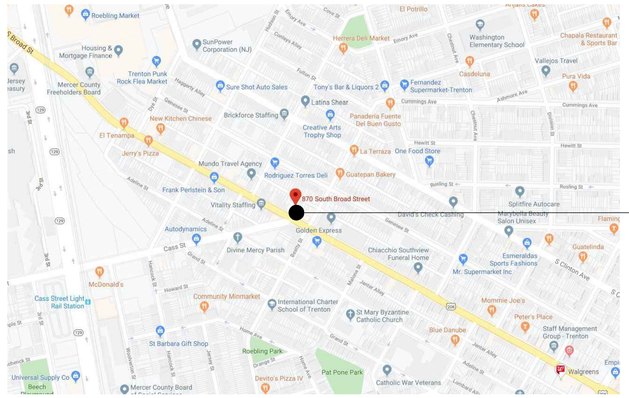

SITE

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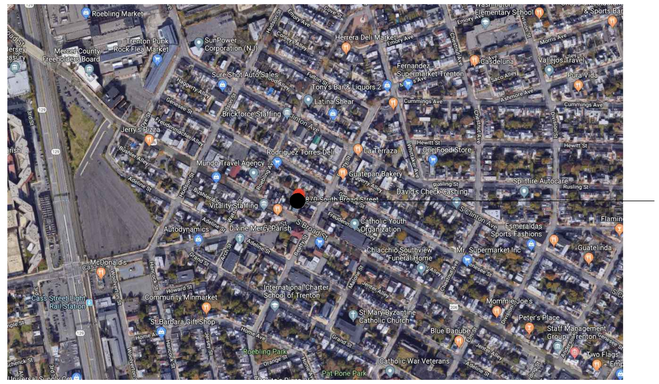


SITE

N

SITE PLAN
N.T.S

RENOVATION OF SOUTH WARD SENIOR CENTER

870 SOUTH BROAD STREET
TRENTON, NJ 08611

ISSUED FOR BID
MARCH 19, 2025

KELTER & GILLIGO consulting engineers

Kelter & Gilligo Consulting Engineers
14 Washington Road, Suite 221
Princeton Junction, NJ 08550

VOICE: 732 | 738 | 9670
FAX: 609 | 275 | 9306
MEP

Clarke Caton Hintz

Planning
Architecture
Landscape Architecture
Historic Preservation

100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

CCH PROJECT NUMBER: 2070.03

ACT	ACOUSTICAL TILE
A/C	AIR CONDITIONING
ALUM	ALUMINUM
AMP	AMPERE
ANOD	ANODIZED
L	ANGLE
AP	ACCESS PANEL
APC	ACOUSTIC PANEL CLG
APPROX	APPROXIMATE
ARCH	ARCHITECT
@	AT
BD	BOARD
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
B.M.	BENCH MARK
BOT	BOTTOM
BRG	BEARING
C	CHANNEL
CEM	CEMENT
CG	CORNER GUARD
CJ	CONTROL JOINT
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONTR	CONTRACTOR
CPT	CARPET(ED)
CT	CERAMIC TILE
CU.FT.	CUBIC FEET
○	DEGREE
DF	DRINKING FOUNTAIN
DIAG	DIAGRAM
Ø, DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
E	EAST
EA	EACH
EIFS	EXTERIOR INSULATION FINISH SYSTEM
ELEC	ELECTRIC
ELEV	ELEVATION
EWC	ELECTRIC WATER COOLER
EXG., EXIST.	EXISTING
EXP JT., E.J.	EXPANSION JOINT
EXT	EXTERIOR
F.D.	FLOOR DRAIN
F.F.	FINISHED FLOOR
FLASH	FLASHING
FLR	FLOOR
FND	FOUNDATION
FR GPDW	FIBER REINFORCED GYPSUM DRY WALL
FT, '	FOOT
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLS	GLASS, GLAZING
GPDW	GYPSUM DRYWALL
GR.	GRADE
H.B.	HOSE BIBB
H.C.	HANDICAPPED
HGT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOUR
IN, "	INCH
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
JT	JOINT
JST	JOIST
KIP	THOUSAND POUNDS
LAV	LAVATORY
LB, #	POUND
LGTH	LENGTH
LIN. FT., L.F.	LINEAR FEET
LL	LEVEL LINE
MAT'L	MATERIAL
MECH	MECHANICAL
MFR	MANUFACTURE
MH	MANHOLE
MIN	MINIMUM
MTL	METAL
MISC	MISCELLANEOUS
M.O.	MASONRY OPENING
MOD CPT	MODULAR CARPET TILES
N	NORTH
NAT. CLEFT BLUE	NATURAL CLEFT BLUESTONE
NIC	NOT-IN-CONTRACT
NO, #	NUMBER
O.C.	ON CENTER
O.D.	OVERFLOW DRAIN
OPNG	OPENING
/	PER
PLUMB	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PORC TILE	PORCELAIN TILE
P.T.	PRESSURE TREATED
PTD	PAINTED
QT	QUARRY TILE
R	RISER
R.D.	ROOF DRAIN
RAD	RADIUS
REINF	REINFORCING
REV	REVEAL
RFG	ROOFING
RM	ROOM
RND	ROUND
R.O.	ROUGH OPENING
RUB	RUBBER
S	SOUTH
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SHTHG	SHEATHING
SNT	SEALANT
SPEC	SPECIFICATIONS
SQ.FT.	SQUARE FEET
STD	STANDARD
STL	STEEL
ST. STL.	STAINLESS STEEL/ STEEL
STR	STRUCTURE
SUSP(D)	SUSPEND(ED)
T	TREAD
TBB	TILE BACKER BOARD
TEMP	TEMPERED
THER. FIN. BLUE	THERMAL FINISH BLUESTONE
TOS	TOP OF SLAB
TR	TO REMAIN
TBR	TO BE REMOVED
TBRL	TO BE RELOCATED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VC	VINYL COVE
VCT	VINYL COMPOSITION TILE
VENT	VENTILATE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	WEST
WC	WATER CLOSET
WD	WOOD
WDPNL	WOOD PANEL SYSTEM
WR GPDW	WATER RESISTANT GYPSUM DRY WALL
WWF	WELDED WIRE FABRIC
W/	WITH
YD	YARD

EARTH/COMPACTED FILL

POURED/CAST IN PLACE CONCRETE

PRECAST CONCRETE

CONCRETE MASONRY UNIT

SPLITFACE CONCRETE MASONRY UNIT

GROUNDFACE CONCRETE MASONRY UNIT

ACCOUSTIC CONCRETE MASONRY UNIT

BRICK

GLAZED BRICK

STEEL

ALUMINUM

BRASS/BRONZE

TERRAZZO

PLASTER ON METAL LATH

MARBLE

BLUE STONE / SLATE

GRANITE

LIMESTONE

SEALANT W/ BACKER ROD

WOOD (DRESSED)

WOOD (ROUGH) STUDS/BLOCKING

VENEER CORE PLYWOOD (LARGE SCALE)

VENEER CORE PLYWOOD (SMALL SCALE)

PLASTIC LAMINATE

GYPSUM WALL BOARD

RIGID INSULATION

BATT INSULATION

GLASS (SMALL SCALE)

GLASS (LARGE SCALE)

INSULATING GLASS UNIT

VINYL COMPOSITION TILE

CARPET

CERAMIC TILE

ACOUSTICAL TILE

MEMBRANE VAPOR BARRIER & ADHESIVE

MEMBRANE MOISTURE BARRIER & ADHESIVE

INDICATES DIRECTION OF WD GRAIN

DETAIL TAG (XX / XXX — DTL. NO. / DWG. NO.)

SECTION/ELEVATION TAG (XX / XXX — DTL. NO. / DWG. NO.)

INTERIOR ELEVATIONS, SAME SHEET NO. TAG (3 / DTL. NO. / DWG. NO. / A204 / 2 / 1)

NORTH ARROW

LOUNGE — ROOM NAME / ROOM NUMBER

SIGNAGE TYPE (1)

C-1 | +9'-0" — HEIGHT OF FINISHED CEILING ABOVE FINISHED FLOOR

WINDOW TYPE OR GLAZING TYPE

WORKPOINT ("X" DIMENSION TO WPOD / WP WORKPOINT # / "Y" DIMENSION TO WPOD)

PARTITION TYPE NUMBER (1A)

ELEVATION DESIGNATION LEVEL (ON DETAILS) (X'-X" ELEV.)

ELEVATION STATION POINT (ON PLANS)

REVISION

F.D. FLOOR DRAIN

R.D. ROOF DRAIN

A.D. AREA DRAIN

DOUBLE DOOR

SWINGING DOOR

SWINGING DOOR (180 HOLD OPEN)

DOUBLE ACTING DOOR

SLIDING DOOR

POCKET DOOR

HEAVY DASHED - ITEMS TO BE REMOVED (DEMOLISHED)

HIDDEN LINES - ITEMS HIDDEN OR OVERHEAD

HALFTONE HIDDEN LINES - ITEMS TO BE REMOVED

CENTER LINES OF COLUMN GRIDS

PROJECT LIMIT LINE

PROPERTY LINES

229 — NEW OR FINISHED CONTOURS

228 — EXISTING CONTOURS

SPRINKLER HEAD

DOOR NO. — DOOR TAG (PLANS)

DOOR NO. 1/101 ROOM NO. — DOOR TAG (ELEVATIONS)

CORNER GUARDS

FE — SURFACE MOUNT FIRE EXTINGUISHER

FE — SEMI RECESSED FIRE EXTINGUISHER CABINET WITH FIRE EXTINGUISHER

WP — WORK POINT

ENTRY POINT

ROOM NAME / # — ROOM NAME AND NUMBER MARKER

XXX / XXX — ELEVATION MARKER

A / B — MATCHLINE

XX / XXX — DETAIL MARKER

HANDICAPPED TURNING RADIUS

GENERAL NOTES:

1. THESE DRAWINGS REPRESENT AN OVERALL DESIGN CONCEPT. THEY ARE PREPARED WITH THE INTENT TO DEMONSTRATE AN OVERALL DESIGN ARRANGEMENT OF THE VARIOUS COMPONENTS OF THE ENTIRE PROJECT. THE CONTRACTOR IS ASSUMED TO HAVING REVIEWED THESE DRAWINGS, AND HAVING SEEN THE SUBJECT PROPERTY, IS CAPABLE OF EXECUTING THE DETAIL WORK NECESSARY TO ACHIEVE THE INTENDED RESULTS IN A MANNER THAT IS CONSISTENT WITH THE QUALITY WORKMANSHIP IN THE REGION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE DRAWINGS, VISIT THE SITE, VERIFY THE EXISTING CONDITIONS, DIMENSIONS, CLEARANCES, Etc., SHOWN ON THE DRAWINGS PRIOR TO BIDDING.
2. THESE DRAWINGS ARE THE PROPERTY OF THE ARCHITECT AND SHALL NOT BE USED FOR A BUILDING PERMIT UNLESS SIGNED AND SEALED BY THE ARCHITECT.
3. REPRODUCTIONS OF CONTRACT DOCUMENTS ARE NOT ACCEPTABLE AS SHOP DRAWINGS AND MAY BE REJECTED.
4. UNLESS OTHERWISE NOTED, GENERAL NOTES REFER TO ALL TYPICAL CONDITIONS THROUGHOUT THE BUILDING. SPECIFIC CONDITIONS REQUIRING CLARIFICATION ARE MARKED DOWN ON PLAN(S).
5. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCY OR DEVIATION BETWEEN DWGS. AND ANY FIELD VERIFIED CONDITIONS PRIOR TO COMMENCING WORK.
6. THE OWNER AND CONTRACTOR SHALL HOLD THE ARCHITECT HARMLESS AGAINST ANY CLAIMS, DAMAGES, LOSSES AND EXPENSES INCLUDING ATTORNEY FEES ARISING OR RESULTING FROM THE PERFORMANCE OF THE WORK BY THE CONTRACTOR.
7. THE ARCHITECT IS NOT RESPONSIBLE WHERE CONSTRUCTION DEVIATES FROM PLANS UNLESS APPROVED IN WRITING BY THE ARCHITECT.
8. DO NOT SCALE DRAWINGS. ALL MEASUREMENTS MUST BE CONFIRMED IN THE FIELD. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.
9. IF ANY DISCREPANCIES BETWEEN DWGS AND SPECIFICATIONS EXIST, THE MORE STRINGENT SHALL TAKE PRECEDENCE. SIMILARLY BETWEEN ARCHITECTURAL PLANS AND VARIOUS ENGINEERING DISCIPLINES.
10. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF THE WORK. DO NOT SCALE DRAWINGS. IF A DIMENSION IS UNCLEAR OR A DISCREPANCY IS FOUND, NOTIFY THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
11. DETAILS AND SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN A SIMILAR FASHION OR BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION. MODIFICATIONS MAY BE REQUIRED BY THE CONTRACTOR TO ACCOMMODATE FOR MINOR VARIATIONS.
12. CONTRACTOR TO FIELD VERIFY EXTENT OF WORK PRIOR TO BID.
13. SUBMIT STAGING PLANS AND CONSTRUCTION SCHEDULE FOR ARCHITECT'S AND OWNER'S REVIEW PRIOR TO COMMENCING WORK.
14. ALL CONTRACTORS SHALL MAINTAIN CONTRACTORS LIABILITY, PROPERTY DAMAGE AND WORKMAN'S COMPENSATION INSURANCE.
15. ALL CODES HAVING JURISDICTION SHALL BE OBSERVED STRICTLY IN THE CONSTRUCTION OF THE PROJECT, INCLUDING ALL APPLICABLE STATE, CITY, AND COUNTY BUILDING, ZONING, ELECTRICAL, MECHANICAL, PLUMBING, AND FIRE CODES. THE CONTRACTOR SHALL VERIFY ALL CODE REQUIREMENTS BEFORE COMMENCEMENT OF CONSTRUCTION AND BRING ANY DISCREPANCIES BETWEEN CODE REQUIREMENTS AND THE CONSTRUCTION DOCUMENTS TO THE ATTENTION OF THE ARCHITECT.
16. UTILIZE OSHA SAFETY PRECAUTIONS AS REQUIRED. CONTRACTOR TO PROVIDE OWNER/ARCHITECT WITH COPIES OF ALL MINUTES/SIGN-IN SHEETS FOR "TOOL BOX" TALKS ON A MONTHLY BASIS. SUBMISSION IS A CONDITION OF RELEASE OF PAYMENT.
17. ALL WALLS SHALL BE BRACED DURING CONSTRUCTION UNTIL PERMANENTLY RESTRAINED.
18. INSTALL TEMPORARY SHORING & BRACING AND MAKE SAFE ALL WALLS, CEILINGS, AND DOORS AS REQUIRED.
19. MAINTAIN PROTECTED EGRESS AND ACCESS TO WORK.
20. ALL EQUIPMENT MUST MEET LOCAL NOISE ORDINANCES.
21. GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS AND QUANTITIES PRIOR TO ORDERING, FABRICATING OR CONSTRUCTING ANY PART OF THE BUILDING. NOTIFY ARCHITECT IMMEDIATELY WITH ANY AND ALL DISCREPANCIES.
22. PROVIDE DUST CONTROL AS REQUIRED. SEE SPECIFICATION FOR MORE INFORMATION, TYP.
23. NOTIFY OWNER/ARCHITECT 72 HOURS MINIMUM IN ADVANCE OF ANY UTILITY SHUT-OFFS.
24. GENERAL CONTRACTOR TO COORDINATE WITH OTHER CONTRACTS ON SITE HIRED UNDER SEPARATE CONTRACT.
25. UNLESS NOTED OTHERWISE, ALL NEW ITEMS SHALL BE FURNISHED BY THE GENERAL CONTRACTOR.
26. CONTRACTOR SHALL VERIFY ALL REQUIRED ROUGH OPENINGS WITH MANUFACTURERS PRIOR TO START OF ANY CONSTRUCTION AND COORDINATE ANY DISCREPANCIES ON THE PLANS WITH THE RESPECTIVE TRADES.
27. ALL WALL PENETRATIONS SHALL BE PATCHED, SEALED, AND FIRE STOPPED AS REQUIRED BY THE RESPECTIVE TRADES.
28. INSTALL ALL FIXTURES, MATERIALS, AND FINISHES IN STRICT COMPLIANCE WITH MANUFACTURER'S TECHNICAL SPECIFICATIONS, TYP.
29. ALL DIMENSIONS TAKEN FROM FACE OF FINISH UNLESS NOTED OTHERWISE.
30. FIRESTOP AS REQUIRED ALL PENETRATIONS THRU FIRE RATED WALLS.
31. SEE FLOOR PLANS FOR DOOR DESIGNATIONS.

	INDEX OF DRAWINGS	
DWG.NO.	DRAWING TITLE	SCALE
GENERAL		
CS	COVER SHEET	N.T.S.
G001	GENERAL INFORMATION	N.T.S.
LS001	LIFE SAFETY PLANS AND INFORMATION	N.T.S.
ARCHITECTURALS		
D-100	DEMOLITION FLOOR PLAN	AS NOTED
A-100	BASEMENT FLOOR PLAN	AS NOTED
A-101	FIRST FLOOR PLAN	AS NOTED
A-102	SECOND FLOOR PLAN	AS NOTED
A-103	THIRD FLOOR PLAN	AS NOTED
A-300	EXTERIOR ELEVATIONS	AS NOTED
A-301	WINDOW/DOOR SCHEDULE AND DETAILS	AS NOTED
A-400	INTERIOR ELEVATIONS	AS NOTED
A-800	REFLECTED CEILING PLANS	AS NOTED
MECHANICAL		
H100	BASEMENT PLAN – HVAC	AS NOTED
H101	FIRST FLOOR PLAN – HVAC	AS NOTED
H102	SECOND FLOOR AND LOWER ROOF PLAN – HVAC	AS NOTED
H200	ABBREVIATION, SYMBOLS AND SCHEDULES – HVAC	AS NOTED
H201	DETAILS – HVAC	AS NOTED
H202	DETAILS – HVAC	AS NOTED
H300	VCU PIPING AND WIRING DIAGRAMS – HVAC	AS NOTED
H400	CONTROL DIAGRAMS – HVAC	AS NOTED
H500	SPECIFICATIONS – HVAC	AS NOTED
ELECTRICAL		
ED100	BASEMENT AND FIRST FLOOR PLAN – ELECTRICAL DEMOLITION	AS NOTED
ED100	BASEMENT AND FIRST FLOOR PLAN – ELECTRICAL DEMOLITION	AS NOTED
E100	BASEMENT AND FIRST FLOOR PLAN – LIGHTING	AS NOTED
E101	BASEMENT AND FIRST FLOOR PLAN – POWER	AS NOTED
E102	SECOND AND THIRD FLOOR PLAN – ELECTRICAL	AS NOTED
E200	SPECIFICATION – ELECTRICAL	AS NOTED
PLUMBING		
PD100	BASEMENT AND FIRST FLOOR PLAN – PLUMBING DEMOLITION	AS NOTED
P001	BASEMENT PLAN UNDERSLAB – PLUMBING	AS NOTED
P100	BASEMENT AND FIRST FLOOR PLAN – PLUMBING	AS NOTED
P101	SECOND FLOOR PLAN – PLUMBING	AS NOTED
P200	PART PLANS – PLUMBING	AS NOTED
P300	RISER DIAGRAM PLUMBING	AS NOTED
P301	RISER DIAGRAM PLUMBING	AS NOTED
P400	SCHEDULES, NOTES AND DETAILS – PLUMBING	AS NOTED
P500	SPECIFICATIONS – PLUMBING	AS NOTED

K6 | DRAWING INDEX

8'-0"

CITY OF TRENTON
DEPARTMENT OF HEALTH AND HUMAN SERVICES
W. REED GUSCIORA, MAYOR

"PROJECT NAME GOES HERE"
"PROJECT COST GOES HERE"

"CONTRACTOR NAME GOES HERE"

"ARCHITECT/ENGINEER NAME GOES HERE"

FUNDED BY:
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM (CDBG)

4'-0"

HUD LOGO MUST BE INCLUDED ON SIGN

GENERAL NOTES:
1. CONSTRUCTION SIGNAGE FOR COMMUNITY DEVELOPMENT BLOCK GRANT FUNDED PROJECTS
2. FINAL TEXT TO BE DETERMINED AT TIME OF CONSTRUCTION
3. GC SHALL PROVIDE PRESSURE TREATED FRAME AND SHALL ERECT SIGN IN LOCATION AS DIRECTED BY OWNER.

A20 | ABBREVIATIONS INDEX

A16 | SYMBOLS INDEX

A10 | GENERAL NOTES

A6 | CONSTRUCTION SIGNAGE

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

SUBMISSIONS		
NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

RENOVATION OF
SOUTH BROAD STREET
SENIOR CENTER
TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	HP
CHECKED BY:	PO

SHEET TITLE:
GENERAL INFORMATION

DRAWING NO.:
G001

CCH PROJECT NO: 2070.03

- LIFE AND SAFETY LEGEND -

DOOR 34" CLEAR
226 OCCUPANTS
EGRESS WIDTH
NUMBER OF OCCUPANTS

50
OCCUPANT COUNT

PATH OF EGRESS

2 HOUR RATED WALL

1 HOUR RATED WALL

SITE DATA:

ADDRESS: 870 BROAD STREET, TRENTON, NEW JERSEY 08611

MUNC/TOWNSHIP: TRENTON

CODE INFORMATION

APPLICABLE CODES

THE CODE ANALYSIS OF THIS PROJECT HAS BEEN BASED ON THE FOLLOWING CODES.

- UNIFORM CONSTRUCTION CODE, STATE OF NEW JERSEY
  REHABILITATION SUBCODE– NJAC 5: 23–6
  BARRIER FREE SUBCODE– NJAC 5: 23–7
  ANSI A117.1–2017

- INTERNATIONAL BUILDING CODE– NEW JERSEY EDITION, 2021

  NATIONAL ELECTRICAL CODE (NFPA 70) 2020

- NATIONAL STANDARD PLUMBING CODE, 2021

  ASHRAE 90.1, 2019

- INTERNATIONAL MECHANICAL CODE, 2021

- INTERNATIONAL FUEL GAS CODE, 2021

BUILDING AREA:

EXISTING:		
	BASEMENT	2,575 SF
	FIRST	6,388 SF
	SECOND	2,641 SF
	THIRD	2,641 SF
	TOTAL:	14,245 SF

AREA OF PROPOSED RENOVATION: 8,963 SF

PROJECT SCOPE:

WORK FOR THIS PROJECT INCLUDES, BUT IS NOT LIMITED TO THE INTERIOR RENOVATION OF THE GROUND FLOOR AND BASEMENT. THE ONLY WORK ON THE UPPER FLOORS WILL BE FOR WINDOW REPLACEMENT. SCOPE OF WORK INCLUDES NEW FINISHES, REPLACEMENT OF LIGHT FIXTURES, PLUMBING FIXTURES, KITCHEN CABINETS AND APPLIANCES. OTHER WORK INCLUDES REPLACEMENT EXTERIOR DOORS AND WINDOWS.

CODE ANALYSIS:

A. USE AND OCCUPANCY CLASSIFICATION: USE GROUP 'A3'

- THERE WILL BE NO CHANGE TO THE BUILDING'S USE OR OCCUPANCY DUE TO THE PROPOSED WORK.

B. CONSTRUCTION CLASSIFICATION: TYPE 'III–B'

- THERE WILL BE NO CHANGE TO THE BUILDING'S CONSTRUCTION CLASSIFICATION DUE TO THE PROPOSED WORK.

C. CATEGORY OF WORK PER THE REHABILITATION SUBCODE– NJAC 5:23–6

- THE WORK PROPOSED FOR THIS PROJECT IS CLASSIFIED AS A RENOVATION

  – PER BULLETIN 98–1, "RENOVATION MEANS THE REMOVAL AND REPLACEMENT OR COVERING OF EXISTING INTERIOR OR EXTERIOR FINISH, TRIM, DOORS, WINDOWS OR OTHER MATERIALS WITH NEW MATERIALS THAT SERVE THE SAME PURPOSE AND DO NOT CHANGE THE CONFIGURATION OF THE SPACE. RENOVATIONS SHALL INCLUDE THE REPLACEMENT OF EQUIPMENT OR FIXTURES.

  – PER THE REHAB SUBCODE MATRIX SUMMARIZING CATEGORIES OF WORK AND APPLICABLE REQUIREMENTS PROVIDED IN BULLETIN 98–1, RENOVATION WORK IS REQUIRED TO COMPLY WITH THE LISTS OF REQUIRED AND PROHIBITED MATERIALS AND METHODS AS PER SECTION 5:23–6.5.

  – WHEN THE WORK BEING PERFORMED CREATES OR EXPOSES THE ROOF DECKING/SHEATHING OR THE FRAMING OF ANY WALL, FLOOR, CEILING, OR ROOF ASSEMBLY THAT IS PART OF THE BUILDING THERMAL ENVELOPE (ENCLOSES CONDITIONED SPACE), ANY ACCESSIBLE VOIDS IN INSULATION SHALL BE FILLED USING INSULATION MEETING THE R–VALUES OF...OR OF TABLE 5.5–4 OR 5.5–5 OF THE COMMERCIAL ENERGY CODE, AS APPLICABLE

D. FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS.

- THERE WILL BE NO WORK PERFORMED THAT WILL IMPACT THE EXISTING FIRE RATED BUILDING ELEMENTS.

E. INTERIOR WALL AND CEILING REQUIREMENTS–BY OCCUPANCY

- EXISTING TO REMAIN.

F. OCCUPANT LOAD.

- EXISTING TO REMAIN.

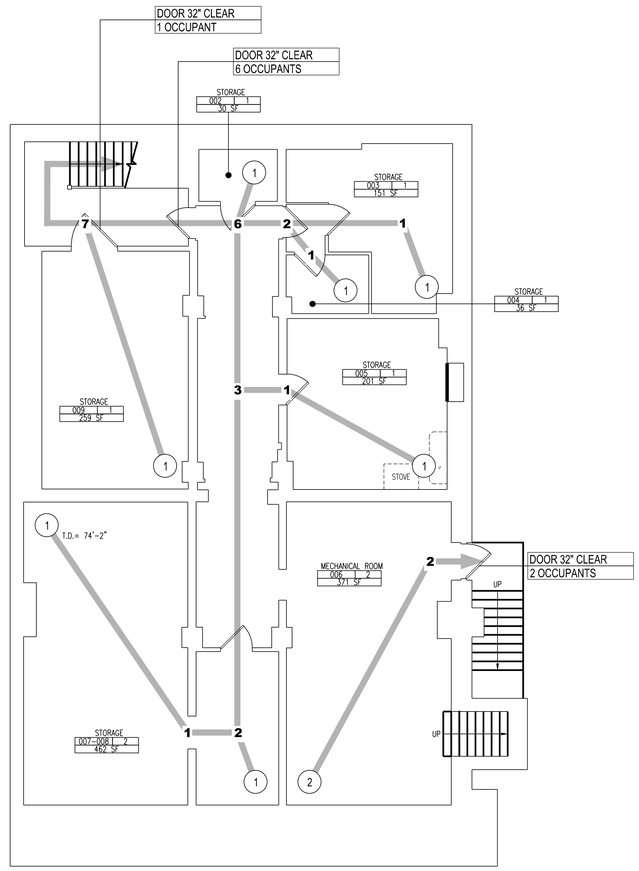
G. MEANS OF EGRESS.

- THERE WILL BE NO CHANGE TO THE EXISTING MEANS OF EGRESS.

H. PLUMBING FIXTURE COUNTS.

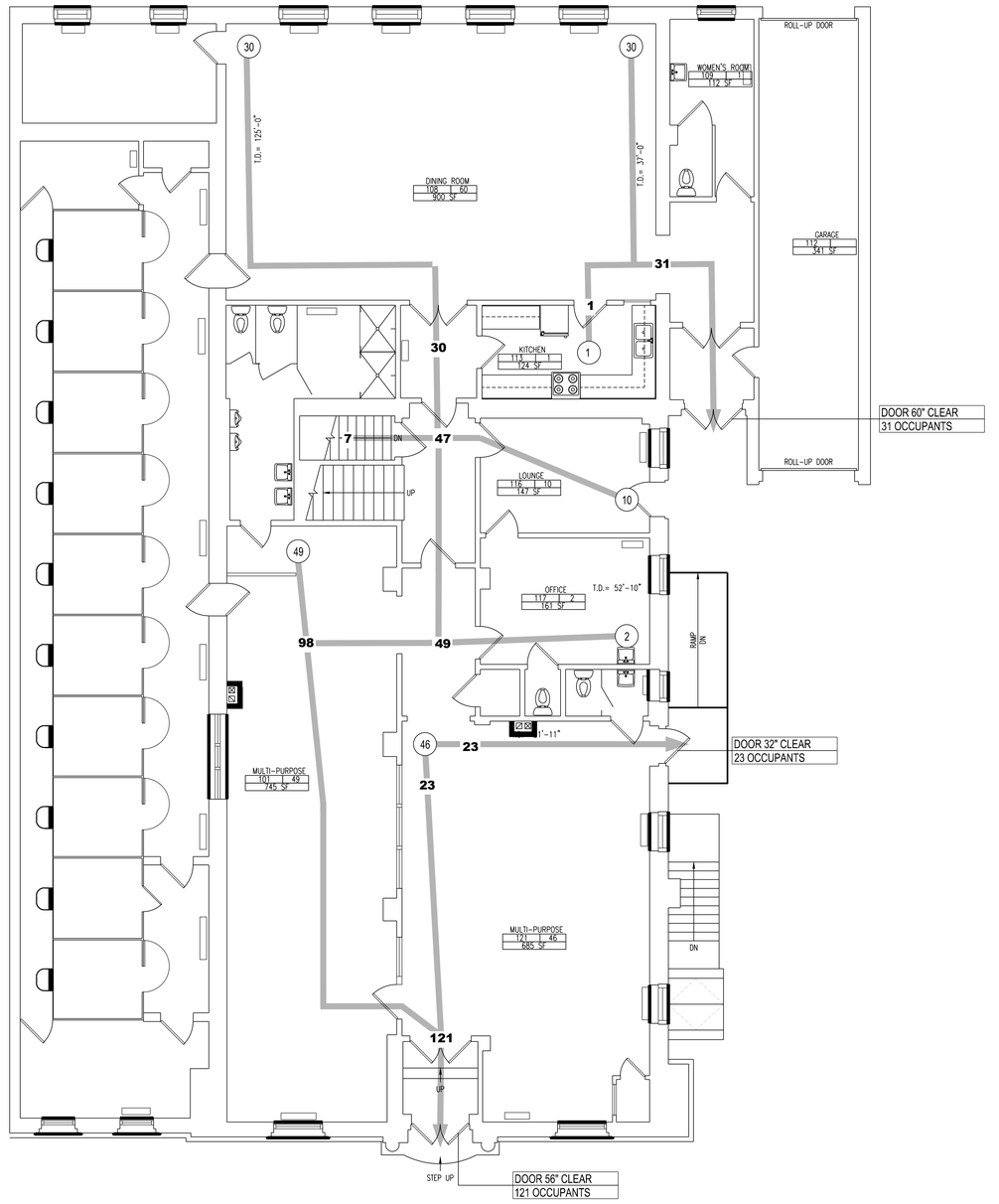
- THERE WILL BE NO CHANGE IN NUMBER OR CONFIGURATION OF PLUMBING FIXTURES AS PART OF THIS PROJECT.

A20 CODE ANALYSIS



A15 FIRST FLOOR PLAN - LIFE SAFETY PLAN

SCALE: 3/16" = 1'–0"



J8 TYPICAL SIGNAGE MOUNTING LOCATION

SCALE: 3/16" = 1'–0"

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TRENTON, NEW JERSEY

DATE:	03/19/25
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DRAWN BY:	HP
CHECKED BY:	PO

SHEET TITLE:
LIFE SAFETY PLANS AND INFORMATION

DRAWING NO.:
LS001

CCH PROJECT NO: 2070.03

GENERAL DEMOLITION PLAN NOTES

UNLESS OTHERWISE NOTED, GENERAL DEMOLITION NOTES REFER TO ALL TYPICAL CONDITIONS THROUGHOUT THE BUILDING. SPECIFIC CONDITIONS REQUIRING CLARIFICATION ARE MARKED ON PLANS.

1. PROTECT EXISTING MATERIALS, DETAILS AND FIXTURES WHICH ARE NOT TO BE DEMOLISHED.
2. MARK LOCATION OF ALL UTILITIES TO REMAIN PRIOR TO DEMOLITION.
3. NOTIFY ARCHITECT / OWNER PRIOR TO START OF DEMOLITION WORK.
4. CEASE OPERATIONS IMMEDIATELY IF STRUCTURE APPEARS IN DANGER. NOTIFY ARCHITECT / OWNER IMMEDIATELY. DO NOT RESUME OPERATIONS UNTIL DIRECTED.
5. MAINTAIN PROTECTED EGRESS AND ACCESS TO WORK.
6. DISCONNECT, CAP AND IDENTIFY DESIGNATED UTILITIES WITHIN DEMOLITION AREAS.
7. DEMOLISH IN AN ORDERLY AND CAREFUL MANNER. PROTECT EXISTING SUPPORTING STRUCTURAL MEMBERS.
8. REMOVE ALL DEMOLISHED MATERIALS FROM SITE AND LEGALLY DISPOSE.
9. UTILIZE OSHA SAFETY PRECAUTIONS AS REQUIRED.
10. ALL EQUIPMENT MUST MEET LOCAL NOISE ORDINANCES.
11. GENERAL CONTRACTOR TO SUBMIT STAGING PLANS AND DEMOLITION SCHEDULE FOR APPROVAL PRIOR TO COMMENCING WORK. CONTRACTOR TO SHOW LOCATION OF ALL CONSTRUCTION FENCES, DUMPSTERS, CHUTES, ETC ON STAGING PLAN
12. ITEMS SHOWN TO BE DEMOLISHED ON PLANS FOR REFERENCE ONLY. THE CONTRACTOR MUST INSPECT THE SITE AND COMPLETELY FAMILIARIZE HIM/HERSELF WITH THE ITEMS TO BE REMOVED. QUESTIONS ABOUT ITEMS TO BE REMOVED OR TO REMAIN MUST BE GIVEN TO THE ARCHITECT IN WRITING PRIOR TO PROVIDING BIDS
13. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCY OR DEVIATION BETWEEN DWGS. AND ANY FIELD VERIFIED CONDITIONS PRIOR TO COMMENCING WORK.
14. DO NOT SCALE DWGS. ALL MEASUREMENTS MUST BE CONFIRMED IN FIELD. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.
15. COORDINATE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT, FIXTURES, CONDUIT, WIRING, ETC. WITH ELECTRICAL DRAWINGS.
16. COORDINATE REMOVAL OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, RADIATORS, ETC. AS PER MECHANICAL DRAWINGS.
17. COORDINATE REMOVAL OF EXISTING PLUMBING EQUIPMENT, PIPING, FIXTURES, ETC. AS PER PLUMBING DRAWINGS.

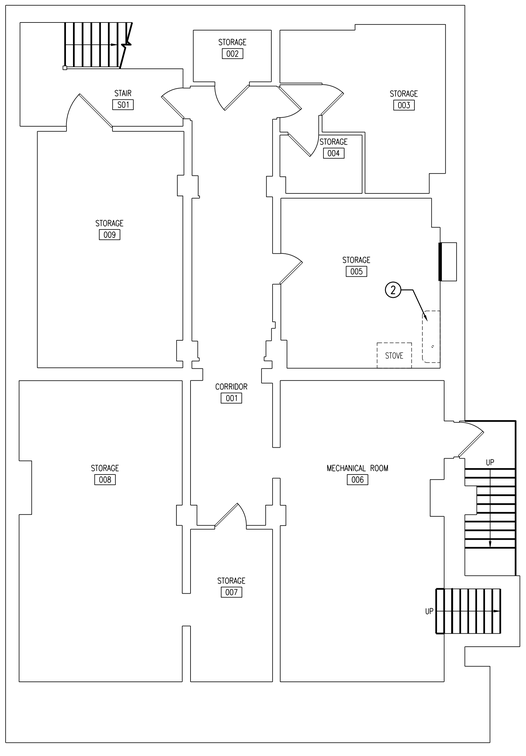
FLOOR PLAN LEGEND

- (1) DEMOLITION KEY-NOTE, SEE LIST BELOW
- WALL OR FIXTURE/ASSOCIATED CONST. TO BE REMOVED COMPLETE.
- EXISTING TO REMAIN; REPAIR AS PER PLANS
- EXISTING DOOR & FRAME TO REMAIN
- EXISTING DOOR & FRAME TO BE DEMOLISHED

SPECIFIC DEMOLITION NOTES

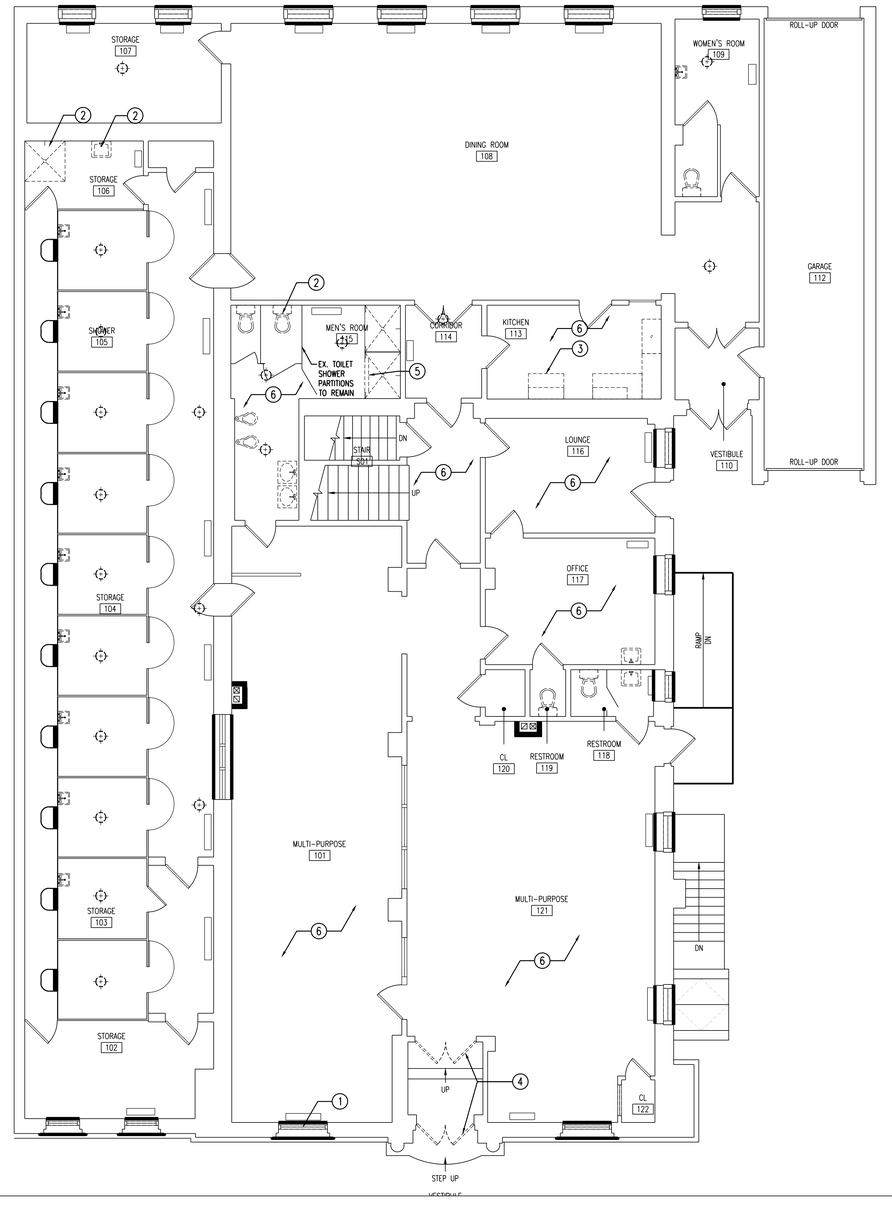
1. DEMO EXISTING WINDOW, TYP. @ 1ST, 2ND, & 3RD FLOORS
2. DEMO PLUMBING FIXTURES, TYP.
3. DEMO KITCHEN MILLWORK & EQUIPMENT
4. DEMO EXISTING DOORS
5. DEMO SHOWER FLOOR TILE AND (1)CURB. PREPARE FOR NEW TILE.
6. DEMO EXITING FLOOR FINISH

N20 | DEMOLITION NOTES AND LEGEND



A20 | BASEMENT DEMOLITION PLAN

SCALE: 3/16" = 1'-0"



A11 | FIRST FLOOR DEMOLITION PLAN

SCALE: 3/16" = 1'-0"

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
CDT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

SUBMISSIONS		
NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

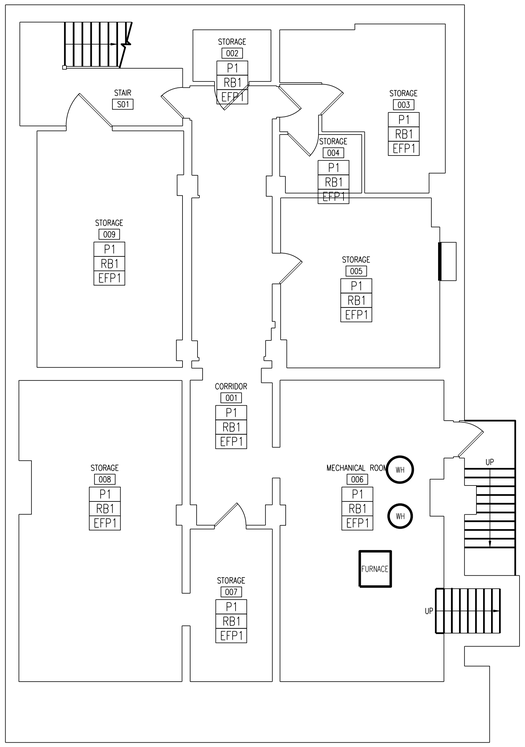
RENOVATION OF
SOUTH BROAD STREET
SENIOR CENTER
TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	HP
CHECKED BY:	PO

SHEET TITLE:
DEMOLITION
FLOOR PLAN

DRAWING NO.:
D-100

CCH PROJECT NO: 2070.03



A20 BASEMENT FLOOR PLAN

SCALE: 3/16" = 1'-0"

GENERAL PLAN NOTES

1. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCY OR DEVIATION BETWEEN DWGS. AND ANY FIELD VERIFIED CONDITIONS PRIOR TO COMMENCING WORK.
2. IF ANY DISCREPANCIES BETWEEN DWGS AND SPECIFICATIONS EXIST, THE MORE STRINGENT SHALL TAKE PRECEDENCE.
3. COORDINATE ALL ROOF PENETRATIONS.
4. INSTALL TEMPORARY SHORING & BRACING AND MAKE SAFE ALL WALLS, CEILINGS, AND DOORS AS REQUIRED. SEE DRAWINGS. FOR MORE INFORMATION TYP.
5. REFER TO DRAWING PLANS FOR TYPES AND LOCATIONS OF LIGHT FIXTURES, TYP.
6. SEE STRUCTURAL DRAWINGS FOR COMPLETE INFORMATION ON FRAMING, FOOTINGS, FOUNDATION WALLS, JOISTS, BEAMS, COLUMNS, LINTELS, PLATES, CONCRETE COMPONENTS AND REINFORCING CLIPS.
7. GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS AND QUANTITIES PRIOR TO ORDERING, FABRICATING OR CONSTRUCTING ANY PART OF THE BUILDING. NOTIFY ARCHITECT IMMEDIATELY WITH ANY AND ALL DISCREPANCIES.
8. NOTIFY OWNER/ARCHITECT 72 HOURS MINIMUM IN ADVANCE OF ANY UTILITY SHUT-OFF
9. GENERAL CONTRACTOR TO COORDINATE WITH OTHER CONTRACTORS ON SITE HIRED UNDER SEPARATE CONTRACT.
10. INSTALL ALL FIXTURES, MATERIALS, AND FINISHES IN STRICT COMPLIANCE WITH MANUFACTURER'S TECHNICAL SPECIFICATIONS, TYP.
11. UNLESS NOTED OTHERWISE, ALL ITEMS SHALL BE FURNISHED BY THE GENERAL CONTRACTOR
12. FOR PROJECTS LOCATED IN NEW JERSEY, THE CONTRACTOR MUST CALL 1-800-272-1000 PRIOR TO THE START OF ANY SITE EXCAVATION TO HELP LOCATE EXISTING UNDERGROUND UTILITIES.
13. ALL CODES HAVING JURISDICTION SHALL BE OBSERVED STRICTLY IN THE CONSTRUCTION OF THE PROJECT, INCLUDING ALL APPLICABLE STATE, CITY, AND COUNTY BUILDING, ZONING, ELECTRICAL, MECHANICAL, PLUMBING, AND FIRE CODES.
14. DETAILS AND SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN A SIMILAR FASHION OR BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION. MODIFICATIONS MAY BE REQUIRED BY THE CONTRACTOR TO ACCOMMODATE FOR MINOR VARIATIONS.
15. ALL INTERIOR STUDS WITH GYPSUM WALL BOARD ARE DIMENSIONED TO THE FACE OF THE WALLBOARD. ALL MASONRY DIMENSIONS ARE TO THE NOMINAL FACE OF THE WALL. ALL EXTERIOR DIMENSIONS ARE TO FINISHED FACE OF WALL, UNLESS OTHERWISE NOTED. CLEAR DIMENSIONS SHALL BE TAKEN FROM THE FINISHED FACE OF WALLS.
16. REFER TO THE FIRE RESISTANCE DIRECTORY (LATEST EDITION) BY UNDERWRITERS LABORATORIES FOR CHARACTERISTICS OF ALL SPECIFIED FIRE RATED ASSEMBLIES.

