Addition to

West Windsor - Plainsboro High School North

90 Grovers Mill Road, Plainsboro, New Jersey 08536

West Windsor Plainsboro Regional School District

321 Village Road East, West Windsor, New Jersey 08550

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CONSULTING ENGINEERS | HAMILTON, NEW JERSEY

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NJ DOE Number: 5715-025-18-2000

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number	5063K1
Project Date	04.06.2021
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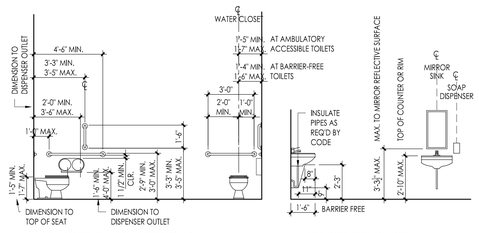
Scale	As Noted

Drawing Name
Title Sheet and Drawing Index

Revisions

No.	Date	Description

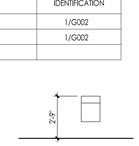
Drawing Number
G001



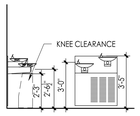
TOILET FIXTURE MOUNTING HEIGHT SCHEDULE

*BF ON TOILET LAYOUT PLAN DENOTES BARRIER FREE FIXTURE

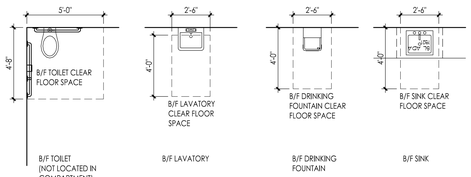
ROOM NAME / NUMBER	MOUNTING HEIGHT IDENTIFICATION
WOMENS' TOILET ROOM A106	1/G002
MENS' TOILET ROOM A107	1/G002



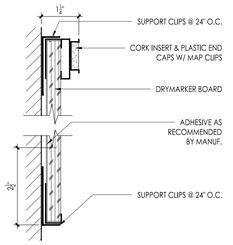
FEM. NAPKIN DISPOSAL



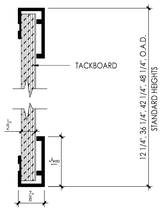
BARRIER FREE WATER FOUNTAIN



NOTES:
1. DIMENSIONS SHALL BE NET CLEAR DISTANCES MEASURED TO WALL FINISHES (EG CERAMIC OR PORCELAIN TILE), TO FACE OF TOILET PARTITIONS AND TO EDGES OF ADJACENT FIXTURES, CABINETS, ETC.
2. ALL DIMENSIONS ARE MINIMUM UNLESS NOTED OTHERWISE.
3. INSTALLATIONS SHALL COMPLY WITH ALL PROVISIONS OF ICC-ANSI A117 . 1 - 2009, INCLUDING BUT NOT LIMITED TO:
   - 3.1. SECTION 602 (DRINKING FOUNTAINS)
   - 3.2. SECTION 603 (TOILET AND BATHING ROOMS)
   - 3.3. SECTION 604 (WATER CLOSETS AND TOILET COMPARTMENTS)
   - 3.4. SECTION 606 (LAVATORIES AND SINKS)
   - 3.5. SECTION 609 (GRAB BARS)
   - 3.6. SECTION 610 (SEATS)
4. CLEAR FLOOR SPACES MAY OVERLAP WHERE SPECIFICALLY PERMITTED IN ICC-ANSI A117 . 1 - 2009 CHAPTER 6.



ALL DMB'S W/ MAGNETIC TRAYS (NO CHALK RAILS)



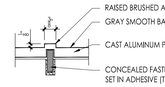
1 ADJUST BARRIER-FREE MOUNTING DIMENSIONS

2 TYPICAL TOILET ROOM FIXTURE / ACCESSORY MOUNTING HEIGHTS AND CLEARANCES
Scale: 1/4" = 1'-0"

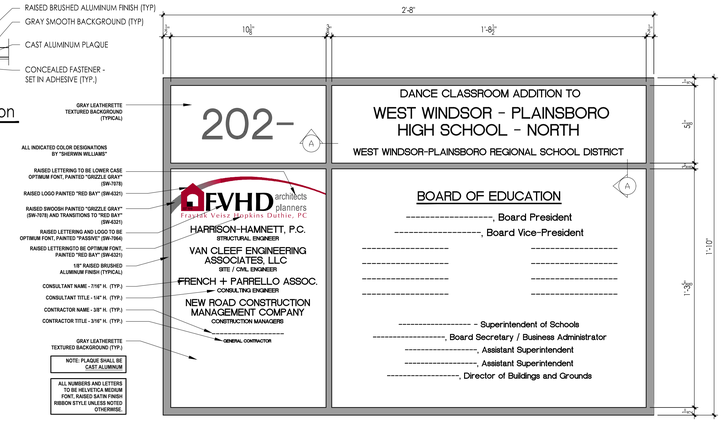
3 TYPICAL TOILET ROOM FIXTURE CLEAR FLOOR SPACE REQUIREMENTS
Scale: 1/4" = 1'-0"

4 DRYMARKER BOARD
Scale: 6" = 1'-0"

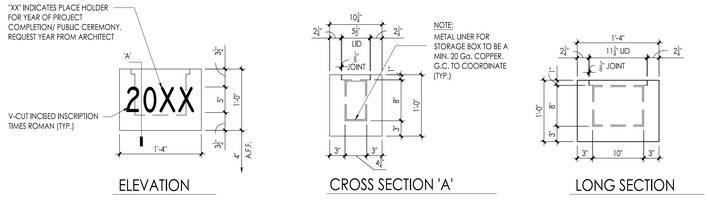
5 EXHIBITION BOARD
Scale: 6" = 1'-0"



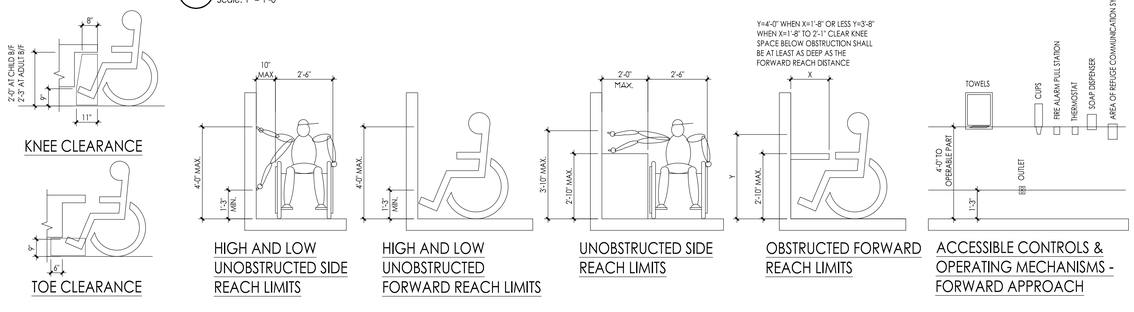
A Section
NTS



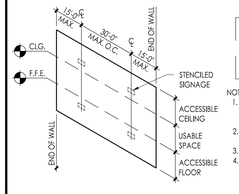
6 COMMEMORATIVE PLAQUE DETAIL
Scale: 3" = 1'-0"

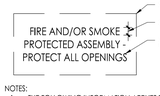


7 DATESTONE DETAILS
Scale: 1" = 1'-0"



8 ACCESSIBILITY DIMENSIONS
Scale: N.T.S.





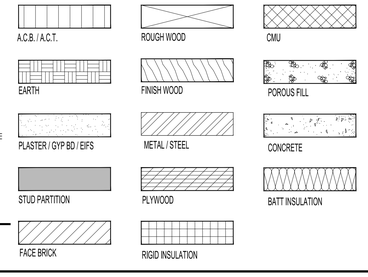
NOTES:
1. THE FOLLOWING INFORMATION APPLIES TO NEWLY CONSTRUCTED WALL ASSEMBLIES BASED UPON THE REQUIREMENTS OF SECTION 703.7 OF THE INTERNATIONAL BUILDING CODE, LATEST EDITION.
2. SIGNAGE SHALL BE LOCATED IN THE IMMEDIATE VICINITY ABOVE ANY ACCESSIBLE CONCEALED CEILING AND BELOW ANY ACCESSIBLE CONCEALED FLOOR.
3. SIGNAGE COLOR SHALL CONTRAST THE WALL COLOR.
4. IF AN ACCESSIBLE SPACE IS PRESENT ON MORE THAN ONE SIDE OF A PROTECTED ASSEMBLY, SIGNAGE SHALL BE MARKED ON ALL SIDES.

9 FIRE AND/OR SMOKE PROTECTED ASSEMBLY MARKING DETAIL
Scale: N.T.S.

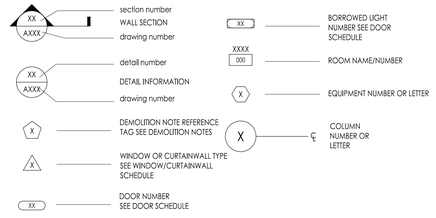
GENERAL NOTES

1. ALL CONTRACTORS SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS BEFORE SUBMITTING A BID. DISCREPANCIES OR OMISSIONS MUST BE REPORTED TO THE ARCHITECT IN WRITING (10) DAYS PRIOR TO BID OPENING. IF HE OR SHE DOES NOT, CONTRACTOR SHALL CORRECT SAME AT NO CHANGE IN CONTRACT PRICE.
2. CONTRACTOR SHALL PROVIDE ALL REQUIRED SAFETY PROTECTION DURING CONSTRUCTION.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A SUFFICIENT WORK FORCE TO MEET COMPLETION DATES AS OUTLINED IN THE SPECIFICATIONS. NO EXCEPTIONS WILL BE ALLOWED.
4. DO NOT SCALE THE DRAWINGS.
5. DETAILS NOTED "TYPICAL" IMPLY ALL SUCH CONDITIONS BE TREATED SIMILARLY.
6. MATERIALS LISTED ON THE FINISH SCHEDULE REFER TO THE MAJORITY OF WALLS, FLOOR AND CEILING OF ROOMS SCHEDULED. REFER TO PLANS, DETAILS, INTERIOR ELEVATION, CEILING PLANS, AND NOTES FOR THOSE MATERIALS NOT INDICATED ON THE SCHEDULE BUT ARE STILL REQUIRED IN THE ROOM.
7. UNLESS OTHERWISE NOTED AND UNLESS FACTORY FINISHED, ALL EXPOSED SURFACES OF CMU, CONCRETE, PLASTER, WOOD, GYPSUM BOARD, HOLLOW METAL, HARDWOODS, MISC. METALS ETC., ARE TO RECEIVE PRIME AND FINISH COATS OF PAINT OR CLEAR FINISH AS SPECIFIED AND IN COLORS AS SELECTED BY ARCHITECT. EXCLUDED FROM THIS IS BRICK.
8. ALL OUTSIDE CORNERS OF INTERIOR CONCRETE MASONRY UNITS (CMU) ARE TO BE BULLNOSED UNLESS NOTED OTHERWISE.
9. CALL BEFORE YOU DIG. BEFORE DIGGING CONTRACTOR SHALL CALL 1-800-242-1776 TO HAVE UTILITIES IDENTIFY UNDERGROUND LOCATION OF ALL SERVICE LINES.
10. ALL WORK PERTAINING TO THESE DRAWINGS SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND IN AGREEMENT WITH ALL AGENCIES HAVING JURISDICTION.
11. THE CONTRACTOR IS RESPONSIBLE TO SECURE ALL PERMITS, TO OBTAIN APPROVALS AS REQUIRED AND COORDINATE INSPECTION WITH LOCAL BUILDING INSPECTOR. ALL PERMIT AND APPLICATION FEES WILL BE PAID BY THE OWNER AND DELIVERED BY THE CONTRACTOR.
12. DRAWINGS AND SPECIFICATIONS COMPLEMENT EACH OTHER. WORK NOT SHOWN ON DRAWING BUT CALLED FOR IN THE SPECIFICATIONS IS STILL REQUIRED, AND ALL WORK NOT CALLED FOR IN SPECIFICATIONS, BUT CALLED OUT OR SHOWN IN DRAWINGS IS STILL REQUIRED.
13. THE OWNER WILL REMOVE AND RE-INSTALL ALL MOVEABLE EQUIPMENT. EACH CONTRACTOR IS RESPONSIBLE TO REMOVE, STORE AND RE-INSTALL EXISTING BUILT-IN EQUIPMENT REQUIRED TO PERFORM THEIR WORK UNLESS NOTED OTHERWISE.
14. IN ACCORDANCE WITH NJAC 5:23-6.6(l), ALL MATERIALS AND METHODS USED SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED IN N.J.A.C. 5:23-6.8, MATERIALS AND METHODS.
15. WHERE THERE IS AN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING OR ATTIC SPACE, FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED IN ACCORDANCE WITH THE FIRE AND/OR SMOKE PROTECTED ASSEMBLY MARKING DETAIL - SEE DETAIL 9 / G002.
16. ALL OUTSIDE CORNERS OF INTERIOR GYPSUM BOARD FINISHED WALLS, IN LOCATIONS OTHER THAN TOILET ROOMS, ARE TO HAVE 48" H CORNER GUARD UNLESS NOTED OTHERWISE.

MATERIAL LEGEND



SYMBOL LIST



ABBREVIATIONS

AACB	Acrylic acoustical ceiling board	FA	Fire alarm	N	North	T	Tread
A/C	Air conditioning	FB	Face brick	NIC	Not in contract	TB,	Top of bank
AB	Anchor bolt	FBRK	Fire brick	NO	Number	TC	Terra cotta
ACB	Acoustical ceiling board	FD	Floor drain	NOM	Nominal	TEL	Telephone
AD	Area drain	FE	Fire extinguisher	NRC	Noise reduction coefficient	T&G	Tongue and groove
ADJ	Adjacent	FEC	Fire extinguisher cabinet	NTS	Not to scale	TG,	Top of grate
ADJT	Adjustable	FES	Flared end section			TGR	Top of grade
AFF	Above finished floor	FF	Finish floor			THK	Thick
AGG	Aggregate	FFE	Finished floor elevation	OA	Overall	THR	Threshold
AL	Aluminum	FGL	Fiberglass	OC	On center	TKS	Tackstrip
ALT	Alternating	FIN	Finish	OD	Outside diameter	TLT, TOIL	Toilet
ALT. BID	Alternate bid	FIX	Fixture	OH	Overhead	TOC	Top of curb
ANC	Anchor, Anchorage	FLG	Flashing	OP	Opaque	TOM	Top of masonry
ANOD	Anodized	FLR	Floor	OPG	Opening	TOP	Top of plank
AP	Access panel	FND	Foundation	OPP	Opposite	TOS	Top of steel
APX	Approximate	FR	Frame			TPD	Toilet paper dispenser
ARCH	Architect	FRP	Fiberglass reinforced polyester			TPG	Tempered plate glass
		FP	Fire proof	PAR	Parallel	TPTN	Toilet partition
BB,	Bottom of bank	FRT	Fire retardant	PBD	Particleboard	TV	Television
BD	Board	FS	Floor sink	PC	Plumbing contractor	TYP	Typical
BIT	Bituminous	FT	Feet	PCC	Precast concrete	TZ	Terrazzo
BF	Barrier Free	FTG	Footing	PERI	Perimeter		
BLDG	Building	FUR	Furring	PG	Plate glass		
BLK	Block			PK	Parking	UC	Undercut
BLKG	Blocking	GA	Gauge	P LAM	Plastic laminate	UL	Underwriter's laboratory
BM	Bench mark	GB	Grab bar	PLAS	Plaster	UNO	Unless noted otherwise
BOT	Bottom	GC	General contractor	PNL	Panel	UR	Urinal
BRG	Bearing	GCMU	Glazed concrete masonry unit	PNT	Paint (ed)		
BRK	Brick	GD	Grade, grading	PR	Pair	VAT	Vinyl asbestos tile
BRZ	Bronze	GEP	Gypsum wall board epoxy painted	PTT	Precast Terrazzo Tile	VB	Vapor barrier
BS	Both sides	GF	Ground face	PRTT	Precast Resilient Terrazzo Tile	VCT	Vinyl composition tile
BUR	Built up roof	GL	Glass, Glazing	PSF	Pounds per square foot	VERT	Vertical
		GLB	Glass block	PSI	Pounds per square inch	VEST	Vestibule
CAB	Cabinet	GP	Gypsum wall board painted	PTD	Paper towel dispenser	VIF	Verify In Field
CB	Catch basin	GPDW	Gypsum drywall	PTN	Partition	VIN	Vinyl
CEM	Carpet Entry Mat	GR	Grade	PTR	Paper towel receptor	VNR	Veneer
CEM PLAS	Cement plaster	GRD,F.BLK	Ground face block	PVC	Polyvinyl chloride	VTR	Vent thru roof
CEP	CMU epoxy painted	GSFT	Glazed structural facing tile	PVMT	Pavement		
CFL	Counter flashing	GST	Glazed structural tile	PWD	Plywood		
CHT	Ceiling height	GT	Grout			W	West
CI	Cast iron	GV	Galvanized			W/	With
CJ	Control joint	GVL	Gravel	QT	Quarry tile	W/O	Without
CL	Centerline / closet	GWB	Gypsum Wall Board	QTY	Quantity	WB	Wood base
CLG	Ceiling	HB	Hose bib			WC	Water closet
CLR	Clear	HD	Head	R	Riser	WD	Wood
CMU	Concrete masonry unit	HDW	Hardware	RA	Return air	WDW	Window
COL	Column	HM	Hollow metal	RAD	Radius	WG	Wire glass
CONC	Concrete	HOR	Horizontal	RBT	Rubber tile	WH	Wall hung
COND	Condition	HP	Highpoint	RCP	Reinforced concrete pipe	WIN	Window
CONST	Construction	HR	Hour	RD	Roof drain	WM	Wire mesh
CONT	Continuous	HTR	Heater	RE	Reinforce (d), (ing)	WP	Waterproofing / Work point
CONTR	Contractor	HVC	Heating & ventilation contractor	REF	Reference (s)	WPT	Work point
COOL	Cooling			REFL	Reflected	WR	Water repellent
CP	CMU Painted			REG	Register	WS	Waterstop
CPR	Copper	ID	Inside diameter	REM	Remove	WSCT	Wainscot
CPT	Carpet	INL	Inlet	REQ	Required	WTW	Wall to wall
CRS	Course	INS	Insulate (d), (ion)	RES	Resilient	WWF	Welded wire fabric
CSMU	Calcium silicate masonry unit	INT	Interior	RET	Return		
CST	Cast stone	INV	Invert	RFG	Roofing		
CT	Ceramic tile			RFH	Roof hatch		
CTP	Clear tempered plate glass			RH	Right hand		
CTR	Counter	JC	Janitor's closet	RM	Room		
CWP	Clear wire plate	JT	Joint	RO	Rough opening		
				ROW	Right of way		
				RRT	Radial rubber tile		
D	Drain (s)	KCPL	Keene's cement plaster	RUB	Rubber, base		
DBL	Double	KIT	Kitchen	RV	Radon vent		
DF	Drinking fountain	KPL	Kickplate	RWC	Rain water conductor		
DIM	Dimension						
DIAM	Diameter						
DK	Deck	L	Length	S	South		
DMB	Dry marker board	LAB	Laboratory	SBS	Styrene butadiene styrene		
DN	Down	LAM	Laminate (d)	SEC	Security		
DR	Door	LAV	Lavitory	SC	Solid core		
DS	Downspout	LDR	Leader	SCH	Schedule		
DW	Dumbwaiter	LF	Lineal foot/Linear feet	SCT	Structural clay tile		
		LH	Left-hand	SD	Storm drain		
		LL	Liveload	SFGL	Safety glass		
E	East	LOC	Location	SHM	Security hollow metal		
EA	Each	LPT	Low point	SHTH	Sheathing		
EB	Exibition Board	LTL	Lintel	SIM	Similar		
EC	Electrical contractor	LW	Lightweight	SKL	Skylight		
EF	Exhaust fan	LWC	Lightweight concrete	SL	Sleeve		
EIFS	Exterior insulated finish system			SNT	Sealant		
E.J. EXP JT	Expansion joint			SOG	Slab on grade		
EL	Elevation	MAS	Masonry	SP	Soundproof		
ELEC	Electrical	MAT	Material	SPAC'G	Spacing		
ELEV	Elevator	MAX	Maximum	SPEC	Specification		
EMER	Emergency	MC	Mechanical contractor	SPF, BLK	Split face block		
ENC	Enclosure	MECH	Mechanical	SPK	Speaker		
ENTR	Entrance	MED	Medium	SQ	Square		
EOP	Edge of paving	MET	Metal	SQ. FT.	Square foot / feet		
EP	Epoxy paint	MFR	Manufacturer	SST	Stainless steel		
EPDM	Ethylene propylene diene monomers	MH	Manhole	STD	Standard		
EQ	Equal	MIN	Minimum	STG	Seating		
EQP	Equipment	MISC	Miscellaneous	STR	Structural		
ERF	Epoxy Resinous Flooring	MMB	Membrane	SUS	Suspended		
ETR	Existing To Remain	MO	Masonry opening	SWF	Security Window Film		
ETR-R	Existing To Remain - Refinished	MOV	Movable	SYN	Synthetic		
ETZ	Epoxy Terrazzo	MR	Mop receptor	SYS	System		
EWC	Electric water cooler	MT	Marble threshold				
EXB	Expansion bolt	MTD	Mounted				
EXG	Existing	MTFR	Metal furring				
EXP	Exposed	MULL	Mullion				
EXT	Exterior						

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90 Grovers Mill Road, Plainsboro, New Jersey 08536

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5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

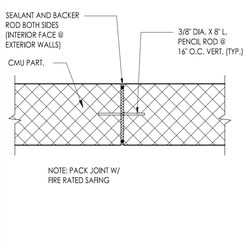
Scale
As Noted

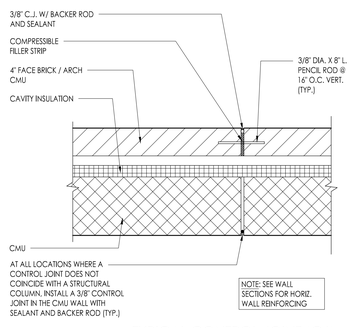
Drawing Name
General Notes, Typical Details, Legends and Abbreviations

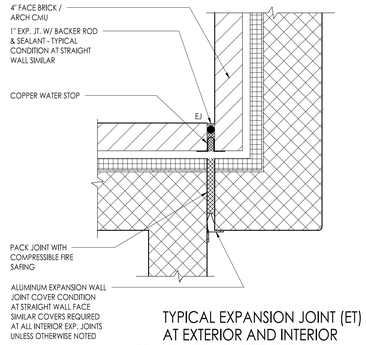
Revisions

No.	Date	Description

Drawing Number
G002



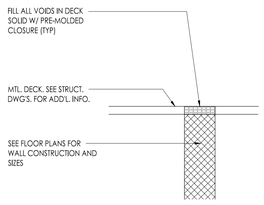


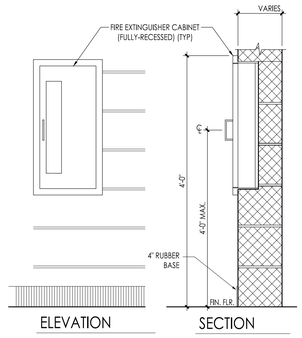


1 TYPICAL CONTROL JOINT AT INTERIOR CMU WALL
1-1/2" = 1'-0"

2 TYPICAL CONTROL JOINT (CJ) AT EXTERIOR WALL
1-1/2" = 1'-0"

3 TYPICAL EXPANSION JOINT (ET) AT EXTERIOR AND INTERIOR WALLS & PARTITIONS
1-1/2" = 1'-0"





4 TYPICAL CLOSURE DETAIL AT METAL DECK & CMU PARTITION WALL
3/4" = 1'-0"

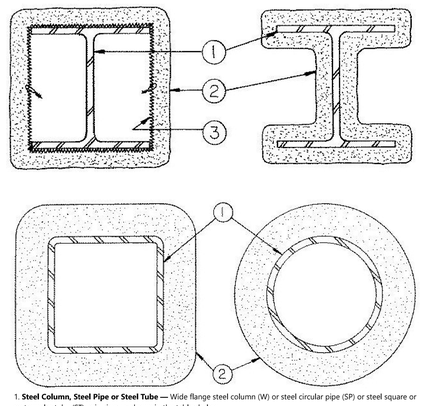
5 FIRE EXTINGUISHER CABINET IN BLOCK WALL: TYPE FE-1
1" = 1'-0"

Design No. X790

October 09, 2019

Ratings — 1, 1-1/2, 2, 3 and 4 Hr.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Steel Column, Steel Pipe or Steel Tube —** Wide flange steel column (W) or steel circular pipe (SP) or steel square or rectangular tube (ST), min sizes as shown in the tables below.

2. **Spray-Applied Fire Resistive Materials* —** Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 15 and 14 pcf, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. Min avg density of 44 pcf with min ind value of 40 pcf for Types M-II and TG. Min avg density of 47 pcf, with min individual value of 43 pcf for Type M-II/P. For method of density determination, see Design Information Section, Sprayed Material.
The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed or boxed wide flange columns are shown in the table below:

Column Size	W/D	Min Thkns In. 1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W6x9	0.33	15/16	1-1/4	1-9/16	2-1/8	2-11/16
W6x12	0.43	13/16	1-1/8	1-7/16	2	2-9/16
W6x16	0.57	11/16	1	1-5/16	1-7/8	2-3/8
W8x28	0.68	5/8	15/16	1-1/4	1-13/16	2-5/16
W10x49	0.83	9/16	13/16	1-1/8	1-5/8	2-1/8
W12x106	1.46	3/8	9/16	13/16	1-1/4	1-11/16
W14x233	2.52	1/4	3/8	1/2	7/8	1-3/16
W14x730	6.68	1/4	1/4	1/4	3/8	1/2

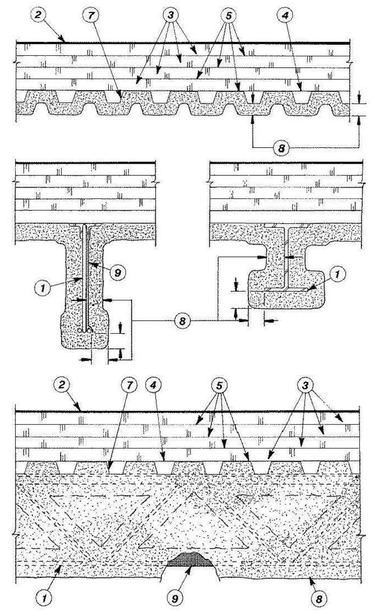
The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed steel pipes or tubes are shown on the table below:

Min Column Size In.	A/P	Min Thkns In. 1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
SP 4x0.237	0.22	11/16	1	1-3/8	2-1/16	2-3/4
ST 4x4x0.1875	0.18	3/4	1-1/16	1-7/16	2-1/16	2-11/16
ST 4x4x0.3125	0.29	1/2	13/16	1-1/8	1-3/4	2-5/16
ST 4x4x0.375	0.34	7/16	3/4	1	1-9/16	2-1/8
ST 4x4x0.5	0.44	3/8	9/16	7/8	1-3/8	1-7/8
ST20x20x0.75 in	0.72	5/16	1/2	11/16	1-1/16	1-7/16
ST20x20x1 in.	0.95	1/4	3/8	1/2	13/16	1-1/8
ST20x20x1.5 in.	1.39	1/4	1/4	3/8	5/8	13/16
ST20x20x1.75 in.	1.60	1/4	1/4	3/8	1/2	3/4
ST32x32x1.25 in.	1.20	1/4	5/16	7/16	11/16	15/16

7 TYPICAL RATED CONSTRUCTION - STEEL COLUMNS- UL DESIGN # X790
N.T.S.

SPRAY FIRE PROOFING NOTE

THE EXISTING BUILDING PRIMARY STRUCTURAL FRAME, SECONDARY STRUCTURAL FRAME, AND UNDERSIDE OF METAL DECK (I.E. SECOND FLOOR AND ROOF) ARE PROTECTED BY SPRAY APPLIED FIRE PROOFING. ALL CONTRACTORS ARE TO TAKE THE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO THE EXISTING FIRE PROOFING. WORK PERFORMED THAT REQUIRES CONNECTIONS TO THE EXISTING BUILDING COMPONENTS INDICATED ABOVE AND CAUSES ANY DAMAGE TO THE EXISTING FIRE PROOFING SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE BUILDING OWNER. THE REPAIRS SHALL MATCH THE EXISTING FIRE RATING ESTABLISHED.



Design No. P723
Restrained Assembly Ratings — 1, 1-1/2, 2 and 3 Hr
(See Items 3 and 8)
Unrestrained Assembly Ratings — 1, 1-1/2, 2 and 3 Hr
(See Items 3 and 8)
Unrestrained Beam Ratings — 1, 1-1/2, 2 and 3 Hr.
(See Items 3 and 8)
Restricted Load Condition — See Item 8

1. Steel Supports — W6x16 steel beam, 10K1 or 12K5 steel joists min size (See Item 8).

2A. In lieu of Item 2, roof covering consisting of single-ply Roofing Membranes* — that is either ballasted, adhered or mechanically attached as permitted under the respective manufacturer's Classification. See Roofing Membranes (CHCI) category for names of manufacturers.

2B. Metal Roof Deck Panels — (Not Shown) — In addition to or in lieu of Items 2 or 2A, the Roof Covering may consist of mechanically fastened metal roof deck panel assembly. See Fire Resistance Directory — Metal Roof Deck Panels (CETW).

3. Roof Insulation — Foamed Plastics* — 36 by 48 in. (min size) polyisocyanurate foamed plastic insulation boards applied in one or more layers. Min thickness is 2.0 in. (No limit on max overall thickness.) Boards to be installed with end joints staggered a min of 6 in. in adjacent rows. When applied in more than one layer, each layer to be offset in both directions from layer below a min of 6 in. in order to lap all joints. Polyisocyanurate foamed plastic insulation may be installed over a max 1 in. thick layer of Mineral and Fiber Boards* (Item 3B) with each layer offset in both directions as described above.

3A. Roof Insulation — Mineral and Fiber Boards* — (Not Shown) For 1, 1-1/2 and 2 hr Ratings— As an alternate to Item 3, To be applied in one or more layers with or without adhesive applied between vapor barrier and roof deck units, vapor barrier and board and each layer of board. When more than one layer is required, each layer of board to be offset in both directions from layer below a min of 6 in. in order to lap all joints. Min thickness is 2 in. when Item 2A is used. When installed as a base layer for Item 3 (polyisocyanurate roof insulation) max thickness is 1 in.

4. Vapor Retarder — Sheathing Material* — (Optional) — Vinyl film or paper scrim vapor barrier, applied to steel roof deck with adhesive (Item 5), asphalt (Item 5A) or laid loosely, overlapped approx 2 in. on adjacent sheets. See Sheathing Materials (CHIZ) category for names of manufacturers.

4A. Sheathing Material* — (Optional) — In lieu of Item 4, a self adhered rubberized asphalt roofing underlayment membrane which may be placed on top of the steel roof deck (Item 7).

5. Adhesive* — (Optional) — May be applied between crests of steel roof deck and vapor retarder, between vapor retarder and first layer of insulation, and between layers of insulation. Applied in 1/2 in. wide ribbons 6 in. OC at 0.4 gal/100 sq ft. See Adhesives (BYWR) category for names of manufacturers.

6. Mechanical Fasteners — (Optional — Not Shown) — Mechanical screw-type fastener with metal washer designed for the purpose may be used to attach one or more layers of insulation to steel roof deck.

7. Steel Roof Deck — (Unclassified) — Min 1-1/2 in. deep and 30 or 36 in. wide galv or painted fluted steel deck. When unclassified painted steel roof deck is used, Item 8A, Metal Lath, is required. Flutes 6 in. OC with crest width ranging from 3-5/8 to 5-1/16 in. Min gauge is 22 MSG. Ends overlapped at supports min 1-1/2 in. and welded to supports at deck laps and a max of 12 in. OC between sides of units. Side laps of adjacent units welded, button-punched or secured together with No. 12 by 3/4 in. long self-drilling, self-tapping steel screws spaced a max of 36 in. OC.Classified Steel Floor and Form Units* — Noncomposite, 1-1/2 in. deep, galv units, min gauge is 22 MSG. Ends overlapped at supports min 1-1/2 in. and welded to supports at deck laps and a max of 12 in. OC between sides of units. Side laps of adjacent units welded, button-punched or secured together with No. 12 by 3/4 in. long self-drilling, self-tapping steel screws spaced a max of 36 in. OC.

8. Spray-Applied Fire Resistive Materials* — Applied by mixing with water and spraying in more than one coat to the thickness shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 15 and 14 pcf, respectively. For method of density determination, see Design Information Section, Sprayed Material. Spray-Applied Fire Resistive Materials on steel deck shall cover screw tips by 1/2 in. min. Use of adhesive (Item 11) is required.

The min thicknesses of Spray-Applied Fire Resistive Materials required for various fire resistance ratings are shown in the table below:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Mtl Thkns In. on Deck#	on Beam	on Joist
1	1	1	7/8	7/16	1-3/4*
1	1	1	1-7/16+	7/16	1-3/4*
1-1/2	1-1/2	1-1/2	1-3/16	9/16	1-3/16
1-1/2	1-1/2	1-1/2	2+	9/16	1-3/16
2	1	1	1-7/16	11/16	1-3/16
2	1-1/2	1-1/2	1-7/16	11/16	1-3/16
2	2	2	1-7/16	13/16	1-3/16
2	2	2	2-5/8+	13/16	1-3/16
3	1-1/2	1-1/2	1-7/16	1-3/16	1-5/8 (1-1/2**)
3	2	2	1-7/8	1-3/16	1-5/8 (1-1/2**)
3	3	3	1-7/8	1-1/4	1-5/8 (1-1/2**)

#The required minimum thickness of Spray-Applied Fire Resistive Materials on the steel deck is increased by 1/16 in. for 1-1/2 hr Unrestrained Assembly Rating and 1/4 in. for 2 hr Unrestrained Assembly Rating when Item 5B is used.

+No minimum insulation thickness required.

*-The 3/4 in. thickness may be applied when numeral and fiber board insulation is used or when the joist is limited to max tensile stress of 26,000 psi.

**-The 1-1/2 in. thickness may be applied when minimum size joist is 12K5.

9. Glass Fiber Mesh — (Optional) — May be used to facilitate the spray application of the protection material to the steel bar joists. Min 3/32 in. sq mesh, coated fiberglass scrim fabric, weighing a min of 1.9 oz/sq yd shall be attached to one side of each joist web member. The method of attachment must be sufficient to hold the mesh and fire protection material during application and curing of the material. An acceptable method of attaching the mesh is by embedding the mesh in min 1/4 in. long beads of hot-melted glue. The beads of glue shall be spaced min 12 in. OC along the top chord of the bar joists. Another method of attachment is the use of 1-1/4 in. long 1/2 in. wide hairpin clips formed from 0.064 in. diam steel wire, alternating from top to bottom of the joist web member.

10. Bridging — (Not Shown) — Min 1-1/4 by 1-1/4 by 1/8 in. thick steel angles welded to top and bottom chords of each joist. Number and spacing of bridging angles per Steel Joist Institute specification. Bridging coated with the same thickness of Spray-Applied Fire Resistive Materials as the joist to a min distance of 12 in. beyond each side of the joist.

11. Adhesive* — Applied to steel roof deck in accordance with manufacturer's instructions.

*Bearing the UL Classification Mark

12 TYPICAL RATED CONSTRUCTION - STEEL BEAMS AND STEEL DECK- UL DESIGN # U-P723
N.T.S.

FIRE-RATED PENETRATION CHART

CONCRETE OR BLOCK WALLS		
TYPE OF PENETRATE	FIRE RATING	UL CLASSIFIED SYSTEM
CIRCULAR BLANK OPENINGS	1	CAJ 0055, CAJ 0070
	2	CAJ 0055, CAJ 0070
	3	CAJ 0055
SINGLE METAL PIPES OR CONDUIT	1	CAJ 1226, WJ 1021
	2	CAJ 1226, WJ 1021
	3	CAJ 1226, WJ 1041, WJ 1042
SINGLE NON-METALLIC PIPE OR CONDUIT (I.E. PVC, CPVC, ABS, FRP, ENT)	1	CAJ 2109, CAJ 2098, CAJ 2167
	2	CAJ 2109, CAJ 2098, CAJ 2167
	3	CAJ 2109, CAJ 2098
SINGLE OR BUNDLED CABLES	1	WJ 3036, CAJ 3095, CAJ 3096
	2	WJ 3036, CAJ 3095, CAJ 3096
	3	CAJ 3095, CAJ 3096
CABLE TRAY	1	WJ 4016, CAJ 4034, CAJ 4035
	2	WJ 4016, CAJ 4034, CAJ 4035
	3	CAJ 4034, CAJ 4035
SINGLE INSULATED PIPES	1	CAJ 5090, CAJ 5091, CAJ 5061
	2	CAJ 5090, CAJ 5091, CAJ 5061
	3	CAJ 5090, CAJ 5061
ELECTRICAL BUSWAY	1	CAJ 6006, CAJ 6017
	2	CAJ 6006, CAJ 6017
	3	CAJ 6006, CAJ 6017
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	CAJ 7046, CAJ 7051, WJ 7021, WJ 7022
	2	CAJ 7046, CAJ 7051, WJ 7021, WJ 7022
	3	CAJ 7046, CAJ 7051
MIXED PENETRANTS	1	CAJ 8041, CAJ 8056, WJ 8007
	2	CAJ 8041, CAJ 8056, WJ 8007
	3	CAJ 8041, CAJ 8056, WJ 8007

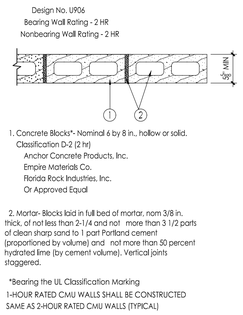
CONCRETE FLOORS		
TYPE OF PENETRANT	FIRE RATING	UL CLASSIFIED SYSTEM
CIRCULAR BLANK OPENINGS	1	FA 0006, CAJ 0055, CAJ 0070
	2	FA 0006, CAJ 0055, CAJ 0070
	3	FA 0006, CAJ 0055
SINGLE METAL PIPES OR CONDUIT	1	CAJ 1226, FA 1017
	2	CAJ 1226, FA 1017
	3	CAJ 1226, FA 1017
SINGLE NON-METALLIC PIPE OR CONDUIT (I.E. PVC, CPVC, ABS, FRP, ENT)	1	FA 2053, FA 2025, CAJ 2109, CAJ 2098, CAJ 2141, CAJ 2167, CBJ 2021
	2	FA 2053, FA 2025, CAJ 2109, CAJ 2098, CAJ 2141, CAJ 2167, CBJ 2021
	3	FA 2054, CAJ 2109, CAJ 2098
SINGLE OR BUNDLED CABLES	1	FA 3007, CAJ 3095, CAJ 3096
	2	FA 3007, CAJ 3095, CAJ 3096
	3	FA 3007, CAJ 3095, CAJ 3096
CABLE TRAY	1	CAJ 4034, CAJ 4035
	2	CAJ 4034, CAJ 4035
	3	CAJ 4034, CAJ 4035
SINGLE INSULATED PIPES	1	FA 5015, FA 5016, CAJ 5090, CAJ 5091, CAJ 5098
	2	FA 5015, FA 5016, CAJ 5090, CAJ 5091, CAJ 5098
	3	FA 5016, CAJ 5090
ELECTRICAL BUSWAY	1	CAJ 6006, CAJ 6017
	2	CAJ 6006, CAJ 6017
	3	CAJ 6006, CAJ 6017
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	CAJ 7046, CAJ 7051
	2	CAJ 7046, CAJ 7051
	3	CAJ 7046, CAJ 7051
MIXED PENETRANTS	1	CAJ 8041, CAJ 8056
	2	CAJ 8041, CAJ 8056
	3	CAJ 8041, CAJ 8056

GYPSUM WALLBOARD ASSEMBLIES		
TYPE OF PENETRANT	FIRE RATING	UL CLASSIFIED SYSTEM
METAL PIPES OR CONDUIT	1	WL 1054, WL 1058, WL 1164
	2	WL 1054, WL 1058, WL 1164
NON-METALLIC PIPES OR CONDUIT	1	WL 2078, WL 2075, WL 2128
	2	WL 2078, WL 2075, WL 2128
SINGLE OR BUNDLED CABLES	1	WL 3065, WL 3111, WL 3112
	2	WL 3065, WL 3111, WL 3112
CABLE TRAY	1	WL 4011, WL 4019
	2	WL 4011, WL 4019
INSULATED PIPES	1	WL 5028, WL 5029, WL 5047
	2	WL 5028, WL 5029, WL 5047
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	WL 7017, WL 7040, WL 7042
	2	WL 7040, WL 7042
MIXED PENETRANTS	1	WL 1095, WL 8013
	2	WL 1095, WL 8013

8 U.L. ASSEMBLIES AT CONCRETE OR BLOCK WALL PENETRATIONS
N.T.S.

9 U.L. ASSEMBLIES AT CONCRETE FLOOR PENETRATIONS
N.T.S.

10 U.L. ASSEMBLIES AT GYPSUM WALL BOARD PENETRATIONS
N.T.S.



1. Concrete Blocks*- Nominal 6 by 8 in., hollow or solid.
Classification D-2 (2 hr)
Anchor Concrete Products, Inc.
Empire Materials Co.
Florida Rock Industries, Inc.
Or Approved Equal

2. Mortar- Blocks laid in full bed of mortar, nom 3/8 in. thick, of not less than 2-1/4 and not more than 3 1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

*Bearing the UL Classification Marking
1-HOUR RATED CMU WALLS SHALL BE CONSTRUCTED SAME AS 2-HOUR RATED CMU WALLS (TYPICAL)

11 TYPICAL RATED CONSTRUCTION - 6" CONCRETE MASONRY UNITS
N.T.S.

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NJ - 21AI02109500

Architect

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Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

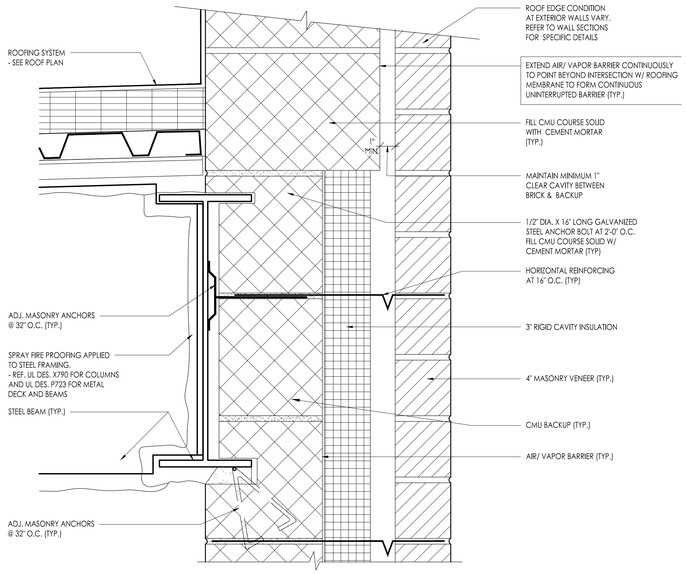
Drawn By
IB

Scale
As Noted

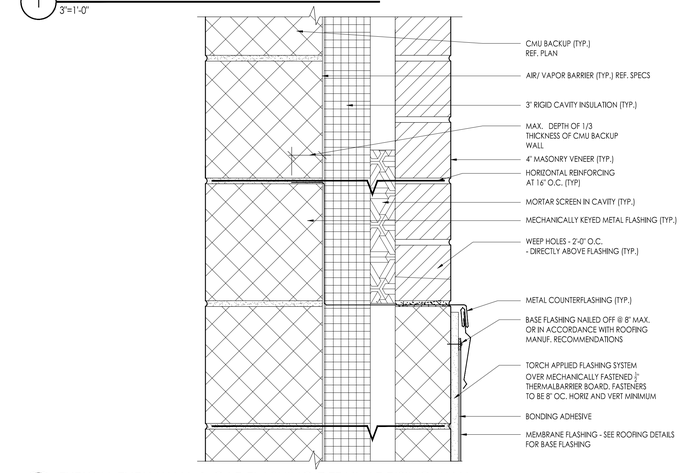
Drawing Name
Typical Details

Revisions		
No.	Date	Description

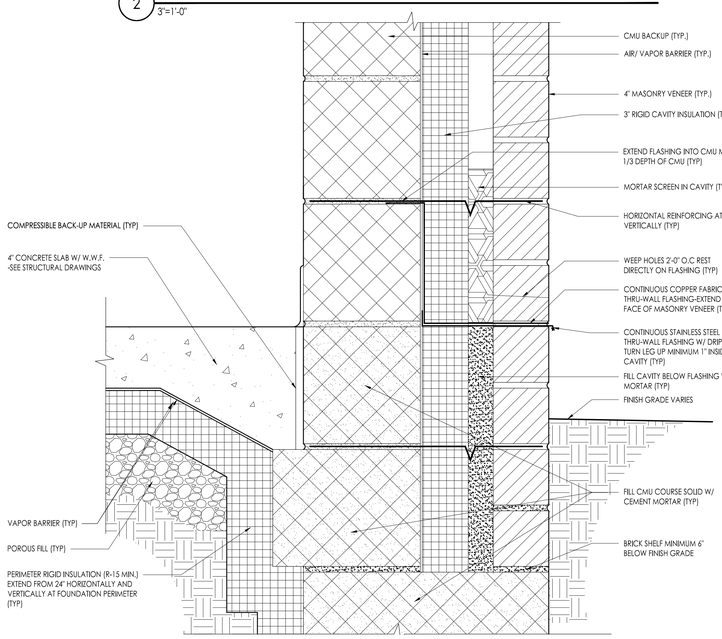
Drawing Number
G003



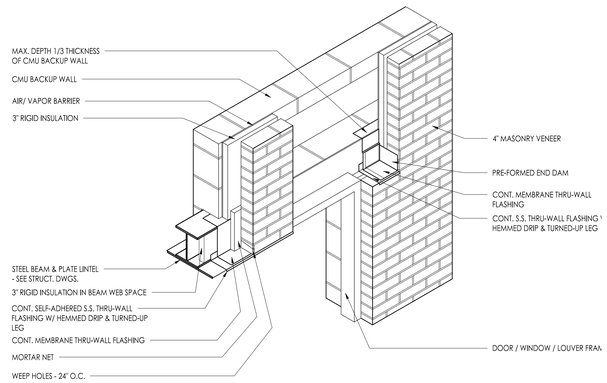
1 TYPICAL TOP OF CAVITY WALL DETAIL
3"=1'-0"



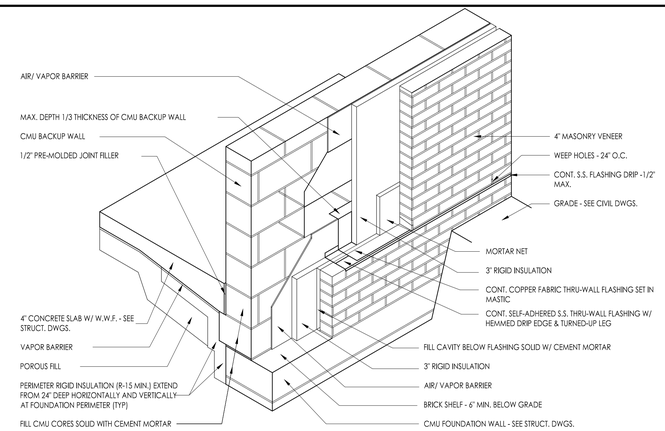
2 TYPICAL THRU-WALL & CAP FLASHING DETAIL AT RISING WALL
3"=1'-0"



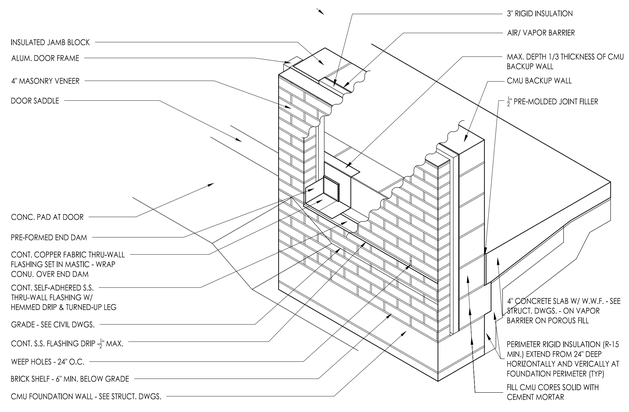
3 TYPICAL THRU-WALL FLASHING DETAIL AT GRADE
3" = 1'-0"



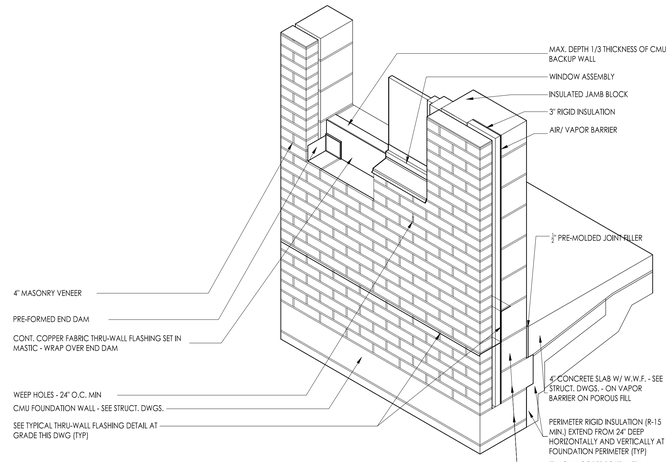
4 TYPICAL THRU-WALL FLASHING DETAIL AT STEEL BEAM & LINTEL
3/4"=1'-0"



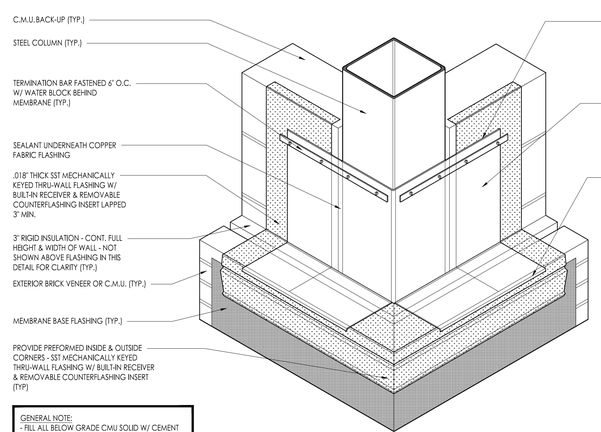
5 TYPICAL THRU-WALL FLASHING AT GRADE
3/4"=1'-0"



6 TYPICAL WALL BASE FLASHING END DAM DETAIL AT EXTERIOR DOOR OPENING
3/4"=1'-0"

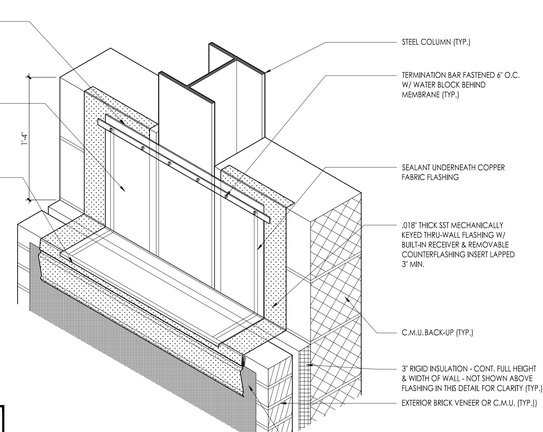


7 TYPICAL WALL BASE FLASHING/ END DAM DETAIL AT WINDOW
3/4"=1'-0"



GENERAL NOTE:
- FILL ALL BELOW GRADE CMU SOLID W/ CEMENT MORTAR (TYP)
- SPRAY PROOFING AT COLUMNS NOT SHOWN FOR CLARITY OF DETAILS

8 Isometric Cut Away At Corner Column (Rising Wall Condition)
1-1/2"=1'-0"



GENERAL NOTE:
- (2) WEEP HOLES TO BE BUILT INTO BRICK AT ALL COLUMN OCCURANCES. (TYP.)
- SPRAY PROOFING AT COLUMNS NOT SHOWN FOR CLARITY OF DETAILS

9 Isometric Cut Away At Column (Rising Wall Condition)
1-1/2"=1'-0"

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GEORGE P. DUTHIE JR., AIA, PP
NJ - 21AI02109500
Architect
Date
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Fraytak Veisz Hopkins Duthie PC
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whittaker Ave - Mont Clare - Pennsylvania 19453
FVHDPC.COM

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
BO

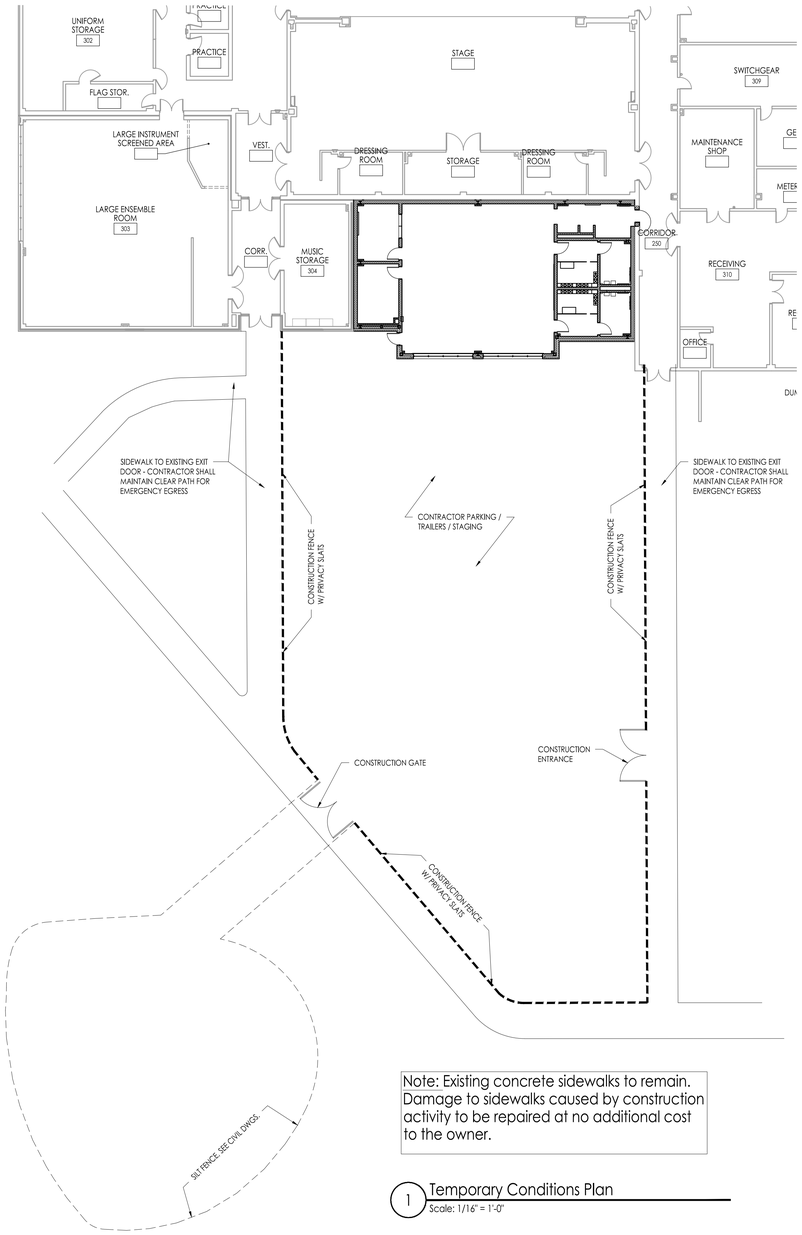
Scale
As Noted

Drawing Name
Typical Details

Revisions

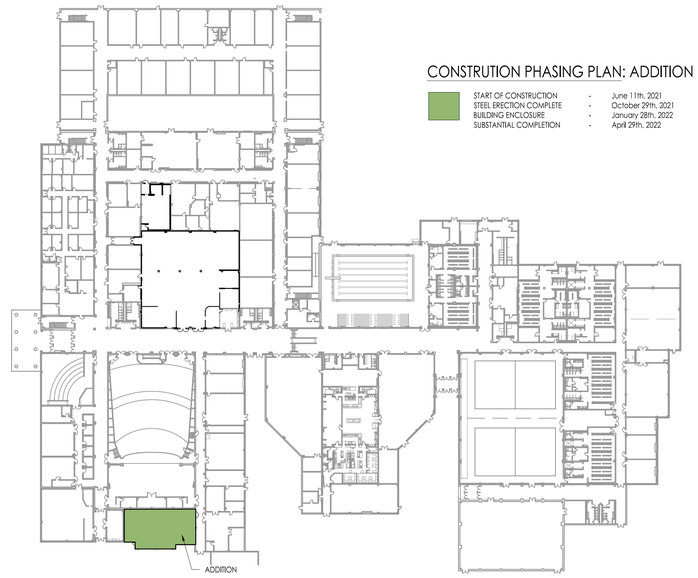
No.	Date	Description

Drawing Number
G004



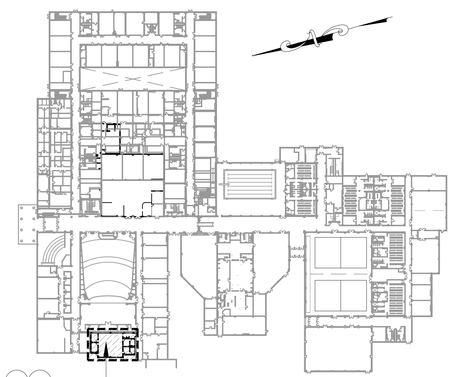
Note: Existing concrete sidewalks to remain. Damage to sidewalks caused by construction activity to be repaired at no additional cost to the owner.

1 Temporary Conditions Plan
Scale: 1/16" = 1'-0"



2 Construction Phasing Plan
Scale: 1/64" = 1'-0"

Note: Contractor shall provide temporary signage for restricted access to construction areas as directed by the Owner, Architect, and Construction Manager in the field.



K OVERALL BUILDING KEY PLAN
Scale: 1:100

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01596001 | PA - #AI-255078
GEORGE R. DUTHIE JR., AIA, PP
NJ - 21AI02909300
Architect
Date
FVHD architects planners
Fraytak Veisz Hopkins Duthie PC
FVHDPC.COM
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whitaker Ave - Mont Clare - Pennsylvania 19453

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

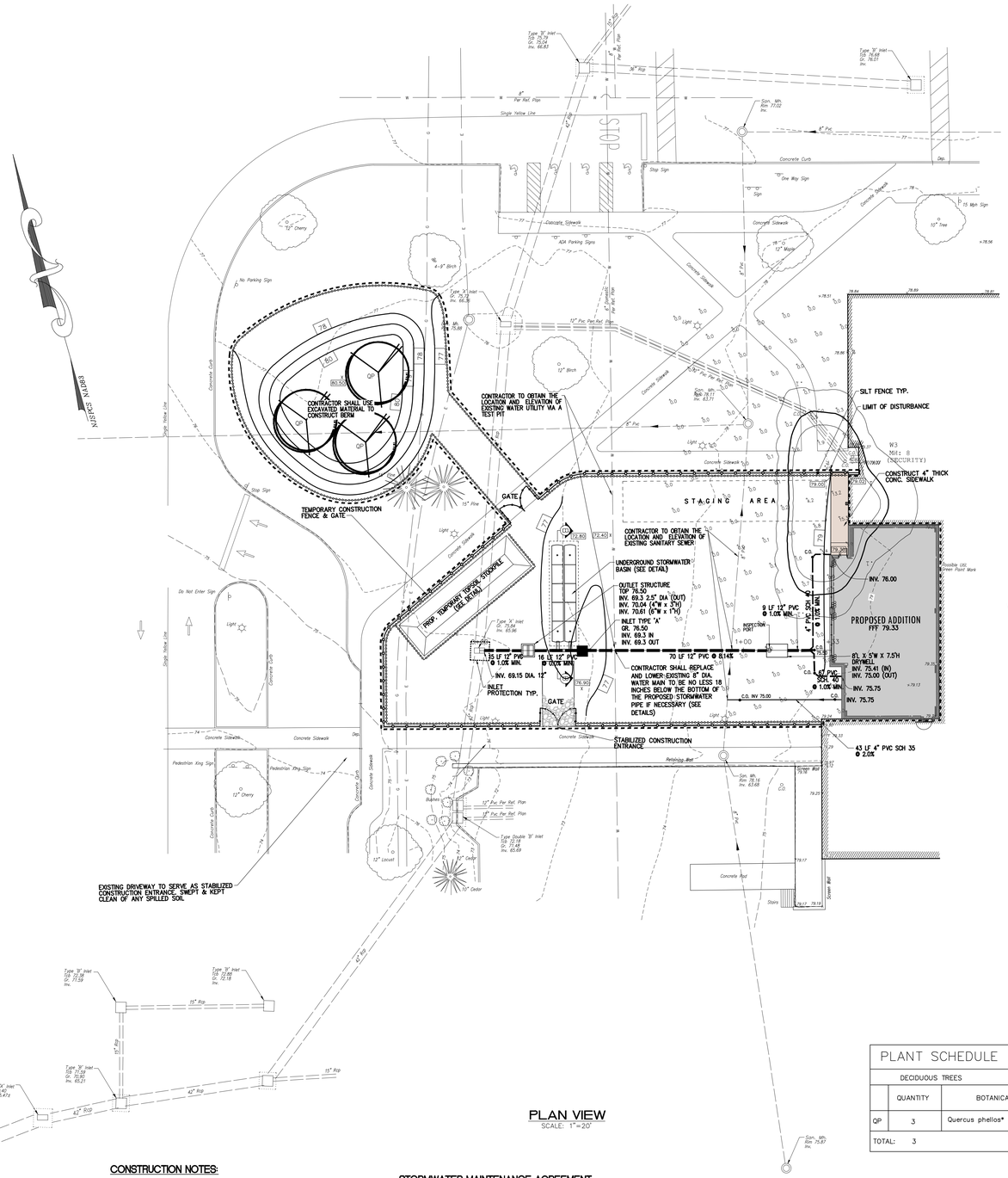
Scale
As Noted

Drawing Name
- Temporary Conditions Plan
- Construction Phasing Plan

Revisions

No.	Date	Description

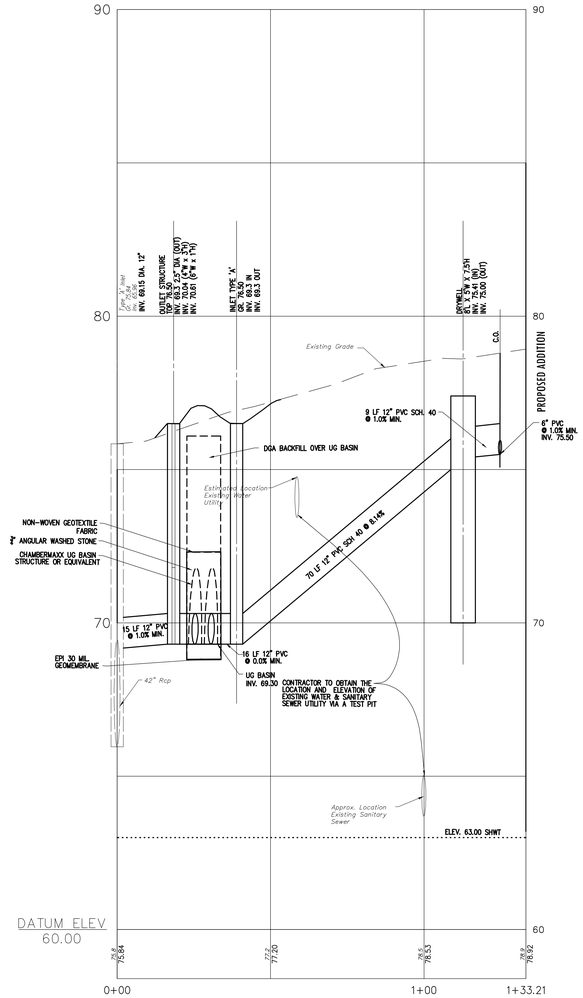
Drawing Number
G005



PLAN VIEW
SCALE: 1"=20'

BLOCK 1902 , LOT 23

WEST WINDSOR PLAINSBORO NORTH HIGH SCHOOL
ONE AND TWO STORY MASONRY BUILDING
#90 GROVERS MILL ROAD



STORM PROFILE
EXISTING INLET TO PROPOSED ADDITION
SCALE: HORZ.: 1"= 20'
VERT.: 1"= 2'

CONSTRUCTION NOTES:

1. CONTRACTOR TO MAINTAIN SAFE PEDESTRIAN ACCESS FOR SCHOOL STAFF DURING CONSTRUCTION.
2. CONTRACTOR TO PROVIDE EMERGENCY ACCESS TO SCHOOL AT ALL TIMES.
3. ANY SEDIMENT DROPPED, SPILLED OR TRACKED ON PAVED SURFACES TO BE REMOVED IMMEDIATELY.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL/ANY SOIL IMPORT OR EXPORT PERMIT(S) REQUIRED, INCLUDING FEES.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL ON-SITE SAFETY AND SECURITY. ALL SAFETY PRECAUTIONS MUST BE UNDERTAKEN AND MAINTAINED AS REQUIRED BY LOCAL, STATE AND FEDERAL CODES. NO SEPARATE PAYMENT SHALL BE MADE FOR ON-SITE SAFETY & SECURITY. THE COSTS OF ONSITE SAFETY AND SECURITY SHALL BE INCLUDED IN COST OF THE WORK.
6. ALL DISTURBED AREAS TO BE STABILIZED WITH 5 INCHES OF TOP SOIL, SEED, FERTILIZER, LIME, MULCH AND TACK.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE EXISTING INFRASTRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY AND ALL OF THE EXISTING INFRASTRUCTURE THE CONTRACTOR DAMAGED DURING THE PROJECT.
8. ALL SANITARY AND STORM SEWER PIPE LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
9. ALL CONCRETE SIDEWALK TO BE ADA COMPLIANT WITH A MAX. CROSS SLOPE OF 2.0% AND A MAX. RUNNING SLOPE OF 5.0%. SIDEWALK WITH A RUNNING SLOPE GREATER THAN 5% REQUIRES AN ADA COMPLIANT HANDRAIL. NO SIDEWALK SHALL HAVE A RUNNING SLOPE GREATER THEN 8%.
10. CONTRACTOR TO USE CARE. WHILE DRIVING CONSTRUCTION VEHICLES OVER EXISTING CURB AND SIDEWALKS. ANY DAMAGE TO CURBS, SIDEWALK OR LAWN AREAS SHALL BE RESTORED IN-KIND BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
11. UNDERGROUND UTILITIES SHOWN ARE BASED ON PHYSICAL EVIDENCE FOUND. PRIOR TO CONSTRUCTION,THE CONTRACTOR SHALL DETERMINE THE LOCATION AND DEPTH OF THE EXISTING UTILITY TO WHICH THE CONNECTION IS BEING MADE BEFORE LAYING PIPE, CONDUIT, ETC. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IN CASES WHERE THE CONSTRUCTION OF ITEMS MEET OR CROSS EXISTING STRUCTURES SUCH AS CURB, PAVEMENT, SIDEWALK, UTILITIES, ETC. THE CONTRACTOR OR SURVEYOR STAKING SUCH ITEMS SHALL VERIFY THE ELEVATION AND LOCATION OF THE EXISTING FEATURE PRIOR TO CONSTRUCTION. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. TEST PITS TO BE PERFORMED AS REQUIRED AT NO ADDITIONAL COST.
12. ALL LOAD-BEARING FILL SHOULD BE CONTROLLED FILL. CONTROLLED FILL SHOULD BE PLACED IN LOOSE HORIZONTAL LIFTS WITH A MAXIMUM THICKNESS OF 12 INCHES. IT IS RECOMMENDED THAT CONTROLLED FILL WITHIN THE CONSTRUCTION AREA BE COMPACTED WITH A HEAVY DUTY 10-TON ROLLER TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D 1557). IN ADDITION, ALL FILLS SHALL BE STABLE WITHOUT SIGNIFICANT MOVEMENT UNDER CONSTRUCTION EQUIPMENT LOADS. A QUALIFIED GEOTECHNICAL ENGINEER SHOULD CONTROL TESTING OF IN-PLACE FILL DENSITIES SHOULD BE CONDUCTED THROUGHOUT THE ENTIRE EARTHWORK OPERATION.
13. COMPACTION WITHIN 5 FEET FROM THE EXISTING FACILITIES SHOULD BE CONDUCTED USING A LIGHT COMPACTOR SUCH AS A "JUMPING JACK" IN ORDER NOT TO CAUSE ANY DAMAGE. THE SOIL SHOULD BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D 1557).
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SURVEY WORK REQUIRED TO STAKE OUT SITE FEATURES DURING CONSTRUCTION.

STORMWATER MAINTENANCE AGREEMENT

A STORMWATER MAINTENANCE AGREEMENT WILL BE FILED WHICH SETS FORTH DOCUMENTATION THAT ANY PROPOSED DRAINAGE SYSTEM AND ANY ALL STORMWATER (DRAINAGE SWALES/DETENTION/RETENTION/RECHARGE FACILITIES) WILL BE ADEQUATELY MAINTAINED IN ACCORDANCE WITH THE STANDARDS OF MIDDLESEX COUNTY AND PLAINSBORO TOWNSHIP. REFER TO THE PARAGRAPH IN THE STORMWATER MAINTENANCE AGREEMENT ENTITLED 'RIGHT OF COUNTY OF MIDDLESEX AND THE TOWNSHIP OF PLAINSBORO' TO MAINTAIN DRAINAGE BASINS". CONDITIONS THAT AFFECT NON-COUNTY FACILITIES SHOULD BE REVIEWED AND APPROVED BY THE APPROPRIATE JURIDICTIONAL AGENCY

REFERENCE PLAN:

1. SOIL EROSION AND SEDIMENT CONTROL PLAN FOR WEST WINDSOR – PLAINSBORO HIGH SCHOOL MILLSTONE RIVER CAMPUS, MIDDLESEX COUNTY, NEW JERSEY AS PREPARED BY A&E ENGINEERING DATED 3/21/97 DRAWING NO C-9
2. SITE GRADING, DRAINAGE & UTILITY PLAN OF WEST WINDSOR – PLAINSBORO HIGH SCHOOL FOR WEST WINDSOR – PLAINSBORO BOARD OF EDUCATION, PLAINSBORO TOWNSHIP, MIDDLESEX COUNTY, NJ AS PREPARED BY BERGMAN ENGINEERING ASSOCIATES DATED 7/15/94 DRAWING NO. C-3.

REFERENCE DATUM:

1. DATUM USED BASED ON NAVD88 AND NEW JERSEY STATE PLANE COORDINATE SYSTEM, NAD83

GENERAL NOTES:

1. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE SEARCH. THEREFORE THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL EASEMENTS, RIGHT OF WAYS, COVENANTS, ETC. AS MAY BE DISCLOSED IN A CURRENT COMPREHENSIVE TITLE SEARCH.
2. THIS PLAN WAS PREPARED WITHOUT BENEFIT OF A TITLE SURVEY.
3. THIS MAP REFLECTS EXISTING SITE CONDITIONS AS THE RESULT OF A FIELD SURVEY PERFORMED BY VAN CLEEF ENGINEERING ASSOCIATES ON 4/1/19.
4. THIS PLAN IS NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE UNDERSIGNED PROFESSIONAL(S).
5. LOCATION OF ABOVE GROUND UTILITIES AS SHOWN.
6. NO CERTIFICATION IS MADE BY VCEA AS TO THE ACTUAL UNDERGROUND POSITION OF ANY UTILITIES OR TO THE COMPLETENESS AND/OR ACCURACY OF UTILITY INFORMATION PROVIDED BY OTHERS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND ELEVATION OF ALL UNDERGROUND AND ABOVE GROUND UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION ON THIS PROJECT. THE ENGINEER SHALL BE NOTIFIED PRIOR TO CONSTRUCTION OF ANY CONFLICTS.
7. IT IS IMPERATIVE THAT UTILITY COMPANIES ARE NOTIFIED PRIOR TO ANY EXCAVATION AND/OR CONSTRUCTION. CALL 1-800-272-1000 TO ORDER UTILITY MARKOUTS.

PLANT SCHEDULE

DECIDUOUS TREES

	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	B&B/ CONTAINER	NOTES
QP	3	Quercus phellos*	Willow Oak	2.5 DIA.	REFER TO PLAN	B&B	*FALL PLANTING HAZARD
TOTAL:	3						

LEGEND

EXISTING		PROPOSED
	SANITARY SEWER	
	STORM SEWER	
	FLARED END SECTION	
	DRAINAGE INLET	
	DRAINAGE MANHOLE	
	HEADWALL	
	SANITARY SEWER MANHOLE	
	FIRE HYDRANT	
	SIGN	
	UTILITY POLE	
	VALVE	
W	WATER MAIN	W
G	GAS MAIN	G
E	ELECTRIC LINE	E
T	TELEPHONE LINE	T
100	CONTOUR ELEVATION	100
X 100.80 TC 100.00 BC	SPOT ELEVATION AT CURB	X TC=100.80 BC=100.00
X 100.00	SPOT ELEVATION ON GROUND OR PAVEMENT	X 100.00
	CONCRETE CURB	

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

2019 N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS AMENDED OR SUPPLEMENTED SHALL GOVERN THE CONSTRUCTION OF THIS PROJECT

Dig Safely. — New Jersey 811 — Know what's below. Call before you dig. or 1-800-272-1000 — TO LOCATE UNDERGROUND UTILITIES — IF YOU'RE GOING TO DIG, BLAST OR DRILL THREE (3) WORKING DAYS NOTICE — REMEMBER: IT'S THE LAW! — Dig Safely.

NEW JERSEY ONE CALL — LLAME ANTES DE EXCAVAR 811 OR 1-800-272-1000 — PARA LOCALIZAR LAS LÍNEAS SUBTERRÁNEAS DE SERVICIOS PÚBLICOS — REQUERIDO ES LA LEY! EXCAVE CON SEGURIDAD — Dig Safely.

Van Cleef ENGINEERING ASSOCIATES
With Offices In New Jersey, Pennsylvania & Delaware
SOUTHCENTRAL NEW JERSEY OFFICE
4 AAA DRIVE, SUITE 103, HAMILTON, NJ 08691
EMAIL CONTACT@VANCLEEFENGINEERING.COM
WEB: WWW.VANCLEEFENGINEERING.COM
PHONE (609) 689-1100 FAX (609) 689-1120
Consulting Civil Engineering
Bridge Design
Highway Design
Construction Inspection
Geotechnical Engineering
Water / Wastewater
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture
NJ LLC CERT. No. 24GA28132300

BY: HERBERT J. SEEBURGER, JR. N.J. PROFESSIONAL ENGINEER NO. 24GE04748700 DATE 8/18/20

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21A01706800 | PA - RA012320X
GEORGE R. DUTHIE JR., AIA, PP
NJ - 21A01299300
Architect
FVHDPC.COM
FVHD architects planners
Fraytak Veisz Hopkins Duthie P C
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whittaker Ave - Mont Clare - Pennsylvania 19453

Project Name
Addition to West Windsor-Plainsboro High School North

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West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
H.J.S.

Drawn By
R.R.F.

Scale
1"=20'

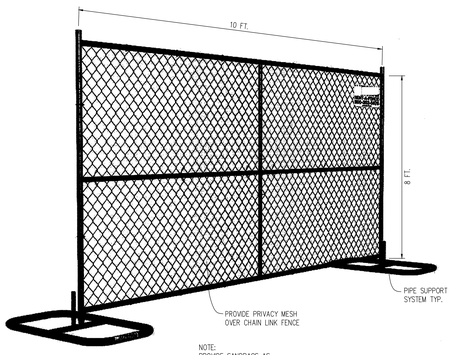
Drawing Name
SITE, GRADING, UTILITY, SESC PLAN

Revisions

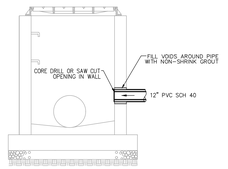
No.	Date	Description

Drawing Number
C100

F:\WORK\13000'S\13074\DWG\SITE-13074.dwg

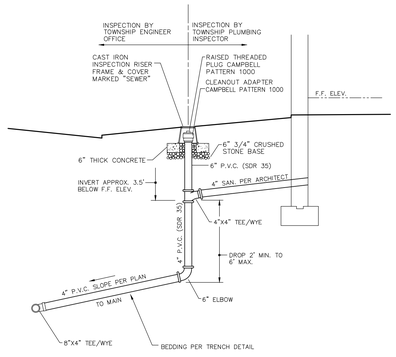


TEMPORARY CONSTRUCTION FENCING
(NOT TO SCALE)

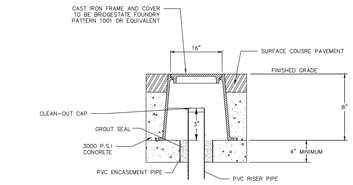


SECTION

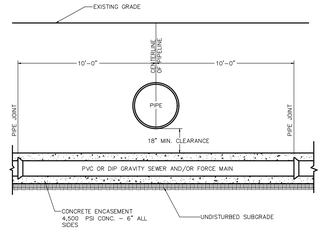
DRAIN CONNECTION TO EXISTING INLET
NOT TO SCALE



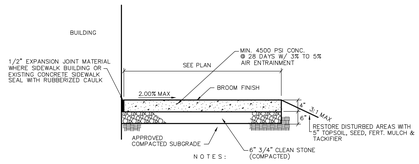
SERVICE LATERAL DROP CONNECTION
N.T.S.



CLEANOUT/ INSPECTION PORT FOR DRY WELLS
NOT TO SCALE



ENCASED PIPE CROSSING
NOT TO SCALE



NOTES:

1.) THE ENGINEER SHALL APPROVE ALL SUBGRADES PRIOR TO THE POURING OF ANY CONCRETE.

2.) EXPANSION JOINTS SHALL BE PROVIDED AT 20' (MAX.) INTERVALS JOINTS SHALL BE FILLED WITH 1/2" BIT. EXPANSION JOINT FILLER.

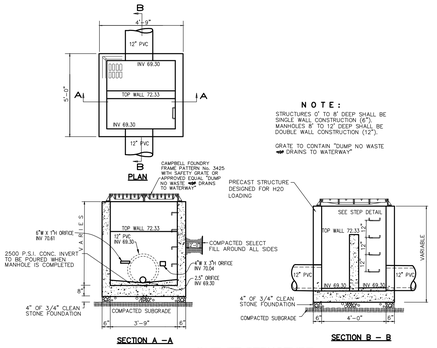
3.) ALL SIDEWALK THAT IS BROKEN, CRACKED OR OUT OF ALIGNMENT SHALL BE REPLACED PRIOR TO ACCEPTANCE.

4.) PROVIDE HALF DEPTH CONTRACTION JOINTS EVERY 4 FEET.

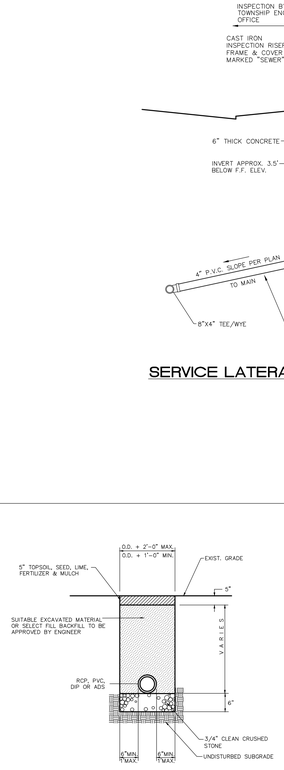
5.) ALL EXPOSED CONC. SURFACES TO BE TREATED WITH LUMISEAL PLUS CURE AND SEAL COMPOUND OR EQUIVALENT PER MANUFACTURER'S INSTRUCTIONS.

6.) THE RUNNING SLOPE OF THE SIDEWALK SHALL BE LESS THAN 5.0%

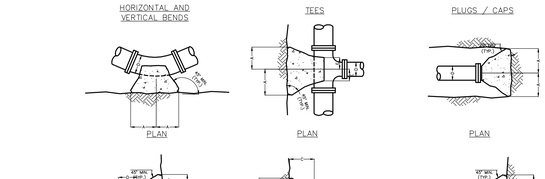
CONCRETE SIDEWALK ADJACENT TO BUILDING DETAIL
NO SCALE



OUTLET STRUCTURE
N.T.S.



STORM SEWER TRENCH: OFF-ROAD
NOT TO SCALE



BEND	D	4"	6"	8"	10"
11 1/4°	B	1'0"	1'0"	1'0"	1'0"
	C	1'0"	1'0"	1'0"	1'0"
22 1/2°	B	1'0"	1'0"	1'0"	1'0"
	C	1'0"	1'0"	1'0"	1'0"
45°	B	1'0"	1'0"	1'0"	1'0"
	C	1'0"	1'0"	1'0"	1'0"
90°	B	1'0"	1'0"	1'0"	1'0"
	C	1'0"	1'0"	1'0"	1'0"

D	4"	6"	8"	10"
A	1'0"	1'0"	1'0"	1'0"
B	1'0"	1'0"	1'0"	1'0"
C	1'0"	1'0"	1'0"	1'0"

D	4"	6"	8"	10"
A	1'0"	1'0"	1'0"	1'0"
B	1'0"	1'0"	1'0"	1'0"
C	1'0"	1'0"	1'0"	1'0"

THRUST BLOCK DETAILS
N.T.S.

NOTES:

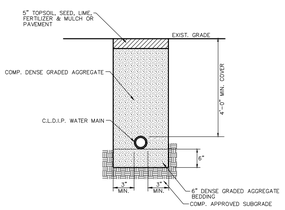
1 ALL THRUST BLOCKS ARE TO BE POURED IN FULL CONTACT WITH UNDISTURBED MATERIAL

2 THRUST BLOCKS ARE TO BE PLACED AT ALL BENDS OR AS DIRECTED BY THE ENGINEER

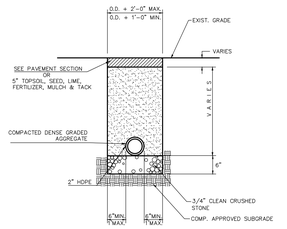
3 ALL THRUST BLOCK CONCRETE SHALL BE 3,500 PSI (MIN.)

4 ALL BOLTS AND CONNECTIONS TO BE COVERED WITH BURLAP, ORPLASTIC BEFORE POURING CONCRETE

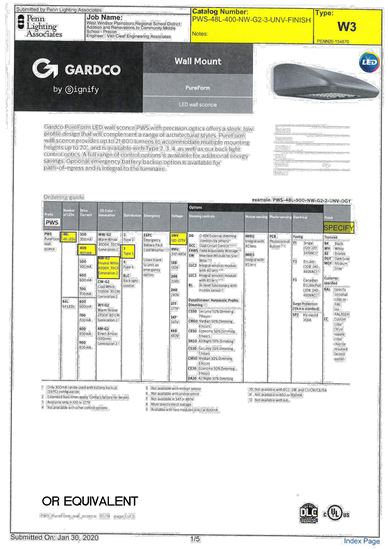
5 TIE RODS ,CLAMPS AND RETAINER GLANDS REQUIRED BUT NOT SHOWN

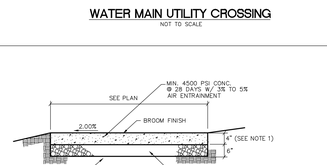


WATER SERVICE TRENCH
NOT TO SCALE



FORCE MAIN TRENCH DETAIL
NOT TO SCALE





WATER MAIN UTILITY CROSSING
NOT TO SCALE

NOTES:

1.) AT DRIVEWAY CROSSINGS, SIDEWALK SHALL BE 6" THK. AND SHALL CONTAIN No. 10 6" x 6" WIRE MESH 2" UP FROM THE BOTTOM OF THE SIDEWALK.

2.) THE TOWNSHIP ENGINEER SHALL APPROVE ALL SUBGRADES PRIOR TO THE POURING OF ANY CONCRETE.

3.) EXPANSION JOINTS SHALL BE PROVIDED AT 20' (MAX.) INTERVALS JOINTS SHALL BE FILLED WITH 1/2" BIT. EXPANSION JOINT FILLER.

4.) ALL SIDEWALK THAT IS BROKEN, CRACKED OR OUT OF ALIGNMENT SHALL BE REPLACED PRIOR TO ACCEPTANCE.

5.) PROVIDE HALF DEPTH CONTRACTION JOINTS EVERY 4 FEET.

6.) ALL EXPOSED CONC. SURFACES TO BE TREATED WITH LUMISEAL PLUS CURE AND SEAL COMPOUND OR EQUIVALENT PER MANUFACTURER'S INSTRUCTIONS.

CONCRETE SIDEWALK
NO SCALE

NEW JERSEY ONE CALL — 811 — Know what's below. Call before you dig. or 1-800-272-1000 — TO LOCATE UNDERGROUND UTILITIES — IF YOU'RE GOING TO DIG, BLAST OR DRILL THREE (3) WORKING DAYS NOTICE — REMEMBER IT'S THE LAW! — Dig Safely.

NEW JERSEY ONE CALL — LLAME ANTES DE EXCAVAR 811 o 1-800-272-1000 — PARA LOCALIZAR UTILIDADES SUBTERRANEAS — SI VA A EXCAVAR, BARRENAR O VOLAR EN LA PLANEACION DE AVISO TRES (3) DIAS DE TRABAJO EN — RECUERDE — ES LA LEY! — EXCAVE CON SEGURIDAD — Dig Safely.

2019 N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS AMENDED OR SUPPLEMENTED SHALL GOVERN THE CONSTRUCTION OF THIS PROJECT

Van Cleef ENGINEERING ASSOCIATES
SOUTHCENTRAL NEW JERSEY OFFICE
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Consulting Civil Engineering
Bridge Design
Highway Design
Construction Inspection
Geotechnical Engineering
Water / Wastewater
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture
NJ LLC CERT. No. 24GA28132300

BY: _____ DATE 8/18/20
HERBERT J. SEEBURGER, JR. N.J. PROFESSIONAL ENGINEER NO. 24GE04748700

FVHD architects planners
Fraytak Veisz Hopkins Duthie P C
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whitaker Ave - Mont Clare - Pennsylvania 19453
F V H D P C . C O M
WILLIAM D. HOPKINS III, AIA, LEED AP
N.J.- 21-AI-01700600 | PA - 140012330A
GEORGE R. DUTHIE JR., AIA, PP
N.J.- 21-AI-01299200
Architect
Date 04/06/21

Project Name
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Checked By
H.J.S.

Drawn By
R.R.F.

Scale
N.T.S.

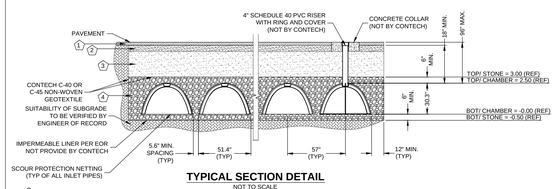
Drawing Name
CONSTRUCTION DETAILS

Revisions

No.	Date	Description

Drawing Number
C101

F:\projects\5063K1\DWG\C101-180718.dwg

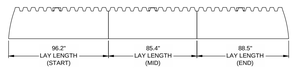


TYPICAL SECTION DETAIL
NOT TO SCALE

KEY
1. FLEXIBLE PAVEMENT.
2. GRANULAR ROAD BASE.
3. DGA
4. THE BACKFILL MATERIAL SHALL BE FREE-DRAINING ANGULAR WASHED STONE 3/4" - 2" PARTICLE SIZE. MATERIAL SHALL BE PLACED IN 8"-10" MAXIMUM LIFTS. MATERIAL SHALL BE WORKED INTO THE CHAMBER SPACING BY MEANS OF SHOVEL-SLICING, RODDING, AIR-TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS. COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE PROJECT ENGINEER OR THEIR REPRESENTATIVE IS SATISFIED WITH THE LEVEL OF COMPACTION. INADEQUATE COMPACTION CAN LEAD TO EXCESSIVE DEFLECTIONS WITHIN THE SYSTEM AND SETTLEMENT OF THE SOILS OVER THE SYSTEM. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO-LIFT DIFFERENTIAL BETWEEN THE SIDES OF ANY CHAMBER IN THE SYSTEM AT ALL TIMES DURING THE BACKFILL PROCESS. BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON ANY PIPES IN THE SYSTEM.

EQUIPMENT USED TO PLACE AND COMPACT THE BACKFILL SHALL BE OF A SIZE AND TYPE SO AS NOT TO DISTORT, DAMAGE, OR DISPLACE THE CHAMBERS. ATTENTION MUST BE GIVEN TO PROVIDING ADEQUATE MINIMUM COVER FOR SUCH EQUIPMENT, AND MAINTAIN BALANCED LOADING ON ALL CHAMBERS IN THE SYSTEM, DURING ALL SUCH OPERATIONS.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS. CONTACT YOUR LOCAL CONTECH REPRESENTATIVE FOR DETAILS.



