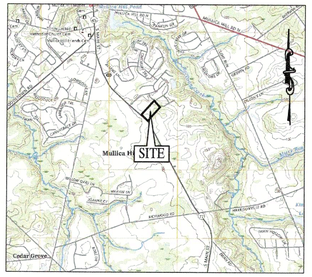
UTILITY CONTACTS

ATLANTIC CITY ELECTRIC
5100 HARDING HIGHWAY
MAYS LANDING, NJ 08330
ATTEN: MIKE POWERS

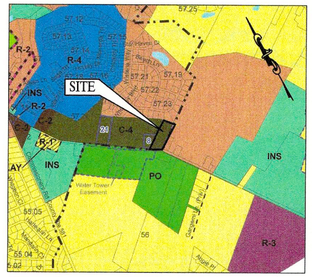
SOUTH JERSEY GAS
1 SOUTH JERSEY PLAZA
HAMMONTON, NJ 08037
ATTEN: ENGINEERING MANAGER

VERIZON
PO BOX 16801
NEWARK, NJ 07101

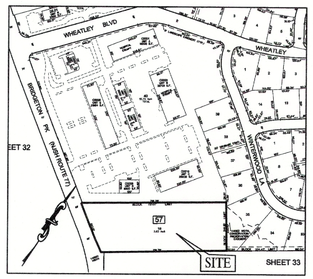
COMCAST CABLE CO
901 WEST LEEDS AVE.
ABSECON, NJ 08201
ATTEN: CONSTRUCTION DEPARTMENT



USGS QUAD - PITMAN WEST
1" = 2000'



ZONING MAP - ZONED C-4
NOT TO SCALE



TAX MAP (Plate 33.04)
NOT TO SCALE

ZONING DATA

ZONED C-4 FLEXIBLE COMMERCIAL	REQUIRED	EXISTING	PROPOSED
LOT AREA (SF)	20,000	166,047	166,047
LOT FRONTAGE (FT)	100	263.12	263.12
BUILDING SETBACKS:			
FRONT YARD (FT)	50	N/A	171.54
REAR YARD (FT)	50	N/A	448
SIDE YARD (FT)	50	N/A	68
MAX. BUILDING HEIGHT (FT)	35	N/A	30
MAX. IMPERVIOUS COVERAGE (%)	50	1.0	10.4

SITE PLAN

HARRISON TOWNSHIP EMS

169-171 BRIDGETON PIKE
MULLICA HILL - HARRISON TOWNSHIP
GLOUCESTER COUNTY, NEW JERSEY
BLOCK 57, LOT 18

PROJECT NO: PD26-041

PREPARED FOR:

GLOUCESTER COUNTY BUILDINGS & GROUNDS
254 COUNTY HOUSE ROAD
CLARKSBORO, NJ 08020

PREPARED BY:

BACH Associates, PC
ENGINEERS • ARCHITECTS • PLANNERS

304 White Horse Pike
Haddon Heights, New Jersey 08035
Tel 856-546-8611
Fax 856-546-8612
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DIAL 811

Index of Drawings:

C-1	COVER SHEET AND INDEX OF DRAWINGS
SP-1	EXISTING CONDITIONS & DEMOLITION PLAN
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SP-4	LANDSCAPING & LIGHTING PLAN
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SEALS:

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NJ PROFESSIONAL ENGINEER No. GE 41507
NJ REGISTERED ARCHITECT No. AI 14872
NJ PROFESSIONAL PLANNER No. LI 05557
NJ PROFESSIONAL SURVEYOR No. No. 43504

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:
PRELIMINARY & FINAL MAJOR SITE PLAN
HARRISON TOWNSHIP EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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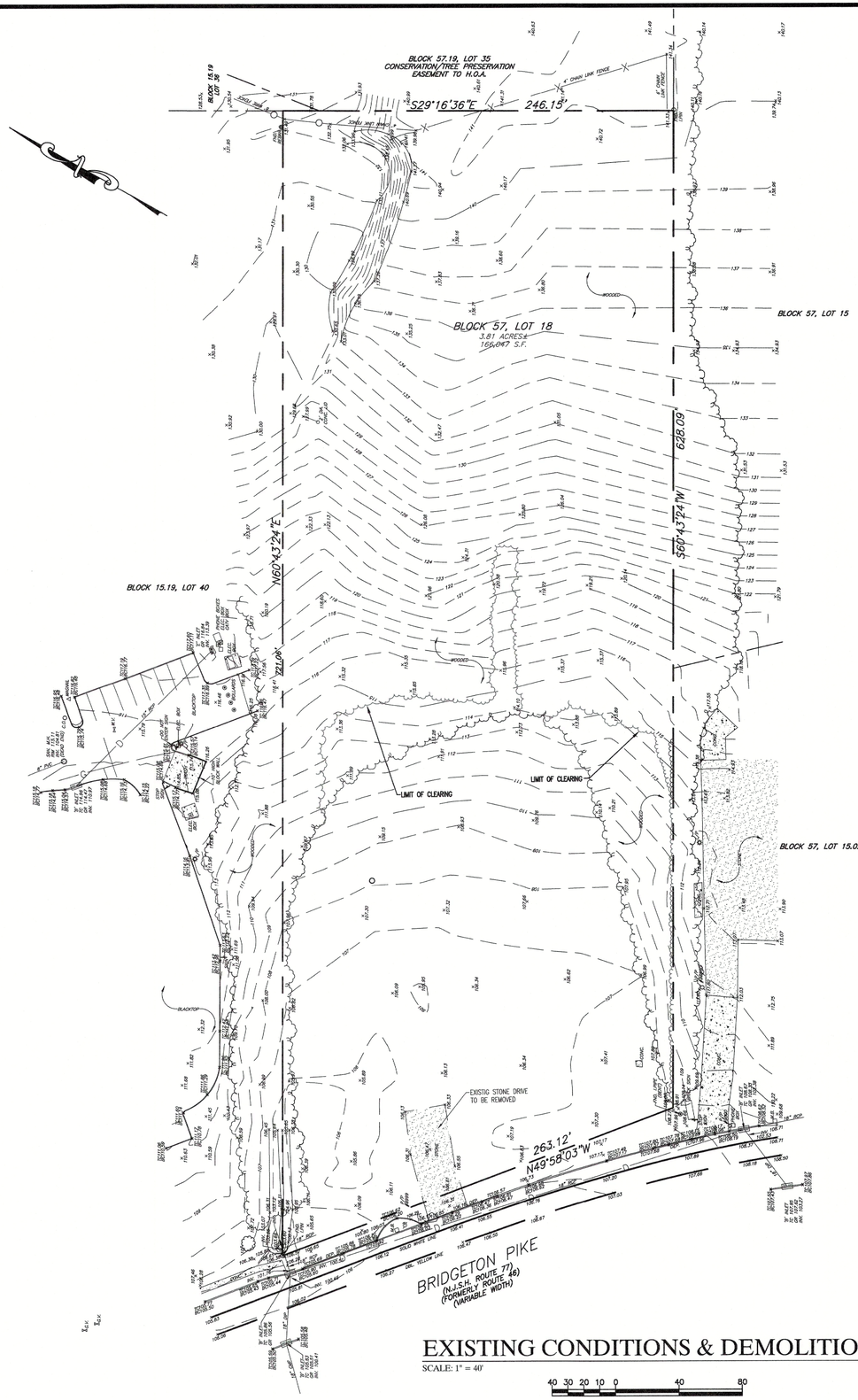
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DRAWING TITLE:
COVER SHEET AND INDEX OF DRAWINGS

JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:
C-1



EXISTING CONDITIONS & DEMOLITION PLAN

SCALE: 1" = 40'

40 30 20 10 0 40 80

SCALE: 1" = 40'

DEMOLITION NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN TAKEN FROM VARIOUS SOURCES AND IS SHOWN FOR DESIGN AND ESTIMATING PURPOSES ONLY. ACTUAL LOCATIONS OF UTILITIES SHALL BE FIELD VERIFIED BY CONTRACTOR. ANY DISCREPANCIES OR APPARENT CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION. ANY/ALL DISCREPANCIES SHALL BE REPORTED TO ENGINEER IN WRITING PRIOR TO ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS & UTILITIES. A WRITTEN NOTICE SHALL BE FORWARDED TO THE OWNER SETTING FORTH THE DATE OF CONTACT. CONTRACTORS ARE ADVISED TO CALL 1-800-272-1000 BEFORE COMMENCING FOR A MARKOUT OF EXISTING UTILITIES.
2. CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES PRIOR TO DEMOLITION.
3. CONTRACTOR TO COORDINATE ALL UTILITY REMOVAL(S) AND SHUT-OFF(S). (TYPICAL)
4. CONTRACTOR TO COORDINATE WITH ALL APPLICABLE AGENCIES DURING THE DEMOLITION OF EXISTING BUILDINGS.
5. TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION TO LOCATE UNDERGROUND UTILITIES.
6. ANY REQUIRED UTILITY POLE RELOCATION'S FOR THE PROPOSED IMPROVEMENTS SHALL BE COMPLETED AT NO EXTRA COST TO THE OWNER. CONTRACTOR SHALL PROVIDE ALL NECESSARY ARRANGEMENTS FOR UTILITY POLE RELOCATION.
7. THE CONTRACTORS ARE ADVISED THAT ANY REQUIRED UNDERGROUND UTILITY RELOCATION'S INCLUDING GAS MAINS AND SERVICES, WATER MAINS AND SERVICES, SEWER MAINS AND SERVICES, ELECTRIC AND TELEPHONE LINES SHALL BE COMPLETED AT NO COST TO THE OWNER UNLESS SPECIFICALLY NOTED OTHERWISE.
8. EXISTING UTILITIES INCLUDING VALVE BOXES, CLEAN OUTS, CURB STOPS, MANHOLES, ETC., SHALL BE ADJUSTED TO MATCH PROPOSED FINISHED GRADE. STORM DRAINAGE STRUCTURES SHALL NOT BE ADJUSTED UNLESS SPECIFICALLY CALLED FOR. NO TRENCHES SHALL REMAIN OPEN OVERNIGHT.
9. SUPPORT AND STABILIZATION OF REMAINING STRUCTURES SHALL CONFORM TO BOCA BUILDING CODE 1996 THIRTEENTH EDITION.
10. ALL DEMOLITION TO BE PERFORMED IN STRICT ADHERENCE TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
11. NO DISTURBANCES SHALL BE PERMITTED BEYOND THE PROJECT PROPERTY LINE WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER(S) DIRECTLY AFFECTED.
12. CONTRACTOR SHALL CLEAN ADJACENT STRUCTURES AFFECTED BY DEMOLITION, CONTRACTOR TO RETURN ADJACENT AREAS TO CONDITIONS EXISTING PRIOR TO START OF WORK.
13. THE CONTRACTOR SHALL PROPERLY DISPOSE OF SPOILS AND EXCAVATED MATERIALS. NO CONSTRUCTION DEBRIS, CUT VEGETATION, TREE STUMPS, OR ANY OTHER SOLID WASTE EXISTING ON SITE IS TO BE BURIED ON SITE. NO ON SITE BURIALOR BURNING OF CONSTRUCTION DEBRIS IS PERMITTED. ALL WASTE MUST BE PROPERLY REMOVED AND DISPOSED OFF SITE. ALL MATERIALS REMOVED FROM SITE ARE TO BE DISPOSED OF AT AN APPROVED FACILITY.
14. EXISTING TOPSOIL ONSITE IS TO BE PROTECTED. NO TOPSOIL IS TO BE SOLD OR REMOVED FROM THE SITE OR USED AS SPOIL UNLESS APPLICATION IS MADE TO THE APPROVING AUTHORITY AND APPROVAL IS GRANTED.
15. PROJECT SITE TO BE CLEARED ONLY AS REQUIRED. EXISTING TREES SHALL BE PROTECTED ALONG WITH ALL EXCAVATION AND CONSTRUCTION LIMITS.
16. REMOVAL OF HAZARDOUS AND COMBUSTIBLE MATERIAL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROCEDURES AS AUTHORIZED BY THE FIRE DEPARTMENT OR OTHER APPROPRIATE REGULATORY AGENCIES AND AUTHORITIES.
17. DISCONNECT, SHUT OFF AND SEAL IN CONCRETE ALL UTILITIES SERVING THE STRUCTURE(S) TO BE DEMOLISHED BEFORE THE COMMENCEMENT OF DESIGNATED DEMOLITION, CLEARLY IDENTIFY BEFORE THE COMMENCEMENT OF DESIGNATED DEMOLITION THE REQUIRED INTERRUPTION OF ACTIVE SYSTEMS THAT MAY AFFECT OTHER PARTIES, AND NOTIFY APPLICABLE UTILITY COMPANIES TO INSURE CONTINUATION OF SERVICE.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTION OF ALL UTILITIES TO BE REMOVED. ALL EXISTING UTILITIES SHALL BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH LOCAL TOWNSHIP & MUA SPECIFICATIONS.

LEGEND OF SYMBOLS & ABBREVIATIONS

	TREELINE/WOODS		SIGN/POST
	DECIDUOUS TREE	P.O.B.	POINT OF BEGINNING
	PINE TREE	G.M.	GAS METER
	SHRUB/BUSH	W.M.	WATER METER
	STOCKADE FENCE		MARSHY AREA
	CHAIN LINK FENCE		FND. CONCRETE MONUMENT
	WIRE FENCE		
	METAL/RAIL FENCE		FND. IRON PIN
	INTERIOR LOT LINE		IRON PIN W/CAP TO BE SET
	EARTH DRIVE		FND. STONE
	CENTERLINE OF STREAM	P/P	POWER POLE
	CENTERLINE OF ROAD	L/P	LIGHT POLE
	BOUNDARY LINE		INLET
OHW	OVERHEAD WIRES		SANITARY/STORM MANHOLE
S	SANITARY SEWER LINE		WATER VALVE/GAS VALVE
D	STORM SEWER LINE	F.H.	FIRE HYDRANT
E	ELECTRIC LINE	C.O.	SEWER VENT/CLEANOUT
T	TELEPHONE LINE		FLAG POLE
G	GAS LINE		BOLLARD
42	MINOR CONTOUR		SOIL BORING
50	MAJOR CONTOUR	(#)	NUMBER OF PARKING SPACES
	TOWNSHIP LINE		HANDICAP PARKING
WL-9	WETLANDS LINE/FLAG NO.		
(J)	INDICATES PHOTO NUMBER & DIRECTION OF PHOTO		CONCRETE
108	HOUSE NUMBER		BUILDING

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169 - 171 BRIDGETON PIKE
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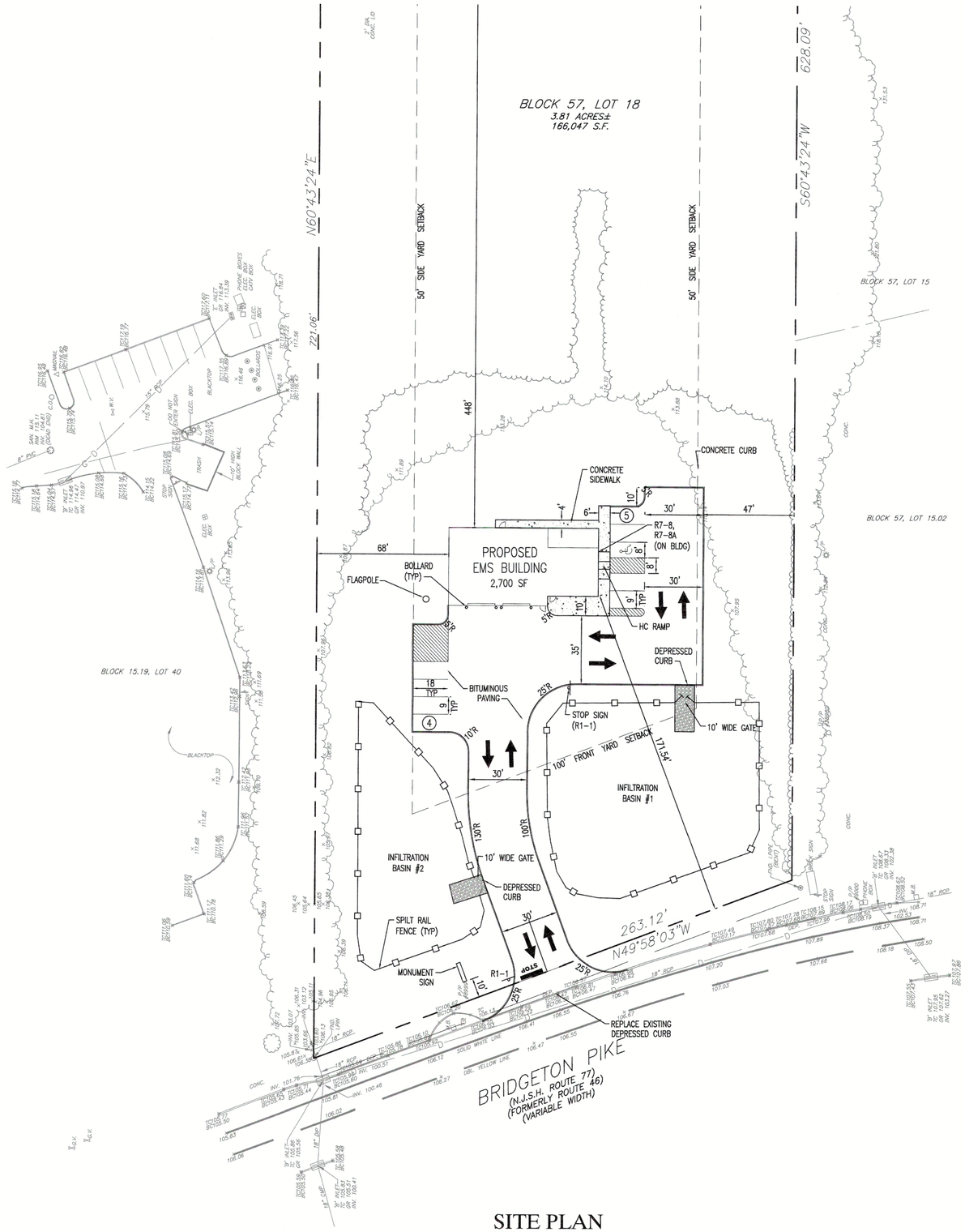
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JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:

SP-1



SITE PLAN

SCALE: 1" = 30'

30 0 30 60

scale feet

GENERAL NOTES

1) EXISTING TOPOGRAPHIC INFORMATION BASED ON SURVEY PERFORMED BY BACH ASSOCIATES, PLAN ENTITLED "TOPOGRAPHIC SURVEY, BLOCK 57, LOT 18, TOWNSHIP OF MULLICA HILL, GLOUCESTER COUNTY, NEW JERSEY".

2) PROPOSED BUILDING TO BE SERVICED WITH NEW SEPTIC AND WELL.

3) NEW UTILITY LINES (GAS, ELECTRIC) ARE PROPOSED TO SERVICE THE BUILDING. ALL ELECTRIC, TELEPHONE, AND CABLE SERVICE LINES SHALL BE UNDERGROUND.

4) ELEVATION DATUM IS GS 84.

5) REQUIRED OUTSIDE AGENCY APPROVALS:

a. GLOUCESTER COUNTY SOIL CONSERVATION DISTRICT
b. NEW JERSEY DEPARTMENT OF TRANSPORTATION:

LEGEND OF SYMBOLS & ABBREVIATIONS

	TREELINE/WOODS	SIGN	SIGN/POST
	DECIDUOUS TREE	P.O.B.	POINT OF BEGINNING
	PINE TREE	G.M.	GAS METER
	SHRUB/BUSH	W.M.	WATER METER
	STOCKADE FENCE		MARSHY AREA
	CHAIN LINK FENCE		FND. CONCRETE MONUMENT
	WIRE FENCE		
	METAL/RAIL FENCE		FND. IRON PIN
	INTERIOR LOT LINE		IRON PIN W/CAP TO BE SET
	EARTH DRIVE		FND. STONE
	CENTERLINE OF STREAM	P/P	POWER POLE
	CENTERLINE OF ROAD	L/P	LIGHT POLE
	BOUNDARY LINE	INLET	INLET
OHW	OVERHEAD WIRES		SANITARY/STORM MANHOLE
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	TOWNSHIP LINE		HANDICAP PARKING
C-9	WETLANDS LINE/FLAG NO.		
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DRAWING TITLE:

SITE PLAN

JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:

SP-2

STORMWATER BMP (INFILTRATION BASIN) CONSTRUCTION NOTES:

1. REQUIRED INFILTRATION TESTING:

1.1. IMMEDIATELY UPON COMPLETION OF BASIN EXCAVATION, AND ESTABLISHMENT OF BASIN BOTTOM FINISH GRADE, CONTRACTOR SHALL CONDUCT A MINIMUM OF TWO (2) IN-SITU SOIL PERMEABILITY TESTS (ASTM D 3385) IN ACCORDANCE WITH NJ STORMWATER BMP MANUAL, APPENDIX D, LAST REVISED JANUARY 2025, TO CONFIRM IF AS-BUILT SOIL PERMEABILITY RATES ARE CONSISTENT WITH THE DESIGN SOIL PERMEABILITY RATES. THE RESULTS OF EACH TEST SHALL BE SUBMITTED FOR REVIEW AND ACCEPTANCE BY THE TOWNSHIP ENGINEER. IF THE RESULTS OF THE POST- DEVELOPMENT FIELD PERMEABILITY TESTS FAIL TO ACHIEVE THE MINIMUM REQUIRED DESIGN PERMEABILITY RATE (UTILIZING A FACTOR OF SAFETY OF TWO) CORRECTIVE ACTION SHALL BE TAKEN BY THE CONTRACTOR AND THE SOIL PERMEABILITY RATE RE-TESTED UNTIL SUCH MINIMUM REQUIRED PERMEABILITY RATES ARE ACHIEVED.

1.2. UPON SUBSTANTIAL COMPLETION OF THE PROJECT (SUCH THAT 90% OF THE UPSTREAM AREA HAS BEEN STABILIZED IN ACCORDANCE WITH THE SOIL CONSERVATION DISTRICT STANDARDS), CONTRACTOR SHALL CONDUCT A MINIMUM OF TWO (2) IN-SITU SOIL PERMEABILITY TESTS (ASTM D 3385) TO CONFIRM IF AS-BUILT SOIL PERMEABILITY RATES ARE CONSISTENT WITH THE DESIGN SOIL PERMEABILITY RATES. THE RESULTS OF EACH TEST SHALL BE SUBMITTED TO THE ENGINEER. IF THE RESULTS OF THE POST- DEVELOPMENT FIELD PERMEABILITY TESTS FAIL TO ACHIEVE THE MINIMUM REQUIRED DESIGN PERMEABILITY RATE (UTILIZING A FACTOR OF SAFETY OF TWO) CORRECTIVE ACTION SHALL BE TAKEN BY THE CONTRACTOR AND THE SOIL PERMEABILITY RATE RE-TESTED UNTIL SUCH MINIMUM REQUIRED PERMEABILITY RATES ARE ACHIEVED.

2. STORMWATER MANAGEMENT SYSTEM AS-BUILT PLAN:

2.1. UPON SUBSTANTIAL COMPLETION OF THE STORMWATER MANAGEMENT SYSTEM, CONTRACTOR SHALL SUBMIT AS-BUILT PLANS (SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEW JERSEY) THAT INCLUDE AS-BUILT ELEVATIONS OF THE BASINS, AND ALL STORMWATER MANAGEMENT MEASURES COMPLETED UNDER THIS CONTRACT TO THE DESIGN ENGINEER. USING THE CONTRACTOR FURNISHED AS-BUILT PLAN, THE DESIGN ENGINEER WILL CONFIRM THAT THE SYSTEM (AS CONSTRUCTED) MEETS THE INTENT OF THE DESIGN, AND IS IN STRICT COMPLIANCE WITH THE APPROVALS FOR STORMWATER MANAGEMENT. IF IT IS DETERMINED THAT THE STORMWATER MANAGEMENT SYSTEM WAS NOT CONSTRUCTED TO MEET THE INTENT OF THE DESIGN, AND/OR IS NOT IN STRICT COMPLIANCE WITH THE APPROVAL FOR STORMWATER MANAGEMENT, CORRECTIVE ACTION BY THE CONTRACTOR SHALL BE REQUIRED TO CORRECT ANY DEFICIENCIES AT NO COST TO THE OWNER.

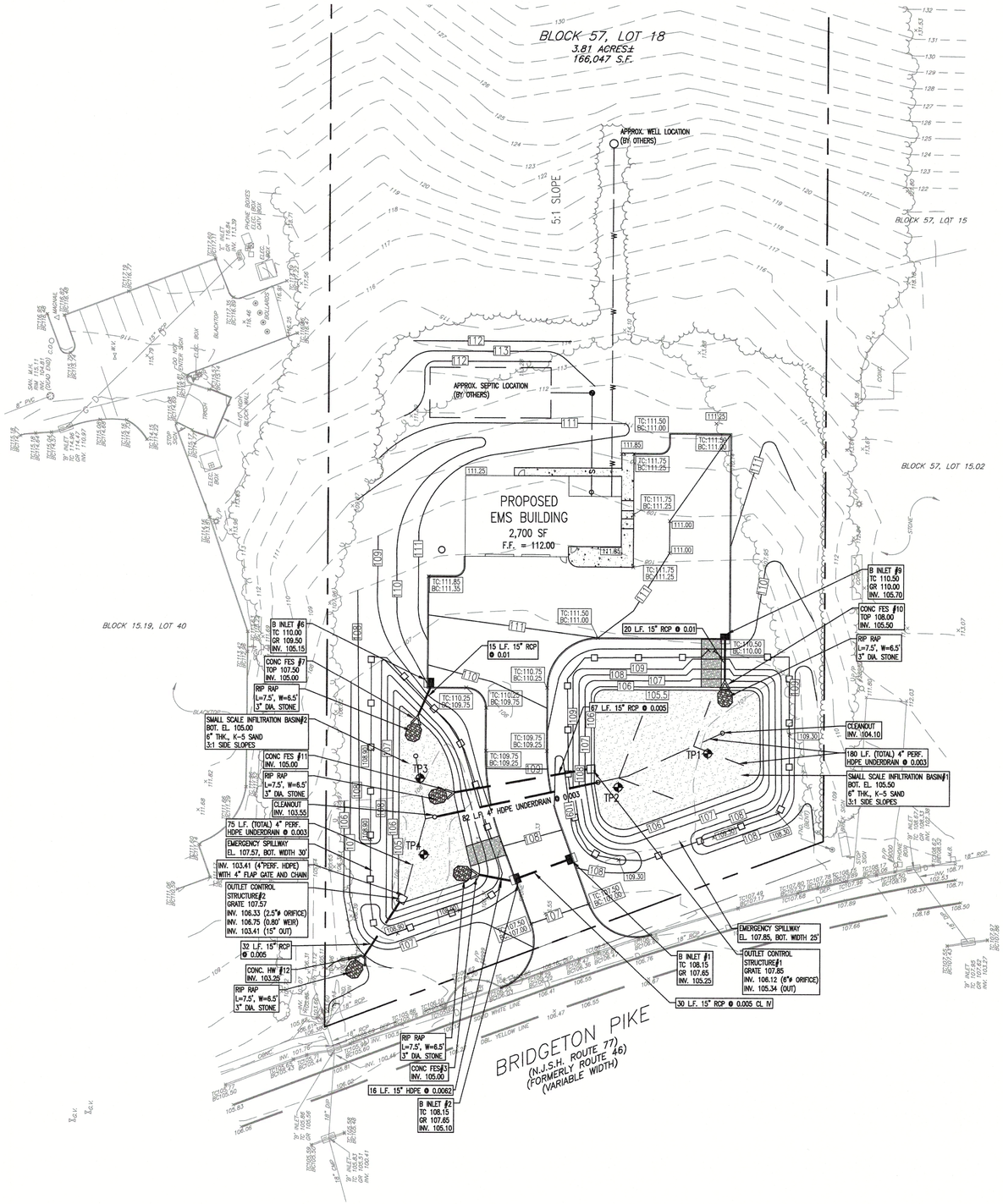
2.2. ALL CORRECTIONS OR REMEDIAL ACTIONS DEEMED BY THE MUNICIPAL ENGINEER TO BE NECESSARY DUE TO THE FAILURE TO COMPLY WITH DESIGN STANDARDS AND/OR FOR ANY REASON CONCERNING PUBLIC HEALTH AND SAFETY, SHALL BE COMPLETED BY THE APPLICANT, IN LIEU OF REVIEW BY THE DESIGN ENGINEER. A LICENSED PROFESSIONAL ENGINEER MAY BE ENGAGED TO REVIEW THE AS-BUILT PLANS AND CHARGE THE APPLICANT FOR ALL COSTS ASSOCIATED WITH SUCH REVIEW.

3. NO STORMWATER INFILTRATION BASIN SHALL BE PLACED INTO OPERATION UNTIL ITS DRAINAGE AREA HAS BEEN COMPLETELY STABILIZED. INSTEAD, UPSTREAM RUN-OFF SHALL BE DIRECTED INTO TEMPORARY SEDIMENT BASINS. SUCH TEMPORARY FACILITIES AND BASINS SHALL BE INSTALLED AND UTILIZED FOR STORMWATER MANAGEMENT AND SEDIMENT CONTROL UNTIL STABILIZATION IS ACHIEVED IN ACCORDANCE WITH N.J.S.A 4:24-39 ET SEQ & N.J.A.C 2:90-1.1 ET SEQ STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

4. IF FOR ENGINEERING, ENVIRONMENTAL OR SAFETY REASONS, TEMPORARY STORMWATER MANAGEMENT FACILITIES AND SEDIMENT BASINS CANNOT BE CONSTRUCTED ON THE PARCEL IN ACCORDANCE WITH NJAC 7:50-6.84 (a)6v(6)(B), THE STORMWATER INFILTRATION BASIN MAY BE PLACED INTO OPERATION PRIOR TO THE COMPLETE STABILIZATION OF ITS DRAINAGE AREA PROVIDED THAT THE BASIN'S BOTTOM DURING THIS PERIOD IS CONSTRUCTED AT A DEPTH OF AT LEAST TWO FEET HIGHER THAN ITS FINAL DESIGN ELEVATION. WHEN THE DRAINAGE AREA HAS BEEN COMPLETELY STABILIZED, ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE INFILTRATION BASIN, WHICH SHALL THEN BE EXCAVATED TO IT'S FINAL DESIGN ELEVATION.

5. TO AVOID COMPACTING AN INFILTRATION BASIN'S SUBGRADE SOILS, NO HEAVY EQUIPMENT (CONSTRUCTION VEHICLES, INCLUSIVE OF ON AND OFF-ROAD VEHICLES) SHALL BE PERMITTED TO OPERATE WITHIN THE FOOTPRINT OF THE STORMWATER INFILTRATION BASIN. ALL EXCAVATION REQUIRED TO CONSTRUCT A STORMWATER INFILTRATION BASIN SHALL BE PERFORMED BY EQUIPMENT PLACED OUTSIDE THE BASIN. EARTHWORK ASSOCIATED WITH STORMWATER INFILTRATION BASIN CONSTRUCTION, INCLUDING EXCAVATION, GRADING, CUTTING OR FILLING, SHALL NOT BE PERFORMED WHEN SOIL MOISTURE CONTENT IS ABOVE THE LOWER PLASTIC LIMIT.

6. ANY REQUIRED IMPORTED SOILS AND/OR BLENDED SOILS SHALL MEET SOIL PERMEABILITY CLASS K-5. K-5 SOILS HAVE A PERMEABILITY RATE OF BETWEEN 6 AND 20 INCHES PER HOUR PER THE BMP MANUAL. THE CONTRACTOR WILL PROVIDE THE APPROPRIATE DOCUMENTATION FOR IMPORTED SOILS. BLENDED SOILS WILL BE TESTED PRIOR TO INSTALLATION.



GRADING & UTILITY PLAN

SCALE: 1" = 30'

30 0 30 60

scale feet

GRADING & UTILITY NOTES:

1. THE CONTRACTOR SHALL NOTIFY UNDERGROUND LOCATION SERVICE AT 1-800-272-1000 AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF EXCAVATION WORK.
2. EXISTING TOPOGRAPHIC INFORMATION IS BASED ON A SURVEY PERFORMED BY BACH ASSOCIATES ENTITLED "TOPOGRAPHIC SURVEY, BLOCK 57, LOT 18, TOWNSHIP OF MULLICA HILL, GLOUCESTER COUNTY, NEW JERSEY DATED 7/12/24.
3. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE STANDARDS OF THE LOCAL SOIL CONSERVATION DISTRICT, AND AS PER APPROVAL PLAN.
4. PROPOSED GROUND SLOPES SHALL NOT EXCEED 3:1.
5. EXCAVATED MATERIAL USED FOR EMBANKMENTS SHALL CONFORM TO THE STANDARDS OF SECTION 203 OF THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
6. FILL MATERIAL SHALL BE PLACED IN SIX (6) INCH LIFTS AND THOROUGHLY COMPACTED IN ACCORDANCE WITH SECTION 203 OF THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
7. BORROW FILL, IF REQUIRED, SHALL BE IN CONFORMANCE WITH SECTION 203 OF THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
8. ALL GRADING SHALL PROMOTE POSITIVE DRAINAGE FROM BUILDINGS AND STRUCTURES TO DRAINAGE FACILITIES WITHOUT LOW SPOTS THAT CAUSE PONDING.
9. THE MINIMUM SLOPE IN GRASSED AREAS SHALL NOT BE LESS THAN 1% AND THE MINIMUM IN PAVED AREAS SHALL NOT BE LESS THAN 1%.
10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXISTING UTILITIES SHOWN. THE CONTRACTOR SHALL EMPLOY ALL MEANS NECESSARY, INCLUDING TEST PITS, TO LOCATE AND AVOID DAMAGE TO ALL EXISTING UTILITIES WITHIN THE VICINITY OF THE PROPOSED IMPROVEMENTS. SHOULD ANY EXISTING UTILITY BE IN CONFLICT WITH THE PROPOSED IMPROVEMENTS, THE CONTRACTOR SHALL REPORT THE CONFLICT TO THE DESIGN ENGINEER PRIOR TO PROCEEDING WITH ANY CONSTRUCTION.
11. THE CONTRACTOR SHALL RELOCATE, REPAIR, REMOVE, RECONSTRUCT OR REPLACE ALL EXISTING UTILITIES AS REQUIRED FOR THE PROPOSED CONSTRUCTION AND/OR DAMAGED DURING THE CONSTRUCTION OF THE IMPROVEMENTS, AT NO COST TO THE OWNER.
12. BEFORE EXCAVATING THE PROJECT AREA THE CONTRACTOR IS TO VERIFY THE LOCATION OF ANY UNDERGROUND UTILITY (GAS MAINS, WATER MAINS, SEWER LINES, TELEPHONE LINES, ETC.). SHOULD ANY UNDERGROUND UTILITY INTERFERE WITH PROJECT CONSTRUCTION THE ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH WORK. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES THREE (3) DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION FOR ACCURATE FIELD LOCATIONS. FOR UTILITY MARKOUT CALL 1-800-272-1000.
13. VERIFY ALL INDICATED CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE PERFORMING ANY WORK. NOTIFY THE ENGINEER OF ANY CONDITIONS OR DIMENSIONS THAT WOULD PREVENT OR HAMPER THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
13. ALL ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION AND OTHER PUBLIC UTILITY LINES SHALL BE INSTALLED UNDERGROUND. MINIMUM HORIZONTAL CLEARANCE BETWEEN PUBLIC UTILITY LINES AND WATER OR SEWER MAINS SHALL BE THREE (3) FEET.
14. AT THE END OF EACH WORKING DAY, THE CONTRACTOR SHALL BACKFILL HIS TRENCH AND PROTECT THE PUBLIC FROM THE WORK AREA. NO TRENCHES SHALL REMAIN OPEN OVERNIGHT.
15. ALL GRAVITY SANITARY SEWER MAIN AND LATERALS SHALL BE PVC PIPE, SDR-35 CONFORMING TO ASTM D-3034 WITH PUSH-ON JOINTS, UNLESS OTHERWISE SPECIFIED. MINIMUM COVER OVER PVC AND DUCTILE IRON SANITARY SEWER MAINS AND LATERALS SHALL BE THREE (3) FEET WHEREVER POSSIBLE. ALL SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS DETAILED.
16. EXISTING SANITARY SEWER AND WATER SERVICE LATERALS SHALL BE REMOVED WHERE INDICATED ON THE PLAN. THE EXISTING LATERALS SHALL BE CAPPED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPONSIBLE MUNICIPAL UTILITY AUTHORITY. THE CONTRACTOR SHALL MAINTAIN THE EXISTING SERVICES UNTIL THE PROPOSED BUILDING IS OCCUPIED.
17. ROOF DRAINS SHALL BE PVC SDR-35 CONFORMING TO ASTM D-3034.
18. THE USE OF HEAVY EQUIPMENT WITHIN THE BASIN IS TO BE LIMITED AN SHOULD BE NOTED ON PROJECT PLANS.
19. WATER MAINS AND SANITARY SEWER SHALL BE SEPARATED BY 10 FEET HORIZONTALLY WHEREVER POSSIBLE. OTHERWISE, THE SEWER AND WATER SHALL BE IN SEPARATE TRENCHES WITH THE SEWER 18" BELOW THE BOTTOM OF THE WATER MAIN. AT WATER AND SEWER CROSSINGS, THE SEWER SHALL BE 18" MINIMUM WHEREVER POSSIBLE BELOW THE WATER OR SEWER MAIN SHALL BE C.L.D.I.P. WITH SLIP-ON JOINTS AND ENCASED IN CONCRETE FOR 10 FEET MINIMUM ON EACH SIDE OF THE CROSSING. WHERE SANITARY SEWER CROSS OVER OR WITHIN 18" UNDER A STORM PIPE, THE SANITARY SEWER SHALL BE C.L.D.I.P. WITH SLIP-ON JOINTS AND ENCASED IN CONCRETE FOR 10 FEET EACH SIDE OF THE CROSSING.
20. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, SERVICE SIZED TO BE DETERMINED BY ARCHITECT.
21. CONTRACTOR TO CONFIRM THE HORIZONTAL LOCATION AND VERTICAL ELEVATION OF UTILITIES BEING CROSSED OR CONNECTED INTO PRIOR TO CONSTRUCTION. THE ENGINEER SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES OR CLEARANCE ISSUES PRIOR TO PROCEEDING WITH CONSTRUCTION.
22. CLEAN OUTS AND CURB BOXES WITHIN THE PAVED AREAS MUST HAVE TRAFFIC LOADING FRAMES AND COVERS.
23. ALL INLET GRATES SHALL BE BICYCLE-SAFE GRATES.
24. A TELEVISION INSPECTION OF THE STORM DRAIN SYSTEM REQUIRED AS CONDITION OF FINAL APPROVAL.
25. A POST-CONSTRUCTION PERCOLATION TEST IS TO BE PROVIDED TO ENSURE THAT THE DESIGN INTENT HAS BEEN MET.
26. THE USE OF TRACK-DRIVEN VEHICLES SHALL BE PROHIBITED IN THE BOTTOM OF THE PROPOSED INFILTRATION BASIN'S.
27. GRADES ALONG ALL ENTRANCE APPROACHES AND ALONG ALL SIDEWALKS SHALL NOT HAVE A X-SLOPE THAT EXCEEDS 2% OR A LONGITUDAL SLOPE THAT EXCEEDS 5%.

REFER TO DRAWING NUMBER SP-8 FOR BASIN OUTLET STRUCTURE DETAILS

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HARRISON TOWNSHIP EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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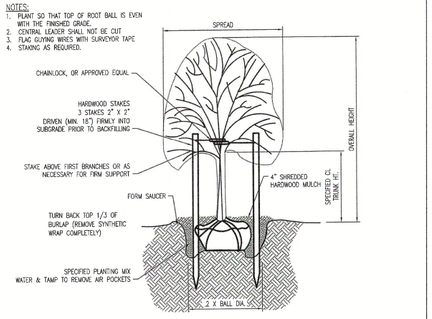
DRAWING TITLE:

GRADING DRAINAGE & UTILITY PLAN

JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
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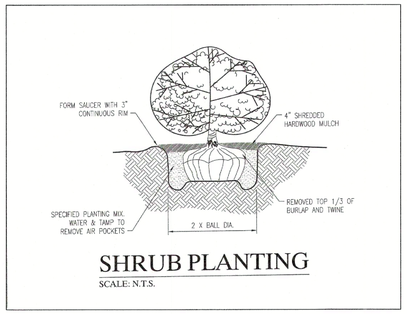
DRAWING NUMBER:

SP-3



TREE PLANTING - GUY WIRES

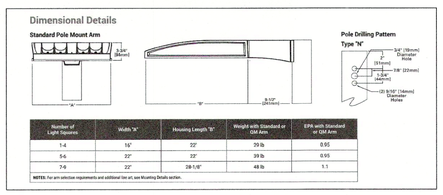
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SHRUB PLANTING

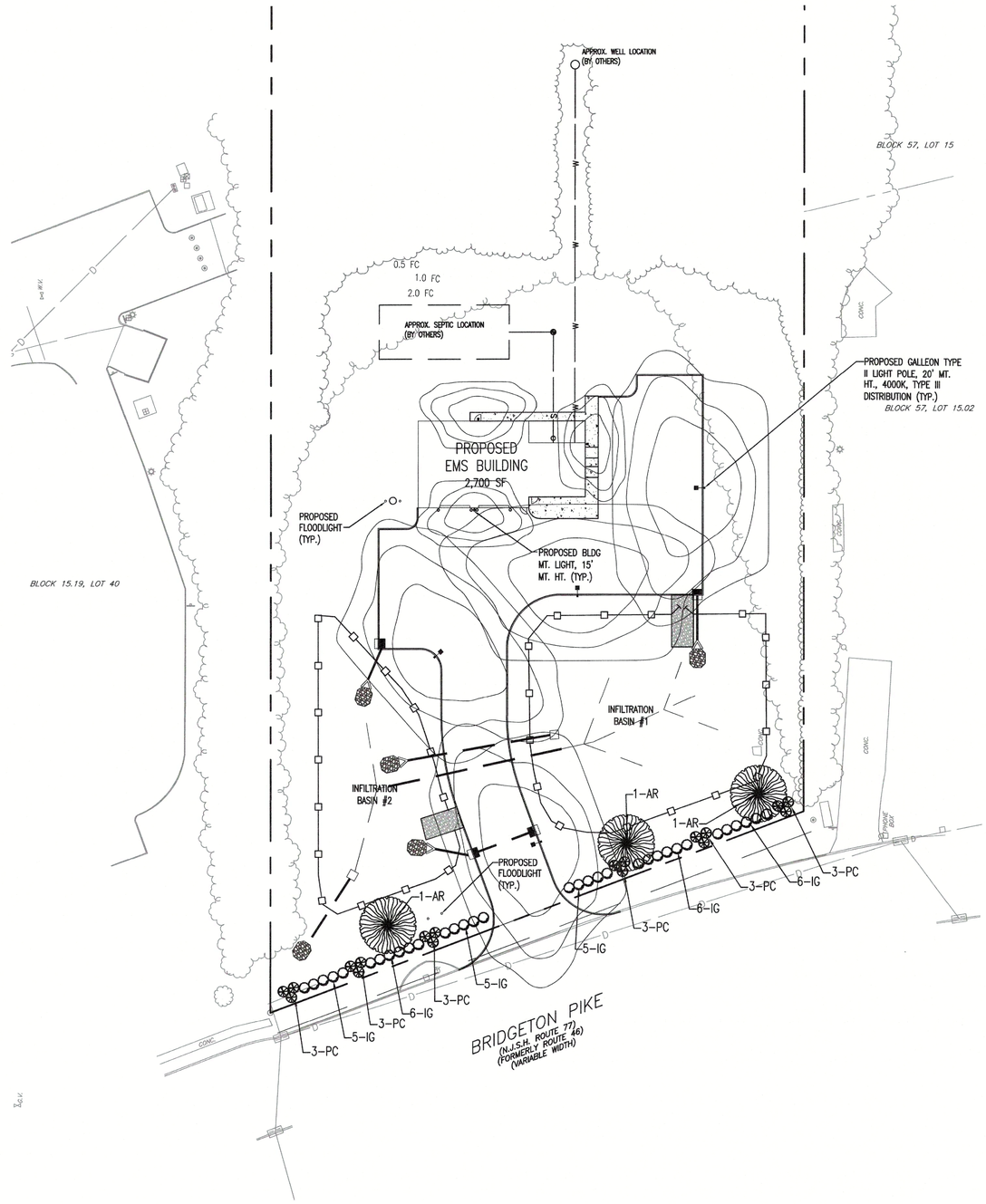
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Number of Light Squares	Width "A"	Housing Length "B"	Weight with Standard or QM Arm	EPA with Standard or QM Arm
1-4	16"	22"	39 lb	0.55
5-6	22"	22"	39 lb	0.55
7-8	22"	28-1/8"	48 lb	1.1

NOTES: For arm selection requirements and additional tenon arc, see Mounting Details section.



LANDSCAPE & LIGHTING PLAN

SCALE: 1" = 30'

30 0 30 60
scale feet

LANDSCAPE & LIGHTING NOTES

1. ALL DISTURBED AREAS ARE TO BE STABILIZED WITH 4" OF TOPSOIL IN ADDITION TO BEING SEEDED WITH THE FOLLOWING SEED MIXTURE (AFTER FINAL GRADING):

   10% RAM 1 KENTUCKY BLUE GRASS (POA PRANTENSIS)
   70% JAMESTOWN CHEWING FESCUE (FESCUE RUBRA VAR. CUMMUTATA)
   20% PALMER PERENNIAL RYEGRASS (LOLIUM PERENNE)

   THIS MIXTURE IS ALSO KNOWN AS THE "TRI-PLEX SHADE" MIXTURE AS MANUFACTURED BY LOFT, INC., BOUND BROOK, NJ 08805. THIS SEED MIXTURE IS TO BE APPLIED AT A RATE OF 170 LBS./AC. (4 LBS/1000 S.F.) RECOMMENDED PLANTING DATES ARE FROM 4/1 - 5/31 OR 8/1 - 10/15.

2. ALL SEEDED AREAS SHALL BE LIMED AND FERTILIZED AT THE RATE DETERMINED BY SOIL ANALYSIS AND APPROVED BY THE MUNICIPAL ENGINEER OR THE SOIL CONSERVATION DISTRICT, OR AT THE RATES SPECIFIED ON THE "SOIL EROSION AND SEDIMENT CONTROL AND DRAINAGE AREA PLAN".

3. IT SHALL BE THE RESPONSIBLITY OF THE CONTRACTOR TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION AND RATES OF APPLICATION AT THE REQUEST OF THE SOIL CONSERVATION DISTRICT.

4. ALL PLANT MATERIAL SHALL BE CONTAINED IN PLANTING BEDS MULCHED CONTINUOUSLY WITH FOUR (4) INCHES OF SHREDDED HARDBARK MULCH OR AN APPROVED EQUAL.

5. LOCATION OF PROPOSED PLANT MATERIAL MAY BE ADJUSTED IN FIELD BY THE LANDSCAPE CONTRACTOR ONLY WITH APPROVAL OF THE LANDCSAPE ARCHITECT OR APPROVING ENGINEER.

6. PLANT MATERIAL SHALL NOT BE INSTALLED WITHIN TEN (10) FEET OF SANITARY SEWER LINES, IN BOTTOM OF DRAINAGE SWALES, DIRECTLY OVER ANY EXISTING UNDERGROUND UTLITY, OR UNDER OVERHEAD UTILITIES.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES.

8. ALL SHADE TREES SHALL BE PLANTED IN A DORMANT STATE.

9. THE BURLAP SHALL BE REMOVED FROM THE TOP 1/3 OF THE ROOT BALL FOR BALLED AND BURLAPPED MATERIALS; AND FOR CONTAINER MATERIALS THE PLANT AND ROOT MASS SHALL BE REMOVED FROM THE CONTAINER.

10. THE PLANTING HOLE BACKFILL MIX SHALL CONSIST OF 2 PARTS TOPSOIL, 1 PART PEAT MOSS, EXCEPT IN WET SOILS WHERE SAND WILL REPLACE THE PEAT MOSS.

11. ALL PLANT MATERIAL SHALL BE WATERED UNTIL SOAKED IMMEDIATELY AFTER PLANTING.

12. ALL PLANT MATERIAL SHALL BE MAINTAINED SO AS NOT TO ALLOW VEGETATIVE GROWTH TO ENCROACH UPON OR HINDER THE NECESSOR, PRACTICAL VIEWSHEDS REQUIRED BY PEDESTRIANS, AUTOMOBILES, CYCLISTS AND THE LIKE WITHIN THEIR NORMAL CIRCULATION PATTERNS.

13. ALL MAINTENANCE SHALL BE PERFORMED IN ACCORDANCE WITH COMMONLY ACCEPTED HORTICULTURAL PRACTICES.

14. ALL SELECTIVE TRIMMING AND PRUNING SHALL BE DONE IN SUCH A MANNER SO AS TO MAINTAIN THE NATURAL HABITAT OF THE SPECIES; AT NO TIME ARE PLANT MATERIALS TO BE "SHEARED" OR "HEDGED" UNLESS SAID PLANTINGS ARE NOTED TO BE MAINTAINED AS SUCH ON THE PLAN.

15. SEE SOIL EROSION & SEDIMENT CONTROL PLAN FOR GRASS SEEDING MIXTURE, RATES OF APPLICATION AND/OR SOD COMPOSITION.

16. ALL PLANTS AND PLANTING STANDARDS SHALL CONFORM TO OR SURPASS MINIMUM QUALITY STANDARDS AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, CURRENT EDITION OF AMERICAN STANDARD FOR NURSERY STOCK.

17. SHOULD A SPECIES BE UNAVAILABLE AT THE TIME OF INSTALLATION, ALL SUBSTITUTIONS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT OR APPROVING ENGINEER.

18. A FOUR (4) FOOT HIGH PLASTIC SNOWFENCE SHALL BE INSTALLED ALONG THE DRIPLINE OF ALL TREES TO REMAIN PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

19. ALL ASPHALT OR CONCRETE SHALL BE COMPLETELY REMOVED TO ITS FULL DEPTH AND TOPSOIL ADDED TO ANY AREA PROPOSED FOR PLANTINGS THAT IS PRESENTLY PAVED.

20. ALL PLANTS EXCEPT GROUND COVER SHALL BE PLACED TWO FEET FROM CURB LINES IF VEHICLES OVERHANG THE AREA.

21. IN THE EVENT THAT DISCREPENCIES OCCUR BETWEEN THE QUANTITIES OF PLANTS INDICATED ON THE PLANT LIST AND AS INDICATED ON THE PLAN, THE PLANT QUANTITIES ON THE PLAN SHALL GOVERN.

22. ALL PROPOSED PLANT MATERIAL SHALL BE FULLY GUARANTEED FOR TWO (2) YEARS FROM DATE OF INSTALLATION AND SHALL BE IN A HEALTHY AND VIGOROUS CONDITION. ANY PLANT MATERIAL WHICH DIES WITHIN THAT PERIOD SHALL BE REPLACED WITH THE SAME SIZE AND SPECIES OF PLANT MATERIAL DURING THE NEXT GROWING SEASON.

23. LIGHT POLE LOCATIONS ARE APPROXIMATE. LIGHTING CONTRACTOR SHALL ADJUST LIGHTING DESIGN AS NECESSARY TO ACHIEVE OPTIUM LIGHT COVERAGE AT THE SITE.