FLOOR PLAN LEGEND

- X — KEYNOTE; SEE LEGEND BELOW
- NEW WINDOW SEE GLAZING SCHEDULE AND ELEVATIONS
- XXX — WINDOW TAG, SEE GLAZING SCHEDULE AND ELEVATIONS
- NEW DOOR AND FRAME AS SCHEDULED; FULLY GLAZED TYPICAL EXCEPT AT STORAGE ROOMS OR OTHERWISE NOTED
- X — NEW DOOR TAG, SEE DOOR SCHEDULE
- EXISTING DOOR & FRAME TO REMAIN

FINISH PLAN LEGEND

- ACT X — CEILING FINISH
- P.X — WALL FINISH
- B.X — BASE FINISH
- C.X — FLOOR FINISH
- CHANGE IN FLOOR FINISH
- FLOOR LAYOUT DIRECTION

2070.03_SOUTH WARD SENIOR CENTER - FINISH SCHEDULE (BASIS OF DESIGN)

CEILING FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
CP1	CEILING PAINT	SHERWIN WILLIAMS	N/A	N/A	PURE WHITE / SW7006	FLAT	N/A	PER MANUFACTURERS INSTRUCTION	

WALL FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
P1	PAINT	SHERWIN WILLIAMS	N/A	N/A	DRIFT OF MIST / SW9166	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P2	PAINT	SHERWIN WILLIAMS	N/A	N/A	BLUSTER SKY / SW9140	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P3	PAINT	SHERWIN WILLIAMS	N/A	N/A	DEBONAIR / SW9139	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P4	PAINT	SHERWIN WILLIAMS	N/A	N/A	STARDEW / SW9138	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P5	PAINT	SHERWIN WILLIAMS	N/A	N/A	UNCERTAIN GRAY / SW6234	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P6	PAINT	SHERWIN WILLIAMS	N/A	N/A	FOGGY DAY / SW6235	SEMI-GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	BASEMENT DOORS AND TRIMS
P7	PAINT	SHERWIN WILLIAMS	N/A	N/A	DEBONAIR / SW9139	SEMIGLOSS	N/A	PER MANUFACTURERS INSTRUCTION	STORAGE METAL DOORS
CWT1	CERAMIC WALL TILE	EMSER	N/A	CATCH	ICE	GLOSS	3 X 12	LAYOUT PATTERN: HORIZONTAL STACK. GROUT JOINT RECOMMENDATION: 1/8", GROUT JOINT COLOR: LATICRETE 24 NATURAL GREY	

WALL BASE

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
MTB1	METAL BASE	SCHLUTER SYSTEMS	N/A	DILEX-AHKA / 80	N/A	SATIN ANODIZED ALUMINUM / AE	5/16"	PER MANUFACTURERS INSTRUCTION	
RB1	RUBBER BASE	JOHNSONITE	BASEWORKS	THERMOSET RUBBER / TS	MINK WG / TG6	N/A	4" TOE	PER MANUFACTURERS INSTRUCTION	
WDS1	WOOD STAIN	MINWAX	N/A	PERFOMANCE SERIES	FORRESTER MW 421	GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	FIRST FLOOR DOORS AND TRIMS

FLOOR FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
EFP1	EPOXY FLOOR PAINT	SHERWIN WILLIAMS	N/A	2-COAT PAINT SYSTEM	CITYSCAPE/ SW 7067	N/A	N/A	RESURFIMIE 3579 BASE AND RESFLOR 3746; PROVIDE WITH GRIT ADDATIVE IN TOPCOAT	
LVT1	LUXURY VINYL TILE	SHAW CONTRACT	UNITE	INLET / 09096V	THATCH / 26720	N/A	9 X 48	PER MANUFACTURERS INSTRUCTION	
PT1	PORCELAIN TILE	TRINITY TILE	N/A	POPLIN	ROPE	N/A	12 X 24	LAYOUT PATTERN: 1/3 OFFSET. GROUT JOINT RECOMMENDATION: 3/16". GROUT JOINT COLOR: LATICRETE 24 NATURAL GREY	
WDS1	WOOD STAIN	MINWAX	N/A	PERFOMANCE SERIES	FORRESTER MW 421	GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	WOOD FLOORS

MISCELLANEOUS FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
PLAM1	PLASTIC LAMINATE	FORMICA	N/A	N/A	CHAMBRAY FABRIC / 06130	MATTE / 58	N/A	PER MANUFACTURERS INSTRUCTION	
SS1	SOLID SURFACE	CORIAN	N/A	N/A	SEPIA LINEAR	N/A	N/A	PER MANUFACTURERS INSTRUCTION	
TP1	TOILET PARTITION	ASI GLOBAL PARTITIONS	COLOR-THRU PHENOLIC	FLOOR ANCHORED. OVERHEAD BRACED	TBD	N/A	72 INCH WITH ENHANCED PRIVACY OPTIONS	PROVIDE STAINLESS STEEL HARDWARE OPTIONS	RESTROOM

TRIMS AND TRANSITIONS

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
THR1	THRESHOLD	GARDEN STATE TILE	N/A	HOLLYWOOD DOUBLE BEVEL	WHITE CARRARA	N/A	4" X 36"	PER MANUFACTURERS INSTRUCTION	
TRNS1	TRANSITION (LVT TO EFP)	SCHLUTER	TRANSITION PROFILES FOR FLOORS	TBD	N/A	SATIN ANONDIZED ALUMINUM	3/8"	PER MANUFACTURERS INSTRUCTION	
TRNS2	TRANSITION (LVT TO WDS)	SCHLUTER	TRANSITION PROFILES FOR FLOORS	TBD	N/A	SATIN ANONDIZED ALUMINUM	3/8"	PER MANUFACTURERS INSTRUCTION	

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
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196 Princeton-Hightstown Rd,
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(609) 799-8336

SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

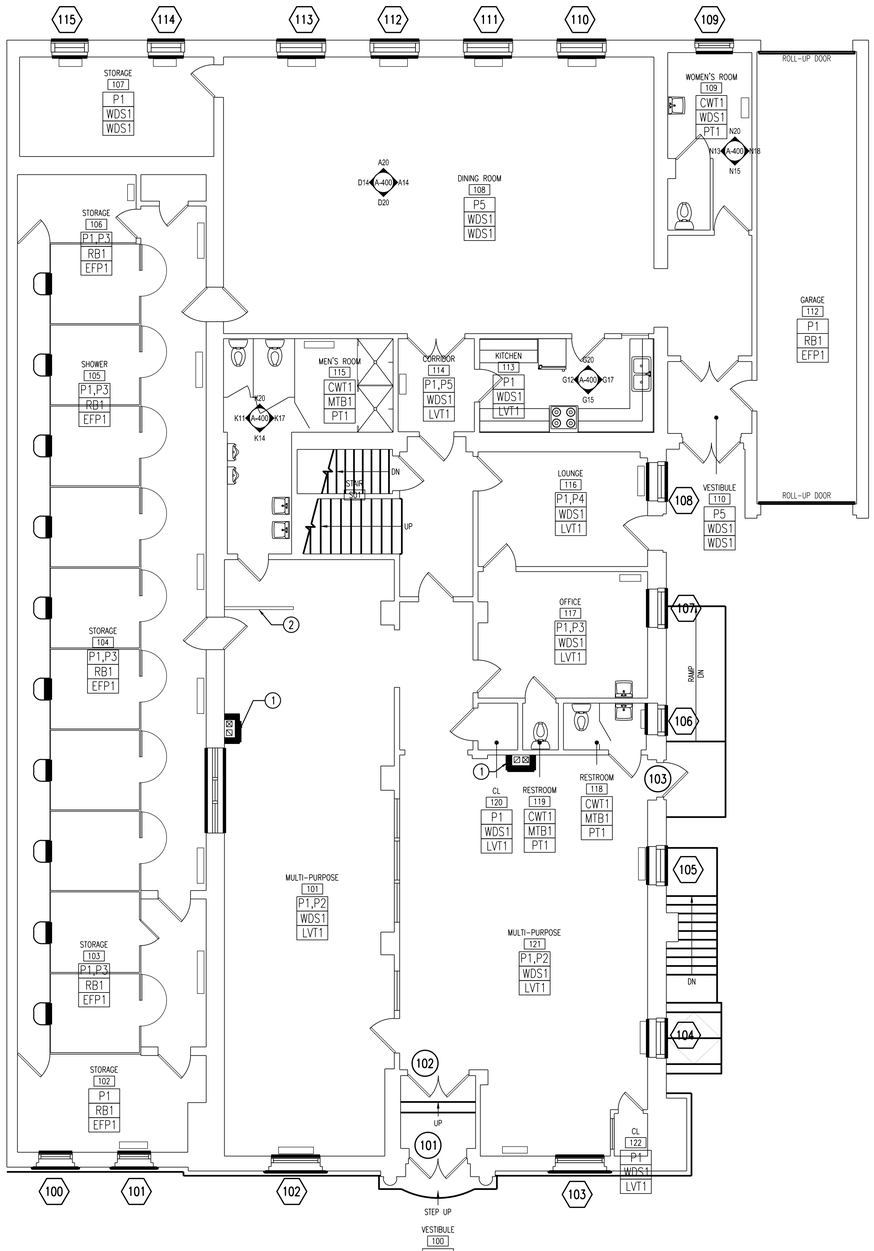
RENOVATION OF SOUTH BROAD STREET SENIOR CENTER
TRENTON, NEW JERSEY

DATE: 03/19/25
SCALE: AS NOTED
DRAWN BY: HP
CHECKED BY: PO

SHEET TITLE:
BASEMENT FLOOR PLAN

DRAWING NO.:
A-100

CCH PROJECT NO: 2070.03



A20 FIRST FLOOR PLAN

SCALE: 3/16" = 1'-0"

GENERAL PLAN NOTES

1. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCY OR DEVIATION BETWEEN DWGS. AND ANY FIELD VERIFIED CONDITIONS PRIOR TO COMMENCING WORK.
2. IF ANY DISCREPANCIES BETWEEN DWGS AND SPECIFICATIONS EXIST, THE MORE STRINGENT SHALL TAKE PRECEDENCE.
3. COORDINATE ALL ROOF PENETRATIONS.
4. INSTALL TEMPORARY SHORING & BRACING AND MAKE SAFE ALL WALLS, CEILINGS, AND DOORS AS REQUIRED. SEE DRAWINGS. FOR MORE INFORMATION TYP.
5. REFER TO DRAWING PLANS FOR TYPES AND LOCATIONS OF LIGHT FIXTURES, TYP.
6. SEE STRUCTURAL DRAWINGS FOR COMPLETE INFORMATION ON FRAMING, FOOTINGS, FOUNDATION WALLS, JOISTS, BEAMS, COLUMNS, LINTELS, PLATES, CONCRETE COMPONENTS AND REINFORCING CLIPS.
7. GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS AND QUANTITIES PRIOR TO ORDERING, FABRICATING OR CONSTRUCTING ANY PART OF THE BUILDING. NOTIFY ARCHITECT IMMEDIATELY WITH ANY AND ALL DISCREPANCIES.
8. NOTIFY OWNER/ARCHITECT 72 HOURS MINIMUM IN ADVANCE OF ANY UTILITY SHUT-OFF
9. GENERAL CONTRACTOR TO COORDINATE WITH OTHER CONTRACTORS ON SITE HIRED UNDER SEPARATE CONTRACT.
10. INSTALL ALL FIXTURES, MATERIALS, AND FINISHES IN STRICT COMPLIANCE WITH MANUFACTURER'S TECHNICAL SPECIFICATIONS, TYP.
11. UNLESS NOTED OTHERWISE, ALL ITEMS SHALL BE FURNISHED BY THE GENERAL CONTRACTOR
12. FOR PROJECTS LOCATED IN NEW JERSEY, THE CONTRACTOR MUST CALL 1-800-272-1000 PRIOR TO THE START OF ANY SITE EXCAVATION TO HELP LOCATE EXISTING UNDERGROUND UTILITIES.
13. ALL CODES HAVING JURISDICTION SHALL BE OBSERVED STRICTLY IN THE CONSTRUCTION OF THE PROJECT, INCLUDING ALL APPLICABLE STATE, CITY, AND COUNTY BUILDING, ZONING, ELECTRICAL, MECHANICAL, PLUMBING, AND FIRE CODES.
14. DETAILS AND SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN A SIMILAR FASHION OR BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION. MODIFICATIONS MAY BE REQUIRED BY THE CONTRACTOR TO ACCOMMODATE FOR MINOR VARIATIONS.
15. ALL INTERIOR STUDS WITH GYPSUM WALL BOARD ARE DIMENSIONED TO THE FACE OF THE WALLBOARD. ALL MASONRY DIMENSIONS ARE TO THE NOMINAL FACE OF THE WALL. ALL EXTERIOR DIMENSIONS ARE TO FINISHED FACE OF WALL, UNLESS OTHERWISE NOTED. CLEAR DIMENSIONS SHALL BE TAKEN FROM THE FINISHED FACE OF WALLS.
16. REFER TO THE FIRE RESISTANCE DIRECTORY (LATEST EDITION) BY UNDERWRITERS LABORATORIES FOR CHARACTERISTICS OF ALL SPECIFIED FIRE RATED ASSEMBLIES.

FLOOR PLAN LEGEND

- X — KEYNOTE; SEE LEGEND BELOW
- NEW WINDOW SEE GLAZING SCHEDULE AND ELEVATIONS
- XXX — WINDOW TAG, SEE GLAZING SCHEDULE AND ELEVATIONS
- NEW DOOR AND FRAME AS SCHEDULED; FULLY GLAZED TYPICAL EXCEPT AT STORAGE ROOMS OR OTHERWISE NOTED
- X — NEW DOOR TAG, SEE DOOR SCHEDULE
- EXISTING DOOR & FRAME TO REMAIN

FINISH PLAN LEGEND

- ACT X — CEILING FINISH
- P.X — WALL FINISH
- B.X — BASE FINISH
- C.X — FLOOR FINISH
- CHANGE IN FLOOR FINISH
- FLOOR LAYOUT DIRECTION

SPECIFIC NOTES

1. ½" GYP. BD. ON WD 2x4 AT DUCT ENCLOSURE. SEE MECHANICAL DRAWINGS.
2. EXISTING FREESTANDING PARTITION TO REMIAN.

2070.03_SOUTH WARD SENIOR CENTER - FINISH SCHEDULE (BASIS OF DESIGN)

CEILING FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
CP1	CEILING PAINT	SHERWIN WILLIAMS	N/A	N/A	PURE WHITE / SW7005	FLAT	N/A	PER MANUFACTURERS INSTRUCTION	

WALL FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
P1	PAINT	SHERWIN WILLIAMS	N/A	N/A	DRIFT OF MIST / SW9166	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P2	PAINT	SHERWIN WILLIAMS	N/A	N/A	BLUSTER SKY / SW9140	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P3	PAINT	SHERWIN WILLIAMS	N/A	N/A	DEBONAIR / SW9139	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P4	PAINT	SHERWIN WILLIAMS	N/A	N/A	STARDEW / SW9138	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P5	PAINT	SHERWIN WILLIAMS	N/A	N/A	UNCERTAIN GRAY / SW6234	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P6	PAINT	SHERWIN WILLIAMS	N/A	N/A	FOGGY DAY / SW6235	SEMI-GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	BASEMENT DOORS AND TRIMS
P7	PAINT	SHERWIN WILLIAMS	N/A	N/A	DEBONAIR / SW9139	SEMIGLOSS	N/A	PER MANUFACTURERS INSTRUCTION	STORAGE METAL DOORS
CWT1	CERAMIC WALL TILE	EMSER	N/A	CATCH	ICE	GLOSS	3 X 12	LAYOUT PATTERN: HORIZONTAL STACK. GROUT JOINT RECOMMENDATION: 1/8", GROUT JOINT COLOR: LATICRETE 24 NATURAL GREY	

WALL BASE

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
MTB1	METAL BASE	SCHLUTER SYSTEMS	N/A	DILEX-AHKA / 80	N/A	SATIN ANODIZED ALUMINUM / AE	5/16"	PER MANUFACTURERS INSTRUCTION	
RB1	RUBBER BASE	JOHNSONITE	BASEWORKS	THERMOSET RUBBER / TS	MINK WG / TG6	N/A	4" TOE	PER MANUFACTURERS INSTRUCTION	
WDS1	WOOD STAIN	MINWAX	N/A	PERFOMANCE SERIES	FORRESTER MW 421	GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	FIRST FLOOR DOORS AND TRIMS

FLOOR FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
EFP1	EPOXY FLOOR PAINT	SHERWIN WILLIAMS	N/A	2-COAT PAINT SYSTEM	CITYSCAPE/ SW 7067	N/A	N/A	RESUPRIME 3579 BASE AND RESFLOR 3746, PROVIDE WITH GRIT ADDATIVE IN TOPCOAT	
LVT1	LUXURY VINYL TILE	SHAW CONTRACT	UNITE	INLET / 05096V	THATCH / 76720	N/A	9 X 48	PER MANUFACTURERS INSTRUCTION	
PT1	PORCELAIN TILE	TRINITY TILE	N/A	POPLIN	ROPE	N/A	12 X 24	LAYOUT PATTERN: 1/3 OFFSET, GROUT JOINT RECOMMENDATION: 3/16", GROUT JOINT COLOR: LATICRETE 24 NATURAL GREY	
WDS1	WOOD STAIN	MINWAX	N/A	PERFOMANCE SERIES	FORRESTER MW 421	GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	WOOD FLOORS

MISCELLANEOUS FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
PLAM1	PLASTIC LAMINATE	FORMICA	N/A	N/A	CHAMBRAY FABRIC / 06130	MATTE / 58	N/A	PER MANUFACTURERS INSTRUCTION	
SS1	SOLID SURFACE	CORIAN	N/A	N/A	SEPIA LINEAR	N/A	N/A	PER MANUFACTURERS INSTRUCTION	
TP1	TOILET PARTITION	ASI GLOBAL PARTITIONS	COLOR-THRU PHENOLIC	FLOOR ANCHORED, OVERHEAD BRACED	TBD	N/A	72 INCH WITH ENHANCED PRIVACY OPTIONS	PROVIDE STAINLESS STEEL HARDWARE OPTIONS	RESTROOM

TRIMS AND TRANSITIONS

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
THR1	THRESHOLD	GARDEN STATE TILE	N/A	HOLLYWOOD DOUBLE BEVEL	WHITE CARRARA	N/A	4" X 36"	PER MANUFACTURERS INSTRUCTION	
TRNS1	TRANSITION (LVT TO EFP)	SCHLUTER	TRANSITION PROFILES FOR FLOORS	TBD	N/A	SATIN ANONDIZED ALUMINUM	3/8"	PER MANUFACTURERS INSTRUCTION	
TRNS2	TRANSITION (LVT TO WDS)	SCHLUTER	TRANSITION PROFILES FOR FLOORS	TBD	N/A	SATIN ANONDIZED ALUMINUM	3/8"	PER MANUFACTURERS INSTRUCTION	

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
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tel: (609) 883-8383
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OWNER:
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196 Princeton-Hightstown Rd,
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SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

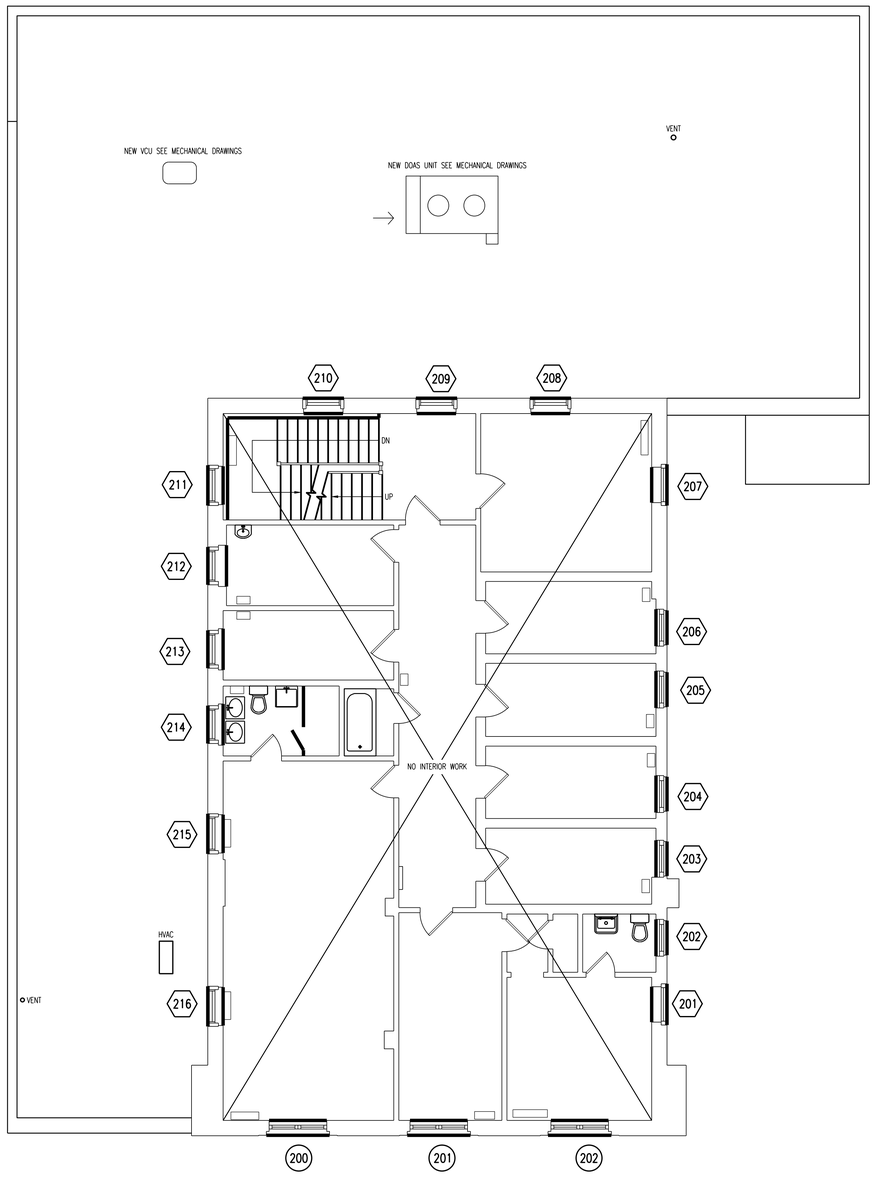
RENOVATION OF SOUTH BROAD STREET SENIOR CENTER
TRENTON, NEW JERSEY

DATE: 03/19/25
SCALE: AS NOTED
DRAWN BY: HP
CHECKED BY: PO

SHEET TITLE:
FIRST FLOOR PLAN

DRAWING NO.:
A-101

CCH PROJECT NO: 2070.03



A20 SECOND FLOOR PLAN

SCALE: 3/16" = 1'-0"

GENERAL PLAN NOTES

1. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCY OR DEVIATION BETWEEN DWGS. AND ANY FIELD VERIFIED CONDITIONS PRIOR TO COMMENCING WORK.
2. IF ANY DISCREPANCIES BETWEEN DWGS AND SPECIFICATIONS EXIST, THE MORE STRINGENT SHALL TAKE PRECEDENCE.
3. COORDINATE ALL ROOF PENETRATIONS.
4. INSTALL TEMPORARY SHORING & BRACING AND MAKE SAFE ALL WALLS, CEILINGS, AND DOORS AS REQUIRED. SEE DRAWINGS. FOR MORE INFORMATION TYP.
5. REFER TO DRAWING PLANS FOR TYPES AND LOCATIONS OF LIGHT FIXTURES, TYP.
6. SEE STRUCTURAL DRAWINGS FOR COMPLETE INFORMATION ON FRAMING, FOOTINGS, FOUNDATION WALLS, JOISTS, BEAMS, COLUMNS, LINTELS, PLATES, CONCRETE COMPONENTS AND REINFORCING CLIPS.
7. GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS AND QUANTITIES PRIOR TO ORDERING, FABRICATING OR CONSTRUCTING ANY PART OF THE BUILDING. NOTIFY ARCHITECT IMMEDIATELY WITH ANY AND ALL DISCREPANCIES.
8. NOTIFY OWNER/ARCHITECT 72 HOURS MINIMUM IN ADVANCE OF ANY UTILITY SHUT-OFF
9. GENERAL CONTRACTOR TO COORDINATE WITH OTHER CONTRACTORS ON SITE HIRED UNDER SEPARATE CONTRACT.
10. INSTALL ALL FIXTURES, MATERIALS, AND FINISHES IN STRICT COMPLIANCE WITH MANUFACTURER'S TECHNICAL SPECIFICATIONS, TYP.
11. UNLESS NOTED OTHERWISE, ALL ITEMS SHALL BE FURNISHED BY THE GENERAL CONTRACTOR
12. FOR PROJECTS LOCATED IN NEW JERSEY, THE CONTRACTOR MUST CALL 1-800-272-1000 PRIOR TO THE START OF ANY SITE EXCAVATION TO HELP LOCATE EXISTING UNDERGROUND UTILITIES.
13. ALL CODES HAVING JURISDICTION SHALL BE OBSERVED STRICTLY IN THE CONSTRUCTION OF THE PROJECT, INCLUDING ALL APPLICABLE STATE, CITY, AND COUNTY BUILDING, ZONING, ELECTRICAL, MECHANICAL, PLUMBING, AND FIRE CODES.
14. DETAILS AND SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN A SIMILAR FASHION OR BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION. MODIFICATIONS MAY BE REQUIRED BY THE CONTRACTOR TO ACCOMMODATE FOR MINOR VARIATIONS.
15. ALL INTERIOR STUDS WITH GYPSUM WALL BOARD ARE DIMENSIONED TO THE FACE OF THE WALLBOARD. ALL MASONRY DIMENSIONS ARE TO THE NOMINAL FACE OF THE WALL. ALL EXTERIOR DIMENSIONS ARE TO FINISHED FACE OF WALL, UNLESS OTHERWISE NOTED. CLEAR DIMENSIONS SHALL BE TAKEN FROM THE FINISHED FACE OF WALLS.
16. REFER TO THE FIRE RESISTANCE DIRECTORY (LATEST EDITION) BY UNDERWRITERS LABORATORIES FOR CHARACTERISTICS OF ALL SPECIFIED FIRE RATED ASSEMBLIES.

FLOOR PLAN LEGEND

- X — KEYNOTE; SEE LEGEND BELOW
- NEW WINDOW SEE GLAZING SCHEDULE AND ELEVATIONS
- XXX — WINDOW TAG, SEE GLAZING SCHEDULE AND ELEVATIONS
- NEW DOOR AND FRAME AS SCHEDULED; FULLY GLAZED TYPICAL EXCEPT AT STORAGE ROOMS OR OTHERWISE NOTED
- X — NEW DOOR TAG, SEE DOOR SCHEDULE
- EXISTING DOOR & FRAME TO REMAIN

FINISH PLAN LEGEND

- ACT X — CEILING FINISH
- P.X — WALL FINISH
- B.X — BASE FINISH
- C.X — FLOOR FINISH
- CHANGE IN FLOOR FINISH
- FLOOR LAYOUT DIRECTION

SPECIFIC NOTES

1. ½" GYP. BD. ON WD 2x4 AT DUCT ENCLOSURE. SEE MECHANICAL DRAWINGS.
2. EXISTING FREESTANDING PARTITION TO REMIAN.

2070.03_SOUTH WARD SENIOR CENTER - FINISH SCHEDULE (BASIS OF DESIGN)

CEILING FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
CP1	CEILING PAINT	SHERWIN WILLIAMS	N/A	N/A	PURE WHITE / SW7005	FLAT	N/A	PER MANUFACTURERS INSTRUCTION	

WALL FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
P1	PAINT	SHERWIN WILLIAMS	N/A	N/A	DRIFT OF MIST / SW9166	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P2	PAINT	SHERWIN WILLIAMS	N/A	N/A	BLUSTER SKY / SW9140	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P3	PAINT	SHERWIN WILLIAMS	N/A	N/A	DEBONAIR / SW9139	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P4	PAINT	SHERWIN WILLIAMS	N/A	N/A	STARDEW / SW9138	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P5	PAINT	SHERWIN WILLIAMS	N/A	N/A	UNCERTAIN GRAY / SW6234	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P6	PAINT	SHERWIN WILLIAMS	N/A	N/A	FOGGY DAY / SW6235	SEMI-GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	BASEMENT DOORS AND TRIMS
P7	PAINT	SHERWIN WILLIAMS	N/A	N/A	DEBONAIR / SW9139	SEMIGLOSS	N/A	PER MANUFACTURERS INSTRUCTION	STORAGE METAL DOORS
CWT1	CERAMIC WALL TILE	EMSER	N/A	CATCH	ICE	GLOSS	3 X 12	LAYOUT PATTERN: HORIZONTAL STACK. GROUT JOINT RECOMMENDATION: 1/8", GROUT JOINT COLOR: LATICRETE 24 NATURAL GREY	

WALL BASE

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
MTB1	METAL BASE	SCHLUTER SYSTEMS	N/A	DILEX-AHKA / 80	N/A	SATIN ANODIZED ALUMINUM / AE	5/16"	PER MANUFACTURERS INSTRUCTION	
RB1	RUBBER BASE	JOHNSONITE	BASEWORKS	THERMOSET RUBBER / TS	MINK WG / TG6	N/A	4" TOE	PER MANUFACTURERS INSTRUCTION	
WDS1	WOOD STAIN	MINWAX	N/A	PERFOMANCE SERIES	FORRESTER MW 421	GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	FIRST FLOOR DOORS AND TRIMS

FLOOR FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
EFP1	EPOXY FLOOR PAINT	SHERWIN WILLIAMS	N/A	2-COAT PAINT SYSTEM	CITYSCAPE/ SW 7067	N/A	N/A	RESUPRIME 3579 BASE AND RESFLOR 3746; PROVIDE WITH GRIT ADDATIVE IN TOPCOAT	
LVT1	LUXURY VINYL TILE	SHAW CONTRACT	UNITE	INLET / 09096V	THATCH / 26720	N/A	9 X 48	PER MANUFACTURERS INSTRUCTION	
PT1	PORCELAIN TILE	TRINITY TILE	N/A	POPLIN	ROPE	N/A	12 X 24	LAYOUT PATTERN: 1/3 OFFSET, GROUT JOINT RECOMMENDATION: 3/16", GROUT JOINT COLOR: LATICRETE 24 NATURAL GREY	
WDS1	WOOD STAIN	MINWAX	N/A	PERFOMANCE SERIES	FORRESTER MW 421	GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	WOOD FLOORS

MISCELLANEOUS FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
PLAM1	PLASTIC LAMINATE	FORMICA	N/A	N/A	CHAMBRAY FABRIC / 06130	MATTE / 58	N/A	PER MANUFACTURERS INSTRUCTION	
SS1	SOLID SURFACE	CORIAN	N/A	N/A	SEPIA LINEAR	N/A	N/A	PER MANUFACTURERS INSTRUCTION	
TP1	TOILET PARTITION	ASI GLOBAL PARTITIONS	COLOR-THRU PHENOLIC	FLOOR ANCHORED, OVERHEAD BRACED	TBD	N/A	72 INCH WITH ENHANCED PRIVACY OPTIONS	PROVIDE STAINLESS STEEL HARDWARE OPTIONS	RESTROOM

TRIMS AND TRANSITIONS

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
THR1	THRESHOLD	GARDEN STATE TILE	N/A	HOLLYWOOD DOUBLE BEVEL	WHITE CARRARA	N/A	4" X 36"	PER MANUFACTURERS INSTRUCTION	
TRNS1	TRANSITION (LVT TO EFP)	SCHLUTER	TRANSITION PROFILES FOR FLOORS	TBD	N/A	SATIN ANONDIZED ALUMINUM	3/8"	PER MANUFACTURERS INSTRUCTION	
TRNS2	TRANSITION (LVT TO WDS)	SCHLUTER	TRANSITION PROFILES FOR FLOORS	TBD	N/A	SATIN ANONDIZED ALUMINUM	3/8"	PER MANUFACTURERS INSTRUCTION	

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
CDT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER
TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	HP
CHECKED BY:	PO

SHEET TITLE:
SECOND FLOOR PLAN

DRAWING NO.:
A-102

CCH PROJECT NO: 2070.03

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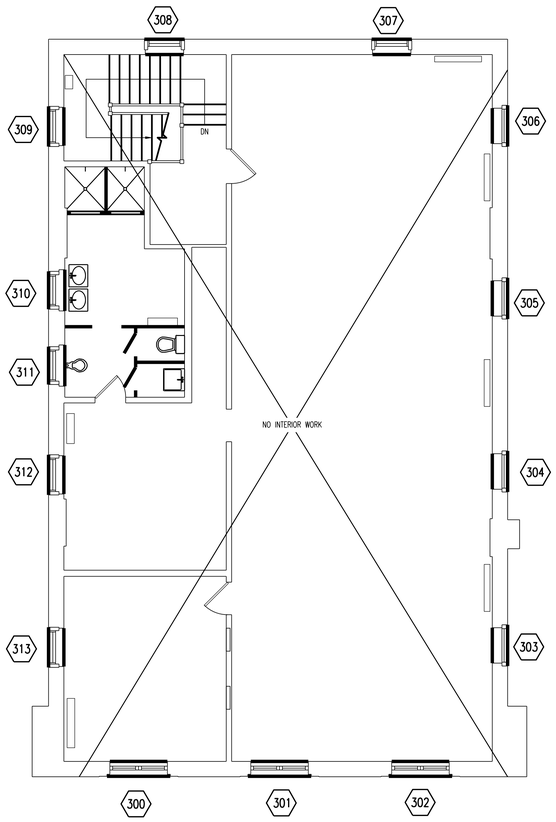


A20 THIRD FLOOR PLAN

SCALE: 3/16" = 1'-0"

GENERAL PLAN NOTES

1. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCY OR DEVIATION BETWEEN DWGS. AND ANY FIELD VERIFIED CONDITIONS PRIOR TO COMMENCING WORK.
2. IF ANY DISCREPANCIES BETWEEN DWGS AND SPECIFICATIONS EXIST, THE MORE STRINGENT SHALL TAKE PRECEDENCE.
3. COORDINATE ALL ROOF PENETRATIONS.
4. INSTALL TEMPORARY SHORING & BRACING AND MAKE SAFE ALL WALLS, CEILINGS, AND DOORS AS REQUIRED. SEE DRAWINGS. FOR MORE INFORMATION TYP.
5. REFER TO DRAWING PLANS FOR TYPES AND LOCATIONS OF LIGHT FIXTURES, TYP.
6. SEE STRUCTURAL DRAWINGS FOR COMPLETE INFORMATION ON FRAMING, FOOTINGS, FOUNDATION WALLS, JOISTS, BEAMS, COLUMNS, LINTELS, PLATES, CONCRETE COMPONENTS AND REINFORCING CLIPS.
7. GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS AND QUANTITIES PRIOR TO ORDERING, FABRICATING OR CONSTRUCTING ANY PART OF THE BUILDING. NOTIFY ARCHITECT IMMEDIATELY WITH ANY AND ALL DISCREPANCIES.
8. NOTIFY OWNER/ARCHITECT 72 HOURS MINIMUM IN ADVANCE OF ANY UTILITY SHUT-OFF
9. GENERAL CONTRACTOR TO COORDINATE WITH OTHER CONTRACTORS ON SITE HIRED UNDER SEPARATE CONTRACT.
10. INSTALL ALL FIXTURES, MATERIALS, AND FINISHES IN STRICT COMPLIANCE WITH MANUFACTURER'S TECHNICAL SPECIFICATIONS, TYP.
11. UNLESS NOTED OTHERWISE, ALL ITEMS SHALL BE FURNISHED BY THE GENERAL CONTRACTOR
12. FOR PROJECTS LOCATED IN NEW JERSEY, THE CONTRACTOR MUST CALL 1-800-272-1000 PRIOR TO THE START OF ANY SITE EXCAVATION TO HELP LOCATE EXISTING UNDERGROUND UTILITIES.
13. ALL CODES HAVING JURISDICTION SHALL BE OBSERVED STRICTLY IN THE CONSTRUCTION OF THE PROJECT, INCLUDING ALL APPLICABLE STATE, CITY, AND COUNTY BUILDING, ZONING, ELECTRICAL, MECHANICAL, PLUMBING, AND FIRE CODES.
14. DETAILS AND SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN A SIMILAR FASHION OR BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION. MODIFICATIONS MAY BE REQUIRED BY THE CONTRACTOR TO ACCOMMODATE FOR MINOR VARIATIONS.
15. ALL INTERIOR STUDS WITH GYPSUM WALL BOARD ARE DIMENSIONED TO THE FACE OF THE WALLBOARD. ALL MASONRY DIMENSIONS ARE TO THE NOMINAL FACE OF THE WALL. ALL EXTERIOR DIMENSIONS ARE TO FINISHED FACE OF WALL, UNLESS OTHERWISE NOTED. CLEAR DIMENSIONS SHALL BE TAKEN FROM THE FINISHED FACE OF WALLS.
16. REFER TO THE FIRE RESISTANCE DIRECTORY (LATEST EDITION) BY UNDERWRITERS LABORATORIES FOR CHARACTERISTICS OF ALL SPECIFIED FIRE RATED ASSEMBLIES.

FLOOR PLAN LEGEND

- X — KEYNOTE; SEE LEGEND BELOW
- NEW WINDOW SEE GLAZING SCHEDULE AND ELEVATIONS
- XXX — WINDOW TAG, SEE GLAZING SCHEDULE AND ELEVATIONS
- NEW DOOR AND FRAME AS SCHEDULED; FULLY GLAZED TYPICAL EXCEPT AT STORAGE ROOMS OR OTHERWISE NOTED
- X — NEW DOOR TAG, SEE DOOR SCHEDULE
- EXISTING DOOR & FRAME TO REMAIN

FINISH PLAN LEGEND

- ACT X — CEILING FINISH
- P.X — WALL FINISH
- B.X — BASE FINISH
- C.X — FLOOR FINISH
- CHANGE IN FLOOR FINISH
- FLOOR LAYOUT DIRECTION

SPECIFIC NOTES

1. ½" GYP. BD. ON WD 2x4 AT DUCT ENCLOSURE. SEE MECHANICAL DRAWINGS.
2. EXISTING FREESTANDING PARTITION TO REMIAN.

2070.03_SOUTH WARD SENIOR CENTER - FINISH SCHEDULE (BASIS OF DESIGN)

CEILING FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
CP1	CEILING PAINT	SHERWIN WILLIAMS	N/A	N/A	PURE WHITE / SW7006	FLAT	N/A	PER MANUFACTURERS INSTRUCTION	

WALL FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
P1	PAINT	SHERWIN WILLIAMS	N/A	N/A	DRIFT OF MIST / SW9166	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P2	PAINT	SHERWIN WILLIAMS	N/A	N/A	BLUSTER SKY / SW9140	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P3	PAINT	SHERWIN WILLIAMS	N/A	N/A	DEBONAIR / SW9139	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P4	PAINT	SHERWIN WILLIAMS	N/A	N/A	STARDEW / SW9138	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P5	PAINT	SHERWIN WILLIAMS	N/A	N/A	UNCERTAIN GRAY / SW6234	EGGSHELL	N/A	PER MANUFACTURERS INSTRUCTION	
P6	PAINT	SHERWIN WILLIAMS	N/A	N/A	FOGGY DAY / SW6235	SEMI-GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	BASEMENT DOORS AND TRIMS
P7	PAINT	SHERWIN WILLIAMS	N/A	N/A	DEBONAIR / SW9139	SEMIGLOSS	N/A	PER MANUFACTURERS INSTRUCTION	STORAGE METAL DOORS
CWT1	CERAMIC WALL TILE	EMSER	N/A	CATCH	ICE	GLOSS	3 X 12	LAYOUT PATTERN: HORIZONTAL STACK. GROUT JOINT RECOMMENDATION: 1/8", GROUT JOINT COLOR: LATICRETE 24 NATURAL GREY	

WALL BASE

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
MTB1	METAL BASE	SCHLUTER SYSTEMS	N/A	DILEX-AHKA / 80	N/A	SATIN ANODIZED ALUMINUM / AE	5/16"	PER MANUFACTURERS INSTRUCTION	
RB1	RUBBER BASE	JOHNSONITE	BASEWORKS	THERMOSET RUBBER / TS	MINK WG / TG6	N/A	4" TOE	PER MANUFACTURERS INSTRUCTION	
WDS1	WOOD STAIN	MINWAX	N/A	PERFOMANCE SERIES	FORRESTER MW 421	GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	FIRST FLOOR DOORS AND TRIMS

FLOOR FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
EFP1	EPOXY FLOOR PAINT	SHERWIN WILLIAMS	N/A	2-COAT PAINT SYSTEM	CITYSCAPE/ SW 7067	N/A	N/A	RESURFIRME 35/79 BASE AND RESFLOR 3746; PROVIDE WITH GRIT ADDATIVE IN TOPCOAT	
LVT1	LUXURY VINYL TILE	SHAW CONTRACT	UNITE	INLET / 09265	THATCH / 26720	N/A	9 X 48	PER MANUFACTURERS INSTRUCTION	
PT1	PORCELAIN TILE	TRINITY TILE	N/A	POPLIN	ROPE	N/A	12 X 24	LAYOUT PATTERN: 1/3 OFFSET, GROUT JOINT RECOMMENDATION: 3/16", GROUT JOINT COLOR: LATICRETE 24 NATURAL GREY	
WDS1	WOOD STAIN	MINWAX	N/A	PERFOMANCE SERIES	FORRESTER MW 421	GLOSS	N/A	PER MANUFACTURERS INSTRUCTION	WOOD FLOORS

MISCELLANEOUS FINISHES

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
PLAM1	PLASTIC LAMINATE	FORMICA	N/A	N/A	CHAMBRAY FABRIC / 06130	MATTE / 58	N/A	PER MANUFACTURERS INSTRUCTION	
SS1	SOLID SURFACE	CORIAN	N/A	N/A	SEPIA LINEAR	N/A	N/A	PER MANUFACTURERS INSTRUCTION	
TP1	TOILET PARTITION	ASI GLOBAL PARTITIONS	COLOR-THRU PHENOLIC	FLOOR ANCHORED, OVERHEAD BRACED	TBD	N/A	72 INCH WITH ENHANCED PRIVACY OPTIONS	PROVIDE STAINLESS STEEL HARDWARE OPTIONS	RESTROOM

TRIMS AND TRANSITIONS

TAG	DESCRIPTION	MANUFACTURER	COLLECTION	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	FINISH NAME / NUMBER	SIZE	INSTALL METHOD	LOCATION
THR1	THRESHOLD	GARDEN STATE TILE	N/A	HOLLYWOOD DOUBLE BEVEL	WHITE CARRARA	N/A	4" X 36"	PER MANUFACTURERS INSTRUCTION	
TRNS1	TRANSITION (LVT TO EFP)	SCHLUTER	TRANSITION PROFILES FOR FLOORS	TBD	N/A	SATIN ANONDIZED ALUMINUM	3/8"	PER MANUFACTURERS INSTRUCTION	
TRNS2	TRANSITION (LVT TO WDS)	SCHLUTER	TRANSITION PROFILES FOR FLOORS	TBD	N/A	SATIN ANONDIZED ALUMINUM	3/8"	PER MANUFACTURERS INSTRUCTION	

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
CDT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER
TRENTON, NEW JERSEY

DATE: 03/19/25
SCALE: AS NOTED
DRAWN BY: HP
CHECKED BY: PO

SHEET TITLE:
THIRD FLOOR PLAN

DRAWING NO.:
A-103

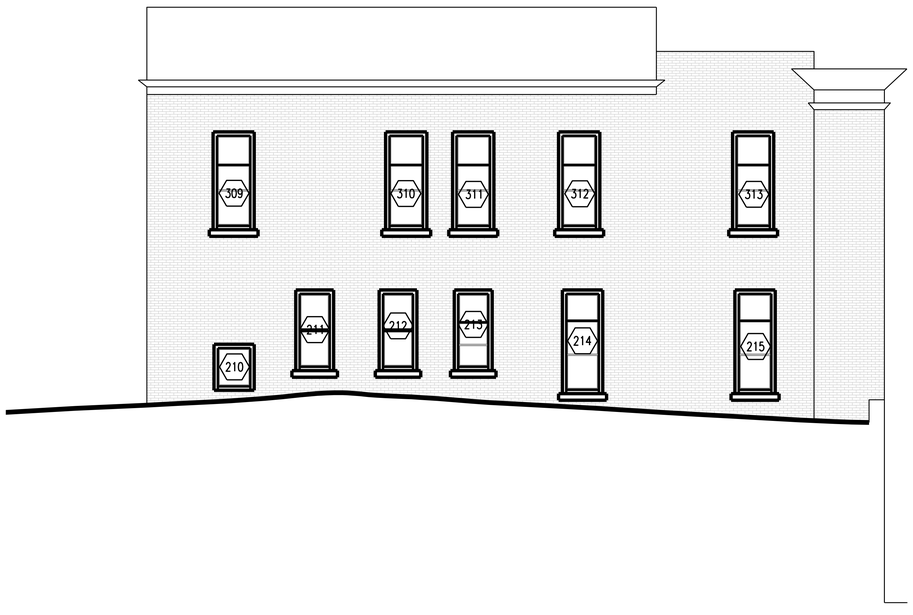
CCH PROJECT NO: 2070.03

J20 NORTH ELEVATION

SCALE: 3/16" = 1'-0"

J9 EAST ELEVATION

SCALE: 3/16" = 1'-0"



A20 WEST ELEVATION

SCALE: 3/16" = 1'-0"

A9 SOUTH ELEVATION

SCALE: 3/16" = 1'-0"

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
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OWNER:
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SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

RENOVATION OF
SOUTH BROAD STREET
SENIOR CENTER
TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	HP
CHECKED BY:	PO

SHEET TITLE:
EXTERIOR
ELEVATIONS

DRAWING NO.:
A-300

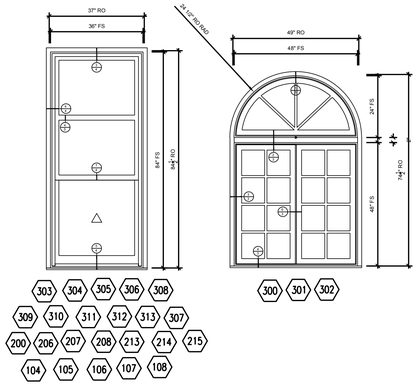
CCH PROJECT NO: 2070.03

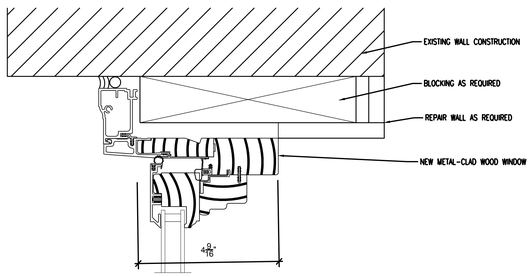
DOOR SCHEDULE GENERAL NOTES:

1. ALL DOOR OPENINGS, DOORS, FRAMES, AND HARDWARE SHALL COMPLY WITH ALL APPLICABLE CODES AND U.L. SPECIFICATIONS.
2. COORDINATE ALL DOORS AND DOOR DETAILS TO PROVIDE ADEQUATE CLEARANCE AND FRAME REINFORCEMENT FOR HARDWARE TYPES, SEE SPECIFICATIONS FOR HARDWARE MOUNTING HEIGHTS.
3. V.I.F. ALL UNDERCUT DOORS AND COORDINATE W/ VARYING FLOOR FINISHES. THE MAX SWING DOOR CLEARANCE TO FRAME/SILL SHALL BE 1/8" MAX AT JAMBS, HEAD AND SILL U.O.N.
4. ALL GLASS, ACOUSTIC AND WEATHER SEAL SURFACES SHALL BE PRE-FINISHED.
5. TYPICAL DOOR BEVEL TO BE $\frac{1}{8}$" IN 2" U.O.N. BY HARDWARE TEMPLATE REQUIREMENTS.
6. DOOR IN THE MEANS OF EGRESS SYSTEM TO BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
7. MAXIMUM OPENING AND OPERATION FORCE FOR ALL DOORS SHALL NOT EXCEED 5 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS. SUCH PULL OR PUSH EFFORT BEING APPLIED AT THE RIGHT ANGLES TO THE HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. DOOR HARDWARE SHALL ALSO BE OPERATED WITH A FORCE NOT TO EXCEED 5 POUNDS.
8. REFER TO HARDWARE GROUP SETS IN SPECIFICATIONS.
9. SEE G.002 FOR ADDITIONAL ACCESSIBILITY REQUIREMENTS FOR NEW DOORS.
10. CATEGORY II SAFETY GLAZING IS REQ'D AT ALL GLAZED DOOR OPENINGS AND PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24 INCH ARC OF EITHER THE VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE WALKING SURFACE.
11. SEE A-1100s FOR FINISH SCHEDULE AND NOTES.

