APPENDIX A

PROJECT PLANS

Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720



WESTGROUP DESIGNS

ARCHITECTURE | PLANNING | INTERIOR DESIGN
19520 Jamboree Rd. | Suite 100 | Irvine California 92612
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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP #: .....-.....
AC.....FLS.....SS.....
DATE:.....

P.T.N. _____-____

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
CS-0.1

ISSUANCE:
DESIGN DEVELOPMENT

WD PROJ. # 18451

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Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

SCHEMATIC DESIGN SUBMITTAL	11/07/18
DSA PRE-APPLICATION SUBMITTAL	02/15/19
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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

SHEET INDEX

SHEET NUMBER:

CS-0.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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GENERAL NOTES

1. SEE INDIVIDUAL SHEETS FOR LEGEND DESCRIPTIONS AND SHEET NOTES.
2. "ARCHITECT" AS USED IN THESE DOCUMENTS REFERS TO: WESTGROUP DESIGNS. (949) 250-0880.
3. REFERENCE TO MAKES, BRANDS, AND MODEL IS TO ESTABLISH TYPE AND QUALITY DESIRED. WHERE "OR EQUAL" IS STATED, THE ARCHITECT SHALL DETERMINE ACCEPTABILITY.
4. "TYPICAL" OR "TYP" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS THE SAME OR REPRESENTATIVE FOR ALL SIMILAR CONDITIONS THROUGHOUT, U.N.O.
5. "SIMILAR" MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS NOTED. VERIFY DIMENSIONS & ORIENTATION ON PLANS & ELEVATIONS.
6. INSTALL ALL FINISH MATERIALS AND MANUFACTURED SYSTEMS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AS REQUIRED FOR THE JOB SPECIFIC APPLICATION.
7. VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. SHOULD A DISCREPANCY APPEAR IN THE CONTRACT DOCUMENTS, OR BETWEEN THE CONTRACT DOCUMENTS, NOTIFY THE ARCHITECT AT ONCE FOR INSTRUCTION ON HOW TO PROCEED.
8. SHOULD A CONFLICT OCCUR IN OR BETWEEN DRAWINGS AND SPECIFICATIONS, THE ARCHITECT SHALL BE ASKED FOR CLARIFICATION. IF A CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS IS BROUGHT TO THE ATTENTION OF THE ARCHITECT AFTER AWARD OF BID, NO ADDITIONAL COST TO THE PROJECT SHALL BE INCURRED FOR CLARIFYING TO PROCEED PER THE DRAWINGS OR SPECIFICATIONS.
9. DIMENSIONS:
   a. DO NOT SCALE DRAWINGS.
   b. ALL DIMENSIONS ARE TO THE FACE OF FINISH, OR FACE OF CONCRETE, OR CENTERLINE OF COLUMN UNLESS NOTED OTHERWISE.
   c. CEILING HEIGHT DIMENSIONS ARE FROM FINISH FLOOR TO FACE OF FINISH OF CEILING MATERIAL UNLESS NOTED OTHERWISE.
   d. LARGE SCALE DRAWINGS SHALL GOVERN OVER SMALLER SCALE DRAWINGS.
   e. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE, UNLESS NOTED OTHERWISE.
   f. "ALIGN" AS USED IN THESE DOCUMENTS SHALL MEAN TO ACCURATELY LOCATE FINISH FACES IN THE SAME PLANE.
10. WHERE NOTED "V.I.F." OR "VERIFY", THE DIMENSIONS ARE TO BE CHECKED IN THE FIELD. NOTIFY THE ARCHITECT IF THE FIELD DIMENSIONS ARE NOT SUITABLE FOR THE INTENDED PURPOSE.
11. VERIFY SIZES AND LOCATIONS OF ALL MECHANICAL EQUIPMENT PADS AND BASES AS WELL AS POWER AND WATER OR DRAIN INSTALLATIONS WITH EQUIPMENT MANUFACTURERS BEFORE PROCEEDING WITH THE WORK. CHANGES TO ACCOMMODATE FIELD CONDITIONS OR SUBSTITUTIONS SHALL BE MADE WITHOUT ADDITIONAL CHARGES TO OWNER.
12. PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING AND SEALANT AS REQUIRED FOR PROPER INSTALLATION OF THE WORK.
13. WHERE LARGER STUDS OR FURRING ARE REQUIRED TO COVER PIPING AND CONDUITS, THE LARGER STUD SIZE OR FURRING SHALL EXTEND THE FULL SURFACE OF THE WALL WIDTH AND LENGTH WHERE THE FURRING OCCURS. NOTIFY THE ARCHITECT OF ANY POTENTIAL CLEARANCE CONFLICTS.
14. PROVIDE ALL ACCESS PANELS AS REQUIRED BY GOVERNING CODES TO ALL CONCEALED SPACES, VOIDS, ATTICS, ETC. VERIFY TYPE AND LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
15. ALL BUILDING OR SITE CONSTRUCTION RUBISH AND DEBRIS SHALL BE REMOVED AND FLOORS SWEPT CLEAN ON A DAILY BASES; RUBISH AND DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE IN THE BUILDING OR ON SITE.

SUPPLEMENTAL SUBMITTALS

SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND RETURN THEM TO THE CONTRACTOR WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

DEFERRED APPROVALS

NOTE: CONTRACTOR TO PROVIDE ALL DEFERRED APPROVALS IN A TIMELY MANNER SO AS NOT TO IMPACT THE CONSTRUCTION SCHEDULE.

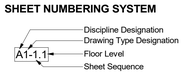
1. CURTAIN WALL DESIGN & CALCULATION
2. ELEVATION GUIDE RAILS & SUPPORTS

ABBREVIATIONS:

&	And	F.R.P.	Fiberglass Reinforced Panel	PT.	Paint
∠	Angle	F.V.	Field Verify	PR.	Pair
@	At	FIN.	Finish	PTN./PART.	Partition
℄	Centerline	F.F.E.	Finish Floor Elevation	PEN.	Penetration
°	Degree	F.G.	Finish Grade	PERF.	Perforated
PERP./⊥	Perpendicular	F.A.	Fire Alarm	P.LAM.	Plastic Laminate
℄	Property Line	F.E.	Fire Extinguisher	PL.	Plate
		F.E.C.	Fire Extinguisher Cabinet	P.V.	Plumbing Vent
A.F.F.	Above Finish Floor	FLASH.	Flashing	PLYWD.	Plywood
ACOUS.	Acoustical	F.H.M.B.	Flat Head Machine Bolt	LBS./#	Pound
ACT	Acoustical Ceiling Tile	F.H.M.S.	Flat Head Machine Screw	PRE-FAB.	Prefabricated
ADJ.	Adjustable	F.H.W.S.	Flat Head Wood Screw	P.M.F.	Pressed Metal Frame
AGGR.	Aggregate	FL./FLR.	Floor	P.T./P.T.D.F.	Pressure Treated Douglas Fir
A.B.	Aggregate Base	F.D.	Floor Drain		
ALUM./AL.	Aluminum	FT.	Foot/Feet	R.	Radius/Riser
ARCH.	Architectural	FTG.	Footing	R.W.L.	Rain Water Leader
A.D.	Area Drain	FND.	Foundation	RDWD.	Redwood
A.C.	Asphalt Concrete	FURR.	Furring	REF.	Reference
A.V.	Audio Visual			REFRIG.	Refrigerator
AUTO.	Automatic	GALV.	Galvanized	REINF.	Reinforced
		G.I.	Galvanized Iron	REQ'D.	Required
BM.	Beam	G.S.M.	Galvanized Sheet Metal	RET.	Return
BLK.	Block	G.W.H.	Gas Water Heater	R.D.	Roof Drain
BLKG.	Blocking	GA.	Gauge	RM.	Room
BD.	Board	GLU-LAM./G.L.B.	Glue Laminated (Beam)	R.O.	Rough Opening
BOT.	Bottom	G.B.	Grab Bar	R.H.W.S.	Round Head Wood Screw
BLDG.	Building	GR.	Grade	R.B.	Rubber Base
		GND.	Ground		
CAB.	Cabinet	GYP.	Gypsum	SECT.	Section
CATV	Cable T.V.	GYP.BD.	Gypsum Wallboard	S.SK.	Service Sink
C.I.	Cast Iron			SHTG.	Sheathing
C.B.	Catch Basin	HW.	Hardware	SHT.	Sheet
CLKG.	Caulking	HDWD.	Hardwood	S.M.	Sheet Metal
CLG.	Ceiling	HDR.	Header	S.M.S.	Sheet Metal Screw
CEM.	Cement	HVAC	Heating/Ventilating Air Conditioning	S.V.	Sheet Vinyl
CNTR./CTR.	Center			SHR./SHWR.	Shower
CER.	Ceramic	H./HT.	Height	SIM.	Similar
C.L.	Chain Link	H.M.	Hollow Metal	S.C.	Solid Core
CB.	Chalkboard	HOR./HORIZ.	Horizontal	S.	South
C.R.	Classroom	H.B.	Hose Bib	SPEC.	Specification
CLR.	Clear	HR.	Hour (Fire Rating)	SQ.	Square
C.W.	Cold Water			SST./S.S.	Stainless Steel
COL.	Column	IN.	Inch	STD./STND.	Standard
CONC.	Concrete	INFO.	Information	STL.	Steel
C.M.U.	Concrete Masonry Unit	I.D.	Inside Diameter	STOR.	Storage
CONN.	Connection	INSUL.	Insulation	S.D.	Storm Drain
CONST.	Construction	INT.	Interior	ST.	Street
C.J.	Construction Joint/ Control Joint	INV.	Invert	STRUCT.	Structural
CONT.	Continuous	JAN.	Janitor	SUSP.	Suspended
CONTR.	Contractor	JT.	Joint	SYM.	Symbol
CORR.	Corridor	JST.	Joist		
C.M.P.	Corrugated Metal Pipe			TB.	Tackboard
C.Y.	Cubic Yard	KP.	Kickplate	TEL./TELE.	Telephone
CUST.	Custodian	KIT.	Kitchen	T.V.	Television
				T.CLR.	Tempered Clear
D.	Deep/Depth	LAM.	Laminate	T.L.T.	Tempered Low Transmission
DET./DTL.	Detail	LAV.	Lavatory	THK.	Thick
DIAG.	Diagonal	LT.WT.	Light Weight	THRES.	Threshold
DIA./Ø	Diameter	L.F.	Lineal Feet	THRU.	Through
DIM.	Dimension			T./TLT.	Toilet
DIM.PT.	Dimension Point	M.B.	Machine Bolt	T&G	Tongue & Groove
D.A.	Disabled Accessible	MH.	Manhole	T.O.	Top of
DW.	Dishwasher	MFR.	Manufacturer	T.O.C.	Top of Curb
DR.	Door	M.O.	Masonry Opening	T.O.P.	Top of Pavement
DBL.	Double	MATL.	Material	T.O.W.	Top of Wall/Top of Walk
DN.	Down	MAX.	Maximum	T.S.	Tube Steel
DS.	Downspout	MECH.	Mechanical	TYP.	Typical
D.I.	Drain Inlet	MEMB.	Membrane	U.N.O.	Unless Noted Otherwise
DWG.	Drawing	MTL.	Metal	U.O.N.	Unless Otherwise Noted
D.F.	Drinking Fountain	MEZZ.	Mezzanine		
		MIN.	Minimum	VERT.	Vertical
EA.	Each	MISC.	Miscellaneous	V.G.D.F.	Vertical Grain Douglas Fir
E.	East	MTD.	Mounted	V.C.T.	Vinyl Composition Tile
ELEC.	Electrical	M.P.	Multipurpose	V.W.C.	Vinyl Wall Covering
E.W.C.	Electric Water Cooler			VIF	Verify In Field
E.W.H.	Electric Water Heater				
EL./ELEV.	Elevation	(N)	New	WSCT.	Wainscot
EMER.	Emergency	NOM.	Nominal	W.C.	Water Closet
ENCL.	Enclosure	N.	North	W.H.	Water Heater
EQ.	Equal	N.I.C.	Not in Contract	WT.	Weight
EQUIP.	Equipment	N.T.S.	Not to Scale	W.W.M.	Welded Wire Mesh
E.F.	Exhaust Fan	NO./ #	Number	W.	West/Width
(E)/EXST.	Existing			WDW.	Window
EXP.	Expansion	O.C.	On Center	W.G.	Wire Glass
E.J.	Expansion Joint	OPP.	Opposite	W/	With
EXT.	Exterior	O.H.	Opposite Hand	W/O	Without
		O.D.	Outside Diameter	WD.	Wood
F.O.C.	Face of Concrete/Curb	O.H.W.S.	Oval Head Wood Screw		
F.O.F.	Face of Finish	O/	Over		
F.O.S.	Face of Studs	OA.	Overall	YD.	Yard
FB.	Fiberboard			Y.D.	Yard Drain

SYMBOL LEGEND:

SHEET NUMBERING SYSTEM



ROOM NAME and NUMBERING REFERENCE



KEYNOTE REFERENCE



SHEET NOTE REFERENCE



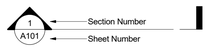
DEMOLITION NOTE REFERENCE



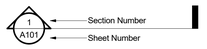
DETAIL REFERENCE



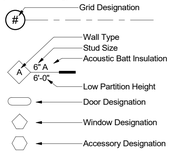
BUILDING SECTION REFERENCE



WALL SECTION REFERENCE



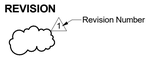
STRUCTURAL GRID IDENTIFIER
(center of framing)



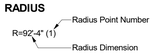
CENTERLINE

WORK POINT CONTROL

REVISION



RADIUS



EXTERIOR ELEVATION REFERENCE



INTERIOR ELEVATION REFERENCE



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raj.prathiviraj@terracon.com
(949) 261-0051

STATEMENT OF GEN. CONFORMANCE

USE OF CONSTRUCTION DOCUMENTS PREPARED BY OTHER PROFESSIONALS

IR A-18_TITLE 24, PART 1, SECTION 4-316,4-317

Application No. **<<0X-XXXXXXX>>** File No. **<<XX-XX>>**

All Structural, Mechanical, Electrical, and Plumbing drawings as listed in the sheet index above have been prepared by other design professionals or consultants who are licensed and / or authorized to prepare such drawings in this State. They have been examined by me for: 1) design intent and appear to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications, and 2) coordination with my plans and specifications and are acceptable for incorporation into the construction of this project.

The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code and Sections 4-336, 4-341 and 4-344" of Title 24, Part 1.(Title 24,Part 1, Section 4-317 (b))

I certify that these drawings and /or page:

☒ are in general conformance and
☒ have been coordinated

Signature Date

Architect designated to be in general responsible charge

David Jordan Smith
Print Name

C-20495 01.31.21
License Number Expiration Date

APPLICABLE CODES:

ALL WORK SHALL CONFORM TO TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS 2016 EDITION PARTS 1 THROUGH 12:

- PART 1 - CALIFORNIA BUILDING STANDARDS ADMINSTRATIVE CODE
- PART 2 - CALIFORNIA BUILDING CODE
- PART 3 - CALIFORNIA ELECTRICAL CODE
- PART 4 - CALIFORNIA MECHANICAL CODE
- PART 5 - CALIFORNIA PLUMBING CODE
- PART 6 - CALIFORNIA ENERGY CODE
- PART 8 - CALIFORNIA HISTORICAL BUILDING CODE
- PART 9 - CALIFORNIA FIRE CODE
- PART 10 - CALIFORNIA EXISTING BUILDING CODE
- PART 11 - CALIFORNIA GREEN BUILDING STANDARDS
- PART 12 - CALIFORNIA REFERENCE STANDARDS CODE

PARTIAL LIST OF APPLICABLE CODES & STANDARDS

2016 CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
(2015 INTERNATIONAL BUILDING CODE VOLUMES 1-2 AND 2016 CA AMENDMENTS)
2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
(2014 NATIONAL ELECTRICAL CODE AND 2013 CA AMENDMENTS)
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.
(2015 NATIONAL ELECTRICAL CODE AND 2013 CA AMENDMENTS)
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.
(2015 UNIFORM MECHANICAL CODE AND 2013 CA AMENDMENTS)
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
(2015 UNIFORM PLUMBING CODE AND 2013 CA AMENDMENTS)
2016 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
2016 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
(2015 INTERNATIONAL FIRE CODE AND 2013 CA AMENDMENTS)
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24 C.C.R.
2016 CALIFORNIA REFERENCD STANDARDS, PART 12, TITLE 24 C.C.R.
TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
2013 ASME A17.1(W/A17.1A/CSA B44A-08 ADDENDA) SAFETY CODE FOR ELEVATORS AND ESCALATORS

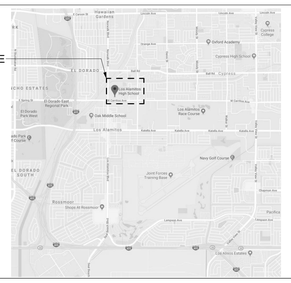
CALIFORNIA ADMINISTRATIVE CODE, PART 1, CHAPTER 10, ADMINISTRATIVE REGULATIONS FOR THE CALIFORNIA ENERGY COMMISSION (CEC).

NFPA 13	AUTOMATIC SPRINKLER SYSTEMS	2016 EDITION
NFPA 14	STANDPIPE SYSTEMS	2013 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2013 EDITION
NFPA 17a	WET CHEMICAL SYSTEMS	2013 EDITION
NFPA 20	STATIONARY PUMPS	2016 EDITION
NFPA 22	WATER TANKS FOR PRIVATE FIRE PROTECTION	2013 EDITION
NFPA 24	PRIVATE FIRE MAINS	2016 EDITION
NFPA 35	STANDARD FOR INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASE FIRE PROTECTION SYSTEMS	2017 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE	2016 EDITION
NFPA 80	FIRE DOORS AND OTHER OPENING PROTECTIVES	2016 EDITION
NFPA 92	STANDARD FOR SMOKE CONTROL SYSTEMS	2015 EDITION
NFPA 253	CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS	2015 EDITION
NFPA 2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2015 EDITION
ICC 300	ICC STANDARDS ON BLEACHERS, FOLDING AND TELESCOPING SEATING AND GRAND STANDS	2015 EDITION
UL 300	FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF RESTAURANT COOKING AREAS	2005 EDITION
UL 464	AUDIBLE SIGNAL APPLIANCES	2003 EDITION
UL 521	HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 EDITION

REFERENCE CODE SECTION FOR NFPA STANDARDS - 2016 CBC (SFM) CHAPTER 35.
SEE CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO NFPA STANDARDS.
*CALIFORNIA ADMINISTATIVE CODE, PART 1, CHAPTER 10, ADMINISTRATION REGULATIONS FOR THE CALIFORNIA ENERGY COMMISSION (CEC).

VICINITY MAP

SITE



PROJECT INFORMATION

PROJECT DESCRIPTION:

Demolish existing Building A1 to accommodate new CTE / STEM building. Program to include administrative offices, staff support areas, media center, general classrooms, science classrooms, CTE labs, and related utility rooms.

FOR ADDITIONAL INFORMATION, SEE SHEET G5.1 - G5.3

WESTGROUP DESIGNS
ARCHITECTURE | PLANNING | INTERIOR DESIGN

19520 Jamboree Road | Suite 100
Irvine | California | 92612
949.250.0880 | FAX 949.250.0882
www.westgroupdesigns.com

Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

SCHEMATIC DESIGN SUBMITTAL	11/07/18
DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

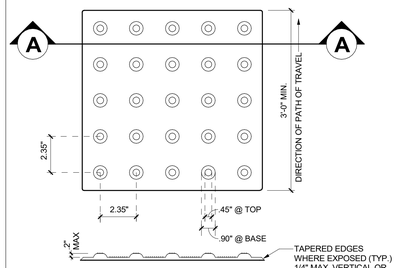
GENERAL INFORMATION

SHEET NUMBER:

CS-0.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

© WESTGROUP DESIGNS, INC.

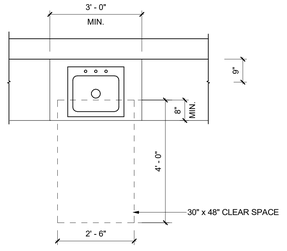


TYPICAL SECTION A-A

DETECTABLE WARNING STRIPS SHALL BE LOCATED AT ALL CURB RAMPS AND EXTEND FOR MINIMUM 36" IN THE DIRECTION OF TRAVEL FOR FULL WIDTH OF THE RAMP.

COLOR YELLOW CONFORMING TO FEDERAL COLOR No. 33538, AS SHOWN IN TABLE IV OF STANDARD No. 595B.

TRUNCATED DOMES | 16 | 3" = 1'-0"

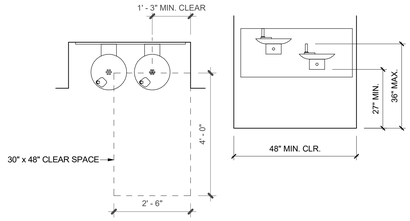


FOR SECTION AND CLEAR SPACE SEE: 6 / G-1.1

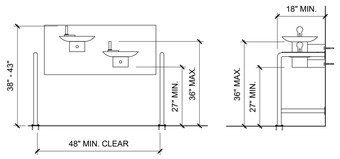
ADA SINK CABINET | 15 | 1/2" = 1'-0"

DRINKING FOUNTAINS

1. THE BUBBLER OUTLET ORIFICE SHALL BE LOCATED WITHIN 5" OF THE FRONT OF THE DRINKING FOUNTAIN AND SHALL BE WITHIN 36" OF THE FLOOR. THE WATER STREAM FROM THE BUBBLER SHALL BE PARALLEL TO THE FRONT EDGE OF THE DRINKING FOUNTAIN.
2. THE SPOUT SHALL PROVIDE A FLOW OF WATER AT LEAST 4" HIGH. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAT 5 LBS.
3. DRINKING FOUNTAIN MUST BE 18" - 19" DEEP AND ALLOW FRONT APPROACH.
4. KNEE CLEARANCE MUST BE 27" MIN. A.F.F. FOR DEPTH OF A 8" MIN. MEASURED FROM THE FRONT EDGE OF THE DRINKING FOUNTAIN.
5. TOE CLEARANCE MUST BE 9" MIN. A.F.F. AND 17" MIN. DEEP, MEASURED FROM THE FRONT OF THE DRINKING FOUNTAIN.

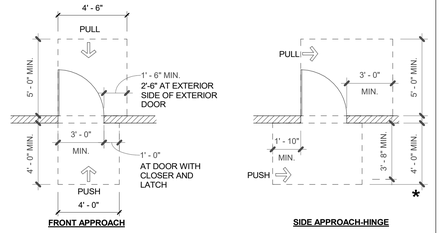


DETAIL-A, ALCOVE

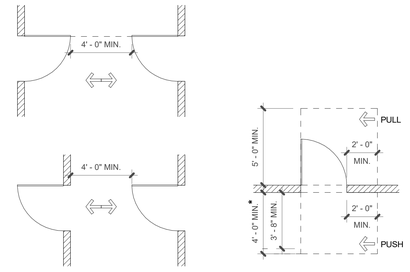


DETAIL-B, RAIL

ADA FOUNTAIN | 11 | 1/2" = 1'-0"



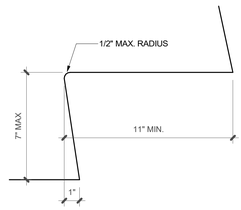
FRONT APPROACH | **SIDE APPROACH-HINGE**



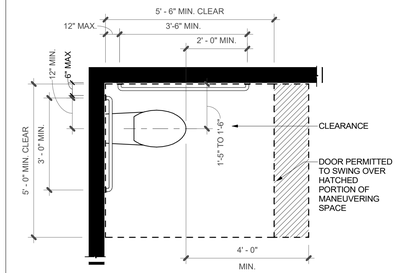
IN SERIES | **SIDE APPROACH-LATCH**

*AT DOOR WITH LATCH AND CLOSER

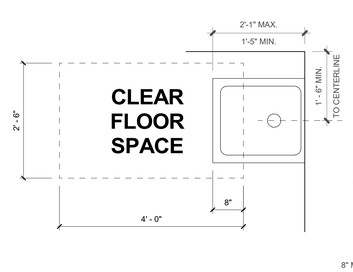
ADA DOORS AND GATES | 7 | 1/4" = 1'-0"



STAIR TREAD | 4 | 3" = 1'-0"

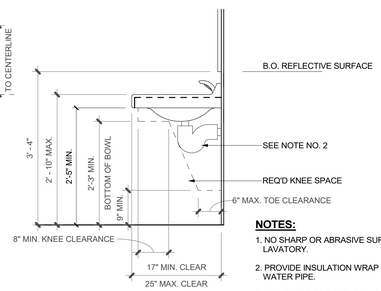


CLEARANCES AT WATER CLOSET | 14 | 1/2" = 1'-0"



DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE REQUIRED FOR ANY FIXTURE.

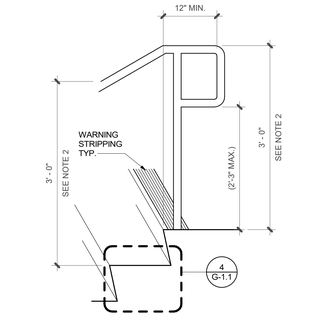
SEE ENLARGED RESTROOM PLANS FOR FIXTURES REQUIRING THE 30 X 48 FLOOR SPACE.



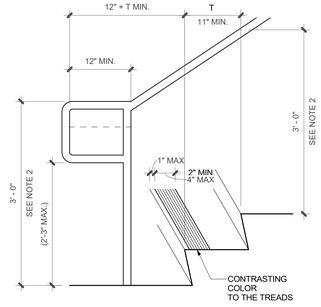
NOTES:

1. NO SHARP OR ABRASIVE SURFACES UNDER LAVATORY.
2. PROVIDE INSULATION WRAP FOR HOT WATER PIPE.
3. ALL KNEE & TOE AREAS ARE TO BE CLEAR.
4. MAXIMUM HEIGHT SHOWN TO TOP LIP OF SINK.

CLEAR FLOOR SPACE AT ADA FIXTURES | 6 | 3/4" = 1'-0"



TOP LANDING

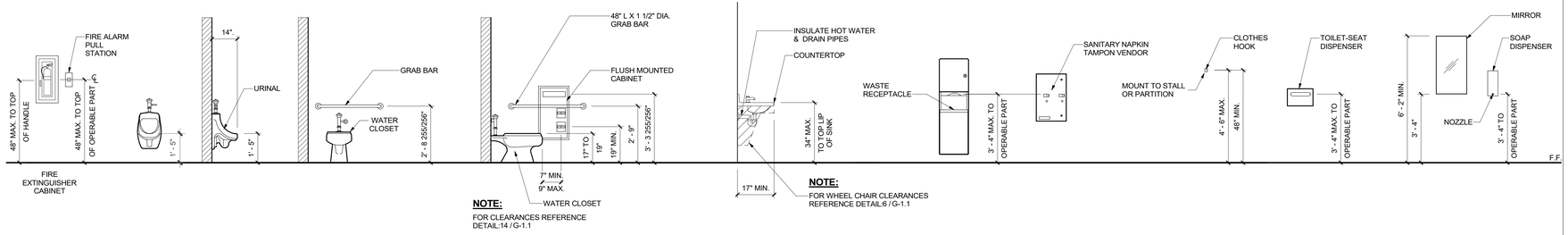


BOTTOM LANDING

NOTES:

1. ACCESSIBLE REQUIREMENTS ONLY. SEE STAIR DRAWING SHEETS FOR ACTUAL HANDRAIL, TREAD, AND RISER DESIGN.
2. DESIGN REQUIREMENT 3'-0" (CODE ALLOWABLE 34" TO 38")

STAIR REQUIREMENTS | 2 | 1" = 1'-0"



NOTE:
FOR CLEARANCES REFERENCE DETAIL:14 / G-1.1

NOTE:
FOR WHEEL CHAIR CLEARANCES REFERENCE DETAIL:6 / G-1.1

TYPICAL MOUNTING HEIGHTS | 1 | 3/8" = 1'-0"

GENERAL NOTES

1. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
2. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBS. LEVER-OPERATED, PUSH TYPE AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET IS WITHIN THE ABOVE MENTIONED FORCE REQUIREMENTS.
3. GRAB BAR SHALL BE 1 1/4" - 1 1/2" DIAMETER OR THE SHAPE PROVIDING EQUIVALENT GRIPPING SURFACE. CLEARANCE BETWEEN GRAB BAR AND WALL SHALL BE 1 1/2" WIDE.
4. GRAB BAR SHALL BE SMOOTH. EDGES SHALL HAVE RADIUS OF 1/8" MINIMUM.
5. THE STRUCTURAL STRENGTH OF GRAB BARS, TUB AND SHOWER SEATS, FASTENERS, AND MOUNTING DEVICES SHALL MEET THE FOLLOWING SPECIFICATIONS:
   a. BENDING STRESS IN GRAB BAR OR SEAT INDUCED BY THE MAXIMUM BENDING MOMENT FROM THE APPLICATION OF A 250-LB POINT LOAD SHALL BE LESS THAT THE ALLOWABLE STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT.
   b. SHEAR STRESS INDUCED IN A GRAB BAR OR SEAT BY THE APPLICATION OF A 250-LB POINT LOAD SHALL BE LESS THAN THE ALLOWABLE SHEAR STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT, AND ITS MOUNTING BRACKET OR OTHER SUPPORT IS CONSIDERED TO BE FULLY RESTRAINED, THEN DIRECT AND TORSIONAL SHEAR STRESSES SHALL NOT EXCEED THE ALLOWABLE SHEAR STRESS.
   c. TENSILE FORCE INDUCED IN A FASTENER BY A DIRECT TENSION FORCE OF A 250-LB POINT LOAD, PLUS THE MAXIMUM MOMENT FROM THE APPLICATION OF A 250-LB POINT LOAD SHALL BE LESS THAN THE ALLOWABLE WITHDRAWAL LOAD BETWEEN THE FASTENER AND SUPPORTING STRUCTURE.
   d. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
6. SURFACE OF WALL ADJACENT TO GRAB BAR SHALL BE FREE OF SHARP OR ABRASIVE ELEMENTS.
7. OPERABLE PARTS (INCLUDING COIN SLOTS) OF ALL FIXTURES OR ACCESSORIES SHALL BE LOCATED A MAXIMUM OF 40" ABOVE FINISH FLOOR. CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE 5 LBS. MAXIMUM.

TOILET COMPARTMENTS

1. COMPARTMENT DOOR TO ACCESSIBLE FIXTURE MUST COMPLY WITH DOOR MANEUVERING REQUIREMENTS, AND IN NO CASE SHALL THE SPACE IMMEDIATELY OUTSIDE OF THE WATER CLOSET COMPARTMENT DOOR BE LESS THAN 48" MEASURED PERPENDICULAR TO THE COMPARTMENT DOOR IN ITS CLOSED POSITION.
2. STALL DOOR MUST BE SELF-CLOSING, AND HAVE U-PULLS ON BOTH SIDES. IF PROVIDED, THE LOCKING MECHANISM MUST BE ACCESSIBLE, NOT REQUIRING GRASPING, PINCHING OR TURNING OF THE WRIST.
3. DOORS, OTHER THAN THE DOOR TO THE ACCESSIBLE COMPARTMENT, CANNOT SWING INTO THE WHEELCHAIR TURNING SPACE BY MORE THAN 12".
4. THE HEIGHT OF ACCESSIBLE WATER CLOSETS SHALL BE A MINIMUM OF 17" AND A MAXIMUM OF 19" MEASURED TO THE TOP OF THE TOILET SEAT.
5. FLUSH CONTROLS SHALL BE OPERABLE BY AN OSCILLATING HANDLE WITH A MAXIMUM OPERATING FORCE OF 5 LBS. OR BY A REMOTE LOW VOLTAGE BUTTON. THE HANDLE OR BUTTON SHALL BE LOCATED SO THEY ARE OPERABLE WITHOUT REQUIRING EXCESSIVE BODY MOVEMENT.
6. FLUSH VALVE SHALL BE ON WIDE SIDE OF TOILET AREA. CONTROLS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING.

ELECTRICAL

1. CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL COMPLY WITH THE FOLLOWING:
   a. THE LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND THE HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX.
   b. UNOBSTRUCTED FORWARD OR SIDE REACH SHALL BE 48" MAXIMUM AND 15" MINIMUM ABOVE THE FINISH FLOOR OR GRADE.
   c. OBSTRUCTED FORWARD REACH DEPTH OF 20" OR LESS SHALLL BE 48" HIGH MAXIMUM. OBSTRUCTED FORWARD REACH DEPTH GREATER THAN 20" SHALL BE 44" HIGH MAXIMUM WITH A MAXIMUM OBSTRUCTED REACH DEPTH OF 25".
   d. OBSTRUCTED SIDE REACH DEPTH OF 10" OR LESS SHALLL BE 48" HIGH MAXIMUM. OBSTRUCTED SIDE REACH DEPTH GREATER THAN 10" SHALL BE 46" HIGH MAXIMUM WITH A MAXIMUM OBSTRUCTED REACH DEPTH OF 24" MAXIMUM.

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DESIGN DEVELOPMENT

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SHEET TITLE:

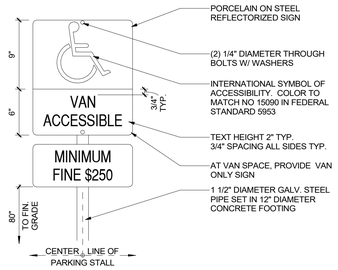
ACCESSIBILITY STANDARDS

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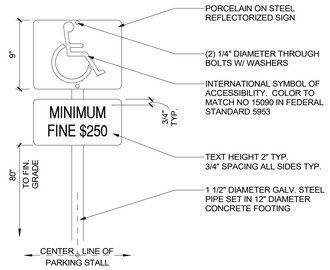
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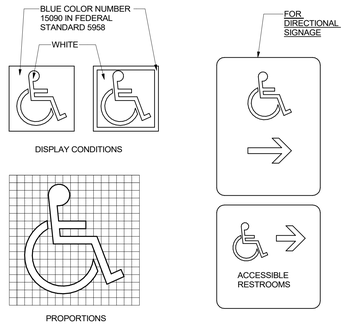
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ACCESSIBLE VAN - A

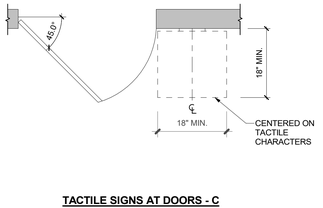


ACCESSIBLE CAR - B



ALL ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH A WHITE FIGURE ON BLUE, 6" SQUARE MIN.

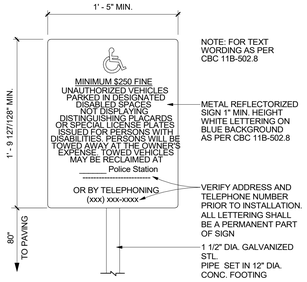
ACCESSIBLE INTERNATIONAL SYMBOL — 12 — 12" = 1'-0"



TACTILE SIGNS AT DOORS - C

NOTES

1. SIGNS WITH TACTILE CHARACTERS SHALL BE LOCATED 48" MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLS AND 60" MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS.
2. WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE.
3. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF.
4. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR.
5. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL.
6. IN MEETING CLEAR FLOOR SPACE, THE EDGE OF THE SIGN SHALL NOT BE LESS THAN 3" OR MORE THAN 12" FROM FRAME OF DOOR.



SITE ENTRY SIGN - C

SITE SIGNAGE

1. EACH PARKING SPACE RESERVED FOR PERSONS WITH DISABILITIES SHALL BE IDENTIFIED BY A REFLECTORIZED SIGN PERMANENTLY POSTED IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL OR SPACE, CONSISTING OF A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT IN WHITE ON DARK BLUE BACKGROUND. THE SIGN SHALL NOT BE SMALLER THAN 70 SQ. INCHES IN AREA AND WHEN IN A PATH OF TRAVEL SHALL BE POSTED AT A MINIMUM HEIGHT OF 80" FROM THE BOTTOM OF THE SIGN TO THE PARKING SPACE FINISHED GRADE.
2. AN ADDITIONAL SIGN SHALL ALSO BE POSTED, IN A CONSPICUOUS PLACE, AT EACH ENTRANCE TO OFF PARKING FACILITIES, OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL OR SPACE. THE SIGN SHALL BE NOT LESS THAN 17" BY 22" IN SIZE WITH LETTERING NOT LESS THAN 1" IN HEIGHT, WHICH CLEARLY AND CONSPICUOUSLY STATES THE FOLLOWING:

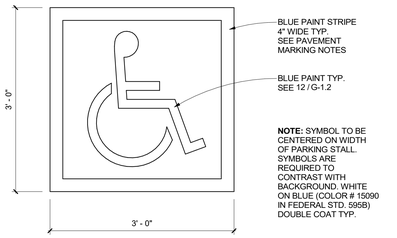
"UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES MAY BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT _____ OR BY TELEPHONING _____."

NOTE: BLANK SPACES ARE TO BE FILLED IN WITH APPROPRIATE INFORMATION AS A PERMANENT PART OF THE SIGN.

ACCESSIBLE PARKING IDENTIFICATION SIGNS — 15 — 1 1/2" = 1'-0"

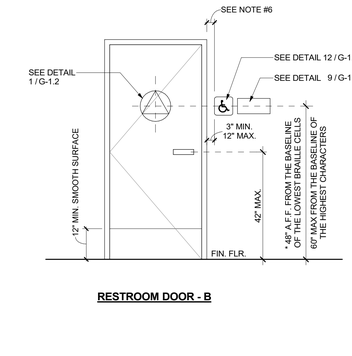
OUTLINING A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT IN WHITE ON BLUE BACKGROUND. THE PROFILE VIEW SHALL BE LOCATED SO THAT IT IS VISIBLE TO A TRAFFIC ENFORCEMENT OFFICER WHEN A VEHICLE IS PROPERLY PARKED IN THE SPACE AND SHALL BE 36 INCHES HIGH BY 36 INCHES WIDE.

PAVEMENT MARKINGS:
1. PAINTED LINES AND MARKINGS ON PAVEMENT SHALL BE 4" MINIMUM WIDE AND BLUE IN COLOR EQUAL TO COLOR NO. 15090 PER FEDERAL STANDARD 595B.

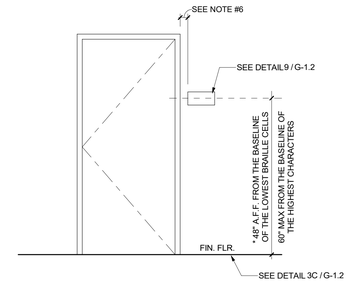


NOTE: SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL. SYMBOLS ARE REQUIRED TO CONTRAST WITH BACKGROUND. WHITE ON BLUE (COLOR # 15090 IN FEDERAL STD. 595B) DOUBLE COAT TYP.

ACCESSIBLE PARKING SYMBOL — 11 — 1" = 1'-0"



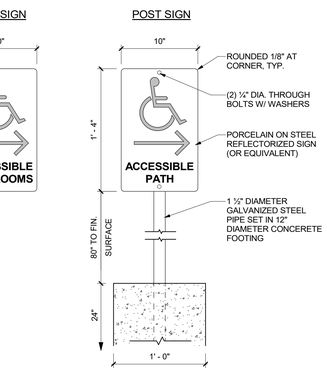
RESTROOM DOOR - B



TYPICAL DOOR - A

* **NOTE:** SEE NOTES AT DETAIL: 13 / G-1.2

TYPICAL SIGN MOUNTING — 3 — 1/2" = 1'-0"



1. **CHARACTER TYPE**
CHARACTERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SANS SERIF UPPERCASE CHARACTERS ACCOMPANIED BY GRADE 2 BRAILLE (SEE NOTE 5 BELOW). PER CBC SEC. 11B-703.

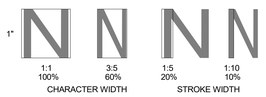
2. **CHARACTER SIZE**
RAISED CHARACTERS SHALL BE A MIN. OF 5/8" AND A MAXIMUM OF 2" HIGH.

3. **FINISH AND CONTRAST**
CONTRAST BETWEEN CHARACTERS, SYMBOLS AND THEIR BACKGROUND, MUST BE 70% MIN. AND HAVE A NON-GLARE FINISH. 11B-703.5.1, 11B-7.3.6.2, & 11B-703.7.1.

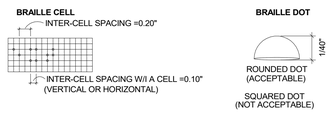
4. **PROPORTIONS**
CHARACTERS ON SIGNS SHALL HAVE A WIDTH-TO-HEIGHT RATIO OF BETWEEN 3:5 AND 1:1 AND A STROKE WIDTH-TO-HEIGHT RATIO OF BETWEEN 1:5 AND 1:10. 11B-703.2.4 & 11B-703.2.6.

ALL LETTERS MEASURED MUST BE UPPERCASE. AFTER CHOOSING A TYPESTYLE TO TEST, BEGIN BY PRINTING THE LETTERS I, X, AND O AT 1" HIGH. PLACE THE TEMPLATE'S 1:1 SQUARE OVER THE X OR O, WHICHEVER IS NARROWER. IF THE CHARACTER IS NOT WIDER THAN 1", NOR NARROWER THAN THE 3:5 RECTANGLE, THE PROPORTIONS ARE CORRECT. USE THE 1:5 RECTANGLE TO DETERMINE IF THE STROKE OF THE I IS TOO BROAD, AND THE 1:10 RECTANGLE TO SEE IF IT IS TOO NARROW. IF ALL THE TESTS ARE PASSED, THE TYPESTYLE IS COMPLIANT WITH PROPORTION CODE.

TEMPLATE FOR CHECKING CHARACTER AND STROKE WIDTH TO HEIGHT PROPORTIONS:



5. **BRAILLE**
CALIFORNIA GRADE 2 BRAILLE SHALL BE USED WHEREVER BRAILLE IS REQUIRED IN OTHER PORTIONS OF THESE STANDARDS. DOTS SHALL BE 1/4" ON CENTERS IN EACH CELL WITH SPACE BETWEEN CELLS, MEASURED THE SECOND COLUMN OF DOTS IN THE FIRST CELL TO THE FIRST COLUMN OF DOTS IN THE SECOND CELL. DOTS SHALL BE RAISED A MIN. 1/40" ABOVE THE BACKGROUND. 11B-703.3 &11B-703.3.1.

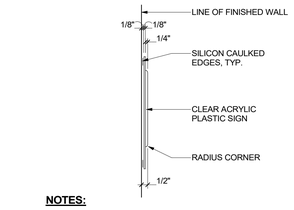


RECOMMEND ROUNDED OR DOMED CALIFORNIA BRAILLE DOTS, EACH DISTINCT AND SEPARATE. DOTS WITH STRAIGHT SIDES AND FLAT TOPS ARE NOT READABLE FOR MANY BRAILLE USERS.

6. SIGNS WITH RAISED CHARACTERS AND BRAILLE SHALL BE LOCATED 48 INCHES (1220 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST LINE OF BRAILLE AND 60 INCHES (1525 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS. MOUNTING LOCATION SHALL BE DETERMINED SO THAT A PERSON MAY APPROACH WITHIN 3 INCHES (76 MM) OF SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE SWING OF A DOOR.

7. RAISED CHARACTERS ON SIGNS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 PERCENT MINIMUM AND 11 0 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I". STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 15 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER.

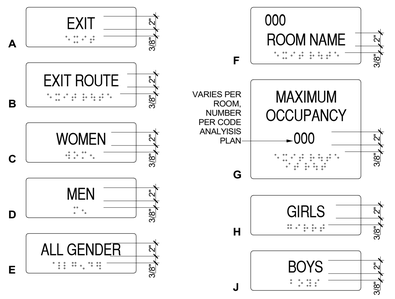
GRAPHIC ELEMENTS — 13 — 1/2" = 1'-0"



NOTES:

1. ATTACH SIGN WITH ADHESIVE ONLY AND CAULK EDGES WITH CLEAR SILICON. SIGN SHALL BE CENTER DOOR AND MOUNTED 60" (1525 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS.
2. CHARACTER HEIGHT, PROPORTION RAISED AND BRAILLE CHARACTERS AND PICTORIAL SYMBOL SIGN, FINISH AND CONTRAST, MOUNTING HEIGHT AND LOCATION SHALL COMPLY WITH THE REQUIREMENTS OF CBC.

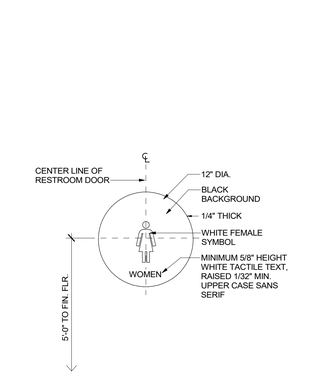
SIGN INSTALLATION — 10 — 1/2" = 1'-0"



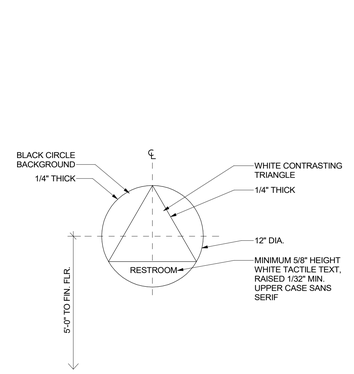
NOTE:
FOR BRAILLE REQUIREMENTS SEE: 13 / G-1.2

FOR MOUNTING REQUIREMENTS SEE: 10 / G-1.2

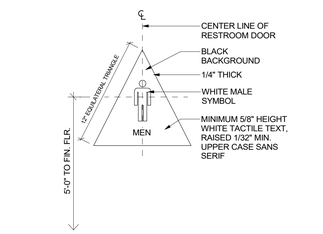
ACCESSIBLE ROOM SIGNS — 9 — 1/2" = 1'-0"



WOMEN RESTROOM - A



SINGLE OCCUPANT RESTROOM - C



MEN RESTROOM - B

NOTES

1. DOORWAYS LEADING TO TOILET ROOMS AND BATHING ROOMS SHALL BE IDENTIFIED BY A GEOMETRIC SYMBOL MOUNTED AT 58" MINIMUM AND 60" MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE MEASURED FROM THE CENTERLINE OF THE SYMBOL, WHERE A DOOR IS PROVIDED THE SYMBOL SHALL BE MOUNTED WITHIN 1" OF THE VERTICAL CENTERLINE OF THE DOOR.
2. WOMEN'S TOILET AND BATHING FACILITIES SHALL BE IDENTIFIED BY A CIRCLE, 1/4" THICK AND 12" IN DIAMETER. THE CIRCLE SYMBOL SHALL CONTRAST WITH THE DOOR, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.
3. MEN'S TOILET AND BATHING FACILITIES SHALL BE IDENTIFIED BY AN EQUILATERAL TRIANGLE, 1/4" THICK WITH EDGES 12" LONG AND A VERTEX POINTING UPWARD. THE TRIANGLE SYMBOL SHALL CONTRAST WITH THE DOOR, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.
4. UNISEX TOILET AND BATHING FACILITIES SHALL BE IDENTIFIED BY A CIRCLE, 1/4" THICK AND 12" IN DIAMETER WITH A 1/4" THICK TRIANGLE WITH A VERTEX POINTING UPWARD SUPERIMPOSED ON THE CIRCLE AND WITHIN THE 12-INCH DIAMETER. THE TRIANGLE SYMBOL SHALL CONTRAST WITH THE CIRCLE SYMBOL, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND. THE CIRCLE SYMBOL SHALL CONTRAST WITH THE DOOR, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.
5. EDGES OF SIGNS SHALL BE ROUNDED, CHAMFERED OR EASED. CORNERS OF SIGNS SHALL HAVE A MINIMUM RADIUS OF 1/8".

RESTROOM GEOMETRIC SYMBOLS — 1 — 3/4" = 1'-0"



NOTES:

1. PERMANENT ASSISTIVE LISTENING DEVICE RADIO FREQUENCY (FM)
(1) T-31 FM TRANSMITTER BY WILLIAMS SOUND
(2) R-31 RECIEVER BY WILLIAMS SOUND

MIN. (2) REQUIRED
CONTACT: HEARING PROMOTIONS (714) 669-0401

2. PROTABLE ASSISTIVE LISTENING DEVICE RADIO FREQUENCY (FM)
(1) PFM T-30 TRANSMITTER BY HEARING HELPER
(2) PFM R31 RECEIVER BY HEARING HELPER

MIN. (2) REQUIRED
CONTACT: HEARING HELPER (866) 432-7776

3. COORDINATE SPEAKER LOCATION WITH ARCHITECT.
4. LETTER STYLE: UPPERCASE SANS SERIF.

ASSISTIVE LISTENING SYSTEM SIGN — 17 — 1/2" = 1'-0"

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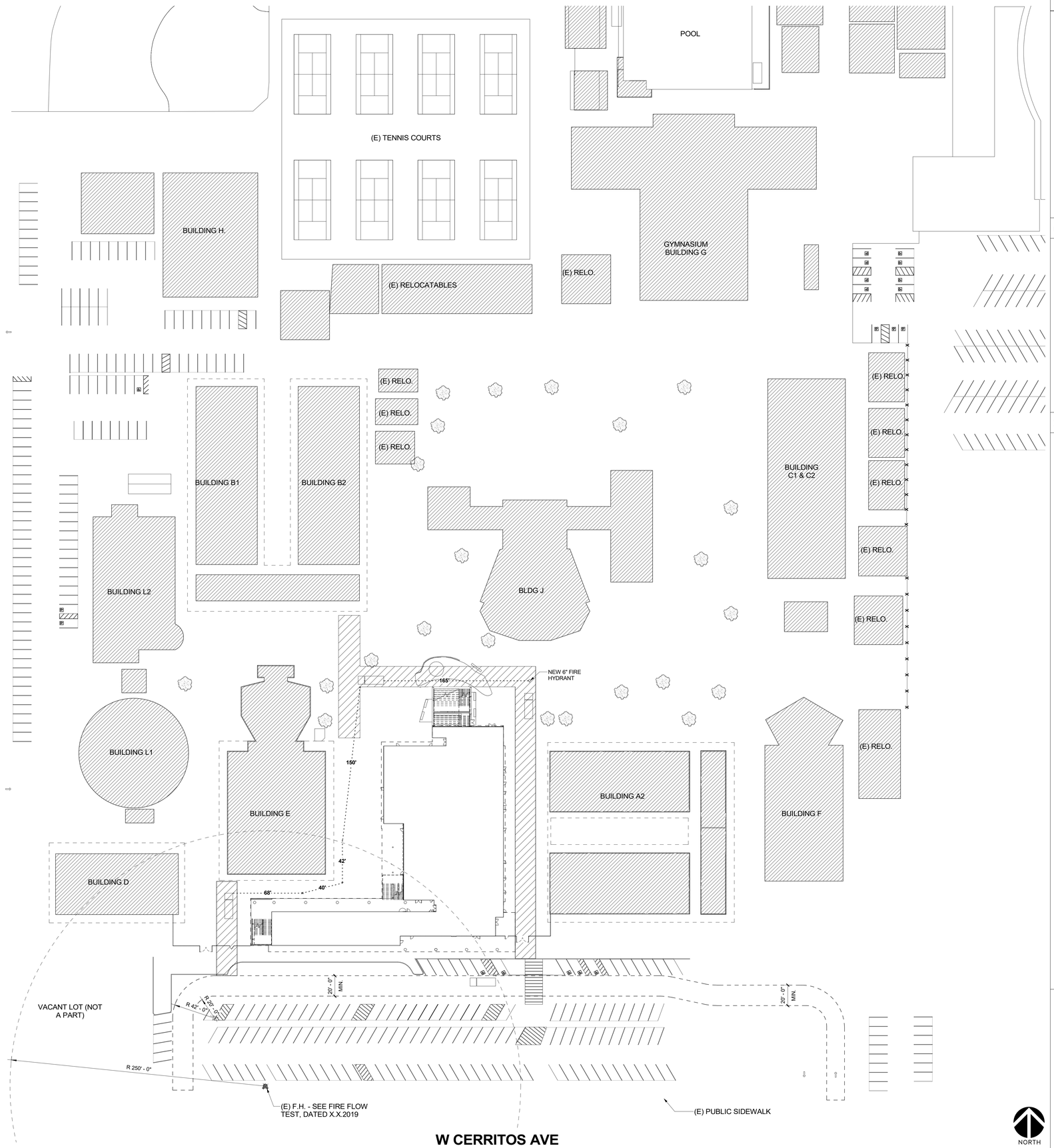
ACCESSIBLE SIGNAGE STANDARDS

SHEET NUMBER:

G-1.2

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FIRE TRUCK ACCESS SITE PLAN

1
1" = 40'-0"

NORTH

LEGEND

HOSE PULL DISTANCE (150' MAX)

HYDRANT

GENERAL NOTES

1. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO SITE VERIFY ALL CLEARANCES IN PLENUM AREA AND ADVISE IF MECHANICAL EQUIPMENT SHOULD BE RELOCATED.
2. FIRE ALARM SYSTEM, SMOKE DETECTION, AND LIFE SAFETY EQUIPMENT AS REQUIRED BY CODE SHALL MATCH BUILDING STANDARD.
3. PROVIDE NEW SEMI-RECESSED FIRE EXTINGUISHER IN CABINET THROUGHOUT, AS INDICATED ON DRAWINGS AND PER LOCAL CODES.
4. FINAL LOCATION OF FIRE EXTINGUISHERS SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.

SHEET KEYNOTES

SN.##

OCFA NOTES

1. ALL VEGETATION AND OTHER OBSTRUCTIONS OVERHANGING A FIRE ACCESS ROADWAY SHALL BE MAINTAINED TO A CLEAR HEIGHT OF 13'-6".
2. ALL POLES, BACKBOARDS, AND OTHER OBSTRUCTIONS ON PLAYGROUNDS NEAR A FIRE ACCESS ROADWAY SHALL BE PROVIDED WITH REFLECTIVE TAPE OR PAINT.
3. KNOX KEY SWITCHES, KNOX LOCKS, OR FRANGIBLE PADLOCKS / CHAINS SHALL BE PROVIDED FOR ALL GATES AND BARRIERS IN THE PATH OF VEHICLE OR FIREFIGHTER ACCESS.
4. THE CAMPUS IS IDENTIFIED WITH 6" HIGH ADDRESS NUMBERS EASILY VISIBLE FROM THE PUBLIC ROAD FRONTING THE PROPERTY. INDIVIDUAL STRUCTURES ARE IDENTIFIED WITH 6" HIGH ADDRESS NUMBERS OR LETTERS EASILY VISIBLE FROM THE PUBLIC WAY OR FIRE ACCESS ROADWAY.
5. ALL-WEATHER ACCESS ROADWAYS AND ALL FIRE HYDRANTS SHALL BE IN PLACE AND OPERATIONAL BEFORE BRINGING COMBUSTIBLE BUILDING MATERIALS OR PORTABLE UNITS ON-SITE.
6. PIVs, DDCs, FDCs SHALL BE UNOBSTRUCTED AND VISIBLE FROM THE FIRE LANE OR PUBLIC ROAD. THEY SHALL BE PAINTED 'OSHA SAFETY RED'.

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

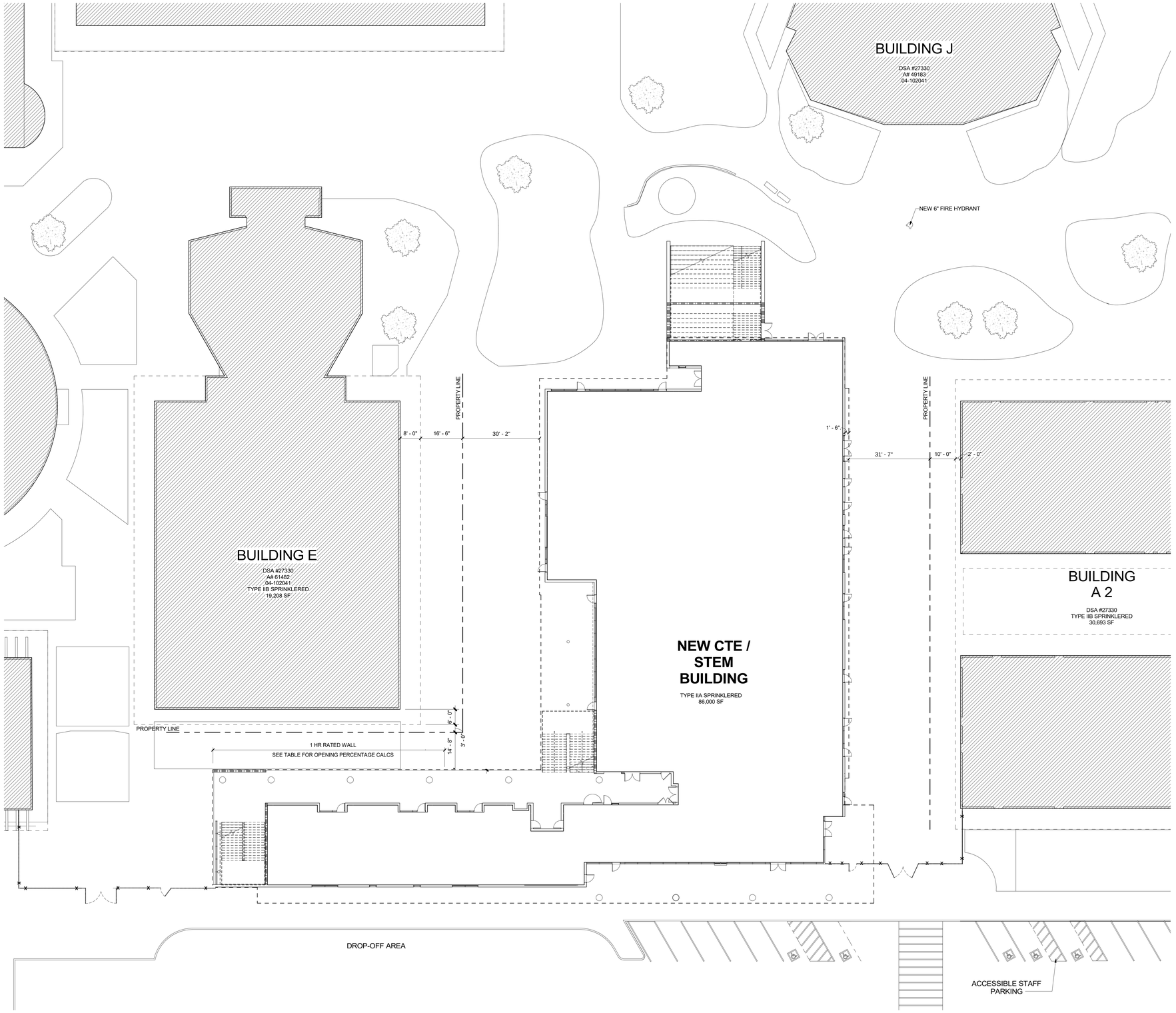
FIRE ACCESS SITE PLAN

SHEET NUMBER:

G-4.0

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SITE PLAN - CODE ANALYSIS - SITE

1
1/16" = 1'-0"

LEGEND

- EXISTING BUILDING
- LANDSCAPE
- CONCRETE PAVING
- PROPERTY LINE
- ACCESSIBLE PATH OF TRAVEL
- AREA OF SAFE DISPERSAL
- FIRE HYDRANT
- FENCE

GENERAL NOTES

1. SEE SHEET G-1.2 FOR ALL ACCESSIBLE SIGNAGE REQUIREMENTS AND NOTES.
2. ACCESSIBLE PARKING SIGNAGE PART OF BASE BUILDING PERMIT. (NOT IN SCOPE) ALL EXISTING SIGNAGE MUST CONFORM TO ACCESSIBILITY SIGNAGE NOTES.
3. NO ABRUPT CHANGES IN ELEVATION ALONG THE PATH OF TRAVEL SHOWN. THE SLOPE AND CROSS-SLOPE ALONG THE PATH OF TRAVEL SHALL NOT EXCEED 5% AND 2% RESPECTIVELY.
4. FOR AREA OF SAFE DISPERSAL, SEE SHEET A0-2.1

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CODE ANALYSIS SITE PLAN

SHEET NUMBER:

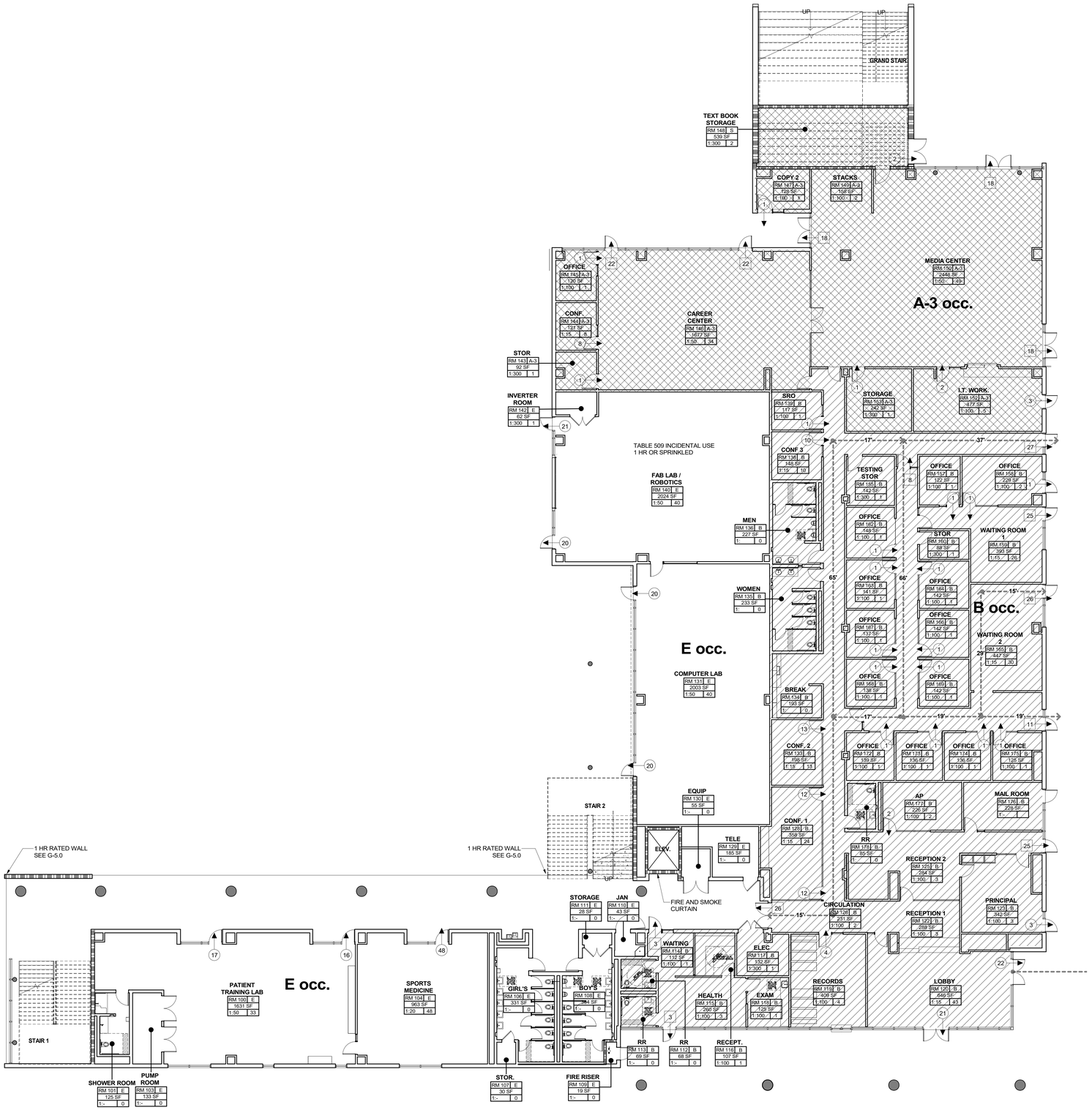
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1/16" = 1'

0 16 32 48



NOTE: FOR 'AREA OF SAFE DISPERSAL' - SEE SITE PLAN, sheet A0-1.01

NORTH

FIRST FLOOR - CODE ANALYSIS | 1 | 3/32" = 1'-0"

LEGEND

- COMMON PATH OF EGRESS TRAVEL
- EXIT ACCESS TRAVEL DISTANCE
- A-3 OCCUPANCY
- B OCCUPANCY
- E OCCUPANCY

OCCUPANCY #	XX
WIDTH REQUIRED	0"
WIDTH PROVIDED	0"

- INDIVIDUAL ROOM OCCUPANT LOAD
- COMBINED ROOM OCCUPANT LOAD

ROOM NAME
ROOM NUMBER — RM XXX | X-1
X,XXX SF
OCCUPANT LOAD FACTOR — 1: XXX | XX

CODE NOTES

1. PER CBC 303.1.2 SMALL ASSEMBLY SPACES
A OCCUPANCIES LESS THAT 50 OCCUPANTS OR 750 SF AND ACCESSORY TO ANOTHER OCCUPANCY SHALL BE CLASSIFIED AS GROUP B OCCUPANCY OR PART OF THAT OCCUPANCY

2. PER CBC 508.2.3 ALLOWABLE BUILDING AREA
THE ALLOWABLE AREA OF THE BUILDING SHALL BE BASED ON THE APPLICABLE PROVISIONS OF SECTION 506 FOR THE MAIN OCUPANCY OF THE BUILDING. AGGREGATE ACCESSORY OCCUPANCIES SHALL NOT OCCUPY MORE THAN 10 PERCENT OF THE FLOOR AREA OF THE STORY IN WHICH THEY ARE LOCATED AND SHALL NOT EXCEED THE TABULAR VALUES FOR NONSPRINKLERED BUILDINGS IN TABLE 506.2 FOR EACH ACCESSORY OCCUPANCY.

CODE ANALYSIS

CONSTRUCTION TYPE	
TYPE	II A
SPRINKLED	YES
MAIN OCCUPANCY	E
ANCILLARY OCCUPANCIES	A-3, B
MIXED OCCUPANCY SEPARATION TYPE PER CBC 508	NON SEPARATED (CBC 508.3)

NONSEPARATED OCCUPANCIES	GROUP A-3	GROUP B	GROUP E
ALLOWABLE HEIGHT (# OF STORIES)	85 FT (4)	85 FT (4)	85 FT (4)
ALLOWABLE AERA PER STORY (SQUARE FEET)	46,500	112,500	79,500
ALLOWABLE BUILDING AREA (SQUARE FEET)	186,000	450,000	318,000

NONSEPARATED BUILDING ALLOWABLE LIMITED TO

4 STORIES
46,500 SF PER STORY
186,000 SF TOTAL BUILDING AREA

ACTUAL BUILDING	
3 STORIES	
1ST FLOOR	27,910 SF
2ND FLOOR	29,476 SF
3RD FLOOR	29,142 SF
TOTAL BUILDING	86,528 SF

FIRE RESISTANCE RATING (Table 601)	
PRIMARY STRUCTURAL FRAME	1 HR
BEARING WALLS	
EXTERIOR	1 HR
INTERIOR	1 HR
NON BEARING WALLS & PARTITIONS	
EXTERIOR	1 HR*
INTERIOR	0 HR
FLOOR CONSTRUCTION & SECONDARY MEMBERS	1 HR
ROOF CONSTRUCTION & SECONDARY MEMBERS	1 HR
*based on separation distance 10'≤ x < 30'	

EXTERIOR WALL FIRE RESISTANCE (Table 602)	
FIRE SEPARATION DISTANCE:	Required Rating for Occupancy "E"
15' to less than 30'	1 hour
30' and greater	none

EXTERIOR WALL OPENINGS (Table 705.8)	
FIRE SEPARATION DISTANCE:	MAXIMUM AREA:
15' to less than 20' - protected	75%
20' to less than 25' - protected	no limit

SAFE DISPERSAL AREA (1028.5)	
OCCUPANTS X 5 SQ. FT = 3000 X 5	15,000 SF

PLUMBING FACILITIES - REQUIRED (CPC Chap. 4, Table 422.1)				
OCCUPANCY: **A3** (1:30 sf per CPC Table A)	FEMALE	MALE	-	D.F.
ASSUME 50% FEMALE & MALE	**88**	**88**		
water closet	3	1		
urinal	-	1		
lavatory	1	1		
drinking fountain (1:1-250)				1
OCCUPANCY: **B** (1:200 sf per CPC Table A)	FEMALE	MALE	-	D.F.
ASSUME 50% FEMALE & MALE	**24**	**24**		
water closet	2	1		
urinal	-	1		
lavatory	1	1		
drinking fountain (1:150)				1
OCCUPANCY: **E** (1:50 sf per CPC Table A)	FEMALE	MALE	-	D.F.
ASSUME 50% FEMALE & MALE	**450**	**450**		
water closet	12	8		
urinal	-	4		
lavatory	10	10		
drinking fountain (1:150)				6
PLUMBING FACILITIES - REQUIRED, total	FEMALE	MALE	-	D.F.
water closet	17	10		
urinal	-	6		
lavatory	12	12		
drinking fountain (1:150)				8
PLUMBING FACILITIES - PROVIDED, total	FEMALE	MALE	UNISEX	D.F.
water closet	**22**	**14**	**6**	
urinal	-	**8**	-	
lavatory	**17**	**17**	**6**	
drinking fountain (1:150)				10

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Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

SCHEMATIC DESIGN SUBMITTAL	11/07/18
DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

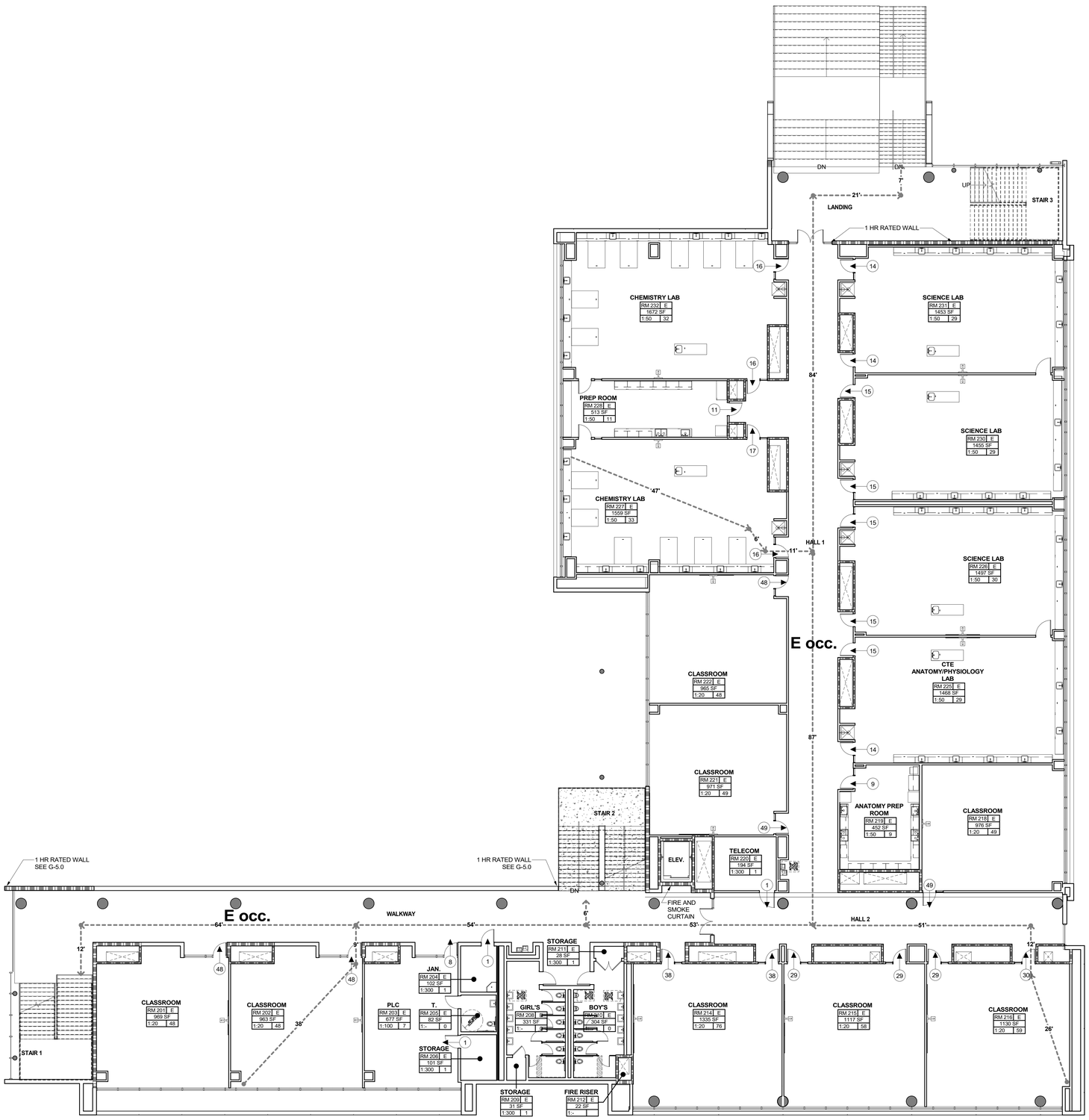
CODE ANALYSIS 1

SHEET NUMBER:

G-5.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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NORTH

SECOND FLOOR - CODE ANALYSIS | 1 | 3/32" = 1'-0"

LEGEND

COMMON PATH OF EGRESS TRAVEL

EXIT ACCESS TRAVEL DISTANCE

OCCUPANCY #	XX
WIDTH REQUIRED	0"
WIDTH PROVIDED	0"

INDIVIDUAL ROOM OCCUPANT LOAD

COMBINED ROOM OCCUPANT LOAD

ROOM NAME

ROOM NUMBER — RM XXX | X-1

XXXX SF

OCCUPANT LOAD FACTOR — 1: XXX | XX

ROOM NAME

OCCUPANCY GROUP

SQUARE FOOTAGE

OCCUPANT LOAD

A-3 OCCUPANCY

B OCCUPANCY

E OCCUPANCY

CODE NOTES

1 PER CBC 303.1.2 SMALL ASSEMBLY SPACES
A OCCUPANCIES LESS THAT 50 OCCUPANTS OR 750 SF AND ACCESSORY TO ANOTHER OCCUPANCY SHALL BE CLASSIFIED AS GROUP B OCCUPANCY OR PART OF THAT OCCUPANCY

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CODE ANALYSIS

REFER TO SHEET G-5.1

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

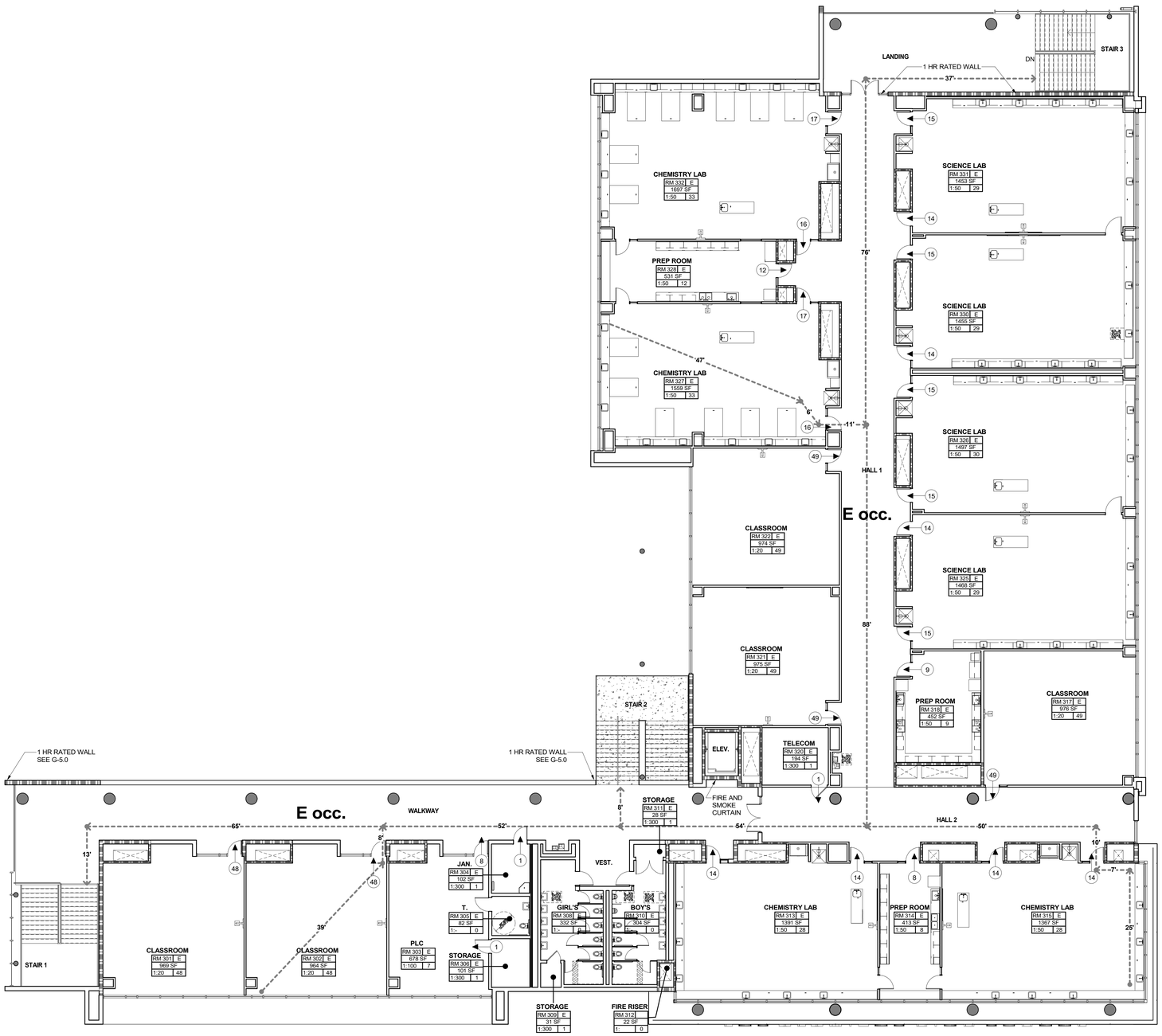
CODE ANALYSIS 2

SHEET NUMBER:

G-5.2

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LEGEND

COMMON PATH OF EGRESS TRAVEL

EXIT ACCESS TRAVEL DISTANCE

OCCUPANCY #	XX
WIDTH REQUIRED	0"
WIDTH PROVIDED	0"

INDIVIDUAL ROOM OCCUPANT LOAD

COMBINED ROOM OCCUPANT LOAD

ROOM NAME — ROOM NAME

ROOM NUMBER — RM XXX | X-1 — OCCUPANCY GROUP

X,XXX SF — SQUARE FOOTAGE

OCCUPANT LOAD FACTOR — 1: XXX | XX — OCCUPANT LOAD

A-3 OCCUPANCY

B OCCUPANCY

E OCCUPANCY

CODE NOTES

1. PER CBC 303.1.2 SMALL ASSEMBLY SPACES
A OCCUPANCIES LESS THAT 50 OCCUPANTS OR 750 SF AND ACCESSORY TO ANOTHER OCCUPANCY SHALL BE CLASSIFIED AS GROUP B OCCUPANCY OR PART OF THAT OCCUPANCY

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CODE ANALYSIS

REFER TO SHEET G-5.1

NORTH

THIRD FLOOR - CODE ANALYSIS | 1 | 3/32" = 1'-0"

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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

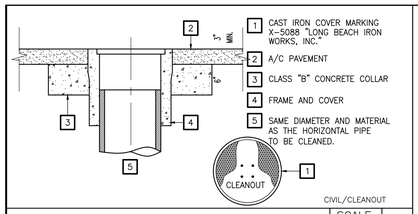
CODE ANALYSIS 3

SHEET NUMBER:

G-5.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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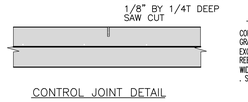
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1. CAST IRON COVER MARKING X-5088 "LONG BEACH IRON WORKS, INC."
2. A/C PAVEMENT
3. CLASS "B" CONCRETE COLLAR
4. FRAME AND COVER
5. SAME DIAMETER AND MATERIAL AS THE HORIZONTAL PIPE TO BE CLEANED.