LANDSCAPE SCHEDULE

KEY	QTY	BONTANICAL NAME	COMMAN NAME	SIZE	CALIPER	ROOT	COMMENTS
AR	3	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY MAPLE	14'-16'	2.5"-3"	B&B	BRANCHED 7' TO 9' HIGH
IG	33	ILEX GLABRA 'COMPACTA'	COMPACTA INKBERRY HOLLY	30"-36"		CONTAINER	NONE
PC	18	PRUNUS X CISTINA	PURPLE LEAF SAND CHERRY	3'-4'		CONTAINER	NONE

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NJ PROFESSIONAL PLANNER No. LI 05557
NJ PROFESSIONAL SURVEYOR No. No. 43504

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PRELIMINARY & FINAL MAJOR SITE PLAN
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EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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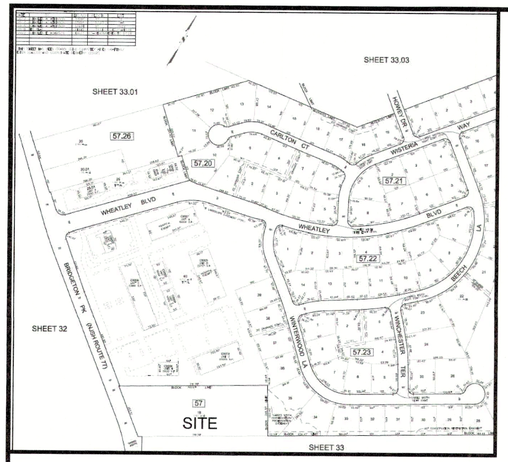
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LANDSCAPE & LIGHTING PLAN

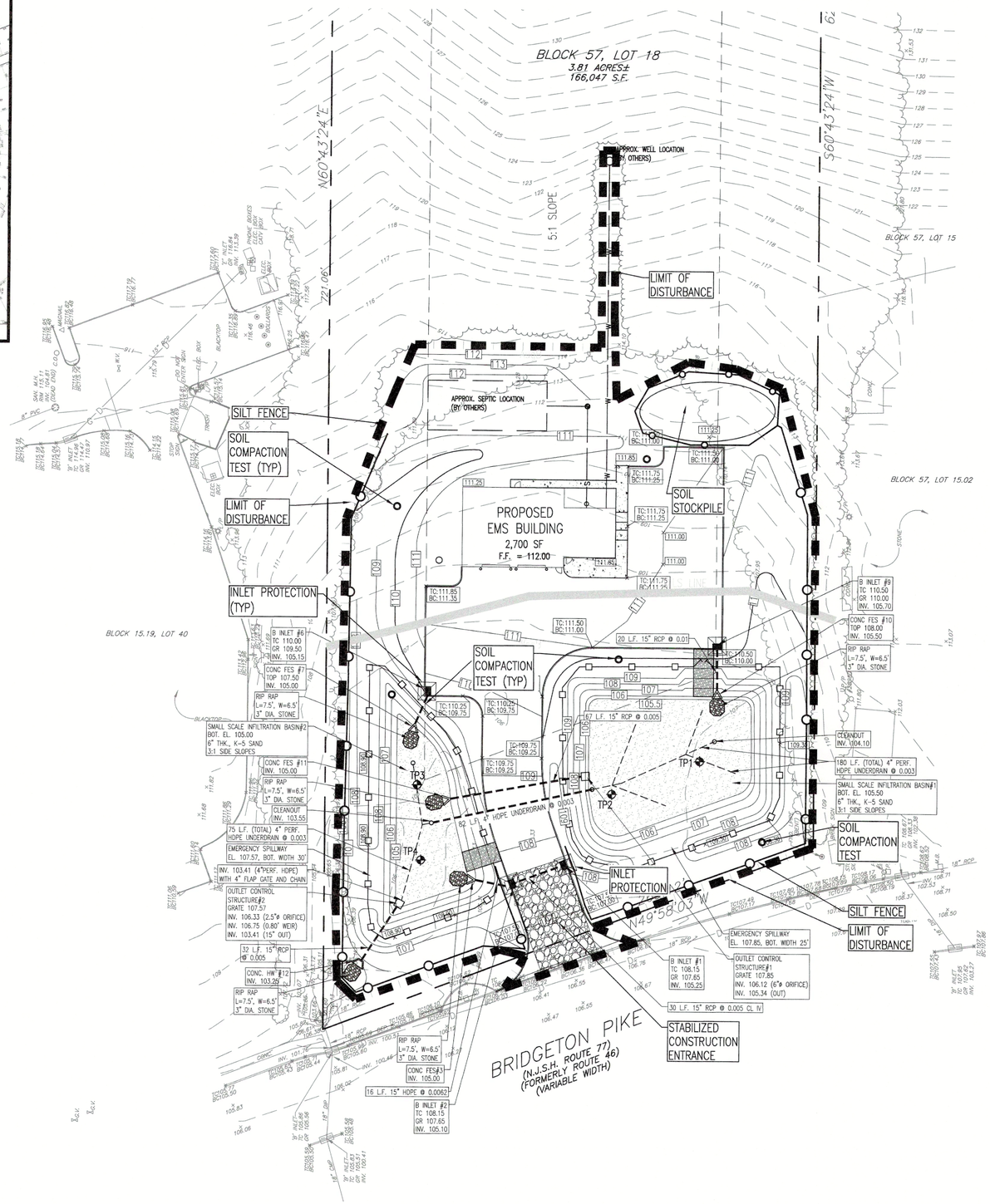
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DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:

SP-4



LOCATION MAP
NTS



SOIL EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 30'

30 0 30 60
scale feet

LEGEND

- INLET PROTECTION
- SILT FENCE
- LIMIT OF DISTURBANCE
- SOIL COMPACTION TEST LOCATION

LIMIT OF DISTURBANCE = 2.02 ACRES

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DRAWING TITLE:

SOIL EROSION & SEDIMENT CONTROL PLAN

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DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:

SP-5

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

1. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY GRADING OPERATION AND/OR INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
2. SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
3. APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
4. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE.
5. ANY DISTURBED AREA THAT IS TO BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH THE NEW JERSEY STANDARDS AND THEIR RATES SHOULD BE INCLUDED IN THE NARRATIVE. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
6. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION AND RATES OF APPLICATION AT THE REQUEST OF THE GLOUCESTER SOIL CONSERVATION DISTRICT.
7. ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE ACCORDING TO THE NEW JERSEY STANDARDS IMMEDIATELY FOLLOWING ROUGH GRADING.
8. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
9. ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
10. A CRUSHED STONE, TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE STABILIZED PAD WILL BE INSTALLED ACCORDING TO THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS.
11. ALL DRIVEWAYS MUST BE STABILIZED WITH 2-½" CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT CONSTRUCTION.
12. PAVED AREAS MUST BE KEPT CLEAN AT ALL TIMES.
13. ALL CATCH BASIN INLETS WILL BE PROTECTED ACCORDING TO THE CERTIFIED PLAN.
14. ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
15. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA. THE SEDIMENT FILTER SHOULD BE COMPOSED OF A SUITABABLE SEDIMENT FILTER FABRIC. (SEE DETAIL). THE BASIN MUST BE DEWATERED TO NORMAL POOL WITHIN 10 DAYS OF THE DESIGN STORM.
16. NJSA 4:24-39, ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE ALL PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR THE PROJECT MUST BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE A PREREQUISITE TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
17. MULCHING IS REQUIRED ON ALL SEEDED AREAS TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATION COVER.
18. OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
19. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
20. THE GLOUCESTER SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY LAND DISTURBANCE.
21. ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLAN TO ANY SUBSEQUENT OWNERS.
22. IMMEDIATELY AFTER THE COMPLETION OF STRIPPING AND STOCKPILING OF TOPSOIL, THE STOCKPILE MUST BE STABILIZED ACCORDING TO THE STANDARD FOR TEMPORARY VEGETATIVE COVER. STABILIZE TOPSOIL STOCKPILE WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING. ALL SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY AND THE BASE MUST BE PROTECTED WITH A SEDIMENT BARRIER.
23. ANY CHANGES TO THE SITE PLAN WILL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE GLOUCESTER SOIL CONSERVATION DISTRICT. THE REVISED PLAN MUST BE IN ACCORDANCE WITH THE CURRENT NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.
24. METHODS FOR THE MANAGEMENT OF HIGH ACID PRODUCING SOILS SHALL BE IN ACCORDANCE WITH THE STANDARDS. HIGH ACID PRODUCING SOILS ARE THOSE FOUND TO CONTAIN IRON SULFIDES OR HAVE A PH OF 4 OR LESS.
25. TEMPORARY AND PERMANENT SEEDING MEASURES MUST BE APPLIED ACCORDING TO THE NEW JERSEY STANDARDS, AND MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
26. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
27. DUST IS TO BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO THE NEW JERSEY STANDARDS AND MAY INCLUDE WATERING WITH A SOLUTION OF CALCIUM CHLORIDE AND WATER.
28. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
29. USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES WHERE APPLICABLE.
30. ALL VEGETATIVE MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH AMERICAN STANDARDS FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF THE NURSERYMAN AND IN ACCORDANCE WITH THE NEW JERSEY STANDARDS.
31. NATURAL VEGETATION AND SPECIES SHALL BE RETAINED WHERE SPECIFIED ON THE LANDSCAPING PLAN.
32. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
33. CONTRACTOR TO UTILIZE A MECHANICAL SWEEPER WEEKLY FOR DUST CONTROL ALONG HAUL ROUTES AND IN AREAS MADE AVAILABLE FOR CONSTRUCTION ACTIVITIES.

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION:

DEFINITION

ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON SOILS EXPOSED FOR PERIODS OF TWO TO 6 MONTHS WHICH ARE NOT BEING GRADED, NOT UNDER ACTIVE CONSTRUCTION OR NOT SCHEDULED FOR PERMANENT SEEDING WITHIN 60 DAYS.

PURPOSE

TO TEMPORARILY STABILIZE THE SOIL AND REDUCE DAMAGE FROM WIND AND WATER EROSION UNTIL PERMANENT STABILIZATION IS ACCOMPLISHED.

WATER QUALITY ENHANCEMENT

PROVIDES TEMPORARY PROTECTION AGAINST THE IMPACTS OF WIND AND RAIN, SLOWS THE OVERLAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE

ON EXPOSED SOILS THAT HAVE THE POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

1. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 19-1.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. SEEDBED PREPARATION

A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 PONDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUABLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TEST INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. TABLE BELOW IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION.

SOIL TEXTURE	TONS/ACRE	LBS./1,000 S.F.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.

C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AS ABOVE.

D. SOILS HIGH ON SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1 OF THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

3. SEEDING

A. SELECT SEED FROM RECOMMENDATIONS IN TABLE.

SEED TYPES	SEEDING RATES 1* (POUNDS)		OPTIMUM SEEDING DATE 2* BASED ON PLANT HARDINESS ZONE 3*			OPTIMUM SEED DEPTH 4* (INCHES)
	PER ACRE	PER 1,000 SQ. FT.	ZONE 5	ZONE 6	ZONE 7	
COOL SEASON GRASSES						
PERENNIAL RYEGRASS	170	4.0	3/15 - 6/1 & 8/1 - 9/15	3/1 - 5/15 & 8/15 - 10/1	2/15 - 5/1 & 8/15 - 10/15	0.5
SPRING OATS	86	2.0	3/15 - 6/1 & 8/1 - 9/15	3/1 - 5/15 & 8/15 - 10/1	2/15 - 5/1 & 8/15 - 10/15	1.0
WINTER BARLEY	96	2.2	8/1 - 9/15	8/15 - 10/1	8/15 - 10/15	1.0
WINTER CEREAL RYE	112	2.8	8/1 - 11/1	8/1 - 11/15	8/1 - 12/15	1.0
WARM SEASON GRASSES						
PEARL MILLET	20	0.5	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	1.0
MILLET (GERMAN OR HUNGARIAN	30	0.7	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	1.0
WEEPING LOVEGRASS	5	0.2	6/1 - 8/1	5/15 - 8/15	5/1 - 9/1	0.25

1* SEEDING RATE FOR WARM SEASON GRASS, SHALL BE ADJUSTED TO REFLECT THE AMOUNT OF PURE LINE SEED (PLS) AS DETERMINED BY A GERMINATION TEST RESULT. NO ADJUSTMENT IS REQUIRED FOR COOL SEASON GRASSES.
2* MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR CAN BE IRRIGATED.
3* PLANT HARDINESS ZONE (SEE BELOW)
4* TWICE THE DEPTH FOR SANDY SOILS

ZONE 5B (-10 TO -15)
PORTIONS OF SUSSEX AND WARREN COUNTIES

ZONE 6A (-5 TO -10)
PORTIONS OF SUSSEX, WARREN, PASSAIC, MORRIS, SOMERSET AND HUNTERDON COUNTIES.

ZONE 6B (0 TO -5)
PORTIONS OR BERGEN, CAMDEN, ESSEX AND GLOUCESTER, HUNTERDON, MERCER, MIDDLESEX, HUDSON,MONMOUTH, OCEAN, BURLINGTON, MORRIS, PASSAIC, SOMERSET, UNION, ATLANTIC, CUMBERLAND, AND CAPE MAY COUNTIES.

ZONE 7A (5 TO 0)
PORTIONS OF CAMDEN, GLOUCESTER, SALEM, CUMBERLAND, CAPE MAY, ATLANTIC, BURLINGTON, OCEAN, AND MONMOUTH COUNTIES. ZONE 7B (10 TO 5) PORTIONS OF CAPEMAY, ATLANTIC, OCEAN AND MONMOUTH COUNTIES.

B. CONVENTIONAL SEEDING - APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

ACID-PRODUCING SOIL NOTES

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID-PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID-PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID-PRODUCING SOIL.
5. HIGH ACID-PRODUCING SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A PH OF 5.0 OR MORE EXCEPT AS FOLLOWS:
   a. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A PH OR 5 OR MORE.
   b. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES, AND OTHERS, TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

DUST CONTROL

DUST IS TO BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO THE NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL. THE FOLLOWING METHODS SHOULD BE CONSIDERED FOR CONTROLLING DUST:

1. MULCHES* - STANDARD FOR STABILIZATION WITH MULCHES PG 5-1
2. VEGETATIVE COVER* - TEMPORARY VEGEATIVE COVER PG 7-1
3. SPRAY ON ADHESIVES* - PER TABLE 16-1
4. WATERING WITH A SOLUTION OF CALCIUM CHLORIDE AND WATER.

* THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, JANUARY 2014, LAST REVISED AUGUST 2017

4. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. (THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

APPLICATION

SPREAD UNIFORMLY BY HAND MECHANICALLY SO THAT APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.

ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

1. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER (MULCH ANCHORING TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC-HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
4. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT HAY OR STRAW MULCHES.
   a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CREESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
   b. USE ONE OF THE FOLLOWING:
      (1) EMULSIFIED ASPHALT - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, AND CRS-2). APPLY 0.04 GAL./SQ. YD. OR 194 GAL./ACRE ON FLAT SLOPES LESS THAN 8 FEET HIGH. ON SLOPES 8 FEET OR MORE HIGH, USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE. THESE MATERIALS MAY BE DIFFICULT TO APPLY UNIFORMLY AND WILL DISCOLOR SURFACES.
      (2) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED. HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
      (3) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

B. WOOD-FIBER OR PAPER-FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH THE SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

C. PELLETIZED MULCH. COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZE MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION:

DEFINITION

ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS NEEDED FOR LONG TERM PROTECTION.

PURPOSE

TO PERMANENTLY STABILIZE THE SOIL, ASSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

WATER QUALITY ENHANCEMENT

SLOWS THE OVERLAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE

ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

Table 16-1 Dust Control Materials

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

METHODS AND MATERIALS

1. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 19-1.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. SEEDBED PREPARATION

A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 PONDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUABLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE IN ACCORDANCE WITH THE TABLE BELOW AND THE RESULTS OF SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. TABLE BELOW IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION RATES.

SOIL TEXTURE	TONS/ACRE	LBS./1,000 S.F.
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LOAMY SAND, SAND	1	45

PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREP

MULCHING

FOLLOW SAME STANDARDS AS LISTED UNDER TEMPORARY VEGETATIVE COVER FOR STABILIZATION.

IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF $\frac{1}{2}$ INCH TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

TOPDRESSING

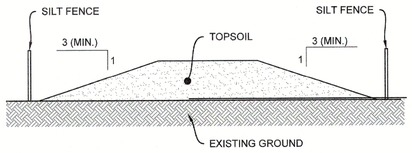
SINCE SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE IS PRESCRIBED IN SECTION II.A. SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GRASS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 400 POUNDS PER 1,000 SQ. FT.

ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATE IS REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THIS RATE APPLIES TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE.

SEQUENCE OF CONSTRUCTION

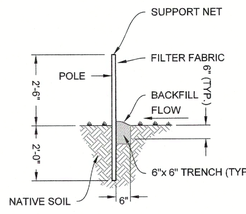
1. MOBILIZE TO SITE.
2. DELINEATE LIMIT OF CONSTRUCTION AREA AND INSTALL ALL TEMPORARY SOIL EROSION MEASURES, INCLUDING INTERIM ROUGH GRADING TO DIVERT STORMWATER RUNOFF AWAY FROM BUILDING PAD AREA; DOWNSTREAM OF ALL DEMOLITION AREAS.
3. UPON INSTALLATION OF ALL TEMPORARY SOIL EROSION MEASURES AND INTERIM GRADING,
4. CONTRACTOR TO CHECK ALL EROSION CONTROL MEASURES AFTER RAIN AND/OR SNOW EVENTS. ANY DAMAGE TO TEMP. CONTROL MEASURES SHALL BE REPAIRED IMMEDIATELY.
5. BEGIN SITE DEMOLITION. THE USE OF TEMPORARY BMP'S WILL NEED TO BE IMPLEMENTED AS SITE CONDITIONS WARRANT DURING THE REMOVAL OF EXISTING PAVEMENT.
6. BEGIN UTILITY RELOCATIONS AND/OR NEW UTILITY CONSTRUCTION IN ACCORDANCE WITH PLANS. IT IS RECOMMENDED THAT THE DEEPEST UTILITIES ARE CONSTRUCTED FIRST. SPOIL MATERIAL GENERATED AS A RESULT OF UTILITY EXCAVATIONS MUST BE CONTAINED WITHIN THE LIMITS OF THE PROJECT AREA. NO CONSTRUCTION MATERIALS AND/OR EQUIPMENT SHALL BE STORED ON OTHER PORTIONS OF THE SITE. ADD TEMPORARY INLET PROTECTION IMMEDIATELY UPON PLACEMENT OF INLET CASTING AND GRATE. STABILIZE AREAS NOT ANTICIPATED/SCHEDULED FOR SITE WORK FOR 60 DAYS WITH TEMPORARY VEGETATION.
7. COMPLETE ALL SITE CLEARING, GRUBBING AND STRIPPING AND STOCKPILE AND STABILIZATION OF TOPSOIL. CLEAR AND EXCAVATE BASIN AREAS.
8. BEGIN CUT/FILL OPERATIONS. EXISTING ROADS USED FOR CONSTRUCTION TRAFFIC MUST BE KEPT CLEAN OF SOIL AND DEBRIS GENERATED BY PROJECT SITE. AT MINIMUM, SAID EXISTING ROADS SHALL BE SWEPT ONCE PER WEEK OR AS DIRECTED BY PROJECT ENGINEER AND/OR GLOUCESTER COUNTY CONSERVATION DISTRICT INSPECTOR.
9. INSTALL STORMWATER CONVEYANCE PIPE, HEADWALLS AND INLETS. INSTALL INLET PROTECTION AND CONDUIT OUTLET PROTECTION AT HEADWALLS. PERMANENTLY STABILIZE BASINS.
10. PERFORM ROUGH GRADING OF THE SITE. INSTALL BUILDING FOUNDATION. CONSTRUCT UTILITY SERVICES, SANITARY SEWER/STORM SEWER PIPING AND STRUCTURES TO 5FT OUTSIDE BUILDING FOOTPRINT.
11. STABILIZE AND LANDSCAPE PORTIONS OF SITE AS COMPLETED. USE TEMPORARY HAY BALES TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING COMPLETED AND/OR STABILIZED AREAS ON SITE.
12. INSTALL UTILITY SERVICES, SANITARY SEWER PIPE AND STRUCTURES.
13. BUILDING CONSTRUCTION (ABOVE FOUNDATION).
14. CONSTRUCT CONCRETE CURB AND ROAD SECTIONS TO BASE COARSE. "BUILD UP" PAVING AROUND CASTINGS WITHIN PAVED AREAS TO PROTECT FROM DAMAGE DURING THIS STAGE OF CONSTRUCTION. BUILDING CONSTRUCTION WILL BE UNDERWAY.
15. INSTALL SITE LIGHTING PER THE PLANS.
16. INSTALL ASPHALT SURFACE COURSE.
17. REMOVE SEDIMENT ACCUMULATED WITHIN PROJECT AREA AND/OR STORM DRAINS WHEN APPROXIMATELY 75% OF UPSTREAM DRAINAGE AREA HAS BEEN DEEMED PERMANENTLY STABILIZED BY CONSERVATION DISTRICT. ALL EXCESS SOILS MAY BE REMOVED FROM THE SITE AND/OR THE BOROUGH UPON THE BOROUGH ENGINEER'S RECOMMENDATION AND THE CLIENTS APPROVAL.
18. INSTALL ALL LANDSCAPE MATERIAL AND RESPREAD TOPSOIL AND PROVIDE PERMANENT VEGETATIVE STABILIZATION OF ALL EXPOSED AREAS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER, PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION.RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MIN. DEPTH) APPROXIMATELY AT THE LOCATIONS SHOWN ON CS8001.
19. AFTER SITE DISTURBED AREAS ARE COMPLETELY STABILIZED IN COMPLIANCE WITH COUNTY SCD SPECIFICATIONS, DEWATER BASINS AND REMOVE SEDIMENT TRAP STONE BERMS AT OUTFALLS AND ACCUMULATED SEDIMENT AT BASIN BOTTOM. SPREAD EXCAVATED SEDIMENT ON SITE AND STABILIZE WITH SEED AND MULCH. MODIFY TOP 1' OF BASIN BOTTOM SOIL TO ACHIEVE PERMEABILITY OF 10"/HR. CONTRACTOR SHALL PERFORM A MINIMUM OF TWO (2) IN-SITU DOUBLE RING INFILTRAMETER TESTS IN BASIN BOTTOM FOOTPRINT ON THE MODIFIED SOIL AND SUBMIT TO THE PROJECT ENGINEER FOR APPROVAL. IF INFILTRATION TEST RESULTS YIELD A RATE BELOW ONE INCH (1") OR HIGHER THEN 20" PER HOUR, CONTRACTOR SHALL OVER EXCAVATE BASIN BOTTOM AND BACK FILL WITH NEW MODIFIED SOIL AND RETEST BASIN MEDIA AS DIRECTED BY ENGINEER TO ACHIEVE DESIRED RATE. AFTER SATISFACTORY INFILTRATION RATES ARE APPROVED BY THE ENGINEER,
20. AFTER SATISFACTORY INFILTRATION RESULTS ARE APPROVED BY THE ENGINEER. INSTALL TOPSOIL, SEED MIX AND MULCH ON ALL DISTURBED AREAS RESULTING FROM BASIN REMEDIATION.
21. ONCE AN ADEQUATE STAND OF VEGETATIVE COVER HAS BEEN ESTABLISHED, TO THE SATISFACTION OF THE DISTRICT INSPECTOR, REMOVE TEMPORARY SOIL EROSION AND SEDIMENT CONTROL BMP'S.



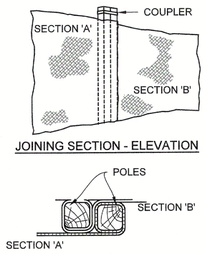
NOTES:
1. TOPSOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE.
2. STOCKPILE SHALL RECEIVE TEMPORARY VEGETATIVE STABILIZATION IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY IMMEDIATELY AFTER COMPLETION OF STOCKPILE.

TOPSOIL STOCKPILE DETAIL

SCALE: NTS



INSTALLATION



JOINING SECTION - ELEVATION

JOINING SECTION - PLAN VIEW

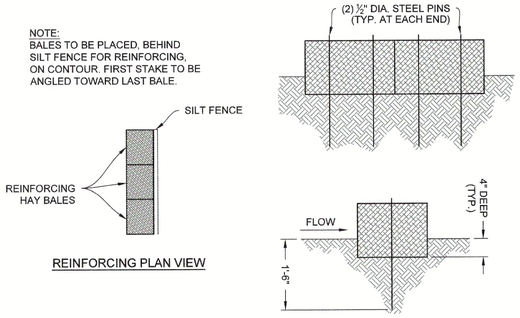
SILT FENCE TO BE USED ON SITE SHALL BE "ENVIROFENCE" PRECONSTRUCTED SILT FENCE OR APPROVED EQUIVALENT.

SPECIFICATIONS ARE:
LENGTH: 100 FT.
FABRIC WIDTH: 3 FT.
POLE LENGTH: 4.5 FT.
POLE SPACING: 7.7 FT.
INSTALLED HEIGHT: 2.5 FT.
SEDIMENT FABRIC: MIRAFI 100.

SILT FENCE DETAIL

SCALE: NTS

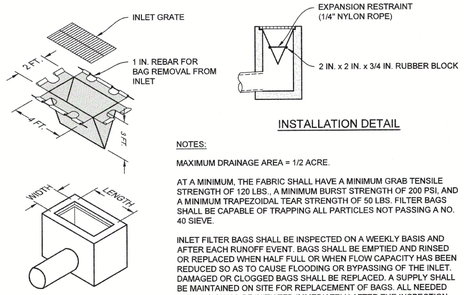
NOTE:
BALES TO BE PLACED, BEHIND SILT FENCE FOR REINFORCING, ON CONTOUR. FIRST STAKE TO BE ANGLED TOWARD LAST BALE.



REINFORCING PLAN VIEW

HAY BALE SEDIMENT BARRIER DETAIL

SCALE: NTS



INSTALLATION DETAIL

ISOMETRIC VIEW

NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

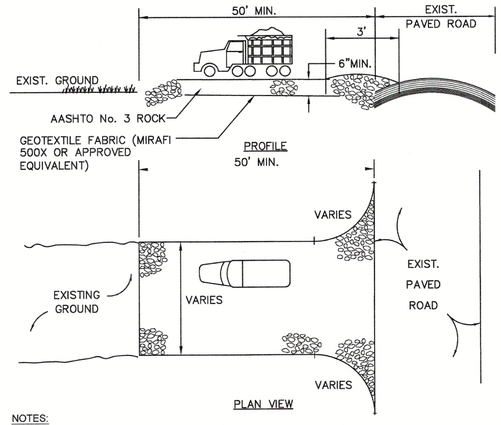
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

INLET FILTER BAGS SHALL HAVE OUTFLOW PORTS.

INLET FILTER BAG PROTECTION DETAIL

SCALE: NTS



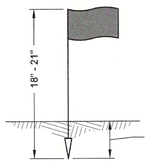
PLAN VIEW

NOTES:

1. STONE SIZE: USE AASHTO #3 ROCK. (2" TO 6")
2. LENGTH: AS REQUIRED BUT NOT LESS THAN FIFTY (50) FEET.
3. THICKNESS: NOT LESS THAN SIX (6) INCHES.
4. WIDTH: TWENTYFIVE (25) FEET MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINT WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE FABRIC: WILL BE PLACED OVER ENTIRE AREA PRIOR TO PLACING OF STONES.
6. SURFACE WATER: ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONES AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY, WHEN WASHING IS REQUIRED IT SHALL BE DONE ON AN APPROVED SEDIMENT TRAPPING DEVICE. INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ROCK CONSTRUCTION ENTRANCE DETAIL

SCALE: NTS



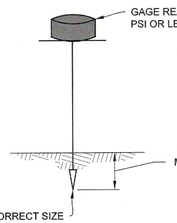
RECORD DEPTH OF PENETRATION WHEN WIRE DEFORMS; MINIMUM DEPTH OF 6" TO PASS TEST. EITHER PREMEDITATE OR PERFORM THE NEXT TEST.

6" MIN. VISIBLE MARK ON WIRE AT DEPTH

PROBING WIRE TEST

15.5 GA STEEL WIRE (SURVEY FLAG)

SCALE: NTS

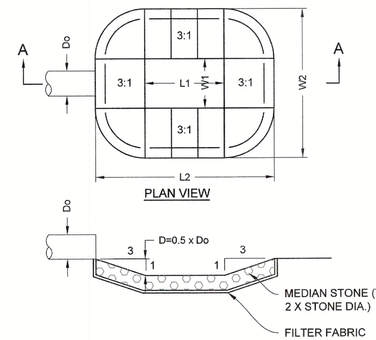


NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURED USED TO ADVANCE THE PROBE. MEASURE DEPTH WHEN GAGE READING REACHES 300 PSI OR DEPTH OF 6 INCHES.

* PENETROMETER MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

HAND HELD SOIL PENETROMETER TEST

SCALE: NTS



SECTION A-A

HEADWALL / FES	Do (IN)	Q (CFS)	L1 (FT)	L2 (FT)	W1 (FT)	W2 (FT)	MEDIAN STONE DIA. (IN)
3	15"	0.47	3.75	7.50	2.50	6.50	3" (MIN.)
7	15"	1.56	3.75	7.50	2.50	6.50	3" (MIN.)
10	15"	2.37	3.75	7.50	2.50	6.50	3" (MIN.)
11	15"	0.72	2.50	7.50	2.50	6.50	3" (MIN.)
12	15"	1.91	2.50	7.50	2.50	6.50	3" (MIN.)

PREFORMED SCOUR HOLE DETAIL

SCALE: NTS

SOIL DE-COMPACTION AND TESTING REQUIREMENTS

SOIL COMPACTION TESTING REQUIREMENTS

1. SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
3. COMPACTION TESTING LOCATIONS ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION REMEDIATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

COMPACTION TESTING METHODS

A. PROBING WIRE TEST (SEE DETAIL)
B. HAND-HELD PENETROMETER TEST (SEE DETAIL)
C. TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)
D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

FURTHER INFORMATION REGARDING SOIL TESTING METHOD OPTIONS ARE LOCATED IN THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, CHAPTER 19,
OR THE WWW.NJ.GOV/AGRICULTURE/DIVISIONS/ANR/NRC/NJEROSION.HTML.

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

PROCEDURES FOR SOIL COMPACTION MITIGATION
PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAYBE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION MITIGATION VERIFICATION FORM

1. THE CONTRACTOR MUST COMPLETE AND SUBMIT A SOIL RESTORATION SELF-CERTIFICATION FORM TO THE GLOUCESTER COUNTY SOIL CONSERVATION DISTRICT (GCSCD) FOR REVIEW AND APPROVAL. CONTRACTOR SHALL PROVIDE A COPY OF GCSCD APPROVAL TO ENGINEER FOR RECORDS.

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURED USED TO ADVANCE WIRE.

* WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

SOIL DECOMPACTION AND TESTING

SCALE: NTS

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NJ REGISTERED ARCHITECT No. AI 14872
NJ PROFESSIONAL PLANNER No. LI 05557
NJ PROFESSIONAL SURVEYOR No. No. 43504

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

PRELIMINARY & FINAL MAJOR SITE PLAN
HARRISON TOWNSHIP
EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

NO.	DESCRIPTION	DATE
1	REV PER SCD REVIEW	8-4-25
2	REV PER NEW LAYOUT	6-29-26
3	REV SITE PLAN	7-16-26
4	REV SITE PLAN	7-28-26
5	ISSUED FOR BIDS	10-26-26

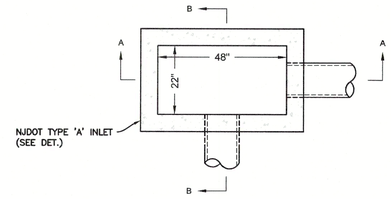
DRAWING TITLE:

SOIL EROSION AND SEDIMENT CONTOL NOTES AND DETAILS

JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:

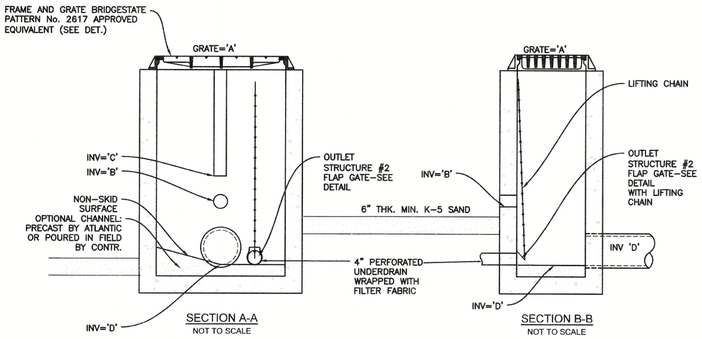
SP-7



PLAN VIEW
NOT TO SCALE

SPECIFICATIONS:
1. THE CONCRETE SHALL BE DESIGNED TO OBTAIN A STRENGTH OF 4,000 PSI IN 28 DAYS.
2. THE REINFORCING STEEL HAS A YIELD STRENGTH OF 60,000 PSI.
3. THE INLET SHALL BE DESIGNED TO MEET ASTM C-913, "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES.
4. THE REINFORCED CONCRETE WALLS AND BASE SLAB ARE DESIGNED FOR A MAXIMUM DEPTH OF 10 FT (DEPTH = F.G. TO TOP OF BASE SLAB).
5. STRUCTURE SHALL BE DESIGNED TO MEET NJDOT SPECS.
6. THE OPTIONAL A-LOK STORM GASKET IS DESIGNED TO MEET THE REQUIREMENTS OF ASTM C-1478, "STORM DRAIN RESILIENT CONNECTORS BETWEEN REINFORCED CONCRETE STORM SEWER STRUCTURES, PIPES, AND LATERALS."

OUTLET STRUCTURE INFORMATION					
BASIN AREA	'A'	'B'	'C'	'D'	SIZE
1	107.85	6" DIA. INV 106.12		105.34	15"
2	107.57	2.5" DIA INV 106.35	0.8' WEIR INV 106.75	103.41	15"



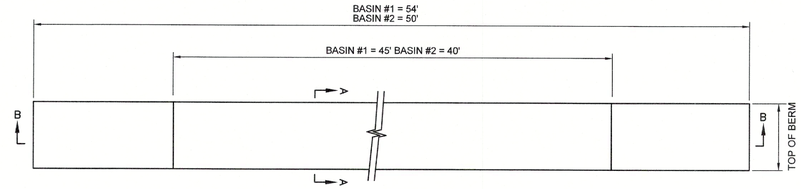
OUTLET STRUCTURE DETAIL
(NJDOT TYPE "A" INLET
SCALE: NTS



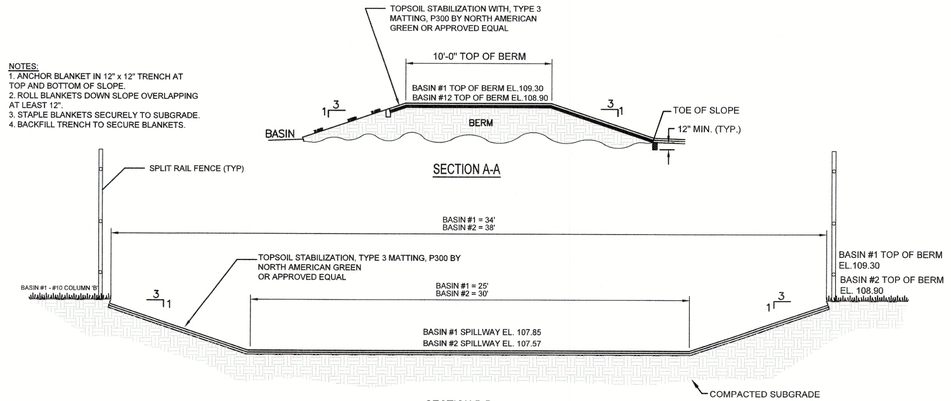
Model name	SKU number	A inch	B inch	LC inch	LO inch	W inch	H inch	OA degrees	Weight lbs.	Fixing kit SKU
GFN-W 02	10026	ø 2	2.8	3.3	7.9	7.5	9.3	110	3	10176
GFN-W 03	10027	ø 3	2.8	3.3	8.8	8.5	10.3	110	4	410177
GFN-W 04	10028	ø 4	2.8	3.3	9.7	9.5	11.3	110	4	10178
GFN-W 05	10029	ø 5	2.8	3.3	10.7	10.5	12.3	110	6	10179
GFN-W 06	10030	ø 6	2.8	3.6	11.6	11.5	13.3	110	6	10180
GFN-W 08	10031	ø 8	2.8	3.6	13.5	13.5	15.3	110	7	10181
GFN-W 10	10032	ø 10	2.8	3.6	15.4	15.5	17.3	110	8	10182
GFN-W 12	10033	ø 12	2.8	3.7	17.3	17.5	19.3	110	10	10183

All dimensions and weights are approximate and are not guaranteed.

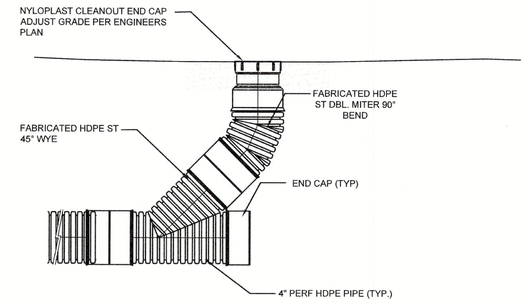
OUTLET STRUCTURE #2 FLAP GATE DETAIL
SCALE: NTS



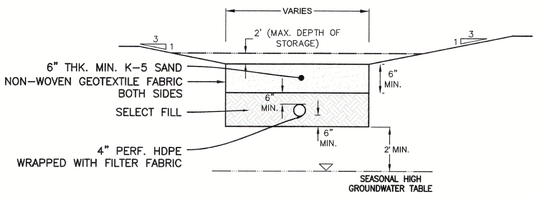
PLAN



BASIN SPILLWAY DETAIL
SCALE: NTS



UNDERDRAIN CLEANOUT DETAIL
SCALE: NTS



TYPICAL SMALL SCALE INFILTRATION BASIN SECTION DETAIL
SCALE: NTS

SMALL SCALE INFILTRATION AREA	PROPOSED BOTTOM ELEV.	ESTIMATED SHW ELEV.	SIDE SLOPES	ORIFICE ELEV.	ORIFICE SIZE	WEIR LENGTH	GRATE ELEV.	WQ STORM ELEV.	2 YEAR STORM ELEV.	10 YEAR STORM ELEV.	100 YEAR STORM ELEV.
BASIN 1	105.50	100.09	3	106.12	6'		107.85 (TYPE "A")	106.12	106.45	106.83	107.81
BASIN 2	105.00	97.67	3	106.33	2.5'	0.8' / EL. 106.75	107.57 (TYPE "A")	106.27	106.46	106.83	107.57

GEOTEXTILE FABRIC SPECIFICATION:
NEEDLED NON-WOVEN POLYPROPYLENE FIBERS MEETING THE FOLLOWING PROPERTIES:
A. GRAB TENSILE STRENGTH (ASTM-D4632) ≥ 120 LBS
B. MULLEN BURST STRENGTH (ASTM-D3786) ≥ 225 PSI
C. FLOW RATE (ASTM-D4491) ≥ 95 GAL/MIN/FT2
D. UV RESISTANCE AFTER 500 HRS (ASTM-D4355) ≥ 70%
E. HEAT-SET OR HEAT-CALENDARED FABRICS ARE NOT PERMITTED

SAND LAYER
1. MINIMUM DEPTH OF SAND IS 6"
2. THE SAND MUST MEET ALL SPECIFICATIONS FOR CLEAN, MEDIUM-GRADE CONCRETE SAND IN ACCORDANCE WITH AASHTO M-6 OR ASTM C-33.
3. MINIMUM TESTED PERMEABILITY RATE FOR SAND IS 20 IN/HR

GENERAL MAINTENANCE
1. ALL STRUCTURAL COMPONENTS MUST BE INSPECTED, AT LEAST ONCE ANNUALLY FOR CRACKING, SUBSIDENCE, EROSION AND DETERIORATION.
2. SEDIMENT REMOVAL SHOULD TAKE PLACE WHEN THE BASIN IS COMPLETELY DRY.
3. IF THE INFILTRATION BASIN FAILS TO INFILTRATE THE WQ DESIGN STORM WITHIN 72 HRS, CORRECTIVE ACTION MUST BE TAKEN. ANNUAL TILLING OF THE SAND LAYER, USING LIGHTWEIGHT EQUIPTMENT, MAY ASSIST IN MAINTAINING THE INFILTRATION CAPACITY.

SEQUENCE OF INFILTRATION SYSTEM CONSTRUCTION:
1. CLEARLY DELINEATE THE PROPOSED INFILTRATION AREAS BEFORE BEGINNING ANY EARTH MOVING ACTIVITIES TO AVOID COMPACTION. AREAS SHALL BE SURROUNDED BY FABRIC FILTER FENCING TO AVOID ANY SEDIMENT FROM BUILDING UP.
2. COMPLETE THE SITE ROUGH GRADING AND STABILIZE THE DISTURBED AREAS. DO NOT FINALIZE INFILTRATION AREA EXCAVATION AND CONSTRUCTION UNTIL THE DRAINAGE AREA IS FULLY STABILIZED.
3. HEAVY EQUIPMENT SHALL NOT BE USED WITHIN THE INFILTRATION BASIN FOOTPRINT. ALL EQUIPMENT SHALL BE KEPT OUT OF THE EXCAVATED AREA.
4. INSTALL THE OVERFLOW INLETS.

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NJ PROFESSIONAL PLANNER No. LI 05557
NJ PROFESSIONAL SURVEYOR No. No. 43504

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:
PRELIMINARY & FINAL MAJOR SITE PLAN
HARRISON TOWNSHIP
EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, GLOUCESTER COUNTY, NEW JERSEY

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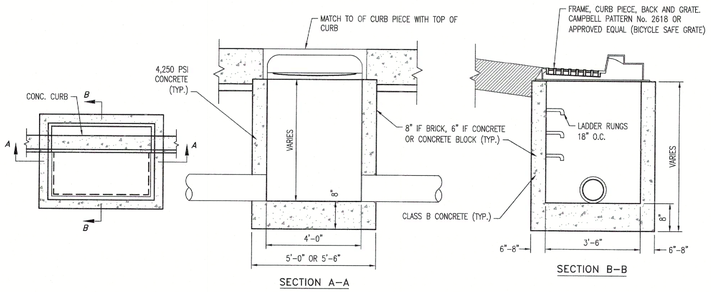
REVISIONS		
NO.	DESCRIPTION	DATE
1	REV PER SCD REVIEW	8-4-25
2	REV PER NEW LAYOUT	6-29-26
3	REV SITE PLAN	7-16-26
4	REV SITE PLAN	7-28-26
5	ISSUED FOR BIDS	10-26-26

DRAWING TITLE:

STORMWATER BASIN DETAILS

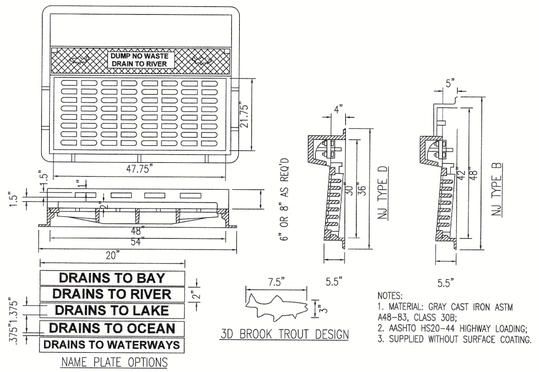
JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD
DRAWING NUMBER:	

SP-8



TYPE "B" INLET DETAIL

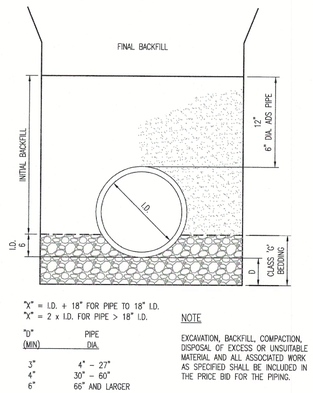
SCALE: NTS



NOTES:
1. MATERIAL: GRAY CAST IRON ASTM A48-83, CLASS 30B;
2. AASHTO HS20-44 HIGHWAY LOADING;
3. SUPPLIED WITHOUT SURFACE COATING.

TYPE 'N - ECO CURB PIECE' CURB INLET w/ BICYCLE SAFE GRATES

SCALE: NTS



"X" = I.D. + 18" FOR PIPE TO 18" I.D.
"X" = 2 x I.D. FOR PIPE > 18" I.D.

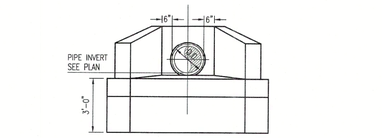
"D" (MIN)	PIPE DIA.
3"	4" - 27"
4"	30" - 60"
6"	66" AND LARGER

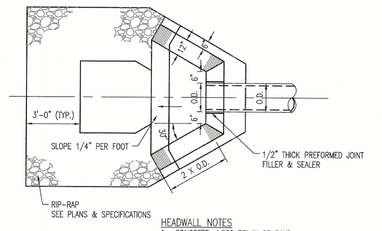
NOTE

EXCAVATION, BACKFILL, COMPACTION, DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL AND ALL ASSOCIATED WORK AS SPECIFIED SHALL BE INCLUDED IN THE PRICE BID FOR THE PIPING.

INITIAL TRENCH BACKFILLING

SCALE: NTS

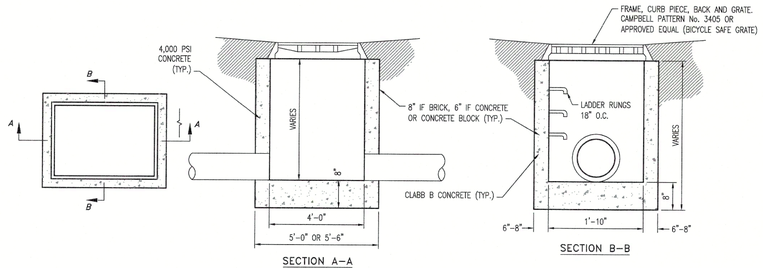




HEADWALL NOTES
1. CONCRETE, 4,250 PSI IN 28 DAYS.
2. REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60.
3. CHAMFER ALL EXPOSED EDGES 1".

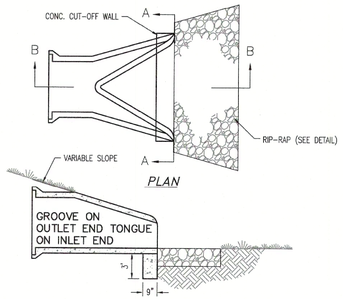
CONCRETE HEADWALL

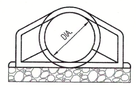
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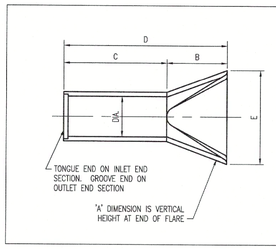


TYPE "A" INLET DETAIL

SCALE: NTS







DIA.	WEIGHT PER SECTION (LBS)	SLOPE	A	B	C	D	E
12"	530	3 TO 1	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"
15"	740	3 TO 1	6"	2'-0"	3'-10"	6'-1"	2'-6"
18"	990	3 TO 1	9"	2'-3"	3'-10"	6'-1"	3'-6"
21"	1284	3 TO 1	9"	3'-0"	3'-1 1/2"	6'-1 1/2"	3'-6"
24"	1520	3 TO 1	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"
27"	1932	3 TO 1	10 1/2"	4'-1 1/2"	2'-0"	6'-1 1/2"	4'-6"
30"	2190	3 TO 1	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"
36"	4100	3 TO 1	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"
42"	5380	3 TO 1	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"
48"	6550	3 TO 1	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"
54"	8240	2.4 TO 1	2'-3"	5'-5"	2'-9 1/4"	8'-2 1/4"	7'-0"

FLARED END SECTION SCHEDULE

NOTES

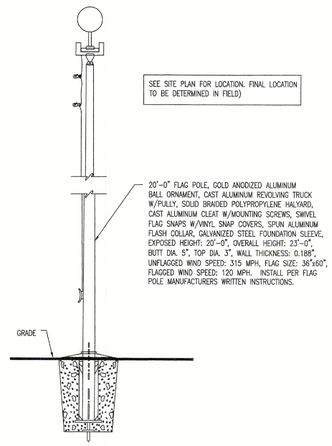
1. END SECTION SHALL BE OF THE SAME MATERIAL AS THE PIPE OR PIPE ARCH CULVERT TO WHICH IT IS ATTACHED.

2. SIZE AND DIMENSIONS OF CONCRETE END SECTION VARIES WITH DIA. OF PIPE.

3. ALL RIP RAP TO BE DESIGNED IN ACCORDANCE WITH STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

CONCRETE FLARED END SECTION

SCALE: NTS



FLAGPOLE DETAIL

SCALE: NTS

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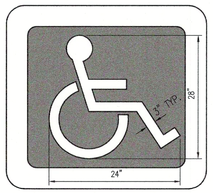
DRAWING TITLE:

CONSTRUCTION DETAILS

JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:

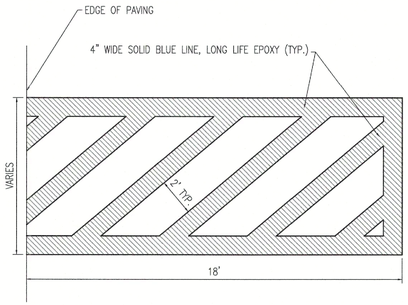
SP-9



PAINT SYMBOL WITH BLUE BACKGROUND AND WHITE BORDER (LONG LIFE EPOXY)

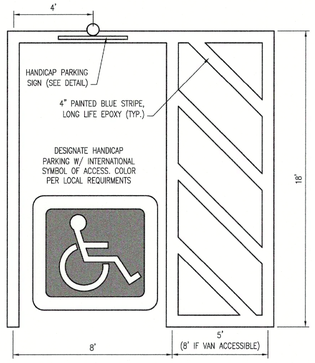
HANDICAPPED PARKING SYMBOL

SCALE: NTS



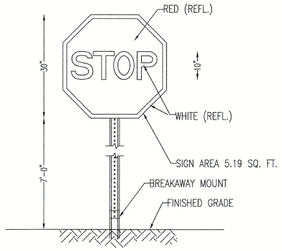
PAINTED HANDICAPPED ACCESS AISLE DETAIL

SCALE: NTS



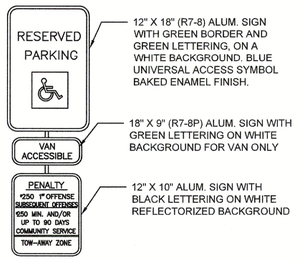
HANDICAPPED PARKING LAYOUT

SCALE: NTS



STOP SIGN (R1-1)

SCALE: NTS
W/ BREAKAWAY MOUNT



NOTES:
1. ALL SIGN MATERIALS SHALL BE MADE OF ALUMINUM BLANKS MOUNTED TO BUILDING. ALL CONFORMING TO NJDOT STANDARD SPECIFICATIONS.
2. ALL SIGNS SHALL MEET THE MOST CURRENT MUTCD REQUIREMENTS FOR RETRO-REFLECTIVITY.

HANDICAPPED PARKING SIGN

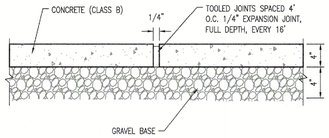
SCALE: NTS



R6-1L
36" X 12"

ONE-WAY SIGN

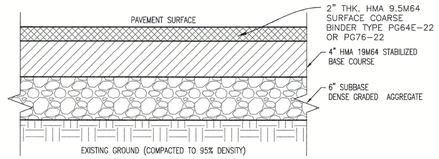
SCALE: NTS



CONCRETE WALK DETAIL

SCALE: NTS

PRE MOLDED BITUMINOUS EXPANSION JOINT MATERIAL (OR EQUAL) SHALL BE INSTALLED EVERY TWENTY (20) FEET AND CONTRACTION JOINTS INSTALLED EVERY FOUR (4) FEET.



PAVEMENT DETAIL

SCALE: NTS

NOTES:

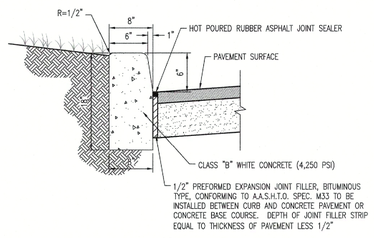
A. PAVING SECTION BASED ON C.B.R. OF TEN OR BETTER.

B. PRIME COAT TO BE APPLIED AT A RATE OF 0.25 GAL./S.Y.

C. TACK COAT TO BE APPLIED AT A RATE OF 0.10 GAL./S.Y.

D. PROVIDE AN 8 OZ. NON-WOVEN GEOTEXTILE FABRIC BETWEEN SUB-GRADE & STONE SUB-BASE AS DIRECTED BY ENGINEER AND/OR OWNER REPRESENTIVE, AND AS WARRANTED FROM RESULTS OF PROOF-ROLLING SUBGRADE AREAS. RECOMMENDED FABRIC-GEOTEX 801 AS MANUFACTURED BY S.I. GEOSOLUTIONS OR EQUIVALENT.

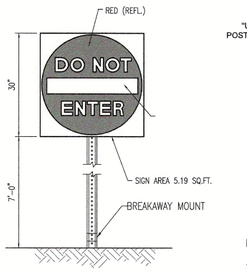
*CBR 10%.



TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" APART & FILLED W/ PREFORMED BITUM. IMPREGNATED FIBER JOINT FILLER, COMPLYING W/ A.A.S.H.O. SPEC. M 213, RECESSED 1/4" IN FROM FRONT FACE & TOP OF CURB.

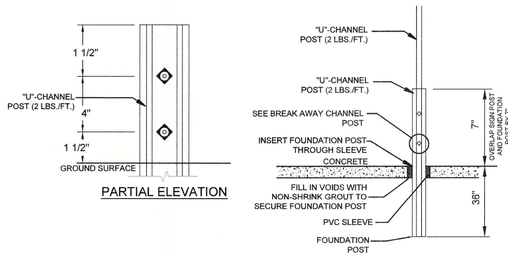
CURB DETAIL

SCALE: NTS



DO NOT ENTER SIGN

SCALE: NTS

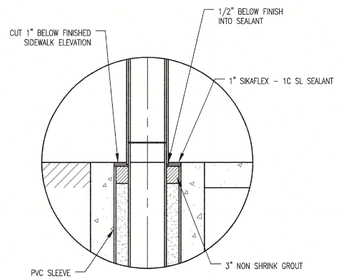


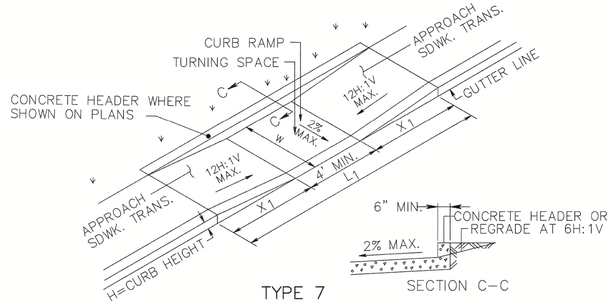
BREAKAWAY SIGN POST DETAIL

SCALE: NTS

NOTES:

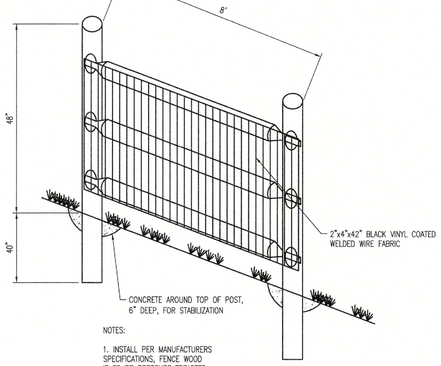
1. ALL SIGNS SHALL COMPLY WITH THE MOST CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND RETRO-REFLECTIVITY.
2. ALL SIGN MATERIALS SHALL BE MADE OF ALUMINUM BLANKS MOUNTED TO GALVANIZED STEEL U-CHANNEL POSTS, ALL CONFORMING TO THE MOST CURRENT NJDOT STANDARD SPECIFICATIONS.
3. SIGN LOCATIONS SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO CONSTRUCTION.
4. ALL SIGNS SHALL HAVE BREAKAWAY SIGN POSTS.
5. ONE COAT OF PRIMER PAINT. TWO COATS OF FINISH PAINT. COLOR TO BE VERIFIED WITH ENGINEER PRIOR TO CONSTRUCTION.





CONCRETE HANDICAPPED ACCESSIBLE RAMP DETAIL

SCALE: NTS

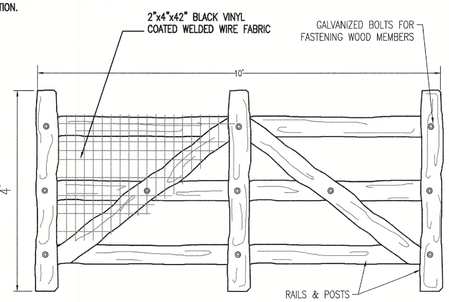


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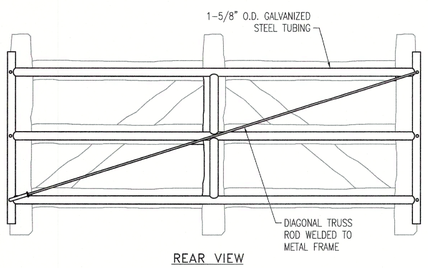
1. INSTALL PER MANUFACTURERS SPECIFICATIONS, FENCE WOOD IS TO BE PRESSURE TREADTED.

