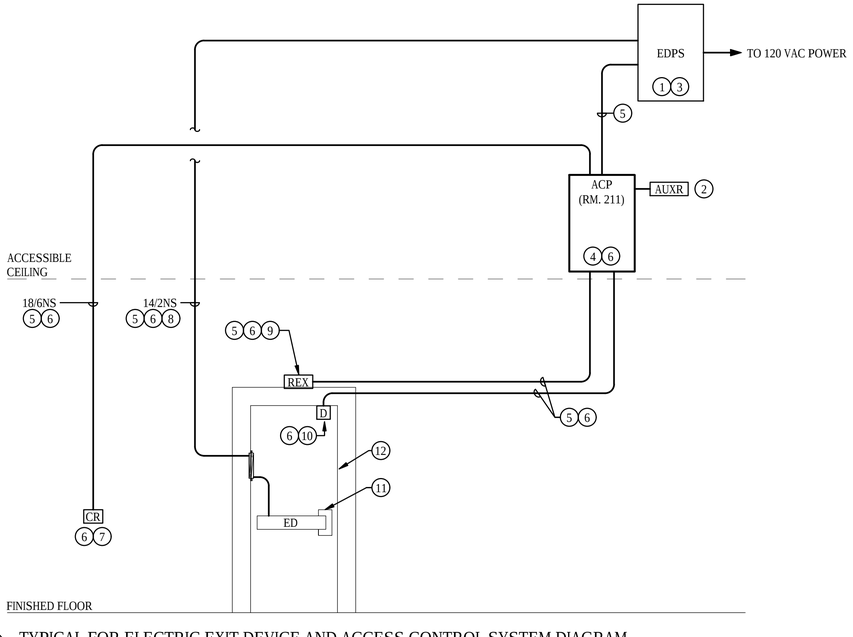
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2. SECTION 27 2000 SHALL PROVIDE THE TELECOMMUNICATIONS OUTLET AND THE PATCH CABLES (SIZED TO FIT).
3. MOUNT THIS CAMERA TYPE AS RECOMMENDED BY THE MANUFACTURER AND AS SHOWN IN A BACKBOX.

CONSTRUCTION NOTES

1. ROUTE THE CAT6 CABLING TO THE NEAREST TELECOMMUNICATIONS ROOM (MDF OR DESIGNATED IDF.).
2. PATCH CABLE (SIZED AS REQUIRED FOR EACH LOCATION).



2 RECESSED MOUNT CCTV MINI-DOME CAMERA (ACCESSIBLE CEILING TILE)
SCALE: DIAGRAMMATIC



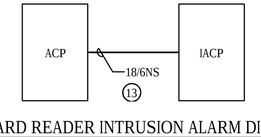
3 TYPICAL FOR ELECTRIC EXIT DEVICE AND ACCESS CONTROL SYSTEM DIAGRAM
SCALE: DIAGRAMMATIC

ACCESS CONTROL GENERAL NOTES

1. COORDINATE WITH THE DIVISION 8 AND DIVISION 27 INSTALLING VENDERS PRIOR TO ROUGH-IN OF ALL ACCESS CONTROL DEVICES.
2. PROVIDE SURFACE MOUNTED METAL RACEWAY IN ALL AREAS WHERE CONDUIT IS REQUIRED WHEN NOT CONCEALED BY WALLS OR WITHIN ACCESSIBLE CEILING SPACES. PAINT TO MATCH ADJACENT SURFACES.
3. ALL CONNECTIONS MUST BE SOLDERED AND TAPED INDIVIDUALLY. WIRE NUTS AND CRIMP CONNECTIONS ARE NOT ALLOWED.
4. PRE APPROVED ACCESS CONTROL INSTALLING CONTRACTOR IS JOHN HOLLAND WITH ASG. PHONE 206-245-1479.

ACCESS CONTROL CONSTRUCTION NOTES

1. (EDPS) ELECTRIFIED EXIT DEVICE POWER SUPPLY. PROVIDED BY DIVISION 8, INSTALLED BY DIVISION 28.
2. (AUXR) PROVIDE AUXILIARY RELAY(S), WHERE REQUIRED FOR SOUNDER. PROVIDED AND INSTALLED BY DIVISION 28.
3. INSTALL IN ACCESSIBLE LOCATION TO ALLOW SERVICE OF BATTERY. PROVIDED BY DIVISION 28, INSTALLED BY DIVISION 8.
4. JUNCTION BOX LOCATED IN CLOSEST ACCESSIBLE CEILING SPACE. PROVIDED AND INSTALLED BY DIVISION 28.
5. PROVIDE 3/4" METAL RACEWAY(S), QUANTITIES AS REQUIRED. PROVIDED AND INSTALLED BY DIVISION 28.
6. SEE SECTION 281300 ACCESS CONTROL SYSTEM FOR CABLING AND MOUNTING REQUIREMENTS. PROVIDED AND INSTALLED BY DIVISION 28.
7. (CR) EXTERIOR CARD READER WITH RED AND GREEN LED'S. EACH CARD READER SHALL BE WIRED TO HAVE THE CARD READER LED'S ILLUMINATED, BASED UPON POWER BEING APPLIED TO THE EL/ED. THE DISTRICT STANDARD IS RED LED = LOCKED, AND GREEN LED = UNLOCKED. MOUNT AT +44" AFF ON CENTER. PROVIDED AND INSTALLED BY DIVISION 28.
8. CABLING FOR THE ELECTRIFIED EXIT DEVICE (ED). USE THE ENTIRE CABLE RUN DISTANCE TO DETERMINE THE CONDUCTOR SIZE REQUIRED FOR EACH DOOR: 50'-0" OR LESS=14AWG, 100'-0" OR LESS=12AWG. TWO (2) CONDUCTORS ARE REQUIRED TO EACH LOCATION. PROVIDED BY DIVISION 28, INSTALLED BY DIVISION 8.
9. (REX) REQUEST TO EXIT MOTION SENSOR. PROVIDED AND INSTALLED BY DIVISION 28.
10. DOOR POSITION SWITCH. PROVIDED BY DIVISION 28, INSTALLED BY DIVISION 8.
11. (ED) ELECTRIFIED EXIT DEVICE. PROVIDED BY DIVISION 8, INSTALLED BY DIVISION 27.
12. REMOVABLE MULLION. PROVIDED BY DIVISION 8, INSTALLED BY DIVISION 28.
13. PROVIDE INTEGRATION BETWEEN ACCESS CONTROL CARD READERS ADJACENT TO KEYPADS WHERE SHOWN ON PLANS TO DISABLE INTRUSION ALARM SYSTEM. PROVIDED AND INSTALLED BY DIVISION 28.



4 CARD READER INTRUSION ALARM DISABLE DETAIL
SCALE: DIAGRAMMATIC

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ACCESS CONTROL / CCTV DETAILS

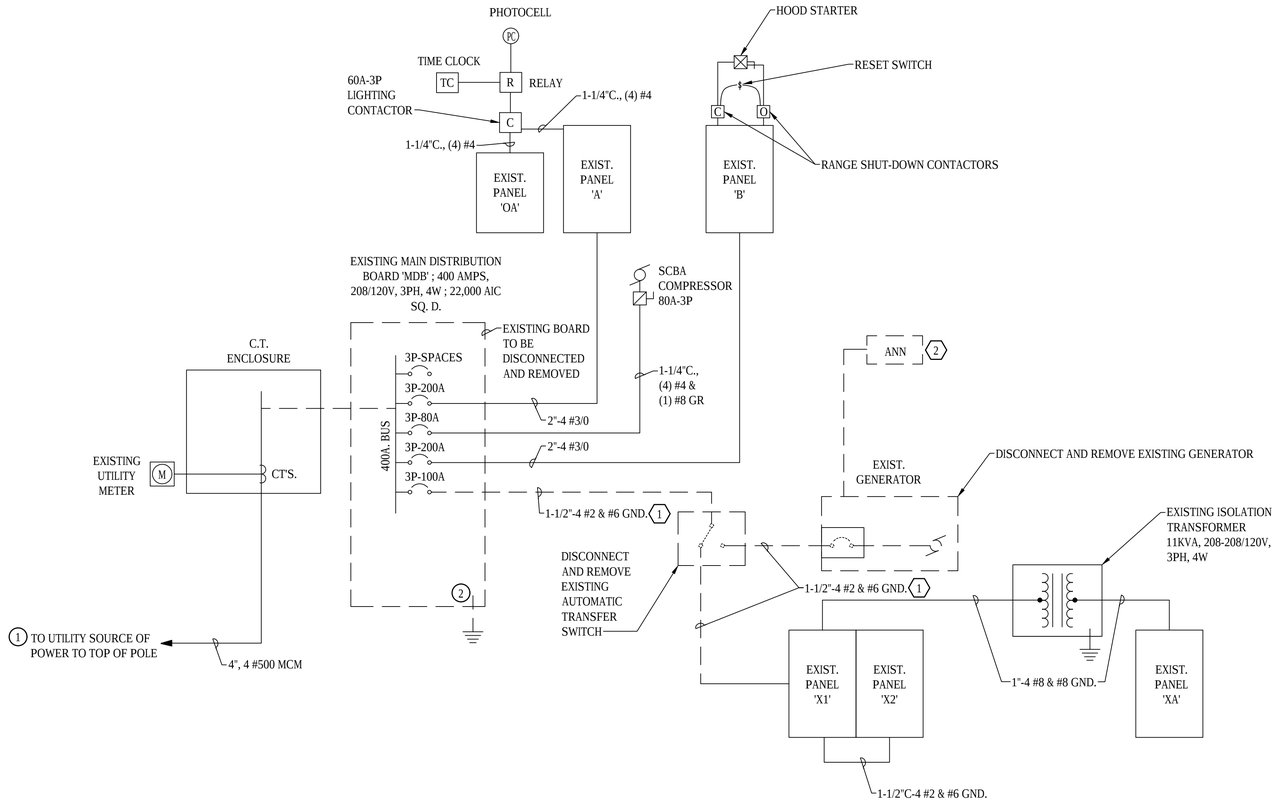
SHEET #
E-233

DEMOLITION NOTES

1. DISCONNECT AND REMOVE EXISTING CONDUIT AND FEEDER.
2. DISCONNECT AND REMOVE EXISTING GENERATOR REMOTE ANNUNCIATOR.

CONSTRUCTION NOTES

1. ELECTRICAL CONTRACTOR TO COORDINATE SHUT-DOWN WITH PSE FOR MODIFICATIONS OF THE CT ENCLOSURE, CONNECTION TO NEW SWITCHBOARD, AND CONNECTION OF THE AUTOMATIC TRANSFER SWITCH.
2. DISCONNECT EXISTING SERVICE ENTRANCE GROUND. PROVIDE EQUIPMENT GROUND CONNECTION OF EXISTING FEEDERS TO NEW SERVICE ENTRANCE GROUND AT AUTOMATIC TRANSFER SWITCH.



