UNIVERSITY OF LOUISVILLE STUDENT RECREATION CENTER

2030 SOUTH 4th STREET LOUISVILLE, KENTUCKY 40208



BID PACKAGE, PHASE #4 - GENERAL CONTRACTOR **BEST VALUE** JANUARY, 2012

THE SCOPE OF BID PACKAGES, PHASES 1, 2, AND 3 (INCLUDING ADDENDA) ARE RELATED TO AND INCLUDE ASSIGNED SCOPE OF WORK THAT IS A COMPONENT OF BID PACKAGE #4. THESE DOCUMENTS HAVE BEEN

BID PACKAGE, PHASE (1) SITE PREPERATION (FLYNN BROS.) BID PACKAGE, PHASE (2) SPECIAL INSTRUCTIONS (TBA) BID PACKAGE, PHASE (3) STEEL FABRICATION AND ERECTION (TBA)



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CANNON DESIGN

LEAD DESIGNERS

1100 Clark Avenue, St. Louis, MO 63102 p314.241.6250

Rangaswamy & Associates, Inc.

STRUCTURAL ENGINEERS

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Carman

LANDSCAPE ARCHITECTS/ CIVIL ENGINEERS

639 East Jefferson Street, Louisville, KY 40202 p502.742.6581

Swope Design Group

WAYFINDING DESIGNER

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CANNONDESIGN

CMTA Consulting Engineers

MEP ENGINEERS

10411 Meeting Street, Prospect, KY 40059 p502.326.3085

Paladin, Inc.

COMMISSIONING AGENT

143 Walton Avenue, Lexington, KY 40508 p 859.252.3047

DBA Accoustics, Inc.

ACCOUSTICAL CONSULTANTS

3044 Bardstown Rd., Louisville, KY 40205 p502.212.9184

Robert Pass + Associates

COST CONSULTANTS

309 East Market Street, Suite 302, Louisville, KY 40202 p502.589.7632

Schedule of Drawings

MECHANICAL/ELECTRICAL/PLUMBING

FP0111 - LEVEL 01 - FIRE PROTECTION FP0121 - MEZZANINE - FIRE PROTECTION FP0131 - LEVEL 02 - FIRE PROTECTION

UM0100 - MECHANICAL SITE PLAN UM0101 - WELL FIELD WATER CONTAIMENT PLAN

UM0102 - GEOTHERMAL DETAILS UM0103 - GEOTHERMAL DETAILS

M0211 - LEVEL 01 - AIR DISTRIBUTION - AREA A M0212 - LEVEL 01 - AIR DISTRIBUTION - AREA B M0213 - LEVEL 01 - AIR DISTRIBUTION - AREA C

M0214 - LEVEL 01 - AIR DISTRIBUTION - AREA D M0222 - MEZZANINE LEVEL - AIR DISTRIBUTION - AREA B M0223 - MEZZANINE LEVEL - AIR DISTRIBUTION - AREA C M0224 - MEZZANINE LEVEL - AIR DISTRIBUTION - AREA D M0231 - LEVEL 02 - AIR DISTRIBUTION - AREA A

M0232 - LEVEL 02 - AIR DISTRIBUTION - AREA B M0311 - LEVEL 01 - HYDRONICS M0321 - MEZZANINE LEVEL - HYDRONICS

M0331 - LEVEL 02 - HYDRONICS M0401 - ENLARGED MECHANICAL - AIR DISTRIBUTION M0402 - ENLARGED MECHANICAL - PIPING

M0403 - ENLARGED MECHANICAL ROOMS M0404 - ENLARGED MECHANICAL ROOMS - PIPING M0501 - MECHANICAL SECTIONS

M1001 - MECHANICAL PIPING SCHEMATICS M1002 - MECHANICAL PIPING SCHEMATICS M1101 - MECHANICAL DETAILS

M1102 - MECHANICAL DETAILS M1201 - MECHANICAL SCHEDULES

M1202 - MECHANICAL SCHEDULES

P0112 - PLUMBING SCHEDULES AND SCHEMATICS P0113 - SITE UTILITIES PLAN - GEOTHERMAL MAN. BUILDING P0200 - LEVEL 01 UNDERSLAB PLUMBING

P0201 - LEVEL 01 UNDERSLAB PLUMBING - AREA B P0202 - LEVEL 01 UNDERSLAB PLUMBING - AREA C P0203 - LEVEL 01 UNDERSLAB PLUMBING - AREA D P0210 - LEVEL 01 - PLUMBING

P0211 - LEVEL 01 - PLUMBING - AREA B P0212 - LEVEL 01 - PLUMBING - AREA C P0213 - LEVEL 01 - PLUMBING - AREA D P0220 - MEZZANINE - PLUMBING

P0221 - MEZZANINE - PLUMBING - AREA B P0222 - MEZZANINE - PLUMBING - AREA C P0223 - MEZZANINE - PLUMBING - AREA D

P0231 - LEVEL 02 - PLUMBING - AREA A P0232 - LEVEL 02 - PLUMBING - AREA B P0234 - LEVEL 02 - PLUMBING - AREA D

P0241 - ROOF - PLUMBING P0300 - LEVEL 01 - ENLARGED PLUMBING PLAN P0400 - PLUMBING LEGEND AND SCHEDULES

UE1101 -SITE UTILITY PLAN - ELECTRICAL DEMOLITION UE1201 - SITE PLAN - ELECTRICAL **UE1301 - ELECTRICAL SITE DETAILS**

E0101 - LEVEL 01 - INTERCONNECTION PLAN E0103 - LEVEL 03 - INTERCONNECTION PLAN

E0211 - LEVEL 01 - LIGHTING - AREA A

UE1401 - ELECTRICAL SITE DETAILS

E0214 - LEVEL 01 - LIGHTING - AREA D

E0224 - MEZZANINE - LIGHTING - AREA D E0231 - LEVEL 02 - LIGHTING - AREA A E0232 - LEVEL 02 - LIGHTING - AREA B

E0312 - LEVEL 01 - POWER/SYSTEMS - AREA B

E0314 - LEVEL 01 - POWER/SYSTEMS - AREA D

E1001 - ELECTRICAL SCHEDULES & DETAILS E1101 - ELECTRICAL DETAILS E1102 - ELECTRICAL DETAILS

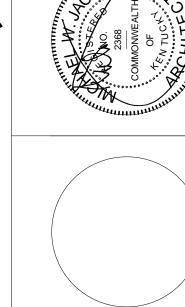
E1201 - ELECTRICAL SCHEDULES & DETAILS E1202 - ELECTRICAL SCHEDULES & DETAILS

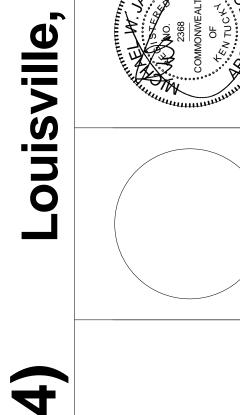
E1203 - ELECTRICAL SCHEDULES & DETAILS E1301 - FIRE ALARM RISER E1401 - NORMAL POWER DISTRIBUTION RISER

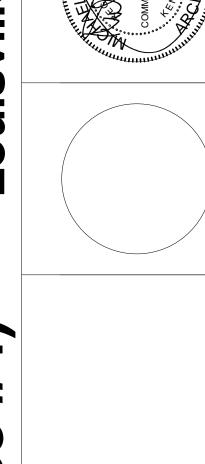
E1402 - EMERGENCY POWER DISTRIBUTION RISER

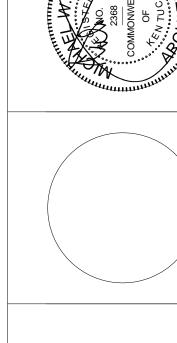
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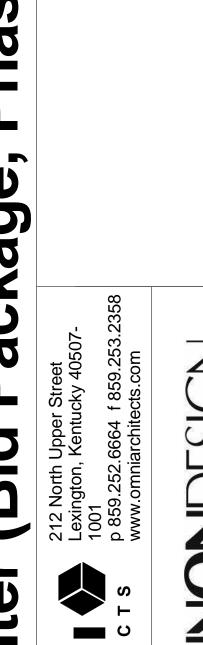
M/E/P 3 of 3

















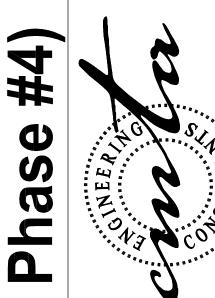
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GENERAL NOTES (APPLICABLE TO ALL DRAWINGS)

- . EACH CONTRACTOR, SUPPLIER AND, OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT. COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS AND AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.
- 2. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC., MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSERS' DISCRETION.
- 3. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.).
- 4. ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT
- DONE SO SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. 5. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT
- THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS.
- 6. DO NOT SCALE FROM DRAWINGS, PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.
- 7. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR THEIR WORK. ALL CUTTING AND PATCHING SHALL MATCH ADJACENT SURFACES . REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL
- 8. TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN, AND EXHAUST DUCT WORK ELBOWS.
- 9. THESE DRAWINGS ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE, HOWEVER LOCATIONS, DEPTHS, ELEVATIONS AND SIZES WERE TAKEN FROM DIFFERENT SOURCES AND ARE SUBJECT TO DEVIATION. THE CONTRACTOR SHALL ASSUME SOME DEVIATIONS AND INCLUDE OFFSETS, ADDITIONAL PIPING, ETC AT THE TIME OF BID.
- 10. WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATIONS IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANY WAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING INSTALLER.
- 11. ADVISE THE ENGINEERS OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO
- ALLOW CLARIFICATION BY WRITTEN ADDENDUM. 12. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.
- 13. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, ETC. WITH ALL MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).
- 14. THE PURPOSE AND INTENT OF ALL THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.
- 15. ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.
- 16. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORD WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION.
- 17. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES, EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.
- 18. DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
- 19. THE GENERAL CONTRACTOR FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS, INSTALLERS, ETC.
- 20. VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT.
- 21. THE GENERAL CONTRACTOR SHALL ENSURE PROPER COORDINATION BETWEEN ALL TRADES SUCH THAT CONDUITS, PIPING, DUCTWORK, ETC. DO NOT BLOCK ACCESS TO VALVES, EQUIPMENT, DUCT ACCESS DOORS, ETC. ITEMS THAT HAVE BEEN INSTALLED WHERE ACCESS IS COMPROMISED SHALL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.
- 22. ALL FLOOR PENETRATIONS REQUIRE FIRE DAMPERS. INSTALL ACCESS PANELS AND MAINTAIN SERVICE CLEARANCES.
- 23. OWNER IS PURSUING LEED IEQ CREDIT 5. ALL RETURN GRILLES SHALL HAVE FILTERS APPLIED WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13 OR HIGHER PRIOR TO OCCUPANCY. OUTSIDE AIR UNITS SHALL NOT OPERATE PRIOR TO OCCUPANCY. REFER TO GENERAL PROVISIONS FOR ADDITIONAL INFORMATION.
- 24. THE CONTRACTOR SHALL INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH DRAINING AND FILLING PIPING SYSTEMS AS REQUIRED TO INSTALL THEIR NEW WORK. SYSTEMS INCLUDE:
 - 2-PIPE SYSTEMS. GEOTHERMAL SYSTEM.







