DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

CHESTERTON MIDDLE SCHOOL, 651 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 (BASE BID)
SUPPORT SERVICES CENTER, 1012 NORTH OLD STATE ROAD 49, CHESTERTON, IN. 46304 (ALTERNATE #1)
DISTRICT OFFICE, 601 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 (ALTERNATE #2)

TRIA PROJECT#: 21-037

GENERAL BUILDING CODE REQUIREMENTS

BUILDING CODES REFERENCED:
2012 INTERNATIONAL BUILDING CODE WITH 2014 INDIANA AMENDMENTS
2006 INTERNATIONAL PLUMBING CODE 2ND EDITION AMENDED INDIANA 2012
2008 NATIONAL ELECTRICAL CODE WITH 2009 INDIANA AMENDMENTS
2012 INTERNATIONAL MECHANICAL CODE WITH 2014 INDIANA AMENDMENTS
INDIANA ENERGY CONSERVATION CODE 2010
2012 INTERNATIONAL FIRE CODE WITH 2014 INDIANA AMENDMENTS
2012 INTERNATIONAL FUEL GAS CODE 2ND EDITION WITH 2014 INDIANA AMENDMENTS

OCCUPANCY CLASSIFICATION:
EDUCATIONAL GROUP E

TYPE OF CONSTRUCTION:
EXISTING: II-B

DESIGN FIRM REGISTRATION:
THOMAS R SZURGOT
INDIANA LICENSE NUMBER: AR10800173

SCHOOL BOARD

PRESIDENT	BRANDON KROFT
VICE PRESIDENT	ALAYNA LIGHTFOOT POL
BOARD SECRETARY	TOM SCHNABEL
BOARD MEMBER	RONALD STONE
BOARD MEMBER	TIM MCGINTY
SUPERINTENDENT	DR. CHIP PETTIT

SITE LOCATION MAP

DRAWING INDEX

T1.00 TITLE SHEET, SITE LOCATION MAP, INDEX, AND GENERAL BUILDING CODE REQUIREMENTS

ARCHITECTURAL
AG0.00 SYMBOLS AND ABBREVIATIONS AND TYPICAL MOUNTING HEIGHTS
AG3.10 OVERALL FIRST FLOOR PLAN
A0.10 PARTIAL EXISTING FLOOR PLAN
A0.11 PARTIAL EXISTING REFLECTED CEILING PLAN
A1.10 PARTIAL FLOOR PLAN
A1.10 PARTIAL REFLECTED CEILING PLAN
A8.10 PARTIAL ROOF PLAN AND DETAILS
A9.10 PARTIAL FLOOR FINISH PLAN, ROOM FINISH SCHEDULE, AND NOTES

MECHANICAL
M0.00 NOTES - MECHANICAL
M0.10 EXISTING PARTIAL FLOOR PLAN - MECHANICAL
M0.20 EXISTING PARTIAL FLOOR PLAN - MECHANICAL
M1.10 PARTIAL FLOOR PLAN - MECHANICAL
M1.20 PARTIAL FLOOR PLAN - MECHANICAL
M2.00 SCHEDULES - MECHANICAL
M3.00 DETAILS - MECHANICAL
M3.10 DETAILS - MECHANICAL
M3.20 DETAILS - MECHANICAL
M4.00 NOTES - MECHANICAL
M4.10 ABBREVIATIONS AND SYMBOLS - MECHANICAL

ELECTRICAL
E0.10 EXISTING FLOOR PLAN - ELECTRICAL
E1.00 FLOOR PLAN - ELECTRICAL - LIGHTING
E2.00 FLOOR PLAN - ELECTRICAL - POWER
E3.10 NOTES AND SCHEDULES - ELECTRICAL

OWNER PURCHASED EQUIPMENT

MECHANICAL EQUIPMENT PURCHASED BY OWNER AND INSTALLED BY CONTRACTOR

ARCHITECT:

TRIA ARCHITECTURE, INC.

Illinois Office: 901 McClintock Drive, Suite 100
Burr Ridge, Illinois 60527

Indiana Office: 436 Sand Creek Drive N, Suite 105
Chesterton, Indiana 46304

Company Main: 630.455.4500 Fax: 630.455.4040
www.TriaArchitecture.com

M.E.P. CONSULTANT:

OAS, LLC.

769 Heartland Dr., Unit A
Sugar Grove, Illinois 60554
Phone: 630.538.1996
www.oasllc.net

ISSUED FOR BIDDING:
MARCH 10, 2022

THOMAS R. SZURGOT REGISTERED AR10800173 STATE OF INDIANA ARCHITECT

REVISIONS

T1.00

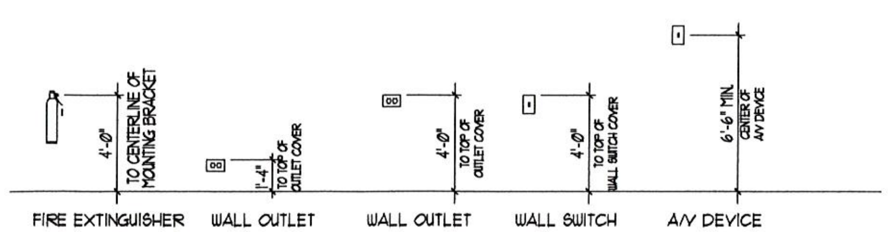
SYMBOLS AND ABBREVIATIONS

Symbol	Description
EXIT X	SAFETY REFERENCE ROOM INFORMATION TAG
EXIT X	SAFETY REFERENCE EXIT INFORMATION TAG
100'	SAFETY REFERENCE EGRESS PATH
	BREAK LINE
	WINDOW TAG
	DOOR TAG
N	NORTH ARROW
AXXX	SECTION TAG
AXXX	ELEVATION TAG
TITLE 1'-0" = 1'-0"	DETAIL TAG / DRAWING TITLE
XX	WALL TYPE TAG
	COLUMN LINE TAG
	ELEVATION TAG (HEIGHT)
	REMODELING NOTE TAG
	DEMOLITION NOTE TAG
	ROOF INSULATION TAGS
	ROOM NAME TAG

Symbol	Description
	2'x4' RECESSED FLUORESCENT FIXTURE
	RECESSED DOWNLIGHT
	HVAC SUPPLY
	HVAC RETURN
	S.A.T. CEILING
	PLASTER OR GYP. BD.

Abbreviation	Meaning
CJ	CONTROL JOINT
CT	CERAMIC TILE
CMU	CONCRETE MASONRY UNIT
CP	CONDENSATE PIPE
CPT	CARPET
CU	CONDENSING UNIT
DF	DRINKING FOUNTAIN
DS	DOWNSPOUT
EF	EXHAUST FAN
EJ	EXPANSION JOINT
EP	ELECTRICAL PENETRATION
EQ.	EQUAL
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER CHILLER
EX	EXISTING
EXP	EXPOSED
FD	FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
FP	FIRE PROTECTION
GB	GRAB BAR
GP	GAS PIPING
GYP.	GYPSUM BOARD
HC	HANDICAPPED ACCESSIBLE
HM	HOLLOW METAL
LAV	LAVATORY
M.E.	MATCH EXISTING
M	MIRROR
MO	MASONRY OPENING
MTL	METAL
MUA	MAKE-UP AIR
N.I.C.	NOT IN CONTRACT
OH	OPPOSITE HAND
PL	PLASTER
PRT	PORCELAIN TILE
PT	PAINT
PTD	PAPER TOWEL DISPENSER
PTTD	PAPER TOWEL TRASH DISPOSAL
RBR	RUBBER
RBB	RUBBER BASE
RBT	RUBBER TILE FLOORING
RD	ROOF DRAIN
RH	ROOF HATCH
RTU	ROOFTOP UNIT
RST	RUBBER STAIR TREADS AND RISERS
REF	REFRIGERATOR
SAT	SUSPENDED ACOUSTICAL TILE
SD	SOAP DISPENSER
SGT	STRUCTURAL GLAZED TILE
SIM	SIMILAR
SND	SANITARY NAPKIN DISPOSAL
SNP	SANITARY NAPKIN DISPENSER
STL	STEEL
TDU	TRASH DISPOSAL UNIT
TRZ	TERRAZZO
TTD	TOILET TISSUE DISPENSER
TV	TELEVISION
TYP	TYPICAL
UR	URINAL
VCT	VINYL COMPOSITE TILE
V.I.F.	VERIFY IN FIELD
VP	VENT PIPE
WC	WATER CLOSET
WD	WOOD
WF	WASH FOUNTAIN

TYPICAL MOUNTING HEIGHTS



TRIA ARCHITECTURE

M.E.P./F.P. CONSULTANT: IDAS

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS

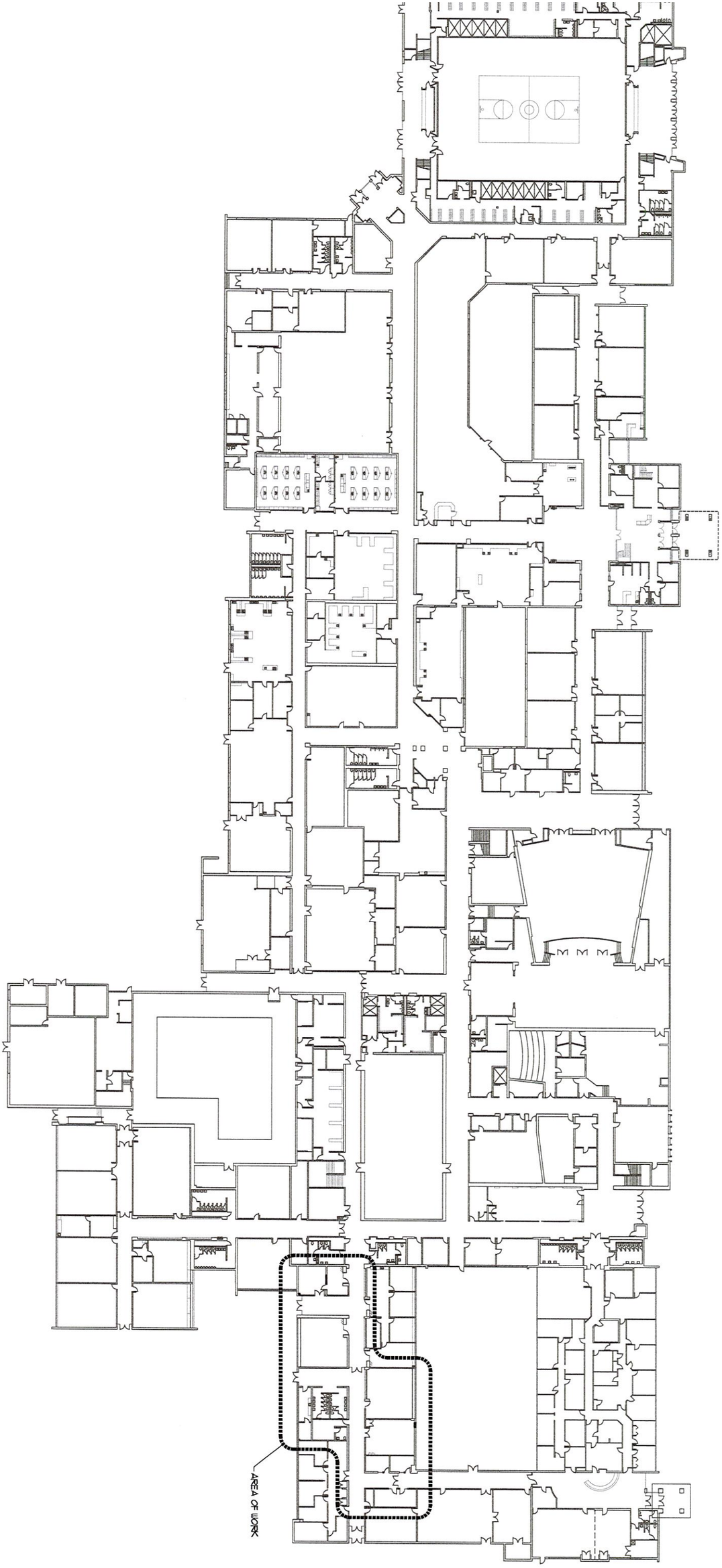
PROJECT NUMBER: 21-051
PROJECT MANAGER: TRS
DRAWN BY:
ISSUED FOR BIDDING: 3/10/22

SYMBOLS AND ABBREVIATIONS AND TYPICAL MOUNTING HEIGHTS

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

THOMAS R. SZURGOT REGISTERED AR10800173 STATE OF INDIANA ARCHITECT

AG0.00



1 OVERALL FIRST FLOOR PLAN
1/32" = 1'-0"

N

THOMAS R. TERBOSS
REGISTERED
ARCHITECT
STATE OF
INDIANA

AG3.10

DUNELAND SCHOOL CORPORATION

PROJECT NUMBER: 21-031	REVISIONS:
PROJECT MANAGER: TRS	1
DRAWN BY: MH	2
	3
ISSUED FOR BIDDING: 3/10/22	4

OVERALL FIRST FLOOR PLAN

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

CHESTERTON MIDDLE SCHOOL

651 W MORGAN AVE, CHESTERTON, IN. 46304

OAS Engineering Associates, LLC
769 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

M.E.P./F.P. CONSULTANT:

TRIA ARCHITECTURE

EXISTING PLAN REFERENCED NOTES

1. EXISTING WALL CONSTRUCTION TO REMAIN - PROTECT DURING CONSTRUCTION.
2. EXISTING DOOR AND FRAME TO REMAIN - PROTECT DURING CONSTRUCTION.
3. EXISTING PLUMBING FIXTURE TO REMAIN - PROTECT DURING CONSTRUCTION.
4. EXISTING LOCKERS TO REMAIN - PROTECT DURING CONSTRUCTION.
5. EXISTING WINDOW SYSTEM TO REMAIN - PROTECT DURING CONSTRUCTION.
6. EXISTING CASEWORK TO BE REMOVED.
7. EXISTING MECHANICAL UNIT TO BE REMOVED.
8. EXISTING ELECTRICAL PANELS TO REMAIN - PROTECT DURING CONSTRUCTION.
9. EXISTING FLOORING TO BE REMOVED.
10. REMOVE MASONRY AS REQUIRED TO PROVIDE NEW WORK INDICATED - REFER TO FLOOR PLAN.

LEGEND

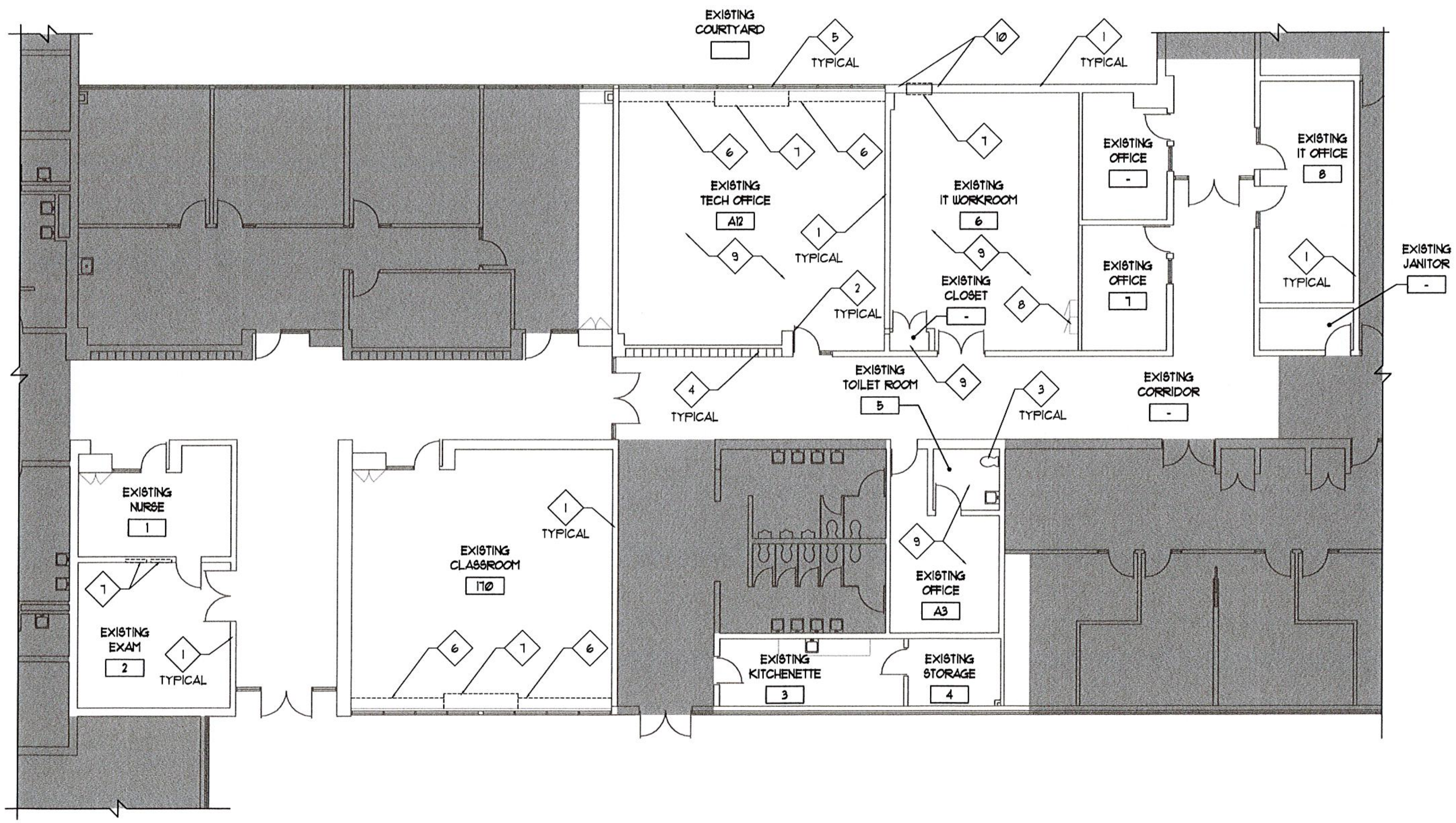
- - - - - EXISTING CONSTRUCTION TO BE REMOVED.

——— EXISTING CONSTRUCTION TO REMAIN.

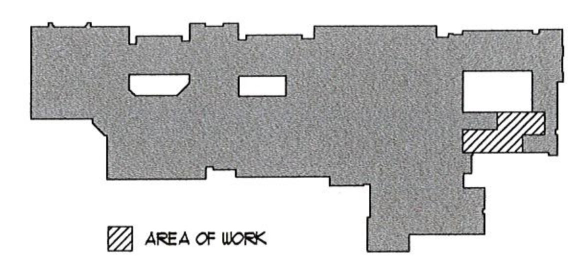
(shaded) NOT IN CONTRACT

EXISTING PLAN GENERAL NOTES

1. REFER TO FLOOR PLANS FOR SCOPE OF NEW WORK.
2. FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO GIVE A GENERAL SCOPE OF WORK. ANY ITEMS REQUIRING REMOVAL/DEMOLITION TO PROPERLY PERFORM CONTRACT WORK BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS VISIBLE DURING BIDDING.
3. SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM WORK.
4. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
5. REMOVE ALL EQUIPMENT LOCATED ON OR WITHIN WALL CONSTRUCTION SCHEDULED TO BE REMOVED, SO AS TO NOT DISRUPT EXISTING BUILDING OPERATIONS. DISCONNECT ALL ELECTRICAL WIRING, PULL WIRE BACK TO NEAREST JUNCTION BOX OR TO SERVICE.
6. PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
7. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL, EQUIPMENT OR FIXTURE TO BE REMOVED.
8. WHERE POSSIBLE - RUN NEW ELECTRICAL WORK INSIDE WALL AND CEILING CONSTRUCTION (NEW AND EXISTING) - REMOVE EXISTING WALL/CEILING CONSTRUCTION SCHEDULED TO REMAIN AS REQUIRED TO PERFORM WORK INDICATED - PATCH ALL CONSTRUCTION TO PROVIDE A FINISHED CONDITION.
9. REMOVE/RELOCATE ALL ACCESSORIES ON WALL CONSTRUCTION TO BE REMOVED.
10. GENERAL CONTRACTOR TO COORDINATE ALL ARCHITECTURAL WORK WITH INDICATED MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION WORK - NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
11. PATCH ALL EXISTING OPENINGS AT ALL EQUIPMENT SCHEDULED TO BE REMOVED, INCLUDING ABOVE CEILING- MATCH EXISTING WALL CONSTRUCTION IN MATERIAL THICKNESS, SIZE AND COLOR, UNLESS NOTED OTHERWISE - REFER TO MECHANICAL, AND ELECTRICAL DRAWINGS.
12. ALL EXISTING FLOOR FINISH SCHEDULED TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION - CONTRACTOR TO PROVIDE PLYWOOD, MDF AND/OR PLASTIC AS REQUIRED TO PROTECT FLOORING FROM DAMAGE DURING CONSTRUCTION - ANY DAMAGE TO BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
13. OWNER TO REMOVE AND REINSTALL ALL LOOSE FURNITURE AND ELECTRONIC EQUIPMENT UNLESS OTHERWISE NOTED - CONTRACTOR TO COORDINATE MOVING SCOPE AND STORAGE LOCATIONS WITH OWNER PRIOR TO BEGINNING ANY WORK.



1 PARTIAL EXISTING FLOOR PLAN
1/8" = 1'-0"



AREA OF WORK

KEYPLAN
NOT TO SCALE

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

PARTIAL EXISTING FLOOR PLAN

THOMAS R. SZURGOT REGISTERED AR10800173 STATE OF INDIANA ARCHITECT

A0.10

SET 1 OF 3

LEGEND

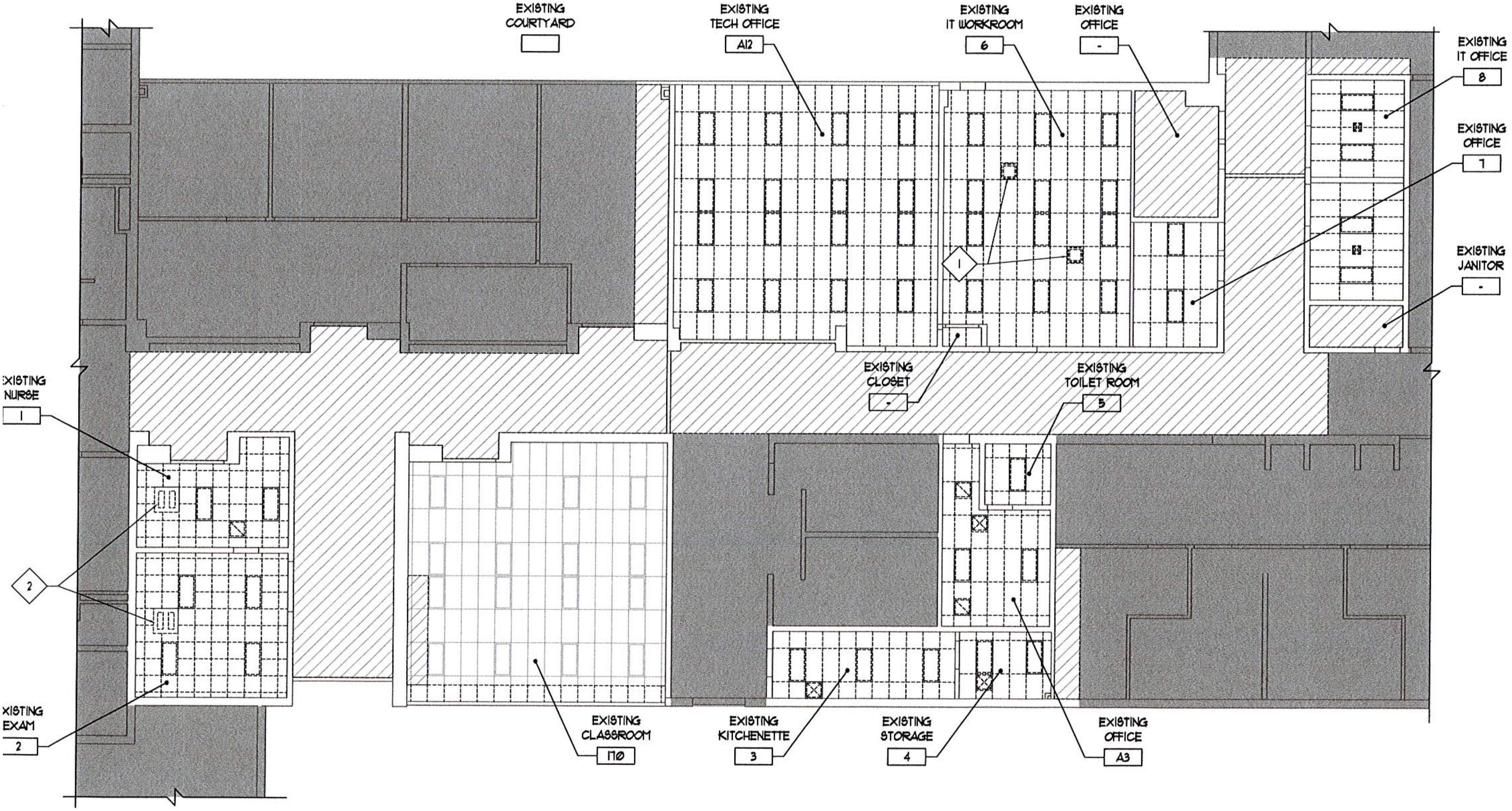
	EXISTING SUSPENDED ACOUSTICAL TILE CEILING TO REMAIN - PROTECT DURING CONSTRUCTION.
	EXISTING SUSPENDED ACOUSTICAL TILE CEILING TO BE REMOVED IN IT'S ENTIRETY - REMOVE ALL LIGHTS, LOUVERS, AND OTHER DEVICES.
	EXISTING LIGHT FIXTURE TO REMAIN - PROTECT DURING CONSTRUCTION
	EXISTING LIGHT FIXTURE TO BE REMOVED - REFER TO ELECTRICAL DRAWINGS
	EXISTING MECHANICAL SUPPLY DIFFUSER TO BE REMOVED - REFER TO MECHANICAL DRAWINGS
	EXISTING MECHANICAL RETURN GRILLE TO BE REMOVED - REFER TO MECHANICAL DRAWINGS
	EXISTING MECHANICAL EQUIPMENT TO BE REMOVED - REFER TO MECHANICAL DRAWINGS
	EXISTING CONSTRUCTION TO BE REMOVED
	EXISTING CONSTRUCTION TO REMAIN
	AREA OF EXISTING SUSPENDED CEILING SYSTEM TO BE REMOVED AND REINSTALLED AS REQUIRED FOR NEW CONSTRUCTION - REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.
	NOT IN CONTRACT

EXISTING REFLECTED CEILING PLAN GENERAL NOTES

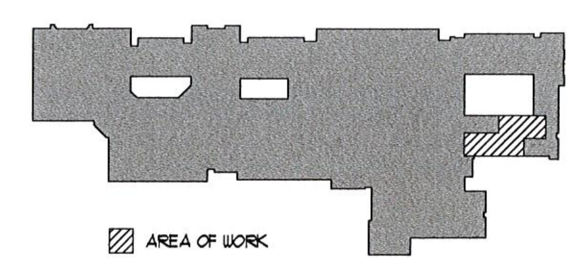
1. ALL EXISTING CEILING SYSTEMS, LIGHTS, EQUIPMENT AND CEILING MOUNTED SPEAKERS TO BE REMOVED IN THEIR ENTIRETY WHERE INDICATED - REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS.
2. REFER TO ELECTRICAL PLANS FOR ADDITIONAL CEILING MOUNTED DEVICES AND EQUIPMENT TO BE REMOVED.
3. CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK.
4. FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO GIVE A GENERAL SCOPE OF WORK. ANY ITEMS REQUIRING REMOVAL/DEMOLITION TO PROPERLY PERFORM CONTRACT WORK BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS VISIBLE DURING BIDDING.
5. SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM DEMOLITION WORK.
6. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/ REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
7. PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
8. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.

EXISTING REFLECTED CEILING PLAN REFERENCED NOTES

1. EXISTING VARIABLE REFRIGERANT FLOW UNIT TO BE RELOCATED - REFER TO MECHANICAL PLANS.
2. EXISTING MECHANICAL UNIT TO BE REMOVED - REFER TO MECHANICAL PLANS.



1 PARTIAL EXISTING REFLECTED CEILING PLAN



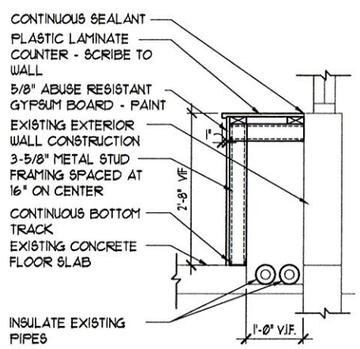
KEYPLAN
NOT TO SCALE

ARCHITECTURE

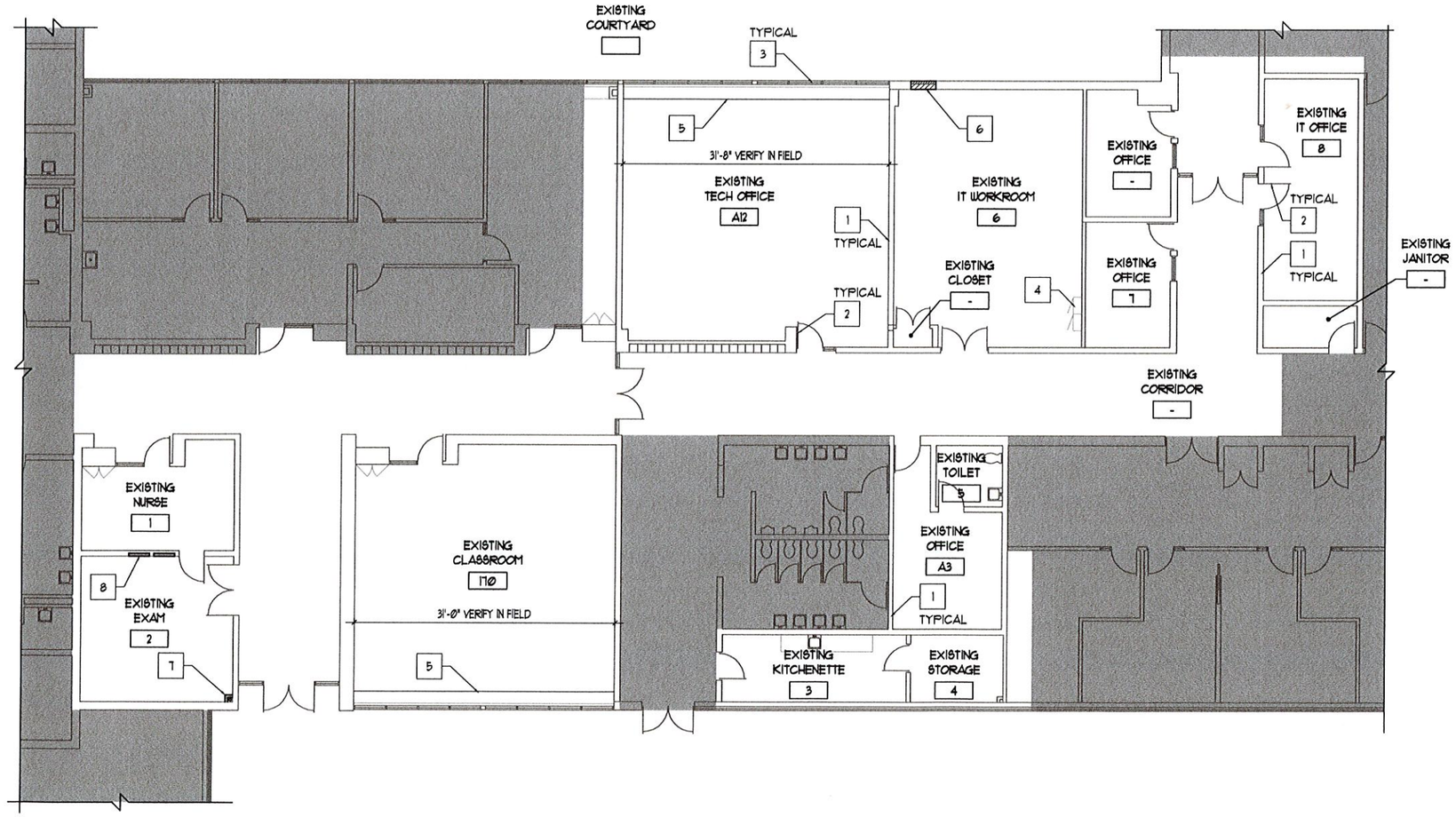
DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

PARTIAL EXISTING REFLECTED CEILING PLAN

A0.11



2 DETAIL
3/4" = 1'-0"



1 PARTIAL FLOOR PLAN
1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES

1. VERIFY EXACT DIMENSIONS OF ALL EXISTING CONDITIONS IN FIELD. GENERAL CONTRACTOR TO VERIFY AND COORDINATE ALL LAY OUTS AMONG ALL TRADES AFFECTED - NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO INSTALLATION BY ANY TRADE.
2. REFER TO PROJECT MANUAL FOR PRODUCTS, MATERIALS, PROCEDURES AND ADDITIONAL INFORMATION NOT COVERED IN DRAWINGS.
3. PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
4. PATCH EXISTING CONSTRUCTION AT ALL LOCATIONS OF ITEMS SCHEDULED TO BE REMOVED. FINISH TO MATCH ADJACENT SURFACES IN MATERIAL AND TEXTURE. TOOTH-IN ALL MASONRY IN WHOLE UNITS.
5. PATCH AND SMOOTH EXISTING FLOOR TO MATCH ADJACENT SURFACES AS REQUIRED TO INSTALL NEW FLOOR FINISH.
6. AT ALL FLOOR SLABS TO RECEIVE FLOOR FINISH, CONTRACTOR SHALL GRIND HIGH SPOTS, FILL DEPRESSIONS AND INFILL ANY UNUSED PENETRATIONS IN THE FLOOR SLAB WITH A MATERIAL SUITABLE TO THE FLOORING MANUFACTURER. ALL CRACKS LARGER THAN 1/8" ARE TO BE GROUND OUT AND FILLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE LINTELS ABOVE ALL DOORS, PENETRATIONS, LOUVERS, ETC. IN MASONRY WALLS - REFER TO LINTEL SCHEDULE ON STRUCTURAL DRAWINGS - REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL LINTEL LOCATIONS REQUIRED DUE TO DUCT PENETRATIONS, ETC.
8. PATCH, PAINT, AND CLEAN EXISTING WALLS, FLOORS, AND CEILINGS AT ITEMS SCHEDULED TO BE REMOVED.
9. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. REMOVE EXISTING WALL CONSTRUCTION AS REQUIRED TO INSTALL MECHANICAL, PLUMBING, AND ELECTRICAL WORK - PATCH WALLS AT REMOVED MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT TO BE REMOVED.
11. WHERE POSSIBLE - RUN NEW ELECTRICAL WORK INSIDE WALL AND CEILING CONSTRUCTION (NEW AND EXISTING) - PATCH CONSTRUCTION AS REQUIRED TO PROVIDE WORK INDICATED.
12. CUT, CORE, AND PATCH CONCRETE SLABS AS REQUIRED TO INSTALL PLUMBING, MECHANICAL, AND ELECTRICAL WORK.
13. TOOTH-IN MASONRY UNITS IN WHOLE UNITS AT NEW DOOR JAMB CONDITIONS TO PROVIDE A FINISHED APPEARANCE.
14. OWNER TO REMOVE AND REINSTALL ALL LOOSE FURNITURE AND ELECTRONIC EQUIPMENT UNLESS OTHERWISE NOTED - CONTRACTOR TO COORDINATE MOVING SCOPE AND STORAGE LOCATIONS WITH OWNER PRIOR TO BEGINNING ANY WORK.

FLOOR PLAN REFERENCED NOTES

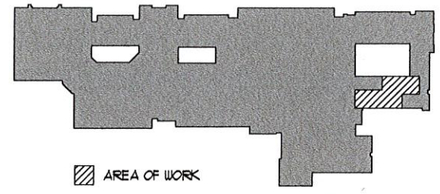
1. EXISTING WALL CONSTRUCTION - PROTECT DURING CONSTRUCTION.
2. EXISTING DOOR AND FRAME - PROTECT DURING CONSTRUCTION.
3. EXISTING WINDOW SYSTEM - PROTECT DURING CONSTRUCTION.
4. EXISTING ELECTRICAL PANELS - PROTECT DURING CONSTRUCTION.
5. PLASTIC LAMINATE COUNTER OVER METAL STUD FRAMING - BLANK OFF AT LOUVER WITH SEALANT, SHEET METAL, 2" RIGID INSULATION, AND TREATED 2X4 AROUND PERIMETER AND SEALANT - REFER TO DETAIL 2/A1.10.
6. INFILL EXTERIOR MASONRY WALL - TOOTH-IN MASONRY IN WHOLE UNITS - MATCH EXISTING WALL CONSTRUCTION.
7. 5/8" GYPSUM BOARD AND 3 5/8" METAL STUD PIPE CHASE ENCLOSURE - PAINT.
8. INFILL INTERIOR WALL - MATCH EXISTING WALL CONSTRUCTION.

LEGEND

EXISTING CONSTRUCTION

NEW CONSTRUCTION

NOT IN CONTRACT



AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IOAS
768 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 338-1696

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS:
ISSUED FOR BIDDING 3/18/22

PROJECT NUMBER: 21-051
PROJECT MANAGER: TRS
DRAWN BY: BM

PARTIAL FLOOR PLAN

THE DUNELAND SCHOOL CORPORATION Chesterton, Indiana

A1.10

SHT 1 OF 2

LEGEND

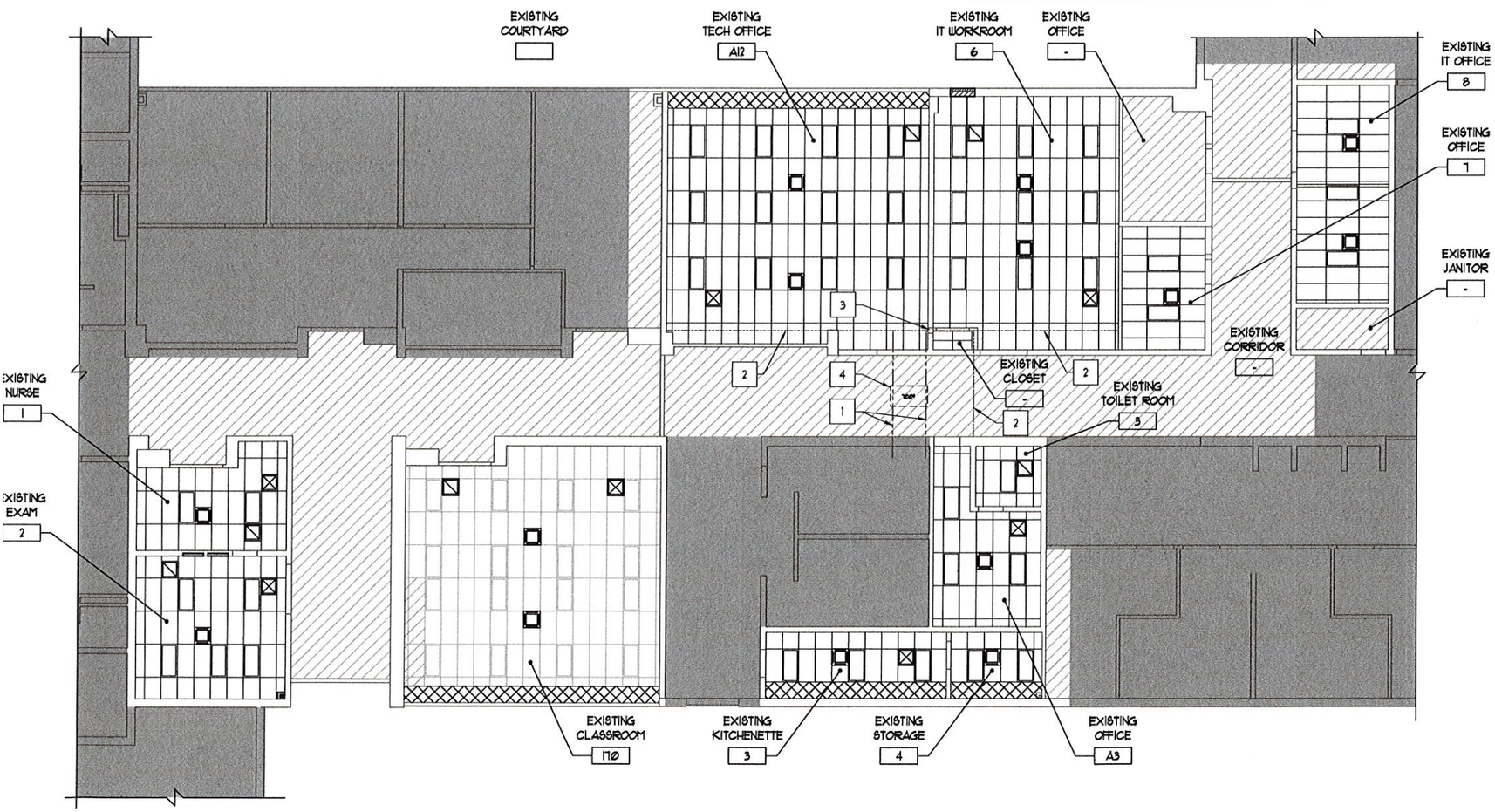
- SUSPENDED ACOUSTICAL TILE CEILING TO REMAIN - PROTECT DURING CONSTRUCTION.
- 2'x4' SUSPENDED ACOUSTICAL TILE CEILING SYSTEM
- 2' X 4' EXISTING RECESSED LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS
- 2' X 4' RECESSED LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS
- SUPPLY DIFFUSER - REFER TO MECHANICAL DRAWING
- RETURN / EXHAUST GRILLE - REFER TO MECHANICAL DRAWINGS
- VARIABLE REFRIGERANT FLOW UNIT - REFER TO MECHANICAL DRAWINGS
- RADIANT CEILING PANELS - REFER TO MECHANICAL DRAWINGS
- AREA OF EXISTING SUSPENDED CEILING SYSTEM TO BE REMOVED AND REINSTALLED AS REQUIRED FOR NEW CONSTRUCTION - REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.
- NOT IN CONTRACT

REFLECTED CEILING PLAN GENERAL NOTES

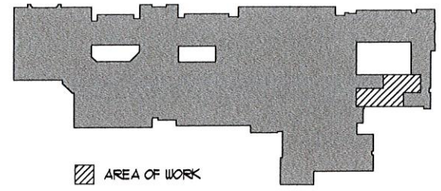
1. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL AREAS OF ABOVE CEILING WORK. REMOVE AND PATCH OR REINSTALL EXISTING CEILINGS IN THESE LOCATIONS ONLY AS REQUIRED TO PROVIDE WORK INDICATED.
2. CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK.
3. FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO INDICATE THE SCOPE OF WORK, ANY ITEMS REQUIRING REMOVAL TO PROPERLY PERFORM CONTRACT WORK, BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS VISIBLE DURING BIDDING.
4. SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM WORK.
5. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
6. PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
7. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.
8. BOTTOM OF NEW SUSPENDED ACOUSTICAL TILE CEILING = MATCH EXISTING.
9. DO NOT REUSE EXISTING WALL ANGLES.

REFLECTED CEILING PLAN REFERENCED NOTES

1. EXISTING STEEL JOIST ABOVE CEILING - PROTECT DURING CONSTRUCTION.
2. EXISTING STEEL BEAM ABOVE CEILING - PROTECT DURING CONSTRUCTION.
3. EXISTING STEEL COLUMN - PROTECT DURING CONSTRUCTION.
4. ROOF MOUNTED MECHANICAL UNIT - REFER TO MECHANICAL DRAWINGS AND DETAIL 3/A8.10.



