CLARKSTOWN CENTRAL SCHOOL DISTRICT CLARKSTOWN SOUTH HIGH SCHOOL CAPITAL PROJECT PHASE 5

ISSUED FOR BID: 1/13/23

CSARCH - ARCHITECTS

PASSERO ASSOCIATES - SITE/CIVIL ENGINEERS BLAKE ENGINEERING, PLLC - M.E.P. ENGINEERS

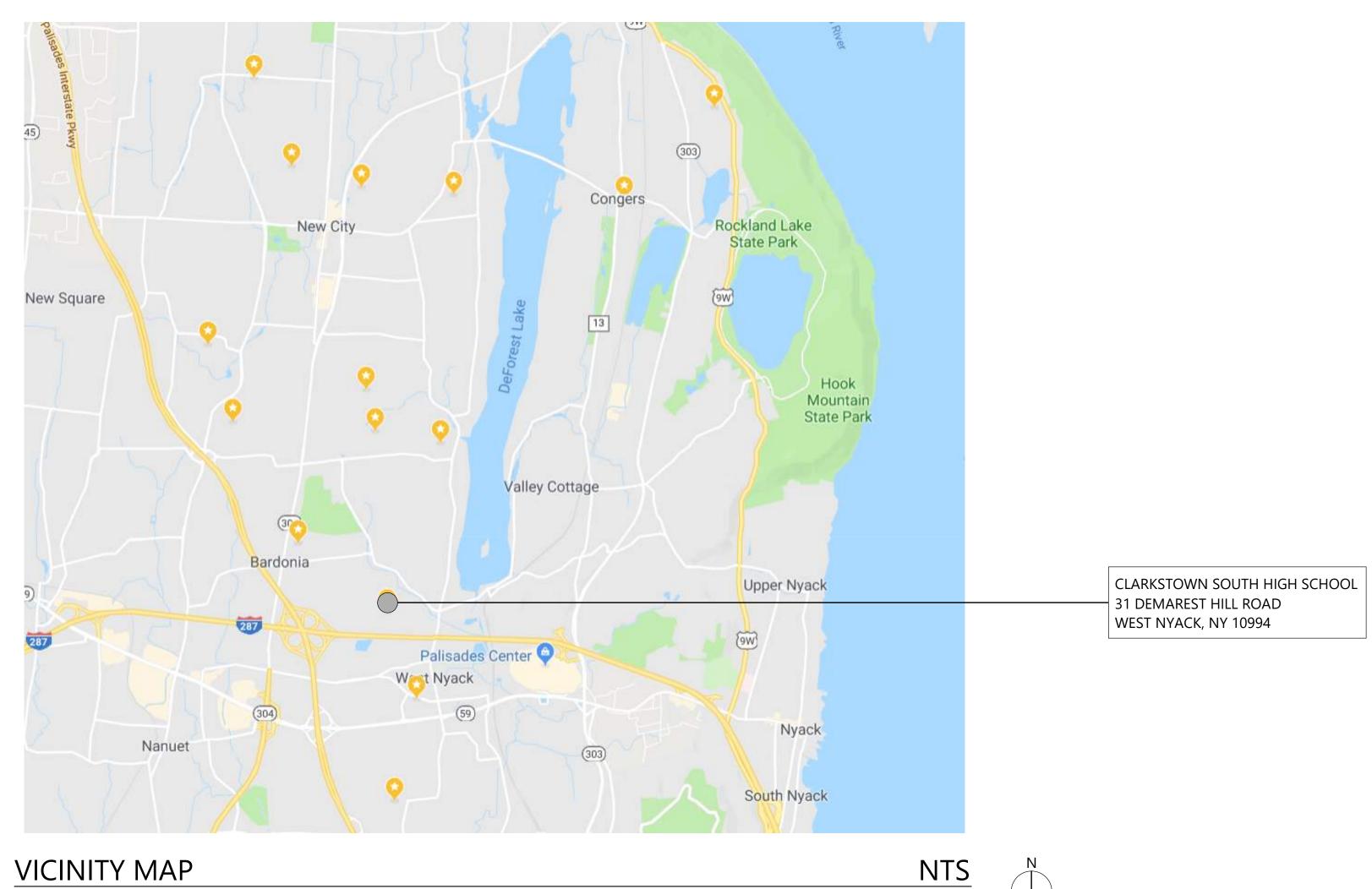
STATE EDUCATION DEPARTMENT PROJECT CONTROL NUMBER:

CLARKSTOWN SOUTH HIGH SCHOOL

50-01-01-06-0-018-028

THE DESIGN OF THIS PROJECT CONFORMS TO APPLICABLE PROVISIONS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE, AND THE MANUAL OF PLANNING STANDARDS OF THE NEW YORK STATE EDUCATION DEPARTMENT.

CSArch PROJECT NO. 151-2201



DRAWING LIST

CLARKSTOWN SOUTH HIGH SCHOOL (CSHS)

GENERAL DRAWINGS

CSHS G001 SYMBOLS, ABBREVIATIONS, AND MISC.

CIVIL DRAWINGS

CSHS C101 SITE PLA

LIFE SAFETY DRAWINGS

CSHS LS100 FITNESS AREA - LIFE SAFETY PLAN

ARCHITECTURAL DEMOLITION DRAWINGS

CSHS AD101 FITNESS AREA - FIRST FLOOR DEMOLITION PLANS

CSHS AD401 FITNESS AREA - ROOF DEMOLITION PLAN

ARCHITECTURAL DRAWINGS

CSHS A101 FITNESS AREA - FIRST FLOOR NEW WORK PLANS AND DETAILS

CSHS A401 FITNESS AREA - ROOF NEW WORK PLAN AND DETAILS

CSHS A751 SITE SIGNAGE DETAILS

MECHANICAL GENERAL DRAWINGS

CSHS M101 MECHANICAL NOTES, LEGENDS, SCHEDULES & DETAILS CSHS M102 MECHANICAL NOTES, LEGENDS, SCHEDULES & DETAILS

MECHANICAL DEMOLITION DRAWINGS

CSHS MD201 MECHANICAL DEMOLITION PLANS

MECHANICAL DRAWINGS

CSHS M201 MECHANICAL PLANS

SHS M202 MECHANICAL REFLECTED CEILING AND ROOF PLANS

ELECTRICAL GENERAL DRAWINGS

CSHS E101 ELECTRICAL NOTES, LEGENDS, SCHEDULES & DETAILS

ELECTRICAL SITE DRAWINGS

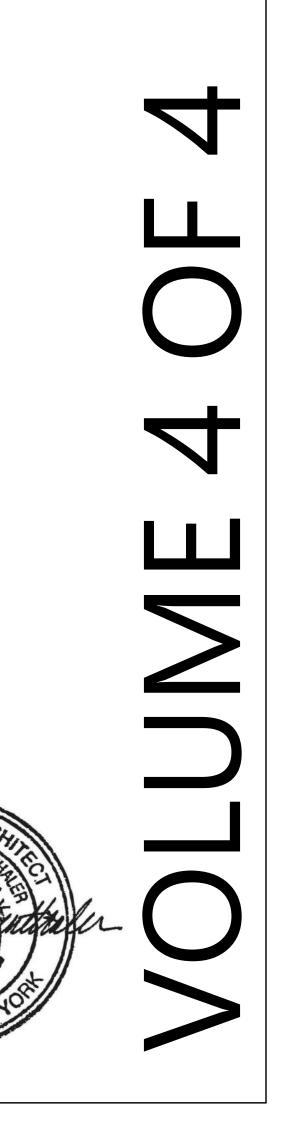
CSHS ES111 ELECTRICAL SITE PLAN

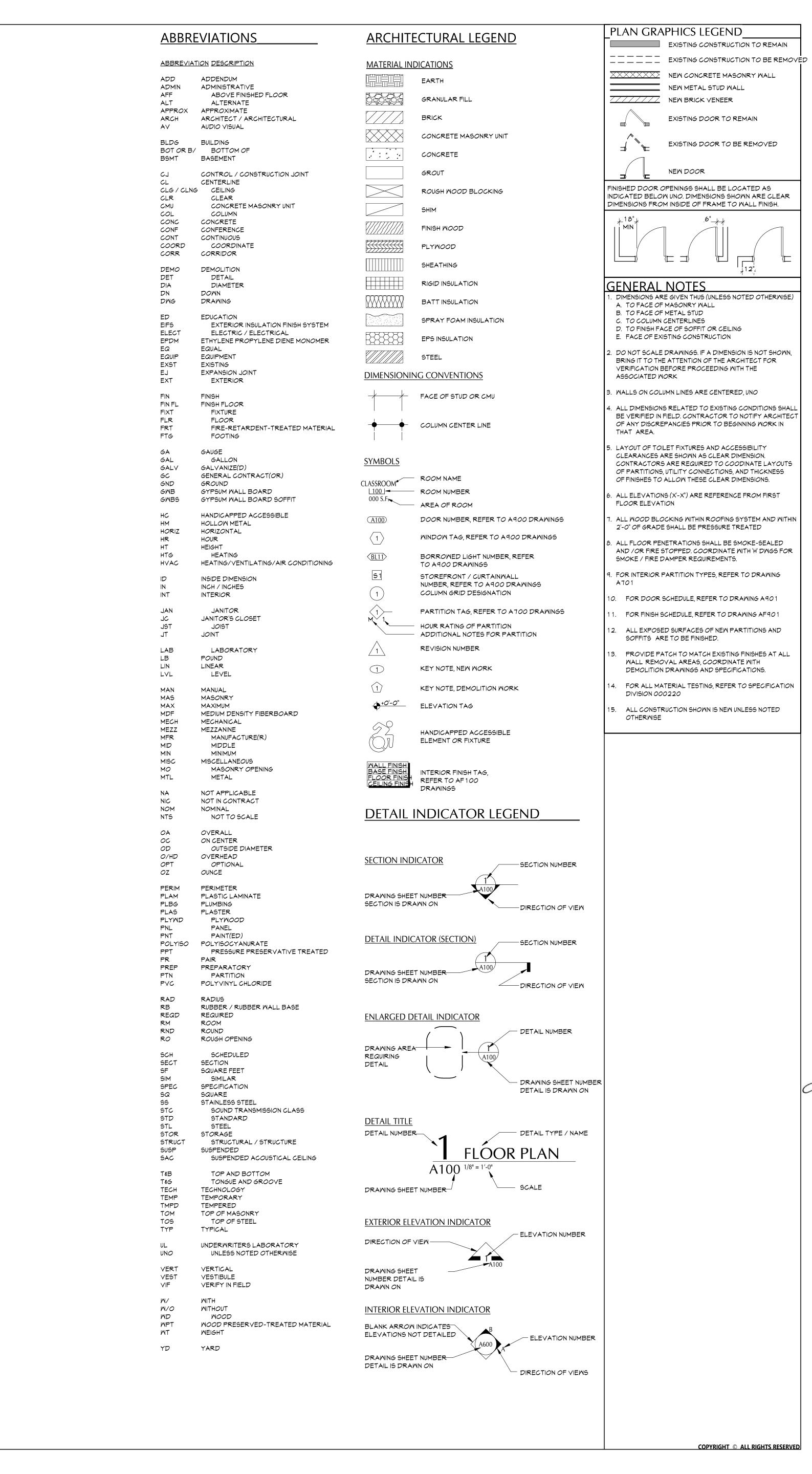
ELECTRICAL DEMOLITION DRAWINGS

CSHS ED201 ELECTRICAL DEMOLITION PLANS

ELECTRICAL DRAWINGS

CSHS E201 ELECTRICAL PLANS







NEW METAL STUD MALL

EXISTING DOOR TO REMAIN

EXISTING DOOR TO BE REMOVED

NEW BRICK VENEER

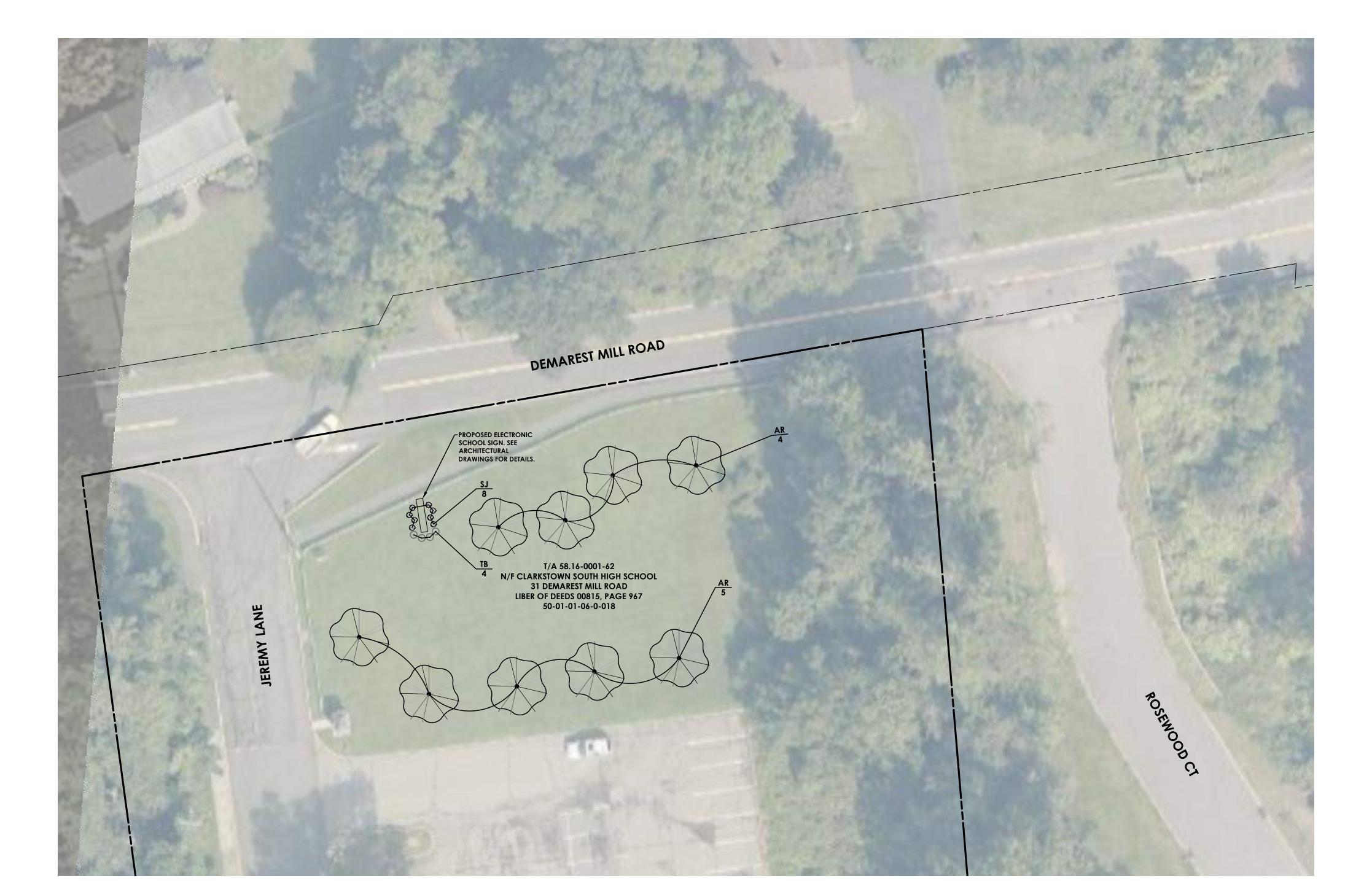
NEW DOOR

A DATE DESCRIPTION **Proj. #:** 50-01-01-06-0-018-028 CSArch Proj. #: **Construction Documents:** 1/13/23

SYMBOLS, **ABBREVIATIONS AND MISC**

CONSTRUCTION DOCUMENTS

HORIZONTAL SCALE SCALE: 1"=20'



LANDSCAPING NOTES:

- 1. CONTRACTOR SHALL OBTAIN ALL NECESSARY STATE AND LOCAL PERMITS REQUIRED. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE TOWN AND STATE DESIGN STANDARDS AND CODES.
- 2. IT IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE PRIOR TO BID SUBMITTAL, TO BECOME FAMILIAR WITH EXISTING CONDITIONS AT THE SITE.
- 3. STANDARDS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", ANSI Z60.1 (LATEST EDITION) REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE THE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS DELIVERED AND INSTALLED ON THIS PROJECT.
- 4. ALL PLANTS MUST BE HEALTHY, VIGOROUS AND FREE OF PESTS AND DISEASE.
- 5. ALL PLANTS MUST BE HARDY UNDER CLIMATE CONDITIONS THAT EXIST AT THE PROJECT SITE AND GROWN AT A NURSERY IN THE SAME HARDINESS ZONE AS THE PROJECT LOCATION.
- 6. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AN MEET SIZE REQUIREMENTS AS INDICATED ON THE PLANT LIST.
- 7. ALL TREES MUST BE STRAIGHT-TRUNKED, INJURY FREE, HAVE A FULL, SYMMETRICAL CROWN (HEAD) AND MEET ALL REQUIREMENTS SPECIFIED (E.G. SINGLE STEM, MULTI-STEM, HEAVY BRANCHED, ETC.).
- 8. ANY PROPOSED DEVIATION TO THE LANDSCAPE PLAN MUST FIRST BE REVIEWED AND APPROVED BY THE

LANDSCAPE ARCHITECT PRIOR TO THE INSTALLATION OF THE PROPOSED LANDSCAPING CHANGES.