CIVIL/CLEANOUT

STANDARD CLEAN-OUT — SCALE: NONE — 1

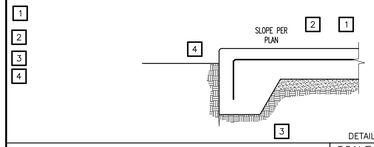


CONTROL JOINT DETAIL

NOTES:

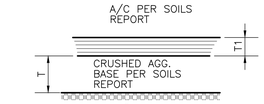
CONTROL JOINTS SHALL DIVIDE SLAB ON GRADE INTO SECTIONS WITH AREAS NOT EXCEEDING 144 SQ. FT. (12'X12') WITHOUT REENTRANT CORNERS AND WITH LENGTH TO WIDTH RATIOS NOT EXCEEDING 1-1/2 : 1. . SEE PLAN FOR LAYOUT

SLAB ON GRADE CONTROL JOINT DETAIL



DETAIL\FD16C

THICKEN SLAB EDGE DETAIL — SCALE: NONE — 2



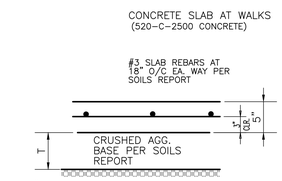
T = T1 = " AT DRIVE LANES SEE SOILS REPORT
T = T1 = " AT PARKING STALLS SEE SOILS REPORT

CRUSHED ROCK BASE PER GREEN BOOK STANDARD CLASS II CALIFORNIA SPECS. OR EQUAL

PAVEMENT SECTION AS SHOWN IS FOR BID PURPOSES. PERMANENT SECTION TO BE DETERMINED BY SOILS ENGINEER AND APPROVED BY CITY ENGINEER UPON COMPLETION OF COMPACTION REPORTS.

\CB1

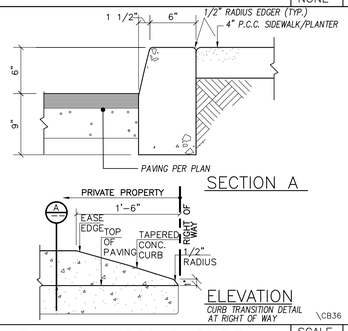
PAVEMENT SECTION — SCALE: NONE — 3



T = 6" OF WELL-GRADED 3/4 INCH CRUSHED ROCK

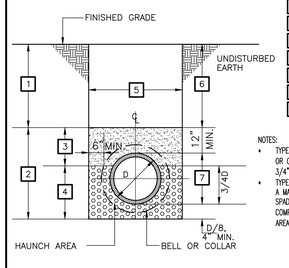
\CB1A

ON SITE WALKWAY SECTION — SCALE: NONE — 4



\CB36

TYPICAL CONCRETE CURB — SCALE: NONE — 5



1. BACKFILL
2. BEDDING
3. TYPE "A" MATERIAL
4. TYPE "B" MATERIAL
5. TRENCH WIDTH
6. COVER
7. SPRING LINE

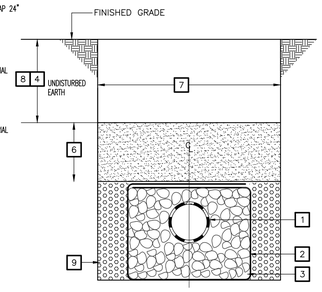
NOTES:
- TYPE "A" MATERIAL – SAND WITH S.E. 30 OR GREATER. TYPE "B" MATERIAL – 3/4" CRUSHED ROCK.
- TYPE "B" MATERIAL SHALL BE PLACED IN A MANNER SUCH AS SLICING, SHOVEL-SPADING, OR SHOVEL RODDING TO INSURE COMPLETE FILLING OF THE "HAUNCH AREAS" BELOW THE PIPE..

CIVIL/ABS

SDR AND PVC BEDDING DETAIL — SCALE: NONE — 6

1. 8" DIAMETER PERFORATED PIPE CLASS SDR35 OR SCH. 40 PVC PIPE SURROUNDED BY GRAVEL AND GEOTEXTILE FABRIC. PERFORATED DOWN (BOTTOM).
2. ¾" CRUSHED ROCK
3. FILTER CLOTH LAP 24" AT TOP
4. BACKFILL
5. BEDDING
6. TYPE "A" MATERIAL
7. TRENCH WIDTH
8. COVER
9. TYPE "B" MATERIAL

NOTES:
- TYPE "A" MATERIAL – SAND WITH S.E. 30 OR GREATER.
- TYPE "B" MATERIAL – 3/4" CRUSHED ROCK.
- TYPE "B" MATERIAL SHALL BE PLACED IN A MANNER SUCH AS SLICING, SHOVEL-SPADING, OR SHOVEL RODDING TO INSURE COMPLETE FILLING OF THE "HAUNCH AREAS" BELOW THE PIPE.



CIVIL/CB204

GROUND INFILTRAION / PIPE DETAIL — SCALE: NONE — 7

LEGEND

ASPHALT CONCRETE A/C, A.C.
BACK OF WALK BW
BLOCK WALL
BOTTOM BOT.
BUILDING BLDG.
CRUSHED AGGREGATE BASE CAB
CHAIN LINK FENCE
CONCRETE CONC.
CONSTRUCT CONST.
DOWN SPOUT DS
EXISTING EX, EXIST.
EXISTING CONTOUR 71.5
EXISTING DRIVEWAY APPROACH
EXISTING ELEVATION (71.5)
FINISH FLOOR ELEVATION FFE
FINISH GRADE FG
FINISH SURFACE FS
GRADE BREAK GB
HIGH POINT HP
INVERT INV
MORENO VALLEY HIGH SCHHOOL MVHS
LOW POINT LP
ON CENTER O/C, O.C.
OVER HEAD LINES OHL
PLANTING AREA PA
PORTLAND CEMENT CONCRETE PCC
POWER POLE PP
PRESSURE TREATED PT
PROPERTY LINE
PROPOSED CONTOUR 31
PROPOSED ELEVATION 72.0
ROOF DOWN SPOUTS AND SPLASH BLOCK RD
SANITARY SEWER S
SANITARY SEWER MANHOLE SSMH
SEWER LATERAL AND CLEANOUT S
SITE LIGHT BASE
STORM DRAIN SD
STORM DRAIN MAN HOLE SDMH
STREET ST.
STREET LIGHT STLT
STREET LIGHT PULL BOX SLPB
TELEPHONE BOX TBX
TOP OF BRICK TB
TOP OF CONCRETE TC
TOP OF CURB, FLOW LINE T/C, FL
TOP OF GRATE TG
TOP OF PAVING TP
TOP OF WALL, TOP OF FOOTING TW, TF
TRAFFIC SIGNAL PULL BOX TSPB
WATER LINE W
WATER METER WM
WATER SERVICE LINE W

PLAN INDEX SHEET

SHEET	SHEET
GRADING PLAN NOTES AND DETAILS	C1
TOPO	C2
DEMO PLAN	C3
PRECISE GRADING	C4
PRECISE GRADING	C4.1

GEOTECHNICAL ENGINEER:

ENGINEER'S NOTES:

1. THE APPLICANT SHALL OBTAIN RIGHT OF ENTRY FROM ADJACENT PROPERTY OWNERS FOR ALL WORK ADJACENT TO PROPERTY LINES.
2. ALL GRADING SHALL OBSERVE RECOMMENDATIONS OF THE SOILS REPORT.
3. SOILS ENGINEER SHOULD BE RETAINED TO OBSERVE ALL GRADING OPERATIONS AND THE REQUIRED TESTING FOR IMPLEMENTING THE RECOMMENDATIONS OF THEIR REPORT.
4. ANY DAMAGE DONE TO EXISTING STREET IMPROVEMENTS AND UTILITIES SHALL BE REPAIRED.
5. THE LOCATION AND PROTECTION OF UTILITIES IS THE RESPONSIBILITY OF THE PROJECT CONTRACTOR
6. GRADES SHALL VARY UNIFORMLY BETWEEN SPOT ELEVATIONS SHOWN.
7. SHOULD THE CONTRACTOR FIND ANY DISCREPANCY OR OMISSIONS FROM THE PLANS, HE SHALL NOTIFY THE ENGINEER AT ONCE TO OBTAIN CLARIFICATION PRIOR TO STARTING CONSTRUCTION.

ENGINEER'S NOTICE TO CONTRACTORS

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OF STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. (CALIFORNIA COUNCIL OF CIVIL ENGINEERS AND LAND SURVEYORS)

DIGALERT

DIAL TOLL FREE
1-800-422-4133
AT LEAST TWO DAYS BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

"CAUTION": REMEMBER THAT THE USA CENTER NOTIFIES ONLY THOSE UTILITIES BELONGING TO THE CENTER. THERE COULD BE OTHER UTILITIES PRESENT AT THE WORK SITE. THE CENTER WILL INFORM YOU OF WHOM THEY WILL NOTIFY.

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Coast Engineering Designs Inc.
Civil and Structural Engineers

CIVIL ENGINEER:
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FOUNTAIN VALLEY, CA 92708
(714) 593-0337
J.N. 24-2018

LOS ALAMITOS UNIFIED SCHOOL DISTRICT

LOS ALAMITOS HIGH SCHOOL

3591 W Cerritos Ave, Los Alamitos, CA 90720

ISSUED FOR:

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

REGISTERED PROFESSIONAL ENGINEER
FARHAD REZAI
No. 39868
EXP. 12-31-19
CIVIL ENGINEER
STATE OF CALIFORNIA

2/26/2019

SHEET TITLE:

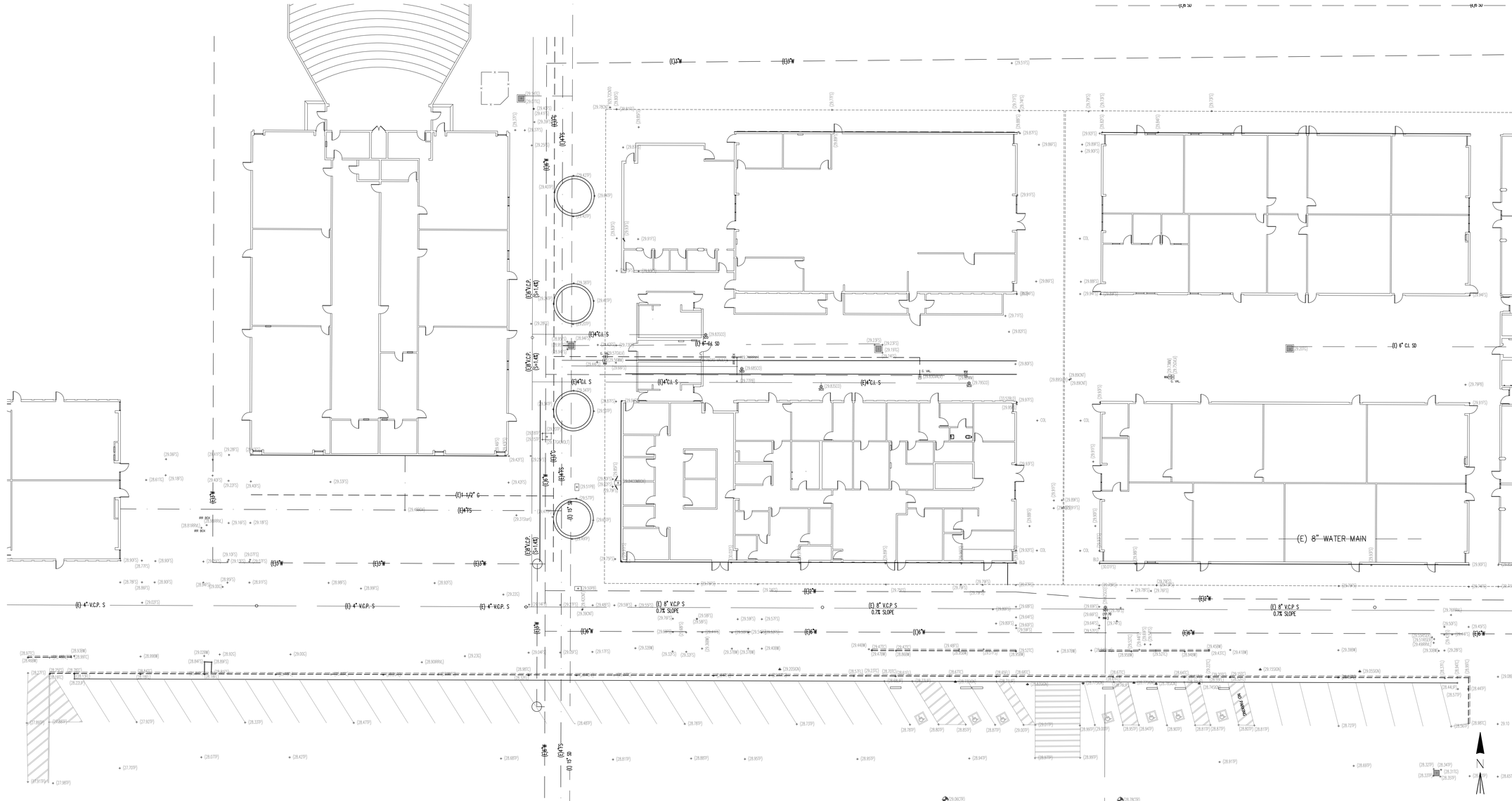
GRADING PLAN NOTES AND DETAILS

SHEET NUMBER:

C-1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/06/19

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CIVIL ENGINEER:

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(714) 593-0337
J.N. 24-2018

LOS ALAMITOS UNIFIED SCHOOL DISTRICT

LOS ALAMITOS HIGH SCHOOL

3591 W Cerritos Ave, Los Alamitos, CA 90720

ISSUED FOR:

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

REGISTERED PROFESSIONAL ENGINEER
FARHAD REZAI
No. 39868
EXP.12-31-19
CIVIL ENGINEER
STATE OF CALIFORNIA

2/26/2019

SHEET TITLE:

TOPO SURVEY

SHEET NUMBER:

C-2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/06/19

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DEMOLITION NOTES:

50 — REMOVE P.C.C. WALK

51 — REMOVE ASPHALTIC CONCRETE

52 — REMOVE, SALVAGE, AND REUSE CHAIN LINK FENCE

53 — REMOVE CURB AND GUTTER

54 — REMOVE PLANTER BOX

55 — 12" WIDE CURB SLOT CUT IN PAVEMENT

56 — REMOVE DRIVE APRON

TO BE ABONDONED

STORM DRAIN LINE TO B PROTECTED IN PLACE AND ENCASED IN 12" THICK CONCRETE ALL AROUND

0 16 32 48 FEET 64

SCALE: 1"=16'

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(714) 593-0337
J.N. 24-2018

LOS ALAMITOS UNIFIED SCHOOL DISTRICT

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REGISTRATION/SIGNATURE:

REGISTERED PROFESSIONAL ENGINEER
FARHAD REZAI
No. 39868
EXP. 12-31-19
CIVIL ENGINEER
STATE OF CALIFORNIA

2/26/2019

SHEET TITLE:

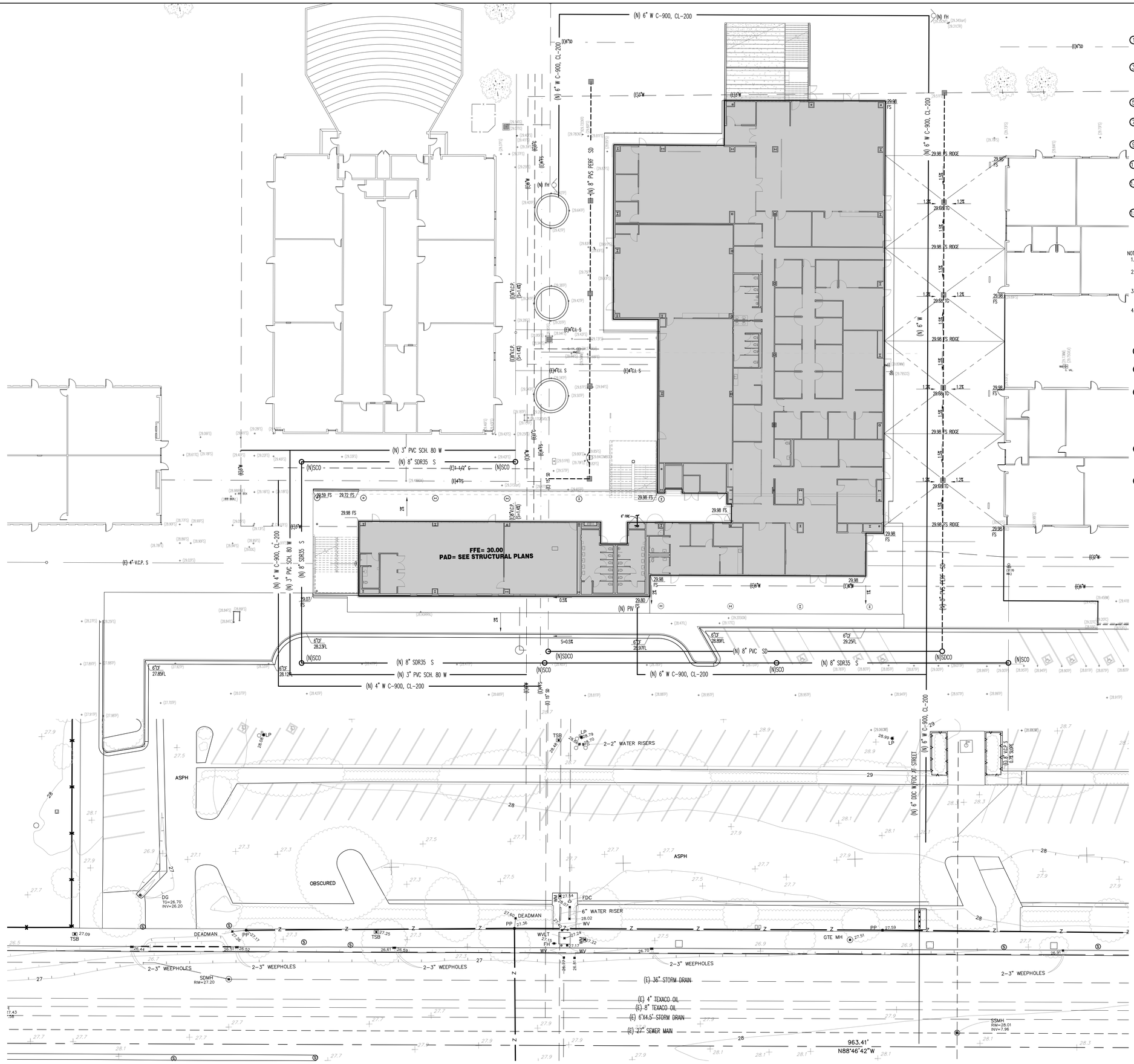
DEMO PLAN

SHEET NUMBER:

C-3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/06/19

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ON SITE CONSTRUCTION NOTES:

1. CONSTRUCT 4" MIN. THICK CONCRETE WALK PER ARCHITECTURAL PLANS.
2. STRIPING PER ARCHITECTURAL PLAN AND CITY STANDARDS.
3. CONSTRUCT CONC. PAVEMENT. SEE GEO-TECHNICAL REPORT FOR SECTION THICKNESS AND SOILS PREPARATION
4. TRASH ENCLOSURE PER ARCHITECTURAL PLANS. (BY SEPARATE PERMIT)
5. PROTECT IN PLACE
6. 24" SQUARE CATCH BASIN PER DETAIL 3
7. STENCIL CATCH BASIN WITH DURABLE MATERIAL "DRAINS TO CHANNEL"
8. WHEEL STOP PER ARCH. PLANS
9. NOT USED.
10. BLOCK FENCE PER ARCH. PLANS, (BY SEPARATE PERMIT)
11. TRANSFORMER PER ARCH. PLANS
12. BALLARD PER ARCH. PLANS
13. CONSTRUCT 36" WIDE CONC. V GUTTER PER DETAIL 1
14. CONSTRUCT 14' WIDE PERVIOUS CONC. WITH 30" DEEP RESERVOIR BELOW PER DETAIL 2 SHOWN HEREON
15. INSTALL CITY APPROVED 4" DOUBLE DETECTOR CHECK VALVE PER "GOLDEN STATE WATER COMPANY" STANDARD DWG. NO. P-35B

NOTES:
1. SEPARATE PUBLIC WORKS DEPARTMENT ENCROACHMENT PERMITS ARE REQUIRED IN PUBLIC RIGHT OF WAY.
2. ALL WORK RELATED TO WATER IN THE PUBLIC RIGHT OF WAY SHALL BE PERFORMED BY A C-34 LICENSED PIPELINE CONTRACTOR OR AN "A" LICENSED GENERAL ENGINEERING CONTRACTOR.
3. ALL WORK RELATED TO WASTEWATER IN THE PUBLIC RIGHT OF WAY SHALL BE PERFORMED BY A C-42 LICENSED SANITATION SEWER CONTRACTOR OR AN "A" LICENSED GENERAL ENGINEERING CONTRACTOR.
4. ALL WORK IN THE PUBLIC RIGHT OF WAY SHALL BE DONE PER CITY STANDARDS.

OFF SITE CONSTRUCTION NOTES:

20. CORE DRILL CURB FOR (3) 3"ø C.I. PIPES PER A.P.W.A. STANDARD PLAN 150-2
21. CURB SLOT ASPHALTIC PATCH BACK
22. TRENCH REPAIR AND BACKFILL PER A.P.W.A. STD. PLAN 133-1
23. CONSTRUCT SIDEWALK PER A.P.W.A. STD. PLAN 113-1
24. CONSTRUCT NEW CURB AND GUTTER PER A.P.W.A. STD. PLAN 120-1 TYPE A2
25. CONSTRUCT DRIVEWAY APPROACH PER A.P.W.A. STD. PLAN 110-1 TYPE B, X=3.5'

SEWER CONSTRUCTION NOTES

50. FURNISH AND INSTALL 4" SDR 35 SEWER PIPE WITH 2% SLOPE.
51. CONSTRUCT PVC SEWER CLEAN OUT PER DETAIL 4
52. CONNECT TO EXISTING 6" CLAY SEWER PIPE (CONTRACTOR TO POTHOLE AND VERIFY INVERT ELEVATION PRIOR TO CONSTRUCTION OF SEWER LINE)
53. TO BE VERIFIED BY PROJECT CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.

WATER CONSTRUCTION NOTES

1. CONSTRUCT 6" PVC WATER LINE C-900, CL-200, PER GOLDEN STATE WATER DISTRICT
2.
3. INSTALL FLANGE TEE 8x8x8 WITH (3) RESILIENT GATE VALVES, VALVE BOX, AND CAST IRON VALVE BOX CAP AND THRUST BLOCK PER CITY STANDARDS.
4. INSTALL 6" DOUBLE DETECTOR CHECK VALVE ASSEMBLY PER PER GOLDEN STATE WATER DISTRICT. CONCRETE PAD NOT BY UNDERGROUND CONTRACTOR.
5. INSTALL NEW (1) 2 1/2" DOMESTIC SERVICE AND (1) 2" METER PER CITY STD. 409, WITH APPROVED BACK FLOW PREVENTION AND PRESSURE REDUCING STATION.
6. INSTALL NEW (1) 2 1/2" IRRIGATION SERVICE AND (1) 2" METER PER CITY STD. 409, WITH APPROVED BACK FLOW PREVENTION AND PRESSURE REDUCING STATION.

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Coast Engineering Designs Inc.
Civil and Structural Engineers

CIVIL ENGINEER:
10231 SLATER AVE SUITE 201
FOUNTAIN VALLEY, CA 92708
(714) 593-0337
J.N. 24-2018

LOS ALAMITOS UNIFIED SCHOOL DISTRICT

LOS ALAMITOS HIGH SCHOOL

3591 W Cerritos Ave, Los Alamitos, CA 90720

ISSUED FOR:

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

REGISTERED PROFESSIONAL ENGINEER
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No. 39868
EXP. 12-31-19
CIVIL ENGINEER
STATE OF CALIFORNIA

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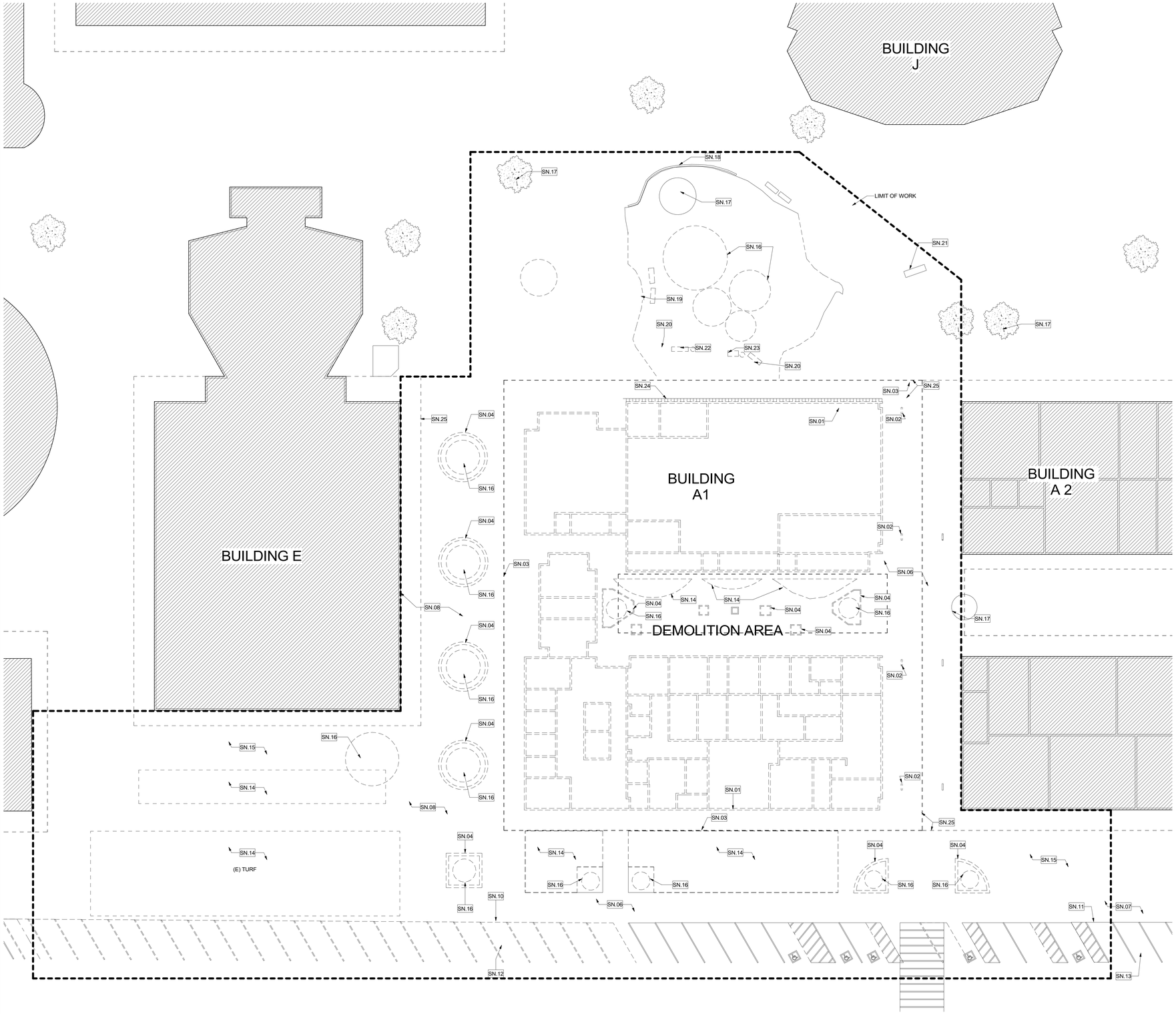
GRADING PLAN

SHEET NUMBER:

C-4

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/06/19

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NORTH

DEMOLITION SITE PLAN | 1 | 1/16" = 1'-0"

GENERAL NOTES

1. SEE SHEET G0-2.2 FOR ALL ACCESSIBLE SIGNAGE REQUIREMENTS AND NOTES.
2. ACCESSIBLE PARKING SIGNAGE PART OF BASE BUILDING PERMIT. (NOT IN SCOPE) ALL EXISTING SIGNAGE MUST CONFORM TO ACCESSIBILITY SIGNAGE NOTES.

LEGEND

- WALL AND RELATED ACCESSORIES TO BE REMOVED
- LIMIT OF WORK
- (E) BLDG., NOT A PART

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	(E) CONC. WALL TO BE REMOVED
SN.02	(E) COL. TO BE REMOVED
SN.03	(E) BLDG. OVERHANG TO BE REMOVED
SN.04	(E) RAISED PLANTER TO BE REMOVED
SN.06	(E) CONC. PAVING TO BE REMOVED
SN.07	(E) CONC. PAVING TO REMAIN
SN.08	(E) ASPHALT PAVING TO BE REMOVED
SN.10	(E) CONC. CURB TO BE REMOVED
SN.11	(E) CONC CURB TO REMAIN
SN.12	(E) PAINTED PARKING STRIPING TO BE REMOVED
SN.13	(E) PAINTED PARKING STRIPING TO REMAIN
SN.14	(E) TURF AREA TO BE REMOVED
SN.15	(E) TURF AREA TO REMAIN
SN.16	(E) TREE TO BE REMOVED
SN.17	(E) TREE TO REMAIN (PROTECT)
SN.18	(E) SITE WALL TO BE REMOVED
SN.19	(E) SITE WALL TO REMAIN
SN.20	(E) SITE BENCH TO BE REMOVED
SN.21	(E) SITE BENCH TO REMAIN
SN.22	(E) POLE TOP LIGHT TO BE REMOVED
SN.23	(E) POLE TOP LIGHT TO REMAIN
SN.24	(E) METAL LOCKERS TO BE REMOVED & RELOCATED PER DISTRICT DIRECTION
SN.25	(E) BLDG. OVERHANG TO REMAIN

DEMOLITION NOTES

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Los Alamitos Unified School District

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ISSUED FOR:

SCHEMATIC DESIGN SUBMITTAL	11/07/18
DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

SITE PLAN - DEMOLITION

SHEET NUMBER:

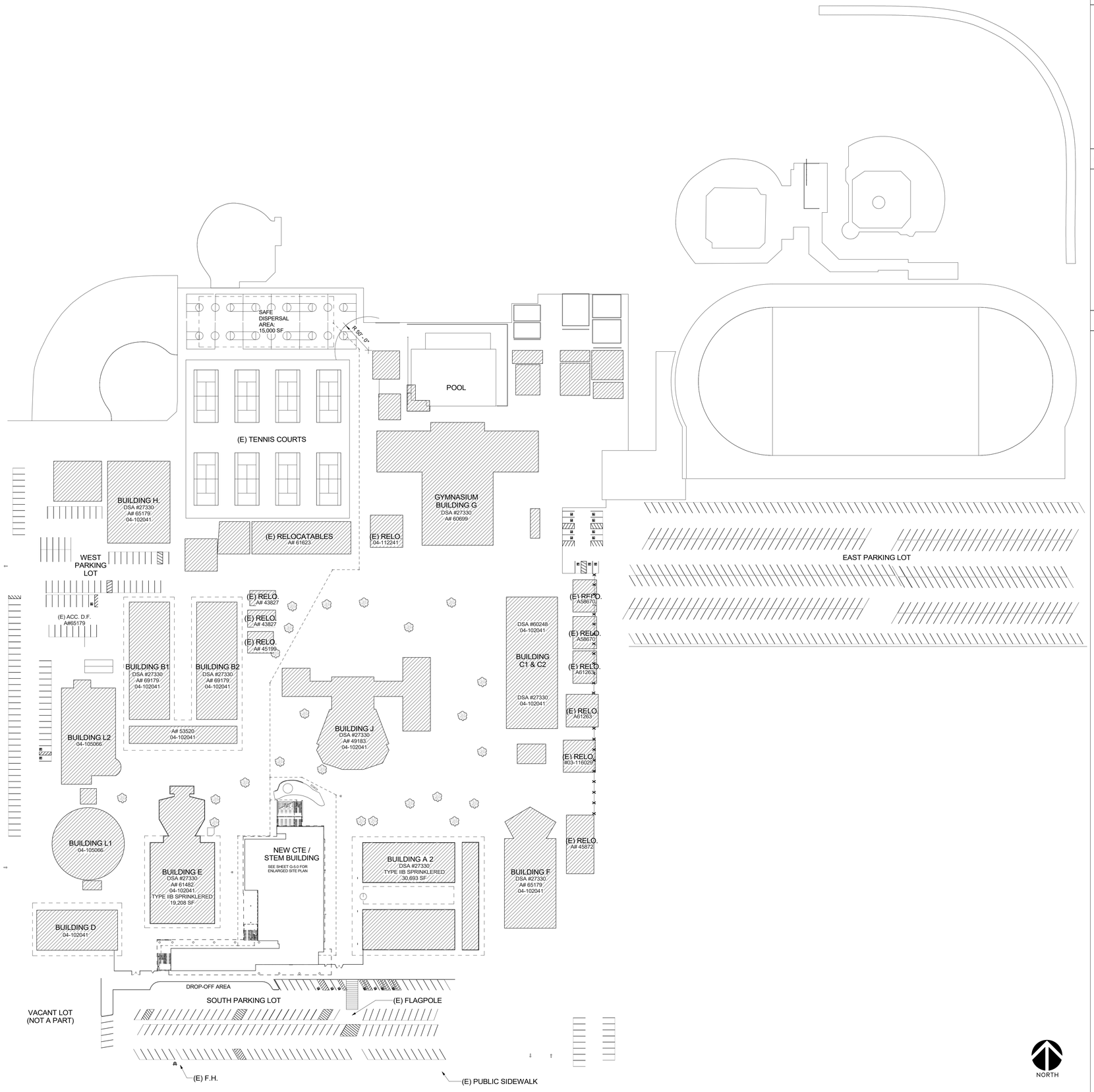
A0-1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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1/16" = 1'

0 16 32 48



LEGEND

PATH TO SAFE DISPERSAL AREA

ASSUMED PROPERTY LINE

CODE ANALYSIS

REFER TO SHEET G-5.0 AND G-5.1

PARKING

SOUTH PARKING LOT	
EXISTING PARKING COUNT	173 + 7 ACCESSIBLE
WEST PARKING LOT	
EXISTING PARKING COUNT	129 + 5 ACCESSIBLE
EAST PARKING LOT	
EXISTING PARKING COUNT	497 + 11 ACCESSIBLE

NORTH

SITE PLAN 1 1" = 60'-0"

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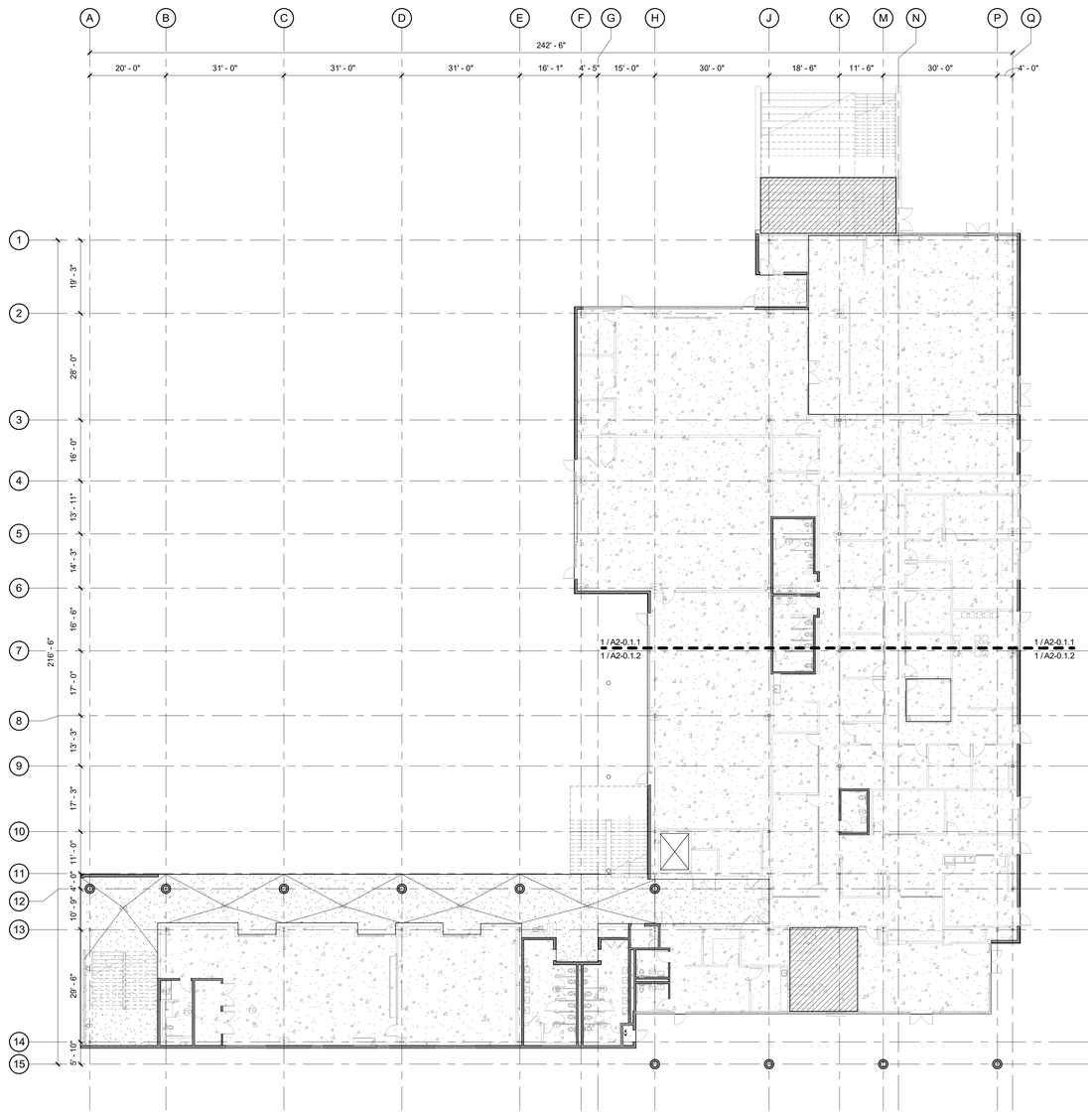
SITE PLAN

SHEET NUMBER:

A0-2.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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NORTH

1ST FLOOR SLAB PLAN - OVERALL

1
1/16" = 1'-0"

SHEET KEYNOTES

FOR LIST OF KEYNOTES, SEE A2-0.1.1 AND A2-0.1.2

GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

LEGEND

- ELEVATOR PIT/ SLAB OPENING
- CONCRETE CURB, 5-1/2" HIGH
- 5-1/2" HIGH COLUMN BASE
- 12" SEISMIC JOINT
- CONCRETE SLAB ON GRADE OR METAL DECK
- 2" DEPRESSED 8" THICKEND CONCRETE SLAB
- EXTERIOR CONCRETE
- AD — AREA DRAIN
- FD — FLOOR DRAIN

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DSA PRE-APPLICATION MEETING	02/22/19

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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

1ST FLOOR SLAB PLAN

SHEET NUMBER:

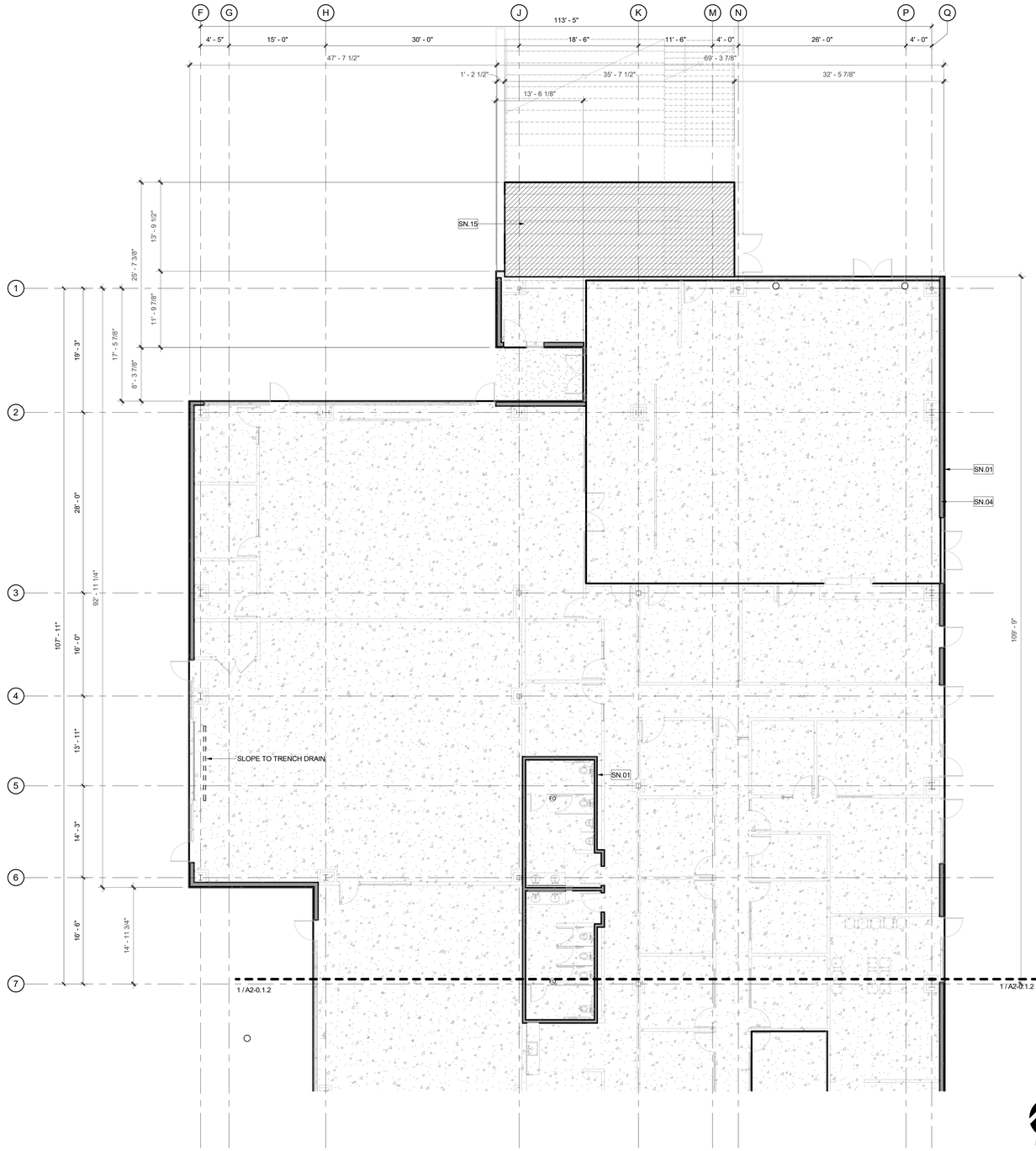
A2-0.1

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1/16" = 1'

0 16 32 48



1ST FLOOR SLAB PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	EDGE OF SLABS ON GRADE
SN.02	EDGE OF TOPPING SLAB O/ METAL DECK
SN.03	SLAB OPENING @ MECHANICAL DUCT CHASE
SN.04	CONC. CURB
SN.05	ELEVATOR PIT
SN.06	ELEVATOR HOISTWAY SLAB OPENING
SN.07	FIRE RISER
SN.09	FLOOR DRAIN
SN.10	AREA DRAIN
SN.11	SEISMIC JOINT
SN.12	CONC. COLUMN BASE
SN.13	CONC. STAIR / LANDING
SN.14	STRUCTURAL COLUMN
SN.15	2" DEPRESSED SLAB, THICKENED @ HIGH DENSITY STORAGE SYSTEM
SN.16	CONCRETE FLATWORK

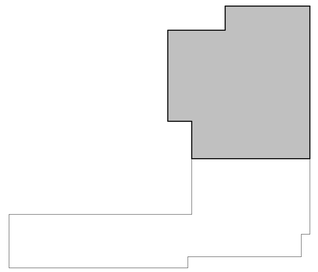
GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

LEGEND

- ELEVATOR PIT/ SLAB OPENING
- CONCRETE CURB, 5-1/2" HIGH
- 5-1/2" HIGH COLUMN BASE
- 12" SEISMIC JOINT
- CONCRETE SLAB ON GRADE OR METAL DECK
- 2" DEPRESSED 8" THICKEND CONCRETE SLAB
- EXTERIOR CONCRETE
- AD — AREA DRAIN
- FD — FLOOR DRAIN

KEY PLAN



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REGISTRATION/SIGNATURE:

SHEET TITLE:

1ST FLOOR SLAB PLAN - PARTIAL NORTH

SHEET NUMBER:

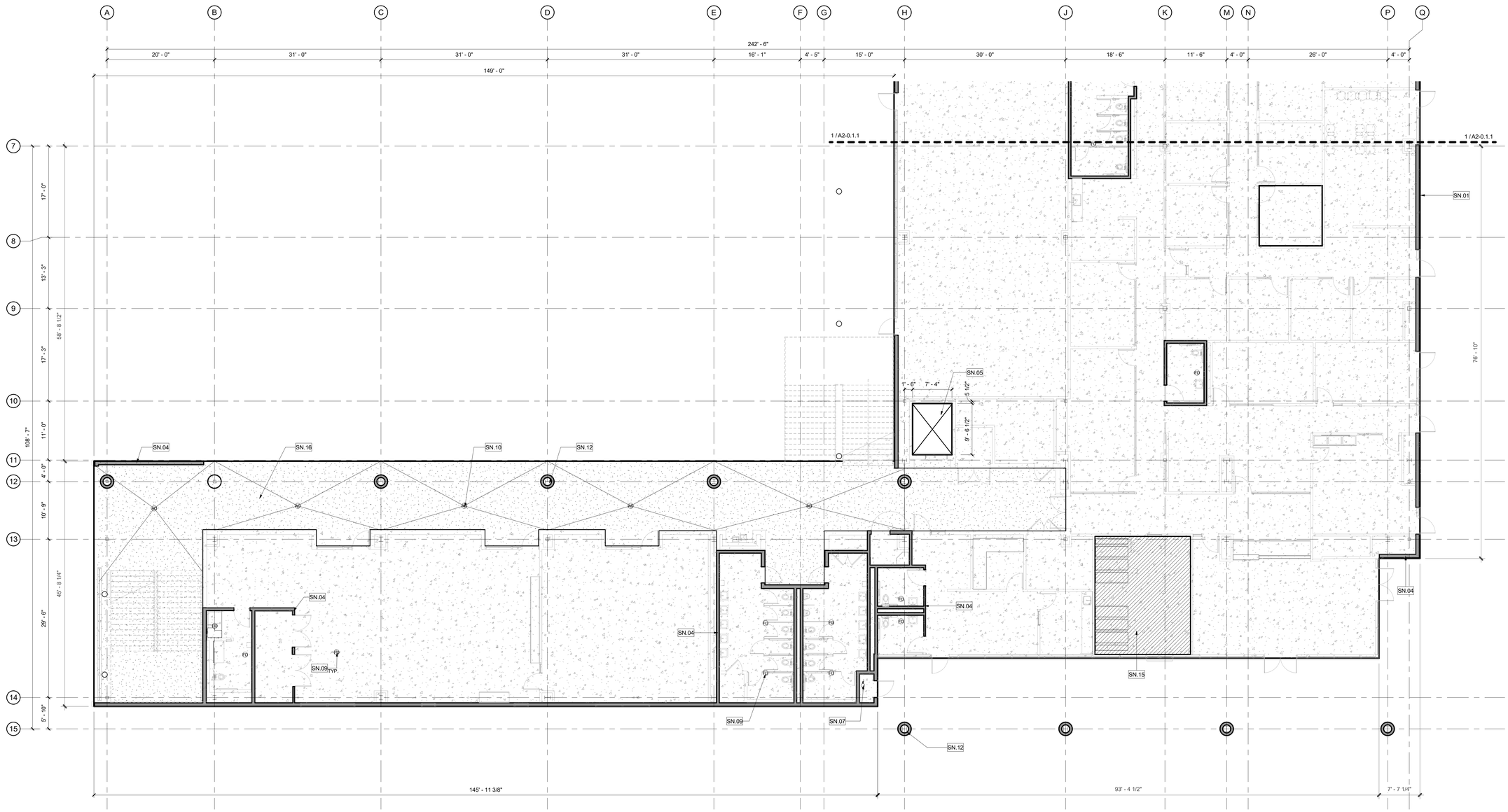
A2-0.1.1

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18451	NA	GR	02/19/19

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1/8" = 1'

0 8 16 24



1ST FLOOR SLAB PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	EDGE OF SLABS ON GRADE
SN.02	EDGE OF TOPPING SLAB O/ METAL DECK
SN.03	SLAB OPENING @ MECHANICAL DUCT CHASE
SN.04	CONC. CURB
SN.05	ELEVATOR PIT
SN.06	ELEVATOR HOISTWAY SLAB OPENING
SN.07	FIRE RISER
SN.09	FLOOR DRAIN
SN.10	AREA DRAIN
SN.11	SEISMIC JOINT
SN.12	CONC. COLUMN BASE
SN.13	CONC. STAIR / LANDING
SN.14	STRUCTURAL COLUMN
SN.15	2" DEPRESSED SLAB, THICKENED @ HIGH DENSITY STORAGE SYSTEM
SN.16	CONCRETE FLATWORK

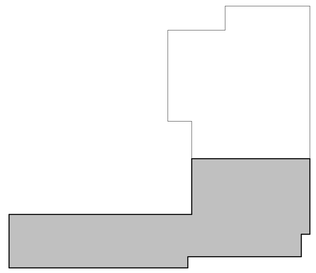
GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

LEGEND

- ELEVATOR PIT/ SLAB OPENING
- CONCRETE CURB, 5-1/2" HIGH
- 5-1/2" HIGH COLUMN BASE
- 12" SEISMIC JOINT
- CONCRETE SLAB ON GRADE OR METAL DECK
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- EXTERIOR CONCRETE
- AD — AREA DRAIN
- FD — FLOOR DRAIN

KEY PLAN



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DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/15/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

1ST FLOOR SLAB PLAN - PARTIAL SOUTH

SHEET NUMBER:

A2-0.1.2

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1/8" = 1'

0 8 16 24



NORTH

2ND FLOOR - SLAB PLAN | 1 | 1/16" = 1'-0"

SHEET KEYNOTES

FOR LIST OF KEYNOTES, SEE A2-0.2.1 AND A2-0.2.2

GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

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DSA PRE-APPLICATION MEETING	02/22/19

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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

2ND FLOOR SLAB PLAN

SHEET NUMBER:

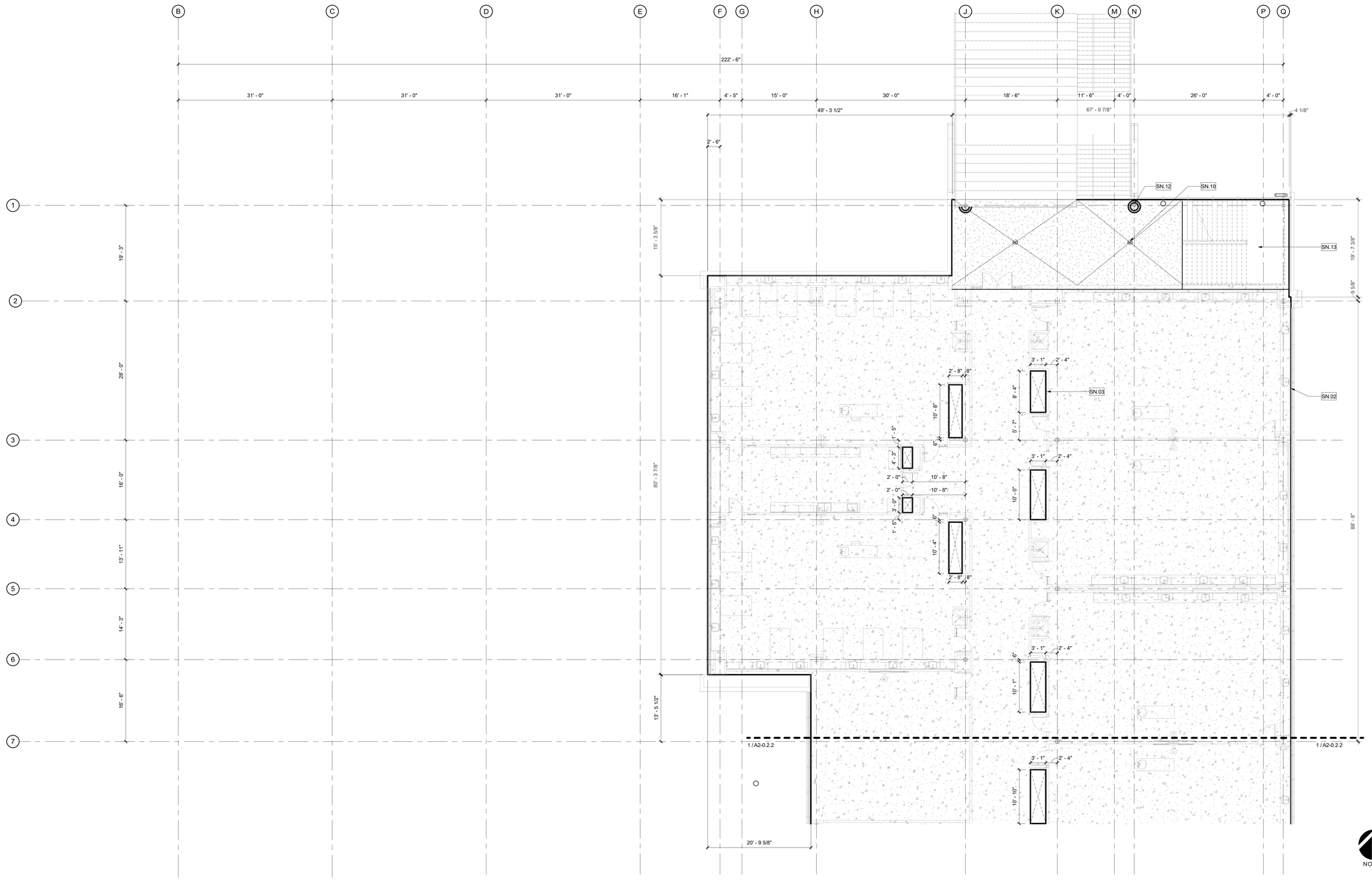
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1/16" = 1'

0 16 32 48



2ND FLOOR SLAB PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	EDGE OF SLABS ON GRADE
SN.02	EDGE OF TOPPING SLAB O/ METAL DECK
SN.03	SLAB OPENING @ MECHANICAL DUCT CHASE
SN.04	CONC. CURB
SN.05	ELEVATOR PIT
SN.06	ELEVATOR HOISTWAY SLAB OPENING
SN.07	FIRE RISER
SN.09	FLOOR DRAIN
SN.10	AREA DRAIN
SN.11	SEISMIC JOINT
SN.12	CONC. COLUMN BASE
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SN.14	STRUCTURAL COLUMN
SN.15	2" DEPRESSED SLAB, THICKENED @ HIGH DENSITY STORAGE SYSTEM
SN.16	CONCRETE FLATWORK

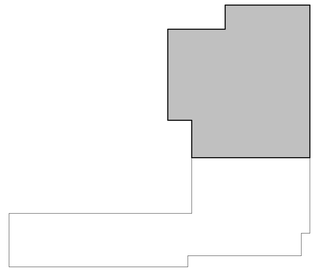
GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

LEGEND

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KEY PLAN



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DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:
2ND FLOOR SLAB PLAN - PARTIAL NORTH

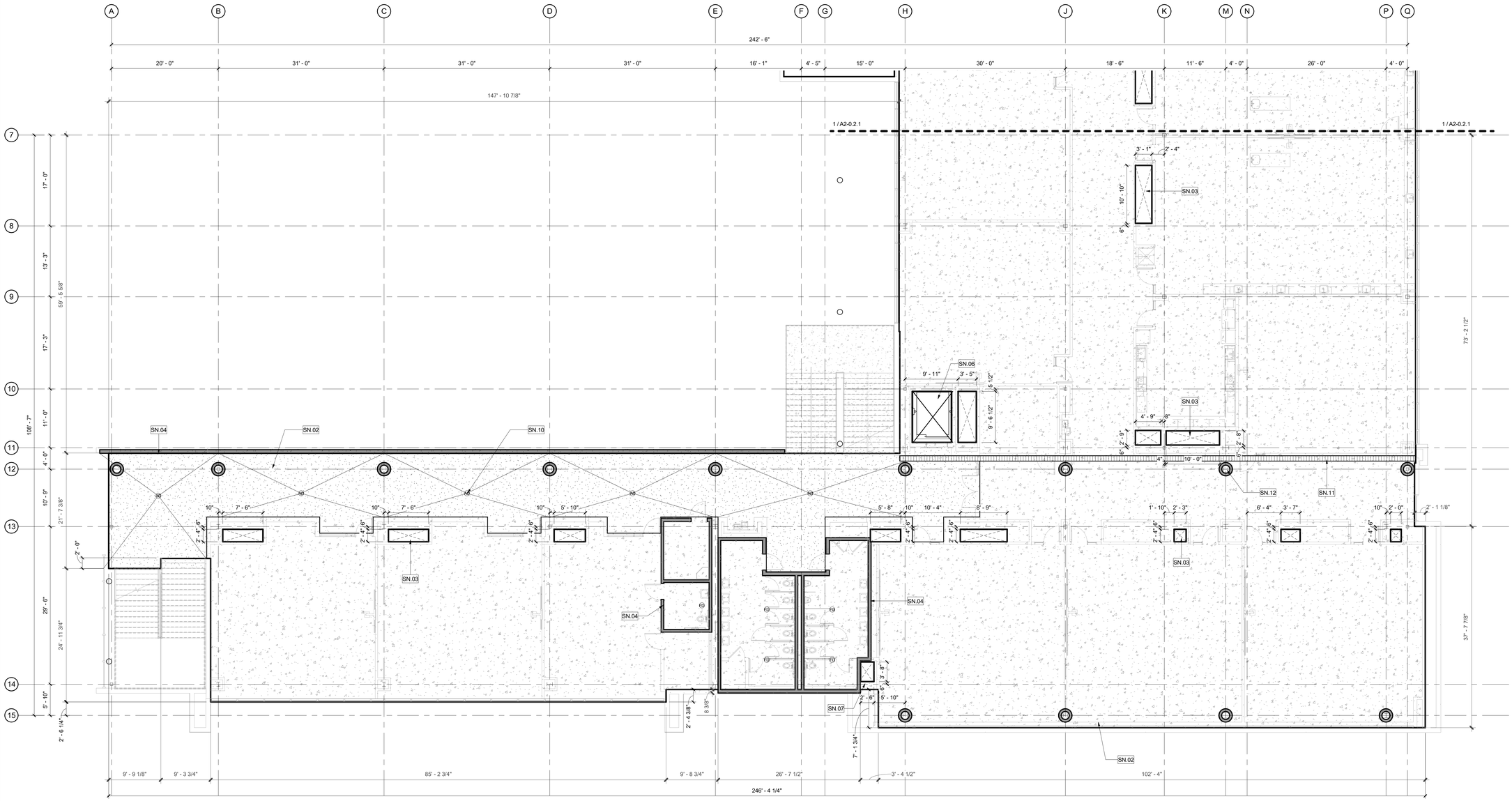
SHEET NUMBER:
A2-0.2.1

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1/8" = 1'

0 8 16 24



2ND FLOOR SLAB PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	EDGE OF SLABS ON GRADE
SN.02	EDGE OF TOPPING SLAB O/ METAL DECK
SN.03	SLAB OPENING @ MECHANICAL DUCT CHASE
SN.04	CONC. CURB
SN.05	ELEVATOR PIT
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SN.15	2" DEPRESSED SLAB, THICKENED @ HIGH DENSITY STORAGE SYSTEM
SN.16	CONCRETE FLATWORK

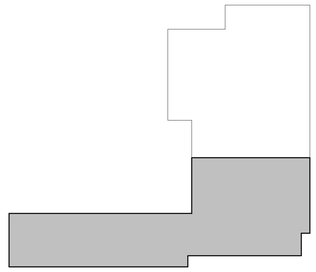
GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

LEGEND

- ELEVATOR PIT/ SLAB OPENING
- CONCRETE CURB, 5-1/2" HIGH
- 5-1/2" HIGH COLUMN BASE
- 12" SEISMIC JOINT
- CONCRETE SLAB ON GRADE OR METAL DECK
- 2" DEPRESSED 8" THICKEND CONCRETE SLAB
- EXTERIOR CONCRETE
- AD — AREA DRAIN
- FD — FLOOR DRAIN

KEY PLAN



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DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

2ND FLOOR SLAB PLAN - PARTIAL SOUTH

SHEET NUMBER:

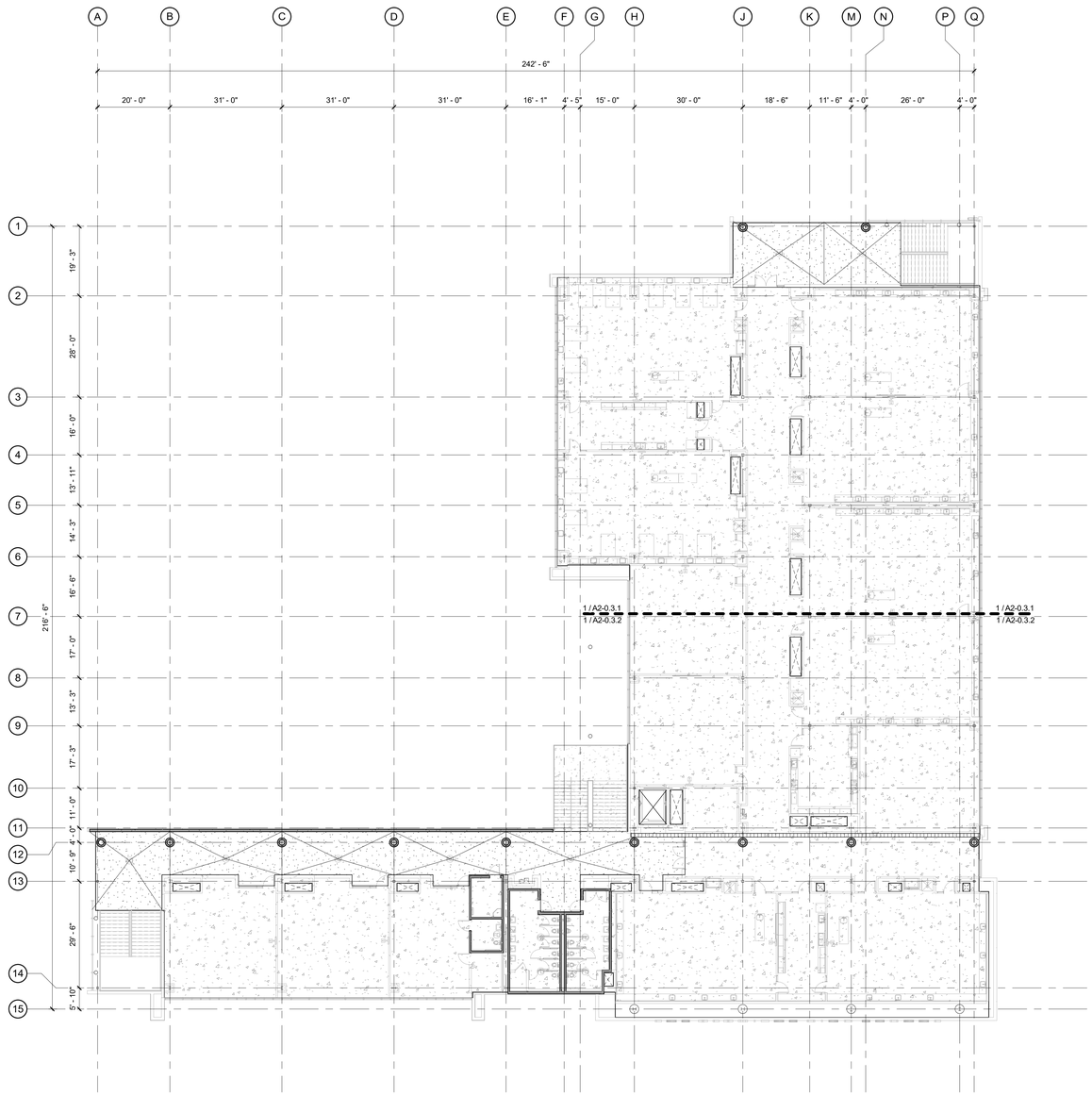
A2-0.2.2

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1/16" = 1'

0 16 32 48



NORTH

3RD FLOOR - SLAB PLAN | 1 | 1/16" = 1'-0"

SHEET KEYNOTES

FOR LIST OF KEYNOTES, SEE A2-0.3.1 AND A2-0.3.2

GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

LEGEND

- ELEVATOR PIT/ SLAB OPENING
- CONCRETE CURB, 5-1/2" HIGH
- 5-1/2" HIGH COLUMN BASE
- 12" SEISMIC JOINT
- CONCRETE SLAB ON GRADE OR METAL DECK
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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

3RD FLOOR SLAB PLAN

SHEET NUMBER:

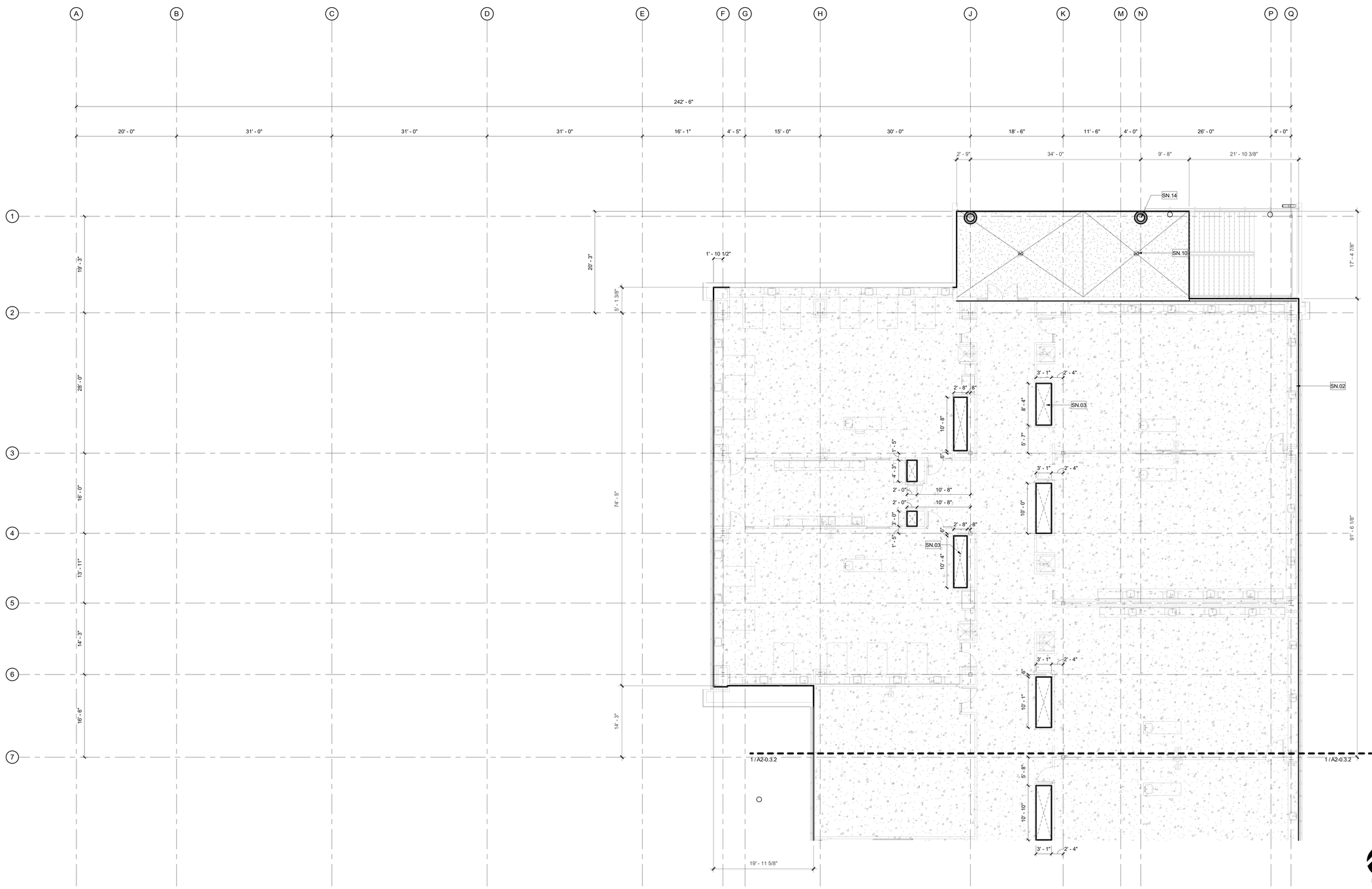
A2-0.3

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1/16" = 1'

0 16 32 48



3RD FLOOR SLAB PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	EDGE OF SLABS ON GRADE
SN.02	EDGE OF TOPPING SLAB O/ METAL DECK
SN.03	SLAB OPENING @ MECHANICAL DUCT CHASE
SN.04	CONC. CURB
SN.05	ELEVATOR PIT
SN.06	ELEVATOR HOISTWAY SLAB OPENING
SN.07	FIRE RISER
SN.09	FLOOR DRAIN
SN.10	AREA DRAIN
SN.11	SEISMIC JOINT
SN.12	CONC. COLUMN BASE
SN.13	CONC. STAIR / LANDING
SN.14	STRUCTURAL COLUMN
SN.15	2" DEPRESSED SLAB, THICKENED @ HIGH DENSITY STORAGE SYSTEM
SN.16	CONCRETE FLATWORK

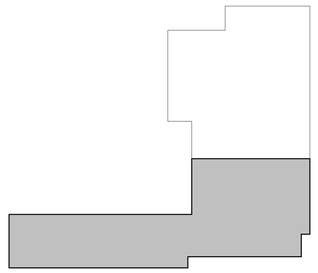
GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

LEGEND

- ELEVATOR PIT/ SLAB OPENING
- CONCRETE CURB, 5-1/2" HIGH
- 5-1/2" HIGH COLUMN BASE
- 12" SEISMIC JOINT
- CONCRETE SLAB ON GRADE OR METAL DECK
- 2" DEPRESSED 8" THICKEND CONCRETE SLAB
- EXTERIOR CONCRETE
- AD — AREA DRAIN
- FD — FLOOR DRAIN

KEY PLAN



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DSA PRE-APPLICATION MEETING	02/22/19

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REGISTRATION/SIGNATURE:

SHEET TITLE:
3RD FLOOR SLAB PLAN - PARTIAL NORTH

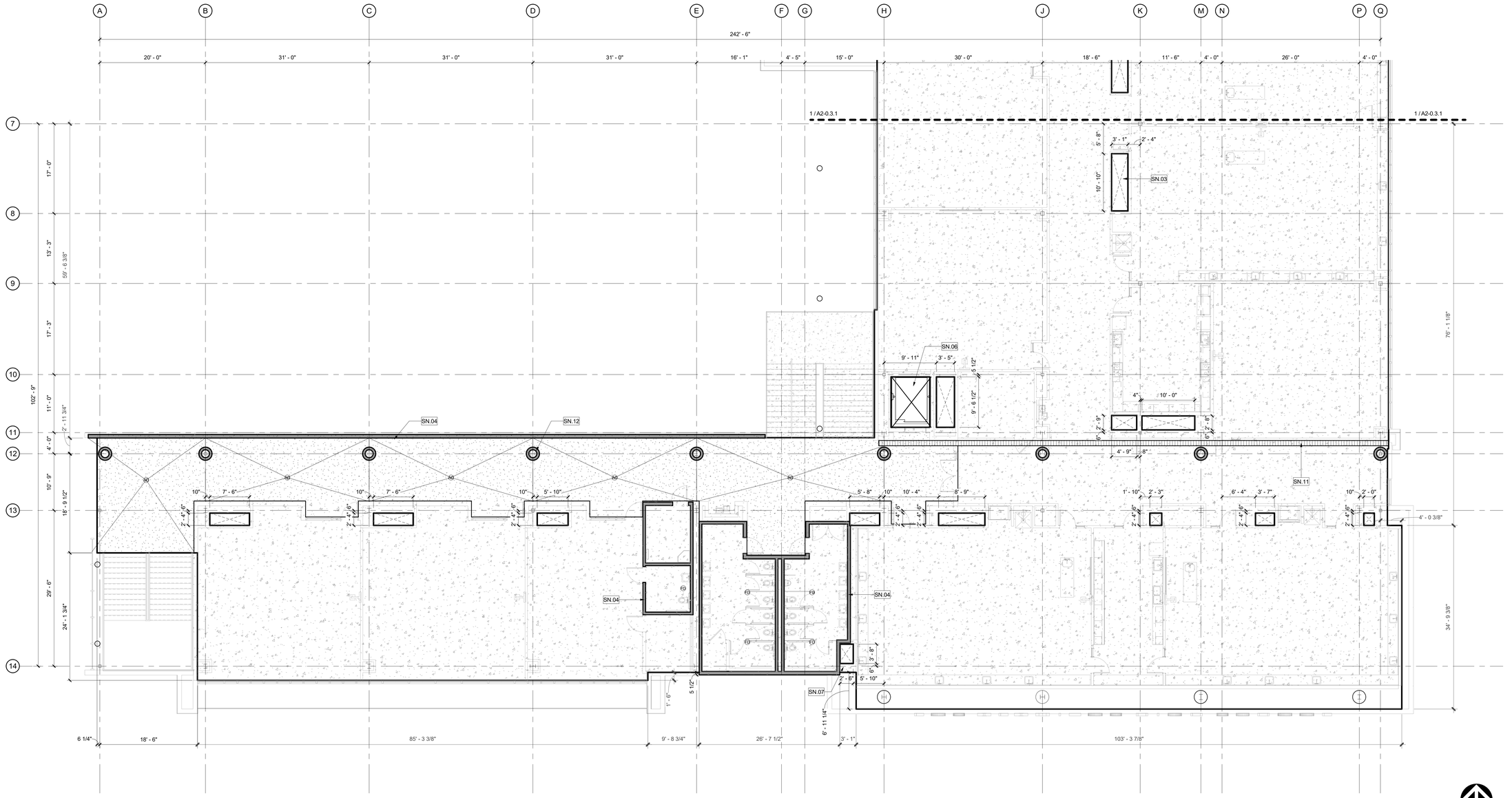
SHEET NUMBER:
A2-0.3.1

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1/8" = 1'

0 8 16 24



3RD FLOOR SLAB PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	EDGE OF SLABS ON GRADE
SN.02	EDGE OF TOPPING SLAB O/ METAL DECK
SN.03	SLAB OPENING @ MECHANICAL DUCT CHASE
SN.04	CONC. CURB
SN.05	ELEVATOR PIT
SN.06	ELEVATOR HOISTWAY SLAB OPENING
SN.07	FIRE RISER
SN.09	FLOOR DRAIN
SN.10	AREA DRAIN
SN.11	SEISMIC JOINT
SN.12	CONC. COLUMN BASE
SN.13	CONC. STAIR / LANDING
SN.14	STRUCTURAL COLUMN
SN.15	2" DEPRESSED SLAB, THICKENED @ HIGH DENSITY STORAGE SYSTEM
SN.16	CONCRETE FLATWORK

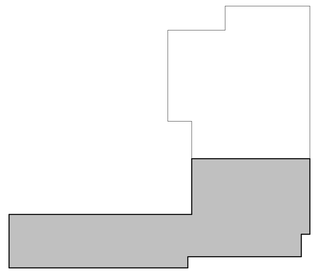
GENERAL NOTES

1. DIMENSIONS ARE TO FACE OF STUD OR SHEATHING, SEE CORRESPONDING DETAIL FOR CONTROL OF CURB WIDTH.

LEGEND

- ELEVATOR PIT/ SLAB OPENING
- CONCRETE CURB, 5-1/2" HIGH
- 5-1/2" HIGH COLUMN BASE
- 12" SEISMIC JOINT
- CONCRETE SLAB ON GRADE OR METAL DECK
- 2" DEPRESSED 8" THICKEND CONCRETE SLAB
- EXTERIOR CONCRETE
- AD — AREA DRAIN
- FD — FLOOR DRAIN

KEY PLAN



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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

3RD FLOOR SLAB PLAN - PARTIAL SOUTH

SHEET NUMBER:

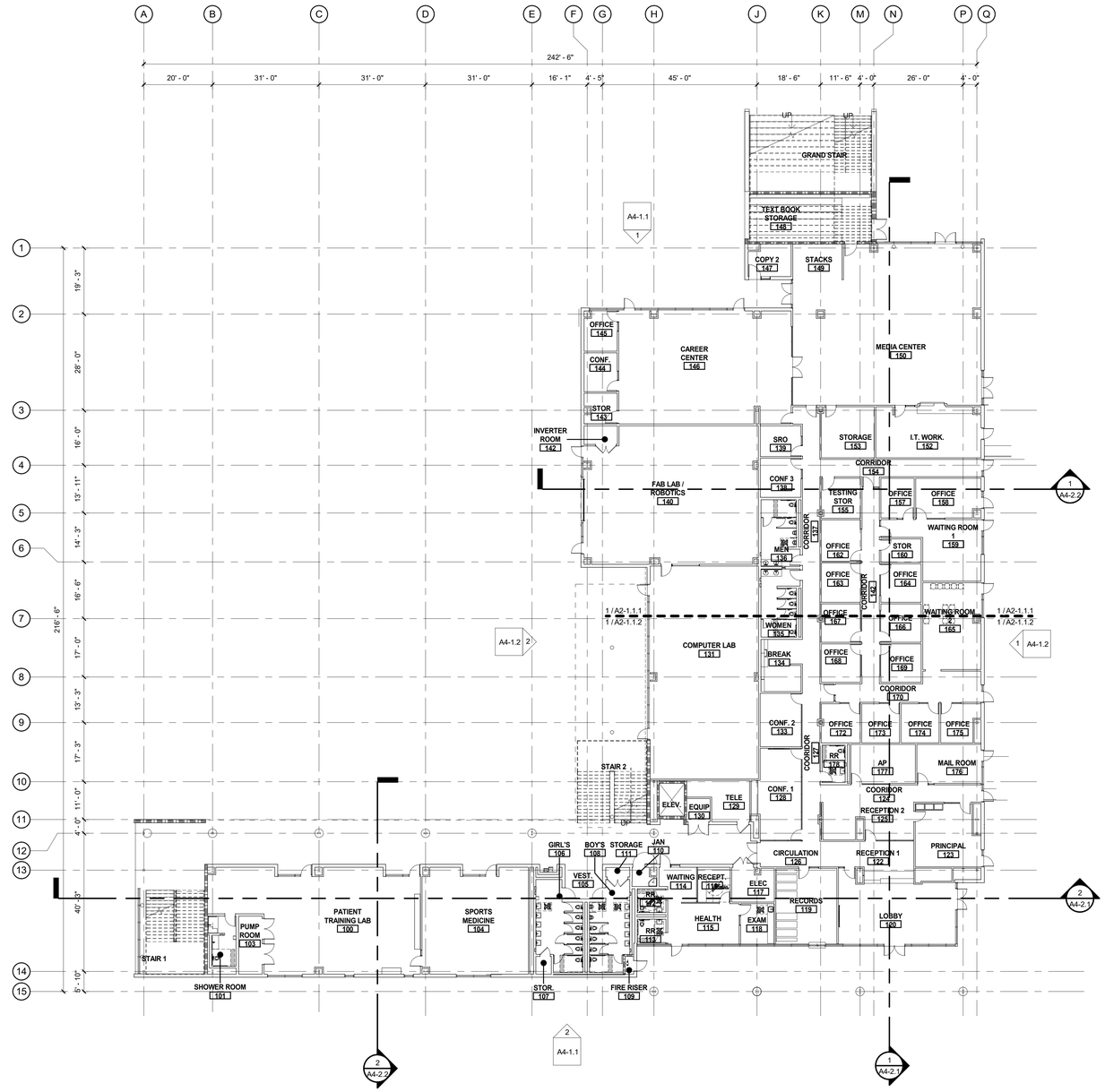
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1/8" = 1'

0 8 16 24



1ST FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

SHEET KEYNOTES

FOR LIST OF KEYNOTES, SEE A2-1.1.1 AND A2-1.1.2.