1 PARTIAL REFLECTED CEILING PLAN
1/8" = 1'-0"



AREA OF WORK

KEYPLAN
NOT TO SCALE

THOMAS R. SZURGOT
REGISTERED
AR10800173
STATE OF INDIANA
ARCHITECT

EXPIRES 12/31/2023

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
OAS
789 HEARTLAND DR., UNIT 1, SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

CHESTERTON MIDDLE SCHOOL

651 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER:	21-651
PROJECT MANAGER:	TRS
DRAWN BY:	BM
ISSUED FOR BIDDING:	3/18/22

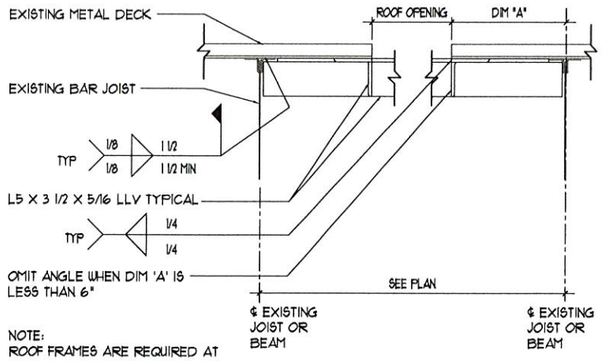
REVISIONS:

PARTIAL REFLECTED CEILING PLAN

DUNELAND SCHOOL CORPORATION
Chesterton, Indiana

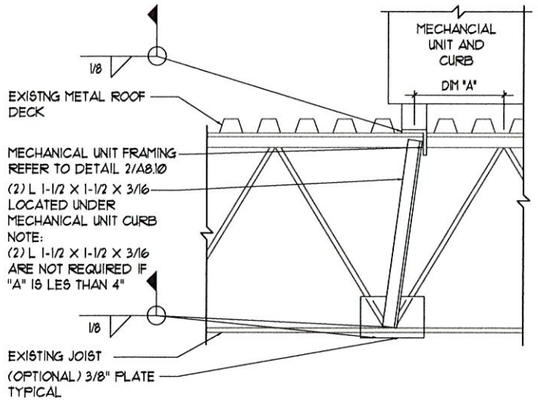
A7.10

SHT 1 OF 3

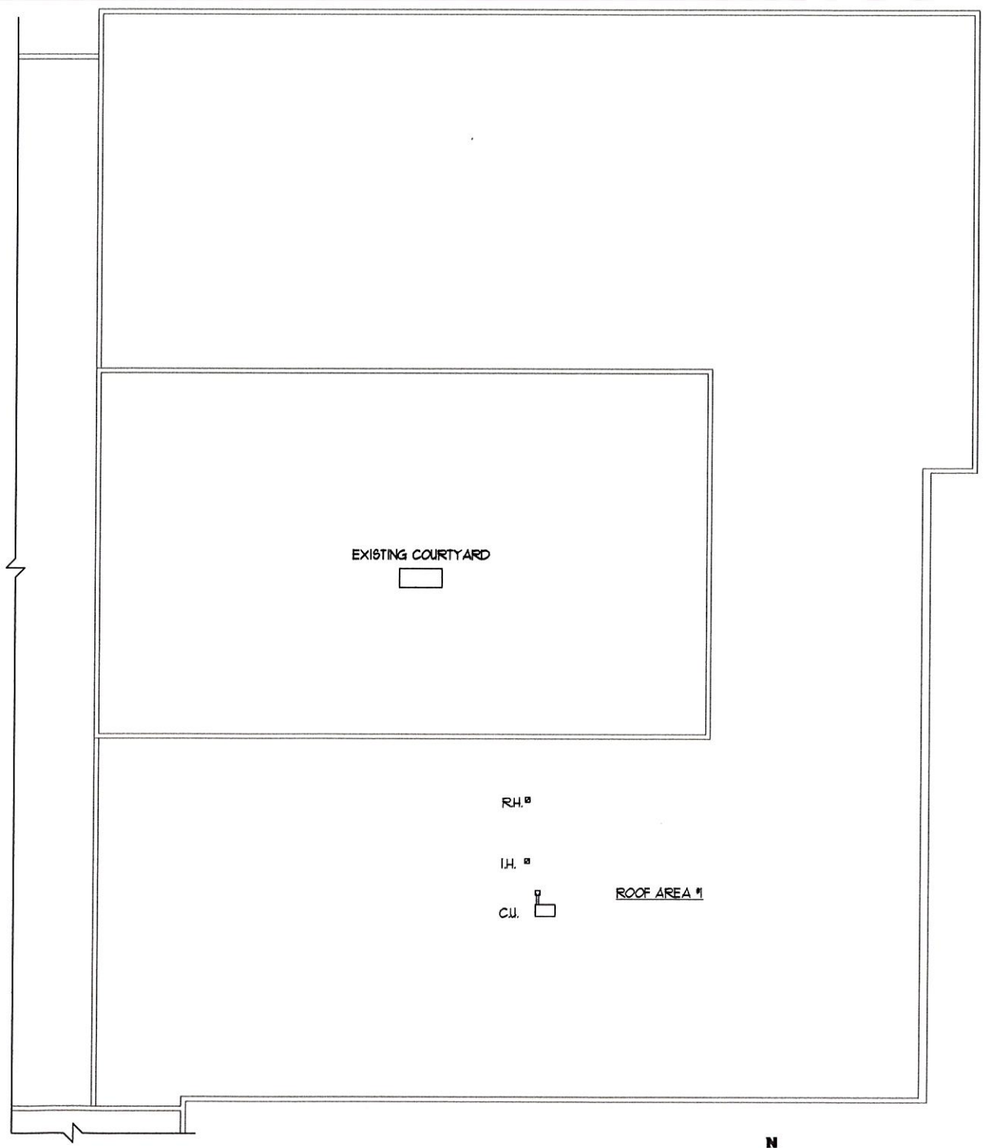


NOTE:
ROOF FRAMES ARE REQUIRED AT ALL OPENINGS LARGER THAN 1'-0" OR AS NOTED.

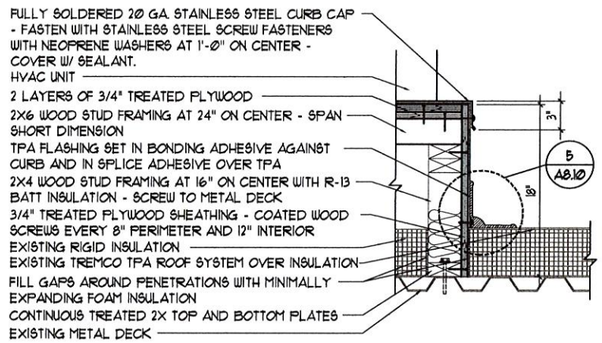
2 TYPICAL OPENING IN EXISTING ROOF DETAIL
1 1/2" = 1'-0"



3 TYPICAL JOIST REINFORCEMENT UNDER RTU CURB
1 1/2" = 1'-0"

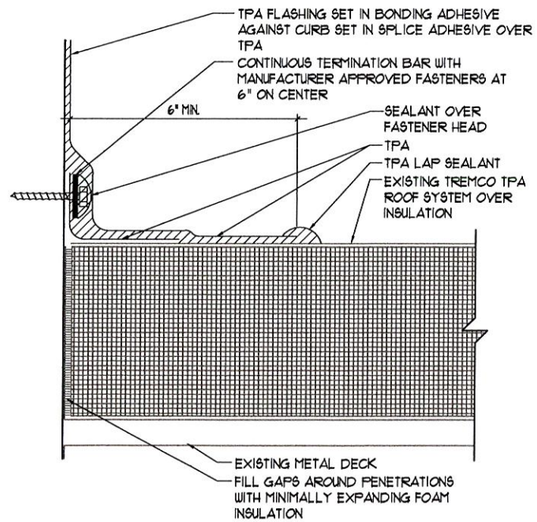


1 PARTIAL ROOF PLAN
1/16" = 1'-0"



NOTE:
1. ALL WOOD BLOCKING TO BE TREATED WITH JOINTS STAGGERED, MITERED, AND SCREWED TIGHT

4 PLATFORM CURB DETAIL
1 1/2" = 1'-0"



5 TYPICAL SPM ANCHOR STRIP DETAIL

GENERAL NOTES

1. ALL INSULATION JOINTS ARE TO BE STAGGERED.
2. ALL GAPS IN INSULATION JOINTS GREATER THAN 1/4" ARE TO BE FILLED WITH INSULATION STRIPS.
3. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS.
4. ALL COUNTER FLASHING, COPING, AND MISCELLANEOUS METAL FLASHING PIECES ARE TO HAVE SEALANT APPLIED AT THEIR END CONDITIONS.
5. ALL EXPOSED FASTENERS TO BE CORROSION RESISTIVE, HAVE NEOPRENE WASHERS, AND BE COVERED WITH SEALANT.
6. ALL AREAS OF EXISTING SITE USED TO ACCESS AREA OF WORK SHALL BE PROTECTED AND REPAIRED BACK TO ORIGINAL CONDITION PRIOR TO SUBSTANTIAL COMPLETION DATE - AT ALL GRASS AREAS DAMAGED DURING CONSTRUCTION, PROVIDE NEW SOD TO MATCH EXISTING SPECIES.
7. EXTEND ALL PIPE PENETRATIONS AS REQUIRED TO PROVIDE WORK INDICATED.
8. PROVIDE TAPERED INSULATION SADDLES AT ALL ROOF CURBS.
9. AT ALL ROOF PENETRATIONS TO BE REMOVED - PATCH DECK, FILL OPENING WITH INSULATION TO MATCH EXISTING AND PATCH MEMBRANE PER MANUFACTURER'S REQUIREMENTS TO MAINTAIN EXISTING ROOF WARRANTY.
10. EXISTING ROOF TOP EQUIPMENT NOT SHOWN FOR CLARITY - VERIFY LOCATIONS IN THE FIELD.
11. AT ALL NEW ROOF OPENINGS GREATER THAN 1'-0" IN ANY DIRECTION PROVIDE DECK SUPPORT FRAMING PER DETAIL 2/A8.10.

FLASHING NOTES

1. ALL FLASHING FLANGES ARE TO BE SET IN SEALANT.
2. FIELD VERIFY ALL CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS.
3. FOLLOWING INSTALLATION OF THE FLASHING, APPLY SEALANT TO ALL EXPOSED LEADING EDGES.
4. ALL SCREW ANCHOR LOCATIONS TO HAVE PRE-DRILLED 5/16" PILOT HOLES.
5. NON-EXPOSED NAIL FASTENERS TO BE 1-1/2" RING SHANK GALVANIZED ROOFING NAILS.
6. NON-EXPOSED SCREW ANCHORS INTO WOOD TO BE 1-1/4" X 3/16" HHA ATLAS TYPE #A' POINT SCREWS.
7. EXPOSED SCREW ANCHORS INTO WOOD ARE TO BE 1-1/4" X 3/16" HHA ATLAS TYPE #A' POINT 304 SERIES.
8. NON-EXPOSED SCREW ANCHORS INTO MASONRY ARE TO BE 1-1/4" X 3/16" TAPCONS.
9. EXPOSED SCREW ANCHORS INTO MASONRY ARE TO BE 1-1/4" X 3/16" TAPCONS WITH CLIMASEAL CORROSION RESISTIVE COATING AND NEOPRENE WASHERS.
10. EXPOSED SCREW FASTENERS INTO SHEET METAL TO BE 3/4" X 1/4" TEKS WITH NEOPRENE WASHERS.
11. ALL EXPOSED SCREW FASTENERS ARE TO BE COVERED WITH SEALANT.

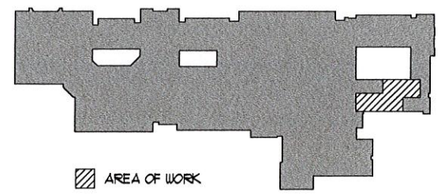
ROOF CONSTRUCTION NOTES

ROOF AREA "1":
EXISTING ROOF AREA - EXISTING METAL DECK, INSULATION AND TREMCO TPA ROOF SYSTEM - AT AREAS TO PATCH MATCH EXISTING ADJACENT CONSTRUCTION.

CONTACT GLUTH BROTHERS ROOFING COMPANY (219-844-5536) OR THE SCHOOL'S TREMCO ROOFING REPRESENTATIVE, DOUG COPLEY (260-312-0483). TREMCO CERTIFIES ALL ROOFING FOR THE DUNELAND SCHOOL CORPORATION.

LEGEND

C.U.	CONDENSING UNIT AND PLATFORM CURB - REFER TO DETAILS 3/A8.10, 4/A8.10 AND MECHANICAL DRAWINGS.
I.H.	INTAKE HOOD - REFER TO MECHANICAL DRAWINGS.
R.H.	RELIEF HOOD - REFER TO MECHANICAL DRAWINGS.



KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Designers & Associates
783 HOFFMAN DR., UNIT A, SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER:	21-051
PROJECT MANAGER:	TRS
DRAWN BY:	BM

REVISIONS
ISSUED FOR BIDDING: 3/10/22

PARTIAL ROOF PLAN AND DETAILS

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

THOMAS R. SZUBSKI REGISTERED AR10800173 STATE OF INDIANA ARCHITECT

A8.10

ROOM FINISH SCHEDULE

ROOM NO	ROOM NAME	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING	FLOORING	REF. NOTES
		WALL FINISH	WALL BASE	WALL FINISH	WALL BASE	WALL FINISH	WALL BASE	WALL FINISH	WALL BASE			
1	NURSE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
2	EXAM	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
170	CLASSROOM	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	-
3	KITCHENETTE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
4	STORAGE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
A3	OFFICE	PT-1	RBB	PT-1	RBB	PT-1	RBB	PT-1	RBB	SAT	LVT	1
5	TOILET	PT-1	PRT-1	PT-1	PRT-1	PT-1	PRT-1	PRT-1	PRT-1	SAT	PRT-1	1
A12	TECH OFFICE	PT-1	RBB	PT-1	RBB	PT-1	RBB	PT-1	RBB	SAT	LVT	1
6	IT WORKROOM	PT-1	RBB	PT-1	RBB	PT-1	RBB	PT-1	RBB	SAT	LVT	1
7	OFFICE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-
8	OFFICE	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	SAT	ETR	-

REFERENCED NOTES:

1. PAINT DOOR FRAME

ROOM FINISH SCHEDULE LEGEND

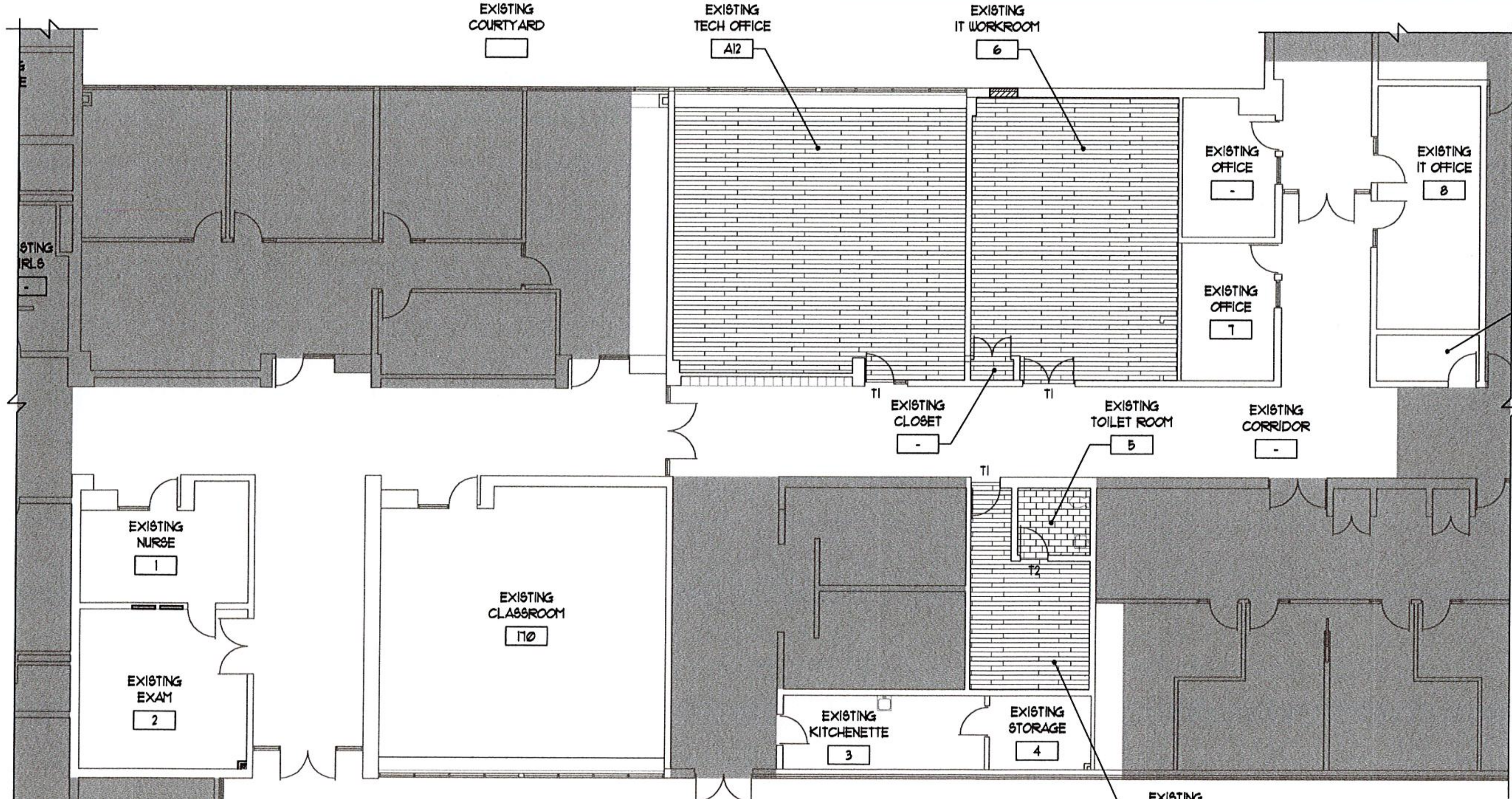
PT-1	PAINT COLOR 1 - GENERAL FIELD COLOR
PT-2	PAINT COLOR 2 - INTERIOR METAL FRAMES
LVT	LUXURY VINYL TILE - REFER TO SPECIFICATIONS
PRT-1	PORCELAIN TILE - REFER TO SPECIFICATIONS
RBB	RUBBER BASE - REFER TO SPECIFICATIONS
SAT	SUSPENDED ACOUSTICAL TILE CEILING - REFER TO SPECIFICATIONS
ETR	EXISTING TO REMAIN

FLOOR FINISH PLAN GENERAL NOTES

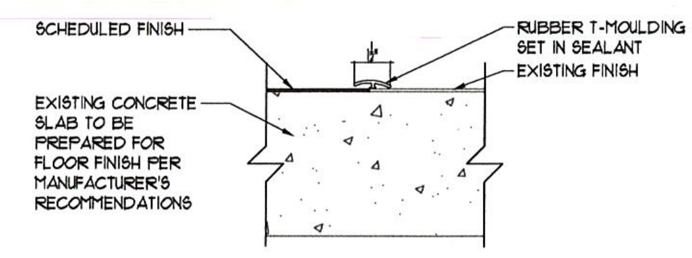
1. REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION.
2. MAKE EXISTING FLOOR SLAB SMOOTH AND FLAT TO FLOOR FINISH MANUFACTURER'S TOLERANCE WITH MATERIAL SUITABLE TO FLOOR FINISH. MANUFACTURER PRIOR TO INSTALLATION.
3. ALL TRANSITIONS BETWEEN DISSIMILAR FLOORING MATERIALS ARE TO RECEIVE A NEW TRANSITION STRIP.
4. PROVIDE WALL BASE AT LOCATIONS OF NEW FLOORING OR NEW WALL CONSTRUCTION.
5. AREAS OF RESILIENT FLOORING ARE TO RECEIVE RUBBER COVED BASE - VERIFY WITH BUILDING STANDARD.
6. AT AREAS WHERE PATCHING OF WALL BASE IS REQUIRED - FINISH TO MATCH ADJACENT IN MATERIAL, COLOR, HEIGHT, FINISH AND PROFILE.
7. DO NOT PAINT PREFINISHED ITEMS.
8. FLOOR DRAINS AND CLEANOUT COVERS ARE TO BE FLUSH WITH FINISHED FLOORING - ADJUST AS REQUIRED.
9. AT AREAS WHERE MECHANICAL EQUIPMENT HAS BEEN REMOVED - PATCH AND PAINT EXISTING EXPOSED CONSTRUCTION - MATCH ADJACENT EXISTING CONSTRUCTION IN MATERIAL, TEXTURE, SIZE, FINISH AND COLOR.
10. FLOORING SHALL BE STABLE, FIRM AND SLIP-RESISTANT.
17. TRANSITIONS IN FLOOR FINISHES, COLORS, OR PATTERNS ARE TO OCCUR AT THE CENTER OF DOORS UNLESS NOTED OTHERWISE.
18. CONTRACTOR TO VERIFY CONDITIONS AT EACH TRANSITION AND SIZE REDUCERS ACCORDINGLY.
19. PAINT NEW WALL CONSTRUCTION WHERE EXPOSED TO VIEW.

FLOOR FINISH PLAN LEGEND

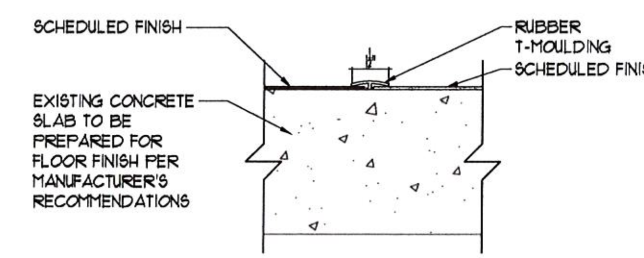
(blank box)	EXISTING TO REMAIN - PROTECT DURING CONSTRUCTION - CONTRACTOR TO REPAIR ANY AFFECTED AREAS - MATCH ADJACENT FINISH IN MATERIAL, COLOR, TEXTURE, AND SIZE.
(lined hatch)	LUXURY VINYL TILE - REFER TO SPECIFICATIONS
(grid hatch)	PORCELAIN TILE - REFER TO SPECIFICATIONS
(grey fill)	NOT IN CONTRACT



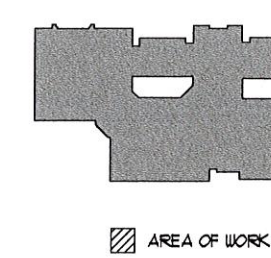
1 PARTIAL FLOOR FINISH PLAN
1/8" = 1'-0"



2 TRANSITION DETAIL - T1
3" = 1'-0"



3 TRANSITION DETAIL - T2
3" = 1'-0"



KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
DAS
769 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER: 21-037
PROJECT MANAGER: TRS
DRAWN BY: BM
ISSUED FOR BIDDING: 3/10/22
REVISIONS: 1, 2, 3, 4, 5

PARTIAL FLOOR FINISH PLAN, ROOM FINISH SCHEDULE, AND NOTES

DUNELAND SCHOOL CORPORATION, Chesterton, Indiana

THOMAS R. SZURGOT
REGISTERED
AR10800173
STATE OF INDIANA
ARCHITECT

A9.10

MECHANICAL (HVAC) DEMOLITION NOTES

I. DRAWINGS

- D-1 THERMOSTAT/SENSOR TO BE COMPLETELY REMOVED INCLUDING ALL CONTROL WIRING AND/OR PNEUMATIC CONTROL AIR PIPING TO/FROM UNIT IT SERVES. PROVIDE STAINLESS STEEL BLANK COVER PLATE OVER OPENING IF LOCATION IS NOT REUSED FOR NEW THERMOSTAT/SENSOR UNDER THE INSTALLMENT OF THE NEW EQUIPMENT AND CONTROLS.
- D-2 REMOVE FLOOR UNIT VENTILATOR COMPLETELY INCLUDING ALL PIPING (HOT/CHILLED/CONDENSATE), INSULATION, CONTROLS, CONTROL WIRING, CONTROL AIR PIPING, SUPPORTS, VALVES, ETC. CAP PIPING AT MAINS IN PIPE TRENCH OR AT CHASE. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PATCH WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-3 REMOVE SHELVING COMPLETELY INCLUDING ALL PIPING, INSULATION, CONTROLS, CONTROL WIRING, CONTROL AIR PIPING, SUPPORTS, VALVES, ETC. PATCH WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-4 EXISTING WALL LOUVER TO REMAIN. PROVIDE 2" INSULATED SHEET METAL BLANK-OFF PANEL (APPROXIMATE 58"W X 11"H). SEAL AIR/WATER TIGHT. FIELD VERIFY DIMENSIONS.
- D-5 REMOVE HOT AND/OR CHILLED WATER SUPPLY/RETURN PIPING COMPLETELY INCLUDING VALVES, CONTROLS, HANGERS, INSULATION, EXPANSION JOINTS, PIPE GUIDES, SLEEVES, ANCHORS, ETC. CAPPING AT MAIN IN CORRIDOR. PATCH WALL AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-6 EXISTING CHILLED WATER SUPPLY/RETURN PIPING TO REMAIN. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-7 EXISTING EXHAUST AIR DUCTWORK TO REMAIN.
- D-8 CAP AND INSULATE CHILLED WATER PIPING AT MAINS.
- D-9 EXISTING HOT WATER SUPPLY/RETURN IN TRENCH AT FLOOR TO REMAIN. OWNER TO INSULATE EXISTING PIPING. CAP PIPING AT REMOVED HOT WATER SUPPLY/RETURN CONNECTIONS WHERE CLASSROOM UNIT VENTILATOR(S) HAVE BEEN REMOVED. FIELD VERIFY REQUIREMENTS.
- D-10 EXISTING DUCTWORK TO REMAIN.
- D-11 REMOVE EXISTING DUCTWORK INCLUDING DIFFUSER(S), HANGERS, INSULATION, ETC. IN THEIR ENTIRETY. PROVIDE INSULATED CAP AT MAIN(S). PATCH WALLS AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-12 EXISTING RADIANT PANEL AND ASSOCIATED PIPING TO REMAIN.
- D-13 EXISTING CONDENSATE PIPING TO REMAIN.
- D-14 EXISTING THERMOSTAT/SENSOR TO REMAIN.
- D-15 EXISTING HOT AND/OR CHILLED WATER SUPPLY/RETURN TO REMAIN.
- D-16 REMOVE/REINSTALL EXISTING REFRIGERANT PIPING INCLUDING INSULATION, HANGERS, ETC. AS REQUIRED TO RELOCATE VRF UNIT. SEE NEW WORK PLANS FOR NEW VRF LOCATION.
- D-17 REMOVE EXISTING CONDENSATE PIPING INCLUDING INSULATION, HANGERS, ETC. IN THEIR ENTIRETY. SEE NEW WORK PLANS FOR NEW PIPING REQUIREMENTS (APPROX. 30').
- D-18 REMOVE/RELOCATE VRF UNIT COMPLETELY INCLUDING ALL PIPING (REFRIGERANT/CONDENSATE), INSULATION, CONTROLS, CONTROL WIRING, SUPPORTS, VALVES, ETC. COORDINATE ALL DISCONNECT/RECONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-19 EXISTING VRF UNIT TO REMAIN.
- D-20 EXISTING ENERGY RECOVERY UNIT TO REMAIN.
- D-21 EXISTING ELECTRIC DUCT COIL TO REMAIN.
- D-22 EXISTING REFRIGERANT PIPING TO REMAIN.
- D-23 EXISTING HEAT RECOVERY BOX TO REMAIN.
- D-24 EXISTING HEAT RECOVERY BOX TO REMAIN. SEE NEW WORK DRAWINGS FOR PIPING MODIFICATIONS.
- D-25 EXISTING CABINET UNIT HEATER TO REMAIN.
- D-26 EXISTING ROOF MOUNTED CONDENSING UNIT AND ASSOCIATED REFRIGERANT PIPING TO REMAIN.
- D-27 REMOVE CEILING EXHAUST GRILLE. PROVIDE NEW GRILLE UNDER NEW WORK. SEE NEW WORK DRAWINGS.
- D-28 REMOVE CEILING UNIT VENTILATOR COMPLETELY INCLUDING ALL PIPING (HOT/CHILLED/CONDENSATE), DUCTWORK, INSULATION, DAMPERS, CONTROLS, CONTROL WIRING, CONTROL AIR PIPING, SUPPORTS, VALVES, ETC. CAP PIPING AT MAINS, FIELD VERIFY. REMOVE ROOF HOOD(S) AND ASSOCIATED SUPPLY/RETURN/OUTDOOR AIR DUCTWORK. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PATCH WALL/ROOF AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-29 EXISTING WALL/GROUND MOUNTED COOLING UNIT AND ASSOCIATED PIPING TO REMAIN.
- D-30 EXISTING ROOF EXHAUST FAN TO REMAIN.
- D-31 EXISTING OUTDOOR AIR DUCTWORK TO BE REMOVED. SEE NEW WORK DRAWINGS FOR DUCTWORK EXTENSION.
- D-32 EXISTING MOTORIZED DAMPER AND DUCTWORK TO REMAIN.
- D-33 EXISTING ROOF INTAKE HOOD AND DUCTWORK TO REMAIN.
- D-34 REMOVE WALL/CEILING MOUNTED CABINET/FAN COIL UNIT COMPLETELY INCLUDING ALL PIPING (HOT/CHILLED/CONDENSATE), INSULATION, CONTROLS, CONTROL WIRING, CONTROL AIR PIPING, SUPPORTS, VALVES, ETC. CAP PIPING AT MAINS. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PATCH WALL/CEILING AS STATED UNDER GENERAL DEMOLITION NOTES. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

II. GENERAL

A. ALL DEMOLITION OF THE HVAC SYSTEM AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THE MECHANICAL (HVAC) CONTRACTORS WORK.

B. MECHANICAL CONTRACTOR SHALL VISIT EACH SCHOOL BUILDING, BEFORE SUBMITTING HIS BID, TO VERIFY THE EXISTING CONDITIONS WHICH WILL AFFECT HIS WORK.

C. BEFORE STARTING ANY DEMOLITION ON HVAC EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION. THE MECHANICAL CONTRACTOR SHALL MEET WITH THE ELECTRICAL CONTRACTOR TO IDENTIFY ALL SUCH EQUIPMENT. THE ELECTRICAL CONTRACTOR WILL DISCONNECT THE POWER TO EACH UNIT, REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES AND STARTERS UNDER HIS CONTRACT. MECHANICAL CONTRACTOR WILL REMOVE ALL EQUIPMENT, ELECTRIC TEMPERATURE CONTROL WIRING AND CONDUIT UNDER THIS CONTRACT.

D. MECHANICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR GETTING EQUIPMENT AND MATERIAL OUT OF BUILDING. MECHANICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.

E. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CLEAN-UP THROUGHOUT THE COURSE OF THE DEMOLITION WORK. IN THE EVENT HE FAILS TO PROVIDE SUCH CLEAN-UP THE ARCHITECT/ENGINEER WILL DIRECT THE CLEAN-UP TO BE PERFORMED BY ANOTHER CONTRACTOR AND THE MECHANICAL CONTRACTOR WILL BE BACK-CHARGED AS DEEMED APPROPRIATE BY ARCHITECT/ENGINEER.

F. ALL EQUIPMENT, MATERIAL, ETC. THAT IS BEING DEMOLISHED WILL BECOME THE PROPERTY OF THE MECHANICAL CONTRACTOR. ALL SUCH ITEMS WILL BE REMOVED FROM THE BUILDING SITE BY THE MECHANICAL CONTRACTOR. NO ITEM WHICH IS BEING REMOVED UNDER THE DEMOLITION CONTRACT MAY BE REUSED UNDER THE NEW WORK CONTRACT.

G. SEQUENCE OF ALL DEMOLITION WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS AND/OR AS DIRECTED BY ARCHITECT/ENGINEER.

H. THE CONTRACTOR PERFORMING THE DEMOLITION WORK SHALL REMOVE NO MORE THAN 8" OF BUILDING MATERIAL AROUND EACH DEVICE BEING DEMOLISHED.

I. ALL ROOF PATCHING MUST BE PERFORMED BY OLSSON ROOFING TO COMPLY WITH THE CARLISLE EPDM WARRANTY.

J. MECHANICAL CONTRACTOR MUST COORDINATE WORK ASSOCIATED WITH ALL NEW ROOF PENETRATIONS AND CAPPING EXISTING PENETRATIONS WITH OLSSON ROOFING.

K. ROOFING PLANS FOR ROOFING WORK IN PROGRESS BY OLSSON ROOFING WILL BE PROVIDED FOR "REFERENCE ONLY" TO THE HVAC CONTRACTORS.

L. THE PATCHING OF FINISHED FLOORING MATERIALS IS TO BE PERFORMED BY A FLOORING CONTRACTOR AND PAID FROM AN ALLOWANCE.

NOTES:

1. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIAL REQUIRED TO PATCH ALL OPENINGS IN EXISTING WALLS AND FIRE SEPARATIONS CREATED BY THE REMOVAL OF THIS TRADES MATERIAL AND EQUIPMENT WHERE THESE OPENINGS ARE NOT TO BE REUSED. PATCHING OF ALL EXISTING CONCRETE FLOOR OPENINGS IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.

MECHANICAL VENTILATION NEW WORK NOTES

- (A) PROVIDE AND INSTALL INTAKE/RELIEF HOOD. PROVIDE MOTORIZED DAMPER(S) AT IH/RH. COORDINATE WITH EXISTING STRUCTURAL STEEL. CUT/PATCH ROOF. SEE LARGE SCALE DETAILS AND ARCHITECTURAL DRAWINGS ADDITIONAL REQUIREMENTS.
- (B) INSULATED SUPPLY/RETURN/EXHAUST AIR DUCT. COORDINATE DUCTWORK ROUTING WITH CEILING REMOVAL/REPLACEMENT. RUN DUCTWORK THROUGH JOIST WEBS AND IN JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (C) SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK TO/FROM ERV. PROVIDE FLEXIBLE CONNECTION AT EACH ERV DUCT CONNECTION. HANG ERV FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE ERV WITH EXISTING BUILDING STRUCTURE. REMOVE/MODIFY/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL ERV. FIELD VERIFY REQUIREMENTS. SEE SPECIFICATIONS AND LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS.
- (D) EXISTING WALL LOUVER. PROVIDE 2" INSULATED SHEET-METAL BLANK-OFF PANEL. SEAL AIR/WATER TIGHT. FIELD VERIFY DIMENSIONS.
- (E) THERMOSTAT/SENSOR. CUT/PATCH NEW/EXISTING WALL AS REQUIRED TO INSTALL. PAINT WALL TO MATCH EXISTING.
- (F) ELECTRIC DUCT COIL, SEQUENCE WITH ERV AND DISCHARGE AIR SENSOR. SEE SEQUENCE OF OPERATION FOR ADDITIONAL REQUIREMENTS.
- (G) EXISTING ROOF INTAKE HOOD AND DUCTWORK.
- (H) EXISTING OUTDOOR AIR DUCTWORK AND MOTORIZED DAMPER. PROVIDE NEW CONNECTION AND EXTEND 4"ø OUTDOOR AIR DUCTWORK AS SHOWN TO NEW VRF UNIT(S).
- (I) PROVIDE NEW 4"ø OUTDOOR AIR DUCTWORK AND MOTORIZED DAMPER. EXTEND AS SHOWN TO NEW VRF UNIT.
- (J) EXISTING OUTDOOR AIR DUCTWORK AND MOTORIZED DAMPER TO REMAIN.
- (K) EXISTING THERMOSTAT/SENSOR TO REMAIN. EXTEND WIRING TO RELOCATED VRF UNIT LOCATIONS.
- (L) PROVIDE NEW LAY-IN CEILING EXHAUST GRILLE. RECONNECT TO EXISTING EXHAUST FAN/DUCTWORK. FIELD VERIFY REQUIREMENTS AND MODIFY DUCTWORK AS REQUIRED. BALANCE TO CFM SHOWN.
- (M) EXISTING SUPPLY/RETURN/OUTDOOR AIR DUCTWORK. PROVIDE INSULATED AIRTIGHT CAP.

MECHANICAL PIPING NEW WORK NOTES

1. EXISTING VRF UNIT TO REMAIN.
2. EXISTING HEAT RECOVERY BOX TO REMAIN.
3. NEW LOCATION FOR RELOCATED VRF UNIT.
4. EXISTING CONDENSATE PIPING TO REMAIN.
5. PROVIDE AND INSTALL ROOF MOUNTED CONDENSING UNIT ON 18" HIGH EQUIPMENT RAILS AND PIPE CURB. SEE LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS. PROVIDE NEW REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR HEAT RECOVERY UNIT(S) AND/OR INDOOR VRF UNIT(S). PROVIDE ROOF PIPE SUPPORTS 4'-0" O.C. EXTERIOR PIPING TO BE INSULATED AND PROVIDED WITH AN ALUMINUM JACKET PER THE SPECIFICATIONS. SEE LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS. FIELD VERIFY ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER.
6. VRF UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM HR UNITS AND INDOOR VRF UNITS. PROVIDE 1" INSULATED CONDENSATE PIPE FROM VRF UNIT. RISE CONDENSATE OFF OF VRF UNIT AND RUN CONDENSATE PIPE IN JOIST SPACE AS HIGH AS POSSIBLE. COORDINATE LOCATION OF VRF UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG VRF UNIT FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL VRF UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. RUN INSULATED CONDENSATE AS HIGH AS POSSIBLE THROUGH EXISTING JOISTS AND JOIST WEBBING (TYPICAL). SEE PLANS FOR PIPE SIZES.
8. 1-1/2" INSULATED CONDENSATE DROP IN PAINTED SHEET METAL CHASE TO BUILDING EXTERIOR. PROVIDE 45° SCREENED ELBOW WITH SPLASH BLOCK ON OUTDOOR TERMINATION. CUT/PATCH EXISTING WALL.
9. HR UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR INDOOR VRF UNITS. COORDINATE LOCATION OF HR UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG HR UNIT FROM EXISTING STRUCTURE (BEAM/JOIST), PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE HR UNITS WITH EXISTING BUILDING STRUCTURE. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL HR UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
10. PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER UNIT AND/OR INDOOR HR/VRF UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
11. PROVIDE 3/4" HOT WATER SUPPLY/RETURN PIPES TO/FROM RADIANT CEILING PANEL. FIELD VERIFY PIPING REQUIREMENTS AND LOCATION OF EXISTING HOT WATER SUPPLY/RETURN (APPROX. 15'). SEE LARGE SCALE DETAILS FOR ADDITIONAL REQUIREMENTS.
12. EXISTING REFRIGERANT PIPING TO REMAIN.
13. 1-1/2" CONDENSATE PIPING, DROP TO EXISTING FLOOR SINK WITH AIR GAP.
14. PROVIDE NEW CONNECTION TO EXISTING CONDENSATE MAIN.
15. EXISTING CABINET UNIT HEATER.
16. EXISTING ROOF MOUNTED CONDENSING UNIT.

TRIA ARCHITECTURE

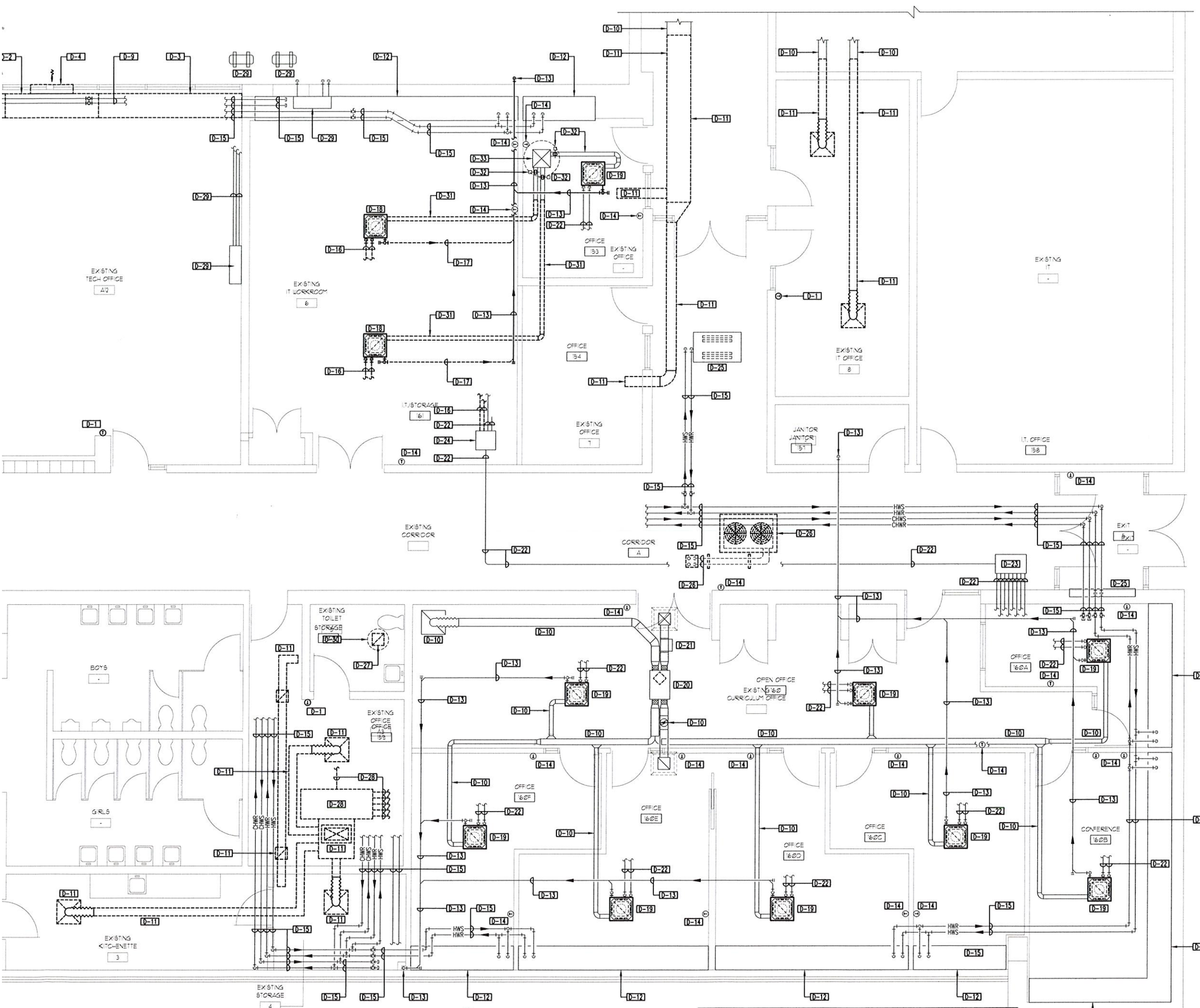
DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

MECHANICAL - NOTES

Duneland School Corporation, Chesterton, Indiana

KEITH BRYANT O'HIGGINS, REGISTERED No. PE10911154, STATE OF INDIANA, PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

M0.00



1 PARTIAL EXISTING PARTIAL FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

REFER TO SHEET M0.00 FOR MECHANICAL (HVAC) NOTES.

AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
OAS
789 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS:

PROJECT NUMBER: 21-021
PROJECT MANAGER: TRS
DRAWN BY: OAS, LLC

ISSUED FOR BIDDING: 3/30/22

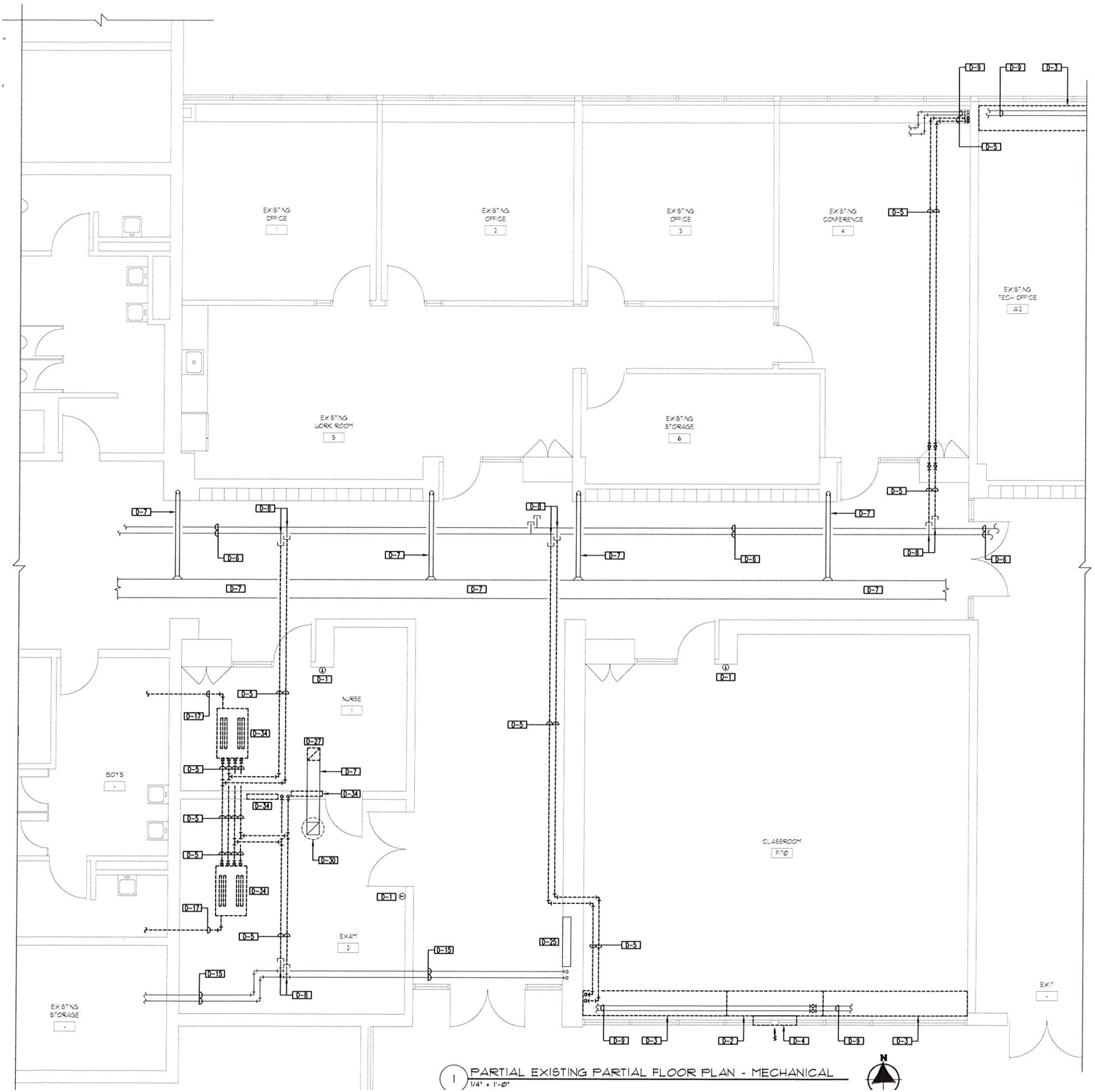
PARTIAL EXISTING PARTIAL FLOOR PLAN
MECHANICAL

DUNELAND SCHOOL CORPORATION
Chesterton, Indiana

KEITH BRYANT GIBBONS
REGISTERED
No. PE10911154
STATE OF INDIANA
PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

M0.10

SHT 1 OF 3



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1/4" = 1'-0"

REFER TO SHEET M0.00 FOR MECHANICAL (HVAC) NOTES.

KEYPLAN
NOT TO SCALE

KEITH BRYANT BRIDGES
REGISTERED
No. PE10911154
STATE OF INDIANA
PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
OAS Engineering & Architecture, LLC
765 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

CHESTERTON MIDDLE SCHOOL

651 W MORGAN AVE, CHESTERTON, IN. 46304

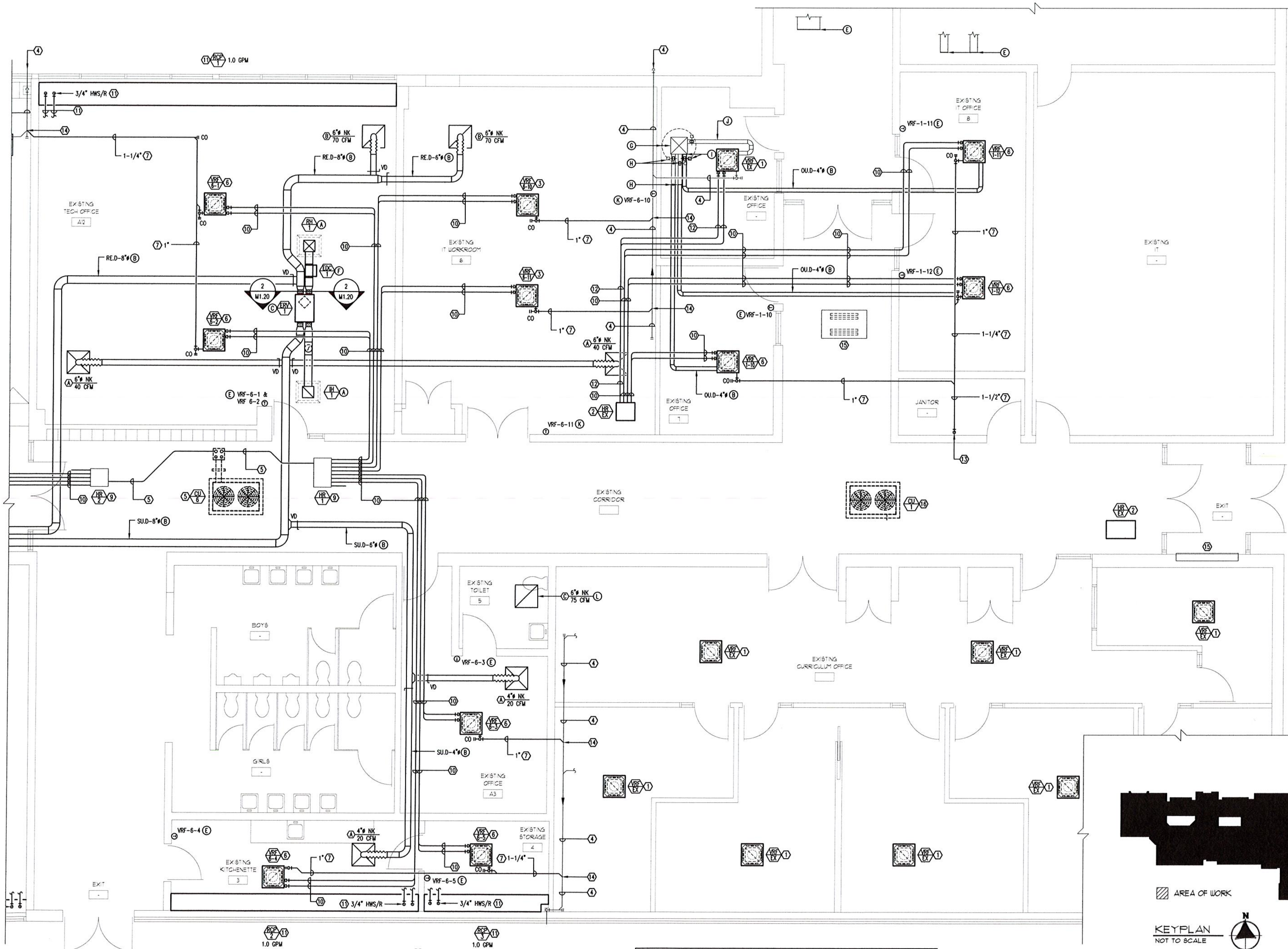
PROJECT NUMBER	21-031
PROJECT MANAGER	TRS
DRAWN BY	OAS, LLC

REVISIONS:	
ISSUED FOR BIDDING	3/8/22

PARTIAL EXISTING PARTIAL FLOOR PLAN
MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

M0.20



1 PARTIAL PARTIAL FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

REFER TO SHEET M0.00 FOR MECHANICAL (HVAC) NOTES.

AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
OAS

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS:

PROJECT NUMBER: 21-031
PROJECT MANAGER: TRS
DRAWN BY: OAS, LLC

ISSUED FOR BIDDING 3/30/22

PARTIAL FLOOR PLAN
MECHANICAL - MECHANICAL

DUNELAND SCHOOL CORPORATION
Chesterton, Indiana

KEITH BRYANT O'HIGGINS
REGISTERED
No. PE10911154
STATE OF INDIANA
PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

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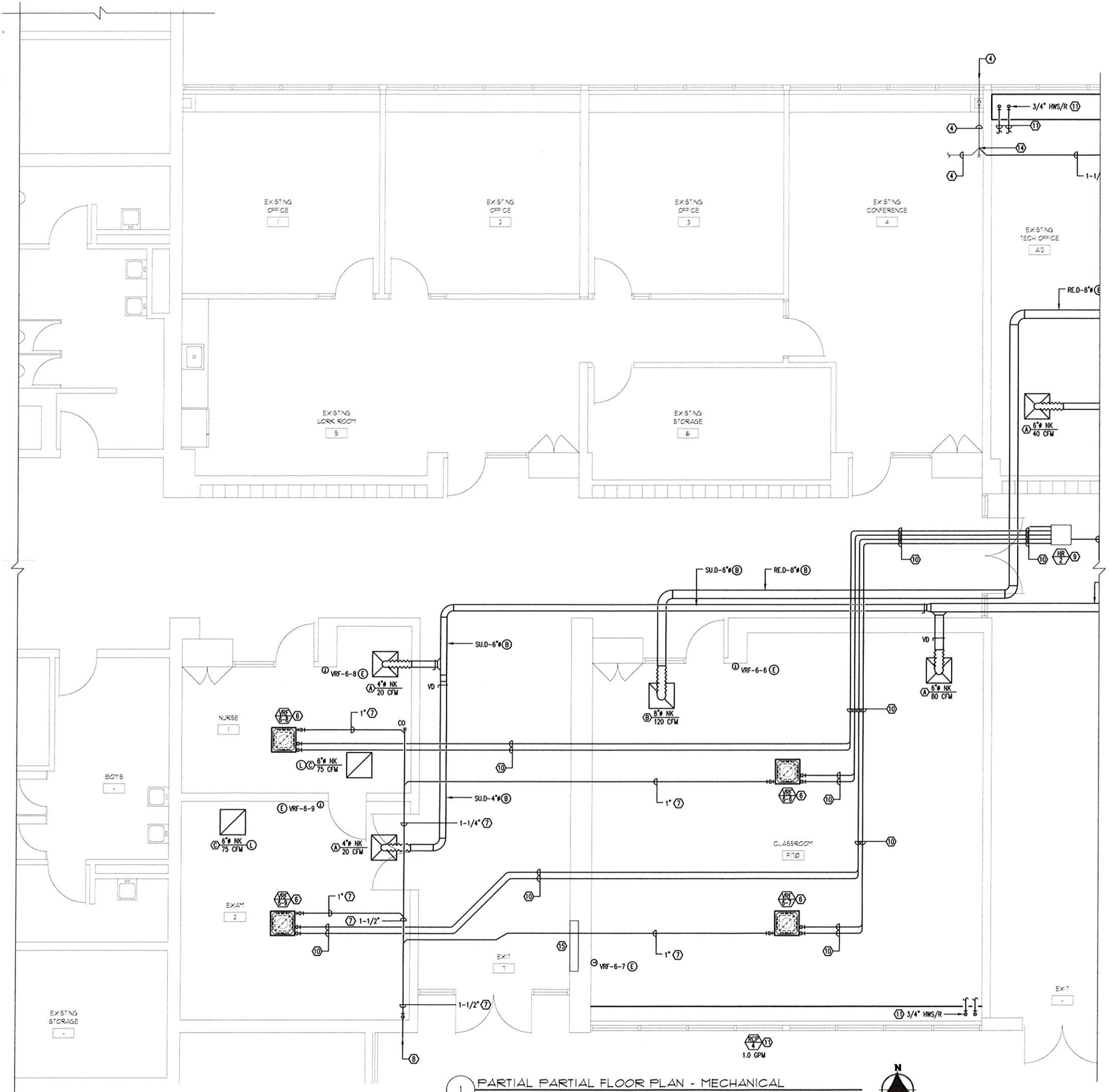
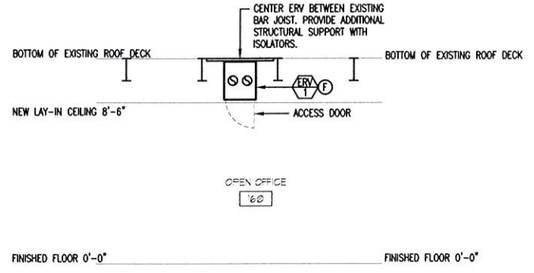
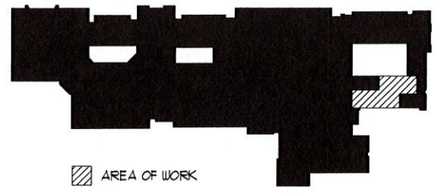


1 PARTIAL PARTIAL FLOOR PLAN - MECHANICAL
1/4" = 1'-0"



2 SECTION 2 - 2
1/4" = 1'-0"

REFER TO SHEET M0.00 FOR MECHANICAL (HVAC) NOTES.



AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Engineering
789 HEARTLAND DR., UNIT A, SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
CHESTERTON MIDDLE SCHOOL
651 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER:	21-051
PROJECT MANAGER:	TRS
DRAWN BY:	DAS, LLC
ISSUED FOR BIDDING:	3/16/22

REVISIONS:
1

PARTIAL FLOOR PLAN
MECHANICAL - MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH BRYANT ENGINEERING REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

M1.20

VARIABLE REFRIGERANT FLOW UNIT SCHEDULE (OWNER PROVIDED) (VRF) (CU)

M	LOCATION	AREA SERVED	MANUFACTURER	MODEL NUMBER	TYPE	CORRECTED COOLING (BTUH)	CORRECTED SENSIBLE COOLING (BTUH)	CORRECTED HEATING (BTUH)	CFM	EAT D.B. (°F)	EAT W.B. (°F)	HTG EAT DB (°F)	FILTER TYPE	RLA	VOLT/PH	DIMENSIONS LxWXH (IN.)
VRF 1	EXISTING OFFICE 101/102	EXISTING OFFICE 101	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 2	EXISTING STAFF LOUNGE 105	EXISTING STAFF LOUNGE 105	LG	ARNU183TQD4	4-WAY CASSETTE	15,578	11,956	15,429	396	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 3	EXISTING STAFF LOUNGE 105	EXISTING STAFF LOUNGE 105	LG	ARNU183TQD4	4-WAY CASSETTE	15,578	11,956	15,429	396	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 4	EXISTING STAFF LOUNGE 105	EXISTING STAFF LOUNGE 105	LG	ARNU183TQD4	4-WAY CASSETTE	15,578	11,956	15,429	396	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 5	EXISTING OFFICE 107	EXISTING OFFICE 107	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 6	EXISTING OFFICE 109	EXISTING OFFICE 109	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 7	EXISTING OFFICE 110	EXISTING OFFICE 110	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 8	EXISTING OFFICE 111	EXISTING OFFICE 111	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 9	EXISTING OFFICE 113	EXISTING OFFICE 113	LG	ARNU093TRD4	4-WAY CASSETTE	7,830	6,013	7,755	283	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 10	EXISTING OFFICE 114	EXISTING OFFICE 114	LG	ARNU093TRD4	4-WAY CASSETTE	7,830	6,013	7,755	283	75	63	70	WASHABLE	0.2	208/1	22x22x10
VRF 11	EXISTING OFFICE 115	EXISTING OFFICE 115	LG	ARNU153TQD4	4-WAY CASSETTE	12,560	9,601	12,440	388	75	63	70	WASHABLE	0.2	208/1	22x22x10

OUTDOOR SECTION

TAG	MANF.	MODEL NUMBER	WEIGHT (LB.S)	DIMENSIONS LxWXH (IN.)	CORRECTED TOTAL COOLING (MBH)	CORRECTED TOTAL HEATING (MBH)	AMBIENT AIR (°F)	IEER	MCA	MOCP	VOLTS/ PHASE	NOTES
CU 1	LG	ARUM168BTE5	694	49x30x67	137,754	136,435	95.0/75.0 −10.0	25.4	54.0	70	208/3	1,2,3,4,5,6,7,9

NOTES:
1. PROVIDE CONDENSATE PUMP.
2. DISCONNECT BY ELEC. CONTRACTOR.
3. REFRIGERANT LINE KITS BY MECHANICAL CONTRACTOR.
4. SIMULTANEOUS HEATING/COOLING
5. PROVIDE REMOTE THERMOSTAT.
6. MECHANICAL CONTRACTOR TO PROVIDE ALL MOUNTING AND ISOLATION HARDWARE FOR CEILING CASSETTE UNITS.
7. MECHANICAL CONTRACTOR TO PROVIDE AND EQUIPMENT SUPPORT RAILS AND CONDENSATE PAN WITH DRAIN FOR CONDENSING UNIT ON GRADE. VERIFY REQUIREMENTS WITH MANUFACTURER.
8. ALTERNATE BID.
9. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

VRF REFRIGERANT BOXES (OWNER PROVIDED) (HR)

GENERAL DATA					ELECTRICAL DATA			
TAG	LOCATION	MODEL NO.	MANUFACTURER	SYSTEM	VOLT	PH	RLA	NOTE
HR 1	---	PRHR043A	LG	CU 1	208	1	0.2	1,2
HR 2	---	PRHR083A	LG	CU 1	208	1	0.2	1,2

NOTES:
1. PROVIDE ISOLATION VALVES AT EACH CONNECTION.
2. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

DIFFUSER, GRILLE AND REGISTER (NECK SIZE / AIR QTY. (CFM))

TAG	MANUF.	MODEL NUMBER	TYPE	SERVICE	MATERIAL	MAXIMUM NC	NOTES
A	TITUS	TMS-AA	24"x24" LOUVER FACE DIFFUSER	SUPPLY	ALUMINUM	25	1,2,3
A	TITUS	350RL	35° BLADE - 3/4"	TRANSFER/EXHAUST/ RETURN	ALUMINUM	25	1,2,3

NOTES:
1. OFF-WHITE BAKED ENAMEL FINISH
2. LAY-IN FRAME
3. PROVIDE FRAME COMPATIBLE WITH CEILING, FIELD VERIFY

ENERGY RECOVERY VENTILATOR SCHEDULE (ERV)

GENERAL DATA							DIMENSIONAL DATA (IN.)			SUPPLY FAN DATA					EXHAUST FAN DATA				
TAG	LOCATION	AREA SERVED	MANUFACTURER	MODEL NUMBER	TYPE	OPERATING WEIGHT (LB.)	LENGTH	WIDTH	HEIGHT	CFM	ESP (IN.)	DRIVE	MOTOR HP	VFD	FLA	CFM	ESP (IN.)	MOTOR HP	VFD	FLA
ERV 1	MEZZANINE	OFFICES	RENEWAIRE	EV300	INDOOR/ HORIZONTAL	---	34	22	22	290	0.55	DIRECT	1 @ 0.1	NO	1.5	290	0.55	1 @ 0.1	NO	1.5

ENERGY WHEEL																		ELECTRICAL			FILTERS						NOTES
SUMMER/COOLING									WINTER/HEATING												OUTDOOR AIR			ROOM AIR			
OUTDOOR AIR			FRESH AIR			ROOM AIR			OUTDOOR AIR			FRESH AIR			ROOM AIR			VOLT/PH	MCA	MOPD	TYPE	DEPTH	RATING	TYPE	DEPTH	RATING	
DB	WB	GRAINS/LB	DB	WB	GRAINS/LB	DB	WB	GRAINS/LB	DB	WB	GRAINS/LB	DB	WB	GRAINS/LB	DB	WB	GRAINS/LB										
91.0	74.0	99	78.3	67.2	81.9	75.0	62.6	64.7	-10.0	-10.5	2.4	53.4	43.4	25.6	70.0	54.4	38	120/1	10.0	15	POLYESTER	1"	MERV-8	PLOYESTER	1"	MERV-8	1,2,3,4,5,6

NOTES:
1. DISCONNECT TO BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
2. FAN TO BE CONTROLLED BY BAS CONTRACTOR BASED ON OCCUPANCY.
3. VIBRATION ISOLATORS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR.
4. BAS CONTRACTOR TO PROVIDE CURRENT SENSOR FOR PROOF OF OPERATION.
5. SEQUENCE INTAKE/RELIEF HOOD DAMPERS WITH ERV.
6. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ELECTRIC WALL UNIT HEATER SCHEDULE (EWH)

GENERAL DATA					FAN DATA		HEATING COIL DATA			CABINET DATA							ELECTRICAL DATA			NOTES
TAG	LOCATION	MANUFACTURER	MODEL NUMBER	TYPE	CFM	RPM	KW	PHASE	VOLT	MOUNTING	ARRANGEMENT	PROJECTION	MOUNTING HEIGHT	LENGTH (IN.)	HEIGHT (IN.)	DEPTH (IN.)	AMPS	VOLT	PH	
EWH 1	CORRIDOR	BERKO	FRC4020	WALL CABINET RECESSED	100	---	4.0	1	208	WALL	TOP/F SUPPLY BOT/F RETURN	NONE	6" AFF	16	20	4	10.8	277	1	1,2,3,4,5,6

NOTES:
1. BUILT IN DISCONNECT.
2. PROVIDE RECESSING FLANGE/SLEEVE AND MOUNTING HARDWARE
3. COLOR AS SELECTED BY ARCHITECT.
4. PROVIDE BUILT-IN THERMOSTAT.
5. HEAVY DUTY UNIT WITH RELAY TO ALLOW CONTROL FROM BAS CONTRACTOR AND TIME-DELAY RELAY.
6. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

NOTES:
1. EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR (MARK 'E'), HEATING CONTRACTOR (MARK 'H'), VENTILATING CONTRACTOR (MARK 'V').
2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUITS/WIRING BY TRADE FURNISHING RESPECTIVE EQUIPMENT.
3. E.C. SHALL COORD. & REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY & OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE E.C. OF ANY MOTOR/DEVICE CHANGES.
4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS.
5. SEE SPECIFICATIONS AND DRAWINGS FOR TYPES AND LOCATIONS OF DEVICES SCHEDULED BELOW.

		UNIT MOUNTED DEVICES				LOOSE DEVICES			
TAG	EQUIPMENT DESCRIPTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	REMARKS
VRF	VARIABLE REFRIGERANT FLOW UNIT	-	-	-	YES	-	E	E	
CU	CONDENSING UNIT	-	-	-	YES	-	E	E	
HR	VRF REFRIGERANT BOX	-	-	-	YES	-	E	E	
EDH	ELECTRIC DUCT HEATER	-	-	-	YES	-	E	E	
ERV	ENERGY RECOVERY VENTILATOR	-	-	-	YES	-	E	E	
EWH	ELECTRIC WALL HEATER	-	-	-	YES	-	E	E	

NOTES: 1. VERIFY FINAL LOADS AND REQUIREMENTS WITH FINAL MECHANICAL DRAWINGS.

ELECTRIC DUCT HEATER SCHEDULE (EDH)

GENERAL DATA					COIL DATA							ELECTRICAL DATA			NOTES
TAG	LOCATION	AREA SERVED	MANUF.	MODEL NUMBER	SIZE (IN.)	CFM	EAT (°F)	LAT (°F)	SP (IN.)	STAGES	TYPE	KW	VOLT	PH	
EDH 1	MEZZANINE	OFFICES	RENEWAIRE	RH-D	10"ø	290	-10.0	55.1	0.1	SCR	INLINE OPEN COIL	6.0	208	1	1,2

NOTES:
1. OVER-TEMPERATURE PROTECTION, TRANSFORMER, AIRFLOW SWITCH, ROUND DUCT COLLARS, DUCT TEMPERATURE SENSOR AND MOUNTING FLANGES.
2. INTERLOCK WITH ERV. SCR CONTROLLER TO BE CONTROLLED BY BAS CONTRACTOR TO MAINTAIN 50°F DURING OCCUPIED HEATING SEASON.

WALL LOUVER SCHEDULE (WLS)

TAG	MANUFACTURER	MODEL NUMBER	SIZE	LOCATION	AREA/EQUIPMENT SERVED	CFM	FREE AREA (SQ. FT.)	VELOCITY (FPM)	PRESSURE DROP (IN.)	NOTES
WLS 1	RUSKIN	ELF6350DMP	96" x 42"	STORAGE	CU-1	11,500	17.13	670	0.06	1,2,3,4

NOTES:
1. PROVIDE BIRDSCREEN.
2. PROVIDE ANODIZED FINISH,COLOR BE SELECTED BY ARCHITECT.
3. 6" DEEP STATIONARY DRAINABLE.
4. CONTRACTOR TO FIELD VERIFY LOUVER WIDTH AND HEIGHT OF LOUVER PRIOR TO RELEASING.

INTAKE/RELIEF HOOD SCHEDULE (IH) (RH)

GENERAL DATA						HOOD DATA						NOTES
TAG	LOCATION	AREA SERVED	MANUFACTURER	MODEL	TYPE	NO. OF TIERS	CFM	S.P. (IN.)	ROOF OPENING (IN. x IN.)	FREE AREA (SQFT)	THROAT VEL. (FPM)	
IH 1	ROOF	ERV-1	COOK	TRE	INTAKE	2	290	---	12 x 12	1.0	290	1,2,3,4
RH 2	ROOF	ERV-1	COOK	TRE	EXHAUST	2	290	---	12 x 12	1.0	290	1,2,3,4

NOTES:
1. GALVANIZED BIRD SCREEN.
2. PREFABRICATED PITCHED ROOF CURB MINIMUM 18" HIGH.
3. 1" THICK THERMAL LINER.
4. PROVIDE LOW LEAK MOTORIZED DAMPER.

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Engineering & Design
789 HEARTLAND DR., UNIT A, SUGAR GROVE, ILLINOIS 60554 (630) 336-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
SUPPORT SERVICES CENTER
1012 N. OLD STATE RD 49, CHESTERTON, IN. 46304

PROJECT NUMBER: 21-031
PROJECT MANAGER: TRS
DRAWN BY:

REVISIONS:
1
2
3
4
5

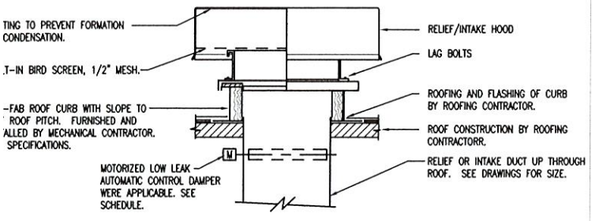
ISSUED FOR BIDDING: 3/8/22

SCHEDULES
MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

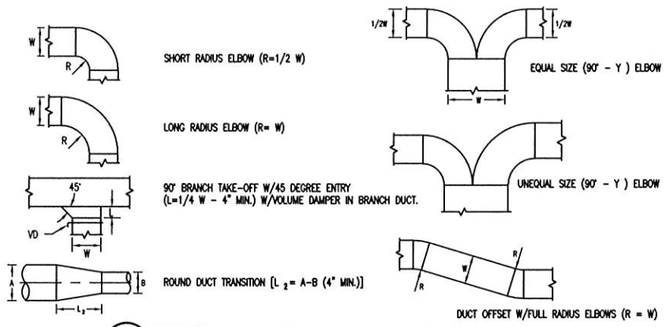
KEITH BRYANT ENGINEERING REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

M2.00

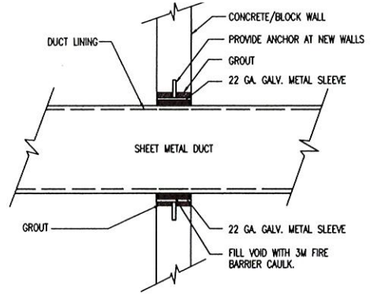


1/M3.00 **RELIEF OR INTAKE HOOD INSTALLATION DETAIL**
NO SCALE

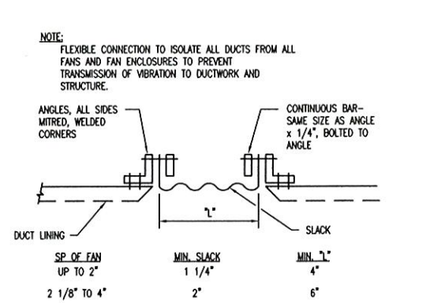
SEE ARCHITECTURAL DETAILS FOR ROOFING REQUIREMENTS.



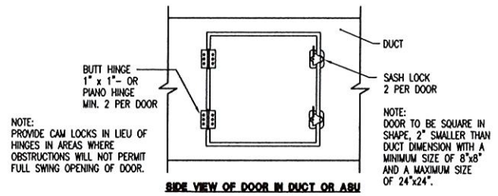
2/M3.00 **TYPICAL DUCTWORK CONNECTIONS**
NO SCALE



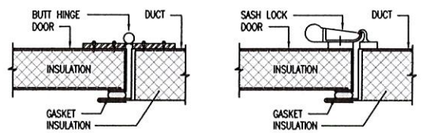
3/M3.00 **DUCT PASSING THROUGH WALL/FLOOR DETAIL**
NO SCALE



4/M3.00 **FLEXIBLE CONNECTION**
NO SCALE



SIDE VIEW OF DOOR IN DUCT OR ASU

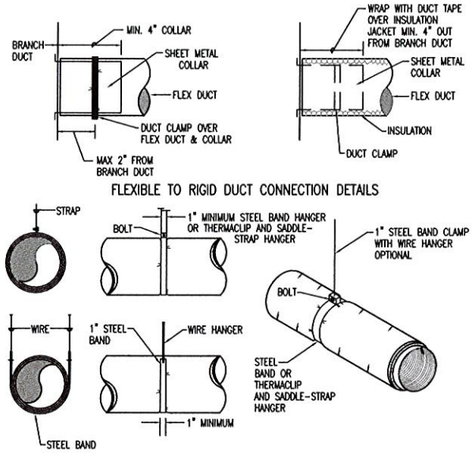


HINGE DETAIL **LOCK DETAIL**

STATIC IN DUCT	DOOR SIZE	NO. HINGES	NO. LOCKS	METAL GAGE		
				FRAME	DOOR	BACK
2" W.G. STATIC AND LESS	12" x 12"	2	2-S	24	26	26
	18" x 18"	2	2-S	22	24	26
	24" x 24"	3	2-S	22	22	26
3" W.G. STATIC	12" x 12"	2	2-S	24	26	26
	18" x 18"	2	2-S, 1-T, 1-B	22	24	26
	24" x 24"	3	2-S, 1-T, 1-B	22	22	26
4" W.G. TO 10" W.G.	12" x 12"	2	2-S, 1-T, 1-B	24	26	26
	18" x 18"	3	2-S, 1-T, 1-B	22	24	26
	24" x 24"	3	2-S, 1-T, 1-B	22	22	26

S = SIDE OPPOSITE HINGES, T = TOP, B = BOTTOM
NOTE: TYPICAL LOCATIONS FOR ACCESS DOORS - FIRE DAMPERS, AUTO DAMPERS, REHEAT COILS, SMOKE DAMPERS & DEVICES MOUNTED INSIDE DUCT.

5/M3.00 **TYPICAL DUCT ACCESS DOOR**
NO SCALE

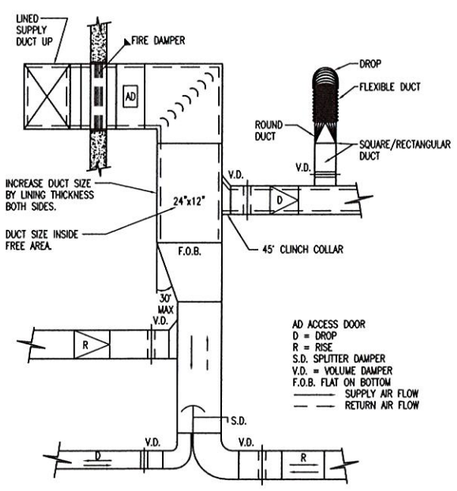


FLEXIBLE TO RIGID DUCT CONNECTION DETAILS

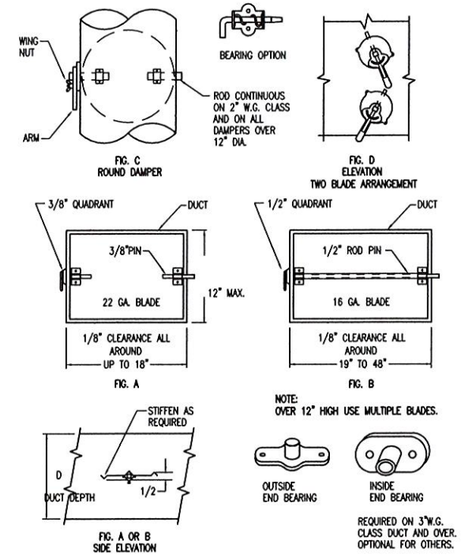
FLEXIBLE DUCT HANGER DETAILS

NOTE:
MAXIMUM PERMISSIBLE SAG PER FOOT 1/2" BETWEEN SUPPORTS.

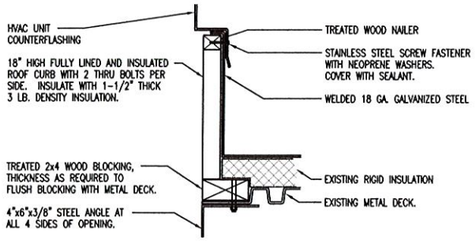
6/M3.00 **FLEXIBLE DUCT HANGER & CONNECTION DETAILS**
NO SCALE



7/M3.00 **TYPICAL FITTINGS & VOLUME DAMPER LOCATION IN SUPPLY OR RETURN DUCT SYSTEM**
NO SCALE



8/M3.00 **VOLUME DAMPERS - SINGLE BLADE TYPE**
NO SCALE



NOTE:
THIS DETAIL TYPICAL FOR ALL ROOF EXHAUSTERS, INTAKE/RELIEF HOODS, EQUIPMENT SUPPORT, AND PIPE PENETRATION CURBS.

9/M3.00 **VENTILATION EQUIPMENT ROOF CURB DETAIL**
NO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
OAS Engineers & Architects
799 HEARTLAND DR., SUITE A, SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
SUPPORT SERVICES CENTER
1012 N. OLD STATE RTE RD 49, CHESTERTON, IN. 46304

REVISIONS:
1 ISSUED FOR BIDDING 3/30/22

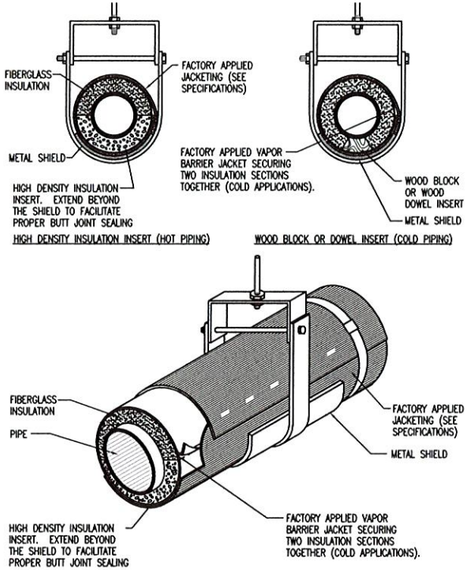
PROJECT NUMBER: 21-031
PROJECT MANAGER: TNS
DRAWN BY:

DETAILS
MECHANICAL

DUNELAND SCHOOL CORPORATION
Chesterton, Indiana

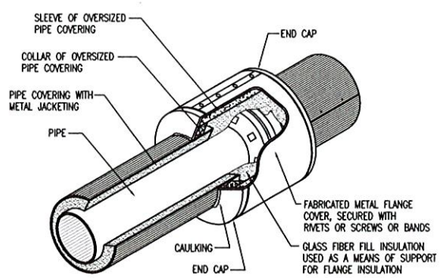
KEITH BRYANT ENGINEER
REGISTERED
No. PE10911154
STATE OF INDIANA
PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

M3.00

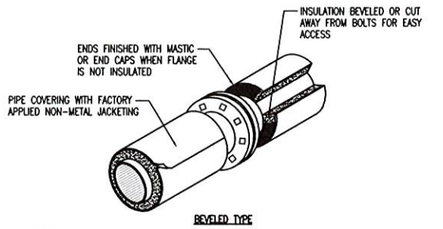


CLEVIS HANGER HIGH DENSITY INSERT DETAIL

1 / M3.10 NO SCALE



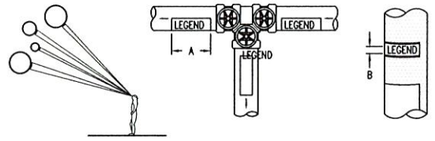
BUILT UP TYPE



BEVELED TYPE

IN-LINE FLANGE INSULATION

2 / M3.10 NO SCALE



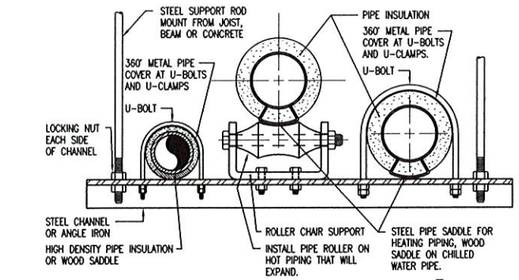
NOTES:
1. ONLY FACTORY MANUFACTURED MARKERS AS FOLLOWS WILL BE ACCEPTABLE:
   PIPES 3/4" THRU 5-7/8" DIAMETER: USE "SNAP-AROUND" TYPE.
   PIPES 6" DIAMETER AND LARGER: USE "STRAP-AROUND" TYPE.
   STENCILS AND STICK-ON TYPE MARKERS WILL NOT BE PERMITTED.
2. IDENTIFICATION MARKERS TO BE PLACED ON ALL EXPOSED COVERED AND UNCOVERED PIPES AT 20'-0" INTERVALS AND AT ALL VALVES AND BRANCHES AND ON BOTH SIDES OF WALLS WHERE PIPES PASS THROUGH SAME. ARROWS OF SAME COLOR AS IDENTIFICATION MARKERS SHALL ALSO BE PLACED ON PIPES POINTING AWAY FROM MARKER INDICATING DIRECTION OF FLOW.

SIZE OF LEGEND LETTERS		
OUTSIDE DIAMETER OF PIPE OR COVERING	LENGTH OF COLOR FIELD A	SIZE OF LETTERS B
3/4" TO 1-1/4"	8"	1/2"
1-1/2" TO 2"	8"	3/4"
2"-1/2" TO 6"	12"	1-1/4"

PLAN TAG	SERVICE	IDENTIFICATION MARKER
BWS	BOILER WATER SUPPLY	BLACK LETTERING ON YELLOW BACKGROUND
BWR	BOILER WATER RETURN	BLACK LETTERING ON YELLOW BACKGROUND
HWS	HOT WATER HEATING SUPPLY	BLACK LETTERING ON YELLOW BACKGROUND
HWR	HOT WATER HEATING RETURN	BLACK LETTERING ON YELLOW BACKGROUND
G	NATURAL GAS	BLACK LETTERING ON YELLOW BACKGROUND
WU	MAKE-UP WATER (H.W. TANK)	WHITE LETTERING ON GREEN BACKGROUND
RS	REFRIGERANT SUCTION	BLACK LETTERING ON YELLOW BACKGROUND
RL	REFRIGERANT LIQUID	BLACK LETTERING ON YELLOW BACKGROUND
CHWS	CHILLED WATER SUPPLY	WHITE LETTERING ON GREEN BACKGROUND
CHWR	CHILLED WATER RETURN	WHITE LETTERING ON GREEN BACKGROUND
C	CONDENSATE	BLACK LETTERING ON YELLOW BACKGROUND

TYPICAL PIPE IDENTIFICATION MARKERS

3 / M3.10 NO SCALE

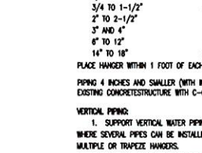


PIPE SIZE "L"	LENGTH "L"	G.A. MIN.
1" TO 2"	12"	18"
2-1/2" TO 4"	12"	16"
5" TO 6"	18"	16"
8" AND UP	24"	14"

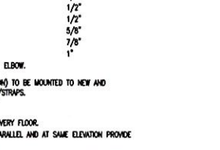
NOTES:
1. INSTALL 360° INSULATION PROTECTION SHIELDS AT ALL PIPING SECURED WITH U-BOLTS AND U-CLAMPS. PROVIDE HIGH DENSITY INSULATION SUPPORTS AT ALL CLEVIS HANGERS, SUPPORTS AND TRAPEZE HANGERS. PROVIDE STEEL PIPE INSULATION SADDLES ON ALL PIPES SUPPORTED BY ROLLERS.
2. INSTALLATION FOR PIPES SUPPORTED VERTICALLY ALONG WALLS SHALL BE SIMILAR TO U-BOLT INSTALLATIONS SHOWN ABOVE.

TYPICAL TRAPEZE PIPE HANGER DETAIL

4 / M3.10 NO SCALE



STEEL BEAM



STEEL JOIST

PIPE HANGERS AND SUPPORTS

SUPPORT HORIZONTAL STEEL AND COPPER PIPING AS FOLLOWS:

NOMINAL PIPE SIZE	DISTANCE BETWEEN SUPPORTS	HANGER ROD DIAMETERS
1/2"	6'	3/8"
3/4 TO 1-1/2"	8'	1/2"
2" TO 2-1/2"	10'	1/2"
3" AND 4"	12'	5/8"
5" TO 12"	14'	7/8"
14" TO 18"	20'	1"

PLACE HANGER WITHIN 1 FOOT OF EACH HORZ. ELBOW.

PIPING 4 INCHES AND SMALLER (WITH INSULATION) TO BE MOUNTED TO NEW AND EXISTING CONCRETESTRUCTURE WITH C-CLAMPS/STRAPS.

VERTICAL PIPING:
1. SUPPORT VERTICAL WATER PIPING AT EVERY FLOOR.

WHERE SEVERAL PIPES CAN BE INSTALLED IN PARALLEL AND AT SAME ELEVATION PROVIDE MULTIPLE OR TRAPEZE HANGERS.
WHERE PRACTICAL, SUPPORT RISER PIPING INDEPENDENTLY OF CONNECTED HORZ. PIPING.

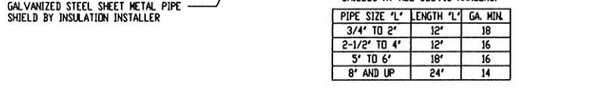
PIPE HANGER DETAILS

5 / M3.10 NO SCALE

SAME SIZE FITTING COVER APPLICATION

PVC/GLASS FIBER ELBOW INSULATION SYSTEM DETAIL

6 / M3.10 NO SCALE



(INSTALL 120° INSULATION PROTECTION SHIELDS AT ALL CLEVIS HANGERS)

PIPE SIZE "L"	LENGTH "L"	GA. MIN.
3/4" TO 2"	12"	18
2-1/2" TO 4"	12"	16
5" TO 6"	18"	16
8" AND UP	24"	14

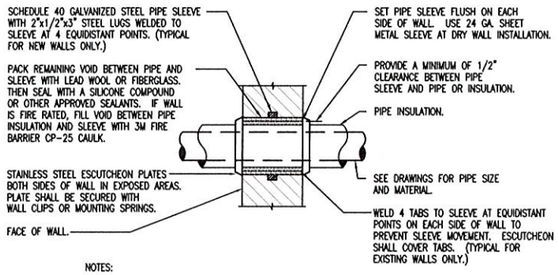
INSTALL 360° INSULATION PROTECTION SHIELDS AT ALL PIPING SECURED WITH U-BOLTS AND U-CLAMPS. PROVIDE HIGH DENSITY INSULATION SUPPORTS AT ALL CLEVIS HANGERS, SUPPORTS AND TRAPEZE HANGERS. PROVIDE STEEL PIPE INSULATION SADDLES ON ALL PIPES SUPPORTED BY ROLLERS.

PIPE COVERING PROTECTION SHIELDS & PIPE SADDLES

7 / M3.10 NO SCALE

FACTORY-APPLIED NON-METAL JACKETING

8 / M3.10 NO SCALE



NOTES:
1. I.D. OF OF PIPE SLEEVE TO BE A MIN. OF 1/2" LARGER THAN O.D. OF PIPE OR INSULATION PASSING THROUGH WALL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR SLEEVES WITH OTHER TRADES AND/OR CONTRACTORS.
3. PIPE SLEEVES THRU SMOKE OR FIRE WALLS SHALL BE IN COMPLIANCE WITH NFPA-90A.