TYPICAL ELEVATION VIEW
NOT TO SCALE

CHAMBERMAXX DESIGN DETAILS

FEATURE	START CHAMBER	MIDDLE CHAMBER	END CHAMBER
OVERALL CHAMBER HEIGHT - mm [IN]	770 [30.3]	770 [30.3]	770 [30.3]
OVERALL CHAMBER WIDTH - mm [IN]	1306 [51.4]	1306 [51.4]	1306 [51.4]
ACTUAL LENGTH - mm [IN]	2500 [98.4]	2311 [91.0]	2337 [92.0]
INSTALLED LAY LENGTHS - mm [IN]	2443 [96.2]	2169 [85.4]	2248 [88.5]
CHAMBER STORAGE VOLUME - m³ [CF]	1.421 [50.2]	1.336 [47.2]	1.307 [46.2]
CHAMBER STORAGE PER LINEAR FOOT - m³/m [CF/LF]	0.582 [6.3]	0.616 [6.6]	0.582 [6.3]
MIN. INSTALLED CHAMBER VOLUME - m³ [CF]	2.211 [78.1]	2.127 [75.1]	2.098 [74.1]
MIN. INSTALLED CHAMBER VOLUME PER LINEAR FOOT - m³/m [CF/LF]	0.905 [9.7]	0.981 [10.6]	0.934 [10.0]
CHAMBER WEIGHT - kg [LB]	37.65 [83]	33.11 [73]	34.47 [76]

*152 mm [6"] OF STONE ABOVE AND BELOW CHAMBER, 142 mm [5.6"] CHAMBER SPACING AND 40% POROSITY

OR EQUIVALENT

MARK	DATE	REVISION DESCRIPTION	BY
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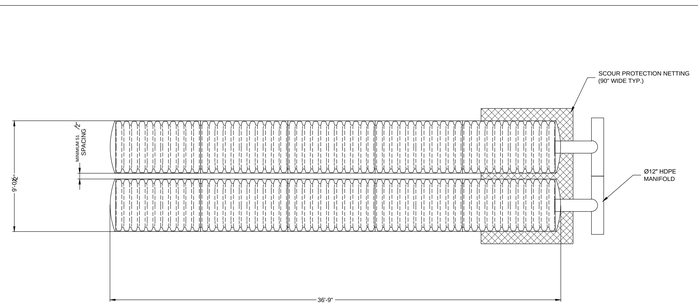
CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
11815 NE Glenn Widing Drive, Portland, OR 97220
800-548-4887 FAX 503-240-3393

CHAMBERMaxx PATENT PENDING
CONTECH DYODS DRAWING

CHAMBERMAXX - 649369-10
WICOFF ES
PLAINSBORO,NJ
SITE DESIGNATION: BASIN L

PROJECT No.:	SEQ. No.:	DATE:
649369	10	5/26/20
DESIGNED: TKM	DRAWN: TKM	
CHECKED:	APPROVED:	
SHEET NO.: C2 OF ----		



NOTE:
- MINIMUM COVER IS 18 INCHES TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT
- 12 INCH STONE PERIMETER TYPICAL
- ENTIRE STORAGE ENVELOPE TO BE WRAPPED IMPERMEABLE LINER (NOT PROVIDED BY CONTECH)

ASSEMBLY
SCALE: 1"=5'

CHAMBER STORAGE = 476 CF
STONE VOID STORAGE = 391 CF
TOTAL STORAGE = 867 CF
SYSTEM INVERT = 69.30'

OR EQUIVALENT

GENERAL NOTES

1. ALL ELEVATIONS, DIMENSIONS AND LOCATIONS OF RISERS AND INLETS SHALL BE VERIFIED BY THE ENGINEER OF RECORD.
2. PRIOR TO INSTALLATION OF THE CHAMBERMAXX SYSTEM A PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED. THOSE REQUIRED TO ATTEND ARE THE SUPPLIER OF THE SYSTEM, THE GENERAL CONTRACTOR, SUB-CONTRACTORS AND THE ENGINEER.
3. CHAMBERMAXX CHAMBERS ARE MANUFACTURED FROM POLYPROPYLENE PLASTIC.
4. CHAMBERMAXX SYSTEM TO MEET AASHTO HS20/HS25 LIVE LOADING, PER AASHTO LRFD SECTION 12.
5. ACCESS COVERS TO MEET AASHTO HS20/HS25 LIVE LOADING.
6. MINIMUM COVER IS 18-INCHES TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. FOR COVER HEIGHTS GREATER THAN 96-INCHES CONTACT YOUR LOCAL REPRESENTATIVE.
7. ALL PARTS PROVIDED BY CONTECH UNLESS OTHERWISE NOTED.
8. FOR INFORMATION ON PRE-TREATMENT SYSTEMS, REFERENCE CONTECH PRE-TREATMENT SYSTEM STANDARD DETAILS OR CONTACT YOUR LOCAL REPRESENTATIVE.
9. CHAMBERMAXX BY CONTECH ENGINEERED SOLUTIONS (800) 925-5240

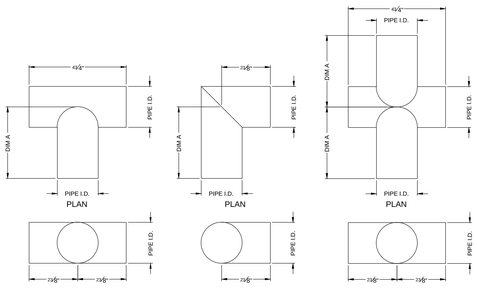
MARK	DATE	REVISION DESCRIPTION	BY
	----	----	----
	----	----	----

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
11815 NE Glenn Widing Drive, Portland, OR 97220
800-548-4887 FAX 503-240-3393

CHAMBERMaxx PATENT PENDING
CONTECH DYODS DRAWING

CHAMBERMAXX - 649369-10
HIGH SCHOOL NORTH
PLAINSBORO,NJ
SITE DESIGNATION: BASIN

PROJECT No.:	SEQ. No.:	DATE:
649369	10	5/26/20
DESIGNED: TKM	DRAWN: TKM	
CHECKED:	APPROVED:	
SHEET NO.: C1 OF ----		

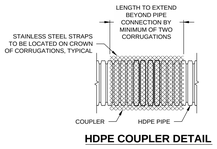


STANDARD MANIFOLD COMPONENOT TO SCALE

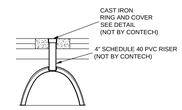
	AVAILABLE DIAMETERS - INCHES			
TEE	12	15	18	24
ELBOW	12	15	18	24
DIM A	42	42	48	48

GENERAL NOTES:
1. FITTING MATERIAL TO BE MANUFACTURED FROM CORRUGATED HIGH DENSITY POLYETHYLENE, AASHTO M294 PIPE.
2. FITTINGS TO BE FABRICATED IN ACCORDANCE WITH THE REQUIREMENOT TO SCALE OF AASHTO M294.
3. FITTINGS DESIGNED TO PROTRUDE 6" INTO THE END OF THE INLET CHAMBERS.
4. MANIFOLD TEE AND ELBOW JOINOT TO SCALE TO BE CONNECTED UTILIZING HDPE COUPLERS.

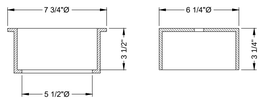
TYPICAL MANIFOLD DETAILS



HDPE COUPLER DETAIL



INSPECTION PORT DETAIL
NOT TO SCALE



RING AND COVER DETAIL
NOT TO SCALE

INSTALLATION NOTES

1. CHAMBERMAXX INSTALLATION GUIDE TO BE REVIEWED BY CONTRACTOR PRIOR TO INSTALLATION.
2. PRIOR TO PLACING BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, UNSUITABLE MATERIAL SHALL BE REMOVED AND BROUGHT BACK TO GRADE WITH FILL MATERIAL AS APPROVED BY THE ENGINEER OF RECORD. ONCE THE FOUNDATION PREPARATION IS COMPLETE, THE BEDDING MATERIAL CAN BE PLACED.
3. THE SCOUR PROTECTION NETTING TO EXTEND 1'-0" BEYOND OUTSIDE EDGE OF INLET CHAMBERS.
4. COVER ANY OPEN VOID SPACES GREATER THAN 3/4" ON CHAMBERS WITH A NON-WOVEN GEOTEXTILE TO PREVENT INFILTRATION OF BACKFILL MATERIAL.
5. STONE EMBEDMENT MATERIAL SHALL BE INSTALLED TO 95% STANDARD PROCTOR DENSITY AND PLACED IN 6-INCH TO 8-INCH LIFTS SUCH THAT THERE IS NO MORE THAN A TWO LIFT DIFFERENTIAL BETWEEN ANY OF THE CHAMBERS AT ANY TIME. GRANULAR BACKFILL MATERIAL SHALL BE COMPACTED TO 90% SPD. BACKFILLING SHALL BE ADVANCED ALONG THE LENGTH OF THE CHAMBER ROWS AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING AND DISPLACEMENT OF THE CHAMBERS. THE MINIMUM CHAMBER SPACING MUST BE MAINTAINED.
6. REFER TO CHAMBERMAXX INSTALLATION GUIDE FOR TEMPORARY CONSTRUCTION LOADING GUIDELINES.
7. IT IS ALWAYS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.
8. GENERAL INSTALLATION METHODS AND MATERIALS TO BE IN ACCORDANCE WITH ASTM D2321.

2019 N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS AMENDED OR SUPPLEMENTED SHALL GOVERN THE CONSTRUCTION OF THIS PROJECT

Van Cleef ENGINEERING ASSOCIATES
SOUTHCENTRAL NEW JERSEY OFFICE
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Consulting Civil Engineering
Bridge Design
Highway Design
Construction Inspection
Geotechnical Engineering
Water / Wastewater
Municipal Engineering
Land Surveying
Professional Planning
Landscape Architecture
NJ LLC CERT. No. 24GA28132300

BY: HERBERT J. SEEBURGER, JR. N.J. PROFESSIONAL ENGINEER NO. 24GE04748700 DATE 8/18/20

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21:AI017500(0) | PA - RA031520X
GEORGE R. DUTHIE JR., AIA, PP
NJ - 21:AI012700(0)
Architect
Date

FVHD architects planners
Fraytak Veisz Hopkins Duthie P.C.
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whitaker Ave - Mont Clare - Pennsylvania 19453
F V H D P C . C O M

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
H.J.S.

Drawn By
R.R.F.

Scale
N.T.S.

Drawing Name
CONSTRUCTION DETAILS

Revisions

No.	Date	Description

Drawing Number
C102

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MANAGEMENT OF HIGH ACID PRODUCING SOILS

Where Applicable
This practice is applicable to any high acid–producing soil materials. Such materials have been found in the Coastal Plain areas of Burlington, Camden, Cumberland, Gloucester, Mercer, Middlesex, Monmouth, Ocean, Salem and Somerset Counties.

Methods and Materials
1. Limit the excavation area and exposure time when high acid–producing soils are encountered.
2. Topsoil stripped from the site shall be stored separately from temporarily stockpiled high acid–producing soils.
3. Stockpiles of high acid–producing soil should be located on level land to minimize its movement, especially when this material has a high clay content.
4. Temporarily stockpiled high acid–producing soil material to be stored more than 48 hours should be covered with properly anchored, heavy grade sheets of polyethylene where possible. If not possible, stockpiles shall be covered with a minimum of 3 to 6 inches of wood chips to minimize erosion of the stockpile. Silt fence shall be installed at the toe of the slope to contain movement of the stockpiled material. Topsoil shall not be applied to the stockpiles to prevent topsoil contamination with high acid–producing soil.
5. High acid–producing soils with a pH of 4.0 or less or containing iron sulfide (including borrow from cuts or dredged sediment) shall be ultimately placed or buried with limestone applied at the rate of 10 tons per acre (or 450 pounds per 1,000 square feet of surface area) and covered with a minimum of 12 inches of settled soil with a pH of 5.0 or more except as follows:
a. Areas where trees or shrubs are to be planted shall be covered with a minimum of 24 inches of soil with a pH or 5 or more.
b. Disposal areas shall not be located within 24 inches of any surface of a slope or bank, such as berms, stream banks, ditches, and others, to prevent potential lateral leaching damages.
6. Equipment used for movement of high acid–producing soils should be cleaned at the end of each day to prevent spreading of high acid–producing soil materials to other parts of the site, into streams or stormwater conveyances, and to protect machinery from accelerated rusting.
7. Non–vegetative erosion control practices (stone tracking pads, strategically placed limestone check dam, sediment barrier, wood chips) should be installed to limit the movement of high acid–producing soils from, around, or off the site.
8. Following burial or removal of high acid–producing soil, topsoiling and seeding of the site (see Temporary Vegetative Cover for Soil Stabilization, Permanent Vegetative Cover for Soil Stabilization, and Topsoiling), monitoring must continue for a minimum of 6 months to ensure there is adequate stabilization and that no high acid–producing soil problems emerge. If problems still exist, the affected area must be treated as indicated above to correct the problem.

MAINTAINING VEGETATION
Methods and Materials

A preventive maintenance program anticipates requirements and accomplishes work when it can be done with least effort and expense to insure adequate vegetative cover.

Maintenance should occur on a regular basis, consistent with favorable plant growth, soil, and climatic conditions. This involves regular seasonal work for mowing, fertilizing, liming, watering, pruning, fire control, weed and pest control, reseeding, and timely repairs.

The degree of preventive maintenance needed depends upon the type of vegetation and its proposed function or use.

1. Mowing is a recurring practice and its intensity depends upon the function of the ground cover. On high to moderate (A to B) maintenance areas, such as lawns, certain recreation fields, and picnic areas, mowing will be frequent (2 to 7 day intervals) and typically at a height of 2.5 to 3 inches. Return clippings from mowing (mulching mower) to the turf to reduce the amount of fertilizer needed to maintain the turf by as much as 50%. Some turf mixtures can be managed as naturalized stands requiring only one (cool season mixtures) or two (warm season mixtures) mowings per year. Mowing of naturalized areas is typically done at heights no less than 4 inches and should not be done between April 1st and July 15th to avoid disturbing ground nesting birds. The large amount of clipping debris generated by mowing naturalized areas will need to be removed and/or dispersed so the vegetation is not smothered. Burning of naturalized areas is another procedure used to manage naturalized turfs. Low maintenance (D) areas may be left unmowed to permit natural succession. See pg. 4–13 footnote #4, Maintenance Levels A, B, C and D in the Standard for Permanent Vegetative Cover, Table 4–3.
2. Incorporation of organic matter (for example, mature compost) into the soil will substantially reduce the need for fertilizer and irrigation inputs.
3. Fertilizer and lime should be applied as needed to maintain a dense stand of desirable species. Frequently mowed areas and those on sandy soils will require more frequent fertilization but at lower nutrient rates per application.
4. Lime requirement should be determined by soil testing every 2 or 3 years. Fertilization may increase the need for liming. Contact the local county extension office for details on soil testing and fertilization and pest control recommendations online at http://njaes.rutgers.edu/county/.
5 Fertilization and additions of other soil amendments are not recommended for managing native vegetation such as in the Pinelands National Reserve. See the Standard for Permanent Vegetative Stabilization for specific requirements in the PNR.
6. Weed invasion may result from abusive mowing and from inadequate fertilizing and liming. Many newly established grasses will not survive if mowed at heights below 2.5 inches and at intervals greater than 7 days. Brush invasion is a common consequence of lack of mowing. The amount of weeds or brush that can be tolerated in any vegetated area depends upon the intended use of the land. Drainage ways are subject to rapid infestation by weed and woody plants. These should be controlled, since they often reduce drainage way efficiency. Control of weeds or brush is accomplished by using herbicides or mechanical methods.
7. Fire hazard is greater where dry vegetation has accumulated. The taller the vegetation, the greater the hazard.
8. Prune trees and shrubs to remove dead or damaged branches. Remove undesirable or invasive plants to maintain integrity of the landscape and enhance quality of permanent vegetative cover.

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION
Methods and Materials

1. Site Preparation
A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for Land Grading.
B. Immediately prior to seeding and topsoil application, the subsoil shall be evaluated for compaction in accordance with the Standard for Land Grading .
C. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 5 inches (unsettled) is required on all sites. Topsoil shall be amended with organic matter, as needed, in accordance with the Standard for Topsoiling.
D. Install needed erosion control practices or facilities such as diversions, grade–stabilization structures, channel stabilization measures, sediment basins, and waterways.
2. Seedbed Preparation
A. Uniformly apply ground limestone and fertilizer to topsoil which has been spread and firmed, according to soil test recommendations such as offered by Rutgers Co–operative Extension Soil sample mailers are available from the local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10–10–10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not incorporated, apply one–half the rate described above during seedbed preparation and repeat another one–half rate application of the same fertilizer within 3 to 5 weeks after seeding.
B. Work lime and fertilizer into the topsoil as nearly as practical to a depth of 4 inches with a disc, spring–tooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.
C. High acid producing soil. Soils having a pH of 4 or less or containing iron sulfide shall be covered with a minimum of 12 inches of soil having a pH of 5 or more before initiating seedbed reparation. See Standard for Management of High Acid–Producing Soils for specific requirements.
3. Seeding
A. Select a mixture from Table 4–3 or use a mixture recommended by Rutgers Cooperative Extension or Natural Resources Conservation Service which is approved by the Soil Conservation District. Seed germination shall have been tested within 12 months of the planting date. No seed shall be accepted with a germination test date more than 12 months old unless retested.
1. Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage with the specified seed mixture for the seeded area and mowed once.
2. Warm–season mixtures are grasses and legumes which maximize growth at high temperatures, generally 85o F and above. See Table 4–3 mixtures 1 to 7. Planting rates for warm–season grasses shall be the amount of Pure Live Seed (PLS) as determined by germination testing results.
3. Cool–season mixtures are grasses and legumes which maximize growth at temperatures below 85oF. Many grasses become active at 65oF. See Table 4–3, mixtures 8–20. Adjustment of planting rates to compensate for the amount of PLS is not required for cool season grasses.
B. Conventional Seeding is performed by applying seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse–textured soil.
C. After seeding, firming the soil with a corrugated roller will assure good seed–to–soil contact, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.
D. Hydroseeding is a broadcast seeding method usually involving a truck, or trailer–mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short–fibered mulch may be applied with a hydroseeder following seeding. (also see Section 4–Mulching below). Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. When poor seed to soil contact occurs, there is a reduced seed germination and growth.
4. Mulching
Mulching is required on all seeding. Mulch will protect against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.
A. Straw or Hay. Unrotted small grain straw, hay free of seeds, to be applied at the rate of 1–1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch–binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper–blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed. Application – Spread mulch uniformly by hand or mechanically so that at least 85% of the soil surface is covered. For uniform distribution of hand–spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section. Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.
1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss–cross and a square pattern. Secure twine around each peg with two or more round turns.
2. Mulch Nettings – Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
3. Crimper (mulch anchoring coulter tool) – A tractor–drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
4. Liquid Mulch–Binders – May be used to anchor salt hay, hay or straw mulch.
a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.
b. Use one of the following:
(1) Organic and Vegetable Based Binders – Naturally occurring, powder–based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turf grass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
(2) Synthetic Binders – High polymer synthetic emulsion, miscible with water when diluted and, following application of mulch, drying and curing, shall no longer be soluble or dispersible in water. Binder shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.
Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

B. Wood–fiber or paper–fiber mulch – shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. Mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
C. Pelletized mulch – compressed and extruded paper and/or wood fiber product, which may contain co–polymers, tackifiers, fertilizers, and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60–75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weedseed free mulch is desired, or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.
5. Irrigation (where feasible)
If soil moisture is deficient supply new seeding with adequate water (a minimum of 1/4 inch applied up to twice a day until vegetation is well established). This is especially true when seedings are made in abnormally dry or hot weather or on droughty sites.
6. Topdressing
Since soil organic matter content and slow release nitrogen fertilizer (water insoluble) are prescribed in Section 2A – Seedbed Preparation in this Standard, no follow–up of topdressing is mandatory. An exception may be made where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop. In that instance, topdress with 10–10–10 or equivalent at 300 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.
7. Establishing Permanent Vegetative Stabilization
The quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch and other management are essential. The seed application rates in Table 4–3 are required when a Report of Compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation is established prior to requesting a Report of Compliance from the district. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative cover (of the seeded species) and mowed once. Note this designation of mowed once does not guarantee the permanency of the turf should other maintenance factors be neglected or otherwise mismanaged.

Table 4–2
Permanent Stabilization Mixtures for Various Uses

Application	PLANTING MIXTURES BY SOIL DRAINAGE CLASS/1 (see Table 4–3)		
	Excessively Drained	Well to Moderately Well Drained	Somewhat Poorly to Poorly Drained
Residential/commercial lots	10, 12, 15	6, 10, 12, 13, 14, 15	16
Pond and channel banks, dikes, berms and dams	2, 5, 6, 10	5, 6, 7, 8, 9, 15	2, 8, 16, 17
Drainage ditches, swales, detention basins	2, 9, 11	2, 7, 9, 11, 12, 17	2, 9, 16, 17
Filter Strips	12	11, 12	11, 12
Grasses waterway, spillways	2, 3, 9, 10, 12	6, 7, 9, 10, 11, 12	2, 9, 11,12
Recreation areas, athletic fields	5, 12, 15, 18	12, 13, 14, 15, 18	16
Special Problem Sites Steep slopes and banks, roadsides, borrow areas	2, 3, 4 ,6	2, 3, 5, 7, 8, 9, 10, 15, 18	2, 9, 10, 11, 12
Sand and gravel pits, Sanitary landfills	1, 2, 3, 4, 6, 20	1, 2, 3, 4, 5, 6, 8, 15, 20	2, 8
Dredged material, spoilbanks, Borrow areas	2, 3, 6, 20	2, 3, 6, 11,	2,8
Streambanks & shorelines 2	2, 8, 20, 21a	2, 8, 19b, 20, 21a, 21b	2, 8, 19a, 21a,b,c,d
Utility rights–of–way	3,7,180	3, 7	8, 9, 17

1. Refer to Soil Surveys for drainage class descriptions.
2. Refer to Soil Bioengineering Standard for additional seed mixtures.
3. Spillways only
4. See Appendix E for description of turf grasses and cultivars

Table 4–3

Standards for Soil Erosion and Sediment Control in New Jersey *January 2014*

PERMANENT VEGETATIVE MIXTURES, PLANTING RATES AND PLANTING DATES[1]

O = Optimal Planting period A = Acceptable Planting period

SEED MIXTURE [2]	PLANTING RATE [3] lbs/acre	PLANTING RATE [3] lbs/1000 sq. ft.	Zone 5b, 6a 3/15-5/31	Zone 5b, 6a 6/1-7/31	Zone 5b, 6a 8/1-10/1	Zone 6b 3/1-4/30	Zone 6b 5/1-8/14	Zone 6b 8/15-10/15	Zone 7a, 7b 2/1-4/30	Zone 7a, 7b 5/1-8/14	Zone 7a, 7b 8/15-10/30	MAINTENANCE LEVEL [4]	REMARKS
WARM SEASON SEED MIXTURES													
1A. For Pinelands National Reserve Seed mixtures see Table 4-4 page 4-17			O			O			O				
1. Switchgrass and/or Coastal panicgrass plus or Flatpea	15 15 ~~20~~ 20	.35 .35 ~~.45~~ .45	O			O			O			C-D	
2. Deertongue or Switchgrass Redtop	15 20 1 ~~10~~	.35 .45 .1 ~~.23~~	O			O			O			C-D	Use Deertongue if pH < 4.0. Switchgrass is superior wildlife plant. Use for waterways. Redtop provides quick cover.
3. Switchgrass Deertongue Little Bluestem Sheep fescue plus Partridge pea	15 10 20 20 10	.35 .25 .45 .45 .25	O			O			O			C-D	Pinelands mixture.
4. Switchgrass Big Bluestem Little Bluestem Sand lovegrass Coastal panicgrass	10 5 5 4 10	.25 .10 .10 .10 .25	O			O			O			C-D	Native warm-season mixture.
5. Bermudagrass Zoysiagrass (seed) Zoysiagrass (sprigs)	15 30	0.35 0.70	O			O			O			A-D	Bermudagrass has superior salt tolerance. Zoysia has greater wear tolerance
COOL SEASON SEED MIXTURES	130	3	A	A[5]	O	A	A[5]	O	A	A[5]	O		General low-maintenance mixture.
6. Fine Fescue (Blend) Hard Fescue Chewings fescue Strong Creeping Red Fescue Kentucky bluegrass Perennial ryegrass plus White clover (see note at right)	45 20 5	.1 ..5 .10										B-D	White clover can be removed when used to establish lawns
7. Strong Creeping red fescue Kentucky bluegrass Perennial ryegrass or Redtop plus White clover	130 50 20 10 5	3 1 .5 .25 .10	A	A[5]	O	A	A[5]	O	A	A[5]	O	B-D	Suitable waterway mix. Canada bluegrass more drought tolerant. Use Redtop for increased drought-tolerance.
8. Tall fescue (turf-type) or Strong Creeping red fescue or Perennial ryegrass Flatpea	30 30 30 25	.7 .7 .7 .60	O	A[6]		O	A[6]		O	A[6]		B-D	Tall fescue best selected for droughty conditions. Use Creeping red fescue in heavy shade. Use Flatpea to suppress woody vegetation.
9. Deertongue Redtop Wild rye (Elymus) Switchgrass	20 2 15 25	.45 .05 .35 .60	O			O			O			C-D	Native wet mix.
10. Tall fescue (turf-type) Perennial ryegrass or White clover (see note at right)	265 20 ~~10~~ 5	6 5 ~~.25~~ .10	O	A[5]	A[5]	O	A[5]	A[5]	O	A[5]	A[5]	C-D	white clover can be excluded on lawn sites
11 Kentucky Bluegrass Turf-type Tall fescue	~~15~~ 45 22	~~0.33~~ 1 5	A	A[5]	O	A	A[5]	O	A	A[5]	O	C-D	Filter strip use for nutrient uptake.
12. Turf-type Tall fescue (Blend of 3 cultivars)	350	8	A	A[5]	O	A	A[5]	O	A	A[5]	O	C-D	Use in a managed filter strip for nutrient uptake.
13. Hard Fescue and/or Chewing fescue and/or Strong creeping red fescue Perennial ryegrass Ky. bluegrass (blend)	175 45 45	4 1 1	A	A[5]	O	A	A[5]	O	A	A[5]	O	A-C	General lawn/recreation.
14. Tall fescue Ky. bluegrass (blend) Perennial ryegrass (blend)	265 20 20	6 0.50 0.50	A	A[5]	O	A	A[5]	O	A	A[5]	O	A-B	Athletic field/ 3 cultivar mix of Kentucky Bluegrass.
15. Hard fescue Chewings fescue Strong Creeping red fescue Perennial ryegrass	130 45 45 10	3 1 1 .25	A	A[5]	O	A	A[5]	O	A	A[5]	O	C-D	Low-maintenance fine fescue lawn mix.
16. Rough bluegrass Strong Creeping red fescue	90 130	2.0 3	A	A[5]	O	A	A[5]	O	A	A[5]	O	C-D	Moist shade.
17. Creeping bentgrass Creeping red fescue Alkali saltgrass	45 45 45	1 1 1	A	A[5]	O	A	A[5]	O	A	A[5]	O	B-D	Use bentgrass under wetter conditions. Saltgrass will only persistent under saline conditions.
18. Hard or Sheeps fescue N. E. wildflower mixture	25 12	0.60 0.35	O	A	O	O	A	O	O	A	O	C-D	Regional Wildflower mix Hydroseeding not recommended.
19. a. Smooth cordgrass b. Saltmeadow cordgrass	veg veg					O	Before July 1		O	Before July 1		D	Planted in the intertidal zone. Planted above mean high tide.
20. American Beachgrass Coastal Panicgrass	Veg 20	.45				Before April 1			O			D	Coastal Panicgrass may be interseeded between rows of beachgrass
21. a. Purpleosier willow b. Dwarf willow c. Redosier dogwood d. Silky dogwood	veg veg. veg. veg.		Before May 10			Before May 10			Before May 1			D	Also refer to Chapters 16 and 18 of USDA NRCS Engineering Field Handbook

Table 4–3 Footnotes:

1. See Appendix B for descriptions of turf grass mixtures and cultivars. The actual amount of warm–season grass mixture used in Table 3 (seed mix 1–7) shall be adjusted to reflect the amount of PLS as determined by germination testing results. No adjustment is required for cool–season grasses (seed mixtures 8–20).
2. Seeding mixtures and/or rates not listed above may be used if recommended by the local Soil Conservation District, Natural Resources Conservation Service; recommendations of Rutgers Cooperative Extension may be used if approved by the Soil Conservation District. Legumes (white clover, flatpea, lespedeza) should be mixed with proper innoculant prior to planting.
3. Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage of the seeded area and mowed once. Grass seed mixture checked by the State Seed Analyst, New Jersey Department of Agriculture, Trenton, New Jersey, will assure the purchaser that the mixture obtained is the mixture ordered, pursuant to the N.J. State Seed Law, N.J.S.A. 4:8–17.13 et. seq.
O = optimal planting period A = acceptable planting period
4. Maintenance Level:
A: Intensive mowing, (2–4 days), fertilization, lime, pest control and irrigation (Examples – high–maintenance lawns, commercial and recreation areas, public facilities).
B: Frequent mowing, (4–7 days), occasional fertilization, lime and weed control (Examples – home lawns, commercial sites, school sites).
C: Periodic mowing (7–14 days), occasional fertilization and lime (Examples – home lawns, parks).
D: Infrequent or no mowing, fertilization and lime the first year of establishment (Examples – roadsides, recreation areas, public open spaces)
5. Summer seedings should only be conducted when the site is irrigated. Mixes including white clover require that at least six weeks of growing season remain after seeding to ensure establishment before freezing conditions.

STANDARD FOR STABILIZATION WITH MULCH ONLY

Where Applicable

This practice is applicable to areas subject to erosion, where the season and other conditions may not be suitable for growing an erosion–resistant cover or where stabilization is needed for a short period until more suitable protection can be applied.

Methods and Materials

1. Site Preparation
A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading
B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
2. Protective Materials
A. Unrotted small–grain straw, at 2.0 to 2.5 tons per acre, is spread uniformly at 90 to 115 pounds per 1,000 square feet and anchored with a mulch anchoring tool, liquid mulch binders, or netting tie down. Other suitable materials may be used if approved by the Soil Conservation District. The approved rates above have been met when the mulch covers the ground completely upon visual inspection, i.e. the soil cannot be seen below the mulch.
C. Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as recommended by the manufacturer.
D. Wood–fiber or paper–fiber mulch at the rate of 1,500 pounds per acre (or according to the manufacturer's requirements) may be applied by a hydroseeder.
E. Mulch netting, such as paper jute, excelsior, cotton, or plastic, may be used.
F. Woodchips applied uniformly to a minimum depth of 2 inches may be used. Woodchips will not be used on areas where flowing water could wash them into an inlet and plug it.
G. Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 sq. ft. applied uniformly to a minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C–33) is recommended.
3. Mulch Anchoring – should be accomplished immediately after placement of hay or straw mulch to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area and steepness of slopes.
A. Peg and Twine – Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss–cross and a square pattern. Secure twine around each peg with two or more round turns.
B. Mulch Nettings – Staple paper, cotton, or plastic nettings over mulch. Use degradable netting in areas to be mowed. Netting is usually available in rolls 4 feet wide and up to 300 feet long.
C. Crimper Mulch Anchoring Coulter Tool – A tractor–drawn implement especially designed to punch and anchor mulch into the soil surface. This practice affords maximum erosion control, but its use is limited to those slopes upon which the tractor can operate safely. Soil penetration should be about 3 to 4 inches. On sloping land, the operation should be on the contour.
D. Liquid Mulch–Binders
1. Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.
2. Use one of the following:
a. Organic and Vegetable Based Binders – Naturally occurring, powder based, hydrophilic materials that mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membrane networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phyto–toxic effect or impede growth of turfgrass. Vegetable based gels shall be applied at rates and weather conditions recommended by the manufacturer.
b. Synthetic Binders – High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates and weather conditions recommended by the manufacturer and remain tacky until germination of grass.

STANDARD FOR PERMANENT STABILIZATION WITH SOD

Where Applicable

On exposed soils that have a potential for causing off–site environmental damage where an immediate, permanent, vegetative cover is desired. Water (rain or irrigation) is required for success; access to irrigation is essential during drought.

Methods and Materials

1. High quality cultivated sod is preferred over native or pasture sod.
2. Sod should be free of broadleaf weeds and undesirable coarse and fine weed grasses.
3. Sod should be of uniform thickness, typically 5/8 inch, plus or minus 1/4 inch, at time of cutting (excludes top growth.).
4. Sod should be vigorous and dense and be able to retain its own shape and weight when suspended vertically with a firm grasp from the upper 10 percent of the strip. Broken pads and rolls or torn and uneven ends will not be acceptable.
5. For droughty sites, a sod of turf–type tall fescue or turf–type tall fescue mixed with Kentucky bluegrass is preferred over a 100% Kentucky bluegrass sod. Although not widely available, a sod of fine fescue is also acceptable for droughty sites.
6. Only moist, fresh, unheated sod should be used. Sod should be harvested, delivered, and installed within a period of 24 hours or less during summer months.
1. Site Preparation
A. Grade as needed and feasible to permit the use of conventional equipment for liming, fertilizing, incorporation of organic matter, and other soil preparation procedures. All grading should be done in accordance with Standard for Land Grading.
B. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 6 inches (unsettled) is required on all sites. See the Standard for Topsoiling for topsoil and amendment requirements.
C. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways
2. Soil Preparation
A. Uniformly apply ground limestone, and fertilizer according to soil test recommendations such as offered by Rutgers Co–operative Extension. Soil sample mailers are available from the local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet using 10–10–10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not incorporated, apply ½ the rate described above during seedbed preparation and repeat another ½ rate application of the same fertilizer within 3 to 5 weeks after seeding. Apply limestone at the rate of 2 tons/acre unless soil testing indicates otherwise. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes. Limestone application rates shall be established through soil testing.

1. Pulverized dolomitic limestone is preferred for most soils south of the New Brunswick–Trenton line; however, this should be confirmed by soil testing.
B. Work lime, and fertilizer into the topsoil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonably uniform, fine seedbed is prepared.
C. Remove from the surface all objects that would prevent good sod to topsoil contact and remove all other debris, such as wire, cable, tree roots, pieces of concrete, clods, lumps, or other unsuitable material.
D. Inspect site just before sodding. If traffic has left the soil compacted, the area must be retilled and firmed in accordance with the above.
3. Sod Placement
A. Sod strips should be laid on the contour, never up and down the slope, starting at the bottom of the slope and working up. On steep slopes, the use of ladders will facilitate the 6–2
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work and prevent damage to the sod. During periods of high temperature, lightly irrigate the soil immediately prior to laying the sod.
B. Place sod strips with snug, even joints (seams) that are staggered. Open spaces invite erosion.
C. Lightly roll or tamp sod immediately following placement to insure solid contact of root mat and soil surface. Do not overlap sod. All joints should be butted tightly to prevent voids which would cause drying of the roots and invasion of weeds.
D. On slopes greater than 3 to 1, secure sod to surface soil with wood pegs, wire staples biodegradable plastic spikes, or split shingles (8 to 10 inches long by 3/4 inch wide).
E. Surface water cannot always be diverted from flowing over the face of the slope, but a capping strip of heavy jute or plastic netting, properly secured, along the crown of the slope and edges will provide extra protection against lifting and undercutting of sod. The same technique can be used to anchor sod in water–carrying channels and other critical areas. Wire staples must be used to anchor netting in channel work.
F. Immediately following installation, sod should be watered until water penetrates the soil layer beneath sod to a depth of 1 inch. Maintain optimum water for at least two weeks.
4. Topdressing – Since soil organic matter and slow release nitrogen fertilizer (water insoluble) are prescribed in Sections 1 and 2in this Standard, a follow–up topdressing is not mandatory, except where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop, topdressing shall then be applied. Topdress with 10–0–10 or equivalent at 400 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

Where Applicable

On exposed soils that have the potential for causing off–site environmental damage.

Methods and Materials

1. Site Preparation
A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, pg. 19–1.
B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
C. Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).

2. Seedbed Preparation
A. Apply ground limestone and fertilizer according to soil test recommendations such as offered by Rutgers Co–operative Extension. Soil sample mailers are available from the local Rutgers Cooperative Extension offices. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10–20–10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Apply limestone at the rate indicated by soil testing. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes.
B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.
C. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled in accordance with the above.
D. Soils high in sulfides or having a pH of 4 or less refer to Standard for Management of High Acid Producing Soils, pg. 1–1.
3. Seeding
A. Select seed from recommendations in Table 7–2.

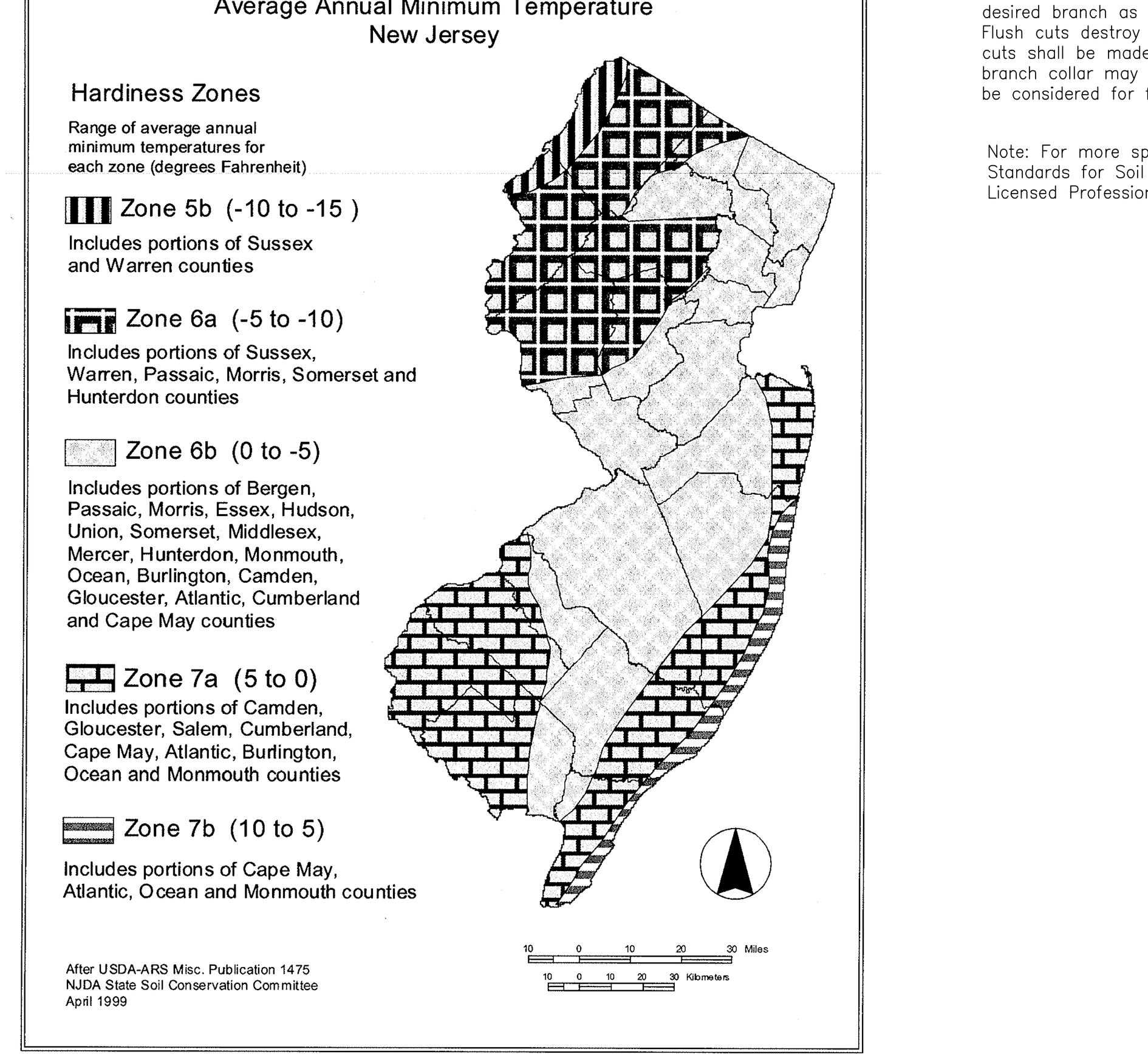
TABLE 7–2
TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTH.

SEED SELECTIONS	SEEDING RATE 1 (pounds) Per Acre	SEEDING RATE 1 (pounds) Per 1000 Sq. Ft.	OPTIMUM SEEDING DATE 2 Based on Plant Hardiness Zone 3 ZONE 5b, 6s	ZONE 6b	ZONE 7a, b	OPTIMUM SEED DEPTH 4 (inches)
COOL SEASON GRASSES						
1. Perennial ryegrass	100	1.0	3/15–6/1 8/1–9/15	3/1–5/15 8/15–10/1	2/15–5/1 8/15–10/15	0.5
2. Spring oats	86	2.0	3/15–6/1 8/1–9/15	3/1–5/15 8/15–10/1	2/15–5/1 8/15–10/15	1.0
3. Winter Barley	96	2.2	8/1–9/15	8/15–10/1	8/15–10/15	1.0
4. Annual ryegrass	100	1.0	3/15–6/1 8/1–9/15	3/15–6/1 8/1–9/15	2/15–5/1 8/15–10/15	0.5
5. Winter Cereal Rye	112	2.8	8/1–11/1	8/1–11/15	8/1–12/15	1.0
WARM SEASON GRASSES						
6. Pearl millet	20	0.5	6/1–8/1	5/15–8/15	5/1–9/1	1.0
7. Millet (German or Hungarian)	30	0.7	6/1–8/1	5/15–8/15	5/1–9/1	1.0

1 Seeding rate for warm season grass, selections 5 – 7 shall be adjusted to reflect the amount of Pure Line Seed (PLS) as determined by a germination test result. No adjustment is required for cool season grasses.
2 May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3 Plant Hardiness Zone (see figure 7–1)
4 Twice the depth for sandy soils

B. Conventional Seeding. Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil, to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.
C. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. (also see Section IV Mulching) Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
D. After seeding, firming the soil with a corrugated roller will assure good seed–to–soil contact, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.
4. Mulching
Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.
A. Straw or Hay. Unrotted small grain straw, hay free of seeds, applied at the rate of 1–1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch–binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper–blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed. Application. Spread mulch uniformly by hand or mechanically so that approximately 95% of the soil surface will be covered. For uniform distribution of hand–spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.
Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.
1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a cris–cross and a square pattern. Secure twine around each peg with two or more round turns.
2. Mulch Nettings. Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
3. Crimper (mulch anchoring tool). A tractor–drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
4. Liquid Mulch–Binders. –May be used to anchor hay or straw mulch.
a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.
b. Use one of the following:
(1) Organic and Vegetable Based Binders –Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
(2) Synthetic Binders –High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.
Note: All names give above are registered trade names. This does not constitute a commendation of these products to the exclusion of other products.
B. Wood–fiber or paper–fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 ponds per acre (or as recommended by the project manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
C. Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co–polymers,
tackifiers, fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, forma mulch mat. Pelletized mulch shall be applies in accordance with the manufacturers recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60–75 lbs./1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed–seed free mulch is desired or on sites where straw mulch and tackifier agent are not practical or desirable.
Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

Fig. 7–1



STANDARD FOR TOPSOILING

Where Applicable

Topsoil shall be used where soils are to be disturbed and will be revegetated..
Methods and Materials

1. Materials
A. Topsoil should be friable1, loamy2, free of debris, objectionable weeds and stones, and contain no toxic substance or adverse chemical or physical condition that may be harmful to plant growth. Soluble salts should not be excessive (conductivity less than 0.5 millimhos per centimeter. More than 0.5 millimhos may desicate seedlings and adversely impact growth). Topsoil hauled in from offsite should have a minimum organic matter content of 2.75 percent. Organic matter content may be raised by additives.
B. Topsoil substitute is a soil material which may have been amended with sand, silt, clay, organic matter, fertilizer or lime and has the appearance of topsoil. Topsoil substitutes may be utilized on sites with insufficient topsoil for establishing permanent vegetation. All topsoil substitute materials shall meet the requirements of topsoil noted above. Soil tests shall be performed to determine the components of sand, silt, clay, organic matter, soluble salts and pH level.
1 Friable means easily crumbles in the fingers, as defined in most soils texts.
2 Loamy means texture groups consisting of coarse loamy sands, sandy loam, fine and very fine sandy loam, loam, silt loam, clay loam, sandy clay loam and silty clay loam textures and having less than 35% coarse fragments (particles less than 2mm in size) as defined in the Glossary of Soil Science Terms, 1996, Soil Science Society of America.
2. Stripping and Stockpiling
A. Field exploration should be made to determine whether quantity and or quality of surface soil justifies stripping.
B. Stripping should be confined to the immediate construction area.
C. Where feasible, lime may be applied before stripping at a rate determined by soil tests to bring the soil pH to approximately 6.5. In lieu of soil tests, see lime rate guide in seedbed preparation for Permanent Vegetative Cover for Soil Stabilization, pg. 4–1.
D. A 4–6 inch stripping depth is common, but may vary depending on the particular soil.
E. Stockpiles of topsoil should be situated so as not to obstruct natural drainage or cause off–site environmental damage.
F. Stockpiles should be vegetated in accordance with standards previously described herein; see standards for Permanent (pg. 4–1) or Temporary (pg.7–1) Vegetative Cover for Soil Stabilization. Weeds should not be allowed to grow on stockpiles.
3. Site Preparation
A. Grade at the onset of the optimal seeding period so as to minimize the duration and area of exposure of disturbed soil to erosion. Immediately proceed to establish vegetative cover in accordance with the specified seed mixture. Time is of the essence
B. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance.
See the Standard for Land Grading, pg. 19–1.
C. As guidance for ideal conditions, subsoil should be tested for lime requirement. Limestone, if needed, should be applied to bring soil to a pH of approximately 6.5 and incorporated into the soil as nearly as practical to a depth of 4 inches.
D. Immediately prior to topsoiling, the surface should be scarified 6" to 12" where there has been soil compaction. This will help insure a good bond between the topsoil and subsoil. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).
E. Employ needed erosion control practices such as diversions, grade stabilization structures, channel stabilization measures, sedimentation basins, and waterways. See Standards 11 through 42.
4. Applying Topsoil
A. Topsoil should be handled only when it is dry enough to work without damaging soil structure; i.e., less than field capacity (see glossary).
B. A uniform application to a depth of 5 inches, minimum of 4 inches, firmed in place is required. Soils with a pH of 4.0 or less or containing iron sulfide shall be covered with a minimum depth of 12 inches of soil having a pH of 5.0 or more, in accordance with the Standard for Management of High Acid Producing Soil (pg. 1–1).

STANDARD FOR TREE PROTECTION DURING CONSTRUCTION

Where Applicable

On new development sites with existing trees.

Methods and Materials

1. Reconnaissance should be performed before land clearing begins to identify dead and weak trees to be removed and healthy trees to remain, to create aesthetically pleasing development site with vegetation rather than the presence of dead or dying trees. Inventory the site and clearly mark the trees and stands of trees to be saved. Consider relocating streets, houses, or other structures if necessary and feasible. Once clearing begins and damage to the trees occurs, valuable specimens may be lost.
A. Characteristics of trees to be protected and saved. The following lists characteristics that should be evaluated before deciding to remove or protect a tree.
1. Tree Vigor
Tree health is the overall condition of the tree. A tree of low vigor is more susceptible to damage by environmental changes than healthy trees and is more susceptible to insect and disease attacks. Indications of poor vigor include the dying of the tips of branches and entire limbs, small annual twig growth, stunted leaf size, sparse foliage, and poor foliage color. Avoid saving hollow or rotten trees, trees cracked, split, leaning or crooked, oozing sap, or with broken tops. Use woodchips generated from removal of trees of poor health and spread them around the root zones to help protect the trees that remain.
2. Tree Age
Large, picturesque trees may be more aesthetically valuable than smaller, young trees, but also require more extensive protection measures. If leaving an older tree, be sure it is sound and healthy.
3. Species (the right trees for the right locations)
Many species of trees found in New Jersey woodlands are not suitable for shade tree uses around buildings. Avoid protecting trees that are short–lived, brittle, have soft wood, messy leaves, fruit, or are frequently attacked by insects and disease. Tree root systems which do not adapt well to cuts and fills may not be a suitable alternative. The following are severely affected by compacted construction fills: Aspen, Beech, Paper birch, Eastern red cedar, Black cherry, Dogwood, Katsura tree, Linden, Paperbark maple, Sugar maple, Black oak, Pin oak, Red oak, White oak, Pines, and Tuliptree.
4. Resistant to Insects and Diseases
Avoid leaving trees in highly visible areas or specimens that are frequent targets of insects and diseases. American Elm, for example, could be lost due to Dutch Elm Disease. Wild Cherry, another example, is a favorite host of the tent caterpillar, which causes defoliation of the trees in early summer. The following are susceptible to insects (I) and disease (D): White Ash(D), Birch (I), Butternut (D), Crabapples (D), some Elms (D), Hawthorn (D), Hemlock (I), Linden (I), Sugar Maple (D), Mountain Ash (D), Sassafras (I), Scholartree (D), Redbud (D)
5. Tree Aesthetics
Choose trees that are aesthetically pleasing, exhibiting good shape and form. Avoid leaning, crooked, and misshapen trees. Occasionally, an odd–shaped tree or one of unusual form may add interest to the landscape if strategically located. Be sure the tree is structurally sound and vigorous.
6. Spring and Autumn Coloration
Species differ in fall color. Some are bright red, others orange and yellow. Other species exhibit no autumn color, such as walnut, locust, and sycamore.
7. Wildlife Benefits
Favor trees that are preferred by wildlife for food, cover, and nesting. A mixture of evergreens and hardwoods is beneficial. Evergreen trees are important for cover during the winter months. The hardwoods are more valuable for food.
8. Air Pollution Susceptibility
Tree species vary greatly to susceptibility to air pollution. Symptoms vary from browning on the edges of the leaves and needles, to stunting of growth, to death of the tree. The following show tolerance to urban stress and are less likely to present problems with sidewalks: Baldcypress, Corktree, Amur maple, Kentucky coffee tree, Crabapple, Dawn redwood, Ginkgo (male), Goldenraintree, Hackberry, Hawthorn, Honeylocust, European hornbeam, Horsechestnut, Lindens, Oaks (excluding pin), Pear, Scholartree, Sourgum (tupelo), Sweetgum, Yews, Zelkova.
9. Species Longevity
Favor trees whose life span is long, such as oak, beech, and tulip poplar. Short–lived trees; (Black locust, Gray birch, Aspen) should be avoided for use as shade, lawn or specimen trees. Although some short–lived trees have an attractive form or pleasing coloration in the spring or fall, such trees may not live for a long time and thus may not be worth preserving.
B. Criteria for protecting remaining trees:
1. General mechanical damage – see Tree Protection During Construction Detail for correct root zone calculation and placement of tree protection.
2. Box trees within 25 feet of a building site to prevent mechanical injury. Fencing or other barrier should be installed beyond the Critical Root Radius see Tree Protection During Construction Detail. Tree root systems commonly extend well beyond the drip line.
3. Boards will not be nailed to trees during building operations.
4. Feeder roots should not be cut in an area inside the Protected Root Zone (PRZ).
5. Damaged trunks or exposed roots should have damaged bark removed immediately and no paint shall be applied. Exposed roots should be covered with topsoil immediately after excavation is complete. Roots shall be pruned to give a clean, sharp surface amenable to healing. Roots exposed during hot weather should be irrigated to prevent permanent tree injury. Care for serious injury should be prescribed by a professional forester or licensed tree expert.
6. Tree limb removal, where necessary, will be done as natural target pruning to remove the desired branch as close as possible to the branch collar. There should be NO flush cuts. Flush cuts destroy a major defense system of the tree. No tree paint shall be applied. All cuts shall be made at the outside edge of the branch collar. Cuts made too far beyond the branch collar may lead to excess sprouting, cracks and rot. Removal of a "V" crotch should be considered for free standing specimen trees to avoid future splitting damage.

Note: For more specific data on certain tree characteristics by species, see Table 9.1 of the Standards for Soil Erosion and Sediment Control in New Jersey for 2014, or consult with a Licensed Professional Tree Expert, Soil Conservation District or Rutgers Cooperative Extension.

STANDARD FOR DUST CONTROL

Definition

The control of dust on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduced on–site and off–site damage and health hazards and improve traffic safety.

Condition Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on–site and off–site damage is likely without treatment. Consult with local municipal ordinances on any restrictions.

Water Quality Enhancement

Sediments deposited as "dust" are often fine colloidal material which is extremely difficult to remove from water once it becomes suspended Use of this standard will help to control the generation of dust from construction sites and subsequent blowing and deposition into local surface water resources.

Planning Criteria

The following methods should be considered for controlling dust:

Mulches – See Standard of Stabilization with Mulches Only, pg. 5–1

Vegetative Cover – See Standard for: Temporary Vegetative Cover, pg. 7–1, Permanent Vegetative Cover for Soil Stabilization pg. 4–1 and Permanent Stabilization with Sod, pg. 6–1

Spray–On Adhesives – On mineral soils (not effective on muck soils). Keep traffic off these areas.

Table 16–1 Dust Control Materials

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ ACRE
Anionic asphalt emulsion	7:1	Coarse Spray	1200
Latex emulsion	12.5:1	Fine Spray	235
Resin in water	4:1	Fine Spray	300
Polyacrylamide (PAM)–spray on Polyacrylamide (PAM) – dry spread	Apply according to manufacturer's instructions. May be used as an additive to sediment basins to flocculate and precipitate suspeded colloids. See sediment basin standard, p 26–1		
Acisulated Soy Bean Soap Stick	None	Coarse spray	1200

Tillage – To roughen surface and bring clods to the surface. This is a temporary emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel–type plows spaced about 12 inches apart and spring–toothed harrows are examples of equipment which may produce the desired effect.

Sprinkling – Site is sprinkled until the surface is wet.

Barriers – Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and soil blowing.

Calcium Chloride – Shall be in the form of loose, dry granules or flakes fine enough to feed through commonly used spreaders at a rate that will keep surface moist but not cause pollution or plant damage. If used on steeper slopes, then use other practices to prevent washing into streams or accumulation around plants.

Stone – Cover surface with crushed stone or coarse gravel.

Freehold Soil Conservation District
March 2014

1. The Freehold Soil Conservation District shall be notified forty-eight (48) hours in advance of any soil disturbing activity.
2. All Soil Erosion and Sediment Control practices are to be installed prior to soil disturbance, or in their proper sequence, and maintained until permanent protection is established.
3. Any changes to the Certified Soil Erosion and Sediment Control Plans will require the submission of revised Soil Erosion and Sediment Control Plans to the District for re-certification. The revised plans must meet all current State Soil Erosion and Sediment Control Standards.
4. N.J.S.A 4:24-39 et. Seq. requires that no Certificates of Occupancy be issued before the District determines that a project or portion thereof is in full compliance with the Certified Plan and Standards for Soil Erosion and Sediment Control in New Jersey and a Report of Compliance has been issued. Upon written request from the applicant, the District may issue a Report of Compliance with conditions on a lot-by-lot or section-by-section basis, provided that the project or portion thereof is in satisfactory compliance with the sequence of development and temporary measures for soil erosion and sediment control have been implemented, including provisions for stabilization and site work.
5. Any disturbed areas that will be left exposed more than sixty (60) days, and not subject to construction traffic, will immediately receive a temporary seeding. If the season prevents the establishment of temporary cover, the disturbed areas will be mulched with straw, or equivalent material, at a rate of 2 to 2 ½ tons per acre, according to the Standard for Stabilization with Mulch Only.
6. Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. soil stockpiles, steep slopes and roadway embankments) will receive temporary seeding in combination with straw mulch or a suitable equivalent, and a mulch anchor, in accordance with State Standards.
7. A sub-base course will be applied immediately following rough grading and installation of improvements to stabilize streets, roads, driveways, and parking areas. In areas where no utilities are present, the sub-base shall be installed within fifteen (15) days of the preliminary grading.
8. The Standard for Stabilized Construction Access requires the installation of a pad of clean crushed stone at points where traffic will be accessing the construction site. After interior roadways are paved, individual lots require a stabilized construction access consisting of one inch to two inch (1" – 2") stone for a minimum length of ten feet (10') equal to the lot entrance width. All other access points shall be blocked off.
9. All soil washed, dropped, spilled, or tracked outside the limit of disturbance or onto public right-of-ways will be removed immediately.
10. Permanent vegetation is to be seeded or sodded on all exposed areas within ten (10) days after final grading.
11. At the time that site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide a suitable environment to support adequate vegetative ground cover shall be removed or treated in such a way that it will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide suitable conditions, non-vegetative means of permanent ground stabilization will have to be employed.
12. In accordance with the Standard for Management of High Acid Producing Soils, any soil having a pH of 4 or less or containing iron sulfides shall be ultimately placed or buried with limestone applied at the rate of 10 tons/acre, (or 450 lbs/1,000 sq ft of surface area) and covered with a minimum of 12" of settled soil with a pH of 5 or more, or 24" where trees or shrubs are to be planted.
13. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational.
14. Unfiltered dewatering is not permitted. Necessary precautions must be taken during all dewatering operations to minimize sediment transfer. Any dewatering methods used must be in accordance with the Standard for Dewatering.
15. Should the control of dust at the site be necessary, the site will be sprinkled until the surface is wet, temporary vegetative cover shall be established or mulch shall be applied as required by the Standard for Dust Control.
16. Stockpile and staging locations established in the field shall be placed within the limit of disturbance according to the certified plan. Staging and stockpiles not located within the limit of disturbance will require certification of a revised Soil Erosion and Sediment Control Plan. Certification of a new Soil Erosion and Sediment Control Plan may be required for these activities if an area greater than 5,000 square feet is disturbed.
17. All soil stockpiles are to be temporarily stabilized in accordance with Soil Erosion and Sediment Control note #6.
18. The property owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls or offsite as a result of construction of the project.

Freehold Soil Conservation District
4000 Kozloski Road, Freehold, NJ 07728-5033, (732) 683-8500, fax (732) 683-9140, Email: info@freeholdscd.org.

SEQUENCE OF CONSTRUCTION

1.) INSTALL ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON PLANS.
2.) INSTALL STABILIZED CONSTRUCTION ENTRANCE(S) AS SHOWN ON ON THE SOIL EROSION SEDIMENT CONTROL PLANS AND DETAILS.
3.) MOBILIZATION AND DEMOLITION OF EXISTING SITE FEATURES AS REQUIRED.
4.) CONSTRUCT UNDERGROUND BASIN AS FOLLOWS:
a. CLEAR AND GRUB DETENTION BASIN AREA AND REMOVE DEBRIS FROM SITE.
b. CONSTRUCT OUTLET STRUCTURE
d. STABILIZE ANY STOCKPILED MATERIAL.
5.) CLEAR AND GRUB ALL AREAS IN ACCORDANCE WITH THE LIMITS OF DISTURBANCE PHASE I. IMMEDIATELY REMOVE DEBRIS FROM SITE.
6.) INSTALL REMAINING STORM WATER INFRASTRUCTURE.
7.) STRIP, STOCKPILE AND STABILIZE TOPSOIL AT LOCATIONS AS SHOWN ON PLANS.
8.) ROUGH GRADE SITE
9.) CONSTRUCT ALL ONSITE UTILITIES
10.) CONSTRUCT BUILDING
11.) INSTALL LIGHTING AS SHOWN ON THE PLANS.

2019 N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS AMENDED OR SUPPLEMENTED SHALL GOVERN THE CONSTRUCTION OF THIS PROJECT

REFERENCE :

"STANDARD FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" ADOPTED FEBRUARY 2014 BY THE NEW JERSEY STATE SOIL CONSERVATION COMMITEE.

GENERAL NOTES:

1. THIS PLAN IS NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE UNDERSIGNED PROFESSIONAL(S).

NEW JERSEY ONE CALL
811 Know what's below. Call before you dig. or 1-800-272-1000
TO LOCATE UNDERGROUND UTILITIES
IF YOU'RE GOING TO DIG, BLAST OR DRILL THREE (3) WORKING DAYS NOTICE
REMEMBER IT'S THE LAW!
Dig Safely.

NEW JERSEY ONE CALL
NEW JERSEY UNA LLAMADA
LLAME ANTES DE EXCAVAR
811 OR 1-800-272-1000
PARA LOCALIZAR LAS UTILIDADES SUBTERRÁNEAS SI USTED VA A EXCAVAR, ESTALLAR O TALADRAR, DE AVISO TRES (3) DIAS DE TRABAJO EN ANTICIPACIÓN
RECUERDE ES LA LEY!
EXCAVE CON SEGURIDAD
Dig Safely.

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PHONE (609) 689-1100 FAX (609) 689-1120
NJ LLC CERT. No. 24GA28132300

BY: DATE 8/18/20
HERBERT J. SEEBURGER, JR. N.J. PROFESSIONAL ENGINEER NO. 24GE04748700

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01706000 | PA - RA012520X
GEORGE R. DUTHIE JR., AIA, PP
NJ - 21AI01299200
Architect 04/06/21 Date

FVHD architects planners
EST 1918
Fraytak Veisz Hopkins Duthie P C
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whitaker Ave - Mont Clare - Pennsylvania 19453
F V H D P C . C O M

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
H.J.S.

Drawn By
R.R.F.

Scale
N.T.S.

Drawing Name
SOIL EROSION SEDIMENT CONTROL NOTES

Revisions

No.	Date	Description

Drawing Number
C103

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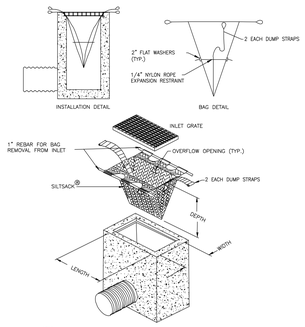


NOTES:
1. INLET FILTER BAGS SHOULD BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT.
2. FILTER BAGS SHOULD BE CLEANED AND/OR REPLACED WHEN THE BAG IS 1/2 FULL.
3. DAMAGED FILTER BAGS SHOULD BE REPLACED.
4. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

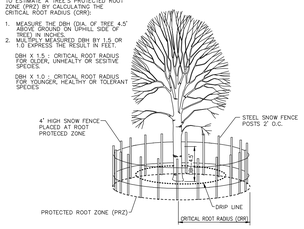
FILTER BAG INLET PROTECTION
N.T.S.

TO ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR):

1. MEASURE THE DBH (DIA. OF TREE 4.5' ABOVE GROUND ON UPHILL SIDE OF TREE) IN INCHES.
2. MULTIPLY MEASURED DBH BY 1.5, OR 1.0 EXPRESS THE RESULT IN FEET.

DBH X 1.5 - CRITICAL ROOT RADIUS FOR OLDER, UNHEALTY OR SESITIVE SPECIES.

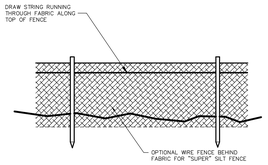
DBH X 1.0 - CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES

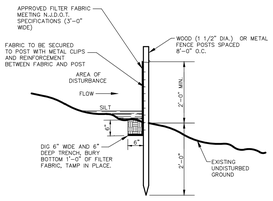


ELEVATION

NOTES:
1. TREE PROTECTION SHALL BE PROVIDED FOR ANY AND ALL TREES TO BE PRESERVED DURING AND AFTER CONSTRUCTION.
2. 4' HIGH SNOW FENCE SHALL BE PLACED AT THE DRIP LINE OF THE TREE AND ENCIRCLE THE ENTIRE TREE.
3. BOARDS SHALL NOT BE NAILED TO TREES DURING CONSTRUCTION.
4. ROOTS SHALL NOT BE CUT IN AN AREA INSIDE THE DRIP LINE OF THE TREE PRESERVED.
5. PRUNING OF LIMBS IF NECESSARY SHALL BE IN ACCORDANCE WITH TREE PRUNING DETAIL AND UNDER THE SUPERVISION OF A LICENSED NURSERYMAN.

TREE PROTECTION DURING CONSTRUCTION
NO SCALE

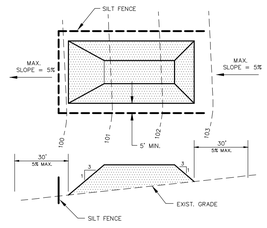




NOTES

1. PLACE SILT FENCE AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. THE SLOPE OF THE LAND FOR AT LEAST 50 FEET ADJACENT TO ANY SILT FENCE SHALL NOT EXCEED 5%. IF SLOPE EXCEEDS 5%, SILT FENCE SHALL BE BACKED UP WITH SNOW FENCE.
3. SILT FENCE SHALL BE INSTALLED SO WATER CANNOT BYPASS THE FENCE AROUND IT'S ENDS.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS PROMPTLY AS POSSIBLE.
5. SILT FENCE SHALL BE REMOVED WHEN CONTRIBUTARY DRAINAGE AREA HAS BEEN STABILIZED IN AN APPROVED FASHION.

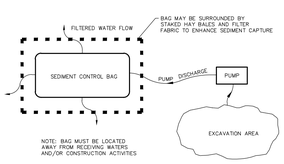
SILT FENCE WITH SUPER SILT FENCE OPTION
NOT TO SCALE



NOTES

1. PLACE STOCKPILES AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. ALL SIDE SLOPES SHALL BE 3 TO 1 OR FLATTER.
3. STOCKPILE SHALL RECEIVE A VEGETATIVE COVER IN ACCORDANCE WITH STABILIZATION REQUIREMENTS.
4. SILT FENCE SHALL BE INSTALLED AS DETAILED HEREON.

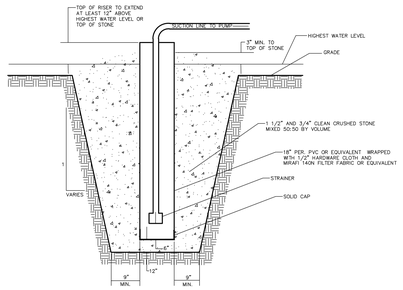
TOPSOIL STOCKPILE
NOT TO SCALE



NOTE: BAG MUST BE LOCATED AWAY FROM RECEIVING WATERS AND/OR CONSTRUCTION ACTIVITIES

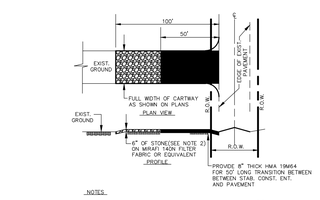
BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS. BAGS MAY NOT BE REUSED.

SEDIMENT CONTROL BAG
NOT TO SCALE



NOTES:
1. PIT DIMENSIONS ARE VARIABLE, WITH THE MINIMUM DIAMETER BEING 2 TIMES THE STANDPIPE DIAMETER.
2. THE STANDPIPE SHALL BE CONSTRUCTED BY PERFORATING A SCHEDULE 40 PVC PIPE WITH 1/2" DIAMETER HOLES SPACED 3" APART, STAGGERED IN 4 ROWS. THEN WRAPPING THE PIPE WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE PERFORATIONS SHALL BE 1/2" X 6" SLITS OR 1" DIAMETER HOLES.
3. A BASE OF FILTER MATERIAL CONSISTING OF CLEAN CRUSHED STONE SHOULD BE PLACED IN THE PIT TO DEPTH OF 12". AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE SHALL BE BACKFILLED WITH THE SAME STONE AS USED.
4. THE STANDPIPE SHALL EXTEND 12" ABOVE THE LIP OF THE PIT OR THE RISER CREST ELEVATION AND THE FILTER MATERIAL SHALL EXTEND 3" MINIMUM ABOVE THE ANTICIPATED STANDING WATER ELEVATION.

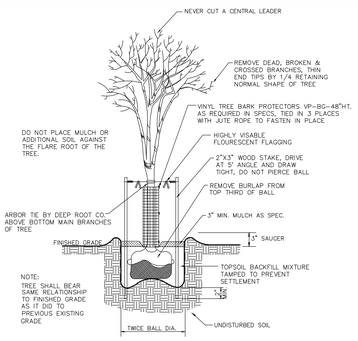
DEWATERING SUMP
NOT TO SCALE



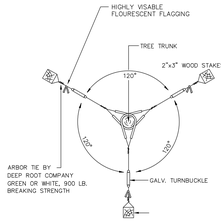
NOTES

1. PLACE STABILIZED CONSTRUCTION ENTRANCE AT LOCATION(S) AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. STONE SIZE SHALL BE 1 1/2" CLEAN WASHED CRUSHED STONE.
3. THE THICKNESS OF THE STAB. CONST. ENT. SHALL NOT BE LESS THAN 6".
4. THE WIDTH AT THE EXIST. PAVEMENT SHALL NOT BE LESS THAN THE FULL WIDTH OF POINT OF INGRESS AND EGRESS.
5. THE STAB. CONST. ENT. SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE R.O.W./PAVEMENT. THIS REQUIRES PERIODIC TOP DRESSING WITH ADDITIONAL STONE, OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURE USED TO TRAP SEDIMENT.
6. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO THE PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. WHERE TRACKING OF SOIL ONTO ROADWAYS IS A CONTINUAL OCCURRENCE, ALL CONTRACTORS, BOTH SITE AND DWELLING CONTRACTORS, SHALL BE RESPONSIBLE TO BROOMSWEEP THE ROADWAY AT MINIMUM INTERVALS MINIMUM AND PRIOR TO LEAVING THE CONSTRUCTION SITE AT THE DAY END.
8. WHERE SLOPE OF THE ACCESS ROAD EXCEEDS 5% A STABILIZED BASE OF 6T MX ASPHALT BASE COURSE HMA19MXA SHALL BE INSTALLED. THICKNESS OF BASE COURSE TO BE PRECRIBED BY THE LOCAL MUNICIPALITY

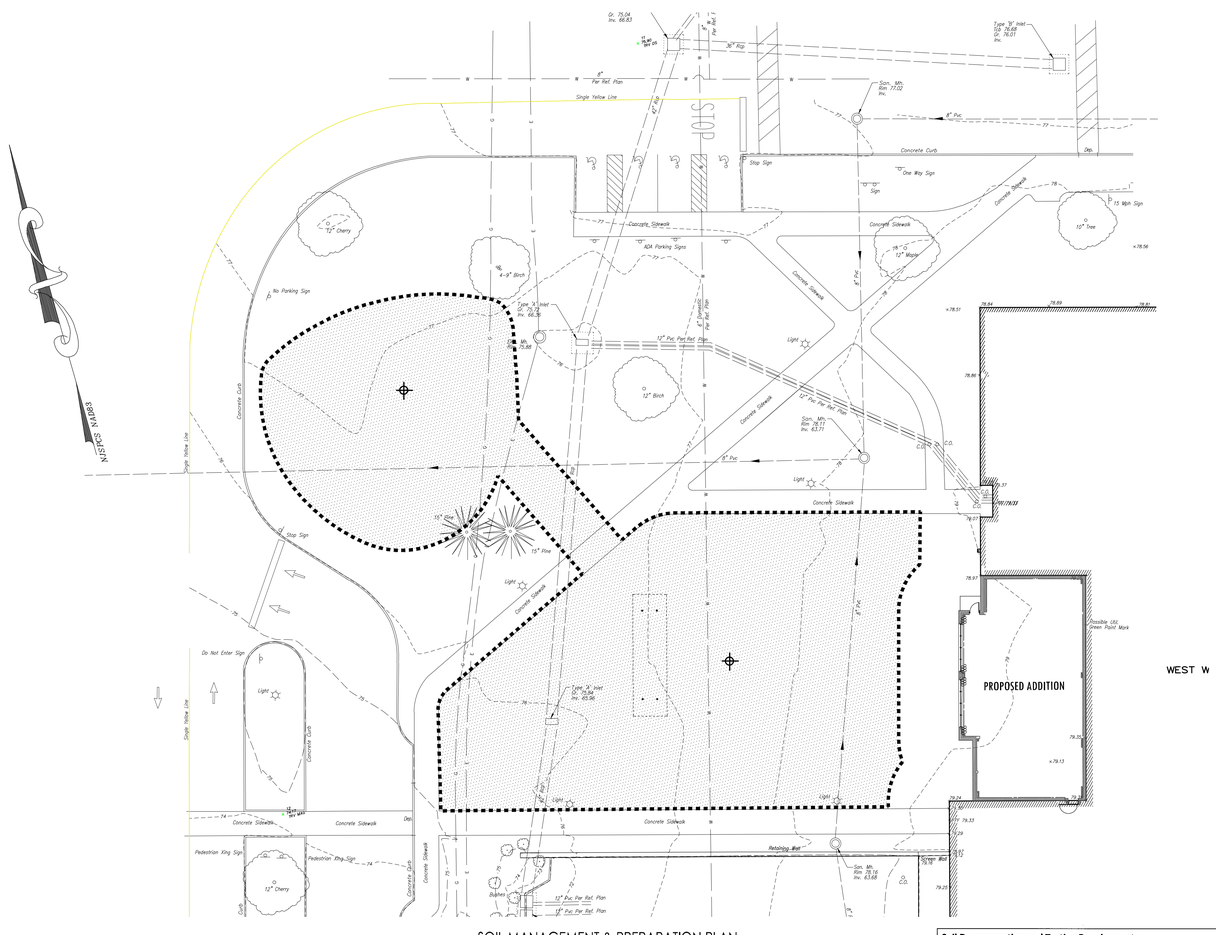
STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



TYPICAL PLANTING FOR TREES TO 3 1/2" CAL.
(NOT TO SCALE)



TYPICAL GUYING DETAIL
(NOT TO SCALE)



SOIL MANAGEMENT & PREPARATION PLAN
SCALE: 1"=20'

Soil De-compaction and Testing Requirements

Soil Compaction Testing Requirements

1. Subgrade soils prior to the application of topsoil (see permanent seeding and stabilization notes for topsoil requirements) shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.

2. Areas of the site which are subject to compaction testing and/or mitigation are **graphically denoted** on the certified soil erosion control plan.

3. Compaction testing locations are denoted on the plan. A copy of the plan or portion of the plan shall be used to mark locations of tests, and attached to the compaction mitigation verification form, available from the local soil conservation district. This form must be filled out and submitted prior to receiving a certificate of compliance from the district.

4. In the event that testing indicates compaction in excess of the maximum thresholds indicated for the simplified testing methods (see details below), the contractor/owner shall have the option to perform either (1) compaction mitigation over the entire mitigation area denoted on the plan (excluding exempt areas), or (2) perform additional, more detailed testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation. Additional detailed testing shall be performed by a trained, licensed professional.

Compaction Testing Methods

A. Probing Wire Test (see detail)
B. Hand-held Penetrometer Test (see detail)
C. Tube Bulk Density Test (licensed professional engineer required
D. Nuclear Density Test (licensed professional engineer required)

Note: Additional testing methods which conform to ASTM standards and specifications, and which produce a dry weight, soil bulk density measurement may be allowed subject to District approval.

Soil compaction testing is not required if/when subsoil compaction remediation (scarification/tillage (6" minimum depth) or similar) is proposed as part of the sequence of construction.

Procedures for Soil Compaction Mitigation

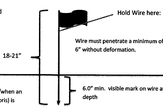
Procedures shall be used to mitigate excessive soil compaction **prior to placement of topsoil** and establishment of permanent vegetative cover.

Restoration of compacted soils shall be through deep scarification/tillage (6" minimum depth) where there is no danger to underground utilities (cables, irrigation systems, etc.). In the alternative, another method as specified by a New Jersey Licensed Professional Engineer maybe substituted subject to District Approval.

Simplified Testing Methods

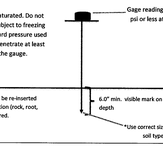
Probing Wire Test- 15.5 ga steel wire (survey flag)

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the wire.



Handheld Soil Penetrometer Test

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the probe. Probe must penetrate at least 6" with less than 300 psi reading on the gauge.



SOIL MANAGEMENT LEGEND

SOIL COMPACTION TESTING AREAS

RECOMMENDED SOIL COMPACTION TEST LOCATION

2019 N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS AMENDED OR SUPPLEMENTED SHALL GOVERN THE CONSTRUCTION OF THIS PROJECT

REFERENCE :

"STANDARD FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" ADOPTED FEBRUARY 2014 BY THE NEW JERSEY STATE SOIL CONSERVATION COMMITEE.

GENERAL NOTES:

1. THIS PLAN IS NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE UNDERSIGNED PROFESSIONAL(S).

ONE CALL
811 Know what's below. Call before you dig or 1-800-272-1000
TO LOCATE UNDERGROUND UTILITIES
IF YOU'RE GOING TO DIG, BLAST OR DRILL THREE (3) WORKING DAYS NOTICE
REMEMBER
IT'S THE LAW!
Dig Safely.

ONE CALL
NEW JERSEY ONE CALL
LLAME ANTES DE EXCAVAR
811
OR
1-800-272-1000
PARA LOCALIZAR LAS UTILIDADES SUBTERRÁNEAS SI DESEA DE A EXCAVAR, ESTA LLAMADA TELEFÓNICA DE AVISO TIENE QUE SER HECHA TRES (3) DÍAS DE TRABAJO EN ANTICIPACIÓN
RECUERDE
ES LA LEY!
EXCAVE CON SEGURIDAD
Dig Safely.

Van Cleef ENGINEERING ASSOCIATES

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WEB: WWW.VANCLEEFENGINEERING.COM
PHONE (609) 689-1100 FAX (609) 689-1120

NJ LLC CERT. No. 24GA28132300

BY: _____ DATE 8/18/20
HERBERT J. SEEBURGER, JR. N.J. PROFESSIONAL ENGINEER NO. 24GE04748700

WILLIAM D. HOPKINS III, AIA, LEED AP
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Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whittaker Ave - Mont Clare - Pennsylvania 19453
Architect
Date

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
H.J.S.

Drawn By
R.R.F.

Scale
N.T.S.

Drawing Name
SOIL EROSION SEDIMENT CONTROL DETAILS & SOIL MANAGEMENT & PREPARATION PLAN

Revisions

No.	Date	Description

Drawing Number
C104

APPLICABLE CODES:

THIS PROJECT WAS DESIGNED UNDER THE FOLLOWING CODES:

CONSTRUCTION CODE -	NEW JERSEY REHABILITATION SUBCODE 5:23-6
BUILDING SUBCODE -	INTERNATIONAL BUILDING CODE 2018 - NEW JERSEY EDITION
BARRIER-FREE SUBCODE -	N.J.A.C. 5:23-7 AND ICC-ANSI A117.1-2009
PLUMBING SUBCODE -	NATIONAL STANDARD PLUMBING SUBCODE 2018
MECHANICAL SUBCODE -	INTERNATIONAL MECHANICAL CODE 2018
ELECTRICAL SUBCODE -	NATIONAL ELECTRICAL CODE 2017
FUEL GAS SUBCODE -	INTERNATIONAL FUEL GAS CODE 2018
ENERGY CONSERVATION SUBCODE -	ASHRAE 90.1 2016

BUILDING ANALYSIS (ADDITION) - BUILDING 'III':

(FROM INTERNATIONAL BUILDING CODE 2018 NEW JERSEY EDITION)

BUILDING 'III' (NEW EDUCATIONAL)
(PROTECTED AND FULLY SPRINKLERED)

USE GROUP	E (EDUCATIONAL)
CONSTRUCTION TYPE	1B
TABULAR ALLOWABLE AREA	UNLIMITED
AREA INCREASE - SPRINKLER	N/A
ADJUSTED ALLOWABLE AREA	N/A
ACTUAL AREA (NEW ADDITION)	
BUILDING 'III'	2,866 S.F.
ALLOWABLE HEIGHT	6 STORIES / 180'-0" (TABLE 504.3 & 504.4)
ACTUAL HEIGHT	1 STORY / 22'-0"

OCCUPANCY CATEGORY NOTE:

THE BUILDING IS CLASSIFIED AS RISK CATEGORY 'III' AS DEFINED IN TABLE 1604.5 OF IBC-2018 NJ EDITION - BUILDING CONTAINING GROUP 'E' OCCUPANCIES WITH OCCUPANT LOAD GREATER THAN 250.

THE BUILDING WILL NOT BE DESIGNATED AS OR USED AS AN EMERGENCY SHELTER FOR HURRICANE, EARTHQUAKE OR OTHER EMERGENCIES AND IS NOT CLASSIFIED AS OCCUPANCY CATEGORY IV'.

RADON NOTE:

(FROM 5:23-10, APPENDIX 10-A OF THE UNIFORM CONSTRUCTION CODE, LATEST EDITION)

RADON VENTING AND ANY ASSOCIATED CONSTRUCTION TECHNIQUES ARE NOT REQUIRED FOR THIS PROJECT.

THIS PROJECT IS LOCATED IN MIDDLESEX COUNTY, NEW JERSEY IN THE MUNICIPALITY OF PLAINSBORO. IT IS NOT LOCATED IN A TIER ONE OR RECOGNIZED RADON PRONE AREA.

FIRE EXTINGUISHER SCHEDULE (NEW ADDITION):

(FROM NATIONAL FIRE PROTECTION ASSOCIATION CODES)

FIRE EXTINGUISHER TYPES

1. MULTI-PURPOSE DRY CHEMICAL TYPE UL RATED 2A:10B:C 5lb FOR TYPE A,B,C FIRES
2. PROVIDE A MINIMUM 2-A RATING FOR EACH 6000 S.F. AREA AND A TRAVEL DISTANCE OF NOT MORE THAN 75' IN EACH DIRECTION.
3. ALL EXISTING FIRE EXTINGUISHERS SHALL EITHER REMAIN IN PLACE OR SHALL BE REPLACED WITH NEW FIRE EXTINGUISHERS DURING THE PERIOD OF BUILDING RENOVATION.

BUILDING	AREA	NO. OF FES REQUIRED	NO. OF FES PROVIDED
BUILDING 'III' (ADDITION ONLY)			
FIRST FLOOR	2866	1	1

TABULATION OF PLUMBING FIXTURES (NEW ADDITION):

(FROM 2018 NATIONAL STANDARD PLUMBING CODE)

USE GROUP 'E' (EDUCATIONAL) - HIGH SCHOOL - ADDED FUNCTIONAL CAPACITY = 24 STUDENTS

24 X 50% = 12 MALES
24 X 50% = 12 FEMALES

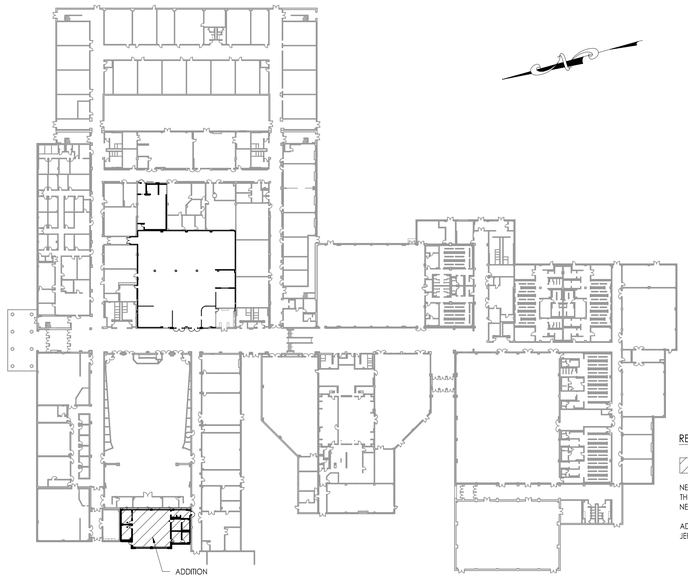
FIXTURES REQUIRED (MALES)		FIXTURES PROVIDED (MALES)	
WATER CLOSETS	1	WATER CLOSETS	1
LAVATORIES	1	LAVATORIES	1
FIXTURES REQUIRED (FEMALES)		FIXTURES PROVIDED (FEMALES)	
WATER CLOSETS	1	WATER CLOSETS	1
LAVATORIES	1	LAVATORIES	1

SPECIAL INSPECTION NOTES:

THE FOLLOWING "SPECIAL INSPECTIONS" SHALL APPLY TO THIS PROJECT, AS DEFINED IN IBC-2018 NJ EDITION, CHAPTER 17, SECTION 1705. SEE SPECIFICATION SECTION 01400.

1705 . 2 -	STEEL CONSTRUCTION - SEE SPECIFICATION SECTIONS 05120, 05210 & 05300
1705 . 3 -	CONCRETE CONSTRUCTION - SEE SPECIFICATION SECTION 03300
1705 . 6 -	SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS - SEE SPECIFICATION SECTION 02200
1705 . 10 -	FABRICATIONS - SEE SPECIFICATION SECTIONS 05120, 05210 & 05300
1705 . 14 -	SPRAYED FIRE-RESISTANT MATERIALS - SEE SPECIFICATION SECTION 07250
1705 . 17 -	FIRE-RESISTANCE PENETRATIONS AND JOINTS - SEE SPECIFICATION SECTIONS 07840 AND 07900.

THE INSPECTION FIRM(S) SHALL SUBMIT CERTIFICATIONS TO NJ DCA PRIOR TO PERMIT RELEASE.



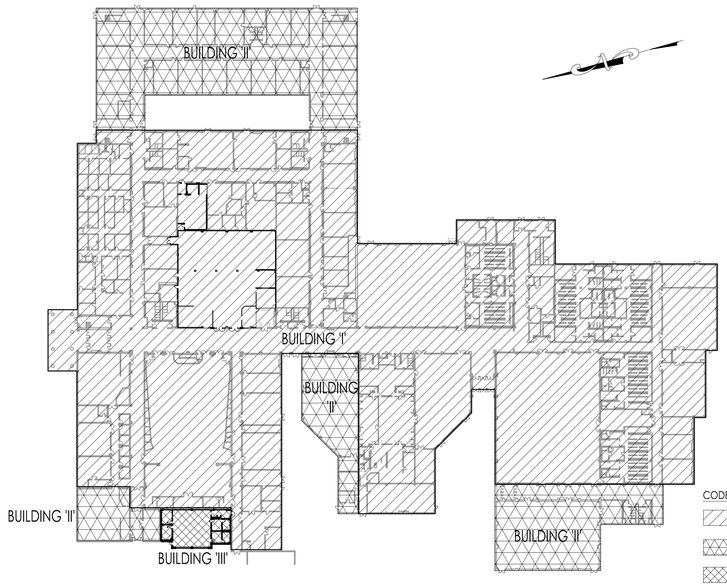
1 Rehabilitation Key Plan
SCALE: 1/64" = 1'-0"

REHABILITATION KEY LEGEND

NEW CONSTRUCTION

NEW CONSTRUCTION IS DESIGNED UNDER THE INTERNATIONAL BUILDING CODE 2018 - NEW JERSEY EDITION.

ADDITION IS DESIGNED UNDER THE NEW JERSEY REHABILITATION SUB-CODE.

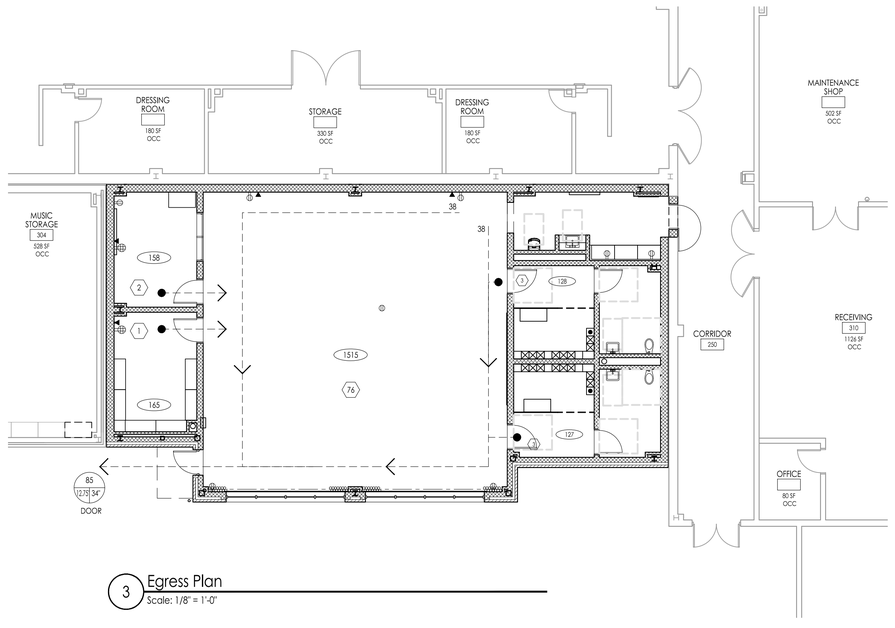


2 Code Analysis Key Plan
SCALE: 1/64" = 1'-0"

CODE ANALYSIS LEGEND

- BUILDING I - 1994 CONSTRUCTION (EXISTING TO REMAIN)
- BUILDING II - 1997 CONSTRUCTION (EXISTING TO REMAIN)
- BUILDING III - NEW CONSTRUCTION

NOTE - DATES OF CONSTRUCTION ARE APPROXIMATE



3 Egress Plan
Scale: 1/8" = 1'-0"

EGRESS PLAN LEGEND

- PATH OF EGRESS TRAVEL
- BARRIER-FREE BUILDING ENTRANCE / EXIT
- X — TRAVEL DISTANCE
- XXX — NET SQUARE FOOTAGE - NEW CONSTRUCTION
- X — OCCUPANT LOAD - NEW CONSTRUCTION - SEE ROOM CAPACITY NOTES
- FE-1 — NEW FIRE EXTINGUISHER IN SEMI-RECESSED CABINET (CMU WALL). SEE DWG. G003

BUILDING EXIT CAPACITY

XX — OCCUPANT LOAD - IBC 2018 NJ CHPT. 10
X X — NET CLEAR EGRESS WIDTH PROVIDED (IN INCHES)
NET CLEAR EGRESS WIDTH REQUIRED (IN INCHES)

ROOM CAPACITY NOTES:

SEE THE CODE ANALYSIS KEY PLAN ON THIS SHEET.

OCCUPANT LOADS - OCCUPANT LOAD IN THE ADDITION TO BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH IBC 2018 - NJ EDITION.

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Checked By
GRD

Drawn By
IB

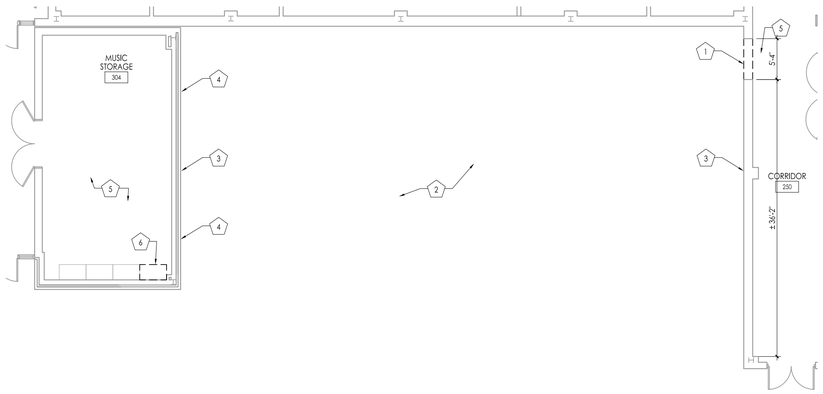
Scale
As Noted

Drawing Name
- Rehabilitation & Code Analysis Key Plans
- Code Information
- Egress Plan

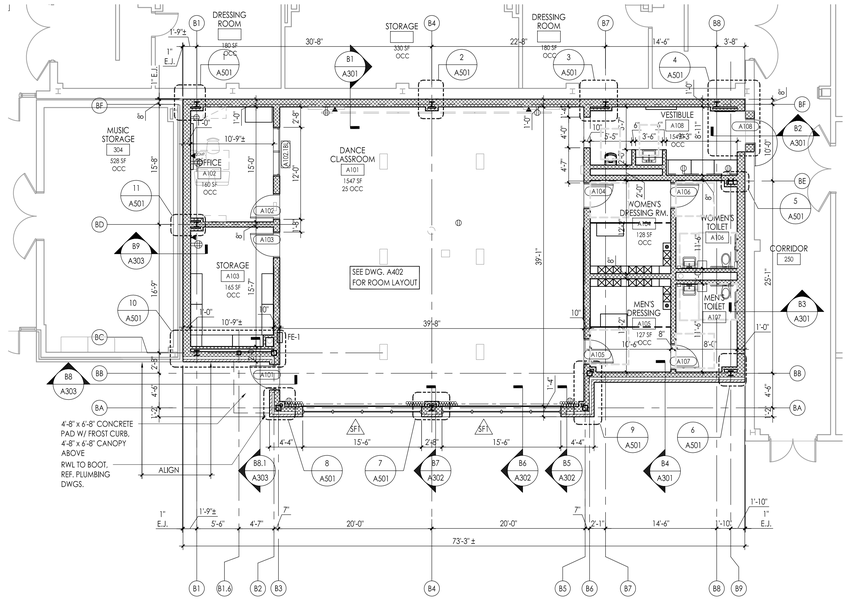
Revisions

No.	Date	Description

Drawing Number
A100



1 Demolition Plan
Scale: 1/8" = 1'-0"



2 Enlarged Floor Plan
Scale: 1/8" = 1'-0"

PLAN LEGEND

	BRICK
	NEW CMU PARTITION
FE-1	NEW FIRE EXTINGUISHER IN SEMI-RECESSED CABINET (CMU WALL) - SEE DETAIL 5 / G003
EJ CJ	EXPANSION JOINT - SEE DETAIL 3 / G003 INTERIOR CONTROL JOINT - SEE DETAIL 1 / G003
DMB EB	DRYMARKER BOARD - SEE SPECIFICATIONS AND DETAIL 4 / G002 EXHIBITION BOARD - SEE SPECIFICATIONS AND DETAIL 5 / G002

PLAN NOTES

1. ALL NEW WALLS SHALL EXTEND TO UNDERSIDE OF STEEL DECK UNLESS NOTED OTHERWISE.
2. REFER TO EXTERIOR ELEVATIONS FOR LOCATIONS OF EXTERIOR CONTROL JOINTS - SEE ALSO DTL. 3 / G003.
3. SEE STRUCTURAL DRAWINGS FOR SEISMIC REINFORCEMENT DETAILS AND REQUIREMENTS FOR ALL INTERIOR AND EXTERIOR MASONRY WALLS.
4. ALL EXPOSED EXTERIOR STEEL LINTELS SHALL BE PAINTED GALVANIZED STEEL.
5. ALL BIDDERS MUST VISIT THE SITE AND VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO SUBMITTING A BID. IF ANY DISCREPANCIES OR OMISSIONS ARE FOUND, THE BIDDER(S) MUST NOTIFY THE ARCHITECT OF THESE. IN WRITING, AT LEAST TEN (10) WORKING DAYS PRIOR TO RECEIPT OF BIDS. IF THEY DO NOT DO SO, ANY MODIFICATION OR CORRECTION SHALL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

DEMOLITION / RENOVATION NOTES: (X)

SEE GENERAL NOTES ON DEMOLITION ON THIS SHEET.

