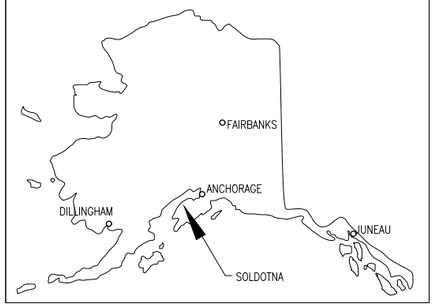
KENAI REC CENTER UPGRADES

KENAI, ALASKA

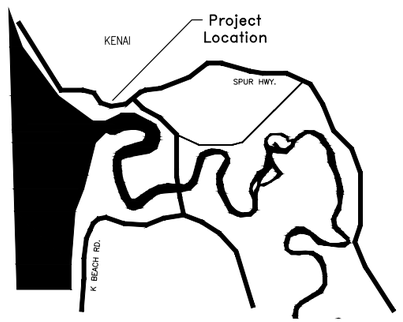
CONSTRUCTION DOCUMENTS

SEPTEMBER 23, 2022

STATE MAP

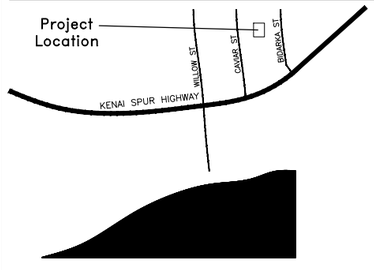


VICINITY MAP



NOTE: These maps identify project location. They are not to scale.

LOCAL MAP



ABBREVIATIONS LIST

ABV Above
AFF Above Finished Floor
AC Acoustical
ACT Acoustical Tile
ADAAG Americans w/ Disabilities Act Accessible Guidelines

ADD Addendum
ADH Adhesive
ADJ Adjacent
AGG Aggregate
A/C Air Conditioning
ALT Alternate
AL Aluminum
ANC Anchorage
AB Anchor Bolt
ANOD Anodized
ARCH Architectural
ASPH Asphalt
ASS'Y Assembly
A.W.W. All Weather Wood

BCS Baby Changing Station
BRG Bearing
BM Bench Mark
BLK Block
BLKG Blocking
BO Board
BOT Bottom
BRK Brick
BRNZ Dark Bronze
BLDG Building
BUR Built-Up Roofing

CAB Cabinet
CFMU Conc. Form Masonry Unit
CPT Carpet
CSMT Casement
CI Cast Iron
CK Caulk
CLG Ceiling
CEM Cement
CL Center Line
CER Ceramic
CT Ceramic Tile
CIR Circle
CJ Control Joint
CLG Ceiling
CLR Clear
CLS Closure
COL Column
COMB Combination
CONC Concrete
COTF Clean Out Thru Floor
CMU Concrete Masonry Unit
CFMU Concrete Form Masonry Unit
CONST Construction
CONT Continuous
CONTR Contract
CORR Corrugated
CTR Counter
CFL Counterflushing
CRS Course

DEM Demolish
DEP Depressed
DTL Detail
DIAG Diagonal
DIAM Diameter
DIM Dimension
DIV Division
DR Door
DH Double Hung
DWG Drawing
DF Drinking Fountain
DW Dumb Waiter

EIFS Exterior Insulation Finish System
EL Elevation
ELEC Electrical
ELEV Elevator
ENC Enclosure
EQ Equal
EST Estimate
EXG Existing
EXH Exhaust
EXP Exposed
EXT Exterior
EXTING Extinguisher

FBRK Fire Brick
FCO Floor Clean Out
FD Floor Drain
FE Fire Extinguisher
FEC Fire Extinguisher Cabinet
FF Factory Finish
FFL Finished Floor Line
FFW Finish Face of Wall
FG Finish Grade
FIXT Fixture
FLG Flashing
FLR Floor
FLUR Fluorescent
FN Finish
FND Foundation
FOC Face Of Concrete
FOF Face Of Finish
FOM Face Of Masonry
FOS Face Of Structure
FP Fireproof
FPL Fireplace
FR Frame
FRP Fiberglass Reinforcing Panel
FS Floor Sink
FTG Footing

GA Gauge
GALV Galvanized
GB Grab Bar
GD Grade
GI Galvanized Iron
GL Glass
GLB Glu-Lam Beam
GP Galvanized Pipe
GT Grout
GVL Gravel
GWB Gypsum Wall Board

HB Hose Bibb
HC Hollow Core
HDR Header
HDW Hardware
HM Hollow Metal
HOR Horizontal
HPL High Pressure
HR Hour
HT Height
HTG Heating
HVAC Heating/Ventil./Air Cond.
HWD Hardwood
HWH Hot Water Heater

IB Infiltration Barrier INCL Include
INS Insulate
INT Interior

JT Joint

KIT Kitchen
KO Knockout
KPL Kickplate Laminate

LBL Label
LAM Laminate
LAV Lavatory
LT Light
LTL Lintel
LVR Louver

MB Machine Bolt
MFR Manufacturer
MAS Masonry
M.O. Masonry Opening
MTL Material
MAX Maximum
MECH Mechanical
MC Medicine Cabinet
MED Medium
MBR Member
ML Measuring Line
MMB Membrane
MET Metal
MIN Minimum
MIR Mirror
MISC Miscellaneous
MOD Modular
MNAP Manifold Access Panel
MR Moisture Resistant
MULL Mullion

NAT Natural
ND Napkin Disposal
NOM Nominal North
NIC Not In Contract
NFS Non-Frost Susceptible
NTS Not To Scale

OBS Obscure
OC On Center
OPCI Owner Provided Contractor Installed
OPG Opening
OPP Opposite
OD Outside Diameter
OA Outside Air
O.F.D. Overflow Drain
OH Over Head

PNL Panel
PB Panic Bar
PAR Parallel
PK Parking
PED Pedestal
PF Pre-Finished
PLAM Plastic Laminate
PL Plate
PLYWD Plywood
PT Point
PTD. Painted, Paper Towel Dispenser
PSF Pounds Per Square Foot
PSI Pounds Per Square Inch
PVMT Pavement
PL Property Line
PVB Poly Vapor Barrier

RAD Radius
R&S Rod And Shelf
RFL Reflective
REC. Recommendation
REFR Refrigerator
RES Resilient
RET Return
RA Return Air
RVS Reverse Side
REV Revised
ROW Right Of Way
RD Roof Drain
RO Rough Opening
RB Rubber Base
RL Rain Leader
RM Radiant Manifold

SAT Satellite
SC Specimen Cabinet
SCD Seat Cover Dispenser
SCH Schedule
SD Soap Dispenser
SNT Sealant
SEC Section
SHTH Sheathing
SHT Sheet
SH Soap Holder
SIM Similar
SKL Skylight
SC Solid Core
SPK Speaker
SPL Special
SPEC Specification
SQ Square
SST Stainless Steel
STD Standard
ST Steel
STO Storage
STR Structural
SUSP Suspended

TEL Telephone
TV Television
THK Thick
TPTN Toilet Partition
T.O. Top Of
TOL Tolerance
T&G Tongue & Groove
TPD Toilet Paper Dispenser
TSL Top Of Slab
TST Top of Steel
TW Top Of Wall
TYP Typical

UC Undercut
UNF Unfinished
UON Unless Otherwise Noted
UPS Uninterrupted Power Supply

VB Vapor Barrier
VG Vertical Grain
VIF Verify in Field
VIN Vinyl
VINB Vinyl Base
VCT Vinyl Composition Tile
VF Vinyl Fabric
VT Vinyl Tile
VTR Vent Thru Roof

WSCT Wainscot
WH Wall Hung
WC Water Closet
WP Waterproofing
WR Water Resistant
WS Waterstop
WWF Welded Wire Fabric
WIN Window
WD Wood
WB Wood Base

GENERAL NOTES

1.) DIMENSIONAL HIERARCHY
   a. AS SPECIFICALLY NOTED
   b. GRID LINES
   c. FACE OR TOP OF CONCRETE
   d. FACE OR TOP OF CMU
   e. FACE OF FRAMING
   f. FACE OF HOLLOW METAL FRAMES
2.) CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY AMBIGUITIES OR CONTRADICTIONS IN THESE DOCUMENTS PRIOR TO PROCEEDING IN EACH AREA.
3.) ARCHITECTURAL DRAWINGS REFERENCE ALL WORK FROM FINISH FLOOR ELEVATION OF 100'-0". SEE CIVIL FOR SITE LAYOUT DATUM.
4.) SOME DETAILS ARE DIAGRAMMATIC IN NATURE. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE A COMPLETE AND FUNCTIONING BUILDING IN ACCORDANCE WITH INDUSTRY STANDARDS
5.) SCALE NOTE: DO NOT SCALE DRAWINGS.
6.) WHERE INDICATED, COMPLY WITH REQUIREMENTS AND RECOMMENDATIONS OF REFERENCED STANDARDS AND OTHER PUBLICATIONS, EXCEPT WHERE MORE DETAILED OR MORE STRINGENT PROVISIONS ARE REQUIRED BY CURRENT APPLICABLE CODES AND GOVERNING REGULATIONS.
7.) WHERE TWO OR MORE STANDARDS OR RECOMMENDATIONS OF TRADE ASSOCIATIONS APPLY TO SAME QUALITY CONTROL REQUIREMENTS FOR WORK, COMPLY WITH THE MOST STRINGENT. REFER UNCERTAIN INSTANCES TO THE OWNER'S REPRESENTATIVE.
8.) CONSTRUCTION WHICH IS NOT GOVERNED BY A LOCAL BUILDING CODE OR THE CONTRACT DOCUMENTS WILL BE GOVERNED BY THE MORE STRINGENT PROVISIONS OF THE LATEST PUBLISHED, STATUTE ADOPTED EDITION, OF THE FOLLOWING APPLICABLE CODES.

- 2012 INTERNATIONAL BUILDING CODE
- 2018 NATIONAL ELECTRICAL CODE
- 2012 INTERNATIONAL MECHANICAL CODE
- 2015 UNIFORM PLUMBING CODE
- 2012 INTERNATIONAL FIRE CODE
- AMERICANS WITH DISABILITIES ACT
- ACCESSIBILITY GUIDELINES FOR BUILDING FACILITIES
- NFPA 10, 13, 70 AND 72
- ASHRAE 90.1-2016

PROJECT TEAM

CIVIL:
NELSON ENGINEERING
155 Bidarka St
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ARCHITECTURAL:
K+A designstudios
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Anchorage, Alaska
PHONE: 907.562.1552
EMAIL: jamesgwynn@gci.net

DESIGN DATA

LEGAL DESCRIPTION:
T 5N R 11W SEC 5 SEWARD MERIDIAN KN 0800059
FIDALGO COMMERCIAL CENTER SUB LOT 6 BLK 3

PHYSICAL ADDRESS:
227 CAVIAR ST.
KENAI, AK 99611

SYMBOLS

- 4 / A3.1 — EXTERIOR ELEVATION
- G / A3.2 — BUILDING SECTION
- A — INTERIOR ELEVATION
- 4 / A2.1 — DETAIL NO. / SHEET
- 6 / A4.2 — SHEET
- 103 — DOOR NUMBER
- 15 — REVISION NOTE
- A1 — OPENING TYPE
- 12 — NOTE
- 104 — ROOM NUMBER
- ELEVATION
- B — GRID
- W1 — WALL TYPE

MATERIALS

EARTH, CONCRETE, PLYWOOD, STEEL, GYPSUM BOARD, WOOD, SPRAYED INSULATION, RIGID INSULATION, BATT INSULATION

DRAWING INDEX

K+A designstudios
ARCHITECTURE + PLANNING
130 TRADING BAY RD. STE 330 KENAI, ALASKA 99611
T: 907.283.3698 WWW.KA-DESIGNSTUDIOS.COM

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KENAI REC CENTER UPGRADES
CONSTRUCTION DOCUMENTS
KENAI, ALASKA

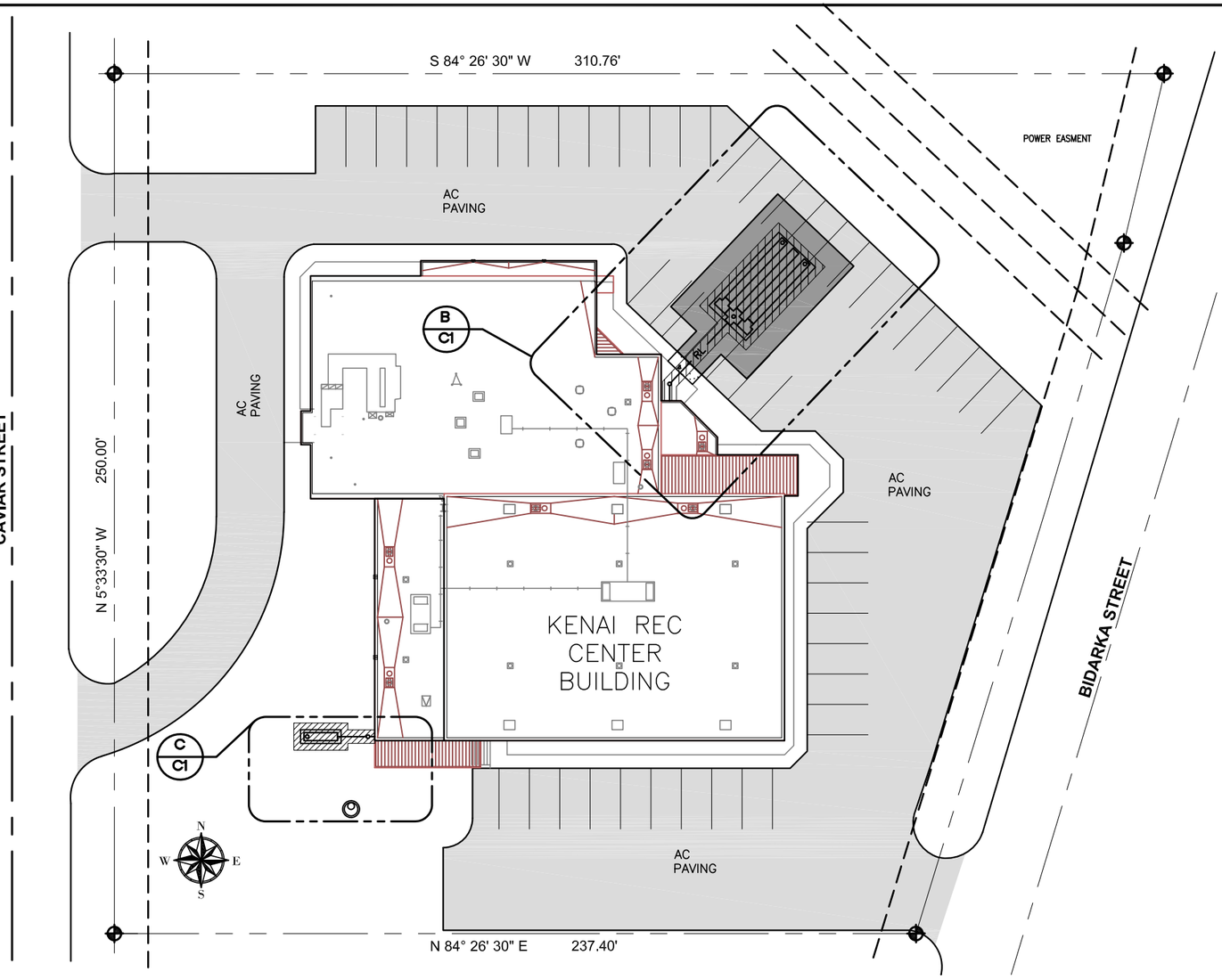
Revisions:

STATE OF ALASKA
749TH
CHRISTOPHER M. PARKER
A13239
9/23/2022
REGISTERED PROFESSIONAL ARCHITECT

Date: SEPT. 23, 2022
Drawn: MCM
Checked: CMP
Project: 2032
File Name: 2032.DWG

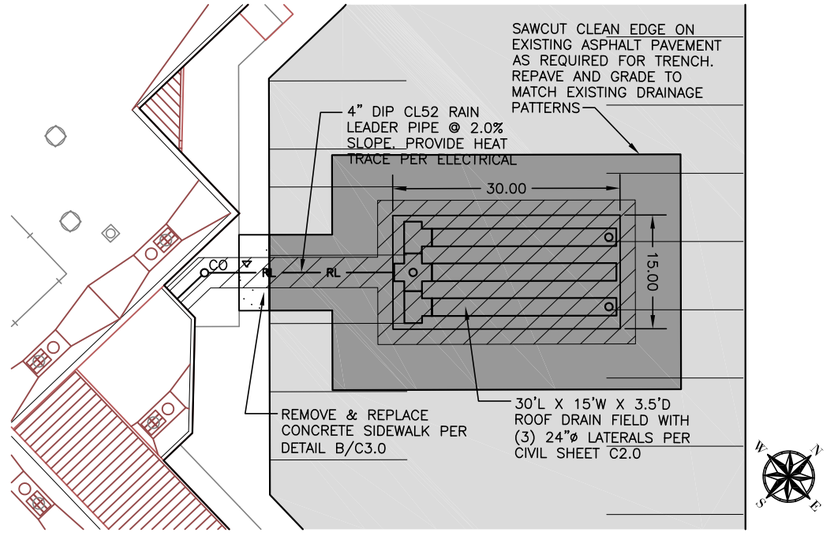
Sheet Title: COVER SHEET

Sheet: T1.1



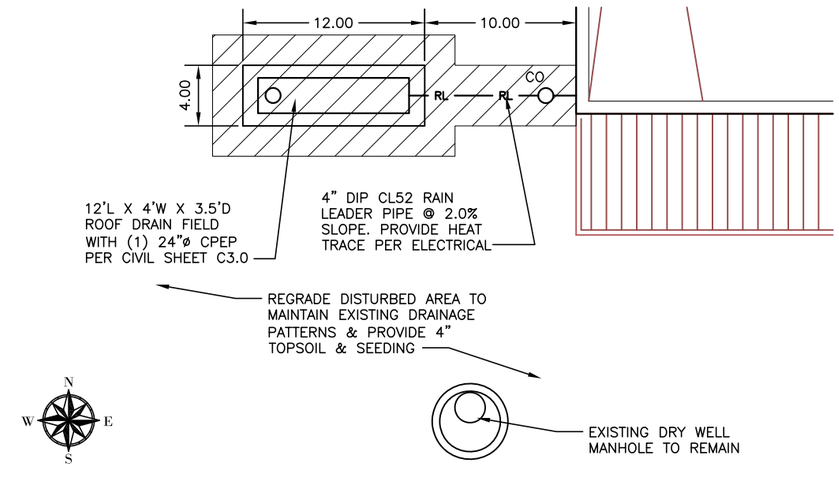
A C1.0 CIVIL SITE PLAN - ROOF DRAINS

GRAPHIC SCALE: 1" = 20' (22X34), 1" = 40' (11X17)



B C1.0 ENLARGED SITE PLAN - ROOF DRAIN #1

GRAPHIC SCALE: 1" = 10' (22X34), 1" = 20' (11X17)



C C1.0 ENLARGED SITE PLAN - ROOF DRAIN #2

GRAPHIC SCALE: 1" = 5' (22X34), 1" = 10' (11X17)

GENERAL NOTES

1. DRAWING BASED AS-BUILT DRAWINGS AND ON SITE INVESTIGATION PERFORMED BY NELSON ENGINEERING ON 8/11/2022. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL SITE FEATURES. IF THE CONTRACTOR ENCOUNTERS CONDITIONS OTHER THAN THOSE SHOWN ON THE PLANS, THEY SHALL IMMEDIATELY CONTACT THE ENGINEER FOR DIRECTIONS.
2. ROOF DRAIN FIELD SIZED FOR 10 YEAR 24 HOUR STORM.
   ROOF DRAIN AREA #1 = 14,500 SF.
   ROOF DRAIN AREA #2 = 1,500 SF.
3. CONTRACTOR SHALL PROVIDE AND INSTALL ELECTRIC HEAT TRACE IN RAIN LEADER PIPES. COORDINATE WITH ELECTRICAL FOR POINT OF CONNECTION.
4. IF NOT DETAILED IN THESE DRAWINGS OR PROJECT SPECIFICATIONS, ALL CONSTRUCTION METHODS AND MATERIALS USED FOR THIS PROJECT SHALL CONFORM TO MUNICIPALITY OF ANCHORAGE STANDARD SPECIFICATIONS (M.A.S.S.), LATEST EDITION.
5. LOCATION OF UNDERGROUND UTILITIES ARE UNKNOWN. ACTUAL DEPTH, NUMBER AND LOCATION UNKNOWN. BURIED UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION, IDENTIFYING, AND WORKING AROUND ALL UTILITIES WITHIN THE PROJECT LIMITS AT NO ADDITIONAL COST TO THE OWNER. CALL FOR LOCATES PRIOR TO EXCAVATION, ALASKA DIGLINE 1-800-478-3121 OR 811.
6. CONTRACTOR SHALL ADHERE TO LOCAL REQUIREMENTS FOR NOISE, HOURS OF OPERATION, AND DUST CONTROL.