PIPE SLEEVE THRU INTERIOR RATED WALL DETAIL

9 / 13.10 NO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Design & Associates
769 HEARTLAND DR., UNIT A, SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
SUPPORT SERVICES CENTER
1012 N. OLD STATE RD 49, CHESTERTON, IN. 46304

REVISIONS:

PROJECT NUMBER: 21-057
PROJECT MANAGER: TRS
DRAWN BY:
ISSUED FOR BIDDING: 3/9/22

DETAILS
MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH BRYANT ENGINEERS REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

M3.10

GENERAL NOTES FOR MECHANICAL WORK

1. DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING AND DUCTWORK AS SHOWN, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
2. IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
3. CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
4. CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
5. WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
6. CONTRACTOR SHALL PROVIDE SLEEVES IN FLOORS AND WALLS AS SHOWN ON THE DRAWINGS, AS REQUIRED BY JOB SITE CONDITIONS, AND/OR AS SPECIFIED, WHEN INSTALLING THEIR WORK.
7. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.
8. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE OTHER TRADES CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING AND REFINISHING OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE NEW CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR, TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, AND REFINISHING.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN-UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN-UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN-UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK-CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.
11. CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, TANKS, EQUIPMENT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.
12. ALL PIPING SHALL BE SUSPENDED WITH CLEVIS AND/OR TRAPEZE PIPE HANGERS. INSULATED PIPING SHALL REST ON STEEL OR WOOD (CHILLED WATER PIPING) PIPE COVERING PROTECTION SADDLES OR SHEET METAL INSULATION SHIELDS AS CALLED FOR IN THE SPECIFICATIONS AND/OR DETAILED ON THE DRAWINGS.
13. ALL WATER SUPPLY AND RETURN PIPING SHALL BE INSULATED, INCLUDING ALL PIPING ABOVE CEILINGS, INSIDE EQUIPMENT, CABINETS, PIPE CHASES AND IN WALLS. SEE SPECIFICATIONS FOR TYPE AND THICKNESS OF INSULATION.
14. ALL HOT WATER SUPPLY/RETURNS PIPING SHALL BE INSTALLED TO COMPENSATE FOR EXPANSION OF THE PIPE BY INSTALLING PIPE ANCHORS, GUIDES, EXPANSION JOINTS OR LOOPS AND PIPE OFFSETS AS REQUIRED BY FIELD CONDITIONS OR AS SHOWN ON THE DRAWINGS.
15. PITCH ALL SUPPLY AND RETURN WATER LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT, UNIONS, OR DRAIN VALVES. INSTALL A 1/2" DRAIN VALVE WITH 3/4" HOSE THREAD OUTLET IN ALL MAIN PIPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THRU A LOWER PIECE OF EQUIPMENT. ALL DRAIN VALVES TO BE BALL VALVES.
16. RECESSED AND/OR SEMI-RECESSED CABINET UNIT HEATERS (CUH) SHALL BE MOUNTED A MINIMUM OF 8" ABOVE THE FLOOR AND HAVE A FOUR (4) SIDE FLANGED OVERLAP WALL GUARD FRAME.
17. ALL DUCTWORK SIZES SHOWN ON THE DRAWINGS ARE INSIDE DIMENSIONS. WHERE DUCT LINING IS CALLED FOR CONTRACTOR SHALL INCREASE THE SIZE OF THE DUCT TO MAINTAIN THE MINIMUM INSIDE DIMENSIONS CALLED FOR ON THE DRAWINGS.
18. MECHANICAL CONTRACTOR SHALL COORDINATE ALL SERVICE POINTS ON HVAC UNITS WITH THE INSTALLATION OF NEW WORK IN THIS PROJECT AND NEW BUILDING CHARACTERISTICS TO MAKE SURE ACCESSIBILITY IS MAINTAINED.
19. ALL DUCTWORK CONNECTIONS TO AIR MOVING EQUIPMENT SHALL BE MADE WITH FLEXIBLE DUCT CONNECTIONS ON THE INLET AND DISCHARGE OF ALL SUPPLY, RETURN AND EXHAUST FANS (EXCEPT ROOF MOUNTED EXHAUST FANS).
20. INSTALL TURNING VANES IN ALL SQUARE DUCT ELBOWS. INSTALL MANUAL VOLUME DAMPERS IN EACH BRANCH DUCT AT CONNECTION TO MAIN DUCT AND IN EACH DUCT AFTER A BRANCH DUCT SPLIT.
21. INSTALL A MINIMUM 12" X 12" ACCESS DOOR (INLET SIDE) AT EACH MOTORIZED DAMPER, FIRE DAMPER, SMOKE DAMPER, INLINE FAN, INTAKE AND EXHAUST PLENUMS AND AN ACCESS DOOR AT AIR SUPPLY UNIT FILTER SECTION.
22. THE LOCATIONS SHOWN FOR ALL DIFFUSERS, REGISTERS AND GRILLES, ETC. ARE DIAGRAMMATIC. EXACT LOCATION SHALL BE DETERMINED FROM THE REFLECTED CEILING PLANS AND/OR ON THE JOB SITE BY THE ARCHITECT/ENGINEER REPRESENTATIVES.
23. UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.
24. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6 X 6 PLANKS AND/ OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
25. SEE LARGE SCALE DRAWINGS (DETAILS) FOR ALL REQUIRED VALVES, FITTINGS, GAUGES, VENTS, THERMOMETERS WHICH ARE CONNECTED TO RADIANT CEILING PANELS (RCP), CABINET UNIT HEATERS (CUH), ETC. ALL WORK SHOWN ON DETAILS SHALL BE BY INSTALLING CONTRACTOR UNLESS OTHERWISE NOTED.
26. ALL AUTOMATIC MOTORIZED DAMPERS SHALL BE FURNISHED BY BAS CONTRACTOR (EXCEPT FOR DAMPERS FURNISHED WITH PACKAGED AIR HANDLING UNITS AND PROVIDED WITH POWER ROOF EXHAUST FANS) AND INSTALLED BY MECHANICAL CONTRACTOR. ALL DAMPER MOTORS FURNISHED AND INSTALLED BY BAS CONTRACTOR
27. MECHANICAL CONTRACTOR SHALL PROVIDE ON SITE SCHOOLING OF OWNERS OPERATING PERSONNEL FOR ALL SYSTEMS AND EQUIPMENT INSTALLED UNDER HIS CONTRACT.
28. BEFORE STARTING ANY SYSTEM INSTALLING CONTRACTOR SHALL CONTACT EQUIPMENT MANUFACTURER TO VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION, BELT TENSION, CONTROL SEQUENCE OR OTHER CONDITIONS WHICH MAY CAUSE DAMAGE TO THE EQUIPMENT OR SYSTEM.
29. MECHANICAL CONTRACTOR SHALL INSTALL ALL WELLS IN PIPING FOR MOUNTING OF BUILDING AUTOMATION SYSTEM CONTROLS AND MECHANICAL CONTRACTOR'S THERMOMETERS AND GAUGES. MECHANICAL CONTRACTOR WILL COORDINATE THE EXACT LOCATION OF BUILDING AUTOMATION SYSTEM CONTRACTOR'S CONTROLS WITH HIM PRIOR TO INSTALLING WELLS.
30. MECHANICAL CONTRACTOR SHALL RUN INSULATED DRAIN PIPES FROM ALL VRF UNITS. SEE DRAWINGS AND DETAILS FOR LOCATION OF TERMINATION OF DRAIN PIPING. ALL CONDENSATE DRAIN PIPES MUST BE PITCHED AWAY FROM THE DRAIN PAN. ALL CONDENSATE DRAIN PIPES WILL BE INSULATED FROM UNIT TO TERMINATION POINT.
31. MECHANICAL CONTRACTOR TO PROVIDE SCHEDULE OF CURB INSTALLATION/REMOVAL ON EXISTING ROOF AREAS TO CONTRACTOR FIVE (5) WORKING DAYS IN ADVANCE. ANY REVISIONS TO THIS SCHEDULE RESULTING IN UN-PATCHED ROOF TIE-INS AND DAMAGE TO EXISTING CONDITIONS SHALL BE REPAIRED BY MECHANICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
32. ALL PIPE PASSING THRU WALLS SHALL HAVE A GALVANIZED SHEET METAL OR SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND THE PIPE AND PIPE INSULATION. SEE SLEEVE DETAILS THESE DRAWINGS.
33. INSTALL A SHEET METAL SLEEVE AROUND ANY DUCTWORK WHICH GOES THROUGH WALL CONSTRUCTION, PACK FIBERGLAS INSULATION AROUND SLEEVE AND DUCT AND CAULK WITH FIRE SEAL CAULKING.
34. WHEN INSTALLING EXPANSION JOINTS, CONTRACTOR SHALL INSTALL A PIPE ANCHOR AT EACH END OF RUN AND PIPE GUIDES A MINIMUM OF EVERY TWENTY-FIVE (25) FEET OR AS CALLED FOR ON THE DRAWINGS. MOUNT THE FIRST PIPE GUIDE LOCATED ON EACH SIDE OF THE EXPANSION JOINT A MINIMUM OF FOUR (4) PIPE DIAMETERS FROM THE EXPANSION JOINT.
35. THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT LISTED AS A SPECIFIED ACCEPTABLE MANUFACTURER BUT IS NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED, PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE ON THE EQUIPMENT.
36. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.
37. WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.

GENERAL NOTES - BUILDING AUTOMATION SYSTEM

I. GENERAL

THE CONTROLS CONTRACTOR SHALL BE THE CONTROLS ENGINEER FOR THIS PROJECT: RESPONSIBLE FOR DESIGN AND ENGINEERING OF ALL CONTROL SYSTEMS TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION, TO CONFORM WITH THE GOVERNING BUILDING CODES AND OPERATE IN A MANNER CONSISTENT WITH KNOWN GOOD CONTROLS ENGINEERING PRACTICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL IDENTIFY ANY POTENTIAL CONDITIONS THAT COULD BE CONSTRUED TO DEVIATE FROM GOOD CONTROLS ENGINEERING PRACTICE PRIOR TO BIDDING AND INCLUDE ALL ENGINEERING AND INSTALLATION WORK REQUIRED TO MAKE ALL HVAC SYSTEMS COMPLETE AND OPERATIONAL, IN CONFORMANCE WITH GOOD CONTROLS ENGINEERING PRACTICE: PRIOR TO SUBMITTING HIS BID.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL COMPONENTS, WIRING, INTERLOCKS, ELECTRICAL POWER AND ALL OTHER DEVICES REQUIRED TO MAKE ALL HVAC EQUIPMENT INSTALLED UNDER THIS PROJECT COMPLETE AND FULLY OPERATIONAL PER THE SEQUENCE OF OPERATION AND AS REQUIRED FOR SAFE AND ACCURATE CONTROL.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL VALVES AND ACTUATORS TO THE MECHANICAL CONTRACTOR FOR INSTALLATION. THE BAS CONTRACTOR SHALL DIRECT THE MECHANICAL CONTRACTOR AS TO THE PROPER LOCATION AND ORIENTATION OF ALL DEVICES TO ACHIEVE A PROPER AND CORRECT CONTROL SEQUENCE.

THE BAS CONTRACTOR SHALL INCLUDE ADEQUATE TIME IN HIS BID FOR COMPLETE COMMISSIONING OF THE MECHANICAL SYSTEMS, ON SITE IN COORDINATION WITH THE MECHANICAL CONTRACTOR AND OTHER TRADES AS REQUIRED TO MAKE ALL EQUIPMENT COMPLETE AND FULLY OPERATIONAL.

IN THE EVENT THAT ANY PART OF THE MECHANICAL DRAWINGS, SPECIFICATIONS OR NOTES CONFLICT WITH ANY OTHER: THE MOST STRINGENT REQUIREMENT SHALL APPLY, PROVIDING THE GREATEST SAFETY AND/OR AT THE HIGHEST COST OF THE CONFLICTING OPTIONS.

II. ELECTRICAL

THE BAS CONTRACTOR SHALL PROVIDE EMERGENCY POWER FOR ALL ELECTRICAL POWER AND CONTROL WIRING, CONDUIT, JUNCTION BOXES, RACEWAY, TRANSFORMERS, RELAYS AND ALL OTHER ELECTRICAL APPURTENANCES REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. THIS INCLUDES ALL POWER WIRING FROM SPARE CIRCUIT BREAKERS PROVIDED IN BUILDING EMERGENCY POWER PANELS (EM120A-GMA) FOR POWERING OF CONTROLS AND CONTROL PANELS AND ALL OTHER CONTROL SYSTEM COMPONENTS. ALL HVAC EQUIPMENT, I.E AIR HANDLING UNITS, EXHAUST FANS, PUMPS, BOILERS, ETC. ARE TO HAVE THEIR CONTROLS POWERED FROM EMERGENCY POWER PANELS. SEE ELECTRICAL DRAWINGS FOR PANEL LOCATION.

ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND APPLICABLE STATE AND LOCAL AMENDMENTS.

THE BAS CONTRACTOR SHALL PROVIDE AND INSTALL ALL HARDWIRED INTERLOCKS BETWEEN STARTERS AS REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATION AND PROPER SYSTEM CONTROLS. PROVIDE RELAYS AS REQUIRED FOR AUTOMATIC START/STOP OF ALL SINGLE PHASE EXHAUST FANS AND INTERLOCK OF AUTOMATIC DAMPERS.

III. CONTROL VALVES

ALL CONTROL VALVES SHALL SPRING RETURN TO A FAIL SAFE POSITION. ALL HEATING CONTROL VALVES SHALL FAIL OPEN BY SPRING RETURN TO HEATING AND ALL COOLING CONTROL VALVES SHALL FAIL CLOSED BY SPRING RETURN.

ALL CONTROL VALVES USED FOR POSITIVE SHUT-OFF ISOLATION, SUCH AS HOT/CHILLED WATER ISOLATION OR CHANGEOVER IN A TWO-PIPE SYSTEM, SHALL BE QUARTER TURN TYPE BUTTERFLY OR BALL VALVES RATED FOR 300 PSI, BUBBLE TIGHT SHUT-OFF SERVICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL SIZE ALL MODULATING TEMPERATURE CONTROL VALVES WITH A Cv AND PRESSURE DROP SUCH THAT THERE IS LINEAR CONTROL OF WATER FLOW THROUGHOUT THE ENTIRE STROKE OF THE VALVE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE REDUCERS AS REQUIRED FOR MODULATING VALVES THAT ARE NOT LINE SIZE.

IV. AUTOMATIC CONTROL DAMPERS

ALL CONTROL DAMPERS SHALL BE EXTRUDED ALUMINUM, LOW LEAKAGE AIR FOIL BLADE TYPE WITH ELASTOMER BLADE EDGE SEALS AND STAINLESS STEEL OR ELASTOMER BLADE END SEALS.

ALL CONTROL DAMPERS SHALL SPRING RETURN TO A FAIL SAFE POSITION FOR FREEZE PREVENTION BY SPRING RETURN. FACE AND BYPASS DAMPER SHALL FAIL OPEN, OUTDOOR AIR DAMPERS SHALL FAIL CLOSED, EXHAUST AIR DAMPERS SHALL FAIL CLOSED, AND RETURN AIR DAMPER SHALL FAIL OPEN.

V. THERMOSTAT

THE BAS CONTRACTOR SHALL PROVIDE THERMOSTATS FOR ALL CONTROLLED EQUIPMENT TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION AND/OR PER MANUFACTURER'S REQUIREMENTS AND KNOWN STANDARDS OF GOOD CONTROL PRACTICE. INCLUDE ALL THERMOSTATS AS REQUIRED FOR EQUIPMENT TO BE COMPLETE AND FULLY OPERATIONAL WHETHER SHOWN SPECIFICALLY ON THE PLANS OR NOT.

ALL TEMPERATURE SENSORS IN DUCTWORK, AIR HANDLING UNITS AND PLENUMS SHALL BE OF AVERAGING TYPE. PROPERLY SUPPORT AVERAGING ELEMENT (MINIMUM TWENTY FEET LENGTH) ACROSS A REPRESENTATIVE AREA TO ACHIEVE A TRUE AVERAGE READING. SUPPORT USING HEAVY CABLE AND/OR HALF INCH CONDUIT WITH NYLON WIRE TIES.

BUILDING/SPACE STATIC PRESSURE SENSORS SHALL BE INSTALLED IN THE CEILING IN A MAIN BUILDING CORRIDOR OPEN TO THE MAIN ENTRANCE OF THE BUILDING. STATIC PRESSURE SENSING TIP SHALL HAVE COVER PLATE TO MATCH CEILING AND AN EMBOSSED LABEL STATING "PRESSURE CONTROL SENSOR - DO NOT PAINT".

THE CONTROLS CONTRACTOR/ENGINEER SHALL SELECT ALL PRESSURE AND TEMPERATURE SENSORS WITH AN APPROPRIATE SPAN AND RANGE FOR THE APPLICATION.

ALL OUTDOOR AIR SENSORS SHALL BE INSTALLED WITH SUN SHIELD AND IN A LOCATION WHERE THEY CANNOT BE WASHED BY EXHAUST AIR OR OTHER SOURCES OF FALSE READINGS.

ALL TEMPERATURE AND PRESSURE SENSORS SHALL BE INSTALLED IN LOCATIONS SUCH THAT THEY DO NOT MAKE FALSE READINGS. BAS CONTRACTOR/ENGINEER SHALL REVIEW THE PLANS AND IDENTIFY ANY SUCH POTENTIAL CAUSES FOR FALSE READINGS AND NOTIFY THE ENGINEER IN WRITING THAT THESE SHOULD BE RELOCATED PRIOR TO ROUGH IN AND CONTROLS INSTALLATION. THE BAS CONTROLS CONTRACTOR SHALL RELOCATE ANY SENSORS INSTALLED IN IMPROPER LOCATIONS AND GIVING FALSE READINGS AT HIS OWN EXPENSE. CONDITIONS TO BE AWARE OF SHALL INCLUDE BUT ARE NOT LIMITED TO LOCATIONS OF THERMOSTATS BEHIND DOORS, OUTDOOR AIR SENSORS NEAR EXHAUST OPENINGS, STATIC PRESSURE SENSORS IN TURBULENT LOCATIONS, THERMOSTATS INSTALLED ADJACENT TO HEAT SOURCES SUCH AS COFFEE POTS, COMPUTERS, VENDING MACHINES AND OTHER APPLIANCES, ETC.

VI. SAFETY DEVICES

THE BAS CONTRACTOR/ENGINEER SHALL FURNISH AND INSTALL MANUAL RESET SAFETY DEVICES FOR ANY AND ALL CONDITIONS THAT COULD DAMAGE THE EQUIPMENT AND/OR REPRESENT A THREAT TO HUMAN SAFETY. ALL WATER COILS SHALL BE PROTECTED BY AN AVERAGING ELEMENT FREEZE-STAT WITH A NON-ADJUSTABLE 40°F SET POINT, MANUAL RESET, AND HARDWIRED INTERLOCK TO SHUT DOWN THE ASSOCIATED FAN ANY TIME THE TEMPERATURE ACROSS ANY 12" LENGTH OF THE AVERAGING ELEMENT FALLS BELOW 40°F. FREEZE STATS SHALL BE INSTALLED DOWNSTREAM OF ALL WATER COILS.

INSTALL A FLOAT SWITCH IN THE DRAIN PAN OF ALL VRF UNITS SHALL BE TO SHUT DOWN THE ASSOCIATED SYSTEM.

VII. RELAYS

ALL RELAYS ARE TO BE INSTALLED IN CONTROL PANELS. RELAYS IN BOX (RIB'S) ARE NOT ACCEPTABLE. CONTROL RELAYS SHALL BE UL LISTED PLUG-IN TYPE WITH DUST COVER. RELAYS TO BE IDEC RR2P-UL AC24V WITH SR2P-06 BASE.

PROVIDE ALL RELAYS AS REQUIRED BY SITE CONDITIONS TO CONTROL ALL PUMPS, FANS, ETC. PROVIDE DEFINITE PURPOSE CONTRACTOR IF POWER REQUIREMENTS EXCEED RELAY CAPACITY.

VII. TAGGING

SEE EQUIPMENT SCHEDULES FOR EQUIPMENT TAGGING. ALL EQUIPMENT TO BE LABELED AND/OR REFERENCED ON BAS WITH THE DESIGNATION PER THE EQUIPMENT SCHEDULES.

TRIA ARCHITECTURE

M.E.P./F.P. CONSULTANT:
DAS
769 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
SUPPORT SERVICES CENTER
1012 N. OLD STATE RD 49, CHESTERTON, IN. 46304

PROJECT NUMBER: 21-031
PROJECT MANAGER: TRS
DRAWN BY:
ISSUED FOR BIDDING: 3/10/22
REVISIONS: 1 2 3 4 5

NOTES
MECHANICAL

KEITH BRYANT O'HIGGINS
REGISTERED
No. PE10911154
STATE OF INDIANA
PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

M4.00

MECHANICAL SYSTEM (HVAC) SYMBOLS

NEW PIPING
EXISTING TO REMAIN PIPING
EXISTING TO BE REMOVED PIPING
RD — REFRIGERANT DISCHARGE
RS — REFRIGERANT SUCTION
RL — REFRIGERANT LIQUID
CWS — CHILLED WATER SUPPLY
CWR — CHILLED WATER RETURN
HWS — HOT WATER SUPPLY
HWR — HOT WATER RETURN
D — DRAIN LINE
LINE ARROW INDICATES DIRECTION OF FLOW OR PITCH
PIPE ELBOW (TURNED UP)
PIPE ELBOW (TURNED DOWN)
PIPE TEE DOWN (DROP)
PIPE TEE UP
PIPE TEE UP OR ANGLE
PIPE TEE DOWN OR ANGLE
PIPE TEE HORIZONTAL
90° ELBOW IN HORIZONTAL PIPE RUN
ANGLE ELBOW IN HORIZONTAL PIPE RUN
NC — NEW CONNECTION
GATE VALVE
CHECK VALVE
BUTTERFLY VALVE
BALL VALVE
3 WAY CONTROL VALVE
2 WAY CONTROL VALVE
TRIPLE DUTY VALVE
CIRCUIT BALANCING VALVE W/BALANCING PORTS
AUTOMATIC FLOW DEVICE
SQUARE HEAD COCK
S — SOLENOID VALVE
PRESSURE REDUCING VALVE
D — DRAIN VALVE WITH 3/4" HOSE THREADED OUTLET
PRESSURE RELIEF VALVE (PIPE TO FLOOR DRAIN)
BACKFLOW PREVENTER
NEEDLE VALVE
STRAINER
AUTOMATIC BUTTERFLY VALVE
EJ — PIPE EXPANSION JOINT
PIPE ANCHOR
PIPE FLEXIBLE CONNECTION
PG — PIPE ALIGNMENT GUIDE
PS — PIPE SLEEVE
PIPE UNION (OR FLANGES IF 2 1/2" OR LARGER PIPE)
PS — PRESSURE SWITCH (WITH THREAD OR WELD-O-LET)
PRESSURE GAUGE AND NEEDLE VALVE
FS — FLOW SWITCH (WITH THREAD OR WELD-O-LET)
THERMOMETER (WITH PIPE WELL)
SENSOR WELL

H — HUMIDISTAT
T — WALL MOUNTED THERMOSTAT/SENSOR
T R — REVERSE ACTING THERMOSTAT/SENSOR
S — SWITCH
NEW DUCTWORK
EXISTING TO REMAIN DUCTWORK
EXISTING TO BE REMOVED DUCTWORK
FC — FLEXIBLE DUCT CONNECTION
AD — ACCESS DOOR ON TOP, BOTTOM OR SIDE OF DUCT
VD — SINGLE BLADE OR OPPOSED BLADE MANUAL VOLUME DAMPER.
ACD — AUTOMATIC CONTROL DAMPER
EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST FAN OR VENTILATOR.
SQUARE NECK DROP TO SQUARE DIFFUSER (ARROW SHOWS DIRECTION OF THROW)
ROUND NECK DROP TO ROUND DIFFUSER (ARROW SHOWS DIRECTION OF THROW)
ROUND NECK DROP TO SQUARE DIFFUSER (ARROW SHOWS DIRECTION OF THROW)
FD OR SMD / AD — VERTICAL FIRE DAMPER OR SMOKE DAMPER (IN HORIZONTAL DUCT AT WALL) WITH ACCESS DOOR.
AIR SUPPLY FLOW
EXHAUST OR RETURN AIR FLOW
A NK SIZE / CFM — WALL OR DUCT MOUNTED SUPPLY REGISTER OR GRILLE (TOP NO. = SIZE OF FACE OR NECK, BOTTOM NO. = AMOUNT OF AIR, LETTER INDICATES TYPE).
B 18x12 NK 500 CFM / C 24x12 NK 500 CFM — BOTTOM MOUNTED REGISTER OR GRILLE.
24x12 — DUCT SIZE FREE AREA (1ST NUMBER IS DUCT WIDTH ON PLAN VIEW, 2ND NUMBER IS DUCT DEPTH IN PLAN VIEW.)
SUPPLY OR FRESH AIR DUCT UP
RETURN OR EXHAUST AIR DUCT UP
SUPPLY OR FRESH AIR DUCT DOWN
RETURN OR EXHAUST AIR DUCT DOWN

RISE OR DROP IN SUPPLY DUCT (TOP VIEW) ARROW DIRECTION OF FLOW
R / D — INCLINED RISE (R) OR DROP (D), ARROW IN DIRECTION OF AIR FLOW
90° ELBOW WITH TURNING VANES
W, R — SHORT RADIUS ELBOW (R=1/2 W)
W, R — LONG RADIUS ELBOW (R= W)
45°, VD, W — 90° BRANCH TAKE-OFF W/45 DEGREE ENTRY (L=1/4 W - 4" MIN.) W/VOLUME DAMPER IN BRANCH DUCT.
AD, HC — HEATING COIL WITH ACCESS DOOR IN DUCT
ROUND FLEXIBLE DUCT
ROUND OR OVAL DUCT (——— INDICATES CENTER LINE OF DUCT)
A, B, L_1 — ROUND DUCT TRANSITION [L_2 = A-B (4" MIN.)]
ROUND DUCT UP
ROUND DUCT DOWN
CROSS-SECTION OF ROUND DUCT
1/2W, W — UNEQUAL SIZE (90° - Y) ELBOW
EQUAL SIZE (90° - Y) ELBOW
SD — 90° BRANCH TAKE-OFF FROM MAIN
30° MAX. — SQUARE OR RECTANGLE DUCT TRANSITION

SQUARE OR RECTANGLE TO ROUND DUCT TRANSITION
W, R — DUCT OFFSET W/FULL RADIUS ELBOWS (R = W)
EQUIPMENT TYPE / EQUIPMENT # — EQUIPMENT TAG
D-# — DEMOLITION NOTE REFERENCE NUMBER — DEMOLITION NOTE TAG
— PLAN NOTE REFERENCE NUMBER — PLAN NOTE TAG

MECHANICAL ABBREVIATIONS LIST

ACV	AUTOMATIC CONTROL VALVE	EXD	EXHAUST DUCT	N.O.	NORMALLY OPEN
AFD	AUTOMATIC FLOW DEVICE	F	FAHRENHEIT	OAD	OUTDOOR AIR DAMPER
BHP	BRAKE HORSE POWER	FC	FLEXIBLE CONNECTION	OUD	OUTSIDE AIR DUCT
BTU	BRITISH THERMAL UNIT	FPF	FINS PER FOOT	PD	PRESSURE DROP
BTUH	BRITISH THERMAL UNIT PER HOUR	FPM	FEET PER MINUTE	PG	PIPE GUIDE
BV	BALL VALVE	FV	FACE VELOCITY	PH	PHASE
CFM	CUBIC FEET PER MINUTE	GPM	GALLONS PER MINUTE	PS	PIPE SLEEVE
CKV	CHECK VALVE	GV	GATE VALVE	PSI	POUNDS PER SQUARE INCH
CU	CONDENSING UNIT	HP	HORSEPOWER	RAD	RETURN AIR DAMPER
CUH	CABINET UNIT HEATER	HWR	HOT WATER RETURN	RED	RETURN AIR DUCT
CWR	CHILLED WATER RETURN	HWS	HOT WATER SUPPLY	RH	RELIEF HOOD
CWS	CHILLED WATER SUPPLY	IH	INTAKE HOOD	RPM	REVOLUTIONS PER MINUTE
D	DRAIN LINE	LAT	LEAVING AIR TEMPERATURE	SP	STATIC PRESSURE
DB	DRY BULB	LWT	LEAVING WATER TEMPERTURE	STR	STRAINER
EAD	EXHAUST AIR DAMPER	MOD	MOTOR OPERATED DAMPER	SUD	SUPPLY DUCT
EAT	ENTERING AIR TEMPERATURE	NC	NEW CONNECTION	TSP	TOTAL STATIC PRESSURE
EDC	ELECTRIC DUCT COIL	NK	NECK	WB	WET BULB
ERV	ENERGY RECOVERY VENTILATOR	N.C.	NORMALLY CLOSED	WC	WATER COLUMN
EWT	ENTERING WATER TEMPERATURE	N.I.C.	NOT IN CONTRACT	WG	WATER GAUGE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Engineering
769 HEARTLAND DR., UNIT A, SUGAR GROVE, ILLINOIS 60554 (630) 538-1995

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
SUPPORT SERVICES CENTER
1012 N. OLD STATE RD 49, CHESTERTON, IN. 46304

REVISIONS	
PROJECT NUMBER: 21-071	
PROJECT MANAGER: TRS	
DRAWN BY:	
ISSUED FOR BIDDING: 3/8/22	

ABBREVIATIONS
MECHANICAL

DUNELAND SCHOOL CORPORATION
Chesterton, Indiana

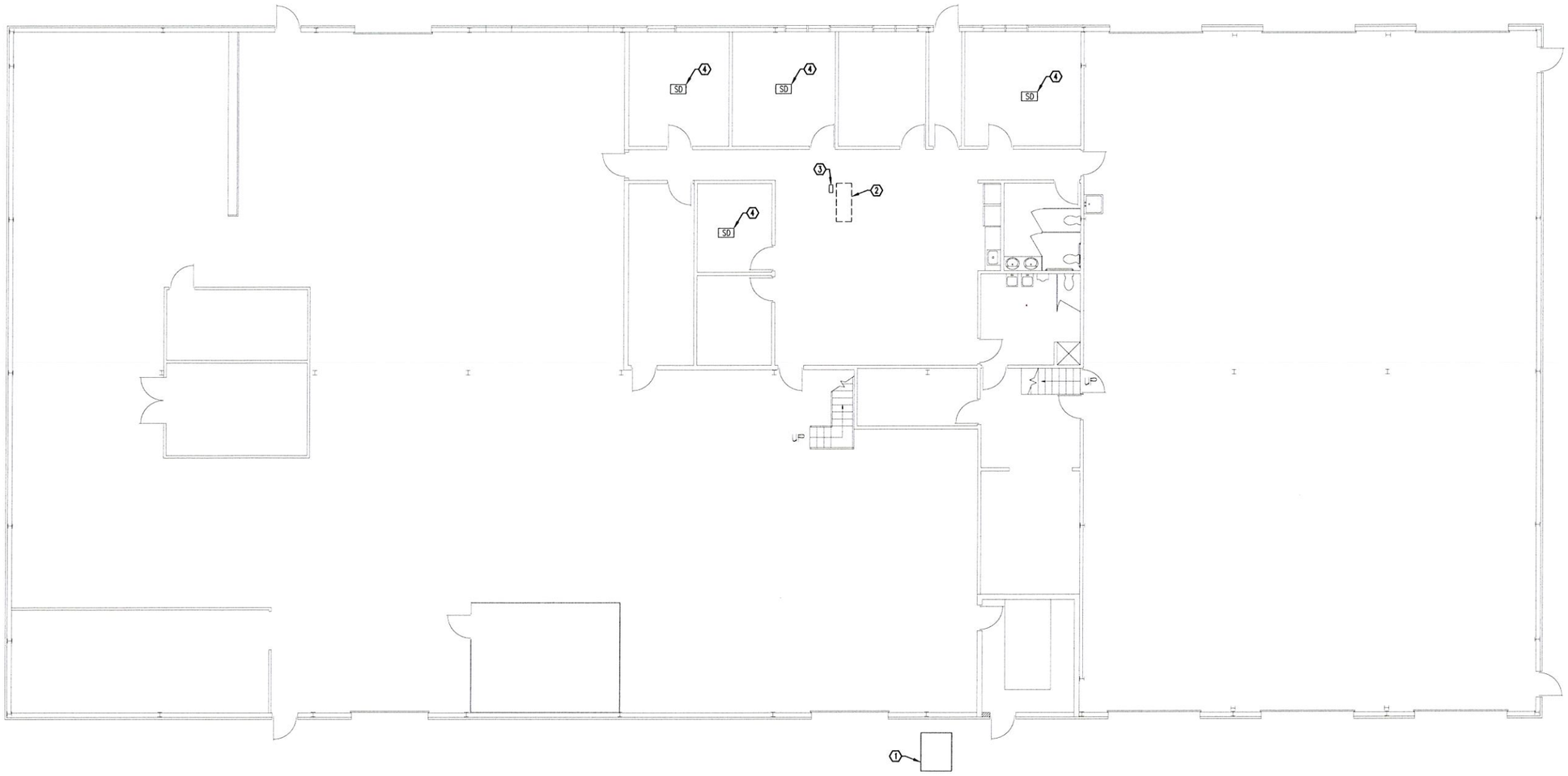
KEITH BRYANT ENGINEERING
REGISTERED
No. PE10911154
STATE OF INDIANA
PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

M4.10

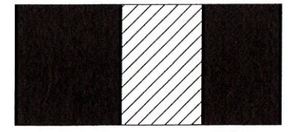
SHT 2 OF 3

KEY DEMO NOTES:

1. DISCONNECT CONDENSING UNIT AND REMOVE CONDUIT AND WIRE BACK TO PANEL.
2. DISCONNECT FURNACE ON MEZZANINE AND REMOVE CONDUIT AND WIRE BACK TO PANEL
3. DISCONNECT CONDENSATE PUMP AND REMOVE CONDUIT AND WIRE BACK TO PANEL.
4. RELOCATE EXISTING SMOKE DETECTOR TO ALLOW INSTALLATION OF NEW VRF UNIT. COORDINATE EXACT LOCATION WITH MECHANICAL.



1 PARTIAL FLOOR PLAN - EXISTING ELECTRICAL
1/8" = 1'-0"



AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

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789 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1995

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

SUPPORT SERVICES CENTER

1012 N. OLD STATE RD 49, CHESTERTON, IN. 46304

REVISIONS
1
2
3
4

PROJECT NUMBER: 21-031
PROJECT MANAGER: TRS
DRAWN BY:
ISSUED FOR BIDDING: 3/16/22

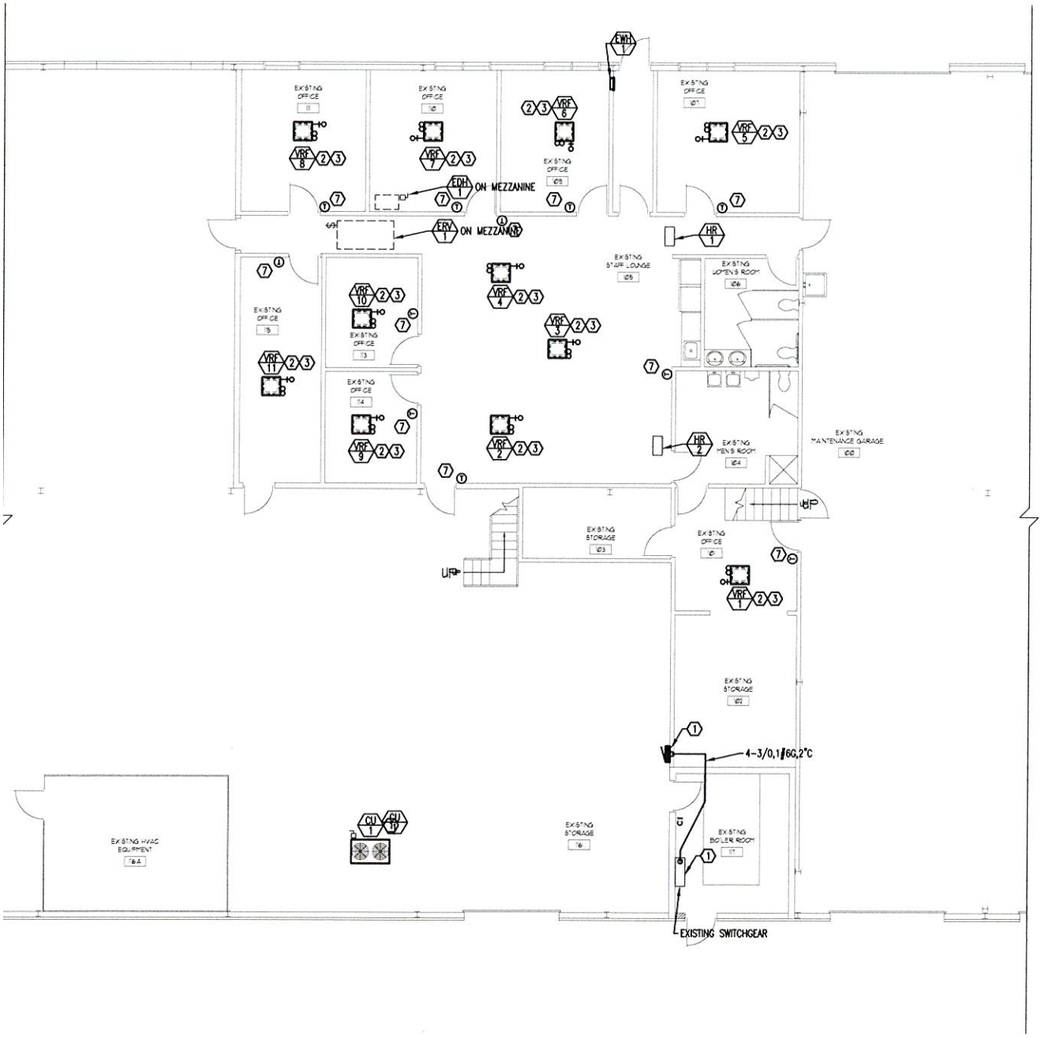
PARTIAL FLOOR PLAN

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH BRYANT FERGUSON REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2022

E0.01

SHT 2 OF 3



1 PARTIAL FLOOR PLAN - PIPING - MECHANICAL
1/8" = 1'-0"

MOTOR AND EQUIPMENT SCHEDULE

EQUIP. TAG	DESIGNATED TAG	LOCATIONS	LOAD					CONDUIT AND WIRE SIZE	SOURCE OF POWER		PROTECT (AMPERES)	STARTER		DISCONNECT		REMARKS
			VOLTS	PHASE	H.P.	AMP	KVA		PANEL	CCT. NO.		SIZE	TYPE	SIZE	TYPE	
EDH 1	DUCT HEATER	MEZZANINE	208	1	–	94	6	3#10, 1#10G, 3/4"C	PP-1	2,4	40A, 2P	–	–	40A, 2P	–	
CU 1	CONDENSING UNIT	FLOOR	208	3	–	51.1	19.5	3#4, 1#8G, "C	PP-1	1,3,5	70A, 3P	–	–	70A, 3P	NEMA 3R	
ERV 1	ENERGY RECOVERY	MEZZANINE	120	1	–	54.0	1.2	2#12, 1#12G, 3/4"C	PP-1	6	20A, 1P	–	–	TOGGLE		
HR 1	VRF REFRIGERANT BOX	ABOVE CEILING	208	1	–	0.2	0.1	2#12, 1#12G, 3/4"C	PP-1	8,10	20A, 2P	–	–	TOGGLE		
HR 2	VRF REFRIGERANT BOX	ABOVE CEILING	208	1	–	0.2	0.1	2#12, 1#12G, 3/4"C	PP-1	8,10	20A, 2P	–	–	TOGGLE		
VRF 1	VARIABLE REFRIGERANT FLOW	PARTS OFFICE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	11,13	20A, 2P	–	–	TOGGLE		
VRF 2	VARIABLE REFRIGERANT FLOW	STAFF LOUNGE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	11,13	20A, 2P	–	–	TOGGLE		
VRF 3	VARIABLE REFRIGERANT FLOW	STAFF LOUNGE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	12,14	20A, 2P	–	–	TOGGLE		
VRF 4	VARIABLE REFRIGERANT FLOW	STAFF LOUNGE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	12,14	20A, 2P	–	–	TOGGLE		
VRF 5	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	–	0.2	.27	2#12, 1#12G, 3/4"C	PP-1	12,14	20A, 2P	–	–	TOGGLE		
VRF 6	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	–	0.2	.27	2#12, 1#12G, 3/4"C	PP-1	15,17	20A, 2P	–	–	TOGGLE		
VRF 7	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	15,17	20A, 2P	–	–	TOGGLE		
VRF 8	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	16,18	20A, 2P	–	–	TOGGLE		
VRF 9	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	16,18	20A, 2P	–	–	TOGGLE		
VRF 10	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	20,22	20A, 2P	–	–	TOGGLE		
VRF 11	VARIABLE REFRIGERANT FLOW	OFFICE	208	1	–	1.3	.27	2#12, 1#12G, 3/4"C	PP-1	20,22	20A, 2P	–	–	TOGGLE		
EWH 1	WALL HEATER	CORRIDOR	208	1	–	19.2	4.9	2#12, 1#12G, 3/4"C	PP-1	7,9	20A, 2P	–	–	TOGGLE		

KEY NOTES:

1. TIE INTO EXISTING SPARE 200A, 3P DISCONNECT SWITCH AND RUN TO NEW PANEL PP-1 LOCATION.
2. MOUNT NEW PANEL PP-1 ON 3/4" PLYWOOD BOARD ON EXPOSED WOOD FRAMED WALL. PROVIDE NEW 200A, 120/208V,3P,4W,42 CIRCUIT PANEL BOARD.

AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
MDAS Engineering & Associates, LLC
789 HEARTLAND DR., UNIT F, SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
SUPPORT SERVICES CENTER
1012 N. OLD STATE RTE RD 49, CHESTERTON, IN. 46304

REVISIONS
1
2
3
4
5
6

PROJECT NUMBER: 21-071
PROJECT MANAGER: TRS
DRAWN BY: BM
ISSUED FOR BIDDING: 3/16/22

PARTIAL FLOOR PLAN
MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

E2.00

SHT 2 OF 3

GENERAL ELECTRICAL NOTES

1. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
2. DO NOT SCALE DRAWINGS.
3. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
4. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
5. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
6. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
7. ALL EXPOSED CABLES IN PLENUM CEILING SHALL BE APPROVED FOR PLENUM APPLICATION.
8. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONRY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
9. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL EXISTING AND NEW MASONRY WALLS. SURFACE METAL RACEWAY SHALL ONLY BE USED IF SPECIFICALLY INDICATED. THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. CONDUIT IN UTILITY AREAS MAY BE SURFACE MOUNTED, BUT MUST BE APPROVED PRIOR TO INSTALLATION. ANY SURFACE CONDUIT INSTALLED BY THIS CONTRACTOR THAT IS DEEMED UNSIGHTLY MUST BE HIDDEN WITH THAT WALL ON WHICH IT IS MOUNTED AT NO COST TO THE OWNER.
10. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
11. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMER, ETC.)
12. IF A NEW RECEPTACLE IS INDICATED WITHOUT A CIRCUIT NUMBER, PROVIDE A CIRCUIT. COORDINATE SPECIFIC REQUIREMENTS IN FIELD PRIOR TO INSTALLATION.
13. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.
14. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES. THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.
15. EACH 120V CIRCUIT SHALL HAVE ITS OWN NEUTRAL. SHARING OF NEUTRALS IS NOT ALLOWED.
16. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT OR HALF-TONE SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
17. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A LIGHTING FIXTURE, POWER FOR CONTROL EQUIPMENT, ETC.
18. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
19. THE EXIT SIGNS ARE PROVIDED FOR BIDDING PURPOSES. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHAL. IF REQUIRED BY FIRE MARSHAL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
20. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOMM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
21. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
22. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
23. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
24. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
25. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
26. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
27. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH-IN SHALL BE PROVIDED FROM WALLS. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH-IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
28. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
29. COORDINATE THE INSTALLATION OF ELECTRICAL PANELS, SWITCHBOARD, ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
30. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC.) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
31. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
32. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
33. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR.
34. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION."
35. ALL RECEPTACLES FOR VENDING MACHINES, ICE MACHINES AND REFRIGERATORS SHALL BE GFCI TYPE WHETHER SPECIFICALLY INDICATED OR NOT.
36. PROVIDE ONE WEATHERPROOF, GFI RECEPTACLE WITHIN 25' OF ROOF MOUNTED OR GRADE MOUNTED HVAC EQUIPMENT, WHETHER SPECIFICALLY INDICATED OR NOT AND FEED FROM NEAREST UNLOADED RECEPTACLE CIRCUIT.
37. WHETHER SPECIFICALLY INDICATED OR NOT, PROVIDE MINIMUM OF ONE DUCT SMOKE DETECTOR FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 2,000 CFM AND TWO DUCT SMOKE DETECTORS FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 15,000 CFM.
38. PERFORM COORDINATION STUDY OF ELECTRICAL DISTRIBUTION SYSTEM AS INDICATED IN POWER SYSTEM STUDY SPECIFICATION. IT SHALL BE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE EQUIPMENT WITH PROPER INTERRUPTING RATING OF EQUIPMENT BASED UPON COORDINATION STUDY. AIC (AVAILABLE INTERRUPTING CAPACITY) OF ALL PANELS AND SWITCHBOARD SHOWN IN DRAWINGS ARE FOR GENERAL INFORMATION ONLY. THE FINAL AIC OF ELECTRICAL EQUIPMENT SHALL BE BASED UPON WORST CONDITION COMED FAULT CURRENT AND THE RECOMMENDATIONS MADE IN COORDINATION STUDY. THE COST TO PROVIDE ALL ELECTRICAL DISTRIBUTION EQUIPMENT WITH PROPER FAULT INTERRUPTING RATING (REGARDLESS OF WHAT IS SHOWN ON DRAWINGS) SHALL BE INCLUDED IN THE BID.
39. PROVIDE DEEPER BACK BOX AS REQUIRED FOR EACH DEVICE; FOR EXAMPLE MINIMUM OF 2.5" DEEP FOR WALL BOX TYPE OCCUPANCY SENSOR.
40. PROVIDE WEATHERPROOF TYPE WHILE-IN-USE COVER FOR ALL 15 AMP AND 20 AMP 120V. RECEPTACLES LOCATED IN OUTDOOR LOCATIONS WHETHER SPECIFICALLY INDICATED OR NOT.
41. PROVIDE SLEEVES THRU FLOOR AND WALLS AS REQUIRED FOR LOW VOLTAGE CABLES. COORDINATE ALL REQUIREMENTS WITH LOW VOLTAGE CONTRACTORS.
42. THE PANEL DIRECTORY SHALL HAVE SPECIFIC LIST OF LOAD SERVED. THE GENERIC OR BROAD LIST IS NOT ACCEPTABLE. FOR EXAMPLE LISTING "LIGHTS IN CLASSROOM" IS NOT ADEQUATE. PROVIDE MORE SPECIFIC LIST SUCH AS "LIGHTS IN CLASSROOM 231, 234 AND STORAGE 239" SHALL BE PROVIDED TO REFLECT THE SPECIFIC LOAD SERVED.
43. UNLESS NOTED OTHERWISE, ALL WIRING SHALL BE IN CONDUIT EXCEPT LOW VOLTAGE WIRING ABOVE ACCESSIBLE CEILING SPACE. LOW VOLTAGE WIRING EXCEPT FIRE ALARM SYSTEM WIRING ABOVE ACCESSIBLE CEILING SPACE MAY BE EXPOSED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUIT.
44. LOCATE THE OUTLETS FOR LCD PROJECTORS AS DIRECTED BY OWNER'S LCD PROJECTOR VENDOR TO PROVIDE OPTIMUM COVERAGE OF THE PROJECTOR.
45. UNLESS SPECIFICALLY INDICATED, ALL CONDUITS OTHER THAN IN ELECTRICAL/ MECHANICAL EQUIPMENT ROOMS AND AUTO/WOOD SHOPS SHALL BE CONCEALED. POWER POLES OR CONDUIT FED FROM CEILING IS STRICTLY PROHIBITED.
46. ALL FLOOR MOUNTED RECEPTACLES SHALL BE FLUSH WITH FLOOR AND SHALL HAVE HINGED COVER PLATES. PEDESTAL TYPE RECEPTACLES ARE NOT ALLOWED.
47. ALL CONDUITS FOR TELEPHONE AND DATA OUTLETS SHALL BE 1.25" UNLESS NOTED OTHERWISE. ALL BACKBOXES FOR TELEPHONE AND DATA OUTLETS SHALL BE 2 GANG AND SHALL BE MINIMUM OF 2.75" DEEP.
48. LOW VOLTAGE SYSTEMS, INCLUDING TELECOMMUNICATIONS, SECURITY, FIRE ALARM, ETC. SHALL BE BY THIS CONTRACTOR, INCLUDING WIRING, CONDUIT, TERMINATIONS, POWER REQUIREMENTS, PROGRAMMING, ETC., UNLESS SPECIFICALLY NOTED OTHERWISE. SMART BOARDS AND VIDEO PROJECTORS SHALL BE FURNISHED BY OWNER, BUT ALL ASSOCIATED POWER AND WIRING REQUIREMENTS SHALL BE BY THIS CONTRACTOR.
49. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE OR VERIFY.
50. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
51. EXISTING CONDUITS IN GOOD CONDITION MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. ALL JUNCTION BOXES MUST HAVE COVERS. VERIFY REQUIREMENTS IN FIELD.
52. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE DEMOLITION.
53. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
54. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
55. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL AND IF THERE IS AN INTERFERING EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
56. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
57. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE/HEAT DETECTORS AS REQUIRED, WHETHER SHOWN ON DRAWINGS OR NOT. THIS NOTE IS GENERALLY APPLICABLE, BUT NOT LIMITED TO, WHERE THERE IS NO DROPPED CEILING (IN EXPOSED CEILING AREA). ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
58. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
59. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
60. WHERE LIGHTING FIXTURES ARE TO BE REUSED, CLEAN FIXTURES THOROUGHLY.
61. ALL SWITCHBOARDS, DISTRIBUTION PANELS AND PANEL BOARDS SHALL BE FURNISHED WITH FULL RATED COPPER BUS NO BE BRACED FOR AVAILABLE FAULT CURRENT WITH MINIMUM RATINGS AS FOLLOWS:
    SWITCHBOARDS - 100,000 AIC
    DISTRIBUTION PANELS - 55,000 AIC
    PANELBOARDS - 10,000 AIC (120/240V)
62. ALL CIRCUIT BREAKERS FOR PANEL BOARDS SHALL BE THE BOLT-ON TYPE, RATED FOR SWITCHING DUTY AND RATED FOR THE AVAILABLE FAULT CURRENT WITH MINIMUM RATING OF 10,000 AIC FOR 120/240V PANELS.
63. ALL CIRCUIT BREAKER SIZES AND QUANTITIES INDICATED ON SCHEDULE(S) ARE FOR THE CONVENIENCE OF THE BIDDERS ONLY. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND SUPPLYING ALL REQUIRED BRANCH BREAKERS.
64. ALL PANELS RECESSED IN WALLS SHALL HAVE 3-1" CONDUITS STUBBED INTO CEILING CAVITY OR STUBBED OUT OF WALL 12'-0" ABOVE SLAB.

PANEL BOARD SCHEDULE PP-1

			MAIN (A): 200 A WITH GROUND BUS	MCB	MLO	LOCATION:	WAREHOUSE
VOLTAGE:	120/208VOLT 3PHASE 4WIRE					MOUNT:	WALL
						TYPE:	
USE AND/OR AREA SERVED	C/B	CIR. NO.	A	B	C	CIR. NO.	C/B	USE AND/OR AREA SERVED
	70	1	6500			40		ELECTRICAL DUCT HEATER
			3000			2		
CONDENSING UNIT CU-1		3		6500				
				3000		4	2	
		5			6500	20		ERV-1
	3				1200	6	1	
ELECTRICAL WALL HEATER	25	7	2000			20		HEAT RECOVERY BOXES HR 1 AND 2
			100			8		
		9		2000		20		
	2			100		10	2	
VRF-1 AND 2	20	11			270	20		VRF-3, 4 AND 5
					405	12		
		13	270					
	2		405			14		
VRF-6 AND 7	20	15		270		20		VRF-8 AND 9
				270		16		
		17			270			
	1				270	18		
	20	19	0			20		VRF-10 AND 11
	1		270			20		
	20	21		0				
	1			270		22	2	
	20	23			0	20		
					0	24	1	
	20	25	0			20		
	1		0			26	1	
	20	27		0		20		
	1			0		28	1	
	20	29			0	20		
					0	30	1	
	20	31	0			20		
	1		0			32	1	
	20	33		0		20		
	1			0		34	1	
	20	35			0	20		
	1				0	36	1	
	20	37	0			20		
	1		0			38	1	
	20	39		0		20		
	1			0		40	1	
	20	41			0	20		
	1				0	42	1	
TOTAL LOAD PER PHASE			12545	12410	8915	TOTAL KVA:		33.9
						AMPS:		94.0

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Engineering & Design
789 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

SUPPORT SERVICES CENTER

1012 N. OLD STATE RD 49, CHESTERTON, IN. 46304

PROJECT NUMBER:	21-031	REVISIONS:
PROJECT MANAGER:	TRS	
DRAWN BY:	BM	
ISSUED FOR BIDDING:	3/16/22	

PARTIAL FLOOR PLAN

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH STUART EMMONS REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER

EXPIRES 07/31/2022

E3.00

SHT 2 OF 2

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

CHESTERTON MIDDLE SCHOOL, 651 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304
SUPPORT SERVICES CENTER, 1012 NORTH OLD STATE ROAD 49, CHESTERTON, IN. 46304 (ALTERNATE #1)
DISTRICT OFFICE, 601 W. MORGAN AVENUE, CHESTERTON, INDIANA 46304 (ALTERNATE #2)

TRIA PROJECT#: 21-037

GENERAL BUILDING CODE REQUIREMENTS

BUILDING CODES REFERENCED:
2012 INTERNATIONAL BUILDING CODE WITH 2014 INDIANA AMENDMENTS
2006 INTERNATIONAL PLUMBING CODE 2ND EDITION AMENDED INDIANA 2012
2008 NATIONAL ELECTRICAL CODE WITH 2009 INDIANA AMENDMENTS
2012 INTERNATIONAL MECHANICAL CODE WITH 2014 INDIANA AMENDMENTS
INDIANA ENERGY CONSERVATION CODE 2010
2012 INTERNATIONAL FIRE CODE WITH 2014 INDIANA AMENDMENTS
2012 INTERNATIONAL FUEL GAS CODE 2ND EDITION WITH 2014 INDIANA AMENDMENTS

OCCUPANCY CLASSIFICATION:
EDUCATIONAL GROUP E

TYPE OF CONSTRUCTION:
EXISTING: II-B

DESIGN FIRM REGISTRATION:
THOMAS R. SZURGOT
INDIANA LICENSE NUMBER: AR10800173

SCHOOL BOARD

PRESIDENT	BRANDON KROFT
VICE PRESIDENT	ALAYNA LIGHTFOOT POL
BOARD SECRETARY	TOM SCHNABEL
BOARD MEMBER	RONALD STONE
BOARD MEMBER	TIM MCGINTY
SUPERINTENDENT	DR. CHIP PETTIT

SITE LOCATION MAP

DRAWING INDEX

T1.00 TITLE SHEET, SITE LOCATION MAP, INDEX, AND GENERAL BUILDING CODE REQUIREMENTS

ARCHITECTURAL
AG0.00 SYMBOLS AND ABBREVIATIONS AND TYPICAL MOUNTING HEIGHTS
AG3.10 OVERALL FIRST FLOOR PLAN
A0.11 PARTIAL EXISTING REFLECTED CEILING PLAN
A7.10 PARTIAL REFLECTED CEILING PLAN
A8.10 PARTIAL ROOF PLAN AND DETAILS

MECHANICAL
M0.10 EXISTING PARTIAL FLOOR PLAN - MECHANICAL
M1.100 PARTIAL FLOOR PLAN - VENTILATION
M2.00 PARTIAL FLOOR PLANS - PIPING
M3.00 SCHEDULES - MECHANICAL
M3.10 SCHEDULES - MECHANICAL
M3.20 DIAGRAMS - MECHANICAL
M4.10 DETAILS - MECHANICAL
M4.20 DETAILS - MECHANICAL
M5.00 NOTES - MECHANICAL
M5.10 ABBREVIATIONS - MECHANICAL

ELECTRICAL
E0.10 EXISTING PARTIAL FLOOR PLAN - ELECTRICAL
E1.00 PARTIAL FLOOR PLAN - ELECTRICAL - LIGHTING
E2.00 PARTIAL FLOOR PLAN - ELECTRICAL - POWER
E3.00 NOTES AND SCHEDULES - ELECTRICAL

CONTRACTOR PURCHASED EQUIPMENT

MECHANICAL EQUIPMENT PURCHASED AND INSTALLED BY CONTRACTOR.

ARCHITECT:

TRIA ARCHITECTURE, INC.

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M.E.P. CONSULTANT:

OAS, LLC.

769 Heartland Dr., Unit A
Sugar Grove, Illinois 60554
Phone: 630.538.1996
www.oasllc.net

ISSUED FOR BIDDING:
MARCH 10, 2022

THOMAS R SZURGOT REGISTERED AR10800173 STATE OF INDIANA ARCHITECT

REVISIONS:

T1.00

SHT 1 OF 2

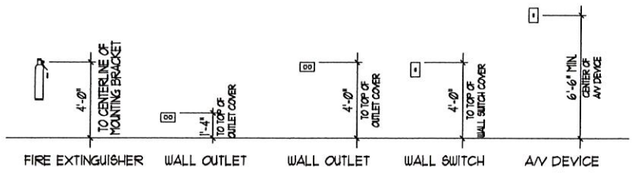
SYMBOLS AND ABBREVIATIONS

X | X / EXIT X	SAFETY REFERENCE ROOM INFORMATION TAG
EXIT X / X | X	SAFETY REFERENCE EXIT INFORMATION TAG
100'	SAFETY REFERENCE EGRESS PATH
	BREAK LINE
X	WINDOW TAG
X	DOOR TAG
N	NORTH ARROW
X / AXXX	SECTION TAG
X / AXXX	ELEVATION TAG
X / TITLE / 1'-0" = 1'-0"	DETAIL TAG / DRAWING TITLE
XX	WALL TYPE TAG
X	COLUMN LINE TAG
	ELEVATION TAG (HEIGHT)
X	REMODELING NOTE TAG
X	DEMOLITION NOTE TAG
X	ROOF INSULATION TAGS
X / X / X	ROOM NAME TAG

	2'x4' RECESSED FLUORESCENT FIXTURE
	RECESSED DOWNLIGHT
	HVAC SUPPLY
	HVAC RETURN
	S.A.T. CEILING
	PLASTER OR GYP. BD.

CJ	CONTROL JOINT
CT	CERAMIC TILE
CMU	CONCRETE MASONRY UNIT
CP	CONDENSATE PIPE
CPT	CARPET
CU	CONDENSING UNIT
DF	DRINKING FOUNTAIN
DS	DOWNSPOUT
EF	EXHAUST FAN
EJ	EXPANSION JOINT
EP	ELECTRICAL PENETRATION
EQ.	EQUAL
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER CHILLER
EX	EXISTING
EXP	EXPOSED
FD	FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
FP	FIRE PROTECTION
GB	GRAB BAR
GP	GAS PIPING
GYP.	GYPSUM BOARD
HC	HANDICAPPED ACCESSIBLE
HM	HOLLOW METAL
LAV	LAVATORY
M.E.	MATCH EXISTING
M	MIRROR
MO	MASONRY OPENING
MTL	METAL
MUA	MAKE-UP AIR
N.I.C.	NOT IN CONTRACT
OH	OPPOSITE HAND
PL	PLASTER
PRT	PORCELAIN TILE
PT	PAINT
PTD	PAPER TOWEL DISPENSER
PTTD	PAPER TOWEL TRASH DISPOSAL
RBR	RUBBER
RBB	RUBBER BASE
RBT	RUBBER TILE FLOORING
RD	ROOF DRAIN
RH	ROOF HATCH
RTU	ROOFTOP UNIT
RST	RUBBER STAIR TREADS AND RISERS
REF	REFRIGERATOR
SAT	SUSPENDED ACOUSTICAL TILE
SD	SOAP DISPENSER
SGT	STRUCTURAL GLAZED TILE
SIM	SIMILAR
SND	SANITARY NAPKIN DISPOSAL
SNP	SANITARY NAPKIN DISPENSER
STL	STEEL
TDU	TRASH DISPOSAL UNIT
TRZ	TERRAZZO
TTD	TOILET TISSUE DISPENSER
TV	TELEVISION
TYP	TYPICAL
UR	URINAL
VCT	VINYL COMPOSITE TILE
V.I.F.	VERIFY IN FIELD
VP	VENT PIPE
WC	WATER CLOSET
WD	WOOD
WF	WASH FOUNTAIN

TYPICAL MOUNTING HEIGHTS



TRIA ARCHITECTURE

IDAS Engineering & Associates, LLC
MEP/FP CONSULTANT:
768 HEARTLAND DR., UNIT A SCHERERVILLE, ILLINOIS 46054 (630) 328-1996

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

DISTRICT OFFICE

601 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER:	21-651
PROJECT MANAGER:	TRS
DRAWN BY:	

REVISIONS:

ISSUED FOR BIDDING 3/16/22

SYMBOLS AND ABBREVIATIONS AND TYPICAL MOUNTING HEIGHTS

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

THOMAS R. SZUBERT REGISTERED AR10800173 STATE OF INDIANA ARCHITECT

AG0.00

1 OVERALL FIRST FLOOR PLAN
1/32" = 1'-0"

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

DISTRICT OFFICE

601 W MORGAN AVE, CHESTERTON, IN. 46304

MEP-FP CONSULTANT:
IDAS Engineering & Associates, LLC
765 HEARTLAND DR., UNIT H, SUGAR GROVE, ILLINOIS 60554 (630) 538-1999

TRIA ARCHITECTURE

PROJECT NUMBER: 21-651
PROJECT MANAGER: TRS
DRAWN BY: BM

REVISIONS	
1	
2	
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ISSUED FOR BIDDING 3/30/22	
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OVERALL FIRST FLOOR PLAN

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

THOMAS R SZUSZOT
REGISTERED
AR10800173
STATE OF
INDIANA
ARCHITECT

AG3.10

EXISTING REFLECTED CEILING PLAN REFERENCED NOTES

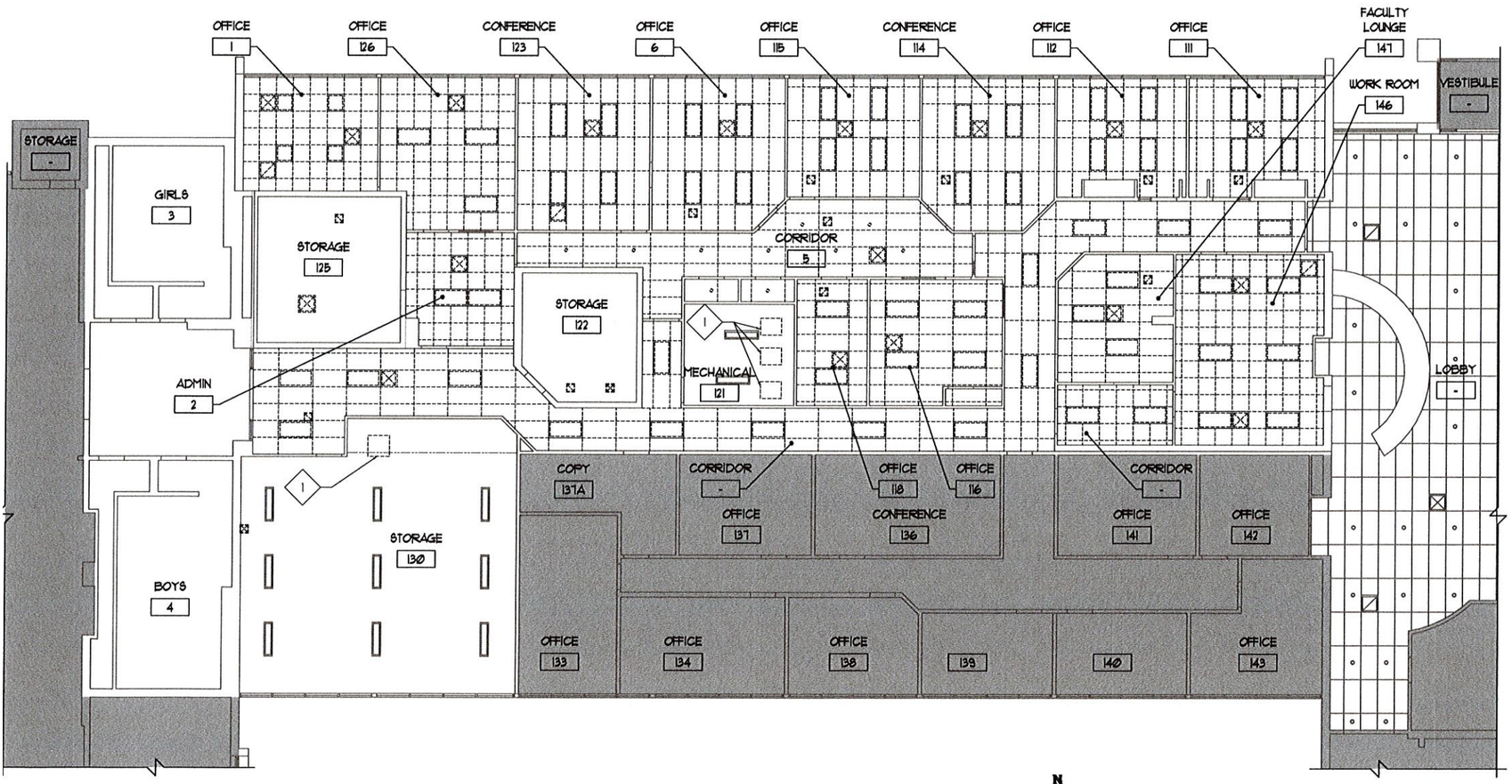
1. EXISTING MECHANICAL UNIT TO BE REMOVED - REFER TO MECHANICAL PLANS.

EXISTING REFLECTED CEILING PLAN GENERAL NOTES

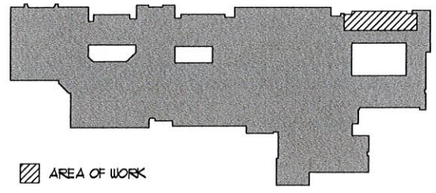
1. ALL EXISTING CEILING SYSTEMS, LIGHTS, EQUIPMENT AND CEILING MOUNTED SPEAKERS TO BE REMOVED IN THEIR ENTIRETY WHERE INDICATED - REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS.
2. REFER TO ELECTRICAL PLANS FOR ADDITIONAL CEILING MOUNTED DEVICES AND EQUIPMENT TO BE REMOVED.
3. CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK.
4. FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO GIVE A GENERAL SCOPE OF WORK. ANY ITEMS REQUIRING REMOVAL/DEMOLITION TO PROPERLY PERFORM CONTRACT WORK BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS VISIBLE DURING BIDDING.
5. SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM DEMOLITION WORK.
6. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/ REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
7. PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
8. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.

LEGEND

- EXISTING SUSPENDED ACOUSTICAL TILE CEILING SYSTEM TO REMAIN - PROTECT DURING CONSTRUCTION.
- EXISTING SUSPENDED ACOUSTICAL TILE CEILING TO BE REMOVED IN IT'S ENTIRETY. REMOVE ALL LIGHTS, LOUVERS, AND OTHER DEVICES.
- EXISTING LIGHT FIXTURE TO REMAIN - REFER TO ELECTRICAL DRAWINGS
- EXISTING LIGHT FIXTURE TO BE REMOVED - REFER TO ELECTRICAL DRAWINGS
- EXISTING LIGHT FIXTURE TO BE REMOVED - REFER TO MECHANICAL DRAWINGS
- EXISTING MECHANICAL SUPPLY DIFFUSER TO REMAIN - REFER TO MECHANICAL DRAWINGS
- EXISTING RETURN GRILLE TO REMAIN - REFER TO MECHANICAL DRAWINGS
- EXISTING MECHANICAL SUPPLY DIFFUSER TO BE REMOVED - REFER TO MECHANICAL DRAWINGS
- EXISTING MECHANICAL RETURN GRILLE TO BE REMOVED - REFER TO MECHANICAL DRAWINGS
- EXISTING CONSTRUCTION TO BE REMOVED
- EXISTING CONSTRUCTION TO REMAIN
- AREA OF EXISTING SUSPENDED CEILING SYSTEM TO BE REMOVED AND REINSTALLED AS REQUIRED FOR NEW CONSTRUCTION.



1 EXISTNG PARTIAL REFLECTED CEILING PLAN
1/8" = 1'-0"



AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

M.E.P./F.P. CONSULTANT:
IDAS Design & Build
780 HEARTLAND DR., UNIT A, SUGAR GROVE, ILLINOIS 60554 (630) 538-1999

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS:
1
2
3
4

PROJECT NUMBER: 21-051
PROJECT MANAGER: TRS
DRAWN BY: BM
ISSUED FOR BIDDING: 3/16/22

EXISTING PARTIAL REFLECTED CEILING PLAN

DUNELAND SCHOOL CORPORATION
West Chesterton, Indiana

THOMAS R. STURGIOT
REGISTERED
AR10800173
STATE OF INDIANA
ARCHITECT

A0.11

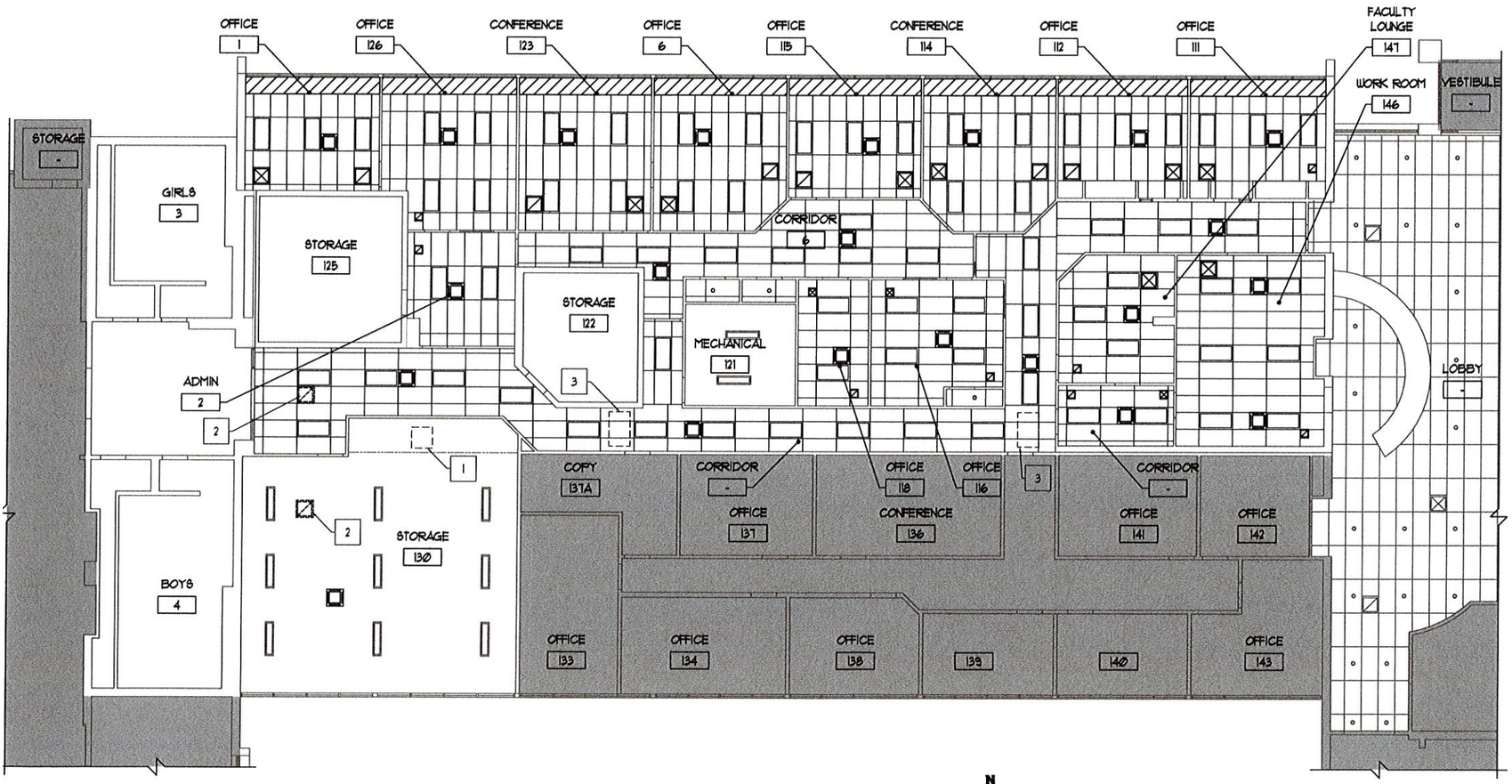
SHT 1 OF 2

REFLECTED CEILING PLAN REFERENCED NOTES

1. MECHANICAL EQUIPMENT - REFER TO MECHANICAL DRAWINGS.
2. INTAKE / RELIEF HOOD - REFER TO MECHANICAL DRAWINGS.
3. MECHANICAL EQUIPMENT ABOVE - REFER TO MECHANICAL DRAWINGS (UNIT WEIGHT = 650 POUNDS).

REFLECTED CEILING PLAN GENERAL NOTES

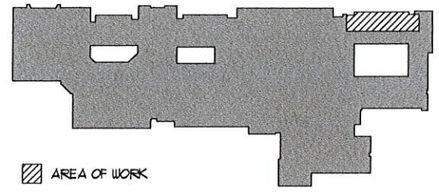
1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL AREAS OF ABOVE CEILING WORK. REMOVE AND PATCH OR REINSTALL EXISTING CEILINGS IN THESE LOCATIONS ONLY AS REQUIRED TO PROVIDE WORK INDICATED.
2. CONTRACTOR TO VERIFY ALL EXISTING CEILING HEIGHTS PRIOR TO BEGINNING WORK ON ANY CEILING SCHEDULED TO RECEIVE WORK.
3. FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM. ITEMS SHOWN ARE INDICATED TO INDICATE THE SCOPE OF WORK, ANY ITEMS REQUIRING REMOVAL TO PROPERLY PERFORM CONTRACT WORK, BUT NOT SPECIFICALLY SHOWN, SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST, PROVIDING THE CONDITION WAS VISIBLE DURING BIDDING.
4. SHORE OR BRACE ALL EXISTING CONSTRUCTION AS REQUIRED TO PERFORM WORK.
5. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
6. PROTECT ALL EXISTING FINISHES, EQUIPMENT, AND ADJACENT WORK NOT SCHEDULED TO BE REMOVED FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED FINISHES, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
7. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.



1 PARTIAL REFLECTED CEILING PLAN
1/8" = 1'-0"

LEGEND

- EXISTING SUSPENDED ACOUSTICAL TILE CEILING SYSTEM - PROTECT DURING CONSTRUCTION.
- 2'x4' SUSPENDED ACOUSTICAL TILE CEILING SYSTEM
- RADIANT CEILING PANELS - REFER TO MECHANICAL DRAWINGS
- EXISTING 2' X 4' RECESSED LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS
- 2' X 4' RECESSED LIGHT FIXTURE - REFER TO ELECTRICAL DRAWINGS
- EXISTING SUPPLY DIFFUSER - REFER TO MECHANICAL DRAWINGS
- EXISTING RETURN / EXHAUST GRILLE - REFER TO MECHANICAL DRAWINGS
- SUPPLY DIFFUSER - REFER TO MECHANICAL DRAWINGS
- RETURN / EXHAUST GRILLE - REFER TO MECHANICAL DRAWINGS
- VARIABLE REFRIGERANT FLOW UNIT - REFER TO MECHANICAL DRAWINGS



AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Engineering & Associates, LLC
769 HEARTLAND DR., UNIT 1, SUGAR GROVE, ILLINOIS 60554 (630) 538-1998

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS	
1	
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6	

PROJECT NUMBER: 21-057
PROJECT MANAGER: TRS
DRAWN BY: BM
ISSUED FOR BIDDING: 3/09/22

PARTIAL REFLECTED CEILING PLAN

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

THOMAS R. SZUREK REGISTERED ARCHITECT AR10800173 STATE OF INDIANA

A7.10

GENERAL NOTES

1. ALL INSULATION JOINTS ARE TO BE STAGGERED.
2. ALL GAPS IN INSULATION JOINTS GREATER THAN 1/4" ARE TO BE FILLED WITH INSULATION STRIPS.
3. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS.
4. ALL COUNTER FLASHING, COPING, AND MISCELLANEOUS METAL FLASHING PIECES ARE TO HAVE SEALANT APPLIED AT THEIR END CONDITIONS.
5. ALL EXPOSED FASTENERS TO BE CORROSION RESISTIVE, HAVE NEOPRENE WASHERS, AND BE COVERED WITH SEALANT.
6. ALL AREAS OF EXISTING SITE USED TO ACCESS AREA OF WORK SHALL BE PROTECTED AND REPAIRED BACK TO ORIGINAL CONDITION PRIOR TO SUBSTANTIAL COMPLETION DATE - AT ALL GRASS AREAS DAMAGED DURING CONSTRUCTION, PROVIDE NEW SOD TO MATCH EXISTING SPECIES.
7. EXTEND ALL PIPE PENETRATIONS AS REQUIRED TO PROVIDE WORK INDICATED.
8. PROVIDE TAPERED INSULATION SADDLES AT ALL ROOF CURBS.
9. AT ALL ROOF PENETRATIONS TO BE REMOVED - PATCH DECK, FILL OPENING WITH INSULATION TO MATCH EXISTING AND PATCH MEMBRANE PER MANUFACTURER'S REQUIREMENTS TO MAINTAIN EXISTING ROOF WARRANTY.

FLASHING NOTES

1. ALL FLASHING FLANGES ARE TO BE SET IN SEALANT.
2. FIELD VERIFY ALL CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS.
3. FOLLOWING INSTALLATION OF THE FLASHING, APPLY SEALANT TO ALL EXPOSED LEADING EDGES.
4. ALL SCREW ANCHOR LOCATIONS TO HAVE PRE-DRILLED 5/16" PILOT HOLES.
5. NON-EXPOSED NAIL FASTENERS TO BE 1-1/2" RING SHANK GALVANIZED ROOFING NAILS.
6. NON-EXPOSED SCREW ANCHORS INTO WOOD TO BE 1-1/4" X 3/16" HHA ATLAS TYPE #A' POINT SCREWS.
7. EXPOSED SCREW ANCHORS INTO WOOD ARE TO BE 1-1/4" X 3/16" HHA ATLAS TYPE #A' POINT 304 SERIES.
8. NON-EXPOSED SCREW ANCHORS INTO MASONRY ARE TO BE 1-1/4" X 3/16" TAPCONS.
9. EXPOSED SCREW ANCHORS INTO MASONRY ARE TO BE 1-1/4" X 3/16" TAPCONS WITH CLIMASEAL CORROSION RESISTIVE COATING AND NEOPRENE WASHERS.
10. EXPOSED SCREW FASTENERS INTO SHEET METAL TO BE 3/4" X 1/4" TEKS WITH NEOPRENE WASHERS.
11. ALL EXPOSED SCREW FASTENERS ARE TO BE COVERED WITH SEALANT.

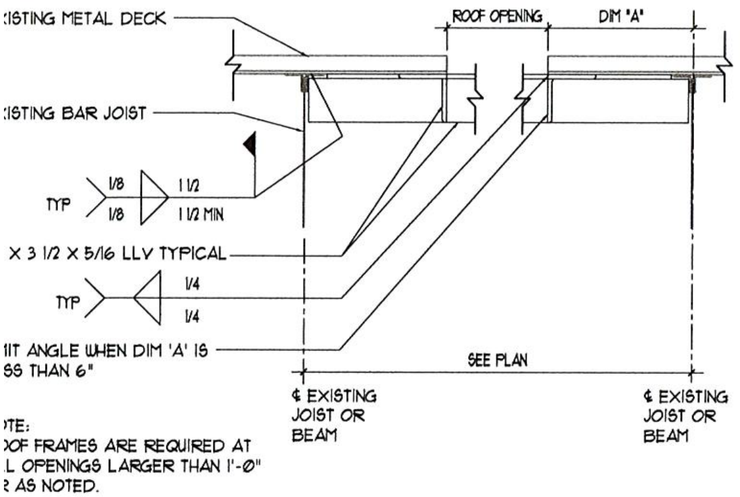
ROOF CONSTRUCTION NOTES

ROOF AREA #1:
EXISTING ROOF AREA - EXISTING METAL DECK, INSULATION AND TREMCO TPA ROOF SYSTEM - AT AREAS TO PATCH, MATCH EXISTING ADJACENT CONSTRUCTION.

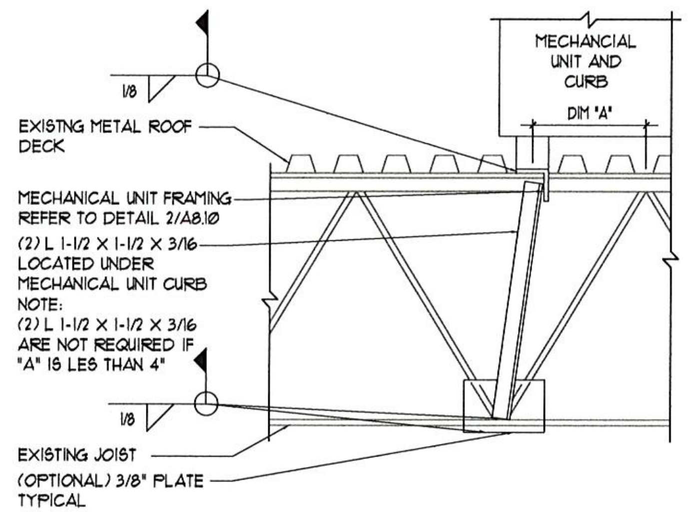
CONTACT GLUTH BROTHERS ROOFING COMPANY (219-844-5536) OR THE SCHOOL'S TREMCO ROOFING REPRESENTATIVE, DOUG COPLEY (260-312-0483). TREMCO CERTIFIES ALL ROOFING FOR THE DUNELAND SCHOOL CORPORATION.

LEGEND

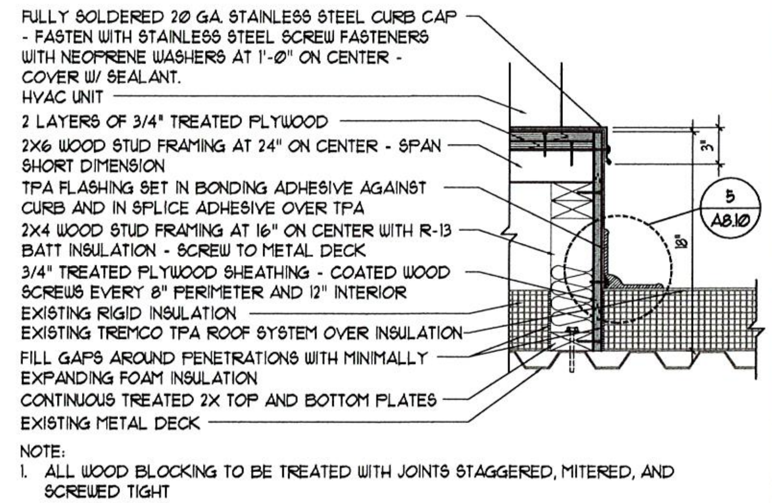
C.U.	CONDENSING UNIT AND PLATFORM CURB - REFER TO DETAIL 2/A8.10 AND MECHANICAL DRAWINGS.
I.H.	INTAKE HOOD - REFER TO MECHANICAL DRAWINGS.
R.H.	RELIEF HOOD - REFER TO MECHANICAL DRAWINGS.



