S & S FOOD STORE NO. 28

41/441 SOUTH

LAKE CITY, FLORIDA

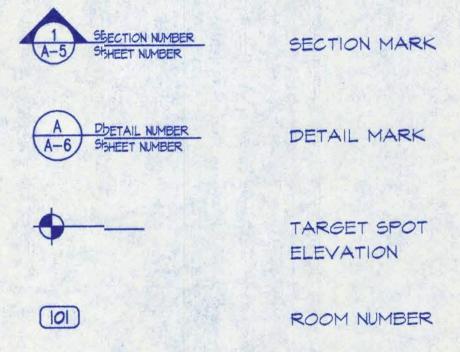
ABBREVIATIONS (ARCHITECTURAL) F.S. Air Conditioned FTG. Roof Drain Footing Acoustical Celling Tile RECEP. REF. REG. REINF. Receptacle Air Conditioning Uni Refrigerator Reglet Access Door Grab Bar Galvanized Iron Reinforcing, Reinforced GL. GR. GYP. Acoustical Tile Rough Opening BLD'G. BR'G. BU.R. Building Bearing HTG. Schedule Shelving, Shelf Hardware Similar Specification(s) Inside Diameter Structural Stainless Steel Cast Iron Inside Pipe Size Corner Guard Control Joint Telephone Tempered Threshold Tollet Typical Concrete Masonry Ur Maximum Markerboard Construction Carpet Ceramic Tile Vent Through Roof Veneer Plaster Board Moulding Masorry Opening Wheel Chair Wood Window Dimension Wrought Iron Waterproof(ing) Mounted Not In Contract ABBREVIATIONS FOR DETAILS OF WOOD AND METAL WORK On Center Machine Bolts Outside Diameter OPN'G. Opening Opposite Machine Screws Electric Panel 5.M.S. Sheet Metal Screws Wood Screws Flat Head or Flush Head PLAS.PL. Plaster PLYWD Plywood PORT. Portable Electric Water Coole Square Head Polished Plate Glass

Power Roof Ventilator

Sheet Metal

Floor Drain Fire Extinguisher Finish

SY'MBOLS LEGEND



SHEET INDEX

i-1	PRO	JECT	COVER	SHEET

FOUNDATION PLAN AND DETAILS

FLOOR PLAN AND DETAILS

WALL SECTIONS

EXTERIOR ELEVATIONS AND PARTIAL BUILDING SECTION

BUILDING SECTION AND DETAILS

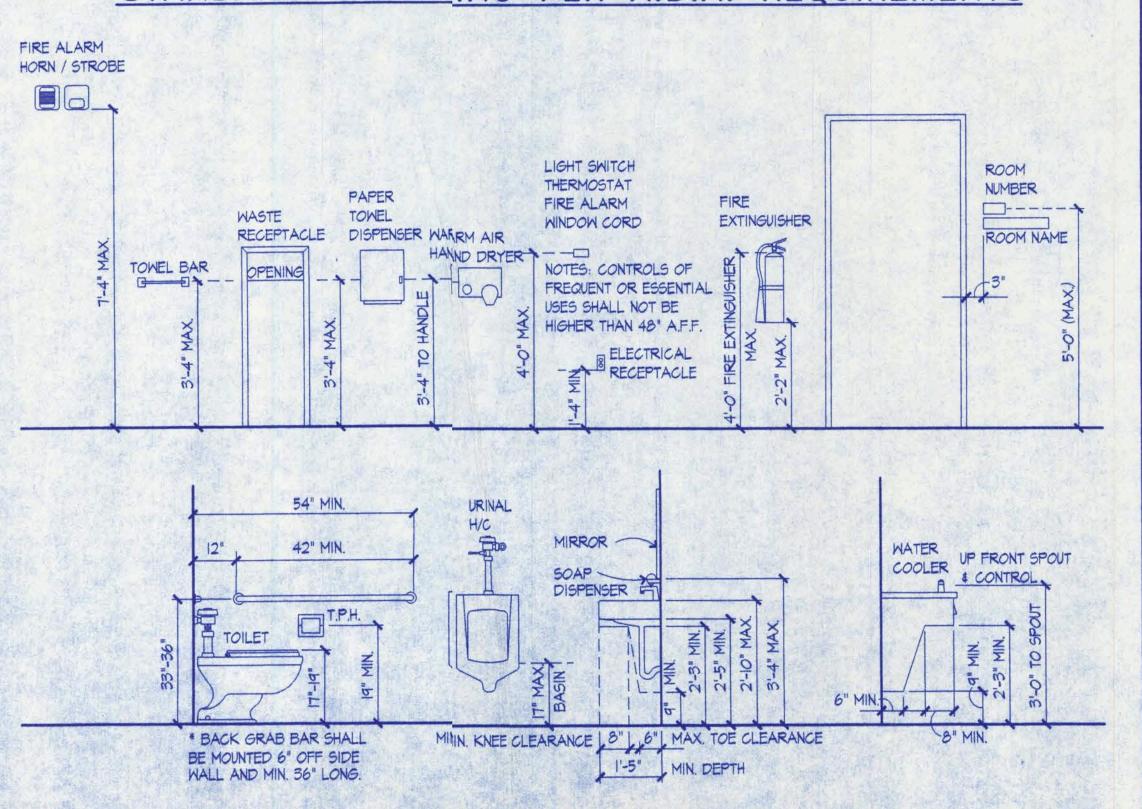
ROOF PLAN, ROOF FRAMING PLAN AND DETAILS

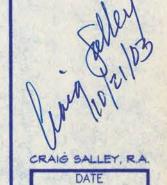
REFLECTED CEILING PLAN AND DETAILS

ARCHITECTURAL SPECIFICATIONS

ARCHITECTURAL SPECIFICATIONS

STANDARD MOUNTING PER A.D.A. REQUIREMENTS

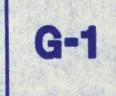


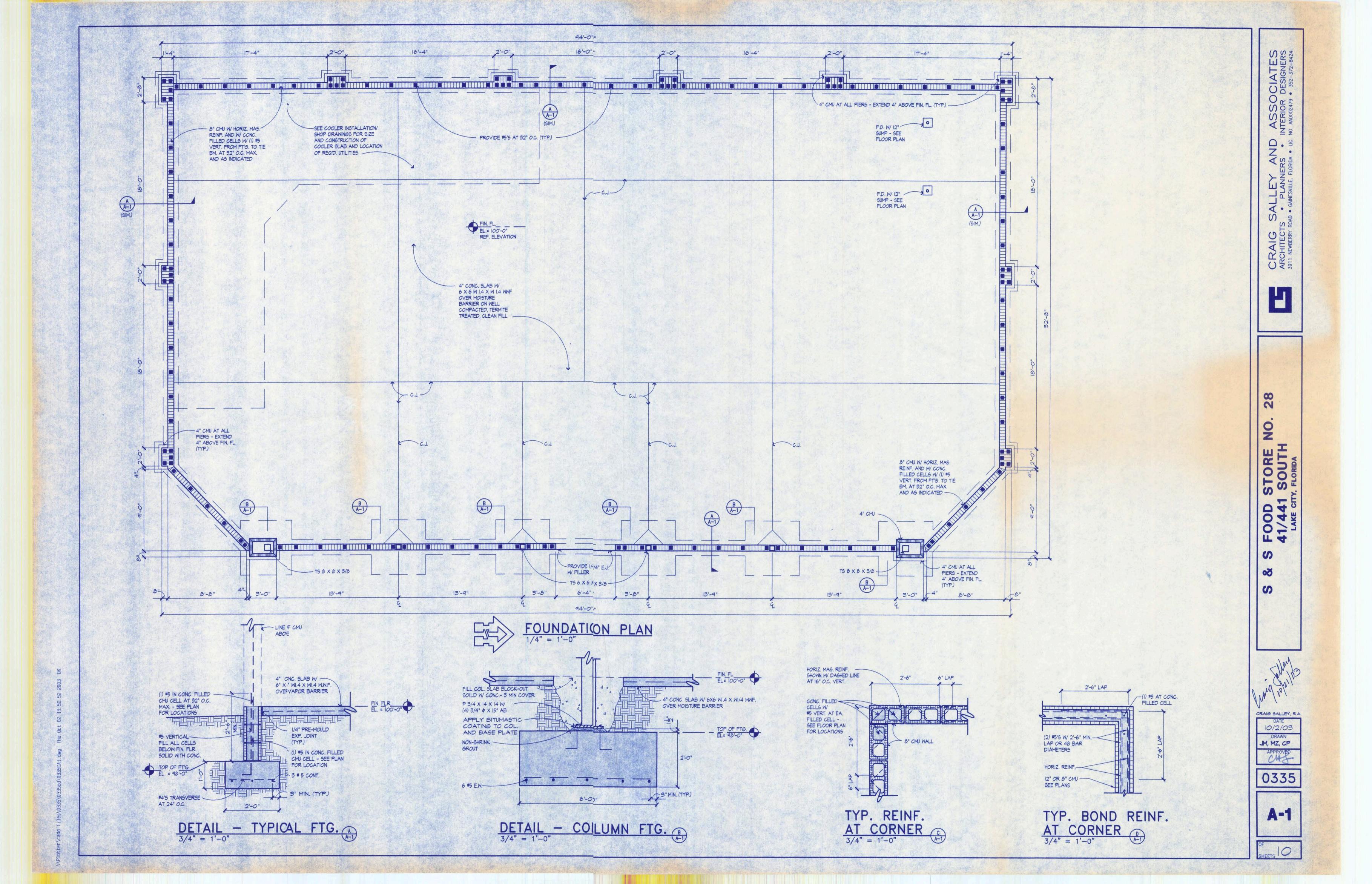


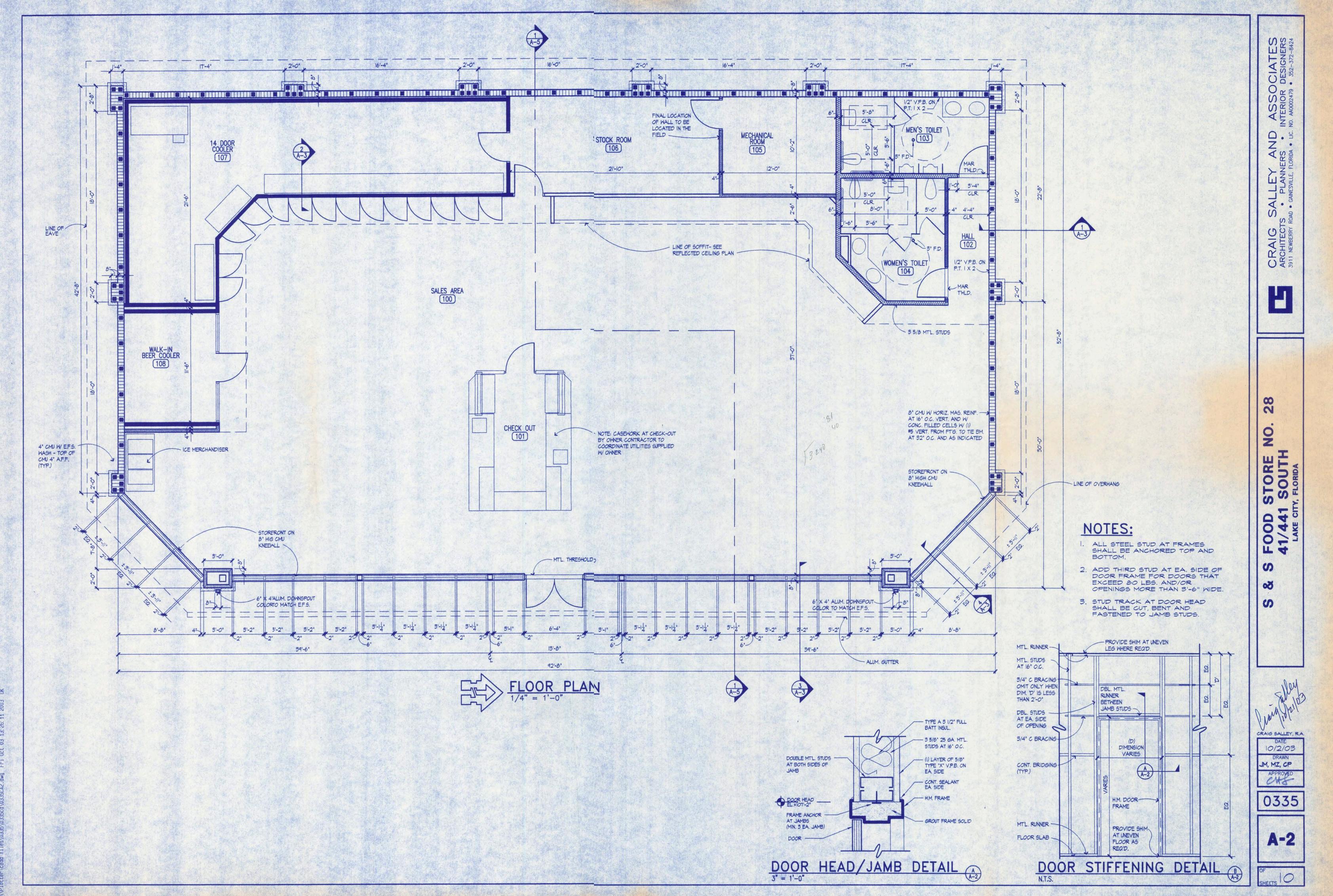
ASSOCIATES
INTERIOR DESIGNERS
NO. AA0002479 • 352-372-8424

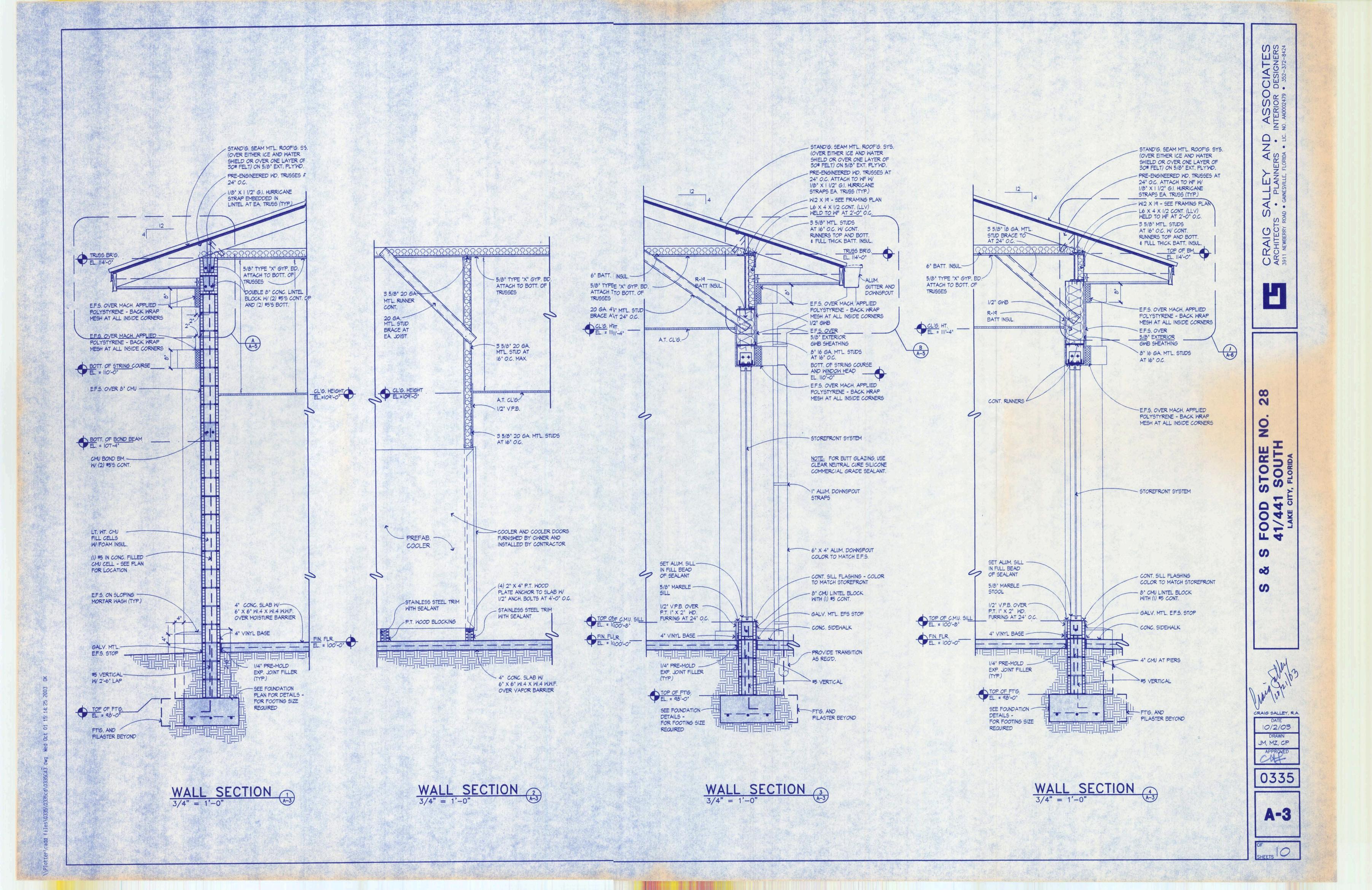
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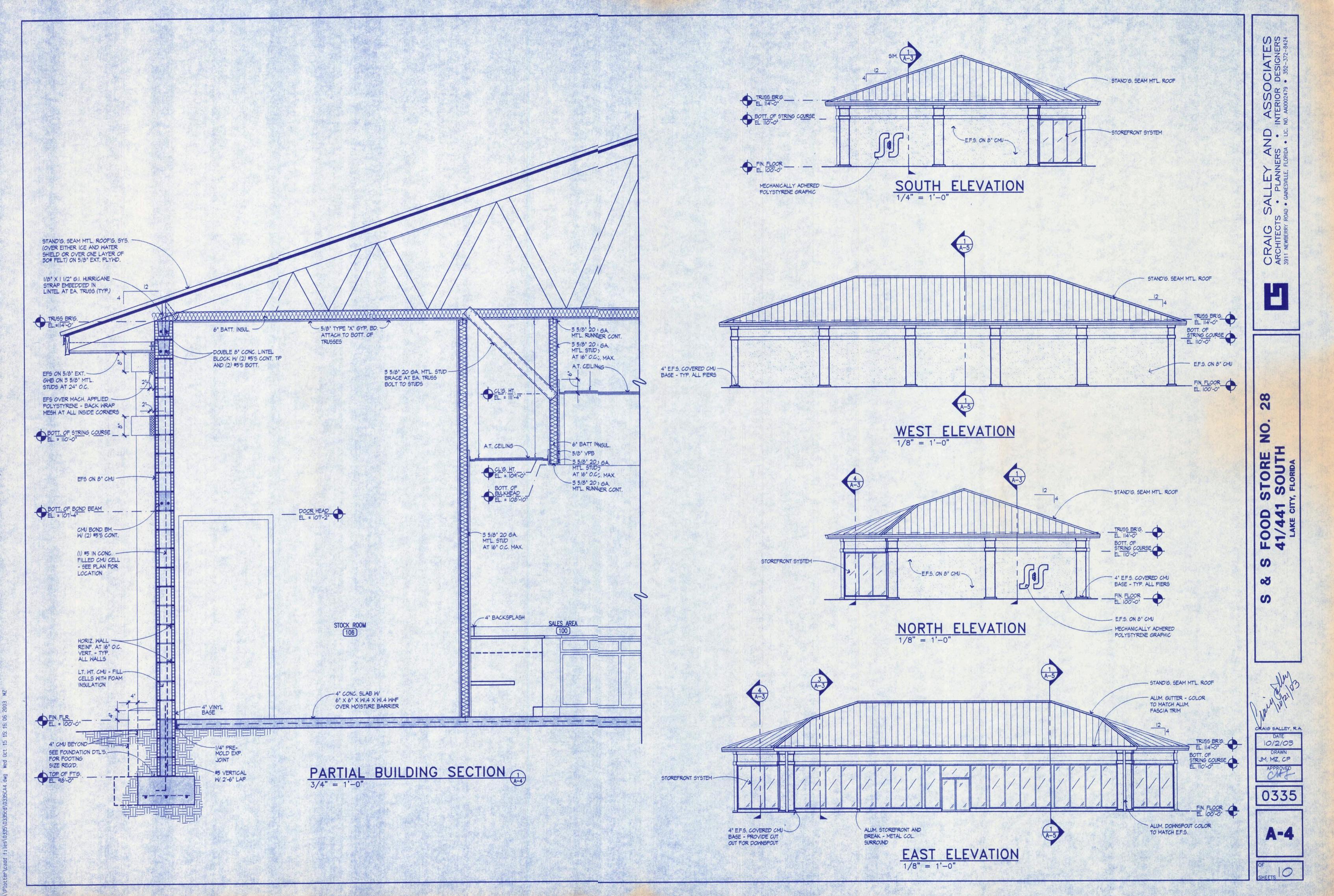
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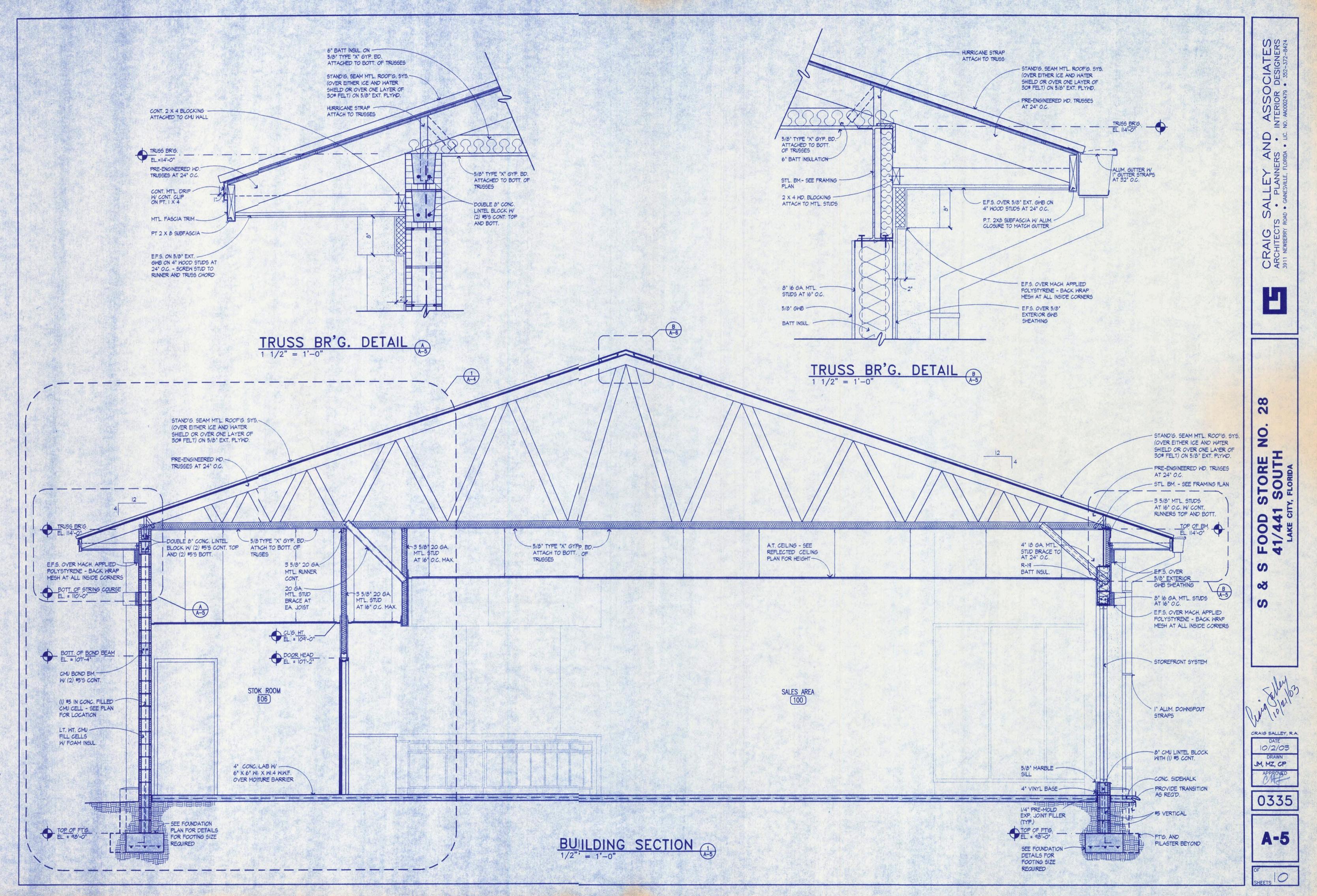




