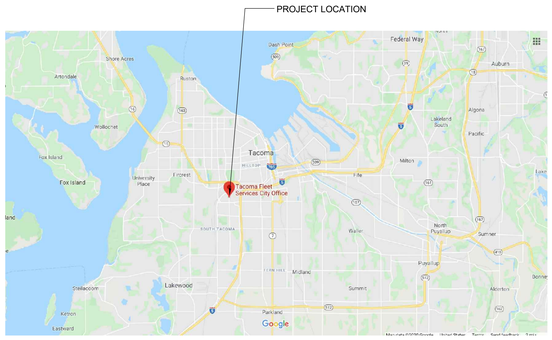
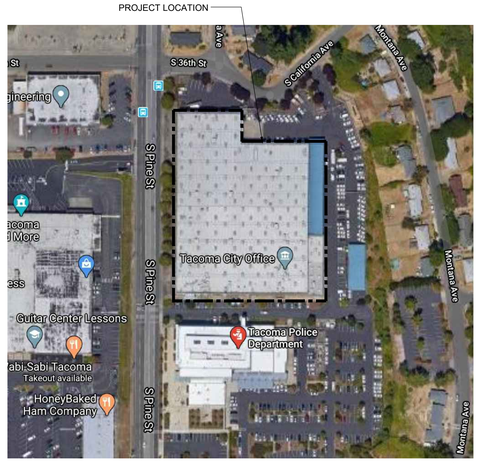
CITY OF TACOMA
POLICE FLEET WAREHOUSE

VICINITY MAP



NORTH

VICINITY MAP II



NORTH

PROJECT CONTACTS

OWNER:

CITY OF TACOMA
PUBLIC WORKS
747 MARKET STREET
RM 744
TACOMA, WA 98402

CONTACTS:

DAVID PAGEL — (253) 591-5267
d:.agel@cit::o.tacoma.org

SITE:

TACOMA POLICE FLEET WAREHOUSE
3702 SOUTH PINE STREET
TACOMA, WA 98409

ENGINEER:

HULTZ/BHU ENGINEERS
1111 FAWCETT AVENUE, SUITE 100
TACOMA, WA 98402

CONTACTS:

MECHANICAL: NICK HULTZ — (253) 383-3257
nic.:h@hultzbhu.com

ELECTRICAL: JOHN MCINTIRE — (253) 383-3257
.ohnm@hultzbhu.com

GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO REVIEW AND VERIFY EXISTING CONDITIONS AND CONSTRUCTION MATERIALS, INCLUDING, BUT NOT LIMITED TO, ALL ROOFS, FLOORS, CEILINGS, AND OTHER AREAS THAT MAY BE DISTURBED DURING CONSTRUCTION IN ORDER TO ACCOMPLISH THE WORK.
2. BUILDING FEATURES SHOWN ON PLANS ARE APPROXIMATE & ARE BASED ON AS-BUILT DATA PROVIDED BY THE OWNER, A COMPLETE REVIEW IS REQUIRED TO BE MADE BY THE CONTRACTOR. VERIFY SIZES & LOCATIONS PRIOR TO BEGINNING WORK.
3. CONTRACTOR SHALL CAREFULLY COORDINATE WORK W/ ALL OTHER TRADES.
4. ALL ITEMS ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING.
5. WORK HOURS: NORMAL WORK HOURS ARE MONDAY THRU FRIDAY 7:00 AM TO 4:00PM. CONTRACTORS' WORK HOURS SHALL BE WITHIN THOSE HOURS EXCEPT WHERE AFTER HOURS WORK IS REQUIRED AS NOTED.
6. THE BUILDING WILL REMAIN OCCUPIED THROUGHOUT CONSTRUCTION. PROVIDE BARRICADES & SIMILAR PROTECTION TO KEEP NON-CONSTRUCTION PERSONNEL CLEAR OF CONSTRUCTION AREAS.

DESCRIPTION OF WORK

BASE BID:

REMOVE AND REPLACE 14 EXISTING ROOFTOP UNITS SERVING WAREHOUSE, AND ADMINISTRATIVE SPACES.

REMOVE AND REPLACE EXISTING VEHICLE EXHAUST HOSE REELS AND ASSOCIATED FANS.

REMOVE AND REPLACE EXISTING ROOFTOP FANS SERVING WAREHOUSE.

ADD THREE HVLS FANS TO SERVE WAREHOUSE.

ADDITIVE ALTERNATE BID NO.1:

REMOVE AND REPLACE 16 ADDITIONAL EXISTING ROOFTOP UNITS SERVING WAREHOUSE, AND ADMINISTRATIVE SPACES.

NOTE: THE ABOVE IS A SUMMARY DESCRIPTION ONLY. SEE CONTRACT DOCUMENTS FOR COMPLETE PROJECT REQUIREMENTS.

LIST OF DRAWINGS

G001	TITLE SHEET
M001	MECHANICAL LEGEND & NOTES
M002	MECHANICAL GENERAL NOTES
M003	MECHANICAL SCHEDULES
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M102	PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO
M103	PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO
M104	PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO
M105	PARTIAL SECOND FLOOR & ROOF PLAN - MECHANICAL DEMO
M106	OVERALL ROOF PLAN - MECHANICAL DEMO
M401	PARTIAL FIRST FLOOR PLAN - MECHANICAL PLAN
M402	PARTIAL FIRST FLOOR PLAN - MECHANICAL PLAN
M403	PARTIAL FIRST FLOOR PLAN - MECHANICAL PLAN
M404	PARTIAL FIRST FLOOR PLAN - MECHANICAL PLAN
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M406	OVERALL ROOF PLAN - MECHANICAL
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M502	MECHANICAL DETAILS
E001	ELECTRICAL SYMBOLS AND ABBREVIATIONS
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E102	PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO
E103	PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO
E104	PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO
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E301	PARTIAL FIRST FLOOR PLAN - ELECTRICAL
E302	PARTIAL FIRST FLOOR PLAN - ELECTRICAL
E303	PARTIAL FIRST FLOOR PLAN - ELECTRICAL
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E501	ONE-LINE DIAGRAM
E601	PANEL SCHEDULES
E602	PANEL SCHEDULES (CONT.)
E603	PANEL SCHEDULES (CONT.)
E604	PANEL SCHEDULES (CONT.)

0674342

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE
3702 S PINE ST
TACOMA, WASHINGTON 98409

SIGNED
4-5-2023

SHEET TITLE: TITLE SHEET
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

G001

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

ENERGY CODE NOTES

EQUIPMENT SIZING, PERFORMANCE, AND TYPE

1. LOAD CALCULATIONS, C403.1: LOAD CALCULATIONS HAVE BEEN PERFORMED IN ACCORDANCE WITH WSEC C403.2.1.
2. EQUIPMENT AND SYSTEM SIZING, C403.2.2: OUTPUT CAPACITIES OF HEATING AND COOLING EQUIPMENT AND SYSTEMS ARE NO GREATER THAN THE SMALLEST AVAILABLE EQUIPMENT SIZE THAT EXCEEDS THE CALCULATED LOADS.
3. HVAC EQUIPMENT PERFORMANCE, C403.2.3/C403.2.13.1: EQUIPMENT SCHEDULES ARE INCLUDED WITH THESE PLANS.
4. ELECTRIC MOTOR EFFICIENCY, C405.8: ALL ELECTRIC MOTORS SHALL MEET THE MINIMUM EFFICIENCY OF TABLES C405.8(1). FRACTION HP FAN MOTORS 1/12HP OR GREATER UP TO 1HP SHALL BE ECM TYPE OR SHALL HAVE A MINIMUM EFFICIENCY OF 70□ OR GREATER.
5. MOTOR NAMEPLATE HP, C403.2.11.2: FOR EACH FAN, THE MOTOR SHALL BE NO LARGER THAN THE FIRST AVAILABLE MOTOR SIZE GREATER THAN THE BHP.
6. FAN EFFICIENCY, C403.2.11.3: FANS AND FAN SYSTEMS GREATER THAN 5HP SHALL HAVE A FAN EFFICIENCY GRADE (FEG) OF 67 OR HIGHER PER AMCA 205.
7. FAN VARIABLE FLOW CAPACITY, C403.2.13: FOR FAN MOTORS 7.5 HP AND GREATER VARIABLE FLOWS SHALL BE PROVIDED WITH A VFD.
8. OUTDOOR AIR, EXHAUST & RELIEF DAMPERS, C403.2.4.3: PROVIDE ALL OUTSIDE AIR, EXHAUST AIR, AND RELIEF AIR OPENINGS WITH CLASS 1 (MAX LEAKAGE OF 4 CFM/SF AT 1.0 W.C.) MOTORIZED DAMPERS.
9. RETURN AIR DAMPERS, C403.2.4.3: PROVIDE RETURN AIR OPENINGS WITH CLASS 1 MOTORIZED DAMPER WHERE USED FOR AIRSIDE ECONOMIZER. WHERE INSTALLED IN UNITARY PACKAGED EQUIPMENT DAMPER, PROVIDE DAMPERS WITH LOWEST LEAKAGE RATE AVAILABLE FROM THE EQUIPMENT MANUFACTURER.

ADDITIONAL EFFICIENCY PACKAGE OPTION

10. HVAC SYSTEM SELECTION, C403.2.4.3/C406.2.1: AT LEAST 90 PERCENT OF THE TOTAL HVAC CAPACITY SERVING THE BUILDING SHALL BE PROVIDED BY EQUIPMENT LISTED IN TABLES C403.2.3(1) THROUGH C403.2.3(2).
11. MINIMUM EQUIPMENT EFFICIENCY, C406.2.2: ALL LISTED HEATING AND COOLING EQUIPMENT SHALL HAVE A RATED EFFICIENCY THAT EXCEEDS WSEC LISTED EFFICIENCY BY AT LEAST 15□.
12. MINIMUM FAN EFFICIENCY, C406.2.3: STAND ALONE FANS, LARGER THAN 1 HP, SHALL HAVE A FAN EFFICACY GRADE (eg) OF 71 OR BETTER. TOTAL EFFICIENCY AT THE DESIGN POINT OF OPERATION SHALL BE WITHIN 10□ OF EITHER THE MAX TOTAL EFFICIENCY OF THE FAN OR THE STATIC EFFICIENCY OF THE FAN.

HVAC SYSTEM CONTROLS

13. THERMOSTATIC CONTROLS, C403.2.4.1: WHERE ADJACENT ZONES CONNECTED BY PERMANENT OPENINGS WITH AREA GREATER THAN 10□ OF EITHER ZONE SF, PROVIDE CONTROL TO PREVENT ADJACENT ZONES FROM OPERATING IN CONFLICTING MODES. WHERE A NON-PERIMETER ZONE IS ADJACENT TO A PERIMETER ZONE, PROVIDE CONTROLS TO ONLY ALLOW COOLING IN THE NON-PERIMETER ZONE WHEN IT IS 5 DEGREES HIGHER THAN THE PERIMETER ZONE.
14. DEADBAND, C403.2.4.1.2: THERMOSTATIC CONTROLS SHALL BE CONFIGURED WITH 5°F MINIMUM DEADBAND FOR SYSTEMS THAT CONTROL BOTH HEATING AND COOLING.
15. SETPOINT OVERLAP RESTRICTION, C402.2.4.1.3: WHERE SEPARATE HEATING AND COOLING SYSTEMS WITH SEPARATE THERMOSTATIC CONTROL DEVICES SERVE A ZONE, PROVIDE A LIMIT SWITCH, MECHANICAL STOP, OR DDC CONTROL TO PREVENT SIMULTANEOUS HEATING AND COOLING.
16. AUTOMATIC SETBACK AND SHUTDOWN, C403.2.4.2/C403.2.4.2.1/C403.2.4.2.2: HVAC SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC CONTROLS CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES, AND SHALL HAVE MANUAL OVERRIDE CONFIGURED TO OPERATE THE SYSTEM FOR 2 HOURS.
17. AUTOMATIC START, C403.2.4.2.3: AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM, AND BE CAPABLE OF AUTOMATICALLY ADJUSTING DAILY START TIME IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.
18. OUTDOOR AIR DAMPERS, C403.2.4.3: OUTSIDE AIR INTAKE DAMPERS SHALL AUTOMATICALLY CLOSE WHEN SYSTEM OR SPACES SERVED ARE NOT IN USE OR DURING WARM-UP AND SET BACK.
19. FREEZE PROTECTION CONTROLS, C403.2.4.6: PROVIDE AUTOMATIC CONTROLS TO SHUT SYSTEM OFF WHEN OUTSIDE AIR TEMPERATURE EXCEEDS 40 DEG F.
20. VENTILATION, C403.2.6/C403.2.11.4: MECHANICAL VENTILATION AIR SYSTEMS SHALL BE CONFIGURED TO PROVIDE NOT MORE THAN 150□, BUT AT LEAST THE MINIMUM REQUIRED VOLUME OF OUTDOOR AIR TO EACH ZONE PER IMC. SEE MECHANICAL EQUIPMENT SCHEDULES FOR MINIMUM OUTSIDE AIR VALUES.
21. FAN AIRFLOW CONTROL, C403.2.11.5: FOR DX COOLING UNITS WITH COOLING CAPACITY OF 65 MBH OR GREATER AND FOR CHILLED WATER OR EVAPORATIVE COOLING UNITS WITH FAN MOTORS OF 1/4 HP OR GREATER, PROVIDE CONTROLS TO VARY THE INDOOR FAN AIRFLOW AS A FUNCTION OF LOAD.

DUCTING SYSTEMS

22. DUCT CONSTRUCTION, C403.2.8.1: DUCTWORK SHALL BE CONSTRUCTED AND SEALED PER IMC.
23. DUCT PRESSURE CLASS, C403.2.8.3: ALL DUCTWORK SHOWN IS LOW PRESSURE DUCT, OPERATING AT STATIC PRESSURE LESS THAN OR EQUAL TO 3 INCHES WATER GAUGE (W.G.).
24. DUCT INSULATION, C403.2.8.1: MINIMUM DUCT INSULATION PER WSEC IS AS FOLLOWS:

SERVICE	INSULATION LEVEL
OUTSIDE AIR DUCTS AND PLENUMS	PROVIDE INSULATION EQUIVALENT TO ENVELOPE REQUIREMENT FOR METAL FRAMED WALLS (TABLE C402.1.3)
OUTSIDE AIR DUCT SERVING INDIVIDUAL SUPPLY UNIT WITH LESS THAN 2,800 CFM OF SUPPLY AIR	R-7
SUPPLY & RETURN DUCTS IN UNCONDITIONED SPACES	R-6
SUPPLY DUCTS WITHIN CONDITIONED SPACE WHERESUPPLY AIR IS □55 DEG F. OR □105 DEG F.	R-3.3
EXPOSED DUCTWORK WITHIN A ZONE THAT SERVES THAT ZONE	NO INSULATION REQUIRED

ECONOMIZER

25. AIR ECONOMIZER REQUIRED, C403.3: SEE EQUIPMENT SCHEDULES FOR EQUIPMENT PROVIDED WITH ECONOMIZER COOLING.
26. INTEGRATED ECONOMIZER OPERATION, C403.3 .1: ECONOMIZERS SHALL BE CONFIGURED FOR PARTIAL COOLING OPERATION EVEN WHERE ADDITIONAL MECHANICAL COOLING IS REQUIRED TO MEET THE LOAD.
27. ECONOMIZER HEATING IMPACT, C403.3.2: ECONOMIZER CONTROLS SHALL BE SUCH THAT ECONOMIZER OPERATION DOES NOT INCREASE BUILDING HEATING ENERGY DURING NORMAL OPERATIONS.
28. AIR ECONOMIZER CAPACITY, C403.3.3.1: ECONOMIZER OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE TO PROVIDE UP TO 100□ OUTSIDE AIR FOR COOLING.
29. INTEGRATED AIR ECONOMIZER, C403.3.3.1: MECHANICAL COOLING CONTROLS SHALL BE INTERLOCKED WITH AIR ECONOMIZER CONTROLS SO THE OUTSIDE AIR DAMPER REMAINS IN 100□ OPEN POSITION WHEN MECHANICAL EQUIPMENT IS IN COOLING TO MEET THE COOLING LOAD, UNTIL THE LEAVING AIR TEMPERATURE IS 45°F. FOR SYSTEMS WITH COOLING CAPACITY GREATER THAN 65 MBH, CONTROL OF ECONOMIZER DAMPERS SHALL NOT BE CONTROLLED BASED ONLY ON MIXED AIR TEMPERATURE.
30. ECONOMIZER HIGH LIMIT CONTROLS, C403.3.3.3: PROVIDE HIGH-LIMIT ECONOMIZER SHUT-OFF CONTROL UTILIZING FIXED DRY BULB METHOD. ECONOMIZER SHALL BE OFF WHEN OUTDOOR AIR TEMPERATURE EXCEEDS 75°F.

COMMISSIONING

31. SCOPE OF MECHANICAL SYSTEMS COMMISSIONING, C408.2: ALL MECHANICAL SYSTEMS, EQUIPMENT AND CONTROLS ARE REQUIRED TO BE COMMISSIONED. FOR BUILDINGS WITH COOLING CAPACITY □240 MBH OR HEATING OUTPUT □300 MBH ALL SYSTEMS ARE TO BE COMMISSIONED REGARDLESS OF INDIVIDUAL CAPACITY.
32. COMMISSIONING REQUIREMENTS IN CONSTRUCTION DOCUMENTS, C403.2.10/C408.1/C103.6: COMMISSIONING PLAN SHALL BE DEVELOPED BY A COMMISSIONING PROFESSIONAL AND CONSIST OF A NARRATIVE DESCRIPTION OF ACTIVITIES, ROLES & RESPONSIBILITIES OF THE COMMISSIONING TEAM, SCHEDULE OF ACTIVITIES INCLUDING TAB, FUNCTIONAL PERFORMANCE TESTING AND VERIFICATION OF PROJECT CLOSE OUT DOCUMENTATION PER C103.6, AND SUBMIT COMPLIANCE CHECKLIST TO THE BUILDING OFFICIAL UPON SUBSTANTIAL COMPLETION. A PRELIMINARY COMMISSIONING REPORT AND/OR COMMISSIONING COMPLIANCE CHECKLIST SHALL BE AVAILABLE FOR AHJ REVIEW PRIOR TO THE FINAL MECHANICAL INSPECTION.
33. AIR SYSTEM BALANCING, C408.2.2: HVAC AIR SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH THE SPECIFICATIONS AND THESE WSEC NOTES. SEE SPECIFICATIONS FOR FLOW RATE TOLERANCES.
34. AIR SYSTEM BALANCING DEVICES, C408.2.2.1: PROVIDE ALL SUPPLY AIR OUTLETS AND TERMINAL DEVICES WITH MEANS OF BALANCING AIRFLOW. BALANCE TO FIRST MINIMIZE THROTTLING LOSSES, THEN ADJUST TO MEET DESIGN AIR FLOWS.
35. FUNCTIONAL PERFORMANCE TESTING CRITERIA, C408.2.3: FUNCTIONAL PERFORMANCE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH WSEC C408.2.3.

PROJECT CLOSE OUT DOCUMENTATION

36. DOCUMENTATION SUBMITTAL REQUIREMENTS, C103.6: SUBMIT ALL CLOSEOUT DOCUMENTATION INCLUDING AS-BUILTS AND O&M'S TO OWNER WITHIN 180 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.
37. THESE "ENERGY CODE NOTES" ARE LISTED TO SATISFY THE BUILDING DEPARTMENT'S REQUIREMENT THAT CERTAIN INFORMATION BE PLACED ON THE PLANS, BUT DO NOT DIMINISH THE FULL PROJECT REQUIREMENTS. PROVIDE ITEMS IN EXCESS OF CODE WHERE NOTED ON DRAWINGS AND IN SPECIFICATIONS. FOR OTHER ADDED REQUIREMENTS, SEE SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

ITEM	SECTION#
AS-BUILT DOCUMENTS	20 05 00
O&M MANUALS	20 05 00
DUCT INSULATION	20 07 00
DUCTWORK SEALING & TESTING	23 31 00
CONTROLS	DIVISION 25

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
G	NATURAL GAS (G)
	ISOLATION VALVE - SEE SPECIFICATIONS FOR TYPE
	PIPE UP
	PIPE DOWN
	PIPE TEE IN LINE, BRANCH PIPE DOWN
	PRESSURE REDUCING VALVE
20/12	DUCT (FIRST FIGURE, SIDE SHOWN)
20/12L 20/12L*	LINED DUCT (DIM. FOR NET FREE AREA) EOL= END OF LINING * = 2" THICK LINING EOL* = END OF 2" THICK LINING
R(D)	RISE (R) OR DROP (D) ARROW IN DIRECTION OF FLOW
	DUCT SECTION (SUPPLY)
	DUCT SECTION (EXHAUST OR RETURN)
Ø	ROUND DUCT OR FLAT OVAL
	VOLUME DAMPER (MANUAL)
M	MOTORIZED DAMPER
	FLEXIBLE CONNECTION
S	DUCT SMOKE DETECTOR
	FLEXIBLE DUCT
	ELBOW WITH TURNING VANES
	DUCT UP (RECTANGULAR)
	DUCT UP (RECTANGULAR)
	DUCT DOWN (RECTANGULAR)
	DUCT DOWN (RECTANGULAR)
	DUCT UP (ROUND)
	DUCT DOWN (ROUND)
SIZE SYMBOL CFM	CEILING OUTLET
SIZE SYMBOL CFM	CEILING INLET
SIZE SYMBOL CFM	WALL OUTLET (OR INLET)
T	THERMOSTAT
CO	CO SENSOR
S	SWITCH
2 M3.1	DETAIL/SECTION IDENTIFICATION NUMBER SHEET ON WHICH DETAIL IS SHOWN

ABBREV.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
APPROX	APPROXIMATELY
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
BDD	BACKDRAFT DAMPER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT/HOUR
BLDG	BUILDING
CAP	CAPACITY
CLG	CEILING
COP	COEFFICIENT OF PERFORMANCE
COMP	COMPRESSOR
CONN	CONNECTION
CONT	CONTINUE, CONTINUATION
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
DEG F, °F	DEGREE FAHRENHEIT
DIA, Ø	DIAMETER
DN	DOWN
DWG	DRAWING
DB	DRY BULB
EA	EACH
ECM	ELECTRONIC COMMUTATED MOTOR
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEC	ELECTRICAL, ELECTRIC
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EER	ENERGY EFFICIENCY RATIO
EAT	ENTERING AIR TEMPERATURE
EWB	ENTERING WET BULB
EDB	ENTERING DRY BULB
EOL	END OF LINING
EXH	EXHAUST
ESP	EXTERNAL STATIC PRESSURE
EXIST. (E)	EXISTING
FV	FACE VELOCITY
FPM	FEET PER MINUTE
FLEX	FLEXIBLE
FL	FLOOR
FLA	FULL LOAD AMPS
G	GAS
HP	HORSE POWER
HVLS	HIGH VELOCITY LOW SPEED
INTEGR.	INTEGRAL
IN	INCH
KW	KILOWATT
L	LINING
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB
LWB	LEAVING WET BULB
LPG	LOW PRESSURE GAS
MAX	MAXIMUM
MFR	MANUFACTURER
MBH	THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MECH	MECHANICAL
MIN	MINIMUM
MPG	MEDIUM PRESSURE GAS
NO.	NUMBER
NTS	NOT TO SCALE
OBD	OPPOSED BLADE DAMPER
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
PH	PHASE
P.D.I.	PLUMBING AND DRAINAGE INST.
PD	PRESSURE DROP
R	RETURN
RLA	RATED LOAD AMPS
REF	REFERENCE
REQ'D	REQUIRED
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
S	SUPPLY
SA	SUPPLY AIR
S.O.	SCREENED OPENING
TEMP	TEMPERATURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THROUGH ROOF
V	VOLTS, VOLTAGE
WC	WATER COLUMN
WA	WATT
WB	WET BULB
WSEC	WASHINGTON STATE ENERGY CODE
W/	WITH

NOTE: FOR DESCRIPTION OF OTHER ABBREVIATIONS SEE SYMBOL LISTING TO THE LEFT, EQUIPMENT/ITEMS SCHEDULES, AND ABBREVIATIONS LISTED IN SPECIFICATIONS

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE
3702 S PINE ST
TACOMA, WASHINGTON 98409

RICHARD A. HULTZ STATE OF WASHINGTON 10776 REGISTERED PROFESSIONAL ENGINEER
SIGNED
4-5-2023

SHEET TITLE: MECHANICAL LEGEND AND NOTES
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M001

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

MECHANICAL DEMOLITION NOTES NOTES

1. DEMOLITION DRAWINGS ARE INTENDED TO ONLY GIVE A GENERAL REPRESENTATION OF THE DEMOLITION INVOLVED, AND DO NOT CONSTITUTE A FULL LISTING OF ALL ITEMS REQUIRING REMOVAL. SEE SPECIFICATIONS & THESE GENERAL NOTES FOR REQUIREMENTS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW SITE CONDITIONS AND TO IDENTIFY ALL DEMOLITION WORK, AND INCLUDE IN HIS BID ALL COSTS FOR DEMOLITION & DISPOSAL.
3. EXIST. DUCTS, EQUIPMENT, PIPING, AIR INLETS/OUTLETS, PLUMBING FIXTURES SHOWN DASHED REPRESENT MAJOR MECHANICAL ITEMS TO BE REMOVED. SEE GENERAL NOTES, DRAWING NOTES & KEYED NOTES WHICH COVER ALL OTHER MISC. MECHANICAL ITEMS TO BE REMOVED.
4. ALL EXIST. ITEMS NOT BEING REUSED SHALL BE REMOVED. THIS INCLUDES SUCH ITEMS AS THERMOSTATS, CONTROL DEVICES, DUCTS, FANS, PIPING, GRILLES, SUPPORTS, VALVES, CURBS, AND RELATED ACCESSORIES.
5. ABANDONED ITEMS, ANCHORS, INSERTS, PIPE STUBS, AND OTHER PROJECTIONS NOT BEING CONCEALED BY NEW CONSTRUCTION SHALL BE REMOVED TO 1" BELOW THE ADJACENT FINISHED SURFACE, AND THE DISTURBED AREA PATCHED.
6. PATCH ALL WALL/FLOOR/CEILING OPENINGS LEFT BY REMOVAL OF EXISTING ITEMS. PATCH SO AS TO MATCH FINISH OF ADJACENT UNDISTURBED AREA.
7. SEE MECHANICAL FLOOR PLANS FOR HVAC DUCTS THAT ARE BEING REUSED.
8. WHERE EXISTING DUCTS ARE REUSED, AND EXISTING BRANCH DUCTS ARE REMOVED, PROVIDE SHEET METAL PATCH WITH INSULATION AT UNUSED CONNECTION (INSULATION REQUIRED ON SUPPLY AIR DUCTS ONLY).
9. PROVIDE TEMPORARY CAP-OFF OF ALL EXIST. SYSTEMS TO ALLOW CONTINUED USE OF ALL SYSTEMS UNTIL THE FINAL SYSTEM COMPONENTS ARE INSTALLED AND CONNECTED (INCLUDE HWS/HWR AT EACH RHI, RHU::FIRE SPRINKLERING, ETC.).
10. HOLD ALL REMOVED ITEMS FOR OWNERS REVIEW. ITEMS SELECTED BY OWNER FOR SALVAGE SHALL BE MOVED BY THE CONTRACTOR TO THE OWNERS STORAGE ROOM (VERIFY EXACT LOCATION WITH OWNER). ITEMS NOT SELECTED BY OWNER FOR SALVAGE SHALL BE DISPOSED OF OFF SITE BY CONTRACTOR.
11. VERIFY SIZE & LOCATION OF ALL EXISTING ITEMS SHOWN TO BE DEMO'D. LOCATIONS SHOWN ARE APPROXIMATE AND ARE BASED ON OWNER'S AS-BUILTS.

MECHANICAL GENERAL NOTES

MECHANICAL GENERAL NOTES

1. ALL WORK IS BASE BID UNLESS SPECIFICALLY NOTED AS ALTERNATE BID WORK.
2. MECHANICAL WORK IS NOT LIMITED TO MECHANICAL DRAWINGS AND DIVISION 22, 23, AND 25 SPECIFICATIONS. THERE IS ADDITIONAL MECHANICAL WORK TO BE INCLUDED IN THE BID INDICATED ON OTHER DRAWINGS AND IN OTHER SPECIFICATION DIVISIONS. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL MECHANICAL WORK.
3. ALL ITEMS ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING.
4. MECHANICAL EQUIPMENT 1/2 HP AND LESS SHALL HAVE ANY REQUIRED STARTER/CONTROL RELAY PROVIDED BY DIVISION 25 (EXCEPT WHERE SPECIFICALLY SHOWN OR SPECIFIED OTHERWISE).
5. SEISMICALLY ANCHOR ALL UNITS & EQUIPMENT TO BUILDING. (UNO). CONTRACTOR IS RESPONSIBLE TO SELECT AND PROVIDE ALL SEISMIC ANCHORING DEVICES FOR ALL MECHANICAL EQUIPMENT, ALL PIPING AND ALL DUCTWORK. CONTRACTOR SHALL SUBMIT DETAILS AND PLANS TO BUILDING INSPECTOR FOR REVIEW AND COMMENT PRIOR TO INSTALLATION.

EXIST. REMODEL GENERAL NOTES

1. FIELD VERIFY SIZE OF ALL EXISTING DUCTS SHOWN BEING CONNECTED TO PRIOR TO FABRICATION OF CONNECTING DUCTWORK. PROVIDE TRANSITIONS AS NECESSARY TO MAKE CONNECTIONS.
2. BUILDING FEATURES AND PIPING AND DUCT LOCATIONS & SIZES SHOWN ON PLANS ARE APPROXIMATE & ARE BASED ON AS-BUILT DATA PROVIDED BY THE OWNER, A COMPLETE REVIEW IS REQUIRED TO BE MADE BY THE CONTRACTOR. VERIFY SIZES PRIOR TO BIDDING AND BEGINNING WORK.
3. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING EQUIPMENT, PIPING, WALLS, SUPPORTS, DUCTWORK, ELECTRICAL AND RELATED BUILDING FEATURES AND RELOCATE/REVISE SUCH EXISTING ITEMS AS NECESSARY TO ALLOW FOR THE WORK INDICATED.
4. CONTRACTOR SHALL FIELD VERIFY THE SIZES AND LOCATIONS OF ALL EXISTING ITEMS SHOWN BEING CONNECTED TO. VERIFICATION SHALL OCCUR PRIOR TO MATERIALS BEING ORDERED OR FABRICATED.
5. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO REVIEW AND VERIFY EXISTING CONDITIONS AND CONSTRUCTION MATERIALS, INCLUDING, BUT NOT LIMITED TO, ALL WALLS, FLOORS, CEILINGS, AND OTHER AREAS THAT MAY BE DISTURBED DURING CONSTRUCTION IN ORDER TO ACCOMPLISH THE WORK IN THESE DOCUMENTS. THE CONTRACTOR SHALL ALSO VISIT THE SITE AGAIN PRIOR TO BEGINNING ANY WORK.
6. PROVIDE DUCT AND TRANSITIONS AS NECESSARY TO CONNECT TO EXISTING SYSTEMS. SUCH SYSTEMS SHALL BE FIELD REVIEWED FOR SIZE, DIRECTION OF FLOW, LOCATION AND TYPE PRIOR TO ORDERING/FABRICATING SUCH TRANSITIONS BECAUSE OWNER PROVIDED AS-BUILT DRAWINGS THAT SHOW SUCH INFORMATION ARE CONSIDERED APPROXIMATE. CONTRACTOR SHALL ASSUME IN HIS BID ONE TRANSITION FOR EACH CONNECTION TO EXISTING SYSTEMS. PIPING CONNECTIONS ON EXISTING ITEMS MAY BE ONE PIPE SIZE SMALLER OR LARGER THAN SHOWN, AND DUCT CONNECTIONS ON EXISTING ITEMS MAY BE UP TO 6 INCHES WIDER OR SMALLER THAN SHOWN.
7. PROVIDE PIPING TRANSITIONS AS NECESSARY TO CONNECT TO EXISTING SYSTEMS. SUCH SYSTEMS SHALL BE FIELD REVIEWED FOR SIZE, LOCATION AND TYPE PRIOR TO ORDERING/FABRICATING SUCH TRANSITIONS BECAUSE OWNER PROVIDED AS-BUILT DRAWINGS THAT SHOW SUCH INFORMATION ARE CONSIDERED APPROXIMATE. CONTRACTOR SHALL ASSUME IN HIS BID ONE TRANSITION FOR EACH CONNECTION TO EXISTING SYSTEMS. PIPING CONNECTIONS ON EXISTING ITEMS MAY BE ONE PIPE SIZE SMALLER OR LARGER THAN SHOWN.
8. WHERE ITEMS ARE DISCONNECTED FROM EXISTING DUCTWORK, CAREFULLY COVER EXPOSED DUCTWORK OPENINGS UNTIL THE TIME FOR RE-INSTALLATION OF THOSE ITEMS.
9. PROVIDE CLEANING OF ALL EXISTING DUCTWORK. CONTRACTOR SHALL NOTIFY DESIGN TEAM OF ANY EXISTING DAMPERS, DUCT ACCESS DOORS, OR OTHER DUCT ACCESSORIES THAT ARE DISCOVERED TO BE NON-FUNCTIONING OR OTHERWISE DAMAGED. THIS NOTIFICATION SHALL TAKE PLACE PRIOR TO THE ACTUAL DUCT CLEANING. ANY DAMAGED DEVICES DISCOVERED AFTER CLEANING SHALL BE CONSIDERED DAMAGED AS A RESULT OF THE CLEANING PROCESS & SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPLACE.
10. BUILDING IS OCCUPIED. UTILITY SHUT-DOWNS SHALL BE COORDINATED W/ OWNER, & MIN 7 CALENDAR DAYS NOTICE PROVIDED AND AGREED TO BY OWNER. MAX DOWNTIME OF ANY SYSTEM SHALL BE 4 HOURS, TO OCCUR DURING OFF-HOURS.
11. EXISTING CONTROLS: ALL EXISTING CONTROLS SERVING EXISTING EQUIPMENT WHICH REMAINS SHALL ALSO REMAIN (EXCEPT WHERE REPLACED WITH NEW DDC TYPE). THE CONTRACTOR PERFORMING THE WORK OF DIVISION 25 SHALL AS-BUILT THE EXISTING CONTROL SYSTEM AS NECESSARY TO ENSURE ALL EXISTING CONTROL COMPONENTS REMAIN, AND COORDINATE THIS KNOWLEDGE AND REQUIREMENT WITH WORKERS PERFORMING DEMOLITION WORK. PROVIDE ADDED COMMUNICATION TRUNK LINES, PNEUMATIC TUBING, AND OTHER DEVICES WHICH MAY BE NEEDED TO MAINTAIN PROPER CONTROL OF ALL SYSTEMS.
12. AS-BUILT DRAWINGS ARE AVAILABLE FOR REVIEW AT HULTZ/BHU ENGINEERS INC. OFFICE, 1111 FAWCETT AVENUE, SUITE 100 TACOMA, WA 98402

HVAC GENERAL NOTES

1. ALL DUCT PENETRATIONS THRU WALLS AND FLOORS SHALL BE PROVIDED WITH CLOSURE COLLARS (BOTH SIDES OF PENETRATION) AND BE TIGHTLY SEALED TO PREVENT THE TRANSMISSION OF NOISE.
2. CONTRACTOR SHALL CAREFULLY COORDINATE WORK W/ ALL OTHER TRADES. SHEET METAL CONTRACTOR SHALL HAVE PRIORITY OVER OTHER MECHANICAL TRADES IN CEILING SPACE WHERE CONFLICTS OCCUR.
3. ALL DUCTWORK SHOWN IS SCHEMATIC, CONTRACTOR SHALL PROVIDE ALL OFFSETS/ELBOWS AS REQ'D TO ALLOW ROUTING AROUND STRUCTURE, ELECTRICAL, & OTHER INTERFERENCES.
4. FOR HVAC EQUIPMENT SUPPORTS, SEE DETAILS ON SHEETS M501.
5. PROVIDE MANUAL VOLUME DAMPERS IN ALL BRANCH DUCTS AND SPLITS IN MAIN DUCTS AND WHERE REQUIRED BY BALANCERS::ONLY SOME OF THE REQUIRED DAMPERS ARE SHOWN ON THE PLANS.
6. UNSIZED DUCTS SHALL MATCH THE SIZE OF THE LARGEST ADJACENT DUCT THAT IS SIZED. WHERE THE ADJACENT DUCT SIZE IS NOT SHOWN, PROVIDE THE FOLLOWING SIZED DUCTS (OR EQUIVALENT RECTANGULAR).