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NELSON ENGINEERING

KENAI REC CENTER UPGRADES

CONSTRUCTION DOCUMENTS
KENAI, ALASKA

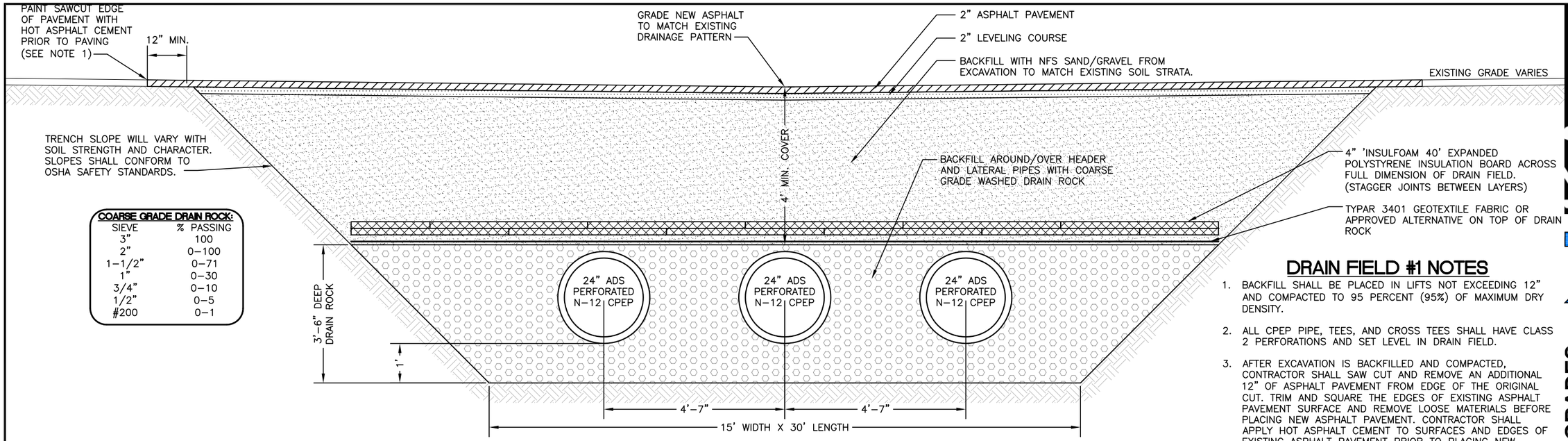
Revisions:

STATE OF ALASKA 49TH
Matthew Z. DeRaeve
CE-14839
09/23/22
Registered Professional Engineer

Date: SEPT. 23, 2022
Drawn: MZD
Checked: MJD
Project: 1240.DWG
File Name: 1240.DWG

Sheet Title:
CIVIL SITE PLAN
ROOF DRAIN FIELDS

Sheet:
C1.0



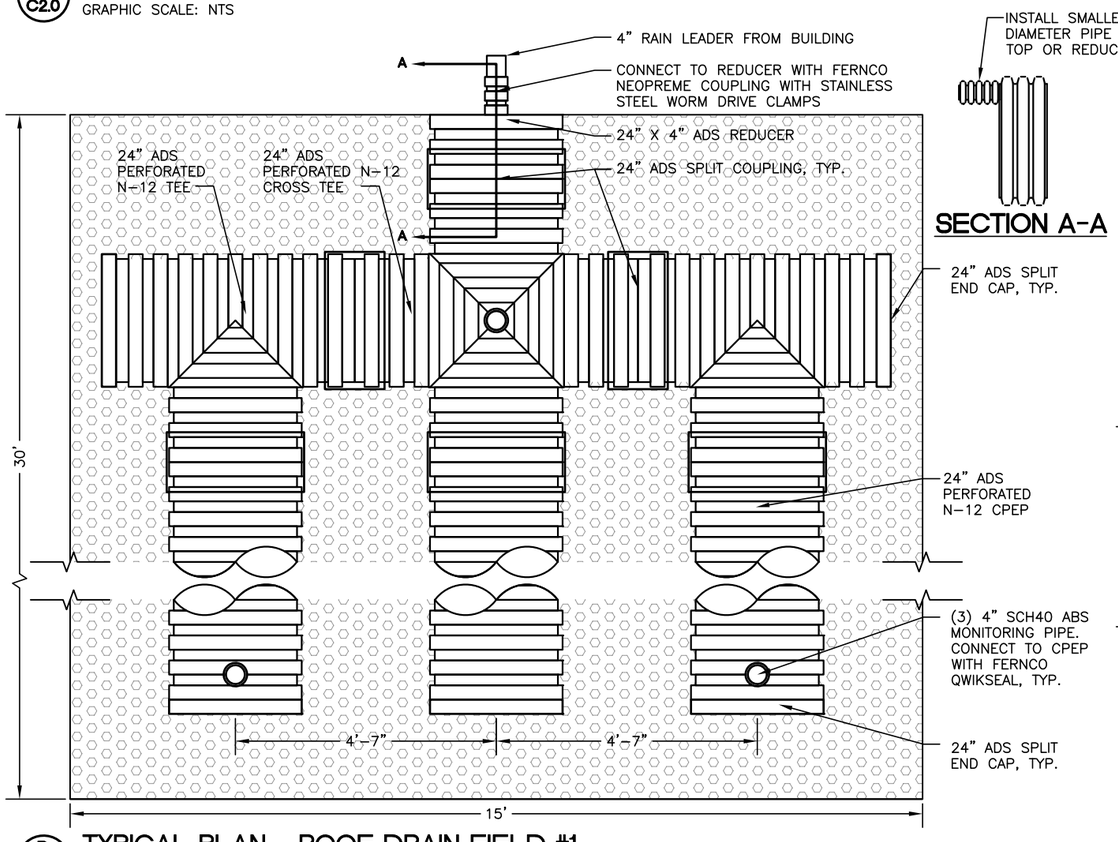
COARSE GRADE DRAIN ROCK:	
SIEVE	% PASSING
3"	100
2"	0-100
1-1/2"	0-71
1"	0-30
3/4"	0-10
1/2"	0-5
#200	0-1

DRAIN FIELD #1 NOTES

1. BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12" AND COMPACTED TO 95 PERCENT (95%) OF MAXIMUM DRY DENSITY.
2. ALL CPEP PIPE, TEES, AND CROSS TEES SHALL HAVE CLASS 2 PERFORATIONS AND SET LEVEL IN DRAIN FIELD.
3. AFTER EXCAVATION IS BACKFILLED AND COMPACTED, CONTRACTOR SHALL SAW CUT AND REMOVE AN ADDITIONAL 12" OF ASPHALT PAVEMENT FROM EDGE OF THE ORIGINAL CUT. TRIM AND SQUARE THE EDGES OF EXISTING ASPHALT PAVEMENT SURFACE AND REMOVE LOOSE MATERIALS BEFORE PLACING NEW ASPHALT PAVEMENT. CONTRACTOR SHALL APPLY HOT ASPHALT CEMENT TO SURFACES AND EDGES OF EXISTING ASPHALT PAVEMENT PRIOR TO PLACING NEW ASPHALT PAVEMENT.

A C2.0 TYPICAL SECTION - ROOF DRAIN FIELD #1

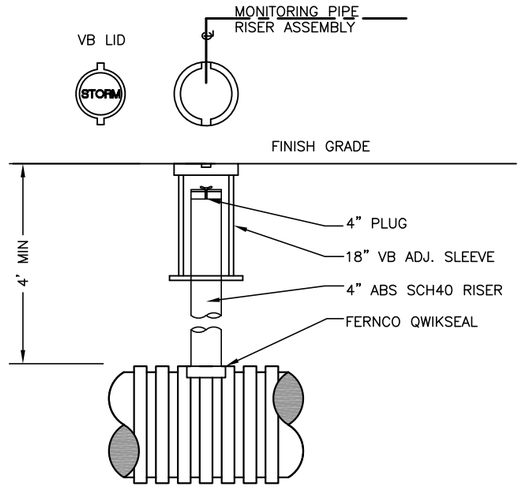
GRAPHIC SCALE: NTS



B C2.0 TYPICAL PLAN - ROOF DRAIN FIELD #1

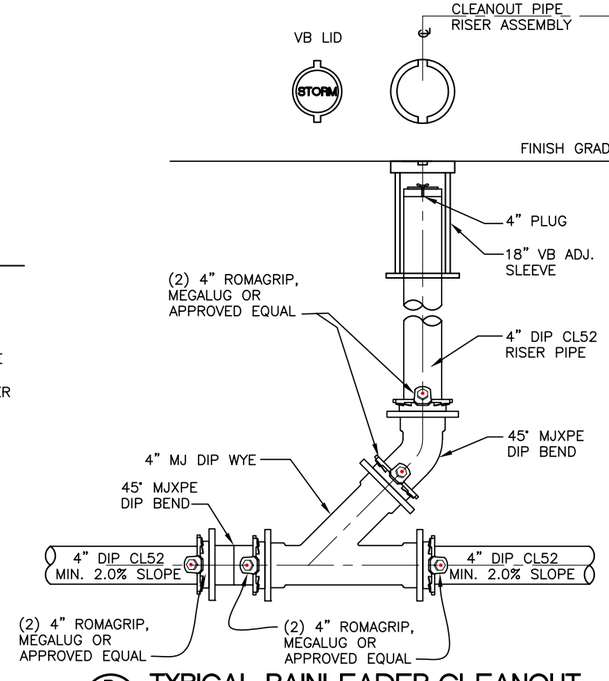
GRAPHIC SCALE: NTS

SECTION A-A



C C2.0 TYPICAL MONITORING PIPE

GRAPHIC SCALE: NTS



D C2.0 TYPICAL RAINLEADER CLEANOUT

GRAPHIC SCALE: NTS

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NELSON ENGINEERING

KENAI REC CENTER UPGRADES

CONSTRUCTION DOCUMENTS

KENAI, ALASKA

Revisions:

STATE OF ALASKA 49TH
Matthew Z. DeRaeve
CE-14839
09/23/22
Registered Professional Engineer

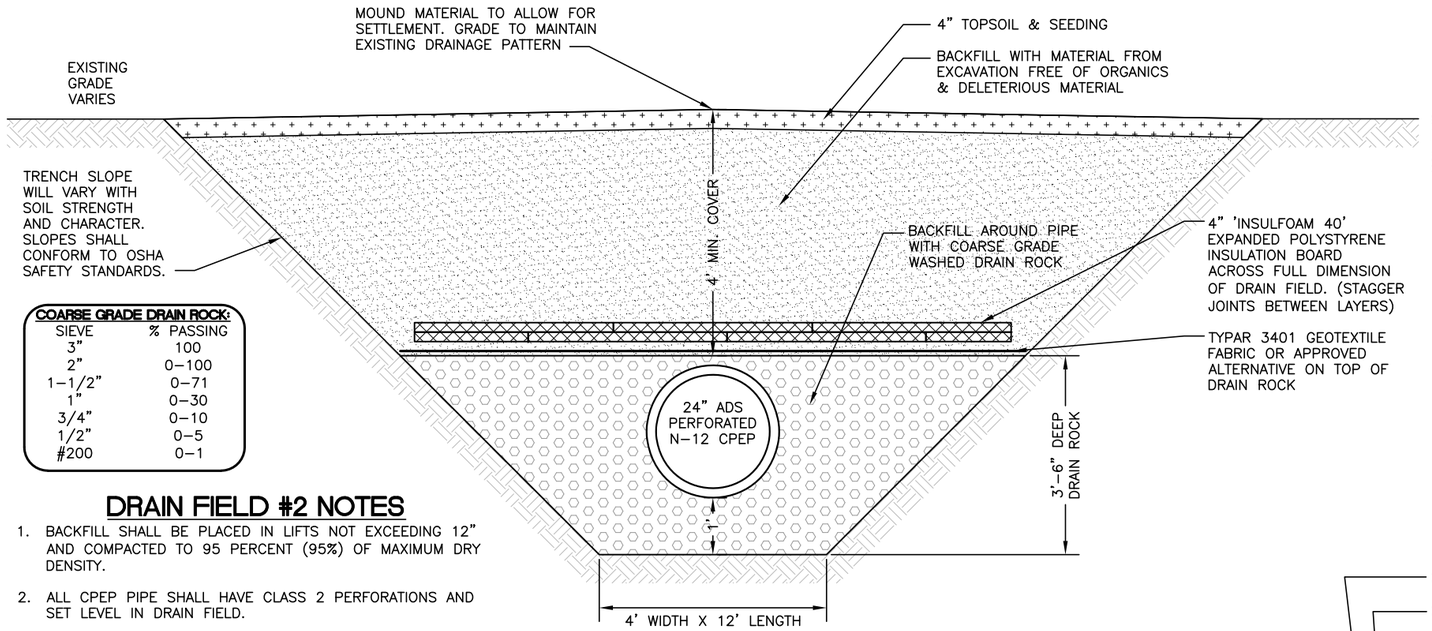
Date:	SEPT. 23, 2022
Drawn:	MZD
Checked:	MJD
Project:	1240.DWG
File Name:	1240.DWG

Sheet Title:

TYPICAL DETAILS
ROOF DRAIN FIELD

Sheet:

C2.0



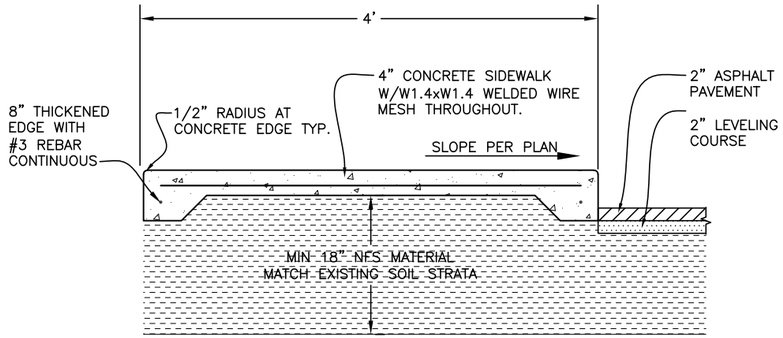
COARSE GRADE DRAIN ROCK:	
SIEVE	% PASSING
3"	100
2"	0-100
1-1/2"	0-71
1"	0-30
3/4"	0-10
1/2"	0-5
#200	0-1

DRAIN FIELD #2 NOTES

1. BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12" AND COMPACTED TO 95 PERCENT (95%) OF MAXIMUM DRY DENSITY.
2. ALL CPEP PIPE SHALL HAVE CLASS 2 PERFORATIONS AND SET LEVEL IN DRAIN FIELD.

A C3.0 TYPICAL SECTION - ROOF DRAIN FIELD #2

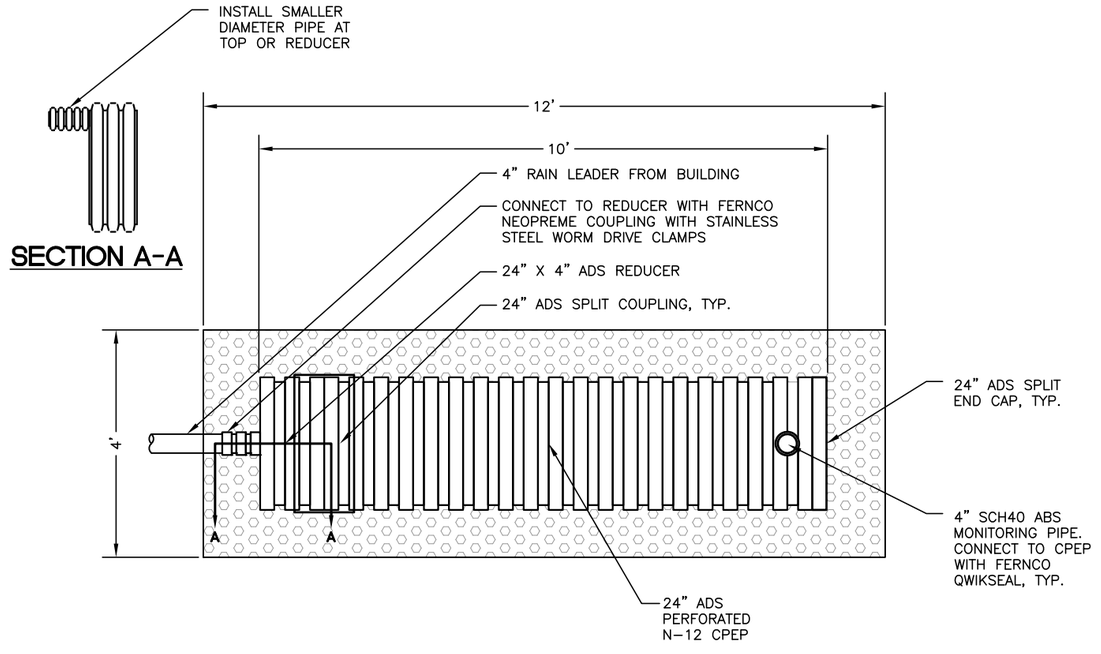
GRAPHIC SCALE: NTS



NOTES:
PROVIDE 3,000 PSI CONCRETE
PROVIDE BROOM FINISH PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAFFIC

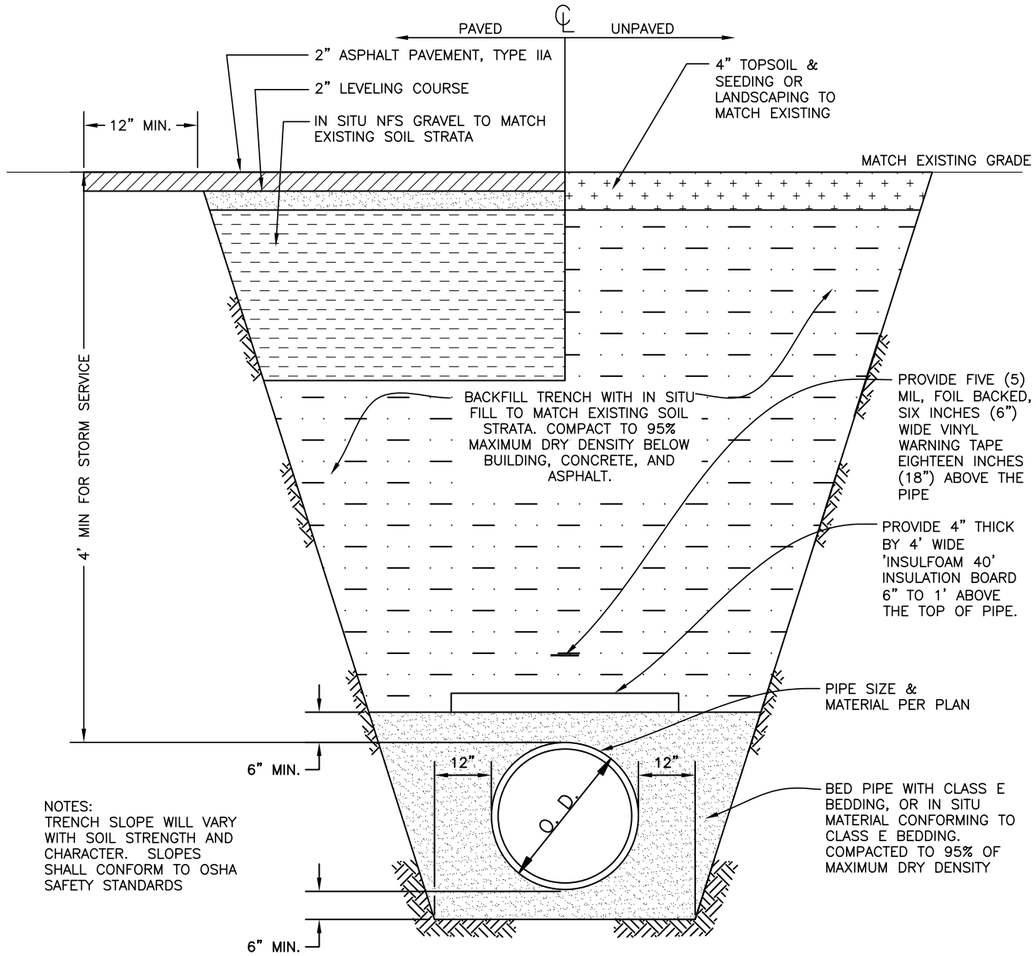
B C3.0 TYPICAL CONCRETE SIDEWALK

GRAPHIC SCALE: NTS



C C3.0 TYPICAL PLAN - ROOF DRAIN FIELD #2

GRAPHIC SCALE: NTS



NOTES:
TRENCH SLOPE WILL VARY WITH SOIL STRENGTH AND CHARACTER. SLOPES SHALL CONFORM TO OSHA SAFETY STANDARDS

D C3.0 TYPICAL RAIN LEADER TRENCH

GRAPHIC SCALE: NTS

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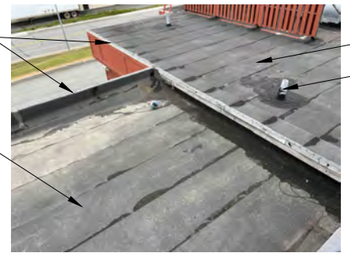
TYPICAL DETAILS
ROOF DRAIN FIELD

Sheet:

C3.0

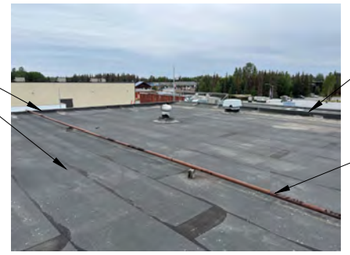
P1 VIEW OF ROOF C AT ENTRY



P2 VIEW OF ROOF A

P3 VIEW OF ROOF A AND G

P4 VIEW OF ROOF E AND F



P5 VIEW OF ROOF E AND H

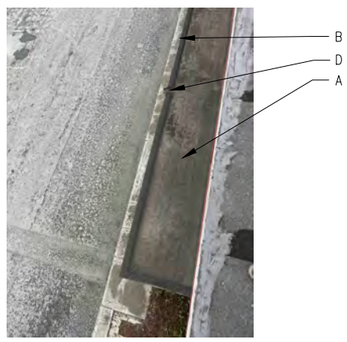
P6 VIEW OF MECH PENETRATIONS AT ROOF H

P7 VIEW OF ROOF D,E AND F

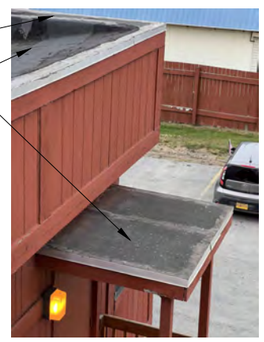
P8 VIEW OF ROOF B

P9 VIEW OF ROOF B

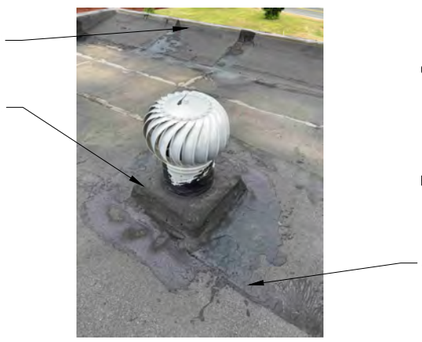
P10 VIEW OF ROOF B



P11 VIEW OF CRICKET BETWEEN ROOF A, G AND F

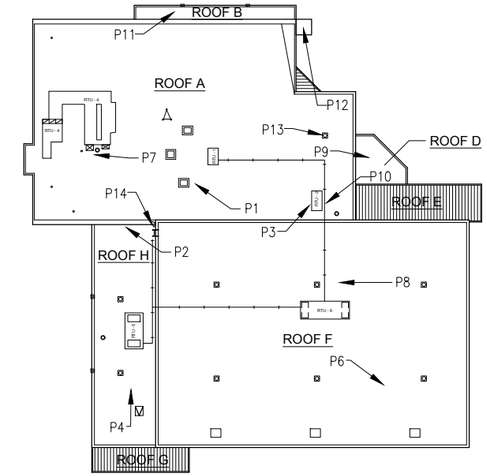


P12 VIEW OF ROOF DRAIN BETWEEN ROOF A AND B



P13 VIEW OF MEMBRANE AT ROOF DRAIN

P14 VIEW OF SHINGLES TO MEMBRANE



REFERENCE PLAN

SCALE: NTS

REF. N
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KEY NOTES:

A. DEMO AND REPLACE ROOFING PER DETAILS AND SPECS.

B. DEMO AND REPLACE PARAPET FLASHING PER DETAILS, TYP.

C. DEMO AND INFILL EXISTING SCUPPER.

D. DEMO EXISTING SCUPPER AND REPLACE PER DETAIL 5/A2.3 AT ROOF B ONLY.

E. SEE MECH DRAWINGS FOR MECH EQUIPMENT REPLACEMENT, NEW FLASHING PER DETAIL 4/A2.3.

F. EXISTING ROOF PENETRATION TO REMAIN, NEW FLASHING PER DETAIL 2/A2.3.

G. COORDINATE THE TEMPORARY REMOVAL OF MECHANICAL, ELECTRICAL OR COMM. EQUIPMENT. REINSTALL WITH NEW ROOFING ON WALK-OFF PADS.