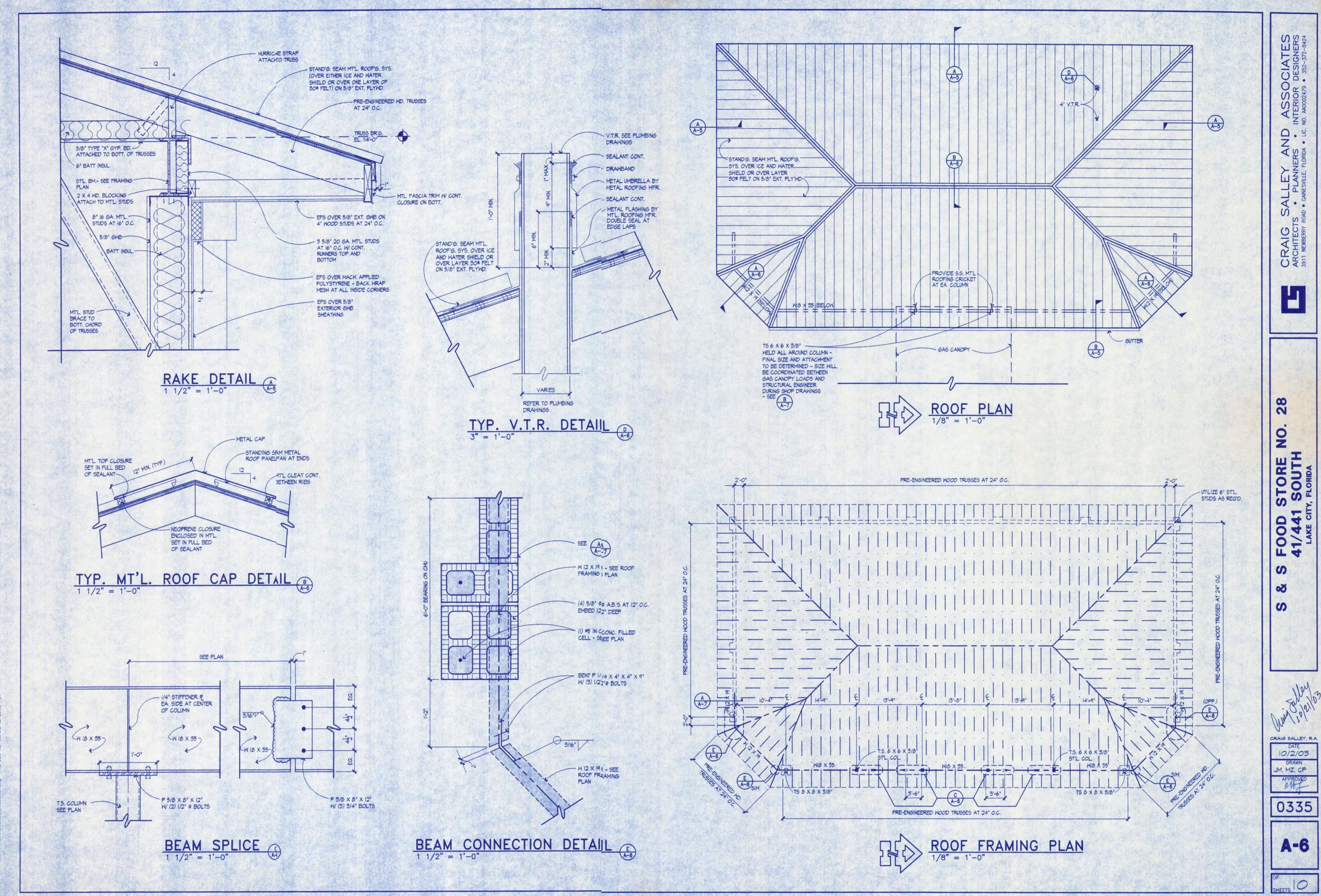


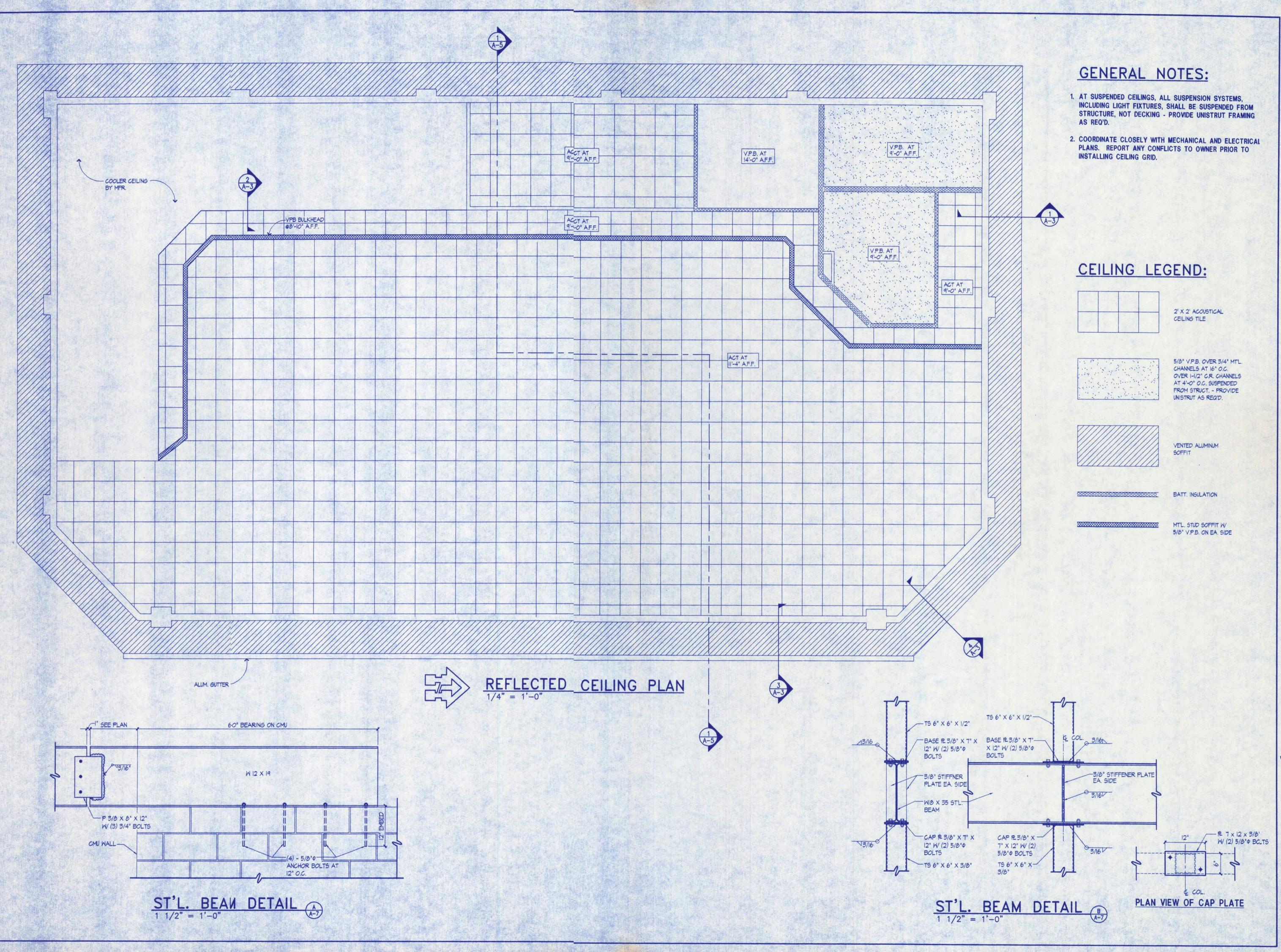






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ASSOCIATES
INTERIOR DESIGNERS
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A-7

- 3. WHERE DEVICES, ITEMS OR PARTS THEREOF, ARE REFERRED TO IN THE SINGULAR, IT IS INTENDED THAT SUCH REFERENCE SHALL APPLY TO AS MANY SUCH DEVICES, ITEMS OR PARTS AS ARE REWIRED TO PROPERLY COMPLETE THE WORK.
- 4. SCHEDULES OF WORK INCLUDED IN THESE SPICIFICATIONS ARE GIVEN FOR CONVENIENCE AND SHALL NOT BE CONSIDERED AS A COMPREHENSIVE LIST OF ITEMS NECESSARY TO COMPLETE THE WORK AS DESCRIBED, DRAWN AND SPECIFIED.
- 5. THE CONTRACTOR SHALL COORDINATE THE WRK COVERED HEREAFTER DESCRIBED WITH THE WORK OF OTHERS INVOLVED IN THIS PROJECT. THE NECESSARY INFORMATION AND THE ITEMS, MITERIALS AND EQUIPMENT SHALL BE DELIVERED WHEN REQUIRED IN ORDER TOPREVENT ANY DELAY IN THE PROGRESS AND COMPLETION OF WORK.
- 6. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND DETAILS AND NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPUNCIES PRIOR TO PROCEEDING WITH THE WORK.
- ALL WORK MUST CONFORM TO THE REQUIREMENTS OF ALL LOCAL GOVERNING AGENCIES AND CODES.
- 6. CONTRACTOR SHALL PROVIDE TEMPORARY NATER, POWER AND TOILET FACILITIES AS REQUIRED BY CODE OR ORDINANCE.
- 9. IF REQUIRED, A CONSTRUCTION BARRICADE HALL BE INSTALLED BY THE CONTRACTOR THAT IS AS REQUIRED BY THE SOVERNING AUTHORITY. NO SIGNS OTHER THAN THOSE AUTHORIZED BY THE OWNER WILL BE PERMITTED ON THIS BARRICADE.
- 10. CONTRACTOR SHALL PAY FOR ALL CONSTRUCTION RELATED PERMITS AND FEES REQUIRED TO CONSTRUCT THIS PROJECT.
- II. APPROVED CONSTRUCTION PERMIT DOCUMEN'S SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY ANY WORMEN. ALL CONSTRUCTION SETS SHALL REFLECT THE SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN, IN GOOD CONDITION, ON THE PRENSES AT ALL TIMES UNDER THE CARE OF THE SUPERINTENDENT. ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AS BUILT-CONDITIONS AND CHANGE ORDERS POSTED. THE CONTRACTOR MUST TURN THIS DRAWINGSET OVER TO THE OWNER AT THE COMPLETION OF THIS PROJECT.
- THE CONTRACTOR SHALL VERIFY AND CONFIRM TO ALL REQUIREMENTS OF ALL UTILITY COMPANIES WHENEVER ANY MAERIAL, EQUIPMENT OR METHOD IS SPECIFIED OR INDICATED BY PROPRIETARYNAME OR MANUFACTURER, THE MATERIAL, EQUIPMENT, METHOD SO SPECIFIED OR INDICATED SHALL BE DEEMED TO BE FOLLOWED BY THE WORDS "OR EQUA!" EXCEPT IN THOSE CASES WHERE ITEMS SPECIFIED BY NAME ARE MARKED "NO SUBSTITUTE."
- 13. ALL WORK IS TO BE DONE IN THE BEST WORLMANLIKE MANNER.
- 4. ALL WORK SHALL BE GUARANTEED FOR A FIRIOD OF ONE (I) YEAR AFTER COMPLETION, EXCEPT AS OTHERWISE SPECIFED. ALL WARRANTY REPAIRS, CORRECTIONS, DISCREPANCIES, ETC. MUST B: MADE WITHOUT ANY ADDITIONAL COST TO THE OWNER, AND WITH FIVE (5) DAYS AFTER NOTICE IS GIVEN.
- 15. CONTRACTOR SHALL BE RESPONSIBLE FOR HE COMPLETE SECURITY OF THE BUILDING AND SITE WHILE JOB IS IN PROGRESS AND UNTIL JOB IS COMPLETED.
- 16. ALL DEBRIS SHALL BE REMOVED FROM PREMISES AND ALL AREAS SHALL BE KEPT IN A CLEAN (BROOM) CONDITION AT ALL TIMES.
- 17. CONTRACTOR SHALL TAKE ALL NECESSARYPRECAUTIONS TO ENSURE THE SAFETY OF THE WORKERS AT ALL TIMES.
- 18. DO NOT SCALE DRAWINGS. DIMENSIONS GO'ERN. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES.
- 19. ALL ITEMS MARKED "N.I.C." ARE NOT PART & THIS CONTRACT. CERTAIN
 ITEMS MAY BE SUPPLIED BY THE OWNER BUTINSTALLED BY THE CONTRACTOR
 CAREFULLY REVIEW THE DRAWINGS AND SCIEDULES.
- 20. ALL WORK SHALL BE CONSTRUCTED OR INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LATEST RECOMMENDATIONS OR WRITTEN DIRECTIONS.
- 21. REPAIR AND/OR REPLACE ANY AND ALL BROKEN AND DAMAGED CONCRETE WORK. CONTRACTOR SHALL BE RESPONSIBE FOR MEETING THE REQUIREMENTS OF LOCAL GOVERNING AGENCIES.

GRADING, COMPACTION, EXCAVATION AND SITE WORK

- I. REMOVE ALL SUBSURFACE STRUCTURES, DERIS, GROWTH, VEGETATION
 OBJECTIONABLE MATERIALS NOT SUITABLE OR FILL. CAP ALL DISCONNECTED
 UTILITIES AT PROPERTY LINE IN APPROVED 1ANNER, AS REQUIRED AND
 COORDINATED WITH THE APPROPRIATE UTILITY/ AGENCY
- 2. ALL HOLES RESULTING FROM AFOREMENTICIED REMOVALS SHALL BE BACKFILLED AND COMPACTED TO 95% OF YAXIMUM OPTIMUM DENSITY WITH ENGINEERED FILL MATERIAL.
- 3. THE ENTIRE SITE SHALL BE GRADED TO MEET REQUIRED FINISH GRADES.
 CONTRACTOR SHALL LEVEL AND FILL TO TWO INCHES BELOW FINISH GRADE
 FOR PLANTING AND SODDING.
- 5. EXCAVATE FOR ALL FOOTINGS AND FOUND TIONS AS CALLED FOR ON THE DRAWINGS AND WHICH MEET REQUIREMENTS OF LOCAL GOVERNING AGENCIES. COMPACT BOTTOM OF 12" OF FOOTINGS TO 15% MAXIMUM OPTIMUM DENSITY.

6. ALL FOOTINGS SHALL BEE ON UNDISTURBED NATURAL SOIL OR APPROVED ENGINEERED COMPACTED FILL. REFER TO FOUNDATION PLAN AND DETAILS.

CONCRETE

ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. MIX AND MATERIALS SHALL MEET ALL REQUIREMENTS OF LOCAL CODES AND INDUSTRY STANDARDS.

- 2. REINFORCING STEEL SHALL BE INTERMEDIATE GRADE ASTM A-15 AND ASTM A-305. MINIMUM LAP SHALL BE 30 BAR DIAMETERS OR MORE IF NOTED ON THE DRAWINGS. REINFORCEMMENT SHALL BE FREE OF SCALE, RUST OR OTHER COATINGS WHICH WOULD; REDUCE BOND TO CONCRETE, MAINTAIN 3" MINIMUM COVER AROUND STEEL AAT ALL BELOW FINISH GRADE LOCATIONS.
- 3. WELDED WIRE FABRIC SHALL BE INSTALLED IN ALL FLOOR SLABS AND SIDEWALKS AND SHALL BE 6 X 6 X WI.4 X WI.4 W.W.F. ASTM A-185. CONCRETE FLOOR SLABS SHALL BE AS INDICATED ON THE DRAWINGS.
- ALL CONCRETE FLOOR SSLABS AND WALKS SHALL BE A MINIMUM OF 4" THICK. UNLESS OTHERWISE NOTEED TO BE THICKER.
- 5. MAKE PROPER PROVISIONS FOR AND INSTALL ALL SCREEDS, GROUNDS, BOLTS, CURBS, DRAINS, ETC. COORDINATE WITH ALL OTHER TRADES INVOLVED PRIOR TO PLACING CONCRETE. SLOPE SLABS 1TO DRAINS AND/OR AS SHOWN ON THE DRAWINGS.
- PROVIDE AND INSTALL 66 MIL POLYETHYLENE MOISTURE BARRIER UNDER ALL INTERIOR SLABS. LAP AND TAPE ALL JOINTS. USE CAUTION SO AS NOT TO PUNCTURE MOISTURE BARRIER PRIOR TO SLAB POUR.
- 7. SAW CUT FLOOR SLAB 1/2" DEEP AND DIVIDE INTO AREAS NO GREATER THAN 400 SQ. FT. OR AS SHOWN ON PLANS FOR CONSTRUCTION JOINTS.
- 8. ALL INTERIOR FLOOR SELABS SHALL BE SMOOTH TROWELED FINISH, FREE FROM MARKS AND BLEMISHES.
- 9. WHEN FREEZING TEMPERATURES PREVAIL OR ARE ANTICIPATED, CONTRACTOR SHALL TAKE ALL PRECALUTIONARY MEASURES TO PROTECT CONCRETE INSTALLATION. PLACED CONCRETE SHALL BE KEPT AT A MINIMUM OF 60°F FOR A PERIOD OF 72 HOOURS AFTER POURING.

MASONRY

- I. MASONRY UNITS SHALL EBE PROPERLY WETTED TO REDUCE EXCESSIVE ABSORPTION AND SHALL BE DAMP AT TIME OF LAYING.
- 2. MASONRY SHALL BE LAILED PLUMB, LEVEL AND TRUE TO LINE WITH ALL CORNERS AND ANGLES SSOUARE. PATTERN WORK, BONDS, AND SPECIAL DETAILS ARE TO BE ACCCURATELY AND UNIFORMLY DONE.
- 3. CEMENT MORTAR SHALL CONSIST OF I PART PORTLAND CEMENT (TYPE I OR TYPE II LOW ALKALI), 1/44 PART HYDRATED LIME, SAND (3 1/2 TIMES THE SUM OF THE VOLUME OF CEMINENT AND LIME)
- 4. ALL CELLS CONTAINING FREINFORCING, ANCHORS, BOLTS, ETC. SHALL BE GROUTED SOLID WITH CEMENT GROUT OR 3,000 P.S.I. PEA GRAVEL CONCRETE. INSPECTION AND APPROVAL OF REINIFORCING SHALL BE MADE BY LOCAL BUILDING DEPT. PRIOR TO GROUTING.
- 5. HORIZONTAL JOINT REINFFORCEMENT SHALL BE EQUAL TO "DUR-O-WALL." SPACING SHALL BE AS INDICATED ON THE DRAWINGS.

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL. SHALL CONFORM TO ASTM A-36 OR SI.
- 2. STRUCTURAL STEEL AND) RELATED WORK INCLUDE THE FOLLOWING:
 COLUMNS, STEEL TUBS, B3ASE PLATES (W/ ANCHORS), BEAMS AND
 BEAM SEATS (W/ ANCHORS), MISCELLANEOUS ANGLES, STEEL
 JOISTS AND BEARING PULATES (W/ ANCHORS).
- 3. ALL STRUCTURAL STEEL_ SHALL BE FABRICATED AND INSTALLED IN CONFORMANCE WITH LAITEST EDITION OF STANDARD SPECIFICATIONS FOR STRUCTURAL STEEL IN BUILDINGS, AS ADOPTED BY THE A.I.S.C.
- 4. PREPARE COMPLETE AND DETAILED SHOP DRAWINGS UNDER THE SUPERVISION OF A FLORIDA REGISTEERED ENGINEER, PRIOR TO FABRICATION OR INSTALLATION OF ANY STRUCTURAL STEEL.
- 5. ALL STRUCTURAL WELDI'ING SHALL BE ELECTRIC ARC, PERFORMED BY CERTIFIED WELDERS IN THE SHOP COF LICENSED FABRICATOR. FIELD WELDING SHALL BE DONE BY CERTIFIED WELDERS AND REQUIRE CONTINUOUS INSPECTION BY THE GENERAL CONTRACTOR. TOUCH UP ALL WELDS WITH PRIMER.
- 6. ALL STRUCTURAL STEEL_ SHALL BE PRIME COATED IN SHOP PRIOR TO DELIVERY ON JOB.
- 7. ALL EXTERIOR EXPOSED STEEL SHALL BE GALVANIZED.

METAL STUDS AND FRAMING

METAL STUDS

- REFER TO PLANS AND EDETAILS FOR SIZE, SPACING, LOCATION AND DETAILS, TO DETERMINE WHERE METAL STUDS ARE USED ON THIS PROJECT.
- 2. NON-LOAD BEARING TYPPE INTERIOR PARTITIONS SHALL BE CONSTRUCTED OF MINIMUM 25 GAUGE GALVANIZED; STEEL STUDS. LOAD BEARING STUDS SHALL BE MINIMUM OF 18 GAUGE. REFER TO [DRAWINGS AND USE HEAVIER GAUGE STUDS WHERE CALLED FOR PROVIDE RUNNER (CHANNELS) AND REINFORCING AS INDICATED.
- 3. STUDS SHALL BE INSTALLLED PER MANUFACTURER'S SPECIFICATIONS, DETAILS AND PLANS. MAXIMUM SPACING SHALL NOT EXCEED 16" O.C.

MOOD TRUSSES

TRUSSES SHALL BE DESIGNED WITH SLOPES AND SPANS AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH INDUSTRY STANDARDS AND IN COMPLIANCE WITH APPLICABLE CODEES, STANDARDS AND ORDINANCES.

- 2. THE CONTRACTOR SHALL OBTAIN PRIOR TO FABRICATION, ERECTION AND FABRICATION DRAWINGS PREPARED, AND SEALED BY A STRUCTURAL ENGINEER LICENSED BY THE STATE OF FLORIDA AND INDICATING INDIVIDUAL COMPONENT SIZES AND METHOD(S) OF CONNECTION TO EACH OTHER AND SUPPORTING BUILDING COMPONENTS.
- 3. ALL LUMBER SHALL BE GRADE MARKED PER AREA STANDARDS. SEE FRAMING PLAN NOTES.
- TEMPORARY BRACING SHALL BE REQUIRED AND PROVIDED UNTIL ERECTION IS COMPLETE AND ENOUGH ROOF DECK IS IN PLACE TO STABILIZE THE TRUSS INSTALLATION.

CARPENTRY AND MILLWORK

- ALL WOOD PLATES IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED DOUGLAS FIR OR NO. 2 PINE.
- . ALL LUMBER SHALL BE GRADE MARKED PER AREA STANDARDS.
- 3. WOOD STUDS SHALL BE NO. 2 PINE OR DOUGLAS FIR STANDARD GRADE.

A. PLYWOOD SHALL BE MINIMUM GRADE C-C WITH EXTERIOR GLUE,

- CARPENTRY MATERIALS SHALL BE AS LISTED BELOW:
- MINIMUM 5/8" THICK.
- 5. PLASTIC LAMINATES SHALL BE AS SELECTED BY OWNER AND SHALL BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
- 6. ALL FINISH WOOD WORK SHALL BE FINISHED SMOOTHLY, SANDED WITH NAIL HOLES SET AND SHALL BE FREE FROM ALL DEFECTS. ALL JOINTS SHALL BE MITERED WITH CLOSE, TIGHT FIT.
- 7. COORDINATE AND VERIFY ALL WORK WITH EQUIPMENT INSTALLERS. PROVIDE ALL PROPER BACKING, BLOCKING AND SUPPORTS AS REQUIRED.
- 8. CONTRACTOR TO PROVIDE WOOD BLOCKING AT ALL STUD WALL MOUNTED SHELVING AND SINKS.