GENERAL NOTE: THE OWNER HAS THE RIGHT OF FIRST REFUSAL FOR ALL EQUIPMENT AND FIXTURES (CABINETS, SHELVING, PLUMBING FIXTURES, ETC.) REMOVED UNDER CONTRACT. IF THE OWNER DOES NOT EXERCISE THIS RIGHT FOR AN INDIVIDUAL PIECE OF EQUIPMENT, THE CONTRACTOR SHALL REMOVE SAID EQUIPMENT FROM THE SITE.

EXTERIOR / BUILDING

1. AT EXISTING EXTERIOR WALL CONSTRUCTION, BRACE AND SHORE UP EXISTING CONSTRUCTION TO REMAIN. SAWCUT AND REMOVE EXISTING WALL CONSTRUCTION TO WIDTH INDICATED ON DEMOLITION PLAN AND TO MIN. 8" ABOVE NEW OPENING HEIGHT. INSTALL NEW LINTEL ABOVE OPENING OF THICKNESS TO MATCH EXISTING ADJACENT WALL AND WIDTH TO ACCOMMODATE NEW OPENING SIZE. SEE FLOOR PLAN AND WALL SECTION. CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE BUILDING SECURITY AND WEATHER TIGHTNESS. FINISH ALL NEWLY EXPOSED SURFACES AND PATCH AND REPAIR ALL DAMAGE AND VOIDS CAUSED BY RENOVATION TO MATCH EXISTING ADJACENT FINISH, INCLUDING TILE, PLASTER, ETC.
2. SEE REFERENCE EARTHWORK SPECIFICATION AND GEOTECHNICAL ENGINEERING REPORT.
3. AT INDICATED LOCATIONS, DEMOLISH AND REMOVE EXISTING METAL EDGE AND FLASHING, IF REQUIRED, BACK TO THE VERTICAL PLANE OF THE EXISTING EXTERIOR WALL. SEE FLOOR PLAN AND WALL SECTIONS FOR ADDITIONAL WORK REQUIRED. CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE BUILDING SECURITY AND WEATHER TIGHTNESS. PATCH AND REPAIR ALL DAMAGE AND VOIDS CAUSED BY REMOVAL TO MATCH EXISTING ADJACENT FINISHES, ETC.
4. REMOVE MECHANICAL STORM WALL LOUVERS AND RELOCATE. COORDINATE WITH MECHANICAL DRAWINGS. ALL HVAC WORK INCLUDING DEMOLITION, PATCHING AND REPAIR WILL BE PERFORMED BY HVAC TRADE CONTRACTOR.

CEILINGS

5. DISMANTLE, REMOVE AND STORE EXISTING CEILING PANELS, SUSPENSION GRID AND APPLIANCES (ONLY AS REQUIRED) TO ACCOMMODATE RENOVATION. AFTER RENOVATION IS COMPLETE, MODIFY EXISTING SUSPENSION GRID TO FIT NEW LENGTHS. RE-INSTALL (WITH NEW HANGER WIRE TO EXISTING STRUCTURE) ALL PANELS, GRID AND APPLIANCES IN PREVIOUS LOCATIONS UNLESS SUPERSEDED BY REFLECTED CEILING PLAN OR PLUMBING/HVAC/ELECTRICAL DRAWINGS. REPLACE ALL DAMAGED OR DETERIORATED CEILING PANELS AND SUSPENSION GRID WITH NEW TO MATCH EXISTING. SEE PLUMBING/HVAC/ELECTRICAL DRAWINGS FOR ADDITIONAL WORK REQUIRED. **ALL PLUMBING/HVAC/ ELECTRICAL WORK, INCLUDING REMOVAL AND RE-INSTALLATION OF CEILING SYSTEM, DEMOLITION, PATCHING AND REPAIR AND TEMPORARY SUPPORT OF EXISTING DEVICES TO REMAIN, BY RESPECTIVE TRADE PRIME SUB-CONTRACTOR (SINGLE OVERALL CONTRACT).**

EQUIPMENT

6. REMOVE AND STORE INDICATED EXISTING CABINET TO ALLOW RE-ROUTING OF EXISTING SPRINKLER DRAIN. REFER FIRE PROTECTION DRAWINGS. AFTER RENOVATION COMPLETE, RE-INSTALL CABINET IN EXISTING LOCATION. INSTALL NEW FINISHED FILLERS AND END PANELS AS REQUIRED. MATCH EXISTING CABINETS.

GENERAL NOTES ON DEMOLITION:

A. ALL CONTRACTORS ARE ADVISED TO VISIT THE SITE AND VERIFY ALL AREAS AND CONDITIONS PRIOR TO SUBMITTING THEIR BIDS. THE CONTRACTOR MUST NOTIFY THE ARCHITECT OF ANY DISCREPANCIES AND/OR OMISSIONS IN WRITING AT LEAST SEVEN DAYS PRIOR TO THE RECEIPT OF BIDS. FAILURE TO SO NOTIFY THE ARCHITECT INDICATES THAT ANY ADDITIONAL COSTS ASSOCIATED WITH THE DISCREPANCIES AND / OR OMISSIONS ARE INCLUDED IN THE CONTRACTOR'S BID AND THAT NO CHANGE TO THE CONTRACT AMOUNT WILL BE MADE AFTER THE RECEIPT OF BIDS OR THE AWARD OF CONTRACT.

B. ALL PLUMBING, MECHANICAL OR ELECTRICAL DISCONNECTS SHALL BE MADE BY THE RESPECTIVE TRADE SUBCONTRACTOR. ALL EQUIPMENT, DEVICES, FIXTURES, ETC. SHALL BE REMOVED FROM THE SITE BY THE RESPECTIVE SUBCONTRACTOR. NOTE: THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DIMINISHED NOR SHALL EXISTING FIRE ALARM DEVICES BE REMOVED UNTIL NEW DEVICES ARE READY FOR SWITCHOVER.

C. UNLESS NOTED OTHERWISE ALL DEMOLITION MATERIAL SHALL BE REMOVED OFF SITE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D. THERE ARE SOME SPECIFIC ITEMS DESIGNATED BY THE ARCHITECT FOR SALVAGE. THESE ITEMS ARE INTENDED FOR REUSE IN THE NEW CONSTRUCTION. THE CONTRACTOR MUST TAKE CARE IN THE REMOVAL AND STORAGE OF THESE ITEMS UNTIL THEY ARE NEEDED IN THE NEW CONSTRUCTION.

E. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT PORTIONS OF THE EXISTING CONSTRUCTION WHICH ARE ADJACENT TO AREAS TO BE DEMOLISHED. MAKE ALL CUTS AS NEATLY AS POSSIBLE. REFER TO FLOOR PLAN DRAWINGS FOR FINISHING OF THESE AREAS.

F. IF NOT OTHERWISE NOTED OR DETAILED, ALL SURFACES LEFT ROUGH OR UNFINISHED BY DEMOLITION AND WHICH ARE EXPOSED TO VIEW, SHALL BE PATCHED TO MATCH ADJACENT SURFACES AND FINISHED TO PROVIDE A UNIFORM APPEARANCE WITH REGARD TO SIZE, SHAPE, COLOR, TEXTURE AND MATERIAL.

G. THE CONTRACTOR SHALL PROVIDE A PHYSICAL BARRIER TO CONTAIN DUST AND DIRT AROUND THE DEMOLITION AREA AND SHALL MAKE EVERY EFFORT TO KEEP THE DEMOLITION SITE AND SURROUNDING AREAS AS CLEAN AS POSSIBLE. ALL TEMPORARY PARTITIONS SHALL BE 1 HOUR RATED CONSTRUCTION AND INCLUDE A DOOR.

H. NO DEMOLITION SHALL BEGIN UNTIL PROPER PROTECTION IS IN PLACE AND APPROVED BY ARCHITECT, OWNER AND CONSTRUCTION MANAGER TO ENSURE THE SAFETY OF THE PUBLIC, THE BUILDING OCCUPANTS, CONSTRUCTION WORKERS AND TO CONTAIN DUST AND DIRT WITHIN THE AREA OF DEMOLITION.

I. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REGARDING THE REMOVAL AND DISPOSAL OF ALL MATERIALS & EQUIPMENT.

J. THE CONTRACTOR SHALL PROVIDE PROTECTION AGAINST INCLEMENT WEATHER FOR THE EXISTING BUILDING DURING THE INTERIM PERIOD BETWEEN DEMOLITION AND THE COMPLETION OF NEW CONSTRUCTION.

K. THE CONTRACTORS SHALL TAKE INTO ACCOUNT THEIR METHODS OF CONSTRUCTION FOR THE NEW WORK AND INCLUDE IN THEIR BID THE COST OF ADDITIONAL DEMOLITION WORK NECESSARY TO FACILITATE THE CONSTRUCTION. THIS WORK INCLUDES, BUT IS NOT LIMITED TO THE PARTIAL DEMOLITION OF WALLS AT THE POINTS WHERE NEW STEEL CONNECTS TO EXISTING BEAMS OR COLUMNS, THE AREA AROUND JOINTS BETWEEN NEW AND EXISTING CONSTRUCTION IN WALLS, FLOORS AND CEILINGS, AREAS OF SIDEWALK AND PAVING, ETC. MUCH OF THIS WORK IS INDICATED IN SECTIONS AND DETAILS RELATING TO THE NEW CONSTRUCTION.

L. THE DEMOLITION WORK SHOWN ON THE PLANS IS INTENDED TO BE A GENERAL OVERVIEW OF MAJOR DEMOLITION WORK REQUIRED. IT IS NOT A COMPLETE AND EXCLUSIVE REPRESENTATION OF ALL DEMOLITION WORK NEEDED FOR EXECUTION OF THE PROJECT. WHEN PREPARING THEIR BIDS, CONTRACTORS MUST REFER TO THE FULL SET OF CONSTRUCTION DOCUMENTS FOR VARIOUS MISCELLANEOUS ITEMS WHICH MUST BE REMOVED AND/OR RELOCATED AS PART OF THE WORK.

M. IF DURING THE DEMOLITION, RENOVATION AND ALTERATION WORK IN THE EXISTING BUILDING, STRUCTURAL ELEMENTS ARE UNCOVERED AND ARE FOUND TO BE UNSOUND OR OTHERWISE STRUCTURALLY DEFICIENT, THE GENERAL CONTRACTOR SHALL IMMEDIATELY ADVISE THE ARCHITECT AND THE STRUCTURAL ENGINEER OF RECORD OF THE CONDITION SO THAT APPROPRIATE MEASURES TO REINFORCE, SUPPORT OR REPLACE THE UNSOUND ELEMENTS CAN BE DESIGNED AND IMPLEMENTED.

N. IF DURING THE DEMOLITION, RENOVATION AND ALTERATION WORK IN THE EXISTING BUILDING, EXISTING SPRAYED FIRE PROOFING IS REMOVED OR DAMAGED, THE GENERAL CONTRACTOR SHALL IMMEDIATELY REPAIR AND REPLACE THE SPRAYED ON FIRE PROOFING TO MATCH THE ORIGINAL FIRE RATING. SEE NOTE ON SHEET G003.

3 Reflected Ceiling Plan
Scale: 1/8" = 1'-0"

REFLECTED CEILING PLAN LEGEND

ACB-1 - 2' X 4' ACOUSTICAL CEILING BOARD - SEE FINISH SCHEDULE FOR LOCATION & TYPE

AACB - 2' X 4' ACRYLIC ACOUSTICAL CEILING BOARD - SEE FINISH SCHEDULE FOR LOCATION

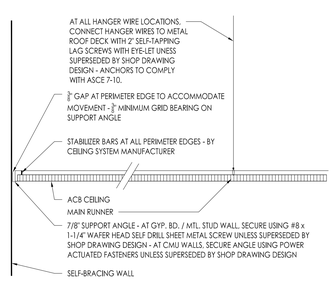
DCS-1 - 2' X 4' ACOUSTICAL ACCENT CLOUD - SEE FINISH SCHEDULE FOR LOCATION & TYPE

SUPPLY / RETURN / EXHAUST DIFFUSER (SEE HVAC DRAWINGS)

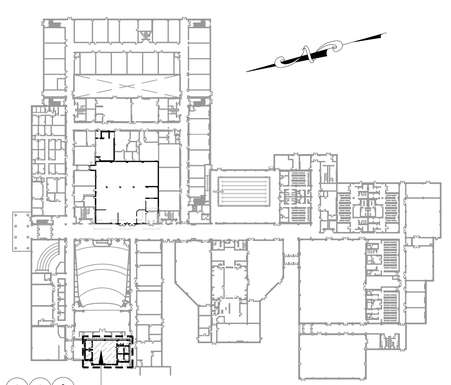
LIGHTS (SEE ELECTRICAL DRAWINGS)

REFLECTED CEILING NOTES:

1. SEE HVAC, PLUMBING AND ELECTRICAL DRAWINGS FOR TYPES, SIZES AND ADDITIONAL INFORMATION ON CEILING-MOUNTED DEVICES.
2. ALL SPRINKLER HEADS, DIFFUSERS AND LIGHTS TO BE CENTERED IN THE GWB OR ACB CEILING UNLESS NOTED OTHERWISE.
3. GENERAL, HVAC, PLUMBING AND ELECTRICAL CONTRACTORS TO COORDINATE LOCATION OF SPRINKLER HEADS, DIFFUSERS AND LIGHTS.
4. SEE ROOM FINISH SCHEDULE FOR CEILING HEIGHTS NOT SHOWN ON REFLECTED CEILING PLAN.
5. A.F.F. = ABOVE FINISH FLOOR (MAIN DATUM ELEVATION)
6. SEE DETAIL 4/ A101 FOR TYPICAL SEISMIC BRACING AT SUSPENDED CEILINGS.



4 ACB Seismic Bracing Detail
Scale: 1"=1'-0"



Overall Building Key Plan: First Floor
Scale: 1:100

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

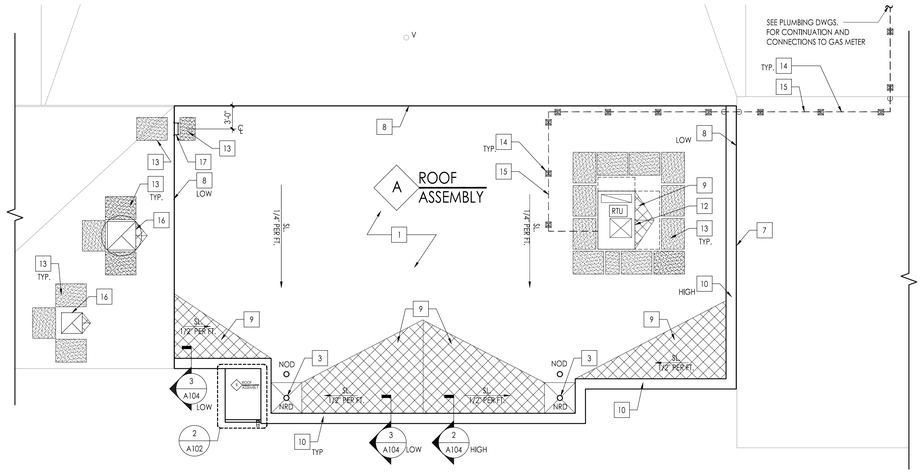
Scale
1/8" = 1'-0"

Drawing Name
- Demolition Plan
- Enlarged Floor Plan
- Reflected Ceiling Plan
- Notes

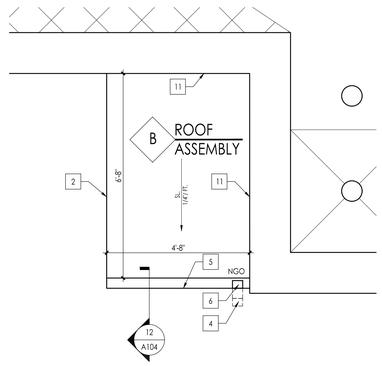
Revisions

No.	Date	Description
1	03.05.21	Addendum No. 02

Drawing Number
A101



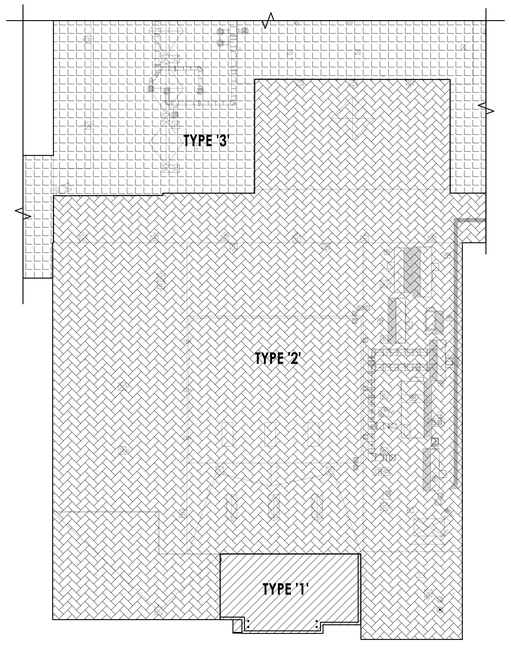
1 Roof Plan
Scale: 1/8" = 1' - 0"



2 Enlarged Canopy Plan
Scale: 1/2" = 1' - 0"

CONSTRUCTION NOTES - EPDM [X]

1. INSTALL ROOF PER ASSEMBLY NOTED ON PLAN AND SPECIFICATIONS. ROOF SYSTEM MUST HAVE A MINIMUM "R"-VALUE OF 30.0. INSTALL WATER DIVERTING SADDLES/CRICKETS WHERE SHOWN ON PLANS WITH TAPERED INSULATION MINIMUM 1\4" PER FOOT SLOPE - SLOPE IS PERPENDICULAR TO SADDLE/CRICKET VALLEY LINE. DO NOT WALK OR RUN EQUIPMENT UPON NEWLY APPLIED ROOFING PLIES UNTIL THE ADHESIVE HAS SET UP TO ELIMINATE THE POTENTIAL FOR VOIDS.
2. INSTALL METAL EDGE SYSTEM, COLOR SELECTED BY ARCHITECT. INSTALL FRT WOOD BLOCKING TO MATCH HEIGHT OF THE INSULATION AND CRICKET. EXTEND SMOOTH BASE PLY OF ROOF SYSTEM DOWN THE FACE OF WOOD AND OVER TOP OF FASCIA BOARD METAL. INSTALL WATER CANT DAM AND STRIP WITH SMOOTH BASE PLY. INSTALL BASE FLASHING SYSTEM FROM THE ROOF UP AND OVER WATER CANT DAM. INSTALL METAL FASCIA AND EXTENDER SO THAT THE OUTSIDE VERTICAL LEG OF THE PERIMETER METAL FLASHINGS EXTEND DOWN PAST THE TOP EDGE OF THE TOP OF MASONRY, PLANK SIDING OR COMPOSITE ALUMINUM FASCIA BY 1". METAL EDGE SYSTEM MUST BE INCLUDED IN MANUFACTURER'S WARRANTY. REF. 11 & 12/A104 FOR CANOPY ROOF EDGE DETAIL
3. AT ROOF DRAIN LOCATIONS: INSTALL NEW CAST IRON ROOF DRAIN AND ASTM SCHEDULE 40 PVC ROOF DRAIN CONDUCTOR EXTENSION AS SPECIFIED. PROMOTE DRAINAGE BY INSTALLING TAPERED ROOF DECK INSULATION SUMP. RUN BASE PLY OF ROOF SYSTEM DOWN INTO DRAIN BELL. INSULATE DRAIN BELL AND PIPING. SET 36" SQUARE 4 LB LEAD FLASHING IN ROOF CEMENT IN DRAIN SUMP. CUT A HOLE IN THE LEAD SO THAT AT LEAST 1 INCH OF LEAD EXTENDS PAST THE CLAMPING RING ATTACHMENT POINTS. THE HOLE IN THE LEAD MUST BE LARGER THAN THE PIPING DIA. APPLY STRIPPING TO LEAD FLASHING. APPLY TOP PLY OF ROOFING SYSTEM. INSTALL NEW PIPE AS CLOSE TO EXISTING STRUCTURE ABOVE AS POSSIBLE. SLOPE PIPE AT 1/8" PER FOOT (REF PLUMBING). SUPPORT PIPE WITH METAL PIPE HANGERS AS INDICATED. BRACKETS AND SHIELDS AT 4'-0" ON CENTER HUNG FROM STRUCTURE ABOVE. PROVIDE CLEAN-OUTS AT EACH DIRECTION CHANGE. INSULATE ALL NEW PIPE WITH PLASTIC COATED SEMI-RIGID PIPE INSULATION. USE FIRE RATED SEALANT IN ALL FIRE RATED ASSEMBLIES. OVERFLOW DRAINS ARE NOT TO HAVE A SUMPED DRAIN AREA. REF 13/A103 AT MAIN DRAINS AND 12/A104 FOR ADDITIONAL INFORMATION AT CANOPY GUTTER & DOWNSPOUT.
4. RAIN WATER CONDUCTOR BOOT: INSTALL NEW RAIN WATER CONDUCTOR BOOT . SEE DETAIL 13/A104. PROVIDE ALL FITTINGS AND ASSOCIATED APPURTENANCES TO CONNECT TO UNDERGROUND STORM SYSTEM REFER TO CIVIL DRAWINGS . TYPICAL OF ALL LOCATIONS.
5. GUTTER EDGE: INSTALL PRE FINISHED .050" ALUMINUM GUTTER AND LEADER. RUN ROOF MEMBRANE DOWN ONTO FACE OF NEW WOOD BLOCKING. WHERE SEAMLESS GUTTER CANNOT BE PROVIDED, INSTALL GUTTER IN 10' SECTIONS JOINED WITH BASE PLATES AND EXPANSION JOINTS NO MORE THAN 50' APART. PROVIDE EPDM SELF ADHERING MEMBRANE AT THE GUTTER INTERIOR JOINTS. PROVIDE DOWNSPOUT FABRICATED FROM .050" ALUMINUM, SIZE OF LEADER, TO BE 4"X4", AND DESIGNED AS PER SMACNA REQ. INSTALL NEW METAL EDGE ON ROOF SURFACE EXTENDING DOWN INTO GUTTER. FASTEN 4" O.C. AND STRIP WITH MEMBRANE FLASHING. APPLY SEALANT AT EDGES OF STRIPPING. METAL DRIP EDGE SYSTEM MUST BE INCLUDED UNDER THE ROOFING MANUFACTURER'S WARRANTY AND MEET FM I-90 FOR WIND UPLIFT. COLOR SELECTED BY ARCHITECT. (REF 12/A104)
6. DOWN SPOUT LOCATION. REF. CONSTRUCTION NOTE "S"
7. REMOVE EXISTING METAL EDGE. INSTALL BASE FLASHING LEAVING A 1" EXPANSION JOINT BETWEEN THE EXISTING ROOF AND NEW RISING WALL. INSTALL INSULATION AND MEMBRANE SUPPORT IN THE 1" GAP.
8. BASE FLASHING AT EXPANSION JOINT, REF. DETAIL 7/A104
9. 1/2" PER FOOT SLOPED TAPERED INSULATION CRICKETS
10. AT ALL COPING COVERS, INSTALL PRE-ENGINEERED METAL COPING COVER SYSTEM. SYSTEM MUST HAVE SPRING CLIPS AND NO EXPOSED FASTENERS. SYSTEM MUST MEET FM 1-90 AND SYSTEM MUST BE INCLUDED IN MANUFACTURER'S WARRANTY. ENDS AT WALLS MUST BE TURNED UP AND COVERED WITH COUNTERFLASHING. INSTALL EXTENDER ON OUTSIDE FACE IF COPING FACE DOES NOT COVER TOP OF WALL PANEL. CMU OR BRICK. INSTALL TWO-PIECE COUNTERFLASHING ON INSIDE LEG. COLOR CHOSEN BY ARCHITECT. REFER TO DETAIL 2/A104
11. CANOPY BASE FLASHING, REF. 9/A104
12. AT ALL ROOFTOP EQUIPMENT ON FULLY ENCLOSED CURBS, INSTALL WOOD BLOCKING WHICH HAS BEEN FASTENED TO THE ROOF DECK TO MAINTAIN 8" MINIMUM FLASHING HEIGHT FROM THE SURFACE OF THE ROOF. INSTALL INSULATION AND CANT STRIP. RUN ROOF MEMBRANE UP CURBS 2" ABOVE THE CANT STRIP. INSTALL EPDM BASE FLASHING. FASTEN TOP EDGE AND INSTALL A REMOVABLE COUNTER FLASHING. SEE DETAIL 6/A103 AND FOLLOW MFR'S LATEST INSTALLATION REQUIREMENTS. CURBS MUST ALSO BE SET LEVEL WHERE REQUIRED FOR PROPER FUNCTIONING OF THE ROOF TOP UNIT. ALL COLORS ARE SELECTED BY ARCH. REF NOTE "R" ON SHEET A103 FOR CURBS AT EXISTING ROOF.
13. WALKWAY PADS - INSTALL AROUND ALL ROOFTOP UNITS AND ROOFTOP EQUIPMENT. MODIFY WALKWAY PADS AS REQUIRED SO THAT THE PAD MUST NOT IMPEDE THE FREE FLOW OF WATER TO THE DRAINAGE POINTS. SEE DETAIL 3/A103.
14. ROOF TOP PIPE SUPPORT, REF. 8/A103, REF MECHANICAL AND PLUMBING FOR ADDITIONAL INFORMATION
15. NEW ROOF TOP GAS PIPE, REF. MECHANICAL AND PLUMBING FOR CONTINUATION AND ADDITIONAL INFORMATION.
16. ROOF TOP EXHAUST FAN MOUNTED ON ROOF CURB, REF. 9/A103 FOR SIM. CONDITION AND REF. MECHANICAL FOR ADDITIONAL CURB INFORMATION. NOTE: REF. GENERAL CONSTRUCTION NOTE "R" ON SHEET A103. FOR ALL CURBS TO BE INSTALLED AT EXISTING ROOF.
17. PROVIDE AND INSTALL ROOF ACCESS LADDER - SEE DETAIL 14/A104.



3 Existing Roof Warranty Information
Scale: 1/16" = 1' - 0"

LEGEND

- ROOF DRAIN "NRD" / OVERFLOW ROOF DRAIN "NOD" / TAPERED INSULATION
- NGO — NEW GUTTER OUTLET AND RAIN WATER LEADER
- EXHAUST FAN UNIT
- RTU — ROOF TOP UNIT
- WALKWAY PADS
- PIPE SUPPORT
- MOUNTED LIGHT SYSTEM
- V — EXISTING VENT PIPE

SYMBOLS

- X / A-X — FLASHING DETAIL AND DRAWING NUMBER
- # — CONSTRUCTION NOTE FOR EPDM
- SL — DIRECTION OF ROOF SLOPE
- 1/2" PER FOOT SLOPED TAPERED INSULATION CRICKETS
- # — ROOF ASSEMBLY TYPE

GENERAL SHEET NOTES

1. REF. SHEET A103 FOR GENERAL CONSTRUCTION NOTES.
2. COORDINATE ALL ROOF TOP UNITS AND ROOF PENETRATIONS WITH ALL APPLICABLE DISCIPLINES.
3. REF. SHEET A103 FOR ROOF TYPE ASSEMBLIES.

ROOF KEY PLAN LEGEND

ROOF TYPE '1'
- NEW EPDM ROOF SYSTEM INSTALLED UNDER THIS PROJECT
- SEE ROOF PLAN AND DETAILS.

ROOF TYPE '2'
WARRANTY INFORMATION
- EXISTING EPDM ("CARLISLE/ W SOPREMA COATING")
ROOF INSTALLED IN 1997 & COATING IN 2016.
- WARRANTY NO. 102-000401, EXPIRATION IN 2031

ROOF TYPE '3'
WARRANTY INFORMATION
- EXISTING EPDM ("CARLISLE/ W GARLAND RESTORATION COATING")
ROOF INSTALLED IN 2020
- WARRANTY NO. 20-0743-US, EXPIRATION IN 2035

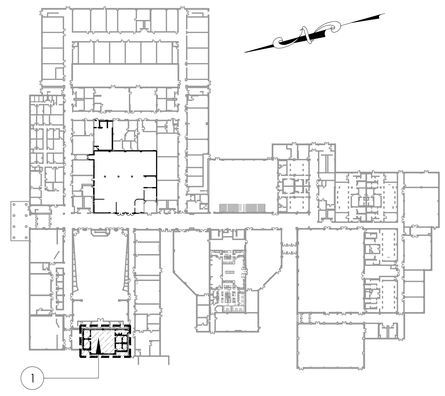
NOTES FOR ROOF TYPES '1', '2' AND '3'

A. ALL NEW ROOFING AND FLASHING WORK ON EXISTING ROOFS SHALL BE PERFORMED BY A ROOFING SUB-CONTRACTOR WHO MUST BE AN APPROVED INSTALLER OF THE EXISTING EPDM ("CARLISLE W/ SOPREMA COATING") AND/OR ("CARLISLE W/ GARLAND RESTORATION COATING") SYSTEM.

RESPONSIBILITY CHART

MATERIAL	FURNISHED BY	INSTALLED BY
EQUIPMENT CURB	HVAC CONTRACTOR	HVAC CONTRACTOR
EQUIPMENT FLASHING	GENERAL CONTRACTOR	GENERAL CONTRACTOR
COUNTER FLASHING	HVAC CONTRACTOR	GENERAL CONTRACTOR

NOTE:
THIS CHART SHALL ONLY APPLY AT CONDITIONS OF NEW ROOF CONSTRUCTION WHERE THERE IS A GENERAL PRIME CONTRACTOR AND AN HVAC PRIME CONTRACTOR CONTRACTED FOR THE PROJECT.



OVERALL BUILDING KEY PLAN
Scale: 1:100

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Architect

Date

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

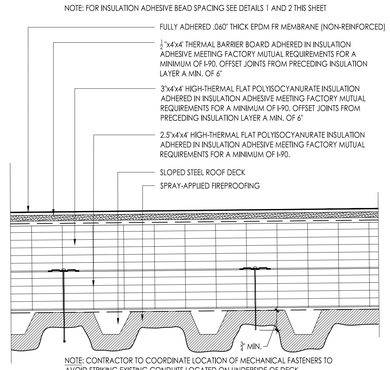
Scale
As Noted

Drawing Name
- Roof Plan
- Warranty Info.

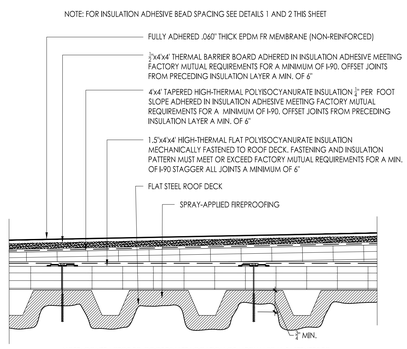
Revisions

No.	Date	Description

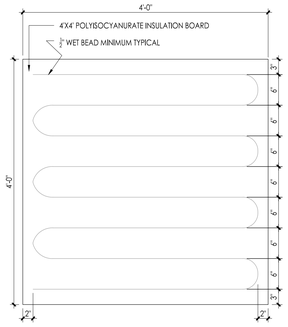
Drawing Number
A102



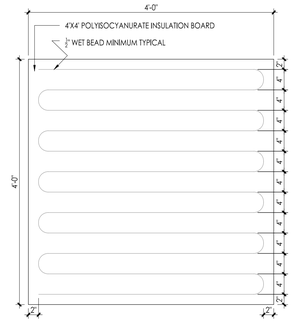
A ROOF ASSEMBLY R-value 30 min.
3"=1'-0"



B ROOF ASSEMBLY CANOPY ROOF
3"=1'-0"



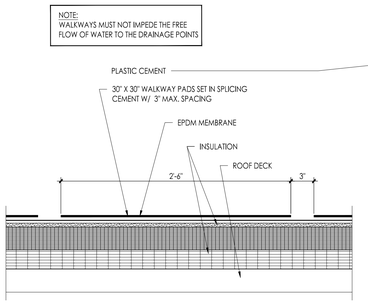
1 TYPICAL INSULATION ADHESIVE BEAD APPLICATION @ FIELD
1"=1'-0



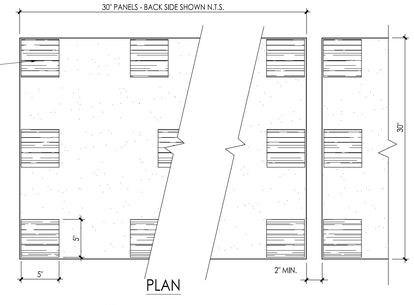
2 TYPICAL INSULATION ADHESIVE BEAD APPLICATION @ PERIMETER
1"=1'-0

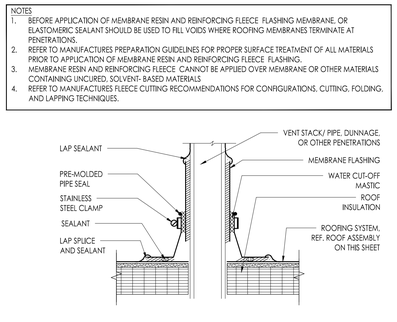
GENERAL CONSTRUCTION NOTES

A. PROVIDE ROOFING MATERIALS THAT COMPLY WITH A CLASS "A" SYSTEM.
B. ALL WORK PERTAINING TO THESE DRAWINGS SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND WITH ALL AGENCIES HAVING JURISDICTION.
C. INSTALL WATER DIVERTING CRICKETS ON HIGH SIDE OF ROOF AT ROOFTOP UNITS. CURBS AS SHOWN ON PLAN.
D. FRT WOOD BLOCKING SHOWN ON DRAWINGS IS DIAGRAMMATIC. PROVIDE FIRE RETARDANT TREATED WOOD BLOCKING CONSTRUCTION IN THICKNESS AND HEIGHT TO MATCH THICKNESS OF INSULATION AND/OR TAPERED INSTALLATION AS RECOMMENDED BY ROOFING MANUFACTURER AND TO MAINTAIN A CONSTANT ROOF EDGE ELEVATION IN A HORIZONTAL PLANE UNLESS NOTED OTHERWISE.
E. ALL CONDITIONS MEETING THE ROOF SURFACE PERPENDICULAR MUST HAVE A MINIMUM 8" FLASHING HEIGHT.
F. DO NOT SCALE THE DRAWINGS.
G. ALL LOW SLOPED ROOF AREAS ARE ¼" PER FOOT IN THE FIELD AND ½" PER FOOT AT THE CRICKETS. SLOPE OF CRICKET IS PERPENDICULAR TO CRICKET VALLEY LINE.
H. THE ROOFING CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL GOOD ROOFING PRACTICES INCLUDING THOSE SET FORTH BY THE ROOFING MATERIALS MANUFACTURER, THE SMACNA SHEET METAL MANUAL, FACTORY MUTUAL, UNDERWRITERS LABORATORIES, AND THE NRCA'S ROOFING AND WATERPROOFING MANUAL.
I. THE ROOFING CONTRACTOR IS RESPONSIBLE FOR FLASHING ALL ROOF TOP PENETRATIONS, UNITS, AND CURBS ON THE ROOFS TO A WATERTIGHT CONDITION TO BE INCLUDED IN THE MANUFACTURER'S WARRANTY. REVIEW ALL DRAWINGS INCLUDED IN THIS SET FOR ROOFTOP PENETRATIONS.
J. ALL CRICKETS/ GUSSETS/ SADDLES SHALL HAVE A 3:5 RATIO. WHERE THIS CONDITION CANNOT BE ACHIEVED DUE TO VALLEY LINE OF CRICKET INTERSECTING MECHANICAL EQUIPMENT, PENETRATION AND A HIGH POINT GREATER THAN THE THRU-WALL COUNTERFLASHING, PROVIDE MAXIMUM CRICKET WIDTH TO PROMOTE POSITIVE DRAINAGE TO ALL ROOF DRAINS AND SCUPPERS.
K. HIGH POINTS INDICATED ON DRAWINGS ARE SHOWN FOR GUIDANCE ONLY. THE ROOFING CONTRACTOR IS RESPONSIBLE FOR FINAL TAPERED INSULATION DESIGN. ANY REQUIRED ADJUSTMENTS MADE BY THE ROOFING CONTRACTOR TO THE INDICATED DESIGN GUIDELINES ARE AT NO ADDITIONAL COST TO THE OWNER.
L. 1. INSTALL ENVELOPE EDGES TO ELIMINATE THE POTENTIAL FOR EPDM AND ADHESIVE DRIPPAGE INTO THE BUILDING
2. ALL WOOD BLOCKING TO BE FRT. (FIRE RETARDANT LUMBER).
M. CONTRACTOR SHALL AT ALL TIMES HAVE A FULL SET OF DRAWINGS AND SPECIFICATIONS ON ROOF TOP WHILE WORK IS IN PROGRESS.
N. CONTRACTOR RESPONSIBLE TO RECTIFY ANY PONDING WATER ON FINISHED ROOF SURFACE THAT REMAINS AFTER 48 HOURS AT NO ADDITIONAL COST .
O. DETAILS NOTED TYPICAL "TYP" IMPLY ALL SUCH CONDITIONS BE TREATED SIMILARLY.
P. THE ROOFING CONTRACTOR SHALL VERIFY THE EXACT LOCATION, DIMENSION, AND QUANTITY OF ALL ROOFTOP EQUIPMENT AND APPURTENANCES WHICH INCLUDES, BUT ARE NOT LIMITED TO: EXHAUST FANS, VENT PIPES, DRAINS, HATCHES, FLUE PIPES, HOT STACKS, HVAC EQUIPMENT, CURBS, BASE FLASHING AND OTHER PENETRATIONS AND WORK ASSOCIATED WITH THIS ROOF PROJECT.INCORPORATE SAME IN THE ROOF INSULATION SHOP DRAWING SUBMITTAL.
Q. THE ROOFING CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM HIS DEMOLITION CAREFULLY CAUSING NO DAMAGE TO EXISTING MATERIALS. ANY EXISTING FINISHES OR CONSTRUCTION DAMAGED BY THE ROOFING CONTRACTOR WILL BE HIS RESPONSIBILITY TO REPAIR TO THE SATISFACTION OF THE ARCHITECT AT NO ADDITIONAL COST TO OWNER. PRIOR TO THE COMMENCEMENT OF WORK, ARCHITECT & ROOFING CONTRACTOR WILL INSPECT PROJECT AND NOTE EXISTING DAMAGES TO FINISHES OR CONSTRUCTION.
R. CONTRACTOR SHALL MAKE NECESSARY TIE-INS AND ALTERATIONS TO EXISTING ROOF IN ACCORDANCE WITH ORIGINAL ROOF MANUFACTURERS REQUIREMENTS, SO AS TO MAINTAIN ORIGINAL WARRANTY ON EXISTING ROOF.
S. THE ROOFING CONTRACTOR SHALL COORDINATE ALL DUMPSTER STAGING AND TRUCK ROUTES WITH THE GC. THE ROOFING CONTRACTOR SHALL PROTECT ALL EXISTING PAVED AND PLANTED AREAS. THE GC SHALL REPAIR ANY PAVED OR PLANTED AREAS TO THE SATISFACTION OF THE OWNER. THE REPAIRS ARE TO INCLUDE, BUT ARE NOT LIMITED TO, REPAVING OF ASPHALT DRIVEWAYS AND PARKING LOTS, REGRADING AND SEEDING OF LAWN AND PLAYGROUND AREAS AND REPLACING DAMAGED PLANTS, SHRUBS, ETC. ALL REPAIRS AND RESTORATIONS SHALL BE DONE AT NO ADDITIONAL COST IN THE CONTRACT PRICE.
T. ALL TAGGED DETAILS ARE TYPICAL FOR THE ITEM OR SYSTEM INDICATED, THE SCOPE OF WORK INDICATED AS PART OF THE TAG OR DETAIL MARK SHALL APPLY TO ALL OTHER SIMILAR SYMBOLS OR ITEMS.
U. THE EXG BUILDING IS OCCUPIED. THE ROOFING CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION AND FOR THE SAFETY OF ALL PERSONS AT THE PROJECT SITE.
V. FOR PURPOSES OF THIS PROJECT, REMOVE SHALL MEAN REMOVE AND DISPOSE OF SAME OFF SITE IN AN APPROVED AND LEGAL MANNER.
W. THE TERM 'TYP' FOLLOWING A NOTE, TAG, OR DETAIL FLAG INDICATED THAT ALL LIKE, SIMILAR, OR INDICATED ITEMS SHALL BE PROVIDED WITH THE SPECIFIED DETAIL, NOTE, OR SPECIFICATION, TO MAINTAIN ORIGINAL WARRANTY ON EXISTING ROOF.
X. REFERENCE DETAILS 1/A106 AND 2/A106 FOR TYPICAL ADHESIVE BEAD DETAILS FOR THE FIELD AND EDGE OF ROOF
Y. GENERAL CONTRACTOR SHALL PROVIDE AND PAY FOR ALL ENGINEERING AND SHOP DRAWING FOR THIS PROJECT THAT ARE REQUIRED BY THE METAL ROOFING PANEL MANUFACTURER.
Z. UNDER NO CIRCUMSTANCES SHALL TORCH BASE FLASHING BE DIRECTLY APPLIED TO A COMBUSTIBLE SURFACE. PROVIDE A THERMAL BARRIER BOARD, OR SBS BASE PLY AS A BASE FOR ALL TORCH APPLICATIONS TYPICAL.

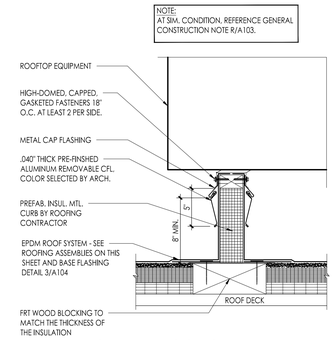


3 TYPICAL WALKWAY PAD
Scale: 1-1/2" = 1'-0"

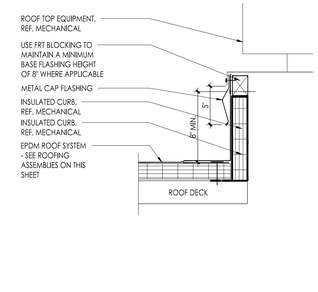




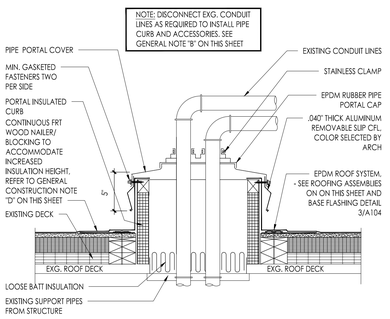
4 TYPICAL PVC PIPE/ DUNNAGE DETAIL
Scale: 1-1/2" = 1'-0"



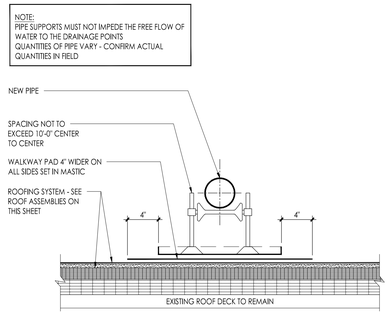
5 TYPICAL NEW ROOFTOP EQUIPMENT SUPPORT RAIL
1-1/2" = 1'-0"



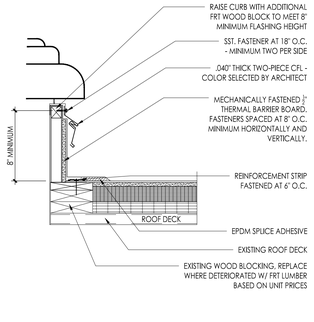
6 TYPICAL ROOFTOP UNIT AND GRAVITY VENT FLASHING DETAIL
Scale: 1-1/2" = 1'-0"



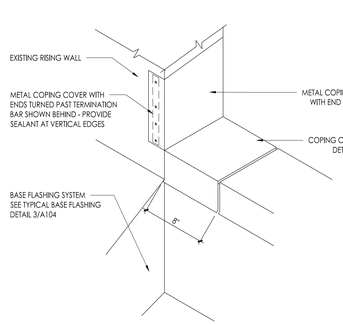
7 TYPICAL DETAIL AT PIPE CURB
Scale: 1-1/2" = 1'-0"



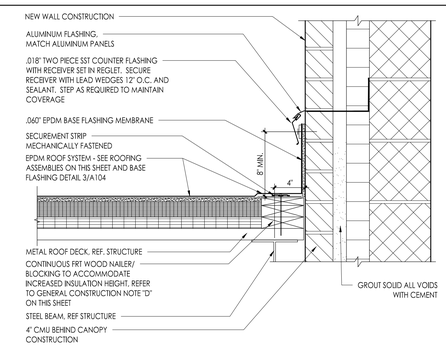
8 TYPICAL PIPE SUPPORT DETAIL
1-1/2" = 1'-0"



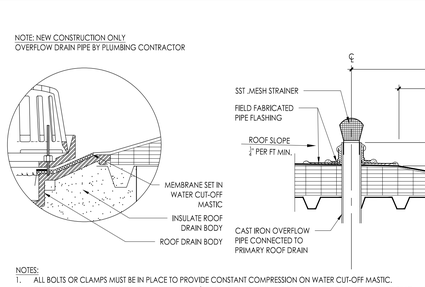
9 TYPICAL EQUIPMENT CURB DETAIL
1-1/2" = 1'-0"



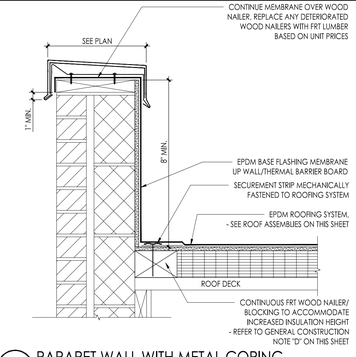
11 METAL COPING COVER TERMINATION
N.T.S.



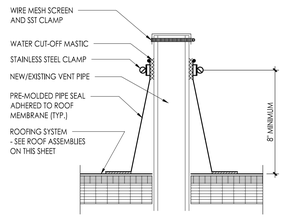
12 BASE FLASHING AT CANOPY
Scale: 1-1/2" = 1'-0"



13 TYPICAL NEW ROOF DRAIN & OVERFLOW DRAIN DETAIL
1-1/2" = 1'-0"



14 PARAPET WALL WITH METAL COPING
1-1/2" = 1'-0"



15 TYPICAL VENT PIPE DETAIL
1-1/2" = 1'-0"

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Date 04/06/21

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

Scale
As Noted

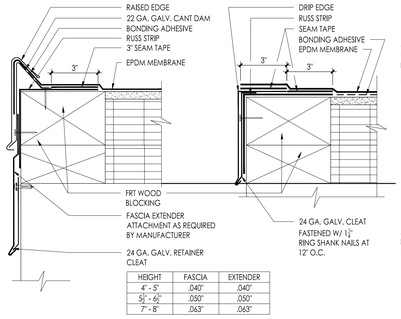
Drawing Name
Roof Details

Revisions

No.	Date	Description

Drawing Number
A103

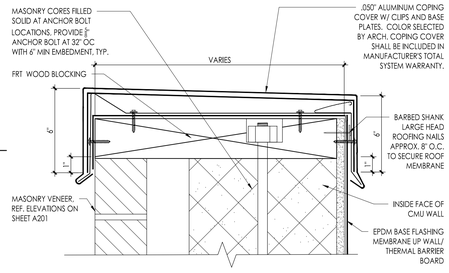
NOTE:
1. PRE-ENGINEERED METAL EDGING AND EXTENDER SHALL BE INCLUDED IN MANUFACTURES WARRANTY.
2. MAINTAIN A CONSTANT ROOF EDGE ELEVATION IN A HORIZONTAL PLANE UNLESS NOTED OTHERWISE.



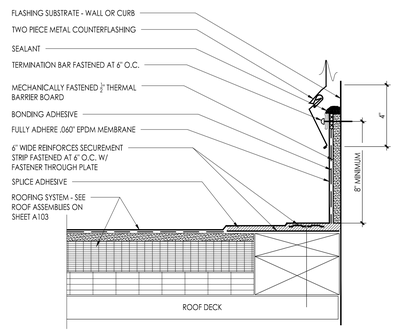
HEIGHT	FASCIA	EXTENDER
4" - 5"	.040"	.040"
5½" - 6½"	.050"	.050"
7" - 8"	.063"	.063"

1 TYPICAL METAL EDGE ASSEMBLIES
3" = 1'-0"

NOTE:
1. PRE-ENGINEERED METAL SHALL BE SUPPLIED BY ROOFING MANUFACTURER AND INCLUDED IN MANUFACTURER'S WARRANTY. FOR COPING COVER WITH A WIDTH GREATER THAN 16" PROVIDE .063 THICK PREFINISHED ALUM. COVER. FOR COPING COVER WITH A WIDTH GREATER THAN 24" TO 36" PROVIDE .080 THICK PREFINISHED ALUM. COVER.
2. ENDS AT WALLS MUST BE TURNED UP AND COVERED WITH COUNTERFLASHING PER DETAIL 11/A103.
3. USE ONLY MANUFACTURERS SUPPLIED FASTENERS FOR ATTACHMENT.

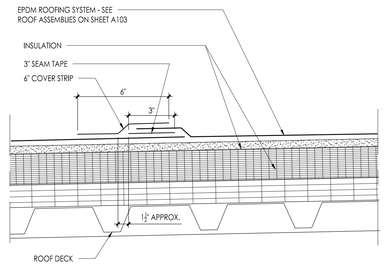


2 TYPICAL COPING AT PARAPET - CAVITY WALL
Scale: 3" = 1'-0"

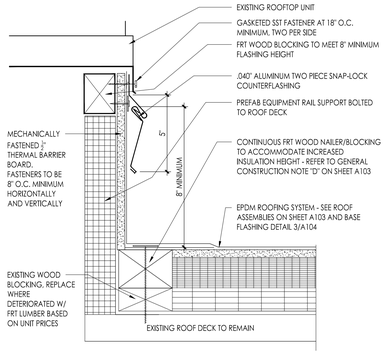


3 TYPICAL BASE FLASHING DETAIL
3" = 1'-0"

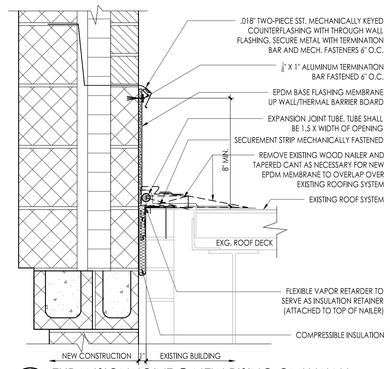
NOTES
1. PRIOR TO SEAM TAPE INSTALLATION PRIME SPLICE AREAS
2. OVERLAP ENDS OF CUT PIECES A MINIMUM OF 1"
3. LAP SEALANT IS TO COVER THE EDGE OF SEAM TAPE



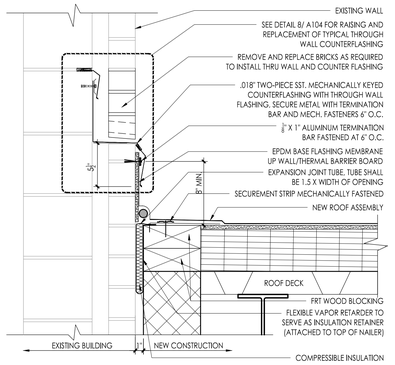
4 TYPICAL LAP SPLICE DETAIL
3" = 1'-0"



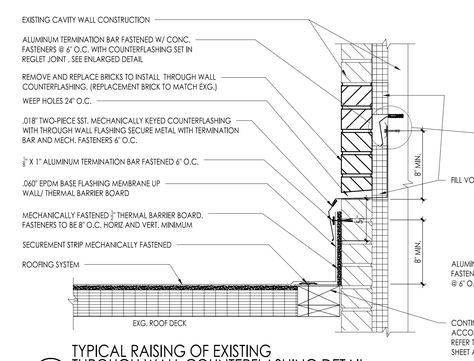
5 TYPICAL NEW ROOFTOP UNIT CURB FLASHING
3" = 1'-0"



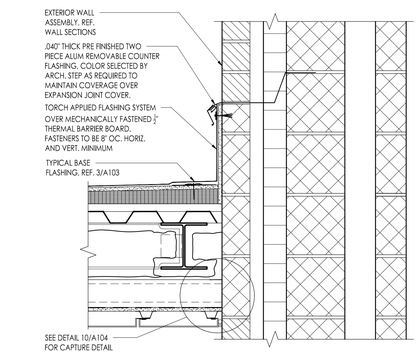
6 EXPANSION JOINT @ NEW RISING CMU WALL
1-1/2" = 1'-0"



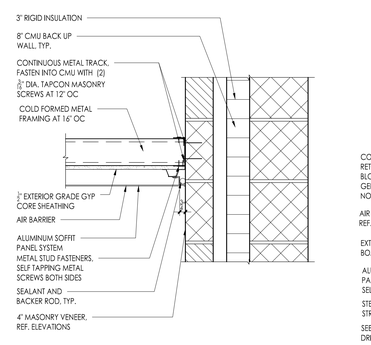
7 EXPANSION JOINT @ EXISTING RISING WALL
1-1/2" = 1'-0"



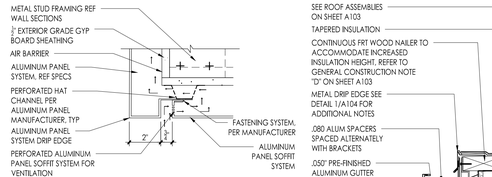
8 TYPICAL RAISING OF EXISTING THROUGH WALL COUNTERFLASHING DETAIL
1-1/2" = 1'-0"



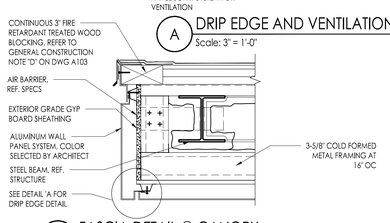
9 FLASHING DETAIL AT RISING WALL @ CANOPY
1-1/2" = 1'-0"



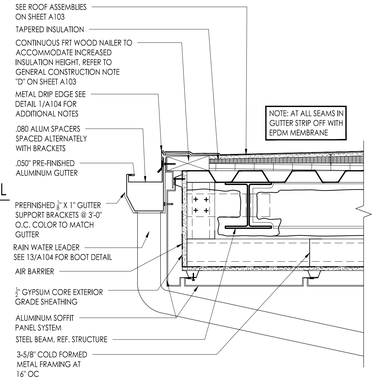
10 TYPICAL CAPTURE EXTERIOR METAL TRACK
1-1/2" = 1'-0"



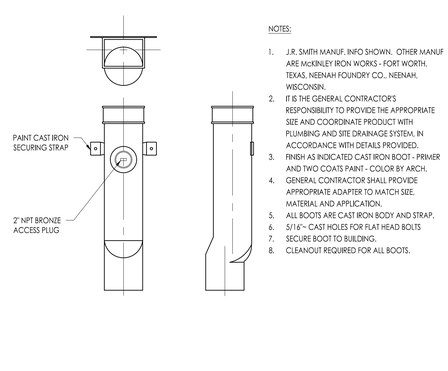
A DRIP EDGE AND VENTILATION DETAIL
Scale: 3" = 1'-0"



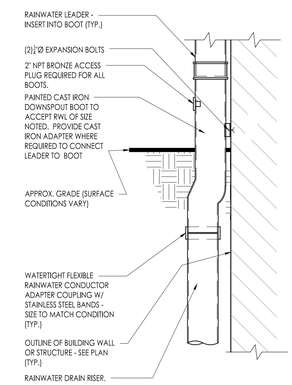
11 FASCIA DETAIL @ CANOPY
1-1/2" = 1'-0"



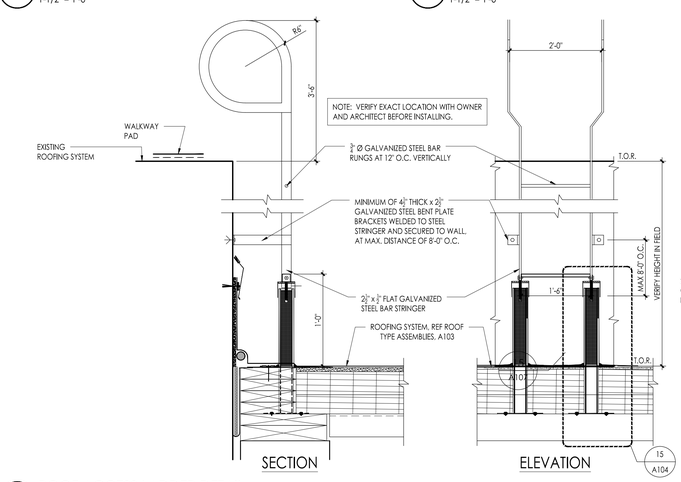
12 METAL EDGE W/ FASCIA & GUTTER
1-1/2" = 1'-0"

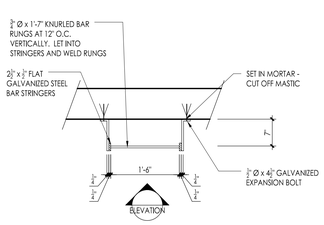


NOTES:
1. J.P. SMITH MANUF. INFO SHOWN. OTHER MANUF ARE McKINLEY IRON WORKS - FORT WORTH, TEXAS, NEENAH FOUNDRY CO., NEENAH, WISCONSIN.
2. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE APPROPRIATE SIZE AND COORDINATE PRODUCT WITH PLUMBING AND SITE DRAINAGE SYSTEM, IN ACCORDANCE WITH DETAILS PROVIDED.
3. FINISH AS INDICATED CAST IRON BOOT - PRIMER AND TWO COATS PAINT - COLOR BY ARCH.
4. GENERAL CONTRACTOR SHALL PROVIDE APPROPRIATE ADAPTER TO MATCH SIZE. MATERIAL AND APPLICATION.
5. ALL BOOTS ARE CAST IRON BODY AND STRAP.
6. 5/16"~ CAST HOLES FOR FLAT HEAD BOLTS
7. SECURE BOOT TO BUILDING.
8. CLEANOUT REQUIRED FOR ALL BOOTS.

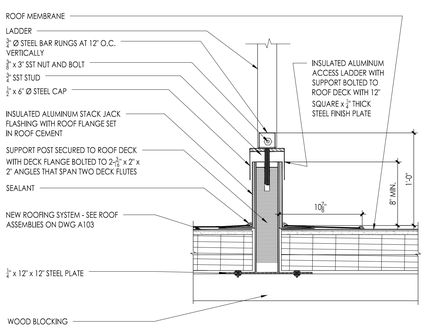


13 RAIN WATER CONDUCTOR BOOT DETAIL
1 1/2" = 1'-0"





14 ROOF ACCESS LADDER DETAIL
1-1/2" = 1'-0"



15 LADDER SUPPORT STANCHION
1-1/2" = 1'-0"

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

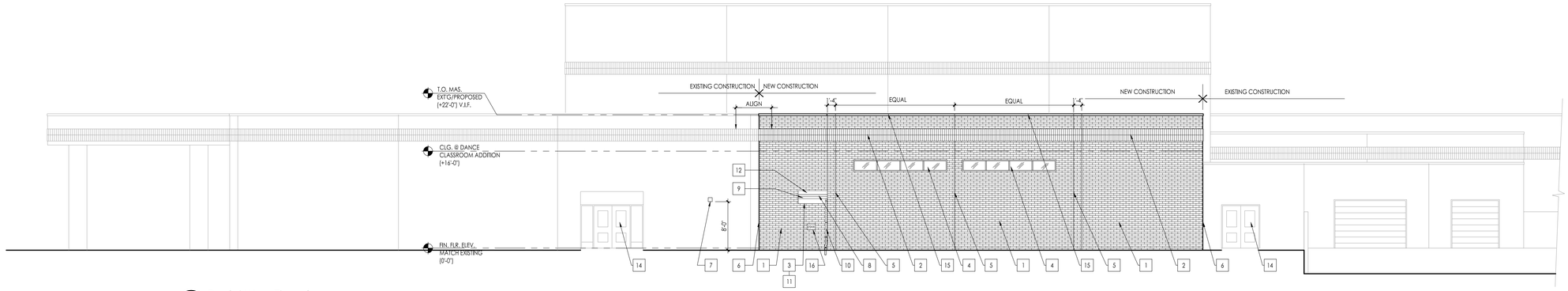
Scale
As Noted

Drawing Name
Roof Details

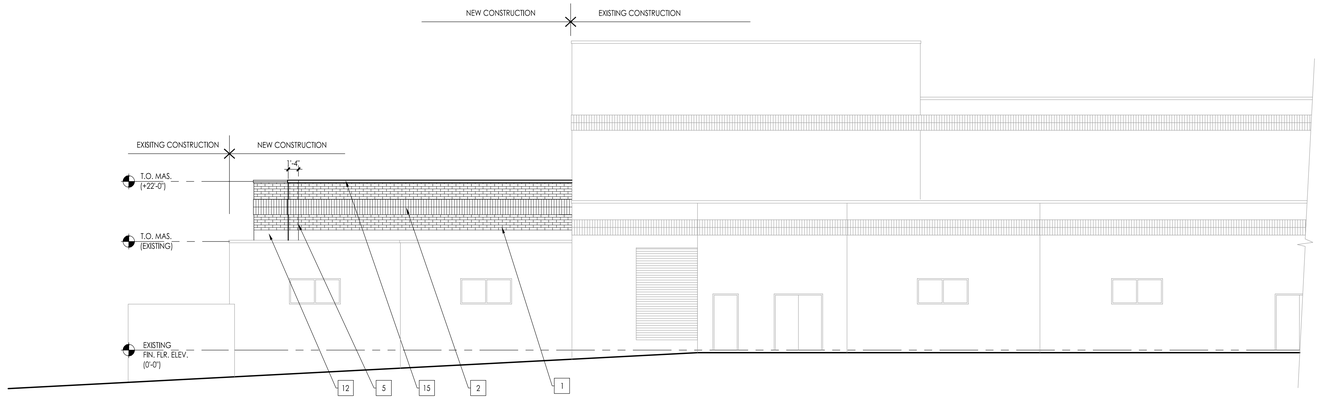
Revisions

No.	Date	Description
1	03.05.21	Addendum No. 02

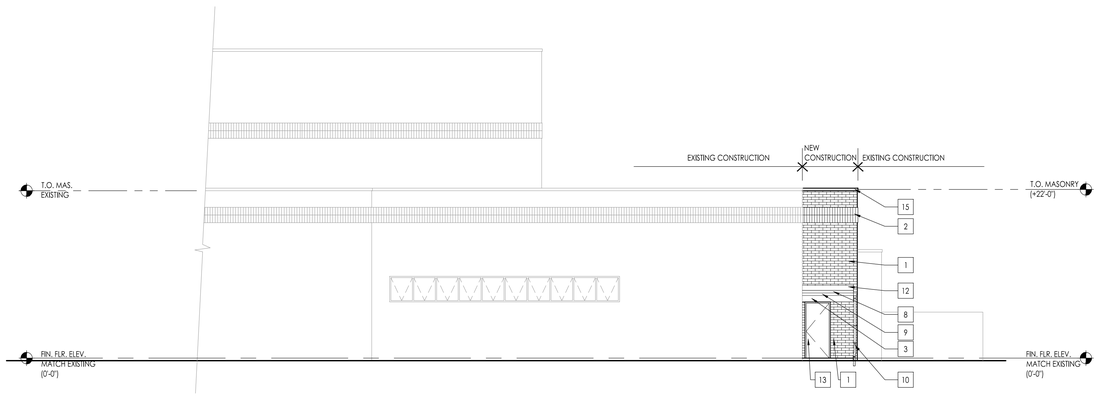
Drawing Number
A104



1 Partial West Elevation
Scale: 1/8" = 1'-0"



2 Partial South Elevation
Scale: 1/8" = 1'-0"

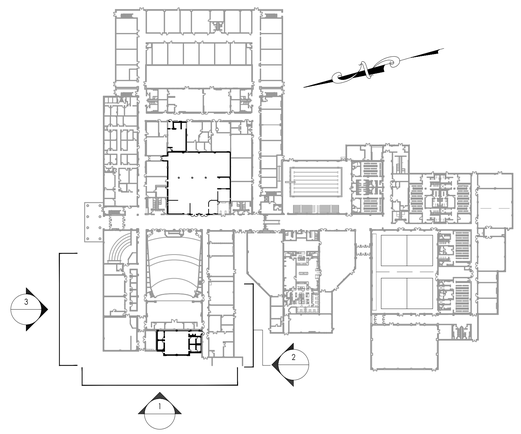


3 Partial North Elevation
Scale: 1/8" = 1'-0"

ELEVATION LEGEND

FACE BRICK (UTILITY, 1/3 RUNNING BOND TO MATCH EXISTING)

1		FACE BRICK COLOR #1 (TO MATCH EXISTING), 1/3 RUNNING BOND, SUBMIT PHYSICAL COLOR SAMPLE TO ARCHITECT FOR APPROVAL
2		FACE BRICK COLOR #1 (TO MATCH EXISTING) SOLDIER COURSE, SUBMIT PHYSICAL COLOR SAMPLE TO ARCHITECT FOR APPROVAL
3		PRE-FINISHED ALUMINUM FASCIA PANEL
4		ALUMINUM STOREFRONT SYSTEM - SEE SHEET A601 FOR DETAILS
5		CONTROL JOINT - SEE DETAIL 2 / G003
6		EXPANSION JOINT - SEE DETAIL 3/ G003
7		EXTERIOR LIGHT FIXTURE - SEE CIVIL AND ELECTRICAL DWGS.
8		PREFINISHED ALUMINUM ROOF EDGE - SEE ROOF DETAILS
9		PREFINISHED ALUMINUM GUTTER
10		ALUMINUM DOWNSPOUT TO CAST IRON RAINWATER BOOT REF. PLUMBING DWGS.
11		CANOPY - SEE WALL SECTIONS
12		BASE FLASHING - SEE ROOF DETAILS
13		NEW FRP DOOR - SEE DOOR SCHEDULE
14		EXISTING EGRESS DOOR
15		PREFINISHED ALUMINUM ROOF COPING - SEE ROOF DETAILS
16		DATESTONE - SEE DETAIL 7 / G002



OVERALL BUILDING KEY PLAN
Scale: 1:100

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5063K1

Project Date
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Checked By
GRD

Drawn By
SWS/IB

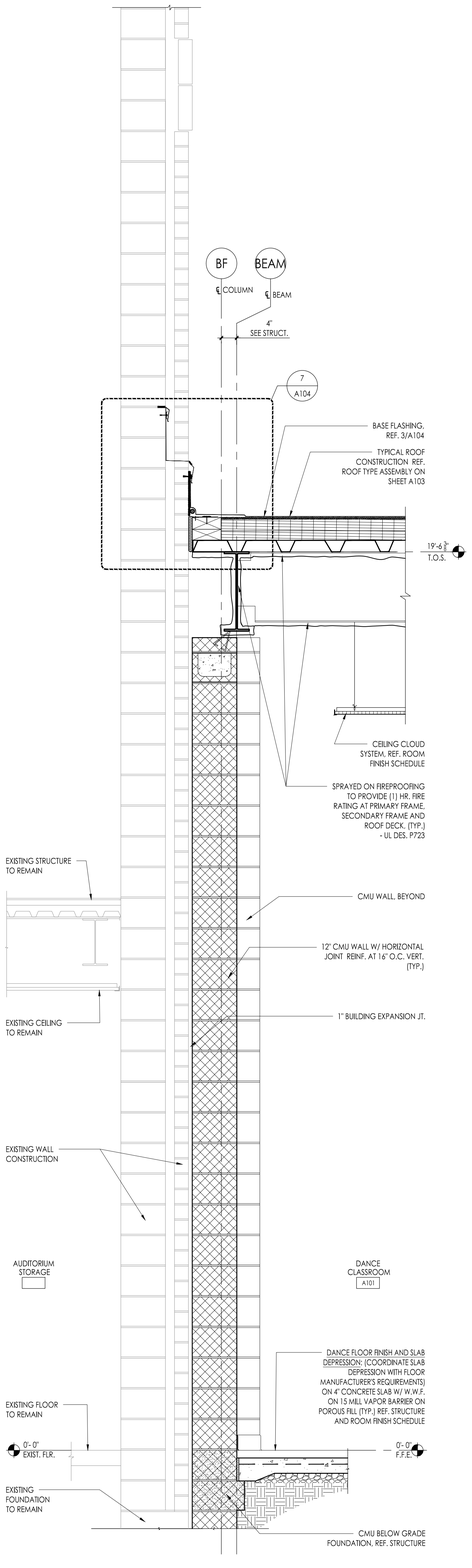
Scale
As Noted

Drawing Name
- Proposed Exterior Elevations

Revisions

No.	Date	Description

Drawing Number
A201



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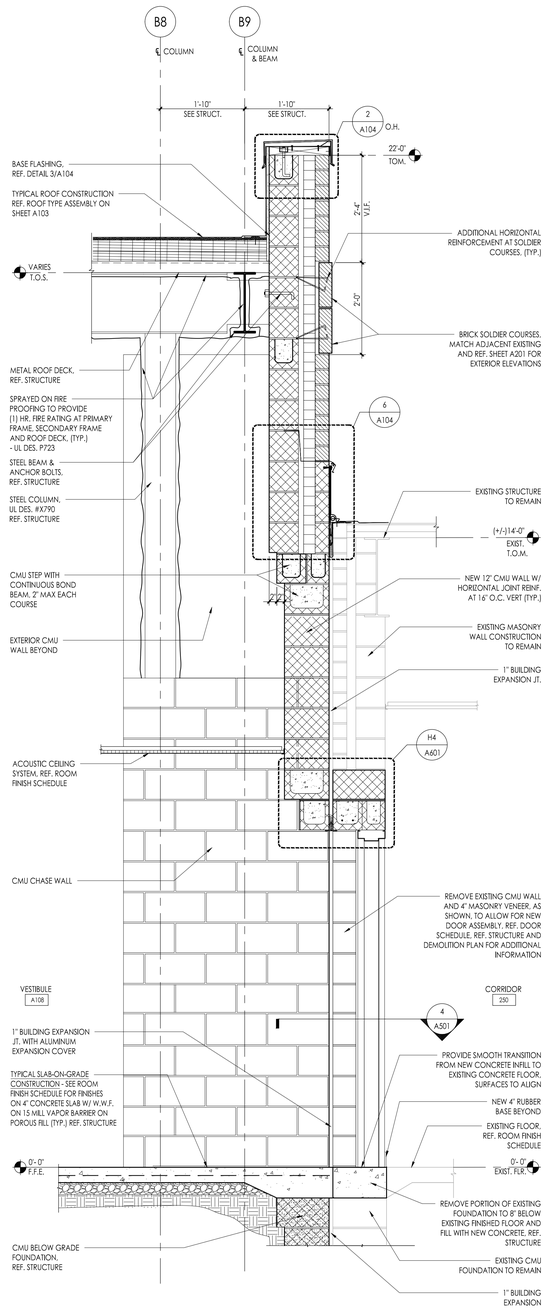

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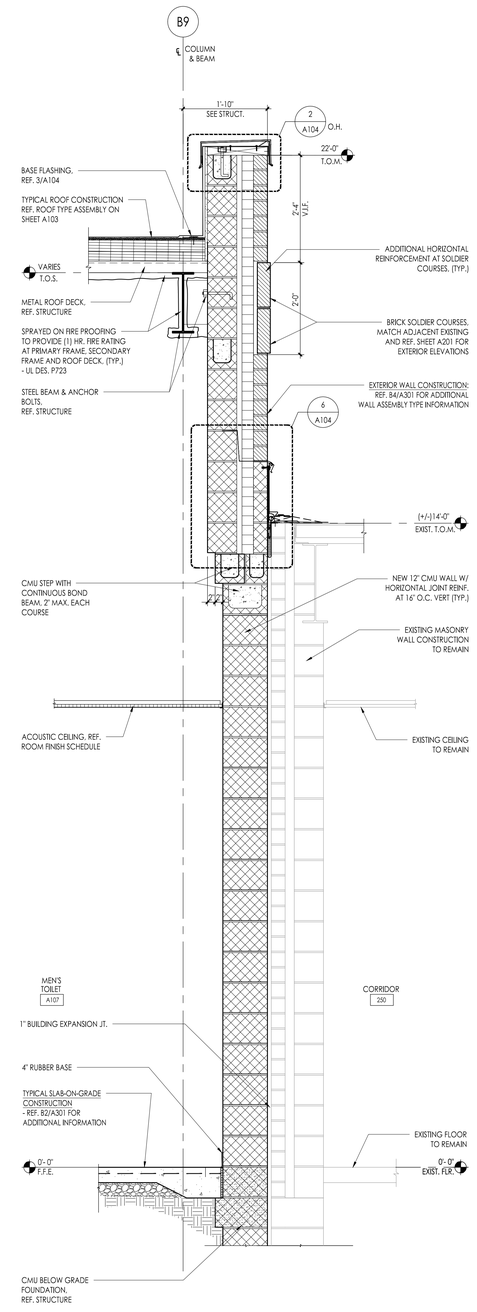

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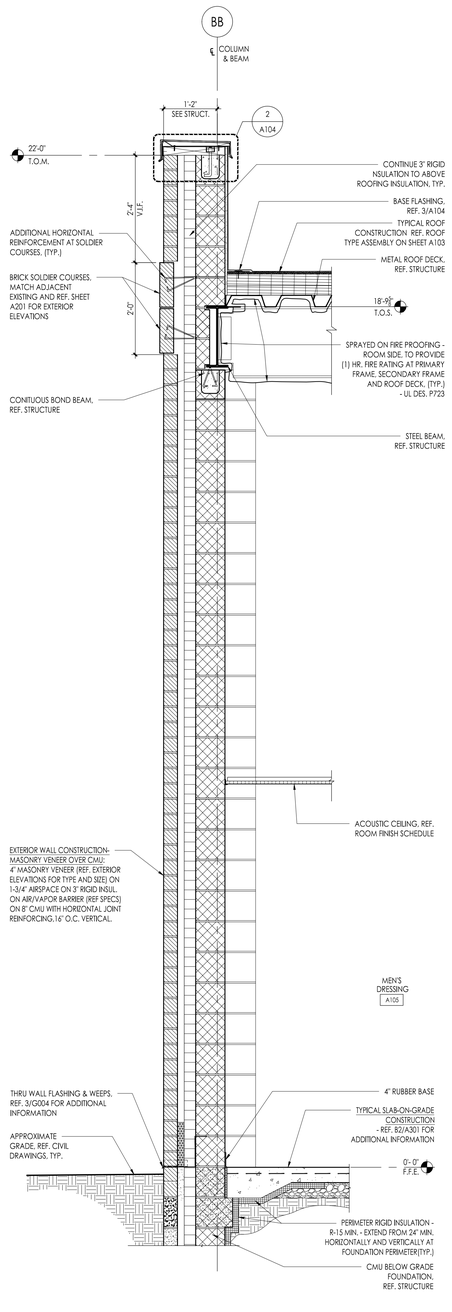

B4

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04/06/21
Date

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Project Name
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90 Grovers Mill Road, Plainsboro, New Jersey 08536

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04.06.2021

Checked By
GRD

Drawn By
IB

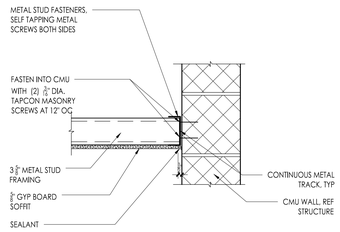
Scale
3/4" = 1'-0"

Drawing Name
Wall Sections

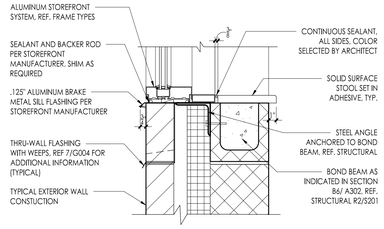
Revisions

No.	Date	Description

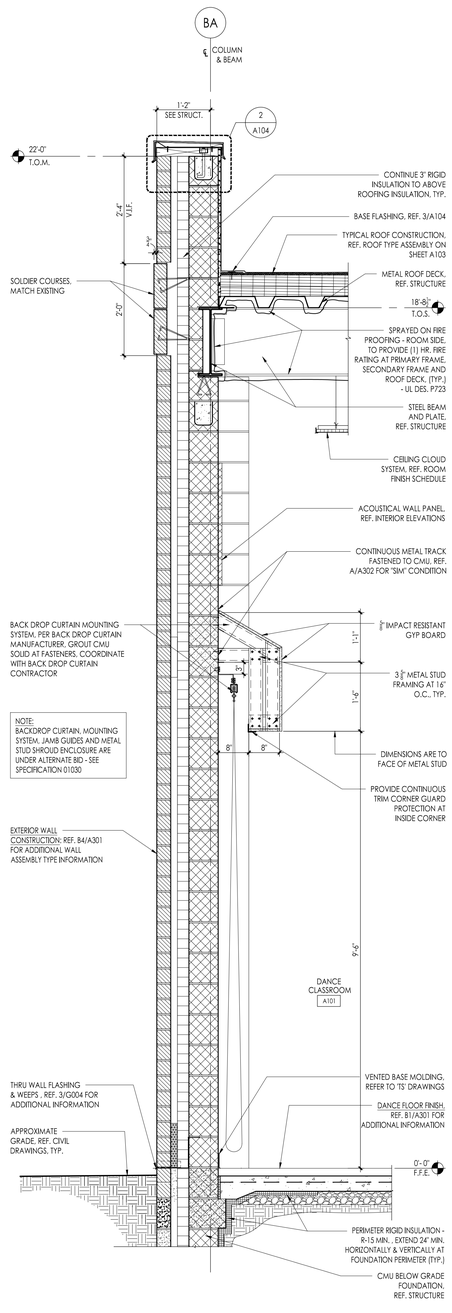
Drawing Number
A301



A TYPICAL CAPTURE TRACK AT CMU WALL
1-1/2" = 1'-0"



B SILL DETAIL AT STOREFRONT
Scale: 1 1/2" = 1'-0"



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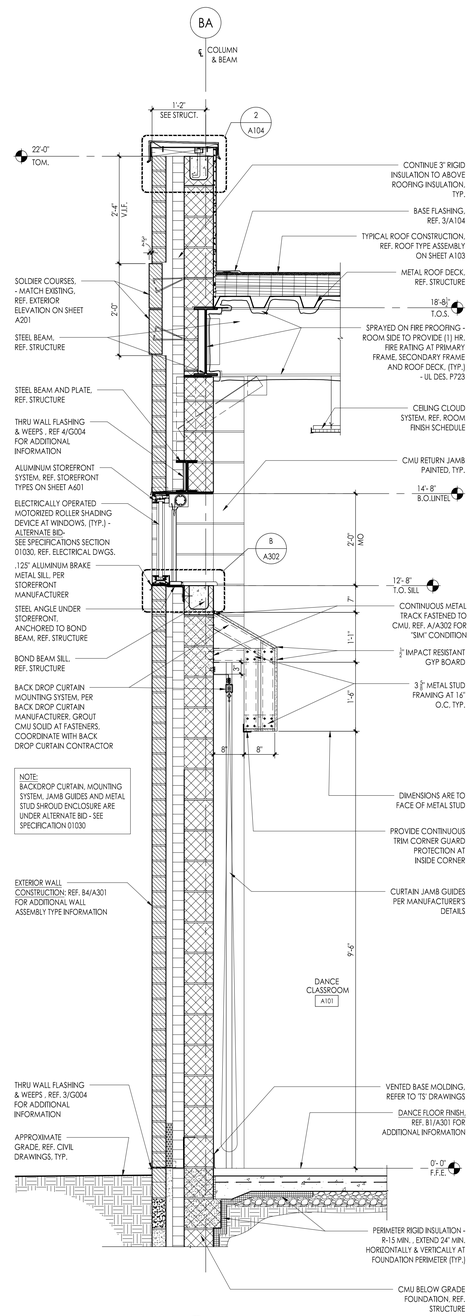

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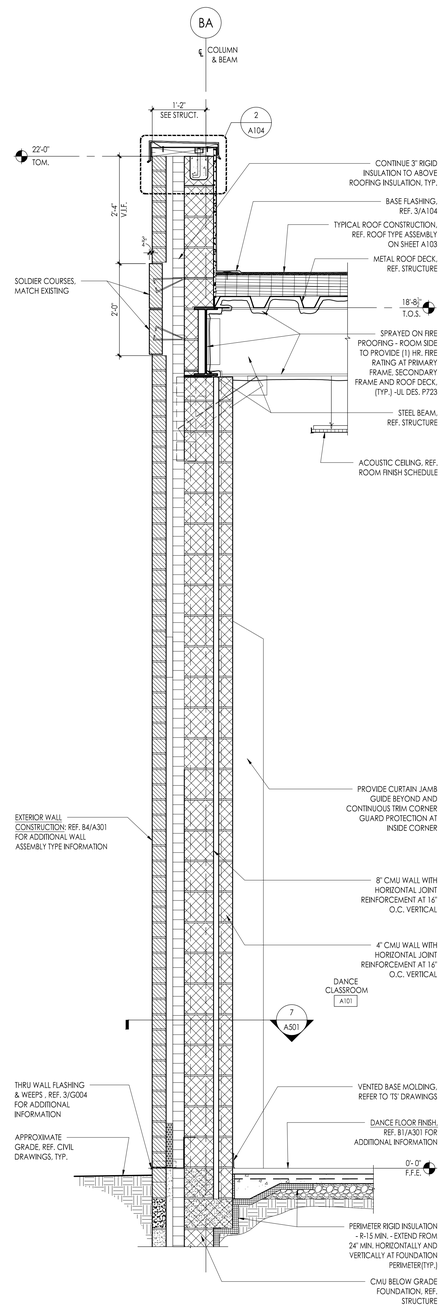

B7

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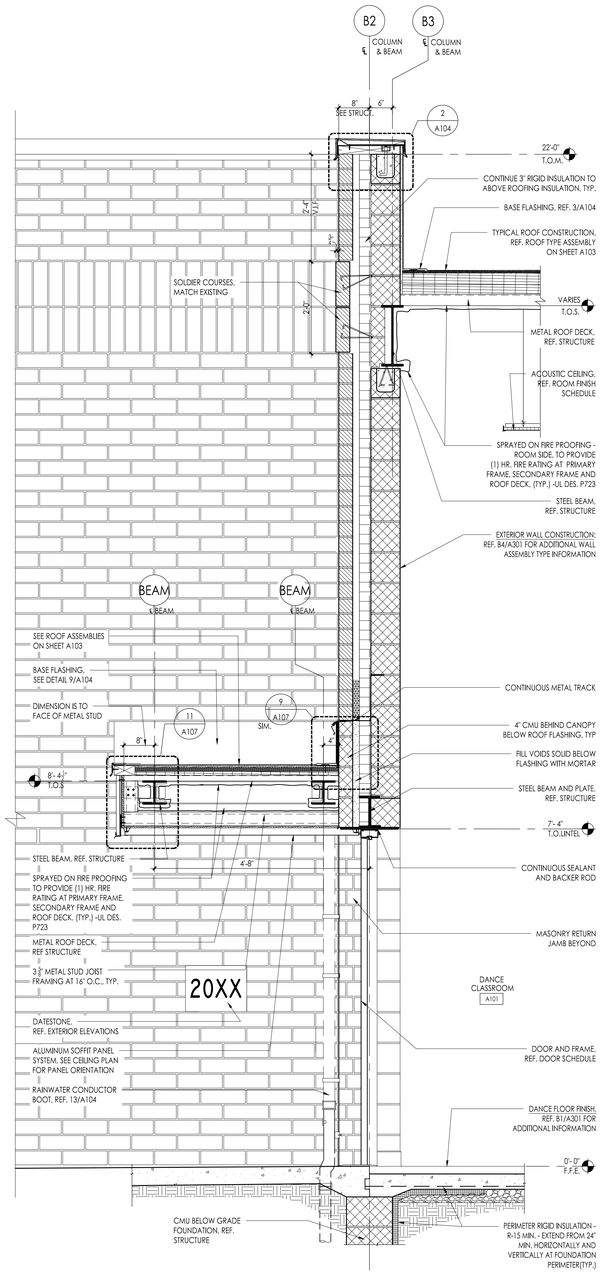
GRD
Drawn By
IB
Scale
3/4" = 1'-0"

Drawing Name
Wall Sections

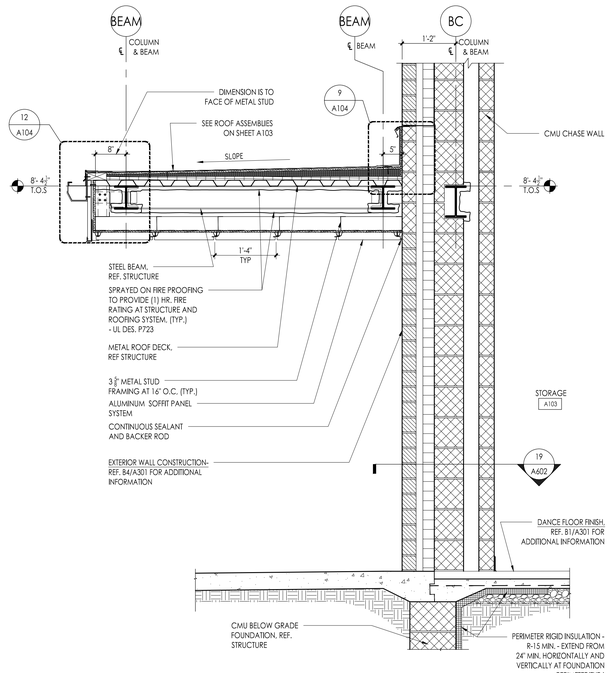
Revisions

No.	Date	Description

Drawing Number
A302



B8



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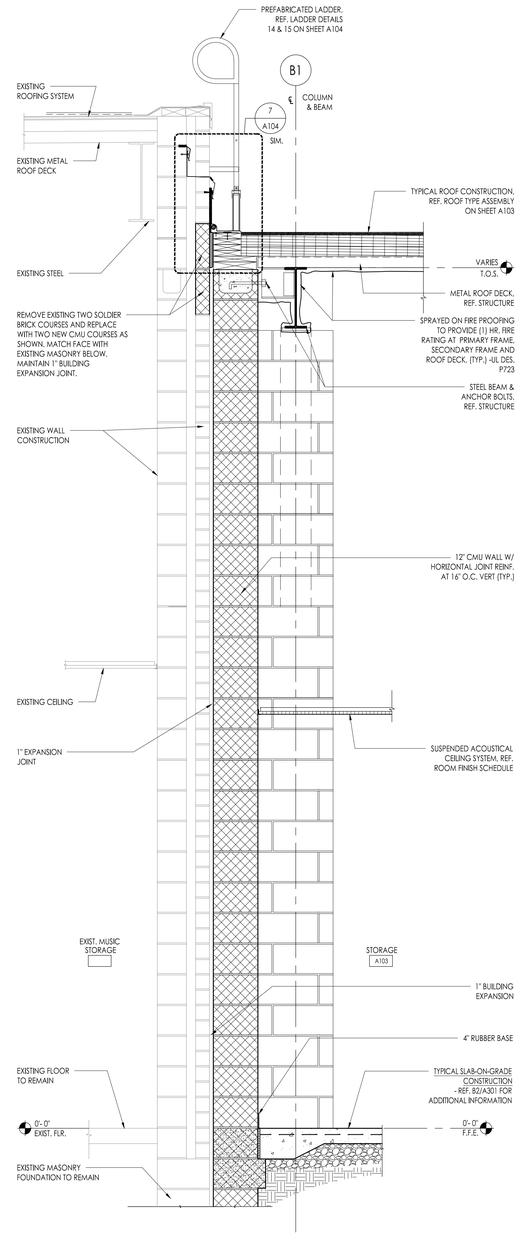

B9

WILLIAM D. HOPKINS III, AIA, LEED AP
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GEORGE R. DUTHIE JR., AIA, PP
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Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whitaker Ave - Mont Clare - Pennsylvania 19453

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

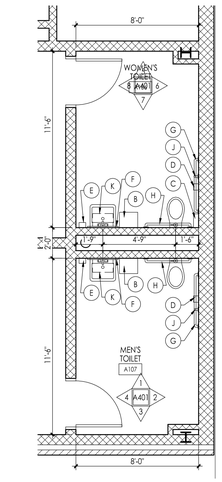
Scale
3/4" = 1'-0"

Drawing Name
Wall Sections

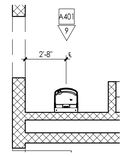
Revisions

No.	Date	Description
1	03.05.21	Addendum No. 02

Drawing Number
A303



A Toilet Layouts
Scale: 1/4" = 1' - 0"



B Drinking Fountain
Scale: 1/4" = 1' - 0"

EQUIPMENT SCHEDULE

	ITEM NO.	MANUFACTURER	CAT. NO.	DESCRIPTION	WIDTH	DEPTH	HEIGHT	REMARKS
	1	CAMPBELL RHEA (OR APPROVED EQUAL)	4672	WALL CASE - DOUBLE DOORS	41-1/4"	12"	16-3/16"	ONE ADJUSTABLE SHELF
	2	CAMPBELL RHEA (OR APPROVED EQUAL)	8760-42	ADA CLOSURE PANEL ASSEMBLY - 42" WIDE	42"	22-1/2"	33"	
	3	JUST (OR APPROVED EQUAL)	SL-ADA-1921-A-GR	STAINLESS STEEL DROP-IN SINK	21"			
	4	ICI SCIENTIFIC-JAMESTOWN METAL (OR APPROVED EQUAL)	P101-36	OPEN FRONT BASE CABINET - METAL	36"	22"	35-1/4"	ONE ADJUSTABLE SHELF
	5	CAMPBELL RHEA (OR APPROVED EQUAL)	5872	TEACHER'S WARDROBE	41-1/4"	22-1/2"	84"	4 ADJUSTABLE SHELVES, 1 CENTER FIXED SHELF

NOTES:

1. ALL CATALOG NUMBERS REFER TO BRADLEY WASHROOM ACCESSORIES UNLESS OTHERWISE NOTED. ALL SCHEDULED EQUIPMENT MANUFACTURES ARE "BASIS OF DESIGN", OR APPROVED EQUAL.
2. INDICATED ACCESSORIES SUPPLIED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR.
3. LAVATORY SHIELD MANUFACTURED BY "TRUEBRO - IPS CORPORATION" OR APPROVED EQUAL - SEE PLUMBING DRAWINGS AND SPECIFICATION.
4. SEE DRAWING G002 FOR MOUNTING HEIGHTS AND CLEARANCES AT ALL FIXTURES AND ACCESSORIES.