- 9. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS. THE BID PRICE SUBMITTED WILL ASSUME THAT ALL PLANT MATERIALS DELINEATED WILL BE SUPPLIED AND INSTALLED. ANY DISCREPANCIES IN THE QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND/OR DESIGN LANDSCAPE ARCHITECT (OWNER'S REPRESENTATIVE) PRIOR TO COMPLETING A
- 10. ALL GRADING AND UTILITY WORK SHALL BE COMPLETED PRIOR TO INSTALLATION OF PLANT MATERIAL AND LANDSCAPE MULCH.
- 11. THE FINAL LOCATION OF TREES AND OTHER LANDSCAPING SHALL BE DETERMINED IN THE FIELD BASED ON UTILITY STAKEOUT AND SHALL NOT CONFLICT WITH TRAFFIC SIGNS AND/OR UTILITIES. STAKE OUT SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
- 12. ANY CONCERNS RELATED TO SITE CONDITIONS AND/OR PLANT LOCATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- 13. PLANTING BACKFILL MIXTURE: 4 PARTS TOPSOIL (ON-SITE OR IMPORTED), 1 PART PEAT MOSS, 1/2 PART WELL ROTTED MANURE AND 10 LBS. 5-0-5 PLANTING FERTILIZER, MIXED THOROUGHLY PER CUBIC YARD.
- 14. MULCH ALL PLANT BEDS, AND INDIVIDUAL TREES IN LAWN AREAS WITH SHREDDED HARDWOOD BARK MULCH TO A DEPTH OF THREE (3") INCHES UNLESS OTHERWISE SPECIFIED ON PLANTING DETAILS, OR AS DIRECTED BY THE LANDSCAPE ARCHITECT DUE TO SITE CONDITIONS.
- 15. ANY PLANT WHICH TURNS BROWN, DEFOLIATES OR DIES PRIOR TO FINAL ACCEPTANCE BY THE OWNER, OR DESIGN LANDSCAPE ARCHITECT, SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH THE SAME PLANT (SPECIES, VARIETY AND SIZE) AS SPECIFIED ON THE PLANT SCHEDULE (LIST).
- 16. THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIALS AND LAWN AREAS UNTIL THE PROJECT HAS RECEIVED FINAL ACCEPTANCE BY THE OWNER OR OWNER'S REPRESENTATIVE. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO: WATERING, MULCHING, FERTILIZING, SPRAYING (FUNGICIDE,
- PESTICIDE, ANTI-DESICANT), AS WELL AS RAISING PLANTS THAT HAVE SETTLED TOO DEEP OR REQUIRE 17. UPON COMPLETION AND ACCEPTANCE OF THE LANDSCAPING, THE LANDSCAPE MATERIALS SHALL BE GUARANTEED FOR TWO (2) YEARS. THE GUARANTEE SHALL BE INCLUSIVE OF ALL MATERIAL AND LABOR COSTS. AT THE END OF THE GUARANTEE PERIOD THE OWNERS REPRESENTATIVE WILL INSPECT ALL PLANT
- MATERIALS. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REQUIRED REPLACEMENTS WITH PLANT MATERIALS MEETING THE SPECIFICATIONS (E.G. SPECIES, SIZE AND CHARACTER). 18. ALL AREAS DISTURBED BY SITE GRADING AND/OR UTILITY INSTALLATION SHALL RECEIVE APPROVED TOPSOIL (BASED ON APPROVED SAMPLES SUBMITTED BY THE CONTRACTOR) AND SPREAD TO A DEPTH NOT LESS THAN SIX (6")INCHES AFTER COMPACTION. TOPSOIL PLACED FOR LAWNS SHALL BE FINE

GRADED, SEEDED, MULCHED AND WATERED UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED. THIS IS

19. LOCATIONS OF EXISTING BURIED UTILITIES SHOWN ON THE SITE PLAN ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO CALL FOR A UTILITY STAKEOUT PRIOR TO COMMENCING PLANT INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES,

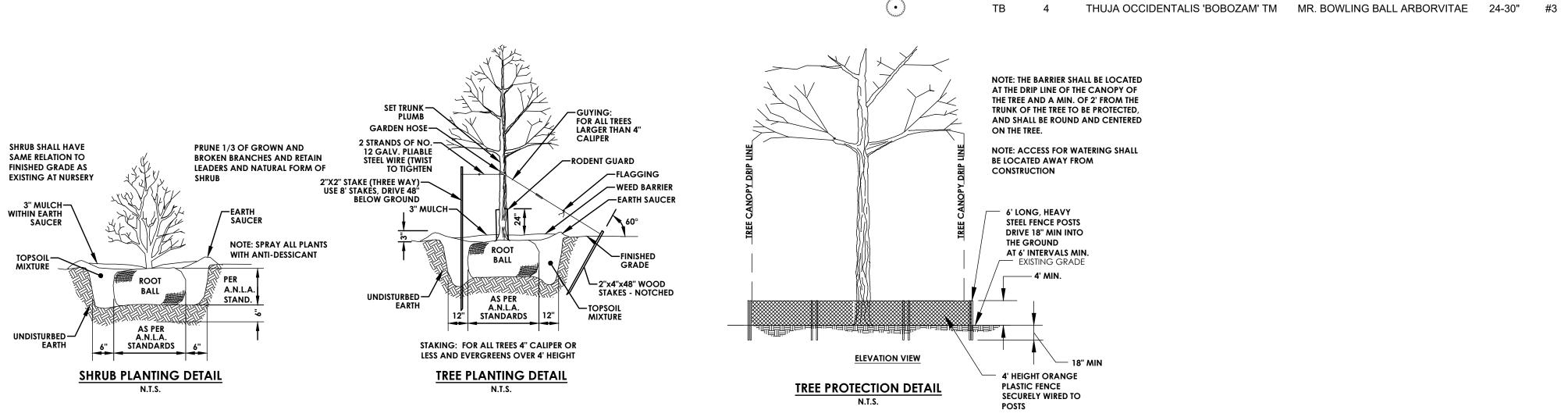
EXCLUDING FOUNDATION PLANT BEDS, AND ENTRANCE AREAS.

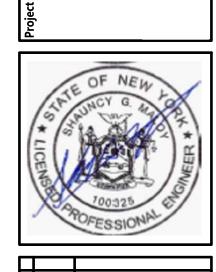
20. EXISTING TREES INDICATED TO BE REMOVED SHALL OCCUR UNDER THE SITE CONTRACT FOR THIS PROJECT. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR NEW PLANTINGS OR RESTORATION OF THE DISTURBED AREA (LAWNS, PLANT BEDS, ISLANDS).

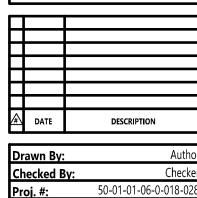
AND SITE APPURTENANCES WHICH OCCURS AS A RESULT OF LANDSCAPE INSTALLATION OPERATIONS.

- 21. PRE-EMERGENT HERBICIDE SHALL BE USED UNDER MULCH IN ALL TREE AND PLANT BED AREAS.
- 22. ALL SHRUB BEDS ADJACENT TO LAWN AREAS SHALL HAVE A SPADED EDGE BORDER, UNLESS METAL EDGE, CONCRETE, OR OTHER BORDER IS SPECIFIED.