INSULATION

- ROOF INSULATION SHALL BE MINIMUM R-30 AVERAGE FOIL BACKED TYPE II CLASSIC BATT INSULATION AND SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH MANUFACTURER'S LATEST SPECIFICATIONS.
- 2. ALL EXTERIOR STUD WALLS AND ATTIC SPACES SHALL HAVE KRAFT FACED, ASTM-136, TYPE II, CLASS C, BATT INSULATION, R-19 AT WALLS
- 3. SOUND INSULATION SHALL BE PROVIDED AT TOILET ROOM WALLS AND SHALL BE FULL THICK ROCKWOOL KRAFT PAPER WRAPPED.
- 4. ALL CMU CELLS NOT GROUTED SHALL BE FILLED WITH FOAMED-IN-PLACE THERMAL INSULATION EQUAL TO CORE-FILL 500 NON-TOXIC AMINO-PLAST RESIN AS MANUFACTURED BY TAILORED FOAM, OF FLORIDA, INC.

ROOFING

STANDING SEAM METAL ROOFING

- I. THE PREFORMED METAL ROOF PANELS AND ALL RELATED COMPONENTS (REFERENCED ON DRAWINGS AS "STANDING SEAM METAL ROOF SYSTEM") OVER PLYWOOD ROOF DECK SHALL BE EQUAL IN ALL RESPECTS TO THAT AS MANUFACTURED BY BERRIDGE MANUFACTURING CO.
- 2. SHOP AND ERECTION DRAWINGS OF THE METAL ROOFING PANEL SYSTEM SHALL INDICATE AS A MINIMUM, THE FOLLOWING:
- A. PROFILE AND GAUGE OF ROOF AND SIDING PANELS AND RELATED COMPONENTS.
- B. LOCATION AND TYPE OF FASTENERS. SHOW PROVISIONS FOR THERMAL MOVEMENT.
- C. DETAILS OF EDGE CONDITIONS, JOINTS, CORNERS, PANEL PROFILES, SUPPORTS, TRIM, CLOSURES AND RELATED TRIM. DISTINGUISH BETWEEN FACTORY AND FIELD ASSEMBLY WORK.
- D. LOCATION, GAUGE, SHAPE AND METHOD OF ATTACHMENT OF ALL TRIM, INCLUDING CURBS, FLASHINGS AND ASSOCIATED METAL WORK.

E. SEALANT(S) TYPES AND PROPERTIES AS RECOMMENDED BY THE METAL PANEL

- MANUFACTURER FOR EACH SPECIFIC APPLICATION/LOCATION.

 F. ALL OTHER ITEMS PERTINENT TO FABRICATION AND INSTALLATION OF THE
- COMPLETE SYSTEM SPECIFIED OR SHOWN ON THE DRAWINGS.

 DESIGN CRITERIA THE METAL ROOFING SYSTEM SHALL BE DESIGNED FOR ITS OWN
- DEAD LOAD PLUS THE FOLLOWING LOADS:

 A. ROOF LIVE LOAD: IN ACCORDANCE WITH FLORIDA BUILDING CODE.

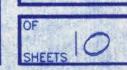
 ADDITIONAL MECHANICAL EQUIPMENT LOADS: AS INDICATED ON DRAWINGS. IF

NOT INDICATED, OBTAIN FROM APPROPRIATE SUBCONTRACTORS.

- B. DESIGN WIND LOAD: IN ACCORDANCE WITH ASCE-7-98 DESIGN WIND VELOCITY 100 MPH, BUILDING IMPORTANCE FACTOR OF 1.15 AND EXPOSURE CATEGORY "C." FASTENERS SHALL HAVE A SAFETY FACTOR OF 2.5.
- C. MAXIMUM ALLOWABLE DEFLECTION: L/180. SYSTEM SHALL BE DESIGNED TO ACCOMMODATE MOVEMENT OF COMPONENTS AND TOLERANCES OF STRUCTURAL FRAMING WITHOUT BUCKLING, FAILURE OF JOINTS, UNDUE STRESS OF FASTENERS, OR OTHER DETRIMENTAL EFFECTS, WHEN SUBJECT TO SEASONAL TEMPERATURE RANGES FOR THE PROJECT SITE GEOGRAPHICAL ARE. MINIMUM EXPANSION CAPABILITY OF SYSTEM SHALL BE 8/32-INCH IN 10-FEET.
- 4. REFERENCES
 - A. MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
 - B. ASTM STANDARDS AND TEST PROCEDURES AS REFERENCED HEREIN.
 - C. SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA): LATEST EDITION.
 - D. NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM) STANDARDS AS REFERENCED HEREIN, LATEST EDITION.
 - E. FLORIDA BUILDING CODE.



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PANELS SHALL BE STORED ON EDGE, POSITIONED TO ALLOW MOISTURE TO RUN OFF RATHER THAN ACCUMULATE ON THE FACES, AND SHALL BE SEPARATED SO AIR CAN CIRCULATE AROUND EVERY SURFACE.

THE ROOFING CONTRACTOR SHALL VERIFY ALL DIMINSIONS, SHALL MAKE ANY FIELD MEASUREMENTS NECESSARY AND SHALL BE FULLY FESPONSIBLE FOR ACCURACY AND LAYOUT OF WORK.

METAL FINISH: ALL EXPOSED SURFACES OF PANEL! AND FASCIAS SHALL BE GIVEN FACTORY APPLIED OVEN CURED FLUORPON COATING WITH A MINIMUM OF FULL STRENGTH TO PERCENT SOLIDS CONTENT OF "KYNAI 500" RESIN OVER PRIMER IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN PROCEDURES, MINIMUM DRY FILM THICKNESS OF I.O MILS

PROVIDE RANGE OF STANDARD KYNAR COLORS FOR COLOR SELECTION BY OWNER.

SEALANTS AND SEALING TAPE SHALL BE AS RECOMENDED BY THE PANEL MANUFACTURER AND SHALL BE RATED FOR TWENTY(20) YEAR SERVICE LIFE.

EXPOSED FASTENERS SHALL BE STAINLESS STEEL. FOR WEATHERTIGHTNESS, SCREWS SHALL HAVE SEPARATE WASHERS WITH BONDED NEIPRENE FACES, AND POP RIVETS SHALL BE SET IN WET SEALANT. EXPOSED FASTENRS SHALL BE A MINIMUM #14 OR 3/16" DIAMETER RIVET.

ANCHOR CLIPS SHALL BE MANUFACTURER'S STANDARD, UL 90 RATED CLIP. CLIPS TO BE COORDINATED WITH INSULATION AND DECK SYSEM SO FASTENERS AND COMPRESSION DISC DO NOT TELEGRAPH THROUGH IETAL ROOF. IF BOTTOM OF METAL ROOF COMES IN CONTACT WITH SUBSTRATE, NOLUDE ONE LAYER OF ROSIN PAPER AS SEPARATOR.

13 ROOF JACKS AND CURBS: PANEL MANUFACTURER PROFILE; SIZES SHALL BE COORDINATED WITH APPLICABLE MECHANICAL EQUIMENT. FURNISH AND INSTALL ALL ROOF CURBS REQUIRED FOR ALL ROOF PENETRATIONS ON THIS PROJECT.

14. FLASHING BOOT: PANEL MANUFACTURER'S STANDAID PROFILE; SIZES SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING VEITS THROUGH ROOF. FURNISH AND INSTALL ALL BOOTS AT PLUMBING STACKS ON THIS PROJECT

CLOSURE STRIPS: PANEL MANUFACTURER'S STANDAD MATCHING PANEL PROFILE AFTER ERECTION, THE CONTRACTOR SHALL PROTECT EXPOSED PORTIONS FROM DAMAGE BY THE ELEMENTS, MACHINES, PLASTER, LIVE, PAINT, ACID, CEMENT OR OTHER HARMFUL COMPOUNDS. THE CONTRACTOR SHALL BI RESPONSIBLE FOR REMOVAL OF PROTECTIVE MATERIALS, AS APPLICABLE, AND CLENING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

17. ROOFING CONTRACTOR SHALL ISSUE THE OWNER A WRITTEN GUARANTEE TO MAINTAIN THE ROOFING, FLASHINGS, COUNTER FLASHINGS IN A WATER-TIGHT CONDITION FOR A PERIOD OF TWO (2) YEARSFROM FINAL COMPLETION.

SHEET METAL

ALL SHEET METAL SHALL BE .040" THICK ALUMINUMM/ FACTORY BAKED-ON

ALL SHEET METAL SHALL BE IN CONFORMANCE WITH S.M.A.C.N.A., ACCURATELY FORMED TO DIMENSIONS AND SHAPES AND SHALL E COPIED TO FIT PRECISELY ALL SEAMS SHALL BE PROPERLY RIVETED AND SEILED WITH NEAT, THIN, SMOOTH JOINTS, ALL EXPOSED ENDS SHALL BE HEMMED AN CLIPPED

ALL SHEET METAL WORK SHALL BE FORMED AND INTALLED TO PROVIDE SUITABLE ALLOWANCE FOR EXPANSION AND CONTRICTION. ALL INSTAL-LATIONS SHALL ENSURE WATERTIGHT CONDITIONS.

GUTTERS AND DOWNSPOUTS SHALL BE FORMED OF TETAL SPECIFIED ABOVE IN ACCORDANCE WITH THE DRAWINGS AND SMACNA S'ANDARDS. OUTLET TUBES AND GUTTER ENDS SHALL BE FURNISHED AND INSTALLEDAS REQUIRED IN ACCORDANCE WITH INDUSTRY STANDARDS.

SECURELY ANCHOR GUTTERS WITH HANGERS OF THESAME MATERIAL. TELESCOPE END JOINTS OF DOWNSPOUTS 1 1/2 INCHES AND LOCK LOIGITUDINAL JOINTS. FURNISH ALL ACCESSORIES AS REQUIRED, INCLUDING STAINLESS TEEL FASTENERS

CAULKING

ALL WINDOWS, FLASHING, CRACKS, JOINTS, ETC. SHAL BE PROPERLY CAULKED WITH AN APPROVED CAULKING COMPOUND AND SUCH SHALL BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

CAULKING MATERIAL SHALL BE URETHANE BASED AI MANUFACTURED BY DOW-CORNING CO., 3M, OR GENERAL ELECTRIC CO.

HOLLOW METAL FRAMES AND DOORS

METAL DOOR FRAMES SHALL BE FORMED OF #16 U.S. STANDARD GAUGE STEEL FOR DOOR OPENINGS INDICATED. CORNERS HALL BE MITERED, WELDED AND GROUND SMOOTH, COLD ROLLED, ANNEALED STEEL. REINFORCE JAMBS FOR HARDWARE AND PROVIDE AS REQUIRED. TEMPORARY STEEL ANGLE SPREADERS SHALL BE WELDED AT BOTTOM OF DOOR FRAMES TO ENSURE ALIGNMENT. FRAMES SHALL BE AS MANUFACTURED BY STEEL CRAFT, SECURITY, PIONEER OR APPROVED EQUAL.

METAL DOORS SHALL BE OF FLUSH TYPE CONSTRUCTION OF 16 GAUGE SHEET OUTER SHELLS WITH VERTICAL STIFFENERS SPACED AT 6" IN CENTER. DOOR SHALL BE REINFORCED, DRILLED AND TAPPED TO RECEIVE HADWARE. AFTER ASSEMBLY, THOROUGHLY CLEAN. GRIND ALL WELDS AND JOINS SMOOTH, FILL FLUSH WITH MINERAL FILLER TO CONCEAL SEAMS. APPLY TWOCOATS OF MANUFACTURER'S STANDARD BAKED-ON RUST INHIBIT PRIMER. DOORS SHALL BE AS MANUFACTURED BY STEEL CRAFT, SECURITY PIONEER OR APPROVECEQUAL

WOOD DOORS

DOORS SHALL BE I 3/4" INCHES THICK W/ SOLID ION-RATED CORE COMPLYING W AWI SECTION 1300, PC5 EXCEPT DOORS SHALL HIVE I 1/8" INCH MEDIUM WIDTH HARDWOOD STILES MATCHING FACE VENEER

VENEER TO BE "YELLOW BIRCH" NATURAL SPECIE, ROTARY SLICED. FACING QUALITY TO BE EQUAL TO AWI, PREMIUM GRADE.

DOORS TO BE FACTORY MACHINED FOR HARDWARE. SHOULD TRIMMING BE REQUIRED TRIM EQUALLY FROM OPPOSING SIDES.

FACES, STILES AND BOTH RAILS TO BE SEALED (AFTER NECESSARY TRIMMING) PRIOR TO INSTALLATION. DO NOT SEAL DOORS NTIL BUILDING HAS REACHED THE AVERAGE PREVAILING RELATIVE HUMIDITY O' LOCALITY

DELIVER DOORS TO PROJECT SITE AFTER MOISTURE PRODUCING OPERATIONS ARE COMPLETE.

PROVIDE WRITTEN GUARANTIEE FROM DOOR MANUFACTURER STATING THAT DOORS WILL NOT DELAMINATE OR SHOW WARPAGE OF MORE THAN 1/4" FROM A TRUE PLANE FOR ONE YEAR! FROM THE DATE OF ACCEPTANCE BY OWNER. TELEGRAPHING OF TOP AND BOTTOM RAILS, INTERMEDIATE RAILS, REINFORCING OR STILES SHALL ALSO CONSTITUTE A FAILURE TO PERFORM UNDER THIS GUARANTEE.

STOREFRONT, GLASS AND GLAZING

REFER TO PLANS, AND DETAILLS AND FOR SIZE, AND TYPE.

MATERIALS: ALL GLASS AND GLAZING SHALL BE IN ACCORDANCE WITH THE STANDARDS AND RECOMMENDATIONS OF THE CURRENT EDITION OF THE GLAZING MANUAL OF THE FLAAT GLASS JOBBERS ASSOCIATION

A. EACH PIECE OF GLASS SHALL BE LABELED, NOTING THE NAME OF THE MANUFACTURER, GRADES, QUALITY AND TYPE. LABELS SHALL BE INTACT BEFORE AND AFTER INSSTALLATION.

EXTERIOR GLASS SHALL BE 1//2" CLEAR, FULLY TEMPERED WITH BUTT GLAZED JOINTS, JOINTS NOT TO EXCEED 3/8" GAP NOR LESS THAN 1/4". SEAL JOINTS WITH COMMERCIAL GRADE NEGUTRAL CURE, CLEAR SILICONE. ACID CURE SILICONE WILL NOT BE ACCEPPTED. APPLICATION SHALL BE TAPE AND TOOL

MIRRORS SHALL BE "A" QUAL_ITY 1/4" THICK POLISHED PLATE WITH FULL STAINLESS OR ALUMINUM FRAME AND CONCEALED FASTENERS.

STOREFRONT SHALL BE EQUALL TO VISTAWALL ARCHITECTURAL PRODUCTS, OTHER APPROVED MANUFACTTURERS ARE KAWNEER CO. AND EFCO.

ALL ALUMINUM STOREFRONT FFRAMING AND DETAILS INDICATED ON THE DRAWINGS AND/OR DETAILS, SHALL BE FEQUAL TO VISTAWALL SERIES 2000. THE FRAMING SHALL BE ACCURATELY ASSEMBLED WITH UNEXPOSED FASTENERS UTILIZING EXTRUDED SPLINES, CLIPS ANNO/OR SNAP-IN FEATURES. ALL GLAZING SHALL BE HELD IN PLACE BY E.P.D.M. GLAZING GASKETS. NO APPLIED STOPS SHALL BE PERMITTED. ALL EXPOSED SURFACES SHALL BE FREE OF UNSIGHTLY SCRALTCHES AND BLEMISHES. THE FINISH SHALL BE ANODIZED ALUMINUM.

FINISH OF ALL SILL FLASHINGS SHALL BE .040" ALUMINUM TO MATCH STOREFFRONT MATERIAL

DOOR FRAMES FOR ENTRANCE DOORS SHALL BE ALUMINUM STOREFRONT FRAME WITH CUT OUTS AND BRACKING PLATES FOR (3) BUTT HINGES FOR EACH DOOR LEAF. LOCATION OF HINGES TO BE COORDINATED BY GENERAL CONTRACTOR WITH STOREFRONT SUBCONTRACTOR

ALL DOOR AND FRAMING SECCTIONS SHALL BE EXTRUDED ALUMINUM ALLOY AND TEMPERED TO MEET OR I EXCEED FINISHING AND STRUCTURAL CRITERIA. DOOR STILES AND RAILS, EXCCLUDING GLASS STOPS, SHALL BE TUBULAR AND HAVE 0.125" WALL THICKNESS. ALL WEATHERING SHALL BE HARDBACKED SILICONE TFREATED POLYPROPYLENE. ANY EXPOSED FASTENERS SHALL BE ALUMINUM, STAINLESS STEEL OR OTHER NON-CORROSIVE MATERIAL. DOODR VERTICAL STYLES SHALL BE NOMINAL 4-1/4", DOOR TOP RAIL SHALL BE NOMINAL 3-1/2", AND DOOR BOTTOM RAIL SHALL BE A MINIMUM OF 8-1/2". ALL DIMENSIONS NOTED ABOVE ARE WITH GLASS STOPS ON.

ALL EXPOSED SURFACES SHALL BE FREE OF UNSIGHTLY SCRATCHES AND BLEMISHES . THE FINISH SHALLL BE ANODIZED, AS PER VISTAWALL ARCHITECTURAL PRODUCTS STANDARD

DOOR STILES AND RAILS SHALL BE ACCURATELY JOINED AT CORNERS WITH WITH CONCEALED REINFORCEMENT BRACKETS SECURED WITH BOLTS AND SCREWS, AND SHALL BE "MIG" WELDED). DOORS SHALL HAVE SNAP-IN STOPS WITH BULB GLAZING VINYL ON BOTH SIDEES OF GLASS. NO EXPOSED SCREWS SHALL BE PERMITTED. EACH DOOR LEAST SHALL BE EQUIPPED WITH AN ADJUSTING MECHANISM LOCATED IN THE TOP RAIL NEAR THE LOCK STILE WHICH PROVIDES FOR MINOR CLEARANCE ADJUSTMENTS AFTER INSTALLATION, WEATHERING SHALL BE INSTALLED IN THE HINGE STILE OF PAIRS OF DOORS. DOOR FRAME AND SIDE-LIGHT FRAMING SHALL BE ACCURATELY JOINED AT CORNERS WITH CONCEALED SCREWS

DESIGN CRITERIA FOR WIND LLOADS SHALL BE IN ACCORDANCE WITH ASCE-7-98 DESIGN WIND VELOCITY OF 1000 M.P.H., BUILDING IMPORTANCE FACTOR OF 1.15

ALL HARDWARE FOR ENTRANGE DOORS, WITH THE EXCEPTION OF THE CYLINDERS, SHALL BE FURNISHED AND INSTALLED BY ALUMINUM STOREFRONT CONTRACTOR AS FOLLOWS:

1-1/2 PAIR OF 4-1/2" BUTITS

ADAMS-RITE 8400 SERIES MORTISE EXIT DEVICE LCN SUPER SMOOTHEE MOUNTED PARALLEL ARM WITH DROP PLATE

BUG SWEEP WITH SLIDE ON COVER

MANUFACTURER'S STANDOARD WEATHERSTRIPPING PH - II PULL HANDLE ON EXTERIOR

ALL HARDWARE SHALL. BE FINISHED AS SELECTED BY THE OWNER.

ALL ITEMS SHALL BE SET IN THEIR CORRECT LOCATIONS AS SHOW ON THE DRAWINGS AND SHALL BE LEVEL, SQUARE, PLUMB, AND AT PROPER ELEVATION AND IN ALIGNMENT WITH OTHER WORK. THIS CON'ITRACTOR SHALL DO ALL CAULKING AND SEALING ASSOCIATED WITH HIS WORK.

SEAL ALL JOINTS. FRAMING I MEMBERS SHALL BE SCREWED IN PLACE USING BACKING, ANCHOR PLUGS, OR STRAPS FAS REQUIRED. WHERE MOLDINGS ARE JOINED, THEY SHALL BE ACCURATELY CUT PAND FITTED TO RESULT IN A TIGHTLY CLOSED HAIR-LINE JOINT. NO UNFINISHED ALLUMINUM SHALL BE VISIBLE.

DOORS SHALL OPERATE FREELY AND SHALL NOT RATTLE WHEN CLOSED. SWING TYPE DOORS SHALL HAVE HEAD AND JAMB CLEARANCE OF 3/32" PLUS OR MINUS 1/32",

AFTER ERECTION, THE CONTRACTOR SHALL PROTECT EXPOSED PORTIONS FROM DAMAGE BY MACHINES, PLAS, TER, LIME, PAINT, ACID, CEMENT, OR OTHER HARMFUL COMPOUNDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF PROTECTIVE MATERIALS AND CLEANING PEER STOREFRONT FRAMING MANUFACTURER'S PRINTED INSTRUCTIONS.

FINISH HARDWARE

ALL HARDWARE SHALL BE GUJARANTEED FOR A PERIOD OF TWO (2) YEARS AFTER INSTALLATION, CONTRACTOR SHALL PROVIDE WRITTEN GUARANTEE

2. ALL LOCKS SHALL BE CONSTRUCTION KEYED. ALL PERMANENT KEYS AND CONSTRUCTION KEY TOOL SHALL BE GIVEN TO OWNER ONLY. KEYING SHALL BE AS PER DIRECTION OF OWNER.

VENEER PLASTER AND EFS (EXTERIOR FINISH SYSTEM)

ALL WALLS, PARTITIONS, CEILINGS AND OTHER SURFACES AS CALLED FOR SHALL BE COVERED WITH 1/2" (GMB) AS MANUFACTURED BY U.S.G. CO. GYP BOARD SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S LATEST SPECIFICATIONS INCLUDING ALL METAL GROUNDS. BEADS, FURRING, ETC.

2. ALL GWB SURFACES WHICH ARE TO REMAIN EXPOSED SHALL BE FINISH TAPED AND SANDED SMOOTH.

USE WATER RESISTANT (GREENBOARD) GYP BOARD AT ALL AREAS EXPOSED TO MOISTURE AND FOR ALL WALLS RECEIVING CERAMIC TILE, SUCH AS SERVICE, STORAGE ROOMS, TOILET ROOMS, MECHANICAL ROOM, ETC.

VENEER PLASTER TO CONFORM TO A.S.T.M. C587 MIX AND APPLICATION PER MANUFACTURERS RECOMMENDATIONS.

CERAMIC TILE

TILE TO BE STANDARD GRADE COMPLYING WITH THE CURRENT REQUIREMENTS OF THE TILE COUNCIL OF AMERICA (TCA) AND INSTALLED PER TCA AND THE TILE MANUFACTURER RECOMMENDATIONS.

FINISH, COLOR, SIZE AND PATTERN OF TILE TO BE SELECTED BY THE OWNER. PROVIDE ALL REQUIRED TRIM PIECES FROM SAME MANUFACTURERS AS TILE.

3. MANUFACTURES EQUAL TO DAL-TILE WILL BE CONSIDERED

PROVIDE GRADE A MARBLE THRESHOLDS AND WINDOW SILLS AT LOCATIONS AND SIZES INDICATED. SPLICES IN LESS THAN 6'-O" WILL NOT BE ACCEPTED.

GROUT AND SETTING BED COMPONENTS SHALL BE AS RECOMMENDED BY TILE MANUFACTURER.

SUSPENDED CEILING SYSTEMS

METAL SUSPENSION SYSTEM SHALL BE AS MANUFACTURED BY ARMSTRONG UNITED STATES GYPSUM, CHICAGO METALLIC OR, AN APPROVED EQUAL.

PROVIDE ALL REQUIRED BRACING AND BACKING FOR ARCHITECTURAL TREATMENT INDICATED ON THE PLANS.