GENERAL CASEWORK NOTES:

1. CATALOG NUMBERS REFER TO MOST CURRENT CAMPBELL RHEA CASEWORK CATALOG UNLESS OTHERWISE NOTED. FOR REFERENCE ONLY.
2. ALL CASEWORK DOORS AND DRAWERS TO HAVE LOCKS KEYED ALIKE PER ROOM AND MASTER KEYED.
3. ALL TOPS SHALL BE PLYWOOD, 1" TOTAL THK. WITH PLASTIC LAMINATE COVERING ON ALL EXPOSED SURFACES (UNLESS NOTED OTHERWISE)
4. ALL BACKSPLASHES SHALL BE 3/4" PLYWOOD WITH PLASTIC LAMINATE COVERING ON ALL EXPOSED SURFACES (UNLESS NOTED OTHERWISE).
5. ALL FURNITURE AND EQUIPMENT SHOWN DOTTED AND/OR INDICATED AS (N.I.C.) IS NOT IN CONTRACT.
6. THE CASEWORK & EQUIPMENT SUB-CONTRACTOR(S) SHALL TURN OVER TO THE PLUMBING AND ELECTRICAL SUB-CONTRACTOR(S) IN A PACKAGE, ALL SINKS, FIXTURES, FAUCETS, TAILPIECES, STRAINERS, GAS COCKS, ETC., AND ELECTRICAL DEVICES, NIPPLES AND LOCKNUTS, ETC., FOR INSTALLATION AND FINAL CONNECTION.
7. THE CASEWORK AND EQUIPMENT SUB-CONTRACTOR SHALL PROVIDE AN ITEMIZED LIST AND A DESIGNATED SITE LOCATION FOR THE TRANSFER OF THE MATERIALS REFERENCED IN NOTE 6 TO THE PLUMBING AND ELECTRICAL SUB-CONTRACTORS. THE LIST SHALL HAVE A DESCRIPTION OF THE ITEMS AND QUANTITY ALONG WITH A SIGN-OFF LINE FOR THE PLUMBING AND ELECTRICAL SUB-CONTRACTORS. A COPY OF THE SIGNED LIST IS TO BE SUBMITTED TO THE ARCHITECT / OWNER PRIOR TO BILLING FOR THIS EQUIPMENT.
8. EQUIPMENT SUB-CONTRACTOR SHALL MAKE SINK CUT-OUTS.
9. ALL DUPLEX OUTLETS SHALL BE G.F.C.I. UNLESS NOTED OTHERWISE.
10. SINK CABINETS SHALL BE INSTALLED BEFORE THE INSTALLATION OF ADJACENT CABINETS.
11. ALL CONTRACTORS TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT IN WRITTEN FORM OF ANY DISCREPANCIES.
12. PROVIDE ALL FILLERS AS REQUIRED. FILLERS AT BASE CABINETS SHALL BE AT FRONT OF CABINET AND COUNTERTOP SHALL BE CONTINUOUS OVER FILLER PANEL. FILLERS AT TALL CABINETS SHALL BE AT FRONT AND TOP OF CABINET. FILLERS AT WALL CASES SHALL BE AT FRONT, TOP AND BOTTOM OF CABINET. FINISH TO MATCH CASEWORK.
13. ALL PRINTERS AND COMPUTERS ARE N.I.C. (TYPICAL)
14. RUBBER BASE ON ALL CASEWORK BY G.C. (TYPICAL)
15. ALL SCHEDULED EQUIPMENT MANUFACTURERS ARE "BASIS OF DESIGN", OR APPROVED EQUAL.

SINK NOTE 'A': (ITEM #3)

SL-ADA-1921-A-GR STAINLESS STEEL SINK, JUST MANUFACTURING OR APPROVED EQUAL, THE STYLIST ADA" SERIES, TYPE 304, WHEELCHAIR ACCESSIBLE SINK, SINGLE COMPARTMENT, SELF-RIM, 18 GAUGE STAINLESS STEEL, 19" x 21" x 6" DEEP. DRAIN CENTER. SINK UNDERCOATED W/ SOUND DEADENING MATERIAL. FURNISH COMPLETE WITH JUST FAUCET (#J-1174-KS) CONCEALED HOT & COLD WATER MIXING FAUCET WITH SWIVEL GOOSENECK SPOUT, AERATOR AND WRIST BLADE HANDLES. INCLUDE ONE JUST OFFSET DRAIN ASSEMBLY (#J-ADA-35-FS) W/ DRAIN INSULATING KIT (#J-ADA-150) W/ STAINLESS STEEL FLAT STRAINER & 4" LONG STAINLESS STEEL TAILPIECE (#J-35-SSF).

SINK, FAUCET, STRAINER AND TAILPIECE TO BE SUPPLIED BY EQUIPMENT CONTRACTOR. THE PLUMBING CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAPS, VALVES, WASTE LINES, ETC. AS REQUIRED TO MAKE THE SYSTEM FULLY FUNCTIONAL. THE PLUMBING CONTRACTOR SHALL MAKE THE FINAL PLUMBING CONNECTIONS REQUIRED TO MAKE THE SYSTEM FULLY FUNCTIONAL. SEE GENERAL CASEWORK NOTES # 6 & 7.

NOTE:

ALL FURNITURE AND EQUIPMENT WITHOUT THE SYMBOL OR MARKED (N.I.C.) IS NOT IN CONTRACT UNLESS NOTED OTHERWISE. SEE EQUIPMENT SCHEDULE FOR EQUIPMENT MARKED WITH THE SYMBOL

NOTE:

SEE 1/8" PLAN FOR LOCATION & ROOM NUMBERS.

SEE 1/8" PLAN TO DETERMINE WHICH ROOMS ARE OPPOSITE HAND AND/OR SIMILAR TO ROOM SHOWN.

NOTE:

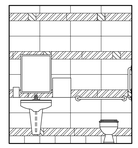
PROVIDE A MINIMUM 18" BARRIER-FREE MANEUVERING CLEARANCE AT THE PULL SIDE OF ALL DOORS ADJACENT TO CABINETS, SHELVING, CORRIDOR LOCKERS, ETC.

NOTE:

ALL COMPUTER WORKSTATIONS ARE NOT IN CONTRACT (N.I.C.) UNLESS NOTED OTHERWISE (TYPICAL)

EQUIPMENT CONTRACT NOTE:

THE EQUIPMENT SUB-CONTRACTOR(S) SHALL BE (A) SUBCONTRACTOR(S) OF THE GENERAL CONSTRUCTION WORK CONTRACTOR.



1 Men's Toilet
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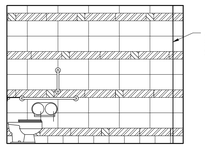

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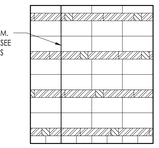

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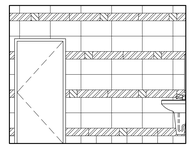
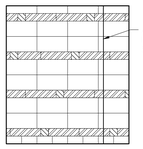
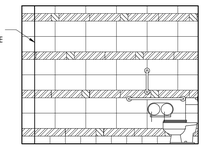
Scale: 1/4" = 1'-0"



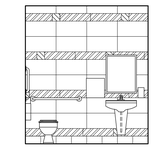
4 Men's Toilet
Scale: 1/4" = 1'-0"



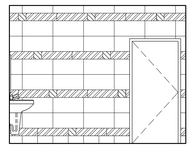
5 Women's Toilet
Scale: 1/4" = 1'-0"



6 Women's Toilet
Scale: 1/4" = 1'-0"



7 Women's Toilet
Scale: 1/4" = 1'-0"



8 Women's Toilet
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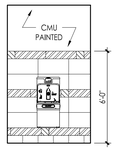


9 Drinking Fountain
Scale: 1/4" = 1'-0"

PORCELAIN TILE LEGEND

PT (WALL) COLOR #1

PT (WALL) COLOR #2

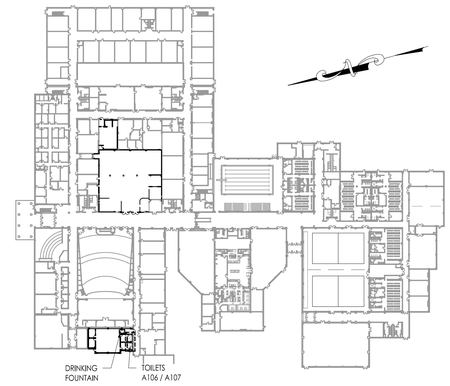
PT (WALL) COLOR #3

NOTES:

1. SEE DRAWING G002 FOR TYPICAL TOILET ROOM FIXTURE / ACCESSORY MOUNTING HEIGHTS AND CLEARANCES.

TOILET ROOM ACCESSORIES

NO.	CAT. NO.	DESCRIPTION	SIZE H.	SIZE D.	SIZE W.	REMARKS
A		NOT USED				
B	--	PAPER TOWEL DISPENSER	--	--	--	SEE NOTE 2
C	#4722-15	SANITARY NAPKIN DISPOSAL	15 1/8"	4"	10 3/4"	SURFACE MOUNTED
D	--	TOILET TISSUE DISPENSER	--	--	--	SEE NOTE 2
E	--	SOAP DISPENSER	--	--	--	SEE NOTE 2
F	#781-2430	MIRROR	30"	--	24"	TEMPERED GLASS
G	#812-2	GRAB BAR	--	1 1/2" D.	42"	SAFETY GRIP FINISH
H	#812-2	GRAB BAR	--	1 1/2" D.	36"	SAFETY GRIP FINISH
J	#812-2	GRAB BAR	18"	1 1/2" D.	--	SAFETY GRIP FINISH, MOUNT VERTICAL
K	#2018	LAVATORY PIPING SHIELD	16"	20"	10"	SEE NOTE 3



OVERALL BUILDING KEY PLAN
Scale: 1:100

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01506001 | PA - 443125200
GEORGE R. DUTHIE JR., AIA, PP
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FVHDPC.COM
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whitaker Ave - Mont Clare - Pennsylvania 19453

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

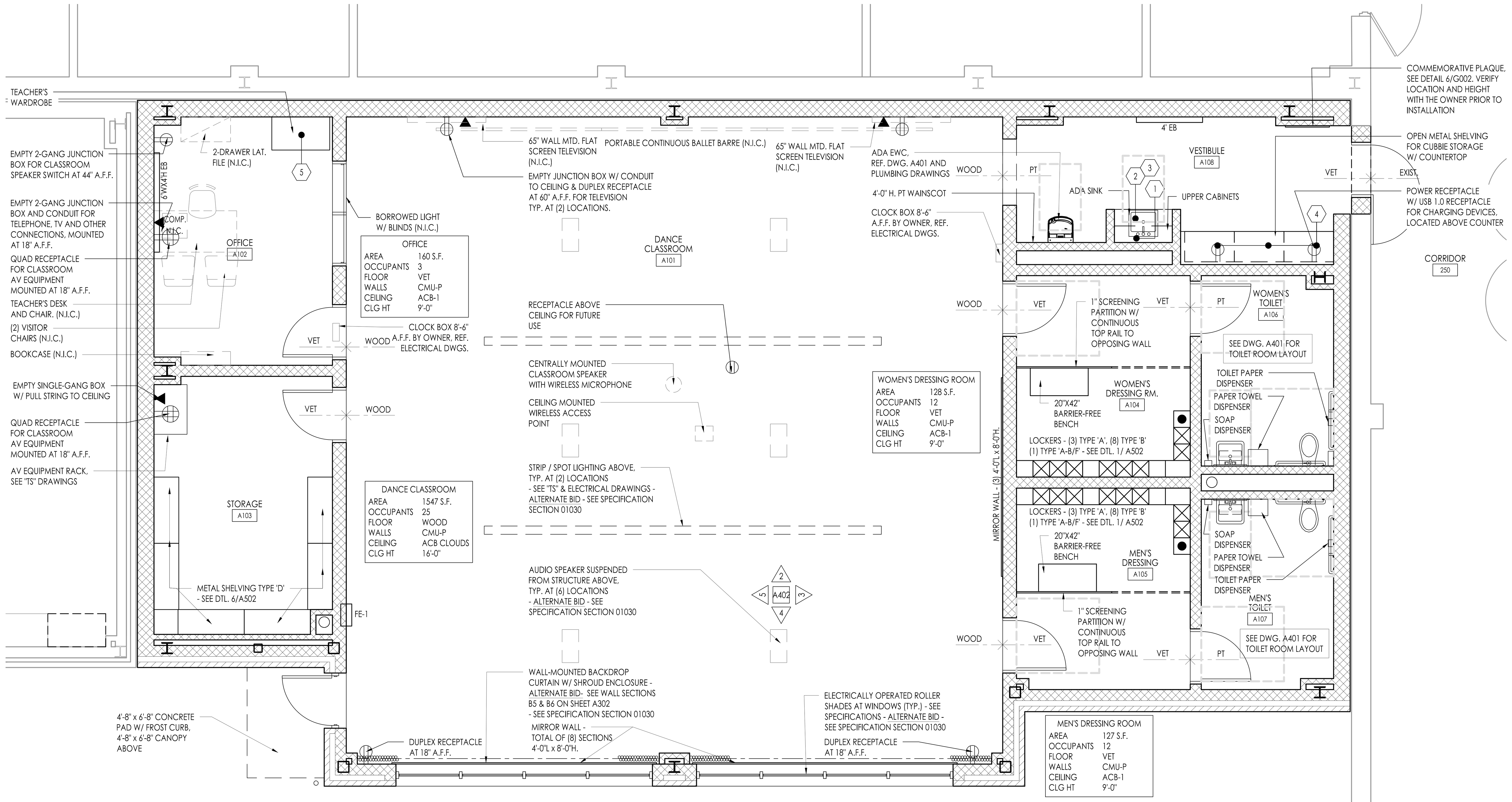
Project Number
5063K1
Project Date
04.06.2021
Checked By
GRD
Drawn By
IB
Scale
As Noted

Drawing Name
- Equipment Schedule
- Notes
- Toilet Room Details

Revisions

No.	Date	Description

Drawing Number
A401



1 Room Layout - Dance Classroom
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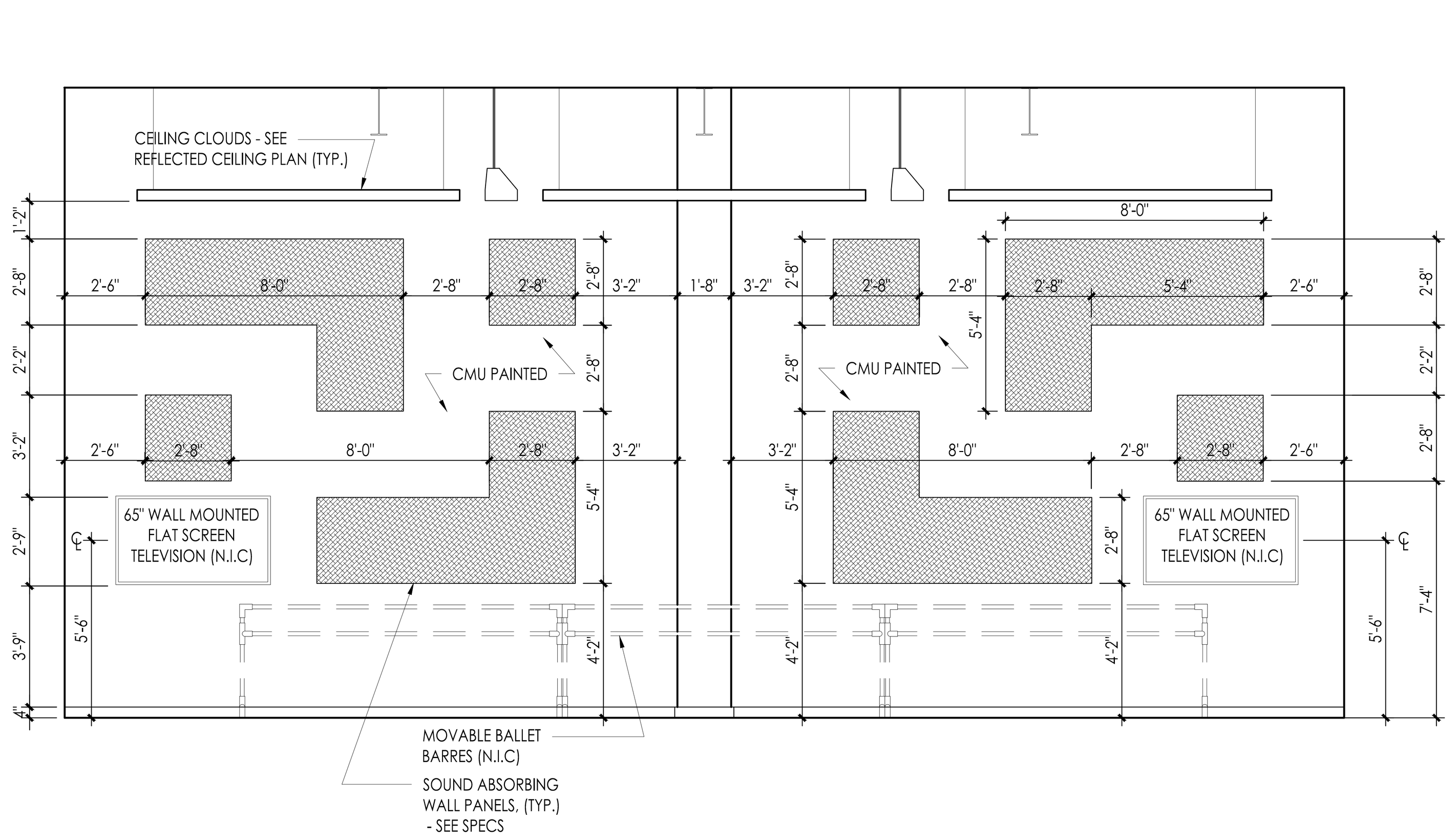

2 Interior Elevation - Dance Classroom
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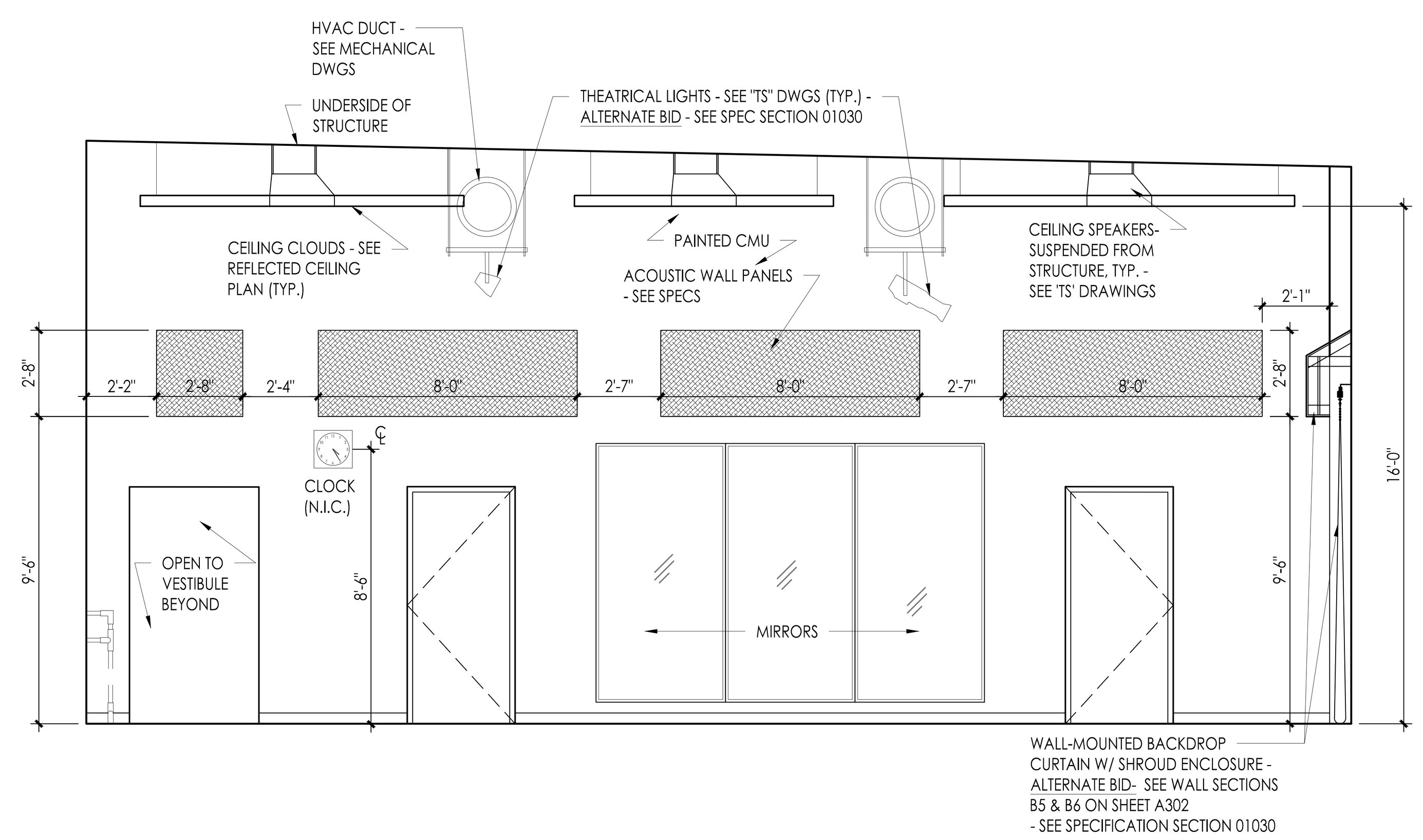

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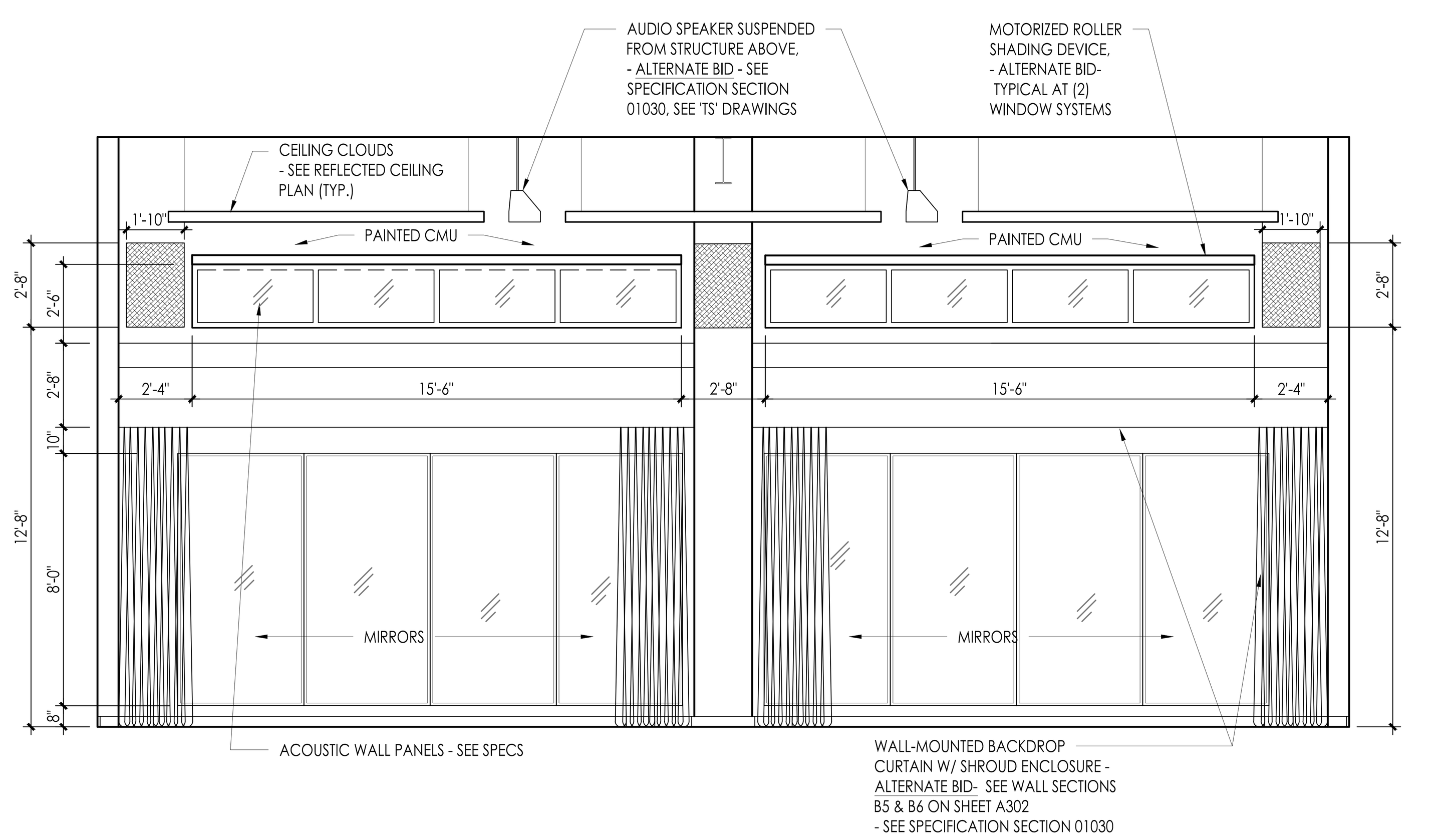

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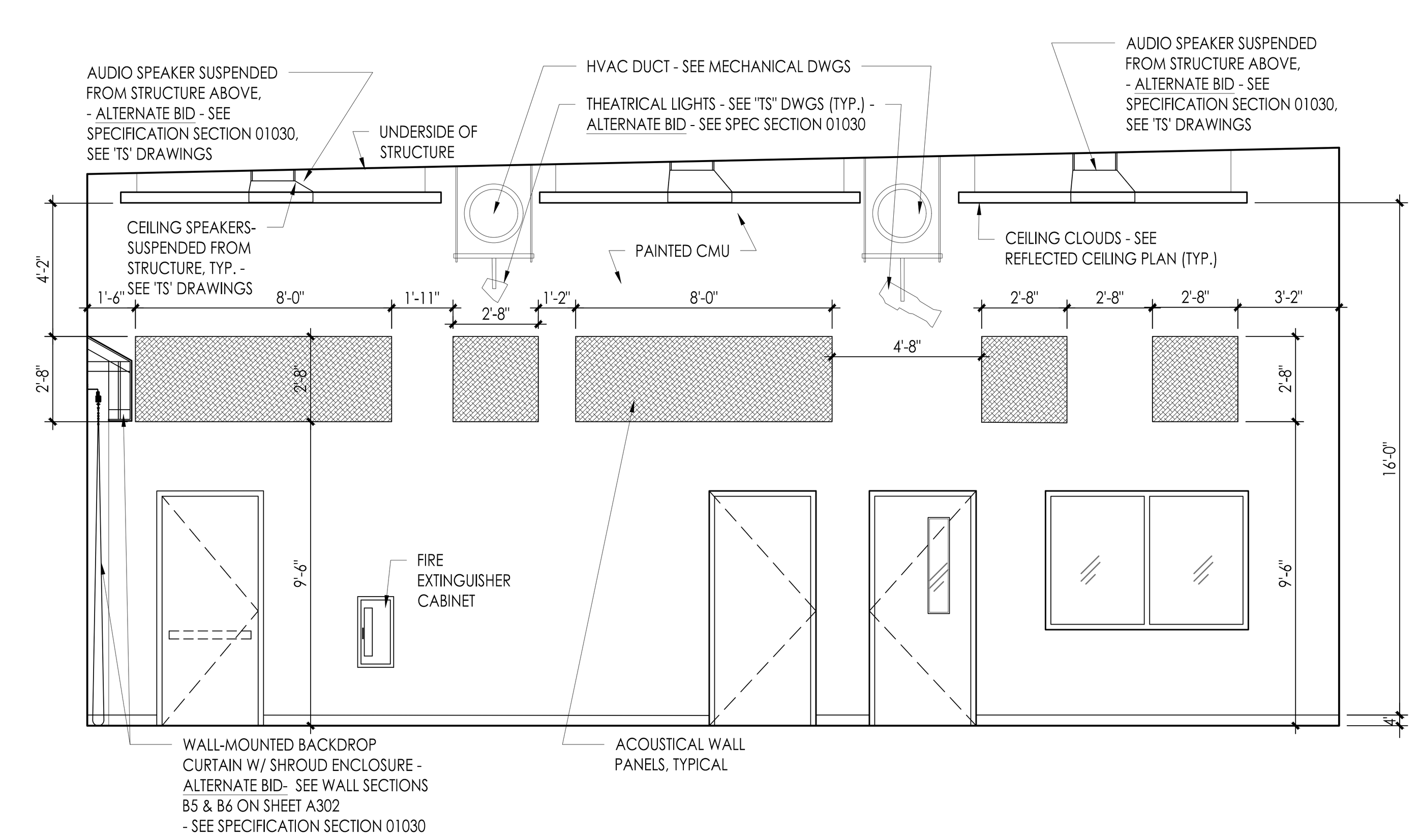

5 Interior Elevation - Dance Classroom
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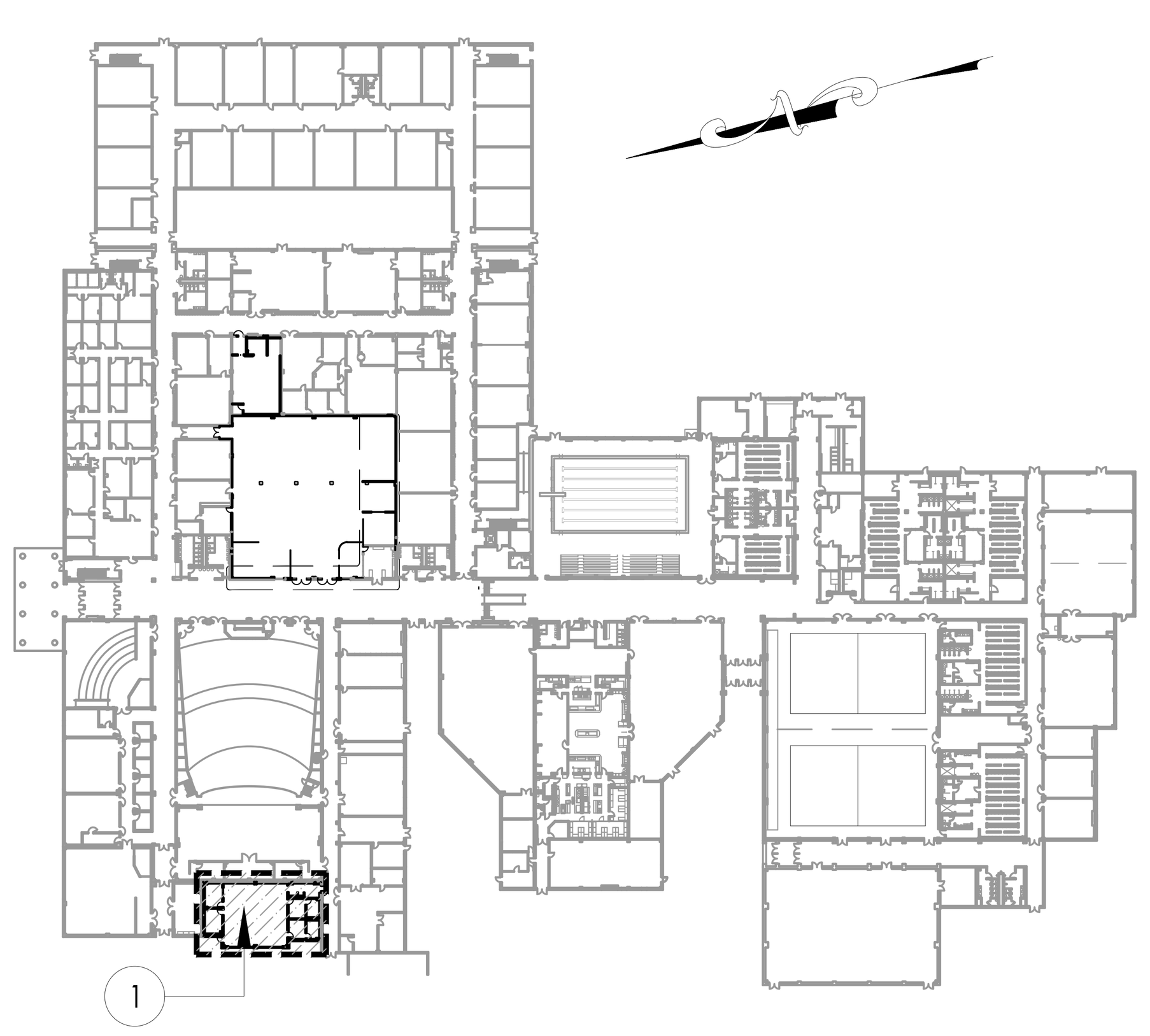

OVERALL BUILDING KEY PLAN
Scale: 1:100

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NJ - 21AI01706000 | PA - RA012520X
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NJ - 21AI01299200
Architect
Date 04/06/21

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F V H D P C . C O M

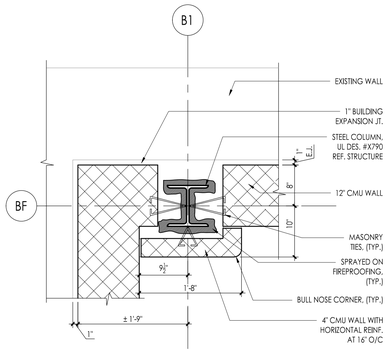
Project Name	Addition to West Windsor-Plainsboro High School North
Project Owner Name	West Windsor - Plainsboro Regional School District
Project Location	90 Grovers Mill Road, Plainsboro, New Jersey 08536
Project Number	5063K1
Project Date	04.06.2021
Checked By	GRD
Drawn By	IB
Scale	As Noted
Drawing Name	- Room Layout - Interior Elevations

Revisions

No.	Date	Description

Drawing Number

A402



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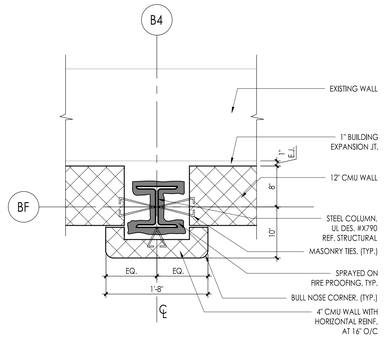

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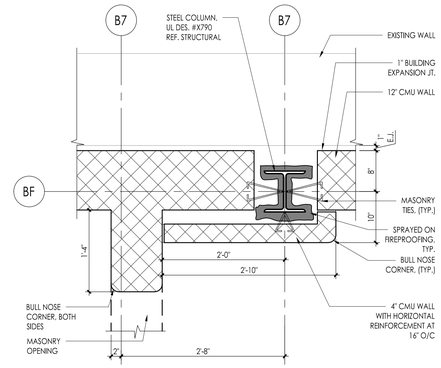

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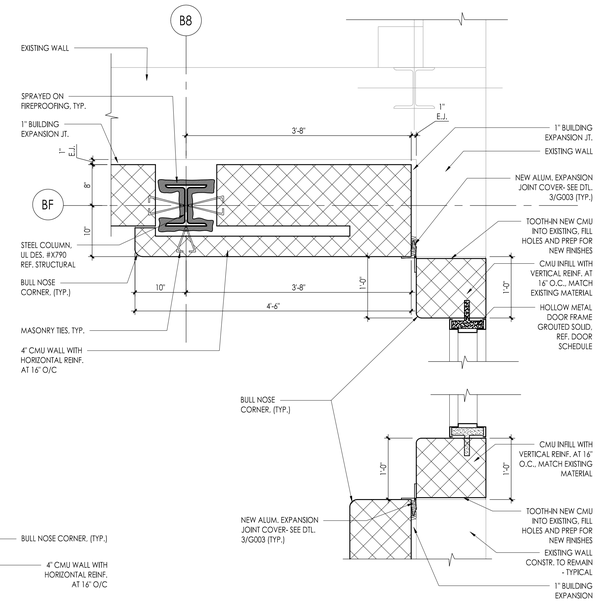

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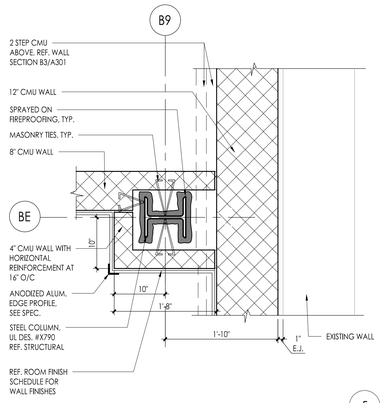

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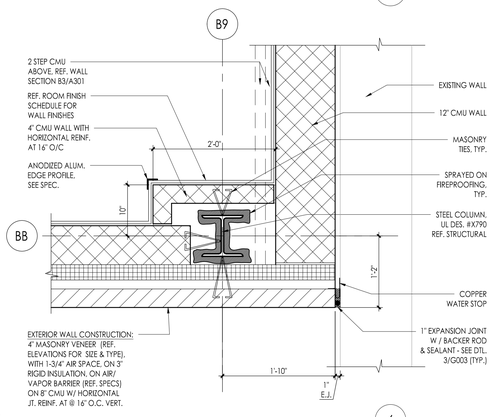

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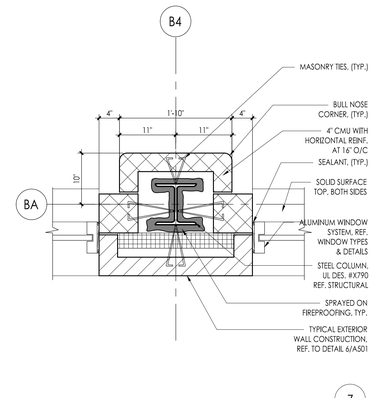

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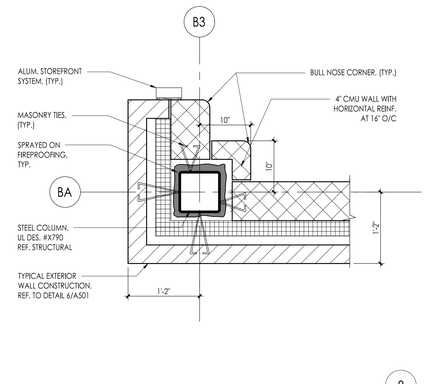

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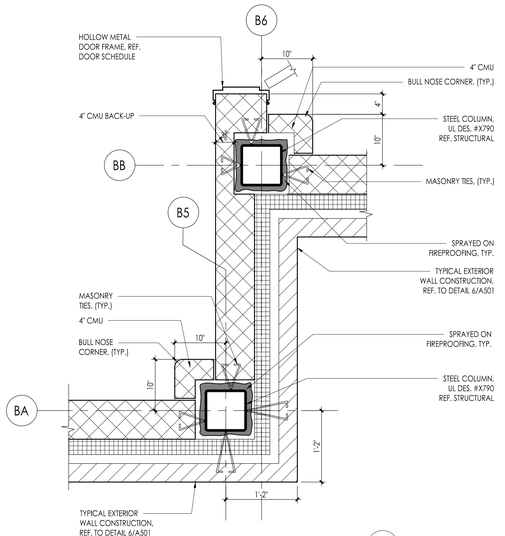

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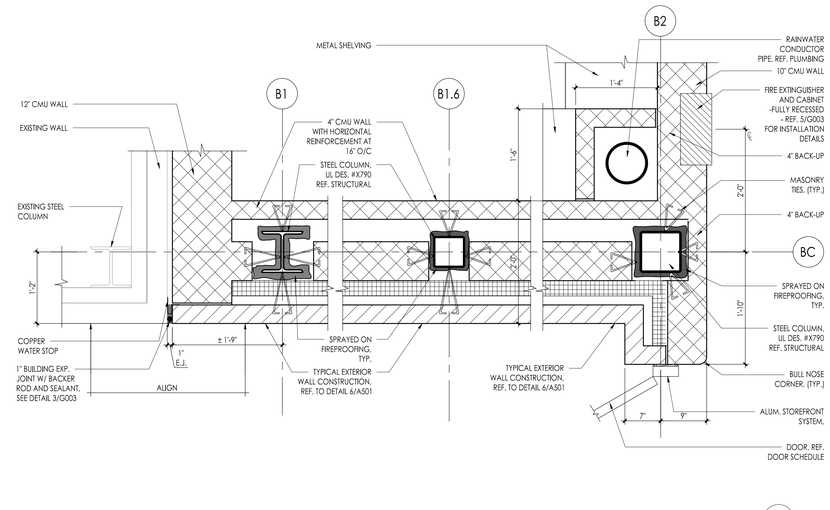

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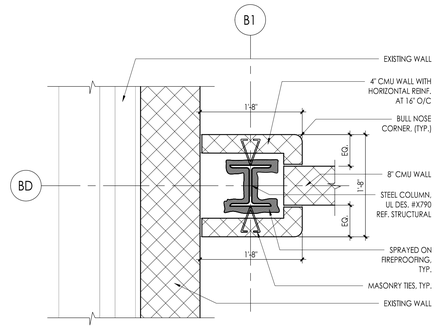

11

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01596001 | PA - #AI-255092

GEORGE R. DUTHIE JR., AIA, PP
NJ - 21AI02929500

Architect

Date

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FVHD architects planners
Fraytak Veisz Hopkins Duthie PC

Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08628
Pennsylvania: 140 Whitaker Ave - Morrisville - Pennsylvania 19453

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
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90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

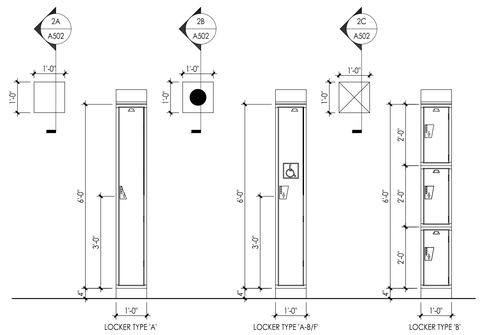
Scale
1" = 1'-0"

Drawing Name
Plan Details

Revisions

No.	Date	Description

Drawing Number
A501



1 LOCKER TYPES / ELEVATIONS
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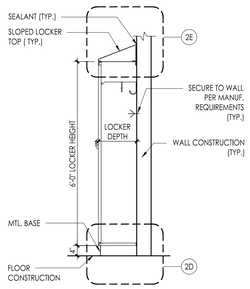

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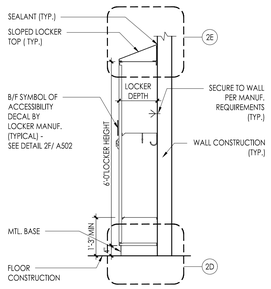

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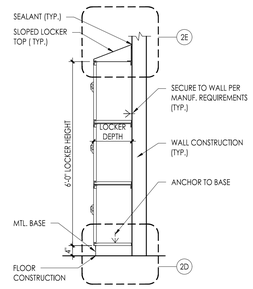
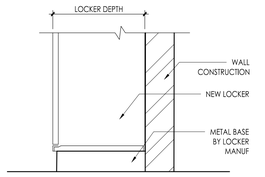
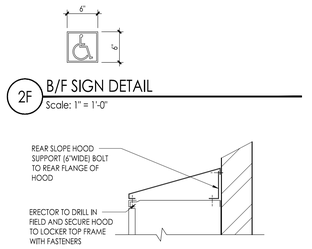
Scale: 1/2" = 1'-0"



2C SECTION
Scale: 1/2" = 1'-0"



2D LOCKER BASE DETAIL
Scale: 1" = 1'-0"



2F B/F SIGN DETAIL
Scale: 1" = 1'-0"

2E SLOPED LOCKER TOP DETAIL
Scale: 1" = 1'-0"

2 LOCKER DETAILS
Scale: AS NOTED

3 CASEWORK DETAIL
Scale: 1/2" = 1'-0"

4 WALL CABINET MOUNTING DETAILS
Scale: 1/2" = 1'-0"

6 METAL SHELVING SCHEDULE
Scale: 1/2" = 1'-0"

7 CMU WALL ANCHOR DETAIL
Scale: 1 1/2" = 1'-0"

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
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90 Grovers Mill Road, Plainsboro, New Jersey 08536

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5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
IB

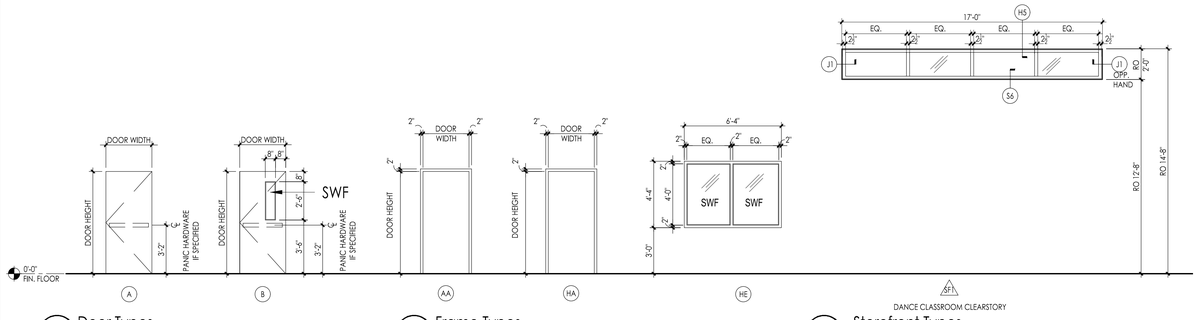
Scale
1" = 1'-0"

Drawing Name
Miscellaneous Details

Revisions

No.	Date	Description

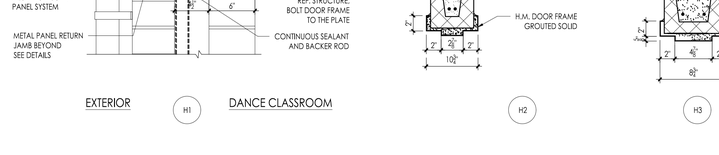
Drawing Number
A502



1 Door Types
1/4" = 1' =0"

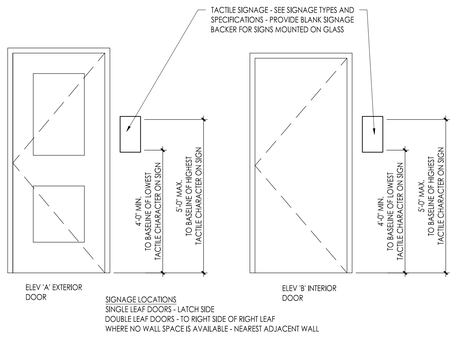
2 Frame Types
1/4" = 1' =0"

3 Storefront Types
1/4" = 1' =0"



NOTE: ALL LETTERS, NUMBERS, SYMBOLS AND PICTOGRAPHS SHALL BE RAISED MINIMUM 1/32" FROM SIGN FACE AND SHALL MEET ALL REQUIREMENTS FOR COLOR CONTRAST RATIO.

4 Signage Types
1-1/2" = 1' =0"



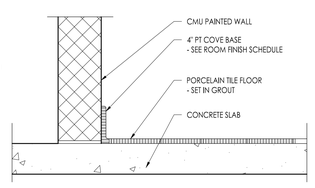
6 Signage Location Details
1/2" = 1' =0"

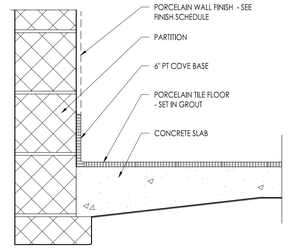
ABBREVIATIONS

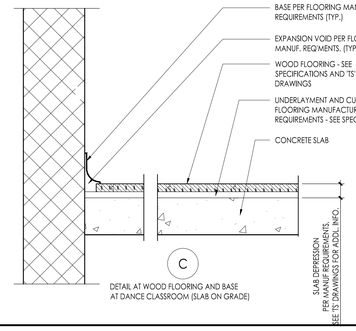
AL	- ALUMINUM
HM	- HOLLOW METAL
INSUL-F	- INSULTED TINTED TEMPERED GLASS W/ SECURITY WINDOW FILM
LAM	- LAMINATED GLASS
TPG-F	- TEMPERED GLASS W/ SECURITY WINDOW FILM
WD	- WOOD
SWF	- SECURITY WINDOW FILM

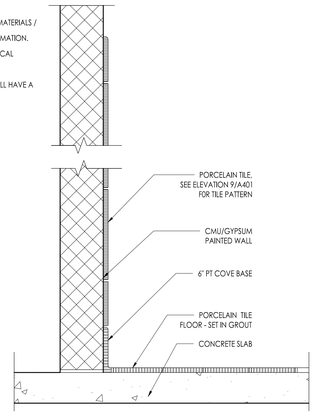
ABBREVIATIONS

ALUM	- ALUMINUM
ACB-1	- ACOUSTIC CEILING BOARD TYPE 1 (2' x 4' TYP.)
DCS-1	- ACOUSTIC CEILING SYSTEM TYPE 1
CP	- CONCRETE MASONRY UNIT - PAINTED
CPT-T	- CARPET TILE
ETR- P	- EXISTING CONSTRUCTION - PAINTED
M-EX	- MATCH EXISTING
PT	- PORCELAIN TILE
RUB	- RUBBER BASE
VET	- VINYL ENHANCED TILE
WD	- WOOD
VBM	- VENTED BASE MOULDING









ROOM FINISH SCHEDULE

NUMBER	ROOM NAME	FLOOR	BASE MAT.	BASE HT.	WALL FINISH	CEILING MAT.	CEILING HT.	NOTES
250	CORRIDOR	ETR	ETR	4"	ETR	ETR	ETR	SEE ROOM FINISH SCHEDULE NOTE # 9 &10
A101	DANCE CLASSROOM	WOOD	VBM	4"	CMU-P	DCS-1	16'-0"	SEE ROOM FINISH SCHEDULE NOTE #2, 3, 4, 5, 7, 8 & 11
A102	OFFICE	VET	RUB	4"	CMU-P	ACB-1	9'-0"	--
A103	STORAGE	VET	RUB	4"	CMU-P	ACB-1	9'-0"	--
A104	WOMEN'S DRESSING RM.	VET	RUB	4"	CEP	AACB	9'-0"	--
A105	MEN'S DRESSING	VET	RUB	4"	CEP	AACB	9'-0"	--
A106	WOMEN'S TOILET	PT	PT	6"	PT	AACB	9'-0"	SEE ROOM FINISH SCHEDULE NOTE #1
A107	MEN'S TOILET	PT	PT	6"	PT	AACB	9'-0"	SEE ROOM FINISH SCHEDULE NOTE #1
A108	VESTIBULE	PT	PT	6"	CMU-P	ACB-1	9'-0"	SEE ROOM FINISH SCHEDULE NOTE # 6 & 10

DOOR AND FRAME SCHEDULE

DR NO	DOOR LOCATION	DOOR SIZE	DOOR TYPE	DOOR MATL	DOOR GLAZING	FRAME TYPE	FRAME MATL	FRAME DETAIL HEAD	FRAME DETAIL JAMB	FRAME DETAIL SADDLE	HARDWARE	RATING	SIGN TYPE	NOTES
A101	DANCE CLASSROOM A101	3'-0" x 7'-2"	A	FRP	--	AA	AL	H1	J1	S1	1.0	--	3	--
A102	OFFICE A102	3'-0" x 6'-8"	B	WD	TPG-F	HA	HM	H2	J2	S2	7.0	--	8	SEE DOOR SCHEDULE NOTE #3 & 6
A102.1BL	OFFICE A102	6'-0" x 4'-0"	--	--	TPG-F	HE	HM	H2	--	--	--	--	--	SEE DOOR SCHEDULE NOTE #5 & 6
A103	STORAGE A103	3'-0" x 6'-8"	A	WD	--	HA	HM	H2	J2	S2	6.0	--	8	--
A104	WOMEN'S DRESSING RM. A104	3'-0" x 6'-8"	A	WD	--	HA	HM	H2	J2	S2	9.0	--	8	--
A105	MEN'S DRESSING A105	3'-0" x 6'-8"	A	WD	--	HA	HM	H2	J2	S2	9.0	--	8	--
A106	WOMEN'S TOILET A106	3'-0" x 6'-8"	A	WD	--	HA	HM	H3	J3	S3	10.0	--	12	SEE DOOR SCHEDULE NOTE #1
A107	MEN'S TOILET A107	3'-0" x 6'-8"	A	WD	--	HA	HM	H3	J3	S3	10.0	--	11	SEE DOOR SCHEDULE NOTE #2
A108	VESTIBULE A108	3'-0" x 7'-2"	B	WD	TPG-F	HA	HM	H4	J4	--	4.0	--	4, 8	SEE DOOR SCHEDULE NOTE #3 & 6

ROOM FINISH SCHEDULE NOTES

1. SEE PORCELAIN TILE FLOORING AND BASE DETAIL 'A' & 'B' - DRAWING A601.
2. SEE WOOD FLOORING AND BASE DETAIL 'C' - DRAWING A601.
3. ACOUSTICAL WALL PANELS - SEE ROOM LAYOUT AND INTERIOR ELEVATIONS.
4. DECORATIVE CEILING SYSTEM: CLOUD PANELS - SEE REFLECTED CEILING PLAN AND SPECIFICATIONS.
5. CEILING HEIGHT IS TO BOTTOM OF DECORATIVE ACOUSTICAL PANELS.
6. 6'-0" HIGH PORCELAIN TILE WAINSCOT AT DRINKING FOUNTAIN. SEE DETAIL 'D' - DRAWING A601.
7. ALL EXPOSED STEEL FRAMING (BEAMS, JOISTS, ROOF DECK, ETC.) SHALL BE PAINTED FLAT BLACK U.N.O.
8. SEE FLOOR TRANSITION DETAIL S2.1/A601 AT WOOD AND PORCELAIN TILE.
9. NEW FINISHES SHALL APPLY TO NEW WALLS, FLOORING, ETC. EXISTING FINISHES SHALL REMAIN. NEW FINISHES TO MATCH EXISTING.
10. AT NEW DOOR OPENING, PATCH FLOOR AS REQUIRED WITH NEW FLOORING AND BASE INDICATED ON ROOM FINISH SCHEDULE.
11. VENTED BASE MOULDING BY MANUFACTURER. SEE 'TS' DRAWINGS FOR ADDITIONAL INFORMATION.

DOOR SCHEDULE NOTES

1. INSTALL SIGN TYPE '12' ON TOILET DOOR.
2. INSTALL SIGN TYPE '11' ON TOILET DOOR.
3. PROVIDE SECURITY WINDOW FILM W/ IPA ON GLASS - SEE SPECIFICATION
4. SEE STOREFRONT ELEVATION 4/A5 FOR DETAILS AT HEAD AND JAMB CONDITIONS.
5. BORROWED LIGHT
6. PROVIDE SECURITY GLAZING IN LIEU OF LAMINATED GLASS WITH SECURITY WINDOW FILM UNDER ALTERNATE BID - SEE SPECIFICATION SECTION 01030.

GENERAL FINISH NOTES:

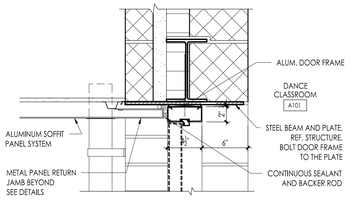
A. SEE SPECIFICATION FOR ADDITIONAL INFORMATION ON MATERIALS / MANUFACTURER / PERFORMANCE AND WARRANTY INFORMATION .

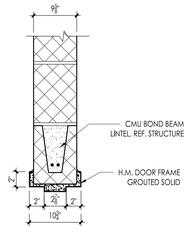
B. MATERIALS LISTED ON THE FINISH SCHEDULE REFER TO THE MAJORITY OF WALLS, FLOOR AND CEILING OF ROOMS SCHEDULED. REFER TO PLANS, DETAILS, INTERIOR ELEVATION, CEILING PLANS,AND NOTES FOR THOSE MATERIALS NOT INDICATED ON THE SCHEDULE BUT ARE STILL REQUIRED IN THE ROOM.

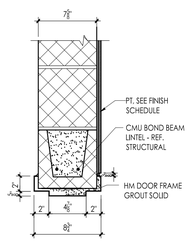
GENERAL DOOR NOTES:

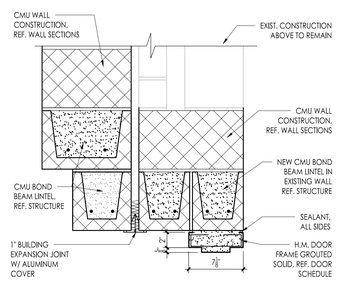
1. ALL DOORS ARE 1 3/4" THICK UNLESS OTHERWISE NOTED.
2. SEE DOOR TYPES ON THIS DRAWING.
3. SEE HOLLOW METAL AND ALUMINUM FRAME TYPES ON THIS DRAWING.
4. SEE SIGNAGE TYPES AND DETAILS ON THIS DRAWING.
5. SEE HEAD, JAMB, SADDLE AND SILL DETAILS ON THIS DRAWING.
6. SEE STOREFRONT TYPES ON THIS DRAWING.
7. COORDINATE ALL ACCESS CONTROL PREP AND WIRING WITH ELECTRICAL CONTRACTOR AND OWNER'S VENDOR (TYP.)
8. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MATERIALS / MANUFACTURER / PERFORMANCE AND WARRANTY INFORMATION.
9. ALL OCCUPIED ROOMS TO HAVE A PB INTRUDER CYLINDRICAL LOCKSET.
10. SINGLE / FAMILY-USE TOILET ROOMS IN PUBLIC AREAS SHALL HAVE A OCCUPANCY INDICATOR FEATURE.

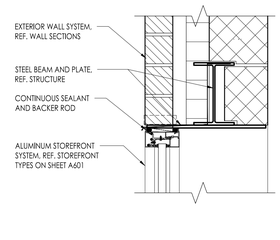
4 Flooring Details
1-1/2" = 1' =0"

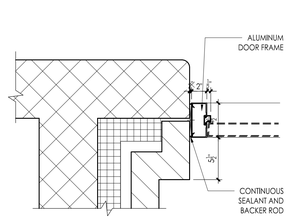


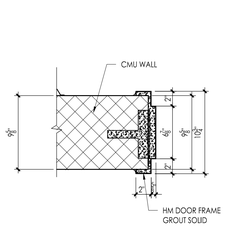


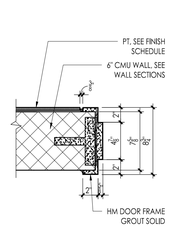


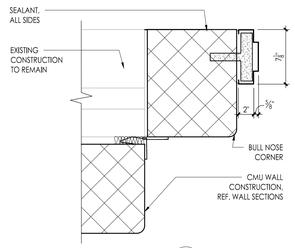


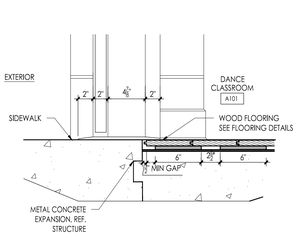


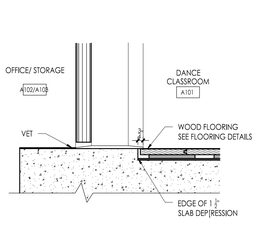


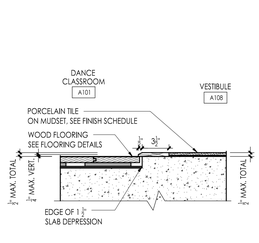


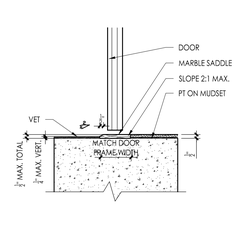


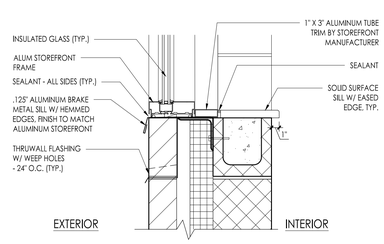












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Project Owner Name
West Windsor - Plainsboro Regional School District

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90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
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Checked By
GRD

Drawn By
IB

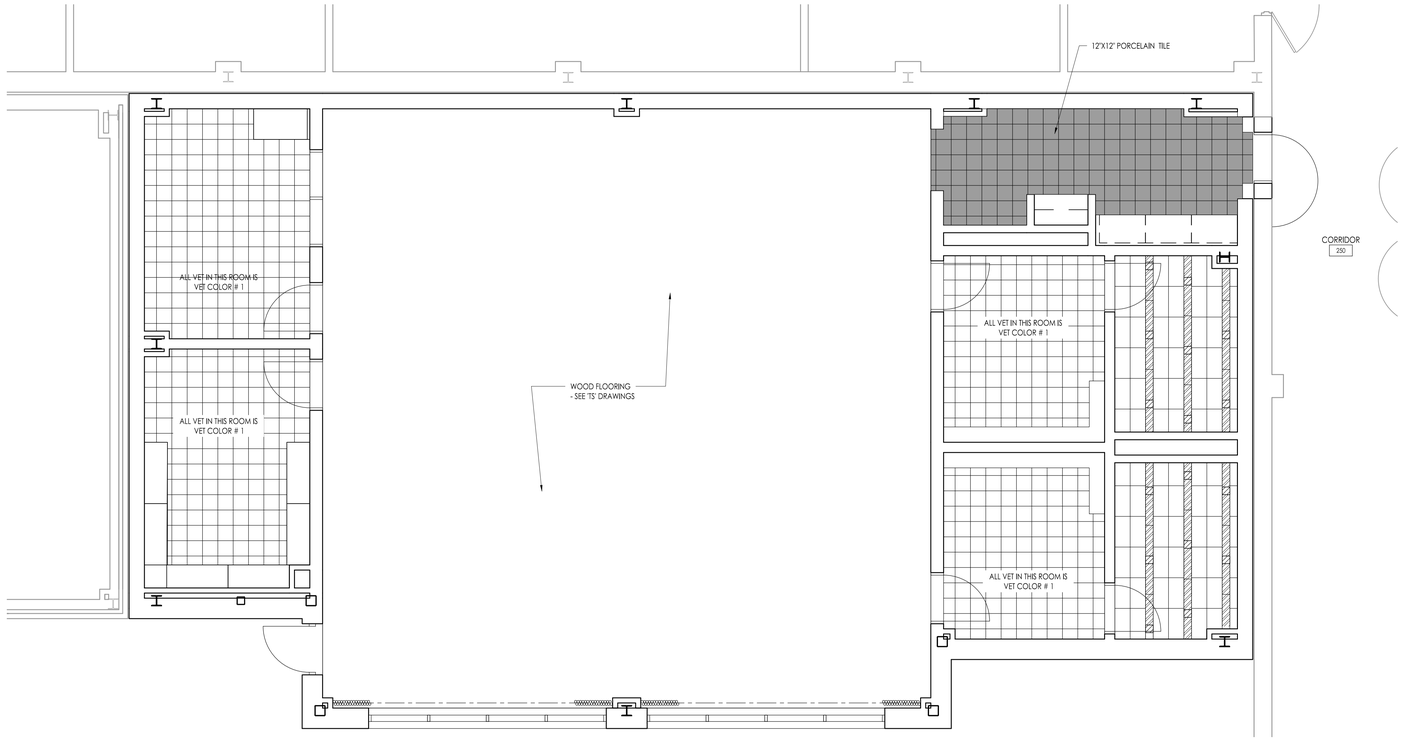
Scale
As Noted

Drawing Name
- Door & Window Elevations,
- Schedules & Notes
- Head, Jamb & Sill Details
- Flooring Details

Revisions

No.	Date	Description

Drawing Number
A601



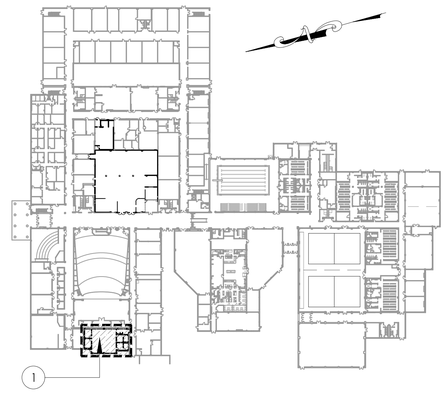
1 Floor Pattern
Scale: 1/4" = 1'-0"

VINYL ENHANCED TILE LEGEND

- VET / COLOR #1

PORCELAIN TILE LEGEND

- PT (FLOOR) COLOR #1
- PT (FLOOR) COLOR #2
- PT (FLOOR) COLOR #3
- PT (FLOOR) COLOR #4



OVERALL BUILDING KEY PLAN
Scale: 1:100

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Project Date
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Checked By
GRD

Drawn By
IB

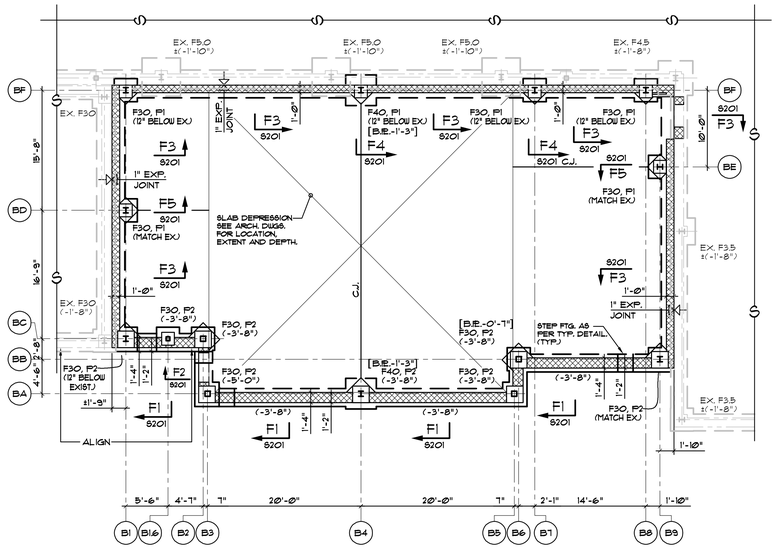
Scale
As Noted

Drawing Name
Floor Pattern

Revisions

No.	Date	Description

Drawing Number
A701



FOUNDATION PLAN

1/8" = 1'-0"

ELEVATION TOP OF FINISHED FLOOR SLAB: + 79.83 REFERRED TO AS DATUM EL. 0'-0" UNLESS OTHERWISE NOTED THUS < > ON PLAN.
FLOOR SLAB: 4" CONC. SLAB + 6x6-W1.4xW1.4 WWF. ON A VAPOR BARRIER OVER 6" MIN. DRAINAGE FILL UNLESS OTHERWISE NOTED.
ELEVATION BOTTOM OF FOOTINGS NOTED THUS ON PLAN BELOW FINISHED FLOOR DATUM EL. 0'-0".
C.J. - INDICATES SLAB CONSTRUCTION OR CONTROL JOINT.
SLAB DEPRESSIONS NOTED THUS [-] ON PLAN FROM TOP OF FLOOR SLAB - SEE ARCH. DWGS. FOR LOCATION & EXTENT.
ANY PENETRATIONS IN SLAB FROM ALL TRADES TO BE FILLED WITH POLYURETHANE CAULK.
[B.E.] - INDICATES BOTTOM OF BASE PLATE ABOVE OR BELOW DATUM.
SEE DWG. S FOR FOOTING AND PIER SCHEDULE.

FOOTING SCHEDULE

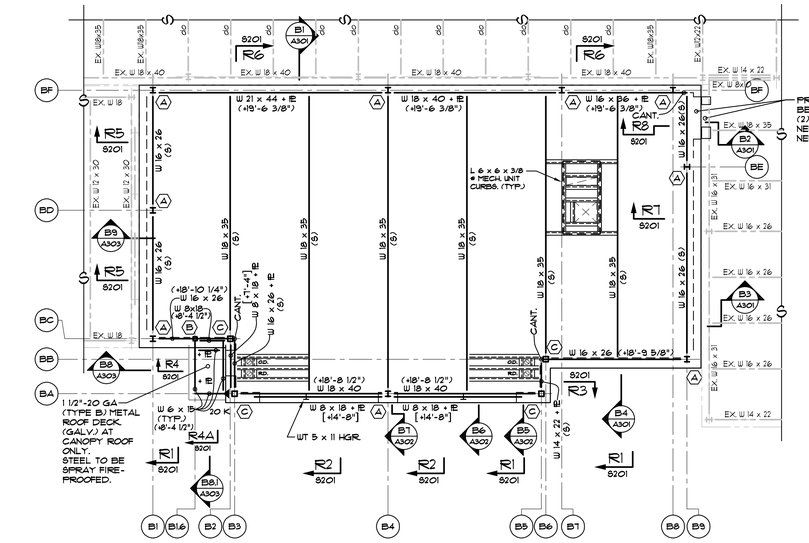
MARK	SIZE	REINFORCEMENT
F30	3'-0" x 3'-0" x 12"	(3) - #4's E.W. BOTT.
F40	4'-0" x 4'-0" x 12"	(4) - #5's E.W. BOTT.

PIER SCHEDULE

MARK	SIZE	REINFORCEMENT	REMARKS
P1	20" x 20"	(6) - #6's VERT.	
P2	26" x 26"	(8) - #6's VERT.	

NOTE:
ALL PIERS TO HAVE # 3 TIES @ 12" o.c. (TYPICAL).
ALL PIER TIES TO HAVE INSIDE HOOKS. (TYP.)
PROVIDE BRICKSHELF IN PIERS AS REQUIRED. SEE TYPICAL BRICKSHELF DETAIL ON DRAWING S401.

TIE ARRANGEMENTS



ROOF FRAMING PLAN

1/8" = 1'-0"

ELEVATION TOP OF STEEL BEAMS NOTED THUS (+) ON PLAN ABOVE DATUM UNLESS OTHERWISE NOTED.
ROOF DECK: 3" - 20 GA. METAL ROOF DECK (GALV.).
PROVIDE FRAME AROUND ALL ROOF DRAINS & AT ALL OTHER ROOF OPENINGS LARGER THAN 8" AS PER TYPICAL DETAIL.
COORDINATE SIZE & LOCATION OF ALL ROOF OPNGS. W/ ARCH. & MECH. DWGS.
SPACE ALL STEEL MEMBERS EQUALLY UNLESS OTHERWISE NOTED ON PLAN.
[ ] - INDICATES ELEVATION BOTTOM OF IE AT BEAM + IE LINTEL AND BOTTOM OF ANGLE AT BEAM + L's LINTEL. SEE ARCH. DWGS.
(S) - INDICATES SLOPING MEMBER.
⟶ 60K - INDICATES MOMENT CONNECTION IN UNITS OF KIP-FT.

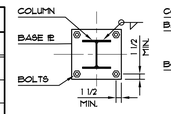
NOTE:
ALL STEEL COLUMNS, BEAMS AND METAL ROOF DECK TO BE SPRAY FIRE-PROOFED. SEE ARCHITECTURAL DRAWINGS FOR UL LISTINGS AND REQUIREMENTS.

NOTE:
PROVIDE ROOF FRAMING AROUND ALL NEW OPENINGS IN THE EXISTING ROOF AS PER TYPICAL DETAIL AS SHOWN ON DWG. S301. SEE ARCH. & MECH. DWGS. FOR LOCATIONS. (TYP.)

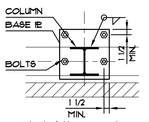
COLUMN SCHEDULE

MARK	SIZE	BASE PLATE	ANCHOR BOLTS	DETAIL
(A)	W 8 x 31	3/4" x 14" x 1'-2"	(4) - 3/4" ϕ	
(B)	HSS 6 x 6 x 1/4	3/4" x 12" x 1'-0"	(4) - 3/4" ϕ	
(C)	HSS 8 x 8 x 1/4	3/4" x 14" x 1'-2"	(4) - 3/4" ϕ	

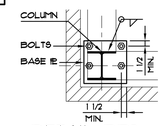
NOTES:
1. BOTTOM OF BASE PLATES TO BE -1" BELOW DATUM ELEVATION UNLESS OTHERWISE NOTED THUS [B.E.] ON PLAN FROM DATUM.
2. ALL COLUMNS TO HAVE (4) - 3/4" ϕ ANCHOR BOLTS WITH 9" MIN. EMBEDMENT + 3" HOOK UNLESS OTHERWISE NOTED. ALL ANCHOR BOLTS SHALL BE ASTM F1554.
3. ALL 1" ϕ ANCHOR BOLTS TO HAVE MINIMUM 12" EMBEDMENT AND HEAVY HEX NUTS AT THIER EMBEDDED ENDS AS PER 'AISC' UNLESS OTHERWISE NOTED.
4. ALL HSS COLUMNS TO BE Fy = 46 K.S.I.
5. ALL HSS COLUMNS TO HAVE: 3/4" THICK CAP IE. @ BEAM BEARING 1/2" THICK CAP IE. @ JOIST BEARING ALL OTHERS 1/4" THICK CAP IE. - U.O.N.
6. ALL STEEL COLUMNS SUPPORTING CANTILEVER MEMBERS TO HAVE 3/4" TOP PLATES w/ (4)-3/4"ϕ A325 BOLTS U.O.N.
7. SEE TYPICAL THRU-IE DETAIL FOR BEAM TO TUBE COLUMN CONNECTIONS.
8. (○) - INDICATES THE POINT AT WHICH A STEEL COLUMN TERMINATES. COORDINATE THE HEIGHT OF STEEL WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
9. WHERE ANY FACE OF COLUMN ABUTS MASONRY WALLS, PROVIDE ADJUSTABLE MASONRY ANCHORS @ 24" O.C. VERTICALLY.
10. OMIT MASONRY ANCHORS AT FIRE WALLS.



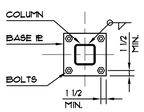
DETAIL-BP1



DETAIL-BP2
(AT EXTERIOR WALLS)



DETAIL-BP3
(AT EXTERIOR CORNERS)



DETAIL-BP4

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DONALD M. HAMNETT N.J.P.E. #17976 DATE

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FVHD architects planners
Fraytak Veisz Hopkins Duthie PC
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Pennsylvania: 140 Whitaker Ave - Mont Clare - Pennsylvania 19453

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
DH

Drawn By
RC

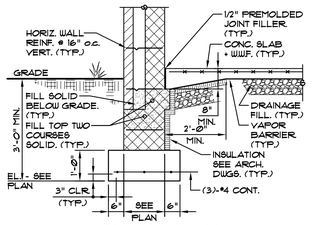
Scale
As Noted

Drawing Name
FOUNDATION PLAN/ ROOF FRAMING PLAN

Revisions

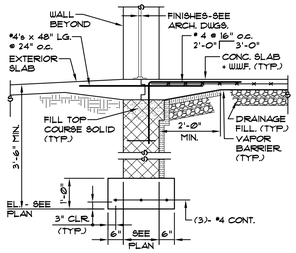
No.	Date	Description

Drawing Number
S101



SECTION - F1

1/2"=1'-0"



SECTION - F2

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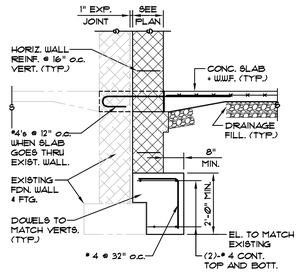

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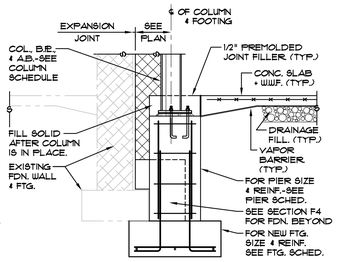

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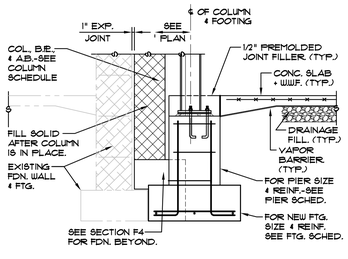

SECTION - F5

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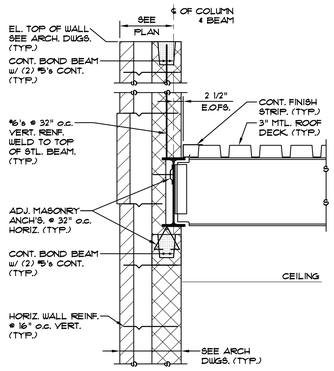

SECTION - R1

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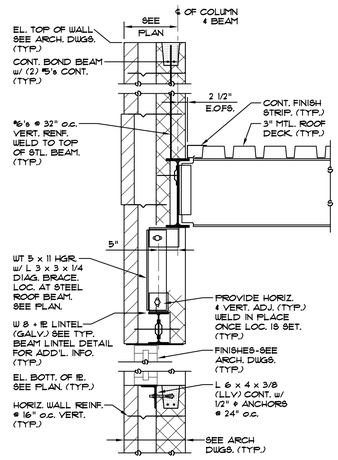

SECTION - R2

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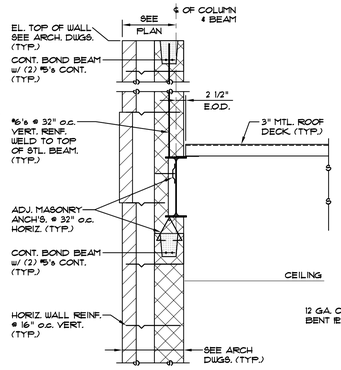

SECTION - R3

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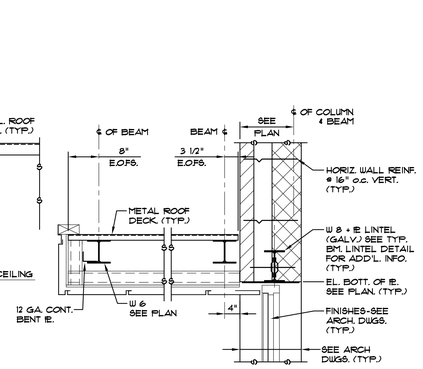

SECTION - R4

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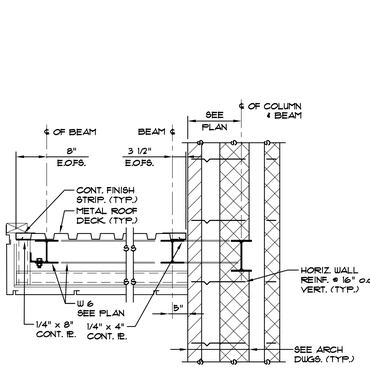

SECTION - R4A

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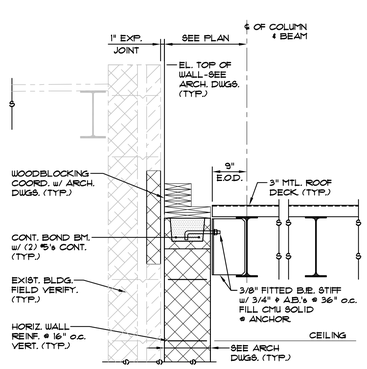

SECTION - R5

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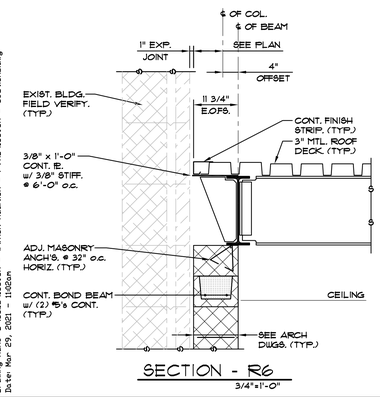

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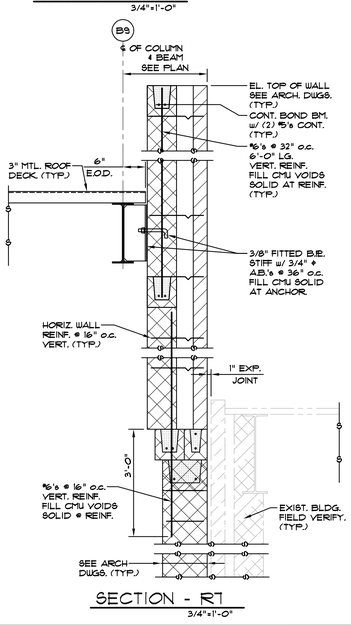

SECTION - R7

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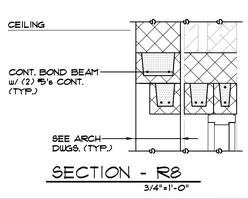

SECTION - R8

3/4"=1'-0"

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Date: Mar 29, 2021 - 11:26am

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Donald M. Hamnett 3/29/21

DONALD M. HAMNETT N.J.P.E. #17976 DATE

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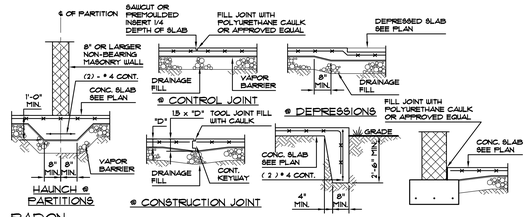
Drawing Name
SECTIONS

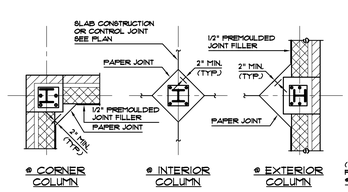
Revisions

No.	Date	Description

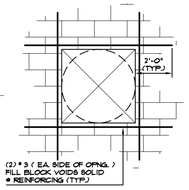
Drawing Number
S201



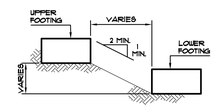
RADON
TYPICAL SLAB ON GRADE DETAILS



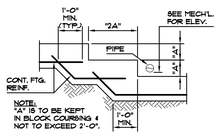
TYPICAL ISOLATION JOINT DETAILS



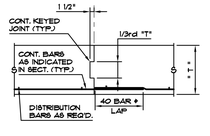
TYPICAL REINFORCING ℄ OPENINGS IN MASONRY WALLS



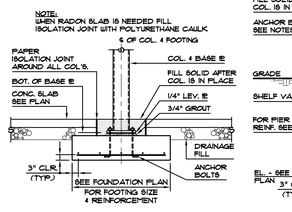
TYPICAL SLOPE BETWEEN FOOTINGS



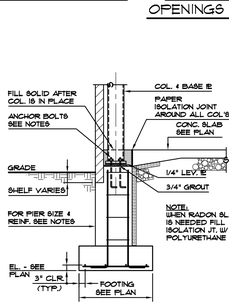
TYPICAL STEPPED FOOTING



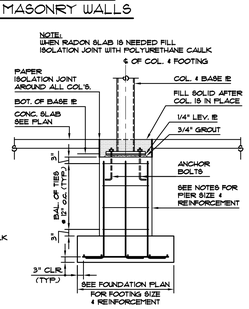
TYPICAL CONCRETE FOOTING CONSTRUCTION JOINT



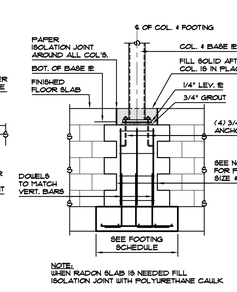
TYPICAL INTERIOR FOOTING



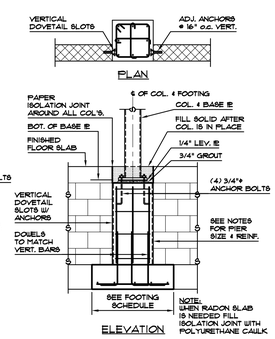
BRICK SHELF @ COLUMNS



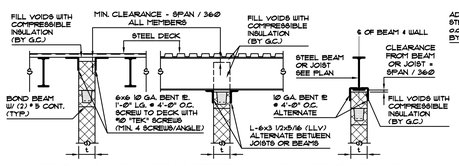
TYPICAL ISOLATED PIER ℄ FOOTING DETAIL



TYPICAL TOOTHED PIER ℄ FOOTING DETAIL

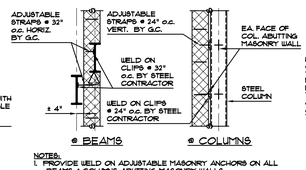


TYPICAL PIER ℄ FOOTING DETAIL



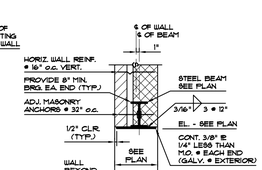
TYPICAL MASONRY WALL UP TO STEEL DECK DETAILS

NOTE:
ALL STEEL (EXCEPT 10 GA. BENT IE) SUPPLIED BY STEEL CONTRACTOR AND INSTALLED BY GENERAL CONTRACTOR. 10 GA. BENT IE SUPPLIED AND INSTALLED BY STEEL CONTRACTOR.

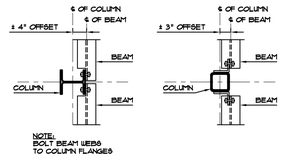


NOTES:
1. PROVIDE WELD ON ADJUSTABLE MASONRY ANCHORS ON ALL BEAMS ℄ COLUMNS ABUTTING MASONRY WALLS.
2. USE HOHMANN&BARNARD (OR APPROVED EQUAL) # 30W OR #41 ADJUSTABLE STRAPS BY G.C. ℄ # 38W WELD ON CLIPS BY STEEL CONTR. USE 5959F W/ BACKPLATE ℄ FIREPROOFED AREAS.
3. ANCHORS TO BE KEPT IN BLOCK COURSING.
4. STEEL CONTRACTOR SHALL COORDINATE LOCATION WITH MECH'L. DRAWINGS PRIOR TO FABRICATION.
5. OMIT MASONRY ANCHORS @ ALL FIRE WALLS.

TYPICAL MASONRY ANCHORS



TYPICAL BEAM LINTEL DETAIL



TYPICAL BEAM OFFSET CONNECTIONS

NOTES:
UNLESS OTHERWISE SPECIFIED ON DRAWINGS PROVIDE ℄ INSTALL LINTELS FOR ALL SQUARE HEAD MASONRY OPENINGS IN ALL MASONRY WALLS IN ACCORDANCE WITH THE FOLLOWING SCHEDULES ℄ COMMENTS.

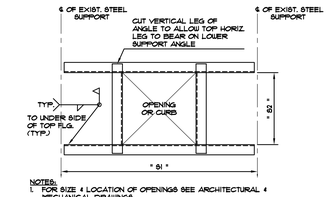
LOOSE LINTEL SCHEDULE
(FOR 4", 8", 12", ℄ 16" WALLS)

MASONRY OPENING	LINTEL SIZE	REMARKS
UP TO 4'-0"	L - 3 1/2" x 3 1/2" x 1/4"	
4'-1" TO 6'-0"	L - 5" x 3 1/2" x 5/16"	
6'-1" TO 8'-0"	L - 6" x 3 1/2" x 5/16"	
OVER 8'-0"	W 8 x 18 ± IE	

LOOSE LINTEL SCHEDULE
(FOR 6" WALLS)

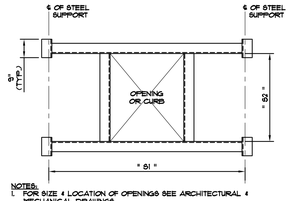
MASONRY OPENING	LINTEL SIZE	REMARKS
2'-0" TO 6'-0"	WT 7 x 11	
6'-1" TO 8'-0"	WT 8 x 13	

NOTES:
1. PROVIDE ONE (1) ANGLE FOR EACH 4" OF MASONRY WIDTH.
2. BEAR LINTELS 6" MINIMUM EACH SIDE OF OPENING.
3. ALL LINTELS IN EXTERIOR WALLS TO BE GALVANIZED.
4. WHERE OPENINGS LOCATED NEXT TO COLUMNS OR BEAMS, ATTACH TO STRUCTURAL STEEL. CONNECTION NOT TO PROTRUDE INTO OPENING. CONSULT ARCHITECTURAL, MECHANICAL ℄ ELECTRICAL DRAWINGS FOR OPENING SIZE ℄ LOCATION.



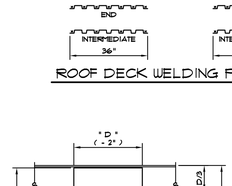
NOTES:
1. FOR SIZE ℄ LOCATION OF OPENINGS SEE ARCHITECTURAL ℄ MECHANICAL DRAWINGS.
2. STEEL CONTRACTOR SHALL VERIFY ALL OPENINGS AND EXACT LOCATIONS WITH THE TRADE CONTRACTOR REQUIRING SAID OPENINGS PRIOR TO FABRICATION ℄ ERECTION OF STEEL FRAMES.
3. PROVIDE STEEL FRAMES AS SHOWN AROUND ALL REQUIRED OPENINGS LARGER THAN 8" AT ROOF.
4. PROVIDE STEEL ANGLES ON ALL SIDES OF OPENINGS UNLESS BEAM IS SHOWN ON PLAN. ANGLE SIZES TO BE:
   FOR "D1" OR "D2" ≤ 6'-6" L 4 x 4 x 5/16
   FOR "D1" OR "D2" > 6'-6" L 6 x 6 x 3/8
5. PROVIDE STEEL ANGLES ON ALL SIDES OF MECH'L CURBS UNLESS BEAM IS SHOWN ON PLAN. ANGLE SIZES TO BE L6x 6 x 3/8.
6. FOR SIZE ℄ LOCATION OF MECH'L UNITS, SEE ARCH'L ℄ MECH'L DWGS.

TYPICAL OPNG. DETAIL @ EXIST'G. ROOF ℄ UNDER MECH'L CURB



NOTES:
1. FOR SIZE ℄ LOCATION OF OPENINGS SEE ARCHITECTURAL ℄ MECHANICAL DRAWINGS.
2. STEEL CONTRACTOR SHALL VERIFY ALL OPENINGS AND EXACT LOCATIONS WITH THE TRADE CONTRACTOR REQUIRING SAID OPENINGS PRIOR TO FABRICATION ℄ ERECTION OF STEEL FRAMES.
3. PROVIDE STEEL FRAMES AS SHOWN AROUND ALL REQUIRED OPENINGS LARGER THAN 8" AT ROOF.
4. PROVIDE STEEL ANGLES ON ALL SIDES OF OPENINGS UNLESS BEAM IS SHOWN ON PLAN. ANGLE SIZES TO BE:
   FOR "D1" OR "D2" ≤ 6'-6" L-4"x4"x5/16"
   FOR "D1" OR "D2" > 6'-6" L-6"x6"x3/8"
5. PROVIDE STEEL ANGLES ON ALL SIDES OF MECH'L CURBS UNLESS BEAM IS SHOWN ON PLAN. ANGLE SIZES TO BE L-6"x6"x3/8".
6. FOR SIZE ℄ LOCATION OF MECH'L UNITS, SEE ARCH'L ℄ MECH'L DWGS.

TYPICAL DETAIL @ ROOF OPENING ℄ UNDER MECH'L CURB

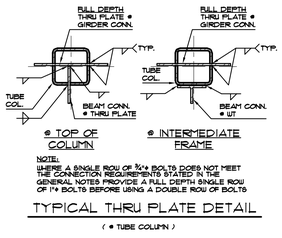


NOTE:
LOCATE OPENINGS IN MIDDLE 1/3 OF BEAM SPAN

TYPICAL REINF. DETAIL FOR OPENINGS IN STEEL BEAMS

ROOF DECK WELDING PATTERN

3" ROOF DECK WELDING PATTERN



NOTE:
WHERE A SINGLE ROW OF ¾"ø BOLTS DOES NOT MEET THE CONNECTION REQUIREMENTS STATED IN THE GENERAL NOTES PROVIDE A FULL DEPTH SINGLE ROW OF 1"ø BOLTS BEFORE USING A DOUBLE ROW OF BOLTS

TYPICAL THRU PLATE DETAIL
(℄ TUBE COLUMN)

GENERAL NOTES

FOUNDATION

1. All footings shall bear on soil having a minimum safe bearing capacity of 1.5 tons per square foot. Confirm in field prior to placing footings.
2. Elevations given correspond to the computed bottom of footings and are minimum depths which are not to be construed as limiting in any way the depth required to reach good bearing.
3. No footings shall be placed in water or on frozen ground.
4. No fill or backfill shall be placed over or against work at such time or in such a manner which would endanger the stability or otherwise damage such work.
5. See soils report for requirements concerning preparation of soil for foundations.