1 EXISTING ELECTRICAL ONE-LINE DIAGRAM

SCALE: DIAGRAMMATIC

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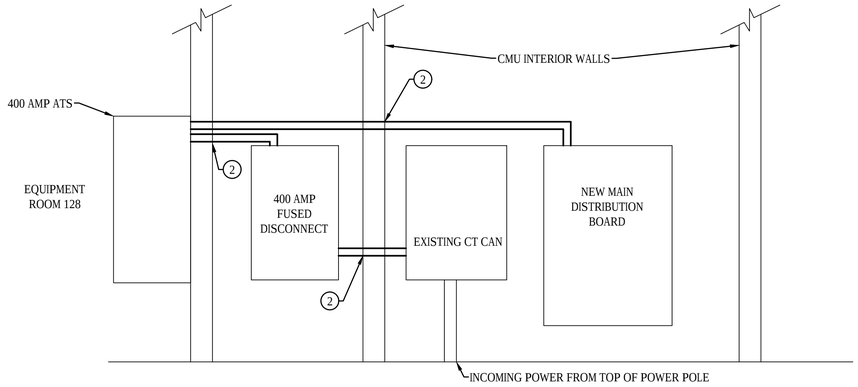
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EXISTING ELECTRICAL ONE-LINE DIAGRAM

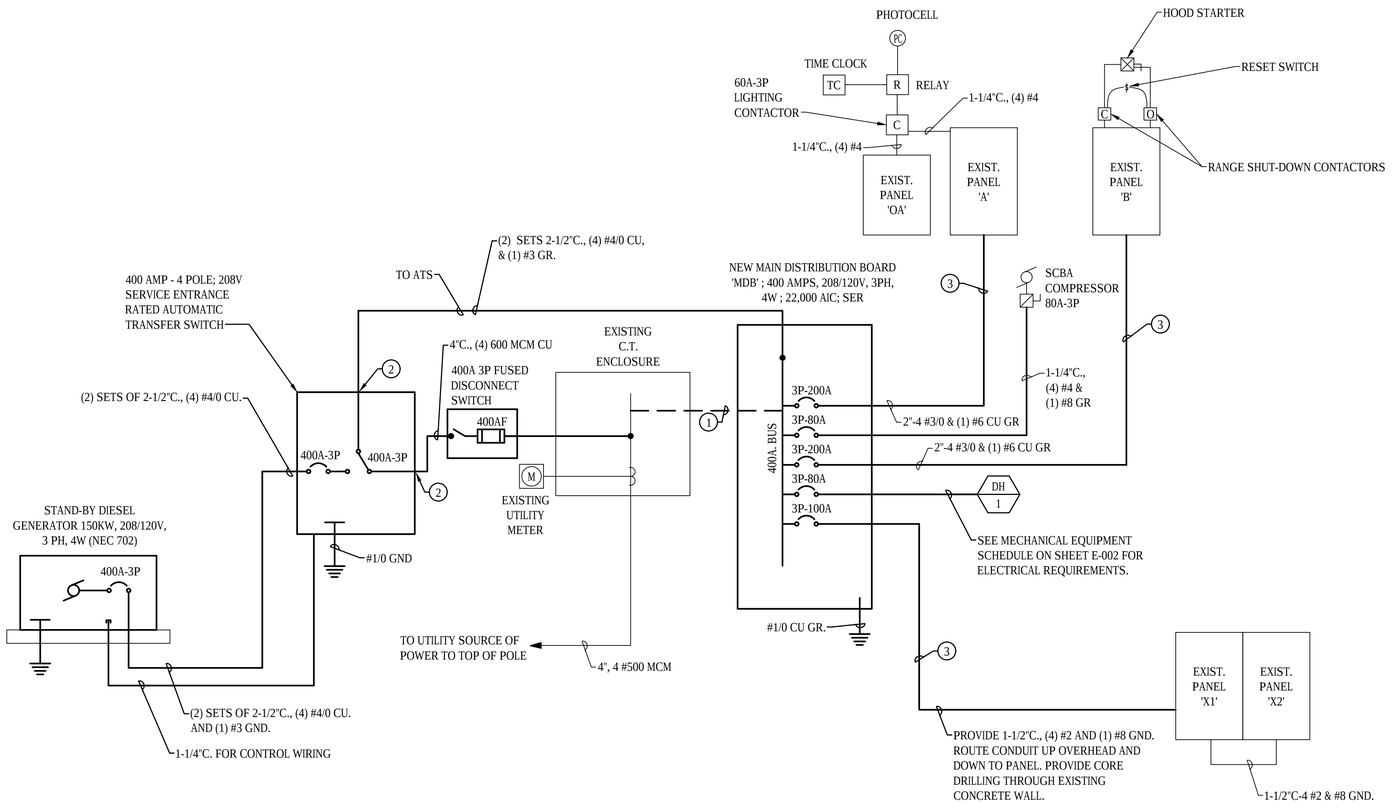
SHEET #

E-501



2 ELECTRICAL ROOM ELEVATION WEST WALL

SCALE: NOT TO SCALE



1 NEW ELECTRICAL ONE-LINE DIAGRAM

SCALE: DIAGRAMMATIC

CONSTRUCTION NOTES

1. INTERCEPT AND DISCONNECT EXISTING 4"C., (4) 600MCM CU BETWEEN CT CAN AND MAIN DISTRIBUTION BOARD.
2. CORE DRILL THROUGH WALL FOR INSTALLATION OF CONDUITS. SEAL AROUND ALL CONDUIT PENETRATIONS.
3. PROVIDE NEW CONDUIT / FEEDER TO EXISTING PANEL.

S. King Fire & Rescue - Station 64
UTILITY 12 MONTH PEAK DEMAND CALCULATION WORKSHEET

NEC 220.87 AND WAC 296-46B-900(3)(j)

12 Month Peak Demand (Month & Year) : February 2017
Phase to Phase Voltage (Volts) : 208
Phases (1=Single Phase, 3=Three Phase) : 3

Utility Peak Demand	=	32	KW
Power Factor	/	0.90	(P.F.)
Apparent Peak Demand	=	35.56	KVA
NEC 220.87(2) adjustment factor	X	1.25	
Adjusted Peak Demand	=	44.44	KVA
Seasonal adjustment factor	X	1.00	
Seasonal adjustment peak demand	=	44.44	KVA
Occupancy adjustment factor	X	1.00	
Occupancy adjustment peak demand	=	44.44	KVA
Other adjustement factor(s)	X	1.00	
Utility Peak Demand with Adjustments	=	44.44	KVA
New Calculated Demand Load Added	+	39.04	KVA

Metered Demand Based
CALCULATED DEMAND LOAD : 83.48 **KVA**

CALCULATED DEMAND CURRENT : 232 **AMPS**

Switchboard Size: 400 Amps

	Existing Demand Load (kVA)	Revised Demand Load (kVA)
Panel A	31.36	34
Panel B	54	49.4
Panel X1	35.5	35.5
SCBA fill Station		23
Duct Heater		18
	120.86	159.9
Total Added Load		39.04

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NEW ELECTRICAL
ONE-LINE DIAGRAM

SHEET #
E-502

PANEL: MDB (Existing) | **3 PH** | **4 WIRE** | **VOLTAGE: 208Y/120V** | **400A MLO**
LOC: | **MOUNT: SURFACE** | **FEED: BOTTOM**
TYPE: NEMA 1; SER | **POLES: 12** | **SF MAINS:** | **22,000AIC MINIMUM**

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
SF	10412		1	3		28761			3		2		18349	SF
SF	8931	PANEL A	3				24926				4	PANEL B	15995	SF
SF	8519		5		200			26436		200	6		17917	SF
SF	11436		7	3		16436			3		8		5000	MO
SF	10528	PANEL X1/X2	9				15528				10	SCBA FILL STATION	5000	MO
SF	12213		11		100			17213		80	12		5000	MO
	62039	TOTAL			THIS PANEL->	45197	40454	43649				TOTAL	67261	
						45197	40454	43649						

LIGHTING(125%) = 25853.75
RECEPTS<=10000(100%) = 10000.00
RECEPTS>10000(50%) = 2470.00
RECEPTS TOTAL = 12470.00
ELECTRIC HEAT(100%) = 400.00
LARGEST MOTOR(125%) = 7867.50
OTHER MOTORS(100%) = 41867.00
MOTOR TOTAL = 49734.50
WATER HEATERS(100%) = 0.00
KITCHEN LOADS(65%) = 0.00
APPLIANCES(100%) = 25700.00
DEDICATED(100%) = 19576.00
MISC(100%) = 0.00

TOTAL CONNECTED LOAD (VA): 129,300.00
TOTAL CONNECTED CURRENT (A): 358.90
***TOTAL DEMAND LOAD (VA): 133,534.25**
***TOTAL DEMAND CURRENT (A) 370.65**

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

*** SEE UTILITY DEMAND CALCULATION FOR EXISTING DEMAND LOAD**

PANEL: MDB (NEW) | **3 PH** | **4 WIRE** | **VOLTAGE: 208Y/120V** | **400A MLO**
LOC: ELECTRICAL ROOM | **MOUNT: SURFACE** | **FEED: BOTTOM**
TYPE: NEMA 1; SER | **POLES: 18** | **SF MAINS:** | **22,000AIC MINIMUM**

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
SF	11795		1	3		29793			3		2		17998	SF
SF	10984	PANEL A	3				27296				4	PANEL B	16312	SF
SF	8397		5		200			23176		200	6		14779	SF
SF	12356		7	3		17356			3		8		5000	MO
SF	10448	PANEL X1/X2	9				15448				10	SCBA FILL STATION	5000	MO
SF	11843		11		100			16843		80	12		5000	MO
			13	3		4000			3		14		4000	H
		SPACE	15				4000				16	DH-1	4000	H
			17					4000		80	18		4000	H
	65823	TOTAL			THIS PANEL->	51149	46744	44019				TOTAL	76089	
						51149	46744	44019						

LIGHTING(125%) = 22278.75
RECEPTS<=10000(100%) = 10000.00
RECEPTS>10000(50%) = 2850.00
RECEPTS TOTAL = 12850.00
ELECTRIC HEAT(100%) = 17400.00
LARGEST MOTOR(125%) = 0.00
OTHER MOTORS(100%) = 50193.00
MOTOR TOTAL = 50193.00
WATER HEATERS(100%) = 0.00
KITCHEN LOADS(65%) = 0.00
APPLIANCES(100%) = 23984.00
DEDICATED(100%) = 17212.00
MISC(100%) = 0.00

TOTAL CONNECTED LOAD (VA): 141,912.00
TOTAL CONNECTED CURRENT (A): 393.91
***TOTAL DEMAND LOAD (VA): 143,717.75**
***TOTAL DEMAND CURRENT (A) 398.92**

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

*** SEE UTILITY DEMAND CALCULATION FOR NEW DEMAND LOAD**

PANEL: A (Existing) | **3 PH** | **4 WIRE** | **VOLTAGE: 208Y/120V** | **200A MLO**
LOC: | **MOUNT: SURFACE** | **FEED: BOTTOM**
TYPE: NEMA 1 | **POLES: 42** | **SF MAINS:** | **22,000AIC MINIMUM**

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
L	475	APP BAY LIGHTS	1	1	20	655			1	20	2	RECEPT - OUTDOOR	180	R
L	475	APP BAY LIGHTS	3	1	20		975		1	20	4	IRRIGATION CONTROLLER	500	D
L	612	LTS - 104 MEDIC HALL	5	1	20			1152	1	20	6	RECEPT - LOBBY	540	R
L	510	LTS - 110 BUNKER ROOM	7	1	20	1230			1	20	8	RECEPT - DORM MED 8	720	R
L	408	LTS - 102 - OFFICE/BEDROOM	9	1	20		948		1	20	10	RECEPT - DORM MED 8	540	R
L	143	LTS - 106	11	1	20			323	1	20	12	RECEPT - TOILET ROOMS	180	R
L	143	LTS - 105	13	1	20	323			1	20	14	RECEPT - TOILET ROOMS	180	R
L	143	LTS - 109	15	1	20		503		1	20	16	RECEPT - TOILET ROOMS	360	R
L	918	LTS - 113	17	1	20			918	1	20	18	SPARE		
L	1224	2ND FLR LIGHTS	19	1	20	1224			1	20	20	SPARE		
D	500	MONUMENT POWER	21	1	20		500		1	20	22	SPARE		
L	680	2ND FLR LIGHTS	23	1	20			860	1	20	24	RECEPT - OUTDOOR	180	R
		SPARE	25	1	20	360			1	20	26	RECEPT - APP BAY	360	R
D	200	TIMER MOTOR, EXTERIOR LTS	27	1	20		560		1	20	28	RECEPT - FITNESS	360	R
MO	696	BOOSTER FAN	29	1	20			1056	1	20	30	RECEPT - FITNESS	360	R
A	2500	DRYER	31	2		4500			2		32	RECEPT	2000	D
A	2500		33		30		2500			30	34			
A	1000	WASHER	35	1	20			1000	1	20	36	SPARE		
SF	1820		37	3		2120			1	20	38	LTS - FLAG POLE	300	L
SF	1505	PANEL OA	39				2945		1	20	40	LTS - REAR FLOOD	1440	L
SF	1770		41		60			3210	1	20	42	LTS - FRONT FLOOD	1440	L
	18222	TOTAL			THIS PANEL->	10412	8931	8519				TOTAL	9640	
						10412	8931	8519						

LIGHTING(125%) = 17507.50
RECEPTS<=10000(100%) = 3960.00
RECEPTS>10000(50%) = 0.00
RECEPTS TOTAL = 3960.00
ELECTRIC HEAT(100%) = 0.00
LARGEST MOTOR(125%) = 0.00
OTHER MOTORS(100%) = 696.00
MOTOR TOTAL = 696.00
WATER HEATERS(100%) = 0.00
KITCHEN LOADS(65%) = 0.00
APPLIANCES(100%) = 6000.00
DEDICATED(100%) = 3200.00
MISC(100%) = 0.00