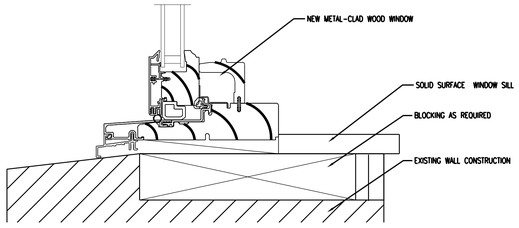
DOOR SCHEDULE ABBREVIATIONS:

ALUM	ALUMINUM
EXT	EXTERIOR DOOR
FRA	FIRE-RESISTIVE ASSEMBLY
GL	GLAZING/GLASS
HM	HOLLOW METAL
IEL	INTEGRATED ELECIFIED LOCKSET
NR	NOT REQUIRED
PH	PANIC HARDWARE
PTD	PAINTED
SC.	SELF-CLOSING
SCL.	SELF-CLOSING, LATCHING
STL	HOLLOW CORE STEEL
ML	MAGNETIC LOCK W/ CARD READER
WD	SOLID WOOD
(T) TEMP	TEMPERED GLAZING
(W)	REFERENCE WINDOW SCHEDULE
(F)	REFERENCE FINISH PLANS & SHEET A-1100 FOR SILL DETAILS AT DOOR THRESHOLDS





1/3 Head — SCALE: 6" = 1'-0"



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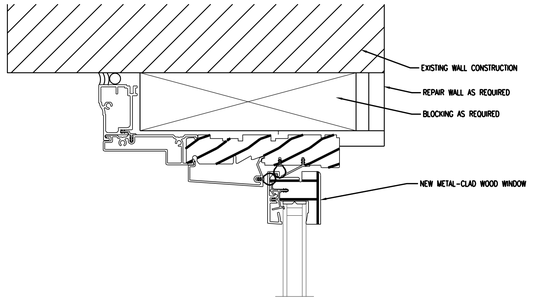
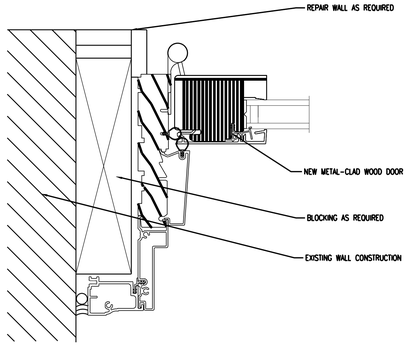
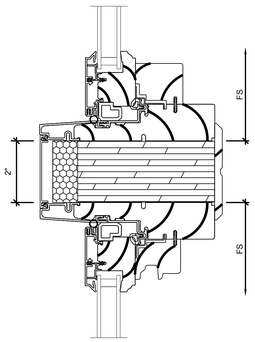


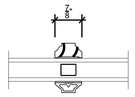
7/3 Head — SCALE: 6" = 1'-0"



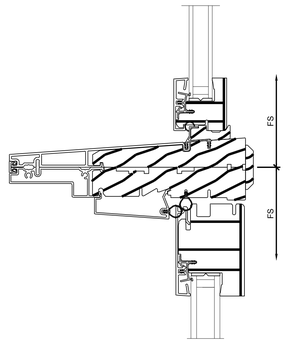
10/3 Jamb — SCALE: 6" = 1'-0"



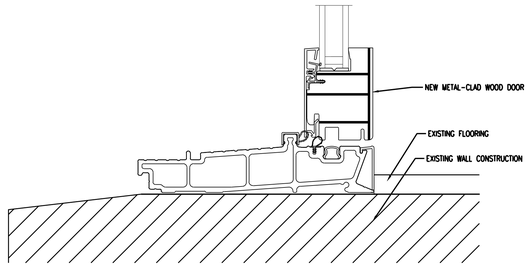
2/3 Horizontal Mullion — SCALE: 6" = 1'-0"



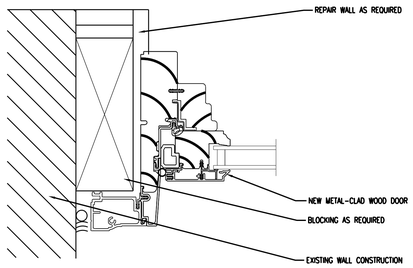
5/3 Divided Lite — SCALE: 6" = 1'-0"



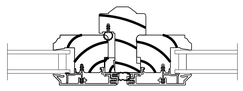
8/3 Horizontal Mullion — SCALE: 6" = 1'-0"



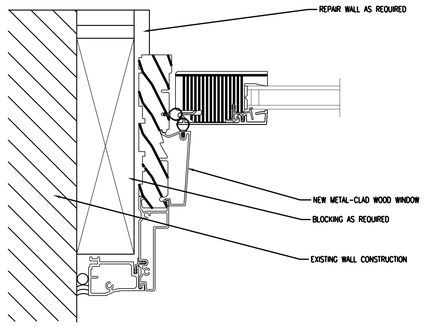
11/3 Sill — SCALE: 6" = 1'-0"



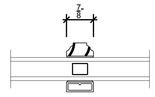
3/3 Jamb — SCALE: 6" = 1'-0"



6/3 Astragal Detail — SCALE: 6" = 1'-0"



9/3 Jamb — SCALE: 6" = 1'-0"



12/3 Divided Lite — SCALE: 6" = 1'-0"

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
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SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

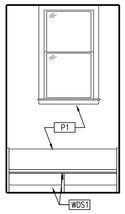
TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	HP
CHECKED BY:	PO

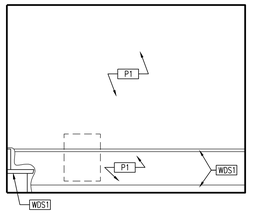
SHEET TITLE:
WINDOW /DOOR SCHEDULES AND DETAILS

DRAWING NO.:
A-301

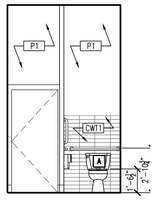
CCH PROJECT NO: 2070.03



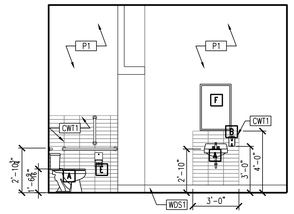
N20 LADIES' ROOM ELEVATION 1
SCALE: 1/4" = 1'-0"



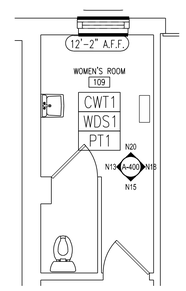
N18 LADIES' ROOM ELEVATION 2
SCALE: 1/4" = 1'-0"



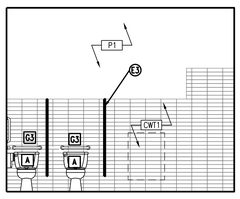
N15 LADIES' ROOM ELEVATION 3
SCALE: 1/4" = 1'-0"



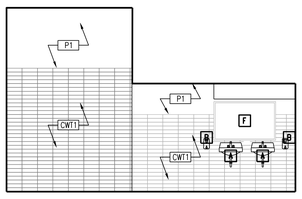
N13 LADIES' ROOM ELEVATION 4
SCALE: 1/4" = 1'-0"



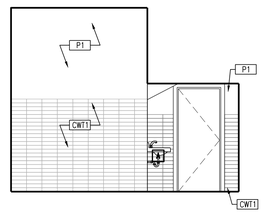
N10 KEY PLAN - LADIES' ROOM
SCALE: 1/4" = 1'-0"



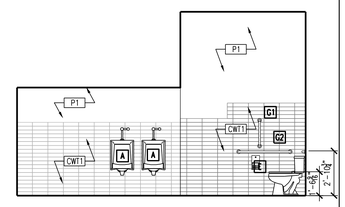
K20 MEN'S ROOM INTERIOR ELEVATION 1
SCALE: 1/4" = 1'-0"



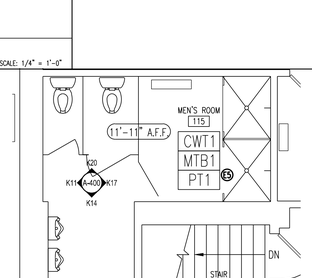
K17 MEN'S ROOM INTERIOR ELEVATION 2
SCALE: 1/4" = 1'-0"



K14 MEN'S ROOM INTERIOR ELEVATION 3
SCALE: 1/4" = 1'-0"



K11 MEN'S ROOM INTERIOR ELEVATION 4
SCALE: 1/4" = 1'-0"



K8 KEY PLAN - MEN'S ROOM
SCALE: 1/4" = 1'-0"

INTERIOR ELEVATION NOTES

1. PATCH, REPAIR AND PAINT ALL EXISTING WALLS TO REMAIN WHERE ADJACENT HAS BEEN DEMOLISHED TO PROVIDE CONTINUOUS LIKE NEW FINISH
2. ALL DIMENSIONS ARE TO FACE OF GWB FINISH/EXPOSED CMU OR COLUMN CENTERLINE, U.N.O.
3. ALL DOOR OPENINGS ARE DIMENSIONED TO DOOR HINGE.
4. DOOR FRAMES: FINISH FACE OF WALL TO DOOR HINGE SHALL BE 6" TYP., U.N.O.
5. ITEMS THAT ARE NOTED NIC ARE SHOWN ON DRAWINGS FOR REFERENCE AND COORDINATION WITH ADJACENT ITEMS IN CONTEXT.
6. SEE RCPS FOR ADDITIONAL EQUIPMENT AND LOCATIONS. EQUIPMENT INCLUDES BUT IS NOT LIMITED TO PROJECTION SCREENS, WINDOW SHADES, SPEAKERS, LIGHTS, WALL SCONCES, MILLWORK, ELECTRICAL EMERGENCY DEVICES.
7. SEE ELECTRICAL DWGS FOR INTERIOR SWITCHES, OUTLET AND WALL STATIONS/CONTROL LOCATIONS.
8. WHERE GWB PARTITIONS ARE TO REMAIN, UNUSED J-BOXES ARE TO BE REMOVED WHERE ELECTRICAL CALLS FOR DEVICE REMOVALS. PATCH AND PAINT WALL SURFACE FOR SMOOTH/SEAMLESS APPEARANCE
9. WHERE GWB PARTITIONS OR FURRINGS ARE TO REMAIN OR PORTIONS ARE TO REMAIN AND WHERE INTERSECTING WALLS ARE TO BE DEMOLISHED, THE WALL OR PORTION OF WALL TO REMAIN IS TO BE PATCHED PAINTED FOR SMOOTH SEAMLESS APPEARANCE.
10. SELECTIVE REMOVALS, DEMOLITION AND REPLACEMENT OF GWB FINISHES AND WALL BASE ARE TO BE PERFORMED AS NEEDED FOR INSTALLATION OF NEW MECHANICAL, ELECTRICAL, IT/AV, AND PLUMBING DIRECT WORK ITEMS PER NEW WORK PLANS WITHIN EXISTING TO REMAIN WALLS. GWB IS TO BE PATCHED AND PAINTED TO MATCH EXISTING ADJACENT WORK AREAS FOR SMOOTH/SEAMLESS APPEARANCE AS NO ADDITIONAL COST.
11. WHERE NEW CEILINGS ARE HIGHER THAN EXISTING CEILINGS, THE NEWLY EXPOSED PORTIONS OF PARTITIONS ARE TO BE PATCHED WITH NEW GWB AND FRAMING AND PAINTED TO FOR SMOOTH SEAMLESS APPEARANCE TO NEW CEILING HEIGHT. ALL EXISTING WALL GWB TO BE EXTENDED SO IT TERMINATES 6" ABOVE CEILINGS.

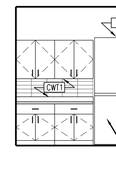
INTERIOR ELEVATIONS LEGEND

- (EX) — INTERIOR ELEVATION KEYNOTE; SEE LEGEND BELOW
- XXX — WINDOW TAG, SEE GLAZING SCHEDULE AND ELEVATIONS
- X — DOOR TAG, SEE DOOR SCHEDULE
- EQX — EQUIPMENT TAG, SEE EQUIPMENT SCHEDULE

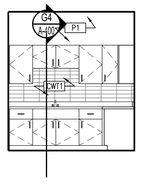
INTERIOR ELEVATION KEYNOTES LEGEND

- E1 VIKING – 4.7 CU. FT. SELF-CLEANING FREESTANDING ELECTRIC CONVECTION RANGE – STAINLESS STEEL MODEL: RVER33015BSS
- E2 VIKING – 30 INCHES – UNDER CABINET RANGE HOOD – STAINLESS STEEL MODEL: VWH3010SS
- E3 PAINT EXISTING TOILET PARTITIONS TO REMAIN.
- E4 ZLINE 30 IN. 16.1 CU. FT. BUILT-IN BOTTOM FREEZER REFRIGERATOR WITH WATER DISPENSER AND ICE MAKER IN DURASNOW STAINLESS STEEL (RBIV-SN-30)
- E5 NEW MARBLE SADDLE AT REMOVE CURB

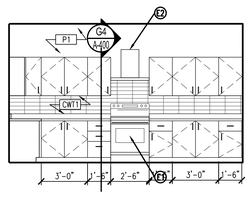
K4 INTERIOR ELEVATION KEYNOTES AND LEGEND



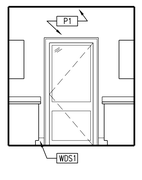
G20 KITCHEN INTERIOR ELEVATION 1
SCALE: 1/4" = 1'-0"



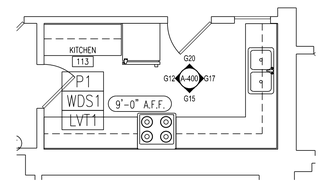
G17 KITCHEN INTERIOR ELEVATION 2
SCALE: 1/4" = 1'-0"



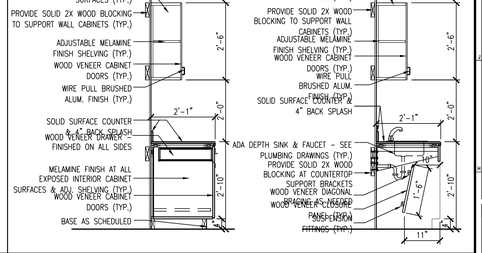
G15 KITCHEN INTERIOR ELEVATION 3
SCALE: 1/4" = 1'-0"



G12 KITCHEN INTERIOR ELEVATION 4
SCALE: 1/4" = 1'-0"



G10 KEY PLAN - KITCHEN
SCALE: 1/4" = 1'-0"



G4 MILLWORK SECTIONS

D20 DINING ROOM ELEVATION 3
SCALE: 1/4" = 1'-0"

D14 DINING ROOM ELEVATION 4
SCALE: 1/4" = 1'-0"

A10 KEY PLAN - DINING ROOM ELEVATION
SCALE: 1/4" = 1'-0"

BATHROOM FIXTURE & ACCESSORY SCHEDULE

ACCESORY #	DESCRIPTION	RESPONSIBILITY	
		FURNISHED	INSTALLED
A	PLUMBING FIXTURE, REFER TO PLUMBING DWGS.	CONTRACTOR	CONTRACTOR
B	SOAP DISPENSER BOD: BOBRICK B-2111 OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
C1	SANITARY NAPKIN DISPENSER BOD: BOBRICK B-2706C OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
C2	SURFACE-MOUNTED SANITARY NAPKIN DISPOSAL BOD: BOBRICK B-270 OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
D	ADA HAND DRYER BOD: EXCEL DRYER TA-ABS OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
E	MULTI-ROLL TOILET TISSUE DISPENSER BOD: BOBRICK B-4288 OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
F	FRAMED MIRROR BOD: BOBRICK B-2908 OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
G1	18" VERTICAL GRAB BARS; SUBJECT TO COMPLIANCE WITH REQUIREMENTS BOD: BOBRICK B-6806 OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
G2	42" SIDEWALL GRAB BARS; SUBJECT TO COMPLIANCE WITH REQUIREMENTS BOD: BOBRICK B-6806 OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
G3	18" REAR WALL GRAB BARS; SUBJECT TO COMPLIANCE WITH REQUIREMENTS BOD: BOBRICK B-6806 OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR
H	UTILITY SHELF WITH MOP HOLDER BOD: BOBRICK B-239 x 34 OR APPROVED EQUAL	CONTRACTOR	CONTRACTOR

NOTES
1. SEE MEP DWGS FOR FIXTURE DESIGNATIONS AND TYPES.
2. REFER TO G-002 FOR TYPICAL MOUNTING HEIGHTS

A4 ACCESSORY SCHEDULE

A20 DINING ROOM ELEVATION 1
SCALE: 1/4" = 1'-0"

A14 DINING ROOM ELEVATION 2
SCALE: 1/4" = 1'-0"

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883 4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
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196 Princeton-Hightstown Rd,
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Princeton Junction, NJ 08550
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SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

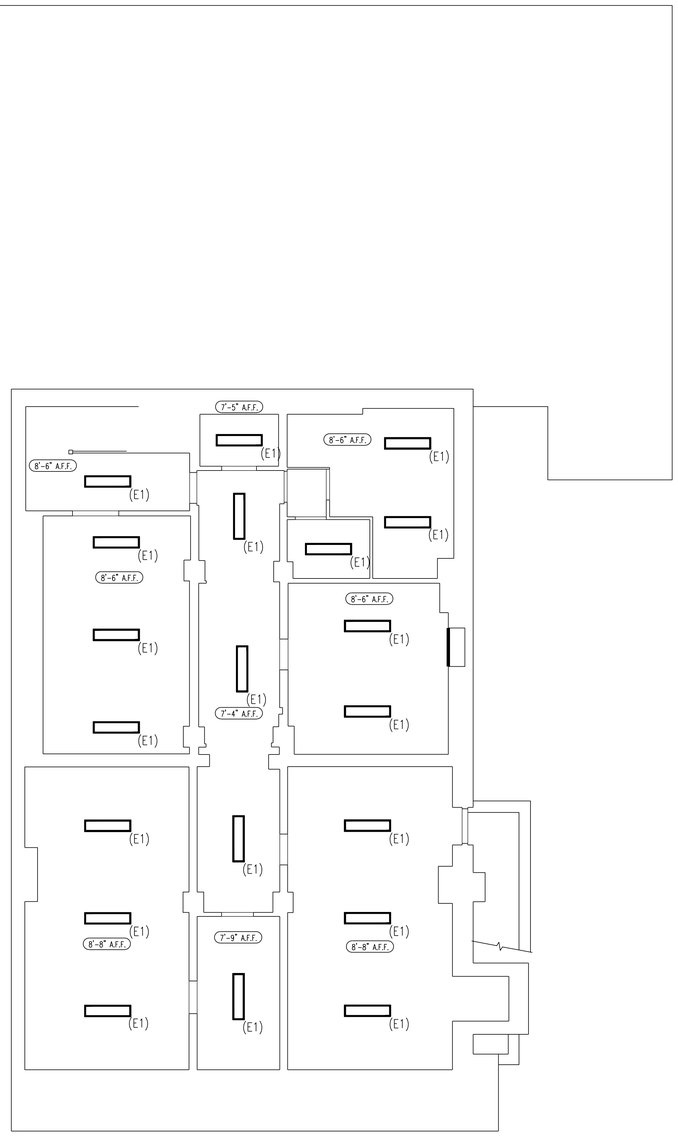
RENOVATION OF
SOUTH BROAD STREET
SENIOR CENTER
TRENTON, NEW JERSEY

DATE: 03/19/25
SCALE: AS NOTED
DRAWN BY: HP
CHECKED BY: PO

SHEET TITLE:
INTERIOR ELEVATIONS

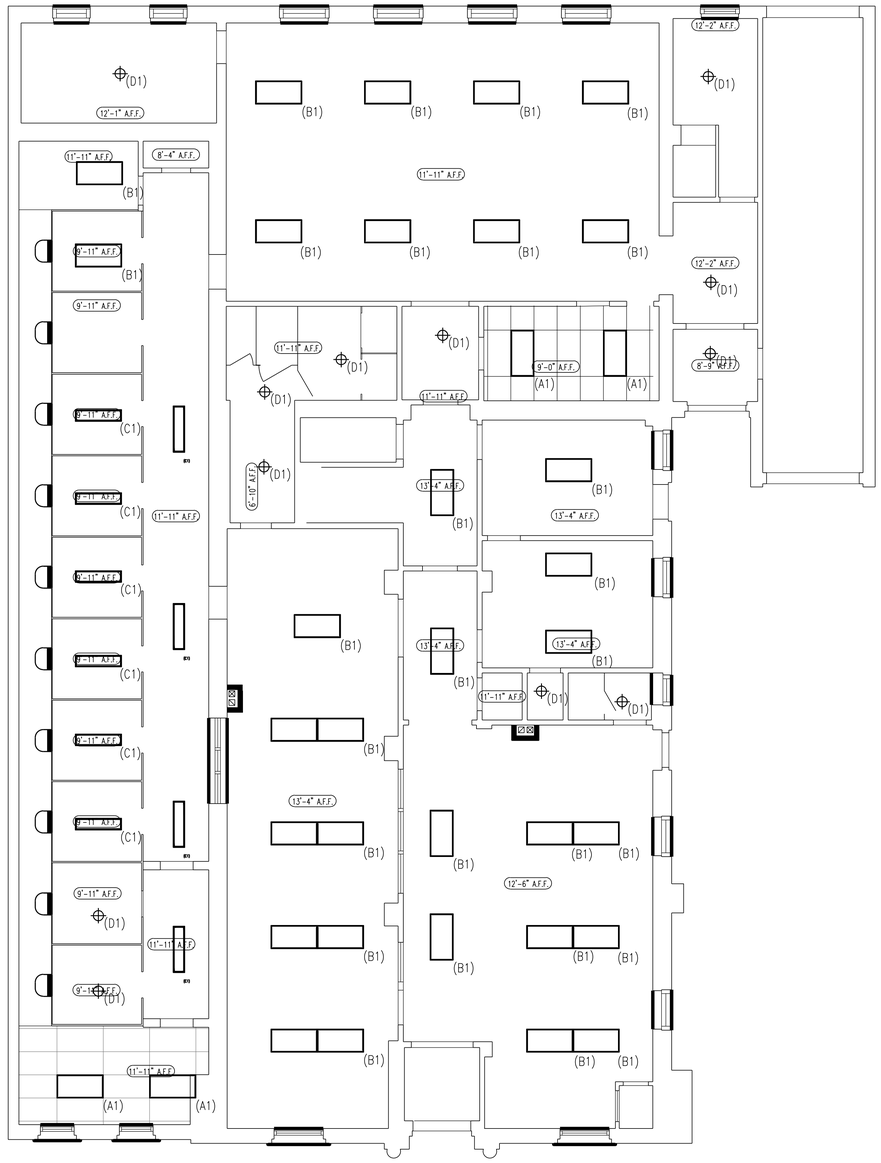
DRAWING NO.:
A-400

CCH PROJECT NO: 2070.03



A20 CELLAR REFLECTED CEILING PLAN

SCALE: 3/16" = 1'-0"



A12 FIRST FLOOR REFLECTED CEILING PLAN

SCALE: 3/16" = 1'-0"

REFLECTED CEILING PLAN LEGEND

- KEYNOTE TAG
- EXISTING WALL TO REMAIN
- NEW PARTITION
- (A1) 2'x4' LIGHT FIXTURE LAY IN
- (B1) 2'x4' LIGHT FIXTURE PENDANT MOUNT
- (C1) 1'x4' LIGHT FIXTURE PENDANT MOUNT
- (D1) PENDANT LIGHT FIXTURE
- (E1) 1'x4' LIGHT FIXTURE SURFACE MOUNT
- SUPPLY REGISTER
- RETURN REGISTER
- 2'x4' ACP CEILING, SEE FINISH SCHEDULE
- EXISTING ABOVE, PAINTED WITH DRYFALL PAINT REFER TO FINISH SCHEDULE FOR PAINT COLOR NOTE: CELLAR AND FIRST FLOOR ONLY

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Architecture
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Landscape Architecture

100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883 4044
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COT DEPT OF HOUSING
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SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	HP
CHECKED BY:	PO

SHEET TITLE:
REFLECTED CEILING PLANS

DRAWING NO.:
A-800

CCH PROJECT NO: 2070.03

12:32:00 19/02/23
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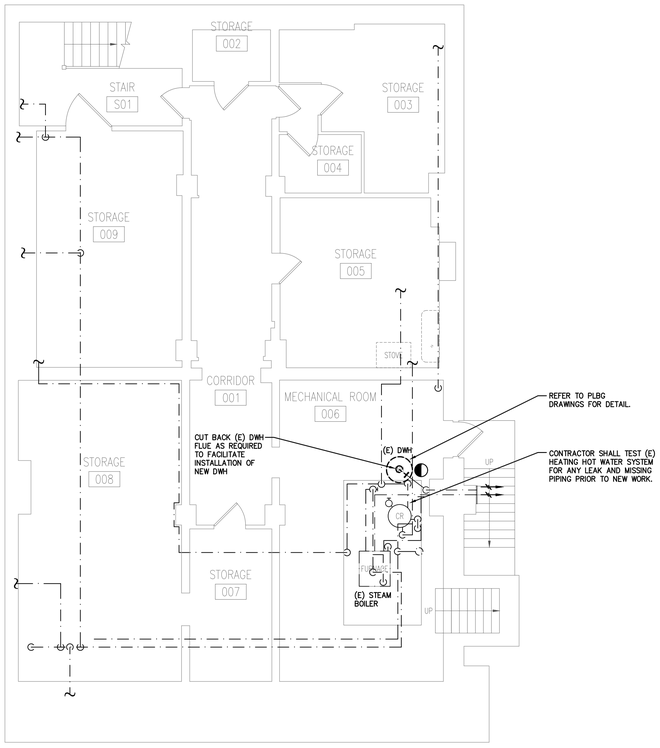
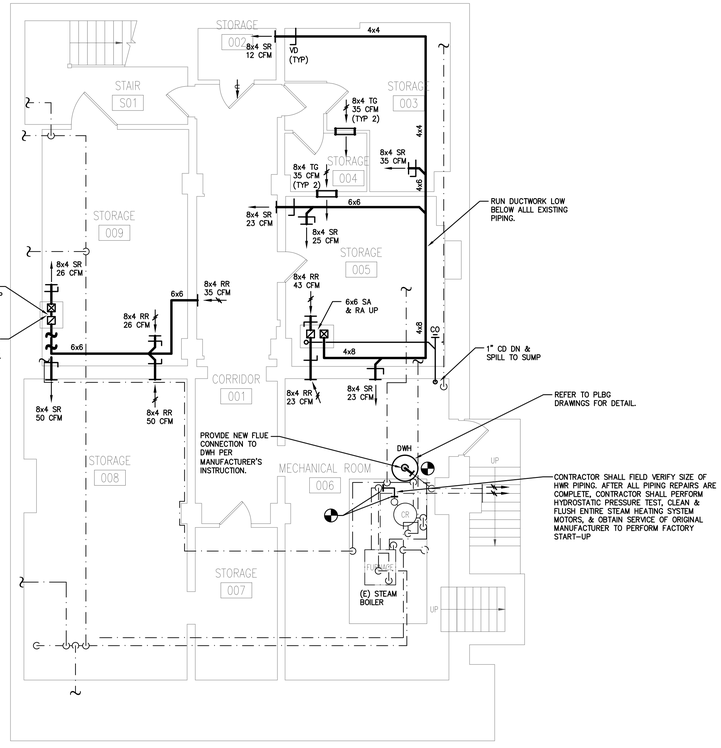


1 H100 BASEMENT PLAN – HVAC DEMOLITION

SCALE 3/16" = 1'-0"



2 H100 BASEMENT PLAN – HVAC

SCALE 3/16" = 1'-0"

NOTES:

1. ALL DUCTWORK THAT PASSES THROUGH THE 1 HOUR RATED FLOOR ASSEMBLY SHALL BE PROVIDED WITH FIRE DAMPERS.
2. CONTRACTOR SHALL INSULATE ALL SUPPLY, RETURN, AND OAI DUCTS.
3. BEFORE BIDDING ON THE PROJECT, THE CONTRACTOR IS TO FAMILIARIZE THEMSELVES WITH EXISTING HEATING STEAM SYSTEM PIPING. PROVIDE PIPING AS REQUIRED TO BRING HEATING STEAM SYSTEM BACK TO WORKING CONDITIONS.

DRAWING REFERENCE SCALE, VERIFY ACTUAL SIZE AND ADJUST AS REQUIRED.

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Architecture
Planning
Landscape Architecture
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Trenton, NJ 08608
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OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

STRUCTURAL:
HARRISON AND HAWNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

PROFESSIONAL ENGINEER
NJ LICENSE NO 38656
FRANK TINDALL, P.E.
DATE 03/19/25

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	CL
CHECKED BY:	NML

SHEET TITLE:
BASEMENT PLAN - HVAC

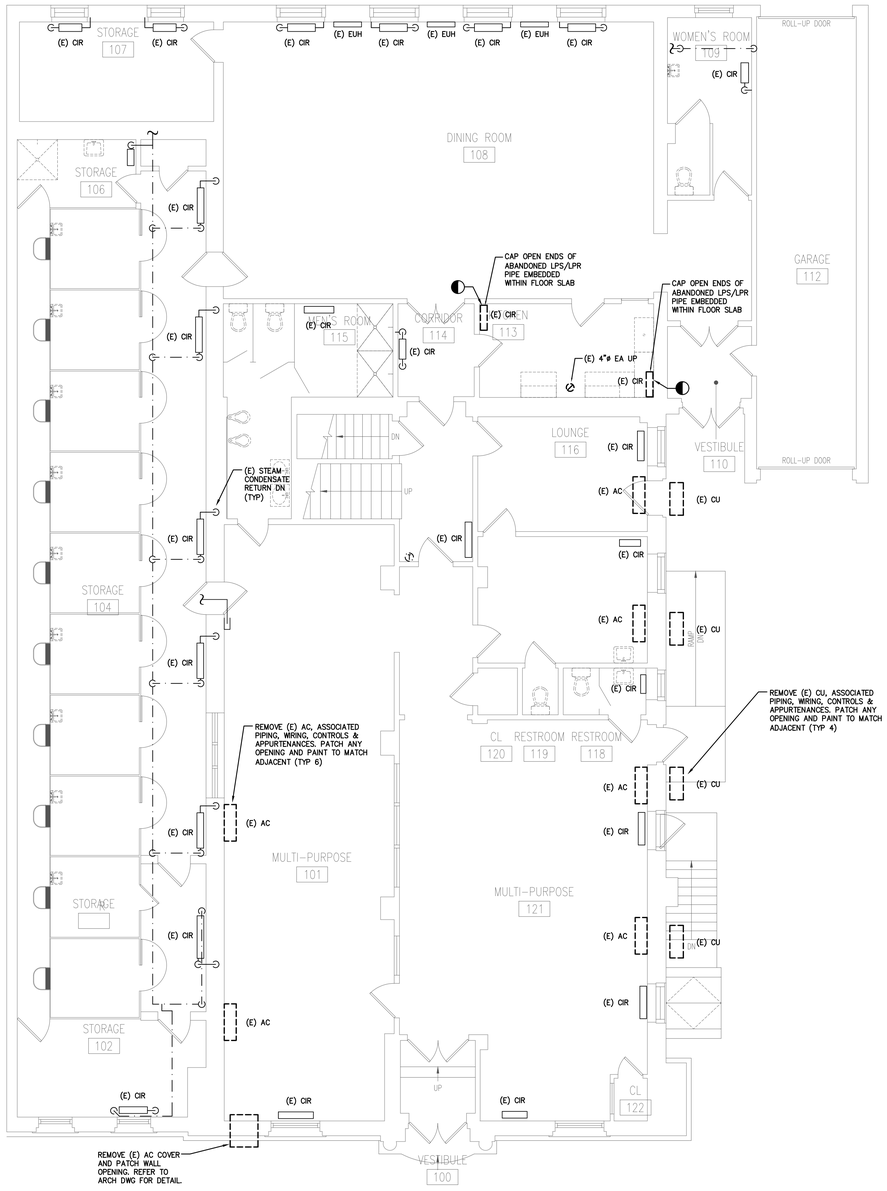
March 20, 2025 1:28:16 p.m.
Drawing: H100 E1.DWG

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

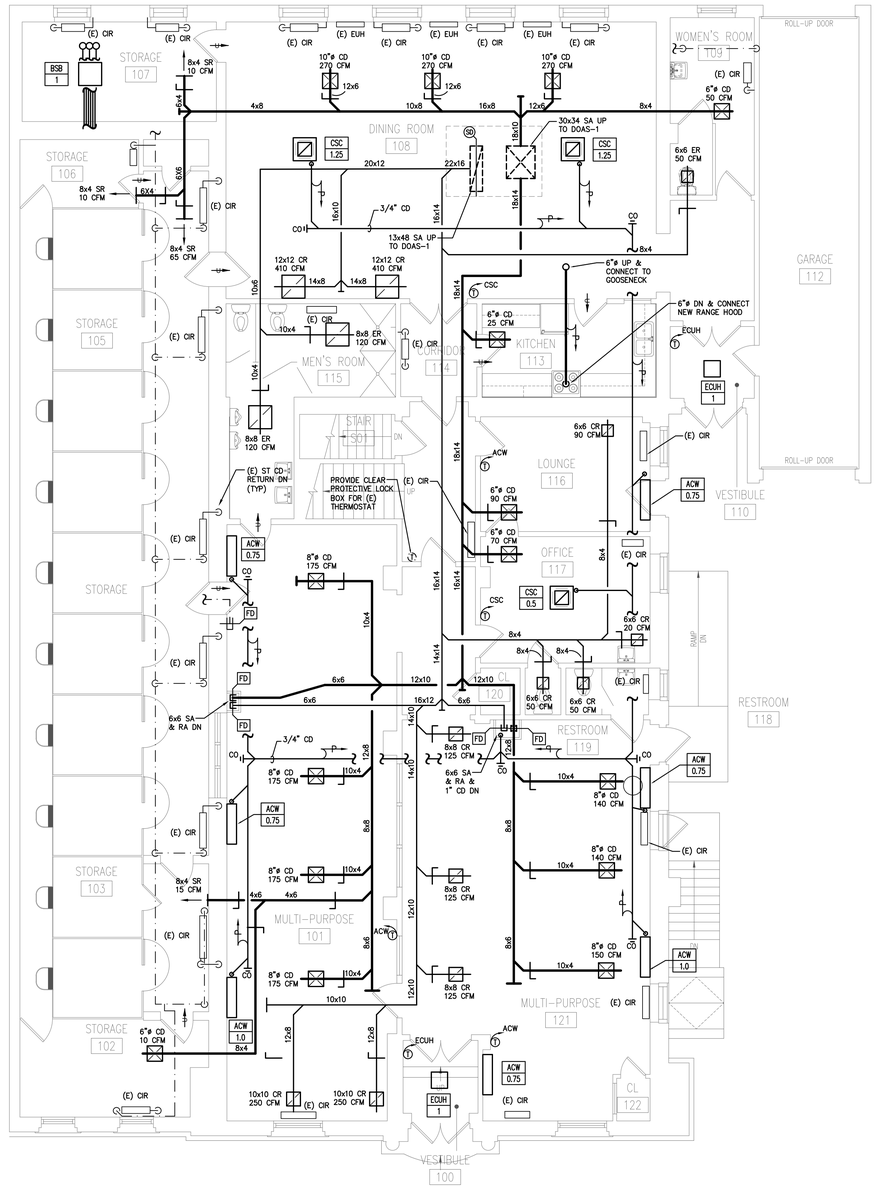
DRAWING NO.:

H100

CCH PROJECT NO: 2070.03



1 H101 FIRST FLOOR PLAN – HVAC DEMOLITION
SCALE 3/16" = 1'-0"



2 H101 FIRST FLOOR PLAN – HVAC
SCALE 3/16" = 1'-0"

NOTES:

1. ALL DUCTWORK THAT PASSES THROUGH THE 1 HOUR RATED FLOOR ASSEMBLY SHALL BE PROVIDED WITH FIRE DAMPERS.
2. CONTRACT SHALL SIZE, INSTALL, INSULATE & CHARGE ALL REFRIGERANT PIPING PER MANUFACTURER'S INSTRUCTIONS.
3. CONTRACTOR SHALL INSULATE ALL SUPPLY, RETURN, AND OAI DUCTS.
4. ALL FIRST FLOOR (E) CIR'S CONDENSATE TRAPS SHALL BE REPLACED IN KIND. REPLACE ALL FIRST FLOOR (E) CIR'S MANUAL ISOLATION VALVE WITH DANFOSS RA2000 THERMOSTATIC RADIATOR VALVES.
5. INSULATE EXPOSED STEAM PIPING TO (E) CIRS ON FIRST FLOOR.

DRAWING REFERENCE SCALE, VERIFY ACTUAL SIZE AND ADJUST AS REQUIRED.
4" 3" 2" 1" 0"

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

STRUCTURAL:
HARRISON AND HAWNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
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TRENTON, NEW JERSEY

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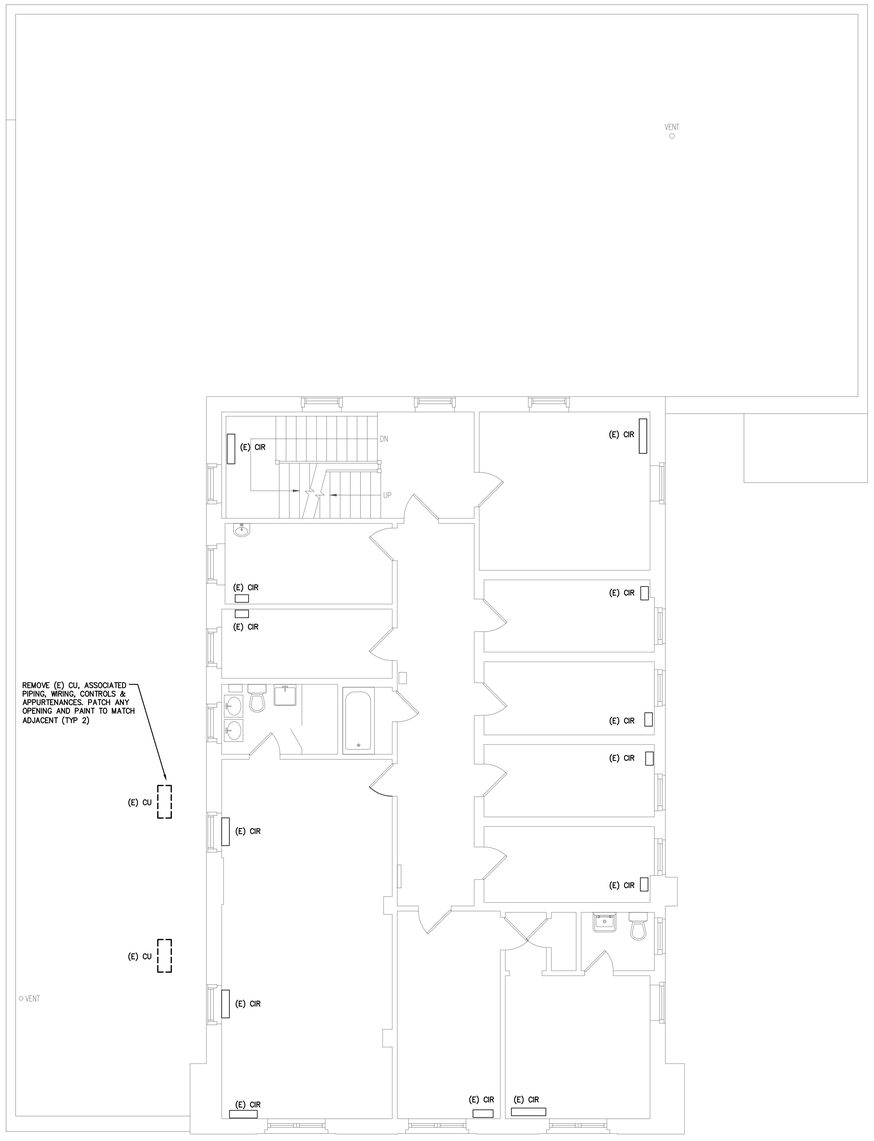
DRAWN BY:	CL
CHECKED BY:	NML

SHEET TITLE:
FIRST FLOOR PLAN - HVAC

March 20, 2025 1:29:16 p.m.
Drawing: H101.DWG

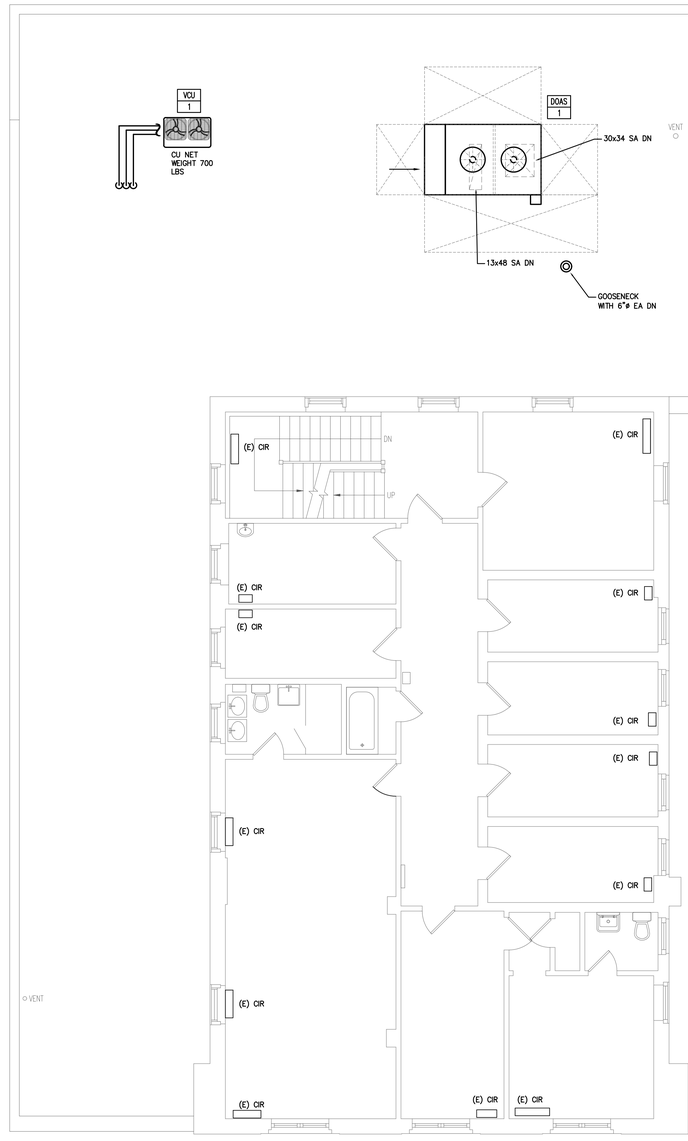
KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

DRAWING NO.:
H101
CCH PROJECT NO: 2070.03



1 H102 SECOND FLOOR PLAN – HVAC DEMOLITION

SCALE 3/16" = 1'-0"



2 H102 SECOND FLOOR PLAN – HVAC

SCALE 3/16" = 1'-0"

DRAWING REFERENCE SCALE, VERIFY ACTUAL SIZE AND ADJUST AS REQUIRED.

0" 1" 2" 3" 4"

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Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

STRUCTURAL:
HARRISON AND HAWNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

PROFESSIONAL ENGINEER
NJ LICENSE NO 38656
FRANK TINDALL, P.E.
DATE 03/19/25

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	CL
CHECKED BY:	NML

SHEET TITLE:
SECOND FLOOR AND LOWER ROOF PLAN - HVAC

DRAWING NO.:
H102

CCH PROJECT NO: 2070.03

March 20, 2025 1:26:16 p.m.
Drawing: H102 ELEC

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550

Frank Tindall, P.E.
Professional Engineer
NJ 38656

ABBREVIATIONS

ABV	ABOVE
AC	AIR CONDITIONING UNIT
ACW	AIR CONDITIONING UNIT WALL MOUNTED
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AHC	ABOVE HUNG CEILING
AIP	ABANDONED IN PLACE
AMPS	AMPERES
ARCH	ARCHITECTURAL
APD	AIR PRESSURE DROP
ATC	AUTOMATIC TEMPERATURE CONTROL
&	AND
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BS	BIRDSCREEN
CC	COOLING COIL
CD	CEILING DIFFUSER
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CIR	CAST IRON RADIATOR
CO	CLEANOUT
CP	CONDENSATE PUMP
CR	CEILING REGISTER
CR	CONDENSATE RECEIVER
CSC	CEILING SUSPENDED CASSETTE
CU	CONDENSING UNIT
D	DRAIN
DB	DRY BULB
DIA,ø	DIAMETER
DN	DOWN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
ER	EXHAUST REGISTER
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
EXIST./(E)	EXISTING
EXH	EXHAUST AIR
°F	FAHRENHEIT
FC	FLEXIBLE CONNECTOR
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FT	FEET
G	GAS
GPM	GALLONS PER MINUTE
H	HEIGHT
HP	HORSE POWER
Hz	HERTZ (FREQUENCY)
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IN	INCH
IWG	INCHES IN WATER GAUGE
IWC	INCHES OF WATER COLUMN
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
L	LENGTH
LBS	POUNDS
LDB	LEAVING DRY BULB
LPS/LPR	LOW PRESSURE STEAM SUPPLY/RETURN
LWB	LEAVING WET BULB
LxWxH	LENGTH BY WIDTH BY HEIGHT
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MOCP	MAX OVER CURRENT PROTECTION
#, NO.	NUMBER
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OCP	OVER CURRENT PROTECTION
OD	OUTSIDE DIAMETER
P	PUMP
PC	PUMPED CONDENSATE
PD	PRESSURE DROP
%	PERCENT
QTY	QUANTITY
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LINES
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SQ FT	SQUARE FOOT
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
T	THERMOSTAT
TA	THROW AWAY
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TYP	TYPICAL
V/PH/Hz	VOLTS/PHASE/HERTZ
VD	VOLUME DAMPER
WB	WET BULB
W	WIDTH
WH	WATER HEATER
WMS	WIRE MESH SCREEN
WPD	WATER PRESSURE DROP
WT	WEIGHT

SYMBOLS LIST

- X / X — EQUIPMENT DESIGNATION / ITEM NUMBER
- X / X — EQUIPMENT DESIGNATION / TONS
- X–X — DESIGNATED CU – ITEM NUMBER
- (S) — SMART SENSOR FOR TEMPERATURE RELATIVE HUMIDITY & CO2
- BD — BACKDRAFT DAMPER
- MD — MOTORIZED DAMPER
- SD — SMOKE DETECTOR
- FD — FIRE DAMPER
- SD — SMOKE DETECTOR
- POINT OF NEW CONNECTION
- POINT OF REMOVAL
- AIRFLOW THRU UNDERCUT DOOR
- SUPPLY AIR FLOW
- RETURN OR EXHAUST AIRFLOW
- VOLUME DAMPER (MANUAL)
- 8x6 — DUCT SIZE, SECOND FIGURE IS HEIGHT SHOWN
- PIPE TURNED UP
- PIPE TURNED DOWN
- PIPE TEE BRANCH TURNED DOWN
- CD — CONDENSATE DRAIN PIPING
- PITCH PIPE IN DIRECTION OF ARROW
- PIPE CAP
- CLEAN-OUT
- EXISTING WORK TO REMAIN
- EXISTING WORK TO BE REMOVED
- NEW WORK (DOUBLE-LINE & EQPT.)
- NEW WORK (SINGLE-LINE)
- FLOW DIRECTION

CD–X, X CFM — SUPPLY CEILING DIFFUSER
CR–X, X CFM — SUPPLY CEILING REGISTER
CR–X, X CFM — RETURN, EXHAUST CEILING REGISTER
CG–X, X CFM — RETURN, EXHAUST CEILING GRILLE

4-WAY 3-WAY 2-WAY 2-WAY 1-WAY

DIFFUSER & REGISTER SCHEDULE

SELECTION BASED ON TITUS

NO.	MARK	REMARKS
1.	CD SHALL BE TITUS MODEL TMS–AA OR APPROVED "EQUAL".	1 2 3 4
2.	SR SHALL BE TITUS MODEL 300–FL OR APPROVED "EQUAL".	2 4
3.	TG, ER/RR SHALL BE TITUS MODEL 350–FL OR APPROVED "EQUAL".	2 4 5
4.	CG/CR SHALL BE TITUS MODEL PAR OR APPROVED "EQUAL".	2 4

NOTES:
1. LOUVERED FACE, HIGH CAPACITY, ALUMINUM DIFFUSER WITH ROUND NECK AND ADJUSTABLE HORIZONTAL OR VERTICAL DISCHARGE PATTERN.
2. PROVIDE OPPOSED BLADE VOLUME DAMPER AT ALL DIFFUSERS AND REGISTERS.
3. PROVIDE EQUALIZING GRID.
4. PROVIDE STANDARD WHITE FINISH.
5. ALUMINUM REGISTER OR GRILLE WITH BLADES AT 3/4" SPACING AND 35° FIXED DEFLECTION. REFER TO DRAWINGS FOR CORRECT MOUNTING STYLE.

