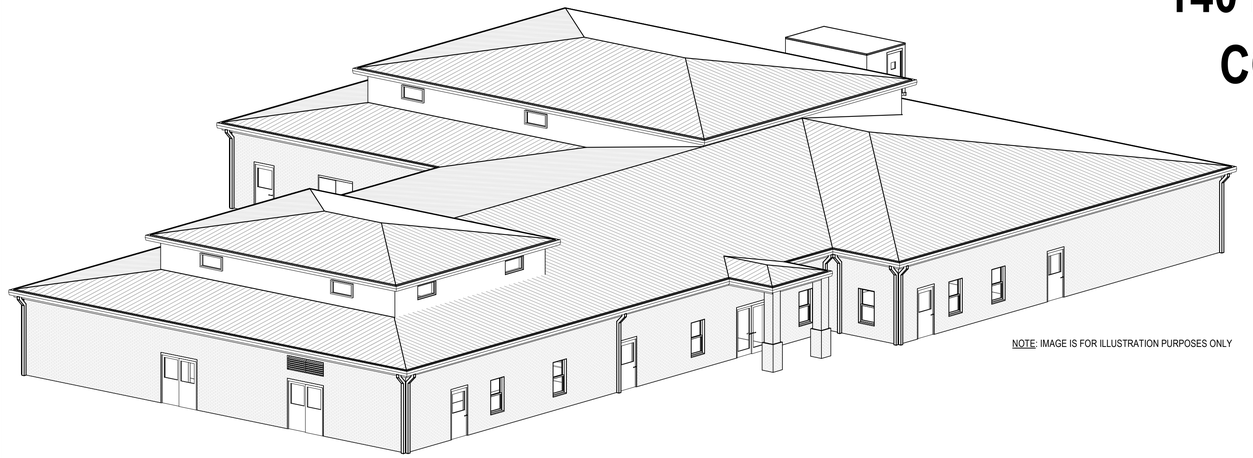
LEE CDC BLDG. 140 HVAC & DRAINAGE DESIGN

140 BUCKNERLOOP, WEST POINT, NY

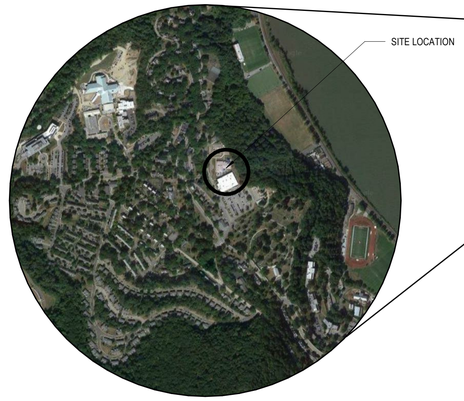
CONTRACT NO: W911SD21D0006

RTA SUBMISSION

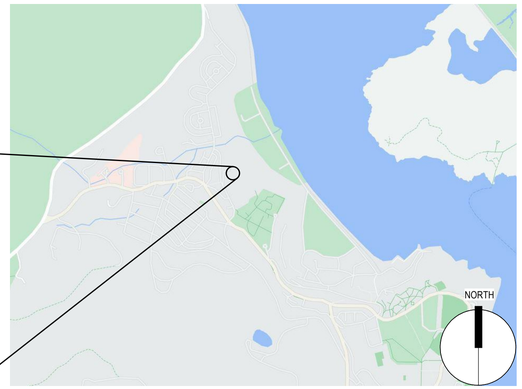
JULY 1, 2022



NOTE: IMAGE IS FOR ILLUSTRATION PURPOSES ONLY



SITE LOCATION



DRAWING LIST	
SHEET #	SHEET NAME
GENERAL	
---	COVER SHEET
CIVIL	
CS-001	GENERAL INFORMATION
CD-101	DEMOLITION/ EROSION & SEDIMENTATION CONTROL PLAN
CD-102	CONSTRUCTION STAGING PLAN
CS-101	LAYOUT PLAN
CS-102	GRADING AND STORM SYSTEM PLAN
CS-501	DETAILS
CS-502	DETAILS
V-101	EXISTING CONDITIONS MAP
V-102	TOPOGRAPHIC SURVEY
LIFE SAFETY	
G-001	CODE ANALYSIS
G-002	LIFE SAFETY PLAN
ARCHITECTURAL INFORMATION	
A-001	GENERAL INFORMATION
A-002	PHASING PLAN - A1
A-003	PHASING PLAN - A2
A-004	PHASING PLAN - A3
A-005	PHASING PLAN - A4
A-006	PHASING PLAN - A5
A-007	PHASING PLAN - A6
A-008	PHASING PLAN - A7
ARCHITECTURAL DEMOLITION	
AD-101	REFLECTED CEILING PLAN - DEMOLITION
ARCHITECTURAL	
A-101	FLOOR PLAN
A-102	ROOF PLAN
A-103	REFLECTED CEILING PLAN
A-201	BUILDING ELEVATIONS
A-202	BUILDING ELEVATIONS
FIRE PROTECTION	
FA-001	FIRE ALARM ABREVIATIONS, SYMBOLS AND GENERAL NOTES
FAD-101	FIRE ALARM DEMOLITION PLAN
FA-101	FIRE ALARM PLAN
MECHANICAL	
M-001	MECHANICAL GENERAL NOTES, ABBREVIATIONS
MD-001	HVAC DEMOLITION FLOOR PLAN
MD-002	HVAC DEMOLITION ATTIC PLAN
M-101	CEILING HVAC PLAN
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M-103	HYDRONIC UNDERSLAB PLAN
M-104	HYDRONIC CEILING PLENUM PLAN
M-105	BOILER HOUSE
M-106	HVAC CONTROLS PLAN
M-201	HVAC SECTION
M-401	HVAC ENLARGED PLANS
M-501	HVAC DETAILS
M-601	HVAC SCHEDULES
M-602	HVAC SCHEDULES
M-701	HVAC CONTROL DIAGRAMS
M-702	HVAC CONTROL DIAGRAMS
M-703	HVAC CONTROL DIAGRAMS
M-704	HVAC CONTROL DIAGRAMS
M-801	HVAC SEQUENCE OF OPERATIONS
ELECTRICAL	
E-001	ELECTRICAL ABBREVIATIONS, SYMBOLS AND GENERAL NOTES
ED-101	ELECTRICAL DEMO PLAN
E-101	POWER PLAN
E-701	PANEL SCHEDULES
E-702	PANEL SCHEDULES

ARCHITECTURAL & SITE:

QPK DESIGN, LLP
ARCHITECTS/ENGINEERS
450 SOUTH SALINA ST
SYRACUSE NY 13201
315-472-7806

MEP:

HDR
1 INTERNATIONAL BOULEVARD,
10TH FLOOR SUITE 1000
MAHWAH, NJ 07495
201-335-9300

LAND SURVEYOR:

SHUMAKER ENGINEERING
143 COURT ST,
BINGHAMTON, NY 13901
607-798-8081

ESTIMATOR:

CRAWFORD CONSULTING SERVICES
239 HIGHLAND AVE
EAST PITTSBURGH, PA 15112
412-823-0400

COMMISSIONING SERVICES:

HORIZON-ENGINEERING
424 LOCUST ST
WRIGHTSVILLE, PA 17368
212-400-3700

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

QPK DESIGN
450 SOUTH SALINA STREET,
SUITE 500
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

COVER SHEET

SHEET

RTA SUBMISSION

A		M	
AC-FT	ACRE-FEET	MH	MANHOLE
AC	ACRES	MFR	MANUFACTURER
ACC	ASPHALT CEMENT CONCRETE	MATL	MATERIAL
ADDM	ADDENDUM	MAX	MAXIMUM
ALT	ALTERNATE	MECH	MECHANICAL
ALUM	ALUMINUM	MTL	METAL
ADA	AMERICAN WITH DISABILITIES ACT	MIN	MINIMUM
AB	ANCHOR BOLT	MISC	MISCELLANEOUS
ANOD	ANODIZED		
APPROX	APPROXIMATE	N	
ARCH	ARCHITECT(URAL)	NOM	NOMINAL
AD	AREA DRAIN	N	NORTH
ASPH	ASPHALT	NA	NOT APPLICABLE
		NIC	NOT IN CONTRACT
B		NTS	NOT TO SCALE
BSMT	BASEMENT	NO	NUMBER
BM	BEAM, BENCHMARK		
BC	BOTTOM OF CURB	O	
BW	BOTTOM OF WALL	OC	ON CENTER
BLDG	BUILDING	OPNG	OPENING
		OD	OUTSIDE DIAMETER
C		OH	OVERHEAD
CIP	CAST IRON / CURB INLET	OHC	OVERHEAD COMMUNICATIONS
CIP	CAST IRON PIPE / CAST IN PLACE	OHE	OVERHEAD ELECTRIC
CB	CATCH BASIN		
CL	CENTERLINE	P	
CO	CLEANOUT	PL	PROPERTY LINE
CLR	CLEAR	PC	POINT OF CURVE
COL	COLUMN	PCC	PORTLAND CEMENT CONCRETE
COMB	COMBINATION	PERF	PERFORATED
COM	COMMUNICATION	PI	PINT OF INTERSECTION
CONC	CONCRETE	PLBG	PLUMBING
CMU	CONCRETE MASONRY UNIT	PLYWD	PLYWOOD
CONSTR	CONSTRUCTION	PT	PRESSURE TREATED
CJ	CONSTRUCTION JOINT	PVC	POLYVINYL CHLORIDE (PLASTIC)
CONT	CONTINUOUS	PSI	POUNDS PER SQUARE INCH
CLL	CONTRACT LIMIT LINE	PSF	POUNDS PER SQUARE FOOT
CONTR	CONTRACTOR	PW	PRIVATE WATER / DOMESTIC WATER
COORD	COORDINATE		
CMP	CORRUGATED METAL PIPE	Q	
CU FT	CUBIC FEET	QTY	QUANTITY
CFS	CUBIC FEET PER SECOND		
CU YD	CUBIC YARD	R	
		R	RADIUS
D		REINF	REINFORCE(D)(-ING)
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DIM	DIMENSION	REQ'D	REQUIRED
DWG	DRAWING	REV	REVISION
DI	DROP INLET	ROW	RIGHT OF WAY
DIP	DUCTILE IRON PIPE		
		S	
E		SAN	SANITARY
EA	EACH	SD	STORM DRAIN
E	EAST	SS	SANITARY SEWER
ELEC	EKECTIC(AL)	SCHED	SCHEDULE
EL	ELEVATION	SJ	SCORED JOINT
EQ	EQUAL	SECT	SECTION
EST	ESTIMATE	SHT	SHEET
EXIST	EXISTING	S	SOUTH
EXIST GR	EXISTING GRADE	SPEC	SPECIFICATION
EXP	EXPANSION	SQ	SQUARE
EJ	EXPANSION JOINT	SF	SQUARE FEET
		STD	STANDARD
F		STM	STEAM
FT/FT	FEET PER FOOT	STW	STORMWATER
FPS	FEET PER SECOND	STRUCT	STRUCTURE / STRUCTURAL
FFE	FINISH FLOOR ELEVATION		
FF EL	FINISH FLOOR ELEVATION	T	
FIN	FINISH(ED)	TD	TRENCH DRAIN
FIN GR	FINISHED GRADE	TEL	TELEPHONE
FH	FIRE HYDRANT	TC	TOP OF CURB
FLR	FLOOR	TOW	TOP OF WALL
FT	FOOT / FEET	TYP	TYPICAL
G		U	
GALV	GALVINIZED	UE	UNDERGROUND ELECTRIC
GA	GAUGE	UNO	UNLESS NOTED OTHERWISE
G	NATURAL GAS		
		V	
H		VIF	VERIFY IN FIELD
HT	HEIGHT	VERT	VERTICAL
HDPE	HIGH DENSITY POLYETHELENE PIPE		
HORIZ	HORIZONTAL	W	
HYD	HYDRANT	WTR	WATER
		W	WEST
I		W/	WITH
INCL	INCLUDE(D)(-ING)	W/O	WITHOUT
ID	INSIDE DIAMETER	WPT	WORKPOINT
INV	INVERT		
		Y	
J		YR	YEAR
JT	JOINT		
L			
LAT	LATTITUDE		
LB	POUND		
LP	LIGHT POLE		
LF	LINEAR FEET		

A1 ABBREVIATION LIST

PROPOSED

BUILDING WALL/EDGE	
BUILDING DOOR	
BUILDING OVERHANG	
CONTRACT LIMIT LINE (CLL)	CLL
NATURAL GAS LINE	G G G
OVERHEAD POWER/ELECTRICAL	OE OE
UNDERGROUND POWER/ELECTRICAL	UE UE
SANITARY SEWER	SAN SAN
STORM DRAIN PIPE	SD SD
DOMESTIC WATER LINE	PW PW
PROPERTY LINE	
EASEMENT LINE	
SETBACK LINE	
CENTERLINE	
FENCE	
TREE LINE	
SWALE CENTER LINE	
UNDERDRAIN	
EDGE OF WATER (POND, LAKE, STREAM)	
SILT FENCE	
INLET PROTECTION (TYPE 1, 2, 3, ETC.)	
CHECK DAM	
ROCK DAM	
TEMPORARY SEDIMENT BASIN & PIPE OUTLET	
CATCH BASIN SEDIMENT TRAP	
RIP/RAP OUTLET SEDIMENT TRAP	
FLARED END SECTION & RIP/RAP	
RIP/RAP	
REMOVALS	
PAVEMENT TO BE REMOVED/SAW-CUT LINE	
STORM DRAIN LINE TO BE REMOVED	SD SD SD
SANITARY SEWER LINE TO BE REMOVED	SS SS SS
MINOR OR INTERVAL CONTOURS	99
MAJOR CONTOURS	100
SPOT ELEVATIONS	100.00
CURB	
ASPHALT ROAD PAVEMENT	
ASPHALT DRIVE PAVEMENT	
ASPHALT PARKING PAVEMENT	
ASPHALT WALK PAVEMENT	
CONCRETE PAVEMENT	EJ
UNIT PAVERS	
UTILITY POLE	
LIGHT POLE	LP LP LP
COMMUNICATIONS/FIBER OPTIC MANHOLE/BOX	C T
ELECTRIC MANHOLE/ & VAULT	E E
UTILITY PULLBOX	E C
SANITARY SEWER MANHOLE	S
STORM DRAIN MANHOLE	D
CATCH BASIN/STORM INLET	CB SI
CURB INLET	CI
STEAM MANHOLE & VAULT	STM STM
UNDERGROUND UTILITY CLEANOUT	CO
DOMESTIC WATER MANHOLE	W
DOMESTIC WATER VALVE	WV
WATER HYDRANT	
DECIDUOUS TREE	
CONIFEROUS TREE	
SHRUBS (DECIDUOUS & CONIFEROUS)	

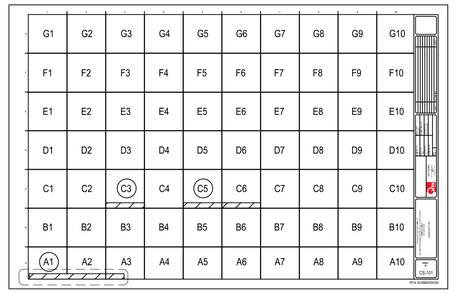
PROPOSED (CONTINUED)

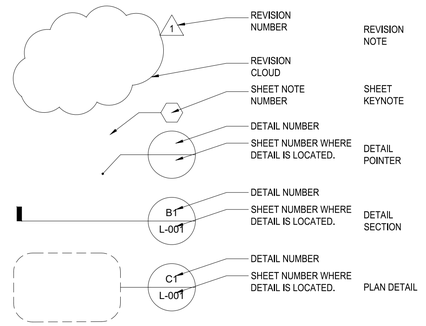
PLANT TAG (SEE SCHEDULE ENTRY)	XX / #
TREE TO BE REMOVED	
GROUND COVER/PERENNIAL & ANNUAL MASSINGS	
WET MEADOW	
UPLAND MEADOW	
WETLAND PLANTING	
EROSION CONTROL BLANKET	

EXISTING

BUILDING EXTERIOR WALL	
OVERHEAD COMMUNICATIONS/FIBER OPTIC/TELE	
UNDERGROUND COMMUNICATIONS/FIBER/TELE	COM COM
SANITARY SEWER	SAN SAN
NATURAL GAS LINE	G G G
OVERHEAD POWER/ELECTRICAL	OHE OHE
UNDERGROUND POWER/ELECTRICAL	UE UE
STEAM LINE	STM STM
STORM LINE	SD SD
DOMESTIC WATER	PW PW
UNIDENTIFIED UNDERGROUND UTILITIES	UID UID
PROPERTY LINE	
EASEMENT LINE	
SETBACK LINE	
CENTERLINE	
FENCE	
TREE LINE (WOODS, MASSINGS, ETC.)	
SWALE CENTER LINE	
EDGE OF WATER (POND, LAKE, STREAM)	
MINOR OR INTERVAL CONTOURS	248
MAJOR CONTOURS	250
SPOT ELEVATION	255.65 255.65 255.65
SURVEY MONUMENT/BENCHMARK	
BORE OR CORE HOLE	
UTILITY POLE	
LIGHT POLE	LP
COMMUNICATIONS/FIBER OPTIC MANHOLE/BOX	C T
ELECTRIC MANHOLE/ & VAULT	E E
UTILITY PULLBOX	E C
SANITARY SEWER MANHOLE	SS
STORM DRAIN MANHOLE	D
CATCH BASIN/STORM INLET	CB
CURB INLET	CI
STEAM MANHOLE & VAULT	STM STM
CLEANOUT	CO
DOMESTIC WATER MANHOLE	W
DOMESTIC WATER VALVE	WV
FIRE HYDRANT	

A3 GRAPHIC SYMBOL LEGEND
SCALE: NOT TO SCALE





F7 VIEW CALLOUT LEGEND
SCALE: NOT TO SCALE

1. DRAWINGS ARE BASED ON AS BUILT DOCUMENTS PROVIDED BY THE GOVERNMENT AND SURVEY PROVIDED BY SHUMAKER CONSULTING, ENGINEERING & LAND SURVEYING D.P.C. TITLED "LEE CHILDHOOD CENTER BUILDING #140" BENCHMARK #1 IS CHISELED SQUARE IN LIGHT POLE BASE LOCATED +/- 345' SOUTH OF DUNOVER CT AND +/- 433' SOUTHEAST OF THE INTERSECTION OF DUNOVER CT, AND LEE ROAD, ELEVATION = 169.55'. BENCHMARK #2 IS CHISELED SQUARE IN A 1 STY. BRICK BUILDING RETAINING WALL/FOUNDATIONS LOCATED +/- 241' SOUTHEAST OF DUNOVER CT, AND +/- 705' SOUTHEAST OF THE INTERSECTION OF DUNOVER AND LEE ROAD. ELEVATION = 170.48'
2. LOCATIONS OF THE UNDERGROUND UTILITIES AND OTHER UNDERGROUND STRUCTURES WERE OBTAINED BY FIELD MEASUREMENTS WHERE POSSIBLE. OTHERWISE, THEY WERE OBTAINED FROM OTHER SOURCES AND MAY BE APPROXIMATE ONLY. OTHER UNDERGROUND UTILITIES AND STRUCTURES MAY EXIST, BUT THEIR LOCATIONS ARE PRESENTLY UNKNOWN. FIELD LOCATE PRIOR TO EXCAVATION AND REPAIR ANY DAMAGE FROM CONSTRUCTION ACTIVITIES.
3. CONTRACTOR MUST CONTRACT A PRIVATE UTILITY LOCATOR SERVICE AND COORDINATE UNDERGROUND UTILITY LOCATION WITH AND THE CONTRACTING OFFICER'S REPRESENTATIVE 72 HOURS PRIOR TO EXCAVATION.
4. OBTAIN CONTRACTING OFFICER'S REPRESENTATIVE REVIEW OF LAYOUT AND GRADING BEFORE PROCEEDING WITH CONSTRUCTION.
5. COMPLY WITH ALL REQUIREMENTS OF GOVERNMENT AGENCIES HAVING JURISDICTION OF ADJOINING ROADWAYS RELATIVE TO MAINTENANCE AND PROTECTION OF TRAFFIC. CONTRACTOR TO MAINTAIN OPERATION AND ACCESS TO BUILDING THROUGHOUT CONSTRUCTION.
6. TREES TO BE PROTECTED SHALL BE IDENTIFIED PRIOR TO THE START OF CONSTRUCTION. UTILIZE CONSTRUCTION FENCING AS SHOWN AND/OR OTHERWISE NECESSARY TO PROTECT TREE ROOTS. AVOID HEAVY CONSTRUCTION VEHICLE TRAFFIC OVER TREE ROOTS WITHIN THE DRIP LINES.
7. ADJUST ALL EXISTING MANHOLES AND CATCH BASIN RIMS, WATER VALVE COVERS, AND OTHER UTILITIES WHERE ENCOUNTERED, TO MEET NEW LINE AND GRADE OF FINISHED LAWN OR PAVEMENTS.
8. SAW-CUT ALL EXISTING PAVEMENTS AT LIMITS OF REMOVAL TO FORM A CLEAN STRAIGHT EDGE TO WHICH NEW PAVEMENTS, LAWN OR PLANT BEDS WILL ABUT.
9. SAW-CUT EXISTING CONCRETE PAVEMENTS AT NEAREST CONTROL JOINT TO LIMITS OF REMOVAL AND REPLACE CONCRETE PAVEMENTS IN FULL FLAGS.
10. REPAIR ALL EXISTING PAVEMENT WHERE DAMAGED AND/OR DISTURBED BY THE WORK OF THE CONTRACT AT NO COST TO THE GOVERNMENT. REPAIRS SHALL BE MADE WITH LIKE MATERIALS OF EQUAL QUALITY AND TO THE EXISTING PAVEMENT SECTION DEPTH WITH LIKE MATERIALS UNLESS OTHERWISE NOTED. THE AREA OF REPAIR SHALL BE NOT LESS THAN 10' BY 10' UNLESS APPROVED BY THE OWNER OR CONTRACTING OFFICER'S REPRESENTATIVE.
11. REPAIR ALL EXISTING LAWN AREAS DAMAGED AND/OR DISTURBED BY WORK OF THIS CONTRACT. REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE MATERIALS AND METHODS DESCRIBED IN DIVISION 32 SEEDING AND DIVISION 31 EXCAVATION AND FILL OF THE CONTRACT SPECIFICATIONS OR AS INDICATED ON THE PLANS AND DETAILS.
12. INSTALL 6" (SETTLED DEPTH) TOPSOIL AND ESTABLISH LAWN IN ALL AREAS WITHIN THE CONTRACT LIMITS NOT DESIGNATED FOR OTHER SURFACES. REPAIR ALL OTHER AREAS DISTURBED BY CONSTRUCTION.
13. ALL CONSTRUCTION IN THE GOVERNMENT HIGHWAY (ROAD) RIGHT OF WAY TO BE PER GOVERNMENT STANDARD DETAILS & SPECIFICATIONS.
14. ALL PAVEMENT STRIPING DAMAGED TO BE REPLACED / RESTRIPED TO MATCH EXISTING.
15. CONTRACTOR SHALL VERIFY THAT EXISTING ELEVATION DATA IS CORRECT AND ON THE SAME DATUM AS THE REFERENCED SURVEY OR EXISTING CONDITIONS DRAWING PROVIDED IN THE CONTRACT DOCUMENTS. RECORD A MINIMUM OF (5) FIVE ELEVATIONS OF EXISTING PERMANENT LANDMARKS TO REMAIN AND SUBMIT TO THE ARCHITECT FOR RECORDS. THE CONTRACTOR SHALL FIELD VERIFY ALL CHECK DIMENSIONS INDICATED AND SUBMIT THEIR FINDINGS TO THE ARCHITECT BEFORE PROCEEDING WITH CONSTRUCTION.
16. NO SITE STRUCTURE OR UTILITY IS TO BE INSTALLED CLOSER TO THE BUILDING OR RETAINING WALL FOOTING SUCH THAT THE EXCAVATION FOR THEM IS CLOSER THAN 1.5H TO 1V TO THE BOTTOM OF THE FOOTING. FIELD VERIFY AND COORDINATE SHOP DRAWING DESIGN TO COMPLY.
17. ALL ACCESSIBLE PARKING SPACES MUST NOT EXCEED (2%) TWO PERCENT SLOPES IN ANY DIRECTION.
18. THE REMOVAL AND INSTALLATION OF DRAINAGE AND SIDEWALKS SHOULD PARALLEL THE PHASED WORK OCCURRING AT THE ADJACENT INTERIOR SPACES.
19. CONTRACTOR TO PUT TEMPORARY DRAINAGE PLAN IN PLACE TO MINIMIZE FLOODING AT BUILDING ENTRIES AND PLAY AREAS DURING WORK.

B7 GENERAL NOTES

1. EMPLOY EROSION CONTROL MEASURES AS SHOWN ON THE CONTRACT DOCUMENTS AND OTHERWISE NECESSARY TO PREVENT DAMAGE TO ON-SITE FACILITIES AND ADJOINING PROPERTY. ALL MEASURES SHALL BE INSTALLED AND MAINTAINED IN CONFORMANCE WITH THE NEW YORK STATE DEC REGULATIONS INCLUDING THE STANDARDS AND SPECIFICATIONS FOR EROSION & SEDIMENTATION CONTROLS MANUAL. (THE BLUE BOOK, JULY 2016 OR LATEST VERSION).
2. INSPECT AND MAINTAIN ALL EROSION CONTROL FACILITIES ON A DAILY BASIS AND IMMEDIATELY AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO:
   - A) REPLACEMENT OR REPAIR OF DAMAGED SILT FENCE
   - B) REMOVAL OF SEDIMENT FROM ALL MEASURES SUCH THAT THEY REMAIN IN COMPLIANCE WITH THE LATEST EDITION OF THE NYSDEC BLUE BOOK.
   - C) INLET PROTECTION DEVICES & MEASURES
   - D) ASSURANCE OF GOOD GRASS GROWTH.
3. GRADE THE SITE AND EMPLOY MEASURES TO DIRECT ALL STORM WATER RUNOFF TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
4. CLEAN PAVED ROADWAYS DAILY DURING CONSTRUCTION TO PREVENT SEDIMENT TRACKING ONTO PUBLIC ROADS.
5. STABILIZE ALL DRAINAGE OUTLETS AS SHOWN BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
6. APPLY WATER OR A DUST PALLIATIVE TO MINIMIZE DUST AND EMPLOY MEASURES TO MINIMIZE OTHER CONSTRUCTION NUISANCES THROUGHOUT THE COURSE OF THE PROJECT PER THE CONTRACT SPECIFICATIONS.
7. REMOVE NO MORE VEGETATIVE COVER THAN IS NECESSARY FOR IMMEDIATE GRADING ACTIVITIES. ALL NEWLY DISTURBED AREAS NOT ACTIVELY UNDER CONSTRUCTION MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN ONE WEEK (7 CALENDAR DAYS) USING THE SPECIFIED SEED MIX AT SPECIFIED RATE.

A7 EROSION CONTROL NOTES

MARK	DESCRIPTION	DATE

DESIGNED BY: AZ
DRAWN BY: AR
CHECKED BY: JC
SUBMITTED BY:
ISSUE DATE: 07/06/2022
SOLICITATION NO:
CONTRACT NO.: W911SD21D0006
SIZE: ANSI D

QPK DESIGN
400 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

GENERAL INFORMATION

SHEET ID
CS-001

RTA SUBMISSION

NOTIFY ARCHITECT IN WRITING OF PIPE LOCATION AND CONNECTION UPSTREAM. CAP AND ABANDON IN PLACE AFTER DETERMINING UPSTREAM CONNECTION IS RE-CONFIGURED AS PART OF THE PROJECT SCOPE.

APPROXIMATE LOCATION OF EXISTING STORM PIPE. CUT BACK PIPE ON EITHER END AND ABANDON PIPE IN PLACE.

TEMPORARY DRAIN INLET PROTECTION (D1 / CS-501)

REMOVE EXISTING DRAINAGE STRUCTURE, SUBDRAIN PIPE AND 10" PIPE CONNECTING TO STRUCTURE

EROSION CONTROL FABRIC (A7 / CS-502)

SILT FENCE (D1 / CS-501)

REMOVE EXISTING RIP RAP

REMOVE SECTION OF CURB

COIR LOG (D5 / CS-501)

REMOVE EXISTING METAL PLATE

REMOVE EXISTING ASPHALT PAVEMENT

REMOVE EXISTING CONCRETE PAVEMENT

CONCRETE WASHOUT (F1 / CS-502)

TEMPORARY RELOCATED DUMPSTERS

CAREFULLY REMOVE EXISTING SIGNS AND SALVAG FOR REUSE

PROTECT EXISTING LIGHTPOLE TO REMAIN

TEMPORARILY RELOCATE EXISTING SHEDS. COORDINATE TEMPORARY LOCATION AND REINSTALLATION WITH OWNER.

ROLL BACK EXISTING CHAINLINK FABRIC AND CAREFULLY REMOVE EXISTING POST(S) AND GATE NEEDED FOR ACCESS DURING CONSTRUCTION; SALVAGE FOR REUSE

REMOVE EXISTING CONCRETE PAVEMENT, (TYP.)

PROTECT EXISTING PLAYGROUND SURFACING DURING CONSTRUCTION; (TYP.)

REMOVE STORM PIPES AND CLEANOUTS; (TYP.)

NOTE: PROTECT EXISTING ENTRANCE DURING CONSTRUCTION. MINIMIZE DISTURBANCE TO AVOID UNNECESSARY INTERFERENCE WITH DAILY OPERATIONS IN THE BUILDING

REMOVE EXISTING STORM PIPE AND ASSOCIATED CLEANOUTS

13'-6" SDR 35 PVC @ 1.00%

EXISTING SIDEWALK TO REMAIN; CAP & ABANDON SECTION OF EXISTING STORM PIPE AT LIMITS OF SIDEWALK

78'-6" SDR 35 PVC @ 1.00%

REMOVE EXISTING STORM PIPE AND CLEAN OUTS

SDCO INV=169.50

93LF-8" SDR 35 PVC @ 0.28%

42'-6" SDR 35 PVC @ 0.75%

SDCO INV=168.89

CO INV=168.57

REMOVE EXISTING STORM PIPE & CLEANOUTS

78LF-8" SDR 35 PVC @ 0.75%

SDCO INV=169.48

REMOVE EXISTING CONCRETE PAVEMENT, (TYP.)

REMOVE EXISTING CLEANOUT

D1 / CS-501 TEMPORARY DRAIN INLET PROTECTION

REMOVE EXISTING 10" PIPE

ROLL BACK EXISTING CHAINLINK FABRIC AND CAREFULLY REMOVE EXISTING POST(S) NEEDED FOR ACCESS DURING CONSTRUCTION; SAVE FOR REUSE

PROTECT EXISTING PLAYGROUND SURFACING DURING CONSTRUCTION, CONTRACTOR SHALL REPAIR ANY DAMAGED PLAYGROUND SURFACING IN KIND; (TYP.)

PROTECT EXISTING PLAYGROUND SURFACING DURING CONSTRUCTION, CONTRACTOR SHALL REPAIR ANY DAMAGED PLAYGROUND SURFACING IN KIND; (TYP.)

EXISTING GATES AND CHAIN LINK FENCE TO REMAIN; (TYP.)

ROLL BACK EXISTING CHAINLINK FABRIC AND CAREFULLY REMOVE EXISTING POST(S) NEEDED FOR ACCESS DURING CONSTRUCTION; SALVAGE FOR REUSE

PROPANE TANK AND CONC. PAD

REPLACE RIP RAP SPILLWAY

SELECTIVELY REMOVE VEGETATION IN RAIN GARDEN TO CONFORM WITH ORIGINAL DESIGN PLANS PER SPDES PERMIT REQUIREMENTS. GOVERNMENT TO ISSUE ORIGINAL PLANTING PLAN PER SPDES PERMIT REQUIREMENTS.

GAS & WATER LINES 4.5LF BELOW GRADE

NOTE: PROTECT EXISTING ENTRANCE DURING CONSTRUCTION. MINIMIZE DISTURBANCE TO AVOID UNNECESSARY INTERFERENCE WITH DAILY OPERATIONS IN THE BUILDING

GRAPHIC SCALE
20 0 10 20 40
SCALE IN FEET

NORTH

A1 DEMOLITION / EROSION & SEDIMENTATION CONTROL PLAN
1" = 20'-0"

MARK	DESCRIPTION	DATE

DESIGNED BY: JC
DRAWN BY: AR
CHECKED BY: JC
SUBMITTED BY:
ISSUE DATE: 07/06/2022
SOLICITATION NO:
CONTRACT NO: W911SD21D0006
SIZE: ANSI D

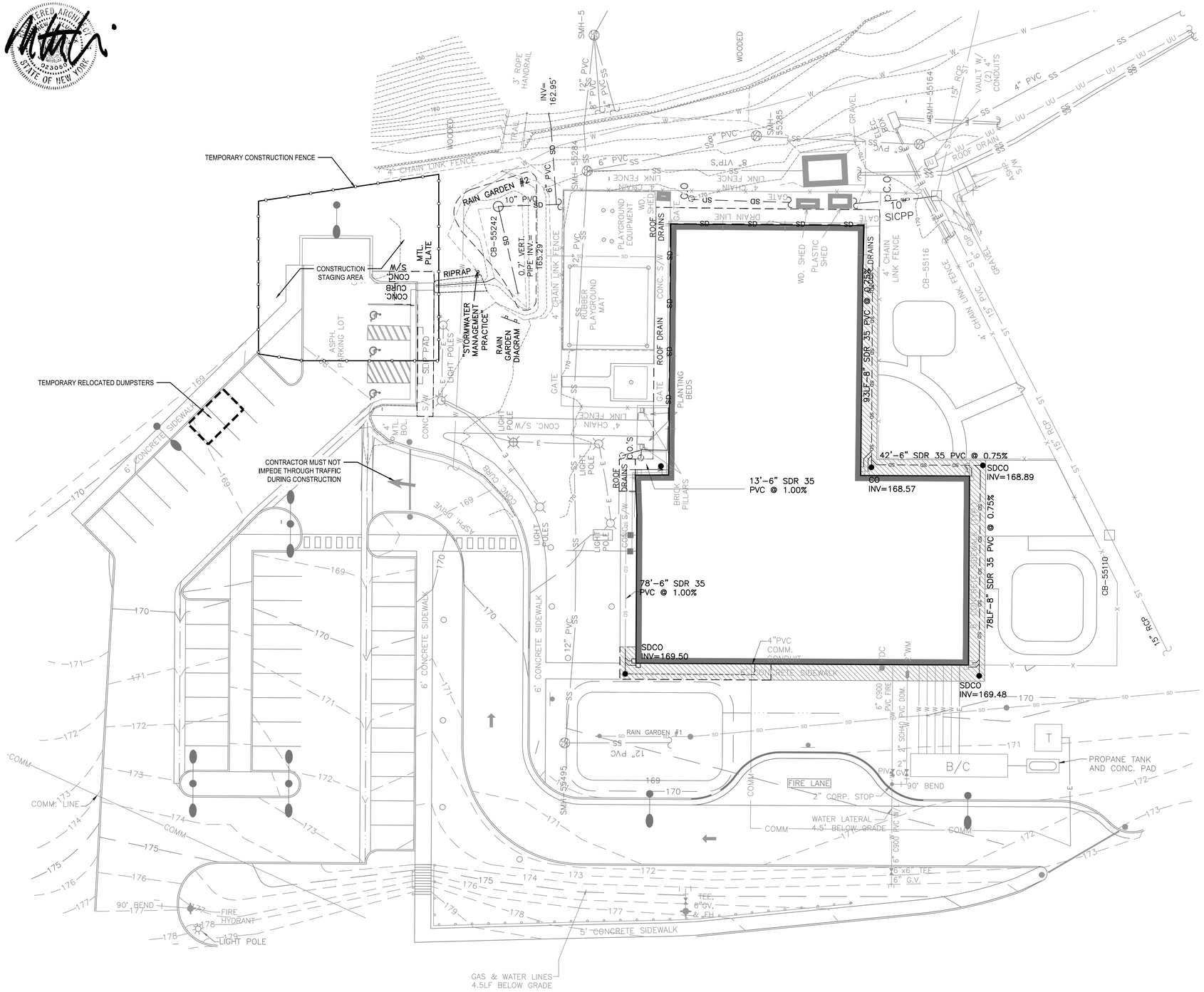
QPK DESIGN
400 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

DEMOLITION / EROSION & SEDIMENTATION CONTROL PLAN

SHEET ID
CD-101

RTA SUBMISSION



A1 CONSTRUCTION STAGING PLAN
1" = 20'-0"

NOTE: PROTECT EXISTING ENTRANCE DURING CONSTRUCTION. MINIMIZE DISTURBANCE TO AVOID UNNECESSARY INTERFERENCE WITH DAILY OPERATIONS IN THE BUILDING

GRAPHIC SCALE
20 0 10 20 40
SCALE IN FEET

NORTH

MARK	DESCRIPTION	DATE

DESIGNED BY: JC
DRAWN BY: AR
CHECKED BY: JC
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 07/01/2022
SOLICITATION NO:
CONTRACT NO: W911SD21D0006

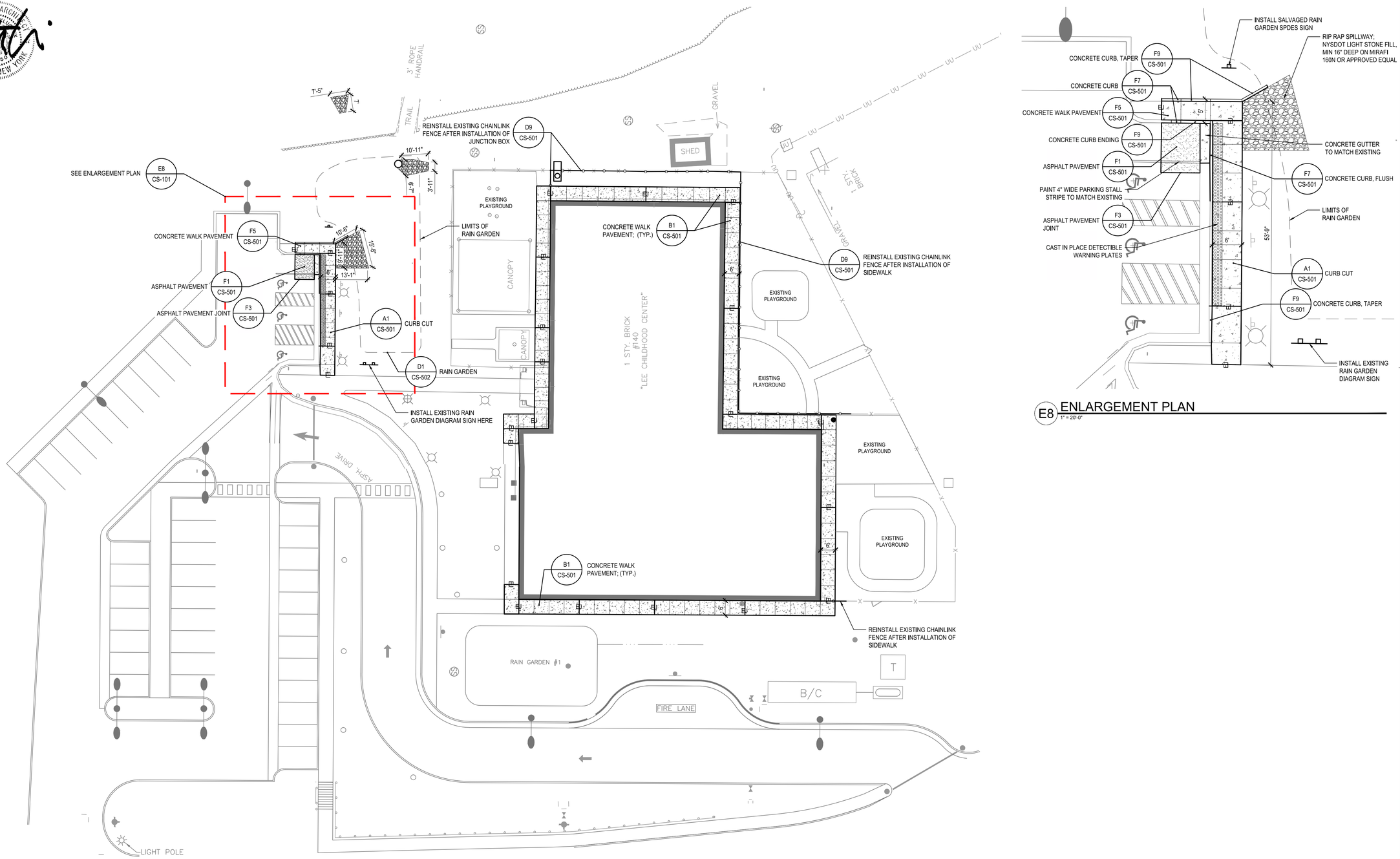
QPK DESIGN
420 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

CONSTRUCTION STAGING PLAN

SHEET ID
CD-102

RTA SUBMISSION



E8 ENLARGEMENT PLAN
1" = 20'-0"

A1 LAYOUT PLAN
1" = 20'-0"

GRAPHIC SCALE
20 0 10 20 40
SCALE IN FEET

NORTH

MARK	DESCRIPTION	DATE

DESIGNED BY: JC
DRAWN BY: AR
CHECKED BY: JC
SUBMITTED BY:
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006
SIZE: ANSI D

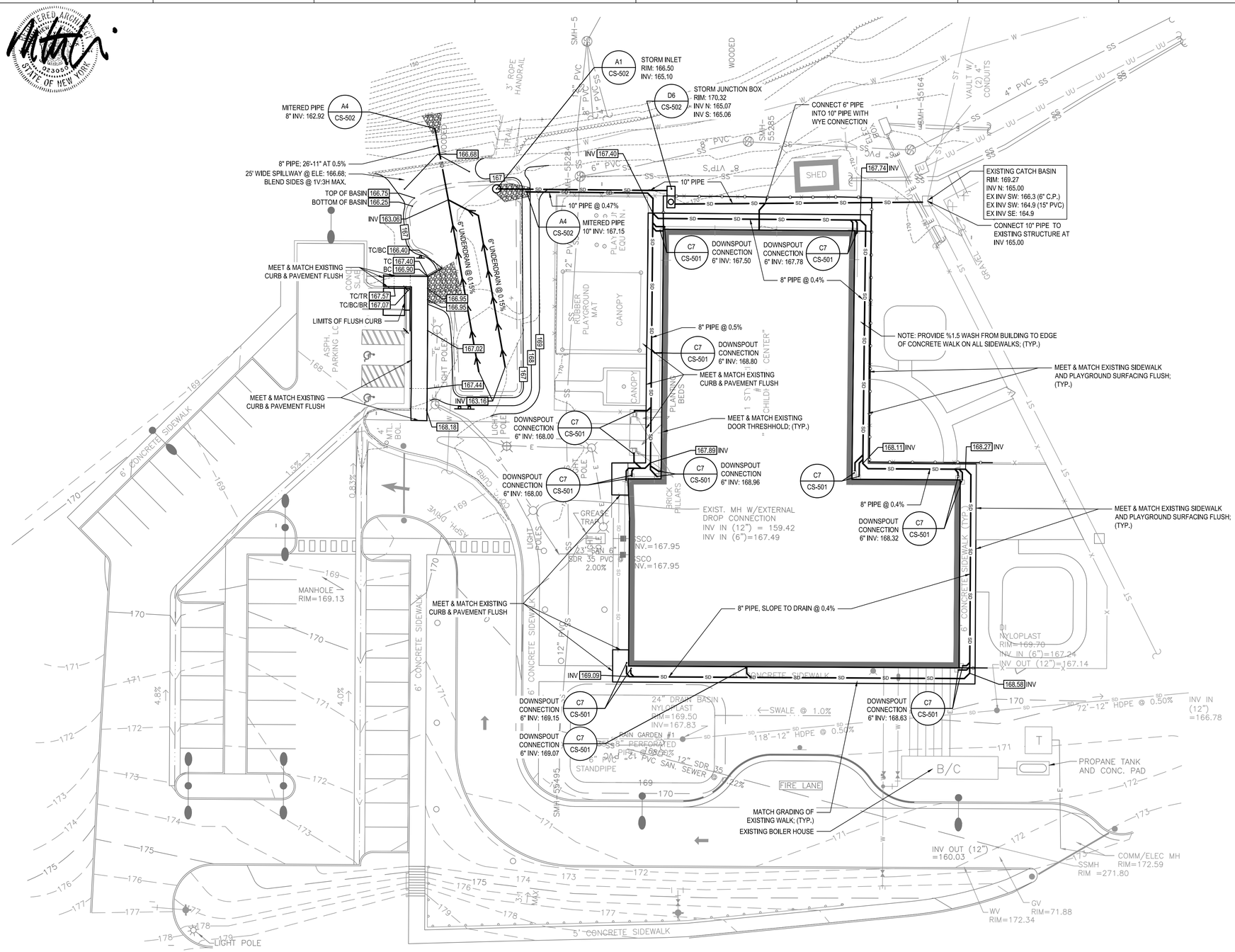
QPK DESIGN
480 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

LAYOUT PLAN

SHEET ID
CS-101

RTA SUBMISSION



A1 GRADING & STORM SYSTEM PLAN
1" = 20'-0"

MEP SITE UTILITIES SHOWN FOR GENERAL COORDINATION PURPOSES. SEE PLUMBING AND ELECTRICAL SITE PLANS FOR CONTRACT REQUIREMENTS.

