

GENERAL NOTES:

THE FOLLOWING NOTES SHALL APPLY THROUGHOUT.
EXCEPTIONS ARE SPECIFICALLY NOTED ON EACH DRAWING.

- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS OF THE SITE AND/OR BUILDING. ALL DIMENSIONS AND EQUIPMENT IS SHOWN DIAGRAMMATICALLY. COORDINATE WITH ACTUAL FIELD CONDITION. PERFORM PRELIMINARY TESTING AND COMPARE WITH WATERFLOW REQUIREMENTS UNDER THIS PROJECT. IDENTIFY DEFICIENCIES PRIOR TO THE COMMENCEMENT OF NEW MECHANICAL CONTRACT WORK.
- THE CONTRACTOR SHALL, UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, SECURE AND PAY FOR THE REQUIRED CONSTRUCTION PERMIT(S), FEES, LICENSES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.
- COORDINATION OF ALL WORK UNDER THIS CONTRACT SHALL BE MAINTAINED TO ENSURE THE QUALITY AND TIMELY COMPLETION OF THE WORK/PROJECT.
- THE CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED TO COMPLETE THE WORK OR TO MAKE ITS PARTS FIT TOGETHER PROPERLY WITHOUT COMPROMISING THE QUALITY OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTIONS, AND OFF ALIGNMENTS ACCORDING TO CODES AND STANDARDS OF GOOD PRACTICE.
- THE TERM "FINISH FLOOR" SHALL MEAN THE NORMAL FINISHED SURFACE OF THE FLOOR LEVEL. ALL ELEVATIONS GIVEN FOR EXISTING BUILDINGS ARE TO FINISHED FLOOR. THE CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS FOR EXISTING STRUCTURES PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL PATCH AND REPAIR ALL FLOORS, WALLS, CEILINGS, ETC. DAMAGED OR EXPOSED DUE TO WORK OR REMOVALS AND FINISH TO MATCH ADJOINING SURFACES.
- WHERE MANUFACTURERS NAMES AND PRODUCT NUMBERS ARE INDICATED ON THE DRAWINGS IT SHALL BE CONSTRUED TO MEAN THE ESTABLISHING OF QUALITY AND PERFORMANCE STANDARDS OF SUCH ITEMS. ALL OTHER PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE THEY SHALL BE DEEMED EQUAL.
- ADDITIONAL NOTES WHICH ARE APPLICABLE TO THIS PROJECT MAY BE FOUND THROUGHOUT THE CONTRACT DRAWINGS.
- DRAWINGS ARE NOT TO BE SCALED. USE DIMENSIONS ONLY. ALL DIMENSIONS AND CONDITIONS SHOWN AND ASSUMED ON THE DRAWINGS MUST BE VERIFIED AT THE SITE BY THE CONTRACTOR BEFORE ORDERING ANY MATERIAL OR DOING ANY WORK. ANY DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO THE ENGINEER. NO CHANGE IN DRAWINGS OR SPECIFICATIONS IS PERMISSIBLE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
- ALL WORK ON THESE DRAWINGS SHALL BE CONSIDERED NEW WORK WHETHER STATED OR NOT EXCEPT WHERE SPECIFICALLY NOTED AS "EXISTING TO REMAIN".
- DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER, SHALL BE INCLUDED IN THE WORK THE SAME AS IF HEREIN SPECIFIED OR INDICATED.
- ALL WORK SHALL BE INSTALLED SO THAT ALL PARTS REQUIRED ARE READILY ACCESSIBLE FOR INSPECTION, OPERATION, MAINTENANCE AND REPAIR.
- ANY EXISTING WORK DAMAGED DUE TO THE MASONRY REPAIR AND OTHER RELATED WORK, SHALL BE PATCHED, REPAIRED, REFINISHED, ETC. BY THE CONTRACTOR TO MATCH EXISTING FINISHES TO THE CLOSEST EXISTING CORNER.
- CONTRACTOR SHALL KEEP WORK SITE FREE FROM DEBRIS AND ACCUMULATED REFUSE, AND SHALL HAVE SOLE RESPONSIBILITY FOR PROTECTING ALL DANGEROUS AREAS FROM ENTRY BY UNAUTHORIZED PARTIES. WORK AREA WILL BE LEFT BROOM CLEAN AT THE END OF COMPLETION OF WORK AND UNTIL THE SPACE IS READY TO BE OCCUPIED.
- PROVIDE BARRICADES AROUND WORK AREAS AS REQUIRED TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THEREIN.
- THE WORD "PROVIDE" USED ON DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT MEANS "FURNISH AND INSTALL". WHEN ONLY ONE PART OF ACTION IS REQUIRED, EITHER "FURNISH" OR "INSTALL" WILL BE USED ACCORDINGLY (TYP., U.O.N.).
- DUST CONTROL: EXISTING CONSTRUCTION AND EQUIPMENT SHALL BE PROTECTED FROM DUST THROUGHOUT THE DURATION OF THE WORK AND TO THE SATISFACTION OF THE OWNER. PROVIDE DUST BARRIERS AND/OR COVER EXISTING WORKSTATIONS AND EQUIPMENT TO PREVENT CONTAMINATION. WHEN DRILLING OR CUTTING IN OCCUPIED AREAS OF THE BUILDING, ALL TOOLS USED SHALL BE EQUIPPED WITH DUST FILTERS.
- THE SITE SHALL BE CLEANED AT THE END OF EVERY SHIFT AT A MINIMUM, AND SHALL BE MAINTAINED IN A CLEAN CONDITION AT ALL TIMES. NO DUST, DEBRIS, REFUSE OR ODORS SHALL BE PERMITTED TO ACCUMULATE AT ANY TIME.
- NOISE GENERATED BY THE WORK SHALL BE KEPT TO A MINIMUM, AND SHALL BE KEPT TO A LEVEL ACCEPTABLE TO THE OWNER.