VRV INDOOR AC UNIT SCHEDULE

AC/#

MARK NO	MANUFACTURER	MODEL NO	MOUNTING TYPE	RATED CAPACITY (BTUH)		ELECTRICAL DATA		SUPPLY AIR CFM (PEAK)	APPROX WEIGHT (LBS)	DIMENSIONS H x W x D (IN)
				COOLING	HEATING	V/PH/HZ	MCA (A)			
CSC–0.5	DAIKIN	FXZQ05TAVJU	CEILING SUSPENDED	5,800	4,700	208/1/60	0.40	300	40	10–1/4 x 22–5/8 x 22–5/8
CSC–1.25	DAIKIN	FXZQ15TAVJU	CEILING SUSPENDED	15,000	10,800	208/1/60	0.40	405	40	10–1/4 x 22–5/8 x 22–5/8
ACW–0.75	DAIKIN	FXAQ09PVJU	WALL MOUNTED	9,500	7,300	208/1/60	0.40	280	30	11–3/8 x 31–1/4 x 9–1/4
ACW–1.0	DAIKIN	FXAQ18PVJU	WALL MOUNTED	12,000	8,900	208/1/60	0.40	290	30	11–3/8 x 31–1/4 x 9–1/4

1. INSULATE ALL REFRIGERATION LINES BETWEEN CU AND BSB, AND BETWEEN BSB & AC UNITS
2. INSTALL AND WIRE UNITS AS PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MAXIMUM LENGTH OF REFRIGERANT PIPING AND NUMBER OF ELBOWS MUST BE STRICTLY FOLLOWED.
3. PROVIDE A WIRED WALL MOUNTED CONTROLLER WITH ON/OFF & SET TEMPERATURE RANGE LIMIT FOR EACH AC UNIT.
4. REFRIGERANT PIPE SIZES AND LENGTHS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS BASED ON FIELD CONDITIONS. REFER TO PIPING DIAGRAMS FOR QUANTITY & SIZE OF REFRIGERANT PIPING
5. PROVIDE ALL AC UNITS WITH DRAIN PAN LEVEL SENSOR THAT WILL SHUT OFF THE EQUIPMENT SERVED IN THE EVENT THAT THE PRIMARY DRAIN IS BLOCKED AS PER IMC 307.2.3.
6. PROVIDE FACTORY START UP AND PERSONNEL TRAINING.
7. ALL UNITS SHALL HAVE AIR FILTER.
8. PROVIDE FUSED DISCONNECT.
9. PROVIDE CONDENSATE DRAIN PUMP FOR ALL AC UNITS. PUMP SHALL BE HARDWIRED TO CORRESPONDING AC UNIT. ACC'S SHALL HAVE FACTORY INSTALLED INTEGRAL CONDENSATE DRAIN PUMPS.
10. PROVIDE TAMPER RESISTANT COVERS FOR ALL THERMOSTATS.
11. PROVIDE PHASE MONITORING SHUT-DOWN SYSTEM WITH AUTO RESET

DEDICATED OUTSIDE AIR SYSTEM

DOAS/#

MARK No.		DOAS–1
LOCATION		LOWER ROOF
SERVICE		FIRST FLOOR AND BASEMENT
MANUFACTURER		DAIKIN
MODEL		DPSC07B
SUPPLY FAN DATA:		
TOTAL AIRFLOW	CFM	2500
WHEEL DIAMETER	IN	18
ESP	IWG	1.25
TSP	IWG	2.5
FAN SPEED	RPM	1653
BRAKE HORSEPOWER	BHP	1.70
MOTOR HORSEPOWER	HP	2.4
EXHAUST FAN DATA:		
AIRFLOW	CFM	2500
WHEEL DIAMETER	IN	16
ESP	IWG	1.0
FAN SPEED	RPM	1723
BRAKE HORSEPOWER	BHP	1.00
MOTOR QUANTITY		1
MOTOR HORSEPOWER	HP	1.5
COOLING COIL DATA:		
TOTAL GROSS CAPACITY	MBH	94.46
SENSIBLE GROSS CAPACITY	MBH	61.98
EAT DB/WB	°F	80.3/66.2
LAT DB/WB (UNIT)	°F	53.0/53.0
AMBIENT AIR TEMP. DB/WB	°F	95.0
FACE AREA	SQ FT	15.4
FACE VELOCITY	FPM	162.0
ROWS		4
ENERGY RECOVERY DATA:		
COOLING SEASON:		
RECOVERED CAPACITY	MBH	80.03
OUTSIDE AIRFLOW	CFM	2500
EXHAUST AIRFLOW	CFM	2500
OA TEMP. DB/WB	°F	95/75
RETURN AIR TEMP. DB/WB	°F	75/62
PRE–TREATED OA TEMP. DB/WB	°F	80.3/66.2
HEATING SEASON:		
RECOVERED CAPACITY	MBH	154.94
OUTSIDE AIRFLOW	CFM	2500
EXHAUST AIRFLOW	CFM	2500
OA TEMP. DB/WB	°F	0.0/–0.4
RETURN AIR TEMP. DB/WB	°F	70/50
PRE–TREATED OA TEMP. DB/WB	°F	49.7/38.3
ELECTRIC HEAT DATA:		
TOTAL CAPACITY	MBH	61.43
EAT/LAT DB	°F	49.7/72.4
APD	FT WG	0.10
AIRFLOW	CFM	2500
FLA	A	50
CONTROL		SCR
HOT GAS REHEAT COIL DATA:		
TOTAL CAPACITY	MBH	46.00
LAT DB/WB	°F	70.0/59.5
FACE AREA	SQ FT	21.6
CONDENSING DATA:		
NOMINAL CFM		2500
REFRIGERANT TYPE		R–32
EER/IEER		–/–
COMPRESSOR:		
MOTOR QUANTITY		1
CAPACITY CONTROL		MODULATING CONTROL WITH INVERTER SCROLL COMPRESSOR
CONDENSER FAN:		
NUMBER OF FANS/MOTORS		2
FULL LOAD CURRENT	AMPS	7.6
ELECTRICAL DATA:		
POWER	V–PH–HZ	208/3/60
FLA	AMPS	67.5
MCA	AMPS	84.4
MOCP	AMPS	90
FILTER DATA:		
TYPE		2" MERV 13
FILTERS CLEAN SP	IWG	0.06
DIRT ALLOWANCE	IWG	0.35
DIMENSIONS UNIT (L x W x H)	IN	121.6 x 73.4 x 85.9
APPROX. UNIT WEIGHT W/ CURBS	LBS	4100

UNIT SOUND DATA: OCTAVE BAND (Hz)	63	125	250	500	1000	2000	4000	8000
INLET SOUND POWER (DB)	81	79	87	82	84	78	73	67
DISCHARGE SOUND POWER (DB)	81	82	90	87	90	84	81	75
RADIATED SOUND POWER (DB)	85	85	81	78	76	71	68	60

PROVIDE THE FOLLOWING:
1. FULLY INSULATED (2", 1.5 LBS) STRUCTURAL PLENUM ROOF CURB WITH INSULATED (2", 1.5 LBS) BAFFLES BETWEEN SUPPLY AND RETURN, SERVICE PLATFORM & INTERNAL VIBRATION ISOLATORS. SECURE ROOF CURB TO ROOF STRUCTURE & SECURE DOAS TO ROOF CURB. AS REQUIRED TO RESIST WIND LOADS.
2. DOUBLE WALL CONSTRUCTION THROUGHOUT WITH DOUBLE WALL ACCESS DOOR.
3. FACTORY MOUNTED/POWERED GFI CONVENIENCE OUTLET.
4. COMPLETE DDC CONTROLS, ALL NECESSARY FIELD WIRING, RELAYS, TRANSFORMERS, PROGRAMMING, ETC. FOR SATISFACTORY OPERATION WITH:
   – TIME CLOCK PROGRAM WITH UNOCCUPIED OFF AND OCCUPIED RUN CYCLES.
   – RETURN AIR BASED TEMPERATURE/RH CONTROL CYCLES FOR HEATING, COOLING & DEHUMIDIFICATION.
5. ECM OR INVERTER DUTY AND VFD FOR ALL SUPPLY & EXHAUST FANS.
6. NON–FUSED DISCONNECT SWITCH.
7. PHASE FAILURE MONITOR/SHUTDOWN RELAY SYSTEM.
8. FACTORY START UP & PERSONNEL TRAINING.
9. MT6210 A2L LEAK MITIGATION CONTROL AS REQUIRED BY UL 60335–2–40.
10. PROVIDE PHASE MONITORING SHUT–DOWN SYSTEM WITH AUTO RESET.

VENTILATION SCHEDULE

ROOM NAME – ROOM #	AREA SQ. FT.	No. OF WC & URINAL FIXTURES	No. OF PEOPLE	REQUIRED OUTSIDE (EXHAUST) AIR CFM PER CODE				PROVIDED VENTILATION AIR CFM PER DESIGN				
				PER PERSON	PER FIXTURE	PER SQ. FT.	TOTAL MINIMUM (EXHAUST)	SUPPLY	RETURN	OUTSIDE AIR	EXHAUST	EQUIPMENT TAG No.
MULTI–PUROSE 101	837	–	56	7.5	–	0.06	471	720	–	720	480	DOAS–1
MULTI–PUROSE 121	685	–	46	7.5	–	0.06	387	430	–	430	380	DOAS–1
RESTROOM 118	29	1	–	–	(50)	–	(50)	–	–	–	50	DOAS–1
OFFICE 117	163	–	2	5	–	0.06	20	70	–	70	–	DOAS–1
RESTROOM 119	13	1	–	–	(50)	–	(50)	–	–	–	50	DOAS–1
LOUNGE 116	146	–	10	7.5	–	0.06	84	90	–	90	90	DOAS–1
RESTROOM 115	180	4	–	–	(220)	–	(220)	–	–	–	220	DOAS–1
KITCHEN 113	123	–	1	7.5	–	0.12	23	25	–	25	125	DOAS–1
DINING ROOM 108	541	–	66	7.5	–	0.06	672	780	–	780	680	DOAS–1
STORAGE 107	146	–	–	–	–	0.06	9	10	–	10	10	DOAS–1
STORAGE 106	61	–	–	–	–	0.06	4	10	–	10	10	DOAS–1
STORAGE 104 & 105	767	–	–	–	–	0.06	46	50	–	50	50	DOAS–1
STORAGE 103	180	–	–	–	–	0.06	11	15	–	15	15	DOAS–1
STORAGE 102	133	–	–	–	–	0.06	8	10	–	10	10	DOAS–1
STORAGE 002	31	–	1	–	–	0.06	12	12	–	12	12	DOAS–1
STORAGE 003 & 004	187	–	1	–	–	0.06	33	35	–	35	35	DOAS–1
STORAGE 005	201	–	1	–	–	0.06	46	25	–	25	25	DOAS–1
MECHANICAL ROOM 006	373	–	2	–	–	0.06	23	23	–	23	23	DOAS–1
STORAGE 007 & 008	372	–	1	–	–	0.06	46	50	–	50	50	DOAS–1
STORAGE 009	262	–	1	–	–	0.06	16	26	–	26	26	DOAS–1
CORRIDOR 001	281	–	–	–	–	0.06	17	20	–	20	20	DOAS–1
CORRIDOR 001	54	–	–	–	–	0.06	4	10	–	10	10	DOAS–1
–	–	–	–	–	–	–	–	–	–	–	–	–

VENTILATION SCHEDULE NOTES:
NEW JERSEY STATE ADMINISTRATIVE CODE, EDUCATION – ALL SCHOOL BUILDINGS SHALL BE EQUIPPED WITH A MECHANICAL AIR SUPPLY AND EXHAUST VENTILATION SYSTEM WHICH WILL PROVIDE DURING PERIODS OF OCCUPANCY, STANDARD TEMPERED OUTDOOR AIR SUPPLY AND MECHANICAL EXHAUST AT THE MINIMUM RATE SET FORTH IN THE INTERNATIONAL MECHANICAL CODE VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY.

ELECTRIC CABINET UNIT HEATER SCHEDULE

ECUH/#

MARK No.		ECUH–1
LOCATION		VESTIBULES
MANUFACTURER		MARKEL
MODEL		F3442A1
TYPE		SURFACE MOUNTED
CAPACITY	BTUH	6,826
CAPACITY	KW	2
AIRFLOW	CFM	600
MOTOR DATA:		
SIZE	HP (KW)	2
POWER	V/PH/HZ	208/1/60
	AMPS	9.6
APPROX. WEIGHT	LBS	100
DIMENSIONS	IN (D x W x H)	17x17x12

PROVIDE THE FOLLOWING:
1. DOUBLE DEFLECTION DISCHARGE LOUVER.
2. DDC WITH WALL MOUNTED TEMPERATURE SENSORS.

VRV OUTDOOR CONDENSING UNIT SCHEDULE

VCU/#

MARK No.		VCU–1
LOCATION		ROOF
MANUFACTURER		DAIKIN
SERVICE		LEVEL 1
MODEL No.		REYQ96T7JU
TYPE		HEAT RECOVERY
RATED COOLING CAPACITY	MBH	90,000
RATED HEATING CAPACITY	MBH	100,000
AHRI EER (NONDUCTED/DUCTED)		15.10/13.10
MODULES		1
REFRIGERANT DATA:		
REFRIGERANT TYPE		R410A
REFRIGERANT CHARGE	LBS	25.8
LIQUID LINE	IN	3/8
GAS LINE	IN	7/8
H/L	IN	3/4
ELECTRICAL DATA:		
POWER	V/PH/HZ	208/3/60
MINIMUM CIRCUIT AMPS	AMPS	38
MAXIMUM FUSE SIZE	AMPS	45
NET WEIGHT (APPROX.)	LBS	703
DIMENSIONS (WxHxD)	IN	49x67x31

NOTES:
1. COMPLY WITH MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
2. INSTALL, SIZE, AND INSULATE REFRIGERANT PIPING ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE PIPING DIAGRAM FOR QUANTITY & SIZING OF REFRIGERANT PIPING.
3. PROVIDE WEATHERPROOF FUSED DISCONNECT FOR OUTDOOR UNIT.
4. PROVIDE LOW AMBIENT HEATING AND WEATHER BAFFLE AS REQUIRED
5. PROVIDE 18" HIGH SEISMIC & WIND RATED EQUIPMENT RAILING WITH VIBRATION ISOLATORS.
6. PROVIDE FACTORY START UP & PERSONNEL TRAINING.
7. PROVIDE AN I–TOUCH MANAGER WITH BACNET SERVER SOFTWARE.
8. PROVIDE TAMPER RESISTANT COVERS FOR ALL INDOOR THERMOSTATS.

BRANCH SELECTOR BOX SCHEDULE

BSB/#

MARK No.		BSB–1
LOCATION		FIRST FLOOR
MANUFACTURER		DAIKIN
MODEL No.		BSF6Q54TVJ
DESIGNATED CU		VCU–1
# OF PORTS		6
POWER SUPPLY	V/PH/Hz	208/1/60
MCA	AMPS	0.6
MOCP	AMPS	15
APPROX. WEIGHT	LBS	73
(H x W x D)	IN	12x33x19

REMARKS:
1. PROVIDE 3 FT ACCESS CLEARANCE ON CONTROL SIDE OF BRANCH SELECTOR BOX.
2. PROVIDE EACH PORT/OUTLET A MINIMUM 650 PSIG R–410 ISOLATION VALVE.
3. PROVIDE ISOLATION VALVES AT ALL OUTLETS OF ALL BRANCH SELECTOR BOXES. MAX PRESSURE RATING SHOULD BE EQUAL OR GREATER THAN 650 PSIG, AND PER SPECIFICATIONS.

DRAWING REFERENCE SCALE, VERIFY ACTUAL SIZE AND ADJUST AS REQUIRED.
4" 3" 2" 1" 0"

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989–3518

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KELTER AND GILLIGO CONSULTING
196 Princeton–Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799–8336

STRUCTURAL:
HARRISON AND HANNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818–1808

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NO.	DATE	DESCRIPTION
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REVISIONS

PROFESSIONAL ENGINEER
NJ LICENSE NO. 38656
FRANK TINDALL, P.E.
DATE 03/19/25

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	CL
CHECKED BY:	NML

SHEET TITLE:
ABBREVIATION, SYMBOLS, AND SCHEDULES - HVAC

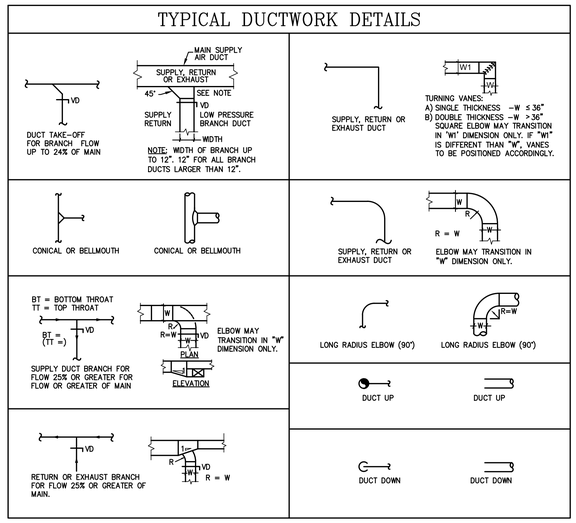
DRAWING NO.:
H200

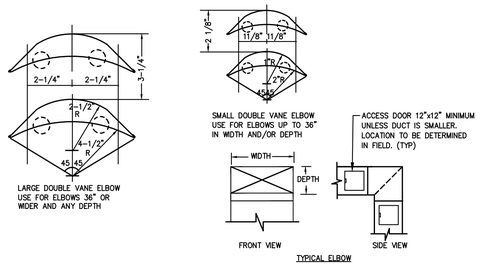
CCH PROJECT NO: 2070.03

March 20, 2025 1:39:16 p.m.
Drawing: 2070 21.DWG

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON–HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

TYPICAL DUCTWORK DETAILS





NOTES:

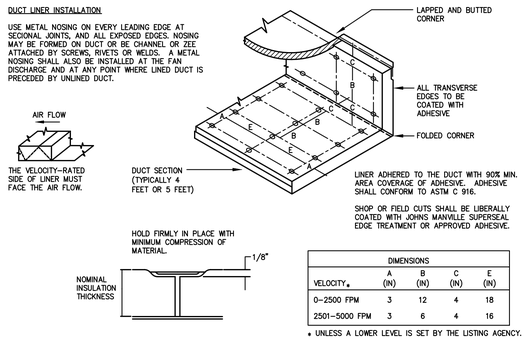
1. ALL SQUARE OR RECTANGULAR ELBOWS SHALL HAVE ONE OF THE TWO TYPES OF TURNING VANES SHOWN ABOVE. SINGLE VANE ELBOWS WILL NOT BE PERMITTED.
2. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.
3. ALL SQUARE OR RECTANGULAR ELBOWS SHOWN ON PLANS FOR EXHAUST OR RETURN DUCT MAY BE MADE RADIUS ELBOWS PROVIDED SPACE PERMITS RADIUS INSTALLATION.
4. ALL SQUARE OR RECTANGULAR ELBOWS SHOWN ON PLANS FOR SUPPLY DUCT MAY BE MADE RADIUS ELBOWS PROVIDED SPACE PERMITS RADIUS INSTALLATION AND/OR THERE ISN'T AN OUTLET OR TAKE-OFF WITHIN 5D ON THE DOWN STREAM SIDE OF THE ELBOW.

1 H201 SQUARE OR RECTANGULAR ELBOW DETAIL

NOT TO SCALE

DUCT LINER INSTALLATION

USE METAL NOSING ON EVERY LEADING EDGE AT SECIONAL JOINTS, AND ALL EXPOSED EDGES. NOSING MAY BE FORMED ON DUCT OR BE CHANNEL OR ZEE ATTACHED BY SCREWS, RIVETS OR WELDS. A METAL NOSING SHALL ALSO BE INSTALLED AT THE FAN DISCHARGE AND AT ANY POINT WHERE LINED DUCT IS PRECEDED BY UNLINED DUCT.

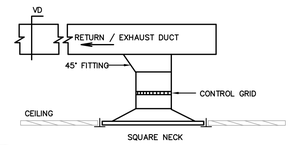


DIMENSIONS				
VELOCITY*	A (IN)	B (IN)	C (IN)	E (IN)
0-2500 FPM	3	12	4	18
2501-5000 FPM	3	6	4	16

* UNLESS A LOWER LEVEL IS SET BY THE LISTING AGENCY.

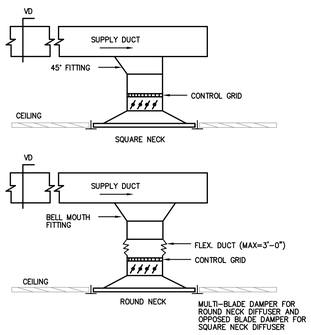
2 H201 DUCT LINER INSTALLATION DETAIL

NOT TO SCALE



3 H201 CEILING REGISTER TAKE-OFF

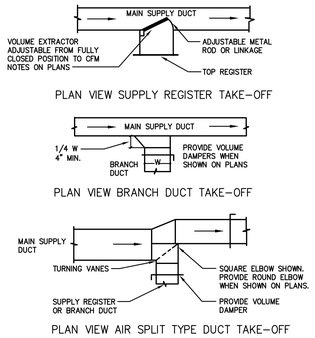
NOT TO SCALE



4 H201 CEILING DIFFUSER TAKE-OFF DETAIL

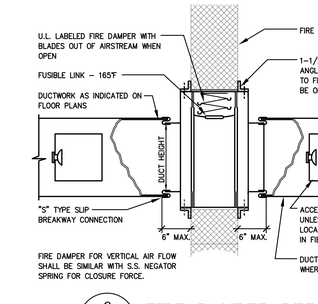
NOT TO SCALE

SIMILAR FOR RETURN & EXHAUST AIR OUTLET



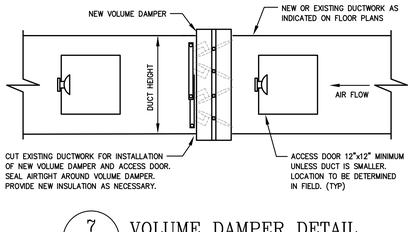
5 H201 SUPPLY DUCT TAKE-OFF DETAIL

NOT TO SCALE



6 H201 FIRE DAMPER DETAIL

NOT TO SCALE

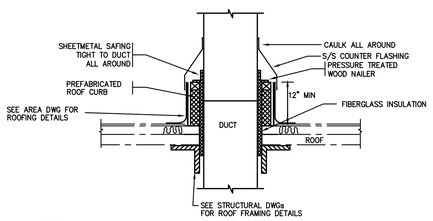


7 H201 VOLUME DAMPER DETAIL

NOT TO SCALE

NOTES:

1. SIMILAR FOR MOTOR OPERATED DAMPERS.

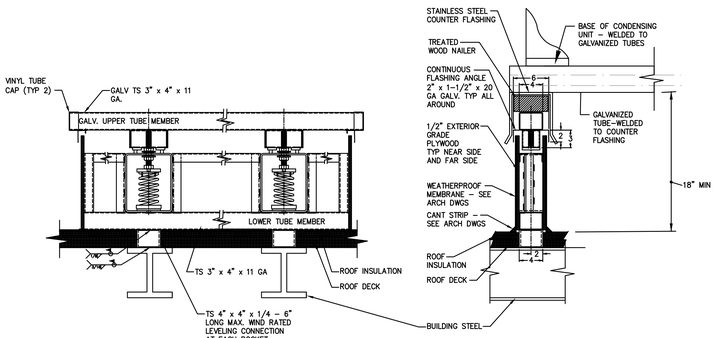


8 H201 DUCT PENETRATION THROUGH ROOF DETAIL

NOT TO SCALE

NOTES:

1. REFER TO ROOFING DETAILS ON ARCHITECTURAL DRAWINGS.
2. ALL WOOD SHALL BE PRESSURE TREATED FIRE RETARDANT.

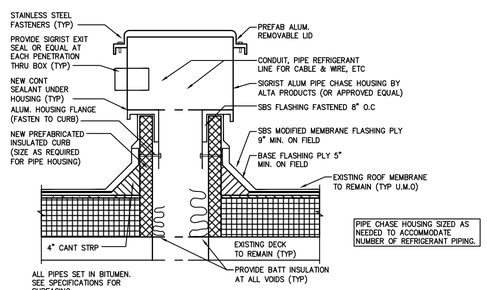


9 H201 ROOF TOP CONDENSING EQUIPMENT RAIL DETAIL

NOT TO SCALE

NOTES:

1. REFER TO ROOFING DETAILS ON ARCHITECTURAL DRAWINGS.
2. ALL WOOD SHALL BE PRESSURE TREATED FIRE RETARDANT.
3. PLACE SUPPORTS OVER BUILDING STEEL WHEN RUNNING PARALLEL WITH FRAMING MEMBERS, OR SIZE TO SPAN OVER AT LEAST 2 MEMBERS WHEN RUNNING PERPENDICULAR.



10 H201 REFRIGERANT PIPES/ELECTRICAL CONDUITS PENETRATION THROUGH ROOF W/ ALUM HOUSING

NOT TO SCALE

NOTES:

1. REFER TO ROOFING DETAILS ON ARCHITECTURAL DRAWINGS.
2. ALL WOOD SHALL BE PRESSURE TREATED FIRE RETARDANT.

DRAWING REFERENCE SCALE. VERIFY ACTUAL SIZE AND ADJUST AS REQUIRED.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

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Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

STRUCTURAL:
HARRISON AND HAMNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

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DATE 03/19/25

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SENIOR CENTER
TRENTON, NEW JERSEY

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CHECKED BY:	NML

SHEET TITLE:
DETAILS - HVAC

March 20, 2025, 1:26:16 p.m.
Drawing: 2070.03 H201.DWG

DRAWING NO.:
H201

CCH PROJECT NO: 2070.03

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
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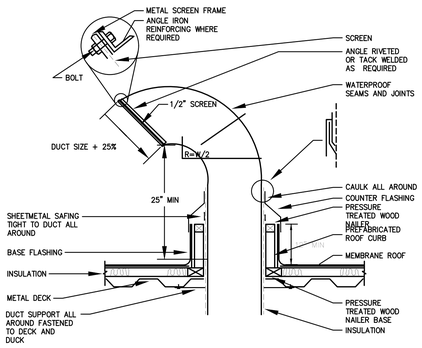
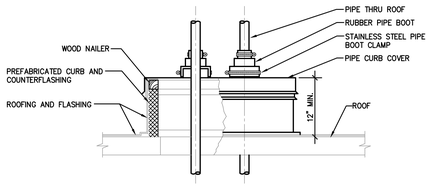
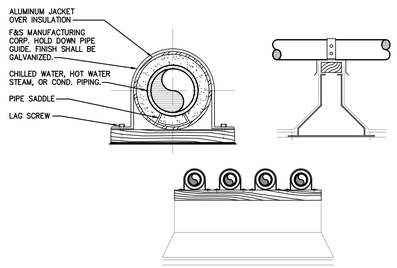
Professional Engineer
NJ 38656



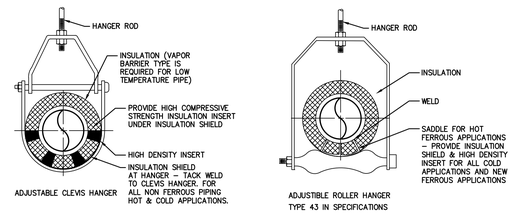
1 H202 RECTANGULAR GOOSENECK
NOT TO SCALE



2 H202 TYPICAL PIPE PENETRATION THROUGH ROOF- TWO PIPES MAX
NOT TO SCALE



3 H202 ROOF-TOP PIPE SUPPORT DETAIL
NOT TO SCALE



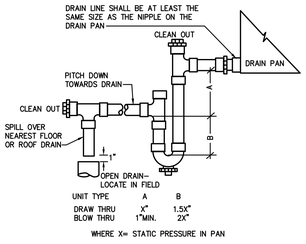
4 H202 TYPICAL PIPE HANGERS
NOT TO SCALE

5 H202 DRAIN CONNECTION AT DOAS COOLING COIL DETAIL
NOT TO SCALE

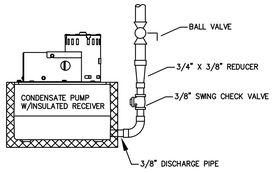
6 H202 TYPICAL PIPE HANGER & INSULATED PIPE DETAIL
NOT TO SCALE

7 H202 PIPE THROUGH INTERIOR WALL DETAIL
NOT TO SCALE

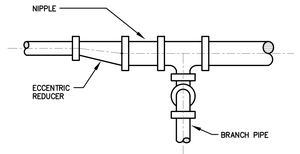
8 H202 PIPE THROUGH FLOOR DETAIL
NOT TO SCALE



9 H202 AIR CONDITIONING UNIT DRAIN TRAP DETAIL
NOT TO SCALE



10 H202 CONDENSATE PUMP DETAIL
NOT TO SCALE



11 H202 REDUCTION IN PIPE SIZE DETAIL
NOT TO SCALE

DRAWING REFERENCE SCALE. VERIFY ACTUAL SIZE AND ADJUST AS REQUIRED.

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Architecture
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100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
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Trenton, NJ 08608
(609) 989-3518

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196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
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STRUCTURAL:
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40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

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DATE 03/19/25

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TRENTON, NEW JERSEY

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DRAWN BY:	CL
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SHEET TITLE:
DETAILS - HVAC

March 20, 2025 1:09:16 p.m.
Drawing: 2070.03 DET.DWG

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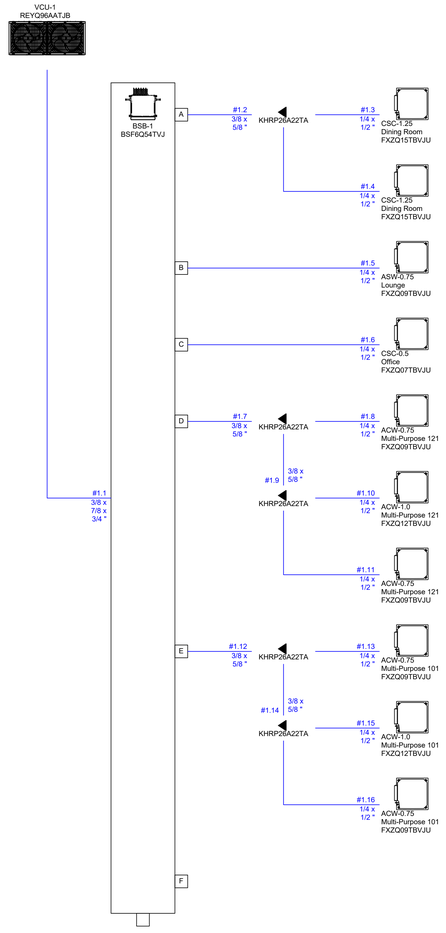
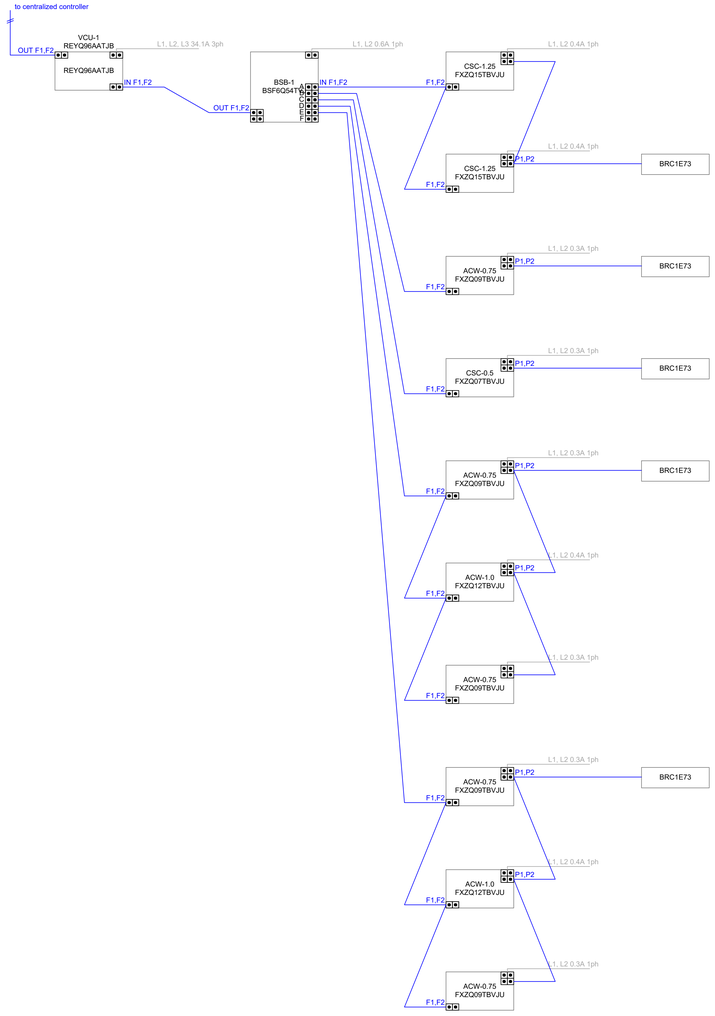
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

DRAWING NO.:
H202

CCH PROJECT NO: 2070.03



1 / H300 VCU-1 PIPING DIAGRAM
NOT TO SCALE



2 / H300 VCU-1 WIRING DIAGRAM
NOT TO SCALE

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Planning
Landscape Architecture
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Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

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Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
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STRUCTURAL:
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40 Knowles Street
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SHEET TITLE:
VCU PIPING AND WIRING DIAGRAMS - HVAC

DRAWING NO.:
H300

CCH PROJECT NO: 2070.03

March 20, 2025 1:26:16 p.m.
Drawing: H300 E1.DWG

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PRINCETON JUNCTION NEW JERSEY 08550
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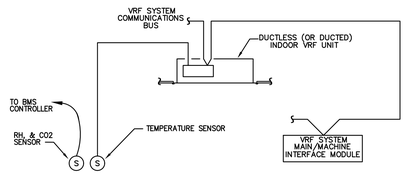
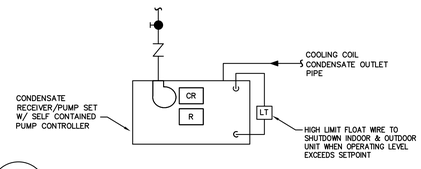


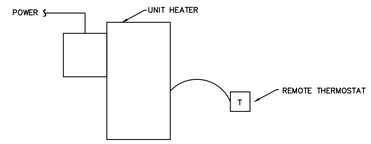
1 H400 TYPICAL DUCTLESS INDOOR VRF UNIT CONTROL DIAGRAM

SCHEMATIC



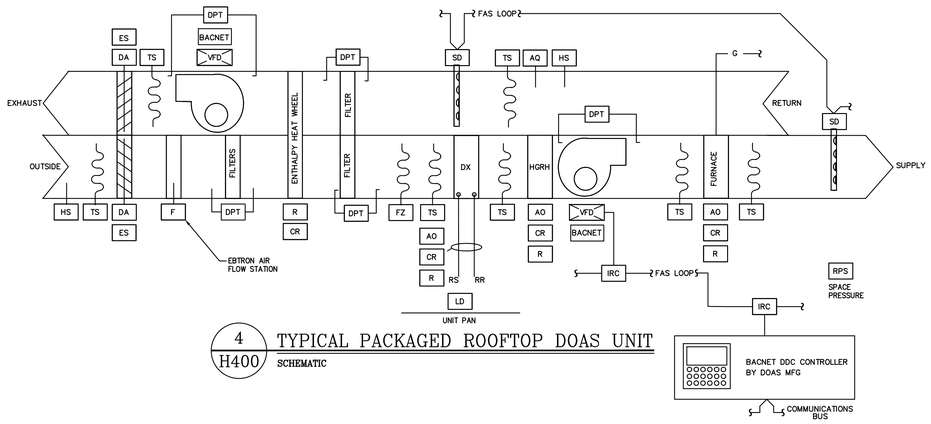
2 H400 TYPICAL CONDENSATE PUMP CONTROL DIAGRAM

SCHEMATIC



3 H400 TYPICAL ELECTRIC CABINET/UNIT HEATER CONTROL DIAGRAM

SCHEMATIC



4 H400 TYPICAL PACKAGED ROOFTOP DOAS UNIT

SCHEMATIC

CONTROL NOTES

1. CONTROL DIAGRAMS ARE FOR GENERAL REFERENCE INDICATING RELATIVE LOCATION OF DEVICES. THE BMS CONTRACTOR SHALL PROVIDE ALL DEVICES REQUIRED TO ACCOMPLISH THE SEQUENCE OF OPERATION OR AS INDICATED ON THE POINT LISTS OR AS NEEDED TO PROVIDE A COMPLETE AND OPERABLE SYSTEM IN ADDITION TO ANY CONTROL DEVICES INDICATED ON THESE DIAGRAMS. THE BMS CONTRACTOR SHALL REVIEW THE MECHANICAL EQUIPMENT SPECIFICATIONS AND THE MECHANICAL EQUIPMENT SUBMITTALS IN ORDER TO CONFIRM MECHANICAL UNIT CONFIGURATIONS PRIOR TO PREPARING CONTROL SUBMITTALS.

CONTROL ABBREVIATIONS

AFS	AIR FLOW SWITCH – DI TO LOCAL CONTROLLER
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AQ	CO2/ AIR QUALITY SENSOR – AI TO LOCAL CONTROLLER
BACNET	COMMUNICATION TO BACNET NETWORK FOR CONTROL AND MONITORING WHERE AVAILABLE
BOILER	DO, (2) DI, AO TO LOCAL CONTROLLER
CHILLER	DO, DI, AO TO LOCAL CONTROLLER
CR	CURRENT RELAY – DI TO LOCAL CONTROLLER
DA	DAMPER ACTUATOR – AO FROM LOCAL CONTROLLER
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DPT	DIFFERENTIAL PRESSURE TRANSMITTER – AI TO LOCAL CONTROLLER
ES	END SWITCH – DI TO LOCAL CONTROLLER / HARD WIRED
F	FLOW METER
FSN	FLOW SENSOR – AI TO LOCAL CONTROLLER
FZ	FREEZESTAT – DI TO LOCAL CONTROLLER / HARD WIRED
HS	HUMIDITY SENSOR – AI TO LOCAL CONTROLLER
IRC	INTELLIGENT RELAY CONTROL
LD	LEAK DETECTOR – DI TO LOCAL CONTROLLER
PT	PRESSURE TRANSMITTER – AI TO LOCAL CONTROLLER
R	RELAY – DO FROM LOCAL CONTROLLER
RPS	ROOM PRESSURE SENSOR – AI LOCAL CONTROLLER
RS	SPACE TEMPERATURE SENSOR – (2) AI, DI TO LOCAL CONTROLLER
SD	SMOKE DETECTOR – DI TO LOCAL CONTROLLER / HARD WIRED
TS	TEMPERATURE SENSOR – AI TO LOCAL CONTROLLER
VA	VALVE ACTUATOR – AO FROM LOCAL CONTROLLER
VAV	VARIABLE AIR VOLUME – AO, AI TO LOCAL CONTROLLER
VFD	VARIABLE FREQUENCY DRIVE – DO, DI, AO TO LOCAL CONTROLLER

DRAWING REFERENCE SCALE. VERIFY ACTUAL SIZE AND ADJUST AS REQUIRED.

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(609) 799-8336

STRUCTURAL:
HARRISON AND HAWNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

PROFESSIONAL ENGINEER
NJ LICENSE NO 38656
FRANK TINDALL, P.E.
DATE 03/19/25

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	CL
CHECKED BY:	NML

SHEET TITLE:
CONTROL DIAGRAMS - HVAC

DRAWING NO.:
H400

CCH PROJECT NO: 2070.03

March 20, 2025 1:26:16 p.m.
Drawing: H400 CL.DWG

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

HVAC SPECIFICATIONS:

1.0 GENERAL

A. GOVERNING CODES AND STANDARDS
   a. NJ UNIFORM CONSTRUCTION CODE
   b. INTERNATIONAL BUILDING CODE, NJ EDITION
   c. INTERNATIONAL MECHANICAL CODE
   d. NFPA STANDARDS 90A
   e. ALL APPLICABLE ASHRAE STANDARDS
   f. ALL APPLICABLE SMACNA STANDARDS
   g. NATIONAL ELECTRICAL CODE
   h. UL (ALL EQUIPMENT MUST BE LABELED)
   i. NEBB.

B. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS, GOVERNING CODES, APPROVED SHOP DRAWINGS AND MANUFACTURER'S INSTRUCTIONS.

C. PERMITS: ACQUIRE ALL PERMITS AND PAY ALL FEES FOR THIS WORK.

D. WARRANTY: THE EQUIPMENT SHALL HAVE A MANUFACTURER'S WARRANTY FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER. IF DURING THIS PERIOD, ANY PART SHOULD FAIL TO FUNCTION PROPERLY DUE TO DEFECTS IN WORKMANSHIP OR MATERIAL, IT SHALL BE REPLACED OR REPAIRED AT THE DISCRETION OF THE MANUFACTURER. MANUFACTURER SHALL HAVE FIFTEEN YEARS EXPERIENCE IN THE U.S. MARKET.

E. BEFORE SUBMITTING BIDS, CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND BECOME THOROUGHLY FAMILIAR WITH THE OBSERVABLE EXISTING CONDITIONS AFFECTING HIS WORK. NO ADDITIONAL COMPENSATION WILL BE GRANTED ON ACCOUNT OF EXTRA WORK MADE NECESSARY BY THE CONTRACTOR'S FAILURE TO INVESTIGATE EXISTING CONDITIONS.

F. SUBMIT COMPOSITE COORDINATION SHOP DRAWINGS THAT SHOW ALL EXISTING AND NEW DUCTWORK, HVAC PIPING, PLUMBING PIPING, CONDUITS, LIGHTING FIXTURES, BUILDING STRUCTURE, CEILING MOUNTED EQUIPMENT, ETC. EXACT ELEVATION OF ALL COMPONENTS SHALL BE INDICATED

G. CONTRACTOR SHALL SUBMIT MARKED UP HVAC DRAWINGS TO ENGINEER TO SHOW "AS-BUILT" CONDITIONS AFTER SATISFACTORY COMPLETION OF PROJECT.

H. CONTRACTOR SHALL PROVIDE OWNER WITH FIVE (5) COPIES OF OPERATION AND MAINTENANCE MANUALS PRIOR TO ACCEPTANCE OF FINAL PAYMENT.

I. SPARE PARTS: THE CONTRACTOR SHALL FURNISH A MINIMUM OF TWO COMPLETE SPARE FILTER SETS AND FAN BELTS FOR ALL NEW AHU'S.

J. BEFORE BIDDING ON THE PROJECT, THE CONTRACTOR IS TO FAMILIARIZE THEMSELVES WITH EXISTING HVAC EQUIPMENT INCLUDES BOILERS, EXHAUST FANS, & FTR IN FIELD. PROVIDE FACTORY REPAIR/MAINTENANCE AS REQUIRED TO BRING EQUIPMENT BACK TO WORKING CONDITIONS.

K. BEFORE BIDDING ON THE PROJECT, THE CONTRACTOR IS TO FAMILIARIZE THEMSELVES WITH EXISTING HEATING STEAM SYSTEM PIPING. PROVIDE PIPING AS REQUIRED TO BRING BACK HEATING STEAM SYSTEM BACK TO WORKING CONDITIONS.

2.0 SUBMITTALS

A. SHOP DRAWINGS SHALL BE REQUIRED FOR: ALL EQUIPMENT, MATERIALS, MEANS & METHODS INTENDED FOR USE UNDER THIS CONTRACT.

B. PRIOR TO DELIVERY TO THE JOB SITE, BUT SUFFICIENTLY IN ADVANCE OF REQUIREMENTS NECESSARY TO ALLOW ARCHITECT AMPLE TIME FOR REVIEW, SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT, FIXTURES, MATERIAL, PIPING, DUCTWORK, SLEEVES, WIRING DIAGRAMS, ETC. AND FURTHER OBTAIN WRITTEN COMMENTS OR "APPROVED" OR "APPROVED AS NOTED" FOR THE SAME FROM ARCHITECT BEFORE INSTALLING ANY OF THESE ITEMS.

C. SHOP DRAWINGS SHALL CONSIST OF MANUFACTURER'S CERTIFIED SCALE DRAWINGS, CUTS, OR CATALOGUES, INCLUDING DESCRIPTIVE LITERATURE AND COMPLETE CERTIFIED CHARACTERISTICS OF EQUIPMENT, FIXTURES, ETC. SHOWING DIMENSIONS, CAPACITY, CODE REQUIREMENTS, MOTOR AND DRIVE TESTING, AS INDICATED IN THE CONTRACT DOCUMENTS.

D. CERTIFIED PERFORMANCE CURVES FOR ALL MECHANICAL EQUIPMENT SHALL BE SUBMITTED FOR REVIEW.

E. SAMPLES, DRAWINGS, SPECIFICATIONS, CATALOGUES, ETC., SUBMITTED FOR REVIEW SHALL BE PROPERLY LABELED INDICATED PROJECT NAME, AND SPECIFIC SERVICE FOR WHICH MATERIAL OR EQUIPMENT IS TO BE USED.

F. FAILURE TO SUBMIT SHOP DRAWINGS IN AMPLE TIME FOR CHECKING SHALL NOT ENTITLE AN EXTENSION OF CONTRACT TIME, AND NO CLAIM FOR EXTENSION BY REASON OF SUCH DEFAULT SHALL BE ALLOWED.

G. PRIOR TO SUBMISSION OF SHOP DRAWINGS CONTRACTOR SHALL THOROUGHLY CHECK EACH SHOP DRAWING, REJECT THOSE NOT CONFORMING TO THE SPECIFICATIONS, AND INDICATE BY SIGNED, STAMPED, & WRITTEN DECLARATION THAT THE SHOP DRAWINGS SUBMITTED MEET CONTRACT REQUIREMENTS.

H. THE COMMENT "APPROVED" OR "APPROVED AS NOTED" RENDERED ON SHOP DRAWINGS SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS. WHERE DRAWINGS ARE REVIEWED, SAID REVIEW DOES NOT IN ANY WAY RELIEVE THE RESPONSIBILITY, OR NECESSITY, OF FURNISHING MATERIAL OR PERFORMING WORK AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS

I. "APPROVED AS NOTED" MEANS, UNLESS OTHERWISE NOTED ON THE DRAWINGS, TO APPROVE FOR CONSTRUCTION, FABRICATION, AND/OR MANUFACTURE SUBJECT TO THE PROVISION THAT THE WORK SHALL BE CARRIED OUT IN COMPLIANCE WITH ALL ANNOTATIONS AND/OR CORRECTIONS INDICATED ON THE SHOP DRAWINGS AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

1. WHERE THE COMMENT "APPROVED AS NOTED" INCLUDES DIRECTION TO THE CONTRACTOR TO RESUBMIT CORRECTED SHOP DRAWINGS FOR RECORD; FAILURE TO COMPLY WITH THE INSTRUCTION TO RESUBMIT RECORD COPY SHALL RENDER ALL APPROVAL NULL AND VOID.

3.0 IDENTIFICATION

A. PROVIDE IDENTIFICATION FOR PIPING, DUCTWORK AND EQUIPMENT.

B. IDENTIFICATION SHALL BE IN ACCORDANCE WITH "SCHEME FOR IDENTIFICATION OF PIPING SYSTEM ANSI A13.1" AND OSHA SAFETY COLOR REGULATION.

C. MARKERS SHALL BE SNAP-ON TYPE AS MANUFACTURED BY SETON NAMEPLATE CORP., NEW HAVEN, CONN. (SETMARK SYSTEM), BUNTING STAMP CO. INC., PITTSBURGH, P.A. OR APPROVED EQUAL. MARKERS SHALL COMPLETELY ENCIRCLE THE PIPE WITH A SUBSTANTIAL OVERLAP. NO ADHESIVE SHALL BE USED. THEY SHALL BE MANUFACTURED OF U.L. APPROVED, SELF-EXTINGUISHING PLASTIC . WHEN THE PIPE INCLUDING INSULATION (IF ANY) IS 6" DIAMETER AND LARGER, MARKERS SHALL BE STRAP-ON TYPE.

D. PIPE SHALL BE LETTERED AND VALVES TAGGED. LETTERING SHALL BE LOCATED NEAR EACH VALVE AND BRANCH CONNECTION AND AT INTERVALS OF NOT OVER 40' ON STRAIGHT RUNS OF PIPE. PROVIDE FLOW ARROWS FOR ALL PIPING AT EACH MARKER. ADJACENT TO THE LEGEND, STENCIL THE SIZE OF THE PIPE, CONDUIT OR DUCTWORK. LETTER COLORS ARE AS FOLLOWS: YELLOW WITH BLACK LETTERS, GREEN WITH WHITE LETTERS, AND RED WITH WHITE LETTERS.

E. PROVIDE FOR EACH ITEM OF EQUIPMENT, INCLUDING AIR HANDLING AND CONDENSING UNITS, A PERMANENTLY ATTACHED NAMEPLATE MADE OF BLACK SURFACE, WHITE CORE LAMINATED BAKELITE WITH INCISED LETTERS. SUBCONTRACTOR FURNISHING EQUIPMENT SHALL PROVIDE NAMEPLATES SHALL BE A MINIMUM OF 3" LONG BY 1 1/2" WIDE AND SHALL BEAR THE EQUIPMENT NAME AND ITEM NUMBER OF 1/2" HIGH WHITE LETTERS AS DESIGNATED IN THE EQUIPMENT SCHEDULE. MOUNTING SCREWS SHALL HAVE CHROME PLATED ACORN HEADED SCREWS.

4.0 BALANCING

A. NEBB CERTIFIED BALANCING COMPANY MUST BE A COMPANY WHICH IS INDEPENDENT OF THE CONTRACTOR AND BE APPROVED FOR USE BY THE OWNER PRIOR TO BALANCING THE SYSTEM.

B. BALANCE THE HEATING AND COOLING SYSTEMS TO PROVIDE UNIFORM TEMPERATURES IN ALL HEATED OR COOLED AREAS AND ROOMS.

C. BALANCE AIR SYSTEMS TO QUANTITIES INDICATED AND FURNISH A REPORT INDICATING DIFFUSER, REGISTER SIZES, LOCATIONS AND CFM VALUES INCLUDING AIR HANDLING UNIT CFM ACTUAL FAN PERFORMANCE DATA.

D. THE CONTRACTOR SHALL SUBMIT AN AIR AND WATER BALANCE REPORT PRIOR TO FINAL ACCEPTANCE.

E. THE FOLLOWING DATA SHALL BE OBTAINED AND RECORDED AT THE AHU UNIT SUPPLY FAN.
   1. FAN AND MOTOR RPM.
   2. MOTOR AND CURRENT VOLTAGE.
   3. FAN, COIL AND FILTER STATICS.
   4. NAMEPLATE DATA ON FAN AND MOTOR.
   5. MOTOR SHEAVE, FAN PULLY AND BELT SIZES.

F. TRAVERSE MAIN SUPPLY AND RETURN DUCTS TO DETERMINE CFM DELIVERIES OF VENTILATION SYSTEM AND FAN COIL UNITS.

G. MEASURE THE SYSTEM DUCT STATIC PRESSURE AT SELECTED POINTS THROUGHOUT THE SYSTEM. MONITORING POINTS SHALL BE IN THOSE DUCT RUNS THAT ARE OF THE LONGEST EQUIVALENT LENGTH (GREATEST FRICTION LOSS). MONITOR THESE POINTS DURING THE ADJUSTING AND BALANCING PROCEDURE TO ASSURE PROPER INLET STATIC PRESSURE IS BEING MAINTAINED TO TERMINAL BOXES.