3. 2 X 2 LAY-IN ACOUSTICAL TILE SYSTEM SHALL BE ARMSTRONG, U.S. GYPSUM, OR EQUAL

SUBMIT SAMPLES FOR OWNER'S APPROVAL

CONTRACTOR SHALL PROVIDE OWNER WITH ONE (I) EXTRA BOX OF EACH TYPE TILE USED ON THE PROJECT.

RESILIENT FLOORING AND BASE

INSTALL IN CHECKERBOARD FASHION IN COMPLETE ACCORDANCE WITH MANUFACTURER'S DIRECTIONS AND SPECIFICATIONS.

CONTRACTOR TO SUPPLY OWNER WITH ONE ADDITIONAL FULL BOX OF REPLACEMENT TILE FOR EACH COLOR AND TYPE USED.

3. PROVIDE 4" COVED VINYL BASE EQUAL TO KENTILE OR ROPPE.

PAINTING

ALL PAINT MATERIAL SHALL BE OF FIRST QUALITY.

ALL HOLES, CRACKS, ETC. SHALL BE FILLED AND SANDED SMOOTH.

HOLIDAYS, BRUSH MARKS AND PAINT SPOTTING IS NOT ACCEPTABLE AND SHALL BE CORRECTED.

SURFACE PREPARATION AND APPLICATION OF PAINT AND STAIN MATERIALS SHALL BE DONE IN STRICT COMPLIANCE WITH MANUFACTURER'S SPECIFICATIONS.

ALL WOOD SURFACES TO BE NATURAL FINISH AND SEALED OR STAINED AND SEALED. USE FILLERS AS REQUIRED. USE APPROVED STAIN, SEALER AND FILLER APPLIED IN STRICT COMPLIANCE WITH LATEST MANUFACTURERS SPECIFICATIONS. USE MINWAX OR OLYMPIC STAIN SEALER AND FILLER, OR EQUAL.

ALL EXTERIOR HOLLOW METAL SHALL RECEIVE TWO COATS OF PAINT OVER SHOP APPLIED PRIME COAT, UNLESS OTHERWISE NOTED. PAINT COLOR SHALL BE SELECTED BY OWNER.

TOILET ROOM ACCESSORIES

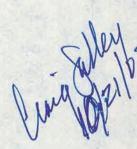
PROVIDE AND INSTALL ALL TOILET ROOM ACCESSORIES, GRAB BARS, T.P. HOLDERS, MIRRORS, ETC. AS CALLED FOR ON DRAWINGS. MOUNTING HEIGHTS SHALL BE IN CONFORMANCE WITH CODE REQUIREMENTS IN THE FLORIDA BUILDING CODE.

IAT SIGN

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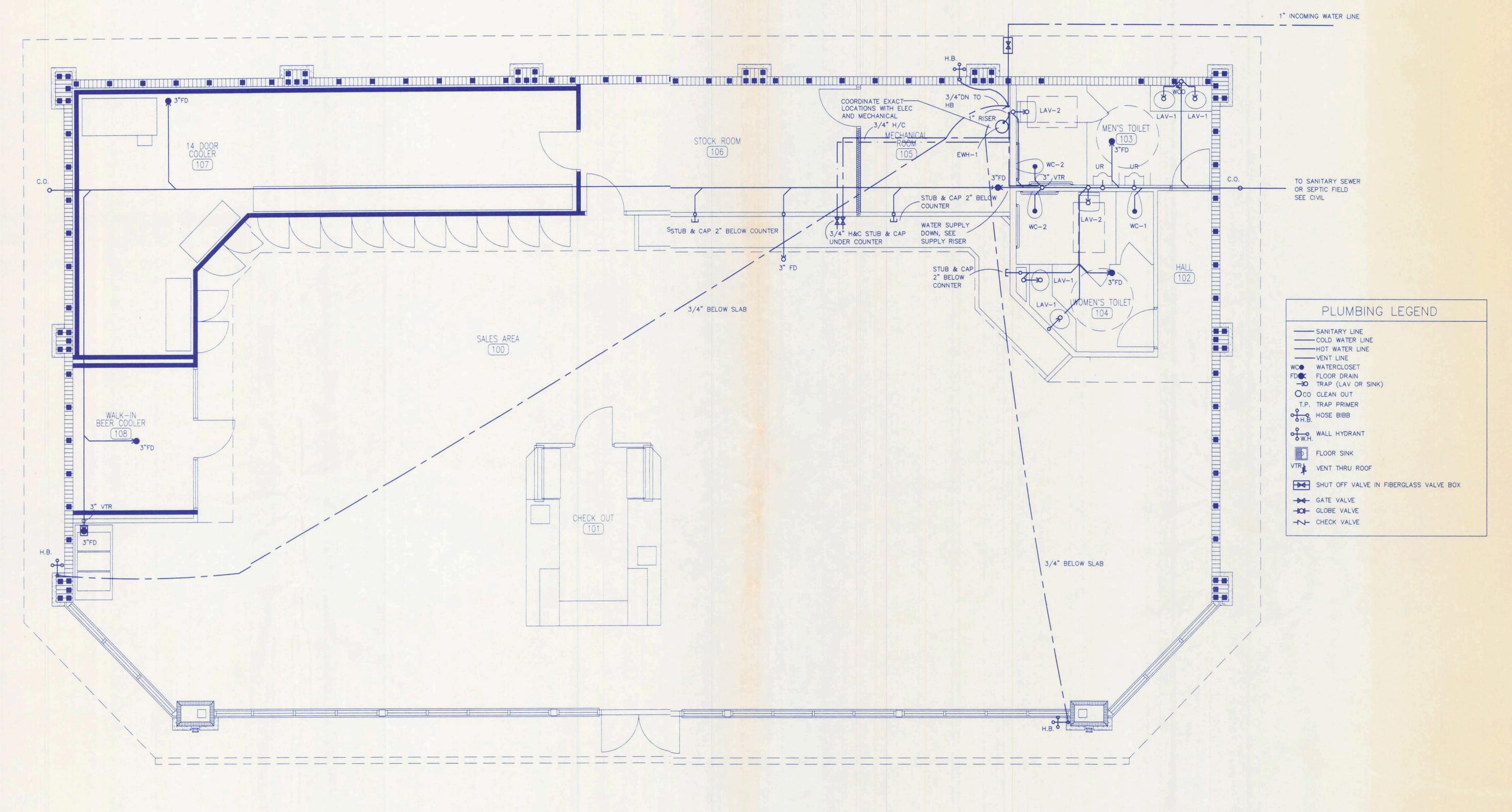


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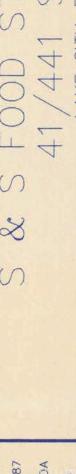
SP-2





PLUMBING PLAN

1/4 = 1'-0"



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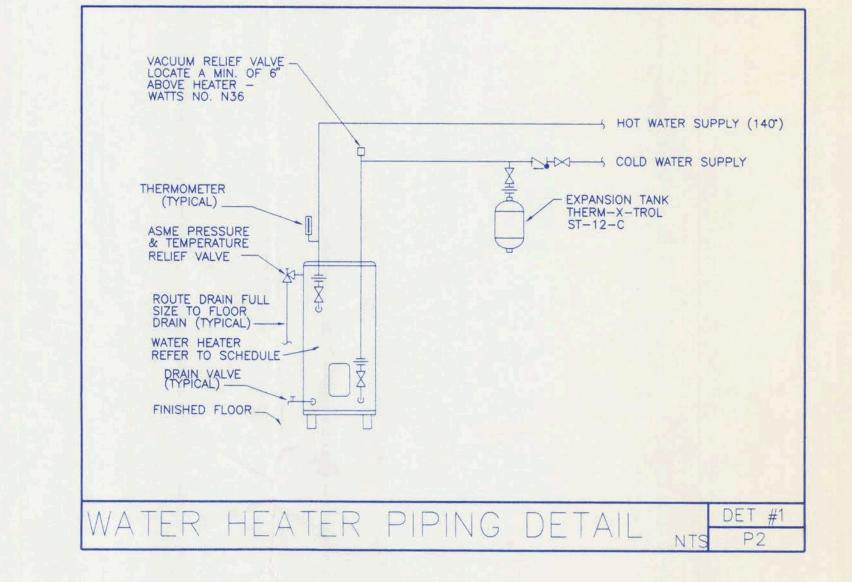
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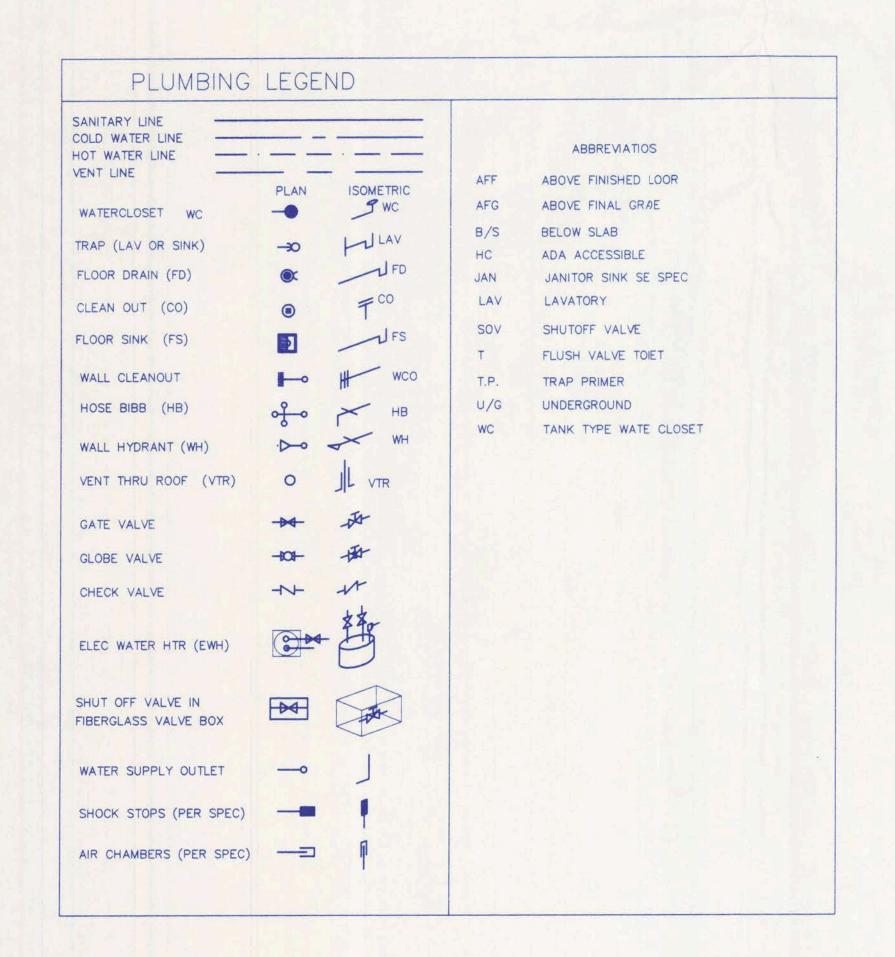
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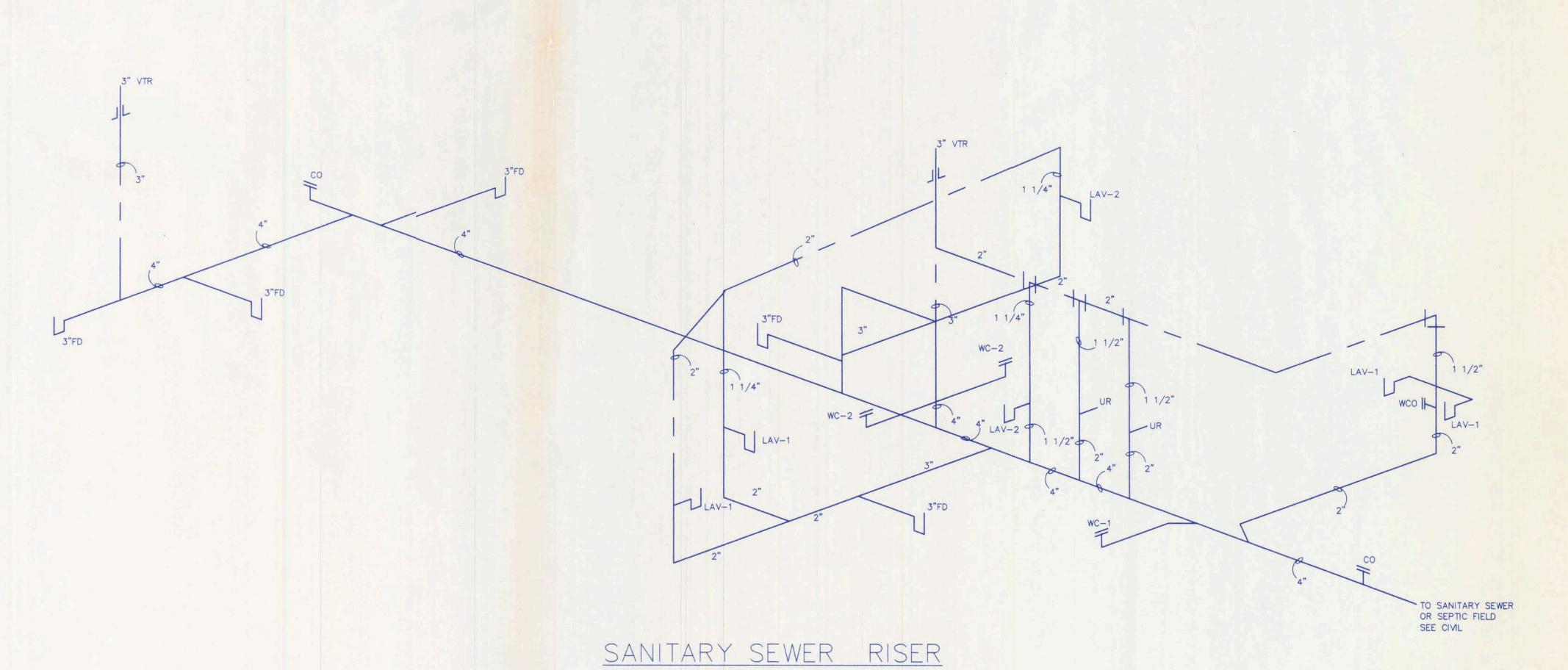
	TO HOSEBIBBS
	1 \ \ 3/4"TYP
	3/4" H/C 1" COLD
	1"0
	EXPANSION TANK SEE DETAIL 1/M2 SS-1 1/2"H/C SS-1
	3/4" H EWH-1
SS-1	
SS-1	3/4" H SS-1 WC-2
	1"C LAV-2
93	UR UR
1/2" H/C	1" UR LAV-1
	WC-2 3/4" LAV-1
LAV-1	1" SS-2
LAV-1	
	w_{C-1}

WATER	SUPPLY	RISER
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MARK	DESCRIPTION	MANUFACTURER	MODEL	FITTINGS OR VALVES	SUPPLIES	TRAP	MOUNTING	ACCESSORIES	COLD	нот	WASTE	VENT	REMARKS
WC-1	WATEFROLOSET	AMERICAN STANDARD	CADET 2292.100(VERIFY) 1.6 GPF	BRASS SUPPLIES AND STOPS		INTEGRAL	FLOOR	SEAT	1/2"		3"	2"	STANDARD HEIGHT- PRESSURE ASSIST
WC-2	WATEFROLOSET	AMERICAN STANDARD	CADET 2168.100(VERIFY)	BRASS SUPPLIES		INTEGRAL	FLOOR	CHURCH #9500C	1/2"		3"	2"	HAN.CAP HEIGHT-PRESSURE ASSIST
LAV-1	DROPP-IN LAVA TORY	AMERICAN STANDARD	AQUALYN 0476.028	RELIANT 2385.003	BRASS CRAFT OCR1912AZ	CHROME BRASS	COUNTERTOP	GRID STRAINER	1/2"	1/2"	1 1/4"	1 1/4"	HOT TEMP LIMIT STOP
LAV-2	HANDDICAP LAVA TORY	AMERICAN STANDARD	ROXALYN 0195.073	RELIANT 2385.003	BRASS CRAFT OCR1912AZ	CHROME BRASS	WALLBRACKET	GRID STRAINER	1/2"	CAP	1 1/4"	1 1/4"	SUPPLY W/TRAP INSULATION KIT ADA COMPLIANT
UR.	URINNAL	AMERICAN STANDARD	MAYBROOK 6581.015	SLOAN ROYAL 186-1		INTEGRAL	WALLBRACKET		3/4"		2"	1 1/2"	MTG.HT. PER ARCH. ELEVATIONS ADA COMPLIANT
JAN	JAN 1 SINK	STERN WILLIAMS SERVICE - CEPTOR	SBC-1502	T-15VB	11		FLOOR	T-35 HOSE T-40 BKT	1/2"	1/2"	2"	1 1/2"	MOP SINK







maintained, the Architect shall have the authority to require disassembly (piping as he

1. Any disassembly, cleaning or repair shall be at no additional expense to the Owner.

2. Disinfection, flushing and testing shall be repeated upon reassembly of he piping.

shall deem necessary to determine the cause of contamination.

PIPE AND FITTINGS	
A. Refer to "PIPING SCHEDULE" on drawings. B. Any manufacturer engaged in the production of pipe, fittings and associated materials and	
who test, inspect and certify that said materials meet or exceed the ASTM designation for that material shall be acceptable. C. Inspection for Underground Piping:	
Examine areas to receive underground piping for: a. Complete excavation to elevations and slopes indicated.	
b. Obstructions which would interfere with drainage system installation. 2. Begin work only when conditions are satisfactory. D. Inspection for above—Ground Piping:	
1. Examine areas to receive piping for: a. Obstructions.	
b. Work to be done prior to other construction. c. Work of other trades in other areas. 2. Begin work only when conditions are corrected satisfactorily.	
Installation of Underground Piping	
Excavation: a. Excavate trenches of sufficient width for proper installation of pipe. b. Sheet and brace trenches as necessary to protect workmen and adjacent	
structures. c. Comply with current OSHA standards.	
2. Final grading of trench: a. Perform final grading of trench bottoms by hand tools; carry machine excavation only to such depth that soil bearing for pipes will not be	
b. Grade bottom of trenches evenly to insure uniform bearing for all piping.	
c. Cut holes as necessary for joint making. d. Keep trenches free from water while construction is in progress. e. Use surveyor's level to establish elevations and grades.	
f. Machine excavation shall be held a sufficient distance from foundations and footings.	
g. Provide and maintain barricades and temporary bridges around excavations as required for safety. h. Water lines may be benched above sanitary lines in same trench if they are	
18 inches or more above the sanitary line. i. Minimum bury depth for water piping shall be 24 inches.	
j. Grade horizontal drainage 1/4 inch per foot minimum. k. Install same type material specified for the inside building to 8 feet outside building.	
3. Backfill: a. Backfill for all sewer lines shall be placed in accordance with	
manufacturer's printed instructions. b. Backfill trenches only after piping has been inspected. c. The backfill below paved areas and walks shall be brought to within 6	
inches of finished grade; the remaining six inches shall be backfilled with clean topsoil. d. The backfill below sodded or seeded areas shall be brought to within 6	
inches of finished grade; the remaining six inches shall be backfilled with clean topsoil.	
e. Provide and place any additional fill material from off the site as may be required for backfill. F. Installation of above—Ground Piping:	
1. Pipe supports. a. Support piping as specified in Section 15094 for permanent installation.	
b. Pipe shall be adequately supported during construction with blocking or slings to prevent injury to personnel or damage to equipment or materials. 2. Exposed piping.	
a. Run exposed piping true and level. b. Run vertical exposed piping plumb. c. Run exposed piping with as few elbows and bends as possible.	
d. Group piping wherever practical at common elevations. e. Install concealed pipes close to building's structure to keep furring to a	
minimum. f. Slope water piping 1 inch in 40 feet and arrange to drain at low points. g. On closed systems, equip low points with 3/4 inch drain valves and hose	
nipples.	
COPPER PIPE A. Domestic Water Supply Above Grade or Slab 1. Type L, Hard copper	
2. Joints a. Solder using lead-free solder and non-corrosive flux	
3. Fittings a. Wrought copper or cast brass b. Steel fittings prohibited.	
B. Water Supply Below Grade or Under Slab (Larger than 3/4") 1. Type K hard drawn copper tubing.	
2. Joints a. Solder using Silver solder or "Sil—Fos." 3. Fittings:	
PLASTIC PIPE AND FITTINGS	
A. Vent piping (Above grade). 1. Piping shall be PVC	
2. Polyvinyl Chloride (PVC) — ASTM D-1784-60T a. Schedule 80	
b. Type 1, Grade 1 c. Pipe shall bear NSF seal and ASTM designation 3. Joints	
a. Bonded joints using adhesive per manufacturer's recommendations 4. Fittings	
a. PVC - ASTM D-2665-69. b. ABS - ASTM D-2661-69. B. Sanitary piping (Below Grade).	
1. PVC a. Schedule 80.	
b. Type 1, Grade 1. c. Pipe shall bear ASTM designation and NSF seal 2. Joints	
a. Bonded joints using adhesive per manufacturer's recommendations 3. Fittings	
a. PVC - ASTM D-2665-69 TRAPS	
A. General 1. All fixtures shall be trapped according to the Standard Plumbing Code. 2. All traps shall be the same size as the pipe in which they are installed or as; sized on	
the Drawings. 3. All traps above grade shall have a clean—out plug in the bottom of the trap. 4. All traps above grade shall be cast brass with chrome finish.	
5. All traps below grade shall be cast iron. 6. No trap below grade shall be less than 2 inches.	
7. No fixture shall be double trapped. SHOCK ABSORBERS	
A. Furnish and install shock absorbers on all domestic water piping as shown on tithe drawings, and/or specified in this section.	
B. Acceptable Manufactures 1. Wade	
2. Josam C. Description 1. Heavy duty casing	
2. Minimum burst pressure — 4500 psig. 3. Nested bellows with built in stop. 4. Operating temperature 100 to 300 degrees F.	
5. Permanently sealed charge of non-combustible gas. 6. All stainless steel.	
7. Designed and built in accordance with plumbing and drawing standard PDI-WH201. D. Model Numbers (Zurn numbers used for reference only)	
1. SS-1, MODEL 1250 - A - 1/2" 2. SS-2, MODEL 1250 - B - 3/4"	
3. SS-3, MODEL 1250 - C - 1" 4. SS-4, MODEL 1250 - D - 1" 5. SS-5, MODEL 1250 - E - 1"	
6. SS-6, MODEL 1250 - F - 1" PIPE HANGERS AND SUPPORTS	
A. All piping shall be supported by pipe hangers, clamps, clips or supports as specified in this Section.	
B. All clevis type hangers shall have a minimum of 1 1/2 inches of vertical adjustment by	

C. All adjustments shall be positively secured by a locknut or setscrew.

Hangers shall support the pipe size for which they are manufactured.

. Acceptable Manufactures

2. Fee and Mason

using turnbuckles and/or threaded rods.