MECHANICAL NOTES:

- PROVIDE LABOR, MATERIALS, TOOLS, MACHINERY, EQUIPMENT, AND SERVICES NECESSARY TO COMPLETE THE HVAC WORK UNDER THIS CONTRACT. ALL SYSTEMS AND EQUIPMENT SHALL BE COMPLETE IN EVERY ASPECT AND ALL ITEMS OF MATERIAL, EQUIPMENT AND LABOR SHALL BE PROVIDED FOR A FULLY OPERATIONAL SYSTEM AND READY FOR USE. COORDINATE THE WORK WITH THE WORK OF THE OTHER SUBCONTRACTORS IN ORDER TO RESOLVE ALL CONFLICTS WITHOUT IMPEDING THE JOB PROGRESS.
- EXAMINE THE ARCHITECTURAL, DRAWINGS AND OTHER DIVISIONS, AND SECTIONS OF THE SPECIFICATIONS IN ORDER TO DETERMINE THE EXTENT OF THE WORK REQUIRED TO BE COMPLETED UNDER THIS DIVISION. FAILURE TO EXAMINE ALL THE CONTRACT DOCUMENTS FOR THIS PROJECT WILL NOT RELIEVE THIS CONTRACTOR OF HIS RESPONSIBILITIES TO PERFORM THE WORK REQUIRED FOR A COMPLETE FULLY OPERATIONAL AND SATISFACTORY INSTALLATION.
- THE WORK INCLUDES BUT IS NOT LIMITED TO THE DEPICTED SYSTEMS, EQUIPMENT AND SERVICES, AS SPECIFIED HEREIN.
- START-UP SERVICES SHALL BE INCLUDED.
- ALL SYSTEMS, EQUIPMENT AND SERVICES SPECIFIED HEREIN SHALL BE PROVIDED COMPLETE AND READY FOR USE. ALL EQUIPMENT, DUCTWORK, PIPING, DAMPERS, OUTLETS ARE NEW, FURNISHED AND INSTALLED BY THIS CONTRACTOR, UNLESS OTHERWISE NOTED.
- DUCTWORK AND PIPING ARE SHOWN DIAGRAMMATICALLY AND DO NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF PIPING TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ENGINEER. COORDINATION WITH THE EXISTING SERVICES, INCLUDING THOSE OF OTHER SUBCONTRACTORS IS REQUIRED. PROVIDE COORDINATION DRAWINGS SHOWING ALL TRADES WORK AND EXISTING CONDITION.
- INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES INVOLVING EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- VERIFY FINAL LOCATIONS FOR ROUGH WORK WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT BEING CONNECTED.
- PROVIDE A COMPLETE SYSTEM OF VIBRATION ISOLATION FOR EACH ITEM OF HVAC EQUIPMENT AND APPARATUS AS SPECIFIED HEREIN, AS SHOWN ON THE DRAWINGS AND AS NEEDED FOR A COMPLETE AND PROPER INSTALLATION.
- THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACE AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER IN THE INTERIOR OR THE EXTERIOR.
- ALL PRESENT MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY NYPL, OR AS NOTED TO BE RELOCATED ON THE DRAWINGS, AND SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
- THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.
- PROVIDE DIELECTRIC UNIONS AT JOINTS BETWEEN DISSIMILAR PIPING.