TOTAL CONNECTED LOAD (VA): 27,862.00
TOTAL CONNECTED CURRENT (A): 77.34
TOTAL DEMAND LOAD (VA): 31,363.50
TOTAL DEMAND CURRENT (A) 87.06

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

PANEL: A (Existing) REVISED | **3 PH** | **4 WIRE** | **VOLTAGE: 208Y/120V** | **200A MLO**
LOC: | **MOUNT: SURFACE** | **FEED: BOTTOM**
TYPE: NEMA 1 | **POLES: 42** | **SF MAINS:** | **22,000AIC MINIMUM**

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
L	475	APP BAY LIGHTS	1	1	20	655			1	20	2	RECEPT - OUTDOOR	180	R
L	475	APP BAY LIGHTS	3	1	20		975		1	20	4	IRRIGATION CONTROLLER	500	D
L	**456**	***LTS - 104 MEDIC HALL**	5	1	20			996	1	20	6	RECEPT - LOBBY	540	R
L	510	LTS - 110 BUNKER ROOM	7	1	20	1230			1	20	8	RECEPT - DORM MED 8	720	R
L	**68**	***LTS - 102 - OFFICE/BEDROOM**	9	1	20		608		1	20	10	RECEPT - DORM MED 8	540	R
L	143	LTS - 106	11	1	20			323	1	20	12	RECEPT - TOILET ROOMS	180	R
L	143	LTS - 105	13	1	20	323			1	20	14	RECEPT - TOILET ROOMS	180	R
L	143	LTS - 109	15	1	20		503		1	20	16	RECEPT - TOILET ROOMS	360	R
L	**254**	***LTS - 113**	17	1	20			1082	**3**		18		**828**	MO
L	1224	2ND FLR LIGHTS	19	1	20	2052					20	**EF-5 (NOTE 1)**	**828**	MO
D	500	MONUMENT POWER	21	1	20		1328			**20**	22		**828**	MO
L	680	2ND FLR LIGHTS	23	1	20			860	1	20	24	RECEPT - OUTDOOR	180	R
		SPARE	25	1	20	360			1	20	26	RECEPT - APP BAY	360	R
D	200	TIMER MOTOR, EXTERIOR LTS	27	1	20		1200		**2**		28	**EIH-1 (NOTE 1)**	**1000**	H
MO	696	BOOSTER FAN	29	1	20			1696		**20**	30		**1000**	H
A	2500	DRYER	31	2		5625			**2**		32	**RCP - 1, 2 & 3 (NOTE 1)**	**3125**	D
A	2500		33		30		3625			**20**	34		1125	H
A	1000	WASHER	35	1	20			1000	1	20	36	SPARE		
SF	1250		37	3		1550			1	20	38	LTS - FLAG POLE	300	L
SF	1305	PANEL OA	39				2745		1	20	40	LTS - REAR FLOOD	1440	L
SF	1000		41		60			2440	1	20	42	LTS - FRONT FLOOD	1440	L
	15522	TOTAL			THIS PANEL->	11795	10984	8397				TOTAL	15654	
						11795	10984	8397						

LIGHTING(125%) = 14132.50
RECEPTS<=10000(100%) = 3240.00
RECEPTS>10000(50%) = 0.00
RECEPTS TOTAL = 3240.00
ELECTRIC HEAT(100%) = 0.00
LARGEST MOTOR(125%) = 0.00
OTHER MOTORS(100%) = 3180.00
MOTOR TOTAL = 3180.00
WATER HEATERS(100%) = 0.00
KITCHEN LOADS(65%) = 0.00
APPLIANCES(100%) = 6000.00
DEDICATED(100%) = 3200.00
MISC(100%) = 0.00

TOTAL CONNECTED LOAD (VA): 31,176.00
TOTAL CONNECTED CURRENT (A): 86.54
TOTAL DEMAND LOAD (VA): 34,002.50
TOTAL DEMAND CURRENT (A) 94.38

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

1. PROVIDE NEW CIRCUIT BREAKER; SIZE AS INDICATED. * = REVISED LOAD

PANEL: OA (Existing) | **3 PH** | **4 WIRE** | **VOLTAGE: 208Y/120V** | **60A MLO**
LOC: | **MOUNT: SURFACE** | **FEED: BOTTOM**
TYPE: NEMA 1 | **POLES: 24** | **SF MAINS:** | **22,000AIC MINIMUM**

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
L	700	EXT. LIGHTS - APRON	1	1	20	1100			1	20	2	EXT. LIGHTS WEST, NORTH	400	L
L	525	EXT. LIGHTS - APRON	3	1	20		1205		1	20	4	EXT. LIGHTS - EAST, SOUTH	680	L
		SPARE	5	1	20			750	1	20	6	EXT. LIGHTS - DECK	750	L
		SPACE	7						1	20	8	SPARE		
		SPACE	9						1	20	10	SPARE		
		SPACE	11					720	2		12	PARKING LOT LIGHTS	720	L
		SPACE	13			720				20	14		720	L
		SPACE	15				300		2		16	PARKING LOT LIGHTS	300	L
		SPACE	17					300		20	18		300	L
		SPACE	19								20	SPACE		
		SPACE	21								22	SPACE		
		SPACE	23								24	SPACE		
	1225	TOTAL			THIS PANEL->	1820	1505	1770				TOTAL	3870	
						1820	1505	1770						

LIGHTING(125%) = 6368.75
RECEPTS<=10000(100%) = 0.00
RECEPTS>10000(50%) = 0.00
RECEPTS TOTAL = 0.00
ELECTRIC HEAT(100%) = 0.00
LARGEST MOTOR(125%) = 0.00
OTHER MOTORS(100%) = 0.00
MOTOR TOTAL = 0.00
WATER HEATERS(100%) = 0.00
KITCHEN LOADS(65%) = 0.00
APPLIANCES(100%) = 0.00
DEDICATED(100%) = 0.00
MISC(100%) = 0.00

TOTAL CONNECTED LOAD (VA): 5,095.00
TOTAL CONNECTED CURRENT (A): 14.14
TOTAL DEMAND LOAD (VA): 6,368.75
TOTAL DEMAND CURRENT (A) 17.68

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

PANEL: OA (Existing) REVISED | **3 PH** | **4 WIRE** | **VOLTAGE: 208Y/120V** | **60A MLO**
LOC: CONTACTOR CONTROLLED | **MOUNT: SURFACE** | **FEED: BOTTOM**
TYPE: NEMA 1 | **POLES: 24** | **SF MAINS:** | **22,000AIC MINIMUM**

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
L	700	EXT. LIGHTS - APRON	1	1	20	1100			1	20	2	EXT. LIGHTS WEST, NORTH	400	L
L	525	EXT. LIGHTS - APRON	3	1	20		1205		1	20	4	EXT. LIGHTS - EAST, SOUTH	680	L
		SPARE	5	1	20			750	1	20	6	EXT. LIGHTS - DECK	750	L
		SPACE	7						1	20	8	SPARE		
		SPACE	9						1	20	10	SPARE		
		SPACE	11					150	2		12	***PARKING LOT LIGHTS**	**150**	L
		SPACE	13			150				20	14		**150**	L
		SPACE	15				100		2		16	***PARKING LOT LIGHTS**	**100**	L
		SPACE	17					100		20	18		**100**	L
		SPACE	19								20	SPACE		
		SPACE	21								22	SPACE		
		SPACE	23								24	SPACE		
	1225	TOTAL			THIS PANEL->	1250	1305	1000				TOTAL	2330	
						1250	1305	1000						

LIGHTING(125%) = 4443.75
RECEPTS<=10000(100%) = 0.00
RECEPTS>10000(50%) = 0.00
RECEPTS TOTAL = 0.00
ELECTRIC HEAT(100%) = 0.00
LARGEST MOTOR(125%) = 0.00
OTHER MOTORS(100%) = 0.00
MOTOR TOTAL = 0.00
WATER HEATERS(100%) = 0.00
KITCHEN LOADS(65%) = 0.00
APPLIANCES(100%) = 0.00
DEDICATED(100%) = 0.00
MISC(100%) = 0.00

TOTAL CONNECTED LOAD (VA): 3,555.00
TOTAL CONNECTED CURRENT (A): 9.87
TOTAL DEMAND LOAD (VA): 4,443.75
TOTAL DEMAND CURRENT (A) 12.33

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

1. PROVIDE NEW CIRCUIT BREAKER; SIZE AS INDICATED. * = REVISED LOAD

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SOUTH KING FIRE & RESCUE
FACILITY IMPROVEMENTS
STATION 64
3700 S 320TH ST
FEDERAL WAY, WA 98001

PROJECT # 2015137
BID
ISSUE DATE FEBRUARY 27, 2018

REVISION SCHEDULE		

ELECTRICAL PANEL SCHEDULES

SHEET #
E-601

PANEL: B (Existing) | 3 PH | 4 WIRE | VOLTAGE: 208Y/120V | 200A MLO
LOC: | MOUNT: SURFACE | FEED: BOTTOM
TYPE: NEMA 1 | POLES: 42 | SF MAINS: | 22,000AIC MINIMUM

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
MO	935		1	3		2370			2		2	AC - 1ST FLOOR MEDIC	1435	MO
MO	935	EXHAUST SYSTEM	3				2370			30	4		1435	MO
MO	935		5		40			4935	2		6	RANGE - S. COOK TOP	4000	A
		SPACE	7			4000				50	8		4000	A
		SPACE	9				360		1	20	10	RECEPT - ROOF	360	R
A	1500	UPPER OVEN	11	2				1860	1	20	12	RECEPT - ROOF	360	R
A	1500		13		30	3663			2		14	HP-1	2163	MO
A	1500	LOWER OVEN	15	2			3663			40	16		2163	MO
A	1500		17		30			2332	2		18	UNI-MAC	832	D
ML	2098		19	3		2930				20	20		832	D
ML	2098	AIR COMPRESSOR	21				4532		2		22	HP-2	2434	MO
ML	2098		23		30			4532		50	24		2434	MO
A	1200	DISHWASHER	25	1	20	3298			3		26		2098	MO
R	540	RECEPT - KITCHEN	27	1	20		2638				28	COMPRESSOR	2098	MO
R	540	RECEPT - KITCHEN	29	1	20			2638		30	30		2098	MO
A	1200	HWT DISPENSER	31	1	20	1548			1	20	32	KITCHEN LIGHTS	348	L
R	720	RECEPT - 2ND FLOOR	33	1	20		1892		1	20	34	RECEPT, LTS - OFFICE	1172	R
R	720	RECEPT - 2ND FLOOR	35	1	20			1220	1	20	36	SOAP DISPENSER	500	D
R	540	RECEPT - OFFICE COMP	37	1	20	540			1	20	38	SPARE		
R	540	RECEPT - OFFICE COMP	39	1	20		540		1	20	40	SPARE		
		SPARE	41	1	20			400	1	30	42	MEDIC CAR RECEPT	400	D
	21099	TOTAL			THIS PANEL->	18349	15995	17917				TOTAL	31162	
						18349	15995	17917						

LIGHTING(125%) = 1450.00 | LARGEST MOTOR(125%) = 7867.50 | KITCHEN LOADS(65%) = 0.00
RECEPTS<=10000(100%) = 4680.00 | OTHER MOTORS(100%) = 21163.00 | APPLIANCES(100%) = 16400.00
RECEPTS>10000(50%) = 0.00 | MOTOR TOTAL = 29030.50 | DEDICATED(100%) = 2564.00
RECEPTS TOTAL = 4680.00 | WATER HEATERS(100%) = 0.00 | MISC(100%) = 0.00
ELECTRIC HEAT(100%) = 0.00

TOTAL CONNECTED LOAD (VA): 52,261.00
TOTAL CONNECTED CURRENT (A): 145.06
TOTAL DEMAND LOAD (VA): 54,124.50
TOTAL DEMAND CURRENT (A) 150.23

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

PANEL: B (Existing) REVISED | 3 PH | 4 WIRE | VOLTAGE: 208Y/120V | 200A MLO
LOC: | MOUNT: SURFACE | FEED: BOTTOM
TYPE: NEMA 1 | POLES: 42 | SF MAINS: | 22,000AIC MINIMUM