PLANT SCHE	DULE						
DECIDUOUS TREES	CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	MATURE HEIGHT
	AR	9	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3-3.5"	B&B	50-80`
SHRUBS	CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	MATURE HEIGHT
Experience of the second	SJ	8	SPIRAEA JAPONICA 'NEON FLASH'	NEON FLASH JAPANESE SPIREA	18-24"	#3	18-24"
~~~~							

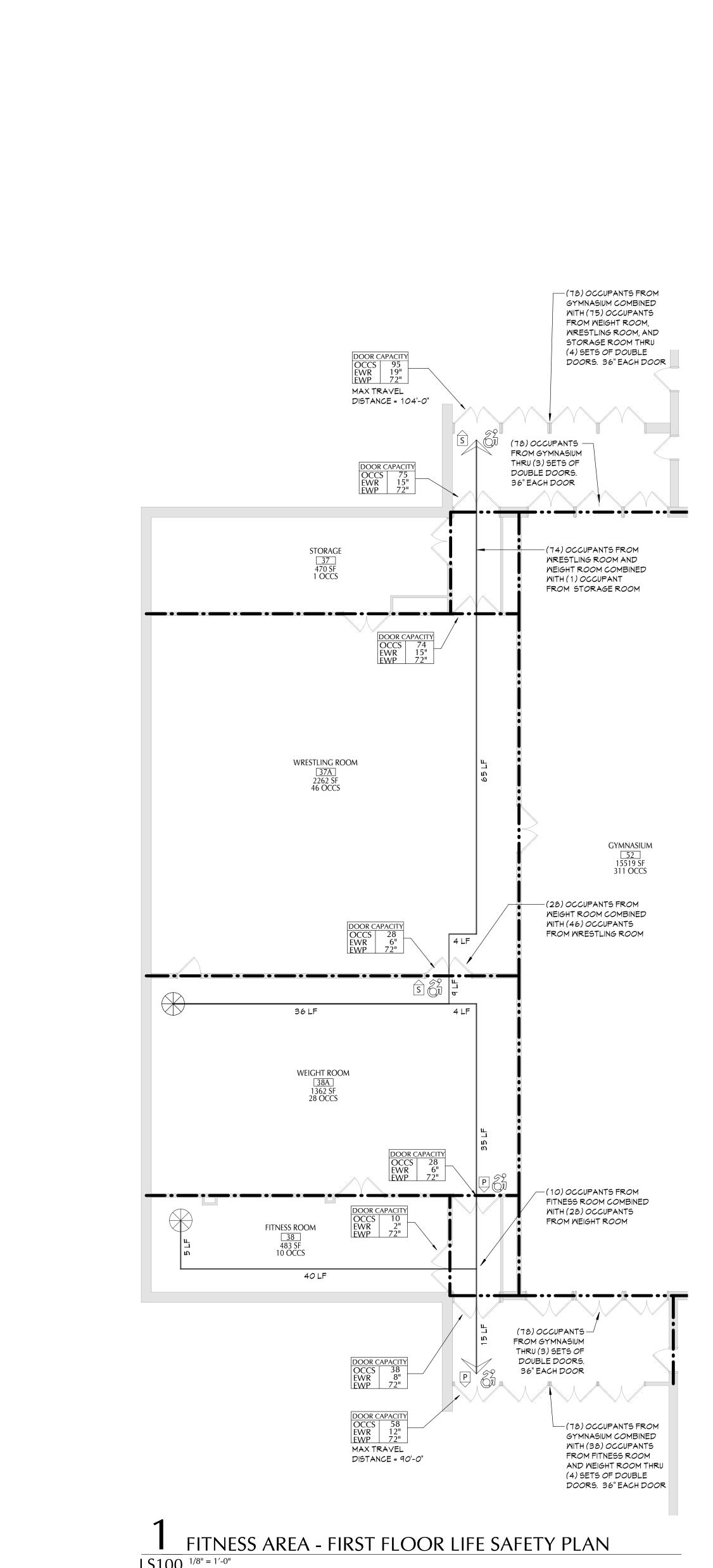






CSArch Proj. #: Construction Documents: 1/1

SITE PLAN



LIFE SAFETY PLAN LEGEND

P PRIMARY EXIT

SECONDARY EXIT RESCUE WINDOW (SECONDARY EXIT)

ACCESSIBLE EXIT RESCUE ASSISTANCE STATION / AREA OF REFUGE
NUMBER OF OCCUPANTS PER TABLE

NUMBER OF OCCUPANTS PER TABLE 1004.1.2 (ACTUAL NUMBER OF OCCUPANTS) DOOR CAPACITY OCCS :EWR :LEWP :
DOOR CAPACITY ON DOOR BASED
ON
(OCCUPANT * 0.2)

STAIRCAPACITY
OCCS :
EWR :
OCCUPANT * 0.3)

EXIT PATH OF TRAVEL (START - END)

ABBREVIATIONS

DEFIBRILLATOR CABINET EXIT WIDTH PROVIDED EXIT MIDTH REQUIRED

FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET OCCS NUMBER OF OCCUPANTS IN SPACE

#### FIRE SEPARATION NOTES

1 HOUR RATED FIRE PARTITION

2 HOUR RATED FIRE PARTITION CODE NARRATIVE:

1969 - ORIGINAL CONSTRUCTION: CONSTRUCTION TYPE: IIB FIRST FLOOR AREA: 1*80,580* SF GR*0*SS SECOND FLOOR AREA: 57,266 SF GROSS THIRD FLOOR AREA: 56,387 SF GROSS CURRENT USE: E - EDUCATION

<u> 1989 - ADDITION:</u> CONSTRUCTION TYPE: FIRST FLOOR AREA: 183,014 SF GROSS SECOND FLOOR AREA: 57,266 SF GROSS

THIRD FLOOR AREA: 56,387 SF GROSS CURRENT USE: E - EDUCATION BUILDING AREA:

PERMITTED FOR TYPE (PER TABLE 506.2) REQUIRED CORRIDOR FIRE-RESISTANCE RATING:

(PER TABLE 1020.1) CODE NOTES

#### ALL NEW WORK TO BE PERFORMED SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

1. 2020 INTERNATIONAL BUILDING CODE

2. 2020 INTERNATIONAL EXISTING BUILDING CODE 3. NYS BUILDING CODE SUPPLEMENTS 4. ANSI A 1 1 7.1-09

5. 1998 NYSED MANUAL OF PLANNING STANDARDS

#### ALL EXISTING CONDITIONS AND NEW WORK CONDITIONS CONTAIN THE FOLLOWING MAXIMUM TRAVEL DISTANCES:

1. EXIT ACCESS TRAVEL DISTANCE SHALL NOT EXCEED 200 FEET FOR UNSPRINKLERED BUILDINGS OF OCCUPANCY TYPE 'E'. 2. ANY POINT IN ANY GROUND FLOOR CORRIDOR

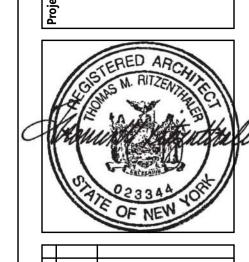
MUST BE WITHIN 150 FEET ALONG THE LINE OF TRAVEL TO AN EXTERIOR DOORWAY. ANY POINT IN A CORRIDOR OTHER THAN A GROUND FLOOR CORRIDOR SHALL NOT EXCEED 120 FEET ALONG THE LINE OF TRAVEL TO THE STAIR ENCLOUSRE OF AN EXIT STAIRWAY.

#### ALL EXISTING CONDITIONS AND NEW WORK CONDITIONS CONTAIN THE FOLLOWING DEAD-END CORRIDOR INFORMATION:

KEY PLAN

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1. DEAD-END CORRIDOR POCKETS SHALL NOT EXCEED A MAXIMUM DEPTH OF 1 1/2 TIMES THE WIDTH OF THE POCKET, OR 1 1/2 TIMES THE WIDTH OF THE CORRIDOR, WHICHEVER IS LESS. MAX DEAD- END DISTANCE IS 20'.



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FITNESS AREA - LIFE SAFETY PLAN

#### DEMOLITION KEYNOTES DESCRIPTION

A.3 REMOVE EXISTING ACOUSTICAL PANEL
CEILING IN ITS ENTIRETY. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS. A.4 REMOVE EXISTING SKYLIGHT LENSES, FRAMING, TRIM, ETC. ATTACHED TO EXISTING CEILING AND SALVAGE FOR REINSTALLATION. DO NOT MODIFY SKYLIGHT OPENING AT ROOF LEVEL. LIGHT FIXTURE. REFER TO ELECTRICAL

SMOKE DETECTOR. REFER TO ELECTRICAL DRAWINGS. DIFFUSER. REFER TO MECHANICAL DRAWINGS.

DRAWINGS. HVAC DUCTWORK. REFER TO MECHANICAL

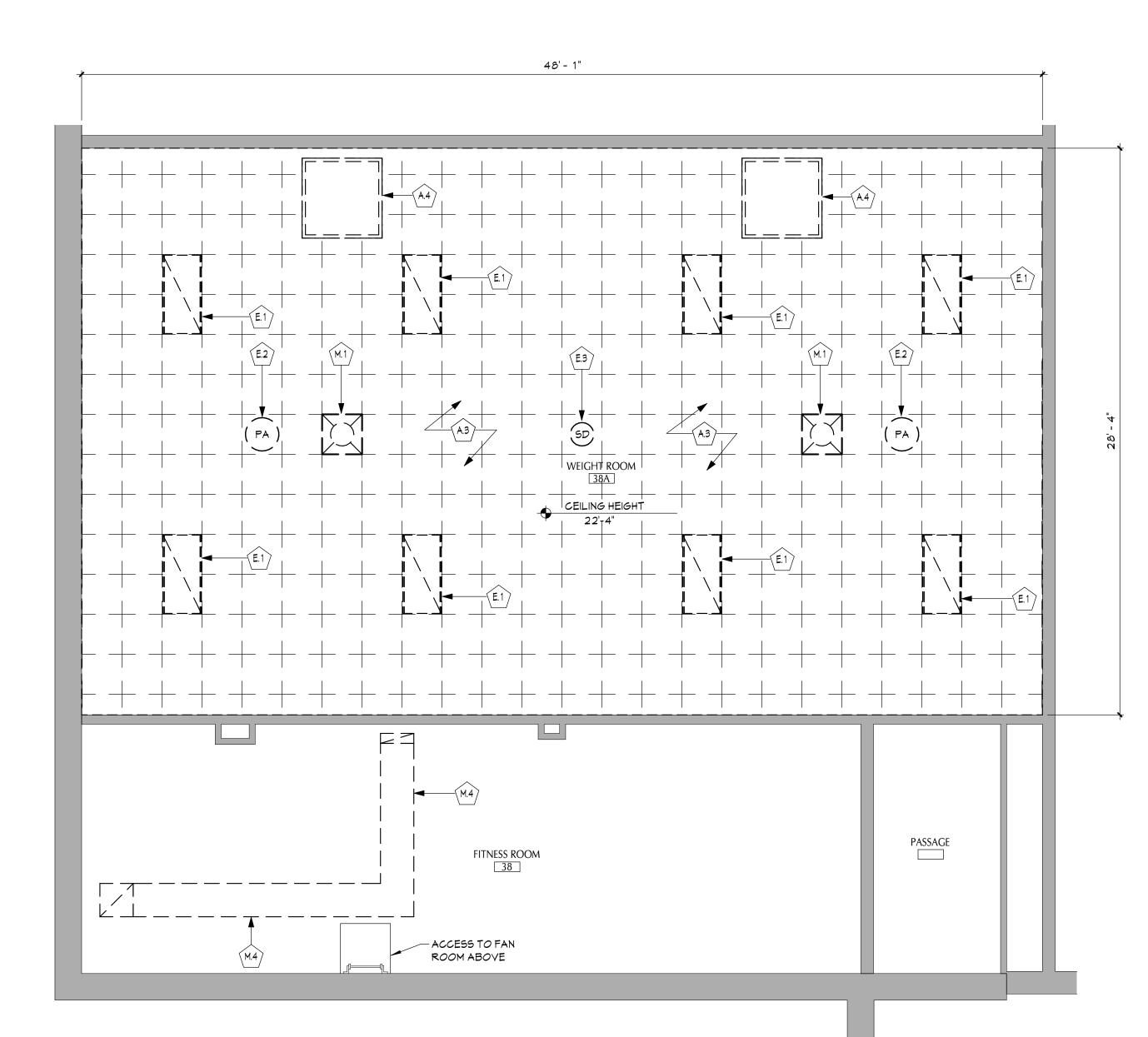
DRAWINGS. SPEAKER. REFER TO ELECTRICAL DRAWINGS.

> HVAC UNIT. REFER TO MECHANICAL DRAMINGS. HVAC EQUIPMENT. REFER TO MECHANICAL

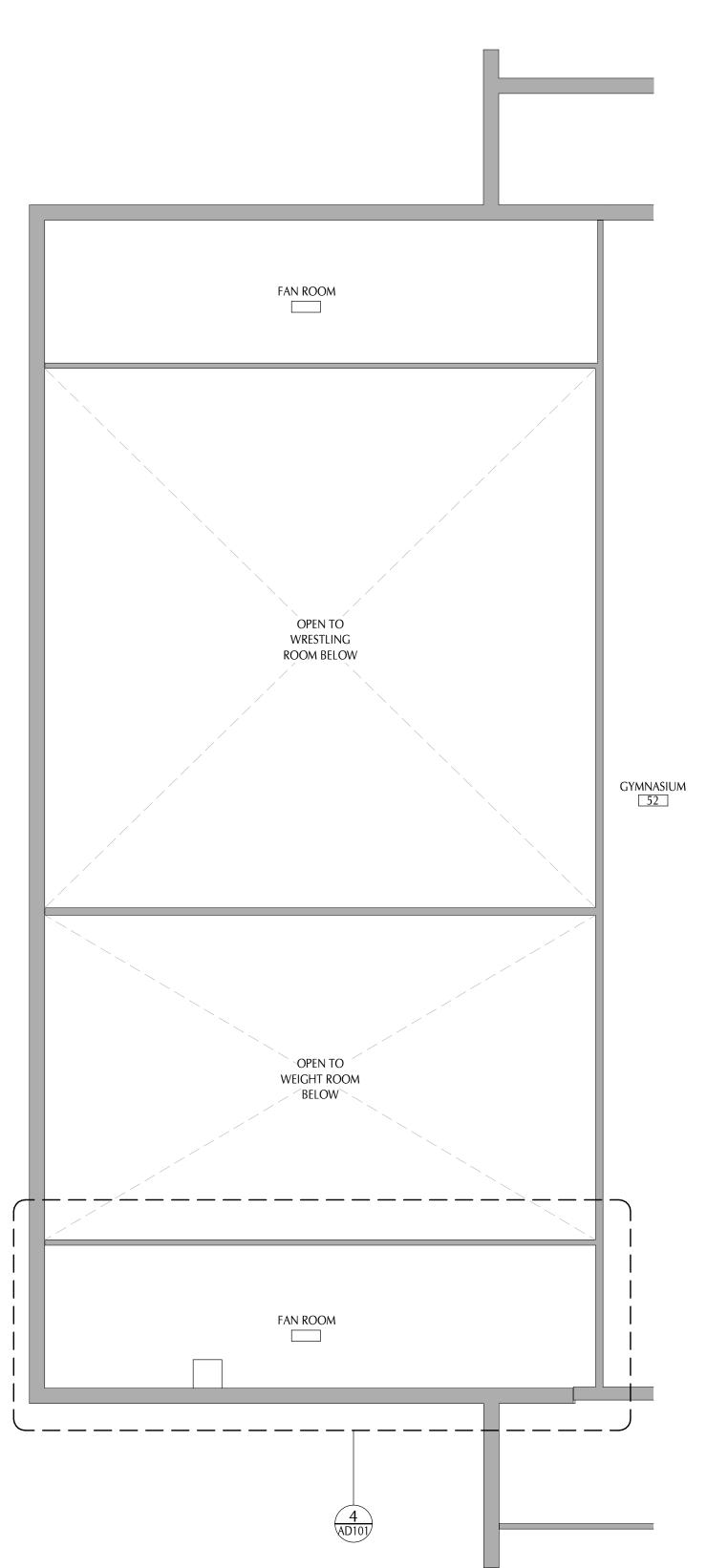
DRAWINGS.

## FAN ROOM ___(M.2)(M.3)____ — ACCESS TO FITNESS ROOM BELOW

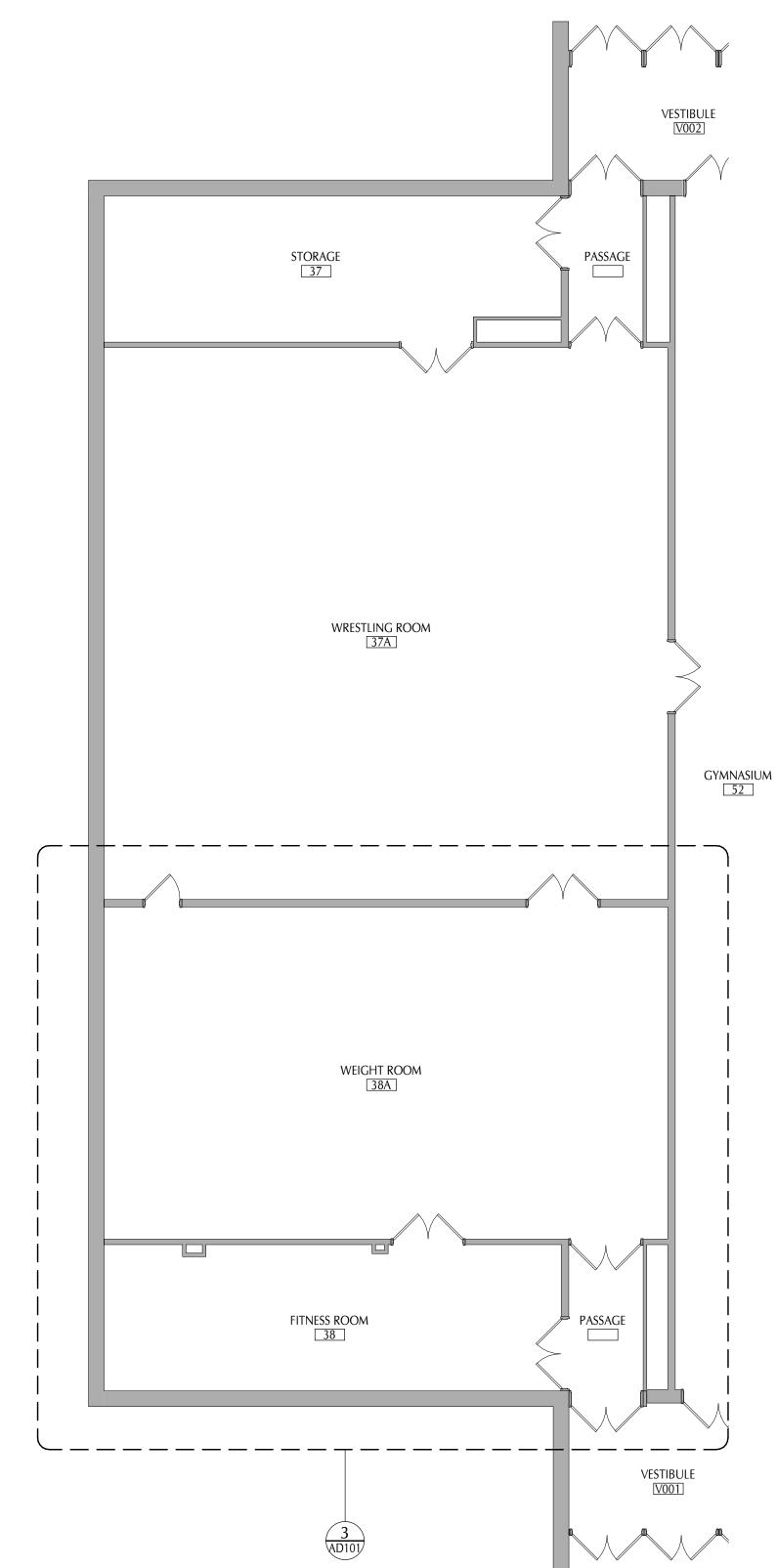
### + ENLARGED SECOND FLOOR DEMOLITION PLAN



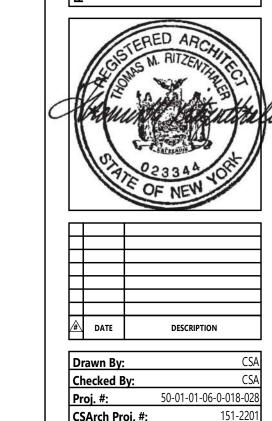
5 ENLARGED FIRST FLOOR DEMOLITION RCP AD101 1/4" = 1'-0"



FITNESS AREA - SECOND FLOOR DEMOLITION PLAN
AD101 1/8" = 1'-0"

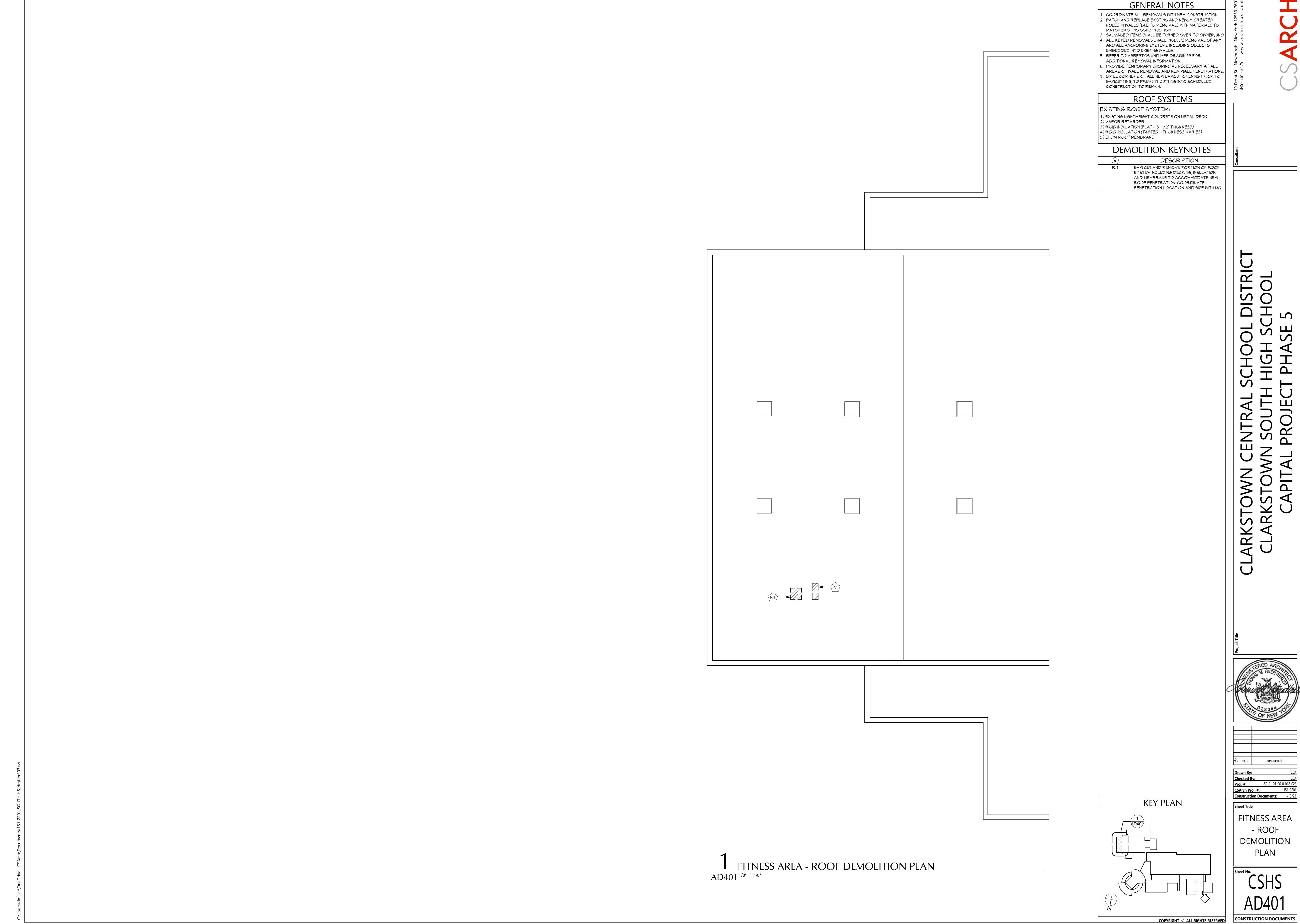


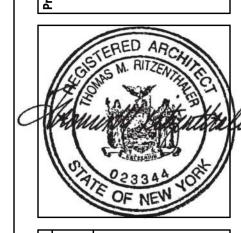
FITNESS AREA - FIRST FLOOR DEMOLITION PLAN AD101 1/8" = 1'-0"

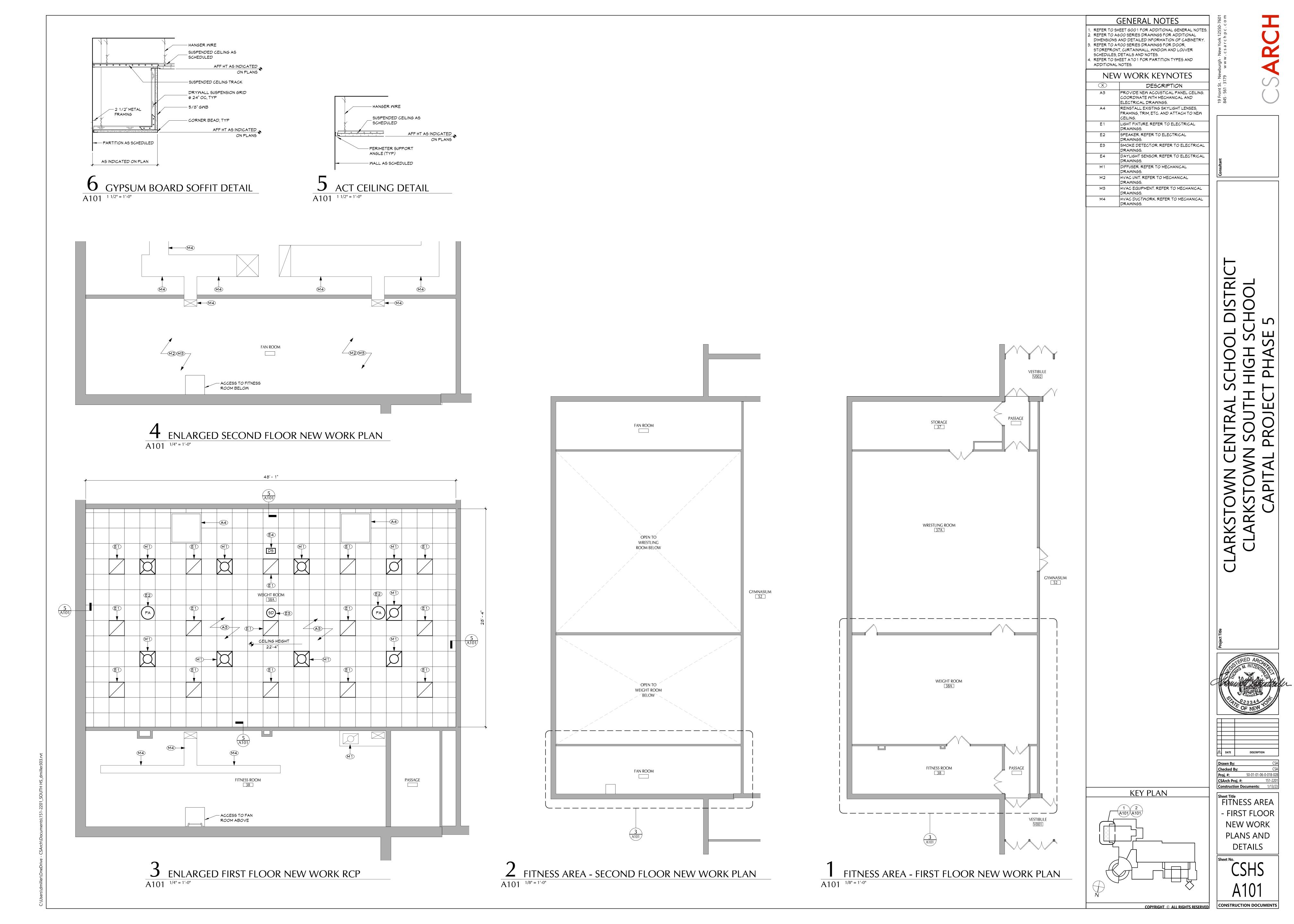


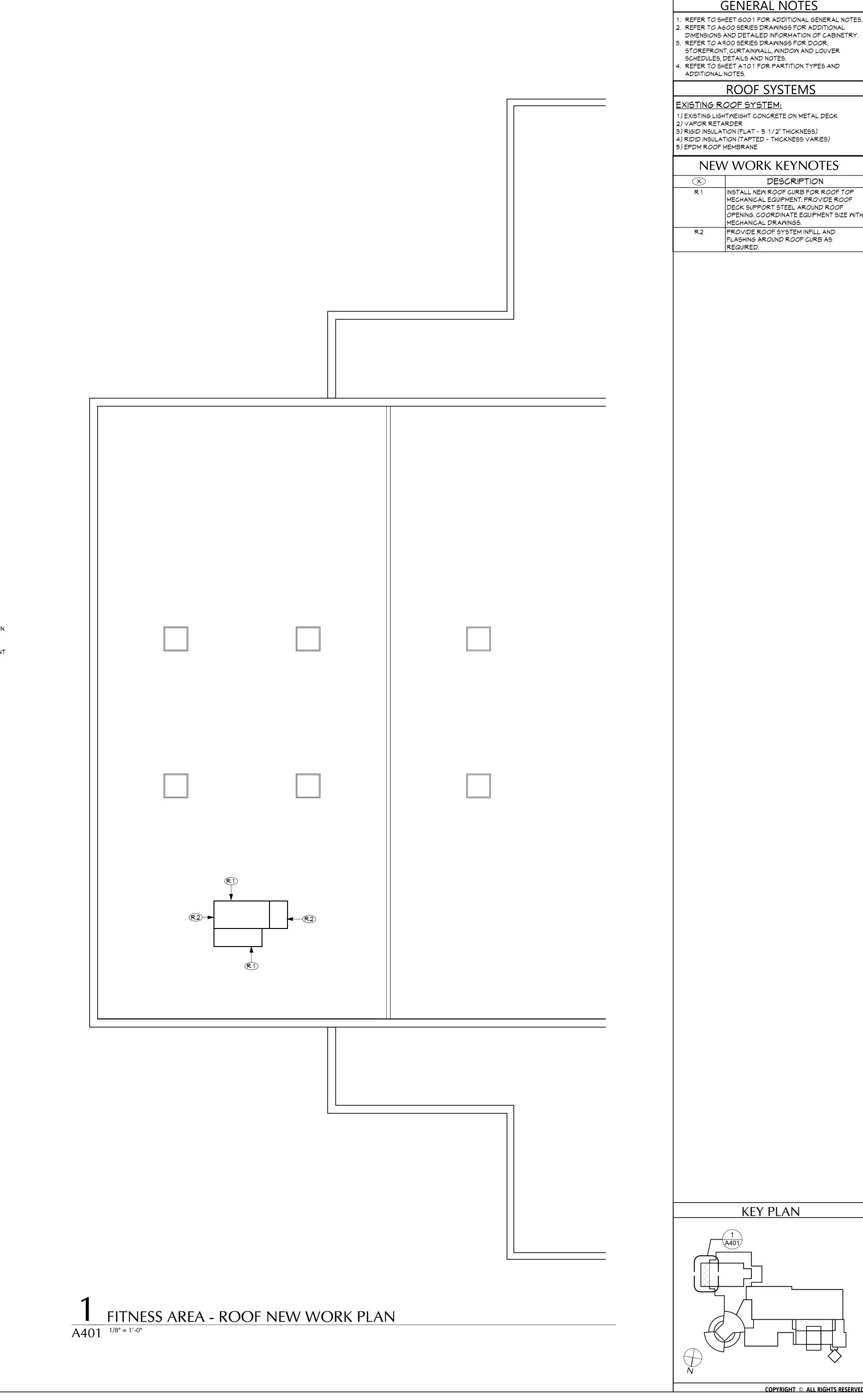
KEY PLAN FITNESS AREA - FIRST FLOOR DEMOLITION PLANS

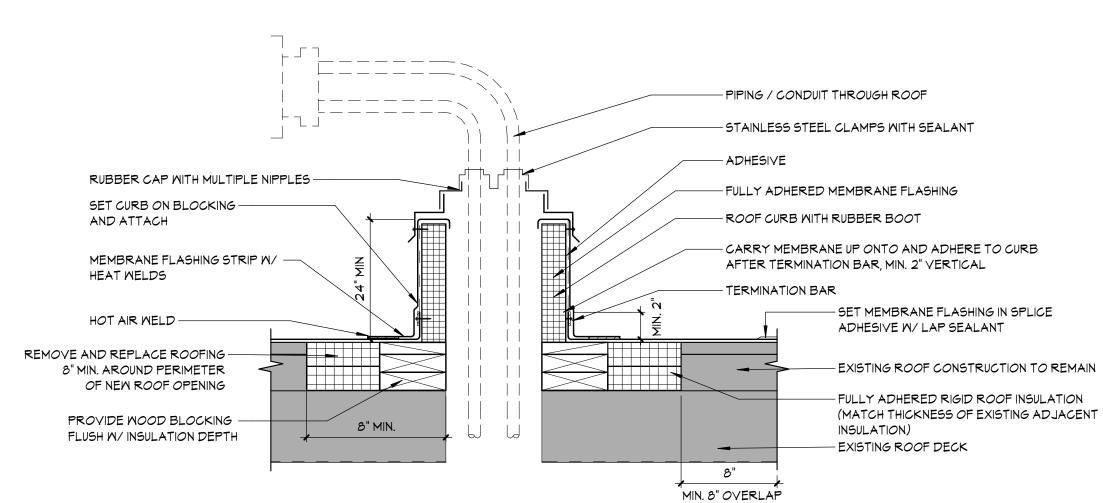
Sheet No.



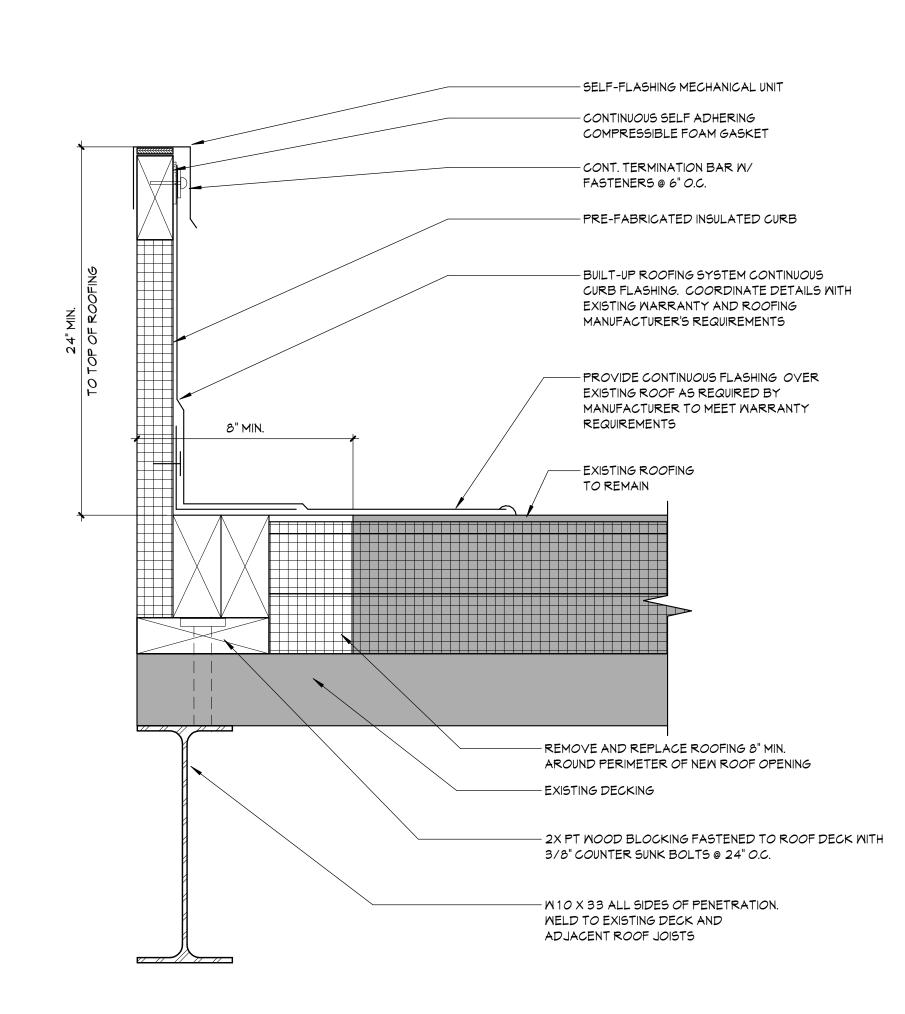








3 ROOF PIPE BOOT/CURB DETAIL



A401 3" = 1'-0"

A DATE

KEY PLAN

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FITNESS AREA

- ROOF NEW

**WORK PLAN** 

AND DETAILS

CONSTRUCTION DOCUMENTS

Sheet No.

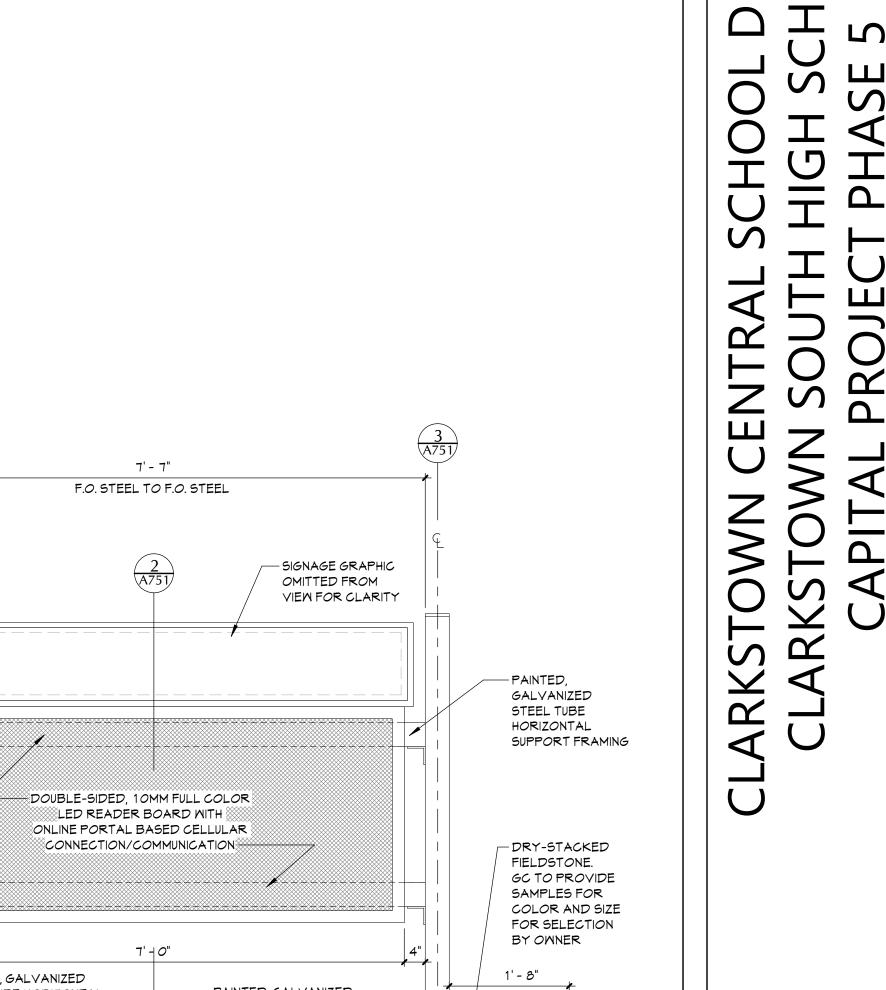
**GENERAL NOTES** 

**ROOF SYSTEMS** 

DESCRIPTION

MECHANICAL EQUIPMENT. PROVIDE ROOF DECK SUPPORT STEEL AROUND ROOF OPENING. COORDINATE EQUIPMENT SIZE WITH

MECHANICAL DRAWINGS.



AS REQUIRED TO (2) 0.250 INCH THICK MATCH LED SIGNS LAMINATED ALUMINUM SHEET SIGNAGE PANEL. ALUMINUM SIGNAGE REFER TO PANEL HOUSING AND TRIM. SIGNAGE ELEVATION — 4" X 4" HOT-DIPPED HOUSING TOP AND SIDES -FOR GRAPHICS. GALVANIZED STEEL CAP TO BE ENCLOSED — PLATE, 1/4" THICK, WELDED TO HORIZONTAL STEEL TOP OF STEEL TUBE COLUMN. TUBE SUPPORT HOT-DIPPED GALVANIZED — STUDS MOUNTED TO TOP PAINT WITH COMPATIBLE MOUNTED TO TUBE COATING. COLOR AS COLUMNS WITH 3X3 SELECTED BY OWNER. OF HORIZONTAL SUPPORT CLIP ANGLE AT STEEL TUBE TO FRAME - EACH SIDE (TYP.) HOUSING FOR GRAPHIC SIGNAGE PANELS. HOUSING/PANELS TO - 2-VIEW LED SIGN BE FLUSH WITH OUTSIDE (BACK TO BACK) MITH FACE OF LED SIGN MANUFACTURERS RECOMMENDED GALVANIZED STEEL TUBE ATTACHMENT COLUMN AT EACH SIDE OF HARDWARE LED SIGN, SET IN CONCRETE PIER FULL HEIGHT. PAINT WITH - 4" SQUARE HOT-DIPPED GALVANIZED COMPATIBLE COATING. COLOR HORIZONTAL STEEL TUBE SUPPORT AS SELECTED BY OWNER SPANNING TUBE COLUMNS. PAINT MITH COMPATIBLE COATING. COLOR AS STEEL POSTS BEYOND -FIELDSTONE -REFER TO DETAILS SELECTED BY OWNER. OMITTED FROM 1' - 8" 1' - 8" ____ 2" OF CONCRETE PIER VIEW FOR EXPOSED ABOVE GRADE CLARITY — DRY-STACKED FIELDSTONE. GC TO PROVIDE SAMPLES FOR COLOR AND SIZE FOR SELECTION BY OWNER  $\perp$ 24" DIAMETER, CONCRETE PIER (4,000 PSI) FOUNDATIONS BEYOND REFER TO DETAILS REBAR CAGE. #4 VERTICAL BARS @ 8" O.C. AND #4 HORIZOTNAL BARS @ 12" O.C. COMPACTED SUBBASE

PAINTED, — GALVANIZED STEEL TUBE POST COLUMNS 1' - 8" — PAINTED, GALVANIZED PAINTED, GALVANIZED STEEL TUBE HORIZONTAL STEEL TUBE POST COLUMNS -SUPPORT FRAMING FOUNDATIONS BEYOND REFER TO DETAILS 

+/- 7' - 3" BUILDING NAME GRAPHIC ___1" TRIM BORDER (TYP.) TEXT: "CLARKSTOWN SOUTH HIGH SCHOOL" FONT: SELECTED BY OWNER (HEIGHT AS NOTED) SINGLE COLOR: SELECTED BY OWNER — ALUMINUM SIGNAGE HOUSING AND TRIM COLOR SELECTED BY OWNER BACKGROUND COLOR:

SINGLE COLOR BACKGROUND

SELECTED BY OWNER 0.250 INCH THICK  $-\!\!\!\!-$ LAMINATED ALUMINUM SHEET SIGNAGE PANEL +/- 6' - 10" 2 1/2" 2 1/2"___ 4 GRAPHIC SIGNAGE PANEL ELEVATION

A751 1" = 1'-0" NOTE:

TWO PANELS CONTAINING GRAPHICS DETAILED ABOVE

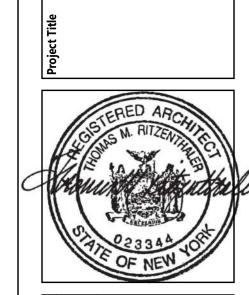
TO BE PROVIDED. ONE AT EACH SIDE OF SIGN SYSTEM.

3 SECTION THROUGH LED SIGN PIER

COMPACTED SUBGRADE

LED SIGN SECTION A751 3/4" = 1'-0"

LED SIGN ELEVATION A751 3/4" = 1'-0"



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SITE SIGNAGE **DETAILS** 

CSHS

CONSTRUCTION DOCUMENTS

	JTC D808 TCCOM
	BLAKE ENGINEERING PLI.C 1898 COUNTY ROUTE I, WESTTOWN, NY 10998 1467-2977 MBIARKERBIAKEENGINERINGPLI.COM
nsultant	BLAKE 1898 COUN

## 

18. ALL DUCTWORK IS TO BE CONSTRUCTED OF GALVANIZED SHEET STEEL (EXCEPT WHERE OTHERWISE SPECIFIED) WITH GAUGES, BRACING AND CONSTRUCTION IN ACCORDANCE WITH THE LATEST SMACNA DUCT MANUAL STANDARDS AND ALL OTHER 19. PROVIDE MANUAL DAMPERS AT EACH SPLIT OR TAP CONNECTION TO TRUNK DUCTS FOR BALANCING PURPOSES WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS. EACH DAMPER SHALL BE OF THE OPPOSED BLADE DAMPER TYPE INSTALLED WITH AN OPERATOR AND LOCKING DEVICE. ALL DAMPERS LOCATED ABOVE HARD OR 20. FURNISH & INSTALL FUSIBLE LINK FIRE DAMPERS AT ALL LOCATIONS WHERE DUCT PENETRATES FIRE-RATED FLOOR OR CEILING ASSEMBLY WHETHER OR NOT SPECIFICALLY SHOWN. INSTALL DUCTWORK CASING ACCESS DOORS AND FRAMES AHEAD OF EACH FIRE DAMPER FOR INSPECTION AND MAINTENANCE. DOORS SHALL