SAFETY NOTES

- SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR SO THAT EQUIPMENT ON THE APPLICATION AND ITS INSTALLATION WILL NOT AFFECT THE FOLLOWING:
 - EGRESS TO AND FROM THE BUILDING FIRE SAFETY OR CREATE A FIRE HAZARD
 - STRUCTURAL SAFETY OF THE BUILDING. CONFORM TO CHAPTER 33 OF THE 2016 NYSBC FOR SAFETY DURING CONSTRUCTION AND DEMOLITION.
 - ACCUMULATION OF DUST AND DEBRIS. THE CONTRACTOR SHALL LEAVE THE SITE BROOM CLEAN EACH DAY.
- ASBESTOS MUST FIRST BE INVESTIGATED AND VERIFY IN FIELD BEFORE ANY DEMOLITION OR CONSTRUCTION WORK TO BE DONE UNDER THIS PROJECT. ASBESTOS FREE MUST BE CERTIFIED FOR ALL HVAC EQUIPMENT, DUCTWORK, AND ALL PIPING INSULATION.
- CONSTRUCTION WORK SHALL BE CONFINED TO WORK AREAS NOTED ON THE DRAWINGS AND SHALL INVOLVE TEMPORARY INTERRUPTION OF HEATING, WATER AND ELECTRIC SERVICES TO THE BUILDING SYSTEMS ONLY AS SCHEDULED WITH THE OWNER.
- FIRE SAFETY: ALL BUILDING MATERIALS STORED IN CONSTRUCTION AREA, AND/OR IN ANY AREA OF THE BUILDING ARE TO BE SECURED IN A LOCKED AREA ONLY WHERE PERMITTED BY THE OWNER.
- CONTRACTOR SHALL PROVIDE BARRICADES AROUND WORK AREAS AS REQUIRED TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THEREIN.
- THE CONTRACTOR SHALL SUBMIT SAFETY PLAN FOR APPROVAL.

BUILDING DEPARTMENT NOTES:

THE FOLLOWING NOTES SHALL APPLY THROUGHOUT:

- WORK SHALL BE EXECUTED IN FULL COMPLIANCE WITH THE APPLICABLE PROVISIONS OF ALL LAWS, BY-LAWS, STATUTES, ORDINANCES, CODES, RULES, REGULATIONS AND LAWFUL ORDERS OF PUBLIC AUTHORITIES BEARING ON THE PERFORMANCE AND EXECUTION OF THE WORK.
- NO CHANGE IN USE EGRESS OR OCCUPANCY GROUP PROPOSED UNDER THIS APPLICATION.

ELECTRICAL WIRING AND CONTROL:

- MECHANICAL CONTRACTOR SHALL PROVIDE TRANSFORMERS AND MAKE ALL CONNECTIONS TO CONTROLS EQUIPMENT. COORDINATE WORK WITH OTHER TRADES. GENERALLY ALL LOW VOLTAGE WIRING SHALL BE BY MECHANICAL CONTRACTOR, AND ALL HIGH VOLTAGE WIRING (120V AND HIGHER), SHALL BE BY ELECTRICAL CONTRACTOR (TYP., U.O.N.).
- ALL CONTROL WIRING SHALL BE DONE ACCORDING TO SEQUENCE OF OPERATION, AS SPECIFIED, AND IN ACCORDANCE WITH MANUFACTURER CONTROL DATA.
- ALL DISCONNECT SWITCHES, STARTERS, AND VARIABLE FREQUENCY DRIVES SHALL BE FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
- CONTROL WIRING SHALL BE RUN IN CONDUIT THROUGHOUT.