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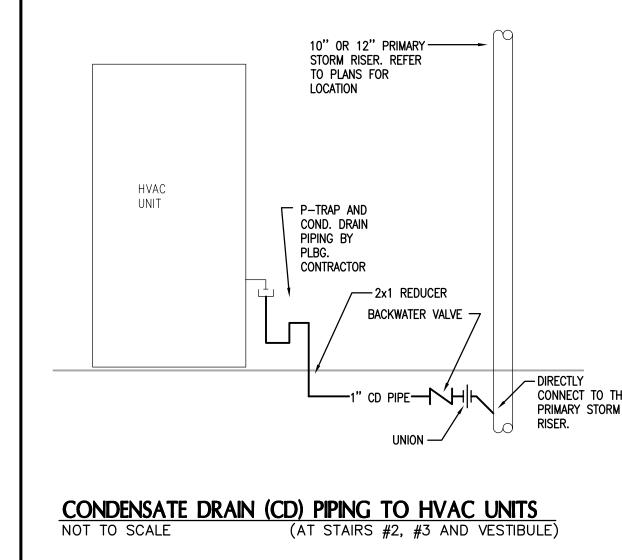
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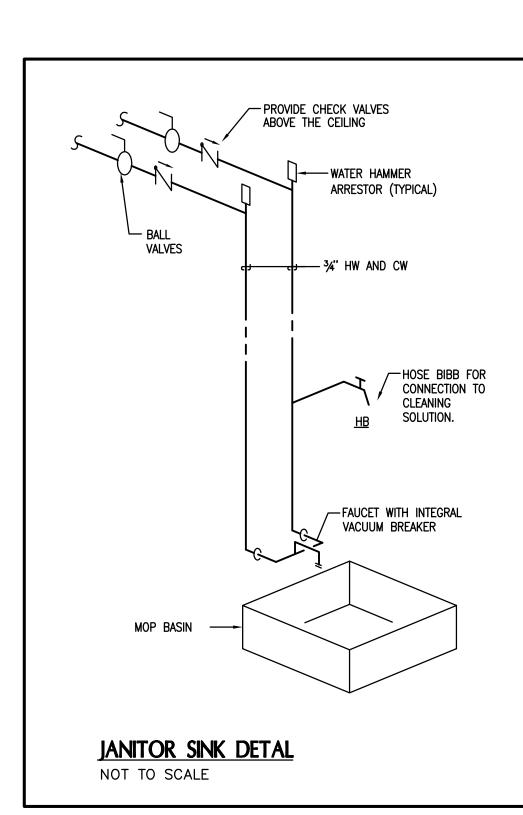
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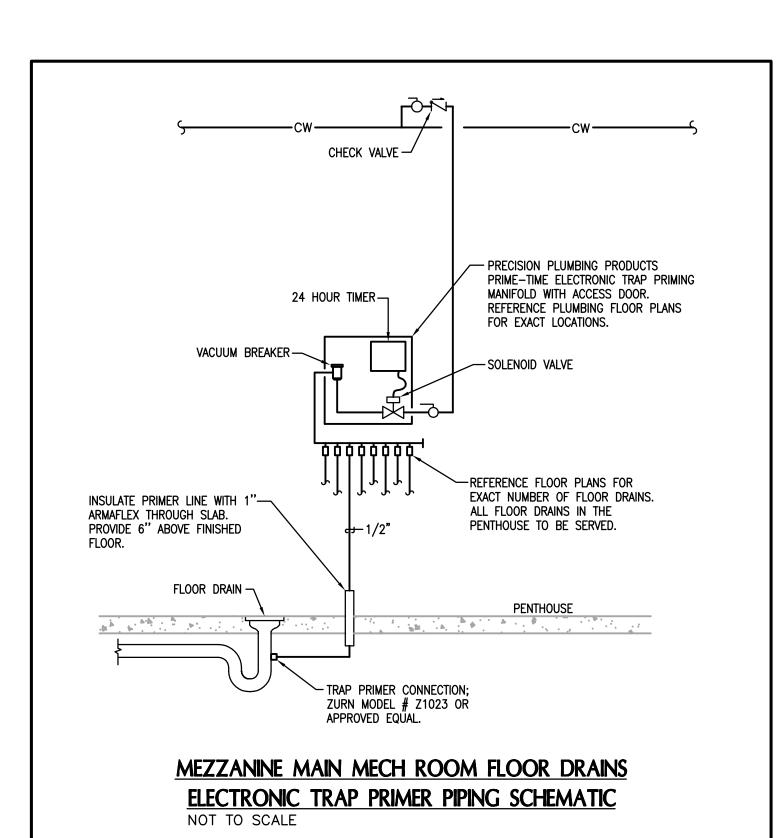
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EXTERIOR CLEANOUT DETAIL - "ECO"

NOT TO SCALE





PLUMBING FIXTURE SCHEDULE

FIXTURE

WATER CLOSET, WALL HUNG

WATER CLOSET, WALL HUNG, ADA

WATER CLOSET, FLOOR SET, ADA

SHOWER - SHOWER FITTING SET

SHOWER, ADA, SHOWER FITTING SET

BOTTLE FILLING STATION - RECESSED CHILLER

| MECHANICAL ROOM FLOOR DRAIN W/ FUNNEL

DESIGNATION. PROVIDE PIPING OF SIZE INDICATED IN THIS SCHEDULE.

BI-LEVEL, 2 STATION ELEC. WATER COOLER, RECESSED CHILLER

* ADA SPOUT MOUNTED AT 36" MAX. WITH 27" MINIMUM KNEE SPACE (ABOVE FINISHED FLOOR)

PROVIDE ALL REQUIRED PIPING TO FIXTURES INDICATED ON THE FLOOR PLANS, INDICATED WITH A "P"

PIPE SIZES ARE AS INDICATED UNLESS OTHERWISE NOTED ON FLOOR PLANS AND

3 STATION ELECTRIC WATER COOLER - SURFACE MOUNT

LAVATORY, COUNTERTOP, ADA

LAVATORY, WALL HUNG, ADA

| SINGLE COMPARTMENT SINK

DOUBLE COMPARTMENT SINK

SHOWER ROOM FLOOR DRAIN

| MECHANICAL ROOM FLOOR DRAIN

TOILET ROOM FLOOR DRAIN

MINIMUM 2" SANITARY PIPING UNDERGROUND.

URINAL, ADA

JANITOR'S SINK

LAUNDRY SINK

RISER DIAGRAMS.

DESIGNATOR

RIM HEIGHT CW HW SAN VENT

34" | 1/2" | 1/2" | 2"

17" | 3/4" | -- | 2"

1/2"

--

1/2" | 1/2" | 2"

1/2" | 1/2" | 2"

1/2" | 1/2" | 2"

3/4" | 3/4" | 3"

3/4" 3/4" 3"

1/2" | 1/2" | 2"

15" | 11/4" |

17" | 1½" |

-- 4"

-- | 4" |

-- 2"

-- | 1½"

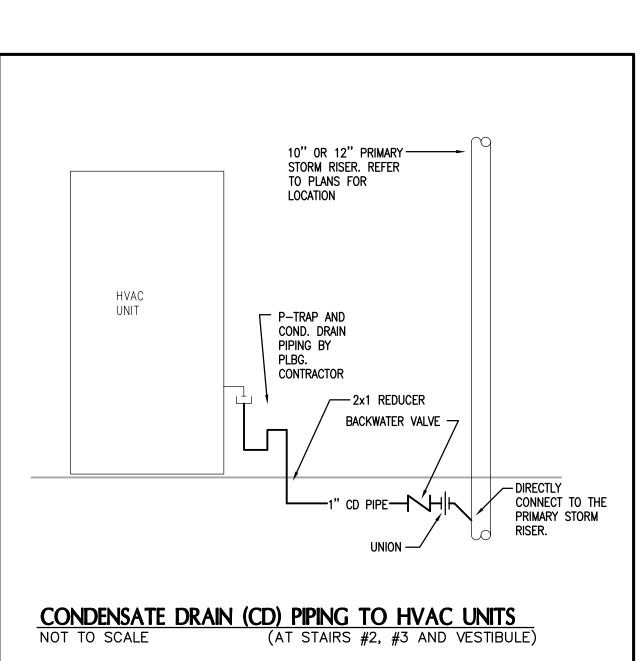
-- | 1½" -- | 1½"

-- 2"

-- | 3"

-- | 3"