 $\alpha$ 

23. ALL SUPPLY AND RETURN DUCTWORK LOCATED IN UNCONDITIONED SPACES OR ABOVE CEILINGS SHALL BE INSULATED WITH A MINIMUM OF R-5 INSULATION. ALL DUCTWORK LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION. INSULATION SHALL BE FIBERGLASS DUCT WRAP WITH VAPOR SEAL SECURELY TAPED AROUND DUCT. IF DUCT LINING IS TO BE USED, ALL DUCT SIZES SHOWN SHALL BE CONSIDERED TO BE INSIDE CLEAR DIMENSIONS.

24. INSTALL ALL DUCTWORK AS HIGH AS POSSIBLE PROVIDING RISERS, DROPS AND OFFSETS TO CLEAR STRUCTURAL MEMBERS, LIGHT FIXTURES, OTHER PIPING, AND OTHER OBSTRUCTIONS. WHERE CONFLICTS ARISE, IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO PROCEEDING.

25. THE ENTIRE AIR DISTRIBUTION SYSTEM IS TO BE BALANCED TO WITHIN 10% OF THE SPECIFIED AIRFLOW REQUIREMENTS.

26. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL EQUIPMENT, PIPING, FIXTURES, AND SYSTEMS INSTALLED UNDER THIS CONTRACT TO ENSURE PROPER OPERATION PRIOR TO FINAL ACCEPTANCE BY THE OWNER AND ENGINEER.

27. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE WHETHER SPECIAL LICENSING IS REQUIRED IN ORDER TO PERFORM THE REQUIRED WORK IN THE MUNICIPALITY WHERE THE PROJECT IS LOCATED. IF THE CONTRACTOR CANNOT OBTAIN THE REQUIRED LICENSING TO COMPLETE THE WORK WITHIN THE PROJECT SCHEDULE, THEN THE CONTRACTOR SHALL NOT BE PERMITTED TO BID ON THIS PROJECT.

28. CONTRACTOR IS RESPONSIBLE TO CREATE AND SUBMIT RED-LINE "AS-BUILT" PLANS TO THE ENGINEER AT THE END OF THE PROJECT. AS-BUILT PLANS SHALL ACCURATELY REPRESENT THE SYSTEMS AS THEY WERE INSTALLED.

#### Mechanical Equipment:

Mechanical Notes:

AND ENGINEER.

NEW YORK STATE.

REQUIREMENTS.

ACCEPTANCE.

BLACK.

OR OTHER ACCEPTABLE STANDARDS.

AND ARE REFLECTED ON HIS SUBMITTALS.

MINIMUM OF 6" BEYOND JOINT ENDS.

PROPER INSTALLATION OF WORK.

THROUGH MANUAL AIR VENTS.

FINAL APPROVAL OF SYSTEM IS OBTAINED.

AND AT HIGH POINTS OF THE PIPING SYSTEM.

AUTHORITIES HAVING JURISDICTION.

ENGINEER'S ATTENTION PRIOR TO PROCEEDING.

COMPLETE CONTROL TO ALL FIXTURES AND EQUIPMENT.

1. ALL MATERIALS AND EQUIPMENT ARE TO BE NEW, UNUSED, AND FREE FROM DEFECTS OF ANY KIND. THE BASIS OF QUALITY SHALL BE THE LATEST REVISION OF ASTM, ANSI,

2. THESE DRAWINGS ARE DIAGRAMMATIC, AND INDICATE GENERAL ARRANGEMENT OF

3. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES.

4. ALL WORK INCLUDING LABOR AND MATERIALS SHALL BE FULLY GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF PAYMENT AND FINAL ACCEPTANCE BY THE OWNER

5. ALL CUTTING. PATCHING. FIRE-STOPPING. AND SURFACE RESTORATION IN

6. A MINIMUM OF FOUR (4) COPIES OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE

ENGINEER FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION OF THE

EQUIPMENT AND/OR MATERIALS. BY SUBMITTING SHOP DRAWINGS, THE CONTRACTOR REPRESENTS THAT ACTUAL FIELD CONDITIONS ARE VERIFIED BY HIM

7. THIS CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY

8. ALL WORK IN ASSOCIATION WITH THIS CONTRACT SHALL BE COMPLETED IN STRICT

9. ALL HYDRONIC HOT WATER PIPING AND FITTINGS ARE TO BE INSULATED WITH A

10. ALL PIPING SHALL BE PROPERLY SUPPORTED AND ROUTED PARALLEL OR

11. ALL PIPING SHALL BE PITCHED SUCH THAT AIR IN THE SYSTEM CAN BE VENTED

12. TEST PIPING AND PROVE TIGHT FOR AT LEAST TWO HOURS TO TWICE THE SYSTEM

13. SUPPORT HORIZONTAL PIPING UTILIZING A SPACING PER PIPING MANUFACTURER'S

14. INSTALL VALVES ON THE ENTIRE DISTRIBUTION SYSTEM, SO LOCATED AS TO GIVE

15. INSTALL DRAIN VALVES AT BASE OF ALL RISERS AND AT LOW POINTS OF PIPING SYSTEM. INSTALL MANUAL AIR VENT VALVE FACILITIES AT THE TOP OF ALL RISERS

16. INSTALL ALL HYDRONIC PIPING AS HIGH AS POSSIBLE PROVIDING RISERS, DROPS AND

17. THE ENTIRE HYDRONIC SYSTEM IS TO BE BALANCED TO WITHIN 10% OF THE

INACCESSIBLE CEILINGS SHALL BE INSTALLED WITH REMOTE GEAR OPERATORS.

21. INSTALL TURNING VANES ON ALL RECTANGULAR TURNS. TURNING VANES SHALL BE DOUBLE THICKNESS TYPE CONSTRUCTED IN ACCORDANCE WITH SMACNA MANUAL.

22. ROUND SHEET STEEL ELBOWS ARE TO BE INSTALLED AT THE DUCT CONNECTION TO ALL SUPPLY AIR DIFFUSERS. SHEET STEEL PLENUM BOXES ARE TO BE INSTALLED AT

THE DUCT CONNECTION TO ALL RETURN AND EXHAUST AIR GRILLES. THE CONTRACTOR IS TO PAINT THE INSIDE OF THE SHEET STEEL PLENUM BOXES FLAT

BE A MINIMUM OF 20 GA. DOUBLE PANEL INSULATED TYPE.

OFFSETS TO CLEAR STRUCTURAL MEMBERS, LIGHT FIXTURES, OTHER PIPING, AND

OTHER OBSTRUCTIONS. WHERE CONFLICTS ARISE, IT SHALL BE BROUGHT TO THE

SPECIFIED WATER FLOWRATE REQUIREMENTS. A CERTIFIED BALANCING REPORT AND VERIFICATION IS TO BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL

WORKING PRESSURE. TEST SHALL BE PERFORMED IN THE PRESENCE OF THE

ENGINEER AND LOCAL INSPECTOR. TEST SHALL BE REPEATED IF NECESSARY UNTIL

APPROVAL REQUIRED IN CONNECTION WITH WORK UNDER THIS CONTRACT.

DRAWINGS, AND OBTAIN ALL PERMITS, INSPECTIONS AND CERTIFICATES OF

COMPLIANCE WITH THE 2020 BUILDING CODE OF NEW YORK STATE, 2020 MECHANICAL

CODE OF NEW YORK STATE & 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF

MINIMUM OF R-3 INSULATION. ALL JOINTS ARE TO BE COMPLETELY SEALED A

PERPENDICULAR TO BUILDING WALLS. THE CONTRACTOR SHALL FURNISH AND

INSTALL ALL SUPPORT HANGERS AND MISCELLANEOUS METALS REQUIRED FOR

CONNECTION WITH THIS TRADE SHALL BE COMPLETED BY THIS CONTRACTOR.

WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE REVIEWED THE SITE FOR

HIS WORK PRIOR TO HAVING SUBMITTED HIS PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING THE COURSE OF

WIRED THERMOSTAT COMPATIBLE WITH EXISTING BUILDING AUTOMATION SYSTEM; MOUNT 5'-0" A.F.F. IN LOCATIONS SHOWN ON PLANS

HEAVY DUTY CLEVIS HANGER (FOR 1/2" UP TO & INCL. 3" PIPE)	
SUPPORT NUT	
GALVANIZED INSULATION SHIELD 12"LONG.	
MIN.9 lb/cft DENSITY RIGID INSULATION AT SHIELD	
ADJUSTABLE HANGER WITH ROLLER (FOR 4" TO 6" PIPE)	

Mechanical Legend:

SUPPLY DUCT (UP & DOWN)

EXHAUST DUCT (UP & DOWN)

RETURN DUCT (UP & DOWN)

SQUARE 3-WAY CEILING DIFFUSERS

SQUARE 2-WAY CEILING DIFFUSERS

SQUARE 1-WAY CEILING DIFFUSERS

LINEAR SLOT DIFFUSER

(WALL TYPE)

(WALL TYPE)

MANUAL SPLITTER DAMPER

STANDARD BRANCH SUPPLY OR

RETURN, NO SPLITTER (45° TAP)

VANED ELBOW (SHORT RADIUS)

FLEXIBLE DUCTWORK (INSULATED)

COMBINATION FIRE SMOKE DAMPER

CONCENTRIC REDUCER OR INCREASER

DUCT SMOKE DETECTOR

MANUAL VOLUME DAMPER

FIRE DAMPER

X TERMINAL UNIT TAG

X → AIRFLOW (CUBIC FEET PER MINUTE)

NATURAL GAS PIPING

ECCENTRIC REDUCER

SIDE CONNECTION

RISE OR DROP IN PIPE

AND EXISTING WORK

FULL PORT BALL VALVE

FLEXIBLE PIPING CONNECTION

THERMOMETER

DRAIN VALVE

PRESSURE GAUGE

PRESSURE RELIEF VALVE

CAPPED OUTLET

PIPE DOWN

CHECK VALVE

TOP CONNECTION, 45° OR 90°

BOTTOM CONNECTION, 45° OR 90°

POINT OF CONNECTION BETWEEN NEW

3-WAY MODULATING CONTROL VALVE

PRESSURE REDUCING VALVE (PRV)

MANUAL BALANCE VALVE (CIRC. SETTER)

AUTOMATIC BALANCE VALVE (FLO-SETTER)

WYE STRAINER W/ VALVE & HOSE CONN.

TEMPERATURE & PRESSURE GAUGE

SYMBOL IS MISSING)

X"xX"

VANED ELBOW (PROVIDE ALL SQUARE OR

RECTANGULAR ELBOWS WITH VANES EVEN IF

STANDARD RADIUS ELBOW (LONG RADIUS); INSIDE

RADIUS R TO BE EQUAL TO OR GREATER THAN W

NEW DUCT (INSIDE DIMENSIONS: WIDTH x DEPTH)

ROUND AND SQUARE 4-WAY CEILING DIFFUSERS

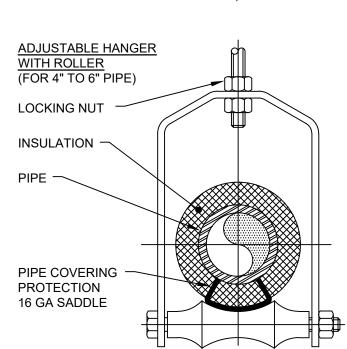
SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)

EXHAUST OR RETURN CEILING REGISTER OR GRILLE

EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE

EXHAUST OR RETURN REGISTER OR TOP GRILLE