SEQUENCE OF OPERATIONS:

- EF-1: EF-1 SHALL OPERATE CONTINUOUSLY WHILE THE BUILDING IS OCCUPIED. EF-1 SHALL BE OFF WHEN THE BUILDING IS UNOCCUPIED. OCCUPANCY SHALL BE DETERMINED BY A 7-DAY PROGRAMMABLE TIME CLOCK.

AIR BALANCING:

- RECORD AIRFLOWS OF EXISTING SUPPLIES, RETURNS, AND EXHAUSTS THOROUGHOUT THE AREA OF WORK AND WHEREVER ELSE AFFECTED BY THE WORK OF THIS CONTRACT PRIOR TO BEGINNING THE WORK. SUBMIT A REPORT OF THESE AIRFLOWS TO THE OWNER FOR RECORD.
- PERFORM A COMPLETE BALANCING OF THE SYSTEM, INCLUDING ALL SUPPLIES, RETURNS, AND EXHAUSTS, BOTH EXISTING AND NEW, THROUGHOUT THE AREA OF WORK AND WHEREVER ELSE AFFECTED BY THE WORK OF THIS CONTRACT. SUBMIT A FINAL BALANCING REPORT FOR APPROVAL. REFER TO THE PLANS AND SPECIFICATIONS FOR ADDITIONAL BALANCING REQUIREMENTS.

AIR OUTLETS SCHEDULE

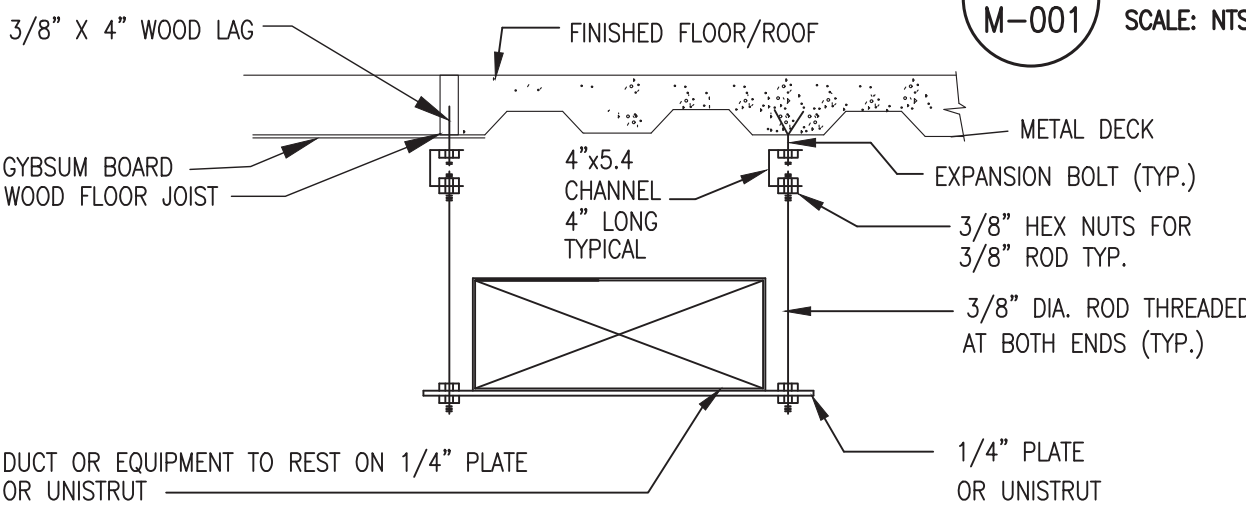
TAG	SERVICE	TYPE	MODULE SIZE (IN)	DIRECTION	NOISE CRITERIA (NC)	BASIS OF DESIGN		REMARKS
						MANUFACTURER	MODEL #	
SD	SUPPLY	DIFFUSER	AS NOTED	4-WAY	25	TITUS	TMS	SEE NOTES
EG	EXHAUST	GRILLE	AS NOTED	-	25	TITUS	350RL	SEE NOTES
RG	RETURN	GRILLE	AS NOTED	-	25	TITUS	350RS	SEE NOTES

AIR OUTLET SCHEDULE NOTES:

- NECK SIZES ARE INDICATED ON THE PLANS.
- PROVIDE STANDARD BORDER FOR APPLICABLE WALL/CEILING TYPE.