H. METAL ROOF NOT IN CONTRACT.

I. DEMO WOOD PRIVACY FENCE.

J. DEMO AND REPLACE ROOF ACCESS LADDER AT NEW LOCATION PER PLAN.

K. DEMO ROOFING, SHEATHING AND SLOPED 2X4 SLEEPERS AT ROOF D. PROVIDE NEW ROOF SHEATHING AND TAPERED INSULATION PER SPEC.

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REFERENCE PLAN AND NOTES

Sheet:
A1.0

1 **of** 7A

ROOF PLAN EQUIPMENT LEGEND

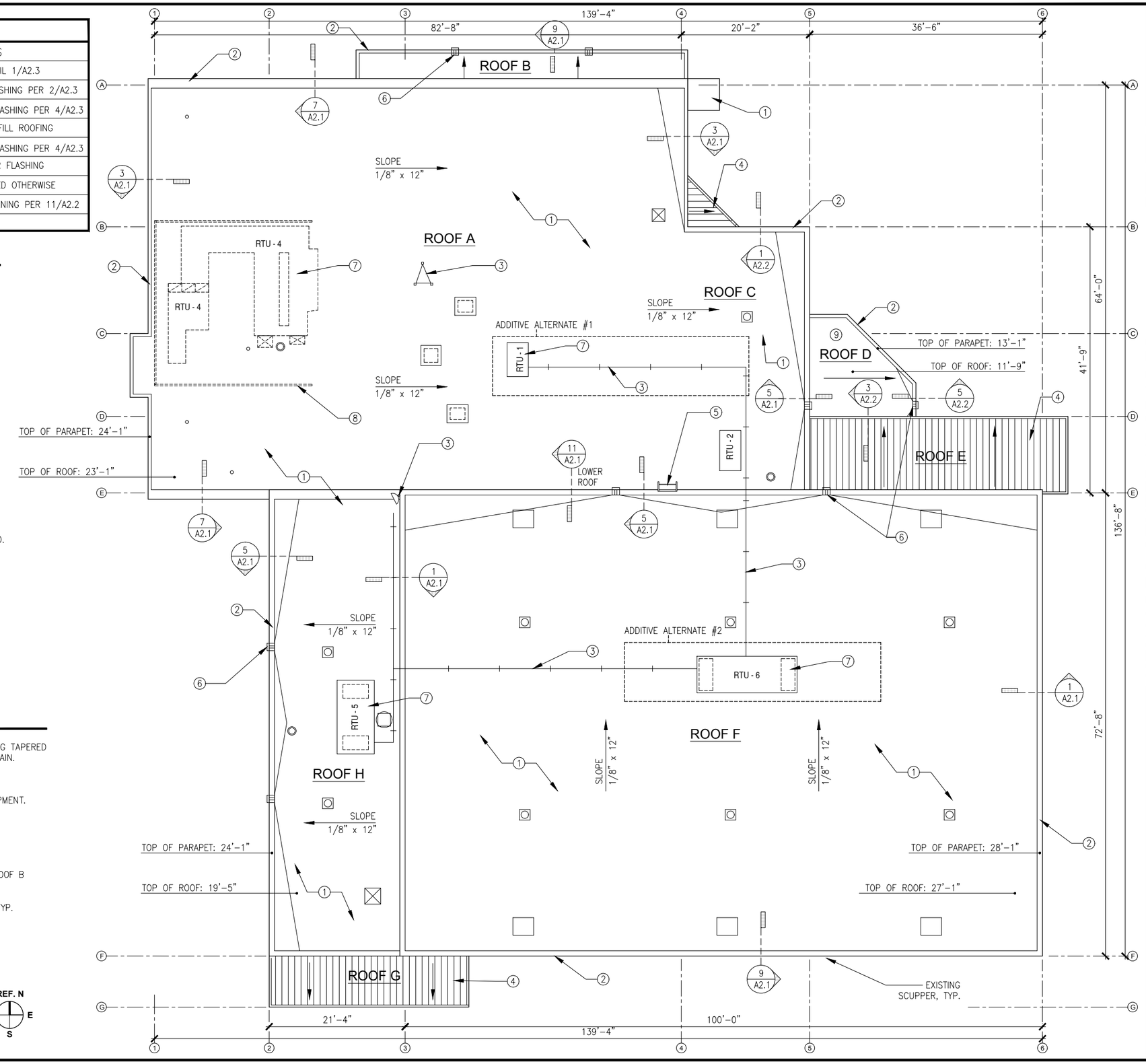
ID	DESCRIPTION	SIZE	NOTES
	NEW ROOF DRAIN AND OVERFLOW	VARIES	INSTALL PER DETAIL 1/A2.3
○	VENT THRU ROOF	6"	REPLACE COUNTER FLASHING PER 2/A2.3
□ ◎	MECHANICAL VENT	22"X22"	REPLACE ROOF CURB FLASHING PER 4/A2.3
	MECHANICAL EXHAUST HOOD	24"X24"	DEMO PER MECH, INFILL ROOFING
	MECHANICAL HOOD	VARIES	REPLACE ROOF CURB FLASHING PER 4/A2.3
◎	BOILER FLUE	12" DIA.	REPLACE COUNTER FLASHING
⊠	ABANDONED ROOF OPENING	VARIES	INFILL UNLESS NOTED OTHERWISE
	ROOF ACCESS HATCH	30"X54"	INSTALL AT EXISTING OPENING PER 11/A2.2

GENERAL NOTES:

1. AFTER DEMOLITION OF THE EXISTING ROOFING, IF ANY DETERIORATED DECKING IS DISCOVERED, EITHER THE ARCHITECT OR PROJECT MANAGER SHALL BE CONTACTED TO VERIFY THE EXTENT OF DAMAGE PRIOR TO REPLACEMENT OR COVERING.
2. EXISTING EQUIPMENT CURBS AND PARAPET WALLS SHALL BE STRIPPED OF ALL ROOFING MATERIAL AND CLEANED OF ALL FASTENERS PRIOR TO RE-BUILDING.
3. FIELD VERIFY ALL EXISTING ROOF SLOPES, ELEVATIONS, SQUARE FOOTAGE'S, AND DIMENSIONS.
4. VERIFY USE, QUANTITY, TYPE, AND SIZE OF ROOF PENETRATIONS PRIOR TO EXTENDING OR REMOVAL. COORDINATE WITH THE OWNER ON PENETRATIONS THAT ARE ABANDONED.
5. AFTER DEMOLITION OF EXISTING ROOFING, NOTIFY ARCHITECT TO VERIFY SLOPE OF ORIGINAL ROOF CONSTRUCTION.
6. EXISTING VENTS, CONDUIT, ETC. TO BE CLEANED OF ALL EXISTING ASPHALTIC COATINGS PRIOR TO APPLYING NEW ROOF MEMBRANE PER MANUFACTURER'S RECOMMENDATIONS.
7. VTR'S WHICH CONTAIN LEAD CAPS SHALL BE REMOVED BY WORKERS WHO ARE TRAINED IN LEAD AWARENESS. MATERIALS SHALL BE RECYCLED.
8. CONTRACTOR SHALL MAINTAIN THE BOTTOM ELEVATION OF THE EXISTING PARAPET COPING AT ALL EXTERIOR FACES OF WALLS AS REQ'D. SEE OTHER DETAILS FOR FURTHER INFORMATION.
9. CONTRACTOR SHALL REPAIR ALL INTERIOR FINISHES THAT ARE DAMAGED DUE TO ROOF DRAIN REMOVAL, LEADER REPAIR, OR OTHER ADJACENCIES AS REQUIRED TO ACCOMPLISH THE WORK.
10. CONTRACTOR SHALL REPAIR ALL DAMAGES TO LAWNS AND ANY OTHER DAMAGED SITE ELEMENTS DURING CONSTRUCTION.
11. ALL MECHANICAL CURBS TO RECEIVE TAPERED DRAINAGE CRICKETS ON UP-SLOPE SIDE WITH 1/4":12 SLOPE.

DEMO ROOF PLAN NOTES

1. DEMO ALL EXISTING BUR ROOFING AND COVERBOARD. DEMO ALL EXISTING TAPERED INSULATION AT CRICKETS. EXISTING NON-TAPERED INSULATION TO REMAIN.
2. DEMO ALL EXISTING PARAPET CAP FLASHING, TYP.
3. COORDINATE THE TEMPORARY REMOVAL OF MECH, ELEC OR COMM EQUIPMENT. REINSTALL WITH NEW ROOFING ON RUBBER WALKING PADS.
4. METAL ROOF NOT IN CONTRACT, TYP.
5. DEMO EXISTING ROOF LADDER.
6. DEMO AND INFILL EXISTING SCUPPERS OTHER THAN AT ROOF B, TYP. ROOF B SCUPPERS TO BE REMOVED AND REPLACED PER DETAIL 5/A2.3.
7. REFER TO MECHANICAL DRAWINGS FOR RTU DEMO AND REPLACEMENT, TYP.
8. DEMO WOOD FENCE.
9. DEMO ROOFING, SHEATHING AND SLOPED 2X4 SLEEPERS.



1 DEMO ROOF PLAN

GRAPHIC SCALE: 1' 3' 6' 12'

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Sheet:
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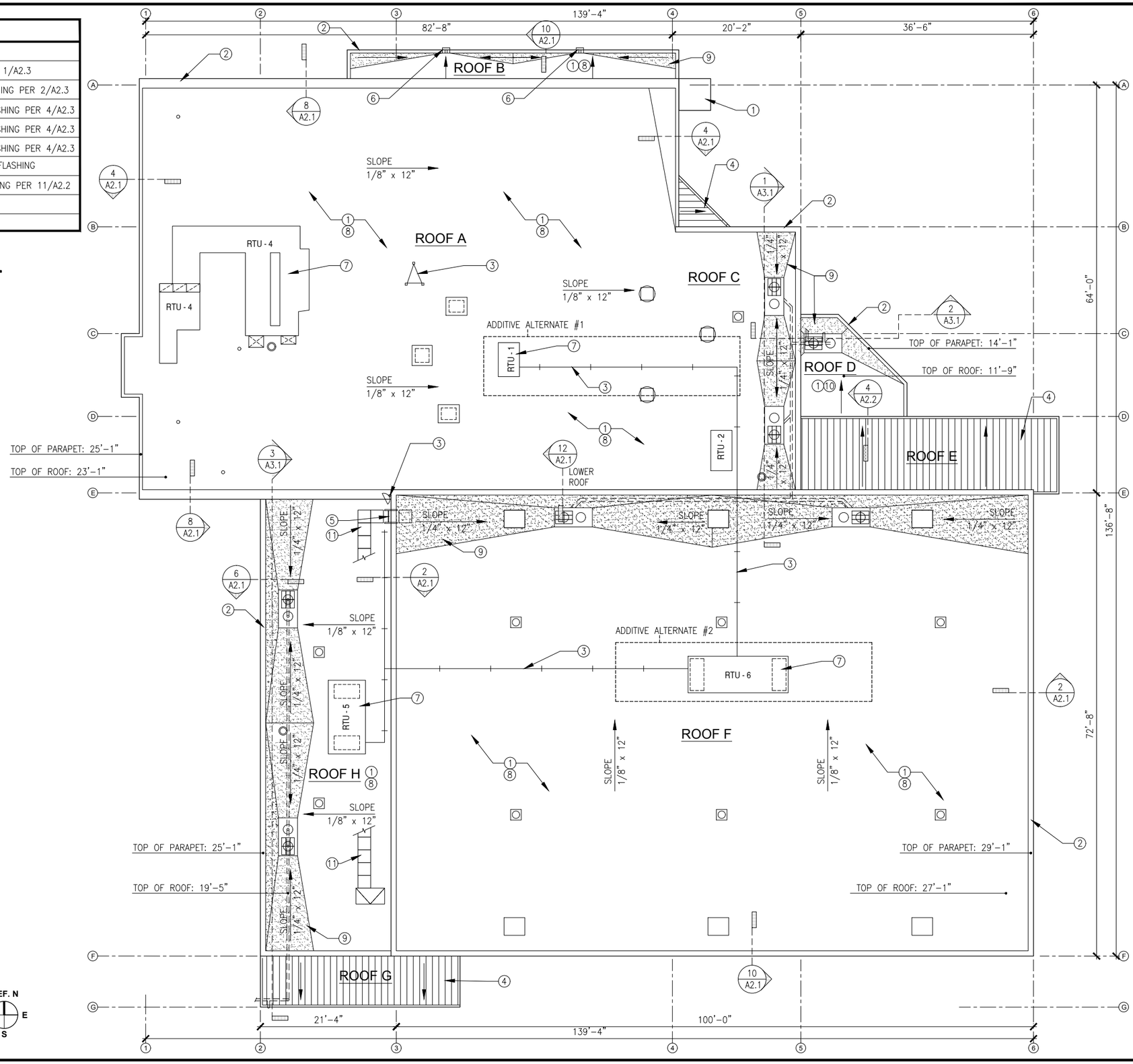
ROOF PLAN EQUIPMENT LEGEND

ID	DESCRIPTION	SIZE	NOTES
	NEW ROOF DRAIN AND OVERFLOW	VARIES	INSTALL PER DETAIL 1/A2.3
	VENT THRU ROOF	6"	REPLACE COUNTER FLASHING PER 2/A2.3
	MECHANICAL VENT	22"X22"	REPLACE ROOF CURB FLASHING PER 4/A2.3
	MECHANICAL EXHAUST HOOD	24"X24"	REPLACE ROOF CURB FLASHING PER 4/A2.3
	MECHANICAL HOOD	VARIES	REPLACE ROOF CURB FLASHING PER 4/A2.3
	BOILER FLUE	12" DIA.	REPLACE COUNTER FLASHING
	ROOF ACCESS HATCH	30"X54"	INSTALL AT EXISTING OPENING PER 11/A2.2

ROOF PLAN NOTES

1. NEW ROOFING SYSTEM TO BE INSTALLED PER SPECIFICATIONS AND MANUFACTURER REQUIREMENTS.
2. NEW PARAPET CAP FLASHING, TYP.
3. COORDINATE THE TEMPORARY REMOVAL OF MECH, ELEC OR COMM EQUIPMENT. REINSTALL WITH NEW ROOFING ON RUBBER WALKING PADS.
4. METAL ROOF NOT IN CONTRACT, TYP.
5. NEW ROOF LADDER PER SPEC, SEE DETAILS 6,7/A2.3.
6. NEW SCUPPER PER DETAIL 5/A2.3.
7. REFER TO MECHANICAL DRAWINGS FOR RTU REPLACEMENT. SEE 4/A2.3 FOR FLASHING DETAIL, TYP.
8. CONTRACTOR IS RESPONSIBLE FOR THE REPAIR OF ALL CONSTRUCTION RELATED DAMAGE TO EXISTING ROOF TOP EQUIPMENT AND NEW ROOFS, FLASHING, AND ACCESSORIES, TYP.
9. NEW TAPERED INSULATION ROOF CRICKETS TO SLOPE AT ¼" PER 12" TO ROOF DRAINS, TYP.
10. NEW ROOF SHEATHING AT EXISTING 2X12 RAFTERS. NEW TAPERED INSULATION ¼" TO 12" SLOPE TO ROOF DRAIN PER AND NEW ROOFING PER ROOF TYPE.
11. PROVIDE ROOFING WALKING MATS FROM ACCESS HATCH TO ROOF ACCESS LADDER.



1 NEW ROOF PLAN

GRAPHIC SCALE: 1' 3' 6' 12'

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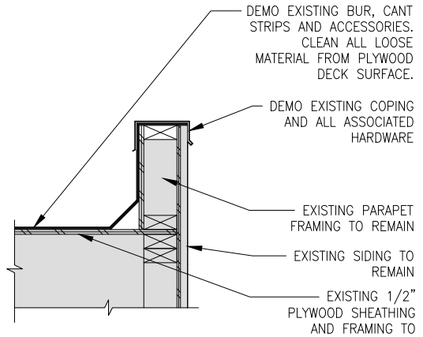
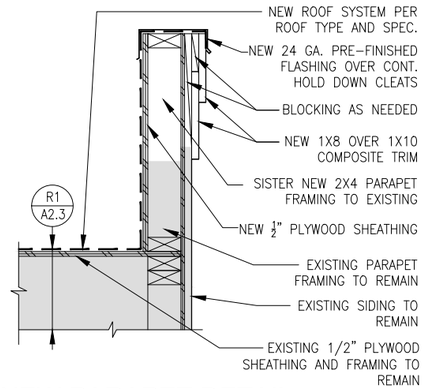


1 DEMO PARAPET DETAIL

GRAPHIC SCALE: 1" 3" 2" 6" 12"



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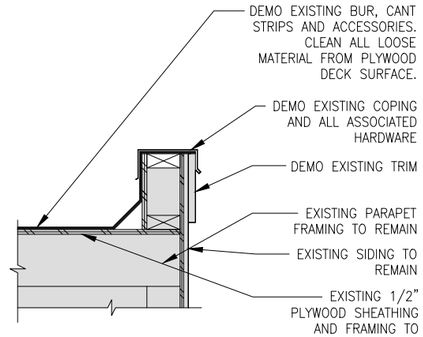

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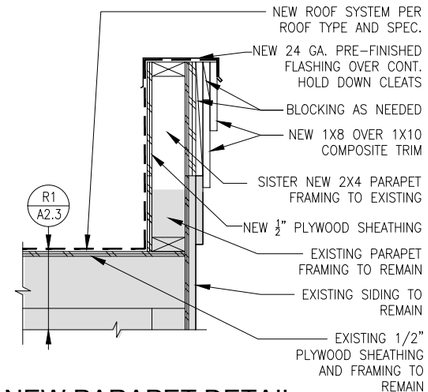

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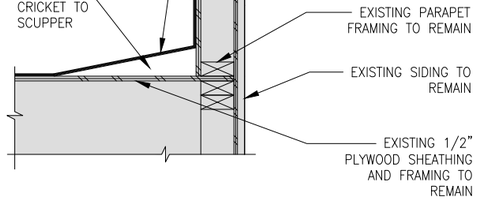

5 EXISTING/DEMO PARAPET DETAIL

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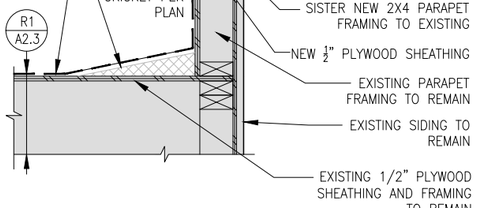
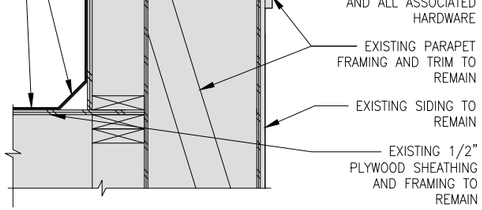


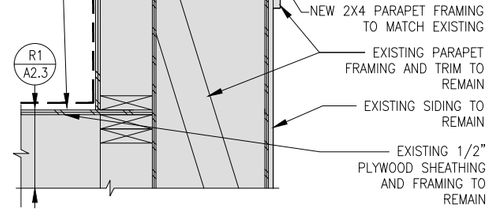
6 NEW PARAPET DETAIL

GRAPHIC SCALE: 1" 3" 2" 6" 12"



7 DEMO PARAPET DETAIL

GRAPHIC SCALE: 1" 3" 2" 6" 12"



8 NEW PARAPET DETAIL

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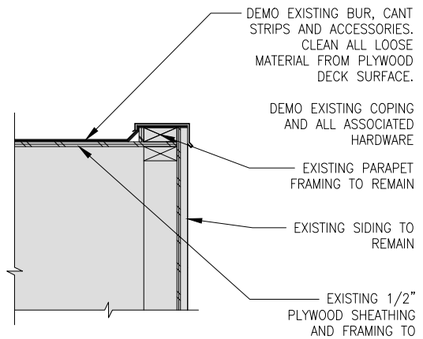

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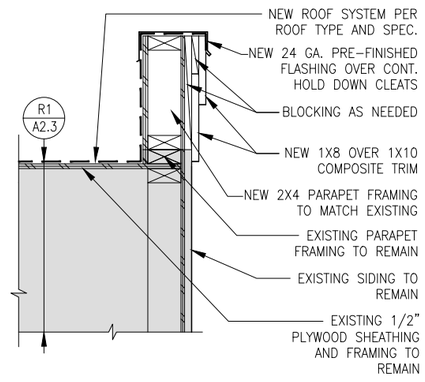

10 NEW PARAPET DETAIL

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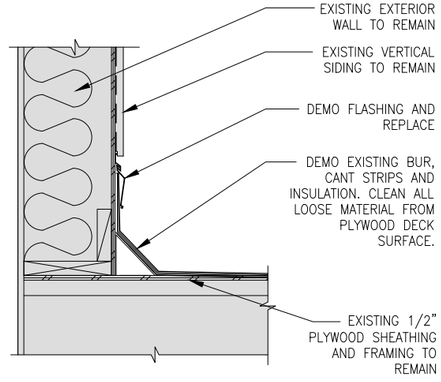