GENERAL NOTES

1. USE MOISTURE RESISTANT GYPSUM WALL BOARD ON ALL RESTROOMS AND WET WALLS.
2. PREPARE NEW SURFACES FOR INSTALLATION OF SPECIFIED FINISHES. ALL SURFACES SHALL BE FREE FROM ADHESIVE, BUMPS,CRACKS, AND MEET THE REQUIREMENTS OF THE FINISH MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. PROVIDE METAL TRIM OR CASING AT ALL EDGES OF PLASTER AND DRYWALL SURFACES WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, UNLESS OTHERWISE NOTED.
4. PROVIDE METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF PLASTERED OR DRYWALL SURFACES UNLESS OTHERWISE NOTED.
5. PRIOR TO INSTALLATION, FIRE AUTHORITY HAVING JURISDICTION SHALL BE CALLED TO FIELD VERIFY LOCATIONS AND TYPES OF FIRE EXTINGUISHERS AND KNOX BOXES.
6. PROVIDE BACKING FOR ALL WALL MOUNTED EQUIPMENT AND MILLWORK. COORDINATE WITH ARCHITECT FOR ANY UNFORSEEN CONDITIONS.

LEGEND

- METAL STUD WALL: (20 GA) METAL STUDS @ 16" O.C., UNLESS OTHERWISE NOTED.
- 1 HR FIRE RATED WALL
- MILLWORK, SEE MILLWORK DETAILS
- FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

A / 6"A / 6'-0" — WALL TYPE; STUD SIZE; ACOUSTIC BATT INSULATION; LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

DOOR REFERENCE

000A — DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

EA / X — Window Covering Reference; V=Vertical Blinds; LS=Light Proof Shades; H=Horizontal Blinds; D=Darkening Drapes

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DSA PRE-APPLICATION MEETING	02/22/19

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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

1ST FLOOR PLAN - OVERALL

SHEET NUMBER:

A2-1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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1/16" = 1'

0 16 32 48



1ST FLOOR PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	CAST-IN-PLACE CONCRETE STADIUM STAIRS
SN.02	CAST-IN-PLACE CONCRETE STAIRS WITH 1 1/2" Ø STEEL PIPE HANDRAILS EACH SIDE
SN.03	TRENCH DRAIN
SN.04	12'-0" W X 10'-0" H ELECTRIC, ALUMINUM OVERHEAD SECTIONAL DOOR WITH GLASS PANELS
SN.05	RECESSED FIRE EXTINGUISHER CABINET AND SIGNAL BEACON SUITABLE FOR A, B, C, AND D FIRES
SN.06	MECHANICAL - ASSIST HIGH DENSITY STORAGE WITH 2" RECESSED SLAB AND 10" THICKENED SLAB BELOW
SN.07	MECHANICAL - ASSIST HIGH DENSITY STORAGE AREA WITH 2" RECESSED SLAB AND 10" THICKENED SLAB BELOW WITH LCD TOUCH PAD ACCESS CONTROL PANEL
SN.08	INTERIOR PARTITION EXPANSION JOINT
SN.09	FLOOR EXPANSION JOINT, 12" STATIC OPENING; DESIGNED FOR 0" CONTRACTION AND 24" EXPANSION
SN.10	EXTERIOR WALL EXPANSION JOINT
SN.11	ACCESSIBLE DRINKING FOUNTAIN
SN.12	ACCESSIBLE TRANSACTION WINDOW
SN.13	ALIGN PARTITION WITH CURTAIN WALL MULLION
SN.14	2-PIECE ALUMINUM COLUMN COVER ON 6" CONCRETE CURB
SN.15	MANUAL ROLLER SHADES - ONE PER GLAZING PANEL IN THIS ROOM
SN.16	METAL PAN STAIRS AND LANDINGS WITH 2" CONCRETE FILL. 1 1/2" Ø PANEL PIPE GUARD AND HAND RAILS
SN.17	ONE HOUR RATED VERTICAL MECHANICAL CHASE W/ RATED DAMPERS, FIRE SAFING, AND FIRE CAULK
SN.18	1 1/2" Ø METAL PIPE GUARDRAIL ANCHORED TO CONCRETE DECK
SN.19	CARD ACCESS / KEY PAD
SN.20	EMERGENCY SHOWER AND EYEWASH
SN.21	FUME HOOD
SN.22	WALL MOUNTED, SHORT-THROW PROJECTOR
SN.23	JANITORIAL MOP SINK AND MOP RACK
SN.24	ROOF ACCESS LADDER AND 3'-0" X 3'-0" ROOF HATCH
SN.25	ACCESS PANEL TO FIRE RISER
SN.26	AREA DRAIN
SN.27	LINE OF STEEL TUBE TRELLIS ABOVE
SN.28	STEEL ROUND COLUMNS
SN.29	EDGE CONCRETE WALK
SN.30	CURTAINWALL STRUCTURAL SUPPORT
SN.31	FAUCET WITH EYEWASH

GENERAL NOTES

1. USE MOISTURE RESISTANT GYPSUM WALL BOARD ON ALL RESTROOMS AND WET WALLS.
2. PREPARE NEW SURFACES FOR INSTALLATION OF SPECIFIED FINISHES. ALL SURFACES SHALL BE FREE FROM ADHESIVE, BUMPS,CRACKS, AND MEET THE REQUIREMENTS OF THE FINISH MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. PROVIDE METAL TRIM OR CASING AT ALL EDGES OF PLASTER AND DRYWALL SURFACES WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, UNLESS OTHERWISE NOTED.
4. PROVIDE METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF PLASTERED OR DRYWALL SURFACES UNLESS OTHERWISE NOTED.
5. PRIOR TO INSTALLATION, FIRE AUTHORITY HAVING JURISDICTION SHALL BE CALLED TO FIELD VERIFY LOCATIONS AND TYPES OF FIRE EXTINGUISHERS AND KNOX BOXES.
6. PROVIDE BACKING FOR ALL WALL MOUNTED EQUIPMENT AND MILLWORK. COORDINATE WITH ARCHITECT FOR ANY UNFORSEEN CONDITIONS.

LEGEND

METAL STUD WALL: (20 GA) METAL STUDS @ 16" O.C., UNLESS OTHERWISE NOTED.

1 HR FIRE RATED WALL

MILLWORK, SEE MILLWORK DETAILS

FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

WALL TYPE
STUD SIZE
ACOUSTIC BATT INSULATION
LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

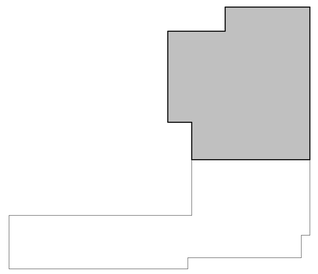
DOOR REFERENCE

DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

Window Covering Reference
V=Vertical Blinds
LS=Light Proof Shades
H=Horizontal Blinds
D=Darkening Drapes

KEY PLAN



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DSA PRE-APPLICATION MEETING	02/22/19

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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

1ST FLOOR PLAN - PARTIAL NORTH

SHEET NUMBER:

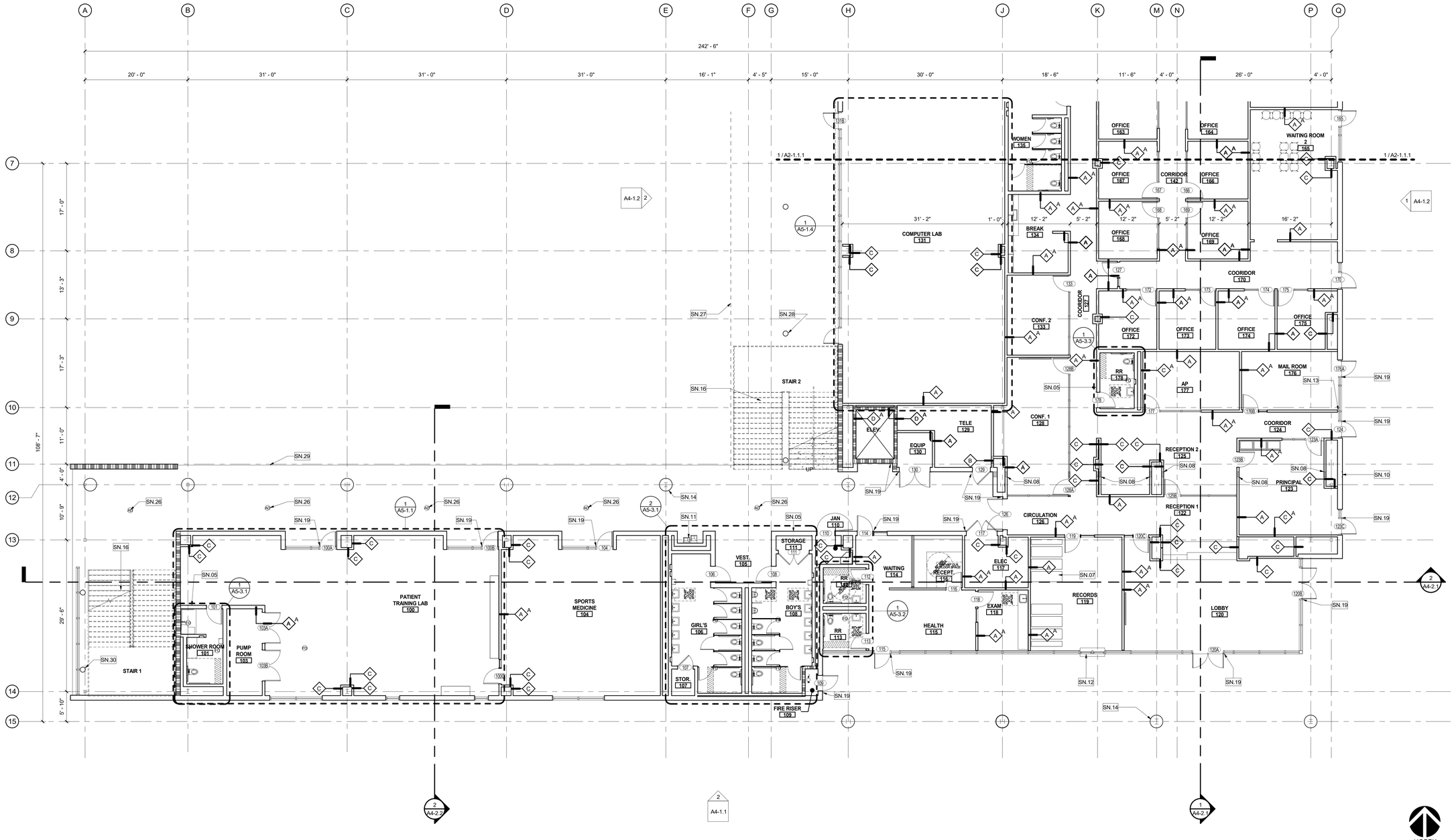
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1/8" = 1'

0 8 16 24



1ST FLOOR PLAN - PARTIAL SOUTH

1

1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	CAST-IN-PLACE CONCRETE STADIUM STAIRS
SN.02	CAST-IN-PLACE CONCRETE STAIRS WITH 1 1/2" Ø STEEL PIPE HANDRAILS EACH SIDE
SN.03	TRENCH DRAIN
SN.04	12'-0" W X 10'-0" H ELECTRIC, ALUMINUM OVERHEAD SECTIONAL DOOR WITH GLASS PANELS
SN.05	RECESSED FIRE EXTINGUISHER CABINET AND SIGNAL BEACON SUITABLE FOR A, B, C, AND D FIRES
SN.06	MECHANICAL - ASSIST HIGH DENSITY STORAGE WITH 2" RECESSED SLAB AND 10" THICKENED SLAB BELOW
SN.07	MECHANICAL - ASSIST HIGH DENSITY STORAGE AREA WITH 2" RECESSED SLAB AND 10" THICKENED SLAB BELOW WITH LCD TOUCH PAD ACCESS CONTROL PANEL
SN.08	INTERIOR PARTITION EXPANSION JOINT
SN.09	FLOOR EXPANSION JOINT, 12" STATIC OPENING; DESIGNED FOR 0" CONTRACTION AND 24" EXPANSION
SN.10	EXTERIOR WALL EXPANSION JOINT
SN.11	ACCESSIBLE DRINKING FOUNTAIN
SN.12	ACCESSIBLE TRANSACTION WINDOW
SN.13	ALIGN PARTITION WITH CURTAIN WALL MULLION
SN.14	2-PIECE ALUMINUM COLUMN COVER ON 6" CONCRETE CURB
SN.15	MANUAL ROLLER SHADES - ONE PER GLAZING PANEL IN THIS ROOM
SN.16	METAL PAN STAIRS AND LANDINGS WITH 2" CONCRETE FILL. 1 1/2" Ø PANEL PIPE GUARD AND HAND RAILS
SN.17	ONE HOUR RATED VERTICAL MECHANICAL CHASE W/ RATED DAMPERS, FIRE SAFING, AND FIRE CAULK
SN.18	1 1/2" Ø METAL PIPE GUARDRAIL ANCHORED TO CONCRETE DECK
SN.19	CARD ACCESS / KEY PAD
SN.20	EMERGENCY SHOWER AND EYEWASH
SN.21	FUME HOOD
SN.22	WALL MOUNTED, SHORT-THROW PROJECTOR
SN.23	JANITORIAL MOP SINK AND MOP RACK
SN.24	ROOF ACCESS LADDER AND 3'-0" X 3'-0" ROOF HATCH
SN.25	ACCESS PANEL TO FIRE RISER
SN.26	AREA DRAIN
SN.27	LINE OF STEEL TUBE TRELLIS ABOVE
SN.28	STEEL ROUND COLUMNS
SN.29	EDGE CONCRETE WALK
SN.30	CURTAINWALL STRUCTURAL SUPPORT
SN.31	FAUCET WITH EYEWASH

GENERAL NOTES

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3. PROVIDE METAL TRIM OR CASING AT ALL EDGES OF PLASTER AND DRYWALL SURFACES WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, UNLESS OTHERWISE NOTED.
4. PROVIDE METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF PLASTERED OR DRYWALL SURFACES UNLESS OTHERWISE NOTED.
5. PRIOR TO INSTALLATION, FIRE AUTHORITY HAVING JURISDICTION SHALL BE CALLED TO FIELD VERIFY LOCATIONS AND TYPES OF FIRE EXTINGUISHERS AND KNOX BOXES.
6. PROVIDE BACKING FOR ALL WALL MOUNTED EQUIPMENT AND MILLWORK. COORDINATE WITH ARCHITECT FOR ANY UNFORSEEN CONDITIONS.

LEGEND

- METAL STUD WALL: (20 GA) METAL STUDS @ 16" O.C., UNLESS OTHERWISE NOTED.
- 1 HR FIRE RATED WALL
- MILLWORK, SEE MILLWORK DETAILS
- FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

A 6"A 6'-0" — WALL TYPE; STUD SIZE; ACOUSTIC BATT INSULATION; LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

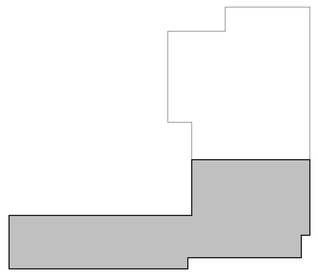
DOOR REFERENCE

000A — DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

EA X — Window Covering Reference; V=Vertical Blinds; LS=Light Proof Shades; H=Horizontal Blinds; D=Darkening Drapes

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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

1ST FLOOR PLAN - PARTIAL SOUTH

SHEET NUMBER:

A2-1.1.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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1/8" = 1'

0 8 16 24



2ND FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

SHEET KEYNOTES

FOR LIST OF KEYNOTES, SEE A2-1.2.1 AND A2-1.2.2.

GENERAL NOTES

1. USE MOISTURE RESISTANT GYPSUM WALL BOARD ON ALL RESTROOMS AND WET WALLS.
2. PREPARE NEW SURFACES FOR INSTALLATION OF SPECIFIED FINISHES. ALL SURFACES SHALL BE FREE FROM ADHESIVE, BUMPS,CRACKS, AND MEET THE REQUIREMENTS OF THE FINISH MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. PROVIDE METAL TRIM OR CASING AT ALL EDGES OF PLASTER AND DRYWALL SURFACES WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, UNLESS OTHERWISE NOTED.
4. PROVIDE METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF PLASTERED OR DRYWALL SURFACES UNLESS OTHERWISE NOTED.
5. PRIOR TO INSTALLATION, FIRE AUTHORITY HAVING JURISDICTION SHALL BE CALLED TO FIELD VERIFY LOCATIONS AND TYPES OF FIRE EXTINGUISHERS AND KNOX BOXES.
6. PROVIDE BACKING FOR ALL WALL MOUNTED EQUIPMENT AND MILLWORK. COORDINATE WITH ARCHITECT FOR ANY UNFORSEEN CONDITIONS.

LEGEND

- METAL STUD WALL: (20 GA) METAL STUDS @ 16" O.C., UNLESS OTHERWISE NOTED.
- 1 HR FIRE RATED WALL
- MILLWORK, SEE MILLWORK DETAILS
- FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

A / 6" A / 6'-0" — WALL TYPE; STUD SIZE; ACOUSTIC BATT INSULATION; LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

DOOR REFERENCE

(XXA) — DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

EA / X — Window Covering Reference; V=Vertical Blinds; LS=Light Proof Shades; H=Horizontal Blinds; D=Darkening Drapes

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DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

2ND FLOOR PLAN - OVERALL

SHEET NUMBER:

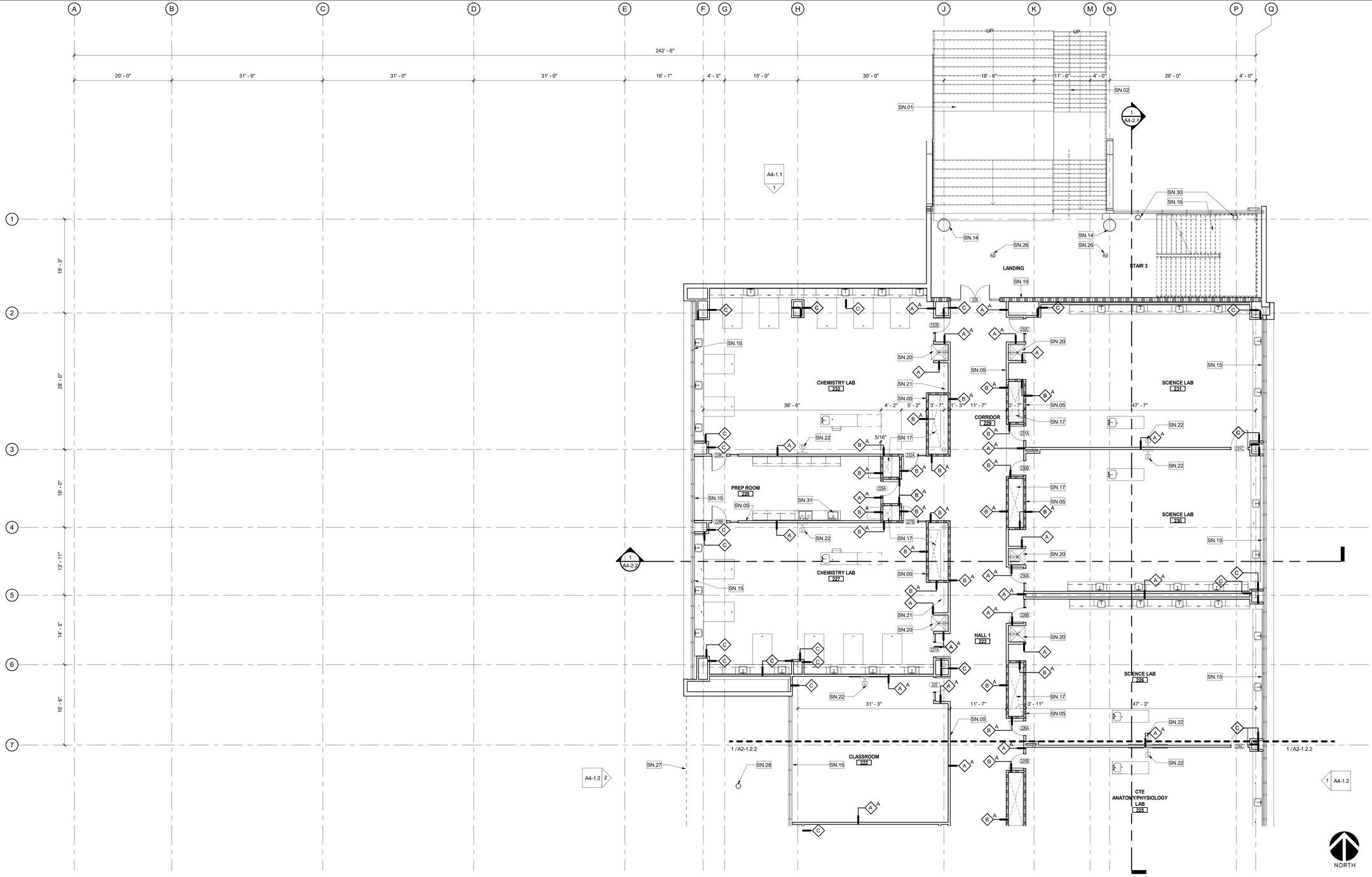
A2-1.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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1/16" = 1'

0 16 32 48



2ND FLOOR PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	CAST-IN-PLACE CONCRETE STADIUM STAIRS
SN.02	CAST-IN-PLACE CONCRETE STAIRS WITH 1 1/2" Ø STEEL PIPE HANDRAILS EACH SIDE
SN.03	TRENCH DRAIN
SN.04	12'-0" W X 10'-0" H ELECTRIC, ALUMINUM OVERHEAD SECTIONAL DOOR WITH GLASS PANELS
SN.05	RECESSED FIRE EXTINGUISHER CABINET AND SIGNAL BEACON SUITABLE FOR A, B, C, AND D FIRES
SN.06	MECHANICAL - ASSIST HIGH DENSITY STORAGE WITH 2" RECESSED SLAB AND 10" THICKENED SLAB BELOW
SN.07	MECHANICAL - ASSIST HIGH DENSITY STORAGE AREA WITH 2" RECESSED SLAB AND 10" THICKENED SLAB BELOW WITH LCD TOUCH PAD ACCESS CONTROL PANEL
SN.08	INTERIOR PARTITION EXPANSION JOINT
SN.09	FLOOR EXPANSION JOINT, 12" STATIC OPENING; DESIGNED FOR 0" CONTRACTION AND 24" EXPANSION
SN.10	EXTERIOR WALL EXPANSION JOINT
SN.11	ACCESSIBLE DRINKING FOUNTAIN
SN.12	ACCESSIBLE TRANSACTION WINDOW
SN.13	ALIGN PARTITION WITH CURTAIN WALL MULLION
SN.14	2-PIECE ALUMINUM COLUMN COVER ON 6" CONCRETE CURB
SN.15	MANUAL ROLLER SHADES - ONE PER GLAZING PANEL IN THIS ROOM
SN.16	METAL PAN STAIRS AND LANDINGS WITH 2" CONCRETE FILL. 1 1/2" Ø PANEL PIPE GUARD AND HAND RAILS
SN.17	ONE HOUR RATED VERTICAL MECHANICAL CHASE W/ RATED DAMPERS, FIRE SAFING, AND FIRE CAULK
SN.18	1 1/2" Ø METAL PIPE GUARDRAIL ANCHORED TO CONCRETE DECK
SN.19	CARD ACCESS / KEY PAD
SN.20	EMERGENCY SHOWER AND EYEWASH
SN.21	FUME HOOD
SN.22	WALL MOUNTED, SHORT-THROW PROJECTOR
SN.23	JANITORIAL MOP SINK AND MOP RACK
SN.24	ROOF ACCESS LADDER AND 3'-0" X 3'-0" ROOF HATCH
SN.25	ACCESS PANEL TO FIRE RISER
SN.26	AREA DRAIN
SN.27	LINE OF STEEL TUBE TRELLIS ABOVE
SN.28	STEEL ROUND COLUMNS
SN.29	EDGE CONCRETE WALK
SN.30	CURTAINWALL STRUCTURAL SUPPORT
SN.31	FAUCET WITH EYEWASH

GENERAL NOTES

1. USE MOISTURE RESISTANT GYPSUM WALL BOARD ON ALL RESTROOMS AND WET WALLS.
2. PREPARE NEW SURFACES FOR INSTALLATION OF SPECIFIED FINISHES. ALL SURFACES SHALL BE FREE FROM ADHESIVE, BUMPS,CRACKS, AND MEET THE REQUIREMENTS OF THE FINISH MANUFACTURERS INSTALLATION INSTRUCTIONS.
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6. PROVIDE BACKING FOR ALL WALL MOUNTED EQUIPMENT AND MILLWORK. COORDINATE WITH ARCHITECT FOR ANY UNFORSEEN CONDITIONS.

LEGEND

- METAL STUD WALL: (20 GA) METAL STUDS @ 16" O.C., UNLESS OTHERWISE NOTED.
- 1 HR FIRE RATED WALL
- MILLWORK, SEE MILLWORK DETAILS
- FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

A — 6" — 6'-0"
- WALL TYPE
- STUD SIZE
- ACOUSTIC BATT INSULATION
- LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

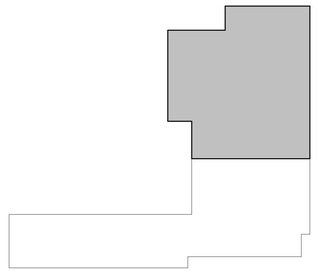
DOOR REFERENCE

000A — DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

EA X
- Window Covering Reference
- V=Vertical Blinds
- LS=Light Proof Shades
- H=Horizontal Blinds
- D=Darkening Drapes

KEY PLAN



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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

2ND FLOOR PLAN - PARTIAL NORTH

SHEET NUMBER:

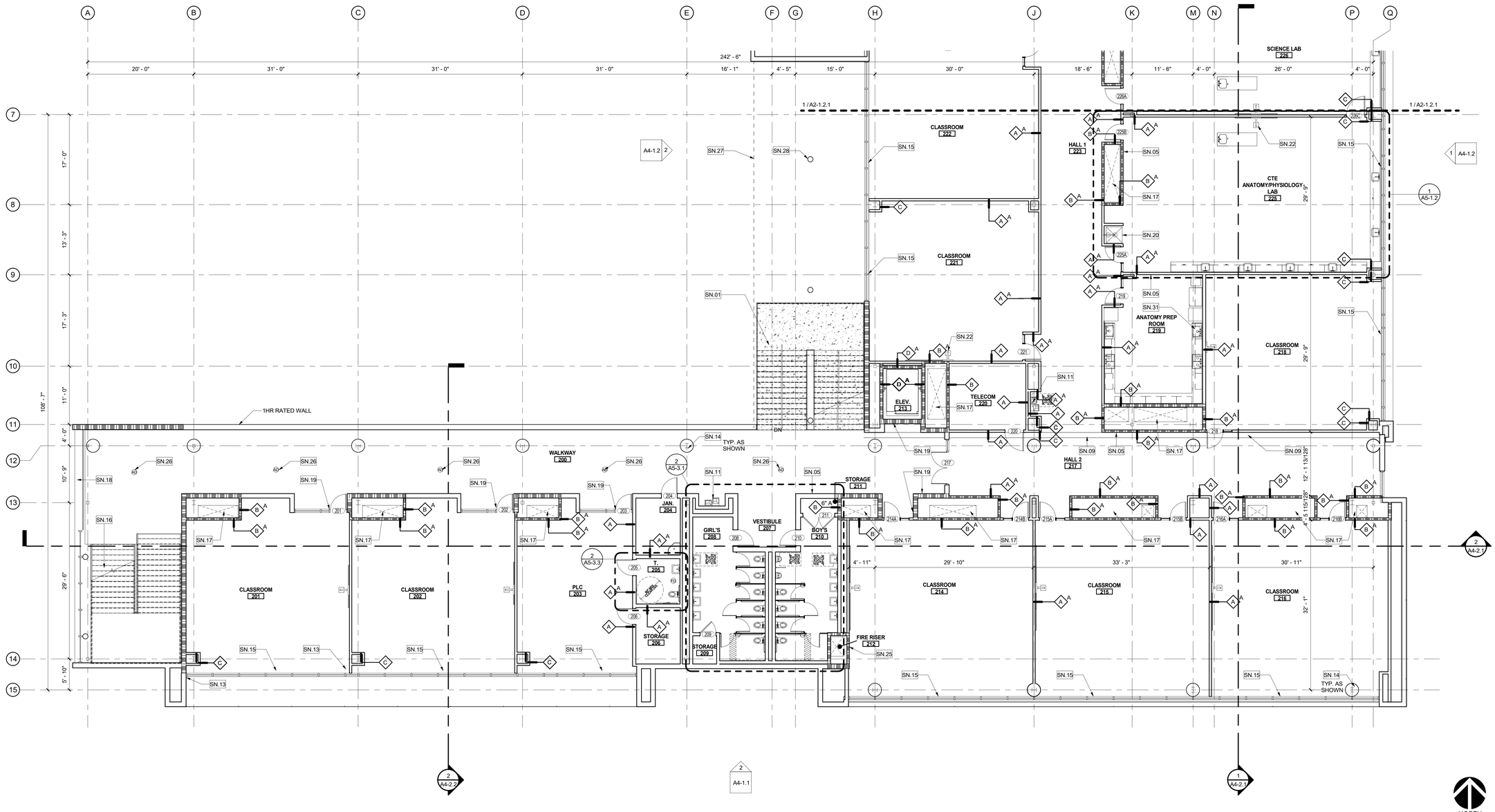
A2-1.2.1

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1/8" = 1'

0 8 16 24



2ND FLOOR PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	CAST-IN-PLACE CONCRETE STADIUM STAIRS
SN.02	CAST-IN-PLACE CONCRETE STAIRS WITH 1 1/2" Ø STEEL PIPE HANDRAILS EACH SIDE
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SN.05	RECESSED FIRE EXTINGUISHER CABINET AND SIGNAL BEACON SUITABLE FOR A, B, C, AND D FIRES
SN.06	MECHANICAL - ASSIST HIGH DENSITY STORAGE WITH 2" RECESSED SLAB AND 10" THICKENED SLAB BELOW
SN.07	MECHANICAL - ASSIST HIGH DENSITY STORAGE AREA WITH 2" RECESSED SLAB AND 10" THICKENED SLAB BELOW WITH LCD TOUCH PAD ACCESS CONTROL PANEL
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SN.11	ACCESSIBLE DRINKING FOUNTAIN
SN.12	ACCESSIBLE TRANSACTION WINDOW
SN.13	ALIGN PARTITION WITH CURTAIN WALL MULLION
SN.14	2-PIECE ALUMINUM COLUMN COVER ON 6" CONCRETE CURB
SN.15	MANUAL ROLLER SHADES - ONE PER GLAZING PANEL IN THIS ROOM
SN.16	METAL PAN STAIRS AND LANDINGS WITH 2" CONCRETE FILL. 1 1/2" Ø PANEL PIPE GUARD AND HAND RAILS
SN.17	ONE HOUR RATED VERTICAL MECHANICAL CHASE W/ RATED DAMPERS, FIRE SAFING, AND FIRE CAULK
SN.18	1 1/2" Ø METAL PIPE GUARDRAIL ANCHORED TO CONCRETE DECK
SN.19	CARD ACCESS / KEY PAD
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SN.21	FUME HOOD
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SN.23	JANITORIAL MOP SINK AND MOP RACK
SN.24	ROOF ACCESS LADDER AND 3'-0" X 3'-0" ROOF HATCH
SN.25	ACCESS PANEL TO FIRE RISER
SN.26	AREA DRAIN
SN.27	LINE OF STEEL TUBE TRELLIS ABOVE
SN.28	STEEL ROUND COLUMNS
SN.29	EDGE CONCRETE WALK
SN.30	CURTAINWALL STRUCTURAL SUPPORT
SN.31	FAUCET WITH EYEWASH

GENERAL NOTES

1. USE MOISTURE RESISTANT GYPSUM WALL BOARD ON ALL RESTROOMS AND WET WALLS.
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LEGEND

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- 1 HR FIRE RATED WALL
- MILLWORK, SEE MILLWORK DETAILS
- FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

A — 6"A — 6'-0" — WALL TYPE, STUD SIZE, ACOUSTIC BATT INSULATION, LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

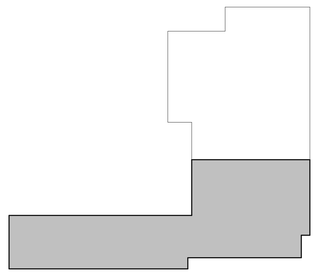
DOOR REFERENCE

000A — DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

EA / X — Window Covering Reference; V=Vertical Blinds; LS=Light Proof Shades; H=Horizontal Blinds; D=Darkening Drapes

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

2ND FLOOR PLAN - PARTIAL SOUTH

SHEET NUMBER:

A2-1.2.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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1/8" = 1'

0 8 16 24



3RD FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

SHEET KEYNOTES

FOR LIST OF KEYNOTES, SEE A2-1.3.1 AND A2-1.3.2.

GENERAL NOTES

1. USE MOISTURE RESISTANT GYPSUM WALL BOARD ON ALL RESTROOMS AND WET WALLS.
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6. PROVIDE BACKING FOR ALL WALL MOUNTED EQUIPMENT AND MILLWORK. COORDINATE WITH ARCHITECT FOR ANY UNFORSEEN CONDITIONS.

LEGEND

METAL STUD WALL: (20 GA) METAL STUDS @ 16" O.C., UNLESS OTHERWISE NOTED.

1 HR FIRE RATED WALL

MILLWORK, SEE MILLWORK DETAILS

FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

A — 6"A — 6'-0" — WALL TYPE; STUD SIZE; ACOUSTIC BATT INSULATION; LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

DOOR REFERENCE

000A — DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

EA / X — Window Covering Reference; V=Vertical Blinds; LS=Light Proof Shades; H=Horizontal Blinds; D=Darkening Drapes

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SHEET TITLE:

3RD FLOOR PLAN - OVERALL

SHEET NUMBER:

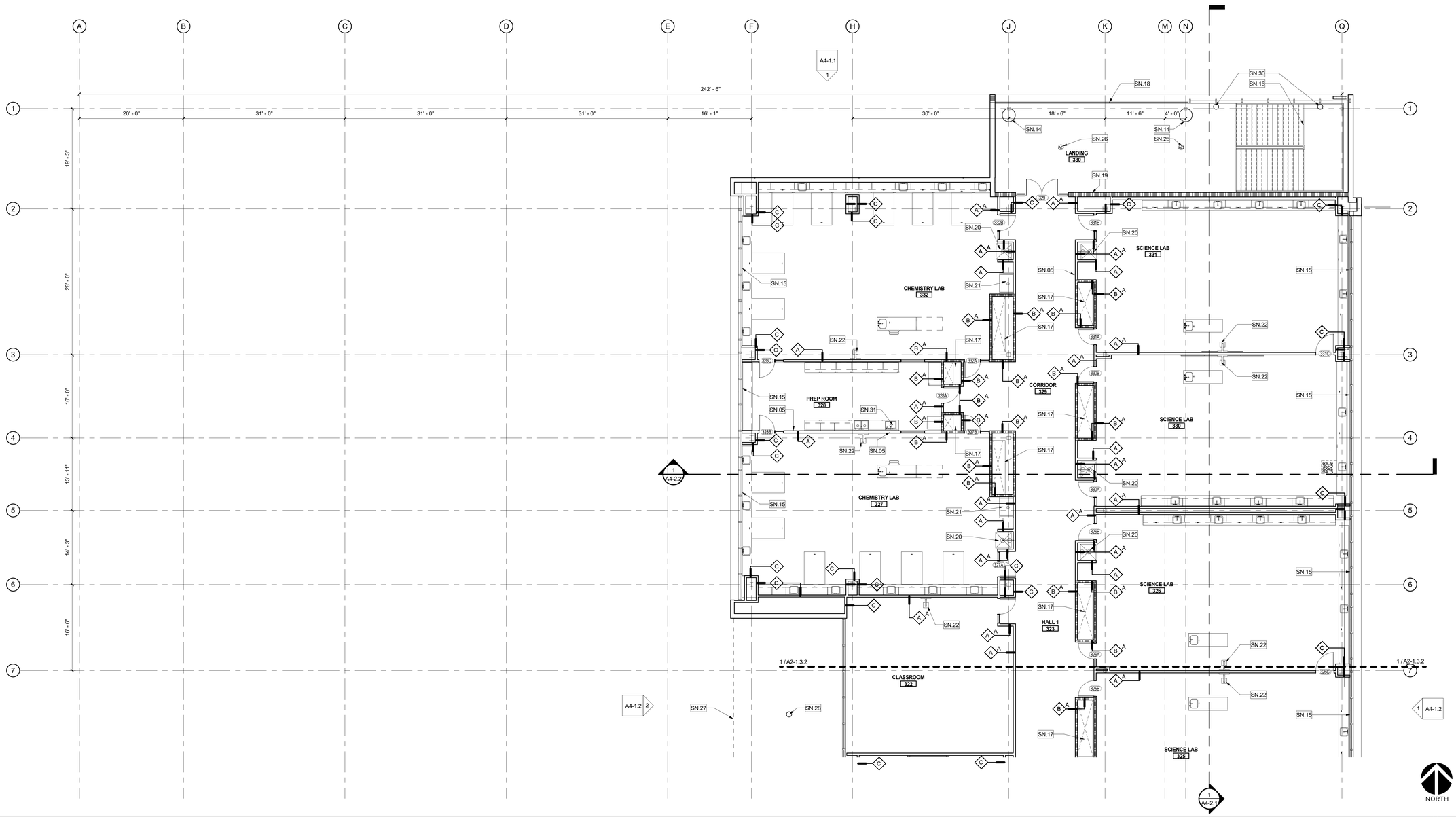
A2-1.3

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1/16" = 1'

0 16 32 48



3RD FLOOR PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	CAST-IN-PLACE CONCRETE STADIUM STAIRS
SN.02	CAST-IN-PLACE CONCRETE STAIRS WITH 1 1/2" Ø STEEL PIPE HANDRAILS EACH SIDE
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SN.04	12'-0" W X 10'-0" H ELECTRIC, ALUMINUM OVERHEAD SECTIONAL DOOR WITH GLASS PANELS
SN.05	RECESSED FIRE EXTINGUISHER CABINET AND SIGNAL BEACON SUITABLE FOR A, B, C, AND D FIRES
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SN.11	ACCESSIBLE DRINKING FOUNTAIN
SN.12	ACCESSIBLE TRANSACTION WINDOW
SN.13	ALIGN PARTITION WITH CURTAIN WALL MULLION
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SN.15	MANUAL ROLLER SHADES - ONE PER GLAZING PANEL IN THIS ROOM
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LEGEND

METAL STUD WALL: (20 GA) METAL STUDS @ 16" O.C., UNLESS OTHERWISE NOTED.

1 HR FIRE RATED WALL

MILLWORK, SEE MILLWORK DETAILS

FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

A — WALL TYPE
6" — STUD SIZE
A — ACOUSTIC BATT INSULATION
6'-0" — LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

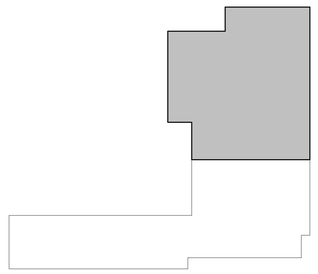
DOOR REFERENCE

000A — DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

EA — Window Covering Reference
X — V=Vertical Blinds, LS=Light Proof Shades
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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

3RD FLOOR PLAN - PARTIAL NORTH

SHEET NUMBER:

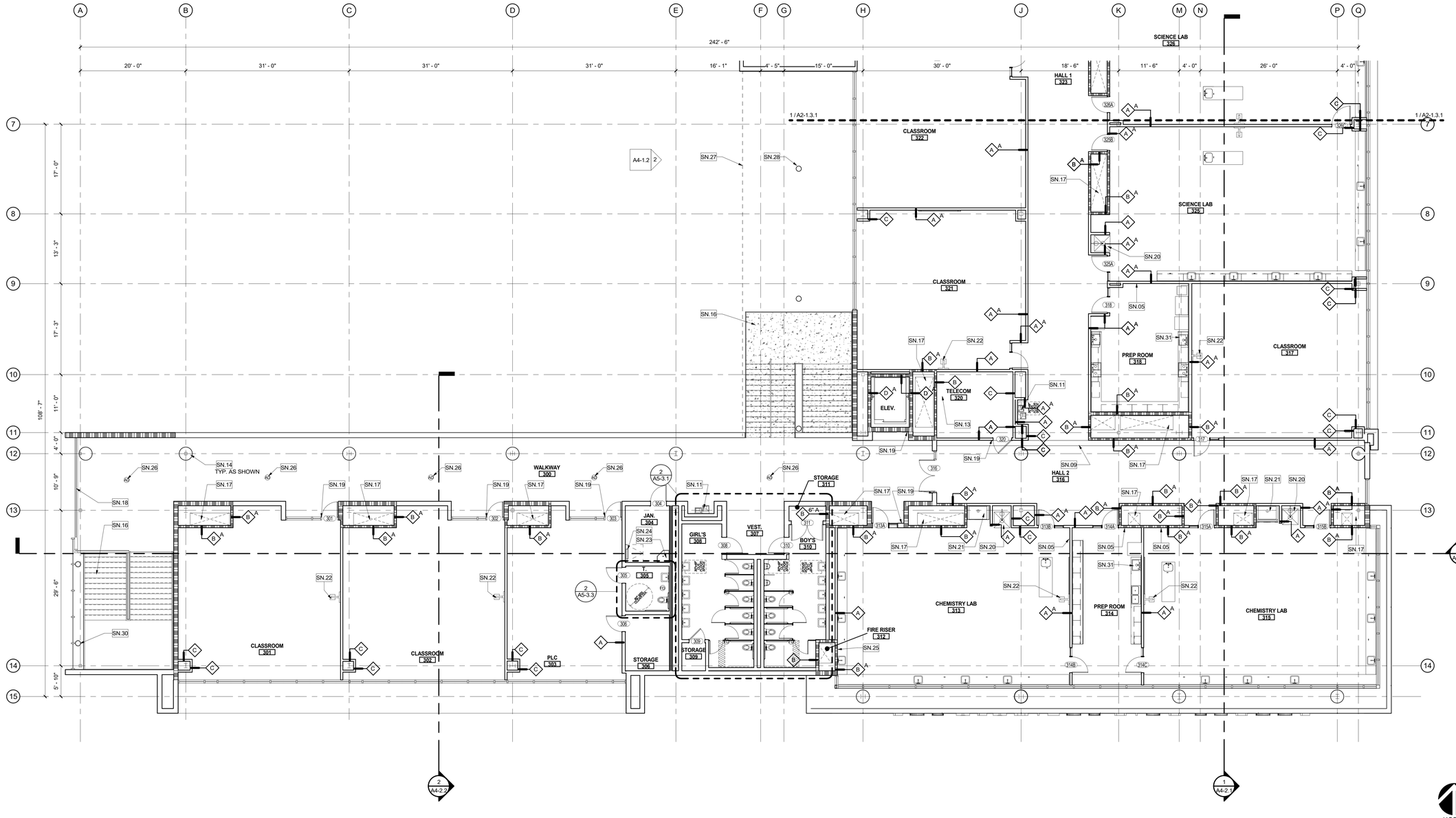
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1/8" = 1'

0 8 16 24



3RD FLOOR PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN#	DESCRIPTION
SN.01	CAST-IN-PLACE CONCRETE STADIUM STAIRS
SN.02	CAST-IN-PLACE CONCRETE STAIRS WITH 1 1/2" Ø STEEL PIPE HANDRAILS EACH SIDE
SN.03	TRENCH DRAIN
SN.04	12'-0" W X 10'-0" H ELECTRIC, ALUMINUM OVERHEAD SECTIONAL DOOR WITH GLASS PANELS
SN.05	RECESSED FIRE EXTINGUISHER CABINET AND SIGNAL BEACON SUITABLE FOR A, B, C, AND D FIRES
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SN.15	MANUAL ROLLER SHADES - ONE PER GLAZING PANEL IN THIS ROOM
SN.16	METAL PAN STAIRS AND LANDINGS WITH 2" CONCRETE FILL. 1 1/2" Ø PANEL PIPE GUARD AND HAND RAILS
SN.17	ONE HOUR RATED VERTICAL MECHANICAL CHASE W/ RATED DAMPERS, FIRE SAFING, AND FIRE CAULK
SN.18	1 1/2" Ø METAL PIPE GUARDRAIL ANCHORED TO CONCRETE DECK
SN.19	CARD ACCESS / KEY PAD
SN.20	EMERGENCY SHOWER AND EYEWASH
SN.21	FUME HOOD
SN.22	WALL MOUNTED, SHORT-THROW PROJECTOR
SN.23	JANITORIAL MOP SINK AND MOP RACK
SN.24	ROOF ACCESS LADDER AND 3'-0" X 3'-0" ROOF HATCH
SN.25	ACCESS PANEL TO FIRE RISER
SN.26	AREA DRAIN
SN.27	LINE OF STEEL TUBE TRELLIS ABOVE
SN.28	STEEL ROUND COLUMNS
SN.29	EDGE CONCRETE WALK
SN.30	CURTAINWALL STRUCTURAL SUPPORT
SN.31	FAUCET WITH EYEWASH

GENERAL NOTES

1. USE MOISTURE RESISTANT GYPSUM WALL BOARD ON ALL RESTROOMS AND WET WALLS.
2. PREPARE NEW SURFACES FOR INSTALLATION OF SPECIFIED FINISHES. ALL SURFACES SHALL BE FREE FROM ADHESIVE, BUMPS,CRACKS, AND MEET THE REQUIREMENTS OF THE FINISH MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. PROVIDE METAL TRIM OR CASING AT ALL EDGES OF PLASTER AND DRYWALL SURFACES WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, UNLESS OTHERWISE NOTED.
4. PROVIDE METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF PLASTERED OR DRYWALL SURFACES UNLESS OTHERWISE NOTED.
5. PRIOR TO INSTALLATION, FIRE AUTHORITY HAVING JURISDICTION SHALL BE CALLED TO FIELD VERIFY LOCATIONS AND TYPES OF FIRE EXTINGUISHERS AND KNOX BOXES.
6. PROVIDE BACKING FOR ALL WALL MOUNTED EQUIPMENT AND MILLWORK. COORDINATE WITH ARCHITECT FOR ANY UNFORSEEN CONDITIONS.

LEGEND

- METAL STUD WALL: (20 GA) METAL STUDS @ 16" O.C., UNLESS OTHERWISE NOTED.
- 1 HR FIRE RATED WALL
- MILLWORK, SEE MILLWORK DETAILS
- FIRE EXTINGUISHER SEMI-RECESSED

WALL REFERENCE

A — 6"A — 6'-0" — WALL TYPE, STUD SIZE, ACOUSTIC BATT INSULATION, LOW PARTITION HEIGHT (WHERE OCCURS)

(TYPICAL WALL TYPE **A** UNLESS OTHERWISE NOTED) SEE 1 / A9-1.1

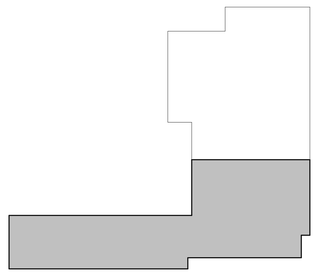
DOOR REFERENCE

100A — DOOR TAG SEE - / A6-1.1

WINDOW OR LOUVER REFERENCE

EA X — Window Covering Reference; V=Vertical Blinds; LS=Light Proof Shades; H=Horizontal Blinds; D=Darkening Drapes

KEY PLAN



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949.250.0880 | FAX 949.250.0882
www.westgroupdesigns.com

Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

SCHEMATIC DESIGN SUBMITTAL	11/07/18
DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

3RD FLOOR PLAN - PARTIAL SOUTH

SHEET NUMBER:

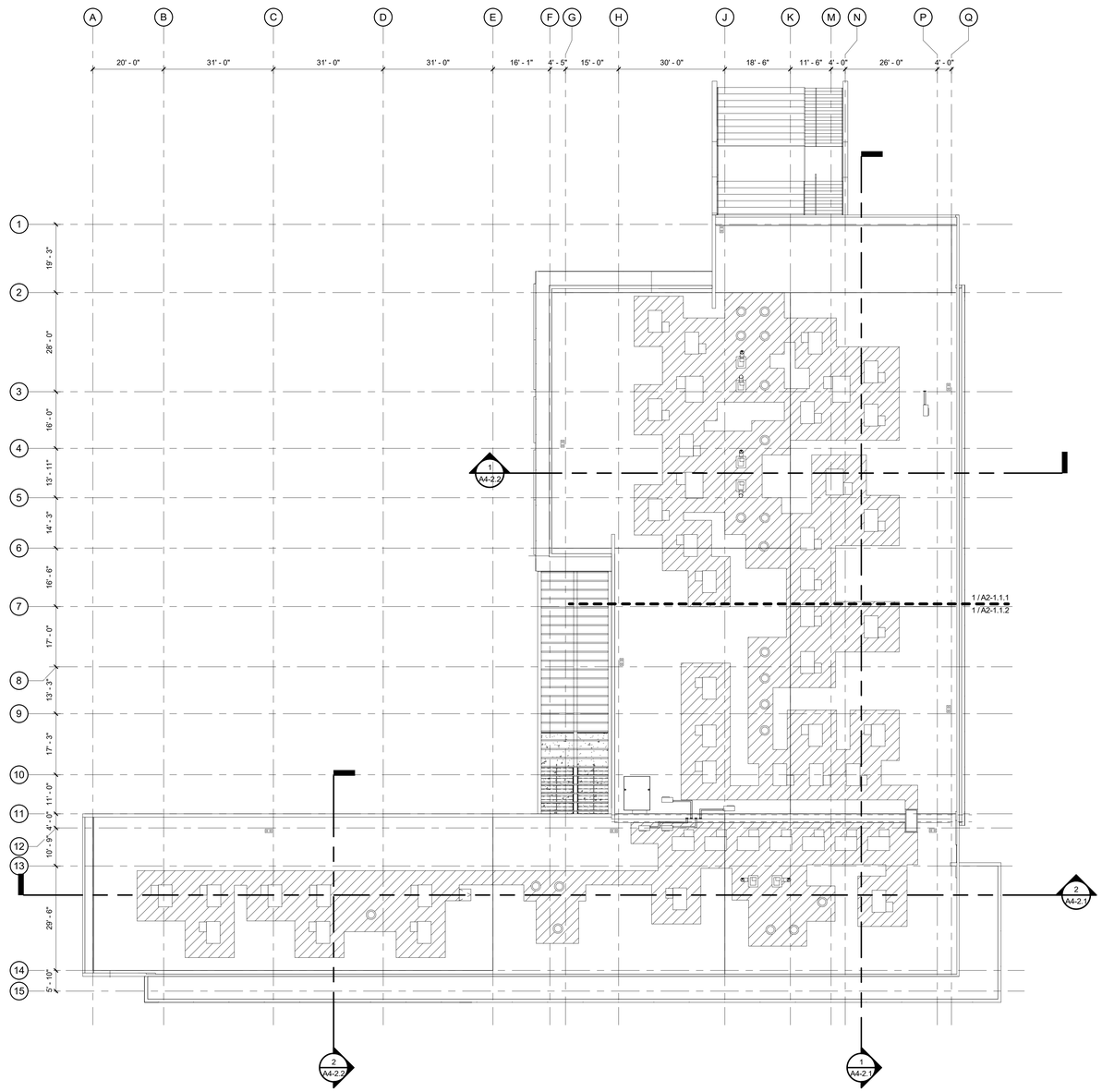
A2-1.3.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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1/8" = 1'

0 8 16 24



NORTH

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

SHEET KEYNOTES

FOR LIST OF KEYNOTES, SEE A2-2.1.1 AND A2-2.1.2

GENERAL NOTES

LEGEND

- MECHANICAL ROOFTOP UNIT
- EXHAUST
- ROOF HATCH
- ROOF PLATFORM
- WALKWAY PADS

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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

ROOF PLAN

SHEET NUMBER:

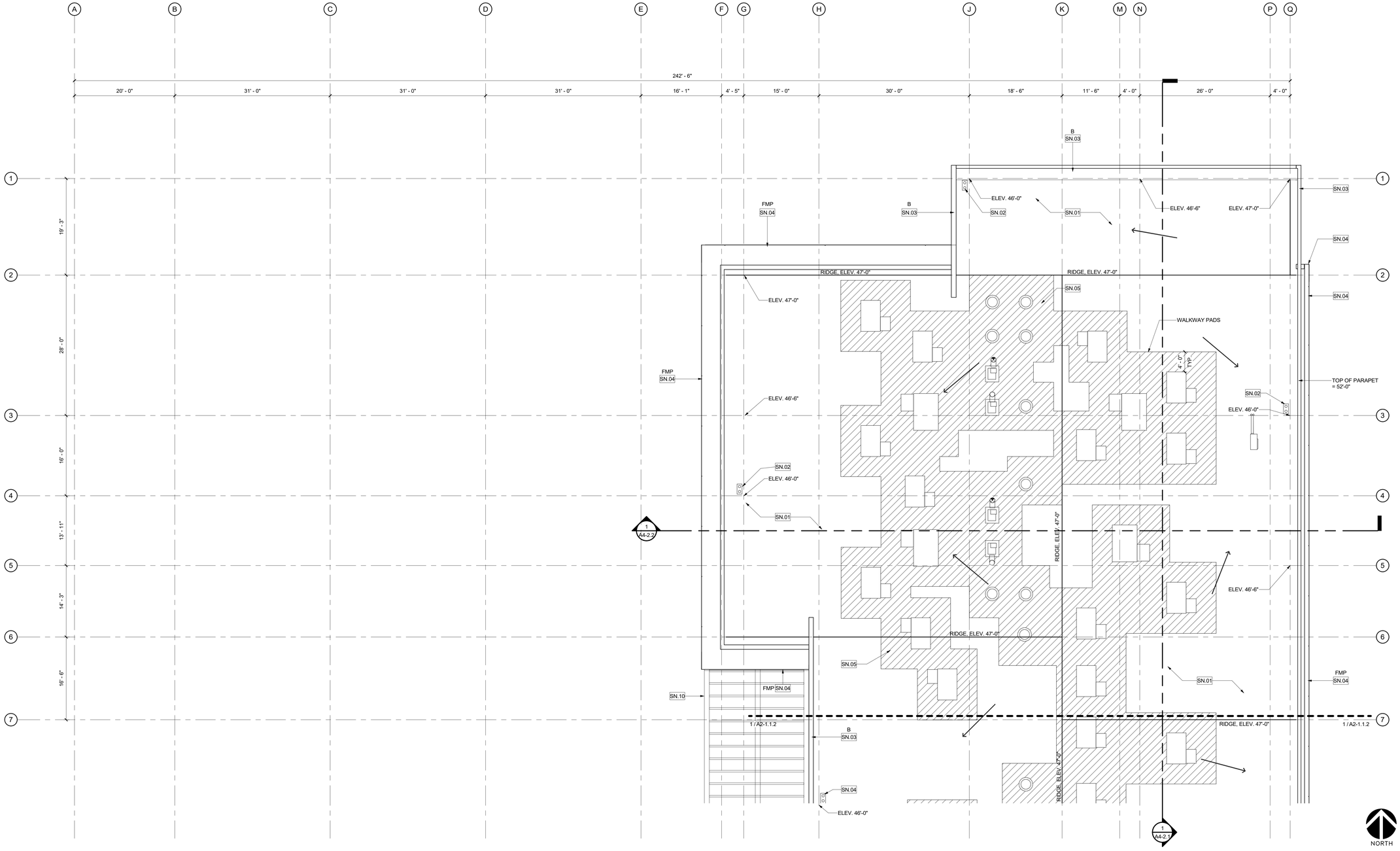
A2-2.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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1/16" = 1'

0 16 32 48



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

SHEET KEYNOTES

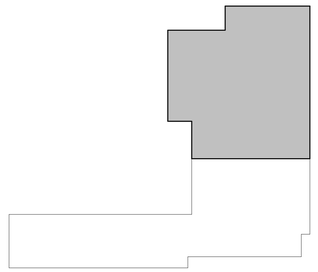
SN#	DESCRIPTION
SN.01	PVC ROOFING MEMBRANE ON 6 1/2" OSB/RIGID PANEL INSULATION W/ INTEGRAL ZEE CLIPS ON 1 1/2" METAL DECK
SN.02	4" ROOF AND OVERFLOW DRAINS TO INTERNAL DRAINLINES TO SUB-SURFACE STORM SEWER
SN.03	2-PIECE PAINTED METAL COPING (ON BRICK WALL)
SN.04	INTEGRAL METAL PANEL / RAINSCREEN COPING (FMP)
SN.05	PVC ROOF WALKWAY PADS AROUND MECHANICAL EQUIPMENT
SN.06	3'-0" X 3'-0" ROOF HATCH WITH INTEGRAL CURB AND SAFETY BAR
SN.07	ROOF EXPANSION JOINT. 12" STATIC OPENING; DESIGNED FOR 0" CONTRACTION AND 24" EXPANSION
SN.08	ROOF PLATFORM
SN.10	HSS/TUBE SECTION BEAM AND RAFTERS

GENERAL NOTES

LEGEND

- MECHANICAL ROOFTOP UNIT
- EXHAUST
- ROOF HATCH
- ROOF PLATFORM
- WALKWAY PADS

KEY PLAN



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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

ROOF PLAN - PARTIAL NORTH

SHEET NUMBER:

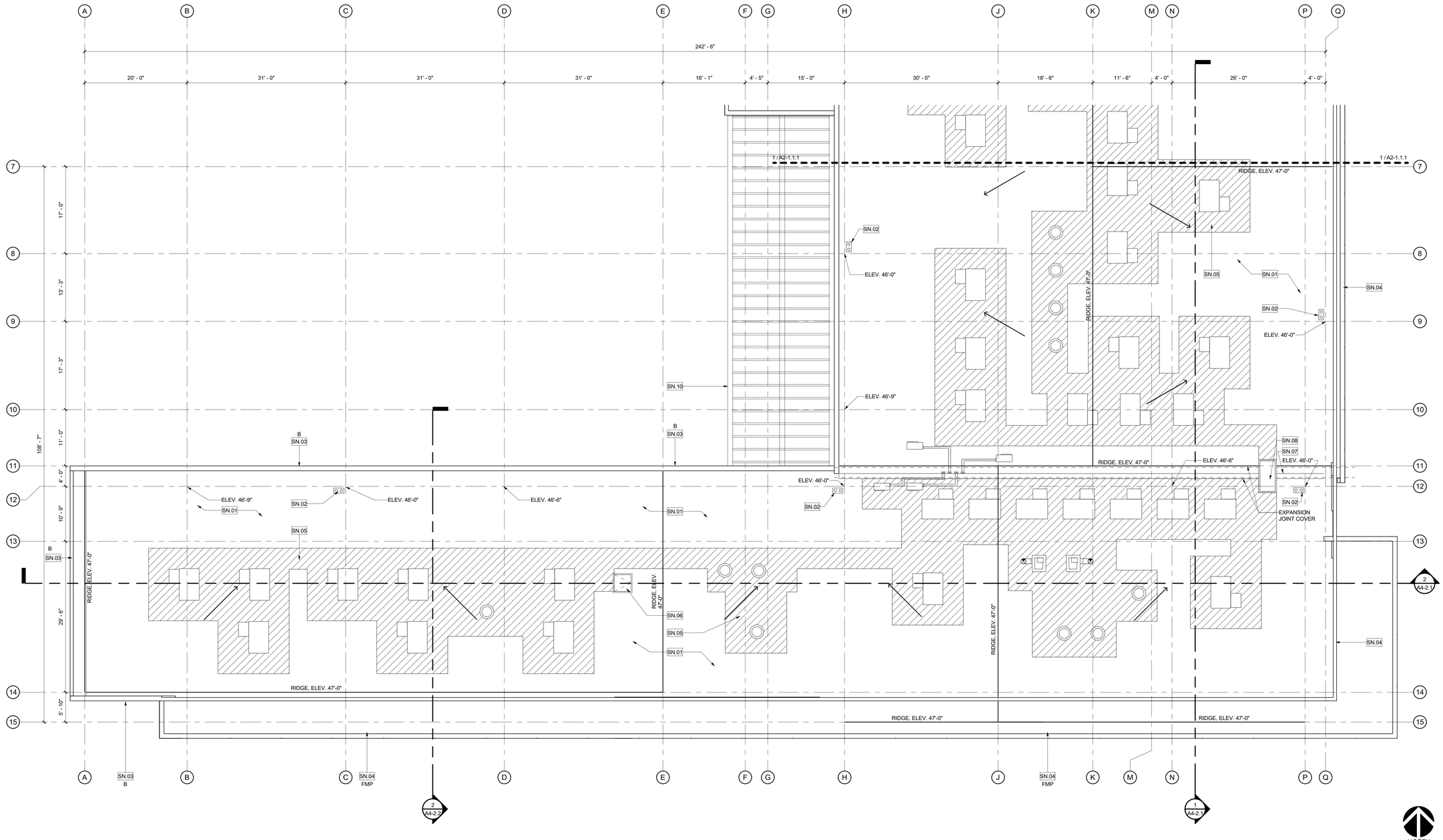
A2-2.1.1

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1/8" = 1'

0 8 16 24



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

SHEET KEYNOTES

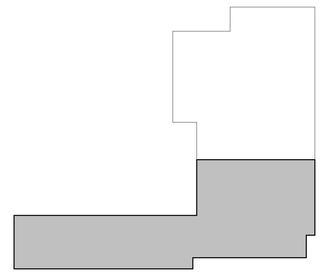
SN#	DESCRIPTION
SN.01	PVC ROOFING MEMBRANE ON 6 1/2" OSB/RIGID PANEL INSULATION W/ INTEGRAL ZEE CLIPS ON 1 1/2" METAL DECK
SN.02	4" ROOF AND OVERFLOW DRAINS TO INTERNAL DRAINLINES TO SUB-SURFACE STORM SEWER
SN.03	2-PIECE PAINTED METAL COPING (ON BRICK WALL)
SN.04	INTEGRAL METAL PANEL / RAINSCREEN COPING (FMP)
SN.05	PVC ROOF WALKWAY PADS AROUND MECHANICAL EQUIPMENT
SN.06	3'-0" X 3'-0" ROOF HATCH WITH INTEGRAL CURB AND SAFETY BAR
SN.07	ROOF EXPANSION JOINT. 12" STATIC OPENING; DESIGNED FOR 0" CONTRACTION AND 24" EXPANSION
SN.08	ROOF PLATFORM
SN.10	HSS/TUBE SECTION BEAM AND RAFTERS

GENERAL NOTES

LEGEND

- MECHANICAL ROOFTOP UNIT
- EXHAUST
- ROOF HATCH
- ROOF PLATFORM
- WALKWAY PADS

KEY PLAN



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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

ROOF PLAN - PARTIAL SOUTH

SHEET NUMBER:

A2-2.1.2

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18451	NA	GR	02/19/19

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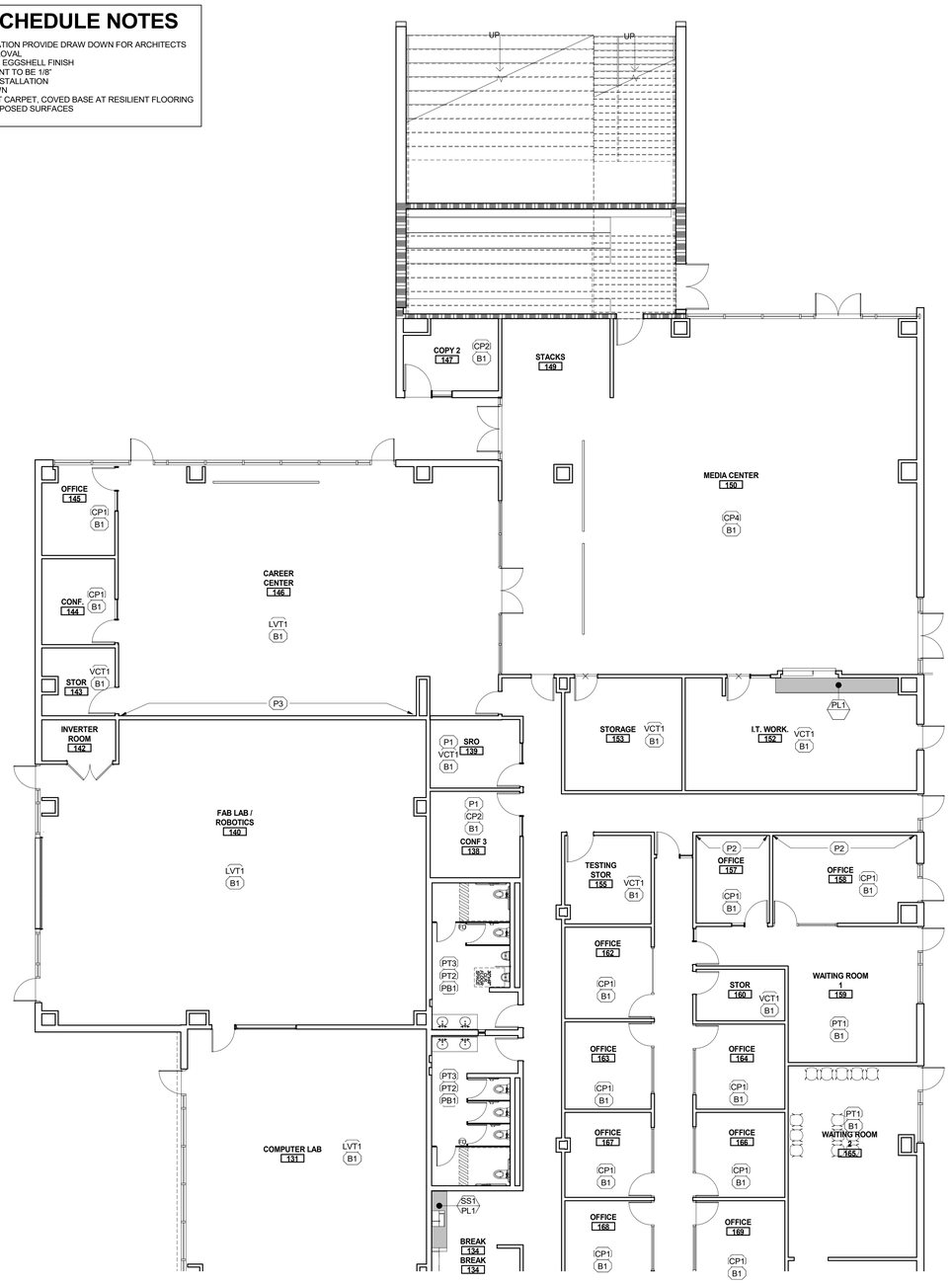
0 8 16 24

FINISH SCHEDULE

TAG	ITEM	MANUFACTURER	SPEC	SIZE	COLOR	INSTALLATION	NOTES	CONTACT
B1	BASE	JOHNSONITE						MEG SIMS meg.sims@tarkett.com
CP1	CARPET	BENTLEY	TECH UPD8	24"X24"	INTEGER 400007	RANDOM		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP2	CARPET	BENTLEY	TECH UPD8 , MATH CLUB 4TDT4	24"X24"	INTEGER 400007	ASHLAR		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP3	CARPET	BENTLEY	TRESPASS	18"X36"	PIGGYBACK YARD 806306	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP4	CARPET	BENTLEY	HYPERSPACE ROCKET SCIENCE 4HPT4	18X36	ELECTROMAGNETIC 407912	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
LVT1	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATION	18X36	PARSA NA311			JULIE J. KAESER jjkaeser@armstrongflooring.com
LVT2	LUXURY VINYL TILE	MOHAWK GROUP	ANTIEK 9" X 48"	9" X 48"	ALABASTER 311			LISA VAN NIEKERK Lisa_Vanniekerk@mohawkind.com
LVT3	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATION DIAMOND 10 TECHNOLOGY		CHAMPANGE NA611			JULIE J. KAESER jjkaeser@armstrongflooring.com
P1	PAINT	SHERWIN WILLIAMS			SW7632 MODERN GRAY			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
P2	PAINT	SHERWIN WILLIAMS			SW 6155 RICE GRAIN			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
P3	PAINT	SHERWIN WILLIAMS			SW6151 QUIVER TAN			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
PB1	TILE BASE	CROSSVILLE	EMPIRE COVE BASE	6X12	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
PL1	PLASTIC LAMINATE							
PL1	SOLID SURFACE	FORMICA			WHITE RENEW 748			EMILY DUBAN Emily.Duban@formica.com
PL2	PLASTIC LAMINATE	FORMICA			SMOKEY BROWN PEAR 5488 AN			EMILY DUBAN Emily.Duban@formica.com
PL3	PLASTIC LAMINATE	FORMICA			SILVER RIFTWOOD 6413 AN			EMILY DUBAN Emily.Duban@formica.com
PL4	PLASTIC LAMINATE	FORMICA			EARTHEN TWILL 8828-58			EMILY DUBAN Emily.Duban@formica.com
PT1	PORECELAIN TILE	CROSSVILLE	EMPIRE	12X24	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
PT2	PORECELAIN TILE	CROSSVILLE	RETRO ACTIVE 2.0 AND PATTERNS	6X24	SEAL TAUPE PATTERN			MONICA FARLEY Mfarley@crossvilleinc.com
PT3	PORECELAIN TILE	CROSSVILLE	RETRO ACTIVE 2.0 AND PATTERNS	6X24	EMPRESS WHITE PATTERN			MONICA FARLEY Mfarley@crossvilleinc.com
PT4	PORECELAIN TILE	CROSSVILLE	EMPIRE	2"X2" MOSAIC	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
SS1	PLASTIC LAMINATE	FORMICA			SMOKEY BROWN PEAR 5488 AN			EMILY DUBAN Emily.Duban@formica.com
SS1	SOLID SURFACE	FORMICA			WHITE RENEW 748			EMILY DUBAN Emily.Duban@formica.com
SS2	SOLID SURFACE	FORMICA			ADASTRA Q3008			ALLYSON MAZZARINI mazzara@wilsonart.com
SS3	SOLID SURFACE	WILSONART			TELLARO Q4025			ALLYSON MAZZARINI mazzara@wilsonart.com
VCT1	VINYL COMPOSITE TILE	ARMSTRONG	EXCELON CROWN TEXTURE	12 X 12	SANDRIFT WHITE 5C858			JULIE J. KAESER jjkaeser@armstrongflooring.com

FINISH SCHEDULE NOTES

1. PRIOR TO FABRICATION PROVIDE DRAW DOWN FOR ARCHITECTS REVIEW AND APPROVAL
2. PROVIDE 2 COATS, EGGSHELL FINISH
3. EPOXY GROUT JOINT TO BE 1/8"
4. QUARTER TURN INSTALLATION
5. DIRECT GLUE DOWN
6. STRAIGHT BASE AT CARPET, COVED BASE AT RESILIENT FLOORING
7. INSTALL AT ALL EXPOSED SURFACES



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

KEY NOTES

SHEET KEYNOTES

SN.##

SN#	DESCRIPTION
SN.01	SHEET NOTES

SN.01

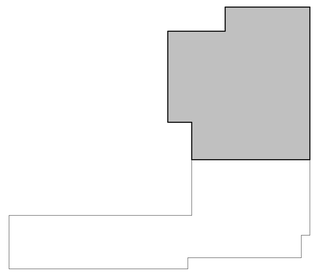
GENERAL NOTES

1. FIELD MEASURE FOR ALL GLAZING AND MILLWORK CONDITIONS PRIOR TO MANUFACTURING.
2. PROVIDE TEMPORARY PROTECTION FOR ALL INSTALLED FINISHES AS WORK PROGRESSES.
3. INSTALL WALL FINISH FOR THE FULL HEIGHT OF THE PARTITION WITHOUT BASE. THERE SHALL BE NO UNFINISHED GAPS AT THE BASE OF GYP. BD.
4. ALL EXISTING WALLS TO BE PAINTED, U.N.O.
5. ALL METAL ACCESS DOORS SHALL BE PAINTED TO MATCH ADJACENT WALL OR CEILING FINISH.
6. PREPARE ALL FLOORS TO RECEIVE NEW FINISHES IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION REQUIREMENTS.
7. PRIOR TO INSTALLATION OF FLOORING, SUBMIT WRITTEN CERTIFICATION BY FLOORING MANUFACTURER AND ADHESIVE MANUFACTURER THAT CONDITION OF SUB-FLOOR IS ACCEPTABLE. CONTRACTOR TO COMPLETE MOISTURE TESTING PER PER ASTM F-710, ASTM-F 2170-11 AND ASTM F-1869-10 RECOMMENDATIONS. AND SUBMIT TO ARCHITECT FOR REVIEW. OBTAIN INSTRUCTIONS IF TEST RESULTS ARE NOT WITHIN LIMITS RECOMMENDED BY FLOORING MATERIALS MANUFACTURER.
8. PROVIDE ALLOWANCE TO FLOAT FLOOR WHERE NECESSARY TO ACHIEVE TOLERANCE OF 1/2" MAX. IN 10'-0" SPAN.
9. ALL CERAMIC, PORCELAIN, AND VCT TO BE INSTALLED WITH FULL TILE FROM TRANSITION AT DOOR AND FULL TILE FROM WALL PERPENDICULAR TO DOOR, U.N.O.
10. COORDINATE THE INSTALLATION OF WALL BASE WITH ANY MILLWORK. DELETE BASE WHERE BUILT-IN CABINETS ARE INDICATED.