All clamps, hangers, clevis, etc. shall be steel.
Pipe hangers in direct contact with copper shall be copper or lead plated, or of an approved dielectric material. Installation:
. All piping shall be supported from structural building members, i.e. block, beams, columns, purlines, floor joists, etc.
Piping shall not be supported from ceiling tile or grids, conduit, mechanical equipment, ductwork or non-structural steel.
3. Perforated strapping may be used only for piping 3/4 in. or smaller and only when concealed in walls or ceilings. 4. Hangers for piping run flush along the walls shall be stamped steel straps similar to
conduit straps for pipe sizes two (2) inches and smaller. 5. Hangers for piping run flush along the walls shall be steel wall brackets with steel
clevis type hangers and threaded rod supports for pipe over two (2) inches. 5. Hangers for piping not run along walls shall be clevis type hangers with threaded
rod supports for all piping over 3/4 inches. Spacing:
1. Vertical runs of piping not over 15 feet long shall be supported by hangers placed not over one foot from elbows or connecting horizontal run. 2. Hangers shall be placed so as to prevent sag and permit proper drainage.
3. Hangers shall not be placed at more than the maximum distances shown on the Table below
Pipe Size Max. Span - Ft. 1/2 and 3/4 6
1 and 1-1/4 8 1-1/2, 2, 2-1/2 10
3 and 4 12 5 and 6 14 8 and larger 16
4. Concentrations of valves and fittings will require closer spacing. Hanger Attachments:
1. Pipe hangers shall be attached to structural steel by heavy steel clamps. a. Clamps shall be bolted to steel or welded. 2. Pipe hangers or clamps shall be attached to walls by means of expansion bolts
(shields).
IIONS
Size
. All unions shall be the same size as the line in which they are installed unless noted otherwise.
Location Unions shall be located between the shut—off valve and each of the following: a. Inlet and outlet to all water heaters
b. Lavoratories and sinks c. Water coolers
d. Water closets and toilets e. Inlet and outlet of cooling coil
f. Inlet and outlet of pumps 2. Where final fixture connection is made by compression—type fitting, unions shall not be required.
a. This exception does not apply to water heater. Acceptable Manufacturers
2. Crane 2. Jenkins
8. Vogt 4. Stockman
Unions for 2-1/2 inches and smaller copper 1. Brass ground joints, brass body 2. 150# rated
3. Sweat to threaded to match the system in which they are installed Install in locations where wrenches can be used on each half of the union with enough
clearance for at least 180 degrees of rotation on a 6" pipe wrench. LVES, COCKS AND FAUCETS
Hot, cold, and/or tempered water
a. Bronze Gate Valve
2. Shutoff valves below grade a. Bronze Gate Valve (1) Install in fiberglass box with cover
5. Drain valves a. Bronze Gate Valves
Acceptable Manufacturers . Crane
2. Vogt 3. Sterling 4. Nibco
Bronze gate valves: 3 inch and smaller
a. Rising stem, wedge disc gate, bronze body b. 200 psi, water, oil, gas
c. Stuffing, box and brass gland, screw-in bonnet d. Threaded ends
e. Model equal to Nibco T—111 Bronze Globe Valve 3 inch and smaller
a. Rising stem, bronze only b. 150 psi, water oil gas
c. Stuffing box, brass gland, screw-in bonnet d. Threaded ends
Hose Bibbs 2. 3/4" Female thread inlet 2. 3/4" Male thread hose outlet
3. Rough chrome plated 4. Loose—key type
5. Provide with vacuum breaker 5. Model
a. Equal to Chicago No. 3877-E27, Nibco 763-LS or equal 7. Provide with vacuum breaker.
Check Valve 1. Swing check valve
2. Screwed ends and cap 3. Bronze ground disc 4. 200 lb WOG
5. NIBCO T413 or equal Wall Hydrant WH
1. Fully recessed with "key" operated cover. 2. 3/4" felmale inlet
3. 3/4" male threaded hose outlet 4. Rough chrome plated
5. Vacuum breaker. RESSURE - TEMPERATURE RELIEF VALVE
. Supply a pressure relief valve on each hot water heater and hot water booster heater tank. Valve size, pressure, and temperature rating shall be as specified by the tank manufacturer,
except that in no case shall the valve be smaller than 3/4 inches inlet and outlet. Valve shall have a handle for manual operation and testing.
. Valve shall be cast brass or bronze. . Pipe the outlet of the pressure—temperature relief valve to outside of building and
terminate 2" above grade or per local code. SULATION Provide signs inculation on all piping designated on the "Piping Schedule" shown on
Provide piping insulation on all piping designated on the "Piping Schedule" shown on rawings and per Florida Energy Code. Min R4 per inch. Acceptable Manufacturers
Johns-Manville Certainteed
Fiberglass Insulation Rigid lightweight heavy density fiberglass with jacket.
Temperature applications to 650 F. Insulation, jacket, and adhesive shall be tested under procedure ASTM E-84, NFPA 255, and UL 723, not exceeding
a. Flame spread — 25. b. Smoke developed — 50.
Equal to Johns—Manville Micro—Lok 650 AP—T. Closed Cell Rubber Insulation
1. Closed cell, elastomeric tubular pipe insulation. 2. Tested under procedure ASTM E-84, NFPA 255, and UL 723 not exceeding
a. Flame spread — 30. b. Smoke density — 100. 3. Adhesive
a. Air drying contact cement b. Equal to Johns-Manville "Aerotube Elastomeric Pipe Insulation."

E. Install insulation only after pipe has been thoroughly inspected and tested and accepted by

the Architect, Engineer and State or local inspectors.

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F. All surfaces to receive insulation shall be cleaned of all dirt, grease, and moisture prior to
 installing any insulation.
G. Installation of Fiberglass Insulation:
 1. All insulation shall be continuous through wall and ceiling openings.
  Vapor barrier jackets shall be used on piping except domestic hot water.
 3. Hangers, supports, anchors, etc., that are secured directly to cold surfaces must be
   adequately insulated and vapor sealed to prevent condensation
  4. Metal shields shall be applied between hangers or supports and the pipe insulation.
 5. Shields shall be formed to fit the insulation and shall extend up to the centerline of
   the pipe and a minimum of 9 inches long.
 6. Shields shall be 16 gauge aluminum.
  7. Fittings shall be covered equivalent density insulation and covered with preformed
  PVC insulation fitting covers.
  a. Wrap fittings with insulation.
  b. Pop the preformed cover in place, tape or tack.
H. Installation of Closed-Cell Rubber.
  1. Make all cuts neatly with a razor blade or sharp knife.
 2. All longitudinal cuts shall be sealed with adhesive.
 3. All butt joints shall be made neatly and sealed with adhesive.
  4. Tape shall not be allowed on joints or seams.
 5. Insulation shall be applied in a relaxed state, not stretched or crushed.
 6. Fittings shall be insulated by fabricating tees, elbows or crosses as required from
  the tube insulation as described in manufacturer's literature.
 7. Valves shall be insulated up to the packing nut
 8. All insulation on exposed piping shall receive two (2) coats of paint, the same
  color as the wall against which it is mounted.
 9. Joints shall be sealed with adhesive as recommended by the manufacturer.
FLOOR AND SHOWER DRAINS
A. Acceptable Manufactureres
  1. Wade
  2. Josam
B. Floor Drains:
  1. Cast Iron floor drain with integral clamping collar.
  Seepage openings.
  3. Heavy duty grate, with vandalproof screws.
  4. Square top, polished brass.
  5. Adjustable top
  6. 4-inch outlet unless otherwise noted on Drawings.
  7. Model - equal to Wade, Series W - 1390.
 C. Shower Drains:
  1. Cast iron floor drain with integral clamping collar.
  Seepage openings.
  3. Heavy duty grate, with vandalproof screws.
  4. Square top, polished brass.
  5. Adjustable top.
  6. 4-inch outlet unless otherwise noted on Drawings.
  7. Model - equal to Wade, Series W - 1390.
  1. Cast iron floor drain with integral clamping collar.
  2. Sized as noted on Drawings.
  1. Floor drains shall be installed in the locations show on Plans.
 2. Care shall be taken that rim of floor drain is not higher than finished floor in order
   to prevent "Puddling" of water around the drain.
  3. Floor drain top shall be flush with finished floor.
 4. Hub drains shall extend 1 inch above finished floor per details.
CLEANOUTS AND ACCESS COVERS
 A: Provide cleanouts as shown on the Drawings or as required by Standard Plumbing Code.
 B. Acceptable Manufacturers
  1. Wade
 2. Josan
3. Zurn
C. Floor Cleanouts:
  1. Same size as drain pipe through 4 inches.
  2. Adjustable housing to match finished floor.
  3. Heavy duty top.
  4. Nickel brass secured cover.
 5. Ferrule as required to match soil pipe.
 7. Cover shall be marked "C.O."
 8. Model Number:
   a. Synthetic floor covering:
        Wade W-7030-D Series or equa
   b. Finished slab - no covering:
    (1) Equal to Wade W-7030 Series
    . Terrazzo finish:
    (1) Wade W-7010-U Series, or equal.
 D. Concealed Cleanouts:
   1. Cleanouts in crawl space or in unfinished mechanical rooms.
  2. Cast iron cleanout tee on T-wall with ferrule fitting and neoprene seal raised plug
  3. Same size as drain pipe through 4 inches.
 4. Position cleaout plug for easy access by electric eel.
  5. Model Number:
  a. Cleanout ferrule.
    (1) Wade W-8530-B Series or equal.
 E. Exposed Wall Cleanouts
   . Same size as pipe.
  2. Polished chrome cleanout cover over wall opening.
  . Install all cleanouts and coverplates flush with the finished floor in which they are installed.
  1. Any cleanout which presents a tripping hazard due to improper installation shall be
   removed and reinstalled.
DOMESTIC WATER HEATERS - ELECTRIC
A. Water heaters shall be UL listed, ASME constructed, and meet ASHRAE 90-80 energy
 efficiency standards
B. Acceptable Manufacturers
 1. A.O. Smith
 2. Lochinvar
  3. Teledyne Laars
 C. Electric Water Heaters
  1. Glass lining fused to steel tank
  2. Screw-in type, direct immersion
  3. Working pressure - 150 PSI
  4. Fully automatic thermostat controls with high temperature limit safety shutoff
  5. Screw-in anode corrosion protection
  6. Three-year warranty
 7. 3/4" inlet, outlet, and relief opening
 8. Outer jacket of baked enamel finish
D. Model and Capacity
 1. REFER TO ELECTRIC WATER HEATER SCHEDULE.
E. Install per manufacturer's recommendations
 F. Mount units on wall shelf where noted
F. Provide thermostatic relief valve on each unit
 PLUMBING FIXTURES
A. Furnish and install plumbing fixtures per Plumbing Fixture Schedule
1. Manufacturers and Model Numbers establish quality; equivalent fixtures by other
   manufacturers are acceptable.
 ELECTRIC WATER COOLERS (EWC)
 A. Acceptable Manufacturers
  1.. Oasis
   2. Halsey Taylor
  3. Elkay
 B. Regular Model

    Semi-recessed

    Stainless steel top, sides and front
  3. 14 inches from wall to front
 4. Self-closing pushbutton valve with optional "soft touch" handle
   (Part No. 023754.001, wrist blade).

5. Automatic pressure regulating valve
6. Mounting height - 31" floor to top of basin

  7. Water delivery:
   a. 14 GPH of 50 degrees F water
 8. Model and Manufacturer:
   a. Equal to Oasis Model ODP-14M
 9. Accessories:
   a. Furnish with 1-1/4" ground joint tubular, 17 gauge, chrome-plated
    P-trap, deep flange with brass nuts; less cleanout, Sterling 50190 or
     Dearborn 207-D-F-BN.
   b. Furnish with supply assembly equal to Kohler 7666 with loosekey stop and
     flexible 3/8" tube risers.
  C. Unit shall be installed on wall using bracket supplied by the manufacturer.
  Unit shall be blocked and supported per manufacturer recommendations.
 E. Unit shall be installed per ANSI Standard 117.1-1980, Section 4.15.
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MECHANICAL LEGEND

SUPPLY DIFFUSER, SEE DESINATION FOR TYPE

EXHAUST GRILLE, SEE DESINATION FOR TYPE

CONDENSATE DRYWELL, SEE DETAIL

CEILING MOUNTED EXHAUST FAN

DED TITTE DUCT MTD SMOKE DETECTOR

INLINE FAN WITH VIBRATION ISOLATION

ROOF MTD EXHAUST FAN WITH CURB, SEE SECHEDULE

ROOF MTD GRAVITY RELIEF OR INTAKE SEE SCHEDULE'

WALL LOUVER / INTAKE OR EXHAUST BY ARROW DIRECTION

THERMOSTAT (7) TTT TEMP SENSOR DUCT MTD

HUMIDISTAT HUMIDITY SENSOR DUCT MTD

DIFFER/GRILLE TYPE SEE SCHEDULE

TURNING VANES

VD MANUAL VOLUME DAMPER

C _ CONDENSATE DRAIN LINES

REFRIGERANT LINES

MOTORIZED VOLUME DAMPER

RETURN GRILLE, SEE DESINATION FOR TYPE

DUCT SCOOP TAKEOFF WITH BALANCING DAMPER

RETURN DUCT

EXHAUST DUCT

FRESH AIR DUCT

FLEXIBLE DUCT

ARC 3911

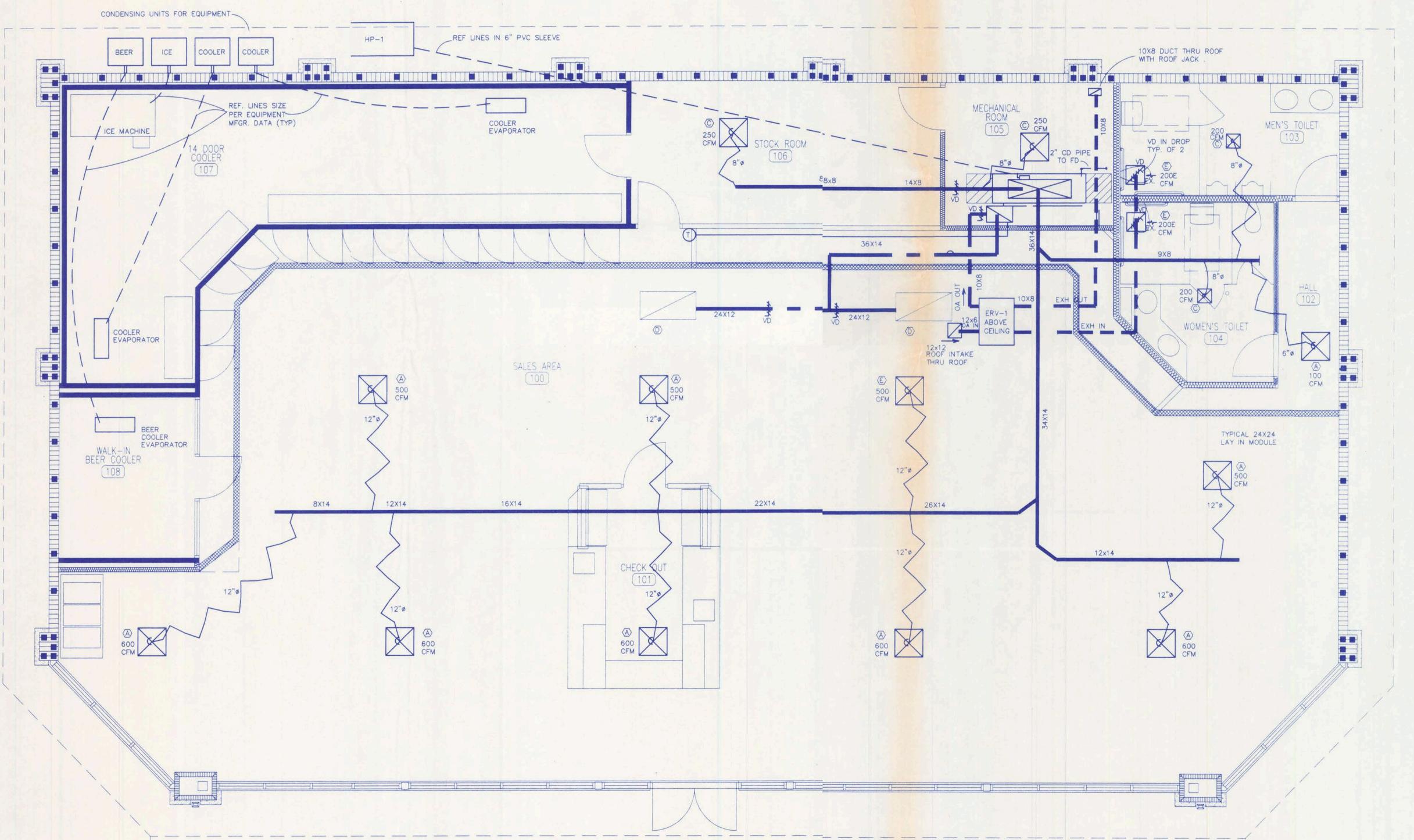
NOTE: DURING STORE HOURS AH-1 SHALL RUN CONTINUOUS FAN AND BE INTERLOCKED WITH ERV-1 WHICH SHALL ALSO RUN CONTINUOUSLY WHEN THE STORE IS CLOSED, ERV-1 SHALL BE OFF AND AH-1 SHALL CYCLE WITH THE THERMOSTAT.

MARK	TYPE	MANUF.	MODEL	NOM. CFM	NECK SIZE	PATTERN	N.C.	MAT'L	FINISH	MOUNTING	COMMENTS
A	SUPPLY	TITUS	TDCA-AA	500	12X12/12"ø	4WAY	<29	2	1	1	1,2
B	SUPPLY		TDCA-AA	100	6X6/6"ø	4WAY	<29	2	1	2	1
©	SUPPLY		250-L1	250	8X8	1WAY	<29	2	1	2	1
(D)	RETURN		FL		24X48	RET	<29	2	1	2	

MATERIAL: 1. STEEL 2. ALUMINUM 3. STAINLESS STEEL

1. WHITE ENAMEL 2. ANODIZED CLEAR 3. NATURAL

				С	FM	S	TATIC	FAN	WATTS	OUTDOOR C	ONDITIONS	INDOOR CON	DITIONS	SUPPLY AI	R COND
ARK	MANUFACTURER	MODEL NO.	AREA SERVED	SUPPLY	EXHAUSST	SUPPLY	EXHAUST	SUPPLY	EXHAUST	DRY BULB	WET BULB	DRY BULB	RH	DRY BULB	WET BULE
RV-1	GREENHECK	MINIV-450	ENTIRE BLDG	500	400	0.25	0.25	452	452	92	78	75	50	. 81.5	69



COORDINATE REGISTER/ GRILLE LAYOUTS WITH REFLECTED CEILING PLAN SHEET A-7

MECHANICAL EQUIPMENT SCHEDULE SPLIT SYSTEM HEAT PUMP (30) Split system heat pump shall be equal to A Trane TTA180B condensing unit and a Trane TWE180B air handler. Unit capacity shall be 185,000 BTUH total, 131,00 BTUH sensible. air flow 6000 CFM, EER=9.0, IPLV 10.3 Heating Capacity/COP shall be High — 172,000/3 Low — 90,000/2.1. Electric Heater model BAYHRM320A 14.96 KW © 208v 3 ph. AH single point connection, MCA= 66 HACR Bkr = 80A. Condensing unit power — 1 compressor © 24.7 amps, (1) condenser fan © 3.1 amps. MCA = 61.8 amp, Max HACR Breaker = 80 amps © 208 volts 3 phase HP-1/AHU-1

1. 24" X 24" LAY-IN
2. DRYWALL
3. GRILL BOTH SIDES
4. SQUARE/ROUND ADAPTER
5. SOFFIT
6. 3 WAY

COMMENTS:
1. OPPOSED BLADE DAMPER
2. EQUALIZING DEFLECTOR
3. 13/16" BORDER, 1/2" SLOT WIDTH, 8 SLOTS
4. 13/16" BORDER, 1/2" SLOT WIDTH, 6 SLOTS
5. 72" X 32" NOMINAL SIZE
6. 3 WAY 7. SIDEWALL

8. INSECT SCREEN

5. Controls shall be factory wired and located in a readily accessible location. Controls and protective devices shall include a liquid line low pressure switch, suction line HVAC SPECIFICATIONS A. It is the intent of these specifications to define the work and materials typically accumulator and pressure relief device. Control wiring terminal board shall be installed by a Mechanical Contractor. However, it is not intended to define a designed to match indoor unit terminal board and accessory thermostat terminals for subcontract between the Mechanical Contractor and the General Contractor. The standardized point-to-point connection. General Contractor is responsible for the entire project and any questions regarding E. Resistance Heater: 1. Heaters shall be wired for the number of stages of operation indicated on the scope of work shall be directed to the General Contractor. B. Work shall include all labor, materials, fixtures, equipment, tools and service necessary for installation, testing and adjusting of all mechanical systems shall be furnished and 2. Heaters shall be equippd with thermal and current overload devices as required by installed in compliance with the Drawings, Specifications, and any Addenda thereto. equipment listings and applicable codes. C. Drawings and Specifications shall be understood to cover, according to their intent and F. Refer to Mechanical Equipment Schedule for Model Numbers. meaning, complete mechanical systems. Work shown and not specified, or work specified and not shown shall be performed as though mentioned in both. D. Minor items and accessories reasonably inferred as necessary for the complete and proper operation of any system shall be provided by contractor or subcontractor for A. All exhaust fans mounted in the ceiling inside such system whether or not they are specifically called for. the building and ducted to the outside. E. Before submitting a bid, the Mechanical Contractor is to coordinate with the General B. Meet the specification for air delivery at static Contractor to ascertain, in detail, the division of work, and the extent of performance pressure as specified on the Equipment Schedule. other subs and the General Contractor. Meet the noise criteria (if specified on Schedule). F. All work shall be performed or installed in strict accordance with Florida Building Codes D. Be of the manufacture and model number specified 2001-Mechanical and all applicable rules, regulations and codes of local state and Federal in the Equipment Schedule or equal. Governments having lawful jurisdiction, and each contractor and subcontractor shall be responsible for such compliance. . Acceptable Manufacturers G. Fees for permits, inspections, patent use, royalties, etc. shall be paid by the contractor. H. All systems shall be tested for proper operation, rotation air supply, water supply, 1.. Penn ventilator 2. Carnes pressures, flows, balance, vibration, and appropriate interlocks as required by these 3. Greenheck specifications or manufacturers' recommendations. G. General I. All work shall be installed in accordance with the appropriate codes and satisfy the local 1. Acoustically insulated steel housing inspector having jurisdiction. 2. Baked enamel finish on housing J. Upon completion of each part of the mechanical system, the contractor shall demonstrate 3. Adjustable mounting brackets to the Engineer that each item on that system is installed with proper covers, safeties, 4. Automatic backdraft damper at the discharge duct controls, etc., and that all are in proper working order. 5. Lifetime lubricated motor K. A set of "red-lined" mechanical drawings shall be carefully maintained at the job site. 6. Terminal box on housing with cord, plug and Actual conditions are to be put on the drawings in red on a daily basis so the drawings receptacle inside the housing. will continuously show locations and routings of piping, ducts, grilles, equipment, valves, 7. Fan motor and wheel shall be removable without and any equipment specified on the drawings or in these specifications. removing entire fan housing. . Equipment and materials shall be new and meet or exceed specification requirements. 1. All products shall be current model for which replacement parts are available. M. Acceptable manufacturers are listed, additional manufacturers may request approval for A. All Supply and Return ductwork shall be fiberglass ductboard, minimum R6 their products up to 10 days in advance of bid. Engineer may require supplemental with internal coating of anti-microbial, polymer equal to Owens Corning EnDura Gold information prior to accepting or rejecting the alternate. N. All work shall be performed in compliance with OSHA regulations. B. All general exhaust ductwork shall be low pressure sheet metal. O. Job conditions shall be determined prior to bidding in the following manner: C. Fresh air duct from ERV shall be low pressure sheetmetal