SPLIT-RAIL FENCE DETAIL

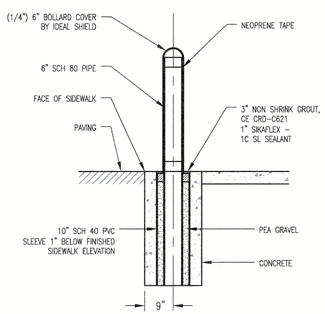
SCALE: NTS



FRONT VIEW

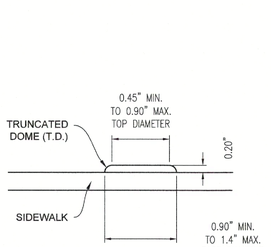


REAR VIEW

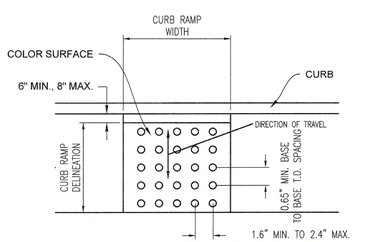


PIPE BOLLARD DETAIL

SCALE: NTS

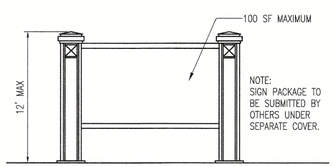


ELEVATION



DETECTABLE WARNING SURFACE

SCALE: NTS



MONUMENT SIGN

SCALE: NTS

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NJ PROFESSIONAL PLANNER No. LI 05557
NJ PROFESSIONAL SURVEYOR No. No. 43504

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

PRELIMINARY & FINAL MAJOR SITE PLAN
HARRISON TOWNSHIP
EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

NO.	DESCRIPTION	DATE
1	REV PER SCD REVIEW	8-4-25
2	REV PER NEW LAYOUT	6-29-26
3	REV SITE PLAN	7-16-26
4	REV SITE PLAN	7-28-26
5	ISSUED FOR BIDS	10-26-26

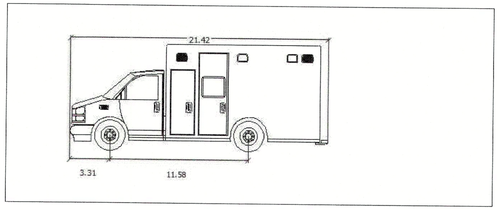
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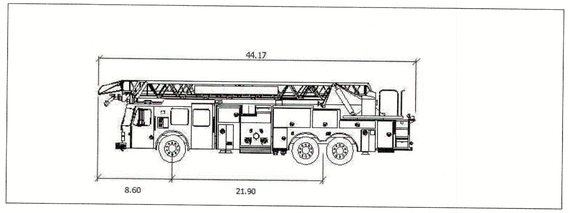
CONSTRUCTION DETAILS

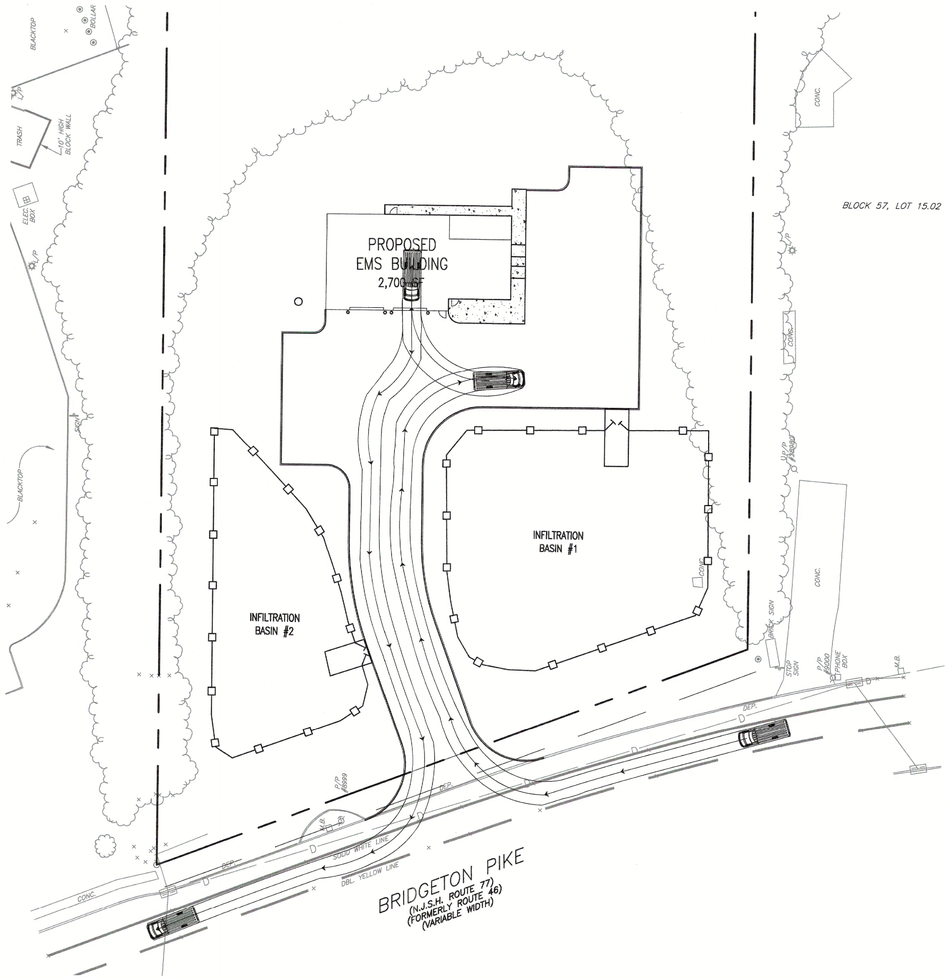
JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:

SP-10



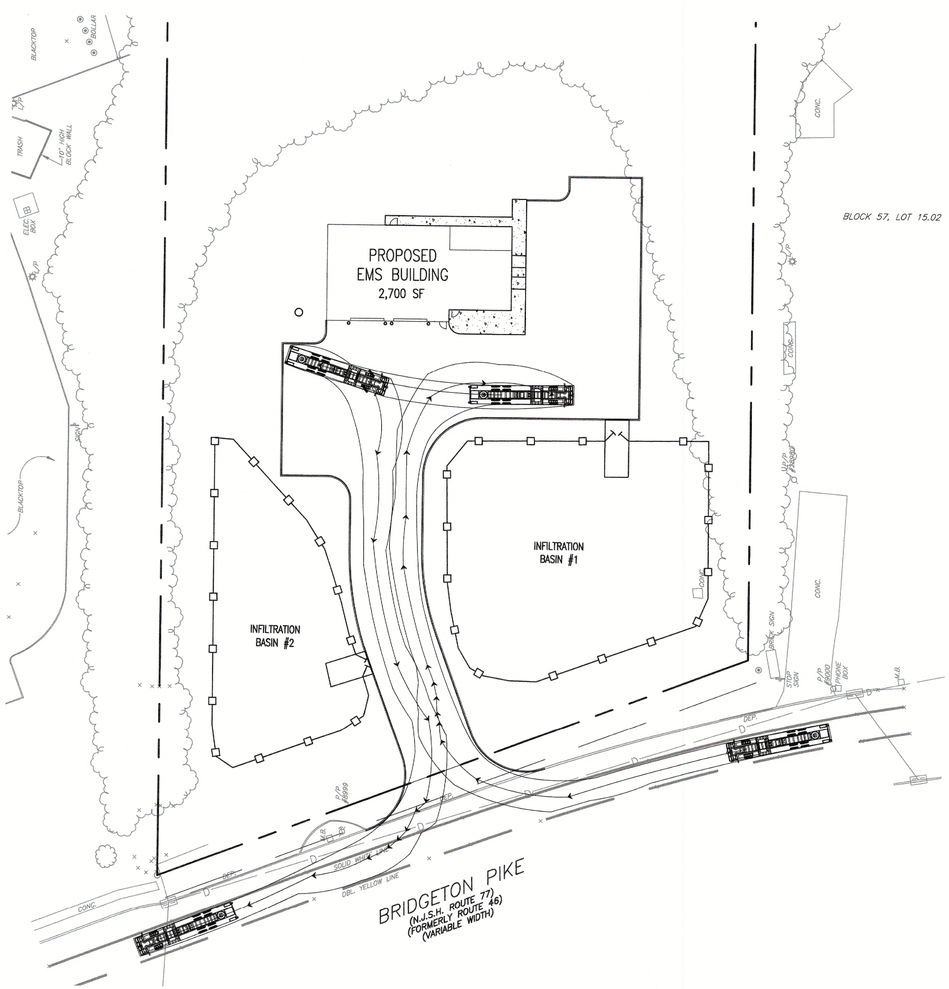




VEHICLE ACCESS PLAN - AMBULANCE

SCALE: 1" = 30'

30 0 30 60
scale feet



VEHICLE ACCESS PLAN - FIRE TRUCK

SCALE: 1" = 30'

30 0 30 60
scale feet

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SEALS:

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EMS FACILITY
169 - 171 BRIDGETON PIKE
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DRAWING TITLE:

VEHICLE ACCESS PLAN

JOB NO: GC2023-05	DESIGNED BY: KW
DATE: March 11, 2026	DRAWN BY: KW
SCALE: AS NOTED	CHECKED BY: AD

DRAWING NUMBER:

SP-11

COUNTY OF GLOUCESTER
HARRISON TOWNSHIP
NEW EMS FACILITY

169-171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY
PROJECT NO.: PD26-041

BACH Associates, PC

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304 White Horse Pike
Haddon Heights, New Jersey 08035

Tel 856-546-8611
Fax 856-546-8612

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Code Review Data:

APPLICABLE BUILDING CODES & GUIDELINES

2021 INTERNATIONAL BUILDING CODE – NEW JERSEY EDITION
2021 NATIONAL STANDARD PLUMBING CODE
2020 NATIONAL ELECTRICAL CODE (NFPA 70)
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL FUEL GAS CODE
2021 NFPA1
2020 NFPA 70
2017 ICC/ANSI A117.1

USE GROUP CLASSIFICATION (303.4)

B–BUSINESS

TYPE OF CONSTRUCTION (TABLE 601)

TYPE – 5B

HEIGHT LIMITATIONS (TABLE 504.3)

B–BUSINESS USE, 40' (NOT SPRINKLERED)

ALLOWABLE STORIES (TABLE 504.4)

B–BUSINESS USE, 2 STORIES (NOT SPRINKLERED)

AREA LIMITATIONS (TABLE 506.2)

B–BUSINESS USE, 9,000 SQUARE FEET (NOT SPRINKLERED)

AREA OF FLOOR PLAN:

B–BUSINESS (FIRST FLOOR): 2,697 +/– SF

OCCUPANT LOADS (TABLE 1004.1.2)

B–BUSINESS AREA (OFFICE) 150 GROSS FLOOR AREA PER OCCUPANT – 650 GROSS SF / 150 GROSS SF PER OCCUPANT = 5 OCCUPANTS MAXIMUM

COMMON PATH OF EGRESS TRAVEL (1006.2.1)

(B USE) WITHOUT SPRINKLER SYSTEM: 100'

TRAVEL DISTANCE (TABLE 1017.2)

(B USE) WITH/WITHOUT SPRINKLER SYSTEM: 300'/200'

NOTE TO ALL BIDDERS:
"BID PACKAGE" IS INCLUSIVE OF ALL DRAWING SHEETS LISTED ON THIS COVER SHEET, ALL SPECIFICATIONS LISTED IN SPECIFICATION TABLE OF CONTENTS, AND ALL ADDENDA ISSUED PRIOR TO BID OPENING. BIDS SUBMITTED ARE ASSUMED TO BE COMPREHENSIVE AND ACCOUNTING FOR INFORMATION CONTAINED THROUGHOUT ENTIRE "BID PACKAGE". IT IS THE RESPONSIBILITY OF BIDDER TO PROVIDE ALL SUBCONTRACTORS, VENDORS, MATERIAL AND LABOR SUPPLIERS, ETC, WITH COMPLETE BID PACKAGE. FAILURE TO DO SO WILL NOT PRECLUDE RESPONSIBILITY TO PROVIDE ALL WORK DESCRIBED IN THE "BID PACKAGE".

CONTRACTOR COORDINATION DRAWINGS NOTE:

BECAUSE OF THE COMPLEXITY OF THE CONSTRUCTION OF THIS PROJECT, EACH CONTRACTOR, INCLUDING SUB–CONTRACTORS, SHALL PARTICIPATE IN THE PREPARATION OF COORDINATION DRAWINGS. THE PROCEDURE SHALL BE SUPERVISED BY THE GENERAL CONTRACTOR'S CONSTRUCTION MANAGER. NO INSTALLATION OF PERMANENT SYSTEMS SHALL PROCEED UNTIL THE COORDINATION DRAWINGS ARE APPROVED BY THE CONSTRUCTION MANAGER AND THE ARCHITECT. NO EXTRA CHARGES SHALL BE ALLOWED FOR CHANGES REQUIRED TO ACCOMMODATE INSTALLATION OF SYSTEM BY OTHER CONTRACTORS.

WHEN WORK IS INSTALLED WITHOUT PROPER COORDINATION, CHANGES TO THIS WORK DEEMED NECESSARY BY THE ARCHITECT SHALL BE MADE TO CORRECT CONDITIONS WITHOUT ANY EXTRA COST TO THE OWNER.

UPON RECEIPT OF SIGNED AND SEALED PLANS. IT IS THE RESPONSIBILITY OF THE OWNER / CONTRACTOR TO VERIFY THAT ALL DESIGN ISSUES AND REQUIREMENTS HAVE BEEN MET AND ALL PARTIES INVOLVED HAVE REVIEWED THE PLANS FULLY. ANY QUESTIONS OR DISCREPANCIES REGARDING THE PLANS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT **BEFORE** CONSTRUCTION BEGINS.

Index of Drawings:

C-1 COVER SHEET AND INDEX OF DRAWINGS
C-2 ADA GUIDELINES

A-1 FOUNDATION PLAN AND DETAIL
A-2 FLOOR PLAN, PARTITION TYPES AND DETAILS
A-3 CEILING PLAN, BUILDING SECTION AND DETAILS
A-4 ROOF PLAN AND DETAIL
A-5 FRONT AND RIGHT SIDE ELEVATIONS AND WINDOW DETAILS
A-6 REAR AND LEFT SIDE ELEVATIONS
A-7 BUILDING SECTION AND DETAIL
A-8 BUILDING SECTION
A-9 INTERIOR ELEVATION
A-10 SCHEDULES AND DETAILS
A-11 ROOF DETAILS
A-12 PARTIAL LOBBY PLAN, ELEVATIONS AND DETAILS

S-1.1 STRUCTURAL NOTES & SPECIAL INSPECTION REQUIREMENTS
S-2.1 FOUNDATION AND GROUND FLOOR PLAN
S-2.2 ROOF FRAMING PLAN
S-3.1 FOUNDATION DETAILS
S-4.1 ROOF FRAMING DETAILS

EC1 ELECTRICAL COVER SHEET
E-1.0 ELECTRICAL FLOOR PLAN
E-1.1 ELECTRICAL FLOOR PLAN
E-2.0 ELECTRICAL SINGLE LINE AND SCHEDULES
E-3.0 FIRE ALARM SYSTEM
E-3.1 FIRE ALARM DEVICE INFO
E-3.2 FIRE ALARM DEVICE INFO

M-1.0 MECHANICAL COVER SHEET
M-2.0 MECHANICAL FLOOR PLAN
M-3.0 MECHANICAL SCHEDULES AND NOTES
M-4.0 MECHANICAL DETAILS

P-1.0 PLUMBING COVER SHEET
P-1.1 PLUMBING SCHEDULES
P-2.0 PLUMBING FLOOR PLAN (WATER)
P-2.1 PLUMBING FLOOR PLAN (WASTE AND VENT)
P-3.0 PLUMBING DETAILS

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COVER SHEET AND INDEX OF DRAWINGS

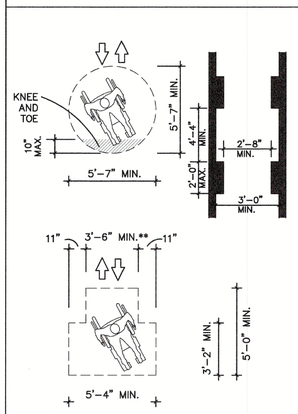
JOB NO: GC2023–05	DESIGNED BY: AAW
DATE: MARCH 11, 2026	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB

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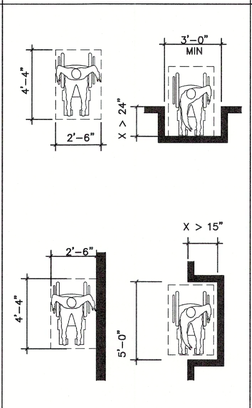
C-1

BARRIER FREE GUIDELINES FOR CONSTRUCTION – ICC/ANSI A117.1 – 2009

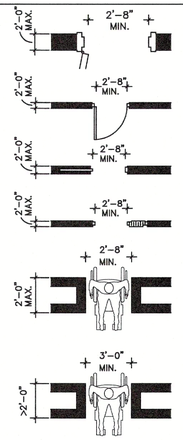
A WHEELCHAIR TURNING SPACE



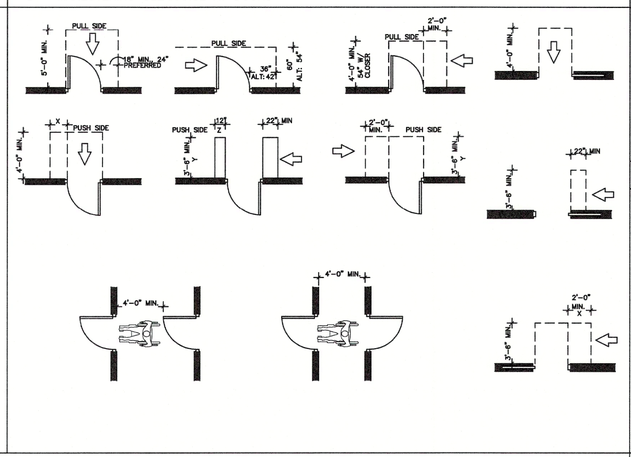
B MINIMUM CLEAR FLOOR SPACE FOR WHEELCHAIRS



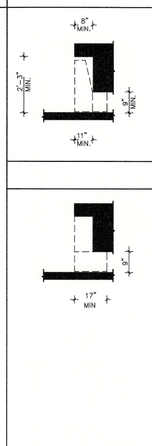
C CLEAR DOORWAY WIDTH AND DEPTH



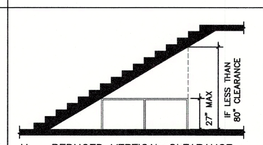
D MANEUVERING CLEARANCE AT DOORS



E KNEE CLEARANCE

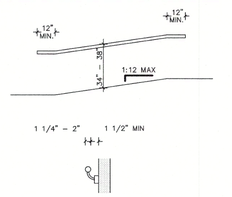


F REDUCED VERTICAL CLEARANCE

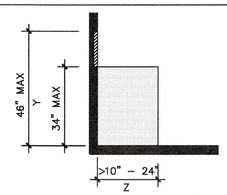


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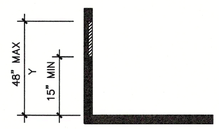
I RAMPS AND RAILINGS



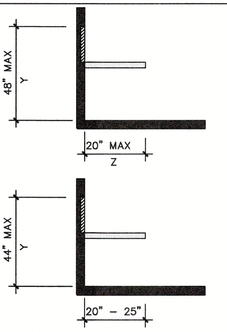
G OBSTRUCTED HIGH SIDE REACH



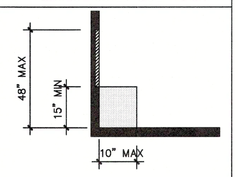
J UNOBSTRUCTED FORWARD REACH



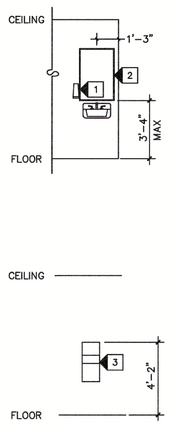
O OBSTRUCTED HIGH FORWARD REACH



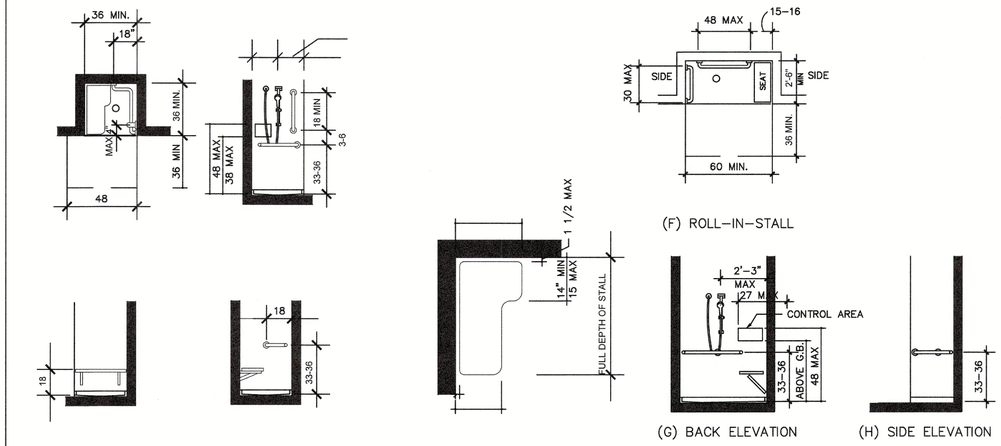
P UNOBSTRUCTED SIDE REACH



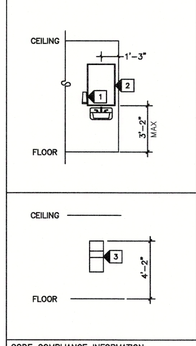
K MISCELLANEOUS



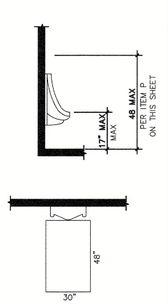
L SHOWER STALL



M MISCELLANEOUS



N URINALS



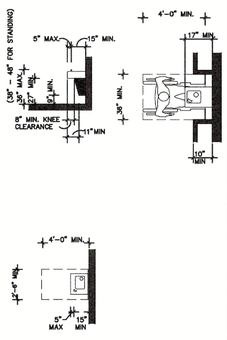
CODE COMPLIANCE INFORMATION

THIS PROJECT IS DESIGNED TO MEET OR EXCEED THE PROVISIONS OF THE SPECIFIC CODES LISTED BELOW. ANY DEVIATION(S), OR FUTURE AMENDMENT(S) FROM THESE REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO CONSTRUCTION.

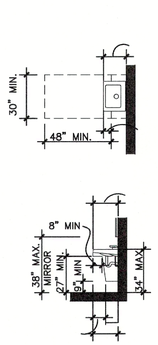
THE NEW JERSEY UNIFORM CONSTRUCTION CODE (NJAC 5:23) CURRENTLY IN EFFECT AT THE TIME OF PERMIT APPLICATION, SHALL BE THE GOVERNING COMPREHENSIVE CODE REGULATION FOR THIS PROJECT.

THE CONTRACTOR SHALL ASSURE THAT THE PROVISIONS OF THESE CODES ARE FULLY MET THROUGH CONSTRUCTION. NOTHING CONTAINED WITHIN THESE DRAWINGS, OR ELSEWHERE WITHIN THE CONTRACT DOCUMENTS, STATED OR IMPLIED, SHALL BE CONSTRUED AS A DIRECTIVE TO VIOLATE THE REQUIREMENTS OF ANY CODE HAVING JURISDICTION OVER THIS PROJECT.

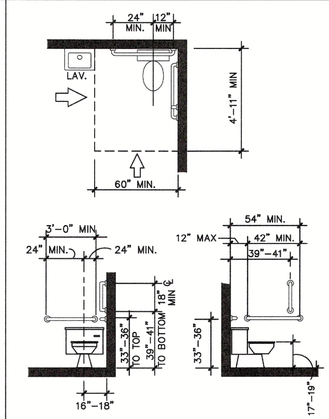
Q DRINKING FOUNTAINS AND WATER COOLERS



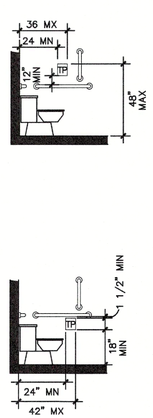
R LAVATORY



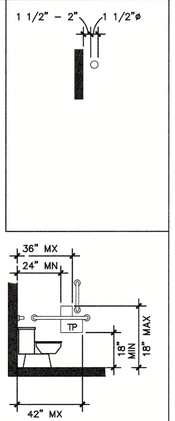
S WATER CLOSET



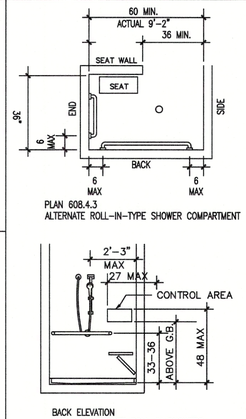
T DISPENSER LOCATIONS



W GRAB BARS



U ALTERNATE ROLL-IN-TYPE SHOWER



V SIGNAGE

HEIGHT ABOVE FLOOR TO BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT
40 INCHES TO </= 70 INCHES	<6 FEET	5/8 INCH
	6 FEET AND GREATER	5/8 INCH, PLUS 1/8 INCH PER FOOT OF VIEWING DISTANCE ABOVE 6 FEET
>70 INCHES TO </= 120 INCHES	< 15 FEET	2 INCHES
	15 FEET AND GREATER	2 INCHES, PLUS 1/8 INCH PER FOOT OF VIEWING DISTANCE ABOVE 15 FEET.
GREATER THAN 120 INCHES	< 21 FEET	3 INCHES
	21 FEET AND GREATER	3 INCHES, PLUS 1/8 INCH PER FOOT OF VIEWING DISTANCE ABOVE 21 FEET.

UPPERCASE LETTER "I" TO BE USED TO DETERMINE HEIGHT OF CHARACTER OF ANY FONT. CHARACTERS TO BE 40 INCHES MINIMUM ABOVE FLOOR, MEASURED TO BASELINE OF CHARACTER.

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SEALS:

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3	ISSUED FOR BIDS	10/26/26

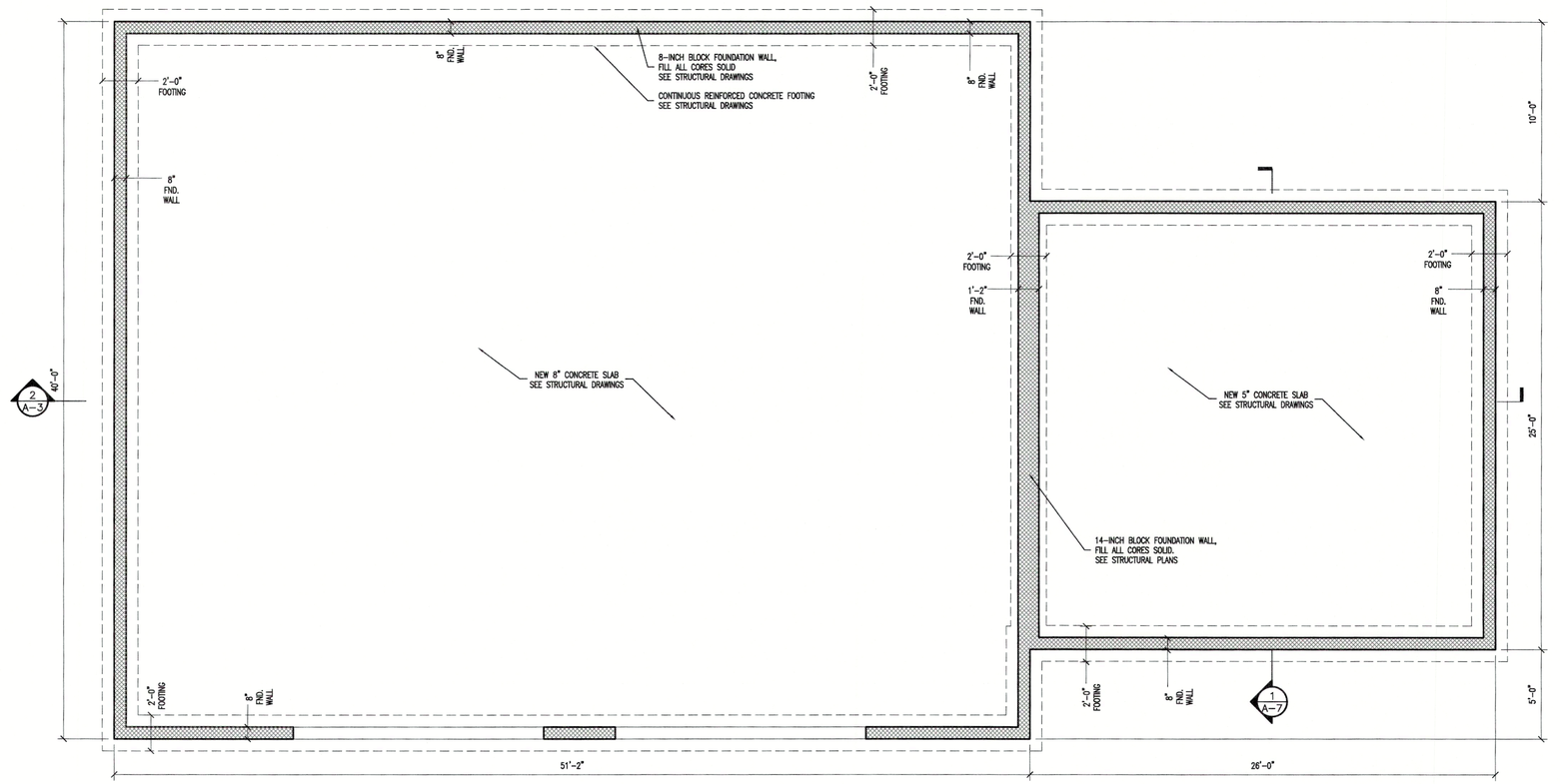
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ADA GUIDELINES

JOB NO:	DESIGNED BY:
GC2023-05	AAW
DATE: MARCH 11, 2026	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB

DRAWING NUMBER:

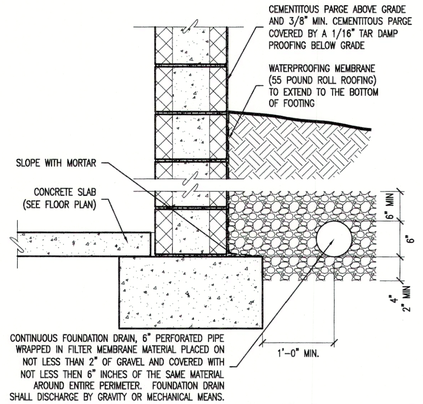
C-2



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

FLOOR PLAN LEGEND:

- NEW INTERIOR PARTITION
- NEW MASONRY PARTITION
- NEW DOOR AND FRAME
- EXISTING DOOR AND FRAME
- DUPLEX RECEPTACLE OUTLET
- 220 — 220V OUTLET
- GFI — DUPLEX RECEPTACLE OUTLET–GROUND FAULT INTERRUPTER
- WPGFI — WATER PROOF DUPLEX RECEPTACLE OUTLET–GROUND FAULT INTERRUPTER
- SURFACED MOUNTED OUTLET
- SURFACE MOUNTED LIGHT FIXTURE
- FB — FAN BOX
- EXTERIOR LIGHT FIXTURE
- P — PENDANT FIXTURE
- RECESSED LIGHT FIXTURE
- 1 BULB LED FIXTURE
- SWITCH
- D — DIMMER SWITCH
- 3 — 3–WAY SWITCH
- 4 — 4–WAY SWITCH
- SD — SMOKE DETECTOR – HARDWIRE & INTERCONNECTED
- CM — CARBON MONOXIDE DETECTOR HARDWIRE & INTERCONNECTED
- FE — FIRE EXTINGUISHER
- EM — EMERGENCY PULL SWITCH
- FD — FLOOR DRAIN
- F.E. — FIRE EXTINGUISHER
- EXIT LIGHT WITH DIRECTION INDICATOR
- EMERGENCY LIGHT
- EXHAUST FAN UNIT (DIRECT VENT TO OUTSIDE)
- LIGHT/EXHAUST FAN UNIT (DIRECT VENT TO OUTSIDE)
- HOSE BIB (FREEZE PROOF)
- X/X — SECTION TAG
- X/X — ELEVATION TAG
- X — PARTITION TYPE
- XX — DOOR IDENTIFICATION
- VANITY BAR–STRIP FIXTURE (ABOVE MIRROR)
- WALL SCONCE
- EXTERIOR YARD LIGHTING



FOUNDATION DRAIN:
FILL AREA WITH GRAVEL OR CRUSHED STONE CONTAINING NOT MORE THAN 10% MATERIAL THAT PASSES THROUGH A #4 SIEVE. DRAIN SHALL EXTEND A MINIMUM OF 12" BEYOND THE OUTSIDE EDGE OF FOOTING. THE BOTTOM OF THE DRAIN IS NOT TO BE HIGHER THAN THE BOTTOM OF THE BASE UNDER THE FLOOR. TOP OF THE DRAIN IS NOT TO BE LESS THAN 6" ABOVE THE TOP OF THE FOOTING. TOP OF THE DRAIN SHALL BE COVERED WITH AN APPROVED FILTER MEMBRANE MATERIAL. WHERE A PERFORATED PIPE IS USED, THE INVERT OF THE PIPE SHALL NOT BE HIGHER THAN THE FLOOR ELEVATION. PERFORATIONS ON TOP OF THE PIPE SHALL BE PROTECTED WITH AN APPROVED FILTER MEMBRANE MATERIAL. THE PIPE SHALL BE PLACED ON NOT LESS THAN 2" OF GRAVEL OR CRUSHED STONE AND SHALL BE COVERED WITH NOT LESS THAN 6" OF THE SAME MATERIAL.

2 TYPICAL DETAIL - FOUNDATION DRAIN & WALL WATERPROOFING
SCALE: 1" = 1'-0"

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SEALS:

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NJ REGISTERED ARCHITECT No. AI 14872
NJ PROFESSIONAL PLANNER No. LI 05557
NJ PROFESSIONAL SURVEYOR No. No. 43504

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NEW EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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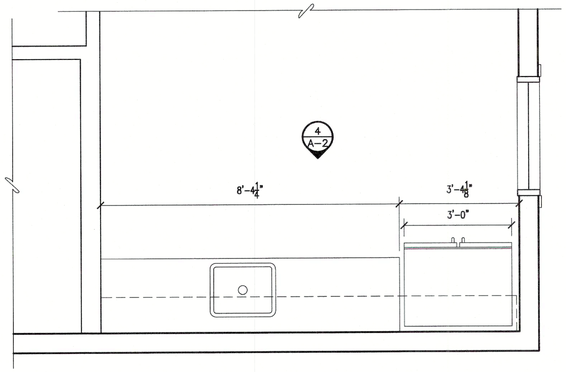
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FOUNDATION PLAN AND DETAIL

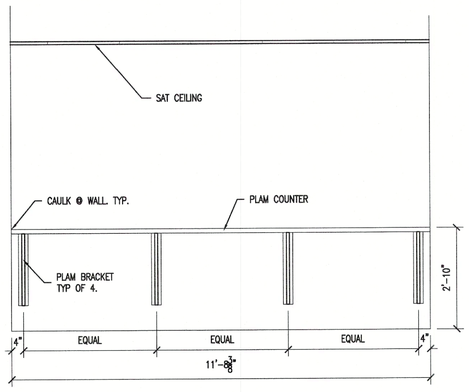
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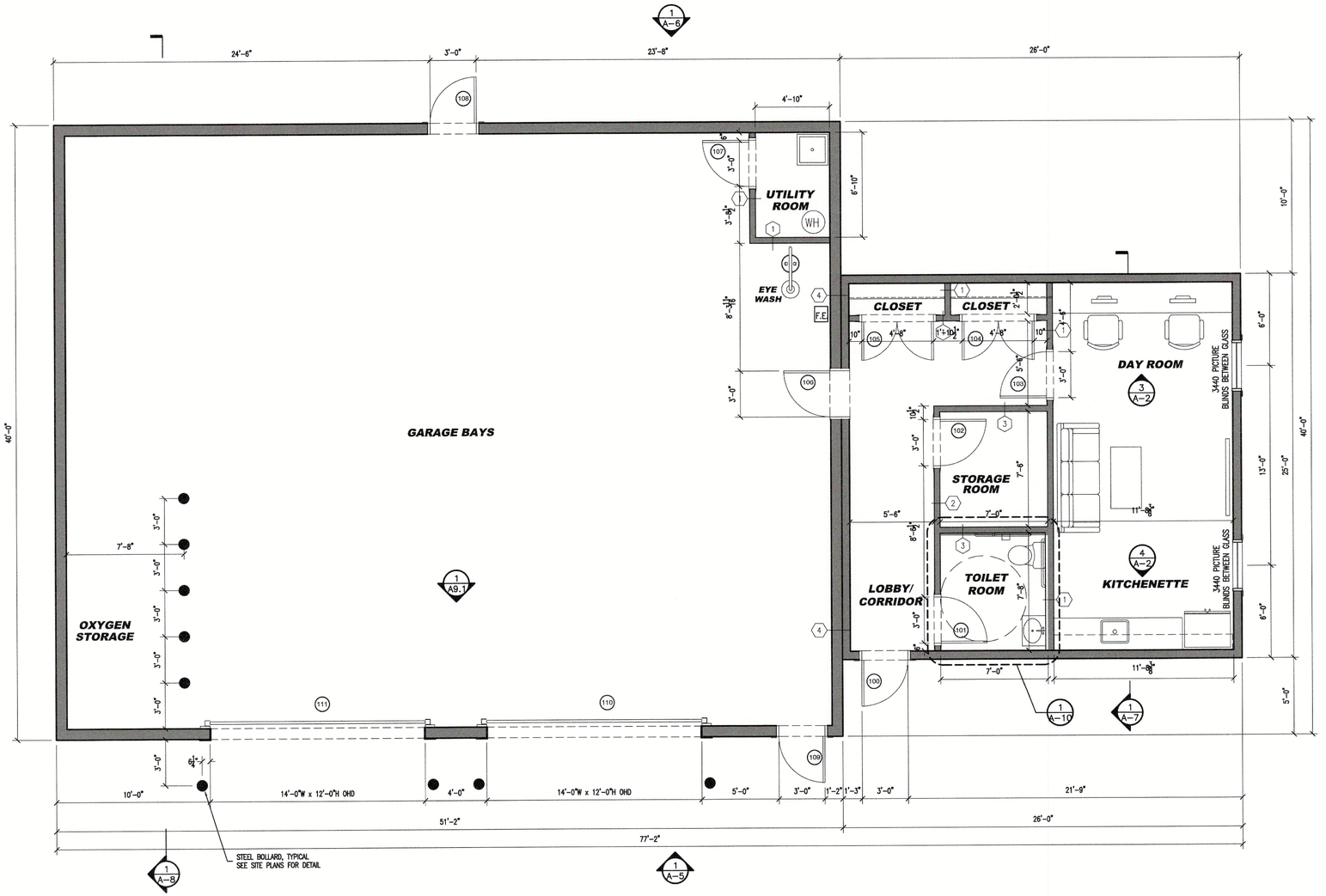
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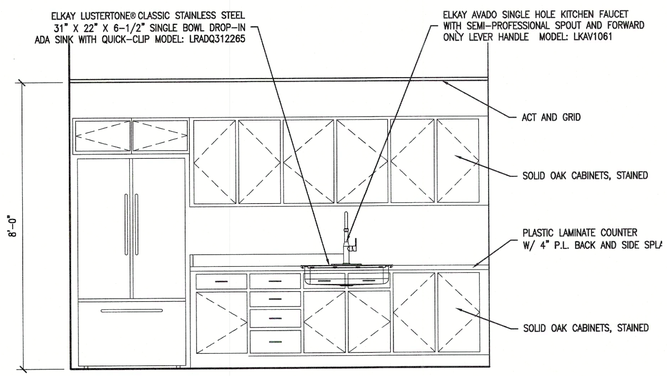
2 KITCHEN PLAN
SCALE: 3/16" = 1'-0"



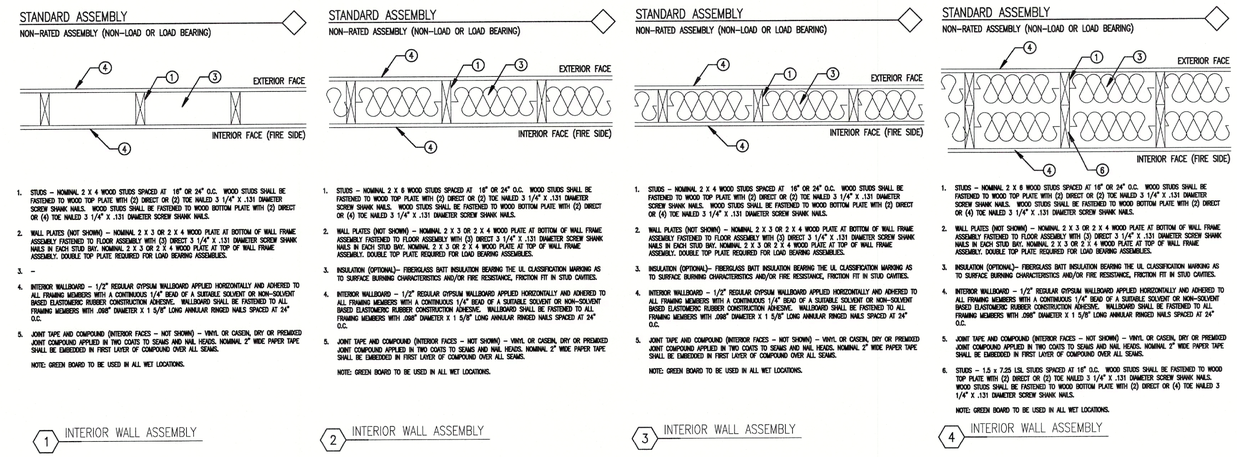
3 DAYROOM - WORK STATION ELEVATION
SCALE: 1/2" = 1'-0"



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



4 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



5 PARTITION TYPES
SCALE: NOT TO SCALE

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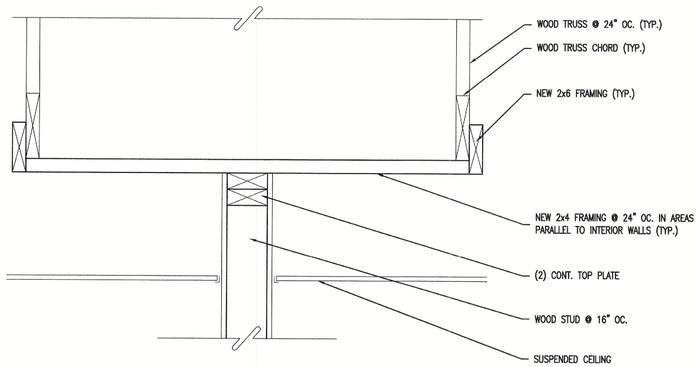
FLOOR PLAN, PARTITION TYPES, AND DETAILS

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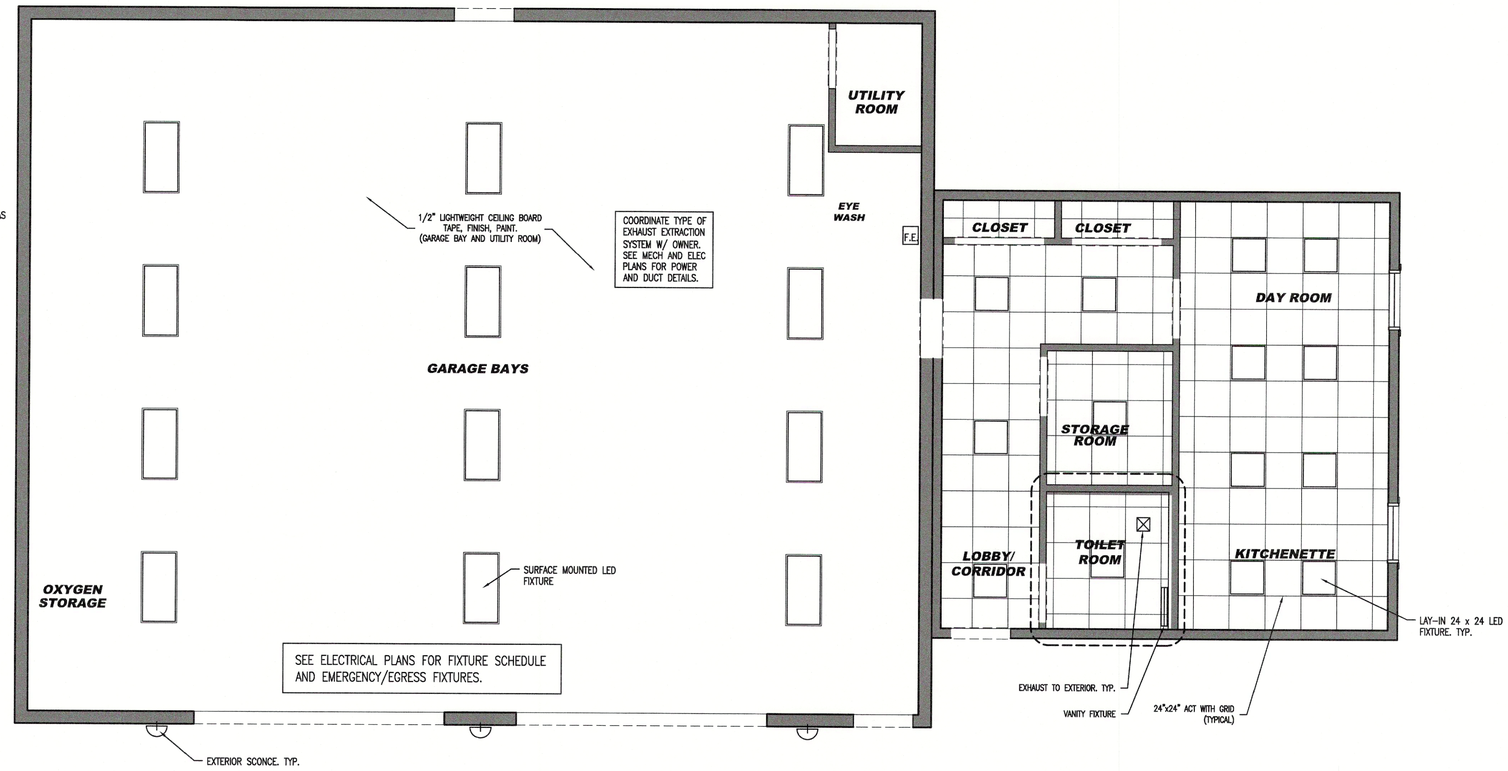
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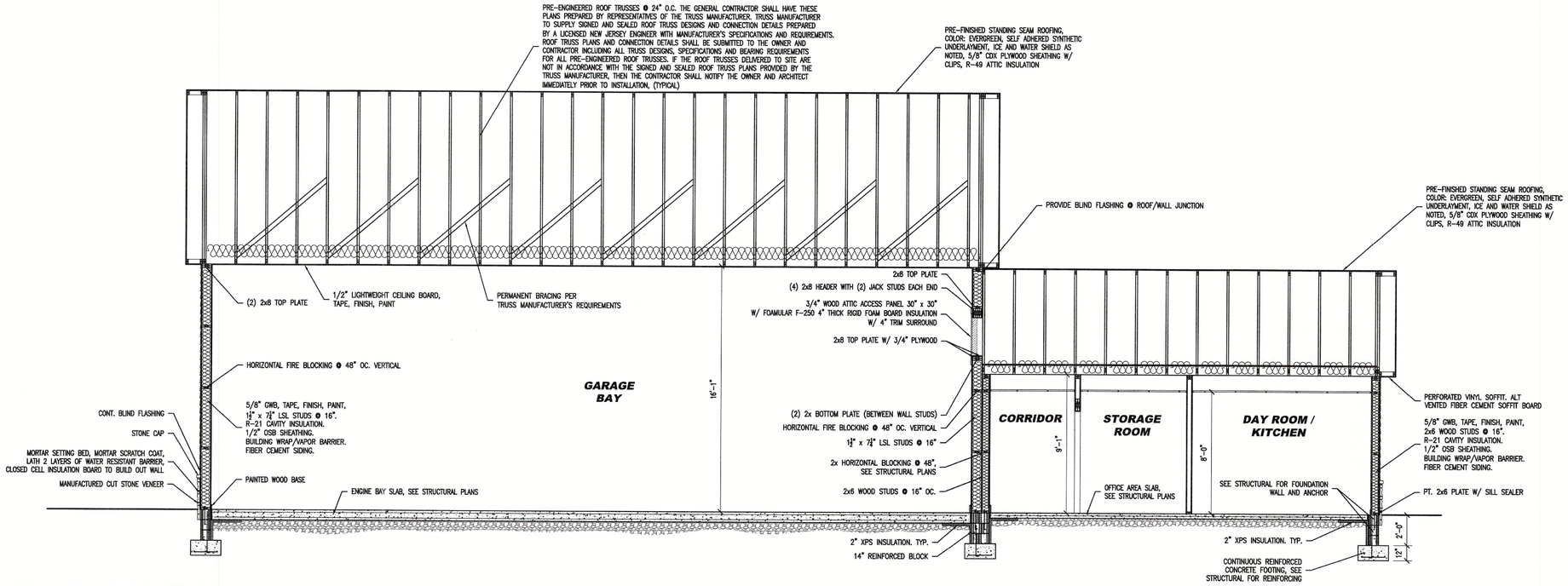
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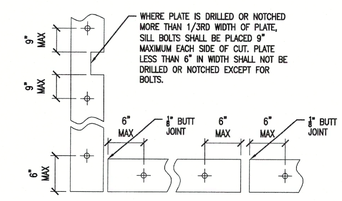
3 WOOD SUPPORT @ FRAMED WALLS / ROOF TRUSS
SCALE: 1-1/2" = 1'-0"



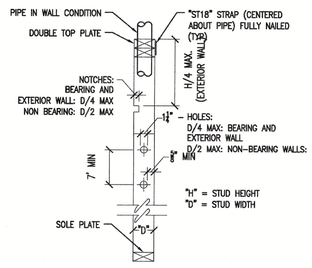
1 CEILING PLAN
SCALE: 1/4" = 1'-0"



2 BUILDING SECTION
SCALE: 1/4" = 1'-0"



4 ANCHOR BOLT LAYOUT
SCALE: NOT TO SCALE



5 ALLOWABLE NOTCHES AND HOLES IN STUDS
SCALE: NOT TO SCALE

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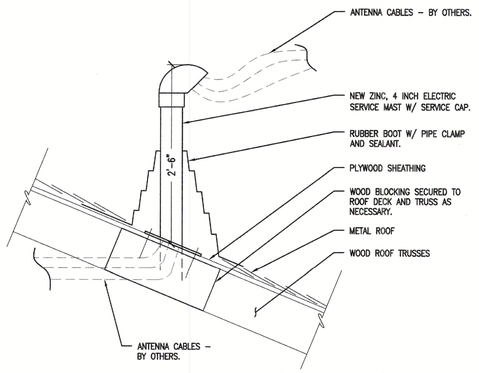
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CEILING PLAN, BUILDING SECTION, AND DETAILS

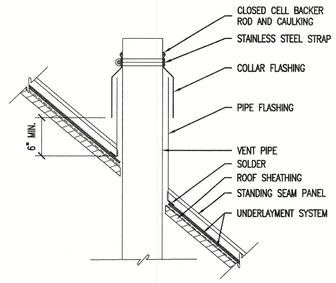
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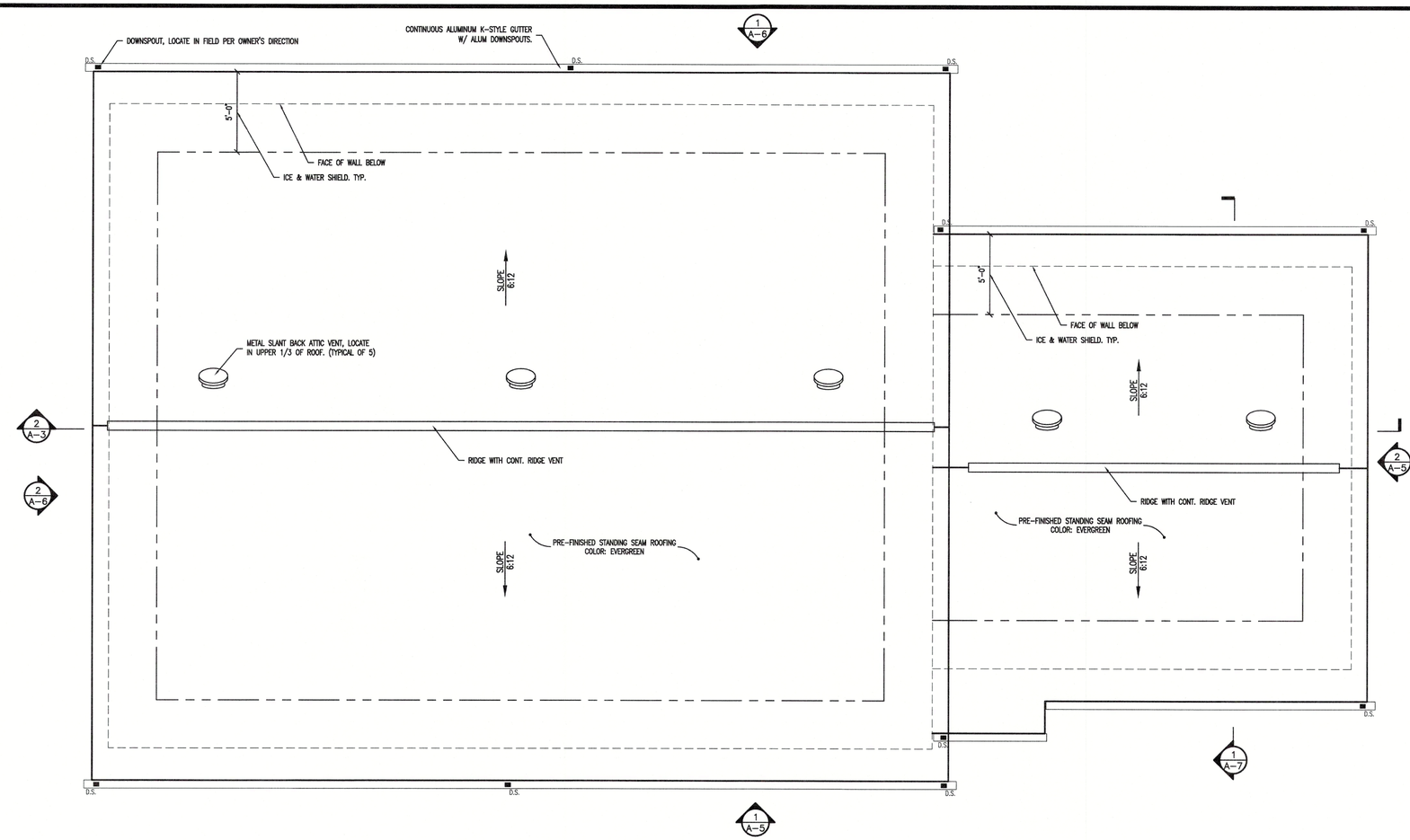
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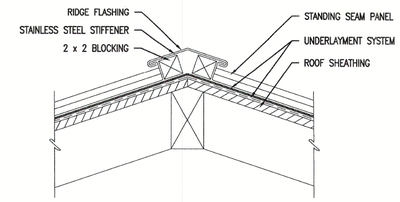
2 DETAIL - SERVICE ENTRANCE
SCALE: NOT TO SCALE
(NOTE: IF SERVICE IS NOT UNDERGROUND)



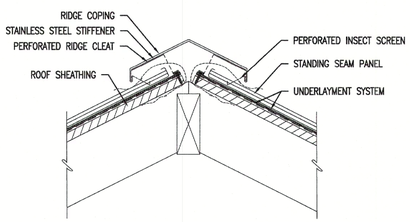
3 DETAIL - VENT PIPE (TYPICAL)
SCALE: NOT TO SCALE
(VERIFY DETAIL WITH ROOF MANUFACTURER)



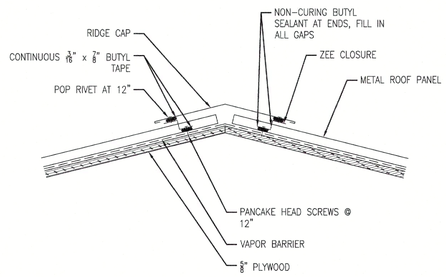
1 ROOF PLAN
SCALE: 1/4" = 1'-0"



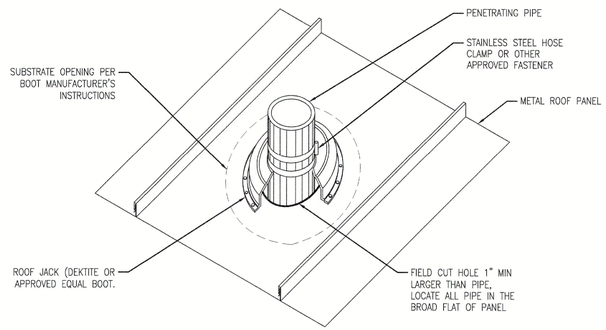
4 DETAIL - RIDGE VENT (TYPICAL)
SCALE: NOT TO SCALE
(VERIFY DETAIL WITH ROOF MANUFACTURER)



5 DETAIL - RIDGE VENT (TYPICAL)
SCALE: NOT TO SCALE
(VERIFY DETAIL WITH ROOF MANUFACTURER)



6 DETAIL - RIDGE VENT (TYPICAL)
SCALE: NOT TO SCALE
(VERIFY DETAIL WITH ROOF MANUFACTURER)



7 DETAIL - VENT PIPE (TYPICAL)
SCALE: NOT TO SCALE
(VERIFY DETAIL WITH ROOF MANUFACTURER)

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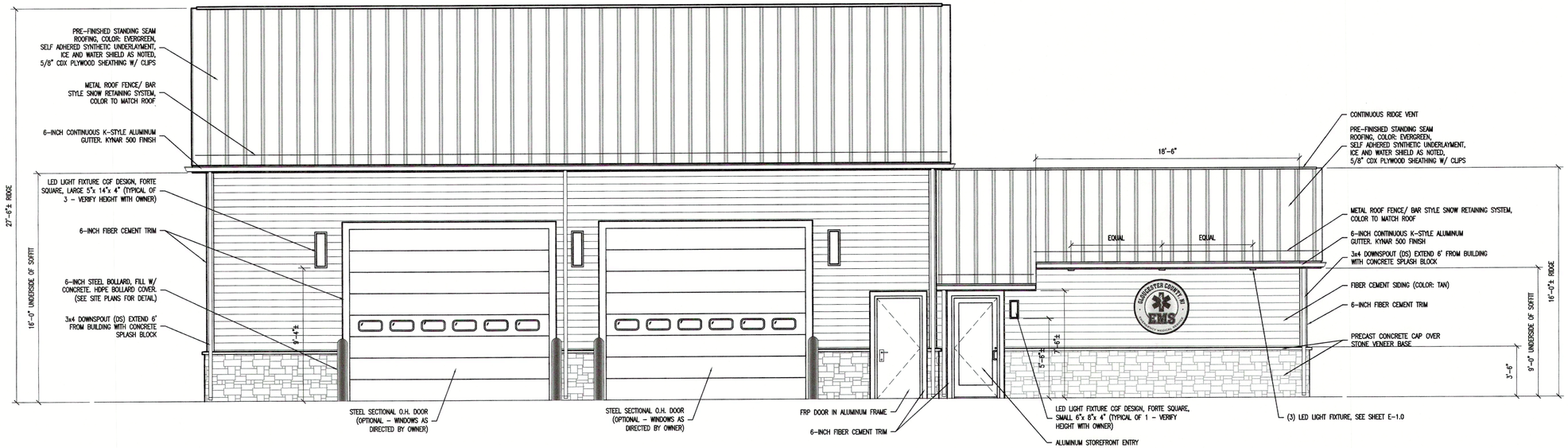
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ROOF PLAN AND DETAIL

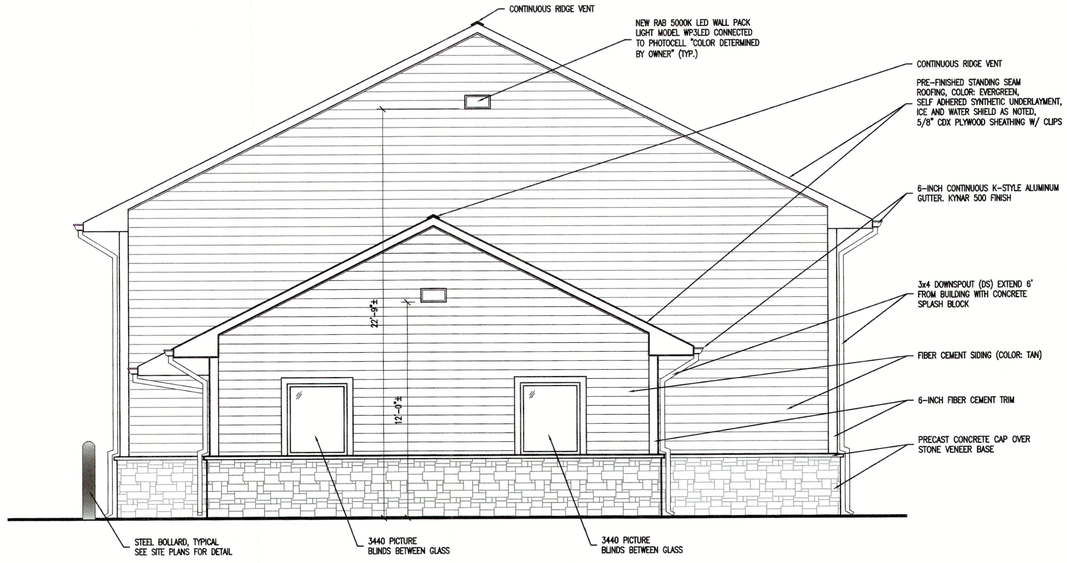
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A-4



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

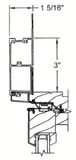


2 RIGHT ELEVATION
SCALE: 1/4" = 1'-0"

BASIS OF DESIGN:

JELD-WEN W-5500 CLAD WOOD WINDOW. CASEMENT.