LEGEND

- X1 — FINISH TAG - WALLS, FLOORS, BASE, MILLWORK
- MILLWORK TAG
  - T1 — FINISH - TOP SURFACE
  - F1 — FINISH - FACE SURFACE
- FLOOR FINISH 1
- FLOOR FINISH 2
- FLOOR MATERIAL TRANSITION, SEE WHERE OCCURS.

KEY PLAN



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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

1ST FLOOR FINISH PLAN - PARTIAL NORTH

SHEET NUMBER:

A2-3.1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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1/8" = 1'

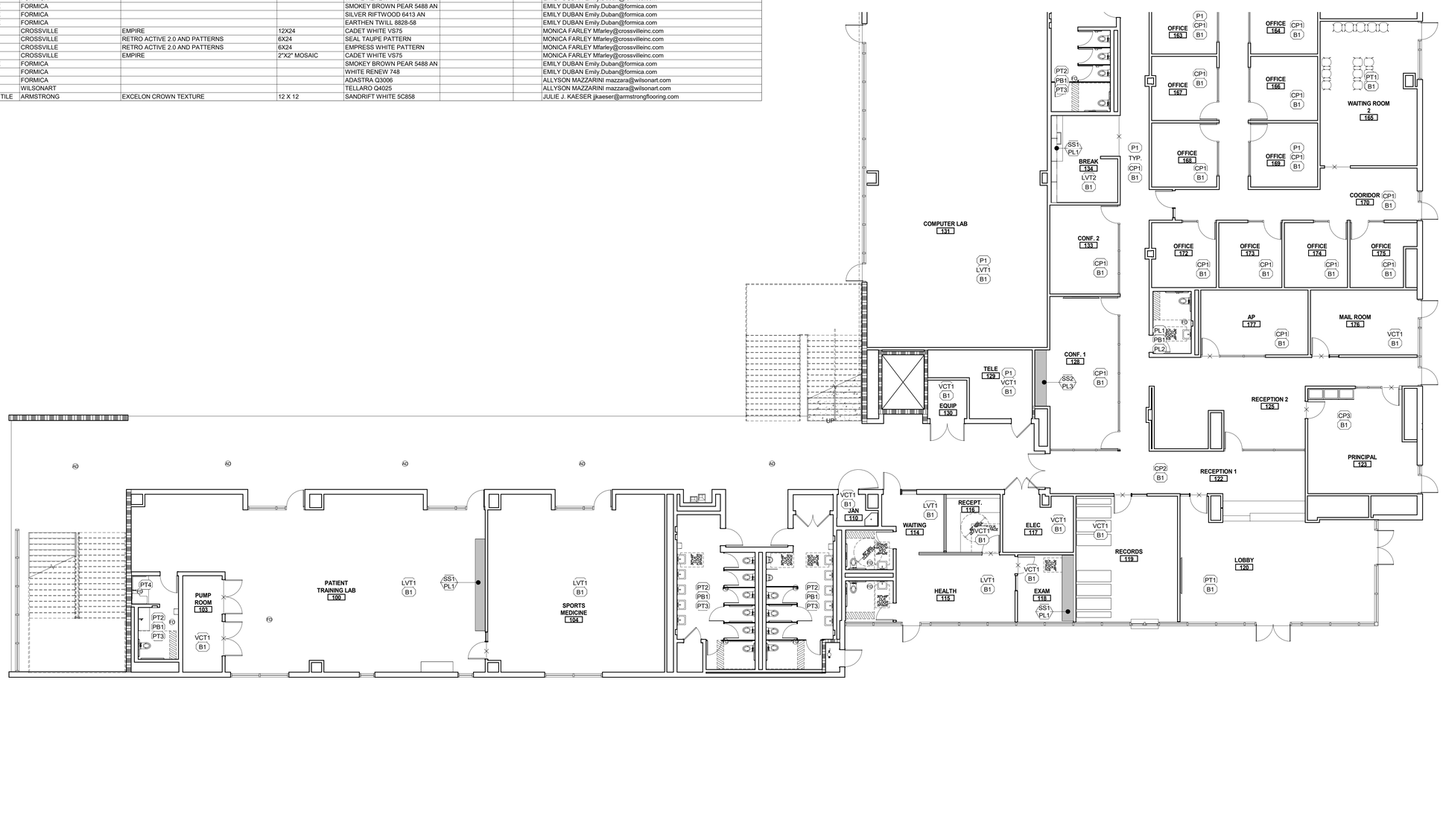
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CP2	CARPET	BENTLEY	TECH UPD8 , MATH CLUB 4TDT4	24"X24"	INTEGER 400007	ASHLAR		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP3	CARPET	BENTLEY	TRESPASS	18"X36"	PIGGGYBACK YARD 806306	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP4	CARPET	BENTLEY	HYPERSPACE ROCKET SCIENCE 4HPT4	18X36	ELECTROMAGNETIC 407912	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
LVT1	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATION	18X36	PARSA NA311			JULIE J. KAESER jkaeser@armstrongflooring.com
LVT2	LUXURY VINYL TILE	MOHAWK GROUP	ANTIEK 9" X 48"	9" X 48"	ALABASTER 311			LISA VAN NIEKERK Lisa_Vanniekerk@mohawkind.com
LVT3	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATION DIAMOND 10 TECHNOLOGY		CHAMPANGE NA611			JULIE J. KAESER jjkaeser@armstrongflooring.com
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P2	PAINT	SHERWIN WILLIAMS			SW 6155 RICE GRAIN			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
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PB1	TILE BASE	CROSSVILLE	EMPIRE COVE BASE	6X12	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
PL1	PLASTIC LAMINATE							
PL1	SOLID SURFACE	FORMICA			WHITE RENEW 748			EMILY DUBAN Emily.Duban@formica.com
PL2	PLASTIC LAMINATE	FORMICA			SMOKEY BROWN PEAR 5488 AN			EMILY DUBAN Emily.Duban@formica.com
PL3	PLASTIC LAMINATE	FORMICA			SILVER RIFTWOOD 6413 AN			EMILY DUBAN Emily.Duban@formica.com
PL4	PLASTIC LAMINATE	FORMICA			EARTHEN TWILL 8828-58			EMILY DUBAN Emily.Duban@formica.com
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SS2	SOLID SURFACE	FORMICA			ADASTRA Q3006			ALLYSON MAZZARINI mazzara@wilsonart.com
SS3	SOLID SURFACE	WILSONART			TELLARO Q4025			ALLYSON MAZZARINI mazzara@wilsonart.com
VCT1	VINYL COMPOSITE TILE	ARMSTRONG	EXCELON CROWN TEXTURE	12 X 12	SANDRIFT WHITE 5C858			JULIE J. KAESER jjkaeser@armstrongflooring.com

FINISH SCHEDULE NOTES

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2. PROVIDE 2 COATS, EGGSHELL FINISH
3. EPOXY GROUT JOINT TO BE 1/8"
4. QUARTER TURN INSTALLATION
5. DIRECT GLUE DOWN
6. STRAIGHT BASE AT CARPET, COVED BASE AT RESILIENT FLOORING
7. INSTALL AT ALL EXPOSED SURFACES



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

KEY NOTES

SHEET KEYNOTES

SN.##

SN#	DESCRIPTION
SN.01	SHEET NOTES

SN.01

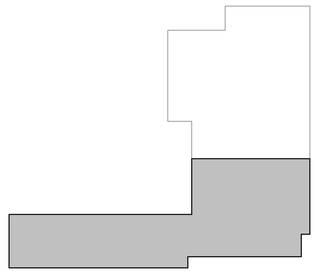
GENERAL NOTES

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3. INSTALL WALL FINISH FOR THE FULL HEIGHT OF THE PARTITION WITHOUT BASE. THERE SHALL BE NO UNFINISHED GAPS AT THE BASE OF GYP. BD.
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8. PROVIDE ALLOWANCE TO FLOAT FLOOR WHERE NECESSARY TO ACHIEVE TOLERANCE OF 1/2" MAX. IN 10'-0" SPAN.
9. ALL CERAMIC, PORCELAIN, AND VCT TO BE INSTALLED WITH FULL TILE FROM TRANSITION AT DOOR AND FULL TILE FROM WALL PERPENDICULAR TO DOOR, U.N.O.
10. COORDINATE THE INSTALLATION OF WALL BASE WITH ANY MILLWORK. DELETE BASE WHERE BUILT-IN CABINETS ARE INDICATED.

LEGEND

- X1 — FINISH TAG - WALLS, FLOORS, BASE, MILLWORK
- MILLWORK TAG
- T1 — FINISH - TOP SURFACE
- F1 — FINISH - FACE SURFACE
- FLOOR FINISH 1
- FLOOR FINISH 2
- FLOOR MATERIAL TRANSITION, SEE WHERE OCCURS.

KEY PLAN



WESTGROUP DESIGNS
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19520 Jamboree Road | Suite 100
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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

1ST FLOOR FINISH PLAN - PARTIAL SOUTH

SHEET NUMBER:

A2-3.1.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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1/8" = 1'

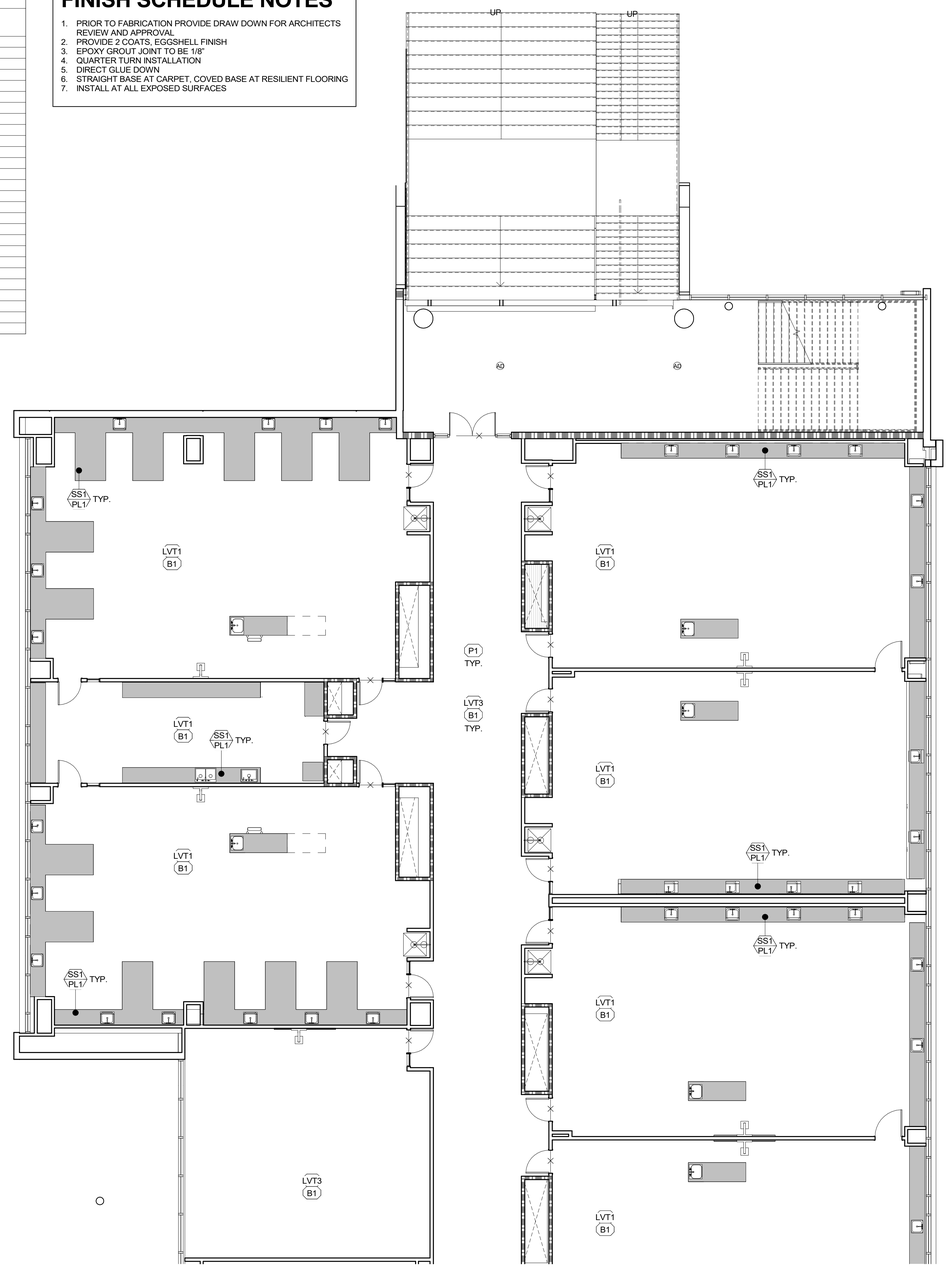
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FINISH SCHEDULE

TAG	ITEM	MANUFACTURER	SPEC	SIZE	COLOR	INSTALLATION	NOTES	CONTACT
B1	BASE	JOHNSONITE						MEG SIMS meg.sims@tarkett.com
CP1	CARPET	BENTLEY	TECH UPD8	24"X24"	INTEGER 400007	RANDOM		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP2	CARPET	BENTLEY	TECH UPD8 , MATH CLUB 4TDT4	24"X24"	INTEGER 400007	ASHLAR		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP3	CARPET	BENTLEY	TRESPASS	18"X36"	PIGGYBACK YARD 806306	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP4	CARPET	BENTLEY	HYPERSPACE ROCKET SCIENCE 4HPT4	18X36	ELECTROMAGNETIC 407912	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
LVT1	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATION	18X36	PARSA NA311			JULIE J. KAESER jjkaeser@armstrongflooring.com
LVT2	LUXURY VINYL TILE	MOHAWK GROUP	ANTIEK 9" X 48"	9" X 48"	ALABASTER 311			LISA VAN NIEKERK Lisa_Vanniekerk@mohawkind.com
LVT3	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATION DIAMOND 10 TECHNOLOGY		CHAMPANGE NA611			JULIE J. KAESER jjkaeser@armstrongflooring.com
P1	PAINT	SHERWIN WILLIAMS			SW7632 MODERN GRAY			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
P2	PAINT	SHERWIN WILLIAMS			SW 6155 RICE GRAIN			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
P3	PAINT	SHERWIN WILLIAMS			SW6151 QUIVER TAN			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
PB1	TILE BASE	CROSSVILLE	EMPIRE COVE BASE	6X12	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
PL1	PLASTIC LAMINATE							
PL1	SOLID SURFACE	FORMICA			WHITE RENEW 748			EMILY DUBAN Emily.Duban@formica.com
PL2	PLASTIC LAMINATE	FORMICA			SMOKEY BROWN PEAR 5488 AN			EMILY DUBAN Emily.Duban@formica.com
PL3	PLASTIC LAMINATE	FORMICA			SILVER RIFTWOOD 6413 AN			EMILY DUBAN Emily.Duban@formica.com
PL4	PLASTIC LAMINATE	FORMICA			EARTHEN TWILL 8828-58			EMILY DUBAN Emily.Duban@formica.com
PT1	PORECELAIN TILE	CROSSVILLE	EMPIRE	12X24	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
PT2	PORECELAIN TILE	CROSSVILLE	RETRO ACTIVE 2.0 AND PATTERNS	6X24	SEAL TAUPE PATTERN			MONICA FARLEY Mfarley@crossvilleinc.com
PT3	PORECELAIN TILE	CROSSVILLE	RETRO ACTIVE 2.0 AND PATTERNS	6X24	EMPRESS WHITE PATTERN			MONICA FARLEY Mfarley@crossvilleinc.com
PT4	PORECELAIN TILE	CROSSVILLE	EMPIRE	2"X2" MOSAIC	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
SS1	PLASTIC LAMINATE	FORMICA			SMOKEY BROWN PEAR 5488 AN			EMILY DUBAN Emily.Duban@formica.com
SS1	SOLID SURFACE	FORMICA			WHITE RENEW 748			EMILY DUBAN Emily.Duban@formica.com
SS2	SOLID SURFACE	FORMICA			ADASTRA Q3006			ALLYSON MAZZARINI mazzara@wilsonart.com
SS3	SOLID SURFACE	WILSONART			TELLARO Q4025			ALLYSON MAZZARINI mazzara@wilsonart.com
VCT1	VINYL COMPOSITE TILE	ARMSTRONG	EXCELON CROWN TEXTURE	12 X 12	SANDRIFT WHITE 5C858			JULIE J. KAESER jjkaeser@armstrongflooring.com

FINISH SCHEDULE NOTES

1. PRIOR TO FABRICATION PROVIDE DRAW DOWN FOR ARCHITECTS REVIEW AND APPROVAL
2. PROVIDE 2 COATS, EGGSHELL FINISH
3. EPOXY GROUT JOINT TO BE 1/8"
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5. DIRECT GLUE DOWN
6. STRAIGHT BASE AT CARPET, COVED BASE AT RESILIENT FLOORING
7. INSTALL AT ALL EXPOSED SURFACES



NORTH

2ND FLOOR FINISH PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

KEY NOTES

SHEET KEYNOTES

SN.##

SN#	DESCRIPTION
SN.01	SHEET NOTES

SN.01

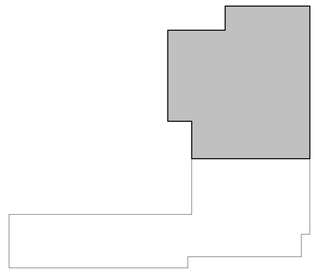
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LEGEND

- X1 — FINISH TAG - WALLS, FLOORS, BASE, MILLWORK
- T1 / F1 — MILLWORK TAG: FINISH - TOP SURFACE / FINISH - FACE SURFACE
- FLOOR FINISH 1 / FLOOR FINISH 2
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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

2ND FLOOR FINISH PLAN - PARTIAL NORTH

SHEET NUMBER:

A2-3.2.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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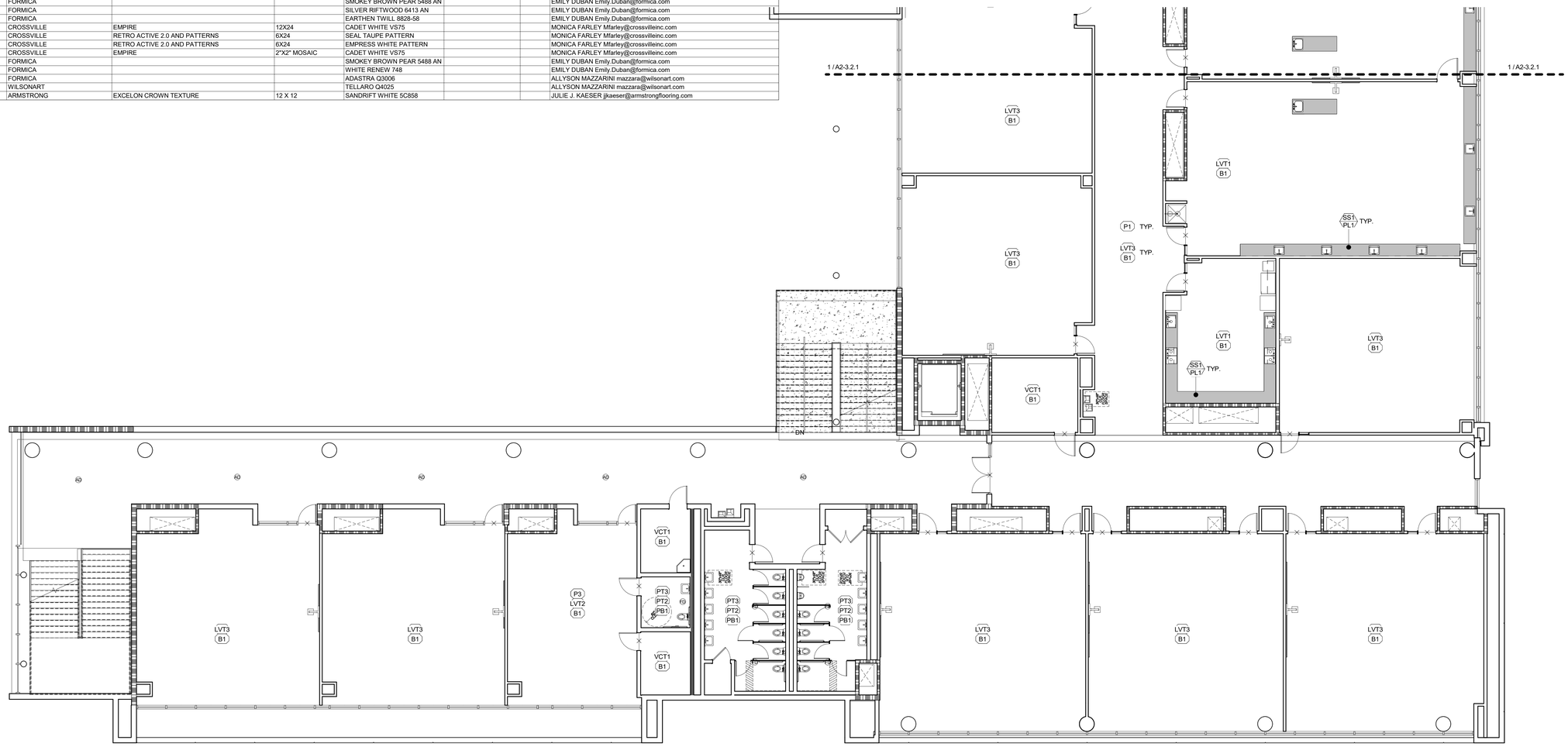
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CP3	CARPET	BENTLEY	TRESPASS	18"X36"	PIGGGYBACK YARD 806306	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP4	CARPET	BENTLEY	HYPERSPACE ROCKET SCIENCE 4HPT4	18X36	ELECTROMAGNETIC 407912	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
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NORTH

2ND FLOOR FINISH PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

KEY NOTES

SHEET KEYNOTES

SN.##

SN#	DESCRIPTION
SN.01	SHEET NOTES

SN.01

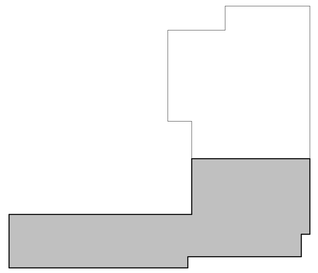
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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

2ND FLOOR FINISH PLAN - PARTIAL SOUTH

SHEET NUMBER:

A2-3.2.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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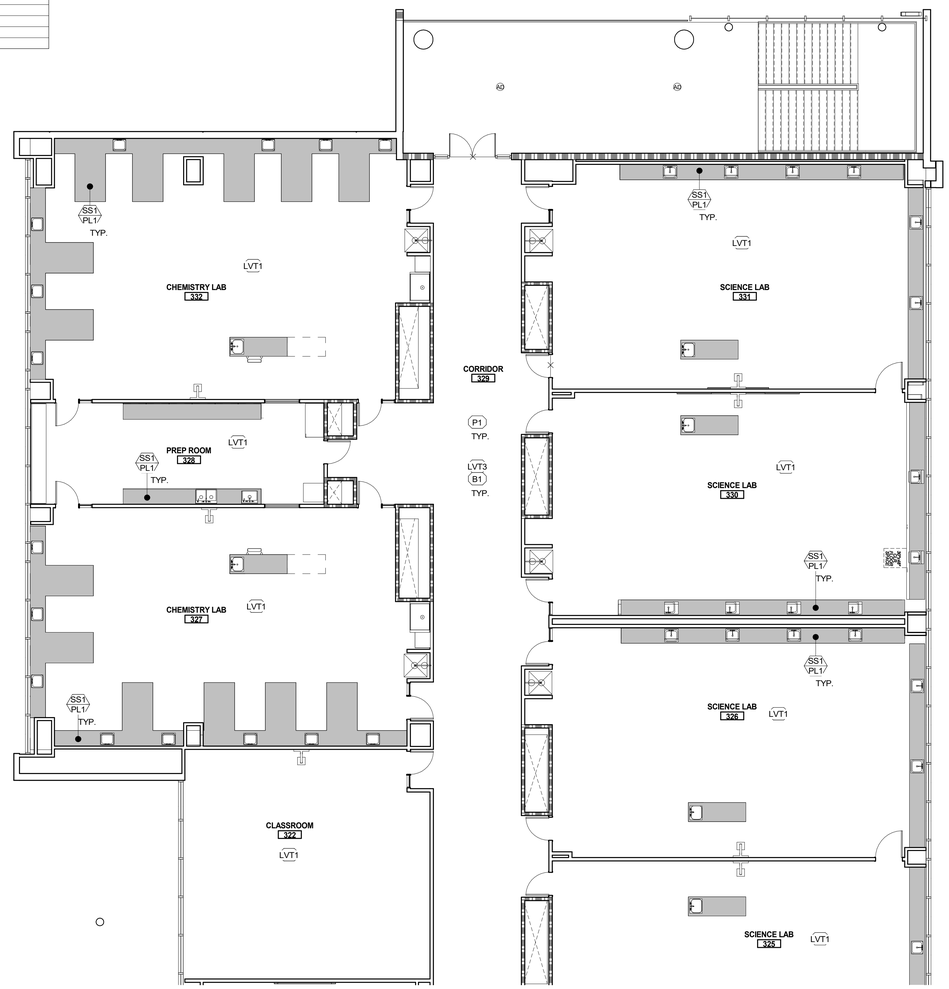
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SN.01	SHEET NOTES

SN.01

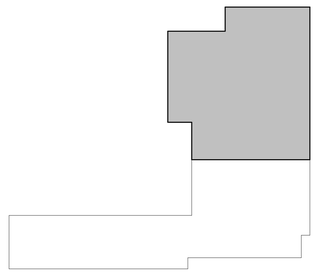
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1. FIELD MEASURE FOR ALL GLAZING AND MILLWORK CONDITIONS PRIOR TO MANUFACTURING.
2. PROVIDE TEMPORARY PROTECTION FOR ALL INSTALLED FINISHES AS WORK PROGRESSES.
3. INSTALL WALL FINISH FOR THE FULL HEIGHT OF THE PARTITION WITHOUT BASE. THERE SHALL BE NO UNFINISHED GAPS AT THE BASE OF GYP. BD.
4. ALL EXISTING WALLS TO BE PAINTED, U.N.O.
5. ALL METAL ACCESS DOORS SHALL BE PAINTED TO MATCH ADJACENT WALL OR CEILING FINISH.
6. PREPARE ALL FLOORS TO RECEIVE NEW FINISHES IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION REQUIREMENTS.
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8. PROVIDE ALLOWANCE TO FLOAT FLOOR WHERE NECESSARY TO ACHIEVE TOLERANCE OF 1/2" MAX. IN 10'-0" SPAN.
9. ALL CERAMIC, PORCELAIN, AND VCT TO BE INSTALLED WITH FULL TILE FROM TRANSITION AT DOOR AND FULL TILE FROM WALL PERPENDICULAR TO DOOR, U.N.O.
10. COORDINATE THE INSTALLATION OF WALL BASE WITH ANY MILLWORK. DELETE BASE WHERE BUILT-IN CABINETS ARE INDICATED.

LEGEND

- X1 — FINISH TAG - WALLS, FLOORS, BASE, MILLWORK
- MILLWORK TAG
- T1 / F1 — FINISH - TOP SURFACE / FINISH - FACE SURFACE
- FLOOR FINISH 1 / FLOOR FINISH 2
- FLOOR MATERIAL TRANSITION, SEE WHERE OCCURS.

KEY PLAN



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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

3RD FLOOR FINISH PLAN - PARTIAL NORTH

SHEET NUMBER:

A2-3.3.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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1/8" = 1'

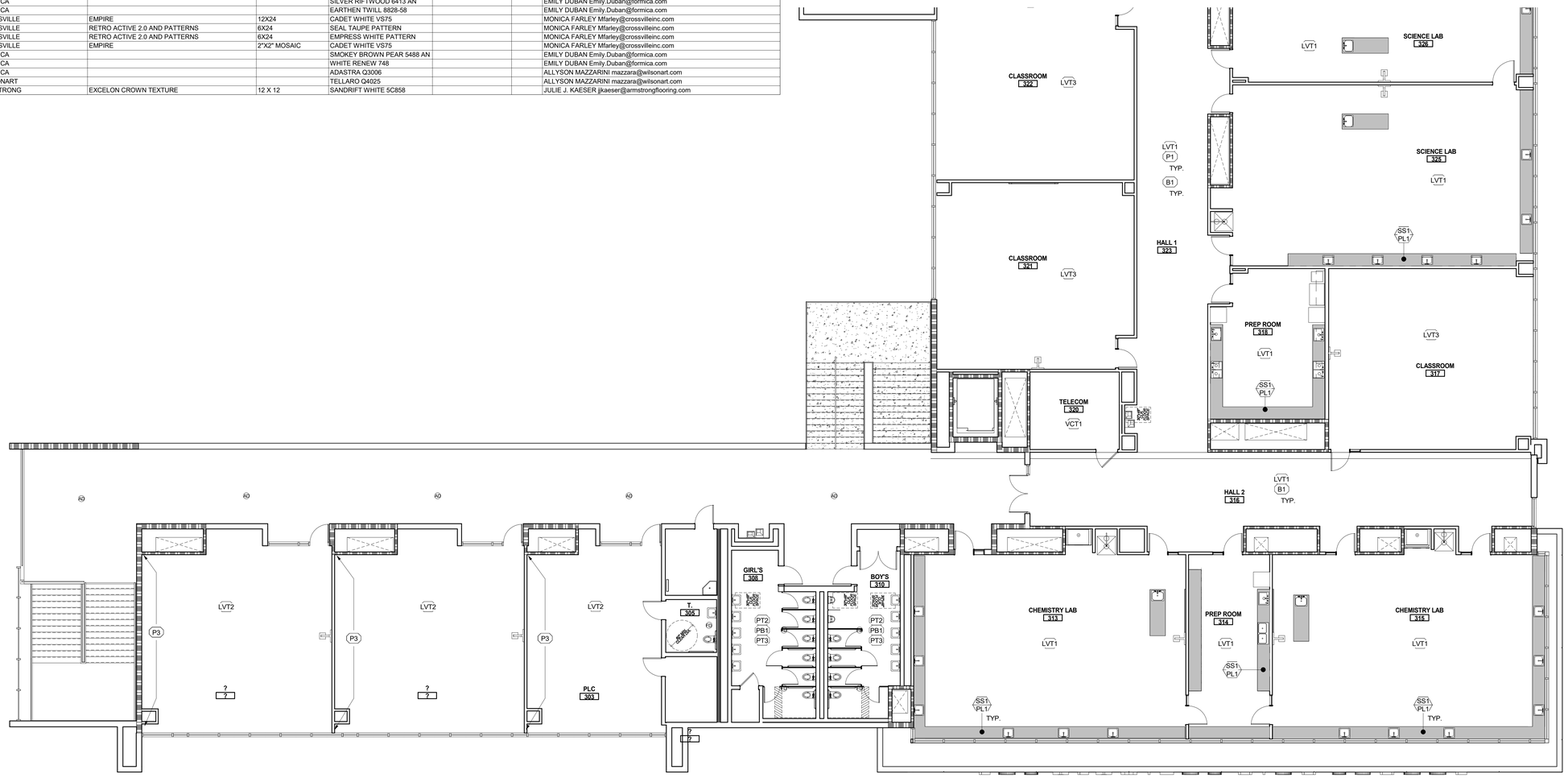
0 8 16 24

FINISH SCHEDULE

TAG	ITEM	MANUFACTURER	SPEC	SIZE	COLOR	INSTALLATION	NOTES	CONTACT
B1	BASE	JOHNSONITE						MEG SIMS meg.sims@tarkett.com
CP1	CARPET	BENTLEY	TECH UPD8	24"X24"	INTEGER 400007	RANDOM		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP2	CARPET	BENTLEY	TECH UPD8 , MATH CLUB 4TDT4	24"X24"	INTEGER 400007	ASHLAR		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP3	CARPET	BENTLEY	TRESPASS	18"X36"	PIGGYBACK YARD 806306	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
CP4	CARPET	BENTLEY	HYPERSPACE ROCKET SCIENCE 4HPT4	18X36	ELECTROMAGNETIC 407912	HERRINGBONE		BRENDAN COTTER Brendan.cotter@bentleymills.com
LVT1	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATION	18X36	PARSA NA311			JULIE J. KAESER jkaeser@armstrongflooring.com
LVT2	LUXURY VINYL TILE	MOHAWK GROUP	ANTIEK 9" X 48"	9" X 48"	ALABASTER 311			LISA VAN NIEKERK Lisa_Vanniekerk@mohawkind.com
LVT3	LUXURY VINYL TILE	ARMSTRONG	NATURAL CREATION DIAMOND 10 TECHNOLOGY		CHAMPANGE NA611			JULIE J. KAESER jkaeser@armstrongflooring.com
P1	PAINT	SHERWIN WILLIAMS			SW7632 MODERN GRAY			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
P2	PAINT	SHERWIN WILLIAMS			SW 6155 RICE GRAIN			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
P3	PAINT	SHERWIN WILLIAMS			SW6151 QUIVER TAN			ROCKY M. BERLANGA Rocky.M.Berlanga@sherwin.com
PB1	TILE BASE	CROSSVILLE	EMPIRE COVE BASE	6X12	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
PL1	PLASTIC LAMINATE							
PL1	SOLID SURFACE	FORMICA			WHITE RENEW 748			EMILY DUBAN Emily.Duban@formica.com
PL2	PLASTIC LAMINATE	FORMICA			SMOKEY BROWN PEAR 5488 AN			EMILY DUBAN Emily.Duban@formica.com
PL3	PLASTIC LAMINATE	FORMICA			SILVER RIFTWOOD 6413 AN			EMILY DUBAN Emily.Duban@formica.com
PL4	PLASTIC LAMINATE	FORMICA			EARTHEN TWILL 8828-58			EMILY DUBAN Emily.Duban@formica.com
PT1	PORECELAIN TILE	CROSSVILLE	EMPIRE	12X24	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
PT2	PORECELAIN TILE	CROSSVILLE	RETRO ACTIVE 2.0 AND PATTERNS	6X24	SEAL TAUPE PATTERN			MONICA FARLEY Mfarley@crossvilleinc.com
PT3	PORECELAIN TILE	CROSSVILLE	RETRO ACTIVE 2.0 AND PATTERNS	6X24	EMPRESS WHITE PATTERN			MONICA FARLEY Mfarley@crossvilleinc.com
PT4	PORECELAIN TILE	CROSSVILLE	EMPIRE	2"X2" MOSAIC	CADET WHITE VS75			MONICA FARLEY Mfarley@crossvilleinc.com
SS1	PLASTIC LAMINATE	FORMICA			SMOKEY BROWN PEAR 5488 AN			EMILY DUBAN Emily.Duban@formica.com
SS1	SOLID SURFACE	FORMICA			WHITE RENEW 748			EMILY DUBAN Emily.Duban@formica.com
SS2	SOLID SURFACE	FORMICA			ADASTRA Q3006			ALLYSON MAZZARINI mazzara@wilsonart.com
SS3	SOLID SURFACE	WILSONART			TELLARO Q4025			ALLYSON MAZZARINI mazzara@wilsonart.com
VCT1	VINYL COMPOSITE TILE	ARMSTRONG	EXCELON CROWN TEXTURE	12 X 12	SANDRIFT WHITE 5C858			JULIE J. KAESER jkaeser@armstrongflooring.com

FINISH SCHEDULE NOTES

1. PRIOR TO FABRICATION PROVIDE DRAW DOWN FOR ARCHITECTS REVIEW AND APPROVAL
2. PROVIDE 2 COATS, EGGSHELL FINISH
3. EPOXY GROUT JOINT TO BE 1/8"
4. QUARTER TURN INSTALLATION
5. DIRECT GLUE DOWN
6. STRAIGHT BASE AT CARPET, COVED BASE AT RESILIENT FLOORING
7. INSTALL AT ALL EXPOSED SURFACES



NORTH

3RD FLOOR FINISH PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

KEY NOTES

SHEET KEYNOTES

SN.##

SN#	DESCRIPTION
SN.01	SHEET NOTES

SN.01

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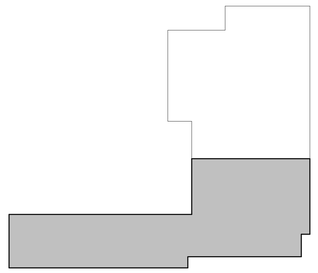
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MILLWORK TAG
T1 — FINISH - TOP SURFACE
F1 — FINISH - FACE SURFACE

FLOOR FINISH 1
FLOOR FINISH 2

FLOOR MATERIAL TRANSITION, SEE WHERE OCCURS.

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3RD FLOOR FINISH PLAN - PARTIAL SOUTH

SHEET NUMBER:

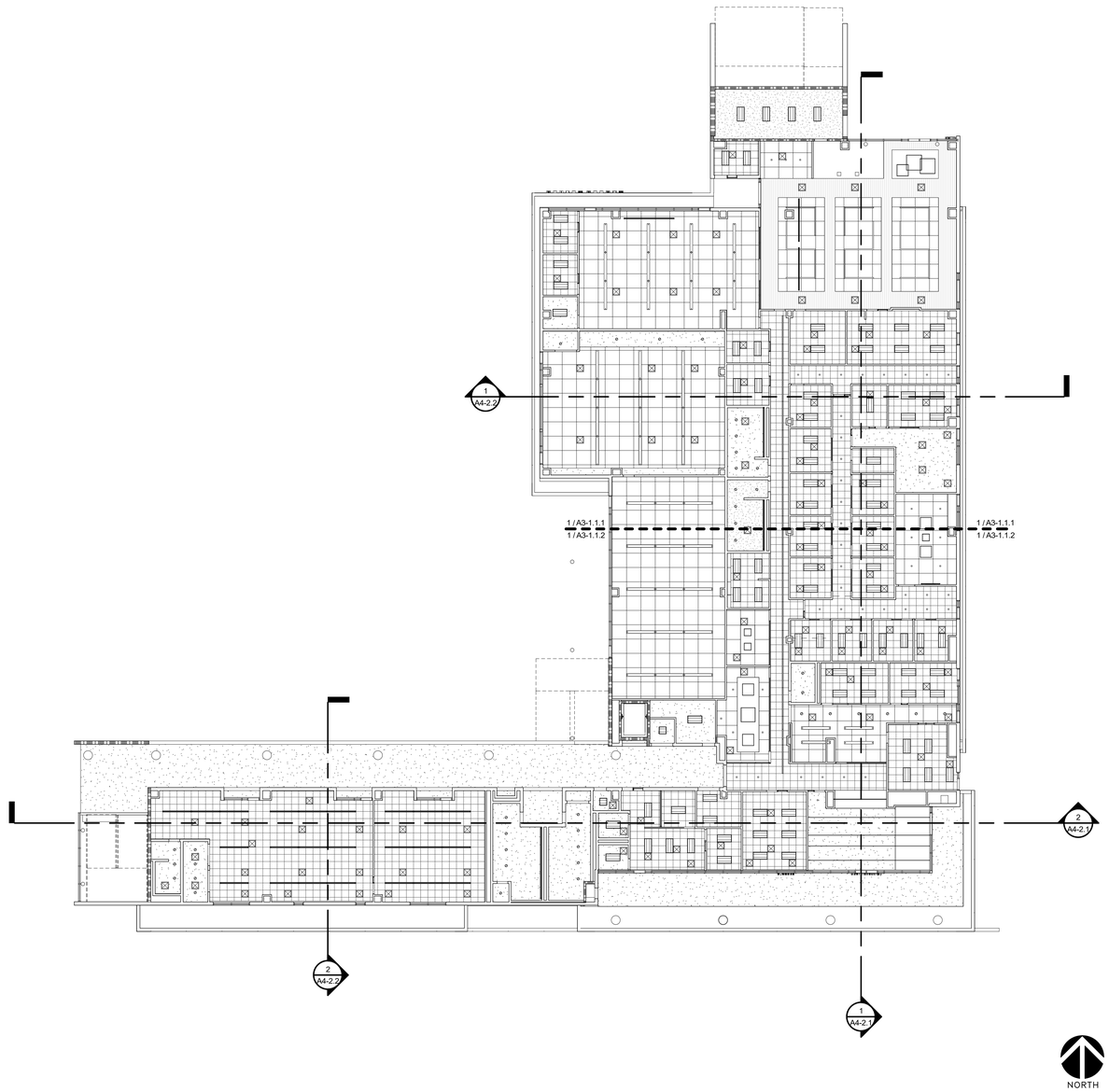
A2-3.3.2

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1/8" = 1'

0 8 16 24



1ST FLOOR - REFLECTED CEILING PLAN | 1 | 1/16" = 1'-0"

SHEET KEYNOTES

SN.## SN.01

GENERAL NOTES

1. CENTER CEILING TILE IN ROOM U.N.O.
2. AT TEGULAR TILES, ALL EDGES TO BE FACTORY FINISH. IF NOT ABLE TO HAVE FACTORY FINISH, CUT EDGES TO BE PAINTED TO MATCH TILE.
3. ALL DRYWALL CEILINGS AND SOFFITS TO BE FINISHED LEVEL 5.
4. NOTIFY WESTGROUP DESIGNS OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ELECTRICAL OR MECHANICAL DRAWINGS AND OBTAIN CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
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6. ALL CONDUIT AND HVAC DUCTS SHALL BE INDEPENDENTLY SUSPENDED FROM SAME SUSPENSION AS CEILING SYSTEM.
7. ALL EQUIPMENT IN PLENUM TO BE LOCATED AWAY FROM GYPSUM BOARD. CEILINGS. NO ACCESS HATCHES IN GYPSUM BOARD. CEILING WITHOUT PRIOR APPROVAL FROM ARCHITECT.
8. LIGHT SENSOR LOCATIONS AS DETERMINED BY THE ELECTRICAL ENGINEER SHALL BE FIELD APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
9. VERIFY ALL CLEARANCES IN PLENUM AREA AND ADVISE ARCHITECT OF MECHANICAL EQUIPMENT THAT REQUIRES RELOCATION.
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LEGEND

- 9/16" x 2' x 2' DONN FINELINE DXF GRID WITH DUNE TILE OR EQUAL.
- 5/8" GYP BOARD CEILING OVER METAL STUD, LEVEL 5 FINISH
- STRUCTURE DECK ABOVE, LEFT EXPOSED, P-2 FINISH
- 2'X4' LIGHT TO REMAIN
- 2'X4' LED
- CEILING MOUNTED SPEAKER
- SUPPLY AIR REGISTER
- RETURN AIR REGISTER
- EXHAUST AIR REGISTER
- EXIT SIGN, SEE ELECTRICAL
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- DIRECTIONAL ARROWS
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1ST FLOOR REFLECTED CEILING PLAN

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A3-1.1

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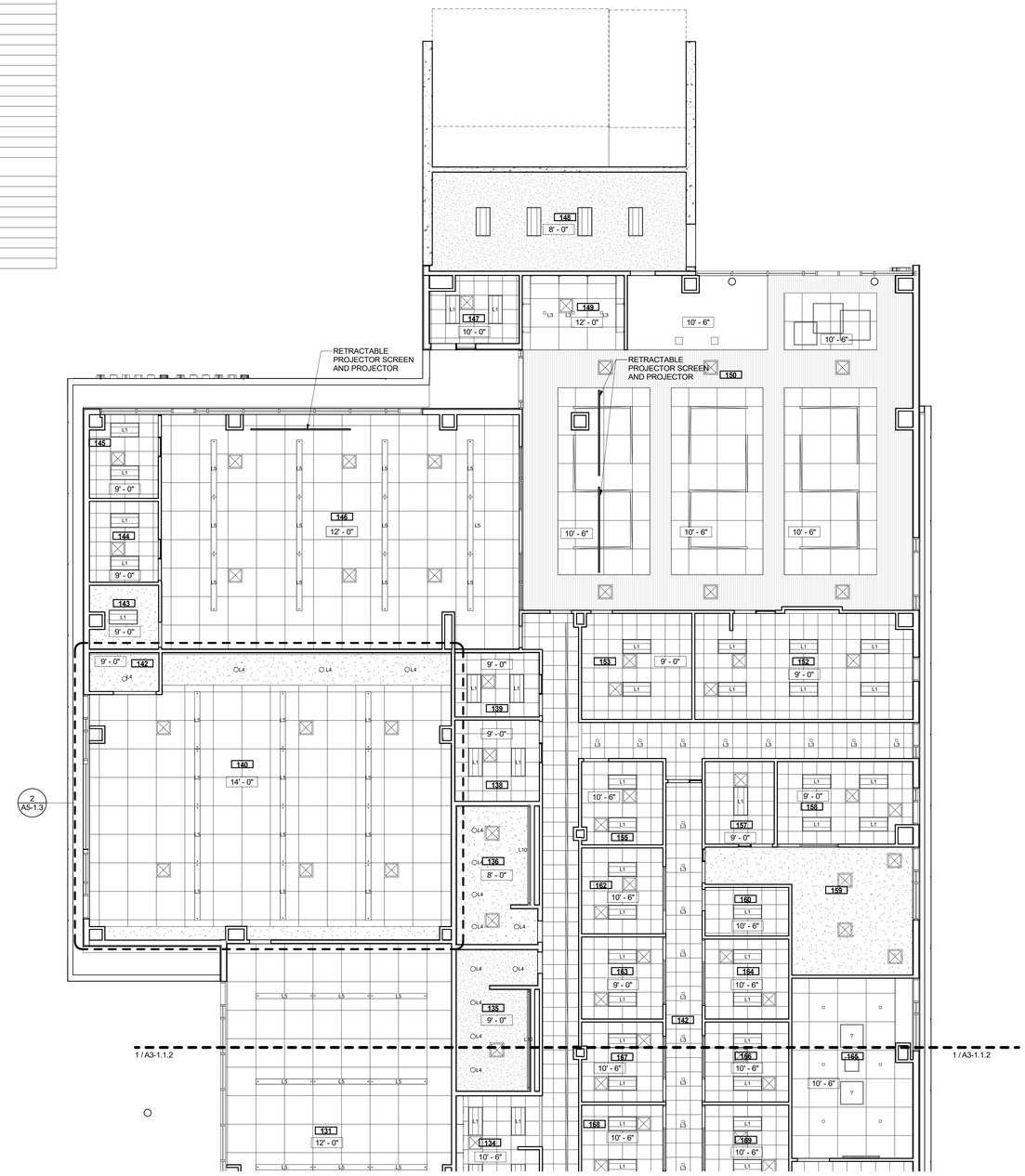
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0 16 32 48

LIGHT FIXTURE SCHEDULE

MARK	SIZE	MANUFACTURER	MODEL	DESCRIPTION	LIGHT	TEMP.	NOTES
		LUMOS	RP-DN RING DOWNLIGHT	DECORATIVE PENDANT			
		VONN	TANIA VMC34911AL	DECORATIVE PENDANT			
		VONN	TANIA VMC34912AL	DECORATIVE PENDANT			
		Philips Ledalite	39x0LAELx104	4', Definition LED, 4000K, 3000 Nominal Delivered Lumens, Flush Silk Lens, T-Grid			
				EXIT SIGN			
L1	2' X 4'			RECESSED DIRECT/INDIRECT			
L2	8'			LINEAR PENDANT			
L3	4.5" X 4.5"	FOCAL POINT	ID + 4.5"	RECESSED SQUARE DOWNLIGHT			
L4	8" DIA.			Recessed Downlight			
L5	8'			LINEAR PENDANT			
L10	14'			LINEAR COVE LIGHTING			
L11	20'			LINEAR COVE LIGHTING			
L14	2' X 2'			RECESSED GENERAL LIGHTING			



1ST FLOOR REFLECTED CEILING PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

SHEET KEYNOTES

SN.## SN.01

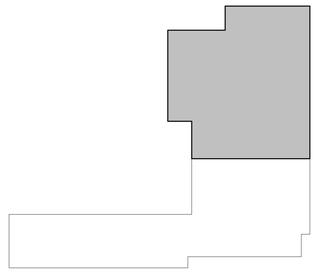
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- EXHAUST AIR REGISTER
- EXIT SIGN, SEE ELECTRICAL
  - CEILING MOUNTED
  - DIRECTIONAL ARROWS
  - WALL MOUNTED
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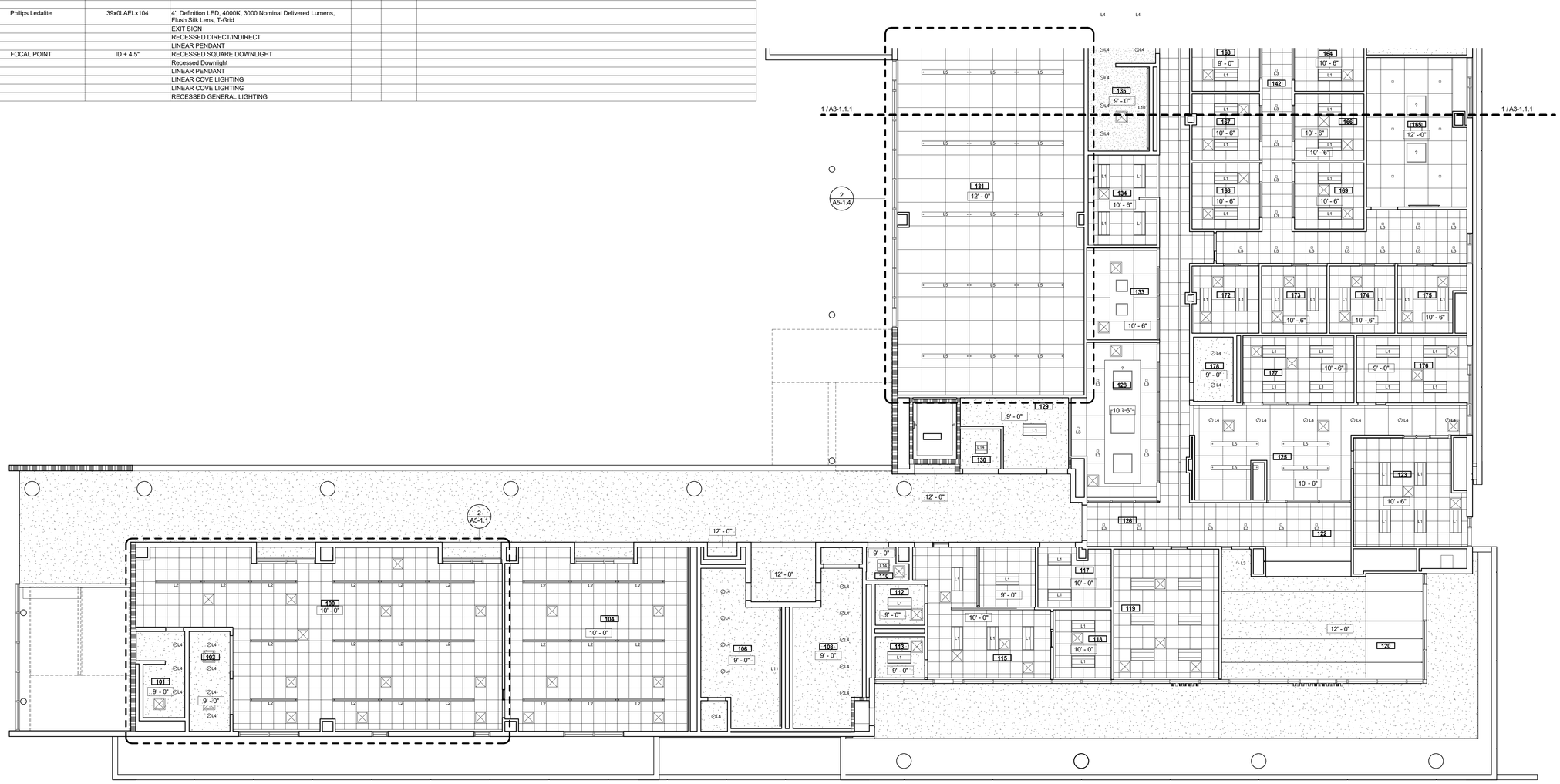
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NORTH

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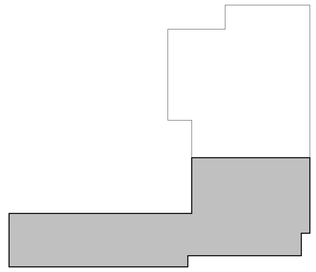
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NORTH

2ND FLOOR - REFLECTED CEILING PLAN

1
1/16" = 1'-0"

LEGEND

- 9/16" x 2' x 2' DONN FINELINE DXF GRID WITH DUNE TILE OR EQUAL.
- 5/8" GYP BOARD CEILING OVER METAL STUD, LEVEL 5 FINISH
- STRUCTURE DECK ABOVE, LEFT EXPOSED, P-2 FINISH
- 2'X4' LIGHT TO REMAIN
- 2'X4' LED
- CEILING MOUNTED SPEAKER
- SUPPLY AIR REGISTER
- RETURN AIR REGISTER
- EXHAUST AIR REGISTER

EXIT SIGN, SEE ELECTRICAL
- CEILING MOUNTED
- DIRECTIONAL ARROWS
- WALL MOUNTED

X'-X" INDICATES HEIGHT OF CEILING ABOVE FINISH FLOOR

GENERAL NOTES

1. CENTER CEILING TILE IN ROOM U.N.O.
2. AT TEGULAR TILES, ALL EDGES TO BE FACTORY FINISH. IF NOT ABLE TO HAVE FACTORY FINISH, CUT EDGES TO BE PAINTED TO MATCH TILE.
3. ALL DRYWALL CEILINGS AND SOFFITS TO BE FINISHED LEVEL 5.
4. NOTIFY WESTGROUP DESIGNS OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ELECTRICAL OR MECHANICAL DRAWINGS AND OBTAIN CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
5. LOCATE RECESSED DOWNLIGHTS, WALL WASHERS AND SPOT LIGHTS IN THE CENTER OF 2'X2' CEILING TILES, U.N.O.
6. ALL CONDUIT AND HVAC DUCTS SHALL BE INDEPENDENTLY SUSPENDED FROM SAME SUSPENSION AS CEILING SYSTEM.
7. ALL EQUIPMENT IN PLENUM TO BE LOCATED AWAY FROM GYPSUM BOARD. CEILINGS. NO ACCESS HATCHES IN GYPSUM BOARD. CEILING WITHOUT PRIOR APPROVAL FROM ARCHITECT.
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9. VERIFY ALL CLEARANCES IN PLENUM AREA AND ADVISE ARCHITECT OF MECHANICAL EQUIPMENT THAT REQUIRES RELOCATION.
10. FIRE ALARM SYSTEM, SMOKE DETECTION, AND LIFE SAFETY EQUIPMENT SHALL MATCH BUILDING STANDARD.

SHEET KEYNOTES

SN.## SN.01

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DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

2ND FLOOR REFLECTED CEILING PLAN

SHEET NUMBER:

A3-1.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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1/16" = 1'

0 16 32 48

LIGHT FIXTURE SCHEDULE

MARK	SIZE	MANUFACTURER	MODEL	DESCRIPTION	LIGHT	TEMP.	NOTES
		LUMOS	RP-DN RING DOWNLIGHT	DECORATIVE PENDANT			
		VONN	TANIA VMC34911AL	DECORATIVE PENDANT			
		VONN	TANIA VMC34912AL	DECORATIVE PENDANT			
		Philips Ledalite	39x0LAELx104	4', Definition LED, 4000K, 3000 Nominal Delivered Lumens, Flush Silk Lens, T-Grid			
				EXIT SIGN			
L1	2' X 4'			RECESSED DIRECT/INDIRECT			
L2	8'			LINEAR PENDANT			
L3	4.5" X 4.5"	FOCAL POINT	ID + 4.5"	RECESSED SQUARE DOWNLIGHT			
L4	6" DIA.			Recessed Downlight			
L5	8'			LINEAR PENDANT			
L10	14'			LINEAR COVE LIGHTING			
L11	20'			LINEAR COVE LIGHTING			
L14	2' X 2'			RECESSED GENERAL LIGHTING			



NORTH

10' - 0"

2ND FLOOR - REFLECTED CEILING PLAN - PARTIAL NORTH

1

1/8" = 1'-0"

SHEET KEYNOTES

SN.## SN.01

LEGEND

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- 2'X4' LIGHT TO REMAIN
- 2'X4' LED
- CEILING MOUNTED SPEAKER
- SUPPLY AIR REGISTER
- RETURN AIR REGISTER
- EXHAUST AIR REGISTER

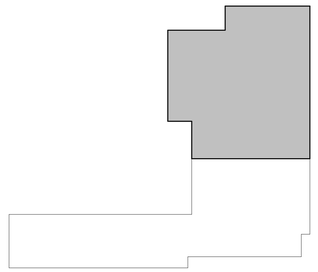
EXIT SIGN, SEE ELECTRICAL
CEILING MOUNTED
DIRECTIONAL ARROWS
WALL MOUNTED

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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:
2ND FLOOR REFLECTED CEILING PLAN - PARTIAL NORTH

SHEET NUMBER:
A3-1.2.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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1/8" = 1'

0 8 16 24

LIGHT FIXTURE SCHEDULE

MARK	SIZE	MANUFACTURER	MODEL	DESCRIPTION	LIGHT	TEMP.	NOTES
		LUMOS	RP-DN RING DOWNLIGHT	DECORATIVE PENDANT			
		VONN	TANIA VMC34911AL	DECORATIVE PENDANT			
		VONN	TANIA VMC34912AL	DECORATIVE PENDANT			
		Philips Ledalite	39x0LAELx104	4', Definition LED, 4000K, 3000 Nominal Delivered Lumens, Flush Silk Lens, T-Grid			
				EXIT SIGN			
L1	2' X 4'			RECESSED DIRECT/INDIRECT			
L2	8'			LINEAR PENDANT			
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L10	14'			LINEAR COVE LIGHTING			
L11	20'			LINEAR COVE LIGHTING			
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NORTH

SHEET KEYNOTES

SN.## SN.01

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- RETURN AIR REGISTER
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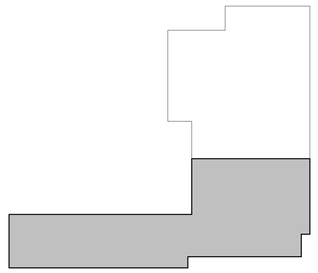
EXIT SIGN, SEE ELECTRICAL
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GENERAL NOTES

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KEY PLAN



2ND FLOOR - REFLECTED CEILING PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

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SHEET NUMBER:
A3-1.2.2

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18451	NA	GR	02/19/19

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1/8" = 1'

0 8 16 24



NORTH

3RD FLOOR - REFLECTED CEILING PLAN | 1 | 1/16" = 1'-0"

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SHEET KEYNOTES

SN.## SN.01

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REGISTRATION/SIGNATURE:

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3RD FLOOR REFLECTED CEILING PLAN

SHEET NUMBER:

A3-1.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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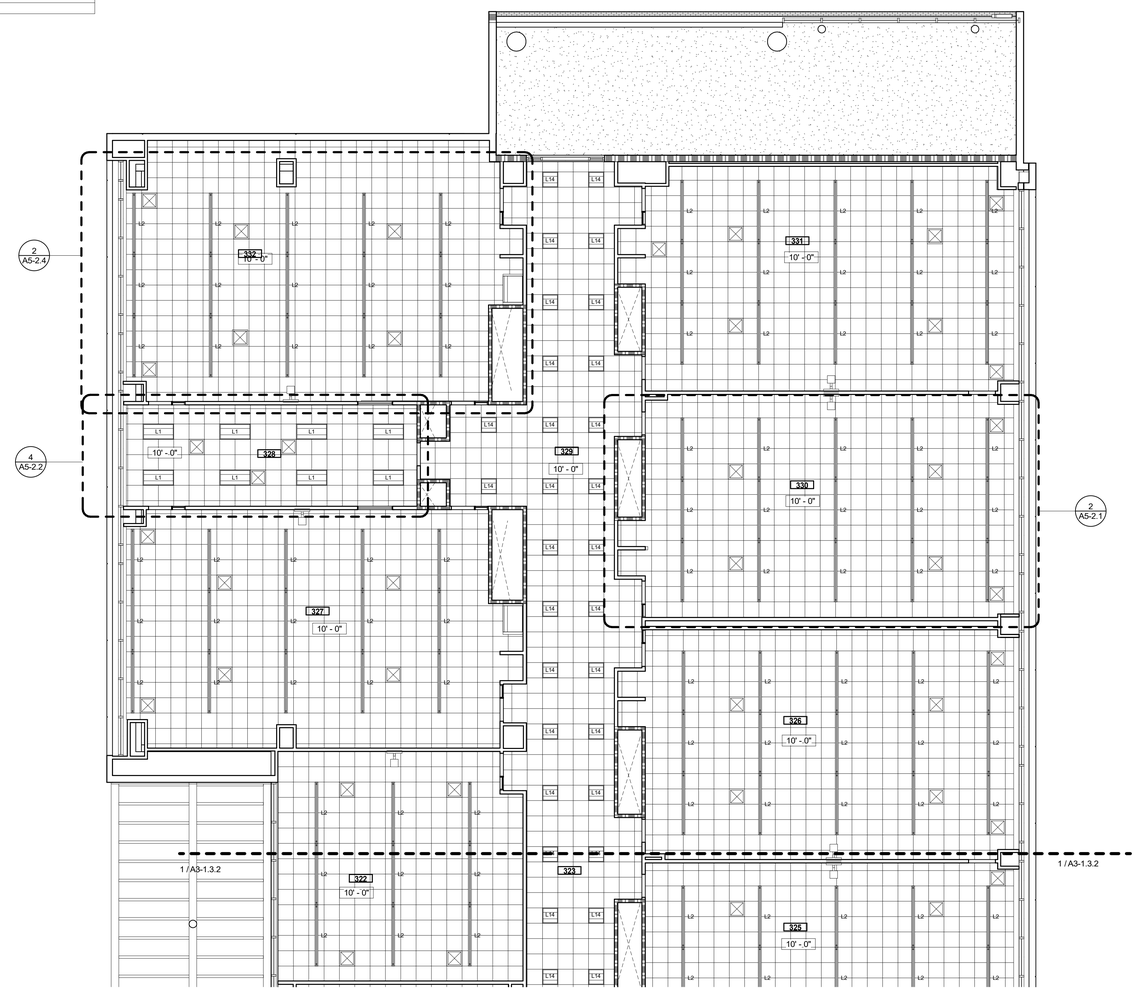
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1/16" = 1'

0 16 32 48

LIGHT FIXTURE SCHEDULE

MARK	SIZE	MANUFACTURER	MODEL	DESCRIPTION	LIGHT	TEMP.	NOTES
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		VONN	TANIA VMC34912AL	DECORATIVE PENDANT			
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L5	8'			LINEAR PENDANT			
L10	14'			LINEAR COVE LIGHTING			
L11	20'			LINEAR COVE LIGHTING			
L14	2' X 2'			RECESSED GENERAL LIGHTING			



NORTH

321 3RD FLOOR - REFLECTED CEILING PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

SHEET KEYNOTES

SN.## SN.01

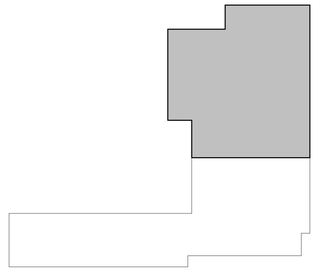
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NORTH

3RD FLOOR - REFLECTED CEILING PLAN - PARTIAL SOUTH

1
1/8" = 1'-0"

SHEET KEYNOTES

SN.## SN.01

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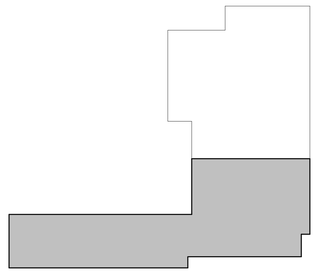
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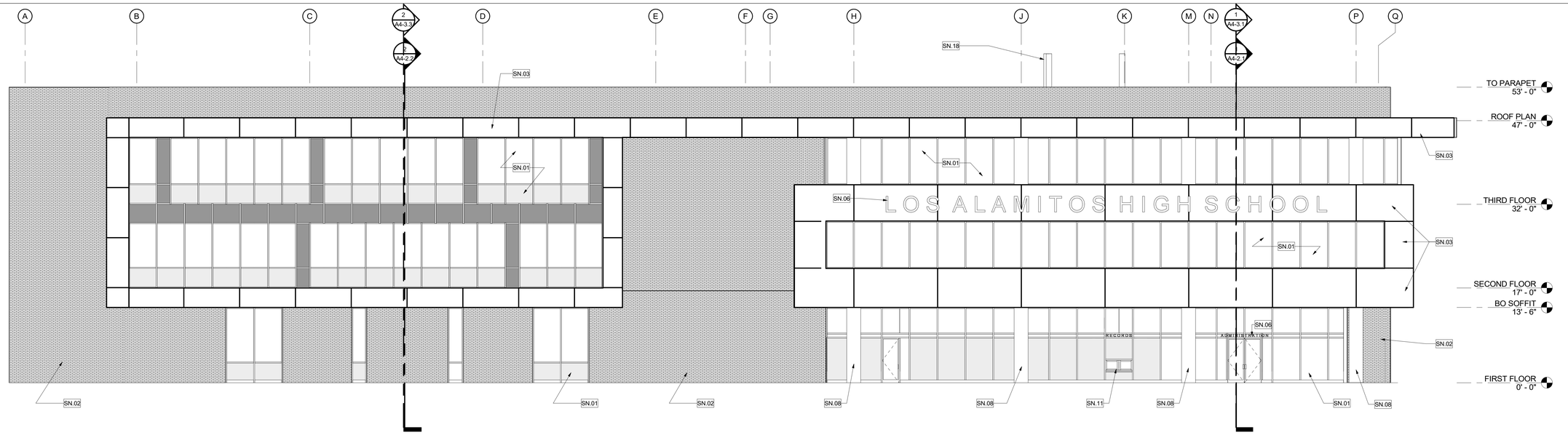
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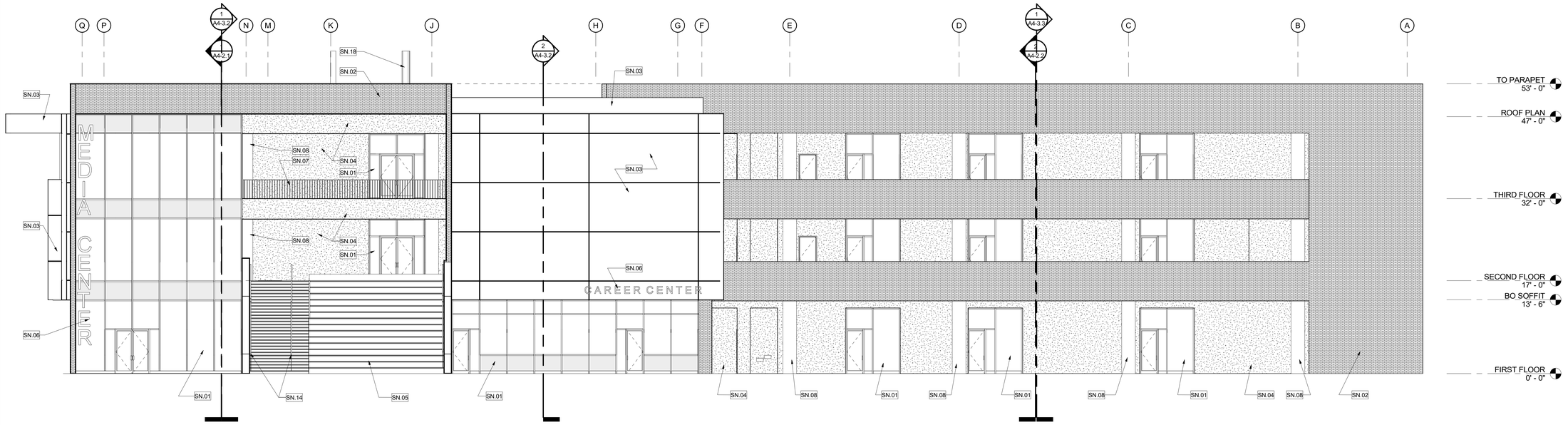
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1/8" = 1'

0 8 16 24



SOUTH ELEVATION | 2 | 1/8" = 1'-0"



NORTH ELEVATION | 1 | 1/8" = 1'-0"

KEYNOTES

SN#	DESCRIPTION
SN.01	INSULATED CURTAINWALL GLAZING WITH SPANDREL AND CLEAR PANELS WITH 6" SILL AND ENTRY DOORS WHERE SHOWN
SN.02	THIN BRICK VENEER
SN.03	FLUSH METAL PANELS/RAINSCREEN SYSTEM WITH JOINTS AS SHOWN
SN.04	EXTERIOR PLASTER
SN.05	CAST-IN-PLACE CONCRETE STADIUM SEATING
SN.06	BUILDING IDENTIFICATION SIGNAGE
SN.07	METAL GUARDRAIL
SN.08	2 PIECE ALUMINUM COLUMN COVERINGS ON 6" CONCRETE BASE
SN.09	THIN BRICK VENEER
SN.10	STEEL TUBE WITH SUPPORTING ROUND STEEL COLUMNS
SN.11	TRANSACTION WINDOW
SN.14	METAL HANDRAIL
SN.17	BRICK CONTROL/EXPANSION JOINT
SN.18	CHEMISTRY LAB EXHAUST VENTILATION STACK (MAX 10'-0" ABOVE ROOF)

LEGEND

- CURTAIN WALL - CLEAR INSULATED GLAZING
- CURTAIN WALL - SHADOW BOX
- CURTAIN WALL -SPANDREL INSULATED GLAZING
- THIN BRICK VENEER
- FLUSH METAL PANEL
- PLASTER
- CONCRETE

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Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

SCHEMATIC DESIGN SUBMITTAL	11/07/18
DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

EXTERIOR ELEVATIONS

SHEET NUMBER:

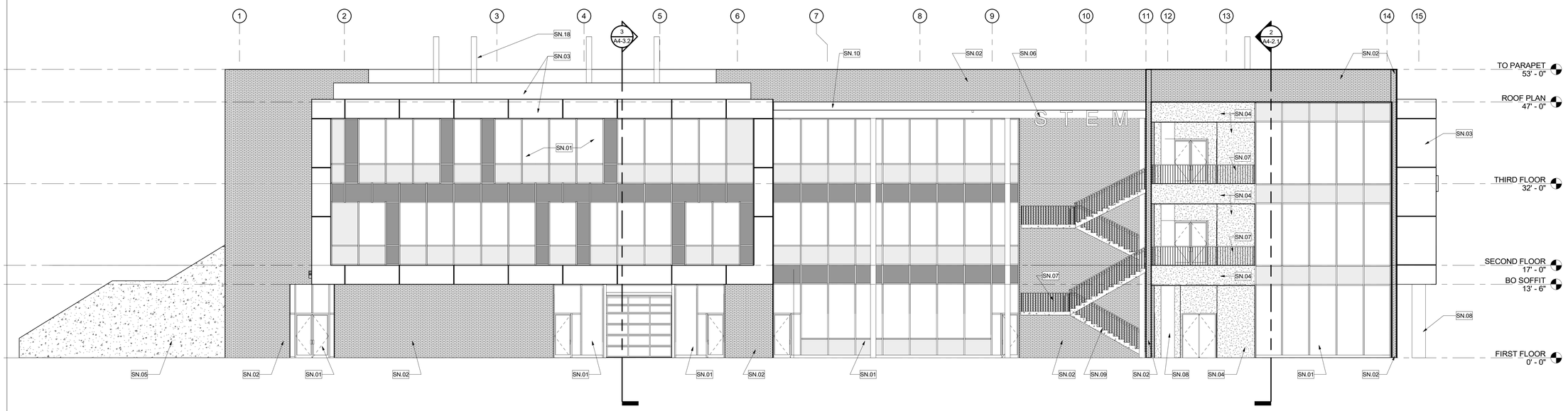
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WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

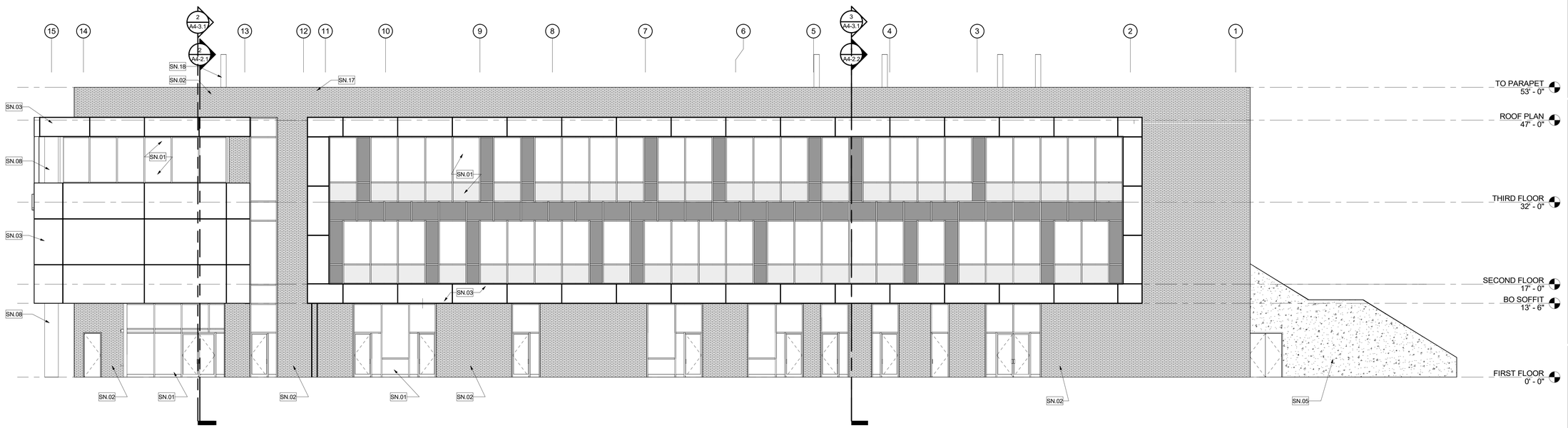
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1/8" = 1'

0 8 16 24



WEST ELEVATION | 2 | 1/8" = 1'-0"



EAST ELEVATION | 1 | 1/8" = 1'-0"

KEYNOTES

SN#	DESCRIPTION
SN.01	INSULATED CURTAINWALL GLAZING WITH SPANDREL AND CLEAR PANELS WITH 6" SILL AND ENTRY DOORS WHERE SHOWN
SN.02	THIN BRICK VENEER
SN.03	FLUSH METAL PANELS/RAINSCREEN SYSTEM WITH JOINTS AS SHOWN
SN.04	EXTERIOR PLASTER
SN.05	CAST-IN-PLACE CONCRETE STADIUM SEATING
SN.06	BUILDING IDENTIFICATION SIGNAGE
SN.07	METAL GUARDRAIL
SN.08	2 PIECE ALUMINUM COLUMN COVERINGS ON 6" CONCRETE BASE
SN.09	THIN BRICK VENEER
SN.10	STEEL TUBE WITH SUPPORTING ROUND STEEL COLUMNS
SN.11	TRANSACTION WINDOW
SN.14	METAL HANDRAIL
SN.17	BRICK CONTROL/EXPANSION JOINT
SN.18	CHEMISTRY LAB EXHAUST VENTILATION STACK (MAX 10'-0" ABOVE ROOF)

LEGEND

- CURTAIN WALL - CLEAR INSULATED GLAZING
- CURTAIN WALL - SHADOW BOX
- CURTAIN WALL -SPANDREL INSULATED GLAZING
- THIN BRICK VENEER
- FLUSH METAL PANEL
- PLASTER
- CONCRETE

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

EXTERIOR ELEVATIONS

SHEET NUMBER:

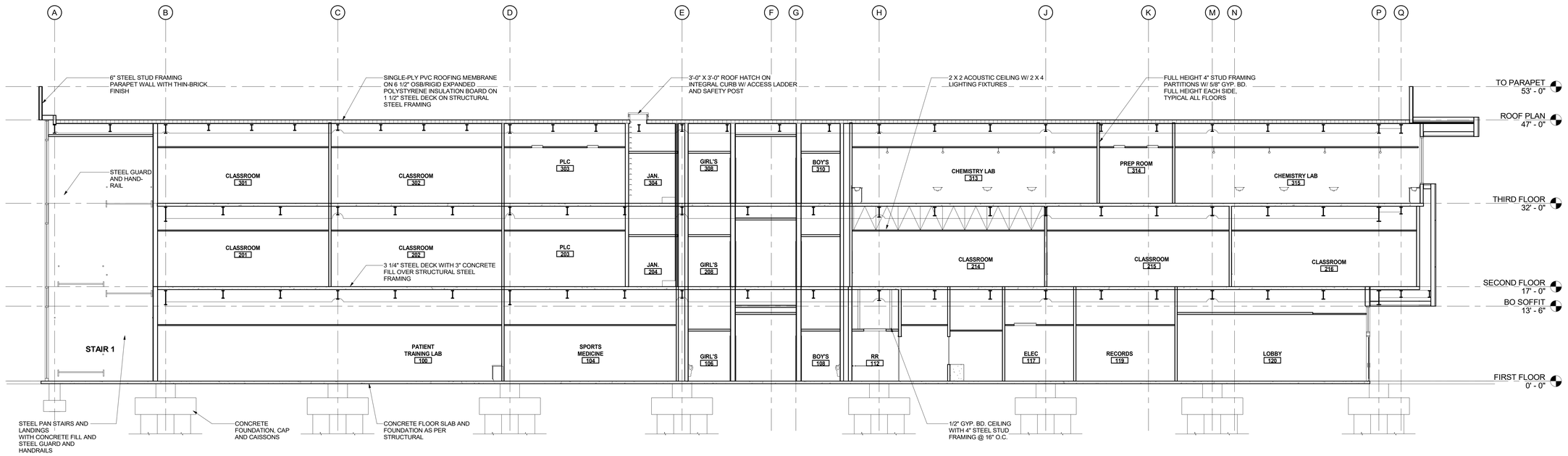
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WD PROJ. #	DRAWN BY:	CHECKED	DATE
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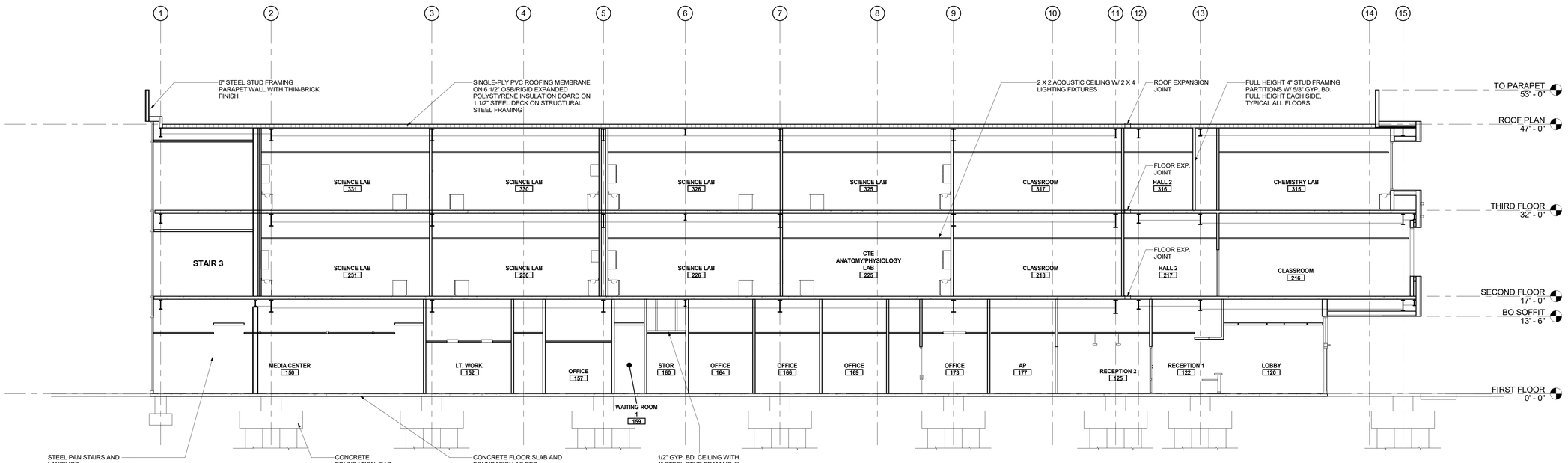
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1/8" = 1'

0 8 16 24



LONGITUDINAL SECTION B | 2 | 1/8" = 1'-0"



LONGITUDINAL SECTION A | 1 | 1/8" = 1'-0"

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

BUILDING SECTIONS

SHEET NUMBER:

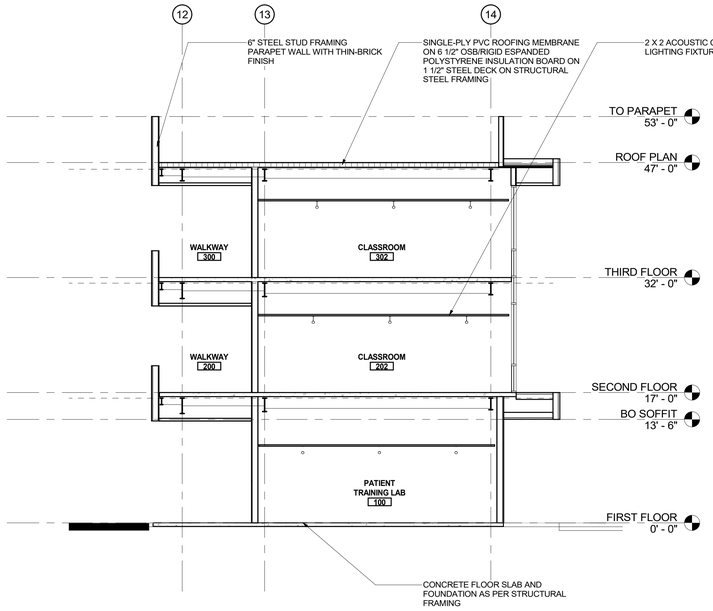
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18451	NA	GR	02/19/19

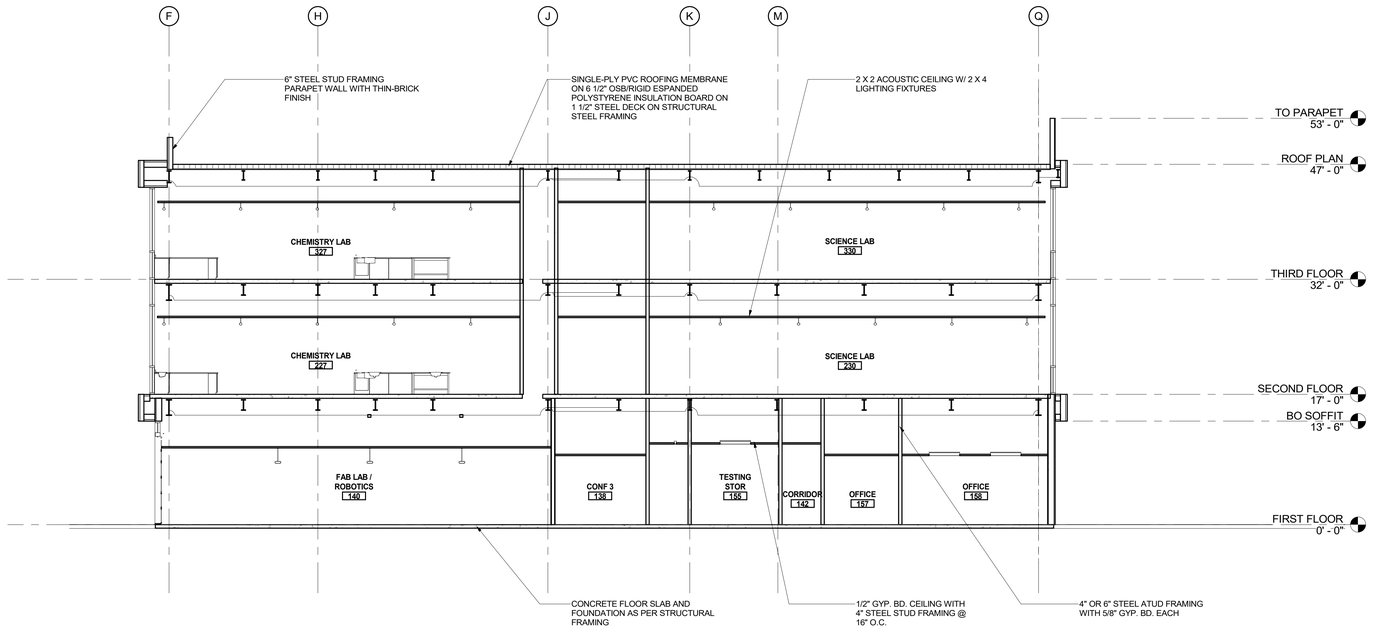
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1/8" = 1'

0 8 16 24



TRANSVERSE SECTION B | 2 | 1/8" = 1'-0"



TRANSVERSE SECTION A | 1 | 1/8" = 1'-0"

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SHEET TITLE:

BUILDING SECTIONS

SHEET NUMBER:

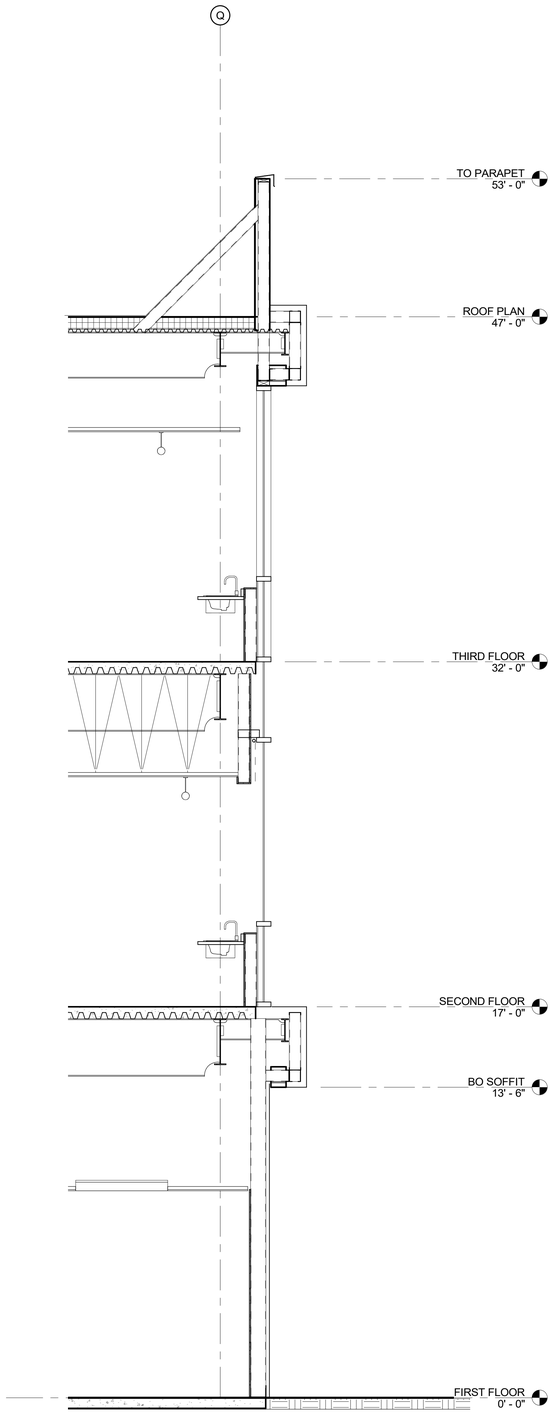
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WD PROJ. #	DRAWN BY:	CHECKED	DATE
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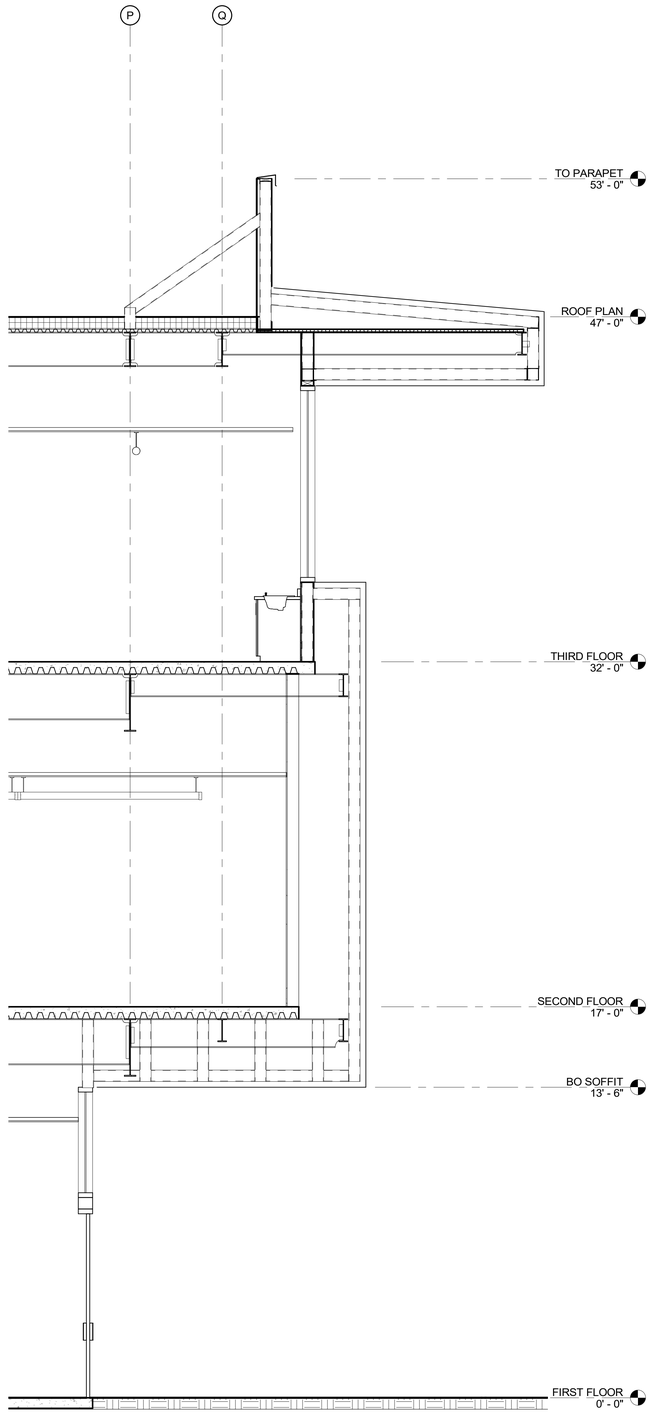
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1/8" = 1'

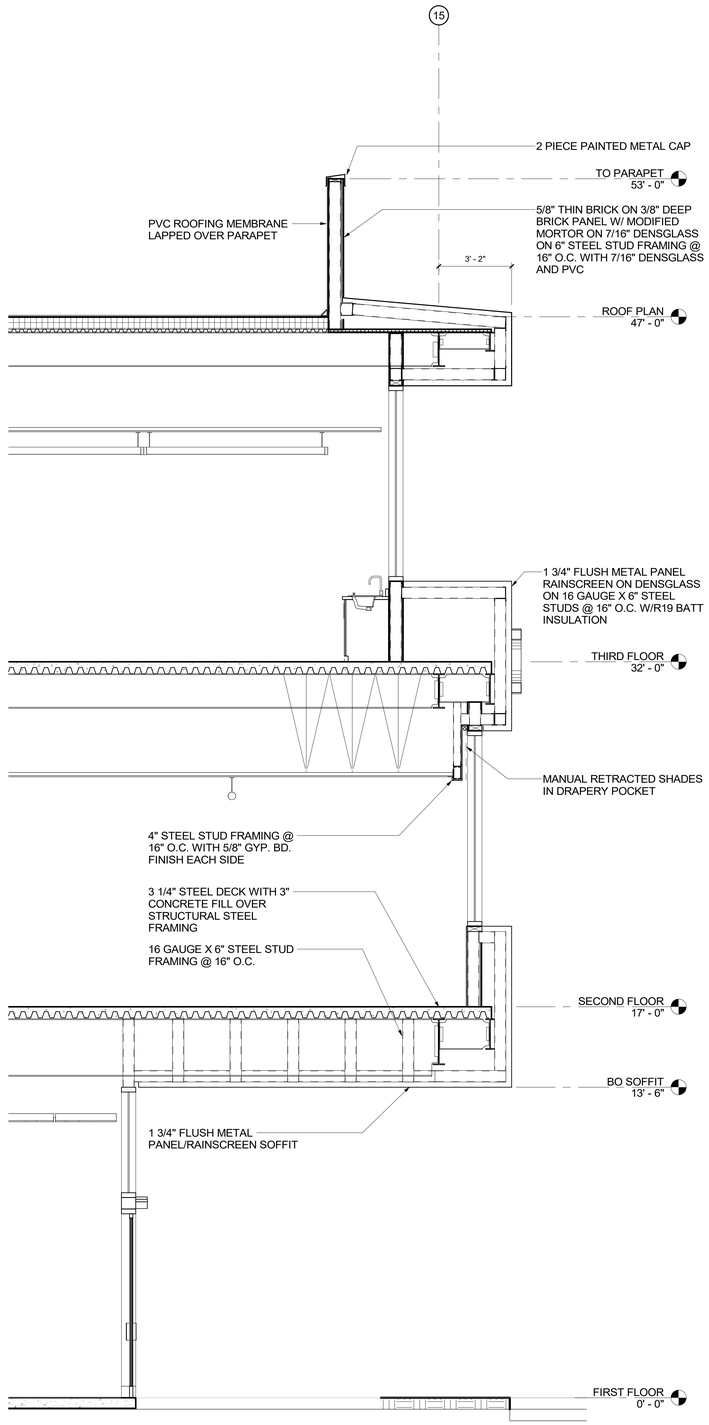
0 8 16 24



WALL SECTION C | 3 | 3/8" = 1'-0"



WALL SECTION B | 2 | 3/8" = 1'-0"



WALL SECTION A | 1 | 3/8" = 1'-0"

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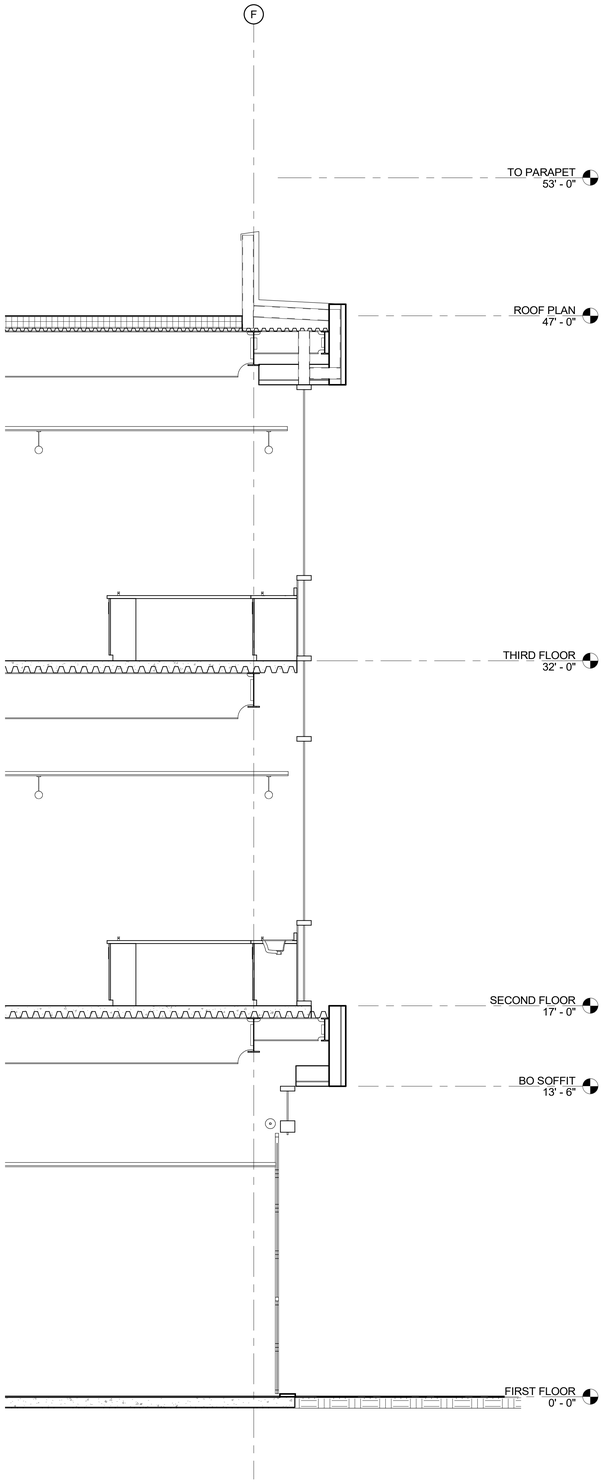
WALL SECTIONS

SHEET NUMBER:

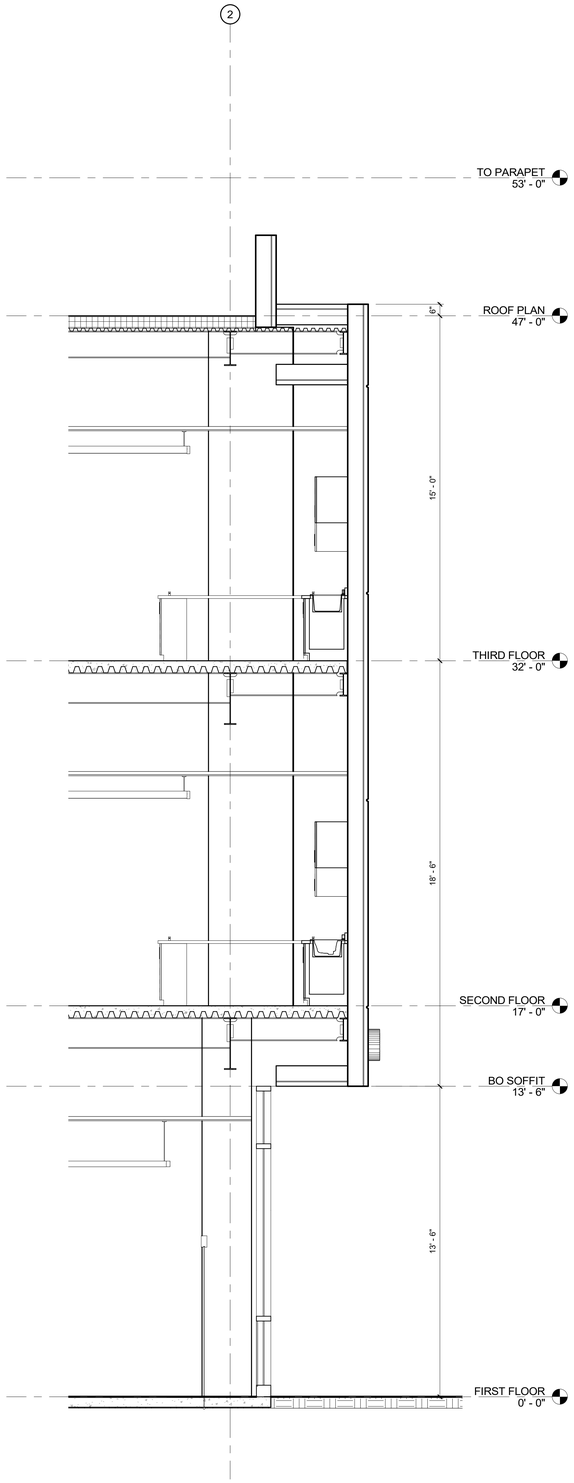
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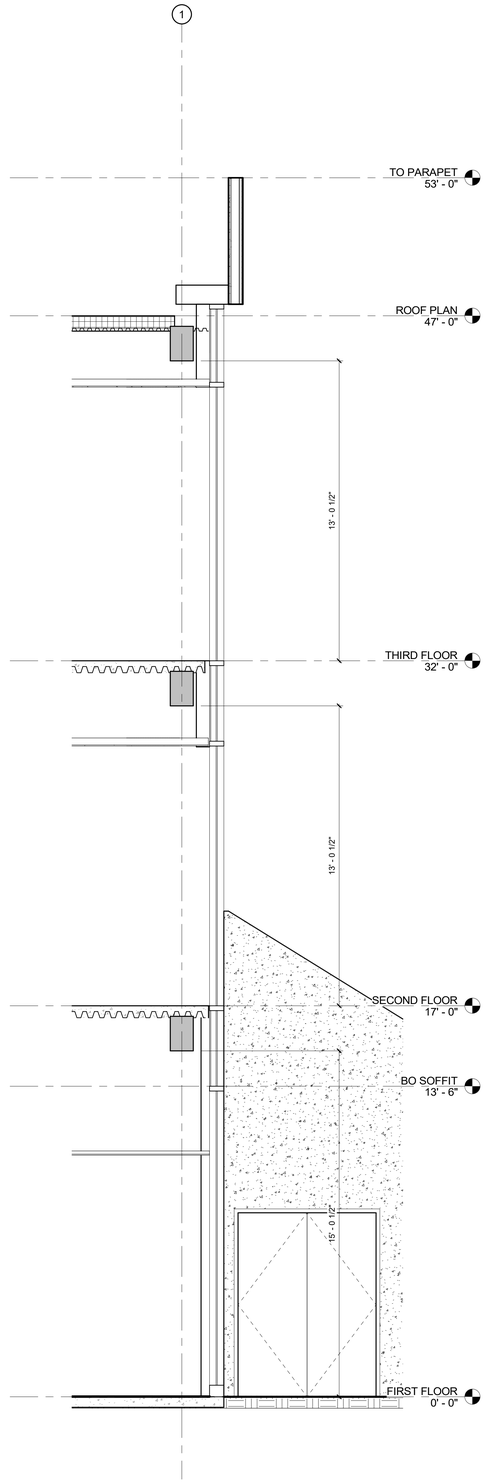
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WALL SECTION F | 3 | 3/8" = 1'-0"



WALL SECTION E | 2 | 3/8" = 1'-0"



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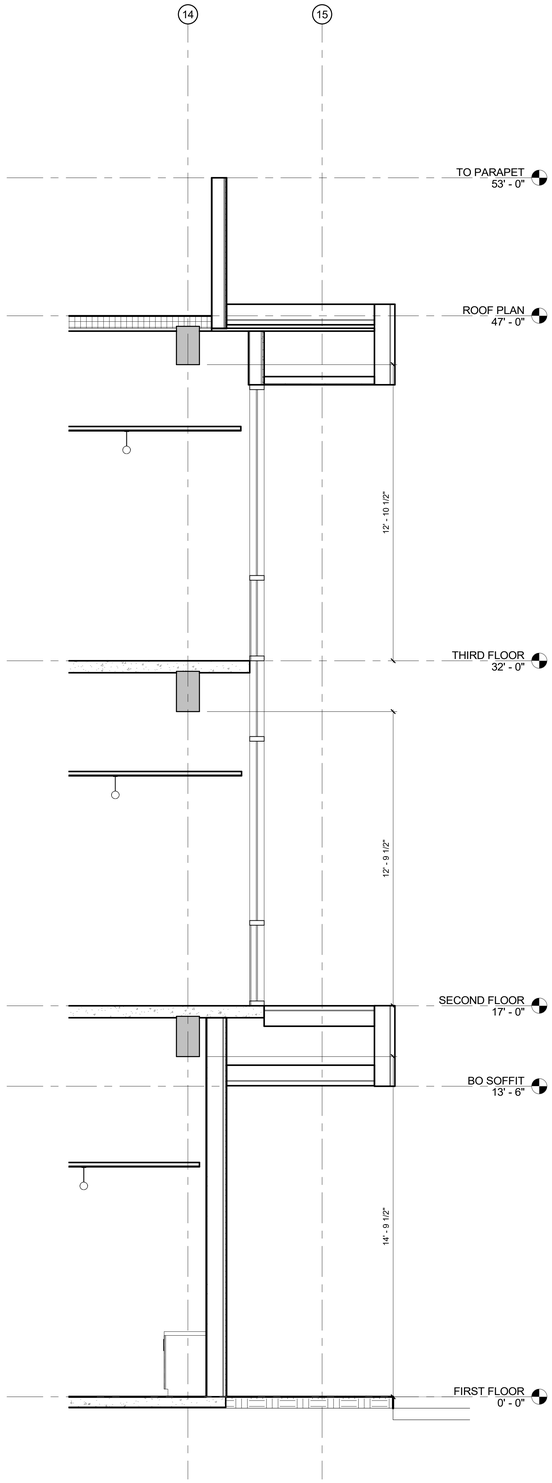
WALL SECTIONS

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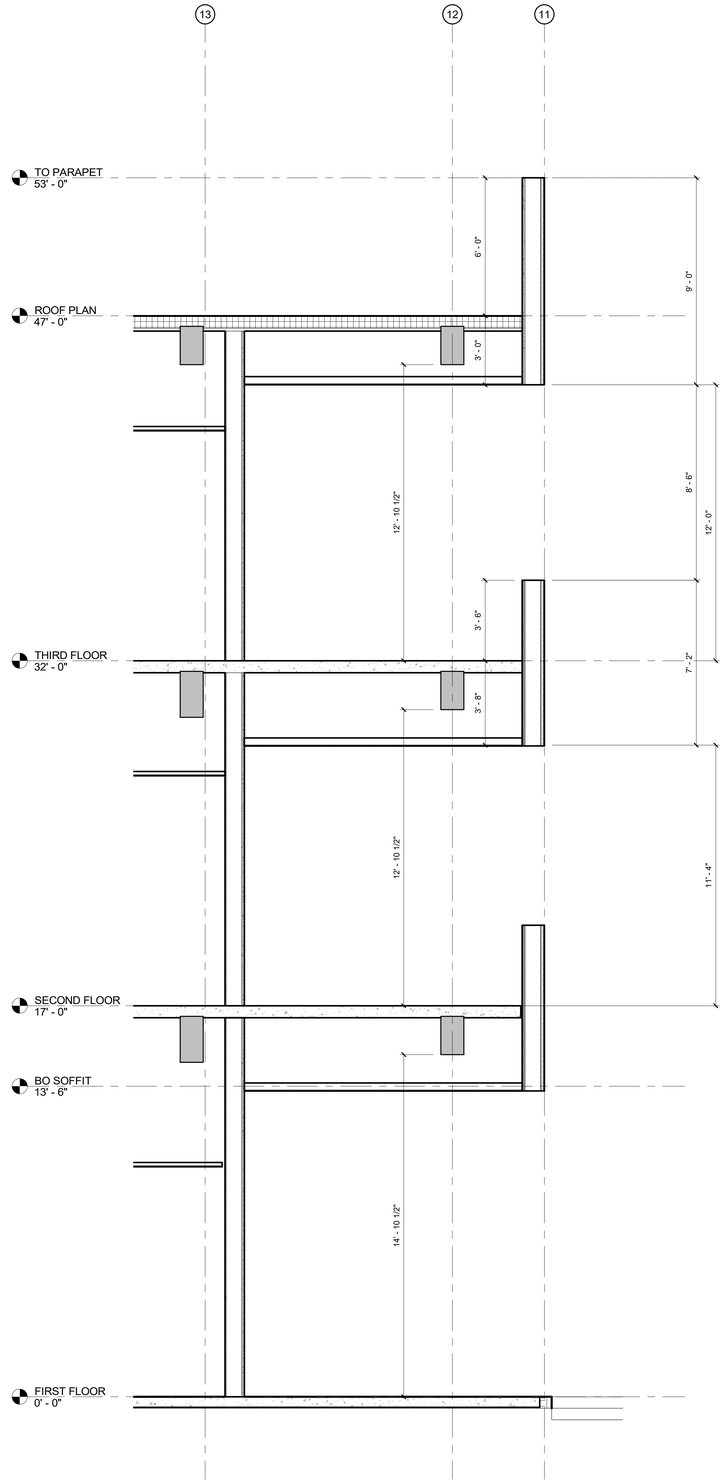
A4-3.2

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WALL SECTION H | 2 | 3/8" = 1'-0"



WALL SECTION G | 1 | 3/8" = 1'-0"

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SHEET TITLE:

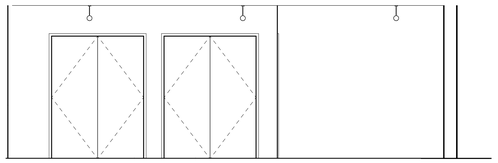
WALL SECTIONS

SHEET NUMBER:

A4-3.3

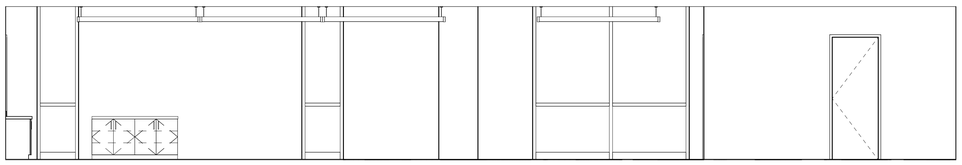
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18451	NA	GR	02/19/19

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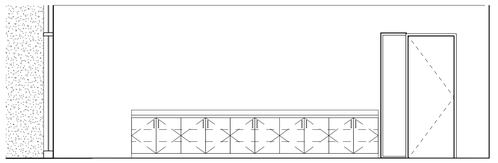
D

1/4" = 1'-0"



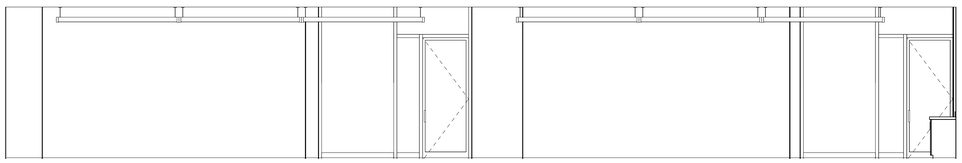
C

1/4" = 1'-0"



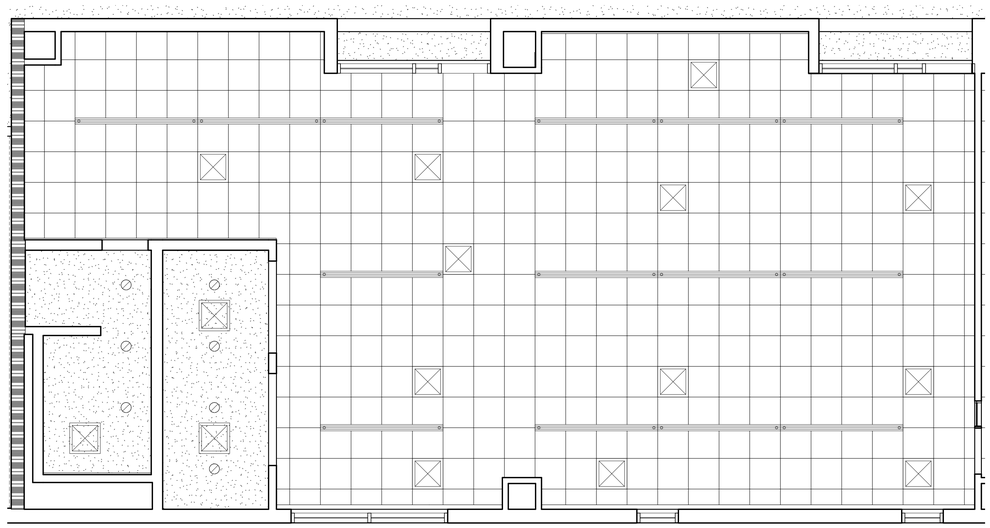
B

1/4" = 1'-0"

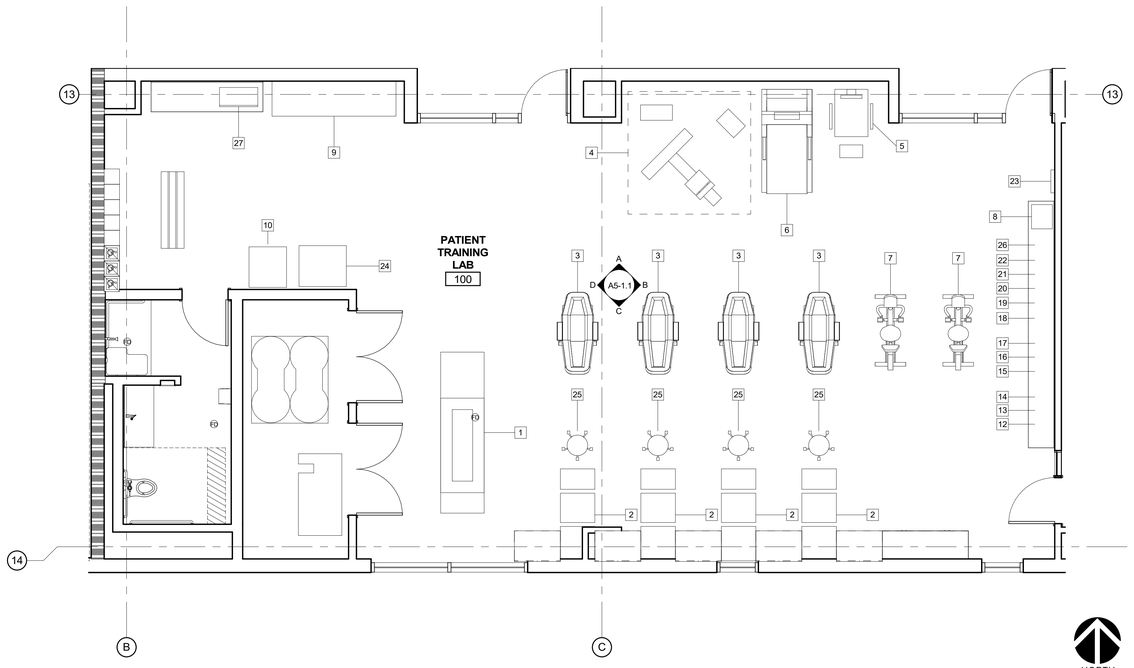


A

1/4" = 1'-0"



ENLARGED PATIENT TRAINING LAB - RCP | 2 | 1/4" = 1'-0"



ENLARGED PATIENT TRAINING LAB | 1 | 1/4" = 1'-0"

LEGEND

SPORTS MEDICINE		
REF #	DEPARTMENT	DESCRIPTION
HEALTH SCIENCES		
1	HEALTH SCIENCES	HYDROWORX-350 SERIES
2	HEALTH SCIENCES	ARMEDICA AMSX3000
3	HEALTH SCIENCES	BRANDT INDUSTRIES ADJUSTABLE CHAIR
4	HEALTH SCIENCES	BIODEX - SYSTEM 4 PRO
5	HEALTH SCIENCES	BIODEX - BALANCE SYSTEM SD
6	HEALTH SCIENCES	ALTERG - PRO500
7	HEALTH SCIENCES	SCI-FIT - STEP ONE
8	HEALTH SCIENCES	FEI - HYDROCOLLATOR M-4 24 STANDARD PACKS
9	HEALTH SCIENCES	MEDCO SPORTS MEDICINE SMART CART
10	HEALTH SCIENCES	REFRIGERATOR
12	HEALTH SCIENCES	3M Littman Classic II Stethoscope
13	HEALTH SCIENCES	SIMULAIDS - Airway Trainer
14	HEALTH SCIENCES	SIMULAIDS - CPR Mannequin, adult
15	HEALTH SCIENCES	SIMULAIDS - CPR Mannequin, child
16	HEALTH SCIENCES	SIMULAIDS - CPR Mannequin, infant
17	HEALTH SCIENCES	SIMULAIDS - Defibrillation Mannequin
18	HEALTH SCIENCES	SIMULAIDS - AED trainer
19	HEALTH SCIENCES	ULINE H-1294 First Aid Kit
20	HEALTH SCIENCES	ULINE H-1648 Glove Dispenser
21	HEALTH SCIENCES	ULINE H-2758 Dry Erase Board
22	HEALTH SCIENCES	LYON UGRNS52023H locker
23	HEALTH SCIENCES	Bobrick B-262 Classic Series Surface Mounted Paper Towel Dispenser

SPORTS MEDICINE		
REF #	DEPARTMENT	DESCRIPTION
24	HEALTH SCIENCES	HAUSSMAN 5594 ACCESSORIZED STATION
25	HEALTH SCIENCES	NORWOOD adjustable medical stool
26	HEALTH SCIENCES	OMRON HEM-907XL Blood Pressure Monitor
27	HEALTH SCIENCES	MICROWAVE

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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

ENLARGED CTE PATIENT TRAINING LAB

SHEET NUMBER:

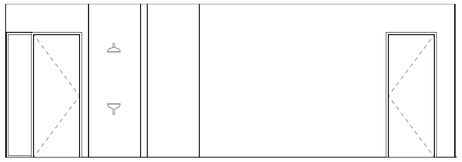
A5-1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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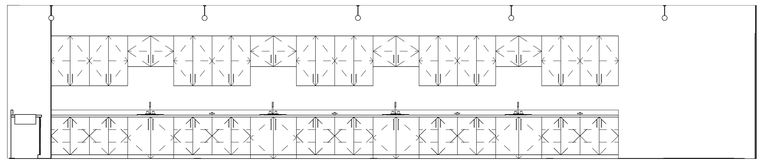
1/4" = 1'

0 4 8 12



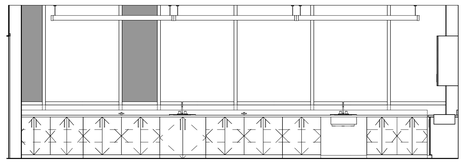
D

1/4" = 1'-0"



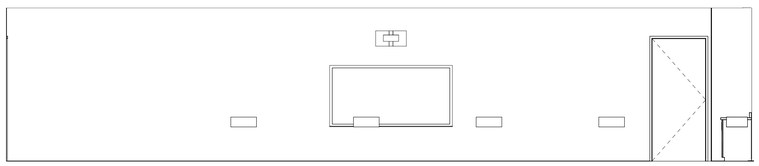
C

1/4" = 1'-0"



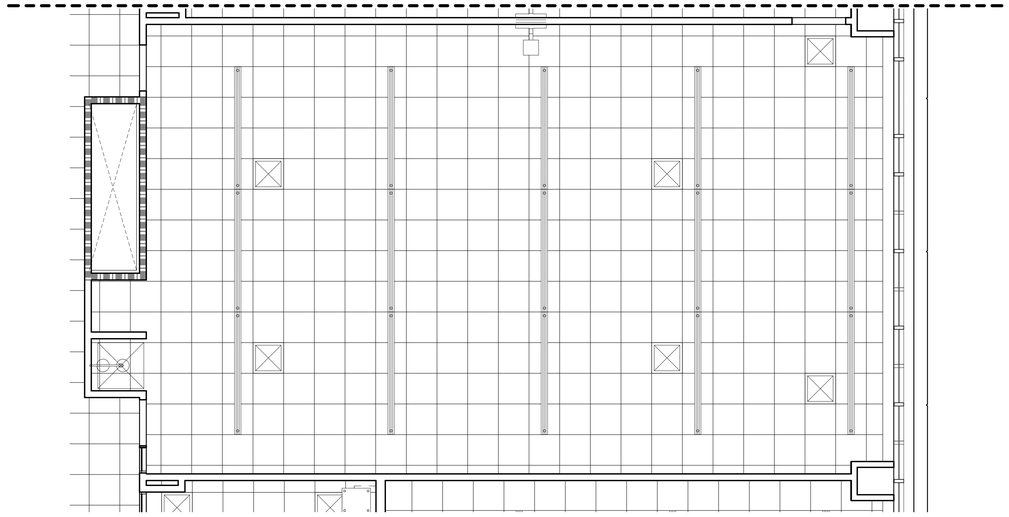
B

1/4" = 1'-0"

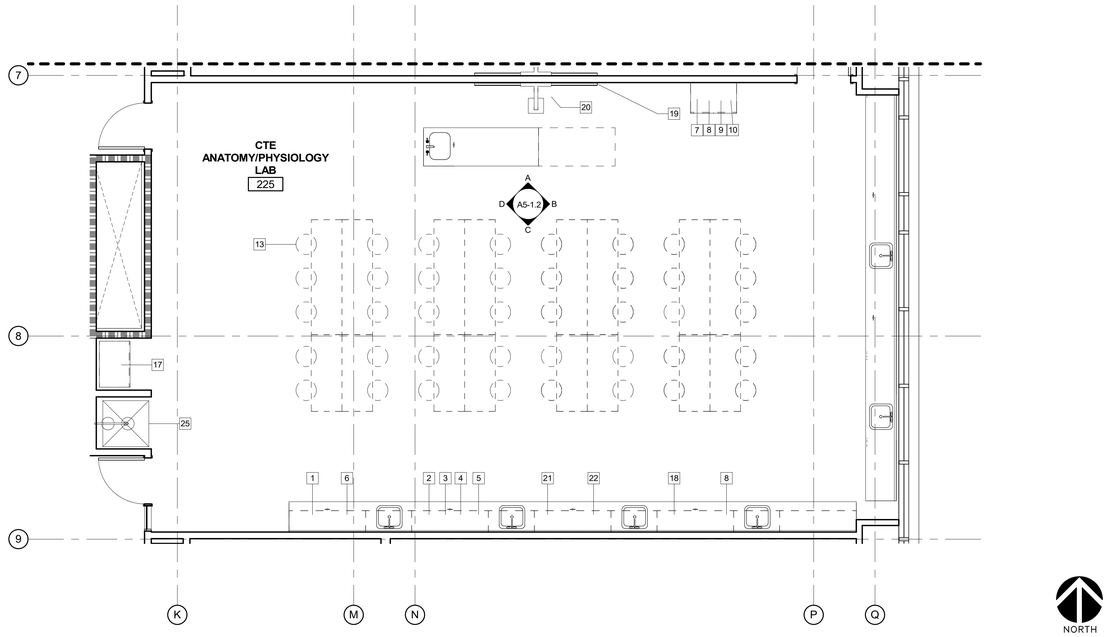


A

1/4" = 1'-0"



ENLARGED ANATOMY CTE RCP | 2 | 1/4" = 1'-0"



ENLARGED CTE SCIENCE / ANATOMY LAB | 1 | 1/4" = 1'-0"

LEGEND

ANATOMY/ PHYSIOLOGY LAB & PREP

REF #	DEPARTMENT	DESCRIPTION
ANATOMY & PHYSIOLOGY		
1	ANATOMY & PHYSIOLOGY	ARMSTRONG 'ACT FAST' Anti-Choking Trainer
2	ANATOMY & PHYSIOLOGY	3B Scientific Anatomical Model - torso
3	ANATOMY & PHYSIOLOGY	3B Scientific Anatomical Model - joint set
4	ANATOMY & PHYSIOLOGY	3B Scientific Anatomical Model - vertabrae
5	ANATOMY & PHYSIOLOGY	3B Scientific Skeleton Model
6	ANATOMY & PHYSIOLOGY	OMRON HEM-907XL Blood Pressure Monitor
7	ANATOMY & PHYSIOLOGY	SIMULAIDS - AED trainer
8	ANATOMY & PHYSIOLOGY	SIMULAIDS - Defibrillation Mannequin
9	ANATOMY & PHYSIOLOGY	SIMULAIDS - CPR Mannequin, adult
10	ANATOMY & PHYSIOLOGY	SIMULAIDS - CPR Mannequin, child
11	ANATOMY & PHYSIOLOGY	AmScope B120C - 40X-2500X microscope
12	ANATOMY & PHYSIOLOGY	3M Littman Classic II Stethoscope
13	ANATOMY & PHYSIOLOGY	Learniture Lab Stool (set of 4)
15	ANATOMY & PHYSIOLOGY	PYREX beaker set (5 pieces)
16	ANATOMY & PHYSIOLOGY	PYREX test tube set (72 pieces)
17	ANATOMY & PHYSIOLOGY	LYON UGRNS52023H locker
18	ANATOMY & PHYSIOLOGY	ULINE H-1294 First Aid Kit
19	ANATOMY & PHYSIOLOGY	ULINE H-2758 Dry Erase Board
20	ANATOMY & PHYSIOLOGY	Projector, Epson # ELPLP 91
21	ANATOMY & PHYSIOLOGY	SIMULAIDS - CPR Mannequin, infant
22	ANATOMY & PHYSIOLOGY	SIMULAIDS - Airway Trainer
25	ANATOMY & PHYSIOLOGY	Eyewash and Shower

ANATOMY/ PHYSIOLOGY LAB & PREP

REF #	DEPARTMENT	DESCRIPTION
27	ANATOMY & PHYSIOLOGY	MICROWAVE
28	ANATOMY & PHYSIOLOGY	MANITOC - NEO 65/80 ICE MACHINE
30	ANATOMY & PHYSIOLOGY	DISHWASHER

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DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

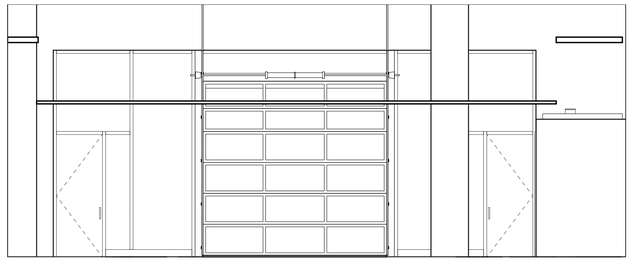
ENLARGED CTE SCIENCE / ANATOMY LAB

SHEET NUMBER:

A5-1.2

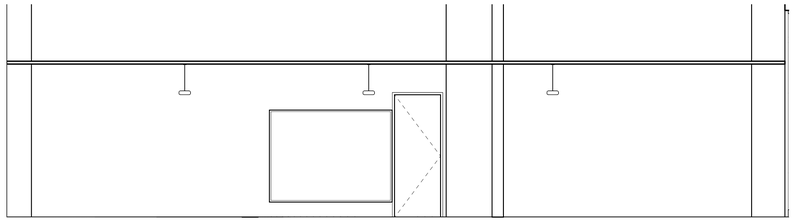
WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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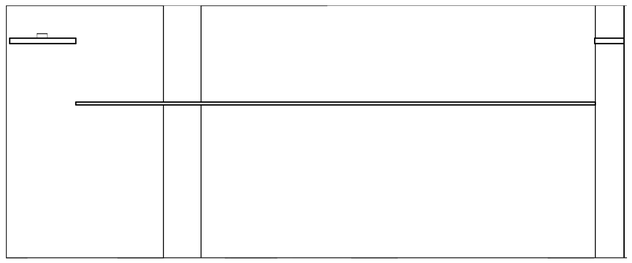
1D

1/4" = 1'-0"



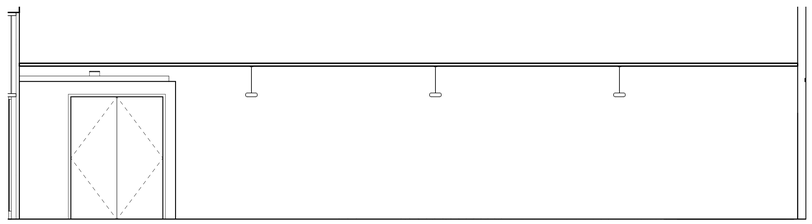
1C

1/4" = 1'-0"



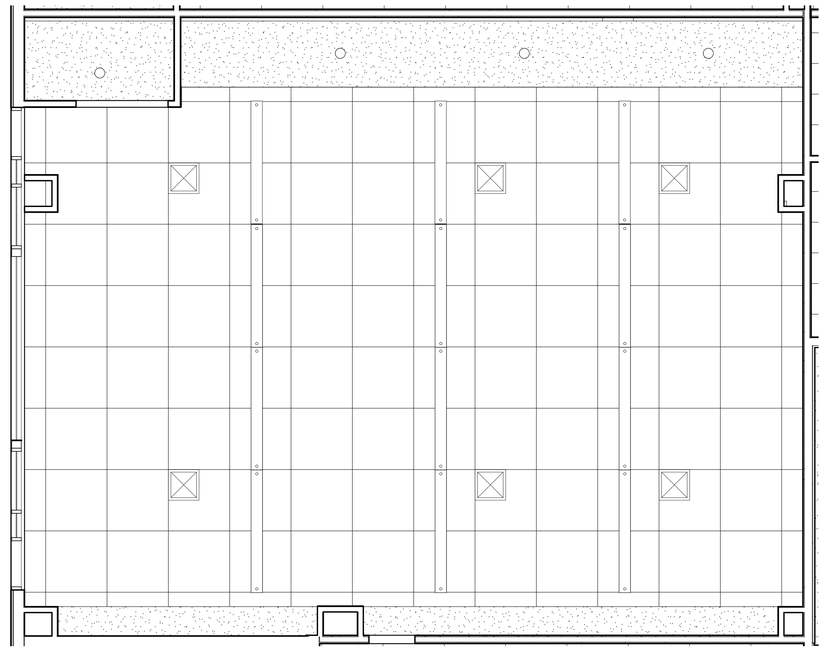
1B

1/4" = 1'-0"

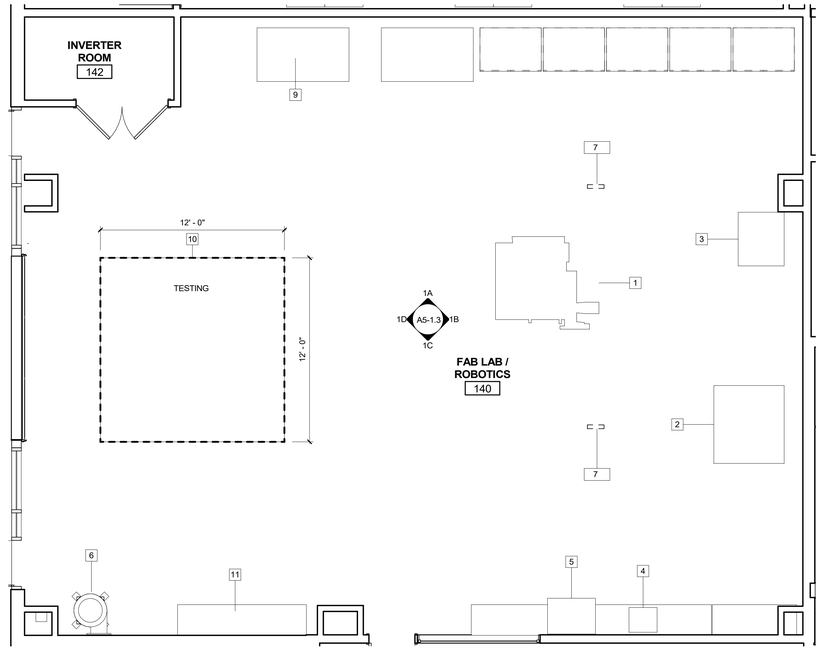


1A

1/4" = 1'-0"



ENLARGED FABRICATION/ROBOTICS LAB RCP | 2 | 1/4" = 1'-0"



ENLARGED FABRICATION AND ROBOTICS LAB | 1 | 1/4" = 1'-0"

LEGEND

CTE ROBOTICS & COMPUTER LAB

REF #	DEPARTMENT	DESCRIPTION
ROBOTICS		
1	ROBOTICS	HASS MINI MILL
2	ROBOTICS	FULL SPECTRUM LASER
3	ROBOTICS	ICONIC CNC ROUTER
4	ROBOTICS	MAKER BOT REPLICATOR Z18
5	ROBOTICS	MDA PRECISION TNS-V6-TC8
6	ROBOTICS	CRAFTSMAN 80 GALLON 5RHP COMPRESSOR
7	ROBOTICS	CORD REEL
8	ROBOTICS	SIMULAIDS - Defibrillation Mannequin
9	ROBOTICS	WORK TABLE
10	ROBOTICS	TESTING BARRICADE
11	ROBOTICS	ULINE H-1648 Glove Dispenser
12	ROBOTICS	EPSON PL 580 SHORT-THROW PROJECTOR

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

ENLARGED CTE FABRICATION & ROBOTICS LAB

SHEET NUMBER:

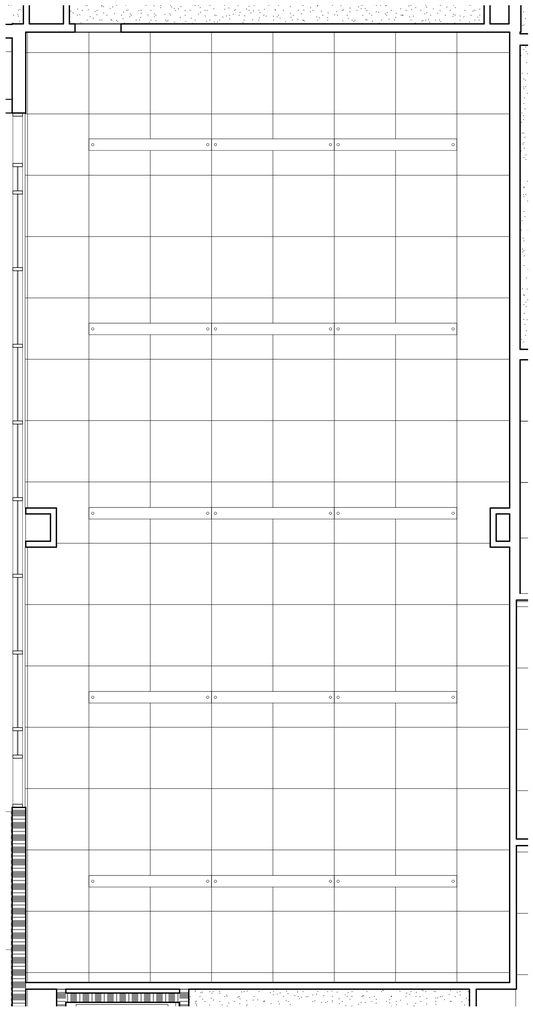
A5-1.3

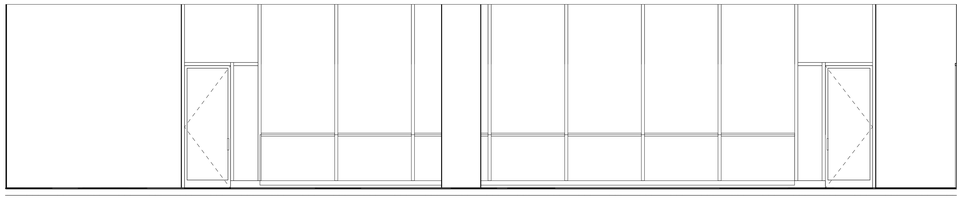
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1/4" = 1'

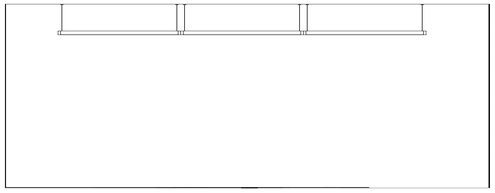
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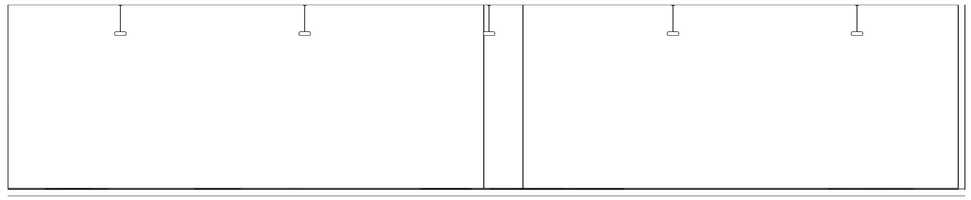
1D

1/4" = 1'-0"



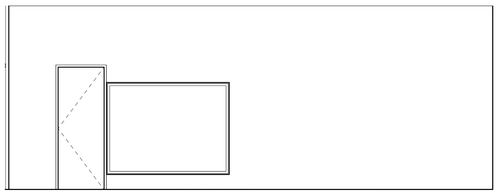
1C

1/4" = 1'-0"



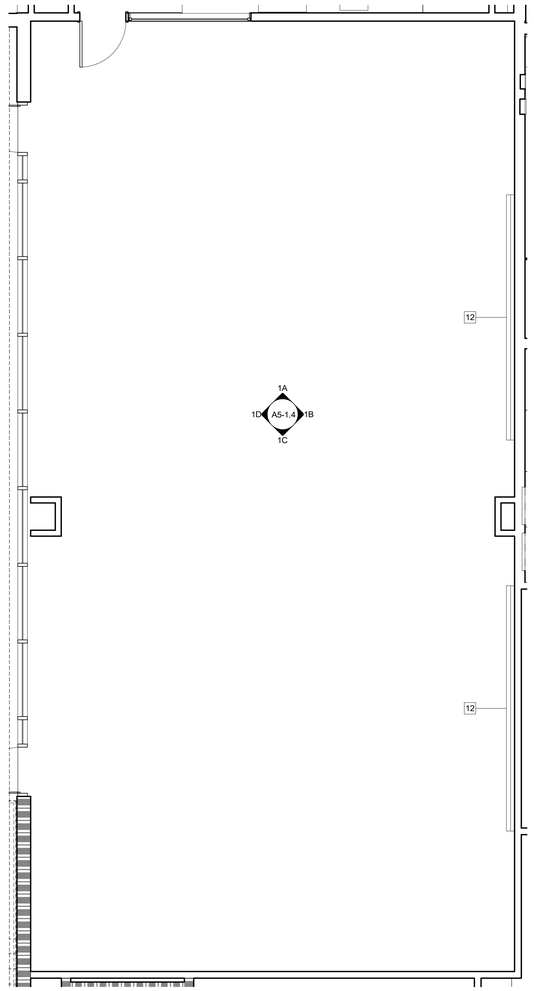
1B

1/4" = 1'-0"



1A

1/4" = 1'-0"



ENLARGED COMPUTER LAB RCP | 2 | 1/4" = 1'-0"

ENLARGED COMPUTER LAB | 1 | 1/4" = 1'-0"

LEGEND

CTE ROBOTICS & COMPUTER LAB

REF #	DEPARTMENT	DESCRIPTION
ROBOTICS		
1	ROBOTICS	HASS MINI MILL
2	ROBOTICS	FULL SPECTRUM LASER
3	ROBOTICS	ICONIC CNC ROUTER
4	ROBOTICS	MAKER BOT REPLICATOR Z18
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6	ROBOTICS	CRAFTSMAN 80 GALLON 5RHP COMPRESSOR
7	ROBOTICS	CORD REEL
8	ROBOTICS	SIMULAIDS - Defibrillation Mannequin
9	ROBOTICS	WORK TABLE
10	ROBOTICS	TESTING BARRICADE
11	ROBOTICS	ULINE H-1648 Glove Dispenser
12	ROBOTICS	EPSON PL 580 SHORT-THROW PROJECTOR

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SHEET TITLE:

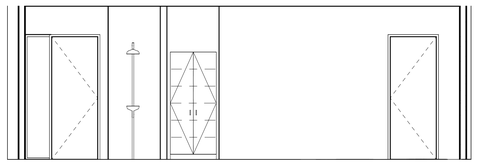
ENLARGED CTE COMPUTER LAB

SHEET NUMBER:

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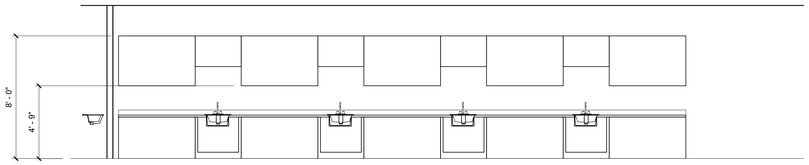
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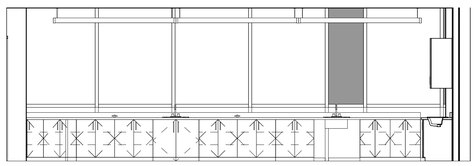
1D

1/4" = 1'-0"



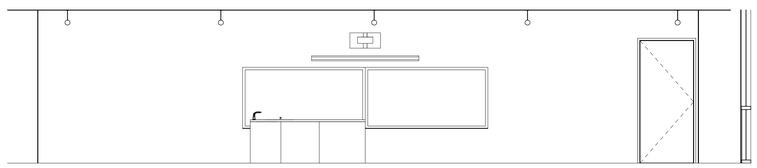
1C

1/4" = 1'-0"



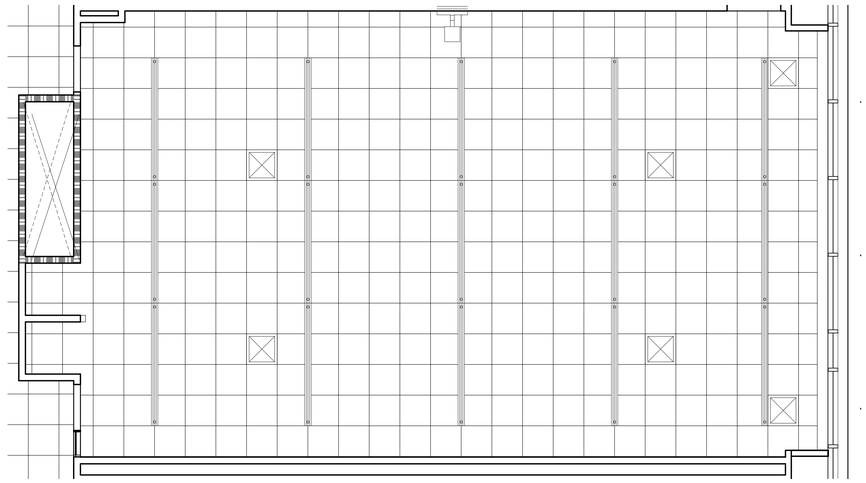
1B

1/4" = 1'-0"

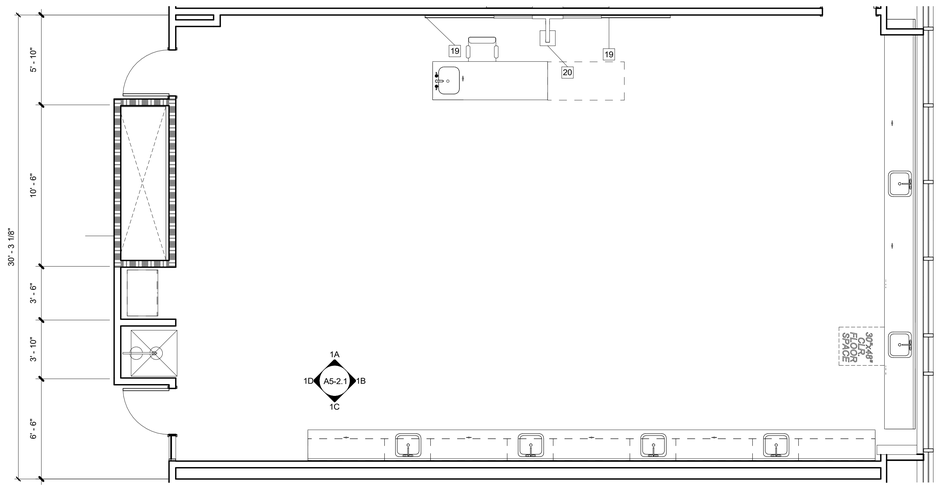


1A

1/4" = 1'-0"



ENLARGED SCIENCE LAB - REFLECTED CEILING PLAN | 2 | 1/4" = 1'-0"



ENLARGED SCIENCE LAB - FLOOR PLAN | 1 | 1/4" = 1'-0"

LEGENDS

GENERAL NOTES

1. SEE SHEET G0-2.1 FOR TYPICAL MOUNTING HEIGHTS.

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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

INTERIOR ELEVATIONS - SCIENCE LAB 1

SHEET NUMBER:

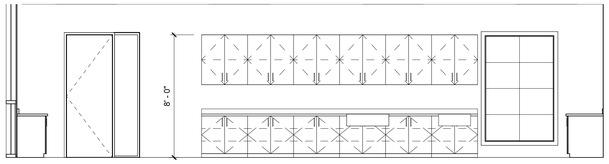
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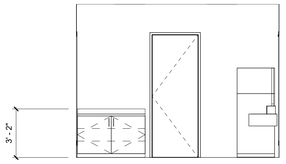
1/4" = 1'

0 4 8 12



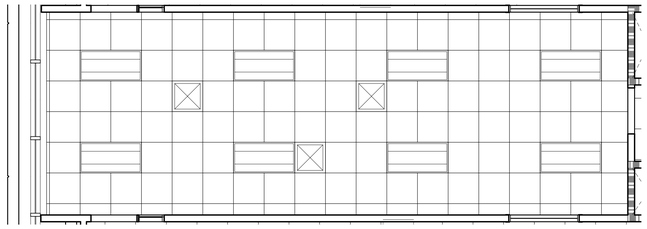
3A

1/4" = 1'-0"

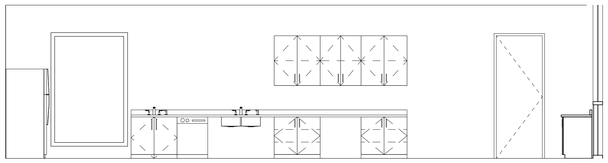


3B

1/4" = 1'-0"

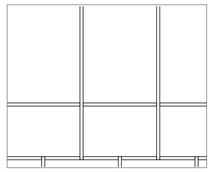


ENLARGED CHEMISTRY PREP ROOM RCP | 4 | 1/4" = 1'-0"



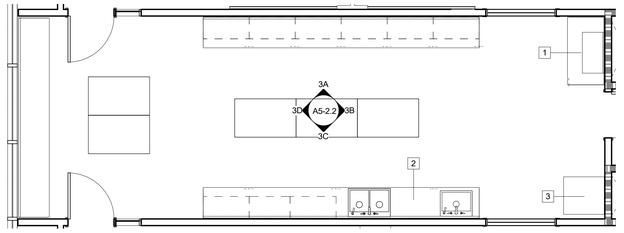
3C

1/4" = 1'-0"

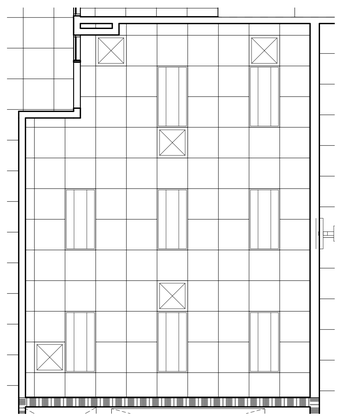


3D

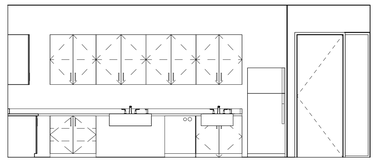
1/4" = 1'-0"



ENLARGED CHEMISTRY PREP ROOM | 3 | 1/4" = 1'-0"

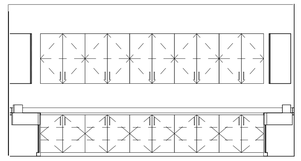


ENLARGED ANATOMY PREP ROOM RCP | 2 | 1/4" = 1'-0"



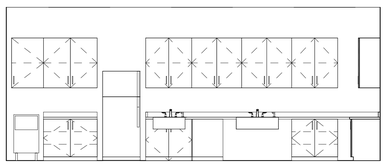
1D

1/4" = 1'-0"



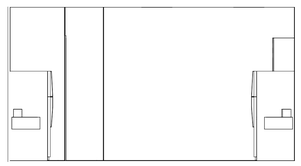
1C

1/4" = 1'-0"



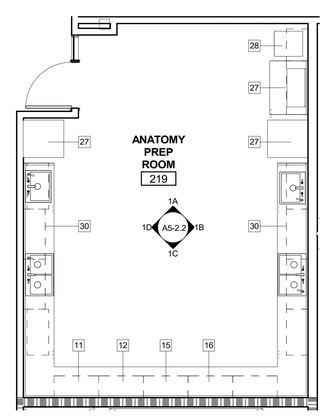
1B

1/4" = 1'-0"



1A

1/4" = 1'-0"



ENLARGED ANATOMY PREP ROOM | 1 | 1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET G0-2.1 FOR TYPICAL MOUNTING HEIGHTS.