EXHAUST FAN SCHEDULE

UNIT NO.		EF-1
LOCATION		ROOF
TYPE		ROOFTOP FAN
RATING	HORSEPOWER	1/6
	CAPACITY , CFM	620
	STATIC PRESSURE, W.C.	.25
MANUFACTURER		GREENHECK
MODEL NO.		G-090
VOLT. PH. HZ.		115/1/60
REMARKS:		1. FAN SHALL BE DIRECT DRIVE WITH ECM MOTOR. 2. PROVIDE BIRDSCREEN, DISCONNECT SWITCH, CONTROL DEVICES, AND WIRING AS REQUIRED. 3. PROVIDE MOTORIZED BACKDRAFT DAMPER. 4. PROVIDE A CUSTOM FABRICATED CURB ADAPTER.



4 DUCT SUPPORT DETAIL
SCALE: NTS

LEGEND:

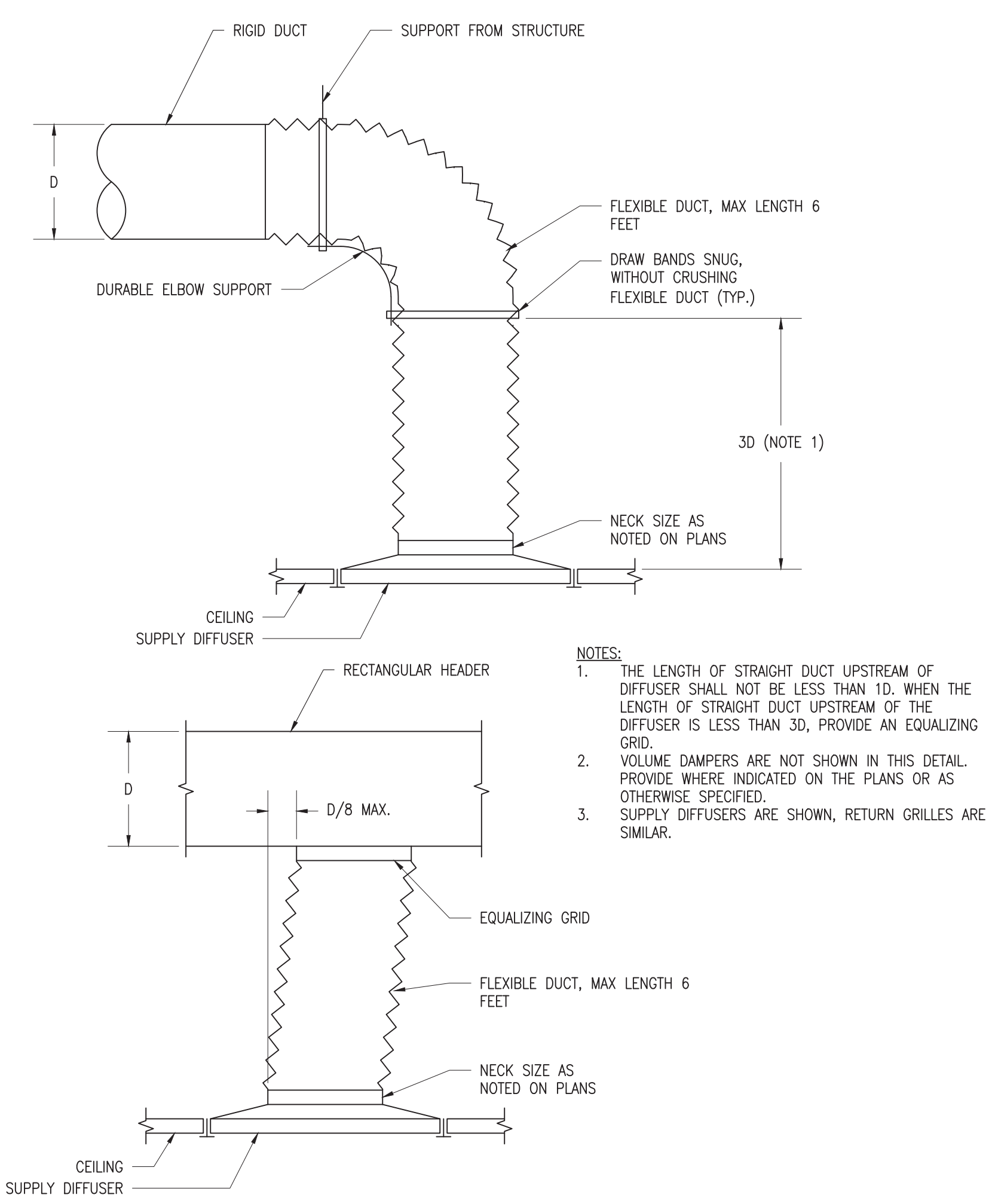
- EXISTING
- TO BE REMOVED (ON DEMOLITION DRAWINGS)
- WORK OF THIS CONTRACT
- THERMOSTAT
- DISCONNECT POINT
- TIE-IN POINT