GRAPHIC SCALE
20 0 10 20 40
SCALE IN FEET

NORTH

MARK	DESCRIPTION	DATE

DESIGNED BY: AC
DRAWN BY: AR
CHECKED BY: JC
SUBMITTED BY:
ISSUE DATE: 07/07/2022
SOLICITATION NO:
CONTRACT NO: W911SD21D0006
SIZE: ANSI D

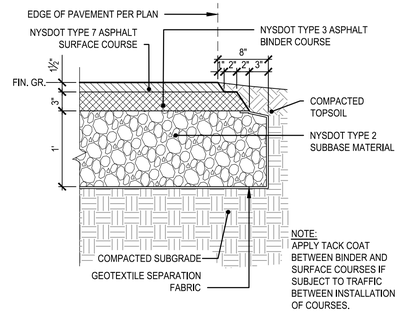
QPK DESIGN
420 SOUTH SALINA STREET, SUITE 300
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

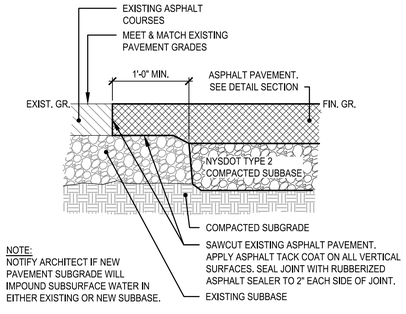
GRADING & STORM SYSTEM PLAN

SHEET ID
CS-102

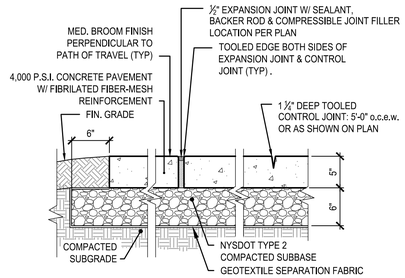
RTA SUBMISSION



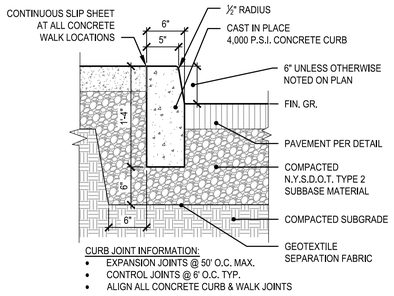
F1 ASPHALT PAVEMENT
N.T.S.



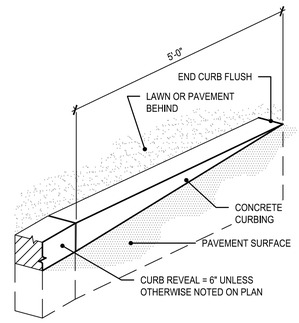
F3 ASPHALT PAVEMENT JOINT
N.T.S.



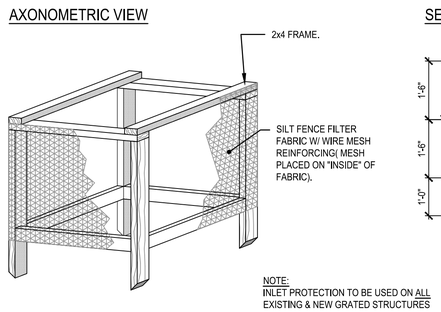
F5 CONCRETE WALK PAVEMENT
N.T.S.

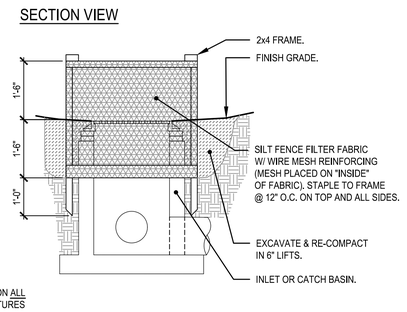


F7 CONCRETE CURB
N.T.S.



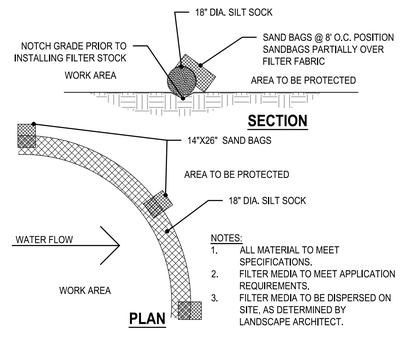
F9 CONCRETE CURB ENDING
N.T.S.



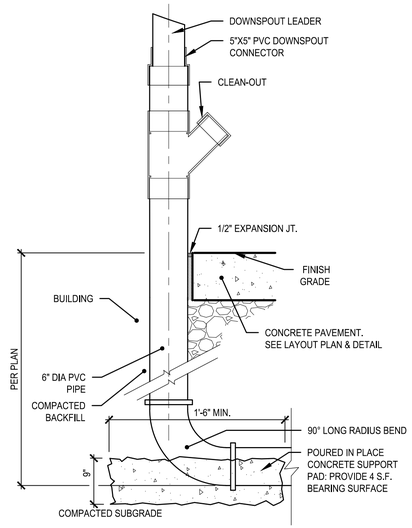


NOTE:
INLET PROTECTION TO BE USED ON ALL EXISTING & NEW GRATED STRUCTURES

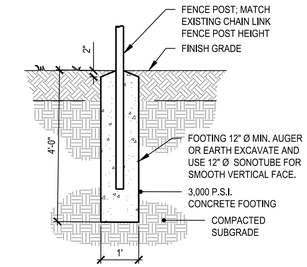
D1 TEMPORARY INLET PROTECTION
N.T.S.



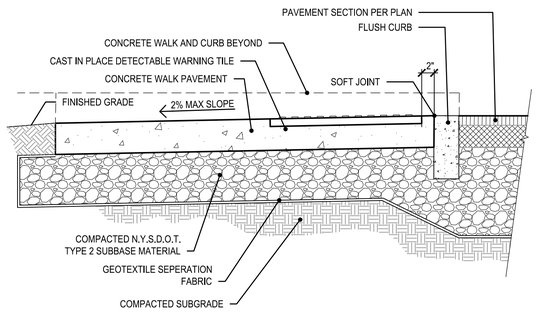
D5 TEMPORARY INLET PROTECTION
N.T.S.

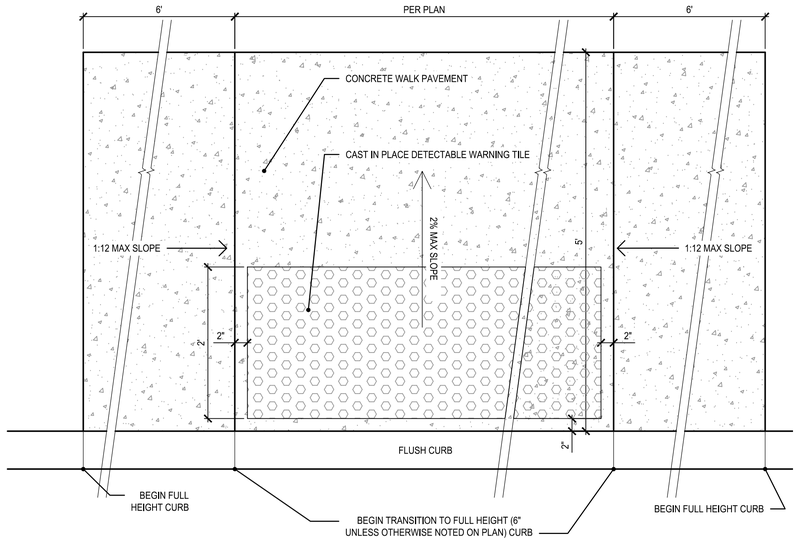


C7 DOWNSPOUT CONNECTION
N.T.S.



D9 FENCE POST
N.T.S.





A1 CURB CUT
N.T.S.

MARK	DESCRIPTION	DATE

DESIGNED BY: JC
DRAWN BY: AR
CHECKED BY: JC
ISSUE DATE: 07/07/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006
SUBMITTED BY:
SIZE: ANSI D

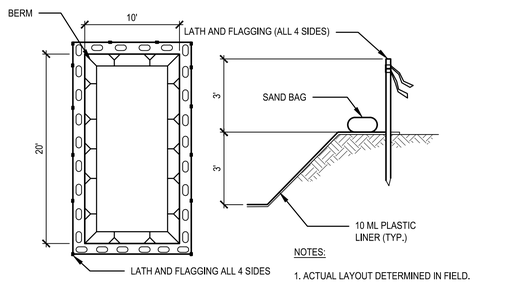
QPK DESIGN
459 SOUTH SALINA STREET, SUITE 610
SYRACUSE NY 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

DETAILS

SHEET ID
CS-501

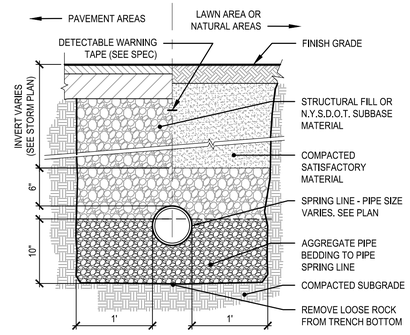
RTA SUBMISSION



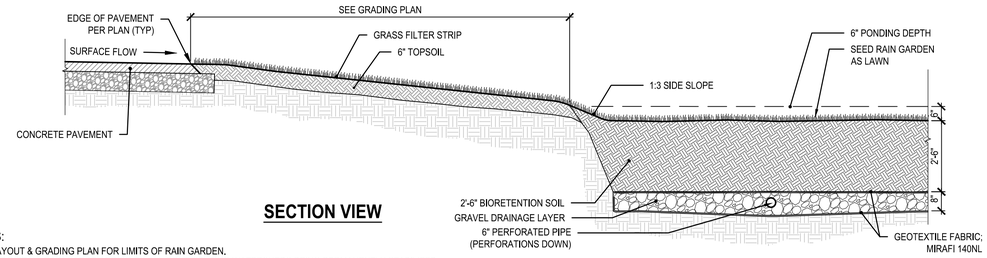
NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. SDEIMENT BASIN SHALL BE SIZED TO ACCOMODATE EXPECTED CONCRETE WASHOUT PROCEDURES AND SCHEDULE.
3. CONCRETE WASHOUT SIGN TO BE INSTALLED WITHIN 30' OF TEMPORARY CONCRETE WASHOUT FACILITY

F1 CONCRETE WASHOUT
N.T.S.



F3 PIPE TRENCH
N.T.S.

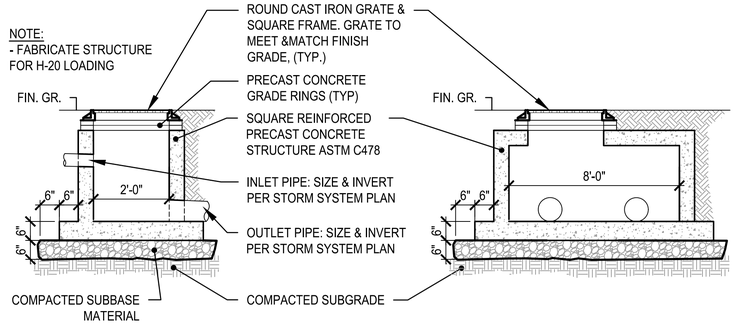


SECTION VIEW

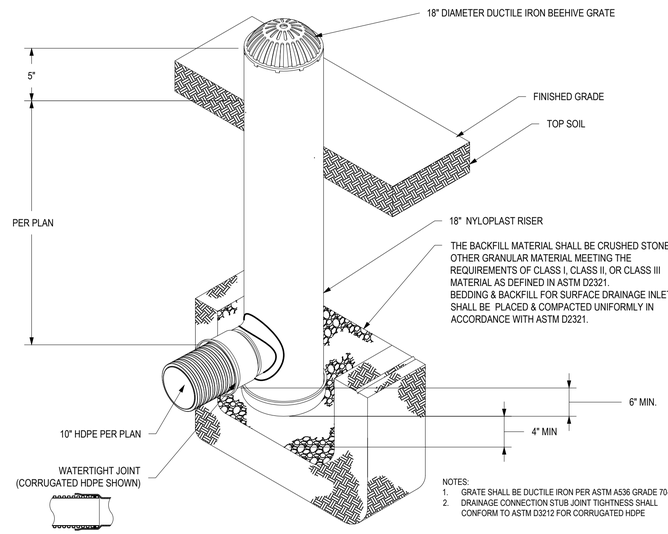
NOTES:

1. SEE LAYOUT & GRADING PLAN FOR LIMITS OF RAIN GARDEN.
2. DO NOT INSTALL RAIN GARDEN PRIOR TO ALL CONTRIBUTING WATERSHEDS BEING PERMANENTLY STABILIZED.
3. IF EXCAVATED SOILS FROM THE RAIN GARDEN ARE NECESSARY TO HELP ACHIEVE EARTHWORK BALANCE THEY MAY BE EXCAVATED TO NO LESS THAN 2' ABOVE FINISHED GRADE ON A TEMPORARY BASIS. DIVERT DRAINAGE FROM CONTRIBUTING WATERSHEDS AROUND THEM TO MINIMIZE CONTRIBUTION OF SEDIMENT TO THE RAIN GARDEN. IMMEDIATELY SEED AND ESTABLISH TEMPORARY OR PERMANENT VEGETATIVE COVER ON THE RAIN GARDEN.
4. FINAL EXCAVATION OF THE RAIN GARDEN SHALL EMPLOY LIGHT TRACKED CONSTRUCTION EQUIPMENT TO MINIMIZE SUBGRADE COMPACTION. UTILIZE TOOTHED BLADE/BUCKET EXCAVATORS TO MINIMIZE SUBGRADE SMEARING.
5. INSTALL BIORETENTION SOIL CONSISTING OF A BLEND OF 50% COARSE SAND, 20% SCREENED TOPSOIL AND 30% COMPOST BY VOLUME. VERIFY AT THE SOURCE THAT THE BIORETENTION SOIL HAS AN INFILTRATION RATE EQUAL OR GREATER THAN 0.5"/ HR.
6. ESTABLISH PERMANENT VEGETATIVE COVER IN THE RAIN GARDEN PRIOR TO DIRECTING FLOW FROM CONTRIBUTING WATERSHEDS INTO THEM.
7. FAILURE TO COMPLY WITH ANY OF THE ABOVE REQUIREMENTS MAKES THE CONTRACTOR SOLELY RESPONSIBLE FOR IMPROPER FUNCTION OF THE RAIN GARDEN AND ALL COSTS TO CORRECT THE DEFICIENT WORK.

D1 RAIN GARDEN
N.T.S.



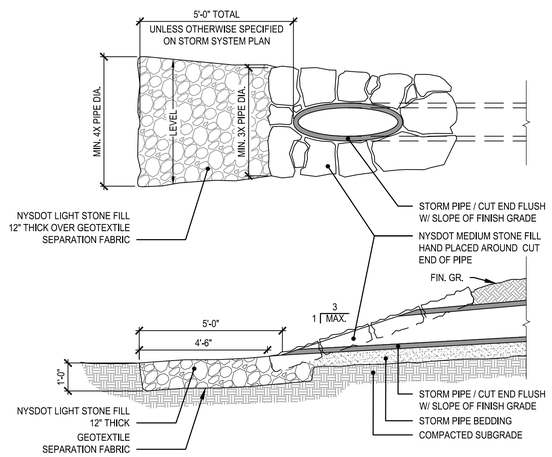
D6 STORM JUNCTION BOX
N.T.S.



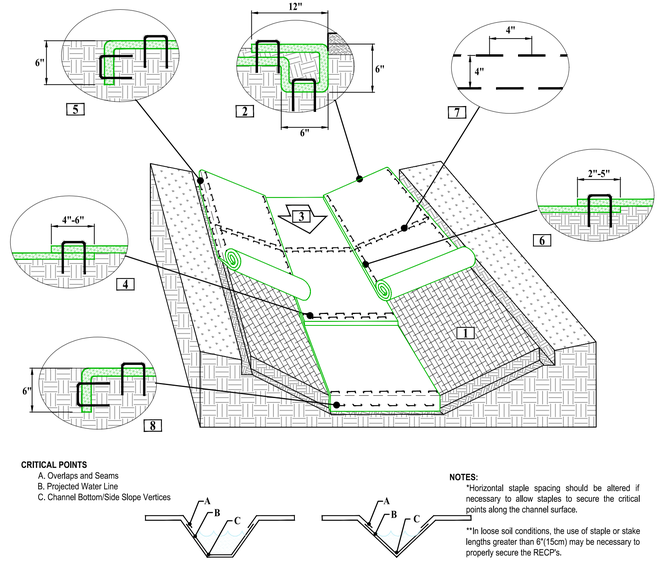
NOTES:

1. GRATE SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05,
2. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE

A1 STORM INLET
N.T.S.



A4 MITRED PIPE
N.T.S.



CRITICAL POINTS

A. Overlaps and Seams
B. Projected Water Line
C. Channel Bottom/Side Slope Vertices

NOTES:

*Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

**In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECP's.

CHANNEL INSTALLATION DETAIL

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the channel by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12"(30cm) of RECPs extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes approximately 12"(30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the RECPs.
3. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. Place consecutive RECPs end-over-end (Shingle style) with a 4"-6" overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs.
5. Full length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes approximately 12"(30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent RECPs must be overlapped approximately 2"-5" (5-12.5cm) (Depending on RECPs type) and stapled.
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9 -12m) intervals. Use a double row of staples staggered 4"(10cm) apart and 4"(10cm) on center over entire width of the channel.
8. The terminal end of the RECPs must be anchored with a row of staples/stakes approximately 12" (30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.

A7 EROSION CONTROL FABRIC
N.T.S.

MARK	DESCRIPTION	DATE

DESIGNED BY: AR
DRAWN BY: AR
CHECKED BY: JC
ISSUE DATE: 07/06/2022
SOLICITATION NO:
CONTRACT NO: W911SD21D0006
SUBMITTED BY:
SIZE: ANSI D

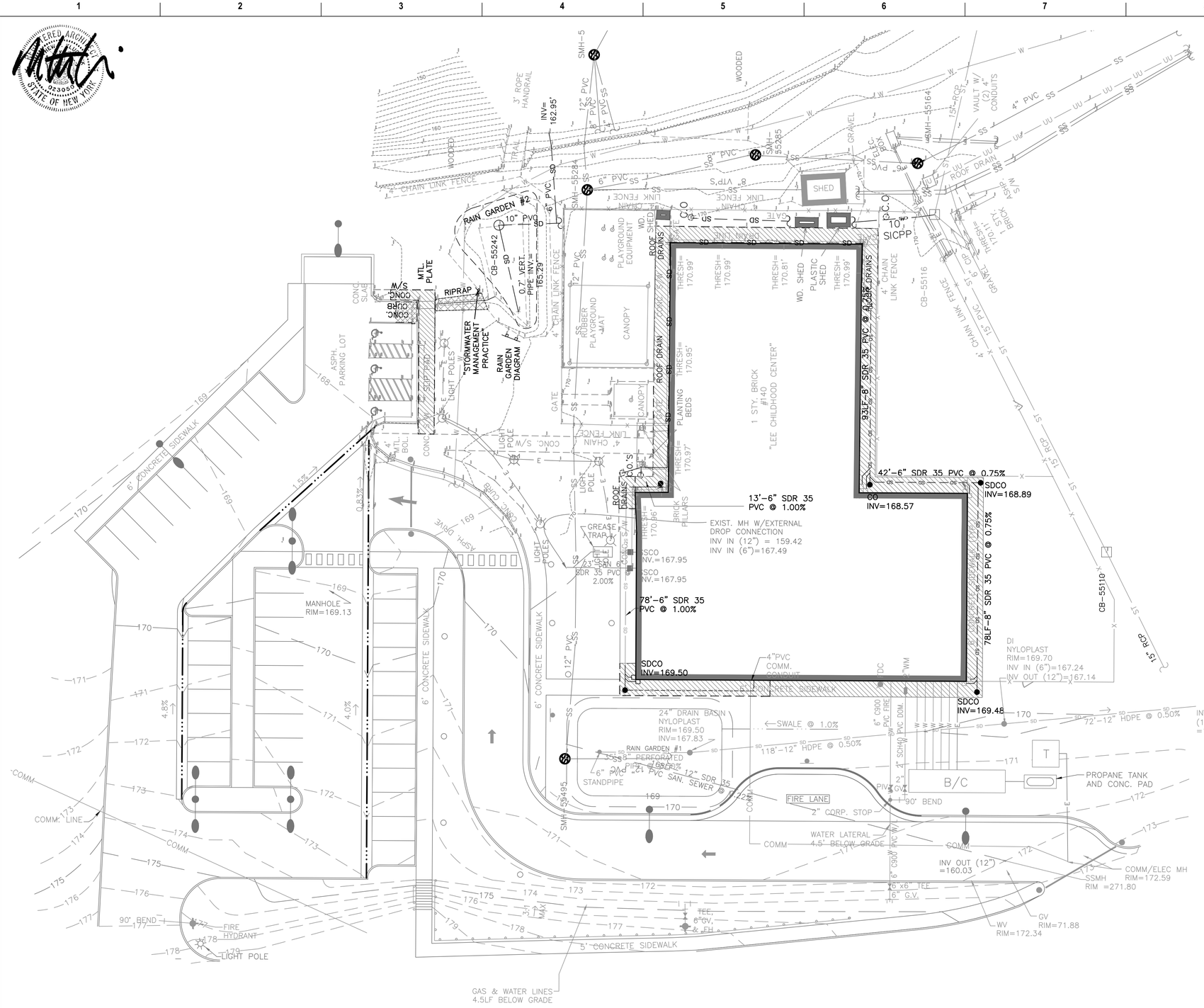
QPK DESIGN
480 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

DETAILS

SHEET ID
CS-502

RTA SUBMISSION



A1 EXISTING CONDITIONS MAP
1" = 20'-0"

GRAPHIC SCALE
20 0 10 20 40
SCALE IN FEET

NORTH

RTA SUBMISSION

MARK	DESCRIPTION	DATE

DESIGNED BY: JC
DRAWN BY: AR
CHECKED BY: JC
SUBMITTED BY:
SIZE: ANSI D

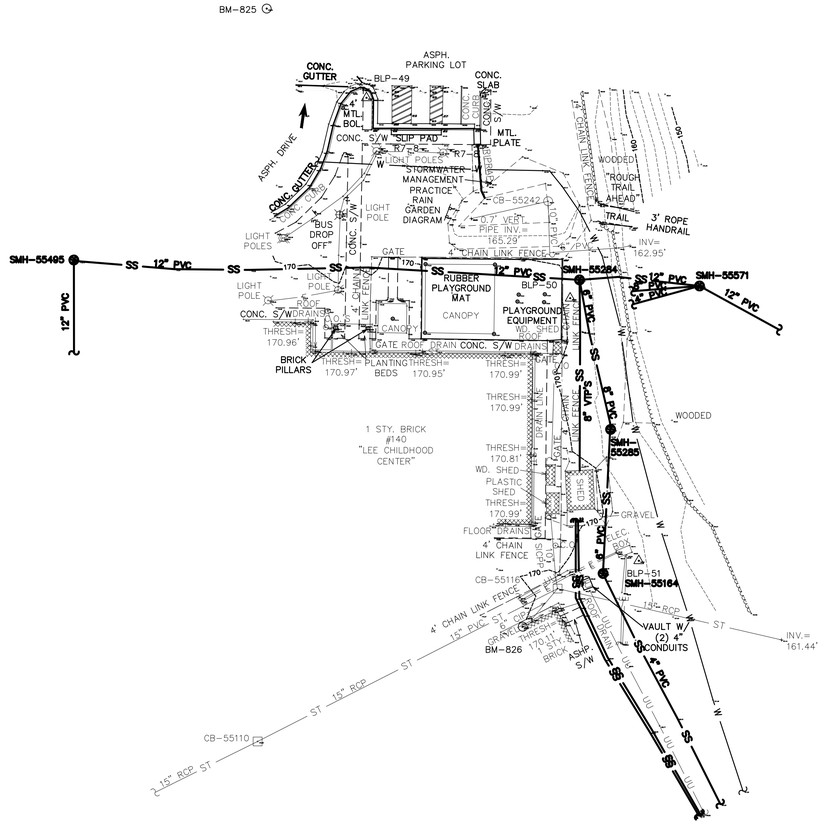
ISSUE DATE: 07/07/2022
SOLICITATION NO:
CONTRACT NO: W911SQ21D0006

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SQ21D0006

EXISTING CONDITIONS MAP

SHEET ID
V-101



TRUE NORTH AT THE 74°30' MERIDIAN OF WEST LONGITUDE

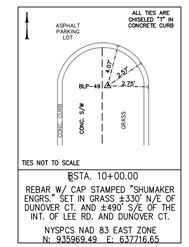
NOTES

1. HORIZONTAL DATUM IS REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM NAD 83 EAST ZONE.
2. VERTICAL DATUM IS REFERENCED TO NAVD88.
3. THE LOCATION OF THE UNDERGROUND UTILITY LINES SHOWN ARE TO QUALITY LEVEL B AS STATED IN SECTION 38–02 PAGE 6 OF THE ASCE "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". THERE IS NO GUARANTEE THAT ALL THE EXISTING UTILITIES, WHETHER FUNCTIONAL OR ABANDONED WITHIN THE PROJECT LIMITS ARE SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE STARTING WORK AND SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM THIS WORK. BEFORE COMMENCING WORK CONTACT "DIG SAFELY NEW YORK" AT 1–800–962–7962 AND PROVIDE 72 HOURS NOTICE.

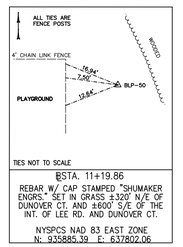
LEGEND

- MULTI–POST SIGN
- SIGN
- SANITARY MANHOLE
- DRAINAGE MANHOLE
- ROUND CATCH BASIN
- SQUARE CATCH BASIN
- DRAINAGE INVERT
- CLEANOUT
- LIGHT POLE
- BASELINE POINT
- BENCHMARK
- 945 MAJOR CONTOUR
- MINOR CONTOUR

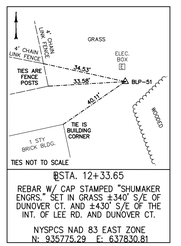
INVERT TABLE		
CB–55242 RIM 166.67' S 164.5' SW 164.5'	SMH–55285 RIM 167.40' S 155.1' NW 154.9'	CB–55110 RIM 170.00' NE 166.2' SW 166.2'
SMH–55284 RIM 168.94' E 152.5' SE 159.5' (TOP OF PIPE) S 153.4' (8" VTP) W 152.1'	SMH–55164 RIM 169.32' N 158.1' SE 158.2' CB–55116 RIM 169.27' N 165.1' SE 164.9' SW 166.3' (6" CIP) SW 164.9' (15" PVC)	SMH–55495 RIM 170.76' E 157.6' S 157.6'
SMH–55571 RIM 152.58' SE 145.2 W 148.6' (4" PVC) W 145.5' (8" PVC) W 145.7' (12" PVC)		



℄STA. 10+00.00
REBAR W/ CAP STAMPED "SHUMAKER ENGRS." SET IN GRASS ±330' N/E OF DUNOVER CT. AND ±490' S/E OF THE INT. OF LEE RD. AND DUNOVER CT.
NYSPCS NAD 83 EAST ZONE
N: 935969.49 E: 637716.65



℄STA. 11+19.86
REBAR W/ CAP STAMPED "SHUMAKER ENGRS." SET IN GRASS ±320' N/E OF DUNOVER CT. AND ±600' S/E OF THE INT. OF LEE RD. AND DUNOVER CT.
NYSPCS NAD 83 EAST ZONE
N: 935885.39 E: 637802.06



℄STA. 12+33.65
REBAR W/ CAP STAMPED "SHUMAKER ENGRS." SET IN GRASS ±340' S/E OF DUNOVER CT. AND ±430' S/E OF THE INT. OF LEE RD. AND DUNOVER CT.
NYSPCS NAD 83 EAST ZONE
N: 935775.29 E: 637830.81

VERTICAL DATUM: NAVD88

BM	STA./OFF.	DESCRIPTION	ELEV.
825	9+44.0 FTBP/ 2.7' RT.	CHISELED SQUARE IN LIGHT POLE BASE LOCATED ±345' SOUTH OF DUNOVER CT. AND ±433' SOUTHEAST OF THE INTERSECTION OF DUNOVER CT. AND LEE RD.	169.55'
826	12+48.1 BTPA/ 54.1' RT.	CHISELED SQUARE IN A 1 STY. BRICK BUILDING RETAINING WALL/FOUNDATION LOCATED ±241' SOUTHEAST OF DUNOVER CT. AND ±705' SOUTHEAST OF THE INTERSECTION OF DUNOVER CT. AND LEE RD.	170.48'

BTPA = BACK TANGENT PRODUCED AHEAD
FTPB = FORWARD TANGENT PRODUCED BACK

60 0 30 60
SCALE: 1"=30'

SHUMAKER
Consulting Engineering & Land Surveying, D.P.C.
143 Court St. Binghamton, NY 13901

SCE PROJECT NO. 20173.01

LEE CHILDHOOD CENTER
BUILDING #140

TOPOGRAPHIC SURVEY
TOWN OF HIGHLANDS ORANGE CO., NY

DRAWN BY	DATE	DRAWING NO.
NCP	NOV 2021	V-102
CHECKED BY	SCALE	
SEG	As Shown	2017301_map_sur_3dh.dwg

WEST POINT
LEE CHILD DEVELOPMENT CENTER

1.0 GENERAL INFORMATION

THE SCOPE OF WORK IS LIMITED TO THE EXISTING DAY CARE AND AREA IMMEDIATE EXTERIOR OF THE BUILDING. THIS PROJECT IS BEING UNDERTAKEN TO RESOLVE DEFICIENCIES IDENTIFIED WITH THE EXISTING BUILDING'S HVAC SYSTEM AND WITH THE GUTTER/STORM DRAINAGE SYSTEM. THE CODE ANALYSIS IS PROVIDED AS THE PROJECT IS CONSIDERED A MAJOR PROJECT BY THE UFC 3-600-01.

PROJECT NAME	LEE CDC BLDG. 140 HVAC & DRAINAGE DESIGN
PROJECT ADDRESS	140 BUCKNER LOOP, WEST POINT, NY
OWNER OR AUTHORIZED AGENT	WEST POINT DPW
OWNED BY	WEST POINT DPW
AUTHORITY HAVING JURISDICTION	U.S. ARMY - HQ USACE/CECW-C

2.0 DESIGN CODE COMPLIANCE

THE FOLLOWING CODE REVIEW NARRATIVE IS PROVIDED TO SERVE AS A BASIS OF UNDERSTANDING FOR THE DEVELOPMENT OF THE SPECIFICATIONS AND DESIGN OF THE HVAC SYSTEMS.

U.S. ARMY - HQ USACE/CECW-C	
BUILDING CODE	UFC 1-200-01 DOD BUILDING CODE, CHANGE 1, 1 OCT 2020
FIRE CODE	UFC 3-600-01, CHANGE 6, 6 MAY 2021
MECHANICAL CODE	IBC CHAPTER 28 EXCEPT AS MODIFIED BY UFC 3-401-01, CHANGE 1, OCTOBER 2015
PLUMBING CODE	IBC CHAPTER 29 EXCEPT AS MODIFIED BY UFC 3-420-01, 01 APRIL 2021
ELECTRICAL CODE	IBC CHAPTER 27 EXCEPT AS MODIFIED BELOW AND BY UFC 3-501-01, CHANGE 1, 01 NOVEMBER 2019
ENERGY CODE	UFC 1-200-02, CHANGE 01, 03 JANUARY 2022
FUEL GAS CODE	NFPA 54 (ANSI Z223.1) NATIONAL FUEL GAS CODE
ACCESSIBILITY	ABA STANDARDS AND THE SPECIAL PROVISIONS OF THE DOD DEPUTY SECRETARY OF DEFENSE MEMORANDUM.
OTHER DEFINED STANDARDS	
DESIGN CRITERIA	UFC 4-740-14 DESIGN: CHILD DEVELOPMENT CENTERS, AUGUST 1, 2002

3.0 BUILDING DATA

				CODE REF
TYPE OF CONSTRUCTION	*II-B*			*IBC - CH 5*
OCCUPANCY GROUPS	*INSTITUTIONAL GROUP I-4, DAY CARE FACILITY*			*IBC - CH 3*
ACCESSORY OCCUPANCY GROUPS	*NONE*			
AUTOMATIC SPRINKLER SYSTEM	*PROVIDED AND REQUIRED*			
FIRE ALARM SYSTEM	*PROVIDED AND REQUIRED*			
STANDPIPES	*NOT PROVIDED / NOT REQUIRED*			
FIRE DISTRICT	*N/A*			
FLOOD HAZARD AREA	*N/A*			
BUILDING HEIGHT (FT - IN)	*24' - 4"*			
NUMBER OF STORIES	*1*			
FIRE AREA (SF)	*15,100*			
SITE FIRE FLOW	*NOT AVAILABLE (SYSTEM REPAIRS DID NOT ALLOW FOR FIRE FLOW TESTING.) 1,000 GPM FOR 2 HRS MINIMUM ALLOWED BY NFPA 1.*			*UFC 3-600-01 - CH 9*
MINIMUM NUMBER OF FIRE HYDRANTS	*1*			*UFC 3-600-01 - CH 9*
GROSS BUILDING AREA (SF)	*15,100*			
BUILDING AREA	FLOOR	EXISTING (SF)	NEW (SF)	SUBTOTAL (SF)
	FIRST FLOOR	*15,100*	*0*	*15,100*
	TOTALS	*15,100*	*0*	*15,100*

4.0 ALLOWABLE HEIGHT

		CODE REF
TYPE OF CONSTRUCTION	*II-B*	
BASE HEIGHT ALLOWED (NO. STORIES)	*55'*	*IBC - CH 5*
INCREASE FOR SPRINKLERS	*20*	
TOTAL ALLOWABLE HEIGHT (NO. STORIES)	*75'*	

5.0 ALLOWABLE AREA

				CODE REF
RESTRICTIVE OCCUPANCY	*INSTITUTIONAL GROUP I-4, DAY CARE FACILITY*			
MAXIMUM ALLOWABLE AREA (SF)	*13,000 (FROM IBC CH5 - NO INCREASES APPLIED)*			*IBC §506.2*
ACCESSORY OCCUPANCY GROUPS	*NONE*			*IBC §508.2*
INCIDENTAL USES	*NONE*			
SPECIAL REQUIREMENTS	REQUIREMENT	TRIGGER	MET	
	NONE			
MIXED OCCUPANCY	*NONE*			*IBC §508*
APPLICABLE OCCUPANCY SEPARATIONS	*NONE*			
	FRONTAGE INCREASE CALCULATION			
TABULAR ALLOWABLE AREA (At)	*13,000*			*IBC TBL 506.2*
TABULAR NON-SPRINKLER AREA FACTOR (NS)	*13,000*			*IBC TBL 506.2*
BUILDING PERIMETER (FT)	*572*			
BUILDING PERIMETER ON A PUBLIC WAY OR OPEN SPACE (FT)	*572*			
WIDTH OF PUBLIC WAY (FT)	*30*			
AREA FACTOR INCREASE - FRONTAGE (If)	*75.0%*			*IBC §506.3.3 EQ 5-5*
SUM OF RATIO CALCULATION	*N/A*			
	NS	If	Aa (sf)	
ALLOWABLE AREA INCREASE FOR FRONTAGE	*13,000*	*0.75*	*9,750*	*IBC §508.2.2*

6.0 FIRE-RESISTANCE-RATING OF STRUCTURE

			RATING	CODE REF
CONSTRUCTION TYPE	*II-B*			
BUILDING ELEMENT	PRIMARY STRUCTURAL FRAME		*0-HOUR*	*IBC TBL 601*
	BEARING WALLS	EXTERIOR	*0-HOUR*	
		INTERIOR	*0-HOUR*	
	NONBEARING WALLS	EXTERIOR	*0-HOUR*	*IBC TBL 602*
		INTERIOR	*0-HOUR*	
	FLOOR ASSEMBLY		*0-HOUR*	*IBC TBL 601*
	ROOF ASSEMBLY		*0-HOUR*	

7.0 FIRE-RESISTANCE-RATED ASSEMBLIES & SEPARATIONS

EGRESS SUMMARY: THE LEE CDC BUILDING PROVIDES MULTIPLE EXIT ACCESS PATHWAYS THAT ALLOW THE OCCUPANTS TO REACH THE EXTERIOR EXIT DOORWAYS WITHIN THE PERMITTED EXIT ACCESS TRAVEL DISTANCES, THEREBY NOT REQUIRING RATED EXIT ENCLOSURES TO EXTEND THE EXIT ACCESS TRAVEL DISTANCE. UFC 3-600-01 AND NFPA 101 GIVES DIRECTION ON THE REQUIREMENTS FOR FIRE-RATED PARTITIONS.

	REQUIRED	PROVIDED	WALL TYPE	CODE REF
ENCLOSED EXIT ACCESS SHAFT (LESS THAN THREE FLOORS)	*N/A*	*NO*	*N/A*	*NFPA 101 CH 17*
OTHER SHAFT ENCLOSURES (LESS THAN FOUR FLOORS)	*N/A*	*NO*	*N/A*	
EXIT PASSAGEWAYS	*N/A*	*NO*	*N/A*	
CORRIDOR SEPARATION	*NO*	*YES*	*N/A*	
OCCUPANCY SEPARATION	*NOT APPLICABLE*			
PARTY/FIRE WALL SEPARATION	*NOT APPLICABLE*			
SMOKE BARRIER SEPARATION	*NOT APPLICABLE*			
TENANT SEPARATION	*NOT APPLICABLE (SINGLE TENANT BUILDING)*			
HORIZONTAL ASSEMBLIES	*NOT APPLICABLE*			
INCIDENTAL USE SEPARATION	*LAUNDRIES - 1 HR*			

8.0 INTERIOR FINISHES

	OCCUPANCY	INTERIOR EXIT STAIRWAYS, RAMPS, EXIT PASSAGEWAYS	CORRIDORS / ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND RAMPS	ROOMS AND ENCLOSED SPACE	CODE REF
FLOOR FINISH	*DAY CARE*	*CLASS A OR B*			*NFPA 101-SECTION 17.3.3.2*
WALL & CEILING FINISH					

9.0 LIFE SAFETY SYSTEM REQUIREMENTS

	REQUIRED	PROVIDED	DESIGN STD	CODE REF
EMERGENCY LIGHTING	*YES*	*YES*	*NFPA 72*	*NFPA 101 CH7*
EXIT SIGNS	*YES*	*YES*	*NFPA 72*	*NFPA 101 CH7*
AUTOMATIC SPRINKLER	*YES*	*YES*	*NFPA 13*	*UFC 3-600-01*
ALTERNATIVE EXTINGUISHER	*NO*	*NO*	*N/A*	-
STANDPIPE (< 30 FT AFG)	*NO*	*NO*	*NFPA 14*	-
FIRE EXTINGUISHERS	*YES*	*YES*	*NFPA 10*	*UFC 3-600-01*
FIRE ALARM & DETECTION	*YES*	*YES*	*NFPA 72*	*UFC 3-600-01*
EMERGENCY ALARM	*NO*	*NO*	*NFPA 72*	-
SMOKE CONTROL	*NO*	*NO*	*NFPA 92*	-
SMOKE AND HEAT REMOVAL	*NO*	*NO*	*NFPA 92*	-
FIRE COMMAND CENTER	*NO*	*NO*	*NFPA 72*	-
FIRE PUMPS	*NO*	*NO*	*NFPA 20*	-
CARBON MONOXIDE DETECTION	*NO*	*NO*	*NFPA 720*	-
EM RESPONDER RADIO	*NO*	*NO*	*FCC 47 CFR PART 90.219*	-

10.0 LIFE SAFETY EGRESS REQUIREMENTS

10.1 OCCUPANT LOADS			CODE REF
OCCUPANT LOAD FACTORS	*DAY CARE*	*35 NET SF / OCC*	*NFPA 101 - TABLE 7.3.1.2*
	BUSINESS	*150 SF /OCC*	*NFPA 101 - TABLE 7.3.1.2*
	BUSINESS (SEATING)	*15 SF /OCC*	*NFPA 101 - TABLE 7.3.1.2*
	BUSINESS (KITCHEN)	*100 SF /OCC*	*NFPA 101 - TABLE 7.3.1.2*
	STORAGE	*500 SF /OCC*	*NFPA 101 - TABLE 7.3.1.2*
TOTAL OCCUPANT LOAD	*FIRST FLOOR*	*388*	*SEE PLAN*
EGRESS CAPACITY	*OTHER:*	*0.2"/OCC*	*NFPA 101 - 7.3.3.1*
10.2 PATH OF TRAVEL	CRITERION	LIMIT	CODE REF
ACCESSIBLE MEANS OF EGRESS	*YES*	*YES*	*NFPA 101 - CH 7*
COMMON PATH OF TRAVEL	*DAY CARE*	*< 100'*	*NFPA 101 - 17.2.5.3.1*
EXIT ACCESS TRAVEL DISTANCE	*DAY CARE*	*< 200'*	*NFPA 101 - 17.2.6 (2)*
DEAD END CORRIDOR LIMIT	*DAY CARE*	*< 50'*	*NFPA 101 - 17.2.5.2*
CORRIDOR WIDTH MINIMUM	*DAY CARE*	*36"*	*NFPA 101 - 7.3.4*

10.0 LIFE SAFETY EGRESS REQUIREMENTS (CONT'D.)

10.3 EXIT & EXIT ACCESS DOOR CONFIGURATION			
	REQUIRED	PROVIDED	CODE REF
EXITS REQUIRED FROM A SPACE	*0 < OL < 50: 1* *50 ≤ OL ≤ 500: 2* *501 ≤ OL ≤ 1000: 3*	*SEE PLANS*	*NFPA 101 - 7.4*
EXITS REQUIRED FROM A FLOOR	*0 < OL < 50: 1* *50 ≤ OL ≤ 500: 2* *501 ≤ OL ≤ 1000: 3*	*SEE PLANS*	*NFPA 101 - 7.4*
EXIT SEPARATION DISTANCE	*1/3 THE DIAGONAL*	*> 1/3 THE DIAGONAL*	*NFPA 101 - 7.5*
10.4 EXIT ENCLOSURES AND EXIT DISCHARGE			
	REQUIRED	PROVIDED	CODE REF
EXIT ACCESS STAIRWAY ENCLOSURE	*NO*	*NO*	-
INTERIOR EXIT STAIRWAYS	*NO*	*NO*	-
EXITS	*YES*	*SEE PLANS*	*NFPA 101 - 7.5*
HORIZONTAL EXITS	*NO*	*NO*	-
EXIT DISCHARGE	*TO PUBLIC R.O.W.*	*PROVIDED - SEE PLANS*	*NFPA 101 - 7.7*