LEGENDS

PREP ROOM

REF #	DEPARTMENT	DESCRIPTION
CHEM LAB PREP		
1	CHEM LAB PREP	MICROWAVE
2	CHEM LAB PREP	DISHWASHER
3	CHEM LAB PREP	REFRIGERATOR
4	CHEM LAB PREP	MANITOC - NEO 65/80 ICE MACHINE

ANATOMY/ PHYSIOLOGY LAB & PREP

REF #	DEPARTMENT	DESCRIPTION
ANATOMY & PHYSIOLOGY		
1	ANATOMY & PHYSIOLOGY	ARMSTRONG 'ACT FAST' Anti-Choking Trainer
2	ANATOMY & PHYSIOLOGY	3B Scientific Anatomical Model - torso
3	ANATOMY & PHYSIOLOGY	3B Scientific Anatomical Model - joint set
4	ANATOMY & PHYSIOLOGY	3B Scientific Anatomical Model - vertabrae
5	ANATOMY & PHYSIOLOGY	3B Scientific Skeleton Model
6	ANATOMY & PHYSIOLOGY	OMRON HEM-907XL Blood Pressure Monitor
7	ANATOMY & PHYSIOLOGY	SIMULAIDS - AED trainer
8	ANATOMY & PHYSIOLOGY	SIMULAIDS - Defibrillation Mannequin
9	ANATOMY & PHYSIOLOGY	SIMULAIDS - CPR Mannequin, adult
10	ANATOMY & PHYSIOLOGY	SIMULAIDS - CPR Mannequin, child
11	ANATOMY & PHYSIOLOGY	AmScope B120C - 40X-2500X microscope
12	ANATOMY & PHYSIOLOGY	3M Littman Classic II Stethoscope
13	ANATOMY & PHYSIOLOGY	Learniture Lab Stool (set of 4)
15	ANATOMY & PHYSIOLOGY	PYREX beaker set (5 pieces)
16	ANATOMY & PHYSIOLOGY	PYREX test tube set (72 pieces)
17	ANATOMY & PHYSIOLOGY	LYON UGRNSS2023H locker
18	ANATOMY & PHYSIOLOGY	ULINE H-1294 First Aid Kit
19	ANATOMY & PHYSIOLOGY	ULINE H-2758 Dry Erase Board
20	ANATOMY & PHYSIOLOGY	Projector, Epson # ELPLP 91
21	ANATOMY & PHYSIOLOGY	SIMULAIDS - CPR Mannequin, infant
22	ANATOMY & PHYSIOLOGY	SIMULAIDS - Airway Trainer
25	ANATOMY & PHYSIOLOGY	Eyewash and Shower

ANATOMY/ PHYSIOLOGY LAB & PREP

REF #	DEPARTMENT	DESCRIPTION
27	ANATOMY & PHYSIOLOGY	MICROWAVE
28	ANATOMY & PHYSIOLOGY	MANITOC - NEO 65/80 ICE MACHINE
30	ANATOMY & PHYSIOLOGY	DISHWASHER

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

INTERIOR ELEVATIONS - PREP ROOMS

SHEET NUMBER:

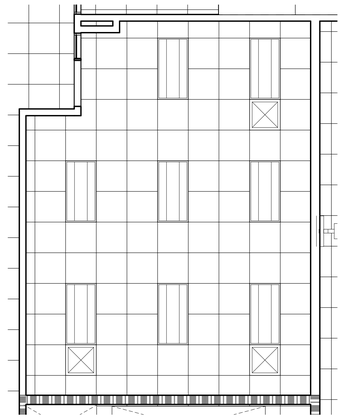
A5-2.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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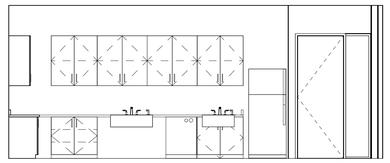
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1/4" = 1'

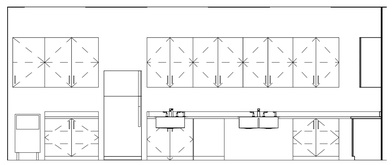
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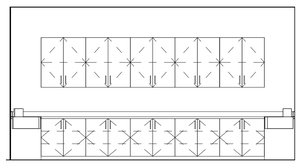
ENLARGED BIOLOGY LAB PREP ROOM | 4 | 1/4" = 1'-0"



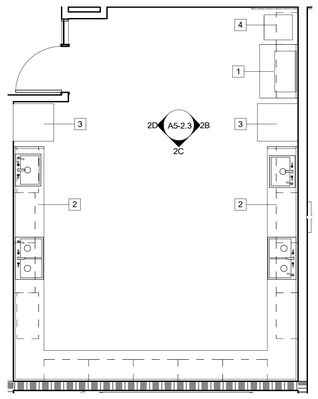
2D
1/4" = 1'-0"



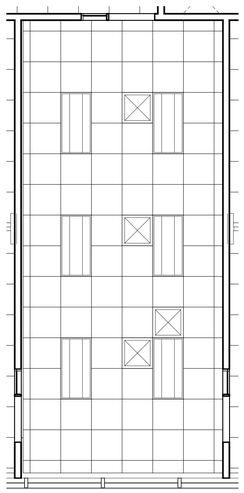
2B
1/4" = 1'-0"



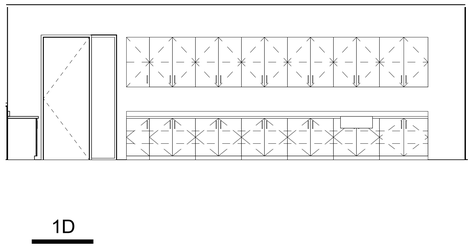
2C
1/4" = 1'-0"



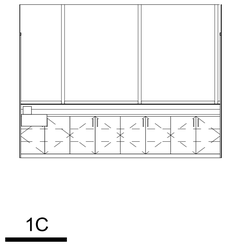
ENLARGED PREP ROOM 2 | 2 | 1/4" = 1'-0"



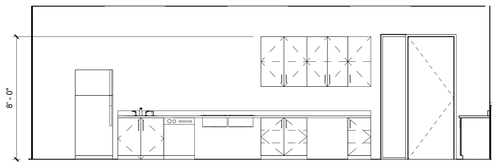
ENLARGED CHEMISTRY PREP 3 | 3 | 1/4" = 1'-0"



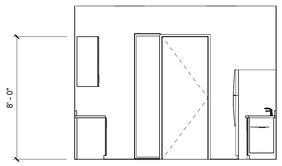
1D
1/4" = 1'-0"



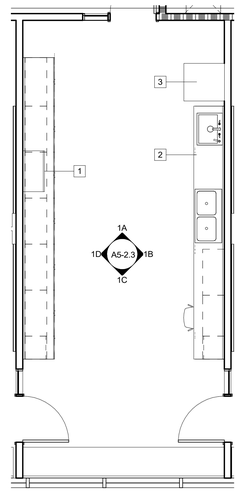
1C
1/4" = 1'-0"



1B
1/4" = 1'-0"



1A
1/4" = 1'-0"



ENLARGED PREP ROOM 3 | 1 | 1/4" = 1'-0"

GENERAL NOTES

1. SEE SHEET G0-2.1 FOR TYPICAL MOUNTING HEIGHTS.

LEGEND

PREP ROOM		
REF #	DEPARTMENT	DESCRIPTION
CHEM LAB PREP		
1	CHEM LAB PREP	MICROWAVE
2	CHEM LAB PREP	DISHWASHER
3	CHEM LAB PREP	REFRIGERATOR
4	CHEM LAB PREP	MANITOC - NEO 65/80 ICE MACHINE

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DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

INTERIOR ELEVATIONS - PREP ROOMS

SHEET NUMBER:

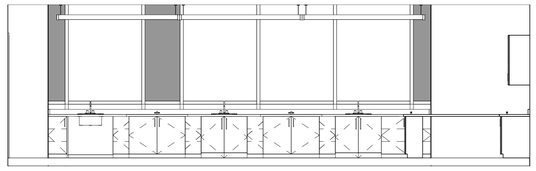
A5-2.3

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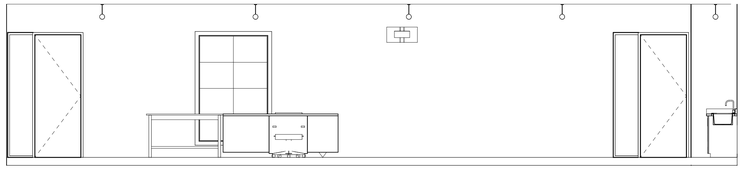
1/4" = 1'

0 4 8 12



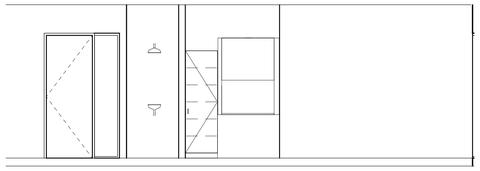
1D

1/4" = 1'-0"



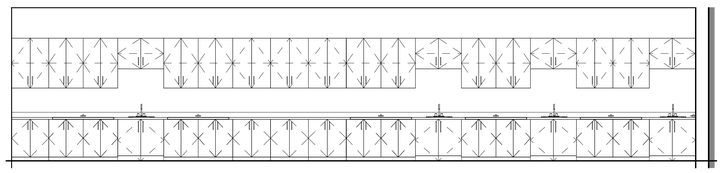
1C

1/4" = 1'-0"



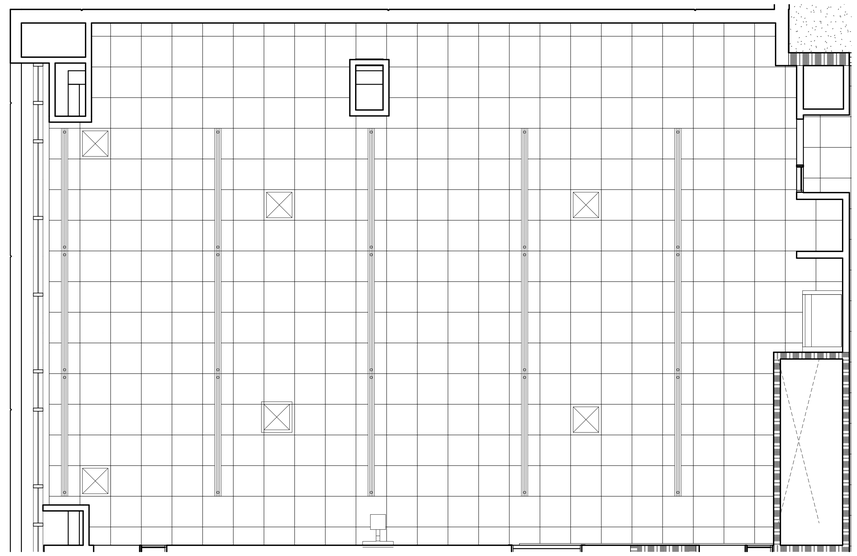
1B

1/4" = 1'-0"

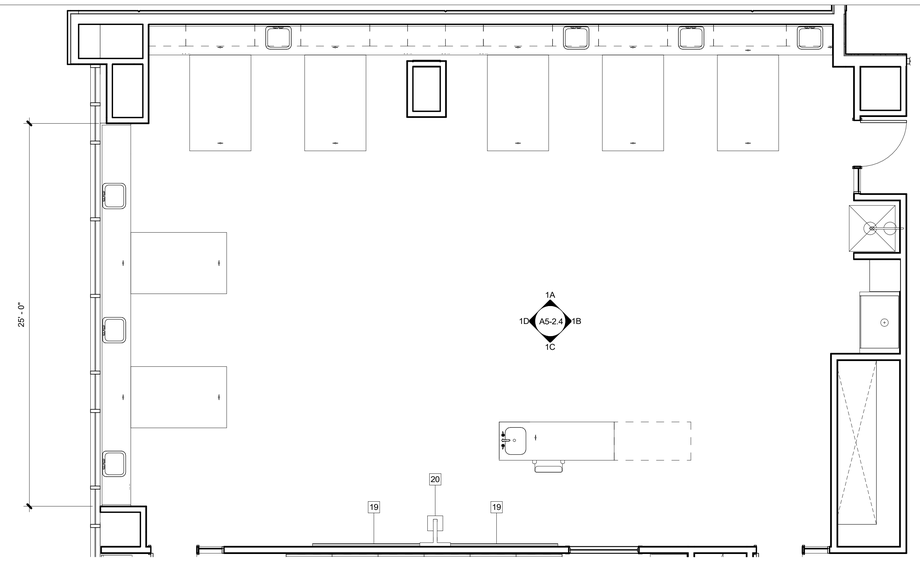


1A

1/4" = 1'-0"



ENLARGED CHEMISTRY LAB 1 - REFLECTED CEILING PLAN | 2 | 1/4" = 1'-0"



NORTH

ENLARGED CHEMISTRY LAB 1 PLAN | 1 | 1/4" = 1'-0"

LEGEND

CLASSROOM AND LABS		
REF #	DEPARTMENT	DESCRIPTION
CLASSROOM & LABS		
19	CLASSROOM & LABS	ULINE H-2758 Dry Erase Board
20	CLASSROOM & LABS	Projector, Epson # ELPLP 91

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DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

INTERIOR ELEVATIONS - CHEMISTRY LAB 1

SHEET NUMBER:

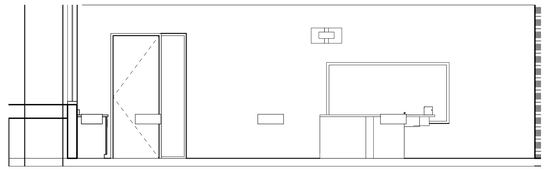
A5-2.4

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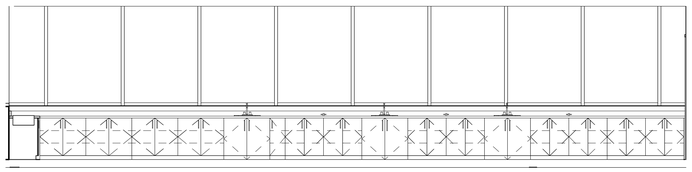
1/4" = 1'

0 4 8 12



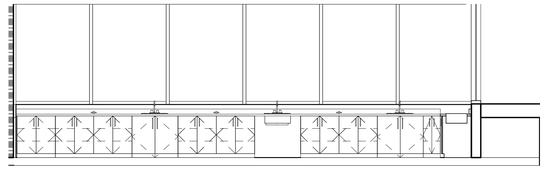
1D

1/4" = 1'-0"



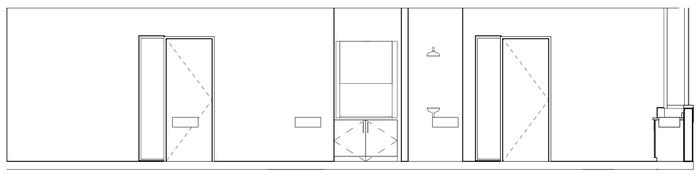
1C

1/4" = 1'-0"



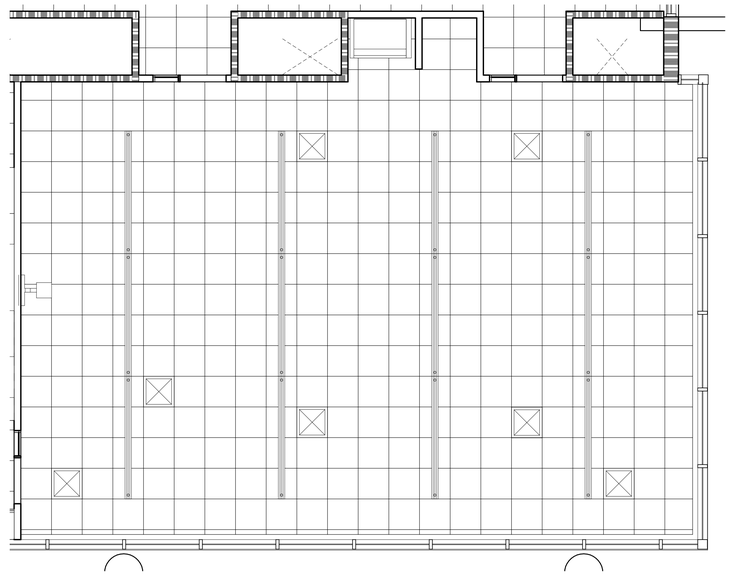
1B

1/4" = 1'-0"

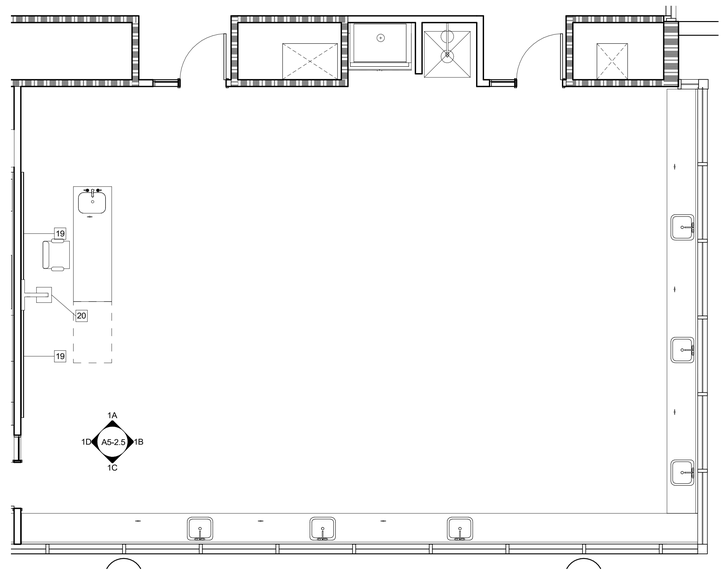


1A

1/4" = 1'-0"



ENLARGED CHEMISTRY LAB 2 - REFLECTED CEILING PLAN | 2 | 1/4" = 1'-0"



NORTH

ENLARGED CHEMISTRY LAB 2 PLAN | 1 | 1/4" = 1'-0"

LEGEND

CLASSROOM AND LABS		
REF #	DEPARTMENT	DESCRIPTION
CLASSROOM & LABS		
19	CLASSROOM & LABS	ULINE H-2758 Dry Erase Board
20	CLASSROOM & LABS	Projector, Epson # ELPLP 91

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REGISTRATION/SIGNATURE:

SHEET TITLE:

INTERIOR ELEVATIONS - CHEMISTRY LAB 2

SHEET NUMBER:

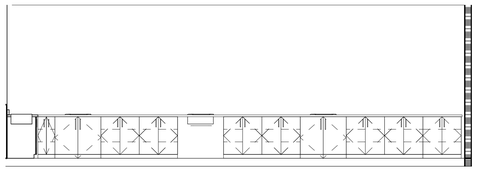
A5-2.5

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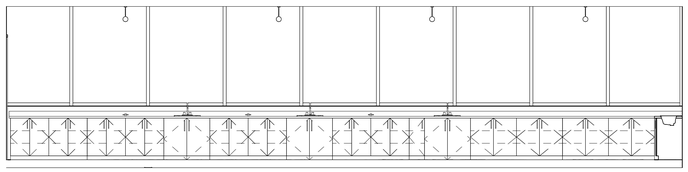
1/4" = 1'

0 4 8 12



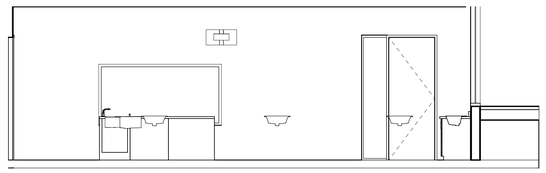
1D

1/4" = 1'-0"



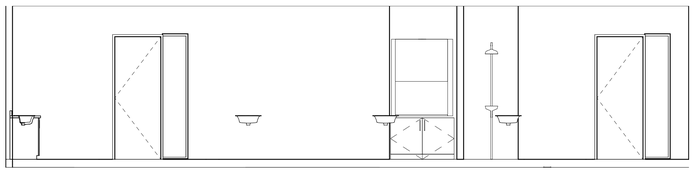
1C

1/4" = 1'-0"



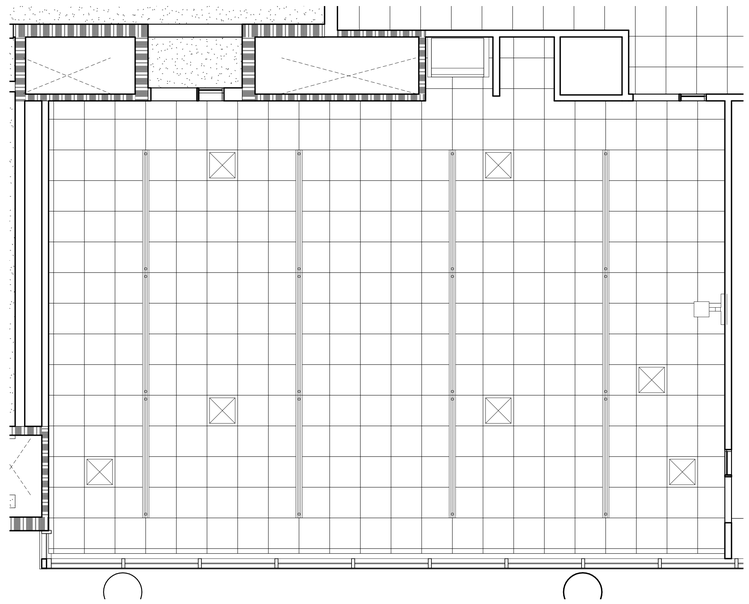
1B

1/4" = 1'-0"

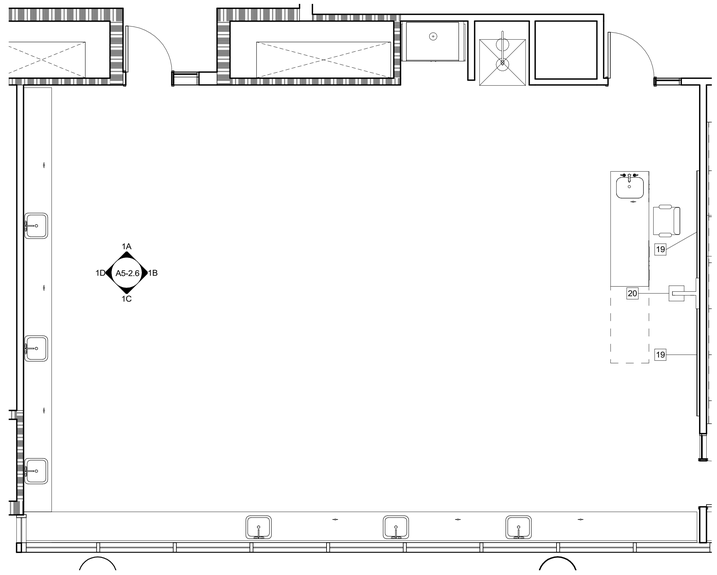


1A

1/4" = 1'-0"



ENLARGED SCIENCE LAB 3 - REFLECTED CEILING PLAN | 2 | 1/4" = 1'-0"



NORTH

ENLARGED SCIENCE LAB 3 PLAN | 1 | 1/4" = 1'-0"

LEGEND

CLASSROOM AND LABS		
REF #	DEPARTMENT	DESCRIPTION
CLASSROOM & LABS		
19	CLASSROOM & LABS	ULINE H-2758 Dry Erase Board
20	CLASSROOM & LABS	Projector, Epson # ELPLP 91

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SHEET TITLE:

INTERIOR ELEVATIONS - CHEMISTRY LAB 3

SHEET NUMBER:

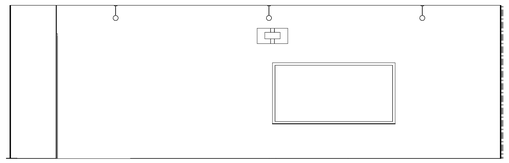
A5-2.6

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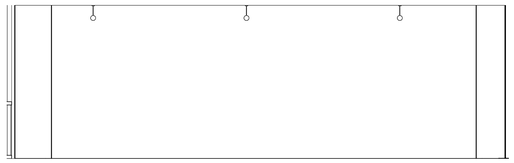
1/4" = 1'

0 4 8 12



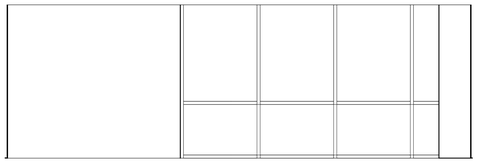
C

1/4" = 1'-0"



A

1/4" = 1'-0"



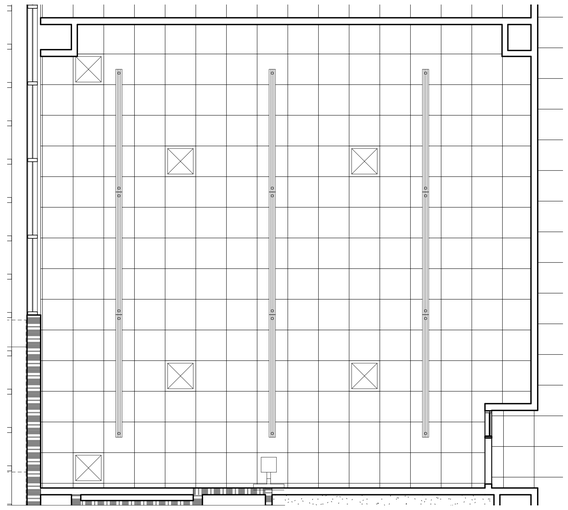
D

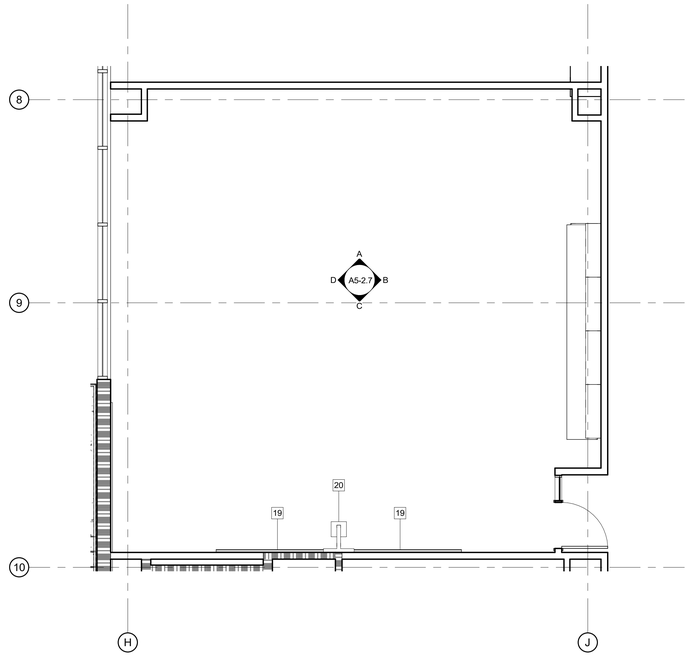
1/4" = 1'-0"



B

1/4" = 1'-0"





TYPICAL CLASSROOM

1

1/4" = 1'-0"

LEGEND

CLASSROOM AND LABS		
REF #	DEPARTMENT	DESCRIPTION

CLASSROOM & LABS

19	CLASSROOM & LABS	ULINE H-2758 Dry Erase Board
20	CLASSROOM & LABS	Projector, Epson # ELPLP 91

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DSA PRE-APPLICATION MEETING	02/22/19

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REGISTRATION/SIGNATURE:

SHEET TITLE:

INTERIOR ELEVATIONS - CLASSROOM

SHEET NUMBER:

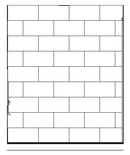
A5-2.7

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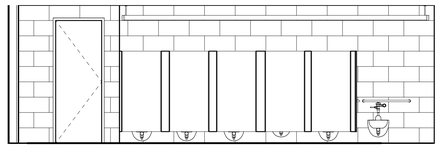
1/4" = 1'

0 4 8 12



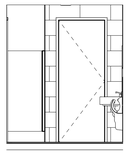
2A

1/4" = 1'-0"



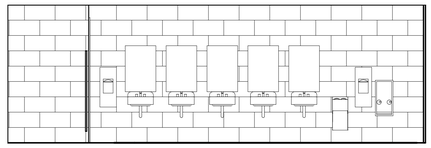
2B

1/4" = 1'-0"



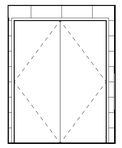
2C

1/4" = 1'-0"



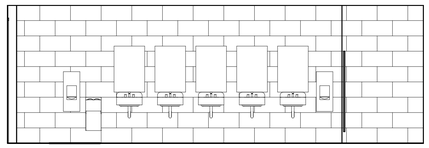
2D

1/4" = 1'-0"



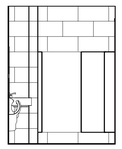
2E

1/4" = 1'-0"



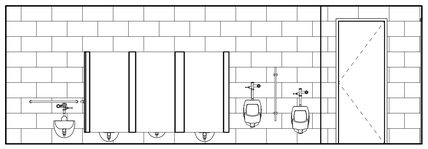
2F

1/4" = 1'-0"



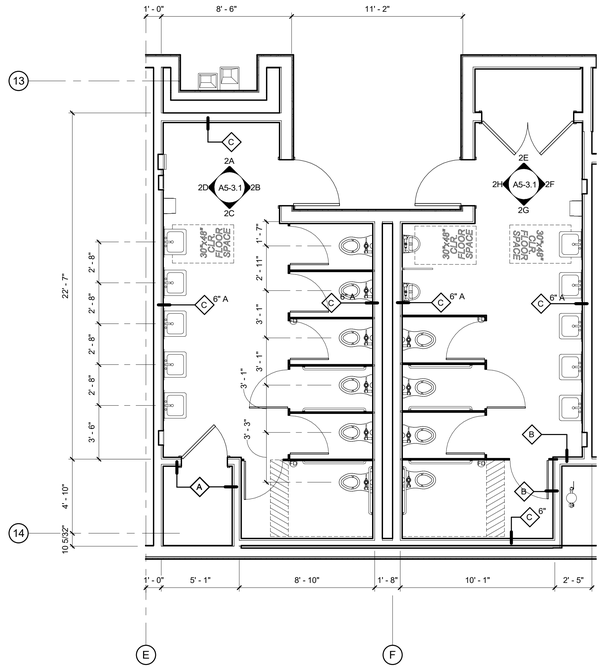
2G

1/4" = 1'-0"

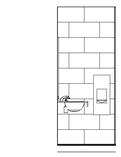


2H

1/4" = 1'-0"

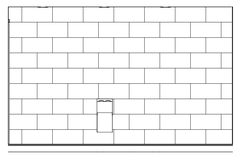


ENLARGED RESTROOM TYP. | 2 | 1/4" = 1'-0"



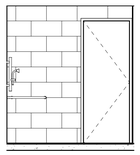
1A

1/4" = 1'-0"



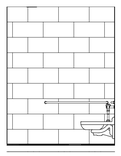
1B

1/4" = 1'-0"



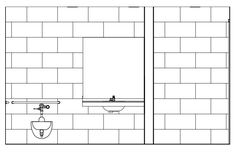
1E

1/4" = 1'-0"



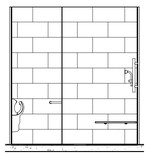
1C

1/4" = 1'-0"



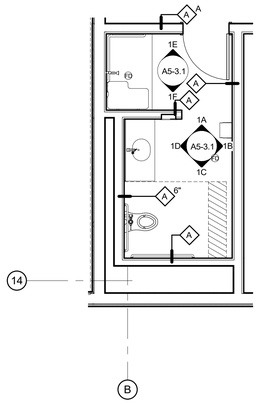
1D

1/4" = 1'-0"



1F

1/4" = 1'-0"



ENLARGED SHOWER ROOM - 102 | 1 | 1/4" = 1'-0"

SHEET KEYNOTES

GENERAL NOTES

1. SEE SHEET G-1.1 FOR GENERAL ACCESSIBILITY STANDARDS.
2. SEE SHEET G0-2.1 FOR PARTITION NOTES.

LEGEND

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Los Alamitos Unified School District

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DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

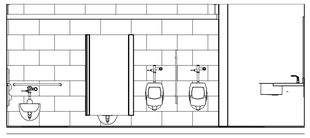
RESTROOM ENLARGED PLANS AND ELEVATIONS

SHEET NUMBER:

A5-3.1

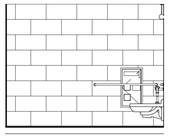
WD PROJ. #	DRAWN BY:	CHECKED	DATE
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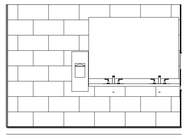
2F

1/4" = 1'-0"



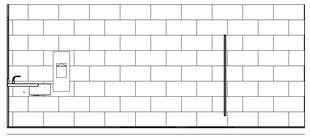
2E

1/4" = 1'-0"



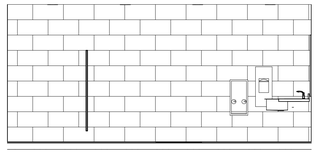
2G

1/4" = 1'-0"



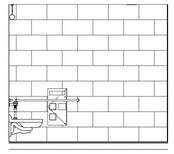
2H

1/4" = 1'-0"



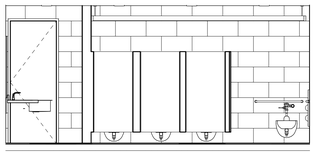
2D

1/4" = 1'-0"



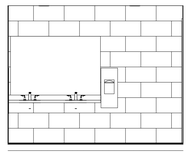
2C

1/4" = 1'-0"



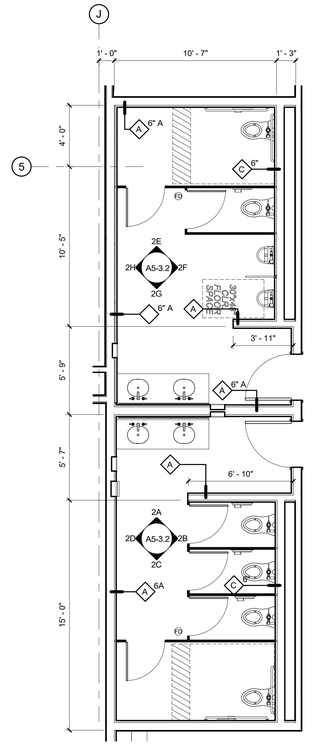
2B

1/4" = 1'-0"



2A

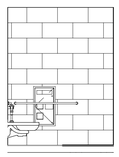
1/4" = 1'-0"



ENLARGED RESTROOM 153 - 154

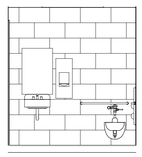
2

1/4" = 1'-0"



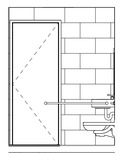
1H

1/4" = 1'-0"



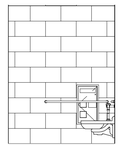
1G

1/4" = 1'-0"



1F

1/4" = 1'-0"



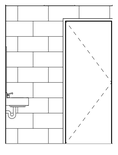
1D

1/4" = 1'-0"



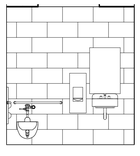
1C

1/4" = 1'-0"



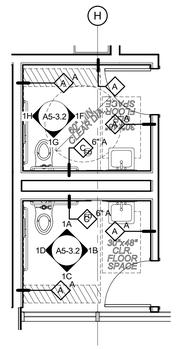
1B

1/4" = 1'-0"



1A

1/4" = 1'-0"



ENLARGED RESTROOM 113 - 114

1

1/4" = 1'-0"

SHEET KEYNOTES

GENERAL NOTES

1. SEE SHEET G-1.1 FOR GENERAL ACCESSIBILITY STANDARDS.
2. SEE SHEET G0-2.1 FOR PARTITION NOTES.

LEGEND

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

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REGISTRATION/SIGNATURE:

SHEET TITLE:

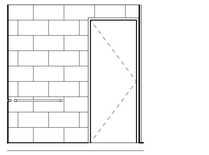
RESTROOM ENLARGED PLANS AND ELEVATIONS

SHEET NUMBER:

A5-3.2

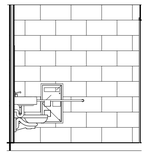
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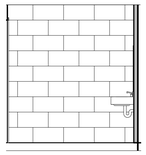
2D

1/4" = 1'-0"



2C

1/4" = 1'-0"



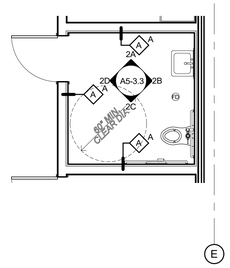
2A

1/4" = 1'-0"

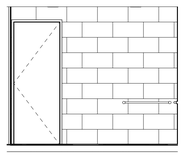


2B

1/4" = 1'-0"

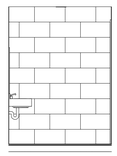


ENLARGED RESTROOM - 205 | 2 | 1/4" = 1'-0"



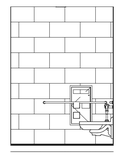
1D

1/4" = 1'-0"



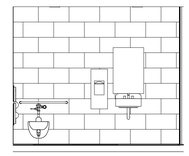
1C

1/4" = 1'-0"



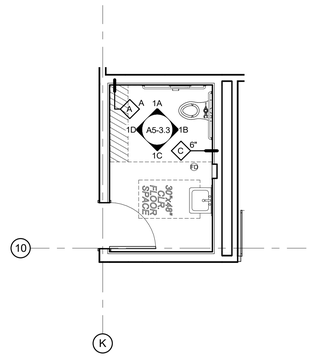
1A

1/4" = 1'-0"



1B

1/4" = 1'-0"



ENLARGED RESTROOM 131 | 1 | 1/4" = 1'-0"

SHEET KEYNOTES

GENERAL NOTES

1. SEE SHEET G-1.1 FOR GENERAL ACCESSIBILITY STANDARDS.
2. SEE SHEET G0-2.1 FOR PARTITION NOTES.

LEGEND

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DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

RESTROOM ENLARGED PLANS AND ELEVATIONS

SHEET NUMBER:

A5-3.3

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18451	NA	GR	02/19/19

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DOOR SCHEDULE

ID	ROOM	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR THK	DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH	FRAME JAMB 1	FRAME JAMB 2	FRAME HEAD	FRAME SILL	RATING (MIN.)	PANIC HW	HW GROUP	NOTES
100A	PATIENT TRAINING LAB	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
100B	PATIENT TRAINING LAB	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
100C	PATIENT TRAINING LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
101	SHOWER ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
103A	PATIENT TRAINING LAB	A-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
103B	PATIENT TRAINING LAB	A-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
104	SPORTS MEDICINE	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
106	VEST.	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
107	GIRL'S	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
108	BOY'S	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
109	FIRE RISER	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
110	JAN	121	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
111	STORAGE	A-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
112	RR	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
113	RR	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
114	WAITING	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
115	HEALTH	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
116	RECEPT.	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
117	ELEC	A-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
118	EXAM	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
119	RECORDS	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
120A	LOBBY	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
120B	LOBBY	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
120C	LOBBY	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
123A	PRINCIPAL	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
123B	PRINCIPAL	A	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
123C	PRINCIPAL	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
124	COORIDOR	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
125B	RECEPTION 2	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
126	CORRIDOR	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
127	COORIDOR	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
128A	CONF. 1	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
128B	CONF. 1	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
129	TELE	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
130	EQUIP	A-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
131A	COMPUTER LAB	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
131B	COMPUTER LAB	C	3' - 1"	8' - 0"	0' - 1 3/4"	GL		AL									
131C	COMPUTER LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
133	CONF. 2	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
135	WOMEN	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
136	MEN	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
137	CORRIDOR	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
138	CONF 3	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
139	SRO	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
140A	FAB LAB / ROBOTICS	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
140B	FAB LAB / ROBOTICS	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
142	INVERTER ROOM	A-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
143	STOR	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
144	CONF.	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
145	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
146A	CAREER CENTER	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
146B	CAREER CENTER	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
147	COPY 2	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
148	TEXT BOOK STORAGE	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
150A	MEDIA CENTER	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
150B	MEDIA CENTER	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
150C	MEDIA CENTER	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
150D	MEDIA CENTER	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
150E	MEDIA CENTER	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM						1 HR			
152A	I.T. WORK.	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
152B	I.T. WORK.	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
153	STORAGE	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
154		C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
155	TESTING STOR	A	3' - 6"	8' - 0"	0' - 1 3/4"	WD		AL									
157	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
158	CAREER CENTER	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
158A	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
158B		C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
159A	WAITING ROOM 1	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
159B	WAITING ROOM 1	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
160	STOR	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
162	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
163	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
164	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
165	WAITING ROOM 2	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
165	CORRIDOR	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
166	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
167	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
168	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
169	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
170	COORIDOR	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
172	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
173	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
174	OFFICE	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
175	COORIDOR	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
176A	MAIL ROOM	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
176B	MAIL ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
177	AP	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
178	RR	A	3' - 0"	8' - 0"	0' - 1 3/4"	WD		AL									
201	CLASSROOM	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
202	CLASSROOM	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
203	PLC	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
204	WALKWAY	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
205	T.	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
206	STORAGE	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
208	GIRL'S	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
209	STORAGE	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
210	BOY'S	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
211	STORAGE	A-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
214A	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
214B	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
215A	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
215B	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
216A	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
216B	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
217	WALKWAY	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL							YES		
218	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
219	ANATOMY PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
220	TELECOM	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
221	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
222	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
225A	CTE ANATOMY/PHYSIOLOGY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
225B	CTE ANATOMY/PHYSIOLOGY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
226A	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
226B	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
226C	SCIENCE LAB	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
227A	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
227B	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
228A	PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
228B	PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
228C	PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
229	CORRIDOR	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL						1 HR	YES		
230A	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
230B	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
231A	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
231C	SCIENCE LAB	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
232A	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
232B	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
232C	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
258		112	11' - 11 3/4"	11' - 4"	0' - 1 3/4"												
301	CLASSROOM	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
302	CLASSROOM	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
303	PLC	C	3' - 0"	8' - 0"	0' - 1 3/4"	GL		AL									
304	WALKWAY	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
305	PLC	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
306	PLC	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
308	GIRL'S	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
309	STORAGE	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
310	BOY'S	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
311	BOY'S	A-PR	6' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
313A	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
313B	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
314A	PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
314B	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
314C	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
315A	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
315B	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
316	WALKWAY	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL							YES		
317	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
318	PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
320	TELECOM	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
321	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
322	CLASSROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
325A	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
325B	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
326A	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
326B	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
326C	SCIENCE LAB	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
327A	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
327B	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
328A	PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
328B	PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
328C	PREP ROOM	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
329	CORRIDOR	C-PR	6' - 0"	8' - 0"	0' - 1 3/4"	GL		AL						1 HR	YES		
330A	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
330B	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
331A	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
331B	SCIENCE LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
331C	SCIENCE LAB	A	3' - 6"	8' - 0"	0' - 1 3/4"	HM		HM									
332A	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									
332B	CHEMISTRY LAB	A	3' - 0"	8' - 0"	0' - 1 3/4"	HM		HM									

DOOR TYPES



DOOR NOTES

1. THE HARDWARE SCHEDULE IS INTENDED TO COVER ALL DOORS IN THE PROJECT AND ESTABLISH A TYPE AND STANDARD OF QUALITY. FURNISH AND INSTALL A COMPLETE AND OPERATIONAL SYSTEM OF DOOR FINISH HARDWARE ITEMS ENCOMPASSING ALL OPENINGS WITHIN THE PROJECT AREA AS REQUIRED TO MEET CODE AND FUNCTIONAL REQUIREMENTS. THE HARDWARE SPECIFICATION IS PROVIDED AS A BASIS FOR A COMPLETE HARDWARE SUBMITTAL WHICH INDICATES THE QUANTITY, TYPE, CATALOG NUMBER, MANUFACTURER, AND LOCATION OF EACH ARTICLE OF HARDWARE REQUIRED. HARDWARE LIST SHALL BE SUBMITTED NO LATER THAN 30 DAYS BEFORE THE ORDER DATE NECESSARY TO MEET THE PROJECT SCHEDULE. REVIEW OF THE HARDWARE LIST DOES NOT REPRESENT CERTIFICATION THAT THE LIST IS COMPLETE AND DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING A COMPLETE PROJECT.
2. DOOR WOOD VENEER QUALITY, SHEEN AND STAIN FINISH ARE TO BE CONFIRMED BY THE ARCHITECT.
3. VERIFY AND COORDINATE THE THICKNESS OF FLOOR FINISH WITH UNDERCUT DIMENSION AT DOOR.
4. DOOR OPENINGS IN PARTITIONS NOT DIMENSIONED SHALL BE 4" FROM ADJOINING PARTITION.
5. ALL LOCKSETS SHALL BE CODED AND/OR KEYED IN ACCORDANCE WITH OWNER'S REQUIREMENTS. CODES AND/OR KEYS ARE TO BE DELIVERED TO OWNER PROPERLY TESTED AND/OR TAGGED. THE NUMBER OF KEYS TO BE COORDINATED WITH OWNER.
6. HARDWARE SUPPLIER SHALL PROVIDE GRANDMASTER KEY, MASTER KEY, KEY-ALIKE AND/OR KEY-DIFFERENT ALL LOCKS IN ACCORDANCE WITH KEYING SCHEDULE AS PROVIDE BY OWNER.
7. ALL HARDWARE SHALL BE OF LEVER TYPE TO COMPLY WITH ACCESSIBILITY REQUIREMENTS. REPLACE ALL DOOR HARDWARE ITEMS NOT IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REQUIREMENTS TO THE SATISFACTION OF THE BUILDING AUTHORITY.
8. EACH ARTICLE OF HARDWARE SHALL BE INDIVIDUALLY PACKAGED IN ITS ORIGINAL MANUFACTURER'S CONTAINER AND PROPERLY MARKED OR LABELED IN CONFORMANCE WITH THE APPROVED HARDWARE LIST.
9. ALL FASTENERS SHALL MATCH THE HARDWARE MATERIAL AND FINISH.
10. FURNISH (3) BUTT HINGES FOR DOORS UP TO 7'-0" HIGH AND (1) HINGE FOR EACH ADDITIONAL 2'-6".
11. PROVIDE STANDARD STRIKE PLATE WITH EXTENDED LIP WHERE REQUIRED TO PROTECT TRIM FROM BEING MARRED OR DAMAGED BY THE LATCH BOLT.
12. PROVIDE DUST COVERS AT ALL STRIKE PLATES.
13. DOORS SHALL BE INSTALLED IN FRAME WITH 1/8" MAX. TOLERANCE AT HEAD HINGES, AND STRIKE JAMB.
14. EXISTING DOORS, CLOSET DOORS, RESTROOM DOORS, ETC. IN THE ONE-HOUR CORRIDOR ARE 20 MINUTE RATED DOORS.
15. ALL CORRIDOR DOOR ASSEMBLIES TO HAVE FINISH TO MATCH BUILDING STANDARD.
16. ALL EXTERIOR AND RESTROOM DOORS ARE TO BE SELF-CLOSING.

DOOR CODE COMPLIANCE NOTES

1. ALL RATED DOORS TO BE POSITIVE LATCHING AND SELF-CLOSING.
2. FIRE DOOR ASSEMBLIES SHALL BE LABELED IN ACCORDANCE WITH THE CBC.
3. FIRE DOORS SHALL HAVE AN APPROVED LABEL OR LISTING MARK INDICATING THE FIRE PROTECTION RATING WHICH IS PERMANENTLY AFFIXED AT THE FACTORY WHERE FABRICATION AND ASSEMBLY ARE DONE.
4. ALL FIRE RATED ASSEMBLIES ARE TO BE PROVIDED WITH AN APPROVED SMOKE GASKET. INSTALL TO PROVIDE A CONTINUOUS SEAL WHERE THE DOOR MEETS THE STOP ON THE HEAD AND BOTH JAMBS.
5. EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
6. FIRE RATED DOOR FRAMES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. MANUFACTURER'S INSTRUCTIONS SHALL BE MADE AVAILABLE TO INSPECTING AUTHORITIES.
7. INSTALL FLOOR STOPS IN LOCATION NOT TO CAUSE TRIPPING HAZARD IN PATH OF TRAVEL, 4" MAX FROM WALL.
8. DOOR AND GATE OPENING FORCE: THE FORCE REQUIRED FOR PUSHING OR PULLING OPEN A DOOR OR GATE SHALL BE A MAXIMUM 5 LBS. FOR HINGED DOORS, SLIDING AND FOLDING DOORS.
9. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPEARABLE PARTS SHALL BE 5 LBS. MAXIMUM.
10. THE BOTTOM 10" OF ALL DOORS TO HAVE SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
11. DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
12. FLOOR OR GROUND SURFACE WITHIN THE REQUIRED MANEUVERING CLEARANCES PER DETAIL **7/G-1.1**, SHALL NOT HAVE A VERTICAL CHANGE IN LEVEL GREATER THAN 1/4" HIGH WITHOUT EDGE TREATMENT. EXCEPTIONS: SLOPE NOT STEEPER THAN 1:48 SHALL BE PERMITTED AND CHANGES IN LEVEL AT THRESHOLDS COMPLYING WITH 11B-404.2.5 SHALL BE PERMITTED.

LEGEND

PR	PAIR OF DOORS
MATERIAL	
WD	SOLID WOOD
WD/GL	WOOD W/ FULL GLASS LITE
AL	ALUMINUM
AL/GL	ALUMINUM FRAMED GLASS
HM	HOLLOW METAL
SST	STAINLESS STEEL
GL	GLASS
T.GL	TEMPERED GLASS
FINISH	
PT	PAINT*
PL	PLASTIC LAMINATE*
ST	STAIN-GRADE WOOD VENEER*
ANNO	ANNODIZED ALUMINUM*
FF	FACTORY FINISH*
SS.B	STAINLESS STEEL #4 BRUSHED*
GL.C.	CLEAR VISION GLASS
GL.R.	REFLECTIVE VISION GLASS*

*** CONFIRM COLOR SELECTION WITH ARCHITECT, PROVIDE FINISH SAMPLES FOR REVIEW.**

WESTGROUP DESIGNS
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www.westgroupdesigns.com

Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

SCHEMATIC DESIGN SUBMITTAL	11/07/18
DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

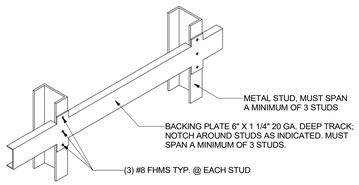
DOOR SCHEDULE

SHEET NUMBER:

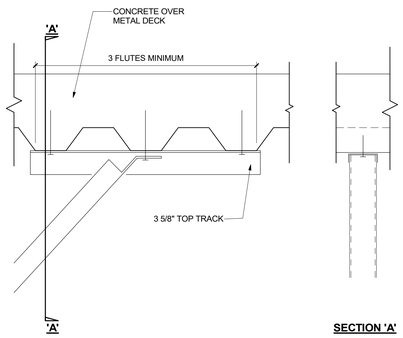
A6-1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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WALL BACKING | 20 | 3/4" = 1'-0"

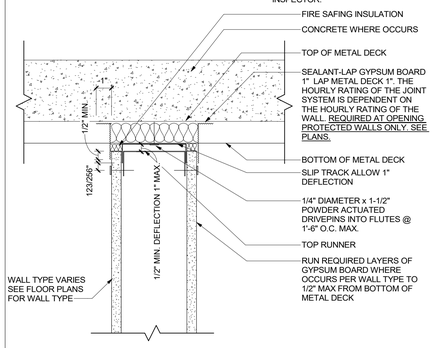


SECTION 'A'

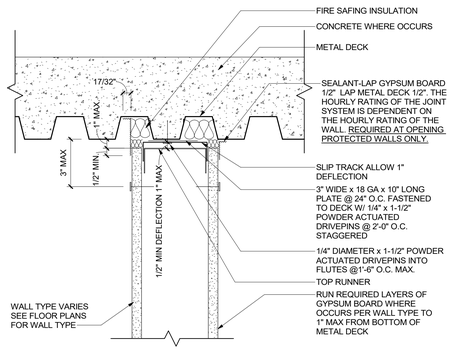
TYP. BRACING DETAIL | 16 | 3" = 1'-0"

JOINT SYSTEM BELOW BASED ON UL HW-D-0047, INSTALLED MFRS MAY VARY. INSTALL ACCORDING TO SPECIFIC MFR REQUIREMENTS FOR ENTIRE JOINT SYSTEM. CONFIRM ACCEPTANCE OF JOINT SYSTEM WITH INSPECTOR.

JOINT PERP. TO DECK FLUTES



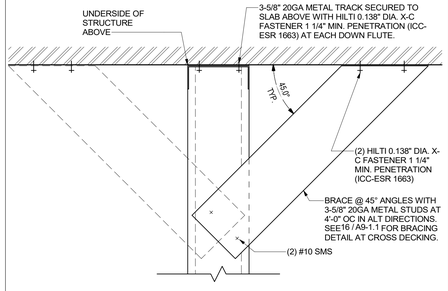
JOINT PARALLEL TO DECK FLUTES



PARTITION TOP - TO DECK 1 HR RATED | 8 | 3" = 1'-0"

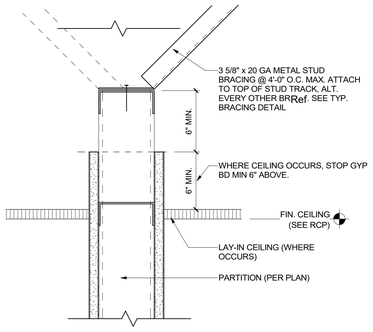
GENERAL NOTES

1. PROVIDE ACOUSTIC SEALANT AT TOP AND BOTTOM OF ALL PARTITIONS WITH ACOUSTIC BATT INSULATION.
2. PROVIDE STUD SIZES AS SHOWN ON ARCHITECTURAL WALL TYPE SYMBOL.
3. WATER RESISTANT GYPSUM BOARD SHALL BE USED AT ALL RESTROOMS, CUSTODIAL ROOMS, AND WET AREAS.
4. ELECTRICAL BOXES SHALL BE OFFSET.
5. THERE SHOULD BE NO CONTACT IN BETWEEN ANY SERVICE PENETRATING THE GYPSUM BOARD AND THE GYPSUM BOARD ITSELF. A GAP SHOULD BE MAINTAINED AND SEALED. THIS INCLUDES ALL SERVICES (INCLUDING ELECTRICAL, MECHANICAL AND PLUMBING).
6. THE ATTACHMENT OF THE GYPSUM BOARD TO THE STUDS MUST USE THE MINIMUM NUMBER OF SCREWS. SCREWS THAT ARE NOT USED MUST BE REMOVED.
7. INSTALLATION OF GYPSUM BOARD AND ALL ACOUSTICAL MATERIALS SHALL BE IN ACCORDANCE WITH THE UL RATING, THE USG HANDBOOK, MANUFACTURERS REQUIREMENTS AND PRACTICES AND ASTM PRACTICE STANDARDS FOR LIGHT WALL CONSTRUCTION.
8. ALL GYPSUM BOARD SHEETS TO RUN VERTICALLY.
9. TAPE OUTER JOINTS OF GYPSUM BOARD ONLY.
10. NO GYPSUM BOARD JOINTS EXCEPT AT STUDS.
11. DRYWALL SCREW EDGE AND FIELD SPACING PER GYPSUM BOARD MANUFACTURERS RECOMMENDATIONS. ALL SCREWS SHALL PENETRATE STUDS.
12. FIBERGLASS BATT INSULATION SHALL BE OWENS-CORNING FIBERGLASS UNFACED SONO-BATT FIBERGLASS BATT INSULATION. JOHNS MANVILLE UNFACED SOUND SHIELD FIBERGLASS BATT INSULATION OR APPROVED EQUAL. FIBERGLASS THICKNESS TO EQUAL STUD DEPTH.
13. GYPSUM BOARD SHALL BE SCREWED NOT NAILED. ANY GYPSUM BOARD DAMAGED IN THE INSTALLATION SHALL BE REMOVED AND REPLACED IF THE DAMAGE IS GREATER THAN 1 INCH.

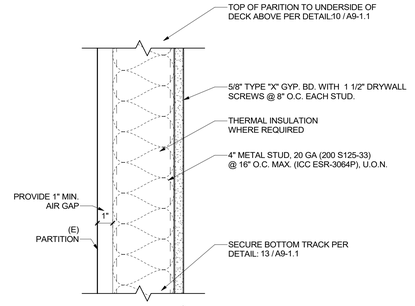


NOTE:
SUSPENDED CEILING SYSTEMS SHALL COMPLY WITH REQUIREMENTS OF ASTMC635 AND BE INSTALLED IN CONFORMANCE WITH ASTMC636. WHERE APPLICABLE, REPLACE SPRAYED ON FIREPROOFING ON METAL DECK AS REQUIRED AFTER SECURING BRACING.

SOFFIT CONNECTION | 15 | 3" = 1'-0"

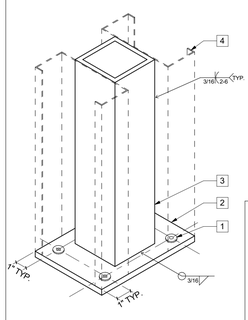


PARTITION TOP - BRACED TO DECK | 11 | 3" = 1'-0"

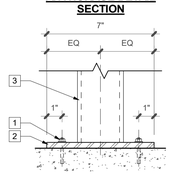


WALL TYPE: C FURRED PARTITION

ANCHORAGE DETAIL



ANCHORAGE DETAIL SECTION

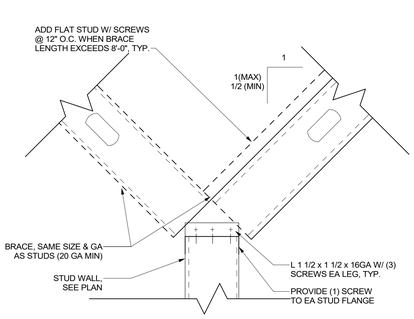


KEYNOTES:

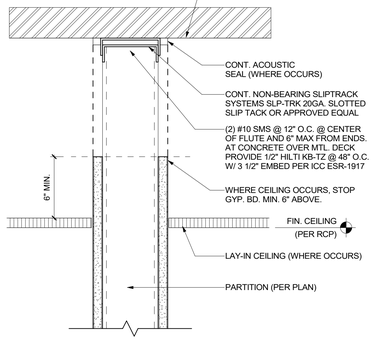
1	(4) 3/8" Ø ANCHOR BOLTS W/ SIMPSON SET-XP W/ 4 1/2" EMBED (ICC ESR-2508; LARR# 25744)
2	3/8" x 5"W x 7"L BASE PLATE
3	3" x 3" x 1/4" HSS POST
4	STUDS (SHOWN DASHED) WELD TO HSS POST

NOTE: DO NOT DAMAGE (E) STEEL REINFORCING. GC TO X-RAY FOR EXISTING STEEL LOCATIONS.

FREESTANDING ANCHORAGE DETAIL | 18 | 3" = 1'-0"

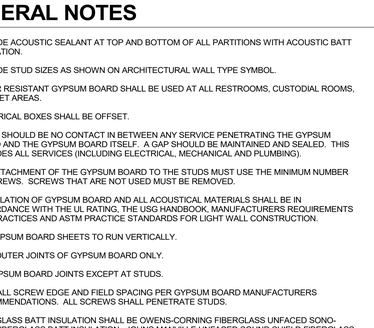


TYP CEILING HEIGHT WALL BRACING | 14 | 6" = 1'-0"

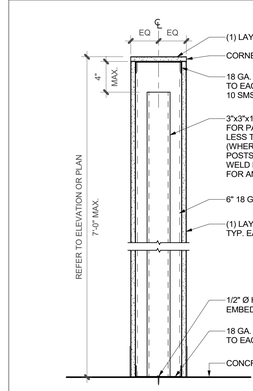


PARTITION TOP - TO DECK | 10 | 3" = 1'-0"

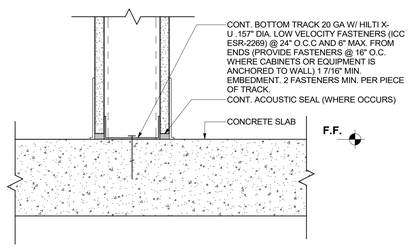
WALL TYPE: Y ACOUSTIC WALL



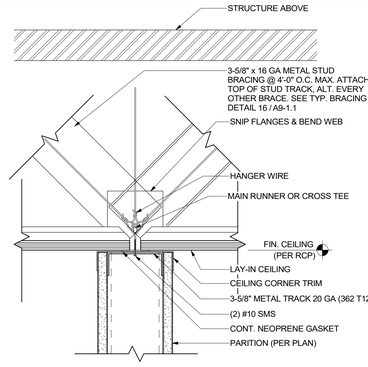
WALL TYPE: B 1 HR RATED PARTITION



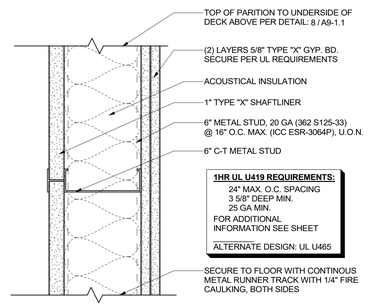
FREESTANDING PARTITION | 17 | 1 1/2" = 1'-0"



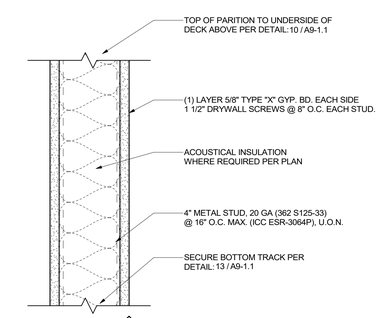
PARTITION BASE - TO CONCRETE | 13 | 3" = 1'-0"



PARTITION TOP - TO ACT CEILING | 9 | 3" = 1'-0"



WALL TYPE: X ELEVATOR SHAFT PARTITION



WALL TYPE: A PARTITION TO UNDERSIDE OF DECK

WALL PARTITION TYPES | 1 | 3" = 1'-0"

WESTGROUP DESIGNS
ARCHITECTURE | PLANNING | INTERIOR DESIGN
19520 Jamboree Road | Suite 100
Irvine | California | 92612
949.250.0880 | FAX 949.250.0882
www.westgroupdesigns.com

Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

SCHEMATIC DESIGN SUBMITTAL	11/07/18
DSA PRE-APPLICATION SUBMITTAL	02/15/19
DESIGN DEVELOPMENT SUBMITTAL	02/19/19
DSA PRE-APPLICATION MEETING	02/22/19

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

TYPICAL PARTITION TYPES AND DETAILS

SHEET NUMBER:

A9-1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	NA	GR	02/19/19

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LIST OF ABBREVIATIONS

ADD'L.	ADDITIONAL
ALT.	ALTERNATE
ACI	AMERICAN CONCRETE INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
A.B.	ANCHOR BOLT(S)
APPROX.	APPROXIMATELY
ARCH.	ARCHITECT / ARCHITECTURAL
@	AT
B. PL.	BASE PLATE
BM.	BEAM
BRG.	BEARING
BTWN.	BETWEEN
BLK.	BLOCK
BLKG.	BLOCKING
B.E.	BOTH ENDS
BOT. OR BOTT.	BOTTOM
B.N.	BOUNDARY NAILS
BLDG.	BUILDING
C	CAMBER
CBC	CALIFORNIA BUILDING CODE
CIP	CAST IN PLACE
CLG.	CEILING
CJ	CEILING JOIST OR CONSTRUCTION JOINT OR CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION WELD
℄	CENTER LINE
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CMU	CONCRETE MASONRY UNIT
COND.	CONDITION
CONN.	CONNECTION
CONSTR.	CONSTRUCTION
CONT'D	CONTINUED
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
CSK.	COUNTERSINK
DL	DEAD LOAD
DP.	DEEP
DEMO.	DEMOLISH
DTL. OR DET.	DETAIL
DIAG.	DIAGONAL
DIA. OR ø	DIAMETER
DIM.	DIMENSION
DO	DITTO
DBL.	DOUBLE
D.F.	DOUGLAS FIR
DWL.	DOWEL
DN.	DOWN
DWG.	DRAWING
EA.	EACH
E.F.	EACH FACE
E.S.	EACH SIDE
E.W.	EACH WAY
E.N.	EDGE NAIL(S)
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EMBED.	EMBEDMENT
ENG.	ENGINEER
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXCAV.	EXCAVATION
(E)	EXISTING
EXP.	EXPANSION
EJ	EXPANSION JOINT
EXT.	EXTERIOR
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD OR FACE OF SLAB
F.S.	FAR SIDE
FIN.	FINISH
F.F.	FINISHED FLOOR
FHWS	FLAT HEAD WOOD SCREW
FLR.	FLOOR
FD	FLOOR DRAIN
FTG.	FOOTING
FNDN.	FOUNDATION
FRMG.	FRAMING
GALV.	GALVANIZE
GA.	GAUGE
GLU–LAM	GLUED LAMINATED
GLB	GLUED LAMINATED BEAM
GR.	GRADE
HGR.	HANGER
HR	HARDROCK
HDR.	HEADER
HT.	HEIGHT
HD	HOLD DOWN
HSS	HOLLOW STRUCTURAL SECTION
HORIZ.	HORIZONTAL
INFO.	INFORMATION
I.D.	INSIDE DIAMETER
INT.	INTERIOR
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
INV.	INVERT
JST.	JOIST
KP	KING POST
KSI	KIPS PER SQUARE INCH
LAM.	LAMINATED
LDGR.	LEDGER
LT. WT. OR LW	LIGHT WEIGHT
LL	LIVE LOAD
LG.	LONG OR LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LO–HY	LOW HYDROGEN
M.B.	MACHINE BOLT(S)
MFR.	MANUFACTURER
MAS.	MASONRY
M.O.	MASONRY OPENING
MATL.	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MTL.	METAL
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MU	MECHANICAL UNIT
N.F.	NEAR FACE
N.S.	NEAR SIDE
NSA	NELSON STUD ANCHOR
(N)	NEW
NIC.	NOT IN CONTRACT
NTS.	NOT TO SCALE
NO. OR #	NUMBER
O.C.	ON CENTER
OPNG.	OPENING
OPP.	OPPOSITE
O.H.	OPPOSITE HAND
O.D.	OUTSIDE DIAMETER
PHWS	PAN HEAD WOOD SCREW
P.J.	PANEL JOINT
d	PENNY
PIL.	PILASTER
PL. OR ℙ	PLATE (STEEL OR WOOD)
PLY.	PLYWOOD
PWJ	PLYWOOD WEB JOIST
PCF	POUNDS PER CUBIC FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PTDF	PRESSURE TREATED DOUGLAS FIR
PL	PROPERTY LINE
RAD.	RADIUS
RFTR.	RAFTER
REF.	REFERENCE
REINF.	REINFORCING
REQ'D	REQUIRED
REQMT.	REQUIREMENT
RF.	ROOF
R.D.	ROOF DRAIN
RO.	ROUGH
R.O.	ROUGH OPENING

LIST OF ABBREVIATIONS (CONT'D)

SCHED.	SCHEDULE
SEC.	SECTION
SEL.	SELECT
SEP.	SEPARATION
SHTG.	SHEATHING
SHT.	SHEET
S.M.	SHEET METAL
SMS	SHEET METAL SCREWS
SIM.	SIMILAR
SIMP.	SIMPSON
SPCG.	SPACING
SPECS.	SPECIFICATION
SQ.	SQUARE
STGR.	STAGGER
S.S.	STAINLESS STEEL
SPC	STANDARD PIPE COLUMN
STD.	STANDARD
STL.	STEEL
STIFF.	STIFFENER
STIRR.	STIRRUP
STRUCT.	STRUCTURAL
SYM.	SYMMETRICAL
TSG	TAPERED STEEL GIRDER
THK.	THICK
K OR KIP	1,000 POUNDS
THRU	THROUGH
TN	TOE NAIL
T&G	TONGUE AND GROOVE
T&B	TOP AND BOTTOM
T.O.F.	TOP OF FOOTING
T.O.L.	TOP OF LEDGER
T.O.S.	TOP OF STEEL OR TOP OF SHEATHING
T.O.W.	TOP OF WALL
TL	TOTAL LOAD
TS	TUBE STEEL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
VERT.	VERTICAL
WT.	WEIGHT
WWF	WELDED WIRE FABRIC
W/	WITH
W/O	WITHOUT
WD.	WOOD
WIJ	WOOD–I–JOIST
WP	WORK POINT
W.S.	WOOD SCREW

GENERAL

1. THESE STRUCTURAL DRAWINGS AND SPECIFICATIONS, INCLUDING ANY ADDENDA (COLLECTIVELY "THE PLANS") INCORPORATE ALL LEGAL AND INDUSTRY REQUIREMENTS AND STANDARDS INCLUDING WITHOUT LIMITATION THE FOLLOWING:
   - THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 1 (CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE), 2016 EDITION.
   - THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CALIFORNIA BUILDING CODE), 2016 EDITION.
   - OTHER REGULATING AGENCIES WHICH MAY HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.
   - THE FUNCTIONALITY STANDARDS SET FORTH IN TITLE 7 OF THE CALIFORNIA CIVIL CODE (THE "RIGHT TO REPAIR ACT").
   - THE MANUFACTURER'S REQUIREMENTS OR RECOMMENDATIONS FOR ANY INCORPORATED PRODUCTS.
   - THE MOST CURRENT APPROVED ISSUES OF ANY NOTED SPECIFICATIONS, CODES AND STANDARDS, INCLUDING SUPPLEMENTS, UNLESS NOTED OTHERWISE.
2. THE PLANS REPRESENT ONLY THE FINISHED STRUCTURE, AND THEY ARE NOT INTENDED TO INDICATE OR REQUIRE ANY CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES. IN PARTICULAR AND WITHOUT LIMITATION, THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL EXCAVATION, DEMOLITION, SHORING AND ERECTION PROCEDURES AND FOR ANY AND ALL SAFETY PROGRAMS AND PRECAUTIONS.
3. IN USING THE PLANS FOR BIDDING OR CONSTRUCTION PURPOSES, THE CONTRACTOR IS REQUIRED TO REVIEW ALL OF THE PROJECT'S CONSTRUCTION DOCUMENTS AS A WHOLE IN ORDER TO IDENTIFY ALL REQUIREMENTS THAT DIRECTLY OR INDIRECTLY AFFECT ITS PORTION OF THE STRUCTURAL WORK, EVEN REQUIREMENTS LOCATED IN SECTIONS DESIGNATED AS APPLICABLE TO OTHER TRADES. IN CASE OF CONFLICTS, THE CONTRACTOR SHALL EITHER OBTAIN DIRECTION FROM AN APPROPRIATE OWNER REPRESENTATIVE OR OTHERWISE APPLY THE MORE STRINGENT REQUIREMENT.
4. IN INTERPRETING THE PLANS, THE FOLLOWING GENERAL RULES APPLY:
   - WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DRAWINGS.
   - SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
   - WORK NOT PARTICULARLY SHOWN OR SPECIFIED SHALL BE THE SAME AS SIMILAR PARTS THAT ARE SHOWN OR SPECIFIED.
   - SCALED DIMENSIONS AND GRAPHICALLY SHOWN LOCATIONS ARE TO BE CONSIDERED ONLY APPROXIMATE.
5. IN IMPLEMENTING THE PLANS, THE FOLLOWING GENERAL RULES APPLY:
   - BECAUSE THE PLANS ARE INTENDED TO SET FORTH THE REQUIREMENTS FOR CONSTRUCTION IN ONLY AN INDUSTRY–STANDARD LEVEL OF QUALITY AND DETAIL, AND THEREFORE ARE INTENDED TO BE SUPPLEMENTED BY APPROPRIATE REQUESTS FOR CLARIFICATION AND INFORMATION, ERRORS AND OMISSIONS ARE TO BE EXPECTED AND ANTICIPATED; AND THE CONTRACTOR IS REQUIRED TO CAREFULLY REVIEW THE PLANS FOR ERRORS AND OMISSIONS AND TO BRING THESE ERRORS AND OMISSIONS TO THE ATTENTION OF AN APPROPRIATE OWNER REPRESENTATIVE IN A TIMELY MANNER AND ASSUMES THE RISK OF THE CONSEQUENCES OF FAILING TO DO SO BEFORE BIDDING OR OTHERWISE PROCEEDING.
   - THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION, AND NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR INCONSISTENCIES.
6. SUBMITTALS WILL BE REVIEWED BY THE STRUCTURAL ENGINEER, IF AT ALL, ONLY PURSUANT TO THE INDUSTRY–STANDARD PROTOCOL SET FORTH IN AIA DOCUMENT A201, AND IN NO EVENT WILL THE SUBMITTAL REVIEW PROCESS RELIEVE OR LESSEN THE SUBMITTING CONTRACTOR'S RESPONSIBILITY FOR AN INAPPROPRIATE SUBMITTAL.
7. IN NO EVENT WILL ANY SITE VISITS BY THE STRUCTURAL ENGINEER CONCERN CONSTRUCTION MEANS AND METHODS OR CONSTRUCTION SAFETY, AND ALL SUCH MATTERS SHALL REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. COPIES OF THE PLANS PROVIDED IN ANY ELECTRONIC FORM ARE SUBJECT TO THE SAME PROVISIONS AS THE OTHER INSTRUMENTS OF SERVICE PREPARED BY OR ON BEHALF OF STRUCTURAL ENGINEER FOR THE PROJECT, INCLUDING WITHOUT LIMITATION THE ENGINEER'S COMMON LAW, STATUTORY OR OTHER RESERVED RIGHTS, INCLUDING COPYRIGHTS. A RECIPIENT IS GRANTED AT MOST A TRANSFERABLE NONEXCLUSIVE LICENSE TO REUSE THE PLANS SOLELY FOR PROJECT PURPOSES; AND NO RECIPIENT IS AUTHORIZED TO USE OR TO ALLOW THE USE OF ALL OR ANY PORTION OF THESE PLANS FOR ANY OTHER PURPOSE, AND ANY USE FOR ANY OTHER PURPOSE WOULD CONSTITUTE ACTIONABLE PLAGIARISM. STRUCTURAL ENGINEER PROVIDES DOCUMENTS IN AN ELECTRONIC FORM ONLY IN ITS STANDARD FORMATS AND CONVENTIONS AND WITH NO GUARANTEE OF COMPATIBILITY WITH ANY RECIPIENT'S SOFTWARE OR HARDWARE, AND ANY USE WITH OR CONVERSION TO OTHER FORMATS OR CONVENTIONS, OR THE USE WITH ANY PARTICULAR SOFTWARE OR HARDWARE, IS AT THE RECIPIENT'S SOLE RISK.

PROJECT DESIGN CRITERIA

1. BASIC DESIGN LIVE LOADS:

ROOF: 20 PSF (REDUCIBLE)
FLOOR: CLASSROOMS 50 PSF (REDUCIBLE)
CORRIDORS 100 PSF (REDUCIBLE)
PARTITIONS 15 PSF

2. SNOW LOADS

GROUND SNOW LOAD, P_G =

3. WIND LOADS

RISK CATEGORY: III
EXPOSURE CATEGORY: C
ULTIMATE DESIGN WIND SPEED (3–SECOND GUST), V_{ULT} = 115 MPH
NOMINAL DESIGN WIND SPEED, V_{ASD} = 89 MPH
VELOCITY PRESSURE EXPOSURE COEFFICIENT, K_Z = 0.85
TOPOGRAPHIC FACTOR, K_{Zt} = 1.0
WIND DIRECTIONALITY FACTOR, K_D = 0.85

A. MWFRS – DIRECTIONAL PROCEDURE (ASCE 7–10, CH. 27)

$q_Z = 0.00256\ K_Z\ K_{Zt}\ K_d\ V_{ULT}^2 = 30.0$ PSF

$P = qGC_P - q_i(GC_{Pi})$

GUST EFFECT FACTOR, G = 0.85
EXTERNAL PRESSURE COEFFICIENT, C_P = [FIG. 27.4–1 THRU 27.4–3]
INTERNAL PRESSURE COEFFICIENT, (GC_{Pi}) = TABLE 26.11–1

B. COMPONENTS & CLADDING (ASCE 7–10, CH. 30)

$q_h = 0.00256\ K_Z\ K_{Zt}\ K_d\ V_{ULT}^2 = 30.0$ PSF

$P = q_h\ [(GC_P) - (GC_{Pi})]$

GUST EFFECT FACTOR, G = 0.85
EXTERNAL PRESSURE COEFFICIENT, (G_{CP}) = [FIG. 30.4–1 THRU 30.4–7]
INTERNAL PRESSURE COEFFICIENT, (GC_{Pi}) = TABLE 26.11–1

C. CBC SEC. 1609A.6 – ALTERNATE ALL–HEIGHTS METHOD

$P_{NET} = 0.00256\ V_{ULT}^2\ K_Z\ C_{NET}\ K_{Zt}$

RISK CATEGORY: III
EXPOSURE CATEGORY: C
ULTIMATE DESIGN WIND SPEED (3–SECOND GUST), V_{ULT} = 115 MPH
NOMINAL DESIGN WIND SPEED, V_{ASD} = 89 MPH
VELOCITY PRESSURE EXPOSURE COEFFICIENT, K_Z = 0.85
TOPOGRAPHIC FACTOR, K_{Zt} = 1.0
WIND DIRECTIONALITY FACTOR, K_d = 0.85
NET PRESSURE COEFFICIENT, C_{NET} = TABLE 1609A.6.2

4. SOIL LATERAL LOADS

ACTIVE PRESSURE =
AT–REST PRESSURE =

5. FLOOD LOADS

FLOOD HAZARD ZONE AND MAP NUMBER / EFFECTIVE DATE:
BASE FLOOD ELEVATION =
LOWEST FLOOR ELEVATION =
ELEVATION AT WHICH BULDING WILL BE DRY FLOOD PROOFED =

6. EARTHQUAKE LOADS

SEISMIC DESIGN CRITERIA

S_S = 2.464
S_1 = 1.003
SITE CLASS: D
F_A = 1.0
F_V = 1.5
S_{DS} = 1.643
S_{D1} = 1.003
RISK CATEGORY: III
SEISMIC DESIGN CATEGORY: D

SEISMIC DESIGN REQUIREMENTS

DESIGN BASE SHEAR $V = C_SW$
WHERE $C_S = S_{DS}/(R/I_e)$
BUT SHALL NOT BE LESS THAN $C_S = 0.044S_{DS}I_e > 0.01$
BUT NEED NOT EXCEED $C_S = S_{D1}/[T(R/I_e)]$

BUILDING	R	Ω_0	T	I_e	C_S	PRIMARY LATERAL FORCE RESISTING SYSTEM	ANALYSIS PROCEDURE	STRUCT. IRREG.	LOC. OF BASE
A	5.0	2.5		1.25		(1)	(A)	NONE	T.O.F.
B	6.0	2.0		1.25		(2)	(A)	NONE	T.O.F.

(1) SPECIAL REINFORCED MASONRY SHEAR WALLS (ASCE 7–10, TABLE 12.2–1, ITEM A.7.)

(2) SPECIAL STEEL CONCENTRICALLY BRACED FRAMES (ASCE 7–10, TABLE 12.2–1, ITEM B.3.)

(A) EQUIVALENT LATERAL FORCE PROCEDURE
(B) MODAL RESPONSE SPECTRUM ANALYSIS
(C) LINEAR RESPONSE HISTORY PROCEDURE
(D) NONLINEAR RESPONSE HISTORY PROCEDURE

(H1A) TYPE 1A – TORSIONAL IRREGULARITY
(H1B) TYPE 1B – EXTREME TORSIONAL IRREGULARITY
(H2) TYPE 2 – REENTRANT CORNER IRREGULARITY
(H3) TYPE 3 – DIAPHRAGM DISCONTINUITY IRREGULARITY
(H4) TYPE 4 – OUT–OF–PLANE OFFSET IRREGULARITY
(H5) TYPE 5 – NONPARALLEL SYSTEMS IRREGULARITY

(V1A) TYPE 1A – STIFFNESS–SOFT STORY IRREGULARITY
(V1B) TYPE 1B – STIFFNESS–EXTREME SOFT STORY IRREGULARITY
(V2) TYPE 2 – WEIGHT (MASS) IRREGULARITY
(V3) TYPE 3 – VERTICAL GEOMETRIC IRREGULARITY
(V4) TYPE 4 – IN–PLANE DISCONTINUITY IN VERTICAL LATERAL FORCE–RESISTING ELEMENT IRREGULARITY
(V5A) TYPE 5A – DISCONTINUITY IN LATERAL STRENGTH–WAK STORY IRREGULARITY
(V5B) TYPE 5B – DISCONTINUITY IN LATERAL STRENGTH–EXTREME WEAK STORY IRREGULARITY

DIMENSIONS

1. DIMENSIONS SHALL BE DEFINED TO INCLUDE BOTH HORIZONTAL DIMENSIONS AND VERTICAL DIMENSIONS (ELEVATIONS).
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DRAWINGS.
3. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT NOTED ON STRUCTURAL DRAWINGS.
4. SEE ARCHITECTURAL AND/OR CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS.
5. SEE ARCHITECTURAL DRAWINGS FOR ALL TOP OF SHEATHING AND/OR ROOF ELEVATIONS.
6. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES OR INCONSISTENCIES.

SUBMITTALS

1. SUBMITTALS, INCLUDING SHOP DRAWINGS AND CONCRETE MIX DESIGNS, REQUIRED BY THE SPECIFICATIONS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THE ITEMS.
2. SHOP DRAWINGS SHALL INDICATE THE DATE OR REVISION OF DRAWING(S) FROM WHICH THE DRAWINGS WERE PREPARED. SUBMITTALS THAT DO NOT IDENTIFY THE LATEST DATE OR REVISION OF DRAWING(S) WILL BE RETURNED WITHOUT REVIEW. ONLY SHOP DRAWINGS THAT ARE COMPLETE WILL BE ACCEPTED FOR REVIEW.
3. IF, AFTER REVIEW, THE SHOP DRAWINGS MUST BE REVISED AND RESUBMITTED, THE SHOP DRAWINGS SHALL IDENTIFY EACH REVISION AND/OR ADDITION BY CLOUDING OR OTHER MEANS TO ASSURE PROPER REVIEW.
4. SUBMITTALS WILL NOT BE ACCEPTED DIRECTLY FROM SUBCONTRACTORS. SUBMITTALS WILL BE ACCEPTED FROM THE GENERAL CONTRACTOR ONLY AFTER BEING REVIEWED AND SIGNED BY THE GENERAL CONTRACTOR, INDICATING COMPLIANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS. SUBMITTALS NOT COMPLYING WITH THE REQUIREMENTS NOTED ABOVE OR IN THE SPECIFICATIONS WILL BE RETURNED WITHOUT REVIEW.