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
MO	935		1	3		2370			2		2	AC - 1ST FLOOR MEDIC	1435	MO
MO	935	EXHAUST SYSTEM	3				2370			30	4		1435	MO
MO	935		5		20			1435	**1**	**20**	6	**EF-4 (NOTE 1)**	**500**	MO
MO	**1676**	**KEF/HOOD (NOTE 1)**	7	**1**	**20**	3332			**1**	**20**	8	**SF-1 (NOTE 1)**	**1656**	MO
		SPACE	9				360		1	20	10	RECEPT - ROOF	360	R
R	**540**	**RECEPT - KITCHEN (NOTE 1)**	11	**1**	**20**			900	1	20	12	RECEPT - ROOF	360	R
R	**540**	**RECEPT - KITCHEN (NOTE 1)**	13	**1**	**20**	2703			2		14	HP-1	2163	MO
R	**540**	**RECEPT - KITCHEN (NOTE 1)**	15	**1**	**20**		2703			40	16		2163	MO
A	**1920**	**KS-1 DISPOSER (NOTES 1 & 2)**	17	**1**	**20G**			2752	2		18	UNI-MAC	832	A
MO	2098		19	3		2930				20	20		832	A
MO	2098	AIR COMPRESSOR	21				4532		2		22	HP-2	2434	MO
MO	2098		23		30			4532		50	24		2434	MO
A	**1200**	**DISHWASHER (NOTES 1 & 2)**	25	**1**	**20G**	4200			**3**		26		**3000**	A
R	540	RECEPT - KITCHEN	27	1	20		3540				28	**DRYER (NOTE 1)**	**3000**	A
R	540	RECEPT - KITCHEN	29	1	20			3540		**40**	30		**3000**	A
A	**1200**	**HWT DISPENSER (NOTES 1 & 2)**	31	**1**	**20G**	1548			1	20	32	KITCHEN LIGHTS	348	L
R	720	RECEPT - 2ND FLOOR	33	1	20		1892		1	20	34	RECEPT, LTS - OFFICE	1172	R
R	720	RECEPT - 2ND FLOOR	35	1	20			1220	1	20	36	SOAP DISPENSOR	500	D
R	540	RECEPT - OFFICE COMP	37	1	20	915			**2**		38	**EWH-1 (NOTE 1)**	**375**	H
R	540	RECEPT - OFFICE COMP	39	1	20		915			**20**	40		**375**	H
		SPARE	41	1	20			400	1	30	42	MEDIC CAR RECEPT	400	D
	20315	TOTAL			THIS PANEL->	17998	16312	14779				TOTAL	28774	
						17998	16312	14779						

LIGHTING(125%) = 1450.00 | LARGEST MOTOR(125%) = 0.00 | KITCHEN LOADS(65%) = 0.00
RECEPTS<=10000(100%) = 6300.00 | OTHER MOTORS(100%) = 24995.00 | APPLIANCES(100%) = 14984.00
RECEPTS>10000(50%) = 0.00 | MOTOR TOTAL = 24995.00 | DEDICATED(100%) = 900.00
RECEPTS TOTAL = 6300.00 | WATER HEATERS(100%) = 0.00 | MISC(100%) = 0.00
ELECTRIC HEAT(100%) = 750.00

TOTAL CONNECTED LOAD (VA): 49,089.00
TOTAL CONNECTED CURRENT (A): 136.26
TOTAL DEMAND LOAD (VA): 49,379.00
TOTAL DEMAND CURRENT (A) 137.06

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED
1. PROVIDE NEW CIRCUIT BREAKER; SIZE AS INDICATED. 2. PROVIDE GFCI TYPE BREAKER.

PANEL: X1 (Existing) | 3 PH | 4 WIRE | VOLTAGE: 208Y/120V | 100A MCB
LOC: | MOUNT: SURFACE | FEED: BOTTOM
TYPE: NEMA 1; FEED-THRU LUGS | POLES: 42 | SF MAINS: YES | 22,000AIC MINIMUM

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
D	1176	DOOR OPENER	1	1	20	1176						SPACE - NO USE		
R	360	DROP CORD - WEST	3	1	20		360					SPACE - NO USE		
D	1176	DOOR OPENER	5	1	20			1176				SPACE - NO USE		
R	360	DROP CORD	7	1	20	560			1	20	2	RANGE HOOD	200	D
D	1176	DOOR OPENER	9	1	20		2376		1	20	4	RECEPT - MICROWAVE	1200	A
R	360	DROP CORD	11	1	20			1560	1	20	6	RECEPT - MICROWAVE	1200	A
D	1176	DOOR OPENER	13	1	20	1626			1	20	8	RECEPT - REFRIG	450	A
R	360	DROP CORD	15	1	20		810		1	20	10	RECEPT - REFRIG	450	A
D	1176	DOOR OPENER	17	1	20			1896	1	20	12	RECEPT - 2ND FLOOR MEETING	720	R
R	180	CORD REEL	19	1	20	720			1	20	14	RECEPT - KITCHEN	540	R
D	1176	DOOR OPENER	21	1	20		1716		1	20	16	RECEPT - BEANERY	540	R
R	180	CORD REEL	23	1	20			540	1	20	18	RECEPT - TV	360	R
D	1176	DOOR OPENER	25	1	20	1376			1	20	20	LATCHING RELAY	200	D
R	180	CORD REEL	27	1	20		380		1	20	22	LATCHING RELAY	200	D
D	200	STATION BELL	29	1	20			740	1	20	24	1ST FLOOR FITNESS	540	R
		SPARE	31	1	20	360			1	20	26	RECEPT - DORM	360	R
		SPARE	33	1	20		540		1	20	28	RECEPT - CHIEF	540	R
		SPARE	35	1	20			360	1	20	30	RECEPT - GENERATOR ROOM	360	R
R	360	RECEPT -DORM	37	1	20	1560			1	20	32	GENERATOR - HEATER	1200	D
D	500	FACP	39	1	20		1000		1	20	34	GENERATOR - BATTERY	500	D
D	1000	TREAD MILL	41	1	20			1000	1	20	36			
X	3698		SF1			4058			3		SF2		360	X
X	2986	PANEL X2	SF1				3346				SF2	PANEL XA	360	X
X	4581		SF1					4941		35	SF2		360	X
	23537	TOTAL			THIS PANEL->	11436	10528	12213				TOTAL	10640	
						11436	10528	12213						

LIGHTING(125%) = 6696.25 | LARGEST MOTOR(125%) = 0.00 | KITCHEN LOADS(65%) = 0.00
RECEPTS<=10000(100%) = 6300.00 | OTHER MOTORS(100%) = 5008.00 | APPLIANCES(100%) = 3300.00
RECEPTS>10000(50%) = 0.00 | MOTOR TOTAL = 5008.00 | DEDICATED(100%) = 13812.00
RECEPTS TOTAL = 6300.00 | WATER HEATERS(100%) = 0.00 | MISC(100%) = 0.00
ELECTRIC HEAT(100%) = 499.06

TOTAL CONNECTED LOAD (VA): 34,177.00
TOTAL CONNECTED CURRENT (A): 94.87
TOTAL DEMAND LOAD (VA): 35,516.25
TOTAL DEMAND CURRENT (A) 98.58

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

PANEL: X1 (Existing) REVISED | 3 PH | 4 WIRE | VOLTAGE: 208Y/120V | 100A MCB
LOC: | MOUNT: SURFACE | FEED: BOTTOM
TYPE: NEMA 1; FEED-THRU LUGS | POLES: 42 | SF MAINS: YES | 22,000AIC MINIMUM

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
D	1176	DOOR OPENER	1	1	20	1176						SPACE - NO USE		
R	360	DROP CORD - WEST	3	1	20		360					SPACE - NO USE		
D	1176	DOOR OPENER	5	1	20			1176				SPACE - NO USE		
R	360	DROP CORD	7	1	20	810			1	20	2	***RECEPT - REFRIG**	**450**	A
D	1176	DOOR OPENER	9	1	20		1626		1	20	4	***RECEPT - REFRIG**	**450**	A
R	360	DROP CORD	11	1	20			1560	1	20	6	RECEPT - MICROWAVE	1200	A
D	1176	DOOR OPENER	13	1	20	1626			1	20	8	RECEPT - REFRIG	450	A
R	360	DROP CORD	15	1	20		810		1	20	10	RECEPT - REFRIG	450	A
D	1176	DOOR OPENER	17	1	20			1896	1	20	12	RECEPT - 2ND FLOOR MEETING	720	R
R	180	CORD REEL	19	1	20	720			1	20	14	RECEPT - KITCHEN	540	R
D	1176	DOOR OPENER	21	1	20		1716		1	20	16	RECEPT - BEANERY	540	R
R	180	CORD REEL	23	1	20			540	1	20	18	RECEPT - TV	360	R
D	1176	DOOR OPENER	25	1	20	1376			1	20	20	LATCHING RELAY	200	D
R	180	CORD REEL	27	1	20		380		1	20	22	LATCHING RELAY	200	D
D	200	STATION BELL	29	1	20			200	1	20	24	***SPARE**		
		SPARE	31	1	20	360			1	20	26	RECEPT - DORM	360	R
		SPARE	33	1	20		540		1	20	28	RECEPT - CHIEF	540	R
		SPARE	35	1	20			360	1	20	30	RECEPT - GENERATOR ROOM	360	R
R	360	RECEPT -DORM	37	1	20	1560			1	20	32	GENERATOR - HEATER	1200	D
D	500	FACP	39	1	20		1000		1	20	34	GENERATOR - BATTERY	500	D
D	**500**	***ACCESS CONTROL PANEL**	41	1	20			500	1	20	36			
X	4368		SF1			4728			3		SF2		360	X
X	3656	PANEL X2	SF1				4016				SF2	PANEL XA	360	X
X	5251		SF1					5611		35	SF2		360	X
	25047	TOTAL			THIS PANEL->	12356	10448	11843				TOTAL	9600	
						12356	10448	11843						

LIGHTING(125%) = 6696.25 | LARGEST MOTOR(125%) = 0.00 | KITCHEN LOADS(65%) = 0.00
RECEPTS<=10000(100%) = 5760.00 | OTHER MOTORS(100%) = 7018.00 | APPLIANCES(100%) = 3000.00
RECEPTS>10000(50%) = 0.00 | MOTOR TOTAL = 7018.00 | DEDICATED(100%) = 13112.00
RECEPTS TOTAL = 5760.00 | WATER HEATERS(100%) = 0.00 | MISC(100%) = 0.00
ELECTRIC HEAT(100%) = 499.06

TOTAL CONNECTED LOAD (VA): 34,647.00
TOTAL CONNECTED CURRENT (A): 96.17
TOTAL DEMAND LOAD (VA): 35,986.25
TOTAL DEMAND CURRENT (A) 99.89

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED
1. PROVIDE NEW CIRCUIT BREAKER; SIZE AS INDICATED. * = REVISED LOAD

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SOUTH KING FIRE & RESCUE
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FEDERAL WAY, WA 98001

PROJECT # 2015137
BID
ISSUE DATE FEBRUARY 27, 2018

REVISION SCHEDULE		

ELECTRICAL PANEL SCHEDULES

SHEET #
E-602

PANEL: X2 (Existing) | 3 PH | 4 WIRE | VOLTAGE: 208Y/120V | 100A MLO
LOC: | MOUNT: SURFACE | FEED: BOTTOM
TYPE: NEMA 1; FEED-THRU LUGS | POLES: 30 | SF MAINS: NO | 22,000AIC MINIMUM

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
L	475	APP BAY LIGHTS	1	1	20	475			1	20	2			
L	475	APP BAY LIGHTS	3	1	20		475		1	20	4			
L	612	INTERIOR LIGHTS	5	1	20			1632	1	20	6	INTERIOR LIGHTS	1020	L
L	1020	INTERIOR LIGHTS	7	1	20	1020			1	20	8			
L	408	INTERIOR LIGHTS	9	1	20		408		1	20	10			
MO	839	RESTROOM FAN/ LIGHTS	11	1	20			839	1	20	12			
MO	839	RESTROOM FAN/ LIGHTS	13	1	20	1339			1	20	14	HWT	500	D
MO	839	RESTROOM FAN/ LIGHTS	15	1	20		1239		1	20	16	UH-1	400	H
L	918	INTERIOR LIGHTS	17	1	20			1246	1	20	18	PF-1	328	MO
			19			864			1	20	20	HP-1	864	MO
			21				864		1	20	22	HV-1	864	MO
			23					864	1	20	24	HP-2	864	MO
			25								26			
			27								28			
			29								30			
	6425	TOTAL			THIS PANEL->	3698	2986	4581					TOTAL 4840	
						3698	2986	4581						