11.0 ACCESSIBILITY

FACILITY MEETS ACCESSIBILITY REQUIREMENT UFC 3-600-01, SECTION 11-1

PROFESSIONAL FIRE PROTECTION ENGINEER
ERICK MICHAEL SHOWALTER
E-15916
STATE OF NEBRASKA
7-1-22

DATE | DESCRIPTION | MARK

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

DESIGNED BY: E. SHOWALTER
DRAWN BY: T. FREEMAN
CHECKED BY: J. WARBOYS
SUBMITTED BY:
SIZE: ANSI D

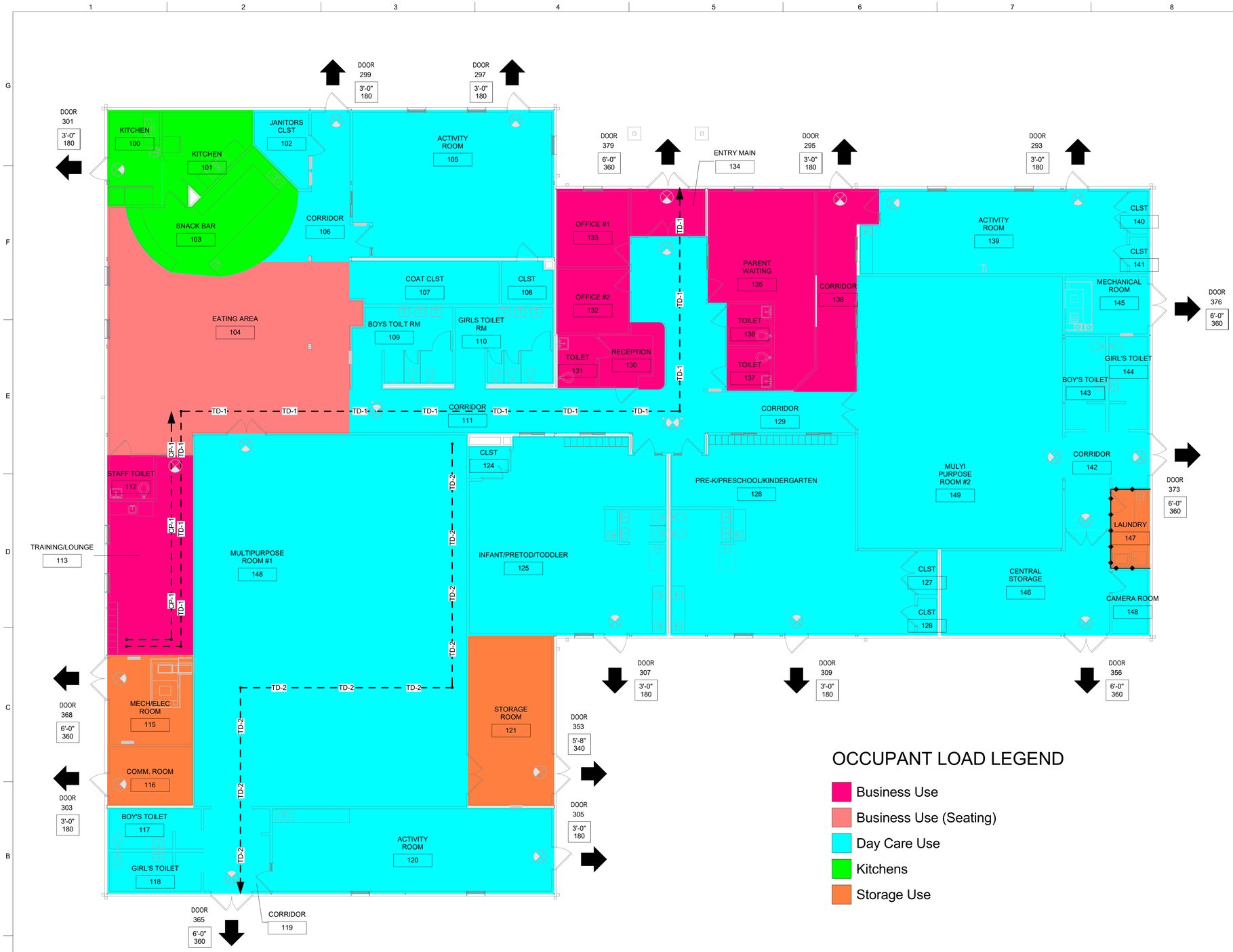
Henningson, Durham & Richardson Architecture & Engineering, P.C.
711 Westchester Avenue
White Plains, NY 10604-350

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE
DESIGN
10324888

CODE ANALYSIS

SHEET
G-001

RTA SUBMISSION



OCCUPANT LOAD LEGEND

- Business Use
- Business Use (Seating)
- Day Care Use
- Kitchens
- Storage Use

PLAN NORTH

0 4' 8' 16'

LIFE SAFETY NOTES:

1. FOR NEW EXIT SIGNS, SEE ELECTRICAL LIGHTING DRAWINGS (E SERIES).

LIFE SAFETY SYMBOLS:

EXIT DOOR TAG

A
B

CLEAR DOOR WIDTH [FEET - INCHES]

OCCUPANT LOAD CAPACITY [NO.OF PEOPLE]

OTHERS

CEILING EXIT SYMBOL (EXISTING)

LINE TYPES FOR MEANS OF EGRESS:

COMPONENT	SYMBOL
TRAVEL DISTANCE	TD
COMMON PATH	CP

EXIT DISCHARGE

EXIT DISCHARGE ARROW

WALL RATING

1 HOUR FIRE BARRIER

MEANS OF EGRESS ARRANGEMENT DISTANCE SCHEDULE - BUILDING SUMMARY

EGRESS PATH ID	EGRESS DISTANCE PROVIDED	EGRESS DISTANCE MAXIMUM PERMITTED
CP-1	42' - 6"	100' - 0"
TD-1	158' - 0"	200' - 0"
TD-2	103' - 0"	200' - 0"

MEANS OF EGRESS WIDTH CAPACITY

EXIT ID	PROVIDED EGRESS CAPACITY - LEVEL COMPONENTS & RAMPS: EGRESS CAPACITY FACTOR	CLEAR WIDTH	OCCUPANT LOAD CAPACITY
293	0.2	3' - 0"	180
295	0.2	3' - 0"	180
297	0.2	3' - 0"	180
299	0.2	3' - 0"	180
301	0.2	3' - 0"	180
303	0.2	3' - 0"	180
305	0.2	3' - 0"	180
307	0.2	3' - 0"	180
309	0.2	3' - 0"	180
353	0.2	5' - 8"	340
356	0.2	6' - 0"	360
365	0.2	6' - 0"	360
368	0.2	6' - 0"	360
373	0.2	6' - 0"	360
376	0.2	6' - 0"	360
379	0.2	6' - 0"	360

OCCUPANT LOAD ROOM SCHEDULE

OCCUPANT USE TYPE	AREA	OCCUPANT LOAD FACTOR [SF/person]	OCCUPANT LOAD
BUSINESS USE	1479	150	10
BUSINESS USE (SEATING)	1061	15	71
DAY CARE USE	10465	35	299
KITCHENS	585	100	6
STORAGE USE	705	500	2
	14295 SF		388

A1 LIFE SAFETY PLAN

1/8" = 1'-0"

PROFESSIONAL FIRE PROTECTION ENGINEER
ERICK MICHAEL SHOWALTER
E-15916
STATE OF NEBRASKA
7-1-22

RTA SUBMISSION

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140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE
DESIGN
10324688

LIFE SAFETY PLAN

SHEET
G-002

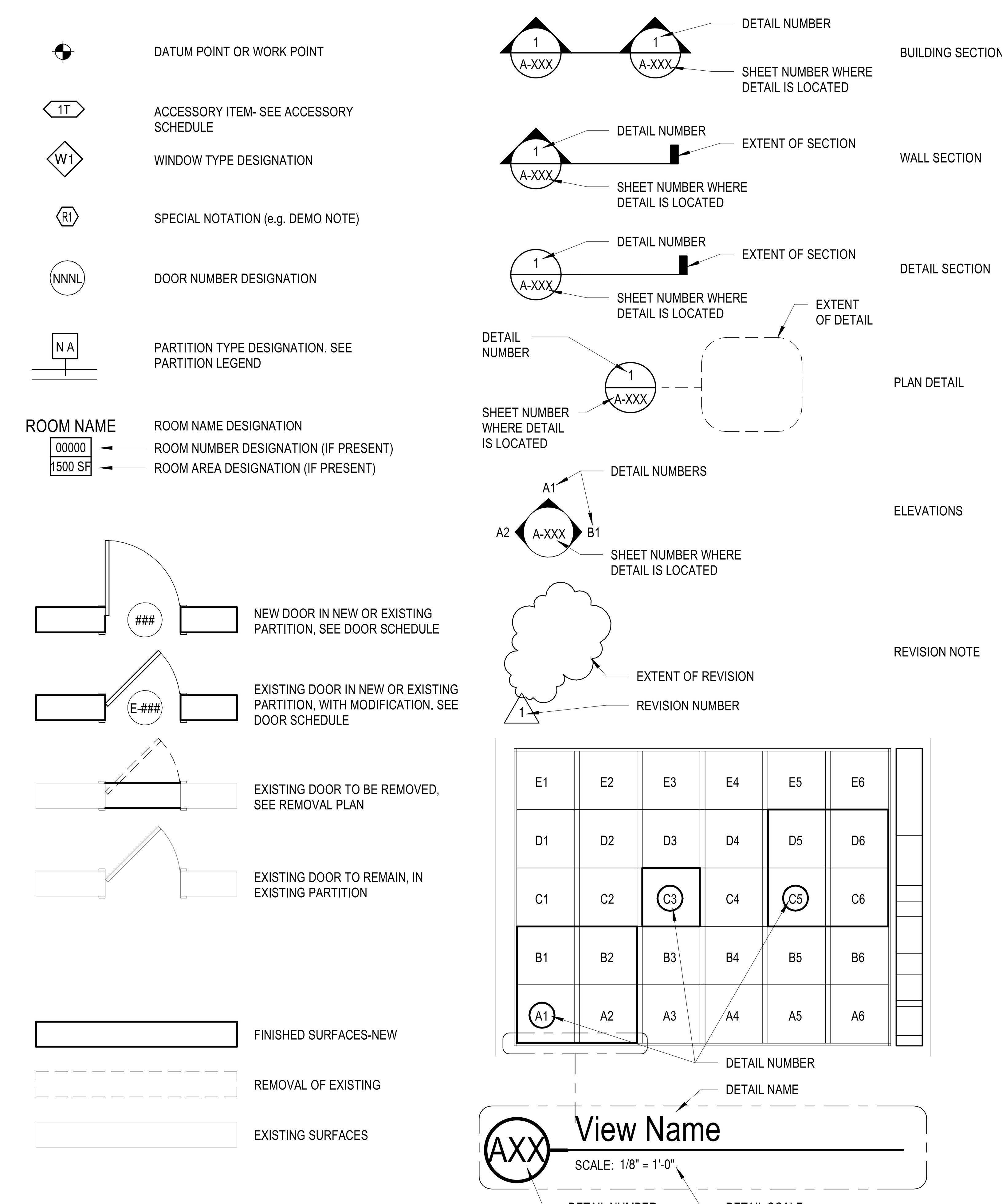
B1 ABBREVIATIONS
SCALE: NO SCALE

ABBREVIATIONS	
A	
A/C	AIR CONDITIONING
AB	ANCHOR BOLT
ACC	ACCESIBLE
ACS PNL	ACCESS PANEL
ADDM	ADDENDUM
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AHR	ANCHOR(AGE)
ALT	ALTERNATE
ALUM	ALUMINUM
ANN PNL	ANNUNCIATOR PANEL
ANOD	ANODIZED
APC	ACOUSTICAL PANEL CEILING
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
ASB	ASBESTOS
ASPH	ASPHALT
ATC	ACOUSTICAL TILE CEILING
B	
BD	BOARD
BEV	BEVELED
BLDG	BUILDING
BLKG	BLOCKING
BLKT	BLANKET
BM	BEAM, BENCHMARK
BOT OF	BOTTOM OF
BRG	BEARING
BSMT	BASEMENT
BUR	BUILT-UP ROOF
C	
CAB	CABINET
CEM	CEMENT
CH BD	CHALKBOARD
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CLG	CEILING
CLL	CONTRACT LIMIT LINE
CLO	CLOSET
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMPST	COMPOSITE
CMT	CERAMIC MOSAIC TILE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR
CPRS FL	COMPRESSIBLE FILLER
CPT	CARPET
CR	CARD READER
CRS	COLD ROLLED STEEL
CT	CERAMIC TILE
D	
D	DEPTH
DET	DETAIL
DF	DRINKING FOUNTAIN
DFLCT	DEFLECTION
DH	DOUBLE HUNG
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DMPF	DAMPPROOFING
DR	DOOR
DWG	DRAWING
E	
EA	EACH
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC(AL)

ABBREVIATIONS	
ELEV	ELEVATOR
EMHO	ELECTROMAGNETIC HOLD OPEN
ENTR	ENTRANCE
EP	ELECTRIC PANEL
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPOSED, EXPANSION
EXT	EXTERIOR
F	
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HYDRANT
FIN	FINISH(ED)
FIXT	FIXTURE
FLASH	FLASHING
FLG	FLOORING
FLR	FLOOR
FM	FACTORY MUTUAL
FO	FACE OF
FOF	FACE OF FINISH
FOS	FACE OF STUD
FP	FIREPROOFING
FR	FRAME
FRMG	FRAMING
FRP	FIBERGLASS REINFORCED PLASTIC/PANEL
FRTW	FIRE RETARDANT TREATED WOOD
FT	FOOT/FEET
FTG	FOOTING
FURG	FURRING
FURN	FURNISHED/FURNITURE
FWC	FABRIC WALL COVERING
G	
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GCT	GLAZED CERAMIC TILE
GL	GLASS/GLAZING
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
H	
HC	HOLLOW CORE
HCP	HANDICAPPED
HDBD	HARDBOARD
HDW	HARDWARE
HDWD	HARDWOOD
HM	HOLLOW METAL
HNDRL	HANDRAIL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING/VENTILATING/AIR CONDITIONING
I	
ID	INSIDE DIAMETER
INCL	INCLUDE(D)(-ING)
INSUL	INSULATE(D)(-ION)(-ING)
INT	INTERIOR
INV	INVERT
J	
JAN	JANITOR
JT	JOINT
L	
LAM	LAMINATE(D)
LAV	LAVATORY

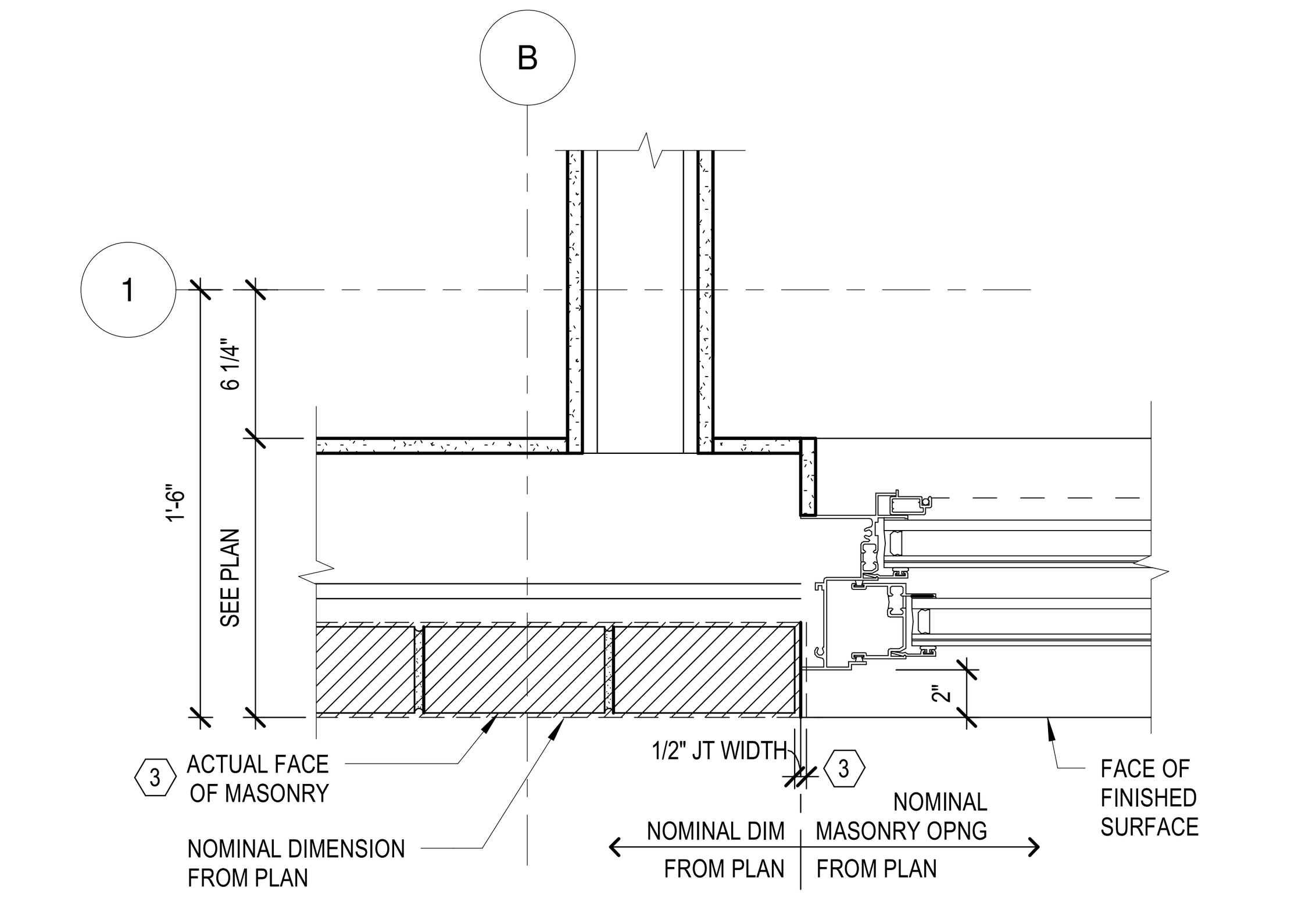
ABBREVIATIONS	
LF	LINEAR FEET
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LT GA	LIGHT GAUGE
LTG	LIGHTING
LVR	LOUVER
M	
MACH	MACHINE
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MKR BD	MARKER BOARD
MLDG	MOULDING
MO	MASONRY OPENING
MR	MOISTURE RESISTANT
MTL	METAL
MULL	MULLION
N	
NA	NOT APPLICABLE
NAT	NATURAL
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NTS	NOT TO SCALE
O	
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
P	
PBD	PARTICLE BOARD
PCT	PORCELAIN CERAMIC TILE
PERIM	PERIMETER
PL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PNT	PAINT
PNTD	PAINTED
PR	PAIR
PREFAB	PREFABRICAT(D)
PT	PRESSURE TREATED
PTD	PAPER TOWER DISPENSER
PTN	PARTITION
PVC	POLYVINYL CHLORIDE (PLASTIC)
PVG	PAVING
Q	
QT	QUARRY TILE
QTY	QUANTITY
R	
R	RADIUS/RISER
RB	RESILIENT BASE
RBR	RUBBER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFRIDGERATOR
REINF	REINFORCE(D)
REQ'D	REQUIRED
RESIL	RESILIENT
RESIL C	RESILIENT CHANNEL
RET	RETURN
REV	REVISION
RM	ROOM
RO	ROUGH OPENING

ABBREVIATIONS	
S	
SC	SOLID CORE
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SLNT	SEALANT
SND	SANITARY NAPKIN DISPENSER
SNDU	SANITARY NAPKIN DISPOSAL UNIT
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SQ	SQUARE
SSM	SOLID SURFACE MATERIAL
SST	STAINLESS STEEL
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STL JST	STEEL JOIST
STL LNTL	STEEL LINTEL
STL PLATE	STEEL PLATE
STN	STONE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SV	SHEET VINYL
SVT	SHEET VINYL FLOORING
SYMM	SYMMETRICAL
T	
T	TREAD
T&G	TONGUE AND GROOVE
TEL	TELEPHONE
TEMP	TEMPERATURE
TER	TERRAZZO
TERM	TERMINAL
THK	THICKNESS
THRES	THRESHOLD
TK BD	TACKBOARD
TMPD	TEMPERED
TO	TOP OF
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSOM, TRANSPARENT
TYP	TYPICAL
U	
UC	UNDERCUT
UL	UNDERWRITER'S LABATORY (TEST)
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
V	
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VNR	VENEER
VP	VENEER PLASTER
VR	VAPOR RETARDER
VT	VINYL TILE
VWC	VINYL WALLCOVERING
W	
W	WIDE
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WDWT	WINDOW TREATMENT
WGL	WIRED GLASS
WP	WATERPROOFING
WPT	WORKPOINT
WS	WEATHERSTRIP
WWF	WELDED WIRE FABRIC

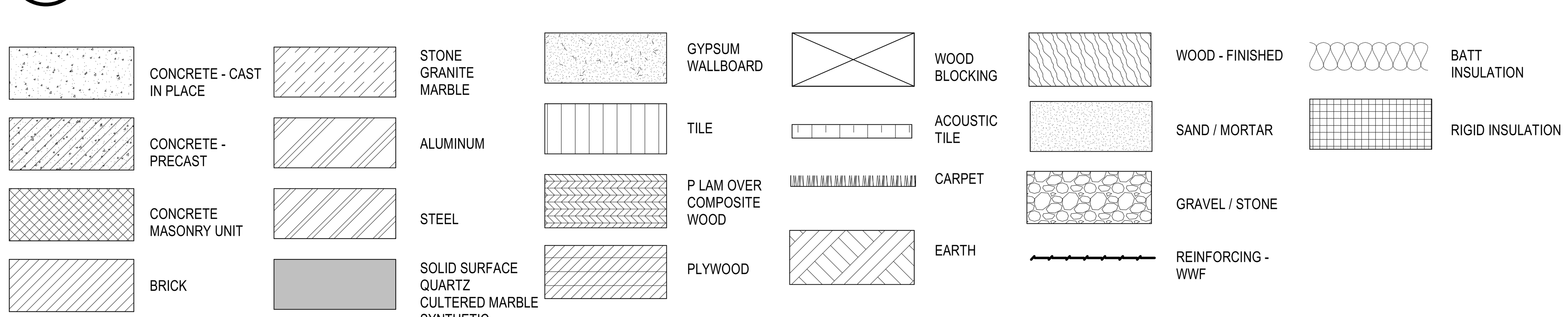


C5 GRAPHIC KEY
SCALE: NO SCALE

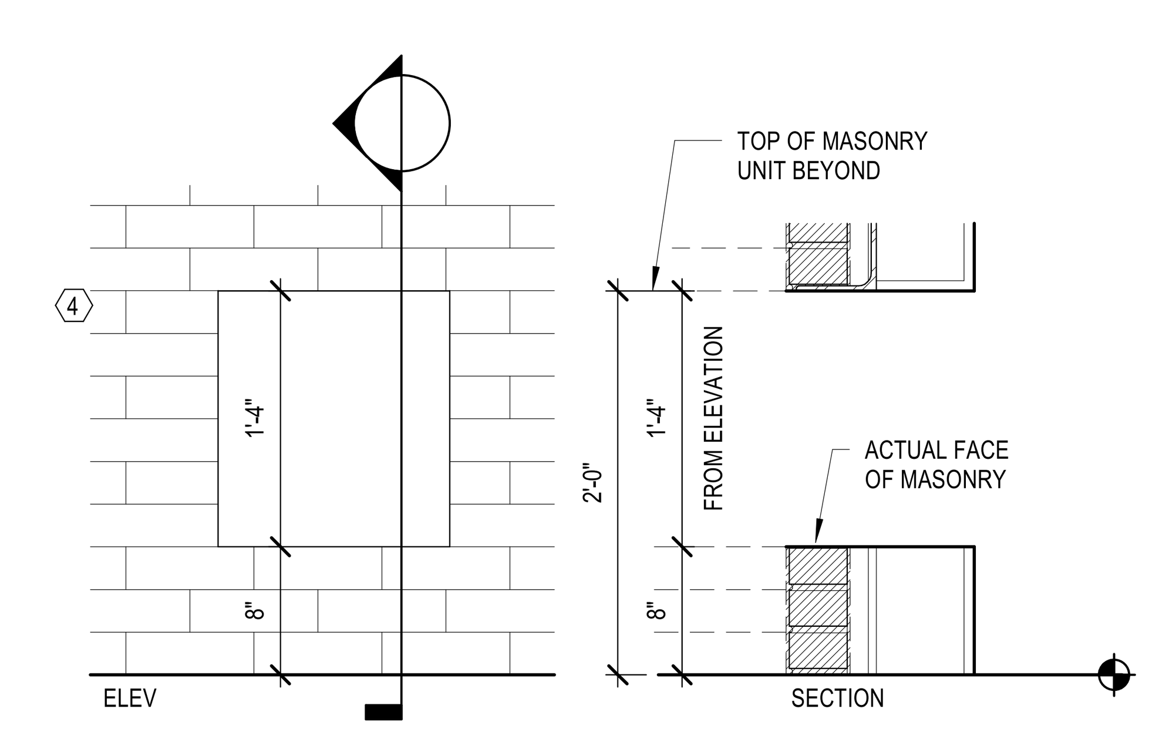
DIMENSIONING LEGEND NOTES	
1	MASONRY PLAN DIMENSIONS AT SCALES NOT SHOWING INDIVIDUAL MODULES ARE TO NOMINAL FACE OF MASONRY
2	NON MASONRY DIMENSIONS ARE TO FINISHED FACE OF MATERIAL UNLESS NOTED OTHERWISE
3	MASONRY ON DRAWINGS SHOWN WITH INDIVIDUAL MODULAR UNITS ARE DRAWN TO ACTUAL SIZE, AND WHERE SHOWN INCLUDE MODULAR DIMENSIONS REFERENCE LINES.
4	MASONRY COURSING LINES IN ELEVATON REPRESENT NOMINAL DIMENSIONS. VERTICAL JOINTS ARE DIMENSIONED TO CENTERLINE OF JOINT. HORIZONTAL JOINTS ARE DIMENSIONED TO TOP OF MASONRY IN ELEVATION AND IN SECTION.
5	DIMENSIONS ARE FROM STRUCTURAL COLUMN CENTERLINES, UNO.
6	AT INTERSECTION OF DIFFERENT PARTITION TYPES, CONTINUE PARTITION OF GREATER FIRE RATING THROUGH INTERSECTION UNO.
7	REFER TO PARTITION SCHEDULE FOR PARTITION THICKNESS AND HEIGHT.
8	NON-ARCHITECTURAL DISCIPLINE INFORMATION IF SHOWN IS FOR REFERENCE ONLY. OBJECTS AND INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. REFER TO APPROPRIATE DISCIPLINE FOR INFORMATION.
9	REFER TO WORKPOINTS WHERE SHOWN FOR ELEMENTS PLACED ON NON-PARALLEL OR NON-PARALLEL RELATIONSHIPS. WORKPOINTS MAY ALSO BE SHOWN AS LAYOUT STARTING POINTS IN ORDER TO MAINTAIN CORRECT RELATIONSHIPS BETWEEN ELEMENTS.
GENERAL	DIMENSIONS, PARTITIONS TYPES AND OTHER SPECIFIC INFORMATION IN THE GUIDE DRAWINGS ARE EXAMPLES FOR ILLUSTRATIVE PURPOSES AND DO NOT REPRESENT ACTUAL INFORMATION FOR CONSTRUCTION OF A PARTICULAR PROJECT.



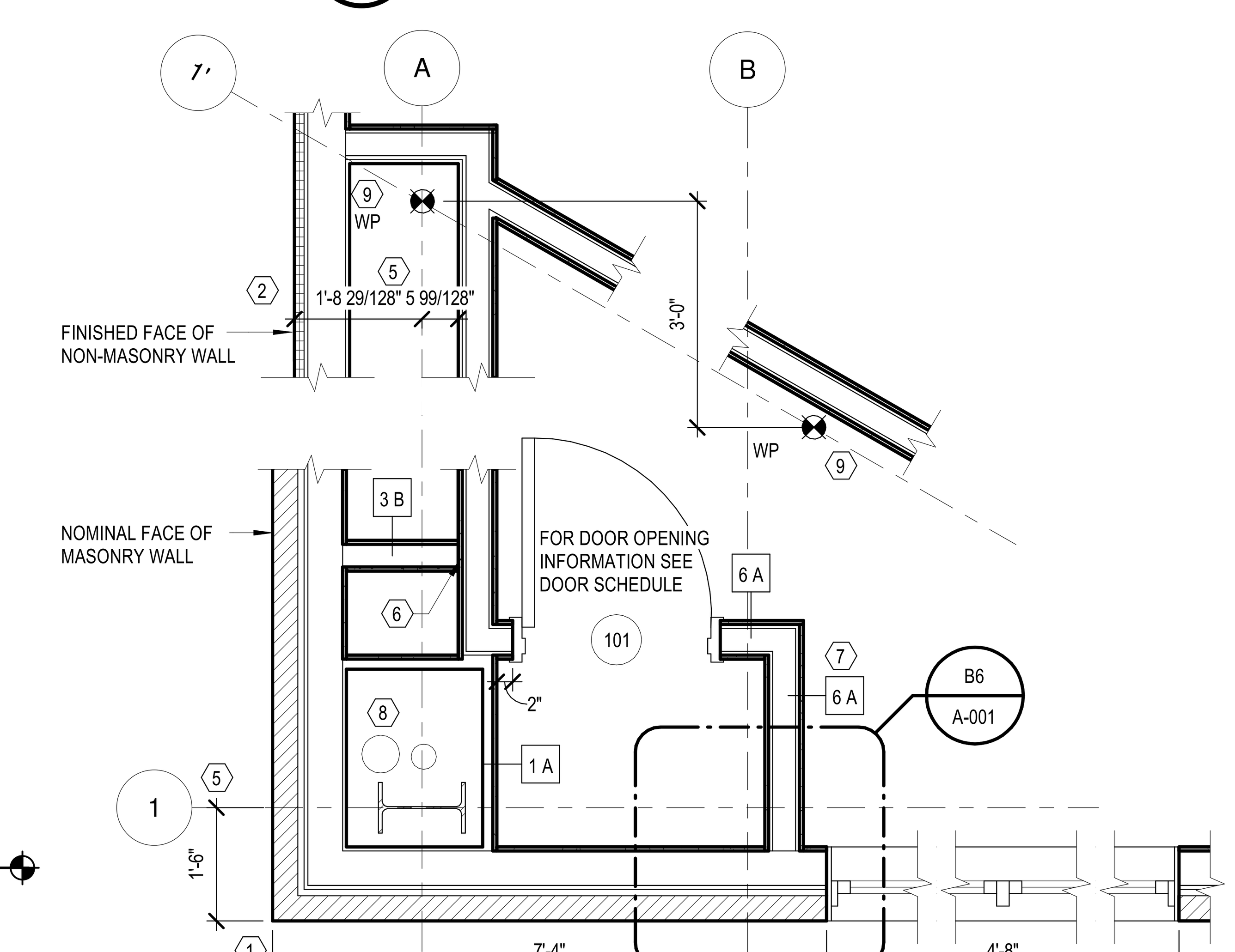
C8 DIMENSIONING GUIDE DETAIL
SCALE: NO SCALE



A1 MATERIALS LEGEND
SCALE: NO SCALE



A6 DIMENSIONING GUIDE ELEV/SECTION
SCALE: NO SCALE



A8 DIMENSIONING GUIDE PLAN
SCALE: NO SCALE

MARK	DESCRIPTION	DATE

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006
DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
SIZE: ANSI D

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 500
SYRACUSE, NY 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

GENERAL INFORMATION

SHEET
A-001

STATE OF NEW YORK

RTA SUBMISSION

PHASING NOTES:

WORK MAY BE PERFORMED DURING REGULAR BUSINESS HOURS (0800-1700) UNLESS STATED OTHERWISE. WORK MUST BE PERFORMED IN PHASES AS INDICATED ON THE DRAWINGS. THE BUILDING WILL BE OCCUPIED DURING CONSTRUCTION.

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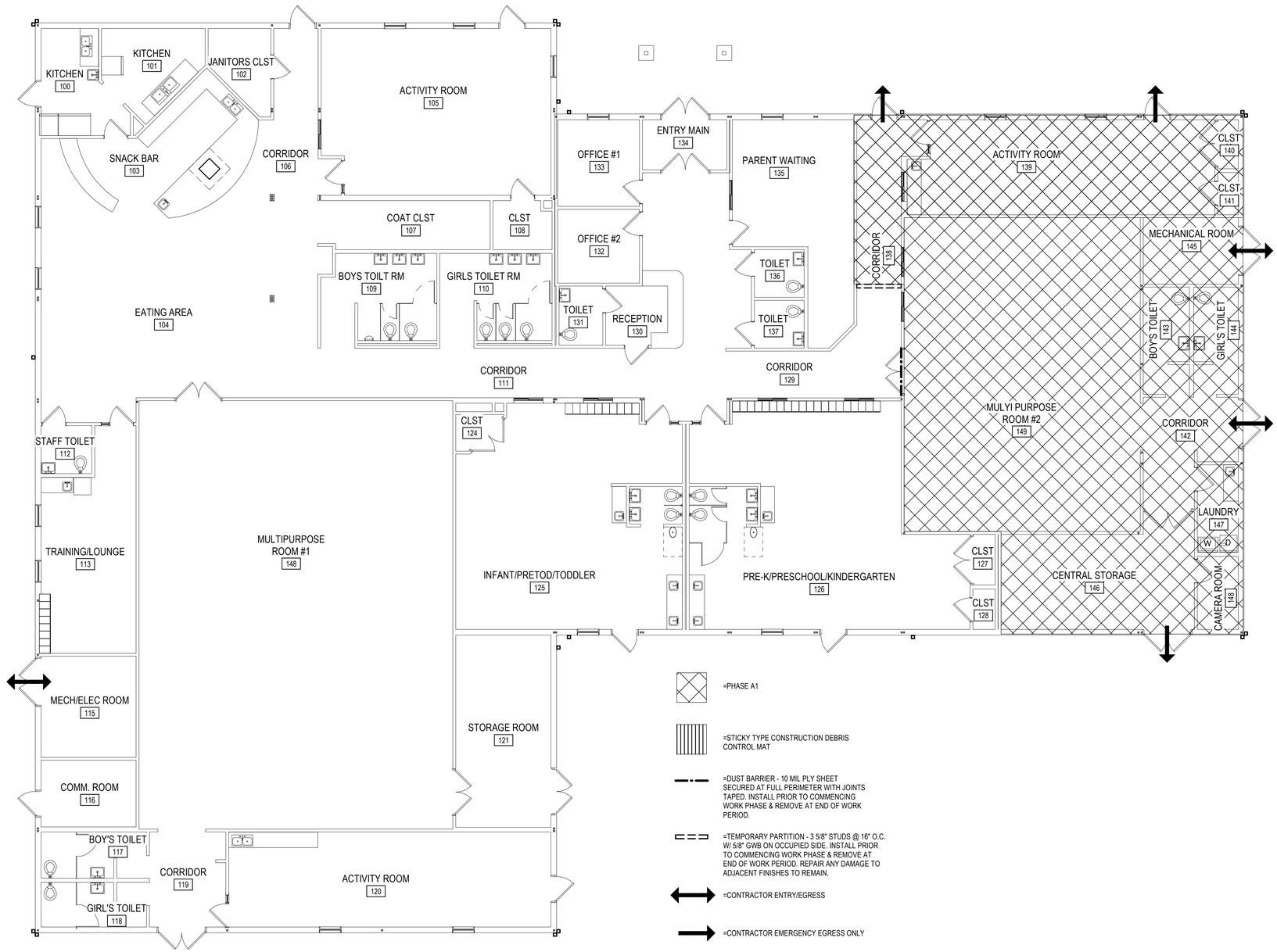
E1 PHASING NOTES

SCALE: NO SCALE



A3 PHASING PLAN-PHASE A1

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

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006
SIZE: ANSI D

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 500
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

PHASING PLAN - A1

SHEET
A-002

RTA SUBMISSION

PHASING NOTES:

WORK MAY BE PERFORMED DURING REGULAR BUSINESS HOURS (0800-1700) UNLESS STATED OTHERWISE. WORK MUST BE PERFORMED IN PHASES AS INDICATED ON THE DRAWINGS. THE BUILDING WILL BE OCCUPIED DURING CONSTRUCTION.

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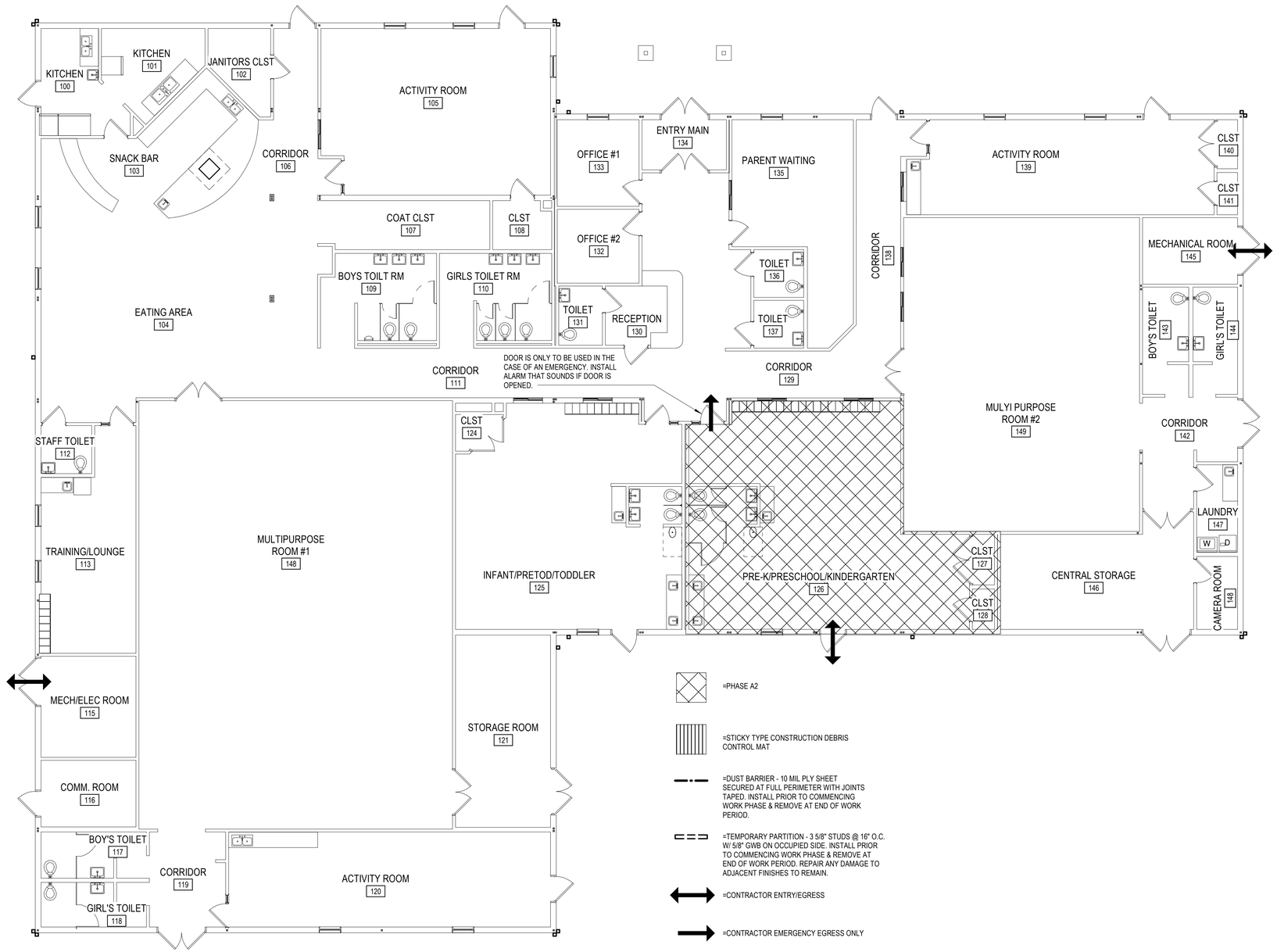
E1 PHASING NOTES

SCALE: NO SCALE



A3 PHASING PLAN-PHASE A2

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

1/8" = 1'-0"
0' 4' 8' 16'

NORTH

REGISTERED ARCHITECT 053055 STATE OF NEW YORK

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
SIZE: ANSI D

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

PHASING PLAN - A2

SHEET
A-003

RTA SUBMISSION

PHASING NOTES:

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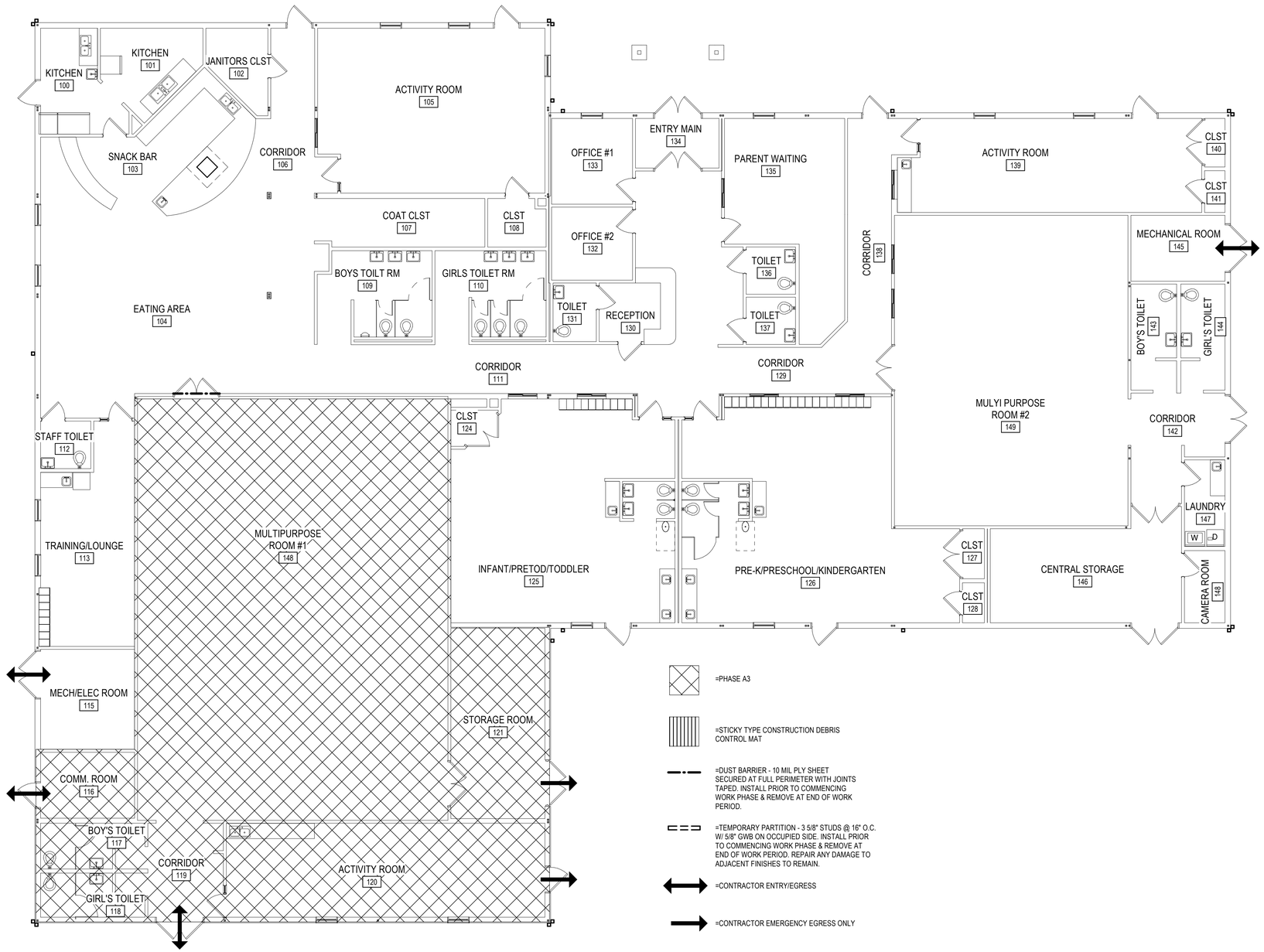
E1 PHASING NOTES

SCALE: NO SCALE



A3 PHASING PLAN-PHASE A3

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

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

REGISTERED ARCHITECT 030055 STATE OF NEW YORK

RTA SUBMISSION

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

PHASING PLAN - A3

SHEET

A-004

PHASING NOTES:

WORK MAY BE PERFORMED DURING REGULAR BUSINESS HOURS (0800-1700) UNLESS STATED OTHERWISE. WORK MUST BE PERFORMED IN PHASES AS INDICATED ON THE DRAWINGS. THE BUILDING WILL BE OCCUPIED DURING CONSTRUCTION.