Trim Options



3 1/2" Flat Casing

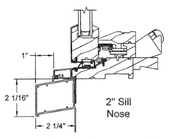
Glass Stop Options



Traditional

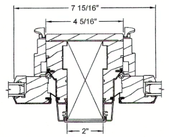
4 GLASS STOP
SCALE: NOT TO SCALE

Sill Nose Options



2" Sill Nose

3 CASING DIMENSIONS
SCALE: NOT TO SCALE



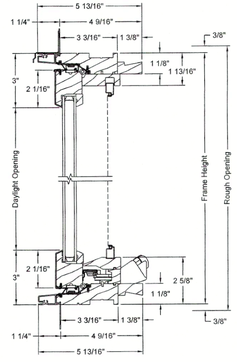
Operator | Operator

2" Solid Spread Mull

5 MULLION DETAIL
SCALE: NOT TO SCALE

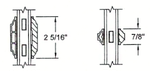


Not To Scale - Reference Only



Exterior ◄——— ———► Interior

SDL Options



2 5/16" Bead

7/8" Bead

GBG Options



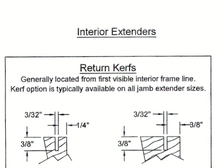
5/8" Flat

6 BAR OPTIONS
SCALE: NOT TO SCALE

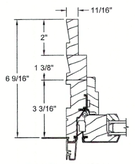
Interior Extenders

Return Kerfs

Generally located from first visible interior frame line. Kerf option is typically available on all jamb extender sizes.



4/4 Jamb Typ. 5/4 Jamb Typ.



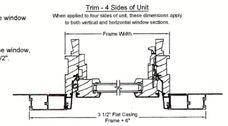
6 9/16" Jamb Width
5/4 - 4/4 Stacked Jamb

7 TRIM DETAILS
SCALE: NOT TO SCALE

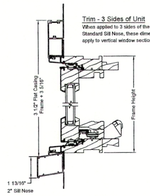
Rough Opening
The frame size of the window plus 3/4".

Masonry Opening
The overall size of the window, including trim, plus 1/2".

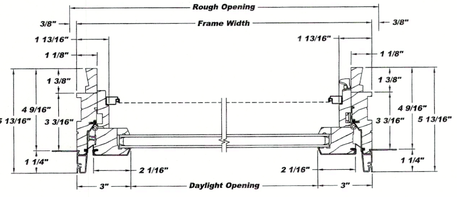
Trim - 4 Sides of Unit
When applied to four sides of unit, these dimensions apply to both vertical and horizontal window sections.



Trim - 3 Sides of Unit
When applied to 3 sides of the unit, with Standard Sill Nose, these dimensions apply to vertical window sections only.



8 SIZE WITH CASING
SCALE: NOT TO SCALE



9 UNIT DIMENSIONS
SCALE: NOT TO SCALE

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NJ PROFESSIONAL SURVEYOR No. No. 43504

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PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
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GLOUCESTER COUNTY, NEW JERSEY

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1	PLAN REVISIONS	06/29/26
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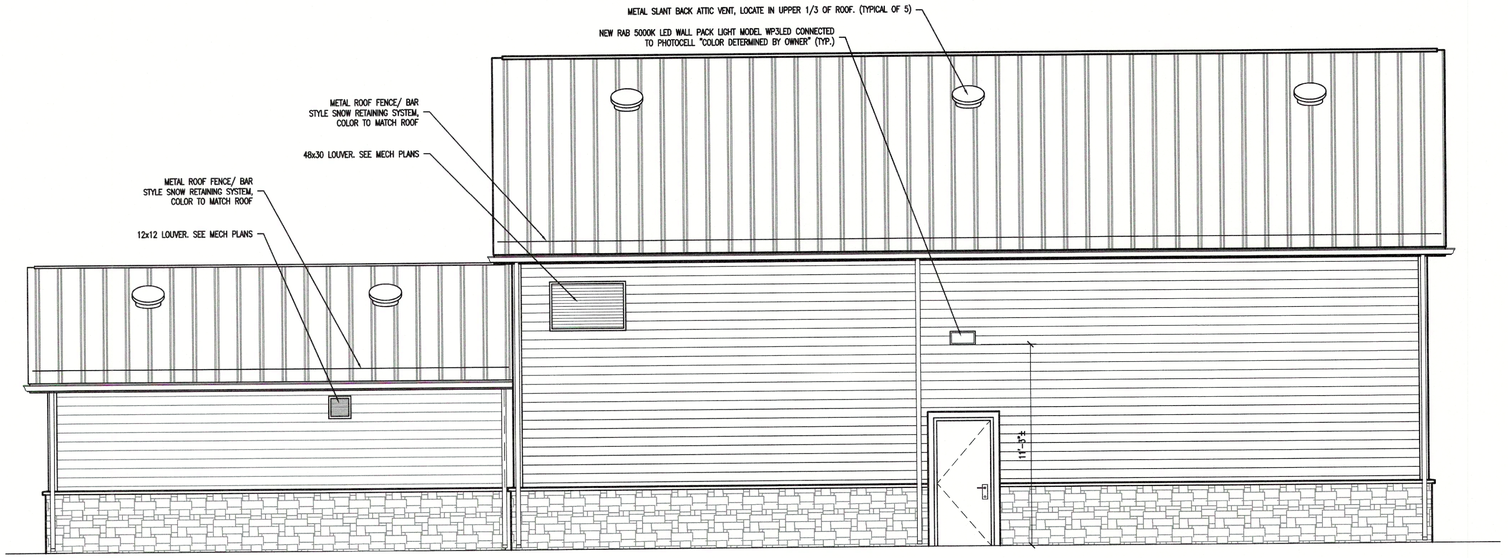
DRAWING TITLE:

FRONT AND RIGHT SIDE ELEVATIONS & WINDOW DETAILS

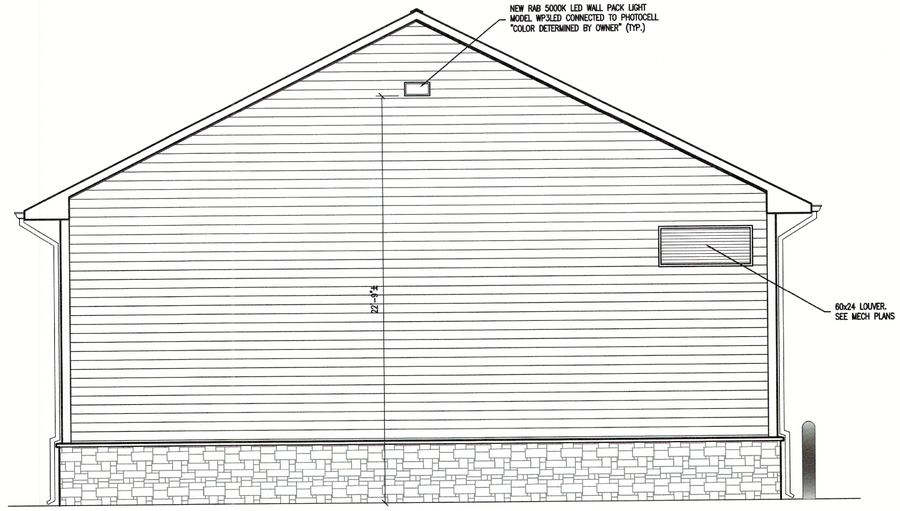
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A-5



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



2 LEFT ELEVATION
SCALE: 1/4" = 1'-0"

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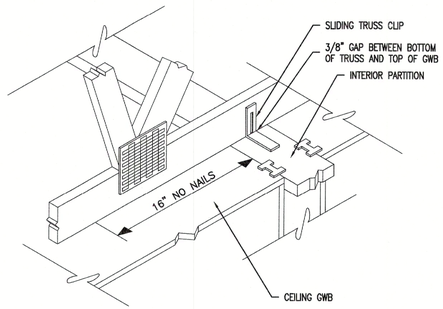
REAR AND LEFT SIDE ELEVATIONS

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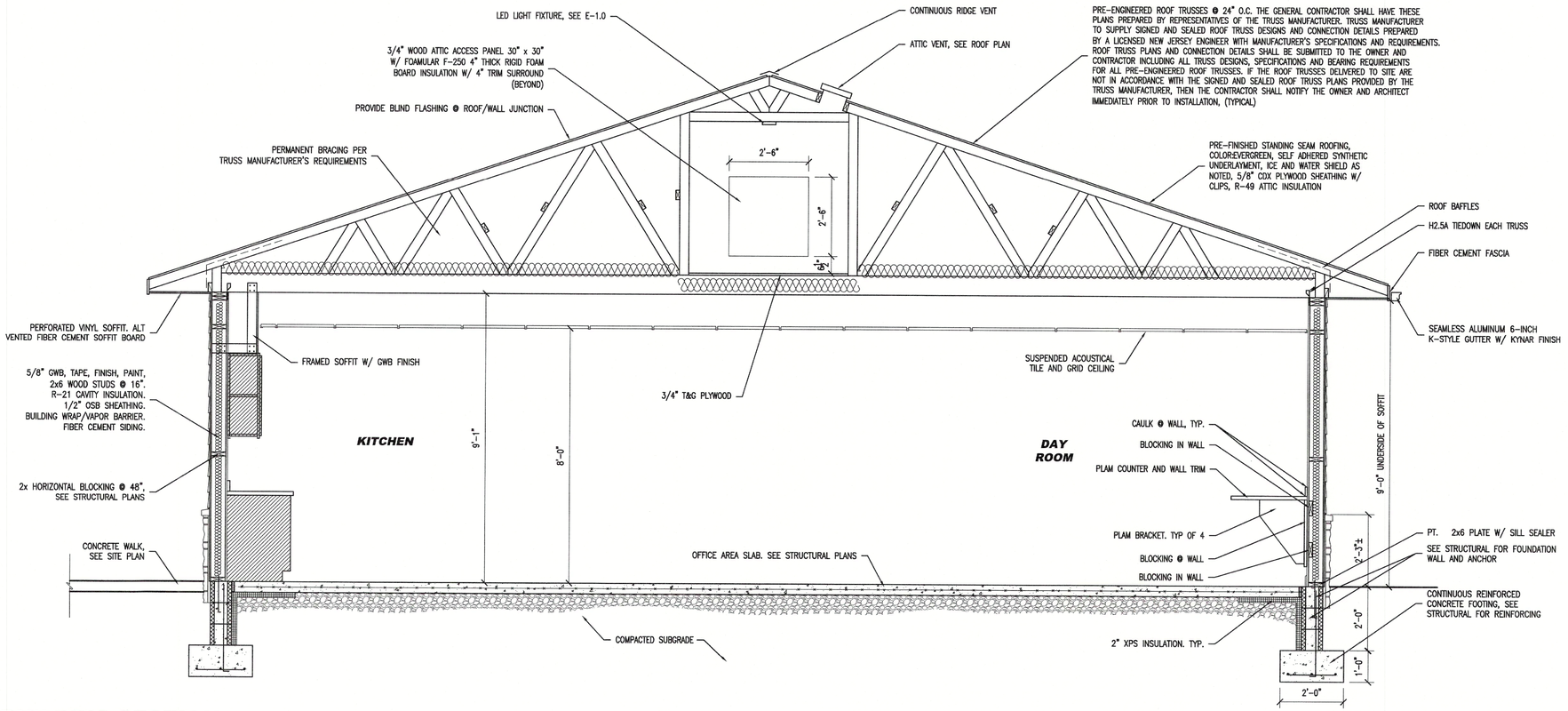
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2 DETAIL - TRUSS CLIP
SCALE: NOT TO SCALE



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

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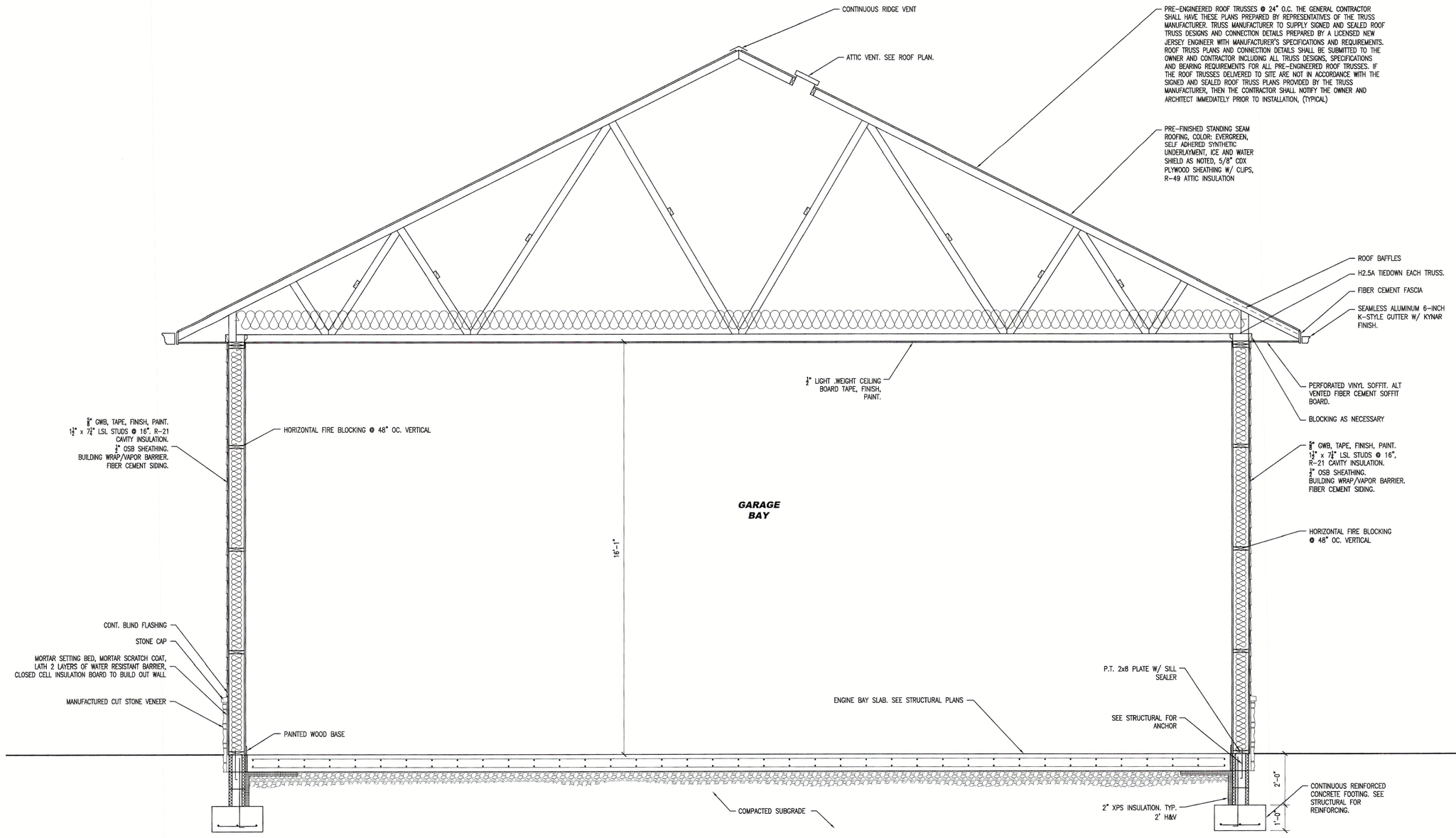
DRAWING TITLE:

BUILDING SECTION AND DETAIL

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

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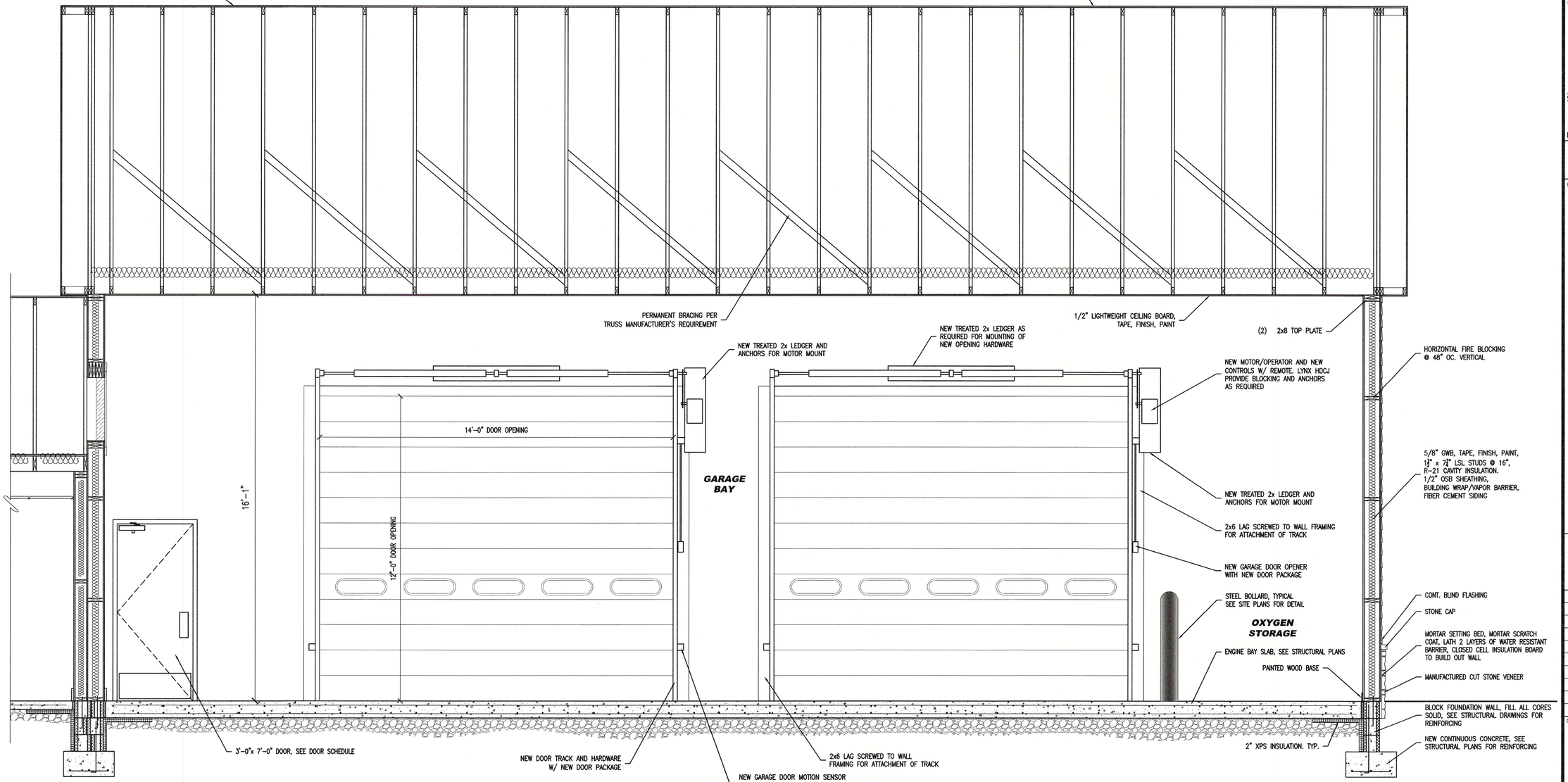
DRAWING TITLE:

BUILDING SECTION

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

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INTERIOR ELEVATION

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DRAWING NUMBER:

A-9

DOOR SCHEDULE

DOOR NUMBER	DOOR SIZE	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	FRAME DETAIL	HARDWARE SET	DOOR THRESHOLD	FIRE RATING	REMARKS
100	3'-0" x 7'-0"	1	AL	FF	2	AL	FF	1	100	AL	–	–
101	3'-0" x 6'-8"	2	WD	P	1	HM	PM	1	101	MAR	–	–
102	3'-0" x 6'-8"	2	WD	P	1	HM	PM	1	102	–	–	–
103	3'-0" x 6'-8"	3	WD	P	1	HM	PM	1	103	–	–	–
104	(2) 2'-4" x 6'-8"	2	WD	P	1	HM	PM	1	104	–	–	–
105	(2) 2'-4" x 6'-8"	2	WD	P	1	HM	PM	1	105	–	–	–
106	3'-0" x 6'-8"	3	WD	P	1	HM	PM	1	106	–	–	–
107	3'-0" x 6'-8"	2	WD	P	1	HM	PM	1	107	–	–	–
108	3'-0" x 7'-0"	4	FRP	FF	2	AL	FF	1	108	AL	–	–
109	3'-0" x 7'-0"	4	FRP	FF	2	AL	FF	1	109	AL	–	–
110	14'-0" x 12'-0"	5	AL	PM	PM	STL	PM	2	–	–	–	–
111	14'-0" x 12'-0"	5	AL	PM	PM	STL	PM	2	–	–	–	–

LEGEND:

AL	ALUMINUM	CLR	CLEAR ANODIZED	RES	RESCUE HARDWARE	PB	PANIC BAR	KPL	KEYED POCKET DOOR LATCH	FG	FIBERGLASS
WD	WOOD	PM	PAINTED METAL	CL	CLASSROOM LOCKET	PRV	PRIVACY LOCKET	FRP	FIBER REINFORCED PLASTIC	PC	POWDER COAT
ME	MATCH EXISTING	EX	EXISTING	PAS	PASSAGE LATCH	STL	STEEL	MAR	MARBLE	RUB	RUBBER
POLY	STAINED	HM	HOLLOW METAL	ST	STORE ROOM LOCKET	P	PAINT	FF	FACTORY FINISH		

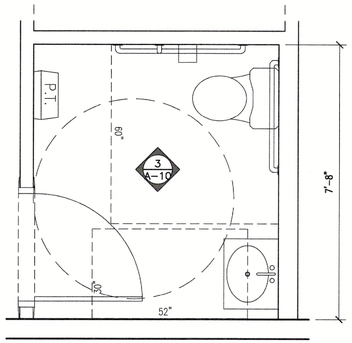
NOTE:
1. ALL GLAZING FOR DOOR AND WINDOW SHALL BE TEMPERED PLATE GLASS UNLESS NOTED OTHERWISE
2. FIRE RATING TO BE APPLIED TO BOTH DOOR AND FRAME CONSTRUCTION.
3. GENERAL CONTRACTOR TO SUBMIT ALL DOOR FRAME & HARDWARE FOR ARCHITECT REVIEW AND APPROVAL
4. KEYLESS ENTRY SYSTEM INCLUDES HARDWIRED ELECTRIC STRIKE AND REQUIRED POWER SUPPLY WITH COMPATIBLE EXIT DEVICE, HARDWIRED CARD READER WITH REQUIRED POWER SUPPLY TO ACTIVATE STRIKE, PANIC EXIT HARDWARE, ENTRY HARDWARE, CYLINDER FOR MANUAL RETRACTION OF LATCH, ALL REQUIRED POWER AND LOW VOLTAGE WIRING TO ALLOW FOR COMPLETE OPERATION OF LOCK.
5. PROVIDE MINI-BLINDS ON INTERIOR OF OFFICE DOORS WITH GLASS KIT.

ROOM FINISH SCHEDULE

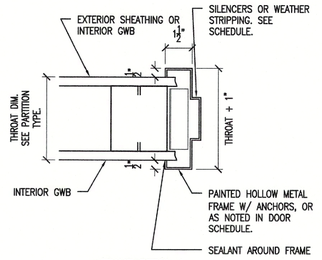
ROOM #:	ROOM NAME:	WALLS: FLOOR:	BASE:	NORTH	EAST	SOUTH	WEST	CEILING	CEILING HEIGHT:	REMARKS:
	LOBBY/CORRIDOR	LVT	RUB	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	
	KITCHENETTE / DAYROOM	LVT	RUB	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	
	STORAGE ROOM	LVT	RUB	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	
	TOILET ROOM	PT	RUB	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	
	CLOSETS	LVT	RUB	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"	
	GARAGE BAYS	CONC	WOOD	PAINT	PAINT	PAINT	PAINT	GWB	16'-1"	

LEGEND:

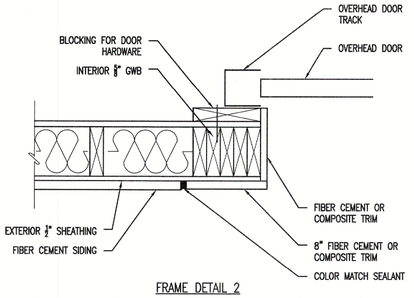
VCT VINYL COMPOSITITION TILE	ACT ACOUSTICAL CEILING TILE	GWB GYPSUM WALL BOARD
RUB RUBBER BASE	PT PORCELAIN TILE	
CPT CARPET TILE	COVE VINYL COVE BASE	
LVT LUXURY VINYL TILE	CONC CONCRETE	



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

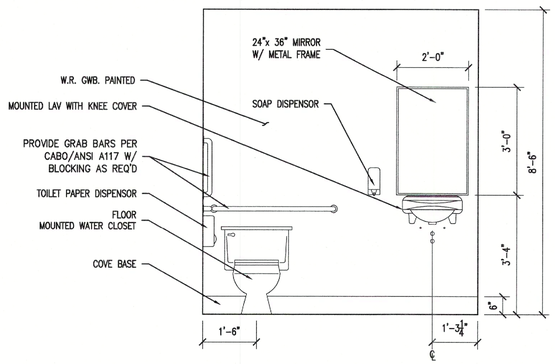


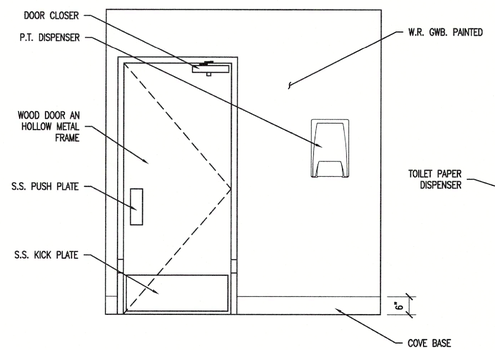
FRAME DETAIL 1

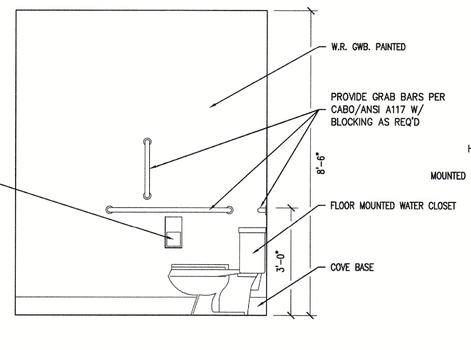


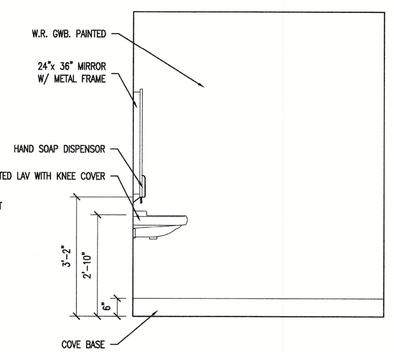
FRAME DETAIL 2

2 FRAME TYPES
SCALE: NOT TO SCALE

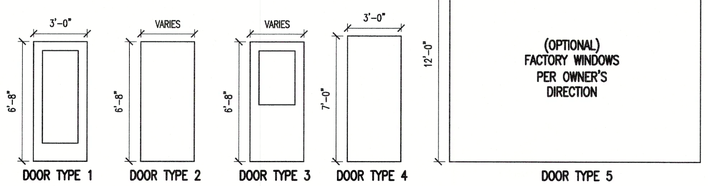




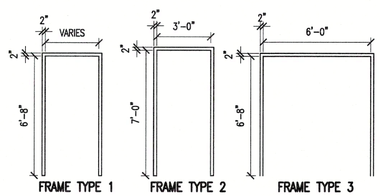




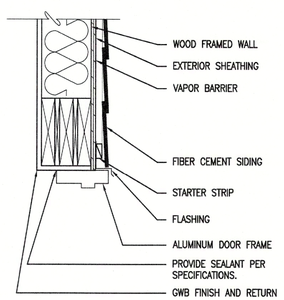
3 INTERIOR BATHROOM ELEVATIONS
SCALE: 1/2" = 1'-0"



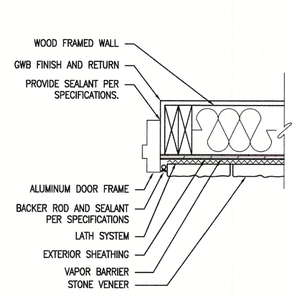
4 DOOR TYPES
SCALE: NOT TO SCALE



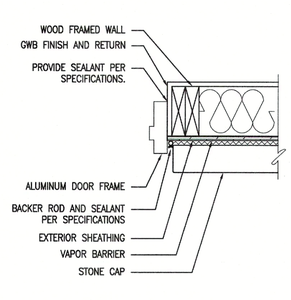
5 FRAME TYPES
SCALE: NOT TO SCALE



F.C. SIDING @ ALUM DOOR HEAD - FRAMED WALL
SCALE: 1 1/2 = 1-0"



STONE VENEER @ ALUM DOOR JAMB - FRAMED WALL
SCALE: 1 1/2 = 1-0"



STONE CAP @ ALUM DOOR JAMB - FRAMED WALL
SCALE: 1 1/2 = 1-0"

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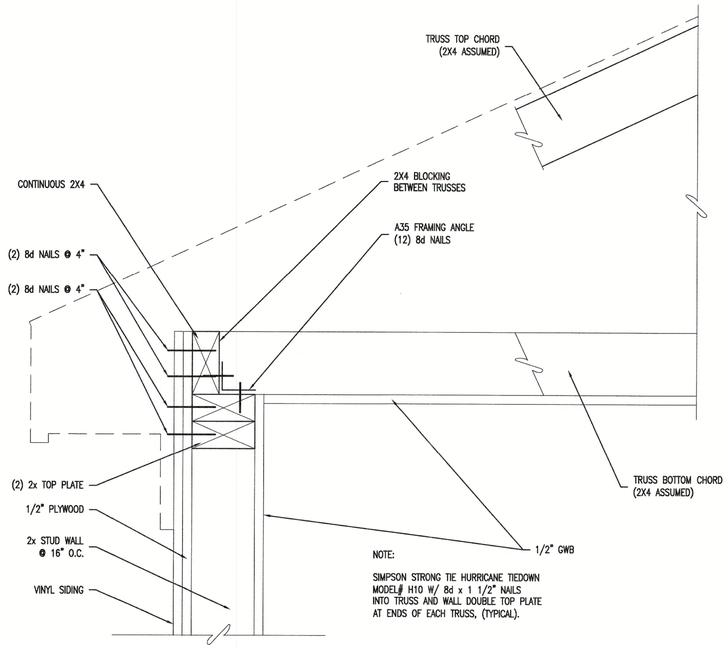
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SCHEDULES AND DETAILS

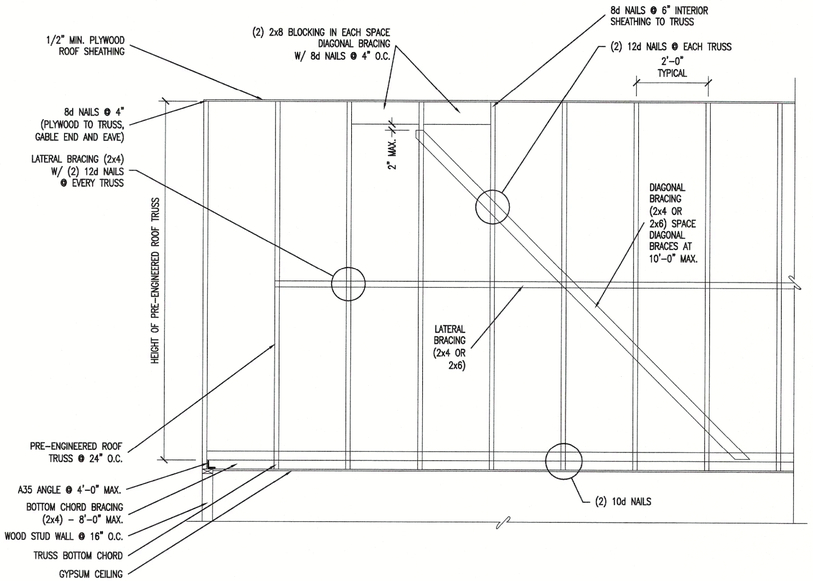
JOB NO: GC2023-05	DESIGNED BY: AAW
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DRAWING NUMBER:

A-10



1 SECTION: END OF PLYWOOD DIAPHRAGM
SCALE: 3" = 1'-0"



2 TYPICAL ROOF TRUSS BRACING
SCALE: 1/2" = 1'-0"

NOTE: DETAIL TO BE USED IF ROOF TRUSSES ARE NOT DESIGNED WITHOUT THE NEED FOR PERMANENT LATERAL BRACING.

BOTTOM CHORD OF TRUSS SHALL BE DESIGNED FOR THE LOADING OF AN HVAC UNIT AND RELATED DUCT WORK.

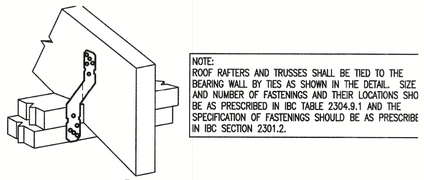
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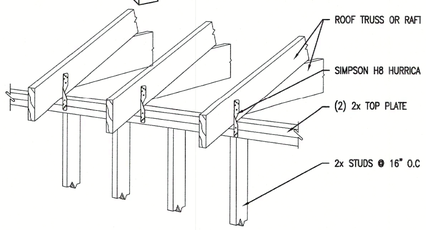
ALL THE POINT LOADS SHALL BE TRANSFERRED DOWN TO FOUNDATION BY MEANS OF APPROPRIATE POST OR BLOCK.

FOR LOCATIONS OF BEAM AND/OR POST LOCATIONS, SEE PLANS.

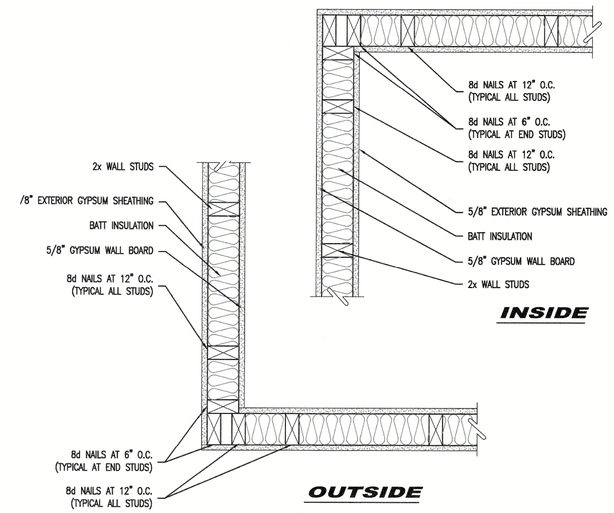
UNLESS OTHERWISE NOTED ALL THE PREFABRICATED I-JOISTS SHALL BE MANUFACTURED BY iLEVEL BY WEYERHAUSER OR EQUIVALENT. THESE JOISTS SHALL BE INSTALLED AS PER MANUFACTURED WRITTEN INSTRUCTIONS.

UNLESS NOTED ON PLAN, POSTS CAN BE SOLID OR BUILT UP AS FOLLOWS:
- 4x4 SOLID – (3) 2x4 NAILED @ 12" O.C. WITH 10d NAILS ON 2 ROWS BUILD UP.
- 4x6 SOLID – (4) 2x4 NAILED @ 12" O.C. WITH 10d NAILS ON 2 ROWS BUILD UP.
- 6x6 SOLID – (4) 2x6 NAILED @ 12" O.C. WITH 10d NAILS ON 2 ROWS BUILD UP.

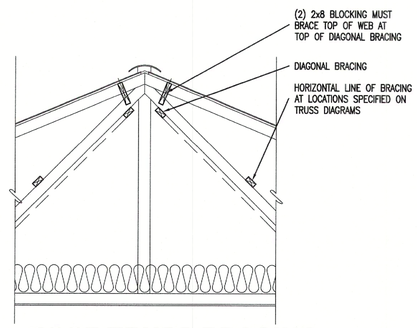




3 DETAIL - HURRICANE CONNECTOR
SCALE: 3/4" = 1'-0"

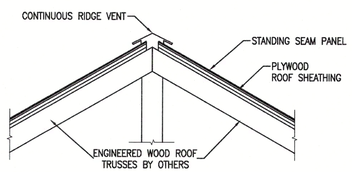


4 DETAIL - CORNER OF WALLS
SCALE: 1 1/2" = 1'-0"



5 ROOF TRUSS BRACING
SCALE: 1/2" = 1'-0"

NOTE: DETAIL TO BE USED IF ROOF TRUSSES ARE NOT DESIGNED WITHOUT THE NEED FOR PERMANENT LATERAL BRACING.



6 TYPICAL RIDGE VENT
SCALE: 1" = 1'-0"

TRUSS MANUFACTURER SHALL DESIGN TRUSS CONNECTION PLATES TO ALLOW FOR INSTALLATION OF SPECIFIED TIEDOWN CONNECTORS (FOR WIND UPLIFT). IF INSTALLATION OF NAILS (FOR TIEDOWN CONNECTORS) THROUGH TRUSS PLATES IS NOT ACCEPTABLE, OR IF THERE ARE ANY CONDITIONS ON NAIL INSTALLATION (SUCH AS THE NEED TO DRILL HOLES), TRUSS MANUFACTURER SHALL INFORM ARCHITECT (IN WRITING) PRIOR TO TRUSS DESIGN AND FABRICATION TO ALLOW FOR ANY DESIGN REVISIONS THAT MAY BE REQUIRED.

TRUSS MANUFACTURER TO DESIGN EACH TRUSS GIRDER TO RESIST LATERAL (OUT-OF-PLANE) FORCE FROM EACH LINE OF PERMANENT LATERAL BRACING REQUIRED FOR SINGLE ROOF TRUSSES. IF TRUSS GIRDER IS NOT HIGH ENOUGH, MOVE TRUSS GIRDER INWARD AS NECESSARY. CONSULT WITH ARCHITECT IF THERE IS ANY PROBLEM WITH LOCATING THE TRUSS GIRDER.

DESIGN FORCE IN EACH LINE OF BRACING SHALL BE GREATER OF THE FOLLOWING TWO FORCES:

(1) SUM OF BRACING FORCES FROM ALL MAIN ROOF TRUSSES. BRACING FORCE FROM EACH WEB SHALL BE TAKEN AS TWO (2) PERCENT OF THE DESIGN COMPRESSION FORCE IN THE WEB.

(2) 400 POUNDS

LATERAL FORCE APPLIED TO TRUSS GIRDER, FROM EACH LINE OF PERMANENT LATERAL BRACING ACROSS ROOF TRUSSES, IS DESIGNATED PLB FORCE.

LIST EACH PLB DESIGN FORCE ON TRUSS GIRDER DIAGRAM AND SHOW LOCATIONS WHERE PLB FORCES ARE APPLIED TO THE TRUSS GIRDER. IF WOOD BLOCKING MUST BE INSTALLED ON SITE TO TRANSFER PLB FORCE INTO THE TRUSS GIRDER, CLEARLY SHOW AND SPECIFY SUCH REQUIREMENT ON THE TRUSS GIRDER DIAGRAM.

DESIGN OF TRUSS GIRDER TO RESIST PLB FORCES SHALL BE BASED ON THE CONDITION (TO BE STATED ON TRUSS DIAGRAM) THAT BOTTOM CHORD IS TO BE BRACED BELOW EACH LOCATION WHERE PLB FORCE IS APPLIED TO TRUSS GIRDER.

TO MINIMIZE PLB FORCES, ROOF TRUSSES MAY BE DESIGNED WITH T-BRACING INSTEAD OF LINES OF LATERAL BRACING ACROSS WEBS. TRUSS DIAGRAMS SHALL HIGHLIGHT ANY SUCH T-BRACING REQUIREMENT.

BOTTOM CHORD OF TRUSS GIRDER TO BE BRACED BY MONOCLOPE ROOF TRUSSES, CONNECTED TO TOP OF EXTERIOR WALL.

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NJ PROFESSIONAL SURVEYOR No. No. 43504

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP
NEW EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

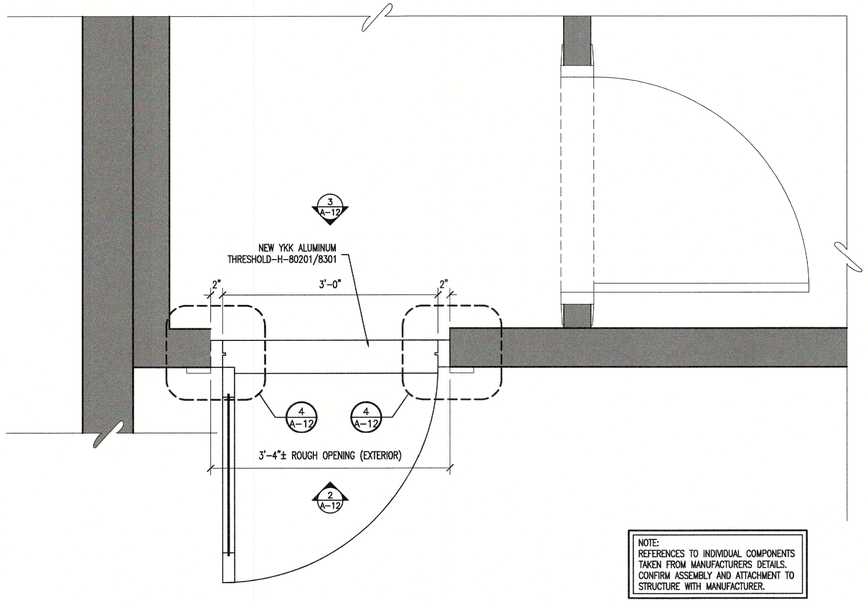
DRAWING TITLE:

ROOF DETAILS

JOB NO: GC2023-05	DESIGNED BY: AAW
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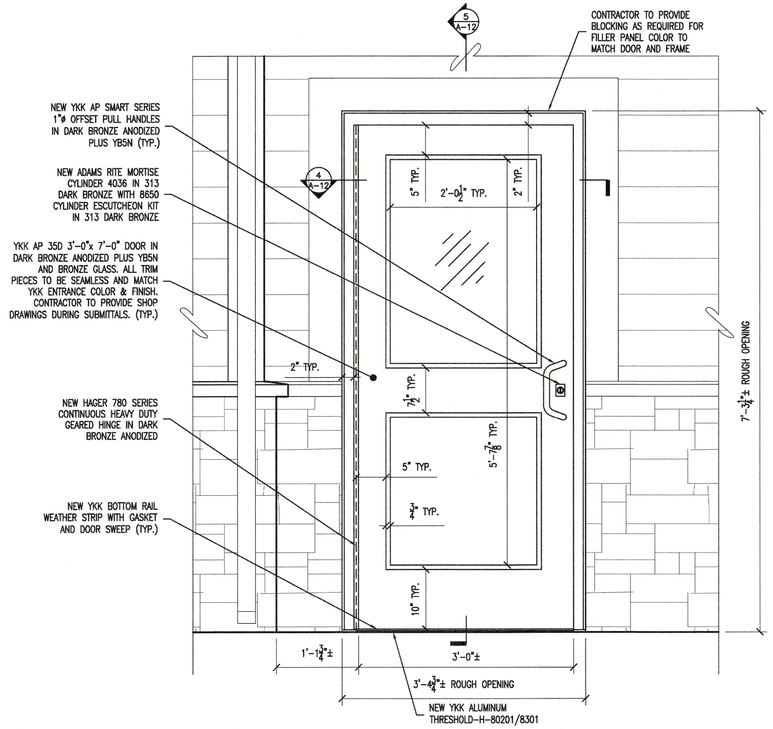
DRAWING NUMBER:

A-11

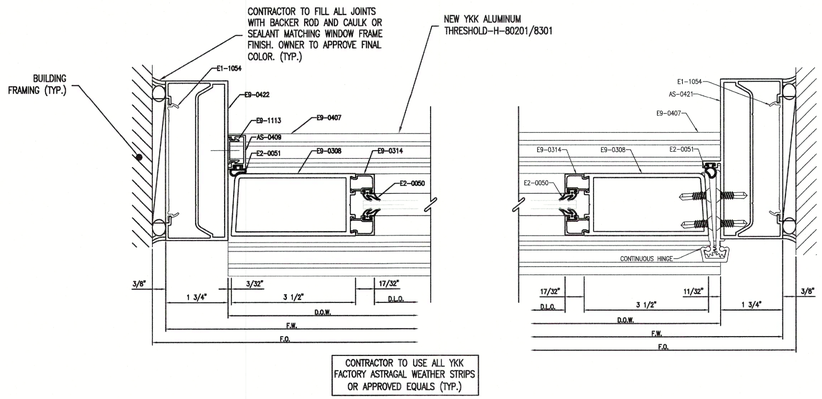


NOTE:
REFERENCES TO INDIVIDUAL COMPONENTS TAKEN FROM MANUFACTURERS DETAILS. CONFIRM ASSEMBLY AND ATTACHMENT TO STRUCTURE WITH MANUFACTURER.

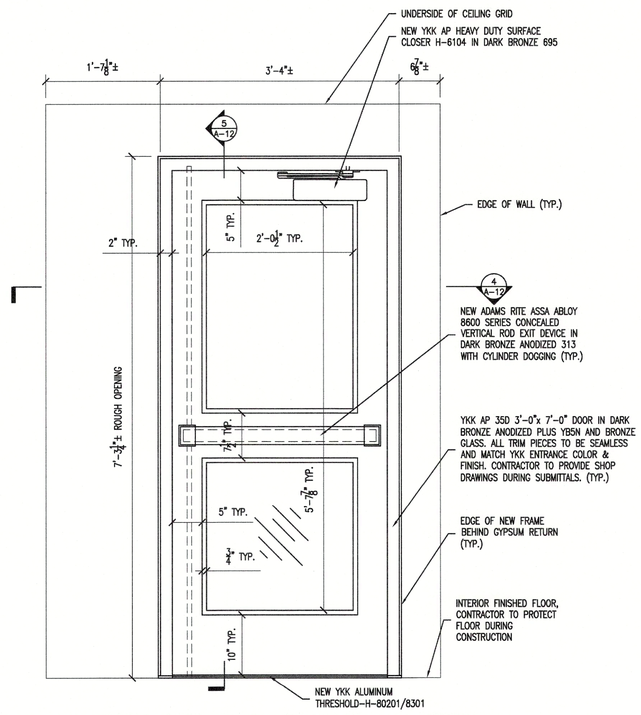
1 PARTIAL VESTIBULE PLAN
SCALE: 1" = 1'-0"



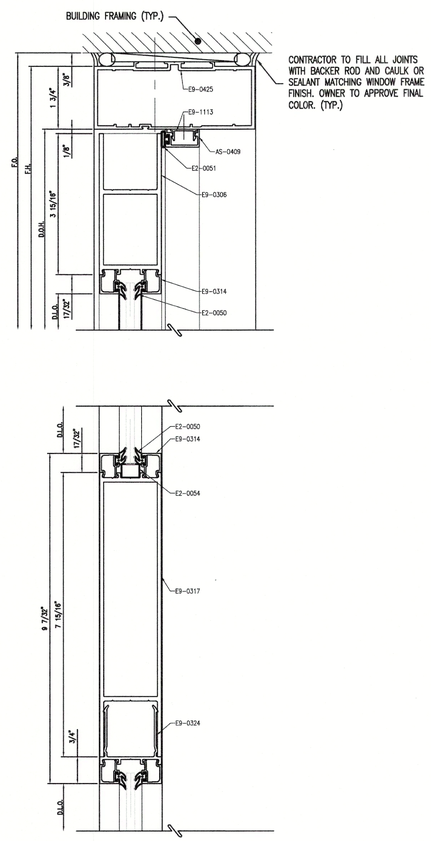
2 ELEVATIONS: EXTERIOR ENTRANCE (OUTER)
SCALE: 1" = 1'-0"



4 PROPOSED DOOR SECTION DETAIL
SCALE: 6" = 1'-0"



3 ELEVATIONS: EXTERIOR ENTRANCE (INNER)
SCALE: 1" = 1'-0"



5 PROPOSED DOOR SECTION DETAIL
SCALE: 6" = 1'-0"

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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

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1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

PARTIAL LOBBY PLAN, ELEVATIONS, AND DETAILS

JOB NO: GC2023-05	DESIGNED BY: AAW
DATE: MARCH 11, 2026	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB

DRAWING NUMBER:

A-12

STRUCTURAL NOTES

GENERAL

1. STRUCTURAL CONSTRUCTION DOCUMENTS SHALL BE USED WITH OTHER CONSTRUCTION DOCUMENTS, INCLUDING ARCHITECTURAL, M/E/P, AND SITE DOCUMENTS. COORDINATE WITH THESE DOCUMENTS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, ETC., NOT INDICATED ON THE STRUCTURAL DOCUMENTS.
2. ALL DIMENSIONS AND CONDITIONS, EXISTING AND NEW, SHALL BE FIELD VERIFIED. THE ENGINEER SHALL BE NOTIFIED OF DISCREPANCIES PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
3. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE STABILITY AND SAFETY DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF SHEETING, SHORING, TEMPORARY BRACING, GUYS, AND TIEDOWNS. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING NECESSARY TO PROTECT EXISTING AND ADJACENT STRUCTURES.
4. SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DOCUMENTS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS THAT DO NOT HAVE A SPECIFIC SECTION INDICATED, AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
5. APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OSHA.
6. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE. CONSTRUCTION LOADS SHALL NOT EXCEED THE SPECIFIED DESIGN LIVE LOADS. CONCRETE SHALL NOT BE LOADED UNTIL THE CONCRETE HAS REACHED AT LEAST 75% OF THE SPECIFIED DESIGN COMPRESSIVE STRENGTH.
7. THE CONTRACTOR'S CONSTRUCTION SEQUENCES SHALL ALLOW FOR THE EFFECTS OF THERMAL MOVEMENTS DURING THE CONSTRUCTION PERIOD, PRIOR TO THE BUILDING BEING ENCLOSED AND TEMPERATURE CONTROLLED. NEGATIVE EFFECTS OF SUCH THERMAL MOVEMENTS, SUCH AS MATERIAL CRACKING, FROST HEAVE, ETC., SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. IN THE ABSENCE OF SPECIFIC INSTRUCTIONS TO THE CONTRARY IN THE CONTRACT DOCUMENTS, THE TRADE PRACTICES THAT ARE DEFINED IN ANY CODE OF STANDARD PRACTICE SHALL GOVERN.

STRUCTURAL DESIGN CRITERIA

1. DESIGN LOADS ARE IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE, NEW JERSEY EDITION, ASCE 7-16 AND LOCAL CODE.
2. OCCUPANCY GROUP: S-2, B
   RISK CATEGORY: IV
3. LIVE LOADS ARE AS FOLLOWS. LIVE LOAD REDUCTIONS HAVE BEEN TAKEN WHERE APPLICABLE, UNO.