SYMBOLS:

- S
- R
- PIPE DROPPING DOWN
- PIPE UP
- PIPE BOTTOM CONNECTION
- PIPE TOP CONNECTION
- BALL VALVE
- GATE/SHUTOFF VALVE
- BALANCING VALVE
- CHECK VALVE
- BALANCING COCK
- BALANCING VALVE
- PIPE ANCHOR
- PIPE BREAK
- PRESSURE GAUGE
- STRAINER
- RELIEF VALVE
- AIR VENT
- DRAIN COCK W/ HOSE BIBB
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- THERMOMETER
- DIELECTRIC FLANGED CONNECTION

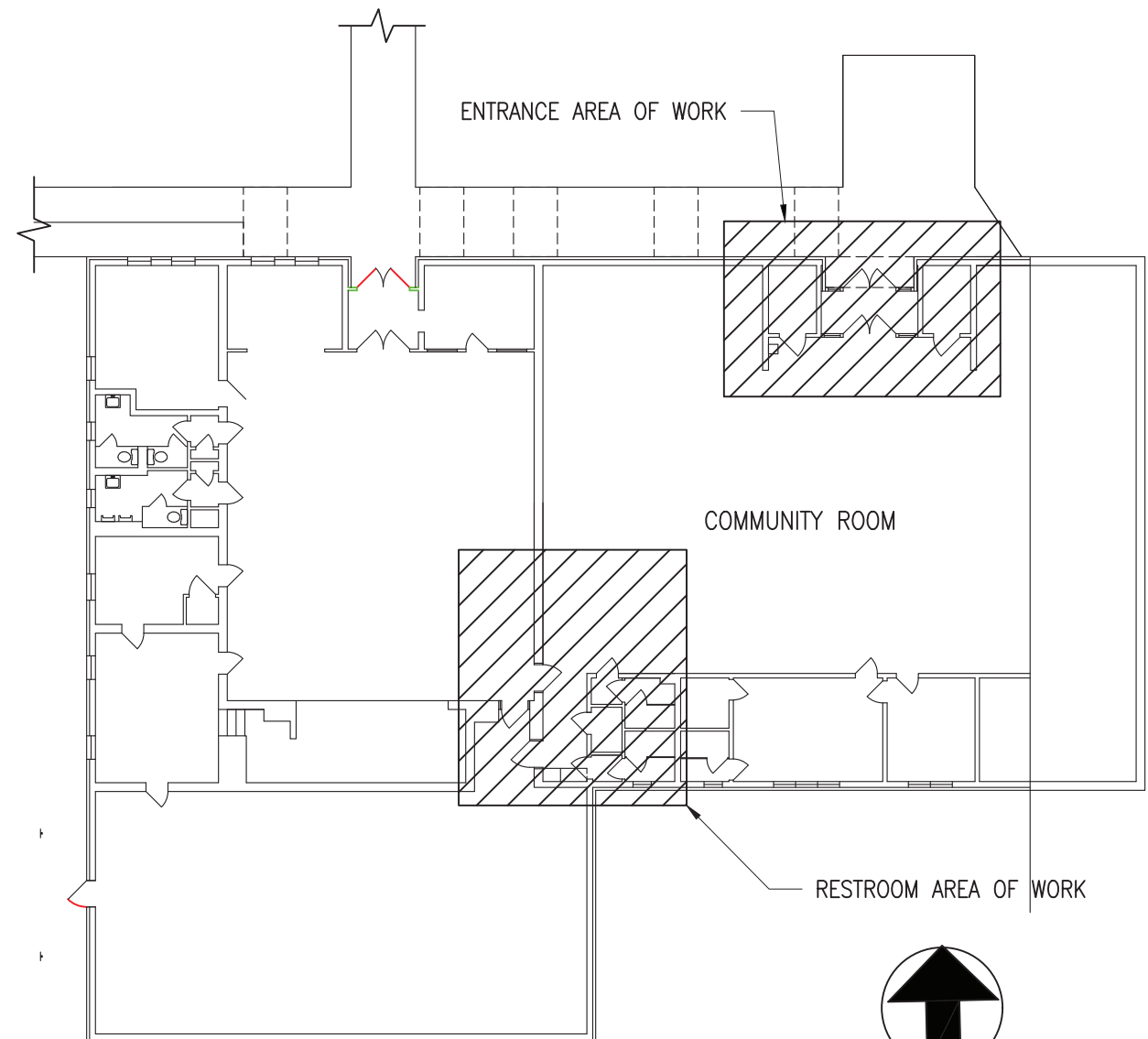
ABBREVIATIONS

- BHP BREAK HORSE POWER
- D DRAIN
- DN DOWN
- DWG DRAWING
- EX. EXISTING
- FPI FINS PER INCH
- FTR FINNED TUBE RADIATION
- HP HORSE POWER
- MAX MAXIMUM
- MBH 1000 BTU/H
- MHP MOTOR HORSE POWER
- MIN. MINIMUM
- N/A NOT APPLICABLE
- N.I.C. NOT IN CONTRACT