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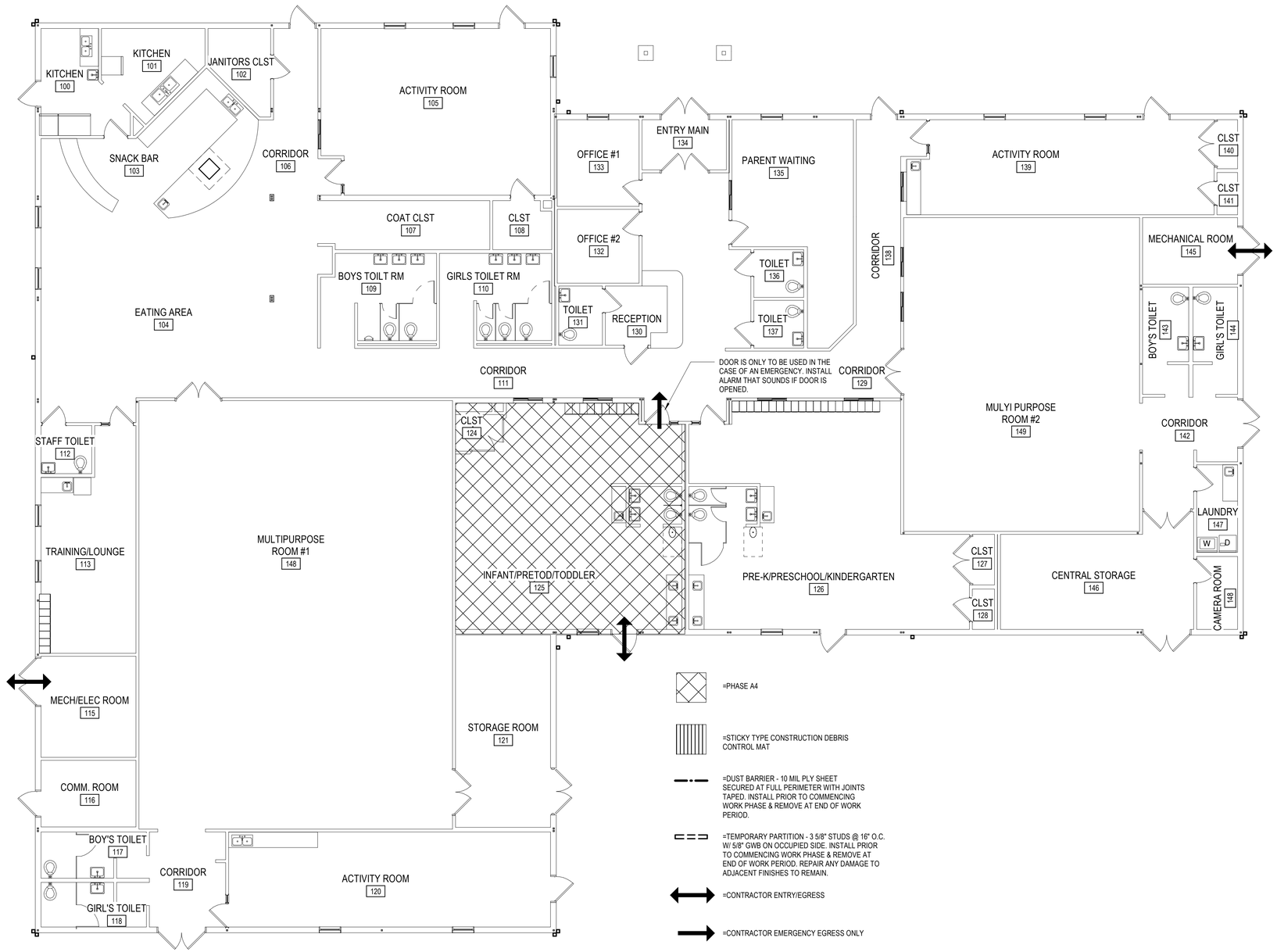
E1 PHASING NOTES

SCALE: NO SCALE



A3 PHASING PLAN-PHASE A4

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

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

PHASING PLAN - A4

SHEET

A-005

RTA SUBMISSION

PHASING NOTES:

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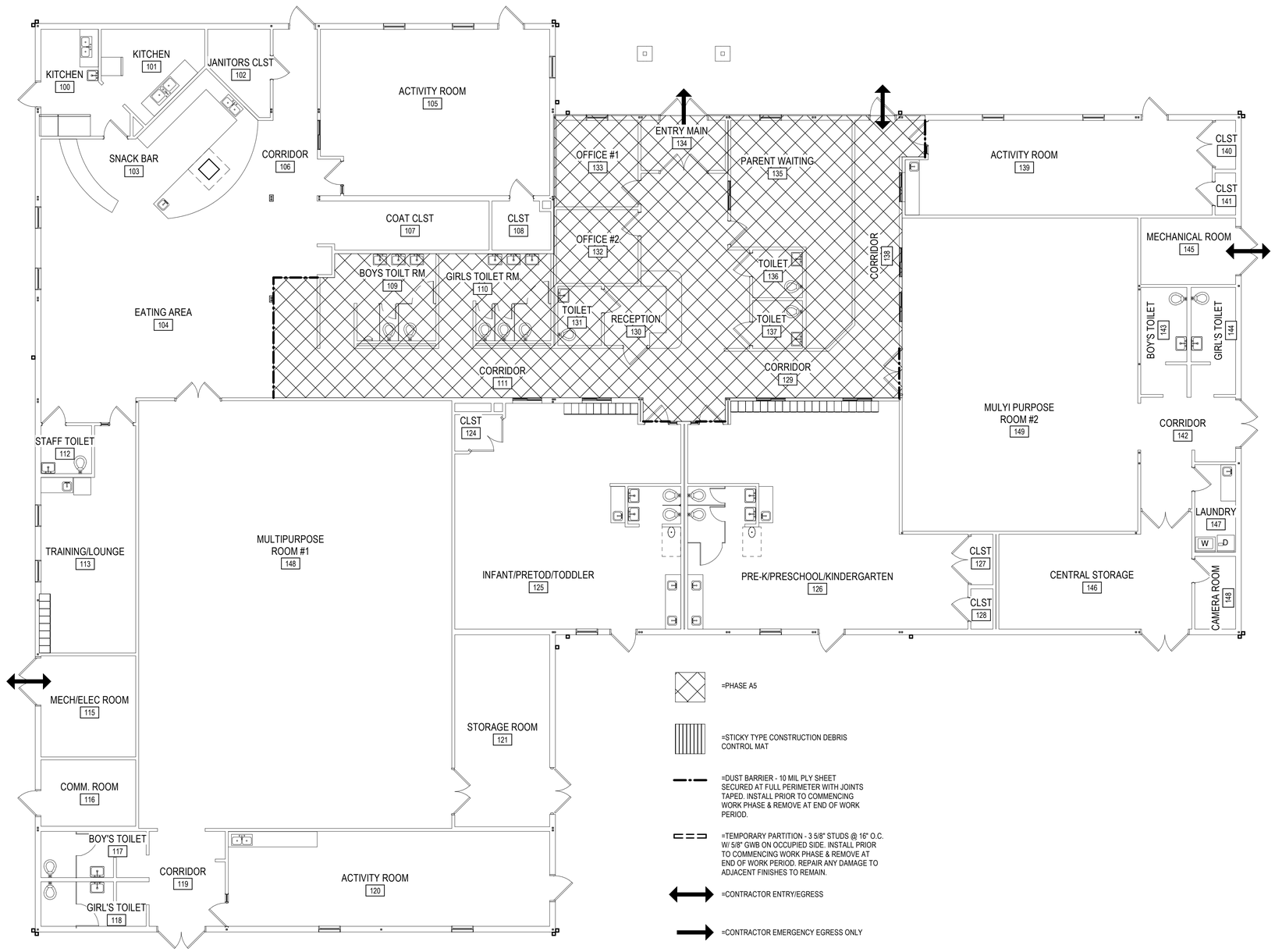
E1 PHASING NOTES

SCALE: NO SCALE



A3 PHASING PLAN-PHASE A5

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

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

QPK DESIGN
455 SOUTH SALINA STREET, SUITE 500
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

PHASING PLAN - A5

SHEET
A-006

RTA SUBMISSION

PHASING NOTES:

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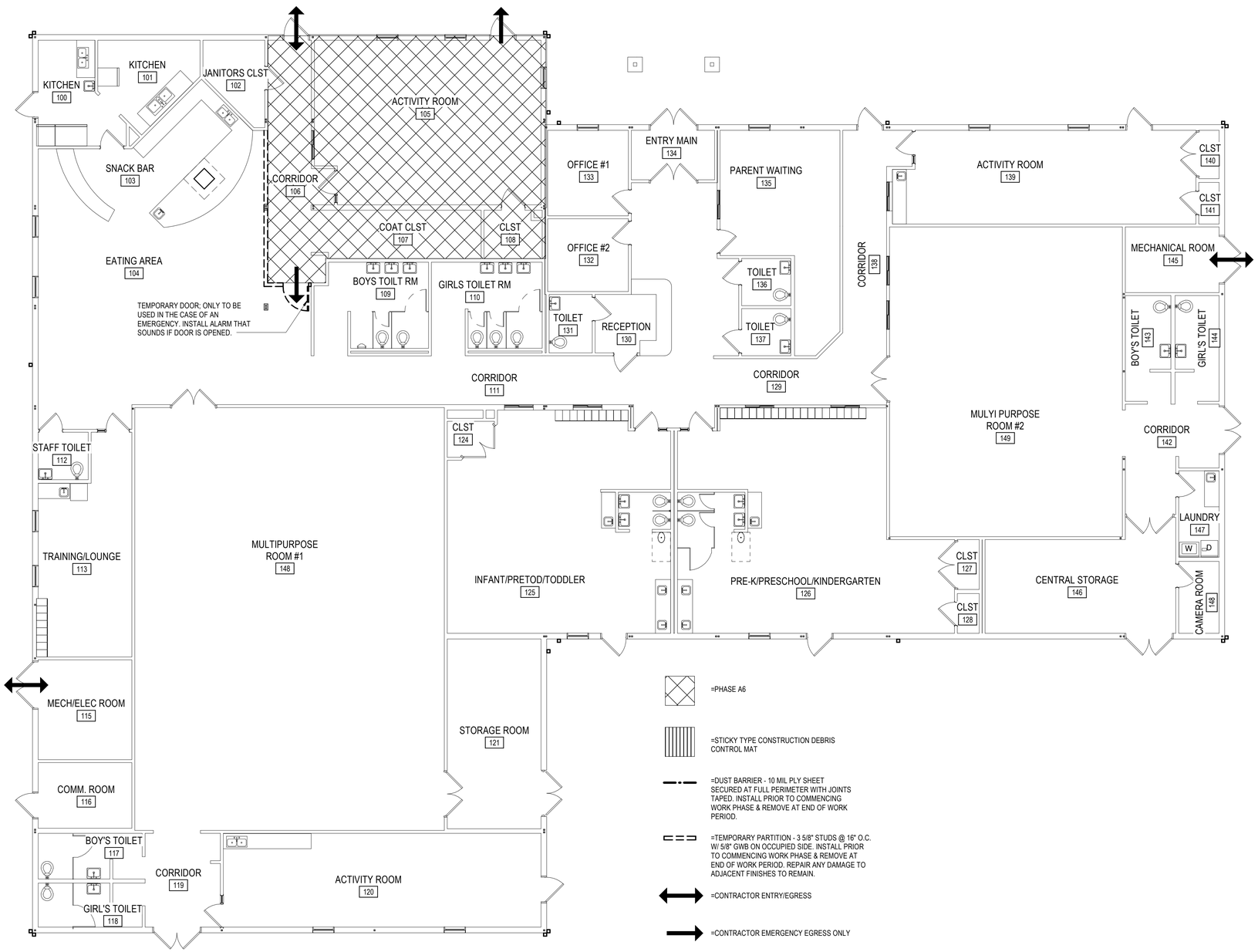
E1 PHASING NOTES

SCALE: NO SCALE



A3 PHASING PLAN-PHASE A6

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

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006
SIZE: ANSI D

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 500
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

PHASING PLAN - A6

SHEET
A-007

RTA SUBMISSION

PHASING NOTES:

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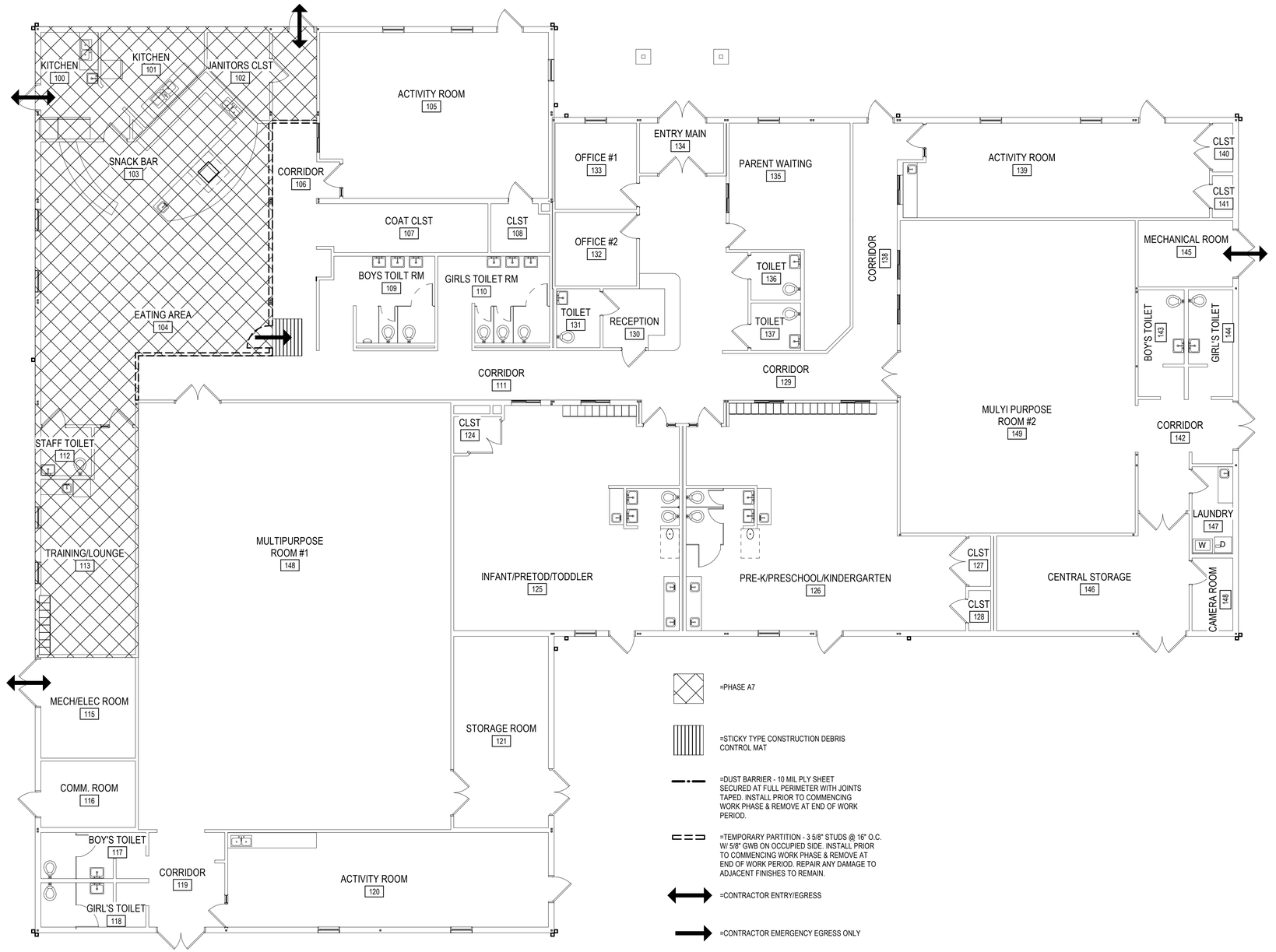
E1 PHASING NOTES

SCALE: NO SCALE



A3 PHASING PLAN-PHASE A7

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

1/8" = 1'-0"
0' 4' 8' 16'

NORTH

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
DRAWN BY: AE
CHECKED BY: MK
SUBMITTED BY:
SIZE: ANSI D

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 500
SYRACUSE NY, 13201

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER; BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

PHASING PLAN - A7

SHEET
A-008

RTA SUBMISSION

SUSPENDED ACOUSTIC CEILING TO REMAIN (2'X2')

SUSPENDED ACOUSTIC CEILING TO BE REMOVED (2'X2')

G1 RCP LEGEND

SCALE: NO SCALE

KEYED NOTES-DEMOLITION	
NUMBER	COMMENT
R1	REMOVE ACOUSTICAL CEILING PANEL, ASSOCIATED GRID, GWB SOFFITS, AND SUPPORT HANGER. PATCH AND REPAIR ANY DAMAGE ASSOCIATED WITH REMOVAL AT EXISTING WALLS TO REMAIN. PREPARE WALLS TO RECEIVE NEW FINISH WORK AT EXISTING WALLS TO REMAIN. SALVAGE CEILING PANELS FOR REINSTALLATION. DISPOSE OF CEILING GRID. LEAVE EDGE ANGLES AND LIGHT FIXTURES IN PLACE. SEE ELECTRICAL DRAWINGS.
R2	REMOVE VINYL FACED GWB PANELS, ASSOCIATED GRID, GWB SOFFITS, AND SUPPORT HANGER. PATCH AND REPAIR ANY DAMAGE ASSOCIATED WITH REMOVAL AT EXISTING WALLS TO REMAIN. PREPARE WALLS TO RECIEVE NEW FINISH WORK AT EXISTING WALLS TO REMAIN. SALVAGE CEILING PANELS FOR REINSTALLATION. DISPOSE OF CEILING GRID. LEAVE EDGE ANGLES AND LIGHT FIXTURES IN PLACE. SEE ELECTRICAL DRAWINGS.
R3	REMOVE GWB CEILING, GWB SOFFITS, SUPPORTS, AND LIGHT FIXTURES. PATCH AND REPAIR ANY DAMAGE ASSOCIATED WITH REMOVAL AT EXISTING WALLS TO REMAIN. PREPARE WALLS TO RECIEVE NEW FINISH WORK AT EXISTING WALLS TO REMAIN. SALVAGE LIGHTING FIXTURES FOR REINSTALLATION. SEE ELECTRICAL DRAWINGS.
R4	REMOVE GUTTER, GUTTER BRACES, DOWNSPOUTS, AND ASSOCIATED FASTENERS.

A3 REFLECTED CEILING PLAN - DEMO

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

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

MARK	DESCRIPTION	DATE

DESIGNED BY: Designer
DRAWN BY: AE
CHECKED BY: SH
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

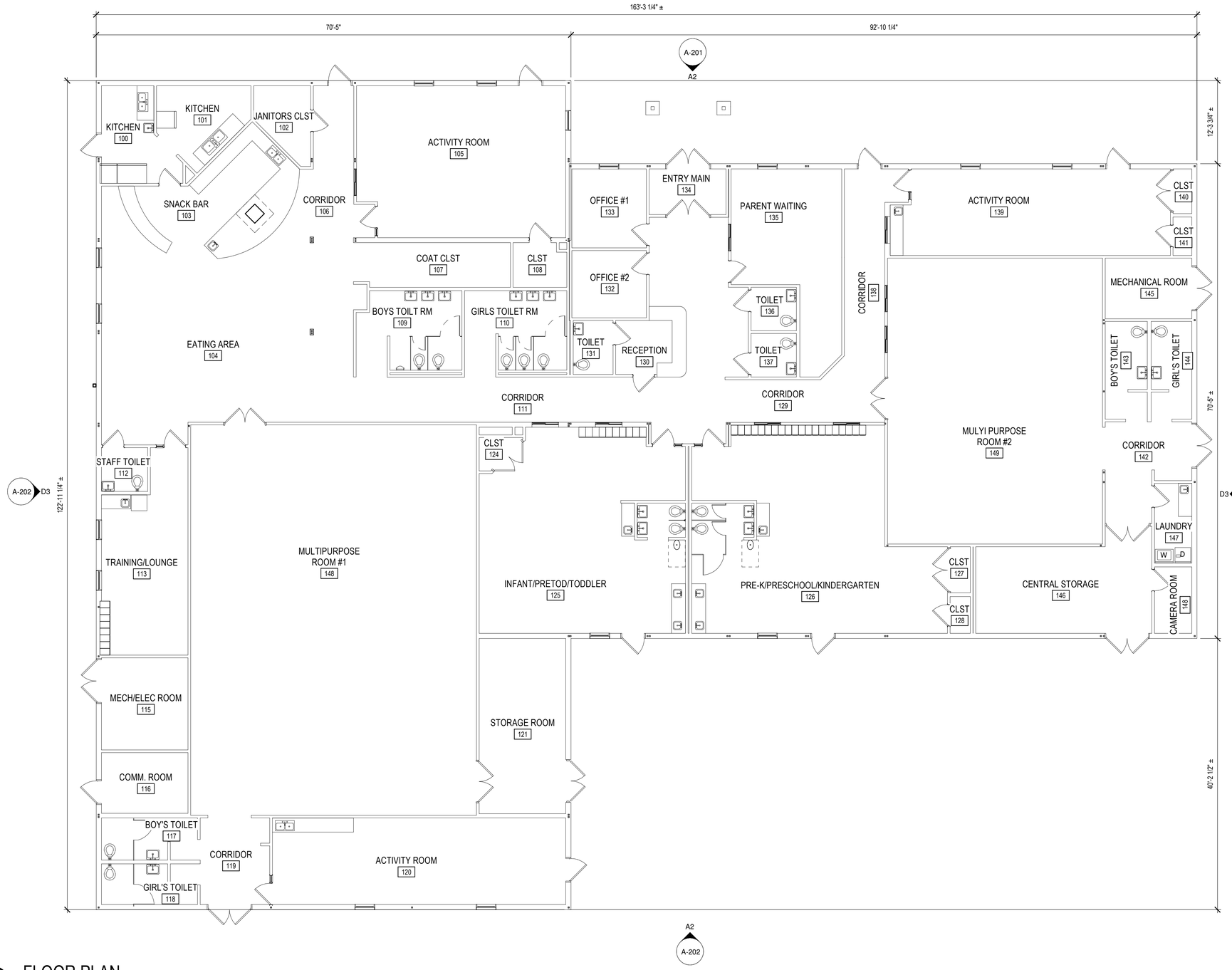
QPK DESIGN
459 SOUTH SALINA STREET, 5TH FLOOR
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

REFLECTED CEILING PLAN - DEMOLITION

SHEET
AD-101

RTA SUBMISSION



A3 FLOOR PLAN

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

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

RTA SUBMISSION

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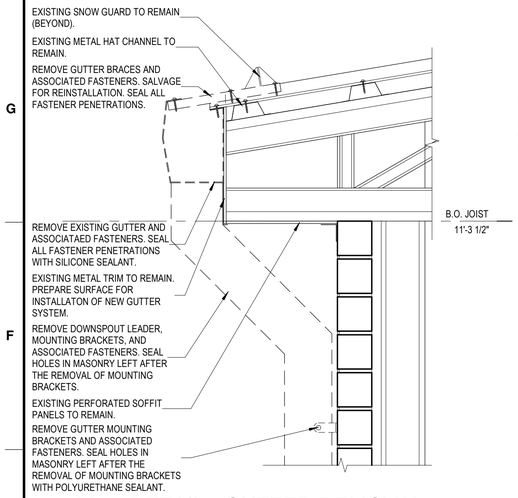
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

QPK DESIGN
455 SOUTH SALINA STREET, SUITE 300
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

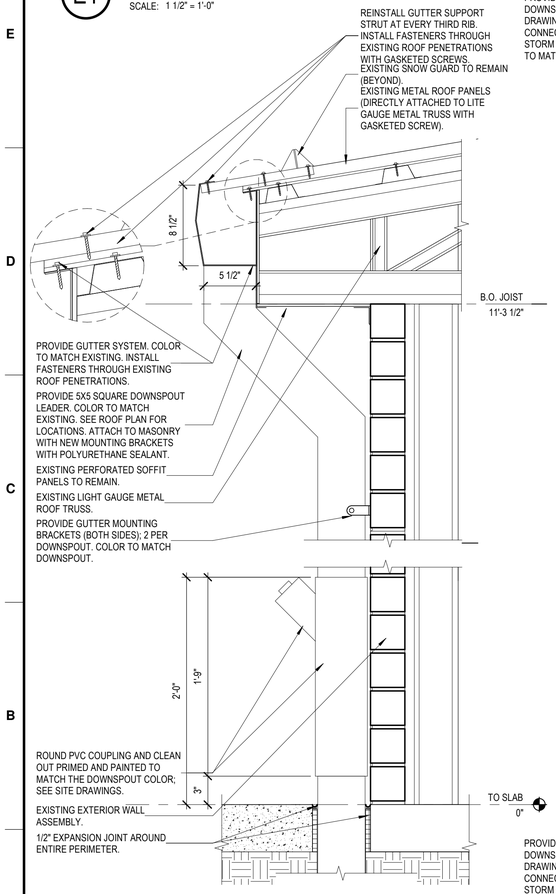
FLOOR PLAN

SHEET
A-101



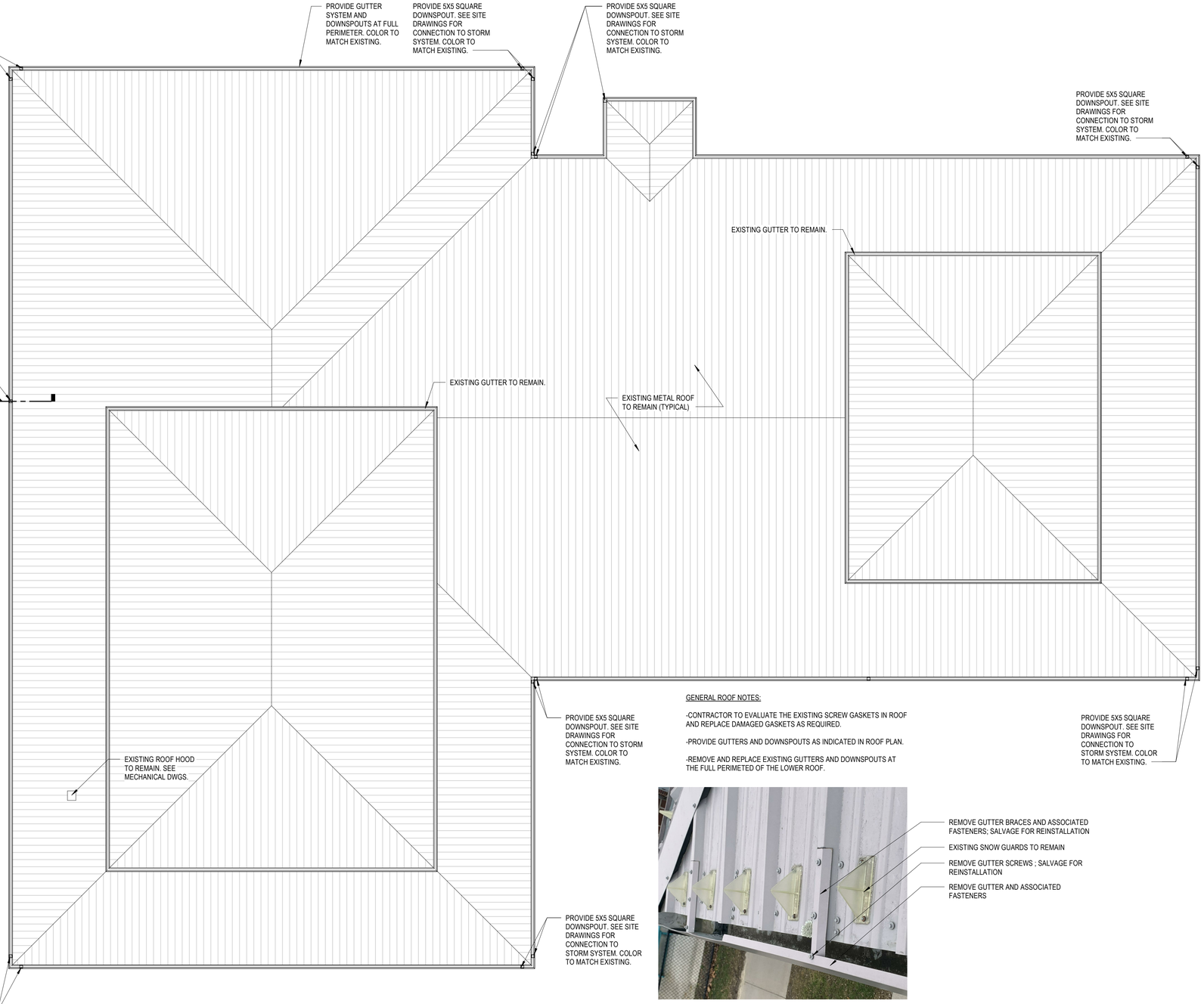
E1 DETAIL - GUTTER REMOVAL

SCALE: 1 1/2" = 1'-0"



A1 DETAIL - NEW GUTTER

SCALE: 1 1/2" = 1'-0"



A3 ROOF PLAN

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

GENERAL ROOF NOTES:

-CONTRACTOR TO EVALUATE THE EXISTING SCREW GASKETS IN ROOF AND REPLACE DAMAGED GASKETS AS REQUIRED.

-PROVIDE GUTTERS AND DOWNSPOUTS AS INDICATED IN ROOF PLAN.

-REMOVE AND REPLACE EXISTING GUTTERS AND DOWNSPOUTS AT THE FULL PERIMETED OF THE LOWER ROOF.

A7 GUTTER CONNECTION PHOTO

SCALE: NO SCALE

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

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SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 500
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

ROOF PLAN

SHEET
A-102

RTA SUBMISSION

GRAPHIC SYMBOLS

LAYOUT INSTRUCTIONS

LINEAR DROP LIGHT FIXTURE

RECESS MOUNT LIGHT FIXTURE

SURFACE MOUNT LIGHT FIXTURE

CAN LIGHT FIXTURE

LINEAR RETURN REGISTER

LINEAR SUPPLY DIFFUSER

RETURN REGISTER GRILLE

SUPPLY DIFFUSER GRILLE

GWB

SUSPENDED ACOUSTIC CEILING (2'X2')

EQ = EQUAL SPACES (IN ROOM)

START GRID AT THIS WALL

GRID IN ROOM WITH ARROW ALIGNS WITH GRID IN ROOM WITH DOT

FINISH
604
AT 10' - 0" AFF
CEILING HEIGHT

CEILING TAG

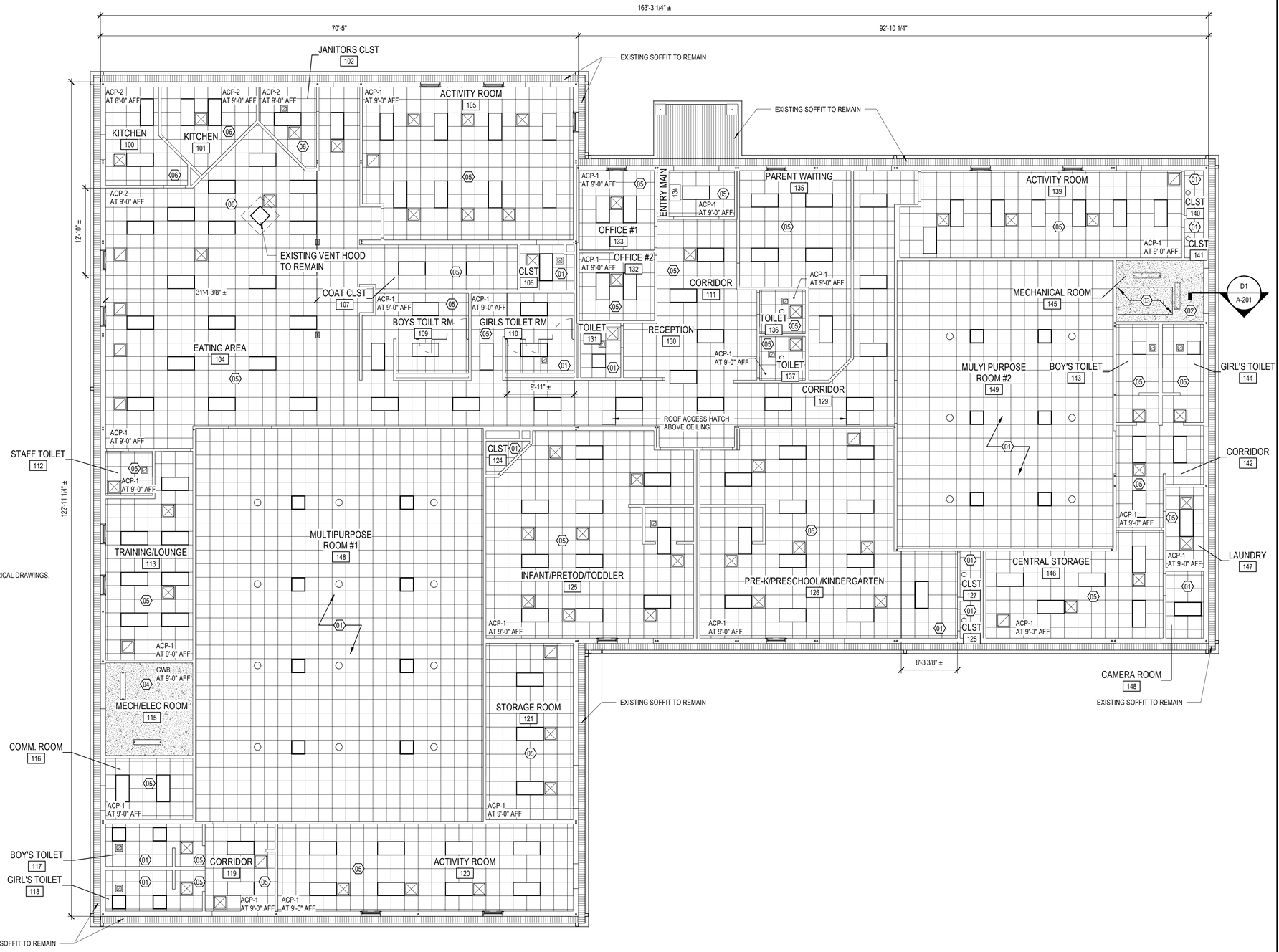
E1 RCP LEGEND

SCALE: NO SCALE

KEYED NOTES-RCP	
NUMBER	COMMENT
01	EXISTING ACOUSTICAL CEILING PANEL, ASSOCIATED GRID, GWB SOFFITS, SUPPORT HANGERS, AND LIGHT FIXTURES TO REMAIN.
02	EXISTING GWB CEILING, GWB SOFFITS, SUPPORT HANGERS, AND LIGHT FIXTURES TO REMAIN.
03	INFILL GWB CEILING AS REQUIRED. PAINT CEILING IN ITS ENTIRETY
04	INSTALL NEW STUD SUPPORTS AND GWB CEILING AND REINSTALL SALVAGED LIGHT FIXTURES. PAINT CEILING IN ITS ENTIRETY.
05	REINSTALL SALVAGED ACOUSTICAL CEILING PANELS. REPLACE DAMAGED CEILING PANELS BASED ON UNIT COST. PROVIDE NEW CEILING GRID; ACP-1
06	REINSTALL SALVAGED VINYL FACED GWB PANELS. REPLACE DAMAGED CEILING PANELS BASED ON UNIT COST. PROVIDE NEW CEILING GRID; ACP-2

GENERAL RCP NOTES:

1) LIGHT FIXTURES TO BE MAINTAINED IN EXISTING LOCATIONS THROGHOUT CONSTRUCTION; SEE ELECTRICAL DRAWINGS.



A3 REFLECTED CEILING PLAN - NEW

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

NORTH

1/8" = 1'-0"
0' 4' 8' 16'

RTA SUBMISSION

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SUBMITTED BY:
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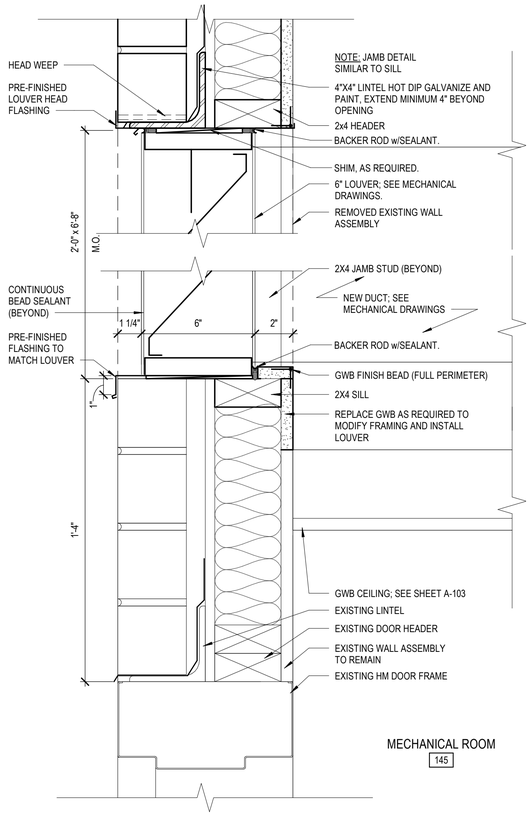
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

QPK DESIGN
400 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

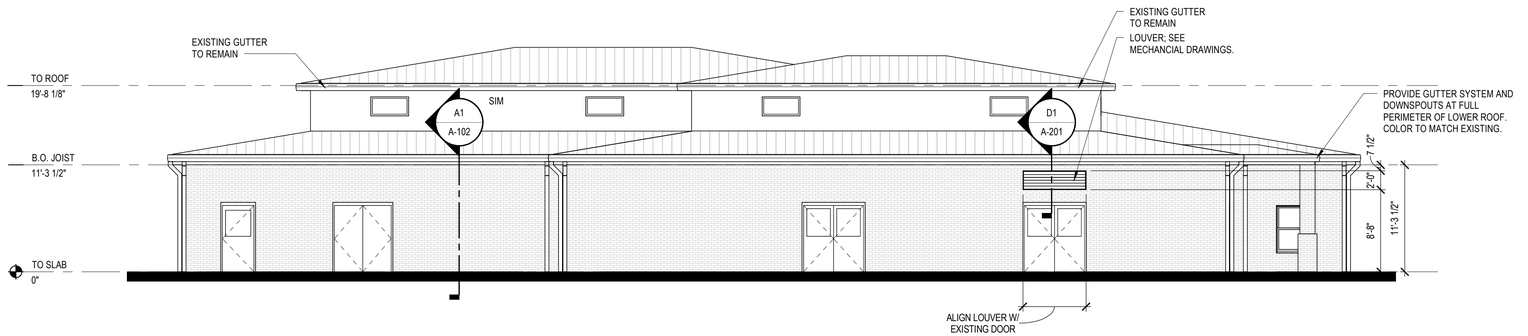
REFLECTED CEILING PLAN

SHEET
A-103



D1 DETAIL - EXTERIOR LOUVER

SCALE: 3" = 1'-0"



D3 BUILDING ELEVATION-EAST

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

A2 BUILDING ELEVATION-NORTH

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

1/8" = 1'-0"
0' 4' 8' 16'

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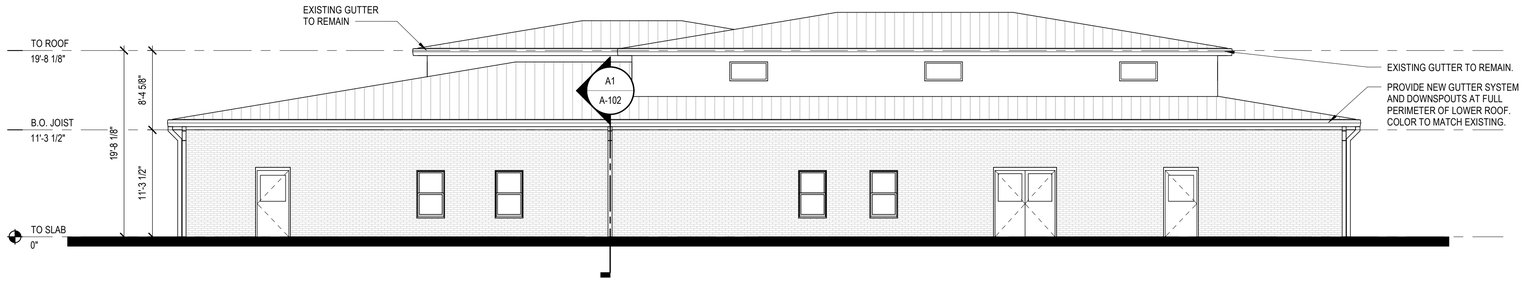
QPK DESIGN
455 SOUTH SALINA STREET, SUITE 300
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

BUILDING ELEVATIONS

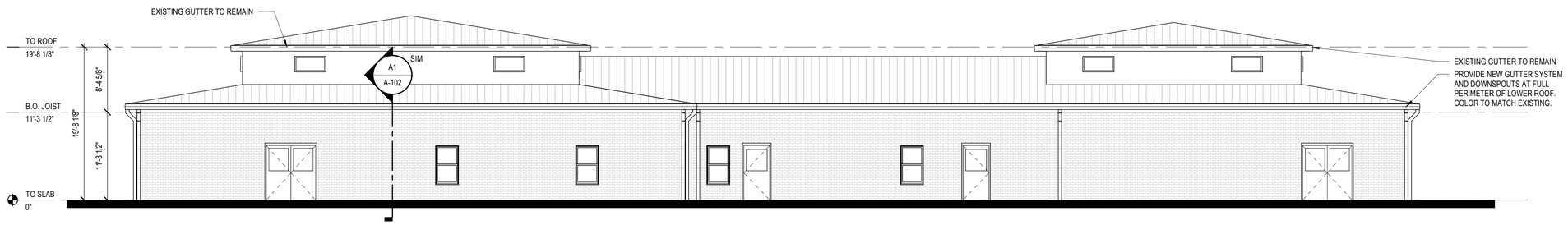
SHEET
A-201

RTA SUBMISSION



D3 BUILDING ELEVATION-WEST

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



A2 BUILDING ELEVATION-SOUTH

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

1/8" = 1'-0"
0' 4' 8' 16'

MARK	DESCRIPTION	DATE

DESIGNED BY: SH
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CHECKED BY: MK
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

QPK DESIGN
450 SOUTH SALINA STREET, SUITE 600
SYRACUSE NY, 13201

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER, BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
W911SD21D0006

BUILDING ELEVATIONS

SHEET
A-202

RTA SUBMISSION

ABBREVIATIONS

A, AMP	AMPERES
AFF	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
CKT, CCT	CIRCUIT
E.C.	ELECTRICAL CONTRACTOR
EM	EMERGENCY
(E)	EXISTING TO REMAIN
GRD,GND,G	GROUND
GFI	GROUND FAULT INTERRUPT
(N)	NEW
P	POLE
PNL	PANEL
(R)	REMOVED
(TYP.)	RELOCATED
U.O.N.	UNLESS OTHERWISE NOTED

FIRE ALARM AND DETECTION

FACP	FIRE ALARM CONTROL PANEL
?D	DUCT SMOKE DETECTOR
?	CEILING MOUNTED SMOKE DETECTOR
# F	WALL MOUNTED COMBINATION AUDIBLE/VISUAL NOTIFICATION APPLIANCE. (#=UL1971 CANDELA RATING, 15 CD IF NOT SHOWN)
F	MANUAL PULL STATION

FIRE ALARM CIRCUIT CLASS AND STYLE

ALL FIRE ALARM CIRCUITS SHALL BE WIRED NFPA CLASS B WITH THE EXCEPTION OF THE NETWORK CIRCUIT WHICH SHALL BE NFPA CLASS X. ALL AUDIBLE AND VISUAL CIRCUITS SHALL BE CLASS B AND NYC SPLIT A/B. SPLIT A/B CIRCUITS SHALL BE WIRED SO THAT EVERY OTHER DEVICE IS WIRED ON AN ALTERNATE CIRCUIT. ALL FIRE ALARM SPEAKER CIRCUIT WIRING FOR ONE-WAY VOICE IN R2 APARTMENT BUILDINGS SHALL BE WIRED NFPA CLASS A.