-- | 4" |

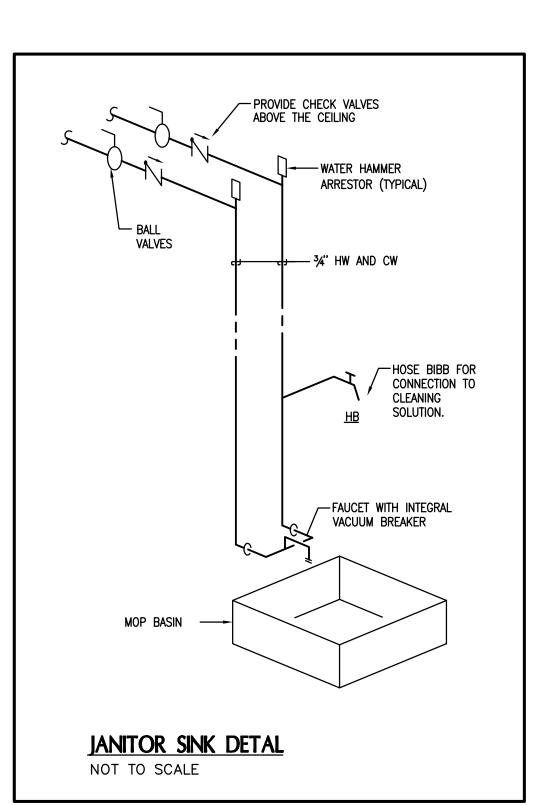


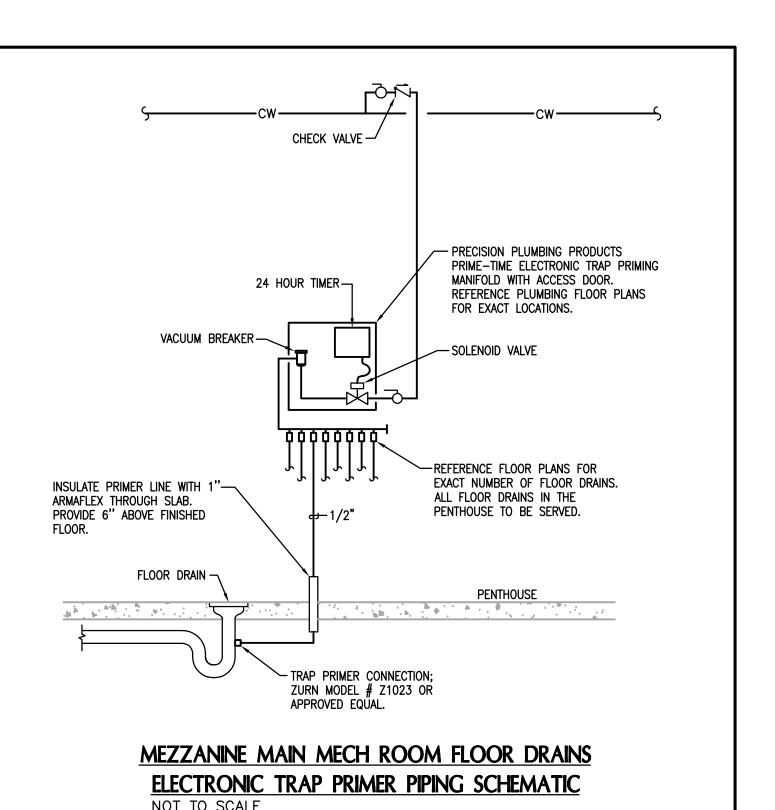
— CLEAN OUT BOX (STAMPED "CO")

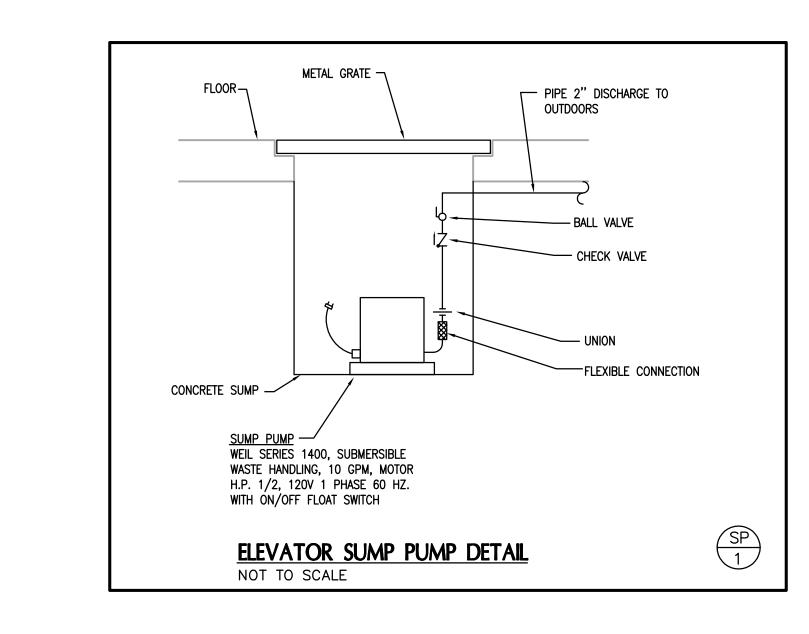
18" X 18" X 4" CONCRETE PAD

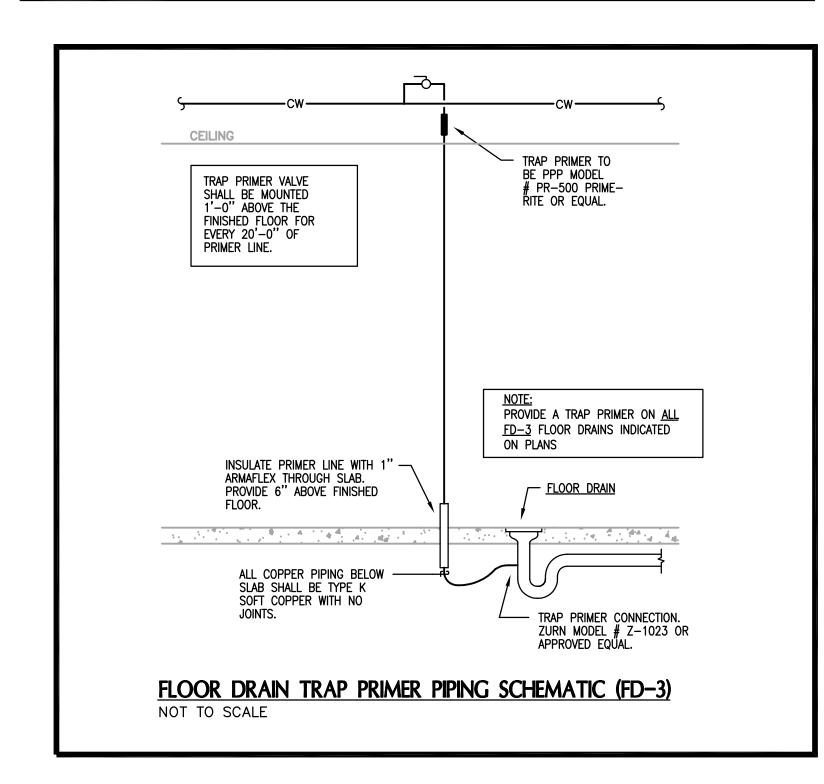
CLEAN OUT BOX TO BE INDEPENDENT OF PIPE

— FINISH GRADE









| PLUMBING LEGEN | ID |
|---|--|
| FLOOR DRAIN ROOF DRAIN | FD RD |
| OVERFLOW SCUPPER DRAIN | OSD |
| HOSE BIBB | HB |
| VENT THRU ROOF | VTR |
| WATER HAMMER ARRESTOR | WHA |
| WATER HEATER | WH |
| CLEANOUT | CO |
| EXTERIOR CLEANOUT FREEZE PROOF WALL HYDRANT | ECO FPWH |
| TYPICAL | TYP |
| NOT TO SCALE | NTS |
| ABOVE FINISHED FLOOR | AFF |
| POTABLE WATER PIPING | W |
| SANITARY PIPING | ——SAN—— |
| STORM PIPING | SS |
| DEDICATED GREASE WASTE PIPING | ——GL—— |
| NATURAL GAS PIPING | ——G—— |
| SANITARY VENT PIPING | v |
| DOMESTIC COLD WATER PIPING (CW) | |
| DOMESTIC HOT WATER (110°F.) PIPING (HW) | |
| DOMESTIC HOT WATER (110°°F.) RETURN PIPING (HWR) | |
| RELIEF VALVE DISCHARGE PIPING | —RVD —— |
| UNION | |
| GATE VALVE | $\longrightarrow \bowtie$ |
| DIRECT DIGITAL CONTROL TEMP. SENSOR. | (<u>T</u> S) |
| FLOW METER | ——FM——— |
| DIAL THERMOMETER | P |
| PRESSURE GAUGE | <u> </u> |
| | |
| PIPING ELBOW (TURNED UP/DOWN) PIPE TEE (TURNED UP/DOWN) | —○ — —— —— |
| BALL VALVE | |
| DOUBLE CHECK VALVE ASSEMBLY | —————————————————————————————————————— |
| CHECK VALVE ASSEMBET | |
| SAFETY OR RELIEF VALVE | |
| REDUCED PRESSURE BACKFLOW PREVENTER | |
| | |