H. MAKE PRELIMINARY OUTLET READINGS AND BALANCE THE OUTLETS TO DESIGN CFM AND RECORD ALL READINGS.

I. BALANCE NEW HOT WATER SYSTEMS TO QUANTITIES INDICATED AND FURNISH A REPORT INDICATING GPM VALUES FOR ALL COILS.

J. UPON COMPLETION OF THE WATER BALANCE, RECONCILE THE TOTAL HEAT TRANSFER THROUGH THE COILS BY RECORDING THE ENTERING AND LEAVING WATER TEMPERATURES AND THE ENTERING AND LEAVING AIR DRY BULB TEMPERATURES.

K. ALL COILS AND PIPING SYSTEM SHALL BE COMPLETELY BALANCED BY THE ADJUSTMENT OF PLUG COCKS, GLOBE VALVES OR OTHER CONTROL DEVICES, TO OBTAIN THE FLOW QUANTITIES INDICATED ON THE DRAWINGS. BALANCING SHALL BE DONE WITH ALL CONTROLS SET FOR FULL FLOW THROUGH COILS. ALL AUTOMATIC THROTTLING VALVES SHALL BE IN FULL-OPEN POSITION.

L. RECORD THE FOLLOWING DATA FOR ALL NEW COILS:
   1. MANUFACTURER, MODEL AND SIZE
   2. WATER QUANTITY - GPM
   3. TOTAL HEAD - FEET OF WATER

5.0 SHEET METAL WORK

A. FURNISH AND INSTALL ALL SHEET METAL DUCTWORK, PLENUMS, AND ITEMS OF METAL WORK AS NECESSARY TO COMPLETE THE VARIOUS AIR CONDITIONING, VENTILATING AND HEATING SYSTEMS OF THE BUILDING SO THEY ARE READY FOR SATISFACTORY OPERATION. WHILE THE INSTALLATION SHOULD ADHERE TO THE PLANS AND SPECIFICATIONS AS MUCH AS POSSIBLE, THE CONTRACTOR SHALL BE ENTITLED TO MODIFY THE RUNS AND SIZES OF THE DUCTWORK AND TO MAKE OFFSETS, WHERE NECESSARY TO ACCOMMODATE BUILDING CONDITIONS, ONLY AFTER RECEIPT OF WRITTEN APPROVAL FROM THE ENGINEER. ALL SUCH CHANGES OR OFFSETS SHALL BE INDICATED IN THE "AS-BUILT" DRAWINGS SUBMITTED AT THE END OF THE JOB.

B. DUCTWORK SHALL BE CONSTRUCTED ACCORDING TO THE "EQUIPMENT HANDBOOK" PUBLISHED BY ASHRAE AND "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY SMACNA.

C. SHEET METAL GAUGES, TRANSVERSE JOINTS, LONGITUDINAL SEAMS AND INTERMEDIATE REINFORCING MUST BE IN CONFORMANCE WITH SMACNA STANDARDS FOR 6" W.G. AND SEAL CLASS A.

D. ALL SUPPLY DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED STEEL OF U.S. D. STANDARD SHEET METAL GAUGE UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL JOINTS SHALL BE SEALED AIRTIGHT WITH 3MEC-800. CONNECTIONS TO FAN SHALL BE THRU ACID RESISTANT RUBBER NOT LESS THAN 4" LONG, FUME TIGHT AND SECURELY FASTENED WITH COPPER METAL BANDS.

E. ALL CHANGES IN DIRECTION, HORIZONTAL OR VERTICAL, SHALL BE SHAPED TO PERMIT THE EASIEST POSSIBLE AIR FLOW, USING CENTERLINE RADIUS OF 1-1/2 X WIDTH. FOR ALL CASES WHERE 90 DEGREE SQUARE ELBOWS ARE USED, APPROVED DOUBLE THICKNESS TURNING VANES SHALL BE USED. HVAC CONTRACTOR SHALL SUBMIT DETAILS FOR APPROVAL.

F. ALL DUCTWORK SHALL BE BUILT WITH APPROVED JOINTS AND SEAMS SMOOTH ON THE INSIDE WITH LAPS MADE IN THE DIRECTION OF THE AIR FLOW AND NO FLANGES PROJECTING INTO THE AIR STREAM. OUTSIDE SEAMS AND JOINTS SHALL BE AS NEAR TO AIR TIGHT AS POSSIBLE WITH A NEAT FINISH. THE CONTRACTOR SHALL CAULK ALL JOINTS WHICH ARE NOT MECHANICALLY TIGHT.

G. LONGITUDINAL JOINTS SHALL BE PITTSBURGH LOCK AT CORNERS OR ACME LOCK ON FLAT SURFACES DOUBLE SEAMS HAMMERED TIGHT AND SHALL BE LOCATED ABOVE THE HORIZONTAL AXIS OF THE DUCT. A SNAP LOCK SEAM SHALL NOT BE PERMITTED AS A SUBSTITUTE FOR THE PITTSBURGH LOCK AT CORNERS OF DUCTS.

H. TRAVERSE JOINTS SHALL BE MADE AIRTIGHT WITH ALL LAPS IN THE DIRECTIONS OF AIR FLOW.

I. VOLUME DAMPERS AS SHOWN ON DRAWINGS AND AS REQUIRED FOR PROPER OPERATION SHALL BE INSTALLED IN THE VARIOUS BRANCHES FOR USE IN BALANCING THE SYSTEM. VOLUME DAMPERS SHALL BE OF MULTI-OPPOSED BLADE CONSTRUCTION WITH LOCKING QUADRANTS FOR ALL DUCTS OVER 12" IN DEPTH. MOUNTED OUTSIDE OF THE DUCT IN AN ACCESSIBLE PLACE. VOLUME DAMPERS SHALL BE RUSKIN MODEL MD35 OR APPROVED EQUAL WITH END BEARINGS, STAND OFF FOR INSULATED DUCTWORK AND CONTINUOUS AXLE & LOCKING QUADRANT.

J. ALL DUCTWORK SHALL BE INSTALLED AS HIGH AS POSSIBLE TO MAXIMIZE HEADROOM.

K. ALL DUCTWORK SHALL BE HUNG FROM THE BUILDING STRUCTURE.

L. ALL SUPPLY AND RETURN DUCTWORK SHALL BE WRAPPED WITH 1-1/2" THICK, 1-1/2 LB DENSITY FIBERGLASS WITH VAPOR BARRIER AND SHALL NOT EXCEED 25 FLAME SPREAD, 50 SMOKE DEVELOPMENT AND 50 FUEL CONTRIBUTED AS TESTED BY PROCEDURE ASTM-84, NFPA 255 AND UL 723, UNLESS NOTED OTHERWISE.

6.0 SUPPORTS

A. ALL SUPPORTS AND HANGERS FOR EQUIPMENT, DUCTWORK AND PIPING UNDER THIS CONTRACT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

B. ALL HANGERS, SUPPORTS, & HARDWARE SHALL BE GALVANIZED UNLESS OTHERWISE INDICATED.

C. WHERE EXCESSIVE LOADING REQUIRES PROPER DISTRIBUTION OF THE WEIGHT, PROPER SUPPORTS MUST BE PROVIDED, SUBJECT TO THE ARCHITECT'S APPROVAL. ALL SUPPORTS SHALL BE OF STRUCTURAL STEEL.

7.0 PIPING

7.1 HOT WATER AND CONDENSATE DRAIN PIPING

A. ALL PIPES SHALL BE NEW, FREE FROM SCALE OR RUST, OF THE MATERIAL AND WEIGHT SPECIFIED UNDER THE VARIOUS SERVICES. EACH LENGTH OF PIPE SHALL BE PROPERLY MARKED AT THE MILL FOR PROPER IDENTIFICATION WITH NAME OR SYMBOL OF MANUFACTURER.

B. ALL COPPER TUBING SHALL BE OF WEIGHT AS REQUIRED FOR SERVICE SPECIFIED, WITH CONFORMANCE WITH ASTM B-88 FOR TYPES "L" AND "K" TUBING, AS MANUFACTURED BY CHASE, ANACONDA, REVERE, OR APPROVED EQUAL. TUBING AND FITTINGS SHALL BE THOROUGHLY CLEANED WITH SAND CLOTH AND TREATED WITH AN APPROVED NON-CORROSIVE FLUX BEFORE SOLDER IS APPLIED.

C. COPPER TUBING JOINTS SHALL BE MADE WITH 95-5 SOLDER FOR WATER APPLICATIONS.

SERVICE	MATERIAL	SCHEDULE
OVERFLOW AND DRAIN	COPPER	TYPE L (HARD)
HOT WATER (HEATING)	COPPER	TYPE L (HARD

7.2 FITTINGS

A. FITTINGS SHALL BE OF MATERIAL CONFORMING TO THE FOLLOWING SCHEDULE: SOLDER FITTINGS ASTM B-88, 150 LBS. FOR WATER SERVICE.

B. ALL FITTINGS USED AT EXPANSION LOOPS OR BENDS SHALL BE EXTRA HEAVY.

C. FLANGES SHALL BE RAISED FACE, OF THE SAME WEIGHT AS THE FITTINGS IN EACH SERVICE CATEGORY. ALL FLANGES SHALL BE DRILLED TO "US STANDARD" HEX NUTS AND WASHERS. BOLTING SHALL CONFORM TO ASTM 193 GRADE B-7, THREADS CLASS 7 FIT. NUTS SHALL BE SEMI-FINISHED HEXAGONAL, ANSI B18.2 ASTM A194 GRADE 2H.

7.3 PIPE HANGERS AND SUPPORTS

A. PROVIDE NECESSARY STRUCTURAL MEMBERS, HANGERS AND SUPPORTS OF APPROVED DESIGN TO KEEP PIPING IN PROPER ALIGNMENT AND PREVENT TRANSMISSION OF INJURIOUS THRUSTS AND VIBRATIONS. IN ALL CASES WHERE HANGERS, BRACKETS, ETC., ARE SUPPORTED FROM CONCRETE CONSTRUCTION, CARE SHALL BE TAKEN NOT TO WEAKEN CONCRETE OR PENETRATE WATERPROOFING. ALL HANGERS AND SUPPORTS SHALL BE CAPABLE OF SCREW ADJUSTMENT AFTER PIPING IS ERECTED. HANGERS SUPPORTING PIPING EXPANDING INTO LOOPS, BENDS AND OFFSETS SHALL BE SECURED TO THE BUILDING STRUCTURE IN SUCH A MANNER THAT HORIZONTAL ADJUSTMENT PERPENDICULAR TO THE RUN OF PIPING SUPPORTED MAY BE MADE TO ACCOMMODATE DISPLACEMENT DUE TO EXPANSION. ALL SUCH HANGERS SHALL BE FINALLY ADJUSTED, BOTH IN THE VERTICAL AND HORIZONTAL DIRECTION, WHEN THE SUPPORTED PIPING IS HOT, OR CHILLED, AS REQUIRED. ALL PIPE HANGERS, SUPPORTS, & HARDWARE SHALL BE GALVANIZED UNLESS OTHERWISE INDICATED. METAL TO METAL CONTACT IS TO BE AVOIDED. HANGERS IN CONTACT WITH COPPER SHALL BE COPPER PLATED STEEL.

B. PIPE HANGERS SHALL BE THE CLEVIS TYPE, EXCEPT WHERE OTHERWISE NOTED.

PIPE HANGER SCHEDULE:

TYPE OF HANGER	MAKE AND MODEL FIG. NO.	GRINNELL FIG. NO.	GRINNELL FIG. NO.	F & M	CARPENTER& PATERSON	PIPE
2" & SMALLER (COPPER)	ADJUSTABLE WROUGHT IRON		CT-65	364	100CT	

C. HANGER RODS SHALL BE OF THE FOLLOWING DIAMETERS:

PIPE SIZE:	ROD DIAMETER:	MAXIMUM SPACING:
1 1/4" & BELOW	3/8"	6' - 0"
1 1/2" AND 2"	3/8"	10' - 0" (COPPER 8' - 0")

D. BEAM CLAMPS - HANGERS SUPPORTED FROM FLOOR STEEL SHALL BE APPROVED I BEAM CLAMPS. I BEAM CLAMPS FOR HANGERS SUPPORTING PIPING 2" AND SMALLER SHALL BE C & P FIG. NO. 148 ADJUSTABLE BEAM CLAMPS.

E. ALL VERTICAL PIPING SHALL BE ANCHORED BY MEANS OF HEAVY STEEL CLAMPS SECURELY BOLTED OR WELDED TO THE PIPING, AND WITH END EXTENSION BEARING ON THE BUILDING.

F. PIPING SHALL NOT BE HUNG FROM OTHER PIPING DUCTS, CONDUITS OR FROM EQUIPMENT OF OTHER TRADES AND NO VERTICAL EXPANSION SHIELDS WILL BE PERMITTED. HANGER RODS SHALL NOT PIERCE DUCTS.

G. ALL WATER PIPING CONNECTED TO ROTATING EQUIPMENT WITHIN ALL MECHANICAL SPACES SHALL BE ISOLATED FROM THE BUILDING STRUCTURE BY MEANS OF VIBRATION HANGERS INSERTED IN THE HANGER RODS. THE VIBRATION HANGERS SHALL CONSIST OF A STEEL SPRING IN COMBINATION WITH A DOUBLE DEFLECTION NEOPRENE ELEMENT WITHIN A RECTANGULAR STEEL HOUSING. COMBINED STATIC DEFLECTION SHALL BE 1.375" MINIMUM. HANGERS SHALL HAVE CAPABILITY OF SUPPORTING THE PIPING AT A FIXED ELEVATION DURING INSTALLATION AND SHALL INCORPORATE AN ADJUSTING DEVICE TO TRANSFER THE LOAD TO THE SPRING. DEFLECTION SHALL BE INDICATED BY MEANS OF SCALE. VIBRATION HANGERS SHALL BE TYPE PCDNHS MADE BY MASON INDUSTRIES.

H. WHERE ADDITIONAL STEEL IS REQUIRED FOR THE SUPPORT OF HANGERS, FURNISH AND INSTALL SAME SUBJECT TO THE APPROVAL OF THE ARCHITECT.

I. PIPING RUNNING ON WALLS SHALL BE SUPPORTED BY MEANS OF HANGER SUSPENDED FROM HEAVY ANGLE IRON WALL BRACKETS. NO WALL HOOKS WILL BE PERMITTED.

J. LATERAL BRACING OF HORIZONTAL PIPE SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SIDE SWAY OR VIBRATION. THE LATERAL BRACING SHALL BE OF A TYPE APPROVED BY THE ARCHITECT AND SHALL BE INSTALLED WHERE DIRECTED BY THE ARCHITECT.

7.4 REFRIGERATION PIPING

A. UNLESS OTHERWISE NOTED, ALL REFRIGERATION PIPING SHALL BE REFRIGERATION ACR GRADE TYPE K HARD COPPER TUBING, DEGREASED, & SEALED.

B. FITTINGS SHALL BE WROUGHT COPPER OR FORGED BRASS AND ONLY LONG RADIUS ELBOWS OR OR FORMED LONG SWEEP ELBOWS SHALL BE USED. ALL CHANGES IN LINE SIZE SHALL BE ACCOMPLISHED WITH FITTINGS. ABSOLUTELY NO STAB-INS ARE PERMITTED.

C. ALL PIPING JOINTS SHALL BE BRAZED WITH CONTINUOUS N2 PURGE.

D. PROTECTION OF THE PIPING SYSTEMS SHALL BE THIS CONTRACTOR'S RESPONSIBILITY. TEMPORARY PROTECTION SHALL BE PROVIDED UNTIL THE JOB IS IN SATISFACTORY CONDITION, AND PERMANENT PROTECTION SHALL BE PROVIDED BY BUILDING CONTRACTORS AS REQUIRED TO PROTECT PIPING FITTINGS, ETC FROM DAMAGE.

E. INSTALL SCHRADER TYPE VALVES AT THE EVAPORATOR OUTLET OF EACH FIXTURE TO FACILITATE THE ADJUSTMENT OF SUPER HEAT SETTINGS AND TO ESTABLISH PRESSURE DROP. LIQUID LINES CAN BE AFFIXED TO THE SUCTION INSULATION VIA APPROVED DUCT TAPES.

F. SIZE, CHARGE, AND INSULATION OF ALL REFRIGERANT PIPING SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTRUCTIONS.

7.5 REFRIGERATION VALVES

A. ALL VALVES FOR REFRIGERATION SERVICES SHALL BE DIAPHRAGM PACKLESS VALVES. FORGED BRASS OR CAST BRONZE, GLOBE DESIGN WITH STRAIGHT THROUGH OR ANGLE PATTERN. WORKING PRESSURE RATING: 500 PSIG. MAXIMUM OPERATING TEMPERATURE: 275°F.

8.0 STEAM PIPING INSULATION

A. THE FOLLOWING PIPING SHALL BE COVERED WITH FIBERGLASS INSULATION WITH VAPOR BARRIER OF THE FOLLOWING THICKNESS:

SERVICE	THICKNESS
DOAS CONDENSATE DRAIN	1/2"
STEAM SUPPLY AND RETURN	1-1/2"

B. INSULATION SHALL BE GLASS FIBER WITH A MAXIMUM K FACTOR OF 0.23 AT 75 DEGREES F. MEAN TEMPERATURE WITH FACTORY-APPLIED ALL SERVICE VAPOR BARRIER JACKET. DENSITY SHALL BE NOT LESS THAN 3 LBS. PER CUBIC FOOT.

C. INSULATION SHALL BE HEAVY DENSITY FIBERGLASS SECTIONAL PIPE INSULATION AS MADE BY OWENS-CORNING FIBERGLAS CORP. OR CSC'S "SNAP-ON" OR MANVILLE "FLAME SAFE" FIBERGLASS INSULATION.

D. ALL FITTINGS, VALVES AND FLANGES FOR PIPE SIZES SMALLER THAN 4" SHALL BE INSULATED WITH MOLDED FIBER GLASS FITTINGS OF SAME THICKNESS AS THE ADJOINING PIPE INSULATION, SECURED WITH NO. 20 GAUGE GALVANIZED ANNEALED STEEL WIRE ZESTON 25/50 PVC AS MADE BY MANVILLE, OR APPROVED EQUAL.

E. DIRECT CONTACT BETWEEN PIPE AND HANGER SHALL BE AVOIDED.

F. AT PIPE SUPPORTS INSULATION SHIELD PROTECTION SADDLES, HIGH DENSITY INSULATION SUPPORT BLOCKS, AND MATCHING HANGER SHALL BE USED.

G. ALL EXPOSED INSULATED PIPING THAT IS WITHIN 7'-0" OF THE FINISHED FLOOR SHALL BE JACKETED WITH 0.016" THICK ALUMINUM WITH ½" ALUMINUM BARDS SPACED 18" O.C.

8.1 PVC INSULATED FITTING COVERS

A. THE CONTRACTOR SHALL HAVE OPTION TO USE ZESTON 25/50 RATED PVC COVERS AS MADE BY MANVILLE OR APPROVED EQUAL.

8.2 REFRIGERATION PIPING INSULATION

A. THE FOLLOWING PIPING SHALL BE COVERED WITH CLOSED CELL ELASTOMERIC INSULATION WITH VAPOR BARRIER OF THE FOLLOWING THICKNESS:

SERVICE	THICKNESS
REFRIGERANT PIPING	3/4"

B. INSULATION SHALL BE FLEXIBLE CLOSED CELL ELASTOMERIC WITH A MAXIMUM K FACTOR OF 0.27 AT 75 DEGREES F MEAN TEMPERATURE.

C. INSULATION SHALL BE MANUFACTURED BY ARMACELL LLC OR APPROVED EQUAL WITH 25/50 FLAME/SMOKE INDEX,

9.0 - EXECUTION

9.1 INSTALLATION

A. COORDINATE WITH OTHER WORK AS NECESSARY TO INTERFACE INSTALLATION OF PIPING WITH OTHER COMPONENTS OF SYSTEMS.

B. PROVIDE AND ERECT IN A WORKMANLIKE MANNER, ACCORDING TO THE BEST PRACTICES OF THE TRADE, ALL PIPING SHOWN ON THE DRAWINGS OR REQUIRED TO COMPLETE THE INSTALLATION INTENDED BY THESE SPECIFICATIONS.

C. THE DRAWINGS INDICATE SCHEMATICALLY THE SIZE AND LOCATION OF PIPING. PIPING SHALL BE SET UP AND DOWN AND OFFSET TO MEET FIELD CONDITIONS AND TO PROVIDE ADEQUATE MAINTENANCE ROOM AND HEADROOM IN THE SERVICE CORRIDOR.

D. ALL EXPOSED PIPING IN VIEW SHALL RUN PERPENDICULAR AND/OR PARALLEL TO FLOORS, INTERIOR WALLS, ETC. PIPING AND VALVES SHALL BE GROUPED NEATLY AND SHALL RUN SO AS TO AVOID REDUCING HEADROOM OR PASSAGE CLEARANCE. PROVIDE MIN. 7'-6" HEADROOM UNDER PASSAGEWAY IN SERVICE CORRIDOR. ALL VALVES, CONTROLS AND ACCESSORIES CONCEALED IN FURRED SPACES AND REQUIRING ACCESS FOR OPERATION AND MAINTENANCE SHALL BE ARRANGED TO ASSURE THE USE OF A MINIMUM NUMBER OF ACCESS DOORS.

E. ALL PIPING SHALL BE ERECTED AS TO INSURE A PERFECT AND NOISELESS CIRCULATION THROUGHOUT THE SYSTEM. NO BULL HEAD TEES WILL BE PERMITTED.

F. ALL VALVES AND SPECIALTIES SHALL BE PLACED SO AS TO PERMIT EASY OPERATION AND ACCESS.

G. PROVIDE PROPER PROVISION FOR EXPANSION AND CONTRACTION IN ALL PORTIONS OF PIPE WORK, TO PREVENT UNDUE STRAINS ON PIPING OR APPARATUS CONNECTED THEREWITH. PROVIDE DOUBLE SWINGS AT RISER TRANSFERS AND OTHER OFFSETS WHEREVER POSSIBLE, TO TAKE UP EXPANSION. ARRANGE RISER BRANCHES TO TAKE UP MOTION OF RISER.

H. ALL PIPING CONNECTIONS TO COILS AND EQUIPMENT SHALL BE MADE WITH OFFSETS PROVIDED WITH SCREWED OR WELDED BOLTED FLANGES SO ARRANGED THAT THE EQUIPMENT CAN BE SERVICED OR REMOVED WITHOUT DISMANTLING THE PIPING.

I. IF, AFTER FACILITY IS IN OPERATION, ANY COILS OR OTHER APPARATUS ARE STRATIFIED OR AIR BOUND (BY VACUUM OR PRESSURE), THEY SHALL BE REPIPED WITH NEW APPROVED AND NECESSARY FITTINGS, AIR VENTS, OR VACUUM BREAKERS AT NO EXTRA COST. IF CONNECTIONS ARE CONCEALED IN FURRING, FLOORS OR CEILINGS, BEAR ALL EXPENSES OF TEARING UP AND REFINISHING CONSTRUCTION AND FINISH, LEAVING SAME IN AS GOOD CONDITION AS BEFORE IT WAS DISTURBED.

J. FITTINGS SHALL BE OF THE ECCENTRIC REDUCING TYPE, WHERE CHANGES OF SIZE OCCUR IN HORIZONTAL PIPING TO PROVIDE FOR PROPER DRAINAGE OR VENTING.

K. TUBING SHALL BE ERECTED NEATLY IN A WORKMANLIKE MANNER. BENDS IN SOFT COPPER TUBING SHALL BE CREATED WITH BENDERS TO PREVENT DEFORMATION OF THE TUBING IN THE BENDS.

L. THE ENDS OF ALL PIPE AND NIPPLES SHALL BE THOROUGHLY REAMED TO THE FULL INSIDE DIAMETER OF THE PIPE AND ALL BURRS REMOVED IN THE CUTTING OF THE PIPES SHALL BE REMOVED.

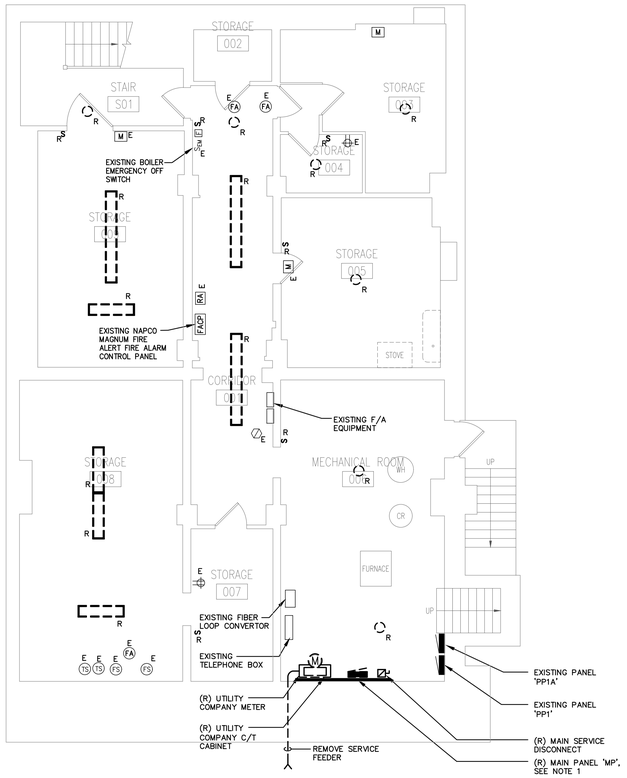
M. PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE ASME CODE FOR PRESSURE PIPING.

N. DISSIMILAR PIPING SHALL BE CONNECTED WITH DIELECTRIC FITTINGS BY THE PERFECTION CORPORATION (NO DIELECTRIC UNION).

9.2 TESTING OF PIPING

A. ALL NEW & EXISTING PIPING SHALL BE TESTED AS HEREINAFTER SPECIFIED. TESTS SHALL BE MADE AFTER ERECTION AND BEFORE COVERING IS APPLIED OR PIPING CONCEALED.

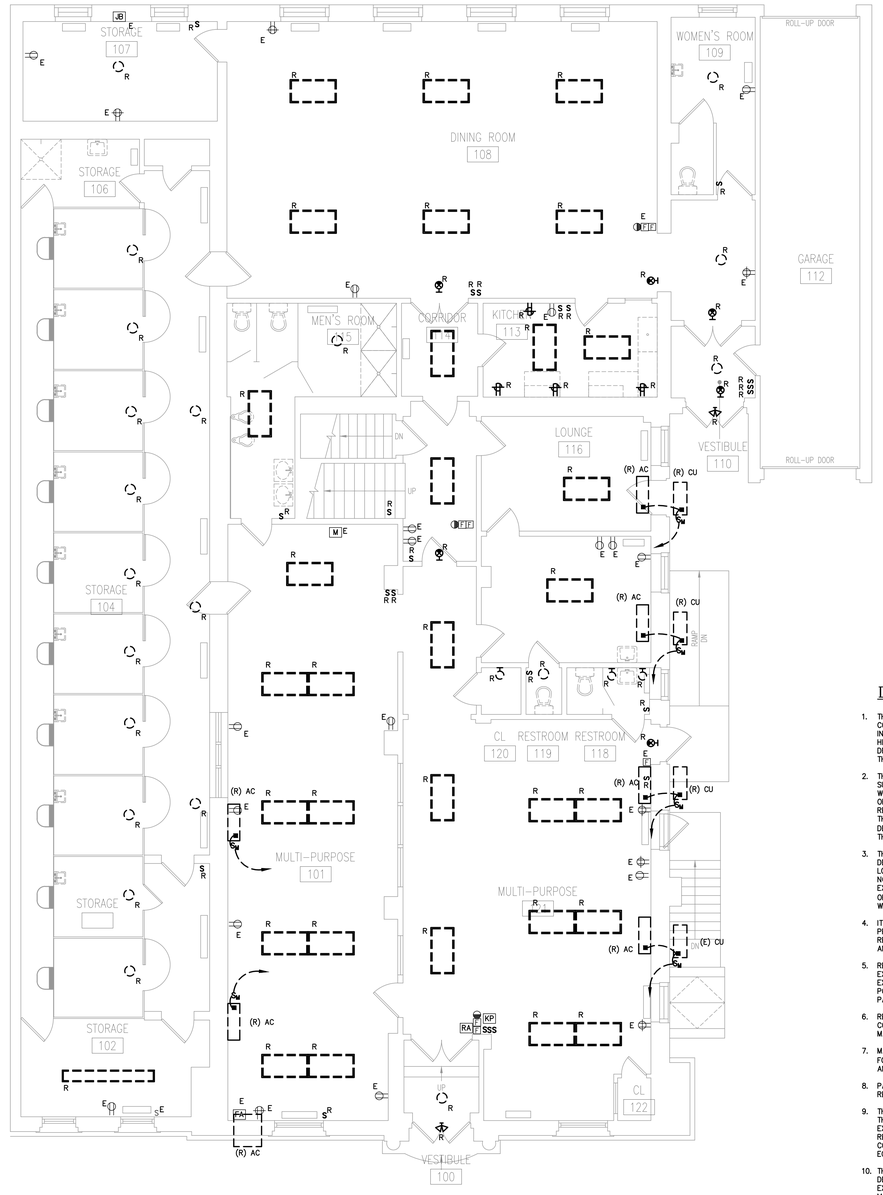
B. ALL HYDRONIC PIPING, UNLESS OTHERWISE SPECIFIED, SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF AT LEAST 125 LBS. PER SQUARE INCH FOR 2 HOURS. AFTER TESTING ANY AND ALL LEAKS SHALL BE MADE TIGHT IN THE MOST APPROVED MANNER. TESTS SHALL BE REPEATED AFTER LEAKS AND DEFECTS HAVE BEEN REPAIRED. WHEN AUTOMATIC CONTROL VALVES, EQUIPMENT AND SIMILAR DEVICES WHICH ARE INCAPABLE OF WITHSTANDING TEST PRESSURES APPLIED TO PIPING SHALL BE REMOVED OR OTHERWISE PROTECTED DURING TESTS. AFTER APPROVAL OF SUCH TESTS, DEVICES SHALL BE INSTALLED AND TESTED WITH OPERATING ME



1 ED100 BASEMENT PLAN – ELECTRICAL DEMOLITION

SCALE 3/16" = 1'-0"

1.



2 ED100 FIRST FLOOR PLAN – ELECTRICAL DEMOLITION

SCALE 3/16" = 1'-0"

DEMOLITION NOTES:

1. THESE DEMOLITION PLANS ARE INTENDED TO BE USED AS A GUIDE TO THE CONTRACTOR. ALL DEMOLITION WORK REQUIRED, OR NECESSARY FOR THE INSTALLATION OF NEW WORK OR THE REMOVAL OF EXISTING EQUIPMENT, IS HEREBY INCLUDED, WHETHER SHOWN ON THESE PLANS OR NOT. REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL WORK, AND COORDINATE IN THE FIELD.
2. THE CONTRACTOR SHALL VERIFY ACTUAL SITE CONDITIONS PRIOR TO SUBMITTING HIS BID. THE CONTRACTOR SHALL INCLUDE ALL DEMOLITION WORK NECESSARY FOR THE EFFECTIVE INSTALLATION AND PERFORMANCE OF NEW SYSTEMS. THE CONTRACTOR SHALL ALSO INCLUDE TEMPORARY REMOVAL AND REINSTALLATION OF EXISTING WORK WHEREVER NECESSARY. THE OWNER SHALL NOT ACCEPT EXTRA COSTS ASSOCIATED WITH THE DEMOLITION AND/OR TEMPORARY REMOVAL/REINSTALLATION WORK FROM THE CONTRACTOR.
3. THIS CONTRACTOR SHALL REMOVE ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON THE DEMOLITION PLANS, OR THAT ARE NO LONGER NEEDED BY THE OWNER. ALL EXISTING WIRING AND CONDUIT WHERE NO LONGER REQUIRED SHALL BE REMOVED BACK TO EXISTING PANEL. ALL EXISTING DISCONNECTED CIRCUITS NOT BEING REUSED SHALL BE TURNED OFF AND LABELED "SPARE". WHERE CONDUITS ARE INACCESSIBLE, REMOVE WIRE AND ABANDON CONDUITS.
4. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY POWER IS BEING PROVIDED TO ALL EXISTING EQUIPMENT REQUIRED TO REMAIN IN SERVICE. RECONNECT ALL DISTURBED FACILITIES WHICH ARE EXISTING TO REMAIN AND PLACE THEM IN OPERATIONAL CONDITION.
5. REMOVE ALL WIRING DEVICES FROM WALLS TO BE DEMOLISHED. REMOVE EXISTING LIGHT SWITCHES WHERE NO LONGER REQUIRED. REUSE ALL EXISTING CONCEALED CONDUIT AND RECESSED DEVICE BOXES WHERE POSSIBLE. ABANDON BOXES IF THEY ARE IN EXISTING WALLS TO REMAIN. PATCH WALLS OVER ABANDONED BOXES TO MATCH ADJACENT SURFACES.
6. REMOVE ABANDONED OUTLET BOXES, SURFACE METAL RACEWAY AND CONDUIT THAT WOULD BE EXPOSED, AND REPAIR DISTURBED SURFACES TO MATCH ADJACENT AREAS.
7. MAJOR PIECES OF EQUIPMENT ARE TO BE TURNED OVER TO THE OWNER FOR HIS USE, OR AT THE OWNER'S DISCRETION, REMOVED FROM THE SITE AND DISPOSED OF, IF NO LONGER REQUIRED.
8. PATCH ALL WALLS TIGHT AT REMOVALS. MAINTAIN FIRE RATINGS AS REQUIRED.
9. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXTENT OF WALL FINISHES AND CEILINGS TO BE REPLACED. ALL EXISTING DEVICES TO REMAIN SHALL BE TEMPORARILY DISCONNECTED AND REINSTALLED. WHERE TEMPORARY REMOVAL IS NOT POSSIBLE THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF EXISTING EQUIPMENT IN PLACE.
10. THE EXISTING FIRE ALARM SYSTEM SHALL BE MAINTAINED THROUGHOUT DEMOLITION AND CONSTRUCTION. PROVIDE TEMPORARY SUPPORT OF EXISTING DEVICES AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE FIRE MARSHAL UPON ANY MODIFICATIONS TO OR ANY NECESSARY INTERRUPTION IN SYSTEM OPERATION. NOTE THAT COVERING DEVICES DURING CONSTRUCTION IS AN INTERRUPTION TO COVERAGE.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel. (609) 883-8383
fax. (609) 883-4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton–Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609)799-8336

STRUCTURAL:
HARRISON AND HAMNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

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REVISIONS

PROFESSIONAL ENGINEER
NJ LICENSE NO 38856
FRANK TINDALL, P.E.
DATE 03/19/25

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE:	03/19/25
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DRAWN BY:	
CHECKED BY:	

SHEET TITLE:
BASEMENT & FIRST FLOOR PLAN - ELECTRICAL DEMOLITION

March 20, 2025 2:15:16 p.m.
Drawing: 3166 E1.DWG

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

DRAWING NO.:

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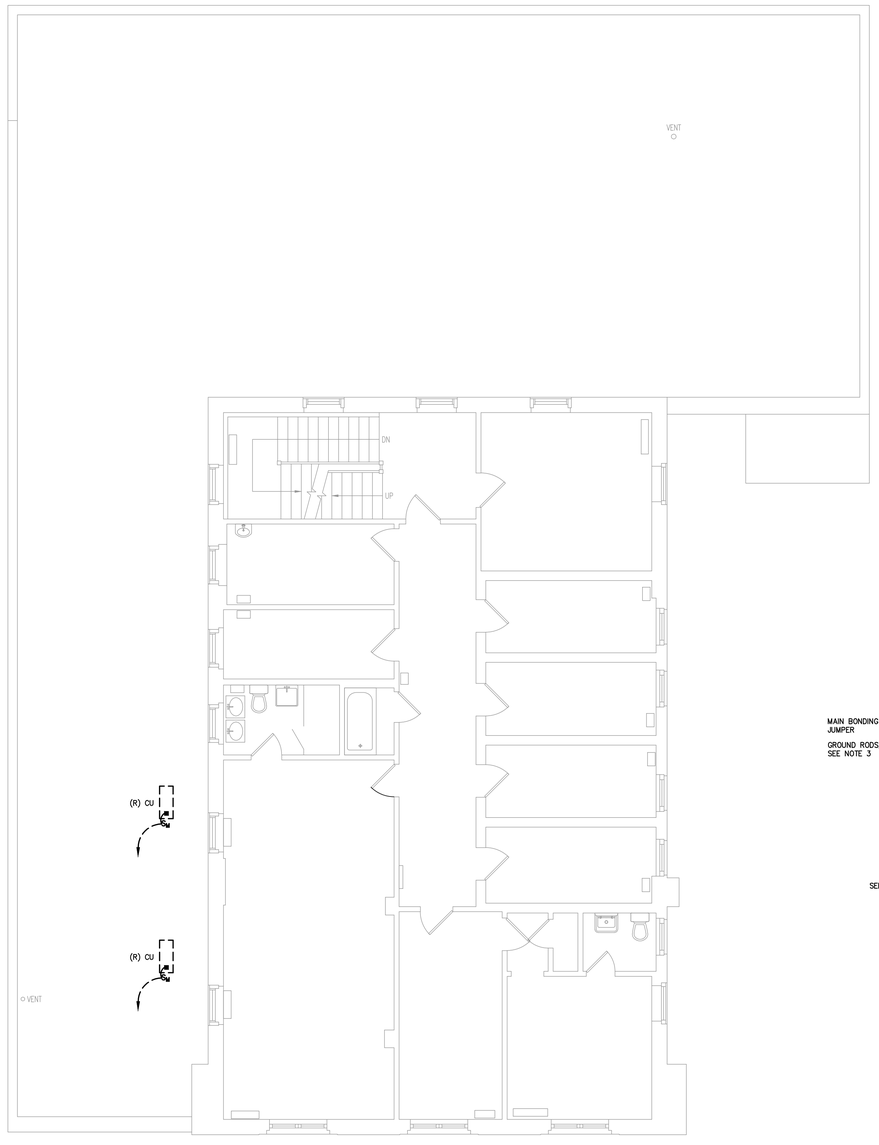
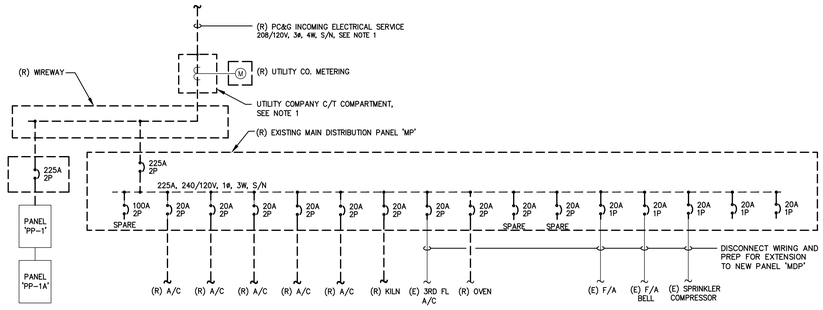


1 ED101 SECOND FLOOR PLAN – ELECTRICAL DEMOLITION

SCALE 3/16" = 1'-0"

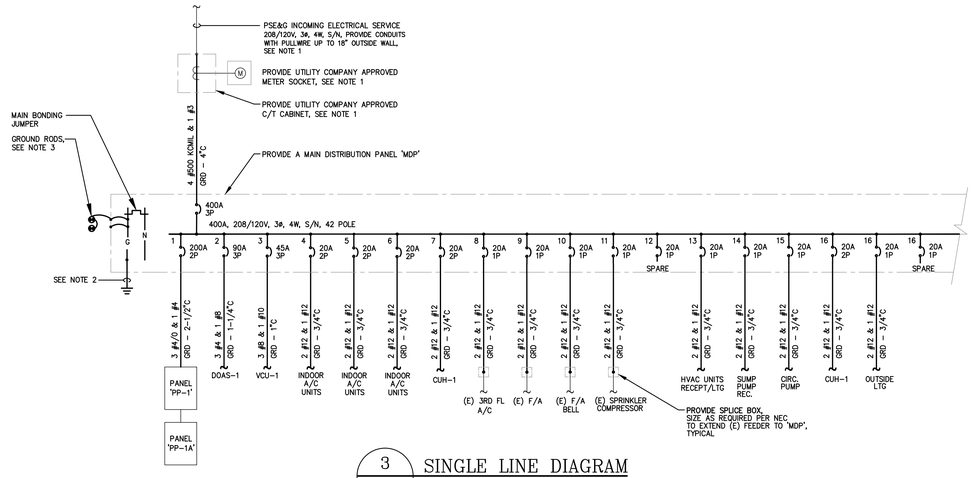


2 ED101 SINGLE LINE DIAGRAM – DEMOLITION

SCHEMATIC

NOTE:

1. COORDINATE WITH UTILITY COMPANY AND MAKE ALL NECESSARY PROVISIONS.



3 ED101 SINGLE LINE DIAGRAM

SCHEMATIC

NOTES:

1. COORDINATE WITH UTILITY COMPANY AND MAKE ALL NECESSARY PROVISIONS.
2. EXTEND TO EXISTING GROUNDING SYSTEM, PROVIDE ALL GROUNDING AS REQUIRED IN ACCORDANCE WITH NEC 2020.
3. PROVIDE (2) 3/4" DIA. X 10' LONG COPPER CLAD GROUND ROD, INSTALL A MINIMUM OF 6'-0" APART.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
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Trenton NJ 08608
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Pennington, NJ 08534
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PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

LIGHTING FIXTURE SCHEDULE

ID	LAMPS	MANUF.	CAT. NO.	MOUNTING	DESCRIPTION
A	30W LED 3250 LUMEN SPX 35	COLUMBIA	LCAT24-35VWG-EDU	RECESSED	2' X 4' ARCHITECTURAL CENTER LENS TROFFER, COLD ROLLED STEEL HOUSING, ACRYLIC ENCLOSED LENS, 0-10V DIMMING, 120V INPUT, GRID MOUNTED
B	30W LED 3250 LUMEN SPX 35	COLUMBIA	LCAT24-35VWCM-EDU	PENDANT	2' X 4' ARCHITECTURAL CENTER LENS TROFFER, COLD ROLLED STEEL HOUSING, ACRYLIC ENCLOSED LENS, 0-10V DIMMING, 120V INPUT, SUSPENDED MOUNT
BE	30W LED 3250 LUMEN SPX 35	COLUMBIA	LCAT24-35VWCM-EDU-ELL14	PENDANT	2' X 4' ARCHITECTURAL CENTER LENS TROFFER, COLD ROLLED STEEL HOUSING, ACRYLIC ENCLOSED LENS, 0-10V DIMMING, 120V INPUT, SUSPENDED MOUNT, 90 MINUTE BATTERY BACKUP
C	35.6W LED 3440 LUMEN SPX 35	FINELITE	S16 LED-ID-WCB-4-3E-H-S-835 -CTO-277-SC-FA-XX	PENDANT	4' LONG DIRECT/INDIRECT FIXTURE, WHITE CROSS BAFFLE SHIELDING, HIGH OUTPUT UP, STANDARD OUTPUT DOWN, CLEAR TOP OPTIC, 0-10V DIMMING, 120V INPUT
CE	35.6W LED 3440 LUMEN SPX 35	FINELITE	S16 LED-ID-WCB-4-3E-H-S-835 -CTO-277-SC-FA-XX W/BATTERY BACKUP	PENDANT	4' LONG DIRECT/INDIRECT FIXTURE, WHITE CROSS BAFFLE SHIELDING, HIGH OUTPUT UP, STANDARD OUTPUT DOWN, CLEAR TOP OPTIC, 0-10V DIMMING, 90 MINUTE BATTERY BACKUP, 120V INPUT
D	27.6W LED 2200 LUMEN	PORTFOLIO	LSRS8B30D010P	PENDANT	8" LED SHALLOW CYLINDER LIGHT FIXTURE, ROUND SEEMLESS THICK SPUN ALUMINUM HOUSING, 0-10V DIMMING, 120V INPUT
DE	27.6W LED 2200 LUMEN	PORTFOLIO	LSRS8B30D010RP-EM7	PENDANT	8" LED SHALLOW CYLINDER LIGHT FIXTURE, ROUND SEEMLESS THICK SPUN ALUMINUM HOUSING, 0-10V DIMMING, 120V INPUT 90 MINUTE BATTERY BACKUP
F	81W LED 11267 LUMEN SPX 35	LITHONIA	ZL1D-L48-10000LM-FST-MVOLT-35K-80CR1-WH	SURFACE	1'X4' LED INDUSTRIAL FIXTURE, CLEAR ACRYLIC LENS, COLOR AS SELECTED BY ARCHITECT, 277V INPUT
FE	81W LED 11267 LUMEN SPX 35	LITHONIA	ZL1D-L48-10000LM-FST-MVOLT-35K-80CR1-WH-2E7W	SURFACE	1'X4' LED INDUSTRIAL FIXTURE, CLEAR ACRYLIC LENS, COLOR AS SELECTED BY ARCHITECT, 90 MINUTE BATTERY BACKUP, 277V INPUT
EM	(2)-5W LED 12 VOLT	EMERGI-LITE	12LSM36-2-10-L1	WALL	12 VOLT EMERGENCY LIGHTING BATTERY PACK WITH (2) 12V 5W LED HEADS, 36 WATTS FOR 90 MIN., 277V INPUT WITH REMOTE HEAD CAPACITY
R	(2)-3W LED 12 VOLT	EMERGI-LITE	EF12D-LED-X	WALL	2 HEAD EXTERIOR REMOTE EMERGENCY FIXTURE, COLOR AS SELECTED BY ARCHITECT, 12V INPUT
X	LED	EMERGI-LITE	WW-PDN-1R	SURFACE	EXIT SIGN, WITH 6" RED LETTERS, 90 MINUTE BATTERY BACKUP, 277V INPUT

LIGHTING FIXTURE NOTES:

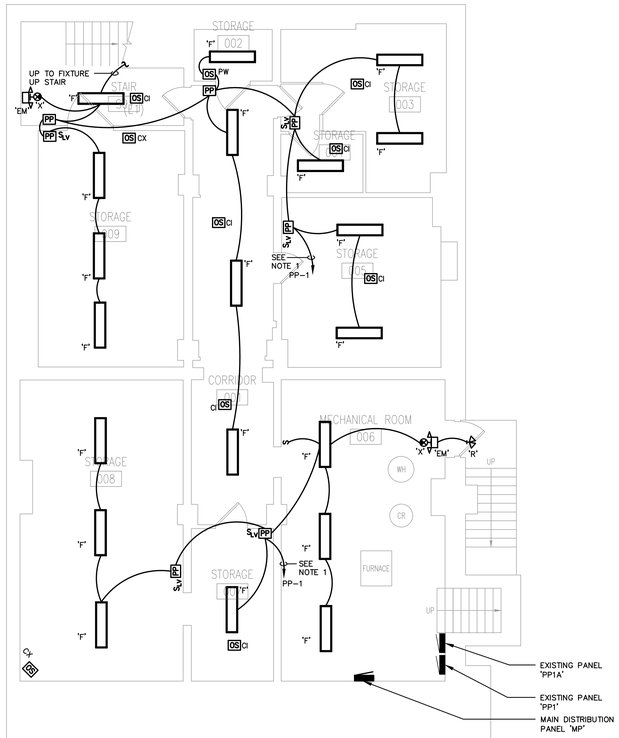
1. ALL FIXTURES SHALL COMPLY WITH ASHRAE/IESNA 90.1 2016 LIGHTING EFFICACY STANDARDS FOR NEW COMMERCIAL BUILDINGS.
2. CONNECT ALL EXIT SIGNS AHEAD OF ALL SWITCHING AND CONTROLS.
3. PROVIDE ALL EMERGENCY LIGHTING CONTROL RELAYS AND LIGHT FIXTURES SPECIFIED WITH EMERGENCY BATTERY BACKUP WITH AN UNSWITCHED PHASE LEG TO MONITOR FOR NORMAL POWER FAILURE.
4. VERIFY EXACT LOCATION OF FIXTURES IN FIELD WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.