ROOF LIVE LOAD	30 PSF
GARAGE BAYS	250 PSF
GROUND FLOOR	100 PSF

4. SNOW LOADING IS BASED ON THE FOLLOWING. DRIFTING OR SLIDING SNOW LOADS HAVE BEEN CONSIDERED WHERE APPROPRIATE.

GROUND SNOW LOAD (Pg)	20 PSF
UNIFORM ROOF DESIGN SNOW LOAD	18.5 PSF
SNOW EXPOSURE FACTOR (Ce)	1.1
SNOW LOAD IMPORTANCE FACTOR (I)	1.2
SNOW THERMAL FACTOR (Ct)	1.0

5. WIND LOADING IS BASED ON THE FOLLOWING:

ULTIMATE WIND SPEED (3 SEC GUST)	129 MPH
NOMINAL WIND SPEED	99.9 MPH
IMPORTANCE FACTOR	1.0
WIND EXPOSURE	C
INTERNAL PRESSURE COEFF.	±0.18

6. SEISMIC LOADING IS BASED ON THE FOLLOWING:

SEISMIC IMPORTANCE FACTOR	1.5
SPECTRAL RESPONSE ACCEL. (Ss)	0.164g
SPECTRAL RESPONSE ACCEL. (S1)	0.046g
SITE CLASS (ASSUMED)	D
SPECTRAL RESPONSE COEFF. (Sds)	0.180
SPECTRAL RESPONSE COEFF. (Sd1)	0.073
SEISMIC DESIGN CATEGORY,	C
BASIC SEISMIC RESISTING SYSTEM	LIGHT FRAME WITH WOOD SHEAR PANELS
DESIGN BASE SHEAR	4.7K (WIND GOVERNS)
SEISMIC RESPONSE COEFF. (Cs)	0.042
RESPONSE MODIFICATION FACTOR (R)	6.5
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

7. DESIGN REACTIONS AND SUPPORT DETAILS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT IS BASED UPON AVAILABLE MANUFACTURER INFORMATION. SUPPORT CONDITIONS MAY NEED TO BE REVISED IF SUBMITTED COMPONENTS OR EQUIPMENT ARE DIFFERENT FROM THE BASIS OF DESIGN.
8. ROOF TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING SUPERIMPOSED LOADS:

TOP CHORD	BOTTOM CHORD
DEAD = 15 PSF	DEAD = 5 PSF
LIVE = 30 PSF	LIVE = 10 PSF
SNOW = PER CODE	LIVE = 60 PSF (CATWALKS)
WIND = PER CODE	

FOUNDATIONS

1. IN THE ABSENCE OF A GEOTECHNICAL ENGINEERING REPORT, FOUNDATIONS HAVE BEEN DESIGNED BASED UPON A PRESUMPTIVE ALLOWABLE BEARING CAPACITY OF 2,000 PSF, WHICH MUST BE CONFIRMED PRIOR TO PLACING FOUNDATIONS.
2. SPREAD FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL HAVING A MINIMUM SAFE BEARING CAPACITY OF 2,000 PSF, O RAS RECOMMENDED IN THE GEOTECHNICAL ENGINEERING REPORT.
3. THE BOTTOMS OF EXTERIOR FOOTINGS SHALL BE 36 IN. MINIMUM BELOW FINISHED GRADE.
4. EDGES OF FOOTINGS SHALL NOT BE PLACED AT A GREATER THAN 1 (VERTICAL) TO 2 (HORIZONTAL) SLOPE WITH RESPECT TO ANY ADJACENT FOOTING OR EXCAVATION.
5. ADJACENT COLUMN FOOTINGS THAT ABUT SHALL BE SEPARATED BY A PAPER JOINT.
6. FOUNDATION CONCRETE SHALL BE NORMAL WEIGHT HAVING A MINIMUM 28 DAY DESIGN COMPRESSIVE STRENGTH AS FOLLOWS:

SPREAD FOOTINGS	3000 PSI
SLAB-ON-GRADE (INTERIOR)	4000 PSI
SLAB-ON-GRADE (EXTERIOR)	4500 PSI, 0.45 W/C MAX.

7. PROVIDE AIR-ENTRAINMENT IN ALL CONCRETE EXPOSED TO FREEZE-THAW CONDITIONS DURING THE CONSTRUCTION PERIOD AND/OR IN THE COMPLETED STRUCTURE.

CONCRETE REINFORCING

1. REINFORCED CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-14.
2. CONCRETE REINFORCING SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:

DEFORMED BARS	ASTM A615, GRADE 60
WELDED WIRE FABRIC	ASTM A1064

3. LAP DEFORMED BARS 40 DIA., UNO. PROVIDE CORNER AND L BARS AT CORNERS AND INTERSECTIONS. REINFORCING INDICATED AS CONTINUOUS SHALL BE LAPPED. HOOKS SHALL BE STANDARD HOOKS, UNO. LAP WELDED WIRE FABRIC SUCH THAT THE OVERLAP OF THE OUTERMOST CROSS-WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING OF THE CROSS-WIRES PLUS TWO IN., UNO.
4. CONCRETE PROTECTION FOR REINFORCEMENT:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:	
NO. 6 THROUGH NO. 18 BARS:	2 IN.
NO. 5 BAR AND SMALLER:	1-1/2 IN.
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS:	
NO. 11 BAR AND SMALLER:	3/4 IN.
BEAMS, COLUMNS, PIERS:	1-1/2 IN.

5. REINFORCING FOR SLABS ON GRADE, WHERE NOT OTHERWISE SPECIFIED, SHALL BE AS FOLLOWS:
   REINFORCING BARS: SEE FOUNDATION AND TYPICAL DETAILS. AT SLAB BLOCKOUT AND RE-ENTRANT CORNERS, PROVIDE 2#5 X 4'-0" DIAGONALS.
   WIRE MESH: 6x6-W2.9 x W2.9 WWF. REINFORCING SHALL BE SUPPORTED AT MID-DEPTH OF SLAB.
6. DETAILING OF CONCRETE REINFORCING AND ACCESSORIES SHALL CONFORM TO ACI DETAILING MANUAL SP-66, AND WITH ACI 315, MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.

CONCRETE MASONRY

1. CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", TMS 402-16, AND "SPECIFICATIONS FOR MASONRY STRUCTURES", TMS 602-16.
2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MASONRY, F'M, SHALL BE 1500 PSI. (MIN NET AREA COMPRESSIVE STRENGTH OF UNIT = 1900 PSI.)
3. CONCRETE MASONRY SHALL CONFORM TO ASTM C90.
4. CONCRETE MASONRY REINFORCING SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
5. GROUT SHALL CONFORM TO ASTM C476, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. PROVIDE FINE AND COARSE GROUTS APPROPRIATE FOR SIZE OF VOID BEING FILLED. GROUT SHALL HAVE A MINIMUM SLUMP OF 8 INCHES PROVIDED BY SUFFICIENT WATER CONTENT. WATER-REDUCING ADMIXTURES ARE NOT PERMITTED.
6. MORTAR SHALL CONFORM TO ASTM C270, TYPE M OR S, PCL OR MORTAR CEMENT. MASONRY CEMENT NOT PERMITTED.
7. REINFORCED VOIDS, AND NON-REINFORCED VOIDS SPECIFIED TO BE GROUTED, IN CONCRETE MASONRY SHALL BE FILLED SOLID WITH GROUT IN 5 FT. MAXIMUM LIFTS. STOP POURS 1-1/2 INCHES BELOW THE BED JOINT TO FORM A KEY AT POUR JOINTS.
8. LAP DEFORMED BARS 48 DIA., UNO.
9. CONCRETE MASONRY SHALL BE LAID IN RUNNING BOND, UNO. PILASTERS SHALL BE BONDED, UNO.
10. LOAD BEARING CMU SHALL HAVE FULL MORTAR BED JOINTS.
11. PROVIDE HORIZONTAL LADDER-TYPE WALL REINFORGEMENT, HOT-DIP GALVANIZED, WITH 3/16" DIAMETER SIDE RODS AND 9 GA. CROSS RODS AT 8 INCHES ON CENTER. PROVIDE CONTINUITY AT INTERSECTIONS AND CORNERS USING PREFABRICATED T-SHAPED AND L-SHAPED UNITS.
12. VERTICAL CRACK CONTROL JOINTS IN WALLS SHALL BE PROVIDED AT 24 FT. O/C MAX, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
13. ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID.

WOOD

1. STRUCTURAL LUMBER SHALL CONFORM TO ANSI/AWC NDS-18, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", WITH 2018 SUPPLEMENT "DESIGN VALUES FOR WOOD CONSTRUCTION".
2. STRUCTURAL LUMBER SHALL BE NO. 2 HEM FIR, VISUALLY GRADED, OR BETTER.
3. PREFABRICATED METAL-PLATE-CONNECTED WOOD TRUSSES SHALL BE DESIGNED, CONSTRUCTED, AND INSTALLED IN ACCORDANCE WITH TPI 1 - 2014, "NATIONAL DESIGN FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION", ANSI/AWC NDS-18, QUALITY STANDARD FOR METAL PLATE CONNECTED WOOD TRUSSES (QST), HANDLING INSTALLING AND BRACING MPC'ED WOOD TRUSSES (TPI 1-19), AND RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF MPC'ED WOOD ROOF TRUSSES (DSB-89).
4. WOOD ROOF TRUSSES SHALL BE CONFIGURED TO ACCOMMODATE MECHANICAL DUCTWORK RUNS AND CATWALKS WITHIN THE TRUSS SPACE. COORDINATE WITH THE MECHANICAL CONTRACTOR AND ARCHITECTURAL DRAWINGS.
5. PLYWOOD SHALL CONFORM TO APA'S "PLYWOOD DESIGN SPECIFICATION", 2012, AND DOC'S PS 1 - 09, "CONSTRUCTION AND INDUSTRIAL PLYWOOD". ALL JOINTS SHALL BE STAGGERED. PANELS SHALL BE INSTALLED WITH THE LONG DIMENSION ACROSS SUPPORTS. NAILING SHALL COMPLY WITH MINIMUM APA REQUIREMENTS FOR PLYWOOD FLOOR/ROOF DIAPHRAGMS, AND IBC FASTENING SCHEDULE.
6. PLYWOOD ROOF SHEATHING SHALL BE APA STRUCTURAL 1 RATED SHEATHING, EXPOSURE 1, THICKNESS AS INDICATED. PROVIDE PANEL CLIPS AT UNSUPPORTED EDGES.
7. PLYWOOD WALL SHEATHING SHALL BE APA RATED SHEATHING, TYPE CDX, EXPOSURE 1.
8. ROOF SHEATHING SHALL BE INSTALLED ON MAIN ROOF MEMBERS PRIOR TO THE INSTALLATION OF OVERFRAMING MEMBERS.
9. CONNECTIONS SHALL BE MADE USING PREFABRICATED CONNECTORS. CONNECTOR SIZE AND CAPACITY SHALL MATCH MEMBER SIZE AND CAPACITY. TOE-NAILING IS NOT PERMITTED.
10. MINIMUM FASTENING SHALL CONFORM TO IBC TABLE 2304.9.1, "FASTENING SCHEDULE".
11. HEADERS AT NON LOAD BEARING CONDITIONS SHALL BE AS FOLLOW:

2X4 WALLS:	
OPENINGS UP TO 4'-0"	(2) 2X8 + 1/2" PLYWOOD
OPENINGS > 4'-0" TO 6'-0"	(2) 2x10 + 1/2" PLYWOOD
OPENINGS > 6'-0" TO 9'-0"	(2) 2x12 + 1/2" PLYWOOD
2X6 WALLS	
OPENINGS UP TO 4'-0"	(3) 2X8 + 1/2" PLYWOOD (2 LAYERS)
OPENINGS > 4'-0" TO 6'-0"	(3) 2x10 + 1/2" PLYWOOD (2 LAYERS)
OPENINGS > 6'-0" TO 9'-0"	(3) 2x12 + 1/2" PLYWOOD (2 LAYERS)

12. PROVIDE CONTINUOUS SOLID BLOCKING OR CROSS-BRIDGING LINES AT 8'-0" O/C MAX., ONE LINE MINIMUM. PROVIDE ADDITIONAL BRIDGING FOR MANUFACTURED WOOD PRODUCTS (JOISTS, TRUSSES, ETC.) AS SPECIFIED BY MANUFACTURER.
13. REFER TO STRUCTURAL DESIGN CRITERIA FOR TRUSS DESIGN LOADS.
14. PRESSURE PRESERVATIVE TREATED LUMBER SHALL BE PROVIDED WHERE LUMBER IS IN CONTACT WITH CONCRETE OR MASONRY, OR EXPOSED TO THE WEATHER.
15. ALL FASTENERS AND PREFABRICATED CONNECTORS USED WITH PRESERVATIVE TREATED WOOD SHALL HAVE A HOT-DIP GALVANIZING G185 COATING ACCORDING TO ASTM A153 AND A123. (TYPE A304 OR 306 STAINLESS STEEL FASTENERS AND CONNECTORS)

SUBMITTALS

1. THE APPLICABLE CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR APPROVAL:
   CONCRETE MIX DESIGNS FOR STRENGTHS INDICATED
   CONCRETE REINFORCING SHOP DRAWINGS
   STRUCTURAL STEEL SHOP DRAWINGS
   MASONRY GROUT AND MORTAR MIX DESIGNS
   WOOD TRUSS SHOP DRAWINGS W/ P.E. SEALED CALCULATIONS

POST INSTALLED ANCHORS

1. BASIS OF DESIGN FOR ADHESIVE ANCHOR IS HILTI'S "HIT-HY 200" SYSTEM", WITH HIT-Z ANCHOR RODS.
2. BASIS OF DESIGN FOR EXPANSION ANCHORS IS HILTI'S "KWIK BOLT TZ2"
3. ALL ANCHORS USED IN EXTERIOR APPLICATIONS SHALL BE STAINLESS STEEL ANCHORS. USED IN INTERIOR APPLICATIONS SHALL BE ZINC-COATED CARBON STEEL.

DELEGATED DESIGN

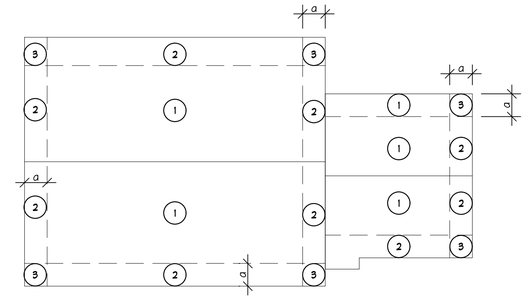
1. CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY AS REQUIRED FOR THE DESIGN OF THE FOLLOWING BUILDING ELEMENTS WHICH HAVE BEEN DESIGNATED AS A DELEGATED DESIGN:

   A. WOOD ROOF TRUSSES

SPECIAL INSPECTIONS

CONCRETE: (IBC 2021 SECTION 1705.3) NOT APPLICABLE TO ISOLATED SPREAD FOOTINGS OR NON-STRUCTURAL SLABS ON GROUND	FREQUENCY	REFERENCED STANDARD
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT	PERIODIC	ACI 318:3.5, 7.1-7.7
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2b.	PERIODIC	AWS D1.4 ACI 318: 3.5.2
3. INSPECTION OF ANCHORS CAST IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	PERIODIC	ACI 318: 8.1.3, 21.2.8
4. INSPECTION OF ANCHORS POST INSTALLED IN HARDENED CONCRETE MEMBERS.	CONTINUOUS	ACI 318: 3.8.6, 8.1.3, 21.2.8
5. VERIFYING USE OF REQUIRED DESIGN MIX.	PERIODIC	ACI 318: 3.8.6, 8.1.3, Ch.4, 5.2-5.4
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	CONTINUOUS	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8
7. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONTINUOUS	ACI 318: Ch. 5.9, 5.10
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING, TEMPERATURE AND TECHNIQUES.	PERIODIC	ACI 318: 5.11-5.13
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC	ACI 318: 6.1.1

SOILS: (IBC 2021 SECTION 1705.6)	FREQUENCY	REFERENCED STANDARD
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	PERIODIC	GEOTECHNICAL ENGINEERING REPORT
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	PERIODIC	GEOTECHNICAL ENGINEERING REPORT
3. PERFORM CLASSIFICATIONS AND TESTING OF COMPACTED FILL MATERIALS.	PERIODIC	GEOTECHNICAL ENGINEERING REPORT
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	CONTINUOUS	GEOTECHNICAL ENGINEERING REPORT
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	PERIODIC	GEOTECHNICAL ENGINEERING REPORT



a = 4.0 FT

COMPONENTS & CLADDING ZONES PER ASCE 7-16

EFFECTIVE WIND AREA	ZONE 1 INT. ROOF	ZONE 2 EDGE ROOF	ZONE 3 CORNER ROOF	ZONE 4 WALLS	ZONE 5 WALL CORNERS
<20 SF	+21.7	+21.7	+21.7	+37.9	+37.9
	-56.5	-78.9	88.6	-41.3	-49.6
50 SF	+18.5	+18.5	+18.5	+35.5	+35.5
	-48.5	-64.2	-66.6	-38.9	-44.8
200 SF	+16.1	+16.1	+16.1	+32.0	+32.0
	-36.5	-46.4	-66.6	-35.3	-37.7
>500 SF	+16.1	+16.1	+16.1	+29.6	+29.6
	-33.0	-46.4	-66.6	-33.0	-33.0

NOTES:
1. PLUS AND MINUS SIGNS SIGNIFY PRESSURES IN PSF ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
2. INDICATED PRESSURES ARE ULTIMATE LOADS.

COMPONENTS & CLADDING WIND PRESSURES

SCALE: NOT TO SCALE

BL&A STRUCTURAL ENGINEERS
BAKER, INGRAM & ASSOCIATES
2 White Horse Pike, Haddon Heights, NJ 08035, 856.310.1491, www.bakeringram.com
NJ Cert of Authorization No. #24GA28010400

SEALS:

Brian D. McGlade, PE
New Jersey PE #34227

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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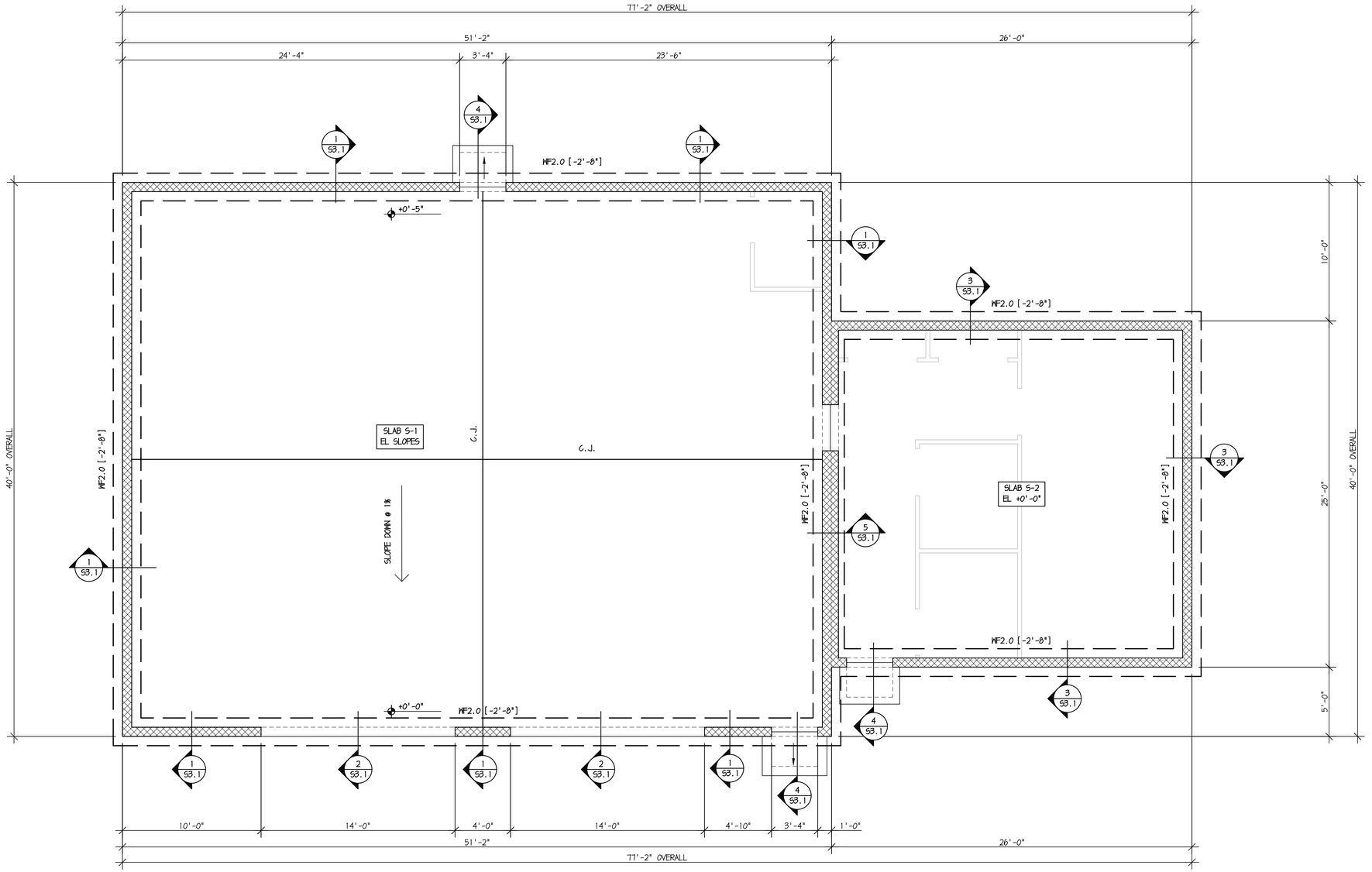
DRAWING TITLE:

STRUCTURAL NOTES & SPECIAL INSPECTION REQUIREMENTS

JOB NO: H15527-24	DESIGNED BY: BDM
DATE: 10/26/26	DRAWN BY: DMM
SCALE: AS NOTED	CHECKED BY: BDM

DRAWING NUMBER:

S1.1



1/52.1 FOUNDATION & GROUND FLOOR PLAN

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

FOUNDATION PLAN NOTES

1. FIRST FLOOR ELEVATION + 0'-0" IS REFERENCED RELATIVE TO DATUM ELEVATION - SEE GIVIL.
2. ELEVATIONS ARE NOTED FROM REF EL 0'-0 AS FOLLOWS:
   (-#'-#) INDICATES TOP OF CONCRETE SLAB
   [-#'-#'] INDICATES TOP OF FOOTING
3. FOUNDATION MEMBERS SHALL BE AT THE FOLLOWING ELEVATIONS, UNO:
   FOOTINGS T/FOOTING [-2'-8"]
4. FOUNDATION MEMBERS ARE DESIGNATED AS FOLLOWS:
   F#.# FOOTING MARK - SEE SCHEDULE.
5. COORDINATE WITH ARCH, MECH, ELEC, AND PLMB DRAWINGS FOR FLOOR SLOPES, DRAINS, OPENINGS, DEPRESSIONS, ETC., NOT SHOWN ON THIS PLAN.
6. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
7. PROVIDE (2) #4 x 4'-0" DIAGONAL BARS AT ALL RE-ENTRANT SLAB-ON-GRADE CORNERS.
8. REFER TO STRUCTURAL NOTES ON DRAWING S1.1.

WALL FOOTING SCHEDULE

MARK	SIZE	REINFORCING	
		CONTINUOUS	TRANSVERSE
WF2.0	2'-0" x 1'-0"	3-#5	#5 @ 48"

SLAB SCHEDULE

SLAB S-1:	8" N.W. CONC. SLAB ON GRADE w/ #4 @ 12" T&B EW OVER 15 mil VAPOR BARRIER ON 6" (MIN) COMPACTED GRANULAR FILL
SLAB S-2:	5" N.W. CONC. SLAB ON GRADE w/ 6x6-W2.1.xW2.1 WWF OVER 15 mil VAPOR BARRIER ON 4" (MIN) COMPACTED GRANULAR FILL

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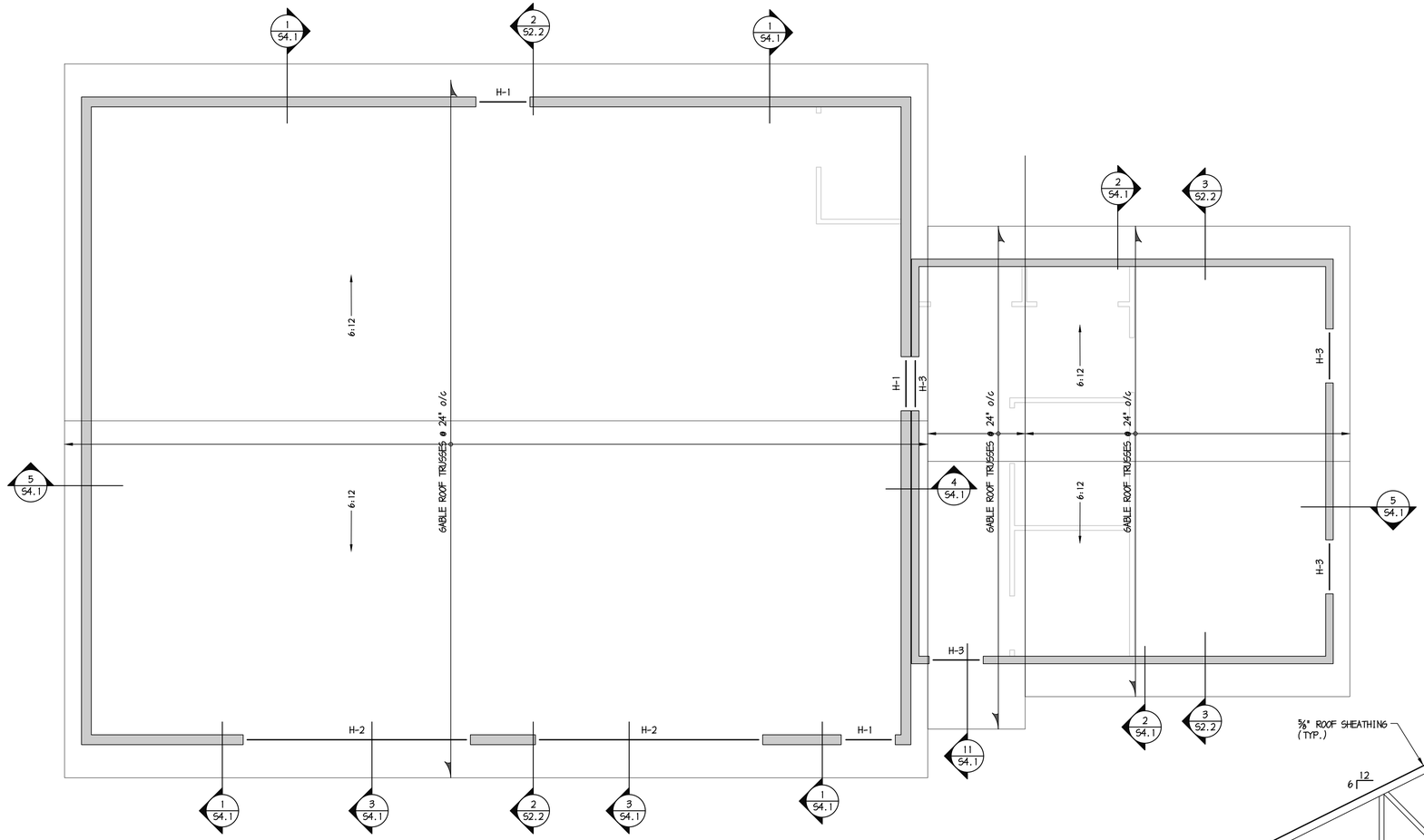
DRAWING TITLE:

FOUNDATION & GROUND FLOOR PLAN

JOB NO: H15527-24	DESIGNED BY: BDM
DATE: 10/26/26	DRAWN BY: DMM
SCALE: AS NOTED	CHECKED BY: BDM

DRAWING NUMBER:

S2.1



1 / 52.2 ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

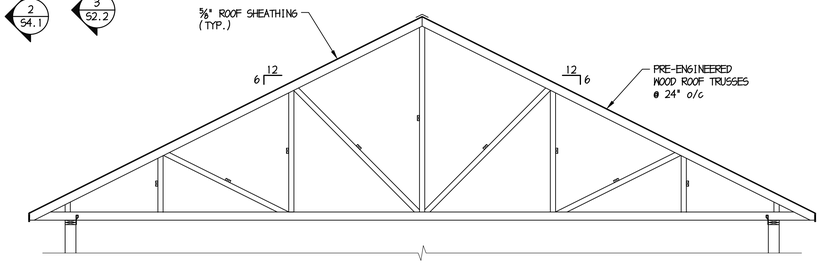
ROOF FRAMING NOTES

1. T/PLATE ELEVATION = +16'-1" FOR GARAGE.
   T/PLATE ELEVATION + +9'-1" FOR OFFICE.
2. 'H-?' INDICATES WOOD HEADER - SEE SCHEDULE.
3. ALL ROOF SHEATHING = 5/8" PLYWOOD.
4. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
5. REFER TO STRUCTURAL NOTES DRAWING S1.1.
6. REFER TO SECTIONS & DETAILS ON DRAWINGS S4.1 & S6.1.

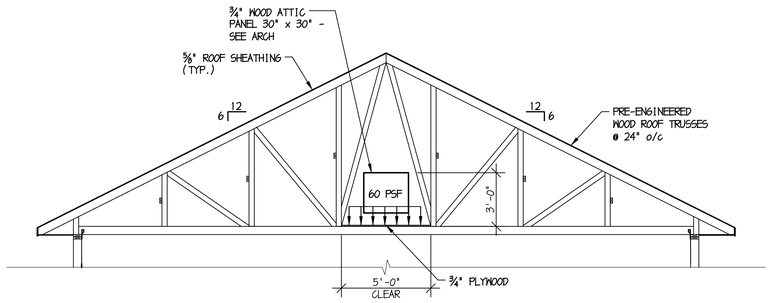
HEADER SCHEDULE

MARK	SECTION	STUDS	
		JACK	KING
H-1	(4) 2x8	(1) 1 3/4"x1 1/4" LSL	(1) 1 3/4"x1 1/4" LSL
H-2	(2) 3 1/2x11 7/8 PSL	(2) 1 3/4"x1 1/4" LSL	(2) 1 3/4"x1 1/4" LSL
H-3	(3) 2x8	(1) 2x6	(1) 2x6

NOTE:
PROVIDE PLYWOOD SPACERS AS REQUIRED FOR MULTI-PLY HEADERS



2 / 52.2 TRUSS PROFILE - GARAGE
SCALE: 1/4" = 1'-0"



3 / 52.2 TRUSS PROFILE - OFFICE
SCALE: 1/4" = 1'-0"

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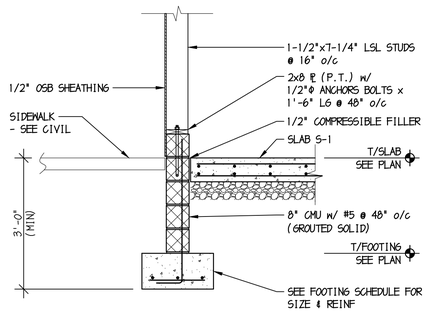
DRAWING TITLE:

ROOF FRAMING PLAN

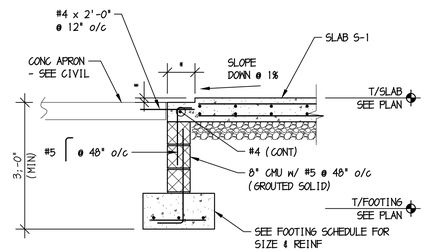
JOB NO: H15527-24	DESIGNED BY: BDM
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S2.2

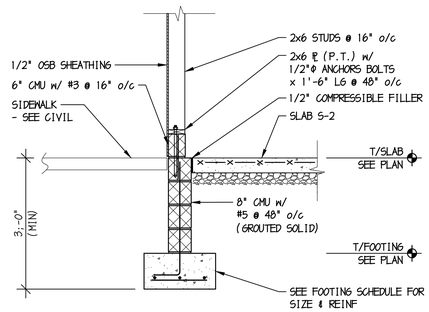


1 S3.1 **SECTION @ GARAGE BAY WALL**
SCALE: 1/2" = 1'-0"

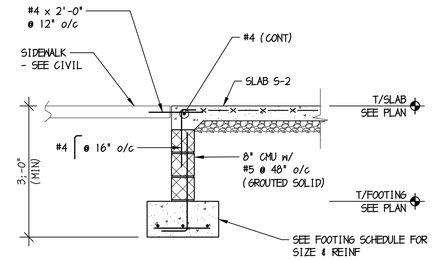


COORDINATE DIMENSIONS NOTED "*" W/ OVERHEAD DOOR MANUFACTURER

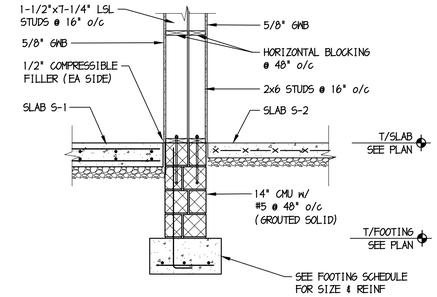
2 S3.1 **SECTION @ OVERHEAD DOORS**
SCALE: 1/2" = 1'-0"



3 S3.1 **SECTION @ OFFICE WALL**
SCALE: 1/2" = 1'-0"



4 S3.1 **SECTION @ MAN DOORS**
SCALE: 1/2" = 1'-0"



5 S3.1 **SECTION @ INTERIOR WALL**
SCALE: 1/2" = 1'-0"

6 S3.1 **FOOTING STEP DETAIL**
SCALE: 1/2" = 1'-0"

NOTE:
COORDINATE WITH MECH CONT. RACTOR FOR LOCATIONS.

7 S3.1 **STEP FTG @ PIPE CROSSING**
SCALE: 1/2" = 1'-0"

8 S3.1 **PIPE CROSSING BLW WALL FTG**
SCALE: 1/2" = 1'-0"

NOTE:
PROVIDE BOLTED-TYPE CONNECTION, LISTED & INTENDED FOR THIS APPLICATION. MATERIALS SHALL BE COMPATIBLE WITH WIRING USED, & BOLTS SHALL BE TIGHTENED PER MANUF. PUBLISHED TORQUE-TIGHTENING VALUES (OR THOSE SPECIFIED IN UL486A "WIRE CONNECTORS AND SOLDERING LUGS FOR USE WITH COPPER CONDUCTORS").

NOTE: GROUNDING WIRE TO BE LOCATED NEAR MAIN DISTRIBUTION PANEL

9 S3.1 **TYPICAL GROUNDING DETAIL**
SCALE: 1/2" = 1'-0"

10 S3.1 **SLAB CONTROL JOINT DETAIL**
SCALE: 1/2" = 1'-0"

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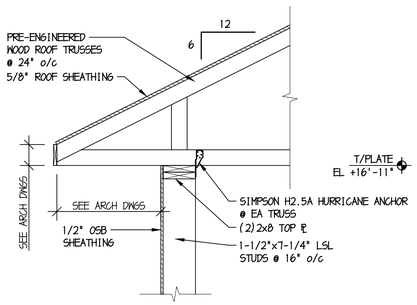
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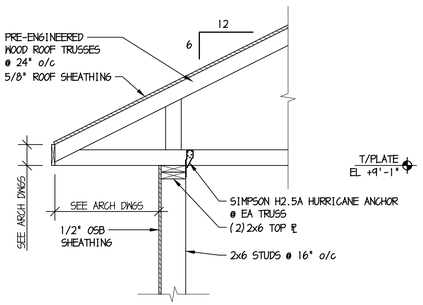
DRAWING TITLE:
FOUNDATION DETAILS

JOB NO: H15527-24	DESIGNED BY: BDM
DATE: 10/26/26	DRAWN BY: DMM
SCALE: AS NOTED	CHECKED BY: BDM

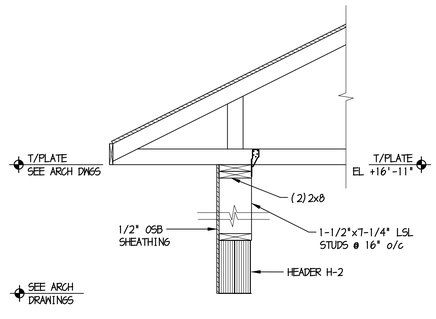
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S3.1



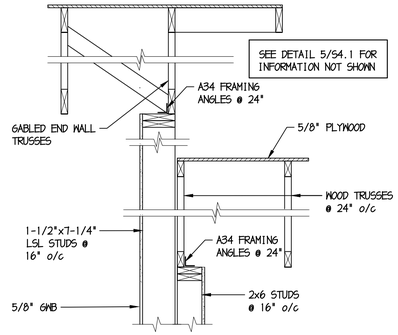
1 S4.1 **SECTION @ GARAGE WALL**
SCALE: 3/4" = 1'-0"



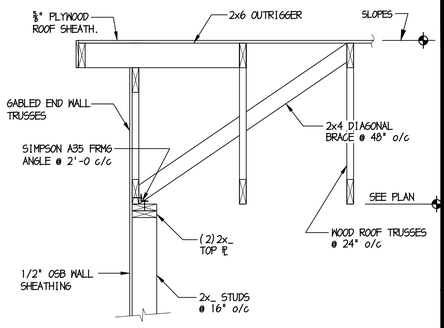
2 S4.1 **SECTION @ OFFICE WALL**
SCALE: 3/4" = 1'-0"



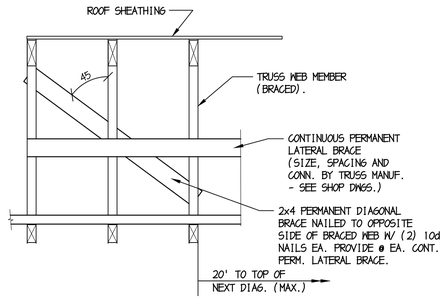
3 S4.1 **SECTION @ OVERHEAD DOOR**
SCALE: 3/4" = 1'-0"



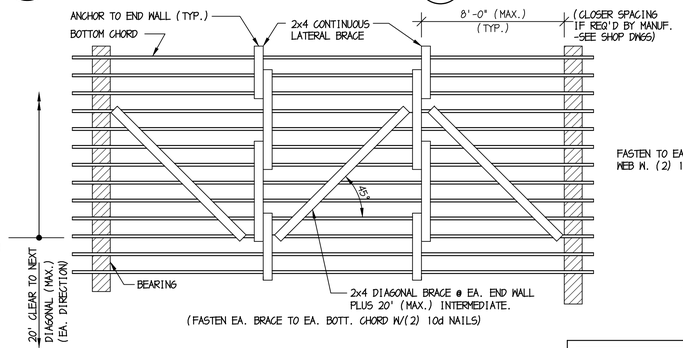
4 S4.1 **SECTION @ INTERIOR WALL**
SCALE: 3/4" = 1'-0"



5 S4.1 **GABLE END WALL DETAIL**
SCALE: 3/4" = 1'-0"

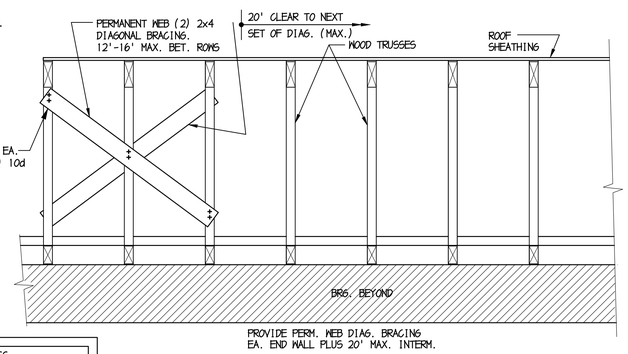


6 S4.1 **PERM. DIAG BRACE @ CONT. PERM. LAT BRACE**
SCALE: NOT TO SCALE

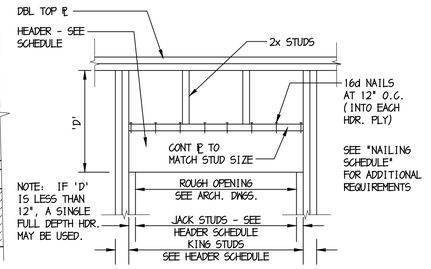


7 S4.1 **PERMANENT BOTT. CHORD BRACING**
SCALE: NOT TO SCALE

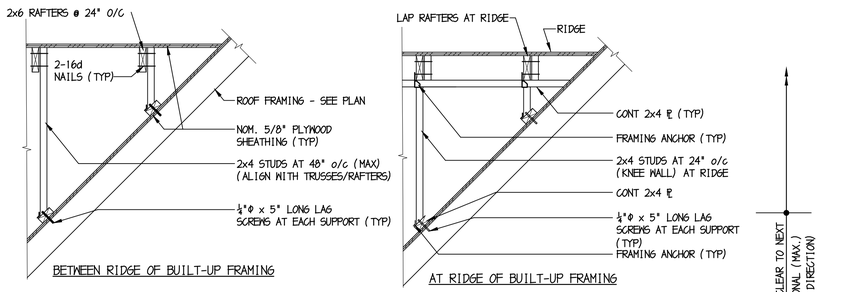
NOTE: FOLLOW TRUSS MANUFACTURER'S DETAILS FOR CHORD BRACING AND DIAGONAL BRACING



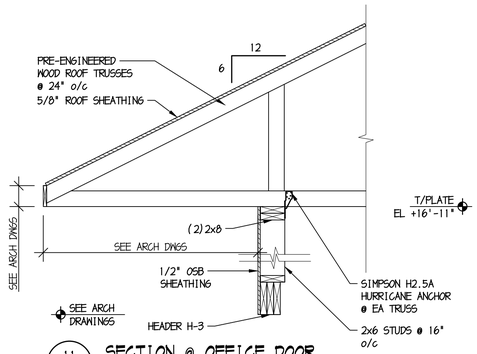
8 S4.1 **PERM. WEB DIAG. BRACING**
SCALE: NOT TO SCALE



9 S4.1 **TYP. FRAMED OPENING DETAIL**
SCALE: 3/4" = 1'-0"



10 S4.1 **TYP. OVERFRAMING DETAILS**
SCALE: NOT TO SCALE



11 S4.1 **SECTION @ OFFICE DOOR**
SCALE: 3/4" = 1'-0"

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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

NO.	DESCRIPTION	DATE
–	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

ROOF FRAMING DETAILS

JOB NO: H15527-24	DESIGNED BY: BDM
DATE: 10/26/26	DRAWN BY: DMM
SCALE: AS NOTED	CHECKED BY: BDM

DRAWING NUMBER:

S4.1

ELECTRICAL SYMBOLS SCHEDULE

THIS IS A COMPLETE LIST OF ELECTRICAL SYMBOLS FOR REFERENCE ONLY. SYMBOLS SHOWN HERE MAY OR MAY NOT BE USED ON THIS PROJECT.

GENERAL SYMBOLS

- 6 — KEY NOTE INDICATOR
- (5) — EQUIPMENT INDICATOR
- (2) — SCHEDULED ITEM INDICATOR
- 2 — DRAWING REVISION INDICATOR

CONDUIT AND WIRING

- BRANCH CIRCUIT RUN CONCEALED
- BRANCH CIRCUIT RUN UNDER FLOOR
- UP — BRANCH CIRCUIT UP OR DOWN
- 2A–1,3,5 — HOME RUN TO PANEL 2A CKTS 1, 3, & 5
- EM — EMERGENCY ONLY BRANCH CIRCUIT
- NL — NIGHT LIGHT BRANCH CIRCUIT
- LV — LOW VOLTAGE CIRCUIT
- SMR — SURFACE METAL RACEWAY SIZED FOR NO. OF CONDUCTORS TO BE INSTALLED
- CT — CABLE TRAY
- INDICATES CONNECTION TO EXISTING
- PM — PLUGMOLD – SEE PLAN FOR LENGTH

SOUND SYSTEM

- (S) — SPEAKER – CEILING MTD FLUSH
- $(S)_S$ — SPEAKER – CEILING MTD SURFACE

AUTOMATIC DOOR

- $(MD)_M$ — MOTION DETECTOR H–HEAD MTD C–CEILING MTD
- PP — PUSH PLATE
- KS — KEY SWITCH
- PR — POWER RESET
- DI — DOOR MOUNTED SAFETY INTERLOCK
- ES — ELECTRIC STRIKE
- PUSH BUTTON

SECURITY SYSTEM

- CA — CARD ACCESS STATION
- DS — DOOR ALARM SWITCH W/ ELEC HINGE
- SC — SECURITY CHIME
- $KBP — KEY BY–PASS SW. FOR DOOR POSITION SW.
- MD — SECURITY SYSTEM MOTION DETECTOR
- SECURITY TV CAMERA
- SEC — SECURITY SYSTEM CONSOLE
- EML — ELECTROMAGNETIC LOCK
- RR — REMOTE RELEASE
- EH — ELECTRIC HINGE
- ES — ELECTRIC STRIKE
- KS — KEY SWITCH

POWER DISTRIB.

- SURFACE MTD PANELBOARD
- FLUSH MTD PANELBOARD
- 277/480V PANEL
- 120/208V PANEL
- MOTOR CONNECTION
- DISCONNECT SWITCH
- MAGNETIC STARTER
- COMBINATION STARTER/DISCONNECT
- POWER COMPANY METER
- C. T. CABINET
- JUNCTION BOX – CEILING MOUNTED
- J — JUNCTION BOX – FLOOR MOUNTED

POWER SYSTEMS

- T — TRANSFORMER
- ATS — AUTOMATIC TRANSFER SWITCH
- EM GEN — EMERGENCY GENERATOR
- PDU — POWER DISTRIBUTION UNIT
- UPS — UNINTERRUPTABLE POWER SOURCE
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSOR
- ATC — AUTOMATIC TEMPERATURE CONTROL

GROUNDING AND LIGHTNING PROTECTION

- G — GROUND CONDUCTOR RUN CONCEALED
- G — GROUND CONDUCTOR RUN UNDER FLOOR
- THERMITE WELD TO BLDG OR EQUIP
- THERMITE WELD OF GROUND CONDUCTORS
- BONDING PLATE OR CLAMP CONNECTION TO PIPING OR EQUIP
- CONNECTION TO AIR TERMINAL FOR LIGHTNING PROTECTION
- THERMITE WELD TO GROUND ROD
- GROUND ROD TRIODE

LIGHTING

- A / a 2A–2 — FIXTURE DESIG.–'A' FIXTURE TYPE 'a' SWITCH NO. '2A–2' PANEL 2A CKT no.2
- 2X4 FIXTURE
- 2X2 FIXTURE
- 1X4 FIXTURE
- FLUORESCENT STRIPLIGHT
- PENDANT TUBE FIXTURE
- RECESSED DOWNLIGHT
- WALL WASHER
- WALL MTD FIXTURE
- POLE MTD FIXTURE
- CEILING MTD EXIT SIGN W/ ARROWS AS INDICATED
- WALL MTD EXIT SIGN W/ ARROWS AS INDICATED
- LIGHTING TRACK – LENGTH OF TRACK AND NO. OF FIXTURES AS INDICATED ON PLAN.
- NL — INDICATES NIGHT LIGHT
- EMERGENCY BATTERY PACK W/ NUMBER OF HEADS AS INDICATED.
- EMERGENCY LIGHTING REMOTE HEADS
- EMERGENCY BATTERY PACK

COMMUNICATIONS

- TELEPHONE OUTLET
- T_W — WALL MTD TELE OUTLET
- DATA OUTLET
- COMBINATION TELE/DATA OUTLET
- T_{PF} — COMBINATION TELE/DATA OUTLET AT MOVABLE PARTITION
- T_{FF} — TELE/DATA OUTLET FLUSH FLOOR MOUNTED
- COMBINATION POWER & TELE/DATA OUTLET FLUSH FLOOR MOUNTED
- TELE/DATA CONDUIT STUB–UP

FIRE ALARM SYSTEM

- MANUAL PULL STATION
- HORN AND FLASHING LIGHT
- CHIME AND FLASHING LIGHT
- FIRE ALARM BELL
- FLASHING LIGHT
- FS — FIRE ALARM SPEAKER – CEILING MTD
- FS — FIRE ALARM SPEAKER – WALL MTD
- COMBINATION SPEAKER/FLASHING LIGHT
- ID — IONIZATION TYPE SMOKE DETECTOR
- PD — PHOTOELECTRIC TYPE SMOKE DETECTOR
- TD — THERMAL TYPE DETECTOR
- ID_D — IONIZATION TYPE MTD TO DUCT
- ID_P — IONIZATION TYPE MTD IN PLENUM
- TD_D — THERMAL TYPE MTD TO DUCT
- RI — REMOTE TEST SWITCH
- PD_R — PHOTOELECTRIC TYPE W/ RELAY
- FS — FLOW SWITCH
- TS — TAMPER SWITCH
- PS — PRESSURE SWITCH FOR DRY TYPE SYSTEM
- TB — REMOTE TROUBLE BELL
- SH — ELECTROMAGNETIC SHUTTER HOLDER
- DH — ELECTROMAGNETIC DOOR HOLDER
- DC — FIRE ALARM SYSTEM ACTIVATED DOOR CLOSER
- FT — FIREMANS TELEPHONE JACK
- CZ — CONTROL ZAM
- MZ — MONITOR ZAM
- FACP — FIRE ALARM CONTROL PANEL
- FACC — FIRE ALARM COMMAND CENTER
- FAA — FIRE ALARM ANNUNCIATOR
- FTR — FIRE ALARM PUNCH TAPE RECORDER
- FDGP — FIRE ALARM DATA GATHERING PANEL
- FSCP — FIRE SUPPRESSION CONTROL PANEL
- FIRE, SMOKE OR FIRE/SMOKE DAMPER

ELECTRICAL DEVICES

- $\$_2$ $\$_3$ $\$_4$ — SINGLE–POLE DOUBLE–POLE 3–WAY AND 4–WAY SWITCHES
- $\$_{WP}$ — SINGLE POLE SWITCH – WEATHERPROOF
- $\$_{LO}$ — DUAL LEVEL SWITCHING INSIDE/OUTSIDE LAMP CONTROL
- $\$_K$ — KEY–LOCK SWITCH
- $\$_L$ — LIGHTED–HANDLE SWITCH
- $\$_{CO}$ — CENTER–OFF DOUBLE–POLE SWITCH
- $\$_{EXP}$ — EXPLOSION–PROOF SWITCH
- $\$_D$ — LOCAL WALL DIMMER SWITCH
- $\$_{LV}$ — LOW–VOLTAGE SWITCH
- $\$_T$ — MANUAL TOGGLE SWITCH WITH THERMAL OVERLOAD
- E — EMERGENCY POWER–OFF SWITCH
- T — TIMECLOCK
- PC — PHOTOCELL
- R — RELAY W/ NUMBER AND TYPE OF POLES AS INDICATED
- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- DUPLEX SPLIT WIRED WITH BOTTOM OUTLET ON WALL SWITCH
- SAFETY TYPE DUPLEX RECEPTACLE
- IG — ISOLATED GROUND TYPE DUPLEX RECEPTACLE
- IG/SP — ISOLATED GROUND TYPE WITH SURGE SUPRESSION
- EWC — DUPLEX FOR ELECTRIC WATER COOLER COORDINATE LOCATION WITH SUPPLIER
- GFI DUPLEX RECEPTACLE
- WP — RECEPTACLE WITH WEATHERPROOF COVER
- EXP — EXPLOSION–PROOF RECEPTACLE
- FF — FLUSH–FLOOR MTD RECEPTACLE
- FP — PEDESTAL–FLOOR MTD RECEPTACLE
- CP — PEDESTAL–COUNTER MTD RECEPTACLE
- CL — CEILING MTD RECEPTACLE
- C — CLOCK RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE – SIZE & TYPE AS INDICATED OR SCHEDULED
- DROP CORD
- PF — POWER FEED AT MOVABLE PARTITION
- INDICATES OUTLET TO BE MOUNTED 8" ABOVE COUNTER HEIGHT. TYPICAL UNLESS NOTED OTHERWISE
- OCCUPANCY SENSOR
- C — OCCUPANCY SENSOR–CEILING MOUNTED

TELEVISION / VIDEO SYSTEM

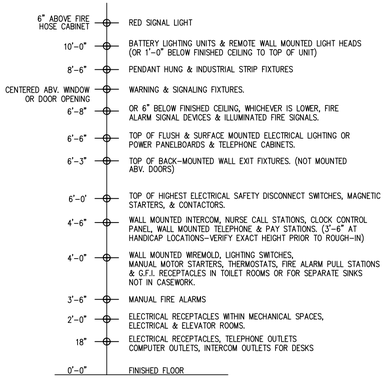
- TV — TELEVISION OUTLET
- TV — TELEVISION OUTLET W/ RECEPTACLE
- TV — TV CAMERA OUTLET W/ RECEPTACLE

ELECTRICAL ABBREVIATIONS

THIS LIST OF ABBREVIATIONS IS PROVIDED FOR CONVENIENCE ONLY. ITEMS LISTED HERE MAY OR MAY NOT BE USED ON THIS PROJECT.

1/C	SINGLE CONDUCTOR	INCL	INCLUDE
A/C	AIR CONDITIONER	INST	INSTANTANEOUS
A	AMPS	INSUL	INSULATION
ABV	ABOVE	JB	JUNCTION BOX
AC	ALTERNATING CURRENT	JC	JANITOR'S CLOSET
AFF	ABOVE FINISHED FLOOR	JT	JOINT
AFG	ABOVE FINISHED GRADE	KVA	KILOVOLT AMPERE
AHU	AIR HANDLING UNIT	KW	KILOWATT
ATS	AUTOMATIC TRANSFER SWITCH		
ALT	ALTERNATE	LTG	LIGHTING
ARCH	ARCHITECTURAL	LV	LOW VOLTAGE
AUTO	AUTOMATIC	LVR	LOUVER
AVG	AVERAGE		
		MAX	MAXIMUM
BKR	BREAKER	MC	MECHANICAL CONTRACTOR
BLDG	BUILDING	MCB	MAIN CIRCUIT BREAKER
BLW	BELOW	MCC	MOTOR CONTROL CENTER
BTM	BOTTOM	MECH	MECHANICAL
		MFR	MANUFACTURER
C	CONDUIT	MH	MANHOLE
CT	CURRENT TRANSFORMER	MIN	MINIMUM
CAP	CAPACITY	MISC	MISCELLANEOUS
CFM	CUBIC FEET/MINUTE	MLO	MAIN LUGS ONLY
CIRC	CIRCULATING	MTD	MOUNTED
CKT	CIRCUIT	MTG	MOUNTING
CLG	CEILING		
CONC	CONCRETE	NIC	NOT IN CONTRACT
CONN	CONNECTION	NO	NUMBER
CONST	CONSTRUCTION	NTS	NOT TO SCALE
CONT.	CONTINUOUS		
CONTR	CONTRACTOR	OC	ON CENTER
CPU	CENTRAL PROCESSING UNIT	OH	OVERHEAD
CU	COPPER	OPNG	OPENING
DED	DEDICATED	PC	PLUMBING CONTRACTOR
DET	DETAIL	PEND	PENDANT
DIAM	DIAMETER	PLBG	PLUMBING
DIM	DIMENSION	PNL	PANEL
DISC	DISCONNECT	PRESS SW	PRESSURE SWITCH
DIV	DIVISION	PS	PULL SWITCH
DN	DOWN	PT	POTENTIAL TRANSFORMER
DPR	DAMPER		
DWG	DRAWING	REC	RECESSED
EA	EACH	REC'S	RECEPTACLES
EC	ELECTRICAL CONTRACTOR	RECEPT	RECEPTACLE
ELEC	ELECTRICAL	REQD	REQUIRED
ELEV	ELEVATOR	RM	ROOM
EM	EMERGENCY ONLY		
EM GEN	EMERGENCY GENERATOR	SECT	SECTION
ENCL	ENCLOSURE	SIM	SIMILAR
EQUIP	EQUIOMENT	SQ FT	SQUARE FEET
EWC	ELECTRIC WATER COOLER	STD	STANDARD
EXH	EXHAUST	STL	STEEL
EXIST	EXISTING	STOR	STORAGE
EXT	EXTERIOR	STRUCT	STRUCTURAL
		SURF	SURFACE
F & I	FURNISHED & INSTALLED	SUSP CLG	SUSPENDED CEILING
FACP	FIRE ALARM CONTROL PANEL	SW	SWITCH
FBO	FURNISHED BY OTHERS		
FP	FIRE PROTECTION	TELE	TELEPHONE
FPC	FIRE PROTECTION CONTRACTOR	TEMP	TEMPERATURE
FIN	FINISH	TERM	TERMINAL
FIXT	FIXTURE	T–STAT	THERMOSTAT
FLR	FLOOR	TV	TELEVISON
FLUOR	FLUORESCENT	TYP	TYPICAL
FU	FUSE		
		UG	UNDERGROUND
GA	GAUGE	UH	UNIT HEATER
GC	GENERAL CONTRACTOR	UV	UNIT VENTILATOR
GFI	GROUND FAULT INTERRUPTER		
GRD	GROUND	VDT	VISUAL DISPLAY TERMINAL
		VERT	VERTICAL
HORIZ	HORIZONTAL	VOL	VOLUME
HP	HORSEPOWER		
HT	HEIGHT	W/	WITH
HTG	HEATING	WP	WEATHERPROOF
HV	HIGH VOLTAGE	WT	WEIGHT
HWH	HOT WATER		
HZ	HERTZ	XFMR	TRANSFORMER

MOUNTING HEIGHTS ELEVATION



MOUNTING HEIGHT NOTES:

MOUNTING HEIGHTS TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IN MASONRY CONSTRUCTION, HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.

THE ABOVE MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWINGS OR SPECIFICATIONS.