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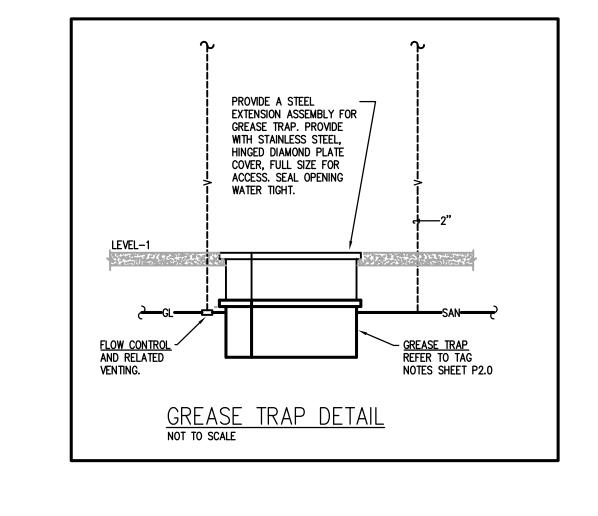
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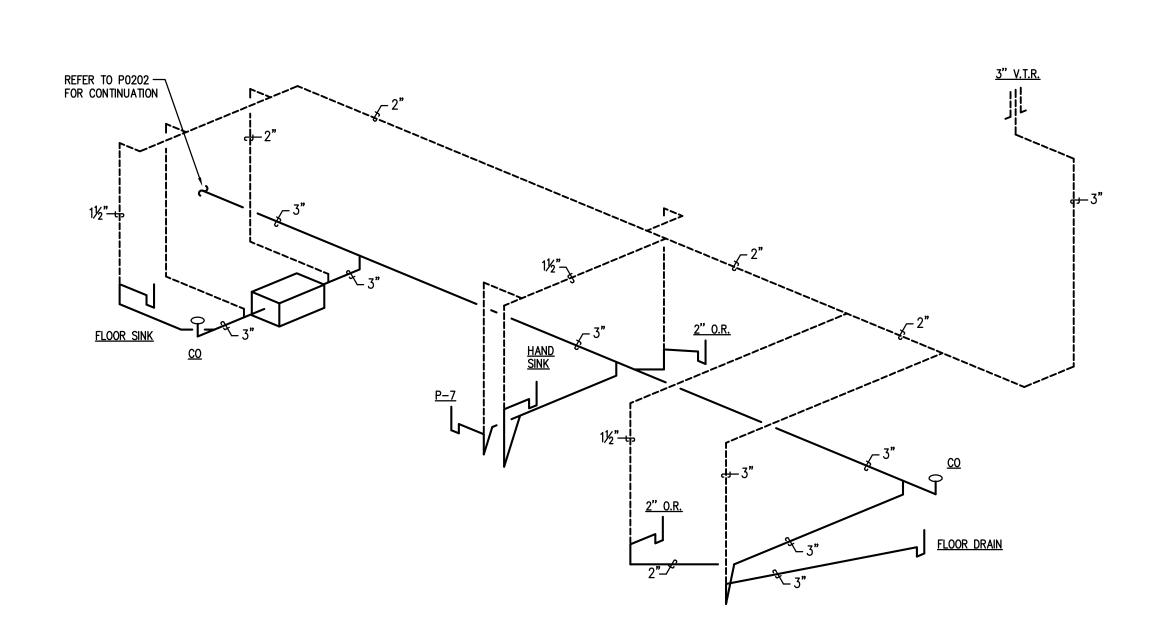
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Phase

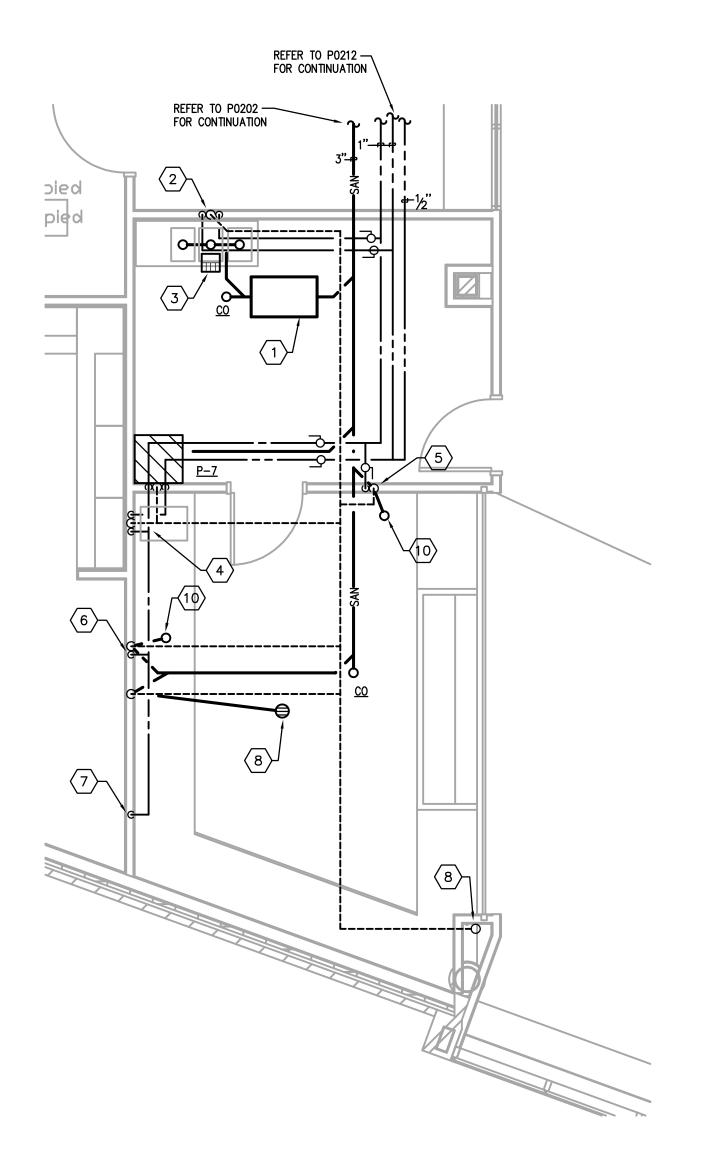
NEW GREASE TRAP. INSTALL FLUSH WITH FLOOR
AND PROVIDE EXTENSION RING AND RECESSED TOP
TO ACCOMMODATE NEW FLOORING. ZURN
Z1170-600-ET, 25 GPM AND 50# CAPACITY. PIPE
IN ACCORDANCE TO THE KY. PLUMBING CODE.
REFER TO THE GREASE TRAP DETAIL THIS SHEET
FOR FURTHER REQUIREMENTS. 1" CW & HW DN. TO 3-COMP SINK, PROVIDED BY KITCHEN EQUIPMENT SUPPLIER. SINK DRAIN PIPING TO FLOOR SINK, SHALL BE SUPPLIED WITH FLOW CONTROLS. 3 FLOOR SINK: ZURN 1900, 3" BOTTOM OUTLET AND HALF GRATE. $\frac{1}{2}$ " CW, HW, 1-1/2" SAN. TO HAND SINK, PROVIDED BY KITCHEN EQUIPMENT SUPPLIER. 5 ½" CW DN TO FILTER SYSTEM FOR ESPRESSO MACHINE. 6 $\frac{1}{2}$ CW DN. TO UNDER COUNTER ICE MACHINE 7 $\frac{1}{2}$ " CW DN. TO COFFEE BREWER. 8 FLOOR DRAIN: ZURN Z415, 3" OUTLET, TYPE B, NICKEL BRONZE STRAINER. 9 3" V. UP. REFER TO P0222 FOR CONTINUATION. 10 2" O.R. LOCATED IN FLOOR. PIPE ALL ADJACENT EQUIPMENT DRAINS TO THIS O.R.

TAG NOTES:





SANITARY WASTE AND VENT RISER DIAGRAM — ZEBI CONCESSION NOT TO SCALE



LEVEL 1 — ZEBI CONCESSION — PLUMBING SCALE: 1/4" = 1'-0"

20. PROVIDE DETAILED SHOP DRAWINGS TO ENGINEERS PRIOR TO PURCHASING

BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT. 23. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE AFFECTING INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF | 43. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE THESE DOCUMENTS, AS APPLICABLE.

24. WHERE FIRE RATED CEILING ASSEMBLIES ARE NOTED, PROVIDE RATED, APPROVED GYPSUM BOARD ENCLOSURES ABOVE LIGHT FIXTURES, CEILING DEVICES, ETC. IN OR ON CEILING, TO MAINTAIN CEILING RATINGS.

COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, KITCHEN EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).

ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LABELED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY. APPROVED AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.

27. ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTI-PAIR SHALL BE INSTALLED CONTINUOUS INSOFAR AS POSSIBLE FROM TERMINAL POINT TO TERMINAL

28. ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO INSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE OR SUB-SERVICE FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL

29. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES, EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING. WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME, PROVIDING PREMIUM TIME

REFER TO ARCHITECTURAL WALL ELEVATIONS (WHERE GIVEN) FOR HEIGHTS AND MOUNTING RELATIONSHIP OF OUTLETS AND EQUIPMENT. IF IN DOUBT, CONTACT THE ENGINEER FOR DIRECTION PRIOR TO INSTALLING WORK. 32. FLUSH OR PEDESTAL - TYPE FLOOR OUTLETS, AS INDICATED ON PLAN SHALL BE LOCATED BY DIMENSIONS PROVIDED BY THE ARCHITECT, UNLESS OTHERWISE SHOWN ON PLANS. IF IN DOUBT, CONTACT THE ENGINEER PRIOR TO ROUGHING-IN ANY WORK.

33. AS APPLICABLE, REFER TO ARCHITECTURAL PHASING PLANS AND PHASING BOUNDARIES ON THESE DRAWINGS FOR SEQUENCING OF WORK, FULL EXTENT OF AREAS INVOLVED, EXTENT OF CEILING WORK, ETC. PROVIDE TEMPORARY CONNECTIONS FOR CIRCUITS AND WORK AS REQUIRED TO MAINTAIN SEQUENCE OF THE WORK FROM PHASE TO PHASE.

WHERE EXIT LIGHTS ARE CONNECTED TO EMERGENCY CIRCUITS WITH KEYSWITCH OR CONTACTOR CONTROL, AN UNSWITCHED LINE SHALL BE PULLED IN TO MAINTAIN THEIR OPERATION REGARDLESS OF SWITCH

35. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL BE IN ACCORD WITH THE ARCHITECT'S STANDARDS FOR SUCH WORK. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEERS FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.

INTERRUPTION OF ANY EXISTING SERVICES SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR, UTILITY COMPANY AS NECESSARY, AND THE ARCHITECT, AT LEAST ONE WEEK IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED, TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.

37. LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING, TO MAXIMIZE AVAILABLE LIGHT. SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.