LIGHTING(125%) = 8696.25 | LARGEST MOTOR(125%) = 0.00 | KITCHEN LOADS(65%) = 0.00 | **TOTAL CONNECTED LOAD (VA): 11,265.00**
RECEPTS<=10000(100%) = 0.00 | OTHER MOTORS(100%) = 5008.00 | APPLIANCES(100%) = 0.00 | **TOTAL CONNECTED CURRENT (A): 31.27**
RECEPTS>10000(50%) = 0.00 | MOTOR TOTAL = 5008.00 | DEDICATED(100%) = 500.00 | **TOTAL DEMAND LOAD (VA): 12,604.25**
RECEPTS TOTAL = 0.00 | WATER HEATERS(100%) = 0.00 | MISC(100%) = 0.00 | **TOTAL DEMAND CURRENT (A) 34.99**
ELECTRIC HEAT(100%) = 400.00

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

PANEL: X2 (Existing) REVISED | 3 PH | 4 WIRE | VOLTAGE: 208Y/120V | 100A MLO
LOC: | MOUNT: SURFACE | FEED: BOTTOM
TYPE: NEMA 1; FEED-THRU LUGS | POLES: 30 | SF MAINS: NO | 22,000AIC MINIMUM

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
L	475	APP BAY LIGHTS	1	1	20	475			1	20	2			
L	475	APP BAY LIGHTS	3	1	20		475		1	20	4			
L	612	INTERIOR LIGHTS	5	1	20			1632	1	20	6	INTERIOR LIGHTS	1020	L
L	1020	INTERIOR LIGHTS	7	1	20	1020			1	20	8			
L	408	INTERIOR LIGHTS	9	1	20		408		1	20	10			
MO	839	RESTROOM FAN/ LIGHTS	11	1	20			839	1	20	12			
MO	839	RESTROOM FAN/ LIGHTS	13	1	20	1339			1	20	14	HWT	500	D
MO	839	RESTROOM FAN/ LIGHTS	15	1	20		1239		1	20	16	UH-1	400	H
L	918	INTERIOR LIGHTS	17	1	20			1246	1	20	18	PF-1	328	MO
MO	**670**	**EF-1 (NOTE 1)**	19	**1**	**20**	1534			1	20	20	HP-1	864	MO
MO	**670**	**EF-2 (NOTE 1)**	21	**1**	**20**		1534		1	20	22	HV-1	864	MO
MO	**670**	**EF-3 (NOTE 1)**	23	**1**	**20**			1534	1	20	24	HP-2	864	MO
			25								26			
			27								28			
			29								30			
	8435	TOTAL			THIS PANEL->	4368	3656	5251					TOTAL 4840	

LIGHTING(125%) = 8696.25 | LARGEST MOTOR(125%) = 0.00 | KITCHEN LOADS(65%) = 0.00 | **TOTAL CONNECTED LOAD (VA): 13,275.00**
RECEPTS<=10000(100%) = 0.00 | OTHER MOTORS(100%) = 7018.00 | APPLIANCES(100%) = 0.00 | **TOTAL CONNECTED CURRENT (A): 36.85**
RECEPTS>10000(50%) = 0.00 | MOTOR TOTAL = 7018.00 | DEDICATED(100%) = 500.00 | **TOTAL DEMAND LOAD (VA): 14,614.25**
RECEPTS TOTAL = 0.00 | WATER HEATERS(100%) = 0.00 | MISC(100%) = 0.00 | **TOTAL DEMAND CURRENT (A) 40.57**
ELECTRIC HEAT(100%) = 400.00

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

1. PROVIDE NEW CIRCUIT BREAKER; SIZE AS INDICATED.

PANEL: XA (Existing) | 3 PH | 4 WIRE | VOLTAGE: 208Y/120V | 40A-3P MCB
LOC: FED THRU ISOLATION XFMR | MOUNT: SURFACE | FEED: BOTTOM
TYPE: NEMA 1; FEED-THRU LUGS | POLES: 24 | SF MAINS: NO | 22,000AIC MINIMUM

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
			1	3							2	SPACE		
		MAIN BREAKER	3								4	SPACE		
			5		40						6	SPACE		
		SPACE	7								8	SPACE		
		SPACE	9								10	SPACE		
		SPACE	11								12	SPACE		
		SPACE	13								14	SPACE		
		SPACE	15								16	SPACE		
		SPACE	17								18	SPACE		
		SPARE	19	1	20	360					20	RECEPT - 2ND FLOOR	360	D
		SPARE	21	1	20		360				22	TTB	360	D
		SPARE	23	1	20			360			24	TTB	360	D
		TOTAL			THIS PANEL->	360	360	360					TOTAL 1080	
						360	360	360						

LIGHTING(125%) = 0.00 | LARGEST MOTOR(125%) = 0.00 | KITCHEN LOADS(65%) = 0.00 | **TOTAL CONNECTED LOAD (VA): 1,080.00**
RECEPTS<=10000(100%) = 0.00 | OTHER MOTORS(100%) = 0.00 | APPLIANCES(100%) = 0.00 | **TOTAL CONNECTED CURRENT (A): 3.00**
RECEPTS>10000(50%) = 0.00 | MOTOR TOTAL = 0.00 | DEDICATED(100%) = 1080.00 | **TOTAL DEMAND LOAD (VA): 1,080.00**
RECEPTS TOTAL = 0.00 | WATER HEATERS(100%) = 0.00 | MISC(100%) = 0.00 | **TOTAL DEMAND CURRENT (A) 3.00**
ELECTRIC HEAT(100%) = 0.00

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

PANEL: XA (Existing) REVISED | 3 PH | 4 WIRE | VOLTAGE: 208Y/120V | 40A-3P MCB
LOC: FED THRU ISOLATION XFMR | MOUNT: SURFACE | FEED: BOTTOM
TYPE: NEMA 1; FEED-THRU LUGS | POLES: 24 | SF MAINS: NO | 22,000AIC MINIMUM

LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR P	CIR. BRKR AMP	A	B	C	CIR. BRKR P	CIR. BRKR AMP	CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE
			1	3							2	SPACE		
		MAIN BREAKER	3								4	SPACE		
			5		40						6	SPACE		
		SPACE	7								8	SPACE		
		SPACE	9								10	SPACE		
		SPACE	11								12	SPACE		
		SPACE	13								14	SPACE		
		SPACE	15								16	SPACE		
		SPACE	17								18	SPACE		
		SPARE	19	1	20	360					20	RECEPT - 2ND FLOOR	360	D
		SPARE	21	1	20		360				22	TTB	360	D
		SPARE	23	1	20			360			24	TTB	360	D
		TOTAL			THIS PANEL->	360	360	360					TOTAL 1080	
						360	360	360						

LIGHTING(125%) = 0.00 | LARGEST MOTOR(125%) = 0.00 | KITCHEN LOADS(65%) = 0.00 | **TOTAL CONNECTED LOAD (VA): 1,080.00**
RECEPTS<=10000(100%) = 0.00 | OTHER MOTORS(100%) = 0.00 | APPLIANCES(100%) = 0.00 | **TOTAL CONNECTED CURRENT (A): 3.00**
RECEPTS>10000(50%) = 0.00 | MOTOR TOTAL = 0.00 | DEDICATED(100%) = 1080.00 | **TOTAL DEMAND LOAD (VA): 1,080.00**
RECEPTS TOTAL = 0.00 | WATER HEATERS(100%) = 0.00 | MISC(100%) = 0.00 | **TOTAL DEMAND CURRENT (A) 3.00**
ELECTRIC HEAT(100%) = 0.00

NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED

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PROJECT # 2015137
BID
ISSUE DATE FEBRUARY 27, 2018

REVISION SCHEDULE

ELECTRICAL PANEL SCHEDULES

SHEET #
E-603

FIRE ALARM SYSTEM LEGEND

SYMBOL	DESCRIPTION
P	MANUAL PULL STATION - WALL MOUNT OPERABLE PART BETWEEN 42" AND 48" ABOVE FINISH FLOOR
	SMOKE DETECTOR (CEILING MOUNTED)
	HEAT DETECTOR (CEILING MOUNTED)
TS	SPRINKLER SYSTEM TAMPER SWITCH
FS	SPRINKLER SYSTEM FLOW SWITCH
C/O	CARBON MONOXIDE SENSOR
	SPRINKLER SYSTEM ALARM BELL (24 VOLTS D.C.)
	FIRE ALARM CLEAR (WHITE) STROBE ONLY - WALL MOUNTED WITH THE ENTIRE STROBE LENS NOT LESS THAN 80" OR MORE THAN 96" ABOVE THE FINISHED FLOOR OR NOT MORE THAN 6" BELOW THE CEILING, WHICHEVER IS LOWER
	COMBINATION HORN / STROBE - WALL MOUNTED WITH THE ENTIRE STROBE LENS NOT LESS THAN 80" OR MORE THAN 96" ABOVE THE FINISHED FLOOR OR NOT MORE THAN 6" BELOW THE CEILING, WHICHEVER IS LOWER
	COMBINATION HORN / STROBE - CEILING MOUNTED
AES	AES WIRELESS TRANSCEIVER
M	MONITOR MODULE
R	RELAY MODULE
GMAP	GRAPHIC MAP
PIV	SPRINKLER POST INDICATOR VALVE (OUTSIDE)
BFP	SPRINKLER BACK FLOW PREVENTER

MISCELLANEOUS

SYMBOL	DESCRIPTION
1	CONSTRUCTION NOTES
1	RISER CONSTRUCTION NOTES
	ALL NEW DEVICES INDICATED WITH A DARK CONTINUOUS LINE TYPE
	ALL EXISTING DEVICES THAT ARE TO BE RETAINED ARE INDICATED WITH A LIGHT CONTINUOUS LINE TYPE
FA	FA INDICATES FIRE ALARM
LF	LF INDICATES LOW FREQUENCY HORN (520Hz)
SB	SB INDICATES SOUNDER BASE
W	W INDICATES WEATHERPROOF DEVICE
S	S INDICATES SURFACE MOUNT

FIRE ALARM SYSTEM EQUIPMENT REQUIREMENTS

1. THE FIRE ALARM SYSTEM SHALL BE FULLY FUNCTIONAL WITHOUT THE USE OF PRIMARY POWER. THE FIRE ALARM SYSTEM SHALL BE PROVIDED WITH A MINIMUM OF 24 HOURS OF STANDBY OPERATION FOLLOWED BY AN ADDITIONAL 5 MINUTES OF ALARM OPERATION.
2. ALL BATTERIES SHALL PROVIDE AT LEAST 25% SPARE CAPACITY.
3. FIRE ALARM SYSTEMS: THE FIRE ALARM SYSTEM CONTROL PANEL (FACP) MAY INCLUDE INTERNAL POWER SUPPLIES. THE FIRE ALARM SYSTEM POWER SUPPLIES (FAPS) ARE SHOWN FOR REFERENCE ONLY. PROVIDE ADDITIONAL QUANTITIES OF POWER SUPPLIES AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM. THE FIRE ALARM SYSTEM CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE ELECTRICAL CONTRACTOR FOR ALL POWER CONNECTION. THE FIRE ALARM SYSTEM CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL COSTS ASSOCIATED WITH ALL NON-COORDINATED POWER CONNECTIONS.
4. PROVIDE 25% SPARE CAPACITY FOR NOTIFICATION POWER SUPPLIES.
5. PROVIDE MULTIPLE INITIATING DEVICE CIRCUITS AND SIGNALING LINE CIRCUITS SO THAT FAILURE OF ONE CIRCUIT DOES NOT CAUSE THE FACILITY TO LOOSE OVER 50% OF ITS DETECTION CAPABILITY PER FLOOR.
6. PROVIDE A MINIMUM OF 2 ISOLATION MODULES PER CIRCUIT.
7. PROVIDE BATTERY CALCULATIONS FOR ALL FIRE ALARM SYSTEMS.

FIRE ALARM AUDIBILITY REQUIREMENTS

THE FIRE ALARM SYSTEM CONTRACTOR SHALL PERFORM AUDIBILITY TESTING IN EACH SPACE OF THE BUILDING PRIOR TO ACCEPTANCE TESTING. DOCUMENTATION OF DECIBEL (dB) VALUES RECORDED IN ALL SPACES SHALL BE PROVIDED TO THE ARCHITECT / ENGINEER PRIOR TO ACCEPTANCE TESTING.