1. Extenal insulation with 2" fiberglass duct wrap. 1. Site visit to determine: a. Existing conditions. b. How and where materials will be delivered and stored. D. Plenums shall be constructed and tested in accordance with SMACNA c. Special problems encountered during construction. 2. Examine all Contract Drawings and Specifications to determine. E. Where construction methods for various items are not a. Type of construction to be used. b. How construction or work will affect the work of this Section. indicated on the Drawings or specified herein, all such c. Nature and extent of work of other trades. work shall be fabricated and installed in strict accordance with the recommended methods, metal gauges, hanging procedures, access door and accessory installation, etc., 1. Contract Drawings show the arrangements and sizes of principal apparatus and as outlined, the latest edition of SMACNA'S Duct Manual devices to be provided under this Contract and connection thereto. These shall be and Sheet Metal Construction for Ventilating and Air followed as closely as actual building construction will permit. Conditioning System. 2. Dimensions of work as indicated on Plans are not guaranteed to be as-built d 1. Contractor shall make necessary repair and shall make 3. No measurements shall be scaled from Drawings and used as definite dimensions duct system ready for a leakage test. for layout or fitting work in place. 2. Test shall be performed by Test and Balance Contractor. 4. Layout of equipment, as shown on the plans, shall be checked and exact location 3. Leakage shall not exceed 1% leakage for high pressure determined by dimension if equipment approved by the Architect. duct and 5% for low pressure duct construction. 5. Consult the Drawings for all dimensions, locations of partitions, sizes of structural member, foundations, etc. 6. Do not make final layouts until shop or equipment drawings are approved and job DUCT HANGERS AND SUPPORTS conditions verified. A. All ductwork for air supply, return, fresh air 7. Mechanical reference symbols are given on the mechanical legend on the drawings. or exhaust shall be supported by duct hangers, Q. Rough-in: clamps, clips or supports. 1. Work included: a. Contractor shall rough-in for all equipment, fixtures, etc., in building B. Acceptable Manufactureres Duct hangers may be a manufactured item or field fabricated as required. whether or not such equipment is furnished by this Contractor or by C. Galvanized steel straps 1. Minimum 16 gauge and one inch wide 2. Method: a. Determine in advance the location and size of all openings and chases necessary for proper installation of all work and have openings and 1. All ductwork shall be supported from chases provided during construction. structural building members, i.e. block, beams, columns, purlins, joists, etc. b. Install all inserts for hangers and supports of mechanical work and 2. Ductwork shall not be supported from ceiling tile or grids, conduit, mechanical equipment, piping or non-structural steel. equipment work as general construction progresses. . Rough-in openings in masonry or stud walls shall be cut, not broken or 3. Ductwork hangers shall be attached to building steel by bolts, screws, clamps or welding. d. Sleeves shall be required at all points where piping passes through concrete E. Hanger Bands walls, slabs or masonry walls; sleeves installed below grade or where 1. Horizontal concealed ductwork up to 20 inches subject to high water conditions shall be installed watertight. largest dimension shall be supported by one (1) inch x 16 gauge galvanized steel straps at a maximum spacing of 10 ft. and at each elbow or branch R. Coordination: . Work shall be coordinated between all Contractors, Subcontractors, Installers, Suppliers, Trades, etc., to: 2. Bands and spacing shall be at a maximum spacing of 10 feet on horizontal a. Insure a neatly fitted installation. runs and at each elbow or branch takeoff. b. Determine the nature and extent of the work of others. a. No nails shall be driven through any ductwork and into floor joists, c. Eliminate interferences. trusses, etc. d. Maintain maximum headroom and clearances. 3. Vertical ductwork, all sizes, shall be supported by bands bolted or screwed 2. Any interference which develops or is foreseen and cannot be resolved by the to walls, studs, etc. affected trades, etc. shall be handled as follows: 4. Hanger bands shall be bent over one (1) inch from end and turned under a. Cease installation of that portion of the work which is in conflict as no corners of rectangular duct. additional compensation will be allowed for any relocation, etc. 5. Duct hanger bands shall be fastened with sheet metal screws at six (6) inch b. Continue work only on other portions of the work which are not in conflict. intervals up sides and into bottom. c. Notify the Architect immediately. a. Sheet metal screws shall be 3/4 inch so as not to penetrate duct d. Architect's decision shall be final as to any relocation, rerouting, removal, etc. liner completely. e. No additional compensation will be allowed for removal, relocation, repairs VOLUME DAMPERS or changes required by interferences. A. All return air and fresh air dampers shall be parallel blade pivot dampers with motorized S. Clear away all debris, surplus materials, etc., resulting from work on operations, leaving job and equipment in clean first-class condition. control where noted. B. All balancing dampers shall have manual control dampers with positive position locking. T. Clean all rotating equipment, ducts, piping, etc., and leave them in a ready-to-use Acceptable Manufacturers U. Where factory finish is provided on equipment, all marred or damaged surfaces shall be 1. Prefco Manufacturing Co. Titus touched-up or refinished hereunder as approved. V. Thoroughly clean all items of equipment, leaving them in first-class condition. 3. Ruskin W. Wipe clean or wash if necessary air surfaces of all coils, fan housings, fan wheels, fan D. Parallel Blade Pivot Dampers: . Low leakage non-degradable motors, air unit plenums, and all air filters. X. All pumps, motors, fans and other rotating equiment shall be stored at Site with openings 2. Friction free metal to metal seals incorporated bearing, etc., covered to exclude dust and moisture; all stockpiled conduit shall be into the blade and frame shapes 3. Galvanized steel frame, 16 gauge placed on dunnage, and protected from weather, from entry of foreign materials. 4. Galvanized steel blades, 22 gauge with double-wrapped center and edge forming 5. Maximum leakage - 11 CFM per sq. ft. @ 1 inch S.P. A. Balance and adjust each air distribution system shown on the Drawings. B. Perform work in accordance with procedures and standards described in SMACNA Balancing 6. The static pressure loss shall not exceed 0.7" W.G. @ 2000 FPM and 50% modulation and Adjustment Manual." 7. Model Number PLASTIC PIPE AND FITTINGS a. Equal to Prefco Model 5150 A. Air Conditioning condensate drains
1. PVC - ASTM D-1784-60T SPIN-IN BRANCH TAKEOFFS A. Flexible duct connections shall be aluminum "spin-in" fittings with locking quadrant dampers. a. Schedule 40. FIRE DAMPERS b. Type 1, Grade 1. A. Provide fire dampers at all locations shown or noted on the drawings. 2. Joints a. Bonded joints using adhesive per manufacturer's recommendations 1. Fire dampers shall have only thermally actuated fusible links. B. Acceptable Manufactureres 3. Fittings 1. Prefco Manufacturing Co. a. PVC - ASTM D-2665-69 2. Ruskin 3. Titus SPLIT SYSTEM HEAT PUMPS A. Packaged Rooftop heating and cooling units with reverse cycle and heat strip where specied. C. Dampers - mounted vertically B. Acceptable Manufacturers 1. Damper construction shall meet the requirements 1. Trane of NFPA 90A. 2. Carrier 2. Type B, low profile, low pressure loss. 3. Lennox I. Blade stack shall only enter the air stream to C. Evaporator Section 4% of the damper height. 1. Airflow as indicated on drawings. 4. Damper requires no extra height for duct 2. Fan shall be direct - drive, forward-curved, double inlet, statically and dynamically installation, i.e., there shall be no "top cap." 5. Blades shall be 4-1/2 inch depth - roll formed Fan motor shall be resiliently mounted and shall be easily removable for service. 21 gauge galvanized steel. 4. Fan motor shall be permanent -split-capacitor type with integal overload protection, 6. Frame, E-shaped, one piece roll-formed high - efficency, Florida Energy Code Minimum. 1 gauge galvanized steel. 5. Cooling coil shall have aluminum fins machanically bonded to copper tubing. Coil 7. Blades rotate, travel and seal on a single shall have factory installed refrigerant metering devices. central frame track. D. Condensing Section 8. Classified 1-1/2 hour rating, UL Listed. 1. Outdoor unit shall be designed for use with Refrigerant 22 and contain sufficient 9. Fire dampers shall have thermal link. charges (R22) for complete system. Brass service valves with refrigerant line fittings 10. Model: and service ports shall be located on exterior of unit. a. Dampers shall be equal to a Prefco 2. Outdoor coil shall be constructed with aluminum fins mechanically bonded to non-ferrous tubing. Factory installed coil refrigerant metering device shall be mounted "Low Profile B" or approved equal.

Dampers - mounted horizontally in ceiling:

4. Single or dual blade depending on duct size

1. Fusible link rated at 165 Degrees F. release temperature.

a. Prefco Model 5650, 5600, or 5660

. UL Listed ceiling damper

3. 2 hour rated

5. Model Number

2. Round or square as required

on unit liquid service valve. Metering device internal components shall be removable

4. Compressor shall be of the welded-hermetic type with internal vibration isolation and

shall be covered with a shield to muffle operating sound. Compressor motor shall have both thermal and current -sensitive overload device. Compressor shall be equipped

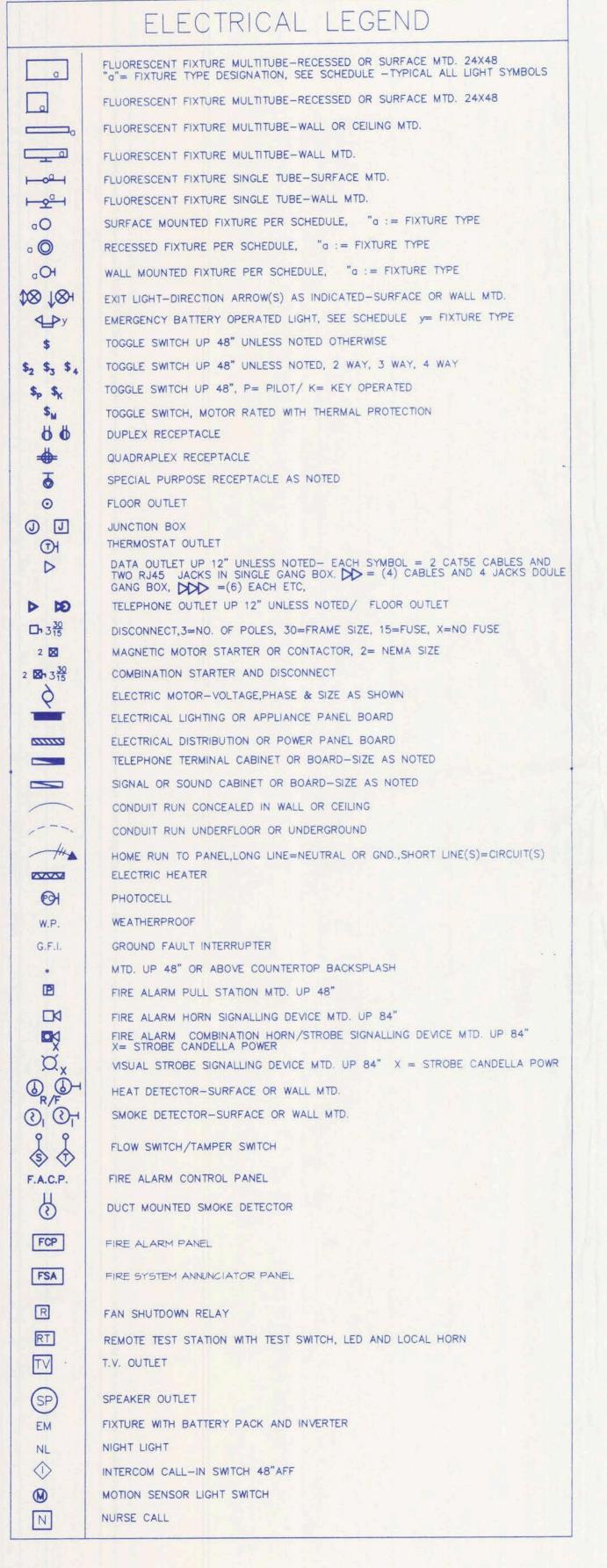
3. Outdoor unit fan shall be propeller type, direct driven, and arranged for vertical air dischage. Fan motor shall be factory lubricated, inherently protected and resiliently

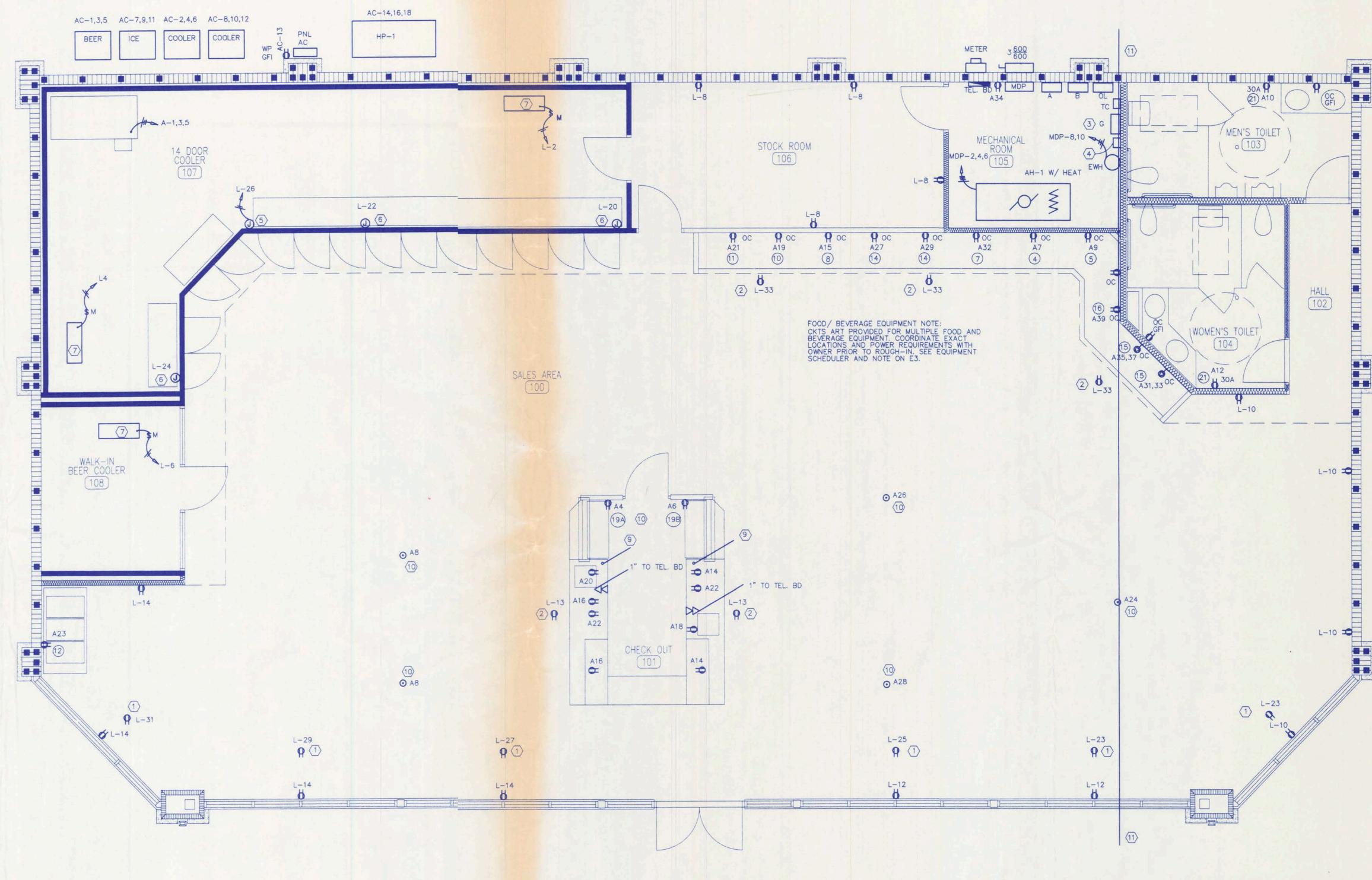
with a crank-case heater and have internal high-pressure protection.

for cleaning or replacement.

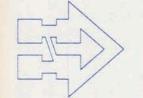
DOUCT ACCESS PANELS AND TEST HOLES AA. Provide an access panel at each return air and/or fresh air damper which will allow for inspection and cleaning of dampers. Where return and fresh air dampers are located adjacent, one access door is sufficient, providing each damper is accessible. bB. Provide an access panel at each fire damper for resetting and maintenance of each CC. Provide test holes for measurement of air flow, on each branch duct and main trunk line or plenum. DD. Acceptable Manufacturers 1. Penn Ventilator Co. 2.. Ruskin E. Access Doors: 1. Insulated hinged duct access door 2. Standard gauge galvanized steel 3. Continuous piano hinge 4. Gasketed at door frame surface and at frame to duct surface 5. Positive acting cam latch handle 6. Doors shall be of sufficient size to allow access to both sides of dampers 7. If duct width is greater than 36 inches, provide access doors on each side of duct for access to entire dampers. 8. Exception: a. Where access door must be installed in such a position that hinged opening is not possible, provide door that is completely removable. b. Removable door shall have cam-locks on both sides 9. Model Numbers: a. Hinged doors shall be equal to Penn Ventilator Model DAD b. Non-hinged removable door shall be equal to Penn Ventilator Model DAD-RP. F. Test Holes 1. Provide a capped access hole in each trunk line or branch duct for insertion of air-flow pitot for flow measurement. DDISPOSABLE FILTERS A4. Provide 1" fiberglass with perforated metal back for AH-1, AH-2, AH-3 B3. Provide 2" pleated for packaged heat pumps. CONTROL SYSTEM PART 1 - GENERAL DESCRIPTION A. GENERAL 1. Furnish and install all electrical controls and components for all mechanical systems as listed below. B. Package Heat Pumps Provide Heat - Cool - Off. Fan-On-Auto, thermostat, electronic, fully programmable individually programmable each day with minimum of 4 functions per day and one set of auxiliary contacts. Thermostat shall be one stage cooling. Two stage heating. 2. Thermostat shall be equal to Honeywell T-7300 Series. PART 3 - SEQUENCE OF OPERATION A. HP-1 THRU HP-2 1. Occupied Modea. Air Handler shall run continuously b. Compressor shall cycle to maintain space temperature (heating or cooling) c. Second Stage Heating shall cycle Heat Strip. 2. Unoccupied Modea. Air Handler shall cycle with conpressor b. Compressor shall cycle to maintain space temperature (heating or cooling) 1. ERV Unit shall run continuously in the occupied mode, and shall be be interlocked with HP-2 thermostat auxiliary contacts. 2. Provide a seperate humidistat to shutdown the ERV and close motorized damper if indoor relative humidity exceeds 65%. FIRE STATS Provide fire stats on each unit as required by code 1. Firestat shall shut down all unit components including fans, compressors, DUCT SMOKE DETECTOR A. Contractor shall install duct smoke detectors to shut down all units with supply CFM in excess of 2000 CFM.

V.D. IN VERT DROP TYPICAL OF ALL . RETURN DROPS RETURN OR EXHAUST DUCT NOT REQD ON EXHAUST UNLESS NOTED ON PLAN RETURN OR EXHAUST AIR GRILLE DETAIL OF RETURN OR EXHAUST DROP FROM BOTTOM OF DUCTWORK RET. / EXH. DROP DETAIL M2 -SPIN-IN W/V.D. V.D. EXHAUST/RETURN AIR M2 FAN SUCTION FAN SUCTION ROUND TAKEOFF FITTING WITH VOLUME DAMPER SQ. /RD. ADAPTO BY MECH. CONT USE SIMILAR FITTING FOR RECTANGULAR TRUNK LINE SUPPLY DIFFUSER FINAL BRANCH CONNECTION TO DIFFUSER





ELECTRICAL POWER PLAN



SPECIFIC DRAWING NOTES:

- DUPLEX RECEPTACLES MOUNTED IN CEILING 12" FROM WALL FOR DISPLAY & WINDOW SIGNS.
- 2 DUPLEX RECEPTACLE MOUNTED IN CEILING FOR STORE SIGNS.
- 3 PNL 'G' WITH WREWAY BELOW AND SURGE PANEL ADJACENT.
- 4 SURGE PANEL.
- 5 J-BOX FOR COOLER DISPLAY LIGHTS VERIFY W/ EQUIPMENT.
- (6) J-BOX FOR COOLER DOOR HEATERS VERIFY W/ EQUIPMENT.
- (7) COOLER FANS VERIFY VOLTAGE AND AND LOCATION.
- (8) CONDUIT & WIRE TO GAS OR DIESEL DISPENSERS & PUMPS VERIFY SIZE AND NUMBER WITH PETROLEUM EQUIPMENT SUPPLIER DRAWINGS.
- 9 2" CONDUIT TO GAS DISPENSER EQUIPMENT, VERIFY SIZE W/ PETROLEUM EQUIPMENT SUPPLIER
- FLOOR RECEPTACLE AT THE END OF GONDOLA, VERIFY EXACT LOCATION WITH FIXTURING PLAN.
- RIGID GALVANIZED CONDUIT W/BITOMEN COATING TO FUEL ISLANDS FOR MPD AND DATA, VERIFY SIZE AND NUMBER WITH PETROLEUM EQUIPMENT SUPPLIER FROM GAS EQUIPMENT AND/OR PANEL G. PROVIDE SEAL OFF FITTINGS ON EACH END.