38. WHERE EXIT SIGNS OR EMERGENCY BATTERY PACKS ARE PROVIDED, THEY SHALL BE CONNECTED TO AN UNSWITCHED LINE. 39. ALL LIGHTING FIXTURE LENSES, PARABOLIC LOUVERS, DOWNLIGHTING ALZAK CONES AND "PARACUBE" LOUVERS SHALL BE HANDLED WITH COTTON GLOVES DURING INSTALLATION AND LAMPING TO AVOID FINGERPRINTS OR DIRT DEPOSITS. IT IS PREFERRED THAT FIXTURES BE SHIPPED AND INSTALLED WITH CLEAR PLASTIC BAGS TO PROTECT LOUVERS. AT CLOSE OF PROJECT. AND AFTER CONSTRUCTION AIR FILTERS ARE CHANGED. REMOVE BAGS. ANY LOUVER OR CONE SHOWING DIRT OR FINGER PRINTS

NEW FIXTURES AT OCCUPANCY. 40. REFER TO ARCHITECTURAL DETAILS AS APPLICABLE FOR RECESSED SOFFIT FLUORESCENT FIXTURES. ADJUST FIXTURE LENGTHS BY FIELD MEASUREMENT OF SOFFIT, AS NECESSARY.

WHERE OUTLETS ARE LOCATED APPROXIMATELY BACK-TO-BACK ON OPPOSITE SIDES OF A PARTY WALL, THE OUTLETS SHALL NOT BE INSTALLED IN THE SAME STUD SPACE, BUT SHALL BE SEPARATED BY A MINIMUM OF ONE STUD.

42. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FURE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR DEPARTMENTS HAVING JURISDICTION. IF ANY CONFLICTS OR DISCREPANCIES OCCURTHE MOST STRINGENT SHALL APPLY.

EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEERS FOR CLARIFICATION PRIOR TO INSTALLING ANY SUCH WORK. 44. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.

| BACKBOX SCHEDULE: | | | | | | | | | |
|-------------------|---|--|--|--|--|--|--|--|--|
| INDICATING NO. | SIZE REQUIRED | | | | | | | | |
| 1G | 4-11/16" SQUARE x 2-1/8"D TWO-GANG BACKBOX (STEEL CITY #72171) WITH SINGLE-GANG 3/4" RAISED PLASTER EXTENSION RING. | | | | | | | | |
| 2G | 4-11/16" SQUARE x 2-1/8"D TWO-GANG BACKBOX (STEEL CITY #72171) WITH TWO-GANG 3/4" RAISED PLASTER EXTENSION RING. | | | | | | | | |
| 2G-A | 6-13/16" x 4-11/16"H x 1-5/8"D TWO-GANG BACKBOX (STEEL CITY #2G) WITH TWO-GANG 3/4" RAISED PLASTER EXTENSION RING. | | | | | | | | |
| 3G | 8-5/8"W x 4-1/2"H x 2-1/2"D THREE-GANG BOX (STEEL CITY #H3BD) WITH TWO-GANG 3/4" RAISED PLASTER EXTENSION RING. | | | | | | | | |

SYSTEMS EQUIPMENT TERMINAL POINT NOTE:

AT ALL SYSTEMS EQUIPMENT CABINET/TERMINAL BOARD LOCATIONS (LEQUIP) AS INDICATED ON ELECTRICAL DRAWINGS, CONTRACTOR SHALL PROVIDE SIZE AND NUMBER OF CONDUIT STUB-OUTS TO CABLE PATHS AS REQUIRED FOR CABLING TERMINATE CONDUITS AT CABINETS/ON BACKBOARDS AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH CABLING INSTALLATION PRIOR TO CONSTRUCTION.

ALLOWANCE NOTE:

THIS CONTRACTOR SHALL REFER TO DIVISION 1 SPECIFICATIONS FOR ALLOWANCES THAT SHALL BE INCLUDED BY THIS CONTRACTOR.

AUDIO/VIDEO SOUND SYSTEM NOTE:

CONTRACTOR SHALL HAVE ON SITE COORDINATION MEETING WITH ENGINEER & UNIVERSITY VENDOR PRIOR TO ROUGH-IN.

ELECTRICAL CONTRACTOR SHALL PROVIDE (FURNISH AND INSTALL) ALL CONDUITS, JUNCTION BOXES, RACEWAYS, 120 VAC POWER, ETC FOR ALL WORK RELATED ON "ES" DRAWINGS AND SPECIFICATIONS. REFER TO FLOOR PLANS, DETAILS AND RISERS ON "ES" DRAWINGS FOR ALL REQUIRED WORK.

| | | DEVICE MODEL # REFER TO SPECS. F NONE LISTED | BACKBOX, COVER IF APPLICABLE | MOUNTING HEIGHT (TO CENTER OF BOX) | -(.) DRAWING SYMBOL |
|---|--|--|---|---------------------------------------|---------------------------------------|
| SYSTEM SWITCHES | LIGHT SWITCH: GENERAL PURPOSE PILOT LIGHT SWITCH (ILLIMINATED | R플로 | <u>8</u> ⊩ | 46" | |
| | PILOT LIGHT SWITCH (ILLUMINATED WHEN LOAD IS ON) | | | 46" | Şpl |
| | DIMMER SWITCH | | | 46" | ŞD |
| | THREE-WAY SWITCH FOUR-WAY SWITCH | | | 46" 46" | >3 >4 |
| | KEYED SWITCH MOMENTARY CONTACT SWITCH | | | 46" 46" | \$ D \$ 3 \$ 4 \$ к \$ мс |
| | SINGLE THROW/DOUBLE POLE SWITCH | | | 46" | Ss2 Sos |
| | WALL MOUNTED OCCUPANCY SENSOR PHOTO-CELL AS NOTED | | | 46" AS NOTED | Şos (PC) |
| JIGHTING | FLUORSCENT WALL MOUNT | SEE SCHEDULE | | 6'-6" | |
| SLASHED INDICATES RECESSED. | 2'x2' FLUORSENT TROFFER 2'x4' FLUORSCENT TROFFER (RECESSED) | SEE SCHEDULE SEE | | CEIL. | |
| SHADING INDICATES UNSWITCHED EMERGENCY FOR NIGHT LIGHTING | DOWNLIGHT | SCHEDULE SEE SCHEDULE SEE | | CEIL. | |
| | EXIT LIGHT | SCHEDULE SEE SCHEDULE | | AS NOTED | \bowtie , \bowtie |
| SHADING INDICATES SWITCHED EMERGENCY OPERATION | UNDERCABINET | SEE SCHEDULE SEE | | AS NOTED | <u> </u> |
| ******* | LINEAR DIRECT/INDIRECT | SCHEDULE | | | |
| POWER DUTLETS | SIMPLEX - TAMPER RESISTANT, | | | 1'-6" | () () s |
| | DUPLEX | | | 1'-6" | \ominus |
| | DUPLEX (ABOVE COUNTERTOP) DUPLEX HAH INTEGRAL | | | 8" ACT. 1'-6" | ∅ |
| | GROUND FAULT PROTECTION GANG RECEPTACLE IN COMBINATION WITH SWITCH (PROVIDE DIVIDER | | | 46" | ⊖ GFI ⊖ C/S |
| | QUADRUPLEX RECEPTACLE | | | 1'-6" | ⊕ |
| | JUNCTION BOX | LILIBOT | #0470 h | | ⊕ |
| | 208/1¢ DRYER RECEPTACLE, NEMA 14-30R | HUBBELL (COOPER EQUAL) | #9430A OR LEVITON | 38" | = |
| | 208/3ø RECEPTACLE, AS NOTED DUPLEX - IN KITCHEN (SEE DETAIL) | | | 1'-6" FLOOR | ₩ ₩ |
| | DUPLEX - SURGE SUPPRESSOR TYPE WEATHER RESISTANT DUPLEX - WITH | 125V, 20A | MP, GFCI | 1'-6" | ⊕ ss |
| | LOCKABLE, WEATHER-PROOF, "WHILE IN USE" TYPE DIE-CAST METAL COVER. (INTERMATIC #WP1010MC, RED DOT #CSMGV OR TAYMAC | WEATHER I DUPLEX: HUBBELL # COOPER # | RESISTANT #GFTR20 | 2'-0" | ⊕ WP |
| | #MX3200) LOCATE GFI SIMPLEX OUTLET RECESSED | COOPER # LEVITON # | | $\vdash \vdash$ | EWC |
| MISC. | CONDUIT CONCEALED IN WALLS | | | | -GROU -NEUT |
| | CONDUIT CONCEALED IN WALLS OR IN CEILING SPACE: ARROW(S) INDICATE(S) HOME RUN & # OF CIRCUITS: HASHMARKS INDICATE # OF CONDUCTORS | | | | - //- |
| | DASHED LINES INDICATED CONDUIT SHALL BE ROUTED THROUGH ACCESSIBLE CRAWLSPACE, ACCESSIBLE CEILING SPACE OF FLOOR | | | | / |
| | BELOW, OR AS OTHERWISE NOTED. | | | -2 -2 | |
| | MAGNETIC STARTER | | | 5'-0" 5'-0" | |
| | MAGNETIC COMBINATION STARTER ENCLOSED FLUSH MOUNTED MOLDED | | | 5'-0" | |
| | CASE CIRCUIT BREAKER WEATHERPROOF | | | 5'-0" | WP |
| | WREWAY WITH REMOVABLE COVER (SIZE AS NOTED) | | | AS SHOWN | |
| | TRENCH DUCT (SIZE AS NOTED) PUSHBUTTON STATION | | | AS SHOWN 46" | |
| | FLEXIBLE CONDUIT | | | | \sim |
| | NORMAL PANELBOARD, SURFACE OR FLUSH MOUNTED | | | 6'-6" TO TOP | |
| | TRANSFORMER NON-REVERSING 10 MOTOR STARTER SNAP SWITCH | OR SIEMENS | CLASS 2510 S, GE, CUTLER | NOTED AS NOTED | ∠∆ ŞM |
| | EQUIPMENT # INDICATOR | HAMMER EC | QUAL | 1 | \bigcap |
| | TAGGED NOTE 3/4" CONDUIT (U.O.N.) STUB UP TO | SEE | | | Ŏ |
| | CABLE TRAY ABOCE CEILING MECHANICAL EQUIPMENT DESIGNATOR (SEE MECH. SCHEDULES) | DETAILS | | |) |
| | REVISION TAG JUNCTION BOX | | AS NOTED | AS NOTED | |
| | TERMINAL CABINET SURFACE OR FLUSH MOUNTED | 055 | NOTED | AS | |
| | BRIDLE RING CABLE PATH | SEE DETAILS SEE DETAILS | | SHOMN | |
| | DOORBELL PUSHBUTTON | AS NOTED AS | | 46" | DB DBD |
| | DOORBELL AUDIO/VISUAL EQUIPMENT HARDWIRE CONNECTION (SEE DETAIL) | NÔTED | | 7'-6" | OBP OV |
| | EQUIPMENT OUTLET COUPLING CONNECTION (SEE DETAIL) INTERCOM REMOTE STATION | | | | ○]// K |
| | INTERCOM MASTER STATION | 1 | | 46" | IC IM |
| | THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR | | | REFER TO | (T) |
| | SHALL PROVIDE ROUGH—IN PER DETAIL ON SHEET #E1101. | | | DETAIL | Û |
| | TEMPERATURE SENSOR PROVIDED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ROUGH—IN PER DETAIL ON SHEET #E1101. | | | REFER TO DETAIL | (b) |
| | GENERATOR ANNUNCIATOR PLUMBING FIXTURE SOLENOID VALVE/ ELECTRIC EYE SENSOR CONNECTION. COORDINATE EXACT CONNECTION REQUIREMENTS WITH MANUFACURER. | | | | GEN-A |
| | PLUMBING FIXTURE ELECTRIC EYE TRANSFORMER CONNECTION. TRANSFORMER SHALL BE 120V— 24V AND SUPPLIED WITH PLUMBING FIXTURE. MOUNT ABOVE SUSPENDED ACCESSIBLE CEILING AS REQUIRED. PROVIDE ADDITIONAL TRANSFORMERS OF SAME | | | | \bigcirc |
| MISC. | TYPE AS/IF NEEDED. DUAL TECHNOLOGY WIDE VIEW OCCUPANCY SENSOR, CEILING MOUNTED WITH AUXILIARY RELAY FOR BUILDING AUTOMATION SYSTEM CONTROL INTERFACE | WATTSTO #DT-200 SENSORS #WV-PP | O SWITCH | CEIL. | OS) A |
| | DUAL TECHNOLOGY 360° EXTENDED RANGE OCCUPANCY SENSOR, CEILING MOUNTED WITH AUXILIARY RELAY FOR BUILDING AUTOMATION SYSTEM CONTROL INTERFACE | WATTSTO #DT-300 SENSORS #CM-PD | OPPER O SWITCH | CEIL. | OS _B |
| | DUAL TECHNOLOGY 360° OCCUPANCY SENSOR, CEILING MOUNTED WITH AUXILIARY RELAY FOR BUILDING AUTOMATION SYSTEM CONTROL | WATTSTO #DT-300 SENSORS #CM-PD | O SWITCH T-10-R | CEIL. | (OS) _C |
| | INTERFACE | | ne | . 1 | |
| | INTERFACE DUAL TECHNOLOGY 360° HIGH BAY OCCUPANCY SENSOR, CEILING MOUNTED WITH AUXILIARY RELAY FOR BUILDING AUTOMATION SYSTEM CONTROL INTERFACE | WATTSTOI #DT-300 SENSORS #CM-PDT | WITCH 10-R | CEIL. | OS) D |
| | INTERFACE DUAL TECHNOLOGY 360° HIGH BAY OCCUPANCY SENSOR, CEILING MOUNTED WITH AUXILIARY RELAY FOR BUILDING AUTOMATION SYSTEM CONTROL | #DT-300 SENSORS | WITCH T-10-R DPPER DSWITCH T-10-R DPPER | CEIL. | OS D OS E |