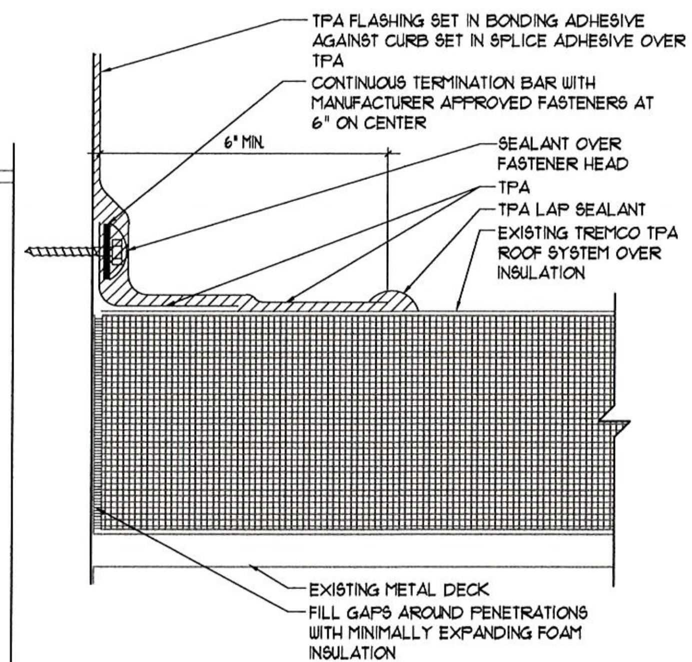
2 TYPICAL OPENING IN EXISTING ROOF DETAIL
1 1/2" = 1'-0"



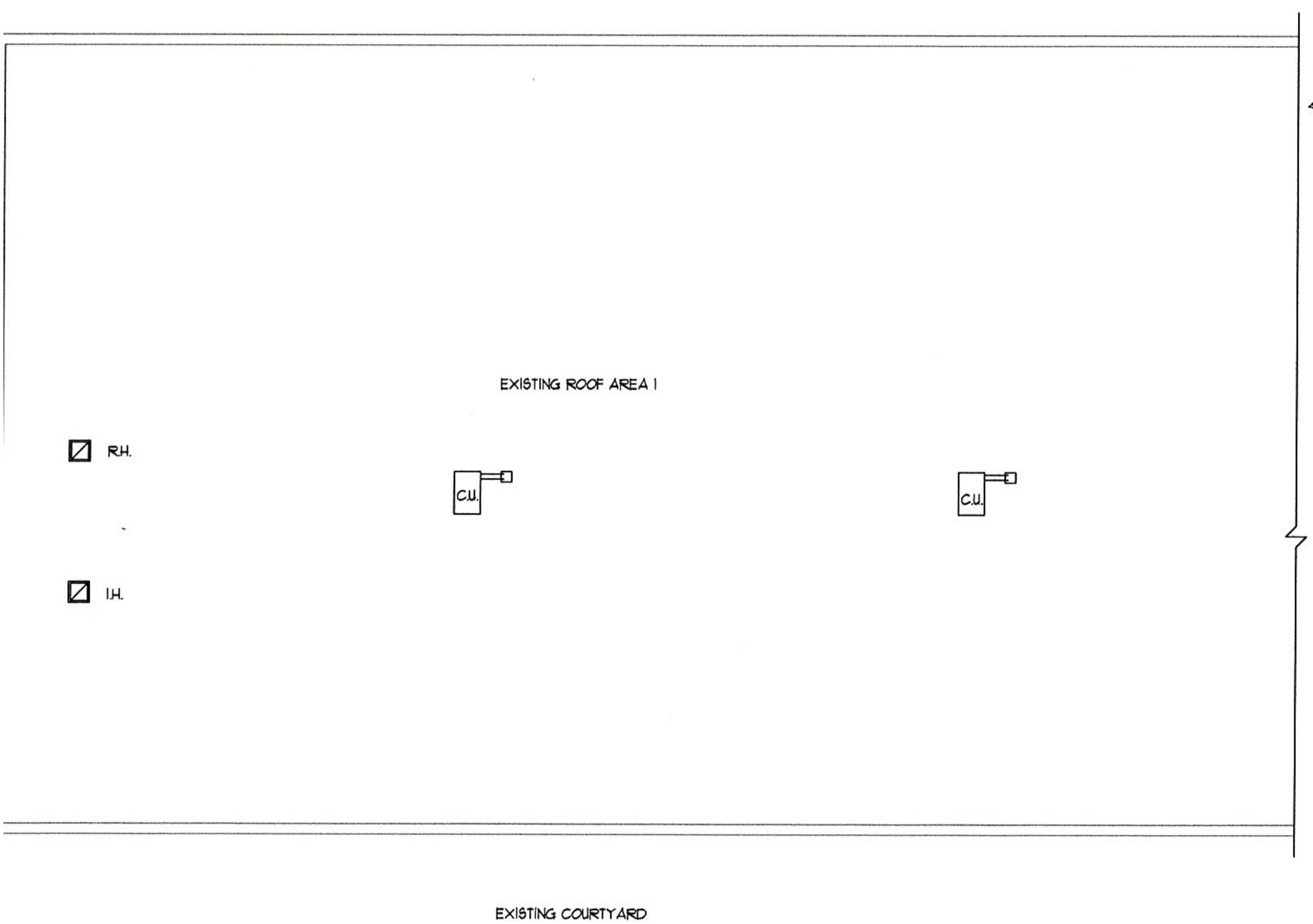
3 TYPICAL JOIST REINFORCEMENT UNDER RTU CURB
1 1/2" = 1'-0"



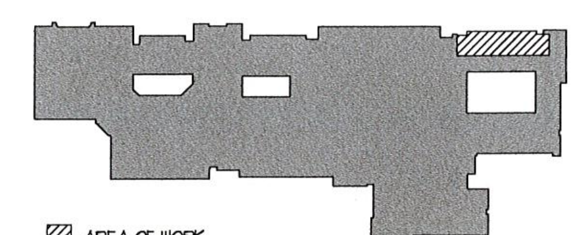
4 PLATFORM CURB DETAIL
1 1/2" = 1'-0"



5 TYPICAL SPM ANCHOR STRIP DETAIL
6" = 1'-0"



1 PARTIAL ROOF PLAN
1/8" = 1'-0"



KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT: DAS

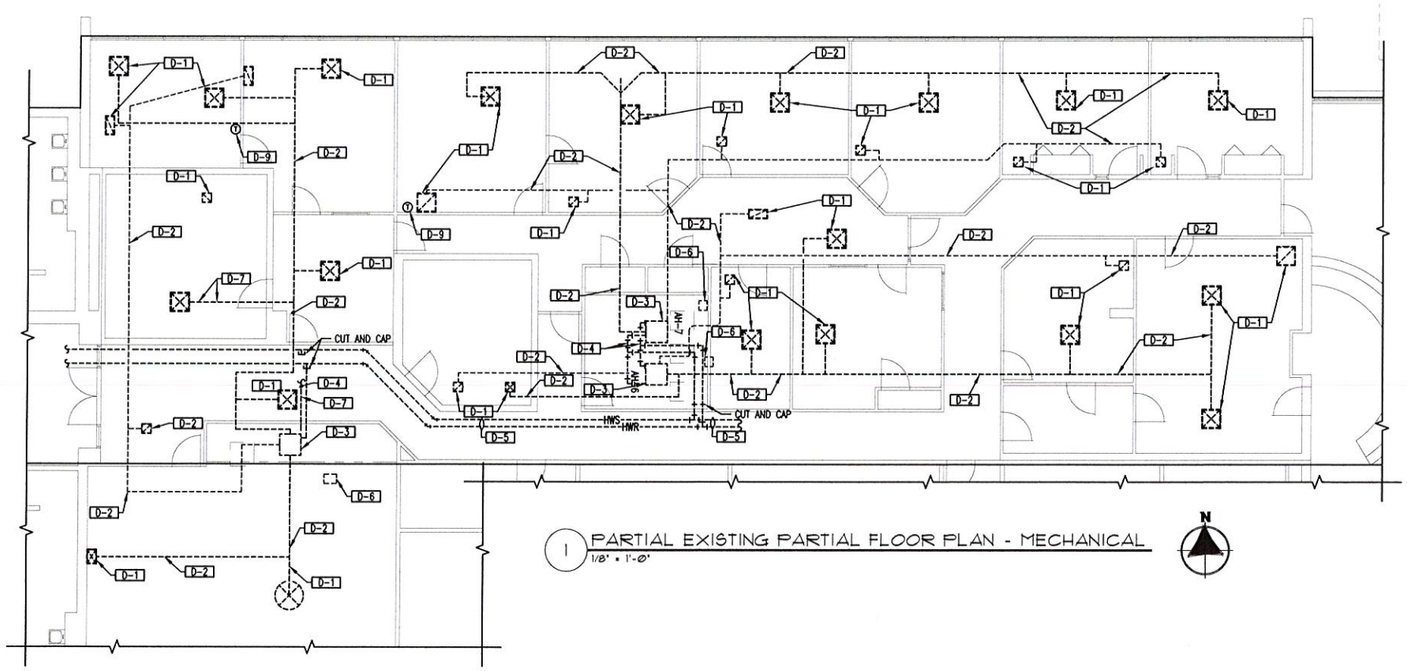
DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

ISSUED FOR BIDDING
PARTIAL ROOF PLAN

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

THOMAS R. SZURGOT REGISTERED AR10800173 STATE OF INDIANA ARCHITECT

A8.10

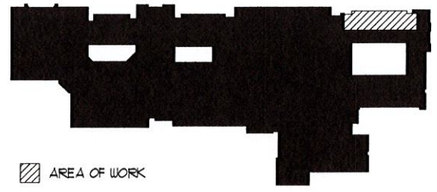


1 PARTIAL EXISTING PARTIAL FLOOR PLAN - MECHANICAL
1/8" = 1'-0"

N

DEMOLITION NOTES

- D-1 REMOVE DIFFUSER/REGISTER.
- D-2 REMOVE DUCTWORK AND HANGERS.
- D-3 REMOVE VERTICAL AIR HANDLERS TO INCLUDE ALL HW AND R PIPING, REFRIGERANT PIPING, DRAIN PIPING, CONTROLS ETC.
- D-4 REMOVE HWS AND R PIPING BACK TO MAIN IN HALL.
- D-5 EXISTING HWS AND R TO REMAIN.
- D-6 REMOVE CONDENSING UNIT. SEAL REFRIGERANT PIPING ROOF PENETRATIONS.
- D-7 EXISTING DUCT TO REMAIN
- D-8 EXISTING AIR HANDLER TO REMAIN
- D-9 REMOVE ALL EXISTING THERMOSTATS



AREA OF WORK

KEYPLAN
NOT TO SCALE

N

KEITH BRYANT BUILDING REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

MEP/FP CONSULTANT:
IDAS Engineering & Architecture, LLC
7161 HEARTLAND DR., UNIT H SUGAR GROVE, ILLINOIS 60554 (630) 338-1996

TRIA ARCHITECTURE

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

DISTRICT OFFICE

601 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER:	21-046
PROJECT MANAGER:	TRS
DRAWN BY:	

ISSUED FOR BIDDING: 3/9/22

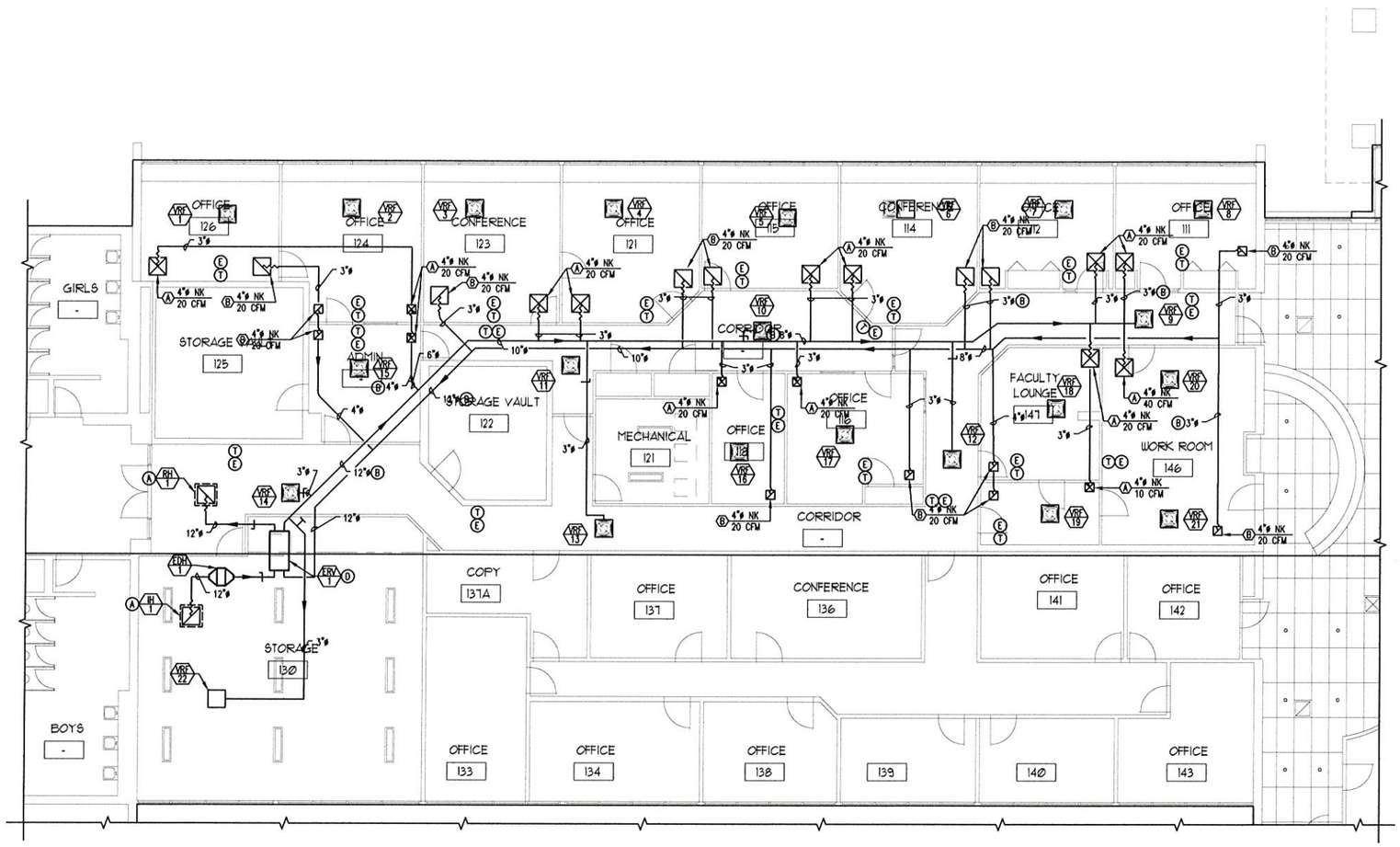
REVISIONS

EXISTING PARTIAL FLOOR PLAN - MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

M0.10

SHT 2 OF 2



1 PARTIAL FLOOR PLAN - MECHANICAL - VENTILATION
1/4" = 1'-0"

DIFFUSER, GRILLE AND REGISTER SCHEDULE

NECK SIZE (IN.) / AIR QTY. (CFM)

EQUIP. TAG	MANUFACTURER	MODEL	TYPE	SERVICE	MATERIAL	MAX. NC	NOTES
(A)	TITUS	PAS	ARCHITECTURAL DIFFUSER	SUPPLY	STEEL	30	1,2,5,7
(B)	TITUS	PAR	PERFORATED RETURN	RETURN	STEEL	30	1,2,5,7

NOTES:
1. COLOR TO BE SELECTED BY ARCHITECT
2. LAY-IN FRAME
3. FLANGED FRAME
4. SURFACE MOUNT FLANGED FRAME WITH SCREW FASTENING
5. OPPOSED BLADE DAMPER
6. CONFIGURATION SHALL BE 1/2"x1/2"x1".
7. CONTRACTOR RESPONSIBLE FOR CORRECT BORDER TYPE.

MECHANICAL VENTILATION NEW WORK NOTES

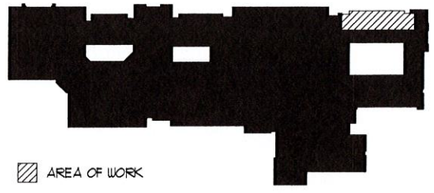
(A) PROVIDE AND INSTALL INTAKE/RELIEF HOOD. SEE ARCHITECTURAL DRAWINGS ADDITIONAL REQUIREMENTS.

(B) INSULATED SUPPLY AIR DUCT. COORDINATE DUCTWORK ROUTING WITH CEILING REMOVAL/REPLACEMENT. RUN DUCTWORK THROUGH JOIST WEBS AND IN JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

(C) THERMOSTAT/ SENSOR. PROVIDE "GROUP CONTROL KIT" FOR MULTIPLE UNIT CONTROL FROM SINGLE STAT.

(D) SUPPLY/RETURN/EXHAUST/OUTDOOR AIR DUCTWORK TO/FROM ERV. PROVIDE FLEXIBLE CONNECTION AT EACH ERV DUCT CONNECTION. HANG ERV FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE ERV WITH EXISTING BUILDING STRUCTURE. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL ERV. FIELD VERIFY REQUIREMENTS. SEE SPECIFICATIONS ADDITIONAL REQUIREMENTS.

(E) THERMOSTAT/SENSOR. CUT/PATCH NEW/EXISTING WALL AS REQUIRED TO INSTALL. PAINT WALL TO MATCH EXISTING.



AREA OF WORK

KEYPLAN
NOT TO SCALE

KEITH BRYANT ENGINEERING REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

TRIA ARCHITECTURE

M.E.P./F.P. CONSULTANT:
IDAS Engineers & Architects, LLC
769 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

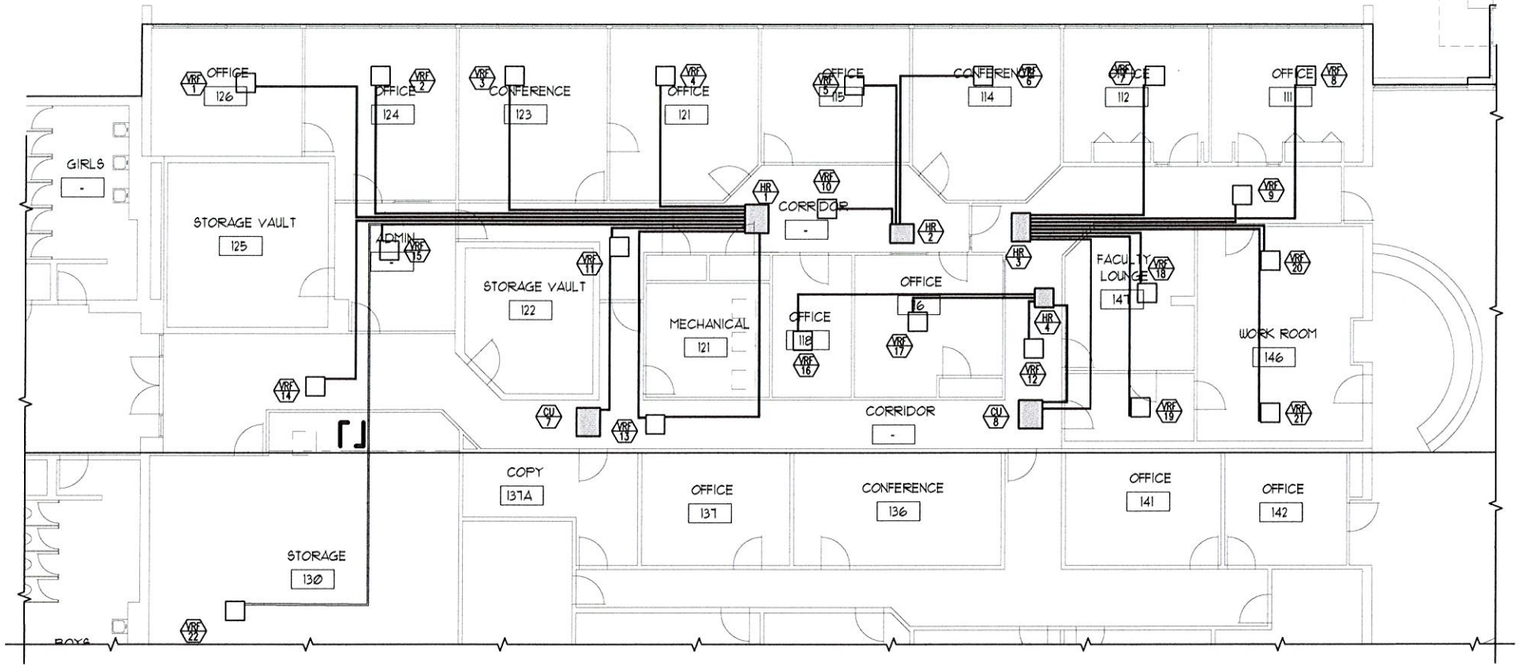
REVISIONS

PROJECT NUMBER 21-065
PROJECT MANAGER TRS
DRAWN BY:
ISSUED FOR BIDDING 3/8/22

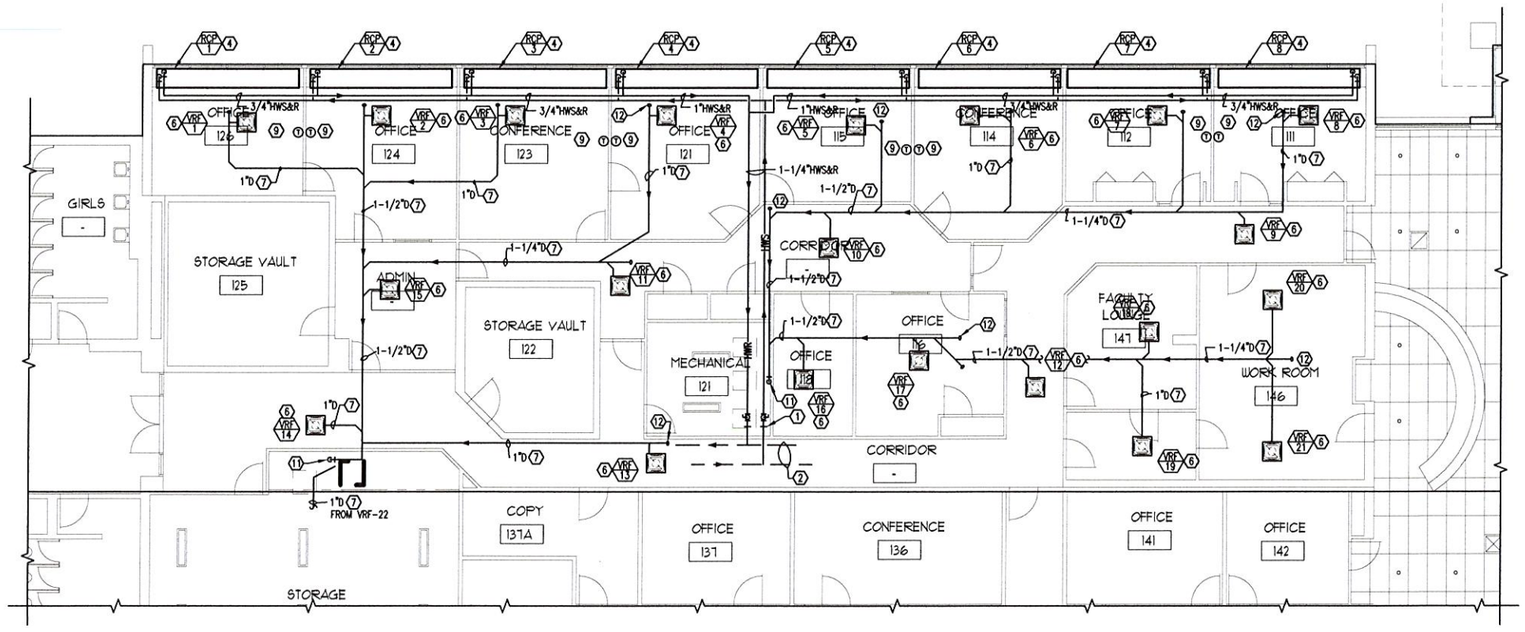
PARTIAL FLOOR PLAN MECHANICAL

DUNELAND SCHOOL CORPORATION St. Chesterton, Indiana

M1.00



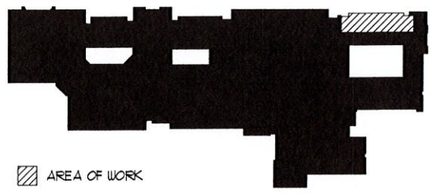
1 PARTIAL FLOOR PLAN - MECHANICAL - VRF SYSTEM REFRIGERANT PIPING & CONTROL
1/4" = 1'-0"



1 PARTIAL FLOOR PLAN - MECHANICAL - PIPING
1/8" = 1'-0"

MECHANICAL PIPING NEW WORK NOTES

1. PROVIDE NEW CONNECTION TO EXISTING HOT WATER SUPPLY/RETURN PIPING. FIELD VERIFY SIZE/LOCATION. EXTEND AS SHOWN ON DRAWINGS.
2. EXISTING HOT WATER SUPPLY/RETURN PIPING.
3. PROVIDE AND INSTALL ROOF MOUNTED CONDENSING UNIT ON PLATFORM CURB WITH THREE LAYERS OF HIGH DENSITY INSULATION AND PIPE CURB. SEE LARGE SCALE DETAILS M4.20 FOR ADDITIONAL REQUIREMENTS. PLATFORM CURB TO BE 6" LARGER IN ALL DIRECTIONS THAN EQUIPMENT. PROVIDE NEW REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND INDOOR VRF UNITS. PROVIDE ROOF PIPE SUPPORTS 4'-0" O.C. EXTERIOR PIPING TO BE INSULATED AND PROVIDED WITH AN ALUMINUM JACKET PER THE SPECIFICATIONS. SEE LARGE SCALE DETAIL 11/M3.10 FOR ADDITIONAL REQUIREMENTS. FIELD VERIFY ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER.
4. PROVIDE 3/4" HOT WATER SUPPLY/RETURN PIPES TO/FROM RADIANT CEILING PANEL.
5. 1-1/2" INSULATED CONDENSATE DROP AT WALL TO FLOOR DRAIN. REPLACE FLOOR DRAIN COVER WITH FUNNEL TOP. REWORK CONDENSATE DRAIN ON REMAINING FAN COIL TO RUN TO FUNNEL.
6. VRF UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM HR UNITS AND INDOOR VRF UNITS. PROVIDE 1" INSULATED CONDENSATE PIPE FROM VRF UNIT. RISE CONDENSATE OFF OF VRF UNIT AND RUN CONDENSATE PIPE IN JOIST SPACE AS HIGH AS POSSIBLE. COORDINATE LOCATION OF VRF UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG VRF UNIT FROM EXISTING STRUCTURE (BEAM/JOIST) WITH ISOLATORS, PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE ERV WITH EXISTING BUILDING STRUCTURE. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL VRF UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. RUN INSULATED CONDENSATE AS HIGH AS POSSIBLE THROUGH EXISTING JOISTS AND JOIST WEBBING. SEE PLANS FOR PIPE SIZES.
8. HR UNIT: PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER AND/OR INDOOR VRF UNITS. COORDINATE LOCATION OF HR UNITS WITH CEILING GRID AND EXISTING BUILDING STRUCTURE. HANG HR UNIT FROM EXISTING STRUCTURE (BEAM/JOIST), PROVIDE ADDITIONAL SUPPORTS AS REQUIRED BY FIELD CONDITIONS. COORDINATE HR UNITS WITH EXISTING BUILDING STRUCTURE. REMOVE/REINSTALL JOIST BRIDGING AS REQUIRED TO INSTALL HR UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. THERMOSTAT/SENSOR FOR RCP. CUT/PATCH NEW/EXISTING WALL AS REQUIRED TO INSTALL RECESSED IN WALL. PAINT WALL TO MATCH EXISTING.
10. PROVIDE REFRIGERANT PIPING TO RUN TO/FROM AIR COOLED CONDENSER UNIT AND/OR INDOOR HR/VRF UNITS. FIELD VERIFY REQUIREMENTS. FIELD VERIFY PIPE ROUTING AND PIPE SIZE WITH VRF UNIT MANUFACTURER. COORDINATE PIPE RUNS WITH CEILING REMOVAL/REPLACEMENT. PIPING TO RUN IN/THRU EXISTING JOIST SPACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
11. DROP CONDENSATE DRAIN INTO EXISTING FLOOR DRAIN
12. CLEANOUT TYPICAL ON ALL DRAINS AT VRF



AREA OF WORK

KEYPLAN
NOT TO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
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DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER: 21-065	REVISIONS:
PROJECT MANAGER: TRS	
DRAWN BY:	
ISSUED FOR BIDDING 3/30/22	

PARTIAL FLOOR PLAN
MECHANICAL - PIPING

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH BRYANT GIBBONS REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

M2.00

SHT 2 OF 2

VARIABLE REFRIGERANT FLOW UNIT AND CONDENSING UNIT SCHEDULE - CONTRACTOR PROVIDED

TAG	LOCATION	AREA SERVED	MANUFACTURER	MODEL NUMBER	TYPE	CAPACITY COOLING (MBH)	CAPACITY HEATING (MBH)	CORRECTED COOLING TOTAL (MBH)	CORRECTED COOLING SENSIBLE (MBH)	CORRECTED HEATING (MBH)	CFM (LOWEST TO HIGHEST)	MOUNTING	EAT D.B. (°F)	EAT W.B. (°F)	RATED AMPS	MOP	VOLT/PH	DIMENSIONS HxWxD (IN.)	NOTES
VRF 1	OFFICE 133	OFFICE 133	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 2	OFFICE 133	OFFICE 133	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 3	OFFICE 134	OFFICE 134	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 4	OFFICE 134	OFFICE 134	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 5	OFFICE 138	OFFICE 138	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 6	OFFICE 139	OFFICE 139	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 7	OFFICE 140	OFFICE 140	LG	ARNU153	4-WAY CASSETTE	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 8	OFFICE 143	OFFICE 143	LG	ARNU153	4-WAY CASSETTE	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 9	CORRIDOR	LOBBY 110	LG	ARNU093	DUCTED	9.3		8.1	6.2	8.5	283/265/251	RECESS DUCTED	75.0	63.0	2.3	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 10	CORRIDOR	OFFICE 142	LG	ARNU123	4-WAY CASSETTE	12.3		10.4	7.9	10.4	307/283/247	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 11	CORRIDOR	OFFICE 141	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.1	283/265/251	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 12	CORRIDOR	OFFICE 136	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.5	283/265/251	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 13	CORRIDOR	OFFICE 136	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.1	283/265/251	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 14	CORRIDOR	OFFICE 137	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.1	283/265/251	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 15	ADMIN	COPY 137A	LG	ARNU123	4-WAY CASSETTE	12.3		10.4	7.9	10.4	307/283/247	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 16	OFFICE 118	HALLWAY	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.5	283/265/251	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 17	OFFICE 116	HALLWAY	LG	ARNU153	4-WAY CASSETTE	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 18	OFFICE 147	HALLWAY	LG	ARNU153	4-WAY CASSETTE	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 19	OFFICE 148	HALLWAY	LG	ARNU093	4-WAY CASSETTE	9.3		8.1	6.2	8.5	283/265/251	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 20	OFFICE 146	HALLWAY	LG	ARNU153	4-WAY CASSETTE	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 21	OFFICE 146	HALLWAY	LG	ARNU153	4-WAY CASSETTE	15.3		12.9	9.9	13.7	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13
VRF 22	OFFICE 130	HALLWAY	LG	ARNU153	4-WAY CASSETTE	15.3		13.0	9.9	13.0	388/353/328	CEILING	75.0	63.0	0.2	15	208/230/1	10.6x22.6x22.6	1,2,5,6,7,8, 10,11,13

OUTDOOR SECTION

TAG	MANUFACTURER	MODEL NUMBER	WEIGHT (LB)	CAPACITY COOLING (MBH)	CAPACITY HEATING (MBH)	CORRECTED COOLING (MBH)	CORRECTED HEATING (MBH)	AMBIENT AIR SUMMER/WINTER (°F)	MCA	MOP	VOLT/PH	COOLING EFFICIENCY IEER (SEER)	HEATING COP	NOTES
CU 7	LG	ARUM168 BTE3	639	16.8	18.9	13.6	13.5	95.0/-22.0	54	70	208/230/3	25.4	3.6	1,2,3,4,7,9,10, 11,13
CU 8	LG	ARUM168 BTE3	639	16.8	18.9	13.6	13.5	95.0/-22.0	54	70	208/230/3	25.4	3.8	1,2,3,4,7,9,10, 11,13

NOTES:

1. INCLUDE LOW AMBIENT CONTROL (-22.0° F), ANTI-CYCLING TIME DELAY, CRANKCASE HEATER AND AUTOMATIC OPERATING HOT GAS BYPASS. (VRF MANF.)
2. DISCONNECT SWITCH FOR EACH VRF UNIT BY ELECTRICAL CONTRACTOR.
3. MOUNT ON 18" HIGH PLATFORM CURB AND VIBRATION ISOLATORS PER MANUFACTURERS RECOMMENDATIONS. PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
4. PROVIDE WIND BAFFLE. PROVIDED BY VRF MANF. INSTALLED BY MECHANICAL CONTRACTOR.
5. PROVIDE GASKET, GRILLE AND AUTOMATIC FAN SPEED CONTROL FOR EACH INDOOR UNIT. (VRF MANF.)
6. PROVIDE CONDENSATE PUMP AND CONDENSATE DRAIN PAN FLOAT ALARM AND SHUT DOWN OF EACH UNIT. (VRF MANF.)
7. SYSTEM DESIGNED FOR SIMULTANEOUS HEATING/COOLING OPERATION. (VRF MANF.)
8. PROVIDE THERMOSTAT WITH PER VRF UNIT. PROVIDED BY VRF MANF. INSTALLED BY MECHANICAL CONTRACTOR.
9. PROVIDE BAS CONTROLLER AND INTERFACE PER THE SPECIFICATIONS. INSTALLED BY MECHANICAL CONTRACTOR.
10. REFRIGERANT PIPING TO BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
11. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
12. NOT USED.
13. MECHANICAL CONTRACTOR IS REQUIRED TO TAKE MANUFACTURES FREE "CERTIFIED INSTALLER TRAINING CLASS".

TRIA ARCHITECTUR

MEP/FP CONSULTANT:

DAS

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

DISTRICT OFFICE

601 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS

SCHEDULES - MECHANICAL

No. PE10911154 STATE OF INDIANA

M3.00

RADIANT CEILING PANEL SCHEDULE (RCP)

[T]AG	LOCATION	MANUFACTURER	MODEL NUMBER	PANEL LENGTH (FT.)	PANEL WIDTH (FT.)	AWT (°F)	EWT (°F)	LWT (°F)	CAPACITY (BTUH/LIN. FT.)	NUMBER OF TUBES	TOTAL MBH	GPM	NOTES
CP 1	OFFICE 126	AERO TECH	AXO	15'-10"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
CP 2	OFFICE 124	AERO TECH	AXO	16'-0"	24"	170	180	160	456	8	7.2	1.0	1,2,3,4,5
CP 3	OFFICE 123	AERO TECH	AXO	15'-8"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
CP 4	OFFICE 121	AERO TECH	AXO	15'-8"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
CP 5	OFFICE 115	AERO TECH	AXO	15'-8"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
CP 6	OFFICE 114	AERO TECH	AXO	15'-8"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
CP 7	OFFICE 112	AERO TECH	AXO	15'-4"	24"	170	180	160	456	8	7.0	1.0	1,2,3,4,5
CP 8	OFFICE 111	AERO TECH	AXO	15'-11"	24"	170	180	160	456	8	7.2	1.0	1,2,3,4,5

[NOT]ES:
FIELD MEASURE ALL LENGTHS PRIOR TO FABRICATION. PANELS ARE WALL TO WALL. FIELD CUT PANELS TO MATCH WALLS. COLOR TO BE SELECTED BY ARCHITECT
ALL PANELS ARE TO BE MADE OF MULTIPLES OF 6" EXTRUSIONS. LONG RUNS OF PANELS TO BE MADE OF MULTIPLE MAXIMUM 12'-0" LENGTHS.
PROVIDE PANEL SUPPORTS, EDGE SUPPORTS, ETC. FOR LAY-IN CEILING. LAY-IN CEILING BY GENERAL CONTRACTOR.
SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
PANELS TO BE INSTALLED BY OTHERS. PIPING TO PANELS BY THIS CONTRACTOR.

MULTI VHR BOXES (HR)

			ELECTRICAL DATA				
[T]AG	LOCATION	MODEL NAME	VOLT	PH	HZ	RLA	NOTES
R 1	CU-7	PRHR083A	208	1	60	0.2	–
R 2	CU-7	PRHR043A	208	1	60	0.2	–
R [illegible]	CU-8	PRHR083A	208	1	60	0.2	–
R [illegible]	CU-7	PRHR043A	208	1	60	0.2	–

[NOT]ES:

ELECTRIC DUCT HEATER SCHEDULE (EDH)

GENERAL DATA					COIL DATA							ELECTRICAL DATA			
TAG	LOCATION	AREA SERVED	MANUF.	MODEL NUMBER	SIZE (IN.)	CFM	EAT (°F)	LAT (°F)	SP (IN.)	STAGES	TYPE	KW	VOLT	PH	NOTES
EDH 1	RECORDS 130	OFFICES	RENEWAIRE	RH-D	12"ø	400	-10.0	52.9	0.25	SCR	INLINE OPEN COIL	11.5	208	3	1,2

NOTES:
1. OVER-TEMPERATURE PROTECTION, TRANSFORMER, SCR CONTROLLER, AIRFLOW SWITCH, ROUND DUCT COLLARS, DUCT TEMPERATURE SENSOR AND MOUNTING FLANGES.
2. INTERLOCK WITH ERV. SCR CONTROLLER TO BE CONTROLLED BY BAS CONTRACTOR TO MAINTAIN 50°F DURING OCCUPIED HEATING SEASON.

MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

NOTES:
1. EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR (MARK 'E'), HEATING CONTRACTOR (MARK 'H'), VENTILATING CONTRACTOR (MARK 'V').
2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUITS/WIRING BY TRADE FURNISHING RESPECTIVE EQUIPMENT.
3. E.C. SHALL COORD. & REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY & OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE E.C. OF ANY MOTOR/DEVICE CHANGES.
4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS.
5. SEE SPECIFICATIONS AND DRAWINGS FOR TYPES AND LOCATIONS OF DEVICES SCHEDULED BELOW.

TAG	EQUIPMENT DESCRIPTION	UNIT MOUNTED DEVICES				LOOSE DEVICES			REMARKS
		STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	
VRF	VARIABLE REFRIGERANT FLOW UNIT	–	–	–	YES	–	E	E	
CU	CONDENSING UNIT	–	–	–	YES	–	E	E	
HR	VRF REFRIGERANT BOX	–	–	–	YES	–	E	E	
EDH	ELECTRIC DUCT HEATER	–	–	–	YES	–	E	E	
ERV	ENERGY RECOVERY VENTILATOR	–	–	–	YES	–	E	E	

NOTES: 1. VERIFY FINAL LOADS AND REQUIREMENTS WITH FINAL MECHANICAL DRAWINGS.

TRIA ARCHITECTUR[E]

MEP/FP CONSULTANT:
OAS
769 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER: 21-065
PROJECT MANAGER: TRS
DRAWN BY:
ISSUED FOR BIDDING: 3/10/22
REVISIONS: 1, 2, 3, 4, 5

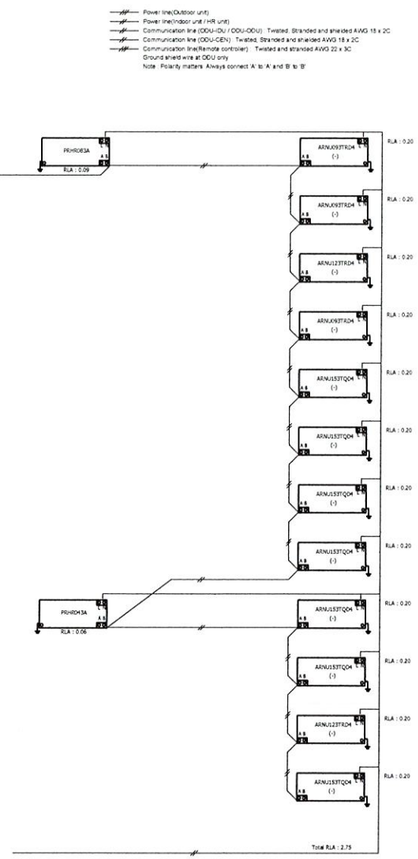
SCHEDULES
MECHANICAL

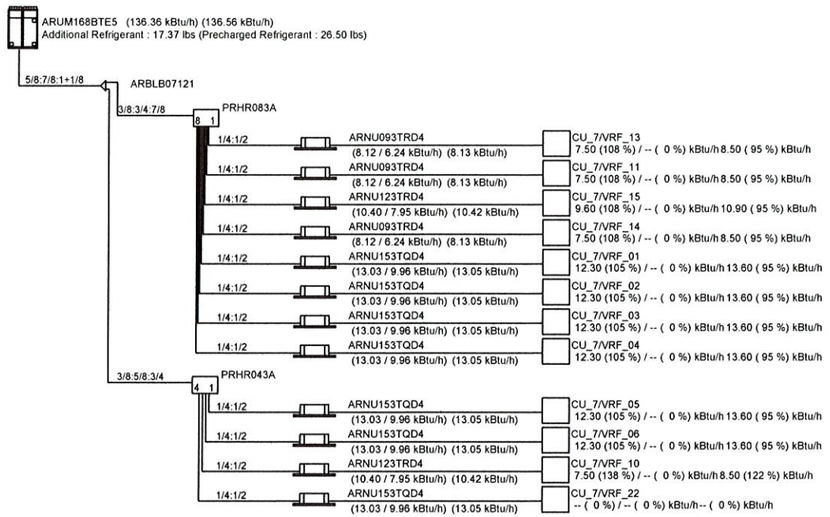
DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH BRYANT O'HIGGINS REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

M3.10

Note :
Power wiring, breaker size, and disconnects should follow local code and NEC.
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.





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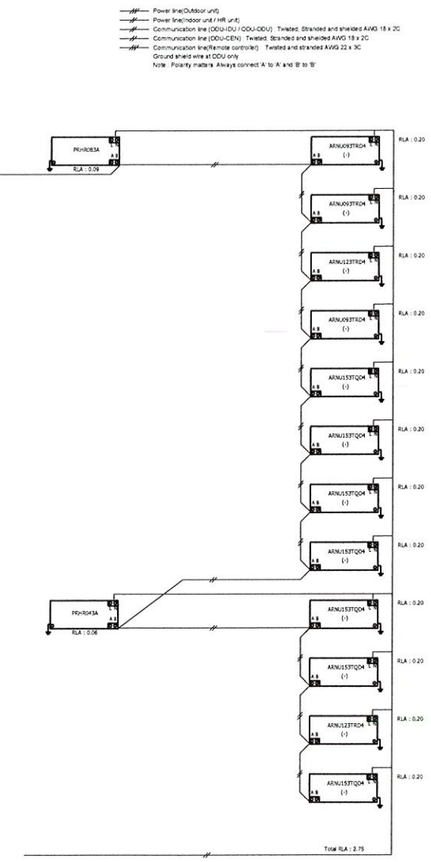
Multi-frame outdoor units require a separate power connection for each frame.
Refer to the most up-to-date submittal sheets for applicable electrical data.



MEP/FP CONSULTANT:
IDAS Designs & Associates
769 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

TRIA ARCHITECTURE

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS:

PROJECT NUMBER: 21-065
PROJECT MANAGER: TRS
DRAWN BY:

ISSUED FOR BIDDING: 3/30/22

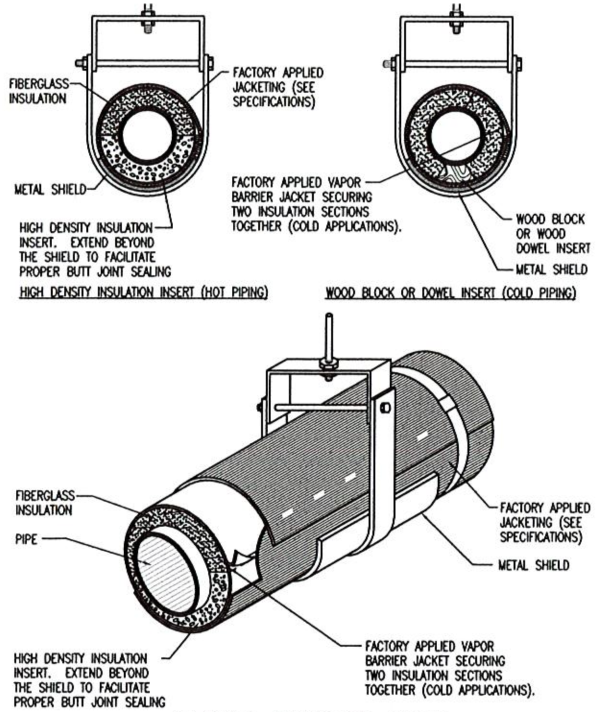
REFRIGERANT AND WIRING
TREE5 - MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH BRYANT GIBBONS REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

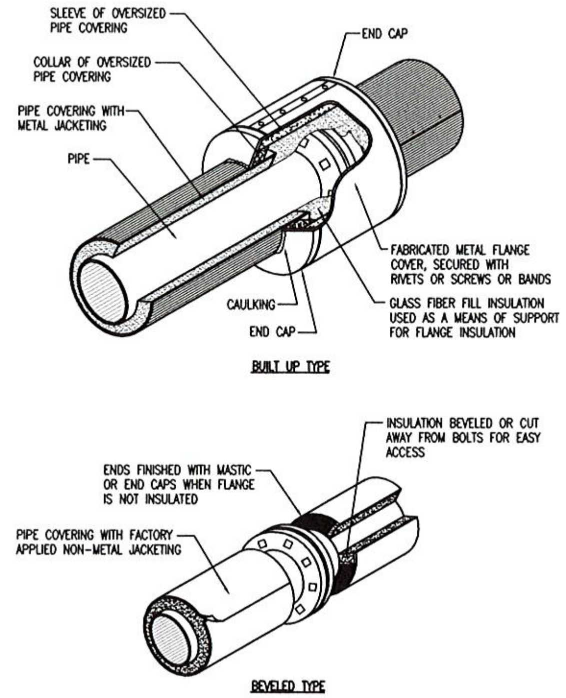
M3.20

SHT 2 OF 3



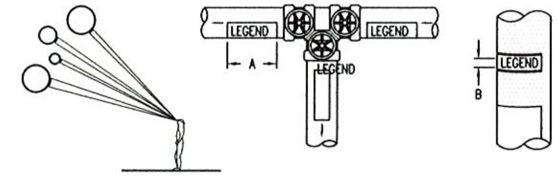
1 / M4.10 CLEVIS HANGER HIGH DENSITY INSERT DETAIL

NO SCALE



2 / M4.10 IN-LINE FLANGE INSULATION

NO SCALE



NOTES:

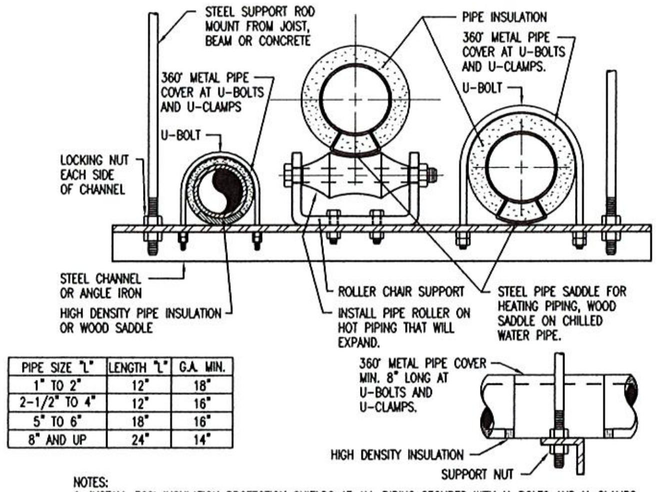
1. ONLY FACTORY MANUFACTURED MARKERS AS FOLLOWS WILL BE ACCEPTABLE:
   PIPES 3/4" THRU 5-7/8" DIAMETER: USE "SNAP-AROUND" TYPE.
   PIPES 6" DIAMETER AND LARGER: USE "STRAP-AROUND" TYPE.
   STENCILS AND STICK-ON TYPE MARKERS WILL NOT BE PERMITTED.
2. IDENTIFICATION MARKERS TO BE PLACED ON ALL EXPOSED COVERED AND UNCOVERED PIPES AT 20'-0" INTERVALS AND AT ALL VALVES AND BRANCHES AND ON BOTH SIDES OF WALLS WHERE PIPES PASS THROUGH SAME. ARROWS OF SAME COLOR AS IDENTIFICATION MARKERS SHALL ALSO BE PLACED ON PIPES POINTING AWAY FROM MARKER INDICATING DIRECTION OF FLOW.