CAST-IN-PLACE CONCRETE

1. All concrete work shall conform to the latest edition of the ACI Building Code.
2. All concrete, except slabs on grade, shall attain 3000 PSI compressive strength at 28 days. All concrete for slabs on grade shall attain 3500 PSI compressive strength at 28 days.

REINFORCING

1. All reinforcing bar details shall conform to the latest ACI code and detailing manual.
2. All bars shall be ASTM A-615, Grade 60.
3. Welded wire fabric shall be ASTM A-185.
4. Clearance of main reinforcing from adjacent surfaces unless shown otherwise shall be:
   A. Unformed surfaces in contact with ground or exposed to the weather: 3"
   B. Bottom surfaces of slabs on grade: 3"
   C. Formed surfaces in contact with ground or exposed to weather:
      1. #5 bars or smaller: 1-1/2"
      2. Bars larger than #5: 2"
   D. Exterior wall surfaces: 2"
   E. In all cases not less than the diameter of the bar.
5. All reinforcement shall be inspected and approved by architect or his designate before concrete is poured.
6. Tolerances for placing reinforcing shall be:
   A. -or- 1/4 inch for members with an effective depth of 24 inches or less.
   B. -or- 1/2 inch for members with an effective depth of more than 24 inches.
7. Where continuous bars are called for, they shall be run continuously around corners and lapped at necessary splices or hooked at discontinuous ends. Laps shall be 40 bar diameters. Bar laps may be offset to avoid control or construction joints.
8. Electrical Contractor to provide grounding electrode system as required by NEC section 250-50(a). Coordinate location and schedule with General Contractor.

STRUCTURAL STEEL

1. All structural steel details shall be designed in accordance with the latest issue of the American Institute of Steel Construction (AISC), "Specification for Structural Steel Buildings - Allowable Stress Design and Plastic Design".
2. Connections shall be designed to develop the full strength of the member over the required span.
3. Provide double angle connections at all beam to wide flange columns and beam to beam connections whenever possible. The steel fabricator must notify the Structural Engineer if there are to be any changes. See Typical Thru-Pl Detail for beam to tube column connections.
4. Field connections shall be made by high strength bolts 3/4" minimum in diameter or welded as shown on drawings.
5. All pipe shapes shall be ASTM A53, Grade B, F_y= 35 KSI.
6. All tubes shapes shall be ASTM A500, Grade B, F_Y=46 KSI.
7. All structural wide flange shapes to be ASTM A-992/A572, Grade 50.
8. All steel plates, angles, channels are to be ASTM A-36 unless indicated otherwise.

STEEL JOISTS

1. All standard bar joists, materials, and workmanship shall conform to the latest edition of the S.J.I. "Standard Specifications for Openweb Joists, K Series" or "Standard Specifications for Longspan Steel Joist, LH-Series and Deep Longspan Steel Joists, DLH-Series."
2. Do not load joists until bridging is installed.

STEEL ROOF DECK

1. Deck shall be 20 gage galvanized 1.5" wide rib variety (Type B) continuous over at least 3 spans.
2. Deck to be installed as per manufacturer's recommendations.

MASONRY REQUIREMENTS

1. All block work shall be in accordance with IBC2018 w/ NJ Modification and other applicable codes.
2. All block shall be lightweight aggregate and conform to ASTM C 90.
3. Mortar shall be ASTM C 270, Type S for below and above grade work.
4. Where block fill is called for on drawings, use Type S mortar or concrete with a compressive strength of 2500 PSI in accordance with ASTM C 476, and installed in accordance with ACI-531 for high or low lift procedures.
5. All masonry walls are to have a #4 vertical reinforcing bars at ends, at intersections at corners and at a maximum spacing of 10 feet on centers. These reinforcing bars are to be full height and shall be solid. These bars may be spliced provided that a 40 bar diameter lap is maintained.
6. All openings are to have two #3 vertical reinforcing bars within 16 inches of each side and a bond beam top and bottom with two #3 bars (unless noted otherwise on plan). All reinforcing is to extend past the opening a minimum of 24 inches.
7. All masonry walls are to have a bond beam with two #4 bars within 16 inches of the top of the wall.
8. All running bond masonry walls are to have horizontal reinforcing at every other course. Where masonry is laid in other than running bond, horizontal joint reinforcement is to be provided at every horizontal joint. The horizontal wall reinforcing shall be No. 9 gage "Dur-o-wall" or equivalent. Provide fabricated corner sections at all corners.
9. All wall bearing beams are to have the masonry wall grouted solid a minimum of 8 inches each side of bearing location and two #4 vertical reinforcing bars full height at each grouted cell (maximum of four bars).
10. Coordinate masonry with all trades requiring items to be built-in.

COLD FORM METAL FRAMING

1. All Cold Form Metal framework for the exterior walls, load-bearing walls and roof framing shall be designed by the cold form metal framing contractor in accordance with the manufacturer's guidelines. See required design loads on drawings.
2. Submit signed and sealed shop drawings and calculations by a registered PA Professional Engineer for review prior to fabrication and erection.
3. Installation to be in strict accordance with shop drawings and manufacturer's recommendations. Brace all walls during erection as per manufacturer's recommendations.
4. All welds are to be by a certified welder.
5. Metal studs to have rows of horizontal bridging at a maximum 4'-6" on center. Bridges to be installed as per manufacturer's recommendations.
6. All metal tracks to match size and gauge of wall studs.
7. All cold form metal framework for the exterior walls supporting masonry veneer shall be designed for a maximum lateral deflection of L/600 of the span.
8. All cold form metal framework for the exterior walls supporting non-masonry veneer shall be designed for a maximum lateral deflection of L/240 of the span.

MISCELLANEOUS

1. Contractor shall verify all dimensions, sections and elevations on the job.
2. Consult the Architectural, Mechanical and Electrical drawings for verification of location and dimensions of chases, inserts, openings, sleeves, washes, drips, reveals, depressions, equipment pads and other product requirements.
3. All walls shall be braced during construction until permanently restrained.
4. Reproductions of contract documents are not acceptable as shop drawings and will be rejected.

ROOF LOADING SCHEDULE

DEAD LOAD:		
ROOFING	6.0	P.S.F.
INSULATION	2.0	P.S.F.
METAL ROOF DECK	2.0	P.S.F.
STEEL JOISTS	3.0	P.S.F.
STRUCTURAL STEEL	4.0	P.S.F.
MECH., ELEC.	2.0	P.S.F.
CEILING	1.0	P.S.F.
	20.0	P.S.F.
LIVE LOAD:		
DESIGN LOAD	30.0	P.S.F.
GROUND SNOW LOAD (P_g)	25.0	P.S.F.
C_e = 1.0, I = 1.1, C_t = 1.0		
P_f = 0.7 x C_e x I x C_t x P_g =	19.25	P.S.F.
DRIFT LOADING TO	58.68	P.S.F.
DRIFT LENGTH	13.61 FEET	
JOIST NET UPLIFT	14.0	P.S.F.

LATERAL LOADING SCHEDULE

WIND LOAD: IBC 2018 - ASCE 7-16

BASIC WIND SPEED = 124 M.P.H.
RISK CATEGORY = III , EXPOSURE C
INTERNAL PRESSURE COEFF. GCpi = ± 0.18
COMPONENT ℄ CLADDING
ROOF - 10 SF = - 91.40
WALLS - 10 SF = + 35.49, - 43.68

SEISMIC LOADING: IBC 2018 - ASCE 7-16

SEISMIC RISK CATEGORY - III
IMPORTANCE FACTOR (Ie) = 1.25
Ss = 0.228 S1 = 0.093
SITE CLASS - D
Sds = 0.244 Sd1 = 0.084
SEISMIC DESIGN CATEGORY - B
STRUCTURAL STEEL SYSTEM NOT SPECIF.
DETAILED FOR SEISMIC
SEISMIC RESPONSE COEFFICIENT (Cs) = 0.101
RESPONSE MODIFICATION FACTOR (R) = 3
EQ. LAT. FORCE PROC.

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DONALD M. HAMNETT N.J.P.E. #17976 — 3/29/21 DATE

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number: 5063K1
Project Date: 04.06.2021
Checked By: DH
Drawn By: RC
Scale: As Noted

Drawing Name
TYPICAL DETAILS/ GENERAL NOTES/ SCHEDULES

Revisions		
No.	Date	Description

Drawing Number
S301

Drawing name: D:\Jobs\18595A - WWHSN Addition - FVHD\18595A - Typical Details.dwg
Date: Mar 29, 2021 - 11:02am

FIRE PROTECTION GENERAL NOTES

1. DO NOT SCALE FROM THESE DRAWINGS.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE AND ADOPTED REGULATIONS INCLUDING BUT NOT LIMITED TO NFPA REQUIREMENTS, NATIONAL, CITY, STATE, LOCAL CODES AND ORDINANCES WHICH MAY BE IN EFFECT. ALL FIRE PROTECTION MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES HAVING JURISDICTION. THE FIRE PROTECTION CONTRACTOR SHALL OBTAIN FIRE SPRINKLER PERMIT/FILE THE SHOP DRAWINGS AND HYDRAULIC CALCULATIONS WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
3. THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON FPA CADD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF FPA AND ARE INVALID.
4. REPRODUCTION OF ANY PORTION OF THE CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
5. SHOP DRAWINGS BEARING THE APPROVAL OF THE INSURANCE UNDERWRITER SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE BEFORE ANY WORK IS STARTED.
6. IF THERE ARE ANY QUESTIONS CONCERNING WHAT THE INSURANCE UNDERWRITER WILL REQUIRE IN ORDER TO APPROVE THE COMPLETED INSTALLATION (PIPING SIZING, LOCATION OF RISERS, TEST STATIONS, HYDRANTS, ALARMS, ETC.) THE BIDDER SHALL CONSULT WITH THE INSURANCE UNDERWRITER BEFORE SUBMITTING HIS BID. FAILURE TO CONSULT WITH THE INSURANCE UNDERWRITER DOES NOT RELIEVE THIS CONTRACTOR FROM HIS RESPONSIBILITY BY THE COMPLETION OF ANY AND ALL WORK REQUIRED WITH NO EXTRA CHARGES TO THE OWNER.
7. FURNISH AND LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR A COMPLETE FIRE SUPPRESSION SYSTEM WHERE SHOWN ON DRAWINGS AND REQUIRED BY NFPA 13 AND LOCAL AUTHORITIES.
8. THE CONTRACTOR SHALL RUN A CERTIFIED FLOW TEST AS REQUIRED BY NFPA 13, APPENDIX B TO DETERMINE THE ADEQUACY OF THE WATER PRESSURE. PRIOR TO BID, COORDINATE WITH ARCHITECT/ENGINEER IF RESIDUAL WATER PRESSURE IS LOWER THAN THE DESIGN PRESSURE SPECIFIED ON DRAWINGS. PROVIDE ALTERNATE PRICE FOR A WATER PRESSURE BOOSTER SYSTEM IF REQUIRED.
9. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, DETAILED CONSTRUCTION DRAWINGS AND HYDRAULIC CALCULATIONS TO THE ENGINEER AND FIRE SUB-CODE OFFICIAL, PRIOR TO THE INSTALLATION OF ANY EQUIPMENT. OBTAIN CERTIFICATE OF INSPECTION AND APPROVAL FROM THE SAME AGENCY HAVING JURISDICTION AFTER INSTALLATION. FIRE SUPPRESSION CONSTRUCTION DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE AREA WHERE THE PROJECT IS LOCATED.
10. CONTRACTOR MUST VISIT THE SITE TO DETERMINE THE FULL EXTENT OF THE EXISTING FIRE PROTECTION WORK AND EXISTING CONDITIONS, BECOME FAMILIAR WITH THE DISCONNECTIONS, REMOVAL, RELOCATIONS, AND/OR RECONNECTIONS OF EXISTING FIRE PROTECTION EQUIPMENT REQUIRED. NO EXTRA COMPENSATION SHALL BE PROVIDED FOR LACK OF SUCH DETERMINATION, FAMILIARIZATION, AND/OR ALLOWANCE.
11. PRIOR TO DEMOLITION AND CONSTRUCTION, FIRE PROTECTION CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND NOTIFY ARCHITECT/OWNER OF CONFLICTS OR CONDITIONS WHICH INTERFERE WITH REQUIREMENTS ON THESE DOCUMENTS.
12. UNLESS INDICATED OTHERWISE, DISCONNECT AND REMOVE ALL EXISTING FIRE PROTECTION COMPONENTS NOT INTENDED TO BE REUSED.
13. DISCONNECT, RELOCATE, AND RECONNECT EXISTING FIRE PROTECTION SYSTEMS AND EQUIPMENT WHERE REQUIRED.
14. CONTRACTOR RESPONSIBLE TO RELOCATE EXISTING SPRINKLER PIPING WHERE CONFLICTS OCCUR WITH DUCTWORK. COORDINATE WITH MECHANICAL CONTRACTOR.
15. SPRINKLER HEADS SHALL NOT INTERFERE WITH LIGHTING FIXTURES, SPEAKERS, AIR CONDITIONING DIFFUSERS AND GRILLES, ETC. COORDINATE WITH ARCHITECT'S REFLECTED CEILING PRIOR TO SUBMITTING SHOP DRAWING.
16. THE FIRE PROTECTION DRAWINGS ARE INTENDED TO INDICATE, ONLY DIAGRAMMATICALLY, THE EXTENT AND THE GENERAL CHARACTER AND LOCATIONS OF THE WORK INCLUDED.
17. COORDINATE ALL FIRE SPRINKLER WORK WITH ARCHITECTURAL REFLECTED CEILING PLANS AND OTHER TRADES. SPRINKLER SHALL BE LOCATED IN CENTER OF CEILING TILE OR IN QUARTER POINT OF 4' DIMENSION AND CENTER OF 2' DIMENSION.
18. ALL NEW SPRINKLER PIPING SHALL BE SEISMICALLY BRACED AND PITCHED FOR DRAINAGE.
19. FIRE SPRINKLER SYSTEMS NOT ASSOCIATED WITH THE DEMOLITION SHALL BE LEFT IN SERVICE.
20. ALL CONNECTIONS TO EXISTING BUILDING SERVICES SHALL BE CAREFULLY COORDINATED WITH THE UTILITY COMPANY AND THE OWNER'S SCHEDULE. SERVICE WORK OF THIS NATURE TO OCCUR DURING UNOCCUPIED BUILDING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL EXISTING EQUIPMENT IS OPERATIONAL AFTER ANY SHUTDOWN OCCURS.
21. CHANGES OR SUBSTITUTIONS OF EQUIPMENT WILL NOT BE ALLOWED WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER. ALL COSTS RESULTING FROM THE SELECTION OF OTHER THAN SPECIFIED EQUIPMENT SHALL BE BORNE BY THE CONTRACTOR, INCLUDING, BUT NOT LIMITED TO WORK AFFECTING OTHER CONTRACTORS, THE OWNER, OR RE-DESIGN ISSUES.
22. ALL INDICATED WORK SHALL BE PERFORMED BY THE FIRE PROTECTION CONTRACTOR UNLESS OTHERWISE NOTED.
23. DO NOT USE ANY PART OF THE OWNER'S BUILDING AS A SHOP, EXCEPT PARTS DESIGNATED FOR SUCH PURPOSES BY THE OWNER.
24. ALL CONTRACT WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE WRITTEN SPECIFICATIONS FOR THIS PROJECT WHICH ARE CONSIDERED TO BE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. ALL CONTRACTORS AND SUBCONTRACTORS SHALL MAINTAIN (AT THE JOB SITE) AND REFER TO COPIES OF THE WRITTEN SPECIFICATIONS AS PART OF THESE DRAWINGS. REFER TO THE WRITTEN SPECIFICATIONS IN CONJUNCTION WITH THE PLANS FOR FULL PROJECT SCOPE. IN ALL CASES OF DISCREPANCY BETWEEN PLANS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN AND WHERE IT IS UNCLEAR, SUCH CASES SHALL BE REFERRED TO THE ENGINEER FOR ADJUDICATION.
25. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND RELATED HVAC, ELECTRICAL, FIRE PROTECTION, ARCHITECTURAL, INTERIOR DECOR AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER PRIOR TO BID SUBMISSION.
26. THE FIRE PROTECTION CONTRACTOR SHALL REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED HVAC, ELECTRICAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, THE FIRE PROTECTION CONTRACTOR SHALL COOPERATE WITH ALL OTHER CONTRACTORS AND TRADES ON THIS PROJECT TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
27. CONTRACTOR SHALL COORDINATE HIS SCHEDULING WITH THE OWNER AND GENERAL CONTRACTOR TO COMPLY WITH THE OWNERS USAGE OF THE BUILDING.
28. IF ANY UNEXPECTED DISCOVERY OF SUSPECTED HAZARDOUS MATERIALS IS MADE DURING THE COURSE OF WORK, THE CONTRACTOR SHALL REPORT THE DISCOVERY IMMEDIATELY TO THE OWNER. THE CONTRACTOR SHALL STOP ANY WORK THAT MAY DISTURB THE SUSPECTED HAZARDOUS MATERIAL. CONTRACTOR SHALL RESUME WORK AFTER ALL HAZARDOUS MATERIAL HAS BEEN REMEDIATED.
29. CONTRACTOR RESPONSIBLE FOR THE PROPER CARE OF ALL OWNER'S EQUIPMENT AND/OR FURNISHINGS WHICH ARE REQUIRED TO BE TEMPORARILY REMOVED, STORED OR RELOCATED. CONTRACTOR SHALL REPLACE, REPAIR OR REIMBURSE OWNER FOR ALL DAMAGES TO SUCH PROPERTIES AT FULL REPLACEMENT VALUE AND EQUIVALENCY. CONTRACTOR SHALL ADVISE OWNER FOR DISPOSITION OR REMOVED EQUIPMENT AND/OR MATERIALS.
30. CONTRACTOR'S WORK MAY BE REQUIRED OUTSIDE OF DESIGNATED SPACE. ALL SYSTEMS BEING DEMOLISHED AND REMOVED, MODIFIED, AND/OR TERMINATED SHALL BE FIELD VERIFIED TO INSURE NO WORK PERFORMED, INSIDE OR OUTSIDE OF THE DESIGNATED SPACE, SHALL DISRUPT ANY SERVICE OR SYSTEMS OF ANY OTHER AREAS. IF ANY CONDITIONS ARISE THAT ARE NOT IDENTIFIED ON DRAWINGS, IMMEDIATE NOTIFICATION SHALL BE PROVIDED TO THE ENGINEER OR OWNER. NO WORK SHALL PROCEED WITHOUT APPROVALS FROM ENGINEER OR OWNER.
31. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND MAY HAVE TO BE ADAPTED TO COMPLY WITH EXISTING BUILDING CONDITIONS. CONTRACTOR SHALL SUBMIT FIRE PROTECTION SHOP DRAWINGS, INDICATING LOCATIONS, AND ROUTING OF DUCTS, PIPING, AND WIRING.
32. PIPING SHOWN ON DRAWINGS SHOW THE GENERAL RUN AND CONNECTIONS AND MAY OR MAY NOT IN ALL PARTS BE SHOWN IN ITS EXACT POSITION. CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTING THE PIPING SUITABLE IN EVERY RESPECT FOR THE WORK. PIPING SHALL BE INSTALLED SO THAT ACCESS, CLEARANCE, HEADROOM AND PITCH ARE MAINTAINED. CONTRACTORS OF THE VARIOUS TRADES SHALL COORDINATE THE INSTALLATION.
33. ALL CONTRACTORS SHALL PROVIDE CUTTING AND PATCHING FOR THEIR RESPECTIVE TRADES.
34. REMOVE AND REINSTALL CEILING SYSTEM AS REQUIRED FOR THE INSTALLATION OF FIRE PROTECTION WORK AND REPLACE IN KIND ANY COMPONENTS DAMAGED BY PERSONNEL OR EQUIPMENT DURING PERFORMANCE OF THE WORK. PATCH AND REPAIR ALL DAMAGE CAUSED BY REMOVAL, MATCH EXISTING ADJACENT SURFACES.
35. ALL SPRINKLER PIPING TO RUN AS HIGH AS POSSIBLE. ALL MAINS SHALL BE RUN TIGHT TO STEEL. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR.
36. ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. VERTICAL DROPS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND THEIR FINAL LOCATIONS SHALL BE COORDINATED AND RUN WITHIN CHASES, WALLS, SOFFITS WITH OTHER MECHANICAL/ELECTRICAL FEEDS. ALL SUCH LOCATIONS ARE TO BE REVIEWED WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
37. ALL PIPING SYSTEM PENETRATIONS OF FIRE-RATED WALLS AND FLOOR SHALL BE SEALED WITH UL APPROVED FIRE RESISTANT JOINT SEALER, SPECIFIED TECHNOLOGIES "PENSIL 200" OR EQUAL. TWO-PART FOAMED-IN-PLACE SILICONE SEALANT. FIRE RESISTANT SEALER SHALL BE TESTED IN ACCORDANCE WITH ASTM 814. INSTALL SEALANT, INCLUDING FORMING, PACKING AND OTHER ACCESSORY MATERIALS TO FILL OPENINGS WHERE FIRE-RATED WALL PENETRATIONS OCCUR. COMPLY WITH INSTALLATION REQUIREMENTS ESTABLISHED BY TESTERS AND INSPECTION AGENCY.
38. ALL CONTRACTORS REMOVING ANY EQUIPMENT, PIPES, DUCTS, CONDUITS, ETC. SHALL PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
39. REFER TO SPECIFICATIONS FOR SPRINKLER HEAD AND ESCUTCHEON FINISHES AND COLORS.
40. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE A COMPLETE SET OF "AS-BUILT" DRAWINGS INDICATING THE PRECISE LOCATION OF ALL SYSTEMS, EQUIPMENT CONCEALED OR EMBEDDED PIPES, PIPE CONNECTIONS AND ACCESS DOORS. THESE PLANS SHALL ALSO INCLUDE ALL CHANGES AND DEVIATIONS FROM BID DOCUMENTS.
41. GUARANTEE ALL WORK, MATERIAL AND EQUIPMENT FOR A PERIOD OF ONE (1) YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY.

APPLICABLE CODES:

ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LATEST CODES AND SUBCODES AS ADOPTED BY THE STATE OF NEW JERSEY:

- NEW JERSEY UNIFORM CONSTRUCTION CODE (NJUCC)
- REHABILITATION SUBCODE 5:23-6
- ADMINISTRATIVE CODE: TITLE 6
- 2018 INTERNATIONAL BUILDING CODE - NJ EDITION
- 2017 NATIONAL ELECTRICAL CODE
- 2018 NATIONAL STANDARD PLUMBING CODE
- 2018 INTERNATIONAL MECHANICAL CODE
- 2018 INTERNATIONAL FUEL GAS CODE
- 2016 ASHRAE 90.1 ENERGY CONSERVATION CODE
- 2016 NFPA 13
- REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION

DESIGN CRITERIA:

1. FIRE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED BASED ON THE DESIGN CRITERIA INDICATED ON THE FLOOR PLANS.
2. THE CONTRACTOR SHALL RUN A CERTIFIED FLOW TEST INDICATING THE FOLLOWING INFORMATION AS REQUIRED BY NFPA 13, APPENDIX B TO DETERMINE THE ADEQUACY OF THE WATER PRESSURE. COORDINATE WITH ARCHITECT/ENGINEER IF RESIDUAL WATER PRESSURE IS LOWER THAN THE DESIGN PRESSURE SPECIFIED ON DRAWING.

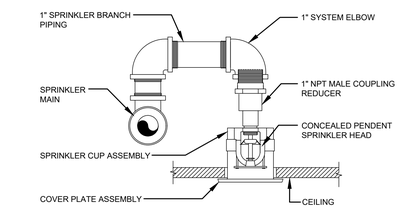
   FLOW TEST: HYDRANT NO. , TEST DATE:

   STATIC PRESSURE: PSI

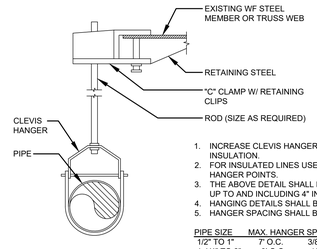
   RESIDUAL PRESSURE: PSI

   FLOW: GPM

   FLOW HYDRANT
3. SPRINKLER HEADS SHALL HAVE A 1/2" NOMINAL ORIFICE AND A TEMPERATURE RATING OF 165°F. TYPE AND MAKE SHALL MATCH EXISTING.
4. ALL NEW DROP NIPPLES SHALL BE 1" UNLESS OTHERWISE NOTED.



CONCEALED SPRINKLER HEAD
NOT TO SCALE

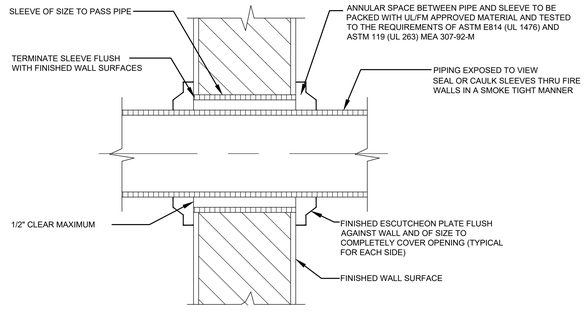


1. INCREASE CLEVIS HANGER SIZE TO ALLOW FOR INSULATION.
2. FOR INSULATED LINES USE STEEL PIPE SHIELDS AT HANGER POINTS.
3. THE ABOVE DETAIL SHALL BE USED ONLY FOR LINES UP TO AND INCLUDING 4" IN SIZE.
4. HANGING DETAILS SHALL BE SUBMITTED FOR REVIEW.
5. HANGER SPACING SHALL BE AS FOLLOWS:

PIPE SIZE	MAX. HANGER SPACING	MIN. ROD SIZE
1/2" TO 1"	7' O.C.	3/8"
1-1/4" TO 2"	9' O.C.	1/2"
2-1/2" TO 4"	10' O.C.	1/2"

6. REPAIR OF FIRE PROOFING AT REMOVED AND NEW SUPPORT CONNECTIONS.

TYPICAL HANGER DETAIL
NOT TO SCALE



PIPE THRU RATED WALL
NOT TO SCALE

WILLIAM D. HOPKINS III, AIA, LEED AP
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Architect

04/06/21
Date

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
JDS

Drawn By
JD

Scale
AS SHOWN

Drawing Name
FIRE PROTECTION SYMBOLS, NOTES, DETAILS & ABBREVIATIONS

Revisions

No.	Date	Description
	04.06.21	Issued for Bid

Drawing Number
FP1.0

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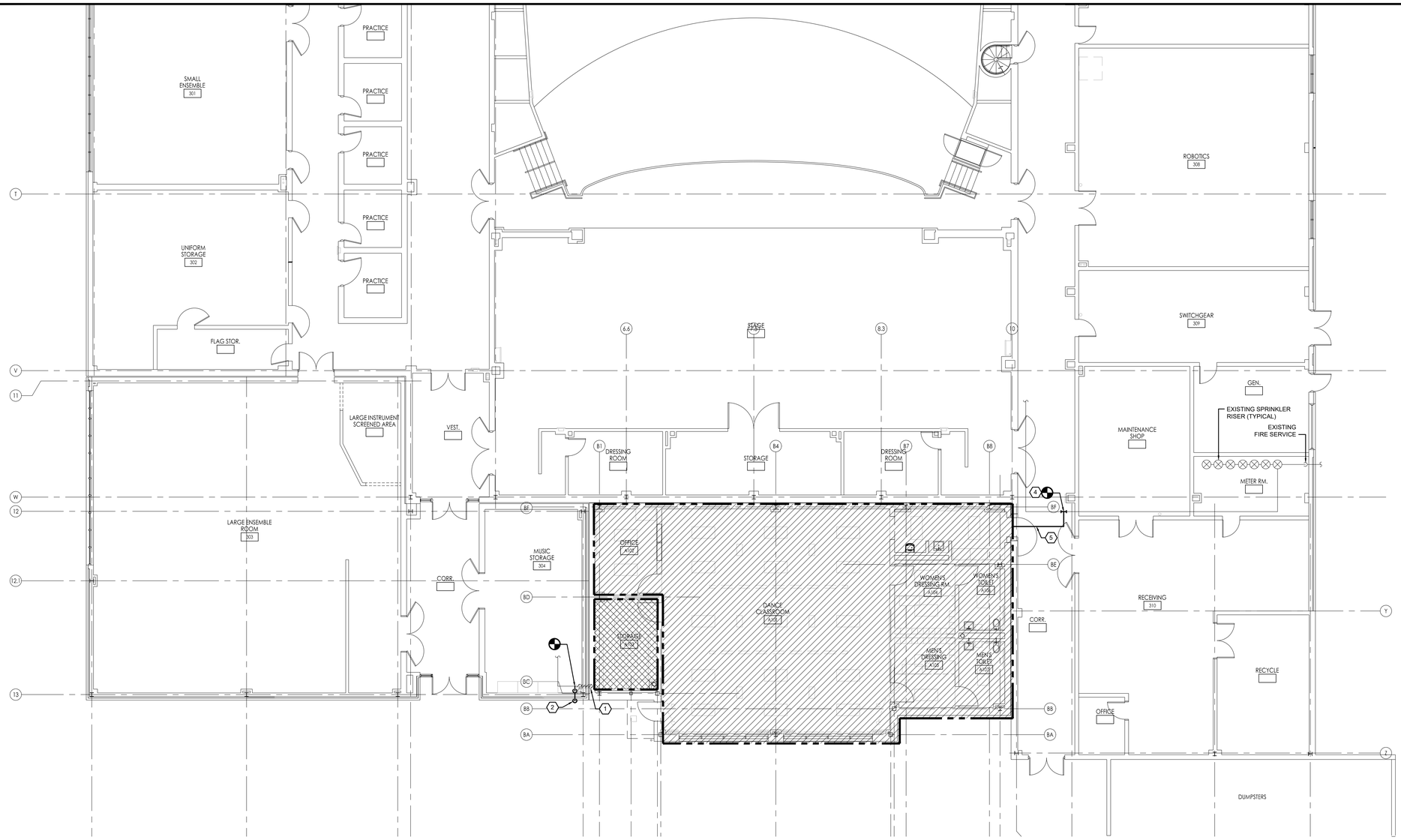
O:\3K-5500\3541- W. Windsor - Plainsboro Regional School District\3547.024 - Ww-p Hs North_Addition And Reno CADD DWG phase 1 - New Addition 3547.024 - FP1.0.dwg



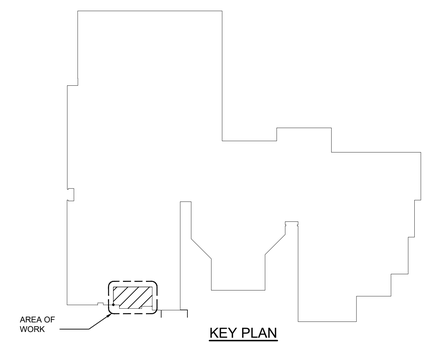
FIRE PROTECTION FLOOR PLAN

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

SYMBOL	SPRINKLER DESIGN CRITERIA
	HAZARD CLASSIFICATION : LIGHT
	SPACES : DANCE CLASSROOM, TOILET ROOMS, DRESSING ROOMS, OFFICE DENSITY : 0.10 GPM PER SQ FT DESIGN AREA : 1500 SQ FT MAX AREA PER SPRINKLER : 200 SQ FT INSIDE AND OUTSIDE HOSE STREAM ALLOWANCE : 100 GPM SPRINKLER TYPE : CONCEALED, QUICK RESPONSE
	HAZARD CLASSIFICATION : ORDINARY GROUP 1
	SPACES : STORAGE ROOM DENSITY : 0.15 GPM PER SQ FT DESIGN AREA : 1500 SQ FT MAX AREA PER SPRINKLER : 130 SQ FT INSIDE AND OUTSIDE HOSE STREAM ALLOWANCE : 250 GPM SPRINKLER TYPE : CONCEALED, QUICK RESPONSE

KEY NOTES

1. REMOVE EXISTING SPRINKLER DRAIN PENETRATING EXTERIOR WALL AND ALL RELATED PIPING UP TO A POINT JUST BELOW THE EXISTING CEILING AND EXTEND PIPING TO NEW DRAIN AS INDICATED. MODIFY EXISTING PIPING AS REQUIRED TO MAKE EXTENSION. PATCH OPENING IN EXTERIOR WALL AND ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
2. DROP NEW RELOCATED SPRINKLER DRAIN PIPING BEHIND EXISTING FURRED OUT WALL BEHIND EXISTING CABINET. PENETRATE EXTERIOR WALL APPROXIMATELY 24" ABOVE GRADE WITH TURN DOWN ELBOW. ALL EXTERIOR PIPING SHALL BE GALVANIZED STEEL. SEAL OPENING THROUGH EXTERIOR WALL WATER TIGHT. GC SHALL REMOVE AND REINSTALL EXISTING STORAGE CABINET ATTACHED TO WALL TO FACILITATE THE INSTALLATION OF THE SPRINKLER DRAIN PIPING. SPRINKLER CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING FURRED OUT WALL AS REQUIRED FOR THE PIPING INSTALLATION AND SHALL REINSTALL WALL AND ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
3. REMOVE EXISTING SPRINKLER HEADS AND EXTEND PIPING TO NEW SPRINKLER HEADS. MODIFY, OFFSET, ADJUST, RELOCATE AND EXTEND EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW DUCTWORK, CEILING LAYOUT, CEILING HEIGHT, SOFFITS, DIFFUSERS, LIGHTS, CEILING CLOUDS, AND EXIT SIGNS. PROVIDE A NEW SPRINKLER HEAD SYSTEM LAYOUT AS PER NFPA 13 REQUIREMENTS. (REFER TO ALL ARCHITECTURAL CEILING LAYOUT AND DEMOLITION DRAWINGS AND MECHANICAL DRAWINGS FOR AN EXACT SCOPE OF WORK WITH-IN THE EXISTING BULDING). SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF TILE.
4. CONNECT TO EXISTING 4" BULK MAIN SERVING THIS ZONE. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING BULK MAIN. EXTEND, OFFSET, AND ADJUST EXISTING PIPING AS REQUIRED TO MAKE CONNECTION.
5. INSTALL PIPING ABOVE EXISTING CEILING TILE. CAREFULLY REMOVE EXISTING TILE FOR INSTALLATION OF PIPING AND REINSTALL IN ORIGINAL CONDITION. CONTRACTOR RESPONSIBLE TO REPLACE ANY CEILING TILE DAMAGED AS PART OF THIS WORK WITH NEW TILE TO MATCH EXISTING.



KEY PLAN
NOT TO SCALE

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
JDS

Drawn By
JD

Scale
AS SHOWN

Drawing Name
FIRE PROTECTION FLOOR PLAN

Revisions

No.	Date	Description
	04.06.21	Issued for Bid

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Drawing Number
FP2.0

O:\JK 3500 3547 - W. Windsor - Plainsboro Regional School District 3547.024 - Ww-p Hs North Addition And Reno CADD DWG phase 1 - New Addition 3547.024A - FP2.0.dwg

PLUMBING GENERAL NOTES

1. DO NOT SCALE FROM THESE DRAWINGS.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE AND ADOPTED REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL, CITY, STATE, LOCAL CODES AND ORDINANCES WHICH MAY BE IN EFFECT. ALL PLUMBING MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES HAVING JURISDICTION. THE PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
3. THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON FPA CADD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF FPA AND ARE INVALID.
4. REPRODUCTION OF ANY PORTION OF THE CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
5. UPON CONTRACT AWARD, CONTRACTOR SHALL CONTACT LOCAL UTILITY COMPANY TO SCHEDULE ANY UTILITY UPGRADES. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL UTILITY UPGRADES, SECURE ALL PERMITS AND INSPECTIONS.
6. ALL CONNECTIONS TO EXISTING BUILDING SERVICES SHALL BE CAREFULLY COORDINATED WITH THE UTILITY CO. AND THE OWNER'S SCHEDULE. SERVICE WORK OF THIS NATURE TO OCCUR DURING UNOCCUPIED BUILDING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL EXISTING EQUIPMENT IS OPERATIONAL AFTER ANY SHUTDOWN OCCURS.
7. CHANGES OR SUBSTITUTIONS OF EQUIPMENT WILL NOT BE ALLOWED WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER. ALL COSTS RESULTING FROM THE SELECTION OF OTHER THAN SPECIFIED EQUIPMENT SHALL BE BORNE BY THE CONTRACTOR, INCLUDING, BUT NOT LIMITED TO WORK AFFECTING OTHER CONTRACTORS, THE OWNER, OR RE-DESIGN ISSUES.
8. ALL INDICATED WORK SHALL BE PERFORMED BY THE PLUMBING CONTRACTOR UNLESS OTHERWISE NOTED.
9. DO NOT USE ANY PART OF THE OWNER'S BUILDING AS A SHOP, EXCEPT PARTS DESIGNATED FOR SUCH PURPOSES BY THE OWNER.
10. ALL CONTRACT WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE WRITTEN SPECIFICATIONS FOR THIS PROJECT WHICH ARE CONSIDERED TO BE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. ALL CONTRACTORS AND SUBCONTRACTORS SHALL MAINTAIN (AT THE JOB SITE) AND REFER TO COPIES OF THE WRITTEN SPECIFICATIONS AS PART OF THESE DRAWINGS. REFER TO THE WRITTEN SPECIFICATIONS IN CONJUNCTION WITH THE PLANS FOR FULL PROJECT SCOPE. IN ALL CASES OF DISCREPANCY BETWEEN PLANS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN AND WHERE IT IS UNCLEAR, SUCH CASES SHALL BE REFERRED TO THE ENGINEER FOR ADJUDICATION.
11. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND RELATED HVAC, ELECTRICAL, FIRE PROTECTION, ARCHITECTURAL, INTERIOR DECOR AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER PRIOR TO BID SUBMISSION.
12. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING HIS BID FOR THE PROPOSED WORK. HE SHALL BE RESPONSIBLE TO VERIFY FIELD CONDITIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMISSION OF BIDS IN WRITING.
13. THE PLUMBING CONTRACTOR SHALL REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED HVAC, ELECTRICAL, ARCHITECTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. DURING THE SOURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, THE PLUMBING CONTRACTOR SHALL COOPERATE WITH ALL OTHER CONTRACTORS AND TRADES ON THIS PROJECT TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
14. CONTRACTOR SHALL COORDINATE HIS SCHEDULING WITH THE OWNER AND GENERAL CONTRACTOR TO COMPLY WITH THE OWNERS USAGE OF THE BUILDING.
15. IF ANY UNEXPECTED DISCOVERY OF SUSPECTED HAZARDOUS MATERIALS IS MADE DURING THE COURSE OF WORK, THE CONTRACTOR SHALL REPORT THE DISCOVERY IMMEDIATELY TO THE OWNER. THE CONTRACTOR SHALL STOP ANY WORK THAT MAY DISTURB THE SUSPECTED HAZARDOUS MATERIAL. CONTRACTOR SHALL RESUME WORK AFTER ALL HAZARDOUS MATERIAL HAS BEEN REMEDIATED.
16. CONTRACTOR RESPONSIBLE FOR THE PROPER CARE OF ALL OWNER'S EQUIPMENT AND/OR FURNISHINGS WHICH ARE REQUIRED TO BE TEMPORARILY REMOVED, STORED OR RELOCATED. CONTRACTOR SHALL REPLACE, REPAIR OR REIMBURSE OWNER FOR ALL DAMAGES TO SUCH PROPERTIES AT FULL REPLACEMENT VALUE AND EQUIVALENCY. CONTRACTOR SHALL ADVISE OWNER FOR DISPOSITION OR REMOVED EQUIPMENT AND/OR MATERIALS.
17. CONTRACTOR'S WORK MAY BE REQUIRED OUTSIDE OF DESIGNATED SPACE. ALL SYSTEMS BEING DEMOLISHED AND REMOVED, MODIFIED, AND/OR TERMINATED SHALL BE FIELD VERIFIED TO INSURE NO WORK PERFORMED, INSIDE OR OUTSIDE OF THE DESIGNATED SPACE, SHALL DISRUPT ANY SERVICE OR SYSTEMS OF ANY OTHER AREAS. IF ANY CONDITIONS ARISE THAT ARE NOT IDENTIFIED ON DRAWINGS, IMMEDIATE NOTIFICATION SHALL BE PROVIDED TO THE ENGINEER OR OWNER. NO WORK SHALL PROCEED WITHOUT APPROVALS FROM ENGINEER OR OWNER.
18. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND MAY HAVE TO BE ADAPTED TO COMPLY WITH EXISTING BUILDING CONDITIONS. CONTRACTOR SHALL SUBMIT PLUMBING SHOP DRAWINGS, INDICATING LOCATIONS, AND ROUTING OF DUCTS, PIPING, AND WIRING.
19. PIPING SHOWN ON DRAWINGS SHOW THE GENERAL RUN AND CONNECTIONS AND MAY OR MAY NOT IN ALL PARTS BE SHOWN IN ITS EXACT POSITION. CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTING THE PIPING SUITABLE IN EVERY RESPECT FOR THE WORK. PIPING SHALL BE INSTALLED SO THAT ACCESS, CLEARANCE, HEADROOM AND PITCH ARE MAINTAINED. CONTRACTORS OF THE VARIOUS TRADES SHALL COORDINATE THE INSTALLATION.
20. ALL CONTRACTORS SHALL PROVIDE CUTTING AND PATCHING FOR THEIR RESPECTIVE TRADES.
21. REMOVE AND REINSTALL CEILING SYSTEM AS REQUIRED FOR THE INSTALLATION OF PLUMBING WORK AND REPLACE IN KIND ANY COMPONENTS DAMAGED BY PERSONNEL OR EQUIPMENT DURING PERFORMANCE OF THE WORK. PATCH AND REPAIR ALL DAMAGE CAUSED BY REMOVAL, MATCH EXISTING ADJACENT SURFACES.
22. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL CONNECTION OF DOMESTIC WATER, GAS, SANITARY AND VENT PIPING INCLUDING VALVES, TRIMS AND EQUIPMENT, TO PLUMBING FIXTURES AT LOCATIONS INDICATED ON THE PLANS.
23. RUN ALL DOMESTIC WATER AND SANITARY WASTE AT LOWEST LEVEL, AND SANITARY VENT AS HIGH AS POSSIBLE THROUGHOUT ENTIRE BUILDING. INSTALL LONG RUNS OF PIPING WITHIN STEEL (JOIST) SPACE AND OTHER PIPING TIGHT TO BOTTOM OF STEEL. COORDINATE AND VERIFY WITH OTHER CONTRACTORS SO AS NOT TO INTERFERE WITH DUCTWORK, LIGHTING SYSTEMS, ETC.
24. ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. VERTICAL DROPS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND THEIR FINAL LOCATIONS SHALL BE COORDINATED AND RUN WITHIN CHASES, WALLS, SOFFITS WITH OTHER MECHANICAL/ELECTRICAL FEEDS. PLUMBING CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS FOR CHASE LOCATIONS TO COORDINATE ALL VERTICAL PIPING ROUTING. ALL SUCH LOCATIONS ARE TO BE REVIEWED WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
25. ALL PLUMBING FIXTURES/APPLIANCES SHALL HAVE THEIR OWN INDEPENDENT SHUT-OFF VALVES, INSTALLED IN AN EASILY ACCESSIBLE AND CONVENIENT LOCATION. EACH DOMESTIC WATER BRANCH LINE SHALL HAVE ITS OWN SHUT-OFF VALVE.
26. DOMESTIC HOT WATER HEATER TEMPERATURE/PRESSURE RELIEF VALVES SHALL BE PIPED FULL SIZE TO THE NEAREST APPROVED STANDPIPE OR FLOOR DRAIN. THIS REQUIREMENT SHALL BE APPLICABLE TO ALL DOMESTIC WATER HEATERS EXCEPT INSTANTANEOUS WATER HEATERS.
27. THE PLUMBING CONTRACTOR SHALL RUN OUT ALL BUILDING DRAINAGE AND WASTE LINES TO WITHIN 5'-0" OF THE BUILDING FOUNDATION AND MAKE FINAL CONNECTIONS TO SITE SYSTEMS AS INDICATED ON PLANS. COORDINATE WITH SITE ENGINEER.
28. FURNISH AND INSTALL PIPE SLEEVES OR SLEEVE SEAL SYSTEMS AS REQUIRED. SEE SPECIFICATION FOR DETAILS.
29. ALL PIPING SYSTEM PENETRATIONS OF FIRE-RATED WALLS AND FLOORS SHALL BE SEALED WITH UL APPROVED FIRE RESISTANT JOINT SEALER TO MAINTAIN FIRE,SMOKE AND DRAFT INTEGRITY OF STRUCTURE. SPECIFIED TECHNOLOGIES "PENSIL 200" OR EQUAL, TWO-PART FOAMED-IN-PLACE SILICONE SEALANT. FIRE RESISTANT SEALER SHALL BE TESTED IN ACCORDANCE WITH ASTM 814. INSTALL SEALANT, INCLUDING FOAMING, PACKING AND OTHER ACCESSORY MATERIALS TO FILL OPENINGS WHERE FIRE-RATED WALL PENETRATIONS OCCUR. COMPLY WITH INSTALLATION REQUIREMENTS ESTABLISHED BY TESTERS AND INSPECTION AGENCY.
30. ALL PENETRATIONS IN FOUNDATION WALLS AND FLOORS INCLUDING SLAB PENETRATIONS SHALL BE SUBSTANTIALLY SEALED BY UTILIZING A NON-CRACKING POLYURETHANE OR SIMILAR CAULK, OR EQUIVALENT IN ORDER TO CLOSE OFF THE SOIL GAS (RADON) ENTRY ROUTES AS REQUIRED BY CODE.
31. INSULATE ALL NEW HOT WATER AND COLD WATER PIPING SYSTEMS. INSULATION SHALL BE INSTALLED AS A COMPLETE SYSTEM INCLUDING VALVES, FITTINGS, ETC. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
32. INSULATE ROOF DRAIN & OVERFLOW DRAIN BODIES AND ALL INTERIOR STORM PIPING. INSULATION SHALL BE INSTALLED AS A COMPLETE SYSTEM INCLUDING FITTINGS, ETC. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
33. ALL CONTRACTORS REMOVING ANY EQUIPMENT, PIPES, DUCTS, CONDUITS, ETC SHALL PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
34. PROVIDE GAS PIPING SUPPORTS ON ROOF AT ALL DIRECTION CHANGES AND STRAIGHT RUNS WITH SPACING NOT EXCEEDING LENGTHS STATED IN TABLE 415.1 OF IFGC, 2015 FOR MATERIALS AND LISTED PIPE SIZES. SUPPORTS SHALL BE SADDLE BLOCK ROLLER TYPE WITH PIPE SECURED TO STAND WITH CLAMP OR METAL BAND. SUPPORT SHALL NOT BE SECURED TO ROOF SURFACE. BOTTOM OF PIPING SHALL BE MINIMUM 3 1/2" ABOVE ROOF SURFACE.
35. WHERE SLABS ARE CUT FOR UNDERSLAB PIPING OR BEING REPLACED, COORDINATE WITH ARCHITECTURAL DRAWINGS TO PITCH FLOOR TO FLOOR DRAIN.
36. ALL FLOOR DRAIN TRAPS SHALL BE PROVIDED WITH DEEP SEAL TRAPS AND BARRIER TYPE TRAP SEAL PROTECTION DEVICE COMPLYING WITH ASSE 1072.
37. THE PLUMBING CONTRACTOR SHALL PROVIDE A COMPLETE SET OF "AS-BUILT" DRAWINGS INDICATING THE PRECISE LOCATION OF ALL SYSTEMS, EQUIPMENT CONCEALED OR EMBEDDED PIPES, PIPE CONNECTIONS AND ACCESS DOORS. THESE PLANS SHALL ALSO INCLUDE ALL CHANGES AND DEVIATIONS FROM BID DOCUMENTS.

PLUMBING LEGEND

SYMBOLS	DESCRIPTION
	SOIL OR WASTE PIPING
	VENT PIPING
	PIPING BURIED OR UNDER FLOOR (SERVICE NOTED)
AW	ACID WASTE PIPING
IW	INDIRECT WASTE PIPING
EJ	EJECTOR DISCHARGE PIPING
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER CIRCULATION PIPING
G	NATURAL GAS PIPING
	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	EXISTING PIPING TO BE ABANDONED
	POINT OF NEW CONNECTION TO EXISTING WORK
	WATER HAMMER ARRESTER
	HOSE BIBB
	WALL HYDRANT
	CLEAN-OUT/PLUG OUTLET
	CLEAN-OUT DECK PLATE OR GRADE PLATE
	"P" TRAP
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	ELBOW TURNED DOWN
	ELBOW TURNED UP/CONNECTION TO VERTICAL LINE
	VALVE IN VERTICAL
	GATE OR BALL VALVE
	BALL VALVE
	CHECK VALVE
	OS&Y (OUTSIDE SCREW & YOKE) VALVE
	GAS COCK
	RELIEF VALVE
	UNION
	FLOOR DRAIN
	PUMP
M	METER
	CIRCUIT SETTER ASSEMBLY
BPA	BACKFLOW PREVENTER ASSEMBLY
	REGULATOR

SYMBOL LIST NOTES

1. SYMBOLS ARE INDICATED FOR GENERAL REFERENCE ONLY. THE PRESENCE OF A SYMBOL DOES NOT INDICATE ITS USE ON THIS PROJECT. REFER TO PLAN DRAWINGS FOR SPECIFIC SYMBOLS USED.

DRAIN SCHEDULE

RD — ROOF DRAIN: JR SMITH FIGURE 1015 CAST IRON ROOF DRAIN WITH ADJUSTABLE EXTENSION. PROVIDE WITH UNDERDECK CLAMP, SUMP RECEIVER AND CAST IRON DOME.

OD — OVERFLOW ROOF DRAIN: OVERFLOW ROOF DRAIN STANDPIPE. SEE DETAIL ON ARCHITECTURAL DRAWINGS. OVERFLOW ROOF DRAIN STANDPIPE SHALL BE SAME DIAMETER AS ROOF DRAIN.

CODP — CLEAN OUT DECK PLATE: JR SMITH FIGURE 4023S 5 3/4" DIA, MEDIUM-DUTY CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORIATED SECURED NICKEL BRONZE TOP, TAPER THREAD, BRONZE PLUG. SIZE PER PLAN.

COWP — CLEAN OUT WALL PLATE: JR SMITH FIGURE 4422C, WALL CLEANOUT WITH ACCESS COVER, TAPER THREAD, BRONZE PLUG. SIZE PER PLAN.

PLUMBING EQUIPMENT SCHEDULE

FPWH — FROST PROOF WALL HYDRANT: JR SMITH 5509QT NON-FREEZE WITH INTEGRAL VACUUM BREAKER.

WHA — WATER HAMMER ARRESTER: SIOUX CHIEF HYDRA-RESTER OR APPROVED EQUAL. SIZE PER MANUFACTURER'S REQUIREMENTS.

PLUMBING FIXTURE SCHEDULE

P-1A — ACCESSIBLE WATER CLOSET: KOHLER K-96057 "HIGHCLIFF" 1.28 GPF ELONGATED FLOOR MOUNTED TOILET, SLOAN ROYAL MODEL 111 ESS-1.28-TMO-HW HARD WIRED SENSOR FLUSH VALVE WITH TRUE MECHANICAL OVERRIDE AND CHURCH MODEL 9500SSC OPEN FRONT SEAT WITHOUT COVER. MOUNT FIXTURE TO MEET ADA REQUIREMENTS.

P-2A — ACCESSIBLE LAVATORY, KOHLER K-2007 "KINGSTON" WALL-MOUNTED LAVATORY WITH SLOAN ETF-880-4-BOX-CP-0.5GPM-MLM-IR-BT-FCT HARD WIRED SENSOR 0.5 GPM FAUCET WITH 4" TRIM PLATE, ZURN MODEL ZW1070XL THERMOSTATIC MIXING VALVE, SUPPLIES, STOP VALVES, P-TRAP, GRID DRAIN AND JR SMITH CARRIER FIGURE 0710. PROVIDE INSULATION KIT BY TRUBRO LAV GUARD. MOUNT FIXTURE TO MEET ADA REQUIREMENTS.

P-3A — ACCESSIBLE WATER COOLER: ELKAY LZS8WSLP ENHANCED BOTTLE FILLING STATION WITH SINGLE COOLER, WATER FILTER AND WALL CARRIER, 8 GPH OF 50°F DRINKING WATER 90°F ROOM TEMP, 370W, 120/1Ø. PROVIDE SUPPLY, STOP VALVE AND P-TRAP. MOUNT FIXTURE TO MEET ADA REQUIREMENTS.

P-4A — ACCESSIBLE SINK: SINK & FAUCETS SHALL BE FURNISHED BY EQUIPMENT CONTRACTOR AND INSTALLED BY PLUMBING CONTRACTOR. SEE ARCHITECTURAL DRAWINGS. PLUMBING CONTRACTOR SHALL PROVIDE DRAIN, TRAP, TAILPIECE, SUPPLIES, STOPS, ETC AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM AND MAKE ALL FINAL CONNECTIONS. COORDINATE ALL WORK WITH THE EQUIPMENT CONTRACTOR. INSULATE TRAP, SUPPLIES AND ANGLE STOPS WITH INSULATION KIT BY TRUBRO LAV GUARD.

PLUMBING FIXTURE ROUGHING SCHEDULE

PLAN NO	FIXTURE	WASTE	TRAP	VENT	CW	HW	NOTES
P-1A	TOILET	4"	-	2"	1 1/2"	-	1,2
P-2A	LAVATORY	1 1/2"	1 1/2"	1 1/2"	1/2"	1/2"	1,3
P-3A	WATER COOLER W/ BOTTLE FILLER	1 1/2"	1 1/2"	1 1/2"	1/2"	-	1
P-4A	SINK	1 1/2"	1 1/2"	1 1/2"	3/4"	3/4"	1,3

NOTES:
1. INSTALL FIXTURES IN ACCORDANCE WITH STATE AND LOCAL BARRIER FREE REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT TYPE, COUNT, AND LOCATION OF HANDICAP FIXTURES.
2. LOCATE TRIP LEVER/HANDLE ON OPEN SIDE OF COMPARTMENT PER ADA REQUIREMENTS.
3. INSULATE ALL EXPOSED PIPING BELOW HANDICAP SINKS WITH TRUBRO, LAV GUARD INSULATION KIT OR EQUAL.

PLUMBING ABBREVIATIONS

AW	ACID WASTE	IE	INVERT ELEVATION
CO	CLEANOUT	LAV	LAVATORY
CODP	CLEANOUT DECK PLATE	OSY	OUTSIDE SCREW & YOKE GATE VALVE
COG	CLEANOUT GRADE		
COWP	CLEANOUT WALL PLATE	PSI	POUNDS PER SQUARE INCH (GAUGE)
CW	COLD WATER		
DN	DOWN (PENETRATES FLOOR SLAB)	SAN	SANITARY
DFU	DRAINAGE FIXTURE UNIT	ST	STORM
EJDIS	EJECTOR DISCHARGE	SQ FT	SQUARE FOOT
EWC	ELECTRIC WATER COOLER	TP	TRAP PRIMER
FPWH	FROST PROOF WALL HYDRANT	TW	TEMPERED WATER
FD	FLOOR DRAIN	UG	UNDERGROUND
FU	FIXTURE UNIT	UP	UP (PENETRATES FLOOR SLAB)
FT	FEET	UR	URINAL
G	GAS	V	VENT
GPM	GALLONS PER MINUTE	VIF	VERIFY IN FIELD
GAL	GALLONS	VTR	VENT THROUGH ROOF
HB	HOSE BIBB	WC	WATER CLOSET
HW	HOT WATER	WFU	WATER FIXTURE UNITS
HWR	HOT WATER RETURN	WHA	WATER HAMMER ARRESTOR
IW	INDIRECT WASTE		

APPLICABLE CODES:

ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LATEST CODES AND SUBCODES AS ADOPTED BY THE STATE OF NEW JERSEY:

- NEW JERSEY UNIFORM CONSTRUCTION CODE (NJUCC)
- REHABILITATION SUBCODE 5:23-6
- ADMINISTRATIVE CODE: TITLE 6
- 2018 INTERNATIONAL BUILDING CODE - NJ EDITION
- 2017 NATIONAL ELECTRICAL CODE
- 2018 NATIONAL STANDARD PLUMBING CODE
- 2018 INTERNATIONAL MECHANICAL CODE
- 2018 INTERNATIONAL FUEL GAS CODE
- 2016 ASHRAE 90.1 ENERGY CONSERVATION CODE
- 2016 NFPA 13
- REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION

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04/06/21
Date

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
JDS

Drawn By
JD

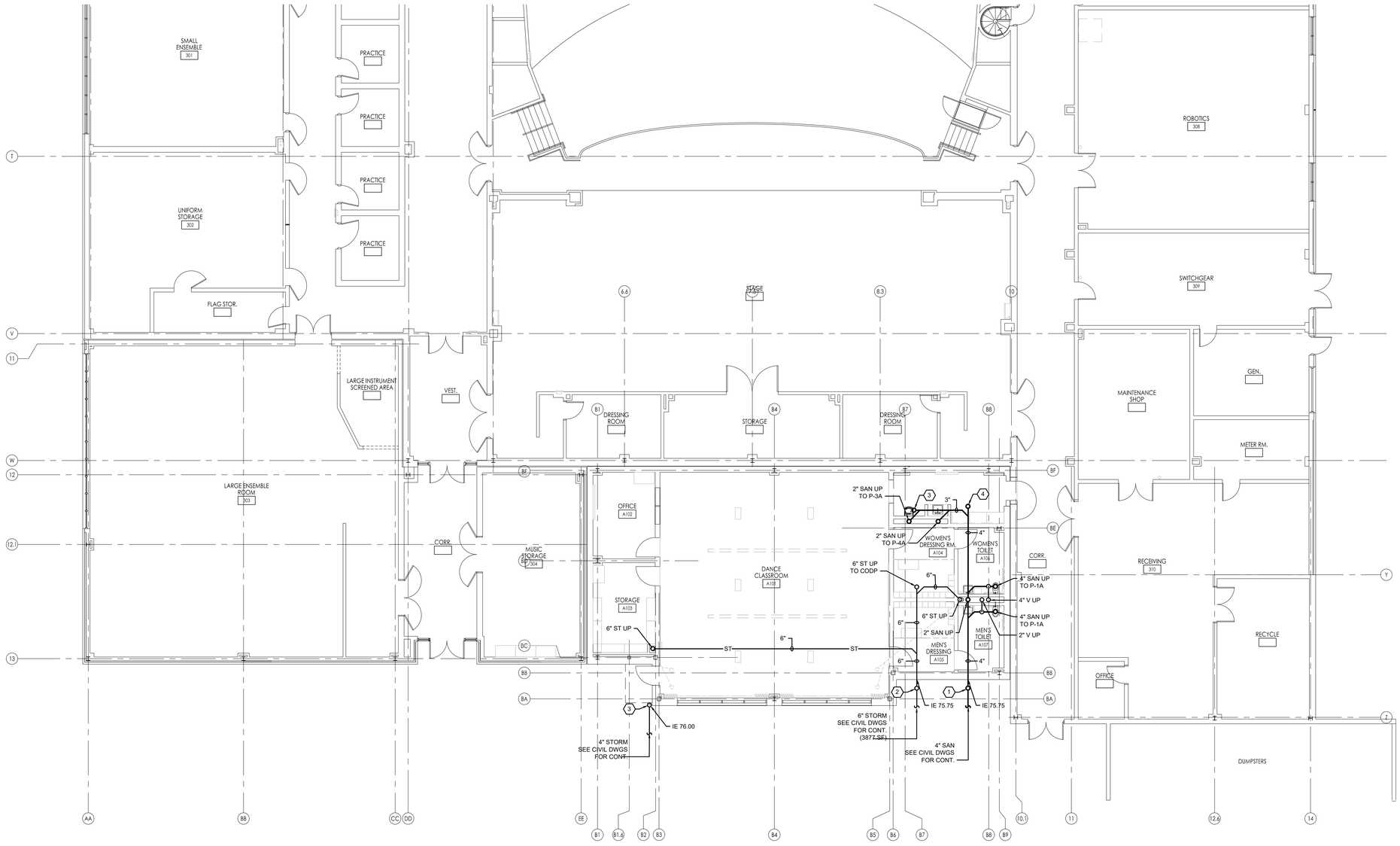
Scale
AS SHOWN

Drawing Name
PLUMBING SYMBOLS, NOTES, SCHEDULES & ABBREVIATIONS

Revisions

No.	Date	Description
	04.06.21	Issued for Bid

Drawing Number
P1.0

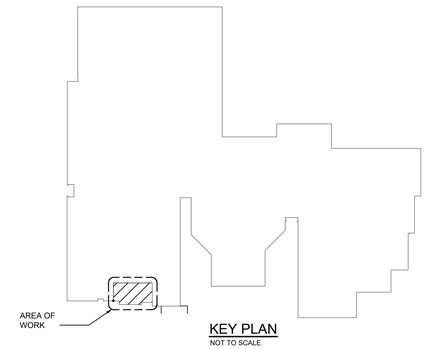


UNDERSLAB PIPING FLOOR PLAN

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

KEY NOTES

1. 4" SANITARY UP TO COG.
2. 6" STORM UP TO COG.
3. 4" STORM UP TO DOWNSPOUT BOOT.
7. 3" SANITARY UP TO CODP.
8. 4" SANITARY UP TO CODP.



KEY PLAN

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Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
JDS

Drawn By
JD

Scale
AS SHOWN

Drawing Name
PLUMBING UNDERSLAB PIPING PLAN

Revisions

No.	Date	Description
	04.06.21	Issued for Bid

Drawing Number
P2.0

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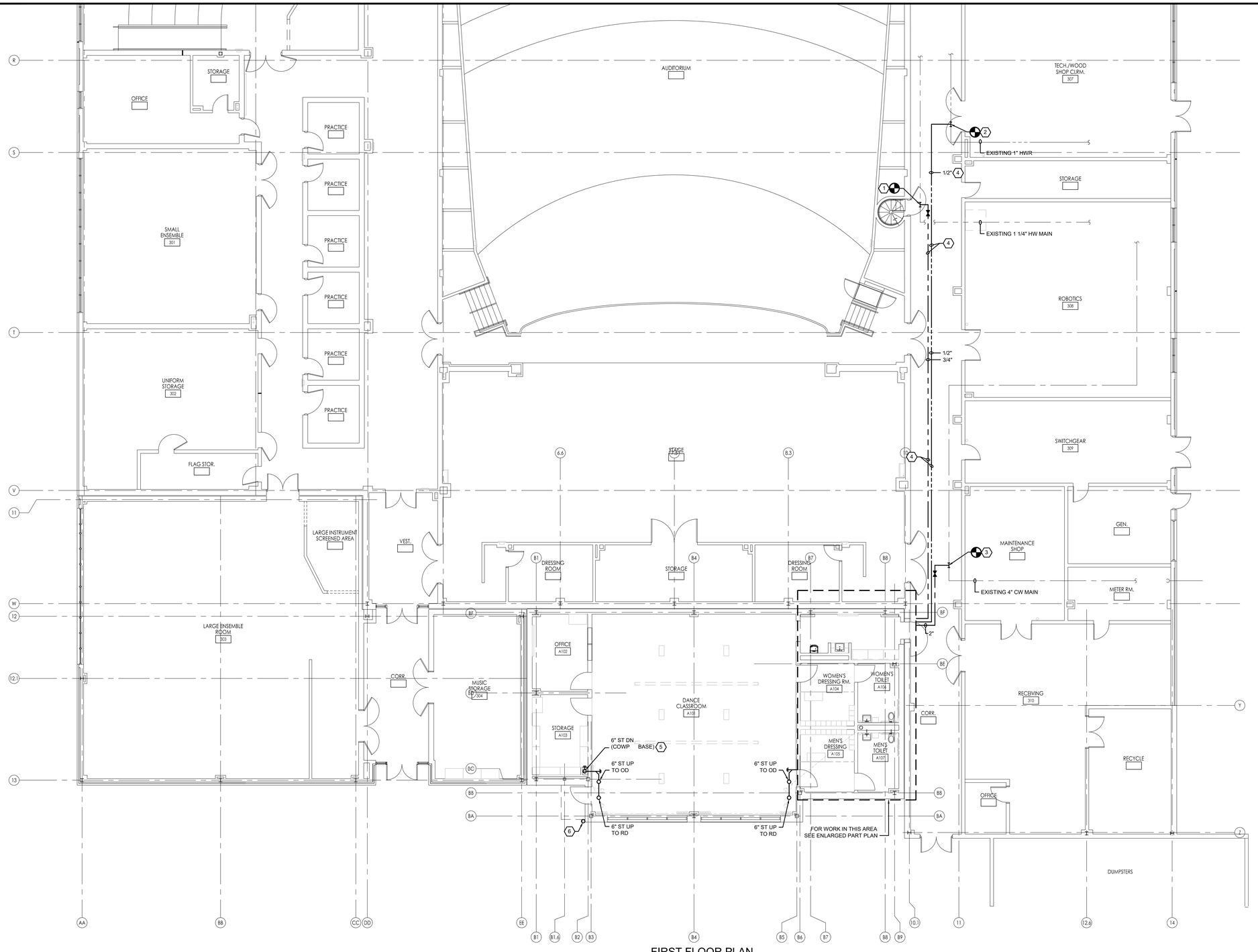
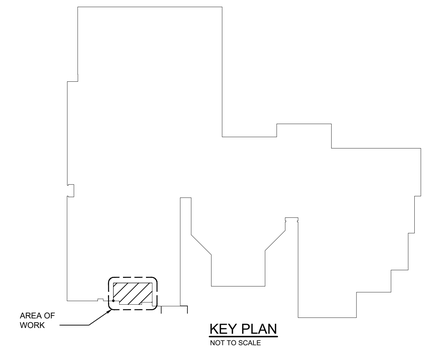


FIRST FLOOR PLAN

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

KEY NOTES

1. CONNECT NEW 3/4" HW TO EXISTING 1 1/4" HW MAIN. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING PIPING. MODIFY EXISTING PIPING AS REQUIRED TO MAKE CONNECTION. PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
2. CONNECT NEW 1/2" HWR TO EXISTING 1" HWR. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING PIPING. MODIFY EXISTING PIPING AS REQUIRED TO MAKE CONNECTION. PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
3. CONNECT NEW 2" CW TO EXISTING 4"CW MAIN. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING PIPING. MODIFY EXISTING PIPING AS REQUIRED TO MAKE CONNECTION. PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
4. INSTALL PIPING ABOVE EXISTING CEILING TILE. CAREFULLY REMOVE EXISTING TILE FOR INSTALLATION OF PIPING AND REINSTALL IN ORIGINAL CONDITION. CONTRACTOR RESPONSIBLE TO REPLACE ANY CEILING TILE DAMAGED AS PART OF THIS WORK WITH NEW TILE TO MATCH EXISTING.
5. INSTALL COWP INSIDE STORAGE ROOM A103 AS INDICATED.
6. DOWNSPOUT BOOT SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR. SEE ARCHITECTURAL DRAWINGS.



KEY PLAN

NOT TO SCALE

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Drawing Name
PLUMBING FIRST FLOOR PLAN

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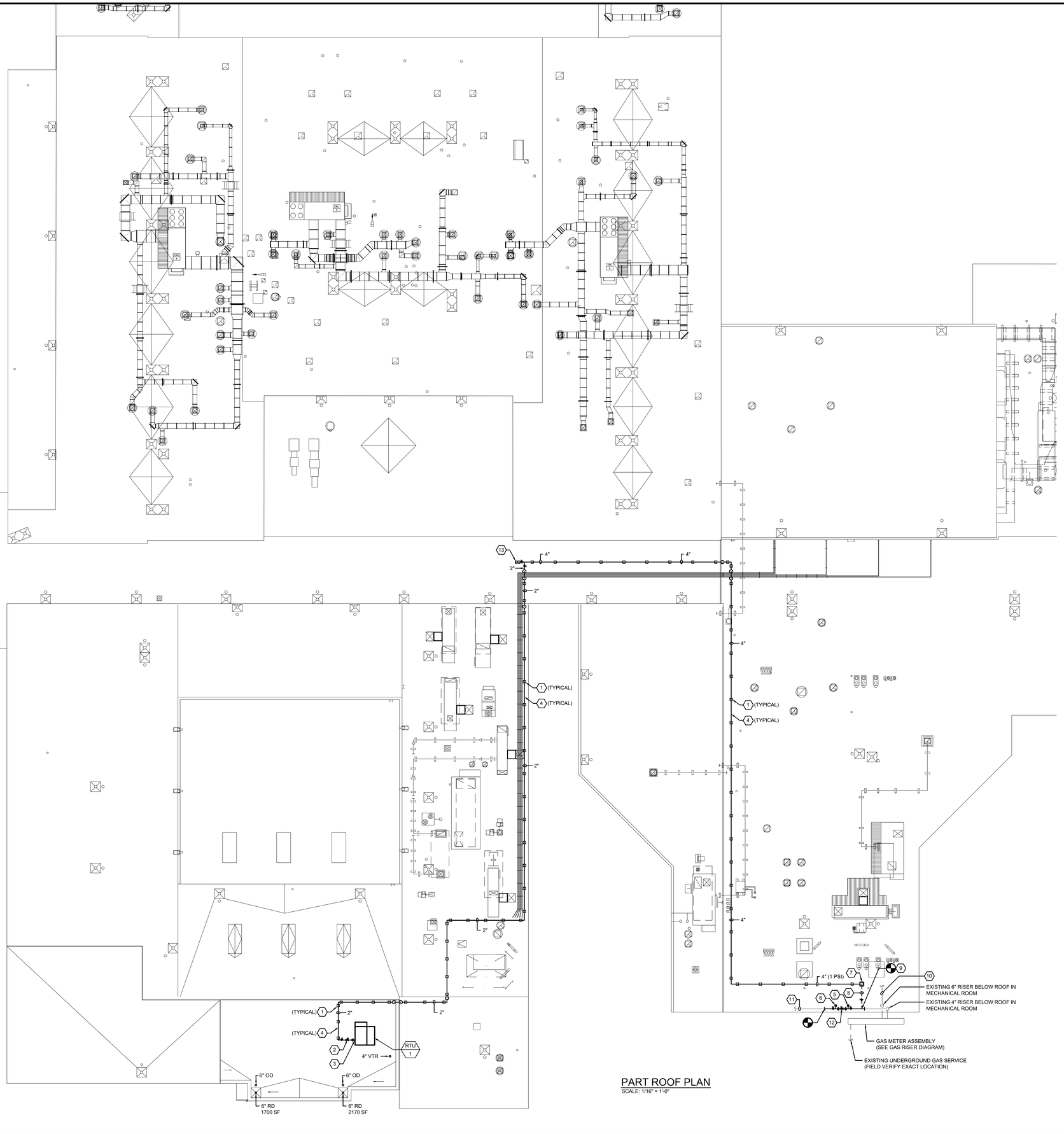
Drawing Number
P3.0



PART ROOF PLAN
SCALE: 1/16" = 1'-0"

KEY NOTES

1. PROVIDE PIPE SUPPORTS AT ALL DIRECTION CHANGES AND STRAIGHT RUNS WITH SPACING NOT EXCEEDING LENGTHS STATED IN TABLE 415.1 OF IFGC, LATEST ADOPTED EDITION, FOR MATERIALS AND LISTED PIPE SIZES. SUPPORTS SHALL BE SADDLE BLOCK ROLLER TYPE WITH PIPE SECURED TO STAND WITH CLAMP OR METAL BAND. SUPPORT IS NOT SECURED TO ROOF SURFACE. BOTTOM OF PIPING SHALL BE MINIMUM 3 1/2" ABOVE ROOF SURFACE.
2. CONTRACTOR SHALL TAKE PRESSURE READING FOR GAS PRESSURE TO PROPERLY SELECT REGULATOR SPRING RATES. REGULATORS SHALL BE LOCK - UP TYPE MANUFACTURED BY SENSUS OR ENGINEER APPROVED EQUAL. PROVIDE WITH VENT CAP WITH BUILT IN INSECT SCREEN. VENTS TO BE LOCATED MINIMUM 10'-0" AWAY FROM ALL OUTSIDE AIR INTAKES AND WINDOWS. REFER TO MECHANICAL DRAWINGS FOR ROOFTOP AND MAKE UP AIR UNITS GAS PRESSURE REQUIREMENTS.
3. FIELD VERIFY SIZE AND LOCATION OF UNIT GAS CONNECTION AND PROVIDE TRANSITION FITTINGS AS REQUIRED.
4. CLEAN, PRIME AND PAINT ALL EXTERIOR GAS PIPING WITH TWO COATS MARINE GRADE RUST RESISTANT PAINT. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. PROVIDE TEE FITTING WITH CAPPED OUTLET TO ALLOW FOR CONNECTION OF PRESSURE MEASURING DEVICE AND TO SERVE AS SEDIMENT TRAP. SEE GAS RISER DIAGRAM.
6. PROVIDE TEE FITTING WITH CAPPED OUTLET TO ALLOW FOR CONNECTION OF PRESSURE MEASURING DEVICE. INSTALL NOT LESS THAN 10 PIPE DIAMETERS AWAY FROM REGULATOR OUTLET. SEE GAS RISER DIAGRAM.
7. 4" GAS DOWN THRU ROOF. PROVIDE & INSTALL ROOF PORTAL PATE CO OR EQUAL. PROVIDE SEPARATE BOOT FOR EACH PIPE. DO NOT PASS MORE THAN (1) PIPE THRU EACH NIPPLE TO FACILITATE PROPER SEALING.
8. NEW 4" GAS BELOW ROOF AT MECHANICAL ROOM CEILING. SEE GAS RISER DIAGRAM ON DRAWING P6.0.
9. CONNECT NEW 4" GAS TO EXISTING 4" GAS BELOW ROOF AT MECHANICAL ROOM CEILING. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING PIPING. PROVIDE GAS SHUT OFF VALVE ON THE NEW 4" LINE NEAR CONNECTION POINT TO THE EXISTING PIPING. SEE GAS RISER DIAGRAM ON DRAWING P6.0.
10. EXISTING 6" GAS MAIN BELOW ROOF AT BOILER ROOM CEILING TO REMAIN. FIELD VERIFY EXACT LOCATION AND SIZE. SEE GAS RISER DIAGRAM ON DRAWING P6.0.
11. EXISTING 4" GAS MAIN BELOW ROOF AT BOILER ROOM CEILING TO REMAIN. FIELD VERIFY EXACT LOCATION AND SIZE. SEE GAS RISER DIAGRAM ON DRAWING P6.0.
12. REMOVE EXISTING GAS PRESSURE REGULATOR INSTALLED OUTSIDE DOWNSTREAM OF THE GAS METER SERVING THE 4" RISER (SEE GAS RISER DIAGRAM) AND INSTALL NEW GAS PRESSURE REGULATOR ON THE EXISTING 4" LINE AT CEILING IN MECHANICAL ROOM AS INDICATED. CUT BACK, EXTEND, OFFSET, AND ADJUST EXISTING PIPING AS REQUIRED FOR INSTALLATION. SET OUTLET PRESSURE TO 7" WC TO MATCH EXISTING PRESSURE. CONTRACTOR SHALL TAKE PRESSURE READING FOR GAS PRESSURE TO PROPERLY SELECT REGULATOR SPRING RATES. REGULATOR SHALL BE LOCK - UP TYPE MANUFACTURED BY SENSUS OR ENGINEER APPROVED EQUAL. INSTALL REGULATOR PER THE REQUIREMENTS OF SECTION 410.2 OF IFGC, LATEST ADOPTED EDITION. EXTEND REGULATOR VENT UP THROUGH ROOF THROUGH PIPE PORTAL. PROVIDE WITH VENT CAP WITH BUILT IN INSECT SCREEN. VENTS TO BE LOCATED MINIMUM 10'-0" AWAY FROM ALL OUTSIDE AIR INTAKES. SEE GAS RISER DIAGRAM ON DRAWING P6.0.
13. PROVIDE 4" VALVED AND CAPPED OUTLET FOR FUTURE LIFE SKILLS AND MEDIA CENTER RENOVATION PROJECT PIPING.

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JDS

Drawn By
JD

Scale
AS SHOWN

Drawing Name
PLUMBING PART ROOF PLAN

Revisions

No.	Date	Description
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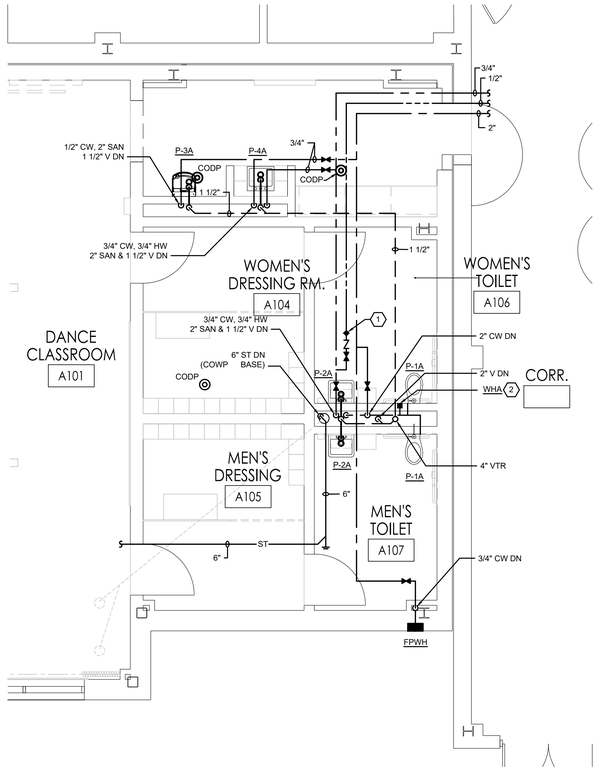
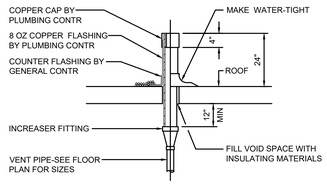
Drawing Number
P4.0



ENLARGED PLAN - DANCE CLASSROOM
SCALE: 1/4" = 1'-0"

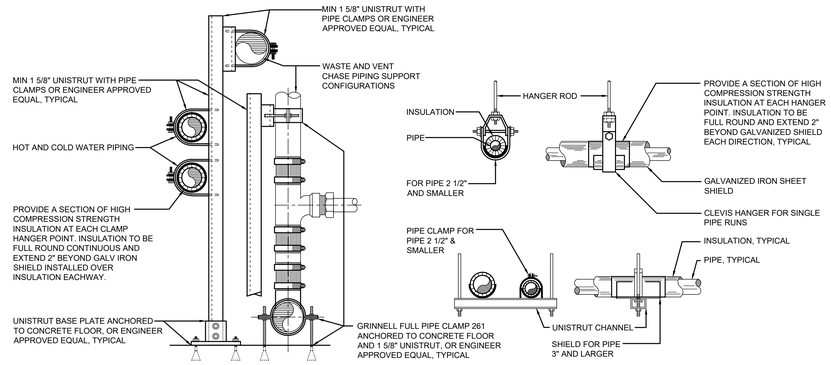
KEY NOTES

1. SET BALANCING VALVE TO 1 GPM.
2. PROVIDE ACCESS PANEL FOR WHA ACCESS.



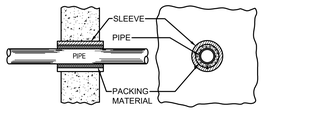
NOTES:
1. MINIMUM SIZE OF VENT EXTENSION THROUGH ROOF TO BE 3".
2. CHANGE OF DIAMETER TO BE MADE AT LEAST 12" BELOW ROOF.
3. VENT PIPE TO EXTEND 24" ABOVE ROOF AND TO BE SEALED WATERTIGHT BY PROPER FLASHING.
4. ALL VENT RISERS SHALL BE OFFSET AS REQUIRED TO CLEAR ROOF STRUCTURE, DUCTWORK OR MECH ROOFTOP UNITS. PLUMBING CONTRACTOR TO COORDINATE WITH OTHER TRADES.
5. ROOFING CONTRACTOR SHALL SUPPLY BOOT FLASHING FOR RUBBER ROOF SYSTEMS.

VENT INCREASER DETAIL
NOT TO SCALE



NOTE: FOR 4" AND SMALLER PIPING: SNAP N SHIELD BY EATON OR ENGINEER APPROVED EQUAL CLEVIS AND PIPE SUPPORTS SHALL BE PERMITTED.

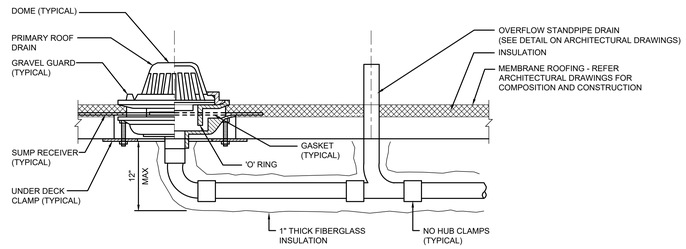
PIPE HANGERS & SUPPORT DETAIL - WATER, WASTE & VENT
NOT TO SCALE



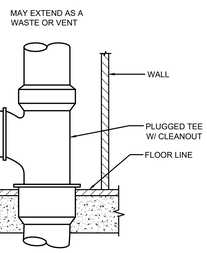
(CONCRETE AND FOUNDATION WALLS)

NOTE:
NO STRUCTURAL STRAIN SHOULD BE TRANSMITTED FROM ANY WALL TO THE PIPING SYSTEM THE SLEEVING, RELIEVING ARCH, OR STRUCTURAL BEAM SUPPORT METHODS PROTECT THE PIPING FROM SUPERIMPOSED LOADS THE "PACKING" MATERIAL AROUND THE PIPE IS FLEXIBLE ENOUGH TO RESPOND TO SETTLING IN THE STRUCTURE OR PIPING

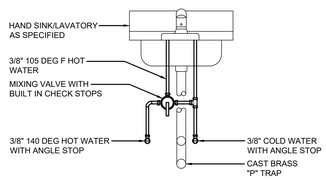
WALL PENETRATION PIPE SLEEVE DETAIL
NOT TO SCALE



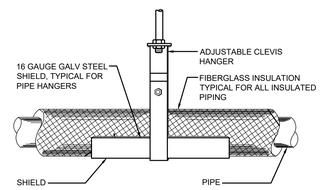
ROOF DRAIN AND OVERFLOW DRAIN DETAIL
NOT TO SCALE



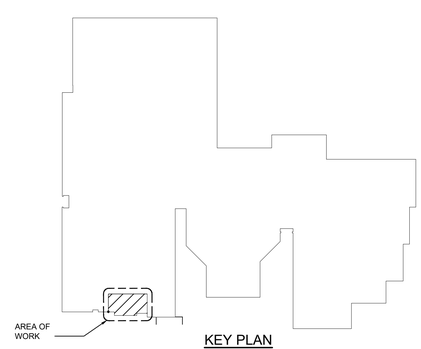
WALL CLEANOUT DETAIL
NOT TO SCALE



MIXING VALVE AT LAVATORIES
NOT TO SCALE



TYPICAL PIPE HANGER DETAIL
NOT TO SCALE



KEY PLAN
NOT TO SCALE

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Approved
04/06/21
Date

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Scale
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Drawing Name
PLUMBING ENLARGED PLANS & DETAILS

Revisions

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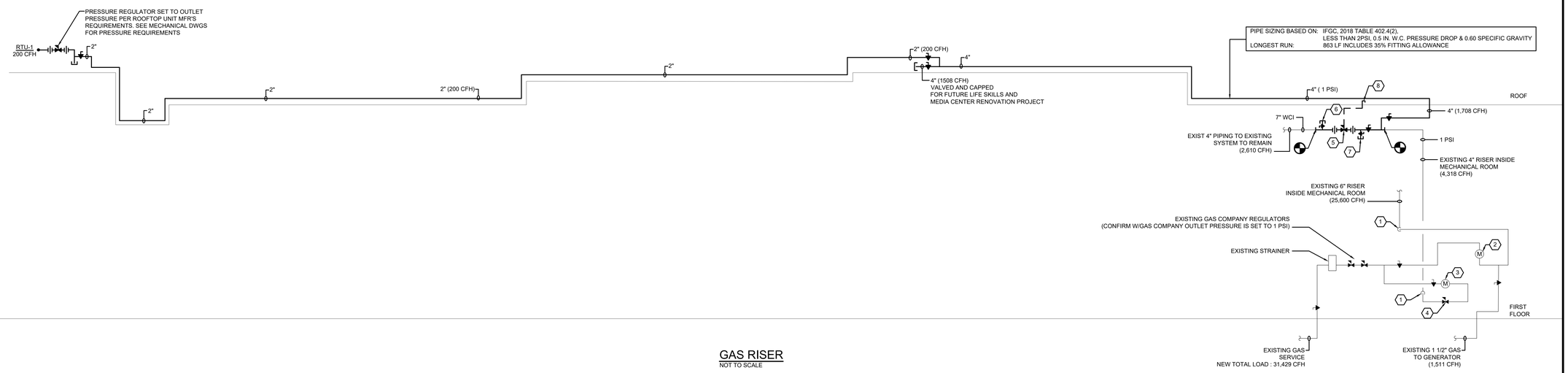
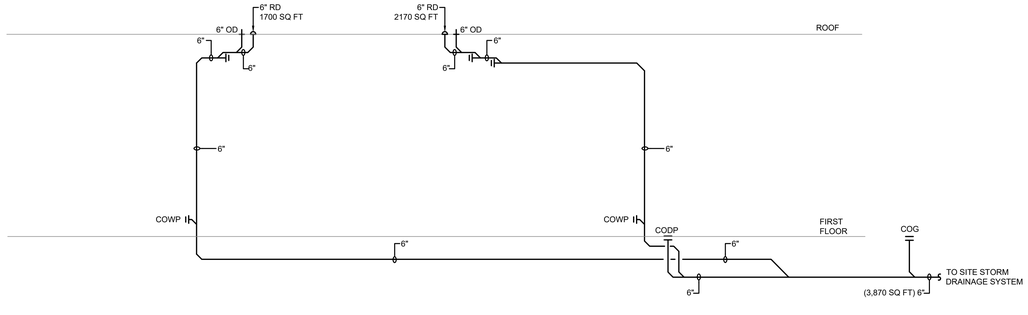
O:\SK 3500 5047 - W. Windsor - Plainsboro Regional School District 5047.02A - We-p-Hs North Addition And Reno CADD DWG phase 1 - New Addition 5047.02A - P5.0.dwg



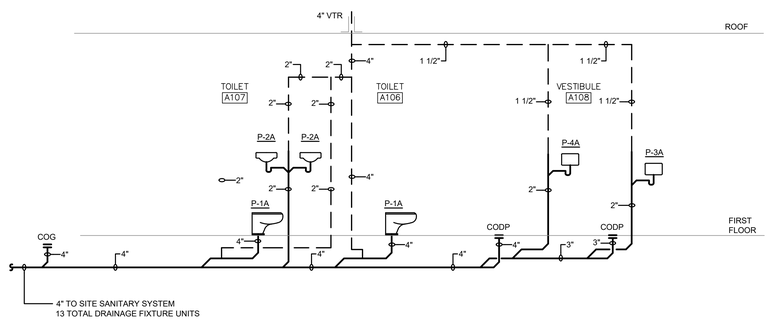
GAS RISER
NOT TO SCALE

GAS RISER KEY NOTES

1. EXISTING PIPE THROUGH WALL.
2. EXISTING GAS METER.
3. EXISTING GAS METER. CONFIRM CAPACITY OF EXISTING METER WITH THE GAS COMPANY AND, IF REQUIRED, MODIFY PIPING AS REQUIRED TO ACCOMMODATE NEW METER AS PER GAS COMPANY REQUIREMENTS.
4. REMOVE EXISTING REGULATOR AND INSTALL SPOOL PIECE IN ITS PLACE TO MATCH PIPE SIZE OF EXISTING PIPING. INSTALL NEW REGULATOR INSIDE MECHANICAL ROOM AS INDICATED.
5. NEW PRESSURE REGULATOR. SET OUTLET PRESSURE TO 7" WC. INSTALL REGULATOR PER MANUFACTURER'S REQUIREMENTS INCLUDING THE REQUIRED AMOUNT OF STRAIGHT PIPE UPSTREAM AND DOWNSTREAM OF THE REGULATOR AND PER PSE&G AND INTERNATIONAL FUEL GAS CODE (LATEST APPROVED EDITION). REQUIREMENTS.
6. PROVIDE CAPPED TEE FITTING FOR PRESSURE GAUGE CONNECTION.
7. PROVIDE CAPPED TEE FITTING FOR PRESSURE GAUGE CONNECTION AND TO SERVE AS SEDIMENT TRAP.
8. REGULATOR VENT THRU ROOF.



STORM RISER
NOT TO SCALE



SANITARY RISER
NOT TO SCALE

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PLUMBING RISER DIAGRAMS

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Drawing Number
P6.0

MECHANICAL LEGEND

SYMBOLS	DESCRIPTION
	NEW DUCT OR PIPE
	EXISTING DUCT OR PIPE
	TO BE REMOVED
	FLEX TO DIFFUSER (5'-0" MAXIMUM)
R	RISE IN DUCT
D	DROP IN DUCT
FC	FLEXIBLE DUCT CONNECTION
	CEILING DIFFUSER 4 WAY BLOW
	CEILING DIFFUSER 3 WAY BLOW
	CEILING DIFFUSER 2 WAY BLOW
	CEILING DIFFUSER 1 WAY BLOW
	RETURN OR EXHAUST REGISTER
VD	VOLUME DAMPER
FD	FIRE DAMPER AND ACCESS DOOR
M	MOTOR OPERATED DAMPER
U	UNDERCUT DOOR
FDS	3-HR FIRE SMOKE DAMPER AND ACCESS DOOR
T	THERMOSTAT AND HUMIDISTAT
CM	CARBON MONOXIDE AND NATURAL GAS DETECTION SENSOR
H	HUMIDISTAT
SD	DUCT SMOKE DETECTOR
CO2	CO2 DETECTOR
PO	PURGE OVERRIDE
	CONNECT TO EXISTING
X	KEY NOTE DESIGNATION
X / X	TOP: EQUIPMENT DESIGNATION BOTTOM: UNIT NUMBER
X / X-E	TOP: EQUIPMENT DESIGNATION BOTTOM: ROOM NUMBER - EXISTING
CW	COLD WATER PIPING
HWS	HOT WATER SUPPLY PIPING
HWR	HOT WATER RETURN PIPING
CHWS	CHILLED WATER SUPPLY PIPING
CHWR	CHILLED WATER RETURN PIPING
PC	PUMPED CONDENSATE PIPING
CD	CONDENSATE DRAIN PIPING
	SHUT-OFF VALVE
	BALANCE VALVE
	THROTTLING VALVE
M	MOTOR OPERATED VALVE, THREE WAY
M	MOTOR OPERATED VALVE, TWO WAY
	CHECK VALVE
	GAS COCK
	UNION
	STRAINER WITH BLOWDOWN
	RELIEF VALVE
	PRESSURE GAUGE
	THERMOMETER

SYMBOL LIST NOTES

1. SYMBOLS ARE INDICATED FOR GENERAL REFERENCE ONLY. THE PRESENCE OF A SYMBOL DOES NOT INDICATE ITS USE ON THIS PROJECT. REFER TO PLAN DRAWINGS FOR SPECIFIC SYMBOLS USED.

MECHANICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	EV	EXHAUST VENTILATOR
AD	ACCESS DOOR	FVAV	FAN POWERED VAV BOXES
ATC	AUTOMATIC TEMPERATURE CONTROLS	IOM	INSTALLATION AND OPERATION MANUAL
BDD	BACKDRAFT DAMPER	MC	MECHANICAL CONTRACTOR
BMS	BUILDING MANAGEMENT SYSTEM	MOD	MOTOR OPERATED DAMPER
BOD	BOTTOM OF DUCT	NAE	NETWORK AUTOMATION ENGINE
BOP	BOTTOM OF PIPE	OAI	OUTDOOR AIR INTAKE
CD	CEILING DIFFUSER	OC	ON CENTER
CO	CLEANOUT	PC	PLUMBING CONTRACTOR
CFM	CUBIC FEET PER MINUTE	RP	RADIANT PANEL
DCV	DEMAND CONTROL VENTILATION	RR	RETURN GRILLE
DS	DUCT SILENSER	RR	RETURN REGISTER
DIA	DIAMETER	SG	SUPPLY GRILLE
E	EXISTING	SR	SUPPLY REGISTER
EC	ELECTRICAL CONTRACTOR	TG	TRANSFER GRILLE
EG	EXHAUST GRILLE	VAV	VARIABLE AIR VOLUME BOXES
EG	EXHAUST REGISTER	WMS	WIRE MESH SCREEN
ETR	EXISTING TO REMAIN	WR	WALL REGISTER

APPLICABLE CODES:

ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LATEST CODES AND SUBCODES AS ADOPTED BY THE STATE OF NEW JERSEY:

- NEW JERSEY UNIFORM CONSTRUCTION CODE (NJUCC)
- REHABILITATION SUBCODE 5:23-6
- ADMINISTRATIVE CODE: TITLE 6
- 2018 INTERNATIONAL BUILDING CODE - NJ EDITION
- 2017 NATIONAL ELECTRICAL CODE
- 2018 NATIONAL STANDARD PLUMBING CODE
- 2018 INTERNATIONAL MECHANICAL CODE
- 2018 INTERNATIONAL FUEL GAS CODE
- 2016 ASHRAE 90.1 ENERGY CONSERVATION CODE
- 2016 NFPA 13
- REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION

MECHANICAL GENERAL NOTES:

1. DO NOT SCALE FROM THESE DRAWINGS.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE AND ADOPTED REGULATIONS INCLUDING BUT NOT LIMITED TO NATIONAL, CITY, STATE, LOCAL CODES AND ORDINANCES WHICH MAY BE IN EFFECT. ALL MECHANICAL MATERIALS, INSTALLATION PROCEDURES AND SYSTEM LAYOUTS SHALL BE APPROVED BY ALL APPLICABLE CODE ENFORCEMENT AUTHORITIES HAVING JURISDICTION. THE MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FOR THIS INSTALLATION.
3. THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON FPA CADD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF FPA AND ARE INVALID.
4. REPRODUCTION OF ANY PORTION OF THE CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
5. UPON CONTRACT AWARD, CONTRACTOR SHALL CONTACT LOCAL UTILITY COMPANY TO SCHEDULE ANY UTILITY UPGRADES. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL UTILITY UPGRADES, SECURE ALL PERMITS AND INSPECTIONS.
6. ALL CONNECTIONS TO EXISTING BUILDING SERVICES SHALL BE CAREFULLY COORDINATED WITH THE UTILITY CO AND THE OWNER'S SCHEDULE. SERVICE WORK OF THIS NATURE TO OCCUR DURING UNOCCUPIED BUILDING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL EXISTING EQUIPMENT IS OPERATIONAL AFTER ANY SHUTDOWN OCCURS.
7. CHANGES OR SUBSTITUTIONS OF EQUIPMENT WILL NOT BE ALLOWED WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER. ALL COSTS RESULTING FROM THE SELECTION OF OTHER THAN SPECIFIED EQUIPMENT SHALL BE BORNE BY THE CONTRACTOR, INCLUDING, BUT NOT LIMITED TO WORK AFFECTING OTHER CONTRACTORS, THE OWNER, OR RE-DESIGN ISSUES.
8. ALL INDICATED WORK SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
9. DO NOT USE ANY PART OF THE OWNER'S BUILDING AS A SHOP, EXCEPT PARTS DESIGNATED FOR SUCH PURPOSES BY THE OWNER.
10. ALL CONTRACT WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE WRITTEN SPECIFICATIONS FOR THIS PROJECT WHICH ARE CONSIDERED TO BE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. ALL CONTRACTORS AND SUBCONTRACTORS SHALL MAINTAIN (AT THE JOB SITE) AND REFER TO COPIES OF THE WRITTEN SPECIFICATIONS AS PART OF THESE DRAWINGS. REFER TO THE WRITTEN SPECIFICATIONS IN CONJUNCTION WITH THE PLANS FOR FULL PROJECT SCOPE. IN ALL CASES OF DISCREPANCY BETWEEN PLANS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN AND WHERE IT IS UNCLEAR, SUCH CASES SHALL BE REFERRED TO THE ENGINEER FOR ADJUDICATION.
11. ANY DISCREPANCIES OR INADEQUACIES WITHIN THESE BID DOCUMENTS OR BETWEEN THESE BID DOCUMENTS AND RELATED PLUMBING, ELECTRICAL, FIRE PROTECTION, ARCHITECTURAL, INTERIOR DECOR AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER PRIOR TO BID SUBMISSION.
12. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING HIS BID FOR THE PROPOSED WORK. HE SHALL BE RESPONSIBLE TO VERIFY FIELD CONDITIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMISSION OF BIDS IN WRITING.
13. THE MECHANICAL CONTRACTOR SHALL REVIEW THESE PLANS AND SPECIFICATIONS, AS WELL AS THE RELATED PLUMBING, ELECTRICAL, ARCHITITCTURAL, INTERIOR DECOR AND SITE ENGINEERING DRAWINGS TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE. DURING THE COURSE OF CONSTRUCTION COORDINATION AND ACTUAL CONSTRUCTION, THE MECHANICAL CONTRACTOR SHALL COOPERATE WITH ALL OTHER CONTRACTORS AND TRADES ON THIS PROJECT TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.
14. THE MECHANICAL CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS, EXISTING CONDITIONS, AND AS-BUILT CONDITIONS PERTAINING TO THE HVAC SYSTEMS. MECHANICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIAL, PARTS, SUPPLIES AND LABOR TO BALANCE ALL HVAC EQUIPMENT TO OWNER'S SATISFACTION.
15. CONTRACTOR SHALL COORDINATE HIS SCHEDULING WITH THE OWNER AND GENERAL CONTRACTOR TO COMPLY WITH THE OWNERS USAGE OF THE BUILDING.
16. IF ANY UNEXPECTED DISCOVERY OF SUSPECTED HAZARDOUS MATERIALS IS MADE DURING THE COURSE OF WORK, THE CONTRACTOR SHALL REPORT THE DISCOVERY IMMEDIATELY TO THE OWNER. THE CONTRACTOR SHALL STOP ANY WORK THAT MAY DISTURB THE SUSPECTED HAZARDOUS MATERIAL. CONTRACTOR SHALL RESUME WORK AFTER ALL HAZARDOUS MATERIAL HAS BEEN REMEDIATED.
17. CONTRACTOR RESPONSIBLE FOR THE PROPER CARE OF ALL OWNER'S EQUIPMENT AND/OR FURNISHINGS WHICH ARE REQUIRED TO BE TEMPORARILY REMOVED, STORED OR RELOCATED. CONTRACTOR SHALL REPLACE, REPAIR OR REIMBURSE OWNER FOR ALL DAMAGES TO SUCH PROPERTIES AT FULL REPLACEMENT VALUE AND EQUIVALENCY. CONTRACTOR SHALL ADVISE OWNER FOR DISPOSITION OF REMOVED EQUIPMENT AND/OR MATERIALS.
18. CONTRACTOR'S WORK MAY BE REQUIRED OUTSIDE OF DESIGNATED SPACE. ALL SYSTEMS BEING DEMOLISHED AND REMOVED, MODIFIED, AND/OR TERMINATED SHALL BE FIELD VERIFIED TO INSURE NO WORK PERFORMED, INSIDE OR OUTSIDE OF THE DESIGNATED SPACE, SHALL DISRUPT ANY SERVICE OR SYSTEMS OF ANY OTHER AREAS. IF ANY CONDITIONS ARISE THAT ARE NOT IDENTIFIED ON DRAWINGS, IMMEDIATE NOTIFICATION SHALL BE PROVIDED TO THE ENGINEER OR OWNER. NO WORK SHALL PROCEED WITHOUT APPROVALS FROM ENGINEER OR OWNER.
19. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND MAY HAVE TO BE ADAPTED TO COMPLY WITH EXISTING BUILDING CONDITIONS. CONTRACTOR SHALL SUBMIT HVAC SHOP DRAWINGS, INDICATING LOCATIONS, AND ROUTING OF DUCTS, PIPING, AND WIRING.
20. DUCTING AND PIPING SHOWN ON DRAWINGS SHOW THE GENERAL RUN AND CONNECTIONS AND MAY OR MAY NOT IN ALL PARTS BE SHOWN IN ITS EXACT POSITION. CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTING THE DUCTING/PIPING SUITABLE IN EVERY RESPECT FOR THE WORK. DUCTWORK/PIPING SHALL BE INSTALLED SO THAT ACCESS, CLEARANCE, HEADROOM AND PITCH ARE MAINTAINED. CONTRACTORS OF THE VARIOUS TRADES SHALL COORDINATE THE INSTALLATION. MECHANICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS FOR CHASE AND SOFFIT LOCATIONS TO COORDINATE ALL EXPOSED DUCTWORK & PIPE ROUTING.
21. ALL CONTRACTORS SHALL PROVIDE CUTTING AND PATCHING FOR THEIR RESPECTIVE TRADES.
22. REMOVE AND REINSTALL CEILING SYSTEM AS REQUIRED FOR THE INSTALLATION OF MECHANICAL WORK AND REPLACE IN KIND ANY COMPONENTS DAMAGED BY PERSONNEL OR EQUIPMENT DURING PERFORMANCE OF THE WORK. PATCH AND REPAIR ALL DAMAGE CAUSED BY REMOVAL, MATCH EXISTING ADJACENT SURFACES.
23. ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BEAR THE LABEL OF AN APPROVING AGENCY. LISTING AND LABELING AGENCY QUALIFICATIONS: A "NATIONALLY RECOGNIZED TESTING LABORATORY" AS DEFINED IN THE INTERNATIONAL MECHANICAL CODE, LATEST ADOPTED EDITION.
24. ALL PENETRATIONS THRU FIRE RATED WALLS, FLOORS, AND CEILINGS SHALL BE SEALED WITH A UL APPROVED FIRESTOP MATERIAL SUITABLE FOR CONSTRUCTION MATERIAL TO MAINTAIN FIRE, SMOKE, AND DRAFT INTEGRITY OF STRUCTURE. FIRE RESISTANT SEALER SHALL BE TESTED IN ACCORDANCE WITH ASTM E84. INSTALL SEALANT, INCLUDING FOAMING, PACKING AND OTHER ACCESSORY MATERIALS TO FILL OPENINGS WHERE FIRE-RATED WALL PENETRATIONS OCCUR. COMPLY WITH INSTALLATION REQUIREMENTS ESTABLISHED BY TESTERS AND INSPECTION AGENCY.
25. ALL CONTRACTORS REMOVING OR RELOCATING ANY EQUIPMENT, PIPES, DUCTS, CONDUITS, ETC SHALL PATCH ALL SURFACES DISTURBED BY THIS WORK TO MATCH ADJACENT SURFACES.
26. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER HANDLING, DISPOSAL & ASSOCIATED COSTS OF ALL REFRIGERANT MATERIAL, DURING THIS CONTRACT, IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES AND/OR REGULATIONS.
27. THE MECHANICAL CONTRACTOR SHALL MOUNT THE DUCT SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR TO PROVIDE AND WIRE DUCT MOUNTED SMOKE DETECTOR. ELECTRIC CONTRACTOR SHALL ALSO PROVIDE AND WIRE A REMOTE MONITORING KEY OPERATED TEST AND ALARM STATION FOR EACH DUCT SMOKE DETECTOR. THE REMOTE TEST ALARM STATION SHALL BE MOUNTED AS DIRECTED IN THE AREA OF THE SMOKE DETECTOR.
28. THE MECHANICAL CONTRACTOR TO PROVIDE ALL ROOF CURBS, EQUIPMENT RAILS, SUPPORTS, ROOF PORTALS, AND ASSOCIATED EQUIPMENT TO ENSURE A COMPLETE INSTALLATION FOR NEW HVAC EQUIPMENT. MECHANICAL CONTRACTOR RESPONSIBLE TO PROVIDE EXACT LOCATIONS AND REVIEW AND RELEASED EQUIPMENT SUBMITTALS, OF ROOF CURBS, EQUIPMENT SUPPORTS, ROOF PORTALS, AND ASSOCIATED EQUIPMENT TO THE ARCHITECT. ALL ROOF PENETRATIONS, EQUIPMENT SUPPORTS, ROOF PORTALS AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED BY ROOFING SUB-CONTRACTOR. ROOFING CONTRACTOR SHALL BE BONDED AND ALL WORK SHALL BE DONE SO AS NOT TO VOID ROOF WARRANTY. ROOFING CONTRACTOR SHALL PROVIDE BASE FLASHING, AND PROVIDE TEMPORARY WEATHER-PROOF COVERS UNTIL MECHANICAL CONTRACTOR INSTALLS NEW HVAC UNITS. MECHANICAL CONTRACTOR TO PROVIDE COUNTER FLASHING.
29. FURNISH TO THE ELECTRICAL CONTRACTOR ALL MOTOR STARTERS AND CONTROL DEVICES FOR MECHANICAL EQUIPMENT. ELECTRICAL CONTRACTOR SHALL INSTALL AND WIRE STARTER AND CONTROL EQUIPMENT FOR ALL MOTORS.
30. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL CONTROLLERS, ACTUATORS, TRANSFORMERS, SENSORS, RELAYS, CONTACTS, PANELS, CONDUIT, WIRING, ETC AS REQUIRED TO ACHIEVE SPECIFIED CONTROL SEQUENCE. WHERE LOCATING DEVICES ON EXISTING SURFACES, IF RECESSED WIRING CANNOT BE ACCOMMODATED (I.E. PRECAST, PRE-FAB PANELS, ETC.) INCLUDE WIRE MOLD AS NECESSARY TO PROVIDE CONCEALED INSTALLATION.
31. ALL HVAC EQUIPMENT CONTAINING COOLING (EVAPORATOR) COILS INCLUDING DOWN FLOW ROOF TOP UNIT SHALL HAVE CONDENSATE MONITORING FOR OVERFLOW PROTECTION FOR PRIMARY OR SECONDARY DRAIN PANS AS APPLICABLE. SUCH DEVICES SHALL BE LABELED TO COMPLY WITH UL 508, AND SHALL SHUT DOWN COOLING SYSTEM AND SIGNAL BMS SYSTEM IF APPLICABLE.
32. ALL SPACE SENSORS IE. TEMPERATURE, CARBON DIOXIDE, HUMIDITY, ETC., SHALL BE MOUNTED AT 48" AFF TO MEET ADA REQUIREMENTS.

    PROVIDE TAMPER PROOF COVERS FOR ALL TEMPERATURE SENSORS. PROVIDE TG500 SERIES VENTED GUARD, CLEAR OR ENGINEER APPROVED EQUAL, ON ALL TEMPERATURE SENSORS. AVAILABLE FROM WWW.KELE.COM, 888-397-5353.
33. PROVIDE GAS PIPING SUPPORTS ON ROOF AT ALL DIRECTION CHANGES AND STRAIGHT RUNS WITH SPACING NOT EXCEEDING LENGTHS STATED IN TABLE 415.1 OF IFGC, LATEST ADOPTED EDITION, FOR MATERIALS AND LISTED PIPE SIZES. SUPPORTS SHALL BE SADDLE BLOCK ROLLER TYPE WITH PIPE SECURED TO STAND WITH CLAMP OR METAL BAND. SUPPORT SHALL NOT BE SECURED TO ROOF SURFACE. BOTTOM OF PIPING SHALL BE MINIMUM 3 1/2" ABOVE ROOF SURFACE.
34. ALL EXPOSED HORIZONTAL AND VERTICAL PIPING SHALL BE INSTALLED IN A NEAT ARRANGEMENT IN LOCATIONS WHICH ARE THE MOST INCONSPICUOUS. VERTICAL DROPS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND THEIR FINAL LOCATIONS SHALL BE COORDINATED AND RUN WITHIN CHASES, WALLS OR SOFFITS WITH OTHER PLUMBING/ ELECTRICAL FEEDS. MECHANICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS FOR CHASE & SOFFIT LOCATIONS TO COORDINATE ALL EXPOSED PIPING ROUTING. PROVIDE PIPE ENCLOSURE FOR ALL EXPOSED PIPING LOCATED OUTSIDE THE MECHANICAL ROOM. ALL SUCH LOCATIONS SHALL BE REVIEWED WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
35. ALL PIPING, EXCEPT IN MECHANICAL ROOMS SHALL BE ORGANIZED NEATLY AND KEPT TIGHT TO WALLS AND CEILINGS.
36. FURNISH AND INSTALL PIPE SLEEVES OR SLEEVE SEAL SYSTEMS AS REQUIRED. SEE SPECIFICATION FOR DETAILS.
37. GRAVITY CONDENSATE PIPING SHALL BE PITCHED MINIMUM 1/8" PER FOOT.
38. ALL DUCTWORK SHALL BE CONNECTED TO MOTORIZED EQUIPMENT WITH FLEXIBLE DUCT CONNECTORS. THE FLEXIBLE CONNECTIONS SHALL BE AT LEAST THREE INCHES WIDE AND PROVIDE SEPARATION BETWEEN THE DUCTS AND EQUIPMENT WITHOUT BEING TAUT.
39. ALL RECTANGULAR RIGID DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL. FABRICATION OF DUCTWORK AND INSTALLATION SHALL BE IN ACCORDANCE WITH SMACNA STANDARDS AND RECOMMENDATIONS.
40. ALL DUCTWORK SIZES SHOWN ON DRAWINGS ARE CLEAR INTERNAL DIMENSIONS.
41. ALL INTERIOR RECTANGULAR DUCTWORK SHALL HAVE DUCT LINER. SEE SPECIFICATION FOR DETAILS.
42. ALL INTERIOR ROUND DUCTWORK EXPOSED WITHIN FINISHED SPACES SHALL BE FACTORY FABRICATED DOUBLE WALLED SPIRAL SEAM WITH INTERSTITIAL INSULATION. SEE SPECIFICATION FOR DETAILS.
43. ALL INTERIOR ROUND DUCTWORK CONCEALED OR EXPOSED IN NON-FINISHED AREA, EG ATTIC, ABOVE CEILING, ETC. SHALL BE SINGLE WALLED SPIRAL SEAM EXTERNALLY INSULATED WITH FLEXIBLE DUCTWRAP AND VAPOR BARRIER. SEE SPECIFICATIONS FOR DETAILS.
44. ALL FLEXIBLE DUCTWORK SHALL BE CLASS I, LABELED UL 181. SEE SPECIFICATIONS FOR DETAILS.
45. ALL EXTERIOR DUCTWORK SHALL HAVE DUCT LINER AND EXTERNAL RIGID INSULATION AND BE COVERED WITH SELF ADHERING PREFABRICATED PROTECTIVE MEMBRANE THAT IS UV AND OZONE RESISTANT. THIS JACKETING SHALL BE FIELD APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATION FOR DETAILS.
46. DURING THE INSTALLATION OF MECHANICAL EQUIPMENT AND ASSOCIATED SYSTEMS, THE CONTRACTOR SHALL IDENTIFY ANY DAMAGE TO FIREPROOFING MATERIAL CAUSED BY WORK OF THE TRADE. THE CONTRACTOR SHALL PROVIDE WRITTEN REPORT DESIGNATION LOCATIONS, TO GENERAL CONTRACTOR, BEFORE FIREPROOFING IS COVERED BY SUBSEQUENT CONSTRUCTION.
47. THE MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE SET OF "AS-BUILT" DRAWINGS INDICATING THE PRECISE LOCATION OF ALL SYSTEMS, EQUIPMENT, DUCTWORK, PIPING AND ACCESS DOORS. THESE PLANS SHALL ALSO INCLUDE ALL CHANGES AND DEVIATIONS FROM BID DOCUMENTS.

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04/06/21
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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
JDS

Drawn By
HKP

Scale
AS SHOWN

Drawing Name
MECHANICAL SYMBOLS, NOTES & ABBREVIATIONS

Revisions

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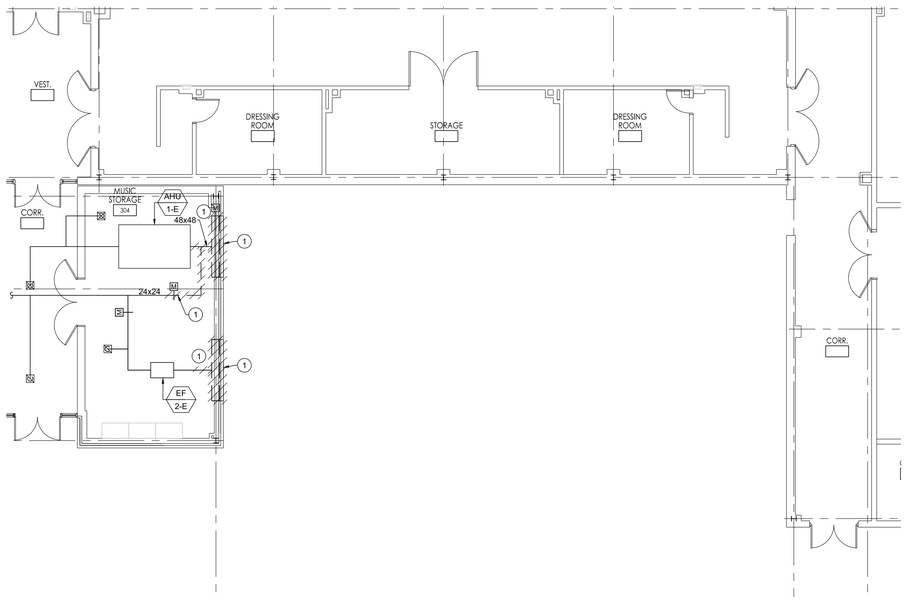
M1.0

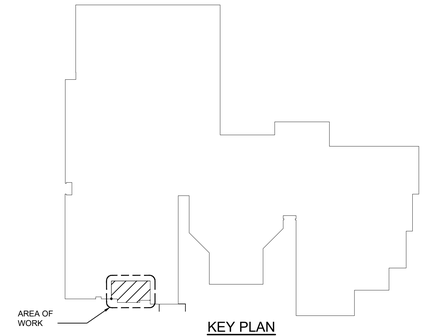
O:\K 3500 3547 - W. Windsor - Plainsboro Regional School District 3547.024 - We-e-Hs North Addition And Reno CADD DWG phase 1 - New Addition 3547.024A - M1.0.dwg



FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

DEMOLITION KEY NOTES

1. REMOVE AND DISCARD THAT PORTION OF EXISTING DUCTWORK INCLUDING LOUVERS, DAMPERS, SUPPORTS AND ALL ASSOCIATED ACCESSORIES AS SHOWN. MAKE REMAINING DUCTWORK READY FOR CONNECTION TO NEW. SEE FLOOR PLAN FOR ADDITIONAL INFORMATION. PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.



KEY PLAN
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Drawn By
HKP

Scale
AS SHOWN

Drawing Name
MECHANICAL FIRST FLOOR DEMOLITION PLAN

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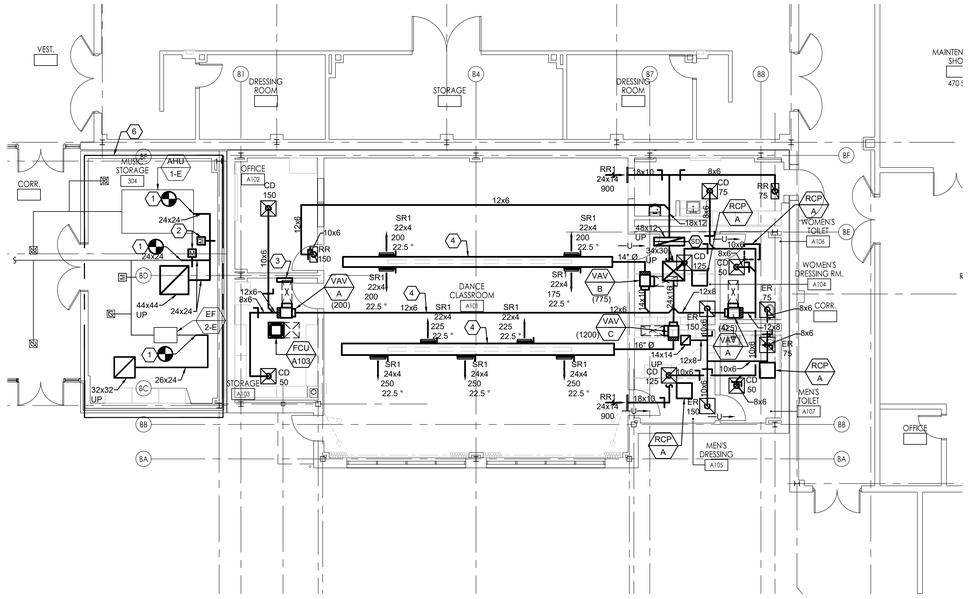
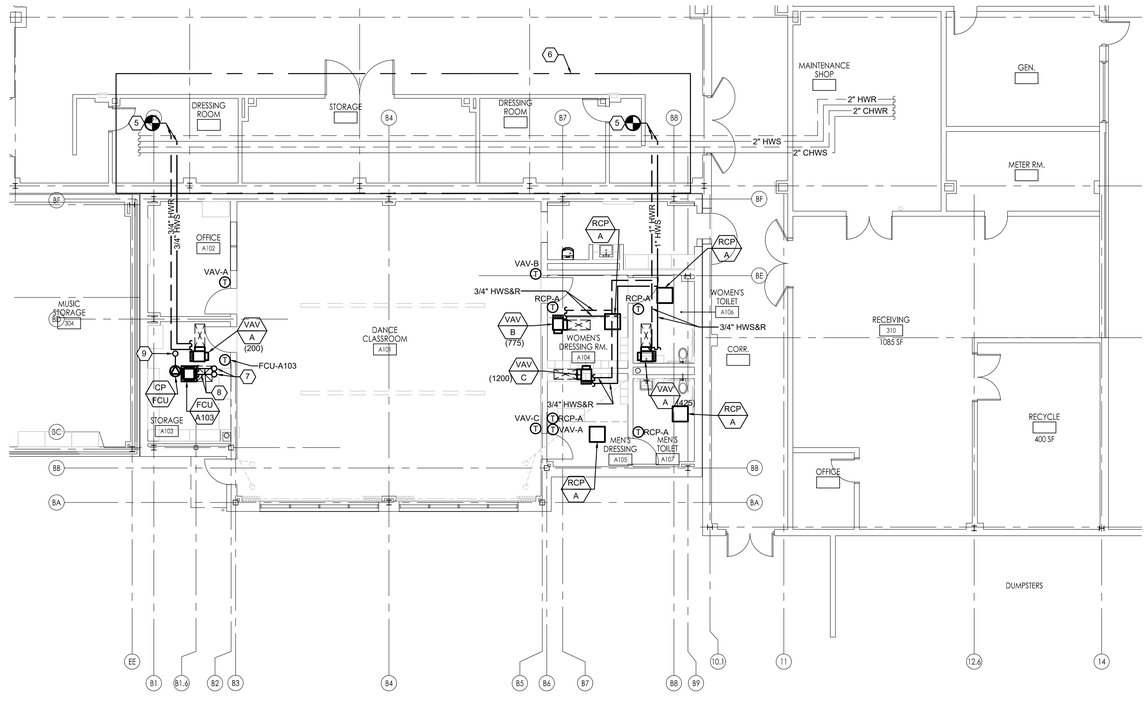


FIRST FLOOR DUCTWORK PLAN

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

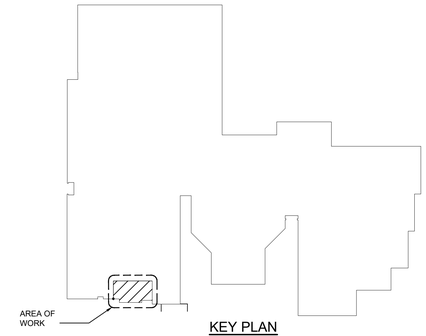


FIRST FLOOR PIPING PLAN

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

KEY NOTES

1. CONNECT TO EXISTING DUCTWORK. PROVIDE TRANSITIONS AS REQUIRED TO MAKE CONNECTION. CONTRACTOR TO SEAL DUCTWORK AIRTIGHT. PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
2. PROVIDE NEW MOTORIZED DAMPER AND INTERLOCK WITH EXISTING AHU AND CONTROL THE DAMPER AS PER EXISTING AHU UNIT SEQUENCE OF OPERATION. PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
3. PROVIDE NEW ATC PANEL. COORDINATE THE EXACT LOCATION IN FIELD WITH OWNER.
4. ALL INDOOR DUCT SHALL HAVE STICKERS AND LABELS REMOVE AND PREPARED FOR PAINT. PAINT ALL EXPOSED INDOOR DUCTWORK, REGISTERS/DIFFUSERS, HANGER AND SUPPORTS. PROVIDE MINIMUM 2 COATS PRIMER AND 2 COATS OF INTERIOR GRADE PAINT. COORDINATE WITH ARCHITECT FOR COLOR SELECTION.
5. CONNECT NEW HWS&R TO EXISTING PIPING MAIN. SEE FLOOR PLAN FOR NEW PIPE SIZES. FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING PIPING. VALVING NOT SHOWN FOR CLARITY. SEE PIPING DETAILS FOR ADDITIONAL INFORMATION. PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
6. REMOVE AND REINSTALL CEILING SYSTEM AS REQUIRED FOR THE INSTALLATION OF MECHANICAL WORK AND REPLACE IN KIND ANY COMPONENTS DAMAGED BY PERSONNEL OR EQUIPMENT DURING PERFORMANCE OF THE WORK. PATCH AND REPAIR ALL DAMAGE CAUSED BY REMOVAL. MATCH EXISTING ADJACENT SURFACES. PATCH ALL SURFACES DISTURBED OR LEFT UNFINISHED BY THIS WORK TO MATCH ADJACENT SURFACES.
7. REFRIGERANT PIPING UP THRU PIPE PORTAL.
8. REFRIGERANT PIPING - LIQUID & HOT GAS. SIZE AND ROUTING AS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE SUPPORTS AS REQUIRED. SEE SPECIFICATION FOR ADDITIONAL INFORMATION. PROVIDE REFRIGERANT ISOLATION VALVES ON REFRIGERANT PIPING. VALVES NOT SHOWN FOR CLARITY.
9. CONDENSATE DRAIN PIPING UP TO ROOF.



KEY PLAN

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Scale	AS SHOWN

Drawing Name
MECHANICAL FIRST FLOOR PLANS

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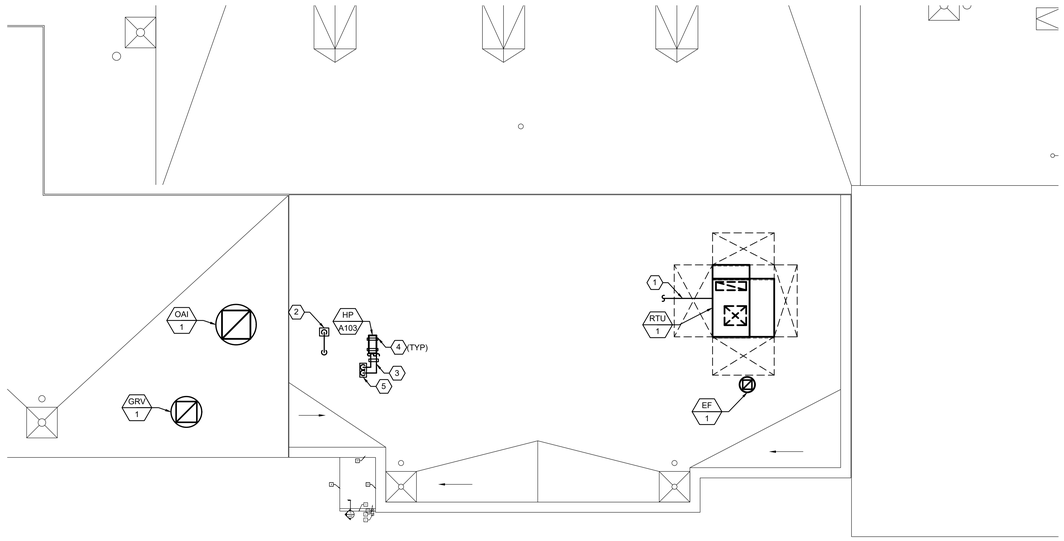
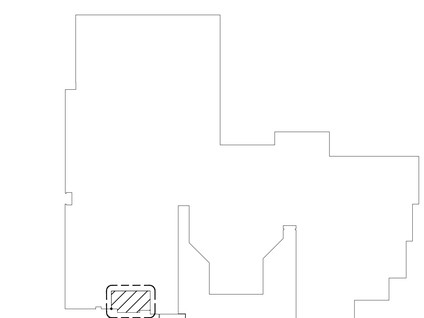


ROOF PART PLAN
SCALE: 1/8" = 1'-0"

KEY NOTES

1. 1 1/4" CONDENSATE DRAIN WITH MINIMUM 2" DEEP TRAP. PIPE TO NEAREST ROOF DRAIN. MAINTAIN MINIMUM PITCH.
2. 3/4" CONDENSATE DRAIN WITH MINIMUM 2" DEEP TRAP. DISCHARGE TO 24x11 CONCRETE SPLASH BLOCK, MANUFACTURED BY MERSHONE CONCRETE OR ENGINEER APPROVED EQUAL AND EPDM SLIP SHEET. MAINTAIN MINIMUM PITCH.
3. REFRIGERANT PIPING - LIQUID & HOT GAS. SIZE AND ROUTING AS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE SUPPORTS AS REQUIRED. SEE SPECIFICATION FOR ADDITIONAL INFORMATION. PROVIDE REFRIGERANT ISOLATION VALVES ON REFRIGERANT PIPING. VALVES NOT SHOWN FOR CLARITY.
4. EQUIPMENT MOUNTING RAILS WITH RUST RESISTANT UNISTRUT CRADLE FRAMING AROUND ENTIRE PERIMETER. HEIGHT AS REQUIRED TO MAINTAIN MINIMUM 18" BOTTOM OF UNIT ABOVE ROOF. CONTRACTOR TO COORDINATE SUPPORT PLACEMENT TO MINIMIZE LOCATING SUPPORTS WITHIN CRICKET AREA. SEE DETAILS FOR ADDITIONAL INFORMATION.
5. PROVIDE ROOF PORTAL. PATE CO OR EQUAL. PROVIDE SEPARATE BOOT FOR EACH PIPE. PROVIDE ADDITIONAL BOOTS FOR ELECTRICAL POWER AND CONTROL CONDUITS. DO NOT PASS MORE THAN (1) PIPE THRU EACH NIPPLE TO FACILITATE PROPER SEALING.



KEY PLAN
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MECHANICAL ROOF PLAN

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VENTILATION SCHEDULE

ROOM NO	ROOM NAME	AREA SQ FT	PROGRAM OCCUPANT LOAD	OUTSIDE AIR PER PERSON REQUIRED	OUTSIDE AIR PER SF REQUIRED	OUTSIDE AIR REQUIRED CFM	SPACE VENT EFFECT	REQUIRED OUTDOOR AIR CFM	EXHAUST RATE				ACTUAL CFM					EQUIPMENT SERVING SPACE
									NO OF FIXTURE	CFM/FIXTURE	CFM/SF	REQUIRED CFM	OUTSIDE AIR	SUPPLY AIR	RETURN AIR	EXH AIR	TRANSF AIR	
A101	DANCE CLASSROOM	1545	25	10	0.06	342.70	0.8	428.38	N/A	N/A	N/A	N/A	475	1900	1800	375	100	RTU-1
A102	OFFICE	205	2	5	0.06	22.30	0.8	27.88	N/A	N/A	N/A	N/A	35	150	150	35	-	RTU-1
A103	STORAGE	160	0	0	0.12	19.20	0.8	24.00	N/A	N/A	N/A	N/A	30	125	125	30	-	RTU-1
A104	WOMEN'S DRESSING ROOM	128	1	0	0	0.00	0.8	0.00	N/A	N/A	0.25	32	30	125	0	150	25	RTU-1/EF-1
A105	MEN'S DRESSING ROOM	127	1	0	0	0.00	0.8	0.00	N/A	N/A	0.25	31.75	30	125	0	150	25	RTU-1/EF-1
A106	WOMEN'S TOILET	100	0	0	0	0.00	0.8	0.00	1	70	N/A	N/A	12	50	0	75	25	RTU-1/EF-1
A107	MEN'S TOILET	115	0	0	0	0.00	0.8	0.00	1	70	N/A	N/A	12	50	0	75	25	RTU-1/EF-1
A108	VESTIBULE	154	0	0	0.06	9.24	0.8	11.55	N/A	N/A	N/A	N/A	15	75	75	15	-	RTU-1

NOTES:

1. BASED ON 2018 INTERNATIONAL MECHANICAL CODE (IMC), TABLE 403.3, MINIMUM VENTILATION RATES.
2. ASHRAE VENTILATION STANDARD STANDARD 62.1 IS USED AS A SECONDARY REFERENCE SOURCE IF A PARTICULAR ROOM IS NOT INCLUDED IN THE IMC.

AIR DEVICES SCHEDULE

BASED ON TITUS CO

PLAN NO.	CFM RANGE	NECK SIZE	OVERALL SIZE	MANUFACTURER MODEL	REMARKS
CD	0-100	6" DIA	12x12	OMNI	SEE NOTES 1 & 6
CD	101-225	8" DIA	12x12	OMNI	SEE NOTES 1 & 6
CD	0-100	6" DIA	24x24	OMNI	SEE NOTES 1 & 6
CD	101-225	8" DIA	24x24	OMNI	SEE NOTES 1 & 6
CD	226-360	10" DIA	24x24	OMNI	SEE NOTES 1 & 6
CD	361-550	12" DIA	24x24	OMNI	SEE NOTES 1 & 6
CD	551-750	14" DIA	24x24	OMNI	SEE NOTES 1 & 6
CD	751-1150	15" DIA	24x24	OMNI	SEE NOTES 1 & 6
SR	SEE PLANS	-	SEE PLANS	300RL	SEE NOTES 3 & 6
SR1	SEE PLANS	-	SEE PLANS	S300FS	SEE NOTES 5 & 6
LD1	62.5 CFM/FT	SEE PLAN	1"-1 SLOT	FL-10 JT	SEE NOTES 6-8

PLAN NO.	CFM RANGE	NECK SIZE	OVERALL SIZE	MANUFACTURER MODEL	REMARKS
RR/ER	0-100	-	24x12	355RL	SEE NOTES 2 & 6
RR/ER	101-200	-	24x12	355RL	SEE NOTES 2 & 6
RR/ER	0-1000	-	24x12	355RL	SEE NOTES 2 & 6
RR/ER	0-1000	-	24x24	355RL	SEE NOTES 2 & 6
RR1/ER1	SEE PLANS	-	SEE PLANS	350RL	SEE NOTES 4 & 6

NOTES:

1. PROVIDE FRAME WITH ACCESSORIES FOR T-BAR LAY-IN DROPPED CEILING GRID OR SURFACE MOUNTED BORDER FOR GYPSUM CEILING APPLICATION. SEE DRAWINGS FOR MOUNTING LOCATION. PROVIDE ACCESSORY ROUND BACK ADAPTER (SIZE AS INDICATED IN SCHEDULE) AND EQUALIZING GRID PROVIDE OPTIONAL DIRECTIONAL BLOW CLIPS WHERE INDICATED ON DRAWINGS. PROVIDE AND INSTALL R-6 FOIL-BACKED INSULATION ON 12x12 MODULE. PROVIDE FACTORY INSTALLED R-6 FOIL-BACKED INSULATION ON 24x24 MODULE.
2. PROVIDE WITH 35° DEFLECTION AT 1/2" BLADE SPACING WITH FRONT BLADE PARALLEL TO LONG DIMENSION. PROVIDE FRAME WITH ACCESSORIES FOR T-BAR LAY-IN CEILING GRID OR SURFACE MOUNTED BORDER FOR GYPSUM CEILING APPLICATION. SEE DRAWINGS FOR MOUNTING LOCATION. PROVIDE SQUARE TO ROUND TRANSITION AS REQUIRED. PROVIDE OPTIONAL OPPOSED BLADE DAMPER.
3. PROVIDE SUPPLY REGISTER WITH DOUBLE DEFLECTION AT 3/4" BLADE SPACING WITH FRONT BLADES PARALLEL TO LONG DIMENSION, OPTIONAL DAMPER AND SURFACE MOUNT BORDER MOUNTING FRAME.
4. PROVIDE RETURN REGISTER WITH SINGLE DEFLECTION AT 3/4" BLADE SPACING WITH BLADES PARALLEL TO LONG DIMENSION, OPTIONAL DAMPER AND SURFACE MOUNT BORDER MOUNTING FRAME.
5. PROVIDE WITH DOUBLE DEFLECTION AT 3/4" BLADE SPACING WITH FRONT BLADES PARALLEL TO SHORT DIMENSION AND OPTIONAL ASD (AIR SCOOP DAMPER/EXTRACTOR).
6. PROVIDE STANDARD FINISH - 26 WHITE.
7. PROVIDE REMOTE CABLE OPERATED VOLUME DAMPERS LOCATED IN INACCESSIBLE CONSTRUCTION.
8. PROVIDE BORDER TYPE 77 FOR DROP CEILING. PROVIDE 8"x8" PLENUM FOR ACTIVE LENGTH. SEE PLAN FOR ADDITIONAL INFORMATION. INACTIVE AND ACTIVE LENGTH BORDER TYPES TO MATCH FOR CONTINUAL LOOK. PROVIDE PATTERN CONTROLLERS.

VARIABLE AIR VOLUME UNIT SCHEDULE

VAV X

PLAN NO	MANUFACTURER MODEL	TYPE	BOX SIZE	CFM	MIN CFM	MIN SP INLET AT MAX CFM	HOT WATER COIL								CONTROLS	REMARKS
							NO OF ROWS	HEATING MBH	EAT °F	LAT °F	APd IN WG	EWT °F	LWT °F	WPd FT WG	GPM	
VAV-A	TITUS DESV	SINGLE DUCT	8	200-600	50%	0.25	2	11.8	50	86.4	0.23	160	125.5	0.13	0.7	DDC	SEE NOTES
VAV-B	TITUS DESV	SINGLE DUCT	10	601-900	50%	0.26	2	17.10	50	85.1	0.25	160	125	0.12	1.0	DDC	SEE NOTES
VAV-C	TITUS DESV	SINGLE DUCT	12	901-1400	50%	0.31	2	27	50	85.6	0.3	160	120.1	0.23	1.4	DDC	SEE NOTES

NOTES:

1. PROVIDE REMOTE ROOM SENSORS.
2. PROVIDE INDIVIDUAL CONTROL SYSTEMS FOR EACH.
3. PROVIDE NETWORK CONTROL PANELS WHERE INDICATED ON DRAWINGS.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE A 115V DUPLEX RECEPTACLE IN CLOSE PROXIMITY TO CONTROL PANEL.
5. MECHANICAL CONTRACTOR SHALL PROVIDE ALL 24V WIRING BETWEEN CONTROL PANEL AND DAMPERS, SENSORS, ETC., IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES.
6. VAV SHALL HAVE AUTOMATIC HEATING AND COOLING CHANGOVER.
7. PROVIDE WITH DDC BACNET CONTROLS FOR INTERFACE WITH EXISTING ATC CONTROL SYSTEM.

PACKAGED GAS-FIRED ROOF TOP UNIT SCHEDULE

RTU X

PLAN NO.	MANUFACTURER MODEL	LOCATION	AREA SERVED	EER/IEER	MIN OA CFM	SUPPLY FAN				EXH FAN CFM		DIRECT EXPANSION COOLING COIL								HOT GAS REHEAT			NATURAL GAS BURNER								FILTERS		ELECTRICAL			WEIGHT LBS W/CURB & ACCESS.	DIMENSION LxWxH (INCH)	REMARKS
						AIRFLOW CFM	ESP IN. H20	MOTOR HP	MOTOR RPM	CFM	ESP IN H2O	TOTAL MBH	SENS MBH	REFRIG	EAT DB °F	EAT WB °F	LAT DB °F	LAT WB °F	AIR PD IN. WG	EAT DB/WB °F	LAT DB/WB °F	TOTAL CAP MBH	INPUT MBH	OUTPUT MBH	EAT DB °F	LAT DB °F	AFUE %	TEMP RISE °F	MODULATING	TYPE	TYPE	MIN MERV RATING	VOLTS/Ø	MCA	MOP			
RTU-1	DAIKIN DPS007A	ROOF	DANCE AREA	12.1/19.8	650	2600	1.5	4.0	1813	2600	0.5	90.63	72.39	R410A	79.5	65.5	54	54	0.12	54/54	70.0/59.9	45.03	200	160	52.5	109.2	80	60	5:1	SS	MERV	14	208/3	42.7	50	2285	91x96.5x56.8	SEE NOTES

NOTES:

1. UNIT TO BE MOUNTED ON WIND/SEISMIC ISOLATION CURB BASIS-OF-DESIGN: THE VMC GROUP
   A. LESS THAN 10 TON - MODEL P6200 WITH SOUND PACKAGE 1 - RPFMA
   B. 10 TON AND ABOVE - MODEL P6300 WITH SOUND PACKAGE 1 - RPFMA
2. PROVIDE DRAIN PAN WITH UL 508 APPROVED WATER DETECTION SENSOR FOR UNIT SHUTDOWN. WIRE CONTROL CIRCUIT THROUGH NC CONTACT.
3. PROVIDE UNIT WITH VAV OPERATION.
4. PROVIDE WITH COMPARATIVE ENTHALPY ECONOMIZER.
5. PROVIDE WITH POWER EXHAUST.
6. PROVIDE THRU BASE ELECTRIC.
7. PROVIDE UNIT MOUNTED NON-FUSED DISCONNECT SWITCH.
8. PROVIDE FACTORY POWERED 120V CONVENIENCE RECEPTACLE (ALWAYS HOT) WITH CIRCUIT PROTECTION BY EC.
9. PROVIDE HINGED ACCESS DOORS.
10. PROVIDE HAIL GUARDS.
11. PROVIDE BACNET INTERFACE WITH EXISTING ATC CONTROL SYSTEM.
12. PROVIDE RETURN AIR SMOKE DETECTOR WIRED TO SHUT DOWN UNIT WITH ACCESSORY REMOTE KEY OPERATED TEST STATION. LOCATE TEST STATION NEAR THERMOSTAT.
13. PROVIDE MINIMUM 2" THICK R-8 RIGID INSULATION AFFIXED TO ENTIRE BOTTOM OF UNIT WITH ADHESIVE AND MECHANICAL FASTENERS. COVER INSULATION WITH VENTURE TAPE MODEL 1577CW OR EQUAL EXTERIOR MEMBRANE WRAP INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
14. PROVIDE MODULATING OUTDOOR AND RETURN AIR DAMPERS FOR ECONOMIZER WITH FAULT DETECTION AS PER ASHRAE 90.1 LATEST EDITION.
15. PROVIDE MODULATING CONTROL WITH INVERTER VARIABLE SPEED COMPRESSORS.
16. PROVIDE UNIT WITH 4" THICK MERV 14 FILTER RACK.
17. PROVIDE UNIT WITH GPS IONIZER MODEL GPS-FC48-AC AND INSTALL AS PER MANUFACTURER RECOMMENDATION.
18. AFTER COMPLETING SYSTEM INSTALLATION AND TESTING, ADJUSTING, AND BALANCING RTU AND AIR-DISTRIBUTION SYSTEMS, CLEAN FILTER HOUSINGS AND PROVIDE NEW FILTERS.

FAN SCHEDULE

EF X

PLAN NO	MANUFACTURER MODEL	LOCATION	AREA SERVED	FAN TYPE	FAN PERFORMANCE		ELECTRICAL DATA					dBA	WEIGHT LBS	REMARKS
					CFM	ESP	FAN RPM	HP/ WATTS	RPM	VOLTS/Ø	DRIVE			
EF-1	GREENHECK G-098-VG	ROOF DANCE AREA	SEE PLAN DANCE AREA	CENTRIFUGAL	450	0.75	1489	1/4	1725	115/1	DIRECT	57	50	SEE NOTES 1-4

NOTES:

1. MOUNT FAN ON MINIMUM 12" HIGH ROOF CURB.
2. PROVIDE SOLID STATE SPEED CONTROL, NEMA-1 TOGGLE SWITCH, BIRDSCREEN & BACKDRAFT DAMPER.
3. PROVIDE ELECTRICAL DISCONNECT, VIBRATION ISOLATION SUPPORT RODS WITH MOUNTING BRACKETS, SPEED CONTROLLER AND ROUND DUCT CONNECTION.
4. PROVIDE CONTROLS FROM ATC CONTRACTOR.

GRAVITY VENTILATOR SCHEDULE

OAI X GRV X

PLAN NO	MANUFACTURER MODEL	LOCATION	MAX CFM	AREA SF	VELOCITY	AIR PRESS DROP	SERVICE	REMARKS
OAI-1	GREENHECK GRSI-42	DANCE AREA ROOF	5300	10	542	0.07	AHU-1-E	SEE NOTES
GRV-1	GREENHECK GRSR-30	DANCE AREA ROOF	5000	5	994	0.19	EF-2-E	SEE NOTES

NOTES: 1. PROVIDE MINIMUM 18" HIGH CURB WITH INTEGRAL GRAVITY BACKDRAFT DAMPER & INSECT SCREEN.

ELECTRIC RADIANT PANEL SCHEDULE

RCP X

PLAN NO	MANUFACTURER MODEL	LOCATION	HEAT CAP MBH	ELECTRICAL			DIMENSIONS (IN.)			REMARKS
				WATTS	AMPS	VOLTS/Ø	LENGTH	WIDTH	HEIGHT	
RCP-A	INDEECO AS2424-375-120	DANCE AREA SEE PLAN	1.28	375	3.1	120/1	24	24	4	SEE NOTES

NOTES:

1. PROVIDE WIRE SUSPENDED FLUSH MOUNTING KIT FOR RECESSED INSTALLATION.
2. PROVIDE WITH REMOTE WALL MOUNTED THERMOSTAT.
3. PROVIDE DISCONNECT SWITCH.
4. COLOR AS SELECTED BY ARCHITECT FROM ALL AVAILABLE COLORS.
5. PROVIDE WITH DDC BACNET CONTROLS FOR INTERFACE WITH EXISTING ATC CONTROL SYSTEM.

CONDENSATE PUMP SCHEDULE

CP X

PLAN NO	EQUIPMENT SERVED	MANUFACTURER MODEL	GPH	HEAD FT	SHUT OFF HEAD FT	MOTOR	ELECTRICAL DATA			REMARKS
							VOLTS/Ø	FLA	MOP	
CP-FCU	SEE PLAN	LITTLE GIANT HT-VCL-30-P	225	20	32	1/8 HP	115/1	1.4	15	SEE NOTES

NOTES:

1. PROVIDE BUILT-IN CHECK VALVE.
2. PROVIDE DRAIN PAN WITH UL 508 APPROVED WATER DETECTION SENSOR FOR UNIT SHUTDOWN. WIRE CONTROL CIRCUIT THROUGH NC CONTACT.
3. PROVIDE SAFETY SWITCH.
4. PROVIDE HARD WIRED FOR ALL UNITS ABOVE CEILING.
5. ALL ABOVE CEILING PUMP LOCATED IN PLENUM SHALL BE UL 2043 AND LABLED "FOR PLENUM APPLICATION".

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
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Project Number
5063K1

Project Date
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Revisions

No.	Date	Description
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DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE

FCU X | HP X

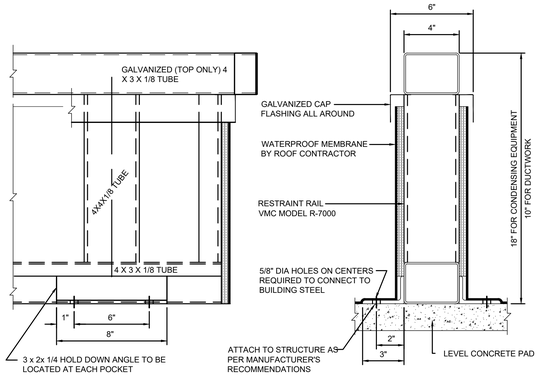
INDOOR UNIT														
PLAN NO	MANUFACTURER MODEL	LOCATION	TOTAL CFM	EXT SP	OA CFM	HP/ WATTS	ELECTRICAL DATA			DIMENSIONS			WEIGHT LBS	REMARKS
							VOLTS/Ø	MCA	MOP	LENGTH	WIDTH	HEIGHT		
FCU-A103	DAIKIN FFQ09Q2VJU	STORAGE A103	378	N/A	N/A	50 W	208/1	SEE HP-A103		22 5/8	22 5/8	10 1/4	40	SEE NOTES, HP-A103

NOTES:

1. MOUNT OUTDOOR UNIT ON MINIMUM 18" HIGH FROM FINISH ROOF NONISOLATED WIND AND SEISMIC RESTRAINT RAILS. BASIS OF DESIGN: THE VMC GROUP MODEL R-7000.
2. HANG INDOOR UNIT VIA (4) POINTS FROM STRUCTURE TO SUIT.
3. PROVIDE WITH EXTERNAL CONDENSATE PUMP. SEE PLAN FOR ADDITIONAL INFORMATION.
4. PROVIDE ELECTRICAL DISCONNECT.
5. PROVIDE MERV 13 FILTER KIT.
6. PROVIDE WITH DDC BACNET CONTROLS FOR INTERFACE WITH EXISTING BMS CONTROL SYSTEM.
7. PROVIDE DRAIN PAN WITH UL 508 APPROVED WATER DETECTION SENSOR FOR UNIT SHUTDOWN. WIRE CONTROL CIRCUIT THROUGH NC CONTACT.
8. PROVIDE HAIL GUARDS FOR ALL EXPOSED COILS AND WIND BAFFLES FOR LOW AMBIENT COOLING.
9. PROVIDE UNIT WITH GPS IONIZER MODEL GPS-FC24-AC AND INSTALL AS PER MANUFACTURER RECOMMENDATION.
10. AFTER COMPLETING SYSTEM INSTALLATION AND TESTING, ADJUSTING, AND BALANCING HEAT PUMPS AND AIR-DISTRIBUTION SYSTEMS, CLEAN FILTER HOUSINGS AND PROVIDE NEW FILTERS.

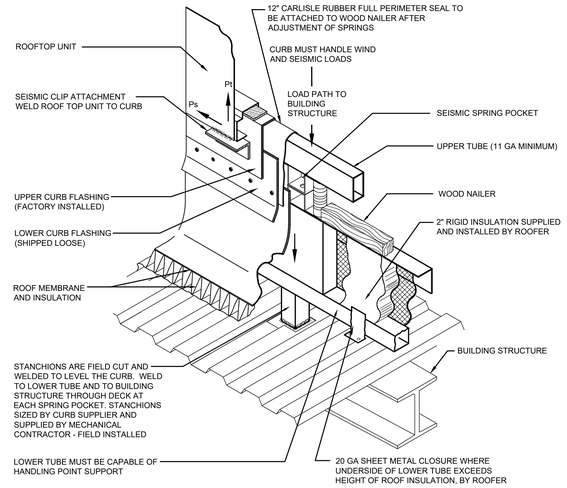
OUTDOOR UNIT															
PLAN NO	MANUFACURER MODEL	TOTAL COOL CAP MBH	SENS COOL CAP MBH	HTG MBH 47 °F	HTG MBH 17 °F	HSPF	SEER	ELECTRICAL DATA				DIMENSIONS			WEIGHT LBS	REMARKS
								COP 47°F	VOLTS/Ø	MCA	MFA	LENGTH	WIDTH	HEIGHT		
HP-A103	DAIKIN RX09RMVJU9	9.10	7.99	10.00	6.00	11.70	20	4.58	208/1	9.00	15	26 9/16	11 3/16	21 5/8	100	SEE NOTES

NOTES:



NON-ISOLATED WIND AND SEISMIC RESTRAINT RAIL ON CONCRETE

NOT TO SCALE



ATTACHMENT OF ISOLATED WIND AND SEISMIC ROOF CURB ON LEVEL OR PITCHED BEAM-SUPPORTED ROOF

NOT TO SCALE

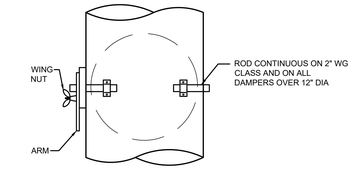


FIG. C
ROUND DAMPER

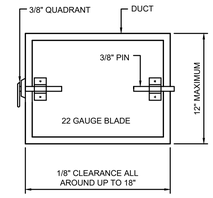
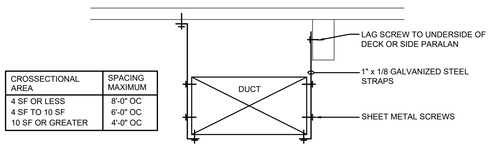


FIG. A
RECTANGULAR DAMPER

RECTANGULAR VOLUME DAMPERS EXCEEDING 1.5 SF SHALL BE OPPOSED BLADE DAMPER TYPE

VOLUME DAMPERS - SINGLE BLADE TYPE

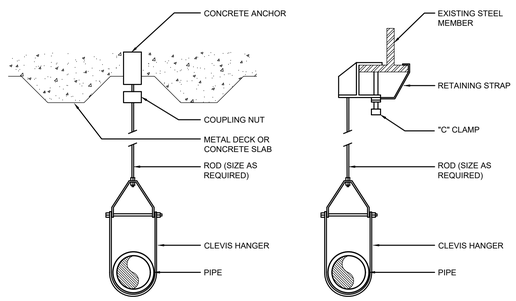
NOT TO SCALE



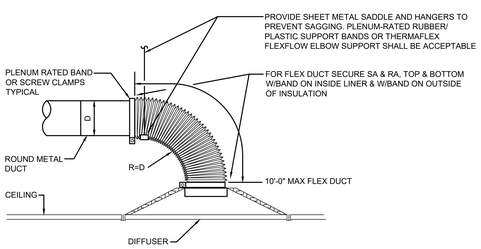
CROSSECTIONAL AREA	SPACING MAXIMUM
4 SF OR LESS	8'-0" OC
4 SF TO 10 SF	6'-0" OC
10 SF OR GREATER	4'-0" OC

DUCT HANGER DETAIL

NOT TO SCALE

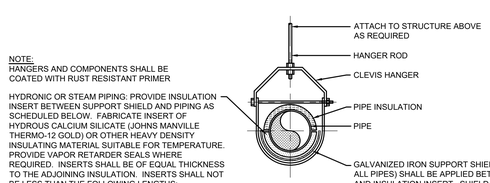


NOTE:
CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1", GENERAL PURPOSE HANGERS MAY BE USED ON 1" OR LESS PIPING ONLY.



TYPICAL DIFFUSER CONNECTION DETAIL

NOT TO SCALE



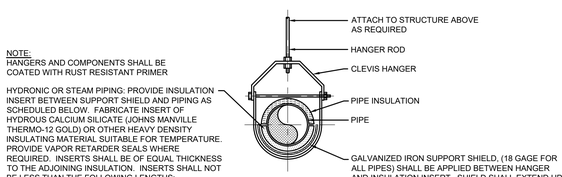
NOTE:
HANGERS AND COMPONENTS SHALL BE COATED WITH RUST RESISTANT PRIMER

HYDRONIC OR STEAM PIPING: PROVIDE INSULATION INSERT BETWEEN SUPPORT SHIELD AND PIPING AS SCHEDULED BELOW. FABRICATE INSERT OF HYDROUS CALCIUM SILICATE (JOHNS MANVILLE THERMO-12 GOLD) OR OTHER HEAVY DENSITY INSULATING MATERIAL SUITABLE FOR TEMPERATURE. PROVIDE VAPOR RETARDER SEALS WHERE REQUIRED. INSERTS SHALL BE OF EQUAL THICKNESS TO THE ADJOINING INSULATION. INSERTS SHALL NOT BE LESS THAN THE FOLLOWING LENGTHS:

PIPE SIZE	INSERT LENGTH
3/4" TO 2-1/2"	10"
3" TO 6"	12"
8" TO 10"	16"
12" & LARGER	22"

PIPE HANGER & INSULATED PIPE DETAIL

NOT TO SCALE



NOTE:
HANGERS AND COMPONENTS SHALL BE COATED WITH RUST RESISTANT PRIMER

HYDRONIC OR STEAM PIPING: PROVIDE INSULATION INSERT BETWEEN SUPPORT SHIELD AND PIPING AS SCHEDULED BELOW. FABRICATE INSERT OF HYDROUS CALCIUM SILICATE (JOHNS MANVILLE THERMO-12 GOLD) OR OTHER HEAVY DENSITY INSULATING MATERIAL SUITABLE FOR TEMPERATURE. PROVIDE VAPOR RETARDER SEALS WHERE REQUIRED. INSERTS SHALL BE OF EQUAL THICKNESS TO THE ADJOINING INSULATION. INSERTS SHALL NOT BE LESS THAN THE FOLLOWING LENGTHS:

PIPE SIZE	INSERT LENGTH
3/4" TO 2-1/2"	10"
3" TO 6"	12"
8" TO 10"	16"
12" & LARGER	22"

PIPE HANGER & INSULATED PIPE DETAIL

NOT TO SCALE

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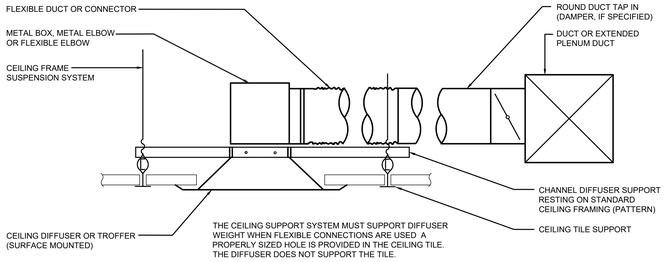
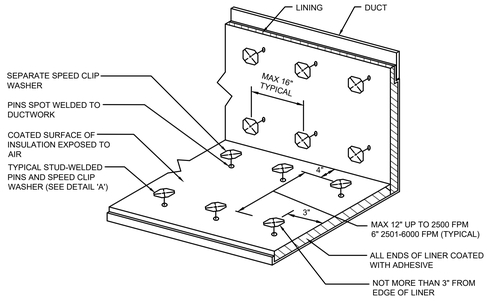
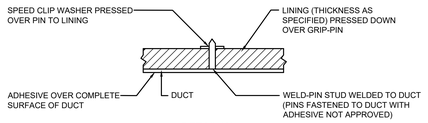


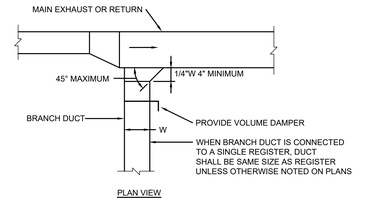
CEILING DIFFUSER BRANCH DUCT DETAIL
NOT TO SCALE





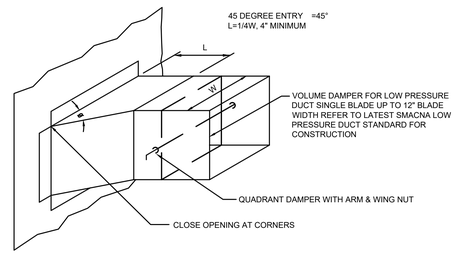
DETAIL 'A'

SOUND LINING INSTALLATION DETAIL
NOT TO SCALE



PLAN VIEW

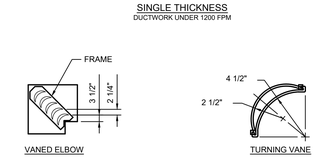
EXHAUST AND/OR RETURN BRANCH DUCT DETAIL
NOT TO SCALE



BRANCH CONNECTION DETAIL
NOT TO SCALE

NOTES
1. LOCKING LUGS INTEGRAL WITH VANE.
2. MAXIMUM UNSUPPORTED VANE LENGTH 36".
3. FRAMES BOLTED OR RIVETED TO ELBOW.
4. VANES AND FRAME SAME GAUGE AS ELBOW.

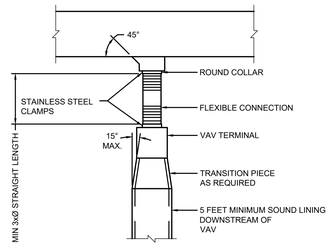
SINGLE THICKNESS
DUCTWORK UNDER 1200 FPM



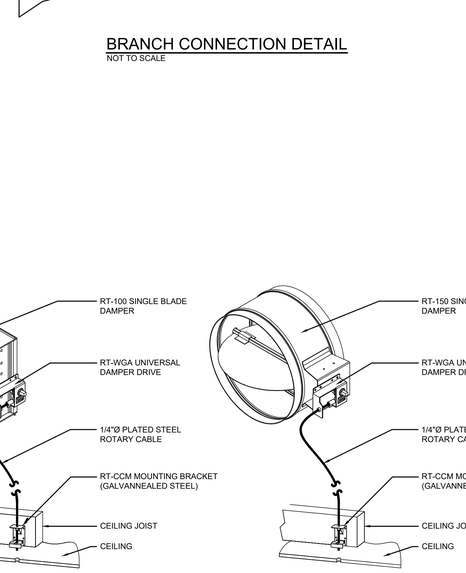
DOUBLE THICKNESS
DUCTWORK OVER 1200 FPM

NOTES:
1. LOCKING LUGS INTEGRAL WITH VANE.
2. MAXIMUM UNSUPPORTED VANE LENGTH 48".
3. FRAMES BOLTED OR RIVETED TO ELBOW.
4. VANES AND FRAME SAME GAUGE AS ELBOW.

TURNING VANES FOR SQUARE ELBOWS
NOT TO SCALE



BRANCH CONNECTION TO VAV TERMINAL DETAIL
NOT TO SCALE

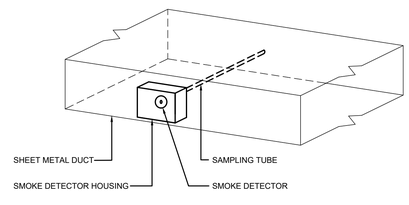


REMOTE DAMPER SYSTEM - SPECIALTY CEILING MOUNTED DETAIL
NOT TO SCALE
BASIS OF DESIGN: METROPOLITAN AIR TECHNOLOGY

SECTION A-A

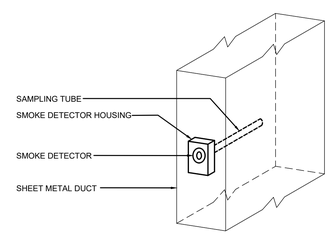
NOTES:
1. FLOOR OR WALL ASSEMBLY - MIN 4 1/2 INCH THICK LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. MAX DIAMETER OF THROUGH OPENING IS 12 1/4 INCH. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
2. PIPE OR CONDUIT - NOMINAL 10 INCH DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOMINAL 6 INCH DIAMETER (OR SMALLER) RIGID STEEL CONDUIT, NOMINAL 4 INCH DIAMETER (OR SMALLER) STEEL EMT OR NOMINAL 3 INCH DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE. MAXIMUM ONE PIPE OR CONDUIT PER THROUGH OPENING. MAXIMUM ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING IS 3/4 INCH MINIMUM ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING IS 0 INCH (POINT CONTACT). PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
3. FILL, VOID OR CAVITY MATERIALS - PUTTY: MOLDABLE PUTTY MATERIAL KNEADED BY HAND AND APPLIED TO FILL ANNULAR SPACE TO A MINIMUM DEPTH OF 1 INCH, FLUSH WITH TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, REQUIRED PUTTY THICKNESS TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL. MINNESOTA MINING & MFG. CO. - CP 25WB+. BEARING THE UL CLASSIFICATION MARKING

PIPE PENETRATION FIRE STOPPING DETAIL AT FIRE RATED MASONRY CORRIDOR PARTITION
NOT TO SCALE



DETECTORS TO BE INSTALLED BY MECHANICAL CONTRACTOR

HORIZONTAL DUCT DETECTOR INSTALLATION DETAIL
NOT TO SCALE



DETECTORS TO BE INSTALL BY MECHANICAL CONTRACTOR

VERTICAL DUCT DETECTOR INSTALLATION DETAIL
NOT TO SCALE

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Date 04/06/21

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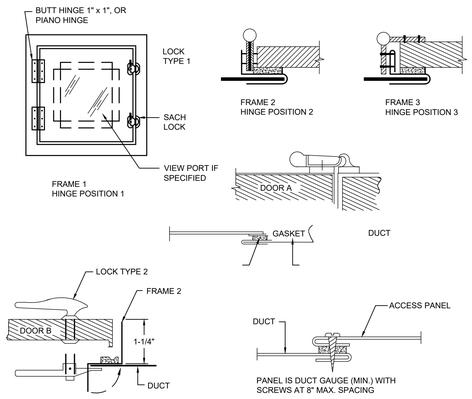
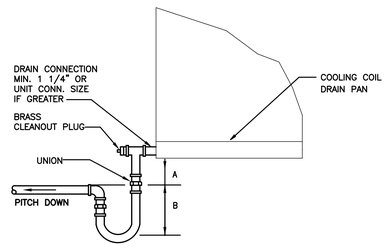
Drawing Number
M5.2



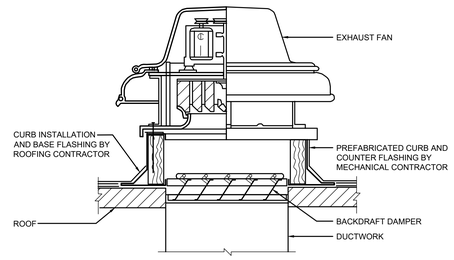
DUCT ACCESS DOORS
NOT TO SCALE



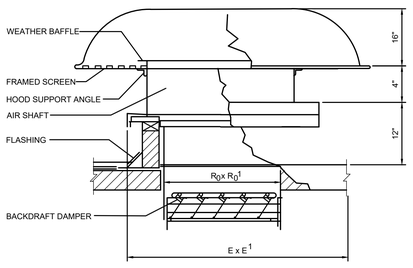
UNIT TYPE	A	B
DRAIN THRU	$1.5H_1$	$3H_1$
BLOW THRU	2" (MIN.)	$2H_1$

H_1 = FAN SUCTION PRESSURE
H_2 = FAN DISCHARGE PRESSURE
H= 150% 1"(MIN.) NEGATIVE STATIC PRESSURE AT FAN INLET

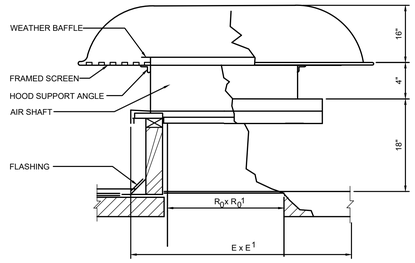
CONDENSATE TRAP DETAIL
NOT TO SCALE



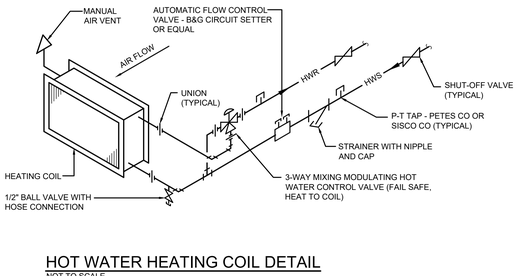
ROOF MOUNTED EXHAUST FAN DETAIL
NOT TO SCALE



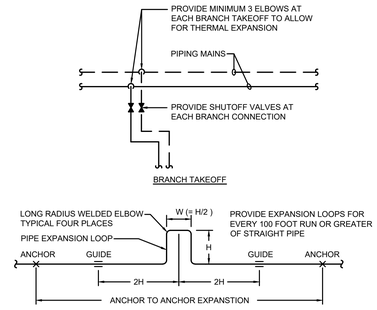
GRAVITY VENT DETAIL
NOT TO SCALE



OA INTAKE DETAIL
NOT TO SCALE



HOT WATER HEATING COIL DETAIL
NOT TO SCALE

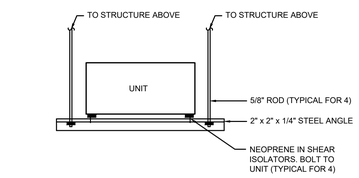


REFERENCE: ASHRAE SYSTEMS & EQUIPMENT HANDBOOK, PIPE BENDS & LOOPS

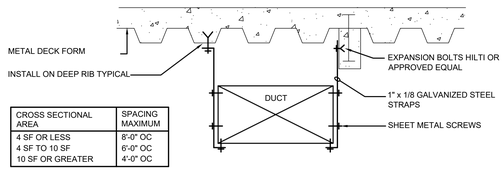
L = 6.225 x SQUARE ROOT (AAE x D) = 2H + W
AAE = ANCHOR-TO-ANCHOR EXPANSION IN INCHES
D = PIPE OUTSIDE DIAMETER IN INCHES
AAE = UTE x AAD
UTE = UNIT THERMAL EXPANSION IN INCHES PER 100 FEET FOR STEEL AND/OR COPPER PIPE
AAD = ANCHOR-TO-ANCHOR DISTANCE IN FEET
H = EXPANSION LOOP HEIGHT IN FEET
W = EXPANSION LOOP WIDTH IN FEET

EXPANSION LOOP

PIPE EXPANSION DETAIL
NOT TO SCALE

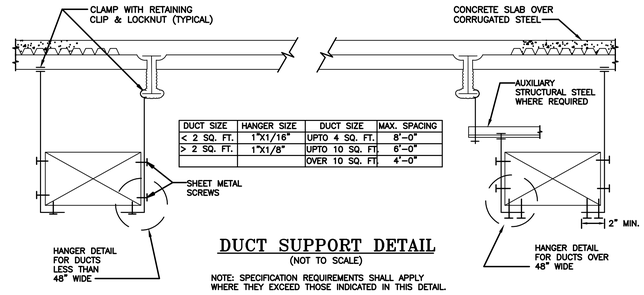


UNIT MOUNTING SUPPORT DETAIL
NOT TO SCALE



CROSS SECTIONAL AREA	SPACING MAXIMUM
4 SF OR LESS	8'-0" OC
4 SF TO 10 SF	6'-0" OC
10 SF OR GREATER	4'-0" OC

DUCT HANGER DETAIL
NOT TO SCALE



DUCT SIZE	HANGER SIZE	DUCT SIZE	MAX. SPACING
< 2 SQ. FT.	1"X1/16"	UPTO 4 SQ. FT.	8'-0"
> 2 SQ. FT.	1"X1/8"	UPTO 10 SQ. FT.	6'-0"
		OVER 10 SQ. FT.	4'-0"

DUCT SUPPORT DETAIL
(NOT TO SCALE)

NOTE: SPECIFICATION REQUIREMENTS SHALL APPLY WHERE THEY EXCEED THOSE INDICATED IN THIS DETAIL.

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PROFESSIONAL ENGINEER, NJ LIC. No. 24GE04561900

Drawing Number
M5.3

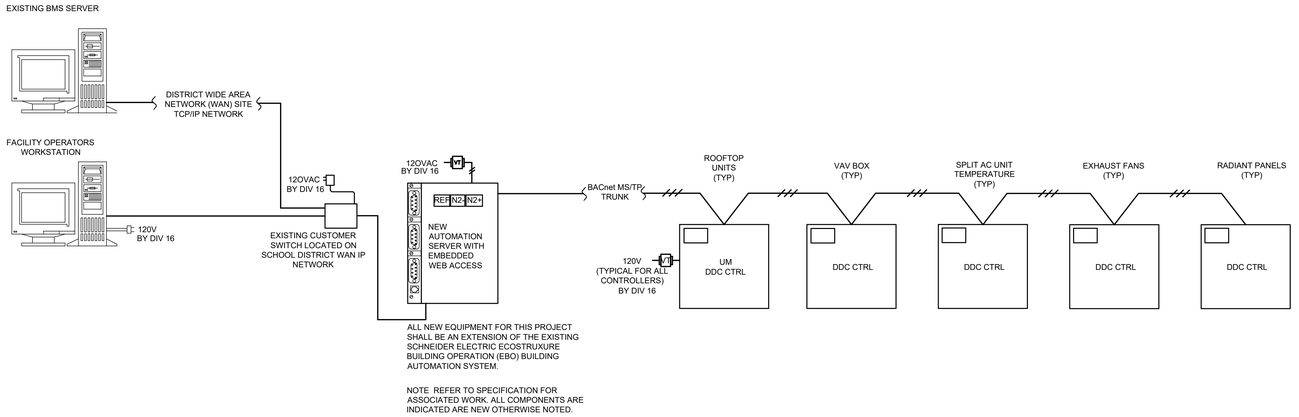
UNSHIELED CABLE - 2 CONDUCTOR
CONTROL WIRING #14 AWG MIN

SHIELDED CABLE - 2 CONDUCTOR
CONTROL WIRING #18 AWG MIN

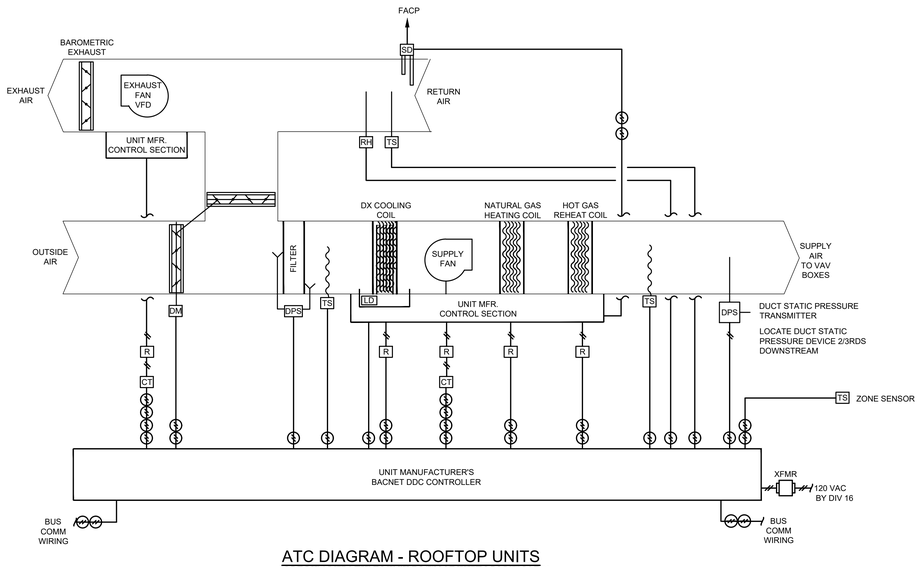
DATA COMMUNICATION BUS
(2) 2 CONDUCTOR #24 AWG MIN CABLE

AQ	AQUASTAT	IAQ	INDOOR AIR QUALITY
AFS	AIR FLOW STATION (ANALOG)	MS	MAGNETIC STARTER
FS	FLOW SWITCH (DIGITAL)	VFD	VARIABLE FREQUENCY DRIVE
V	CONTROL VALVE ACTUATOR	R	CONTROL RELAY
DM	DAMPER MOTOR/ACTUATOR	CS	CURRENT SENSOR (ANALOG)
DPT	DIFFERENTIAL PRESSURE SENSOR (ANALOG)	CT	CURRENT SWITCH (DIGITAL)
ES	END SWITCH	TS	TEMPERATURE SENSOR (PROBE/IMMERSION)
LD	LEAK DETECTOR (WATER)	TS	TEMPERATURE SENSOR (AVERAGING)
LLS	LOW-LIMIT SWITCH	TS	TEMPERATURE SENSOR (WALL)
RH	RELEATIVE HUMIDITY SENSOR	DPS	DIFFERENTIAL PRESSURE SENSOR (DIGITAL)
CO	CARBON-MONOXIDE SENSOR	SD	SMOKE DETECTOR (DUCT)
CO2	CARBON-DIOXIDE SENSOR	TC	TEMPERATURE CONTROLLER
HS	HUMIDITY SENSOR	VT	120/24VAC TRANSFORMER
		XFMR	

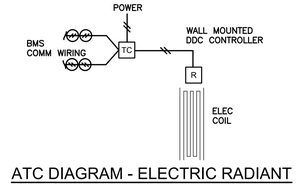
ATC LEGEND
NOT TO SCALE



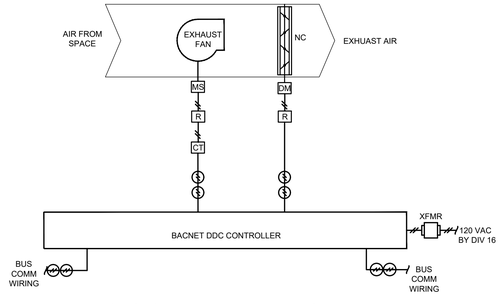
ATC DIAGRAM - NETWORK SYSTEM ARCHITECT
NOT TO SCALE



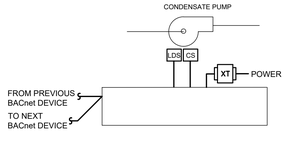
ATC DIAGRAM - ROOFTOP UNITS
DDC CONTROLLER AND SENSING DEVICES SHALL BE PROVIDED BY THE ROOFTOP UNIT MANUFACTURER.
FACTORY PROVIDED TECHNICIAN SHALL PROVIDE UNIT/BMS START-UP AND COORDINATION WITH THE ATC CONTRACTOR FOR FULL INTEGRATION INTO THE BUILDING AUTOMATION SYSTEM.
NOT TO SCALE



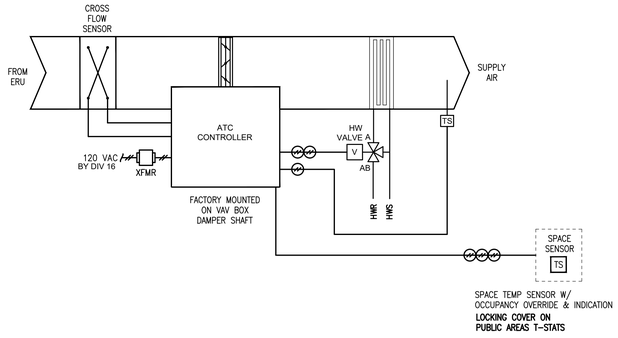
ATC DIAGRAM - ELECTRIC RADIANT PANEL
NOT TO SCALE



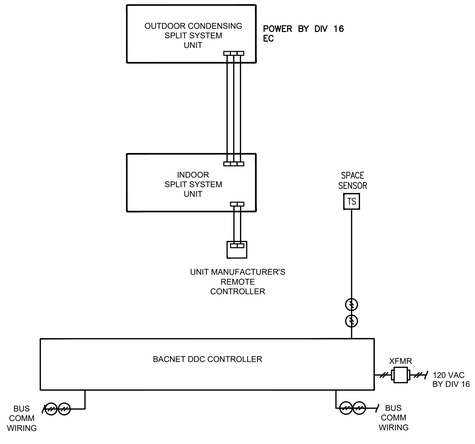
ATC DIAGRAM - NEW EXHAUST FAN
DDC CONTROLLER AND CONTROL DEVICES SHALL BE PROVIDED BY THE ATC CONTRACTOR.
NOT TO SCALE



ATC DIAGRAM - CONDENSATE PUMP
MONITORING AND ALARM
NOT TO SCALE



ATC DIAGRAM -VARIABLE AIR VOLUME BOXES WITH HOT WATER REHEAT COIL
ATC CONTRACTOR SHALL PROVIDE DDC CONTROLLER AND SENSING DEVICES.
DDC CONTROLLER TO BE SHIPPED TO THE VAV BOX FACTORY FOR FACTORY MOUNTING OF CONTROLLERS.
NOT TO SCALE



ATC DIAGRAM - AC SPLIT SYSTEMS
UNIT CONTROLLER AND SENSING DEVICES SHALL BE PROVIDED BY THE SPLIT SYSTEM UNIT MANUFACTURER.
ATC CONTRACTOR SHALL PROVIDE A SEPARATE SPACE TEMPERATURE SENSOR FOR MONITORING.
NOT TO SCALE