EMERGENCY BY-PASS

| SYSTEM | ПЕМ | DEVICE MODEL # REFER TO SPECS. IF NONE LISTED | BACKBOX, COVER IF APPLICABLE | MOUNTING HEIGHT (TO CENTER OF BOX) | DRAWING SYMBOL | | SYSTEM | ПЕМ | DEVICE MODEL # REFER TO SPECS. IF NONE LISTED | BACKBOX, COVER IF APPLICABLE | MOUNTING HEIGHT (TO CENTER OF BOX) | DRAWING SYMBOL |
|---------------|--|---|---------------------------------|---|----------------------|--|---------------------------------|--|--|---|---------------------------------------|-------------------------------|
| DATA / VOICE | DATA OUTLET: THE NUMBER BESIDE OUTLET INDICATES THE NUMBER OF DATA JACKS TO BE INSTALLED. IF NO NUMBER IS INDICATED, THERE SHALL BE ONLY ONE DATA JACK. | | 1G | 1'-6" | ∇ , | _ | INTRUSION DETECTION | CEILING MOUNTED MOTION DETECTOR (REFERENCE DETAIL / SPECIFICATIONS) | SEE DETAIL | | | Θ_{M} |
| | (REFERENCE DETAIL SHEET #E1201) VOICE OUTLET: NUMBER BESIDE OUTLET INDICATES NUMBER OF VOICE JACKS TO | | | | | | | SECURITY SYSTEM HEADEND (REFERENCE DETAIL / SPECIFICATIONS) | SEE DETAIL | | | SEC |
| | INSTALL. IF NO NUMBER IS INDICATED, THERE SHALL BE ONLY ONE VOICE JACK. (REFERENCE DETAIL SHEET #E1201) | | 1G | 1'-6" | ▼ | 2 V ▼ | ACCESS | KEYPAD (REFERENCE DETAIL / SPECIFICATIONS) | SEE DETAIL SEE | | 46" | KP |
| | DATA/VOICE OUTLET: NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA/VOICE JACKS TO INSTALL. IF NO NUMBER IS INDICATED, THERE SHALL BE ONLY ONE DATA AND | | 1G | 1'-6" | $oldsymbol{ abla}$, | ^{2D/2V} | CONTROL SYSTEM | PROP ALARM | DETAIL | | _ | PA |
| | ONE VOICE JACK. (REFERENCE DETAIL SHEET #E1201) OUTLET: ABOVE COUNTERTOP | | | ABV. CNTR. | c | | | ELECTRONIC STRIKE OR MAGLOCK (REFERENCE DETAIL / HARDWARE SPECIFICATIONS) KEY CARD READER | DETAIL | | 46" | ML) |
| | OUTLET: WALL MOUNTED TELECOMMUNICATIONS SYSTEM BACKBOARD. | | | 46" | w | | | (REFERENCE DETAIL / SPECIFICATIONS) REQUEST TO EXIT PUSH BUTTON LOCK | DETAIL | | 46" | (CR) |
| | PROVIDE 96"H x 3/4"D FIRE—RETARDENT PLYWOOD BACKBOARD WITH TWO (2) COATS OF NON—CONDUCTIVE, FIRE—RETARDANT LIGHT GRAY PAINT, A 250 Kcmil TO METAL | | | | TEL | | | RELEASE DEVICE WITH "EXIT" LABEL (REFERENCE DETAIL / HARDWARE SPECIFICATIONS) DOOR POSITION MONITOR SWITCH (REFERENCE DETAIL / HARDWARE SPECIFICATIONS) | SEE | | | PS PS |
| | UNDERGROUND C.W. LINE AND A 6'-0" #3 AWG PIGTAIL AT BACKBOARD. (LENGTH OF BOARD AS INDICATED ON FLOOR | | | | | | | HANDICAP DOOR OPERATOR SWITCH (REFERENCE DETAIL / HARDWARE SPECIFICATIONS) | SEE DETAIL | | | (HS) |
| | PLAN). MAIN DISTRIBUTION FRAME RACK | | | | MDF | | | DOOR RELEASE PUSHBUTTON (REFERENCE DETAIL / SPECIFICATIONS) | SEE DETAIL | | | (DR) |
| | INTERMEDIATE DISTRIBUTION FRAME RACK TELEVISION DISTRIBUTION HEAD END | | | | IDF TVHE |] | | KEYED SWITCH MOUNTED IN JAMB (REFERENCE DETAIL / HARDWARE SPECIFICATIONS) | SEE DETAIL | | | KS |
| | WIRELESS ACCESS POINT, PROVIDE (1) DATA OUTLET FOR ANTENNA AT ACCESSIBLE | | | ABV. CEIL. | WAP |] | DURRESS | DOOR JUNCTION PANEL (DJP) (REFERENCE DETAIL / SPECIFICATIONS) | SEE DETAIL SEE | | | |
| | LOCATION ABOVE CEILING. PROVIDED (1) LEVEL 6 CABLE BACK TO RACK MOUNTED PATCH PANEL. PROVIDE DUPLEX RECEPTACLE AND CONNECT BRANCH CIRCUIT | | | | | | ALARM | DURRESS ALARM HORN ANNUNCIATOR | DETAIL | | | (DA) (DH) |
| | TO NEAREST BRANCH CIRCUIT. PROVIDE 6"X6"X8" NEMA 1 ENCLOSURE WITH HINGED COVER. | | | | | | | HORN ANNONCIATOR | DETAIL | | | |
| LOCAL SOUND | TELEVISION DISTRIBUTION CABINET WALL MICRO-PHONE OUTLET: SINGLE | | | 1'-6" | TVHE | | VIDEO SURVEILLENCE SYSTEM | CCTV FIXED SECURITY CAMERA-WALL MNTD. RG-59 VIDEO CABLE AND 16/2 POWER CABLE FROM EACH CCTV CAMERA TO CCTV HEAD-END. (REFERENCE DETAIL / SPECIFICATIONS) | | | | ©> |
| _JUNE JUNE | WALL MICRO-PHONE OUTLETS(# AS NOTED) | | | 1'-6" | M)2, | | | CCTV SURVEILLANCE SYSTEM HEADEND | | | | SURV |
| | FLOOR MICRO-PHONE OUTLET: SINGLE FLOOR MICRO-PHONE OUTLETS(# AS NOTED) | | | FLOOR | _ | 2, M3, M4 | PROJECTORS/ | (REFERENCE DETAIL / SPECIFICATIONS) (2) SINGLE GANG BACKBOXES W/ 20A DUPLEX RECEPTACLE AND SS COVERS MOUNTED IN CEILING FOR PROJECTOR. PROJECTOR OFOI. CABLING, | | | <u> </u> | SURV POWER IN CEILING |
| | GYM SYSTEM SOUND SPEAKER GYM SYSTEM SOUND AMPLIFIER | | | CEIL. 5'-0" TO CENTER | SS-G |] | SCREENS | FOR PROJECTOR. PROJECTOR OFOI. CABLING, BACKBOXES AND CONDUIT CFCI. PROVIDE 4' WHIP FOR RECEPTACLE AND DATA CONNECTION. EXACT LOCATION TO BE DETERMINED | | | VERIFY WITH ARCHITECT | DATA CONNECTION IN CEILING |
| | CLASSROOM PROJECTOR SPEAKER | | | | S | | | BY A/V CONTRACTOR. | | | VERIF | PROJECTOR DIRECTION TO SCREEN |
| FIRE ALARM | MAIN CONTROL PANEL CENTRAL PROCESSING UNIT (CPU) PULL STATION : DOUBLE ACTION | | $\overline{}$ | 6'-6" TO TOP 44" TO LEVER | FACP | | | RAISE/LOWER PROJECTOR SCREEN SWITCH. CONTRACTOR SHALL PROVIDE JUNCTION BOX AND 1" | | | 48" | - \$r/l |
| | WITH STI STOPPER II COVERS SPEAKER / 110cd ADA STROBE | | | • | FX | MOUNT 80" ABO FLOOR OR 6" B | OVE | STUB-UP FOR LOW-VOTAGE CABLING BY A/V CONTRACTOR. | | | | · |
| | SPEAKER UNIT ONLY 110cd ADA STROBE UNIT ONLY PHOTO—ELECTRIC SMOKE DETECTOR | | | CEIL. | H SD | FLOOR OR 6" B CEILING (WHICHE IS LOWER). | BELOW Ever | VIDEO CONFERENCE FIXED CAMERA LOCATION. CONTRACTOR SHALL PROVIDE JUNCTION BOX AND 1-1/4" STUB-UP FOR LOW-VOTAGE CABLING BY A/V CONTRACTOR. | | | ACTOR | ⊕ vc |