SIZE OF LEGEND LETTERS		
OUTSIDE DIAMETER OF PIPE OR COVERING	LENGTH OF COLOR FIELD A	SIZE OF LETTERS B
3/4" TO 1-1/4"	8"	1/2"
1-1/2" TO 2"	8"	3/4"
2"-1/2" TO 6"	12"	1-1/4"

PLAN TAG	SERVICE	IDENTIFICATION MARKER
BWS	BOILER WATER SUPPLY	BLACK LETTERING ON YELLOW BACKGROUND
BWR	BOILER WATER RETURN	BLACK LETTERING ON YELLOW BACKGROUND
HWS	HOT WATER HEATING SUPPLY	BLACK LETTERING ON YELLOW BACKGROUND
HWR	HOT WATER HEATING RETURN	BLACK LETTERING ON YELLOW BACKGROUND
G	NATURAL GAS	BLACK LETTERING ON YELLOW BACKGROUND
MU	MAKE-UP WATER (H.W. TANK)	WHITE LETTERING ON GREEN BACKGROUND
RS	REFRIGERANT SUCTION	BLACK LETTERING ON YELLOW BACKGROUND
RL	REFRIGERANT LIQUID	BLACK LETTERING ON YELLOW BACKGROUND
CHWS	CHILLED WATER SUPPLY	WHITE LETTERING ON GREEN BACKGROUND
CHWR	CHILLED WATER RETURN	WHITE LETTERING ON GREEN BACKGROUND
C	CONDENSATE	BLACK LETTERING ON YELLOW BACKGROUND

3 / M4.10 TYPICAL PIPE IDENTIFICATION MARKERS

NO SCALE



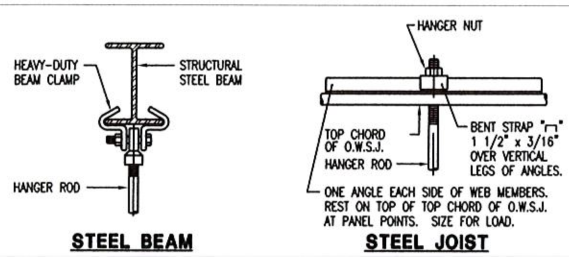
PIPE SIZE "L"	LENGTH "L"	G.A. MIN.
1" TO 2"	12"	18"
2-1/2" TO 4"	12"	16"
5" TO 6"	18"	16"
8" AND UP	24"	14"

NOTES:

1. INSTALL 360° INSULATION PROTECTION SHIELDS AT ALL PIPING SECURED WITH U-BOLTS AND U-CLAMPS. PROVIDE HIGH DENSITY INSULATION SUPPORTS AT ALL CLEVIS HANGERS, SUPPORTS AND TRAPEZE HANGERS. PROVIDE STEEL PIPE INSULATION SADDLES ON ALL PIPES SUPPORTED BY ROLLERS.
2. INSTALLATION FOR PIPES SUPPORTED VERTICALLY ALONG WALLS SHALL BE SIMILAR TO U-BOLT INSTALLATIONS SHOWN ABOVE.

4 / M4.10 TYPICAL TRAPEZE PIPE HANGER DETAIL

NO SCALE



PIPE HANGERS AND SUPPORTS

SUPPORT HORIZONTAL STEEL AND COPPER PIPING AS FOLLOWS:

NOMINAL PIPE SIZE	DISTANCE BETWEEN SUPPORTS	HANGER ROD DIAMETERS
1/2"	6'	3/8"
3/4 TO 1-1/2"	6'	1/2"
2" TO 2-1/2"	10'	1/2"
3" AND 4"	12'	5/8"
6" TO 12"	14'	7/8"
14" TO 18"	20'	1"

PLACE HANGER WITHIN 1 FOOT OF EACH HORIZ. ELBOW.

PIPING 4 INCHES AND SMALLER (WITH INSULATION) TO BE MOUNTED TO NEW AND EXISTING CONCRETESTRUCTURE WITH C-CLAMPS/STRAPS.

VERTICAL PIPING:

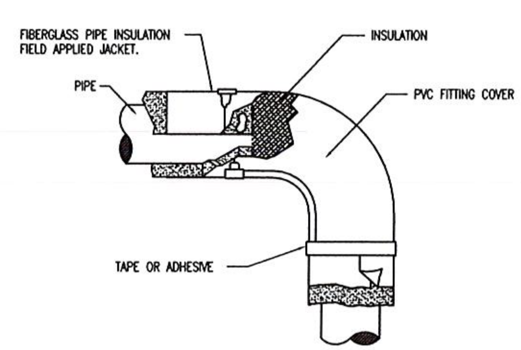
1. SUPPORT VERTICAL WATER PIPING AT EVERY FLOOR.

WHERE SEVERAL PIPES CAN BE INSTALLED IN PARALLEL AND AT SAME ELEVATION PROVIDE MULTIPLE OR TRAPEZE HANGERS.

WHERE PRACTICAL, SUPPORT RISER PIPING INDEPENDENTLY OF CONNECTED HORIZ. PIPING.

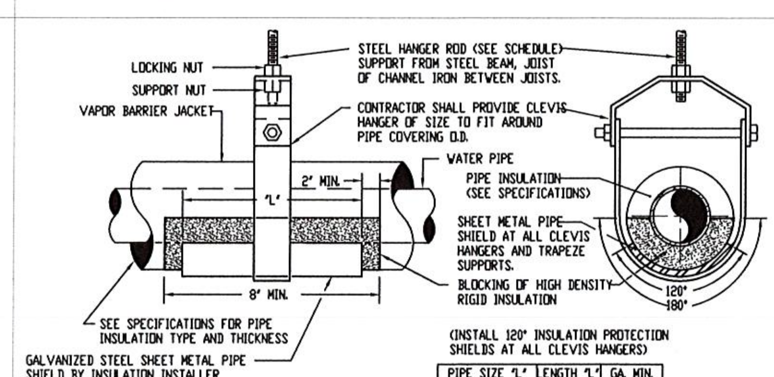
5 / M4.10 PIPE HANGER DETAILS

NO SCALE



6 / M4.10 PVC/GLASS FIBER ELBOW INSULATION SYSTEM DETAIL

NO SCALE



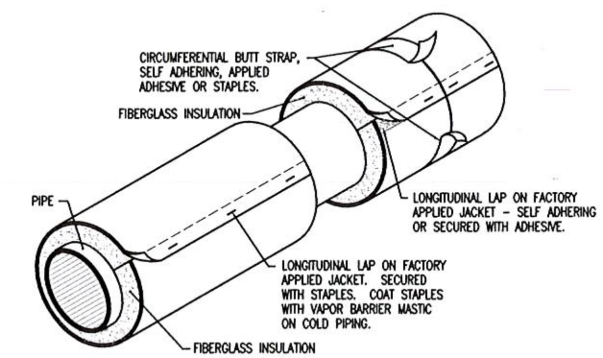
(INSTALL 120° INSULATION PROTECTION SHIELDS AT ALL CLEVIS HANGERS)

PIPE SIZE "L"	LENGTH "L"	GA. MIN.
3/4' TO 2'	12'	18
2-1/2' TO 4'	12'	16
5' TO 6'	18'	16
8' AND UP	24'	14

INSTALL 360° INSULATION PROTECTION SHIELDS AT ALL PIPING SECURED WITH U-BOLTS AND U-CLAMPS. PROVIDE HIGH DENSITY INSULATION SUPPORTS AT ALL CLEVIS HANGERS, SUPPORTS AND TRAPEZE HANGERS. PROVIDE STEEL PIPE INSULATION SADDLES ON ALL PIPES SUPPORTED BY ROLLERS.

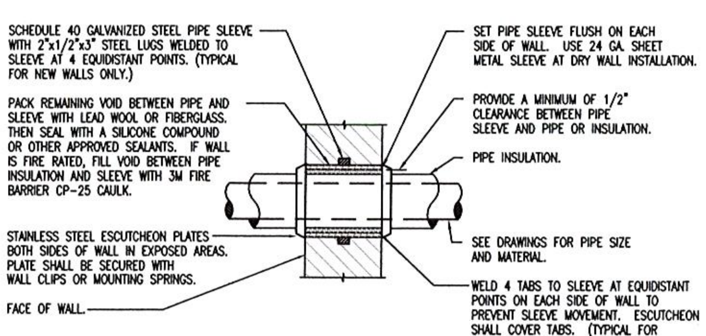
7 / M4.10 PIPE COVERING PROTECTION SHIELDS & PIPE SADDLES

NO SCALE



8 / M4.10 FACTORY-APPLIED NON-METAL JACKETING

NO SCALE

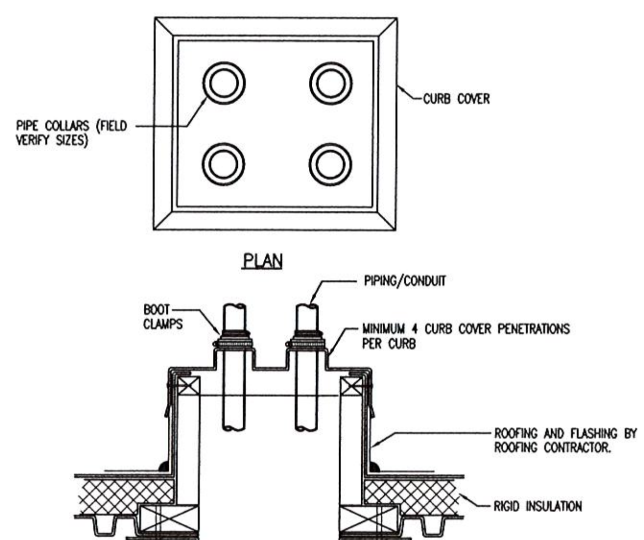


NOTES:

1. I.D. OF OF PIPE SLEEVE TO BE A MIN. OF 1/2" LARGER THAN O.D. OF PIPE OR INSULATION PASSING THROUGH WALL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR SLEEVES WITH OTHER TRADES AND/OR CONTRACTORS.
3. PIPE SLEEVES THRU SMOKE OR FIRE WALLS SHALL BE IN COMPLIANCE WITH NFPA-90A.

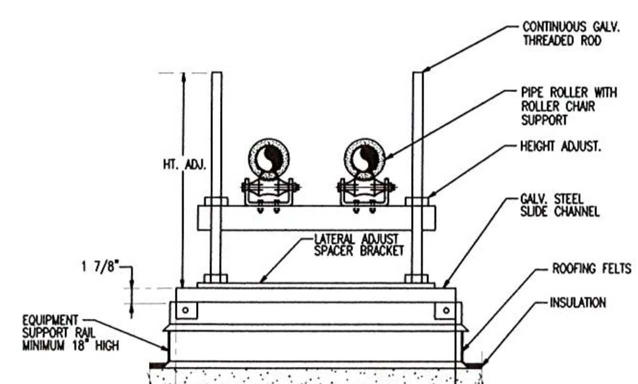
9 / M4.10 PIPE SLEEVE THRU INTERIOR RATED WALL DETAIL

NO SCALE



10 / M4.10 PIPE CURB ASSEMBLY DETAIL

NO SCALE



SEE ARCHITECTURAL DETAILS FOR ROOFING REQUIREMENTS.

11 / M4.10 ROOF PIPE MOUNTING PEDESTAL

NO SCALE

TRIA ARCHITECTURE

MEP/FP. CONSULTANT:
DAS
769 HEARTLAND DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

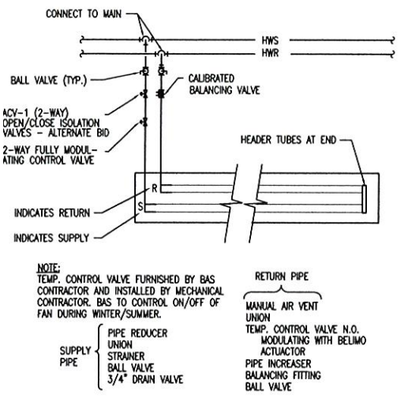
PROJECT NUMBER: 21-065
PROJECT MANAGER: TRS
DRAWN BY:
ISSUED FOR BIDDING: 3/10/22
REVISIONS: 1 2 3 4 5

DETAILS - MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

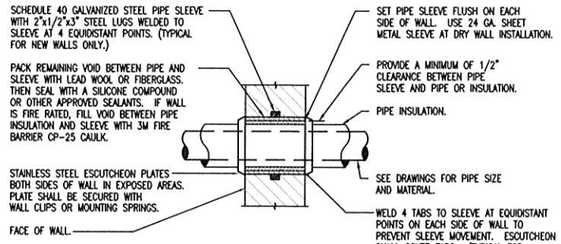
KEITH BRYANT O'HIGGINS REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

M4.10



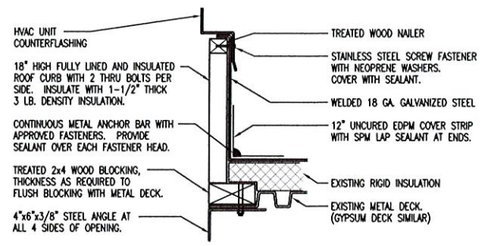
1 M4.20 **TYPICAL RCP CONNECTION DETAIL**
NO SCALE

NOTES:
1. PROVIDE VALVE EQUIPMENT/COIL PIPE VALVE PACKAGE EQUAL TO BELIMO/NEXUS OR OTHER ENGINEER/OWNER APPROVED MANUFACTURER.



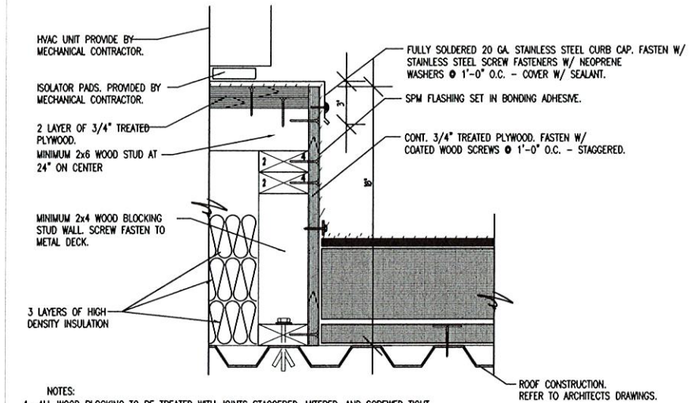
NOTES:
1. I.D. OF OF PIPE SLEEVE TO BE A MIN. OF 1/2" LARGER THAN O.D. OF PIPE OR INSULATION PASSING THROUGH WALL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR SLEEVES WITH OTHER TRADES AND/OR CONTRACTORS.
3. PIPE SLEEVES THRU SMOKE OR FIRE WALLS SHALL BE IN COMPLIANCE WITH NFPA-90A.

2 M4.20 **PIPE SLEEVE THRU INTERIOR RATED WALL DETAIL**
NO SCALE



NOTE:
THIS DETAIL TYPICAL FOR ALL ROOF EXHAUSTERS, INTAKE/RELIEF HOODS, EQUIPMENT SUPPORT, AND PIPE PENETRATION CURBS.

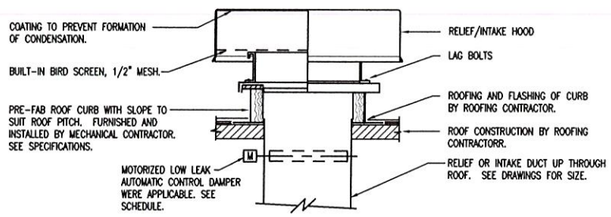
4 M4.20 **VENTILATION EQUIPMENT ROOF CURB DETAIL**
NO SCALE



NOTES:
1. ALL WOOD BLOCKING TO BE TREATED WITH JOINTS STAGGERED, MITERED, AND SCREWED TIGHT
2. CURB TO BE EQUAL TO THYCURB MODEL TC-3 WITH INSULATED PLATFORM STYLE BASE. CURB TO HAVE FLAT TOP, MINIMUM 14 GAUGE GALVANIZED STEEL CONSTRUCTION, BOTTOM FLOOR AND REMOVABLE PLYWOOD TOP (2 LAYERS AT 3/4") WITH 20 GAUGE COVER. CONTRACTOR TO FIELD PROVIDE AND INSTALL 3 LAYERS OF HIGH DENSITY SOUND INSULATION IN CURB CAVITY FOR SOUND BREAK. CURB TO BE FACTORY ENGINEERED TO MATCH HVAC UNIT BEING SUPPORTED AND SUBMITTED TO ENGINEER FOR APPROVAL.

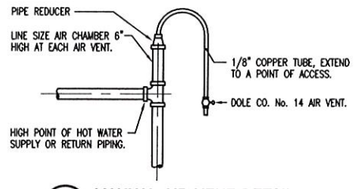
5 M4.20 **HVAC PLATFORM CURB DETAIL**
NO SCALE

SEE ARCHITECTURAL DETAILS FOR ROOFING REQUIREMENTS.



6 M4.20 **RELIEF OR INTAKE HOOD INSTALLATION DETAIL**
NO SCALE

SEE ARCHITECTURAL DETAILS FOR ROOFING REQUIREMENTS.



7 M4.20 **MANUAL AIR VENT DETAIL**
NO SCALE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Engineering & Associates, LLC
769 HEARTLAND DR., UNIT 5 SUGAR GROVE, ILLINOIS 60554 (630) 538-1999

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER: 21-065	REVISIONS
PROJECT MANAGER: TRG	
DRAWN BY:	
ISSUED FOR BIDDING: 3/30/22	

DETAILS - MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH BRYANT BRIDGMAN REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

M4.20

GENERAL NOTES FOR MECHANICAL WORK

1. DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING AND DUCTWORK AS SHOWN, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.

2. IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.

3. CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.

4. CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.

5. WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.

6. CONTRACTOR SHALL PROVIDE SLEEVES IN FLOORS AND WALLS AS SHOWN ON THE DRAWINGS, AS REQUIRED BY JOB SITE CONDITIONS, AND/OR AS SPECIFIED, WHEN INSTALLING THEIR WORK.

7. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.

8. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE OTHER TRADES CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.

9. CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING AND REFINISHING OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE NEW CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR, TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, AND REFINISHING.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN-UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN-UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN-UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK-CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.

11. CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, TANKS, EQUIPMENT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.

12. ALL PIPING SHALL BE SUSPENDED WITH CLEVIS AND/OR TRAPEZE PIPE HANGERS. INSULATED PIPING SHALL REST ON STEEL OR WOOD (CHILLED WATER PIPING) PIPE COVERING PROTECTION SADDLES OR SHEET METAL INSULATION SHIELDS AS CALLED FOR IN THE SPECIFICATIONS AND/OR DETAILED ON THE DRAWINGS.

13. ALL WATER SUPPLY AND RETURN PIPING SHALL BE INSULATED, INCLUDING ALL PIPING ABOVE CEILINGS, INSIDE EQUIPMENT, CABINETS, PIPE CHASES AND IN WALLS. SEE SPECIFICATIONS FOR TYPE AND THICKNESS OF INSULATION.

14. ALL HOT WATER SUPPLY/RETURNS PIPING SHALL BE INSTALLED TO COMPENSATE FOR EXPANSION OF THE PIPE BY INSTALLING PIPE ANCHORS, GUIDES, EXPANSION JOINTS OR LOOPS AND PIPE OFFSETS AS REQUIRED BY FIELD CONDITIONS OR AS SHOWN ON THE DRAWINGS.

15. PITCH ALL SUPPLY AND RETURN WATER LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT, UNIONS, OR DRAIN VALVES. INSTALL A 1/2" DRAIN VALVE WITH 3/4" HOSE THREAD OUTLET IN ALL MAIN PIPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THRU A LOWER PIECE OF EQUIPMENT. ALL DRAIN VALVES TO BE BALL VALVES.

16. RECESSED AND/OR SEMI-RECESSED CABINET UNIT HEATERS (CUH) SHALL BE MOUNTED A MINIMUM OF 8" ABOVE THE FLOOR AND HAVE A FOUR (4) SIDE FLANGED OVERLAP WALL GUARD FRAME.

17. ALL DUCTWORK SIZES SHOWN ON THE DRAWINGS ARE INSIDE DIMENSIONS. WHERE DUCT LINING IS CALLED FOR CONTRACTOR SHALL INCREASE THE SIZE OF THE DUCT TO MAINTAIN THE MINIMUM INSIDE DIMENSIONS CALLED FOR ON THE DRAWINGS.

18. MECHANICAL CONTRACTOR SHALL COORDINATE ALL SERVICE POINTS ON HVAC UNITS WITH THE INSTALLATION OF NEW WORK IN THIS PROJECT AND NEW BUILDING CHARACTERISTICS TO MAKE SURE ACCESSIBILITY IS MAINTAINED.

19. ALL DUCTWORK CONNECTIONS TO AIR MOVING EQUIPMENT SHALL BE MADE WITH FLEXIBLE DUCT CONNECTIONS ON THE INLET AND DISCHARGE OF ALL SUPPLY, RETURN AND EXHAUST FANS (EXCEPT ROOF MOUNTED EXHAUST FANS).

20. INSTALL TURNING VANES IN ALL SQUARE DUCT ELBOWS. INSTALL MANUAL VOLUME DAMPERS IN EACH BRANCH DUCT AT CONNECTION TO MAIN DUCT AND IN EACH DUCT AFTER A BRANCH DUCT SPLIT.

21. INSTALL A MINIMUM 12" X 12" ACCESS DOOR (INLET SIDE) AT EACH MOTORIZED DAMPER, FIRE DAMPER, SMOKE DAMPER, INLINE FAN, INTAKE AND EXHAUST PLENUMS AND AN ACCESS DOOR AT AIR SUPPLY UNIT FILTER SECTION.

22. THE LOCATIONS SHOWN FOR ALL DIFFUSERS, REGISTERS AND GRILLES, ETC. ARE DIAGRAMMATIC. EXACT LOCATION SHALL BE DETERMINED FROM THE REFLECTED CEILING PLANS AND/OR ON THE JOB SITE BY THE ARCHITECT/ENGINEER REPRESENTATIVES.

23. UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.

24. CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6 X 6 PLANKS AND/ OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARPS OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.

25. SEE LARGE SCALE DRAWINGS (DETAILS) FOR ALL REQUIRED VALVES, FITTINGS, GAUGES, VENTS, THERMOMETERS WHICH ARE CONNECTED TO RADIANT CEILING PANELS (RCP), CABINET UNIT HEATERS (CUH), ETC. ALL WORK SHOWN ON DETAILS SHALL BE BY INSTALLING CONTRACTOR UNLESS OTHERWISE NOTED.

26. ALL AUTOMATIC MOTORIZED DAMPERS SHALL BE FURNISHED BY BAS CONTRACTOR (EXCEPT FOR DAMPERS FURNISHED WITH PACKAGED AIR HANDLING UNITS AND PROVIDED WITH POWER ROOF EXHAUST FANS) AND INSTALLED BY MECHANICAL CONTRACTOR. ALL DAMPER MOTORS FURNISHED AND INSTALLED BY BAS CONTRACTOR

27. MECHANICAL CONTRACTOR SHALL PROVIDE ON SITE SCHOOLING OF OWNERS OPERATING PERSONNEL FOR ALL SYSTEMS AND EQUIPMENT INSTALLED UNDER HIS CONTRACT.

28. BEFORE STARTING ANY SYSTEM INSTALLING CONTRACTOR SHALL CONTACT EQUIPMENT MANUFACTURER TO VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION, BELT TENSION, CONTROL SEQUENCE OR OTHER CONDITIONS WHICH MAY CAUSE DAMAGE TO THE EQUIPMENT OR SYSTEM.

29. MECHANICAL CONTRACTOR SHALL INSTALL ALL WELLS IN PIPING FOR MOUNTING OF BUILDING AUTOMATION SYSTEM CONTROLS AND MECHANICAL CONTRACTOR'S THERMOMETERS AND GAUGES. MECHANICAL CONTRACTOR WILL COORDINATE THE EXACT LOCATION OF BUILDING AUTOMATION SYSTEM CONTRACTOR'S CONTROLS WITH HIM PRIOR TO INSTALLING WELLS.

30. MECHANICAL CONTRACTOR SHALL RUN INSULATED DRAIN PIPES FROM ALL VRF UNITS. SEE DRAWINGS AND DETAILS FOR LOCATION OF TERMINATION OF DRAIN PIPING. ALL CONDENSATE DRAIN PIPES MUST BE PITCHED AWAY FROM THE DRAIN PAN. ALL CONDENSATE DRAIN PIPES WILL BE INSULATED FROM UNIT TO TERMINATION POINT.

31. MECHANICAL CONTRACTOR TO PROVIDE SCHEDULE OF CURB INSTALLATION/REMOVAL ON EXISTING ROOF AREAS TO CONTRACTOR FIVE (5) WORKING DAYS IN ADVANCE. ANY REVISIONS TO THIS SCHEDULE RESULTING IN UN-PATCHED ROOF TIE-INS AND DAMAGE TO EXISTING CONDITIONS SHALL BE REPAIRED BY MECHANICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

32. ALL PIPE PASSING THRU WALLS SHALL HAVE A GALVANIZED SHEET METAL OR SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND THE PIPE AND PIPE INSULATION. SEE SLEEVE DETAILS THESE DRAWINGS.

33. INSTALL A SHEET METAL SLEEVE AROUND ANY DUCTWORK WHICH GOES THROUGH WALL CONSTRUCTION, PACK FIBERGLAS INSULATION AROUND SLEEVE AND DUCT AND CAULK WITH FIRE SEAL CAULKING.

34. WHEN INSTALLING EXPANSION JOINTS, CONTRACTOR SHALL INSTALL A PIPE ANCHOR AT EACH END OF RUN AND PIPE GUIDES A MINIMUM OF EVERY TWENTY-FIVE (25) FEET OR AS CALLED FOR ON THE DRAWINGS. MOUNT THE FIRST PIPE GUIDE LOCATED ON EACH SIDE OF THE EXPANSION JOINT A MINIMUM OF FOUR (4) PIPE DIAMETERS FROM THE EXPANSION JOINT.

35. THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT LISTED AS A SPECIFIED ACCEPTABLE MANUFACTURER BUT IS NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED, PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE ON THE EQUIPMENT.

36. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.

37. WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.

GENERAL NOTES - BUILDING AUTOMATION SYSTEM

I. GENERAL

THE CONTROLS CONTRACTOR SHALL BE THE CONTROLS ENGINEER FOR THIS PROJECT: RESPONSIBLE FOR DESIGN AND ENGINEERING OF ALL CONTROL SYSTEMS TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION, TO CONFORM WITH THE GOVERNING BUILDING CODES AND OPERATE IN A MANNER CONSISTENT WITH KNOWN GOOD CONTROLS ENGINEERING PRACTICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL IDENTIFY ANY POTENTIAL CONDITIONS THAT COULD BE CONSTRUED TO DEVIATE FROM GOOD CONTROLS ENGINEERING PRACTICE PRIOR TO BIDDING AND INCLUDE ALL ENGINEERING AND INSTALLATION WORK REQUIRED TO MAKE ALL HVAC SYSTEMS COMPLETE AND OPERATIONAL, IN CONFORMANCE WITH GOOD CONTROLS ENGINEERING PRACTICE: PRIOR TO SUBMITTING HIS BID.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL COMPONENTS, WIRING, INTERLOCKS, ELECTRICAL POWER AND ALL OTHER DEVICES REQUIRED TO MAKE ALL HVAC EQUIPMENT INSTALLED UNDER THIS PROJECT COMPLETE AND FULLY OPERATIONAL PER THE SEQUENCE OF OPERATION AND AS REQUIRED FOR SAFE AND ACCURATE CONTROL.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL VALVES AND ACTUATORS TO THE MECHANICAL CONTRACTOR FOR INSTALLATION. THE BAS CONTRACTOR SHALL DIRECT THE MECHANICAL CONTRACTOR AS TO THE PROPER LOCATION AND ORIENTATION OF ALL DEVICES TO ACHIEVE A PROPER AND CORRECT CONTROL SEQUENCE.

THE BAS CONTRACTOR SHALL INCLUDE ADEQUATE TIME IN HIS BID FOR COMPLETE COMMISSIONING OF THE MECHANICAL SYSTEMS, ON SITE IN COORDINATION WITH THE MECHANICAL CONTRACTOR AND OTHER TRADES AS REQUIRED TO MAKE ALL EQUIPMENT COMPLETE AND FULLY OPERATIONAL.

IN THE EVENT THAT ANY PART OF THE MECHANICAL DRAWINGS, SPECIFICATIONS OR NOTES CONFLICT WITH ANY OTHER: THE MOST STRINGENT REQUIREMENT SHALL APPLY, PROVIDING THE GREATEST SAFETY AND/OR AT THE HIGHEST COST OF THE CONFLICTING OPTIONS.

II. ELECTRICAL

THE BAS CONTRACTOR SHALL PROVIDE EMERGENCY POWER FOR ALL ELECTRICAL POWER AND CONTROL WIRING, CONDUIT, JUNCTION BOXES, RACEWAY, TRANSFORMERS, RELAYS AND ALL OTHER ELECTRICAL APPURTENANCES REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. THIS INCLUDES ALL POWER WIRING FROM SPARE CIRCUIT BREAKERS PROVIDED IN BUILDING EMERGENCY POWER PANELS (EM120A-GMA) FOR POWERING OF CONTROLS AND CONTROL PANELS AND ALL OTHER CONTROL SYSTEM COMPONENTS. ALL HVAC EQUIPMENT, I.E AIR HANDLING UNITS, EXHAUST FANS, PUMPS, BOILERS, ETC. ARE TO HAVE THEIR CONTROLS POWERED FROM EMERGENCY POWER PANELS. SEE ELECTRICAL DRAWINGS FOR PANEL LOCATION.

ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND APPLICABLE STATE AND LOCAL AMENDMENTS.

THE BAS CONTRACTOR SHALL PROVIDE AND INSTALL ALL HARDWIRED INTERLOCKS BETWEEN STARTERS AS REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATION AND PROPER SYSTEM CONTROLS. PROVIDE RELAYS AS REQUIRED FOR AUTOMATIC START/STOP OF ALL SINGLE PHASE EXHAUST FANS AND INTERLOCK OF AUTOMATIC DAMPERS.

III. CONTROL VALVES

ALL CONTROL VALVES SHALL SPRING RETURN TO A FAIL SAFE POSITION. ALL HEATING CONTROL VALVES SHALL FAIL OPEN BY SPRING RETURN TO HEATING AND ALL COOLING CONTROL VALVES SHALL FAIL CLOSED BY SPRING RETURN.

ALL CONTROL VALVES USED FOR POSITIVE SHUT-OFF ISOLATION, SUCH AS HOT/CHILLED WATER ISOLATION OR CHANGEOVER IN A TWO-PIPE SYSTEM, SHALL BE QUARTER TURN TYPE BUTTERFLY OR BALL VALVES RATED FOR 300 PSI, BUBBLE TIGHT SHUT-OFF SERVICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL SIZE ALL MODULATING TEMPERATURE CONTROL VALVES WITH A Cv AND PRESSURE DROP SUCH THAT THERE IS LINEAR CONTROL OF WATER FLOW THROUGHOUT THE ENTIRE STROKE OF THE VALVE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE REDUCERS AS REQUIRED FOR MODULATING VALVES THAT ARE NOT LINE SIZE.

IV. AUTOMATIC CONTROL DAMPERS

ALL CONTROL DAMPERS SHALL BE EXTRUDED ALUMINUM, LOW LEAKAGE AIR FOIL BLADE TYPE WITH ELASTOMER BLADE EDGE SEALS AND STAINLESS STEEL OR ELASTOMER BLADE END SEALS.

ALL CONTROL DAMPERS SHALL SPRING RETURN TO A FAIL SAFE POSITION FOR FREEZE PREVENTION BY SPRING RETURN. FACE AND BYPASS DAMPER SHALL FAIL OPEN, OUTDOOR AIR DAMPERS SHALL FAIL CLOSED, EXHAUST AIR DAMPERS SHALL FAIL CLOSED, AND RETURN AIR DAMPER SHALL FAIL OPEN.

V. THERMOSTAT

THE BAS CONTRACTOR SHALL PROVIDE THERMOSTATS FOR ALL CONTROLLED EQUIPMENT TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION AND/OR PER MANUFACTURER'S REQUIREMENTS AND KNOWN STANDARDS OF GOOD CONTROL PRACTICE. INCLUDE ALL THERMOSTATS AS REQUIRED FOR EQUIPMENT TO BE COMPLETE AND FULLY OPERATIONAL WHETHER SHOWN SPECIFICALLY ON THE PLANS OR NOT.

ALL TEMPERATURE SENSORS IN DUCTWORK, AIR HANDLING UNITS AND PLENUMS SHALL BE OF AVERAGING TYPE. PROPERLY SUPPORT AVERAGING ELEMENT (MINIMUM TWENTY FEET LENGTH) ACROSS A REPRESENTATIVE AREA TO ACHIEVE A TRUE AVERAGE READING. SUPPORT USING HEAVY CABLE AND/OR HALF INCH CONDUIT WITH NYLON WIRE TIES.

BUILDING/SPACE STATIC PRESSURE SENSORS SHALL BE INSTALLED IN THE CEILING IN A MAIN BUILDING CORRIDOR OPEN TO THE MAIN ENTRANCE OF THE BUILDING. STATIC PRESSURE SENSING TIP SHALL HAVE COVER PLATE TO MATCH CEILING AND AN EMBOSSED LABEL STATING "PRESSURE CONTROL SENSOR - DO NOT PAINT".

THE CONTROLS CONTRACTOR/ENGINEER SHALL SELECT ALL PRESSURE AND TEMPERATURE SENSORS WITH AN APPROPRIATE SPAN AND RANGE FOR THE APPLICATION.

ALL OUTDOOR AIR SENSORS SHALL BE INSTALLED WITH SUN SHIELD AND IN A LOCATION WHERE THEY CANNOT BE WASHED BY EXHAUST AIR OR OTHER SOURCES OF FALSE READINGS.

ALL TEMPERATURE AND PRESSURE SENSORS SHALL BE INSTALLED IN LOCATIONS SUCH THAT THEY DO NOT MAKE FALSE READINGS. BAS CONTRACTOR/ENGINEER SHALL REVIEW THE PLANS AND IDENTIFY ANY SUCH POTENTIAL CAUSES FOR FALSE READINGS AND NOTIFY THE ENGINEER IN WRITING THAT THESE SHOULD BE RELOCATED PRIOR TO ROUGH IN AND CONTROLS INSTALLATION. THE BAS CONTROLS CONTRACTOR SHALL RELOCATE ANY SENSORS INSTALLED IN IMPROPER LOCATIONS AND GIVING FALSE READINGS AT HIS OWN EXPENSE. CONDITIONS TO BE AWARE OF SHALL INCLUDE BUT ARE NOT LIMITED TO LOCATIONS OF THERMOSTATS BEHIND DOORS, OUTDOOR AIR SENSORS NEAR EXHAUST OPENINGS, STATIC PRESSURE SENSORS IN TURBULENT LOCATIONS, THERMOSTATS INSTALLED ADJACENT TO HEAT SOURCES SUCH AS COFFEE POTS, COMPUTERS, VENDING MACHINES AND OTHER APPLIANCES, ETC.

VI. SAFETY DEVICES

THE BAS CONTRACTOR/ENGINEER SHALL FURNISH AND INSTALL MANUAL RESET SAFETY DEVICES FOR ANY AND ALL CONDITIONS THAT COULD DAMAGE THE EQUIPMENT AND/OR REPRESENT A THREAT TO HUMAN SAFETY. ALL WATER COILS SHALL BE PROTECTED BY AN AVERAGING ELEMENT FREEZE-STAT WITH A NON-ADJUSTABLE 40°F SET POINT, MANUAL RESET, AND HARDWIRED INTERLOCK TO SHUT DOWN THE ASSOCIATED FAN ANY TIME THE TEMPERATURE ACROSS ANY 12" LENGTH OF THE AVERAGING ELEMENT FALLS BELOW 40°F. FREEZE STATS SHALL BE INSTALLED DOWNSTREAM OF ALL WATER COILS.

INSTALL A FLOAT SWITCH IN THE DRAIN PAN OF ALL VRF UNITS SHALL BE TO SHUT DOWN THE ASSOCIATED SYSTEM.

VII. RELAYS

ALL RELAYS ARE TO BE INSTALLED IN CONTROL PANELS. RELAYS IN BOX (RIB'S) ARE NOT ACCEPTABLE. CONTROL RELAYS SHALL BE UL LISTED PLUG-IN TYPE WITH DUST COVER. RELAYS TO BE IDEC RR2P-UL AC24V WITH SR2P-06 BASE.

PROVIDE ALL RELAYS AS REQUIRED BY SITE CONDITIONS TO CONTROL ALL PUMPS, FANS, ETC. PROVIDE DEFINITE PURPOSE CONTRACTOR IF POWER REQUIREMENTS EXCEED RELAY CAPACITY.

VII. TAGGING

SEE EQUIPMENT SCHEDULES FOR EQUIPMENT TAGGING. ALL EQUIPMENT TO BE LABELED AND/OR REFERENCED ON BAS WITH THE DESIGNATION PER THE EQUIPMENT SCHEDULES.

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
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DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER: 21-063	REVISIONS:
PROJECT MANAGER: TRS	1
DRAWN BY:	2
	3
ISSUED FOR BIDDING: 3/9/22	4

NOTES - MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

KEITH BRYANT ENGINEERS REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

M5.00

MECHANICAL SYSTEM (HVAC) SYMBOLS

NEW PIPING
EXISTING TO REMAIN PIPING
EXISTING TO BE REMOVED PIPING
RD — REFRIGERANT DISCHARGE
RS — REFRIGERANT SUCTION
RL — REFRIGERANT LIQUID
CWS — CHILLED WATER SUPPLY
CWR — CHILLED WATER RETURN
HWS — HOT WATER SUPPLY
HWR — HOT WATER RETURN
D — DRAIN LINE
LINE ARROW INDICATES DIRECTION OF FLOW OR PITCH
PIPE ELBOW (TURNED UP)
PIPE ELBOW (TURNED DOWN)
PIPE TEE DOWN (DROP)
PIPE TEE UP
PIPE TEE UP OR ANGLE
PIPE TEE DOWN OR ANGLE
PIPE TEE HORIZONTAL
90° ELBOW IN HORIZONTAL PIPE RUN
ANGLE ELBOW IN HORIZONTAL PIPE RUN
NC — NEW CONNECTION
GATE VALVE
CHECK VALVE
BUTTERFLY VALVE
BALL VALVE
3 WAY CONTROL VALVE
2 WAY CONTROL VALVE
TRIPLE DUTY VALVE
CIRCUIT BALANCING VALVE W/BALANCING PORTS
AUTOMATIC FLOW DEVICE
SQUARE HEAD COCK
S — SOLENOID VALVE
PRESSURE REDUCING VALVE
DRAIN VALVE WITH 3/4" HOSE THREADED OUTLET
PRESSURE RELIEF VALVE (PIPE TO FLOOR DRAIN)
BACKFLOW PREVENTER
NEEDLE VALVE
STRAINER
AUTOMATIC BUTTERFLY VALVE
EJ — PIPE EXPANSION JOINT
PIPE ANCHOR
PIPE FLEXIBLE CONNECTION
PG — PIPE ALIGNMENT GUIDE
PS — PIPE SLEEVE
PIPE UNION (OR FLANGES IF 2 1/2" OR LARGER PIPE)
PS — PRESSURE SWITCH (WITH THREAD OR WELD-O-LET)
PRESSURE GAUGE AND NEEDLE VALVE
FS — FLOW SWITCH (WITH THREAD OR WELD-O-LET)
THERMOMETER (WITH PIPE WELL)
SENSOR WELL

H — HUMIDISTAT
T — WALL MOUNTED THERMOSTAT/SENSOR
T^R — REVERSE ACTING THERMOSTAT/SENSOR
$ — SWITCH
NEW DUCTWORK
EXISTING TO REMAIN DUCTWORK
EXISTING TO BE REMOVED DUCTWORK
FC — FLEXIBLE DUCT CONNECTION
AD — ACCESS DOOR ON TOP, BOTTOM OR SIDE OF DUCT
VD — SINGLE BLADE OR OPPOSED BLADE MANUAL VOLUME DAMPER.
ACD — AUTOMATIC CONTROL DAMPER
EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST FAN OR VENTILATOR.
SQUARE NECK DROP TO SQUARE DIFFUSER (ARROW SHOWS DIRECTION OF THROW)
ROUND NECK DROP TO ROUND DIFFUSER (ARROW SHOWS DIRECTION OF THROW)
ROUND NECK DROP TO SQUARE DIFFUSER (ARROW SHOWS DIRECTION OF THROW)
FD OR SMD / AD — VERTICAL FIRE DAMPER OR SMOKE DAMPER (IN HORIZONTAL DUCT AT WALL) WITH ACCESS DOOR.
AIR SUPPLY FLOW
EXHAUST OR RETURN AIR FLOW
A NK SIZE CFM — WALL OR DUCT MOUNTED SUPPLY REGISTER OR GRILLE (TOP NO. = SIZE OF FACE OR NECK, BOTTOM NO. = AMOUNT OF AIR, LETTER INDICATES TYPE).
B 18x12 NK 500 CFM / C 24x12 NK 500 CFM — BOTTOM MOUNTED REGISTER OR GRILLE.
24x12 — DUCT SIZE FREE AREA (1ST NUMBER IS DUCT WIDTH ON PLAN VIEW, 2ND NUMBER IS DUCT DEPTH IN PLAN VIEW.)
SUPPLY OR FRESH AIR DUCT UP
RETURN OR EXHAUST AIR DUCT UP
SUPPLY OR FRESH AIR DUCT DOWN
RETURN OR EXHAUST AIR DUCT DOWN

RISE OR DROP IN SUPPLY DUCT (TOP VIEW) ARROW DIRECTION OF FLOW
R / D — INCLINED RISE (R) OR DROP (D), ARROW IN DIRECTION OF AIR FLOW
90° ELBOW WITH TURNING VANES
W / R — SHORT RADIUS ELBOW (R=1/2 W)
W / R — LONG RADIUS ELBOW (R= W)
45° / VD / W — 90° BRANCH TAKE-OFF W/45 DEGREE ENTRY (L=1/4 W - 4" MIN.) W/VOLUME DAMPER IN BRANCH DUCT.
AD / HC — HEATING COIL WITH ACCESS DOOR IN DUCT
ROUND FLEXIBLE DUCT
ROUND OR OVAL DUCT (——— INDICATES CENTER LINE OF DUCT)
A / B / L1 — ROUND DUCT TRANSITION [L 2 = A-B (4" MIN.)]
ROUND DUCT UP
ROUND DUCT DOWN
CROSS-SECTION OF ROUND DUCT
1/2W / 1/2W / W — UNEQUAL SIZE (90° - Y) ELBOW
EQUAL SIZE (90° - Y) ELBOW
SD — 90° BRANCH TAKE-OFF FROM MAIN
30° MAX. — SQUARE OR RECTANGLE DUCT TRANSITION

SQUARE OR RECTANGLE TO ROUND DUCT TRANSITION
R / W / R — DUCT OFFSET W/FULL RADIUS ELBOWS (R = W)
EQUIPMENT TYPE / EQUIPMENT # — EQUIPMENT TAG
D=1 — DEMOLITION NOTE REFERENCE NUMBER — DEMOLITION NOTE TAG
1 — PLAN NOTE REFERENCE NUMBER — PLAN NOTE TAG

MECHANICAL ABBREVIATIONS LIST

ACV	AUTOMATIC CONTROL VALVE	EXD	EXHAUST DUCT	N.O.	NORMALLY OPEN
AFD	AUTOMATIC FLOW DEVICE	F	FAHRENHEIT	OAD	OUTDOOR AIR DAMPER
BHP	BRAKE HORSE POWER	FC	FLEXIBLE CONNECTION	OUD	OUTSIDE AIR DUCT
BTU	BRITISH THERMAL UNIT	FPF	FINS PER FOOT	PD	PRESSURE DROP
BTUH	BRITISH THERMAL UNIT PER HOUR	FPM	FEET PER MINUTE	PG	PIPE GUIDE
BV	BALL VALVE	FV	FACE VELOCITY	PH	PHASE
CFM	CUBIC FEET PER MINUTE	GPM	GALLONS PER MINUTE	PS	PIPE SLEEVE
CKV	CHECK VALVE	GV	GATE VALVE	PSI	POUNDS PER SQUARE INCH
CU	CONDENSING UNIT	HP	HORSEPOWER	RAD	RETURN AIR DAMPER
CUH	CABINET UNIT HEATER	HWR	HOT WATER RETURN	RED	RETURN AIR DUCT
CWR	CHILLED WATER RETURN	HWS	HOT WATER SUPPLY	RH	RELIEF HOOD
CWS	CHILLED WATER SUPPLY	IH	INTAKE HOOD	RPM	REVOLUTIONS PER MINUTE
D	DRAIN LINE	LAT	LEAVING AIR TEMPERATURE	SP	STATIC PRESSURE
DB	DRY BULB	LWT	LEAVING WATER TEMPERTURE	STR	STRAINER
EAD	EXHAUST AIR DAMPER	MOD	MOTOR OPERATED DAMPER	SUD	SUPPLY DUCT
EAT	ENTERING AIR TEMPERATURE	NC	NEW CONNECTION	TSP	TOTAL STATIC PRESSURE
EDC	ELECTRIC DUCT COIL	NK	NECK	WB	WET BULB
ERV	ENERGY RECOVERY VENTILATOR	N.C.	NORMALLY CLOSED	WC	WATER COLUMN
EWT	ENTERING WATER TEMPERATURE	N.I.C.	NOT IN CONTRACT	WG	WATER GAUGE

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Engineering & Design, LLC
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DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

REVISIONS:
PROJECT NUMBER: 21-065
PROJECT MANAGER: TRS
DRAWN BY:
ISSUED FOR BIDDING 3/30/22

ABBREVIATIONS - MECHANICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

M5.10

ELECTRICAL DEMOLITION SYMBOLS

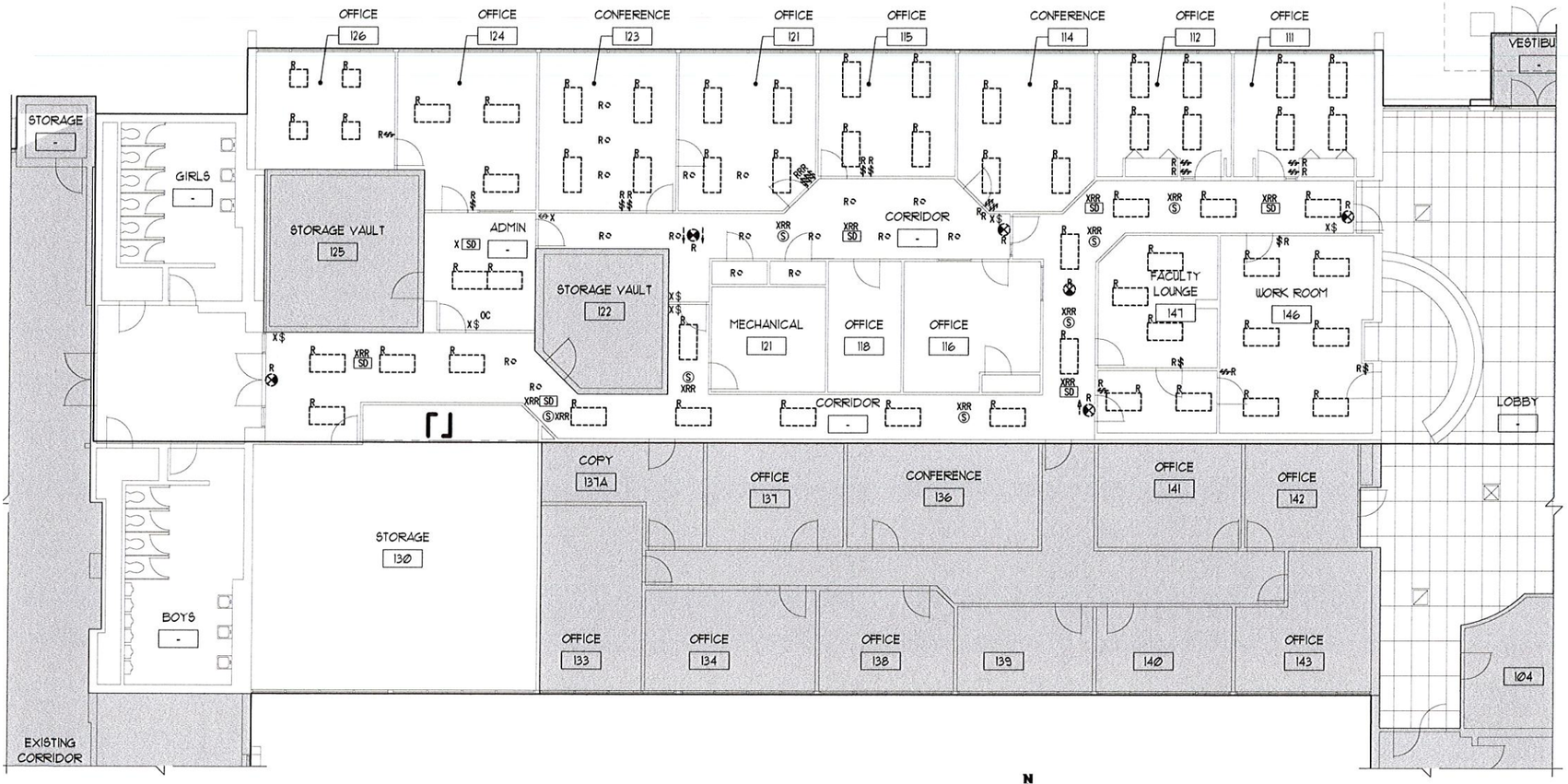
SYMBOL	DESCRIPTION
R	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO BE REMOVED.
X	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO REMAIN.
XDM	MECHANICAL EQUIPMENT DISCONNECTED BY ELECTRICAL CONTRACTOR AND REMOVED BY MECHANICAL CONTRACTOR
XN	EXISTING ELECTRICAL EQUIPMENT OR OUTLET RELOCATED (NEW LOCATION).
XRR	EXISTING ELECTRICAL EQUIPMENT OR OUTLET TO BE REMOVED, RELOCATED AND JUNCTION BOX REMOVED OR CAPPED AS REQUIRED

CONTRACTOR DEMOLITION NOTES

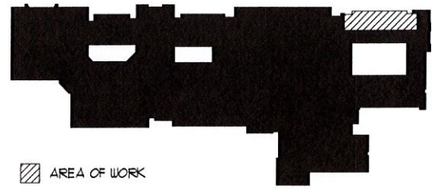
1. EXISTING SPEAKER/PA SYSTEM TO REMAIN OPERATIONAL. ANY DAMAGE TO EXISTING SYSTEM WILL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
2. EXISTING LIGHT FIXTURES TO BE REMOVED WHERE INDICATED. EXISTING POWER CIRCUITS AND SWITCH LEGS TO BE REUSED. SWITCHES TO BE REPLACED.
3. EXISTING FIRE ALARM SYSTEM TO REMAIN ACTIVE DURING CONSTRUCTION. PROTECT WIRING AND DEVICES AS NECESSARY.
4. REFER TO MECHANICAL DRAWING FOR EXISTING EQUIPMENT TO BE REMOVED. DISCONNECT POWER WHERE REQUIRED.