11 EXISTING/DEMO SIDEWALL DETAIL

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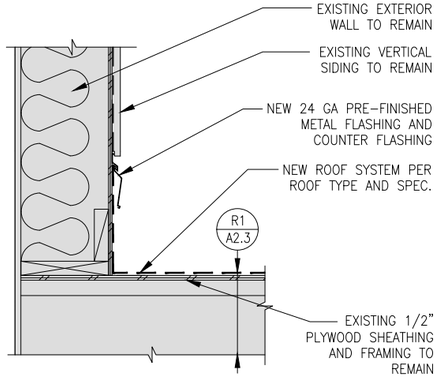

12 NEW SIDEWALL DETAIL

GRAPHIC SCALE: 1" 3" 2" 6" 12"

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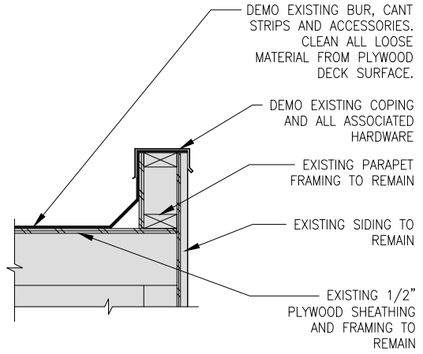
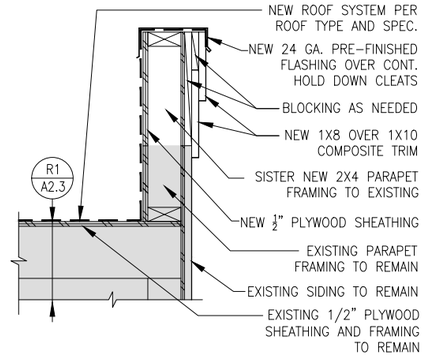


1 DEMO PARAPET DETAIL

GRAPHIC SCALE: 1" 2" 6" 12" / 1" 3"



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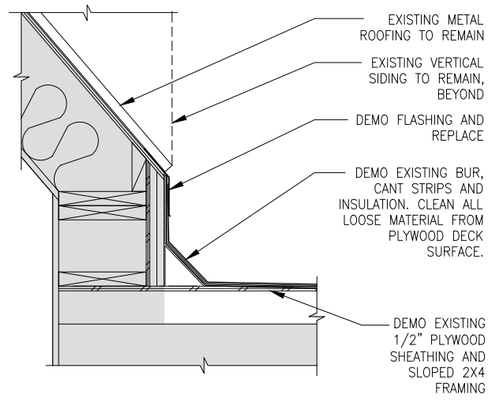

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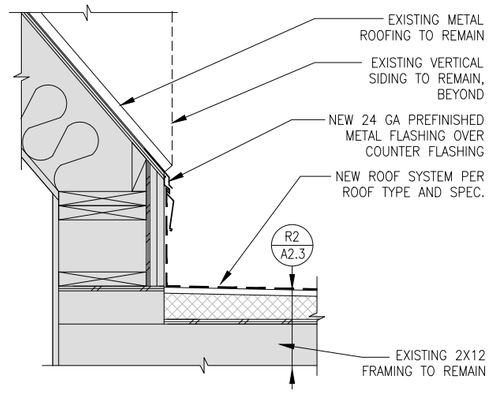

4 NEW SIDEWALL DETAIL

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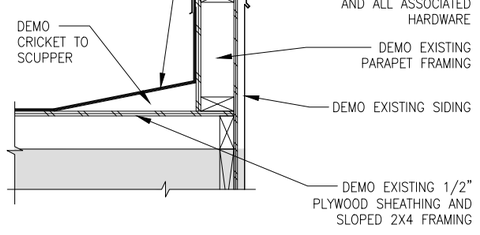

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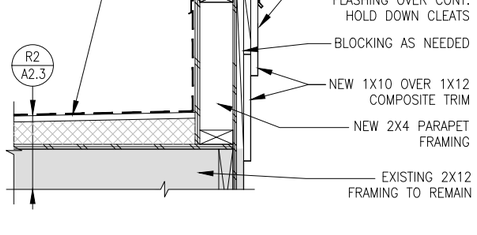

6 NEW PARAPET DETAIL

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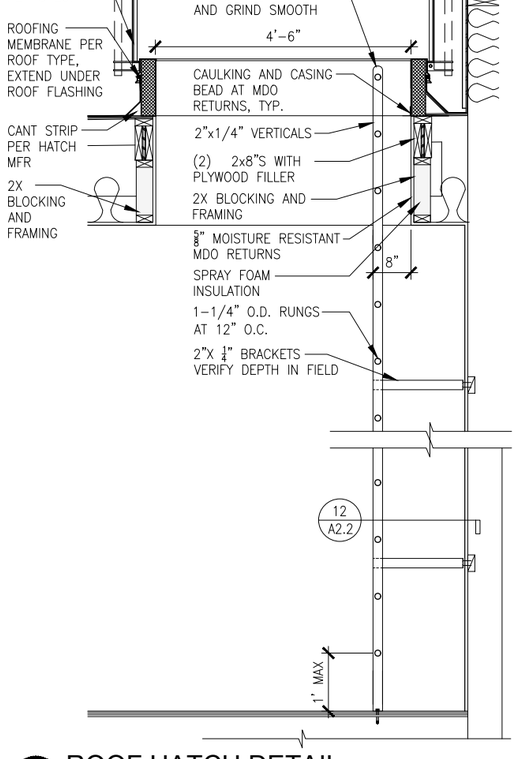
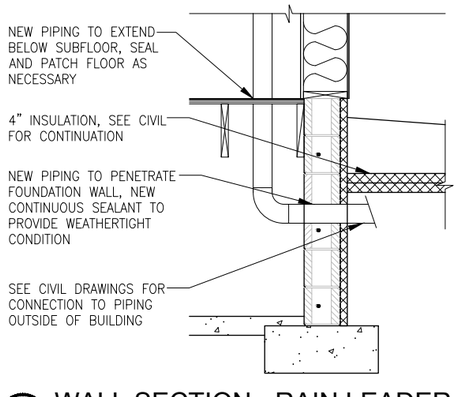


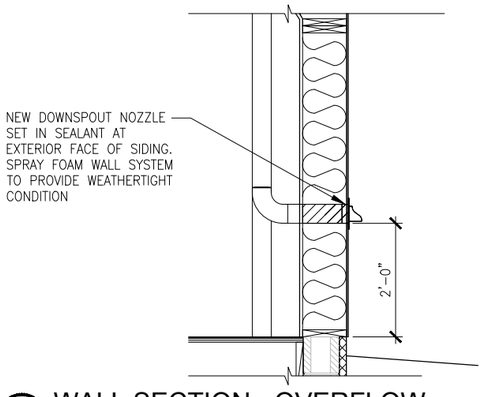
11 ROOF HATCH DETAIL

GRAPHIC SCALE: 1" 4" 12" 24" / 2" 6"



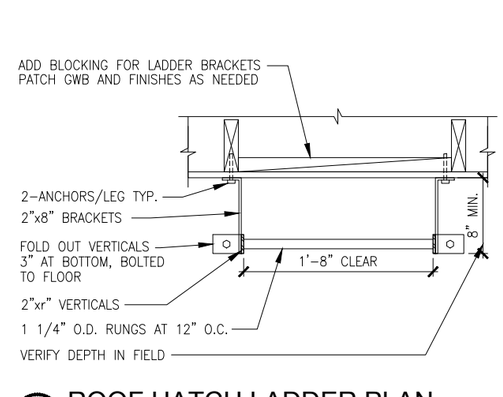
9 WALL SECTION - RAIN LEADER

GRAPHIC SCALE: 1" 4" 12" 24" / 2" 6"



10 WALL SECTION - OVERFLOW

GRAPHIC SCALE: 1" 4" 12" 24" / 2" 6"



12 ROOF HATCH LADDER PLAN

GRAPHIC SCALE: ½" 2" 6" 12" / 1" 3"

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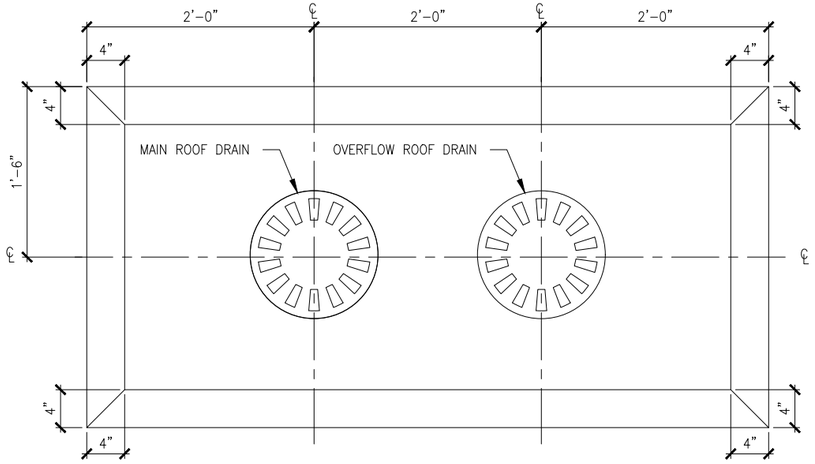
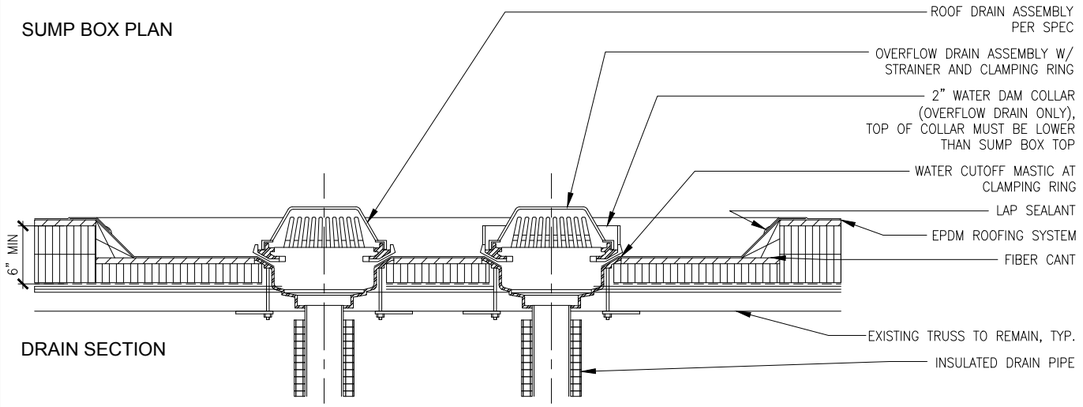


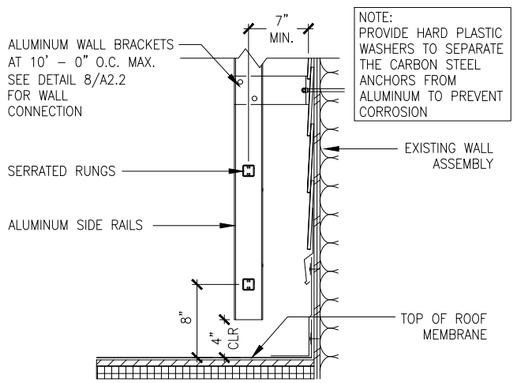
SUMP BOX PLAN



DRAIN SECTION

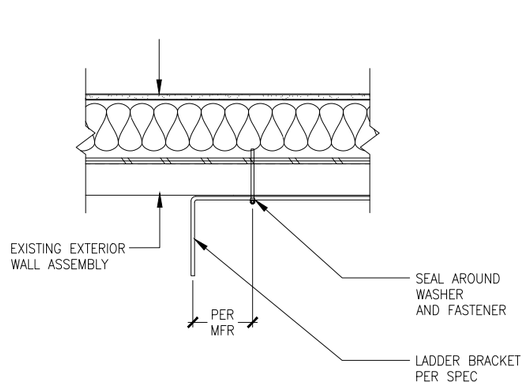
1 ROOF DRAIN/ OVERFLOW DRAIN DETAIL

GRAPHIC SCALE: 1" 2" 6" 12" / 1" 3"



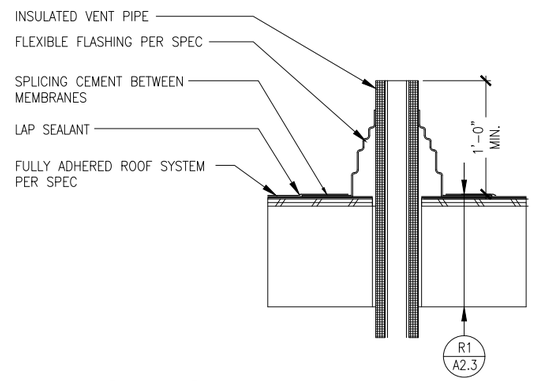
6 LADDER BASE SUPPORT

GRAPHIC SCALE: 1" 2" 6" 12" / 1" 3"



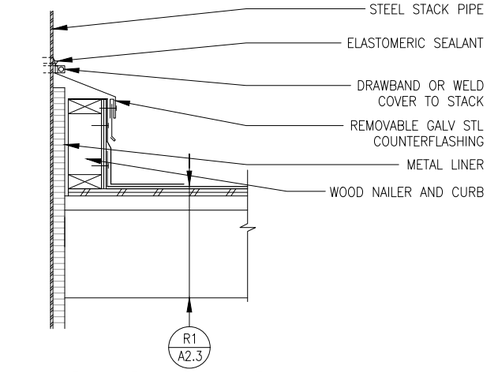
7 ROOF LADDER BRACKET

GRAPHIC SCALE: 1" 2" 6" 12" / 1" 3"



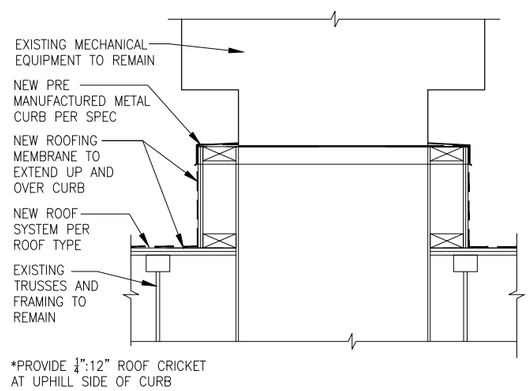
2 MECHANICAL VENT DETAIL

GRAPHIC SCALE: 1" 2" 6" 12" / 1" 3"



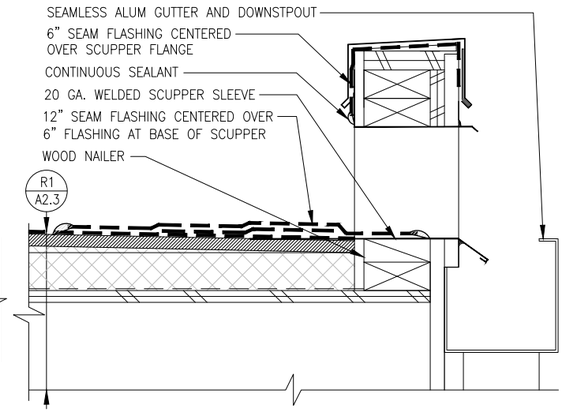
3 INSUL STACK (HOT)

GRAPHIC SCALE: 1" 2" 6" 12" / 1" 3"



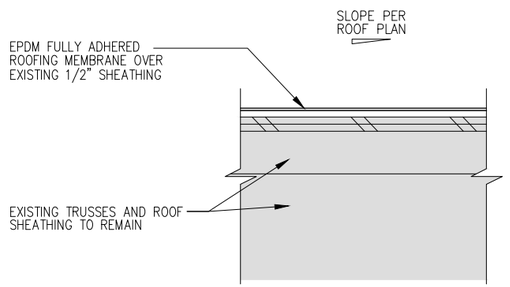
4 MECHANICAL CURB DETAIL

GRAPHIC SCALE: 1/2" 2" 6" 12" / 1" 3"



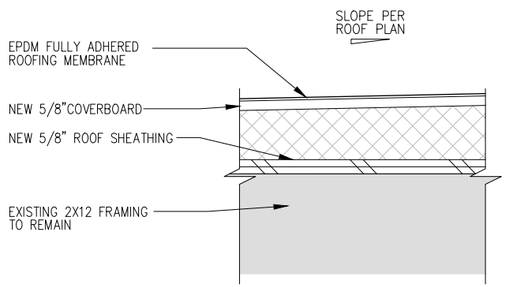
5 NEW SCUPPER DETAIL

GRAPHIC SCALE: 1/4" 1" 3" 6" / 1/2" 2"



R1 ROOF TYPE

GRAPHIC SCALE: 1/4" 1" 3" 6" / 1/2" 2"



R2 ROOF TYPE

GRAPHIC SCALE: 1/4" 1" 3" 6" / 1/2" 2"

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KENAI REC CENTER UPGRADES
CONSTRUCTION DOCUMENTS
KENAI, ALASKA

Revisions:

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49TH
CHRISTOPHER M. PARKER
A13239
9/23/2022
REGISTERED PROFESSIONAL ARCHITECT

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Drawn: MCM
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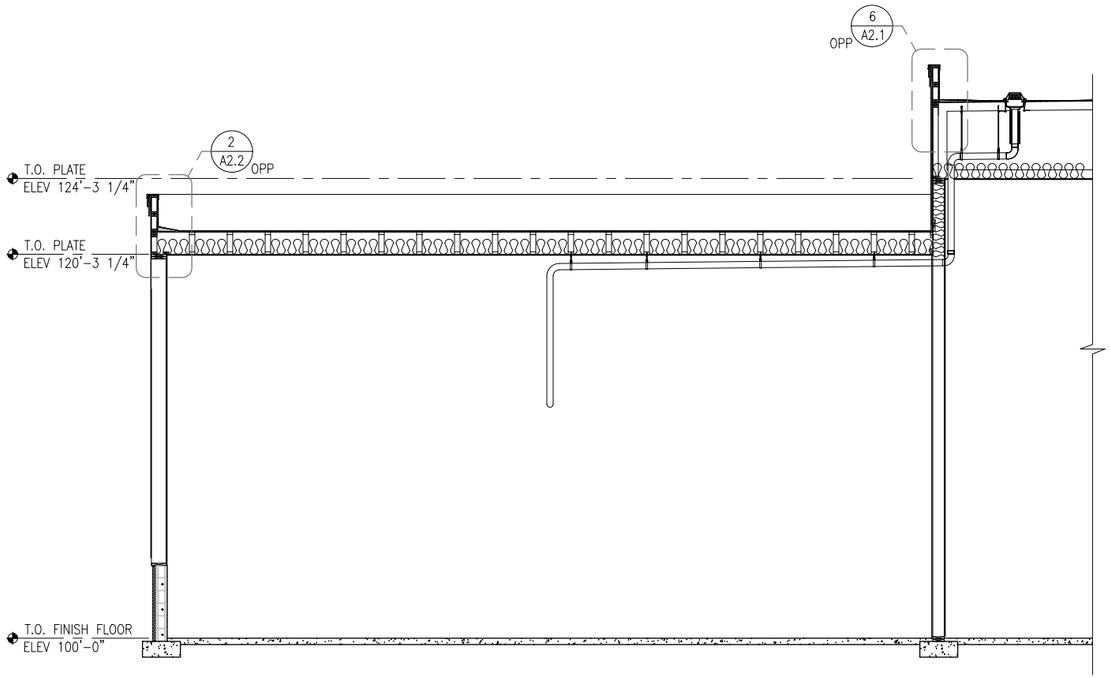
Project: 2032
File Name: 2032.DWG

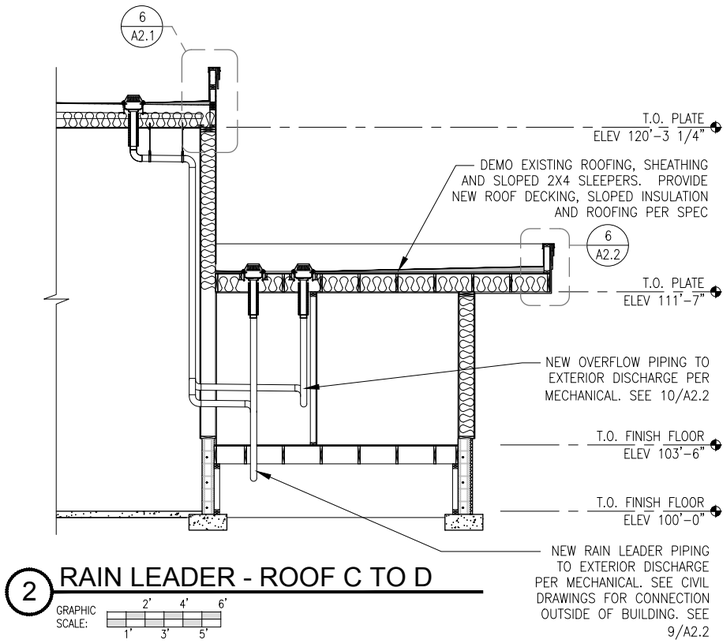
Sheet Title: DETAILS

Sheet: A2.3



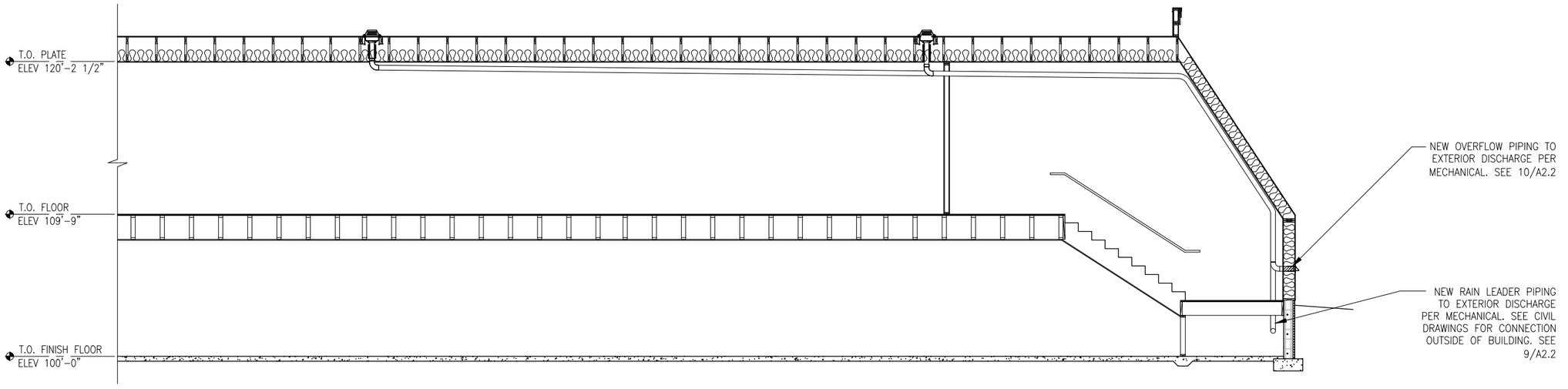
1 RAIL LEADER - ROOF F TO C

GRAPHIC SCALE: 1' 3' 5' 2' 4' 6'



2 RAIL LEADER - ROOF C TO D

GRAPHIC SCALE: 1' 3' 5' 2' 4' 6'



3 RAIL LEADER - ROOF H TO G

GRAPHIC SCALE: 1' 3' 5' 2' 4' 6'

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KENAI REC CENTER UPGRADES
CONSTRUCTION DOCUMENTS
KENAI, ALASKA

Revisions:

STATE OF ALASKA
CHRISTOPHER M. PARKER
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Sheet Title:
BUILDING SECTIONS

Sheet:
A3.1

MECHANICAL LEGEND AND ABBREVIATIONS

GENERAL ABBREVIATIONS

ADA	AMERICANS W/ DISABILITIES ACT
APPROX	APPROXIMATE
ARCH	ARCHITECT, ARCHITECTURAL
BB	BASEBOARD
BAS	BUILDING AUTOMATION SYSTEM
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
CFM	CUBIC FEET PER MINUTE
CA	COMPRESSED AIR
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
CONN	CONNECTION
dB	DECIBEL
DB	DRY BULB (AIR)
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE
DMPR	DAMPER
DN	DOWN
DPS	DIFFERENTIAL PRESSURE SENSOR
DWV	DRAIN WASTE AND VENT
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EGT	ENTERING GLYCOL TEMPERATURE
ELEC	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER (GLYCOL) TEMPERATURE
(E)	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FPM	FEET PER MINUTE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPH	GALLON PER HOUR
GPM	GALLON PER MINUTE
HP	HORSEPOWER (ELEC.)
HZ	HERTZ (ELEC.)
IN.W.C.	INCH, WATER COLUMN
KW	KILOWATT
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LGT	LEAVING GLYCOL TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	1,000 BTU PER HOUR
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OAT	OUTSIDE AIR TEMPERATURE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
PD	PRESSURE DROP
PG	PROPYLENE GLYCOL
PH	PHASE (ELEC)
PSI	POUND PER SQUARE INCH
RPBFP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTION PER MINUTE
S.L.	ACOUSTIC OR SOUND LINED
SS	STAINLESS STEEL
TEMP	TEMPERATURE
TP	TRAP PRIMER
TYP	TYPICAL
V	VOLT (ELEC.)
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
WB	WET BULB

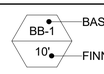
ADDITIONAL ABBREVIATIONS NOTED BY EQUIPMENT TAGS, SYSTEM SYMBOLS, AND ACRONYMS GENERALLY ACCEPTED BY THE INDUSTRY SHALL BE APPLICABLE.