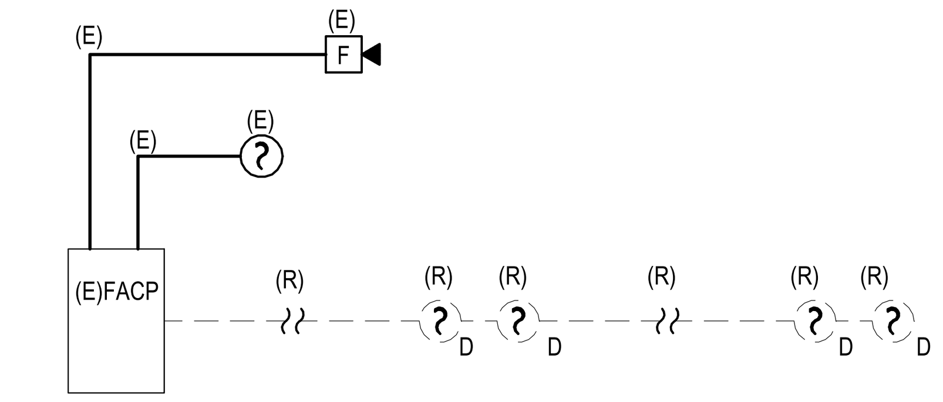
GENERAL FIRE ALARM NOTES

1. ALL EXISTING FIRE ALARM DEVICES AND BASE BUILDING FIRE ALARM SPEAKERS SHALL BE EXISTING TO REMAIN U.O.N. MAINTAIN CONTINUITY AND FUNCTIONALITY OF DEVICES. PROVIDE PROPER PROTECTION AND SUPPORT FOR ALL FIRE ALARM DEVICES DURING CONSTRUCTION. IF DEVICES REMOVED DURING DEMOLITION OR CONSTRUCTION, THEY MUST BE COMPLETELY FUNCTIONAL PRIOR TO TENANT OCCUPANCY.
2. WHERE DEMOLITION IS TO TAKE PLACE IN THE AREA OF THE BUILDING FIRE SAFETY EQUIPMENT SUCH AS STROBES, SPEAKERS, SMOKE DETECTORS, FIRE WARDEN STATIONS, ETC., THE BUILDING ENGINEERING DEPARTMENT MUST BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO START OF DEMOLITION, SO THAT EQUIPMENT MAY BE PROTECTED OR REMOVED (BY CONTRACTOR IF NECESSARY).
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WORK WITH BUILDING AND RETAIN FIRE ALARM VENDOR; COORDINATE WITH BUILDING ELECTRICAL STAFF.
4. COORDINATE ALL REQUIRED CUTTING, PAINTING AND PATCHING REQUIREMENTS WITH ARCHITECT.
5. ALL NEW FIRE ALARM DEVICES SHALL MATCH EXISTING BASE BUILDING FIRE ALARM DEVICE STANDARDS.
6. NEW FIRE ALARM STROBE DEVICES SHALL BE MINIMUM 15/75 CANDELA PER ADA REQUIREMENTS.
7. NEW FIRE ALARM SPEAKER DEVICES SHALL PROVIDE MINIMUM 15db ABOVE AMBIENT SOUND LEVEL AT ANY POINT OF THE SPACE. FIRE ALARM AUDIBILITY REQUIREMENTS TO BE CONFORMED BY BASE BUILDING FIRE ALARM CONTRACTOR.
8. NEW FIRE ALARM STROBE AND SPEAKER/STROBE SHALL BE WALL OR COLUMN MOUNTED AT A MINIMUM OF 80" AFF OR 6" BELOW CEILING WHICHEVER IS LOWER.
9. ALL EXISTING AND NEW STROBE DEVICES SHALL BE SYNCHRONIZED. IF EXISTING DEVICE IS NOT COMPATIBLE, NEW DEVICE SHALL BE PROVIDED.
10. REFER TO FIRE ALARM SPECIFICATIONS FOR ADDITIONAL INFORMATION.
11. PRIOR TO SUBMITTING BID ELECTRICAL CONTRACTOR SHALL WALK ENTIRE PROJECT SPACE TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE EXISTING CONDITIONS. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE AMOUNT OF WIRING, CONDUITS, ETC THAT REQUIRE PROPER SUPPORT AND PULL/JUNCTION BOXES, REQUIRING COVERS, ETC. FOLLOW NFPA 72 FOR SYSTEM IMPARMENT PROCEDURES.
12. FA WIRING:
    a. FIRE ALARM RISER DIAGRAM WIRING IS DIAGRAMMATIC ONLY.
    b. ELECTRICAL CONTRACTOR SHALL TRACE AND REMOVE ALL ABANDONED EXISTING FIRE ALARM CABLING WITHIN AREA OF WORK, INSTALL NEW FA LOOP(S) PICKING UP COMPONENTS AS REQUIRED. PROVIDE NEW FIRE ALARM CABLING FOR ALL FIRE ALARM DEVICES. ELECTRICAL CONTRACTOR SHALL RETAIN SIEMENS TO DELETE REMOVED ITEMS FROM PROGRAM. REMOVE ALL UNUSED FIRE ALARM WIRING WITHIN AREA OR WORK.
    c. ALL NEW FIRE ALARM WIRING TO BE CONCEALED IN WALL PARTITION, ABOVE ACCESSIBLE OR PLASTER CEILING, OR WITHIN SOFFIT - PROVIDE NEW SOFFIT AS REQUIRED. COORDINATED THIS WORK WITH ARCHITECT AND BASE BUILDING ENGINEERING AND ELECTRICAL STAFF.
    d. PROVIDE CONDUIT, J-BOXES, PULL BOXES, ETC. AS REQUIRED BY CODE. PROVIDE CHASEWAY IN STONE FOR FIRE ALARM DEVICE WIRING. FOR ALL NEW FIRE ALARM WIRING WITHIN ELECTRICAL CLOSETS, MECHANICAL ROOMS, OR WHERE MUST RUN EXPOSED BELOW 8FT AFF PROVIDE RIGID GALVANIZED STEEL CONDUIT (RGS). PROVIDE BUSHING ON ALL CONDUIT TERMINATIONS.
    e. PROPERLY SECURE AND BUNDLE AND PROVIDE SUPPORT FROM BUILDING STRUCTURE IN NEAT AND WORKMANLIKE MANNER FOR ALL NEW AND EXISTING LOW VOLTAGE FIRE ALARM WIRING WITHIN AREA OF WORK AND FOR NEW FA WIRING OUTSIDE AREA OF WORK. PROVIDE TIGHT SUPPORT FROM STRUCTURE TO AVOID DAMAGE AND AS REQUIRED.
    f. FIRESTOP AND FIRE RATED FA CABLING AND CONDUIT PENETRATIONS.

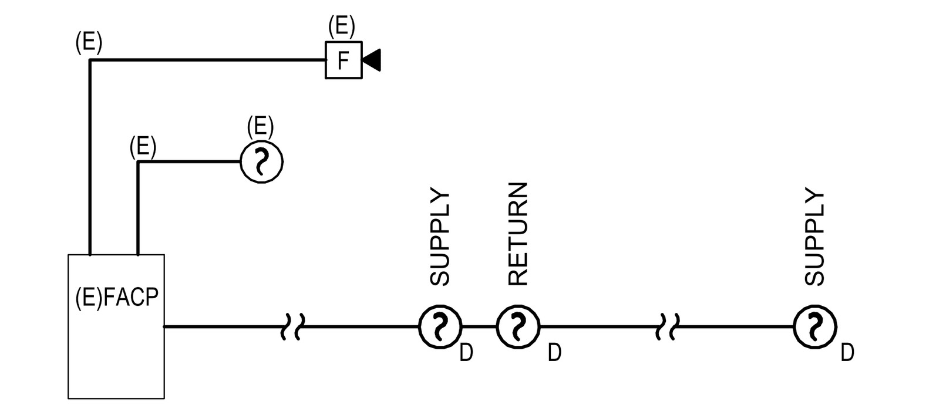
FIRE ALARM RISER DIAGRAM NOTES

1. FOR LOCATIONS AND QUANTITIES OF DEVICES REFER TO FLOOR PLANS AND RISER DIAGRAMS. WHERE THERE ARE DISCREPANCIES BETWEEN THE PLANS AND RISER, THE GREATER QUANTITY SHALL BE USED.
2. DEVICES AND CONNECTIONS SHOWN ARE FOR INFORMATION ONLY. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO FIELD VERIFY THE AS-BUILT CONDITIONS PRIOR TO THE START OF ANY WORK.
3. RE-USE EXISTING END OF LINE RESISTORS AND RECONNECT TO NEW DEVICES. PROVIDE NEW AS REQUIRED.
4. CONTRACTOR SHALL VERIFY ALL WIRING WITH BASE BUILDING FIRE ALARM VENDOR AND OBTAIN WIRING DIAGRAMS BEFORE PROCEEDING WITH THE START OF ANY WORK.
5. DO NOT SPLICE FIRE ALARM CONDUCTORS. IF EXISTING WIRING IS NOT LONG ENOUGH TO REACH NEW LOCATION PULL NEW WIRE OR PROVIDE NEW CONDUIT AND WIRING TO SUIT FIELD CONDITIONS.
6. ALL EQUIPMENT SHALL BE COMPATIBLE WITH BASE BUILDING SYSTEM AND UL LISTED AND IN COMPLIANCE WITH ADA REQUIREMENTS.
7. FINAL CONNECTIONS ARE TO BE DONE BY ELECTRICAL CONTRACTOR UNDER THE SUPERVISION OF BASE BUILDING FIRE ALARM VENDOR. PROVIDE ADEQUATE SLACK FOR TERMINATIONS.
8. PROVIDE FAN SHUT DOWN CAPABILITY FOR FANS WITH A RATING LARGER THAN 2,000 CFM. SHUT DOWN SHALL BE ACCOMPLISHED BY ONE OR MORE OUTPUT CONTROL POINTS FROM THE FIRE ALARM SYSTEM TO RELAYS FOR SHUTDOWN. PROVIDE CONTROL AND MONITORING FOR ALL RELAYS. PROVIDE POWER, CONTROL RELAYS, MONITORING AND WIRING FOR ALL FIRE/SMOKE DAMPERS. DAMPER MONITORING SHALL BE FROM AN END SWITCH ON THE DAMPER VIA A RELAY. REFER TO HVAC PLANS AND SPECIFICATIONS FOR REQUIRED FIRE MODE OPERATION OF ASSOCIATED DAMPERS AND FANS.
9. DUCT SMOKE DETECTORS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR ALONG WITH FURNISHING OF THE HOUSING AND SAMPLING TUBES. TUBES SHALL BE FULL WIDTH OF DUCT. DUCTWORK MODIFICATIONS AND INSTALLATION OF SAMPLING TUBES SHALL BE BY THE MECHANICAL CONTRACTOR. FOR FANS RATED LARGER THAN 2,000 CFM PROVIDE DUCT DETECTORS IN SUPPLY AND RETURN DUCT.
10. EXISTING BUILDING SYSTEMS NOT SHOWN (UNLESS A PART OF ONE INSTALLATION) SHALL REMAIN INTACT. DO NOT REMOVE EXISTING BASE BUILDING FIRE ALARM DEVICES UNLESS SPECIFICALLY DIRECTED. RE-INSTALL ALL EXISTING FIRE ALARM EQUIPMENT, WHICH IS TO REMAIN IF REMOVED FOR INSTALLATION OF NEW CEILING OR DUE TO DEMOLITION. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CABLES TO ALL EXISTING FIRE ALARM EQUIPMENT THAT IS RELOCATED. COORDINATE EXISTING WORK WITH EXISTING BUILDING FIRE ALARM SYSTEMS. THE CONTRACTOR SHALL VERIFY THAT ANY MODIFICATIONS TO EXISTING SYSTEMS ARE COMPLETED AND IN WORKING ORDER.
11. PROVIDE ALL REQUIRED EXPANSION PANELS, PC BOARDS, POWER SUPPLIES, BATTERIES, LOCKABLE FUSED DISCONNECT SWITCHES AND BRANCH CIRCUITS, ETC, FOR A COMPLETE AND OPERATION FIRE ALARM SYSTEM.
12. RISER DIAGRAM IS SCHEMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL REQUIRED CIRDUIT CONECTIONS NEEDED TO ENSURE SYSTEM FUNCTIONALITY.
13. PROVIDE FOR ALL REQUIRED PROGRAMING OF BASE BUILDING FIRE ALARM SYSTEM TO ACCOMMODATE NEW STROBE PANEL(S).
    a. COORDINATE WITH BUILDING ENGINEERING AND ELECTRICAL STAFF LOCATION OF NEAREST EXISTING BUILDING POWER PANEL AND POWER SHUTDOWN REQUIREMENTS.

NOTE:
SYMBOLS SHOWN ARE FOR REFERENCE ONLY AND DO NOT CONSTITUTE A CHECK LIST OF DEVICES REQUIRED BY THE CONTRACT



FIRE ALARM DEMO RISER DIAGRAM



FIRE ALARM RISER DIAGRAM

SYSTEM OUTPUTS

SYSTEM INPUTS	A: INDICATE DEVICE ADDRESS OR ZONE AT THE FIRE COMMAND STATION	B: ACTIVATE SPEAKERS AND STROBE DEVICES ON THE FLOOR IN ALARM AND THE FLOOR ABOVE	C: ACTIVATE AN INQUIRY TONE THROUGH-OUT THE BUILDING	D: ACTIVATE THE FIRE SIGN AT THE FIRE COMMEND STATION	E: NOTIFY CENTRAL STATION	F: OPERATE RELAY CONTACTS FOR FAN SHUTDOWN	G: CLOSE DAMPERS FOR ISOLATION OF AREA IN ALARM	H: RELEASE ELECTRICALLY-OPERATED DOORS IN PATHS OF EGRESS FROM THE FLOOR IN ALARM	
1. DUCT SMOKE DETECTOR	X	X	X	X	X	X	X	X	1.
	A	B	C	D	E	F	G	H	

FIRE ALARM - INPUT/OUTPUT MATRIX
(THIS SCOPE OF WORK ONLY)

MARK	DESCRIPTION	DATE

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

DESIGNED BY: ABS
DRAWN BY: BS
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STATE OF NEW YORK · ARTHUR B. SEMYON · NO. 089456 · LICENSED PROFESSIONAL ENGINEER
7/1/22

HDR
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711 Westchester Avenue
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140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
10324688

FIRE ALARM ABBREVIATIONS, SYMBOLS AND GENERAL NOTES

SHEET
FA-001

RTA SUBMISSION

A1 FIRST FLOOR FIRE ALARM PLAN

1/8" = 1'-0"

GENERAL FIRE ALARM PLAN NOTES:

1. REFER TO FA-001 FOR FA SYMBOLS, NOTES, ABBREVIATION, SPECIFICATIONS AND SEQUENCE OF OPERATION.
2. REFER TO HVAC DRAWING FOR EXACT LOCATION OF HVAC EQUIPMENT - FIRE SMOKE DAMPERS, DUCT SMOKE DETECTORS, AC UNITS, EXHAUST FANS, ETC.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WORK PRIOR TO INSTALLATION WITH ENGINEER, FA VENDOR AND THE ARCHITECT.
4. ALL DEVICES INDICATED AS (E) SHALL BE EXISTING TO REMAIN. PROVIDE SUPPORT FROM STRUCTURE AND PROTECTION FOR ALL EXISTING TO REMAIN DEVICES.
5. GRAY SHADED AREA IS NOT IN SCOPE.
6. AS REQUIRED FOR EXISTING CEILING MOUNTED SMOKE DETECTOR TO REMAIN ACCESSIBLE FOR MAINTENANCE AND REPAIR RELOCATE FA DEVICE ON SAME CEILING AND EXTEND/REPLACE EXISTING FA CABLING AS NEEDED DUE TO NEW WORK. COORDINATE WITH MECHANICAL CONTRACTOR IN FIELD.

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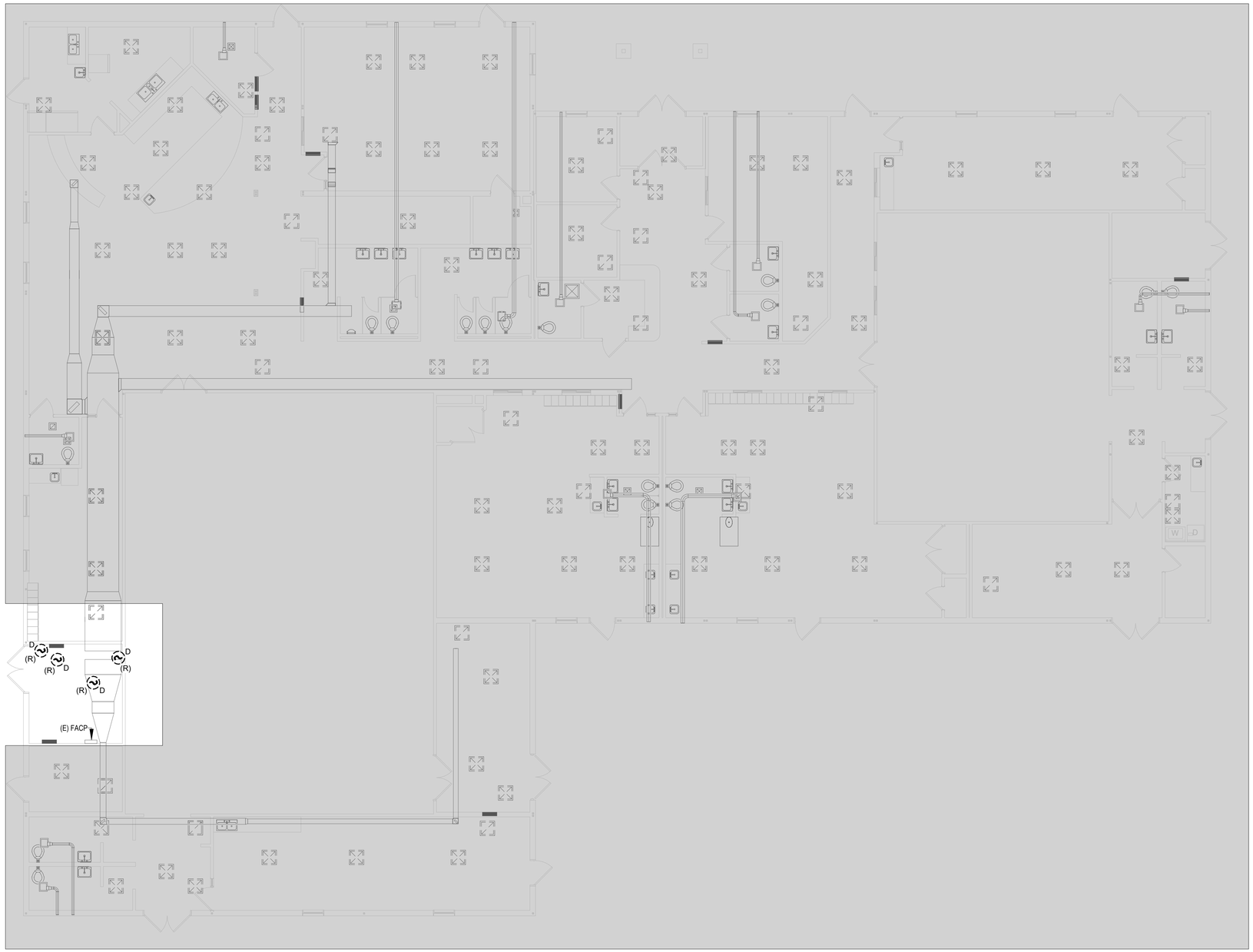
FIRE ALARM PLAN

SHEET
FA-101

RTA SUBMISSION

GENERAL NOTES:

1. EXISTING MECHANICAL EQUIPMENT IS NOT SHOWN, REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT LOCATION AND ADDITIONAL INFORMATION.
2. REFER TO DRAWING FA-001 FOR SYMBOLS, APPLICABLE NOTES, ABBREVIATION, RISER DIAGRAM AND ADDITIONAL INFORMATION.
3. PRIOR TO SUBMITTING BID ELECTRICAL CONTRACTOR SHALL WALK ENTIRE PROJECT SPACE TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE EXISTING CONDITIONS. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE AMOUNT OF FA CABLING, CONDUITS, ETC THAT REQUIRE PROPER SUPPORT AND PULL/JUNCTION BOXES, REQUIRING COVERS, ETC.
4. FA DEVICES NOT INDICATED ON THIS DRAWING SHALL BE EXISTING TO REMAIN. PROVIDE PROPER SUPPORT AND PROTECTION FOR ALL EXISTING TO REMAIN FA DEVICES DURING CONSTRUCTION WORK. SUPPORT ALL FIRE ALARM CABLES FROM BUILDING STRUCTURE; ALL CABLING WITHIN AREA OF WORK SHALL BE SUPPORTED TIGHT TO STRUCTURE TO AVOID DAMAGE.
5. GRAY SHADED AREA IS NOT IN SCOPE.



A1 FIRST FLOOR FIRE ALARM DEMO PLAN
1/8" = 1'-0"

MARK	DESCRIPTION	DATE

DESIGNED BY: ABS
DRAWN BY: BS
CHECKED BY: ABS
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

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STATE OF NEW YORK
ARTHUR B. SEMYONOV
No 089456
LICENSED PROFESSIONAL ENGINEER
7/1/22

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE
DESIGN
10324888

FIRE ALARM DEMO PLAN

SHEET
FAD-101

RTA SUBMISSION

DAMPERS

- MANUAL BALANCING DAMPER
- BD — BACKDRAFT DAMPER
- FD-1.5 — FIRE DAMPER; 1.5 HOUR RATED
- FD-3 — FIRE DAMPER; 3 HOUR RATED
- SD — SMOKE DAMPER
- FSD — COMBINATION FIRE/SMOKE DAMPER

DUCTWORK

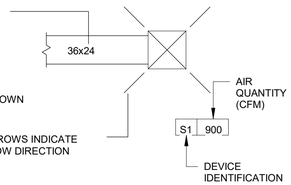
- FLEXIBLE ROUND DUCT
- 2 1 — CHANGE IN DUCT CONSTRUCTION BY PRESSURE CLASS. (PRESSURES IN INCHES W.G)
- FLEXIBLE DUCT CONNECTION
- ACOUSTICALLY LINED DUCT
- SA — SOUND ATTENUATOR
- BRANCH TAKEOFF

GENERAL CONTROL SYMBOLOGY

- (T) THERMOSTAT
- (T)S TEMPERATURE SENSOR
- (HS) HUMIDITY SENSOR
- (H) HUMIDISTAT
- (PS) DUCT PRESSURE SENSOR
- (CD) CARBON MONOXIDE DETECTOR
- SD SMOKE DETECTOR
- (W) WATER METER
- (E) ELECTRIC METER
- ESS EMERGENCY STOP BUTTON
- (N) NIGHT THERMOSTAT

DIFFUSER, REGISTER AND GRILLE NOTATION

DUCT SIZE IN INCHES
(NET INSIDE DIMENSIONS)
(RECTANGULAR DUCT SHOWN)
DIA INDICATES ROUND DUCT.
DIAO. INDICATES OVAL DUCT.
FOR RECTANGULAR DUCT:
FIRST FIGURE: SIDE SHOWN
SECOND FIGURE: SIDE NOT SHOWN



- SUPPLY DIFFUSER
- RETURN REGISTER OR GRILLE
- EXHAUST REGISTER OR GRILLE
- SUPPLY REGISTER OR GRILLE, SIDEWALL
- RETURN/EXHAUST REGISTER OR GRILLE, SIDEWALL

PIPING SYSTEMS

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER RETURN
- SS — SANITARY SEWER
- VENT
- G — NATURAL GAS
- F — FIRE PROTECTION
- NPW — NON-POTABLE WATER
- HRR — HEAT RECOVERY RETURN
- HRS — HEAT RECOVERY SUPPLY
- EXISTING PIPING TO BE REMOVED
- CHS — CHILLED WATER SUPPLY
- CHR — CHILLED WATER RETURN
- HWS — HEATING WATER SUPPLY
- HWR — HEATING WATER RETURN
- CD — CONDENSATE DRAIN
- RS — REFRIGERANT SUCTION
- RL — REFRIGERANT LIQUID
- RD — ROOF DRAIN
- MU — MAKE-UP WATER
- (E) — EXISTING PIPING TO REMAIN

PIPING SYMBOLS

- CONTINUATION
- DROP IN PIPE
- VALVE IN RISER
- ELBOW, 90 DEG.
- ELBOW UP, 90 DEG.
- ELBOW DOWN, 90 DEG.
- ELBOW, 45 DEG.
- TEE
- UNION
- UNION, FLANGED
- TEE, OUTLET TURNED DOWNWARD
- TEE, OUTLET TURNED UPWARD
- PIPE PITCH
- PRV — PRESSURE RELIEF VALVE
- PRESSURE REDUCING VALVE
- TPRV — TEMP & PRESS RELIEF
- PA — ANCHOR
- BALL VALVE
- GLOBE VALVE
- GATE VALVE
- CHECK VALVE
- PLUG VALVE
- DOUBLE CHECK VALVE BACKFLOW PREVENTER
- FIRE DEPARTMENT CONNECTION
- PRESSURE GAGE WITH SHUT OFF COCK AND SIPHON OR PULSATION DAMPENER
- CAP
- FD — FLOOR DRAIN WITH TRAP
- DIRECTION OF FLOW
- FLOOR PENETRATION
- WH — WALL HYDRANT
- WCO — WALL CLEANOUT
- HB — HOSE BIB
- THERMOMETER
- AV — AIR VENT, AUTOMATIC
- AIR VENT, MANUAL
- EL — EXPANSION LOOP
- PG — GUIDE
- EXPANSION JOINT
- FLEXIBLE CONNECTOR
- PT — PRESSURE/TEMPERATURE TEST PORT
- BALL JOINT
- FS — FLOOR SINK WITH TRAP
- WFD — WATER FLOW DETECTOR
- CALIBRATED BALANCING VALVE
- AUTOMATIC FLOW CONTROL VALVE
- BUTTERFLY VALVE
- MODULATING TWO-WAY
- MODULATING THREE-WAY
- REDUCED PRESSURE BACKFLOW PREVENTER
- OS&Y VALVE
- THERMOMETER GAGE
- BLIND FLANGE

GENERAL ABBREVIATIONS

AFF - ABOVE FINISHED FLOOR
BOD - BOTTOM OF DUCT ELEV.
BOP - BOTTOM OF PIPE ELEV.
CFM - CUBIC FEET PER MINUTE
CL - CENTERLINE
CLG - CEILING
COND- CONDENSATE/CONDENSER
CONN- CONNECTION/CONNECT
DB - DRY BULB TEMPERATURE
DDC - DIRECT DIGITAL CONTROL
DX - DIRECT EXPANSION
EA - EXHAUST AIR
EAT - ENTERING AIR TEMP.
ELEV - ELEVATION
EMCS- ENERGY MONITORING AND CONTROL SYSTEM
ESP - EXTERNAL STATIC PRESSURE
EWT - ENTERING WATER TEMP.
FC - FAIL CLOSED
FD - FLOOR DRAIN
FLA - FULL LOAD AMPS
FO - FAIL OPEN
GA - GAUGE
HD - HUB DRAIN
IE - INVERT ELEVATION
LAT - LEAVING AIR TEMP.
LWT - LEAVING WATER TEMP.
NC - NORMALLY CLOSED
NO - NORMALLY OPEN
NPS - NOMINAL PIPE SIZE
NPT - NATIONAL PIPE THREAD
NTS - NOT TO SCALE
OA - OUTSIDE AIR
OBD - OPPOSED BLADE DAMPER
OS&Y - OUTSIDE STEM AND YORK
Pa - PASCAL
PD - PRESSURE DROP
RA - RETURN AIR
RPM - REVOLUTIONS PER MINUTE
SA - SUPPLY AIR
SOG - SLAB ON GRADE
SP - STATIC PRESSURE
TOD - TOP OF DUCT ELEVATION
TOP - TOP OF PIPE ELEVATION
TOS - TOP OF SLAB/ TOP OF STEEL
TSP - TOTAL STATIC PRESSURE
VAV - VARIABLE AIR VOLUME
VP - VELOCITY PRESSURE
VTR - VENT THRU ROOF
W - WATTS
WB - WET BULB
WC - WATER COLUMN
WG - WATER GAUGE

GENERAL NOTES

A. MECHANICAL LAYOUTS ARE SCHEMATIC. PROVIDE ANY ADDITIONAL DROPS, RISES, OR OFFSETS REQUIRED FOR A COMPLETE INSTALLATION. COORDINATE EXACT ROUTING OF WORK WITH ALL OTHER TRADES AND OBSTRUCTIONS. COORDINATE EXACT LOCATIONS OF CEILING MOUNTED WORK WITH LIGHTS, CEILING GRID, AND OTHER OBSTRUCTIONS.

B. UNLESS OTHERWISE INDICATED ROUTED, ROUTE ALL DUCTWORK AND PIPING ABOVE CEILINGS. ROUTE ALL DUCTWORK AND PIPING AS HIGH AS POSSIBLE IN AREAS WITHOUT CEILINGS. ROUTE ALL DUCTWORK AND PIPING TIGHT TO STRUCTURE.

C. DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS. INCREASE SHEET METAL DIMENSIONS ON LINED DUCTWORK TO MAINTAIN THE INSIDE CLEAR DIMENSIONS INDICATED.

D. UNLESS OTHERWISE INDICATED, PROVIDE DUCT RUNOUTS TO TERMINAL UNITS SAME SIZE AS TERMINAL UNIT INLET.

E. FLEXIBLE DUCT RUNOUTS TO TERMINAL AIR DEVICES SHALL BE SAME SIZE AS DIFFUSER CONNECTION. LIMIT FLEX TO 5 FEET.

F. INSTALL CALIBRATED BALANCING VALVES AND VENTURIS WITH A MINIMUM UNRESTRICTED STRAIGHT RUN OF 5 PIPE DIAMETERS UPSTREAM AND 3 PIPE DIAMETERS DOWNSTREAM.

G. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DIFFUSERS, PLENUM SLOT DIFFUSERS, REGISTERS, AND GRILLS.

H. ALL WORK INDICATED IS NEW.

I. SOME SYMBOLS INDICATED ON THIS LEGEND SHEET MAY NOT APPEAR OF THE DRAWINGS.

K. MOUNT CO2 SENSORS AND TEMPERATURE SENSORS 48 INCHES AFF.

L. ALL PIPING LOW POINTS SHALL HAVE DRAIN VALVES WITH HOSE CONNECTION AND CAP.

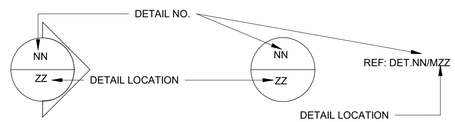
M. ALL PIPING HIGH POINTS SHALL HAVE VALVED AIR VENTS.

N. PROVIDE 1-INCH DUCT LINER ON ALL TRANSFER DUCT.

Mechanical Sheet Numbering Prefixes
M- All or any portion of subjects in the following

With Level 2 Designators (no dash)
MD Mechanical Demolition Protection, termination, and removal
MH HVAC Ductwork, air devices, and equipment
MI Instrumentation and controls
MP Hydronic Piping - Chilled and heating water, steam

REFERENCE SYMBOLOGY



- 000 — ROOM NUMBER
- Ø — ROUND DUCT
- POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- EXISTING WORK TO BE REMOVED
- EXISTING WORK TO REMAIN
- POINT BETWEEN WORK TO REMAIN AND WORK TO BE REMOVED

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MARK	DESCRIPTION	DATE

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CHECKED BY: M. WHALEN
SUBMITTED BY:
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006
SIZE: ANSI D

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LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
10324688

MECHANICAL GENERAL NOTES, ABBREVIATIONS

SHEET
M-001

RTA SUBMISSION

DEMOLITION NOTES:

1. DEMOLISH AND REMOVE ALL EXISTING FAN COILS AND INCLUDING BUT NOT LIMITED TO ASSOCIATED DUCTWORK, ACCESSORIES, WIRING AND CONTROLS.
2. EXISTING EXHAUST FANS AND ASSOCIATED DUCTWORK TO REMAIN.
3. DEMOLISH AND REMOVE ALL EXISTING AIR HANDLING UNITS. EXISTING ASSOCIATED DUCTWORK TO REMAIN.
4. DEMOLISH AND REMOVE EXISTING CHILLER AND BOILER. CUT AND CAP HYDRONIC LINES TO BE RE-USED.
5. EXISTING BOILER HOUSE TO REMAIN.
6. CHILLER EQUIPMENT PAD TO REMAIN.
7. EXISTING SPLIT SYSTEM IN CAMERA ROOM TO REMAIN.
8. EXISTING KITCHEN MAKE UP AIR UNIT TO REMAIN.

EXISTING MAKE UP AIR UNIT ON ROOF TO REMAIN

KITCHEN 100
KITCHEN 101
J.C. 102
CORR. 106
ACTIVITY 105
OFFICE #1 133
ENTRY 134
PARENT WAITING 135
CORR. 138
ACTIVITY RM. 139
OFFICE #2 132
COAT CL. 107
BOYS 109
GIRLS 110
CORR. 111
TOIL. 131
RECEPTION 130
CORR. 129
TOIL. 136
TOIL. 137
MECH. RM. 145
20x10 RETURN WALL GRILLE, TRANSITION DUCTWORK AS REQUIRED TO CONNECT TO AHU-2
MULTI-PURPOSE RM. #2 149
BOYS TOIL. 143
GIRLS TOIL. 144
LAUNDRY RM. 147
EATING AREA 104
STAFF TOIL. 112
TRAINING/ LOUNGE 113
MULTI-PURPOSE ROOM #1 148
INFANT/PRETOD/ TODDLER RM. 125
PRE-K/PRESCHOOL/ KINDERGARTEN 126
CENTRAL STORAGE 146
CAMERA RM. 148
EXISTING SPLIT SYSTEM TO REMAIN
30x30 RETURN WALL GRILLE, TRANSITION DUCTWORK AS REQUIRED TO CONNECT TO AHU-1
22"ø UP TO ATTIC
MECH/ ELEC. RM. 115
4 18"ø UP THRU ATTIC AND CONNECT TO WEATHER PROOF INTAKE HOOD
STORAGE RM. 121
EXISTING 70 TON CHILLER TO BE REMOVED
EXISTING EQUIPMENT PAD
COMM. ROOM 116
BOYS TOIL. 117
GIRLS TOIL. 118
CORRIDOR 119
ACTIVITY RM. 120
6x6 FROM FCU-13 RETURN AIR PLENUM UP
EXISTING BOILER HOUSE EQUIPMENT TO BE DEMLOSHED AND REMOVE. DEMO EXISTING BOILER FLUE AND PATCH EXISTING ROOF PENETRATION. BOILER HOUSE TO REMAIN.
REMOVE EXISTING UNDERGROUND CHILLED WAER PIPING INTO BUILDING. PREPARE FOR NEW PIPING.

A1 HVAC DEMOLITION FLOOR PLAN
1/8" = 1'-0"

MARK	DESCRIPTION	DATE

DESIGNED BY: D. SPENCER
DRAWN BY: A. LEM
CHECKED BY: M. WHALEN
SUBMITTED BY:
ISSUE DATE: 07/01/2022
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LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE
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HVAC DEMOLITION FLOOR PLAN

STATE OF NEW YORK
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LICENSED PROFESSIONAL ENGINEER

SHEET
MD-001

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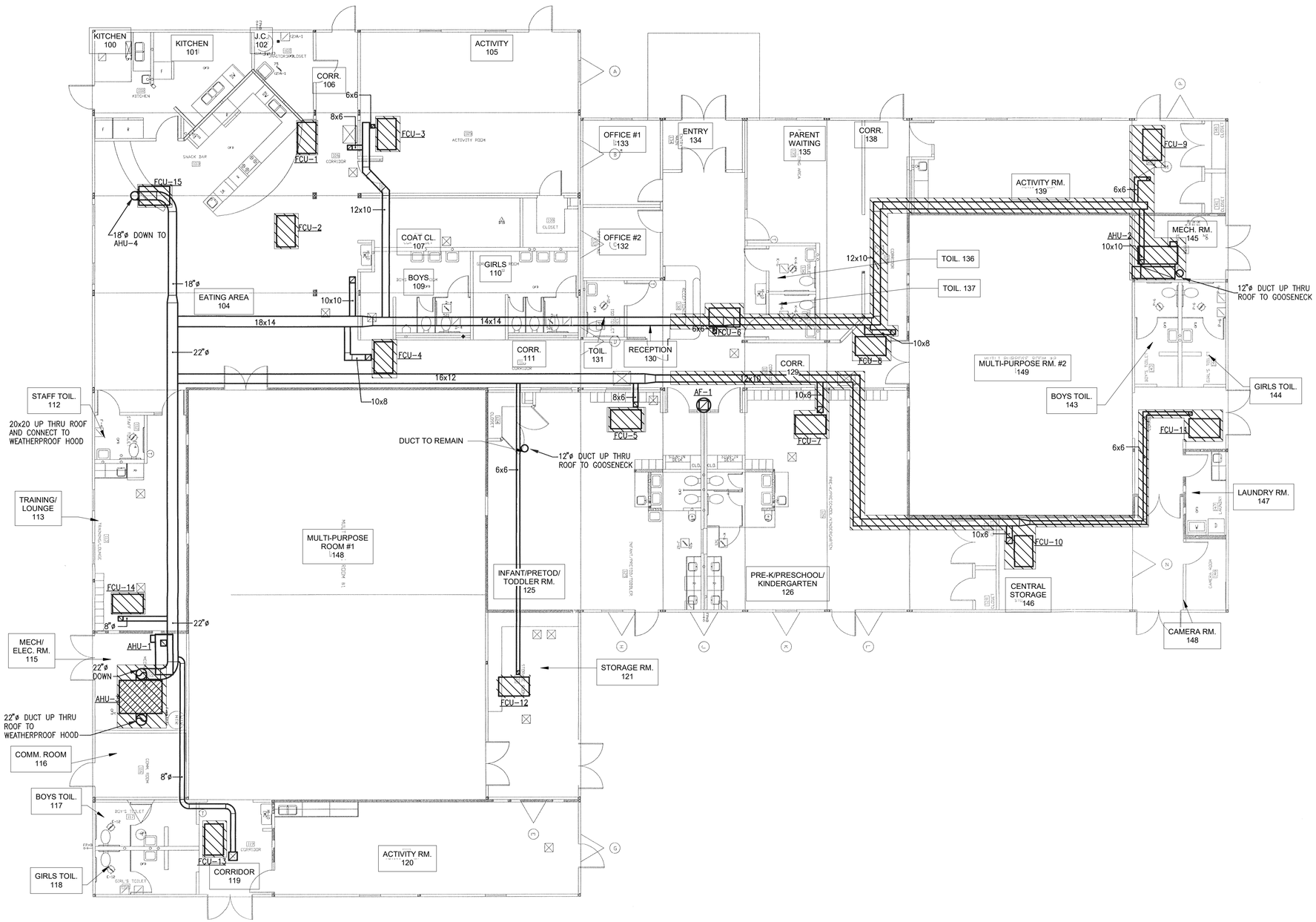

DEMOLITION NOTES:

1. DEMOLISH AND REMOVE ALL EXISTING FAN COILS AND INCLUDING BUT NOT LIMITED TO ASSOCIATED DUCTWORK, ACCESSORIES, WIRING AND CONTROLS.
2. CAP CONDENSATE DRAIN LINES AT FAN COILS. CONDENSATE DRAIN PIPING SYSTEM TO REMAIN.
3. DEMOLISH AND REMOVE ALL EXISTING AIR HANDLING UNITS AND INCLUDING BUT NOT LIMITED TO ASSOCIATED DUCTWORK, ACCESSORIES, WIRING AND CONTROLS.
4. DEMOLISH AND REMOVE ALL EXISTING OUTSIDE AIR SUPPLY DUCT ON THE PLAN EAST SIDE SIDE OF THE BUILDING AT NEAREST FITTING TO DEMO AREA SHOWN ON PLAN. EXISTING OUTSIDE AIR SUPPLY DUCT ON THE PLAN WEST SIDE OF THE BUILDING TO BE REUSED. CAP EXISTING DUCTWORK AFTER REMOVAL.
5. CLEAN ALL EXISTING DUCTWORK BEFORE CONSTRUCTION OF ANY NEW DUCTWORK.

A1 HVAC DEMOLITION ATTIC PLAN

1/8" = 1'-0"

MARK	DESCRIPTION	DATE

DESIGNED BY: D. SPENCER
DRAWN BY: A. LEM
CHECKED BY: M. WHALEN
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
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HVAC DEMOLITION ATTIC PLAN

STATE OF NEW YORK
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LICENSED PROFESSIONAL ENGINEER

SHEET

MD-002

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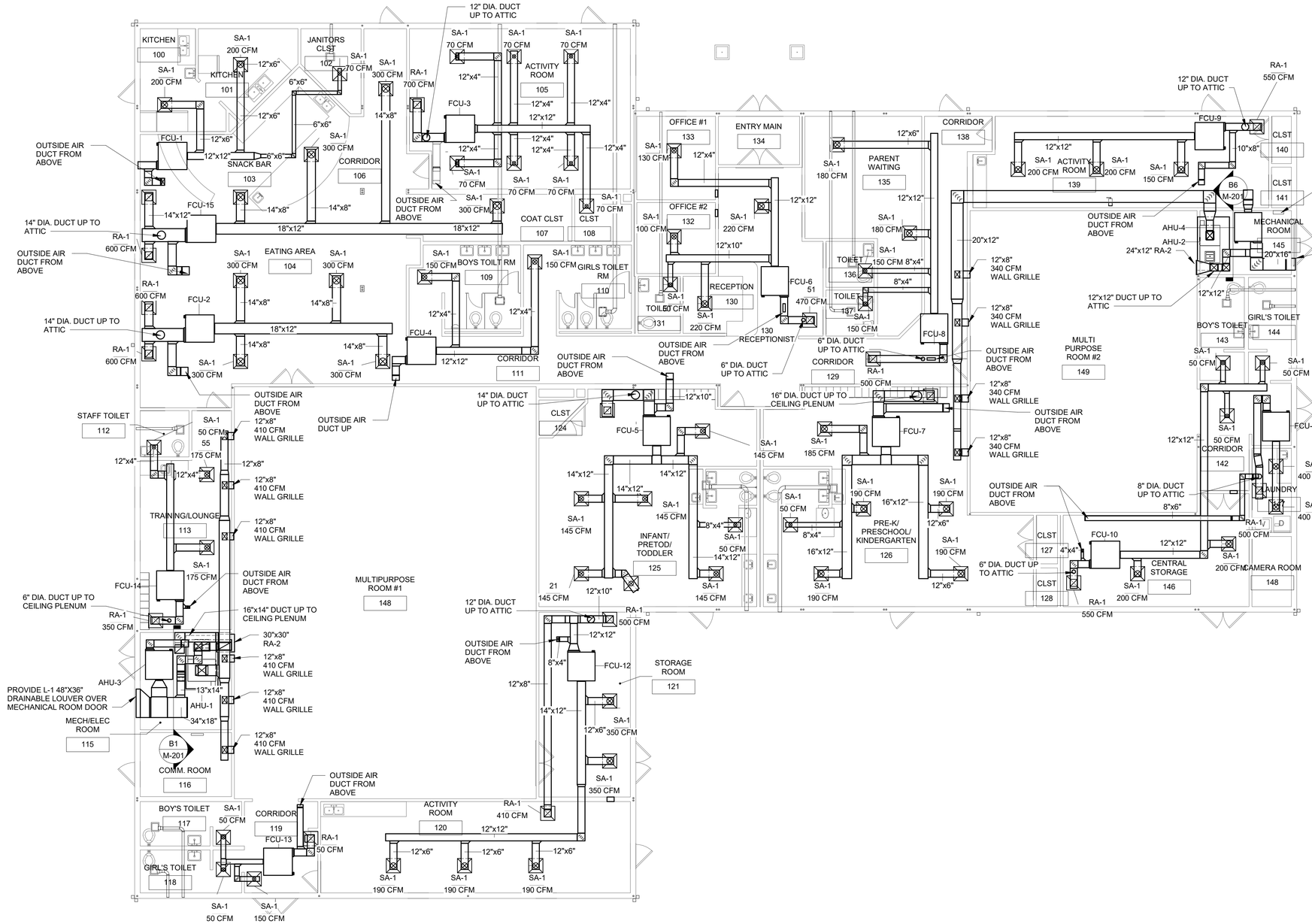

OUTDOOR PAD GENERAL CONSTRUCTION NOTES:

1. REUSE EXISTING BOILER HOUSE FOR NEW BOILER, PUMPS AND ACCESSORIES. CONNECT EQUIPMENT INTO EXISTING HYDRONIC PIPING AT FLOOR. CAP EXISTING FLUE AND INTAKE PIPE OPENING. ROUTE NEW FLUE AND INTAKE PIPE OPENINGS TO EXTERIOR PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER RECOMMENDED CONDENSATE NEUTRALIZER. REPLACE HOT WATER PUMPS AND REUSE SUPPORTS AND CONNECTIONS.