1. DECIBEL READINGS SHALL BE TAKEN AT A POINT 10'-0" FROM THE APPLIANCE AT AN ELEVATION OF 5'-0" ABOVE FINISHED FLOOR.
2. THE SOUND LEVEL SHALL BE A MINIMUM OF 15 DECIBELS (dBs) ABOVE THE AVERAGE AMBIENT SOUND LEVEL.
3. THE SOUND LEVEL SHALL BE A MINIMUM OF 5 DECIBELS (dBs) ABOVE THE MAXIMUM SOUND LEVEL HAVING A MINIMUM DURATION OF 60 SECONDS.
4. IN SPACES THAT DO NOT MEET THE MINIMUM AUDIBLE (dB) VALUES, THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE ADDITIONAL AUDIBLE NOTIFICATION APPLIANCES UNTIL THE MINIMUM DECIBEL (dB) VALUES ARE OBTAINED.

FIRE ALARM FLOOR PLAN GENERAL NOTES

1. PROVIDE ALL MATERIALS, EQUIPMENT, LABOR, DESIGN AND PROGRAMMING FOR A COMPLETE, INTELLIGENT (ANALOG) AND ADDRESSABLE (DIGITAL) LOW VOLTAGE 24 VOLT D.C., FULLY OPERATIONAL FIRE ALARM SYSTEM. ALL EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE NEW, CURRENTLY MANUFACTURED, AND SHALL BE DELIVERED TO THE PROJECT SITE WITH THE ORIGINAL FACTORY SEAL INTACT. MATERIALS AND WORKMANSHIP SHALL FULLY COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.F.P.A. #70), NATIONAL FIRE ALARM AND SIGNALING CODE (N.F.P.A. #72), AND THE LAWS AND REGULATIONS OF WASHINGTON STATE.
2. CORE DRILLED HOLES SHALL NOT PENETRATE THROUGH ANY STRUCTURAL BEAMS, REBAR CONCRETE SLABS, AND / OR WALLS THAT MAY COMPROMISE THE STRUCTURAL INTEGRITY OF THE BUILDING.
3. WHEN PENETRATING FIRE RATED WALLS, FLOORS, OR CEILINGS, THE CONTRACTOR SHALL UTILIZE APPROVED FIRE RATED PENETRATION METHODS. THE FIRE RATING OF THE WALLS, FLOORS, OR CEILINGS SHALL BE MAINTAINED AFTER THE CONDUIT HAS BEEN INSTALLED.
4. PRIOR TO ROUGH-IN, COORDINATE EXACT LOCATIONS OF FIRE ALARM APPLIANCES AND DEVICES WITH THE GENERAL ELECTRICAL CONTRACTORS.
5. EXISTING CONDUITS MAY BE REUSED BY THE FIRE ALARM SYSTEM CONTRACTOR IF DEEMED NECESSARY.
6. THE GENERAL CONTRACTOR AND FIRE ALARM SYSTEM CONTRACTOR SHALL COORDINATE ALL CUTTING, PATCHING AND FINISH WORK.
7. ALL MANUAL PULL STATIONS SHALL BE DUAL ACTION, KEY OPERABLE. THE USE OF BREAK GLASS FRONT STATIONS ARE NOT ALLOWED.
8. THE BASIS FOR THE VISUAL NOTIFICATION APPLIANCES (STROBES) INDICATED ON THE CONTRACT DOCUMENTS IS THE UTILIZATION OF (75) CANDELA (C.D.) AT A 44'-0" X 44'-0" SPACING FOR CEILING MOUNTED APPLIANCES AND 45'-0" X 45'-0" SPACING FOR WALL MOUNTED APPLIANCES. IF THE FIRE ALARM SYSTEM CONTRACTOR DECIDES TO INSTALL LOWER OUTPUT VISUAL APPLIANCES, IT BECOMES THE RESPONSIBILITY OF THE FIRE ALARM SYSTEM CONTRACTOR TO MEET THE MINIMUM CANDELA (C.D.) RATING AT THE LISTED MAXIMUM ROOM SIZE INDICATED IN TABLE 18.5.5.4.1(A) FOR WALL MOUNTED VISIBLE APPLIANCES OR TABLE 18.5.5.4.1(B) FOR CEILING MOUNTED VISIBLE APPLIANCES IN THE 2013 EDITION OF N.F.P.A. #72.
9. PROVIDE NEW CIRCUIT LABELS AND DIRECTORY CARDS FOR PANELS ALTERED AND / OR ADDED BY THIS CONTRACT.
10. ALL ADDRESSABLE DEVICES AND DETECTOR BASES SHALL BE PERMANENTLY AND CLEARLY LABELED WITH THE DEVICE ADDRESS IN A READILY VISIBLE LOCATION DIRECTLY ON THE DEVICE.
11. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE CARBON MONOXIDE DETECTION IN SPACES WITH FOSSIL FUEL BURNING APPLIANCES, EQUIPMENT, STOVES, OR FIRE PLACES.

FIRE ALARM FLOOR PLAN CONSTRUCTION NOTES

1. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE PLYWOOD BACK BOARD(S) ON WALLS THAT ARE NOT CMU OR CONCRETE AND USED TO MOUNT ENCLOSURES OF ANY KIND. PLYWOOD BACKING BOARD(S) SHALL BE SECURELY FASTENED TO THE WALL, BE A MINIMUM OF ¾", APA EXTERIOR GRADE ACX, VOID-FREE (MOUNTED WITH THE SMOOTH SIDE OUT), AND FIRE RETARDANT WITH A FLAME SPREAD RATING NOT MORE THAN 25 WHEN TESTED ACCORDING TO ASTM E-84. SUBMIT A PICTURE OF THE INSTALLED PLYWOOD TO THE ARCHITECT / ENGINEER FOR APPROVAL PRIOR TO APPLYING (3) COATS OF EGG SHELL WHITE FIRE RETARDANT PAINT.
2. SEE THE FIRE ALARM RISER DIAGRAM ON SHEET FA0.02 FOR MORE INFORMATION.
3. FIRE SPRINKLER SYSTEM SWITCHES ARE EXISTING. THE SWITCHES SHALL BE WIRED AND CONNECTED TO THE NEW FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. SEE THE FIRE SPRINKLER SYSTEM DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF ALL FIRE SPRINKLER SWITCHES, WHICH SHALL BE MONITORED BY THE FIRE ALARM SYSTEM. IF REPLACED, THESE SWITCHES SHALL BE PROVIDED AND INSTALLED BY SPRINKLER SYSTEM CONTRACTOR.
4. THE 24 VOLTS D.C. SPRINKLER SYSTEM ALARM BELL SHALL BE PROVIDED BY THE FIRE PROTECTION SPRINKLER SYSTEM CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE AND CONNECT THE ALARM BELL TO THE FIRE ALARM SYSTEM CONTROL PANEL (FMCP) AND THE FIRE ALARM CONTRACTOR SHALL PROGRAM THE ALARM BELL TO ACTIVATE UPON THE FLOW OF WATER.
5. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE A RELAY MODULE TO INITIATE CLOSURE OF THE GAS SOLENOID VALVE UPON ACTIVATION OF THE FIRE ALARM SYSTEM.
6. LOCATION OF AES ANTENNA IF SIGNAL STRENGTH REQUIRES OUTDOOR ANTENNA.
7. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE A RELAY MODULE FOR CONNECTION TO THE EXISTING MAGNETIC DOOR HOLDERS. THE MAGNETIC DOOR HOLDER SHALL RELEASE UPON RECEIVING AN ALARM SIGNAL FORM THE FIRE ALARM SYSTEM CONTROL PANEL.
8. SMOKE DETECTOR FOR EXISTING MAGNETIC DOOR HOLDER RELEASE SHALL BE LOCATED WITHIN 5'-0" OF THE DOOR IT IS SERVING AND INSTALLED ALONG THE CENTERLINE OF THE DOOR OPENING.

FIRE ALARM SYSTEM SEQUENCE OF OPERATIONS MATRIX

Notes:

1. If "Sequence of Operations" indicated here conflicts with specification, this "Sequence of Operations" supersedes specification sequence.
2. Provide a complete "Sequence of Operations" in accordance with N.F.P.A. #72 and contract documents.
3. This "Sequence of Operations" is considered to be the minimum amount of items required for this project. Provide additional Inputs and/or Outputs as required by the Authority Having Jurisdiction.

System Inputs / System Outputs	Fire Alarm System Control Panel	Annunciate "Alarm Condition" at the Fire Alarm System Control Panel	Annunciate "Alarm Condition" at the Fire Alarm System Remote Annunciator	Transmit "Alarm Signal" to the Central Station Monitoring Company	Annunciate "Trouble Condition" at the Fire Alarm Control Panel	Annunciate "Trouble Condition" at the Fire Alarm Remote Annunciator	Transmit "Trouble Signal" to the Central Station Monitoring Company	Annunciate "Supervisory Condition" at the Fire Alarm Control Panel	Annunciate "Supervisory Condition" at the Fire Alarm Remote Annunciator	Transmit "Supervisory Signal" to the Central Station Monitoring Company	Audible / Visual Notification Appliances	Activate All Fire Alarm System Audible Notification Appliances	Activate All Fire Alarm System Visual Notification Appliances	Visual Notification Appliances Operation Maintained until Fire Alarm System Reset	Activation of Carbon Monoxide Detection Sensor shall initiate a signal tha is distinctly different from a Fire Alarm and Transmit a Unique Signal to the Constantly Attended Location.	Residential / Living Units	Activate Smoke Detector Sounder Base Alarm in sleeping Unit Room Only	Activate All Smoke Detector Sounder Base Alarms in Dwelling Unit Only	Activate All Occupant Audible Notification Appliances (except Smoke Detector Sounder Base Alarms) in the Building	Doors Holders	Release Door(s) to be Closed	Fire Sprinkler Systems	Local Sprinkler System Electric Bell Activation Upon the Flow of Sprinkler System Water	Kitchens	Natural Gas solenoid shutoff for Kitchen Cooking Appliances
Fire Alarm / Emergency Communication System:																										
Fire Alarm System Control Panel in Alarm Condition		X	X	X								X	X	X						X		X				X
Manual Pull Station		X	X	X								X	X	X						X		X				X
Smoke Detector		X	X	X								X	X	X						X		X				X
Fire Alarm System Control Panel in Trouble Condition					X	X	X																			
Notification Circuit Short					X	X	X																			
Single Break (Open) in Fire Alarm Circuit					X	X	X																			
Single Ground Fault in Fire Alarm Circuit					X	X	X																			
Fire Alarm Panel Primary Power Failure					X	X	X																			
Fire Alarm Panel Battery Failure					X	X	X																			
Fire Alarm System Control Panel in Supervisory Condition								X	X	X																
Carbon Monoxide Sensor in Commons Area		X	X	X									X	X	X											
Carbon Monoxide Sensor in Kitchens with Fossil Fuel Burning Equipment		X	X	X									X	X	X											X
Smoke Detectors for Door Hold Opens:																										
Smoke Detectors to Close Doors								X	X	X										X			X			
Residential / Sleeping Unit Smoke Detectors:																										
Smoke Detector with Sounder Base (Single Room Type Residential / Sleeping Unit)								X	X	X								X								
Smoke Detector with Sounder Base (Multiple Rooms in Residential / Sleeping Unit)		X	X	X								X	X	X						X		X				
Tampering of any Dwelling Unit Smoke Detector with Sounder Base					X	X	X																			
Wet Pipe Automatic Fire Protection Sprinkler Systems:																										
Water Flow Switch		X	X	X								X	X	X						X		X		X		
Control Valve Tamper Switch								X	X	X																
Post Indicating Valve Tamper Switch								X	X	X																

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SOUTH KING FIRE & RESCUE FACILITY IMPROVEMENTS

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PROJECT # 2015137
BID
ISSUE DATE FEBRUARY 27, 2018