GRAPHIC REFERENCES

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CL	CENTER LINE
ELEV.	ELEVATION
FFL	FINISHED FLOOR LEVEL
INV.	INVERT
TOD	TOP OF DUCT
TOP	TOP OF PIPE
OC	ON CENTER

DUCTWORK AND ACCESSORIES

C/A	COMBUSTION AIR
E/A	EXHAUST AIR
O/A	OUTSIDE AIR
R/A	RETURN AIR
S/A	SUPPLY AIR
T/A	TRANSFER AIR
FD	FIRE DAMPER
FSD	FIRE-SMOKE DAMPER
BD	BALANCING DAMPER
BDD	BACK DRAFT DAMPER
SM	SHEET METAL



BASEBOARD CALLOUT

FINNED ELEMENT LENGTH

PIPING SYSTEM REFERENCES

PLUMBING SYSTEMS

CW	DOMESTIC COLD WATER
NPW	NON-POTABLE COLD WATER
HW	DOMESTIC HOT WATER
HWC	DOMESTIC HOT WATER CIRCULATION
OL	OVERFLOW LEADER
PS	PRESSURE SEWER
PW	PUMPED WASTE
RL	RAIN LEADER
V	SANITARY VENT
W	SANITARY WASTE

FUEL GAS SYSTEMS

G	NATURAL GAS
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY

FIRE PROTECTION SYSTEMS

SP	FIRE PROTECTION SPRINKLER PIPING
F	FIRE MAIN
FDC	FIRE DEPARTMENT CONNECTION

HYDRONIC SYSTEMS

CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
GR	GLYCOL RETURN
GS	GLYCOL SUPPLY

MEDICAL GAS SYSTEMS

O2	OXYGEN
N2O	NITROUS OXIDE
DA	DENTAL AIR
VAC	VACUUM
WAGD	WASTE ANESTHETIC GAS DISPOSAL

PIPING COMPONENTS AND ASSEMBLIES

SYMBOL	ABBREV.	DESCRIPTION
		PIPE UP
		PIPE DOWN
		PIPE TEE UP
		PIPE TEE DOWN
	FD	FLOOR DRAIN
	RD, ORD	ROOF DRAIN, OVERFLOW ROOF DRAIN
	CO	CLEANOUT, PIPE END PLUG
	WCO	CLEANOUT, WALL, CONCEALED
	FCO	CLEANOUT, FLOOR
	YCO	CLEANOUT, YARD W/CONCRETE COLLAR
(#)	WHA	WATER HAMMER ARRESTOR (# DENOTES FIXTURE UNIT LOAD)
AAV	AAV	AUTOMATIC AIR VENT W/SHUT-OFF VALVE(NOT SHOWN)
MAV	MAV	MANUAL AIR VENT W/SHUT-OFF VALVE(NOT SHOWN)
TP	TP	TRAP PRIMER, AUTOMATIC
		BALL/GATE/SHUTOFF VALVE
		GLOBE VALVE
		CHECK VALVE
	ST	STRAINER, IN-LINE W/HOSE-END DRAIN
		DRAIN VALVE W/HOSE END
	BLV	BALANCING VALVE
	FCV	FLOW CONTROL VALVE
	MOV	CONTROL VALVE, 2-WAY
3MV	3MV	CONTROL VALVE, 3-WAY MIXING
3DV	3DV	CONTROL VALVE, 3-WAY DIVERTING
	RV	RELIEF VALVE
		PRESSURE GAGE W/ ISOLATION VALVE
		PRESSURE REDUCING VALVE
		PIPE REDUCER
		UNION CONNECTION
		FLANGE CONNECTION
		FLEXIBLE JOINT
		PIPE ANCHOR
		PIPE ALIGNMENT GUIDE
		PIPE EXPANSION COMPENSATOR
	POC	POINT OF CONNECTION

DUCTWORK COMPONENTS AND ASSEMBLIES

SYMBOL	ABBREV.	DESCRIPTION
	S.L.	ACOUSTICALLY LINED DUCT
		THERMALLY INSULATED DUCT
		FLEX DUCT
		FLEX CONNECTION
		TURNING VANES
	VD, BD	VOLUME DAMPER, BALANCING DAMPER
	FD, FSD	FIRE DAMPER, FIRE SMOKE DAMPER
	HC	HEATING COIL
T	T'STAT	THERMOSTAT (W/ INSULATED BASE)
	S/A, O/A	SUPPLY AIR, OUTSIDE AIR (UP & DOWN)
	R/A, T/A	RETURN AIR, TRANSFER AIR (UP & DOWN)
	E/A	EXHAUST AIR (UP & DOWN)

PLUMBING FIXTURE SCHEDULE

NOTE:

PIPE SIZES LISTED ARE THE REQUIRED SERVICE SIZE. THE ACTUAL CONNECTION SIZE SHALL BE AS REQUIRED BY THE MANUFACTURER OF THE ITEM SUPPLIED.

FIXTURE ID	DESCRIPTION	CW	HW	W	V	COMMENTS / BASIS OF DESIGN
OD-1	OVERFLOW ROOF DRAIN	-	-	3"	-	PROVIDE WITH UNDERDECK CLAMP AND 2" WATER DAM.
RD-1	ROOF DRAIN	-	-	3"	-	PROVIDE WITH UNDERDECK CLAMP, CAST IRON DOME.

ROOF TOP GAS/ELECTRIC AIR CONDITIONING UNIT SCHEDULE

NOTES:

1. PROVIDE WITH LOW-LEAKAGE ECONOMIZER, POWER EXHAUST WITH BUILDING PRESSURE CONTROL, AND CO2 SENSOR FOR O/A MODULATION.
2. PROVIDE WITH 24" H FACTORY ROOFCURB, AND LOW AMBIENT CONTROLS. SEE NOTE 6 FOR RTU-5,6.
3. PROVIDE FIELD POWERED 115V GFCI OUTLET FOR EQUIPMENT MAINTENANCE.
4. PROVIDE SMOKE DETECTOR IN RETURN DUCTWORK.
5. PROVIDE WITH GRAVITY RELIEF.
6. FIELD FABRICATE 24" HIGH INSULATED ROOF CURB TO ACCOMMODATE UNIT AND SUPPLY AIR DUCT TRANSITION.

		NOMINAL COOLING CAPACITY (TONS)		SUPPLY CFM	ESP (IN W.C.)	ELECTRICAL							COOLING						GAS HEATING				BASIS OF DESIGN		
	AREA SERVED		EER			POWER	MCA	MOP	VOLTAGE	PHASE	VFD	INTEGRAL DISCONNECT	MBHT	MBHS	EAT	LAT	AMB. TEMP	APD (IN W.C.)	MBH IN	MBH OUT	TEMP RISE	FILTERS	MFR.	MODEL	NOTES
RTU-1	RAQUETBALL	4	11.5	1600	1.00	1.5 HP	22.6 A	35 A	208	3	No	Yes	47.424	39.575	76 °F	53 °F	85 °F	0.00	115	92	53 °F	MERV 8	DAIKIN	048	2,3,5
RTU-2	CARDIO	3	11.5	1200	1.00	1 HP	17.4 A	25 A	208	3	Yes	Yes	35.43	29.097	76 °F	54 °F	85 °F	0.00	90	72	56 °F	MERV 8	DAIKIN	036	2,3,5
RTU-3	2ND FLOOR COMMONS	8.5	11.0	3500	1.00	3 HP	45.7 A	60 A	208	3	Yes	No	98.102	78.047	76 °F	56 °F	85 °F	0.00	210	168	44 °F	MERV 8	DAIKIN	102	1,2,3,4
RTU-4	1ST FLOOR LOBBY, WEIGHT ROOM	8.5	11.0	3500	1.00	3 HP	45.7 A	60 A	208	3	Yes	No	98.102	78.047	76 °F	56 °F	85 °F	0.00	210	168	44 °F	MERV 8	DAIKIN	102	1,2,3,4
RTU-5	GYM LOCKER ROOMS, 2ND FLOOR LOUNGE	7.5	11.0	2610	1.00	3 HP	42.7 A	50 A	208	3	Yes	No	85.495	67.103	76 °F	53 °F	85 °F	0.00	210	168	60 °F	MERV 8	DAIKIN	090	1,2,3,4,6
RTU-6	GYM	20	9.8	7950	1.00	7.5 HP	103.0 A	125 A	208	3	Yes	No	233.665	189.912	76 °F	54 °F	85 °F	0.00	400	320	37 °F	MERV 8	DAIKIN	240	1,2,3,4,6

FAN SCHEDULE

NOTES:

1. PROVIDE WITH WALL CAP WITH BDD, AND BIRDSCREEN.
2. CONTROLLED BY WALL MOUNTED TIMER SWITCH.
3. OPERATE DURING OCCUPIED SCHEDULE.

		FAN DATA				ELECTRICAL							BASIS OF DESIGN		
EQ. ID	LOCATION	CFM	ESP (IN WC)	TYPE	RPM	POWER	FLA	VOLTAGE	PHASE	ECM	VFD	INTEGRAL DISCONNECT	MFR.	MODEL	NOTES
EF-1	RAQUETBALL CT 1	200	0.50	CEILING	1033	75 W	0.83	120	1	No	No	No	GREENHECK	SP-A290	1,2
EF-2	RAQUETBALL CT 2	200	0.50	CEILING	1033	75 W	0.83	120	1	No	No	No	GREENHECK	SP-A290	1,2
EF-3	WEIGHT ROOM	400	0.50	INLINE	1453	1/4 HP	5.8	120	1	No	No	No	GREENHECK	BSQ-80-4	1,2
EF-4	ROOF	720	0.55	DIRECT	975	1/4 HP	-	208	1	Yes	No	No	GREENHECK	USF-13	3
EF-5	ROOF	6280	0.50	DIRECT	1819	3 HP	-	208	3	No	Yes	No	GREENHECK	USF-20	3

AIR OUTLET SCHEDULE

NOTES:

1. DIFFUSER BACK PAN AND NECK SIZE AS SHOWN ON DRAWINGS.
2. DIFFUSER BLOW PATTERN AS SHOWN ON DRAWINGS.
3. PROVIDE SOUND-LINED ACOUSTICAL ELBOW AS SHOWN ON DRAWINGS.
4. ALL SUPPLY, RETURN, AND EXHAUST AIR DIFFUSERS TO BE PROVIDED WITH OBD OR VD FOR AIR BALANCING. LOCATE VD QUADRANTS IN AN ACCESSIBLE LOCATION FOR BALANCING.

TAG	AREA SERVED	FINISH	USE	REMARKS
A	AS NOTED	OFF WHITE	R/A, E/A	SURFACE MOUNTED, DOUBLE DEFLECTION, TITUS 350RL

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LICENSE AECL 1146

KENAI REC CENTER WATER UPGRADES

CONSTRUCTION DOCUMENTS

KENAI, ALASKA

Revisions:

Date: 9/23/2022

Drawn: SEO
Checked: JAB
Project: 2017-049

Sheet Title:
LEGEND & SCHEDULES

Sheet:
M0.1

of

MECHANICAL SPECIFICATIONS

GENERAL PROVISIONS (DIVISION 21, 22, 23)

SCOPE OF WORK

THIS PROJECT IS GENERALLY DESCRIBED REVISING THE EXISTING MECHANICAL SYSTEMS IN LINE WITH A ROOF REPLACEMENT PROJECT AT THE KENAI REC CENTER.

INTENT OF DRAWINGS AND SPECIFICATIONS

THE INTENT OF THE CONTRACT DOCUMENTS IS FOR THE CONTRACTOR TO INCLUDE ALL WORK NECESSARY FOR COMPLETE MECHANICAL SYSTEMS, TESTED AND READY FOR OPERATION. BY SUBMITTING A PROPOSAL, THE CONTRACTOR REPRESENTS THEY HAVE MADE A THOROUGH EXAMINATION OF THE SITE, OF THE WORK AND ALL EXISTING CONDITIONS AND LIMITATIONS, AND THEY HAVE DETERMINED THE DOCUMENTS ARE ADEQUATE AND SATISFACTORY FOR THE COMPLETION OF THE WORK.

MECHANICAL DRAWINGS DO NOT ATTEMPT TO SHOW ALL ASPECTS OF BUILDING CONSTRUCTION, WHICH WILL AFFECT THE INSTALLATION OF MECHANICAL SYSTEMS. THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW ALL OFFSETS, FITTINGS AND ACCESSORIES THAT MAY BE REQUIRED FOR A COMPLETE INSTALLATION.

CODES AND STANDARDS

PROVIDE ALL WORK IN COMPLIANCE WITH APPLICABLE LOCAL CODES AND STANDARDS. APPLICABLE CODES AND STANDARDS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. 2018 UNIFORM PLUMBING CODE
2. 2018 INTERNATIONAL MECHANICAL CODE
3. 2018 INTERNATIONAL FUEL GAS CODE
4. 2018 INTERNATIONAL FIRE CODE
5. 2018 INTERNATIONAL BUILDING CODE
6. 2018 INTERNATIONAL ENERGY CONSERVATION CODE
7. REQUIREMENTS OF OSHA AND EPA
8. NATIONAL FIRE PROTECTION ASSOCIATION CODES, LATEST EDITIONS
9. ASME CODES FOR BOILER AND PRESSURE VESSELS, LATEST EDITIONS
10. SMACNA HVAC DUCT CONSTRUCTION STANDARDS, LATEST EDITIONS
11. ALL LOCAL AND STATE AMENDMENTS
12. REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTIONAL AUTHORITY OVER INSTALLATION

COORDINATION AND SCHEDULING

PROVIDE ALL ADMINISTRATIVE AND SUPERVISORY REQUIREMENTS FOR THE COORDINATION AND SCHEDULING OF THE WORK. THE MECHANICAL CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE WORK OF OTHER CONTRACTORS, SUBCONTRACTORS, SUPPLIERS AND THE OWNER.

REVIEW ALL PROJECT DRAWINGS INCLUDING, BUT NOT LIMITED TO, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DRAWINGS.

PLAN AND EXECUTE WORK IN COOPERATION WITH ALL OTHER TRADES. EVERY REASONABLE EFFORT SHALL BE MADE TO PROVIDE ALL CONCERNED WITH TIMELY NOTICE OF WORK AFFECTING OTHER TRADES TO PREVENT CONFLICTS OR INTERFERENCE AS TO SPACE REQUIREMENTS, DIMENSIONS, OPENINGS, BLOCK-OUTS, SLEEVING OR OTHER MATTERS WHICH WILL CAUSE DELAYS OR NECESSITATE WORK-AROUND METHODS.

CONTRACTOR RESPONSIBILITY

THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN COMPLETE CONTROL OF THE CONSTRUCTED PROJECT, SUCH THAT THE COMPLETE PROJECT SHALL BE FREE OF DEFECTS AND IN CONFORMANCE WITH THE PROJECT DOCUMENTS.

THE CONTRACTOR SHALL UTILIZE PROCEDURES THAT ASSURE QUALITY CONSTRUCTION THROUGHOUT, WITH USE OF THE BEST INDUSTRY STANDARDS FOR THE SPECIFIC PROCESS USED. REMOVE AND REPLACE ANY WORK FOUND DEFECTIVE OR NOT COMPLYING WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.

WORKMANSHIP

ALL WORK TO BE DONE BY WORKMEN SKILLED IN AND REGULARLY EMPLOYED AT THAT TRADE.

PROVIDE ALL MATERIALS, PRODUCTS AND EQUIPMENT IN STRICT ACCORDANCE WITH ALL GOVERNING CODES AND ORDINANCES. THEY MUST BE OF FIRST QUALITY AND IN LINE WITH THE BEST CURRENT PRACTICES.

CUTTING AND PATCHING SHALL BE KEPT TO A MINIMUM. ALL PATCHING TO MATCH EXISTING FINISH WORK. DO NOT CUT STRUCTURAL MEMBERS.

CONTRACTOR SHALL FIELD VERIFY PRIOR TO BIDDING. VERIFY SPACE AVAILABILITY PRIOR TO FABRICATION AND INSTALLATION OF ANY WORK. VERIFY EXACT DISTANCES BETWEEN POINTS SHOWN ON DRAWINGS BY ACTUAL MEASUREMENT AT SITE.

REMOVE ALL WASTE MATERIALS AND RUBBISH FROM THE SITE, THOROUGHLY CLEAN ALL SURFACES OF WORK, AND LEAVE READY FOR OCCUPANCY BY THE OWNER. THE OWNER WILL VERIFY THE COMPLETION AND/OR CORRECTION OF THE ITEMS ABOVE.

SUBMITTALS

SUBMIT TECHNICAL DATA AND REQUIRED INFORMATION ON EQUIPMENT AND MATERIALS AS FOLLOWS:

1. PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA FOR THE ITEMS LISTED IN THE INDIVIDUAL SPECIFICATION SECTIONS. PRODUCT DATA SHALL DEMONSTRATE COMPLIANCE WITH ALL SPECIFIED FEATURES AND REQUIREMENTS.
2. SHOP DRAWINGS: SUBMIT CONTRACTOR PREPARED DRAWINGS OF CONTRACTOR FABRICATED MECHANICAL SYSTEMS. DRAWINGS SHALL BE PREPARED AT ¼" SCALE USING COMPUTER AIDED SOFTWARE UNLESS INDICATED OTHERWISE. DRAWINGS SHALL SHOW EXACT LOCATION OF EQUIPMENT, PIPING AND DUCTWORK, EACH SECTION OF SHOP FABRICATED DUCT OR PIPE AND LOCATION OF FIELD JOINTS, SUPPORTS AND BUILDING ATTACHMENTS.
3. REPORTS AND CERTIFICATES: INDICATE AND INTERPRET TEST RESULTS FOR COMPLIANCE WITH PERFORMANCE REQUIREMENTS. PROVIDE PERFORMANCE CERTIFICATES.
4. EQUIPMENT AND MATERIALS SEISMIC RESTRAINT: CONTRACTOR TO PROVIDE STRUCTURAL AND SEISMIC CALCULATIONS PLUS FASTENING DETAILS FOR ALL APPLICABLE EQUIPMENT AND MATERIALS TO INCLUDE ENGINEER'S STAMP AND SIGNATURE, FOR STRUCTURAL REVIEW ON A DEFERRED SUBMITTAL BASIS.

MECHANICAL SPECIFICATIONS CONT'D

PERMITS, INSPECTIONS AND FEES

CONTRACTOR SHALL ARRANGE AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED IN CONNECTION WITH THIS INSTALLATION. THE CONTRACTOR SHALL PRESENT THE OWNER WITH PROPERLY SIGNED CERTIFICATES OF FINAL INSPECTION BEFORE THE WORK WILL BE ACCEPTED.

CONTRACTOR SHALL CALL FOR ALL INSPECTIONS BY LOCAL BUILDING OFFICIALS WHEN THEY BECOME DUE AND SHALL NOT COVER ANY WORK UNTIL APPROVED BY THESE GOVERNING AUTHORITIES.

CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR WATER, STEAM, GAS AND DRAINAGE SERVICES, ETC., ASSOCIATED WITH THE WORK AND INCLUDE REQUIRED PAYMENTS FOR METERS, PIPING, SERVICES, CONNECTION CHARGES AND MATERIALS FURNISHED AND INSTALLED BY UTILITY COMPANIES. WORK AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH RULES OF RESPECTIVE AUTHORITIES.