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Drawing Number
M5.4

ELECTRICAL GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC AND DEFINE THE INTENT OF THE WORK. LOCATIONS OF EQUIPMENT, FIXTURES, DEVICES, PANELBOARDS, DUCTS, PIPING, DIFFUSERS, PARTITIONS, OPENINGS, ETC. ARE APPROXIMATE AND ARE SUBJECT TO MODIFICATIONS CAUSED BY STRUCTURAL CONDITIONS AND EQUIPMENT PROVIDED BY OTHER CONTRACTORS, SUBCONTRACTORS OR THE OWNER. COORDINATE ALL WORK WITH THE WORK OF OTHER TRADES. DETERMINE ROUGHING LOCATIONS FROM APPROVED SHOP DRAWINGS. MINOR MODIFICATIONS OF LOCATIONS REQUIRED TO EFFECT SUCH COORDINATION SHALL BE MADE AT NO COST TO THE OWNER.
2. THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON FPA CADD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF FPA AND ARE INVALID.
3. REPRODUCTION OF ANY PORTION OF THE CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
4. SPECIFICATIONS MAY REQUIRE WORK, EQUIPMENT, SYSTEMS, METHODS, ETC. THAT IS NOT INDICATED ON THE DRAWINGS.
5. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLEMENTARY TO EACH OTHER. WHERE DISCREPANCIES OR CONFLICTS OCCUR, THE CONTRACTOR SHALL INCLUDE THE MORE COSTLY METHOD IN HIS PROPOSAL UNLESS CLARIFIED BY BULLETIN OR ADDENDUM ACKNOWLEDGED PRIOR TO RECEIPT OF BIDS.
6. DRAWINGS SHALL NOT BE SCALED. DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND REQUIREMENTS OF THE WORK. ALTHOUGH SIZE AND LOCATION OF EQUIPMENT IS DRAWN TO SCALE WHEREVER POSSIBLE, CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY INFORMATION AT THE PROJECT SITE.
7. THE OWNER WILL OCCUPY THE SITE AND EXISTING BUILDING DURING THE ENTIRE CONSTRUCTION PERIOD. COOPERATE WITH THE OWNER DURING CONSTRUCTION OPERATIONS TO AVOID ANY CONFLICTS. PERFORM THE WORK SO AS NOT TO INTERFERE WITH THE OWNER'S OPERATIONS. SCHEDULE ALL POWER OUTAGES FOR OVERTIME ON SUNDAYS AND HOLIDAYS AT NO ADDITIONAL COST TO THE OWNER.
8. EXISTING PROJECT CONDITIONS INDICATED ARE BASED ON FIELD OBSERVATION, EXISTING DESIGN / CONSTRUCTION DOCUMENTS AND EXISTING RECORD DOCUMENTS AND ARE INTENDED TO INDICATE THE SCOPE OF THE WORK AFFECTED BY THIS PROJECT.
9. THE TERM OTHERS SHALL BE UNDERSTOOD TO MEAN CONTRACTORS, SUBCONTRACTORS OR TRADESMEN ON THE PROJECT PERFORMING WORK ON THIS PROJECT UNDER SECTIONS OR DIVISIONS OTHER THAN ELECTRICAL WORK.
10. VERIFY THAT FIELD MEASUREMENTS AND CIRCUITING ARRANGEMENTS ARE AS INDICATED.
11. PRIOR TO BIDDING VISIT THE PROJECT SITE TO DETERMINE THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. SCHEDULE SITE VISIT WITH OWNER.
12. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR THE INSTALLATION, RELOCATION AND CONNECTION OF THE ELECTRICAL WORK.
13. ALL MATERIAL SHALL BE UNDERWRITERS' LABORATORIES LISTED FOR ITS APPLICATION WHERE SUCH LISTING IS APPLICABLE.
14. ALL EQUIPMENT SHALL BE AS INDICATED OR AS APPROVED BY THE ENGINEER.
15. SUBMIT SHOP DRAWINGS, PRODUCT DATA SHEETS AND WIRING DIAGRAMS FOR ALL ELECTRICAL CONSTRUCTION MATERIALS, DEVICES, EQUIPMENT, APPLIANCES AND SYSTEMS.
16. OBTAIN SHOP DRAWINGS AND WIRING DIAGRAMS FROM OWNER AND OTHER CONTRACTORS FOR THE PROPER INSTALLATION OF RELATED ELECTRICAL WORK AND, UNLESS OTHERWISE NOTED, WIRE ALL CONTROL DEVICES, VALVES, THERMOSTATS, ETC. REQUIRED FOR THE PROPER OPERATION OF THEIR SYSTEMS.
17. OBTAIN ALL PERMITS REQUIRED, HAVE THE WORK INSPECTED FOR CODE COMPLIANCE AND PAY ALL FEES FOR INSPECTION AND CERTIFICATION.
18. PROVIDE ADEQUATE TEMPORARY ELECTRICAL LIGHT AND POWER FOR THE PROJECT WORK OF ALL TRADES.
19. MAINTAIN CONTINUITY OF EXISTING CIRCUITS AFFECTED BY THIS WORK WHICH MUST REMAIN IN SERVICE.
20. MAKE ALL MODIFICATIONS NECESSARY TO EXISTING PANELBOARDS AND SWITCHBOARDS TO ACCEPT NEW CIRCUITS.
21. WHERE ELECTRICAL EQUIPMENT (I.E. SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, DISCONNECTS, ETC.) OR SYSTEMS (I.E. FIRE ALARM, SOUND, INTERCOMMUNICATIONS, ALARM, ETC.) IS INDICATED TO BE MODIFIED TO ACCEPT NEW WORK SAID MODIFICATIONS SHALL BE PERFORMED BY ELECTRICAL EQUIPMENT FABRICATORS OR MANUFACTURER'S REPRESENTATIVES WHO CAN AFFECT SUCH MODIFICATIONS WITHOUT VOIDING THE UL LABEL OR MANUFACTURER'S WARRANTIES.
22. WHERE NEW EQUIPMENT IS INDICATED TO BE "RECONNECTED" TO EXISTING WIRING, CONDUIT OR OTHER PART OF AN EXISTING ELECTRICAL SYSTEM, THE CONTRACTOR SHALL MODIFY OR EXTEND THE EXISTING SYSTEM COMPONENTS AS REQUIRED TO MEET THE CONNECTION POINT OF THE NEW ITEM. THE CONTRACTOR SHALL USE MATERIALS AND METHODS THAT MATCH THE EXISTING SYSTEM, OR AS SPECIFIED FOR NEW WORK, WHICHEVER IS MORE SUITABLE FOR THE APPLICATION.
23. WHERE EXISTING EQUIPMENT IS INDICATED TO BE "CONNECTED" OR "RECONNECTED" TO NEW WIRING, CONDUIT, ETC, THE CONTRACTOR SHALL FABRICATE AND INSTALL THE NEW SYSTEM CONNECTIONS TO MATCH THE CONNECTION POINTS AND OTHER REQUIREMENTS OF THE EXISTING EQUIPMENT. WHERE THE EXISTING EQUIPMENT MUST BE REMOVED AND REINSTALLED TO FACILITATE THE REMOVAL OF THE OLD CONNECTIONS AND/ OR THE CONNECTION OF THE NEW MATERIAL, THAT WORK SHALL BE A PART OF THIS CONTRACT.
24. EXACT LOCATION OF EQUIPMENT SHALL BE COORDINATED IN THE FIELD.
25. REFER TO APPROVED REFLECTED CEILING PLANS FOR EXACT LIGHTING LAYOUTS.
26. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR EQUIPMENT LOCATIONS AND CONTROLS.
27. GROUNDING AND BONDING SHALL MEET NEC AND EQUIPMENT / SYSTEM MANUFACTURER'S REQUIREMENTS.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF DEBRIS GENERATED BY HIS WORK AND WORKERS AT THE END OF EACH WORKING DAY AND FOR GENERAL GOOD HOUSEKEEPING BY HIS WORKERS. CONTRACTOR SHALL PROVIDE REQUIRED REFUSE CONTAINERS.
29. DISCONNECT AND REMOVE FROM THE PREMISES, OR STORE ON THE PREMISES IF REQUESTED BY THE OWNER, ALL EQUIPMENT FIXTURES, DEVICES, RACEWAY, WIRING, CABLE, SUPPORTING DEVICES, ETC. REMOVED OR ABANDONED AS A RESULT OF THIS WORK. MAKE SAFE ALL WIRING AND CABLE WHICH MUST REMAIN IN SERVICE.
30. REMOVE AND RELOCATE EXISTING EQUIPMENT, FIXTURES, DEVICES, ETC. AS INDICATED AND AS REQUIRED TO CLEAR NEW WORK. EXTEND AND CONNECT NEW WIRING TO EXISTING.
31. DISCONNECT AND REMOVE, OR TEMPORARILY RELOCATE, EXISTING LIGHTING FIXTURES, LOUDSPEAKERS, ETC. TO CLEAR THE INSTALLATION OF NEW DUCTWORK, PIPING, EQUIPMENT, ETC. THROUGHOUT THE ENTIRE RENOVATED AREAS AND REINSTALL WHEN WORK IS COMPLETE. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS FOR THE EXTENT OF THE WORK. PROVIDE TEMPORARY NORMAL AND EMERGENCY LIGHTING AND TEMPORARILY RECONNECT LOUDSPEAKERS, ETC. UNTIL THE CEILING IS REINSTALLED. EXTEND EXISTING WIRING TO NEW LOCATIONS AS REQUIRED.
32. TEMPORARILY RELOCATE, EXISTING FIRE ALARM DEVICES, HEAT/SMOKE DETECTORS, ETC. TO CLEAR THE INSTALLATION OF NEW DUCTWORK, PIPING, EQUIPMENT, ETC. THROUGHOUT THE ENTIRE RENOVATED AREA. PROVIDE TEMPORARY SUPPORT OF EXISTING DEVICES AND REINSTALL WHEN WORK IS COMPLETED. RE-TEST THE FIRE ALARM SYSTEM PER NFPA 72 REQUIREMENTS. EXISTING FIRE ALARM DEVICES SHALL NOT BE DISABLED OR REMOVED FROM SERVICE. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL PLANS AND SPECIFICATIONS FOR THE EXTENT OF THIS WORK.
33. REMOVE AND REINSTALL CEILING SYSTEM AS REQUIRED FOR THE INSTALLATION OF ELECTRICAL WORK AND REPLACE IN KIND ANY COMPONENTS DAMAGED BY PERSONNEL OR EQUIPMENT DURING PERFORMANCE OF THE WORK. COORDINATE WITH ARCHITECT.
34. PERFORM ALL CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF THE WORK. CUT NO STRUCTURAL MEMBER WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. FINISH AND PAINT ALL PATCHED SURFACES WITH TWO COATS OF PAINT TO MATCH EXISTING SURFACES AS CLOSELY AS POSSIBLE. SEAL OPENINGS VERMIN AND WATER PROOF AND MAINTAIN FIRE RATING. USE SPECIFIED TECHNOLOGIES, INC. SPECSEAL SERIES LCI FOR PENETRATIONS
35. ALL PENETRATIONS IN FOUNDATION WALLS AND FLOORS INCLUDING SLAB PENETRATIONS SHALL BE SUBSTANTIALLY SEALED BY UTILIZING A NON-CRACKING POLYURETHANE OR SIMILAR CAULK OR EQUIVALENT TO CLOSE OFF THE SOIL GAS ENTRY ROUTES. ALL CONDUITS IN THE SPACE BELOW THE FOUNDATION FLOOR WHICH PENETRATE THESE BARRIERS SHALL HAVE THREADED OR SOLVENTED FITTINGS.
36. ALL NEW RACEWAY, WIRING AND CABLE IN NEW AND EXISTING FINISHED SPACES SHALL BE RUN CONCEALED IN NEW AND EXISTING CONSTRUCTION UNLESS OTHERWISE INDICATED CUT AND PATCH AS REQUIRED. PROVIDE PULLBOXES, SIZE AND TYPE AS REQUIRED.
37. ALL NEW WIRING IS TO BE RUN CONCEALED WHERE POSSIBLE. PROVIDE PULLBOXES, SIZE AND LOCATION AS REQUIRED.
38. EXPOSED RACEWAY, IF PERMITTED, SHALL BE RUN TRUE, PLUMB AND PARALLEL OR PERPENDICULAR TO BUILDING LINES. RIGID METAL CONDUIT, 3/4 INCH MINIMUM, SHALL BE USED OUTDOORS ELECTRICAL METALLIC TUBING, 3/4 INCH MINIMUM, SHALL BE USED IN INDOOR UNFINISHED SPACES SURFACE METAL RACEWAY (WIREMOLD) MAY BE USED IN EXISTING INDOOR FINISHED SPACES IF APPROVED BY THE ARCHITECT AND OWNER.
39. ALL WIRING SHALL BE COPPER CONDUCTOR WITH 600 VOLTS INSULATION IN METAL RACEWAY WITH APPROVED FITTINGS UNLESS OTHERWISE INDICATED.
40. SERVICE ENTRANCE CONDUCTORS UNDERGROUND IN RACEWAY: TYPE THHN-THWN 90 DEGREE C. WHERE EXPOSED WITHIN THE BUILDING OR STRUCTURE, ENCASE RACEWAY IN CONCRETE, MINIMUM 2-INCHES THICK.
41. FEEDERS AND BRANCH CIRCUITS UNDERGROUND IN RACEWAY: TYPE THHN-THWN 90 DEGREE C
42. INTERIOR FEEDERS AND BRANCH CIRCUITS IN RACEWAY: TYPE THHN 90 DEGREE C.
43. EMERGENCY SYSTEM FEEDERS: TYPE THHN IN EMT CONDUIT.
44. BRANCH CIRCUIT HOMERUNS TO FIRST OUTLET: TYPE THHN IN RACEWAY. AFTER THE FIRST OUTLET BOX, APPROVED CABLE MAY BE USED.
45. FEEDERS SHALL BE MINIMUM 8 AWG BRANCH CIRCUIT WIRING MINIMUM 12 AWG CONTROL WIRING MINIMUM 14 AWG UNLESS OTHERWISE INDICATED. FEEDER AND BRANCH CIRCUIT WIRING LARGER THAN 10 AWG SHALL BE STRANDED CONDUCTOR 10 AWG AND SMALLER, STRANDED CONDUCTOR OR SOLID CONDUCTOR CONTROL WIRING, STRANDED CONDUCTOR.
46. METAL CLAD CABLE TYPE MC WITH 600 VOLT THHN INSULATION AND INSULATED GROUND CONDUCTOR MAY BE USED FOR BRANCH CIRCUITS RUN IN HOLLOW SPACES, FISHED ABOVE EXISTING HUNG CEILINGS, FIXTURE CONNECTIONS AND ELSEWHERE AS PERMITTED BY THE NEC AND THE ENGINEER.
47. FIRE ALARM WIRING SHALL BE APPROVED FOR ITS APPLICATION 14 AWG IN RACEWAY OR 14 AWG METAL CLAD CABLE FOR 120 VOLT CIRCUITS 16 AWG FPLR OR FPLP FOR LOW VOLTAGE CIRCUITS IN NON AIR-HANDLING SPACES AND 14 AWG FPLP FOR LOW VOLTAGE CIRCUITS IN AIR-HANDLING APPLICATIONS.
48. DO NOT INSTALL CONDUCTORS, WIRES OR CABLES OF ANY OTHER SYSTEM IN THE SAME RACEWAY OR CABLE WITH FIRE ALARM POWER SUPPLY CIRCUITS, NON-POWER LIMITED FIRE ALARM CIRCUITS OR POWER LIMITED FIRE ALARM CIRCUITS.
49. MAKE FLEXIBLE CONNECTIONS TO MOTORS AND OTHER ROTATING / VIBRATING EQUIPMENT.
50. TAPS AND SPLICES FOR BRANCH CIRCUITS AND FEEDERS SHALL BE MADE WITH AN INSULATED TERMINAL BY ILSCO, OR APPROVED EQUAL.
51. BRANCH CIRCUIT AND FEEDER TAPS SHALL BE FULL CIRCUIT SIZE UP TO THEIR OVERCURRENT PROTECTION DEVICE.
52. CONNECTIONS TO FIXTURE AND MOTOR LEADS 10 AWG AND SMALLER SHALL BE MADE WITH 3M "SCOTCHLOK" PRE-INSULATED SPRING PRESSURE CONNECTORS TYPES Y, R OR G OR APPROVED EQUAL.
53. STRANDED WIRING CONDUCTORS SHALL BE MADE UP TO SCREW TERMINALS WITH 3M, T&B OR PANDUIT LOCKING FORK CRIMP TERMINALS WITH NYLON INSULATED GRIPS.
54. UNLESS OTHERWISE INDICATED: ALL CONTROL, INTERLOCK AND TEMPERATURE CONTROL WIRING FOR HVAC EQUIPMENT AND SYSTEMS SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE MECHANICAL OR AUTOMATIC TEMPERATURE CONTROL CONTRACTOR ALL CONTROL AND INTERLOCK WIRING FOR PLUMBING EQUIPMENT AND SYSTEMS SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE ELECTRICAL CONTRACTOR ALL ELECTRICAL POWER WIRING TO CONTROL PANELS, MOTOR OPERATED DAMPERS, MOTOR STARTERS, MOTORS AND ALL MECHANICAL DEVICES THAT REQUIRE LINE VOLTAGE POWER SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE ELECTRICAL CONTRACTOR ALL CONTROL AND INTERLOCK WIRING FROM AUTOMATIC TEMPERATURE CONTROL PANELS TO CONTROLLED OR INTERLOCKED DEVICES SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE MECHANICAL OR AUTOMATIC TEMPERATURE CONTROL CONTRACTOR REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR REQUIREMENTS.
55. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL 120V CONTROL POWER WIRING FEEDERS AND CIRCUIT BREAKERS REQUIRED FOR THE INSTALLATION OF MECHANICAL EQUIPMENT. STARTERS AND POWER DISCONNECT SWITCHES SHALL BE BY THE MECHANICAL CONTRACTOR. REFER TO SPECIFICATION SECTIONS AND COORDINATE WITH THE MECHANICAL CONTRACTOR FOR EXTENT OF WORK REQUIRED.
56. WIRE EXIT LIGHTING AND EMERGENCY LIGHTING FIXTURES (UNIT EQUIPMENT) TO LOCAL AREA LIGHTING CIRCUIT SERVING THE RESPECTIVE AREA AHEAD OF SWITCH / DIMMER CONTROL.
57. WIRE ELECTRONIC TRAP PRIMERS TO NEAREST AVAILABLE 1P20A 120 VAC CIRCUIT UNLESS OTHERWISE INDICATED. REFER TO PLUMBING FLOOR PLANS AND SCHEDULES FOR LOCATIONS.
58. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION AND INSTALLATION DETAILS AND VERIFY ALL MANUFACTURER'S REQUESTS PRIOR TO ANY SUBMISSION FOR CONSIDERATION BY THE ARCHITECT, ENGINEER OR OWNER.
59. WIRING RUNS INDICATED ON THE DRAWINGS EXPRESS THE INTENT OF CIRCUIT ASSIGNMENT AND SWITCH CONTROL. ACTUAL WIRING METHODS USED SHALL BE SUITED FOR THE CONSTRUCTION OF THE BUILDING. REFER TO DRAWINGS OF OTHER TRADES AND EXISTING CONDITIONS. SEE ARCHITECTURAL DRAWINGS FOR DETAILS. NUMBER OF CONDUCTORS IS NOT ALWAYS INDICATED
60. PROVIDE DISCONNECTS FOR ALL APPLIANCES, EQUIPMENT, MOTORS AND CONTROLLERS.
61. INSTALL MOTOR STARTERS, CONTROLLERS OR COMBINATION STARTERS FURNISHED FOR EACH MOTOR. LOCATE AS DIRECTED IN THE FIELD.
62. PROVIDE UN-SWITCHED 125 VOLT 20 AMP RECEPTACLE OUTLETS LOCATED ON THE SAME LEVEL AND WITHIN 25 FEET OF ALL HEATING, AIR-CONDITIONING AND REFRIGERATION EQUIPMENT UNLESS OTHERWISE NOTED.
63. ROUTE RACEWAYS THROUGH ROOF USING DEDICATED ROOF JACKS OR PITCH POCKETS. RUN RACEWAY ON ROOF ON DEDICATED ROOF SUPPORTS EIGHT INCHES HIGH MINIMUM.
64. PROVIDE SEISMIC RESTRAINTS AND ANCHORS FOR EQUIPMENT, FIXTURES, RACEWAY, ETC. AS REQUIRED BY INTERNATIONAL BUILDING CODE CHAPTER 16 - STRUCTURAL DESIGN AND CHAPTER 17 - STRUCTURAL TESTING AND INSPECTIONS AND AS SPECIFIED IN SPECIFICATION SECTION "SEISMIC CONTROLS".
65. ALL 125 VOLT, SINGLE PHASE, 15- AND 20-AMPERE SINGLE AND DUPLEX RECEPTACLES WHICH DO NOT SERVE A DEDICATED APPLIANCE AND ARE WITHIN A 6 FOOT RADIUS OF A SINK, ARE INSTALLED IN WET LOCATIONS, ARE INSTALLED IN BATHROOMS, ON ROOFS, OR OUTDOORS WITH DIRECT GRADE ACCESS, SHALL BE GROUND FAULT CIRCUIT INTERRUPTING TYPE WHERE AVAILABLE OR SHALL BE PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTING CIRCUIT BREAKERS.
66. DO NOT INSTALL EXPOSED WIRING, OR CABLE NOT UL LISTED FOR THE PURPOSE WOOD SUPPORTS OR ANCHORAGES NONMETALLIC CONDUIT, BOXES OR FITTINGS OR VINYL, PLASTIC, NYLON, OR OTHER COMBUSTIBLE OR SMOKE PRODUCING IDENTIFICATION OR CONSTRUCTION MATERIALS IN THE SPACE ABOVE HUNG CEILINGS USED AS A PLENUM FOR THE RETURN OF ENVIRONMENTAL AIR.
67. DEMONSTRATE PRODUCT CAPABILITY AND COMPLIANCE WITH REQUIREMENTS OF ALL ELECTRICAL DEVICES, EQUIPMENT AND SYSTEMS.
68. PERFORM MANUFACTURER'S RECOMMENDED TESTS AND SUBMIT RESULTS.
69. VERIFY PROPER ROTATION OF ALL ROTATING ELECTRICAL MACHINERY.
70. TEST SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CABLES, SWITCHES, CIRCUIT BREAKERS, GROUNDING SYSTEM, GROUND FAULT PROTECTION SYSTEM, SURGE ARRESTORS, AND TVSS DEVICES IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE CURRENT EDITION OF THE INTERNATIONAL ELECTRICAL TESTING ASSOCIATION ACCEPTANCE TESTING SPECIFICATIONS FOR ELECTRIC POWER DISTRIBUTION EQUIPMENT AND SYSTEMS (NETA ATS). PERFORM EACH VISUAL AND MECHANICAL INSPECTION AND ELECTRICAL TEST LISTED.
71. PROVIDE TWO SETS OF OPERATION AND MAINTENANCE MANUALS, BOUND AND INDEXED, WITH INSTRUCTIONS FOR ALL ELECTRICAL DEVICES, EQUIPMENT, APPLIANCES AND SYSTEMS.
72. PROVIDE ONE SET OF REPRODUCIBLE CONTRACT DRAWINGS, OR DIGITAL DATA FILES USING SAME SOFTWARE PROGRAM, VERSION, AND OPERATING SYSTEM AS CONTRACT DOCUMENTS, THAT HAVE BEEN REVISED AND ANNOTATED TO REFLECT THE AS-BUILT CONDITIONS OF THE PROJECT.
73. DELIVER CERTIFICATES OF ELECTRICAL AND OTHER INSPECTIONS, OR COPIES THEREOF, TO THE OWNER AT THE COMPLETION OF THE PROJECT WITH COPIES TO THE ENGINEER.
74. GUARANTEE ALL WORK IN WRITING TO THE OWNER AGAINST ANY AND ALL DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE AND PERFORM ALL CORRECTIVE WORK AT NO COST TO THE OWNER.
75. A CONTRACTOR MAKING A BID FOR WORK ON THIS PROJECT IS MADE AWARE BY THIS NOTE THAT IT IS THE INTENT OF THE OWNER TO HAVE A COMPLETELY INSTALLED JOB. THE CONTRACTOR MAKING A BID FOR THIS WORK WARRANTS THAT HE WILL COMPLETE AND WIRE, PROVIDING ALL NECESSARY ELECTRICAL WORK FOR EQUIPMENT SHOWN AND / OR DETAILED ON ANY PROJECT DRAWINGS OR SPECIFICATIONS AND NOT JUST THOSE COMMONLY REFERRED TO AS A SINGLE TRADE DRAWING UNLESS SPECIFICALLY IDENTIFIED ELSEWHERE AS WORK OF OTHER TRADES. WHERE EQUIPMENT REQUIRING WIRING IS SPECIFIED OR SHOWN ON DRAWINGS OTHER THAN ELECTRICAL DRAWINGS, OR INDICATED, OR IMPLIED, SUCH AS ON SHOP DRAWINGS SUBMITTED LATER, THE CONTRACTOR CAN AND SHALL REQUEST DIRECTION REGARDING CIRCUIT SIZING PROTECTION AND ROUTING WHERE NECESSARY BUT SHALL UNDERSTAND ALL NECESSARY WORK TO COMPLETE THE INSTALLATION SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER OR PROJECT.
76. THE INSTALLATION OF ALL ELECTRICAL WORK INDICATED ON ALL ELECTRICAL DRAWINGS AND IN THE SPECIFICATIONS AND ANY SUBSEQUENT BULLETINS OR ADDENDA SHALL COMPLY WITH NEW JERSEY ADMINISTRATIVE CODE TITLE 6A.
77. THE SPACE ABOVE THE HUNG CEILING IS USED AS A PLENUM FOR THE RETURN OF ENVIRONMENTAL AIR. DO NOT INSTALL EXPOSED WIRING, OR CABLE NOT UL LISTED FOR THE PURPOSE WOOD SUPPORTS OR ANCHORAGES NONMETALLIC CONDUIT, BOXES OR FITTINGS OR VINYL, PLASTIC, NYLON, OR OTHER COMBUSTIBLE OR SMOKE PRODUCING IDENTIFICATION OR CONSTRUCTION MATERIALS IN THIS SPACE. ALL WIRING NOT INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
78. PRE-EXISTING CONDITIONS ARE EXEMPT PER NJAC 5:23-6.8(D)10. "EXISTING WORKING CLEARANCES, CLEAR SPACE, ACCESS AND ENTRANCE DIMENSIONS TO WORKING SPACES, ILLUMINATION, HEADROOM CLEARANCES, AND LOCATION OF OVERCURRENT PROTECTION DEVICES SHALL BE ALLOWED TO REMAIN WITHOUT MODIFICATION."
79. THE CAPACITY OF THE EXISTING FIRE ALARM SYSTEM IS NOT BEING DIMINISHED BELOW THAT WHICH EXISTS AT THE PRESENT TIME. NJAC 5:23-6.5(C) AND 5:23-6.6(C).
80. PROVIDE HEAVY GAUGE WELDED WIRE MESH PROTECTIVE GUARDS ON ALL FIRE ALARM DEVICES, CLOCKS, LOUDSPEAKERS, CALL INITIATING DEVICES, EXIT LIGHTS, EMERGENCY LIGHTING UNITS AND BATTERY PACKS IN CAFETERIAS, MULTIPURPOSE ROOMS, GYMNASIUMS, WEIGHT ROOMS, LOCKER ROOMS, BOILER ROOMS, MECHANICAL ROOMS, LOADING DOCKS, RECEIVING AREAS, PIPE SPACES, PIPE TUNNELS, STAGES, STORAGE ROOMS, SHOPS AND SHAFTS, ON THE BUILDING EXTERIOR, AND OTHER SPACES AND AREAS WHERE DEVICES ARE SUBJECT TO DAMAGE OR ACCIDENTAL OPERATION FROM SPORTS, PHYSICAL ACTIVITIES, GENERAL HOUSEKEEPING, MAINTENANCE, OR THE MOVEMENT OF SUPPLIES, MATERIALS, FURNITURE AND EQUIPMENT.
81. ALL NEW CONSTRUCTION AND RENOVATION WORK SHOWN ON THE DRAWINGS AND CONTAINED IN THE SPECIFICATIONS (UNLESS OTHERWISE NOTED AS "NOT IN CONTRACT" OR "N.I.C.") IS THE RESPONSIBILITY OF THE SINGLE PRIME GENERAL CONTRACTOR. REFERENCES TO SPECIFIC TRADE SUBCONTRACTORS (PLUMBING, MECHANICAL, ELECTRICAL, ETC.) ARE PROVIDED TO ASSIST THE SINGLE PRIME GENERAL CONTRACTOR IN THE DELINEATION OF SUBCONTRACTOR WORK. THE SINGLE PRIME GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DELINEATION OF ITS SUBCONTRACTORS' WORK AND THEREFORE SHALL NOT RELY ON SPECIFIC TRADE REFERENCES SHOWN ON THE CONTRACT DOCUMENTS.
82. THE EMERGENCY SYSTEM CONSISTS OF ALL FEEDERS AND BRANCH CIRCUITS INDICATED AS THE LIFE SAFETY BRANCHES. THE WIRING OF THE EMERGENCY SYSTEM SHALL BE RUN IN ELECTRICAL METALLIC TUBING IN ACCORDANCE WITH NEC 517-30(C)(3).
83. ELECTRICAL CONTRACTOR TO CAREFULLY REMOVE AND STORE EXISTING HUNG CEILING TILES INCLUDING THE LAY-IN ACOUSTIC CEILING TILES, SUPPORT GRID AND HANGERS AS REQUIRED TO FACILITATE INSTALLATION OF THE NEW WORK IN THE AFFECTED AREAS. PRIOR TO CEILING REMOVALS THE ELECTRICAL CONTRACTOR SHALL TEMPORARILY SUPPORT ALL EXISTING LIGHT FIXTURES, SENSORS OR OTHER EXISTING WIRED COMPONENTS AS MAY BE REQUIRED TO FACILITATE CEILING REMOVAL. AFTER WORK IS COMPLETED, CONTRACTOR SHALL RE-INSTALL THE EXISTING CEILING GRID AND EXISTING ACOUSTICAL TILES. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED GRID, TILE AND/OR FIXTURE THAT MIGHT OCCUR DURING DEMOLITION AND/OR RE-INSTALLATION OF THE EXISTING CEILING. NEW GRID/TILES AND FIXTURE TO MATCH EXISTING. PATCH AND REPAIR ALL SURFACES DAMAGED TO MATCH EXISTING ADJACENT FINISH.
84. CONTRACTOR SHALL PROVIDE FIELD MARKINGS ON ELECTRICAL SERVICE EQUIPMENT TO INCLUDE THE AVAILABLE SHORT CIRCUIT RATING FROM THE UTILITY PER NEC 110.24.
85. CONTRACTOR SHALL PROVIDE AND INSTALL A LOCAL LOCKABLE DISCONNECT SWITCH BY EACH PIECE OF MOTORIZED OR PACKAGED EQUIPMENT. DISCONNECT AMPACITY RATING SHALL AT LEAST MATCH THAT OF THE UPSTREAM CIRCUIT BREAKER PROTECTING THE EQUIPMENT. INDOOR DISCONNECTS SHALL BE NEMA 1 TYPE AND OUTDOOR DISCONNECTS SHALL BE BE NEMA 3R TYPE.
86. IN ALL AREAS WHERE WORK IS BEING PERFORMED UNDER THIS CONTRACT, CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING ALL EXISTING ELECTRICAL DEVICES AND WIRING/CONDUIT ABOVE THE EXISTING CEILINGS, PER NEC. ALL TELEDATA AND FIRE ALARM WIRING SHALL BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE WITH J-HOOKS AND NOT TIE-WRAPPED TO CONDUITS OR MECHANICAL PIPING.. ALL EXISTING POWER WIRING/CONDUIT AND JUNCTION BOXES SHALL BE INDEPENDENTLY SUPPORTED TO THE STRUCTURE AND NOT TO THE CEILING GUIDE WIRES, HVAC DUCTS, PIPING, ETC. PROVIDE ALL REQUIRED SUPPORTS AND ACCESSORIES AS REQUIRED PER NEC.
87. UPON AWARD OF CONTRACT AND SUBSEQUENT APPROVAL OF SHOP DRAWINGS BY ENGINEER OF RECORD, THE CONTRACTOR SHALL FILL OUT AND FILE AIR PERMIT APPLICATIONS IN A TIMELY MANNER FOR GENERATORS. THE CONTRACTOR SHALL PAY ALL FEES FOR THE PERMITS AND INSPECTIONS. PROVIDE THE OWNER AND ENGINEER EACH WITH A COPY OF FILLED OUT FORMS PRIOR TO MAILING. CONTRACTOR MUST SECURE PERMIT PRIOR TO PROJECT CLOSEOUT. SEND FORMS ALONG WITH NJDEP'S REQUIRED FEE TO: NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY BUREAU OF SOURCE REVIEW, CN-27, TRENTON, NEW JERSEY 08625-0027.
88. CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY CONFLICT DISCOVERED BEFORE PERFORMING ANY WORK RELATED TO SUCH CONFLICT.

DEMOLITION NOTES:

1. DEMOLITION SHALL INCLUDE THE REMOVAL OF ALL ASSOCIATED WIRING, CONDUIT, DISCONNECT SWITCHES, ETC UNLESS SPECIFICALLY NOTED OTHERWISE.
2. WHERE WIRING/CONDUIT SERVING AN EXISTING PIECE OF EQUIPMENT RUNS BELOW GRADE, CONTRACTOR SHALL REMOVE ALL WIRING BACK TO THE SOURCE AND CUT CONDUIT FLUSH WITH EXISTING FLOOR. PROVIDE A WATERPROOF SEAL AROUND ALL OPENINGS
3. THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING ELECTRICAL SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
4. DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
5. THE CONTRACTOR SHALL REMOVE ALL ELECTRICAL LIGHT FIXTURES COMPLETE WITH ASSOCIATED WIRING, CONDUITS, ETC. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING WIRING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL JUNCTION BOXES AND OTHER DEVICES AND PROVIDE BYPASS CONNECTIONS NECESSARY TO MAKE CIRCUITS AFFECTED CONTINUOUS AND READY FOR OPERATION. OTHERWISE, WIRING SHALL BE REMOVED BACK TO THE NEAREST ELECTRICAL JUNCTION BOX THAT IS TO REMAIN OR TO PANELBOARD.
6. ALL UNUSED OUTLET BOXES OR CAPPED FLOOR OUTLETS SHALL BE PROVIDED WITH MATCHING BLANK COVERS.
7. EXISTING PANEL DIRECTORIES AFFECTED BY THE WORK SHALL BE MODIFIED TO REFLECT THE BRANCH CIRCUIT WIRING CHANGES.
8. PORTIONS OF FEEDER RUNS TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ENERGIZED, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED. NEW FEEDER EXTENSIONS SHALL MATCH EXISTING ONES IN ALL RESPECTS, CABLE TYPE, CONDUCTOR AMPACITY, CONDUIT SIZES, ETC.
9. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER HANDLING, DISPOSAL, AND ASSOCIATED COSTS OF ALL MATERIAL REMOVED FROM FIXTURES, DURING THIS CONTRACT, IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES AND/OR REGULATIONS.
10. DISCONNECT AND REMOVE FROM THE PREMISES, OR STORE ON THE PREMISES IF REQUESTED BY THE OWNER, ALL EQUIPMENT AND LIGHT FIXTURES, AND SUPPORTING DEVICES REMOVED AS A RESULT OF THIS WORK.
11. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING CEILING SYSTEM INCLUDING BUT NOT LIMITED TO GRID, TILES, AND SUPPORT AND SHALL REPLACE IN KIND ANY DAMAGED CEILING COMPONENTS.

APPLICABLE CODES:

ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LATEST CODES AND SUBCODES AS ADOPTED BY THE STATE OF NEW JERSEY:

- NEW JERSEY UNIFORM CONSTRUCTION CODE (NJUCC)
- REHABILITATION SUBCODE 5:23-6
- ADMINISTRATIVE CODE: TITLE 6
- 2018 INTERNATIONAL BUILDING CODE - NJ EDITION
- 2017 NATIONAL ELECTRICAL CODE
- 2016 ASHRAE 90.1 ENERGY CONSERVATION CODE
- 2016 NFPA 13
- REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION

MOUNTING HEIGHTS

HEIGHT	DESCRIPTION
10'-0"	EMERGENCY BATTERY UNITS (OR 1'-0" BELOW CEILING)
90" TO 6" BELOW CLG	FIRE ALARM AUDIBLE ALARM SIGNALS
7'-6" TO 8'-0"	FIRE ALARM COMBINATION ALARM SIGNALS
7'-0" TO 8'-0"	FIRE ALARM VISUAL SIGNALS
6'-6"	TOP OF ELECTRICAL PANEL BOARDS (LIGHTING OR POWER)
6'-0"	TOP OF HIGHEST ELECTRICAL DISCONNECT SWITCH OR STARTER
4'-0"	TOP OF WALL MOUNTED DEVICES SUCH AS LIGHT SWITCHES, MANUAL MOTOR STARTERS, THERMOSTATS, TELEPHONE/INTERCOM HANDSETS, FIRE ALARM PULLSTATIONS, ETC.
4'-0"	TOP OF WALL MOUNTED WIREMOLD (U.N.O.)
2'-0"	BOTTOM OF RECEPTACLES IN MECHANICAL ROOMS AND EXTERIOR OF BUILDING.
1'-6"	BOTTOM OF RECEPTACLES, TELEPHONE/TELEDATA OUTLETS, TELEVISION JACKS, ETC
0'-0"	FINISHED FLOOR ELEVATION.

ABBREVIATIONS

A	AMPERE	GND, G	GROUND
AFF	ABOVE FINISHED FLOOR	IC	INTERRUPTING CAPACITY
AFG	ABOVE FINISHED GRADE	IG	ISOLATED GROUND
C	CONDUIT(S)	I/L	INTERLOCKED
CB	CIRCUIT BREAKER	MC	MECHANICAL CONTRACTOR
CH	COUNTER HEIGHT	MOD	MOTOR OPERATED DAMPER
CO	CONDUIT ONLY	NIC	NOT IN CONTRACT
CT	CURRENT TRANSFORMER	NL	NIGHT LIGHT
CU	COPPER	NTS	NOT TO SCALE
EC	ELECTRICAL CONTRACTOR	RL	RELOCATED
EG	EQUIPMENT GROUND	RGS	RIGID GALVANIZED STEEL
EM	EMERGENCY	SPD	SURGE PROTECTIVE DEVICE
EMT	ELECTRICAL METALLIC TUBING	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
ETR	EXISTING TO REMAIN	T/C	TIME CLOCK
EWC	ELECTRIC WATER COOLER	UON	UNLESS OTHERWISE NOTED
FA	FIRE ALARM	V	VOLTS
FBO	FURNISHED BY OTHERS	W	WALL MOUNTED
GFI	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF

SYMBOL LIST NOTES

1. SYMBOLS ARE INDICATED FOR GENERAL REFERENCE ONLY. THE PRESENCE OF A SYMBOL DOES NOT INDICATE ITS USE ON THIS PROJECT. REFER TO PLAN DRAWINGS FOR SPECIFIC SYMBOLS USED.
2. PROVIDE MOLDED INSERTS AT ALL PADDED WALL LOCATIONS (GYMNASIUMS, MULIT-PURPOSE ROOMS, ETC.). INSERTS SHALL BE AS MANUFACTURED BY PORTER ATHLETIC OR EQUAL, MODEL NO. 343 OR NO. 344 AS REQUIRED. COLOR AS SELECTED BY ARCHITECT.
3. ALL WIRING DEVICES SHALL BE LABELED WITH PANEL AND CIRCUIT NUMBER ON DEVICE PLATES.

LOW VOLTAGE DEVICE LEGEND

SYMBOLS	DESCRIPTION
	DATA COMMUNICATIONS OUTLET: 2-GANG JUNCTION BOX WITH TWO (2) RJ45 CONNECTORS AND TWO (2) PLENUM RATED CAT6 CABLES TO NEAREST MDF OR IDF ROOM. CONTRACTOR SHALL TERMINATE, TEST AND CERTIFY EACH END.
	COMBINATION VOICE/DATA COMMUNICATIONS OUTLET: 2-GANG JUNCTION BOX WITH TWO (2) RJ45 CONNECTORS AND TWO (2) PLENUM RATED CAT6 CABLES TO NEAREST MDF OR IDF ROOM. CONTRACTOR SHALL TERMINATE, TEST AND CERTIFY EACH END.
	INTERCOM SYSTEM CALL INIDATION DEVICE OR HANDSET. REFER TO RISER DIAGRAM.
TV	CATV JACK: 2-GANG JUNCTION BOX WITH 3/4" CONDUIT AND PULLSTRING UP TO ACCESSIBLE CEILING.
S S	CEILING MOUNTED PAGING SYSTEM SPEAKER MATCH EXISTING SYSTEM. REFER TO RISER DIAGRAM
C	WALL MOUNTED SYSTEM CLOCK TO MATCH EXISTING SYSTEM. REFER TO RISER DIAGRAM.
C S	WALL MOUNTED SYSTEM CLOCK / INTERCOM SPEAKER TO MATCH EXISTING SYSTEM. REFER TO RISER DIAGRAM.
	CCTV CAMERA: 1-GANG JUNCTION BOX AND 3/4" CONDUIT UP TO ACCESSIBLE CEILING SPACE FOR USE BY OWNER'S VENDOR.
CR	CARD READER: 1-GANG JUNCTION BOX AND 3/4" CONDUIT UP TO ACCESSIBLE CEILING SPACE FOR USE BY OWNER'S VENDOR..
DC	DOOR CONTACT: 1-GANG JUNCTION BOX AND 3/4" CONDUIT UP TO ACCESSIBLE CEILING SPACE FOR USE BY OWNER'S VENDOR.
	CEILING MOUNTED DATA COMMUNICATIONS OUTLET: 2-GANG JUNCTION BOX WITH TWO (2) RJ45 CONNECTORS AND TWO (2) PLENUM RATED CAT6 CABLES TO IDF ROOM. CONTRACTOR SHALL TERMINATE, TEST AND CERTIFY EACH END.
	WIRELESS ACCESS POINT - PLENUM RATED CAT6 CABLE TO NEAREST MDF OR IDF ROOM. CONTRACTOR SHALL TERMINATE, TEST AND CERTIFY EACH END.

FIRE ALARM DEVICE LEGEND

SYMBOLS	DESCRIPTION
F	FIRE ALARM SPEAKER / STROBE
F	FIRE ALARM STROBE
F	FIRE ALARM MANUAL PULL STATION
FACP	FIRE ALARM CONTROL PANEL
FANN	FIRE ALARM ANNUNCIATOR PANEL
SD	DUCT SMOKE DETECTOR
S S A	CEILING MOUNTED SMOKE DETECTOR. "A" INDICATES MOUNTED ABOVE CEILING.
R R A	CEILING MOUNTED RATE OF RISE HEAT DETECTOR, "A" INDICATES MOUNTED ABOVE CEILING.
H H A	CEILING MOUNTED HEAT DETECTOR, 135° UON. "A" INDICATES MOUNTED ABOVE CEILING.
H 195 H A 195	CEILING MOUNTED HEAT DETECTOR, 195° UON. "A" INDICATES MOUNTED ABOVE CEILING.
CO	CARBON MONOXIDE DETECTOR
SC	COMBINATION SMOKE/CARBON MONOXIDE DETECTOR
F	CEILING MOUNTED SPEAKER / STROBE
DH	DOOR HOLDER
TS	SPRINKLER SYSTEM TAMPER SWITCH
FS	SPRINKLER SYSTEM FLOW SWITCH
MM	ADDRESSABLE MONITOR MODULE
CM	ADDRESSABLE CONTROL MODULE
S_{KL}	REMOTE TEST KEY SWITCH AND INDICATING LIGHT FOR SMOKE DUCT DETECTOR.

POWER DEVICE LEGEND

SYMBOLS	DESCRIPTION
	SURFACE MOUNTED PANELBOARD, POWER AND LIGHTING
	RECESSED PANELBOARD, POWER AND LIGHTING
	HOMERUN TO PANELBOARD
J	JUNCTION BOX - WALL MOUNTED
J	JUNCTION BOX - CEILING MOUNTED
P	POWER FEED TO SYSTEM FURNITURE, WALL MOUNTED. PROVIDE FLEXIBLE WHIP CONNECTION TO THE FURNITURE AS REQUIRED.
M	MOTOR
X/Y/Z	DISCONNECT SWITCH. "X" INDICATES SWITCH SIZE, "Y" INDICATES NUMBER OF POLES, "Z" INDICATES FUSE SIZE (NF = NON-FUSED).
X/Y/Z	COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH. "X" INDICATES SWITCH SIZE, "Y" INDICATES NUMBER OF POLES, "Z" INDICATES FUSE SIZE (NF = NON-FUSED).
S_M	MOTOR RATED DISCONNECT SWITCH.
	PUSH BUTTON
E	EMERGENCY PUSH BUTTON. REFER TO DETAILS.

WIRING DEVICE LEGEND

SYMBOLS	DESCRIPTION
X X	NEMA 5-20R SIMPLEX RECEPTACLE. "X" INDICATES CIRCUIT NUMBER. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS.
X X	NEMA 5-20R DUPLEX RECEPTACLE. "X" INDICATES CIRCUIT NUMBER. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS.
X X	NEMA 5-20R DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER. "X" INDICATES CIRCUIT NUMBER. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS.
X X	NEMA 5-20R ISOLATED GROUND DUPLEX RECEPTACLE. "X" INDICATES CIRCUIT NUMBER. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS.
X X	NEMA 5-20R DUPLEX RECEPTACLE WITH TWO INTEGRAL USB CHARGING PORTS. "X" INDICATES CIRCUIT NUMBER. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS.
X	NEMA 5-20R DOUBLE DUPLEX RECEPTACLE. "X" INDICATES CIRCUIT NUMBER. COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS.
X	NEMA 5-20R DOUBLE DUPLEX RECEPTACLE PROTECTED BY A CIRCUIT BREAKER WITH GROUND FAULT INTERRUPTER. "X" INDICATES CIRCUIT NUMBER. COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS.
X X	SPECIAL RECEPTACLE. COORDINATE RECEPTACLE TYPE WITH THE PLUG ON THE EQUIPMENT UTILIZING THIS RECEPTACLE AND THE CIRCUIT BREAKER PROTECTING IT. "X" INDICATES CIRCUIT NUMBER. SYMBOL WITH LINE THRU IT DENOTES MOUNTED ABOVE 18". COORDINATE HEIGHT WITH ARCHITECTURAL DRAWINGS
F1	FLOOR BOX FITTING WITH ONE (1) DUPLEX RECEPTACLE AND LOW VOLTAGE OR TELE/DATA WIRING. PROVIDE TWO (2) RJ45 CONNECTORS AND TWO (2) PLENUM RATED CAT6 CABLES TO IDF ROOM. CONTRACTOR SHALL TERMINATE, TEST AND CERTIFY EACH END.WIREMOLD 880CS2-NA OR APPROVED EQUAL. PROVIDE CARPET OR TILE FLANGE AND MATCHING COVER PLATES. BRASS OR ALUMINUM FINISH AS SELECTED BY ARCHITECT.
F2	FLOOR BOX FITTING WITH TWO (2) DUPLEX RECEPTACLES AND LOW VOLTAGE OR TELE/DATA WIRING. PROVIDE TWO (2) RJ45 CONNECTORS AND TWO (2) PLENUM RATED CAT6 CABLES TO IDF ROOM. CONTRACTOR SHALL TERMINATE, TEST AND CERTIFY EACH END. WIREMOLD 880CS2-NA OR APPROVED EQUAL. PROVIDE CARPET OR TILE FLANGE AND MATCHING COVER PLATES. BRASS OR ALUMINUM FINISH AS SELECTED BY ARCHITECT.
F3	FLOOR BOX FITTING WITH ONE (1) NEMA 6-20R RECEPTACLE FOR EQUIPMENT. PROVIDE CORD AND PLUG SET IF REQUIRED. WIREMOLD 880CS1-NA OR APPROVED EQUAL. PROVIDE CARPET OR TILE FLANGE AND MATCHING COVER PLATE. BRASS OR ALUMINUM FINISH AS SELECTED BY ARCHITECT.
X	CEILING MOUNTED OR ABOVE ACOUSTICALE TILE CEILING MOUNTED DUPLEX RECEPTACLE OR REEL CORD. REFER TO PLANS FOR TYPE OF DEVICE AT SPECIFIC LOCATIONS.
S^x	SINGLE POLE LIGHT SWITCH 20A, 120/277V. "X" INDICATES FIXTURE CONTROLLED.
S^x_3	THREE WAY LIGHT SWITCH 20A, 120/277V . "X" INDICATES FIXTURE CONTROLLED.
S^x_4	FOUR WAY LIGHT SWITCH 20A, 120/277V . "X" INDICATES FIXTURE CONTROLLED.
S^x_K	KEYED LIGHT SWITCH 20A, 120/277V . "X" INDICATES FIXTURE CONTROLLED.
X	LIGHTING FIXTURE TYPE: SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
PC	PHOTO CELL.

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Project Owner Name: West Windsor-Plainsboro Regional School District

Project Location: 90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number: 5063K1

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Drawing Name: ELECTRICAL SYMBOLS, NOTES & ABBREVIATIONS

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LIGHT FIXTURE SCHEDULE - CONTINUED

TYPE	SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	LAMPS	BALLAST TYPE	BALLAST QTY	VOLTS	TOTAL WATTAGE	MOUNTING
A		2X4 RECESSED LED FIXTURE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER, WHITE HOUSING AND nLIGHT AIR CONTROLS.	LITHONIA	2VTL4-48L-ADPT-MVOLT-EZ1-LP835-NLIGHTAIR2-RES7PDT	INCLUDED	LD	1	UNV	38.4	RECESSED
AE		2X4 RECESSED LED FIXTURE WITH ACRYLIC LINEAR PRISMATIC DIFFUSER, WHITE HOUSING AND nLIGHT AIR CONTROLS FOR USE WITH EM GENERATOR.	LITHONIA	2VTL4-48L-ADPT-MVOLT-EZ1-LP835-NLIGHTAIR2-RES7PDT-EM. SEE NOTE 2.	INCLUDED	LD	1	UNV	38.4	RECESSED
B		2X4 RECESSED LED FIXTURE WITH ACRYLIC LENS, WHITE HOUSING AND nLIGHT AIR CONTROLS.	LITHONIA	2GTL-F4-48L-FW-A12125-MVOLT-EZ1-35K- NLIGHTAIR2-RES7PDT.	INCLUDED	LD	1	UNV	35.8	RECESSED
BE		2X4 RECESSED LED FIXTURE WITH ACRYLIC LENS, WHITE HOUSING AND nLIGHT AIR CONTROLS FOR USE WITH EM GENERATOR.	LITHONIA	2GTL-F4-48L-FW-A12125-MVOLT-EZ1-35K- NLIGHTAIR2-RES7PDT. SEE NOTE 2.	INCLUDED	LD	1	UNV	35.8	RECESSED
C		6" SQUARE RECESSED LED CANOPY LIGHTING FIXTURE WITH REMOTE DRIVER MOUNTED ABOVE NEAREST ACOUSTICAL TILE CEILING, WHITE TRIM AND WET LOCATION LABEL.	LITHONIA	LDN8SQ-35 60-LS8-AR-LSS-MVOLT-EZ1-SF-NLTAIR2SEE. NOTE 5.	INCLUDED	LD	1	UNV	35.1	RECESSED
X		EDGELIT LED EXIT SIGN WITH RED LETTERS AND BRUSHED NICKEL TRIM, CEILING OR WALL MOUNTED, WITH OR WITHOUT DIRECTIONAL ARROWS AS SHOWN ON PLANS, AND SELF-DIAGNOSTICS.	LITHONIA	EDG-1/2-R/RMR-EL-SD	INCLUDED	L	1	UNV	4.5	CEILING OR WALL

NOTES:

1. VERIFY ALL CEILING TYPES AND OPERATING VOLTAGE PRIOR TO ORDERING FIXTURES
2. WHERE FIXTURES ARE DESIGNATED WITH THE LETTERS "EM" OR SHADED, REFER TO NORMAL-EMERGENCY LIGHTING RELAY WIRING DIAGRAM FOR GENERATOR CONNECTED EMERGENCY LIGHTING AND PROVIDE ALL REQUIRED EQUIPMENT AND RELAYS.
3. MOUNT PENDANT FIXTURES 8'-6" AFF UNLESS OTHERWISE DIRECTED BY THE ARCHITECT. CONFIRM THE HEIGHT OF ALL SUSPENDED FIXTURES WITH THE ARCHITECT PRIOR TO INSTALLATION.
4. ALL LAMPS SHALL HAVE A COLOR TEMPERATURE OF 3500 DEG. KELVIN AND A CRI OF 85 UNLESS SPECIFICALLY NOTED OTHERWISE.
5. LIGHTING FIXTURES SPECIFIED IN THE ABOVE SCHEDULE ARE "BASIS OF DESIGN". EQUIVALENT MANUFACTURER'S SHALL BE "AS ACCEPTED BY THE ENGINEER".

DRIVER TYPES

L LED DRIVER
LD LED DIMMING DRIVER
LCW LED COLD WEATHER DRIVER

EMERGENCY FIXTURES

FIXTURES DESIGNATED WITH A "1/2 SHADE" OR "FULL SHADE" AND SHALL BE EMERGENCY FIXTURES POWERED VIA THE EMERGENCY GENERATOR BY DESIGNATED LIFE SAFETY PANELS. SEE NOTE 2.

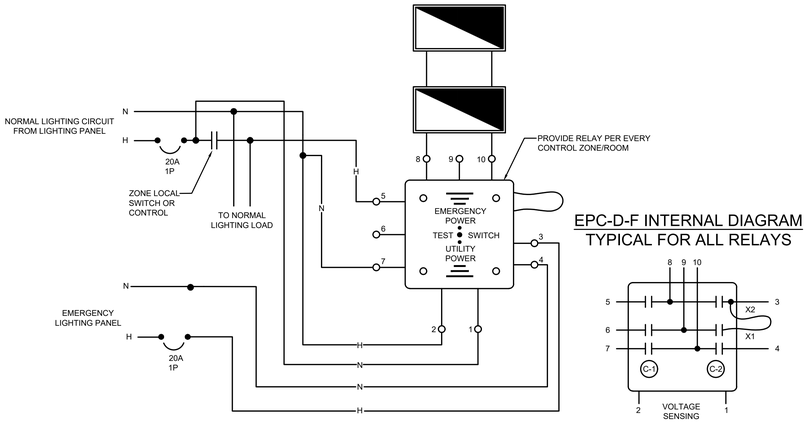
ALL EXIT SIGNS SHALL HAVE AN EMERGENCY BATTERY PACK, UNLESS SPECIFICALLY NOTED OTHERWISE.

LIGHTING CONTROL SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING	NOTES
S_{SW1}	PRESET WALL CONTROLLER WITH RAISE LOWER DIMMING WITHOUT WIRES.	N-LIGHT AIR	RPODBA DX XX G2	WALL	GENERATION 2
S_{SW2}	PRESET WALL CONTROLLER WITH RAISE LOWER DIMMING WITHOUT WIRES.	N-LIGHT AIR	RPODBA DX XX G2	WALL	LOCAL CONTROL ONLY. SENSORS SHALL BE DISABLED. NO AUTOMATIC LIGHTING CONTROLS. WIRELESS COMMUNICATIONS ONLY.

GENERAL NOTES:

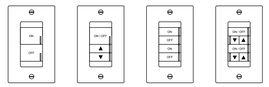
1. REFER TO ELECTRICAL SPECIFICATIONS AND ADDITIONAL REQUIREMENTS WHICH MAY NOT NECESSARILY BE REFLECTED IN CATALOG NUMBER AND/OR DESCRIPTION IN THE SCHEDULE.
2. SYMBOLS ARE INDICATED FOR GENERAL REFERENCE ONLY. THE PRESENCE OF A SYMBOL DOES NOT INDICATE ITS USE ON THIS PROJECT. REFER TO PLAN DRAWINGS FOR SPECIFIC SYMBOLS USED.
3. CONTRACTOR SHALL PROVIDE THE APPROPRIATE NUMBER OF ROOM CONTROLLERS FOR THE PROJECT. COORDINATE WITH THE MANUFACTURER FOR THE CORRECT QUANTITY.
4. CONTRACTOR SHALL PROVIDE 4"X4" JUNCTION BOX AS REQUIRED. SEE LIGHTING CONTROL DETAILS.
5. WALL SWITCH COLORS SHALL BE AS SELECTED BY THE ARCHITECT.
6. LIGHTING CONTROLS SPECIFIED IN THE ABOVE SCHEDULE ARE "BASIS OF DESIGN". EQUIVALENT MANUFACTURER'S SHALL BE "AS ACCEPTED BY THE ENGINEER".

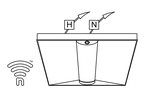


EPC-D-F INTERNAL DIAGRAM
TYPICAL FOR ALL RELAYS

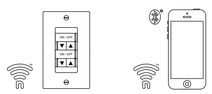
TYPICAL NORMAL AND EMERGENCY LIGHT FIXTURE WIRING DIAGRAM

NOT TO SCALE





nLight AIR Enabled Fixture



NLIGHT AIR WIRELESS BATTERY POWERED WALL SWITCH PAIRED WITH ACUITY BRANDS LED LIGHTING FIXTURES EMBEDDED WITH SMART WIRELESS SENSOR.

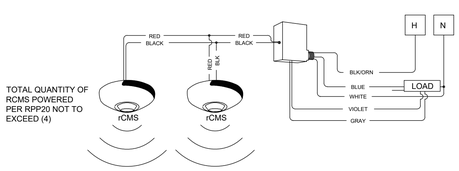
SYSTEM NOTES:

1. LED FIXTURE EMBEDDED WITH NLIGHT AIR SMART SENSOR SHALL BE SUPPLIED WITH AN ELDOLED DRIVER, ONLY.
2. INSTALL LED FIXTURE AS PER NEC REQUIREMENTS.
3. INSTALL BATTERY POWERED WIRELESS WALL SWITCH INTO A SINGLE GANG BACKBOX AND SCREW DOWN WALL PLATE.
4. WITH THE CLAIRITY APP BY ACUITY BRANDS, PAIR THE WALL SWITCH(ES) TO THE LED LIGHT FIXTURE(S) VIA BLUETOOTH TECHNOLOGY. PROGRAM SENSOR AND SWITCH SETTINGS ACCORDING TO ROOM FUNCTION, AS SPECIFIED. CLAIRITY APP IS FOR PROGRAMMING PURPOSES ONLY.
5. LIGHTING CONTROL COMMUNICATES OVER STANDARDS-BASED 900MHZ TECHNOLOGY VIA THE ASSOCIATED SWITCHES AND SENSORS.

TYPICAL CLASSROOM OR PRIVATE OFFICE - WIRELESS CONTROL SCHEMATIC

NOT TO SCALE

CONFIRM ALL WIRING INSTALLATION DETAILS WITH THE SYSTEM VENDOR PRIOR TO ROUGH-IN.
TYPICAL OF EVERY CONTROLLED CIRCUIT.

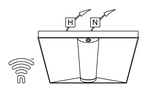


RPP20 (DS) 24V MULTIPLE SENSOR CONTROL SCHEMATIC

NOT TO SCALE

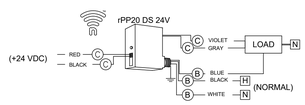
CONFIRM ALL WIRING INSTALLATION DETAILS WITH THE SYSTEM VENDOR PRIOR TO ROUGH-IN.
TYPICAL OF EVERY CONTROLLED CIRCUIT.

nLIGHT AIR Wireless Controls Diagram

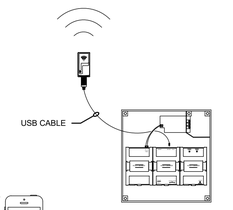


NLIGHT AIR ENABLED FIXTURE

NLIGHT AIR ENABLED DOWNLIGHT



NLIGHT AIR WIRELESS RPP20 DS 24V DIMMING RELAY



NECY WITH NLIGHT AIR ADAPTER

NLIGHT AIR SWITCH

MOBILE DEVICE

TYPICAL NETWORKED - WIRELESS CONTROL SCHEMATIC

NOT TO SCALE

CONFIRM ALL WIRING INSTALLATION DETAILS WITH THE SYSTEM VENDOR PRIOR TO ROUGH-IN.
TYPICAL OF EVERY CONTROLLED CIRCUIT.

WIRE LEGEND	
A	CAT 5-E (CLASS 2)
B	LINE VOLTAGE
C	0-10 VDC
D	LOW VOLTAGE (1A @ 40 VDC/VAC)
E	15-24 VDC POWER
F	ETHERNET LAN (CLASS 2)

LIGHTING CONTROL SCHEDULE:

INTERIOR LIGHTING:
ON DURING SCHOOL HOURS/ OFF AFTER SCHOOL HOURS.
OVERRIDE SWITCH AND OCCUPANCY SENSORS TO TURN LIGHTS ON AFTER HOURS.

EXTERIOR LIGHTING:
PHOTO SENSOR ON/ TIMECLOCK OFF

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Date 04/06/21

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
AHG

Drawn By
AMP

Scale
AS SHOWN

Drawing Name
ELECTRICAL LIGHTING FIXTURE SCHEDULES & DETAILS

Revisions

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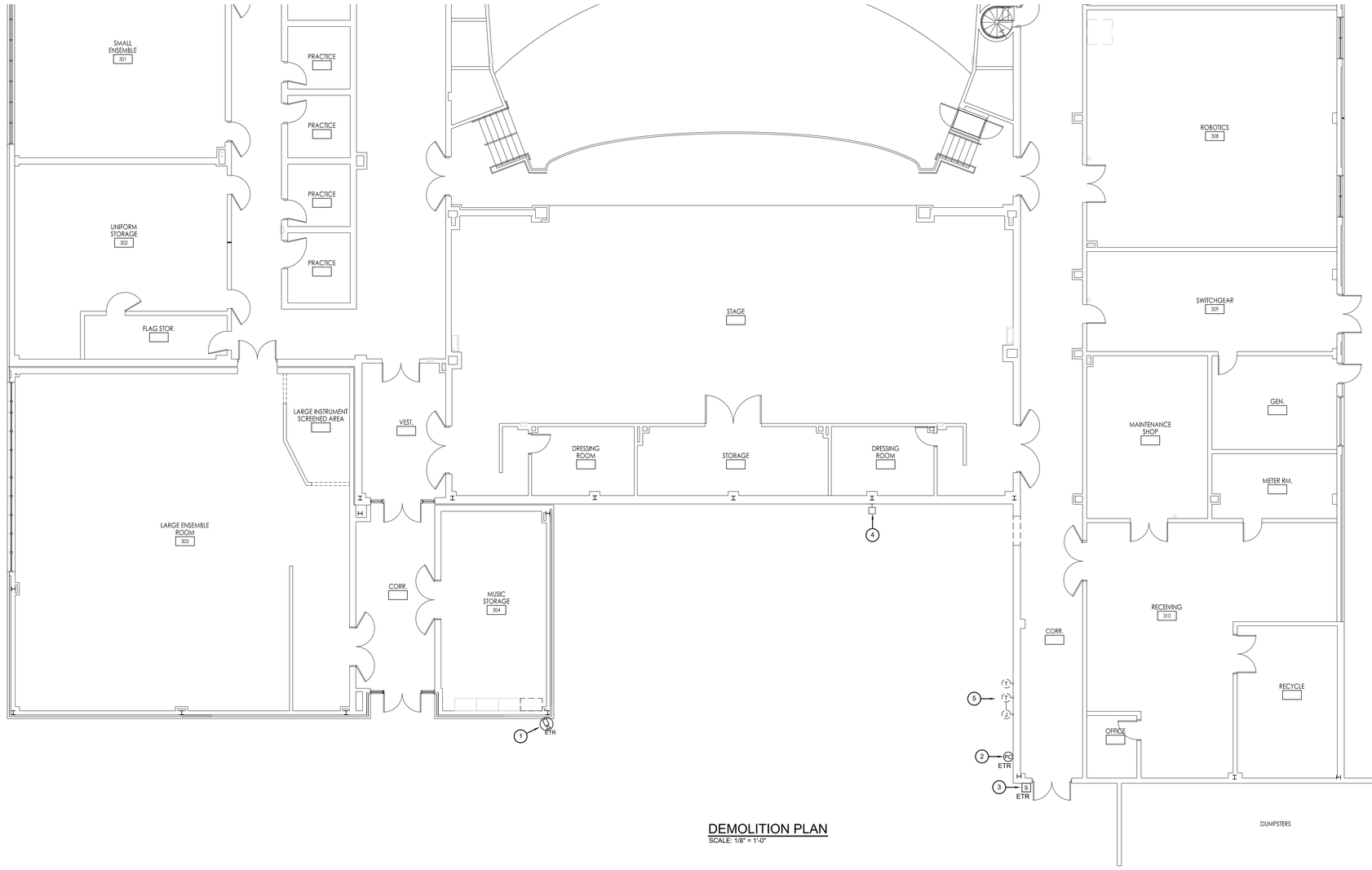


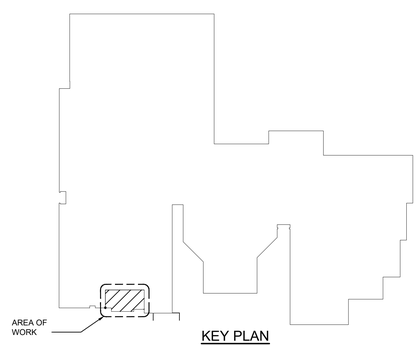
DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. ALL EXISTING WIRING DEVICES AND LIGHTING FIXTURES SHALL BE EXISTING TO REMAIN UNLESS SHOWN OR INDICATED TO BE RELOCATED ON THE DEMOLITION PLANS. REFER TO ARCHITECTURAL DEMOLITION PLANS FOR FULL EXTENI OF DEMOLITION AREAS.
2. REFER TO LOW VOLTAGE AND FIRE ALARM PLAN FOR NEW LOCATIONS OF RELOCATED SECURITY, COMMUNICATIONS, AND FIRE ALARM DEVICES, ETC. CONTRACTOR SHALL COORDINATE REMOVAL AND RELOCATED WITH THE EXISTING SYSTEM VENDORS PRIOR TO COMMENCING WORK.
3. MAINTAIN CONTINUITY OF ALL BRANCH CIRCUITS TO EXISTING WIRING DEVICES AND LIGHTING TO REMAIN.
4. DISCONNECT AND REMOVE ALL WIRING DEVICES, ETC. BACK TO SOURCE IN WALLS INDICATED FOR DEMOLITION.

DEMOLITION KEY NOTES

1. EXISTING EXTERIOR SECURITY CAMERA TO REMAIN. RELOCATE AS REQUIRED DUE TO CONFLICTS WITH NEW CONSTRUCTION.
2. EXISTING EXTERIOR LIGHTING PHOTOCELL TO REMAIN. RELOCATE AS REQUIRED DUE TO CONFLICTS WITH NEW CONSTRUCTION.
3. EXISTING EXTERIOR SPEAKER TO REMAIN. RELOCATE AS REQUIRED DUE TO CONFLICTS WITH NEW CONSTRUCTION.
4. EXISTING EXTERIOR WALL PACK TO BE DISCONNECTED AND REMOVED BACK TO LAST FIXTURE TO REMAIN. MAINTAIN CONTINUITY OF LIGHTING FIXTURES AND CONTROLS TO REMAIN.
5. EXISTING HVAC SENSORS TO BE REMOVED AND RELOCATED TO ACCOMMODATE NEW ADDITION. REFER TO MECHANICAL PLANS.



KEY PLAN
NOT TO SCALE

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Drawn By: AMP
Scale: AS SHOWN

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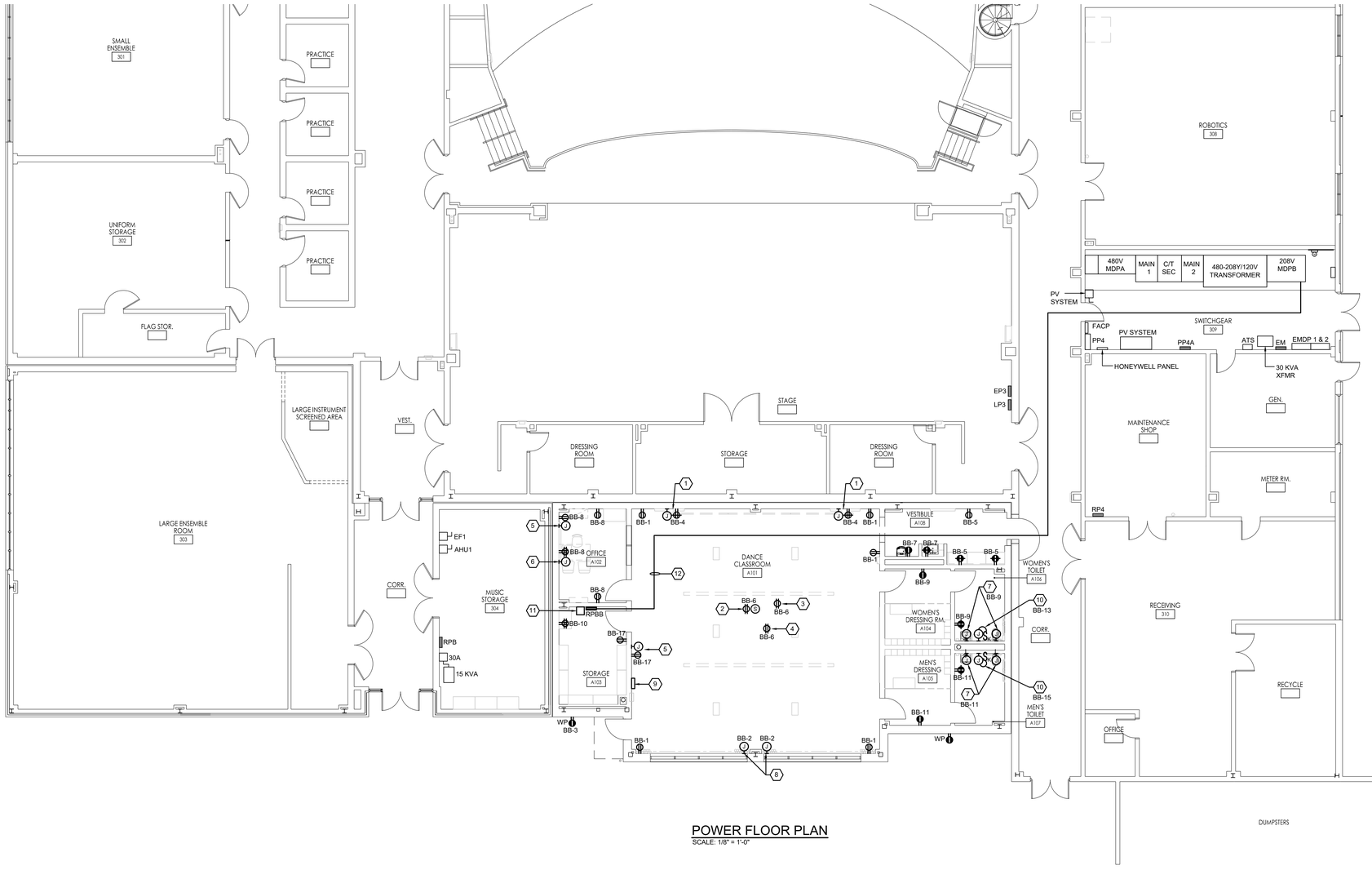
E2.0

O:\3K 5500 3547 - W. Windsor - Plainsboro Regional School District 3547.024 - We-s-t Hs North Addition And Reno CADD DWG phase 1 - New Addition 3547.024A - E2.0.dwg



POWER FLOOR PLAN

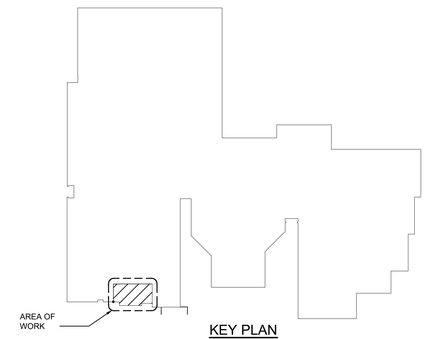
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. MAINTAIN CONTINUITY OF ALL EXISTING BRANCH CIRCUITS AND FEEDERS TO REMAIN. COORDINATE ALL ELECTRICAL SHUT-DOWNS WITH THE OWNER AND GENERAL CONTRACTOR AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL COORDINATE ALL WIRING DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH THE ARCHITECT PRIOR TO ROUGH-IN.
3. REFER TO SYMBOL LIST ON DRAWING E1.0 AND DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.
4. CONTRACTOR SHALL PROVIDE ALL POWER WIRING AND INTERLOCKS REQUIRED FOR THEATRICAL AND AV EQUIPMENT (DANCE CLASSROOM A101). REFER TO TS SERIES DRAWINGS FOR ADDITIONAL INFORMATION.

KEY NOTES

1. TV MONITOR: ONE (1) DUPLEX RECEPTACLE, ONE (1) EMPTY 2-GANG BOX WITH COVER, AND 1" EMPTY CONDUIT TO ABOVE CEILING WITH BUSHING. CONFIRM MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS. SEE TYPICAL CLASSROOM A/V DETAIL ON DRAWING E10.0, NOTES 4 AND 5 FOR ADDITIONAL INFORMATION.
2. CEILING MOUNTED TEACHING SPEAKER LOCATION. REFER TO DETAIL ON DRAWING E10.0 FOR SPEAKER ASSEMBLY AND RECEPTACLE MOUNTING SPECIFICATIONS.
3. CEILING MOUNTED DUPLEX RECEPTACLE AND EMPTY JUNCTION BOX FOR CEILING MOUNTED PROJECTOR. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
4. DUPLEX RECEPTACLE ABOVE CEILING FOR WI-FI ROUTER. ROUTER FURNISHED BY OWNER.
5. JUNCTION BOX AND CONDUIT WITH DRAG LINE TO ABOVE SUSPENDED CEILING FOR "TEACHING SPEAKER" CONTROL WIRING. MOUNT AT 44" AFF. SEE TYPICAL CLASSROOM A/V DETAIL ON DRAWING E10.0, NOTE 2 FOR ADDITIONAL INFORMATION.
6. QUAD RECEPTACLE AND 2-GANG JUNCTION BOX MOUNTED AT 18" AFF FOR COMPUTER AND TV CONTROLS. REFER TO TYPICAL AV DETAIL ON DRAWING E10.0, NOTES 1 AND 3 FOR ADDITIONAL INFORMATION.
7. JUNCTION BOX AND POWER WIRING FOR AUTOMATIC FLUSH VALVE AND SINK SENSORS. REFER TO DETAIL FOR ADDITIONAL INFORMATION (TYPICAL).
8. JUNCTION BOX LOCATED IN WINDOW JAMB WITH PLENUM RATED FIVE (5) CONDUCTOR CABLE, LIBERTY CABLE 9020127 (OR EQUAL) FROM WINDOW SHADE TO MECHONET POWER STATION IN STORAGE ROOM. COORDINATE WITH SHADE SYSTEM SHOP DRAWINGS AND VENDOR.
9. MOTORIZED SHADE MECHONET POWER STATION. PROVIDE ALL 120V POWER WIRING AND ALL LOW VOLTAGE POWER WIRING TO MAKE A COMPLETE AND OPERATIONAL SYSTEM. REFER TO ARCHITECTURAL PLANS FOR SPECIFICATIONS.
10. JUNCTION BOX AND KEY SWITCH FOR ELECTRIC HAND DRYER. REFER TO DETAIL FOR ADDITIONAL INFORMATION (TYPICAL).
11. ALTERNATE BID: THEATRICAL RELAY PANEL. REFER TO PANEL RPBB SCHEDULE FOR POWER REQUIREMENTS. REFER TO TS DRAWINGS FOR SPECIFICATIONS.
12. ROUTE NEW CONDUIT AND FEEDERS TIGHT TO STRUCTURAL CEILING AND ABOVE SUSPENDED CORRIDOR CEILING INTO SWITCHGEAR ROOM. PROVIDE ALL REQUIRED PULLBOXES SIZED AND LOCATED PER NEC ALONG LENGTH OF RUN. REFER TO PROJECT GENERAL NOTES FOR ADDITIONAL INFORMATION.



KEY PLAN
NOT TO SCALE

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Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number	5063K1
Project Date	04.06.2021
Checked By	AHG
Drawn By	AMP
Scale	AS SHOWN

Drawing Name
ELECTRICAL FIRST FLOOR POWER PLAN

Revisions

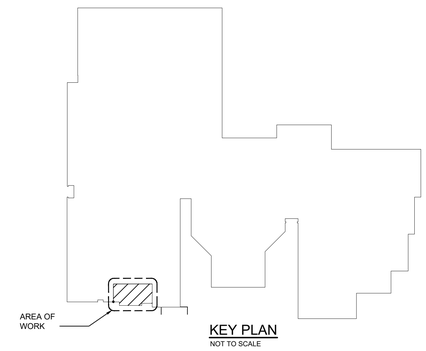
No.	Date	Description
	04.06.21	Issued for Bid

Drawing Number
E3.0

HVAC POWER PLAN
SCALE: 1/8" = 1'-0"

KEY NOTES

1. MECHANICAL EQUIPMENT TAG. REFER TO MECHANICAL EQUIPMENT COORDINATION SCHEDULE FOR ALL DISCONNECT SWITCH SIZES AND NUMBER OF POLES REQUIRED. REFER TO PANEL SCHEDULES FOR BRANCH CIRCUIT INFORMATION (TYPICAL).
2. ATC PANEL.
3. DUCT SMOKE DETECTOR. REFER TO FIRE ALARM RISER DIAGRAM FOR ADDITIONAL INFORMATION (TYPICAL).



KEY PLAN
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Drawn By	AMP
Scale	AS SHOWN

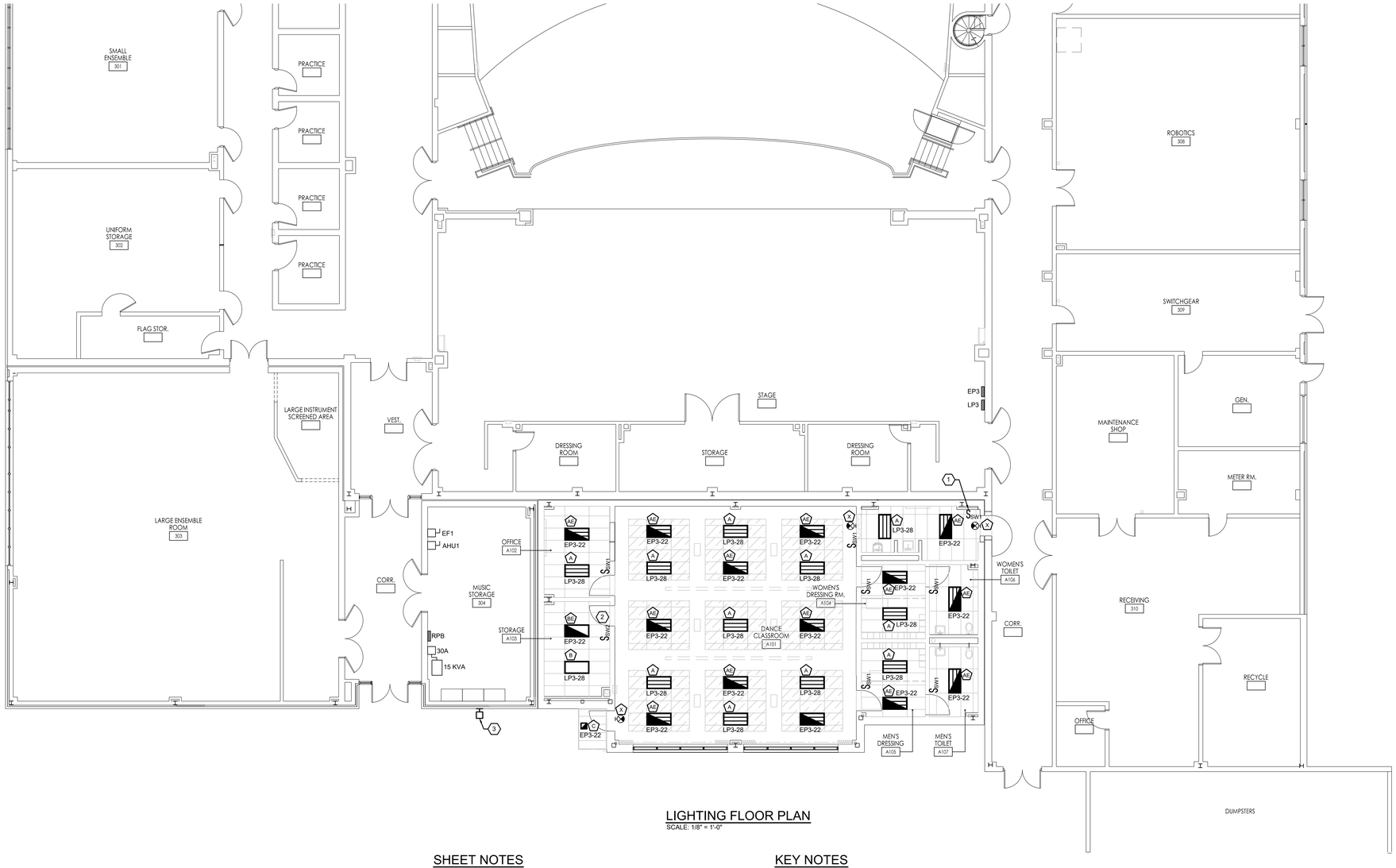
Drawing Name
ELECTRICAL FIRST FLOOR HVAC POWER PLAN

Revisions

No.	Date	Description
	04.06.21	Issued for Bid

Drawing Number
E4.0

O:\K 5500 3547 - W. Windsor - Plainsboro Regional School District 3547.024 - West Hs North Addition And Reno CADD DWG\phase 1 - New Addition 3547.024A - E4.0.dwg



LIGHTING FLOOR PLAN

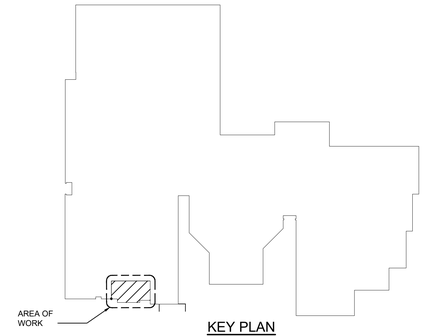
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. MAINTAIN CONTINUITY OF ALL EXISTING BRANCH CIRCUITS AND LIGHTING FIXTURES IN EXISTING BUILDING TO REMAIN. COORDINATE ALL ELECTRICAL SHUT-DOWNS WITH THE OWNER AND GENERAL CONTRACTOR AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL COORDINATE ALL WIRING DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH THE ARCHITECT PRIOR TO ROUGH-IN.
3. CIRCUIT ALL UNIT EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS TO THE LINE SIDE OF THE CIRCUIT SERVING THE AREA LOCATED, AHEAD OF ALL SWITCHING AND LIGHTING CONTROLS.
4. PATCH AND PAINT ALL DISTURBED SURFACES TO MATCH EXISTING ADJACENT FINISH.
5. ELECTRIC ROOMS, MECHANICAL ROOMS, AND ALL ROOMS WITH PANELBOARDS SHALL BE PROVIDED WITH MANUAL LIGHTING CONTROL. NO OCCUPANCY/VACANCY SENSORS.
6. REFER TO LIGHTING CONTROL SCHEDULE AND DETAILS FOR ADDITIONAL INFORMATION.
7. UNLESS SHOWN OR OTHERWISE INDICATED ON THIS PLAN, ALL LIGHTING IN OTHER ROOMS OR AREAS SHALL BE EXISTING TO REMAIN.

KEY NOTES

1. nLIGHTAIR DIGITAL DIMMING SWITCH. REFER TO SCHEDULE ON DRAWING E1.1 (TYPICAL).
2. LIGHTING THIS ROOM SHALL HAVE LOCAL CONTROL ONLY. SENSORS SHALL BE DISABLED, NO AUTOMATIC LIGHTING CONTROLS. WIRELESS COMMUNICATIONS ONLY.
3. NEW EXTERIOR WALL PACK. REFER TO CIVIL ENGINEERING PLANS FOR SPECIFICATION. CIRCUIT TO EXISTING EXTERIOR LIGHTING CIRCUIT AND CONTROLS SERVING THIS AREA. EXTEND WIRING AS REQUIRED TO MAKE A COMPLETE AND OPERATIONAL INSTALLATION.



KEY PLAN

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Date 04/06/21

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Project Number
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Project Date
04.06.2021

Checked By
AHG

Drawn By
AMP

Scale
AS SHOWN

Drawing Name
ELECTRICAL FIRST FLOOR LIGHITNG PLAN

Revisions

No.	Date	Description
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Drawing Number
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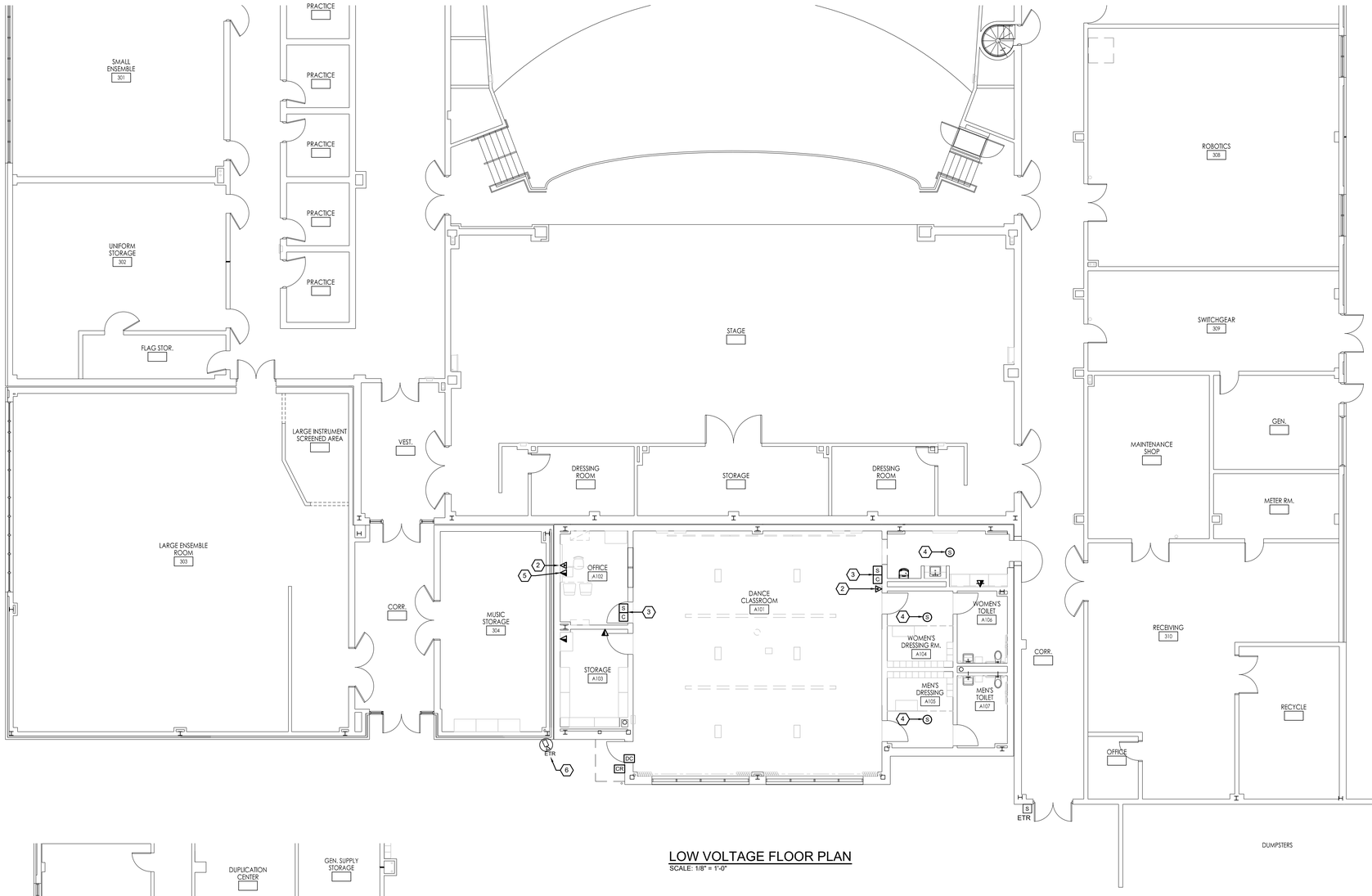
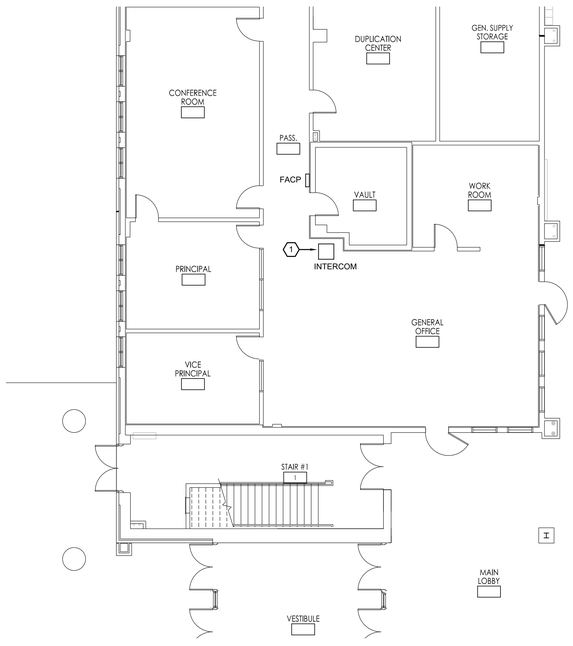
O:\3K 3500 3547 - W. Windsor - Plainsboro Regional School District 3547.024 - Ww-p Hs North Addition And Reno CADD DWG phase 1 - New Addition 3547.024A - E5.0.dwg



LOW VOLTAGE FLOOR PLAN

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



MAIN OFFICE AREA PART PLAN

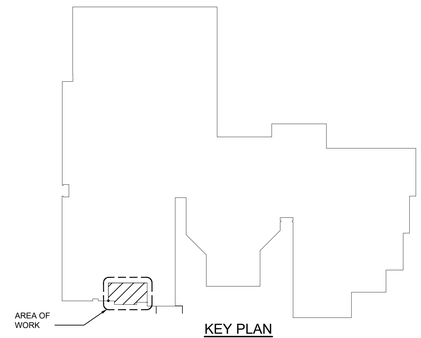
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. COORDINATE ALL INTERCOM, CLOCK AND CLOCK/SPEAKER SYSTEM REQUIREMENTS WITH THE EXISTING SYSTEM VENDOR. CONTACT OPEN SYSTEMS, 211 YARDVILLE-HAMILTON SQUARE ROAD, HAMILTON, NEW JERSEY - (732) 792-2112. PROVIDE ALL REQUIRED MODIFICATIONS AND EXPANSION MODULES AS REQUIRED TO ACCOMMODATE THE WORK OF THIS PROJECT.
2. CONTRACTOR SHALL COORDINATE ALL WIRING DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH THE ARCHITECT PRIOR TO ROUGH-IN.
3. CONTRACTOR SHALL PROVIDE ALL POWER WIRING AND INTERLOCKS REQUIRED FOR THEATRICAL AND AV EQUIPMENT (DANCE CLASSROOM A101). REFER TO TS SERIES DRAWINGS FOR ADDITIONAL INFORMATION.
4. REFER TO SYMBOL LIST ON DRAWING E1.0 AND DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.

KEY NOTES

1. EXISTING BOGEN PAGING SYSTEM AND SAPLING MASTER CLOCK SYSTEM HEAD END EQUIPMENT LOCATION IN MAIN OFFICE. COORDINATE ALL SYSTEM DEVICE RELOCATIONS AND REQUIRED NEW DEVICES WITH THE EXISTING SYSTEM VENDOR.
2. PROVIDE NEW PAGING SYSTEM HANDSET AT 48" AFF TO MATCH EXISTING PAGING SYSTEM. PROVIDE WIRING, CONDUIT AND TELE/DATA OUTLET AS REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION.
3. PROVIDE NEW WALL MOUNTED CLOCK/SPEAKER ASSEMBLY TO MATCH EXISTING SYSTEM. PROVIDE ALL WIRING AND CONDUIT AS REQUIRED TO MAKE A COMPLETE AND OPERATIONAL INSTALLATION. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. (TYPICAL).
4. PROVIDE NEW CEILING MOUNTED PAGING SPEAKER TO MATCH EXISTING SYSTEM. PROVIDE ALL WIRING AND CONDUIT AS REQUIRED TO MAKE A COMPLETE AND OPERATIONAL INSTALLATION (TYPICAL).
5. NEW TELE/DATA OUTLET LOCATION (TYPICAL).
6. EXISTING SECURITY SYSTEM CAMERA TO REMAIN. CONTRACTOR SHALL RE-POSITION THE AIM OF THE CAMERA AS NEEDED DUE TO NEW ADDITION. COORDINATE WITH THE SECURITY SYSTEM VENDOR.



KEY PLAN

NOT TO SCALE

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Project Name
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Project Owner Name
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Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number	5063K1
Project Date	04.06.2021
Checked By	AHG
Drawn By	AMP
Scale	AS SHOWN

Drawing Name
ELECTRICAL FIRST FLOOR LOW VOLTAGE PLAN

Revisions

No.	Date	Description
	04.06.21	Issued for Bid

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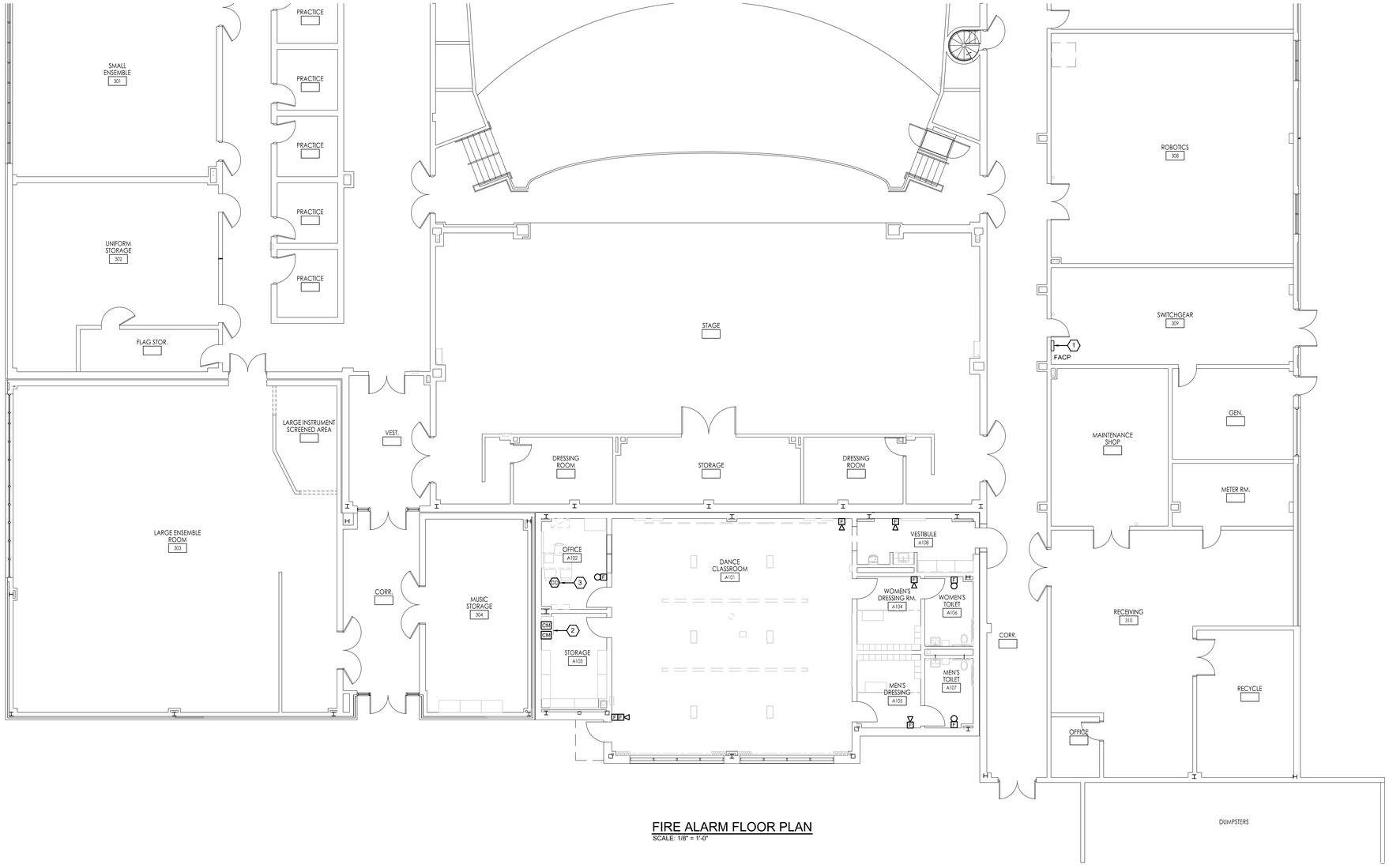
Drawing Number
E6.0



FIRE ALARM FLOOR PLAN

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

SHEET NOTES

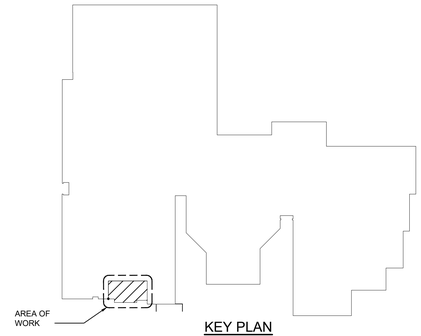
1. COORDINATE ALL FIRE ALARM SYSTEM REQUIREMENTS WITH THE EXISTING SYSTEM VENDOR. CONTACT OPEN SYSTEMS, 211 YARDVILLE-HAMILTON SQUARE ROAD, HAMILTON, NEW JERSEY - (732) 792-2112. PROVIDE ALL REQUIRED MODIFICATIONS AND EXPANSION MODULES AS REQUIRED TO ACCOMMODATE THE WORK OF THIS PROJECT.
2. UNLESS NOTED OTHERWISE, ALL FIRE ALARM DEVICES SHOWN THIS PLAN SHALL BE NEW. REFER TO FIRE ALARM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
3. CONTRACTOR SHALL COORDINATE ALL WIRING DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH THE ARCHITECT PRIOR TO ROUGH-IN.
4. MAINTAIN CONTINUITY OF ALL EXISTING FIRE ALARM DEVICES AND CIRCUITS TO REMAIN.
5. IN ADDITION TO ROOMS WITH FUEL FIRED APPLIANCES, CARBON MONOXIDE DETECTORS SHALL BE MOUNTED ADJACENT TO THE FIRST DIFFUSER FROM EACH ROOF TOP UNIT IN ACCORDANCE WITH LATEST CODE. TYPICAL FOR ALL GAS FIRED HVAC EQUIPMENT. FIELD COORDINATE EXACT LOCATIONS WITH THE MECHANICAL CONTRACTOR.