CFM	DUCTS TO AIR INLETS/OUTLETS	OTHER DUCT
0 - 100	6" Ø	6" Ø
101 - 150	8" Ø	8" Ø
151 - 250	10" Ø	8" Ø
251 - 400	12" Ø	10" Ø
401 - 500	14" Ø	12" Ø
501 - 700	16" Ø	12" Ø
701 - 900	18" Ø	14" Ø
901 - 1200	20" Ø	16" Ø
1201 - 1500	----	18" Ø
1501 - 2000	----	20" Ø
2001 - 2400	----	22" Ø
2401	SIZE BASED ON 500 FPM	SIZE BASED ON 0.08"/100' P.D.

7. FOR HVAC DUCT FITTINGS/CONNECTIONS OF ELBOWS/TRANSITIONS SEE DETAILS ON SHEET M501.
8. BALANCING NOTES: PROVIDE AIR BALANCING OF HVAC SYSTEM. SEE SECTION 23 05 93 FOR COMPLETE REQUIREMENTS.
9. WHERE RETURN GRILLE CFM'S ARE NOT INDICATED, BALANCER SHALL CALCULATE & SUBMIT FOR ENGINEER REVIEW. UNIT RA=SA-OA.
10. PROVIDE FLEX CONNECTORS IN DUCT CONNECTIONS TO ALL EQUIPMENT.
11. PROVIDE TRANSITIONS FROM DUCT SIZES INDICATED TO CONNECTION SIZES AT EQUIPMENT TO MATCH UNIT CONNECTIONS. WHERE THE CONNECTING DUCT IS LINED, THE TRANSITION SHALL BE LINED.
12. RETURN AIR & EXHAUST DUCTS SHALL BE CONSTRUCTED TO -1" PRESSURE CLASS & SEAL CLASS C (UNO).

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE
3702 S PINE ST
TACOMA, WASHINGTON 98409

RICHARD A. HULTZ STATE OF WASHINGTON 10776 REGISTERED PROFESSIONAL ENGINEER
SIGNED
4-5-2023

SHEET TITLE: MECHANICAL GENERAL NOTES
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M002

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

VEHICLE EXHAUST REEL SCHEDULE

SYMBOL	SPECIFIED MANUFACTURER AND SERIES NUMBER	LOCATION	CFM	ELECTRICAL POWER	ELECTRICAL VOLTS / PH	REMARKS
VER-1	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-2	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-3	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-4	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-5	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-6	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-7	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-8	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-9	NEDERMAN 865	FLEET SHOP	600	.325 KVA	208/1	1 3 4
VER-11	NEDERMAN 865	FLEET SHOP	600	.325 KVA	208/1	1 3 4
VER-12	NEDERMAN 865	FLEET SHOP	600	.325 KVA	208/1	1 3 4
VER-13	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4
VER-14	NEDERMAN 865	FLEET SHOP	300	.325 KVA	208/1	1 2 4

1. PROVIDE WITH MOUNTING HARDWARE.
2. 4"Ø HOSE (MASTER-CLIP SILICONE H) AT 33 FEET IN LENGTH.
3. 6"Ø HOSE (MASTER-CLIP SILICONE H) AT 33 FEET IN LENGTH.
4. PROVIDE WITH 6" RUBBER EXHAUST NOZZLE.

HEAT PUMP SCHEDULE - PACKAGED TYPE

SYMBOL	BASIS OF DESIGN MANUFACTURER AND SERIES NO.	AREA SERVED	TONS	COOLING CAPACITY * TOTAL MBH	COOLING CAPACITY * SENSIBLE MBH	COOLING CAPACITY * EFF. (EER)	HEATING CAP. ** MBH	HEATING CAP. ** HSPF	SUPPLY FAN CFM	SUPPLY FAN ESP	SUPPLY FAN HP	SUPPLEMENTARY HEATER KW	SUPPLEMENTARY HEATER STAGES	MIN. OA	MAX. WEIGHT (LBS)	UNIT ELECTRICAL MCA	UNIT ELECTRICAL VOLTS / PH	FILTERS TYPE	REMARKS
RTU-1	JOHNSON CONTROLS CORE	CONF RM	6	69.7	53.3	11.0	67.3	8	2400	0.55"	2.9	14	1	960	675	37	460/3	PTA MERV 13	1 2 3 4 5
RTU-2	JOHNSON CONTROLS CORE	LOWER OFFICE	8.5	105.9	79.8	11.8	94.8	8	3400	0.75"	2.5	27.8	1	1220	1100	62.2	460/3	PTA MERV 13	1 2 3 4 5
RTU-3	JOHNSON CONTROLS	FLEET WAREHOUSE	20	259.3	188.9	10.9	220.8	8	8000	1.10"	5.75	75	1	200	2600	103.8	460/3	PTA MERV 13	1 2 3 4 5
RTU-4	JOHNSON CONTROLS	PARTS STORAGE	4	56.2	39.9	12.25	47.1	8	1800	0.75"	2.9	11.5	1	500	650	29	460/3	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-5	FRASER-JOHNSTON LX SERIES	PARTS MANAGER	2	25.1	18.4	11.6	24.6	8	600	0.55"	0.5	4.4	1	85	350	42.6	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-6	FRASER-JOHNSTON LX SERIES	DRIVER TRAIN	2.5	29.4	22.4	11.6	29.6	8	1000	0.55"	0.5	7.1	1	350	375	58.8	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-7	JOHNSON CONTROLS	FLEET WAREHOUSE	20	259.3	188.9	10.9	220.8	8	8000	1.10"	5.75	75	1	200	2600	103.8	460/3	PTA MERV 13	1 2 3 4 5
RTU-8	FRASER-JOHNSTON LX SERIES	RADIO SHOP	2	25.1	18.4	11.6	24.6	8	800	0.55"	0.5	4.4	1	80	350	42.6	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-9	FRASER-JOHNSTON LX SERIES	CYCLE SHOP	2	25.1	18.4	11.6	24.6	8	600	0.55"	0.5	4.4	1	100	350	42.6	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-10	JOHNSON CONTROLS	FLEET WAREHOUSE	20	259.3	188.9	10.9	220.8	8	8000	1.10"	5.75	75	1	200	2600	103.8	460/3	PTA MERV 13	1 2 3 4 5
RTU-11	FRASER-JOHNSTON LX SERIES	WELDING BAY	2.5	29.4	22.4	11.6	29.6	8	800	0.55"	0.5	7.1	1	100	375	58.8	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-12	JOHNSON CONTROLS	FLEET WAREHOUSE	20	259.3	188.9	10.9	220.8	8	8000	1.10"	5.75	75	1	200	2600	103.8	460/3	PTA MERV 13	1 2 3 4 5
RTU-13	JOHNSON CONTROLS	FLEET WAREHOUSE	20	259.3	188.9	10.9	220.8	8	8000	1.10"	5.75	75	1	200	2600	103.8	460/3	PTA MERV 13	1 2 3 4 5
RTU-14	JOHNSON CONTROLS	FLEET WAREHOUSE	3	37.3	28.2	12.1	35.5	8.1	1250	0.55"	2.4	6	1	160	600	25	460/3	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-15	FRASER-JOHNSTON LX SERIES	MANAGER	2	25.1	18.4	11.6	24.6	8	600	0.55"	0.5	4.4	1	100	350	42.6	208/1	PTA MERV 13	1 2 3 4 5
RTU-16	JOHNSON CONTROLS	UPPER OFFICE	4	56.2	39.9	12.25	47.1	8	1800	0.60"	2.9	11.5	1	450	650	29	460/3	PTA MERV 13	1 2 3 4 5
RTU-17	FRASER-JOHNSTON LX SERIES	UPPER OFFICE	2.5	29.4	22.4	11.6	29.6	8	1000	0.60"	0.5	7.1	1	220	375	58.8	208/1	PTA MERV 13	1 2 3 4 5
RTU-18	FRASER-JOHNSTON LX SERIES	UPPER CONF.	2	25.1	18.4	11.6	24.6	8	800	0.55"	0.5	4.4	1	240	350	42.6	208/1	PTA MERV 13	1 2 3 4 5
RTU-19	FRASER-JOHNSTON LX SERIES	KENNEL	2	25.1	18.4	11.6	24.6	8	525	0.55"	0.5	4.4	1	100	350	42.6	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-20	FRASER-JOHNSTON LX SERIES	POLICE OFFICE	2.5	29.4	22.4	11.6	29.6	8	900	0.55"	0.5	7.1	1	250	375	58.8	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-21	JOHNSON CONTROLS	FLEET WAREHOUSE	20	259.3	188.9	10.9	220.8	8	8000	1.10"	5.75	75	1	200	2600	103.8	460/3	PTA MERV 13	1 2 3 4 5
RTU-22	FRASER-JOHNSTON LX SERIES	POLICE OFFICE	2.5	29.4	22.4	11.6	29.6	8	975	0.75"	0.5	7.1	1	380	375	58.8	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-23	JOHNSON CONTROLS	POLICE OFFICE	8.5	105.9	79.8	11.8	94.8	8	3350	0.75"	2.5	27.8	1	380	1100	62.2	460/3	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-24	JOHNSON CONTROLS	POLICE OFFICE	6	69.7	53.3	11.0	67.3	8	2200	0.75"	2.9	14	1	800	675	37	460/3	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-25	JOHNSON CONTROLS	POLICE OFFICE	6	69.7	53.3	11.0	67.3	8	2200	0.75"	2.9	14	1	1090	675	37	460/3	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-26	JOHNSON CONTROLS	FLEET WAREHOUSE	20	259.3	188.9	10.9	220.8	8	8000	1.10"	5.75	75	1	200	2600	103.8	460/3	PTA MERV 13	1 2 3 4 5
RTU-27	JOHNSON CONTROLS	QUARTER MASTER	8.5	105.9	79.8	11.8	94.8	8	3300	0.55"	2.5	27.8	1	450	1100	62.2	460/3	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-28	JOHNSON CONTROLS	FORENSIC	6	69.7	53.3	11.0	67.3	8	1800	0.55"	2.9	14	1	300	675	37	460/3	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-29	FRASER-JOHNSTON LX SERIES	SID	2.5	29.4	22.4	11.6	29.6	8	1050	0.55"	0.5	7.1	1	1500	375	58.8	208/1	PTA MERV 13	1 2 3 4 5 ALTERNATE BID NO. 1
RTU-30	JOHNSON CONTROLS	FLEET WAREHOUSE	20	259.3	188.9	10.9	220.8	8	8000	1.10"	5.75	75	1	200	2600	103.8	460/3	PTA MERV 13	1 2 3 4 5

* RATED AT 95°F AMBIENT, 80°F EDB, 67°F EWB, AT UNIT NOMINAL CFM, AND IN ACCORDANCE WITH ARI STANDARD 210.

** RATED IN ACCORDANCE WITH ANSI AND DOE STANDARDS.

1. CONNECT TO EXISTING ALERTON DDC SYSTEM.
2. PROVIDE SUPPLY FAN WITH EC MOTOR OR WITH VFD.
3. W/ 0-100□ ECONOMIZER
4. THROUGH THE BASE ELECTRICAL CONNECTIONS
5. W/ CURB ADAPTER.

FAN SCHEDULE

SYMBOL	SPECIFIED MANUFACTURER AND SERIES NUMBER	TYPE	AREA SERVED	CFM	ESP	MAX RPM	ELECTRICAL HP	ELECTRICAL VOLTS / PH	DRIVE	CONTROL	MAX WEIGHT (LBS)	REMARKS
EF-3	GREENHECK RBE	ROOFTOP	FLEET SHOP	33,000	0.15"	600	5	460/3	BELT	2	700	3 4 W/ VFD
EF-4	NEDERMAN NIF - 200	INLINE	VEHICLE HOSE REEL (VER-1)	300	6.0"	3500	2	460/3	DIRECT	SWITCH	75	
EF-5	NEDERMAN NIF - 201	INLINE	VEHICLE HOSE REEL (VER-4, VER-5)	600	6.0"	3500	2-1/2	460/3	DIRECT	SWITCH	75	
EF-7	NEDERMAN NIF - 201	INLINE	VEHICLE HOSE REEL (VER-8)	600	6.0"	3500	2-1/2	460/3	DIRECT	SWITCH	75	
EF-9	NEDERMAN NIF - 201	INLINE	VEHICLE HOSE REEL (VER-9)	600	9.0"	3500	2-1/2	460/3	DIRECT	SWITCH	75	
EF-10	NEDERMAN NIF - 304	INLINE	VEHICLE HOSE REEL (VER-11, VER-12)	1200	9.0"	3500	3	460/3	DIRECT	SWITCH	75	
EF-12	GREENHECK RBE	ROOFTOP	FLEET SHOP	33,000	0.15"	600	5	460/3	BELT	2	700	3 4 W/ VFD
EF-15	NEDERMAN NIF - 201	INLINE	VEHICLE HOSE REEL (VER-13, VER-14)	600	6.0"	3500	2-1/2	460/3	DIRECT	SWITCH	75	
EF-26	GREENHECK RBE	ROOFTOP	GARAGE	23,000	0.125"	600	3	460/3	BELT	2	700	3 4 W/ VFD
EF-27	GREENHECK RBE	ROOFTOP	GARAGE	23,000	0.125"	600	3	460/3	BELT	2	700	3 4 W/ VFD
EF-29	NEDERMAN NIF - 201	INLINE	VEHICLE HOSE REEL (VER-2, VER-3)	600	9.0"	3500	2-1/2	460/3	DIRECT	SWITCH	75	
EF-30	NEDERMAN NIF - 201	INLINE	VEHICLE HOSE REEL (VER-6, VER-7)	600	9.0"	3500	2-1/2	460/3	DIRECT	SWITCH	75	
HVLS-1	BIG ASS FANS POWERFOIL 8	HVLS INDUSTRIAL	FLEET SHOP	-	-	98	2	460/3	DIRECT	EMCS/ LOCAL CONTROLLER	300	1 3 16 - FT DIAMETER
HVLS-2	BIG ASS FANS POWERFOIL 8	HVLS INDUSTRIAL	FLEET SHOP	-	-	98	2	460/3	DIRECT	EMCS/ LOCAL CONTROLLER	300	1 3 16 - FT DIAMETER
HVLS-3	BIG ASS FANS POWERFOIL 8	HVLS INDUSTRIAL	FLEET SHOP	-	-	98	2	460/3	DIRECT	EMCS/ LOCAL CONTROLLER	300	1 3 16 - FT DIAMETER

NOTES:

1. PROVIDE ALL FANS CONFIGURED TO MEET ENERGY CODE, I.E. PROVIDE WITH PROPER MOTOR EFFICIENCY OR PROVIDE WITH EC MOTOR. MOTOR HP SIZE SCHEDULED IS PRELIMINARY□ FINAL EQUIPMENT AND MOTOR SIZE SHALL VARY TO MEET ENERGY CODE REQUIREMENTS.
2. PROVIDE ALL EC MOTORS WITH MANUAL SPEED CONTROLS FOR BALANCING.
3. SEE DIVISION 25 FOR MOTORIZED DAMPERS AT EF'S (UNO).

1 = SPEED CONTROL
2 = CONNECT TO (E) CO/NO2 SENSOR.
3 = CONNECT TO (E) ALERTON DDC SYSTEM.
4 = RE-USE (E) ROOF CURB.

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
generral@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE
3702 S PINE ST
TACOMA, WASHINGTON 98409

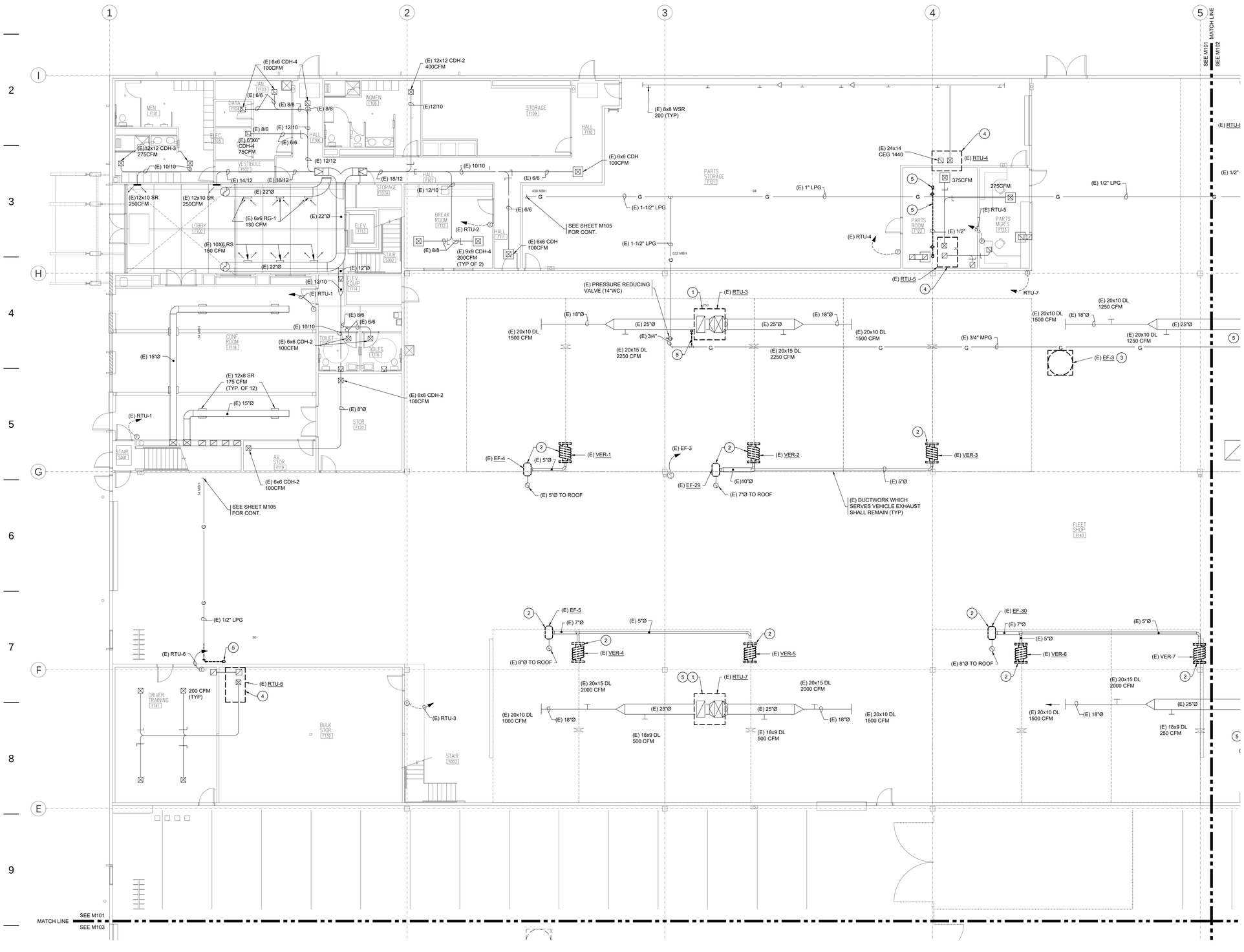
RICHARD A. HULTZ STATE OF WASHINGTON 20319 REGISTERED PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: MECHANICAL SCHEDULES
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M003

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



GENERAL NOTES:

1. SEE MECHANICAL DEMOLITION NOTES SHEET M002.
2. EXISTING ITEMS SHOWN ARE BASED ON OWNER PROVIDED AS-BUILTS. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
3. EXISTING DUCTWORK SERVING DEMO'D ROOFTOP UNITS SHALL REMAIN AS NECESSARY TO RECONNECT TO NEW EQUIPMENT.
4. CAP OFF UNUSED BRANCH TAKE-OFF AT MAINS.
5. NOT ALL KEYED NOTES USED THIS SHEET.
6. EXISTING CO CONTROLS SERVING EXHAUST FANS ARE TO BE RE-USED, UNO.

KEYED NOTES:

1. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF BASE BID.
2. REMOVE (E) HOSE REEL AND ASSOCIATED EXHAUST FAN. SUPPORTS MAY REMAIN AND BE RE-USED.
3. REMOVE (E) ROOFTOP FAN. (E) ROOF CURB TO REMAIN & BE RE-USED.
4. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF ALTERNATE BID NO.1.
5. REMOVE (E) GAS PIPING UP TO (E) RTU. CAP OFF PIPING BELOW ROOF.

PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO

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

PLAN NORTH

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

KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

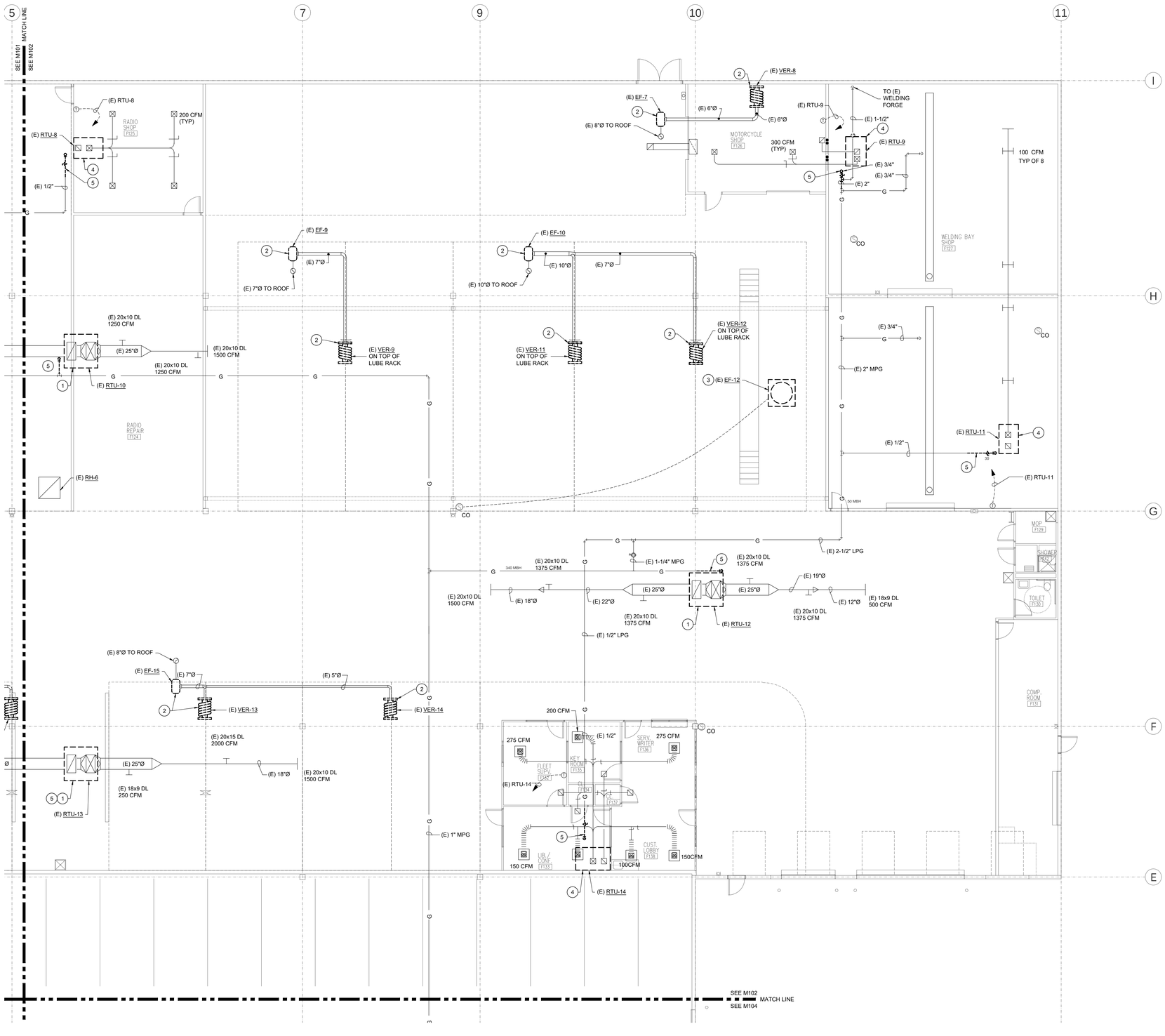
3702 S PINE ST
TACOMA, WASHINGTON 98409

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M101

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO

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

PLAN NORTH

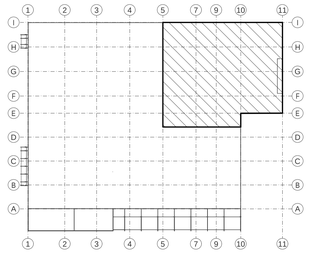
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE MECHANICAL DEMOLITION NOTES SHEET M002.
2. EXISTING ITEMS SHOWN ARE BASED ON OWNER PROVIDED AS-BUILTS. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
3. EXISTING DUCTWORK SERVING DEMO'D ROOFTOP UNITS SHALL REMAIN AS NECESSARY TO RECONNECT TO NEW EQUIPMENT.
4. CAP OFF UNUSED BRANCH TAKE-OFF AT MAINS.
5. NOT ALL KEYED NOTES USED THIS SHEET.
6. EXISTING CO CONTROLS SERVING EXHAUST FANS ARE TO BE RE-USED, UNO.

KEYED NOTES:

1. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF BASE BID.
2. REMOVE (E) HOSE REEL AND ASSOCIATED EXHAUST FAN. SUPPORTS MAY REMAIN AND BE RE-USED.
3. REMOVE (E) ROOFTOP FAN. (E) ROOF CURB TO REMAIN & BE RE-USED.
4. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF ALTERNATE BID NO.1.
5. REMOVE (E) GAS PIPING UP TO (E) RTU. CAP OFF PIPING BELOW ROOF.



KEY PLAN

NTS

NORTH

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

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 S PINE ST
TACOMA, WASHINGTON 98409

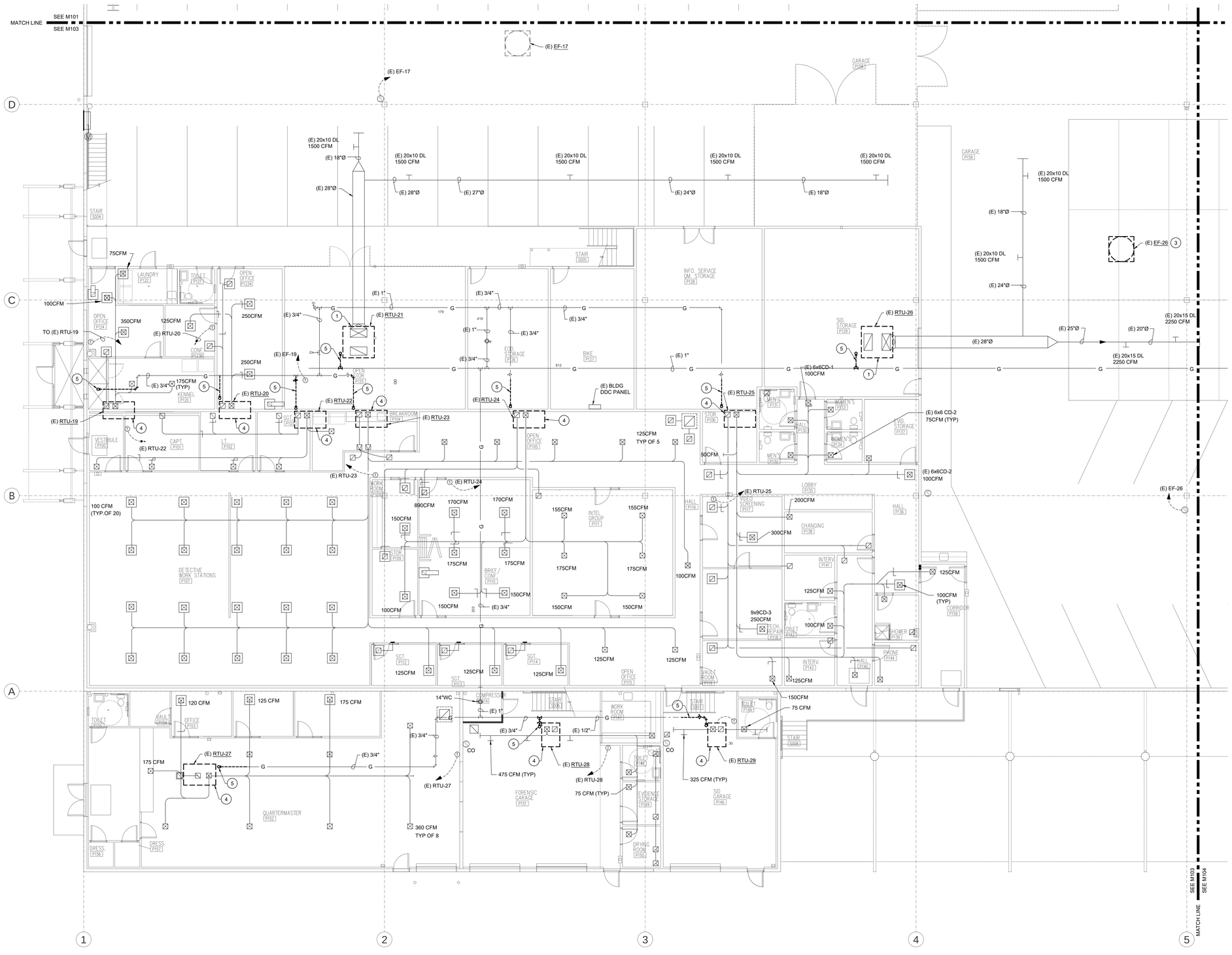
RICHARD A. HULTZ
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M102

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO

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

PLAN NORTH

GENERAL NOTES:

1. SEE MECHANICAL DEMOLITION NOTES SHEET M002.
2. EXISTING ITEMS SHOWN ARE BASED ON OWNER PROVIDED AS-BUILTS. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
3. EXISTING DUCTWORK SERVING DEMO'D ROOFTOP UNITS SHALL REMAIN AS NECESSARY TO RECONNECT TO NEW EQUIPMENT.
4. CAP OFF UNUSED BRANCH TAKE-OFF AT MAINS.
5. NOT ALL KEYED NOTES USED THIS SHEET.
6. EXISTING CO CONTROLS SERVING EXHAUST FANS ARE TO BE RE-USED, UNO.

KEYED NOTES:

1. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF BASE BID.
2. REMOVE (E) HOSE REEL AND ASSOCIATED EXHAUST FAN. SUPPORTS MAY REMAIN AND BE RE-USED.
3. REMOVE (E) ROOFTOP FAN. (E) ROOF CURB TO REMAIN & BE RE-USED.
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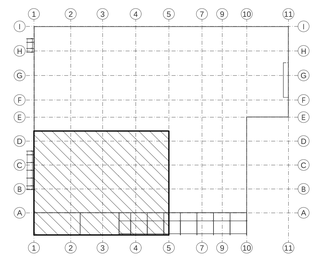
5. REMOVE (E) GAS PIPING UP TO (E) RTU. CAP OFF PIPING BELOW ROOF.