EXISTING CONDITIONS

1. ALL INFORMATION SHOWN ON THE PLANS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE FROM PLANS SUPPLIED BY THE OWNER, BUT WITHOUT GUARANTEE OF ACCURACY.
2. WHERE ACTUAL CONDITIONS ARE NOT IN ACCORDANCE WITH THE INFORMATION PRESENTED, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY. NO MODIFICATIONS OF THE PLANS FOR NEW CONSTRUCTION SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.

EXISTING UNDERGROUND UTILITIES

1. THE ARCHITECT AND ENGINEERS ARE NOT RESPONSIBLE FOR THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES WHETHER OR NOT SHOWN ON THE DRAWINGS. THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS, IF ANY, IS APPROXIMATE. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THE SITE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD ANY SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES WHICH MAY RESULT FROM HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES.

DEMOLITION

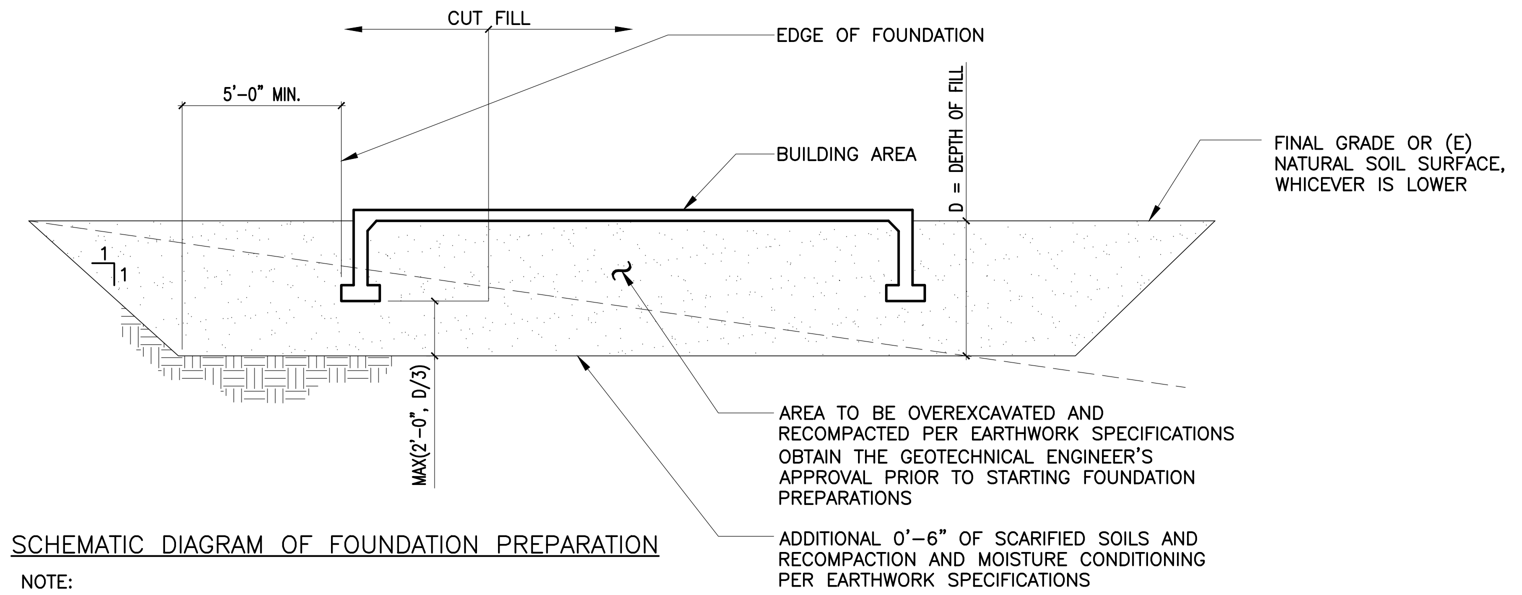
1. ALL DEMOLITION SHALL BE CARRIED ON IN SUCH A WAY AS NOT TO DAMAGE EXISTING ELEMENTS, WHICH ARE TO REMAIN IN THE FINISHED STRUCTURE.
2. ALL ELEMENTS OF THE STRUCTURE, WHICH ARE TO REMAIN, AND WHICH ARE DAMAGED DURING DEMOLITION WORK SHALL BE REPLACED AT NO ADDITIONAL COST. EXISTING ELEMENTS SHALL BE PROTECTED TO THE FULLEST EXTENT POSSIBLE, IN ORDER TO MITIGATE DAMAGE.
3. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF ALL EXISTING ELEMENTS THAT ARE NECESSARY FOR THE INSTALLATION OF ALL NEW WORK.
4. DO NOT CORE OR CUT NEW OPENINGS IN EXISTING CONCRETE OR MASONRY WITHOUT SPECIFIC APPROVAL OF THE STRUCUTRAL ENGINEER. SUBMIT DIMENSIONED LAYOUT OF ALL PROPOSED NEW OPENINGS TO ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO CORING OR CUTTING OPENINGS. CONTRACTOR, AT HIS OWN EXPENSE, SHALL USE NON–DESTRUCTIVE METHODS TO LOCATE EXISTING REINFORCING. EXISTING REINFORCING SHALL NOT BE CUT WITHOUT SPECIFIC APPROVAL OF THE STRUCTURAL ENGINEER.

FOUNDATION

1. ALL PORTIONS OF WORK PERTAINING TO EXCAVATIONS, FOUNDATIONS AND RETAINING WALLS SHALL CONFORM TO TITLE 24, PART 2, CHAPTER 18A.
2. THE FOUNDATION DESIGN IS BASED ON A GEOTECHNICAL REPORT BY:

3. AN ALLOWABLE SOIL BEARING PRESSURE OF ________ PSF WAS USED FOR DESIGN. BOTTOM OF FOOTINGS SHALL BE ________ MINIMUM BELOW LOWEST ADJACENT FINAL GRADE AND BEAR ON APPROVED NATURAL GRADE OR COMPACTED FILL.

   CLASS OF MATERIALS:
4. SEE SPECIFICATIONS FOR EARTHWORK OPERATIONS.
5. THE CONTRACTOR SHALL PROVIDE FOR DE–WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE.
6. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, APPROVALS, PERMITS, INSTALLATION AND MONITORING OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN TEMPORARY EXCAVATIONS.
7. EXCAVATIONS FOR FOOTINGS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER WHEN EXCAVATIONS ARE READY FOR INSPECTION. THE GEOTECHNICAL ENGINEER SHALL SUBMIT A LETTER OF COMPLIANCE TO THE OWNER.
8. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE HAS ATTAINED FULL DESIGN STRENGTH. THE CONTRACTOR SHALL BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL DESIGN STRENGTH. THE CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS AND INSTALLATION AND REMOVAL OF SUCH BRACING.
9. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER. FLOODING WILL NOT BE PERMITTED.
10. ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH NEW CONSTRUCTION, SHALL BE REMOVED.
11. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD ANY BURIED STRUCTURES, SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC., BE FOUND.



SCHEMATIC DIAGRAM OF FOUNDATION PREPARATION

NOTE:
1. SEE SPECIFICATIONS FOR EARTHWORK OPERATIONS.

CONCRETE

1. ALL PORTIONS OF WORK PERTAINING TO CONCRETE CONSTRUCTION SHALL CONFORM TO TITLE 24, PART 2, CHAPTER 19A.
2. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY. MIX DESIGNS SHALL CONFORM TO ACI 318, SEC. 26.4, CBC SEC.1903A AND 1904A. MIX DESIGNS SHALL INCORPORATE THE FOLLOWING CRITERIA:
   - MINIMUM OF 5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE. MAXIMUM OF 7 SACKS OF CEMENT PER YARD OF CONCRETE.
   - MAXIMUM WATER/CEMENT RATIO (BY WEIGHT) OF CONCRETE IN CONTACT WITH SOIL SHALL BE 0.45.
   - MAXIMUM SLUMP SHALL NOT EXCEED 3" ± 1" FOR FOOTINGS, SLABS ON GRADE, AND MASS CONCRETE; AND 4" ± 1" FOR OTHER CONCRETE. SLUMP LIMITATIONS NOTED SHALL APPLY TO CONCRETE MIX PRIOR TO THE ADDITION OF ANY WATER–REDUCING ADMIXTURES OR SUPER–PLASTICIZERS.
   - CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDE(S) SHALL NOT BE USED.
3. SCHEDULE OF STRUCTURAL CONCRETE 28 DAY MINIMUM STRENGTHS AND TYPES:
   - FOOTINGS, CAISSONS, GRADE BEAMS — 145 PCF, f'c = 4500 PSI
   - CAST–IN–PLACE WALLS, COLUMNS, STRUCTURAL SLABS BEAMS AND GIRDERS — 145 PCF, f'c = 4500 PSI
   - SLABS ON METAL DECKING — 110 PCF, f'c = 3000 PSI
   - SLABS ON GRADE (NOTE: 2,500 PSI USED FOR DESIGN) — 145 PCF, f'c = 4500 PSI
   - ELSEWHERE UNLESS NOTED — 145 PCF, f'c = 4500 PSI
4. PORTLAND CEMENT SHALL CONFORM TO ASTM C–150, TYPE II. CEMENT USED FOR CONCRETE IN CONTACT WITH SOIL SHALL CONFORM TO ASTM C–150, TYPE V.
5. AGGREGATE FOR NORMALWEIGHT CONCRETE SHALL CONFORM TO ASTM C–33. COMBINED AGGREGATE GRADATION OF ⅜" MAXIMUM (PEA GRAVEL) SHALL NOT BE USED.
6. AGGREGATE FOR LIGHTWEIGHT CONCRETE SHALL CONFORM TO ASTM C–330. THE COURSE AGGREGATE SIZE SHALL NOT EXCEED ¾" AND THE ABSOLUTE VOLUME OF COARSE AGGREGATE SHALL NOT EXCEED 9.0 CUBIC FEET PER CUBIC YARD OF CONCRETE.
7. READY MIXED CONCRETE SHALL CONFORM TO ASTM C–94.
8. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 304. CLEAN AND ROUGHEN TO ¼" AMPLITUDE ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.
9. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE SECURED IN POSITION PRIOR TO PLACING CONCRETE.
10. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED EXCEPT AS SHOWN. NOTIFY THE STRUCTURAL ENGINEER, IN ADVANCE, OF CONDITIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
11. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

    CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH .... 3"

    CONCRETE EXPOSED TO EARTH OR WEATHER:
    #6 THROUGH #18 BARS .... 2"
    #5 BARS, W31 OR D31 WIRE, AND SMALLER .... 1½"

    CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
    SLABS, WALLS, JOISTS:
    #14 AND #18 BARS .... 1½"
    #11 BAR AND SMALLER .... ¾"
    BEAMS, COLUMNS:
    PRIMARY REINFORCEMENT STIRRUPS, TIES, SPIRALS .... 1½"
12. CONDUITS OR PIPES SHALL NOT BE EMBEDDED WITHIN A SLAB, WALL, BEAM, OR COLUMN, UNLESS SPECIFICALLY DETAILED.
13. CONDUITS OR PIPES SHALL NOT BE EMBEDDED WITHIN CONCRETE FILL OVER METAL DECK.
14. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL MOLDS, GROOVES, REVEALS, ORNAMENTS AND GROUNDS TO BE CAST IN CONCRETE.
15. DRYPACK WHERE NOTED ON DRAWINGS SHALL CONSIST OF 1 PART PORTLAND CEMENT AND 2½ PARTS OF FINE AGGREGATE CONFORMING TO ASTM C–33 WITH ENOUGH WATER TO FORM A BALL WHEN SQUEEZED IN THE HAND. THE SPACE BETWEEN TWO SURFACES REQUIRING DRYPACK SHALL BE PACKED WITH THE DRYPACK MATERIAL BY TAMPING OR RAMMING WITH A BAR OR ROD UNTIL THE VOIDS ARE COMPLETELY FILLED.
16. NON–SHRINK GROUT WHERE NOTED ON DRAWINGS SHALL BE A PRE–MIXED COMPOUND CONSISTING OF NON–METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 8,000 PSI AT 28 DAYS. WHERE APPLICATION THICKNESS EXCEEDS MANUFACTURER'S LIMITATIONS, EXTEND WITH ⅜" (GRAVEL) AGGREGATE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
17. CONCRETE FOR SLAB ON GRADE DOES NOT REQUIRE BATCH PLANT INSPECTION. A MINIMUM OF ONE SET OF CYLINDERS SHALL BE TAKEN AND TESTED FOR EACH 50 CUBIC YARDS OF CONCRETE OR FRACTION THEREOF.

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
JOSH RANDALL
No. 4506
Exp. 6-30-19

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
S0-0.1

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18451	JR	JR	02/18/2019

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REINFORCING STEEL

1. ALL PORTIONS OF WORK PERTAINING TO FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL CONFORM TO TITLE 24, PART 2, CHAPTER 19A.
2. REINFORCING BARS SHALL CONFORM TO ASTM A–615 GRADE 60, EXCEPT #3 BARS MAY BE GRADE 40. REINFORCING BARS THAT ARE TO BE WELDED SHALL CONFORM TO ASTM A–706, GRADE 60.
3. WELDING OF REINFORCEMENT SHALL BE WITH LOW HYDROGEN ELECTRODES AND SHALL CONFORM TO STRUCTURAL WELDING CODE – REINFORCING STEEL, AWS D1.4, BY THE AMERICAN WELDING SOCIETY AND SEC. 1903A.8. WELDING RODS USED FOR THE WELDING OF REINFORCING SHALL BE E80XX. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD. ALL #5 OR LARGER REINFORCING BARS SHALL NOT BE RE–BENT.
5. FUSION WELDED REINFORCING STEEL ASSEMBLIES SHALL CONFORM TO SEC. 1903A.8. TIES/STIRRUP BARS IN FUSION WELDED ASSEMBLIES SHALL CONFORM TO ASTM A–706, AND LONGITUDINAL HOLDING WIRES SHALL CONFORM TO ASTM A–1064.
6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A–185, AND SHALL BE LAPPED 1½ SPACES AND 12" MINIMUM.
7. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE, SPACING AND NUMBER AS THE VERTICAL REINFORCEMENT, RESPECTIVELY.
8. REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS.
9. ALL VERTICAL REINFORCING SHALL BE CONTINUOUS BETWEEN TWO DIAPHRAGM LEVELS, UNLESS NOTED OTHERWISE.

HIGH-STRENGTH BOLTS

1. SEE STRUCTURAL STEEL AND MISCELLANEOUS METAL NOTES FOR ADDITIONAL INFORMATION.
2. JOINT ASSEMBLIES USING HIGH–STRENGTH BOLTS SHALL BE IN ACCORDANCE WITH SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A–325 OR A–490 BOLTS, BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
3. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A–325, NUTS SHALL CONFORM TO ASTM A–563, AND WASHERS SHALL CONFORM TO ASTM F–436.
4. PAINT SHALL NOT BE PERMITTED ON CONTACT SURFACES UNLESS NOTED OTHERWISE. CONTACT SURFACES OF BOLTED PARTS SHALL BE DESCALED AND FREE OF DIRT, OIL, BURRS, PITS, AND OTHER DEFECTS WHICH PREVENT SOLID SEATING OF PARTS.
5. ALL HIGH STRENGTH BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION, UNLESS IDENTIFIED ON THE PLANS AS SLIP–CRITICAL.
6. SLIP–CRITICAL JOINT ASSEMBLIES SHALL BE FULLY PRE–TENSIONED BY TURN–OF–NUT TIGHTENING, CALIBRATED WRENCH TIGHTENING, INSTALLATION OF ALTERNATE DESIGN BOLTS OR BY DIRECT TENSION INDICATOR TIGHTENING.

STRUCTURAL STEEL AND MISCELLANEOUS METAL

1. ALL PORTIONS OF WORK PERTAINING TO STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO TITLE 24, PART 2, CHAPTER 22A.
2. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A–992, UNLESS NOTED OTHERWISE.
3. ROUND HOLLOW STRUCTURAL SECTION (HSS) SHALL CONFORM TO ASTM A–500, GRADE B.
4. SQUARE AND RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A–500, GRADE B.
5. CHANNELS, ANGLES AND PLATES SHALL CONFORM TO ASTM A–36, UNLESS NOTED OTHERWISE.
6. ALL BOLTS SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED OTHERWISE:
   - ANCHOR BOLTS: ASTM F1554, GRADE 36
   - TYPICAL STEEL CONNECTIONS: ASTM A–325N (NON–SLIP–CRITICAL)
   - MOMENT AND DRAG CONNECTIONS: ASTM A–325SC (SLIP–CRITICAL)
   - MISCELLANEOUS CONNECTIONS NOT NOTED OTHERWISE: ASTM A–307
7. ANCHOR BOLTS SHALL BE HEX HEADED. BENT BAR ANCHORS SHALL NOT BE USED.
8. STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
9. ALL WELDING SHALL CONFORM TO THE STRUCTURAL WELDING CODE – STEEL, AWS D1.1 AND SUPPLEMENT AWS D1.8, BY THE AMERICAN WELDING SOCIETY. WELDING RODS SHALL BE E70XX.
10. THE FILLER METAL FOR ALL WELDING SHALL HAVE A NOTCH TOUGHNESS OF NOT LESS THAN 20 FT–LBS AT 0 DEGREES F, AS MEASURED BY A STANDARD CHARPY V–NOTCH TEST, ASTM E23, IN ACCORDANCE WITH THE APPLICABLE FILLER METAL SPECIFICATION REFERENCED IN AWS D1.1 AND SEISMIC SUPPLEMENT AWS D1.8.
11. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
12. ALL WELDS NOT SPECIFIED SHALL BE CONTINUOUS FILLET WELDS. SIZE OF WELDS SHALL BE BASED ON AWS D1.1 FOR THICKER PART JOINED.
13. BOLT HOLES SHALL BE $\frac{1}{16}$" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, UNLESS NOTED OTHERWISE. BOLT HOLES AT COLUMN BASEPLATES MAY BE $\frac{3}{16}$" MAXIMUM LARGER IN DIAMETER THAN NOMINAL SIZE OF ANCHOR BOLT USED, UNLESS NOTED OTHERWISE.
14. DO NOT PAINT STRUCTURAL STEEL SURFACES THAT ARE TO RECEIVE SPRAY–APPLIED FIREPROOFING OR TO BE ENCASED IN CONCRETE OR MASONRY.
15. ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL ITEMS, INCLUDING CONNECTORS, EXPOSED TO THE WEATHER SHALL BE HOT–DIPPED GALVANIZED, AFTER FABRICATION.
16. STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC.
17. OPENINGS SHALL NOT BE PLACED IN STEEL MEMBERS UNLESS SPECIFICALLY DETAILED.

STEEL DECKING

1. SEE STRUCTURAL STEEL AND MISCELLANEOUS METAL NOTES FOR ADDITIONAL INFORMATION.
2. STEEL DECKING SHALL BE OF THE TYPE AND GAUGE AS NOTED ON THE DRAWINGS. DECKING AND ALL ACCESSORIES SHALL BE GALVANIZED AND SHALL CONFORM TO ASTM A–653 SS, GRADE 40 MINIMUM. GALVANIZING SHALL CONFORM TO COATING DESIGNATION G90, UNLESS NOTED OTHERWISE.
3. STEEL DECKING TO RECEIVE CONCRETE FILL SHALL BE COMPOSITE TYPE, DEFORMED TO PROVIDE MECHANICAL BOND WITH THE CONCRETE, UNLESS NOTED OTHERWISE.
4. STEEL DECKING TO RECEIVE CONCRETE FILL SHALL HAVE BUILT–IN VENTS. UNITS SHALL HAVE SLOTTED AND VENTED WEBS WITH A MINIMUM 1.5% UNIFORMLY DISTRIBUTED OPEN AREA.
5. DECK UNITS SHALL BE CONTINUOUS OVER TWO OR MORE SPANS. PROVIDE SHORING AS REQUIRED BY MANUFACTURER'S CURRENT ICC REPORT FOR NUMBER AND LENGTHS OF SPANS, AND AS REQUIRED BY MANUFACTURER TO SUIT JOB CONDITIONS.
6. MINIMUM BEARING OF DECKING ON SUPPORTS SHALL BE 2 INCHES. SHEETS SHALL BE ATTACHED TO ALL SUPPORTING STEEL MEMBERS BY WELDING AS INDICATED ON DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. UPON COMPLETION OF ERECTION, ALL WELDS SHALL BE TOUCHED UP, DE–SLAGED, CLEANED AND PRIMED WITH A ZINC RICH PRIMER.
7. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL DRAWINGS, ETC., FOR SIZE AND LOCATION OF REQUIRED OPENINGS.
8. PROVIDE CLOSURE PLATES AT ALL DECK EDGES, INCLUDING CLOSURES AT COLUMNS, AND SHAFT OPENINGS OR DUCT PENETRATIONS. STEEL DECKING SUBCONTRACTOR SHALL SUPPLY ALL CLOSURES AND ALL SUPPORT FRAMING WHERE NECESSARY FOR SUCH OPENINGS.
9. STEEL DECKING SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INDICATE LOCATION, GAUGE AND SIZE OF EACH PIECE OF DECKING. SHOP DRAWINGS SHALL ALSO SHOW ALL CLOSURE CONDITIONS, WELDS TO SUPPORTS AND SIDE LAP DETAILS.
10. STEEL DECKING SHOP DRAWINGS SHALL INDICATE SHEAR STUD CONNECTOR DETAILS AND STUD LAYOUT FOR EACH BEAM.
11. SHEAR STUDS SHALL BE WELDED THROUGH ONLY ONE THICKNESS OF DECK USING APPROVED WELDING METHODS. DECK SHALL BE PREPUNCHED WHERE MORE THAN ONE LAYER OF DECKING OCCURS AT A STUD LOCATION.
12. WELDING OF STEEL DECKING SHALL BE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODE – SHEET STEEL, AWS D1.3 BY THE AMERICAN WELDING SOCIETY.

COLD-FORMED STEEL FRAMING

1. ALL PORTIONS OF WORK PERTAINING TO COLD–FORMED STEEL CONSTRUCTION SHALL CONFORM TO TITLE 24, PART 2, CHAPTER 22A.
2. ALL LIGHT GAUGE METAL FRAMING SHALL BE GALVANIZED AND SHALL CONFORM TO ASTM A–653 SS, GRADE 50, CLASS 1, WITH A MINIMUM YIELD STRENGTH OF 50 KSI FOR 16 GAUGE AND HEAVIER FRAMING, AND ASTM A–653 SS, GRADE 33, WITH A MINIMUM YIELD STRENGTH OF 33 KSI FOR 18 GAUGE AND LIGHTER FRAMING.
3. DIMENSIONS, PROPERTIES AND TYPES NOTED ARE BASED ON METAL STUDS AND TRACKS BY STEEL STUD MANUFACTURERS ASSOCIATION, ICC NO. ESR–3064P, UNLESS NOTED OTHERWISE.
4. ALL STUDS AT JAMBS OF DOOR AND WINDOW OPENINGS SHALL BE 16 GAUGE, UNLESS NOTED OTHERWISE.
5. WELDING SHALL BE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODE – SHEET STEEL, AWS D1.3, BY THE AMERICAN WELDING SOCIETY.
6. ALL SHEET METAL SCREWS SHALL PROTRUDE 3 EXPOSED THREADS MINIMUM THROUGH BASE METAL FRAMING.
7. ALL METAL STUDS SHALL HAVE STIFFENED FLANGES.
8. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SIZE AND GAUGE OF STUDS.

AUTOMATIC END WELDED STUDS

1. AUTOMATIC END WELDED STUDS SHALL BE NELSON GRANULAR FLUX–FILLED SHEAR CONNECTORS OR ANCHOR STUDS OR AN APPROVED EQUAL.
2. STUDS SHALL BE MANUFACTURED OF COLD ROLLED STEEL, WHICH CONFORMS TO ASTM SPECIFICATION A–108, GRADES C–1010 THRU C–1020.
3. STUDS SHALL BE AUTOMATICALLY END WELDED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS IN SUCH A MANNER AS TO PROVIDE COMPLETE FUSION BETWEEN THE END OF THE STUD AND THE PLATE. THERE SHOULD BE NO POROSITY OR EVIDENCE OF LACK OF FUSION BETWEEN THE WELDED END OF THE STUD AND THE PLATE. THE STUD SHALL DECREASE IN LENGTH DURING WELDING APPROXIMATELY $\frac{1}{8}$" FOR $\frac{5}{8}$" DIAMETER STUDS AND SMALLER, AND $\frac{3}{16}$" FOR STUDS LARGER THAN $\frac{5}{8}$" DIAMETER. WELDING SHALL BE DONE ONLY BY QUALIFIED WELDERS APPROVED BY THE WELDING INSPECTOR.

POWDER DRIVEN CONCRETE FASTENERS

1. THE USE OF POWDER DRIVEN FASTENERS FOR TENSION LOADS IS LIMITED TO SUPPORT OF MINOR LOADS, SUCH AS ACOUSTICAL CEILINGS, DUCTWORK, CONDUIT, ETC. POWDER DRIVEN CONCRETE FASTENERS MAY NOT BE USED IN CURBS.
2. ALLOWABLE TENSION LOADS SHALL BE LIMITED TO 100 POUNDS, OR 80% OF ICC APPROVED VALUES, WHICHEVER IS LESS. QUALIFICATION FOR USE OF ALL POWER ACTUATED TOOLS MUST MEET ANSI A10.3 STANDARD AS REQUIRED BY THE MANUFACTURER AND ALL OSHA REQUIREMENTS.
3. THE OPERATOR, TOOL, AND FASTENERS SHALL BE PREQUALIFIED BY THE PROJECT INSPECTOR. HE SHALL OBSERVE THE TESTING OF THE FIRST TEN FASTENER INSTALLATIONS. A "PULL–OUT" TEST LOAD OF 200 LBS. SHALL BE APPLIED TO THE PIN IN SUCH A MANNER AS NOT TO RESIST THE SPALLING TENDENCY OF THE CONCRETE SURROUNDING THE PIN. THEREAFTER, RANDOM TESTS, UNDER THE PROJECT INSPECTOR'S SUPERVISION, SHALL BE MADE OF APPROXIMATELY ONE IN TEN PINS. IF ANY PIN FAILS TESTING, TEST ALL PINS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY CONSECUTIVE PASS, THEN RESUME THE INITIAL TESTING FREQUENCY.
4. FASTENERS SHALL HAVE ICC APPROVAL FOR THE TYPE OF CONCRETE INTO WHICH THE FASTENERS ARE INSTALLED.
5. POWDER DRIVEN CONCRETE FASTENERS ARE NOT PERMITTED IN PRESTRESSED CONCRETE MEMBERS.
6. WHEN INSTALLING DRILLED–IN ANCHORS AND/OR POWDER DRIVEN PINS IN NON–PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGE TO THE REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND DRILLED–IN ANCHOR AND/OR PIN.

POST-INSTALLED ANCHORS

1. ACCEPTABLE EQUIVALENT MANUFACTURERS OF POST–INSTALLED EXPANSION ANCHORS AND SCREW ANCHORS SHALL BE HILTI INC., SIMPSON STRONG–TIE COMPANY INC., OR DEWALT, UNO.
2. TESTS FOR POST–INSTALLED ANCHORS IN HARDENED CONCRETE SHALL CONFORM TO TITLE 24, PART 2, CHAPTER 19A, SECTION 1910A.5.
3. POST–INSTALLED ANCHOR INSTALLATION SHALL BE INSPECTED BY A SPECIAL INSPECTOR SPECIFICALLY APPROVED BY THE ENFORCEMENT AGENCY FOR THAT PURPOSE.
4. POST–INSTALLED ANCHOR TESTING SHALL BE DONE IN THE PRESENCE OF THE PROJECT INSPECTOR.
5. TEST QUANTITY OF POST–INSTALLED ANCHORS AS NOTED BELOW:

APPLICATION	QUANTITY
SILL PLATES	10% OF BOLTS
STRUCTURAL	100% OF BOLTS
NON–STRUCTURAL (EQUIP. ANCHORAGE, ETC.)	50% OF BOLTS

6. IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE ANCHORS PASS, THEN RESUME INITIAL TESTING FREQUENCY.
7. TORQUE TESTING SHALL BE APPLIED BY CALIBRATED WRENCH. TENSION TESTING (WHERE INDICATED) SHALL BE APPLIED BY HYDRAULIC JACK OR CALIBRATED SPRING LOADING DEVICE.
8. THE FOLLOWING CRITERIA SHALL APPLY FOR THE ACCEPTANCE OF INSTALLED POST–INSTALLED ANCHORS:
   A. TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE ATTAINED WITHIN ONE–HALF (½) TURN OF THE NUT. SLEEVE ANCHORS ⅜ INCH DIAMETER OR LESS MUST ATTAIN THE SPECIFIED TEST TORQUE WITHIN ONE–QUARTER (¼) TURN OF THE NUT, AND THREADED ANCHORS MUST ATTAIN THE SPECIFIED TEST TORQUE WITHIN ONE–QUARTER (¼) TURN OF THE SCREW AFTER INITIAL SEATING OF THE SCREW HEAD.
   B. HYDRAULIC RAM METHOD: (FOR TENSION TESTING WHERE INDICATED) ANCHORS SHALL MAINTAIN THE TENSION TEST LOAD FOR A MINIMUM OF 15 SECONDS AND SHALL EXHIBIT NO DISCERNABLE MOVEMENT DURING THE TENSION TEST. (AN EXAMPLE OF DISCERNABLE MOVEMENT WOULD BE LOOSENING OF THE WASHER UNDER THE NUT).
8. TEST LOADS (1)(2)(3)

TORQUE TEST VALUES – EXPANSION ANCHORS
NORMAL WEIGHT CONCRETE

ANCHOR DIAMETER (INCH)	ANCHOR DEPTH (INCHES)	TORQUE (FT–LBF)
⅜	2	25
½	2	40
	3¼	40
⅝	3⅛	60
	4	60
¾	3¾	110
	4¾	110

(1) TEST VALUES ARE BASED ON KWIK BOLT TZ (KB–TZ) EXPANSION ANCHORS BY HILTI, INC. (ICC EVALUATION REPORT NUMBER ESR–1917).

(2) TEST VALUES ARE BASED ON CARBON STEEL ANCHORS.

(3) VERIFY TORQUE VALUES WITH MANUFACTURER FOR SIMPSON STRONG–BOLT 2 (ICC ESR–3037) OR DEWALT POWER–STUD+SD2 (ICC ESR–2502)

TORQUE TEST VALUES – EXPANSION ANCHORS
GROUT–FILLED CMU

ANCHOR DIAMETER (INCH)	ANCHOR DEPTH (INCHES)	TORQUE (FT–LBF)
⅜	2	15
½	2	25
	3¼	25
⅝	3⅛	35
	4	35
¾	3¾	70
	4¾	70

(1) TEST VALUES ARE BASED ON KWIK BOLT TZ (KB–TZ) EXPANSION ANCHORS BY HILTI, INC. (ICC EVALUATION REPORT NUMBER ESR–3785).

(2) TEST VALUES ARE BASED ON CARBON STEEL ANCHORS.

(3) VERIFY TORQUE VALUES WITH MANUFACTURER FOR SIMPSON WEDGE–ALL (ICC ESR–1396) OR DEWALT POWER–STUD+SD1 (ICC ESR–2966)

TORQUE TEST VALUES – EXPANSION ANCHORS
STRUCTURAL LIGHT WEIGHT CONCRETE OVER METAL DECK

ANCHOR DIAMETER (INCH)	ANCHOR DEPTH (INCHES)	TORQUE (FT–LBF)
⅜	2	25
½	2	40
	3¼	40
⅝	3⅛	60
	4	60

(1) TEST VALUES ARE BASED ON KWIK BOLT TZ (KB–TZ) EXPANSION ANCHORS BY HILTI, INC. (ICC EVALUATION REPORT NUMBER ESR–1917).

(2) TEST VALUES ARE BASED ON CARBON STEEL ANCHORS.

(3) VERIFY TORQUE VALUES WITH MANUFACTURER FOR SIMPSON STRONG–BOLT 2 (ICC ESR–3037) OR DEWALT POWER–STUD+SD2 (ICC ESR–2502)

ANCHORS AND/OR DOWELS INSTALLED WITH ADHESIVE

1. ANCHORS AND/OR DOWELS SHALL BE INSTALLED WITH ADHESIVE ONLY WHERE INDICATED ON DRAWINGS.
2. ANCHORS AND/OR DOWELS SHALL BE INSTALLED IN CONCRETE USING ONE OF THE FOLLOWING PRODUCTS IN ACCORDANCE WITH THE APPLICABLE ICC/IAPMO REPORT:
   - HILTI HIT–HY 200 ADHESIVE ICC NO. ESR–3187
   - SIMPSON SET–XP ADHESIVE ICC NO. ESR–2508
   - DEWALT PURE110+ ADHESIVE ICC NO. ESR–3298
3. ANCHORS AND/OR DOWELS SHALL BE INSTALLED IN GROUTED MASONRY USING ONE OF THE FOLLOWING PRODUCTS IN ACCORDANCE WITH THE APPLICABLE ICC REPORT:
   - HILTI HIT–HY 200 ADHESIVE ICC NO. ESR–3963
   - SIMPSON SET–XP ADHESIVE IAPMO NO. ER–265
4. ADHESIVE SYSTEMS OTHER THAN THOSE SPECIFIED SHALL BE SUBMITTED AS A SUBSTITUTION, AND ARE SUBJECT TO THE REVIEW AND APPROVAL OF THE ENFORCEMENT AGENCY, THE ARCHITECT, AND THE STRUCTURAL ENGINEER.
5. HOLES SHALL BE DRILLED WITH NON–REBAR–CUTTING DRILL BITS.
6. HOLES SHALL BE CLEAN OF CONCRETE DUST AND DEBRIS USING A NYLON BRUSH AND OIL–FREE COMPRESSED AIR. HOLES SHALL ALSO BE FREE OF STANDING WATER.
7. PROJECT INSPECTOR SHALL VERIFY INSTALLATION OF ANCHORS OR DOWELS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, INCLUDING CLEANLINESS OF DRILL HOLES AND PROPER EMBEDMENT.
8. ANCHORS SET IN CONCRETE AND GROUTED MASONRY SHALL BE TESTED TO 2 TIMES THE ASD ALLOWABLE TENSION LOAD, 1.25 TIMES THE LRFD STRENGTH CAPACITY, OR 80% OF THE YIELD STRENGTH OF THE BOLT FOR THE SPECIFIC LOCATION OF THE ANCHOR TO BE TESTED, WHICHEVER IS LESS. TORQUE TESTING IS NOT PERMITTED. SEE DETAILS FOR TEST LOADS.
9. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION TO SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI (ACI 318–14 17.8.2.2). PROOF OF CURENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
10. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS.

FUSION WELDING

1. FUSION WELDED REINFORCING STEEL ASSEMBLIES SHALL CONFORM TO CBC SECTION 1903A.8.
2. SHOP FUSION WELDED STIRRUP/TIE CAGE (OR SPIRAL ASSEMBLIES) CONSISTING OF LOW–ALLOY STEEL REINFORCING STIRRUPS/TIES CONFORMING TO ASTM A706 AND LONGITUDINAL HOLDING WIRES, CONFORMING TO ASTM A1064 SHALL BE PERMITTED.
3. THE FUSION WELDS SHALL BE MADE BY MACHINES USING ELECTRIC RESISTANCE WELDS.
4. TACK WELDING OF PRIMARY REINFORCING BARS TOGETHER OR TO STIRRUPS/ TIES IS NOT PERMITTED.
5. FUSION WELDING OF HOLDING WIRES IS NOT PERMITTED ON ANY PORTION OF A REINFORCING BAR THAT IS OR WILL BE BENT IN ACCORDANCE WITH ACI 318 SECTION 25.3.

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KNA JOB No.: 352.023

New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER JOSEF RANDALL No. 4506 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

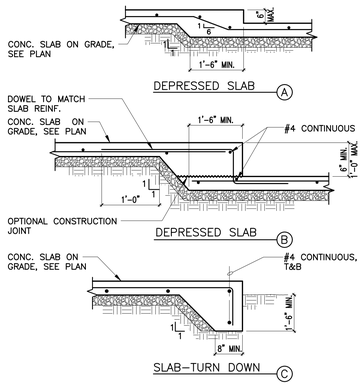
SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
S0-0.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

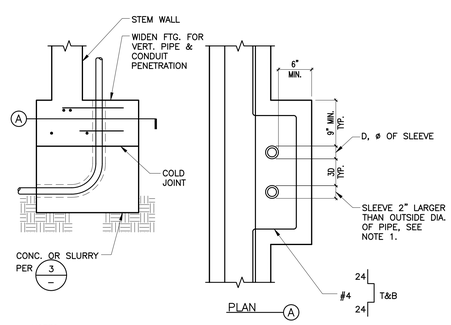
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C204–0 SCALE: NO SCALE

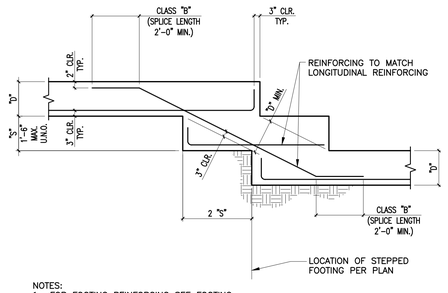
DEPRESSED S.O.G. AND SLAB EDGE | 13



NOTES:
1. PIPES MAY BE WRAPPED IN 1" THICK LOOSE FOAM IN LIEU OF SLEEVING.
2. CONDUIT MAY BE ROUTED UP THROUGH FOOTING WITHOUT SLEEVES OR FOAM WRAP.

C109–0 SCALE: NO SCALE

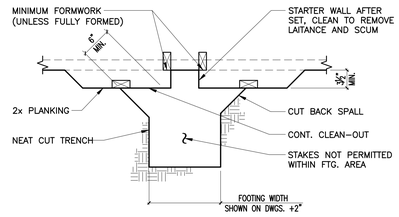
TYP. VERT. PIPES OR COND. THRU FTG. | 9



NOTES:
1. FOR FOOTING REINFORCING SEE FOOTING ELEVATIONS AND/OR SECTIONS.
2. VERTICAL WALL DOWELS SHALL EXTEND TO BOTTOM OF FOOTING.

C108–0 SCALE: NO SCALE

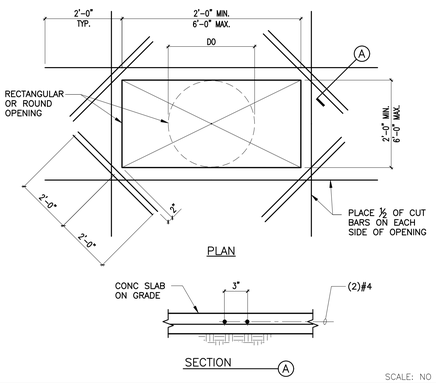
STEPPED FTG: ONE LAYER OF REINF. | 5



NOTES:
1. FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
2. FOOTING WIDTHS SHALL NOT BE MORE THAN 4" WIDER THAN SHOWN ON PLAN.
3. FORMWORK NOT PERMITTED BELOW GRADE UNLESS FULLY FORMED.

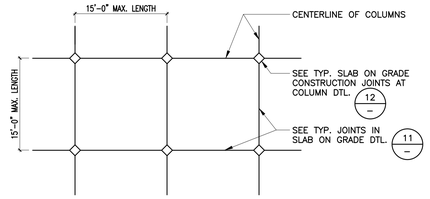
C101–0 SCALE: NO SCALE

FOOTING POURED AGAINST EARTH | 1



C205–0 SCALE: NO SCALE

OPENING IN SLAB ON GRADE | 14

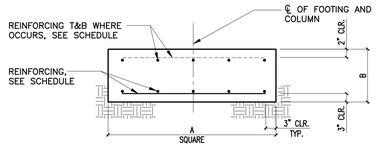


NOTES:
1. PANELS SHALL BE DIVIDED BY CONTROL JOINTS AND CONSTRUCTION JOINTS.
2. PROVIDE CONTROL JOINTS PERPENDICULAR TO CONSTRUCTION JOINTS.
3. IN AREAS WHERE COLUMNS DO NOT OCCUR PROVIDE CONSTRUCTION OR CONTROL JOINTS AT 15'–0" MAX.
4. BETWEEN 1:1 TO 2:1 PANEL SHALL NOT EXCEED 200 SQUARE FEET IN AREA.
5. SEE PLANS FOR LOCATIONS WHERE ADDITIONAL JOINTS MAY BE REQUIRED.
6. THE CONTRACTOR SHALL SUBMIT A PROPOSED LAYOUT OF JOINTS FOR APPROVAL PRIOR TO POURING SLABS.
7. PROVIDE JOINTS @ ALL RE–ENTRANT CORNERS IN SLAB CONSTRUCTION.

C201–0 SCALE: NO SCALE

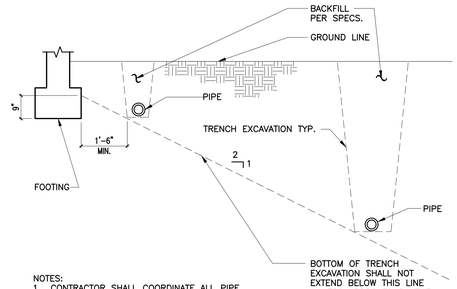
METHOD OF POURING S.O.G. | 10

PAD FOOTING SCHEDULE				
	A	B	REINF.	REMARKS
PF–3	3'–0"	2'–0"	(5)#5 EA. WAY	
PF–4	4'–0"	2'–0"	(7)#5 EA. WAY	
PF–5	5'–0"	2'–0"	(9)#5 EA. WAY	
PF–6	6'–0"	2'–0"	(10)#5 EA. WAY	
PF–7	7'–0"	2'–0"	(12)#5 EA. WAY	
PF–8	8'–0"	2'–0"	(10)#6 EA. WAY	
PF–9	9'–0"	2'–0"	(12)#6 EA. WAY	
PF–10	10'–0"	2'–0"	(14)#6 EA. WAY	
PF–A	4'–0"	2'–0"	(7)#5 EA. WAY	T&B
PF–B	5'–0"	2'–0"	(9)#5 EA. WAY	T&B
PF–C	6'–0"	2'–0"	(10)#5 EA. WAY	T&B



C107–0 SCALE: NO SCALE

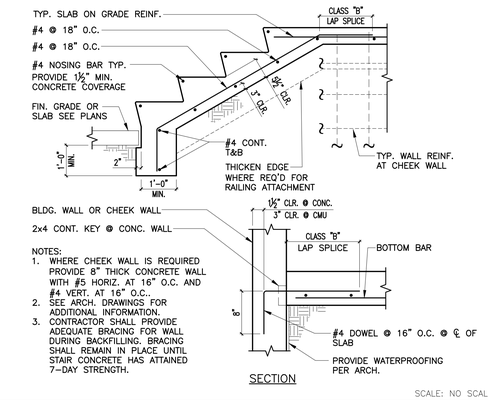
PAD FOOTING SCHEDULE | 6



NOTES:
1. CONTRACTOR SHALL COORDINATE ALL PIPE LOCATIONS WITH BUILDING FOUNDATION REQUIREMENTS.
2. IF REQUIREMENTS AS SHOWN CANNOT BE MET, STEP FOOTING PER TYPICAL "STEPPED FOOTING" DETAILS 4 & 5

C102–0 SCALE: NO SCALE

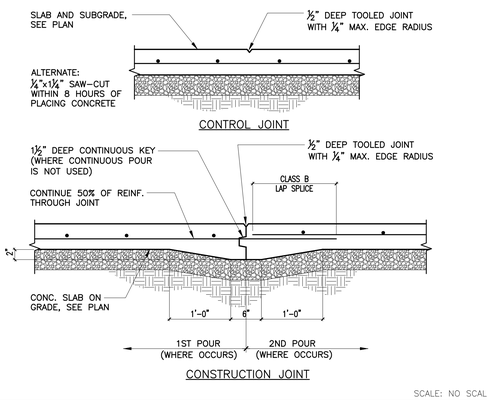
PIPES PARALLEL TO FOOTINGS | 2



NOTES:
1. WHERE CHEEK WALL IS REQUIRED PROVIDE 8" THICK CONCRETE WALL WITH #5 HORIZ. AT 16" O.C. AND #4 VERT. AT 16" O.C.
2. SEE ARCH. DRAWINGS FOR ADDITIONAL INFORMATION.
3. CONTRACTOR SHALL PROVIDE ADEQUATE BRACING FOR WALL DURING BACKFILLING. BRACING SHALL REMAIN IN PLACE UNTIL STAIR CONCRETE HAS ATTAINED 7–DAY STRENGTH.

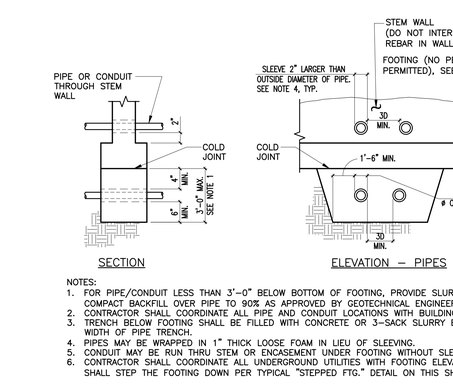
C207–0 SCALE: NO SCALE

CONCRETE STAIR ON GRADE | 15



C202–0 SCALE: NO SCALE

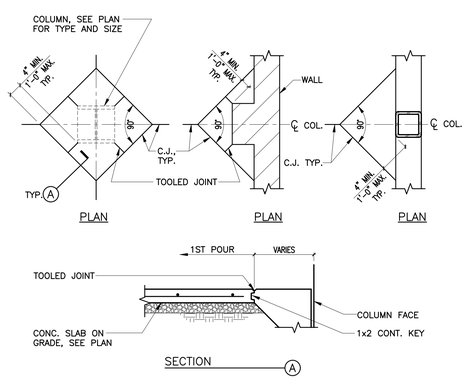
JOINT IN SLAB ON GRADE | 11



NOTES:
1. FOR PIPE/CONDUIT LESS THAN 3'–0" BELOW BOTTOM OF FOOTING, PROVIDE SLURRY AS SHOWN. FOR PIPE/CONDUIT MORE THAN 3'–0" BELOW BOTTOM OF FOOTING, COMPACT BACKFILL OVER PIPE TO 90% AS APPROVED BY GEOTECHNICAL ENGINEER OR STEP FTG SO THAT DIMENSION DOES NOT EXCEED 3'–0".
2. CONTRACTOR SHALL COORDINATE ALL PIPE AND CONDUIT LOCATIONS WITH BUILDING FOUNDATION REQUIREMENTS.
3. TRENCH BELOW FOOTING SHALL BE FILLED WITH CONCRETE OR 3–SACK SLURRY BEFORE POURING FOOTING. CONCRETE FILL SHALL BE SAME WIDTH AS FOOTING AND FULL WIDTH OF PIPE TRENCH.
4. PIPES MAY BE WRAPPED IN 1" THICK LOOSE FOAM IN LIEU OF SLEEVING.
5. CONDUIT MAY BE RUN THRU STEM OR ENCASEMENT UNDER FOOTING WITHOUT SLEEVES OR FOAM WRAP.
6. CONTRACTOR SHALL COORDINATE ALL UNDERGROUND UTILITIES WITH FOOTING ELEVATIONS. WHERE PIPES OR CONDUIT ARE IN CONFLICT WITH THE FOOTING, CONTRACTOR SHALL STEP THE FOOTING DOWN PER TYPICAL "STEPPED FTG." DETAIL ON THIS SHEET. NOT ALL REQUIRED STEPS IN THE FOOTING ARE SHOWN ON PLAN.

C103–0 SCALE: NO SCALE

PIPES AND CONDUIT PERPENDICULAR TO FOOTINGS | 3



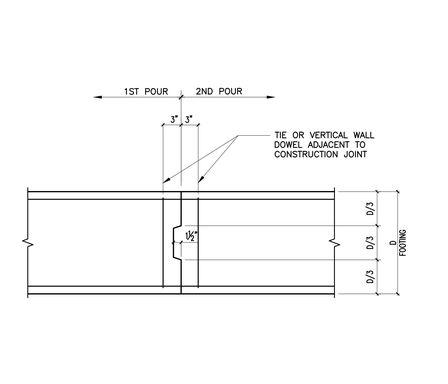
NOTES:
1. SEE ARCH. FOR SIZE, HEIGHT AND LOCATION OF CURBS AND PADS.
2. PROVIDE INSERTS AS REQ'D BY ARCH & MECH. DRAWINGS.

C208–0 SCALE: NO SCALE

CONCRETE CURB AND PADS | 16

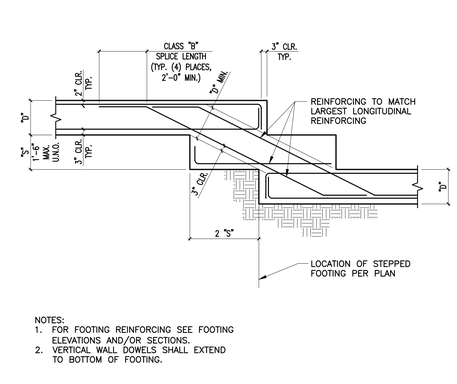
C203–0 SCALE: 1"=1'–0"

S.O.G. CONST. JOINTS AT COL. | 12



C105–0 SCALE: NO SCALE

CONTINUOUS FOOTING CONST. JOINT | 8



NOTES:
1. FOR FOOTING REINFORCING SEE FOOTING ELEVATIONS AND/OR SECTIONS.
2. VERTICAL WALL DOWELS SHALL EXTEND TO BOTTOM OF FOOTING.

C104–0 SCALE: NO SCALE

STEPPED FTG. TWO LAYERS OF REINF. | 4

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER JOSH RANDALL No. 4506 Exp. 6–30–19 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE:
TYPICAL CONCRETE DETAILS

SHEET NUMBER:
S0-0.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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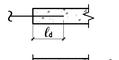
DETAIL

1

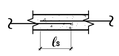
REINFORCING DEVELOPMENT & SPLICE LENGTHS (GRADE 60)																																			
TYPE	BAR LOCATION	CONCRETE		BAR SIZE																															
		TYPE	STRENGTH	#3			#4			#5			#6			#7			#8			#9			#10			#11		
				ℓ_d	ℓ_s	ℓ_{dh}	ℓ_d	ℓ_s	ℓ_{dh}	ℓ_d	ℓ_s	ℓ_{dh}	ℓ_d	ℓ_s	ℓ_{dh}	ℓ_d	ℓ_s	ℓ_{dh}	ℓ_d	ℓ_s	ℓ_{dh}	ℓ_d	ℓ_s	ℓ_{dh}	ℓ_d	ℓ_s	ℓ_{dh}	ℓ_d	ℓ_s	ℓ_{dh}
1	VERT. REINF. IN CONC WALL	NWC	fc'>4ksi	14	18	6	19	25	7	24	31	9	28	37	10	42	54	12	47	62	14	54	70	15	61	79	17	67	87	19
2	HORIZ. REINF. IN CONC. WALL, FTGS., BEAMS, MISC. (SEE NOTE 5)	NWC	fc'>4ksi	18	24	6	25	32	7	31	40	9	37	48	10	54	70	12	62	80	14	70	91	15	79	102	17	87	113	19
3	SLAB ON GRADE (SEE NOTE 6)	NWC	fc'>4ksi	14	18	6	19	25	7	24	31	9	28	37	10	42	54	12	47	62	14	54	70	15	61	79	17	67	87	19
4	CONC. ROOF OR FLOOR DIAPHRAGMS	LWC	fc'≥3ksi	23	30	8	30	39	12	37	48	12	44	57	13	65	84	16	74	96	19	83	108	20	93	121	23	104	135	25

NOTES:

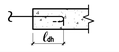
1. ℓ_d = DEVELOPMENT



ℓ_s = LAP SPLICE LENGTH



ℓ_{dh} = HOOK DEVELOPMENT LENGTH



2. THE ABOVE DEVELOPMENT & SPLICE LENGTHS ARE CLASS B & APPLY TO ALL REINF. U.N.O. ON DWGS.
3. FOR NONCONTACT LAP SPLICES AND ALL SPLICES IN SHOTCRETE WALLS, ADD 6" TO THE LENGTHS IN THE TABLE ABOVE.
4. WHEN SPLICING BARS OF DIFFERENT SIZE, USE THE LAP SPLICE LENGTH OF LARGER BAR.
5. TYPE 2 VALUES NOTED HAVE ALREADY BEEN INCREASED BY 1.3, ASSUMING A "TOP BAR" CONDITION.
6. FOR SLABS OR CURBS THICKER THAN 12", THE REBAR LAPS SHALL BE INCREASED TO COMPLY WITH TYPE 2 VALUES.

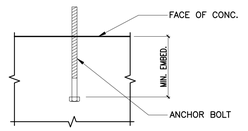
C415-0 SCALE: NO SCALE

14

10

CONCRETE ANCHOR BOLT SCHEDULE

6



BOLT SIZE	EMBEDMENT FOR CONCRETE U.N.O.	EMBEDMENT FOR CONC. @ SHEAR WALLS
½"	4"	6"
⅝"	5"	7½"
¾"	6"	9"
⅞"	7"	10½"
1"	8"	12"
1⅛"	9"	13½"
1¼"	10"	15"

NOTES:
1. MINIMUM BOLT SPACING SHALL BE 12 BOLT DIAMETERS WITH A MINIMUM EDGE DISTANCE OF 12 DIAMETERS, UNLESS NOTED OTHERWISE.
2. PROVIDE AN ADDITIONAL 2" OF EMBEDMENT FOR ANCHOR BOLTS LOCATED IN THE TOP OF COLUMNS.
3. ANCHOR BOLTS SHALL BE HEX HEADED WITH THE DIMENSIONS OF THE HEX CONFORMING TO ANSI/ASME B18.2.1 BENT BAR ANCHORS SHALL NOT BE USED.

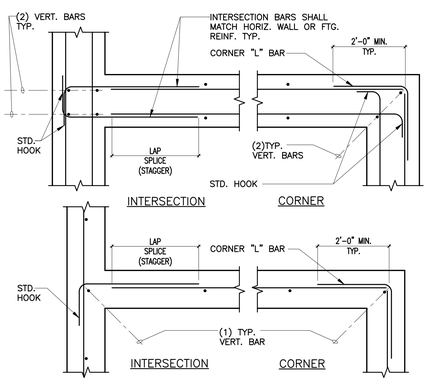
C501-0 SCALE: NO SCALE

15

11

REINF. AT FTG. OR WALL INTERSECTION

7



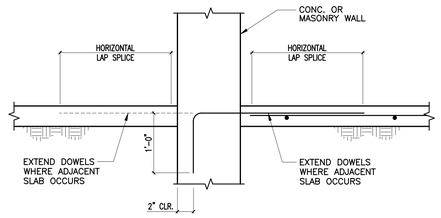
C303-0 SCALE: NO SCALE

16

12

DOWELS FOR SLAB ON GRADE

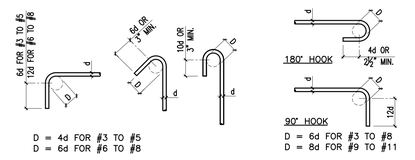
8



C206-0 SCALE: NO SCALE

BAR BENDS

2

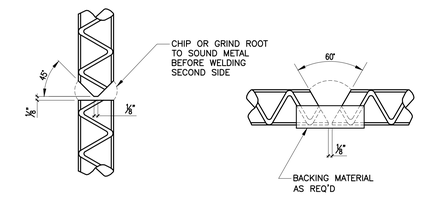


NOTES:
1. ALL BAR BENDS SHALL BE MADE COLD.
2. ALL REINFORCING BARS #5 & LARGER SHALL NOT BE RE-BENT.

C409-0 SCALE: NO SCALE

BUTT WELDED REINFORCING BARS

3

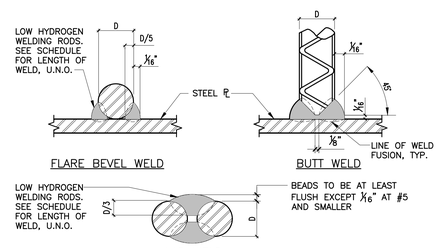


NOTES:
1. A PRE-QUALIFICATION TEST SHALL BE MADE BY AN APPROVED TESTING LABORATORY ON SAMPLES OF EACH SIZE BAR BEING WELDED.
2. WELDING SHALL BE WITH E80XX LOW HYDROGEN ELECTRODES AND SHALL CONFORM TO A.W.S. - D1.4.

C412-0 SCALE: NO SCALE

REBAR WELDING

4



MINIMUM WELD REQUIREMENTS FOR LAP WELDING	
BAR SIZE	WELD LENGTH (EA. SIDE)
#3	2"
#4	2½"
#5	3"
#6	3½"
#7	4"

NOTES:
1. USE (E80XX) LOW HYDROGEN RODS FOR ALL REBAR WELDING.
2. ALL WELDING SHALL BE SUBJECT TO CONTINUOUS INSPECTION.

C413-0 SCALE: NO SCALE

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER JOSH RANDALL No. 4506 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

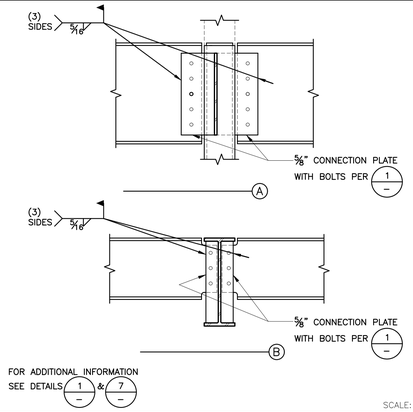
SHEET TITLE:
TYPICAL REINFORCING DETAILS

SHEET NUMBER:
S0-0.4

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

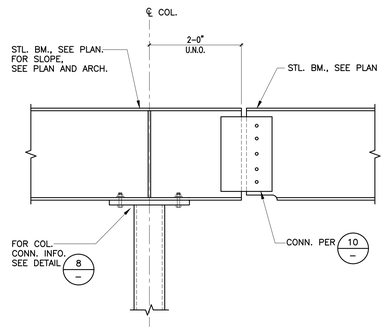
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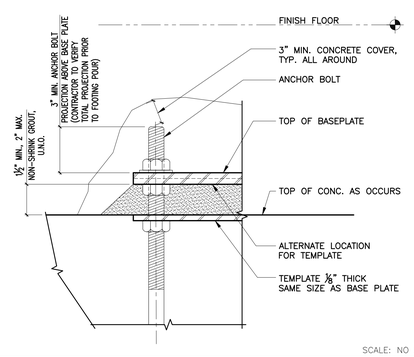
S316-0 SCALE: NO SCALE

TYPICAL WELDED DRAG BEAM ●● 13



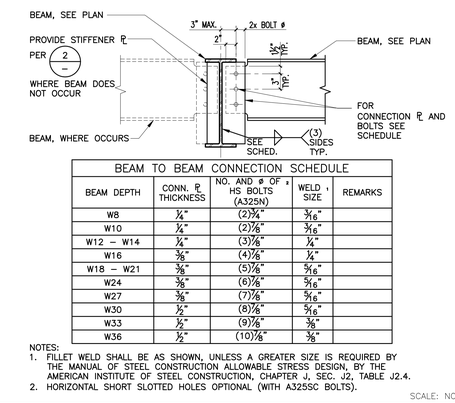
S118-0 SCALE: NO SCALE

BEAM HINGE CONNECTION 9



S114-0 SCALE: NO SCALE

ANCHOR BOLT PROJECTION 5



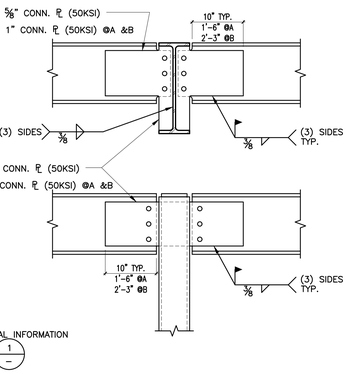
BEAM TO BEAM CONNECTION SCHEDULE

BEAM DEPTH	CONN. ℄ THICKNESS	NO. AND ø OF ¾" HS BOLTS (A325N)	WELD 5 SIZE	REMARKS
W8	¼"	(2)⅞"	5/16"	
W10	¼"	(2)⅞"	5/16"	
W12 – W14	¼"	(3)⅞"	¼"	
W16	⅜"	(4)⅞"	¼"	
W18 – W21	⅜"	(5)⅞"	5/16"	
W24	⅜"	(6)⅞"	5/16"	
W27	⅜"	(7)⅞"	5/16"	
W30	½"	(8)⅞"	5/16"	
W33	½"	(9)⅞"	⅜"	
W36	½"	(10)⅞"	⅜"	

NOTES:
1. FILLET WELD SHALL BE AS SHOWN, UNLESS A GREATER SIZE IS REQUIRED BY THE MANUAL OF STEEL CONSTRUCTION ALLOWABLE STRESS DESIGN, BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, CHAPTER J, SEC. J2, TABLE J2.4.
2. HORIZONTAL SHORT SLOTTED HOLES OPTIONAL (WITH A325SC BOLTS).

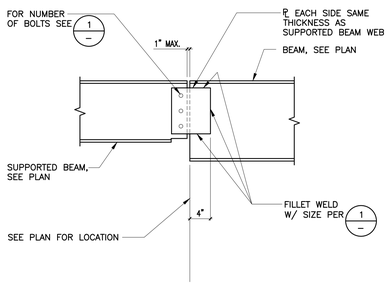
S101-0 SCALE: NO SCALE

BEAM TO BEAM CONNECTION 1



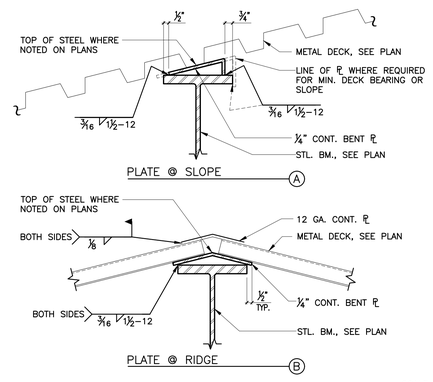
LAHS-003 SCALE: 1"=1'-0"

LONG WELD DRAG CONNECTION ●●● 14



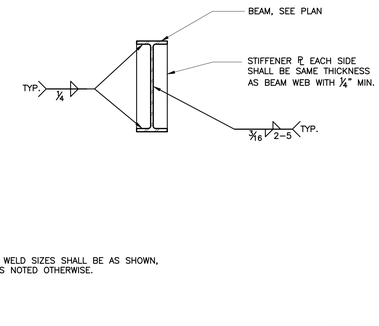
S109-0 SCALE: NO SCALE

BEAM HINGE 10



S505-0 SCALE: NO SCALE

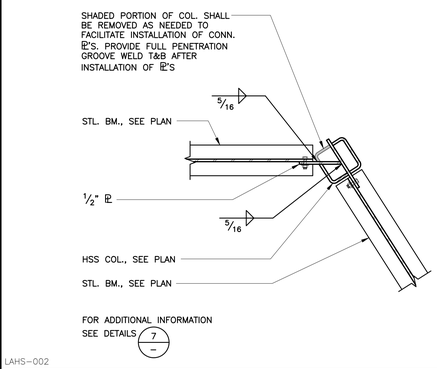
BEAM SLOPE TRANSITION PLATES 6



NOTE:
FILLET WELD SIZES SHALL BE AS SHOWN, UNLESS NOTED OTHERWISE.

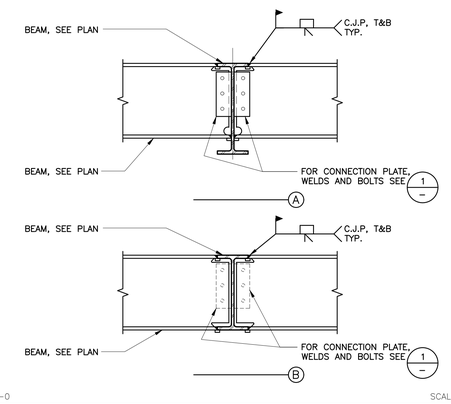
S105-0 SCALE: NO SCALE

BEAM STIFFENER PLATES 2



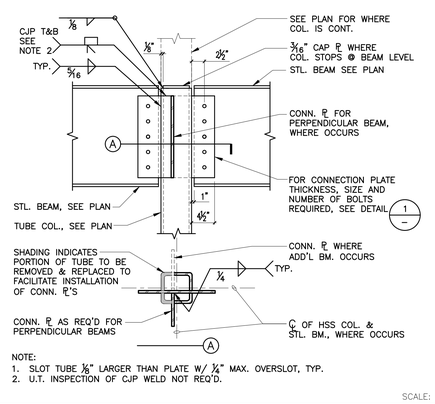
LAHS-002 SCALE: 1"=1'-0"

SKEWED BM. TO COL. CONN. 15



S309-0 SCALE: NO SCALE

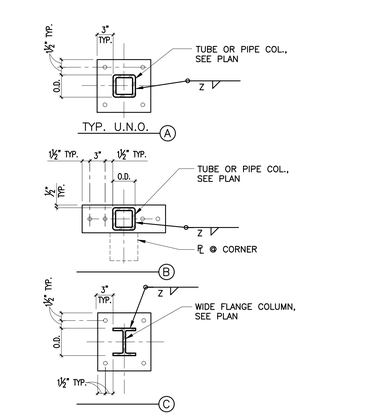
BEAM TO BEAM MOMENT CONNECTION 11



NOTE:
1. SLOT TUBE ⅛" LARGER THAN PLATE W/ ¼" MAX. OVERSLOT, TYP.
2. U.T. INSPECTION OF CJP WELD NOT REQ'D.

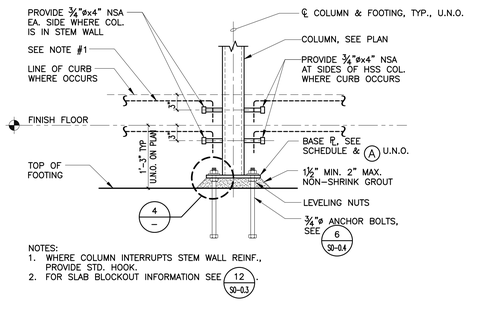
S115-0 SCALE: NO SCALE

BEAM TO SIDE OF HSS COL. CONN. (2 SIDES) 7



BASE ℄ SCHEDULE

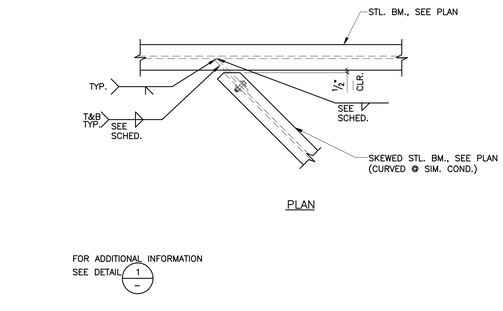
MEMBER SIZE O.D.	℄ THICKNESS	WELD Z
4" OR LESS	⅝"	¼"
GREATER THAN 4" TO 6"	¾"	¼"
GREATER THAN 6"	1"	5/16"



NOTES:
1. WHERE COLUMN INTERRUPTS STEM WALL REINF., PROVIDE STD. HOOK.
2. FOR SLAB BLOCKOUT INFORMATION SEE 12 S0-0.3.

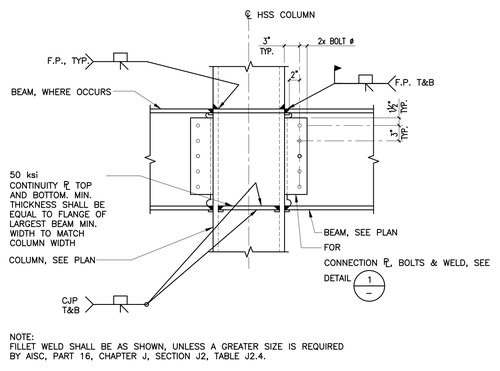
S111-0 SCALE: NO SCALE

COLUMN BASE PLATES 4



LAHS-004 SCALE: 1"=1'-0"

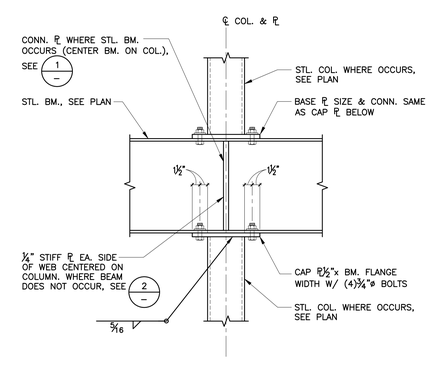
SKEWED BM. TO BM. CONN. 16



NOTE:
FILLET WELD SHALL BE AS SHOWN, UNLESS A GREATER SIZE IS REQUIRED BY AISC, PART 16, CHAPTER J, SECTION J2, TABLE J2.4.

LAHS-001 SCALE: 1"=1'-0"

MOMENT CONNECTION AT HSS COL. 12



S119-0 SCALE: NO SCALE

BEAM TO HSS OR PIPE COL. CONN. 8

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
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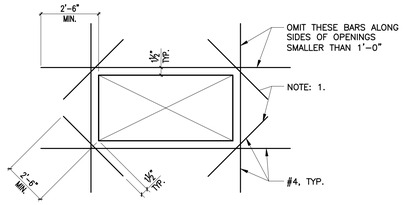
SHEET TITLE:
TYPICAL STEEL DETAILS

SHEET NUMBER:
S0-0.5

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18451	JR	JR	02/18/2019

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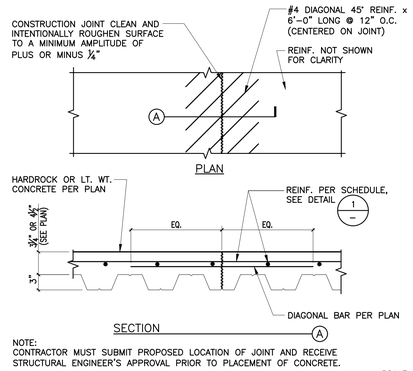


PLAN

NOTES:
1. PROVIDE (2)#4 x 5'-0" AT ALL RE-ENTRANT CORNERS AND AT ALL OPENINGS GREATER THAN 6'-0" SUCH AS ELEVATOR, STAIR OPENINGS AND AIR SHAFTS.
2. ALL OPENINGS LARGER THAN 2'-0" SQ. REQUIRE PERIMETER SUPPORT AND ARE TO BE APPROVED BY STRUCTURAL ENGINEER.

S416-0 SCALE: NO SCALE

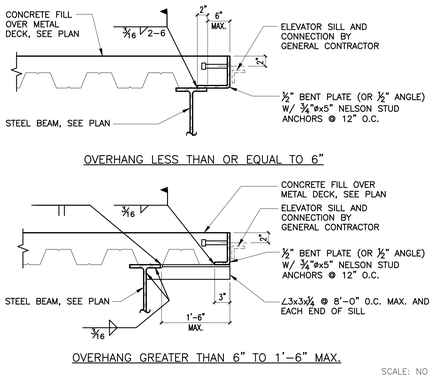
SLAB ON METAL DECK OPENING | 13



NOTE:
CONTRACTOR MUST SUBMIT PROPOSED LOCATION OF JOINT AND RECEIVE STRUCTURAL ENGINEER'S APPROVAL PRIOR TO PLACEMENT OF CONCRETE.

S411-0 SCALE: NO SCALE

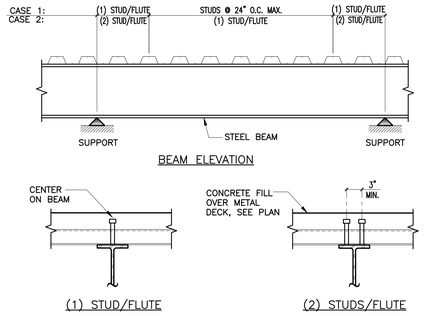
CONST. JOINT AT COMPOSITE DECK | 14



S403-0 SCALE: NO SCALE

ELEVATOR SILL SUPPORT | 15

| 16



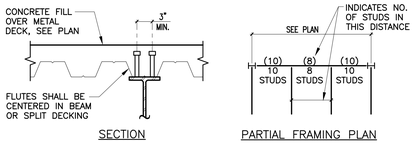
BEAM ELEVATION

(1) STUD/FLUTE (2) STUDS/FLUTE

CASE 1: # OF STUDS < # OF FLUTES. WHERE THERE ARE LESS STUDS CALLED FOR ON PLAN THAN DECK DOWN-FLUTES, PROVIDE STUDS AT 24" O.C. MAXIMUM AND ADD STUDS TO MAKE TOTAL NUMBER OF STUDS REQUIRED BEGINNING AT ENDS OF BEAM AND PROCEEDING TO MIDSPAN.

CASE II: # OF STUDS > # OF FLUTES. WHERE THERE ARE MORE STUDS CALLED FOR ON PLAN THAN DECK DOWN-FLUTES, DOUBLE STUDS AS SHOWN TO MAKE TOTAL NUMBER OF STUDS REQUIRED BEGINNING AT ENDS OF BEAMS AND PROCEEDING TO MIDSPAN.

DECKING PERPENDICULAR TO BEAM



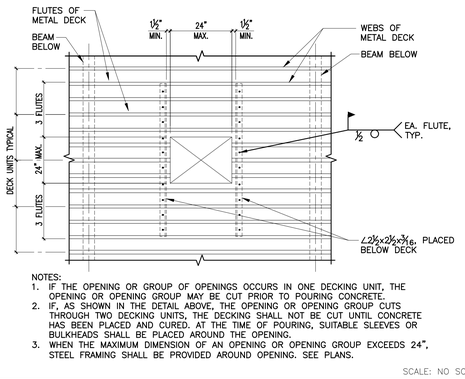
NOTES:
1. STUDS SHALL HAVE A MINIMUM SPACING OF 4½" O.C. ALONG LENGTH OF BEAM.
2. NO MORE THAN 2 STUDS SHALL BE PLACED IN A ROW.

DECKING PARALLEL TO BEAM

NOTES:
1. SHEAR STUDS SHALL BE ¾"x5" LONG HEADED STUDS (U.N.O.) MANUFACTURED BY NELSON STUD WELDING INC. (PER ICC ESR-2856), OR AN APPROVED EQUAL. LENGTH NOTED SHALL BE LENGTH AFTER WELDING.
2. IF NO STUDS ARE INDICATED ON PLANS, PROVIDE ¾"x5" LONG STUDS @ 24" O.C. MINIMUM.
3. WELDING OF STUDS SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
4. FOR BEAMS WITH A FLANGE THICKNESS ¼" OR LESS PROVIDE ⅝"x5" LONG HEADED STUDS.

S406-0 SCALE: NO SCALE

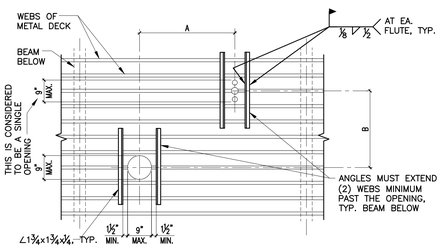
COMPOSITE BEAM STUD DETAIL | 10



NOTES:
1. IF THE OPENING OR GROUP OF OPENINGS OCCURS IN ONE DECKING UNIT, THE OPENING OR OPENING GROUP MAY BE CUT PRIOR TO POURING CONCRETE.
2. IF, AS SHOWN IN THE DETAIL ABOVE, THE OPENING OR OPENING GROUP CUTS THROUGH TWO DECKING UNITS, THE DECKING SHALL NOT BE CUT UNTIL CONCRETE HAS BEEN PLACED AND CURED. AT THE TIME OF POURING, SUITABLE SLEEVES OR BULKHEADS SHALL BE PLACED AROUND THE OPENING.
3. WHEN THE MAXIMUM DIMENSION OF AN OPENING OR OPENING GROUP EXCEEDS 24", STEEL FRAMING SHALL BE PROVIDED AROUND OPENING. SEE PLANS.

S407-0 SCALE: NO SCALE

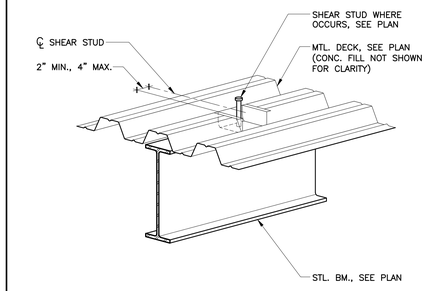
OPENING THRU DECK W/ CONC. FILL | 11

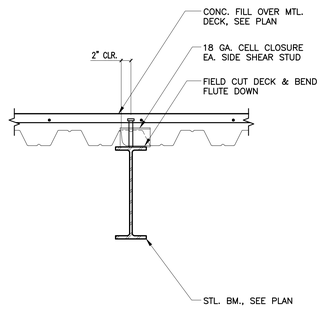


NOTES:
1. THIS DETAIL IS FOR HOLES CUTTING NO MORE THAN (2) ADJACENT WEBS FOR 6" AND 8" MODULE DECKS, AND WEB FOR 12" MODULE DECK.
2. ANGLES MAY BE PLACED ON TOP OR BELOW OF DECK.
3. IF DIMENSIONS "A" OR "B" ARE LESS THAN 32", THE OPENING GROUP WILL BE CONSIDERED AS A SINGLE HOLE, AND MUST BE REINFORCED AS REQUIRED PER "OPENING THRU METAL DECK W/ CONC. FILL" DETAIL.
4. SINGLE OPENINGS NOT CUTTING WEBS REQUIRE NO ANGLES.
5. PRIOR TO CONCRETE POUR, BLOCK OUT OPENING. AFTER THE CONCRETE HAS CURED THE DECK MAY BE CUT.