A + BESIDE A DEVICE INDICATES THAT A DEVICE IS MOUNTED ABOVE A COUNTER OR CASEWORK. COORDINATE WITH ARCHITECTURAL DWGS. & CASEWORK CONTRACTOR.

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BHG CONSULTING ENGINEERS, INC.

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RONALD HEIGLER, PE
NJ PROFESSIONAL ENGINEER No. GE 44485

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP
NEW EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

ELECTRICAL COVER SHEET

JOB NO: GC2023–05	DESIGNED BY: REH
DATE: 03–11–26	DRAWN BY: KJA
SCALE: AS SHOWN	CHECKED BY: REH

DRAWING NUMBER:

EC1

COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: MULLICA HILL EMS FACILITY
Project Type: New Construction

Construction Site:
169-171 BRIDGETONPIKE
MULLICA HILL, New Jersey 08062

Owner/Agent:

Designer/Contractor:
RONALD HEIGLER
BHG CONSULTING, INC.
1812 S 22ND STREET
PHILADELPHIA, Pennsylvania 19145
215-755-9318
RONALD.HEIGLER@BHGCONSULTING.COM

Additional Efficiency Package(s)

Credits: 1.0 Required 0.0 Proposed

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Retail	4068	1.26	5126
		Total Allowed Watts =	5126

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-Retail				
LED: A: 2x4: LED Panel 36W:	1	16	36	576
LED: B: 2X2: LED Panel 19W:	1	27	19	513
			Total Proposed Watts =	1089

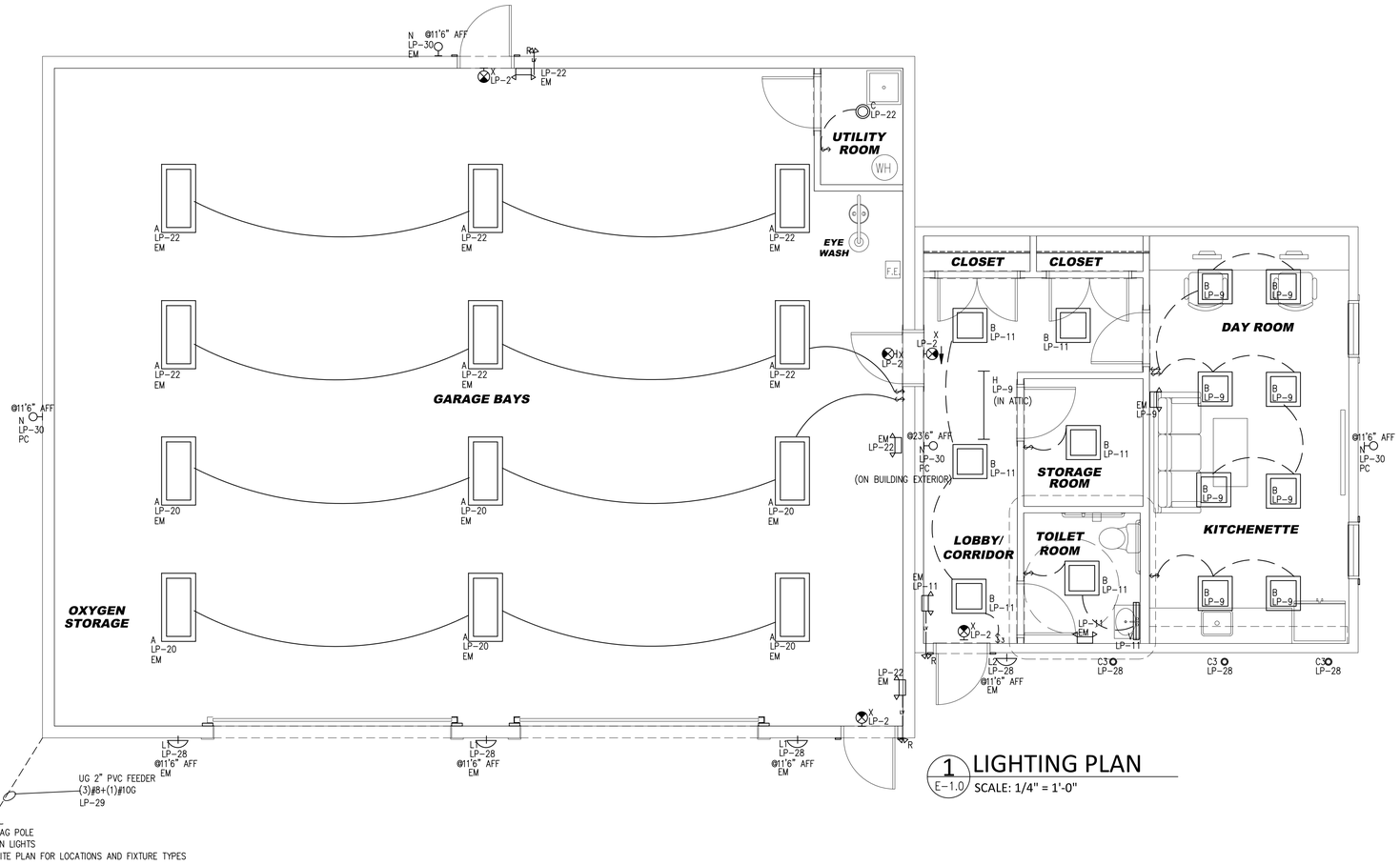
Interior Lighting PASSES: Design 79% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title _____ Signature _____ Date _____

Project Title: MULLICA HILL EMS FACILITY
Data filename:
Report date: 02/10/26
Page 1 of 4



1 LIGHTING PLAN
E-1.0 SCALE: 1/4" = 1'-0"

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	LAMPS		MANUFACTURER'S CATALOG NUMBER	INPUT WATTS	VOLTS	REMARKS
				LAMP DESIGNATION				
A	2' X 4' SURFACE MOUNT	SURFACE		137W LED	LITHONIA #IBE-18LM-MVOLT-50K-E15WCP-BPK	137	120	-
B	2' X 2' RECESSED LED TROFFER	RECESSED		36W LED	JUNO #S2X2BL-39-35-U-WH-3	36	120	-
C	5" WIDTHI LED	RECESSED		8.5W	SATCO LIGHTING S39056	8.5	120	
C3	4" WIDTH RECESSED	RECESSED		13.5W LED	HALO LIGHTING HLBLS SERIES WHITE	13.5	120	CANLESS, DIMMABLE EXTERIOR WET LOCATIONS
V	14" WIDTH VANITY	WALL		60W	VOLUME LIGHTING V1902	60	120	DAMP LOCATIONS-
H	L.E.D. STRIP LIGHT	CHAIN		33W L.E.D.	PHILIPS DAYBRITE #LF-4-FR-30-35K-U-DZT WITH FKR-126 CHAIN KIT	33	120	NEW 4' CHAIN MOUNTED L.E.D. STRIP LIGHT. CHAIN MOUNT AT 8'-0" A.F.F. WITH PULL CHAIN CONTROL
L	EXTERIOR LIGHT FIXTURE	WALL		60W L.E.D.	CGF DESIGN FORTE SQUARE	60	120	L1: LARGE 5"X14"X4" L2: SMALL 6"X8"X4"
N	EXTERIOR LIGHT FIXTURE	WALL		60W L.E.D.	RAB WP3LED (COLOR TBD BY OWNER)	60	120	5000K; PROVIDE EM BATTERY WHERE NOTED
FP	EXTERIOR LIGHT FIXTURE	GROUND		26W L.E.D.	RAB HSLED26NA	26	120	FOR FLAG POLE
SN	EXTERIOR LIGHT FIXTURE	GROUND		18W L.E.D.	RAB FFLED	18	120	FOR SIGN
R	REMOTE HEADS	WALL		12W	SURE-LITES 12X12 D WH	12	120	NEW EXTERIOR VANDAL RES EMERGENCY HEADS UNITS POWERED REMOTELY FROM BATTERY UNIT
EM	BATTERY WALL PACK	WALL		L.E.D.	SURE-LITES APEL	12	120	-
X	CEILING MOUNTED DOUBLE FACE EXIT SIGN	CEILING		L.E.D.	SURE-LITES APCH7	5	120	EXIT SIGN WITH INTEGRAL BATTERY AND SELF DIAGNOSTIC TESTING. PROVIDE CHEVRONS AS NOTED ON PLANS.

NOTES: ELECTRICAL CONTRACTOR SHALL VERIFY ALL LIGHTING FIXTURE SELECTIONS WITH ARCHITECT/OWNER PRIOR TO SUBMITTING HIS BID. ALL FIXTURES SHALL MATCH BUILDING STANDARD FIXTURES TO THE EXTENT POSSIBLE. VERIFY ALL FLANGE, BAFFLE AND TRIM COLOR AND LENS SELECTIONS WITH ARCHITECT/OWNER. ALL LED LAMPS SHALL HAVE A COLOR TEMPERATURE OF 3500K AND SHALL BE SUPPLIED FROM THE SAME MANUFACTURER UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE FIXTURES WITH CEILING TYPES AND PROVIDE MOUNTING HARDWARE AS REQUIRED. ALL EMERGENCY FIXTURES AND BATTERY UNITS SHALL BE CONNECTED AHEAD OF SWITCH LEG.

GENERAL NOTES FOR LIGHTING FIXTURE SCHEDULE:

1. LIGHT FIXTURES SHALL BE PROVIDED AS NOTED ABOVE. FIXTURES SUPPLIED, WIRED AND INSTALLED BY CONTRACTOR. ALL EXIT AND EMERGENCY SIGNS AND LIGHTING SHALL BE SUPPLIED AND INSTALLED BY CONTRACTOR.

2. COORDINATE ALL LIGHT FIXTURES WITH CEILING, SOFFIT AND WALL CONSTRUCTION DETAILS AND VERIFY EXACT FIXTURE AND LAMP REQUIREMENTS PRIOR TO ORDERING FIXTURES. PRIOR TO ORDERING, FIELD VERIFY FIXTURE INSTALLATION REQUIREMENTS WITH ACTUAL CONSTRUCTION TO ENSURE FIXTURES WILL FIT IN SPACE(S) AS INDICATED ON THE DRAWINGS WITH ADEQUATE ACCESS FOR MAINTENANCE, LAMP REPLACEMENT AND EMERGENCY BATTERY PACK FOR FIXTURES SO EQUIPPED.

3. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF LIGHT FIXTURES ON EXTERIOR BUILDING ELEVATIONS. COORDINATE THE EXACT LOCATION OF LIGHT FIXTURES IN EQUIPMENT ROOMS TO AVOID INTERFERENCE WITH PIPING, DUCTWORK, EQUIPMENT, ETC.

4. LIGHT FIXTURES IN LAY-IN CEILINGS SHALL BE SUPPORTED INDEPENDENT OF CEILING GRID. SUPPORT TO BUILDING STRUCTURE ABOVE USING HANGING WIRE AND HARDENED STEEL CLIPS TO STRUCTURAL STEEL.

5. WALL MOUNTED FIXTURES SHALL COMPLY WITH ADA, ANSI A1176.1, SECTION 4.4 FOR PROTRUDING OBJECTS. VERIFY LOCAL CODE REQUIREMENTS WITH BUILDING OFFICIAL.

6. 'EM' OR 'NL' ON FIXTURE INDICATES EMERGENCY AND/OR NIGHT LIGHT. CONNECT TO CIRCUIT AHEAD OF SWITCH TO ALLOW CONTINUOUS OPERATION.

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TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

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1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

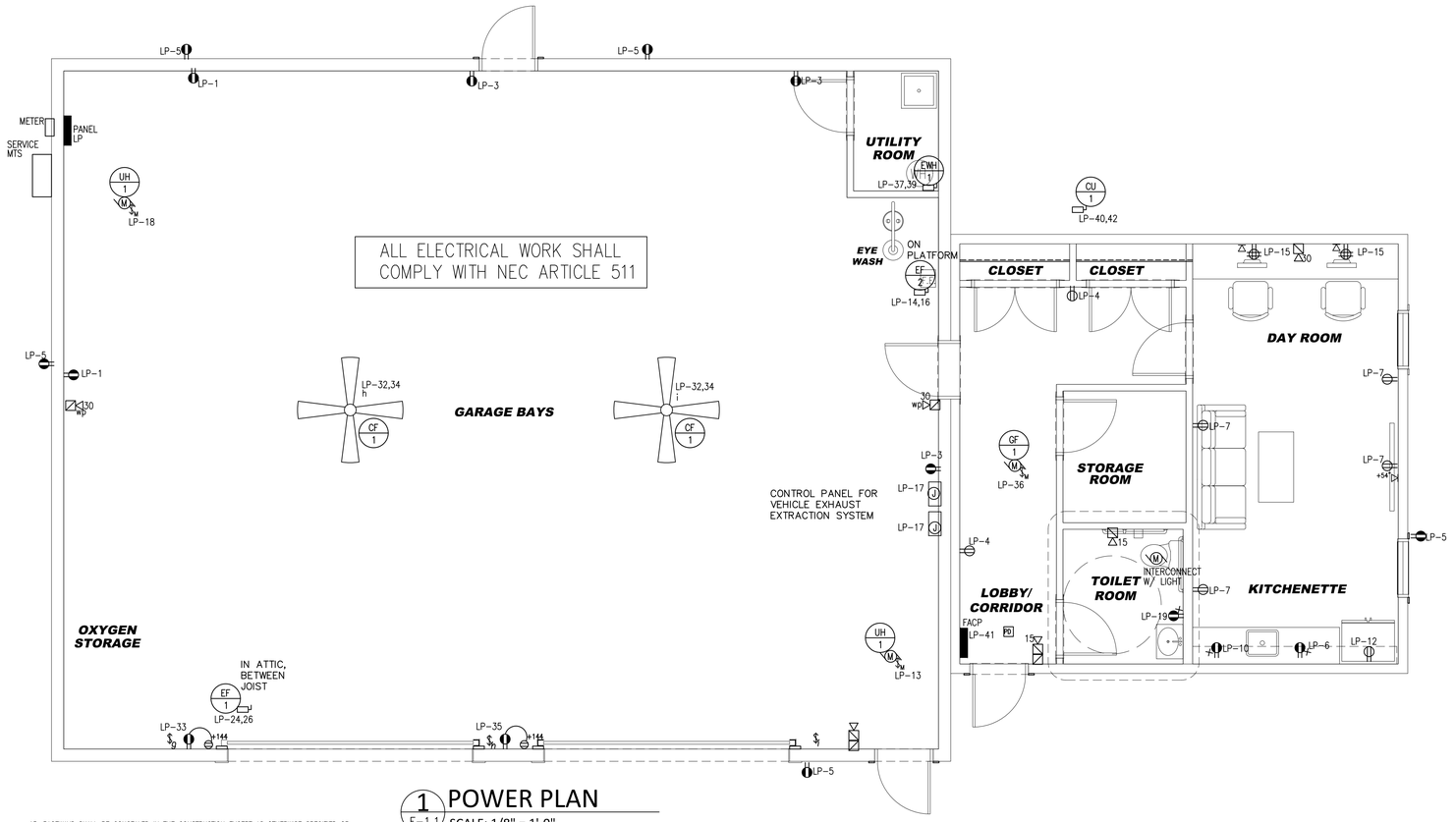
DRAWING TITLE:

ELECTRICAL FLOOR PLAN

JOB NO: GC2023-05	DESIGNED BY: REH
DATE: 03-11-26	DRAWN BY: KJA
SCALE: AS SHOWN	CHECKED BY: REH

DRAWING NUMBER:

E-1.0



1 POWER PLAN
E-1.1 SCALE: 1/8" = 1'-0"

GENERAL REQUIREMENTS FOR ELECTRICAL WORK

1. CONTRACTOR SHALL PROVIDE LABOR, MATERIAL, EQUIPMENT AND SERVICES FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL WORK AS INDICATED ON THE DRAWINGS AND AS SPECIFIED.

2. LABOR, MATERIAL, EQUIPMENT AND SERVICE OBVIOUSLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF ELECTRICAL SYSTEMS, ALTHOUGH NOT SPECIFICALLY MENTIONED OR SHOWN, SHALL BE PROVIDED.

3. ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE NATIONAL ELECTRIC CODE AND APPLICABLE LAWS, CODES AND REGULATIONS OF MUNICIPAL, COUNTY, STATE, FEDERAL AUTHORITIES, UTILITY COMPANIES, INSURANCE AGENCIES AND OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK. IN CASE OF CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS AND THE CODES, THE HIGHEST STANDARD SHALL APPLY. ELECTRICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO OWNER OR THE LICENSEE.

CONTRACTOR AND ALL EMPLOYEES SHALL FAMILIARIZE THEMSELVES WITH OWNERS, STATE, LOCAL AND FEDERAL CONSTRUCTION SAFETY GUIDELINES PRIOR TO THE COMMENCEMENT OF WORK.

4. OBTAIN, PAY FOR AND DELIVER PERMITS AND CERTIFICATES OF INSPECTION AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. DELIVER CERTIFICATES TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK. AN ELECTRICAL INSPECTION CERTIFICATE, FOR EACH CLASS OF WORK REQUIRING INSPECTION, MUST BE SUBMITTED PRIOR TO OR WITH THE FINAL PAYMENT INVOICE. CONTRACTOR MUST MAKE APPLICATION FOR THE INSPECTION, COORDINATE SAME, AND PAY THE REQUIRED INSPECTION FEE.

5. BEFORE SUBMITTING HIS BID, TRADE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD. FAILURE TO DO SO SHALL NOT RELIEVE TRADE CONTRACTOR OF HIS OBLIGATION TO PAY FOR COSTS THAT MAY BE INCURRED DUE TO CONDITIONS THAT MAY AFFECT THE COST OF INSTALLING HIS WORK. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS WHERE EQUIPMENT, CONDUIT, AND WIRING WILL BE INSTALLED AND WILL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE ELECTRICAL WORK.

6. DRAWINGS ARE DIAGRAMMATIC, SMALL SCALE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. HOWEVER, CERTAIN RACEWAYS, BENDS, FITTINGS, BOXES, SYSTEM COMPONENTS, APPURTENANCES AND RELATED SPECIALTIES ARE NOT SHOWN, BUT SHALL BE PROVIDED TO INSURE A COMPLETE INSTALLATION.

7. CONSULT THE DRAWINGS FOR EXACT LOCATION OF FIXTURES AND EQUIPMENT. WHERE SAME ARE NOT DEFINITELY LOCATED, OBTAIN THIS INFORMATION FROM THE ARCHITECT/ENGINEER.

8. INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED OR SHOWN, SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT MANIFESTLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE VARIOUS SYSTEMS, SHALL BE INCLUDED IN THE WORK, THE SAME AS IF SPECIFIED OR SHOWN ON THE DRAWINGS. NO SUCH DEPARTURES SHALL BE MADE WITHOUT PRIOR WRITTEN REVIEW.

9. NO CONSIDERATION OR ALLOWANCE SHALL BE GRANTED FOR ALLEGED MISUNDERSTANDING OF MATERIALS AND EQUIPMENT TO BE FURNISHED FOR WORK TO BE ACCOMPLISHED.

10. THE ELECTRICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.

11. MATERIAL AND EQUIPMENT IN THE WORK SHALL BE NEW, FIRST GRADE, FIRST CLASS, THE BEST OF THEIR RESPECTIVE KINDS, APPROPRIATE FOR THE APPLICATION AND ENVIRONMENT. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF CSA, ULC, NEC, ASTM, UL, ETL, NEMA, ANSI, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.

12. EQUIPMENT OR APPARATUS FOR ANY ONE SYSTEM SHALL BE THE PRODUCT OF ONE MANUFACTURER. THE TERM "MANUFACTURER" SHALL BE UNDERSTOOD AS APPLYING TO A COMPANY OF ESTABLISHED REPUTATION IN THE MANUFACTURE OF A PARTICULAR PIECE OF EQUIPMENT OR APPARATUS FROM PRODUCTS OF HIS OWN MAKE OR OTHERS, AND WHO ASSUMES FULL RESPONSIBILITY FOR PRODUCTS USED IN SUCH EQUIPMENT OR APPARATUS. THE MANUFACTURER MUST SUBMIT EVIDENCE OF FIVE (5) YEARS OR MORE MANUFACTURING EXPERIENCE IN THE PRODUCTION OF THESE PRODUCTS.

13. MATERIAL OR EQUIPMENT SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE, OR CATALOG NUMBER ARE DESIGNED TO ESTABLISH STANDARDS OF DESIRED QUALITY, STYLE, PERFORMANCE, ELECTRICAL, MECHANICAL AND PHYSICAL CHARACTERISTICS, AND DIMENSIONS.

14. WHERE CABLE PASSES THROUGH FIRE RATED STRUCTURES PROVIDE FIREPROOF FITTINGS.

15. RACEWAYS SHALL BE CONCEALED IN THE CONSTRUCTION EXCEPT AS OTHERWISE SPECIFIED OR SHOWN.

15. RACEWAYS SHALL BE CONCEALED IN THE CONSTRUCTION EXCEPT AS OTHERWISE SPECIFIED OR SHOWN.

16. WHERE CONDUIT TERMINATES IN A CABINET, BOX OR AUXILIARY GUTTER, THE CONDUCTORS SHALL BE PROTECTED BY AN INSULATING BUSHING. LOCKNUTS SHALL BE PROVIDED BOTH INSIDE AND OUTSIDE THE ENCLOSURE.

17. A PULL WIRE SHALL BE INSTALLED IN EMPTY RACEWAYS. PULL WIRE SHALL BE 200 POUND TEST NYLON. BOTH ENDS SHALL BE IDENTIFIED BY MEANS OF LABELS OR TAGS, READING "PULL WIRE" AND GIVING THE ORIGINATION AND TERMINATION POINTS.

18. GENERALLY, WIRING (OTHER THAN EMERGENCY) SHALL BE DONE WITH INSULATED COPPER CONDUCTORS IN CONTINUOUSLY GROUNDED METAL CONDUIT (EMT). CONDUCTORS AND RACEWAYS SHALL BE FIRST GRADE, INSTALLED CONCEALED IN THE CONSTRUCTION EXCEPT IN MECHANICAL OR ELECTRICAL SPACES, OPEN CONSTRUCTION AREAS OR WHERE SHOWN ON THE DRAWINGS.

EMERGENCY WIRING SHALL BE DONE WITH INSULATED COPPER CONDUCTORS IN CONTINUOUSLY GROUNDED METAL CONDUIT (EMT), SEPARATE FROM ALL OTHER WIRING AND RACEWAYS. CONDUCTORS AND RACEWAYS SHALL BE FIRST GRADE, INSTALLED CONCEALED IN THE CONSTRUCTION EXCEPT IN MECHANICAL OR ELECTRICAL SPACES, OPEN CONSTRUCTION AREAS OR WHERE SHOWN ON THE DRAWINGS.

19. MC CABLING MAY BE USED FOR CONCEALED BRANCH CIRCUIT WIRING ABOVE SUSPENDED CEILING AND INSIDE INTERIOR HOLLOW WALLS AND PARTITIONS. ALL HOME RUNS SHALL BE INSTALLED IN METAL CONDUIT (EMT) FROM CIRCUIT BREAKER PANELS TO EACH AREA.

20. RACEWAYS SHALL BE SUPPORTED TO COMPLY WITH NEC.

21. WHERE TELE/DATA OUTLETS ARE SHOWN, PROVIDE A SINGLE GANG BOX WITH BLANK PLATE AND CONDUIT (1" DIA. MINIMUM) WITH PULL STRING UP TO CEILING SPACE ABOVE.

22. NO "THROUGH-WALL" BOXES SHALL BE PERMITTED. WHERE DRAWINGS INDICATE BOXES BACK-TO-BACK, OR SIMILAR LOCATIONS, SUCH BOXES SHALL BE INSTALLED SEPARATELY, SPACED MINIMUM SIX INCHES APART HORIZONTALLY.

23. FOR CONDUITS OR CABLES THAT PENETRATE FIRE RATED WALLS, FLOORS, PARTITIONS, OR SLABS, FILL AND SEAL SPACES BETWEEN THE CONDUITS OR CABLES AND THE SLEEVE WITH 2-PART INTUMESCENT FOAM SEALANT CREATING A FIRE STOP EQUAL TO OR EXCEEDING FIRE RATING OF CONSTRUCTION MATERIAL BEING PENETRATED. FIRE SEALANT SHALL PREVENT SPREAD OF FLAME, SMOKE, AIR AND WATER THROUGH THE SLEEVE AND SHALL PASS 3 HOUR TEST PER ASTMA E814 AND UL 1479. FIRE SEALANT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

24. ALL CONDUITS AND FLEXIBLE METAL CONDUIT SHALL CONTAIN A GROUNDING CONDUCTOR. CONDUITS ARE NOT TO BE USED AS A GROUNDING CONDUCTOR.

25. ALL BRANCH CIRCUIT WIRING SUPPLYING NEW RECEPTACLES AND LIGHTING BEING INSTALLED SHALL BE #12 COPPER CONDUCTORS MINIMUM.

26. ALL NEW DEVICES AND RACEWAYS SHALL BE SPECIFICATION GRADE. NEW RECEPTACLE, SWITCH AND OTHER DEVICES AND COVER PLATES COLORS SHALL BE DETERMINED BY ARCHITECT. EMERGENCY RECEPTACLES SHALL BE RED WITH RED COVER PLATE, PERMANENTLY LABELED WITH PANEL BOARD AND BRANCH CIRCUIT NUMBER SUPPLYING RECEPTACLE.

27. IF REQUIRED, CONTRACTOR SHALL SUPPLY AND INSTALL ADDITIONAL BRANCH CIRCUITS (BREAKERS, RACEWAYS, WIRING, ETC..) AS REQUIRED TO COMPLETE THE PROJECT. CIRCUITS SHALL BE FED FROM EXISTING PANEL.

28. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED TO COMPLY WITH OSHA AND ANSI/ASME A13.1-2007 STANDARDS FOR THE IDENTIFICATION OF SYSTEMS. THE MARKINGS MUST IDENTIFY THE EQUIPMENT, IT'S ORIGIN AND VOLTAGE OF THE CONTENTS. ALL EQUIPMENT SHALL BE IDENTIFIED USING PHENOLIC NAMEPLATES AND LABELED IN ACCORDANCE WITH THE NOMENCLATURE USED ON THE DRAWINGS AND MUST BE COMPATIBLE WITH THE MIMS SYSTEM.

29. ALL SYSTEMS WIRING INCLUDING LOW VOLTAGE CONTROLS, FIRE ALARM, NURSE CALL, CCTV AND TELE/DATA SHALL BE INSTALLED IN CONDUIT AND/OR CABLE TRAY/DUCT SYSTEM AND SHALL BE SUPPORTED TO COMPLY WITH THE N.E.C.

30. CONTRACTOR SHALL PROVIDE AND AFFIX ARC FLASH WARNING LABELS (PER N.E.C. 110.16) AND AVAILABLE FAULT CURRENT LABELS (PER N.E.C. 110.24) TO ALL PANEL BOARDS.

31. CONTRACTOR SHALL PROVIDE TO OWNER A DETAILED AS-BUILT DRAWING OF THE WORK PERFORMED. THIS PLAN SHALL INDICATE THE BRANCH CIRCUITS SUPPLYING EACH LIGHT AND DEVICE ASSOCIATED WITH THE WORK PERFORMED ON THIS PROJECT.

LIGHTING PANEL SCHEDULE

PANEL NO. LP

NEUTRAL BUS: 100% | GROUND BUS: YES | ISOLATED GROUND BUS: NO | MOUNTING: FLUSH

VOLTAGE: 208Y/120V, 3PH, 4W & G | MAINS: 400A | MAIN CIR. BKR.: 400A / 3P | AIC RATING: 22,000

CIR NO.	DESCRIPTION	WIRE SIZE	BREAKER AMPS	POLES	A (VA)	B (VA)	C (VA)	POLES	BREAKER AMPS	WIRE SIZE	DESCRIPTION	CIR NO.
1	GARAGE RECEPTACLES	#12	20	1	900			1	20	#12	EXIT SIGNS	2
					20							
3	GARAGE RECEPTACLES	#12	20	1		900		1	20	#12	LOBBY AREA RECS	4
						1080						
5	HVAC RECEPTACLE	#12	20	1			540	1	20	#12	KITCHENETTE COUNTER RECS	6
							1500					
7	BREAKROOM RECS	#12	20	1	540			1	20	#12	EF-1(3/4HP)	8
					1656							
9	LIGHTING	#12	20	1		1000		1	20	#12	KITCHENETTE COUNTER RECS	10
						1500						
11	LIGHTING	#12	20	1			1000	1	20	#12	KITCHENETTE REFRIG. RECS	12
							900					
13	UNIT HEATER	#12	20	1	1200			2	20	#12	EF-2(1.5HP)	14
					936							
15	COMPUTERS DAY ROOM	#12	20	1		1500						16
						936						
17	CONTROL POWER	#12	20	1			500	1	20	#12	UNIT HEATER	18
							1200					
19	TOILET ROOM RECS	#12	20	1	360			1	20	#12	GARAGE LIGHTING	20
					1000							
21	HVAC RECEPTACLE	#12	20	1		360		1	20	#12	GARAGE LIGHTING	22
						1000						
23	COMPUTER RECS	#12	20	1			1500	2	20	#12	EF-2(1.5HP)	24
							936					
25		#12	20	1	0							26
					936							
27		#12	20	1		0		1	20	#12	EXTERIOR LIGHTING VIA LC	28
						1350						
29	FLAG POLE & SIGN	#8	20	1			100	1	20	#12	EXTERIOR LIGHTING VIA LC	30
							1050					
31		#12	20	1	0			2	20	#12	CEILING FANS	32
					600							
33	GARAGE OPENER	#12	20	1		1440						34
						600						
35	GARAGE OPENER	#12	20	1			1440	1	20	#12	GF-1	36
							1200					
37	EHW-1	#10	30	2	2250			1	20	#12		38
					0							
39						2250		2	50	#4	CU-1 (3.5TON)	40
						3848						
41	FACP	#12	20	1			0					42
							3848					
	SUB TOTAL				10398	17764	15714				SUB TOTAL	

LEGEND: ** 6mA GROUND FAULT CIRCUIT BREAKER; * 30mA GROUND FAULT CIRCUIT BREAKER; # LOCK-ON CIRCUIT BREAKER HANDLE

CONNECTED LOAD 43.876 KVA | DEMAND LOAD 48.2 KVA | MIN AMPS 138 AMPS 3 PH

REMARKS: LOAD INCLUDES 25% SPARE CAPACITY

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BHG CONSULTING ENGINEERS, INC.
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PHILADELPHIA, PA 19145
Tel: 215-755-9318
Fax: 215-755-9319

SEALS:

RONALD HEIGLER, PE
NJ PROFESSIONAL ENGINEER No. GE 44485

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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ELECTRICAL FLOOR PLAN

JOB NO: GC2023-05	DESIGNED BY: REH
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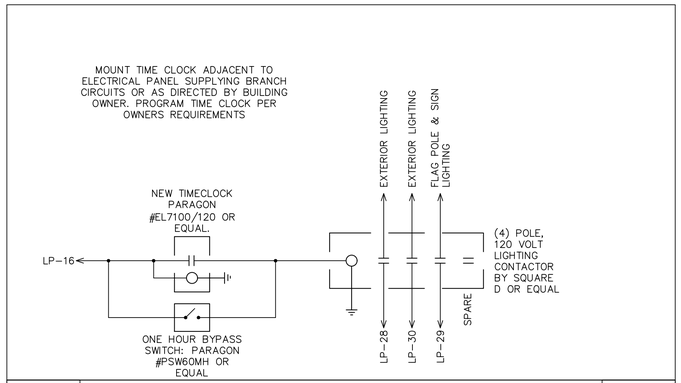
LOAD CALCULATION PER N.E.C. REQUIREMENTS	
LOADS ARE SHOWN IN VA EXCEPT WHERE NOTED	PANEL LP
CONTINUOUS LOAD:	6620
25% OF CONTINUOUS LOAD:	1630
TOTAL CONTINUOUS LOAD:	8150
NON CONTINUOUS LOAD:	20860
FIRST 10KW @ 100%	10000
REMAINING KW AT 50%	5330
TOTAL NON CONTINUOUS LOAD:	15330
-	0
HVAC LOAD:	16696
25% OF LARGEST HVAC MOTOR:	414
TOTAL HVAC LOAD:	17110
TOTAL LOAD:	40590
-	-
MIN AMPS @208 VOLTS, 3 PHASE, 4 WIRE:	112.8

GENERAL ELECTRICAL NOTES:

1. ALL ELECTRICAL MATERIALS AND EQUIPMENT FOR THIS PROJECT SHALL BE NEW AND APPROVED BY UNDERWRITERS LABORATORY (U.L.) OR ANY OTHER NATIONALLY RECOGNIZED TESTING AGENCY.
2. UPON COMPLETION OF THE WORK, THE ENTIRE WIRING SYSTEM SHALL BE FREE FROM GROUNDS, SHORT CIRCUITS, OPENS, OVERLOADS, AND IMPROPER VOLTAGE.
3. LIGHTING AND POWER BRANCH CIRCUIT PANEL BOARDS SHALL BE BOLT-ON CIRCUIT BREAKER TYPE EQUIPPED WITH QUICK-MAKE, QUICK-BREAK, TRIP INDICATING, MOLDED CASE, THERMAL MAGNETIC CIRCUIT BREAKERS.
4. TWO OR THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP TYPE. SINGLE POLE BREAKER WITH YOKED HANDLE WILL NOT BE PERMITTED.
5. ALL LIGHTING AND POWER PANELS SHALL HAVE THEIR TOP AT 6'-6" ABOVE FINISHED FLOOR.
6. PANEL BOARDS SHALL BE SUITABLE FOR FLUSH MOUNTING OR SURFACE MOUNTED INSTALLATION AS REQUIRED.
7. PANEL BOARDS SHALL BE DEAD-FRONT, SAFETY-TYPE AND SHALL CONTAIN MAIN CIRCUIT BREAKERS, MAIN LUGS RATINGS, BRANCH CIRCUIT BREAKERS, SPACE AND BUSSES AS INDICATED ON DRAWINGS.
8. THE FOLLOWING CONVENTION SHALL BE USED:



9. WHERE SHORT CIRCUIT RATINGS ARE NOT INDICATED, PROVIDE 65 KAIC MINIMUM. AS ACTUAL FEEDER ROUTING MAY VARY, THE SHORT CIRCUIT RATING OF ANY LOAD CENTER MAY BE REDUCED TO 10 KAIC IF THE FEEDER LENGTH FROM THE UTILITY TRANSFORMER TO THE LOAD CENTER EXCEEDS 70 FEET.



15	BUILDING LTG CONTROL WIRING DIAGRAM	SCALE
E-2.0		NONE

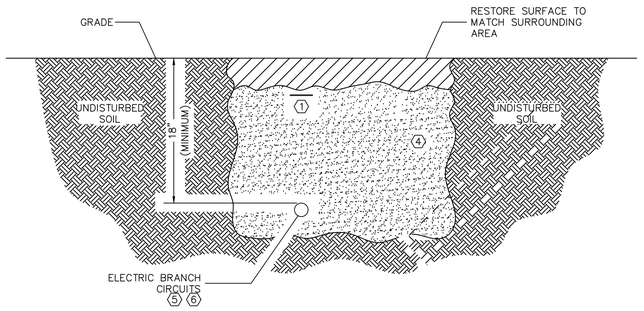
ENTRANCE TO AND EGRESS FROM WORKING SPACE:

PER N.E.C. 110.26 (C)(1) & (2):
1. MINIMUM REQUIRED: AT LEAST ONE ENTRANCE OF SUFFICIENT AREA SHALL BE PROVIDED TO GIVE ACCESS TO AND EGRESS FROM WORKING SPACE ABOUT ELECTRICAL EQUIPMENT.

2. LARGE EQUIPMENT: FOR EQUIPMENT RATED AT 1200 AMPERES OR MORE OVER 1.8m (6'-0") WIDE THAT CONTAINS OVERCURRENT DEVICES, SWITCHING DEVICES OR CONTROL DEVICES, THERE SHALL BE ONE ENTRANCE TO AND EGRESS FROM THE REQUIRED WORKING SPACE NOT LESS THAN 610mm (24") WIDE AND 2.0m (6'-6") HIGH AT EACH END OF THE WORKING SPACE. A SINGLE ENTRANCE TO AND EGRESS FROM THE REQUIRED WORKING SPACE SHALL BE PERMITTED WHERE EITHER OF THE FOLLOWING CONDITIONS ARE MET:
   a.) WHERE THE LOCATION PERMITS A CONTINUOUS AND UNOBSTRUCTED WAY OF EGRESS TRAVEL, A SINGLE ENTRANCE TO THE WORKING SPACE SHALL BE PERMITTED.
   b.) EXTRA WORKING SPACE. WHERE THE DEPTH OF THE WORKING SPACE IS TWICE THAT REQUIRED, A SINGLE ENTRANCE SHALL BE PERMITTED.

FEEDER SCHEDULE					
4 / 225	TYPE 1	TYPE 2	TYPE 3	TYPE 4	
	1PH, 2W, +G	1PH, 3W, +G	3PH, 3W, +G	3PH, 4W, +G	
10	(2) #12 & (1) #12G – 3/4 " C	(3) #12 & (1) #12G – 3/4 " C	(3) #12 & (1) #12G – 3/4 " C	(4) #12 & (1) #12G – 3/4 " C	
15	(2) #12 & #12G – 3/4 " C	(3) #12 & (1) #12G – 3/4 " C	(3) #12 & (1) #12G – 3/4 " C	(4) #12 & (1) #12G – 3/4 " C	
20	(2) #12 & #12G – 3/4 " C	(3) #12 & (1) #12G – 3/4 " C	(3) #12 & (1) #12G – 3/4 " C	(4) #12 & (1) #12G – 3/4 " C	
25	(2) #10 & (1) #10G – 3/4 " C	(3) #10 & (1) #10G – 3/4 " C	(3) #10 & (1) #10G – 3/4 " C	(4) #10 & (1) #10G – 3/4 " C	
30	(2) #10 & (1) #10G – 3/4 " C	(3) #10 & (1) #10G – 3/4 " C	(3) #10 & (1) #10G – 3/4 " C	(4) #10 & (1) #10G – 3/4 " C	
35	(2) #8 & (1) #10G – 3/4 " C	(3) #8 & (1) #10G – 3/4 " C	(3) #8 & (1) #10G – 3/4 " C	(4) #8 & (1) #10G – 3/4 " C	
40	(2) #8 & (1) #10G – 3/4 " C	(3) #8 & (1) #10G – 3/4 " C	(3) #8 & (1) #10G – 3/4 " C	(4) #8 & (1) #10G – 3/4 " C	
45	(2) #6 & (1) #10G – 3/4 " C	(3) #6 & (1) #10G – 3/4 " C	(3) #6 & (1) #10G – 3/4 " C	(4) #6 & (1) #10G – 3/4 " C	
50	(2) #6 & (1) #10G – 3/4 " C	(3) #6 & (1) #10G – 3/4 " C	(3) #6 & (1) #10G – 3/4 " C	(4) #6 & (1) #10G – 3/4 " C	
60	(2) #4 & (1) #10G – 1" C	(3) #4 & (1) #10G – 1" C	(3) #4 & (1) #10G – 1" C	(4) #4 & (1) #10G – 1 1/4 " C	
70	(2) #4 & (1) #8G – 1" C	(3) #4 & (1) #8G – 1 1/4 " C	(3) #4 & (1) #8G – 1 1/4 " C	(4) #4 & (1) #8G – 1 1/4 " C	
80	(2) #3 & (1) #8G – 1" C	(3) #3 & (1) #8G – 1 1/4 " C	(3) #3 & (1) #8G – 1 1/4 " C	(4) #3 & (1) #8G – 1 1/4 " C	
90	(2) #3 & (1) #8G – 1" C	(3) #3 & (1) #8G – 1 1/4 " C	(3) #3 & (1) #8G – 1 1/4 " C	(4) #3 & (1) #8G – 1 1/2 " C	
100	(2) #1 & (1) #8G – 1 1/4 " C	(3) #1 & (1) #8G – 1 1/2 " C	(3) #1 & (1) #8G – 1 1/2 " C	(4) #1 & (1) #8G – 1 1/2 " C	
125	(2) #1 & (1) #6G – 1 1/4 " C	(3) #1 & (1) #6G – 1 1/2 " C	(3) #1 & (1) #6G – 1 1/2 " C	(4) #1 & (1) #6G – 1 1/2 " C	
150	(2) #1/0 & (1) #6G – 1 1/4 " C	(3) #1/0 & (1) #6G – 1 1/2 " C	(3) #1/0 & (1) #6G – 1 1/2 " C	(4) #1/0 & (1) #6G – 2"C	
175	(2) #2/0 & (1) #6G – 1 1/2 " C	(3) #2/0 & (1) #6G – 2"C	(3) #2/0 & (1) #6G – 2"C	(4) #2/0 & (1) #6G – 2"C	
200	(2) #3/0 & (1) #6G – 1 1/2 " C	(3) #3/0 & (1) #6G – 2"C	(3) #3/0 & (1) #6G – 2"C	(4) #3/0 & (1) #6G – 2"C	
225	(2) #4/0 & (1) #4G – 2"C	(3) #4/0 & (1) #4G – 2"C	(3) #4/0 & (1) #4G – 2"C	(4) #4/0 & (1) #4G – 2 1/2 "C	
250	(2) 250 kCmil & (1) #4G – 2"C	(3) 250 kCmil & (1) #4G – 2 1/2 "C	(3) 250 kCmil & (1) #4G – 2 1/2 "C	(4) 250 kCmil & (1) #4G – 3"C	
300	(2) 350 kCmil & (1) #4G – 2"C	(3) 350 kCmil & (1) #4G – 2 1/2 "C	(3) 350 kCmil & (1) #4G – 2 1/2 "C	(4) 350 kCmil & (1) #4G – 3"C	
350	(2) 500 kCmil & (1) #3G – 2 1/2 "C	(3) 500 kCmil & (1) #3G – 3"C	(3) 500 kCmil & (1) #3G – 3"C	(4) 500 kCmil & (1) #3G – 3 1/2 "C	
400	(2) 500 kCmil & (1) #3G – 2 1/2 "C	(3) 500 kCmil & (1) #3G – 3"C	(3) 500 kCmil & (1) #3G – 3"C	(4) 500 kCmil & (1) #3G – 3 1/2 "C	
SIZE 450	(2) 2"C EACH WITH (2) #1/0 & (1) #2G	(3) 2"C EACH WITH (3) #1/0 & (1) #2G	(2) 2"C EACH WITH (3) #1/0 & (1) #2G	(2) 2 1/2 "C EACH WITH (4) #1/0 & (1) #2G	
500	(2) 3" C EACH WITH (2) 250 kCmil & (1) #2G	(2) 2 1/2 " C EACH WITH (3) 250 kCmil & (1) #2G	(2) 2 1/2 " C EACH WITH (3) 250 kCmil & (1) #2G	(2) 3" C EACH WITH (4) 250 kCmil & (1) #2G	
600	(2) 2 1/2 " C EACH WITH (2) 350 kCmil & (1) #1G	(2) 2 1/2 " C EACH WITH (3) 350 kCmil & (1) #1G	(2) 2 1/2 " C EACH WITH (3) 350 kCmil & (1) #1G	(2) 3" C EACH WITH (4) 350 kCmil & (1) #1G	
800	(2) 2 1/2 " C EACH WITH (2) 500 kCmil & (1) #1/0G	(2) 3" C EACH WITH (3) 500 kCmil & (1) #1/0G	(2) 3" C EACH WITH (3) 500 kCmil & (1) #1/0G	(2) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) #1/0G	
900	(3) 2 1/2 " C EACH WITH (2) 350 kCmil & (1) #2/0G	(3) 3" C EACH WITH (3) 350 kCmil & (1) #2/0G	(3) 3" C EACH WITH (3) 350 kCmil & (1) #2/0G	(3) 3" C EACH WITH (4) 350 kCmil & (1) #2/0G	
1000	(3) 2 1/2 " C EACH WITH (2) 500 kCmil & (1) #2/0G	(3) 3" C EACH WITH (3) 500 kCmil & (1) #2/0G	(3) 3" C EACH WITH (3) 500 kCmil & (1) #2/0G	(3) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) #2/0G	
1200	(4) 2 1/2 " C EACH WITH (2) 350 kCmil & (1) #3/0G	(4) 3" C EACH WITH (3) 350 kCmil & (1) #3/0G	(4) 3" C EACH WITH (3) 350 kCmil & (1) #3/0G	(4) 3" C EACH WITH (4) 350 kCmil & (1) #3/0G	
1600	(5) 3" C EACH WITH (2) 500 kCmil & (1) #4/0G	(5) 3" C EACH WITH (3) 500 kCmil & (1) #4/0G	(5) 3" C EACH WITH (3) 500 kCmil & (1) #4/0G	(5) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) #4/0G	
2000	(6) 3" C EACH WITH (2) 500 kCmil & (1) 250kCmil G	(6) 3" C EACH WITH (3) 500 kCmil & (1) 250kCmil G	(6) 3" C EACH WITH (3) 500 kCmil & (1) 250kCmil G	(6) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) 250kCmil G	
2500	(7) 3" C EACH WITH (2) 500 kCmil & (1) 350kCmil G	(7) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 350kCmil G	(7) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 350kCmil G	(7) 3 1/2 " C EACH WITH (4) 500 kCmil & (1) 350kCmil G	
3000	(8) 3" C EACH WITH (2) 500 kCmil & (1) 500kCmil G	(8) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(8) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(8) 4" C EACH WITH (4) 500 kCmil & (1) 500kCmil G	
3500	(10) 3" C EACH WITH (2) 500 kCmil & (1) 500kCmil G	(10) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(10) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(10) 4" C EACH WITH (4) 500 kCmil & (1) 500kCmil G	
4000	(11) 3" C EACH WITH (2) 500 kCmil & (1) 500kCmil G	(11) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(11) 3 1/2 " C EACH WITH (3) 500 kCmil & (1) 500kCmil G	(11) 4" C EACH WITH (4) 500 kCmil & (1) 500kCmil G	

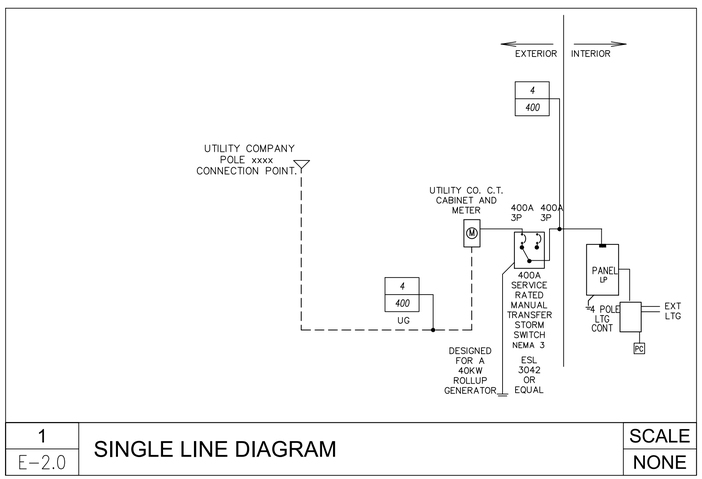
NOTES:
CONDUIT SIZES ARE FOR TYPE THHN/THWN CONDUCTORS ONLY. OTHER CONDUCTOR TYPES MAY REQUIRE LARGER CONDUITS.



DETAIL NOTES:

1. DETECTABLE UNDERGROUND TAPE. BURY 6"(MINIMUM) BELOW GRADE. USE SETON STYLE 85517 (6" RED TAPE WITH BLACK LETTERS – "CAUTION: BURIED ELECTRICAL LINE BELOW"
2. NOT USED
3. NOT USED
4. BACKFILL WITH 1-13 SELECT BACKFILL.
5. MAINTAIN AT LEAST 12" SEPARATION BETWEEN ELECTRICAL CONDUITS AND OTHER UNDERGROUND SERVICE CONDUITS/PIPES.
6. PVC SCHEDULE 80 CONDUIT. SEE PLAN FOR SIZE AND FILL.

1	ELECTRICAL CONDUIT TRENCH DETAIL	SCALE
E-2.0		NONE

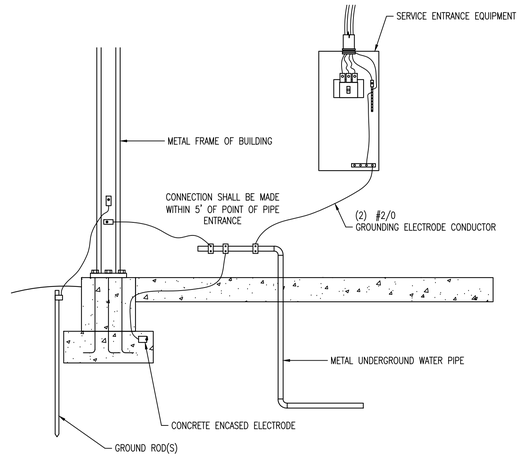


1	SINGLE LINE DIAGRAM	SCALE
E-2.0		NONE

ALUMINUM FEEDER SCHEDULE

4 / 225	TYPE 1	TYPE 2 OR 3	TYPE 4	TYPE 4N
	1PH, 3W, +G	1PH, 3W, +G OR 3PH, 3W,+G	3PH, 4W, +G	3PH,4W,+G AND 200% N
100	(2) #1 & (1) #6G – 1 1/4"C	(3) #1 & (1)#6G – 1 1/2"C	(4) #1& (1) #6G – 1 1/2"C	(5) #2/0 & (1) #4G – 2"C
125	(2)#1/0 & (1) #4G–1 1/4"C	(3) #2/0 & (1) #4G – 1 1/2"C	(4) #2/0 & (1) #4G–2"C	(5) #3/0 & (1) #4G – 2 1/2"C
150	(2) #3/0 & (1) #4G – 1 1/2 "C	(3) #3/0 & (1) #4G – 1 1/2"C	(4) #3/0 & (1) #4G – 2"C	(5) #4/0 & (1) #4G – 3"C
175	(2) #4/0 & (1) #4G – 2"C	(3) #4/0 & (1) #4G – 2"C	(4) #4/0 & (1) #4G – 2 1/2"C	(5) 350 kCmil & (1) #2G – 3"C
200	(2) 250 kCmil & (1) #4G – 2"C	(3) 250 kCmil & (1) #4G – 2 1/2"C	(4) 250 kCmil & (1) #4G – 2 1/2"C	(5) 350 kCmil & (1) #2G – 3"C
225	(2) 350 kCmil & (1) #2G – 2"C	(3) 350 kCmil & (1) #2G – 2 1/2"C	(4) 350 kCmil & (1) #2G – 3"C	(5) 500 kCmil & (1) #2G – 3 1/2"C
250	(2) 350 kCmil & (1) #2G – 2 "C	(3) 350 kCmil & (1) #2G – 2 1/2"C	(4) 350 kCmil & (1) #2G – 3"C	(5) 500 kCmil & (1) #2G – 4"C
300	(2) 500 kCmil & (1) #2G – 2 1/2"C	(3) 500 kCmil & (1) #2G – 3"C	(4) 500 kCmil & (1) #2G – 3 1/2"C	(5) 750 kCmil & (1) #1G – 5"C
350	(2) 750 kCmil & (1) #1G –3"C	(3) 750 kCmil & (1) #1G –3 1/2" C	(4) 750 kCmil & (1) #1G –4"C	(2) 3" C EACH WITH (5) 350 kCmil & (1) #1/0G
400	(2) 3" C EACH WITH (2) 250 kCmil & (1) #1G	(2) 2 1/2" C EACH WITH (3) 250 kCmil & (1) #1G	(2) 3" C EACH WITH (4) 250 kCmil & (1) #1G	(2) 3" C EACH WITH (5) 350 kCmil & (1) #1/0G
450	(2) 3" C EACH WITH (2) 350 kCmil & (1) #1/0G	(2) 2 1/2" C EACH WITH (3) 350 kCmil & (1) #1/0G	(2) 3" C EACH WITH (4) 350 kCmil & (1) #1/0G	(2) 3 1/2" C EACH WITH (5) 500 kCmil & (1) #2/0G
500	(2) 3" C EACH WITH (2) 350 kCmil & (1) #1/0G	(2) 2 1/2" C EACH WITH (3) 350 kCmil & (1) #1/0G	(2) 3" C EACH WITH (4) 350 kCmil & (1) #1/0G	(2) 4" C EACH WITH (5) 500 kCmil & (1) #2/0G
600	(2) 2 1/2" C EACH WITH (2) 500 kCmil & (1) #2/0G	(2) 3" C EACH WITH (3) 500 kCmil & (1) #2/0G	(2) 3 1/2" C EACH WITH (4) 500 kCmil & (1) #2/0G	(2) 5" C EACH WITH (5) 750 kCmil & (1) #3/0G
800	(3) 2 1/2" C EACH WITH (2) 350 kCmil & (1) #3/0G	(3) 3" C EACH WITH (3) 350 kCmil & (1) #3/0G	(3) 3" C EACH WITH (4) 350 kCmil & (1) #3/0G	(3) 4" C EACH WITH (5) 500 kCmil & (1) #4/0G
900	(3) 2 1/2" C EACH WITH (2) 500 kCmil & (1) #4/0G	(3) 3" C EACH WITH (3) 500 kCmil & (1) #4/0G	(3) 3 1/2" C EACH WITH (4) 500 kCmil & (1) #4/0G	(3) 5" C EACH WITH (5) 750 kCmil & (1) 250 kCmil G
1000	(3) 3" C EACH WITH (2) 500 kCmil & (1) #4/0G	(3) 3" C EACH WITH (3) 500 kCmil & (1) #4/0G	(3) 3 1/2" C EACH WITH (4) 500 kCmil & (1) #4/0G	(4) 5" C EACH WITH (5) 750 kCmil & (1) 350 kCmil G
1200	(4) 2 1/2" C EACH WITH (2) 500 kCmil & (1) 250 kCmil G	(4) 3" C EACH WITH (3) 500 kCmil & (1) 250 kCmil G	(4) 3 1/2" C EACH WITH (4) 500 kCmil & (1) 250 kCmil G	(4) 5" C EACH WITH (5) 750 kCmil & (1) 350 kCmil G
1600	(4) 3" C EACH WITH (2) 750 kCmil & (1) 350 kCmil G	(4) 3 1/2" C EACH WITH (3) 750 kCmil & (1) 350 kCmil G	(4) 4" C EACH WITH (4) 750 kCmil & (1) 350 kCmil G	(6) 5" C EACH WITH (5) 750 kCmil & (1) 500 kCmil G
2000	(6) 3" C EACH WITH (2) 750 kCmil & (1) 500 kCmil G	(6) 4" C EACH WITH (3) 750 kCmil & (1) 500 kCmil G	(6) 4" C EACH WITH (4) 750 kCmil & (1) 500 kCmil G	(6) 4" C EACH WITH (5) 750 kCmil & (1) 500 kCmil G
2500	(7) 3 1/2" C EACH WITH (2) 750 kCmil & (1) 750 kCmil G	(7) 4" C EACH WITH (3) 750 kCmil & (1) 750 kCmil G	(7) 5" C EACH WITH (4) 750 kCmil & (1) 750 kCmil G	(9) 5" C EACH WITH (5) 750 kCmil & (1) 750 kCmil G
3000	(8) 3 1/2" C EACH WITH (2) 750 kCmil & (1) 750 kCmil G	(8) 4" C EACH WITH (3) 750 kCmil & (1) 750 kCmil G	(8) 5" C EACH WITH (4) 750 kCmil & (1) 750 kCmil G	(10) 5" C EACH WITH (5) 750 kCmil & (1) 750 kCmil G
4000	(11) 3 1/2" C EACH WITH (2) 750 kCmil & (1) 750 kCmil G	(11) 4" C EACH WITH (3) 750 kCmil & (1) 750 kCmil G	(11) 5" C EACH WITH (4) 750 kCmil & (1) 750 kCmil G	(13) 5" C EACH WITH (5) 750 kCmil & (1) 750 kCmil G

NOTES:
CONDUIT SIZES ARE FOR TYPE XHHW COMPACT STRANDED ALUMINUM CONDUCTORS ONLY. OTHER CONDUCTOR TYPES MAY REQUIRE LARGER CONDUITS.