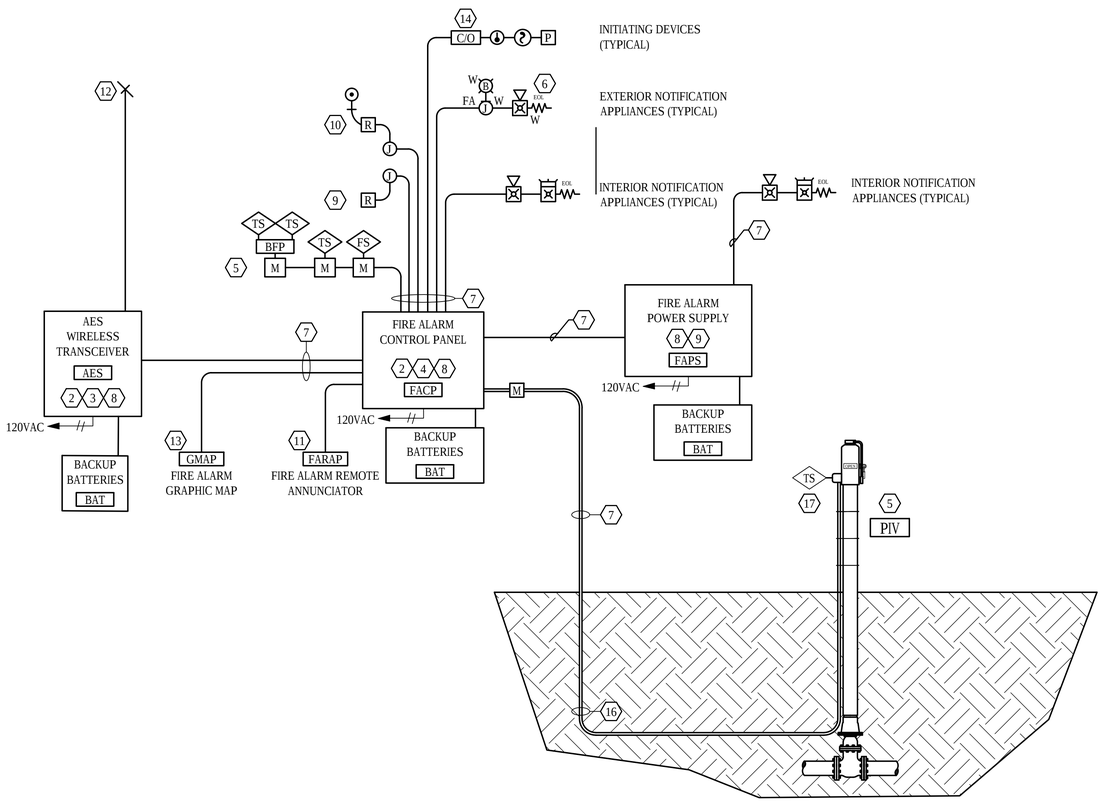
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FIRE ALARM LEGEND AND NOTES

SHEET #
FA001

FIRE ALARM SYSTEM TRANSMITTER ZONE SCHEDULE

ZONE #	DESCRIPTION
1	MANUAL PULL STATION ALARM
2	SMOKE DETECTOR ALARM
3	WATER FLOW ALARM
4	TAMPER SWITCH SUPERVISORY SIGNAL
5	CARBON MONOXIDE DETECTOR ALARM
6	SLEEPING UNIT SMOKE DETECTOR SUPERVISORY SIGNAL
7	SLEEPING UNIT SMOKE DETECTOR ALARM SIGNAL
8	FIRE ALARM PANEL TROUBLE SIGNAL
9	FIRE ALARM PANEL SUPERVISORY SIGNAL
10	COMMON TROUBLE
11	SPARE
12	SPARE
13	SPARE
14	SPARE
15	SPARE
16	SPARE
17	SPARE
18	SPARE
19	SPARE
20	SPARE



FIRE ALARM SYSTEM RISER DIAGRAM (1)

DIAGRAMMATIC

FIRE ALARM SYSTEM RISER DIAGRAM CONSTRUCTION NOTES

1. THE RISER DIAGRAM IS DIAGRAMMATIC IN NATURE. IT DOES NOT SHOW ALL DEVICES AND DOES NOT REPRESENT ACTUAL CONDUIT OR CABLE ROUTING.
2. THE FIRE ALARM SYSTEM SHALL BE FULLY FUNCTIONAL WITHOUT THE USE OF PRIMARY POWER. THE FIRE ALARM SYSTEM SHALL BE PROVIDED WITH A MINIMUM OF 24 HOURS OF STANDBY OPERATION FOLLOWED BY AN ADDITIONAL 5 MINUTES OF ALARM OPERATION. ALL BATTERIES SHALL BE SIZED TO PROVIDE AT LEAST 20% ADDITIONAL SPARE CAPACITY. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. PROVIDE ALL NECESSARY EQUIPMENT, INTERFACES, OTHER APPURTENANCES, AND PROGRAMMING AS REQUIRED FOR COMMUNICATION TO THE CENTRAL STATION MONITORING COMPANY OR MONITORING STATION.
4. PROVIDE SYSTEM POWER SUPPLIES, WHERE REQUIRED.
5. FIRE SPRINKLER SYSTEM SWITCHES ARE EXISTING. THE SWITCHES SHALL BE WIRED AND CONNECTED TO THE NEW FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. SEE THE FIRE SPRINKLER SYSTEM DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF ALL FIRE SPRINKLER SWITCHES, WHICH SHALL BE MONITORED BY THE FIRE ALARM SYSTEM. IF REPLACED, THESE SWITCHES SHALL BE PROVIDED AND INSTALLED BY SPRINKLER SYSTEM CONTRACTOR.
6. THE 24 VOLTS D.C. SPRINKLER SYSTEM ALARM BELL SHALL BE PROVIDED BY THE FIRE PROTECTION SPRINKLER SYSTEM CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE AND CONNECT THE ALARM BELL TO THE FIRE ALARM SYSTEM CONTROL PANEL (FACP) AND THE FIRE ALARM CONTRACTOR SHALL PROGRAM THE ALARM BELL TO ACTIVATE UPON THE FLOW OF WATER.
7. PROVIDE SYSTEM CABLES FOR A FULLY FUNCTIONAL SYSTEM, AS REQUIRED.
8. PROVIDE SURGE PROTECTION ON ALL INCOMING PRIMARY POWER SUPPLIES SERVING FIRE ALARM SYSTEM PANELS.
9. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE A RELAY MODULE TO INITIATE CLOSURE OF THE KITCHEN GAS SOLENOID VALVE UPON ACTIVATION OF THE FIRE ALARM SYSTEM. (NO ANSUL SYSTEM)
10. THE FIRE ALARM / EMERGENCY COMMUNICATION SYSTEM CONTRACTOR SHALL PROVIDE A RELAY MODULE FOR CONNECTION TO THE EXISTING MAGNETIC DOOR HOLDERS. THE MAGNETIC DOOR HOLDER SHALL RELEASE UPON RECEIVING AN ALARM SIGNAL FORM THE FIRE ALARM / EMERGENCY COMMUNICATION SYSTEM CONTROL PANEL.
11. FIRE ALARM SYSTEM REMOTE ANNUNCIATOR PANEL INSTALLED IN LOCATION INDICATED ON THE CONTRACT DOCUMENTS.
12. FIRE ALARM SYSTEM CONTRACTOR SHALL MEASURE AES SIGNAL STRENGTH. SIGNAL STRENGTH SHALL BE A NETCON 5 OR BETTER. OUTDOOR ANTENNA SHALL BE MOUNTED SO IT REACHES ABOVE THE ROOF LINE OF THE BUILDING.
13. FIRE ALARM GRAPHIC MAP TO CONFORM TO CONTRACT DOCUMENTS AND BE PROVIDED AT MAIN ENTRANCE AND AT THE MAIN FACP.
14. FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE CARBON MONOXIDE DETECTION IN SLEEPING AREAS AND NEAR FOSSIL FUEL BURNING EQUIPMENT.
15. SMOKE DETECTOR FOR EXISTING MAGNETIC DOOR HOLDER RELEASE SHALL BE LOCATED WITHIN 5'-0" OF THE DOOR IT IS SERVING AND INSTALLED ALONG THE CENTERLINE OF THE DOOR OPENING.
16. ALL WIRE RUN UNDERGROUND SHALL BE SUITABLE FOR WET LOCATIONS.
17. THE FIRE ALARM SYSTEM CONTRACTOR SHALL INSTALL 1" RIGID METAL CONDUIT FROM TERMINATION OF 1" PVC CONDUIT UP TO THE POST INDICATING VALVE TAMPER SWITCH. METAL CONDUIT SHALL BE SECURED TO THE POST INDICATING VALVE HOUSING WITH (3) STAINLESS STEEL HOSE CLAMPS,

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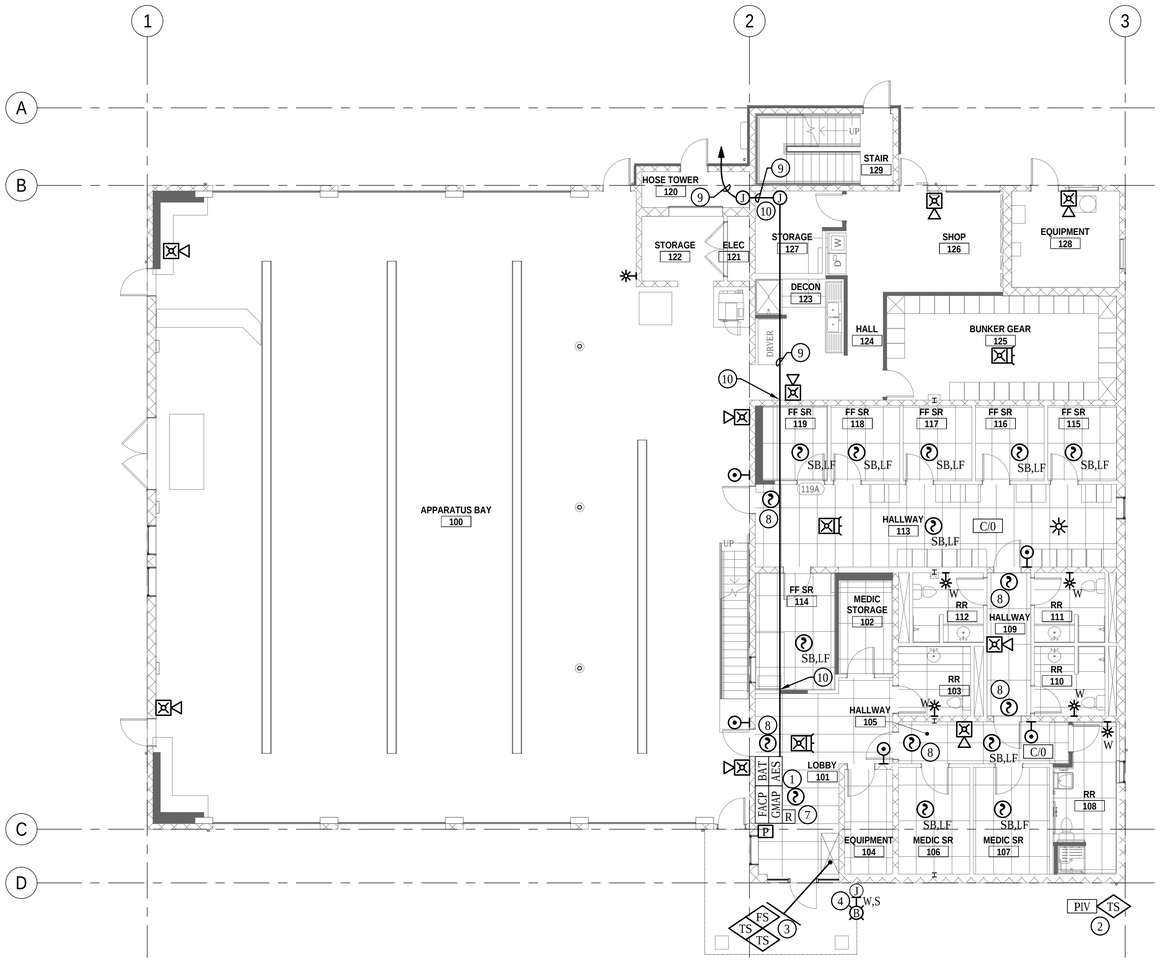
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FIRE ALARM NOTES

SHEET #

FA002



1 FIRE ALARM FIRST FLOOR FLOOR PLAN

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

NORTH

GENERAL NOTES

1. SEE SHEET FA002 FOR FIRE ALARM / MASS NOTIFICATION / EMERGENCY COMMUNICATION SYSTEM FLOOR PLAN GENERAL AND CONSTRUCTION NOTES.
2. SEE SHEET FA002 FOR CABLING AND CONDUIT REQUIREMENTS AND FIRE ALARM / MASS NOTIFICATION / EMERGENCY COMMUNICATION SYSTEM REQUIREMENTS.
3. CEILING TYPES ARE SHOWN FOR REFERENCE ONLY AND ARE NOT PROVIDED TO INDICATE EXACT LAYOUTS.
4. CEILING MOUNTED DEVICES SHALL BE INSTALLED AT THE QUARTER POINT OR CENTER POINT OF 4'X2' ACOUSTICAL CEILING TILES AND CENTER POINT OF 2'X2' OR 1'X1' ACOUSTICAL CEILING TILES. CONSTRUCTION DOCUMENT FA401 THRU FA402 MAY NOT DEPICT THIS INSTALLATION DUE TO REFLECTED CEILING PLAN SHOWN BEING DIAGRAMMATICAL TO INDICATE CEILING TYPES, NOT EXACT ACOUSTICAL TILE LAYOUTS.
5. THE FIRE ALARM / MASS NOTIFICATION / EMERGENCY COMMUNICATION SYSTEM CONTRACTOR SHALL COORDINATE THE FIRE ALARM / MASS NOTIFICATION / EMERGENCY COMMUNICATION SYSTEM INSTALLATION WITH EXISTING ARCHITECTURAL FEATURES, H.V.A.C. GRILLES, ELECTRICAL LIGHTS, FIRE PROTECTION SPRINKLER HEADS, AND/OR EXISTING CONDITIONS.