KEY PLAN

NTS

NORTH

2' 8'
0' 4' 16'
SCALE: 1/8" = 1'-0"

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

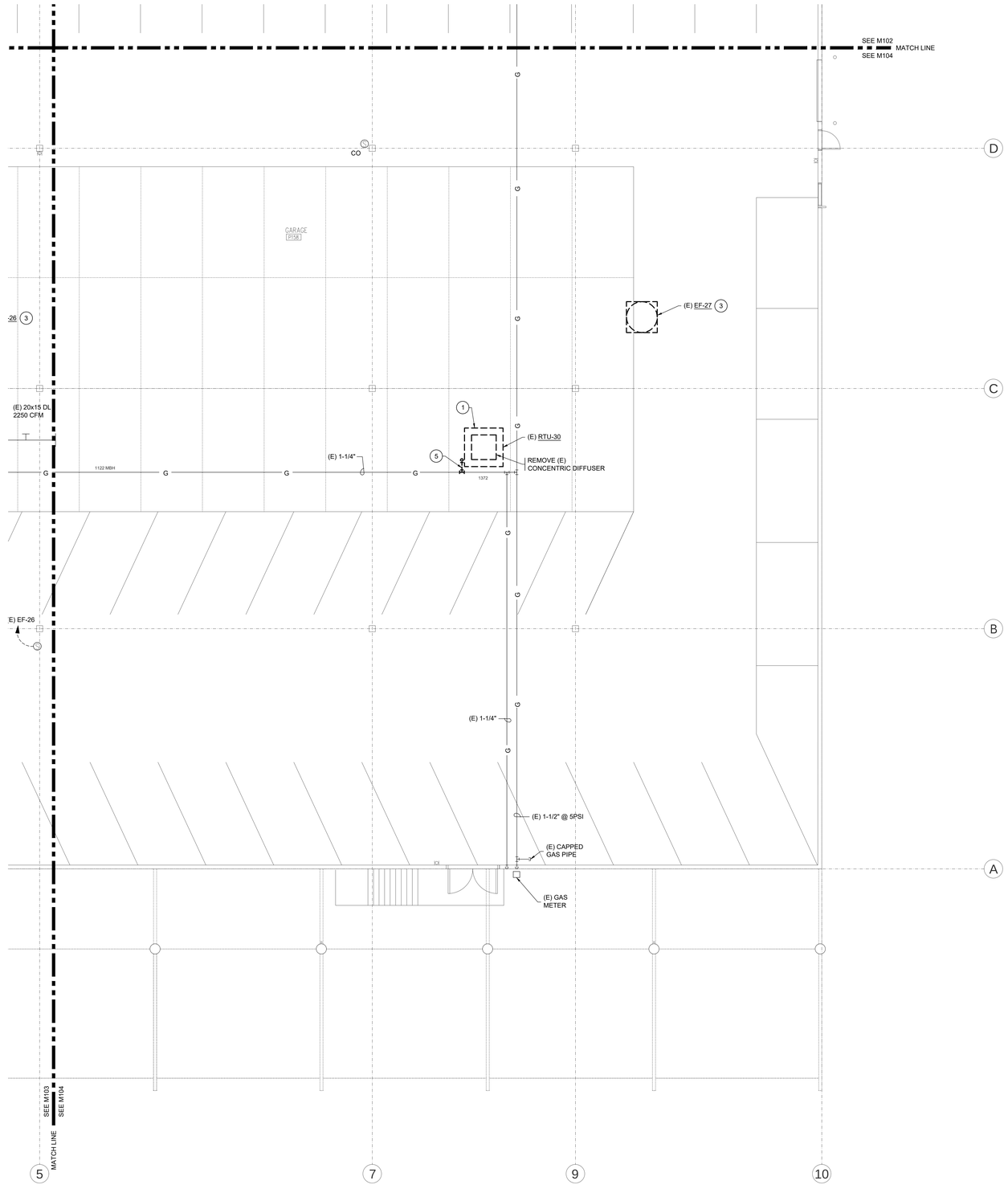
3702 S PINE ST
TACOMA, WASHINGTON 98409

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M103

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO

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

PLAN NORTH

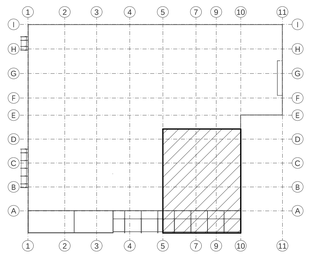
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE MECHANICAL DEMOLITION NOTES SHEET M002.
2. EXISTING ITEMS SHOWN ARE BASED ON OWNER PROVIDED AS-BUILTS. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
3. EXISTING DUCTWORK SERVING DEMO'D ROOFTOP UNITS SHALL REMAIN AS NECESSARY TO RECONNECT TO NEW EQUIPMENT.
4. CAP OFF UNUSED BRANCH TAKE-OFF AT MAINS.
5. NOT ALL KEYED NOTES USED THIS SHEET.
6. EXISTING CO CONTROLS SERVING EXHAUST FANS ARE TO BE RE-USED, UNO.

KEYED NOTES:

1. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF BASE BID.
2. REMOVE (E) HOSE REEL AND ASSOCIATED EXHAUST FAN. SUPPORTS MAY REMAIN AND BE RE-USED.
3. REMOVE (E) ROOFTOP FAN. (E) ROOF CURB TO REMAIN & BE RE-USED.
4. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF ALTERNATE BID NO.1.
5. REMOVE (E) GAS PIPING UP TO (E) RTU. CAP OFF PIPING BELOW ROOF.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 S PINE ST
TACOMA, WASHINGTON 98409

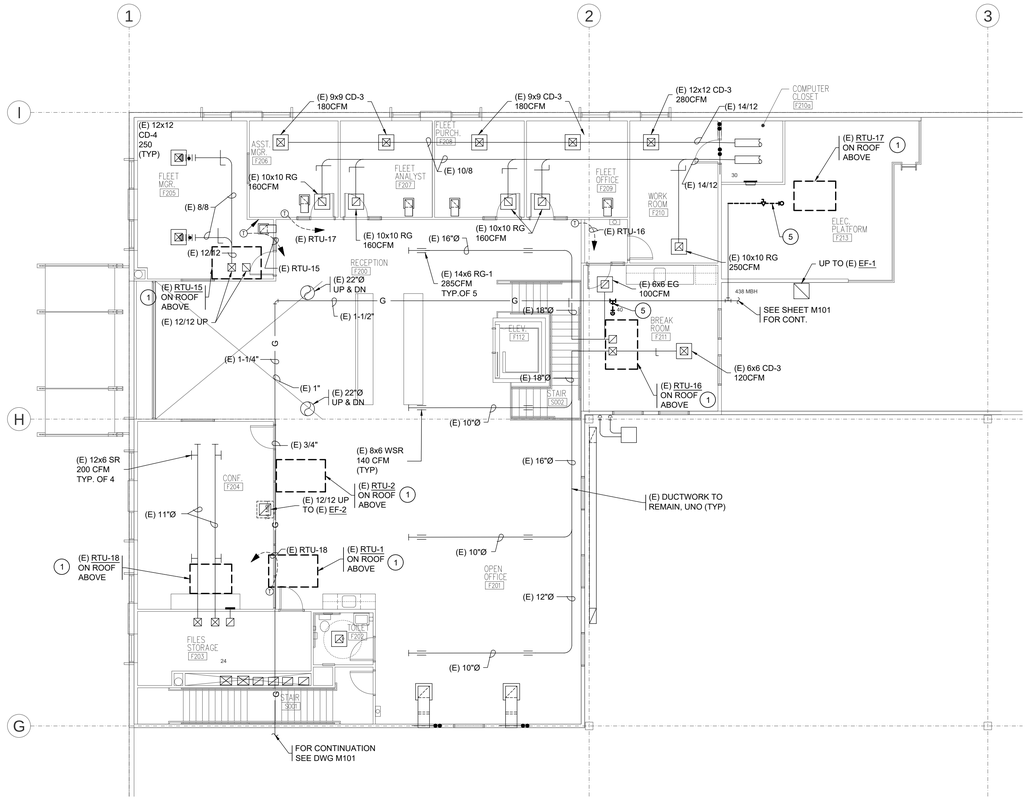
RICHARD A. HULTZ
STATE OF WASHINGTON
19576
REGISTERED PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL DEMO
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M104

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

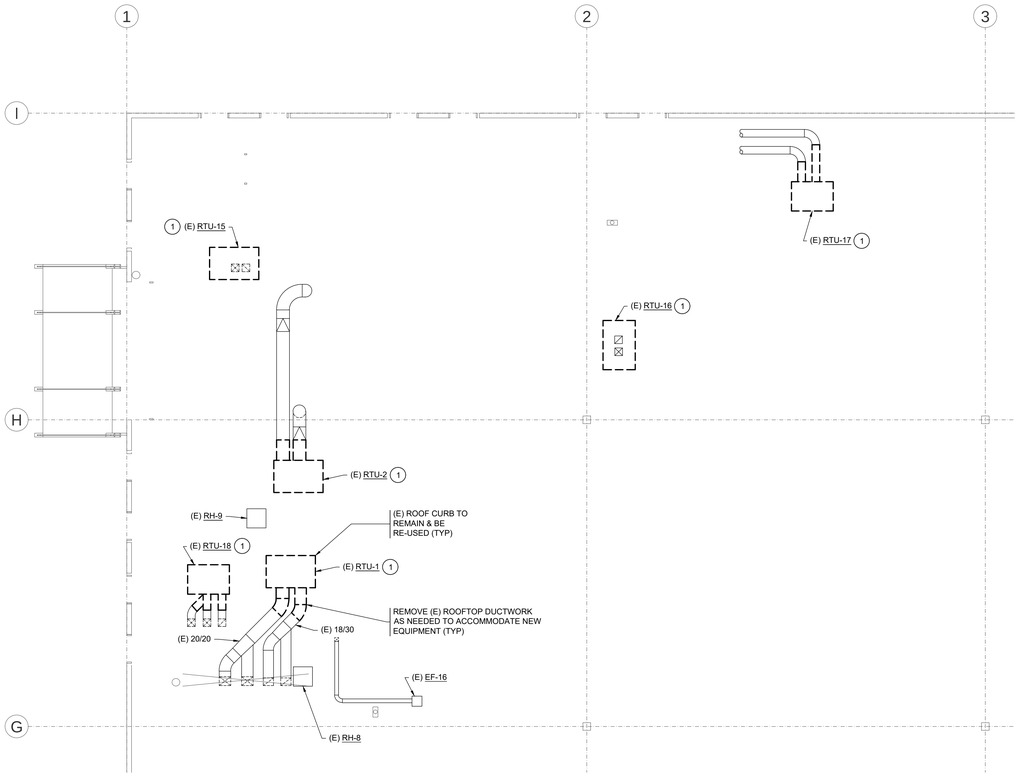


PARTIAL SECOND FLOOR PLAN - MECHANICAL DEMO

PLAN NORTH

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

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



PARTIAL ROOF PLAN - MECHANICAL DEMO

PLAN NORTH

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

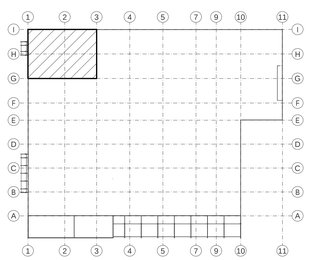
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE MECHANICAL DEMOLITION NOTES SHEET M002.
2. EXISTING ITEMS SHOWN ARE BASED ON OWNER PROVIDED AS-BUILTS. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
3. EXISTING DUCTWORK SERVING DEMO'D ROOFTOP UNITS SHALL REMAIN AS NECESSARY TO RECONNECT TO NEW EQUIPMENT.
4. CAP OFF UNUSED BRANCH TAKE-OFF AT MAINS.
5. NOT ALL KEYED NOTES USED THIS SHEET.
6. EXISTING CO CONTROLS SERVING EXHAUST FANS ARE TO BE RE-USED, UNO.

KEYED NOTES:

1. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF BASE BID.
2. REMOVE (E) HOSE REEL AND ASSOCIATED EXHAUST FAN. SUPPORTS MAY REMAIN AND BE RE-USED.
3. REMOVE (E) ROOFTOP FAN. (E) ROOF CURB TO REMAIN & BE RE-USED.
4. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF ALTERNATE BID NO.1.
5. REMOVE (E) GAS PIPING UP TO (E) RTU. CAP OFF PIPING BELOW ROOF.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

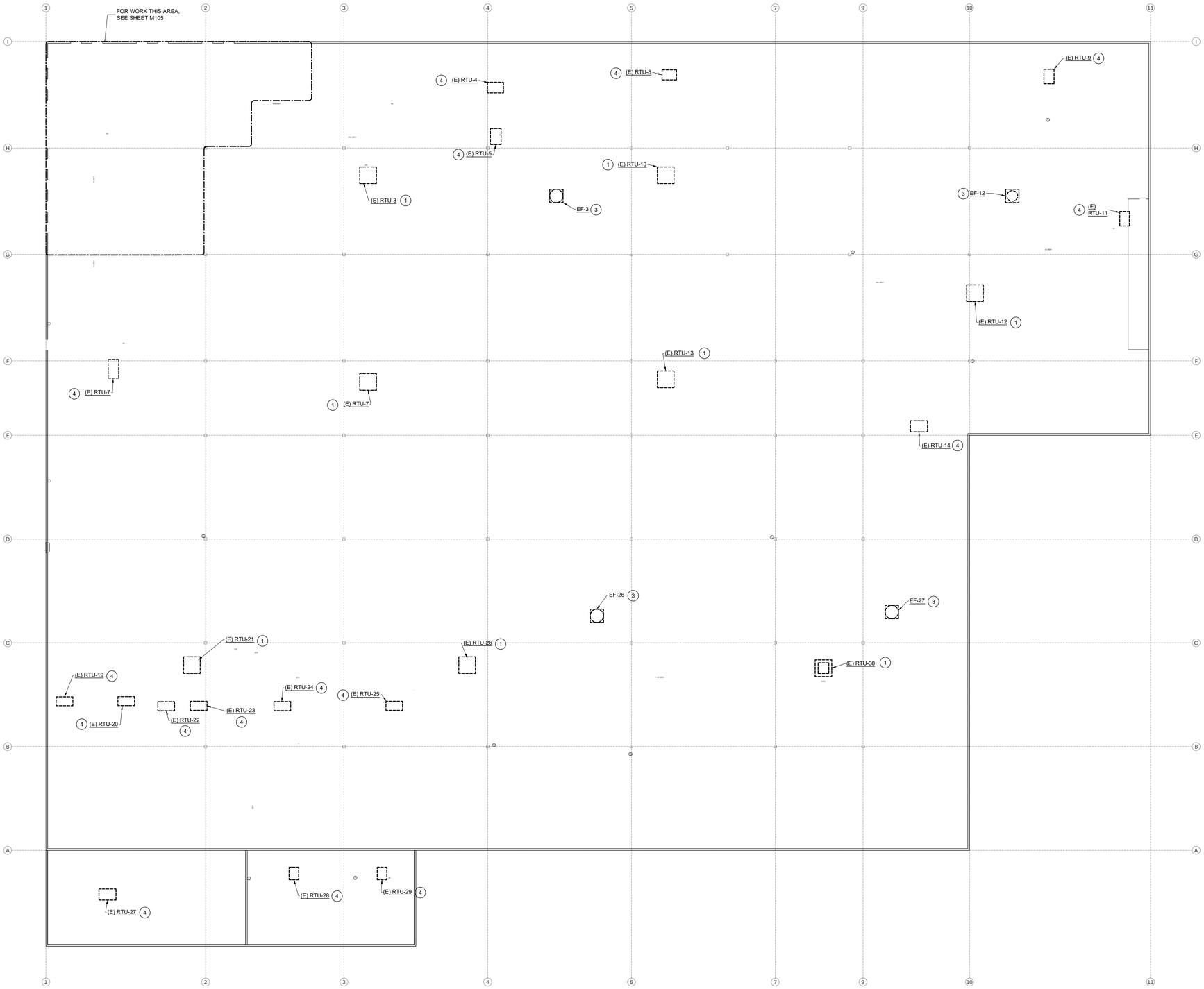
3702 S PINE ST
TACOMA, WASHINGTON 98409

SIGNED
4-5-2023

SHEET TITLE: PARTIAL SECOND FLOOR AND ROOF PLAN - MECHANICAL DEMO
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M105

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



OVERALL ROOF PLAN - MECHANICAL DEMO

SCALE: 1/16" = 1'-0"

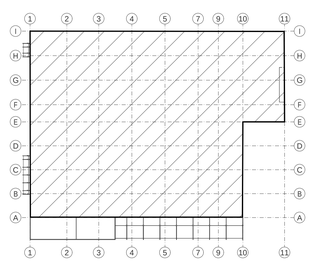
PLAN NORTH

GENERAL NOTES:

1. SEE MECHANICAL DEMOLITION NOTES SHEET M002.
2. EXISTING ITEMS SHOWN ARE BASED ON OWNER PROVIDED AS-BUILTS. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
3. EXISTING DUCTWORK SERVING DEMO'D ROOFTOP UNITS SHALL REMAIN AS NECESSARY TO RECONNECT TO NEW EQUIPMENT.
4. CAP OFF UNUSED BRANCH TAKE-OFF AT MAINS.
5. NOT ALL KEYED NOTES USED THIS SHEET.
6. EXISTING CO CONTROLS SERVING EXHAUST FANS ARE TO BE RE-USED, UNO.

KEYED NOTES:

1. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF BASE BID.
2. REMOVE (E) HOSE REEL AND ASSOCIATED EXHAUST FAN. SUPPORTS MAY REMAIN AND BE RE-USED.
3. REMOVE (E) ROOFTOP FAN. (E) ROOF CURB TO REMAIN & BE RE-USED.
4. REMOVE (E) ROOFTOP PACKAGED UNIT AS PART OF ALTERNATE BID NO.1.
5. REMOVE (E) GAS PIPING UP TO (E) RTU. CAP OFF PIPING BELOW ROOF.



KEY PLAN

NTS

NORTH

0' 2' 4' 8' 16'

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

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

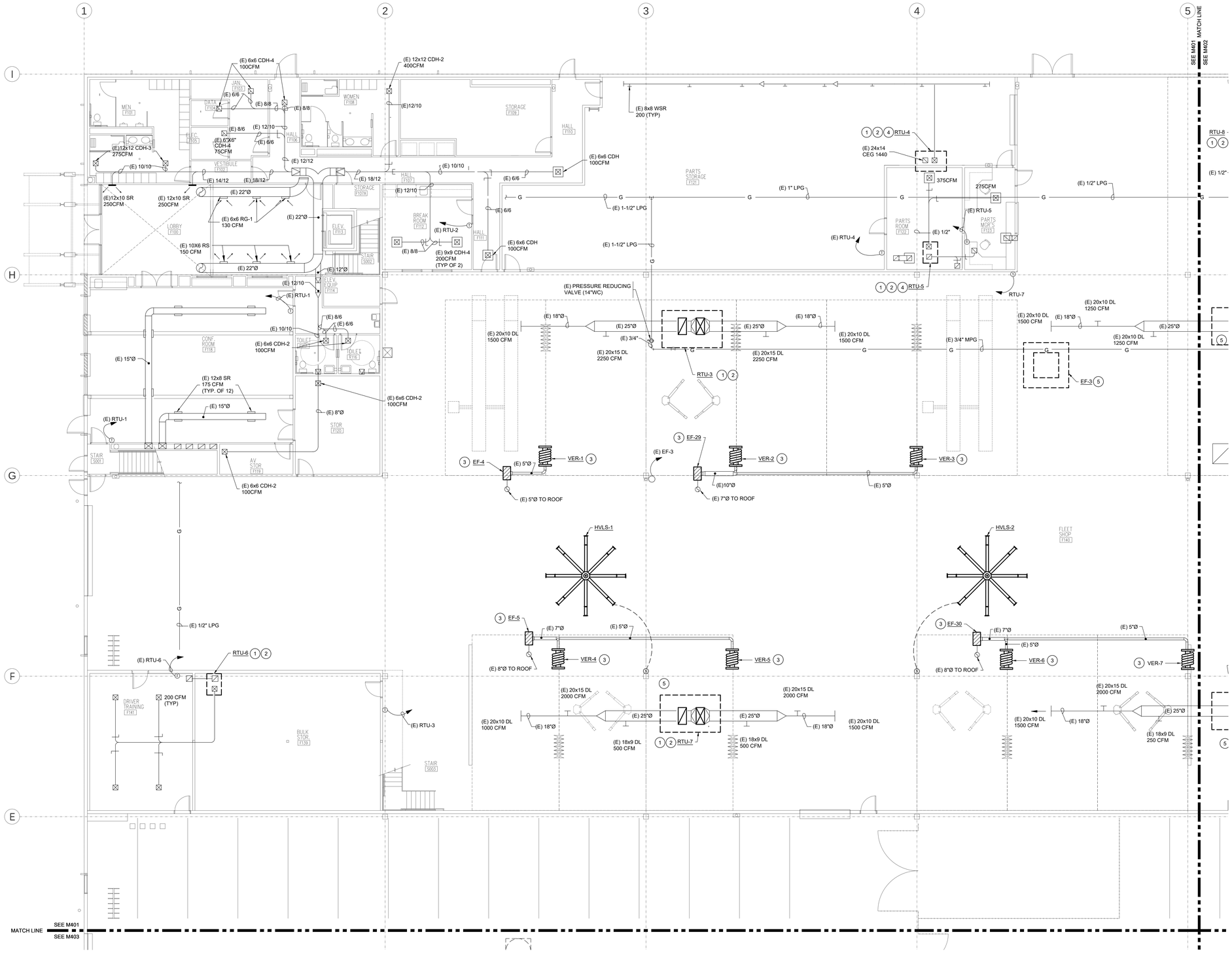
3702 S PINE ST
TACOMA, WASHINGTON 98409

SIGNED
4-5-2023

SHEET TITLE: OVERALL ROOF PLAN - MECHANICAL DEMO
DRAWN: TP
CHECKED: NRH
DATE: 05-09-23
PROJECT NO. 22-240
REVISIONS:

M106

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - MECHANICAL

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

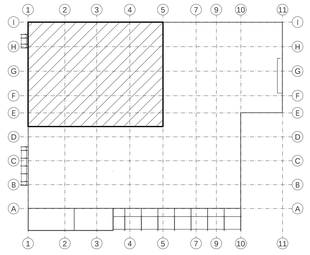
PLAN NORTH

GENERAL NOTES:

1. SEE MECHANICAL NOTES, SHEET M001 & M002.
2. LOCATE MOTORIZED DAMPERS, ACTUATORS, & BDD'S TO BE ACCESSIBLE. PROVIDE DUCT ACCESS DOORS AT MOTORIZED DAMPERS, & BDD'S TO ALLOW ACCESS TO DAMPERS.
3. PROVIDE TRANSITIONS AT DUCT CONNECTIONS TO ALL HVAC UNITS, FANS & OTHER EQUIPMENT TO MATCH UNIT CONNECTIONS. TRANSITIONS SHALL BE LINED WHERE CONNECTING DUCTS ARE LINED.
4. REVISE EXISTING SUPPORTS TO SUIT NEW EQUIPMENT CONFIGURATION.
5. RE-BALANCE (E) INLETS & OUTLETS SERVED BY UNITS BEING REPLACED TO CFM VALUES SHOWN ON PLANS.
6. NOT ALL KEYED NOTES MAY BE USED ON ALL SHEETS.

KEYED NOTES:

1. OUTDOOR UNIT LOCATED ON ROOF ABOVE.
2. CONNECT TO EXISTING DUCTWORK WHICH SERVED PREVIOUSLY DEMO'D ROOFTOP UNIT. OFFSET DUCTWORK WITHIN CURB AS NECESSARY TO CONNECT TO NEW UNIT.
3. CONNECT TO EXISTING VEHICLE EXHAUST DUCTWORK. PROVIDE DUCT TRANSITIONS AS NEEDED.
4. ALTERNATE BID NO.1.
5. INSTALL ROOFTOP FAN IN SAME LOCATION AS PREVIOUSLY DEMO'D FAN. MODIFY (E) ROOF CURB TO SUIT NEW FAN.
6. PROVIDE CURB ADAPTOR TO CONNECT TO (E) ROOF CURB. SEE ROOF NOTES FOR ADDITIONAL REQUIREMENTS.



KEY PLAN

NTS

NORTH

2' 8'
0' 4' 16'
SCALE: 1/8" = 1'-0"

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 S PINE ST
TACOMA, WASHINGTON 98409

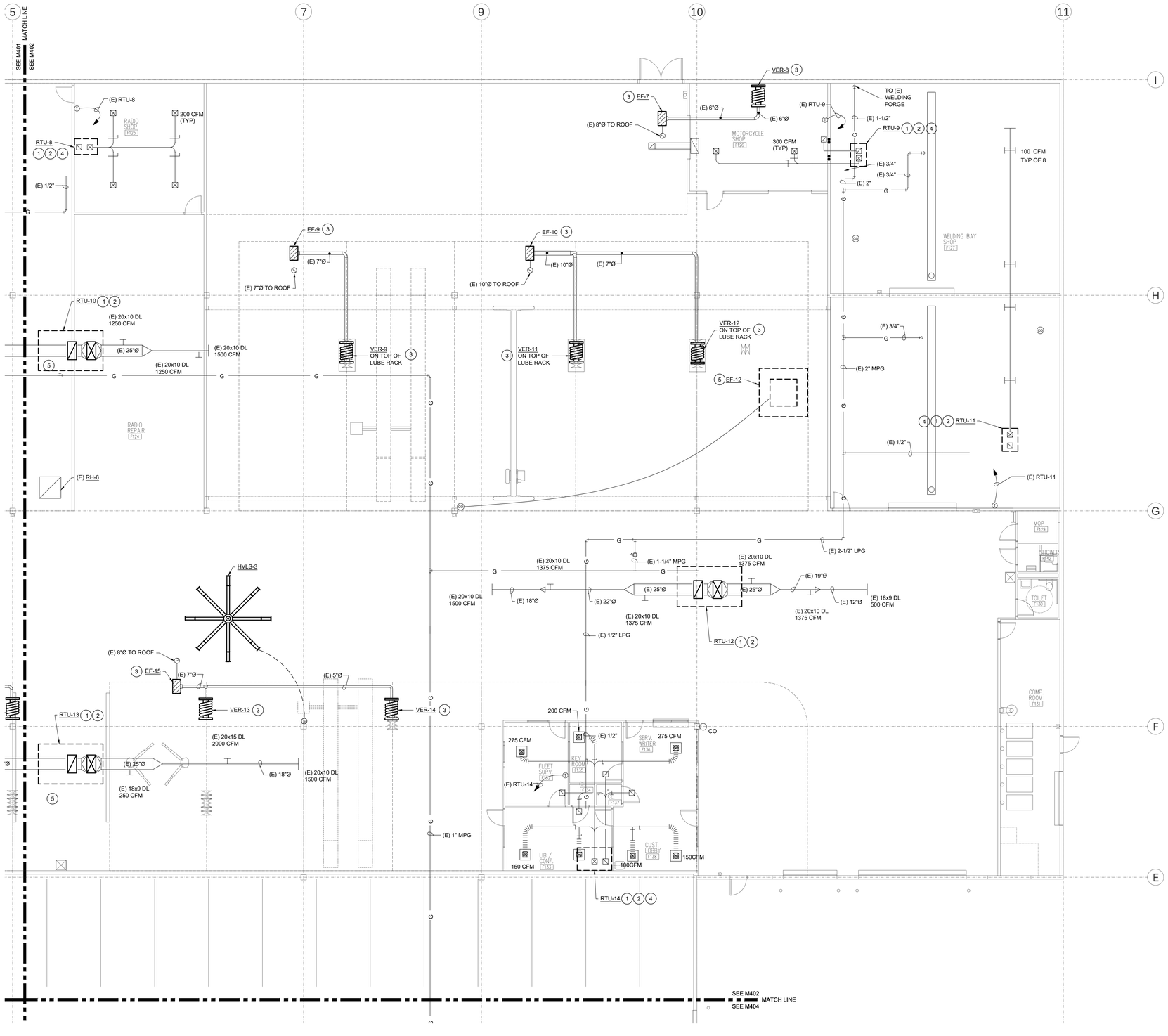
RICHARD A. HULTZ
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL
DRAWN: TP
CHECKED: NRH
DATE: 05-09-23
PROJECT NO. 22-240
REVISIONS:

M401

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - MECHANICAL

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

PLAN NORTH

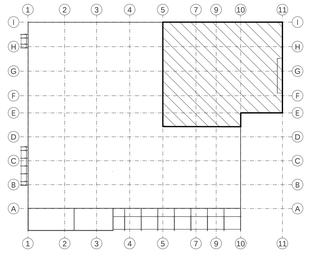
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE MECHANICAL NOTES, SHEET M001 & M002.
2. LOCATE MOTORIZED DAMPERS, ACTUATORS, & BDD'S TO BE ACCESSIBLE. PROVIDE DUCT ACCESS DOORS AT MOTORIZED DAMPERS, & BDD'S TO ALLOW ACCESS TO DAMPERS.
3. PROVIDE TRANSITIONS AT DUCT CONNECTIONS TO ALL HVAC UNITS, FANS & OTHER EQUIPMENT TO MATCH UNIT CONNECTIONS. TRANSITIONS SHALL BE LINED WHERE CONNECTING DUCTS ARE LINED.
4. REVISE EXISTING SUPPORTS TO SUIT NEW EQUIPMENT CONFIGURATION.
5. RE-BALANCE (E) INLETS & OUTLETS SERVED BY UNITS BEING REPLACED TO CFM VALUES SHOWN ON PLANS.
6. NOT ALL KEYED NOTES MAY BE USED ON ALL SHEETS.

KEYED NOTES:

1. OUTDOOR UNIT LOCATED ON ROOF ABOVE.
2. CONNECT TO EXISTING DUCTWORK WHICH SERVED PREVIOUSLY DEMO'D ROOFTOP UNIT. OFFSET DUCTWORK WITHIN CURB AS NECESSARY TO CONNECT TO NEW UNIT.
3. CONNECT TO EXISTING VEHICLE EXHAUST DUCTWORK. PROVIDE DUCT TRANSITIONS AS NEEDED.
4. ALTERNATE BID NO.1.
5. INSTALL ROOFTOP FAN IN SAME LOCATION AS PREVIOUSLY DEMO'D FAN. MODIFY (E) ROOF CURB TO SUIT NEW FAN.
6. PROVIDE CURB ADAPTOR TO CONNECT TO (E) ROOF CURB. SEE ROOF NOTES FOR ADDITIONAL REQUIREMENTS.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

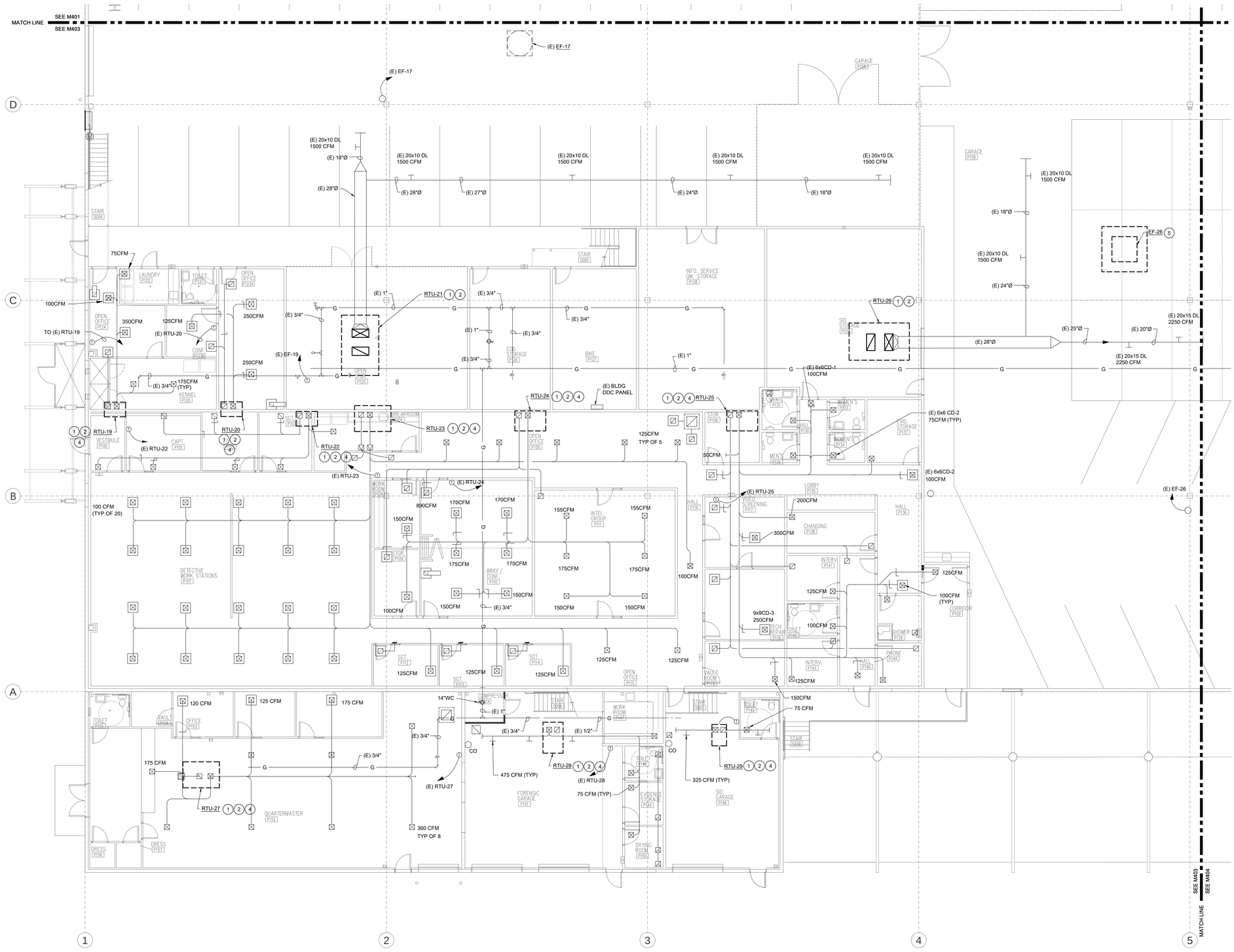
3702 S PINE ST
TACOMA, WASHINGTON 98409

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M402

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - MECHANICAL

PLAN NORTH

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

GENERAL NOTES:

1. SEE MECHANICAL NOTES, SHEET M001 & M002.
2. LOCATE MOTORIZED DAMPERS, ACTUATORS, & BDD'S TO BE ACCESSIBLE. PROVIDE DUCT ACCESS DOORS AT MOTORIZED DAMPERS, & BDD'S TO ALLOW ACCESS TO DAMPERS.
3. PROVIDE TRANSITIONS AT DUCT CONNECTIONS TO ALL HVAC UNITS. FANS & OTHER EQUIPMENT TO MATCH UNIT CONNECTIONS. TRANSITIONS SHALL BE LINED WHERE CONNECTING DUCTS ARE LINED.
4. REVISE EXISTING SUPPORTS TO SUIT NEW EQUIPMENT CONFIGURATION.
5. RE-BALANCE (E) INLETS & OUTLETS SERVED BY UNITS BEING REPLACED TO CFM VALUES SHOWN ON PLANS.
6. NOT ALL KEYED NOTES MAY BE USED ON ALL SHEETS.