2. MOUNT NEW CHILLER ON EXISTING CONCRETE PAD. CONNECT CHILLER TO NEW CHILLED WATER SUPPLY AND RETURN PIPES.

3. REPLACE PUMPS, MOTORS, AIR SEPARATOR, AND EXPANSION TANK AND REUSE SUPPORTS AND CONNECTIONS.

4. WIRE ALL NEW EQUIPMENT TO LOCAL CONTROL PANEL INSIDE BOILER HOUSE

MARK	DESCRIPTION	DATE

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CEILING HVAC PLAN

STATE OF NEW YORK
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LICENSED PROFESSIONAL ENGINEER

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M-101

A1 CEILING HVAC DUCT PLAN
1/8" = 1'-0"

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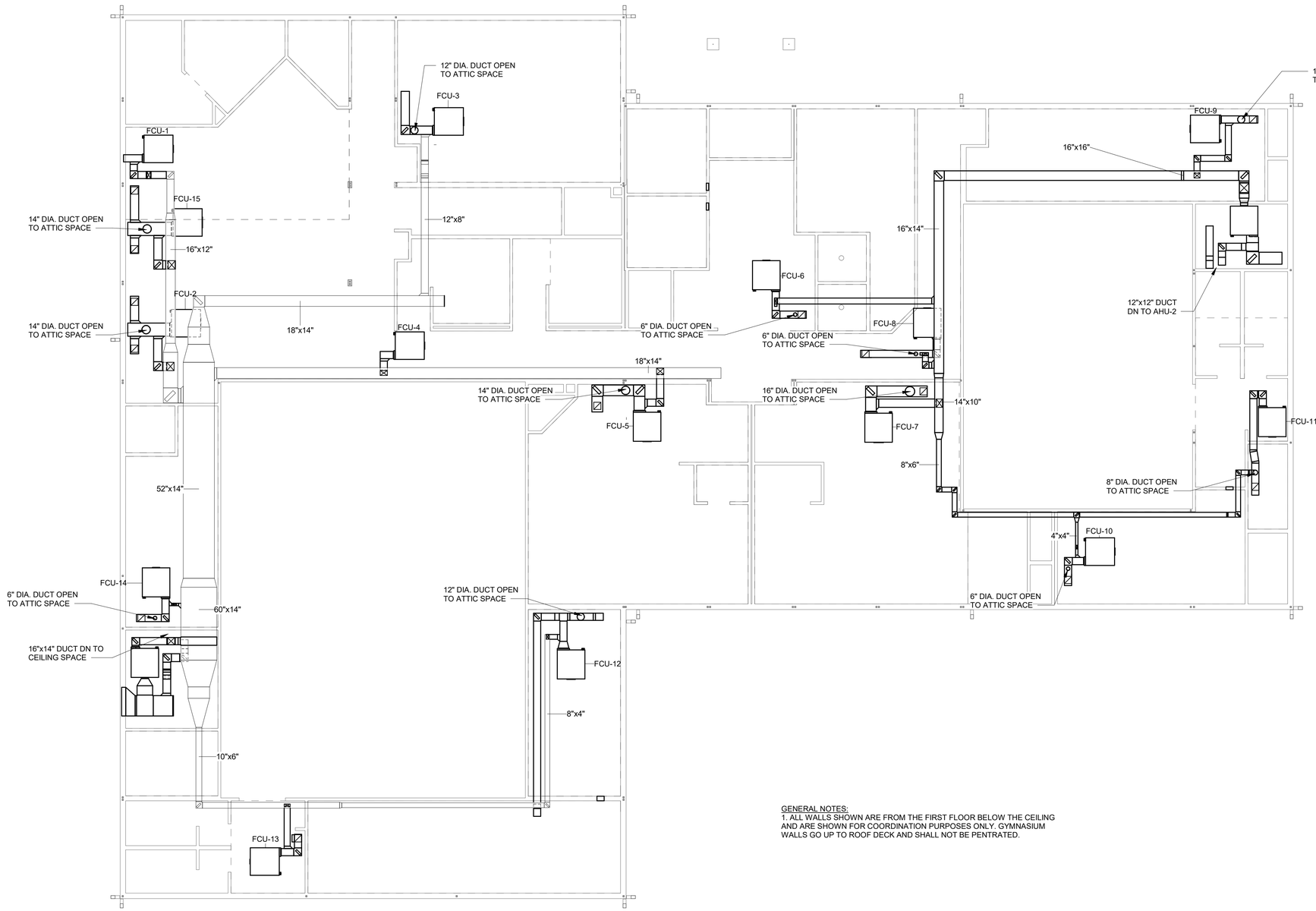

GENERAL NOTES:
1. ALL WALLS SHOWN ARE FROM THE FIRST FLOOR BELOW THE CEILING AND ARE SHOWN FOR COORDINATION PURPOSES ONLY. GYMNASIUM WALLS GO UP TO ROOF DECK AND SHALL NOT BE PENTRATED.

A1 ATTIC HVAC DUCT PLAN
1/8" = 1'-0"

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HVAC ATTIC PLAN

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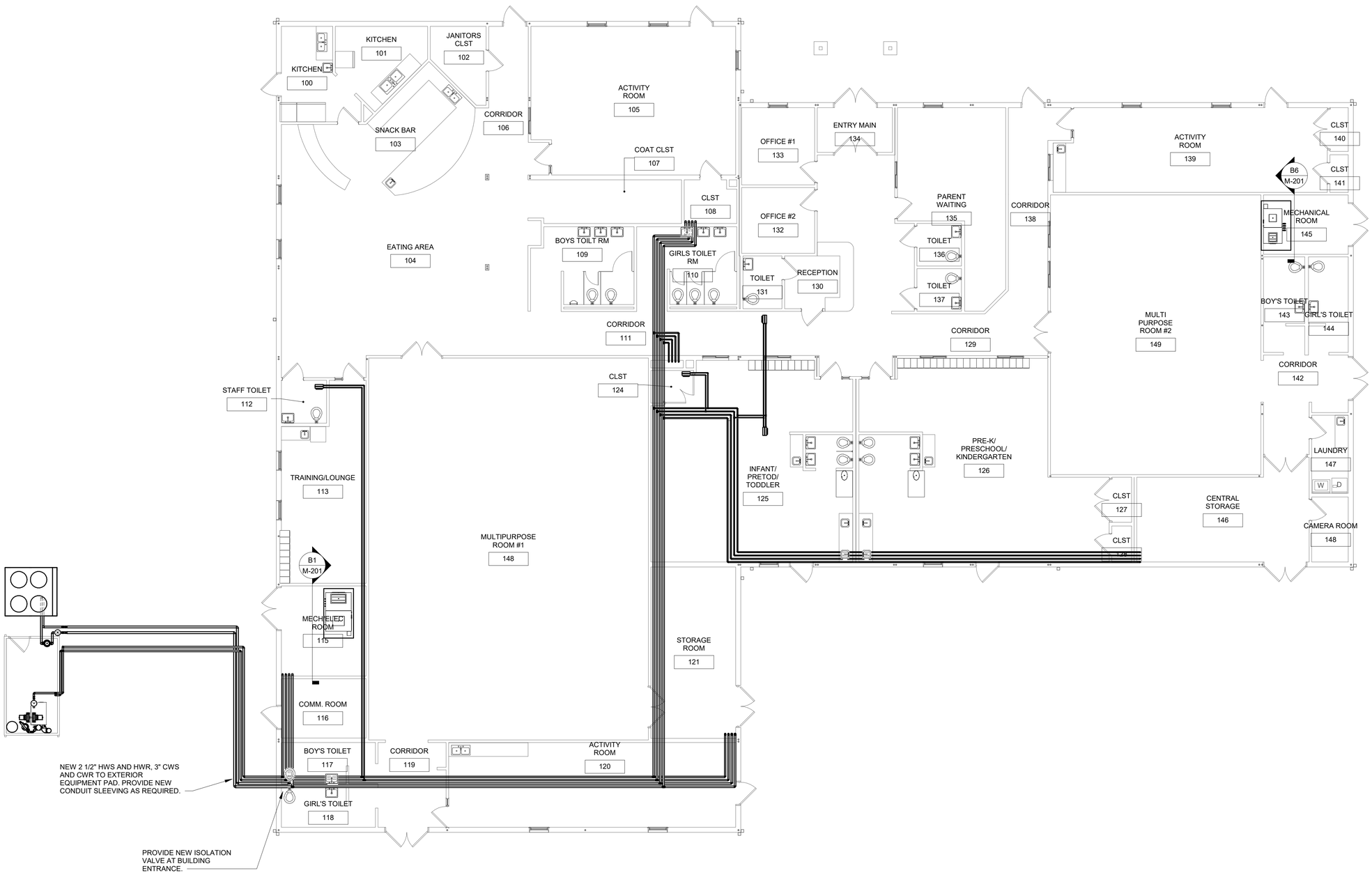
NOTES:
1. ALL HYDRONIC PIPING AND EQUIPMENT SHOWN IS EXISTING AND IS TO REMAIN.



A1 HYDRONIC PLAN UNDER FLOOR
1/8" = 1'-0"

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HYDRONIC UNDERSLAB PLAN

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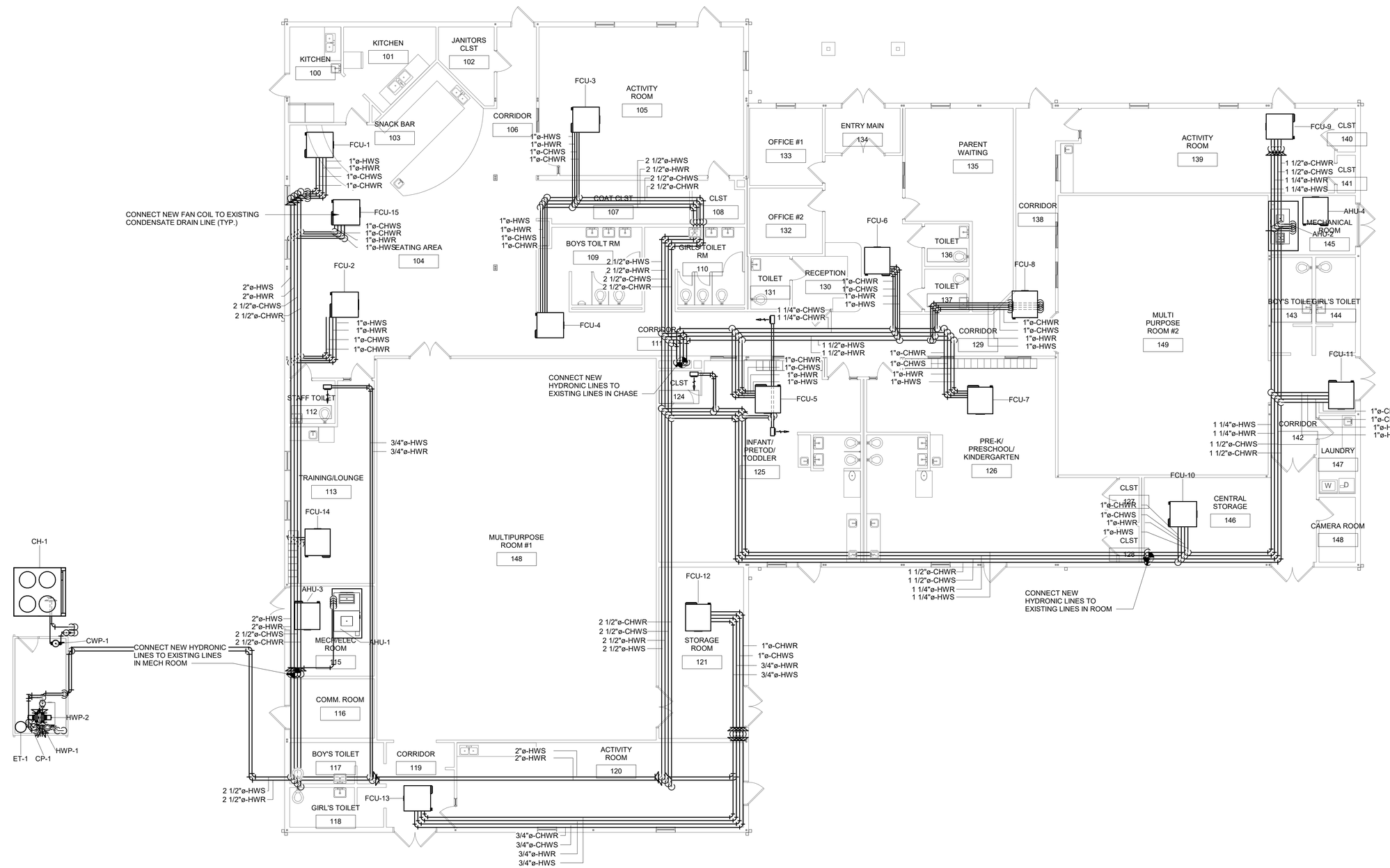

SCHEDULE OF PIPE SIZES									
PIPE SIZE (IN.)	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6
FLOW RATE (GPM)	0-3	3.5-6	6.5-12	12.5-20	20.5-35	35.1-60	60.1-110	110.1-220	220.1-540

A1 HYDRONIC PLAN CEILING PLAN

1/8" = 1'-0"

MARK	DESCRIPTION	DATE

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HYDRONIC CEILING PLENUM PLAN

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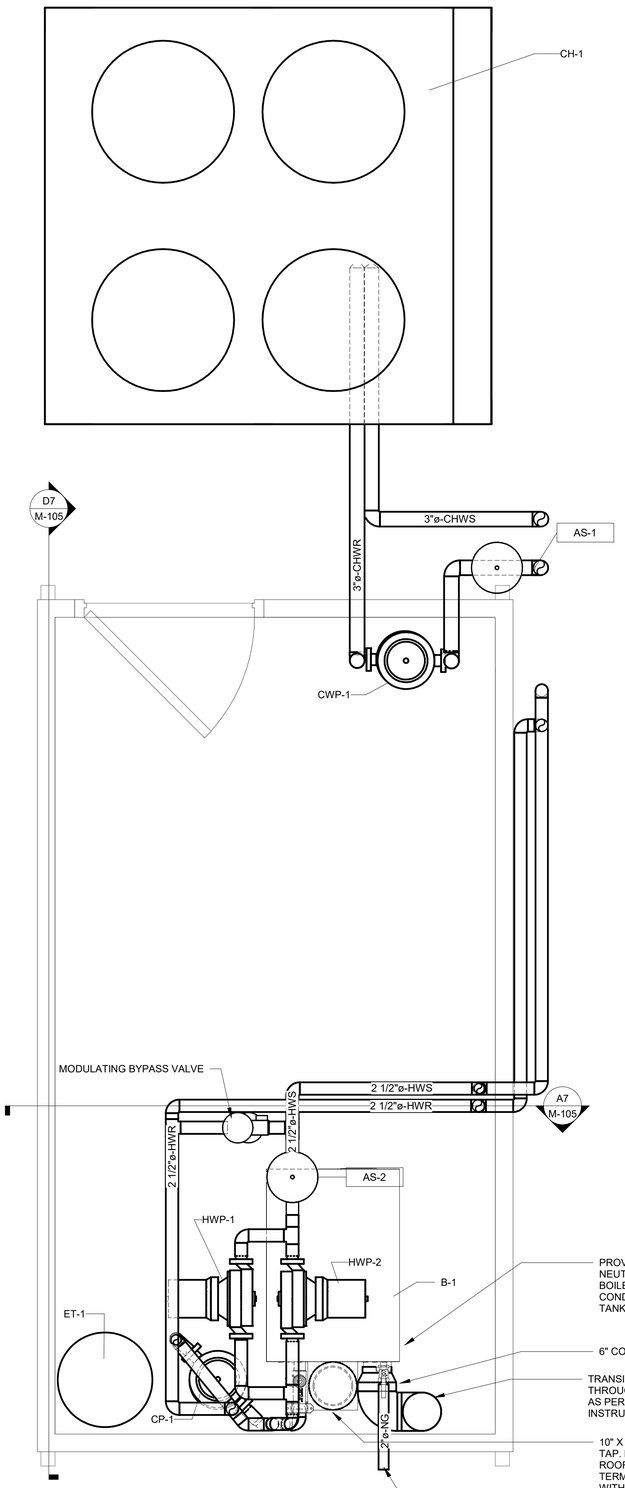
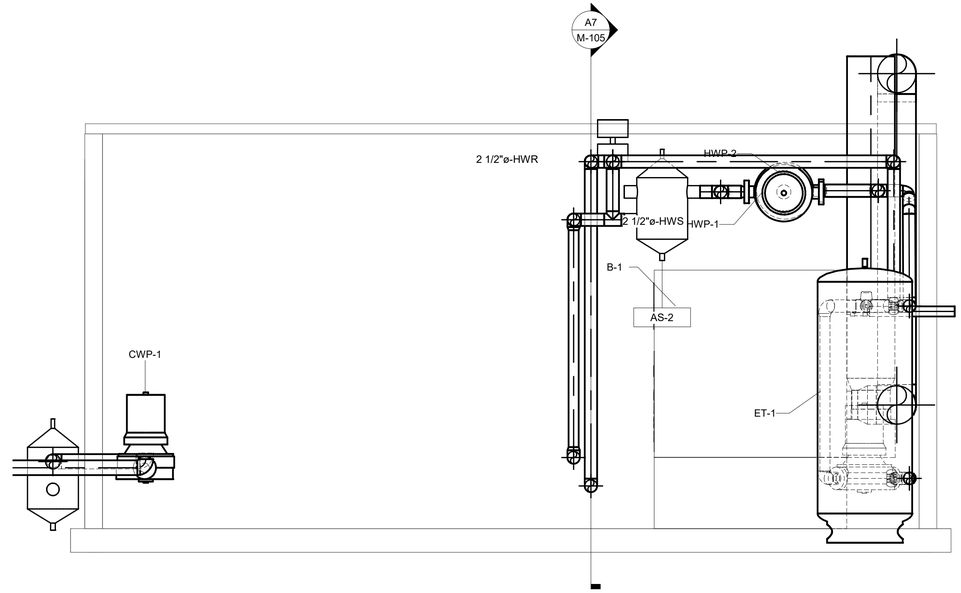


A2 BOILER HOUSE PLAN

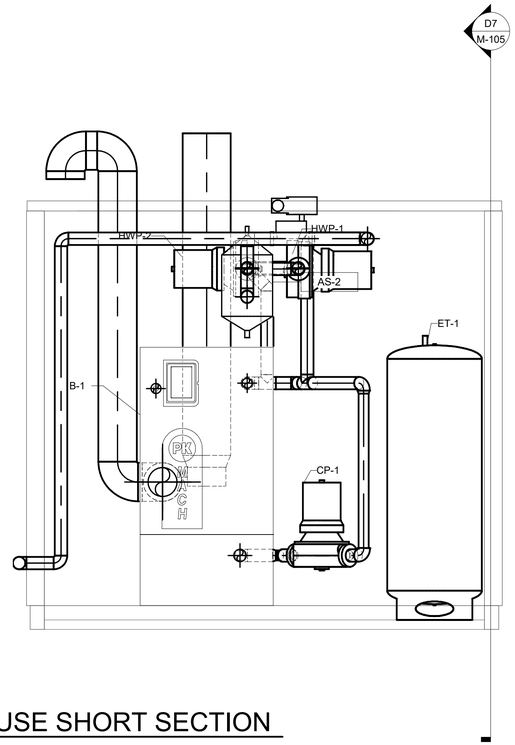
3/4" = 1'-0"



D7 BOILER HOUSE LONG SECTION

3/4" = 1'-0"

GENERAL NOTES:
1. ALL FLOOR MOUNTED EQUIPMENT SHALL BE INSTALLED ON 4" HOUSKEEPING PAD. PAD SHALL BE ANCHORED AND GROUTED.
2. CONTRACTOR SHALL VERIFY EXISTING MEANS OF BOILER MAKEUP WATER AND CONECT TO NEW BOILER PIPING. IF NONE PRESENT, PROVIDE A NEW 1/2" CW MAKEUP AT 4' BELOW GRADE FROM INSIDE THE BUILDING WITH NEW BACKFLOW PREVENTOR INSTALLED INSIDE BOILER HOUSE.



A7 BOILER HOUSE SHORT SECTION

3/4" = 1'-0"

MARK	DESCRIPTION	DATE

DESIGNED BY: D. SPENCER
DRAWN BY: A. LEM
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BOILER HOUSE

STATE OF NEW YORK
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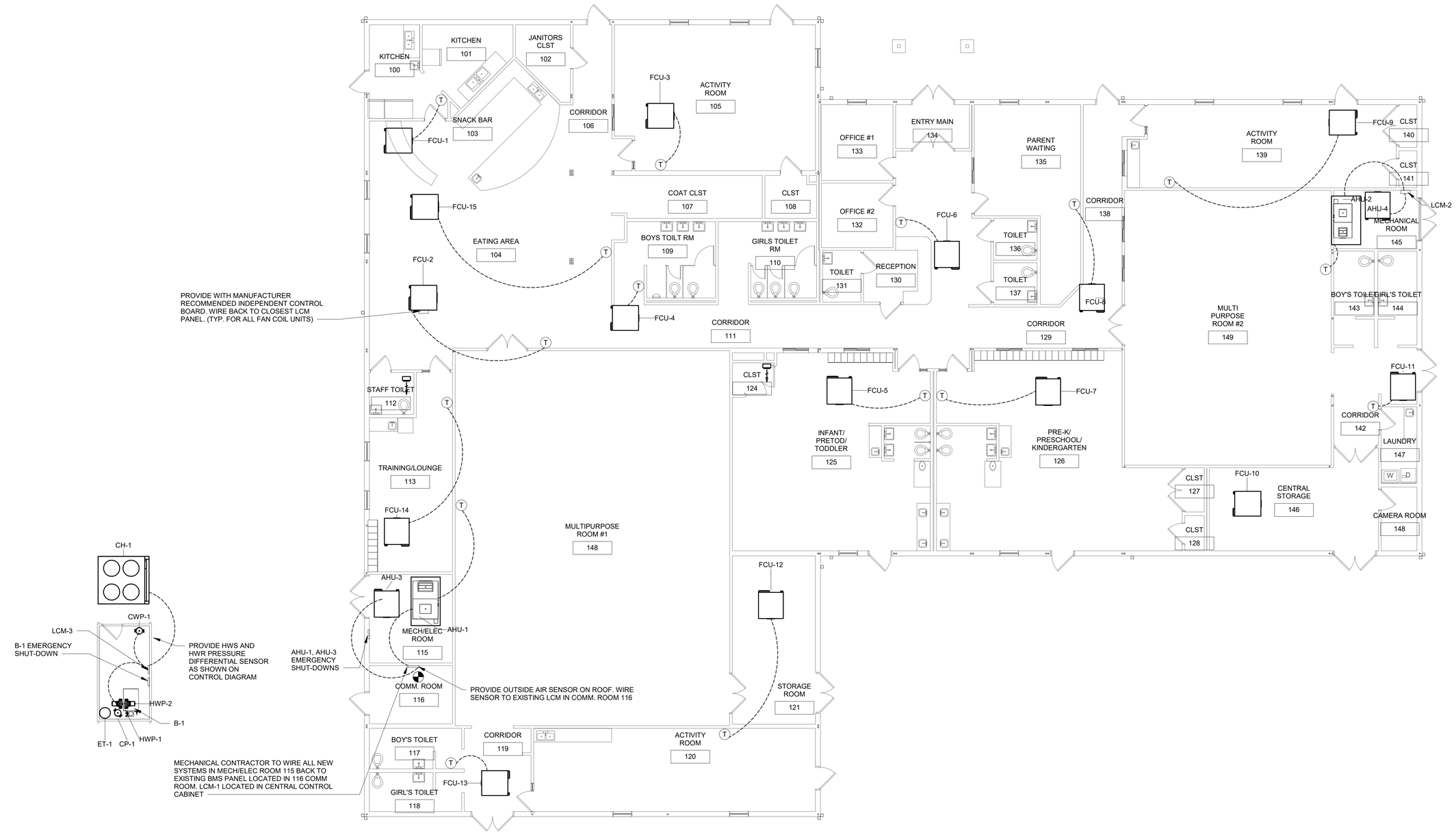
M-105

RTA SUBMISSION



A1 HVAC CONTROL PLAN

1/8" = 1'-0"

MARK	DESCRIPTION	DATE

DESIGNED BY: D. SPENCER
DRAWN BY: A. LEM
CHECKED BY: M. WHALEN
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

Henningson, Durham & Richardson Architecture and Engineering, P.C.
711 Weschester Avenue
White Plains, NY 10604-350

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE
DESIGN
10324688

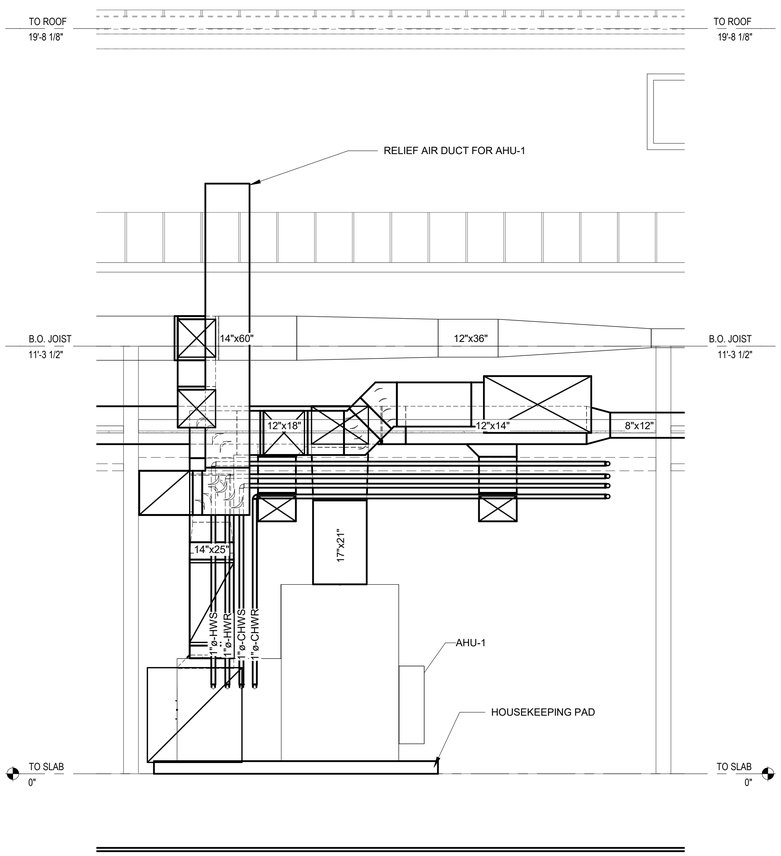
HVAC CONTROLS PLAN

STATE OF NEW YORK
DAVID GUY SPENCER
100871
LICENSED PROFESSIONAL ENGINEER

SHEET

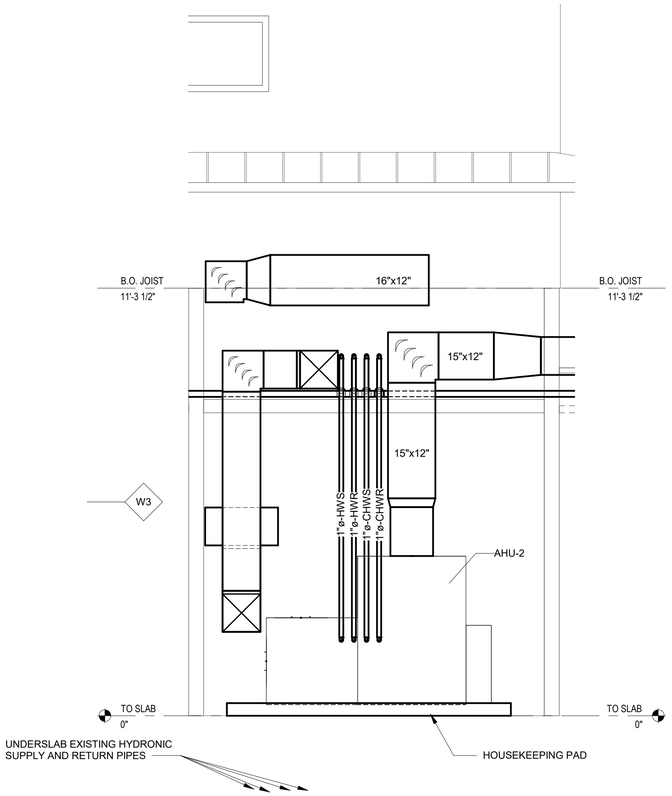
M-106

RTA SUBMISSION



B1 AHU-1 MECHANICAL ROOM SECTION

1/2" = 1'-0"



B6 AHU-2 MECHANICAL ROOM SECTION

1/2" = 1'-0"

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DESIGNED BY: D. SPENCER
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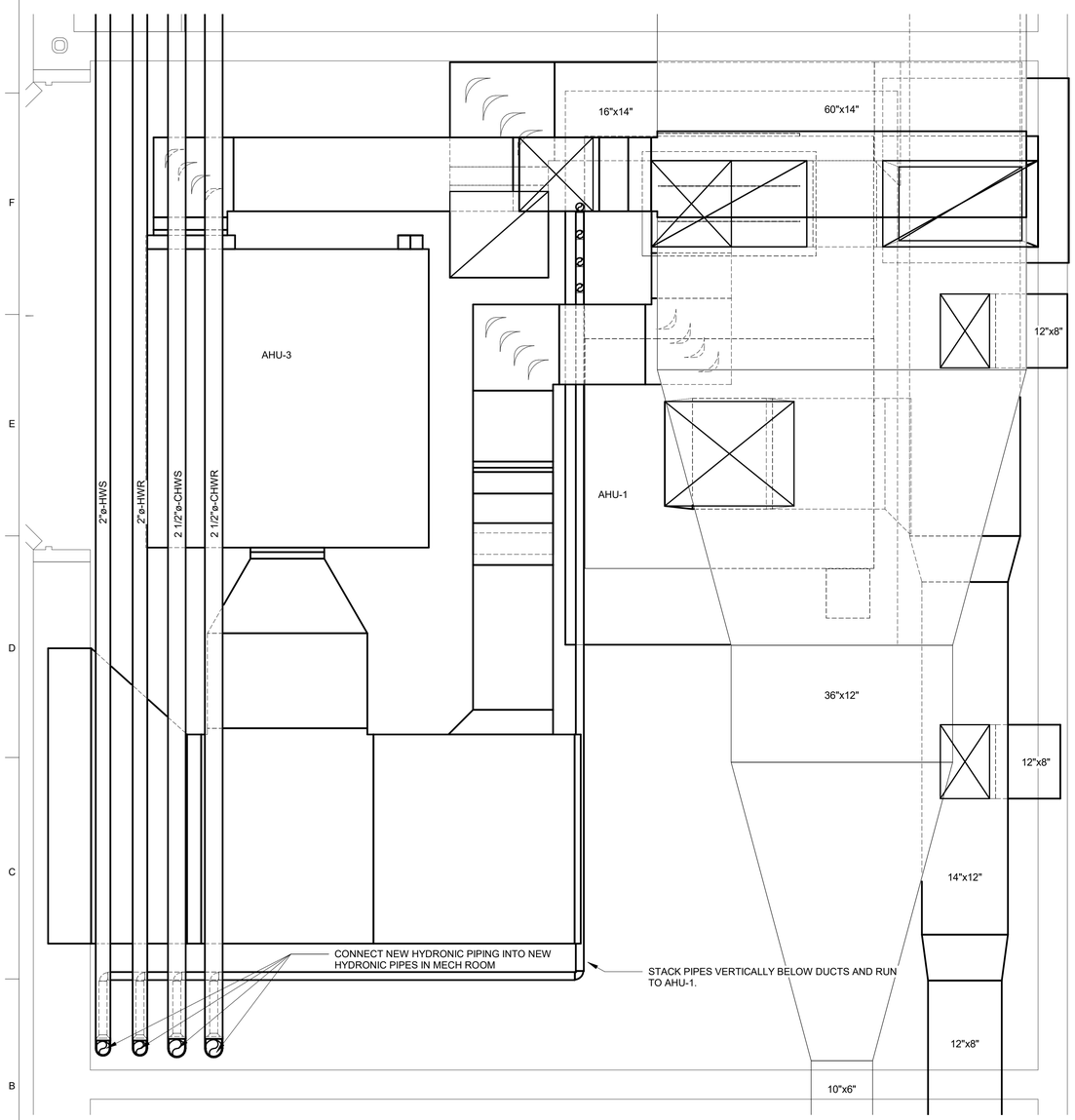
HVAC SECTION

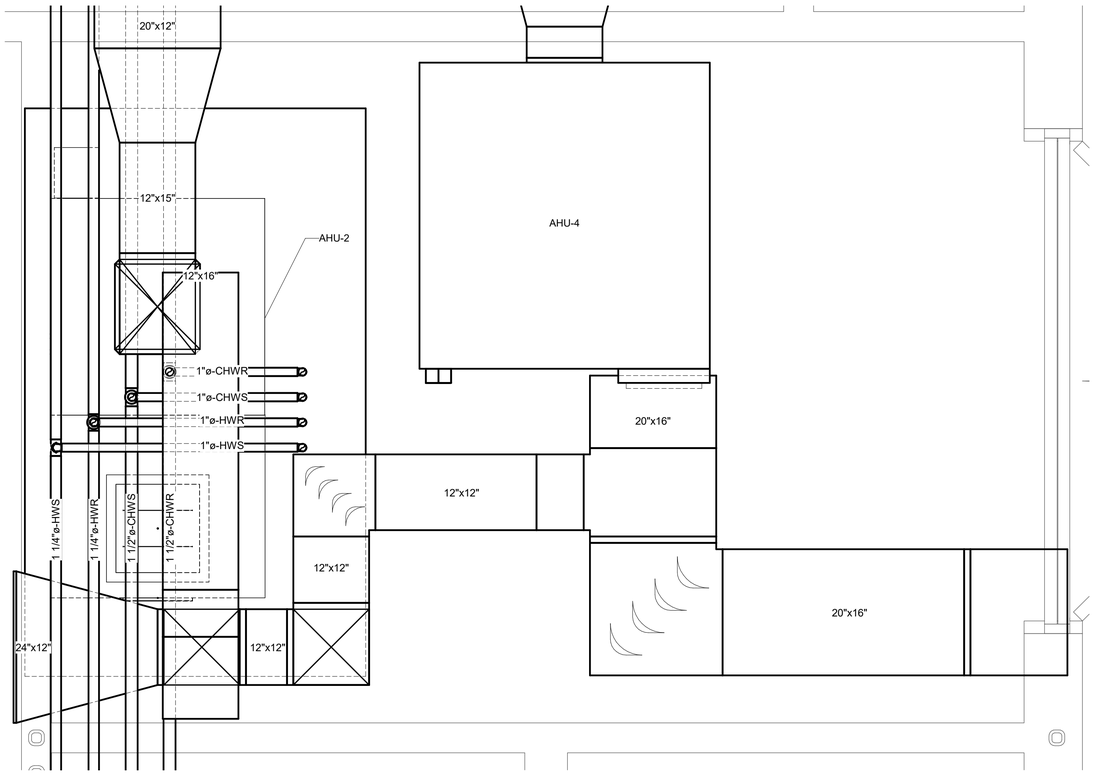
STATE OF NEW YORK
DAVID GUY SPENCER
100871
LICENSED PROFESSIONAL ENGINEER

SHEET
M-201

RTA SUBMISSION



B1 01_MP_HVAC AHU-1 MECHANICAL ROOM
1" = 1'-0"



B6 01_MP_HVAC AHU-2 MECHANICAL ROOM
1" = 1'-0"

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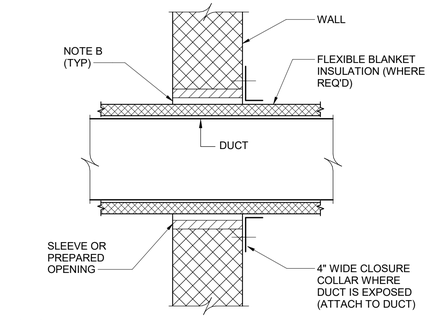
HVAC ENLARGED PLANS

SHEET
M-401

STATE OF NEW YORK
DAVID GUY SPENCER
100871
LICENSED PROFESSIONAL ENGINEER

RTA SUBMISSION



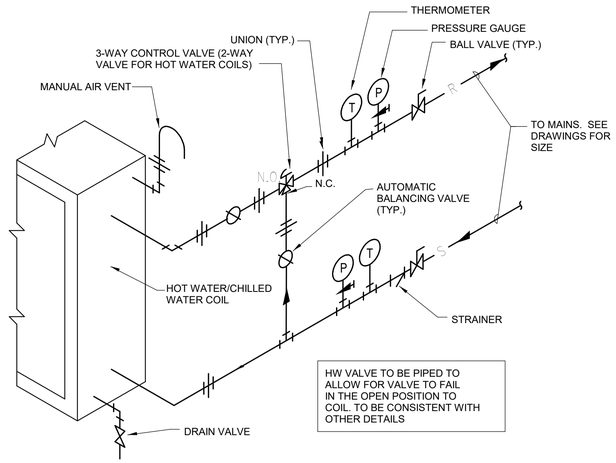
NOTES:

A. THIS DETAIL IS FOR NONFIRE-RATED CONSTRUCTION. DUCT PENETRATIONS IN FIRE-RATED CONSTRUCTION SHALL BE FIRESTOPPED WITH A UL-CLASSIFIED SYSTEM.

B. AT PENETRATIONS THRU INSULATED WALLS PROVIDE PACKING AND SEALANT.

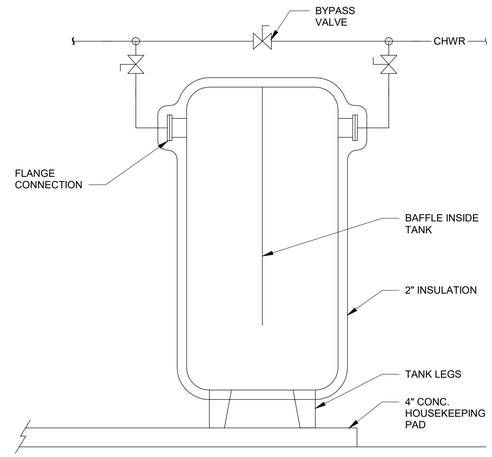
E1 TYPICAL DUCT PENETRATION THRU WALLS

NTS



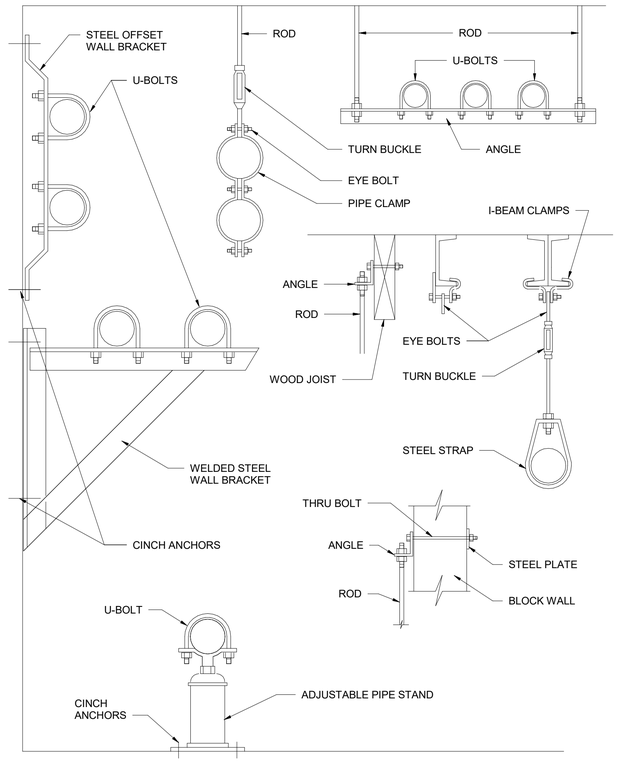
E4 HOT/CHILLED WATER COIL PIPING DIAGRAM

NTS



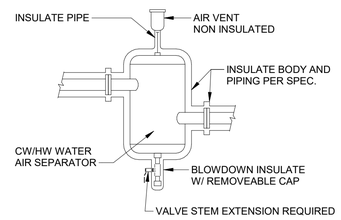
E7 EXPANSION TANK PIPING DETAIL

NTS



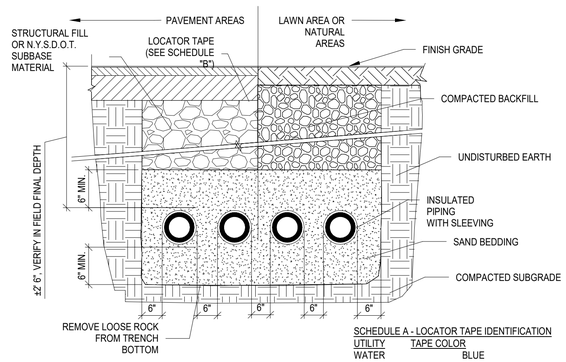
A1 TYPICAL PIPE SUPPORT DETAILS

NTS



A4 AIR SEPARATOR DETAIL

NTS



A7 PIPE TRENCH DETAIL

NTS

STATE OF NEW YORK
DAVID GUY SPENCER
100871
LICENSED PROFESSIONAL ENGINEER

MARK	DESCRIPTION	DATE

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DESIGNED BY: D. SPENCER
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SUBMITTED BY:
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Hennington, Durham & Richardson
Architecture and Engineering, P.C.
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140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
10324688

HVAC DETAILS

SHEET

M-501

RTA SUBMISSION

AIR COOLED CHILLER UNIT SCHEDULE

MARK NO.	REFRIG. TYPE	MIN. TONS ARI RATING	UNIT EFFICIENCY		COMPRESSOR DATA					EVAPORATOR DATA				PACKAGED PUMP			CONDENSER/FAN DATA		UNIT ELECTRICAL DATA			DIMENSIONS	WEIGHT (LBS)	BASIS OF DESIGN	REMARKS								
			FULL LOAD EER	IPLV EER	NO.	TYPE	VOLT	PH	HZ	FLUID TEMP. ENT./LV. (DEG. F)	FLUID TYPE	DESIGN FLOW RATE (GPM)	PRESSURE DROP (FT. H20)	NO. OF PUMPS	EXTERNAL HEAD 30% P.G. (FT. H20)	MIN. % EFF.	AMB. AIR ENT. COND. (DEG F)	NO.	MIN. CIRC. AMPS	MAX FUSE SIZE	SCCR				1	2	3	4	5	6	7	8	9
CH-1	R-410A	70.0	10	15.52	4	SCROLL	208	3	60	52/42	30% P.G.	160	11	2	42	84%	95	4	313	350	65000	95"'L X89"W X92"H	3,500	DAIKIN AGZ070C									

REMARKS

1. AIR COOLED CHILLER UNIT CH-1 SHALL BE COMPONENTS IN A SINGLE PACKAGED CHILLED SYSTEM PROVIDED BY ONE MANUFACTURER
2. CHILLER SHALL BE PACKAGED WITH AN INTEGRAL BUFFER TANK. VOLUME SHALL BE LARGE ENOUGH TO ACCOMMODATE 5 MINUTE MINIMUM RUN TIME FOR SCROLL COMPRESSORS
3. UNIT CONTROL SYSTEM SHALL DELAY OR EXTEND PERIODS OF COMPRESSOR OPERATION TO STABILIZE HEAD PRESSURE AS REQUIRED BY MANUFACTURER
4. PROVIDE UNIT WITH FULL LOUVERED ENCLOSURE TO CONCEAL ALL COMPRESSORS AND PIPING, AND PROVIDE WITH SOUND REDUCTION ENCLOSURES AND INSULATION ON COMPRESSORS
5. PROVIDE ULTRA LOW SOUND FANS
6. UNIT MOUNTED NON-FUSED DISCONNECT
7. PUMP PACKAGE TO OPERATE IN LEAD/LAG OPERATION CONTROLLED BY THE MANUFACTURE SUPPLIED CONTROL PANEL.
8. PROVIDE WITH BUILT IN EXPANSION TANK SIZED BY MANUFACTURER.
9. OR APPROVED EQUAL

PUMP SCHEDULE

MARK NO.	SERVES	LOCATION	TYPE	FLOW (GPM)	HEAD 30%P.G. (FT WAT)	MIN % EFF.	MOTOR DATA					MANUFACTURER	REMARKS		
							RPM	HP	VOLT	PH	HZ				
CWP-1	CHILLED WATER	BOILER ENCLOSURE	BASE MOUNT	120	80	84.00%	1800	7.5	208	3	60	ARMSTRONG 4380	1	2	
HWP-1	HOT WATER	BOILER ENCLOSURE	BASE MOUNT	65	80	84.00%	1800	5	208	3	60	ARMSTRONG 4380	1	2	3
HWP-2	HOT WATER	BOILER ENCLOSURE	BASE MOUNT	65	80	84.00%	1800	5	208	3	60	ARMSTRONG 4380	1	2	3
CP-1	BOILER CIRC.	BOILER ENCLOSURE	INLINE	65	15	84.00%	1800	3/4	208	3	60	ARMSTRONG 4360	1	2	

REMARKS

1. PROVIDE STRAIGHT CONSTRUCTION SCREENS AND FINAL OPERATING SCREENS
2. PROVIDE CONTROLS PER SPECIFICATIONS
3. VFD OPERATION.