IG SALLEY AND ASSOCIATE
TECTS . PLANNERS . INTERIOR DESIGNE

* S FOOD STORE NO. 28 41/441 SOUTH

FLORIDA LICENSED
ENGREERS EB 0067867
FLORIDA LICENSED
FLORIDA STANDARD ESTANDARD ESTAN

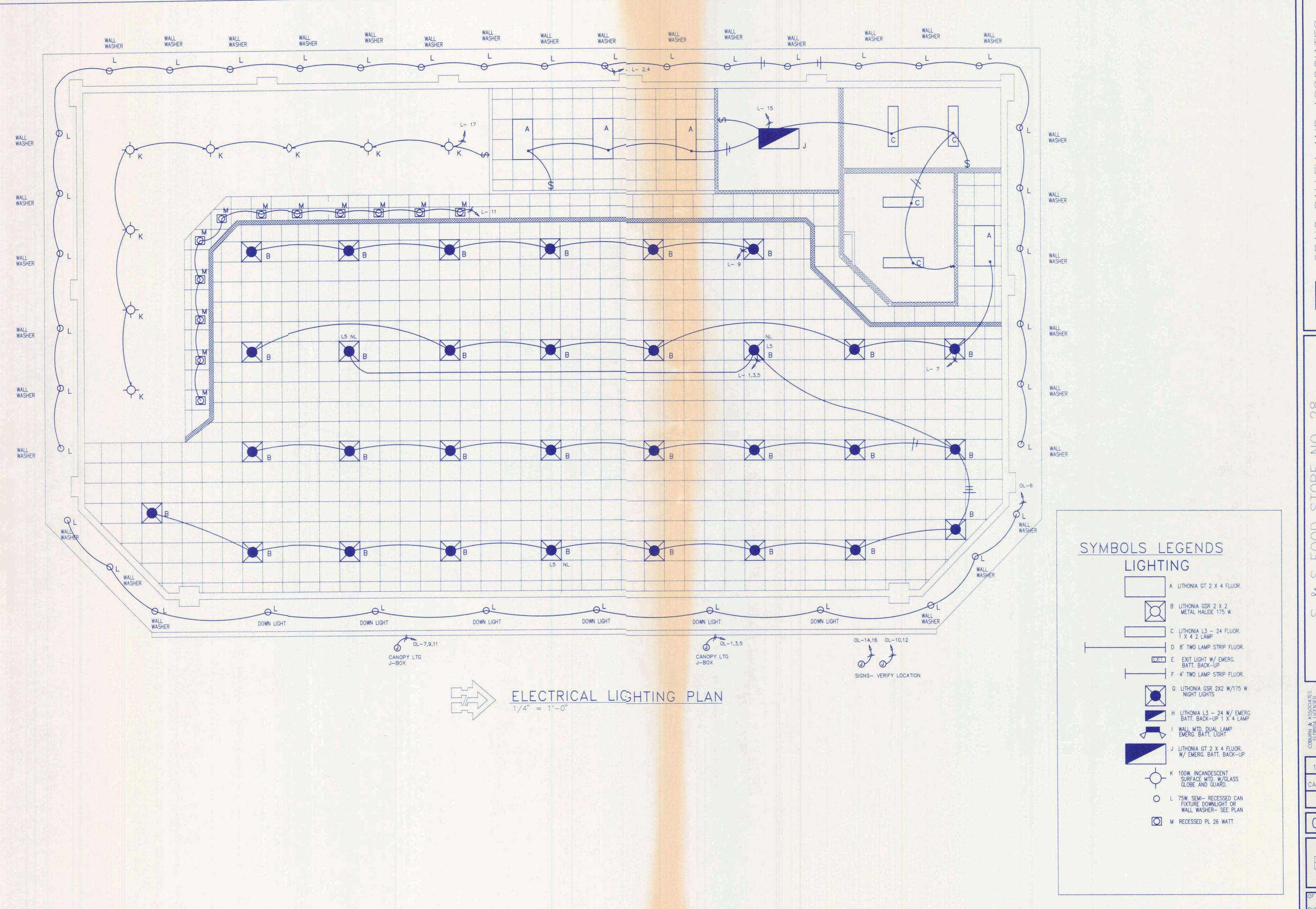
DATE 10/2/03 DRAWN DAS/MES

0335

0335

E-1

HEETS 10



CRAIG SALLEY AND ASSOCIATES

ARCHITECTS • PLANNERS • INTERIOR DESIGNERS

3011 NEWBERDY POAD • CANNESSILLE FLORING • 115 NO AND 02479 • 352-377-8424

4

& S FOOD STORE NO. 28 41/441 SOUTH

COBURN & ASSOCIATES FLORIDA LICENSED ENCHRESS EB 0003687
P.O BOX 577
H.GH SPANN, FURAL S86 45 57 8

DATE
10/2/03
DRAWN
CAS/MES
APPROVED

0335

F-2

OF SHEETS 1 (

DATE 10/2/03 DRAWN M.E.S./C.A.S. APPROVED

0335

			ME	INITINIC	WILDE	ACE FLU	ICU		DANEL -	Δ	LOCATION- ELECTR	тс вппм		ADLINITING.	- XX SUR	FACE FLU	100		DANEL -	AC 1	DOATION - PUT DING	EVIEDIO		MOUNTU		NEMA 3R			
VEL- M	LOCATION- ELECTRIC	ROOM		- DNITING	xx;URF	AUE FLU	1311		PERMICE 1	20 / 20	2 1/11 12 3 0 / 4	1 W 60 H7					JSH				OCATION - BUILDING				NG- x			Н	
/ICE120/	208 VOLTS, 3 0/ 4	W 60 HZ	BUSS	SIZE800_	_A. /5,000/	10,000 AIC BKRS.*			PEKAICE-TI	<u></u>	8 VOLTS, 3 0,/_4	MAIN BKR		22 215F	JU_A.	10,000 AIC BKRS.			SERVICE-	150 / 508	VOLTS,30,/	_4W 60 I	IZ BU	IZZ ZIZE-	A.	10,000	AIC BKRS.		
		MAIN BKR.	A	P. XX MAII	N LUGS INLY		I VATT		N/ATT			MHIN DIXIN_	A	P. XX MA	AIN LUGS ONLY		1 1/47	***				MAIN BK	R,A,	P, X)	MAIN LUGS	UNLY			
WATTS BØ CI	CIRCUIT	WIRE POL	E AMP NO.	NO. AMP	POLE VIRE	CIRCUIT	AØ BØ		AØ BØ 1800	CØ	CIRCUIT	WIRE POLE		NO. AMP			AØ B	Ø CØ	AØ B	S CØ	CIRCUIT	WIRE PO	LE AMP NO	NO.	AMP POLE	WIRE	CIRCUIT	AØ BØ	CØ
37	PANEL A	3/0 3	200 1	≥ 80	3 4	AHU-1	6673				ICE MAKER	12 3	20 1		1 12	SPARE	1000		2508		BEER	10 3	30 1	2	30 3	10	COOLER CONDENSER		
16737			3	0 4 1			6673		1800	225.1			3	4 15	1 12	ICE CREAM (19A 86	64	25	18	COOLER		3	1 4				2700	
16737	127		5	0.6				6673		1800				6 15	1 12	ICE CREAM	19B	864		2508	COMP		5	6					2700
167	PANEL L	1/0 3	150 7	8 30	2 10	EWH	2250		1585		HOT DOG GRILLE(4) 12 1	20 7	8 15	1 12	FLOOR RECEPTACLE	864		2508		ICE	10 3	25 7		30 3	10	COOLER CONDENSER	2700	2700
10006	FMINEL C	1/0	1 90	10			2250		1200		SANDWICH MACHINE) 12 1	20 9	10 30	1 12	HAND DRYER (2)	25	00	25	08	MAKER		90				3313213321	2700	
13236				15 50	2 12	ERV		2250		1000	SPARE	12 2	20 11	12 30	1 10			2200		2508	COMP			4 12				2700	2700
138	99	2/0 2					952		1000		SPARE	12 2 12 <u>1</u> 12 1 12 1	20 12-	14 20		UNDER COUNTER RECE			360	2000	CONV R RECEP. GFI	12 1	20 13	Altriet	80 3		HP-1	6400	2700
16	PANEL DL	3/0 3	100 13	14 1	2 10		702		500		FOUNTAIN (8	3) 12 1	20 15	16 20		UNDER COUNTER RECE		n	300		CONT IN NECES TO I	10 1	15	7 10 14	00 3		EIE-74		
10416			15	<u>16</u> 30 18 1	3 10				Control of the contro	1000	SPARE	12 1	15 17	10 20		CASH REGISTER	- /-	1000					15	Albrigh				6400	Forming of
104	16		170	18					960	1000	PARROT ICE	0) 12 1	15 10	10 50		CASH REGISTER	1000	1000					17						6400
7	PANEL G		200 19	○50 T		CDADE	1000		960	1	ICEE (1) 12 1	15 19 15 21	A 10 50 50		U COUNTER ELECTRON	VICS 100	20					19/						4
7467			210	√SS 50	1 12	SPARE	1000		700	1800	ICE MERCHANDIZER	2 12 1	13 21	A 1 55 50				540				-	21/	25			Comment of the last of the las		
74			1 23	24 20	1 12	SPARE	1000		1000	1000	SPARE	10 1	20 23	24 20		FLOOR RECEPTACLE		540					23	24					
44	PANEL A/C	3/0 3	200 25	√56 50	1 12	SPARE		1000	1000		MICOGNANT	10 1 1 1 1 1	15 25	56 50		FLOOR RECEPTACLE							25	7/26			A Landau Land		
17944			27	~28					1000		MICROWAVE (4) 12 1	20 27	28 50		FLOOR RECEPTACLE	S 54	0					27	1 28					
174	199		1 29	√30						1000	MICROWAVE (4) 12 1	20 29	30 50	1 12	ATM (2	7) 480	1000					29	30					
			31	32					3150		COFFEE (S	DA O C	40 31	32 15	1 12	112211	7) 480					BELLE	31	35					-
			330	34					3150		1		33	34 15	1 12	TEL, BD	100	00					33	34					
			350	36						2088	COFFEE (5B 10 2	30 35	36		SPARE		1000					35	36					
			37	38					2088				1 270	38		SPARE	1000						37	38					
			390	40					1800)	CAPPUCÇIND (6) 12 1	20 39	40		SPARE	100	00					39	40					
	MAINT RECEPTACLE	12 1	20 41	42									41	42		SPARE		1000					41	42					
											THE	0 1545 4005																	
TAL CONN. WA	TTS=TOTAL CAL	C. LOAD=_209	093 W+ (_208	X1.7VOLTS=	580_MPS *				TUTAL CUN	IN. WALLS	=TOTAL CAL	NULLI SIZE OF	51	U8X1./_)VOLTS	S= 136AMPS				TOTAL CO	INN. WATTS=	TOTAL CALC	$LDAD=_46$	/3/W+ (_	208X1.7VOL	_TS=130	_AMPS			
EDER SIZE PA	ARALLEL 600 KCMIL CO	NDUIT SIZE 4			FEEDS ROM PO	WER CO SERVICE			FEFTER 21	D WATTS	AD HISTED WITH ADDROD	IATE MILLTIDIT	EDSo		FEEDS FROM	PANEL 'M'			FEEDER		CON	DOLL SIZE			FEEDS F	FROM PANEL	_ 'M'		
	TS ADJUSTED WITH APPROPR								CUNNECTED	D WALLS	ADJUSTED WITH APPROPR	IMIE MOLITELI	EKS AND DI	I VERZILIEZ					CUNNECT	LU WATTS A	DJUSTED WITH APPROPRI	ATE MULTIP	LIERS AND D	IVERSITIES	<u>k</u>				
	PANEL, RATED FOR 75,000 A	C FAULT CUI	RRENT AND 10,00	0 A/C BRAN	NCH BREKER																								

ANEL- 0		LOCATION-			ME	ITAUC	NG-	x:SUR	FACE FLU	JSH				L- L		LOCATION- ELECTRIC			MO	UNTING-	XX	x SUR	FACE FLUSH			
		8 VOLTS, 3 0,/	4_W 60 HZ		BUSS	S SIZE-		A10	0,000 AIC BKRS.				SERVI	DE120	0_/_20	08VOLTS,3_0,4_	W 60 H	IZ	BUSS	SIZE- 200	_A.	10,00	0AIC BKRS. *			
			MAIN BKR	A		P.	MAIN	LUGSONLY									MAIN BK	ζ	_A	P. XX MAI	N LUGS	SONLY				
WATT AØ BØ	CØ	CIRCUIT	WIRE POLE	AMP	ND.	ND.	AMP F	POLE WIRE	CIRCUIT	AØ	WATTS	CØ	AØ	WATTS	CØ	CIRCUIT	WIRE PO	E FAME	NO.	NO. AMP	POLE	WIRE	CIRCUIT		WATTS	
1200		GAS CANDPY LTS	12 1	50	10	2	20	1 12	SOFFIT LIGHTS	1300			1400			STORE LIGHTS	12 1	20	10	2 20	1	12	COOLER FAN	800		
1200		GAS CANDPY LTS	12 1	20				1 12	SOFFIT LIGHTS		1300			1400		STORE LIGHTS	12 1	20		4 20	1	12	COOLER FAN		800	
	1200	GAS CANDRY LTS	12 1	20		6	20	1 12	SOFFIT LIGHTS			1200			1050	STORE NIGHT LIGHTS (5)		20	50	6 20	1	12	COOLER FAN			80
1200		GAS CANDRY LTS	12 1	20			20	1 12	SPARE	1000	I I I I		1050			STORE LIGHTS	12 1	20	70	08 20	1	12	GEN. RECEPT	720		
1200		GAS CANDRY LTS	12 1	20			A STATE OF THE STA	2 10	SIGN		2500			1050		STORE LIGHTS	12 1	20	90	10 20	1	12	GEN. RECEPT		720	
	1200	GAS CANDPY LTS	12 1	20		12		1	THE LEWIS CO.			2500			312	STORE LIGHTS (1)	12 1	50	110	12 20	1	12	GEN. RECEPT			72
1000		SPARE	12 1	20		14	30	2 10	SIGN	2500			1000			CLG RECEPT	12 1	20	130	14 20	1	12	GEN. RECEPT	720		
1000		SPARE	12 1	20		16					2500			768		STORE LIGHTS	12 1	20	150	16 20	1	12	GEN. RECEPT		1000	45
	1000	SPARE	12 1	20	17	- 18			SPACE						1000	COOLER LIGHTS	12 1	20	17	18 20	1	12	GEN. RECEPT			10
1000		SPARE	12 1	20	190	~20							1000			SPARE	1	20	190	SQ 50	1	12	COOLER DOOR HEATERS	1500		
		SPACE			21	25								1500		CEILING RECEPT	12 1	20	210	22 20	1	12	COOLER DOOR HEATERS		1500	
					23~	24									1500	CEILING RECEPT	12 1	50	23	24 20	1	12	COOLER DOOR HEATERS			15
					25	~26							1500			CEILING RECEPT	12 1	20	25	26 20	1	12	COOLER DISP LTS	1200		
					27~	~28								1500		CEILING RECEPT	12 1	50	27	28 20	1		SPARE		1000	
					29	√30									1500	CEILING RECEPT	12 1	50	29	35 50	1		SPARE			100
					31	_3S							1500			CEILING RECEPT	12 1	20	31	35 50	1		SPARE	1000		
					33	√34								1000		SPARE	12 1	20	33	34 20	1		SPARE		1000	11
					35	√36									1000	SPARE	12 1	20	35	36 20	1		PRINT (FIFTH A)			
					37	√38							1000			SPARE	12 1	50		38 20	1					
					39	A10								1000	1	SPARE	12 1	50	39	40 20	1					
					41	42									1000	SPARE	12 1	20	41	A2 20	1					
TOTAL CON	V. WATTS	=TOTAL CAL	C. LOAD= 3200	00 W+	(208	3 <u>X1.7</u> _V[ILTS=	_88_AMPS EDS ROM F	PANEL 'M'	<u> </u>			TOTA	L CONN. ER SIZE	WATTS	S=TOTAL CALC.	LOAD= 37	2'	W+ (208X	1.7_>VOLTS=	FEDS	AMPS	PANEL 'M'			
		ADJUSTED WITH APPROPR						LES KUIT I								ADJUSTED WITH APPROPRIA					LL103	, KON				
CEITTEOTED	WHILIS		1.10 10 1 1 1 10 10	h- -											11-11-11	ATED PANEL , 75000AIC MA			77-1277		4					

	-	WATTS	-	SHUNT TRIP	VIJETIN	DKK		H	/	V MMI	IN LOGS	DIVLI			VATTO	
1	AØ	BØ	CØ	CIRCUIT	WIRE	POLE	AMP	NO.	NO.	AMP	POLE	WIRE	CIRCUIT	AØ	WATTS	CØ
	800			SUB PUMP - 1.5HP	10	3	15	10	0 5	20	2	12	DISPENSER POWER (S)	800		
		800		REGULAR			1	3	4	L	L		#1 _L SWITCHED NEUT			
			800		L			5	6	50	5	12	DISPENSER POWER (S)			800
	800			SUB PUMP - 1.5HP	10	3	15	7	0 8	L	上	L	#2 _L SWITCHED NEUT			
		800		PREMIUM				9	10	20	2	12	DISPENSER POWER (S)		800	
			800					110	12		L	1	#3 SWITCHED NEUT			11
	800			SUB PUMP - 1.5HP	10	3	15	130	14	20	2	12	DISPENSER POWER (S)	800		
		800						150	<u></u>	T			#4 _L SWITCHED NEUT			
			800					170	<u></u>	50	5	12	DISPENSER POWER (S)			800
	800			MONITOR	12	1	20	19	20				#5 1 SWITCHED NEUT			
		1000		SPARE		1	20	210	25	20	5	12	DISPENSER POWER (S)		800	
			1000	SPARE		1	20	23	24				#6 _ SWITCHED NEUT			
	1000			SPARE		1	20	25	~26	OCTAVABLE	2	12	DISPENSER POWER (S)	800		
		1000		SPARE		1	20	27	28				#7 _L SWITCHED NEUT			
			1000	SPARE		1	20	29	30		2	12	DISPENSER POWER (S)			800
	1000			SPARE		1	20	31	32				#8 1 SWITCHED NEUT			
		1000		SPARE		1	20	33	34							
			1000	SPARE		1	20	35	36							
								37	_38							
								39	40							
								41	142							
1	TOTA	L CONN	WATTS	=_N/A TOTAL CALC.	LOAD=	2280	0 W	+ (20	08X1.7/[ILTS=	63.3	3 AMPS		-	-	-

M PANEL MP PANEL MP 120/208 3\(\text{y} \) 4\(\text{y} \) 100\(\text{y} \) 100\	SURGE: PANEL 1/2'C BRANCH CKTS AS REQ'D PANEL 'G' 120/208V 30 4W 100 A ML.D. SINGLE POLE SVITCH AT FRONT COUNTER PANEL 'AC' 120/208V 30 4W 200 A ML.D. 3#10, #12G, 3/4'C 3/4'C 3/4'C
GROUND JUNCTON BOX PER GRU REQ'MTS 3/0 GND 3/0 GND 3/0 GND 3/0 GND 3/0 GND	BRANCH CKTS W/ SEAL DFFS

ELECTRICAL RISER DIAGRAM

TOTAL 22400 / (208X1.7) = 62. A

PANEL 'A' RECEPTACLES EQUIPMENT SPARE	TOTAL	3384 38153 9000 50213 / (208X1.7) = 139 A	PANEL "A"	
PANEL 'L'			HEAT PUP COMP 1 @ 19200 REFRIGERTION	19200 31248
LIGHTING 8320 RECEPTACLES	0 X 125% =	10238 12520	+ 25% X3100 RECEPT	2025 360
EQUIPMENT SPARE		6900 10000	TOTAL	52833 / (208X1.7) = 147 A
	TOTAL	39708 / (208X1.7) = 110 A		
			PANEL 'G	
PANEL 'OL'	ny 1257	26450	MONITOR PUMPS 2400 X 3 DISP PANL 800 X 9	800 7200 6400

TOTAL 31250 / (208X1.7) = 87 A

BOND TO FOOTER STEEL

1 TELETINE 21224V 125V	20010
LIGHTING 31234X 125% GENERAL RECEPTACLES	= 39048 15904
EQUIPMENT	59453
SPARE	32000
EWH	4500
HEAT PUMP COMPRESSORS	19200
25% LARGEST COMPRESSOR	4800
INDOOR FANS 3 @ 500W	1500
HEAT STRIPS 1 @ 14.6KW	14600
REF COMPS	31248
TOTAL	222343/ (208X1.73)) = 618A

BREAKERS.

OTE:
LECTRICAL LOAD AND DESIGN OF
RANCH CIRCUIT WIRING IS BASED
N ELECTRICAL EQUIPMENT SCHEDULE.
ONTRACTOR SHALL VERIFY ALL LOADS
/ITH EQUIPMENT CUT SHEETS AND/OR
CTUAL EQUIPMENT NAMEPLATE, PRIOR
D PULLING WIRE DR DRDERING

_			
	* REQUIRES 1	20/208 , 1ø 4	WIRE NEUTERAL REQ
	(V) VERIFY	_OAD	N
	** ITEMS NO	IN THIS STOR	SE LT,

EQUIPMENT ELECTRICAL SCHEDULE

SOUP KETTLE

HEAT LAMPS

FREEZER

FOUNTAIN

PARROT ICE

ICE CREAM

COFFEE

CAPPUCCINO

PEPSI BOX

ICE CREAM

ICE CREAM

ICE CREAM

HAND DRYER

14

(5)A

(15)B

18

(19A

(19B

2

** 17

**

ICE MERCHANDISER

MICROWAVE (2)

HOT DOG GRILLE

SANDWICH MACHINE

DOUBLE WELL WARMER 120 10 1200 20

120

120

120

*120/208

120

120

VOLTS AMPS WATTS BKR

120 3.33 500 20

120 (1/5) 4.5 540 15

120 (2) 1/3 HP 960 15

120 (1) 1/3HP 480 15

120 10.1 1212 20

120 (1/4) 5.8 696 15

120 8.33 1000 20

208 30 6300 40

208 20 4176 30

120 4.1 864 15

120 18.3 2000 30

120 4.1

120 4.1

120 4.1

120

1800 20

492 15

864 15

864 15

13.3

13. 1600 20

10.6 1272 20

14.6 3036 20

4.0 400 15

4.0 500 20

1585 20

S 52 42

000

Y. I addition to provisions and stipulation set forth in over Sections of these Specifications, provide vious types of protection as follows: A. Furnish all labor, materials, fixtures, equipment, tools and Protect finished floors from chips and cutting oil I use of metal chip receiving pan and oll-proo Z. Il pumps, motors, fans and other rotating equipment shill be stored at Site with openings, bearing, etc. crered to exclude dust and moisture; and protected cover, according to their intent and meaning, complete fan weather from entry of foreign materials. electrical systems. Work shown and not specified, or work specified and not shown shall be performed as C. Minor items and accessories reasonably inferred as A.Conduit for power, telephone, fire alarm, necessary for the complete and proper operation of any ommunication, control, and miscellaneous functions system shall be provided by contactor or subcontractor hich are shown on the drawings or described in these for such system whether or not they are specifically All boxes for wiring and devices and special systems. D. The Electrical Contractor shall include in his bid the Wiring for all power, communication, fire alarm cost of furnishing installing, maintaining and removing all material and equipment required to provide and auxiliary equipment, controls and other devices. . All panels for power, lighting, and distribution of electricity as shown on the Drawings and panel schedules. temporary lights and power to perform the work of all rades during construction and until work is completed. All circuit breakers shown on lighting, power, Adequate lighting and receptacle outlets for operation distribution and main distribution panels. of hand tools shall be provided throughout the project, including shantles, trailers, field offices, temporary All disconnects and starters as described herein. All fuses as shown and specified. FCAVATION AND BACKFILL A Contractor shall be coordinate with the General Contractor to determine construction progresses.

E. Before submitting a bid, the Electrical Contractor is he extent of his responsibility to perform the excavation and backfilling slated to the electrical scope of work. A Contractor shall rough-in for all equipment, xtures, etc., in building whether or not such extent of performance by the Power Company shall be furnished and performed by the Electrical Contractor. quipment is furnished by this Contractor or under F. All electrical work required by the telephone company ther divisions of Specifications or by Owner. Contractor. The Electrical Contractor shall coordinate & Determine in advance the location and size of all penings and chases necessary for proper installation if all work and have openings and chases provided during construction. accordance with the National Electrical Code and all applicable rules, Cinstall all inserts for hangers and supports of regulations and codes of local, state, and Federal Governments having vectrical work as general construction progresses. L Rough-in openings in masonry, brick, or stud walls shall be cut, not broken or subcontractor shall be responsible for such compliance. H. All panelboards, disconnects, relays, magnetic contractors and time clocks shall be labeled with the t Openings shall be smaller than the coverplate or box which fits over it. Openings for recessed boxes shall not be larger han the coverplate which will cover the final opening I. Labels shall be laminated plastic engraved, with minimum 3/4 inch width, minimum letter size 3/8 inch. t Sleeves shall be required at all points where exposed conduits pass through concrete walls, slabs or masonry J. Mount a typewritten directory behind glass or plastic valls. Sleeves installed below grade or where subject o high water conditions shall be installed water tight. number and complete description of all outlets on each circuit. ASIC MATERIALS & METHODS K. Furnish all equipment and personnel and conduct all tests required to secure approval of the installation. . Rigid metal conduit shall be steel, hot dip galvanized. Minimum size shall be 3/4". . Electrical Metallic Tubing (EMT) shall be steel, electro or hot dip galvanized.

Flexible Metallic Tubing shall be galvanized steel.

Sealtite type UA or EF shall be used for all motor connections. resistance between phase conductors and ground of Rigid Non-metallic conduit shall be listed for use as electrical raceways. All PVC shall be high density 2. All systems shall show proper neutral connections. Type / Schedule 40. 1. Upon completion of each pary of the electrical system, All conduit shall be installed in a first-class workmanship manner. the contractor shall demonstrate to the Engineer that All conductors shall be installed in conduit. Fitings or symmetrical bends shall be required wherever righ angle turns are made in exposed work. 4. Bends and offsets shall be avoided wherever possible, but where necessary, they shall be made with an approved conduit bending carefully maintained at the job site. Actual conditions are to be put on the drawings in red on a daily basis All conduit joints shall be cut square, reamed smooth and drawn up tight. so the drawings will continuously show locations and Conduit shall be installed in horizontal and vertical routings of cable trays, conduits, pull boxes, circuit runs in such a manner as to insure against trouble from the collection of trapped condensation and shall be arranged so as to be numbers, and other information required by the Engineer. Equipment and materials shall meet or exceed specification devoid of traps. K. Special care shall be used in insuring that exposed and be New, unused, of best quality and grade. Furnish current model for which repalcement parts are available. conduit runs are parallel or perpendicular to walls, structural members, or intersections of vertical planes and celling. P. All work shall be performed in compliance with OSHA regulations.
Q. Shop drawings and product data shall be submitted on . During construction, all conduit work shall be protected to prevent lodgement of dirt, plaster or trach in conduits, fittings or boxes. M. Conduits which have been pklugged shall be entirely 1. Shop drawings shall be labeled in the same designation as individual piece of equipment for which they are freed of accumulations or be replaced. N. All conduits in floors or below grade shall be swabbed being submitted; the proper designation shall be the designation used on the various equipment schedules and or in other Sections of this Specification, i.e. free of debris and moisture before wires are pulled. O. Conduit shall be properly supported as specified elsewhere in this Section. P. Expansion fittings or other approved devices shall be used to provide for expansion and contraction where conduits cross building R. Job condition shall be determined prior to bidding Q. A flexible rounding strap shall bridge expansion joints and shall be bonded to with intended use of eyeboltsm monoralls, or other lifting equipment S. Conduit above slab shall be run concealed in the walls or ceilings unless specifically noted to be exposed. 2. Examine all Contract Drawings and Specifications T. Conduit under ground and or slab shall be buried 24 inches minimum. provided that the following criteria is met: 1. All conduit, home runs, and circuits are made to the panel specified on the drawings and or panel 3. Fallure to determine existing conditions or nature of construction will not be considered as a basis for schedule. Any deviation in this reguard shall be done only with written approval of the Architect. 2. Conduits shall be run so as not to conflict with ductwork, diffusers, mechanical equipment and piping. General
1. Contract Drawings show the arrangements and sizes 3. Conduit is not noted or detailed to be specifically run in a particular of principal apparatus and devices to be provided under this Contract and connection thereto these 4. Hangers and supports shall be attached to stud walls with wood screws. V. Final connection to motors, etc., shall be made with either: The same type of conduit which leads up to the equipment or. 2. Dimensions of work as indicated on Plans are not Armored flexible conduit which shall be waterproof for any locations outside, in kitchens, or any guarantee to be as-built dimensions.