AUTOMATIC LIGHTING CONTROL NOTES:

1. FURNISH AND INSTALL ALL WIRING AND DEVICES AS RECOMMENDED BY THE MANUFACTURER'S WRITTEN INSTRUCTION FOR THE INSTALLATION OF OCCUPANCY SENSORS.
2. PROVIDE ALL RELAYS, POWER PACKS AND LOW VOLTAGE WIRING AS REQUIRED.
3. VERIFY ALL OCCUPANCY SENSORS TO BE FURNISHED AND INSTALLED WITH LOW VOLTAGE OR LINE VOLTAGE INPUTS.
4. THE CONTRACTOR SHALL SET ALL PROGRAMMABLE TIME DELAYS TO A MINIMUM OF 15 MINUTES UNLESS OTHERWISE NOTED. ALL OCCUPANCY SENSORS WITH AN AUTOMATIC SENSITITY SETTING SHALL BE SET TO AUTOMATIC UNLESS A REDUCED SENSITIVITY SETTING IS RECOMMENDED BY THE MANUFACTURER OR REQUESTED BY THE OWNER. ALL OCCUPANCY SENSORS WITH A SELECTABLE WALK-THROUGH MODE SHALL BE SET TO THIS MODE.

SYMBOL LIST & ABBREVIATIONS

- LIGHT FIXTURE – SEE SCHEDULE
- LIGHT FIXTURE WITH INTEGRAL BATTERY BACKUP
- OS — OCCUPANCY SENSOR – LETTER DENOTES TYPE OF SENSOR TO BE INSTALLED REFER TO AUTOMATIC LIGHTING CONTRO, PROVIDE ALL HARDWARE AND PROGRAMMING AS REQUIRED. ALL OCCUPANCY SENSORS MUST BE NLIGHT AIR ENABLED
  CI = CI-300 PASSIVE INFRARED SENSOR
  PW1 = PW-100 LINE VOLTAGE WALL MOUNTED INFRARED WALL SWITCH SENSOR
- PP — POWER PACK TRANSFORMER AND RELAY, OUTPUT RELAYS RATED 20A BALLAST OR INCANDESCENT, PROVIDE QUANTITY OF RELAYS AS REQUIRED, REFER TO AUTOMATIC LIGHTING CONTROL NOTES.
- GFI D — DUPLEX RECEPTACLE, 20A, 125V, 2 POLE, 3 WIRE, GROUNDED
  D INDICATES DOUBLE DUPLEX RECEPTACLE,
  GFI INDICATES GROUND FAULT INTERRUPTION, IG INDICATES ISOLATED GROUND
- DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER HEIGHT
- SPECIAL PURPOSE RECEPTACLE, TYPE AS NOTED
- S — SINGLE POLE SWITCH
- S_{LV} — LOW VOLTAGE MOMENTARY SWITCH
- S_M — MANUAL MOTOR STARTER
- 208/120V PANELBOARD
- UNFUSED DISCONNECT SWITCH
- MOTOR
- CP — CONTROL PANEL
- JB — JUNCTION BOX
- FACP — FIRE ALARM, CONTROL PANEL
- FIRE ALARM, SMOKE DETECTOR
- FIRE ALARM, AUDIO/VISUAL (HORN/STROBE) DEVICE
- FS — FIRE ALARM, FLOW SWITCH
- TS — FIRE ALARM, TAMPER SWITCH
- FA — FIRE ALARM, JUNCTION BOX
- RA — FIRE ALARM, REMOTE ANNUNCIATOR
- F — FIRE ALARM, MANUAL PULL STATION
- MD — SECURITY SYSTEM, MOTION DETECTOR
- WIRE & CONDUIT, CONCEALED IN CEILING OR WALL
- HOMERUN TO PANEL, NUMERAL INDICATES CIRCUIT NUMBER
- CONNECTION TO EQUIPMENT
- E — EXISTING
- R — EXISTING TO BE REMOVED

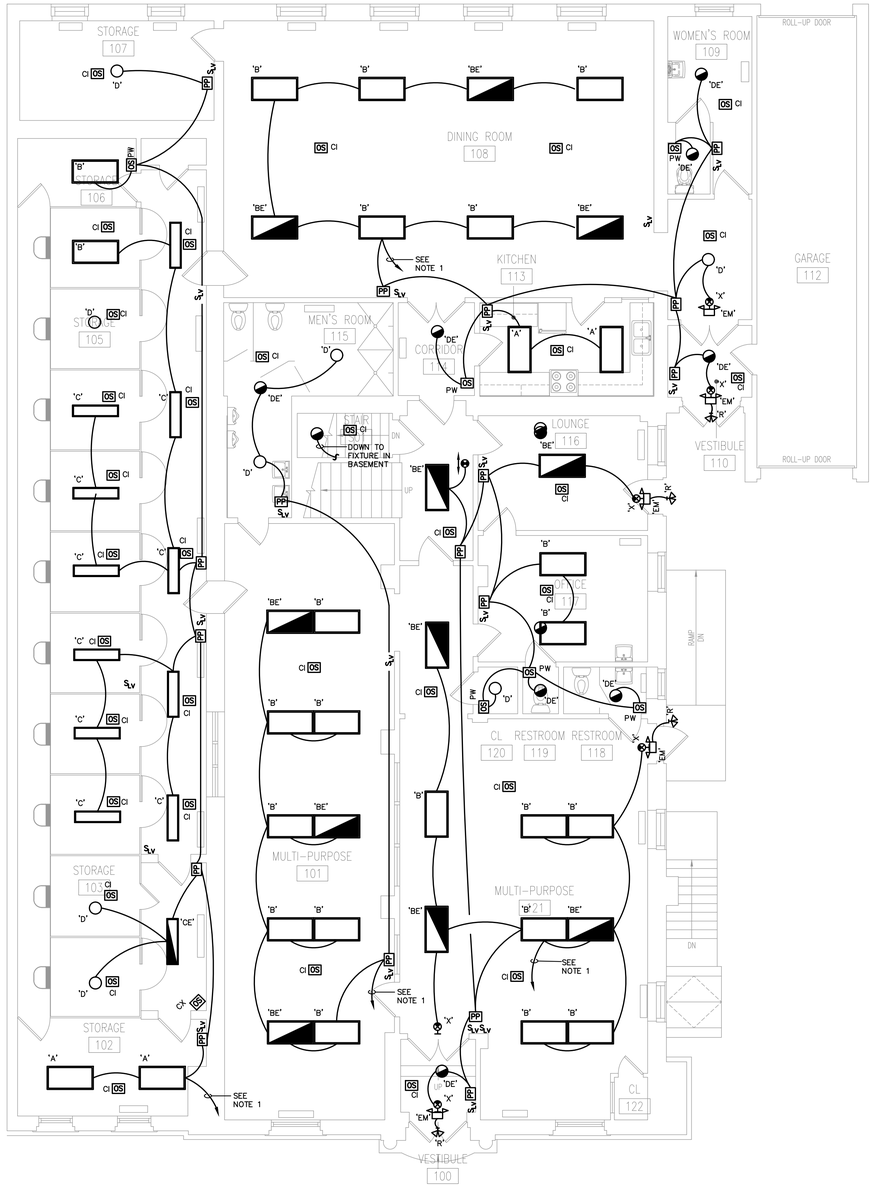


1 / E100 BASEMENT PLAN – LIGHTING

SCALE 3/16" = 1'-0"

NOTES:

1. PROVIDE AND CONNECT TO A NEW 20A/1P CIRCUIT BREAKER IN EXISTING PANEL, CIRCUIT VIA 2 #12 & 1 #12 GRD – 3/4"C.
2. COORDINATE LIGHTING FIXTURE LOCATIONS IN THE FIELD WITH THE WORK OF ALL TRADES AND EXISTING CONDITION.



2 / E100 FIRST FLOOR PLAN – LIGHTING

SCALE 3/16" = 1'-0"

NOTE:

1. PROVIDE AND CONNECT TO A NEW 20A/1P CIRCUIT BREAKER IN EXISTING PANEL 'PP1', CIRCUIT VIA 2 #12 & 1 #12 GRD – 3/4"C.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel. (609) 883-8383
fax. (609) 883-4044
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OWNER:
COT DEPT OF HOUSING
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Trenton, NJ 08608
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MEP:
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196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
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STRUCTURAL:
HARRISON AND HAMNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

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PROFESSIONAL ENGINEER
NJ LICENSE NO. 38656
FRANK TINDALL, P.E.
DATE 03/19/25

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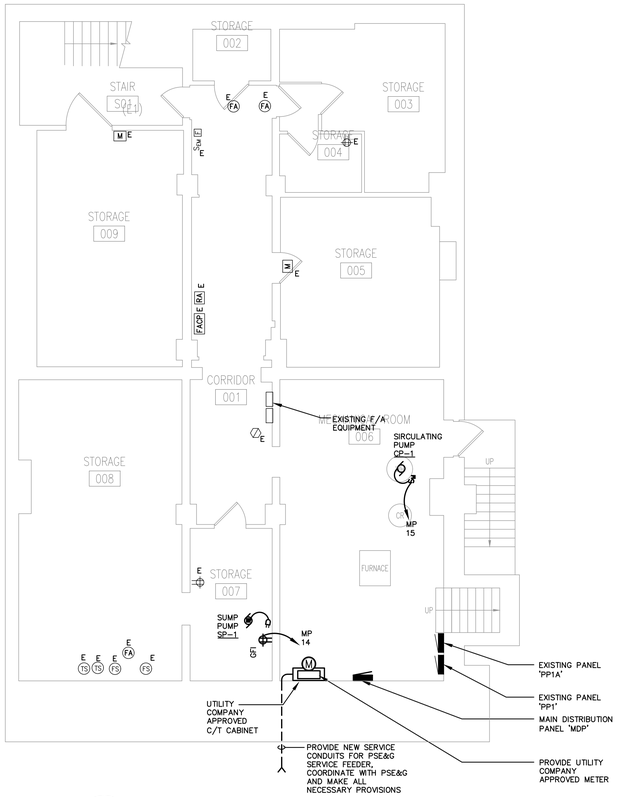
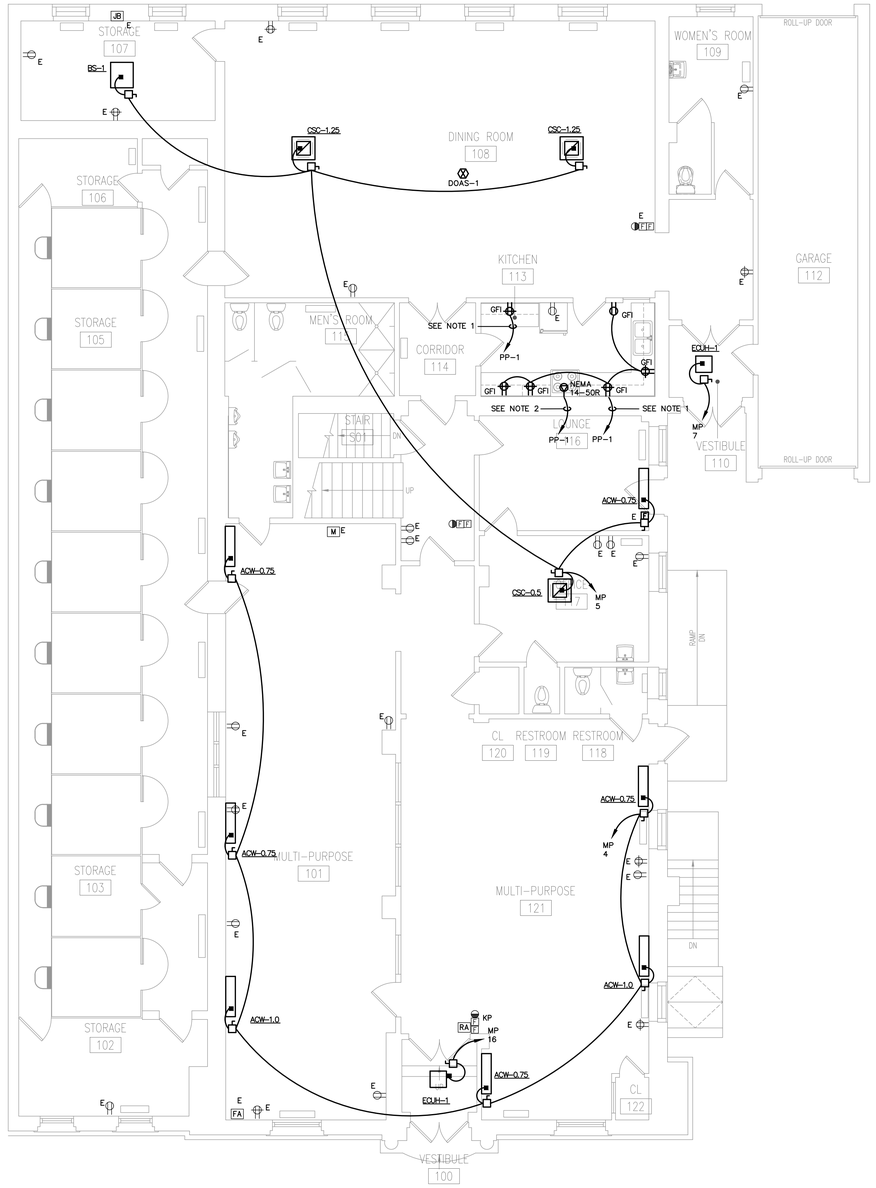


1 / E101 BASEMENT PLAN – POWER

SCALE 3/16" = 1'-0"

NOTE:

1. PROVIDE AND CONNECT TO A NEW 20A/2P CIRCUIT BREAKER IN EXISTING PANEL 'MP', CONNECT VIA 2 #12 & 1 #12 GRD – 3/4"C.



2 / E101 FIRST FLOOR PLAN – POWER

SCALE 3/16" = 1'-0"

NOTES:

1. PROVIDE AND CONNECT TO A NEW 20A/2P CIRCUIT BREAKER IN EXISTING PANEL, CIRCUIT VIA 2 #12 & 1 #12 GRD – 3/4"C.
2. PROVIDE AND CONNECT TO A NEW 50A/2P GFI TYPE CIRCUIT BREAKER IN EXISTING PANEL, CONNECT VIA 3 #8 & 1 #10 GRD – 1"C.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
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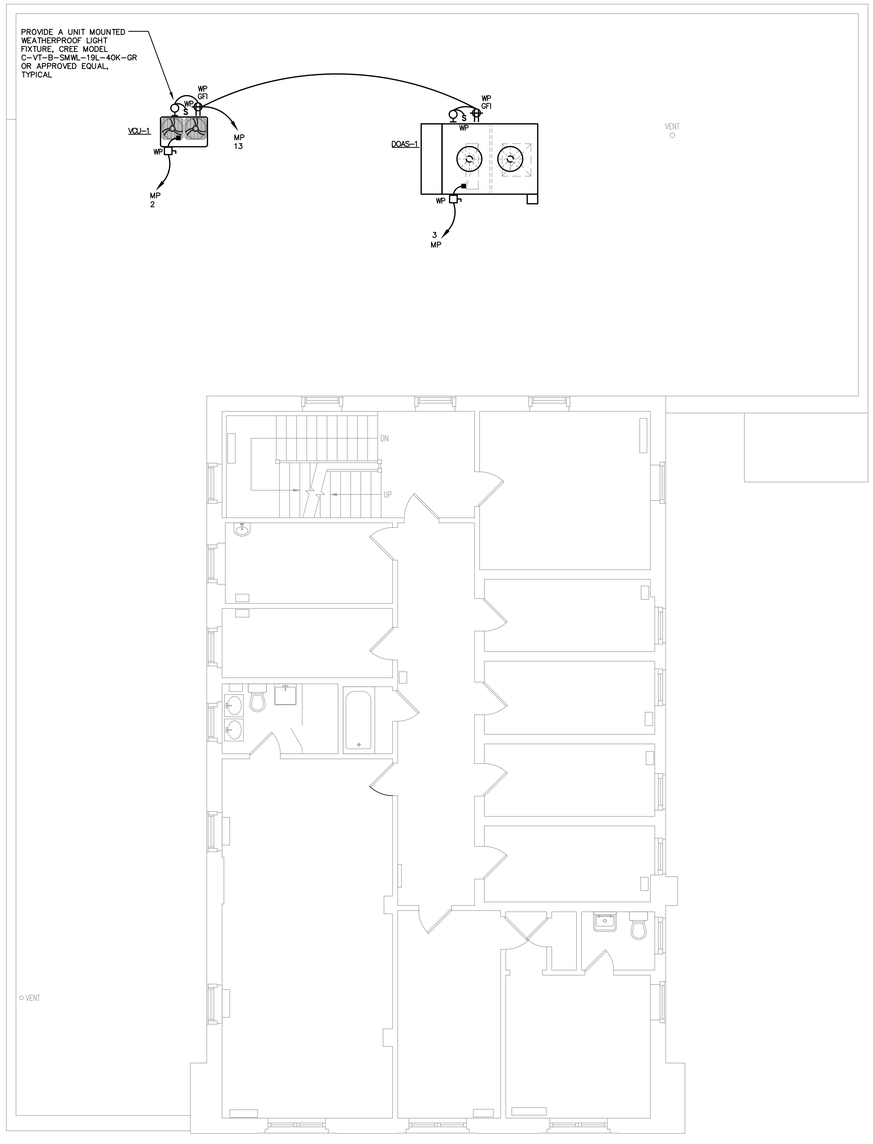
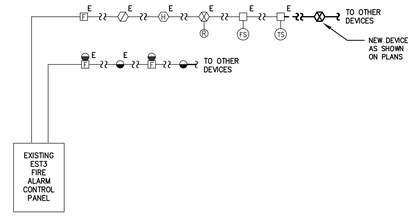


1 E102 SECOND FLOOR PLAN – ELECTRICAL

SCALE 3/16" = 1'-0"



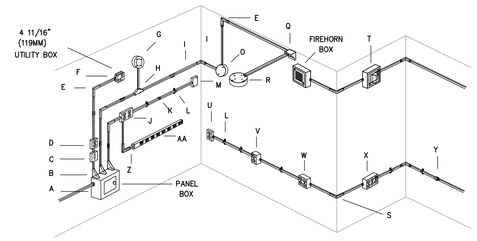
2 E102 FIRE ALARM SYSTEM RISER DIAGRAM

SCHEMATIC

FIRE ALARM SYSTEM NOTES:

1. PROVIDE ALL WIRING AS RECOMMENDED BY MANUFACTURER. ALL WIRING SHALL BE IN CONDUIT. FIRE ALARM LABELED MC CABLE MAY BE USED IN CONCEALED LOCATIONS WHERE PERMITTED BY CODE.
2. CONTRACTOR IS RESPONSIBLE FOR INSURING THAT FIRE ALARM SYSTEM MODIFICATIONS MEET ALL APPLICABLE CODES AND FOR OBTAINING FINAL APPROVAL FROM LOCAL FIRE INSPECTOR(S).
3. PRIOR TO STARTING WORK, PREPARE SHOP DRAWINGS INCLUDING ALL INFORMATION REQUIRED UNDER IBC, SECTION 907.1.2. SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL. ONCE APPROVED, SUBMIT SHOP DRAWINGS TO CODE REVIEWER/INSPECTOR(S) FOR APPROVAL.
4. EXPAND EXISTING FIRE ALARM SYSTEM AS REQUIRED TO CONNECT NEW DEVICES. PROVIDE ALL NEW HARDWARE, RELAYS, MODULES, WIRING, BATTERIES, ECT., AS NECESSARY FOR COMPLETE INSTALLATION.
5. PROVIDE ALL PROGRAMMING BY A FACTORY CERTIFIED VENDOR AS REQUIRED TO MAKE THE NECESSARY MODIFICATION TO THE SYSTEM. INCLUDE ANY HARDWARE, WIRING, OF COMPONENTS NECESSARY FOR CONTINUED REUSE.
6. PROVIDE AT EACH LOCATION SHOWN, AUDIO/VISUAL DEVICES WITH OUTPUT LEVELS AS RECOMMENDED BY MANUFACTURER FOR THE SPACE TO COMPLY WITH ADA & CODE REQUIREMENTS. PROVIDE ADDITIONAL DEVICES TO THOSE SHOWN IF/AS REQUIRED TO MEET LEVELS AT NO ADDITIONAL COST.
7. ALL FIRE ALARM CONTROL PANELS, REMOTE ANNUNICIATORS, AND BOOSTER PANELS SHALL HAVE SMOKE DETECTORS COVERAGE ABOVE. PROVIDE DEVICES WHETHER SHOWN ON PLANS OR NOT.
8. UPON COMPLETION OF FIRE ALARM WORK, PROVIDE A RE-ACCEPTANCE TEST OF THE ENTIRE SYSTEM PER NFPA 72.

500 & 700 SERIES SYSTEM PRODUCT APPLICATIONS



A –	5781A	3/4" (19.1MM) BOX CONNECTOR	O –	V5734A	UTILITY BOX
B –	V5786	ADJUSTABLE OFFSET CONNECTOR	P –	V5739	FIXTURE BOX SOLID BASE
C –	V57240	SINGLE POLE SWITCH AND BOX	Q –	V5719	CORNER BOX
D –	V57243G	DUPLEX RECEPTACLE AND BOX	R –	R5752	ALARM DEVICE BOX
E –	V711	FLAT ELBOW	S –	V718	EXTERNAL ELBOW
F –	V5785	COMBINATION CONNECTOR	T –	R5753	EXTRA DEEP ALARM DEVICE BOX
G –	V5738	FIXTURE BOX SOLID BASE	U –	V5747S	SHALLOW DEVICE BOX
H –	V5715	TEE FITTING	V –	V5744	EXTRA DEEP DEVICE BOX
I –	V5703	SUPPORTING CLIP	W –	V5748-2	DEVICE BOX
J –	5747-2	SHALLOW DEVICE BOX	X –	V5748-3	DEVICE BOX
K –	V706	COVER CLIP	Y –	5782	1/2" (12.7MM) CONDUIT CONNECTOR
L –	V704	MOUNTING STRAP	Z –	V2089E	REDUCING FITTING
M –	V57242	UTILITY BOX	AA –		PLUGMOLD MULTIOUTLET SYSTEM
N –	V717	INTERNAL ELBOW			

3 E102 SURFACE MOUNTED RACEWAY DETAIL

SCHEMATIC

NOTES:

1. ALL DEVICES, WIRE AND CONDUIT SHALL BE CONCEALED WITHIN EXISTING WALLS AND CEILINGS WHEREVER POSSIBLE. PROVIDE ALL CUTTING AND PATCHING OF EXISTING WALLS AS REQUIRED TO CONCEAL CIRCUITING AND RESTORE TO MATCH EXISTING CONDITIONS. HOWEVER, IT SHOULD BE NOTED THAT THE MAJORITY OF THE BUILDING IS OF MASONRY CONSTRUCTION WITH FINISHED PLASTER. WHERE WIRING CANNOT BE CONCEALED WITHIN EXISTING WALLS OR ABOVE ACCESSIBLE CEILINGS, PROVIDE SURFACE MOUNTED STEEL RACEWAY, WIREMOLD 500/700 SERIES OR APPROVED EQUAL. PROVIDE ALL DEVICE BOXES, PLATES, TRIM PIECES, END FITTINGS, ELBOWS, HARDWARE, ETC., AS RECOMMENDED BY MANUFACTURER FOR A COMPLETE SYSTEM.
2. THE FINAL ROUTING AND LOCATIONS OF ALL RACEWAYS AND DEVICES SHALL BE APPROVED BY THE ENGINEER. COORDINATE WITH THE ENGINEER PRIOR TO ROUGH-IN.
3. ALL RACEWAY SYSTEMS SHALL BE PAINTED TO MATCH NEW BUILDING STANDARD AND ADJACENT AREA.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel. (609) 883-8383
fax. (609) 883-4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609)799-8336

STRUCTURAL:
HARRISON AND HAMNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

PROFESSIONAL ENGINEER
NJ LICENSE NO. 38656
FRANK TINDALL, P.E.
DATE 03/19/25

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	
CHECKED BY:	

SHEET TITLE:
SECOND & THIRD FLOOR PLAN - ELECTRICAL

DRAWING NO.:
E102

CCH PROJECT NO: 2070.03

March 20, 2025, 2:15:16 p.m.
Drawing: 3166 E1.DWG

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550

Frank Tindall, P.E.
Professional Engineer
NJ 38656

GENERAL REQUIREMENTS

This Section is coordinate with and complementary to the General Conditions and Special Requirements.

Drawings are diogrammatic. Sizes and locations of equipment are shown to scale where possible, but may be distorted for clarity on the Drawings. Final locations shall be as required or directed.

Light and power and system riser diagrams and schematic diagrams generally indicate equipment and connections to be used for various systems. System conduit and wiring shall be as required. Provide all work shown on diagrams whether or not it is duplicated on the plans.

SCOPE OF WORK

In general the work includes, but is not limited to the following:

1. Raceways and installation components.

2. Wire and Cable.

3. Panelboards (modifications)

4. Grounding.

5. Lighting fixtures.

6. Fire alarm system (modifications).

7. Testing.

8. Furnishing of access doors.

9. Furnishing and setting of all sleeves through the floors, roof, and walls where required, including waterproofing, and fireproof sealing, and cap flashing.

10. Cutting, drilling and boring associated with electrical work.

11. Prime painting, where required for electrical equipment and installation.

12. Provisions for temporary light and power.

13. Final connection of all equipment unless otherwise noted.

QUALITY ASSURANCE AND STANDARDS

The complete installation shall be in accordance with NJUCC (The State Building Code).

Contractor to be responsible for securing all necessary permits and obtaining all necessary approvals. He shall complete all necessary forms and pay all necessary fees.

SUBMITTALS

The Contractor shall submit shop drawings for all systems and components with such promptness as to cause no delay in his own work or that of another contractor.

EXAMINATION OF EXISTING CONDITIONS ON PREMISES

Before submitting his bid, this Contractor shall visit the site of the work and shall thoroughly familiarize himself with the existing conditions affecting the work. By the act of submitting a bid, the Contractor shall be deemed to have made such an examination, to have accepted such conditions, and to have made allowance therefore in preparing his bid. No additional compensation will be granted on account of extra work made necessary by the Contractor's failure to investigate such existing conditions. Verify all grades, elevations, dimensions, and clearances at the site.

COORDINATION OF WORK WITH OTHER TRADES

The contractor shall coordinate the work of this Section with the work of all other Contracts and all the Utility Companies. It shall be so arranged that there will be no delay in the proper installation and completion of all work.

INSPECTION AND TESTS

The entire wiring system must test free from short and open circuits. Every ground shall be tested for compliance with standards listed below.

PROTECTION, MAINTENANCE AND PRODUCT HANDLING OF ELECTRICAL EQUIPMENT

Electrical equipment shall be delivered and stored at the site, properly packed and crated until finally installed.

Provide effective protection against damage for all material and equipment during shipment and storage at the Project Site.

This Contractor shall be responsible for the maintenance of all installed equipment and systems until final acceptance by the Owner.

GUARANTEE

This Contractor shall guarantee in writing to the Owner that all work installed by him shall be free of defects in workmanship and materials and that all apparatus will develop the capacities and characteristics as indicated, and that, if during a period of one year from date of final approval of work by the Architect, any defects in workmanship, materials or performance appear, he will remedy them without any cost to the Owner.

ACCESSIBILITY AND MEASUREMENTS

All work shall be installed so as to be readily accessible for operation, maintenance, and repair. Minor deviations from the plans may be made to accomplish this, subject to approval.

Before ordering any material or doing any work, the Contractor shall verify all measurements at the Building, and shall be responsible for the correctness of same as related to the work under this Contract.

TEMPORARY LIGHT AND POWER

Electric services for temporary light and power shall be obtained from existing and extended as required.

The Electrical Contractor shall furnish, install, and maintain the temporary lighting and power system for all Contractors. Provide temporary power for all construction trailers or as directed. The use of electricity shall be kept to a minimum.

The General Contractor will pay for all energy required by the temporary lighting and power system.

Provide all wiring, supports, lamp sockets, receptacle sockets and any other materials, supplies or equipment necessary for temporary light and power system.

Ground fault protection required by OSHA.

Install separate stringer circuits for lighting and receptacles. Provide one lamp socket and one duplex receptacle for every 400 square feet of general construction area. (Approximately 20 feet on centers).

Provide sufficient supplementary temporary lighting to permit proper execution of the work.

Keep the temporary lighting and power system operational commencing fifteen (15) minutes before the established starting time of that trade which starts work earliest in the morning and ending fifteen (15) minutes after the established quitting time of that trade which stops work latest in the evening.

IDENTIFICATION NAMEPLATES

Identify and mark all electrical equipment to meet OSHA standards and as specified herein.

Unless otherwise noted, nameplates shall be black laminate with white letters of uniform size consisting of reasonably large capital letters, 3/16 inch minimum.

RACEWAYS AND INSTALLATION COMPONENTS

The requirements of this Section apply to raceway work specified elsewhere in these specifications.

The work includes the providing of completely coordinated grounded raceway systems complete with boxes, fittings, flexible connections to vibrating equipment and accessories, as specified and as required for a complete system.

The work permits the use of metal-clad cable in conjunction with conduit. See below.

Raceways and fittings shall be manufactured by Triangle or approved equal by Allied or Republic.

Rigid steel conduit shall be full weight steel pipe, hot dip galvanized inside and outside, threaded, minimum 3/4 inch.

Intermediate metal conduit (IMC) shall be intermediate steel pipe, hot dip galvanized, threaded, minimum 3/4 inch.

Electric metallic tubing (EMT) shall be steel thin wall pipe, galvanized, threadless, minimum 3/4 inch, maximum 2 inch.

Flexible steel conduit (Greenfield) shall be continuous single strip, galvanized, minimum 3/4 inch.

Liquid-tight flexible steel conduit (Seal-tite) shall be zinc coated, consist of flexible galvanized steel tubing over which is extruded a liquid-tight sheathing of polyvinyl chloride (PVC). Conduit shall be provided with a continuous copper bonding conductor would spirally between the convolutions.

Rigid steel and IMC conduit fittings shall be standard threaded couplings, locknuts, bushings, and elbows. Material shall be steel or malleable iron only.

Electrical metallic tubing fittings shall be compression waterproof connection type. Set screw or indent type connectors are not permitted.

Flexible steel conduit (Greenfield) fittings shall be multiple point type, threading into the internal wall of the conduit convolutions, and shall have insulated throat.

Liquid-tight flexible metal conduit fittings shall incorporate a threaded grounding cone, a steel or plastic compression ring, and a gland for tightening. Connectors shall have insulated throats.

Expansion and deflection couplings shall be manufactured by O-Z/Gedney, Crouse-Hinds, Appleton or approved equal.

Individual conduit hangers, shall be designed for the purpose, and have pre-assembled closure bolt and nut, and provisions for receiving hanger rod.

Multiple conduit (trapeze) hangers shall be not less than 1-1/2 by 1-1/2 inch, 12 gauge steel, cold formed, lipped channels. Hanger rods shall be not less than 3/8-inch diameter steel.

Solid masonry and concrete anchors shall be a type approved for the purpose.

Provide and assume responsibility for locating and maintaining in proper position all sleeves required for the work.

Openings through floors and walls in which cables, conduits, or pipe pass shall be sealed by U.L. classified smoke and fire stop fittings, and have an hourly rating equal to the fire rating of the floor or wall. Fittings shall be similar to O-Z/Gedney Type "CFS" or "CAFS".

Penetrations through fire-rated floors in which wiring for floor service outlets are routed shall be sealed by U.L. classified smoke and fire-stop fittings, and shall have an hourly rating equal to the floor rating. Fittings shall be similar to O-Z/Gedney Type "PTFS".

Outlet boxes shall be manufactured by Raco, RussellStoll, Steel City, Thomas & Betts or Crouse Hinds.

Outlet boxes for concealed work shall be galvanized steel, 4 in. square or octagon (except as otherwise required by construction, devices or wiring). Provide sufficient depth for application.

Outlet boxes located outdoors and in damp locations shall be weatherproof.

Offset back-to-back outlets shall have minimum 6 in. separation between them. In rated walls, they are to be separated by a stud.

Junction, splice and pull boxes shall be made of code gauge sheet steel with removable covers fastened with brass or stainless steel screws, except as noted, and will include insulated supports for cables. Box dimensions shall conform to N.E.C. requirements.

or in raceway runs that have more than three (3) 90-degree bends.

For indoor applications, boxes shall have a gray enamel finish. For outdoor and damp locations, boxes shall be galvanized.

Install raceway and installation components as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and in accordance with the recognized industry practices, to ensure that products serve intended function.

Raceway supports shall be provided by means of ceiling trapeze, strap hangers, or wall brackets. Use structural steel angles or channels, or manufactured steel support system. Spacing of

8'-0" on centers. Provide U-bolts at each floor level for riser raceways and anchor to acceptable supports. Secure raceways to supports with pipe straps or U-bolts.

Mechanically join all metal raceways, enclosures and junction boxes to assure continuity.

Branch circuit conduits shall be supported by the building structure.

Conduits located underground beyond the building for branch wiring shall be installed with a minimum of 30 in. top cover as shown on the drawings.

Provide expansion-deflection fittings at expansion joints in accordance with manufacturer's recommendations. Expansion-deflection fittings shall be used for all trade sizes 1-1/4" or larger. For trade sizes up to 1" in size, a suitable length of flexible conduit (or liquid-tight flexible

shall be permitted.

for exposed runs on the exterior of the building; embedded in concrete or masonry or below concrete that is in contact with earth.

Intermediate metal conduit (IMC) may be used in place of rigid steel in dry locations only.

EMT is to be used for feeders and branch circuits in dry locations such as hung ceilings, interior hollow block walls and furred spaces.

Flexible steel conduit shall be used in dry locations for short connections where rigid conduits or tubing is impracticable, and for final connections to lights and equipment other than motors and transformers.

Liquid-tight flexible steel conduit shall be used in damp locations for final connections to motor terminal boxes, transformers, and other vibrating equipment in damp and dry locations.

In general, cutting and core drilling is to be avoided. Where it becomes necessary, locations are to be coordinated with other trades, the Owner and the structural engineer. There is to be no cutting or core drilling without prior approval.

Provide an outlet box for each lighting fixture and device shown, or required, in the wiring system.

Provide galvanized steel extension rings (depth as required) and raised cover plates in plaster, dry wall, masonry and tile walls.

Mount outlet boxes for similar equipment at uniform height within same or similar areas.

created by the removal of the fixture or through access doors provided by this contractor.

All outlet boxes in finished areas for convenience receptacles or local switches shall be 4" square and 1-5/8" deep minimum. Provide with regular deep switch extension cover.

Boxes for use with surface mounted raceways shall be of the same construction and manufacture as the raceway.

Provide junction, splice and pull boxes where required to facilitate installation of wiring, whether or not shown on Drawings. Size boxes according to code, and provide interior partitions, insulated supports, hot dip galvanized angle iron braces, screw-on one-piece or split covers, ground connectors, and other accessories as required.

All outdoor installations shall be weatherproof.

Support all material from the building structure in an approved manner.

Where electrical equipment is mounted in suspended ceiling panels, provide support members to span between runners of ceiling suspension system. Do not support electrical equipment from acoustical panels or other ceiling materid; attach to this material for alignment only.

Where electrical outlet boxes, lighting fixtures, and other equipment is installed on tee bars of suspended ceilings, use independent support clips with threaded studs. Do not attach to tee bar except for alignment; use clip similar to Caddy "BIS" that snaps around tee bar and has provisions for independent support wire. Attach a suitable anchor in the structure above ceiling, and suspend a minimum No. 12 support wire to engage the clip.

Do not exceed manufacturer' load rating for mounting devices.

At drywall partitions, provide support members to carry weight of equipment; do not use drywall material to carry any weight.

WIRE AND CABLE

The work includes providing wire and cable complete with all accessories in accordance with Drawings and Specifications and as required for a complete system. Wiring size referenced in this Section shall be AWG, except as noted

This project has been designed for copper conductors. Aluminum conductors are not acceptable and shall not be used. Cable shall be manufactured by Triangle or approved equal by Carol or Guardian Products.

No. 10 and smaller conductors shall be ASTM Standard, solid, copper; and, No. 8 and larger conductors shall be ASTM standard, stranded copper.

Minimum conductor size shall be No. 12 for lighting and power and No. 14 for control and alarm. Increase wire sizes as required for long runs to overcome voltage drop.

Communications and signal wiring shall conform to the recommendations of the manufacturer's communication and signal systems and shall be specified in respective Sections of these Specifications.

"THWN" or "XHHW" insulation shall be used for interior branch circuit and feeder wiring. Rating shall be 90°C in dry locations and 75°C in wet locations.

Green colored insulated wire shall be used for all grounding applications.

Phase wires shall be color-coded as follows:

1. 120/208 volt system: Black for A phase
   Red for B Phase

Neutral conductors shall be white for 120/240 volts.

Provide O-Z/Gedney Type "CSB" series or approved equal seal fittings between the wire and conduit for all cable and wire entering the building from underground, including service cables.

Not more than 3 current carrying conductors shall be in one (1) conduit unless otherwise indicated. Provide one neutral conductor for each 3 phase 4 wire homerun to a panelboard unless otherwise noted.

MC cable shall comply with the NEC article 330. MC cable shall be as manufactured by AFC or approved equal by Guardian Products.

MC cable shall include a green insulated ground wire of the same size as the other conductors.

Run MC cable in dry hollow metal partitions and above suspended ceilings. Install cable as slack span; do not pull tight. Maintain at least 6" clearance between parallel runs of light and power wiring to avoid inductive coupling. Maintain at least 24" clearance from hot water and steam piping. Provide conduit sleeves through walls and partitions that obstruct horizontal passage of wiring, and seal sleeves after installation of cables. Cable shall be secured by approved staples, hangers or similar fittings independent of ceiling grids or supports.

MC cable shall be used in conjunction with conduit. Cable shall only be permitted for single phase circuits in hollow metal walls and above accessible ceilings. Single phase cable runs shall be gathered into three phase conduit homeruns. In no case shall cable enter directly into panelboards.

Secure MC cable to ceiling structure at intervals not to exceed 6 feet and within 12 inches of every outlet box, junction box, or fitting.

Make wire splices electrically and mechanically secure. Install small wire connectors so that no bare conductor is exposed. Tighten bolts on large conductor connectors so that conductor is deformed, but do not break strands of wire. Use compression tool with proper die for compression connectors in accordance with manufacturer's recommendations, so that conductors are deformed but not broken. Apply insulation over splice so that insulation thickness is at least 1-1/2 times that on conductor. Lap applied insulation at least 1" over conductor insulation so that no bare conductor is exposed.

In general, all feeders No. 8 and larger shall be continuous from point of origin to equipment being served. Splices shall only be used where necessary and with prior written approval of the Engineer.

Terminate conductors on terminal strips in equipment where terminal strips are used. Provide appropriate connectors, or hook conductors around terminal screws as required.

Provide encapsulated splice kits (3-M type 85 series or approved equal) for all splices in areas subject to moisture, including wet locations inside buildings and underground handholes, manholes, and buried junction boxes. Install splice kit in accordance with manufacturer's recommendations, and make splice waterproof. Apply sealing putty to surround each cable. Install mold body so that resin covers each cable sheath by a minimum of one inch.

All copper conductors No. 8 & larger shall be terminated, spliced, and tapped with color-keyed compression connectors, as manufactured by Thomas & Betts Co., Series 54000, Ideal Industries Series 87000, or approved equal. The manufacturer's recommended tooling shall be used. Mechanical type connectors shall not be used.

All copper conductors No. 10 AWG & smaller shall be terminated and spliced with Ideal Industries wing-nut wire connectors or approved equal compression connectors. The flame-retardant thermoplastic insulated type shall be used to isolate the terminal from other metal parts and equipment.t

Use insulating boots supplied for compression connectors or fill joint with "Scotchfil" insulating putty and serve (3) 1/2 lap layers of "Scotch" #33 electrical tape.

PANELBOARDS

The interior distribution system, in general, shall consist of 1-phase, 3-wire mains at 120/240 volts. The contractor shall balance the load on all feeders as nearly as possible on each phaseafter the system is fully energized and all components are functioning.

Panelboards and distribution panels shall be General Electric "A" Series and CCB or approved equal by Square D, Cutler Hammer, or Siemens.

Panel circuit breaker overcurrent protective devices shall be as scheduled on the Drawings and as specified. All breakers shall be bolted-on thermal magnetic type.

Panel circuit breakers shall be rated for 10,000 RMS symmetrical amperes minimum interrupting rating at 120/208 volts. Provide higher ratings as required or as scheduled on the Drawings.

Provide handle-locking attachments for all circuit breakers serving emergency lights, exit lights, clocks, and other functions indicated.

Furnish and install a typewritten circuit directory. Hand written will not be accepted.

GROUNDING

The complete electrical installation shall be permanently and effectively grounded in accordance with all code requirements, whether or not such connections are specifically shown or specified. Measured resistance to ground shall be 5 ohms, maximum. All parts of the electrical installation shall be grounded.

Ground conductors shall be sized in accordance with the National Electrical Code. Ground conductors shall be continuous without splices.

LIGHTING FIXTURES

Refer to Lighting Fixture Schedule on Drawings for manufacturer specified for each type of fixture. Manufacturers and catalog numbers indicate the type and quality of equipment to be furnished. However, they shall be considered only as a guide. Similar equipment of equal quality may be submitted for review. Fixtures shall be suitable for application and environment where they are being installed. Fixtures shall have proper labels; i.e. 'hazardous', 'damp locations', 'dust tight', etc., whether or not specifically indicated in the specified catalog number or fixture description.

All fixtures shall be LED.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
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KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
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40 Knowles Street
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SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

PROFESSIONAL ENGINEER
NJ LICENSE NO 38656
FRANK TINDALL, P.E.
DATE 03/19/25

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE: 03/19/25
SCALE: AS NOTED
DRAWN BY:
CHECKED BY:

SHEET TITLE:
SPECIFICATION - ELECTRICAL

March 20, 2025 2:15:16 p.m.
Drawing: 3166 E1.0.DWG

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550

Frank Tindall, P.E.
Professional Engineer
NJ 38656

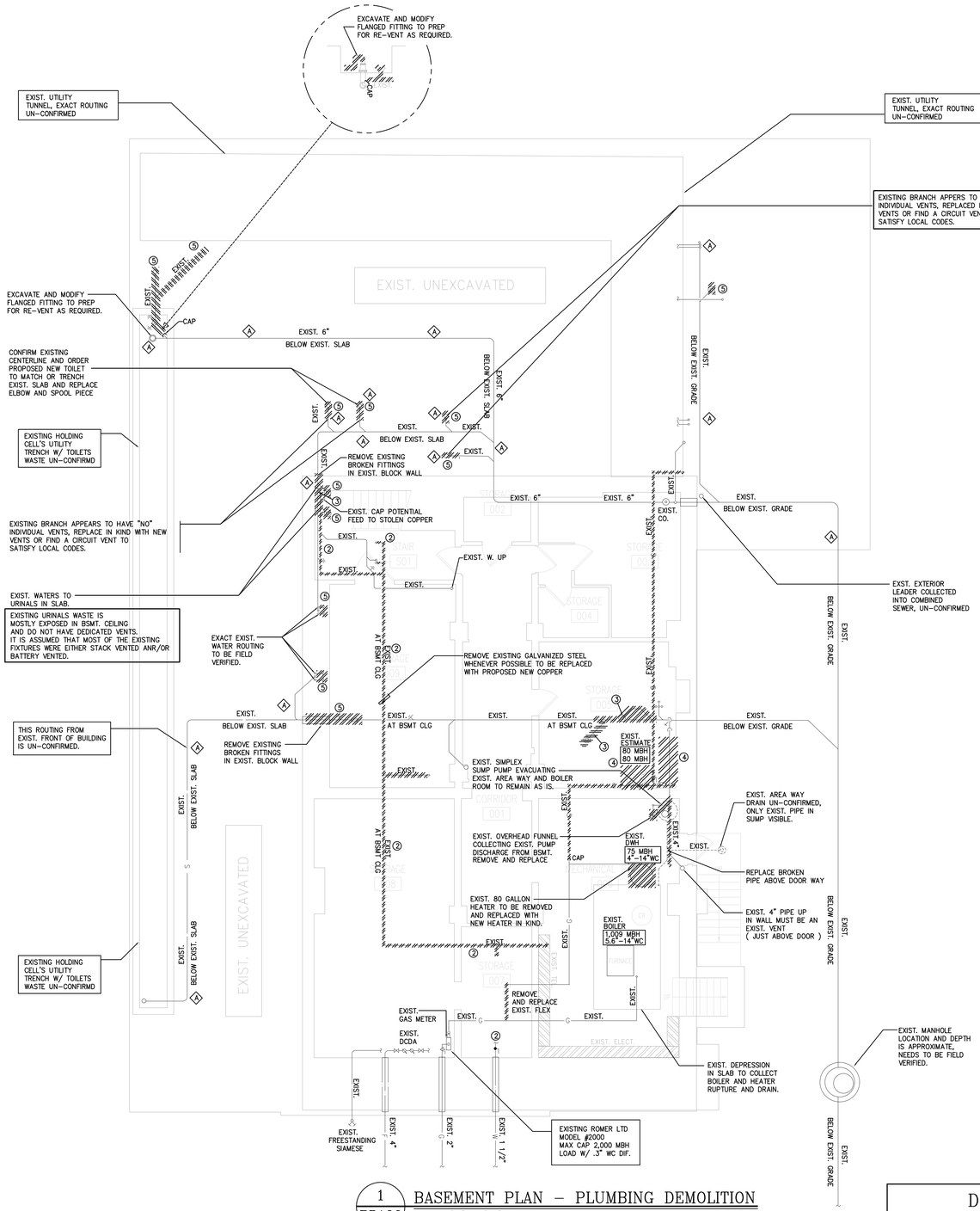
DRAWING NO.:

E200

CCH PROJECT NO: 2070.03

KEY PREPARATION NOTES:

A HIRE "ROTO-ROOTER" TO CAMERA INVESTIGATE EXACT ROUTING AND CONDITIONS OF EXISTING UNDERGROUND PIPE.



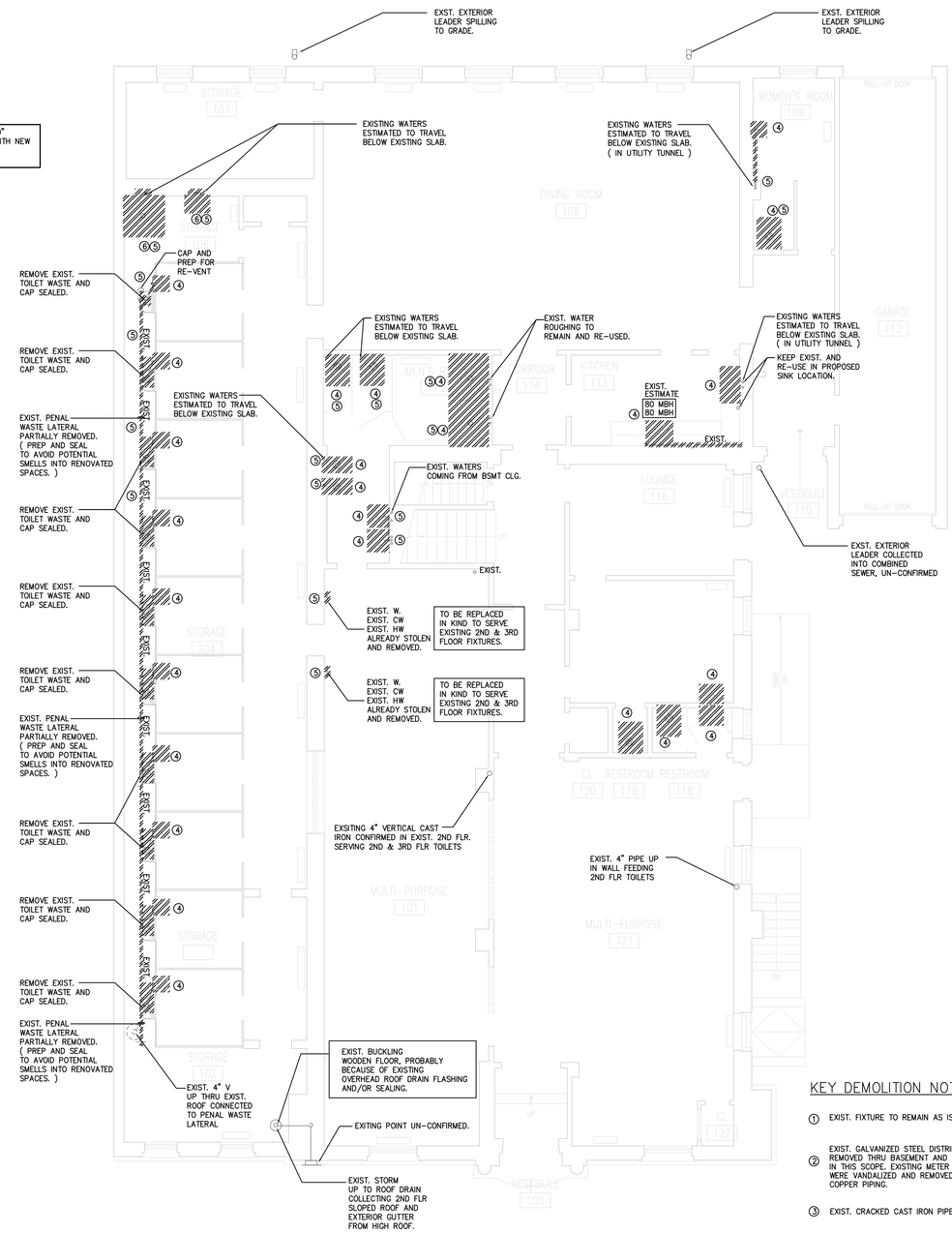
1 PD100 BASEMENT PLAN – PLUMBING DEMOLITION

SCALE 3/16" = 1'-0"

EXIST. NOTE:
MOST OF THE EXISTING HOT AND COLD WATER COPPER PIPING HAS BEEN REMOVED AND/OR STOLEN UP TO THE 1ST FLR. CEILING "NOT" INCLUDING THE PIPING IN THE CEILING SPACE. PROVIDE DEMOLITION AND FEED BACK TO THE PROPOSED NEW WORK INSTALLER IN WRITING WHEN POSSIBLE FOR CLARIFICATION.