KEYED NOTES:

1. OUTDOOR UNIT LOCATED ON ROOF ABOVE.
2. CONNECT TO EXISTING DUCTWORK WHICH SERVED PREVIOUSLY DEMO'D ROOFTOP UNIT. OFFSET DUCTWORK WITHIN CURB AS NECESSARY TO CONNECT TO NEW UNIT.
3. CONNECT TO EXISTING VEHICLE EXHAUST DUCTWORK. PROVIDE DUCT TRANSITIONS AS NEEDED.
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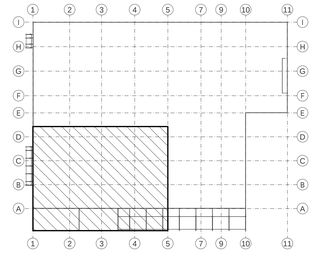


KEY PLAN

NTS

NORTH

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

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 S PINE ST
TACOMA, WASHINGTON 98409

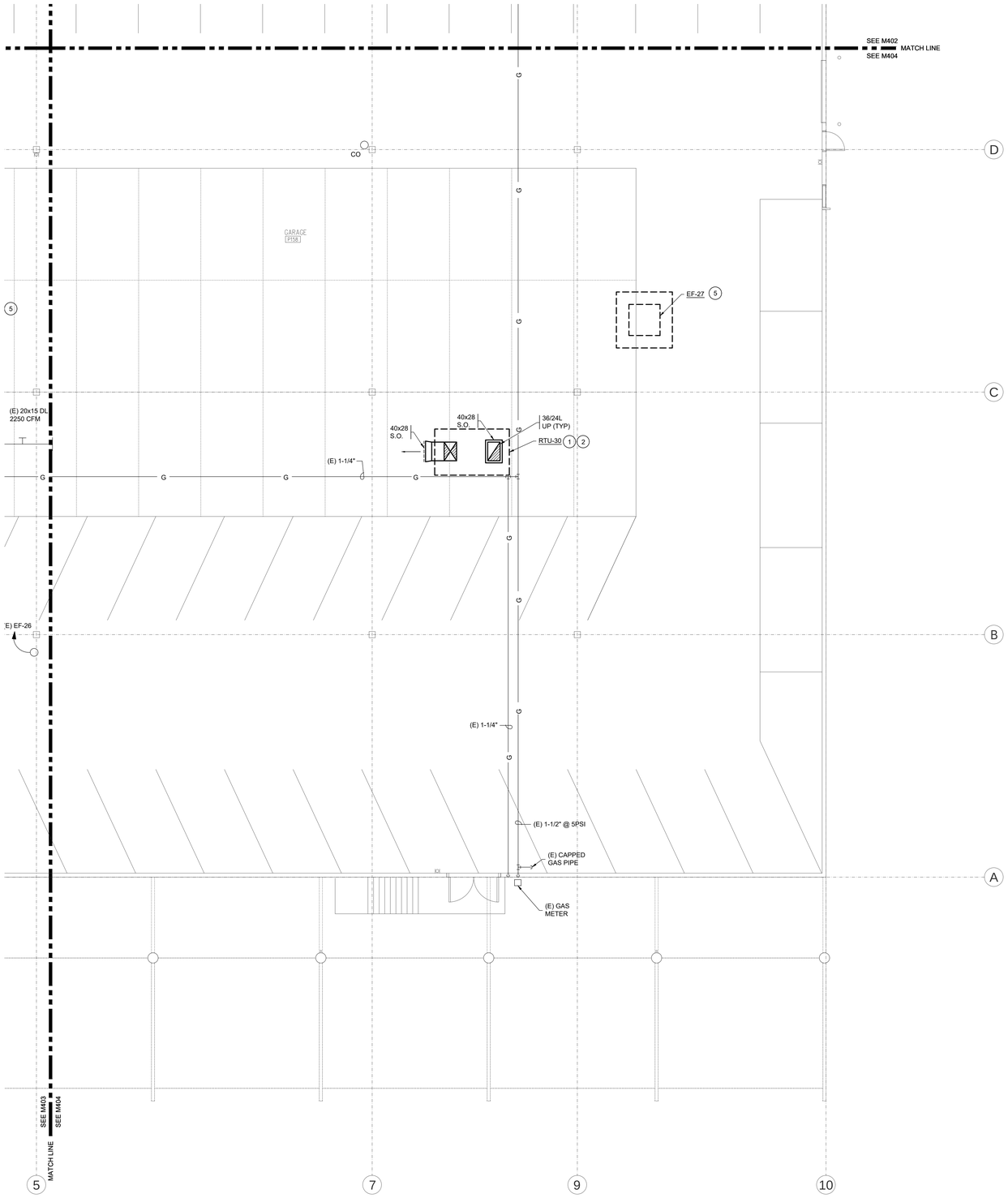
RICHARD A. HULTZ
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL
DRAWN: TP
CHECKED: NRH
DATE: 05-09-23
PROJECT NO. 22-240
REVISIONS:

M403

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - MECHANICAL

PLAN NORTH

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

0' 2' 4' 8' 16'

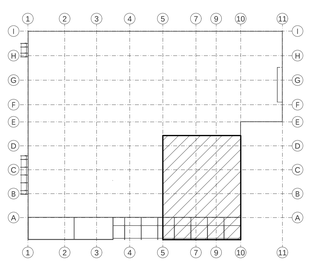
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE MECHANICAL NOTES, SHEET M001 & M002.
2. LOCATE MOTORIZED DAMPERS, ACTUATORS, & BDD'S TO BE ACCESSIBLE, PROVIDE DUCT ACCESS DOORS AT MOTORIZED DAMPERS, & BDD'S TO ALLOW ACCESS TO DAMPERS.
3. PROVIDE TRANSITIONS AT DUCT CONNECTIONS TO ALL HVAC UNITS, FANS & OTHER EQUIPMENT TO MATCH UNIT CONNECTIONS. TRANSITIONS SHALL BE LINED WHERE CONNECTING DUCTS ARE LINED.
4. REVISE EXISTING SUPPORTS TO SUIT NEW EQUIPMENT CONFIGURATION.
5. RE-BALANCE (E) INLETS & OUTLETS SERVED BY UNITS BEING REPLACED TO CFM VALUES SHOWN ON PLANS.
6. NOT ALL KEYED NOTES MAY BE USED ON ALL SHEETS.

KEYED NOTES:

1. OUTDOOR UNIT LOCATED ON ROOF ABOVE.
2. CONNECT TO EXISTING DUCTWORK WHICH SERVED PREVIOUSLY DEMO'D ROOFTOP UNIT. OFFSET DUCTWORK WITHIN CURB AS NECESSARY TO CONNECT TO NEW UNIT.
3. CONNECT TO EXISTING VEHICLE EXHAUST DUCTWORK. PROVIDE DUCT TRANSITIONS AS NEEDED.
4. ALTERNATE BID NO.1.
5. INSTALL ROOFTOP FAN IN SAME LOCATION AS PREVIOUSLY DEMO'D FAN. MODIFY (E) ROOF CURB TO SUIT NEW FAN.
6. PROVIDE CURB ADAPTOR TO CONNECT TO (E) ROOF CURB. SEE ROOF NOTES FOR ADDITIONAL REQUIREMENTS.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 S PINE ST
TACOMA, WASHINGTON 98409

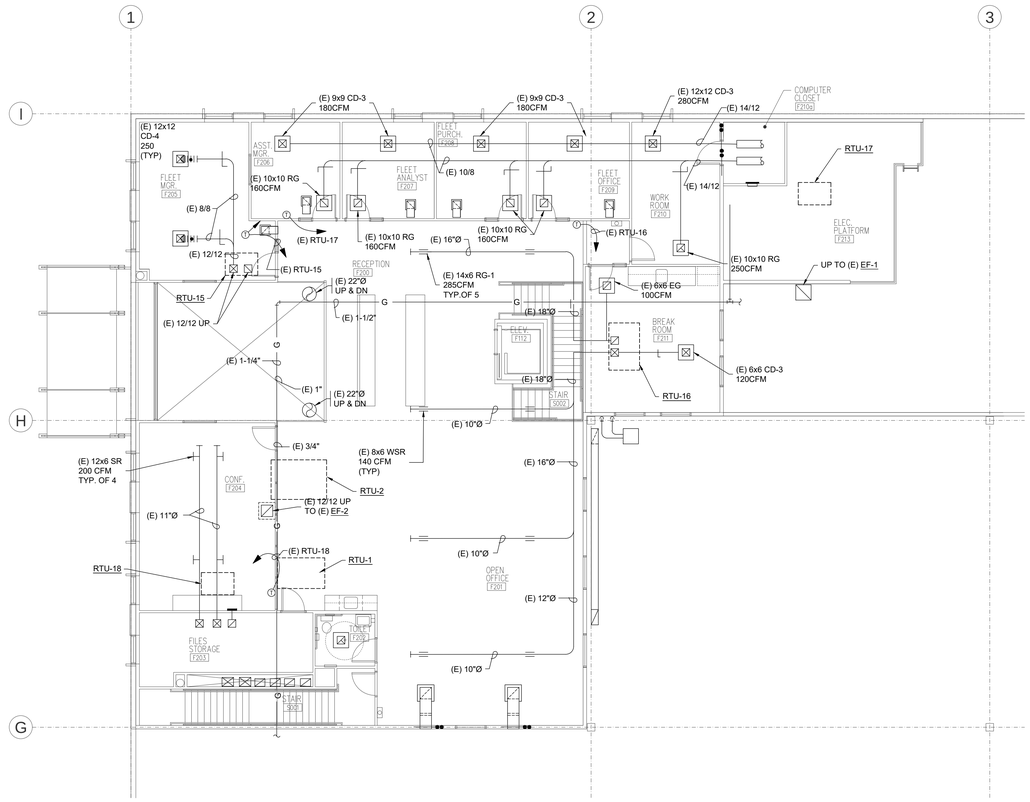
RICHARD N. HULTZ
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL
DRAWN: TP
CHECKED: NRH
DATE: 05-09-23
PROJECT NO. 22-240
REVISIONS:

M404

0" 1" 2"
SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



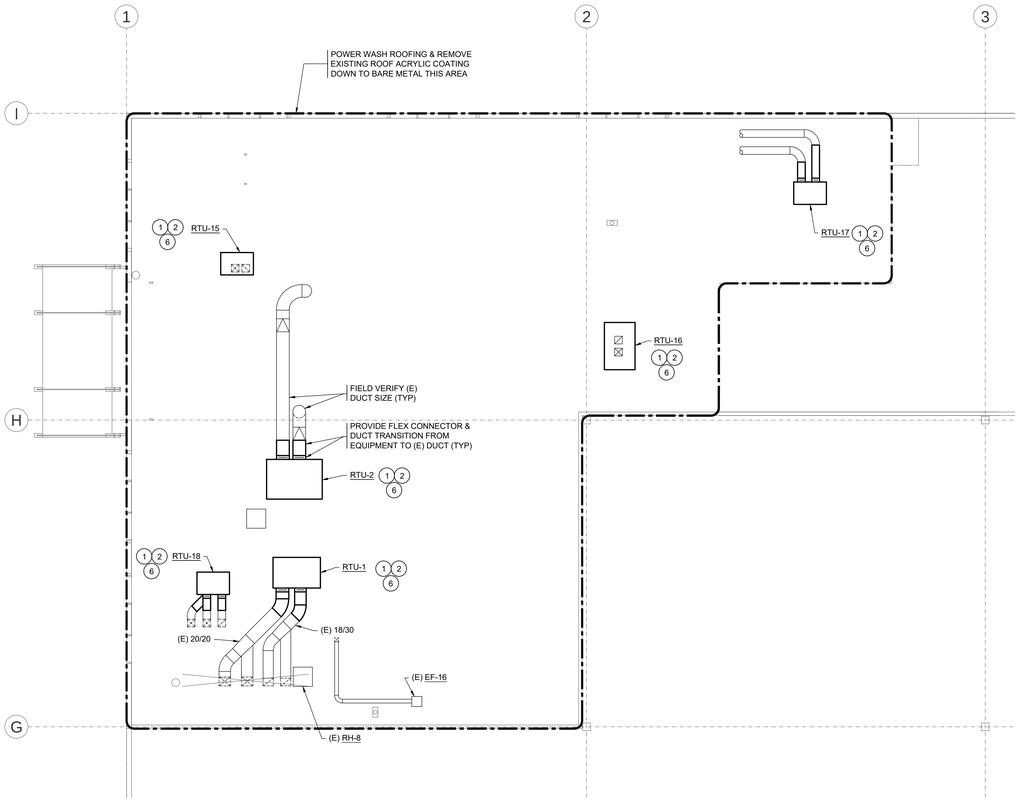
PARTIAL SECOND FLOOR PLAN - MECHANICAL

PLAN NORTH

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

0' 2' 4' 8' 16'

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



ADMIN ROOF PLAN - MECHANICAL

PLAN NORTH

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

0' 2' 4' 8' 16'

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

ROOF NOTES:

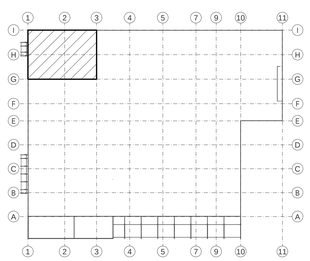
1. SEE SPECIFICATIONS FOR PRODUCT INFORMATION AND SUBMITTAL REQUIREMENTS.
2. POWER WASH ROOFING 5' AROUND ALL REPLACED RTU'S & EF'S, AND ENTIRE ADMIN ROOF AREA. REMOVE EXISTING ROOF ACRYLIC COATING DOWN TO BARE METAL AT CLEANED AREAS.
3. POWER WASH EXTERIOR OF (E) ROOF CURBS.
4. INSPECT EXISTING ROOF CURBS FOR ANY SIGN OF FAILURE IN CURB, CRICKETS, AND ROOF PANELS. NOTIFY OWNER OF ISSUES.
5. REPLACE ALL EXPOSED FASTENERS WITH STAINLESS STEEL SCREWS AND NEOPRENE GASKETS AT ALL (E) ROOF CURBS.
6. PROVIDE BACKER ROD AND SILICONE SEALANT AT CAP FLASHINGS.
7. PROVIDE ROOFING PRIMER AS REQUIRED BY SYSTEM MANUFACTURER TO ALLOW FOR NEW TOP COAT AT WASHED AREAS. PROVIDE SILICONE TOP COAT AT WASHED AREAS.
8. AT NEW ROOFTOP EQUIPMENT, PROVIDE CURB ADAPTER TO TRANSITION FROM (E) CURB TO NEW EQUIPMENT. COORDINATE WITH EQUIPMENT MFR FOR SIZING.

GENERAL NOTES:

1. SEE MECHANICAL NOTES, SHEET M001 & M002.
2. LOCATE MOTORIZED DAMPERS, ACTUATORS, & BDD'S TO BE ACCESSIBLE, PROVIDE DUCT ACCESS DOORS AT MOTORIZED DAMPERS, & BDD'S TO ALLOW ACCESS TO DAMPERS.
3. PROVIDE TRANSITIONS AT DUCT CONNECTIONS TO ALL HVAC UNITS, FANS & OTHER EQUIPMENT TO MATCH UNIT CONNECTIONS. TRANSITIONS SHALL BE LINED WHERE CONNECTING DUCTS ARE LINED.
4. REVISE EXISTING SUPPORTS TO SUIT NEW EQUIPMENT CONFIGURATION.
5. RE-BALANCE (E) INLETS & OUTLETS SERVED BY UNITS BEING REPLACED TO CFM VALUES SHOWN ON PLANS.
6. NOT ALL KEYED NOTES MAY BE USED ON ALL SHEETS.

KEYED NOTES:

1. OUTDOOR UNIT LOCATED ON ROOF ABOVE.
2. CONNECT TO EXISTING DUCTWORK WHICH SERVED PREVIOUSLY DEMO'D ROOFTOP UNIT. OFFSET DUCTWORK WITHIN CURB AS NECESSARY TO CONNECT TO NEW UNIT.
3. CONNECT TO EXISTING VEHICLE EXHAUST DUCTWORK. PROVIDE DUCT TRANSITIONS AS NEEDED.
4. ALTERNATE BID NO.1.
5. INSTALL ROOFTOP FAN IN SAME LOCATION AS PREVIOUSLY DEMO'D FAN. MODIFY (E) ROOF CURB TO SUIT NEW FAN.
6. PROVIDE CURB ADAPTOR TO CONNECT TO (E) ROOF CURB. SEE ROOF NOTES FOR ADDITIONAL REQUIREMENTS.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
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general@hultzbhu.com Job Number: 22-240

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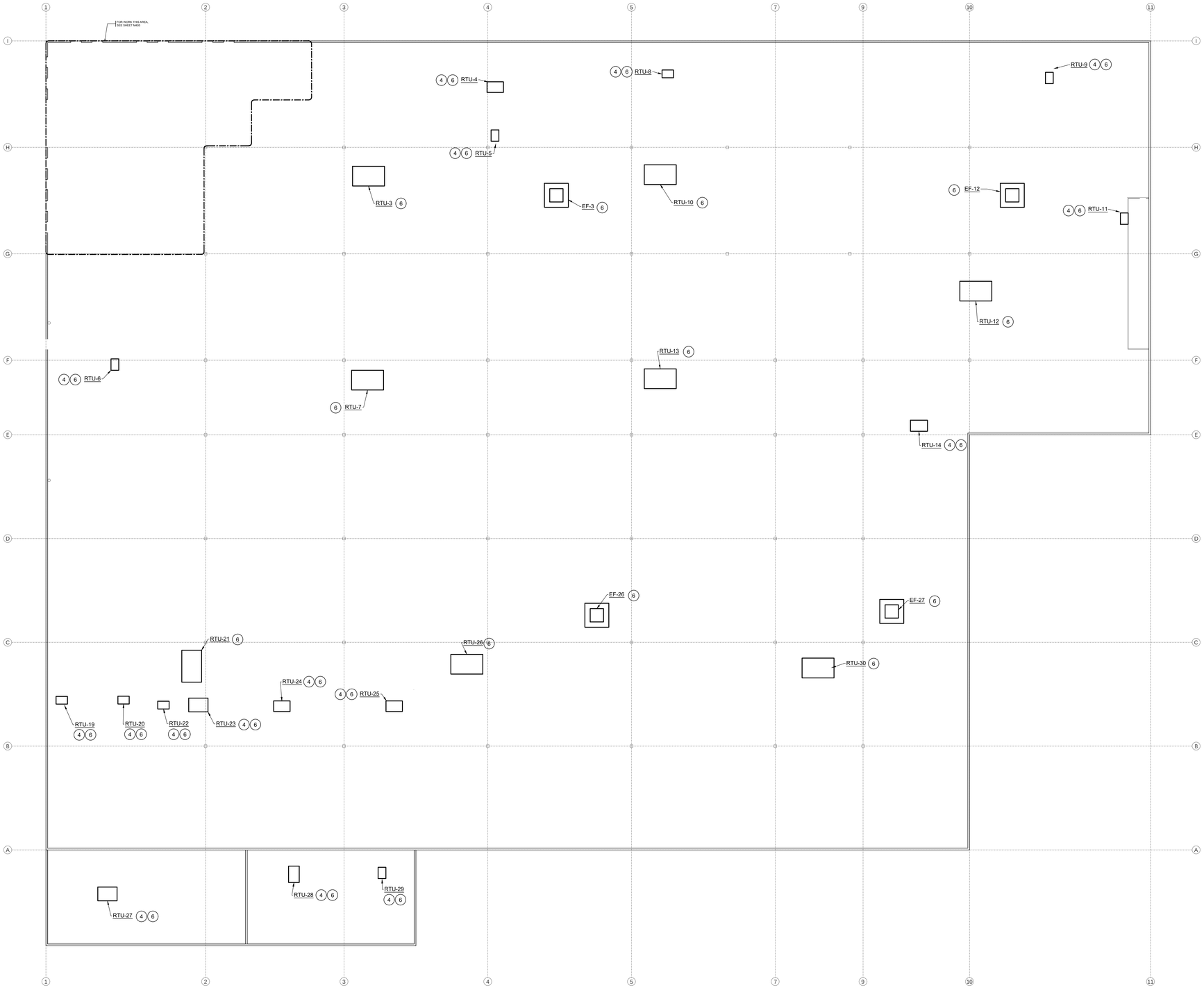
RICHARD A. HULTZ
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: PARTIAL SECOND FLOOR AND ROOF PLAN - MECHANICAL
DRAWN: TP
CHECKED: NRH
DATE: 05-09-23
PROJECT NO. 22-240
REVISIONS:

M405

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



OVERALL ROOF PLAN - MECHANICAL

SCALE: 1/16" = 1'-0"

PLAN NORTH

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

ROOF NOTES:

1. SEE SPECIFICATIONS FOR PRODUCT INFORMATION AND SUBMITTAL REQUIREMENTS.
2. POWER WASH ROOFING 5' AROUND ALL REPLACED RTU'S & EF'S, AND ENTIRE ADMIN ROOF AREA. REMOVE EXISTING ROOF ACRYLIC COATING DOWN TO BARE METAL AT CLEANED AREAS.
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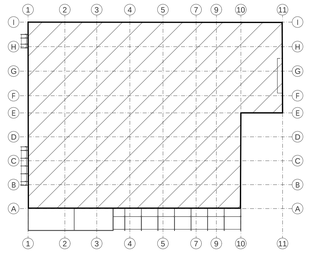

KEY PLAN

NTS

NORTH

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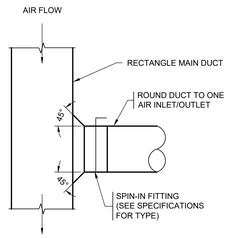
22304
REGISTERED PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - MECHANICAL
DRAWN: TP CHECKED: NRH
DATE: 05-09-23 PROJECT NO. 22-240
REVISIONS:

M401

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



BRANCH SERVING MULTIPLE AIR INLETS/OUTLETS

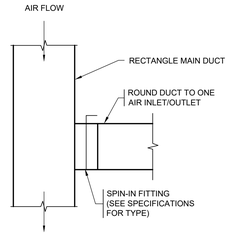
NOTE:

WHERE MAIN DUCT DOES NOT HAVE ADEQUATE HEIGHT TO ACCEPT ROUND DUCT, PROVIDE RECTANGULAR CONNECTION, WITH SAME FREE AREA AS ROUND DUCT, AND TRANSITION TO ROUND

RECT-TO-ROUND BRANCH DUCT CONNECTION

NTS

4 / M501



SERVING ONE INLET/OUTLET

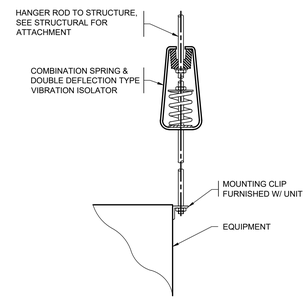
NOTE:

WHERE MAIN DUCT DOES NOT HAVE ADEQUATE HEIGHT TO ACCEPT ROUND DUCT, PROVIDE RECTANGULAR CONNECTION, WITH SAME FREE AREA AS ROUND DUCT, AND TRANSITION TO ROUND

RECT-TO-RECT BRANCH DUCT CONNECTION

NTS

3 / M501



EXHAUST FANS

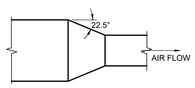
NOTES:

1. ALL SUSPENDED HVAC EQUIPMENT W/ ROTATING COMPONENTS SHALL HAVE VIBRATION ISOLATORS AS SHOWN.
2. VIBRATION ISOLATORS SHALL BE SELECTED FOR 1" DEFLECTION (UNO).
3. SEE STRUCTURAL FOR ATTACHMENT TO STRUCTURE & OTHER ANCHORING REQUIREMENTS. WHERE NOT SHOWN (OR UNCLEAR) SUBMIT SHOP DRAWINGS OF PROPOSED METHODS.
4. PROVIDE SEISMIC RESTRAINTS PER SPECIFICATIONS & PER CODE.

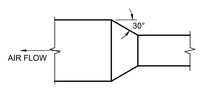
HVAC EQUIPMENT SUPPORT

NTS

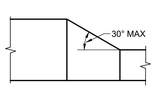
2 / M501



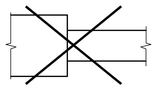
CONCENTRIC TRANSITION (DIVERGING)



CONCENTRIC TRANSITION (CONVERGING)



ECCENTRIC TRANSITION

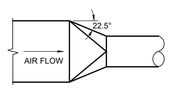


STRAIGHT TAP NOT ALLOWED

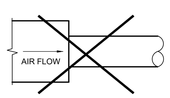
RECT-TO-RECT TRANSITIONS

NTS

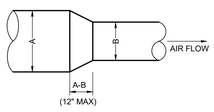
8 / M501



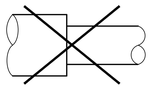
RECT - TO RECT



STRAIGHT TAP NOT ALLOWED



ROUND - TO ROUND

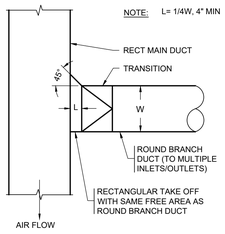


STRAIGHT TAP NOT ALLOWED

ROUND TRANSITIONS

NTS

7 / M501

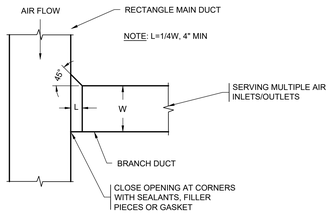


SERVING MULTIPLE INLET/OUTLET

RECT-TO-ROUND BRANCH DUCT CONNECTION

NTS

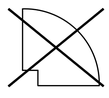
6 / M501



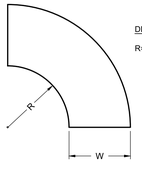
RECT-TO-RECT BRANCH DUCT CONNECTION

NTS

5 / M501



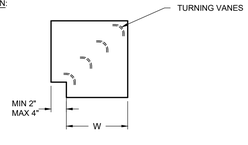
NOT ALLOWED



DIMENSION:

R= 1.5W

RADIUS ELBOW

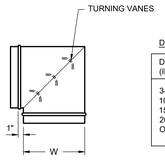


MITERED ELBOW

ELBOWS - RECTANGULAR

NTS

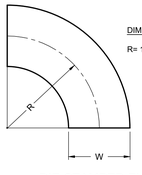
11 / M501



DIMENSION:

DIAMETER (INCH)	NUMBER OF VANES
3-9	2
10-14	3
15-19	4
20-60	5
OVER 60	12" MAX. SPACING

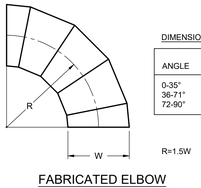
MITERED 90° ELBOW



DIMENSION:

R= 1.5W

DIE-STAMPED ELBOW



DIMENSION:

ANGLE	NUMBER OF GORES
0-35°	2
36-71°	3
72-90°	5

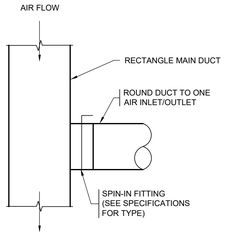
R=1.5W

FABRICATED ELBOW

ELBOWS - ROUND

NTS

10 / M501



SERVING ONE INLET/OUTLET

NOTE:

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RECT-TO-ROUND BRANCH DUCT CONNECTION

NTS

9 / M501

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RICHARD A. HULTZ STATE OF WASHINGTON 18976 REGISTERED PROFESSIONAL ENGINEER

SIGNED
4-5-2023

SHEET TITLE: MECHANICAL DETAILS
DRAWN: TP CHECKED: NRH
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M501

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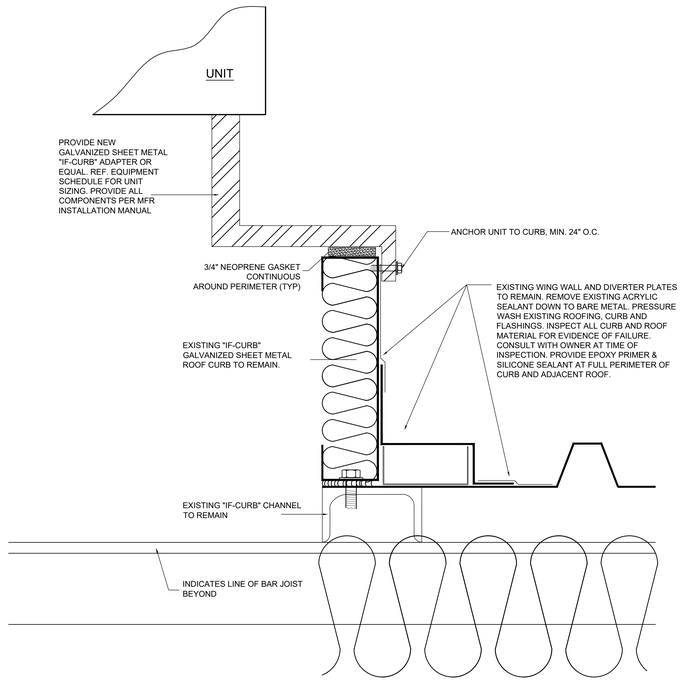
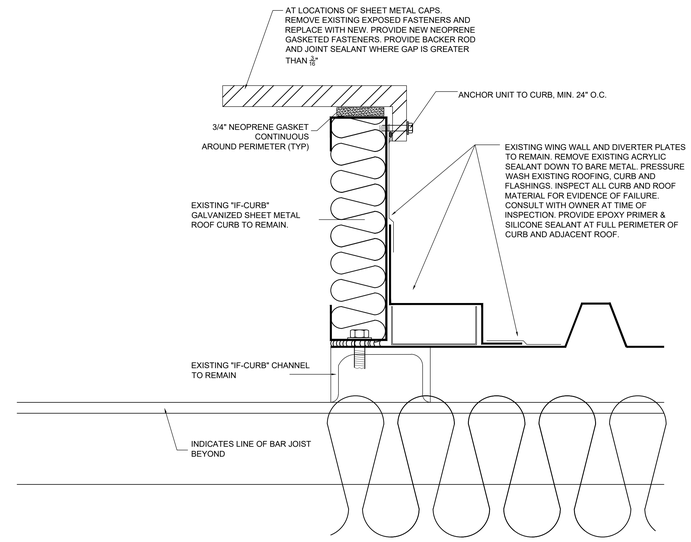


NOTE: DETAIL SHOWS ONE POSSIBLE CONFIGURATION OF THE CURB, OTHER CONFIGURATIONS ARE ACCEPTABLE, PROVIDED ALL CRITERIA ARE MET.