| | PHOTO-ELECTRIC SMOKE DETECTOR/HEAT DETECTOR FOR ELEVATOR CONTROL. HEAT DETECTOR | | | CEIL. | SDEL (| HDEL | | | | | VERIFY WITH A/V CONTRACTOR | |
| | HEAT DETECTOR: 200° - RATE OF RISE CEILING SPEAKER WITH FIRE LABEL | | | CEIL. | HD ²⁰⁰ * | | INSTALLATION MATRIX | | ΉШ | | ı | |
| | DOOR HOLDER: WALL TYPE DOOR HOLDER: CLOSURE TYPE | | | 7'-0' ABV DOOR BY | i iiiic | | | | DFOI DFCI | D-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C-C | | |
| | DUCT SMOKE DETECTOR DUCT SMOKE DETECTOR TEST SWITCH CONNECTION TO SPRINKLER FLOW | | | MECH. AS REQ'D | <u>6</u> | | | PROJECT | ICTORS (| ICTORS (| | |
| | SWITCH WITH ADDRESSABLE MODULE CONNECTION TO SPRINKLER TAMPER SWITCH WITH ADDRESSABLE MODULE PRESSURE SWITCH | | | AS REQ'D AS REQ'D AS REQ'D | FS TS PS | | | SED ON I | nduit ofci nduit cfci bling/conductors ofoi bling/conductors ofci | CONDU | | |
| | POST INDICATOR VALVE REMOTE L.C.D. FIRE ALARM ANNUNCIATOR | | | 6'-6" TO TOP | PIV | | | MEN USE DEVICES OF MEN WELSKE | CONDUI CONDUI CABLING | CABLING | | |
| | REMOTE "CRT" COMMAND STATION REMOTE REPORTING TELEPHONE DIALER | CRT/KEYBD PRINTER | | ACT. AS REQ'D | CRT TD | | | ACCESS CONTROLS FIRE ALARM | | | | |
| | FLUSH — MOUNTED REMOTE ALARM INDICATING STATION "WG" INDICATES DEVICE SHALL BE PROVIDED W/ WIRE GUARD | | | | ₩G | | | TELEVISION DETECTION TELEVISION | | | | |
| | "PC" INDICATES DEVICE SHALL BE PROVIDED WITH VANDAL RESISTANT POLYCARBONATE PLATE | | | | PC | | | VOICE O | | | | |
| FLOOR BOXES | STAINLESS STEEL IN GRADE FLOOR BOX WITH COVER FOR ACCEPTING INSERT FOR FLOOR FINISH. COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES. (2) DUPLEX RECEPTACLE, 2 DATA, AND CATV. PROVIDE HUBBELL-LCFBSSA SERIES, WIREMOLD EQUAL OR T&B EQUAL. | HUBBELL LCFBSSA | | FLOOR | ● FB-A | | | DURESS ALARM SOUND SYSTEM AUDIO/VISUAL (A/V) | | | | |
| | STAINLESS STEEL IN GRADE FLOOR BOX WITH COVER FOR ACCEPTING INSERT FOR FLOOR FINISH. COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES. (2) DUPLEX RECEPTACLE, 2 DATA, AND 2 CATV JACKS. PROVIDE HUBBELL—LCFBSSA SERIES, WIREMOLD EQUAL OR T&B EQUAL. | HUBBELL LCFBSSA | | FLOOR | ● FB-B | | | | | | | |
| | STAINLESS STEEL IN GRADE FLOOR BOX WITH COVER FOR ACCEPTING INSERT FOR FLOOR FINISH. COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES. (2) DUPLEX RECEPTACLE, 2 DATA, PROVIDE HUBBELL-LCFBSSA SERIES, WIREMOLD EQUAL OR T&B EQUAL. | HUBBELL LCFBSSA | | FLOOR | ● FB-C | | | | | | | |
| | FIRE RATED POKE THOUGH FLOOR BOX. COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES. (2) DUPLEX RECEPTACLE, 1 DATA, AND CATV JACKS. PROVIDE HUBBELL—LCFBSSA SERIES, WIREMOLD EQUAL OR T&B EQUAL. | HUBBELL S1PT4X4AL | | FLOOR | ● FB-D | | | | | | | |
| | FIRE RATED POKE THOUGH FLOOR BOX. COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES. (2) DUPLEX RECEPTACLE, 1 DATA, AND CATV JACKS. PROVIDE HUBBELL—S1P4X4BRS SERIES, WIREMOLD EQUAL OR T&B EQUAL. | HUBBELL S1PT4X4BRS | | FLOOR | € FB-D | | | | | | | |
| | FIRE RATED POKE THOUGH FLOOR BOX. COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES. (2) DUPLEX RECEPTACLE, 2 DATA, AND 2 CATV JACKS. PROVIDE HUBBELL—S1P4X4BRS SERIES, WIREMOLD EQUAL OR T&B EQUAL. | HUBBELL S1PT4X4BRS | | FLOOR | FB-F | | | | | | | |
| | FIRE RATED POKE THOUGH FLOOR BOX. COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES. (2) DUPLEX RECEPTACLE WITH TWO DEDICATED CIRCUITS, 2 DATA, AND 2 CATV JACKS. PROVIDE HUBBELL—PT4XBRS2C SERIES, WREMOLD EQUAL OR T&B EQUAL. | HUBBELL PT4XBRS2C | | FLOOR | FB−G | | | | | | | |
| ADDDEMATIONS | LINI FCC OTHERWASE NOTES | | | | 110. | | | | | | | |
| ABBREVIATIONS | OWNER FURNISHED CONTRACTOR INSTALLED | | | | UON OFCI | | | | | | | |
| | OWNER FURNISHED OWNER INSTALLED CONTRACTOR FURNISHED CONTRACTOR INSTALLED | | | | OFOI CFCI | | | | | | | |
| | CONTRACTOR FURNISHED OWNER INSTALLED BUILDING AUTOMATION SYSTEM | | | | CFOI BAS | | | | | | | |
| | | | | |] | | | | | | | |

ELECTRICAL LEGEND

VIDEO OUTLET ON WALL VIDEO OUTLET ON CEILING VIDEO OUTLET ON WALL

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GENERAL ELECTRICAL LIGHTING NOTES REFER TO THE ARCHITECT'S REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL CEILING MOUNTED LIGHT FIXTURES, ETC. REFER ALSO TO THE ARCHITECT'S CASEWORK DETAILS AND ROOM ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF LIGHT FIXTURES, ETC.

ALL NEW WIRING SHALL BE #12 WITH A #12 INSULATED GROUND WIRE (U.O.N.). CONDUIT SHALL BE 3/4" MINIMUM. USE #10 FOR 20AMP,120VAC BRANCH CIRCUITS OVER 50 FEET IN LENGTH AND #10 FOR 20AMP, 277VAC BRANCH CIRCUITS OVER 100 FEET IN LENGTH.

CONTRACTOR SHALL FOLLOW BRANCH CIRCUITNG LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE ROUTED IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRATOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER 2011 NEC 310.15(B)(2), AND UPSIZE CONDUIT AS REQURED PER 2011 NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

ALL CEILING MOUNTED DEVICES SHALL BE SUPPORTED FROM STRUCTURAL JOISTS ONLY.

THE 2'x2' LAY-IN ACOUSTICAL CEILING GRID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE LAYOUT OF THE RECESSED LIGHT FIXTURES AS INDICATED ON FLOOR PLANS WHICH ARE LOCATED IN MULTIPLES OF TWO (2) FEET BETWEEN FIXTURES.