GROUNDING ELECTRODE SYSTEM SHALL BE SIZED IN ACCORDANCE WITH NEC ARTICLE 250.

PROVIDE WATER PIPE GROUND CONNECTION ON STREET SIDE OF METER

EACH SERVICE GROUND SHALL BE INTERCONNECTED IN ACCORDANCE WITH CODE.

2	GROUNDING DETAIL	SCALE
E-2.0		NONE

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BHG CONSULTING ENGINEERS, INC.

1812 SOUTH 22ND STREET
PHILADELPHIA, PA 19145

Tel: 215-755-9318
Fax: 215-755-9319

SEALS:

RONALD HEIGLER, PE
NJ PROFESSIONAL ENGINEER No. GE 44485

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

ALL DOCUMENTS PREPARED BY BACH ASSOCIATES, PC ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY BACH ASSOCIATES, PC FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO BACH ASSOCIATES, PC. AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS BACH ASSOCIATES, PC FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

ELECTRICAL SINGLE LINE & SCHEDULES

JOB NO: GC2023-05	DESIGNED BY: REH
DATE: 03-11-26	DRAWN BY: KJA
SCALE: AS SHOWN	CHECKED BY: REH

DRAWING NUMBER:

E-2.0

This calculator provided voltage drop calculations in three formats (Point to Point, End of Line, and Load Centering).

Make sure that you know what method is accepted by, and the results do not exceed the limits set by the respective jurisdiction

			Point to Point Method			End of Line Method			Load Centering Method		
Project Name	MULLICA HILLS EMS		CIRCUIT IS WITHIN LIMITS			CIRCUIT IS WITHIN LIMITS			CIRCUIT IS WITHIN LIMITS		
Date	2/3/2026										
Circuit Number	MAIN		Totals		Voltage	Totals		Voltage	Totals		Voltage
Area Covered	MAIN		Current	Distance	Drop	Current	Distance	Drop	Current	Distance	Drop
Nominal System Voltage	24		0.890	140	**0.35**	0.890	140	**0.765**	0.890	140	**0.383**
Minimum Device Voltage	16		End of Line Voltage		**23.65**	End of Line Voltage		**23.23**	End of Line Voltage		**23.62**
Total Circuit Current	0.890	Wire Gauge	Percent Drop		1.48%	Percent Drop		3.19%	Percent Drop		1.59%
		Ohm's Per 1000	End of Line and Load Centering Methods use only the wire guage for the first device to source								
Distance from source to 1st device	8	14 3.07	Standard Wire Resistance in Ohms per 1000 feet.								
Wire Gauge for balance of circuit		14 3.07	18=7.77 16=4.89 14=3.07 12=1.98 10=1.24								
			18-14 Awg = Solid Conductors 12-10 Awg = Stranded Conductors								

Enter current in amps. 150 = 150 ma		Distance from previous	Voltage At	Drop from source	Percent
Device Number	Device Current	device	Device		Drop
Device 1	0.178	8	23.96	0.044	0.18%
Device 2	0.178	34	23.81	0.192	0.80%
Device 3	0.178	20	23.74	0.258	1.07%
Device 4	0.178	10	23.72	0.280	1.17%
Device 5	0.178	68	23.65	0.354	1.48%
END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
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END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
END			23.65	0.354	1.48%
Totals	0.890	140	End of Line Voltage		**23.65**

Notes:
Wire resistance is doubled in the calculations for two wires (Positive and Negative)
The voltage calculated to the last device in any method must not be lower then the manufactures listed minimum operating voltage (IE: rated operating voltage 20-32 VDC).

Device Manufacturer HONEYWELL

Horn Strobes			Current @Rated
	Model #	Candela	Voltage
	NS-24MCW	15/30/70	0.035

Device Manufacturer HONEYWELL

Strobe Only		Current @Rated
Model #	Candela	Voltage
NS	15/30/70	0.044

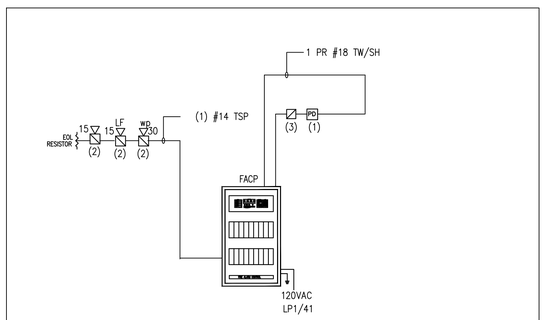
ITEM	DESCRIPTION	STANDBY CURRENT PER UNIT (AMPS)		QTY		TOTAL STANDBY CURRENT PER ITEM	ALARM CURRENT PER UNIT (AMPS)		QTY		TOTAL ALARM CURRENT PER ITEM
FACP	Fire Alarm Control Panel	0.2500	X	1	=	0.2500	0.5000	X	1	=	0.5000
NAC	Notification Extender Panel	0.1250	X	0	=	0.0000	0.2500	X	0	=	0.0000
SMOKE	Smoke Detector	0.0001	X	1	=	0.0001	0.0010	X	1	=	0.0010
HEAT	Heat Detector	0.0000	X	0	=	0.0000	0.0000	X	0	=	0.0000
PULL	Pull Station	0.0000	X	3	=	0.0000	0.0000	X	3	=	0.0000
BELL	FDC Bell	0.0000	X	0	=	0.0000	0.0500	X	0	=	0.0000
HORN	Horn	0.0000	X	0	=	0.0000	0.0500	X	0	=	0.0000
STROBE	Strobe	0.0000	X	0	=	0.0000	0.1000	X	0	=	0.0000
H/S	Horn/Strobe	0.0000	X	5	=	0.0000	0.1500	X	5	=	0.7500
FS	Flow Switch	0.0000	X	0	=	0.0000	0.0000	X	0	=	0.0000
TS	Tamper Switch	0.0000	X	0	=	0.0000	0.0000	X	0	=	0.0000
KA	Ansul system	0.0000	X	0	=	0.0000	0.0000	X	0	=	0.0000
FAA	Remote Annunciator	0.0000	X	0	=	0.0000	0.0000	X	0	=	0.0000
				TOTAL SYSTEM STANDBY CURRENT (AMPS)					TOTAL SYSTEM ALARM CURRENT (AMPS)		1.2510

Prepared for:	REQUIRED STANDBY TIME (HRS) NFPA 72-2002 4.4.1.5.3		TOTAL SYSTEM STANDBY CURRENT (AMPS)		REQUIRED STANDBY CAPACITY (AMP-HOURS)	REQUIRED ALARM TIME (HOURS) NFPA 72-2002 4.4.1.5.3		TOTAL SYSTEM ALARM CURRENT (AMPS)		REQUIRED ALARM CAPACITY (AMP-HOURS)
	24	X		=	6.0024	0.083	X	1.2510	=	0.1038

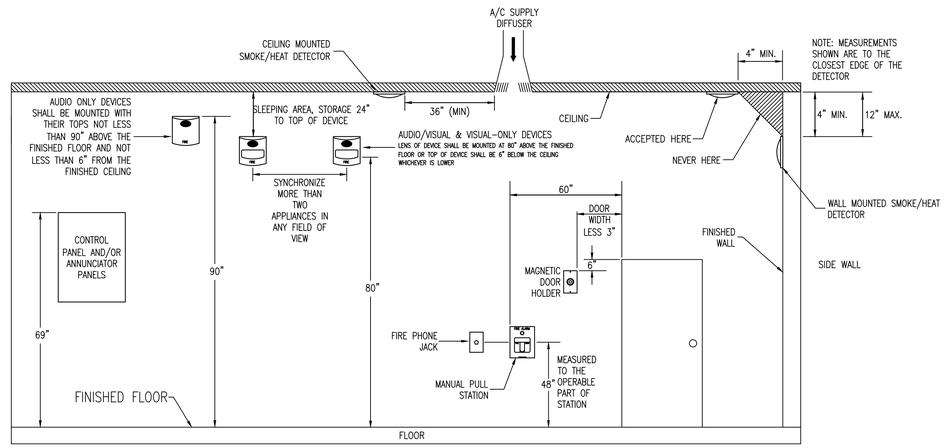
Prepared by:	REQUIRED STANDBY CAPACITY (AMP-HOURS)		REQUIRED ALARM CAPACITY (AMP-HOURS)		TOTAL CAPACITY (AMP-HOURS)	TOTAL CAPACITY (AMP-HOURS)		SAFETY FACTOR		ADJUSTED BATTERY CAPACITY (AMP-HOURS)
	6.00	+	0.1038	=	6.1062	6.1062	+	20%	=	

SYMBOLS

- FIRE ALARM MANUAL PULL STATION WITH PROTECTION COVER AND COVER WITH WARNING HORN
- PHOTOELECTRIC SMOKE DETECTOR
- DUCT SMOKE DETECTOR
- STROBE WITH 15 CANDELA OUTPUT RATING (CANDELA OUTPUT RATING IS NOT INDICATED)
- 30cd STROBE WITH 30 CANDELA OUTPUT RATING NUMBER INDICATES CANDELA OUTPUT RATING OF STROBE.
- 110cd STROBE WITH 110 CANDELA OUTPUT RATING NUMBER INDICATES CANDELA OUTPUT RATING OF STROBE.
- HORN AND STROBE COMBINATION UNIT STROBE WITH 15 CANDELA OUTPUT RATING (CANDELA OUTPUT RATING IS NOT INDICATED)
- 30cd HORN AND STROBE COMBINATION UNIT STROBE WITH 30 CANDELA OUTPUT RATING NUMBER INDICATES CANDELA OUTPUT RATING OF STROBE.
- 110cd HORN AND STROBE COMBINATION UNIT STROBE WITH 110 CANDELA OUTPUT RATING NUMBER INDICATES CANDELA OUTPUT RATING OF STROBE.
- FIRE ALARM MANUAL PULL STATION AND HORN AND STROBE COMBINATION UNIT ABOVE.
- TD THERMAL DETECTOR
- EOL END OF LINE RESISTOR
- HORN
- R REMOTE ALARM INDICATOR W/KEY TEST SWITCH
- C CONTROL MODULE
- I I.A.M. MODULE
- FACP FIRE ALARM CONTROL PANEL
- NAC NOTIFICATION EXTENDER PANEL
- FAA REMOTE ANNUNCIATOR
- EOL END OF LINE RESISTOR
- WG DEVICE WITH WIRE GUARD
- WP WEATHER PROOF DEVICE
- SUPPLY AIR DUCT
- RETURN AIR DUCT
- EXISTING MOTOR STARTER
- EXISTING CONTROL EQUIPMENT OF FIRE EXTINGUISHING SYSTEM
- SD 120V HOUSEHOLD SMOKE DETECTOR W/ 9V BATT BACK UP
- TS TAMPER SWITCH
- FS FLOW SWITCH



1 | E-3.0 | FIRE ALARM SYSTEM RISER DIAGRAM | SCALE NONE



NOTE: CONTRACTOR SHALL VERIFY ALL DEVICE MOUNTING HEIGHTS WITH LOCAL CODES AND AUTHORITIES HAVING JURISDICTION

2 | E-3.0 | FIRE ALARM SYSTEM TYPICAL DEVICE MOUNTING HEIGHTS | SCALE NONE

BHG CONSULTING ENGINEERS, INC.
1812 SOUTH 22ND STREET
PHILADELPHIA, PA 19145
Tel: 215-755-9318
Fax: 215-755-9319

SEALS:

RONALD HEIGLER, PE
NJ PROFESSIONAL ENGINEER No. GE 44485

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

FIRE ALARM SYSTEM

JOB NO: GC2023-05	DESIGNED BY: REH
DATE: 03-11-26	DRAWN BY: KJA
SCALE: AS SHOWN	CHECKED BY: REH

DRAWING NUMBER:

E-3.0

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Honeywell | SILENT KNIGHT | Addressable Fire Alarm Control Panels

6700

Addressable Fire Alarm Control Panel



6700

The 6700 is an addressable fire alarm control panel (FACP) that is a direct replacment for the 5700 FACP. The 6700 can be configured to achieve a point capacity of up to 100 points. It has one built-in signaling line circuit (SLC), which can support 50 System Sensor® (SK) sensors and 50 SK modules or 50 Hochiki® (SD) devices.

A common communications and annunciation link allows up to 17 panels to be connected via copper or fiber optic cable. A designated panel is configured as the communicator for all panels in the link for convenient single-point communications. The 6700 also has a built-in, dual-line POTS and IP communicator with additional cellular options available.

The 6700 system can be enhanced by adding modules such as the 6860 remote annunciator which also has four programmable function buttons to help automate tasks and reduce time spent at the panel.

SWIFT® wireless compatibility provides options for wireless detection through a Class A mesh network. It is ideal for hard-to-wire locations, buildings where new wiring is not allowed, or to provide an easy install fire system for new construction projects. SWIFT devices can be combined with other hard-wired 6700 compatible devices. SWIFT is only compatible with System Sensor (SK) devices. It is not compatible with Hochiki (SD) devices.

The 6700 also has a form-C trouble relay, two programmable form-C relays, along with powerful features such as drift compensation, pre-trouble maintenance alert, a built-in sensor test to comply with NFPA 72 calibration testing requirements, and calibration trouble alert.

The 6700 supports a variety of devices, including the 6860, 5860, and 6855 remote annunciators, 5824 serial parallel printer interface module (for printing system reports), the 5496 NAC expander, 5895XL power module, and SK or SD devices.

FEATURES & BENEFITS

- Capable of providing up to 100 points to satisfy smaller installation needs
- Connect up to 17 panels on one site with convenient single-point access using the SK-NIC Network Interface Card. Connected panels can have mixed compatible FACP models
- Convenient field-upgradeable firmware
- Built-in dual path POTS and IP communications with optional cellular models available for reliable backup reporting
- 6860 annunciator with a 4 x 40 large display
- Four user-programmable buttons minimize time spent executing complex or routine tasks
- Built-in USB interface for convenient and quick programming
- Programmable date setting for automatic and convenient Daylight Saving Time changes
- JumpStart® auto programming reduces installation time
- 125 software zones and 125 output groups for flexible design options

SIGNAL LINE CIRCUIT (SLC)

The 6700 SLC loops support multiple device types, maintenance alerts, and a built-in sensor test to comply with NFPA 72 calibration testing requirements.

INDICATOR LIGHTS

- **General Alarm (Red)**: Flashes if in alarm; solid when alarm is silenced
- **Supervisory (Yellow)**: Flashes if a supervisory condition exists; solid when supervisory is silenced
- **System Trouble (Yellow)**: Flashes if a trouble condition exists; solid when trouble is silenced
- **System Silenced (Yellow)**: On when an alarm, trouble or supervisory condition has been silenced but not yet cleared
- **System Power (Green)**: Flashes for AC failure; solid when power systems are normal

USER INTERFACE

The 6700 built-in 4 x 20 annunciator with 80 character LCD display and large easy-to-use tactile touchpad can be used for system operation, programming and maintenance. It has five LEDs for alarm, supervisory, system trouble, system silenced and system power.

System operations include silencing alarms and troubles, resetting alarms and the display of alarm troubles and memory. The system's non-volatile event history buffer stores 1,000 events for viewing from the built-in or remote annunciator. System operations can be initiated with a mechanical firefighter's key or a valid 4- to 7-digit operator's code.

PROGRAMMING

The 6700 system offers several options to simplify and speed-up programming. JumpStart® auto programming minimizes programming required to start a new system. The built-in keypad, or the 6860, 5860 or 6855 remote annunciators give you on-site access to current system programming. Programming can also be accomplished using the Windows®-based Honeywell Fire Software Suite (HFSS) program.

SOFTWARE TOOLS

SKST: Silent Knight Selection Tool provides the installer or design architect with a Windows® software system configuration tool to create a detailed Bill of Material (BOM) and battery calculations.

HFSS: Honeywell Fire Software Suite provides communication and panel programming, detector status, event history and additional data. Requires a PC running Microsoft® Windows®.

ADDITIONAL INFORMATION

Twisted-unshielded pair wire is recommended. The 6700 also has 1.3 preset notification cadence patterns (including ANSI 3.41).

AGENCY LISTINGS AND APPROVALS

NFPA 13, NFPA 15, NFPA 16, NFPA 70, NFPA 72: Central station; remote Signaling; Local Protective Signaling Systems; Auxiliary Protected Premises Unit; Water Deluge releasing service. Suitable for automatic, manual, waterflow, sprinkler supervisory (DACT non-coded) signaling services

- **UL Listed:** S2766
- **CSFM** 7165-0559:0501
- **FDNY** COA# 6250

ORDERING INFORMATION

6700: Addressable Fire Alarm Control Panel. (Red cabinet)

COMPATIBLE ANNUNCIATORS

6860: 4x40 LCD remote fire annunciator (4 lines and up to 160 characters) per system; four programmable buttons

5860: 4x20 LCD remote fire annunciator. 5860 is gray; 5860R is red

6855: 4x20 LCD remote fire annunciator

5865-3 or 5865-4: LED annunciators can display up to 30 LEDs (15 red and 15 yellow). The 5865-4 has key switches for silence and reset, and a system trouble LED.

5880: The 5880 LED / IO module has 40 programmable LED outputs and eight supervised dry contact inputs which are useful for custom applications. You can use up to eight 5880 modules on one control panel for maximum flexibility. Its compact size allows mounting inside the annunciator, or in an accessory cabinet.

6700 COMPATIBLE DEVICES AND ACCESSORIES

See the data sheets listed below for a complete listing of the SK, SD or SWIFT devices.
53623: SK Devices Data Sheet
53624: SD Devices Data Sheet
350614, 350616 & 350618: SWIFT wireless devices
For a complete and current listing of compatible devices and accessories, visit **www.silentknight.com**
Important: You cannot mix SK and SD devices in the same fire alarm system.

SK COMPATIBLE ADDRESSABLE DEVICES

SK-ACCLIMATE: Multi criteria photoelectric smoke detector with thermal 135ºF fixed temperature
SK-BEAM: Reflected beam smoke detector without test feature
SK-BEAM-T: Reflected beam smoke detector with test feature
SK-CONTROL: Supervised control module
SK-CONTROL-6: Six circuit supervised control module
SK-DUCT: Photoelectric duct smoke detector with extended air speed range
SK-FIRE-CO: Four criteria fire and carbon monoxide detector
SK-HEAT: Fixed thermal detector (135ºF)
SK-HEAT-W: Fixed thermal detector (135ºF), white
SK-HEAT-ROR: Fixed rate of rise detector (135ºF)
SK-HEAT-ROR-W: Fixed rate of rise detector (135ºF), white
SK-HEAT-HT: Fixed high temperature thermal detector (190ºF)
SK-HEAT-HT-W: Fixed high temperature thermal detector (190ºF), white
SK-ISO: Fault isolator module
SK-MINIMON: Mini monitor module
SK-MONITOR: Monitor module
SK-MONITOR-2: Dual input monitor module
SK-MON-10: 10 input monitor module
SK-PHOTO: Photoelectric smoke detector
SK-PHOTO-W: Photoelectric smoke detector, white
SK-PHOTO-T: Photoelectric smoke detector with thermal (135ºF fixed temperature)
SK-PHOTO-T-W: Photoelectric smoke detector with thermal (135ºF fixed temperature), white
SK-PHOTOR: Photoelectric detector with remote test capability
SK-PHOTO-R-W: Photoelectric detector with remote test capability, white
SK-PULL-SA: Addressable single action pull station
SK-PULL-DA: Addressable dual action pull station
SK-RELAY: Addressable relay module
SK-RELAY-6: Addressable Six relay control module
SK-RELAYMON-2: Addressable Dual relay/monitor module
SK-ZONE: Addressable zone interface module
SK-ZONE-6: Six zone interface module
B300-6-IV: 6" base for SK-W Series
B210LP: 6" mounting base
B501(-BL,-IV,-WHITE): 4"flangeless base
B501: 4" Flangeless mounting base
B200S(-IV,-WH): Intelligent sounder base
B200S: Intelligent sounder base
B200S-LF(-IV,-WH): Low-Frequency intelligent sounder base
B200S-LF: Low-frequency intelligent sounder base
B224RBL(-IV,-WH): Relay base
B224RB: Relay base
B224BI(-IV,-WH): Isolator base
B224BI: Isolator base

SD COMPATIBLE ADDRESSABLE DEVICES

SD505-6AB: Addressable 6" base
SD505-6IB: Addressable 6" short circuit isolator base
SD505-6RB: Addressable 6" relay base
SD505-6SB: Addressable 6" sounder base
SD500-AIM: Addressable input module (switch input)
SD500-ANM: Addressable notification module
SD500-ARM: Addressable relay module
SD505-DTS-K: Remote test switch and LED indicator for the SD505-DUCTR
SD505-DUCT: Addressable Duct Smoke Detector.
SD505-DUCTR: Addressable Duct Detector housing with relay base.
SD505-HEAT: Absolute temperature heat detector. Trip point range from 135ºF–150ºF (ºC–ºC).
SD500-LIM: Addressable Line isolator module
SD500-MIM: Addressable Mini input monitor module (switch input)
SD505-PHOTO: Photoelectric smoke detector
SD500-PS/-PSDA: Addressable Single or dual action pull station
SD500-SDM: Addressable smoke detector module

AUDIBLE/VISIBLE DEVICES

These AV devices are all 2-wire. Color: "R" indicates red; "W" denotes white. For a complete listing of Silent Knight AV devices go to **www.silentknight.com**.
CHSRL/CHSWL: Wall chime/strobe
CHSCRL/CHSCWL: Ceiling chime/strobe
CHRL/CHWL: Wall chime
HRL/HWL: Wall horn
P2RL/P2WL: Wall horn/strobe
PC2RL/PC2WL: Ceiling horn/strobe
SRL/SWL: Wall strobe
SCRL/SCWL: Ceiling strobe
SPSCRL/SPSCWL: Ceiling speaker/strobe
SPSRL/SPSWL: Wall speaker/strobe
SPRL/SPWL: Wall speaker
SPCRL/SPCWL: Ceiling speaker

SWIFT WIRELESS DEVICES

SWIFT is only compatible with System Sensor (SK) devices. It is not compatible with Hochiki (SD) devices.
WSK-WGI: Wireless Gateway
WSK-PHOTO: Wireless Photoelectric smoke detector
WSK-PHOTO-T: Wireless Multi-criteria photoelectric smoke detector with thermal detection (135ºF fixed temperature) and B501W 4" base
WSK-HEAT: Wireless Heat, (135ºF fixed temperature) and B501W 4" base
WSK-HEAT-ROR: Wireless heat, ROR (135ºF fixed temperature) and B501W 4" base
WSK-MONITOR: Wireless monitor module
WSK-RELAY: Wireless relay module
W-USB: SWIFT Tools USB transceiver used for communication with SWIFT devices

SBUS ACCESSORIES

5496: A 6 amp notification power expander with four power-limited notification appliance circuit outputs.
5883: Relay Interface. Provides 10 Form C relays.
5824: Serial/Parallel printer interface module for printer connection.
5895XL: Power supply with six Flexput® circuits, and two Form C relays. Max. 16 per system.
5815RMK: Remote mounting kit. Dimensions 10.3/8"W x 10-3/16"H x 3"D

COMMUNICATION OPTIONS

CELL-CAB-SK: Cellular communicator, metal enclosure with lock/key*
CELL-MOD: Cellular communicator, plastic enclosure*
*Sole path, powered by panel.
IPGSM-4G: Dual path fire alarm communicator, cellular and/or IP (primary or backup, selectable)
SK-IP-2: Remote reporting via the Internet. Requires a VisorAlarm® receiver at the central station

MISC. ACCESSORIES

SK-NIC: Network Interface Card. Provides a common communications link for the 6700
SK-NIC-KIT: Installation Accessory Kit
SK-FML: Fiber-Optic Multi Mode, transmitter and receiver
SK-FSL: Fiber-Optic Single Mode
RBB: Remote battery box accessory cabinet for batteries that are too large to fit in the FACP cabinet. Dimensions: 16" W x 10" H x 6" D (406mm W x 254mm H x 152mm D).
SK-SCK: Seismic Compliance Kit used to securely fasten batteries to the fire panel.

6700 Technical Specifications

PHYSICAL

Overall Dimensions: 12.71" W x 15.12" H x 3.33" D
Weight: 15 lbs.
Color: Red

ENVIRONMENTAL

Operating Temperature: 32ºF to 120ºF (0ºC to 49ºC)
Humidity: 0 to 93% relative humidity (non-condensing)

ELECTRICAL

6700 Primary AC: 120 VAC @ 60 Hz, 1.5A Total. Accessory Load: 2.5A @ 27.4 VDC power-limited
Standby Current: 165mA
Alarm Current: 310mA
Battery Charging Capacity: 7 to 35AH
Battery Size: 7AH max, allowed in control panel cabinet. Larger capacity batteries can be housed in RBB accessory cabinet

NOTIFICATION APPLIANCE CIRCUITS (NAC)

Two programmable circuits which can be programmed individually as:
NACs: 2.5A @ 27.4VDC per circuit, power-limited (with a panel maximum current of 2.5A)
Auxiliary Power Circuits: 2.5A @ 27.4VDC per circuit, power-limited

Supports Class B (Style 4) and Class A (Style 6 or 7) configuration for the SLC

WIRING: See the product manual for wiring details

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For Technical Support, call 800-446-6444.

Honeywell Silent Knight
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Northford, CT 06472
800-328-0103
www.silentknight.com

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Honeywell | SILENT KNIGHT

INTELLIKNIGHT ACCESSORY

SD500-AIM & SD500-MIM Addressable Input Modules



IntelliKnight's addressable contact monitor modules combine fast response with pinpoint location ID. A combination that saves lives and property.

The SD500-AIM and SD500-MIM are addressable input modules for use with Silent Knight IntelliKnight fire alarm control panels (FACP). The SD500-AIM and SD500-MIM are designed to be used with pull stations, water flow switches, and other applications requiring dry contact alarm initiation devices.

The SD500-AIM addressable input module mounts to a 4"-square box. The SD500-MIM mini input module fits inside a single gang box. The modules are supervised, single input contact monitors. Using an EOL resistor, they monitor for alarm contact closures and for open circuit wiring fault conditions.

The SD500-AIM and SD500-MIM offer a compact design for adaptability and pleasing aesthetics as well as easy installation and stable operation—a flexible solution for all your fire protection needs.

For more information about the IntelliKnight system, or to locate your nearest source, please call 1-800-446-6444, or in Minnesota, call 763-493-6435.

Description

The SD500-AIM and SD500-MIM are addressable input modules for use with the IntelliKnight fire alarm control panels (FACPs). The SD500-AIM addressable input module mounts to a 4"-square box. The SD500-MIM mini input module fits inside a single gang box. Both input modules are designed to be used with pull stations, water flow switches, and other applications requiring dry contact alarm initiation devices.

These modules are supervised, single input contact monitors. Using an EOL resistor, they monitor for alarm contact closures and for open circuit wiring fault conditions. If a fault occurs in the wiring, the module alerts the FACP. Each addressable input module is programmed with a unique signal line circuit (SLC) loop address.

Features

- Single contact monitor
- SD500-AIM supports Class A (Style D) or Class B (Style B) contact monitor wiring
- SD500-MIM support for Class B (Style B) contact monitor wiring
- Attractive ivory cover plate with the SD500-AIM
- Small and lightweight size allows for flexible mounting options with the SD500-MIM
- DIP switch programmable for fast installation
- Up to 2500 ft wiring distance from either input module to contact
- Use up to 14 gauge wire
- UL listed

Electrical Specifications

Standby Current: 0.55 mA

Alarm Current: 23 mA max for one device; 46 mA max for two devices; 0.55 mA for each additional device

Line Resistance: 50Ω max

Mechanical Specifications

SD500-AIM Physical Description
Dimensions:
4.5" W x 4.9" H x 1" D
(12.4 W x 12.4 H x 2.5 D cm)
Weight: 3.6 oz (120.1 g)
Color: Ivory cover plate

SD500-MIM Physical Description
Dimensions:
1.5" W x 2.5" H x 0.7" D
(3.8 W x 6.4 H x 1.8 D cm)
Weight: 1.6 oz (45.4 g)

Environmental

Operating Temperature:
32ºF – 120ºF (0ºC – 49ºC)

Humidity:
10% – 93% non-condensing



SD500-AIM



SD500-MIM

Approvals

NFPA 71 & NFPA 72
UL 864
CSFM 7300-0559: 132
MEA 429-92-E Vol. IX
FM Approved for use with the 5820XL

SILENT KNIGHT by Honeywell

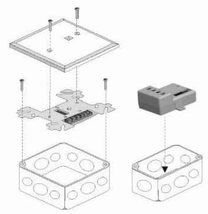
INTELLIKNIGHT ACCESSORY

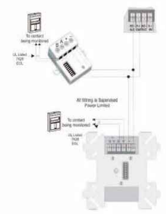
SD500-AIM & SD500-MIM Addressable Input Modules

Engineering Specifications

The contractor shall furnish and install where indicated on the plans, addressable input modules Silent Knight SD500-AIM or SD500-MIM. The modules shall be UL listed and compatible with Silent Knight's IntelliKnight FACPs.

The SD500-MIM shall fit inside a single gang electrical box. The SD500-AIM shall be supplied with a plastic cover and shall be suitable for mounting to a 4"-square or double gang electrical box. The SD500-AIM addressable input module must provide a monitor LED that is visible from outside the cover plate.





Compatible FACPs

5820XL
5808
5700

Ordering Information

SD500-AIM Input Module
Addressable input module with ivory cover plate.

SD500-MIM Input Module
Addressable mini input module.

SILENT KNIGHT by Honeywell

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INTELLIKNIGHT ACCESSORY

Model SD500-ARM Addressable Relay Module



Place relay applications anywhere on the IntelliKnight loop with the SD500-ARM Addressable Relay Module.

The SD500-ARM is an addressable device that adds great flexibility to the IntelliKnight system. Providing two Form C contacts rated at 2.0 amps @ 30 VDC or .6 amp @ 120 VAC. The SD500-ARM allows you to control a wide variety of normally open and normally closed applications, including elevator recall, door closing, fan operation, and auxiliary notification. And, because the relay module is addressable, these applications can be located at any point in the signaling line circuit.

Like other IntelliKnight SLC devices, the SD500-ARM is compact for adaptability and pleasing aesthetics. Combine this with the features you've come to expect from Silent Knight fire protection devices—easy installation and stable operation—and it adds up to a flexible solution for all your fire protection needs.

Model SD500-ARM Addressable Relay Module

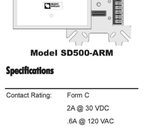
The SD500-ARM provides two Form C contacts rated at 2A @ 30 VDC or .6A @ 120 VAC. These contacts can be used for virtually any normally open or normally closed application.

Operation

Each relay module is programmed with a unique SLC loop address. When an event that controls the relay module occurs, the relay is triggered by the IntelliKnight panel.

Features

- Two sets of Form C contacts.
- Contacts are rated at 2A @ 30 VDC or .6A @ 120 VAC.
- Up to 127 relays can be used on each SLC loop.
- Relay programming is completely flexible—can be mapped to zone conditions.
- Polling LED visible through cover plate.
- UL listed, complies with NFPA 72.
- CSFM approved
- MEA Approved, 429-92-E, Vol. 9
- FM approved



Model SD500-ARM

Specifications

Contact Rating:	Form C 2A @ 30 VDC .6A @ 120 VAC
Standby Current:	.55 mA
Alarm Current:	.55 mA
Ambient Temperature	32ºF to 120ºF (0ºC to 49ºC)
Mounting	4-square electrical box

SILENT KNIGHT

INTELLIKNIGHT ACCESSORY

Model SD500-ARM Addressable Relay Module

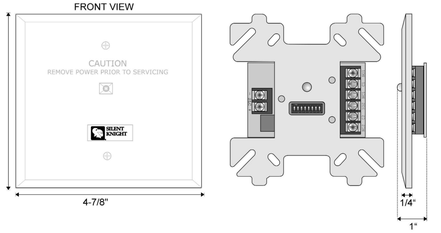
Engineering Specifications

The contractor shall furnish and install where indicated on the plans, addressable relay modules, Silent Knight SD500-ARM. The modules shall be UL listed compatible with Silent Knight's Intelliknight FACPs.

The relay module must provide two Form C dry contacts rated at 2.0 amps at 30 VDC or .6 amp at 120 VAC.

The relay module must be suitable for mounting in a standard 4-square electrical box and must include a plastic cover plate. The relay module board must provide an LED that is visible from the outside of the cover plate.

The relay must be fully programmable for such applications as are required by the installation.



Model SD500-ARM Addressable Relay Module Dimensions

SILENT KNIGHT

7550 Meridian Circle, Maple Grove, MN 55369-4927
800-446-6444 or in Minnesota 763-493-6435
FAX: 763-493-6475
World Wide Web: http://www.silentknight.com

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SEALS:

RONALD HEIGLER, PE
NJ PROFESSIONAL ENGINEER No. GE 44485

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

FIRE ALARM DEVICE INFO

JOB NO: GC2023-05	DESIGNED BY: REH
DATE: 03-11-26	DRAWN BY: KJA
SCALE: AS SHOWN	CHECKED BY: REH

DRAWING NUMBER:

E-3.1



Addressable Photoelectric Type Smoke Detector

Detect smoldering fires quickly and get help fast with IntelliKnight® photoelectric smoke detectors.

IntelliKnight addressable photoelectric smoke detectors are the clear choice for commercial settings where smoldering fires are a threat. In addition to accurately detecting a smoldering fire, each SD505-APS photoelectric detector has a unique address, which is recognized by the IntelliKnight panel. No precious seconds are wasted in determining location of an alarm.

The SD505-APS compensates automatically for contamination in the environment. And detector testing is simple—even from a remote site. Like other IntelliKnight detector models, the SD505-APS offers a low profile for pleasing aesthetics. The IntelliKnight family of detectors has been designed to use a common base, Model SD505-6AB, allowing complete application and placement flexibility. Combine all this with the features you've come to expect from Silent Knight smoke detectors—easy installation, stable operation, RF/transient protection, and vandal-resistant locking—and it adds up to a flexible solution for all your fire protection needs.

Model SD505-APS
Analog / Addressable
Photoelectric Type
Smoke Detector

The SD505-APS is particularly suited to detecting dense smoke typical of fires involving materials such as soft furnishings, plastic, foam or other similar materials which tend to smolder and produce large visible particles.

The detector features automatic compensation for contamination and a simple detector calibration test procedure that can be run from the panel or remotely (using the Windows™ based downloading software).

Operation

The SD505-APS units made up of an LED light source and a silicon photo diode receiving element. In a normal standby condition, the receiving element receives no light from the pulsing light source. In the event or fire, smoke enters the detector and light is reflected from the smoke particles to the receiving element.

The light received is converted into an electronic signal. Under normal conditions, the status LED blinks approximately every 15 seconds, indicating that the head is communicating with the loop. The LED lights continuously during the alarm period.

Features

- Low profile, 2 inches, including base
- Simple and reliable addressing without mechanical switches
- Automatic compensation for sensor contamination
- Built-in fire test feature
- Simple detector calibration testing through the control panel or remotely through a Windows™ based computer software.
- Vandal-resistance locking features
- Field cleanable
- UL listed, meets NFPA 72 Ch 7 requirements
- CSFM approved
- MEA approved
- FM Approved



SD505-APS Smoke Detector

Specifications

Operating Voltage:	17-41 VDC
Current Consumption:	
Standby:	.55 mA
Alarm:	.55 mA
Ambient Temperature:	32°F to 120°F (0°C to 49°C)
Mounting:	4" Square, 4" OCT, Single gang mud ring
Relative Humidity:	85% noncondensing
Air Velocity:	0 - 300 FPM
Compatible Bases: (Sold Separately)	SD505-6AB (6" Base) SD505-4AB (4" Base)

SILENT KNIGHT
by Honeywell

Model SD505-APS
Addressable Photoelectric Type Smoke Detector

Engineering Specifications

The contractor shall furnish and install where indicated on the plans, addressable photoelectric smoke detector Silent Knight SD505-APS. The combination detector head, and twist-lock base, shall be UL® listed compatible with Silent Knight's IntelliKnight fire control panels.

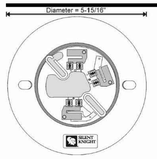
The base shall permit direct interchange with Silent Knight SD505-AIS Ionization Smoke Detector, or SD505-AHS Heat Detector. Base shall be the appropriate twist-lock base SD505-6AB.

The smoke detector shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady. The detector may be reset by actuating the control panel reset switch.

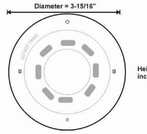
The calibration of the detector shall be capable of being selected and measured by the control panel without the need for external test apparatus.

The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field selectable as required.

The SD505-APS shall automatically perform a functional test of the detector. The test method shall simulate effects of products of combustion in the chamber to ensure testing of detector circuits.



Model SD505-6AB Detector Base (front view)



Model SD505-APS Detector Head (front view)

SILENT KNIGHT by Honeywell

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact Silent Knight 7550 Meridian Circle Suite 100, Maple Grove, Mn 55369-4927. Phone: (800) 328-0103, Fax: (763) 493-6475.

MADE IN AMERICA

FORM# 352225 Rev C, 05/05

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SD500-PS and SD500-PSDA Addressable Pull-Station

IntelliKnight's addressable pull stations combine fast response with pin-point location ID.

The SD500-PS and SD500-PSDA are a single action or dual action addressable manual fire alarm pull station for use with Silent Knight's IntelliKnight fire control panel. Extremely easy to operate, the SD500-PS/PSDA provides a fast and practical means of manually initiating a fire alarm signal. The IntelliKnight panel recognizes each manual pull station by its specific address saving precious seconds in determining the location of an alarm. The SD500-PS/PSDA mounts to a single gang box and features a rugged metal construction that lasts and lasts.

Combine all this with the features you've come to expect from Silent Knight - easy installation and stable operation - and it adds up to a flexible solution for all your fire protection needs.

Model SD500-PS & SD500-PSDA Addressable Pull Station

The SD500-PS is a single action addressable fire pull station, and the SD500--PSDA is a dual action addressable fire pull station. The SD500-PS/PSDA feature rugged metal construction. A terminal strip on back of the pull station allows interconnection of the pull station to the SLC of an IntelliKnight control panel. The SD500-PS/PSDA is designed for indoor use in non-explosive environments. The normally open initiating point contacts are gold-plated to avoid risk of corrosion. The SD500-PS/PSDA has been tested by UL for compliance to the requirements of the Americans with Disabilities ACT (ADA).

Features

- UL Listed
- CSFM listed
- ADA compliant
- Key reset (Same key as Silent Knight enclosures)
- Surface mount back box available
- Terminals - accept up to 14 gauge wire
- Extremely easy to operate
- Corrosion-resistant gold-plated contacts.
- Reflective label makes it easier to locate in low light

Operation

The SD500-PS/PSDA single action pull stations are operated by a pull on the front pull cover of the station. A plunger switch, wired to a self contained addressable module, is released as the pull station opens to initiate the alarm. Once operated, the cover hangs down and can be seen up to 100 feet away. The pull station is reset by returning the front cover to the normal upright position and relocking the station with a reset key. The reset keys are the same keys used on Silent Knight enclosures.

The SD500-PS/PSDA includes a status LED which blinks, indicating that the addressable module is communicating with the loop. The status LED lights continuously during an alarm. A dip switch on the addressable module is used to set the unique address.

Specifications

Operating Voltage:	24VDC
Standby Current:	.55mA
Alarm Current:	.55mA



SD500-PS

Ambient Temperature:	32°F to 120°F (0°C to 49°C)
Mounting:	Single gang box --

Optional Red Surface Mount Box PS-SMBB

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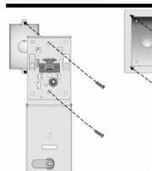
SD500-PS and SD500-PSDA Addressable Pull-Station

Engineering Specifications

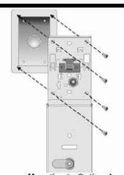
Manual pull station shall be addressable Module SD500-PS/SD500-PSDA. Equipment shall be made of 14 gauge C.R.S.(Cold Rolled Steel), painted with a red enamel . The label shall contain the words Fire Alarm and be made of a reflective material embossed text 3/5 inches tall. Operating instruction shall be clearly visible on the same label. Manual station Shall contain a key operated test and reset lock using a lock plate actuator, the key shall match the control panel.

Manual station shall contain four terminal blocks with two connected to the addressable module and two connect to the SLC loop. Manual station shall provide data to the control panel with an ID address programmed by dip switch settings..

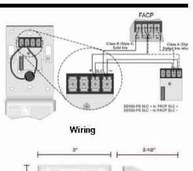
Manual stations shall be Underwriters Laboratories Inc. listed and installed within the limits defined in the American Disabilities Act.



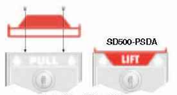
Mounting to Single Gang Electrical Box



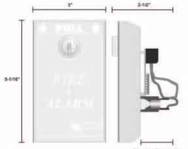
Mounting to Optional Surface Mount Box



Wiring



Installing SD500-LK



Dimensions

SILENT KNIGHT
A Honeywell Company

7550 Meridian Circle, Maple Grove, MN 55369-4927
800-446-6444 or in Minnesota 763-493-6435
FAX: 763-493-6475
World Wide Web: http://www.silentknight.com

MADE IN AMERICA

FORM# 352342, Rev. 03/03

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Addressable Heat Detector

IntelliKnight® addressable heat detectors combine accurate heat detection with pin-point location ID. An essential combination for any installation.

IntelliKnight heat detectors are an essential component in virtually any IntelliKnight installation. The IntelliKnight panel recognizes each detector by its specific address, so precious seconds are not wasted in determining location of an alarm.

Like other IntelliKnight detector models, the SD505-AHS offers a low profile for pleasing aesthetics.

The IntelliKnight family of detectors has been designed to use a common base, Model SD505-6AB, allowing complete application and placement flexibility. Combine all this with the features you've come to expect from Silent Knight detectors—easy installation, stable operation, RF/transient protection, and vandal-resistant locking—and it adds up to a flexible solution for all your fire protection needs.

Model SD505-AHS
Addressable Heat Detector

The SD505-AHS is a heat detector suited to virtually any commercial setting. The SD505-AHS is an absolute temperature device. This means that it responds in alarm if the temperature goes above the trip point (programmed at the panel).

The SD505-AHS provides accurate temperature measurement data to the fire alarm control panel. This heat detector is particularly suited to environments where smoke detectors cannot be used because of the presence of steam or cooking fumes, such as in a kitchen.

Operation

The SD505-AHS unit is made up of an externally mounted thermistor with a specially designed cover that protects the thermistor while allowing maximum air flow. The thermistor reads the temperature from the air it takes in. It then transmits a signal representing the temperature to the IntelliKnight panel.

If the temperature exceeds the trip point (programmed at the panel), an alarm occurs. The status LED lights continuously during the alarm period.

Under normal conditions, the status LED blinks approximately every 15 seconds, indicating that the head is communicating with the loop.

Features

- Low profile, 2 inches, including base
- Simple and reliable addressing
- Uses digital communication protocol
- The SD505-AHS is UL Listed and meets the requirements outlined in NFPA 72 Inspection Testing and Maintenance, Chapter 7.
- CFSM listed
- MEA listed
- FM approved

SILENT KNIGHT
by Honeywell



SD505-AHS Heat Detector

Specifications

Operating Voltage:	17 to 41 VDC
Current Consumption:	
Standby:	.55 mA
Alarm:	.55 mA
Detection Temperature Range:	135°F to 150°F (57°C TO 65°C)
Ambient Temperature:	32°F to 120°F (0°C to 49°C)
Mounting:	4" SQR, 4" OCT Single gang mud ring
Rated Spacing:	70' between sensors on smooth ceilings.
Compatible Bases: (Sold Separately)	SD505-6AB (6" Base) SD505-4AB (4" Base)

Model SD505-AHS
Addressable Heat Detector

Engineering Specifications

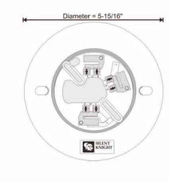
The contractor shall furnish and install where indicated on the plans, addressable heat detector Silent Knight SD505-AHS. The combination detector head, and twist-lock base, shall be UL® listed compatible with Silent Knight's IntelliKnight fire alarm control panels.

The base shall permit direct interchange with Silent SD505-APS Photoelectric Smoke Detector, or SD505-AIS Ionization Smoke Detector. Base shall be the appropriate twist-lock base SD505-6AB.

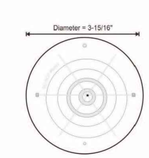
The smoke detector shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady at full brilliance. The detector may be reset by actuating the control panel reset switch.

The vandal-resistant, securily locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field removable when not required.

Voltage and RF/transient suppression techniques shall be employed to minimize false alarm potential.



Model SD505-6AB Detector Base (Front View)



Model SD505-AHS Detector Head (Front View)

SILENT KNIGHT by Honeywell

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MADE IN AMERICA

FORM# 350229 Rev B, 05/05

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SYSTEM SENSOR

Indoor Selectable-Output Low Frequency Sounders and Low Frequency Sounder Strobes

System Sensor L-Series audible visible notification products are rich with features guaranteed to maximize profits with lower current draw and modern aesthetics.



Features

- 520 Hz ± 10% square wave tone, NFPA compliance
- Full candela range plus High/Low tone options to optimize current draw for a wide variety of applications
- Compact, standard, and round ceiling options
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Rotary switch for High and Low, Temp3 and Temp4 settings
- Plug-in design with minimal intrusion into the back box
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices (Direct replacement for HWR-LF and PJR/WH-LF)
- Compatible with MDL3 sync module
- Sounders listed for ceiling and wall mounting
- Sounder Strobe listed for wall mounting
- Updated modern aesthetics

The L-Series offers the most versatile and easy-to-use line of low frequency sounder and low frequency sounder strobes in the industry. With white and red plastic housings, listed for wall and ceiling mounting, L-Series Low Frequency can meet virtually any application requirement.

The low frequency sounder and low frequency sounder strobes were designed to address the NFPA 72 sleeping space requirements that require a low frequency notification appliance that operates within frequency range of 520 Hz ± 10% and is of a square wave tone. Like the entire L-Series product line they include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, L-Series uses a universal mounting plate with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, 24-volt operation, and a rotary switch for 520 Hz low frequency sounder tones.

Agency Listings

LISTED (UL 464) · FM APPROVED (FM 4029/5) · Reorder P/N: MODEOL Rev/Date: 7SE-1020/07

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L-Series Specifications

Architect/Engineer Specifications

General

L-Series low frequency sounder and low frequency sounder strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 1¼-inch back box. A universal mounting plate shall be used for mounting products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync-Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync-Circuit Module, 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit (0°C to 49°C) from a regulated DC or full-wave rectified unfiltered power supply. Low Frequency Sounder strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, 185. The field selectable tones will sound within the frequency range of 520 Hz ±10% square wave tone and have a permanent marking on the housing that reads "low frequency sounder".

Low Frequency Sounder

The low frequency sounder shall be a System Sensor L-Series Model _____ listed to UL 464 and shall be approved for fire protective service. The low frequency sounder and the Sync-Circuit™ MDL3 Module accessory, if used, shall be powered from a notification appliance circuit output and shall operate on a nominal 24 volts (includes fire alarm panels with built-in sync). When used with the Sync-Circuit Module MDL3, 24-volt rated notification appliance circuit outputs shall operate between 16.5 to 33 volts. If the notification appliances are not UL 9th edition listed with the corresponding panel or power supply being used, then refer to the compatibility listing of the panel to determine maximum devices on a circuit. The low frequency sounder has an option to switch between temporal three or temporal four pattern, non-temporal (continuous) pattern and coded supply within the frequency range of 520Hz ± 10% square wave tone. The low frequency sounder shall operate on a coded or non-coded power supply with high and low volume settings.

Low Frequency Sounder Strobe Combination

The low frequency sounder strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The low frequency sounder strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The sounder shall have an option to switch between a temporal three or temporal four pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The low frequency sounder on low frequency sounder strobe models shall operate on a non-coded power supply with high and low volume settings. The field selectable tones will sound within the frequency range of 520 Hz ±10% square wave tone.

Synchronization Module

The module shall be a System Sensor Sync-Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and low frequency sounder at temporal three. Also, while operating the strobes, the module shall silence the low frequency sounder on low frequency sounder strobe models over a single pair of wires. The module shall mount to a 4"H x 4"W x 2¼-inch back box. The module shall also control two Class B circuits or one Class A circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Frequency Range	520 Hz ± 10%
Strobe Flash Rate	1 flash per second
Nominal Voltage Low Frequency Sounder	Regulated 24 DC/FWR†
Nominal Voltage Range Low Frequency Sounder Strobe	Regulated 24 VDC/FWR†
Operating Voltage Range	16 to 33 V (24 V nominal)
Operating Voltage Range MDL3 Sync Module	16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Dimensions	
Wall Sounder Strobe (including lens)	5.6" L x 4.7" W x 1.9" D (142 mm L x 119 mm W x 49 mm D)
Standard Wall Sounder	5.6" L x 4.7" W x 1.5" D (142 mm L x 119 mm W x 38 mm D)
Compact Wall Sounder	5.25" L x 3.46" W x 1.5" D (133mm L x 89mm W x 39mm D)
Ceiling Sounder	6.9" diameter x 1.4" high (173mm diameter x 36mm high)
Standard Wall Sounder with SBBRL/SBBWL Surface Mount Back Box	5.7" L x 4.8" W x 3.3" D (145 mm L x 120 mm W x 87 mm D)
Compact Wall Sounder with SBBGRL/SBBGWL Surface Mount Back Box	5.4" L x 3.6" W x 3.0" D (137 mmL x 91mm W x 76 mm D)
Low Frequency Ceiling Sounder with SBBCRL/SBBCWL Surface Mount Back Box	6.9" diameter x 3.9" high (175mm diameter x 99mm high)

Notes:
1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

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BHG CONSULTING ENGINEERS, INC.

1812 SOUTH 22ND STREET
PHILADELPHIA, PA 19145

Tel: 215-755-9318
Fax: 215-755-9319

SEALS:



RONALD HEIGLER, PE
NJ PROFESSIONAL ENGINEER No. GE 44485

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP
NEW EMS FACILITY
169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

FIRE ALARM DEVICE INFO

JOB NO: GC2023-05	DESIGNED BY: REH
DATE: 03-11-26	DRAWN BY: KJA
SCALE: AS SHOWN	CHECKED BY: REH

DRAWING NUMBER:

E-3.2

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ABBREVIATIONS NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED.