FINAL CHECKOUT AND PROJECT CLOSEOUT

THE OWNER HAS FULL AUTHORITY TO SEE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

THE OWNER WILL REQUIRE A COMPLETE FINAL INSPECTION OF ALL PARTS OF THE WORK. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING: PLUMBING, PIPING, EQUIPMENT, DUCTWORK, WIRING, AND FINISH WORK.

THE OWNER WILL REQUIRE A WRITTEN GUARANTY THAT ALL MATERIALS AND WORKMANSHIP THAT PROVE DEFECTIVE WITHIN ONE YEAR AFTER DATE OF ACCEPTANCE WILL BE REPLACED.

OPERATION AND MAINTENANCE MANUAL

INCLUDE WARRANTY CERTIFICATES FOR ALL EQUIPMENT WHERE EXTENDED WARRANTIES ARE EITHER OFFERED OR REQUIRED; PROVIDE SUPPLIER CONTACT INFORMATION.

22 00 00 COMMON WORK RESULTS FOR PLUMBING

PLUMBING EQUIPMENT SHALL BE PROVIDED IN CONFORMANCE WITH MECHANICAL DRAWING SCHEDULES. ANY SUBSTITUTIONS MUST BE AN APPROVED EQUAL.

PLUMBING ACCESSORIES INCLUDING VALVES, FITTINGS AND APPURTENANCES SHALL BE SELECTED FOR THE SPECIFIC SERVICE AND SYSTEM USED.

FIRESTOPPING: PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES SHALL BE FIRE STOPPED WITH UL LISTED FIRESTOPPING SYSTEMS INSTALLED IN ACCORDANCE WITH UL LISTING FOR ASSEMBLY PENETRATION.

22 14 00 STORM DRAINAGE PIPING

RAINLEADERS: CAST IRON WITH NO-HUB FITTINGS OR DWV ABS PIPE AND FITTINGS. DWV ABS CANNOT BE USED IN EXPOSED AREAS OR RETURN PLENUMS. MINIMUM SLOPE OF 1/4" PER FOOT UNLESS NOTED OTHERWISE FOR 4" AND LARGER PIPES.

PIPE INSULATION: FIBERGLASS PIPE INSULATION WITH FACTORY APPLIED ALL-SERVICE JACKET; FACTORY PRE-MOLDED PVC FITTING AND VALVE COVERS. THERMAL CONDUCTIVITY K=0.24 AT 100°F MEAN TEMPERATURE. THICKNESS: 1.0-INCH.

TEST THE RAINLEADER SYSTEMS PER THE UPC.

23 00 00 COMMON WORK RESULTS FOR HVAC

HVAC EQUIPMENT SHALL BE PROVIDED IN CONFORMANCE WITH MECHANICAL DRAWING SCHEDULES. ANY SUBSTITUTIONS MUST BE AN APPROVED EQUAL.

HVAC ACCESSORIES INCLUDING DAMPERS, FITTINGS AND APPURTENANCES SHALL BE SELECTED FOR THE SPECIFIC SERVICE AND SYSTEM USED.

FIRESTOPPING: PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES SHALL BE FIRE STOPPED WITH UL LISTED FIRESTOPPING SYSTEMS INSTALLED IN ACCORDANCE WITH UL LISTING FOR ASSEMBLY PENETRATION.

MECHANICAL SPECIFICATIONS CONT'D

23 09 00 INSTRUMENTATION AND CONTROLS

ALL COMPONENTS USED WILL BE ONLY COMMERCIAL GRADE. PROVIDE ALL EQUIPMENT FOR A COMPLETE AND OPERATIONAL SYSTEM.

CONTROL WIRING: PROVIDE ELECTRIC WIRING AND WIRING CONNECTIONS REQUIRED FOR THE INSTALLATION OF THE CONTROL SYSTEM. COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.

THE CONTROL CONTRACTOR SHALL WORK WITH AND COORDINATE WITH THE ENGINEER ON THE COMPONENTS, SEQUENCES OF OPERATIONS AND SYSTEM CAPABILITIES. SEE SEQUENCE OF OPERATIONS.

23 11 00 FUEL PIPING

NATURAL GAS PIPE: BLACK STEEL, ASTM A120 OR A53 GRADE A OR B, STANDARD WEIGHT. FLEXIBLE CONNECTORS AT ALL OUTSIDE GRADE PENETRATIONS, ANSI Z21.24 COPPER ALLOY. STEEL FITTINGS:

1. LOW PRESSURE (7" WC), NPS 3/4 TO 2 INCH – STEEL PIPE WITH THREADED JOINTS AND MALLEABLE-IRON THREADED FITTINGS.
2. LOW PRESSURE (7" WC), NPS 2-1/2" AND LARGER – STANDARD WEIGHT, SEAMLESS STEEL, BUTT-WELDING TO ANSI B16.9 GRADE WPB.

23 31 00 HVAC DUCTWORK

DUCTWORK: ALL DUCTWORK SHALL BE GALVANIZED STEEL, FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 2" W.G. PRESSURE CLASS FOR LOW PRESSURE SYSTEMS AND 4" W.G. FOR MEDIUM PRESSURE SYSTEMS. DUCT SEALER SHALL BE UL LABELED DUCT SEALER AS MANUFACTURED BY 3M COMPANY OR EQUAL. EXPOSED DUCT FITTINGS SHALL BE SEALED WITH HARD CAST DUCT SEALANT TAPE APPLIED IN A NEAT AND UNIFORM STYLE. HARD CAST TAPE SHALL BE SUITABLE FOR PAINTING (PAINTING BY OTHERS). DUCT FITTINGS SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA STANDARDS. DUCT RUNS SHALL COORDINATE WITH WALLS, SUSPENDED CEILINGS, LIGHT FIXTURES, ROOF TRUSSES AND SIMILAR FINISHED WORK. DUCT OPENING SHALL BE COVERED DURING CONSTRUCTION TO PREVENT ENTRANCE OF DUST AND DEBRIS.

DUCT INSULATION: ALL SUPPLY AIR DUCTWORK, OUTSIDE AIR INTAKE DUCTWORK, RELIEF DUCTWORK, COMBUSTION AIR DUCTWORK, AND EXHAUST DUCTWORK BACK 10 FT. FROM THE EXTERIOR DISCHARGE, SHALL BE INSULATED WITH A COMMERCIAL GRADE, GLASS FIBER, REINFORCED FOIL FACED DUCT WRAP INSULATION SIMILAR TO OWENS-CORNING TYPE 150, 2" NOMINAL THICKNESS, 1.5# DENSITY, OR APPROVED EQUAL. THE AIR HANDLING UNIT OUTSIDE AIR DUCTWORK SHALL BE INSULATED THE ENTIRE LENGTH FROM THE OUTSIDE WALL TO THE AIR HANDLING UNIT. INSULATION SHALL BE APPLIED TO COVER ALL EXTERIOR SURFACES OF DUCTWORK AND SEALED TIGHTLY TO PREVENT LEAKAGE.

DUCT LINING: INTERNALLY LINE DUCTWORK DROPS FROM ROOFTOP UNITS AND ENDING WHERE SHOWN ON THE DRAWINGS. DUCT LINING SHALL BE 1" THICK RIGID GLASS FIBER TYPE SUITABLE FOR INTERIOR DUCT APPLICATION. INSULATION SHALL BE ADHERED TO ALL INTERIOR SURFACES OF DUCTS WITH 100% COVERAGE OF FIRE-RETARDANT ADHESIVE, UL LISTED AND LABELED AND MECHANICALLY FASTENED IN ACCORDANCE WITH SMACNA DUCT LINER APPLICATION STANDARD. MANUFACTURED BY OWENS-CORNING FIBERGLASS, JOHN-MANVILLE, OR AN APPROVED EQUAL.

FLEXIBLE DUCT: FIBERGLASS SCRIM REINFORCED ALUMINIZED POLYESTER FILM VAPOR BARRIER WITH R-4.2 (1 1/2") MINIMUM DENSITY FIBERGLASS BLANKET. DO NOT INSTALL IN LENGTHS LONGER THAN 5'-0".

EXTERIOR DUCT: Q DUCT PRE INSULATED FACTORY CONSTRUCTED. DRAWING DIMENSIONS INDICATE INSIDE DUCT DIMENSION.

THE BASIS OF DESIGN FOR THE FACTORY INSULATED DUCT SYSTEM SHALL BE QDUCT BY AQC INDUSTRIES (HYPERLINK "http://www.aqcind.com" WWW.AQCIND.COM). QDUCT IS A R12 PRE-INSULATED DUCT SYSTEM FABRICATED USING TWO LAYERS OF RIGID UL 181 PAL PHENOLIC CORE MATERIAL, FACED ON BOTH SIDES WITH COATED ALUMINUM (2.3 MILL INNER, 7.9 MILL OUTER), AND AN EXTERIOR MULTI-LAYERED LAMINATE JACKETING MATERIAL. DUCT SHALL BE MOLD AND MILDEW RESISTANT, INSULATION SHALL NOT ALLOW WATER ABSORPTION OR RETENTION, AND SHALL PRODUCE NO VOC'S OR MICROFIBERS. THE INSULATED DUCT SHALL MEET SMACNA LEAKAGE CLASS 1 AND BE RATED FOR 4" WG PRESSURE CLASS. PROVIDE A 10 YEAR WARRANTY FOR THE INSULATED DUCTWORK SYSTEM.

ADDITIONAL METHODS

COORDINATE ALL NEW WORK WITH THE CONDUITS, LIGHTS, HANGERS, STRUCTURAL MEMBERS AND OTHER TRADES.

SUBMIT PROJECT DATA, WARRANTIES, AND O&M DATA FOR REVIEW.

SEE SCHEDULES FOR EQUIPMENT REQUIREMENTS AND SPECIFICATIONS.

INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. INSTALL ONLY PRODUCTS SPECIFICALLY DESIGNED AND APPROVED FOR THE TYPE OF OPERATION OR SERVICE.

BALANCING & STARTUP

AN INDEPENDENT AIR BALANCING COMPANY WILL PERFORM THE AIR BALANCING OF THE COMPLETE HEATING AND HVAC SYSTEMS PER THE SMACNA BALANCING AND ADJUSTMENT MANUAL. ADJUST AIR QUANTITIES TO WITHIN 5% OF THE DESIGN VALUES.

COMPLETE AND SUBMIT THE FINAL TESTING AND BALANCING REPORT BEFORE THE PROJECT IS COMPLETE.

FIELD SERVICES: THE INSTALLING CONTRACTOR SHALL PROVIDE STARTUP OF ALL LISTED INSTALLED EQUIPMENT. CONTRACTOR SHALL VERIFY THAT EQUIPMENT MEETS THE DESIGN INTENT FOR AIRFLOW, TEMPERATURE, ETC.

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Sheet:
M0.2

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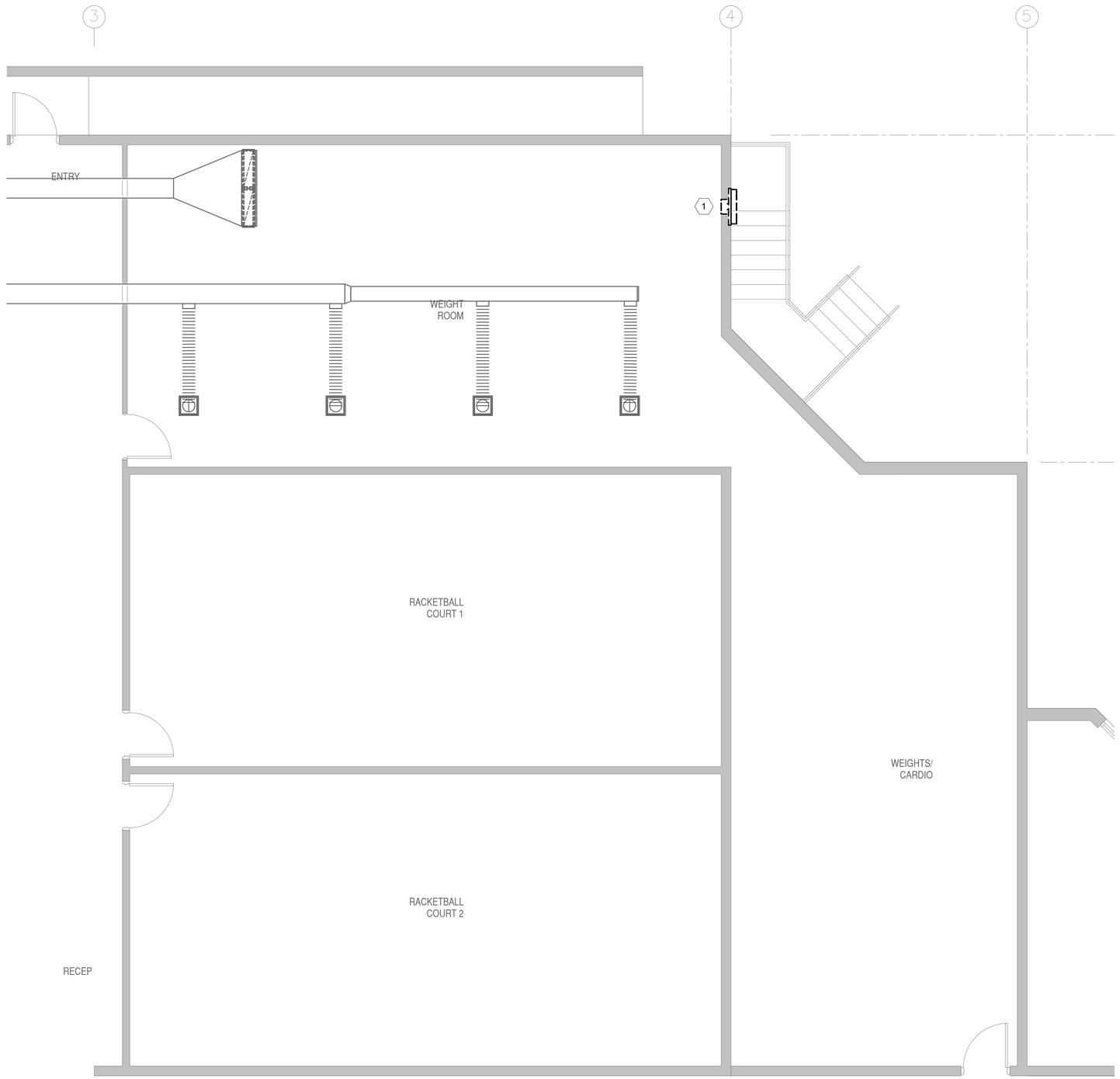
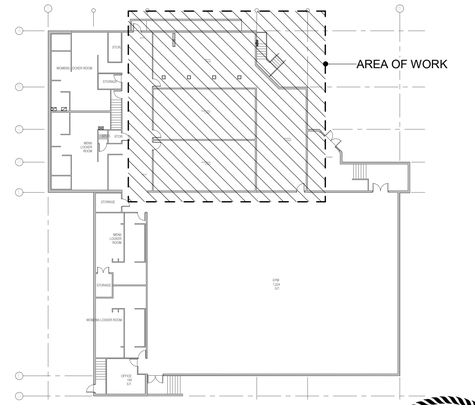


REFERENCED SHEET NOTES

1 DEMOLISH FAN, WIRING, CONTROLS AND ALL ASSOCIATED APPURTENANCES. PATCH WALL TO MATCH ADJACENT CONSTRUCTION MATERIALS.



KEY PLAN

1 FIRST FLOOR PARTIAL MECHANICAL DEMOLITION PLAN

1/4" = 1'-0"

N

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FIRST FLOOR PARTIAL MECHANICAL DEMOLITION PLAN

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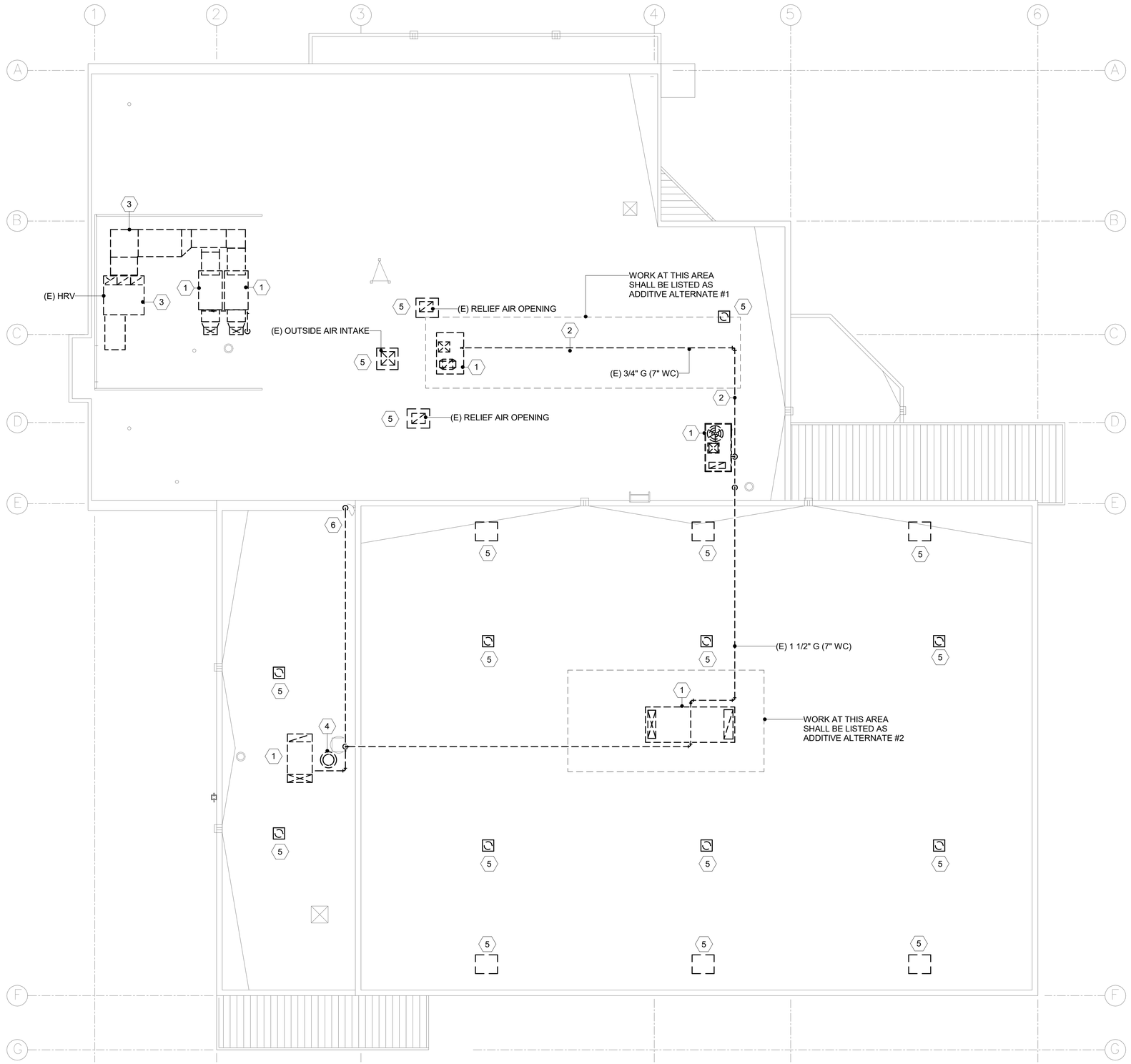

1 MECHANICAL DEMOLITION ROOF PLAN
1/8" = 1'-0"

N

REFERENCED SHEET NOTES

1 DEMOLISH RTU, ROOF CURB AND ALL ASSOCIATED APPURTENANCES.
2 DEMOLISH GAS PIPING, SUPPORTS AND ALL ASSOCIATED APPURTENANCES.
3 DEMOLISH HRV, DUCTWORK AND ALL ASSOCIATED APPURTENANCES.
4 DEMOLISH EXHAUST FAN, DUCTWORK AND ALL ASSOCIATED APPURTENANCES.
5 DEMOLISH OUTSIDE AIR INTAKES, ROOF VENTS AND ROOF RELIEF HOODS AS NECESSARY. VERIFY SIZE AND CONFIGURATIUON PRIOR TO ORDERING NEW VENTS.
6 DEMOLISH GAS PIPING AS INDICATED DOWN THROUGH ROOF. SEAL AND CAP AS NECESSARY.