ROOFTOP CURB DETAIL (2 / M502)
NTS



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ROOFTOP CURB CAP DETAIL (1 / M502)
NTS

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M502

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ABBREVIATIONS

(SOME ABBREVIATIONS MAY NOT BE USED ON DRAWINGS)

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A or AMP	AMPERES	MECH	MECHANICAL
AC	ALTERNATING CURRENT	MH	MANHOLE
A/C	AIR CONDITIONING	MIN	MINIMUM
AIC	AMPERE INTERRUPTING CAPACITY	MLO	MAIN LUGS ONLY
AL	ALUMINUM	MOP, MOCP	MAXIMUM OVERCURRENT PROTECTION
ARCH	ARCHITECTURAL	MTD	MOUNTED
ATC	AUTOMATIC TEMPERATURE CONTROL	MTG	MOUNTING
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED
AWG	AMERICAN WIRE GAUGE	N, NEUT	NEUTRAL
BIL	BASIC IMPULSE LEVEL	NIC	NOT IN CONTRACT
BKR	BREAKER	NO	NORMALLY OPEN
BLDG	BUILDING	NTS	NOT TO SCALE
C	CONDUIT	OC	ON CENTER
C.O.	CONDUIT ONLY	OD	OUTSIDE DIAMETER
°C	DEGREES CELSIUS	OH	OVERHEAD
CB	CIRCUIT BREAKER	PA	PUBLIC ADDRESS
CCTV	CLOSED CIRCUIT TELEVISION	PB	PULLBOX
CFM	CUBIC FEET PER MINUTE	PF	POWER FACTOR
CKT	CIRCUIT	Ø or PH	PHASE
CL	CENTER LINE	PNL	PANEL
CLG	CEILING	PR	PAIR
CONC	CONCRETE	PRI	PRIMARY
CT	CURRENT TRANSFORMER	PT	POTENTIAL TRANSFORMER
CU	COPPER	PVC	POLYVINYL CHLORIDE
CW	COLD WATER	RECPT	RECEPTACLE
BD	DECIBELS	REQ	REQUIRED
DC	DIRECT CURRENT	RF	RADIO FREQUENCY
DIA	DIAMETER	RM	ROOM
DIV	DIVISION	RMS	ROOT MEAN SQUARE
DPDT	DOUBLE POLE, DOUBLE THROW	SEC	SECONDARY
DPST	DOUBLE POLE, SINGLE THROW	SHT	SHEET
DWG	DRAWING	SMR	SURFACE METAL RACEWAY
EGC	EQUIPMENT GROUND CONDUCTOR	SN	SOLID NEUTRAL
ELEC	ELECTRIC	SP	SINGLE POLE
EMT	ELECTRICAL METALLIC TUBING	SPD	SURGE PROTECTIVE DEVICE
EXST, (E)	EXISTING	SPDT	SINGLE POLE, DOUBLE THROW
ETR	EXISTING TO REMAIN	SPST	SINGLE POLE, SINGLE THROW
°F	DEGREES FAHRENHEIT	SS	STAINLESS STEEL
FA	FIRE ALARM	STD	STANDARD
FC	FOOTCANDLE	SW	SWITCH
FLA	FULL LOAD AMPS	SWBD	SWITCHBOARD
FLEX	FLEXIBLE CONDUIT	TEL	TELEPHONE
GALV	GALVANIZED	TV	TELEVISION
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TTB	TELECOMMUNICATIONS TERMINAL BOARD
GND	GROUND	TYP	TYPICAL
H-O-A	HAND - OFF - AUTO	UL	UNDERWRITERS LABORATORY
HP	HORSEPOWER	UF	UNDERFLOOR
HPF	HIGH POWER FACTOR	UG	UNDERGROUND
H & V	HEATING AND VENTILATION	V	VOLTS
HVAC	HEATING, VENTILATION & AIR CONDITIONING	VA	VOLT AMPERES
HZ	HERTZ	VAC	VOLTS ALTERNATING CURRENT
IDF	INTERMEDIATE DISTRIBUTION FRAME	VAR	REACTIVE VOLT AMPERES
J-BOX	JUNCTION BOX	VAV	VARIABLE AIR VOLUME
KV	KILOVOLTS	VD	VOLTAGE DROP
KVA	KILOVOLT AMPERES	VDC	VOLTS DIRECT CURRENT
KVAR	REACTIVE KILOVOLT AMPERES	VFD	VARIABLE FREQUENCY DRIVE
KW	KILOWATTS	VT	VAPORTIGHT
KWH	KILOWATT HOURS	W	WATTS
LT	LIGHT	WP	WEATHERPROOF
LTG	LIGHTING	/W	WITH
MAX	MAXIMUM	W/O	WITHOUT
MCA	MINIMUM CIRCUIT AMPS	XFER	TRANSFER
MCB	MAIN CIRCUIT BREAKER	XFMR	TRANSFORMER
MCC	MOTOR CONTROL CENTER	XLP	CROSS-LINKED POLYETHYLENE
MCM, KCM	THOUSAND CIRCULAR MILS	XP	EXPLOSION PROOF
MDF	MAIN DISTRIBUTION FRAME	Z	IMPEDANCE

ELECTRICAL LEGEND

(SOME SYMBOLS MAY NOT BE USED ON DRAWINGS)

SYMBOL	DESCRIPTION
#	BUBBLE NOTE TAG SYMBOL: # - IDENTIFYING NUMBER
	SCHEDULED EQUIPMENT CONNECTION (INCLUDE ALL WIRING, DISCONNECTING MEANS, CONTROL AND OTHER REQUIREMENTS SCHEDULED)
	LIGHTING OUTLET - CEILING
	STRIP LUMINAIRE (LENGTH TO SCALE)
	LUMINAIRE (TO SCALE ON DRAWINGS)
	RECESSED FIXTURE - ROUND
	EXIT FIXTURE
	LUMINAIRE WITH EMERGENCY LIGHTING UNIT
	LAY-IN LUMINAIRE
	EMERGENCY SURFACE FIXTURE
	EMERGENCY FIXTURE - TWIN HEAD
	EXIT FIXTURE
S	SINGLE POLE TOGGLE SWITCH
$	DIGITAL SWITCH STATION
$WP, S3	SWITCH SUBSCRIPTS: 2 DOUBLE POLE 3 THREE WAY 4 FOUR WAY D DIMMER EP EXPLOSION PROOF K KEY OPERATED LV LOW VOLTAGE LVM LOW VOLTAGE MASTER M MANUAL MOTOR STARTER W/OVERLOADS MC MOMENTARY CONTACT P SWITCH W/PILOT LIGHT T TIMER WP WEATHERPROOF a, b, c MULTIGANG SWITCH STATION
OS	OCCUPANCY SENSOR - CEILING MOUNT
	DAYLIGHT SENSOR

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE (NEMA 5-20R)
	FOURPLEX RECEPTACLE (NEMA 5-20R)
	GFCI DUPLEX RECEPTACLE (NEMA 5-20R) SUBSCRIPT: REF REFRIGERATOR DW DISHWASHER FREZ CHEST FREEZER MWO MICROWAVE OVEN
*	ASTERISK INDICATES COUNTER HEIGHT OUTLET (DUPLEX RECEPTACLE SHOWN)
D	DRYER RECEPTACLE (NEMA 14-30R)
	SPLIT WIRED RECEPTACLE, 1/2 OF RECEPTACLE IS CONTROLLED BY OCCUPANCY SENSOR OR TIMESWITCH
	SPLIT WIRED FOURPLEX (1) DUPLEX RECEPTACLE UNSWITCHED, (1) DUPLEX RECEPTACLE CONTROLLED BY OCCUPANCY SENSOR OR TIME SWITCH
COP	COPY MACHINE RECEPTACLE (NEMA 5-20R)
J	JUNCTION BOX
	INDOOR POWER POLE
	MOTOR CONNECTION
	PANELBOARD
	DISCONNECT SWITCH
	DRY TYPE TRANSFORMER
	DATA (COMPUTER) OUTLET WITH JACK
200-4-G	FEEDER CALLOUT X-Y-Z. SEE SCHEDULE.
200/150-3P	DEVICE SIZE / FUSE OR TRIP RATING - No. OF POLES
	HEAVY LINE WEIGHT = NEW WORK (RECEPTACLE SHOWN)
	STANDARD LINE WEIGHT = EXISTING TO REMAIN (RECEPTACLE SHOWN)
	BROKEN LINE WORK = ELECTRICAL DEMOLITION (RECEPTACLE SHOWN)

GENERAL ELECTRICAL NOTES:

1. SEE ARCHITECTURAL PLANS FOR LOCATION OF FIRE RATED CONSTRUCTION.
2. BRANCH CIRCUIT NOTES:
   A. VERIFY BRANCH CIRCUIT WIRE COUNT BEFORE PULLING CONDUCTORS. PROVIDE REQUIRED CONDUCTORS TO EACH OUTLET AND DEVICE FOR PHASE, NEUTRAL AND EQUIPMENT GROUND BASED ON CIRCUIT DESIGNATIONS SHOWN AND AS OTHERWISE INDICATED ON PLANS OR NOTE BELOW.
   B. PROVIDE SEPARATE NEUTRAL CONDUCTOR FOR BRANCH CIRCUITS SERVING RECEPTACLE OUTLETS UNLESS OTHERWISE INDICATED.
3. MINIMUM CONDUIT SIZE FOR HOMERUNS AND FOR CONDUIT INSTALLED BELOW GRADE OUTDOORS SHALL BE 3/4 INCH.
4. VERIFY BACK BOX REQUIREMENTS OF EQUIPMENT FURNISHED UNDER OTHER THAN DIVISION 26, 27 OR 28 SECTIONS AND EQUIPMENT FURNISHED BY OWNER.

ELECTRICAL EQUIPMENT CONNECTION NOTES:

1. VERIFY VOLTAGE, PHASE, FLA/MCA OF EACH CONNECTION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. NOTIFY ARCHITECT/ENGINEER WHEN SCHEDULED SUPPLY WILL NOT MEET NEC REQUIREMENTS.
2. OUTLETS, DISCONNECTS, CONTROLLERS, AND EQUIPMENT CONNECTIONS FOR OUTDOOR EQUIPMENT SHALL BE WEATHER PROOF.
3. LOCATION OF OUTLETS, DISCONNECTS, CONTROL DEVICES, AND EQUIPMENT CONNECTIONS ARE TO BE LOCATED IN FIELD BY THE CONTRACTOR. UNLESS OTHERWISE INDICATED ON PLANS, INSTALL SCHEDULED DISCONNECTS AND CONTROL DEVICES INSIGHT OF EQUIPMENT. ARRANGE WIRING AND EQUIPMENT TO AVOID INTERFERENCE WITH OTHER WORK AND TO MAXIMIZE ACCESSIBILITY FOR MAINTENANCE.
4. COORDINATE WITH THE OTHER INSTALLING CONTRACTORS TO ENSURE NEC REQUIRED ACCESS TO DISCONNECTS IS PROVIDED FOR EACH PIECE OF EQUIPMENT.
5. PROVIDE ELECTRICAL CONNECTIONS FOR MECHANICAL FURNISHED SMOKE DETECTORS IN HEATING AND COOLING SYSTEMS PER INTERNATIONAL MECHANICAL CODE. SEE MECHANICAL DIVISION EQUIPMENT SCHEDULES FOR ADDITIONAL UNITS RATED OVER 2000 CFM AND PROVIDE DUCT DETECTOR AS REQUIRED.
6. FIRE ALARM IS EXISTING: FIRELITE ALARMS BY HONEYWELL. MODIFY AND EXTEND SYSTEM AS REQUIRED TO NEW DEVICES. PORTIONS OF EXISTING RACEWAY SYSTEM MAY BE REUSED. TWO COMPLETE PLANS AND SPECIFICATIONS FOR THE FIRE ALARM SYSTEM MODIFICATION SHALL BE SUBMITTED TO AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL PRIOR TO SYSTEM INSTALLATION.
7. WIRING BETWEEN EQUIPMENT DISCONNECT AND POINT OF CONNECTION SHALL COMPLY WITH NEC BASED ON EQUIPMENT NAMEPLATE RATING EXCEPT MINIMUM BRANCH CIRCUIT RATING
8. SIZE OF DISCONNECT SWITCH AND MOTOR STARTER SHALL BE SIZED TO COMPLY WITH NEC REQUIREMENTS. WHERE INDICATED MOTOR CONTROL IS NOT LOCATED IN SIGHT OF MOTOR AS DEFINED BY NEC, PROVIDE ADDITIONAL DISCONNECTING MEANS TO COMPLY WITH NEC 430.102.
9. WIRING SIZES ARE BASED ON 60 DEGREE C. FOR AMPACITIES 100 AMPERES AND LESS. FOR FEEDERS LESS THAN 100 FEET IN LENGTH, CONDUCTOR SIZES MAY BE SELECTED BASED ON 75 DEGREE C. WHERE EQUIPMENT INSTALLED IS LABELED FOR 75 DEGREE C. WIRING.

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

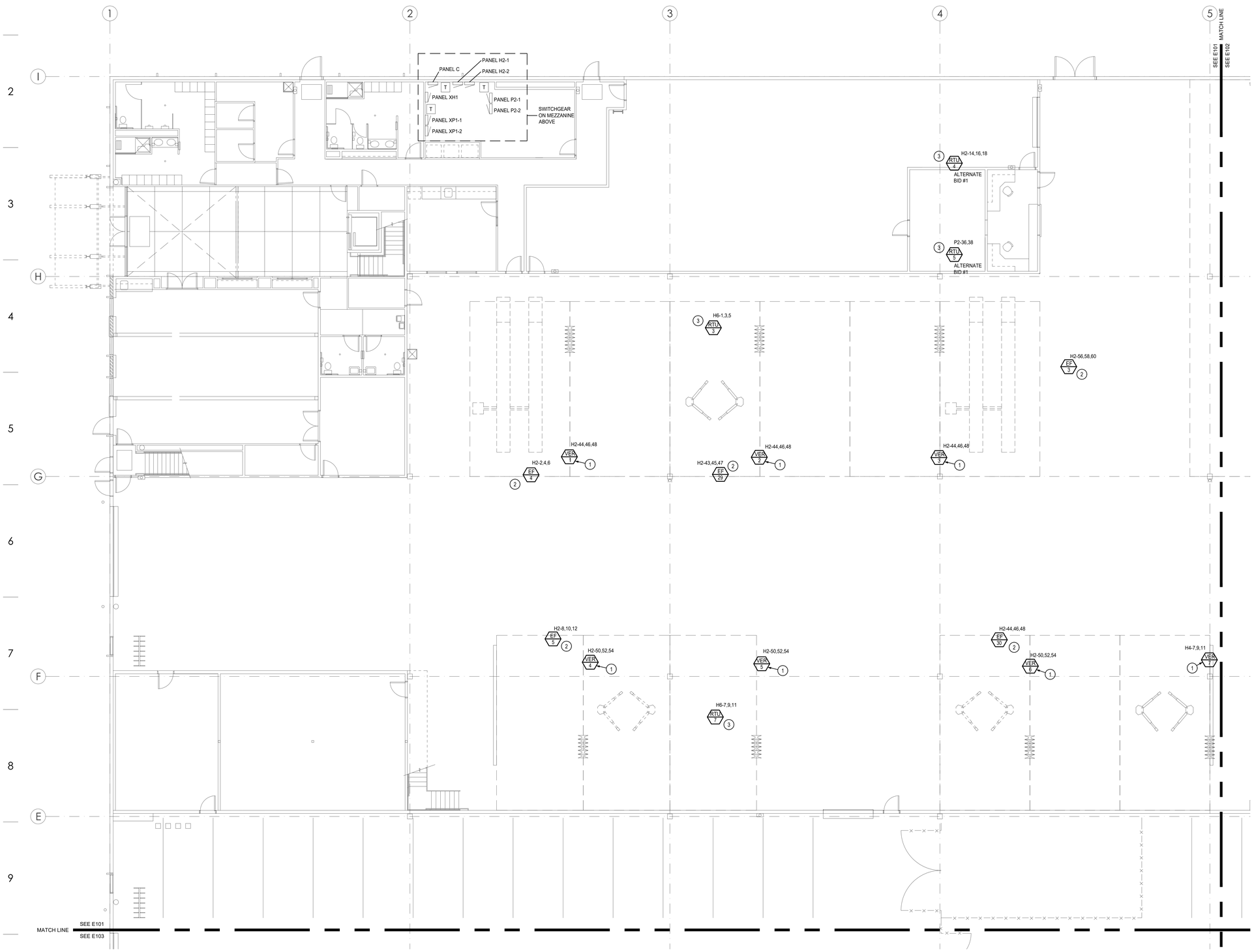
CITY OF TACOMA - POLICE FLEET WAREHOUSE
3702 PINE ST
TACOMA, WASHINGTON 98409

THOMAS URQUHART STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
SIGNED
5/9/2023

SHEET TITLE: ELECTRICAL SYMBOLS AND ABBREVIATIONS
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E001

0" 1" 2"
SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO

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

PLAN NORTH

0' 2' 4' 8' 16'

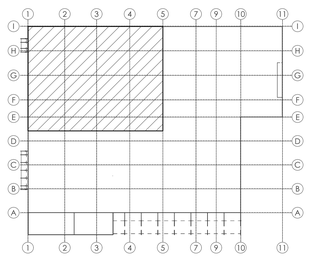
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.

KEYED NOTES:

1. DISCONNECT WIRE AND CONDUIT FROM EXISTING VEHICLE EXHAUST REEL. V.E.R. VOLTAGE TO BE CONVERTED TO 208 VOLT 1-PHASE.
2. DISCONNECT WIRE AND CONDUIT FROM EXISTING MECHANICAL HVAC EQUIPMENT. HVAC EQUIPMENT TO BE REPLACED WITH LIKE.
3. REMOVE WIRE AND CONDUIT FROM EXISTING MECHANICAL HVAC EQUIPMENT BACK TO SOURCE PANEL. HVAC EQUIPMENT TO BE REPLACED.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

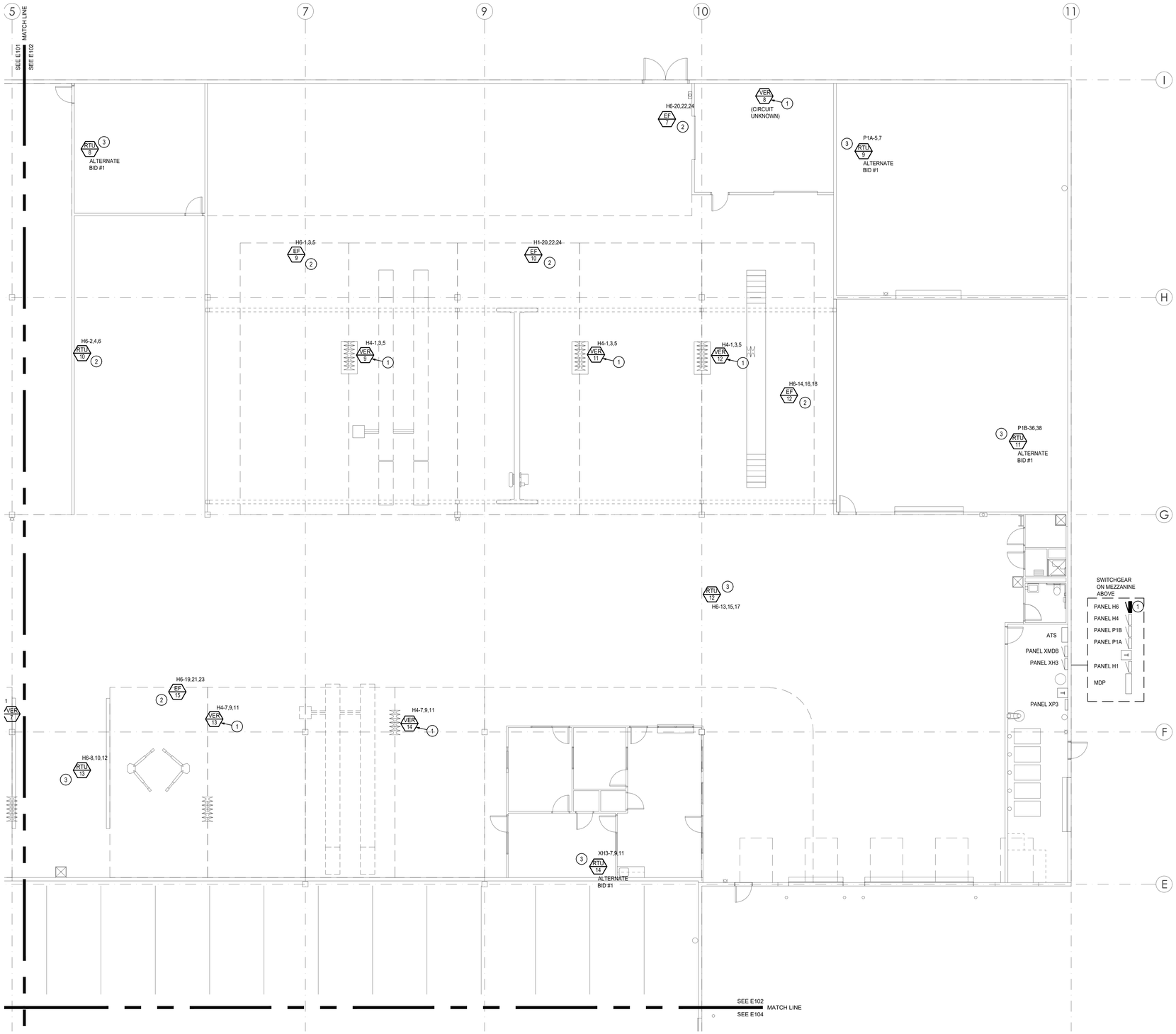
3702 PINE ST
TACOMA, WASHINGTON 98409

SIGNED
5/9/2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO
DRAWN: AD
CHECKED: JM
DATE: 05.09.23
PROJECT NO. 22-240
REVISIONS: -

E101

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO

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

PLAN NORTH

0' 2' 4' 8' 16'

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

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS AND IS SHOWN FOR CONVENIENCE. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.

KEYED NOTES:

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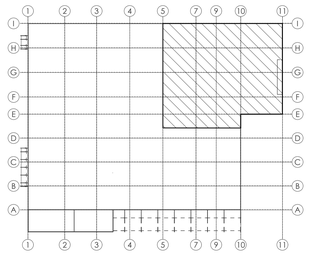

KEY PLAN

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NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

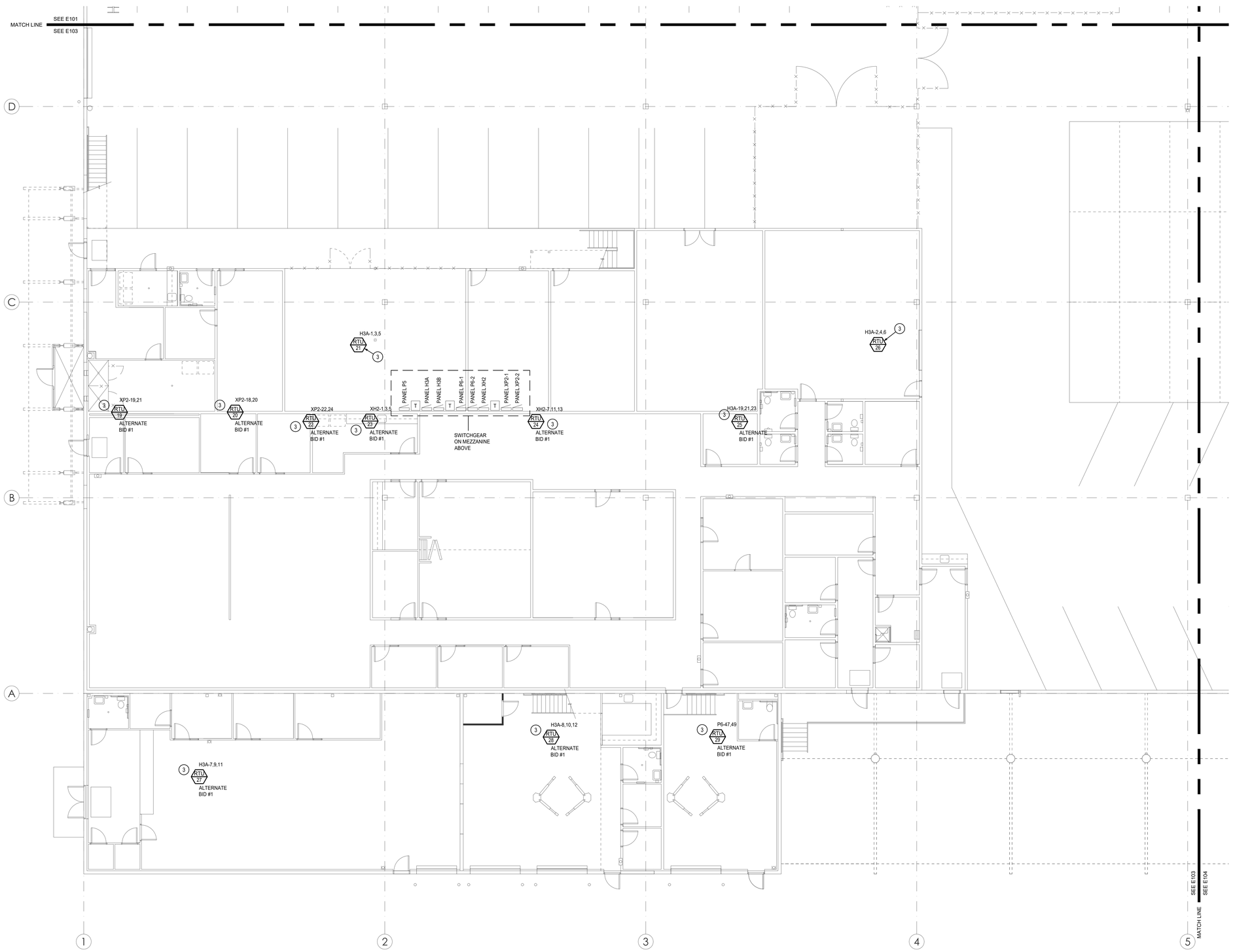
THOMAS UROLAVICH
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E102

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO

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

PLAN NORTH

0' 4' 8' 16'

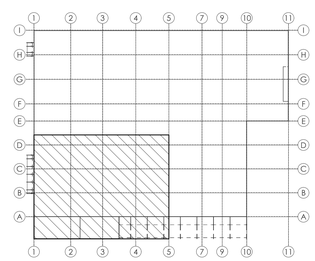
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.

KEYED NOTES:

1. DISCONNECT WIRE AND CONDUIT FROM EXISTING VEHICLE EXHAUST REEL. V.E.R. VOLTAGE TO BE CONVERTED TO 208 VOLT 1-PHASE.
2. DISCONNECT WIRE AND CONDUIT FROM EXISTING MECHANICAL HVAC EQUIPMENT. HVAC EQUIPMENT TO BE REPLACED WITH LIKE.
3. REMOVE WIRE AND CONDUIT FROM EXISTING MECHANICAL HVAC EQUIPMENT BACK TO SOURCE PANEL. HVAC EQUIPMENT TO BE REPLACED.



KEY PLAN

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NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

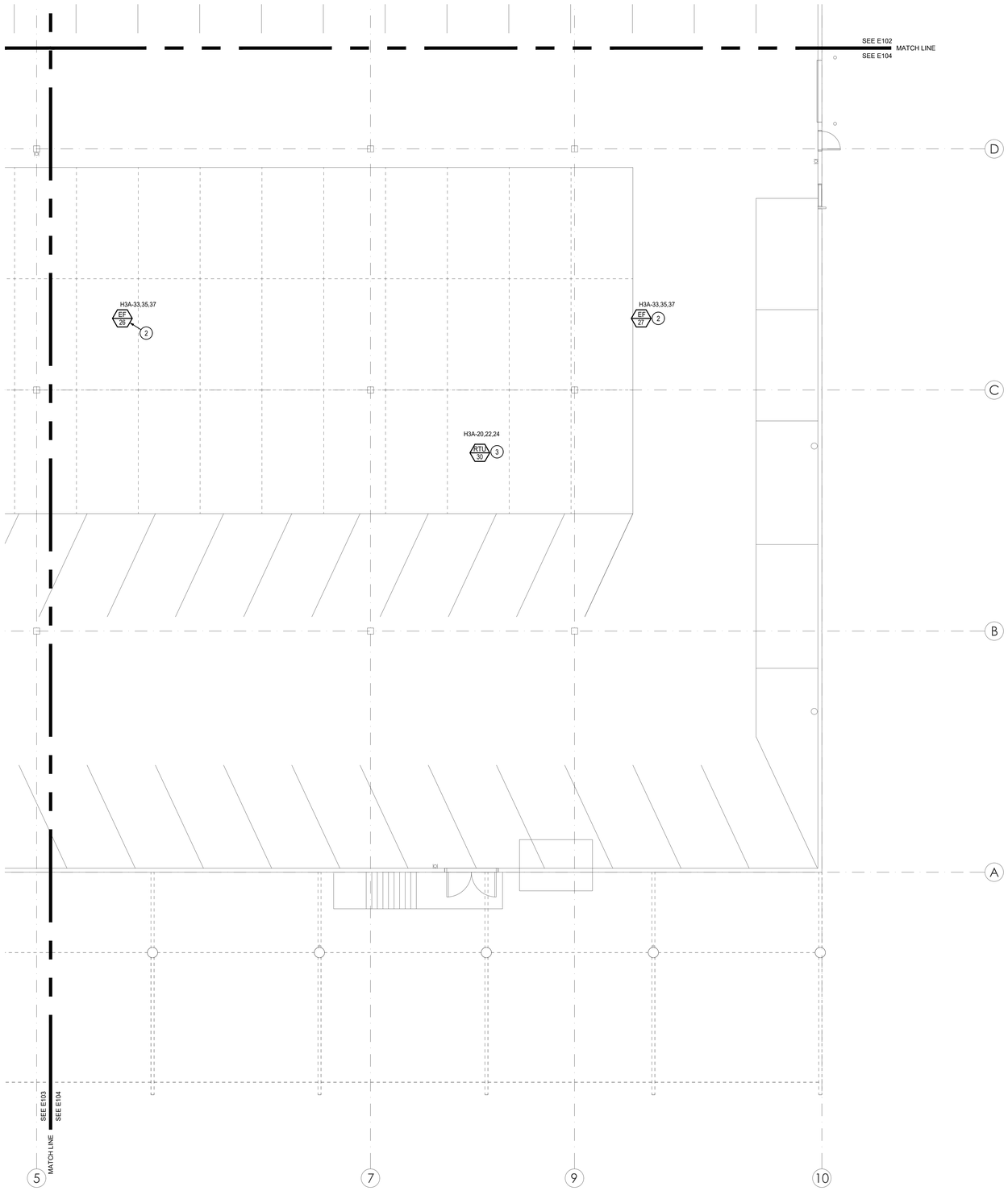
THOMAS URQUHART STATE OF WASHINGTON PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E103

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO

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

PLAN NORTH

0' 2' 4' 8' 16'

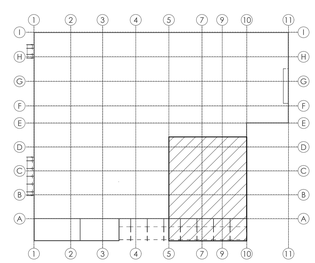
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.

KEYED NOTES:

1. DISCONNECT WIRE AND CONDUIT FROM EXISTING VEHICLE EXHAUST REEL. V.E.R. VOLTAGE TO BE CONVERTED TO 208 VOLT 1-PHASE.
2. DISCONNECT WIRE AND CONDUIT FROM EXISTING MECHANICAL HVAC EQUIPMENT. HVAC EQUIPMENT TO BE REPLACED WITH LIKE.
3. REMOVE WIRE AND CONDUIT FROM EXISTING MECHANICAL HVAC EQUIPMENT BACK TO SOURCE PANEL. HVAC EQUIPMENT TO BE REPLACED.



KEY PLAN

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BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

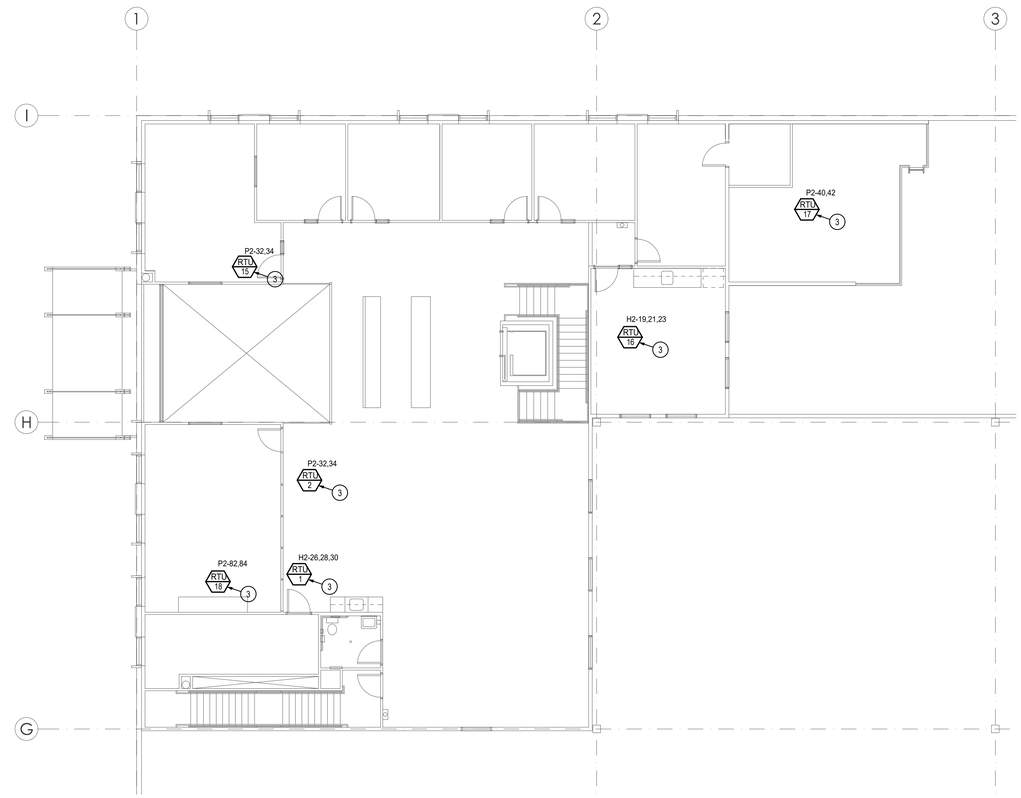
THOMAS URQUHART
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - ELECTRICAL DEMO
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E104

0" 1" 2"
SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



ROOF PLAN - ELECTRICAL DEMO

PLAN NORTH

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

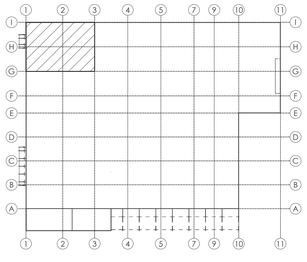
2' 8'
0' 4' 16'
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.

KEYED NOTES:

1. DISCONNECT WIRE AND CONDUIT FROM EXISTING VEHICLE EXHAUST REEL. V.E.R. VOLTAGE TO BE CONVERTED TO 208 VOLT 1-PHASE.
2. DISCONNECT WIRE AND CONDUIT FROM EXISTING MECHANICAL HVAC EQUIPMENT. HVAC EQUIPMENT TO BE REPLACED WITH LIKE.
3. REMOVE WIRE AND CONDUIT FROM EXISTING MECHANICAL HVAC EQUIPMENT BACK TO SOURCE PANEL. HVAC EQUIPMENT TO BE REPLACED.