FIRE ALARM FLOOR PLAN CONSTRUCTION NOTES

(1) THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE PLYWOOD BACK BOARD(S) ON WALLS THAT ARE NOT CMU OR CONCRETE AND USED TO MOUNT ENCLOSURES OF ANY KIND. PLYWOOD BACKING BOARD(S) SHALL BE SECURELY FASTENED TO THE WALL, BE A MINIMUM OF ¾", APA EXTERIOR GRADE ACX, VOID-FREE (MOUNTED WITH THE SMOOTH SIDE OUT), AND FIRE RETARDANT WITH A FLAME SPREAD RATING NOT MORE THAN 25 WHEN TESTED ACCORDING TO ASTM E-84. SUBMIT A PICTURE OF THE INSTALLED PLYWOOD TO THE ARCHITECT / ENGINEER FOR APPROVAL PRIOR TO APPLYING (3) COATS OF EGG SHELL WHITE FIRE RETARDANT PAINT.

(2) SEE THE FIRE ALARM RISER DIAGRAM ON SHEET FA0.02 FOR MORE INFORMATION. REFER TO CIVIL PLANS FOR LOCATION OF SPRINKLER POST INDICATING VALVE (PIV).

(3) FIRE SPRINKLER SYSTEM SWITCHES ARE EXISTING. THE SWITCHES SHALL BE WIRED AND CONNECTED TO THE NEW FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. SEE THE FIRE SPRINKLER SYSTEM DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF ALL FIRE SPRINKLER SWITCHES, WHICH SHALL BE MONITORED BY THE FIRE ALARM SYSTEM. IF REPLACED, THESE SWITCHES SHALL BE PROVIDED AND INSTALLED BY SPRINKLER SYSTEM CONTRACTOR.

(4) THE 24 VOLTS D.C. SPRINKLER SYSTEM ALARM BELL SHALL BE PROVIDED BY THE FIRE PROTECTION SPRINKLER SYSTEM CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE AND CONNECT THE ALARM BELL TO THE FIRE ALARM SYSTEM CONTROL PANEL (FMCP) AND THE FIRE ALARM CONTRACTOR SHALL PROGRAM THE ALARM BELL TO ACTIVATE UPON THE FLOW OF WATER.

(7) THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE A RELAY MODULE FOR CONNECTION TO THE EXISTING MAGNETIC DOOR HOLDERS. THE MAGNETIC DOOR HOLDER SHALL RELEASE UPON RECEIVING AN ALARM SIGNAL FORM THE FIRE ALARM SYSTEM CONTROL PANEL.

(8) SMOKE DETECTOR FOR EXISTING MAGNETIC DOOR HOLDER RELEASE SHALL BE LOCATED WITHIN 5'-0" OF THE DOOR IT IS SERVING AND INSTALLED ALONG THE CENTERLINE OF THE DOOR OPENING.

(9) PROVIDE 1-1/4"C., FOR AES ANTENNA CABLE ABOVE FIRST FLOOR CEILING TO HOSE TOWER 120 AND UP THROUGH THE ROOF. PROVIDE WEATHERHEAD ON CONDUIT AND MOUNT ANTENNA TO CONDUIT.

(10) CORE DRILL THROUGH WALL.

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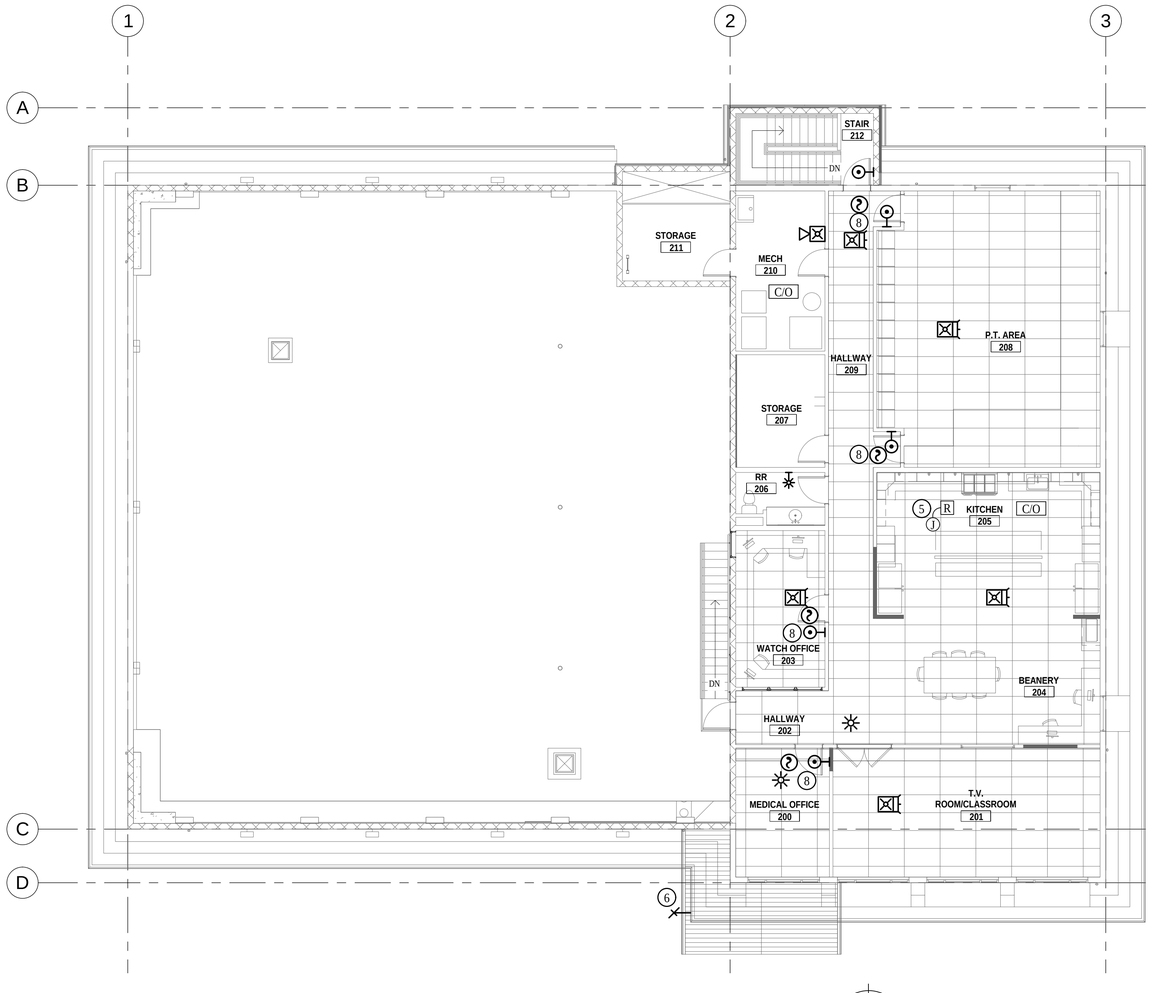
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FIRE ALARM FIRST FLOOR PLAN

SHEET #

FA121



1 FIRE ALARM SECOND FLOOR FLOOR PLAN

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

NORTH

GENERAL NOTES

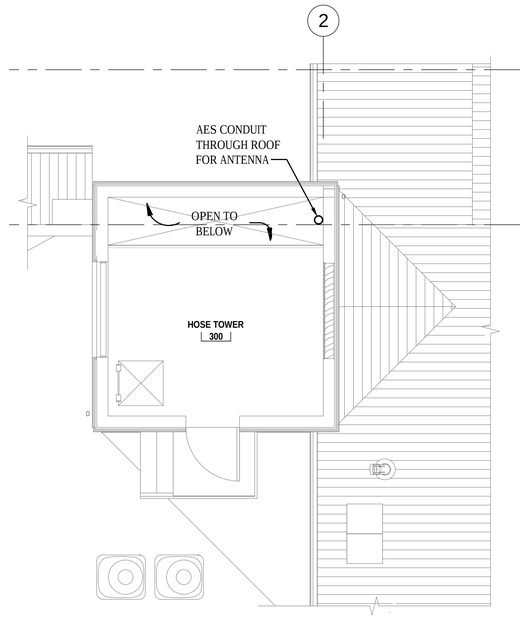
1. SEE SHEET FA002 FOR FIRE ALARM / MASS NOTIFICATION / EMERGENCY COMMUNICATION SYSTEM FLOOR PLAN GENERAL AND CONSTRUCTION NOTES.
2. SEE SHEET FA002 FOR CABLING AND CONDUIT REQUIREMENTS AND FIRE ALARM / MASS NOTIFICATION / EMERGENCY COMMUNICATION SYSTEM REQUIREMENTS.
3. CEILING TYPES ARE SHOWN FOR REFERENCE ONLY AND ARE NOT PROVIDED TO INDICATE EXACT LAYOUTS.
4. CEILING MOUNTED DEVICES SHALL BE INSTALLED AT THE QUARTER POINT OR CENTER POINT OF 4'X2' ACOUSTICAL CEILING TILES AND CENTER POINT OF 2'X2' OR 1'X1' ACOUSTICAL CEILING TILES. CONSTRUCTION DOCUMENT FA401 THRU FA402 MAY NOT DEPICT THIS INSTALLATION DUE TO REFLECTED CEILING PLAN SHOWN BEING DIAGRAMMATICAL TO INDICATE CEILING TYPES, NOT EXACT ACOUSTICAL TILE LAYOUTS.
5. THE FIRE ALARM / MASS NOTIFICATION / EMERGENCY COMMUNICATION SYSTEM CONTRACTOR SHALL COORDINATE THE FIRE ALARM / MASS NOTIFICATION / EMERGENCY COMMUNICATION SYSTEM INSTALLATION WITH EXISTING ARCHITECTURAL FEATURES, H.V.A.C. GRILLES, ELECTRICAL LIGHTS, FIRE PROTECTION SPRINKLER HEADS, AND/OR EXISTING CONDITIONS.

FIRE ALARM FLOOR PLAN CONSTRUCTION NOTES

(5) THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE A RELAY MODULE TO INITIATE CLOSURE OF THE GAS SOLENOID VALVE UPON ACTIVATION OF THE FIRE ALARM SYSTEM.

(6) LOCATION OF AES ANTENNA IF SIGNAL STRENGTH REQUIRES OUTDOOR ANTENNA.

(8) SMOKE DETECTOR FOR EXISTING MAGNETIC DOOR HOLDER RELEASE SHALL BE LOCATED WITHIN 5'-0" OF THE DOOR IT IS SERVING AND INSTALLED ALONG THE CENTERLINE OF THE DOOR OPENING.



2 FIRE ALARM THIRD FLOOR FLOOR PLAN

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

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FIRE ALARM SECOND & THIRD FLOOR PLAN

SHEET #

FA122