KEY NOTES

(1) EXISTING FIRE ALARM CONTROL PANEL LOCATION.

(2) CONTROL MODULE LOCATIONS FOR AUDIO / VISUAL SYSTEM INTERFACE COORDINATE WITH TS SERIES DRAWINGS AND SYSTEM INTEGRATOR.

(3) IN ADDITION TO ROOMS WITH FUEL FIRED APPLIANCES, CARBON MONOXIDE DETECTORS SHALL BE MOUNTED ADJACENT TO THE FIRST DIFFUSER FROM EACH ROOF TOP UNIT IN ACCORDANCE WITH LATEST CODE. TYPICAL FOR ALL GAS FIRED HVAC EQUIPMENT. FIELD COORDINATE EXACT LOCATIONS WITH THE MECHANICAL CONTRACTOR. TYPICAL FOR ALL.



KEY PLAN

NOT TO SCALE

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Project Name
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Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number: 5063K1
Project Date: 04.06.2021
Checked By: AHG
Drawn By: AMP
Scale: AS SHOWN

Drawing Name
ELECTRICAL FIRST FLOOR FIRE ALARM PLAN

Revisions

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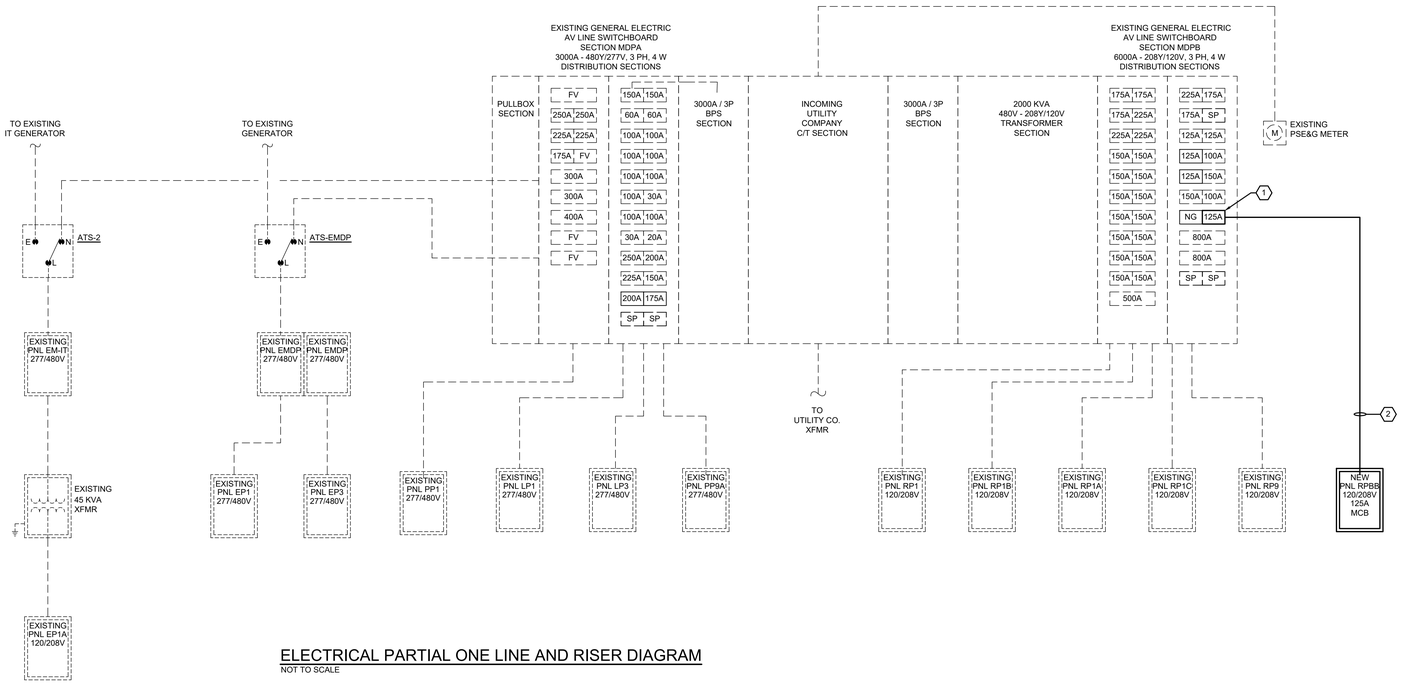
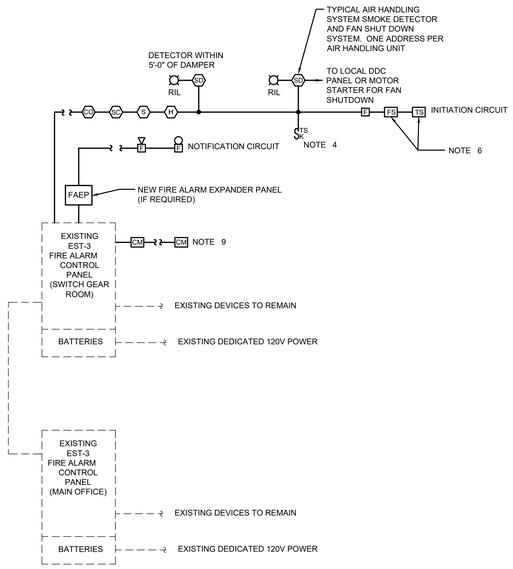
Drawing Number
E7.0

O:\3K-3500 3547 - W. Windsor - Plainsboro Regional School District 3547.024 - We-p-Hs North Addition And Reno CADD DWG phase 1 - New Addition 3547.024A - E7.0.dwg



ELECTRICAL PARTIAL ONE LINE AND RISER DIAGRAM

NOT TO SCALE



FIRE ALARM RISER DIAGRAM

NOT TO SCALE

FIRE ALARM RISER NOTES

1. REFER TO FLOOR PLANS FOR QUANTITIES OF DEVICES.
2. IN GENERAL, ALL REQUIRED FIRE ALARM SYSTEM WIRING IS NOT SHOWN ON THE PLAN DRAWINGS. INSTALLATION AND ROUTING OF THESE CIRCUITS AND WIRING SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH EXISTING FIELD CONDITIONS, FIRE ALARM DIAGRAMS, SPECIFICATIONS AND CODES.
3. PROVIDE NEW PULL STATIONS, AUDIBLE/VISUAL SIGNALS, STROBES AND DETECTORS AS SHOWN TO MATCH THE EXISTING FIRE ALARM SYSTEM MANUFACTURER. ALL NEW DEVICES SHALL BE UL LISTED FOR USE WITH THE EXISTING FIRE ALARM CONTROL PANEL. COORDINATE WITH EXISTING FIRE ALARM SYSTEM VENDOR OR MAINTENANCE COMPANY.
4. PROVIDE DUCT SMOKE DETECTOR WITH KEY OPERATED REMOTE TEST SWITCH AND INDICATOR LIGHT. FIELD VERIFY EXACT LOCATIONS.
5. ALL FIRE ALARM SYSTEM WIRING SHALL CONSIST OF PLENUM RATED FIRE PROTECTIVE CABLE, MINIMUM SIZE AS RECOMMENDED BY ALARM SYSTEM MANUFACTURER.
6. WATERFLOW AND TAMPER SWITCHES. COORDINATE EXACT QUANTITY AND LOCATIONS WITH THE FIRE PROTECTION CONTRACTOR.
7. COORDINATE ALL FIRE ALARM SYSTEM REQUIREMENTS WITH THE EXISTING SYSTEM VENDOR. CONTACT OPEN SYSTEMS, 211 YARDVILLE-HAMILTON SQUARE ROAD, HAMILTON, NEW JERSEY - (732) 792-2112. PROVIDE ALL REQUIRED MODIFICATIONS AND EXPANSION MODULES AS REQUIRED TO ACCOMMODATE THE WORK OF THIS PROJECT.
8. THE EXPANDED/MODIFIED FIRE ALARM SYSTEM SHALL PASS A 100% RE-ACCEPTANCE TEST BY THE LOCAL FIRE MARSHAL.
9. CONTROL MODULES FOR AUDIO / VISUAL SYSTEM INTERFACE. COORDINATE WITH THE SYSTEM INTEGRATOR.

LINETYPE LEGEND

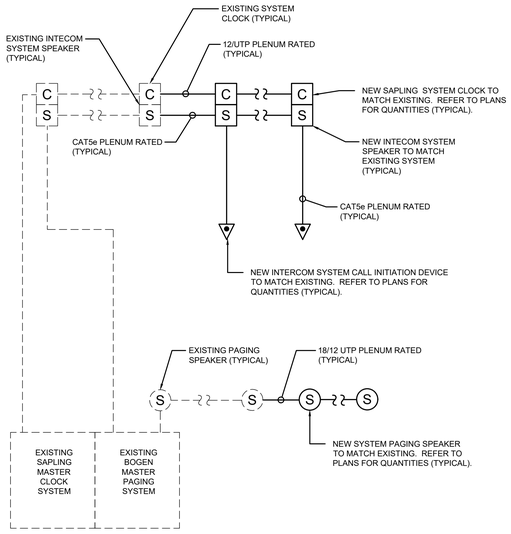
- - - - - - -	EXISTING
———	NEW

ONE LINE DIAGRAM KEY NOTES

1. PROVIDE NEW 125A CIRCUIT BREAKER TO MATCH EXISTING SWITCHBOARD MANUFACTURER AND SHORT CIRCUIT RATING IN EXISTING SPACE.
2. 4 1 & 1 6 EG IN 1 1/2" EMT CONDUIT.

SHEET NOTES

1. THE CONTRACTOR SHALL COORDINATE ANY REQUIRED ELECTRIC SERVICE OR AREA POWER SHUTDOWNS WITH THE OWNER AT LEAST SEVEN (7) DAYS PRIOR TO THE SHUTDOWN. ALL SHUTDOWN WORK SHALL BE PERFORMED ON WEEKENDS.
2. UNLESS NOTED OTHERWISE OR SHOWN AS NEW, ALL PANELS, CIRCUIT BREAKERS, WIRING AND CONDUIT SHALL BE EXISTING TO REMAIN.
3. UNLESS OTHERWISE NOTED, REFER TO FLOOR PLANS FOR LOCATIONS OF PANELS.



INTERCOM SYSTEM RISER DIAGRAM

NOT TO SCALE

INTERCOM SYSTEM RISER NOTES

1. REFER TO FLOOR PLANS FOR QUANTITIES OF DEVICES.
2. IN GENERAL, ALL REQUIRED CLOCK / SPEAKER SYSTEM WIRING IS NOT SHOWN ON THE PLAN DRAWINGS. INSTALLATION AND ROUTING OF THESE CIRCUITS AND WIRING SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH EXISTING FIELD CONDITIONS AND CODES.
3. ALL CLOCK / SPEAKER SYSTEM WIRING SHALL CONSIST OF PLENUM RATED CABLE, MINIMUM SIZE AS RECOMMENDED BY SYSTEM MANUFACTURER.
4. COORDINATE ALL INTERCOM, CLOCK AND CLOCK/SPEAKER SYSTEM REQUIREMENTS WITH THE EXISTING SYSTEM VENDOR. CONTACT OPEN SYSTEMS, 211 YARDVILLE-HAMILTON SQUARE ROAD, HAMILTON, NEW JERSEY - (732) 792-2112. PROVIDE ALL REQUIRED MODIFICATIONS AND EXPANSION MODULES AS REQUIRED TO ACCOMMODATE THE WORK OF THIS PROJECT.

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Date 04/06/21

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Drawn By
AMP

Scale
AS SHOWN

Drawing Name
ELECTRICAL ONE LINE & RISER DIAGRAMS

Revisions

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	04.06.21	Issued for Bid

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Drawing Number
E8.0

MECHANICAL EQUIPMENT COORDINATION SCHEDULE

IDENTIFICATION		ELECTRICAL CHARACTERISTICS (1)							LOCAL POWER DISCONNECT (3) (4)					
PLAN ID	DESCRIPTION	VOLTAGE & Ø	MOTOR HP	UNIT KW	FLA	MCA	MOCP	WIRING	AMPS	POLES	FUSE AMPS	NEMA TYPE	SERVICE RECEPTACLE	REMARKS
RTU-1	ROOFTOP UNIT	208V/3Ø			-	42.7	50	SEE PANEL SCHEDULES	60A	3	50A	NEMA 3R	YES	(5) (6)
FCU-A103	HEAT PUMP (INDOOR UNIT)	208V/1Ø			50 WATTS	63 WATTS	15	SEE PANEL SCHEDULES	(8)					
HP-A103	HEAT PUMP (OUTDOOR UNIT)	208V/1Ø				9.0	15	SEE PANEL SCHEDULES	30A	2	15A	NEMA 3R	NO	
RCP-A	RADIANT CEILING PANEL	120V/1Ø		375 WATTS	3.1	3.9	15	SEE PANEL SCHEDULES	30A	1	15A	NEMA 1	NO	SEE PLANS FOR QUANTITIES
EF-1	EXHAUST FAN	120V/1Ø	1/4		5.8	7.3	15	SEE PANEL SCHEDULES	30A	1	15A	NEMA 3R	NO	
VAV-X	TYPICAL VAV BOX	120V/1Ø						SEE PANEL SCHEDULES	(7)					SEE PLANS FOR QUANTITIES
CU-FCU	CONDENSATE PUMP	120V/1Ø	1/8		3.8	4.8	15	SEE PANEL SCHEDULES	30A	1	15A	NEMA 1	NO	HARDWIRED CONNECTION

EQUIPMENT SCHEDULE KEY NOTES

(1) DATA FROM SPECIFIED MANUFACTURER. REFER TO MECHANICAL DRAWINGS. CONFIRM EXACT REQUIREMENTS WITH SHOP DRAWINGS PRIOR TO ROUGH-IN.

(2) QUANTITY AND SIZE OF POWER CONDUCTORS BASED ON DATA FROM SPECIFIED MANUFACTURER. PROVIDE GROUND WIRE IN ACCORDANCE WITH THE PROJECT GENERAL NOTES THIS SHEET.

(3) WHERE A FUSE SIZE IS NOT ENTERED IN COLUMN TITLED "FUSE AMPS", THE DISCONNECT MAY BE UNFUSED.

(4) EQUIPMENT FURNISHED AND INSTALLED UNDER OTHER SPECIFICATION DIVISIONS, WIRED AND CONNECTED UNDER DIVISION 26, UNLESS NOTED OTHERWISE. DISCONNECT SWITCHES FURNISHED UNDER DIVISION 23.

(5) PROVIDE PHASE LOSS PROTECTION IN EACH STARTER.

(6) PROVIDE DUCT SMOKE DETECTORS.

(7) REFER TO MECHANICAL SCHEDULES AND FLOOR PLANS FOR VAV BOX NUMBERS AND LOCATIONS. ELECTRICAL CONTRACTOR SHALL PROVIDE 120V POWER TO CONTROL TRANSFORMER FURNISHED WITH THE UNIT.

(8) INDOOR UNIT FED VIA OUTDOOR CONDENSING UNIT. PROVIDE ALL WIRING AS REQUIRED TO MAKE A COMPLETE AND OPERATIONAL INSTALLATION.

EQUIPMENT SCHEDULE GENERAL NOTES

1. REFER TO MECHANICAL AND PLUMBING PLANS FOR EXACT LOCATIONS OF EQUIPMENT.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL 120V CONTROL POWER WIRING FEEDERS AND CIRCUIT BREAKERS REQUIRED FOR THE INSTALLATION OF MECHANICAL EQUIPMENT. STARTERS AND POWER DISCONNECT SWITCHES SHALL BE BY THE MECHANICAL CONTRACTOR. REFER TO MECHANICAL SPECIFICATION SECTIONS AND COORDINATE WITH THE MECHANICAL CONTRACTOR FOR EXTENT OF WORK REQUIRED.
3. DUCT SMOKE DETECTORS SHALL BE PROVIDED AT ALL UNITS OVER 2000 CFM AND MOUNTED ON THE SUPPLY AND RETURN DUCT. DETECTORS SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR, INSTALLED BY THE MECHANICAL CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR. COORDINATE EXACT QUANTITY AND LOCATIONS WITH THE MECHANICAL CONTRACTOR AND MECHANICAL DRAWINGS.

COPPER BRANCH CIRCUIT WIRE SIZING TABLES 480V - 3% VOLTAGE DROP

C/B TRIP		480V, 3P, 3W 277/480V, 3P, 4W			480V, 2P, 2W 277/480V, 2P, 3W				277V, 1P, 2W					
15	DISTANCE IN FEET	408	630	990	353	545	857	1333	204	315	495	769	1154	1443
	MINIMUM WIRE SIZE	12	10	8	12	10	8	6	12	10	8	6	4	3
20	DISTANCE IN FEET	306	472	742	265	409	643	1000	153	236	371	577	866	1082
	MINIMUM WIRE SIZE	12	10	8	12	10	8	6	12	10	8	6	4	3
30	DISTANCE IN FEET	315	495	770	273	429	667	1000	157	247	385	577	721	866
	MINIMUM WIRE SIZE	10	8	6	10	8	6	4	10	8	6	4	3	2
40	DISTANCE IN FEET	371	577	866	321	500	750	938	185	289	433	541	649	812
	MINIMUM WIRE SIZE	8	6	4	8	6	4	3	8	6	4	3	2	1
50	DISTANCE IN FEET	297	462	693	257	400	600	750	148	231	346	433	519	649
	MINIMUM WIRE SIZE	8	6	4	8	6	4	3	8	6	4	3	2	1
60	DISTANCE IN FEET	385	577	722	333	500	625	750	192	289	361	433	541	
	MINIMUM WIRE SIZE	6	4	3	6	4	3	2	6	4	3	2	1	
70	DISTANCE IN FEET	495	619	742	429	536	643	804	247	309	371	464		
	MINIMUM WIRE SIZE	4	3	2	4	3	2	1	4	3	2	1		
80	DISTANCE IN FEET	433	541	650	375	469	563	703	216	271	325	406		
	MINIMUM WIRE SIZE	4	3	2	4	3	2	1	4	3	2	1		
90	DISTANCE IN FEET	481	577	722	417	500	625		240	289	361			
	MINIMUM WIRE SIZE	3	2	1	3	2	1		3	2	1			
100	DISTANCE IN FEET	433	450	650	375	450	563		216	260	325			
	MINIMUM WIRE SIZE	3	2	1	3	2	1		3	2	1			

NOTES:

1. READ ACROSS TO THE RIGHT FROM C/B TRIP TO DESIRED VOLTAGE CHARACTERISTICS AND NEXT GREATER DISTANCE THAN CIRCUIT IN QUESTION.
2. READ DOWN TO MINIMUM WIRE SIZE.
3. DISTANCES ARE TO THE CENTER OF CONCENTRATED LOAD SUCH AS CLASSROOM LIGHTING OR THE MIDPOINT OF DISTRIBUTED LOAD SUCH AS CORRIDOR LIGHTING.
4. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INCREASED IN SIZE PROPORTIONATELY PER N.E.C.

COPPER BRANCH CIRCUIT WIRE SIZING TABLES 208V - 3% VOLTAGE DROP

C/B TRIP		208V, 3P, 3W 120/208V, 3P, 4W			208V, 2P, 2W 120/208V, 2P, 3W				120V, 1P, 2W					
15	DISTANCE IN FEET	177	273	429	153	236	371	578	88	136	214	333	500	625
	MINIMUM WIRE SIZE	12	10	8	12	10	8	6	12	10	8	6	4	3
20	DISTANCE IN FEET	132	205	322	115	177	279	433	66	102	161	250	375	469
	MINIMUM WIRE SIZE	12	10	8	12	10	8	6	12	10	8	6	4	3
30	DISTANCE IN FEET	136	214	334	118	186	289	433	68	107	167	250	313	375
	MINIMUM WIRE SIZE	10	8	6	10	8	6	4	10	8	6	4	3	2
40	DISTANCE IN FEET	161	250	375	139	217	325	406	80	125	188	234	281	352
	MINIMUM WIRE SIZE	8	6	4	8	6	4	3	8	6	4	3	2	1
50	DISTANCE IN FEET	129	200	300	111	173	260	325	64	100	150	188	225	281
	MINIMUM WIRE SIZE	8	6	4	8	6	4	3	8	6	4	3	2	1
60	DISTANCE IN FEET	167	250	313	144	217	271	325	83	125	156	188	234	
	MINIMUM WIRE SIZE	6	4	3	6	4	3	2	6	4	3	2	1	
70	DISTANCE IN FEET	214	268	322	186	232	279	348	107	134	161	201		
	MINIMUM WIRE SIZE	4	3	2	4	3	2	1	4	3	2	1		
80	DISTANCE IN FEET	188	235	281	163	203	244	305	94	117	141	176		
	MINIMUM WIRE SIZE	4	3	2	4	3	2	1	4	3	2	1		
90	DISTANCE IN FEET	208	250	313	181	217	271		104	125	156			
	MINIMUM WIRE SIZE	3	2	1	3	2	1		3	2	1			
100	DISTANCE IN FEET	188	225	281	163	195	244		94	113	141			
	MINIMUM WIRE SIZE	3	2	1	3	2	1		3	2	1			

NOTES:

1. READ ACROSS TO THE RIGHT FROM C/B TRIP TO DESIRED VOLTAGE CHARACTERISTICS AND NEXT GREATER DISTANCE THAN CIRCUIT IN QUESTION.
2. READ DOWN TO MINIMUM WIRE SIZE.
3. DISTANCES ARE TO THE CENTER OF CONCENTRATED LOAD SUCH AS CLASSROOM LIGHTING OR THE MIDPOINT OF DISTRIBUTED LOAD SUCH AS CORRIDOR LIGHTING.
4. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INCREASED IN SIZE PROPORTIONATELY PER N.E.C.

JOB NAME: WWP HS NORTH
RATING: 480/277V, 3 PH, 4W, 100A

EXISTING PANEL LP3
(EXISTING)

JOB: NO.: 3547.024
LOCATION: BACK STAGE

CKT NO.	CIRCUIT DESCRIPTION	POLE	LOAD KVA	BKR	BRANCH CIRCUIT	A	B	C	BRANCH CIRCUIT	BKR	LOAD KVA	POLE	CIRCUIT DESCRIPTION	CKT NO.
1	EXISTING LOAD	1		20	EXISTING	0.0			EXISTING	20		1	EXISTING LOAD	2
3	EXISTING LOAD	1		20	EXISTING		0.0		EXISTING	20		1	EXISTING LOAD	4
5	EXISTING LOAD	1		20	EXISTING			0.0	EXISTING	20		1	EXISTING LOAD	6
7	EXISTING LOAD	1		20	EXISTING	0.0			EXISTING	20		1	EXISTING LOAD	8
9	EXISTING LOAD	1		20	EXISTING		0.0		EXISTING	20		1	EXISTING LOAD	10
11	EXISTING LOAD	1		20	EXISTING			0.0	EXISTING	20		1	EXISTING LOAD	12
13	EXISTING LOAD	1		20	EXISTING	0.0			EXISTING	20		1	EXISTING LOAD	14
15	EXISTING LOAD	1		20	EXISTING		0.0		EXISTING	20		1	EXISTING LOAD	16
17	EXISTING LOAD	1		20	EXISTING			0.0	EXISTING	20		1	EXISTING LOAD	18
19	SPARE	1		20		0.0			EXISTING	20		1	EXISTING LOAD	20
21	SPARE	1		20			0.0							22
23	SPARE	1		20				0.0	EXISTING	20		3	EXISTING EF-1	24
25						0.0								26
27	EXISTING AHU-1	3		20	EXISTING		1.1		**2#12 & 1#12EG IN 3/4"C**	**20**	**1.1**	**1**	**NEW DANCE AREA LIGHTING**	28
29								0.0		20		1	SPARE	30
PANEL TYPE: NEMA 1					TOTAL (PHASE):	0.0	1.1	0.0						

MOUNTING: SURFACE
MAIN LUGS ONLY
INTERRUPTING RATING: EXISTING KA SYM.
FED FROM: EXISTING MDPA

NOTES
1. EXISTING PANELBOARD. FIELD VERIFY EXACT CIRCUIT ARRANGEMENT.
2. ALL NEW CIRCUIT BREAKERS SHALL MATCH THE EXISTING PANEL MANUFACTURER AND SHORT CIRCUIT RATING.
3. CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PRIOR TO PURCHASING ANY EQUIPMENT.
4. ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE.

JOB NAME: WWP HS NORTH
RATING: 208/120V, 3 PH, 4W, 225A

NEW PANEL RPBB
(NEW)

JOB: NO.: 3547.024
LOCATION: DANCE STORAGE A103

CKT NO.	CIRCUIT DESCRIPTION	POLE	LOAD KVA	BKR	BRANCH CIRCUIT	A	B	C	BRANCH CIRCUIT	BKR	LOAD KVA	POLE	CIRCUIT DESCRIPTION	CKT NO.
1	RECEPTACLES	1	0.9	20	2#12 & 1#12EG IN 3/4"C	1.9			2#12 & 1#12EG IN 3/4"C	20	1.0	1	MOTORIZED SHADES	2
3	EXTERIOR RECEPTACLES	1	0.4	20	2#12 & 1#12EG IN 3/4"C		1.1		2#12 & 1#12EG IN 3/4"C	20	0.7	1	TV RECEPTACLES	4
5	RECEPTACLES	1	0.5	20	2#12 & 1#12EG IN 3/4"C			1.1	2#12 & 1#12EG IN 3/4"C	20	0.5	1	CEILING RECEPTACLES	6
7	EWC & RECEPTACLES	1	0.8	20	2#12 & 1#12EG IN 3/4"C	1.7			2#12 & 1#12EG IN 3/4"C	20	0.9	1	OFFICE RECEPTACLES	8
9	SENSORS & RECEPTACLES	1	0.5	20	2#12 & 1#12EG IN 3/4"C		0.7		2#12 & 1#12EG IN 3/4"C	20	0.3	1	AV RECEPTACLE	10
11	SENSORS & RECEPTACLES	1	0.5	20	2#12 & 1#12EG IN 3/4"C			1.4	2#12 & 1#12EG IN 3/4"C	20	0.9	1	EF-1 & RTU RECEPTACLE	12
13	ELEC HAND DRYERS	1	1.2	20	2#12 & 1#12EG IN 3/4"C	1.3			2#12 & 1#12EG IN 3/4"C	20	0.1	1	VAV BOXES & MODS	14
15	ELEC HAND DRYERS	1	1.2	20	2#12 & 1#12EG IN 3/4"C		5.3				4.1			16
17	RECEPTACLES	1	0.4	20	2#12 & 1#12EG IN 3/4"C			4.5	4#6 & 1#10EG IN 1"C	50	4.1	3	RTU-1 (HACR RATED)	18
19	CEILING HEATERS RCP-A	1	0.8	20	2#12 & 1#12EG IN 3/4"C	4.9					4.1			20
21	CEILING HEATERS RCP-A	1	0.8	20	2#12 & 1#12EG IN 3/4"C		1.7		3#12 & 1#12EG IN 3/4"C	15	0.9	2	FCU-A103 & HP-A103	22
23	THEATRE RELAY PANEL CKT	1	1.2	20	2#12 & 1#12EG IN 3/4"C			2.1			0.9			24
25	THEATRE RELAY PANEL CKT	1	1.2	20	2#12 & 1#12EG IN 3/4"C	1.4			2#12 & 1#12EG IN 3/4"C	20	0.2	1	ATC PANEL & CP-FCU	26
27	THEATRE RELAY PANEL CKT	1	1.2	20	2#12 & 1#12EG IN 3/4"C		1.2			20		1	SPARE	28
29	THEATRE RELAY PANEL CKT	1	1.2	20	2#12 & 1#12EG IN 3/4"C			1.2		20		1	SPARE	30
31	THEATRE RELAY PANEL CKT	1	0.5	20	2#12 & 1#12EG IN 3/4"C	0.5				20		1	SPARE	32
33	THEATRE RELAY PANEL CKT	1	0.5	20	2#12 & 1#12EG IN 3/4"C		0.5			20		1	SPARE	34
35	THEATRE RELAY PANEL CKT	1	0.5	20	2#12 & 1#12EG IN 3/4"C			0.5		20		1	SPARE	36
37	THEATRE RELAY PANEL CKT	1	0.5	20	2#12 & 1#12EG IN 3/4"C	0.5				20		1	SPARE	38
39	SPARE	1		20			0.0			20		1	SPARE	40
41	SPARE	1		20				0.0		20		1	SPARE	42
PANEL TYPE: NEMA 1					TOTAL (PHASE):	12.1	10.5	10.7						

MOUNTING: SURFACE
MAIN CIRCUIT BREAKER: 125A
INTERRUPTING RATING: 65KA SYM.
FED FROM: EXISTING MDPB

TOTAL CONNECTED LOAD:	33.3	KVA
	92.5	AMPS

NOTES
1. ALL BUSING TO BE COPPER WITH BOLT ON BREAKERS ONLY.
2. PROVIDE INTEGRAL TVSS DEVICE.
3. CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PRIOR TO PURCHASING ANY EQUIPMENT.
4. ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE.
5. SHORT CIRCUIT RATING: PANEL SHALL BE FULLY RATED TO INTERRUPT SYMMETRICAL SHORT CIRCUIT CURRENT AVAILABLE AT TERMINALS.

JOB NAME: WWP HS NORTH
RATING: 208/120V, 3 PH, 4W, 100A

EXISTING PANEL EP3
(EXISTING)

JOB: NO.: 3547.024
LOCATION: BACK STAGE

CKT NO.	CIRCUIT DESCRIPTION	POLE	LOAD KVA	BKR	BRANCH CIRCUIT	A	B	C	BRANCH CIRCUIT	BKR	LOAD KVA	POLE	CIRCUIT DESCRIPTION	CKT NO.
1	EXISTING LOAD	1		20	EXISTING	0.0			EXISTING	20		1	EXISTING LOAD	2
3	EXISTING LOAD	1		20	EXISTING		0.0		EXISTING	20		1	EXISTING LOAD	4
5	EXISTING LOAD	1		20	EXISTING			0.0	EXISTING	20		1	EXISTING LOAD	6
7	EXISTING LOAD	1		20	EXISTING	0.0			EXISTING	20		1	EXISTING LOAD	8
9	EXISTING LOAD	1		20	EXISTING		0.0		EXISTING	20		1	EXISTING LOAD	10
11	EXISTING LOAD	1		20	EXISTING			0.0	EXISTING	20		1	EXISTING LOAD	12
13	SPARE	1		20		0.0			EXISTING	20		1	EXISTING LOAD	14
15	SPARE	1		20			0.0		EXISTING	20		1	EXISTING LOAD	16
17	SPARE	1		20				0.0	EXISTING	20		1	EXISTING LOAD	18
19	SPARE	1		20		0.0			EXISTING	20		1	EXISTING LOAD	20
21	SPARE	1		20			0.6		**2#12 & 1#12EG IN 3/4"C**	**20**	**0.6**	**1**	**NEW DANCE AREA EM LTG**	22
23	SPARE	1		20				0.0		20		1	SPARE	24
25	SPARE	1		20		0.0				20		1	SPARE	26
27	SPARE	1		20			0.0			20		1	SPARE	28
29	SPARE	1		20				0.0		20		1	SPARE	30
PANEL TYPE: NEMA 1					TOTAL (PHASE):	0.0	0.6	0.0						

MOUNTING: SURFACE
MAIN LUGS ONLY
INTERRUPTING RATING: EXISTING KA SYM.
FED FROM: EMERGENCY DISTRIBUTION PANEL EMDP

NOTES
1. EXISTING PANELBOARD. FIELD VERIFY EXACT CIRCUIT ARRANGEMENT.
2. ALL NEW CIRCUIT BREAKERS SHALL MATCH THE EXISTING PANEL MANUFACTURER AND SHORT CIRCUIT RATING.
3. CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PRIOR TO PURCHASING ANY EQUIPMENT.
4. ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE.

KEY NOTES

(1) PROVIDE NEW CIRCUIT BREAKER IN EXISTING LABELED SPARE(S) TO MATCH EXISTING PANEL MANUFACTURER AND SHORT CIRCUIT RATING. REMOVE EXISTING BREAKERS AND PROVIDE NEW CIRCUIT BREAKER AND WIRING AS SPECIFIED.

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04/06/21
Date

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
AHG

Drawn By
AMP

Scale
AS SHOWN

Drawing Name
ELECTRICAL ELECTRICAL SCHEDULES

Revisions

No.	Date	Description
	04.06.21	Issued for Bid

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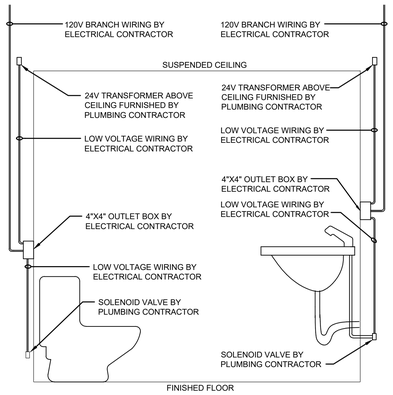
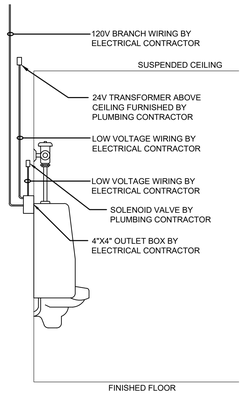
E9.0



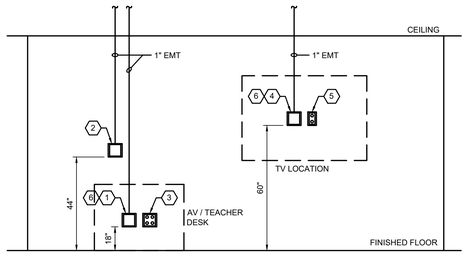
TOILET AND SINK SENSOR DETAIL

NOT TO SCALE



URINAL SENSOR DETAIL

NOT TO SCALE

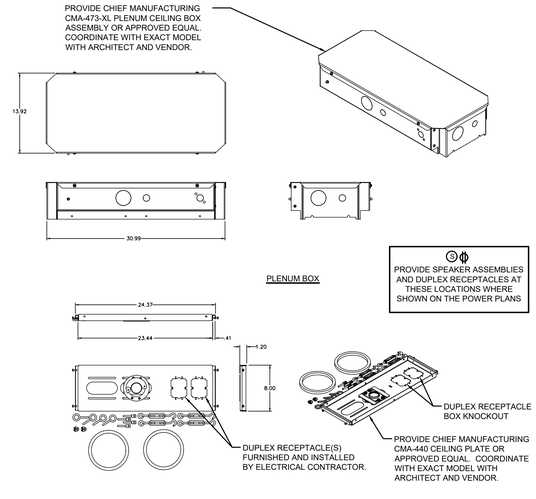


TYPICAL CLASSROOM A/V DETAIL

NOT TO SCALE

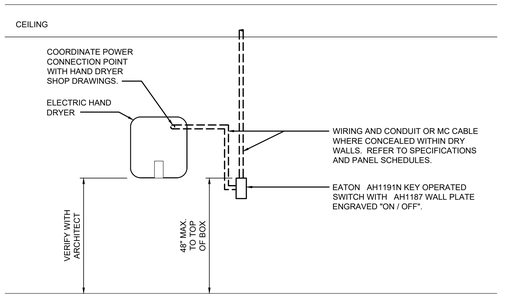
CLASSROOM A/V DETAIL KEY NOTES

1. TELEPHONE, HDMI AND OTHER TV CONNECTIONS:
   PROVIDE TWO GANG JUNCTION BOX WITH TWO (2) RJ45 CONNECTORS, HDMI F/F ADAPTER AND WALL PLATE, TWO (2) PLENUM RATED CAT6 CABLES TO IDF ROOM AND (1) HDMI CABLE TO TV LOCATION (REFER TO KEY NOTE 4) IN 1" CONDUIT. CONTRACTOR SHALL TERMINATE, TEST AND CERTIFY EACH END. MOUNT 18" ABOVE FINISHED FLOOR (AFF).
2. CLASSROOM SPEAKER SWITCH CONTROL:
   PROVIDE EMPTY TWO GANG JUNCTION BOX WITH COVER, AND 1" EMPTY CONDUIT WITH BUSHING AND DRAG LINE TO ABOVE SUSPENDED CEILING. MOUNT 44" ABOVE FINISHED FLOOR (AFF).
3. QUAD RECEPTACLE FOR CLASSROOM AV EQUIPMENT MOUNTED 18" AFF.
4. TV HDMI CABLE CONNECTIONS, 3.5MM JACK CONNECTION TO CLASSROOM SPEAKER:
   PROVIDE TWO GANG JUNCTION BOX WITH HDMI F/F ADAPTER, 3.5MM JACK CONNECTION FOR CLASSROOM SPEAKER WALL PLATE. (1) HDMI CABLE IN 1" CONDUIT WITH BUSHING/ DRAG LINE TO ABOVE SUSPENDED CEILING. HDMI CABLE SHALL TERMINATE AT A/V TEACHER DESK (REFER TO KEY NOTE 1). MOUNT 60" ABOVE FINISHED FLOOR (AFF).
5. DUPLEX RECEPTACLE FOR LCD TV MOUNTED 60" AFF.
6. PROVIDE (1) HDMI CABLE FROM THE TV OUTLET LOCATION TO THE TEACHERS DESK.



POWERED CEILING SPEAKER OR PROJECTOR ASSEMBLY DETAIL

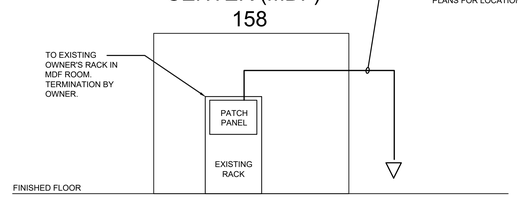
NOT TO SCALE



TYPICAL ELECTRIC HAND DRYER DISCONNECT SWITCH DETAIL

NOT TO SCALE

VOICE/DATA DISTRIBUTION CENTER (MDF) 158

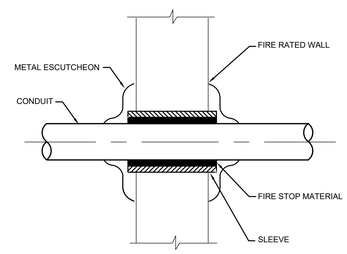


TELE / DATA SYSTEM RISER DIAGRAM

NOT TO SCALE

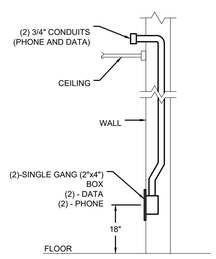
SCOPE OF WORK:

PROVIDE JACK, FACEPLATE, CABLING, RACKS, PATCH PANELS, AND TERMINATIONS AT THE JACK AND PATCH PANELS. REFER TO PROJECT SPECIFICATION FOR ADDITIONAL INFORMATION.



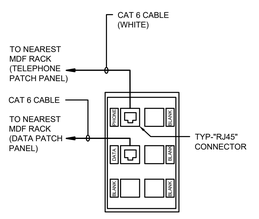
CONDUIT PENETRATION DETAIL THRU FIRE RATED SOLID WALL

NOT TO SCALE



TYPICAL DATA AND TELEPHONE OUTLET ARRANGEMENT

NOT TO SCALE



TYPICAL TELE/DATA JACK

NOT TO SCALE

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Architect
Date 04/06/21

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor-Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
AHG

Drawn By
AMP

Scale
AS SHOWN

Drawing Name
ELECTRICAL DETAILS

Revisions

No.	Date	Description
	04.06.21	Issued for Bid

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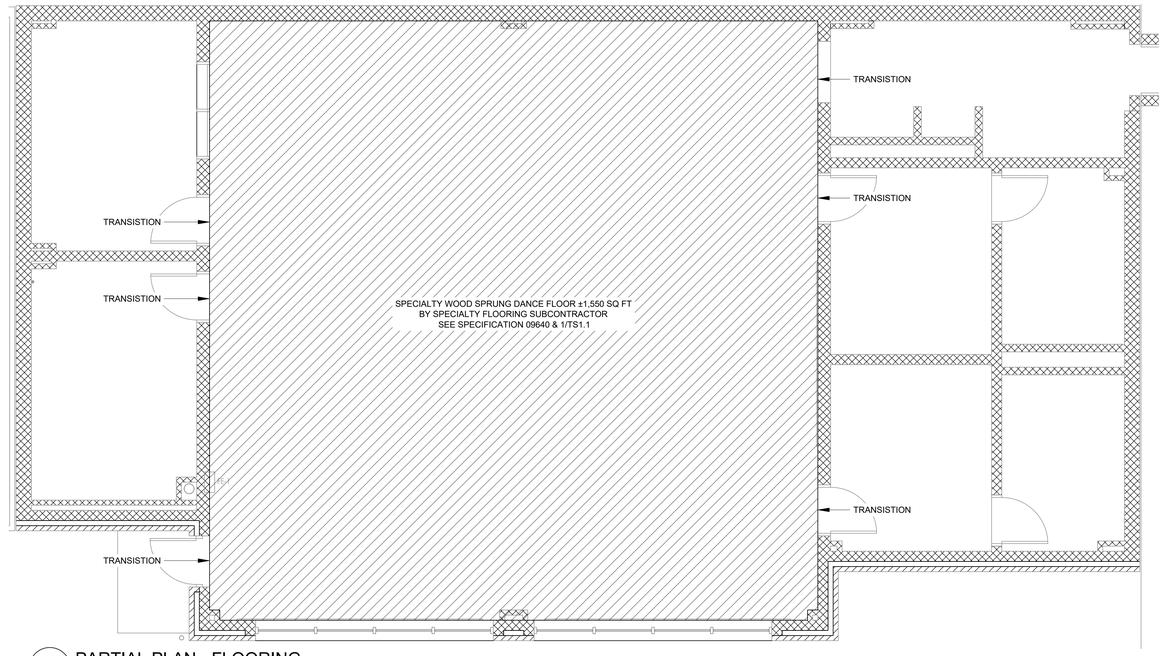
PROFESSIONAL ENGINEER, NJ LIC. No. 24GE04842100

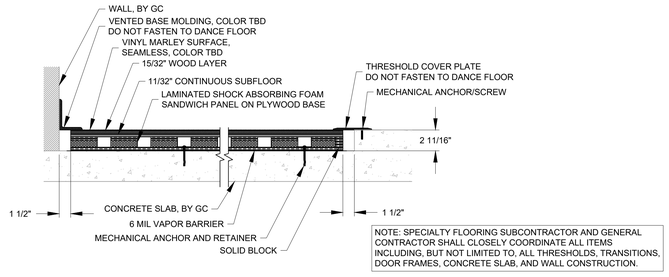
Drawing Number
E10.0

O: SK 3500 5047 - W. Windsor - Plainsboro Regional School District 5047.024 - Ww-p Hs North Addition And Reno CADD DWG phase 1 - New Addition 5047.024A - E10.0.dwg



A PARTIAL PLAN - FLOORING

SCALE: 1/4" = 1'-0"



NOTE: SPECIALTY FLOORING SUBCONTRACTOR AND GENERAL CONTRACTOR SHALL CLOSELY COORDINATE ALL ITEMS INCLUDING, BUT NOT LIMITED TO, ALL THRESHOLDS, TRANSITIONS, DOOR FRAMES, CONCRETE SLAB, AND WALL CONSTRUCTION.

1 DANCE FLOOR DETAIL

SCALE: 1/4" = 1'-0"

DANCE FLOOR NOTES

1. UNIFORMLY ANCHOR PANELS TO CONCRETE SLAB. ANCHORS MUST NOT, DIRECTLY NOR INDIRECTLY, CONTACT THE ACTIVE LAYERS OF THE SYSTEM.
2. ANCHORING IS ACHIEVED THROUGH THE RESILIENT LAYER.
3. PANEL ACHORING SHALL PREVENT OVER COMPRESSION AND DIFFERENTIAL COMPRESS OF THE RESILIENT LAYER.
4. RESILIENT LAYER AND SYSTEM DESIGN SHALL LIMIT VIBRATION TO SPECIFIED PARAMETERS. SEE SPECIFICATION.
5. SUBFLOOR PANELS ARE TO BE FACTORY MACHINED TO ACCEPT LOADING RESTRAINT BLOCKS TO ASSURE PROPER BALANCE OF PERFORMERS AND RIGORS OF LOADING.
6. FLOOR SHALL BE FINGER JOINTED DESIGN.

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Checked By
GRD

Drawn By
BC

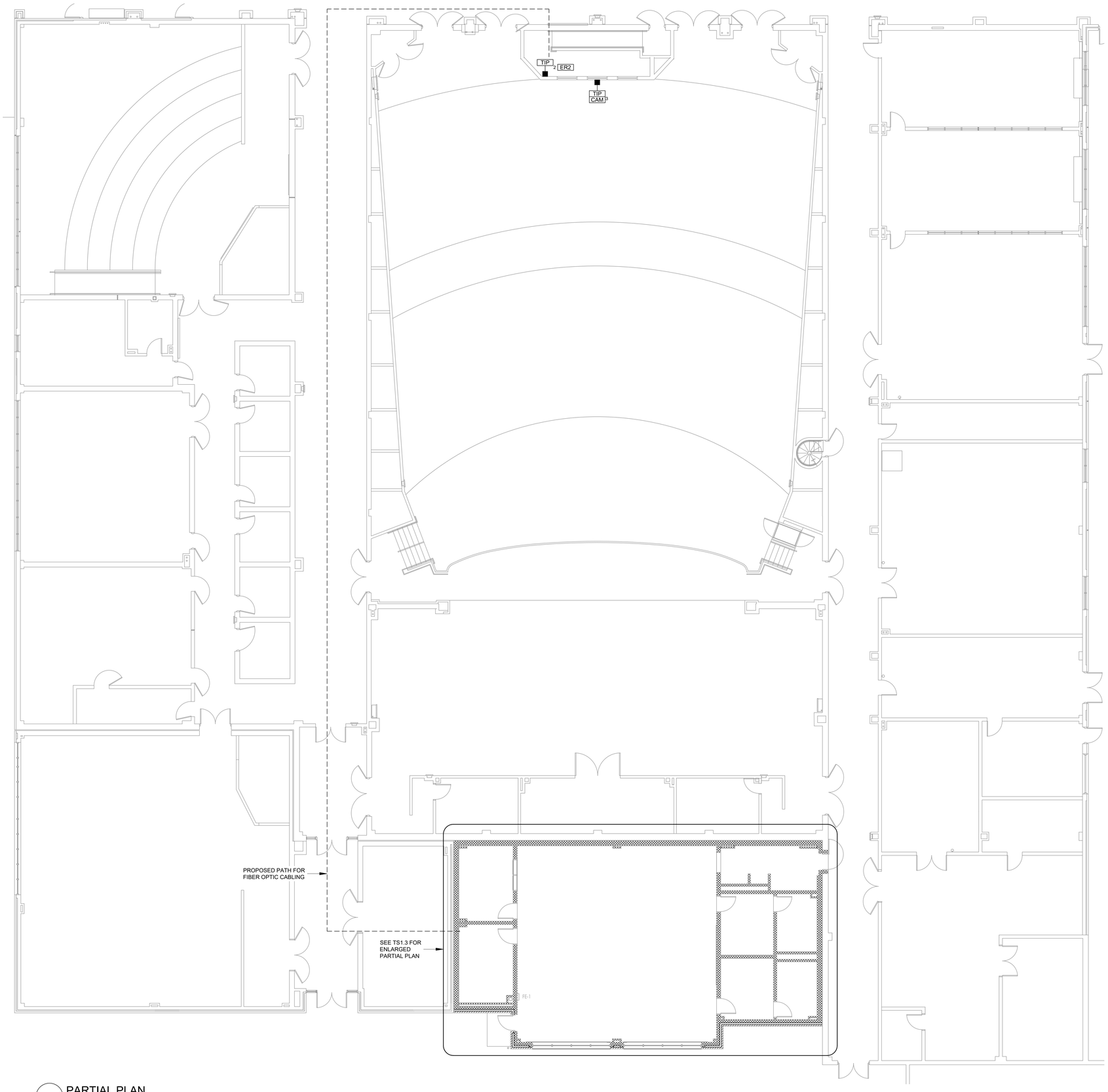
Scale
AS NOTED

Drawing Name
DANCE CLASSROOM - SPECIALTY FLOORING

Revisions

No.	Date	Description

Drawing Number
TS1.1



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

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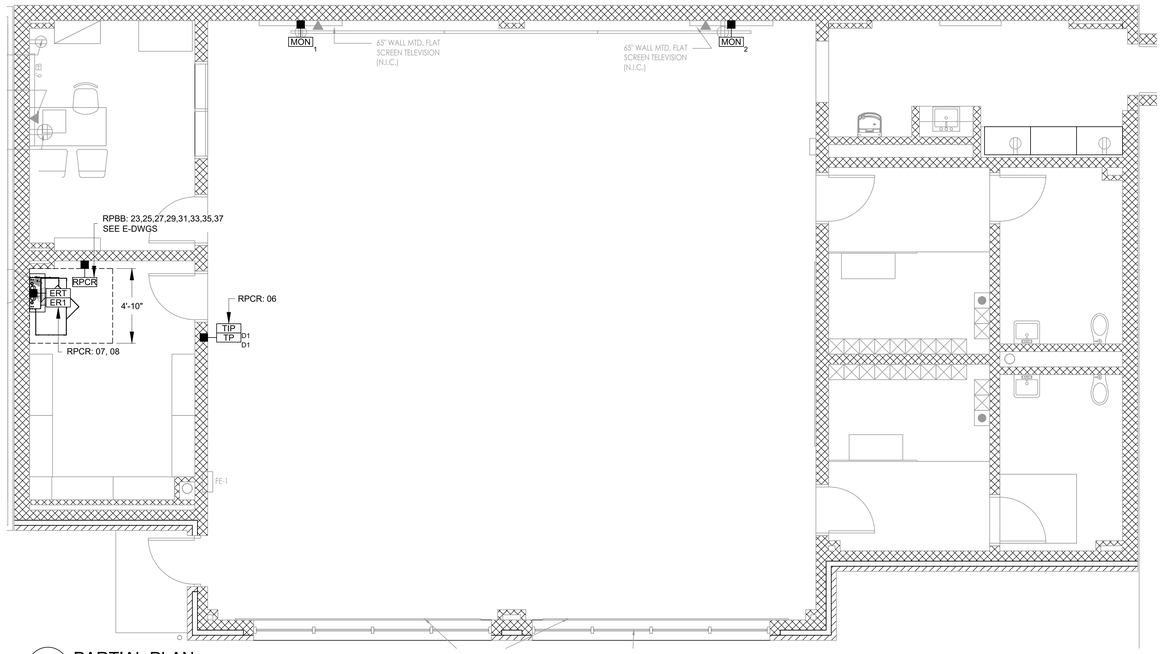
Scale
AS NOTED

Drawing Name
THEATRICAL SYSTEMS - OVERALL PLAN (ALTERNATE BID)

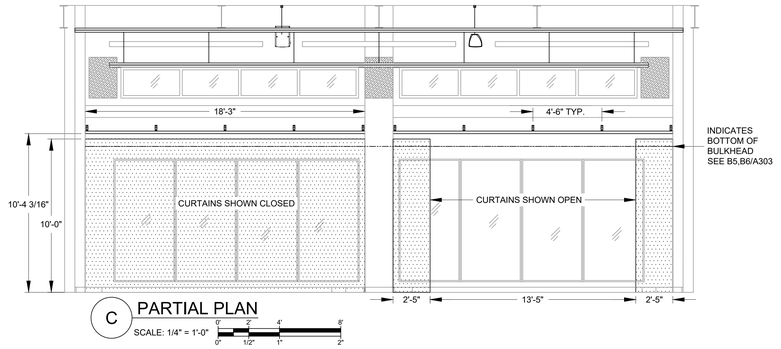
Revisions

No.	Date	Description

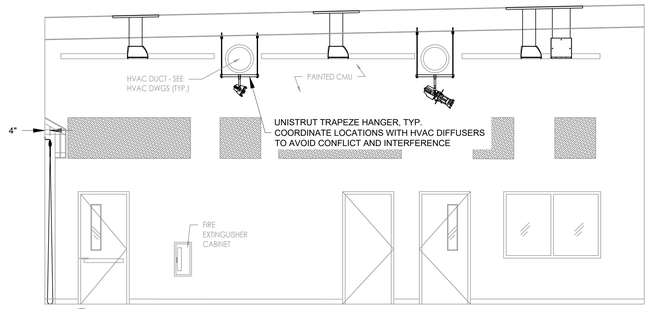
Drawing Number
TS1.2



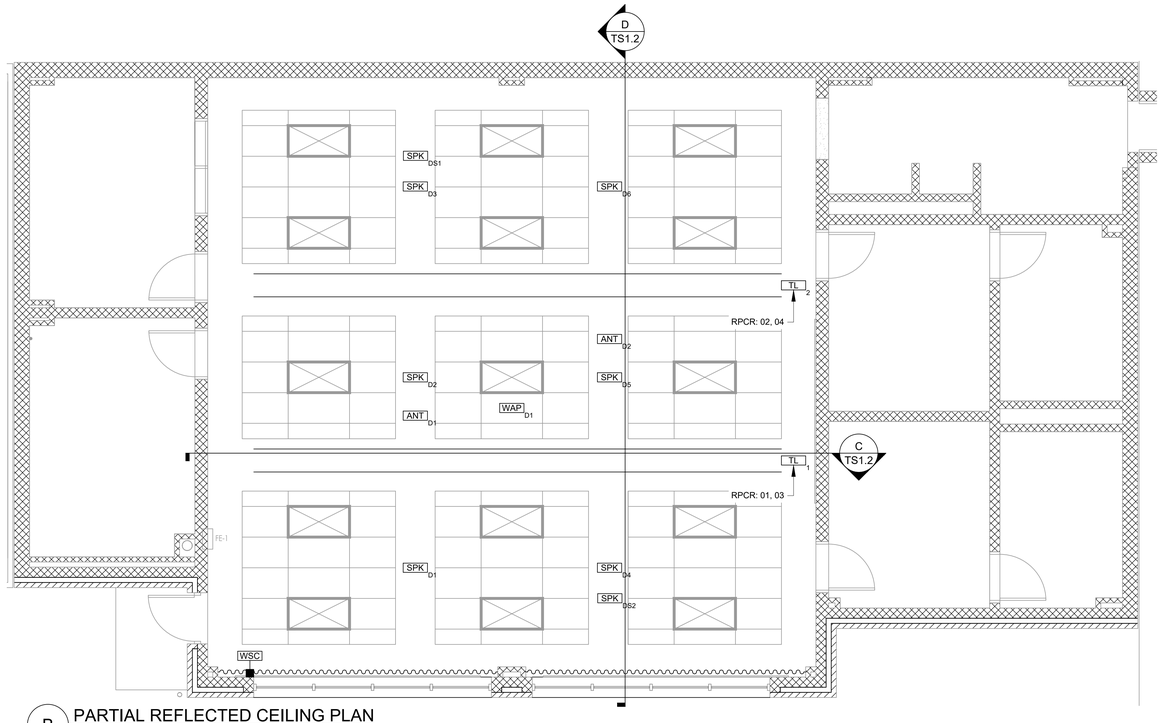
A PARTIAL PLAN
SCALE: 1/4" = 1'-0"



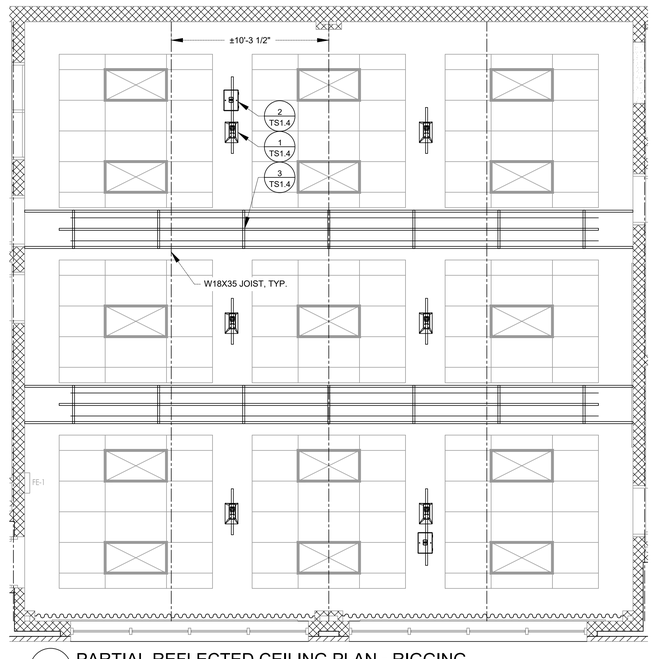
C PARTIAL PLAN
SCALE: 1/4" = 1'-0"



D PARTIAL PLAN
SCALE: 1/4" = 1'-0"



B PARTIAL REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



E PARTIAL REFLECTED CEILING PLAN - RIGGING
SCALE: 1/4" = 1'-0"

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GRD

Drawn By
BC

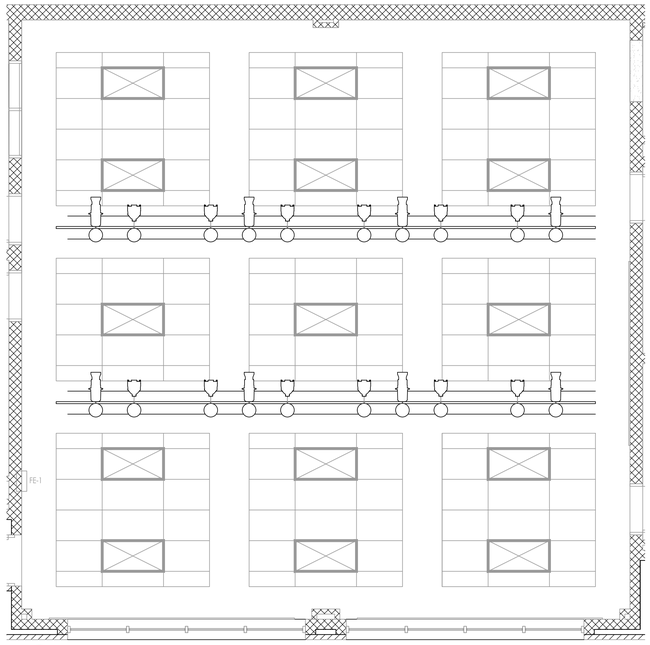
Scale
AS NOTED

Drawing Name
DANCE CLASSROOM - THEATRICAL SYSTEMS (ALTERNATE BID)

Revisions

No.	Date	Description

Drawing Number
TS1.3

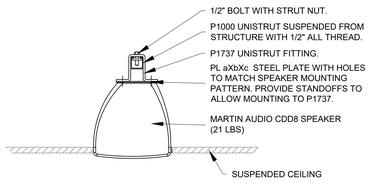


D DANCE CLASSRM - LIGHT PLOT
SCALE: 1/4" = 1'-0"

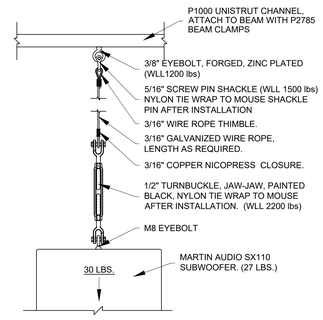
0' 2' 4' 8'
0' 1/2" 1" 2"

THEATRICAL FIXTURE SCHEDULE		
LEGEND	FIXTURE	NOTES
	ETC COLOR SOURCE SPOTS, DEGREE AS NOTED	ADJUST SHUTTERS AS REQUIRED TO CONTROL LIGHT, DO NOT LEAVE FULLY SHUT
	ETC COLOR SOURCE PAR	INSTALL LENS (IF INDICATED)
ADDRESS CIRCUIT WATTAGE UNIT LENS FOCUS	ADDRESS CIRCUIT WATTAGE UNIT LENS FOCUS	

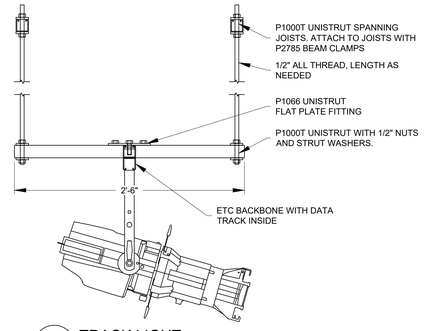
INSTALLATION NOTES:
1. REMOVE ALL FIXTURES AND ACCESSORIES FROM PACKAGING
2. USE MINIMUM REQUIRED LENGTH OF POWER/DATA CABLE TO REACH DESIGNATED POWER/DATA RECEPTACLE, TIE UP ALL CABLE TO GRID WITH 1/8" TIELINE OR HOOK & LOOP
3. ALLOW ENOUGH CABLE SLACK TO FULLY FOCUS FIXTURE IN ANY DIRECTION
4. INSTALL ALL LENSES AS PER PLOT
5. FOCUS ALL FIXTURES AS PER PLOT
6. ADDRESS EACH FIXTURE SEPARATELY AS PER PLOT
7. ASSEMBLE, SETUP, AND PATCH LIGHTING CONTROLLER



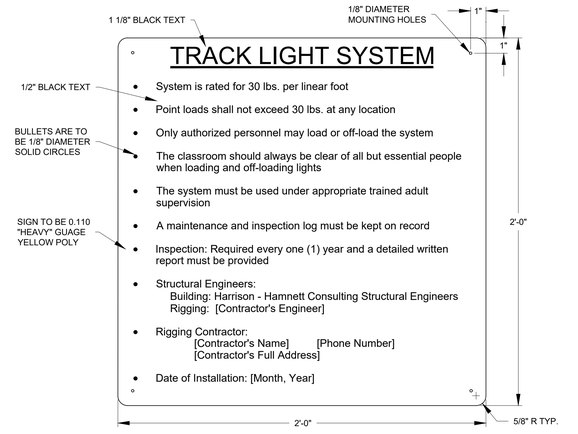
1 HORIZONTAL SPEAKER RIGGING
SCALE 1 1/2" = 1'-0"



2 SUBWOOFER RIGGING
SCALE 1 1/2" = 1'-0"
NOTE: TYP. 2 POINTS PER SUBWOOFER.



3 TRACK LIGHT
SCALE 1 1/2" = 1'-0"



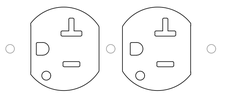
NOTE: INSTALL SIGNS ON STAGE WALL IN CLEAR VIEW

4 SYSTEM SIGNAGE
SCALE 3" = 1'-0"

NOTE: WHERE DEVICE IS BEING RECESSED IN A STUD WALL, THE TWO BACK BOXES CAN BE SPLIT AND INSTALLED SHARING A COMMON STUD.

PANEL NOTES:

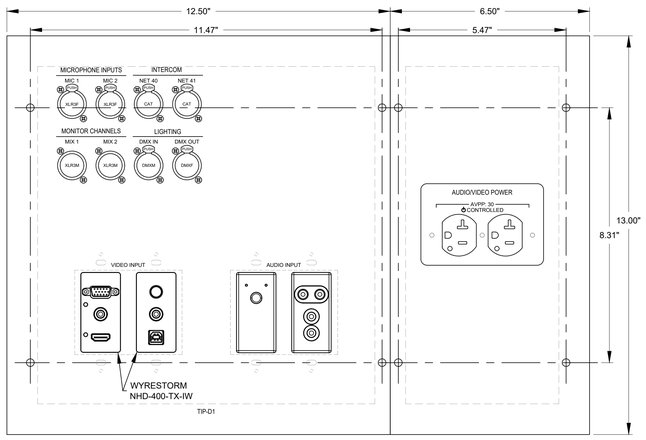
- WALL PLATES ARE TO BE 1/16" ALUMINUM WITH POWDER COAT FINISH, UNLESS OTHERWISE NOTED.
- LASER ENGRAVING AS PER DRAWING. TYPICALLY LABEL TEXT IS 1/8" AND HEADINGS ARE 5/32".
- CONNECTORS TO BE REAR MOUNTED.



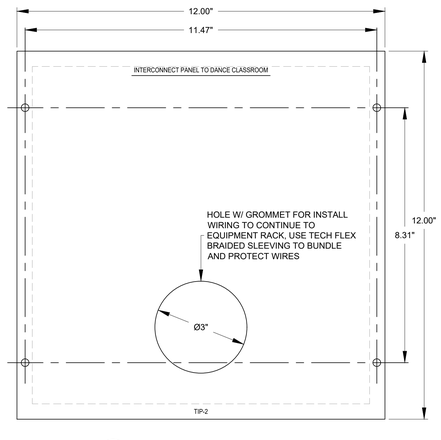
1 RECEPTACLE W/ LED - TYPICAL
SCALE: 1:1

NEMA 5-20R, SPEC GRADE, DUPLEX, BLACK
TAMPER RESISTANT, POWER INDICATOR LED
HUBBELL SNAP5362BKLTR & SNAP1RA

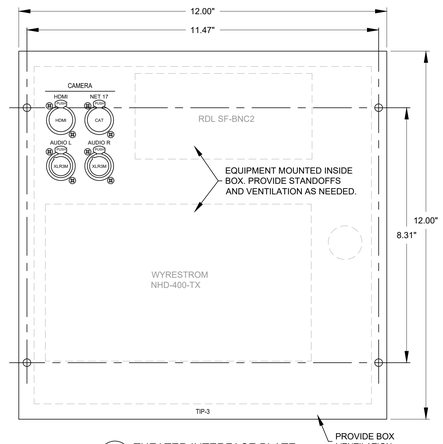
CONNECTORS		
LABEL	PART NUMBER (BLACK)	DESCRIPTION
XLR3F	NEUTRIK NC3FD-L-BAG-1	"D" SERIES, SOLDER
XLR3M	NEUTRIK NC3MD-L-BAG-1	"D" SERIES, SOLDER
XLR4F	NEUTRIK NC4FD-L-BAG-1	"D" SERIES, SOLDER
XLR4M	NEUTRIK NC4MD-L-BAG-1	"D" SERIES, SOLDER
DMXF	PATHWAY 2058	"D" SERIES, IDC
DMXM	PATHWAY 2057	"D" SERIES, IDC
CAT	NEUTRIK NE8FDV-Y110-B	"D" SERIES, PUNCH



TIP-D1 THEATER INTERFACE PLATE
SCALE: 1:2
LOCATION: DANCE CLASSROOM
COLOR: BLACK
QTY: 1



TIP-2 THEATER INTERFACE PLATE
SCALE: 1:2
LOCATION: AUDITORIUM CONTROL ROOM
COLOR: BLACK
QTY: 1



TIP-3 THEATER INTERFACE PLATE
SCALE: 1:2
LOCATION: AUDITORIUM - BACK OF HOUSE
COLOR: BLACK
QTY: 1

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Drawing Name
DANCE CLASSROOM - LIGHT PLOT & DETAILS (ALTERNATE BID)

Revisions

No.	Date	Description

Drawing Number
TS1.4

RPCR

PANEL	RPCR	120/208	VOLTAGE
LOCATION	A103	3PH, 4W	WIRE
MOUNTING	RECESSED	22,000	A.I.C.

TYPE	RELAY #	DIRECTORY	kVA	PANEL: CIRCUIT
ZS	1	TRACK LIGHTS	1.2	RPBB: 23
ZS	2	TRACK LIGHTS	1.2	RPBB: 25
ZS	3	TRACK LIGHTS	1.2	RPBB: 27
ZS	4	TRACK LIGHTS	1.2	RPBB: 29
-	5	SPARE	-	RPBB: 31
ZS	6	TIP-D1 RECEPTACLE	0.5	RPBB: 33
-	7	EQUIPMENT RACK "ER1"	0.5	RPBB: 35
ZS	8	EQUIPMENT RACK "ER1"	0.5	RPBB: 37

M = MOTORIZED BREAKER
Z = ZONE CONTROL
S = SEQUENCED
D = DMX CONTROL
I = ISOLATED GROUND CIRCUIT

CABLE LEGEND

ID	STANDARD	PLENUM	TYPE	DESCRIPTION
C1	WEST PENN WIRE 454	WEST PENN WIRE D25454	CONTROL	1 PAIR, 22 AWG, SHIELDED, STRANDED, TINNED, PVC
F2	-	CLEERLINE 8IADS0125MOM3P	NETWORK/DATA	OM3 6-STRAND, ARMORED
ML1	WEST PENN WIRE 454	WEST PENN WIRE D25454	MIC/LINE	1 PAIR, 22 AWG, SHIELDED, STRANDED, TINNED, PVC
N1	WEST PENN WIRE 4246	WEST PENN WIRE 254246	NETWORK/DATA	CAT6, UTP, 4 PAIR, 23 AWG
P1	WEST PENN WIRE 224	WEST PENN WIRE 25224B	POWER	1 PAIR, 18 AWG, STRANDED
RF1	WEST PENN WIRE 813	WEST PENN WIRE 25812	RF ANTENNA COAXIAL	RG/58, 50 OHM, 20 AWG, SOLID, TINNED
RF2	WEST PENN WIRE 810	WEST PENN WIRE 25810	RF ANTENNA COAXIAL	RG213/U, 50 OHM, 12 AWG, STRANDED
S12	WEST PENN WIRE 227	WEST PENN WIRE 25227B	SPEAKER	1 PAIR, 12 AWG, STRANDED
X2	WEST PENN 4246	WEST PENN WIRE 254246	DMX	CAT6, UTP, 4 PAIR, 23 AWG

LINESET SCHEDULE

LINESET	DISTANCE	ITEM	B.O. PIPE HEIGHT	PIPE WIDTH	CURTAIN QUANTITY	CURTAIN HEIGHT	CURTAIN WIDTH	CURTAIN FULLNESS	CURTAIN FABRIC	CURTAIN COLOR	CURTAIN TOP FINISH	CURTAIN SIDE FINISH	CURTAIN BOTTOM FINISH	TAG LOCATION & QUANTITY	TRACK/SYSTEM	OPERATION METHOD	NOTES
DANCE CLASSROOM	SEE DWGS	TRAVELER	SEE DWGS	SEE DWGS	4	10'-0"	10'-0"	50% BOX	20oz CRESCENT VELOUR	BLACK	WEBBING, SNAP HOOKS FLUSH	4" HEM	5" HEM, CHAIN LINED	OFFSTAGE BOTTOM, 1 PER PANEL	ADC 272 STEEL (STRAIGHT) TRACK 2 @ +/-18'-3", CARRIERS 6" O.C.	WALK-ALONG	PROVIDE WALL MOUNT BRACKETS

RESPONSIBILITY MATRIX SECTION 16560	OWNER		GENERAL CONTRACTOR		ELECTRICAL CONTRACTOR		THEATRICAL CONTRACTOR		NOTES
F = FURNISH, I = INSTALL	F	I	F	I	F	I	F	I	
ELECTRICAL:									
CONDUIT (INCLUDING PULL STRINGS & BUSHINGS, SEE SPEC)					X	X			
LOW-VOLTAGE PATHWAYS (INCLUDING PULL STRINGS)					X	X			
BACK BOXES, JUNCTION BOXES, PULL BOXES, BLANK PLATES					X	X			
CUSTOM INPUT/OUTPUT LOW-VOLTAGE PANELS							X	X	
SPECIALTY RECEPTACLES AND BACK BOXES (SEE DETAILS)						X	X		
RELAY PANEL (RPCR)						X	X		
±120V POWER WIRING					X	X			
LOW-VOLTAGE CABLE, U.N.O.							X	X	
THEATRICAL EQUIPMENT:									
THEATRICAL LIGHTING							X	X	
RIGGING SYSTEM							X	X	
UNISTRUT FOR SYSTEM, U.N.O.							X	X	
WELDING, JOIST REINFORCEMENT, MISC. METALS FOR THEATRICAL SYSTEM			X	X					
CURTAINS AND TRACKS							X	X	
SPEAKERS AND SUBWOOFERS							X	X	
EQUIPMENT RACK(S)							X	X	
PORTABLE EXTENSION CABLE PACKAGE							X	X	
NETWORK SWITCHES							X	X	
WIRELESS ACCESS POINTS							X	X	
UNINTERRUPTABLE POWER SUPPLIES (UPS)							X	X	
ITEMS RELATING TO, BUT NOT PART OF, SECTION 16560:									
DANCE CLASSROOM: DANCE FLOOR (SECTION 09640)									

DEVICE SCHEDULE

DEVICE	DESCRIPTION	MANUFACTURER	MODEL	BACKBOX (WxHxD)	MOUNTING HEIGHT	MOUNTING TYPE	FINISH	LOW VOLTAGE CONDUIT REQUIREMENTS	NOTES
A/TS1.2									
CAM	PTZ CAMERA	SEE SPEC	SEE SPEC	-	14'-0" AFF	SURFACE	BLACK	-	-
ER2	EQUIPMENT RACK	SEE SPEC	SEE SPEC	INTEGRAL	FLOOR	SURFACE	BLACK	-	-
TIP-2	THEATRICAL I/O PANEL	RAPCO	CUSTOM	12"x12"x4"	18" AFF	SURFACE	BLACK	(1) 3/4" [G3] STUB TO HALLWAY THEN J-HOOKS 5'-0" ON CENTER TO ERT (SEE ERT FOR STUB INLET)	SEE DWG TS1.4
TIP-3	THEATRICAL I/O PANEL	RAPCO	CUSTOM	12"x12"x4"	15'-0" AFF	SURFACE	BLACK	(1) 3/4" [G3] TO TIP-2	SEE DWG TS1.4
A/TS1.3									
ER1	EQUIPMENT RACK	SEE SPEC	SEE SPEC	INTEGRAL	FLOOR	SURFACE	BLACK	-	SEE DWG TS6.1 FOR SPECIFIC MOUNTING
ERT	EQUIPMENT RACK TROUGH	SEE SPEC	SEE SPEC	INTEGRAL	SEE DWG TS6.1	SURFACE	BLACK	SEE DEVICES THAT REF. ERT (1) 3/4" [G3] STUB TO HALLWAY CEILING (1) 3/4" [G3] TO FIRE ALARM CM, SEE E-DWGS	-
MON-1	TV BACKBOX	-	-	CHIEF PAC525FCW	CENTER OF TV	RECESSED	WHITE	(1) 3/4" [G3] TO ERT (1) 3/4" STUB TO CEILING	TV (N.I.C.)
MON-2	TV BACKBOX	-	-	CHIEF PAC525FCW	CENTER OF TV	RECESSED	WHITE	(1) 3/4" [G3] TO ERT (1) 3/4" STUB TO CEILING	TV (N.I.C.)
TIP-D1	THEATRICAL I/O PANEL	RAPCO	CUSTOM	12"x12"x4" & 12"x6"x4"	-	RECESSED	BLACK	(1) 3/4" [G3] TO ERT	SEE DWG TS1.4
TP-D1	TOUCH PANEL	SEE SPEC	SEE SPEC	3-GANG	42" AFF	RECESSED	BLACK	(1) 3/4" [G3] TO TIP-D1	-
RPCR	RELAY PANEL	SEE SPEC	SEE SPEC	INTEGRAL	48" AFF	RECESSED	GRAY	(1) 3/4" [G3] TO ERT	-
B/TS1.3									
ANT-D1	WIRELESS MICROPHONE ANTENNA	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	(1) 3/4" [G3] TO ERT	STUB CONDUIT AT DEVICE
ANT-D2	WIRELESS MICROPHONE ANTENNA	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	(1) 3/4" [G3] TO ERT	STUB CONDUIT AT DEVICE
SPK-D1	SPEAKER	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	(1) 3/4" [G1] TO ERT	STUB CONDUIT AT DEVICE
SPK-D2	SPEAKER	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	(1) 3/4" [G1] TO ERT	STUB CONDUIT AT DEVICE
SPK-D3	SPEAKER	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	(1) 3/4" [G1] TO ERT	STUB CONDUIT AT DEVICE
SPK-D4	SPEAKER	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	-	-
SPK-D5	SPEAKER	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	-	-
SPK-D6	SPEAKER	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	-	-
SPK-DS1	SPEAKER - SUBWOOFER	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	(1) 3/4" [G1] TO ERT	STUB CONDUIT AT DEVICE
SPK-DS2	SPEAKER - SUBWOOFER	SEE SPEC	SEE SPEC	-	16'-0" AFF	SUSPENDED	BLACK	-	-
TL-1	TRACK LIGHT	SEE SPEC	SEE SPEC	INTEGRAL	14'-8" AFF	SUSPENDED	BLACK	(1) 3/4" [G3] TO TL-2	-
TL-2	TRACK LIGHT	SEE SPEC	SEE SPEC	INTEGRAL	14'-8" AFF	SUSPENDED	BLACK	(1) 3/4" [G3] TO ERT	-
WAP-D1	WIRELESS ACCESS POINT	SEE SPEC	SEE SPEC	-	CEILING	SURFACE	WHITE	(1) 3/4" [G3] TO ERT	STUB CONDUIT AT DEVICE
WSC	WINDOW SHADE CONTROLLER	-	-	-	-	-	-	(1) 3/4" [G3] TO ERT	WSC IS BY OTHERS, WIRING/CONTROL/INTEGRATION IS BY TSC

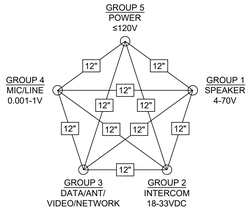
ALL CONDUITS TO BE CONTINUOUS, EMT, LABELED, AND HAVE PULL STRING AND BUSHINGS. INSTALL PULL BOXES EVERY 270 DEGRESS AND EVERY 100'

GENERAL CONDUIT NOTES

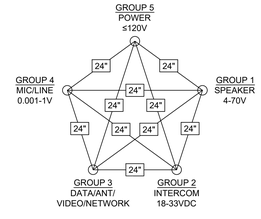
1. ALL CONDUITS SHALL BE CONTINUOUS, EMT STYLE (UNLESS NOTED OTHERWISE), LABELED, PULL STRING, AND ALL ENDS/FITTINGS TO HAVE PLASTIC BUSHINGS.
2. PROVIDE PULL BOXES EVERY 270 DEGREES OF BENDS AND AFTER EVERY 100'.
3. NO CONDUIT TO BE FILLED GREATER THAN 40%.
4. ALL CONDUITS TO HAVE A PULL STRING INSTALLED AFTER PULLING ALL WIRING.

CABLE SEPARATION MINIMUMS

EMT CONDUIT

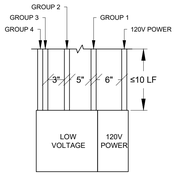


FREE AIR, PVC CONDUIT, WIREMOLD

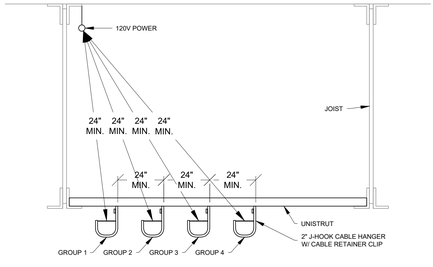


NOTES:
1. FOR POWER:
   - DIMMED, ADD 12" ADDITIONAL SEPARATION
   - 120V<x<480, ADD 12" ADDITIONAL SEPARATION
   - ≥480V, ADD 24" ADDITIONAL SEPARATION
2. CLOSE PROXIMITY CROSSING PERPENDICULARLY AT 90°
3. MAINTAIN SEPARATION WHEREVER PHYSICALLY POSSIBLE AND SPECIFICALLY WHERE THE PATH OF ADJACENT CONDUIT/CABLES WILL BE PARALLEL FOR DISTANCES >10 LINEAR FEET
4. MAINTAIN A MINIMUM OF 12" SEPARATION BETWEEN FLUORESCENT FIXTURES AND ALL BALLASTS
5. MAINTAIN A MINIMUM OF 96" SEPARATION BETWEEN ≥15kVA TRANSFORMERS

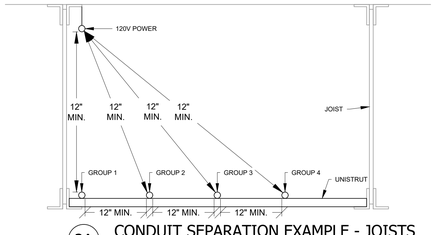
1 CABLE SEPARATION MINIMUMS
Scale: NTS



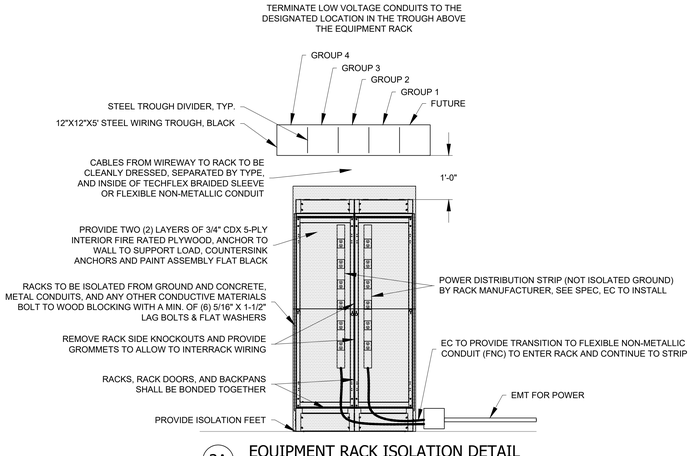
2 CONDUIT SEPARATION EXAMPLE - AT BOX
Scale: NTS



2B J-HOOK SEPARATION EXAMPLE - JOISTS
Scale: NTS



2A CONDUIT SEPARATION EXAMPLE - JOISTS
Scale: NTS



3A EQUIPMENT RACK ISOLATION DETAIL
Scale: NTS

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Pennsylvania: 140 Whittaker Ave - Mont Clare - Pennsylvania 19453

Project Name
Addition to West Windsor-Plainsboro High School North

Project Owner Name
West Windsor - Plainsboro Regional School District

Project Location
90 Grovers Mill Road, Plainsboro, New Jersey 08536

Project Number
5063K1

Project Date
04.06.2021

Checked By
GRD

Drawn By
BC

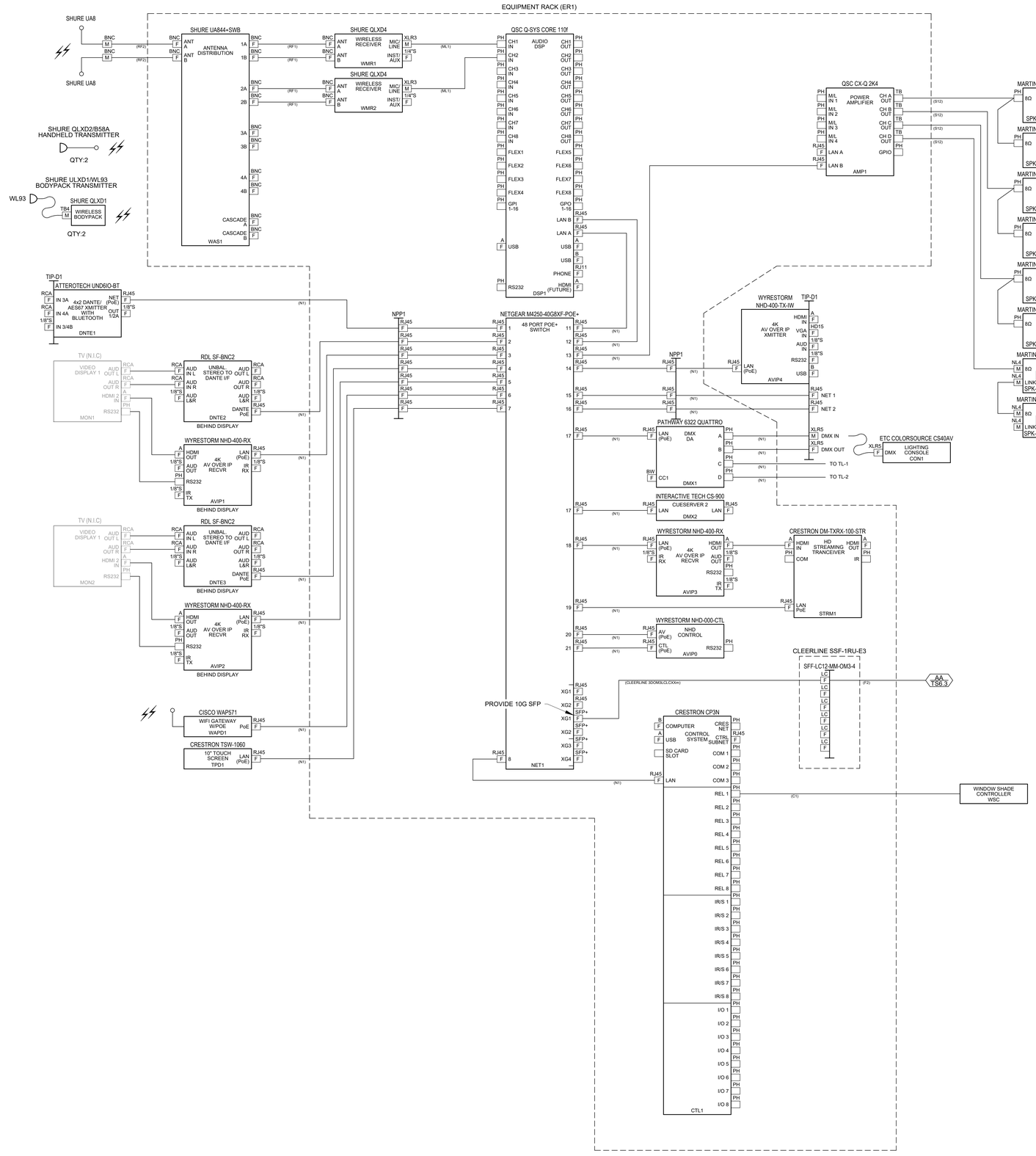
Scale
AS NOTED

Drawing Name
SCHEDULE (ALTERNATE BID)

Revisions

No.	Date	Description

Drawing Number
TS6.1



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Project Date
04.06.2021

Checked By
GRD

Drawn By
BC

Scale
AS NOTED

Drawing Name
FUNCTIONAL 1 (ALTERNATE BID)

Revisions

No.	Date	Description

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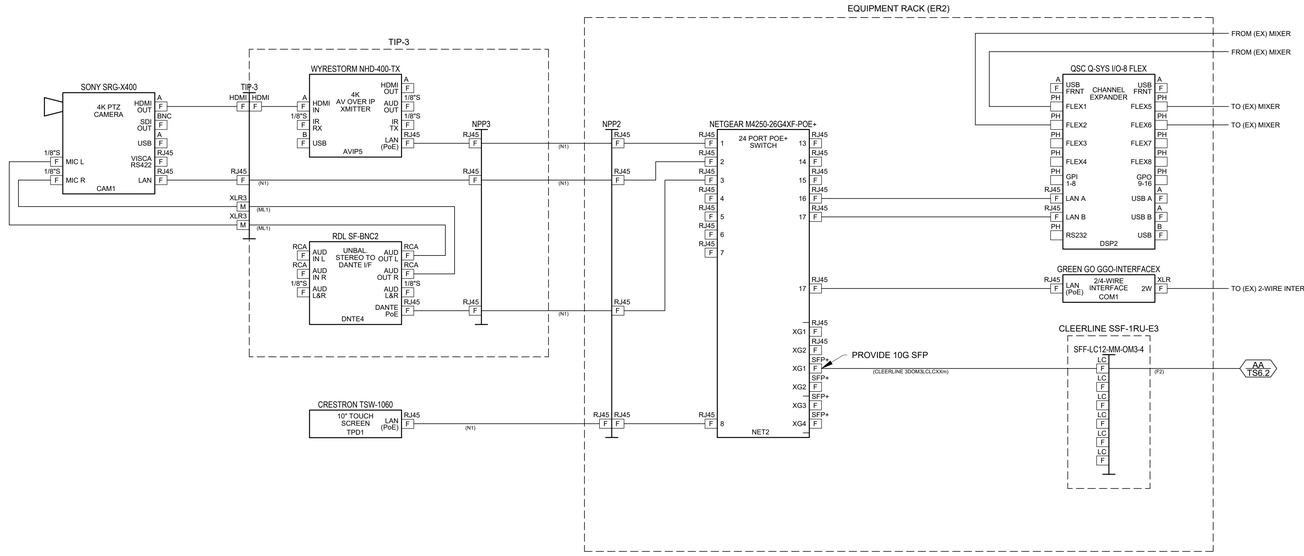
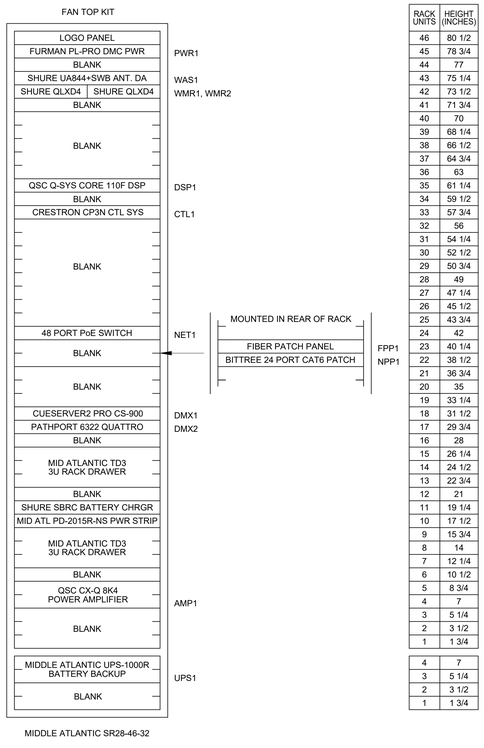
Drawing Number
TS6.2





ER1 DANCE CLASSROOM RACK ELEVATION
SCALE: NTS

ER2 CONTROL ROOM RACK ELEVATION
SCALE: NTS

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Project Name
Addition to West Windsor-Plainsboro High School North

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Project Number
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Project Date
04.06.2021

Checked By
GRD

Drawn By
BC

Scale
AS NOTED

Drawing Name
FUNCTIONAL 2 & RACK ELEVATIONS (ALTERNATE BID)

Revisions

No.	Date	Description

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Drawing Number
TS6.3