PROVIDE CONSTANT HOT TO ALL EMERGENCY EGRESS FIXTURES AND EXIT SIGNS. CONSTANT HOT SHALL BYPASS CONTACTOR CABINET. INDENTIFY THE PANEL AND CIRCUIT NUMBER FOR EACH EMERGENCY POWER SWITCH, RECEPTACLE, ETC. IN AREA OF CONSTRUCTION.

EMERGENCY RELAY NOTE: REFER TO EMERGENCY BY-PASS LIGHTING RELAY SCHEMATIC FOR LOCATION, WIRING AND TEST BUTTON REQUIREMENTS PRIOR TO ROUGH-IN. AS INDICATED, ALL TEST SWITCHES SHALL BE LOCATED IN A NON-PUBLIC ACCESSIBLE AREA. REFER TO DETAIL FOR REQUIREMENTS.

ALL LIGHTING CIRCUITS TO BE ROUTED THRU THEIR RESPECTIVE LIGHTING RELAY PANEL. REFER TO LIGHTING CONTROL DETAILS AND SCHEMATICS FOR FURTHER REQUIREMENTS. PROVIDE AN UNSWITCHED HOT CONDUCTOR FOR ALL EMERGENCY RELAYS, EXIT SIGNS, ETC.

LOCAL LINE VOLTAGE SWITCHES TO REMAIN ACTIVE. POWER

REFER TO SPECIFICATION 250400 LIGHITNG POINT LIST FOR RELAY DESIGNATIONS TO ROUTE LIGHTING BRANCH CIRCUIT THROUGH.

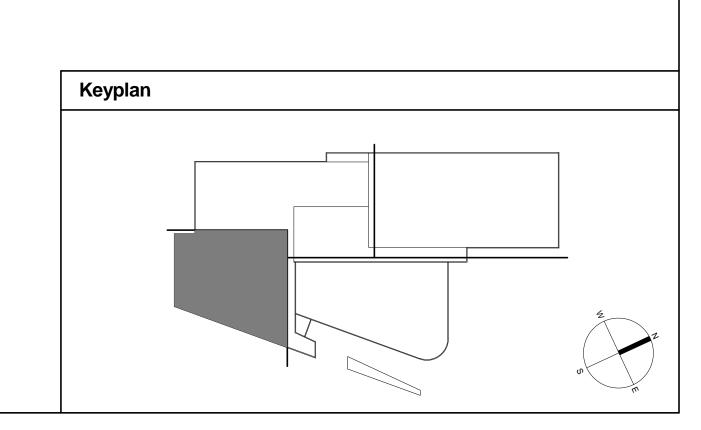
- GENERAL ELECTRICAL LIGHTING CONTROL NOTES
- PACKS/RELAY SHALL BE INSTALLED ON LINE SIDE OF LOCAL SWITCHES. TO KEEP SENSORS POWERED AT ALL TIMES. PROVIDE POWER PACK/RELAY FOR EACH ROOM/AREA OF
- COVERAGE.

SENSOR COVERAGE

NOTE ALL POWER PACK LOCATIONS AND BRANCH CIRCUITS ON AS-BUILT DRAWINGS OCCUPANCY SENSORS MANUFACTURER SHALL SUBMIT SCALED SHOP DRAWINGS INDICATING ALL SENSOR LOCATIONS AND

LIGHTING TAGGED NOTES

- L2 ELECTRICAL CONTRACTOR SHALL PROVIDE LOW-VOLTAGE WIRING BETWEEN OCCUPANCY SENSORS AND BAS CONTROL PANELS. PROVIDE CONDUCTORS IN 1/2' CONDUIT MINIMUM. VERIFY VOLTAGE DROP FOR EACH CIRCUIT. WIRING MAY BE ROUTED IN CONCEALED J-HOOK PATH ABOVE ACCESSIBLE CEILING WITH BAS
- L3 LOOP CIRCUIT(S) INDICATED THROUGH LIGHTING RELAY CONTROL PANEL ADJACENT TO LIGHTING PANELBOARD. L5 PROVIDE UNSWITCHED NORMAL POWER TO EMERGENCY BYPASS
- RELAY. REFER TO DETAIL FOR FURTHER REQUIREMENTS. L7 LIGHTING IN THIS AREA IS UNDER A SEPERATE CONTRACT. PROVIDE CIRCUIT TO AREA FOR FUTURE LIGHTING.
- L14 COORDINATE LIGHT FIXTURE INSTALLATION WITH HVAC EQUIPMENT, DUCTWORK, AND PIPING. LOCATE LIGHT FIXTURES TO PROVIDE COVERAGE THROUGH OUT ROOM. L15 PROVIDE LOW VOLTAGE MOMENTATRY CONTACT SWITCH, FOR BAS
- OVERRIDE OF COORIDOR LIGHTING CIRCUIT. L17 PROVIDE HAND/OFF/AUTO SWITCH FOR CONTOL OF SPORTS LIGHTING CORDINATE EXACT WIRING REQUIREMENTS WITH MANUFACTURE PRIOR TO INSTALLATION.



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GENERAL ELECTRICAL POWER NOTES

I SOLID LINES INDICATE EXISTING ITEMS TO REMAIN (U.O.)

THIN SOLID LINES INDICATE EXISTING ITEMS TO REMAIN (U.O.N.) AND THICK SOLID LINES INDICATE NEW WORK.

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ALL CEILING MOUNTED DEVICES SHALL BE SUPPORTED FROM STRUCTURAL JOISTS ONLY.

IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR EACH EMERGENCY POWER RECEPTACLE, SWITCH, ETC. IN AREA OF CONSTRUCTION. IN ADDITION, IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC.

PROVIDE PULL STRINGS FOR ALL NEW SYSTEM CABLING INSTALLATION RUNS. WHERE IN-WALL, HORIZONTAL RUNS ARE <u>REQUIRED</u>, USE OF ADEQUATELY SIZED CONDUIT SHALL BE PERMITTED TO AVOID CABLE DAMAGE.

REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS ON EACH SYSTEMS.

THE CONTRACTOR SHALL ROUTE ALL "SYSTEM CONDUIT STUB-UPS" TO THE NEAREST <u>CORRIDOR</u> CEILING SPACE (SEE "STUB-UP" DETAILS). IN ADDITION, THE CONTRACTOR SHALL GROUP ALL "LOOSE" SYSTEM CABLING TOGETHER. REFER TO "BRIDLE RING INSTALLATION DETAIL" FOR REQUIREMENTS.

REFER TO ARCHITECTURAL DRAWINGS, CASEWORK DETAILS, ROOM ELEVATIONS AND TYPICAL CLASSROOM LAYOUT FOR EXACT PLAN LOCATIONS AND EXACT MOUNTING HEIGHTS OF ALL WALL MOUNTED ELECTRICAL DEVICES.

POWER TAGGED NOTES

- E1 ACCESS CONTROL SYSTEM: REFER TO DOOR ROUGH-IN DETAIL FOR CONDUIT/WIRE ROUTING AT EACH LOCATION.
- E7 PROVIDE 30A/250V/3P HEAVY DUTY DISCONNECT SWITCH IN A NEMA-1 ENCLOSURE WITH DISCONNECT SWITCH FUSED AT EQUIPMENT NAMEPLATE RATING.
 E9 PROVIDE CONNECTION FROM FIRE ALARM SYSTEM FOR RELEASE OF MAG
- LOCK IN CASE OF FIRE.

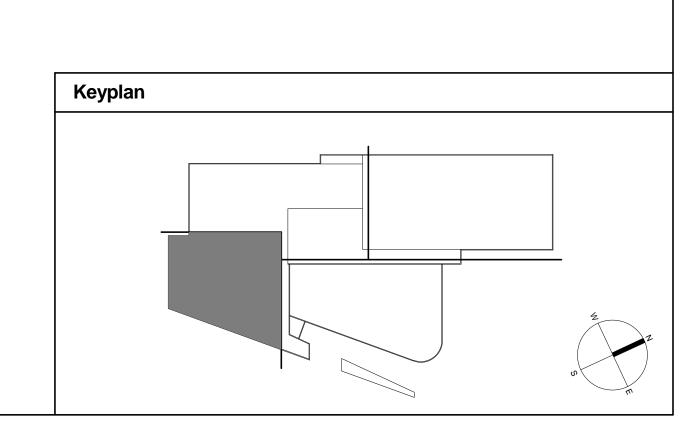
 E11 SCORERS BENCH LOCATION PROVIDE BACKBOX AND CONDUIT TO GYM
 SOURD SYSTEM FOR MIRCOPHONE INPUT REFER TO AUDIO DRAWING FOR
- FURTHER REQUIREMENTS.

 E12 PROVIDE BACK BOX AND 1-1/4" CONDUIT TO SCOREBOARD FOR COMMUNICATION WITH SCORERS TABLE.
- COMMUNICATION WITH SCORERS TABLE.

 E18 PROVIDE 1" CONDUIT FROM PEDESTAL UNDER SLAB TO NEAREST WALL AND SLUB UP TO ACCESSABLE CEILNG SPACE.
- E28 ROUTE (1) 1-1/4" CONDUIT FROM FLOOR BOXES UNDERSLAB TO IT ROOM 122 FOR VIDEO AND DATA DISTRIBUTION.
 E37 PROVIDE DOUBLE GANG JUNCTION BOX AND 1-1/4" CONDUIT STUBBED ABOVE CEILING FOR INTERCONNECTION WITH SMARTBOARD.
- E38 ROUGH-IN ONLY FOR FUTURE. STUB CONDUIT WITH PULL STRING TO ABOVE CEILING.
 E39 PROVIDE PEDISTAL MOUNTED JUNCTION BOX FOR CONNECTION TO FUTURE EQUIPMENT. STUB CONDUIT WITH PULL STRING TO ABOVE CEILING.

EQUIPMENT. STUB CONDUIT WITH PULL STRING TO ABOVE CEILING.

E42 PROVIDE DOOR RELESE BUTTON AT CHECK-IN COUNTER FOR TURNSTILE RELEASE.



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Danuary 23, 2012

Checked Bv: T.HANS

J of L Project Number:
Project Number:
Date:
Drawn By: A.ROWAN Checked B

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