- NTS NOT TO SCALE
- P-# PUMP TAG
- PH PHASE
- R HOT WATER RETURN
- RPM REVOLUTION PER MINUTE
- T THERMOSTAT
- TB TO BOTTOM
- TYP. TYPICAL
- V VOLT
- U.O.N. UNLESS OTHERWISE NOTED



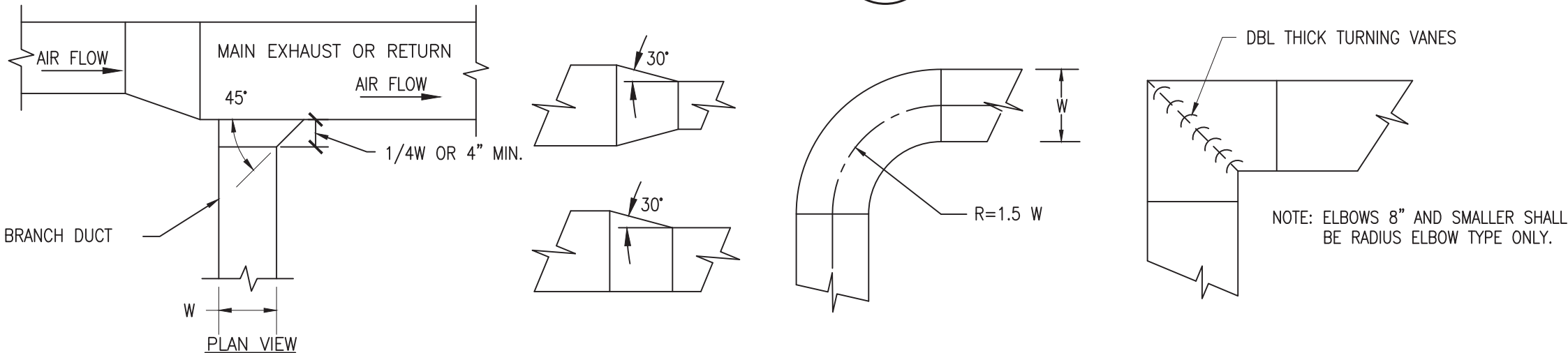
- NOTES:
- THE LENGTH OF STRAIGHT DUCT UPSTREAM OF DIFFUSER SHALL NOT BE LESS THAN 1D. WHEN THE LENGTH OF STRAIGHT DUCT UPSTREAM OF THE DIFFUSER IS LESS THAN 3D, PROVIDE AN EQUALIZING GRID.
 - VOLUME DAMPERS ARE NOT SHOWN IN THIS DETAIL. PROVIDE WHERE INDICATED ON THE PLANS OR AS OTHERWISE SPECIFIED.
 - SUPPLY DIFFUSERS ARE SHOWN, RETURN GRILLES ARE SIMILAR.

3 AIR OUTLET CONNECTION DETAILS
SCALE: NTS



2 KEY PLAN
SCALE: NTS

5 EXHAUST FAN DETAIL
SCALE: NTS



1 DUCT CONSTRUCTION DETAIL
SCALE: NTS