DEMOLITION NOTES

1. REMOVE EXISTING FIXTURES AND PLUMBING ACCESSORIES AS INDICATED. CLEAN FIXTURES AND RETURN REUSABLE FIXTURES TO OWNER. TURN OVER HOT WATER HEATER TO OWNER.
2. INFORMATION CONCERNING EXISTING SYSTEMS OR EQUIPMENT HAS BEEN TAKEN FROM EXISTING DRAWINGS AND SHOP DRAWINGS.
3. THE CONTRACTOR SHALL VERIFY ACTUAL SITE CONDITIONS PRIOR TO SUBMITTING HIS BID.
4. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL ASSOCIATED DEMOLITION WORK REQUIRED FOR PLUMBING WORK WHETHER SHOWN ON THIS DRAWING OR NOT.
5. BLOW-OUT AND PURGE EXISTING GAS PIPING TO BE REMOVED AS INDICATED FOR THE DEMOLITION PER LOCAL FUEL GAS CO./NFPA #54. DISCONNECT AND REMOVE EXISTING GAS PIPING SERVING THE EXISTING STOVE. (CAP AND PREP FOR PRESSURE TESTING EXISTING APPROXIMATE 1 PSI SYSTEM WITH A MAX OF 3 PSI AS PER LOCAL FUEL GAS CODE.)



2 PD100 FIRST FLOOR PLAN – PLUMBING DEMOLITION

SCALE 3/16" = 1'-0"

EXIST. NOTE:
MOST OF THE EXISTING HOT AND COLD WATER COPPER PIPING HAS BEEN REMOVED AND/OR STOLEN UP TO THE 1ST FLR. CEILING "NOT" INCLUDING THE PIPING IN THE CEILING SPACE. PROVIDE DEMOLITION AND FEED BACK TO THE PROPOSED NEW WORK INSTALLER IN WRITING WHEN POSSIBLE FOR CLARIFICATION.

KEY DEMOLITION NOTES:

1. EXIST. FIXTURE TO REMAIN AS IS. NOT IN SCOPE
2. EXIST. GALVANIZED STEEL DISTRIBUTION TO BE REMOVED THRU BASEMENT AND 1ST FLOOR CEILING IN THIS SCOPE. EXISTING METER AND BACKFLOW WERE VANDALIZED AND REMOVED OF ALL ITS COPPER PIPING.
3. EXIST. CRACKED CAST IRON PIPE TO BE REPLACED.
4. DISCONNECT EXISTING PLUMBING FIXTURE AND REMOVE FIXTURE IN ITS ENTIRETY, PREP EXISTING DRAIN AND CLOSET FLANGER TO RECEIVE NEW FIXTURE. SAW CUT EXIST. SLAB AND CAP BELOW SLAB, CAP WATERS IN WALL AND/OR IN CEILING. CAP VENT AND PREP FOR RE-USE IN NEW FIXTURE REPLACEMENT.
5. TRENCH EXIST. SLAB/WALL TO REMOVE EXIST. PIPE
6. DISCONNECT EXISTING PLUMBING FIXTURE AND REMOVE FIXTURE IN ITS ENTIRETY.

Clarke Caton Hintz
Architecture
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Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8585
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
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Trenton, NJ 08608
(609) 989-3518

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196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

STRUCTURAL:
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40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

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NJ LICENSE NO 38656
FRANK TINDALL P.E.
DATE 03/19/25

RENOVATION OF SOUTH BROAD STREET SENIOR CENTER

TRENTON, NEW JERSEY

DATE: 03/19/25
SCALE: AS NOTED
DRAWN BY: AF
CHECKED BY: NML

SHEET TITLE:
BASEMENT & FIRST FLOOR PLAN - PLUMBING DEMOLITION

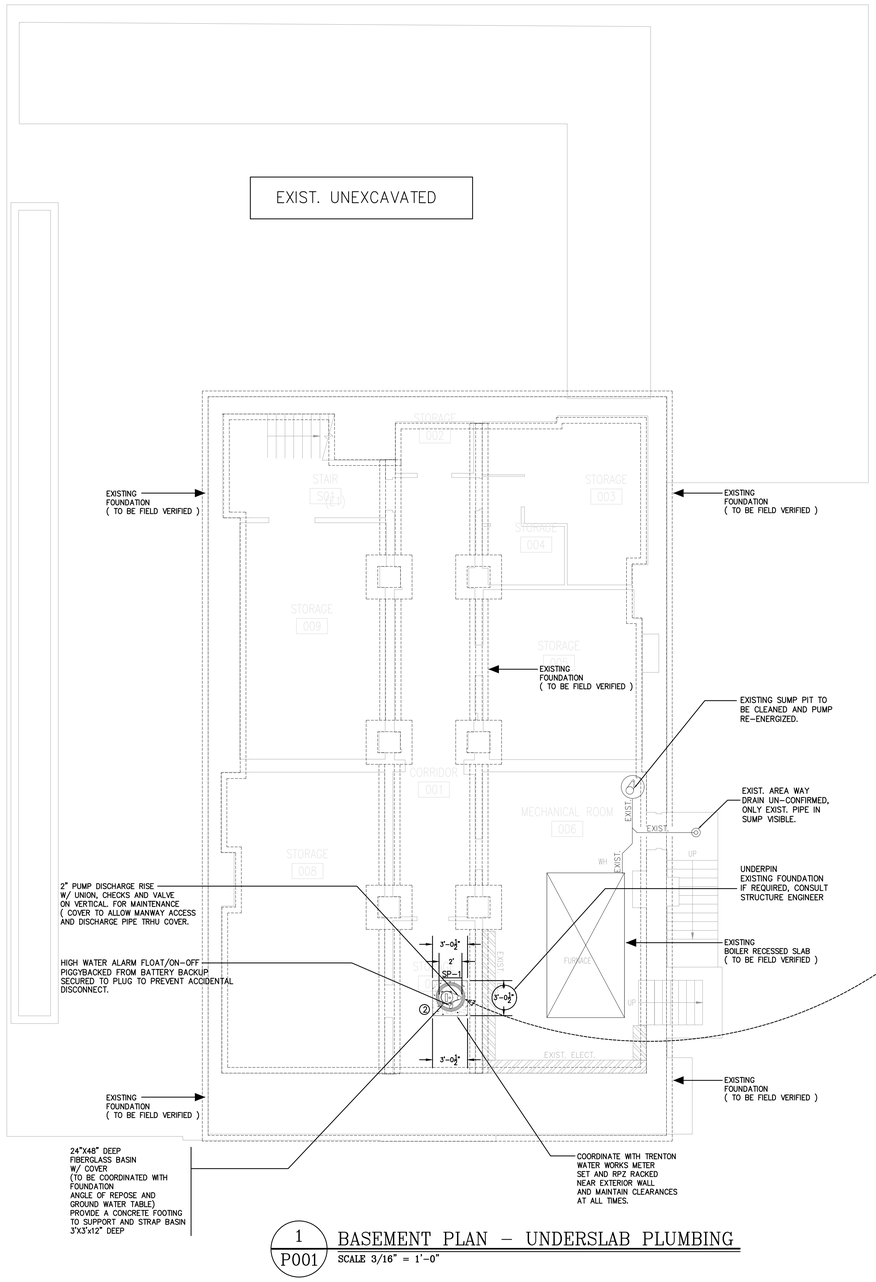
DRAWING NO.:
PD100

CCH PROJECT NO: 2070.03

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

COORDINATION NOTES:

CONTRACTOR SHALL PROVIDE A COORDINATION DRAWING ILLUSTRATING ALL THE EXISTING/NEW WOOD FRAMING, STEEL FRAMING, HVAC DUCT WORK AND UNITS, CEILING HEIGHTS, LIGHTS AND EXIT SIGNS
ACKNOWLEDGE AND ENDORSE BEFORE PROCEEDING AND PRIOR TO INSTALLATION.



1 / P001 BASEMENT PLAN – UNDERSLAB PLUMBING
SCALE 3/16" = 1'-0"

KEY NOTES:

① EXIST. FIXTURE TO REMAIN AS IS. NOT IN SCOPE

② TRENCH AND EXCAVATE EXISTING FLOOR SLAB TO INSTALL PROPOSED NEW BASIN, PUMP AND FOOTINGS.

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Architecture
Planning
Landscape Architecture
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Trenton, NJ 08608
tel: (609) 883-8585
fax: (609) 883-4044
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319 E State Street #3
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(609) 989-3518

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196 Princeton-Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
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40 Knowles Street
Pennington, NJ 08534
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BASEMENT PLAN UNDERSLAB - PLUMBING

DRAWING NO.:
P001

CCH PROJECT NO: 2070.03

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consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

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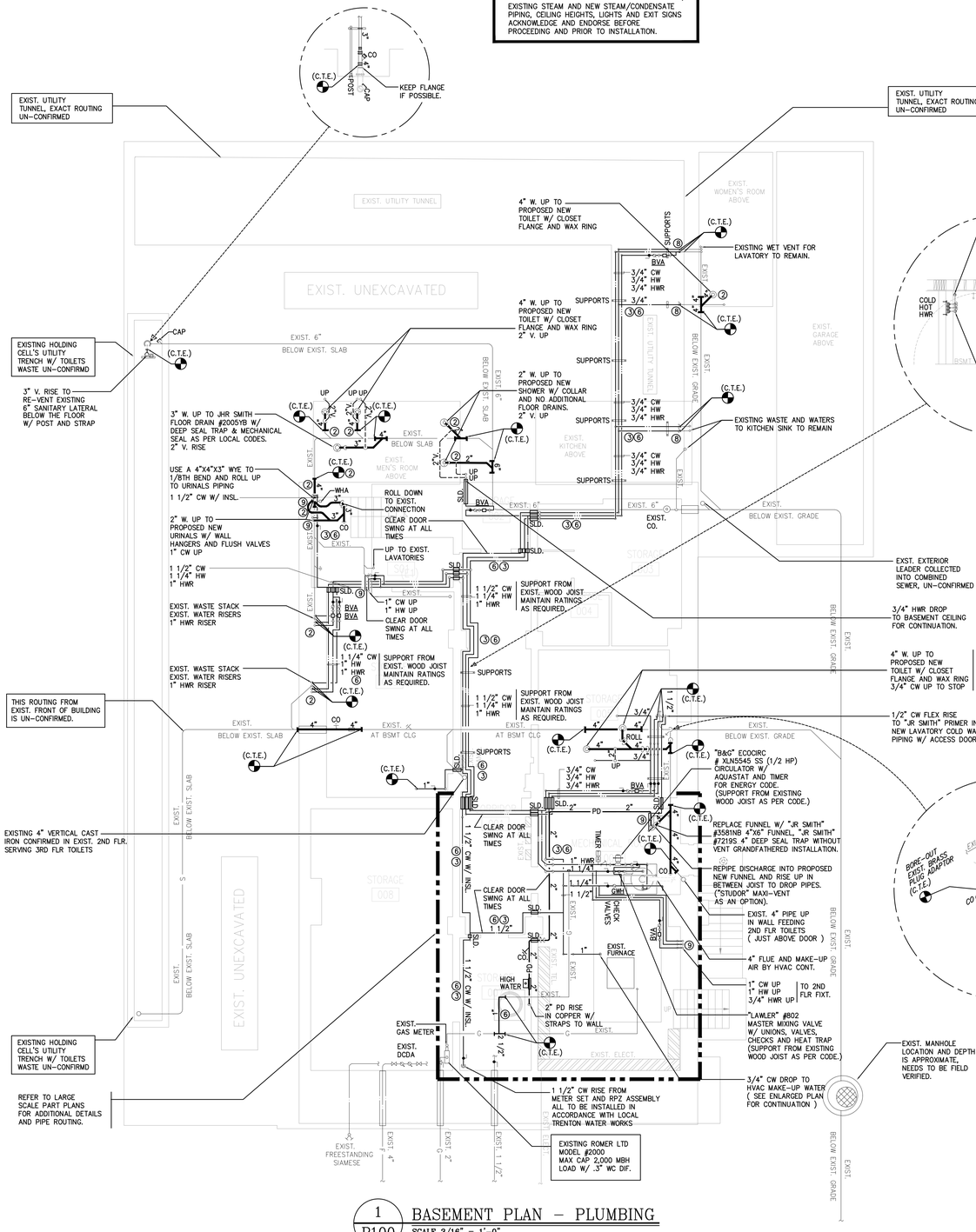
NO GREASE PRODUCING FIXTURES AND/OR 3 COMP SINK FOR GREASE INTERCEPTOR REQUIREMENTS IN WARMING KITCHEN.

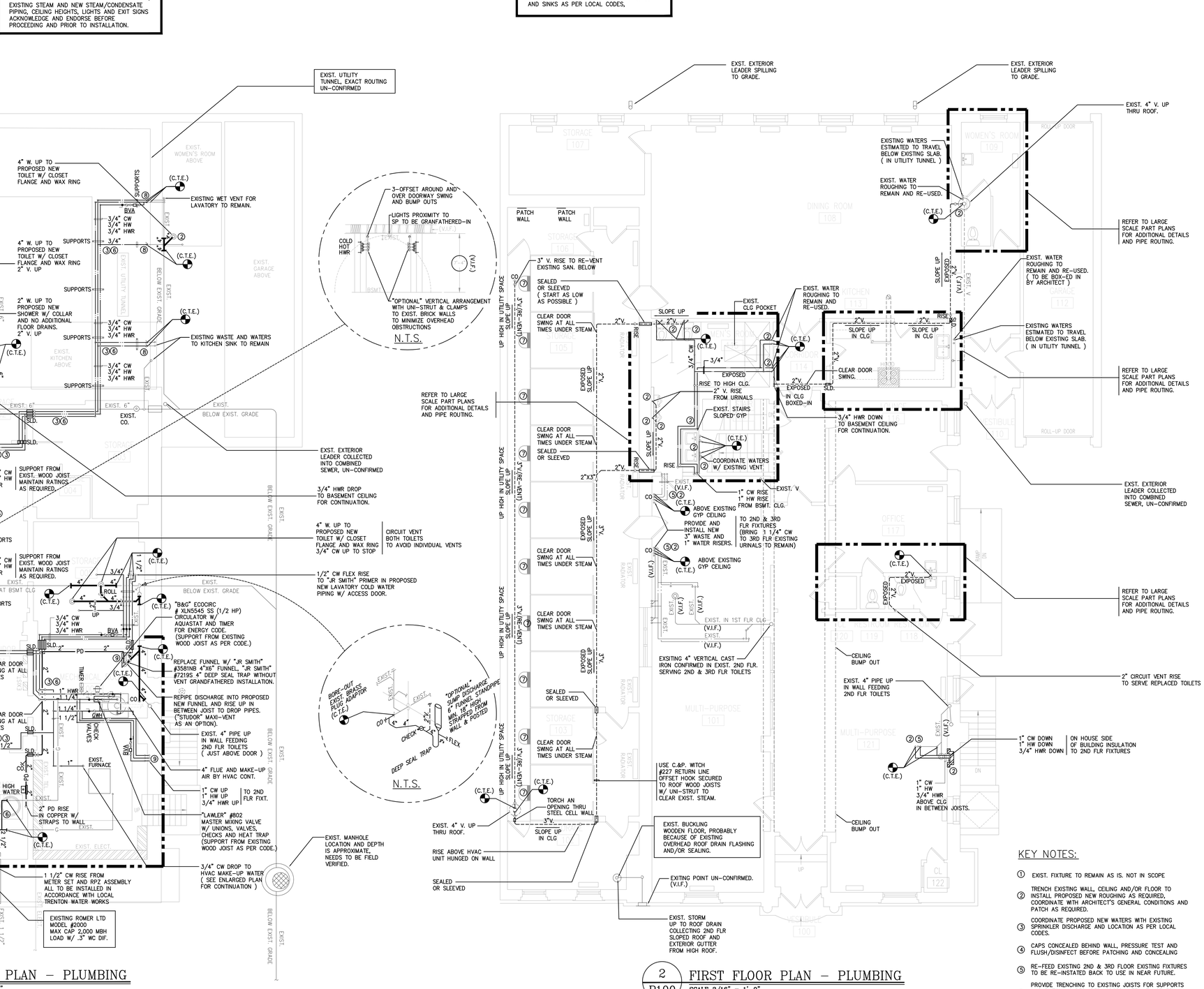
ADA NOTES:

REFER TO ARCHITECTURAL DETAIL FOR ALL ADA REQUIREMENT, MOUNTING HEIGHTS AND CLEARANCES. PROVIDE SHIELDS AND COVERS FOR ALL LAVATORIES AND SINKS AS PER LOCAL CODES.



1 P100 BASEMENT PLAN – PLUMBING

SCALE 3/16" = 1'-0"



2 P100 FIRST FLOOR PLAN – PLUMBING

SCALE 3/16" = 1'-0"

KEY NOTES:

1. EXIST. FIXTURE TO REMAIN AS IS. NOT IN SCOPE
2. TRENCH EXISTING WALL, CEILING AND/OR FLOOR TO INSTALL PROPOSED NEW ROUGHING AS REQUIRED, COORDINATE WITH ARCHITECT'S GENERAL CONDITIONS AND PATCH AS REQUIRED.
3. COORDINATE PROPOSED NEW WATERS WITH EXISTING SPRINKLER DISCHARGE AND LOCATION AS PER LOCAL CODES.
4. CAPS CONCEALED BEHIND WALL, PRESSURE TEST AND FLUSH/DISINFECT BEFORE PATCHING AND CONCEALING
5. RE-FEED EXISTING 2ND & 3RD FLOOR EXISTING FIXTURES TO BE RE-INSTATED BACK TO USE IN NEAR FUTURE.
6. PROVIDE TRENCHING TO EXISTING JOISTS FOR SUPPORTS AND PATCH AS REQUIRED, COORDINATE WITH GENERAL CONDITION SECTION OF ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
7. SEAL EXIST. TOILET OPENING AFTER PIPE REMOVALS.
8. RE-INSULATE EXISTING WATER PIPES IN UTILITY TUNNEL W/ MINIMUM 1" THICK INSULATION AND RE-SUPPORT
9. COORDINATE EXISTING 1ST FLOOR BOARDS BEFORE SETTING PIPES FOR PROPOSED NEW PIPING.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
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Trenton, NJ 08608
tel: (609) 883-8383
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OWNER:
COT DEPT OF HOUSING
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Trenton, NJ 08608
(609) 989-3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton-Hightstown Rd,
Bldg 1A Suite 9 &
Princeton Junction, NJ 08550
(609) 799-8336

STRUCTURAL:
HARRISON AND HAMNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818-1808

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TRENTON, NEW JERSEY

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SHEET TITLE:
BASEMENT & FIRST FLOOR PLAN - PLUMBING

DRAWING NO.:
P100

CCH PROJECT NO: 2070.03

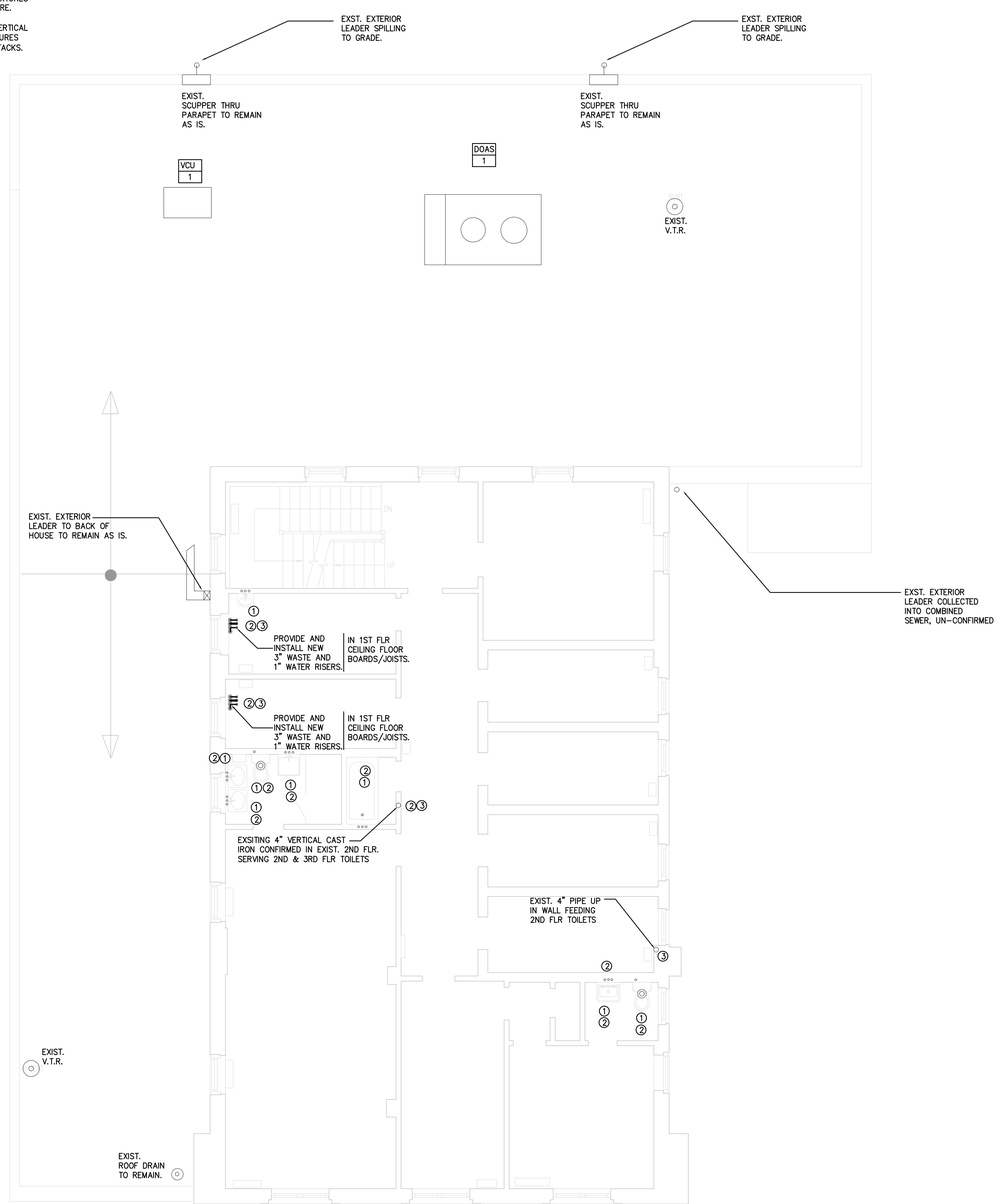
KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

KEY NOTES:

① EXIST. FIXTURE TO REMAIN AS IS. NOT IN SCOPE

② RE-FEED EXISTING 2ND & 3RD FLOOR EXISTING FIXTURES TO BE RE-INSTATED BACK TO USE IN NEAR FUTURE.

③ FIELD LOCATE AND VERIFY EXACT LOCATION OF VERTICAL WATER/WASTE FEED TO EXISTING 3RD FLOOR FIXTURES BEFORE INSTALLING THE PROPOSED NEW RISER/STACKS.



1 / P101 SECOND FLOOR PLAN – PLUMBING

SCALE 3/16" = 1'-0"

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Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8585
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
CDT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
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MEP:
KELTER AND GILLIGO CONSULTING
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Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799-8336

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Pennington, NJ 08534
(609) 818-1808

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SHEET TITLE:
SECOND FLOOR PLAN - PLUMBING

DRAWING NO.:
P101

CCH PROJECT NO: 2070.03

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consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550

Frank Tindall, P.E.
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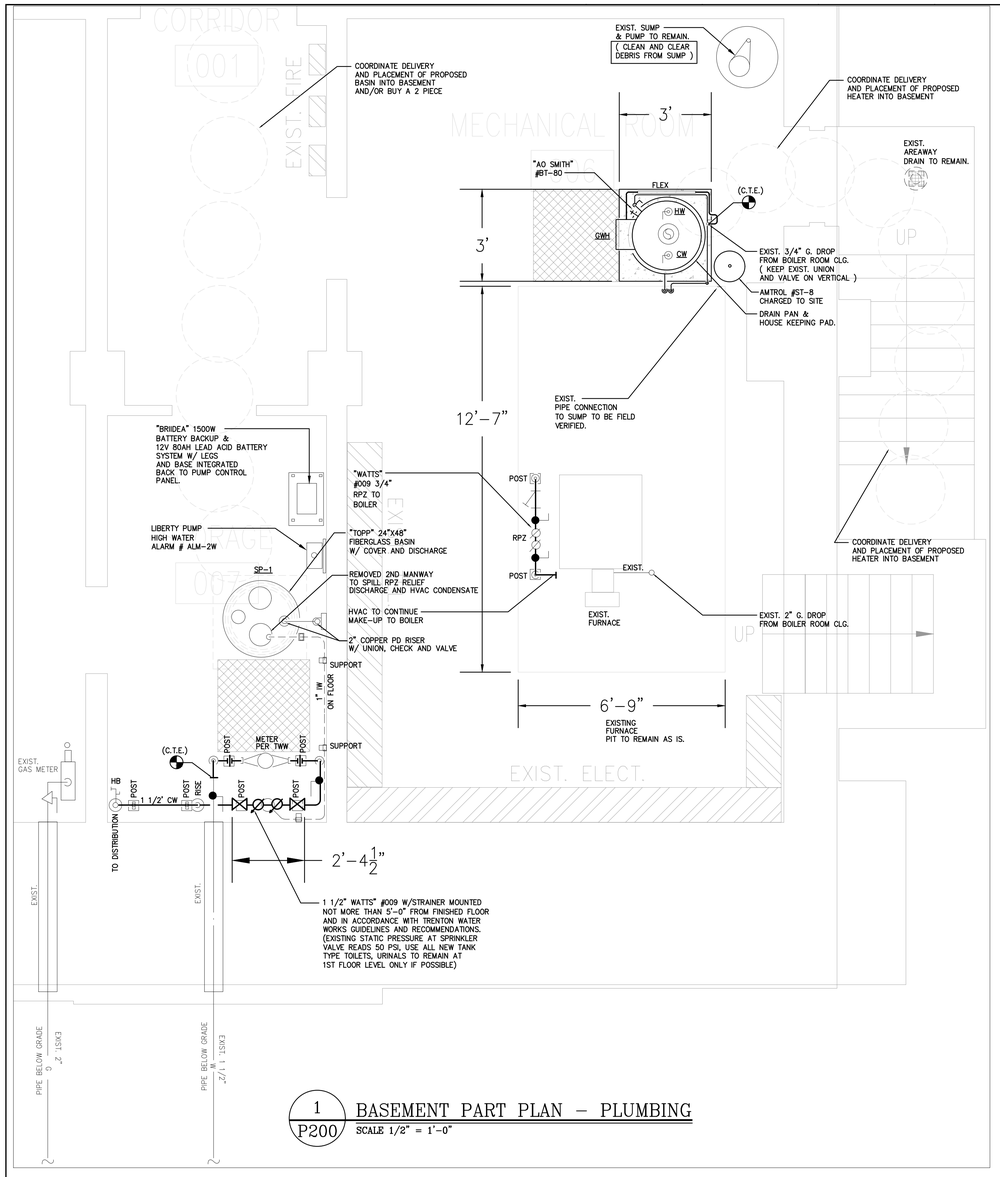
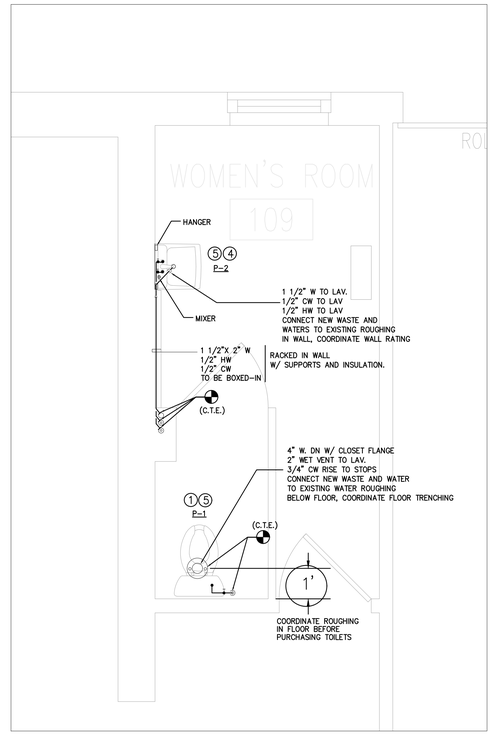
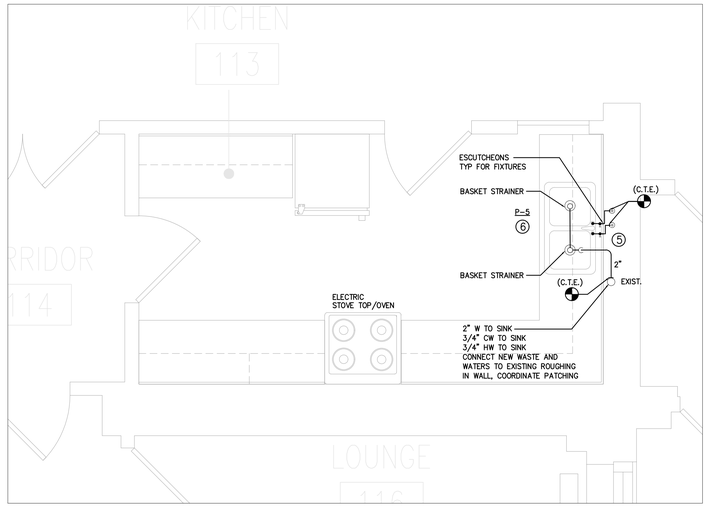


1 P200 FIRST FLOOR PART PLAN – PLUMBING
SCALE 1/2" = 1'-0"

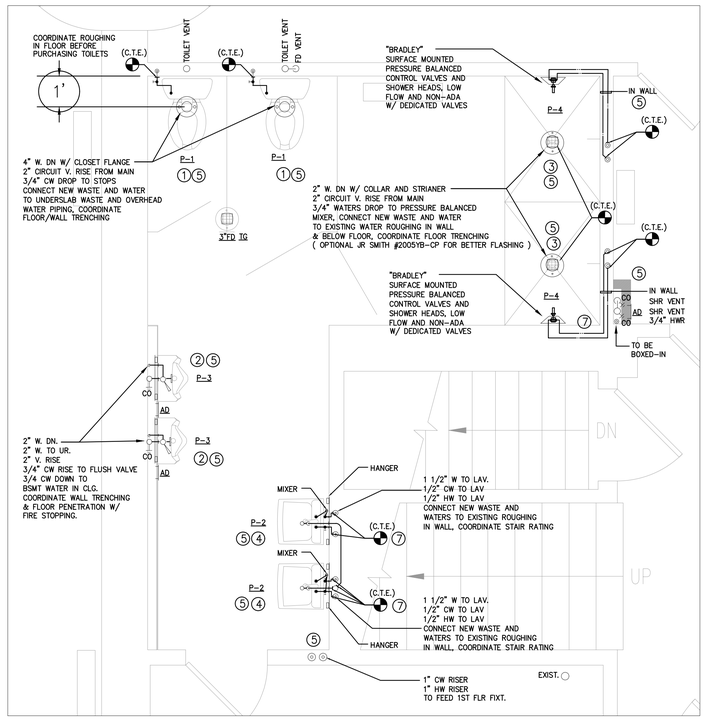
3 P200 FIRST FLOOR PART PLAN – PLUMBING
SCALE 1/2" = 1'-0"



5 P200 FIRST FLOOR PART PLAN – PLUMBING
SCALE 1/2" = 1'-0"



2 P200 FIRST FLOOR PART PLAN – PLUMBING
SCALE 1/2" = 1'-0"



4 P200 FIRST FLOOR PART PLAN – PLUMBING
SCALE 1/2" = 1'-0"

KEY NOTES:

1. INSTALL PROPOSED TANK TYPE WATER CLOSET, PROVIDE NEW 4" CLOSET FLANGE/WAX RING AND CONNECTION BELOW THE EXISTING SLAB.
   PROVIDE NEW 3/4" COLD WATER STOP, ESCUTCHEON AND FLEX ON VERTICAL AND CONNECT TO NEW FIXTURE.
2. INSTALL PROPOSED URINAL W/ WALL HANGER, PROVIDE NEW 2" WASTE, 2" VENT ABOVE CEILING AND CONNECTION 2" WASTE BELOW THE EXISTING SLAB.
   PROVIDE NEW 3/4" COLD WATER FLUSH VALVE ON EXISTING WALL AND CONNECTING TO EXISTING COLD WATER ROUGHING FROM BASEMENT AND/OR IN BSMT CLG.
3. INSTALL PROPOSED SHOWER W/ JR SMITH FLOOR DRAIN #2005 & "SPEAKMAN" SHROUD TYPE PRESSURED BALANCED MIXING VALVES WITH WATER PIPING BACK TO EXISTING ROUGHING.
   NEW 2" WASTE W/ TRAP AND STRAINER TO MATCH PROPOSED NEW TILE AND WATER PROOFING MEMBRANE. PROVIDE NEW 3/4" COLD AND HOT WATER PIPING ON EXISTING WALL AND CONNECTING TO EXISTING WATER ROUGHING FROM BASEMENT.
4. INSTALL PROPOSED LAVATORY W/WALL HANGER ON EXISTING BLOCKING. PROVIDE NEW 1 1/4" X 1 1/2" TRAP, TAILPIECE, J BEND AND ESCUTCHEON FOR WASTE CONNECTION OF PROPOSED NEW LAVATORY. PROVIDE NEW 3/4" WATERS, STOPS, FLEX SUPPLIES AND ESCUTCHEON, "POWER" LFG-480 DEDICATED MIXER AND CONNECT TO EXISTING ROUGHING IN EXISTING BLOCK WALL AS REQUIRED.
5. TRENCH EXISTING WALL TO INSTALL PROPOSED NEW ROUGHING AS REQUIRED, COORDINATE WITH ARCHITECT'S GENERAL CONDITIONS AND PATCH AS REQUIRED.
6. INSTALL PROPOSED SINK COUNTER MOUNTED IN COUNTERTOP. PROVIDE NEW 1 1/2" X 2" TRAP, TAILPIECE, J BEND AND ESCUTCHEON FOR WASTE CONNECTION OF PROPOSED NEW SINK. PROVIDE NEW 3/4" WATERS, STOPS, FLEX SUPPLIES AND ESCUTCHEON AND CONNECT TO EXISTING ROUGHING IN EXISTING BLOCK WALL AS REQUIRED.
7. KEEP STAIR RATING INTACT AT ALL TIMES

KELTER & GILLIGO consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883-4044
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Bldg 1A Suite 9
Princeton Junction, NJ 08550
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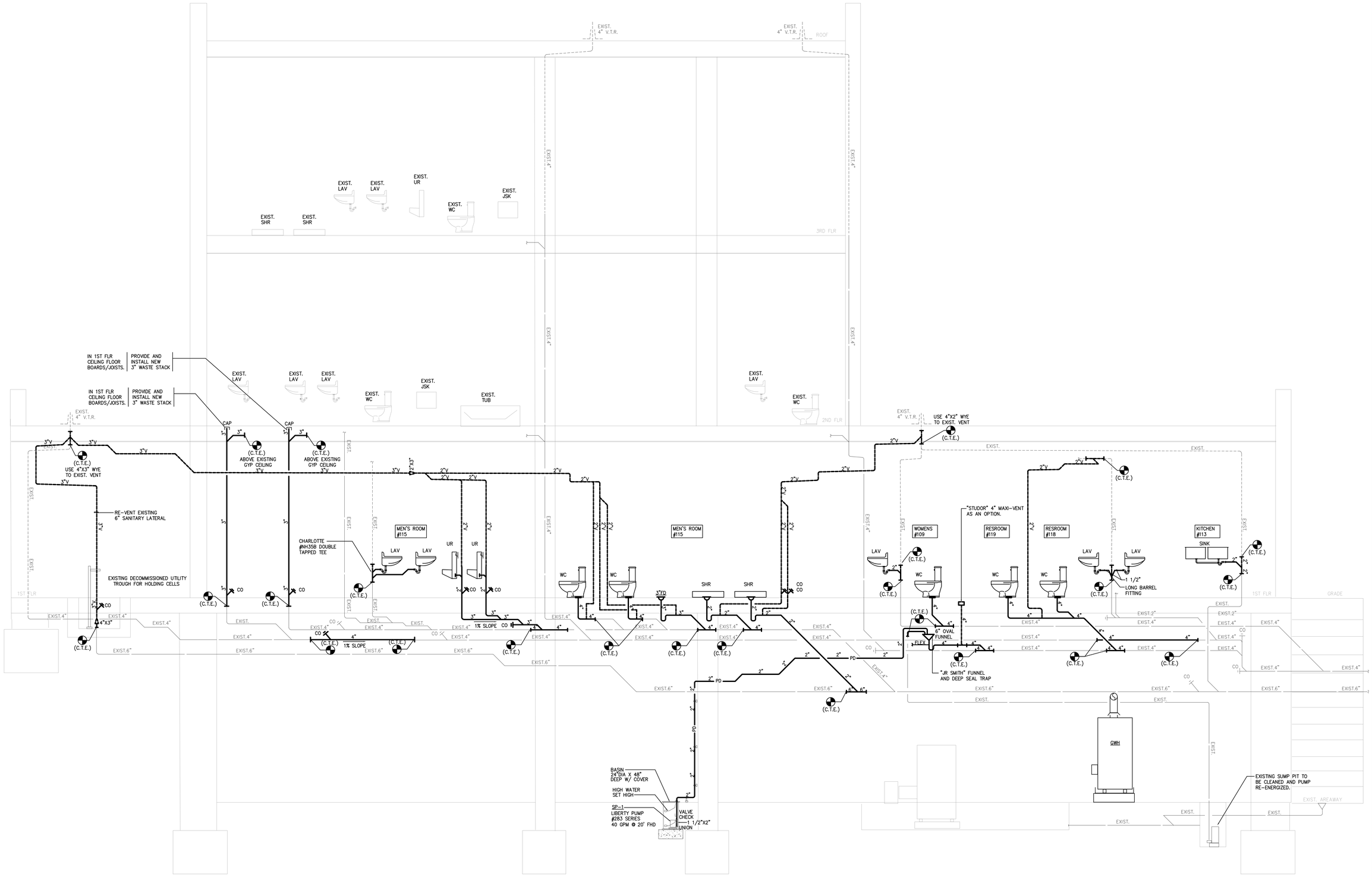
SHEET TITLE:
PART PLANS
PLUMBING

DRAWING NO.:
P200

CCH PROJECT NO: 2070.03



1 / P300 WASTE AND VENT RISER DIAGRAM
NTS

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8585
fax: (609) 883-4044
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PLUMBING

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consulting engineers
P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
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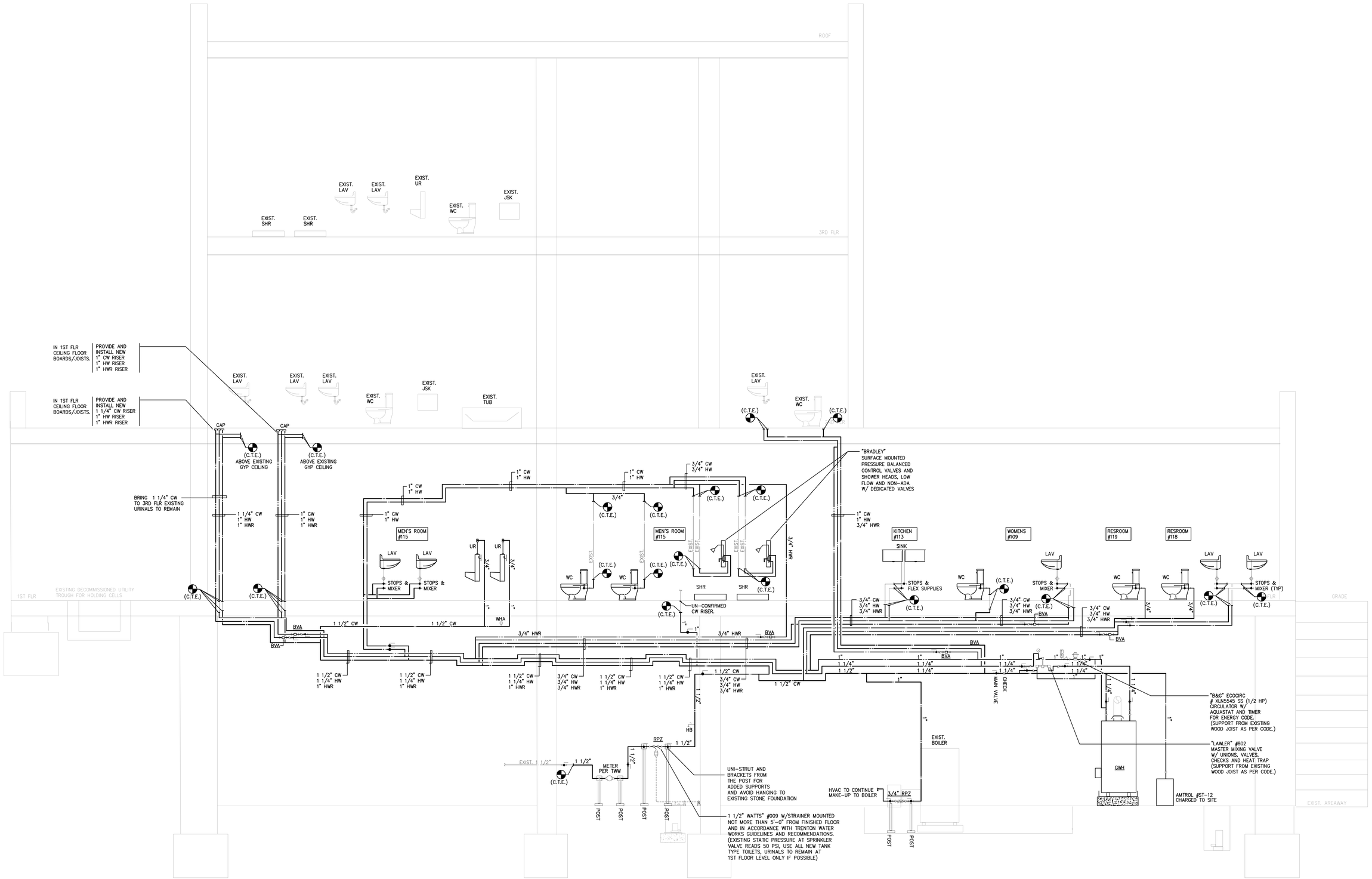

1
P301
DOMESTIC WATER RISER DIAGRAM
NTS

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Architecture
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Landscape Architecture

100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8383
fax: (609) 883 4044
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OWNER:
COT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
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DRAWING NO.:
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CCH PROJECT NO: 2070.03

PLUMBING SYMBOL LIST

ABBREVIATION	SYMBOL	DESCRIPTION	ABBREVIATION	SYMBOL	DESCRIPTION
CW		COLD WATER PIPING	O.S.&Y.		OUTSIDE STEM & YOKE VALVE
HW		HOT WATER PIPING	AV		ANGLE VALVE
HWR		HOT WATER RETURN PIPING			BRANCH – TOP CONNECTION
(E) CW	EXIST.	(E) COLD WATER PIPING			BRANCH – BOTTOM CONNECTION
(E) HW	EXIST.	(E) HOT WATER PIPING		(C.T.E.)	NEW CONNECTION TO EXISTING
(E) HWR	EXIST.	(E) HOT WATER RETURN PIPING			
X–T		PIPING WITH HEAT TRACE (EXPOSED)	WHA		WATER HAMMER ARRESTOR W/AD
(E) W	EXIST. W	(E) SITE WATER SUPPLY	HB		HOSE BIBB W/VACUUM BREAKER
(E) F	EXIST. F	(E) FIRE PROTECTION WATER SUPPLY	WH		NON–FREEZE WALL HYDRANT
(E)		EXISTING PIPING TO BE REMOVED	TV		HOT WATER TEMPERING VALVE
V		VENT	BVA		HOT WATER RETURN BALANCING VALVE ASSEMBLY
(E) V	EXIST.	(E) VENT	PV		GAS PLUG VALVE
SAN		SOIL, WASTE, OR SANITARY SEWER			GAS PRESSURE REGULATOR
SAN		UNDERGROUND/BELOW SLAB SOIL, WASTE, OR SANITARY SEWER			TRAP
(E) SAN	EXIST.	(E) SOIL, WASTE OR SANITARY SEWER	CO		CLEANOUT
(E) ST/(E) L	EXIST.	(E) STORM WATER LEADER OR SEWER	T&P		TEMPERATURE & PRESSURE RELIEF VALVE
G	G	NATURAL GAS	FD		FLOOR DRAIN W/ DEEP SEAL TRAP
(E) G	EXIST. G	(E) NATURAL GAS	CODP	CODP	CLEAN OUT DECK PLATE
		REDUCER	M	M	WATER METER & VALVE ASSEMBLY
		CAPPED OUTLET	M	M	GAS METER AND PRESSURE REDUCING VALVE ASSEMBLY
		VALVED & CAPPED OUTLET	BFP	BFP	BACKFLOW PREVENTOR
		VALVE ON VERTICAL	RPZ	RPZ	REDUCED PRESSURE ZONE VALVE ASSEMBLY
		UNION			
		PIPING DROP/DOWN			
		PIPING RISE/UP			
BV		BALL VALVE			
GV		GATE VALVE			
GV		GLOBE VALVE			
CV		CHECK VALVE			

PLUMBING SPECIALTIES SCHEDULE

MARK	DESCRIPTION	MANUFACTURER MODEL	REMARKS
WH–1	NON–FREEZE WALL HYDRANT	ZURN Z–1300–4	BRONZE BODY, ENCASED, ANTI–SIPHON, AUTOMATIC DRAINING, INTEGRAL BACKFLOW PREVENTOR & 3/4" HOSE CONNECTION
HB–1	HOSE BIBB	ZURN Z–195	BRONZE BODY, ENCASED, ANTI–SIPHON, AUTOMATIC DRAINING, INTEGRAL BACKFLOW PREVENTOR & 3/4" HOSE CONNECTION
WHA	WATER HAMMER ARRESTOR	ZURN Z–1700	STAINLESS STEEL CONSTRUCTION, SIZE 600 & 1" OUTLET
———	AIR GAP FITTING	ZURN Z–1024 OR Z–1025	DURA–COAT CAST IRON FIXED AIR GAP FITTING (SELECT SIZE AS REQUIRED BY INDIRECT WASTE PIPING)
TG	WATERLESS TRAP GUARD	PROVENT TRAP GUARD	ELASTOMERIC, NORMALLY CLOSED TRAP GUARD DEVICE WHICH OPENS WHEN IN CONTACT WITH LIQUID, COMPLIES WITH WITH ANSI/ASME A112.6.3
TP	TRAP PRIMER	PPP PR–500	ALL BRONZE BODY INLINE TRAP PRIMER W/INTEGRAL VACUUM BREAKER & NON–LIMING INTERNAL OPERATING ASSEMBLY
———	FLOW CONTROL DEVICE	ZURN Z–1108	4" SIZE CONTROL FLOW FITTING FOR OIL INTERCEPTOR (SEE DWGS. FOR LOCATION)
RPZ	REDUCED PRESSURE BFP	WATTS MODEL No. 009	1/2" & 1 1/2" SIZE RPZ VALVE ASSEMBLY MOUNTED AND SUPPORTED FROM POST RACKED ABOVE METER

PLUMBING ABBREVIATIONS

A	COMPRESSED AIR	GPF	GALLONS PER FLUSH
AFF	ABOVE FINISHED FLOOR	GPH	GALLONS PER HOUR
AP	ACCESS PANEL	GPM	GALLONS PER MINUTE
BFP	BACKFLOW PREVENTOR	HW	HOT WATER SUPPLY
CFH	CUBIC FEET PER HOUR	HWR	HOT WATER RETURN
CIP	CAST IRON PIPE	I.E.	INVERT ELEVATION
CO	CLEAN OUT	INV	INVERT
CODP	CLEAN OUT DECK PLATE	LDR	LEADER
CV	CHECK VALVE	LS	LAB SINK
CW	COLD WATER	NC	NORMALLY CLOSED
DCV	DOUBLE CHECK VALVE	NO	NORMALLY OPEN
DI	DEIONIZED WATER	OD	OVERFLOW DRAIN
DIP	DUCTILE IRON PIPE	(R)	REUTILIZED
DFU	DRAINAGE FIXTURE UNITS	S	SANITARY
DN	DOWN	SAN.	SANITARY
DP.	DROP	ST	STORM
DWG	DRAWING	TB	THRUST BLOCK
(E)	EXISTING	V	VENT
(F)	FAHRENHEIT	VTR	VENT THROUGH ROOF
FD	FLOOR DRAIN	°	DEGREES
G	NATURAL GAS	ΔT	TEMPERATURE CHANGE
SLV	SLEEVED	SLD	SEALED

PLUMBING FIXTURE & CONNECTION SCHEDULE

MARK	FIXTURE	MOUNTING	MANUFACTURER	MODEL NO.	TRIM NO.	SUPPORT NO.	TRAP	WASTE	VENT MIN.	CW	HW	REMARKS
P–1	WATER CLOSET	FLOOR MOUNTED	AMERICAN STANDARD	RELIANT #2500A.104	N/A	N/A	INTEGRAL	4"	2"	3/4"	N/A	2–PIECE, VITREOUS CHINA, WITH 1.28 FLUSH CAPABILITY; PROVIDE ELONGATED TOILET SEAT, CLOSET FLANGE/WAX RING, AND ESCUTCHEON STOP WITH SUPPLY (CONFIRM NON ADA REQUIREMENTS BEFORE PURCHASING UNITS WITH ARCHITECT)
P–2	LAVATORY	WALL HUNG W/ HANGER	AMERICAN STANDARD	LUCERNE #0355.012	SYMMONS SCOT SLC–6000–.35 –C–ML	WALL HANGERS	1–1/2"x 1–1/2"	1–1/2"	1–1/2"	1/2"	1/2"	1–PIECE, VITREOUS CHINA, WITH .35 GPF; PROVIDE CHROME PLATED P–TRAP AND TAILPIECE, "J" BEND/ESCOUCHEON, GRID STRAINER ANGLE STOPS, AND BRAIDED STEEL SUPPLIES (PROVIDE WITH WALL HANGERS AND DEDICATED MIXERS SIMILAR TO "POWER" LFG–480)
P–3	URINAL	WALL HUNG W/ HANGER	AMERICAN STANDARD	TRIMBROOK 6560.015	SLOAN ROYAL No. 186.125	WALL HANGERS	INTEGRAL	2"	1–1/2"	3/4"	N/A	REFER TO ARCHITECTURAL DETAILS FOR MOUNTING HEIGHTS
P–4	SHOWER	WALL HUNG SHROUD	–	– –	BRADLEY WS–TWAB–EF–S15 –LHV–LBJ–ST–SHV	N/A	2" X 2"	2"	1–1/2"	3/4"	3/4"	BASE TO BE BUILT–IN PLACE; PROVIDE 2" JR SMITH #2005YB FLOOR DRAIN TO BE SET TILED BASIN W/ WATER PROOFING AND FLASHING.
P–5	STAINLESS STEEL SINK	COUNTER MOUNTED	ELKAY	LUSTERTONE ELUHAD311855	ELKAY LK–6000	N/A	1–1/2"x 1–1/2"	1–1/2"	1–1/2"	3/4"	3/4"	18 GAUGE TYPE 304 LUSTERTONE SATIN FINISH STAINLESS STEEL; PROVIDE 1 1/2" CHROME PLATED P–TRAP AND TAILPIECE, (2) BASKET STRAINER #LK–35, #LK53 DRAIN FITTING, ESCUTCHEONS, ANGLE STOPS, AND BRAIDED STEEL SUPPLIES

NOTE:

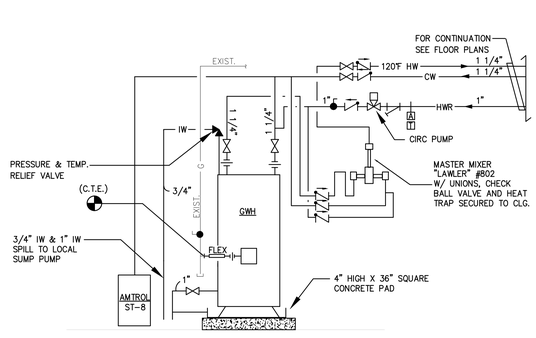
1. PLUMBING CONTRACTOR SHALL COORDINATE SPECIFIED COUNTER SINKS WITH MILLWORK CONSTRUCTION DRAWINGS PRIOR TO PURCHASE OF ANY PLUMBING FIXTURES, AND SUBMIT MILLWORK DRAWINGS WITH FIXTURE SHOP DRAWINGS FOR REVIEW AND APPROVAL.
2. MOUNTING HEIGHTS FOR ALL FIXTURES SHALL BE AS INDICATED AND DIRECTED BY ARCHITECT.
3. ALL EXPOSED TRAP ASSEMBLIES AND WATER SUPPLIES TO BE INSULATED.