BOILER SCHEDULE

MARK NO.		B-1
TYPE		CONDENSING
FUEL		NAT GAS
OUTPUT BTU/HR		986,000
INPUT BTU/HR		1,050,000
MIN BTU/HR OUTPUT		197,190
ENTERING/LEAVING WATER TEMPERATURE (F)		120 / 150
MAX GPM		65
MIN GPM		18.6
TURNDOWN		5:1
EFF%		94%
ELECTRICAL DATA	VOLTAGE/PHASE/AMPS	120/1PH/10A
BOILER HORSEPOWER		29.5
OPERATING WEIGHT LBS		580
MIN/MAX INLET GAS PRESSURE		3.5/14 IN WC
OVERALL SIZE (PLAN)		53"x29"
HEIGHT		60"
LOCATION		MECHANICAL ROOM
REMARKS		INLET GASKET VICT.
BASIS OF DESIGN	PATTERSON KELLY	MACH C1050

REMARKS

1. INLET & OUTLET CONN. SIZE 2" M.P.T.
2. DIRECT VENTING, CATEGORY IV POSITIVE PRESSURE 8"&
3. IRI GAS TRAIN
4. LOW WATER CUT-OFF OPTION
5. REMOTE MODULATING CONTROL OPTION (0-10V INPUT)
6. OUTDOOR AIR RESET
7. BOILER INLET STRAINER
8. GAS PRESSURE REGULATOR
9. VERTICAL COMBUSTION AIR INTAKE AND VENTING, 316L STAINLESS STEEL
10. NEUTRALIZATION TANK (S)
11. INSTALL BOILER ON CONCRETE HOUSEKEEPING PAD.
12. OR APPROVED EQUAL

MISCELLANEOUS MECHANICAL EQUIPMENT SCHEDULE

MARK NO.	TYPE	SERVICE	LOCATION	OPERATING CONDITIONS	CAPACITY AND SIZE	BASIS OF DESIGN	NOTES
AS-1	AIR SEPARATOR	CHILLED WATER	EXTERIOR MECH	WORKING PRESSURE=125 PSI	160 GPM 4" CONN.	TACO AC04	1
AS-2	AIR SEPARATOR	HOT WATER	EXTERIOR MECH	WORKING PRESSURE=125 PSI	60 GPM 2.5" CONN.	TACO AC02	1
ET-1	EXPANSION TANK	HOT WATER	EXTERIOR MECH	WORKING PRESSURE=125 PSI	34 GAL VOLUME	TACO CBX130	1

NOTES
1. OR APPROVED EQUAL
2. INSTALL ALL FLOOR MOUNTED EQUIPMENT ON HOUSEKEEPING...

DIFFUSER SCHEDULE

MARK NO.	TYPE	MOUNTING	NECK SIZE	SIZE	BASIS OF DESIGN
SA-1	SUPPLY AIR	LAY-IN	SEE NOTE 1	24"X24"	TITUS OMNI
SA-2	SUPPLY AIR	SURFACE	SEE NOTE 1	6"X48"	TITUS DL-30
RA-1	RETURN AIR	LAY-IN	SEE NOTE 1	24"X24"	TITUS PAR
RA-2	RETURN AIR	SURFACE	SEE NOTE 1	AS SHOWN	TITUS 23RL
EA-1	EXHAUST AIR	LAY-IN	SEE NOTE 1	24"X24"	TITUS PAR
TG-1	TRANSFER AIR	LAY-IN	SEE NOTE 1	24"X24"	TITUS PAR

NOTES
SCHEDULE DOES NOT INDICATE QUANTITIES. FOR QUANTITIES OF EACH ITEM SEE PLANS
1. NECK SIZE SHALL BE AS FOLLOWS
   6" DIA NECK FOR CFM RANGE (0 CFM-100 CFM)
   8" DIA NECK FOR CFM RANGE (101 CFM-200 CFM)
   10" DIA NECK FOR CFM RANGE (201 CFM-400 CFM)
   12" DIA NECK FOR CFM RANGE (401 CFM-500 CFM)
   14" DIA NECK FOR CFM RANGE (501 CFM-600 CFM
2. OR APPROVED EQUAL

STATE OF NEW YORK
DAVID GUY SPENCER
100871
LICENSED PROFESSIONAL ENGINEER

DATE | DESCRIPTION | MARK

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

DESIGNED BY: D. SPENCER
DRAWN BY: A.LEM
CHECKED BY: M. WHALEN
SUBMITTED BY:
SIZE: ANSI D

Henningson, Durham & Richardson Architecture and Engineering, P.C.
711 Wesychester Avenue
White Plains, NY 10604-350

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE
DESIGN
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HVAC SCHEDULES

SHEET
M-601

RTA SUBMISSION

AIR HANDLING UNIT SCHEDULE

				SUPPLY FAN						CHILLED WATER COIL					HOT WATER COIL					
MARK	LOCATION	BASIS OF DESIGN	OVERALL DIMENSIONS, IN.	DESIGN AIRFLOW, CFM	MIN OUTSIDE AIRFLOW, CFM	EXTERNAL STATIC, IN. WG	DRIVE TYPE	HP	FAN POWER (V/PH/HZ)	ENTERING AIR TEMP. (DB F)	LEAVING AIR TEMP. (DB F)	MIN. TOTAL CAPACITY (MBH)	MIN. SENSIBLE CAPACITY	TOTAL FLOW (GPM)	ENTERING AIR TEMP. (F)	LEAVING AIR TEMP. (F)	ENTERING WATER TEMP. (F)	LEAVING WATER TEMP. (F)	MIN. SENSIBLE CAP.	TOTAL FLOW (GPM)
AHU-1	MECHANICAL ROOM 1	DAIKIN	68"x54"x74"	2,360	1,000	0.50	DIRECT	1.5	208-3-60	75.8	55	89	48.8	6.5	41.7	90.0	150.0	120.0	123.1	8.2
AHU-2	MECHANICAL ROOM 2	DAIKIN	68"x54"x66"	1,295	600	0.50	DIRECT	1.5	208-3-60	75.4	55	65	38.0	5.1	39.5	90.0	150.0	120.0	70.6	4.7
AHU-3	MECHANICAL ROOM...	DAIKIN	76"x58"x34"	3,610	3,610	1.50	DIRECT	5.0	208-3-60	92.0	55	181	92.9	19.8	10.0	70.0	150.0	120.0	233.9	15.6
AHU-4	MECHANICAL ROOM...	DAIKIN	72"x46"x30"	1,770	1,770	1.25	DIRECT	3.0	208-3-60	92.0	55	100	42.2	9.7	10.0	70.0	150.0	120.0	114.7	7.6

NOTES:
1. VARIABLE FREQUENCY DRIVE MOTORS AND SUPPLY FANS. 208 VOLT, 3 PHASE, 4 WIRE POWER TO ALL MOTORS.
2. PRIOR TO ORDERING MOTORS, COORDINATE WITH ELECTRICAL CONTRACTOR TO CONFIRM BREAKER SIZE.
3. FLOW PATH SHALL BE AS FOLLOWS: RETURN AIR FAN, EXHAUST BOX, MIXING BOX, MERV 13 FILTER, CHILLED WATER COIL, HOT WATER COIL, SUPPLY FAN
4. INSTALL A TRAPPED CONDENSATE DRAIN LINE AT UNIT DRAIN CONNECTION. ALL UNITS HAVE A 1 IN. FPT DRAIN CONNECTION.
5. UNITS SHALL BE MOUNTED WITH CROSSBEAM MOUNTS WITH VIBRATION ISOLATORS.
6. ALL UNITS SHALL BE DOUBLE WALL CONSTRUCTION WITH 1 INCH INSULATION.
7. 2 INCH PLEATED MERV 13 FILTERS. PROVIDE THROWAWAY MERV 13 FILTERS DURING CONSTRUCTION.
8. PROVIDE ADJUSTABLE SHEAVES FOR ALL BELT DRIVES.
9. OR APPROVED EQUAL
10. ALL MOTORS SHALL BE PREMIUM EFFICIENCY
11. PROVIDE A SPARE FILTER SET FOR EACH UNIT
12. OR APPROVED EQUAL

FAN COIL UNIT SCHEDULE

			SUPPLY FAN						CHILLED WATER COIL					HOT WATER COIL					
MARK	SERVES	BASIS OF DESIGN	DESIGN AIRFLOW, CFM	MIN OUTSIDE AIRFLOW, CFM	EXTERNAL STATIC, IN. WG	DRIVE TYPE	HP	FAN POWER (V/PH/HZ)	ENTERING AIR TEMP. (DB F)	LEAVING AIR TEMP. (DB F)	MIN. TOTAL CAPACITY (MBH)	NO. OF ROWS	TOTAL FLOW (GPM)	ENTERING AIR TEMP. (F)	LEAVING AIR TEMP. (F)	ENTERING WATER TEMP. (F)	LEAVING WATER TEMP. (F)	MIN. SENSIBLE CAP.	TOTAL FLOW (GPM)
FCU-1	SNACK BAR 103	JCI	870	500	0.50	DIRECT	1/6	120-1-60	74.3	55	23	6.0	3.1	67.9	95.0	150.0	120.0	25	1.7
FCU-2	EATING AREA 104	JCI	1,350	600	0.50	DIRECT	1/4	120-1-60	75.6	55	56	6.0	7.5	67.2	95.0	150.0	120.0	41	2.7
FCU-3	ACTIVITY ROOM 105	JCI	850	440	0.50	DIRECT	1/6	120-1-60	74.8	55	28	6.0	3.7	67.6	95.0	150.0	120.0	25	1.7
FCU-4	TOILET ROOMS...	JCI	570	350	0.50	DIRECT	1/4	120-1-60	73.9	55	22	6.0	2.9	68.1	95.0	150.0	120.0	17	1.1
FCU-5	INFANT/TODDLER 125	JCI	850	550	0.50	DIRECT	1/6	120-1-60	73.5	55	35	6.0	4.7	68.2	95.0	150.0	120.0	25	1.6
FCU-6	RECEPTION 130	JCI	665	250	0.25	DIRECT	1/4	120-1-60	76.2	55	21	6.0	2.8	66.9	95.0	150.0	120.0	20	1.3
FCU-7	PREK/K 126	JCI	945	600	0.50	DIRECT	1/6	120-1-60	73.7	55	37	6.0	4.9	68.2	95.0	150.0	120.0	27	1.8
FCU-8	PARENT WAITING 135	JCI	840	280	0.50	DIRECT	1/6	120-1-60	76.7	55	27	6.0	3.6	66.7	95.0	150.0	120.0	26	1.7
FCU-9	ACTIVITY ROOM 139	JCI	600	350	0.40	DIRECT	1/4	120-1-60	74.2	55	20	6.0	2.7	67.9	95.0	150.0	120.0	18	1.2
FCU-10	OFFICE 146	JCI	530	190	0.15	DIRECT	1/6	120-1-60	76.4	55	24	6.0	3.2	66.8	95.0	150.0	120.0	16	1.1
FCU-11	LAUNDRY 147	JCI	400	100	0.50	DIRECT	1/6	120-1-60	77.5	55	6.9	6.0	0.9	66.3	95.0	150.0	120.0	12	0.8
FCU-12	ACTIVITY ROOM 129	JCI	1,015	400	0.50	DIRECT	1/4	120-1-60	76.1	55	42.1	6.0	5.6	67.0	95.0	150.0	120.0	31	2.0
FCU-13	TOILET ROOM 117	JCI	410	150	0.50	DIRECT	1/6	120-1-60	76.3	55	12.9	6.0	1.7	66.8	95.0	150.0	120.0	12	0.8
FCU-14	TRAINING/LOUNGE 113	JCI	650	120	0.25	DIRECT	1/4	120-1-60	78.2	55	25	6.0	3.3	65.9	95.0	150.0	120.0	20	1.4
FCU-15	SNACK BAR 103	JCI	1,050	500	0.25	DIRECT	1/4	120-1-60	75.2	55	51	6.0	6.8	67.4	95.0	150.0	120.0	31	2.1

NOTES:
1. ECM MOTORS ON SUPPLY FANS. 208 VOLT, 3 PHASE, 4 WIRE POWER TO ALL MOTORS.
2. INSTALL A TRAPPED CONDENSATE DRAIN LINE AT UNIT DRAIN CONNECTION. ALL UNITS HAVE A 1 IN. FPT DRAIN CONNECTION.
3. UNITS SHALL BE MOUNTED WITH CROSSBEAM MOUNTS WITH VIBRATION ISOLATORS.
4. ALL UNITS SHALL BE DOUBLE WALL CONSTRUCTION WITH 1 INCH INSULATION.
5. 2 INCH PLEATED MERV 13 FILTERS. PROVIDE THROWAWAY MERV 13 FILTERS DURING CONSTRUCTION.
6. OR APPROVED EQUAL

LOUVER SCHEDULE

MARK NO.	TYPE	MOUNTING	LOCATION	SIZE	BASIS OF DESIGN
L-1	STATIONARY	WALL	SEE PLANS	48"X36"	RUSKIN L375D
L-2	STATIONARY	WALL	SEE PLANS	36"X36"	RUSKIN L375D

NOTES
SCHEDULE DOES NOT INDICATE QUANTITIES. FOR QUANTITIES OF EACH ITEM SEE PLANS
1. LOUVER TO HAVE A MINIMUM 0.55 SQFT OF FREE AREA
2. LOUVER TO BE RATED FOR OUTDOOR USE AND DRAINABLE
3. VERIFY COLOR WITH BUILDING OWNER PRIOR TO ORDERING LOUVERS
4. OR APPROVED EQUAL

STATE OF NEW YORK
DAVID GUY SPENCER
100871
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HVAC SCHEDULES

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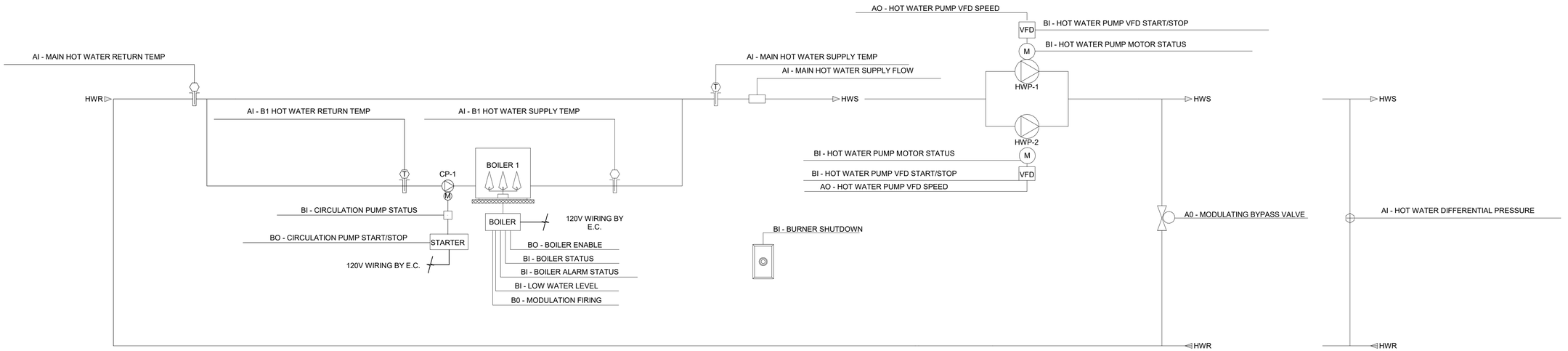

E1 CONDENSING BOILER CONTROL DIAGRAM

NTS

MARK	DESCRIPTION	DATE

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140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE
DESIGN
10324688

HVAC CONTROL DIAGRAMS

SHEET

M-701

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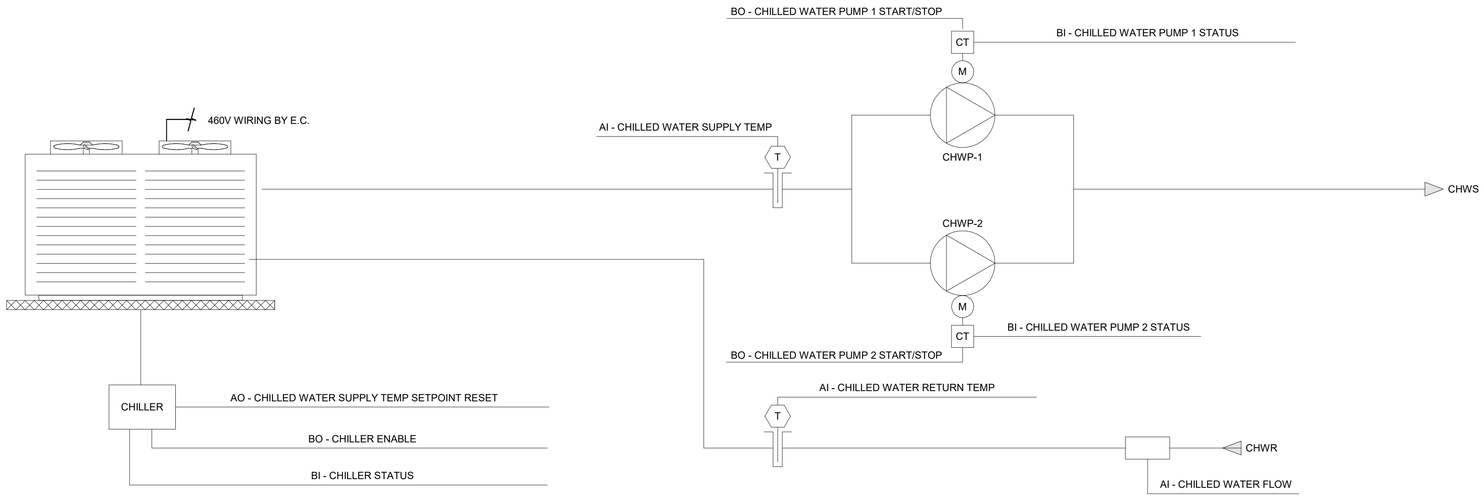
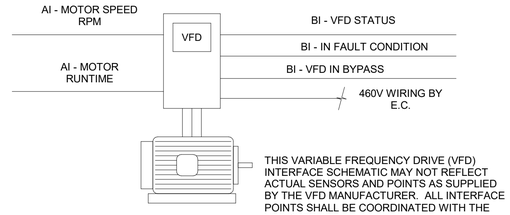
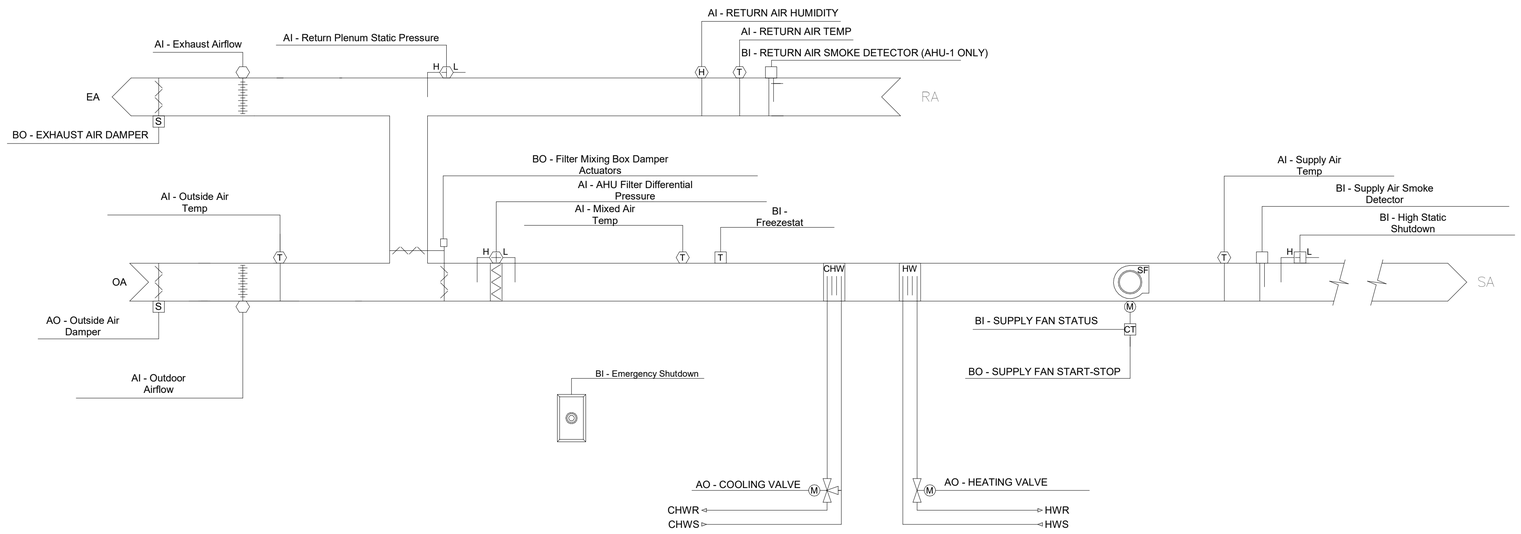


E1 CHILLER CONTROL DIAGRAM
NTS



E7 VFD CONTROL DIAGRAM1
NTS



A1 AHU 1, 2 CONTROL DIAGRAM1
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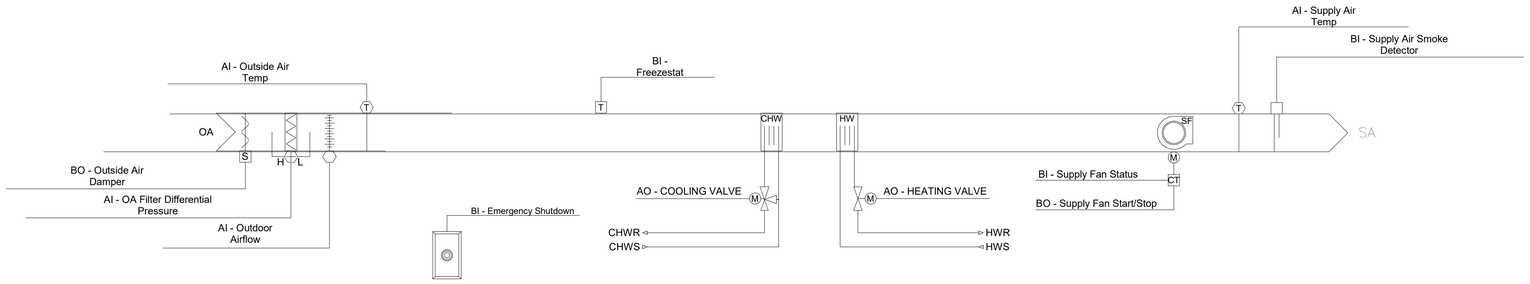
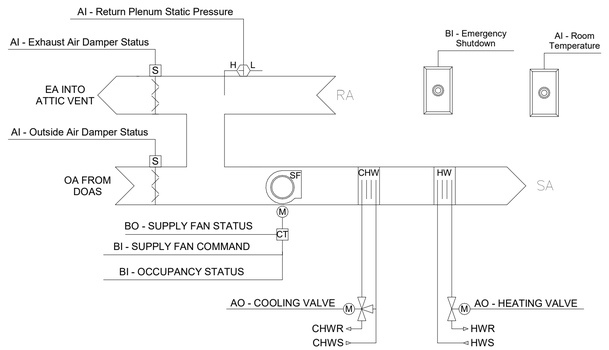


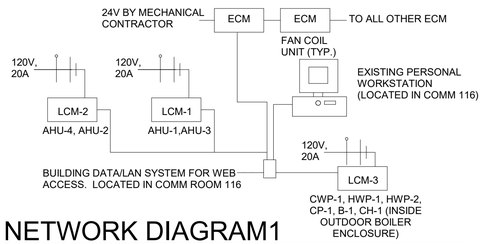
E1 AHU-3,4 DOAS CONTROL DIAGRAM

NTS



C1 FCU CONTROL DIAGRAM

NTS



C4 BMS NETWORK DIAGRAM1

NOT TO SCALE

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Point Name	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	SCHED	TREND	ALARM	GRAPHIC
CHILLED WATER RETURN TEMP	×							×		×
CHILLED WATER SUPPLY TEMP	×							×		×
CHILLED WATER SUPPLY TEMP										
CHILLED WATER SUPPLY TEMP RESET		×						×		×
EMERGENCY SHUTDOWN			×					×	×	×
CHILLED WATER ISOLATION VALVE STATUS			×					×		×
CHILLED WATER PUMP 1 STATUS			×					×		×
CHILLER STATUS			×					×		×
CHILLED WATER ISOLATION VALVE				×						×
CHILLED WATER PUMP 1 START/STOP				×						×
CHILLER ENABLE				×						×
OUTSIDE AIR TEMP					×					×
CHILLED WATER ISOLATION VALVE FAILURE									×	
CHILLED WATER PUMP 1 FAILURE									×	
CHILLED WATER PUMP 1 IN HAND									×	
CHILLER FAILURE									×	
CHILLER RUNNING IN HAND									×	
CHILLER RUNTIME EXCEEDED									×	
HIGH CHILLED WATER SUPPLY TEMP									×	
LOW CHILLED WATER SUPPLY TEMP									×	

AIR HANDLING UNITS POINTS LIST POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
SUPPLY AIR STATIC PRESSURE	X							X	X	X
RETURN PLENUM STATIC PRESSURE	X							X	X	X
OUTSIDE AIR TEMPERATURE	X							X		X
EXHAUST AIR TEMPERATURE	X							X		X
BUILDING STATIC PRESSURE	X							X		X
AHU FILTER DIFFERENTIAL PRESSURE	X								X	X
MIXED AIR TEMPERATURE	X							X		X
RETURN AIR CARBON DIOXIDE PPM	X							X		X
RETURN AIR HUMIDITY	X							X		X
RETURN AIR TEMPERATURE	X									X
SUPPLY AIR TEMPERATURE	X									X
COOLING VALVE		X								X
HEATING VALVE		X								X
EXHAUST AIR DAMPER		X								X
FREEZESTAT			X							X
SUPPLY AIR SMOKE DETECTOR			X							X
RETURN AIR SMOKE DETECTOR			X							X
SUPPLY FAN STATUS			X							X
EXHAUST AIR DAMPER STATUS			X							X
SUPPLY FAN START/STOP			X							X
SUPPLY AIR STATIC PRESSURE SETPOINT					X					X
RETURN PLENUM STATIC PRESSURE SETPOINT					X					X
SUPPLY AIR TEMPERATURE SETPOINT					X					X
BUILDING STATIC PRESSURE SETPOINT					X					X
DEHUMIDIFICATION SETPOINT					X					X
SCHEDULE							X			
HIGH SUPPLY AIR STATIC PRESSURE									X	
LOW SUPPLY AIR STATIC PRESSURE									X	
SUPPLY FAN FAILURE									X	
SUPPLY FAN IN HAND									X	
HIGH RETURN PLENUM STATIC PRESSURE									X	
LOW RETURN PLENUM STATIC PRESSURE									X	
HIGH SUPPLY AIR TEMPERATURE									X	
LOW SUPPLY AIR TEMPERATURE									X	
EXHAUST AIR DAMPER FAILURE									X	
EXHAUST AIR DAMPER IN HAND									X	
AHU FILTER CHANGE REQUIRED									X	X
HIGH MIXED AIR TEMPERATURE									X	
LOW MIXED AIR TEMPERATURE									X	
HIGH RETURN AIR CARBON DIOXIDE									X	
HIGH RETURN AIR HUMIDITY									X	
LOW RETURN AIR HUMIDITY									X	
HIGH RETURN AIR TEMPERATURE									X	
LOW RETURN AIR TEMPERATURE									X	
HIGH SUPPLY AIR TEMPERATURE									X	
LOW SUPPLY AIR TEMPERATURE									X	
OUTDOOR AIRFLOW CFM	X							X		X
EXHAUST AIRFLOW CFM	X							X		X
OUTDOOR AIR DAMPER POSITION		X								X
MIXING BOX DAMPER POISITIONS		X								X
OUTDOOR AIR DAMPER STATUS			X					X		X

***

FAN COIL UNITS POINTS LIST POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
ROOM TEMPERATURE	X							X	X	X
OCCUPANCY STATUS				X				X	X	X
UNOCCUPIED COOLING SETPOINT	X							X		X
UNOCCUPIED HEATING SETPOINT	X								X	X
FAN COMMAND			X					X		X
RETURN PLENUM STATIC PRESSURE	X									
EXHAUST AIR DAMPER				X						
COOLING VALVE		X						X		X
HEATING VALVE		X						X		X
SEQUENCE OF OPERATION	X									X
SYSTEM MODE	X									X
OCCUPANCY COMMAND				X						X
FAN STATUS				X						X

***

BOILER MANAGER POINTS LIST POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
MAIN HWS TEMP	X							X		X
MAIN HWR TEMP	X							X		X
MAIN HWS FLOW	X							X		X
BOILER 1 FAILURE									X	X
EMERGENCY SHUTDOWN			X					X	X	X
HIGH MAIN HWS TEMP									X	
LOW MAIN HWS TEMP									X	
HIGH MAIN HWR TEMP									X	
LOW MAIN HWR TEMP									X	
B-1 MODULATING FIRE				X				X		X
CP-1 ON/OFF	X								X	X
HOT WATER DIFFERENTIAL PRESSURE	X							X		X
HOT WATER RETURN TEMP	X							X		X
HOT WATER SUPPLY TEMP	X							X		X
HOT WATER PUMP 1 VFD SPEED		X						X		X
HOT WATER PUMP 2 VFD SPEED		X						X		X
HOT WATER PUMP 1 STATUS			X					X		X
HOT WATER PUMP 2 STATUS			X					X		X
HOT WATER PUMP 1 VFD FAULT			X						X	X
HOT WATER PUMP 2 VFD FAULT			X						X	X
HOT WATER PUMP 1 START/STOP				X				X		X
HOT WATER PUMP 2 START/STOP				X				X		X
OUTSIDE AIR TEMP					X					X
HOT WATER DIFF PRESSURE SETPOINT					X					X
HIGH HOT WATER DIFF PRESSURE									X	
LOW HOT WATER DIFF PRESSURE									X	
HOT WATER PUMP 1 FAILURE									X	
HOT WATER PUMP 2 FAILURE									X	
HOT WATER PUMP 1 RUNNING IN HAND									X	
HOT WATER PUMP 2 RUNNING IN HAND									X	

OUTDOOR AIR CONDITIONS POINTS LIST POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
OUTSIDE AIR TEMPERATURE	X							X		X
OUTSIDE AIR HUMIDITY	X							X		X
OUTSIDE AIR ENTHALPY					X			X		X
HIGH TEMPERATURE TODAY								X		X
HIGH TEMPERATURE MONTH TO DATE								X		X
HIGH TEMPERATURE YEAR TO DATE								X		X
LOW TEMPERATURE TODAY								X		X
LOW TEMPERATURE MONTH TO DATE								X		X
LOW TEMPERATURE YEAR TO DATE								X		X
SENSOR FAILURE										X
OUTSIDE CARBON DIOXIDE	X							X	X	
OUTSIDE STATIC PRESSURE	X							X		X

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SINGLE BOILER SYSTEM B-1
BOILER SYSTEM - RUN CONDITIONS:
THE BOILER SYSTEM SHALL BE ENABLED TO RUN WHENEVER OUTISDE AIR TEMPERATURE IS LESS THAN 65 DEG. F (ADJ.).
TO PREVENT SHORT CYCLING, BOILER SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH USER DEFINABLE), UNLESS SHUTDOWN ON SAFETIES OR OUTSIDE AIR CONDITIONS.
BOILER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.
THE BOILER SYSTEM SHALL ALSO RUN FOR FREEZE PROTECTION WHENEVER THE OUTISDE AIR TEMPERATURE IS LESS THAN 38 DEG. F (ADJ.)

BOILER SAFETIES:
THE FOLLOWING SAFETIES SHALL BE MONITORED:
- BOILER ALARM
- LOW WATER LEVEL
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- BOILER ALARM
- LOW WATER LEVEL ALARM

HOT WATER PUMP PRIMARY/STANDBY OPERATION:
THE TWO HOT WATER PUMPS SHALL OPERATE IN A PRIMARY/STANDBY FASHION.
- THE PRIMARY PUMP SHALL RUN FIRST
- ON FAILURE OF THE PRIMARY PUMP, THE STANDBY PUMP SHALL RUN AND THE PRIMARY PUMP SHALL TURN OFF.
- ON DECREASING HOT WATER DIFFERENTIAL PRESSURE, THE VFD SHALL ADJUST PUMP SPEED TO MAINTAIN HOT WATER DIFFERENTIAL PRESSURE SETPOINT.
THE DESIGNATED PRIMARY PUMP SHALL ROTATE UPON ONE OF THE FOLLOWING CONDITIONS (USER SELECTABLE):
- MANUALLY THROUGH A SOFTWARE SWITCH
- IF PUMP RUNTIME (ADJ.) IS EXCEEDED
- DAILY
- WEEKLY
- MONTHLY

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HOT WATER PUMP 1
  - FAILURE: COMMANDED ON, BUT THE STATUS IS OFF
  - RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH HOT WATER DIFFERENTIAL PRESSURE: IF THE HOT WATER DIFFERENTIAL PRESSURE IS GREATER THAN 18 PSI (ADJ.)
- LOW HOT WATER DIFFERENTIAL PRESSURE: IF THE HOT WATER DIFFERENTIAL PRESSURE IS LESS THAN 10 PSI (ADJ.)

CIRCULATION PUMP CP-1:
THE CIRCULATION PUMP 1 SHALL RUN ANYTIME BOILER 1 IS CALLED RUN AND SHALL HAVE A USER DEFINABLE DELAY (ADJ.) ON STOP.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- CIRCULATION PUMP 1 FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- CIRCULATION PUMP 1 RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- CIRCULATION PUMP 1 RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER-DEFINABLE LIMIT.

HOT WATER PUMPS
THE PUMP VFDS SHALL BE CONTROLLED BY THE PIPING SYSTEM PRESSURE DIFFERENTIAL SENSOR TO CONTROL THE SPEED OF THE PUMP TO MAINTAIN A FIELD DETERMINED PRESSURE DIFFERENTIAL AS 2-WAY VALVES ON AHUS AND FCUS OPEN AND CLOSE.

SINGLE AIR-COOLED CHILLER (CH-1)

CHILLER - RUN CONDITIONS:
THE CHILLER SHALL BE ENABLED TO RUN WHENEVER:
· A DEFINABLE NUMBER OF CHILLED WATER COILS NEED COOLING
· AND THE OUTSIDE AIR TEMPERATURE IS GREATER THAN 54°F (ADJ.).

TO PREVENT SHORT CYCLING, THE CHILLER SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH USER DEFINABLE), UNLESS SHUTDOWN ON SAFETIES OR OUTSIDE AIR CONDITIONS.

THE CHILLER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.
CHILLED WATER PUMP LEAD/STANDBY OPERATION:
THE TWO CHILLED WATER PUMPS SHALL RUN ANYTIME THE CHILLER IS CALLED TO RUN.

THE SUPPLY PUMP SHALL START PRIOR TO THE CHILLER BEING ENABLED AND SHALL STOP ONLY AFTER THE CHILLER IS DISABLED. THE PUMP(S) SHALL THEREFORE HAVE:
· A USER ADJUSTABLE DELAY ON START.
· AND A USER ADJUSTABLE DELAY ON STOP.

THE DELAY TIMES SHALL BE SET APPROPRIATELY TO ALLOW FOR ORDERLY CHILLED WATER SYSTEM START-UP, SHUTDOWN AND SEQUENCING.
THE TWO PUMPS SHALL OPERATE IN A LEAD/STANDBY FASHION.
· THE LEAD PUMP SHALL RUN FIRST.
· ON FAILURE OF THE LEAD PUMP, THE STANDBY PUMP SHALL RUN AND THE LEAD PUMP SHALL TURN OFF.

THE SUPPLY PUMP SHALL ROTATE UPON ONE OF THE FOLLOWING CONDITIONS (USER SELECTABLE):
· MANUALLY THROUGH A SOFTWARE SWITCH
· IF PUMP RUNTIME (ADJ.) IS EXCEEDED
· DAILY
· WEEKLY
· MONTHLY
ALARMS SHALL BE PROVIDED AS FOLLOWS:
· CHILLED WATER PUMP 1

- FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.

CHILLER:
THE CHILLER SHALL BE ENABLED A USER ADJUSTABLE TIME AFTER PUMP STATUS IS PROVEN ON. THE CHILLER SHALL THEREFORE HAVE A USER ADJUSTABLE DELAY ON START.

THE DELAY TIME SHALL BE SET APPROPRIATELY TO ALLOW FOR ORDERLY CHILLED WATER SYSTEM START-UP, SHUTDOWN AND SEQUENCING.
THE CHILLER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
· CHILLER FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
· CHILLER RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
· CHILLER RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.

CHILLED WATER SUPPLY TEMPERATURE - SETPOINT RESET:
THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET USING A TRIM AND RESPOND ALGORITHM BASED ON COOLING REQUIREMENTS.
THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT SHALL RESET TO A LOWER VALUE AS THE FACILITY'S CHILLED WATER VALVES OPEN BEYOND A USER DEFINABLE THRESHOLD (90% OPEN, TYP.). ONCE THE CHILLED WATER COILS ARE SATISFIED (VALVES CLOSING) THEN THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT SHALL GRADUALLY RISE OVER TIME TO REDUCE COOLING ENERGY USE.

CHILLED WATER TEMPERATURE MONITORING:
THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
· CHILLED WATER SUPPLY.
· CHILLED WATER RETURN.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
· HIGH CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS GREATER THAN 55°F (ADJ.).
· LOW CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS LESS THAN 38°F (ADJ.).

SINGLE ZONE CONSTANT VOLUME AIR HANDLER (AHU-1, AHU-2)
RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUN BASED UPON AN OPERATOR ADJUSTABLE SCHEDULE.
SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF
-SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON
-SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.)

COOLING COIL VALVE:
THE CONTROLLER SHALL READ THE ROOM THERMOSTAT SETPOINT TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS COOLING SETPOINT.

THE COOLING SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS GREATER THAN 50 DEG. F (ADJ.)
-AND THE SUPPLY FAN STATUS IS ON.
-AND THE HEATING (IF PRESENT) IS NOT ACTIVE
THE COOLING COIL VALVE SHALL OPEN TO 50% (ADJ.) WHENEVER THE OUTDOOR TEMPERATURE IS BELOW 32F (ADJ.)

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 5 DEG. F (ADJ.) GREATER THAN SETPOINT.

HEATING COIL VALVE
THE CONTROLLER SHALL READ THE ROOM THERMOSTAT SETPOINT TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS GREATER THAN 55 DEG. F (ADJ.)
-AND THE SUPPLY FAN STATUS IS ON.
-AND THE COOLING (IF PRESENT) IS NOT ACTIVE
THE HEATING COIL VALVE SHALL OPEN WHENEVER:
-SUPPLY AIR TEMPERATURE DROPS FROM 45F TO 40F
-OR THE FREEZESTAT IS ON.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 5 DEG F LESS THAN SETPOINT.

BUILDING STATIC PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE THE BUILDING STATIC PRESSURE AND MODULATE THE EXHAUST AIR DAMPER TO MAINTAIN BUILDING STATIC PRESSURE SETPOINT OF 0.05IN H20. EXHAUST DAMPER SHALL BE ENABLED WHEN THE SUPPLY FAN STATUS IS PROVEN AND CLOSED WHEN THE UNIT IS OFF.
ALARMS SHALL BE PROVIDED AS FOLLOWS
-HIGH BUILDING STATIC PRESSURE: IF THE BUILDING STATIC PRESSURE IS 25% GREATER THAN SETPOINT
-LOW BUILDING STATIC PRESSURE: IF THE BUILDING STATIC PRESSURE IS 25% LESS THAN SETPOINT.

AHU UNIT RETURN AIR FILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER BANK.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-AHU RETURN AIR FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT.

RETURN AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE RETURN AIR TEMPERATURE AND USE AS REQUIRED FOR SETPOINT CONTROL.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS GREATER THAN 90 DEG. F
-LOW RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS LESS THAN 45 DEG. F.

SUPPLY AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH SUPPLY AIR TEMPERATURE: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 100 DEG. F

MORNING START UP:
-COIL VALVES SHALL GO TO FULL OPEN AND FAN SPEED SHALL GO TO MAXIMUM WITH ROOM SENSOR CONTROLLING VALVE TO MEET MORNING WARM-UP SETPOINT.
-AFTER MORNING WARM-UP IS COMPLETED AS DETERMINED BY THREE SELECTED ROOM INPUTS BUT NOT BEFORE 8:30 AM. THE CONTROLLER SHALL PROVIDE INPUT TO START THE DEDICATED OUTSIDE AIR SYSTEM.

DEHUMIDIFICATION:
THE CONTROLLER SHALL MEASURE THE RETURN AIR HUMIDITY AND OVERRIDE THE COOLING SEQUENCE TO MAINTAIN SUPPLY AIR HUMIDITY AT OR BELOW 60% RH. DEHUMIDIFICATION SHALL BE ENABLED WHENEVER THES SUPPLY FAN STATUS IS ON.

DOAS AIR HANDLERS (AHU-3, 4)
RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUN BASED UPON AN OPERATOR ADJUSTABLE SCHEDULE.
SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED ON, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE SCHEDULED RUNTIME.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF
-SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON
-SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.)

COOLING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE COOLING COIL VALVE TO MAINTAIN ITS COOLING SETPOINT.

THE COOLING SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS GREATER THAN 70 DEG. F (ADJ.)
-AND THE SUPPLY FAN STATUS IS ON.
-AND THE HEATING (IF PRESENT) IS NOT ACTIVE
THE COOLING COIL VALVE SHALL OPEN TO 50% (ADJ.) WHENEVER THE OUTDOOR TEMPERATURE IS BELOW 32F (ADJ.)

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 5 DEG. F (ADJ.) GREATER THAN SETPOINT.

HEATING COIL VALVE
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS GREATER THAN 55 DEG. F (ADJ.)
-AND THE SUPPLY FAN STATUS IS ON.
-AND THE COOLING (IF PRESENT) IS NOT ACTIVE
THE HEATING COIL VALVE SHALL OPEN WHENEVER:
-SUPPLY AIR TEMPERATURE DROPS FROM 45F TO 40F
-OR THE FREEZESTAT IS ON.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 5 DEG F LESS THAN SETPOINT.

AHU UNIT OUTSIDE AIR FILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER BANK.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-AHU OUTSIDE AIR FILTER CHANGE REQUIRED: FILTER DIFFERETNAIL PRESSURE EXCEEDS A USER DEFINABLE LIMIT.

SUPPLY AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH SUPPLY AIR TEMPERATURE: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 100 DEG. F

DEHUMIDIFICATION:
THE CONTROLLER SHALL MEASURE THE OUTSIDE AIR HUMIDITY AND OVERRIDE THE COOLING SEQUENCE TO MAINTAIN SUPPLY AIR HUMIDITY AT OR BELOW 60% RH. DEHUMIDIFICATION SHALL BE ENABLED WHENEVER THES SUPPLY FAN STATUS IS ON.

SINGLE ZONE CONSTANT VOLUME FAN-COIL UNIT (FCU-#)

RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUN BASED UPON AN OPERATOR ADJUSTABLE SCHEDULE.

SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED ON, UNLESS SHUTDOWN ON SAFETIES.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF
-SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON
-SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.)

COOLING COIL VALVE:
THE CONTROLLER SHALL READ THE ROOM THERMOSTAT SETPOINT TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS COOLING SETPOINT.

HEATING COIL VALVE
THE CONTROLLER SHALL READ THE ROOM THERMOSTAT SETPOINT TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS HEATING SETPOINT.

BUILDING STATIC PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE THE RETURN AIR STATIC PRESSURE AND MODULATE THE EXHAUST AIR DAMPER TO MAINTAIN BUILDING STATIC PRESSURE SETPOINT OF 0.05IN H20. EXHAUST DAMPER SHALL BE ENABLED WHEN THE SUPPLY FAN STATUS IS PROVEN AND CLOSED WHEN THE UNIT IS OFF.