KEY PLAN
NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

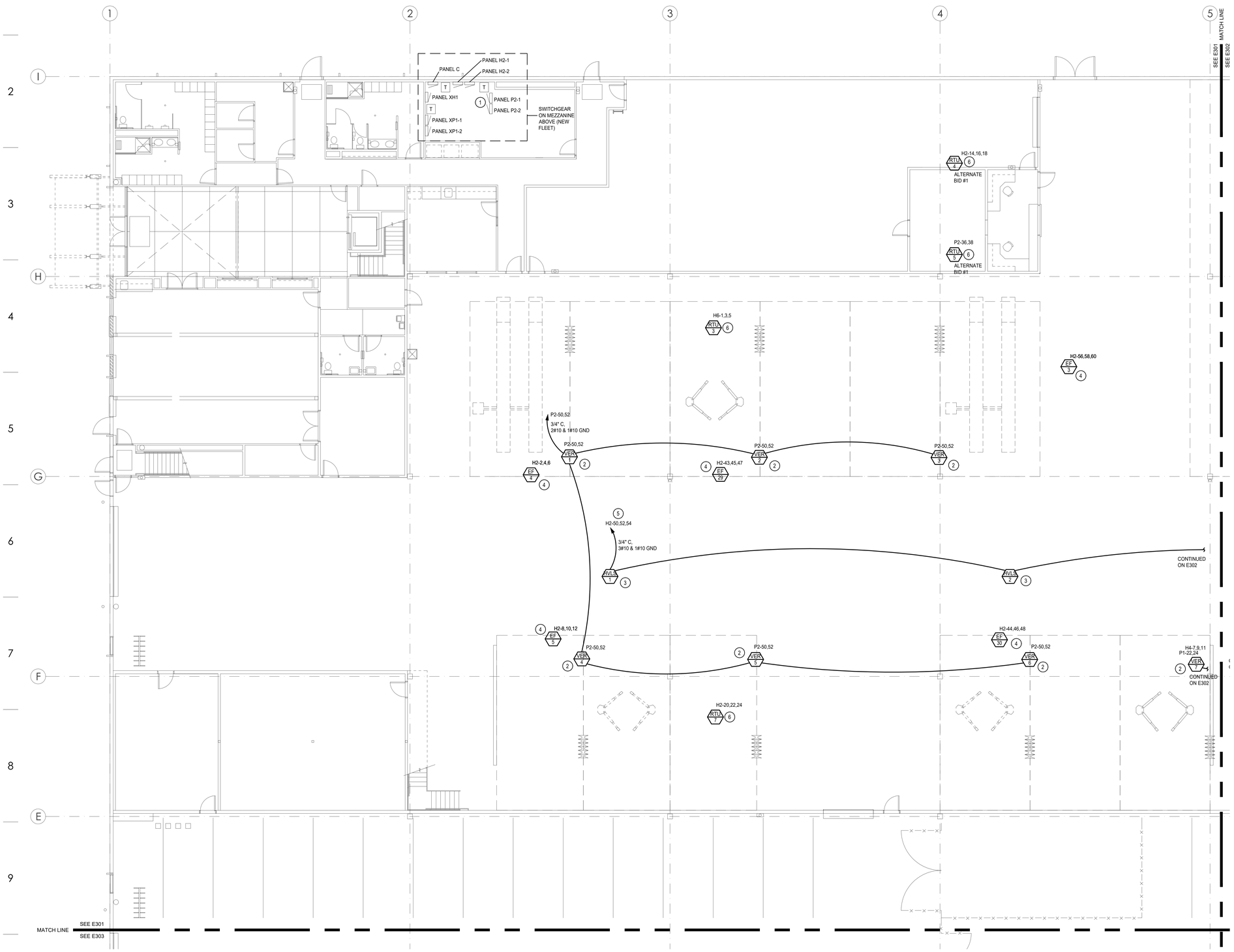
THOMAS URQUHART
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL SECOND FLOOR AND ROOF PLAN - ELECTRICAL DEMO
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E105

0" 1" 2"
SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - ELECTRICAL

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

PLAN NORTH

0' 2' 4' 8' 16'

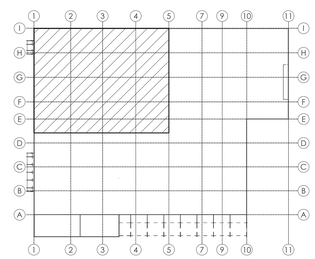
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.
3. SEE MECHANICAL DRAWINGS AND MECHANICAL EQUIPMENT CONNECTIONS SCHEDULE ON SHEET E305 FOR HVAC EQUIPMENT DESCRIPTION AND ADDITIONAL INFORMATION.

KEYED NOTES:

1. PROVIDE 20/2 CIRCUIT BREAKER IN PANEL P2-2 FOR NEW VEHICLE EXHAUST REELS.
2. CIRCUIT NEW VEHICLE EXHAUST REELS AS SHOWN. PROVIDE MOTOR-RATED MAINTENANCE DISCONNECT.
3. CIRCUIT NEW FANS AS SHOWN. USE CIRCUIT FROM PREVIOUS VEHICLE EXHAUST REELS.
4. PROVIDE NEW DISCONNECT AND EQUIPMENT WIRING FOR MECHANICAL HVAC EQUIPMENT. EXISTING CIRCUIT INDICATED TO BE REUSED. MODIFY AND EXTEND EXISTING CIRCUIT AS REQUIRED.
5. PROVIDE 20/3 SHUNT TRIP CIRCUIT BREAKER IN PANEL H2. CONNECT CIRCUIT BREAKER TO FIRE ALARM CONTROL PANEL CONTACT.
6. REPLACE BREAKER IN SOURCE PANEL WITH NEW. PROVIDE NEW DISCONNECT AND WIRING FOR NEW RTU UNIT. SEE PANEL SCHEDULES ON SHEETS E601-E604.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

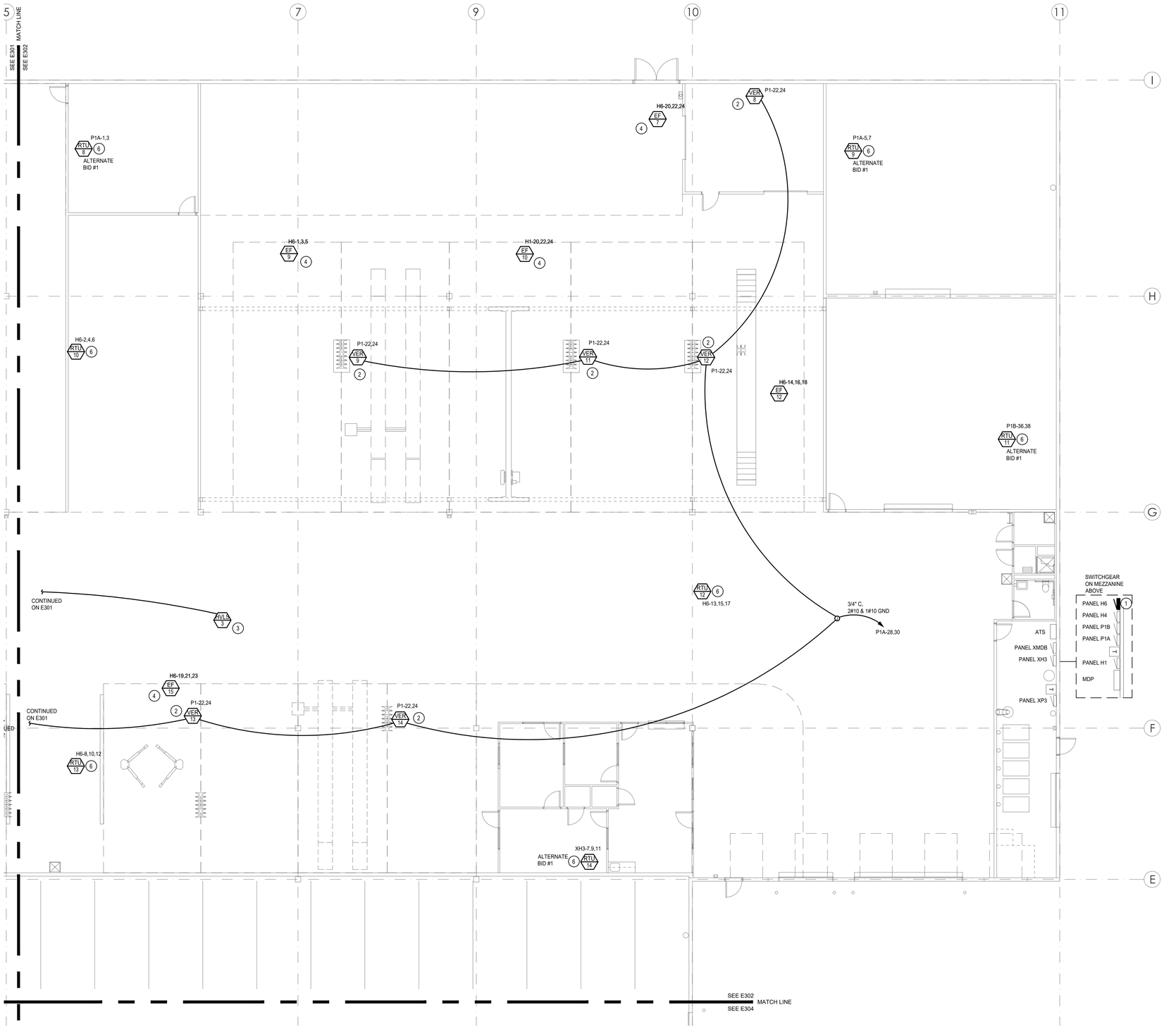
C. THOMAS UPCHURCH STATE OF WASHINGTON 22009 PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - ELECTRICAL
DRAWN: AD
CHECKED: JM
DATE: 05.09.23
PROJECT NO. 22-240
REVISIONS: .

E301

0" 1" 2"
SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - ELECTRICAL

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

PLAN NORTH

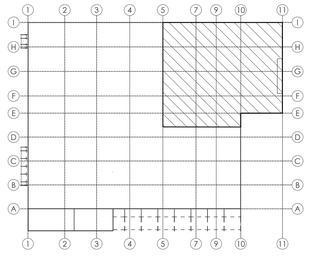
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.
3. SEE MECHANICAL DRAWINGS AND MECHANICAL EQUIPMENT CONNECTIONS SCHEDULE ON SHEET E305 FOR HVAC EQUIPMENT DESCRIPTION AND ADDITIONAL INFORMATION.

KEYED NOTES:

1. REPLACE PANEL WITH NEW 400A PANEL. SEE PANEL SCHEDULES ON SHEET E-501-3.
2. CIRCUIT NEW VEHICLE EXHAUST REELS AS SHOWN. PROVIDE MOTOR-RATED MAINTENANCE DISCONNECT.
3. CIRCUIT NEW FANS AS SHOWN. USE CIRCUIT FROM PREVIOUS VEHICLE EXHAUST REELS.
4. PROVIDE NEW DISCONNECT AND EQUIPMENT WIRING FOR MECHANICAL HVAC EQUIPMENT. EXISTING CIRCUIT INDICATED TO BE REUSED. MODIFY AND EXTEND EXISTING CIRCUIT AS REQUIRED.
5. NOT USED.
6. REPLACE BREAKER IN SOURCE PANEL WITH NEW. PROVIDE NEW DISCONNECT AND WIRING FOR NEW RTU UNIT. SEE PANEL SCHEDULES ON SHEETS E601-E604.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

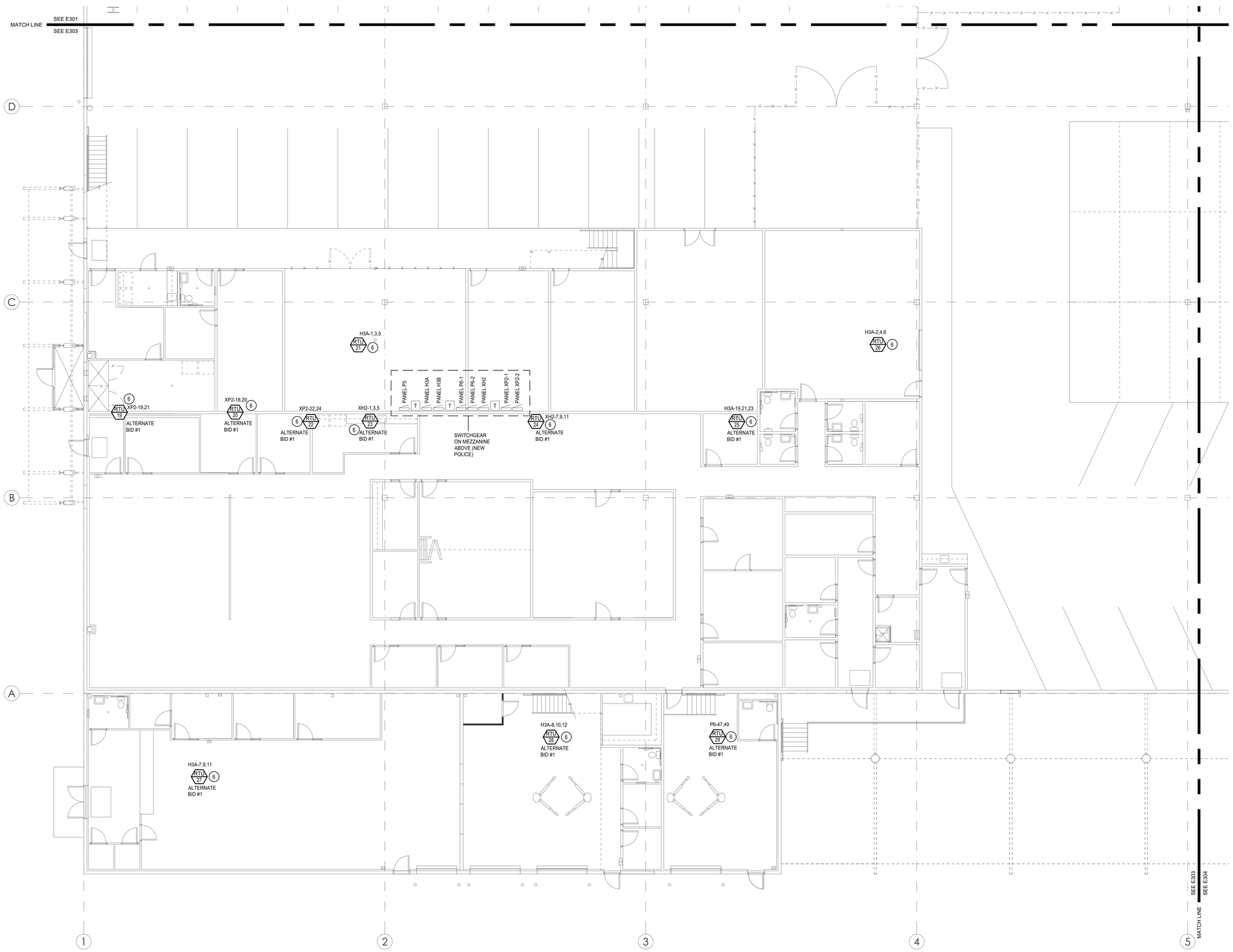
THOMAS UROLAVICH
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - ELECTRICAL
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E302

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

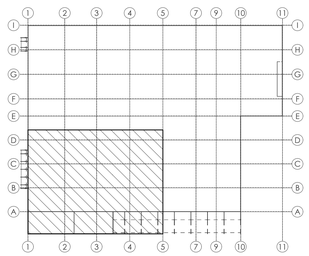


GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.
3. SEE MECHANICAL DRAWINGS AND MECHANICAL EQUIPMENT CONNECTIONS SCHEDULE ON SHEET E305 FOR HVAC EQUIPMENT DESCRIPTION AND ADDITIONAL INFORMATION.

KEYED NOTES:

6 REPLACE BREAKER IN SOURCE PANEL WITH NEW. PROVIDE NEW DISCONNECT AND WIRING FOR NEW RTU UNIT. SEE PANEL SCHEDULES ON SHEETS E601-E604.



KEY PLAN
NTS

NORTH

PARTIAL FIRST FLOOR PLAN - ELECTRICAL

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

PLAN NORTH

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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3702 PINE ST
TACOMA, WASHINGTON 98409

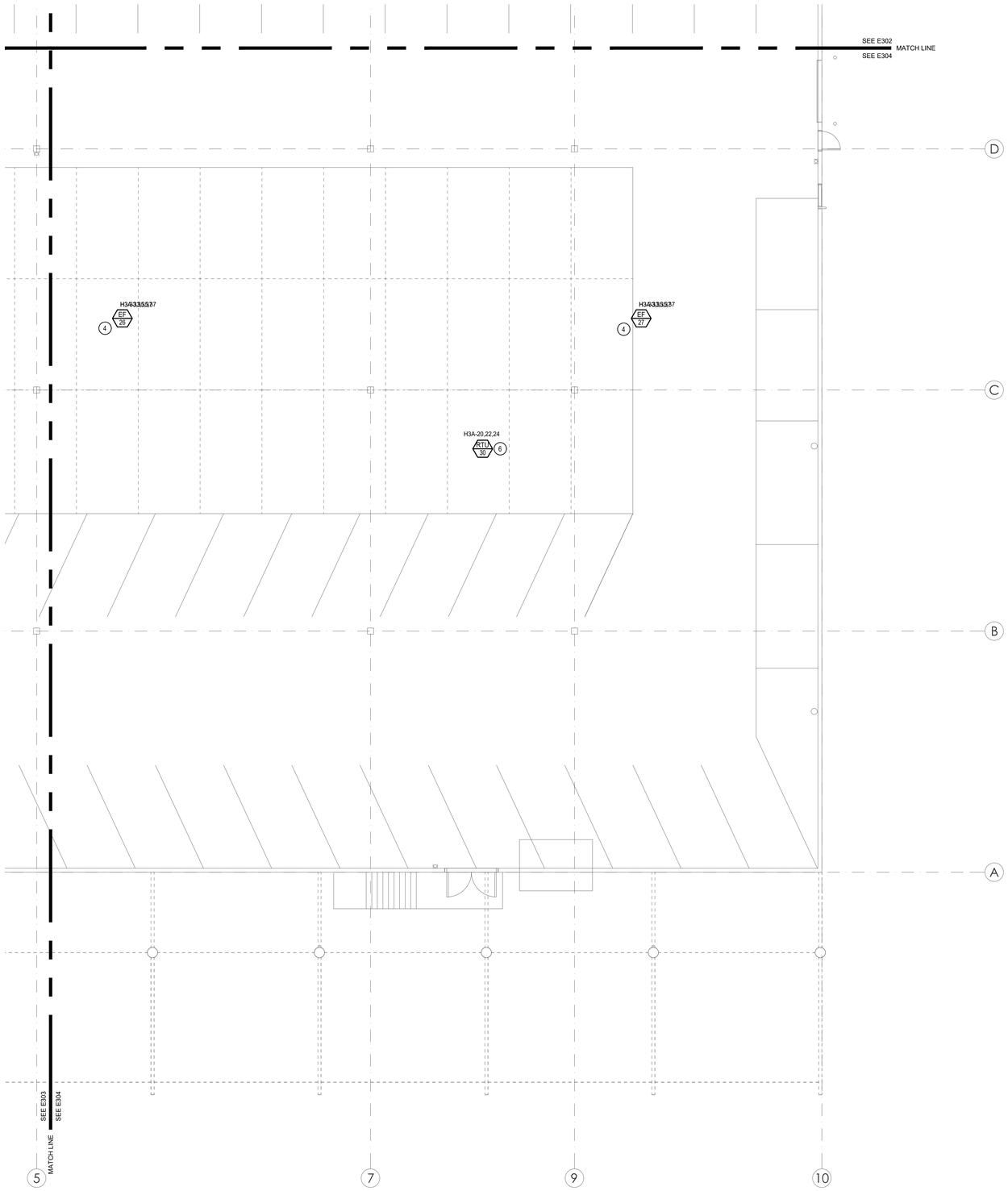
THOMAS URQUHART
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - ELECTRICAL
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E303

0" 1" 2"
SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



PARTIAL FIRST FLOOR PLAN - ELECTRICAL

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

PLAN NORTH

0' 2' 4' 8' 16'

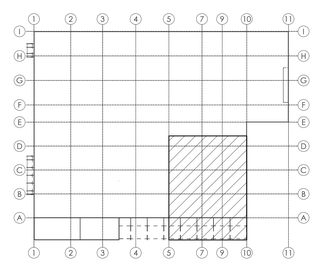
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.
3. SEE MECHANICAL DRAWINGS AND MECHANICAL EQUIPMENT CONNECTIONS SCHEDULE ON SHEET E305 FOR HVAC EQUIPMENT DESCRIPTION AND ADDITIONAL INFORMATION.

KEYED NOTES:

4. PROVIDE NEW DISCONNECT AND EQUIPMENT WIRING FOR MECHANICAL HVAC EQUIPMENT. EXISTING CIRCUIT INDICATED TO BE REUSED. MODIFY AND EXTEND EXISTING CIRCUIT AS REQUIRED.
6. REPLACE BREAKER IN SOURCE PANEL WITH NEW. PROVIDE NEW DISCONNECT AND WIRING FOR NEW RTU UNIT. SEE PANEL SCHEDULES ON SHEETS E601-E604.



KEY PLAN

NTS

NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
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CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

THOMAS URQUHART
STATE OF WASHINGTON
ORIGINAL
PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL FIRST FLOOR PLAN - ELECTRICAL
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: -

E304

0" 1" 2"
SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

NAME	DESCRIPTION	MAXIMUM RATINGS HP	KVA	FLA	MCA	MOCP	VOLT/PH	(CU) FEEDER #12 EACH PHASE + NEUTRAL +GND, UNO.		DISCONNECT BY	DISCONNECT DESCRIPTION	CONTROLS STARTER BY	STARTER DESCRIPTION	REMARKS
RTU-1	HEAT PUMP - PACKAGED		24.61	29.6	37.0	40	480	3	3/4"C-3#8 + #8G	•	60AS/3P			
RTU-2	HEAT PUMP - PACKAGED		41.37	49.8	62.2	70	480	3	1"C-3#6 + #6G	•	100AS/3P			
RTU-3	HEAT PUMP - PACKAGED		69.04	83.0	103.8	125	480	3	1 1/4"C-3#2 + #4G	•	200AS/3P			
RTU-4	HEAT PUMP - PACKAGED		19.14	23.0	28.8	30	480	3	3/4"C-3#10 + #10G	•	60AS/3P			ALTERNATE BID #1
RTU-5	HEAT PUMP - PACKAGED		7.09	34.1	42.6	45	208	1	3/4"C-2#8 + #8G	•	60AS/2P			ALTERNATE BID #1
RTU-6	HEAT PUMP - PACKAGED		9.78	47.0	58.8	60	208	1	3/4"C-2#6 + #6G	•	100AS/2P			ALTERNATE BID #1
RTU-7	HEAT PUMP - PACKAGED		69.04	83.0	103.8	125	480	3	1 1/4"C-3#2 + #4G	•	200AS/3P			
RTU-8	HEAT PUMP - PACKAGED		7.09	34.1	42.6	45	208	1	3/4"C-2#8 + #8G	•	60AS/2P			ALTERNATE BID #1
RTU-9	HEAT PUMP - PACKAGED		7.09	34.1	42.6	45	208	1	3/4"C-2#8 + #8G	•	60AS/2P			ALTERNATE BID #1
RTU-10	HEAT PUMP - PACKAGED		69.04	83.0	103.8	125	480	3	1 1/4"C-3#2 + #4G	•	200AS/3P			
RTU-11	HEAT PUMP - PACKAGED		9.78	47.0	58.8	60	208	1	3/4"C-2#6 + #6G	•	100AS/2P			ALTERNATE BID #1
RTU-12	HEAT PUMP - PACKAGED		69.04	83.0	103.8	125	480	3	1 1/4"C-3#2 + #4G	•	200AS/3P			
RTU-13	HEAT PUMP - PACKAGED		69.04	83.0	103.8	125	480	3	1 1/4"C-3#2 + #4G	•	200AS/3P			
RTU-14	HEAT PUMP - PACKAGED		13.44	16.2	20.2	25	480	3	3/4"C-3#12 + #12G	•	60AS/3P			ALTERNATE BID #1
RTU-15	HEAT PUMP - PACKAGED		7.09	34.1	42.6	45	208	1	3/4"C-2#8 + #8G	•	60AS/2P			
RTU-16	HEAT PUMP - PACKAGED		19.29	23.2	29.0	30	480	3	3/4"C-3#10 + #10G	•	60AS/3P			
RTU-17	HEAT PUMP - PACKAGED		9.78	47.0	58.8	60	208	1	3/4"C-2#6 + #6G	•	100AS/2P			
RTU-18	HEAT PUMP - PACKAGED		7.09	34.1	42.6	45	208	1	3/4"C-2#8 + #8G	•	60AS/2P			
RTU-19	HEAT PUMP - PACKAGED		7.09	34.1	42.6	45	208	1	3/4"C-2#8 + #8G	•	60AS/2P			ALTERNATE BID #1
RTU-20	HEAT PUMP - PACKAGED		9.78	47.0	58.8	60	208	1	3/4"C-2#6 + #6G	•	100AS/2P			ALTERNATE BID #1
RTU-21	HEAT PUMP - PACKAGED		69.04	83.0	103.8	125	480	3	1 1/4"C-3#2 + #4G	•	200AS/3P			
RTU-22	HEAT PUMP - PACKAGED		9.78	47.0	58.8	60	208	1	3/4"C-2#6 + #6G	•	100AS/2P			ALTERNATE BID #1
RTU-23	HEAT PUMP - PACKAGED		41.37	49.8	62.2	70	480	3	1"C-3#6 + #6G	•	100AS/3P			ALTERNATE BID #1
RTU-24	HEAT PUMP - PACKAGED		24.61	29.6	37.0	40	480	3	3/4"C-3#8 + #8G	•	60AS/3P			ALTERNATE BID #1
RTU-25	HEAT PUMP - PACKAGED		24.61	29.6	37.0	40	480	3	3/4"C-3#8 + #8G	•	60AS/3P			ALTERNATE BID #1
RTU-26	HEAT PUMP - PACKAGED		69.04	83.0	103.8	125	480	3	1 1/4"C-3#2 + #4G	•	200AS/3P			
RTU-27	HEAT PUMP - PACKAGED		41.37	49.8	62.2	70	480	3	1"C-3#6 + #6G	•	100AS/3P			ALTERNATE BID #1
RTU-28	HEAT PUMP - PACKAGED		24.61	29.6	37.0	40	480	3	3/4"C-3#8 + #8G	•	60AS/3P			ALTERNATE BID #1
RTU-29	HEAT PUMP - PACKAGED		9.78	47.0	58.8	60	208	1	3/4"C-2#6 + #6G	•	100AS/2P			ALTERNATE BID #1
RTU-30	HEAT PUMP - PACKAGED		69.04	83.0	103.8	125	480	3	1 1/4"C-3#2 + #4G	•	200AS/3P			
VER-1	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-2	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-3	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-4	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-5	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-6	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-7	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-8	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-9	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-10	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-11	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-12	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-13	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
VER-14	VEHICLE EXHAUST REEL		0.33	1.6	2.0	20	208	1		•	TOGGLE			
EF-3	EXHAUST FAN	5	6.32	7.6	9.5	20	480	3		•	30AS/2P	o	VFD	
EF-4	EXHAUST FAN	2	2.83	3.4	4.3	15	480	3		•	30AS/2P	•	SIZE 00	
EF-5	EXHAUST FAN	2-1/2	3.99	4.8	6.0	15	480	3		•	30AS/2P	•	SIZE 0	
EF-7	EXHAUST FAN	2-1/2	3.99	4.8	6.0	15	480	3		•	30AS/2P	•	SIZE 0	
EF-9	EXHAUST FAN	2-1/2	3.99	4.8	6.0	15	480	3		•	30AS/2P	•	SIZE 0	
EF-10	EXHAUST FAN	3	3.99	4.8	6.0	15	480	3		•	30AS/2P	•	SIZE 0	
EF-12	EXHAUST FAN	5	6.32	7.6	9.5	20	480	3		•	30AS/2P	o	VFD	
EF-15	EXHAUST FAN	2-1/2	3.99	4.8	6.0	15	480	3		•	30AS/2P	•	SIZE 0	
EF-26	EXHAUST FAN	3	3.99	4.8	6.0	15	480	3		•	30AS/2P	o	VFD	
EF-27	EXHAUST FAN	3	3.99	4.8	6.0	15	480	3		•	30AS/2P	o	VFD	
EF-29	EXHAUST FAN	2-1/2	3.99	4.8	6.0	15	480	3		•	30AS/2P	•	SIZE 0	
EF-30	EXHAUST FAN	2-1/2	3.99	4.8	6.0	15	480	3		•	30AS/2P	•	SIZE 0	
HVLS-1	PADDLE FAN	2	2.83	3.4	4.3	15	480	3		•	30AS/2P			
HVLS-2	PADDLE FAN	2	2.83	3.4	4.3	15	480	3		•	30AS/2P			
HVLS-3	PADDLE FAN	2	2.83	3.4	4.3	15	480	3		•	30AS/2P			

EQUIPMENT CONNECTION SCHEDULE NOTES:

1. VERIFY VOLTAGE, PHASE, FLA/MCA OF EACH CONNECTION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. NOTIFY ARCHITECT/ENGINEER WHEN SCHEDULED SUPPLY WILL NOT MEET NEC REQUIREMENTS.

2. OUTLETS, DISCONNECTS, CONTROLLERS, AND EQUIPMENT CONNECTIONS FOR ROOF TOP AND OTHER OUTDOOR EQUIPMENT SHALL BE WEATHER PROOF.

3. LOCATION OF OUTLETS, DISCONNECTS, CONTROL DEVICES, AND EQUIPMENT CONNECTIONS ARE DIAGRAMMATIC AND TO BE LOCATED IN FIELD BY THE CONTRACTOR AS APPROVED BY THE ENGINEER. UNLESS OTHERWISE INDICATED ON PLANS, INSTALL SCHEDULED DISCONNECTS AND CONTROL DEVICES IN SIGHT OF EQUIPMENT. ARRANGE WIRING AND EQUIPMENT TO AVOID INTERFERENCE WITH OTHER WORK AND TO MAXIMIZE ACCESSIBILITY FOR MAINTENANCE AND REPAIRS.

4. COORDINATE WITH THE OTHER INSTALLING CONTRACTORS TO ENSURE NEC REQUIRED ACCESS TO DISCONNECTS IS PROVIDED FOR EACH PIECE OF EQUIPMENT.

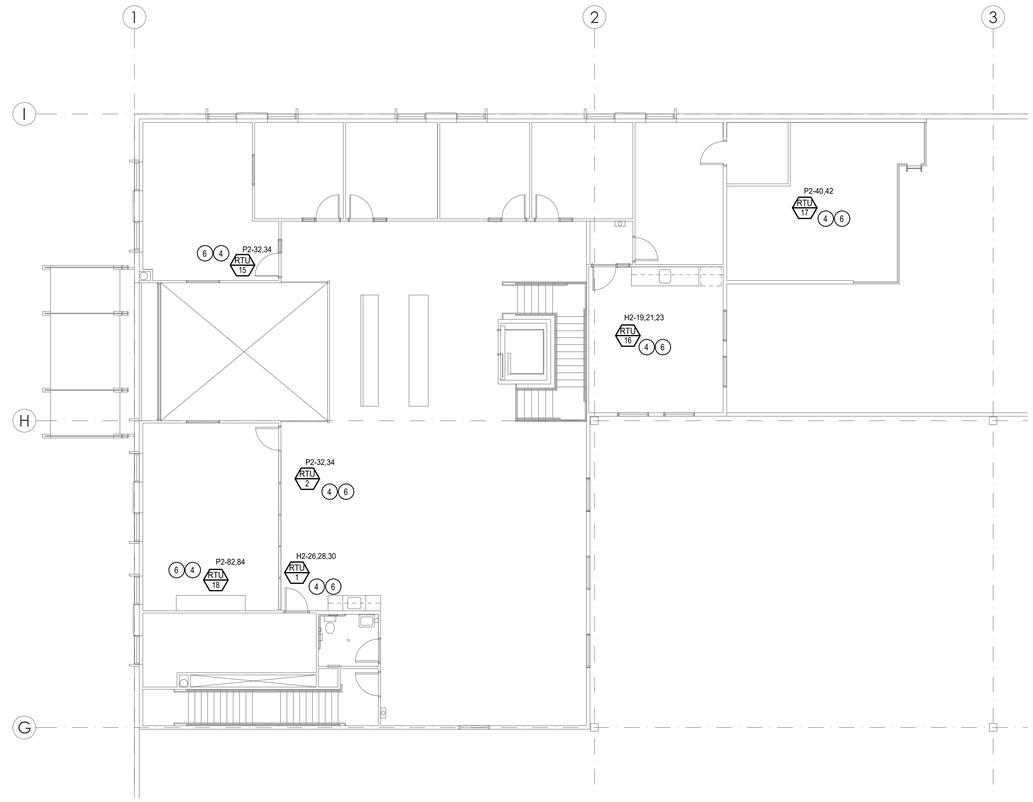
5. PROVIDE SMOKE DUCT DETECTORS IN HEATING AND COOLING SYSTEMS PER INTERNATIONAL MECHANICAL CODE. SEE DIVISION 25 EQUIPMENT SCHEDULES FOR ADDITIONAL UNITS RATED OVER 2000 CFM AND PROVIDE DUCT DETECTOR AS REQUIRED.

6. WIRING BETWEEN EQUIPMENT DISCONNECT AND POINT OF CONNECTION SHALL COMPLY WITH NEC BASED ON EQUIPMENT NAMEPLATE RATING EXCEPT MINIMUM BRANCH CIRCUIT RATING SHALL BE 20 AMPERES.

7. SIZE OF DISCONNECT SWITCH AND MOTOR STARTER SHALL BE SIZED TO COMPLY WITH NEC REQUIREMENTS. WHERE INDICATED MOTOR CONTROL IS NOT LOCATED IN SIGHT OF MOTOR AS DEFINED BY NEC, PROVIDE ADDITIONAL DISCONNECTING MEANS TO COMPLY WITH NEC 430.102.

8. WIRING SIZES ARE BASED ON 60 DEGREE C. FOR AMPACITIES 100 AMPERES AND LESS. FOR FEEDERS LESS THAN 100 FEET IN LENGTH, CONDUCTOR SIZES MAY BE SELECTED BASED ON 75 DEGREE C. WHERE EQUIPMENT INSTALLED IS LABELED FOR 75 DEGREE C. WIRING.