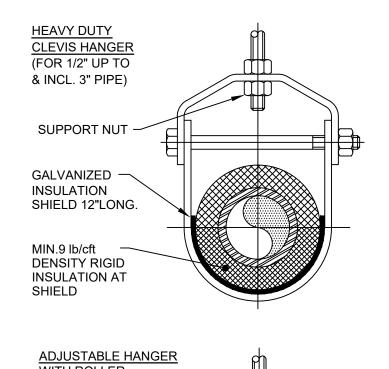
VANED ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF

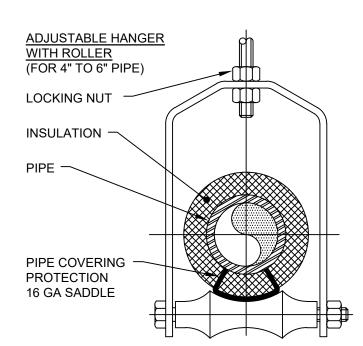


1. PIPE 8" AND LARGER SHALL HAVE ROLLER SUPPORTED WITH DUAL RODS. 2. FOR CHW SERVICE OVER 3" REPLACE SADDLE WITH 12" LONG 14 GA SHIELD WITH RIGID INSULATION BETWEEN PIPE AND SHIELD.

PIPE Ø (IN.)	1	MAX. SPACING BETWEEN HANGERS (FT.)									
	STEEL PIPE	COPPER PIPE	CPVC	(IN.)							
1/2 THRU 1	7	5	5	3/8							
1-1/2 THRU 2	9	8	6	3/8							
2-1/2	11	9	7.5	1/2							
3	12	10	7.5	1/2							
4	14	12	8.5	5/8							
6	17	14	9	3/4							
8	19	16	10	7/8							
10	22	18	10.5	7/8							

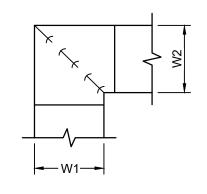






PIPE Ø (IN.)		MAX. SPACING BETWEEN HANGERS (FT.)								
	STEEL PIPE	CPVC	(IN.)							
1/2 THRU 1	7	5	5	3/8						
1-1/2 THRU 2	9	8	6	3/8						
2-1/2	11	9	7.5	1/2						
3	12	10	7.5	1/2						
4	14	12	8.5	5/8						
6	17	14	9	3/4						
8	19	16	10	7/8						
10	22	18	10.5	7/8						





THICKNESS & REINFORCING SCHEDULE - * LOW PRESSURE DUCTWORK

* NOTE: LOW PRESSURE DUCTWORK SHALL BE DUCTWORK IN WHICH THE PRESSURE DOES NOT EXCEED 2" WATER GAUGE.

TRANSVERSE JOINT

OR POCKET LOCK

OR POCKET LOCK

HEMMED "S" SLIP OR

PLAIN "S" SLIP

OR BAR SLIP

PLAIN "S" SLIP

OR BAR SLIP

1" POCKET LOCK

BAR SLIP OR REIN-

POCKET LOCK

FORCED BAR SLIP OR

1 1/4" BAR SLIP, OR RE-

OR 1 1/2" POCKET LOCK

1/4" BAR SLIP, OR RE

OR 1 1/2" POCKET LOCK

REINFORCED BAR SLIP,

OR ANGLE SLIP, ALTER-

NATE BAR SLIP, OR AN-

1 1/2" COMPANOIN AN-

LOCK, OR 1 1/2" ANGLE

GLES. OR ANGLE RE-

SLIP OR REINFORCED

2" COMPANION ANGLE

OR 2"X2"X1/4" ANGLE

SLIP, OR 2"X2"X1/4"

ANGLE REINFORCED

REINFORCED BAR SLIP

**BAR SLIP** 

ANGLES TO BE

THE SAME SIZE

AS REQUIRED

REINFORCING

ANGI FS

POCKET LOCK OR

INFORCED POCKET

BAR SLIP

GLE REINFORCED

POCKET LOCK

INFORCED BAR SLIP,

INFORCED BAR SLIP,

BAR SLIP OR

**GREATEST DIMENSION** 

REINFORCING (ALL DUCTS 18" THRU 54" SHALL BE CROSSBROKEN)

F TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING

F TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING

F TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING

F TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING

IF ON 8'-0" CENTERS REINFORCE WITH 1"X1"X1/8" ANGLES AT 4 FT. O.C.

IF ON 8'-0" CENTERS REINFORCE WITH 1"X1"X1/8" ANGLES AT 4 FT. O.C.

IF ON 8'-0" CENTERS REINFORCE WITH 1"X1"X1/8" ANGLES AT 4 FT. O.C.

F ON 8'-0" CENTERS REINFORCE WITH 1"X1"X1/8" ANGLES AT 4 FT. O.C.

REINFORCE ALL SIDES OVER 60" WITH 1 1/2"X1 1/2"X1/8" ANGLES ON 2'-0"

4'-0" CENTERS. IF JOINTS ARE ON 8'-0" CENTERS REINFORCE WITH 1 1/2"X

REINFORCE ALL SIDES OVER 84" WITH 1 1/2"X1 1/2"X3/16" ANGLES ON 2'-0"

CENTERS. SIDES 61" THRU 84" REINFORCE WITH 1 1/2"X1 1/2"X1/8" ANGLES ON

2'-0" CENTERS. SIDES 60" OR LESS NEED NO REINFORCING IF JOINTS ARE ON

4'-0" CENTERS. IF JOINTS ARE ON 8'-0" CENTERS REINFORCE WITH 1 1/2"X

REINFORCE ALL SIDES OVER 96" WITH 2"X2"X1/4" ANGLES ON 2'-0" CENTERS

REINFORCE ALL SIDES 85" THRU 96" WITH 1 1/2"X1 1/2"X3/16" ANGLES ON 2'-0"

2'-0" CENTERS. REINFORCE ALL SIDES UNDER 60" WITH 1 1/2"X1 1/2"X1/8" AN-

GLES IF JOINTS ARE 8'-0" ON CENTER. NO REINFORCING IF JOINTS ARE 4'-0"

CENTERS. REINFORCE ALL SIDES 61" THRU 84" WITH 1 1/2"X1 1/2"X1/8" ANGLES ON

REINFORCED BAR SLIP

STANDING SEAM

CENTERS. SIDES UNDER 60" NEED NO REINFORCING IF JOINTS ARE ON

FASTENED ON 8" CENTERS

FASTENED ON 8" CENTERS

FASTENED ON 8" CENTERS

FASTENED ON 8" CENTERS

1/2"X1/8" ANGLES ON 4'-0" CENTERS.

1 1/2"X1/8" ANGLES ON 4'-0" CENTERS.

ON CENTER.

HEMMED "S" SLIP

PLAIN "S" SLIP

NONE REQUIRED

NONE REQUIRED

TRANSVERSE JOINT

SMALLEST DIMENSION

DRIVE SLIP OR

POCKET LOCK

DRIVE SLIP OR

POCKET LOCK

HEMMED "S" SLIP OR

OR 1" POCKET LOCK

DRIVE SLIP 18" OR

POCKET LOCK

LESS BAR SLIP REIN-

FORCED BAR SLIP OR

I 1/4" BAR SLIP, OR RE-

OR 1 1/2" POCKET LOCK

1/4" BAR SLIP, OR RE-

OR 1 1/2" POCKET LOCK

REINFORCED BAR SLIP,

OR ANGLE SLIP, ALTER-

1/2" COMPANOIN AN-

GLES, OR ANGLE RE-

INFORCED POCKET

LOCK, OR 1 1/2" ANGLE

SLIP OR REINFORCED

2" COMPANOIN ANGLE,

OR 2"X2"X1/4" ANGLE

ANGLE REINFORCED

REINFORCED BAR SLIP

**POCKET LOCK** 

CAULK OR

GASKET -

**COMPANION ANGLES** 

SLIP, OR 2"X2"X1/4"

POCKET LOCK OR

NATE BAR SLIP, OR AN-

GLE REINFORCED

POCKET LOCK

BAR SLIP

INFORCED BAR SLIP,

INFORCED BAR SLIP,

BAR SLIP OR DRIVE SLIP

OR BAR SLIP

OR BAR SLIP

- 1. ALL VANED ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY
- 2. WHEN W1 IS NOT EQUAL TO W2, VANE SHALL BE SINGLE VANE TYPE REGARDLESS
- OF W DIMENSION.

**GREATEST DUCT** 

DIMENSION

12" OR LESS

13" THRU 18"

19" THRU 30"

31" THRU 42"

43" THRU 54"

55" THRU 60"

61" THRU 84"

85" THRU 96"

OVER 96"

PITTSBURGH LOCK

ALTERNATE BAR SLIP

STEEL DUCTS U.S.

STANDARD GAUGE

ALUMINUM DUCTS

B & S GAUGE

24(0.020°)

22(0.025°)

22(0.025°)

20(0.032°)

20(0.032°)

18(0.040°)

18(0.040°)

16(0.051°)

ONGITUDINAL

STANDING SEAM)

16(0.051°)

LONGITUDINAL

STANDING SEAM)

SEAM MAY BE

ACME LOCK

ANGLES TO BE

THE SAME SIZE

AS REQUIRED

REINFORCING

ANGLES

SEAM MAY BE

LONGITUDINAL

PITTSBURGH OR

PITTSBURGH OR

PITTSBURGH OR

PITTSBURGH OR

PITTSBURGH

**PITTSBURGH** 

PITTSBURGH

**PITTSBURGH** 

PITTSBURGH

ANGLE REINFORCED POCKET LOCK

ACME LOCK

SEAM

ACME LOCK

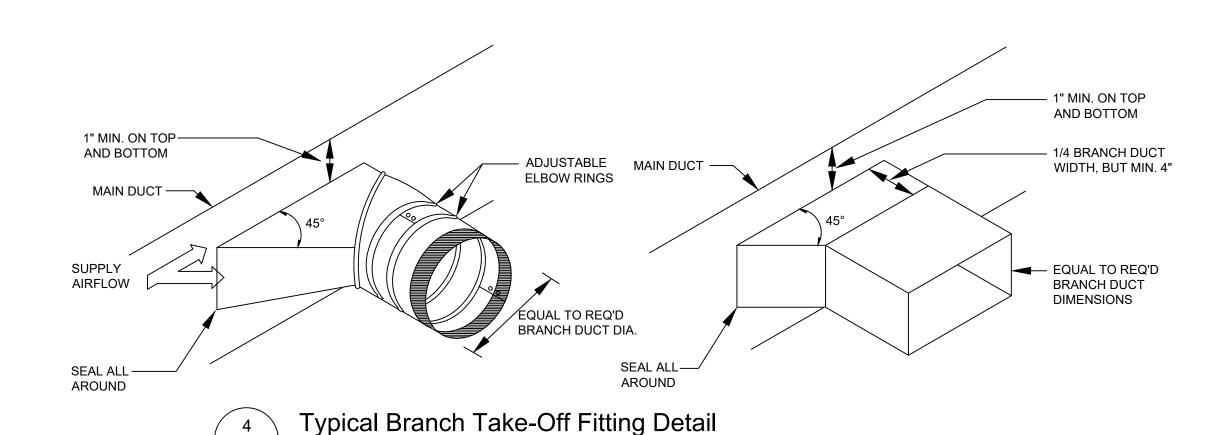
ACME LOCK

ACME LOCK

- 3. ALL SINGLE VANES SHALL HAVE A 2" RADIUS, 1-1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE. 4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE

∖M101 / N.T.S

**Ductwork Squared Elbow Detail** \M101/



— 1/2" ROUND ROD PIN INSULATION -STIFFEN BLADE — OUTSIDE END ---AS REQUIRED — DUCT − BEARING INSULATION STAND-OFF DAMPER BLADE HANDLE WITH -LOCKING QUADRANT INSIDE END -BEARING

<u>SECTION</u>

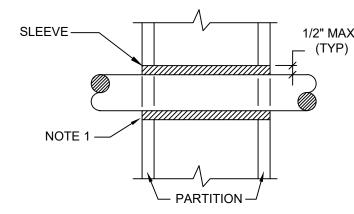
1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION. 2. DETAIL SHOWS SINGLE-BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

1/8" CLEARANCE

ALL AROUND

**Ductwork Volume Damper Detail** ∖M101 / N.T.S.

SIDE ELEVATION



1. AT FIRE RATED PARTITIONS, ADD ADDITIONAL LAYER OF FIRE SAFING INSULATION AROUND PENETRATION SO AS TO FILL CAVITY. 2. DUCT AND PIPE PENETRATIONS THRU CORRIDOR WALLS ABOVE THE CEILING ARE TO BE FIRE STOPPED AROUND THE PENETRATION.



ANGLES TO BE

REINFORCING

ANGLE SLIP

- ANGLES TO BE

THE SAME SIZE

AS REQUIRED

REINFORCING

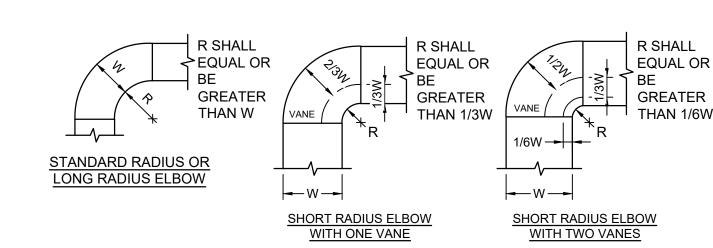
ANGLES

ANGLES

ANGLE REINFORCED STANDING SEAM

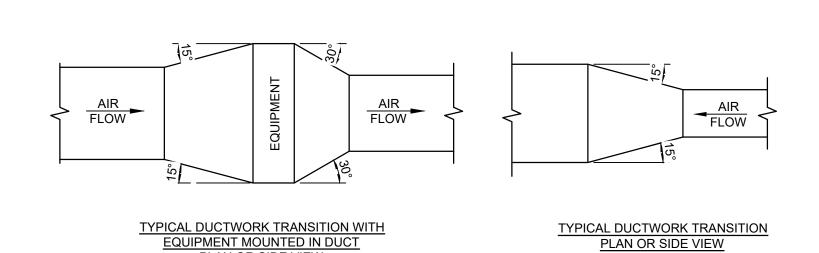
THE SAME SIZE AS REQUIRED

Pipe Penetrations Detail



- 1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
- 2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.



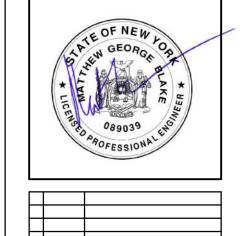


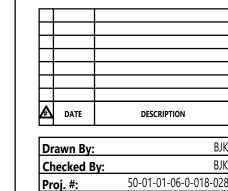
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

**Ductwork Transition Detail** 

PLAN OR SIDE VIEW

\M101/ N.T.S.





CSArch Proj. #:

Sheet Title **MECHANICAL** NOTES, LEGENDS, **SCHEDULES** & DETAILS

**Construction Documents:** 1/13/2

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Consultant	BLAKE ENGINEERING PLLC

DDC Temperature Control Legend:

ANALOG INPUT

ANALOG OUTPUT

AQUASTAT (SPDT)

DEVICE (ANALOG)

AIR FLOW MEASUREMENT

FLOW SWITCH (DIGITAL)

CONTROL ACTUATOR CONTROL DAMPER OR

DIFFERENTIAL PRESSIRE

DIFFERENTIAL PRESSIRE

TRANSDUCER (ANALOG)

INDOOR AIR QUALITY

MAGNETIC STARTER

VARIABLE FREQUENCY DRIVE

CONTROL RELAY (24VAC-SPDT)

CURRENT SWITCH (DIGITAL)

DIGITAL INPUT

DIGITAL OUTPUT

END SWITCH (SPST)

RELATIVE HUMIDITY SENSOR

CARBON-MONOXIDE SENSOR

CARBON-DIOXIDE SENSOR

WALL-MOUNTED SWITCH

TEMPERATURE SENSOR (PROBE/IMMERSION)

SMOKE DETECTOR (DUCT)

THERMOSTAT SWITCH (SPDT)

120/24VAC TRANSFORMER

TEMPERATURE SENSOR (AVERAGING)

LOW-LIMIT TEMPERATURE SWITCH