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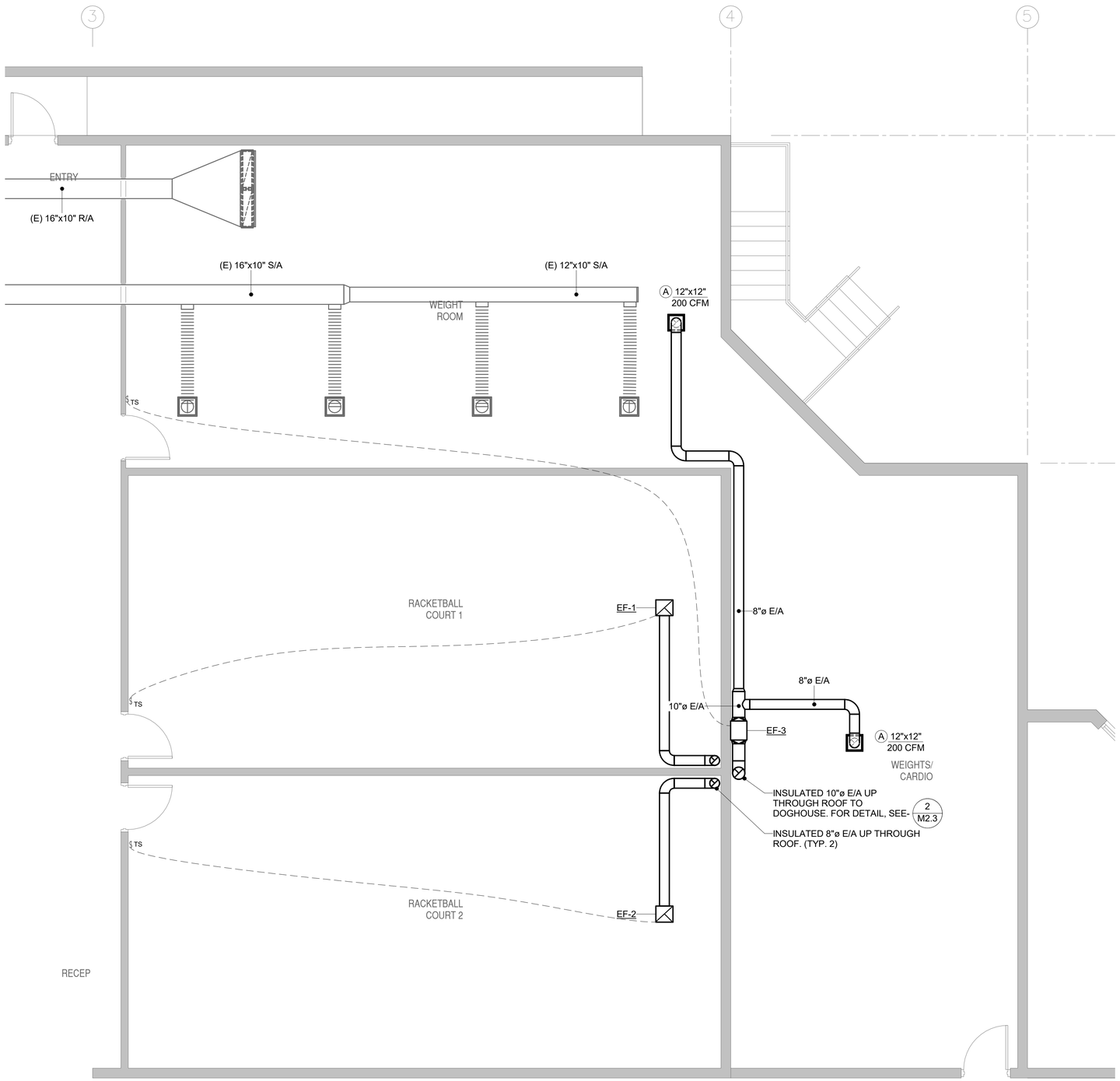
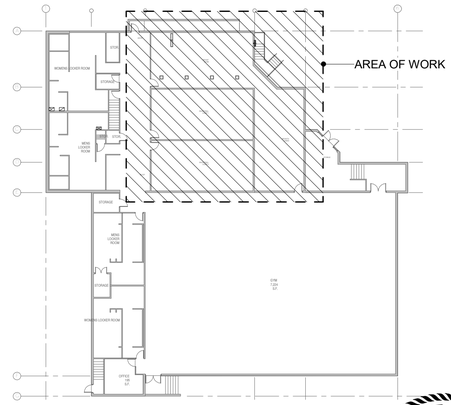


1 FIRST FLOOR PARTIAL MECHANICAL REMODEL PLAN

1/4" = 1'-0"

N



KEY PLAN

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FIRST FLOOR PARTIAL MECHANICAL REMODEL PLAN

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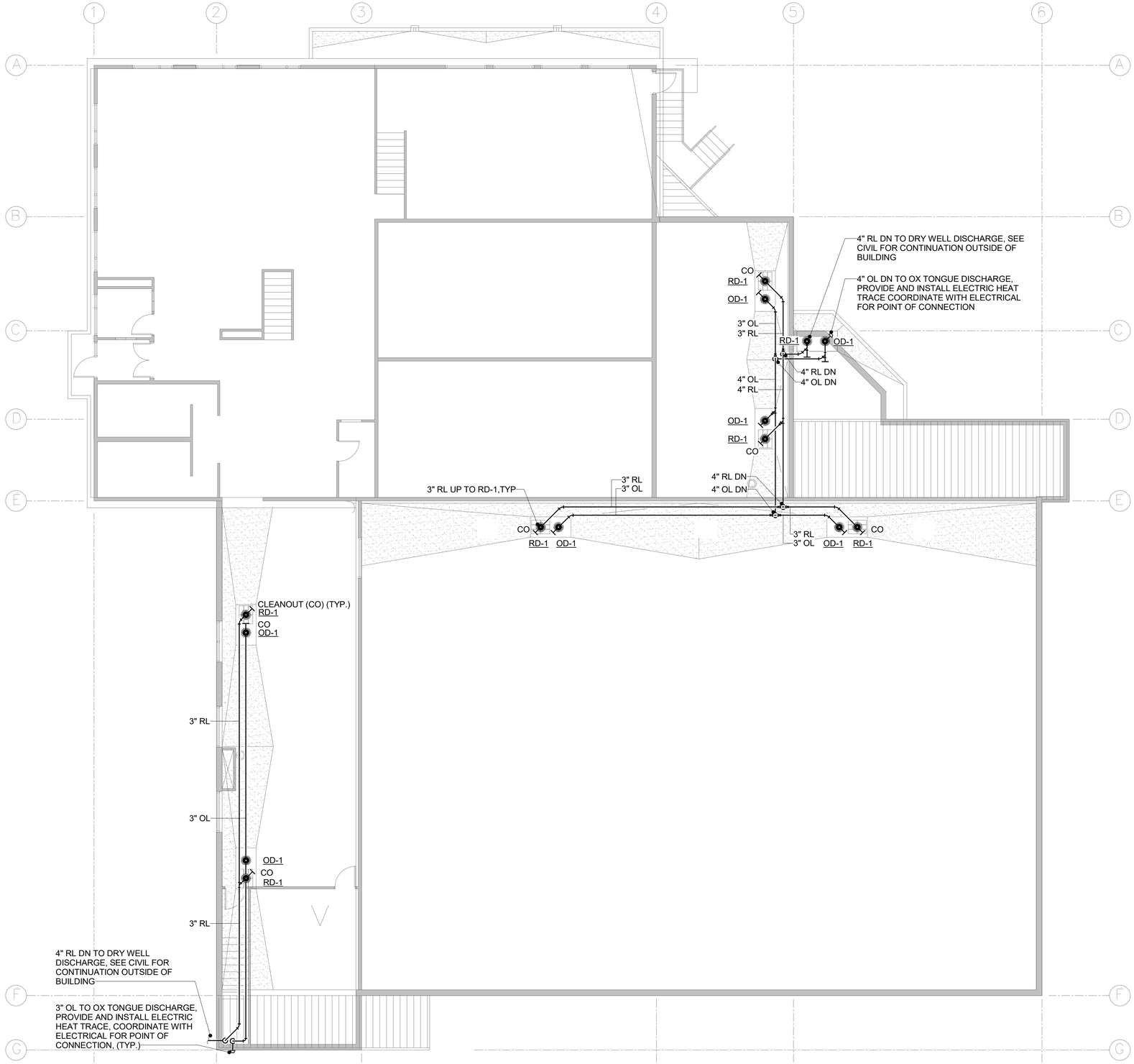

1 RAINLEADER PIPING PLAN

1/8" = 1'-0"

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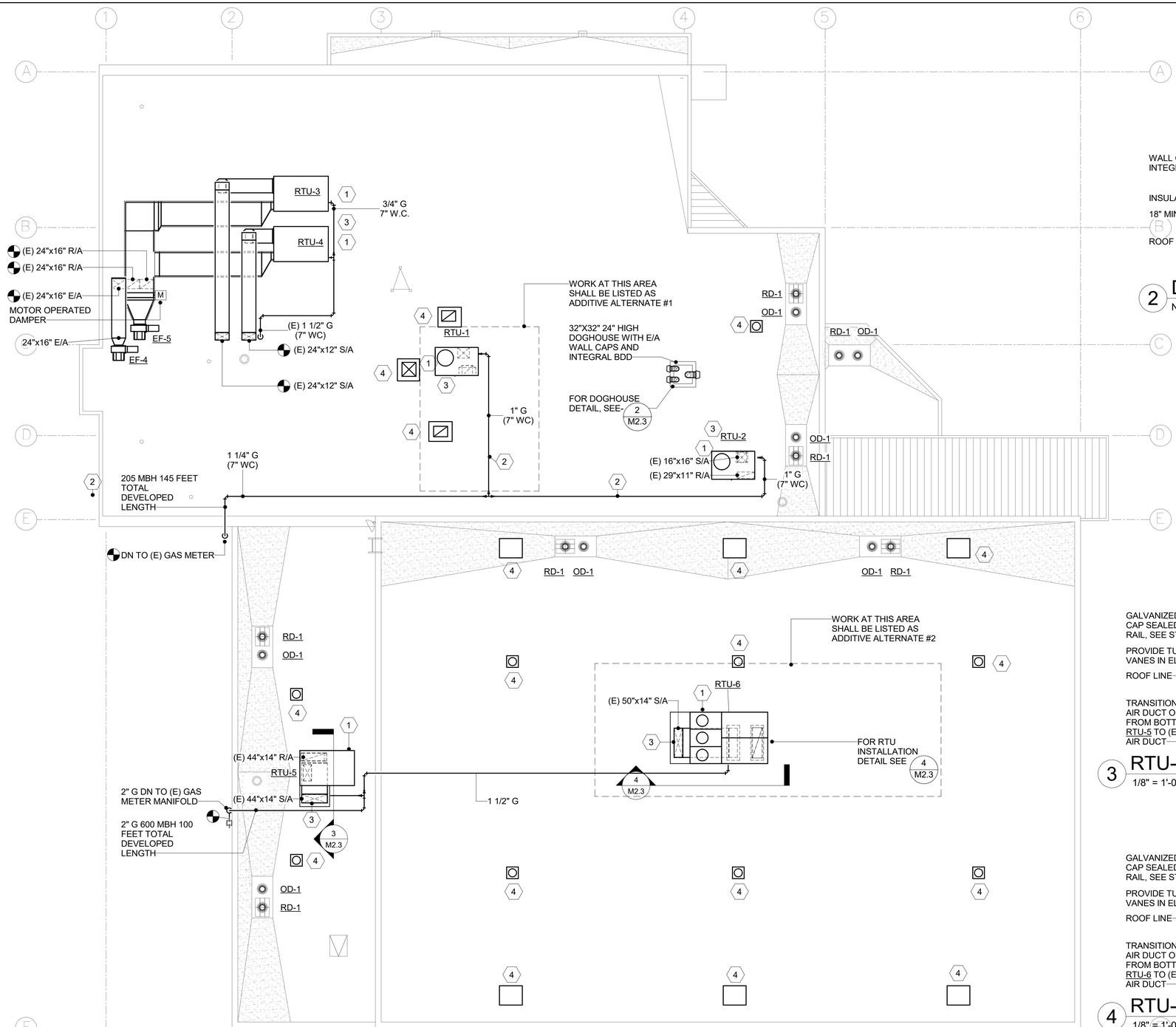
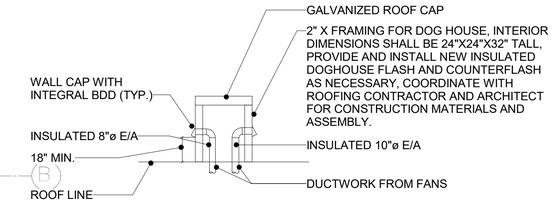


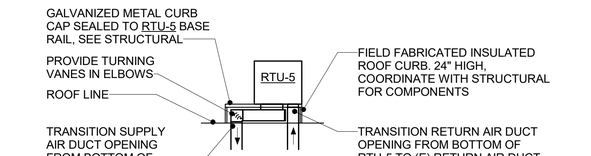
1 MECHANICAL REMODEL ROOF PLAN
1/8" = 1'-0"



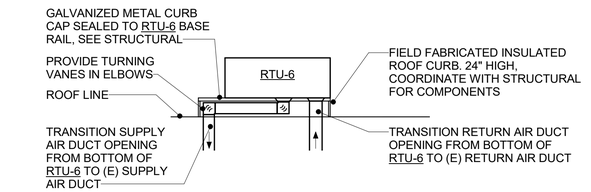
2 DOG HOUSE DETAIL
NTS

 # REFERENCED SHEET NOTES

1. PROVIDE AND INSTALL NEW RTU ON NEW INSULATED ROOF CURB, COORDINATE WITH ROOFING CONTRACTOR FOR FLASHING AND COUNTERFLASHING.
2. PROVIDE AND INSTALL NEW GAS PIPING TO RTU, UTILIZE PROPER GAS PIPING SUPPORT BLOCKS, TYPICAL OF ALL PIPING INSTALLATIONS.
3. TRANSITION DUCTWORK FROM NEW RTU TO EXISTING DUCTWORK AS NECESSARY.
4. PROVIDE AND INSTALL NEW ROOF RELIEF VENTS, OUTSIDE AIR INTAKES AND ROOF VENTS AS NECESSARY.



3 RTU-5 ROOF CURB DETAIL
1/8" = 1'-0"



4 RTU-6 ROOF CURB DETAIL
1/8" = 1'-0"

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MECHANICAL REMODEL ROOF PLAN

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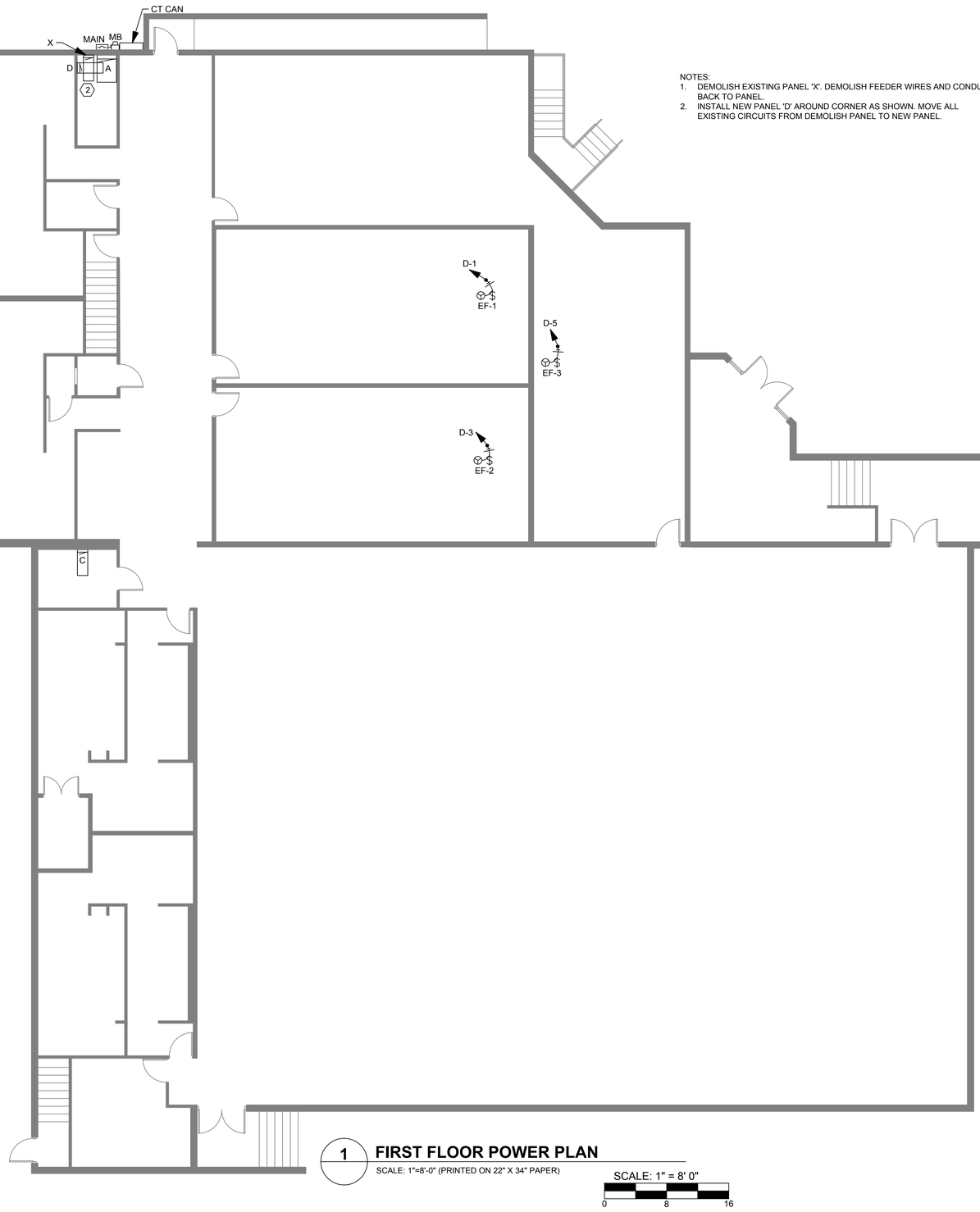


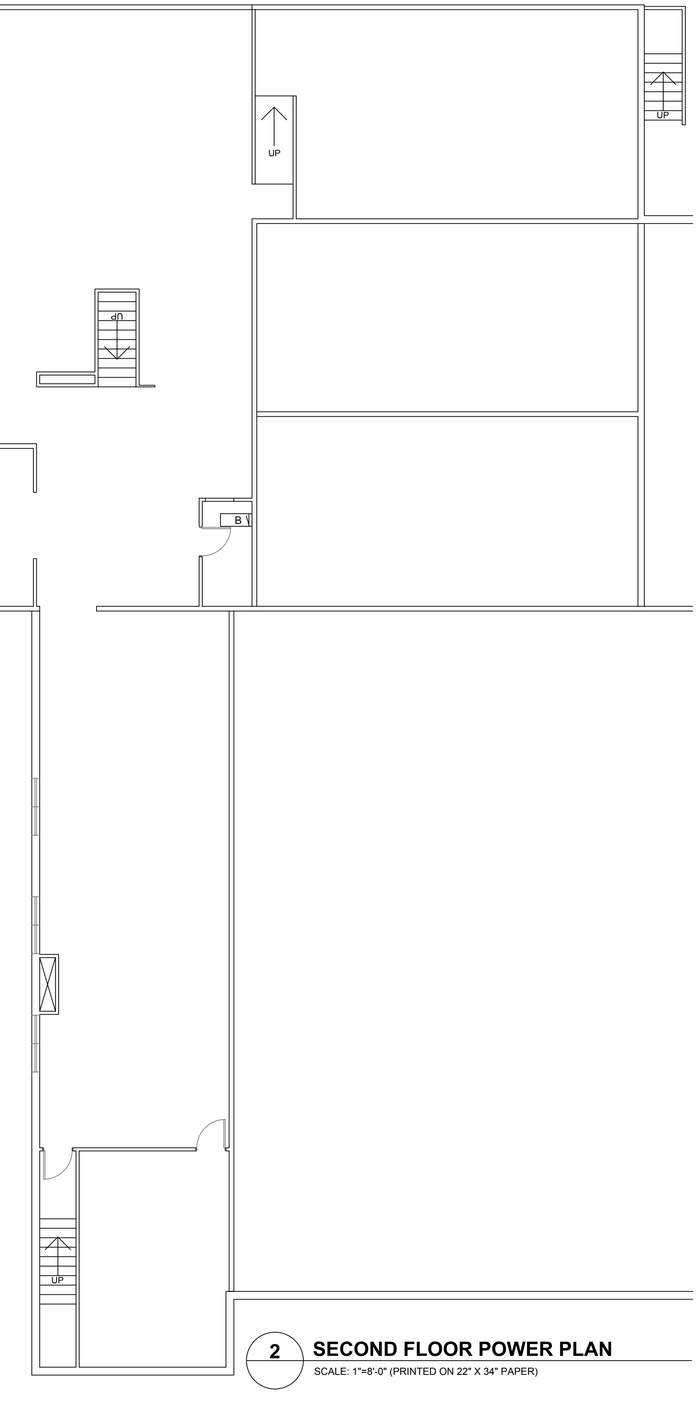
NOTES:
1. DEMOLISH EXISTING PANEL 'X'. DEMOLISH FEEDER WIRES AND CONDUIT BACK TO PANEL.
2. INSTALL NEW PANEL 'D' AROUND CORNER AS SHOWN. MOVE ALL EXISTING CIRCUITS FROM DEMOLISH PANEL TO NEW PANEL.

1 **FIRST FLOOR POWER PLAN**

SCALE: 1"=8'-0" (PRINTED ON 22" X 34" PAPER)

SCALE: 1" = 8' 0"

0 8 16



2 **SECOND FLOOR POWER PLAN**

SCALE: 1"=8'-0" (PRINTED ON 22" X 34" PAPER)

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KENAI REC CENTER UPGRADES

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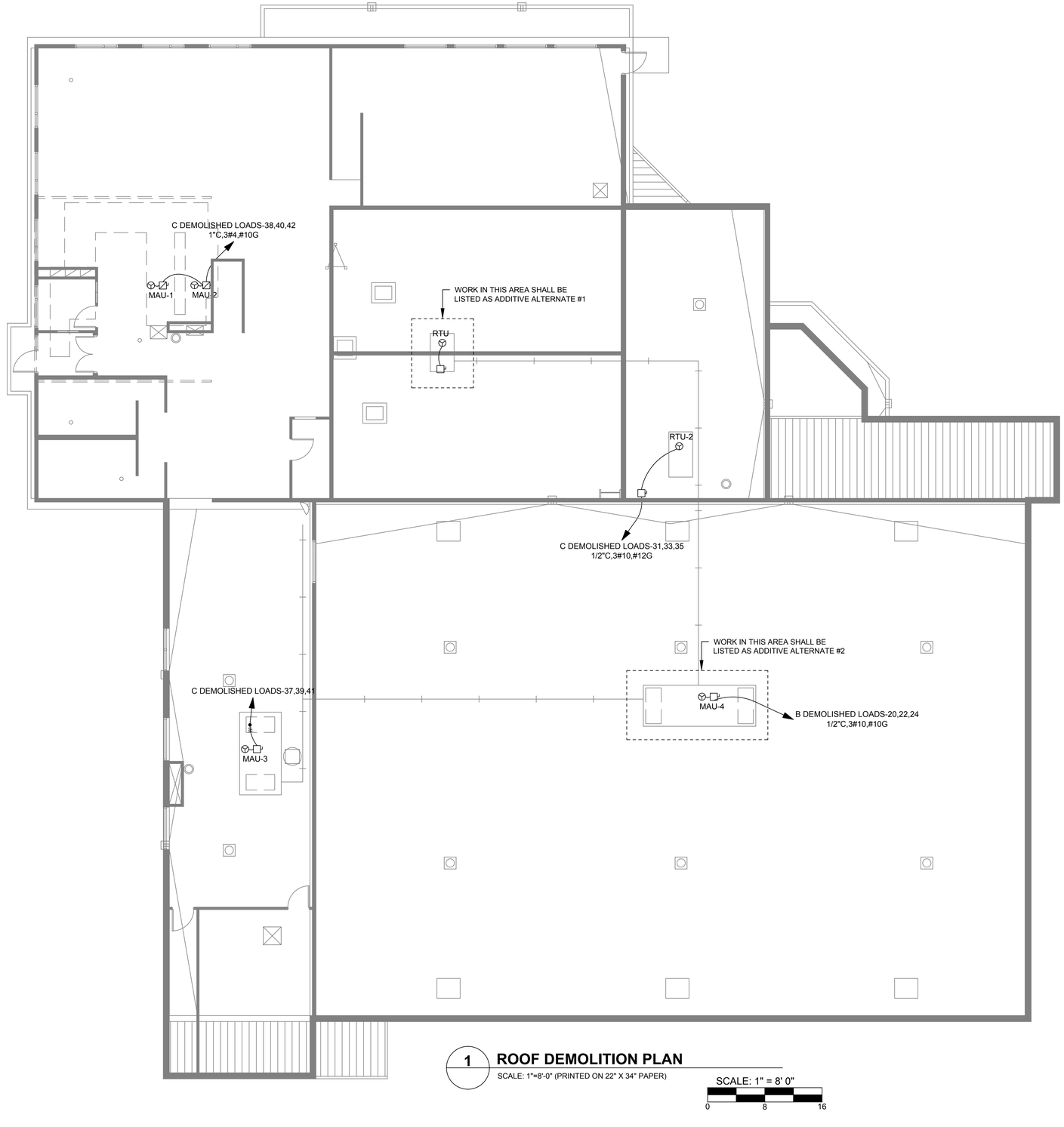
File Name: 2032.DWG

Sheet Title: POWER AND LIGHTING

Sheet: E1.0



1 **ROOF DEMOLITION PLAN**

SCALE: 1"=8'-0" (PRINTED ON 22" X 34" PAPER)

SCALE: 1" = 8' 0"

0 8 16

NOTES:
1. DEMOLISH WIRES AND CONDUIT BACK TO PANEL.