3. No measurements shall be scaled from Drawings and inside area subject to water, heavy moisture, condensation, etc.

ELECTRICAL SPECIFICATIONS

though mentioned in both.

service necessary for installation, testing and

Specifications, and any Addenda thereto.

and installed in compliance with the Drawings,

toilet enclosures, and shall be extended as

with the telephone company before bidding.

lawful jurisdiction, and each contractor and

same designation shown on the Drawings.

to coordinate with the electric power company to

shall be furnished and performed by the Electrical

G. All work shall be performed or installed in strict

on the inside of each panel door, showing circuit

1. All systems shall test free from short circuits

and grounds, shall be free from mechanical and

electrical defects and shall show and insulation

of not less than that regired by the National

each item on that system is installed with proper

covers, safeties, controls, etc., and that all are in

proper working order.

N. A set of "red-lined" electrical drawings shall be

b. How and where materials will be delivered and

b. How construction or work will affect the work

Nature and extent of work of other trades

shall be followed as closely as actual building

used as definite dimensions for layout or fitting

be checked and exact locaion determined by

of partitions, sizes of structual member,

Insure a neatly fitted installation.

electrical legend on the drawings.

c. Eliminate interferences.

shall be handled as follows:

work which are not in conflict.

required by interferences.

and juction box covers.

c. Notify the Architect immediately.

relocation, rerouting, removal, etc.

equipment in clean first-class condition.

leave them in a ready-to-use condition.

or refinished hereunder as approved.

relocation, etc.

4. Layout of equipment, as shown on the plan, shall

dimension of equipment approved by the Architect.
5. Consult the Drawings for all dimensions, locations

6. Do not make final layouts until shop or equipment

1. Work shall be coordinated between all Contractors,

Subcontractors, Installers, Suppliers, Trades, etc. to:

b. Determine the nature and extent of the work

t. Maintain maximum headroom and clearances.

a. Cease installation of that portion of the

work which is in conflict as no additional

b. Continue work only on other portions of the

d. Architect's decision shall be final as to any

e. No additional compensation will be allowed for removal, relocation, repairs or changes

U. Clear away all debris, surplus materials, etc.

resulting from work on operations, leaving job and

V. Clean all panel board, switches, boxes, etc., and

W. Install with proper screws or bolts, all panelboard

all marred or damaged surfaces shall be touched-up

X. Where factory finish is provided on equipment,

compensation will be allowed for any

2. Any interference which develops or is foreseen and cannot be resolved by the affected trades, etc.,

drawings are approved and job conditions verified.
7. Electrical reference symbols are given on the

c. Special problems encountered during

a. Type of construction to be used.

granting additional compensation.

construction will permit.

work in place.

foundations etc.

Electrical Code.

all equipment, fixtures, etc.

in the following mai

of this Section.

1. Site visit to determine: a. Existing conditions

ascertain, in detail, the division of work, and the

adjusting of all electrical systems shall be furnished

R. Drawings and Specification shall be understood to

R. Conduit, boxes, devices, lights, etc., shall be located so that they will not interfere U. Exact routing of conduit shall be determined in the field for ease of installation W. SPECIFIC CONDUIT TO BE USED 1. All conduit and fittings shall be in new, unused condition free from rust, excessive dirt and moisture, kinks, flats, cuts, or other distortions of shape caused by impact, crushing or bending 2. Concealed conduit in building, above slab shall be EMT conduit with "set-screw" or compression fittings.

4. Conduit embedded in or penetrating slab shall be PVC with waterproof joints. Exposed conduit outside building, above grade shall be rigid galvanized steel with threaded waterproof fittings. 6. Underground conduit shall be PVC with waterproof joints. SUPPORTS AND HANGERS A. All conduit shall be supported on structural building members, i.e. columns, beams, puriins, block, studs, etc. B. Conduit shall be supported on galvanized or aluminum brackets, clamps, or straps. C. Conduit hangers shall be attached to building steel by beam clamps or welding. D. Hangers and supports shall be attached to stud walls with wood screws. E. Hangers and supports shall be attached to masonry

3. Exposed conduit in building, above slab shall be

EMT conduit with "set-screw" or compression fittings.

with expansion type anchors (shield).

F. Supports shall be channel type supports such as manufactured by Uni-Strut, Globe, Kindorf, or equal. A. Pullboxes inside buildings shall be code gauge and size, galvanized steel with screw type cover.

B. Pullboxes outside building above grade shall be code gauge and size, galvanized steel with enamel finish and screw type cover. Boxes shall be rainproof and waterproof C. Pullboxes outside building in slab type gasketed cover and completely weatherproof. D. Switch and outlet boxes in standard stud wall

thicknesses shall be galvanized steel, 2 1/2 inch deep. Switch and receptacle boxes in firred wall or wall less than standard stud depth shall be galvanized steel, 1 1/2 inch deep. F. Wall boxes in four inch block shall be galvanized steel 2 1/2 inch deep. G. In walls larger than four inch block-galvanized steel 3 1/2 inch deep. H. Boxes may be ganged as required for multiple switches, etc. Through-wall boxes are prohibited. I. Lighting outlet boxes and specified junction boxes shall be galvanized steel, 4" octagon with cover.

K. Floor boxes shall be standard depth--cast steel, flush mounted cover with brass. Furnish with h threaded brass receptacle covers. L. Telephone boxes shall be standard garage galvanized steel, 4 inch square. M. All wiring devices shall be installed inin metallic boxes. Provide outlet boxes, receptacle boxes. juction boxes, etc., where shown on thhe drawings and/or required by the National Electrinical Code. N. Provide pull boxes as shown on the I Drawings, as required by code or as needed for easie of construction. Outlet shall be installed in the location shown on the drawings. Contractor shall study the general building plans in relation to the space surrounding eachh outlet, in order that his work may fit all other wwork required by these Specifications. All steel supports for outlet boxes signall be furnished and installed. Outlets boxes for use with exposed s steel conduit shall be cast steel. Cast metal fittings shall be cast steel. Cast metal fittings shall be crouse—Hinds, Square D, Bryant, or equal. S. All openings in electrical equipment, enclosures, cabinet, outlet and junction boxes shaull be by means of welded bosses, standard knockouts, or shall be sawed, drilled, or punched with tools sispecially made for the purpose. The use of a cutting, torch is prohibited. . All conduit connections to electrical L boxes shall be made with locknuts and nonmetallic bushings. U. Locknuts shall be drawn down tight to make ground connection between the conduit and book WIRE AND CABLES A. All wire used throughout work shall I be soft drawn copper of not less than 98% conductivity B. Wire and cable shall be new; and mnanufacturer's name permanently marked on the outster covering at regular intervals. Conductors AWG No. 8 or smaller may be solid or stranded; larger sizes shall be strandeled. D. All conductors for general wiring should be insulated with THW or THHN insulation. E. Conductor markings and color coding shall be in accordance with the latest edition of the N.E.C. Green color coding is required by the N.E.C. for conductors used for grounding. 2. All wiring shall be installed in condulyit H. Conductors shall be sdized according to the National Electrical Code or as shown on the digrawings whichever is greater. Minimum size for 20A receptacle and lighting circuits shall be No. 12 AWG-where distance I from panelboard to load exceeds 65 feet, use No. 10 AWVG minimum; over 100 feet, use No. 8 AWG. J. All wiring shall be fully polarized thruroughout using white wires for neutral and makiking all switching connections in colored hot wires. K. No conductors shall be drawn into conduits until all work which may cause damage is commpleted; only approved cable lubricants shall be ustged. L. As far as practical, all feeder cable's shall be continuous from origin to panel terminination without running splices in intermediate pull byoxes. M. All cable terminals, taps and splice's shall be made with solderless, pressure type connectors; connectors shall be Type QA-B or QZA as manufactured by Burndy, Okonite. McJunkin or equal. N. The minimum free length of conductor at each box for the connetion of a fixture, switch or - receptacle shall be 8". A. The panelboards shall be of dead-front construction with code gauge galvanized steel boxx, and hinged front finished in grey lacquer. B. Doors shall be provided with a platite tumbler lock with flush handle and typed director)-y card and holders. Panels rated 225 amp or less and 1 10,000 AIC shall be Square D, type NQO, or equal. D. Panels rated 225 amp or less and greater than 10,000 A.I.C. shall be Square D, Type NQOB., or equal. Panel rated 400 to 800 amp shall if be Square D. "-Line" or equal. Panels greater thoun 800 amps are considered to be Distribution Switchboards. F. Furnish and install electrical systemm as described on Drawings, panel schedules and elyectrical riser diagram. . Panels shall be surface mounted oor recessed as specified on the panel schedule. H. All panelboards shall be circuit bre-eaker type unless noted otherwise. Voltage, phase, wires as specified on schedules. Panels rated at 10,000 AIC shall have stab-in breakers. Panels rated greater than 10,000 , AIC shall have bolt-on breakers. A. Breakers size and quanity as shown on Schedules. N. Breakers listed as "spare" shall be furnished and installed. O. Panel listed with "space" shall be , provided with extra space for future breakers. 1. Each "space" shall be on one single pole.

P. Panels rated 225 amp. or less shall be provided as full 42 space panels unless specific ally noted otherwise.

Q. Unless otherwise indicated on Drawwings, install all panels with the top of the trim 6'-_3" above finished floor. R. Install panelboards in location shown on the Drawings.
S. Panelboards shall be mounted with screws, bolts, or anchors as required. Panels shall not be supported by conduit alone. I. Where panels are installed on or near conductive surfaces as defined by the National y Electrical Code, 3/4 inch ply boards shall be installed on walls behind and beside the panels to asigsure code compliance. A. Breakers shall be of the size specified on the Panel B. Breakers rated at 10,000 AIC shoull be plug-on. C. Breakers rated greater than 10,0000 AIC shall be Breakers shall have visual trip inhdicators. Breakers sizes shall be verified against equipment it serves.

Current limiting breakers shall bee used where shown on panel schedules. G. On three-phase panel, breakers ! shall alternate consecutively between busses to Plarovide a balance load. H. Breakers type (Square D listed folor reference only).

I. For Type NQO and NQOB Panels, tithe breakers shall be equal to the Square D numbers as listed below: Main Breakers:

10,000 AIC - Q1B, Q2, KA, LA 2. 22,000 AIC - Q1B-VH, Q2-H, 1 KA, LA 3. 42,000 AIC - KH, LA 4. 65,000 AIC - KH, LH Branch Breakers:

1. 10,000 AIC - QO, QOH, Q1-H 2. 22,000 AIC - Q0-VH, Q1-VH 8. 42.000 AIC - Q1H 4. 65.000 AIC - QH J. For I-Line panels, the main breakwer shall be 65,000 AIC rated, and equal to Square D MModels FA, FH, KA, LA, LH, MA, MH. K. The branch breakers shall be rateed at 65,000 AIC and equal to Square D Models FA, FH, FFY, IF, Q2, Q2-H, Q2H, KA, KH, IK, Q4, LA, LH, MA, MMH, ME.

L. Breakers listed as current limiting preakers shall be equal to Square D - I - Limiterm, in IF or IK frame M. Furnish and install all circuits bre-eakers as described on the panel schedules and drawingigs. A. General duty fuses shall be equal to Bussman 250 volt, B. Motor circuit fuses and compressisor fuses shall be equal to Bussman 250V, "Fusetron, FRN" dual element fuses C. Current limiting fuses shall be equal to Bussman KTN-R fast acting fuses. A. Ampere rated for general disconnuects. B. Horsepower rated for motor discolonnects. C. Meet Federal Spec. W-S-865c form Heavy Duty Switches.

Grey baked enamel finish. Quick-break operating mechanism-n. G. Visible handle. H. Meets NEMA KSI-1975 for Type HHD. Indoor disconnects shall be NEMA J. Outdoor disconnects shall be NEK-MA 3R.

M. Disconnects furnished as an integral part of any piece of equipment shall be acceptable in lieu of a safety switch. Switches shall be fused where shown on drawings. Motor rated switches shall be acceptable as disconnects for motors of 1/3 HP or less. A. Provide magnetic or manual starters and associated equipment as required for each motor. B. Each starter shall have properly sized thermal overload protection for the motor it serves. Overloads shall be manual reset type. Supply and install magnetic motor starters with appropriate control buttons or switches for each piece of equipment unless other specifications call for starter to be furnished with equipment. E. Contractor shall coordinate with both general contractor and mechanical contractor to assure that a starter has been provided for all equipment. COMBINATION STARTERS A. Where both a disconnect switch and motor starter are required, a combination starter shall be

Locate disconnect as shown or as near as possible to motor.

K. Supply and install a disconnecting means for each

motor where required by N.E.C. shown on drawings.

acceptable in lieu of individual components. WIRING DEVICES A. Model or part number listed below are for establishing quality. B. In so far as practical, all wiring devices shall be the same manufacturer. C. All catalog numbers listed are Hubbell unless D. Acceptable manufacturers shall be Hubbell, Pass

Seymour, Leviton, or Arrow-Hart. General Purpose Receptacles 1. General purpose receptacles shall be specification grade, 120 volt AC, 15 amp, NEMA 5-15R, grounding type, ivory. 2. Catalog numbers shall be: a. Single receptacle: 5261-1 b. Duplex receptacle: 5262-1 5. Single appliance type 1. Single appliance type receptacles shall be specification grade, 120 volt AC, NEMA 5-20r.

20 amp, grounding type, ivory. 2. Catalog numbers shall be: a. Single receptacle: 5361-1 b. Duplex receptacle: 5362-1 S. Special purpose receptacle 1. Special purpose receptacles shall be installed as required and as shown to match equipment appliance cord.

2. Catalog numbers for special purpose receptacles shall be as follows, based on voltage and amperage: VOLT AMPS NEMA COLOR CAT. NO. 125 30 5-30R Black 9308 125 50 5-50R Black 9360 250 30 6-30R Black 9330 250 50 6-50R Black 9367

1. General lights switches shall be specification grade, 125-277 volt, 15 amp, heavy duty, lvory. 2. Catalog numbers shall be: SPST 1101-1 DPST 1102-1 3-Way 1103-1

3. Motor rated switches shall be used for any controlling singles phase motors. 4. Motor rated switches shall be 120-277 volt and in accordance with the voltage and amperage of

Cover plates 1. All cover plates shall be ivory plastic unless 2. Catalog numbers: a. Switches: Single gang--P1 Two gang----P2 Three gang---P3
b. Single Receptacle 93091 c. Duples Receptacle Single gang P8
Two gang P82 Two gang P82
d. Telephone plate Single gang plate with rubber

e. Television plate Single gang with coaxial connector for cable connection f. Special purpose outlets: Single gang P7882 Duplex 7423 g. Weatherproof covers: Switches 7420 Receptacles 5205WO

GROUND FAULT PROTECTION A. Underground or overhead service entrance as shown on drawings. B. Installation of metering equipment and hardware as described herein or as shown on the drawings. C. All equipment and circuits shall be grounded in accordance with the National Electrical Code, Artical 250.

all receptacles in bathroom, and exterior location E. Provide ground fault protection an all temporary construction circuits as required by OSHA or the Nation Electrical Code.

current transformer cabinets, feeders, etc., as shown on drawings. B. System Ground 1. All conduits shall contain a continous "green" ground wore which shall be sized in accordance with Table 250-95 of the National Electrical Code. 2. The ground conductor shall be bonded to the conduit as the ground 3. Provide a driven ground rod as close as possible to the service entrance location, sized as shown on the drawings or in accordance 4. Bond ground to nearest cold water supply pipe and to footer or slab steel

with same size conductor as regired for driven ground. 5. Provide ground wire #8 Minimum to the telephone board. Mechanical Equipment All mechanical equipent motors shall have grounded cases. 2. All equipment shall have a ground wire bonded theequipment cabinet fame, ect., to the system ground. D. Ground Fault Protection Ground fault protection shall be provided for all receptacles

labelled GFI or where required by letter A of this section 2. The designation GFI on the drawings denotes a ground fault protected 3. Ground fault protection maybe provided by a ground fault

A. Provide an empty conduit system for Telephone /Data including fish wires, boxes and blank plates. B. Conduit and outlets shall be as shown on the drawings and the telephone riser. C. Consult the local utility representative for any special requirements prior to starting the work. ground mounted on the board.

FLUDRESCENT BALLASTS

D. Provide phone board as shown with 120 volt outlet and E.D. Provide DATA board as shown with 120 volt outlet and ground mounted on the board.

A. Furnish all fluorescent lighting fixtures with electronic energy

saving type ballasts, for all F 32 T8 and F 24 T8 fixtures

B. Ballasts for fluorescent lamps shall be UL listed.

tube shall be 34 watts and 24 watts for a 30 Inch

D. Ballasts shall be manufactured by G.E., Advance, or equal.

Class P, FCC Certified High Frequency (25 KHZ)

Cathode Heat Cutback, and Translent Protected.

C. Maximum wattage input to each 48° fluorescent

A. All surge suppressions devices shall be manufactured by a company normally engaged in the design, development, and manufacture of such devices for electircal and electronics systems equipment, the said firm shall offer a five - year (5) warranty. B. Equipment certificaioni Items shall be listed by underwritters' laboratories, shall bear the UL seal and be amrked in accoradance with referenced

E. Suppressors shall be a hybrid design, and include circuit with tight,

C. Surge suppressions devices shall be installed and located in accordace with requirements of all applicable National Fire Protection Association (NFPA) D. Suppressors shall be designed for the specific type and voltage of electrical service and shall provide clamping action for both normal (L-N) and common (L-N-G) mode protectiton.

wave-tracking clamping characteristics. F. Suppressors shall be designed to withstand a maxium continuous operating voltage of not less thank 115 normal RMS line voltage. G. Suppressors shall contain internal safty fusing, when required to disconnect the suppressor from the electrical source if the suppressor fails, in order to prevent catastrophic failure modes.

H. Suppressors shall meet or exceed the following criteria: 1. PANELS HI, HZ, H3, H4, HB: Leviton Manufacturing 32000 series or approved equal. a. 120/208 volt, 3 phase 4 wire, WYE

b. Leviton model 32120-DY3 c. Surge capacity of 75,000 amps d. Suppressors shall be tested as per IEEE C62.41-1991 to determine clamping voltages using category C3 test criteria. I. PNL HC & TYPICAL TENANT: Leviton Manufacturing 42000 series or approved equal.

1. 120/208 volt, 3phase 4 wire, WYE a. Leviton model 42120-DY3 b. Surge capacity of 50,000 amps c. Suppressors shall be tested as per IEEE C62.41-1991 to determine clamping voltage using Cat. B3 test criteria.

J. The UL 1449 suppression rating for any mode shall not exceed VOLTAGE PHASE MAXIMUN SUPPRESSION RATING 120 1 600V 120/208 3 600V 240 3 1200V 277/480 3 1200V

receptacle type device to match equipment when required.

Provide on Tel backboard receptacles.

K. Dedicated 120 volt, 20 amp power connection to circuits where indicated

on drawings shall equal Leviton model 51020-WM. Provide hardwire or

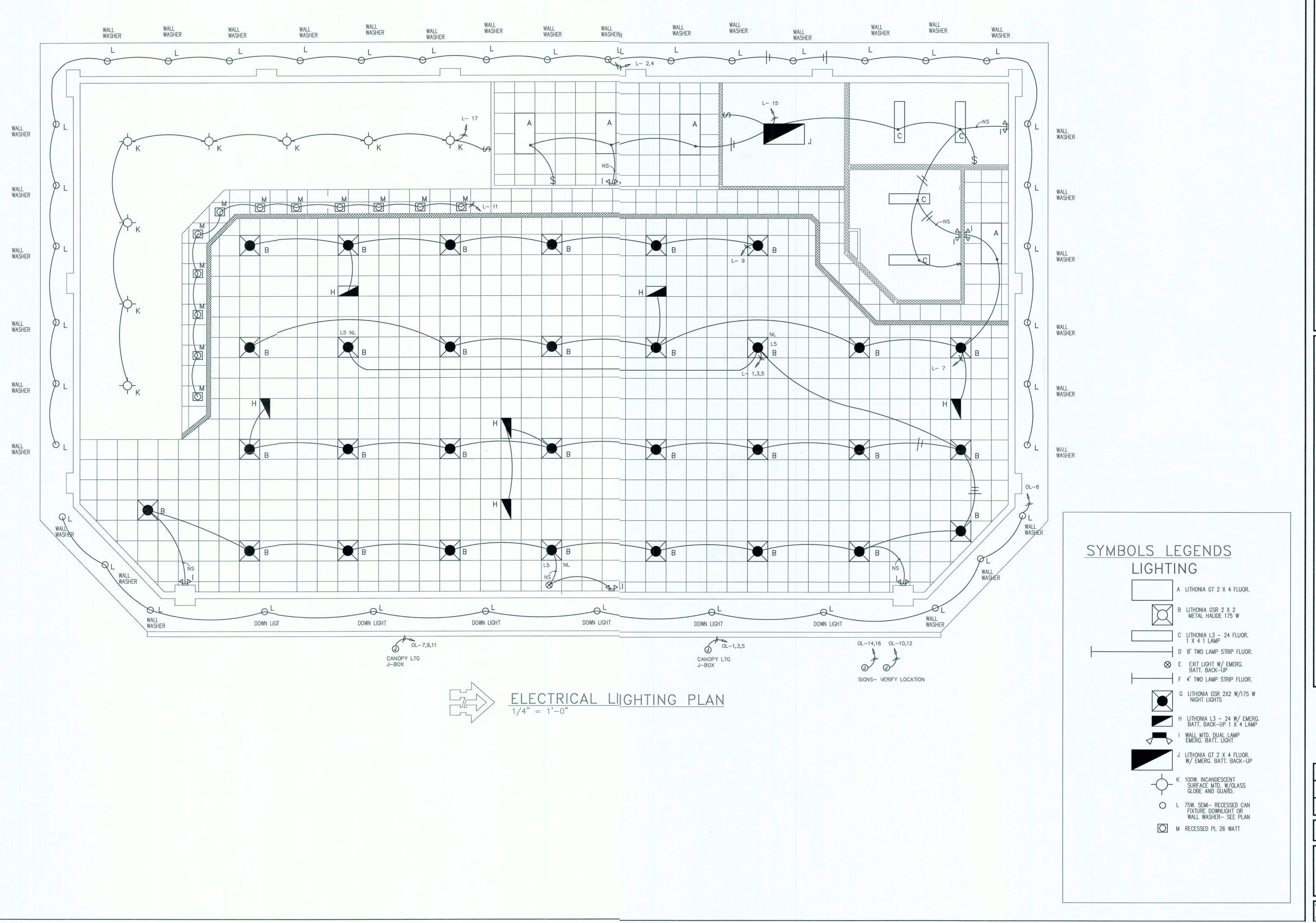
SERVICE ENTRANCE, METERING, GROUNDING AND

D. Provide ground fault protection for all circuits noted on the drawings as GFI or in

A. Service Entrance 1. Provide underground service entrance, meter base and/or

receptacles or ground fault breaker. 4. Standard receptacles shall be considered ground fault protected if in series

with an upstream GFI receptacle.



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