~~~~ TS |

XFMR

CURRENT TRANSDUCER (ANALOG)

SWITCH (SPDT)

VALVE

| Consultant | | Y : | | BLAKE ENGIN |
|------------|--|-----|--|-------------|
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Construction Documents: 1/13/23 MECHANICAL NOTES, LEGENDS,

SCHEDULES

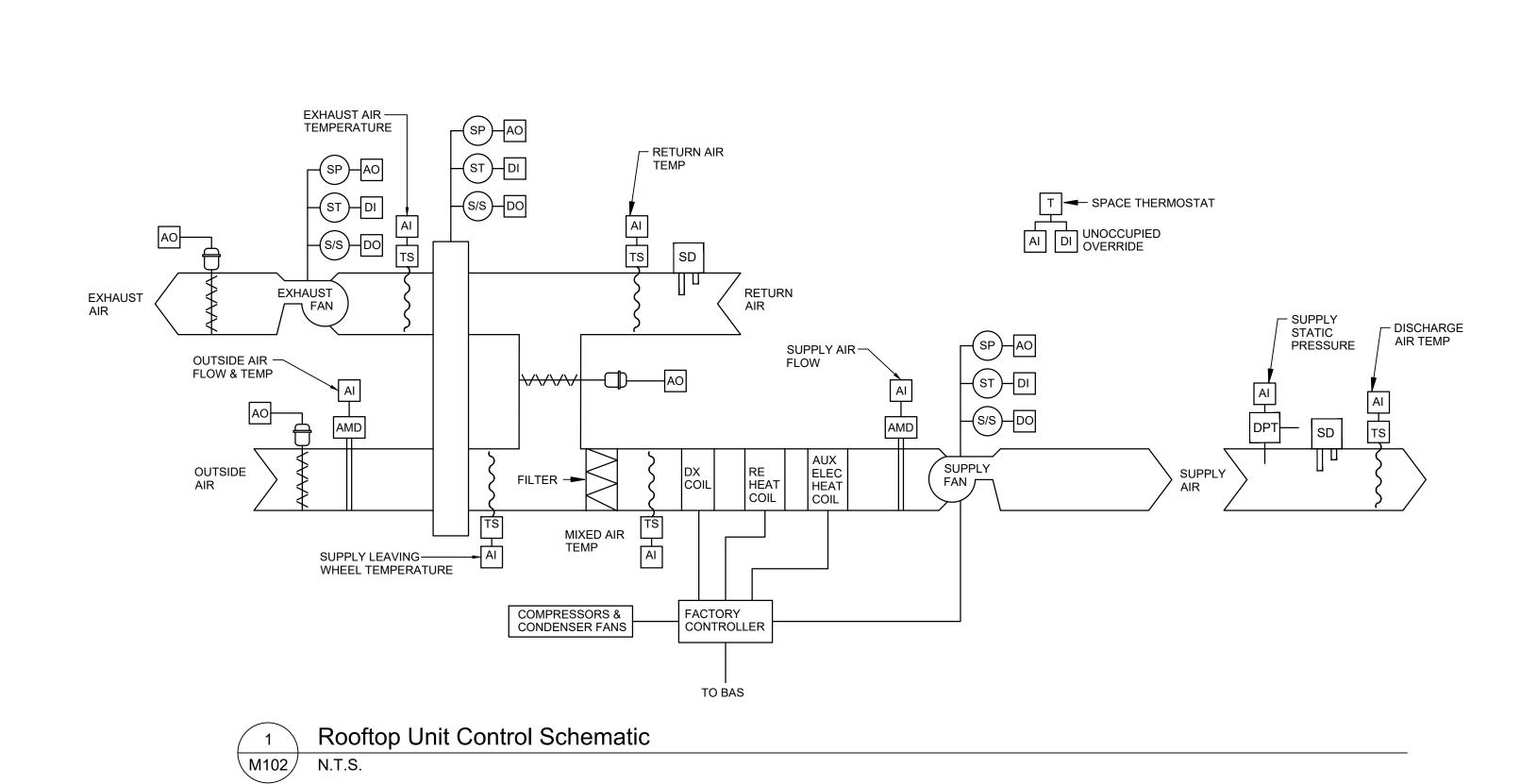
& DETAILS

CONSTRUCTION DOCUMENTS

| | PACKAGED HVAC UNIT SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|-----------------------|-------|-------|------|------|-------|-------|----------------|-----------|--|-----------------------------|-------------------------------|--------------------------|-------------------|------|-------|--------|----------|----|------|-----------|------------|---------------|--------|------------|------|--------|------|-------|-------|-----------------|--|
| EQUIPMENT
TAG | HANDFACTURER (OR ACCEPT. EQUIAL) SERVED AREA OF BUILDING SEXHAUST FAN SENSIBLE CAPACITY (a 95° F OUTDOOR D.B. AREA OF BUILDING CAPACITY (a 95° F OUTDOOR D.B. AREA OF BUILDING SERVED AREA OF BUILDING CAPACITY (a 95° F OUTDOOR D.B. AREA OF BUILDING SERVED AREA COIL (A FAULTY (a 95° F OUTDOOR D.B. AREA OF BUILDING CAPACITY (a 95° F OUTDOOR D.B. AREA OF BUILDING C | | | | | | | | | NOTES | | | | | | | | | | | | | | | | | | | | | | | | |
| RTU-1 | AAON | RN-015-3-0-H609-12A:
VECD-D0B-DSF-FGA-0HEAHLD-00-D0A0000VB | FITNESS & VEIGHT ROOM | 4,000 | 1,000 | 0.75 | 0.50 | 163.8 | 120.3 | 43.4 | 10.2 | 3.08 | 76.2 6 | 52.8 49.7 48 | .4 95 | 70 | 56.9 | 135.2 | 65.7 8 | 5.3 68.3 | 20 | 65.3 | 81.1 76.4 | % 74.1% 76 | 3.2% 74.9% 67 | 7.2% 5 | 1760 59.4% | 2 17 | 60 460 | 3 60 | 46 50 | 2,269 | NOTES 1 THRU 12 | |
| FURNIS FURNIS | ELECTRICAL CONNECTION TO BE SINGLE POINT FURNISH & INSTALL WITH DISCONNECT SWITCH & FIELD POWERED CONVENIENCE RECEPTACLE FURNISH & INSTALL CONDENSATE DRAIN WITH 2" DEEP VENTED TRAP FURNISH & INSTALL WITH DIFFERENTIAL ENTHALPY CONTROL ECONOMIZER AND POWERED EXHAUST 5. FURNISH & INSTALL 2" MERV 8 & 4" MERV 13 FILTERS 6. FURNISH W/ LOW AMBIENT COOLING CAPABILITY 7. FURNISH W/ ENERGY RECOVERY WHEEL W/ BYPASS DAMPER FURNISH & INSTALL WITH DIFFERENTIAL ENTHALPY CONTROL ECONOMIZER AND POWERED EXHAUST 8. FURNISH W/ MODULATING HOT GAS REHEAT W/ DUCT HUMIDITY SENSOR (90 MBH CAPACITY) | | | | | | | | | 10. F
11. F | PROVIDE \ | W/ VFDS ON BLC
W/ AIRFLOW ME.
W/ 24" HIGH INSI
W/ 20 kW AUXILI. | ASUREMENT I
JLATED VIBRA | DEVICES TO ME
TION ISOLATE | EASURE SUP
D ROOF CUP | PLY AND OUTS
B | | | | | | | | | | | | | | | | | | |

| | AIR GRILLE/DIFFUSER SCHEDULE | | | | | | | | | | | | | | |
|------------------|---------------------------------------|----------------------------------|----------------------------------|-----|-------|-----------------------------------|-----------|------------------------|--------------------|-----------|--------|----------------|--|--|--|
| EQUIPMENT
TAG | MANUFACTURER
(OR ACCEPT.
EQUAL) | MODEL | AIR DEVICE
TYPE | | | MAX AIR PRESS.
DROP (IN. W.C.) | MOUNTING | PANEL/FRAME SIZE (IN.) | NECK SIZE
(IN.) | MAX
NC | DAMPER | FINISH | NOTES | | |
| D-1 | KRUEGER | PLQ-10-F23-24x24-PR10-IB-44 | SQUARE PLAQUE
FACE DIFFUSER | 301 | 450 | 0.10 | LAY-IN | 24"x24" | 10"Ø | 20 | OBD | WHITE | - | | |
| D-2 | KRUEGER | 5DMGDR-H-10-6-10-01-81 | DUCT MOUNTED
SUPPLY GRILLE | 0 | 200 | 0.10 | DUCT MTD. | 12"x8" | 10"x6" | 20 | OBD | CLEAR
ANOD. | - | | |
| R-1 | KRUEGER | S80P-20x20-F23-24x24-00-00-00-44 | PERFORATED FACE
RETURN GRILLE | 0 | 1,600 | 0.10 | LAY-IN | 24"x24" | 20"x20" | 25 | - | WHITE | FURNISH & INSTALL FULL-SIZE SHEET METAL PLENUM BOX
ON REAR OF GRILLE, PAINT INSIDE FLAT BLACK | | |
| R-2 | KRUEGER | S80H-30x18-F22-NONE-00-00-00-01 | 35° DEFLECTION
RETURN GRILLE | 0 | 1,300 | 0.10 | DUCT MTD. | 32"x20" | 30"x18" | 25 | - | MILL | FURNISH & INSTALL FULL-SIZE SHEET METAL PLENUM BOX
ON REAR OF GRILLE, PAINT INSIDE FLAT BLACK | | |

| | VENTILATION SCHEDULE | | | | | | | | | | | | | | |
|--------|----------------------|-------------|-------------------------|----------------------------------|-------------------------------|-------------------|--------------------|---|-------------------------------------|---------------------------------------|---------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| SYSTEM | SPACE
SERVED | SPACE TYPE | SPACE AREA
(SQ. FT.) | OCCUPANTS
PER 1000 SQ.
FT. | # OF
OCCUPANTS
(NOTE 1) | CFM PER
PERSON | CFM PER
SQ. FT. | CALCULATED
VENTILATION
RATE (CFM) | ZONE AIR DISTRIBUTION EFFECTIVENESS | ADJUSTED
VENTILATION
RATE (CFM) | PROVIDED
VENTILATION
RATE (CFM) | EA CFM
PER
FIXTURE | EA CFM
PER SQ.
FT. | MIN. EA
RATE
(CFM) | EA
PROVIDED
(CFM) |
| DTU 4 | WEIGHT ROOM | WEIGHT RM | 1362 | 10 | 14 | 20 | 0.06 | 362 | 0.8 | 537 | 540 | - | - | - | 540 |
| RTU-1 | FITNESS ROOM | AEROBICS RM | 488 | 40 | 20 | 20 | 0.06 | 429 | 0.8 | 452 | 460 | - | - | - | 460 |



DDC Temperature Control Notes:

OPERATING SEQUENCES.

EXISTING CONTROL POINTS.

1. CONTRACTOR SHALL EXPAND EXISTING BUILDING AUTOMATION SYSTEM TO PROVIDE THE CONTROL SEQUENCES SPECIFIED ON THE

CONTROL AND MONITORING OF THE EQUIPMENT INDICATED.

DRAWINGS AND IN THE SPECIFICATIONS. THE SYSTEM SHALL PROVIDE

2. PROVIDE CONTROLLERS AND COMMUNICATIONS INFRASTRUCTURE TO

3. PROVIDE INSTRUMENTATION, SENSORS, VALVES, DAMPERS, ACTUATORS AND WIRING AS REQUIRED TO PROVIDE SPECIFIED

4. MODIFY EXISTING GRAPHIC USER INTERFACES TO INCLUDE ALL

5. REPLACE THE EXISTING BAS SERVER HARDWARE AND UPGRADE THE SOFTWARE TO THE LATEST VERSION OF WEB-ENABLED GRAPHICAL

6. CONTRACTOR SHALL BE RESPONSIBLE FOR POWER THAT IS NOT

USER INTERFACE WITH A SEAMLESS INTEGRATION OF THE NEW AND

SHOWN ON THE ELECTRICAL DRAWINGS, TO CONTROLS FURNISHED BY THIS CONTRACTOR. IF POWER CIRCUITS ARE SHOWN ON THE ELECTRICAL DRAWINGS, THIS CONTRACTOR SHALL CONTINUE THE

POWER RUN TO THE CONTROL DEVICE. IF POWER CIRCUITS ARE NOT

SHOWN, THIS CONTRACTOR SHALL PROVIDE BREAKERS AT DISTRIBUTION PANELS FOR POWER TO CONTROLS AND PROVIDE POWER FROM THE DISTRIBUTION PANEL TO THE CONTROL DEVICES.

7. FURNISH & INSTALL ALL REQUIRED END DEVICES, POWER SUPPLY, LOW VOLTAGE TRANSFORMERS, CONTROL WIRING & CONDUITS, ETC. FOR A

8. NEW WIRING & CONDUITS SHALL BE RUN CONCEALED ABOVE CEILING. ALL EXPOSED WIRING & CONDUITS SHALL BE RUN CONCEALED IN EMT

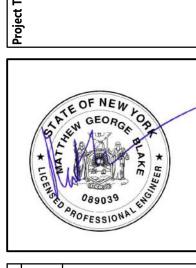
9. CONTRACTOR TO FIELD INSTALL SENSORS, CONTROLLERS, ETC. WHICH ARE NOT FACTORY-INSTALLED BY EQUIPMENT MANUFACTURERS.

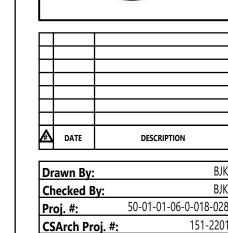
COMPLETE & OPERATIONAL DDC CONTROL SYSTEM.

IN UTILITY SPACES AND WIREMOLD IN FINISHED AREAS.

EQUIPMENT AND SYSTEMS INCLUDED IN THIS PROJECT.

MATCH EXISTING CAMPUS-WIDE BUILDING AUTOMATION SYSTEM. PROVIDE SEAMLESS INTEGRATION WITH EXISTING CONTROL NETWORK AND USER INTERFACES. NETWORK GATEWAYS AND PROTOCOL INTERFACE EQUIPMENT ARE NOT ACCEPTABLE UNLESS OTHERWISE

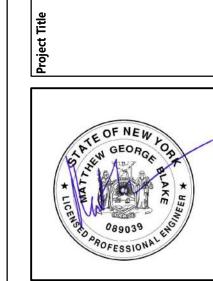


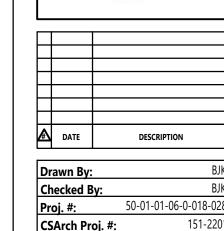


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 CSArch Proj. #:
 151-2201
 Construction Documents: 1/13/23 Sheet Title

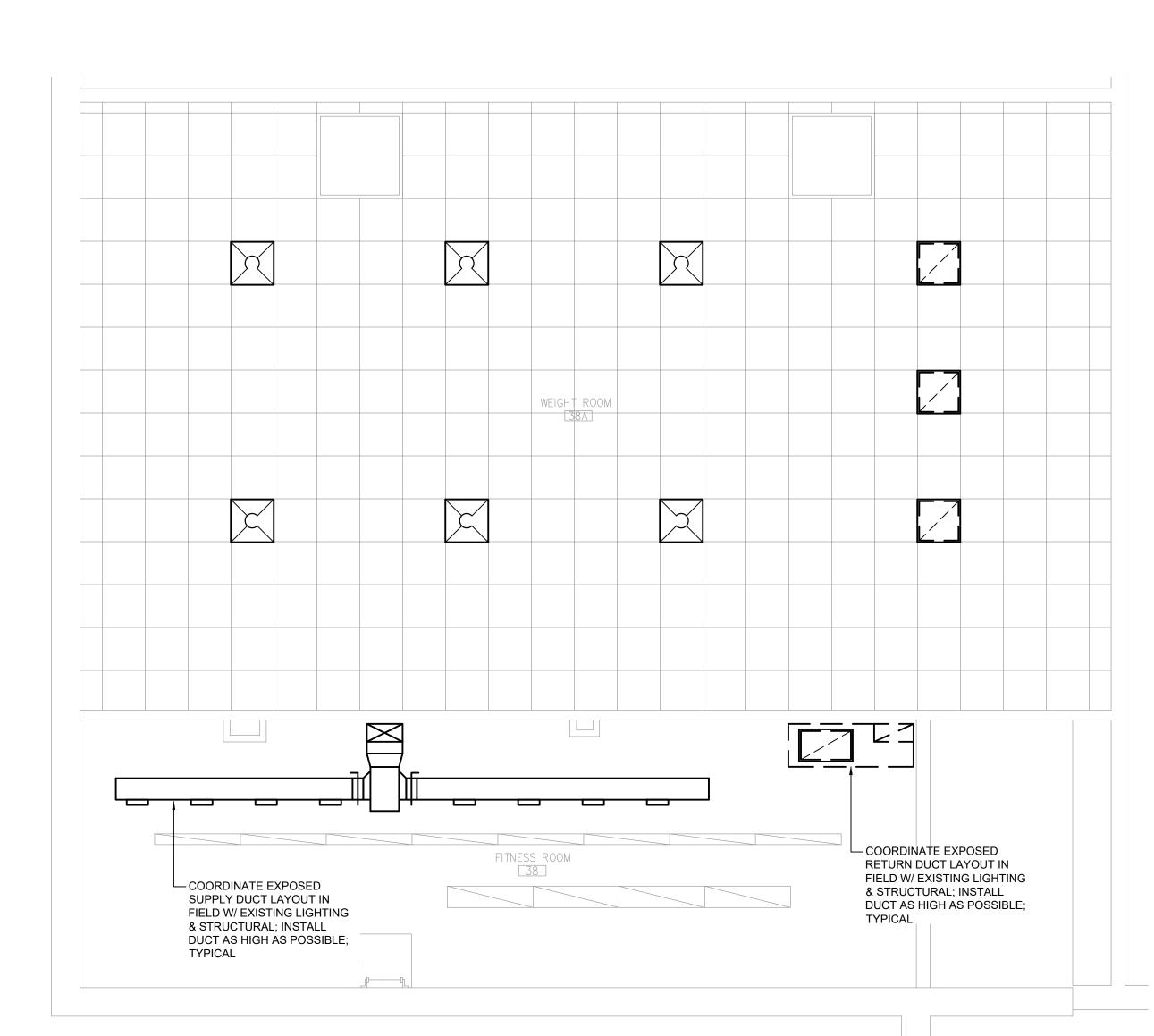
MECHANICAL REFLECTED **CEILING AND ROOF PLANS**