GENERAL DEMOLITION NOTES

1. WHERE WIRING DEVICES, TELEPHONE, INTERCOM, FIXTURE, MOTOR, STARTER, DISCONNECT SWITCH, ETC., IS NOTED TO BE REMOVED, INSTALL BLANK BRUSHED STAINLESS STEEL COVER PLATES ON JUNCTION BOXES RECESSED IN WALLS WHICH ARE TO REMAIN. PROVIDE FOR WIRING CONTINUITY FOR EXISTING CIRCUITS WHICH REMAIN IN JUNCTION BOXES RECESSED OR SURFACE MOUNTED ON WALLS WHICH ARE REMOVED. EXTEND NEW CONDUIT AND WIRE TO BRIDGE REMOVED SECTIONS. VERIFY REQUIREMENTS IN FIELD.
2. ALL EQUIPMENT WHICH IS DISCONNECTED AND REMOVED AND NOT REUSED SHALL BE RETURNED TO THE OWNER AS DIRECTED. EQUIPMENT WHICH THE OWNER DOES NOT WISH TO KEEP WILL BECOME PROPERTY OF THE CONTRACTOR AND PROMPTLY REMOVED FROM THE SITE.
3. ALL UNUSED CONDUIT AND WIRE WHICH IS EXISTING IN THE REMODELED AREAS AND IS ABANDONED SHALL BE REMOVED ALONG WITH CONDUIT AND WIRE CAUSED TO BE ABANDONED DUE TO THIS REMODELING.
4. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
5. THIS CONTRACTOR SHALL COORDINATE ALL HIS WORK WITH THE OTHER CONTRACTORS AT THE JOB SITE BEFORE REMOVING EXISTING ELECTRICAL AND INSTALLING NEW ITEMS.
6. EXISTING CONDUIT IN GOOD CONDITION, MAY BE REUSED IN PLACE. RELOCATED EXISTING CONDUIT SHALL NOT BE ALLOWED. BONDING CONDUCTORS SHALL BE INSTALLED IN ALL UNUSED CONDUIT TO INSURE PROPER GROUND PATH.
7. EQUIPMENT REMOVAL IN CERTAIN LOCATIONS MAY REQUIRE THE INSTALLATION OF A JUNCTION BOX TO RECONNECT CIRCUITS THAT REMAIN IN OPERATION. EXTEND CONDUIT AND WIRING AS REQUIRED TO MAINTAIN POWER TO REMAINING EQUIPMENT.
8. CONTRACTOR SHALL REMOVE AND INSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF ELECTRICAL WORK THAT IS OUTSIDE THE CONTRACT LIMITS OF CONSTRUCTION. CONTRACTOR SHALL REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.
9. BEFORE DISCONNECTING ANY SERVICE, THE OWNER SHALL BE CONTACTED AND PERMISSION MUST BE OBTAINED IN WRITING.
10. REFER TO SPECIFICATIONS FOR ADDITIONAL NOTES.
11. ALL DEMOLITION OF THE ELECTRICAL SYSTEM AS NOTED FOR OR SHOWN ON THE DEMOLITION DRAWINGS SHALL BE REMOVED UNDER THE ELECTRICAL CONTRACTORS WORK.
12. IT IS THE INTENT OF THE ELECTRICAL DEMOLITION DRAWING(S) TO INDICATE AREAS IN WHICH ELECTRICAL EQUIPMENT, CONDUIT, LIGHTING FIXTURES, DEVICES, ETC. ARE TO BE REMOVED TO ALLOW FOR THE RENOVATION PHASE OF CONSTRUCTION. THE ELECTRICAL DEMOLITION PLAN IS FOR REFERENCE PURPOSES ONLY AND IT IS NOT INTENDED TO BE THE SOLE SOURCE OF EXISTING CONDITIONS.
13. ELECTRICAL CONTRACTOR SHALL VISIT THE BUILDING, BEFORE SUBMITTING HIS BID, TO VERIFY THE EXISTING CONDITIONS WHICH WILL AFFECT HIS WORK.
14. THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL EXISTING LIGHTING FIXTURES, RECEPTACLES, SWITCHES, EQUIPMENT, SURFACE METAL RACEWAYS, DEVICES, ETC. PULL OUT ALL UNUSED CONDUCTORS AND CABLES AND REMOVE ALL ABANDONED CONDUIT.
15. IT SHALL BE THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO RETAIN POWER TO EXISTING ELECTRICAL EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE ALL REQUIRED "DOWNTIME" WITH THE OWNER'S PERSONNEL AND OTHER PRIME CONTRACTORS IN ADVANCE. ALL DOWNTIME SHALL BE PERFORMED IN MINIMUM TIME WITH ADDITIONAL CONTRACTORS AND/OR SIMULTANEOUS OPERATION AS REQUIRED.
16. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CLEAN-UP THROUGHOUT THE COURSE OF THE DEMOLITION WORK. IN THE EVENT HE FAILS TO PROVIDE SUCH CLEAN-UP THE ARCHITECT/ENGINEER WILL DIRECT THE CLEAN-UP TO BE PERFORMED BY ANOTHER CONTRACTOR AND THE ELECTRICAL CONTRACTOR WILL BE BACK-CHARGED AS DEEMED APPROPRIATE BY ARCHITECT/ENGINEER/OWNER.
17. SEQUENCE OF ALL DEMOLITION WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS AND/OR AS DIRECTED BY ARCHITECT/ENGINEER.
18. THE CONTRACTOR PERFORMING THE DEMOLITION WORK, SHALL REMOVE NO MORE THAN 8" OF BUILDING MATERIAL AROUND EACH DEVICE BEING DEMOLISHED.
19. DISCONNECT ALL ELECTRICAL CONNECTIONS TO MECHANICAL AND PLUMBING EQUIPMENT FOR REMOVAL BY OTHERS. REMOVE ALL STARTERS, DISCONNECT SWITCHES AND RELATED CONDUIT AND WIRING SERVING MECHANICAL AND PLUMBING EQUIPMENT WHICH IS INDICATED TO BE REMOVED. REFER TO MECHANICAL AND PLUMBING DEMOLITION DRAWINGS FOR EXACT REQUIREMENTS.
20. IT SHALL BE THE CONTRACTORS OPTION TO REUSE EXISTING CONCEALED CONDUIT AND FLUSH MOUNTED BACKBOXES WHERE APPLICABLE. IF EXISTING CONDUIT AND/OR BACKBOXES ARE UTILIZED IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL SUPPORTS AND FITTINGS REQUIRED TO CONFORM TO THE SPECIFICATIONS.
21. ALL EXISTING CEILINGS ARE BEING REMOVED BY THE GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REMOVE ALL EQUIPMENT, LIGHTING FIXTURES, ETC., WHICH IS SUPPORTED BY THE CEILING BEFORE THE CEILING DEMOLITION CONTRACTOR STARTS HIS WORK.



1 EXISTING FLOOR PLAN - ELECTRICAL
1/8" = 1'-0"



AREA OF WORK

KEYPLAN
NOT TO SCALE

KEITH BRYANT ENGINEERING REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

TRIA ARCHITECTURE

MEP/FP CONSULTANT:
IDAS Engineering & Associates, LLC
789 HERITAGE DR., UNIT A SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

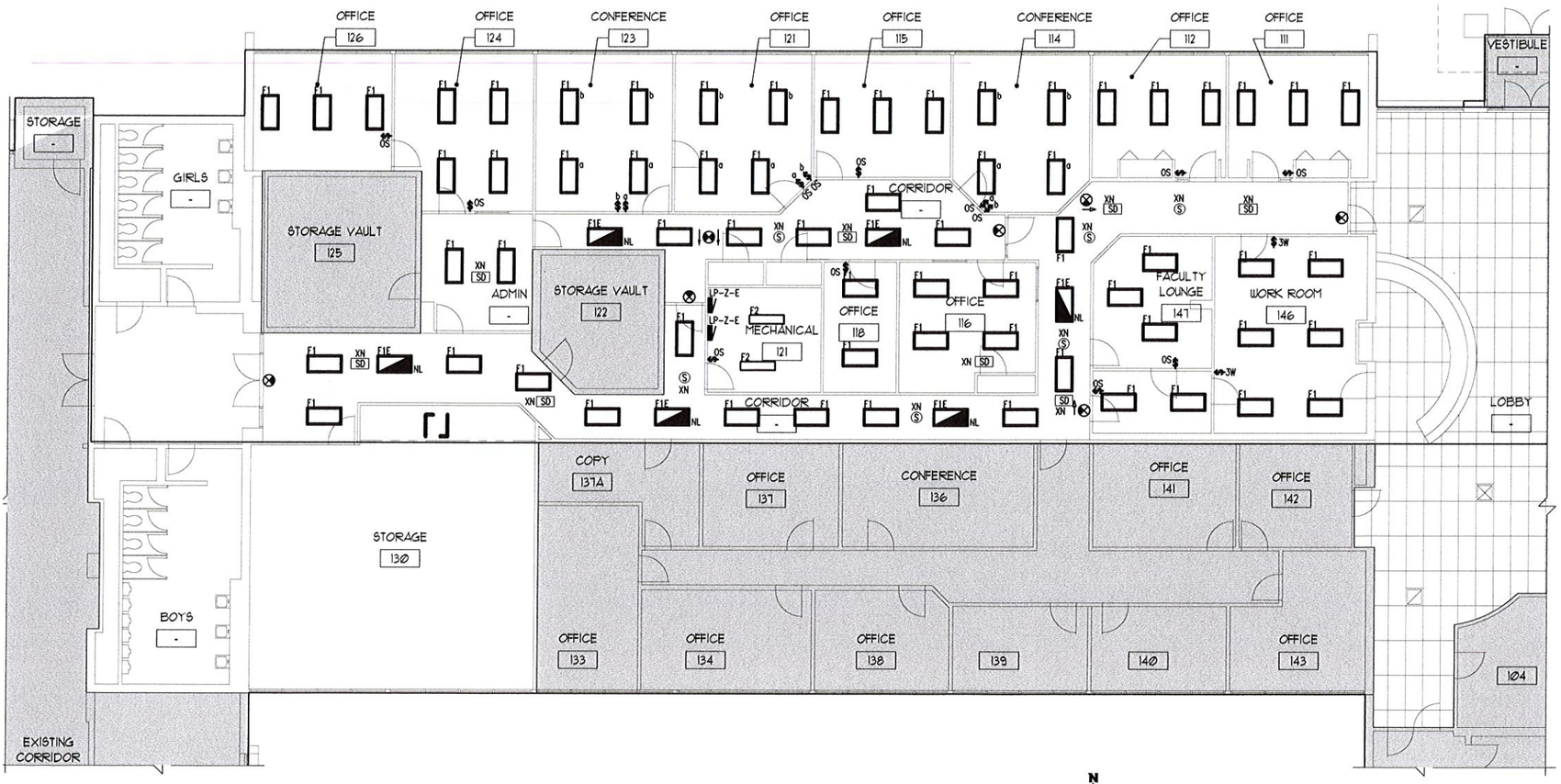
REVISIONS

PROJECT NUMBER: 21-065
PROJECT MANAGER: TKS
DRAWN BY:
ISSUED FOR BIDDING: 3/30/22

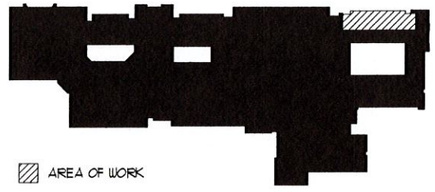
EXISTING FLOOR PLAN - ELECTRICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

E0.10



1 EXISTING FLOOR PLAN - ELECTRICAL - LIGHTING
1/8" = 1'-0"



AREA OF WORK

KEYPLAN
NOT TO SCALE

KEITH ESVANT ENGINEERS REGISTERED No. PE10911154 STATE OF INDIANA PROFESSIONAL ENGINEER
EXPIRES 07/31/2020

E1.00

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:

DISTRICT OFFICE

601 W MORGAN AVE, CHESTERTON, IN. 46304

MEP/FP CONSULTANT:
IDAS Engineering & Architecture
769 HEARTLAND DR., UNIT 1, SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

TRIA ARCHITECTURE

REVISIONS	
1	
2	
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4	
5	

PROJECT NUMBER: 21-065
PROJECT MANAGER: TRS
DRAWN BY:
ISSUED FOR BIDDING: 3/16/22

EXISTING FLOOR PLAN - ELECTRICAL - LIGHTING

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

MOTOR AND EQUIPMENT SCHEDULE

DESIGNATED TAG	LOCATION	LOAD VOLTS	LOAD PHASE	LOAD H.P.	LOAD AMP	LOAD KVA	CONDUIT AND WIRE SIZE	SOURCE OF POWER PANEL	SOURCE OF POWER CCT. NO.	PROTECT (AMPERES)	STARTER SIZE	STARTER TYPE	DISCONNECT SIZE	DISCONNECT TYPE	REMARKS
CONDENSING UNIT	ON ROOF	208	3	–			3#3 & 1#8G IN 1-1/4"C	ME	1,3,5	70A 3P	–	–	100A 3P 70A FUSES	NEMA 3R	
CONDENSING UNIT	ON ROOF	208	3	–			3#3 & 1#8G IN 1-1/4"C	ME	2,4,6	70A 3P	–	–	100A 3P 70A FUSES	NEMA 3R	
ELECTRIC DUCT COIL	STORAGE 130	208	3	–			3# & 1#G IN 3/4"C	ME	7,9,11	30A 3P	–	–	40A 3P	NEMA 1	
ENERGY RECOVERY VENTILATOR	STORAGE 130	120	1	–			2#12 & 1#12G IN 3/4"C	ME	20	20A 1P	–	–	20A 1P	THERMAL OVERLOAD	
VRF REFRIGERANT BOXES	HALLWAY	208	1	–	0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	8,10	20A 2P	–	–	20A 2P	TOGGLE	
VRF REFRIGERANT BOXES	HALLWAY	208	1	–	0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	8,10	20A 2P	–	–	20A 2P	TOGGLE	
VRF REFRIGERANT BOXES	HALLWAY	208	1	–	0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	8,10	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	12,14	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	12,14	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	12,14	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	12,14	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	12,14	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	12,14	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	16,18	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	16,18	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		2.3	0.1	2#12 & 1#12G IN 3/4"C	ME	16,18	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	16,18	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	16,18	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	16,18	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	36,38	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	CORRIDOR	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	36,38	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	ADMIN	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	36,38	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE 118	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	36,38	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE 116	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	36,38	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE 147	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	40,42	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE 148	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	40,42	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE 146	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	40,42	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	OFFICE 146	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	40,42	20A 2P	–	–	20A 2P	TOGGLE	
VARIABLE REFRIGERANT FLOW	STORAGE 13	208	1		0.2	0.1	2#12 & 1#12G IN 3/4"C	ME	40,42	20A 2P	–	–	20A 2P	TOGGLE	

MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

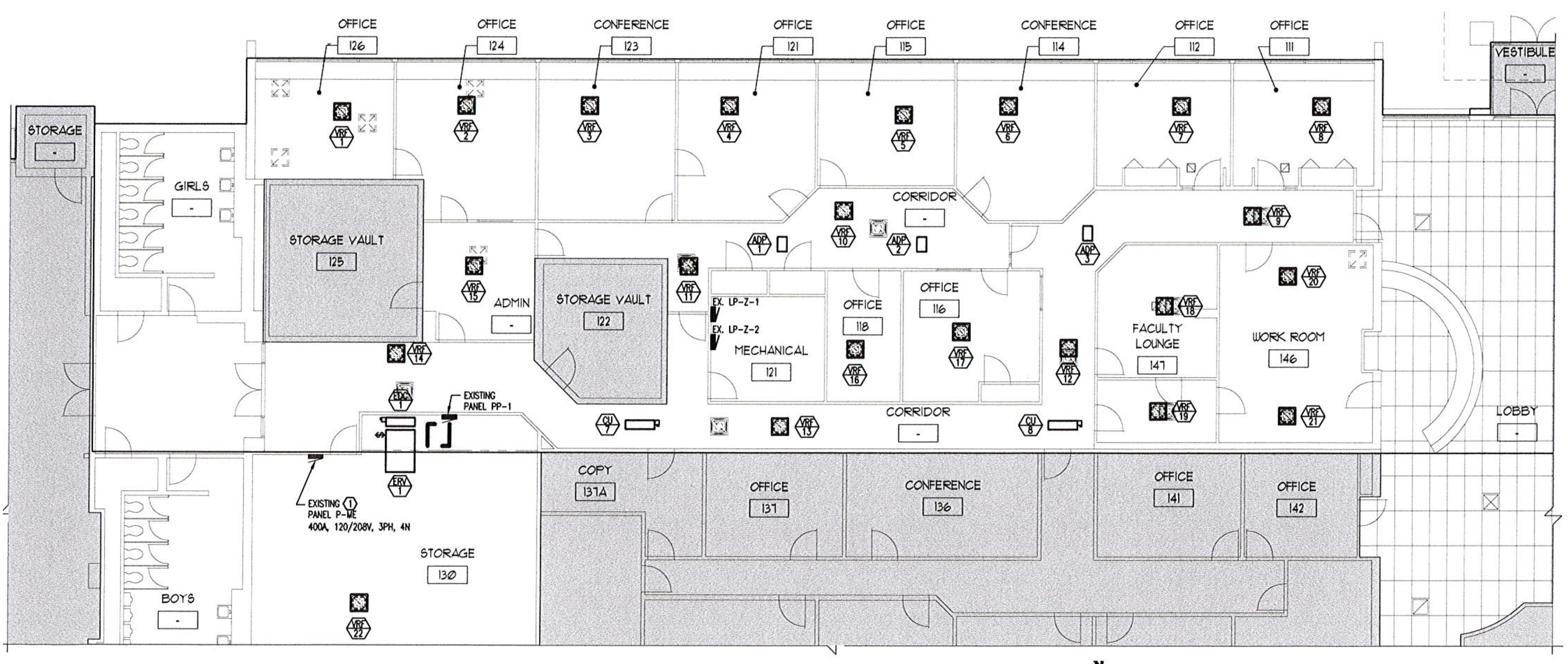
NOTES:
1. EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR (MARK 'E'), HEATING CONTRACTOR (MARK 'H'), VENTILATING CONTRACTOR (MARK 'V').
2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUITS/WIRING BY TRADE FURNISHING RESPECTIVE EQUIPMENT.
3. E.C. SHALL COORD. & REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY & OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE E.C. OF ANY MOTOR/DEVICE CHANGES.
4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, PILOT LIGHT MOUNTED IN COVER, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS.
5. SEE SPECIFICATIONS AND DRAWINGS FOR TYPES AND LOCATIONS OF DEVICES SCHEDULED BELOW.

TAG	EQUIPMENT DESCRIPTION	UNIT MOUNTED DEVICES				LOOSE DEVICES			REMARKS
		STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	OVERCURRENT PROTECTION	
VRF	VARIABLE REFRIGERANT FLOW UNIT	–	–	–	YES	–	E	E	
CU	CONDENSING UNIT	–	–	–	YES	–	E	E	
HR	VRF REFRIGERANT BOX	–	–	–	YES	–	E	E	
EDH	ELECTRIC DUCT HEATER	–	–	–	YES	–	E	E	
ERV	ENERGY RECOVERY VENTILATOR	–	–	–	YES	–	E	E	

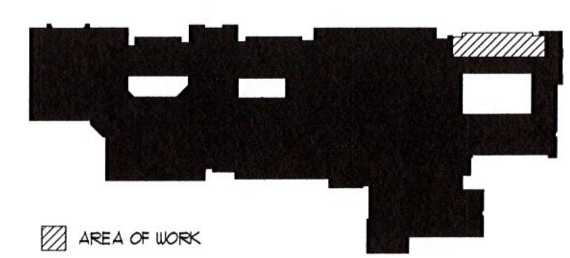
NOTES: 1. VERIFY FINAL LOADS AND REQUIREMENTS WITH FINAL MECHANICAL DRAWINGS.

KEYED NOTES

(1)
A. REMOVE 50A, 3P CB, CCTS 1,3,5 AND REPLACE WITH NEW 70A, 3P CB FOR CU-7.
B. REMOVE 50A, 3P CB, CCTS 2,4,6 AND REPLACE WITH NEW 70A, 3P CB FOR CU-8.
C. TIE NEW ERV-1 TO EXISTING SPARE 20A, 1P CB, CCT 20.
D. TIE NEW VRF'S AND ADP'S TO NEW 20A, 2P CB IN SPACES WHERE 20A, 1P CB'S REMOVED. CIRCUIT TO EQUIPMENT AS SCHEDULED.
E. REMOVE 20A, 1P CB'S FROM CCTS 8,10,12,14,16,18,36,38,40 & 42.
F. TIE EDC INTO EXISTING 40A, 3P CB, CCTS 7,9,11.



1 EXISTING FLOOR PLAN - ELECTRICAL - POWER
1/8" = 1'-0"



KEYPLAN
NOT TO SCALE

DUNELAND SCHOOL CORPORATION
2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

EXISTING FLOOR PLAN - ELECTRICAL - POWER

E2.00

GENERAL ELECTRICAL NOTES

1. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
2. DO NOT SCALE DRAWINGS.
3. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
4. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
5. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
6. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
7. ALL EXPOSED CABLES IN PLENUM CEILING SHALL BE APPROVED FOR PLENUM APPLICATION.
8. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONRY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
9. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL EXISTING AND NEW MASONRY WALLS. SURFACE METAL RACEWAY SHALL ONLY BE USED IF SPECIFICALLY INDICATED. THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. CONDUIT IN UTILITY AREAS MAY BE SURFACE MOUNTED, BUT MUST BE APPROVED PRIOR TO INSTALLATION. ANY SURFACE CONDUIT INSTALLED BY THIS CONTRACTOR THAT IS DEEMED UNSIGHTLY MUST BE HIDDEN WITH THAT WALL ON WHICH IT IS MOUNTED AT NO COST TO THE OWNER.
10. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
11. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMER, ETC.)
12. IF A NEW RECEPTACLE IS INDICATED WITHOUT A CIRCUIT NUMBER, PROVIDE A CIRCUIT. COORDINATE SPECIFIC REQUIREMENTS IN FIELD PRIOR TO INSTALLATION.
13. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.
14. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES. THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.
15. EACH 120V CIRCUIT SHALL HAVE ITS OWN NEUTRAL. SHARING OF NEUTRALS IS NOT ALLOWED.
16. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT OR HALF-TONE SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
17. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A LIGHTING FIXTURE, POWER FOR CONTROL EQUIPMENT, ETC.
18. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
19. THE EXIT SIGNS ARE PROVIDED FOR BIDDING PURPOSES. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHAL. IF REQUIRED BY FIRE MARSHAL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
20. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOMM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
21. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
22. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
23. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
24. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
25. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
26. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
27. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH-IN SHALL BE PROVIDED FROM WALLS. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH-IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
28. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
29. COORDINATE THE INSTALLATION OF ELECTRICAL PANELS, SWITCHBOARD, ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
30. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC.) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
31. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
32. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
33. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR.
34. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION."
35. ALL RECEPTACLES FOR VENDING MACHINES, ICE MACHINES AND REFRIGERATORS SHALL BE GFCI TYPE WHETHER SPECIFICALLY INDICATED OR NOT.
36. PROVIDE ONE WEATHERPROOF, GFI RECEPTACLE WITHIN 25' OF ROOF MOUNTED OR GRADE MOUNTED HVAC EQUIPMENT, WHETHER SPECIFICALLY INDICATED OR NOT AND FEED FROM NEAREST UNLOADED RECEPTACLE CIRCUIT.
37. WHETHER SPECIFICALLY INDICATED OR NOT, PROVIDE MINIMUM OF ONE DUCT SMOKE DETECTOR FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 2,000 CFM AND TWO DUCT SMOKE DETECTORS FOR AIR SUPPLY SYSTEM HAVING A CAPACITY GREATER THAN 15,000 CFM.
38. PERFORM COORDINATION STUDY OF ELECTRICAL DISTRIBUTION SYSTEM AS INDICATED IN POWER SYSTEM STUDY SPECIFICATION. IT SHALL BE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE EQUIPMENT WITH PROPER INTERRUPTING RATING OF EQUIPMENT BASED UPON COORDINATION STUDY. AIC (AVAILABLE INTERRUPTING CAPACITY) OF ALL PANELS AND SWITCHBOARD SHOWN IN DRAWINGS ARE FOR GENERAL INFORMATION ONLY. THE FINAL AIC OF ELECTRICAL EQUIPMENT SHALL BE BASED UPON WORST CONDITION COMED FAULT CURRENT AND THE RECOMMENDATIONS MADE IN COORDINATION STUDY. THE COST TO PROVIDE ALL ELECTRICAL DISTRIBUTION EQUIPMENT WITH PROPER FAULT INTERRUPTING RATING (REGARDLESS OF WHAT IS SHOWN ON DRAWINGS) SHALL BE INCLUDED IN THE BID.
39. PROVIDE DEEPER BACK BOX AS REQUIRED FOR EACH DEVICE; FOR EXAMPLE MINIMUM OF 2.5" DEEP FOR WALL BOX TYPE OCCUPANCY SENSOR.
40. PROVIDE WEATHERPROOF TYPE WHILE-IN-USE COVER FOR ALL 15 AMP AND 20 AMP 120V. RECEPTACLES LOCATED IN OUTDOOR LOCATIONS WHETHER SPECIFICALLY INDICATED OR NOT.
41. PROVIDE SLEEVES THRU FLOOR AND WALLS AS REQUIRED FOR LOW VOLTAGE CABLES. COORDINATE ALL REQUIREMENTS WITH LOW VOLTAGE CONTRACTORS.
42. THE PANEL DIRECTORY SHALL HAVE SPECIFIC LIST OF LOAD SERVED. THE GENERIC OR BROAD LIST IS NOT ACCEPTABLE. FOR EXAMPLE LISTING "LIGHTS IN CLASSROOM" IS NOT ADEQUATE. PROVIDE MORE SPECIFIC LIST SUCH AS "LIGHTS IN CLASSROOM 231, 234 AND STORAGE 239" SHALL BE PROVIDED TO REFLECT THE SPECIFIC LOAD SERVED.
43. UNLESS NOTED OTHERWISE, ALL WIRING SHALL BE IN CONDUIT EXCEPT LOW VOLTAGE WIRING ABOVE ACCESSIBLE CEILING SPACE. LOW VOLTAGE WIRING EXCEPT FIRE ALARM SYSTEM WIRING ABOVE ACCESSIBLE CEILING SPACE MAY BE EXPOSED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUIT.
44. LOCATE THE OUTLETS FOR LCD PROJECTORS AS DIRECTED BY OWNER'S LCD PROJECTOR VENDOR TO PROVIDE OPTIMUM COVERAGE OF THE PROJECTOR.
45. UNLESS SPECIFICALLY INDICATED, ALL CONDUITS OTHER THAN IN ELECTRICAL/ MECHANICAL EQUIPMENT ROOMS AND AUTO/WOOD SHOPS SHALL BE CONCEALED. POWER POLES OR CONDUIT FED FROM CEILING IS STRICTLY PROHIBITED.
46. ALL FLOOR MOUNTED RECEPTACLES SHALL BE FLUSH WITH FLOOR AND SHALL HAVE HINGED COVER PLATES. PEDESTAL TYPE RECEPTACLES ARE NOT ALLOWED.
47. ALL CONDUITS FOR TELEPHONE AND DATA OUTLETS SHALL BE 1.25" UNLESS NOTED OTHERWISE. ALL BACKBOXES FOR TELEPHONE AND DATA OUTLETS SHALL BE 2 GANG AND SHALL BE MINIMUM OF 2.75" DEEP.
48. LOW VOLTAGE SYSTEMS, INCLUDING TELECOMMUNICATIONS, SECURITY, FIRE ALARM, ETC. SHALL BE BY THIS CONTRACTOR, INCLUDING WIRING, CONDUIT, TERMINATIONS, POWER REQUIREMENTS, PROGRAMMING, ETC., UNLESS SPECIFICALLY NOTED OTHERWISE. SMART BOARDS AND VIDEO PROJECTORS SHALL BE FURNISHED BY OWNER, BUT ALL ASSOCIATED POWER AND WIRING REQUIREMENTS SHALL BE BY THIS CONTRACTOR.
49. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE OR VERIFY.
50. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
51. EXISTING CONDUITS IN GOOD CONDITION MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. ALL JUNCTION BOXES MUST HAVE COVERS. VERIFY REQUIREMENTS IN FIELD.
52. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE DEMOLITION.
53. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
54. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
55. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL AND IF THERE IS AN INTERFERING EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
56. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
57. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE/HEAT DETECTORS AS REQUIRED, WHETHER SHOWN ON DRAWINGS OR NOT. THIS NOTE IS GENERALLY APPLICABLE, BUT NOT LIMITED TO, WHERE THERE IS NO DROPPED CEILING (IN EXPOSED CEILING AREA). ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
58. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
59. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
60. WHERE LIGHTING FIXTURES ARE TO BE REUSED, CLEAN FIXTURES THOROUGHLY.
61. ALL SWITCHBOARDS, DISTRIBUTION PANELS AND PANEL BOARDS SHALL BE FURNISHED WITH FULL RATED COPPER BUS ND BE BRACED FOR AVAILABLE FAULT CURRENT WITH MINIMUM RATINGS AS FOLLOWS:
    SWITCHBOARDS - 100,000 AIC
    DISTRIBUTION PANELS - 55,000 AIC
    PANELBOARDS - 10,000 AIC (120/240V)
62. ALL CIRCUIT BREAKERS FOR PANEL BOARDS SHALL BE THE BOLT-ON TYPE, RATED FOR SWITCHING DUTY AND RATED FOR THE AVAILABLE FAULT CURRENT WITH MINIMUM RATING OF 10,000 AIC FOR 120/240V PANELS.
63. ALL CIRCUIT BREAKER SIZES AND QUANTITIES INDICATED ON SCHEDULE(S) ARE FOR THE CONVENIENCE OF THE BIDDERS ONLY. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND SUPPLYING ALL REQUIRED BRANCH BREAKERS.
64. ALL PANELS RECESSED IN WALLS SHALL HAVE 3-1" CONDUITS STUBBED INTO CEILING CAVITY OR STUBBED OUT OF WALL 12'-0" ABOVE SLAB.

PANEL BOARD SCHEDULE EXISTING PANEL "P-EX"

VOLTAGE: 120/208VOLT 3PHASE 4WIRE | MAIN (A): 400A WITH GROUND BUS | MCB: X | MLO: X | LOCATION: IT OFFICE 158 | MOUNT: SURFACE | TYPE: 10,000 A.I.C.

USE AND/OR AREA SERVED	C/B	CIR. NO.	A	B	C	CIR. NO.	C/B	USE AND/OR AREA SERVED
EXISTING CU-1 - MARK SPARE	30/3	1	0			2	50/1	EXISTING AH-2 (RTU)
		3	0	0		4		
		5		0	0	6		
SPARE	40/3	7	0			8	20/1	EXISTING AH-1
		9	0	0		10	20/1	SPARE
		11			0	12	20/1	SPARE
SPARE	40/3	13	0			14	20/1	EXISTING AH-5
		15	0	0		16	20/1	EXISTING AH-6
		17			0	18	20/1	EXISTING AH-7
EXISTING CU-5 - MARK SPARE	25/3	19	0			20	20/1	EXISTING AH-4
		21	0	0		22	20/1	EXISTING RADON FAN
		23			0	24	150/3	NEW 150A FEED TO PP-1*
EXISTING CU-6 - MARK SPARE	35/3	25	0			26		
		27	0	0		28		
		29			0	30	40/3	EXISTING SPARE
EXISTING CU-7 - MARK SPARE	30/3	31	0			32		
		33	0	0		34		
		35			0	36	20/1	EXISTING UNLABELED
EXISTING WOMEN BATH ROOM HEATER	20/2	37	0			38	20/1	EXISTING WOMEN BATHROOM HEAT
		39	0	0		40	20/1	EXISTING MEN BATHROOM HEAT
EXISTING CH-4	20/1	41			0	42	15/1	EXISTING EWC
TOTAL LOAD PER PHASE			0	0	0	TOTAL KVA:		0.0
						AMPS:		0.0

NOTE: * REMOVE 60A, 3P CB AND REPLACE WITH NEW 150A, 3P CB.

PANEL BOARD SCHEDULE NEW PANEL "PP1"

VOLTAGE: 120/208VOLT 3PHASE 4WIRE | MAIN (A): 150A WITH GROUND BUS | MCB: X | MLO: X | LOCATION: RECORDS STORAGE 130 | MOUNT: SURFACE | TYPE: 10,000 A.I.C.

USE AND/OR AREA SERVED	C/B	CIR. NO.	A	B	C	CIR. NO.	C/B	USE AND/OR AREA SERVED
NEW CU-1	80/3	1	4160			2	40/2	EDH-1
		3	300	4160		4		
		5		300	4160	6		
HR-1	20/2	7	45		300	8	20/1	ERV-1
		9	1080	45		10	20/1	HR-2
VRF #1,2,3&4	20/2	11		45	83	12		
		13	83		45	14	20/1	VRF #9,10,11&16
		15	201	83		16		
VRF #5,6,7&8	20/2	17		201	83	18	20/1	VRF #12,13,14,15&17
HR-3	20/2	19	0		83	20		
		21	83	0		22	20/1	
HR-4	20/2	23		0	0	24	20/1	
		25	0			26	20/1	
		27	0	0		28	20/1	
		29			0	30	20/1	
		31	0			32	20/1	
		33	0	0		34	20/1	
		35			0	36	20/1	
		37	0			38	20/1	
		39	0	0		40	20/1	
		41			0	42	20/1	
TOTAL LOAD PER PHASE			5952	4834	4754	TOTAL KVA:		15.5
						AMPS:		43.1

NOTE: * REMOVE 60A, 3P CB AND REPLACE WITH NEW 150A, 3P CB.

LIGHTING FIXTURE SCHEDULE

TYPE	LAMP TYPE	MOUNTING	ACCEPTABLE MANUFACTURER AND CATALOG NUMBER	VOLTS	INPUT WATTS	DESCRIPTION	REMARKS
F1	LED	LAY-IN	LITHONIA 2BLT440LADPMVOLTGZ10LP840	120	31	2x4 LAY-IN	
⊗	LED	SURFACE	LITHONIA #LQW-S-W-3-R-120/277-ELN	120	3	LED EXIT SIGN, RED LETTERS, NiCad BATTERIES.	
FIE	LED	LAY-IN	LITHONIA 2BLT440LADP MVOLTAGE GZ10LP840E	130	31	2x4 LAY-IN	PROVIDE 90 MIN BATTERY PAK

LIGHTING FIXTURE SCHEDULE NOTES

1. ALL LIGHTING FIXTURES SHALL BE RATED FOR BUILDING SYSTEM VOLTAGE. CONTRACTOR MUST VERIFY ALL CONDITIONS.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE EACH LIGHTING FIXTURE COMPLETE WITH PLASTER FRAMES AND ALL OTHER INSTALLATION AND HANGING HARDWARE AS REQUIRED FOR A COMPLETE AND FINISHED INSTALLATION AT EACH FIXTURE LOCATION.
3. VERIFY ALL LIGHTING FIXTURE LOCATIONS, FINISHES, VOLTAGE AND CEILING TYPES WITH ARCHITECT PRIOR TO ORDERING.
4. ELECTRICAL CONTRACTOR SHALL CHECK AND COORDINATE ALL LIGHTING FIXTURE CATALOG NUMBERS WITH THE INTENT OF FIXTURE DESCRIPTIONS, LISTED ACCESSORIES AND TYPE OF INSTALLATION.
5. ALL FIXTURES SHALL BE "U.L." LABELED. ALL LIGHTING FIXTURES EXPOSED TO WEATHER OR MOISTURE SHALL BEAR U.L. "WET LOCATION" LABEL AND LIGHTING FIXTURES EXPOSED TO DAMPNESS SHALL BEAR U.L. "DAMP LOCATION" LABEL.
6. EXIT/DIRECTIONAL SIGNS SHALL BE CEILING OR WALL MOUNTED AS PER FIELD CONDITION, REGARDLESS OF HOW THEY ARE SHOWN ON FLOOR PLANS. THEY SHALL BE INSTALLED COMPLETE WITH ALL INSTALLATION AND HANGING ACCESSORIES TO PROVIDE AN UNOBSTRUCTED VIEW OF EACH SIGN FACE AS REQUIRED. SIGNS SHALL BE ADJUSTED AS NECESSARY WITHOUT ADDITIONAL COST.
7. SIGNS TO READ "EXIT". SIGNS SHALL BE SINGLE OR DOUBLE FACED WITH OR WITHOUT DIRECTIONAL ARROWS, ALL AS SHOWN ON PLANS. SIGNS IN GENERAL SHALL BE CEILING MOUNTED, LOCATED AND ADJUSTED FOR BEST VIEW. ALL EXIT SIGNS IN HIGH CEILING AREAS TO BE MOUNTED ON WALL AT MAXIMUM OF +8'-0" ABOVE FLOOR. NO PENDANTS SHALL BE USED. SHADED PORTION DENOTES ILLUMINATION FACE.
8. ALL EXIT SIGNS AND BATTERY EMERGENCY UNITS MUST BE APPROVED BY LOCAL CODE.

KEITH BRYANT DAVIDSON, No. PE10911154, STATE OF INDIANA, REGISTERED PROFESSIONAL ENGINEER, EXPIRES 07/31/2020

TRIA ARCHITECTURE

MEP/FP CONSULTANT: IDAS Engineers & Architects, 765 HEARTLAND DR., UNIT 1, SUGAR GROVE, ILLINOIS 60554 (630) 538-1996

DUNELAND SCHOOL CORPORATION

2022 RENOVATIONS AT:
DISTRICT OFFICE
601 W MORGAN AVE, CHESTERTON, IN. 46304

PROJECT NUMBER: 21-045	REVISIONS:
PROJECT MANAGER: TRS	1
DRAWN BY:	2
	3
ISSUED FOR BIDDING: 3/6/22	4

NOTES AND SCHEDULES - ELECTRICAL

DUNELAND SCHOOL CORPORATION Chesterton, Indiana

E3.00