9. SCHEDULE LEGEND:
- ● = FURNISH AND INSTALL NEW UNDER DIVISION 26
- O = INSTALL UNDER DIVISION 26; FURNISHED WITH EQUIPMENT OR BY OTHERS.
- X = FURNISH AND INSTALL BY OTHERS (NOT DIVISION 26)
- * = EXISTING, RELOCATED EQUIPMENT



ROOF PLAN - ELECTRICAL

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

PLAN NORTH

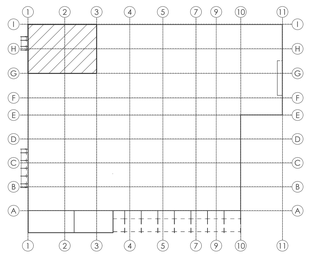
2' 8'
0' 4' 16'
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. MECHANICAL EQUIPMENT CIRCUIT INFORMATION AND PANEL LOCATIONS PROVIDED BY AS-BUILT DOCUMENTS. FIELD-VERIFY ALL CIRCUIT INFORMATION BEFORE BEGINNING WORK.
2. UNLESS NOTED OTHERWISE EXISTING WIRE, CONDUIT, AND CIRCUIT TO BE REUSED FOR ALL MECHANICAL EQUIPMENT BEING RECURBED OR REPLACED.
3. SEE MECHANICAL DRAWINGS AND MECHANICAL EQUIPMENT CONNECTIONS SCHEDULE ON THIS SHEET FOR HVAC EQUIPMENT DESCRIPTION AND ADDITIONAL INFORMATION.

KEYED NOTES:

6 REPLACE BREAKER IN SOURCE PANEL WITH NEW. PROVIDE NEW DISCONNECT AND WIRING FOR NEW RTU UNIT. SEE PANEL SCHEDULES ON SHEETS E601-E604.



KEY PLAN
NTS
NORTH

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

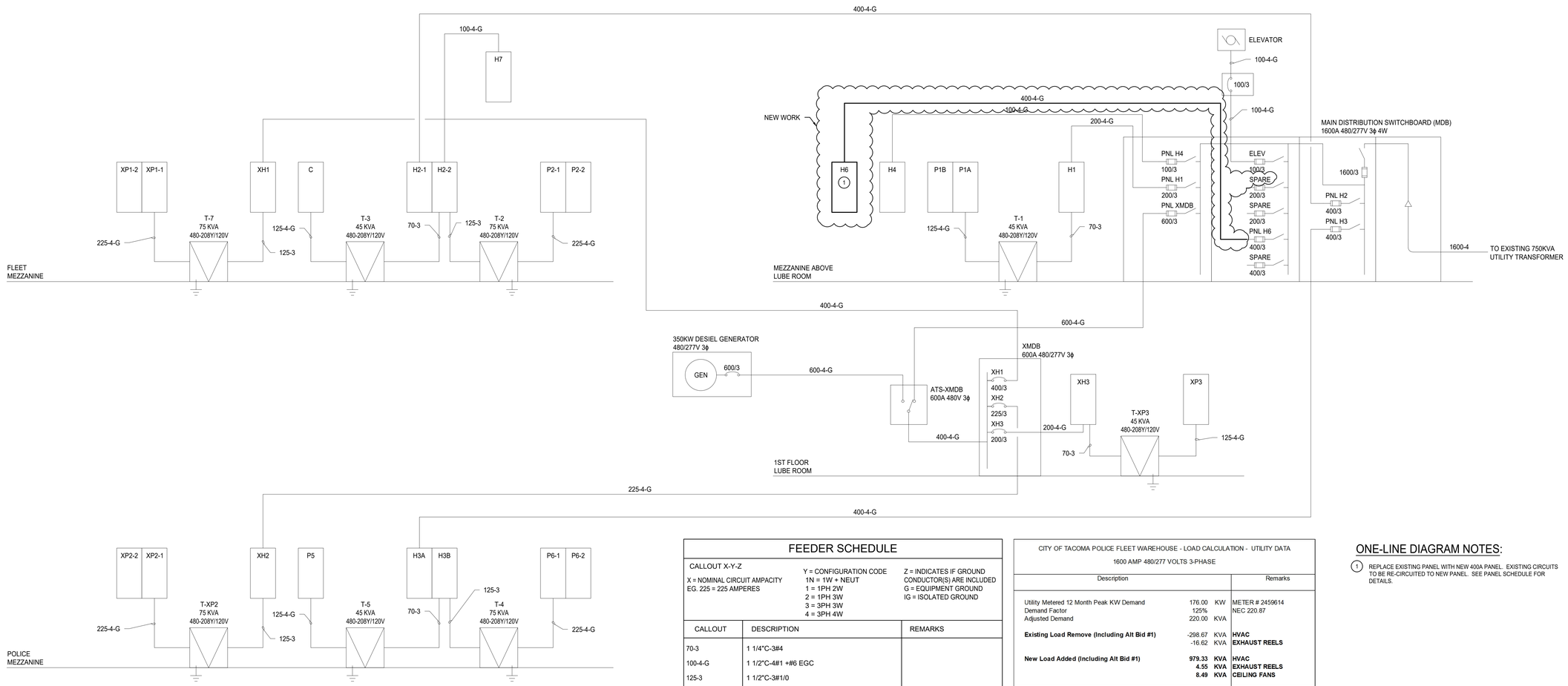
THOMAS URQUHART STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PARTIAL SECOND FLOOR AND ROOF PLAN - ELECTRICAL
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E305

0" 1" 2"
SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED



FEEDER SCHEDULE

CALLOUT X-Y-Z

X = NOMINAL CIRCUIT AMPACITY
EG. 225 = 225 AMPERES

Y = CONFIGURATION CODE
1N = 1W + NEUT
1 = 1PH 2W
2 = 1PH 3W
3 = 3PH 3W
4 = 3PH 4W

Z = INDICATES IF GROUND CONDUCTOR(S) ARE INCLUDED
G = EQUIPMENT GROUND
IG = ISOLATED GROUND

CALLOUT	DESCRIPTION	REMARKS
70-3	1 1/4"C-3#4	
100-4-G	1 1/2"C-4#1 +#6 EGC	
125-3	1 1/2"C-3#1/0	
125-4-G	2"C-4#1/0 +#6 EGC	
200-4-G	2 1/2"C-4#3/0 +#4 EGC	
225-4-G	2 1/2"C-4#4/0 +#2 EGC	
400-4-G	3 1/2"C-4#600MCM +#1/0 EGC	
600-4-G	(2) 3"C-4#350MCM +#1/0 EGC	IN PARALLEL
1600-4	(4) 3 1/2"C-4#600MCM +#1/0 EGC	IN PARALLEL

CITY OF TACOMA POLICE FLEET WAREHOUSE - LOAD CALCULATION - UTILITY DATA

1600 AMP 480/277 VOLTS 3-PHASE

Description			Remarks
Utility Metered 12 Month Peak KW Demand	176.00	KW	METER # 2459614
Demand Factor	125%		NEC 220.87
Adjusted Demand	220.00	KVA	
Existing Load Remove (Including Alt Bid #1)	-298.67	KVA	**HVAC**
	-16.62	KVA	**EXHAUST REELS**
New Load Added (Including Alt Bid #1)	**979.33**	**KVA**	**HVAC**
	4.55	**KVA**	**EXHAUST REELS**
	8.49	**KVA**	**CEILING FANS**
Total Load	**897.08**	**KVA**	
	1079.02	**AMPS**	

ONE-LINE DIAGRAM NOTES:

1. REPLACE EXISTING PANEL WITH NEW 400A PANEL. EXISTING CIRCUITS TO BE RE-CIRCUITED TO NEW PANEL. SEE PANEL SCHEDULE FOR DETAILS.

NORTH

EXISTING ONE-LINE DIAGRAM

SCALE: N.T.S.

BID SET

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SHEET TITLE: ONE-LINE DIAGRAM
DRAWN: AD
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PROJECT NO. 22-240
REVISIONS: .

E501

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

EXISTING **THREE PHASE PANEL SCHEDULE**

H2-1 VOLTAGE: 480/277 4W RATING: 400 A MAIN: LUG

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; 14K; 35K; X 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
SPARE			20/1	1	831			2	20/3	831		EF-4
SPARE			20/1	3		831		4		831		
LIGHTING		2438	20/1	5			3269	6		831		
LIGHTING		1920	20/1	7	2862			8	20/3	942		EF-5
LIGHTING		1875	20/1	9		2817		10		942		
LIGHTING		3688	20/1	11			4630	12		942		
SPARE			20/1	13	3047			14	20/3	3047		RTU-4
SPARE			20/1	15		3047		16		3047		
SPARE			20/1	17			3047	18		3047		
EF-3		1330	20/3	19	1330			20	20/1			SPARE
		1330		21		1330		22	20/1			SPARE
		1330		23			1330	24	20/1			SPARE
EF-1		305	20/3	25	5123			26	20/3	4818		RTU-1
		305		27		5123		28		4818		
		305		29			5123	30		4818		
TRANSFORMER T3		1934	70/3	31	1934			32	20/1			SPARE
		1934		33		1934		34	20/1			SPARE
		1934		35			1934	36	20/1			SPARE
RTU-2		5928	30/3	37	5928			38	20/1			SPARE
		5928		39		5928		40	20/1			SPARE
		5928		41			5928	42	20/1			SPARE

BREAKER CODE:	21055	21010	25261	VA H2-1
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP				VA
K=KEYED, P=PADLOCK ATTACHMENT				VA
	21055	21010	25261	VA SUB-TOTAL

CODE	KVA			KVA
LIGHTING	35.9	X	125%	44.9
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	55.3	X	100%	55.3
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	49.4	X	100%	49.4
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	**140.7**	**169.2**
CALCULATED	**149.7**	**180.0**

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED **THREE PHASE PANEL SCHEDULE**

H2-1 (R) VOLTAGE: 480/277 4W RATING: 400 A MAIN: LUG

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; 14K; 35K; X 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
SPARE			20/1	1	831			2	20/3**	**831**		**EF-4**
SPARE			20/1	3		831		4		**831**		
LIGHTING		2438	20/1	5			3269	6		**831**		
LIGHTING		1920	20/1	7	2862			8	20/3**	**942**		**EF-5**
LIGHTING		1875	20/1	9		2817		10		**942**		
LIGHTING		3688	20/1	11			4630	12		**942**		
SPARE			20/1	13	6371			14	**30/3***	**6371**		**RTU-4 (ALTERNATE BID#1)**
SPARE			20/1	15		6371		16		**6371**		
SPARE			20/1	17			6371	18		**6371**		
EF-3		**1330**	20/3**	19	24343			20	**125/3***	**23013**		**RTU-7**
		1330		21		24343		22		**23013**		
		1330		23			24343	24		**23013**		
EF-1		305	20/3	25	8505			26	**40/3***	**8200**		**RTU-1**
		305		27		8505		28		**8200**		
		305		29			8505	30		**8200**		
TRANSFORMER T3		1934	70/3	31	4764			32	**20/3***	**2830**		**HVLS-1, HVLS-2, HVLS-3**
		1934		33		4764		34		**2830**		
		1934		35			4764	36		**2830**		
RTU-2		**13795**	**70/3***	37	13795			38	20/1			SPARE
		13795		39		13795		40	20/1			SPARE
		13795		41			13795	42	20/1			SPARE

BREAKER CODE:	61471	61426	65677	VA H2-1 (R)
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP				VA
K=KEYED, P=PADLOCK ATTACHMENT				VA
	61471	61426	65677	VA SUB-TOTAL

CODE	KVA			KVA
LIGHTING	9.9	X	125%	12.4
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	109.5	X	100%	109.5
LARGEST MOTOR	69.0	X	125%	86.3
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	103.4	X	100%	103.4
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	**291.8**	**351.0**
CALCULATED	**311.6**	**374.8**

NOTE *
*** REPLACE BREAKER WITH NEW.**
**** NO LOAD CHANGE. EQUIPMENT BEING REPLACED LIKE FOR LIKE.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING **THREE PHASE PANEL SCHEDULE**

H3A VOLTAGE: 480/277 4W RATING: 400 A MAIN: LUG

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; 14K; 35K; X 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RTU-21		6316	60/3	1	12632			2	60/3	6316		RTU-26
		6316		3		12632		4		6316		
		6316		5			12632	6		6316		
RTU-27		5928	30/3	7	10776			8	20/3	4848		RTU-28
		5928		9		10776		10		4848		
		5928		11			10776	12		4848		
SPARE			20/1	13	0			14	20/3			SPARE
SPARE			20/1	15		0		16				
SPARE			20/1	17			0	18				
RTU-25			20/3	19	6316			20	60/3	6316		RTU-30
				21		6316		22		6316		
				23			6316	24		6316		
COMPRESSOR-P151A		2826	20/3	25	2826			26	20/1			SPARE
		2826		27		6769		28	70/3	3943		TRANSFORMER T5
		2826		29			6769	30		3943		
SPARE			20/1	31	3943			32		3943		
EF-26, EF-27, EF-18		315	20/3	33		3140		34	20/1	2825		LIGHTING
		315		35			2738	36	20/1	2423		LIGHTING
		315		37	315			38	20/1			SPARE
SPARE			20/1	39		0		40	20/1			SPARE
SPARE			20/1	41			0	42	20/1			SPARE

BREAKER CODE:	36808	39633	39231	VA H3A
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP				VA
K=KEYED, P=PADLOCK ATTACHMENT				VA
	36808	39633	39231	VA SUB-TOTAL

CODE	KVA			KVA
LIGHTING	26.0	X	125%	32.5
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	102.3	X	100%	102.3
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	60.7	X	100%	60.7
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	**189.0**	**227.4**
CALCULATED	**195.5**	**235.2**

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING **THREE PHASE PANEL SCHEDULE**

H6 VOLTAGE: 480/277 4W RATING: 200 A MAIN: LUG

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 14K; 35K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RTU-3		6315	60/3	1	12630			2	60/3	6315		RTU-13
		6315		3		12630		4		6315		
		6315		5			12630	6		6315		
RTU-7		6315	60/3	7	12630			8	60/3	6315		RTU-12
		6315		9		12630		10		6315		
		6315		11			12630	12		6315		
WELD SHOP OUTLET		6648	30/3	13	12963			14	60/3	6315		RTU-10
		6648		15		12963		16		6315		
		6648		17			12963	18		6315		
EF-6, EF-12		2272	30/3	19	2272			20	30/3			WELD SHOP OUTLET SPARE
		2272		21		2272		22				
		2272		23			2272	24				
WELD SHOP OUTLET		6648	30/3	25	6648			26	20/1			
		6648		27		6648		28	20/1			
		6648		29			6648	30	20/1			
			20/1	31	0			32	20/1			
			20/1	33		0		34	20/1			
			20/1	35			0	36	20/1			
			60/3	37	0			38				SPACE
				39		0		40				SPACE
				41			0	42				SPACE

BREAKER CODE:	47143	47143	47143	VA H6
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP				VA
K=KEYED, P=PADLOCK ATTACHMENT				VA
	47143	47143	47143	VA SUB-TOTAL

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	29.9	X	50%	14.9
MOTORS	101.5	X	100%	101.5
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER		X	100%	
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	**141.4**	**170.1**
CALCULATED	**126.5**	**152.1**

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

NEW **THREE PHASE PANEL SCHEDULE**

H6 (R) VOLTAGE: 480/277 4W RATING: 400 A MAIN: LUG

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 14K; 35K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RTU-3		**23013**	**125/3***	1	46026			2	**125/3***	**23013**		**RTU-13**
		23013		3		46026		4		**23013**		
		23013		5			46026	6		**23013**		
SPARE			60/3	7	23013			8	**125/3***	**23013**		**RTU-12**
				9		23013		10		**23013**		
				11			23013	12		**23013**		
WELD SHOP OUTLET		6648	30/3	13	29661			14	**125/3***	**23013**		**RTU-10**
		6648		15		29661		16		**23013**		
		6648		17			29661	18		**23013**		
EF-6, EF-12		**2272**	30/3**	19	2272			20	30/3			WELD SHOP OUTLET SPARE
		2272		21		2272		22				
		2272		23			2272	24				
WELD SHOP OUTLET		6648	30/3	25	6648			26	20/1			
		6648		27		6648		28	20/1			
		6648		29			6648	30	20/1			
			20/1	31	0			32	20/1			
			20/1	33		0		34	20/1			
			20/1	35			0	36	20/1			
			60/3	37	0			38				SPACE
				39		0		40				SPACE
				41			0	42				SPACE

BREAKER CODE:	107620	107620	107620	VA H6 (R)
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP				VA
K=KEYED, P=PADLOCK ATTACHMENT				VA
	107620	107620	107620	VA SUB-TOTAL

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	29.9	X	50%	14.9
MOTORS	283.0	X	100%	283.0
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER		X	100%	
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	**322.9**	**388.4**
CALCULATED	**307.9**	**370.4**

NOTE *
*** REPLACE BREAKER WITH NEW.**
**** NO LOAD CHANGE. EQUIPMENT BEING REPLACED LIKE FOR LIKE.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED **THREE PHASE PANEL SCHEDULE**

H3A (R) VOLTAGE: 480/277 4W RATING: 400 A MAIN: LUG

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; 14K; 35K; X 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RTU-21		**23014**	**125/3***	1	46028			2	**125/3***	**23014**		**RTU-26**
		23014		3		46028		4		**23014**		
		23014		5			46028	6		**23014**		
RTU-27 (ALTERNATE BID#1)		**13790**	**70/3***	7	13790			8	20/3			SPARE
		13790		9		13790		10				
		13790		11			13790	12				
SPARE			20/1	13	0			14	20/3			SPARE
SPARE			20/1	15		0		16				
SPARE			20/1	17			0	18				
RTU-25 (ALTERNATE BID#1)		**8204**	**40/3***	19	8204			20	60/3			**SPARE**
		8204		21		8204		22				
		8204		23			8204	24				
COMPRESSOR-P151A		2826	20/3	25	2826			26	20/1			SPARE
		2826		27		6769		28	70/3	3943		TRANSFORMER T5
		2826		29			6769	30		3943		
SPARE			20/1	31	3943			32		3943		
EF-26, EF-27, EF-18		**315**	20/3**	33		3140		34	20/1	2825		LIGHTING
		315		35			2738	36	20/1	2423		LIGHTING
		315		37	315			38	20/1			SPARE
SPARE			20/1	39		0		40	20/1			SPARE
SPARE			20/1	41			0	42	20/1			SPARE

BREAKER CODE:	75106	77931	77529	VA H3A (R)
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP				VA
K=KEYED, P=PADLOCK ATTACHMENT				VA
	75106	77931	77529	VA SUB-TOTAL

CODE	KVA			KVA
LIGHTING	31.3	X	125%	39.1
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	217.2	X	100%	217.2
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	55.4	X	100%	55.4
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	**303.9**	**365.6**
CALCULATED	**311.7**	**375.0**

NOTE *
*** REPLACE BREAKER WITH NEW.**
**** NO LOAD CHANGE. EQUIPMENT BEING REPLACED LIKE FOR LIKE.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING **THREE PHASE PANEL SCHEDULE**

XH1 VOLTAGE: 480/277 4W RATING: 300 A MAIN: LUG

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 14K; 35K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
LIGHTING		2842	20/1	1	4920			2	20/3	2078		VEHICEL EXHAUST REEL
LIGHTING		3609	20/1	3		5687		4		2078		
RTU-16		3047	20/3	5			5125	6		2078		
		3047		7	5125			8	20/3	2078		VEHICEL EXHAUST REEL
		3047		9		5125		10		2078		
LIGHTING		3393	20/1	11			5471	12		2078		
LIGHTING		3276	20/1	13	3776			14	20/1	500		LIGHTING CONTACTOR - LC-A
LIGHTING		3510	20/1	15		4618		16	20/3	1108		OVERHEAD DOOR - F140
LIGHTING		3510	20/1	17			4618	18		1108		
LIGHTING		3510	20/1	19	4618			20		1108		
LIGHTING		3510	20/1	21		6114		22	20/3	2604		OVERHEAD DOOR - F140
LIGHTING		3510	20/1	23			6114	24		2604		
LIGHTING		3510	20/1	25	6114			26		2604		
WATER RECLAIM PUMPS		2660	20/3	27		2660		28	20/1			SPARE
		2660		29			21677	30	70/3	19017		TRANFORMER T7
		2660		31	21677			32		19017		
SPARE			20/1	33		19017		34		19017		
SPARE			20/1	35			0	36				SPACE
SPACE				37	0			38				SPACE
SPACE				39		0		40				SPACE
SPACE				41			0	42				SPACE

BREAKER CODE:	46230	43221	43005	VA XH1
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP				VA
K=KEYED, P=PADLOCK ATTACHMENT				VA
	46230	43221	43005	VA SUB-TOTAL

CODE	KVA			KVA
LIGHTING	34.7	X	125%	43.4
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	40.7	X	100%	40.7
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	57.1	X	100%	57.1
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	**132.5**	**159.3**
CALCULATED	**141.1**	**169.8**

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED **THREE PHASE PANEL SCHEDULE**

XH1 (R) VOLTAGE: 480/277 4W RATING: 300 A MAIN: LUG

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 14K; 35K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
LIGHTING		2842	20/1	1	4920			2	20/3	2078		VEHICEL EXHAUST REEL
LIGHTING		3609	20/1	3		5687		4		2078		
RTU-16		**6430**	**30/3***	5			8508	6		2078		
		6430		7	8508			8	20/3	2078		VEHICEL EXHAUST REEL
		6430		9		8508		10		2078		
LIGHTING		3393	20/1	11			5471	12		2078		
LIGHTING		3276	20/1	13	3776			14	20/1	500		LIGHTING CONTACTOR - LC-A
LIGHTING		3510	20/1	15		4618		16	20/3	1108		OVERHEAD DOOR - F140
LIGHTING		3510	20/1	17			4618	18		1108		
LIGHTING		3510	20/1	19	4618			20		1108		
LIGHTING		3510	20/1	21		6114		22	20/3	2604		OVERHEAD DOOR - F140
LIGHTING		3510	20/1	23			6114	24		2604		
LIGHTING		3510	20/1	25	6114			26		2604		
WATER RECLAIM PUMPS		2660	20/3	27		2660		28	20/1			SPARE
		2660		29			21677	30	70/3	19017		TRANFORMER T7
		2660		31	21677			32		19017		
SPARE			20/1	33		19017		34		19017		
SPARE			20/1	35			0	36				SPACE
SPACE				37	0			38				SPACE
SPACE				39		0		40				SPACE
SPACE				41			0	42				SPACE

BREAKER CODE:	49613	46604	46388	VA XH1 (R)
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP				VA
K=KEYED, P=PADLOCK ATTACHMENT				VA
	49613	46604	46388	VA SUB-TOTAL

CODE	KVA			KVA
LIGHTING	34.7	X	125%	43.4
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	50.9	X	100%	50.9
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	57.1	X	100%	57.1
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	**142.6**	**171.5**
CALCULATED	**151.3**	**182.0**

NOTE *
*** REPLACE BREAKER WITH NEW.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE

3702 PINE ST
TACOMA, WASHINGTON 98409

THOMAS URQUHART STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PANEL SCHEDULES
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: -

E601

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

EXISTING — THREE PHASE PANEL SCHEDULE

XH2 — VOLTAGE: 480/277 4W — RATING: 225 A — MAIN: LUG

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 14K; 35K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RTU-23		5928	30/3	1	8563			2	20/1	2635		LIGHTING
		5928		3		8723		4	20/1	2795		LIGHTING
		5928		5			8865	6	20/1	2937		LIGHTING
RTU-24		4818	20/3	7	7766			8	20/1	2948		LIGHTING
		4818		9		7759		10	20/1	2941		LIGHTING
		4818		11			5318	12	20/1	500		LIGHTING
OVERHEAD DOOR-P158		554	30/3	13	3158			14	30/3	2604		OVERHEAD DOOR-P158
		554		15		3158		16		2604		
		554		17			3158	18		2604		
OVERHEAD DOOR-P146,P151,P152,P129		2909	20/3	19	2909			20				SPACE
		2909		21		2909		22				SPACE
		2909		23			2909	24				SPACE
SPACE				25	0			26				SPACE
SPACE				27		0		28				SPACE
SPACE				29			0	30				SPACE
SPACE				31	0			32				SPACE
SPACE				33		0		34				SPACE
SPACE				35			0	36				SPACE
SPACE				37	0			38				SPACE
SPACE				39		0		40				SPACE
SPACE				41			0	42				SPACE
					22396	22549	20250	VA	XH2			

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

					VA	
					VA	
					VA	
22396	22549	20250	VA SUB-TOTAL			

CODE	KVA			KVA
LIGHTING	14.8	X	125%	18.4
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	50.4	X	100%	50.4
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER		X	100%	
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	65.2	78.4
CALCULATED	68.9	82.9

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED — THREE PHASE PANEL SCHEDULE

XH2 (R) — VOLTAGE: 480/277 4W — RATING: 225 A — MAIN: LUG

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 14K; 35K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RTU-23 (ALTERNATE BID#1)		**13790**	**70/3***	1	16425			2	20/1	2635		LIGHTING
		13790		3		16585		4	20/1	2795		LIGHTING
		13790		5			16727	6	20/1	2937		LIGHTING
RTU-24 (ALTERNATE BID#1)		**8204**	**40/3***	7	11152			8	20/1	2948		LIGHTING
		8204		9		11145		10	20/1	2941		LIGHTING
		8204		11			8704	12	20/1	500		LIGHTING
OVERHEAD DOOR-P158		554	30/3	13	3158			14	30/3	2604		OVERHEAD DOOR-P158
		554		15		3158		16		2604		
		554		17			3158	18		2604		
OVERHEAD DOOR-P146,P151,P152,P129		2909	20/3	19	2909			20				SPACE
		2909		21		2909		22				SPACE
		2909		23			2909	24				SPACE
SPACE				25	0			26				SPACE
SPACE				27		0		28				SPACE
SPACE				29			0	30				SPACE
SPACE				31	0			32				SPACE
SPACE				33		0		34				SPACE
SPACE				35			0	36				SPACE
SPACE				37	0			38				SPACE
SPACE				39		0		40				SPACE
SPACE				41			0	42				SPACE
					33644	33797	31498	VA	XH2 (R)			

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

					VA	
					VA	
					VA	
33644	33797	31498	VA SUB-TOTAL			

CODE	KVA			KVA
LIGHTING	14.8	X	125%	18.4
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	84.2	X	100%	84.2
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER		X	100%	
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	98.9	119.0
CALCULATED	102.6	123.4

NOTE *
*** REPLACE BREAKER WITH NEW.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING — THREE PHASE PANEL SCHEDULE

XH3 — VOLTAGE: 480/277 4W — RATING: 225 A — MAIN: LUG

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 14K; 35K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
TRANSFORMER T6		2332	70/3	1	8149			2	30/3	5817		COMPRESSOR
		2332		3		8149		4		5817		
		2332		5			8149	6		5817		
RTU-14		2299	20/3	7	4405			8	20/3	2106		COMPRESSOR
		2299		9		4405		10		2106		
		2299		11			4405	12		2106		
EF-15		942	20/3	13	3020			14	20/3	2078		VEHICLE EXHAUST REEL
		942		15		3020		16		2078		
		942		17			3020	18		2078		
OVERHEAD DOOR - F126		1108	20/3	19	1108			20	20/3			SPARE
		1108		21		1108		22				
		1108		23			1108	24				
OVERHEAD DOOR - F131		1108	20/3	25	1108			26	20/3			SPARE
		1108		27		1108		28				
		1108		29			1108	30				
OVERHEAD DOOR - 127		2604	20/3	31	3842			32	20/1	1238		LIGHTING
		2604		33		2604		34				
		2604		35			2604	36				
LIGHTING		1062	20/1	37	1062			38				
				39		0		40				
				41			0	42				
					22694	20394	20394	VA	XH3			

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

					VA	
					VA	
					VA	
22694	20394	20394	VA SUB-TOTAL			

CODE	KVA			KVA
LIGHTING	2.3	X	125%	2.9
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	54.2	X	100%	54.2
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	7.0	X	100%	7.0
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	63.5	76.4
CALCULATED	64.1	77.1

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING — THREE PHASE PANEL SCHEDULE

P1A — VOLTAGE: 208/120 4W — RATING: 150 A — MAIN: BREAKER

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 10K; 25K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RTU-8		1633	20/2	1	1633			2	20/1			SPARE
		1633		3		2633		4	20/1	1000		ROOFTOP RECEPT
RTU-9		1373	20/2	5			2273	6	20/1	900		ROOFTOP RECEPT
		1373		7	1733			8	20/1	360		MEZZ. RECEPT
RECEPT-PIT AREA		500	30/3	9		1580		10	20/1	1080		RECPT-F132,F133,F138
		500		11			1580	12	20/1	1080		RECPT-F133,F135,F138
		500		13	1580			14	20/1	1080		RECPT-F132,F133,F136,F138
RECEPT-PIT AREA		500	30/3	15		1292		16	20/3	792		PRESS MACHINE
		500		17			1292	18		792		
		500		19	1292			20		792		
SPARE			20/1	21		0		22	50/3			SPARE
SPARE			20/1	23			0	24				
VEHICLE LIFT		500	20/2	25	500			26				
		500		27		500		28	20/3			SPARE
PIT AREA RECPETACLE		500	30/3	29			500	30				
		500		31	500			32				
		500		33		500		34	50/2			SPARE
WALL HEATER		563	20/2	35			563	36				
		563		37	1063			38	20/2	500		HOSE MACHINE
VEHICLE LIFT		500	20/2	39		1000		40		500		
		500		41			1000	42	20/1	500		RECEPT-PIT AREA
					8301	7505	7208	VA	P1A			

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

					VA	
					VA	
					VA	
8301	7505	7208	VA SUB-TOTAL			

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	29.0	X	50%	14.5
MOTORS	11.8	X	100%	11.8
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	6.1	X	100%	6.1
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	56.9	158.1
CALCULATED	42.4	117.8

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED — THREE PHASE PANEL SCHEDULE

P1A (R) — VOLTAGE: 208/120 4W — RATING: 150 A — MAIN: BREAKER

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 10K; 25K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RTU-8 (ALTERNATE BID#1)		**3545**	**45/2***	1	3545			2	20/1			SPARE
		3545		3		4545		4	20/1	1000		ROOFTOP RECEPT
RTU-9 (ALTERNATE BID#1)		**3545**	**45/2***	5			4445	6	20/1	900		ROOFTOP RECEPT
		3545		7	3905			8	20/1	360		MEZZ. RECEPT
RECEPT-PIT AREA		500	30/3	9		1580		10	20/1	1080		RECPT-F132,F133,F138
		500		11			1580	12	20/1	1080		RECPT-F133,F135,F138
		500		13	1580			14	20/1	1080		RECPT-F132,F133,F136,F138
RECEPT-PIT AREA		500	30/3	15		1292		16	20/3	792		PRESS MACHINE
		500		17			1292	18		792		
		500		19	1292			20		792		
SPARE			20/1	21		0		22	50/3			SPARE
SPARE			20/1	23			0	24				
VEHICLE LIFT		500	20/2	25	500			26				
		500		27		1655		28	**20/2***	**1155**		**VEHICLE EXHUAST REEL**
PIT AREA RECPETACLE		500	30/3	29			1655	30		**1155**		
		500		31	500			32				**SPACE**
		500		33		500		34	50/2			SPARE
WALL HEATER		563	20/2	35			563	36				
		563		37	1063			38	20/2	500		HOSE MACHINE
VEHICLE LIFT		500	20/2	39		1000		40		500		
		500		41			1000	42	20/1	500		RECEPT-PIT AREA
					12385	10572	10535	VA	P1A (R)			

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

					VA	
					VA	
					VA	
12385	10572	10535	VA SUB-TOTAL			

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	29.0	X	50%	14.5
MOTORS	20.0	X	100%	20.0
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	8.4	X	100%	8.4
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	67.4	187.2
CALCULATED	52.9	146.9

NOTE *
*** REPLACE BREAKER WITH NEW.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED — THREE PHASE PANEL SCHEDULE

XH3 (R) — VOLTAGE: 480/277 4W — RATING: 225 A — MAIN: LUG

GRID
SECTION: 1 OF 1
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 14K; 35K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
TRANSFORMER T6		2332	70/3	1	8149			2	30/3	5817		COMPRESSOR
		2332		3		8149		4		5817		
		2332		5			8149	6		5817		
RTU-14 (ALTERNATE BID#1)		**4480**	**25/3***	7	6586			8	20/3	2106		COMPRESSOR
		4480		9		6586		10		2106		
		4480		11			6586	12		2106		
EF-15		942	20/3	13	3020			14	20/3	2078		VEHICLE EXHAUST REEL
		942		15		3020		16		2078		
		942		17			3020	18		2078		
OVERHEAD DOOR - F126		1108	20/3	19	1108			20	20/3			SPARE
		1108		21		1108		22				
		1108		23			1108	24				
OVERHEAD DOOR - F131		1108	20/3	25	1108			26	20/3			SPARE
		1108		27		1108		28				
		1108		29			1108	30				
OVERHEAD DOOR - 127		2604	20/3	31	3842			32	20/1	1238		LIGHTING
		2604		33		2604		34				
		2604		35			2604	36				
LIGHTING		1062	20/1	37	1062			38				
				39		0		40				
				41			0	42				
					24875	22575	22575	VA	XH3 (R)			

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

					VA	
					VA	
					VA	
24875	22575	22575	VA SUB-TOTAL			

CODE	KVA			KVA
LIGHTING	2.3	X	125%	2.9
RECEPTACLES		X	100%	
RECEPTACLES OVER 10K		X	50%	
MOTORS	60.7	X	100%	60.7
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	7.0	X	100%	7.0
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	70.0	84.2
CALCULATED	70.6	84.9

NOTE *
*** REPLACE BREAKER WITH NEW.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING — THREE PHASE PANEL SCHEDULE