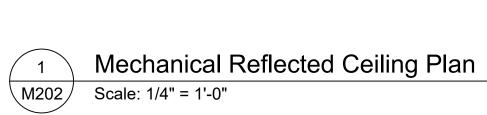
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Mechanical Plan - Roof Level M202 Scale: 1/4" = 1'-0"

INSTALL ROOFTOP UNIT ON 24" HIGH
VIBRATION ISOLATED CURB; COORDINATE
LOCATION W/ EXISTING ROOF VENTS &
DRAINS; MAINTAIN MINIMUM 10'-0"
CLEARANCE BETWEEN AIR INTAKE AND ANY
EXHAUST OUTLETS





| 120/208V 3Ø 4W+G | BUS RATING: 225A | | | | | | | | MLO | |
|------------------|------------------|--------------------------|----------------|--------|------------|--------|----------------|--------------------------|--------------------------|----------------|
| CONNECTED LOAD | CONDUCTORS | CKT. BREAKER
AMPACITY | POSITION | L1 KVA | L2 KVA | L3 KVA | POSITION | CKT. BREAKER
AMPACITY | CONDUCTORS | CONNECTED LOAD |
| EXISTING LOAD | EXISTING | 20 | 1
3
5 | . / . | <u>-/.</u> | | 2
4
6 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 7
9
11 | -/- | -/- | -/ | 8
10
12 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 13
15
17 | -/- | ·/. | -/ | 14
16
18 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 19
21
23 | ·/. | ·/. | - | 20 22 24 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 25
27
29 | ·/. | | -/ | 26
28
30 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 31
33
35 | -/- | | -/ | 32
34
36 | 50 | (3) #8 CU & (1) #10 GND. | RTU-1 |
| SPACE | - | - | 37 | -/- | | | 38 | - | - | SPACE |
| SPACE | - | - | 39 | | ·/. | | 40 | - | - | SPACE |
| SPACE | F | - | 41 | | | ·/. | 42 | - | - | SPACE |

 PROVIDE NEW CIRCUIT BREAKERS FOR ALL NEW OR MODIFIED CIRCUITS; BREAKERS SHALL MATCH EXISTING TYPE AND

- kVA TOTAL

 PANEL SCHEDULE SHOWN BASED ON EXISTING DIRECTORY, CONTRACTOR SHALL VERIFY IN FIELD & ADJUST CIRCUIT LAYOUT AS NEEDED BASED ON AVAILABLE POSITIONS

Existing Panelboard P1A-D Scale: None

EXISTING ZINSCO 277/480V 225A PANEL

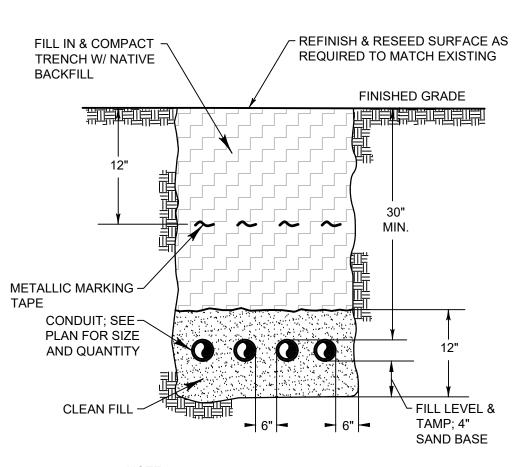
| 120/208V 3Ø 4W+G | | | BUS | RATING | MLO | | | | | |
|------------------|------------|--------------------------|----------|--------|--------|--------|----------|--------------------------|---------------------------|------------------|
| CONNECTED LOAD | CONDUCTORS | CKT. BREAKER
AMPACITY | POSITION | L1 KVA | L2 KVA | L3 KVA | POSITION | CKT. BREAKER
AMPACITY | CONDUCTORS | CONNECTED LOAD |
| EXISTING LOAD | EXISTING | 20 | 1 | -/- | | | 2 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 3 | | ·/. | | 4 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 5 | | | ·/. | 6 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 7 | ·/. | | | 8 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 9 | | ·/. | | 10 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 11 | | | ·/. | 12 | 20 | EXISTING | EXISTING LOAD |
| EXISTING LOAD | EXISTING | 20 | 13 | ·/. | | | 14 | 20 | EXISTING | EXISTING LOAD |
| SPACE | - | - | 15 | | ·/. | | 16 | 20 | (2) #12 CU & (1) #12 GND. | RTU-1 RECEPTACLE |
| SPACE | - | - | 17 | | ř | ·/. | 18 | - | - | SPACE |
| SPACE | - | - | 19 | -/- | | | 20 | - | - | SPACE |

 PROVIDE NEW CIRCUIT BREAKERS FOR ALL NEW OR MODIFIED CIRCUITS; BREAKERS SHALL MATCH EXISTING TYPE AND

> PANEL SCHEDULE SHOWN BASED ON EXISTING DIRECTORY, CONTRACTOR SHALL VERIFY IN FIELD & ADJUST CIRCUIT LAYOUT AS NEEDED BASED ON AVAILABLE POSITIONS

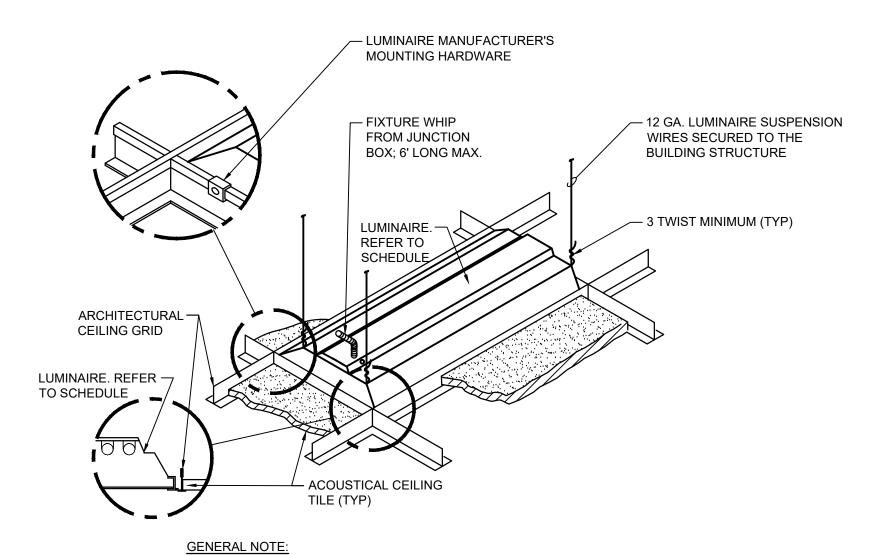
| 2 | Existing Panelboard P1A- |
|------|--------------------------|
| E101 | Scale: None |

| LIGHTING FIXTURE SCHEDULE | | | | | | | | | | |
|---------------------------|--------|---|------|---------|---------------|---------------|------------------|----------|-------|-------------------------|
| TAG | SYMBOL | MANUFACTURER
& MODEL | TYPE | VOLTAGE | # OF
LAMPS | LAMP
WATTS | FIXTURE
WATTS | MOUNTING | SIZE | NOTES |
| Α | | HE WILLIAMS RECESSED DIRECT/INDIRECT DIG-S22-L48/840-AD-DIM-UNV | LED | 120 | 1 | 37.9 | 37.9 | RECESSED | 2'x2' | 4000K COLOR TEMPERATURE |



TRENCHES MAY ALSO BE STACKED INTO ROWS; MAINTAIN 6" CLEARANCE BETWEEN CONDUITS.





1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S MOUNTING INSTRUCTIONS AND USING THE RECOMMENDED MOUNTING HARDWARE.

Luminaire Mounting Detail - Lay-In Ceiling E101 Scale: None

ELECTRICAL LEGEND:

MOTOR

EARTH GROUND

JUNCTION BOX

FUSE WITH RATING MOLDED CASE CIRCUIT BREAKER

DISCONNECT SWITCH, FUSED

DISCONNECT SWITCH, UNFUSED

STARTER, COMBINATION WITH DISCONNECT SWITCH

STARTER OR MOTOR CONTROLLER METER

20A 120V DUPLEX CEILING MOUNTED RECEPTACLE

20A 120V DUPLEX WALL MOUNTED RECEPTACLE; 18" A.F.F. UNLESS OTHERWISE NOTED

20A 120V DUPLEX WALL MOUNTED RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER

20A 120V QUADRAPLEX RECEPTACLE

WALL MOUNTED SPECIAL PURPOSE RECEPTACLE ⇒ 20A 120V WALL MOUNTED USB CHARGER RECEPTACLE TYPICAL OF

HUBBELL USB20X OR ACCEPTABLE EQUAL FLOOR BOX WITH STAINLESS COVER TYPICAL OF LEW EECTRIC #OB-1-SP OR ACCEPTABLE EQUAL; PUSH BUTTON OPEN; FULLY IP66

RATED WATER PROOF (WHEN IN CLOSED POSITION); W/ 20A 125V

E60120 GFCI RECEPTACLE (UNLESS OTHERWISE NOTED) WALL PHONE OUTLET MTD. 48" A.F.F.; 3/4" EMT CDT. IN WALL TO ABOVE CEILING W/ PULL CORD

WALL BOX FOR TELEVISION CONNECTION; 1-1/4" EMT CDT. IN WALL TO ABOVE CEILING W/ PULL CORD

TELEPHONE/DATA COMMUNICATION BOX W/ (2) 3/4" EMT CDT. IN WALL TO ABOVE CEILING W/ PULL CORD; NO FACE PLATE

BRANCH CIRCUIT HOMERUN; LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS; ONE SEPARATE GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN

3 = THREE-WAY D = DIMMER

BLANK = SINGLE POLE 2 = DOUBLE POLE 4 = FOUR-WAY K = KEY OPERATED P = WITH PILOT LIGHT PB= PUSH BUTTON T = TIMER OPERATED WP= WEATHER PROOF X = EXPLOSION PROOF OC= OCCUPANCY SENSOR

DUAL TECHNOLOGY OCCUPANCY SENSOR

DAYLIGHT SENSOR

HORN/STROBE DEVICE, ONE ASSEMBLY; MTD. 80" A.F.F. UNLESS OTHERWISE NOTED; 15 CANDELA UNLESS OTHERWISE NOTED

STROBE DEVICE; MTD. 80" A.F.F. UNLESS OTHERWISE NOTED; 15 CANDELA UNLESS OTHERWISE NOTED

MANUAL PULL STATION; MTD. 48" A.F.F.

WATER FLOW SWITCH

VALVE TAMPER SWITCH

DETECTOR; LETTER INDICATES AS FOLLOWS: BLANK = SMOKE DETECTOR

P = PHOTOELECTRIC SMOKE M = MULTIPLE STATION SMOKE ALARM D = PHOTOELECTRIC DUCT SMOKE DETECTOR FSD = DUCT SMOKE DETECTOR FOR FIRE SMOKE DAMPER

RATE OF RISE HEAT DETECTOR, 135°F

CARBON MONOXIDE DETECTOR; MTD. 60" A.F.F.

ADDRESSABLE FIRE ALARM CONTROL PANEL

FIRE ALARM ANNUNCIATOR PANEL

REMOTE TEST SWITCH & LED FOR DUCT SMOKE DETECTORS

FIRE ALARM RELAY

ELECTRICAL NOTES:

THE COURSE OF THE CONTRACT.

- 1. ALL MATERIALS AND EQUIPMENT ARE TO BE NEW, UNUSED, AND FREE FROM DEFECTS OF ANY KIND. THE BASIS OF QUALITY SHALL BE THE LATEST REVISION OF ASTM, ANSI, OR OTHER ACCEPTABLE STANDARDS.
- 2. THESE DRAWINGS ARE DIAGRAMMATIC, AND INDICATE GENERAL ARRANGEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE REVIEWED THE SITE FOR HIS WORK PRIOR TO HAVING SUBMITTED HIS PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING
- 3. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER
- 4. ALL WORK INCLUDING LABOR AND MATERIALS SHALL BE FULLY GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF PAYMENT AND FINAL ACCEPTANCE BY THE OWNER AND ENGINEER.
- 5. ALL CUTTING, PATCHING, FIRE-STOPPING, AND SURFACE RESTORATION IN CONNECTION WITH THIS TRADE SHALL BE COMPLETED BY THIS CONTRACTOR.
- 6. A MINIMUM OF FOUR (4) COPIES OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION OF THE EQUIPMENT AND/OR MATERIALS. BY SUBMITTING SHOP DRAWINGS, THE CONTRACTOR REPRESENTS THAT ACTUAL FIELD CONDITIONS ARE VERIFIED BY HIM AND ARE REFLECTED ON HIS SUBMITTALS.
- 7. THIS CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS, AND OBTAIN ALL PERMITS, INSPECTIONS AND CERTIFICATES OF APPROVAL REQUIRED IN CONNECTION WITH WORK UNDER THIS CONTRACT.
- 8. EQUIPMENT AND MATERIALS FOR WHICH UNDERWRITERS LABORATORIES INC. (UL) PROVIDES PRODUCT LISTING SERVICE SHALL BE LISTED AND BEAR THE LISTING MARK.
- 9. ALL WORK IN ASSOCIATION WITH THIS CONTRACT SHALL BE COMPLETED IN STRICT COMPLIANCE WITH THE 2017 NATIONAL ELECTRIC CODE, 2020 BUILDING CODE OF NEW YORK STATE, 2020 FIRE CODE OF NEW YORK STATE & 2020
- ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE. 10. ALL NEW LIGHTING FIXTURES SHALL BE INSTALLED FULLY LAMPED AND OPERABLE. THE CONTRACTOR SHALL TURN OVER TO THE OWNER SPARE LAMPS OF EVERY TYPE ON THE PROJECT IN AN AMOUNT NOT LESS THAN 20% OF THE
- 11. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, APPLICATIONS AND FEES OF ALL WORK ASSOCIATED WITH THE LOCAL UTILITY COMPANY AND/OR THE TELEPHONE COMPANY. ALL WORK INVOLVING THE UTILITY COMPANY SHALL BE COMPLETED IN ACCORDANCE WITH THEIR REGULATIONS AND GUIDELINES.

TOTAL NUMBER OF EACH TYPE (MINIMUM 1 PER TYPE).

- 12. ALL CONDUCTORS SHALL BE COPPER, SHALL NOT BE LESS THAN #12 AWG, AND SHALL NOT EXCEED 70 FEET FROM PANEL BOARD TO FURTHEST CONNECTION UNLESS OTHERWISE NOTED ON PLANS.
- 13. LIGHTING LOADS SHALL NOT BE COMBINED ON THE SAME CIRCUIT AS ANY OTHER ELECTRICAL LOADS.
- 14. CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH & INSTALL ALL SMALL DETAILS AND INCIDENTAL WORK NOT SHOWN OR SPECIFIED, BUT WHICH CAN BE REASONABLY INFERRED AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM OF HIGH QUALITY MEETING ALL APPLICABLE CODES AND REGULATIONS.
- 15. FOR EACH NEW OR MODIFIED ELECTRICAL PANEL, THE CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY CARD TO REFLECT ALL CIRCUITING. ADDITIONALLY, THE CONTRACTOR SHALL LABEL (WITH A PERMANENT MARKER OR LABEL) EACH RECEPTACLE ON THE INSIDE OF EACH FACE PLATE WITH PANEL AND CIRCUIT NUMBER DESIGNATION.
- 16. MINIMUM REQUIREMENT FOR EQUIPMENT GROUNDING SHALL BE GOVERNED BY THE NEC. ALL GROUNDS, BONDING, ETC. SHALL MEET THESE REQUIREMENTS. THE CONTRACTOR SHALL FURNISH AND INSTALL ANY AND ALL ITEMS NECESSARY TO MEET THESE REQUIREMENTS AT NO EXTRA COST, EVEN IF SUCH ITEMS ARE NOT DETAILED ON THE DRAWINGS. 17. ALL CONDUIT AND CABLE SHALL BE PROPERLY SUPPORTED AND ROUTED
- PARALLEL OR PERPENDICULAR TO BUILDING WALLS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORT HANGERS AND MISCELLANEOUS METALS REQUIRED FOR PROPER INSTALLATION OF WORK. 18. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL EQUIPMENT, WIRING, DEVICES,
- AND SYSTEMS INSTALLED UNDER THIS CONTRACT TO ENSURE PROPER OPERATION PRIOR TO FINAL ACCEPTANCE BY THE OWNER AND ENGINEER. 19. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE WHETHER SPECIAL LICENSING IS REQUIRED IN ORDER TO PERFORM THE REQUIRED WORK IN THE

MUNICIPALITY WHERE THE PROJECT IS LOCATED. IF THE CONTRACTOR CANNOT

OBTAIN THE REQUIRED LICENSING TO COMPLETE THE WORK WITHIN THE PROJECT SCHEDULE, THEN THE CONTRACTOR SHALL NOT BE PERMITTED TO BID

ON THIS PROJECT.