PLUMBING EQUIPMENT SCHEDULE

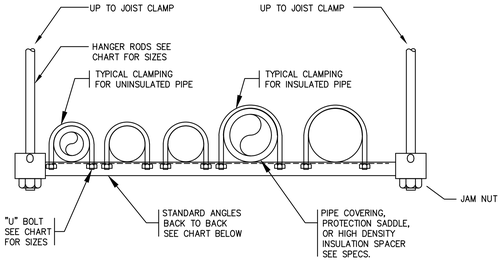
MARK	GENERAL				DESIGN DATA		ELECTRICAL						REMARKS
	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LOCATION	CAPACITY	PUMP HEAD	HP	RPM	VOLTS	PH	HZ	AMPS	
GWH	GAS FIRED DOMESTIC WATER HEATER REPLACED IN KIND	AO SMITH	BT–80	BASEMENT	90° RISE @ 81 GPH GPM	–	–	–	–	–	–	–	MOUNTED ON CONCRETE PAD W/ MASTER MIXER, DRAIN PAN, EXPANSION TANK AND HOT WATER CIRCULATOR

PLUMBING EQUIPMENT SCHEDULE

MARK	GENERAL				DESIGN DATA		ELECTRICAL						REMARKS
	DESCRIPTION	MANUFACTURER	MODEL NUMBER	LOCATION	CAPACITY	PUMP HEAD	HP	RPM	VOLTS	PH	HZ	AMPS	
SP–1	SUBMERSIBLE SUMP PUMP	LIBERTY PUMP	#283 SERIES	SUMP PIT	40 GPM	20'	1/2	3450	115	1	60	8.0	SUBMERSIBLE PUMP WITH CAST IRON HOUSING & BRONZE IMPELLER 24" DIAMETER X 48" DEEP BASIN WITH COVER



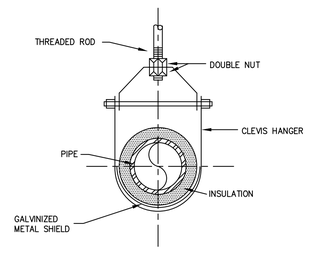
1 P400 WATER HEATER DETAIL
NOT TO SCALE



ANGLE SIZING FOR SPANS UP TO 10' (LOAD EQUALLY DISTRIBUTED)		
LOAD ON TRAPEZE LB.	ANGLE SIZE BACK TO BACK	HANGER ROD SIZE
0 – 500	1 1/2" x 1 1/2" x 1/4"	3/8"
600 – 1200	2" x 2" x 1/4"	1/2"
1300 – 2000	2 1/2" x 2 1/2" x 1/4"	5/8"

PIPE SIZE	"U" BOLT SIZE
UP TO 1"	1/4"
1 1/4" TO 4"	3/8"
6" TO 10"	5/8"
12"	3/4"

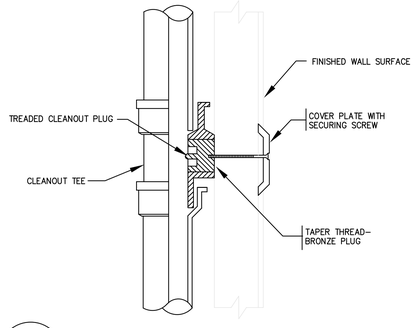
2 P400 TRAPEZE HANGER DETAIL
NOT TO SCALE



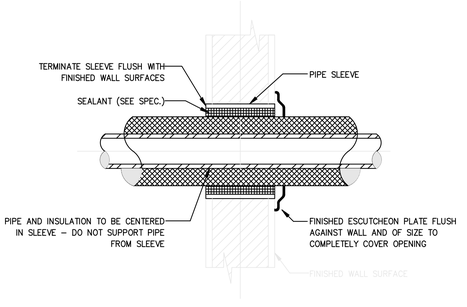
PIPE HANGER SCHEDULE						
PIPE DIA.	SHIELD LENGTH	SHIELD THICKNESS	ROD DIA.	MAX. PIPE SUPPORT SPAN STEEL	COPPER	CAST IRON
1/2"	12"	.048"	3/8"	8'–0"	6'–0"	–
3/4"	12"	.048"	3/8"	8'–0"	6'–0"	–
1"	12"	.048"	3/8"	8'–0"	6'–0"	–
1–1/4"	12"	.048"	3/8"	8'–0"	6'–0"	–
1–1/2"	12"	.048"	1/2"	10'–0"	8'–0"	5'–0"
2"	12"	.048"	1/2"	10'–0"	8'–0"	5'–0"
2–1/2"	12"	.048"	1/2"	10'–0"	8'–0"	–
3"	12"	.048"	1/2"	12'–0"	10'–0"	5'–0"
4"	12"	.060"	5/8"	12'–0"	10'–0"	5'–0"

* SHIELD NOT REQUIRED ON INSULATED PIPE

3 P400 CLEVIS HANGER DETAIL
NOT TO SCALE



4 P400 CLEANOUT FOR DRAINAGE PIPING CONCEALED BEHIND WALLS
NOT TO SCALE



5 P400 PIPE SLEEVE THRU INTERIOR WALL
NOT TO SCALE

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, NJ 08608
tel: (609) 883-8585
fax: (609) 883-4044
www.clarkecatonhintz.com

OWNER:
CDT DEPT OF HOUSING
319 E State Street #3
Trenton, NJ 08608
(609) 989–3518

MEP:
KELTER AND GILLIGO CONSULTING
196 Princeton–Hightstown Rd,
Bldg 1A Suite 9
Princeton Junction, NJ 08550
(609) 799–8336

STRUCTURAL:
HARRISON AND HAMNETT CONSULTING
40 Knowles Street
Pennington, NJ 08534
(609) 818–1808

SUBMISSIONS

NO.	DATE	DESCRIPTION
	03.19.25	ISSUED FOR BID

REVISIONS

PROFESSIONAL ENGINEER
NJ LICENSE NO 38656
FRANK TINDALL, P.E.
DATE 03/19/25

RENOVATION OF
SOUTH BROAD STREET
SENIOR CENTER
TRENTON, NEW JERSEY

DATE:	03/19/25
SCALE:	AS NOTED
DRAWN BY:	AF
CHECKED BY:	NML

SHEET TITLE:
SCHEDULES, NOTES AND DETAILS PLUMBING

DRAWING NO.:
P400

CCH PROJECT NO: 2070.03

KELTER & GILLIGO
consulting engineers
P.O. BOX 777, 196 PRINCETON–HIGHTSTOWN RD.
PRINCETON JUNCTION NEW JERSEY 08550
Frank Tindall, P.E.
Professional Engineer
NJ 38656

PLUMBING SPECIFICATIONS:

1. SCOPE OF WORK

A. DOMESTIC WATER PIPING.
B. SANITARY AND VENT PIPING.
C. NATURAL GAS PIPING.
D. STORM WATER PIPING
E. INSULATION.
F. HANGERS AND SUPPORTS.
G. VALVES.
H. CUTTING AND ROUGH PATCHING.
I. REMOVALS.
J. EQUIPMENT
K. SUBMITTALS
L. PERMITS
M. WARRANTY
N. SUPERVISION
O. RIGGING
P. EXCAVATION AND BACKFILL
Q. SITE RESTORATION

2. STANDARDS AND CODES

A. NEW JERSEY UNIFORM CONSTRUCTION CODE
B. INTERNATIONAL BUILDING CODE 2021, NEW JERSEY EDITION
C. NATIONAL STANDARD PLUMBING CODE 2021
D. INTERNATIONAL FUEL GAS CODE 2021
E. LOCAL MUNICIPAL UTILITY AUTHORITY
F. LOCAL WATER COMPANY RULES AND REGULATIONS
G. OTHER STATE AND LOCAL AUTHORITIES HAVING JURISDICTION

3. MATERIALS:

A. PIPE AND FITTINGS

1. PIPE

SERVICE	MATERIAL	SCHEDULE	DESIGNATION
SOIL, WASTE & VENT ABOVE GROUND	NO-HUB CAST IRON	STANDARD WEIGHT	CISPI-30-7B
COLD & HOT WATER ABOVE GROUND	COPPER	TYPE "L"	ASTM B-88
NATURAL GAS LOW & MEDIUM PRESSURE	BLACK STEEL	40	ASTM A-53

2. FITTINGS

SERVICE	SIZE	MATERIAL	WEIGHT	TYPE
SOIL, WASTE & VENT ABOVE GROUND	ALL	CAST IRON	STANDARD WEIGHT	NO-HUB ASTM A-48 MG COUPLING ASSEMBLY OR STAINLESS STEEL EQUAL TO CLAMP-ALL
COLD AND HOT WATER ABOVE GROUND	ALL	WROUGHT COPPER	STANDARD	SOLDERED 95/5 TIN & ANTIMONY
NATURAL GAS ABOVE GROUND LOW PRESSURE	LESS THAN 2-1/2"	BLACK STEEL	SCHED. 40	THREADED
	3" & LARGER	BLACK STEEL	SCHED. 40	WELDED
	3" & LARGER	BLACK STEEL	SCHED. 40	WELDED

3. DISSIMILAR METALS: PIPE, FITTINGS, HANGERS, ETC. DISSIMILAR METALS SHALL BE INSULATED AGAINST DIRECT CONTACT WITH EACH OTHER, BY USING A HIGH QUALIT OR GRADE OF DIELECTRIC MATERIAL.

4. ADHESIVE PRIMER FOR PVC PIPE SHALL CONFORM TO ASTM F656 AND SHALL HAVE A VOC CONTENT OF 550 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

5. SOLVENT CEMENT FOR PVC PIPE SHALL CONFORM TO ASTM D 2564 AND SHALL HAVE A VOC CONTENT OF 510 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

B. VALVES

1. BALL VALVES SHALL BE APOLLO, 77-200 SERIES, FULL PORT, SOLDER END WITH TFE TEFLON SEATS AND SEALS WITH STEEL LEVER HANDLES WITH STOPS.

2. LUBRICATED PLUG VALVES SHALL BE NORDSTROM FIGURE 142; TWO BOLT COVER TYPE VALVE, WITH BUNA-N SEALS, OPERATING LEVER, AND STOPS.

C. INSULATION

1. INSULATE ALL DOMESTIC WATER PIPING, FITTINGS AND VALVES.

2. PIPE INSULATION

a. 0.4 LB DENSITY FIBROUS GLASS, ONE-PIECE MOLDED SECTIONAL PIPE COVERING, MAXIMUM K FACTOR 0.26 AT 75°F MEAN TEMPERATURE. OWENS-CORNING CORP. OR APPROVED EQUAL.

b. REPLACE NORMAL INSULATION INSIDE HANGER SHIELDS WITH INCOMPRESSIBLE INSULATING BLOCK INSIDE JACKET, OR USE LONGER SHIELDS AT HANGER.

c. JACKETS: FIRE RETARDANT ALL SERVICE OR PURPOSE TYPE. LAMINATE OF VINYL COATED WHITE KRAFT FACING, GLASS REINFORCING AND ALUMINUM FOIL.

d. ADHESIVES AND COATINGS: FOSTER OR APPROVED EQUAL AS FOLLOWS:

1. ADHESIVES: LAPS, 85-75; SELF SEALING LAPS MAY BE USED.
2. FITTING, VALVE AND EQUIPMENT COATINGS: COLD WATER, 30-35; HOT WATER, 30-36.

e. FASTENING DEVICES

1. WIRE: MINIMUM 16 GAUGE COPPER CLAD ANNEALED STEEL.
2. TAPE: PRESSURE SENSITIVE.

f. INSULATION AND JACKETS

1. HOT & COLD WATER: 1" THICK WITH VAPOR BARRIER JACKET.

g. FLAME & SMOKE SPREAD

1. FLAME SPREAD INDEX OF 20 OR LESS
2. SMOKE DEVELOPED INDEX OF 50 OR LESS

4. HANGERS AND SUPPORTS

A. HANGERS AND SUPPORTS

1. SHALL CONFORM TO NATIONAL STANDARD PLUMBING CODE 2021, WITH SEISMIC RESTRAINTS AS REQUIRED FOR NEW CONSTRUCTION UNDER 2021 INTERNATIONAL BUILDING CODE.
2. NATURAL GAS PIPING SYSTEM SHALL CONFORM TO THE INTERNATIONAL FUEL GAS CODE 2021. REFER TO TABLE 415.1
3. PIPE HANGERS SHALL BE SPACED NOT GREATER THAN 10'-0" O.C. WITH 1/2" MINIMUM ROD SIZE.
4. ALL PIPE HANGERS, SUPPORTS, & HARDWARE SHALL BE GALVANIZED.
5. PIPE SUPPORTS SHALL BE OF THE FOLLOWING TYPE AND FIGURE NUMBER, MANUFACTURED BY C&P, F&M, GRINNELL, MIRO INDUSTRIES OR APPROVED EQUAL:

b. CLEVIS HANGER:
1. C&P – FIGURE 100
2. F&M – FIGURE 239
3. GRINNELL – FIGURE 260

c. RIGID TRAPEZE:
1. C&P – FIGURE 371
2. GRINNELL – STD. 45

d. U-BOLT:
1. C&P – FIGURE 283
2. F&M – FIGURE 176
3. GRINNELL – FIGURE 137

e. RISER CLAMP:
1. C&P – FIGURE 89 OR 126
2. F&M – FIGURE 241
3. GRINNELL – FIGURE 261

f. DOUBLE-BOLT PIPE CLAMP:
1. C&P – FIGURE 304
2. F&M – FIGURE 261
3. GRINNELL – FIGURE 295

B. PIPE INSERTS

1. INSERTS SHALL BE PRESET CONCRETE INSERTS WITH STEEL REINFORCED RODS THROUGH THE INSERT AND BOTH ENDS HOOKED OVER THE REINFORCED MESH. INSERTS SHALL BE OF INDIVIDUAL TYPE OF MALLEABLE IRON CONSTRUCTION WITH ACCOMMODATION FOR REMOVABLE NUTS AND THREADED RODS UP TO 3/4" DIAMETER, PERMITTING LATERAL ADJUSTMENT, EXCEPT AS OTHERWISE NOTED. INDIVIDUAL INSERTS SHALL BE GRINNELL FIG. 282 UP TO 5" PIPE AND CONDUIT, FIG. 282, 6" AND UP TO 8" PIPE AND CONDUIT, FIG. 152 ABOVE 8" AND UP TO 12" PIPE AND CONDUIT. FOR FIGURES 282 AND 152, THEY SHALL COME WITH AN OPENING AT THE TIP TO ALLOW REINFORCING RODS UP TO 1/2" DIAMETER TO BE PASSED THROUGH THE INSERT BODY. RODS SHALL EXTEND A MINIMUM OF 4" ON EITHER SIDE OF THE INSERT. PIPES LARGER THAN 12" SHALL BE SUSPENDED FROM STEEL MEMBERS ONLY.

C. PIPE SHIELDS

1. FOR ALL INSULATED PIPE FURNISH CLEVIS HANGERS WITH WELDED SHIELDS AND EQUAL TO C&P, INC., FIG. 100 SH.

5. SUBMITTALS:

A. SHOP DRAWINGS SHALL BE REQUIRED FOR:

1. ALL EQUIPMENT, MATERIALS, MEANS & METHODS INTENDED FOR USE UNDER THIS CONTRACT.

B. PRIOR TO DELIVERY TO JOB SITE, BUT SUFFICIENTLY IN ADVANCE OF REQUIREMENTS NECESSARY TO ALLOW ARCHITECT AMPLE TIME FOR REVIEW, SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT, FIXTURES, MATERIALS, PIPING, SLEEVES, WIRING DIAGRAMS, ETC. AND FURTHER OBTAIN WRITTEN COMMENTS OF "APPROVED" OR "APPROVED AS NOTED" FOR SAME FROM ARCHITECT BEFORE INSTALLING ANY OF THESE ITEMS.

C. SHOP DRAWINGS SHALL CONSIST OF MANUFACTURER'S CERTIFIED SCALE DRAWINGS, CUTS, OR CATALOGS, INCLUDING DESCRIPTIVE LITERATURE AND COMPLETE CERTIFIED CHARACTERISTICS OF EQUIPMENT, FIXTURES, ETC. SHOWING DIMENSIONS, CAPACITY, CODE REQUIREMENTS, MOTOR AND DRIVE TESTING, AS INDICATED IN THE CONTRACT DOCUMENTS.

D. CERTIFIED PERFORMANCE CURVES FOR ALL PUMPING EQUIPMENT SHALL BE SUBMITTED FOR REVIEW.

E. SAMPLES, DRAWINGS, SPECIFICATIONS, CATALOGS, ETC., SUBMITTED FOR REVIEW SHALL BE PROPERLY LABELED INDICATING PROJECT NAME, AND SPECIFIC SERVICE FOR WHICH MATERIAL OR EQUIPMENT IS TO BE USED.

F. FAILURE TO SUBMIT SHOP DRAWINGS IN AMPLE TIME FOR CHECKING SHALL NOT ENTITLE AN EXTENSION OF CONTRACT TIME, AND NO CLAIM FOR EXTENSION BY REASON OF SUCH DEFAULT SHALL BE ALLOWED.

G. PRIOR TO SUBMISSION OF SHOP DRAWINGS CONTRACTOR SHALL THOROUGHLY CHECK EACH SHOP DRAWING, REJECT THOSE NOT CONFORMING TO THE SPECIFICATIONS, AND INDICATE BY SIGNED, WRITTEN DECLARATION THAT THE SHOP DRAWINGS SUBMITTED MEET CONTRACT REQUIREMENTS.

H. THE COMMENT "APPROVED" OR "APPROVED AS NOTED" RENDERED ON SHOP DRAWINGS SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS. WHERE DRAWINGS ARE REVIEWED, SAID REVIEW DOES NOT IN ANY WAY RELIEVE THE RESPONSIBILITY, OR NECESSITY, OF FURNISHING MATERIAL OR PERFORMING WORK AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS.

I. "APPROVED AS NOTED" MEANS, UNLESS OTHERWISE NOTED ON THE DRAWINGS, TO APPROVE FOR CONSTRUCTION, FABRICATION, AND/OR MANUFACTURE SUBJECT TO THE PROVISION THAT THE WORK SHALL BE CARRIED OUT IN COMPLIANCE WITH ALL ANNOTATIONS AND/OR CORRECTIONS INDICATED ON THE SHOP DRAWINGS AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

1. WHERE THE COMMENT "APPROVED AS NOTED" INCLUDES DIRECTION TO THE CONTRACTOR TO RESUBMIT CORRECTED SHOP DRAWING FOR RECORD, FAILURE TO COMPLY WITH THE INSTRUCTION TO RESUBMIT RECORD COPY SHALL RENDER THE APPROVAL NULL AND VOID.

6. PERMITS & FEES:

A. CONTRACTOR SHALL ACQUIRE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE EXECUTION OF THIS CONTRACT.

7. WARRANTY:

A. CONTRACTOR SHALL:

1. UNCONDITIONALLY WARRANTY HIS WORK TO BE FREE OF DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD

THE OWNER.

a. ANY DEFECTS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE OWNER AT NO ADDITIONAL COST.

2. ALL EQUIPMENT SHALL CARRY THE ORIGINAL MANUFACTURER'S WARRANTY AS SPECIFIED IN THE MANUFACTURER'S WARRANTY DOCUMENTATION PROVIDED WITH THE EQUIPMENT. WARRANTY PERIOD SHALL BE CALCULATED FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.

a. ANY DEFECTS SHALL BE REPAIRED OR REPLACED AT THE DISCRETION OF THE MANUFACTURER.

B. DOMESTIC HOT WATER HEATER (SEE SCHEDULES)

1. PROVIDE DOMESTIC HOT WATER HEATER AS INDICATED IN THE PLUMBING SCHED.
2. DOMESTIC HOT WATER HEATER SHALL BE UL LISTED.
3. DOMESTIC HOT WATER HEATER SHALL BE RATED FOR A STORAGE CAPACITY
5. DOMESTIC HOT WATER HEATER SHALL HAVE 150 PSI WORKING PRESSURE.
6. DOMESTIC HOT WATER HEATER SHALL BE EQUIPPED WITH EXTRUDED HIGH DENSITY ANODE RODS.
7. ALL DOMESTIC HOT WATER HEATER SURFACES EXPOSED TO WATER SHALL BE GLASS-LINED WITH AN ALKALINE BOROSILICATE COMPOUND HEAT FUSED TO STEEL BY FIRING AT 1600°(F).
8. ELECTRICAL HEATING ELEMENTS SHALL BE MEDIUM WATT DENSITY WITH ZINC PLATED COPPER SHEATH. EACH ELEMENT SHALL BE CONTROLLED BY AN INDIVIDUALLY MOUNTED THERMOSTAT AND HIGH-TEMPERATURE CUT OFF SWITCH.
9. DOMESTIC HOT WATER HEATER OUTER JACKST SHALL BE STEEL WITH BAKED ENAMEL FINISH ENCLOSING FOAM INSULATION.
10. DOMESTIC HOT WATER HEATER OUTER JACKST SHALL BE PROVIDED WITH FULL-SIZE CONTROL COMPARTMENT FOR SERVICE AND MAINTENANCE THROUGH HINGED FRONT PANELS.
11. DOMESTIC HOT WATER HEATER SHALL BE PROVIDED WITH ELECTRICAL JUNCTION BOX WITH HEAVY DUTY TERMINAL BLOCKS.
12. DOMESTIC HOT WATER HEATER SHALL BE PROVIDED WITH FRONT MOUNTED DRAIN VALVE.
13. PROVIDE GALVANIZED DRAIN PAN.
14. DOMESTIC HOT WATER HEATER SHALL BE MOUNTED ON 4" HIGH CONCRETE PAD.

9. EXECUTION:

A. CONCEALED PIPING

1. ALL PIPING INSTALLED IN FINISHED AREAS SHALL BE COMPLETELY CONCEALED WITHIN HUNG CEILINGS, FURRING, SOFFITS, PIPE SPACES, ETC.
2. WHERE COMPLETE CONCEALMENT IS IMPOSSIBLE BECAUSE OF OBSTRUCTIONS SUCH AS BEAMS, DUCTS, LIGHTS, PIPING, ETC., DO NOT INSTALL ANY WORK BEFORE FIRST CONSULTING WITH THE ARCHITECT, AND HIS INSTRUCTIONS (WRITTEN OR ON REVISED DRAWINGS) SHALL BE FOLLOWED.
3. ALL PIPING, ETC. SHALL BE COMPLETELY TESTED AND APPROVED BY ALL AUTHORITIES HAVING JURISDICTION BEFORE ANY CONCEALMENT BEGINS.
4. ALL VENT PIPING SHALL BE SLOPED BACK TO DRAINAGE SYSTEM.
5. ALL BACKFLOW PREVENTION DEVICES SHALL INCLUDE STRAINER AND AND ISOLATION VALVES UNLESS OTHERWISE INDICATED. ALL BACKFLOW PREVENTION DEVICES SHALL BE TESTED IN ACCORDANCE WITH CODE UPON INSTALLATION.
6. PROVIDE ACCESS PANELS IN NON ACCESSIBLE CEILINGS AND WALLS FOR ALL VALVES, SHOCK ABSORBERS, CLEAN OUTS, AND ALL OTHER ITEMS THAT REQUIRE ACCESS TO PROPERLY MAINTAIN OR SERVICE. ACCESS PANEL TYPE AND LOCATION SHALL BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.

10. EXCAVATION, BACKFILLING & COVER

A. ALL EXTERIOR EXCAVATION AND BACKFILL, INTERIOR EXCAVATION AND BACKFILL, AND ALL HAND TRENCHING SHALL BE DONE BY THE CONTRACTOR.

B. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND APPLIANCES REQUIRED TO COMPLETE THE EXCAVATING, BACKFILL AND PUMPING REQUIRED FOR THE WORK, TO THE EXTENT SPECIFIED HEREINAFTER.

C. UNCLASSIFIED EXCAVATION SHALL INCLUDE THE EXCAVATION OF ALL MATERIALS ENCOUNTERED IN THE WORK, SUCH AS EARTH, BOULDERS, ROCK, SHALE, RUBBLE, MASONRY OR TIMBER FOUNDATIONS, STUMPS AND ALL MATERIALS WITHOUT CLASSIFICATION. DO ALL EXCAVATION, TRENCHING AND BACKFILLING NECESSARY TO CONSTRUCT AND COMPLETE THE UTILITY AND ALL ITS APPURTENANCES. ALL EXCAVATION SHALL BE MADE BY OPEN CUT FROM THE SURFACE. NO TUNNELING WILL BE ALLOWED EXCEPT BY WRITTEN CONSENT OF THE OWNER. PROVIDE ALL NECESSARY SHORING AND BRACING. CARE SHALL BE TAKEN TO AVOID UNDERMINING OF ALL EXISTING UTILITIES, FOOTINGS OR FOUNDATIONS. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY ADDITIONAL WORK RESULTING FROM HIS EXCAVATING AND TRENCHING.

D. LOCATIONS OF PIPE LINES, CONDUITS, CABLES, ETC., SHOWN ARE NOT TO BE USED AS FINAL FOR INSTALLATION OF WORK; HOWEVER, THEY ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE, GROUND CONDITIONS PERMITTING. EXACT LOCATIONS OF ALL UNDERGROUND UTILITIES SHALL BE DETERMINED ON JOB.

E. UNDER NO CIRCUMSTANCES, LAY PIPE OR CONDUIT OR INSTALL APPURTENANCES IN WATER. KEEP TRENCHES FREE FROM WATER. PERFORM ALL NECESSARY PUMPING AS REQUIRED TO KEEP TRENCHES FREE FROM WATER AT NO ADDITIONAL COST TO THE OWNER.

F. BEFORE STARTING THE EXCAVATION WORK, STRIP ALL EXISTING SOD AND SOIL WITHIN ENTIRE LIMITS OF THIS CONTRACT, WHICH IS SUITABLE FOR TOP SOIL AND STOCKPILE IN LOCATION APPROVED BY THE OWNER.

G. A BED OF SAND OR OTHER SELECT FILL MATERIAL APPROVED BY THE DIVISION SHALL BE PLACED AROUND THE WATER SERVICE PIPE AND EXTENDED 1'-0" ABOVE THE TOP OF PIPE.

H. REMAINDER OF EXCAVATION SHALL BE FILLED WITH MATERIAL EXCAVATED FROM DITCH IF SUITABLE AND APPROVED BY THE ARCHITECT/ENGINEER.

I. BACKFILL SHALL BE PLACED AND TAMPED IN 1'-0" INCREMENTS AND COMPACTED TO 95% DENSITY.

J. ALL WATER SERVICES SHALL HAVE A MINIMUM COVER OF 4'-0" FOR PROTECTION AGAINST FREEZING.

11. ALTERATION WORK

A. ALL EQUIPMENT, PIPING, PLUMBING FIXTURES, ETC. TO BE REMOVED SHALL BE DISPOSED OF, TURNED OVER TO OWNER OR SALVAGED AS DIRECTED. THEY SHALL NOT BE REMOVED FROM THE PREMISES WITHOUT APPROVAL.

B. ALL PIPING TO BE REMOVED SHALL BE PROPERLY PLUGGED OR CAPPED SO THAT, UPON COMPLETION OF ALL NEW WORK, ALL ABANDONED PIPING SHALL BE CONCEALED IN FINISHED AREAS.

C. NO DEAD ENDS SHALL BE LEFT ON ANY PIPING UPON COMPLETION OF JOB.

D. EXISTING EXPOSED PIPING NOT REUSED AND NOT SPECIFICALLY NOTED OR SHOWN ON DRAWING TO BE ABANDONED SHALL BE COMPLETELY REMOVED.

E. THE EXISTING SYSTEM SHALL BE LEFT IN PERFECT WORKING ORDER UNTIL COMPLETION OF ALL NEW WORK.

F. LOCATIONS AND SIZES OF EXISTING PIPING ARE APPROXIMATE. EXACT SIZES AND LOCATIONS OF ALL EXISTING PIPING SHALL BE VERIFIED ON THE JOB.

G. NO REMOVED EXISTING PIPING, ETC. SHALL BE REUSED.

H. DO NOT INTERRUPT ANY OF THE SERVICES OF THE EXISTING BUILDING, NOR INTERFERE WITH THE SERVICES IN ANY WAY WITHOUT EXPRESS PERMISSION OF THE OWNER. SUCH INTERRUPTIONS AND INTERFERENCES SHALL BE MADE AS BRIEF AS POSSIBLE AND ONLY AT THE DESIGNATED TIMES.

I. UNDER NO CIRCUMSTANCES SHALL WORKMEN BE PERMITTED TO USE ANY PART OF THE BUILDING AS A SHOP, EXCEPT PARTS DESIGNATED FOR SUCH PURPOSES.

J. REROUTE OR REMOVE ALL EXISTING PIPING EXPOSED TO VIEW WHERE NECESSARY TO AVOID NEW EQUIPMENT, STRUCTURAL OR MASONRY WORK AS REQUIRED BY THE PROPOSED ALTERATIONS.

12. TESTING

A. FURNISH ALL TESTING INSTRUMENTS, GAUGES, PUMPS, AND ALL OTHER EQUIPMENT NECESSARY TO PERFORM TESTS.

B. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE REPRESENTATIVES OF THE ARCHITECT, THE OWNER AND THE PLUMBING INSPECTOR. GIVE NOT LESS THAN 5 DAYS NOTICE.

C. PRESSURE TEST

1. DRAINAGE AND VENT PIPING: TEST WITH WATER AT 10 FT. HD.
2. DOMESTIC WATER: TEST WITH WATER AT 125 PSI.
3. NATURAL GAS (UP TO AND INCLUDING 1/2 PSIG [14" W.C.])

a. COMPLETED PIPING IS TO BE TESTED WITH AIR OR INERT GAS AT 3 PSIG FOR A MINIMUM OF 1 HOUR.
b. FOR EXCEPTIONALLY LONG PIPING RUNS, LONGER TEST PERIODS MAY BE REQUIRED.

4. NATURAL GAS (FROM 1/2 PSIG [14" W.C.] TO 3 PSIG)

a. COMPLETED PIPING IS TO BE TESTED WITH AIR OR INERT GAS AT 50 PSIG FOR A MINIMUM OF 1 HOUR.

5. NATURAL GAS (ABOVE 3 PSIG)

a. ALL PIPING IS TO BE RADIOGRAPHED AND WELDED
b. FOR PIPING WITH A MAXIMUM OPERATING PRESSURE BETWEEN 3 PSIG AND 15 PSIG THE COMPLETED LINE IS TO BE TESTED AT 100 PSIG FOR A MINIMUM OF 4 HOURS
c. FOR PIPING WITH A MAXIMUM OPERATING PRESSURE ABOVE 15 PSIG THE COMPLETED LINE IS TO BE TESTED TO TWICE THE MAXIMUM ALLOWABLE OPERATING PRESSURE BUT NOT LESS THAN 100 PSIG FOR A MINIMUM OF 4 HOURS

1. FRESH WATER SHALL BE USED AS A TEST MEDIUM ONLY WHEN THE REQUIRED TEST PRESSURE EXCEEDS 100 PSIG

13. DISINFECTION OF DOMESTIC WATER PIPING

A. SHALL CONFORM WITH NATIONAL STANDARD PLUMBING CODE 2021, NJ EDITION

1. FLUSHING

a. THE DOMESTIC WATER SYSTEM FROM UPSTREAM OF POINTS OF NEW CONNECTION TO NEW, RELOCATED, AND/OR EXISTING FIXTURES SHALL BE FLOWED UNTIL WATER RUNS FREE AND CLEAR OF DEBRIS AND/OR PARTICLES.
b. FAUCET AERATORS OR SCREENS SHALL BE REMOVED DURING FLUSHING OPERATIONS.

2. DISINFECTING

a. DISINFECT THE ENTIRE DOMESTIC COLD AND HOT WATER SYSTEM IN ITS ENTIRETY AFTER FLUSHING AND PRIOR TO USE.
b. ALL WATER OUTLETS SHALL BE POSTED TO WARN AGAINST USE DURING DISINFECTION OPERATIONS.
c. DISINFECTION SHALL BE PERFORMED BY PERSONS EXPERIENCED IN SUCH WORK.
d. THE WATER SUPPLY TO THE DOMESTIC HOT AND COLD WATER SYSTEM SHALL BE VALVED OFF FROM THE NORMAL WATER SOURCE TO PREVENT INTRODUCTION OF DISINFECTING AGENTS INTO A PUBLIC WATER SUPPLY.
e. THE DOMESTIC COLD AND HOT WATER SYSTEM SHALL BE DISINFECTED WITH A WATER-CHLORINE SOLUTION.
f. DURING THE INJECTION OF THE DISINFECTING AGENT INTO THE PIPING, EACH OUTLET SHALL BE FULLY OPENED SEVERAL TIMES UNTIL A CONCENTRATION OF NOT LESS THAN 50 PARTS PER MILLION OF CHLORINE IS PRESENT AT EVERY OUTLET.
g. THE SOLUTION SHALL BE ALLOWED TO STAND IN THE PIPING FOR NOT LESS THAN 24 HOURS.
h. UPON EXPIRATION OF THE RETENTION TIME, CONCENTRATION OF CHLORINE AT EVERY OUTLET SHALL BE NO LESS THAN 5 PARTS PER MILLION.
i. IF THE CONCENTRATION OF CHLORINE IS LESS THAN 5 PARTS PER MILLION AT THE EXPIRATION OF RETENTION TIME THE PROCEDURE SHALL BE REPEATED UNTIL THE REQUIRED MINIMUM RESIDUAL CHLORINE LEVEL IS OBTAINED AT EVERY OUTLET.

14. PIPE INSTALLATION

A. MODIFY PIPING INSTALLATION TO SUIT BUILDING CONDITIONS AND TO AVOID INTERFERENCES WITH OTHER TRADES, MAINTAINING ACCESS TO ALL PARTS OF THE PIPING SYSTEMS AND DUCTWORK AND TO MAINTAIN PROPER PITCH.

B. RUN PIPING GENERALLY PARALLEL TO THE AXIS OF THE BUILDING, ARRANGED TO CONFORM TO THE BUILDING REQUIREMENTS AND TO SUIT THE NECESSITIES OF CLEARANCE OF DUCTS, FLUES, CONDUITS AND WORK OF OTHER TRADES AND CLOSE TO CEILING OR OTHER CONSTRUCTION AS PRACTICAL, FREE OF TRAPS OR BENDS.

C. PROVIDE ADDITIONAL OFFSETS, FITTINGS, VALVES, DRAINS, ETC. WHERE REQUIRED BY CONSTRUCTION AND WORK OF OTHER TRADES.

D. RUN IN CHASES, RECESSES, SHAFTS, HUNG CEILINGS AND BEAM CUTS WHERE APPLICABLE. DO NOT COVER BEFORE EXAMINATION AND TESTING. NO PIPING IN FLOOR FILL UNLESS NOTED OR APPROVED.

E. RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS AND OTHER PIPING, NEATLY SPACED AND WITH PLUMB RISERS. MAINTAIN MAXIMUM HEADROOM.

F. PROVIDE REDUCING FITTINGS FOR CHANGES IN PIPE SIZE. NO BUSHINGS ARE PERMITTED.

G. RUN WATER PIPING FREE OF TRAPS. GRADE AND VALVE FOR COMPLETE CONTROL AND DRAINAGE OF SYSTEM.

H. VALVES SHALL NOT BE INSTALLED WITH THE OPERATING HANDLE POINTING DOWNWARD.

I. MANUFACTURER'S NAMEPLATE, NAME OR TRADEMARK, SHALL BE PERMANENTLY AFFIXED TO ALL EQUIPMENT AND MATERIAL FURNISHED UNDER THIS SPECIFICATION. WHERE SUCH EQUIPMENT IS IN A FINISHED OCCUPIED SPACE, THE NAMEPLATE SHALL BE IN A CONCEALED BUT ACCESSIBLE LOCATION. THE NAMEPLATE OF A SUBCONTRACTOR OR DISTRIBUTOR WILL NOT BE ACCEPTABLE.

J. PROVIDE FOR EACH ITEM OF EQUIPMENT, INCLUDING PANELBOARDS, DISCONNECTS, BREAKERS, STARTERS, SWITCHES, AND ALL CONTROL DEVICES, PUMPS, FANS, COMPRESSORS, BOILERS, ETC., A PERMANENTLY ATTACHED NAMEPLATE MADE OF BLACK SURFACE, WHITE CORE FURNISHING EQUIPMENT SHALL PROVIDE NAMEPLATE. PNEUMATIC, ELECTRIC AND MECHANICALLY ACTUATED GAUGES SHALL HAVE A BRIEF, BUT COMPLETE DESCRIPTION OF THEIR FUNCTION. STATING THE AIR PRESSURE OR VOLTAGE RANGE ALONE IS NOT ACCEPTABLE. NAMEPLATES SHALL BE A MINIMUM OF 3" LONG BY 1-1/2" WIDE AND SHALL BEAR THE EQUIPMENT NAME AND ITEM NUMBER OF 1/2" HIGH WHITE LETTERS AS DESIGNATED IN THE EQUIPMENT SCHEDULE. MOUNTING SCREWS SHALL HAVE CHROME PLATED ACORN HEADED SCREWS.

K. FURNISH AND ATTACH TO EACH VALVE AS HEREINAFTER SPECIFIED, A 1-1/2" DIAMETER BRASS TAG WITH 1/2" INDENTED NUMERALS FILLED WITH DURABLE BLACK COMPOUND. TAGS SHALL BE SECURELY ATTACHED TO STEMS OF VALVES WITH COPPER WIRE AND "S" HOOKS.

1. VALVE TAG SCHEDULE

SERVICE	TAG DESIGNATION
COLD WATER	CW
HOT WATER	HW _ DEG. F
NATURAL GAS	G
SANITARY SEWER	<NONE>
SOIL PIPING	<NONE>
WASTE PIPING	<NONE>
VENT PIPING	<NONE>
SAFETY VALVE DISCHARGE	S.V.D.
RELIEF VENT	<NONE>

L. VALVE CHARTS SHALL CONSIST OF SCHEMATIC DRAWINGS OF PIPING LAYOUTS, SHOWING AND IDENTIFYING EACH VALVE AND DESCRIBING THE FUNCTION. UPON COMPLETION OF THE WORK, ONE (1) COPY OF EACH CHART, SEALED TO RIGID BACKBOARD WITH CLEAR LACQUER PLACED UNDER GLASS AND FRAMED, SHALL BE HUNG IN A CONSPICUOUS LOCATION IN THE MAIN EQUIPMENT ROOM, UNLESS OTHERWISE DIRECTED BY THE ARCHITECT. TWO (2) ADDITIONAL UNMOUNTED COPIES IN 8-1/2" X 11" LEATHER RING BINDERS SHALL BE DELIVERED TO THE ARCHITECT. ALSO FURNISH THREE (3) COPIES OF SCHEMATIC FLOW CHART WITH CORRESPONDING VALVE NUMBERS NOTED ON CHART.

M. PROVIDE TAGS FOR THE FOLLOWNG VALVES:

1. ZONE CONTROL, BYPASS, SHUT OFF, CHECK AND BALANCING VALVES.
2. BUILDING AND AREA SHUT OFF AND BALANCING VALVES.
3. CONTROL, BY PASS, SHUT OFF, BALANCING AND DRAIN VALVES FOR MAJOR PIECES OF EQUIPMENT SUCH AS BOILERS, DOMESTIC HOT WATER HEATERS, HEAT EXCHANGERS, REFRIGERATION MACHINES, PUMPS, HEATING, VENTILATING AND AIR CONDITIONING UNITS, COOLING TOWERS, ETC.
4. SYSTEM DRAIN VALVES, SAFETY AND RELIEF VALVES.

N. IDENTIFICATION SHALL BE IN ACCORDANCE WITH "SCHEME FOR IDENTIFICATION OF PIPING SYSTEM ANSI A13.1" AND OSHA SAFETY COLOR REGULATION.

O. MARKERS SHALL BE SNAP ON TYPE AS MANUFACTURED BY SETON NAMEPLATE CORP., NEW HAVEN, CONN. (SETMARK SYSTEM), BUNTING STAMP CO. INC., PITTSBURGH, P.A. OR APPROVED EQUAL. MARKERS SHALL COMPLETELY ENCIRCLE THE PIPE WITH A SUBSTANTIAL OVERLAP. NO ADHESIVE SHALL BE USED. THEY SHALL BE MANUFACTURED OF U.L. APPROVED, SELF EXTINGUISHING PLASTIC. WHEN THE PIPE INCLUDING INSULATION (IF ANY) IS LARGER THAN 6" DIAMETER AND LARGER, MARKERS SHALL BE STRAP ON TYPE.

P. WHERE PIPE IS TO BE LEFT BARE IT SHALL BE PAINTED WITH TWO (2) COATS OF SELF-PRIMING, MARINE-GRADE SILOXANE EPOXY PAINT IN GLOSS COLORS AS REQUIRED BY ITEM Q, BELOW, AND STENCIL AND VALVE TAG SCHEDULE.

1. COLOR SPECIFICATIONS:

COLOR	NAME	FEDERAL STANDARD NUMBER
WHITE	INSIGNIA WHITE	17875
BLACK	OSHA SAFETY BLACK	17038
RED	OSHA SAFETY RED	11120
YELLOW	OSHA SAFETY YELLOW	13591
GREEN	OSHA SAFETY GREEN	14120
BLUE	OSHA SAFETY BLUE	15102
ORANGE	OSHA SAFETY ORANGE	12300
PURPLE	OSHA SAFETY PURPLE	17142
BROWN	NASA SAFETY BROWN	10080
GREY	MECHANIC GREY	16187

Q. PIPE SHALL BE LETTERED AND VALVES TAGGED IN ACCORDANCE WITH THE SCHEDULE BELOW. LETTERING SHALL BE LOCATED NEAR EACH VALVE AND BRANCH CONNECTION AND AT INTERVALS OF NOT OVER 40' (10' ON FIRE LINES) ON STRAIGHT RUNS OF PIPE. PROVIDE FLOW ARROWS FOR ALL PIPING AT EACH MARKER. ADJACENT TO THE LEGEND, STENCIL THE SIZE OF THE PIPE. LETTER COLORS ARE AS FOLLOWS:

1. WHITE WITH BLACK LETTERING
2. BLACK WITH WHITE LETTERING
3. RED WITH WHITE LETTERING
4. YELLOW WITH BLACK LETTERING
5. GREEN WITH WHITE LETTERING
6. BLUE WITH WHITE LETTERING
7. ORANGE WITH BLACK LETTERING
8. PURPLE WITH WHITE LETTERING
9. BROWN WITH WHITE LETTERING
10. GREY WITH WHITE LETTERING

R. STENCIL AND VALVE TAG SCHEDULE

SERVICE	STENCIL DESIGNATION	COLOR	TAG DES.
DOMESTIC COLD WATER	DOMESTIC COLD WATER	GREEN	CW
DOMESTIC HOT WATER	DOMESTIC HOT WATER _ DEG. F	GREEN	HWS _ DEG. F
SANITARY SEWER	SAN. SEWER	GREEN	<NONE>
COMBINED SEWER	COMBINED SEWER	GREEN	COMB. S
SOIL PIPING	SOIL	GREEN	<NONE>
WASTE PIPING	WASTE	GREEN	<NONE>
VENT PIPING	VENT	GREEN	<NONE>

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
100 Barrack Street
Trenton, N