(D)	DEMOLISH
(E)	EXISTING
(F)	REFURBISH
(N)	NEW
(R)	RELOCATE
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
ACFM	ACTUAL CUBIC FEET PER MINUTE
AD	ACCESS DOOR
AF	AIRFOIL
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AL	ACOUSTICAL LINING
AMB	AMBIENT
AMS	AIR FLOW MEASURING STATION
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARCH	ARCHITECTURAL
AS	AIR SEPARATOR
ASC	APPLICATION SPECIFIC CONTROLLER
ATC	AUTOMATIC TEMPERATURE CONTROL
AVG	AVERAGE
AWT	AVERAGE WATER TEMPERATURE
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACKDRAFT DAMPER
BDS	BLOWDOWN SEPARATOR
BFP	BACK FLOW PREVENTOR OR BOILER FEED PUMP
BFU	BOILER FEED UNIT
BHP	BRAKE HORSEPOWER OR BOILER HORSEPOWER
BI	BACKWARD INCLINED
BI	BINARY INPUT
BLD	BUILDING
BO	BINARY OUTPUT
BOD	BOTTOM OF DUCT OR BASIS OF DESIGN
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BT	BLOWDOWN TANK
BTJ	BETWEEN JOIST
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
C	CONVECTOR
CAP	CAPACITY
CB	CONCRETE BASE
CC	COOLING COIL
CCO	CAPPED CURB OPENING
CD	CEILING DIFFUSER
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CL	COOLING
CLG	CEILING
CMPR	COMPRESSOR
CO	CLEAN OUT
COL	COLUMN
CONC	CONCENTRATION OR CONCRETE
COND	CONDENSATE (STEAM OR COOLING COIL)
CONN	CONNECTION
CONT	CONTINUATION
CP	CONDENSATE PUMP
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	COEFFICIENT OF CAPACITY
D	DROP
DA	DEAERATOR
DB	DRY BULB
DC	DRY COOLER
DDC	DIRECT DIGITAL CONTROL
DEFL	DEFLECTION
DET	DETAIL
DIA	DIAMETER
DISC	DISCONNECT
DISCH	DISCHARGE
DI	DIGITAL INPUT
DN	DOWN
DO	DIGITAL OUTPUT
DR	DRAIN
DS	DISCONNECT SWITCH
DWG	DRAWING
EA	EXHAUST AIR OR EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECH	ELECTRIC CEILING HEATER
EDB	ENTERING DRY BULB TEMPERATURE
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
ELEC	ELECTRIC
ELEV	ELEVATION
EM	EQUIPMENT MANUFACTURER
EMER	EMERGENCY
ENT	ENTERING
ER	EXHAUST REGISTER
ERAD	ELECTRIC RADIATION
ERC	EXHAUST ENERGY RECOVERY COIL
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EVC	EVAPORATIVE COOLER
EWB	ENTERING WET BULB TEMPERATURE
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXIST	EXISTING
EXT	EXTERNAL
F	FILTER
F&T	FLOAT AND THERMOSTATIC STEAM TRAP
FA	FACE AREA
FA	FROM ABOVE
FAS	FIRE ALARM SYSTEM
FB	FROM BELOW
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FD	FIRE DAMPER OR FLOOR DRAIN
FIN	FINAL
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FLTR	FILTER
FM	FLOW METERING DEVICE
FO	FUEL OIL
FOB	FLAT ON BOTTOM
FOF	FUEL OIL FILL
FOO	FUEL OIL OVERFLOW
FOP	FUEL OIL PUMP
FOS	FUEL OIL SUPPLY
FOT	FLAT ON TOP
FPB	FAN POWERED BOX
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FLASH TANK OR FOOT OR FEET
FTR	FINNED TUBE RADIATION
FUT	FUTURE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRILLE
GRV	GRAVITY ROOF VENT
GV	GRAVITY VENT
H	HUMIDIFIER
HAV	HEAT ACTUATED SHUTOFF VALVE
HC	HEATING COIL
HG	MERCURY
HO	HUB OUTLET
HP	HORSEPOWER
HTG	HEATING
HV	HEATING & VENTILATING UNIT
HWG	HOT WATER GENERATOR
HX	HEAT EXCHANGER
ID	INSIDE DIAMETER
IN	INCHES
INT	INITIAL
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LD	LINEAR DIFFUSER
LDB	LEAVING DRY BULB TEMPERATURE
LF	LINEAR FOOT
LG	LINEAR GRILLE
LOC	LOCATION
LP	PROPANE
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
LWB	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBC	MODULAR BUILDING CONTROLLER
MBH	1000 BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM OR MINUTE
MOCP	MAXIMUM OVER-CURRENT PROTECTION
MOD	MOTOR OPERATED DAMPER
MODU	MODULATING
MXB	MIXING BOX
N	NEW
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN OR NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAH	OUTSIDE AIR ENTHALPY
OAI	OUTSIDE AIR INTAKE
OAT	OUTSIDE AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OED	OPEN ENDED DUCT
OEM	ORIGINAL EQUIPMENT MANUFACTURER
OPER	OPERATING
OPNG	OPENING
P	PUMP
PBD	PARALLEL BLADE DAMPER
PC	PUMPED CONDENSATE
PD	PRESSURE DROP
PFHX	PLATE & FRAME HEAT EXCHANGER
PHC	PREHEAT COIL
PLN	PLENUM
POS	POSITION
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH- ABSOLUTE
PSIG	POUNDS PER SQUARE INCH- GAUGE
QUAN	QUANTITY
R	RISE
RA	RETURN OR RELIEF AIR
RAH	RETURN AIR ENTHALPY
RAT	RETURN AIR TEMPERATURE
RCP	RADIANT CEILING PANEL
REQ	REQUIRED
RET	RETURN
REV	REVISION
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELIEF HOOD OR RELATIVE HUMIDITY
RHC	REHEAT COIL
RHW	ROTARY HEAT WHEEL
RLA	RUN LOAD AMPS
RM	ROOM
RP	RECIRCULATION PUMP
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RTU	ROOFTOP UNIT
RV	RELIEF VALVE
SA	SUPPLY AIR
SB	STRUCTURAL BASE
SCU	SELF CONTAINED UNIT
SD	SMOKE DAMPER OR DETECTOR
SEC	SECOND
SEER	EFFICIENCY RATING
SENS	SENSIBLE
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SI	SPRING HANGER
SO	SCREENED OPENING
SP	STATIC PRESSURE IN WG
SPD	STEAM PRESSURE DROP
SR	SUPPLY REGISTER
SRC	SUPPLY ENERGY RECOVERY COIL
SRV	SAFETY RELIEF VALVE
SRV	SAFETY RELIEF VALVE
SSF	SIDE-STREAM FILTER
ST	SOUND ATTENUATOR
STBY	STANDBY
STM	STEAM
SUP	SUPPLY
SUT	SURGE TANK
TEC	TERMINAL EQUIPMENT CONTROLLER
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TOT	TOTAL
TP	TRANSFER PUMP
TSP	TOTAL STATIC PRESSURE
TTS	TIGHT TO STRUCTURE
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VIB	VIBRATION
VIV	VARIABLE INLET VALVES
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WB	WET BULB
WCU	WATER COOLED CONDENSING UNIT
WG	WATER GAUGE
WHP	WATER SOURCE HEAT PUMP
WMS	WIRE MESH SCREEN
WPD	WATER PRESSURE DROP

DUCT SYMBOLS

- SA — SUPPLY AIR DUCT
- RA — RETURN AIR DUCT
- EA — EXHAUST AIR DUCT
- H — HUMIDIFIER
- W x H — DUCTWORK SIZE (INSIDE DIMENSION)
- R — DUCT RISE
- D — DUCT DROP
- XXX U — UNDERCUT DOOR W/CFM W/O CFM
- XXX L — DOOR LOUVER W/CFM W/O CFM
- FIRE DAMPER W/ ACCESS DOOR
- SD — SMOKE DAMPER W/ ACCESS DOOR
- MOD — MOTORIZED DAMPER W/ ACCESS DOOR
- BDD — GRAVITY BACKDRAFT DAMPER W/ ACCESS DOOR
- AMS — AIR MEASURING STATION W/ ACCESS DOOR
- SPS — STATIC PRESSURE STATION
- DUCT-MOUNTED REHEAT COIL
- 10" / 6" — PROPORTIONAL SPLIT OR EQUAL SPLIT. ABOVE 8" - SQUARE ELBOWS w/TURNING VANES 8" AND BELOW - RADIUS ELBOWS
- ABOVE 8" - SQUARE ELBOWS w/TURNING VANES 8" AND BELOW - RADIUS ELBOWS
- 10" — PROPORTIONAL SPLIT OR EQUAL SPLIT. ABOVE 8" - SQUARE ELBOWS w/TURNING VANES 8" AND BELOW - RADIUS ELBOWS
- 8" — ROUND BRANCH TAKE-OFF w/SPIN FITTING
- BRANCH TAKE-OFF w/HEEL
- 8" — ROUND BRANCH TAKE-OFF w/BELLMOUTH
- TEE-ON-TAPER (DUST COLLECTION ONLY)
- TERMINAL BOX TAKEOFF - SEE DETAIL
- DUCT ELBOW UP
- DUCT ELBOW DN
- VARIABLE VOLUME BOX (VAV) OR VARIABLE VOLUME TEMPERATURE BOX (VVT)
- VARIABLE VOLUME BOX with REHEAT
- INDUCTION BOX with REHEAT
- FAN POWERED BOX with REHEAT
- FAN

AIR DEVICE LEGEND

- SUPPLY AIR CEILING DEVICE
- RETURN AIR CEILING DEVICE
- EXHAUST AIR CEILING DEVICE
- 3 WAY BLOW
- 2 WAY BLOW
- 1 WAY BLOW
- N CONCENTRIC DIFFUSER
- C CIRCULAR DIFFUSER
- D DRUM DIFFUSER
- F LINEAR SLOT FLOOR DIFFUSER
- G GRILLE
- J JET DIFFUSER
- L LOUVERED FACE DIFFUSER
- M LAMINAR FLOW DIFFUSER
- P PERFORATED DIFFUSER
- R REGISTER
- S LINEAR SLOT CEILING DIFFUSER
- W LINEAR SLOT WALL DIFFUSER
- LINEAR SLOT SUPPLY DIFFUSER (2 WAY BLOW)
- LINEAR SLOT SUPPLY DIFFUSER (1 WAY BLOW)
- LINEAR SLOT RETURN DIFFUSER
- SUPPLY REGISTER/GRILLE WALL MOUNTED
- RETURN REGISTER/GRILLE WALL MOUNTED
- LINEAR SLOT FLOOR SUPPLY DIFFUSER
- LINEAR SLOT FLOOR RETURN DIFFUSER

AIR DEVICE TYPE (CEILING DIFFUSER) — NUMBER OF BLOWS — CFM

- 24X24
- 12X12

PIPE SYMBOLS

- BACK FLOW PREVENTOR ASSEMBLY
- DUPLEX STRAINER
- FIXED ORIFICE FLOW ELEMENT
- FLANGED SPOOL PIECE
- FLEXIBLE PIPING CONNECTOR
- FLOW CONTROL DEVICE
- FM — FLOW METER (GAL)
- PIPE ANCHOR
- PIPE CAP, DUCT CAP, OR BLIND FLANGE
- PIPE GUIDE
- PIPE RISER UP AND DOWN OR PIPE RISER UP
- PIPE ELBOW DOWN OR BRANCH OFF TOP OF PIPE
- PIPE BRANCH CONNECTION OFF BOTTOM OF PIPE
- PRESSURE GAUGE W/ SNUBBER AND NEEDLE VALVE
- PRESSURE GAUGE W/ SIPHON AND NEEDLE VALVE
- CAPPED PRESSURE GAUGE TAP W/ NEEDLE VALVE
- P/T — PRESSURE/TEMPERATURE TEST PLUG
- PUMP
- PSD — PUMP SUCTION DIFFUSER
- REDUCER OR INCREASER, CONCENTRIC
- REDUCER OR INCREASER, ECCENTRIC STRAIGHT CROWN OR INVERT AS SHOWN
- AIR PURGER
- STEAM TRAP ASSEMBLY, SEE DETAIL
- T — STEAM TRAP
- T — INVERTED BUCKET STEAM TRAP
- THERMOMETER
- UNION OR PAIR OF FLANGES
- V — VACUUM BREAKER
- A — AUTOMATIC AIR VENT W/ SHUTOFF VALVE AND CAP
- M — 1/2" MANUAL AIR VENT
- 2 WAY CONTROL VALVE
- 3 WAY CONTROL VALVE
- 2 WAY CONTROL VALVE STATION
- 3 WAY CONTROL VALVE STATION
- BALANCING VALVE
- BOILER QUICK OPEN BLOWDOWN VALVE
- CHECK VALVE
- GLOBE VALVE
- D — DRAIN VALVE W/ CAPPED HOSE END
- LOCK SHIELD SHUTOFF VALVE
- NEEDLE VALVE
- PRESSURE REDUCING VALVE
- SAFETY RELIEF VALVE
- SAFETY RELIEF VALVE W/ DRIP PAN ELBOW; SEE DETAILS
- SHUTOFF VALVE
- H — HEAT ACTUATED SHUTOFF VALVE
- SOLENOID VALVE
- STOP CHECK VALVE
- Y-TYPE STRAINER
- Y-TYPE STRAINER W/ TAPPING SIZE
- SHUTOFF VALVE TO 1" W/ CAPPED HOSE END OR NIPPLE
- PIPE PITCHING DOWNWARD 1/8 INCH PER FT IN DIRECTION OF ARROW

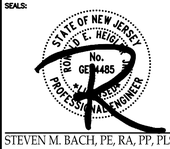
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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

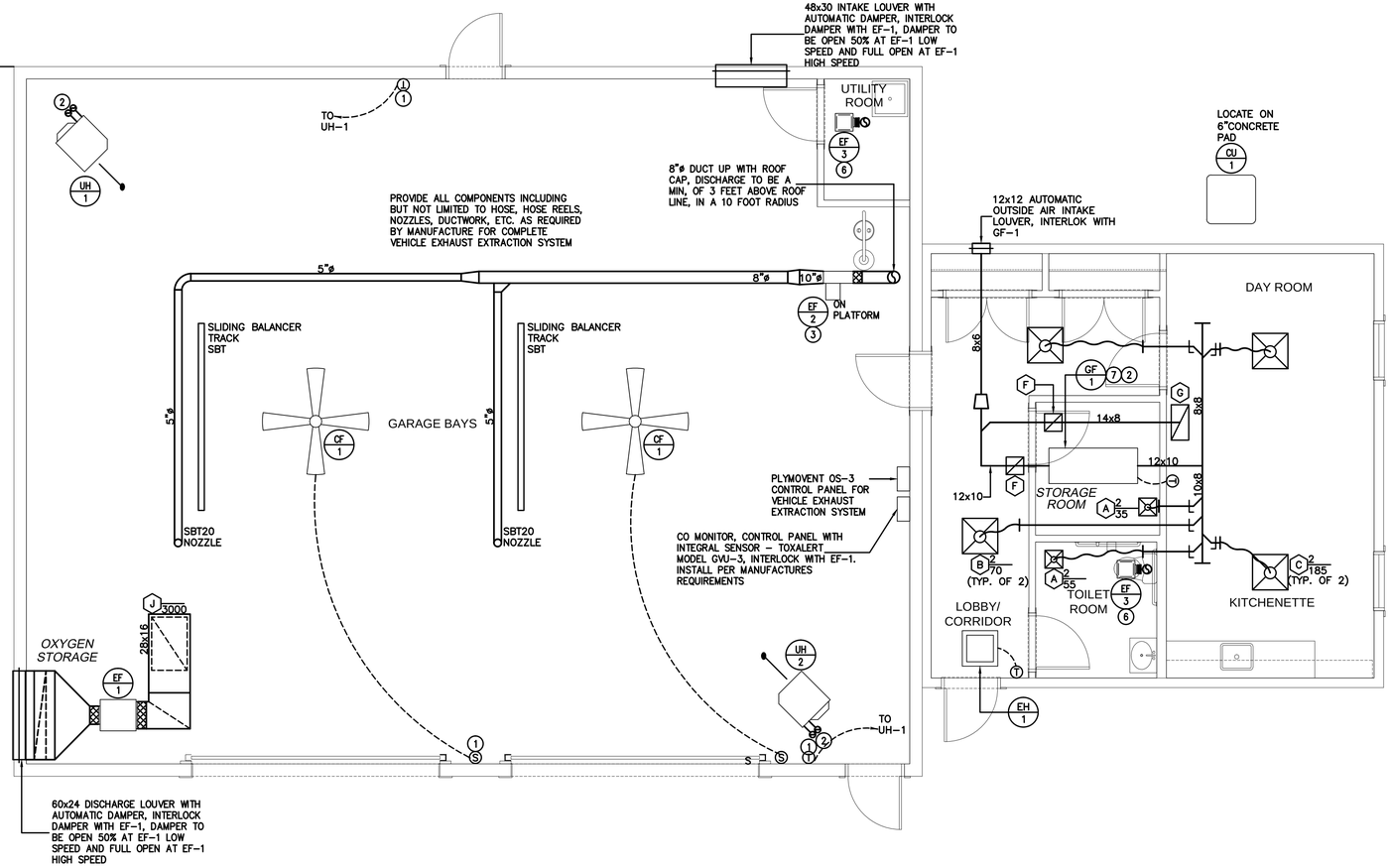
DRAWING TITLE:

MECHANICAL COVER SHEET

JOB NO: 0C2023-05	DESIGNED BY: AAW
DATE: MARCH 11, 2026	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB

DRAWING NUMBER:

M-1.0



1 M-2.0 MECHANICAL FLOOR PLAN

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

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PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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1	PLAN REVISIONS	08/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/28/26

DRAWING TITLE:

MECHANICAL FLOOR PLAN

JOB NO: 0C2023-05	DESIGNED BY: AAW
DATE: MARCH 11, 2026	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB

DRAWING NUMBER:

M-2.0

SUPPLY/EXHAUST FAN SCHEDULE

SYMBOL (EF) (SF)

NO.	CFM	S.P.	RPM	H.P.	TYPE	DRIVE	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	MANUFACTURER MODEL NUMBER	NOTES
1	2000 / 3000	0.50"	1047	1-1/2	IN-LINE CENTRIFUGAL	BELT	208	1	60	GREENHECK BDF-100-15	(1)(2)(3)
2	PER MFG REQUIR.	0.25"	–	–	UTILITY SET CENTRIFUGAL	BELT	208	1	60	PLYMOVENT FUA3000	(3)(4)
3	70	0.50"	831	11 WATTS	CLG. MTD CENTRIFUGAL	DIRECT	115	1	60	GREENHECK SP-LP0511	(5)

NOTES:
(1) WITH 2 SPEED MOTOR, LOW SPEED TO RUN CONTINUOUS IN OCCUPIED MODE, HIGH SPEED TO BE INTERLOCK WITH THERMOSTAT AND TOXALERT SYSTEM.
(2) WITH THERMOSTAT
(3) WITH FACTORY SUPPLIED PLATFORM
(4) PROVIDE ALL COMPONENTS INCLUDING BUT NOT LIMITED TO HOSE, HOSE REELS, NOZZLES, DUCTWORK, ETC. AS REQUIRED BY MANUFACTURE FOR COMPLETE VEHICLE EXHAUST EXTRACTION SYSTEM
(5) INTERLOCK WITH LIGHT SWITCH

(CF 1) INDUSTRIAL CEILING FAN – MACRO AIR MODEL, 8'AIR VOLUTION 1.0 HP WITH SPEED CONTROLLER

GAS FIRED UNIT HEATER SCHEDULE

SYMBOL (UH)

NO.	HEATING GAS INPUT MBH	HEATING CAPACITY MBH	HEATING TYPE	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	MOTOR HP	MOTOR CFM	FLUE SIZE	MANUFACTURER MODEL NUMBER	REMARKS
1	125.0	99.6	NAT. GAS	115	1	60	1/20	1537	4"ø / 4"ø	RENZOR UDXC-125	(1)(2)
2	125.0	99.6	NAT. GAS	115	1	60	1/20	1537	4"ø / 4"ø	RENZOR UDXC-125	(1)(2)

NOTES:
(1) WITH REMOTE THERMOSTAT
(2) WITH MOUNTING BRACKET

VENT CONNECTION
COMBUSTION AIR INLET

GAS FIRED FURANCE SCHDULE

SYMBOL (GF) (CU)

NO.	COOLING CAP'Y TONS	CFM	EXT. S.P.	FAN H.P.	HEATING INPUT CFH	HEATING OUTPUT MBH	O.A. CFM	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	MANUFACTURER MODEL NUMBER	NOTES
1	1.5	600	0.50	1/2	26.0 / 40.0	25.2 / 38.2	100	115	1	60	TRANE INDOOR-S9X2B040 5TTR3018A1000	(1)(2)(3)(4)(5)

NOTES
(1) WITH PROGRAMMABLE THERMOSTAT WITH REMOTE SENSOR
(2) WITH MATCHING COOLING COIL
(3) HIGH EFFIENCENT FURNACE
(4) WITH MATCHING CONDENSING UNIT (208-1-60)
(5) WITH VENT AND AIR INTAKE, MAXIMUM LENTGH AND MINIMUM SIZE PER MANUFACTURES REQUIREMTS, PROVIDE CONCENTRIC TERMINATION KIT UP THRU ROOF

AIR DEVICE SCHEDULE

NO.	NECK SIZE	FACE SIZE	CFM RANGE	TYPE	MANUFACTURER MODEL NUMBER	REMARKS
(A)	6"ø	12x12	137	SUPPLY DIFFUSER	PRICE	
(B)	6"ø	24x24	137	SUPPLY DIFFUSER	PRICE	
(C)	8"ø	24x24	209	SUPPLY DIFFUSER	PRICE	
(D)	10"ø	24x24	327	SUPPLY DIFFUSER	PRICE	
(F)	12x12	12x12	350	RETURN GRILLE	PRICE	
(G)	24x12	24x12	700	RETURN GRILLE	PRICE	
(J)	32x30	32x30	3120	EXHAUST REGISTER	PRICE SERIES 500	

ELECTRIC HEATER SCHEDULE

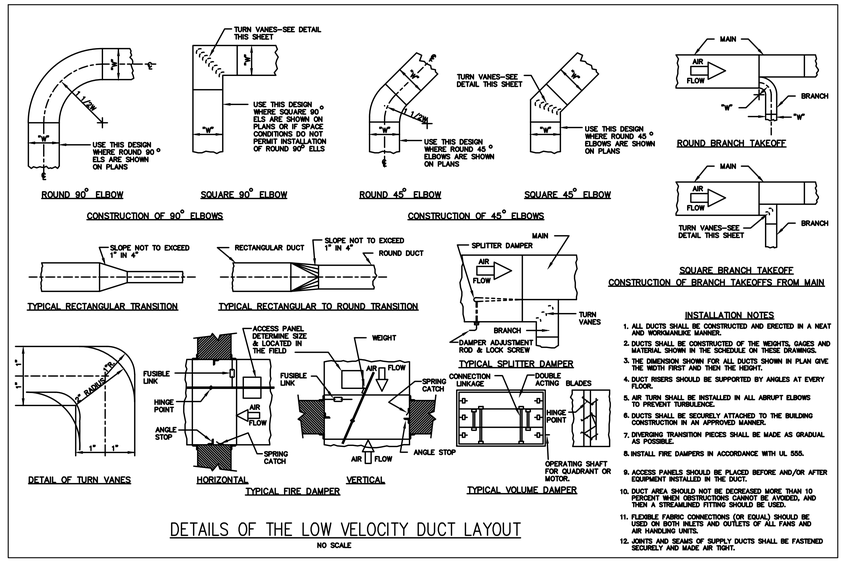
SYMBOL (EH)

NO.	HEATING CAPACITY KW	TYPE	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	MANUFACTURER MODEL NUMBER	REMARKS
1	4.0	CLG. HEATER	208	1	60	QMARK EFF SERIES	(2)(3)

NOTES:
(1) WITH REMOTE THERMOSTAT
(2) WITH DISCONNECT SWITCH

MECHANICAL SHEET NOTES:

(1) PROVIDE INSULATED BACK PLATE ON THERMOSTAT.
(2) CONCENTRIC VENT/AIR INTAKE THRU ROOF. VENT PER MANUFACTURES REQUIREMENTS.
(3) FAN TO BE ON FACTORY MOUNTED PLATFORM, PLATFORM INSTALLED BY MECHANICAL CONTRACTOR.
(4) NOT USED.
(5) NOT USED.
(6) EXHAUST DUCT UP THRU ROOF WITH ROOF CAP. DUCT TO BE FULL SIZE OF FAN OPENING, UNLESS NOTED OTHERWISE.
(7) PROVIDE CONDENSATE LINE FROM UNIT, DISCHARGE TO GRADE WITH SPLASH BLOCK, LINE TO BE FULLL SIZE OF UNIT OPENING.



DETAILS OF THE LOW VELOCITY DUCT LAYOUT

NO SCALE

DUCT CONSTRUCTION MINIMUM SHEET METAL THICKNESSES

RECTANGULAR DUCTS

MAXIMUM SIZE (INCHES)	STEEL (MINIMUM THICKNESS, NOMINAL)
THROUGH 12	0.022 INCH (26 GAGE, GALV.)
13 THROUGH 30	0.028 INCH (24 GAGE, GALV.)
31 THROUGH 54	0.034 INCH (22 GAGE, GALV.)
55 THROUGH 84	0.040 INCH (20 GAGE, GALV.)
OVER 84	0.052 INCH (18 GAGE, GALV.)

ROUND DUCTS

MAXIMUM SIZE (INCHES)	SPIRAL SEAM DUCT STEEL (MINIMUM THICKNESS, NOMINAL)	LONGITUDINAL SEAM DUCT STEEL (MINIMUM THICKNESS, NOMINAL)	FITTINGS STEEL (MINIMUM THICKNESS, NOMINAL)
THROUGH 12	0.019 INCH (28 GAGE, GALV.)	0.022 INCH (26 GAGE, GALV.)	0.022 INCH (26 GAGE, GALV.)
13 THROUGH 18	0.022 INCH (26 GAGE, GALV.)	0.028 INCH (24 GAGE, GALV.)	0.028 INCH (24 GAGE, GALV.)
19 THROUGH 28	0.028 INCH (24 GAGE, GALV.)	0.034 INCH (22 GAGE, GALV.)	0.034 INCH (22 GAGE, GALV.)
29 THROUGH 36	0.034 INCH (22 GAGE, GALV.)	0.040 INCH (20 GAGE, GALV.)	0.040 INCH (20 GAGE, GALV.)
37 THROUGH 52	0.040 INCH (20 GAGE, GALV.)	0.052 INCH (18 GAGE, GALV.)	0.052 INCH (18 GAGE, GALV.)

DUCT CONSTRUCTION SCHEDULE

DUCT SYSTEM	SMACNA PRESSURE CLASS	SMACNA SEALING CLASS	DUCT MATERIAL	JOINING METHOD	INSUL TYPE & THICKNESS
SUPPLY	+ 1 INCH	C	GALV. STL.	DUCTMATE	1.5" BATT
RETURN	– 1 INCH	C	GALV. STL.	DUCTMATE	1.5" BATT
GENERAL EXHAUST	– 1 INCH	C	GALV. STL.	DUCTMATE	

NOTE:
EXISTING DUCTWORK REQUIRING DEMOLITION SHALL BE TERMINATED PROPERLY IN ACCORDANCE WITH SMACNA STDS. FOR +2 OR –2 PRESSURE RATING.

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PROJECT:

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169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
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GLOUCESTER COUNTY, NEW JERSEY

REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

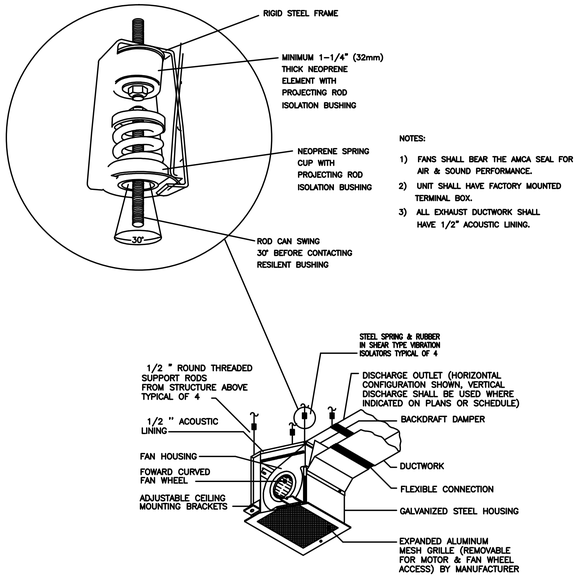
MECHANICAL SCHEDULES AND NOTES

JOB NO: GC2023-05	DESIGNED BY: AAW
DATE: MARCH 11, 2026	DRAWN BY: AAW
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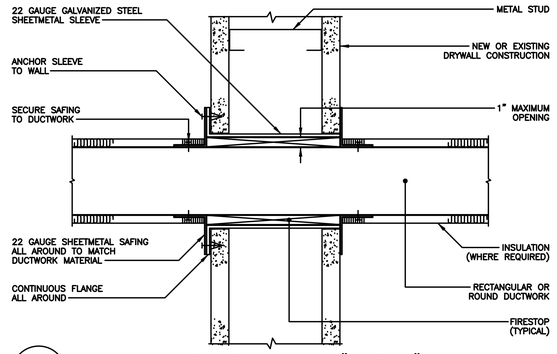
M-3.0

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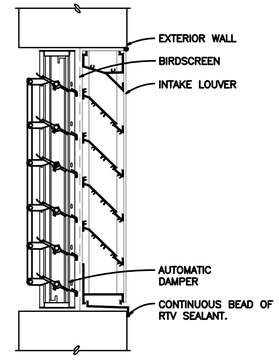
1 / M4.0 DETAIL - CEILING EXHAUST FAN

SCALE: NONE



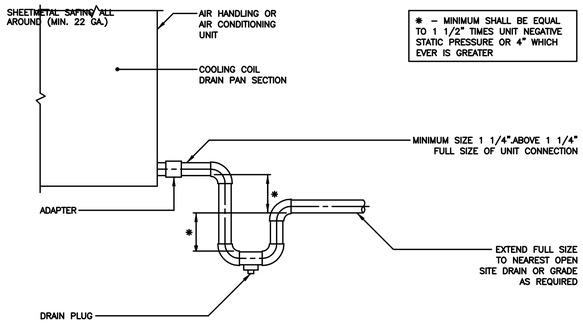
2 / M4.0 DETAIL – DUCT PENETRATION "1 HOUR" RATED WALLS ONLY

NO SCALE



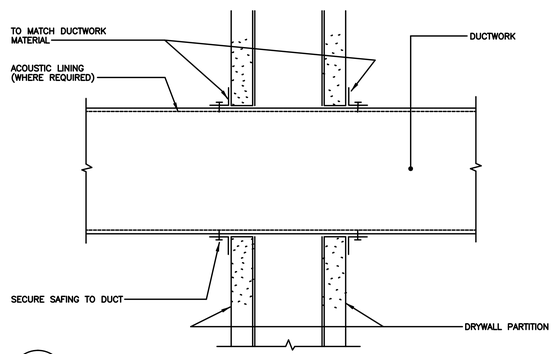
2 / M-2.0 LOUVER MOUNTING DETAIL

SCALE: NTS



3 / M4.0 DETAIL – CONDENSATE DRAIN

NO SCALE



4 / M4.0 DETAIL – DUCT PENETRATION, NON-FIRE RATED WALLS ONLY (LINED OR BARE DUCTS)

NO SCALE
H22-52

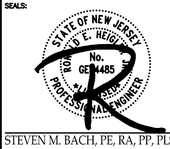
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NJ PROFESSIONAL SURVEYOR No. No. 43504

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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MECHANICAL DETAILS

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PLUMBING ABBREVIATIONS

ACD	ACCESS DOOR
A	AIR
ACL	ABOVE CEILING LEVEL
AD	AREA DRAIN (EXPOSED TO RAIN)
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FIXTURE RIM
ARL	ABOVE ROOF LEVEL
BCL	BELOW CEILING LEVEL
BCT	BELOW COUNTER TOP
BFL	BELOW FLOOR LEVEL
BFP	BACKFLOW PREVENTER
BLJ	BELOW JOISTS
BP	BOOSTER PUMP
BWJ	BETWEEN JOISTS
BLR	BOILER (STEAM ONLY)
BWV	BACKWATER VALVE
C OR COND	CONDENSATE
CD	CONDENSATE DRAIN
CF	CHEMICAL FEED
CHWS/R	CHILLED WATER SUPPLY/RETURN
CP	CIRCULATOR PUMP
CS	CLINIC SINK
DCW/HW	DOMESTIC COLD WATER/HOT WATER (POTABLE)
DHWS/R	DOMESTIC HOT WATER SUPPLY/RETURN
DD	DECK DRAIN
DF	DRINKING FOUNTAIN
DFU	DRAIN FIXTURE UNIT
DP	DUPLEX PUMP
DR	DOOR
DSTP	DRY STANDPIPE
DV	DRY VENT
DVC	DRY VENT CONNECTION (ABOVE FIXTURE RIM LEVEL)
DWH	DOMESTIC WATER HEATER (POTABLE)
DWM	DISH WASHER MACHINE
E	EAST
(E)	EXISTING
EL	ELEVATION (STRUCTURAL HEIGHT)
EW	EYE WASH
EWC	ELECTRIC WATER COOLER
EXP	EXPANSION TANK
FAI	FRESH AIR INTAKE
FCO	FLOOR CLEANOUT
FCW	FILTERED COLD WATER
FD	FLOOR DRAIN (NOT EXPOSED TO RAIN)
FHC	FIRE HOSE CONNECTION
FND	FUNNEL DRAIN
FP	FIRE PUMP
FS	FLOOR SINK
FW	FIRE WATER
FWG	FOOD WASTE GRINDER
FT	FLOAT & THERMOSTATIC
FU	FIXTURE UNIT
GHC	GARDEN HOSE CONNECTION
GI	GREASE INTERCEPTOR
GD	GUTTER DRAIN
GWM	GLASS WASHER MACHINE
HCO	HORIZONTAL CLEANOUT
HI	HAIR INTERCEPTOR
HP	HIGH PRESSURE
HS	HAND SINK
HWG	HOT WATER GENERATOR (HYDRONIC SYSTEM)
HWS/R	HOT WATER SUPPLY/RETURN (HYDRONIC SYSTEM)
IB	INVERTED BUCKET
IPS	IRON PIPE SIZE
IKS	ISLAND KITCHEN SINK
IW	INDIRECT WASTE
INV	INVERT
IWH	INSTANTANEOUS WATER HEATER
JP	JOCKEY PUMP
2KS	KITCHEN SINK (2 COMPARTMENT)
KS OR K	KITCHEN SINK
LAV OR L	LAVATORY
LP	LOW PRESSURE
LS	LEVEL SENSOR
LWM	LAUNDRY WASHER MACHINE
M	METER
MECH	MECHANICAL
MH	MANHOLE
MP	MEDIUM PRESSURE
MR	MOP RECEPTOR
MV	MIXING VALVE
N	NORTH
NG	NATURAL GAS
O	OXYGEN
O/H	OVERHEAD
OVF	OVERFLOW
PI	PRESSURE INDICATOR
PRV	PRESSURE REDUCING VALVE
PW	PURE WATER
RD	ROOF DRAIN
RH	RADIANT HEATER
RM	ROOM
RO	REVERSE OSMOSIS
RTC	RUNNING TRAP WITH CLEANOUT
RV	RELIEF VALVE
RWC	RAIN WATER CONDUCTOR
S	SOUTH OR STEAM
SAN	SANITARY/WASTE
SF	SQUARE FOOT
SFU	SUPPLY FIXTURE UNIT
SH OR S	SHOWER
SLV	SOLENOID VALVE
SP	SUMP PUMP OR SEWAGE PUMP
SS	SERVICE SINK OR LAUNDRY SINK OR STAINLESS STEEL STORM WATER
ST	STACK
STK	STEAM
STM	SAFETY VALVE
SV	TRENCH DRAIN OR THERMO DYNAMIC
TD	THERMAL EXPANSION ABSORBER
TEA	TEMPERATURE INDICATOR
TI	TRAP PRIMER
TP	TEMPERATURE SENSOR
TS	TUB OR TRAP
T	UNDERGROUND
U/G	URINAL
UR	VACUUM
V	VACUUM BREAKER
VB	VALVE BOX AND DRAIN
VBD	VENT RISER (DRY VENT)
VR	VENT STACK
VST	VENT
VT	VENT THROUGH ROOF
VTR	WEST
W	WATER BOOSTER PUMP
WBP	WATER CLOSET
WC OR W	WALL CLEANOUT
WCO	WATER HAMMER ARRESTOR
WHA	WHIRLPOOL
WP	WET STANDPIPE
WTSP	YOKE VENT
YV	YOKE VENT RISER
YVR	ZONE VALVE
ZV	

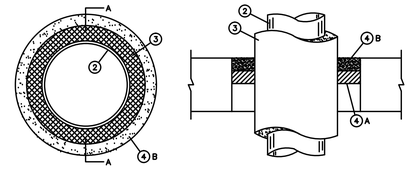
PLUMBING LEGEND

- BUTTERFLY VALVE
- ANGLE GLOBE VALVE
- SAFETY OR RELIEF VALVE
- GATE VALVE OR VALVE IN GENERAL
- BALL VALVE
- GLOBE VALVE
- BALANCING VALVE
- PRESSURE REDUCING VALVE (SPRING LOADED)
- PRESSURE REDUCING VALVE (PILOT TYPE)
- FLOOR/DECK OR AREA DRAIN
- FUNNEL DRAIN
- ROOF DRAIN
- 90 DEG. ELBOW FAR FLOW
- 90 DEG. ELBOW NEAR FLOW
- TEE NEAR FLOW
- TEE FAR FLOW
- PLUG VALVE
- BACKFLOW PREVENTER
- GARDEN HOSE/WASHDOWN OR FIRE DEP. HOSE CONNECTION
- COLD WATER
- DOMESTIC HOT WATER
- 140°F DOMESTIC HOT WATER
- SANITARY SEWER – UNDER GROUND/SLAB/FLOOR
- S STORM WATER
- VENT PIPING
- F FIRE PROTECTION PIPE
- G GAS PIPE
- PIPE CLEANOUT (HORIZONTAL OR WALL)
- PIPE CLEANOUT (GRADE OR FLOOR)
- FUNNEL DRAIN
- REDUCER
- FLOOR DRAIN, AREA DRAIN OR FLOOR SINK
- TEMPERATURE INDICATOR
- PRESSURE INDICATOR
- VALVE BOX AND DRAIN
- KITCHEN SINK WITH DISHWASHER MACHINE
- TARGET POINTING TO CONNECTION BETWEEN EXISTING AND NEW OR TO THE EXTENT OF DEMOLITION

PLUMBING NOTES

1. THE PRIORITY OF ILLUSTRATED PIPING ON PLANS IS TO SHOW CLEARLY THE SERVICE FROM ONE POINT TO ANOTHER WITH MINIMUM OR NO OBSTRUCTION BY THE BACKGROUND. PHYSICALLY THE PIPE RUNS ARE INSTALLED INSIDE WALLS, ABOVE CEILING OR WITHIN PIPE CHASES. ARCHITECT SHALL REVIEW AND APPROVE THE FINAL LOCATION OF PLUMBING COMPONENTS WHERE THEY AFFECT ARCHITECTURAL FINISHES.
2. UNLESS THE INSTALLATION IS DIMENSIONED, DRAWINGS ARE DIAGRAMMATIC AND INDICATING THE GENERAL ARRANGEMENT OF PIPING NETWORK TO BE PERFORMED. ALL MINOR DETAILS ARE NOT SHOWN ON PLANS OR SPECIFIED, BUT NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF ALL SYSTEMS, SHALL BE PROVIDED BY THE CONTRACTOR WITH NO ADDITIONAL CHARGES TO THE OWNER.
3. DOMESTIC WATER SERVICE TO FAUCETS OR EQUIPMENT (COLD AND HOT) SHALL BE 1/2" PIPE SIZE UNLESS NOTED OTHERWISE. ALL FIXTURES AND EQUIPMENT SHALL HAVE ONE FULL PORT AND PIPE SIZE SHUTOFF VALVE PER PIPE CONNECTION FOR MAINTENANCE PURPOSE. ALL DOMESTIC SERVICES SHALL BE INSULATED.
4. PLUMBING CONTRACTOR SHALL CHECK AND VERIFY ALL MEASUREMENTS, ILLUSTRATED PIPING LOCATIONS AND AREAS AFFECTED BY STRUCTURAL, MECHANICAL AND ELECTRICAL CONDITIONS PRIOR TO PRECEDING WITH DEMOLITION AND/OR NEW WORK. ANY CONFLICT OR DISCREPANCY BETWEEN SUBMITTED DRAWINGS AND FIELD CONDITION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEERS WITHOUT DELAY.
5. AVOID INSTALLING WATER SERVICE PIPE IN EXTERNAL WALL DUE TO FREEZING CONDITION. (ELECTRICAL HEAT TRACE FOR PIPING IS EXPENSIVE AND NOT RELIABLE, SHALL BE CONSIDERED ONLY AS A LAST RESOURCE.)
6. INSULATION ON WATER PIPE DOES NOT PREVENT FREEZING, IT ONLY EXTENDS THE SOLIDIFICATION TIME. WHERE WATER SERVICE IS NEAR EXTERIOR WALL, PROVIDE STUDDED PARTITION FLUSH TO THE EXTERIOR WALL. APPLY INSULATION ON THE EXTERIOR WALL SIDE OF THE PARTITION WITH NO INSULATION ON THE ROOM SIDE.
7. ALL SANITARY PIPING LAID BELOW SURFACE OF FREEZING TEMPERATURE SHALL HAVE MINIMUM 3'–0" COVER.

SYSTEM No. CAJ5001
F RATINGS – 1–1/2, 2 AND 3 Hr (SEE ITEM 4)
T RATINGS – 0, 1/2, 3/4, AND 1 Hr (SEE ITEM 4)



2. STEEL PIPE – NOM. 12 IN. DIAM. (OR SMALLER) SCHEDULE 10 (OR HEAVIRE) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

3. PIPE COVERING* – NOM 1 OR 2 IN. THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN.3.5 pcf) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OF FACTORY – APPLIED SELF – SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT.
SEE PIPE AND EQUIPMENT COVERING – MATERIAL* (BRGU) CATEGORY IN BUILDING MATERIAL FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE SPECIFICATION AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FIRESTOP SYSTEM – THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:
A. PACKING MATERIAL – MIN. 1 IN. THICKNESS OF FIRMLY PACKED MINERAL WOOL BATT INSULATION USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM B).
B. FILL, VOID OR CAVITY MATERIALS* – CAULK – APPLIED TO FILL THE ANNULAR SPACE FLUSH WITH THE TOP SURFACE OF THE FLOOR OR FLUSH WITH BOTH SURFACES OF WALL WHEN NOM. PIPE COVERING THICKNESS IS 2 IN., MIN. THICKNESS OF CAULK FILL MATERIAL IS 1 IN. THE HOURLY F AND T RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT UPON THE THICKNESS OF THE FLOOR OR WALL, THE SIZE OF PIPE, THE THICKNESS OF PIPE COVERING MATERIAL, THE SIZE OF THE ANNULAR SPACE (BETWEEN THE PIPE COVERING MATERIAL) AND THE EDGE OF THE CIRCULAR THROUGH OPENING AND THE FILL MATERIAL TYPE, AS SHOWN IN THE FOLLOWING TABLES.

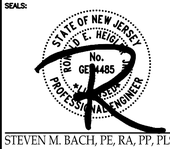
MIN. FLOOR OR WALL THICKNESS, IN.	MAXIMUM PIPE DIAMETER, IN.	NOM. PIPE COVERING THICKNESS, IN.	ANNULAR SPACE, IN.	CAULK FILL MATERIAL TYPE	F – RATING HOUR	T – RATING HOUR
2–1/2"	4"	1"	5/8 TO 7/8	CP–25 N/S CP–25 S/L OR CP–25 WB	2	1
4–1/2"	4"	1"	3/4 TO 1	CP–25 N/S CP–25 S/L	3	1
4–1/2"	4"	2"	1–1/2 TO 2	CP–25 N/S CP–25 S/L OR CP–25 WB	2	1–1/2
2–1/2"	12"	1"	5/8 TO 1	CP–25 N/S CP–25 S/L	2	0
2–1/2"	12"	1"	1/2 TO 1–1/2	CP–25 WB+	2	1/2
4–1/2"	12"	1"	1 TO 1–1/2	CP–25 N/S OR CP–25 S/L	2	1/2
4–1/2"	12"	1"	1 TO 1–1/2	CP–25 WB	1–1/2	3/4

MINNESOTA MINING & MFG. CO. – TYPE CP–25 N/S, CP–25 WB+
BEARING THE UL CLASSIFICATION MARKING.

2 / P1.0 DETAIL - PIPE PENRTRATION
SCALE: NTS

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169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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PLUMBING COVER SHEET

JOB NO: GC2023–05	DESIGNED BY: AAW
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PLUMBING FIXTURE CONNECTION SCHEDULE

FIXTURE TYPE	ABBREV	FIX. UNIT VALUE	CONNECTION SIZES (TRAP) SAN	VENT	HW	CW	REMARKS
WATER CLOSET	WC	4	3	2	–	1|	TANK TYPE PUBLIC
LAVATORY	LAV	2	1–1/2	1–1/4	1/2	1/2	PUBLIC
MOP RECEPTOR	MR	3	3	2	3/4	3/4	

ELECTRIC DOMESTIC WATER HEATER SCHEDULE

SYMBOL (EWH)

NO.	STORAGE CAPACITY	RECOVERY AT 100 DEGREES F.	ELECTRICAL KW	VOLTS	PHASE	HERTZ	REMARKS
1	30	12	3.0	208	1	60	BRADFORD WHITE LE330S–3

NOTES
PROVIDE P AND T RELIEF VALVE, INSULATE PER NATIONAL STANDARD PLUMBING CODE WITH EXPANSION TANK

PIPE SPECIFICATION

SYSTEM	MATERIAL	JOINTS	NOTES	INSULATION TYPE	INSULATION THICKNESS	NOTES
DOMESTIC WATER ABOVE GRADE	TYPE L COPPER	SOLDERED OR THREADED	"PEX" PIPING MAY BE USED AS LOCALLY APPROVED	RIGID FIBERGLASS	1"	PVC FITTING COVERS. EXPOSED PIPING 24 GAGE SS JACKETED INCLUDING FITTINGS.
WASTE, DRAIN & VENT BELOW GRADE	CAST IRON	HUB & SPIGOT PACKED WITH LEAD & OAKUM	PVC PIPING MAY BE USED AS LOCALLY APPROVED			
WASTE & DRAIN ABOVE GRADE 2" AND SMALLER	TYPE DWV COPPER	SOLDERED	PVC PIPING MAY BE USED AS LOCALLY APPROVED			
WASTE & DRAIN ABOVE GRADE 2½" AND LARGER	CAST IRON	HUBLESS	PVC PIPING MAY BE USED AS LOCALLY APPROVED			
DRY VENT PIPE 2 AND SMALLER ABOVE GRADE	TYPE DWV COPPER	SOLDERED	PVC PIPING MAY BE USED AS LOCALLY APPROVED			
DRY VENT PIPE 2½" AND LARGER ABOVE GRADE	CAST IRON	HUBLESS	PVC PIPING MAY BE USED AS LOCALLY APPROVED			
STORM BELOW GRADE	CAST IRON	HUB & SPIGOT PACKED WITH LEAD & OAKUM				
STORM ABOVE GRADE	CAST IRON	HUBLESS		RIGID FIBERGLASS	1"	INSUL. HORIZ. STORM. PVC FITTING COVERS. EXPOSED PIPING 24 GAGE SS JACKETED INCLUDING FITGS.
NATURAL GAS UNDER GROUND	GALVANIZED STEEL SCH.40 WRAPPED WITH POLYKEN TAPE	WELDED				

PLUMBING SHEET NOTES:

1. NEW WATER SERVICE LOCATION , SEE ENGINEER SITE PLAN FOR EXACT LOCATION, MAINTAIN A MINIMUM OF 3'–0" DEEP. FOR EXACT LOCATION SEE ENGINEER SITE PLAN.
2. NEW WATER SERVICE AND BACK FLOW PREVENTER PER LOCAL WATER COMPANY REQUIREMENTS.
3. PROVIDE A 3–WAY THERMOSTATIC VALVE WITH A DISCHARGE HOT WATER TEMPERATURE OF 110 DEG. F. (ADJUSTABLE).
4. NEW WASTE LINE LINE TO MAIN, SEE ENGINEER SITE PLAN FOR EXACT LOCATION.
5. PROVIDE PRO–SET TRAP GUARD ON ALL FLOOR DRAINS.
6. NEW GAS SERVICE TO LOCAL GAS COMPANY MAIN. MAINTAIN A MINIMUM OF 3'–6" COVER.
7. GAS METER BY LOCAL GAS COMPANY. ALL GAS PIPING PER LOCAL GAS COMPANY REQUIREMENTS.
8. CONNECT GAS LINE TO UNIT WITH 6" SEDIMENT LEG AND GAS SHUT OFF VALVE. LINE SIZE AS SHOWN ON PLAN.

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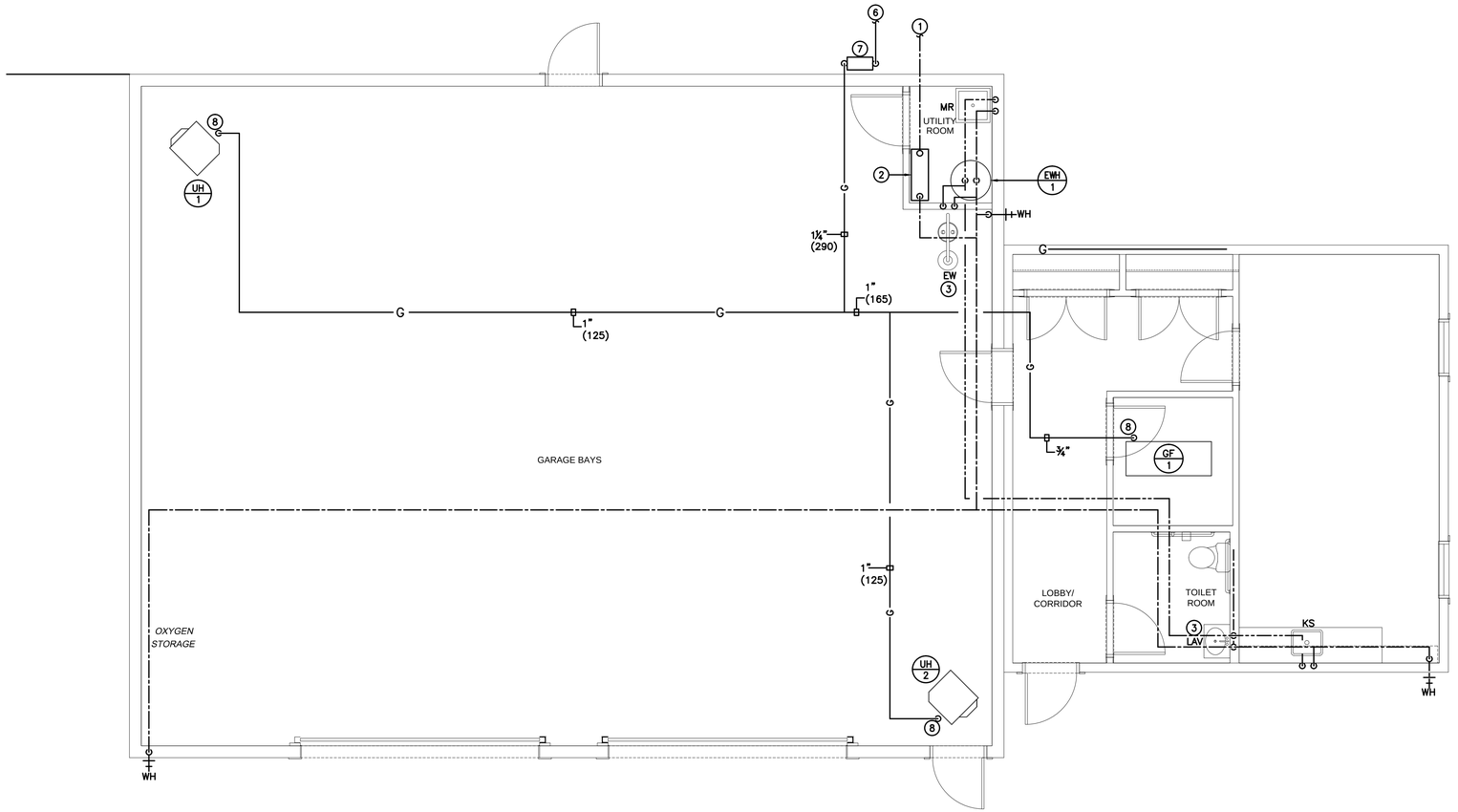
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PLUMBING SCHEDULES

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1 / P-2.0 PLUMBING FLOOR PLAN (WATER)

1/4"=1'-0"

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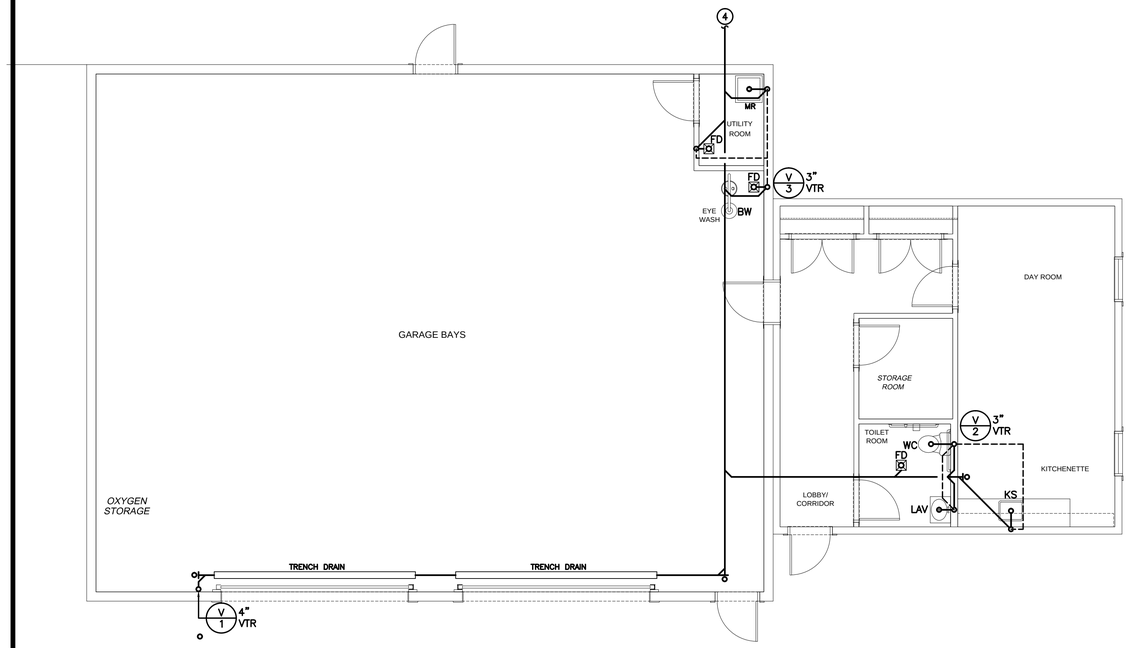
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PLUMBING FLOOR PLAN WATER

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1/P-2.1 PLUMBING FLOOR PLAN (WASTE)
1/4"=1'-0"

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NJ REGISTERED ARCHITECT No. AI 14872
NJ PROFESSIONAL PLANNER No. LI 05557
NJ PROFESSIONAL SURVEYOR No. No. 43504

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

PROJECT:

HARRISON TOWNSHIP NEW EMS FACILITY

169 - 171 BRIDGETON PIKE
BLOCK 57, LOT 18
TOWNSHIP OF HARRISON, 08062
GLOUCESTER COUNTY, NEW JERSEY

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REVISIONS

NO.	DESCRIPTION	DATE
1	PLAN REVISIONS	06/29/26
2	PLAN REVISIONS	07/24/26
3	ISSUED FOR BIDS	10/26/26

DRAWING TITLE:

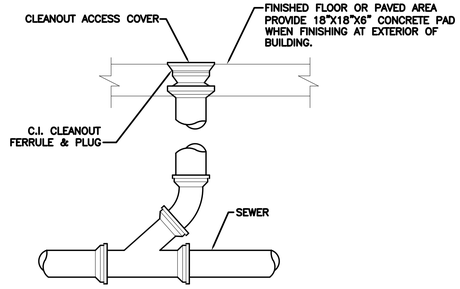
PLUMBING FLOOR PLAN WASTE & VENT

JOB NO: GC2023-05	DESIGNED BY: AAW
DATE: MARCH 11, 2026	DRAWN BY: AAW
SCALE: AS NOTED	CHECKED BY: SMB

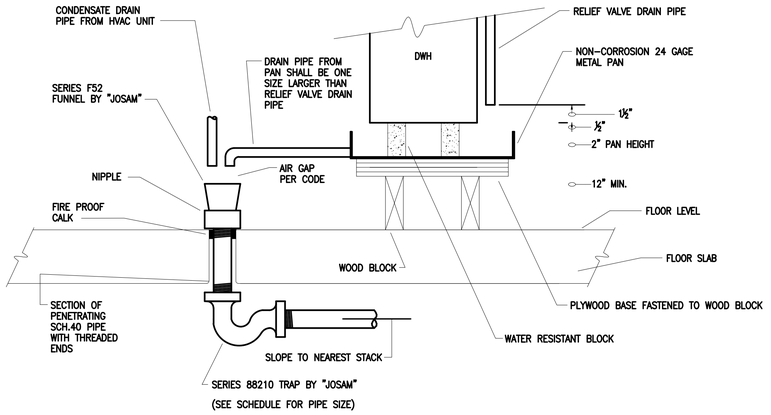
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P-2.1

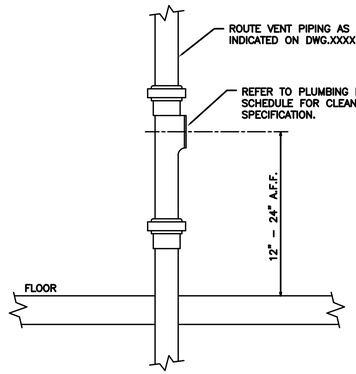
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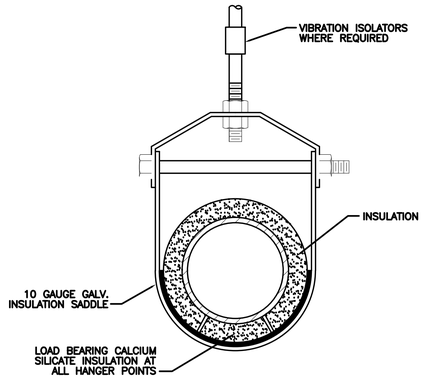
1 P4.0 **CLEANOUT DETAIL**
SCALE: NONE



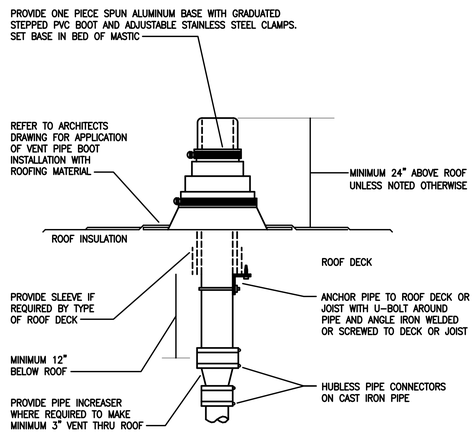
2 P4.0 **EWH PAN DISCHARGE TO FUNNEL DRAIN**
SCALE: NONE



3 P4.0 **CLEANOUT DETAIL**
SCALE: NONE

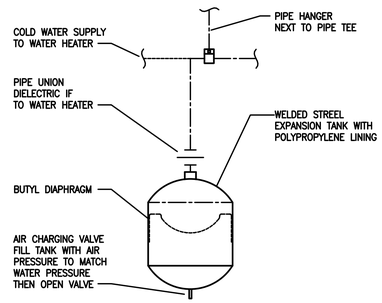


4 P4.0 **CLEVIS HANGER**
SCALE: NONE



REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR A MINIMUM OF 20 FEET HORIZONTAL (UNLESS APPROVED BY ENGINEER PRIOR TO INSTALLATION) OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE AND ONE FOOT FROM ANY VERTICAL SURFACE PROVIDE 1" FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF LOCATION. VERIFY FLASHING AND COUNTERFLASHING WITH ROOFING CONTRACTOR.

5 P4.0 **DETAIL - VENT THRU ROOF (VTR)**
SCALE: NONE



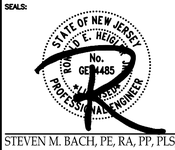
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. MAKE PIPE SAME SIZE AS TANK FITTING. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION PROCEDURE. VERIFY PROPER OPERATION WHEN INSTALLED.

6 P4.0 **DETAIL - EXPANSION INSTALLATION**
SCALE: NONE

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BHG CONSULTING ENGINEERS, INC.
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SEALS:



STEVEN M. BACH, PE, RA, PP, PLS, CME
NJ PROFESSIONAL ENGINEER No. GE 41507
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NJ PROFESSIONAL PLANNER No. LI 05557
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