MARK	DESCRIPTION	DATE

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

DESIGNED BY: D. SPENCER
DRAWN BY: A. LEM
CHECKED BY: M. WHALEN
SUBMITTED BY:
SIZE: ANSI D

Henningson, Durham & Richardson Architecture and Engineering, P.C.
711 Weyschester Avenue
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140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG, 140 HVAC SYSTEM & DRAINAGE DESIGN
10324688

HVAC SEQUENCE OF OPERATIONS

STATE OF NEW YORK
DAVID GUY SPENCER
100871
LICENSED PROFESSIONAL ENGINEER

SHEET
M-801

RTA SUBMISSION

GENERAL

Symbol	Description
2	KEY NOTE REFERENCE SYMBOL.
J TV	FOOT ON DEVICE INDICATES WALL MOUNTED
XXXX-XXXX / XX / XX	MARK NUMBER FOR MECHANICAL EQUIPMENT
XXXX-XXXX	MARK NUMBER FOR FIXED EQUIPMENT

CIRCUIT DESIGNATIONS

Symbol	Description
1LN1#1, PANEL NAME, CIRCUIT NUMBER(S); 1,3,5, PANEL NAME 1LN1, CIRCUIT NUMBER(S)	BRANCH CIRCUIT HOMERUN. PROVIDE #12 PHASE, #12 NEUTRAL AND #12 GROUND CONDUCTORS FOR EACH INDICATED CIRCUIT OR MULTI WIRE BRANCH U.O.N. PROVIDE SWITCH LEGS FOR SWITCH CIRCUITING AS REQUIRED. PROVIDE EQUIPMENT GROUND WIRE IN ALL BRANCH CIRCUIT RACEWAYS. PROVIDE SEPARATE ISOLATED GROUND WIRE TO ALL ISOLATED GROUND DEVICES.
	CONDUIT RUN CONCEALED IN CEILING OR WALL
	CONDUIT RUN BELOW GRADE, UNDER OR CONCEALED IN FLOOR SLAB, UNDER RAISED FLOOR
XX	SYSTEM CIRCUIT. SUBSCRIPT "XX" DENOTES SYSTEM TYPE
XX	CONDUIT TO TERMINAL CABINET. SUBSCRIPT "XX" DENOTES SYSTEM TYPE
	CONDUIT RISER UP
	CONDUIT RISER DOWN
	INDICATES CIRCUIT CONTINUATION
	STUB INTO ACCESSIBLE CORRIDOR CEILING SPACE UNLESS OTHERWISE NOTED
	CAP END OF CONDUIT
	CONDUIT SEAL FITTING FOR HAZARDOUS AREAS
	CONDUIT SLEEVE

DEMOLITION AND REMODEL

NOTES:
THE FOLLOWING SYMBOLS ARE EXAMPLES INTENDED TO SHOW METHODOLOGY FOR DEMOLITION. THIS APPROACH IS APPLICABLE TO ALL SYMBOLS INDICATED ON THIS SCHEDULE.

Symbol	Description
	EXISTING ELECTRICAL ITEM TO BE REMOVED
M M	EXISTING ELECTRICAL ITEM TO BE RELOCATED
ER ER	EXISTING ELECTRICAL RELOCATED. NEW LOCATION
E E	EXISTING ELECTRICAL ITEM TO REMAIN
B	EXISTING ELECTRICAL ITEM TO BE REMOVED AND PROVIDED WITH A BLANK COVER PLATE
EX	EXISTING ELECTRICAL OR SYSTEMS CIRCUIT TO REMAIN.
	EXISTING ELECTRICAL OR SYSTEMS CIRCUIT TO BE REMOVED. SHOWN ONLY WHERE CLARIFICATION BETWEEN EXISTING TO REMAIN AND REMOVED IS REQUIRED.

POWER DISTRIBUTION

Symbol	Description
	480/277V OR 480V PANEL
	208/120V PANEL
	120/240V PANEL
	RELAY PANEL
208/30/3	DISCONNECT SWITCH
208/30/3 20AF	FUSED DISCONNECT SWITCH
208/30/6	6 POLE DISCONNECT SWITCH (FOR ALL 2 SPEED MOTORS)
208/30/3	ENCLOSED CIRCUIT BREAKER
$M	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD PROTECTION.
C	CONTACTOR
VFD	VARIABLE FREQUENCY DRIVE
	COMBINATION FULL VOLTAGE MOTOR STARTER REV = REVERSING
	COMBINATION FULL VOLTAGE MOTOR STARTER / DISCONNECT REV = REVERSING
	COMBINATION REDUCED VOLTAGE MOTOR STARTER
	COMBINATION REDUCED VOLTAGE MOTOR STARTER/DISCONNECT
	COMBINATION 2 SPEED MOTOR STARTER/DISCONNECT
10	MOTOR - NUMBER INDICATES HORSEPOWER
10	2 SPEED MOTOR - NUMBER INDICATES HORSEPOWER
CP	CONTROL PANEL FURNISHED BY OTHERS, INSTALLED BY DIVISION 16, UON
J T J	JUNCTION BOX, FLUSH WALL MOUNTED T = JUNCTION BOX FOR VOICE/DATA
J	JUNCTION BOX, MOUNTED ABOVE CEILING IN AREAS WITH SUSPENDED CEILING, MOUNTED EXPOSED IN AREAS WITH NO SUSPENDED CEILING
T	DRY TYPE TRANSFORMER

POWER OUTLETS

TYPICAL OUTLET SYMBOL CIRCUITING NOTES

PANEL NAME — LP#1 GFCI — TYPE
CIRCUIT NUMBER — 2

Symbol	Description
WP	20A, 125V, 2 POLE, 3 WIRE GROUNDING DUPLEX RECEPTACLE WP - WEATHERPROOF; SURFACE MOUNTED GFCI RECEPTACLE MOUNTED 18" ABOVE HOUSEKEEPING CONCRETE PAD. EXTRA DUTY, SIMILAR TO HUBBELL TAYMAC MM420C IN-USE COVER WITH GRAY FINISH COLOR.

ABBREVIATIONS

A, AMP	AMPERES
AF	AMP FUSE OR AMP FRAME
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AS	AMP SWITCH
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BOF	BOTTOM OF FIXTURE
B.S.C	BARE STRANDED COPPER CONDUCTOR
C	CONDUIT
CAP	CAPACITY OR CAPACITOR
CB	CIRCUIT BREAKER
CKT ,CCT	CIRCUIT
C.O.	CONDUIT ONLY
CU	COPPER
(D)	DEMO
DISC	DISCONNECT
DPST	DOUBLE POLE SINGLE THROW
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATION OR ELEVATOR
EMERG, EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EMT	ELECTRICAL METAL TUBING
EG	ENGINE GENERATOR
(E)	EXISTING
FDR	FEEDER
FIXT	FIXTURE
FLA	FULL LOAD AMPERES
GRC,GCR	GALVANIZED RIGID CONDUIT
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI,GF	GROUND FAULT INTERRUPTER
GRD,GND,G	GROUND
HP	HORSEPOWER
HZ	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LTG	LIGHTING
LV	LOW VOLTAGE
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
(N)	NEW WORK
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NF	NON FUSIBLE
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OCP	OVER CURRENT PROTECTION
P	POLE
PB	PULLBOX
PH OR Ø	PHASE
PNL	PANEL
POC	POINT OF CONNECTION
PVC	POLYVINYL CHLORIDE
PWR	POWER
REC	RECEPTACLE
(R)	REMOVE
RGS	RIGID GALVANIZED STEEL
RX	REQUEST TO EXIT
SPTD	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
TEL	TELEPHONE
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TRANSF	TRANSFORMER
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT AMPERES
VD	VOLTAGE DROP
VM	VOLT METER
W	WATTS OR WIRE
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFRM	TRANSFORMER

GENERAL NOTES

1. PROVIDE #10 WIRE FOR ALL 20A 120V CIRCUITS EXCEEDING 75 FEET AND FOR 20A 277V CIRCUITS THAT EXCEED 150 FEET.
2. VERIFY LOCATION AND CONNECTIONS REQUIREMENTS FOR EQUIPMENT PROVIDED BY OTHER TRADES PRIOR TO ROUGH-IN.
3. COORDINATE CEILING MOUNTED LIGHTS AND DEVICES WITH CEILING CONTRACTOR AND INSTALL AS SHOWN ON THE REFLECTED CEILING PLANS.
4. COORDINATE ALL DIMENSIONS & WIRING REQUIREMENTS ON ALL PRE-PURCHASED EQUIPMENT WITH FINAL APPROVED SHOP DWGS.
5. FIRE SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS & SLABS. SEAL FIRE RATING SHALL BE EQUAL TO OR GREATER THAN THE FIRE RATING OF THE WALL OR SLAB THROUGH WHICH THE CONDUIT PASSES.
6. COORDINATE EXACT LOCATION OF SUSPENDED LIGHTING FIXTURES IN MECHANICAL AND STORAGE AREAS WITH OTHER TRADES.

NOTE:
SYMBOLS SHOWN ARE FOR REFERENCE ONLY AND DO NOT CONSTITUTE A CHECK LIST OF DEVICES REQUIRED BY THE CONTRACT

MARK | DESCRIPTION | DATE

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006
DESIGNED BY: BS
DRAWN BY: BS
CHECKED BY: ABS
SUBMITTED BY:
SIZE: ANSI D

STATE OF NEW YORK ★ ARTHUR B. SEMYONOV No 089456 LICENSED PROFESSIONAL ENGINEER
7/1/22

HDR
Henningson, Durham & Richardson, Architecture and Engineering, P.C.
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140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
10324688

ELECTRICAL ABBREVIATIONS, SYMBOLS AND GENERAL NOTES

SHEET
E-001

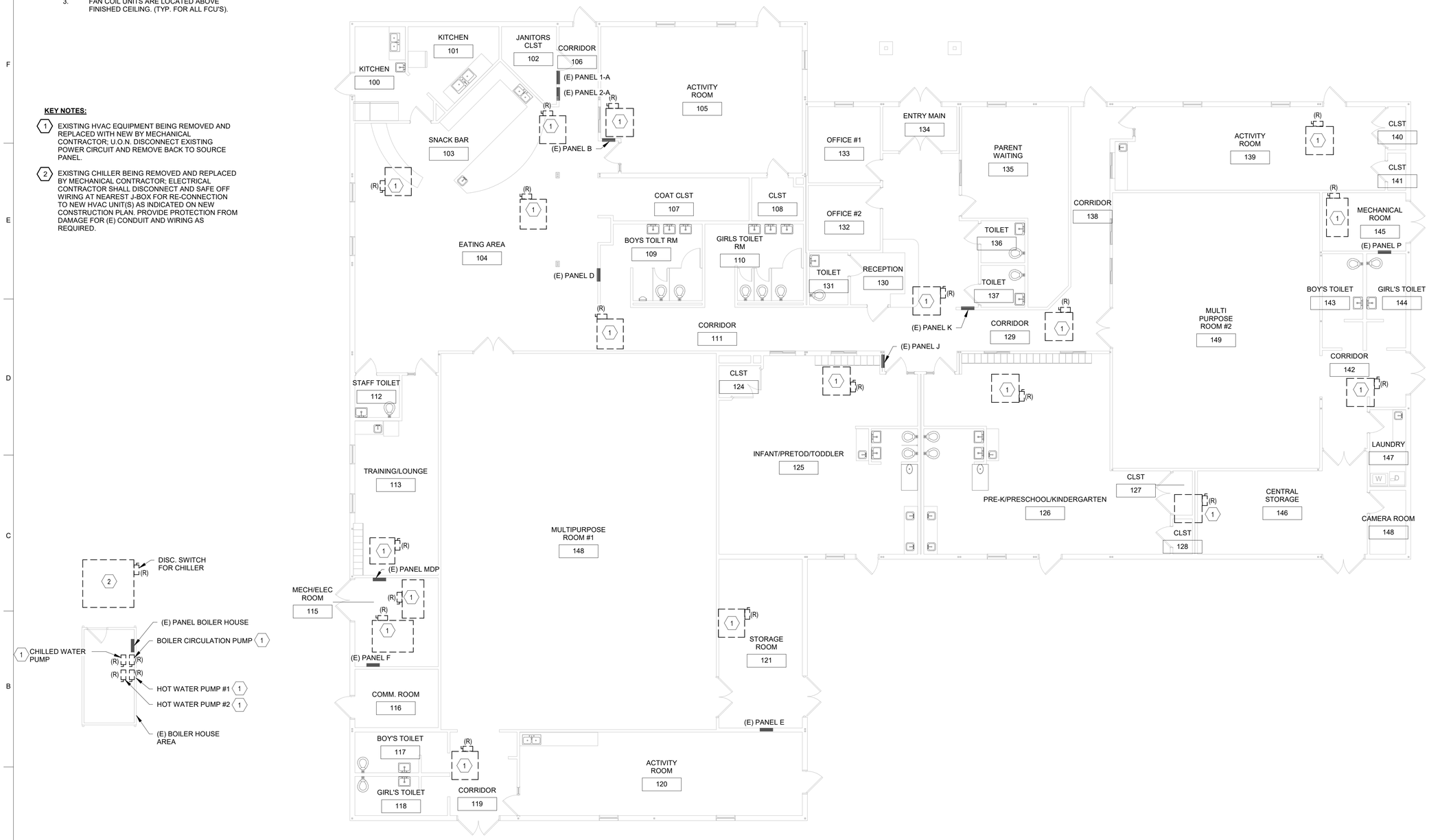
RTA SUBMISSION

GENERAL NOTES:

1. AS REQUIRED DUE TO MECHANICAL EQUIPMENT REPLACEMENT, TEMPORARILY REMOVE EXISTING LIGHTING FIXTURE(S), POWER CIRCUIT AND LIGHTING CONTROLS AND RE-INSTALL AFTER MECHANICAL WORK IS COMPLETE. EXTEND EXISTING CONDUIT, WIRING AND CABLING AS REQUIRED. COORDINATE WORK WITH MECHANICAL CONTRACTOR PRIOR TO BEGINNING OF WORK.
2. ALL CCTV EQUIPMENT SHALL BE EXISTING TO REMAIN; PROVIDE PROTECTION FROM PHYSICAL DAMAGE, COORDINATE WORK WITH TENANT'S SECURITY.
3. FAN COIL UNITS ARE LOCATED ABOVE FINISHED CEILING. (TYP. FOR ALL FCU'S).

KEY NOTES:

1. EXISTING HVAC EQUIPMENT BEING REMOVED AND REPLACED WITH NEW BY MECHANICAL CONTRACTOR; U.O.N. DISCONNECT EXISTING POWER CIRCUIT AND REMOVE BACK TO SOURCE PANEL.
2. EXISTING CHILLER BEING REMOVED AND REPLACED BY MECHANICAL CONTRACTOR; ELECTRICAL CONTRACTOR SHALL DISCONNECT AND SAFE OFF WIRING AT NEAREST J-BOX FOR RE-CONNECTION TO NEW HVAC UNIT(S) AS INDICATED ON NEW CONSTRUCTION PLAN. PROVIDE PROTECTION FROM DAMAGE FOR (E) CONDUIT AND WIRING AS REQUIRED.



A1 FIRST FLOOR DEMO PLAN
1/8" = 1'-0"

MARK	DESCRIPTION	DATE

DESIGNED BY: BS
DRAWN BY: BS
CHECKED BY: ABS
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006

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STATE OF NEW YORK ARTHUR B. SENTON No 089456 LICENSED PROFESSIONAL ENGINEER
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ELECTRICAL DEMO PLAN

SHEET
ED-101

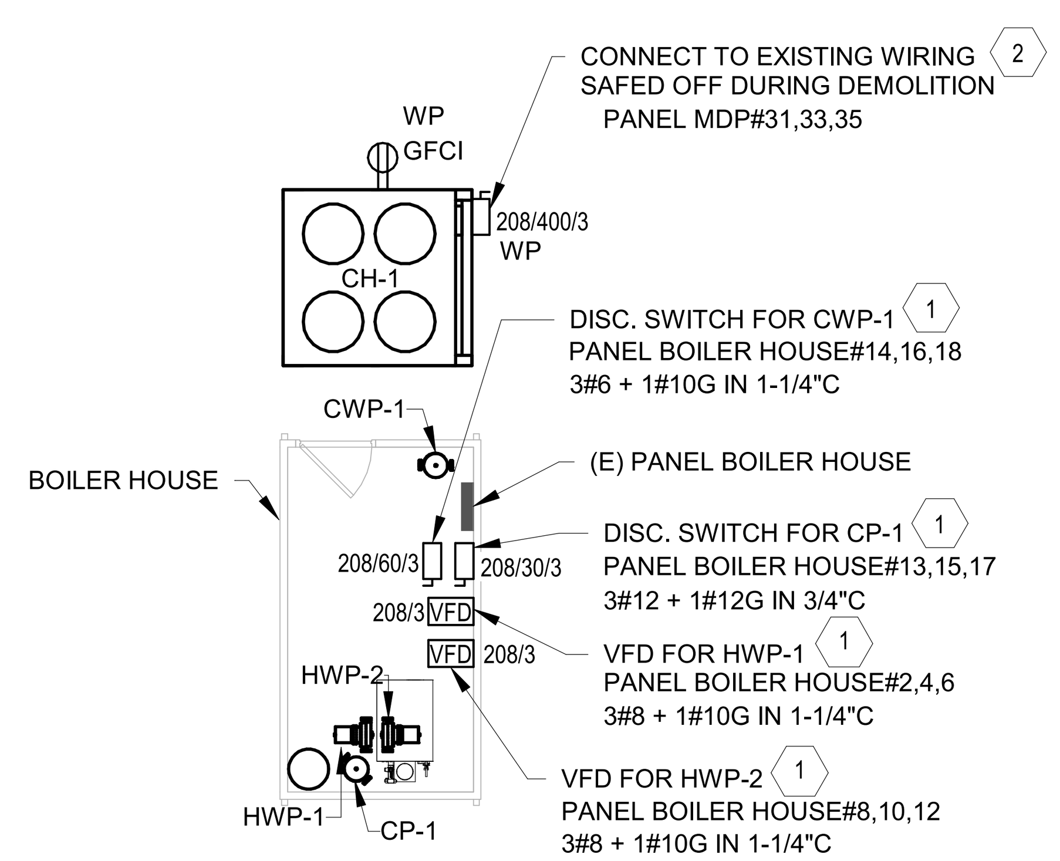
RTA SUBMISSION

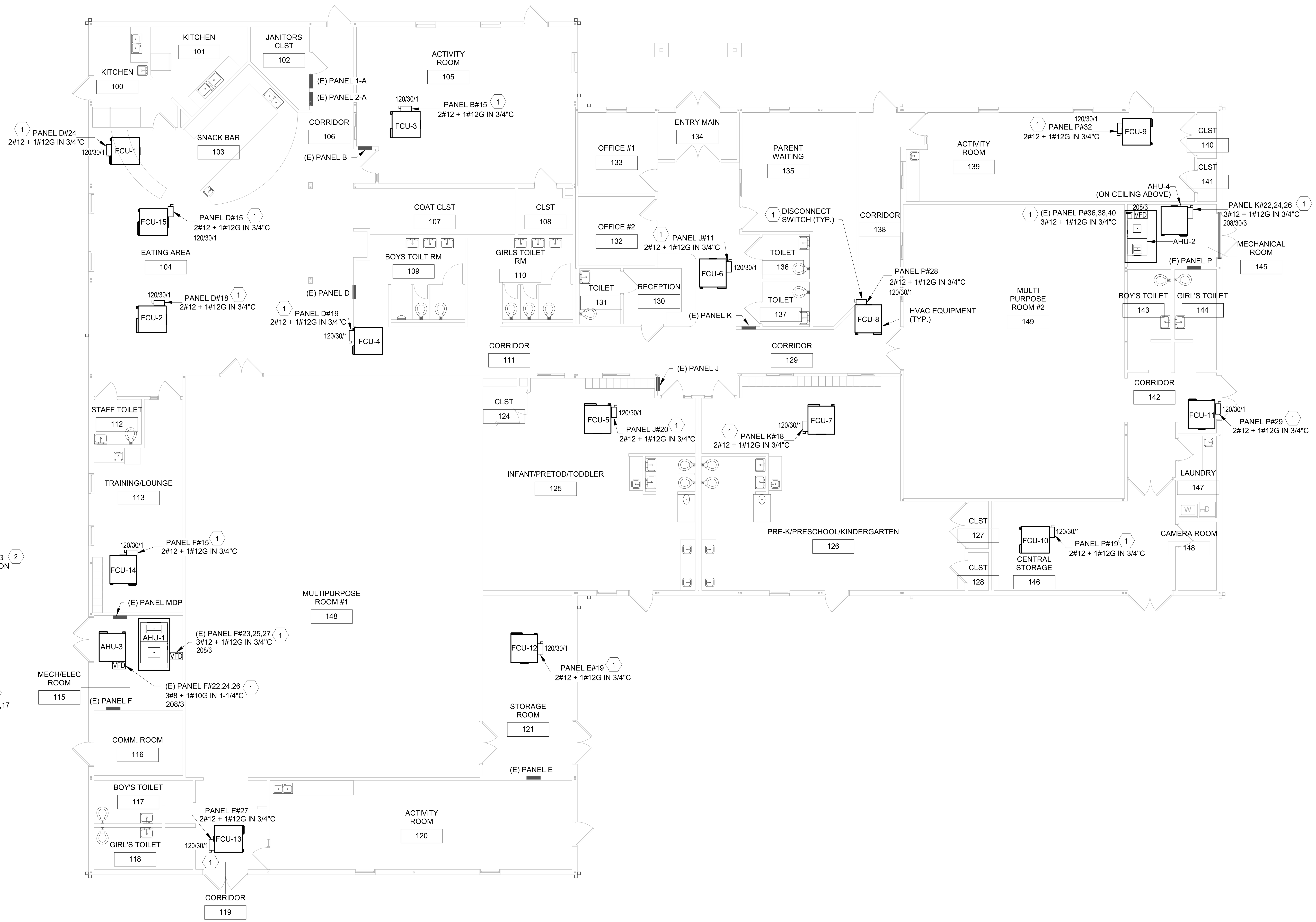
GENERAL NOTES:

1. ALL CCTV EQUIPMENT SHALL BE EXISTING TO REMAIN; PROVIDE PROTECTION FROM PHYSICAL DAMAGE, COORDINATE WORK WITH TENANT'S SECURITY.
2. FAN COIL UNITS ARE LOCATED ABOVE FINISHED CEILING. (TYP. FOR ALL FCU'S).

KEY NOTES:

1. HVAC EQUIPMENT INSTALLED BY MECHANICAL CONTRACTOR; PROVIDE POWER CIRCUIT AS SHOWN. COORDINATE WORK WITH MECHANICAL CONTRACTOR IN FIELD AND WITH HVAC EQUIPMENT MANUFACTURER REQUIREMENTS.
2. CHILLER INSTALLED BY MECHANICAL CONTRACTOR; CONNECT HVAC EQUIPMENT TO EXISTING CIRCUIT MADE SPARE BY DEMOLITION OF EXISTING CHILLER; EXTEND EXISTING CONDUIT AND WIRING TO NEW CHILLER LOCATION AS REQUIRED; COORDINATE ADDITIONAL REQUIREMENTS WITH MECHANICAL CONTRACTOR IN FIELD.





A1 FIRST FLOOR POWER PLAN

1/8" = 1'-0"

MARK	DESCRIPTION	DATE

ISSUE DATE: 07/01/2022
SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006
DESIGNED BY: BS
DRAWN BY: BS
CHECKED BY: ABS
SUBMITTED BY:
SIZE: ANSI D

STATE OF NEW YORK — ARTHUR B. SEMYONOV — No 089456 — LICENSED PROFESSIONAL ENGINEER
7/1/22

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LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
10324688

POWER PLAN

SHEET

E-101

RTA SUBMISSION

Existing Panel: PANEL MDP

Location:	MECH/ELEC ROOM 115	Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:		Phases:	3	Mains Type:	
Mounting:	SURFACE	Wires:	4	Mains Rating:	
Enclosure:	EXISTING			MCB Rating:	1200 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	PANEL 1-A	200 A	3	0 VA	0 VA					3	150 A	PANEL 2-A	2
3	--	--	--			0 VA	0 VA			--	--	--	4
5	--	--	--					0 VA	0 VA	--	--	--	6
7	PANEL B	125 A	3	0 VA	667 VA					3	125 A	PANEL D	8
9	--	--	--			506 VA	667 VA			--	--	--	10
11	--	--	--					0 VA	1173...	--	--	--	12
13	PANEL E	125 A	3	667 VA	2800...					3	125 A	PANEL F	14
15	--	--	--			506 VA	3467...			--	--	--	16
17	--	--	--					0 VA	2800...	--	--	--	18
19	PANEL J	125 A	3	506 VA	1273...					3	125 A	PANEL K	20
21	--	--	--			0 VA	1273...			--	--	--	22
23	--	--	--					667 VA	1779...	--	--	--	24
25	PANEL P	200 A	3	1966...	8540...					3	20 A	PANEL BOILER HOUSE	26
27	--	--	--			1299...	7340...			--	--	--	28
29	--	--	--					1299...	7340...	--	--	--	30
31	CHILLER (CH-1) [SEE NOTE 2]	350 A	3	3758...	--					3	--	SPACE	32
33	--	--	--			3758...	--			--	--	--	34
35	--	--	--					3758...	--	--	--	--	36
			Total Load:	54007 VA		52646 VA		52646 VA					
			Total Amps:	450 A		439 A		439 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	159298 VA		84649 VA		
				Conn. Load:	159298 VA
				Est. Demand:	84649 VA
				Conn. Current:	442 A
				Est. Demand Current:	235 A

Notes: 1. LOAD SUMMARY VALUES ('VA' AND 'A') REPRESENT LOADS REPLACING EXISTING; NO LOAD INCREASE IS ANTICIPATED.
2. EXISTING CIRCUIT BREAKER BEING REUSED FOR NEW EQUIPMENT, REPLACE WITH NEW AS REQUIRED.

Existing Panel: PANEL D

Location:	EATING AREA 104	Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:	PANEL MDP	Phases:	3	Mains Type:	
Mounting:	FLUSH	Wires:	4	Mains Rating:	125 A
Enclosure:	EXISTING			MCB Rating:	125 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	2
3	EXISTING	--	1			--	0 VA			1	20 A	EXISTING	4
5	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	6
7	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	8
9	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	10
11	EXISTING	20 A	1					0 VA	--	1	--	SPACE	12
13	EXISTING	--	1	--	--					1	--	SPACE	14
15	**FCU-15**	**15 A**	**1**			667 VA	--			--	**--**	**SHUNT TRIP FOR FCU-2 (SEE NOTE 2)**	16
17	**SHUNT TRIP FOR FCU-15 (SEE NOTE 2)**	**--**	--					--	667 VA	**1**	**15 A**	**FCU-2**	18
19	**FCU-4**	**15 A**	**1**	667 VA	--					1	--	SPACE	20
21	**SHUNT TRIP FOR FCU-4 (SEE NOTE 2)**	**--**	--			--	--			--	**--**	**SHUNT TRIP FOR FCU-1 (SEE NOTE 2)**	22
23	SPACE	--	1					--	506 VA	**1**	**15 A**	**FCU-1**	24
25	SPACE	--	1	--	--					1	--	SPACE	26
27	SPACE	--	1			--	--			1	--	SPACE	28
29	SPACE	--	1					--	--	1	--	SPACE	30
			Total Load:	667 VA		667 VA		1173 VA					
			Total Amps:	6 A		6 A		10 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	2507 VA		2507 VA		
				Conn. Load (New Loads Only):	2507 VA
				Demand (New Loads Only):	2507 VA
				Conn. Current (New Loads...	7 A
				Demand Current (New Loads...	7 A

Notes: 1. LOAD SUMMARY VALUES ('VA' AND 'A') REPRESENT LOADS REPLACING EXISTING; NO LOAD INCREASE IS ANTICIPATED.
2. PROVIDE HAND-TIE FOR SHUNT TRIP AND ASSOCIATED CIRCUIT BREAKER AS NOTED AND AS REQUIRED.

Existing Panel: PANEL B

Location:	CORRIDOR 106	Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:	PANEL MDP	Phases:	3	Mains Type:	
Mounting:	FLUSH	Wires:	4	Mains Rating:	125 A
Enclosure:	EXISTING			MCB Rating:	125 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	2
3	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	4
5	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	6
7	EXISTING	50 A	2	0 VA	0 VA					1	20 A	EXISTING	8
9	--	--	--			0 VA	0 VA			1	20 A	EXISTING	10
11	EXISTING	20 A	1					0 VA	0 VA	1	30 A	EXISTING	12
13	EXISTING	20 A	1	0 VA	0 VA					2	20 A	EXISTING	14
15	**FCU-3**	**15 A**	**1**			506 VA	0 VA			--	--	--	16
17	**SHUNT TRIP FOR FCU-3 (SEE NOTE 2)**	**--**	--					--	0 VA	1	20 A	EXISTING	18
19	SPACE	--	1	--	0 VA					3	30 A	EXISTING	20
21	SPACE	--	1			--	0 VA			--	--	--	22
23	SPACE	--	1					--	0 VA	--	--	--	24
25	SPACE	--	1	--	--					1	--	SPACE	26
27	SPACE	--	1			--	--			1	--	SPACE	28
29	SPACE	--	1					--	--	1	--	SPACE	30
			Total Load:	0 VA		506 VA		0 VA					
			Total Amps:	0 A		4 A		0 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	506 VA		506 VA		
				Conn. Load (New Loads Only):	506 VA
				Demand (New Loads Only):	506 VA
				Conn. Current (New Loads...	1 A
				Demand Current (New Loads...	1 A

Notes: 1. LOAD SUMMARY VALUES ('VA' AND 'A') REPRESENT LOADS REPLACING EXISTING; NO LOAD INCREASE IS ANTICIPATED.
2. PROVIDE HAND-TIE FOR SHUNT TRIP AND ASSOCIATED CIRCUIT BREAKER AS NOTED AND AS REQUIRED.

Existing Panel: PANEL E

Location:	STORAGE ROOM 121	Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:	PANEL MDP	Phases:	3	Mains Type:	
Mounting:	FLUSH	Wires:	4	Mains Rating:	125 A
Enclosure:	EXISTING			MCB Rating:	125 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	2
3	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	4
5	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	6
7	EXISTING	20 A	1	0 VA	--					1	--	SPACE	8
9	EXISTING	20 A	1			0 VA	--			1	--	SPACE	10
11	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	12
13	EXISTING	20 A	1	0 VA	--					1	--	SPACE	14
15	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	16
17	EXISTING	20 A	1					0 VA	--	1	--	SPACE	18
19	**FCU-12**	**15 A**	**1**	667 VA	--					1	--	SPACE	20
21	**SHUNT TRIP FOR FCU-12 (SEE NOTE 2)**	**--**	--			--	--			1	--	SPACE	22
23	SPACE	--	1					--	--	1	--	SPACE	24
25	SPACE	--	1	--	--					1	--	SPACE	26
27	**FCU-13**	**15 A**	**1**			506 VA	--			1	--	SPACE	28
29	**SHUNT TRIP FOR FCU-13 (SEE NOTE 2)**	**--**	--					--	--	1	--	SPACE	30
			Total Load:	667 VA		506 VA		0 VA					
			Total Amps:	6 A		5 A		0 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	1173 VA		1173 VA		
				Conn. Load (New Loads Only):	1173 VA
				Demand (New Loads Only):	1173 VA
				Conn. Current (New Loads...	3 A
				Demand Current (New Loads...	3 A

Notes: 1. LOAD SUMMARY VALUES ('VA' AND 'A') REPRESENT LOADS REPLACING EXISTING; NO LOAD INCREASE IS ANTICIPATED.
2. PROVIDE HAND-TIE FOR SHUNT TRIP AND ASSOCIATED CIRCUIT BREAKER AS NOTED AND AS REQUIRED.

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3. PROVIDE SCREW-FASTENED TYPE ENGRAVED LAMICOID NAMEPLATE AS PER RDA SPECIFICATIONS FOR ALL PANELBOARDS.
4. TURN OFF CIRCUIT BREAKERS THAT ARE NOT IN USE OR CONNECTED AND MARK AS SPARE ON PANEL SCHEDULE.
5. ALL CIRCUIT BREAKERS SERVING MECHANICAL EQUIPMENT SHALL BE "HACR" TYPE.
6. PROVIDE ALL NECESSARY FITTINGS AND BUSHINGS FOR CONDUIT INSTALLATION.
7. BOLD TEXT IN LOAD DESCRIPTION INDICATES NEW LOAD IN EXISTING PANEL. BOLD TEXT IN TRIP AMPS FIELD INDICATES NEW BREAKER IN EXISTING PANEL.
8. FOR NEW WORK IN EXISTING PANELS, NEXT AVAILABLE SPARE MAY BE USED IF DESIGNATED CIRCUIT IS IN USE.
9. PROVIDE ADDITIONAL 1-POLE SPACE ALLOWANCE FOR SHUNT TRIP BREAKER OPTION.

POWER LOAD CALCULATIONS - LEE CDC, 140 BUCKNER LOOP, WEST POINT, NY (208/120V, 3PH)

LOADS	KW	AMP	REMARKS
Total Building Demand	100.0	309	Based on 12-month power metering data; peak demand (99,989 W) occurred on 8/12/21
Additional New Loads (AHU-4)	4.2	13	One-to-one HVAC equipment being replaced is excluded from new
PROJECTED POWER LOAD DEMAND		**322**	
EXISTING SERVICE RATING		**1200**	

MARK	DESCRIPTION / DATE
ISSUE DATE: 07/01/2022	SOLICITATION NO.:
CONTRACT NO.: W911SD21D0006	
DESIGNED BY: BS	DRAWN BY: BS
CHECKED BY: ABS	SUBMITTED BY:
SIZE: ANSI D	

STATE OF NEW YORK – ARTHUR B. SEMTOV – NO 089456 – LICENSED PROFESSIONAL ENGINEER
7/1/22

Henningson, Durham & Richardson Architecture and Engineering, P.C.
711 Westchester Avenue
White Plains, NY 10604-350

HDR

140 BUCKNER LOOP, WEST POINT, NY
LEE CHILD DEVELOPMENT CENTER BLDG. 140 HVAC SYSTEM & DRAINAGE DESIGN
10324688

PANEL SCHEDULES

SHEET

E-701

RTA SUBMISSION

Existing Panel: PANEL F

Location:	MECH/ELEC ROOM 115	Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:	PANEL MDP	Phases:	3	Mains Type:	
Mounting:	FLUSH	Wires:	4	Mains Rating:	125 A
Enclosure:	EXISTING			MCB Rating:	125 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	2
3	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	4
5	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	6
7	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	8
9	EXISTING	20 A	1			0 VA	0 VA			3	25 A	EXISTING	10
11	EXISTING	20 A	1					0 VA	0 VA	--	--	--	12
13	EXISTING	20 A	1	0 VA	0 VA					--	--	--	14
15	**FCU-14**	**15 A**	**1**			667 VA	0 VA			2	20 A	EXISTING	16
17	**SHUNT TRIP FOR FCU-14 (SEE NOTE 2)**	**--**	--					--	0 VA	--	--	--	18
19	EXISTING	30 A	1	0 VA	--					--	**--**	**SHUNT TRIP FOR AHU-3 (SEE NOTE 2)**	20
21	EXISTING	30 A	1			0 VA	2007...			**3**	**40 A**	**AHU-3**	22
23	**AHU-1**	**20 A**	**3**					793 VA	2007...	**--**	**--**	**--**	24
25	**--**	**--**	**--**	793 VA	2007...					**--**	**--**	**--**	26
27	**--**	**--**	**--**			793 VA	0 VA			2	15 A	EXISTING	28
29	**SHUNT TRIP FOR AHU-1 (SEE NOTE 2)**	**--**	--					--	0 VA	--	--	--	30
			Total Load:	2800 VA		3467 VA		2800 VA					
			Total Amps:	23 A		29 A		23 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	9067 VA		9067 VA		
				Conn. Load (New Loads Only):	9067 VA
				Demand (New Loads Only):	9067 VA
				Conn. Current (New Loads...	25 A
				Demand Current (New Loads...	25 A

Notes: 1. LOAD SUMMARY VALUES ('VA' AND 'A') REPRESENT LOADS REPLACING EXISTING; NO LOAD INCREASE IS ANTICIPATED.
2. PROVIDE HAND-TIE FOR SHUNT TRIP AND ASSOCIATED CIRCUIT BREAKER AS NOTED AND AS REQUIRED.

Existing Panel: PANEL J

Location:	CORRIDOR 111	Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:	PANEL MDP	Phases:	3	Mains Type:	
Mounting:	FLUSH	Wires:	4	Mains Rating:	125 A
Enclosure:	EXISTING			MCB Rating:	125 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	2
3	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	4
5	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	6
7	EXISTING	20 A	1	0 VA	--					1	--	SPACE	8
9	EXISTING	20 A	1			0 VA	--			1	--	SPACE	10
11	**FCU-6**	**15 A**	**1**					667 VA	0 VA	1	20 A	EXISTING	12
13	**SHUNT TRIP FOR FCU-6 (SEE NOTE 2)**	**--**	--	--	0 VA					1	20 A	EXISTING	14
15	EXISTING	20 A	1			0 VA	--			1	--	SPACE	16
17	SPACE	--	1					--	--	--	**--**	**SHUNT TRIP FOR FCU-5 (SEE NOTE 2)**	18
19	SPACE	--	1	--	506 VA					**1**	**15 A**	**FCU-5**	20
21	SPACE	--	1			--	0 VA			1	20 A	EXISTING	22
23	SPACE	--	1					--	--	1	--	SPACE	24
25	SPACE	--	1	--	--					1	--	SPACE	26
27	SPACE	--	1			--	--			1	--	SPACE	28
29	SPACE	--	1					--	--	1	--	SPACE	30
			Total Load:	506 VA		0 VA		667 VA					
			Total Amps:	5 A		0 A		6 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	1173 VA		1173 VA		
				Conn. Load (New Loads Only):	1173 VA
				Demand (New Loads Only):	1173 VA
				Conn. Current (New Loads...	3 A
				Demand Current (New Loads...	3 A

Notes: 1. LOAD SUMMARY VALUES ('VA' AND 'A') REPRESENT LOADS REPLACING EXISTING; NO LOAD INCREASE IS ANTICIPATED.
2. PROVIDE HAND-TIE FOR SHUNT TRIP AND ASSOCIATED CIRCUIT BREAKER AS NOTED AND AS REQUIRED.

Existing Panel: PANEL K

Location:	CORRIDOR 111	Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:	PANEL MDP	Phases:	3	Mains Type:	
Mounting:	FLUSH	Wires:	4	Mains Rating:	125 A
Enclosure:	EXISTING			MCB Rating:	125 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	2
3	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	4
5	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	6
7	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	8
9	EXISTING	20 A	1			0 VA	0 VA			1	20 A	EXISTING	10
11	EXISTING	20 A	1					0 VA	--	1	--	SPACE	12
13	EXISTING	20 A	1	0 VA	--					1	--	SPACE	14
15	EXISTING	20 A	1			0 VA	--			--	**--**	**SHUNT TRIP FOR FCU-7 (SEE NOTE 2)**	16
17	EXISTING	20 A	2					0 VA	506 VA	**1**	**15 A**	**FCU-7**	18
19	--	--	--	0 VA	--					--	**--**	**SHUNT TRIP FOR AHU-4 (SEE NOTE 2)**	20
21	EXISTING	20 A	2			0 VA	1273...			**3**	**20 A**	**AHU-4***	22
23	--	--	--					0 VA	1273...	**--**	**--**	**--**	24
25	SPACE	--	1	--	1273...					**--**	**--**	**--**	26
27	SPACE	--	1			--	--			1	--	SPACE	28
29	SPACE	--	1					--	--	1	--	SPACE	30
			Total Load:	1273 VA		1273 VA		1779 VA					
			Total Amps:	11 A		11 A		15 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	4326 VA		4326 VA		
				Conn. Load (New Loads Only):	4326 VA
				Demand (New Loads Only):	4326 VA
				Conn. Current (New Loads...	12 A
				Demand Current (New Loads...	12 A

Notes: 1. LOAD SUMMARY VALUES ('VA' AND 'A') REPRESENT LOADS REPLACING EXISTING; NO LOAD INCREASE IS ANTICIPATED.
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Existing Panel: PANEL BOILER HOUSE

Location:		Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:	PANEL MDP	Phases:	3	Mains Type:	
Mounting:	FLUSH	Wires:	4	Mains Rating:	200 A
Enclosure:	EXISTING			MCB Rating:	200 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	EXISTING	20 A	1	0 VA	2007...					**3**	**40 A**	**HOT WATER PUMP #1 (HWP-1)**	2
3	EXISTING	20 A	1			0 VA	2007...			**--**	**--**	**--**	4
5	EXISTING	20 A	1					0 VA	2007...	**--**	**--**	**--**	6
7	**Spare**	**20 A**	**1**	0 VA	2007...					**3**	**40 A**	**HOT WATER PUMP #2 (HWP-2)**	8
9	SPARE	20 A	1			0 VA	2007...			**--**	**--**	**--**	10
11	EXISTING	20 A	1					0 VA	2007...	**--**	**--**	**--**	12
13	**BOILER CIRCULATION PUMP (CP-1)**	**15 A**	**3**	420 VA	2907...					**3**	**50 A**	**CHILLED WATER PUMP (CWP-1)**	14
15	**--**	**--**	**--**			420 VA	2907...			**--**	**--**	**--**	16
17	**--**	**--**	**--**					420 VA	2907...	**--**	**--**	**--**	18
19	**BOILER**	**20 A**	**1**	1200...	--					1	--	SPACE	20
21	SPACE	--	1			--	--			1	--	SPACE	22
23	SPACE	--	1					--	--	1	--	SPACE	24
25	SPACE	--	1	--	--					1	--	SPACE	26
27	SPACE	--	1			--	--			1	--	SPACE	28
29	SPACE	--	1					--	--	1	--	SPACE	30
31	SPACE	--	1	--	--					1	--	SPACE	32
33	SPACE	--	1			--	--			1	--	SPACE	34
35	SPACE	--	1					--	--	1	--	SPACE	36
37	SPACE	--	1	--	--					1	--	SPACE	38
39	SPACE	--	1			--	--			1	--	SPACE	40
41	SPACE	--	1					--	--	1	--	SPACE	42
			Total Load:	8540 VA		7340 VA		7340 VA					
			Total Amps:	71 A		61 A		61 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	23221 VA		16611 VA		
				Conn. Load (New Loads Only):	23221 VA
				Demand (New Loads Only):	16611 VA
				Conn. Current (New Loads...	64 A
				Demand Current (New Loads...	46 A

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Existing Panel: PANEL P

Location:	MECHANICAL ROOM 145	Volts:	120/208 Wye	A.I.C. Rating:	EXISTING
Supply From:	PANEL MDP	Phases:	3	Mains Type:	
Mounting:	FLUSH	Wires:	4	Mains Rating:	200 A
Enclosure:	EXISTING			MCB Rating:	200 A

CKT	Load Name	Trip	Poles	A		B		C		Poles	Trip	Load Name	CKT
1	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	2
3	EXISTING	20 A	1			0 VA	--			1	--	SPACE	4
5	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	6
7	EXISTING	20 A	1	0 VA	0 VA					1	20 A	EXISTING	8
9	EXISTING	30 A	1			0 VA	0 VA			1	20 A	EXISTING	10
11	EXISTING	30 A	2					0 VA	0 VA	1	20 A	EXISTING	12
13	--	--	--	0 VA	0 VA					3	35 A	EXISTING	14
15	EXISTING	20 A	1			0 VA	0 VA			--	--	--	16
17	EXISTING	20 A	1					0 VA	0 VA	--	--	--	18
19	**FCU-10**	**15 A**	**1**	506 VA	--					1	--	SPACE	20
21	**SHUNT TRIP FOR FCU-10 (SEE NOTE 2)**	**--**	--			--	0 VA			1	20 A	EXISTING	22
23	EXISTING	20 A	1					0 VA	0 VA	1	20 A	EXISTING	24
25	EXISTING	20 A	2	0 VA	--					--	**--**	**SHUNT TRIP FOR FCU-8 (SEE NOTE 2)**	26
27	--	--	--			0 VA	506 VA			**1**	**15 A**	**FCU-8**	28
29	**FCU-11**	**15 A**	**1**					506 VA	--	--	**--**	**SHUNT TRIP FOR FCU-9 (SEE NOTE 2)**	30
31	**SHUNT TRIP FOR FCU-11 (SEE NOTE 2)**	**--**	--	--	667 VA					**1**	**15 A**	**FCU-9**	32
33	EXISTING	15 A	2			0 VA	--			--	**--**	**SHUNT TRIP FOR AHU-2 (SEE NOTE 2)**	34
35	--	--	--					0 VA	793 VA	**3**	**20 A**	**AHU-2**	36
37	EXISTING	20 A	2	0 VA	793 VA					**--**	**--**	**--**	38
39	--	--	--			0 VA	793 VA			**--**	**--**	**--**	40
41	SPACE	--	1					--	--	1	--	SPACE	42
			Total Load:	1966 VA		1299 VA		1299 VA					
			Total Amps:	16 A		11 A		11 A					

Load Classification	Connected Load		Estimated Demand	Panel Totals	
Power	4565 VA		4565 VA		
				Conn. Load (New Loads Only):	4565 VA
				Demand (New Loads Only):	4565 VA
				Conn. Current (New Loads...	13 A
				Demand Current (New Loads...	13 A

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9. PROVIDE ADDITIONAL 1-POLE SPACE ALLOWANCE FOR SHUNT TRIP BREAKER OPTION.

MARK | DESCRIPTION | DATE

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