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KENAI REC CENTER UPGRADES

CONSTRUCTION DOCUMENTS
KENAI, ALASKA

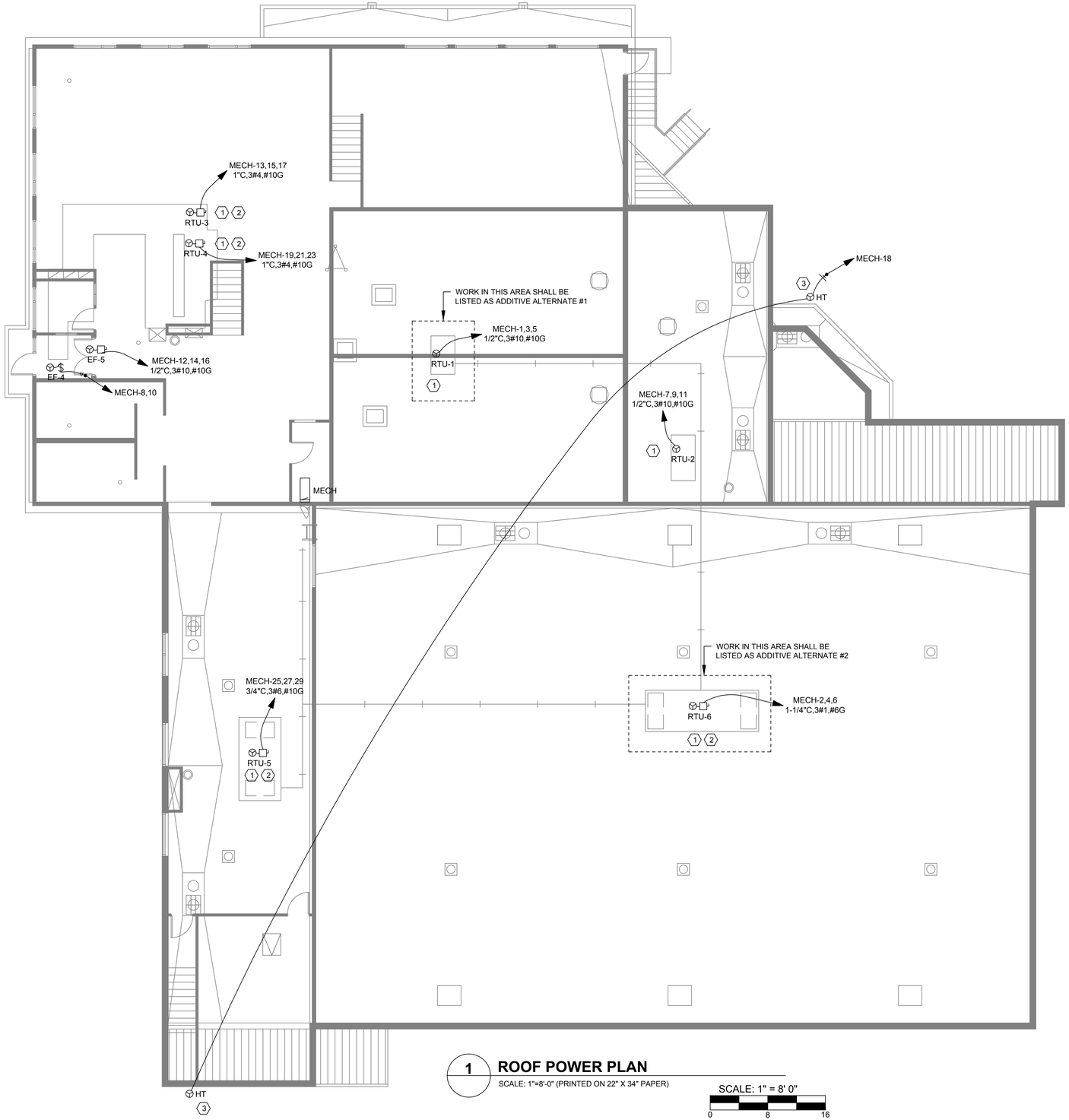
Revisions:

STATE OF ALASKA 49TH
JAMES JS GWYNN
AELE 14379
9/23/2022
REGISTERED PROFESSIONAL ENGINEER

Date: SEPT 23, 2022
Drawn: JSG
Checked: JSG
Project: 2032
File Name: 2032.DWG

Sheet Title: ROOF DEMOLITION

Sheet: E2.0



1 ROOF POWER PLAN

SCALE: 1"=8'-0" (PRINTED ON 22" X 34" PAPER)

SCALE: 1" = 8' 0"

0 8 16

NOTES:
1. CONNECT INTEGRAL RTU CONVENIENCE RECEPTACLES TO EXISTING CIRCUIT.
2. PROVIDE AUDIO VISUAL ALARM FOR DUCT SMOKE DETECTOR. SENSOR SYSTEM APA 151 IS ONE SOLUTION. ENSURE COMPATIBILITY WITH DUCT SMOKE DETECTOR. SEE MECHANICAL DRAWINGS FOR MORE DETAILS. ALARM SHALL BE INSTALLED AT MAIN CHECK-IN COUNTER.
3. SEE DETAIL E4.0/2. INSTALL 10 FEET OF HEAT TRACE IN END OF OVERFLOW-LEADER AND OX-TONGUE. PROVIDE HEAT TRACE IN RAIN-LEADER FROM DRY WELL TO 3-FEET ABOVE GROUND LEVEL. TYPICAL OF TWO. SEE MECHANICAL AND CIVIL DRAWINGS.

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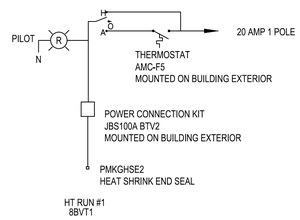
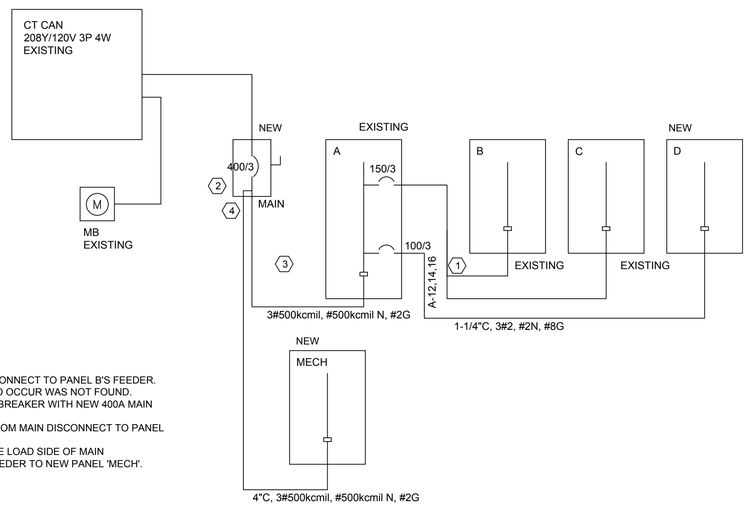


2 HEAT TRACE DIAGRAM

SCALE: NONE

HEAT TRACE NOTES:
1. ALL NUMBERS ARE RAYCHEM.
2. INSTALL HOA AND PILOT LIGHT IN JANITOR CLOSET.



ONELINE NOTES:
1. PANEL 'C' IS ASSUMED TO BE CONNECT TO PANEL B'S FEEDER. THE J-BOX WHERE THIS WOULD OCCUR WAS NOT FOUND.
2. REPLACE EXISTING 300A MAIN BREAKER WITH NEW 400A MAIN BREAKER.
3. REPLACE EXISTING FEEDER FROM MAIN DISCONNECT TO PANEL 'A' AS SHOWN.
4. PROVIDE DOUBLE LUGS ON THE LOAD SIDE OF MAIN DISCONNECT. INSTALL NEW FEEDER TO NEW PANEL 'MECH'.

1 ONE LINE DIAGRAM

SCALE: NONE

NOTES:
1. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
2. THE DRAWINGS ARE PARTLY DIAGRAMMATIC, NOT NECESSARILY SHOWING EXACT LOCATIONS UNLESS SPECIFICALLY DIMENSIONED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO AVOID CONFLICTS IN CONGESTED AREAS.
3. CONFORM TO ALL APPLICABLE CODES, INCLUDING NFPA 70, 2014 EDITION AND LOCAL AMENDMENTS.
4. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS.
5. ALL WORK PERFORMED UNDER THIS CONTRACT IS TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM ACCEPTANCE. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE WARRANTY PERIOD.
6. ALL EQUIPMENT INSTALLED UNDER THIS PROJECT SHALL BE BRACED FOR A SEISMIC EVENT IN ACCORDANCE WITH THE 2009 INTERNATIONAL BUILDING CODE SECTION 1613.
7. ALL MATERIALS SHALL BE NEW AND UNUSED, INSTALLED PER MANUFACTURER'S DIRECTIONS AND IN THE BEST PRACTICE OF THE CRAFT.
8. USE RIGID STEEL CONDUIT WHERE UNDERGROUND OR SUBJECT TO DAMAGE. USE ELECTRICAL METALLIC TUBING OR AC/MC IN INTERIOR LOCATIONS.
9. FEEDERS AND BRANCH CIRCUITS: COPPER CONDUCTOR, 600 VOLT INSULATION, THHN/THWN FOR HEATED AREAS, XHHW FOR NONHEATED AREAS.
10. DO NOT INSTALL THERMOPLASTIC CONDUCTORS WHEN TEMPERATURE IN WORK AREA IS BELOW 20 DEGREES F.
11. CONVENIENCE RECEPTACLE CONFIGURATION: NEMA WD 1; TYPE 5 20 R, IVORY PLASTIC FACE. GFCI RECEPTACLES: DUPLEX CONVENIENCE RECEPTACLE WITH INTEGRAL CLASS A GROUND FAULT CURRENT INTERRUPTER U.L. NO. 493 LISTED.
12. DECORATIVE COVER PLATE: IVORY SMOOTH PLASTIC.
13. ELECTRICAL BOX LOCATIONS SHOWN ON CONTRACT DRAWINGS ARE APPROXIMATE UNLESS DIMENSIONED. VERIFY LOCATION OF SWITCHES AND OUTLETS PRIOR TO ROUGH IN. UNLESS OTHERWISE NOTED, MOUNT OUTLETS AT THE FOLLOWING HEIGHTS FROM FINISHED FLOOR TO CENTER LINE OF OUTLET:

WALL SWITCHES		3'8"
CONVENIENCE OUTLETS	NON ADA:	1'2" ADA: 1'6"
WEATHERPROOF CONVENIENCE OUTLETS		2'6"
TELEPHONE OUTLETS	NON ADA:	1'2" ADA: 1'6"
PUBLIC TELEPHONE OUTLET		3'8"

SPECIAL EQUIPMENT: AS NOTED ON DRAWINGS.
14. ELECTRICAL PANEL LOCATIONS SHOWN ON CONTRACT DRAWINGS ARE APPROXIMATE UNLESS DIMENSIONED. UNLESS OTHERWISE NOTED, MOUNT PANEL SO THE CENTER OF THE HANDLE OF THE TOP BREAKER IS LESS THAN THE FOLLOWING HEIGHT FROM FINISHED FLOOR:
NON ADA: 6'6" ADA: 4'0"
15. PROVIDE ELECTRICAL BOXES AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND CODE COMPLIANCE.
16. USE MULTIPLE GANG BOXES WHERE MORE THAN ONE DEVICE ARE MOUNTED TOGETHER; DO NOT USE SECTIONAL BOXES.
17. BRANCH CIRCUIT PANELBOARDS: NEMA PB1;MATCH EXISTING CIRCUIT BREAKER TYPE.
18. LABELING: PROVIDE A TYPED CIRCUIT DIRECTORY FOR EACH BRANCH CIRCUIT PANELBOARD AND SWITCHBOARD. USE A PENCIL TO LABEL SPARE CIRCUIT BREAKERS. FOR PANELBOARDS, NUMBER CIRCUITS WITH ODD NUMBERS ON THE LEFT, EVEN NUMBERS ON THE RIGHT, ONE NUMBER FOR EVERY POLE. EVERY CIRCUIT SHALL HAVE A UNIQUE DESCRIPTION THAT CLEARLY IDENTIFIES THE LOAD SERVED. PROVIDE A NAME PLATE IDENTIFYING THE PANEL NAME. EVERY SWITCHBOARD AND PANEL SHALL HAVE A NAMEPLATE IDENTIFYING THE SOURCE OF POWER THAT SUPPLIES IT.
19. FUSIBLE SWITCH ASSEMBLIES AND NONFUSIBLE SWITCH ASSEMBLIES: NEMA KS 1; TYPE HD. HANDLE LOCKABLE IN OFF POSITION WITH INTERLOCK TO PREVENT OPENING IN ON POSITION.
20. MANUAL MOTOR STARTER: NEMA ICS 2; WITH OVERLOAD RELAY, AND TOGGLE OPERATOR.
21. COMBINATION MOTOR STARTERS: COMBINE MOTOR STARTERS WITH MOLDED CASE CIRCUIT BREAKER DISCONNECT IN COMMON ENCLOSURE. SELECTOR SWITCHES: NEMA ICS 2; HAND/OFF/AUTO.

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Sheet: E4.0

LEGEND

NOT ALL SYMBOLS MAY BE USED

(E), (D)	(E) EXISTING TO REMAIN, (D) DEMOLISH
W.P.	AS SUBSCRIPT DENOTES "WEATHERPROOF"
E.	EMERGENCY LIGHT, CIRCUIT, PANEL
N.L.	NIGHT LIGHT CIRCUIT, FIXTURE
P.C.	PHOTOCELL
A	LIGHTING FIXTURE KEY-SEE SCHEDULE
100	ROOM NUMBER
1	REFER TO NOTE INDICATED
1	ELECTRICAL EQUIPMENT SCHEDULE
1	REVISION SYMBOL
	SURFACE MTD. FIXTURE:CEILING, WALL
	WALL MTD. FLUORESCENT FIXTURE
	SURFACE/PENDANT MTD. FLUORESCENT FIXTURE
	RECESSED FLUORESCENT FIXTURE
	EMERGENCY LIGHT FIXTURE
	BATTERY POWERED EMERGENCY LIGHTING UNIT, WALL AND CEILING
	ARROWS INDICATE AIMING
	EXIT SIGN, W/ARROWS AS NOTED
	AREA LIGHT
J	JUNCTION BOX
13	DUPLEX OUTLET(W/CKT #, IF SHOWN. GFCI=GROUND FAULT CIRCUIT INTERUPT)
	DOUBLE DUPLEX OUTLET
	DUPLEX CONVENIENCE OUTLET, ONE SIDE SWITCHED
	SPECIAL PURPOSE OUTLET-NEMA CONFIGURATION NOTED
	EQUIPMENT CONNECTION
	240 OR 208V OUTLET
	FLOOR OUTLET-POWER
	POWER POLE
	COMBO TELEPHONE/DATA OUTLET-WALL
	COMBO TELEPHONE/DATA OUTLET-FLOOR
	EXISTING TELEPHONE OUTLET
	EXISTING TELEPHONE OUTLET - FLOOR
S	SINGLE POLE SWITCH
S_2	DOUBLE POLE SWITCH
S_3	THREE-WAY SWITCH
S_4	FOUR-WAY SWITCH
S_D	DIMMER CONTROL
S_K	KEY OPERATED SWITCH
S_P	SWITCH W/PILOT LIGHT
S_T	THERMAL OVERLOAD SWITCH, MANUAL STARTER
S_a O_a	SWITCH SUBSCRIPT INDICATES SWITCHING
	BRANCH CIRCUIT PANEL "P"
$_T$	TERMINAL CABINET-SUBSCRIPT "T"=TELEPHONE, "S"=SIGNAL SYSTEM
T	TRANSFORMER
1/4	MOTOR CONNECTION W/H.P. INDICATED
T	THERMOSTAT
	ELECTRIC CLOCK
C	CLOCK OUTLET
	CIRCUIT BREAKER DISCONNECT
	MAGNETIC MOTOR STARTER
	DISCONNECT SWITCH-UNFUSED
	DISCONNECT SWITCH -FUSED
	COMBINATION MOTOR STARTER-DISCONNECT
V	TELEVISION ANTENNA OUTLET
M	MICROPHONE OUTLET
	PUSH BUTTON
P	BELL
	BRANCH CIRCUIT-IN WALL OR CEILING
	BRANCH CIRCUIT-IN FLOOR OR UNDERGROUND
	BRANCH CIRCUIT-EXPOSED
	LOW VOLTAGE CONDUCTOR
T	TELEPHONE
	FLEXIBLE CONDUIT
	HOME RUN TO PANEL OR CABINET
	CONDUIT-UP
	CONDUIT-DOWN
W	SURFACE METAL RACEWAY

NUMBER OF WIRES IF OTHER THAN TWO

3 HOT WIRES, 1 NEUTRAL WIRE, 1 GROUND WIRE

#8 WIRE SIZE IF OTHER THAN #10 OR #12

MECH

ROOM
MOUNTING FLUSH
FED FROM MAIN
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 400
NEUTRAL 100%

AIC 10,000
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	30/3	RTU-1	2.16			2	125/3	RTU-6	9.9		
3	|			2.16		4	|			9.9	
5	|				2.16	6	|				9.9
7	25/3	RTU-2	1.68			8	20/2	EF-4	0.348		
9	|			1.68		10	|			0.348	
11	|				1.68	12	30/3	EF-5			1.33
13	60/3	RTU-3	4.39			14	|		1.33		
15	|			4.39		16	|			1.33	
17	|				4.39	18	20/1	HT			0.3
19	60/3	RTU-4	4.39			20	−/1	SPACE	0		
21	|			4.39		22	−/1	SPACE		0	
23	|				4.39	24	−/1	SPACE			0
25	50/3	RTU-5	4.08			26	−/1	SPACE	0		
27	|			4.08		28	−/1	SPACE		0	
29	|				4.08	30	−/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	28.3	28.3	28.2
								TOTAL CONNECTED AMPS BY PHASE	236	236	235

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	29.7	37.1	(125%)	HEATING	0.3	0.3	(100%)
OTHER MOTORS	54.8	54.8	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	0	0	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	84.8	92.2	
				BALANCED 3−PHASE AMPS		256	

MAIN

ROOM
MOUNTING NEMA 3R
FED FROM CT CAN
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 400
NEUTRAL 100%

AIC 10,000
MAIN BKR MLO
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	400/3	PANEL A	7.23	7.23	7.23	3#500kcmil,#500kcmil N,#2G
2	400/3	PANEL MECH	28.3	28.3	28.2	4"C,3#500kcmil,#500kcmil N,#2G
		TOTAL CONNECTED KVA BY PHASE	35.5	35.5	35.5	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	29.7	37.1	(125%)	HEATING	0.3	0.3	(100%)
OTHER MOTORS	54.8	54.8	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	0	0	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	21.7	27.1	(125%)
				TOTAL KVA	106	119	
				BALANCED 3−PHASE AMPS		331	

X

ROOM
MOUNTING FLUSH
FED FROM UTILITY
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 60
NEUTRAL 100%

AIC 10,000
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	EF-1	0.1			2	−/1	SPACE	0		
3	20/1	EF-2		0.1		4	−/1	SPACE		0	
5	20/1	EF-3			0.696	6	−/1	SPACE			0
7	20/1	MOVED FROM A−16 WASHER	1.5			8	−/1	SPACE	0		
9	20/1	MOVED FROM PANEL X		1		10	−/1	SPACE		0	
11	20/1	MOVED FROM PANEL X			1	12	−/1	SPACE			0
13	20/1	MOVED FROM PANEL X	1			14	−/1	SPACE	0		
15	20/1	MOVED FROM PANEL X		1		16	−/1	SPACE		0	
17	20/1	MOVED FROM PANEL X			1	18	−/1	SPACE			0
19	20/1	MOVED FROM PANEL X	1			20	−/1	SPACE	0		
21	20/1	MOVED FROM PANEL X		1		22	−/1	SPACE		0	
23	20/1	MOVED FROM PANEL X			1	24	−/1	SPACE			0
25	−/1	SPACE	0			26	−/1	SPACE	0		
27	−/1	SPACE		0		28	−/1	SPACE		0	
29	−/1	SPACE			0	30	−/1	SPACE			0
31	−/1	SPACE	0			32	−/1	SPACE	0		
33	−/1	SPACE		0		34	−/1	SPACE		0	
35	−/1	SPACE			0	36	−/1	SPACE			0
37	−/1	SPACE	0			38	−/1	SPACE	0		
39	−/1	SPACE		0		40	−/1	SPACE		0	
41	−/1	SPACE			0	42	−/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	0	0	0
								TOTAL CONNECTED AMPS BY PHASE	0	0	0

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(N/A)	HEATING	0	0	(N/A)
OTHER MOTORS	0	0	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	0	0	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	0	0	
				BALANCED 3−PHASE AMPS		0	

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