P1B — VOLTAGE: 208/120 4W — RATING: 400 A — MAIN: LUG

GRID
SECTION: 2 OF 2
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 10K; 25K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RECEPT- PIT AREA		540	20/1	43	1620			44	20/3	1080		WELD SHOP MACHINERY
RECEPT- PIT AREA		540	20/1	45		1620		46		1080		
EF-8		650	20/1	47			1730	48		1080		
IR-1, IR-2		240	20/1	49	1032			50	20/3	792		WELD SHOP DRILL PRESS
WELD SHOP MACHINERY		1560	20/1	51		2352		52		792		
WELD SHOP RECEPT		540	20/1	53			1332	54		792		
WELD SHOP RECEPT		720	20/1	55	720			56	20/1			SPARE
WELD SHOP RECEPT		720	20/1	57		720		58	20/1			SPARE
WELD SHOP RECEPT		720	20/1	59			720	60	20/1			SPARE
RECEPT- PIT AREA		540	20/1	61	540			62	20/1			SPARE
RECEPT- PIT AREA		720	20/1	63		1440		64	20/1	720		WELD SHOP RECEPT
RECEPT- PIT AREA		540	20/1	65			1080	66	20/1	540		WELD SHOP RECEPT
BALANCER		2496	30/2	67	2496			68	20/3			SPARE
		2496		69		2496		70				
EF-13		696	20/1	71			696	72				
WELD SHOP GRINDER		900	20/3	73	1816			74	20/2	916		EXHAUST ARM
		900		75		1816		76		916		
		900		77			3116	78	20/2	2216		RTU-11
RECEPT- PIT AREA		900	20/1	79	3116			80		2216		
RECEPT- PIT AREA		900	20/1	81		1826		82	20/2	926		WELDSHOP LATHE
RECEPT- PIT AREA		720	20/1	83			1646	84		926		
					11340	12270	10320	VA	P1B			

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

					VA	
					VA	
					VA	
11340	12270	10320	VA SUB-TOTAL			

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	13.2	X	50%	6.6
MOTORS	5.8	X	100%	5.8
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	5.0	X	100%	5.0
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	33.9	94.2
CALCULATED	27.4	75.9

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED — THREE PHASE PANEL SCHEDULE

P1B (R) — VOLTAGE: 208/120 4W — RATING: 150 A — MAIN: LUG

GRID
SECTION: 2 OF 2
LOCATION: ELECTRICAL

ENCLOSURE: FLUSH; X SURFACE; X NEMA TYPE 1; NEMA TYPE 3R; NEMA TYPE 12
ACCESSORIES: ISOLATED GROUND; SPD; 200% NEUTRAL; FEED THRU LUGS; DOUBLE LUGS
AIC ASSEMBLY: SERVICE RATED; SERIES RATED; X 10K; 25K; 65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RECEPT- PIT AREA		540	20/1	43	1620			44	20/3	1080		WELD SHOP MACHINERY
RECEPT- PIT AREA		540	20/1	45		1620		46		1080		
EF-8		650	20/1	47			1730	48		1080		
IR-1, IR-2		240	20/1	49	1032			50	20/3	792		WELD SHOP DRILL PRESS
WELD SHOP MACHINERY		1560	20/1	51		2352		52		792		
WELD SHOP RECEPT		540	20/1	53			1332	54		792		
WELD SHOP RECEPT		720	20/1	55	720			56	20/1			SPARE
WELD SHOP RECEPT		720	20/1	57		720		58	20/1			SPARE
WELD SHOP RECEPT		720	20/1	59			720	60	20/1			SPARE
RECEPT- PIT AREA		540	20/1	61	540			62	20/1			SPARE
RECEPT- PIT AREA		720	20/1	63		1440		64	20/1	720		WELD SHOP RECEPT
RECEPT- PIT AREA		540	20/1	65			1080	66	20/1	540		WELD SHOP RECEPT
BALANCER		2496	30/2	67	2496			68	20/3			SPARE
		2496		69		2496		70				
EF-13		696	20/1	71			696	72				
WELD SHOP GRINDER		900	20/3	73	1816			74	20/2	916		EXHAUST ARM
		900		75		1816		76		916		
		900		77			5790	78	**60/2***	**4890**		**RTU-11 (ALTERNATE BID#1)**
RECEPT- PIT AREA		900	20/1	79	5790			80		**4890**		
RECEPT- PIT AREA		900	20/1	81		1826		82	20/2	926		WELDSHOP LATHE
RECEPT- PIT AREA		720	20/1	83			1646	84		926		
					14014	12270	12994	VA	P1B (R)			

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

					VA	
					VA	
					VA	
14014	12270	12994	VA SUB-TOTAL			

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	13.2	X	50%	6.6
MOTORS	11.1	X	100%	11.1
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	5.0	X	100%	5.0
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	39.3	109.0
CALCULATED	32.7	90.8

NOTE *
*** REPLACE BREAKER WITH NEW.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE
3702 PINE ST
TACOMA, WASHINGTON 98409

THOMAS URQUHART STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

SIGNED
5/9/2023

SHEET TITLE: PANEL SCHEDULES
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E602

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED

EXISTING — THREE PHASE PANEL SCHEDULE

P2-1 VOLTAGE: 208/120 4W RATING: 225 A MAIN: LUG

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE	ACCESSORIES	AIC ASSEMBLY
FLUSH	ISOLATED GROUND	SERVICE RATED
X SURFACE	SPD	SERIES RATED
X NEMA TYPE 1	200% NEUTRAL	X 10K
NEMA TYPE 3R	FEED THRU LUGS	25K
NEMA TYPE 12	DOUBLE LUGS	65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RECEPT-F101,F102,F107,F108		900	20/1	1	1980			2	20/1	1080		RECEPT-F118, 120
RECEPT-F101,F102,F107,F12		720	20/1	3		1440		4	20/1	720		RECEPT-F118, 120
RECEPT-F100,F103,F107,F108,F112		900	20/1	5			1800	6	20/1	900		RECEPT-F118, 120
RECEPT-F112,F121		540	20/1	7	1440			8	20/1	900		RECPT-MED BAY AREA
RECEPT-F110,F112,F121		540	20/1	9		1440		10	20/1	900		RECPT-MED BAY AREA
RECEPT-F112,F122		540	20/1	11			1260	12	20/1	720		RECPT-MED BAY AREA
RECPT-MED BAY AREA		720	20/1	13	1720			14	20/1	1000		MICROWAVE-F211
ROOFTOP RECEPT		900	20/1	15		1900		16	20/1	1000		MICROWAVE-F211
ROOFTOP RECEPT		900	20/1	17			2900	18	30/3	2000		HWT-4
SPARE			20/1	19	2000			20		2000		
RECEPT		720	20/1	21		2720		22		2000		
RECEPT		540	20/1	23			540	24	20/1			SPARE
MICROWAVE-F112		1000	20/1	25	1000			26	20/1			SPARE
MICROWAVE-F112		1000	20/1	27		1000		28	20/1			SPARE
SPARE			20/1	29			0	30				SPACE
RECEPT-F202,F204		720	20/1	31	720			32				SPACE
RECEPT-F202,F204		720	20/1	33		720		34				SPACE
RECEPT-F202,F204		540	20/1	35			1913	36	20/2	1373		RTU-5
RECEPT & LIGHTING-F114		212	20/1	37	1585			38		1373		
RECEPT & LIGHTING-F113		239	20/1	39		812		40	20/2	573		WH-1
LIGHTING		500	20/1	41			1073	42		573		
					10445	10032	9486	VA	P2-1			
								VA				
								VA				
					10445	10032	9486	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING	0.5	X	125%	0.6
RECEPTACLES	7.5	X	100%	7.5
RECEPTACLES OVER 10K		X	50%	
MOTORS	12.2	X	100%	12.2
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	0.3	X	100%	0.3
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	20.5	56.8
CALCULATED	20.6	57.1

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED — THREE PHASE PANEL SCHEDULE

P2-1 (R) VOLTAGE: 208/120 4W RATING: 225 A MAIN: LUG

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE	ACCESSORIES	AIC ASSEMBLY
FLUSH	ISOLATED GROUND	SERVICE RATED
X SURFACE	SPD	SERIES RATED
X NEMA TYPE 1	200% NEUTRAL	X 10K
NEMA TYPE 3R	FEED THRU LUGS	25K
NEMA TYPE 12	DOUBLE LUGS	65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RECEPT-F101,F102,F107,F108		900	20/1	1	1980			2	20/1	1080		RECEPT-F118, 120
RECEPT-F101,F102,F107,F12		720	20/1	3		1440		4	20/1	720		RECEPT-F118, 120
RECEPT-F100,F103,F107,F108,F112		900	20/1	5			1800	6	20/1	900		RECEPT-F118, 120
RECEPT-F112,F121		540	20/1	7	1440			8	20/1	900		RECPT-MED BAY AREA
RECEPT-F110,F112,F121		540	20/1	9		1440		10	20/1	900		RECPT-MED BAY AREA
RECEPT-F112,F122		540	20/1	11			1260	12	20/1	720		RECPT-MED BAY AREA
RECPT-MED BAY AREA		720	20/1	13	1720			14	20/1	1000		MICROWAVE-F211
ROOFTOP RECEPT		900	20/1	15		1900		16	20/1	1000		MICROWAVE-F211
ROOFTOP RECEPT		900	20/1	17			2900	18	30/3	2000		HWT-4
SPARE			20/1	19	2000			20		2000		
RECEPT		720	20/1	21		2720		22		2000		
RECEPT		540	20/1	23			540	24	20/1			SPARE
MICROWAVE-F112		1000	20/1	25	1000			26	20/1			SPARE
MICROWAVE-F112		1000	20/1	27		1000		28	20/1			SPARE
SPARE			20/1	29			0	30				SPACE
RECEPT-F202,F204		720	20/1	31	720			32				SPACE
RECEPT-F202,F204		720	20/1	33		720		34				SPACE
RECEPT-F202,F204		540	20/1	35			4085	36	**45/2***	**3545**		**RTU-5 (ALTERNATE BID#1)**
RECEPT & LIGHTING-F114		212	20/1	37	3757			38		**3545**		
RECEPT & LIGHTING-F113		239	20/1	39		812		40	20/2	573		WH-1
LIGHTING		500	20/1	41			1073	42		573		
					12617	10032	11658	VA	P2-1 (R)			
								VA				
								VA				
					12617	10032	11658	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING	1.0	X	125%	1.3
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	17.1	X	50%	8.5
MOTORS	28.4	X	100%	28.4
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	9.4	X	100%	9.4
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	65.9	183.0
CALCULATED	57.6	160.0

NOTE *
* REPLACE BREAKER WITH NEW.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING — THREE PHASE PANEL SCHEDULE

P6-2 VOLTAGE: 480/277 4W RATING: 225 A MAIN: LUG

GRID
SECTION: 2 OF 2
LOCATION: ELECTRICAL

ENCLOSURE	ACCESSORIES	AIC ASSEMBLY
FLUSH	ISOLATED GROUND	SERVICE RATED
X SURFACE	SPD	SERIES RATED
X NEMA TYPE 1	200% NEUTRAL	X 14K
NEMA TYPE 3R	FEED THRU LUGS	35K
NEMA TYPE 12	DOUBLE LUGS	65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
SPARE			30/1	43	1000			44	20/1	1000		MICROWAVE-P104
SPARE			30/1	45		1000		46	20/1	1000		MICROWAVE-P104
RTU-29		2215	30/2	47			3215	48	20/1	1000		MICROWAVE-P104
		2215		49	3215			50	20/1	1000		2-FRIDGE-P104
ROOFTOP RECEPTACLE		1080	30/1	51		1080		52	20/1			SPARE
ROOFTOP RECEPTACLE		900	30/1	53			900	54	20/1			SPARE
ROOFTOP RECEPTACLE		540	20/1	55	540			56	20/3			SPARE
RECEPT-P126-129		1080	20/1	57		1080		58				
RECEPT-P126-129		900	20/1	59			900	60				
RECEPT-P126-129		900	20/1	61	900			62	30/3			SPARE
RECEPT-P129,P131,P133,P135,P116		900	20/1	63		900		64				
RECEPT-P129,P106,P134		720	20/1	65			720	66				
RECEPT-P129,P106,P134		720	20/1	67	1620			68	20/1	900		RECEPT-P146,P143,P140,P141
RECEPT-P153,P152,P157,P151		1080	20/1	69		1980		70	20/1	900		RECEPT-P119,P144,P142,P138
RECEPT-P153,P152		900	20/1	71			1800	72	20/1	900		RECEPT-P143,P141,136
RECEPT-P154-P156,P152,P151		900	20/1	73	900			74	20/1			SPARE
DRYER		2500	30/2	75		2500		76	20/1			SPARE
		2500		77			2500	78	20/1			SPARE
SPACE				79	1080			80	20/1	1080		RECEPT-P112,P114,P146,P149
SPACE				81		1080		82	20/1	1080		RECEPT-P152,P151,P147,P145
ROOFTOP RECEPT		900	20/1	83			1980	84	20/1	1080		RECEPT-P152,P151,P148,P146
					9255	9620	12015	VA	P6-2			
								VA				
								VA				
					9255	9620	12015	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	16.5	X	50%	8.2
MOTORS	4.4	X	100%	4.4
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER		X	100%	
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	30.9	37.2
CALCULATED	22.7	27.3

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING — THREE PHASE PANEL SCHEDULE

P2-2 VOLTAGE: 480/277 4W RATING: 400 A MAIN: LUG

GRID
SECTION: 2 OF 2
LOCATION: ELECTRICAL

ENCLOSURE	ACCESSORIES	AIC ASSEMBLY
FLUSH	ISOLATED GROUND	SERVICE RATED
X SURFACE	SPD	SERIES RATED
X NEMA TYPE 1	200% NEUTRAL	X 14K
NEMA TYPE 3R	FEED THRU LUGS	35K
NEMA TYPE 12	DOUBLE LUGS	65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
ELEVATOR CAR LIGHTS		500	20/1	43	1580			44	20/1	1080		RECEPT-F124,F125
INSTAHOT-F112		780	20/1	45		1860		46	20/1	1080		RECEPT-F124,F125
INSTAHOT-F118		780	20/1	47			1860	48	20/1	1080		RECEPT-F124,F125
INSTAHOT-F111		780	20/1	49	780			50	20/1			SPARE
EF-2		500	20/1	51		500		52	20/1			SPARE
EF-16		275	20/1	53			275	54	20/1			SPARE
EF-28		650	20/1	55	650			56	20/1			SPARE
FIRE/SMOKE DAMPER		180	20/1	57		180		58	20/1			SPARE
CARBON DIOXIDE SNESOR		120	20/1	59			120	60	20/1			SPARE
HP-1		1140	20/1	61	2140			62	20/1	1000		MICROWAVE
HP-2		1920	20/1	63		1920		64				SPACE
SPARE			20/1	65			0	66				SPACE
SPARE			20/1	67	0			68				SPACE
RTU-6		2216	30/2	69		2216		70				SPACE
		2216		71			2216	72				SPACE
SPARE			20/1	73	0			74				SPACE
SPARE			20/1	75		0		76				SPACE
SPARE			20/1	77			0	78				SPACE
SPARE			20/1	79	0			80				SPACE
SPARE			20/1	81		1633		82	20/2	1633		RTU-18
RECEPT-F213		900	20/1	83			2533	84		1633		
					5150	8309	7004	VA	P2-2			
								VA				
								VA				
					5150	8309	7004	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING	0.5	X	125%	0.6
RECEPTACLES	7.5	X	100%	7.5
RECEPTACLES OVER 10K		X	50%	
MOTORS	12.2	X	100%	12.2
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	0.3	X	100%	0.3
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	20.5	24.6
CALCULATED	20.6	24.8

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED — THREE PHASE PANEL SCHEDULE

P2-2 (R) VOLTAGE: 480/277 4W RATING: 400 A MAIN: LUG

GRID
SECTION: 2 OF 2
LOCATION: ELECTRICAL

ENCLOSURE	ACCESSORIES	AIC ASSEMBLY
FLUSH	ISOLATED GROUND	SERVICE RATED
X SURFACE	SPD	SERIES RATED
X NEMA TYPE 1	200% NEUTRAL	X 14K
NEMA TYPE 3R	FEED THRU LUGS	35K
NEMA TYPE 12	DOUBLE LUGS	65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
ELEVATOR CAR LIGHTS		500	20/1	43	1580			44	20/1	1080		RECEPT-F124,F125
INSTAHOT-F112		780	20/1	45		1860		46	20/1	1080		RECEPT-F124,F125
INSTAHOT-F118		780	20/1	47			1860	48	20/1	1080		RECEPT-F124,F125
INSTAHOT-F111		780	20/1	49	1770			50	**20/2***	**990**		**VEHICLE EXHAUST REELS**
EF-2		500	20/1	51		1490		52		**990**		
EF-16		275	20/1	53			275	54	20/1			SPARE
EF-28		650	20/1	55	650			56	20/1			SPARE
FIRE/SMOKE DAMPER		180	20/1	57		180		58	20/1			SPARE
CARBON DIOXIDE SNESOR		120	20/1	59			120	60	20/1			SPARE
HP-1		1140	20/1	61	2140			62	20/1	1000		MICROWAVE
HP-2		1920	20/1	63		1920		64				SPACE
SPARE			20/1	65			0	66				SPACE
SPARE			20/1	67	0			68				SPACE
RTU-6 (ALTERNATE BID#1)		**4890**	**60/2***	69		4890		70				SPACE
		4890		71			4890	72				SPACE
SPARE			20/1	73	0			74				SPACE
SPARE			20/1	75		0		76				SPACE
SPARE			20/1	77			0	78				SPACE
SPARE			20/1	79	0			80				SPACE
SPARE			20/1	81		3545		82	**45/2***	**3545**		**RTU-18**
RECEPT-F213		900	20/1	83			4445	84		**3545**		
					6140	13885	11590	VA	P2-2 (R)			
								VA				
								VA				
					6140	13885	11590	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING	0.5	X	125%	0.6
RECEPTACLES	7.5	X	100%	7.5
RECEPTACLES OVER 10K		X	50%	
MOTORS	21.4	X	100%	21.4
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	2.3	X	100%	2.3
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	31.6	38.0
CALCULATED	31.7	38.2

NOTE *
* REPLACE BREAKER WITH NEW.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED — THREE PHASE PANEL SCHEDULE

P6-2 (R) VOLTAGE: 480/277 4W RATING: 225 A MAIN: LUG

GRID
SECTION: 2 OF 2
LOCATION: ELECTRICAL

ENCLOSURE	ACCESSORIES	AIC ASSEMBLY
FLUSH	ISOLATED GROUND	SERVICE RATED
X SURFACE	SPD	SERIES RATED
X NEMA TYPE 1	200% NEUTRAL	X 14K
NEMA TYPE 3R	FEED THRU LUGS	35K
NEMA TYPE 12	DOUBLE LUGS	65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
SPARE			30/1	43	1000			44	20/1	1000		MICROWAVE-P104
SPARE			30/1	45		1000		46	20/1	1000		MICROWAVE-P104
RTU-29 (ALTERNATE BID#1)		**4890**	**60/2***	47			5890	48	20/1	1000		MICROWAVE-P104
		4890		49	5890			50	20/1	1000		2-FRIDGE-P104
ROOFTOP RECEPTACLE		1080	30/1	51		1080		52	20/1			SPARE
ROOFTOP RECEPTACLE		900	30/1	53			900	54	20/1			SPARE
ROOFTOP RECEPTACLE		540	20/1	55	540			56	20/3			SPARE
RECEPT-P126-129		1080	20/1	57		1080		58				
RECEPT-P126-129		900	20/1	59			900	60				
RECEPT-P126-129		900	20/1	61	900			62	30/3			SPARE
RECEPT-P129,P131,P133,P135,P116		900	20/1	63		900		64				
RECEPT-P129,P106,P134		720	20/1	65			720	66				
RECEPT-P129,P106,P134		720	20/1	67	1620			68	20/1	900		RECEPT-P146,P143,P140,P141
RECEPT-P153,P152,P157,P151		1080	20/1	69		1980		70	20/1	900		RECEPT-P119,P144,P142,P138
RECEPT-P153,P152		900	20/1	71			1800	72	20/1	900		RECEPT-P143,P141,136
RECEPT-P154-P156,P152,P151		900	20/1	73	900			74	20/1			SPARE
DRYER		2500	30/2	75		2500		76	20/1			SPARE
		2500		77			2500	78	20/1			SPARE
SPACE				79	1080			80	20/1	1080		RECEPT-P112,P114,P146,P149
SPACE				81		1080		82	20/1	1080		RECEPT-P152,P151,P147,P145
ROOFTOP RECEPT		900	20/1	83			1980	84	20/1	1080		RECEPT-P152,P151,P148,P146
					11930	9620	14690	VA	P6-2 (R)			
								VA				
								VA				
					11930	9620	14690	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	16.5	X	50%	8.2
MOTORS	9.8	X	100%	9.8
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER		X	100%	
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	36.2	43.6
CALCULATED	28.0	33.7

NOTE *
* REPLACE BREAKER WITH NEW.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

EXISTING — THREE PHASE PANEL SCHEDULE

XP1-1 VOLTAGE: 208/120 4W RATING: 225 A MAIN: BREAKER

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE	ACCESSORIES	AIC ASSEMBLY
FLUSH	ISOLATED GROUND	SERVICE RATED
X SURFACE	SPD	SERIES RATED
X NEMA TYPE 1	200% NEUTRAL	X 10K
NEMA TYPE 3R	FEED THRU LUGS	25K
NEMA TYPE 12	DOUBLE LUGS	65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RECEPT-MED BAY AREA		720	20/1	1	1800			2	20/1	1080		RECEPT-SMALL/MED BAY AREA
RECEPT-MED BAY AREA		720	20/1	3		1800		4	20/1	1080		RECEPT-SMALL/MED BAY AREA
RECEPT-MED BAY AREA		720	20/1	5			1800	6	20/1	1080		RECEPT-SMALL/MED BAY AREA
RECEPT-F209,F211		540	20/1	7	1913			8	30/2	1373		MED BAY LIFT
RECEPT-F210,F211		540	20/1	9		1913		10		1373		
RECEPT-F210,F211		720	20/1	11			2093	12	20/2	1373		SMALL BAY LIFT
RECEPT-MED BAY AREA		1080	20/1	13	2453			14		1373		
RECEPT-MED BAY AREA		900	20/1	15		2273		16	20/2	1373		SMALL BAY LIFT
RECEPT-MED BAY AREA		900	20/1	17			2273	18		1373		
RECEPT-MED BAY AREA		900	20/1	19	2273			20	20/2	1373		SMALL BAY LIFT
RECEPT-MED BAY AREA		720	20/1	21		2093		22		1373		
RECEPT-MED BAY AREA		720	20/1	23			2093	24	20/2	1373		SMALL BAY LIFT
RECEPT-MED BAY AREA		720	20/1	25	2093			26		1373		
RECEPT-MED BAY AREA		720	20/1	27		1220		28	20/1	500		CP-2
RECEPT-MED BAY AREA		540	20/1	29			1040	30	20/1	500		CHEM PUMP AND CONTROLER
RTU-15		1373	20/2	31	1373			32				SPACE
		1373		33		1373		34				SPACE
RTU-17		2216	30/2	35			2216	36				SPACE
		2216		37	2216			38				SPACE
SPACE				39		0		40				SPACE
SPACE				41			0	42				SPACE
					14121	10672	11515	VA	XP1-1			
								VA				
								VA				
					14121	10672	11515	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	10.0	X	100%	10.0
RECEPTACLES OVER 10K	22.8	X	50%	11.4
MOTORS	21.9	X	100%	21.9
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER		X	100%	
EV CHARGER		X	125%	

TOTAL LOAD	KVA	AMPS
CONNECTED	54.7	151.9
CALCULATED	43.3	120.2

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED — THREE PHASE PANEL SCHEDULE

XP1-1 (R) VOLTAGE: 208/120 4W RATING: 225 A MAIN: BREAKER

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE	ACCESSORIES	AIC ASSEMBLY
FLUSH	ISOLATED GROUND	SERVICE RATED
X SURFACE	SPD	SERIES RATED
X NEMA TYPE 1	200% NEUTRAL	X 10K
NEMA TYPE 3R	FEED THRU LUGS	25K
NEMA TYPE 12	DOUBLE LUGS	65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
RECEPT-MED BAY AREA		720	20/1	1	1800			2	20/1	1080		RECEPT-SMALL/MED BAY AREA
RECEPT-MED BAY AREA		720	20/1	3		1800		4	20/1	1080		RECEPT-SMALL/MED BAY AREA
RECEPT-MED BAY AREA		720	20/1	5			1800	6	20/1	1080		RECEPT-SMALL/MED BAY AREA
RECEPT-F209,F211		540	20/1	7	1913			8	30/2	1373		MED BAY LIFT
RECEPT-F210,F211		540	20/1	9		1913		10		1373		
RECEPT-F210,F211		720	20/1	11			2093	12	20/2	1373		SMALL BAY LIFT
RECEPT-MED BAY AREA		1080	20/1	13	2453			14		1373		
RECEPT-MED BAY AREA		900	20/1	15		2273		16	20/2	1373		SMALL BAY LIFT
RECEPT-MED BAY AREA		900	20/1	17			2273	18		1373		
RECEPT-MED BAY AREA		900	20/1	19	2273			20	20/2	1373		SMALL BAY LIFT
RECEPT-MED BAY AREA		720	20/1	21		2093		22		1373		
RECEPT-MED BAY AREA		720	20/1	23			2093	24	20/2	1373		SMALL BAY LIFT
RECEPT-MED BAY AREA		720	20/1	25	2093			26		1373		
RECEPT-MED BAY AREA		720	20/1	27		1220		28	20/1	500		CP-2
RECEPT-MED BAY AREA		540	20/1	29			1040	30	20/1	500		CHEM PUMP AND CONTROLER
RTU-15		**3545**	**45/2***	31	3545			32				SPACE
		3545		33		3545		34				SPACE
RTU-17		**4890**	**60/2***	35			4890	36				SPACE
		4890		37	4890			38				SPACE
SPACE				39		0		40				SPACE
SPACE				41			0	42				SPACE
					18967	12844	14189	VA	XP1-1 (R)			
								VA				
								VA				
					18967	12844	14189	VA SUB-TOTAL				

BREAK

EXISTING THREE PHASE PANEL SCHEDULE

XP2-1

VOLTAGE: 208/120 4W RATING: 225 A MAIN: LUG

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE
FLUSH
X SURFACE
X NEMA TYPE 1
NEMA TYPE 3R
NEMA TYPE 12

ACCESSORIES
ISOLATED GROUND
SPD
200% NEUTRAL
FEED THRU LUGS
DOUBLE LUGS

AIC ASSEMBLY
SERVICE RATED
SERIES RATED
X 10K
25K
65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
COMP RECEPT-P107		1200	20/1	1	2400			2	20/1	1200		COMP RECEPT-P101,P103,P123A
COMP RECEPT-P107		1200	20/1	3		2400		4	20/1	1200		COMP RECEPT-P102,P123A,P123B
COMP RECEPT-P107		800	20/1	5			2000	6	20/1	1200		COMP RECEPT-P105
COMP RECEPT-P107,P112,P115		1200	20/1	7	2000			8	20/1	800		COMP RECEPT-P105
COMP RECEPT-P107,P112,P115		1200	20/1	9		2000		10	20/1	800		COMP RECEPT-P105
COMP RECEPT-P107,P114		800	20/1	11			1600	12	20/1	800		COMP RECEPT-P111
COMP RECEPT-P107		1200	20/1	13	2000			14	20/1	800		COMP RECEPT-P111
COMP RECEPT-P107		1200	20/1	15		2000		16	20/1	800		COMP RECEPT-P111
COMP RECEPT-P107		1200	20/1	17			2573	18	30/2	1373		RTU-20
RTU-19		1613	20/2	19	2986			20		1373		
		1613		21		3828		22	30/2	2215		RTU-22
RECEPT-P100,P124,P121,P122		900	20/1	23			3115	24		2215		
RECEPT-P101,P122,P124		900	20/1	25	1800			26	20/1	900		RECEPT-P109,P110,P125,P102,P123A
RECEPT-P101,P124,P120,P123B		720	20/1	27		1620		28	20/1	900		RECEPT-P108,P102-P104
EF-31		670	20/1	29			1570	30	20/1	900		RECEPT-P108,P102-P104,P125
HP-2		1613	20/2	31	2513			32	20/1	900		RECEPT-P110,P112,P113,P115
		1613		33		2513		34	20/1	900		RECEPT-P109,P112,P114
SPARE			20/1	35			900	36	20/1	900		RECEPT-P113,P115
SPARE			20/1	37	0			38	20/1			SPARE
SPARE			20/1	39		0		40	20/1			SPARE
SPARE			20/1	41			0	42	20/1			SPARE
					13699	14361	11758	VA	XP2-1			
								VA				
								VA				
					13699	14361	11758	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	7.7	X	100%	7.7
RECEPTACLES OVER 10K		X	50%	
MOTORS		X	100%	
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	39.8	X	100%	39.8
EV CHARGER		X	125%	

	TOTAL LOAD	KVA	AMPS
	CONNECTED	47.5	131.8
	CALCULATED	47.5	131.8

NOTE *
FOR REFERENCE ONLY.

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

REVISED THREE PHASE PANEL SCHEDULE

XP2-1 (R)

VOLTAGE: 208/120 4W RATING: 225 A MAIN: LUG

GRID
SECTION: 1 OF 2
LOCATION: ELECTRICAL

ENCLOSURE
FLUSH
X SURFACE
X NEMA TYPE 1
NEMA TYPE 3R
NEMA TYPE 12

ACCESSORIES
ISOLATED GROUND
SPD
200% NEUTRAL
FEED THRU LUGS
DOUBLE LUGS

AIC ASSEMBLY
SERVICE RATED
SERIES RATED
X 10K
25K
65K

DESCRIPTION	*	VA	BKR	CKT	A	B	C	CKT	BKR	VA	*	DESCRIPTION
COMP RECEPT-P107		1200	20/1	1	2400			2	20/1	1200		COMP RECEPT-P101,P103,P123A
COMP RECEPT-P107		1200	20/1	3		2400		4	20/1	1200		COMP RECEPT-P102,P123A,P123B
COMP RECEPT-P107		800	20/1	5			2000	6	20/1	1200		COMP RECEPT-P105
COMP RECEPT-P107,P112,P115		1200	20/1	7	2000			8	20/1	800		COMP RECEPT-P105
COMP RECEPT-P107,P112,P115		1200	20/1	9		2000		10	20/1	800		COMP RECEPT-P105
COMP RECEPT-P107,P114		800	20/1	11			1600	12	20/1	800		COMP RECEPT-P111
COMP RECEPT-P107		1200	20/1	13	2000			14	20/1	800		COMP RECEPT-P111
COMP RECEPT-P107		1200	20/1	15		2000		16	20/1	800		COMP RECEPT-P111
COMP RECEPT-P107		1200	20/1	17			6090	18	**60/2***	**4890**		**RTU-20 (ALTERNATE BID#1)**
RTU-19 (ALTERNATE BID#1)		**3545**	**45/2***	19	8435			20		**4890**		
		3545		21		8435		22	**60/2***	**4890**		**RTU-22 (ALTERNATE BID#1)**
RECEPT-P100,P124,P121,P122		900	20/1	23			5790	24		**4890**		
RECEPT-P101,P122,P124		900	20/1	25	1800			26	20/1	900		RECEPT-P109,P110,P125,P102,P123A
RECEPT-P101,P124,P120,P123B		720	20/1	27		1620		28	20/1	900		RECEPT-P108,P102-P104
EF-31		670	20/1	29			1570	30	20/1	900		RECEPT-P108,P102-P104,P125
HP-2		1613	20/2	31	2513			32	20/1	900		RECEPT-P110,P112,P113,P115
		1613		33		2513		34	20/1	900		RECEPT-P109,P112,P114
SPARE			20/1	35			900	36	20/1	900		RECEPT-P113,P115
SPARE			20/1	37	0			38	20/1			SPARE
SPARE			20/1	39		0		40	20/1			SPARE
SPARE			20/1	41			0	42	20/1			SPARE
					19148	18968	17950	VA	XP2-1 (R)			
								VA				
								VA				
					19148	18968	17950	VA SUB-TOTAL				

BREAKER CODE:
A=AFCI, G=GFCI, N=SWITCHED NEUTRAL, S=SHUNT TRIP
K=KEYED, P=PADLOCK ATTACHMENT

CODE	KVA			KVA
LIGHTING		X	125%	
RECEPTACLES	7.7	X	100%	7.7
RECEPTACLES OVER 10K		X	50%	
MOTORS		X	100%	
LARGEST MOTOR		X	125%	
KITCHEN		X	100%	
NONCOINCIDENT		X	0%	
REMAINDER	56.1	X	100%	56.1
EV CHARGER		X	125%	

	TOTAL LOAD	KVA	AMPS
	CONNECTED	63.7	176.9
	CALCULATED	63.7	176.9

NOTE *
*** REPLACE BREAKER WITH NEW.**

LIGHT LINE WEIGHT EQUALS EXISTING
HEAVY LINE WEIGHT EQUALS NEW

BID SET

HULTZ BHU engineers inc
1111 Fawcett Ave Suite 100 Tacoma, WA 98402
Phone: (253) 383-3257 Fax: (253) 383-3283
general@hultzbhu.com Job Number: 22-240

CITY OF TACOMA - POLICE FLEET WAREHOUSE
3702 PINE ST
TACOMA, WASHINGTON 98409

THOMAS UROLAVICH STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
SIGNED
5/9/2023

SHEET TITLE: PANEL SCHEDULES
DRAWN: AD CHECKED: JM
DATE: 05.09.23 PROJECT NO. 22-240
REVISIONS: .

E604

SHEET SIZE IS TRUE SCALE WHEN ABOVE LINE MEASURES AS NOTED