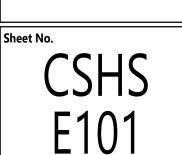
| | WIRE COLOR CODING TABLE | | | | | | |
|-------|-------------------------|---------|-------|--------|--------|---------|-----------|
| PHASE | WIRES | VOLTAGE | L1 | L2 | L3 | NEUTRAL | GROUND |
| 1 | 2 (1) | 120 | BLACK | - | - | WHITE | - |
| 1 | 2 (1) | 208 | BLACK | RED | - | - | - |
| 1 | 3 | 120 | BLACK | - | - | WHITE | GREEN (2) |
| 1 | 3 | 208 | BLACK | RED | - | - | GREEN (2) |
| 3 | 4 | 208 | BLACK | RED | BLUE | ı | GREEN (2) |
| 3 | 5 | 208 | BLACK | RED | BLUE | WHITE | GREEN (2) |
| 1 | 3 | 277 | BROWN | - | - | GRAY | GREEN (2) |
| 1 | 3 | 480 | BROWN | ORANGE | - | - | GREEN (2) |
| 3 | 4 | 480 | BROWN | ORANGE | YELLOW | - | GREEN (2) |
| | | | | | | | |

FOR DOUBLE INSULATED EQUIPMENT ONLY. GREEN/YELLOW MAY BE USED:

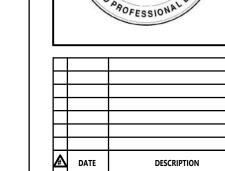
- GREEN/YELLOW SHALL BE GREEN WITH ONE OR MORE YELLOW STRIPES. - GREEN = 50 TO 70%, YELLOW = 50 TO 30%. - GREEN/YELLOW IS THE ONLY COLOR INTERNATIONALLY ACCEPTED FOR USE AS AN EQUIPMENT GROUNDING CONDUCTOR. - GREEN OR GREEN/YELLOW <u>MUST</u> ONLY BE USED FOR GROUNDING CONDUCTORS.

3 5 480 BROWN ORANGE YELLOW GRAY GREEN (2

| DEVICE MOUNTING HEIGHTS | | | | | |
|---|---------------------------------|--|--|--|--|
| OWER RECEPTACLES (INTERIOR) | 18" A.F.F. | | | | |
| WER RECEPTACLES (EXTERIOR) | 36" A.F.G. | | | | |
| OWER RECEPTACLES (@ COUNTER) | 44" A.F.F. | | | | |
| GHT SWITCHES | 44" A.F.F. TO TOP OF DEVICE | | | | |
| SCONNECT SWITCHES | SEE NEC 404.8(A) | | | | |
| LEPHONE/DATA RECEPTACLES | 18" A.F.F. | | | | |
| LEPHONE/DATA RECEPTACLES (@ COUNTER) | 44" A.F.F. | | | | |
| ALL TELEPHONE RECEPTACLES | 48" A.F.F. TO TOP OF DEVICE | | | | |
| RE ALARM PULL STATIONS | 42" A.F.F. MIN./44" A.F.F. MAX. | | | | |
| RE ALARM AUDIO/VISUAL DEVICES | 80" A.F.F. MIN./96" A.F.F. MAX. | | | | |
| (IT LIGHTS (WALL MOUNTED) | 12" ABOVE DOOR | | | | |
| MERGENCY LIGHTS (WALL MOUNTED) | 90" A.F.F. | | | | |
| ' & A/V OUTLETS | 18" A.F.F. | | | | |
| TE: ALL DIMENSIONS ARE TO CENTER OF DEVICE UNLESS OTHERWISE NOTED | | | | | |



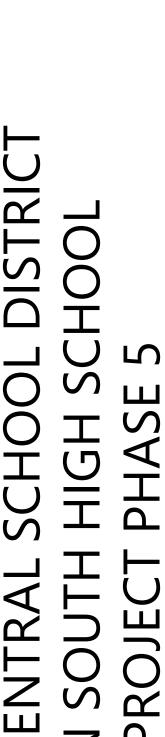




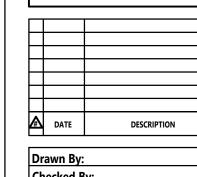
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ELECTRICAL NOTES, LEGEND, SCHEDULES & **DETAILS**









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> ELECTRICAL SITE PLAN

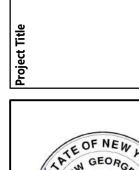
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2 WORKING DAYS NOTICE BEFORE YOU DIG,
DRILL, OR BLAST - STOP CALL

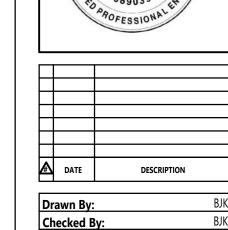
Dig Safely New York

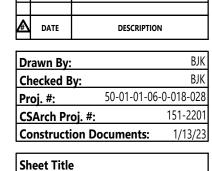
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Electrical Site Plan ES111 Scale: 1" = 20'-0"







ELECTRICAL DEMOLITION **PLANS**

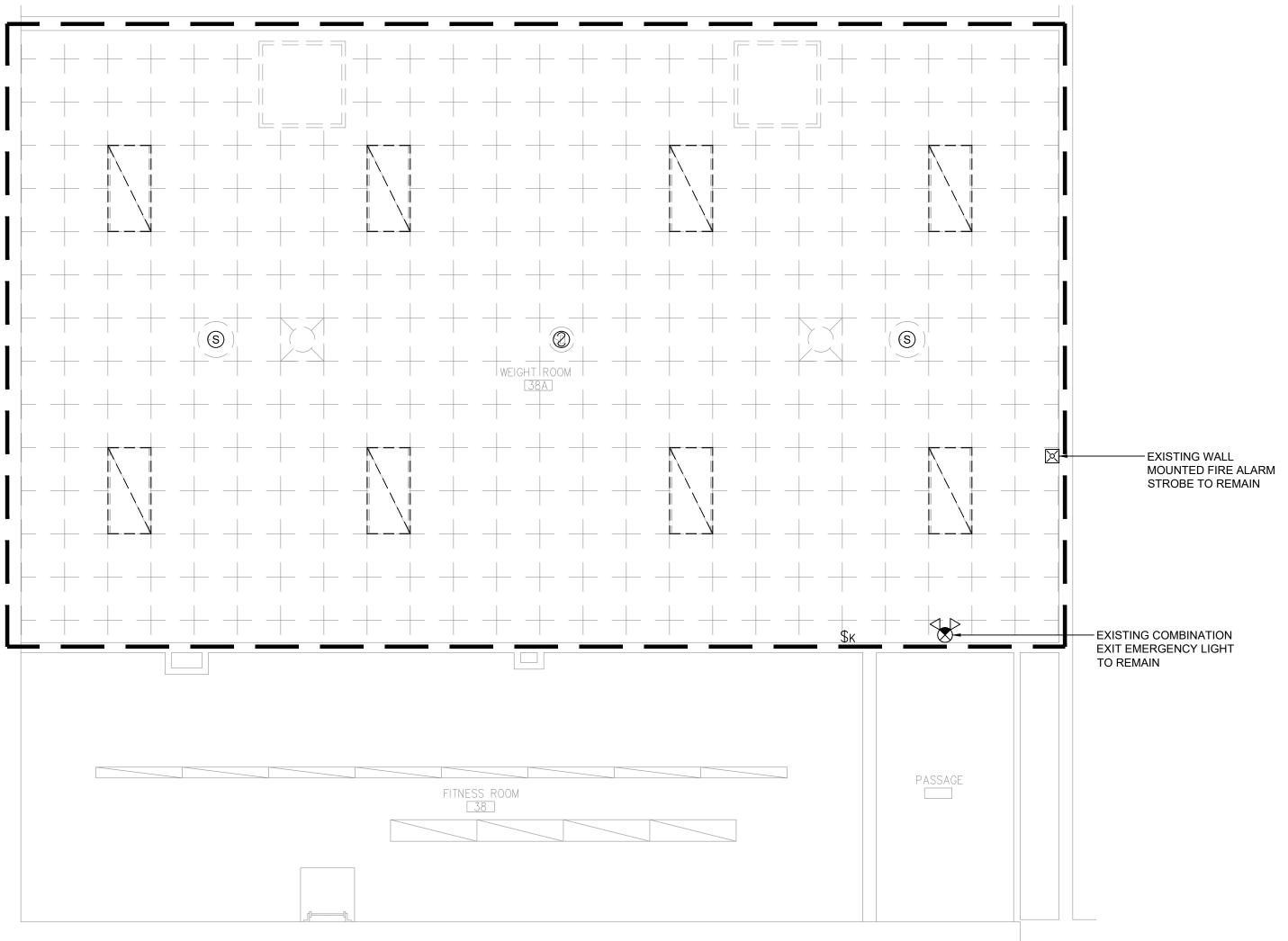
CONSTRUCTION DOCUMENTS

ELECTRICAL DEMOLITION NOTES:
AREAS INDICATED WITHIN DASHED LINES ARE TO HAVE EXISTING CEILINGS REMOVED. ELECTRICAL CONTRACTOR TO REMOVE ALL ELECTRICAL DEVICES WITHIN THESE CEILINGS. APPROXIMATE DEVICE LOCATIONS INDICATED FOR REFERENCE. CONTRACTOR TO FIELD VERIFY EXACT QUANTITY AND LOCATIONS. DISCONNECT, REMOVE & PROPERLY DISPOSE OF EXISTING LIGHT FIXTURES AND ASSOCIATED COMPONENTS INCLUDING

HANGERS AND WIRING/CONDUIT. REMOVE WIRING BACK TO DISCONNECT, REMOVE & PROPERLY DISPOSE OF EXISTING LIGHT SWITCHES AND COVER PLATES. MAINTAIN EXISTING

BOX, CONDUIT AND CIRCUIT FOR RECONNECTION TO REPLACEMENT SWITCH, EXCEPT IN WALLS BEING REMOVED. DISCONNECT & REMOVE ALL CEILING DEVICES INCLUDING FIRE ALARM, WIRELESS ACCESS POINTS, SPEAKERS, CAMERAS, ETC.

AND STORE. MAINTAIN EXISTING WIRING FOR REINSTALLATION.



ED201 Scale: 1/4" = 1'-0"

Electrical Demolition Plan

ELECTRICAL PLANS

E201

CONSTRUCTION DOCUMENTS

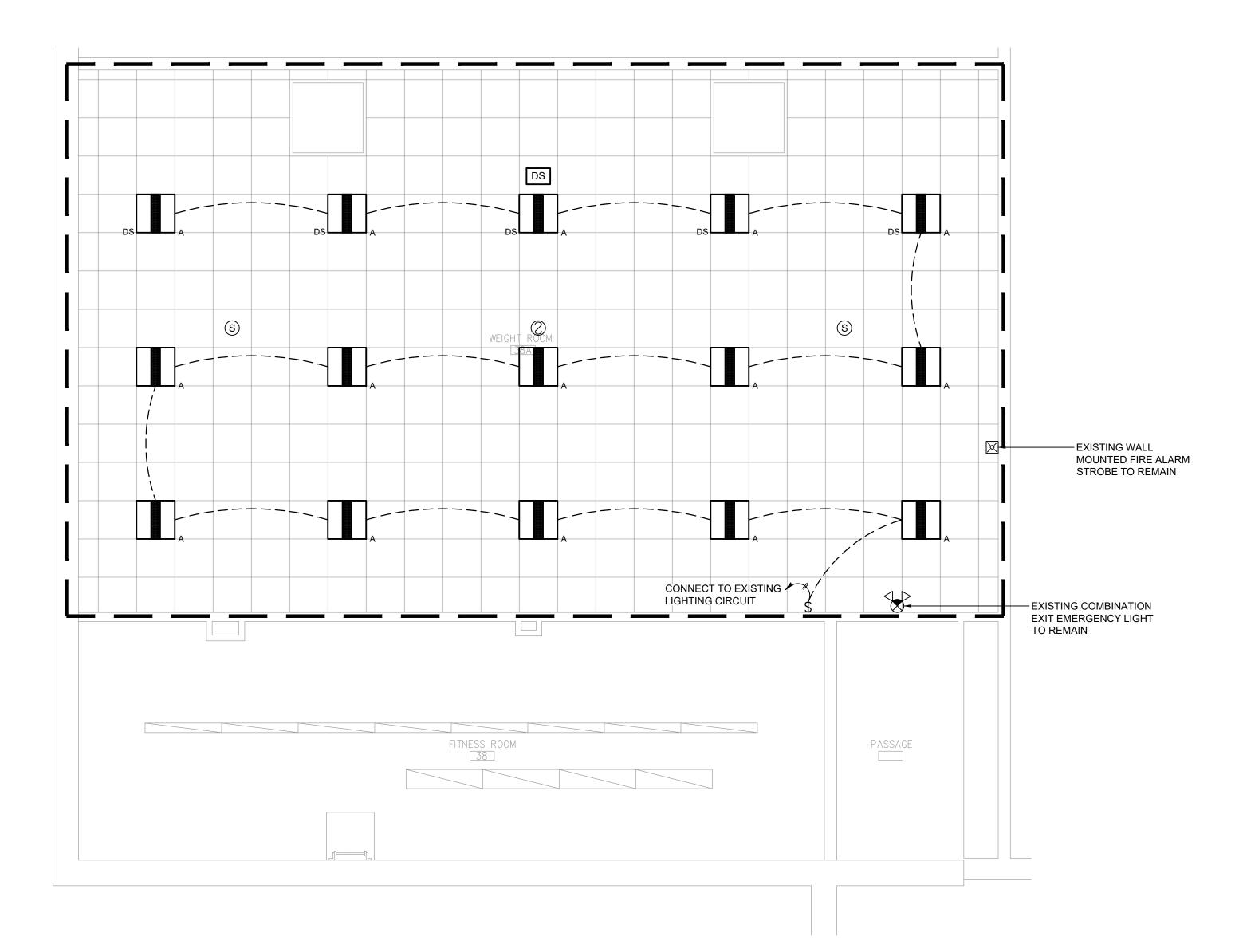
ELECTRICAL NOTES:
AREAS INDICATED WITHIN DASHED LINES HAVE NEW CEILINGS. REINSTALL ALL STORED CEILING DEVICES INCLUDING FIRE ALARM, WIRELESS ACCESS POINTS, SPEAKERS, CAMERAS, PROJECTORS, ETC. CONNECT TO EXISTING WIRING, EXTEND AS NECESSARY TO COMPLETE INSTALLATION. PROVIDE NEW SWITCHES AND LIGHTING AS INDICATED. CONNECT TO EXISTING LIGHTING CIRCUITS IN EACH SPACE.

LIGHTING CONTROL SEQUENCE OF OPERATION:

VACANCY SENSOR(S) TO BE USED FOR AUTO-OFF OF ALL FIXTURES AFTER 30 MIN. TIME DELAY.

DAYLIGHT SENSOR(S) TO ACTUATE PRESET DIMMING LEVEL FOR LIGHT FIXTURES DESIGNATED "DS" ON PLANS BASED ON DAYLIGHT AVAILABLE IN

BUTTON 1: ON/OFF CONTROL OF ASSOCIATED FIXTURES
BUTTON 2: DIM UP OF ASSOCIATED FIXTURES
BUTTON 3: DIM DOWN OF ASSOCIATED FIXTURES

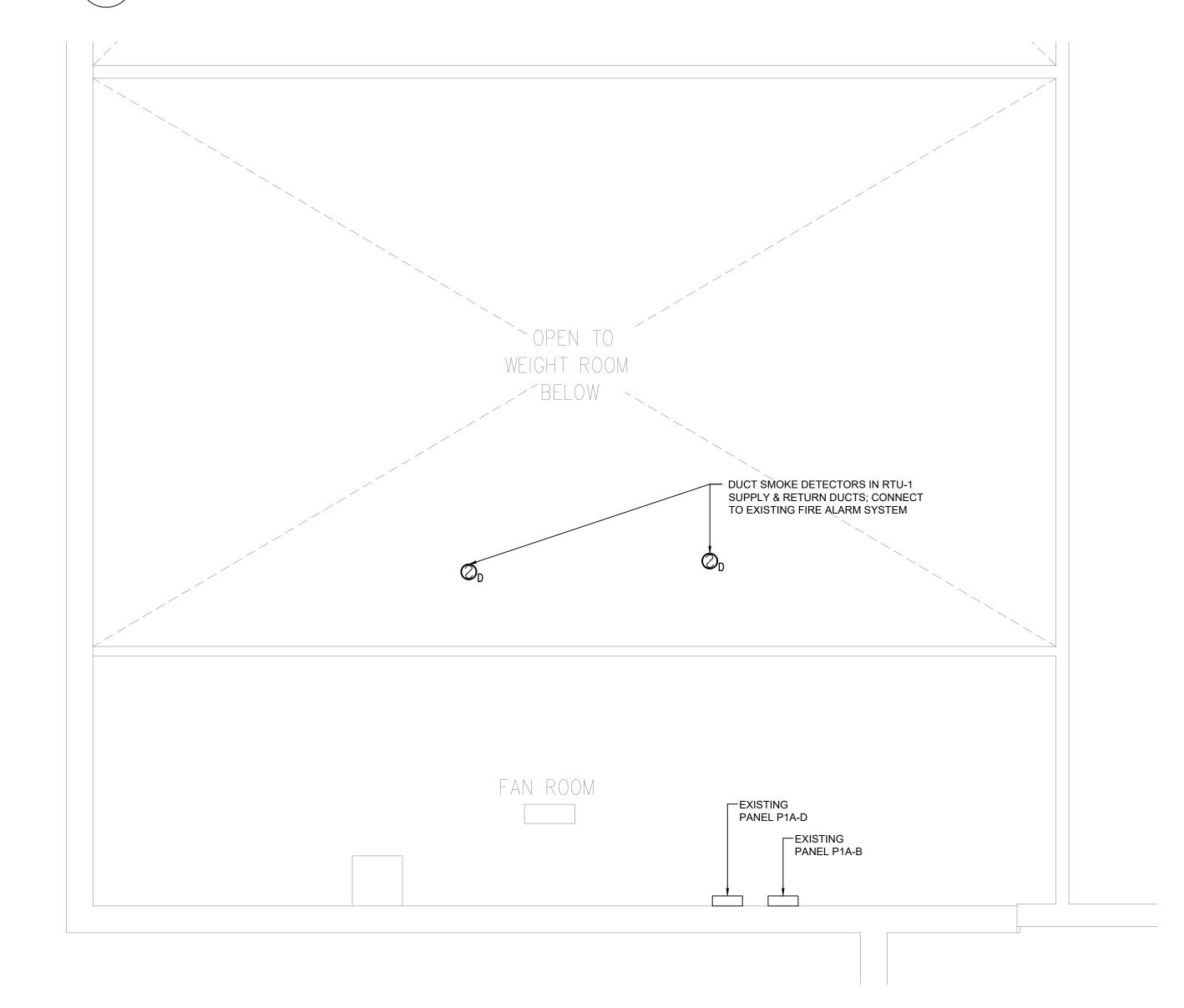


Electrical Lighting Plan E201 Scale: 1/4" = 1'-0"

SPACE, WITH DIM-TO-OFF FUNCTIONALITY. 3 BUTTON WALL STATION:

FIRE ALARM SHUTDOWN RELAY; CONNECT TO EXISTING FIRE ALARM SYSTEM; PROVIDE ALL NECESSARY WIRING, EXPANSION MODULES, POWER SUPPLIES AND PROGRAMMNG TO SUPPORT ALL NEW FIRE ALARM DEVICES; NEW FIRE ALARM DEVICES SHALL MATCH EXISTING IN KIND AND BE COMPATIBLE WITH EXISTING SYSTEM; COORDINATE ALL FIRE UNIT MOUNTED RECEPTACLE; ALARM WORK WITH DISTRICT FIRE ALARM VENDOR PROVIDE 120V CIRCUIT P1A-D/32,34,36-₱ P1A-B/16 🕏 CONDUITS & WIRING UP THRU — ROOF INSIDE RTU CURB; COORDINATE LOCATION W/ MECHANICAL CONTRACTOR

Electrical Plan - Roof Scale: 1/4" = 1'-0"



Electrical Plan - Fan Room

E201 Scale: 1/4" = 1'-0"