S408-0 SCALE: NO SCALE

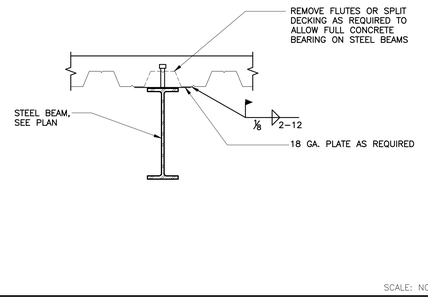
PENETRATION IN DECK W/ CONC. FILL | 12





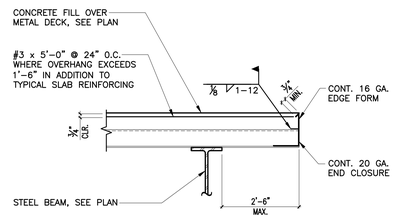
S418-0 SCALE: NO SCALE

COMPOSITE DECK HIGH FLUTE @ BEAM | 6



S413-0 SCALE: NO SCALE

DECK PARALLEL TO BEAM | 7



(CONC. FILLED DECK)

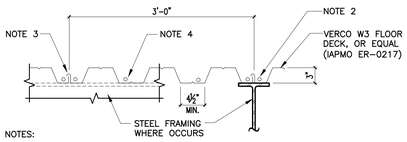
S402-0 SCALE: NO SCALE

DECK PERPENDICULAR TO SLAB EDGE | 8

FLOOR AND ROOF CONSTRUCTION SCHEDULE		
MARK	DECK CONSTRUCTION	DETAIL
D1	3¼" LIGHT WEIGHT CONCRETE WITH #3 @ 12" O.C. EACH WAY @ CENTER OF SLAB (MIN. SPLICE = 26", STAGGERED) OVER 3"x18 GA. VERCO W3 FORMLOK DECK	2/–
D2	1½"x18 GA. PLB-36 ROOF DECK	3/–

S415-0 SCALE: NO SCALE

FLOOR AND ROOF CONST. SCHEDULE | 1



NOTES:
1. ○ INDICATES PUDDLE WELDS.
2. WHERE DECK RIBS ARE PARALLEL TO SUPPORTS USE ½"ø EFFECTIVE PUDDLE WELDS @ 18" O.C.
3. BUTTON PUNCH SIDE LAPS @ 36" O.C.
4. DECK IS TO BE WELDED TO SUPPORTS BY ½"ø EFFECTIVE PUDDLE WELDS AS SHOWN.
5. A SINGLE NELSON STUD ANCHOR WELDED THRU DECKING MAY BE SUBSTITUTED FOR A SINGLE PUDDLE WELD.
6. MINIMUM DECK PROPERTIES:

GAGE: 18 GA.

I = 1.213

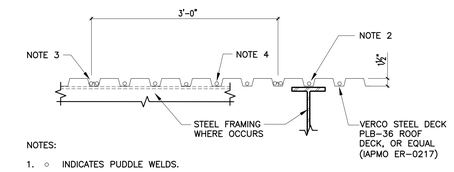
S+ = 0.752

S- = 0.768

(CONC. FILLED DECK)

S404-0 SCALE: NO SCALE

FLOOR DECK WELDING & SEC. PROP. | 2



NOTES:
1. ○ INDICATES PUDDLE WELDS.
2. WHERE DECK RIBS ARE PARALLEL TO SUPPORTS USE ½" EFFECTIVE PUDDLE WELD @ 12" O.C.
3. SEAM ATTACHMENT TO BE PUNCHLOK @ 12" O.C. PUNCHLOK @ 8" O.C. @ 2A.
4. DECK IS TO BE WELDED TO SUPPORTS BY ½" EFFECTIVE PUDDLE WELDS AS SHOWN.
5. MINIMUM DECK PROPERTIES:

GAGE: 18 GA.

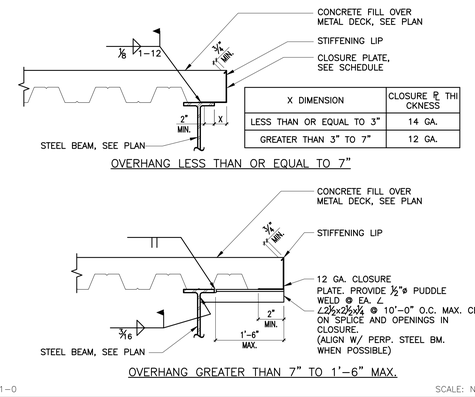
I = 0.306

S+ = 0.314

S- = 0.331

S502-0 SCALE: NO SCALE

ROOF DECK WELDING & SECT. PROP. | 3



X DIMENSION	CLOSURE PLATE THICKNESS
LESS THAN OR EQUAL TO 3"	14 GA.
GREATER THAN 3" TO 7"	12 GA.

S401-0 SCALE: NO SCALE

FLOOR DECK WELDING & SLAB EDGE | 4

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
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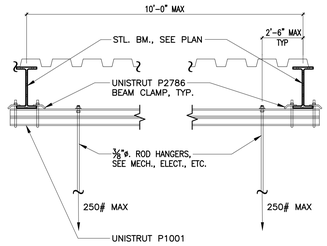
SHEET TITLE:
TYPICAL METAL DECK DETAILS

SHEET NUMBER:
S0-0.6

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

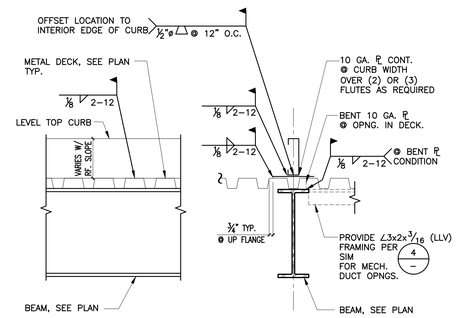
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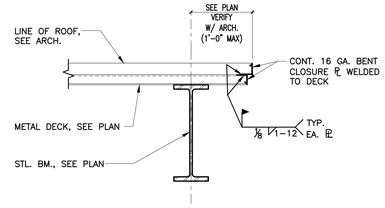
LAHS-007 SCALE: 1"=1'-0"

13 HANGER ROD SUPPORT 9



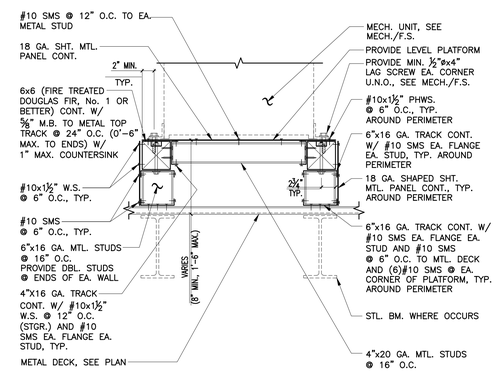
S504-0 SCALE: NO SCALE

5 MECH. EQUIPMENT SUPPORT (400# MAX.)



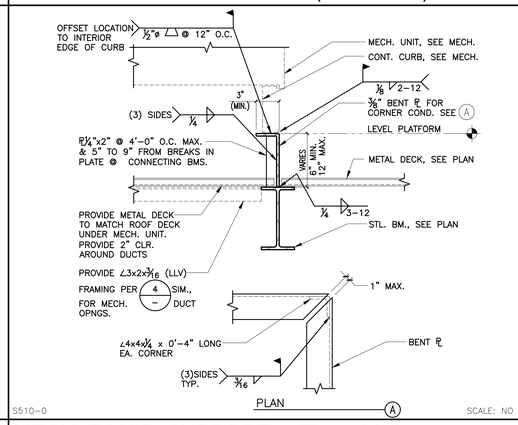
S506-0 SCALE: NO SCALE

1 TYPICAL ROOF DECK EDGE



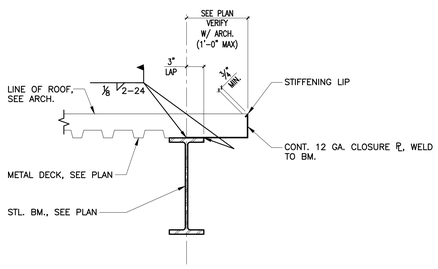
LAHS-008 SCALE: 1"=1'-0"

14 MECH. UNIT PLATFORM (200#< WT. < 600#) 10



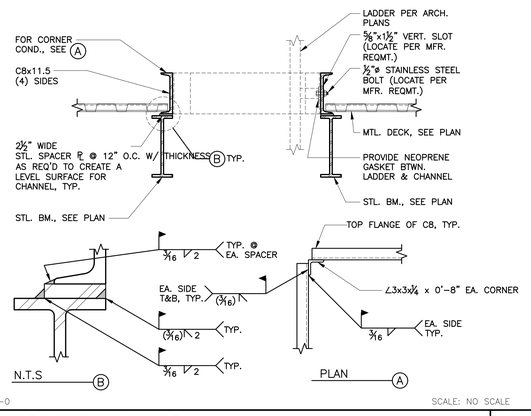
S510-0 SCALE: NO SCALE

6 MECH. EQUIP. SUPPORT (WT. > 400#)



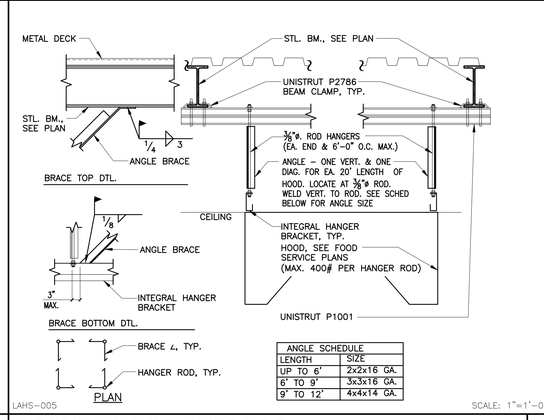
S507-0 SCALE: NO SCALE

2 TYPICAL ROOF DECK EDGE



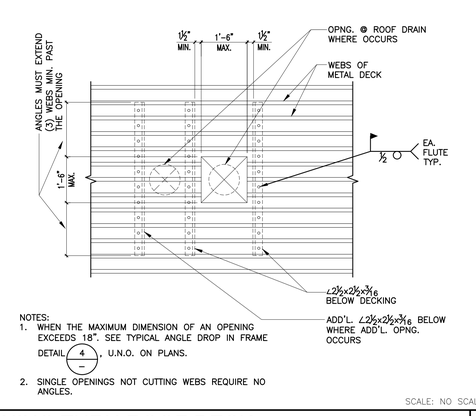
S511-0 SCALE: NO SCALE

15 ROOF HATCH CURB 11



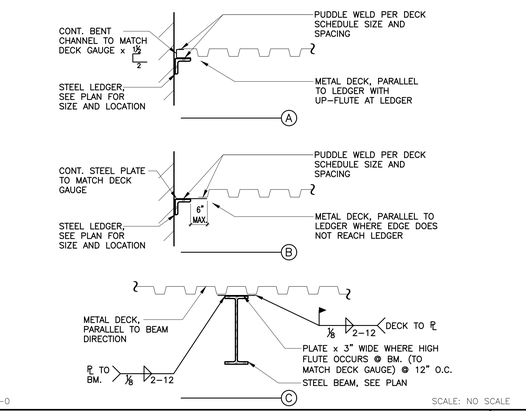
LAHS-005 SCALE: 1"=1'-0"

7 KITCHEN HOOD SUPPORT



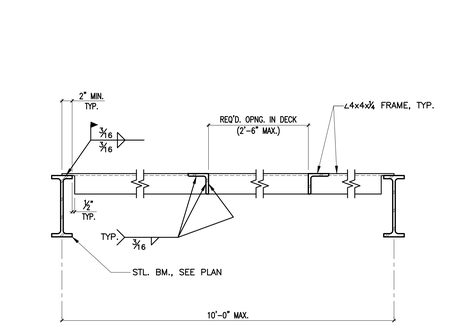
S503-0 SCALE: NO SCALE

3 OPENING THRU ROOF DECK



LAHS-006 SCALE: 1"=1'-0"

8 MECH. UNIT PLATFORM (WT. ≤ 200#)



S509-0 SCALE: NO SCALE

4 TYPICAL ANGLE DROP IN FRAME

16 NON-COMPOSITE DECK PARALLEL TO SUPPORT 12

S413-0 SCALE: NO SCALE

12 NON-COMPOSITE DECK PARALLEL TO SUPPORT

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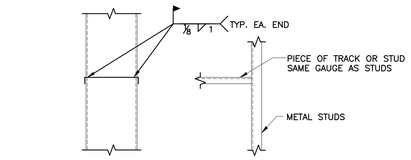
SHEET TITLE:
TYPICAL DETAILS

SHEET NUMBER:
S0-0.7

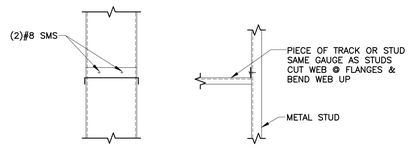
WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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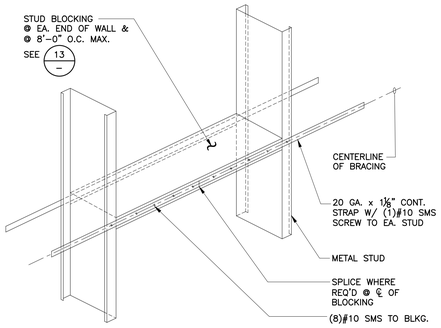
18 GA. & HEAVIER STUDS – (WELD OR SCREW)



20 GA. & LIGHTER STUDS – (NO WELDING PERMITTED)

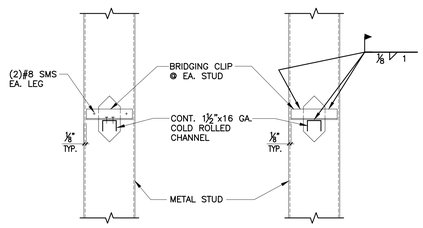
S617-0 SCALE: NO SCALE

METAL STUD BLOCKING 13



S618-0 SCALE: NO SCALE

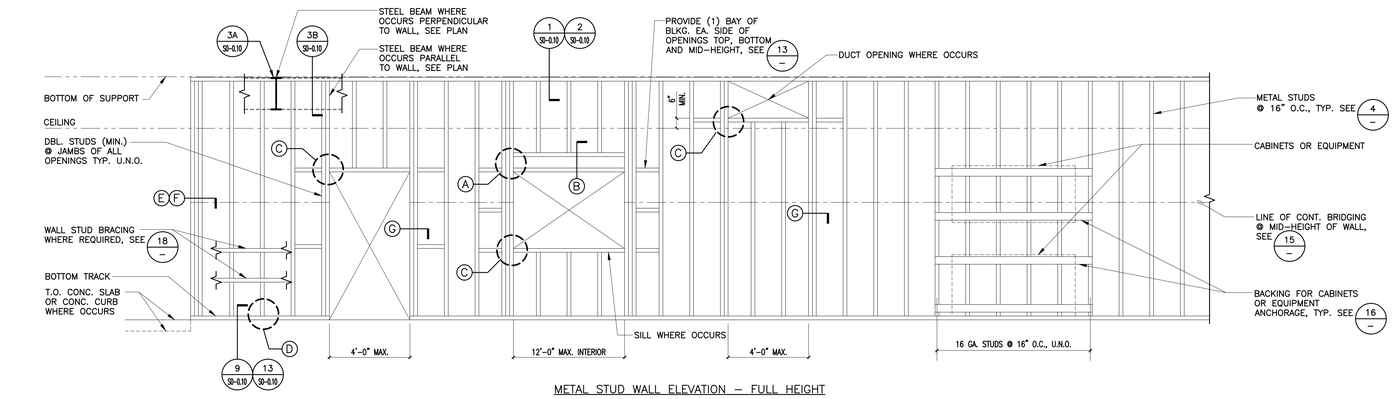
METAL STUD BRACING 14



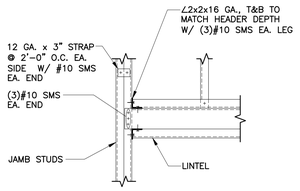
AT SCREWABLE STUD AT WELDED STUD

S619-0 SCALE: NO SCALE

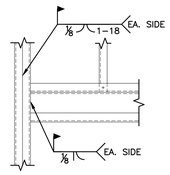
METAL STUD BRIDGING 15



METAL STUD WALL ELEVATION – FULL HEIGHT

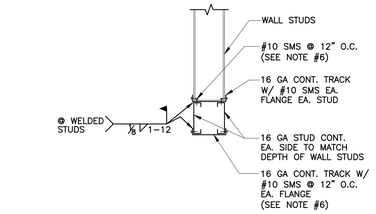


AT SCREWABLE STUD

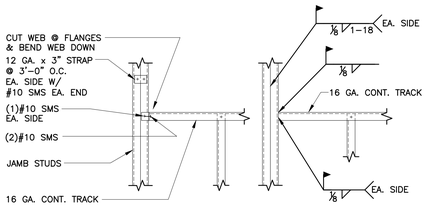


AT WELDED STUD

LINTEL TO JAMB (A)



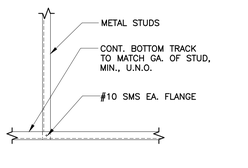
LINTEL SECTION (B)



AT SCREWABLE STUD

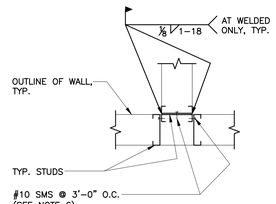
AT WELDED STUD

TRACK TO JAMB (C)

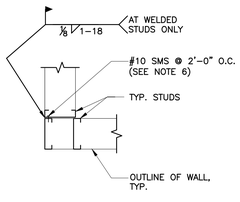


AT SCREWABLE STUD

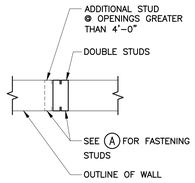
STUD TO TRACK (D)



TYP. INTERSECTION (E)



TYPICAL CORNER (F)

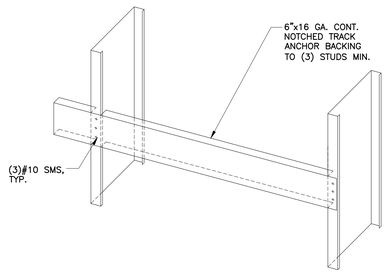


MULTIPLE STUDS (G)

NOTES:
1. SEE "METAL STUD AND TRACK SCHEDULES" ON THIS SHEET FOR ADDITIONAL INFORMATION.
2. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SIZE OF STUDS.
3. ALL TOP AND BOTTOM TRACKS SHALL BE SAME GAUGE AS STUDS, U.N.O.
4. ALL STUDS AT JAMBS OF DOOR AND WINDOW OPENINGS SHALL BE 16 GAUGE, U.N.O.
5. WELDING SHALL BE IN ACCORDANCE WITH STRUCTURAL WELDING CODE – SHEET STEEL, AWS D1.3, BY THE AMERICAN WELDING SOCIETY.
6. OMIT SHEET METAL SCREWS @ WELDED STUD CONDITIONS.

S604A-0 SCALE: NO SCALE

METAL STUD WALL FRAMING 3



NOTE:
USE #10 SMS WHEN ATTACHING ITEMS TO BACKING, U.N.O.

S620-0 SCALE: NO SCALE

BACKING AT METAL STUDS 16

STUD SCHEDULE

DEPTH	GAUGE	B	AREA (IN^2)	I (IN^4)	S (IN^3)	MAX. INTERIOR STUD WALL HT.*	SSMA DESIGNATION
2½"	20	1⅝"	.223	.235	.188	12'-0"	250S162-33
	18	1⅝"	.289	.302	.242	13'-0"	250S162-43
	16	1⅝"	.358	.370	.296	15'-0"	250S162-54
4"	20	1⅝"	.275	.692	.346	18'-11"	400S162-33
	18	1⅝"	.357	.892	.446	20'-7"	400S162-43
	16	1⅝"	.443	1.098	.549	22'-1"	400S162-54
6"	20	1⅝"	.344	1.793	.598	26'-0"	600S162-33
	18	1⅝"	.447	2.316	.772	28'-4"	600S162-43
	16	1⅝"	.556	2.860	.953	30'-4"	600S162-54
8"	20	1⅝"	.413	3.582	.896	32'-9"	800S162-33
	16	1⅝"	.670	5.736	1.434	35'-8"	800S162-54
	14	2"	.907	8.140	2.035	38'-4"	800S200-68
10"	16	2"	.839	11.278	2.256	38'-4"	1000S200-54
12"	14	2"	1.192	21.947	3.658	38'-4"	1200S200-68

DEPTH O.D. B

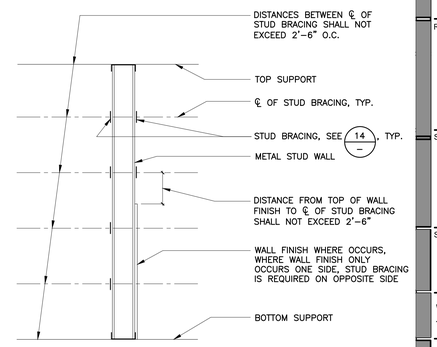
* MAX. HEIGHT PER SCHEDULE BASED ON SSMA CATALOG FOR INTERIOR, NON-BEARING WALLS WITH 5 PSF LATERAL LOAD @ L/240 @ 16" O.C.

TRACK SCHEDULE

DEPTH	GAUGE	B	AREA (IN^2)	I (IN^4)	S (IN^3)	SSMA DESIGNATION
2½"	20	1½"	.190	.221	.167	250T150-33
	18	1½"	.248	.289	.217	250T150-43
	16	1½"	.311	.368	.273	250T150-54
4"	20	1½"	.242	.622	.300	400T150-33
	18	1½"	.315	.811	.390	400T150-43
	16	1½"	.396	1.025	.489	400T150-54
6"	20	1½"	.311	1.590	.517	600T150-33
	18	1½"	.405	2.072	.673	600T150-43
	16	1½"	.509	2.611	.843	600T150-54
8"	20	1½"	.380	3.180	.781	800T150-33
	16	1½"	.622	5.214	1.272	800T150-54
	14	1½"	.783	6.594	1.599	800T150-68
10"	16	1½"	.735	9.061	1.777	1000T150-54
12"	14	1½"	1.068	18.148	2.963	1200T150-68

DEPTH I.D. B

NOTES:
1. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SIZE AND GAUGE OF STUDS. PROVIDE MIN. 20 GA. STUDS, U.N.O.
2. DIMENSIONS, PROPERTIES AND TYPES NOTED ARE BASED ON METAL STUDS AND TRACKS BY STEEL STUD MANUFACTURERS ASSOCIATION (SSMA), ICC ER-3064P, U.N.O.



NOTE:
WHERE WALL FINISH OCCURS BOTH SIDES OF WALL, FOR FULL HEIGHT OF STUD, BRACING IS NOT REQUIRED, U.N.O.

S616-0 SCALE: NO SCALE

WALL STUD BRACING LOCATION 4

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REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER JOSH RANDALL No. 4506 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

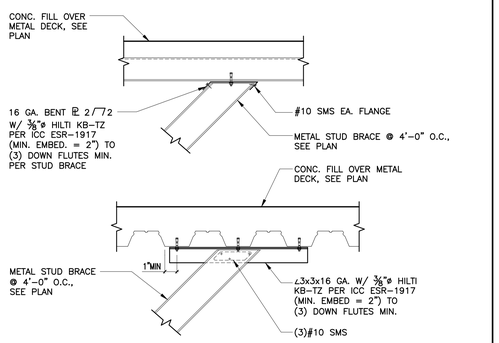
SHEET TITLE:
TYPICAL DETAILS

SHEET NUMBER:
S0-0.8

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

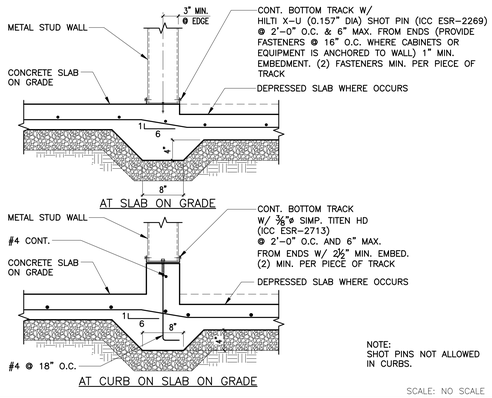
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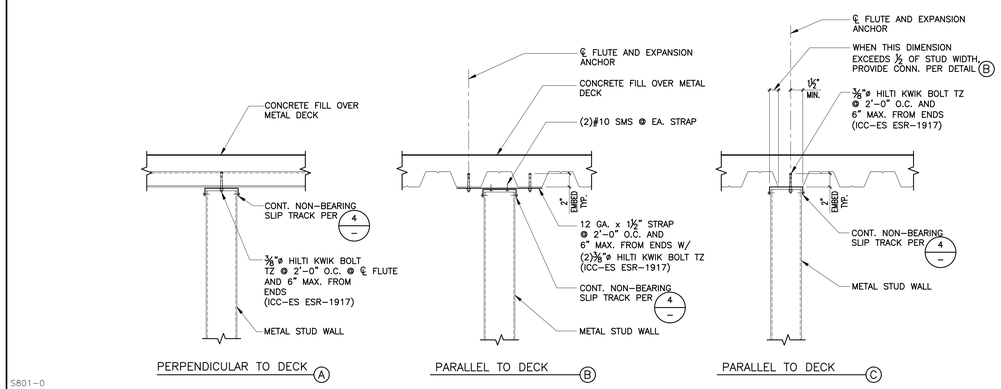
S813-0 SCALE: NO SCALE

TYP. STUD BRACE TO MTL. DECK W/ CONC. | 13



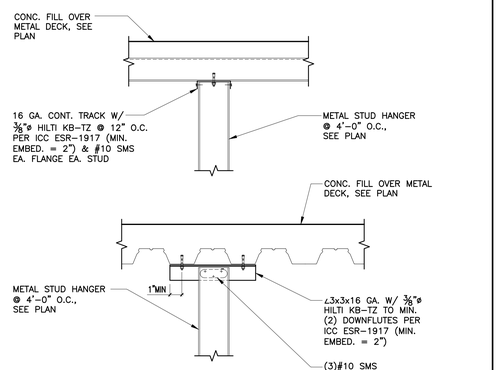
S704-0 SCALE: NO SCALE

NON-BEARING METAL STUD BOTT. | 9



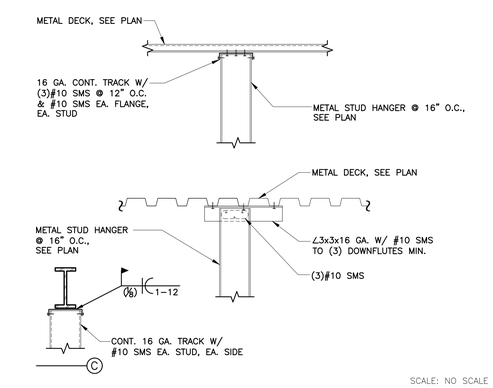
S801-0 SCALE: NO SCALE

NON-BEARING METAL STUD PARTITION TOP (FULL HEIGHT WALL) | 1



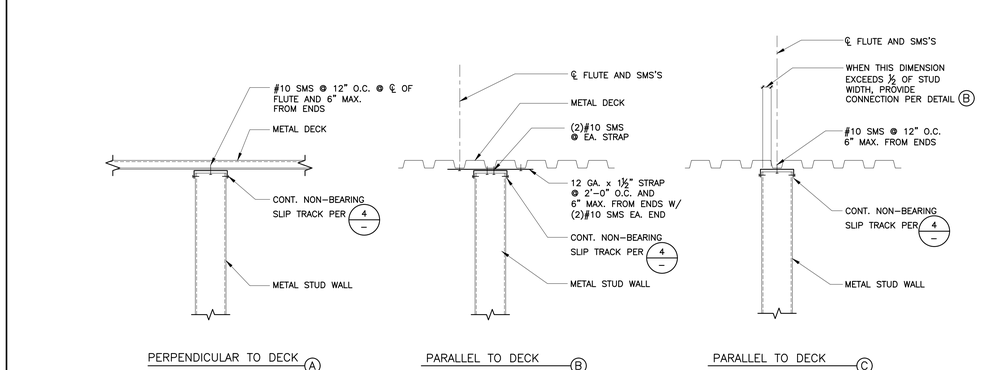
S814-0 SCALE: NO SCALE

TYP. SOFFIT STUD TO MTL. DECK W/ CONC. | 14



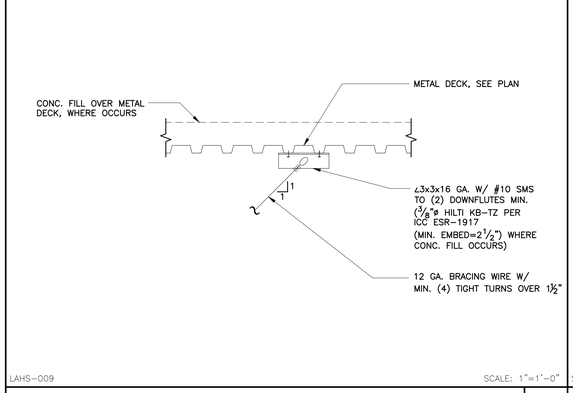
S811-0 SCALE: NO SCALE

TYP. STUD SOFFIT TO METAL DECK | 10



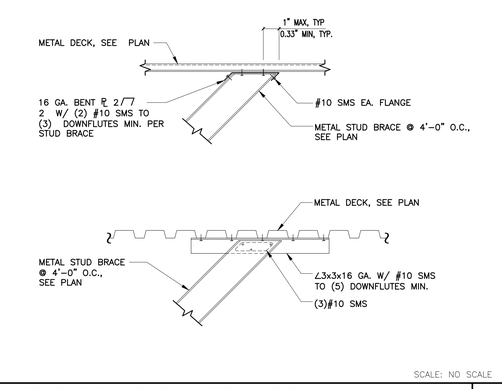
S810-0 SCALE: NO SCALE

NON-BEARING METAL STUD PARTITION TOP (FULL HEIGHT WALL) | 2



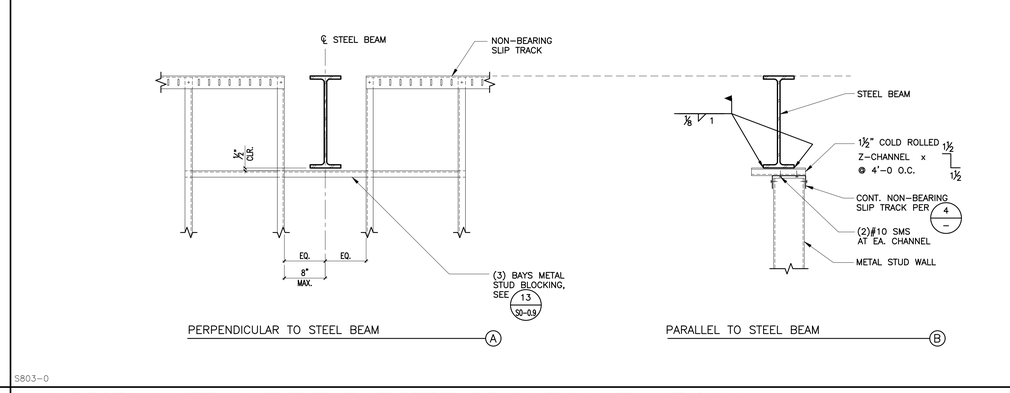
LAHS-009 SCALE: 1"=1'-0"

TYP. BRACE WIRE TO METAL DECK | 15



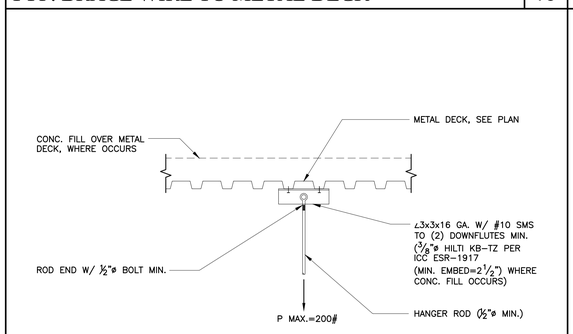
S812-0 SCALE: NO SCALE

TYP. STUD BRACE TO METAL DECK | 11



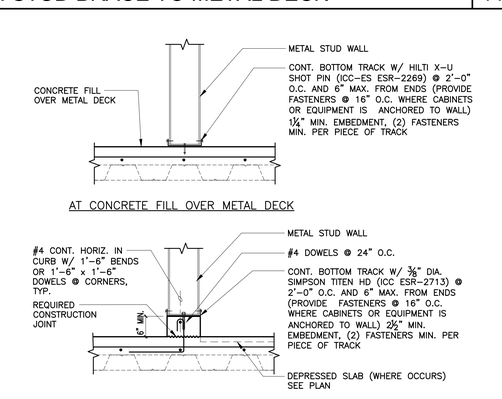
S803-0 SCALE: NO SCALE

NON-BEARING METAL STUD TOP AT STEEL BEAM (FULL HEIGHT WALL) | 3



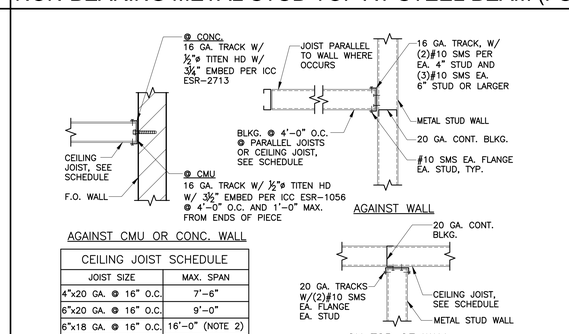
LAHS-010 SCALE: 1"=1'-0"

TYP. HANGER ROD TO METAL DECK | 16



S809-0 SCALE: NO SCALE

NON-BEARING METAL STUD BOTTOM | 12

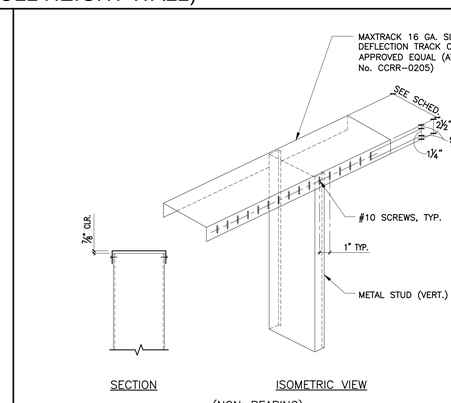


CEILING JOIST SCHEDULE	
JOIST SIZE	MAX. SPAN
4"x20 GA. @ 16" O.C.	7'-6"
6"x20 GA. @ 16" O.C.	9'-0"
6"x18 GA. @ 16" O.C.	16'-0" (NOTE 2)

NOTES:
1. THIS DETAIL IS INTENDED FOR CEILING JOISTS THAT SPAN FROM WALL TO WALL @ CONTRACTORS OPTION.
2. CONT. MIDSPAN BLKG. REQ'D.
3. CLG. JOISTS ARE TO SPAN PARALLEL TO LONG SIDE OF RECESSED LIGHT FIXTURE WITH DBL. CLG. JOISTS EA. SIDE, PARALLEL TO FIXTURE LONG SIDE, & BLKG. EA. SHORT END.

S712-0 SCALE: NO SCALE

CEILING JOIST SCHEDULE & DETAILS | 8



S711-0 SCALE: NO SCALE

METAL STUD TOP TRACK | 4

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

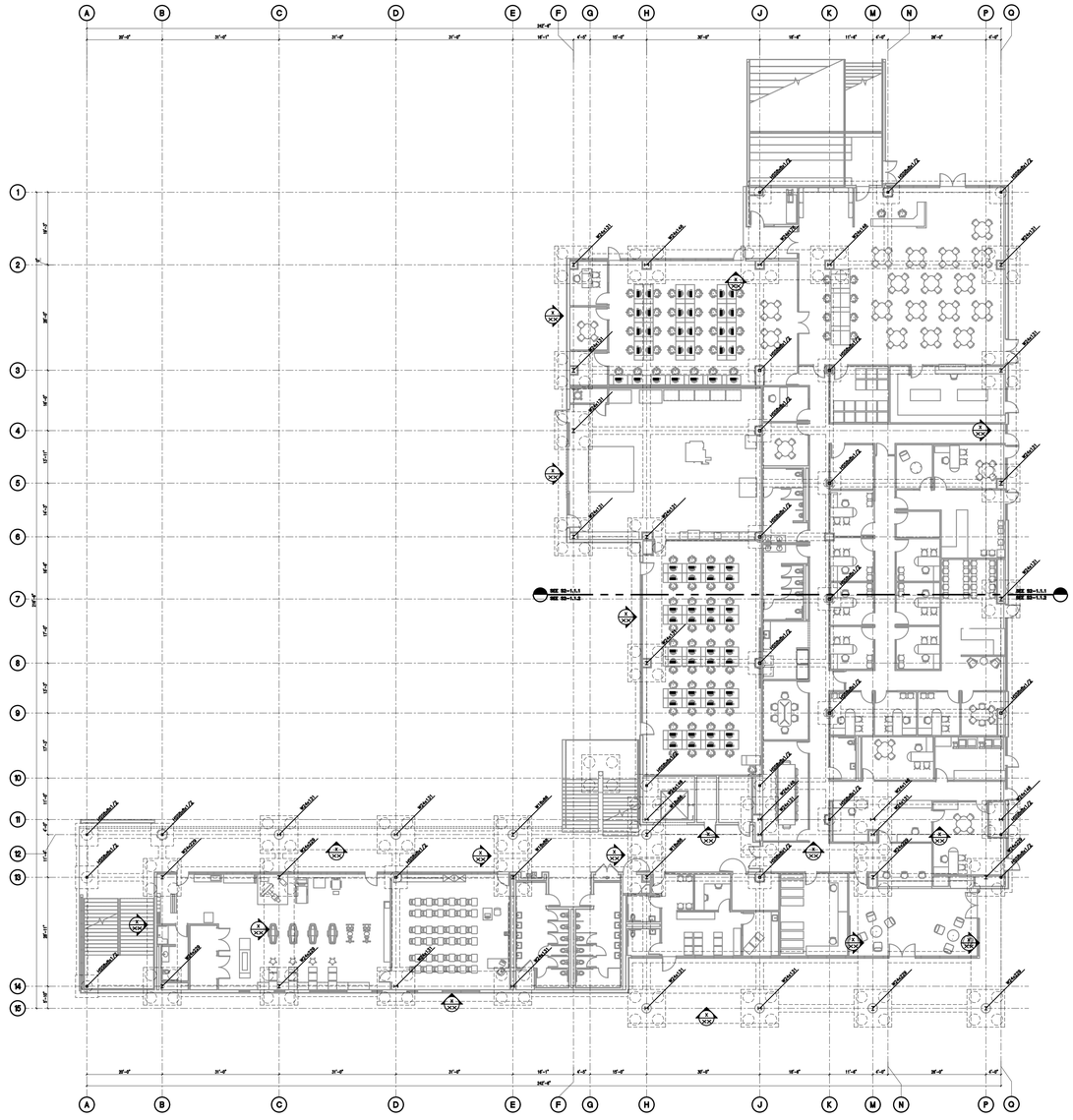
REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER JOSH RANDALL No. 4506 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE:
TYPICAL DETAILS

SHEET NUMBER:
S0-0.9

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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FOUNDATION PLAN - OVERALL | 1 | 1/16" = 1'-0"

NORTH

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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER
JOSH RANDALL
No. 4506
Exp. 6-30-19
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE:
FOUNDATION PLAN OVERALL

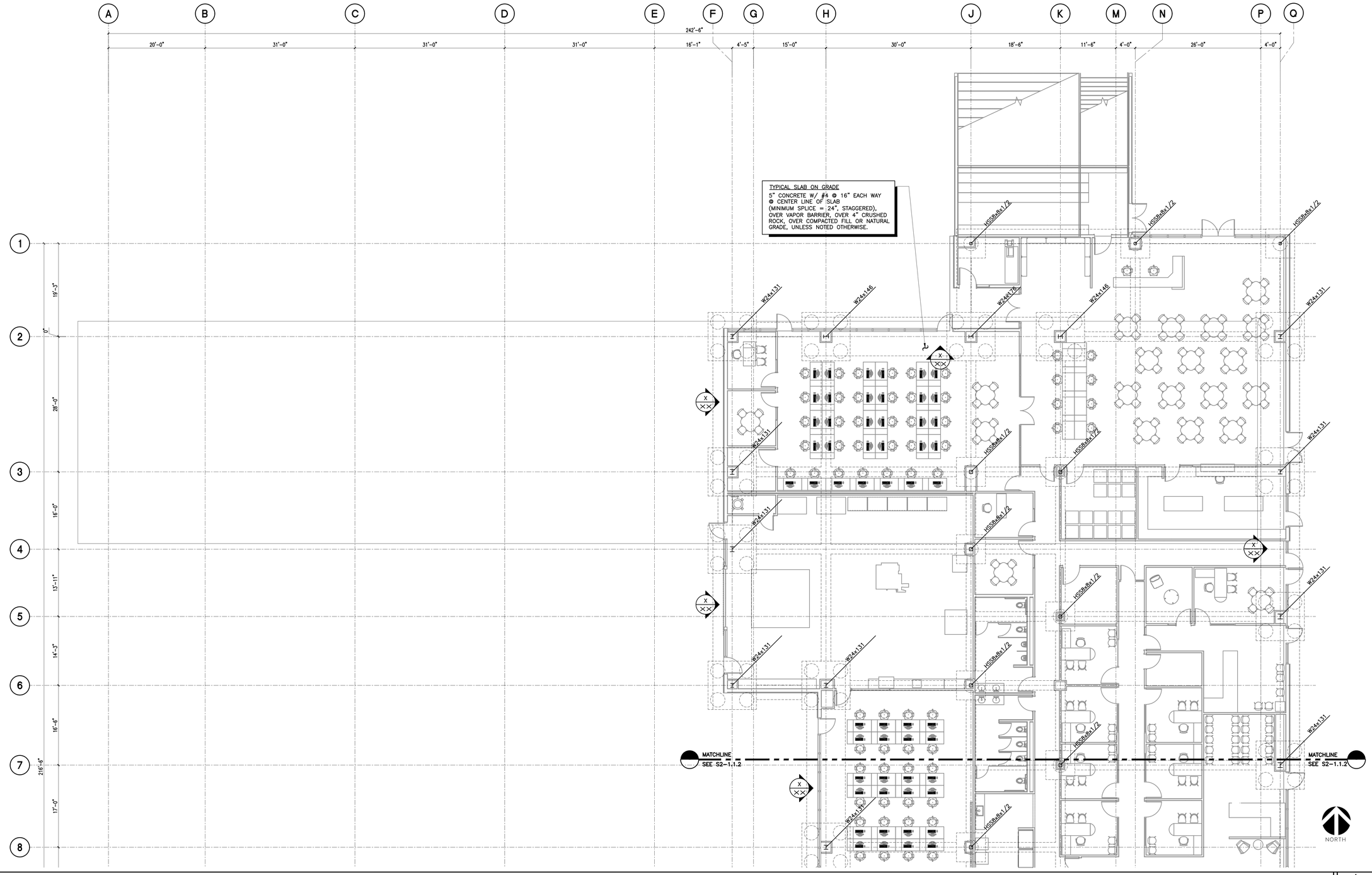
SHEET NUMBER:
S2-1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/16" = 1'
0 16 32 48

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FOUNDATION PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. SEE SHEETS S0-0.1THROUGH S0-0.9 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. SEE SPECIFICATIONS FOR ALL SITE AND SUBGRADE PREPARATIONS.
3. SEE ARCHITECTURAL AND/OR CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS.
4. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR ALL EXTERIOR CONCRETE PAVING, SLABS, BASES, CURBS, SITE WALLS, ETC.
5. FOR ANY DIMENSIONAL INFORMATION NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.
6. SEE PLANS AND ARCHITECTURAL DRAWINGS FOR DEPRESSIONS AND/OR SLOPES IN CONCRETE SLABS.
7. ALL DIMENSIONS SHOWN ARE FROM FACE OF STUD, CENTER LINE OF COLUMN, OR CENTER LINE OF WALL, UNLESS NOTED OTHERWISE. ALL COLUMNS ARE CENTERED IN STUD WALL, UNLESS NOTED OTHERWISE.
8. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS.
9. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR NON-BEARING PARTITIONS. INTERIOR NON-BEARING PARTITION WALLS THAT DO NOT REQUIRE CONCRETE CURBS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
10. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, ELECTRICAL, AND KITCHEN DRAWINGS FOR ADDITIONAL EMBEDDED ITEMS AND SLAB PENETRATIONS.
11. FOR TYPICAL PIPE CHASE IN CONCRETE STEM WALL, SEE DETAIL 9/S0-0.3.
12. FOR TYPICAL SLAB JOINTS, SEE DETAIL 10/S0-0.3.

LEGEND

HSS3.3x3x3/16 — PF-2 (-1'-0")

: INDICATES STEEL COLUMN SIZE. SEE DETAIL 4/S0-0.5 FOR STEEL COLUMN BASE PLATE, U.N.O.

: INDICATES CONCRETE FOOTING. SEE DETAIL 6/S0-0.3 FOR ADDITIONAL INFORMATION.

: INDICATES DEPTH OF TOP OF FOOTING BELOW FINISH FLOOR.

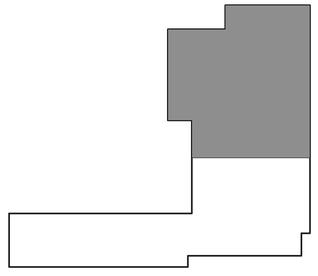
: INDICATES CONCRETE CURB. SEE PLANS AND DETAIL 16/S0-0.3 FOR ADDITIONAL INFORMATION.

: INDICATES STEP IN CONTINUOUS FOOTING. SEE DETAILS 4/S0-0.3 AND 5/S0-0.3 FOR ADDITIONAL INFORMATION. STEP CONTINUOUS FOOTING TO MATCH BOTTOM OF LOWEST ADJACENT FOOTING ELEVATION. (NOTE:STEPPED FOOTING SHOWN OM PLAN ARE PROVIDED TO AVOID UNDERGROUND UTILITIES AND ACTUAL LOCATION AND NUMBER OF STEPS SHALL BE COORDINATED IN THE FIELD, AND VERIFIED BY THE CONTRACTOR. ADDITIONAL LOCATIONS MAY BE REQUIRED. PROVIDE COMPLIANCE WITH DETAIL 4/S0-0.3).

: INDICATES CHANGE IN ELEVATION.

: INDICATES TOP OF SLAB ELEVATION (WHERE INDICATED).

KEY PLAN



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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER — JOSH HANDKE — No. 4506 Exp. 6-30-19 — STRUCTURAL — STATE OF CALIFORNIA

SHEET TITLE:
FOUNDATION PLAN PARTIAL NORTH

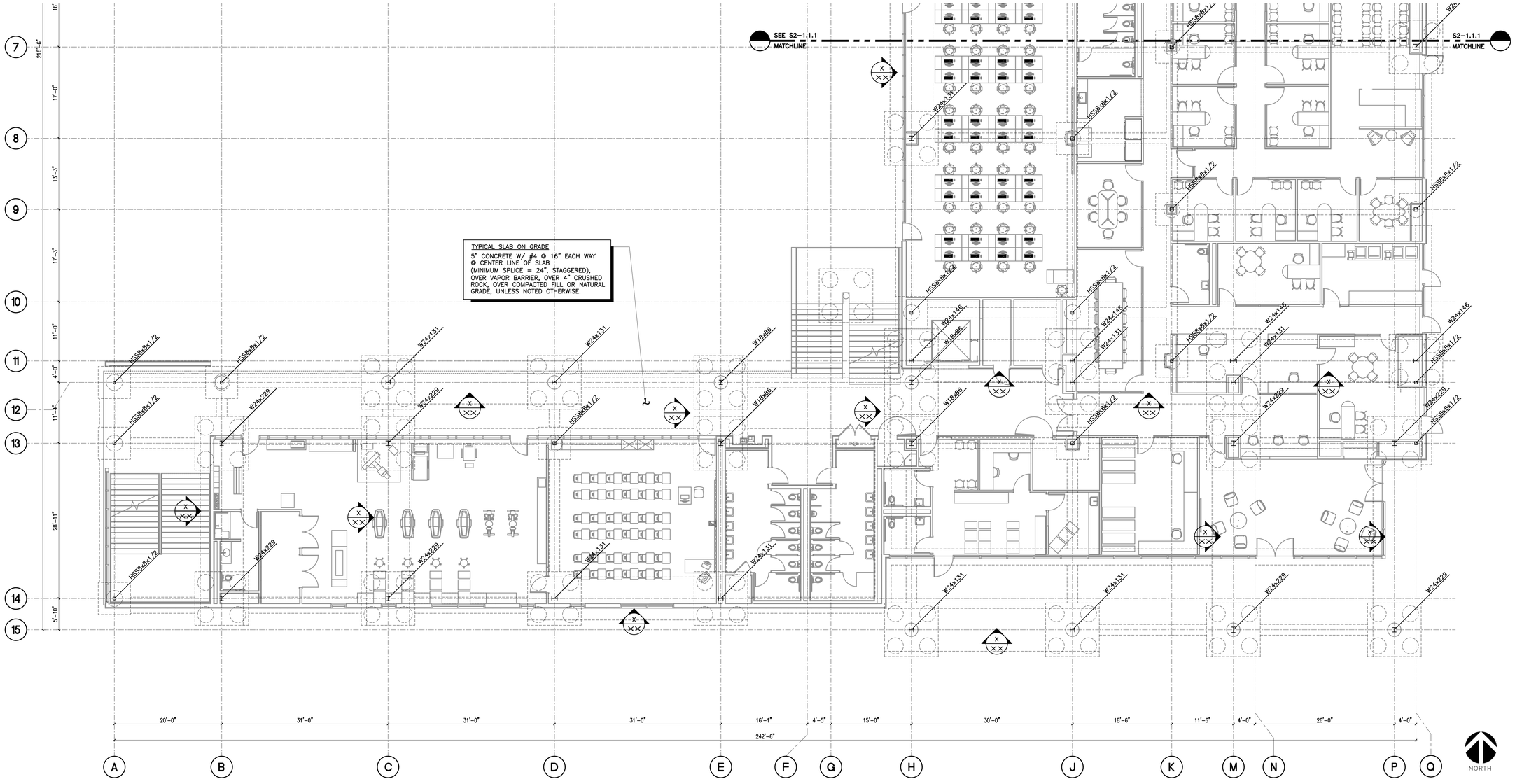
SHEET NUMBER:
S2-1.1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/8" = 1'
0 8 16 24

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1ST FLOOR PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

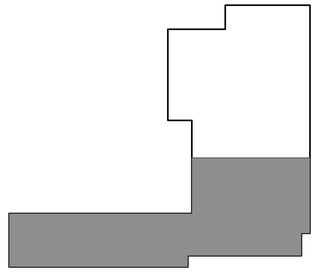
FOUNDATION PLAN NOTES

1. SEE SHEETS S0-0.1THROUGH S0-0.9 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. SEE SPECIFICATIONS FOR ALL SITE AND SUBGRADE PREPARATIONS.
3. SEE ARCHITECTURAL AND/OR CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS.
4. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR ALL EXTERIOR CONCRETE PAVING, SLABS, BASES, CURBS, SITE WALLS, ETC.
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6. SEE PLANS AND ARCHITECTURAL DRAWINGS FOR DEPRESSIONS AND/OR SLOPES IN CONCRETE SLABS.
7. ALL DIMENSIONS SHOWN ARE FROM FACE OF STUD, CENTER LINE OF COLUMN, OR CENTER LINE OF WALL, UNLESS NOTED OTHERWISE. ALL COLUMNS ARE CENTERED IN STUD WALL, UNLESS NOTED OTHERWISE.
8. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS.
9. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR NON-BEARING PARTITIONS. INTERIOR NON-BEARING PARTITION WALLS THAT DO NOT REQUIRE CONCRETE CURBS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
10. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, ELECTRICAL, AND KITCHEN DRAWINGS FOR ADDITIONAL EMBEDDED ITEMS AND SLAB PENETRATIONS.
11. FOR TYPICAL PIPE CHASE IN CONCRETE STEM WALL, SEE DETAIL 9/S0-0.3.
12. FOR TYPICAL SLAB JOINTS, SEE DETAIL 10/S0-0.3.

LEGEND

- HSS3.0x3/16 / PF-2 (-1'-0"): INDICATES STEEL COLUMN SIZE. SEE DETAIL 4/S0-0.5 FOR STEEL COLUMN BASE PLATE, U.N.O.
- : INDICATES CONCRETE FOOTING. SEE DETAIL 6/S0-0.3 FOR ADDITIONAL INFORMATION.
- : INDICATES DEPTH OF TOP OF FOOTING BELOW FINISH FLOOR.
- : INDICATES CONCRETE CURB. SEE PLANS AND DETAIL 16/S0-0.3 FOR ADDITIONAL INFORMATION.
- (S)——(S): INDICATES STEP IN CONTINUOUS FOOTING. SEE DETAILS 4/S0-0.3 AND 5/S0-0.3 FOR ADDITIONAL INFORMATION. STEP CONTINUOUS FOOTING TO MATCH BOTTOM OF LOWEST ADJACENT FOOTING ELEVATION. (NOTE:STEPPED FOOTING SHOWN ON PLAN ARE PROVIDED TO AVOID UNDERGROUND UTILITIES AND ACTUAL LOCATION AND NUMBER OF STEPS SHALL BE COORDINATED IN THE FIELD, AND VERIFIED BY THE CONTRACTOR. ADDITIONAL LOCATIONS MAY BE REQUIRED. PROVIDE COMPLIANCE WITH DETAIL 4/S0-0.3).
- : INDICATES CHANGE IN ELEVATION.
- : INDICATES TOP OF SLAB ELEVATION (WHERE INDICATED).

KEY PLAN



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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER JOSH RANDALL No. 4506 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE:
FOUNDATION PLAN PARTAIL SOUTH

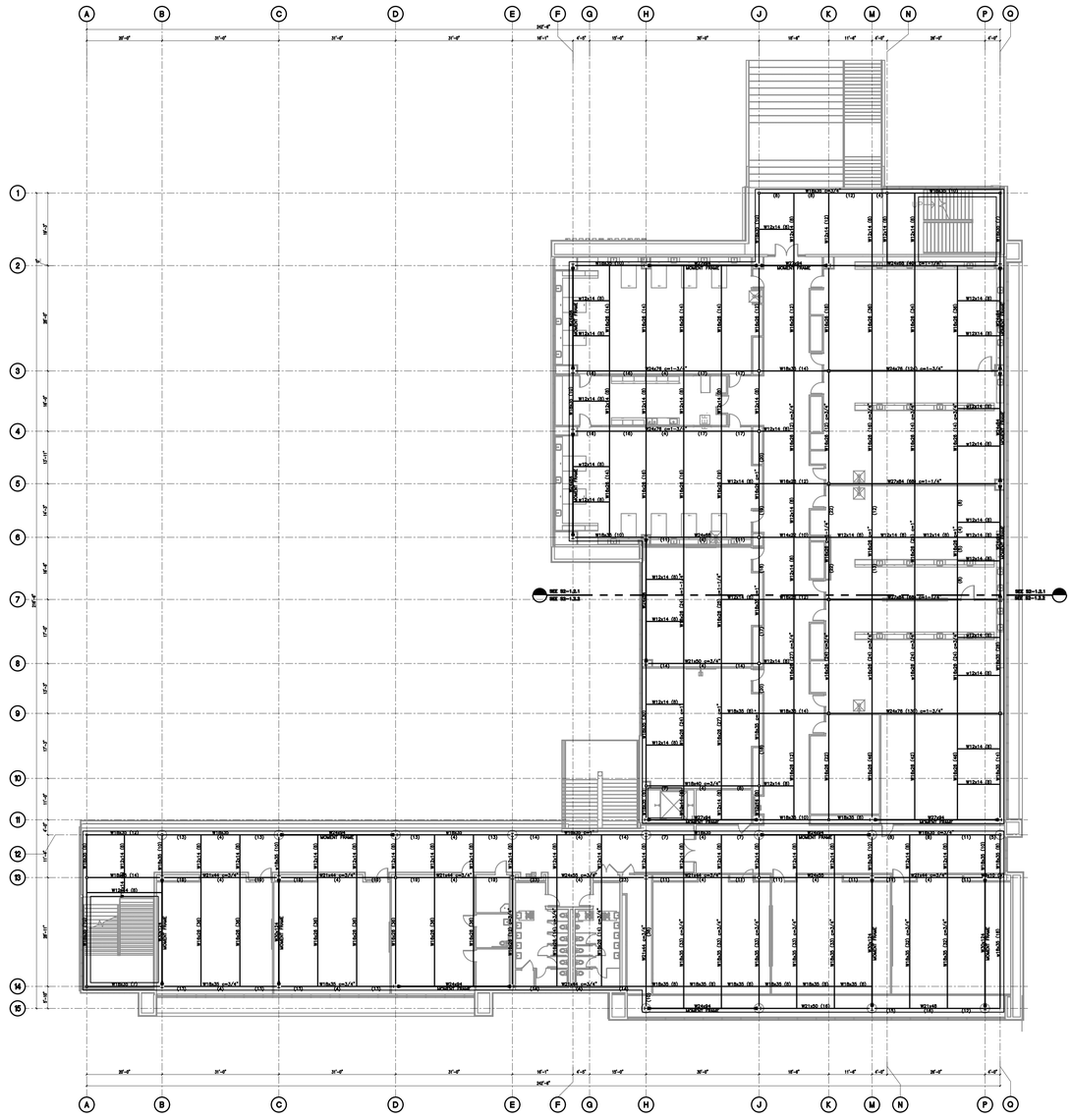
SHEET NUMBER:
S2-1.1.2

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18451	JR	JR	02/18/2019

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1/8" = 1'
0 8 16 24

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NORTH

2ND FLOOR FRAMING PLAN - OVERALL | 1 | 1/16" = 1'-0"

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DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER
JOSH RANDALL
No. 4520
Exp. 6-30-19
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE:
2ND FLOOR FRAMING OVERALL

SHEET NUMBER:
S2-1.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/16" = 1'
0 16 32 48

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2ND FLOOR FRAMING PLAN - PARTIAL NORTH

1

1/8" = 1'-0"

FLOOR FRAMING PLAN NOTES

1. SEE SHEETS S0-0.1 THROUGH S0-0.9 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. FOR ANY DIMENSIONAL INFORMATION NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.
3. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF FLOOR OPENINGS NOT SHOWN ON FLOOR FRAMING PLANS. SEE DETAILS 11/S0-0.6 AND 12/S0-0.6 FOR TYPICAL OPENINGS, UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS.
5. ALL BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMNS, UNLESS NOTED OTHERWISE.
6. FOR TYPICAL CONSTRUCTION JOINT AT SLAB ON METAL DECK, SEE DETAIL 14/S0-0.6 .

LEGEND

+ ______ : INDICATES TOP OF STEEL ELEVATION.

(10) : INDICATES NUMBER OF $^3/_4$" DIA. NELSON STUD ANCHORS. FOR ADDITIONAL INFORMATION SEE DETAIL 10/S0-0.6 .

⟷ : INDICATES SPAN OF METAL DECK. DECK SPAN INDICATED SHALL BE TYPICAL, UNLESS NOTED OTHERWISE. DECK SHALL SPAN OVER 2 SPANS MINIMUM (3 SUPPORTS) AND 3 SPANS (4 SUPPORTS) WHEREVER POSSIBLE. SEE FLOOR AND ROOF CONSTRUCTION SCHEDULE ON SHEET 1/S0-0.6 FOR STRUCTURAL DECK AND FILL REQUIREMENTS.

c=½" : INDICATES AMOUNT OF CAMBER IN STEEL BEAM. NO CAMBER REQUIRED WHERE NONE SHOWN.

—||— : INDICATES BEAM SPLICE IN STEEL BEAM PER DETAIL 10/S0-0.6 .

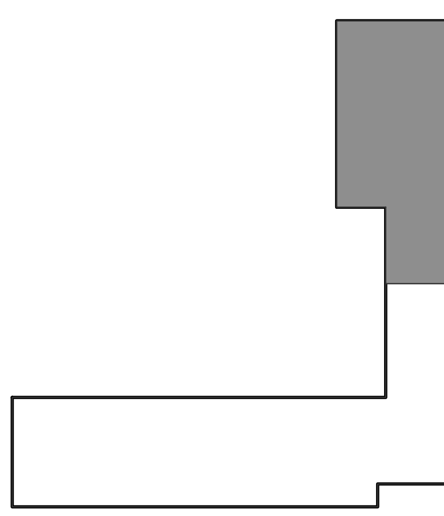
•—— : INDICATES TYPICAL CONNECTION WITH ASTM A325SC BOLTS.

▶—— : INDICATES WELDED MOMENT CONNECTION.

■—— : INDICATES COVER PLATED MOMENT CONNECTION.

TOP OF STEEL (T.O.S.) ELEV. = ______, UNLESS NOTED OTHERWISE.

KEY PLAN



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ISSUED FOR:

DD	02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

JOSH RANDALL
No. 4506
Exp. 6-30-19

SHEET TITLE:

2ND FLOOR FRAMING PLAN PARTIAL NORTH

SHEET NUMBER:

S2-1.2.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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1/8" = 1'

0 8 16 24

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2ND FLOOR FRAMING PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

FLOOR FRAMING PLAN NOTES

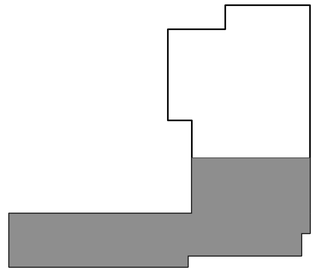
1. SEE SHEETS S0-0.1 THROUGH S0-0.9 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. FOR ANY DIMENSIONAL INFORMATION NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.
3. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF FLOOR OPENINGS NOT SHOWN ON FLOOR FRAMING PLANS. SEE DETAILS 11/S0-0.6 AND 12/S0-0.6 FOR TYPICAL OPENINGS, UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS.
5. ALL BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMNS, UNLESS NOTED OTHERWISE.
6. FOR TYPICAL CONSTRUCTION JOINT AT SLAB ON METAL DECK, SEE DETAIL 14/S0-0.6 .

LEGEND

- +: INDICATES TOP OF STEEL ELEVATION.
- (10): INDICATES NUMBER OF 3/4" DIA. NELSON STUD ANCHORS. FOR ADDITIONAL INFORMATION SEE DETAIL 10/S0-0.6 .
- : INDICATES SPAN OF METAL DECK. DECK SPAN INDICATED SHALL BE TYPICAL, UNLESS NOTED OTHERWISE. DECK SHALL SPAN OVER 2 SPANS MINIMUM (3 SUPPORTS) AND 3 SPANS (4 SUPPORTS) WHEREVER POSSIBLE. SEE FLOOR AND ROOF CONSTRUCTION SCHEDULE ON SHEET 1/S0-0.6 FOR STRUCTURAL DECK AND FILL REQUIREMENTS.
- c=1/2": INDICATES AMOUNT OF CAMBER IN STEEL BEAM. NO CAMBER REQUIRED WHERE NONE SHOWN.
- : INDICATES BEAM SPLICE IN STEEL BEAM PER DETAIL 10/S0-0.6 .
- : INDICATES TYPICAL CONNECTION WITH ASTM A325SC BOLTS.
- : INDICATES WELDED MOMENT CONNECTION.
- : INDICATES COVER PLATED MOMENT CONNECTION.

TOP OF STEEL (T.O.S.) ELEV. = _____, UNLESS NOTED OTHERWISE.

KEY PLAN



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www.KNAstructural.com
KNA JOB No.: 352.023

New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
DD 02/19/2019

REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER JOSH RANDALL No. 4506 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE:
2ND FLOOR FRAMING PLAN PARTIAL SOUTH

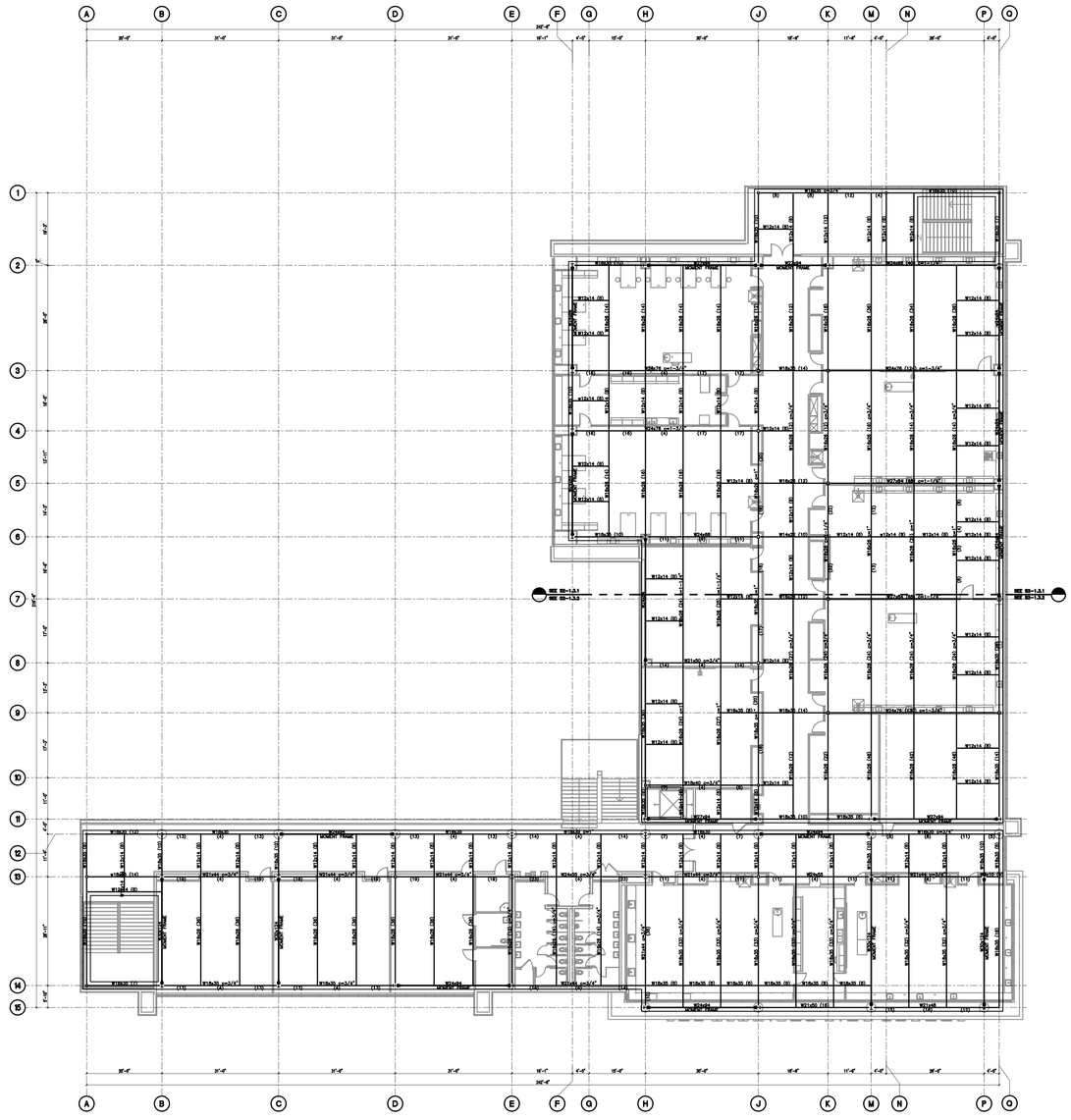
SHEET NUMBER:
S2-1.2.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/8" = 1'
0 8 16 24

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ISSUED FOR:
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DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

REGISTERED PROFESSIONAL ENGINEER
JOSH RANDELL
No. 4506
Exp. 6-30-19
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE:

3RD FLOOR FRAMING OVERALL

SHEET NUMBER:

S2-1.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/16" = 1'
0 16 32 48

NORTH

3RD FLOOR FRAMING PLAN - OVERALL

1
1/16" = 1'-0"

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3RD FLOOR FRAMING PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

FLOOR FRAMING PLAN NOTES

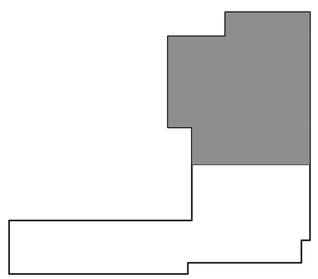
1. SEE SHEETS S0-0.1 THROUGH S0-0.9 FOR GENERAL NOTES AND TYPICAL DETAILS.
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3. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF FLOOR OPENINGS NOT SHOWN ON FLOOR FRAMING PLANS. SEE DETAILS 11/S0-0.6 AND 12/S0-0.6 FOR TYPICAL OPENINGS, UNLESS NOTED OTHERWISE.
4. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS.
5. ALL BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMNS, UNLESS NOTED OTHERWISE.
6. FOR TYPICAL CONSTRUCTION JOINT AT SLAB ON METAL DECK, SEE DETAIL 14/S0-0.6 .

LEGEND

- +_____ : INDICATES TOP OF STEEL ELEVATION.
- (10) : INDICATES NUMBER OF 3/4" DIA. NELSON STUD ANCHORS. FOR ADDITIONAL INFORMATION SEE DETAIL 10/S0-0.6 .
- : INDICATES SPAN OF METAL DECK. DECK SPAN INDICATED SHALL BE TYPICAL UNLESS NOTED OTHERWISE. DECK SHALL SPAN OVER 2 SPANS MINIMUM (3 SUPPORTS) AND 3 SPANS (4 SUPPORTS) WHEREVER POSSIBLE. SEE FLOOR AND ROOF CONSTRUCTION SCHEDULE ON SHEET 1/S0-0.6 FOR STRUCTURAL DECK AND FILL REQUIREMENTS.
- c=1/2" : INDICATES AMOUNT OF CAMBER IN STEEL BEAM. NO CAMBER REQUIRED WHERE NONE SHOWN.
- : INDICATES BEAM SPLICE IN STEEL BEAM PER DETAIL 10/S0-0.5 .
- : INDICATES TYPICAL CONNECTION WITH ASTM A325SC BOLTS.
- : INDICATES WELDED MOMENT CONNECTION.
- : INDICATES COVER PLATED MOMENT CONNECTION.

TOP OF STEEL (T.O.S.) ELEV. = _____, UNLESS NOTED OTHERWISE.

KEY PLAN



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REVISIONS:

DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:
REGISTERED PROFESSIONAL ENGINEER JOSH RANDKLE No. 4506 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE:
3RD FLOOR FRAMING PLAN PARTIAL NORTH

SHEET NUMBER:
S2-1.3.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/8" = 1'
0 8 16 24

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3RD FLOOR FRAMING PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

FLOOR FRAMING PLAN NOTES

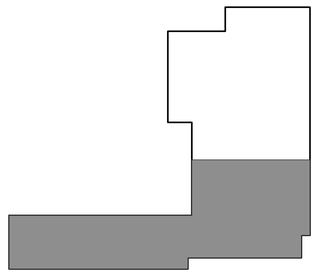
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SHEET TITLE:
3RD FLOOR FRAMING PLAN PARTIAL SOUTH

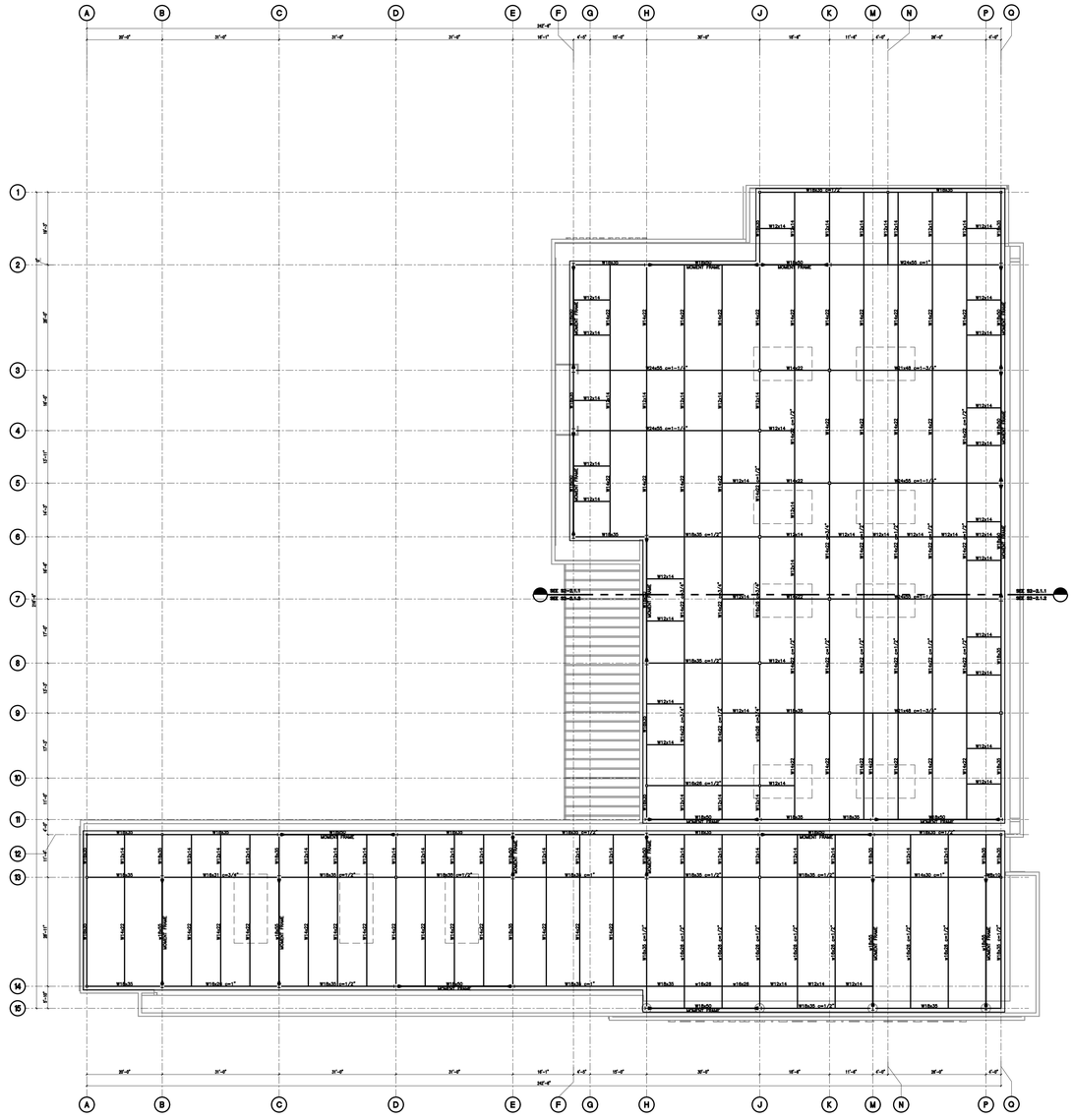
SHEET NUMBER:
S2-1.3.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/8" = 1'
0 8 16 24

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JOSH RANDALL
No. 4506
Exp. 6-30-19
STRUCTURAL
STATE OF CALIFORNIA

SHEET TITLE:

ROOF FRAMING OVERALL

SHEET NUMBER:

S2-2.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

© WESTGROUP DESIGNS, INC.

1/16" = 1'

0 16 32 48

NORTH

ROOF FRAMING PLAN - OVERALL

1
1/16" = 1'-0"

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ROOF FRAMING PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

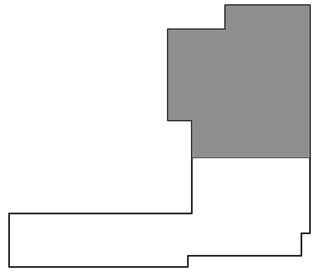
ROOF FRAMING PLAN NOTES

1. SEE SHEETS S0-0.1 THROUGH S0-0.9 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. FOR ANY DIMENSIONAL INFORMATION NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.
3. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ROOF OPENINGS NOT SHOWN ON ROOF FRAMING PLANS. SEE DETAILS 3/S0-0.7 FOR TYPICAL OPENINGS, UNLESS NOTED OTHERWISE.
4. ALL BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMNS, UNLESS NOTED OTHERWISE.
5. "MU" DENOTES MECHANICAL UNIT. MAXIMUM ALLOWABLE WEIGHT IS SHOWN. SEE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR EXACT SIZE AND WEIGHT OF MECHANICAL UNITS. FOR TYPICAL FRAMING AT MECHANICAL UNITS, SEE DETAIL 5/S0-0.7 & 6/S0-0.7.
6. THE CONTRACTOR SHALL COORDINATE LOCATION OF ALL FRAMING BEAMS AT MECHANICAL UNITS WITH MECHANICAL DRAWINGS. THE LOCATION OF FRAMING SHALL MATCH CURB LAYOUT AND ROOF PENETRATIONS FOR THE SUPPLIED UNITS.

LEGEND

- +____ : INDICATES TOP OF STEEL ELEVATION.
- : INDICATES SPAN OF METAL DECK. DECK SPAN INDICATED SHALL BE TYPICAL, UNLESS NOTED OTHERWISE. DECK SHALL SPAN OVER 2 SPANS MINIMUM (3 SUPPORTS) AND 3 SPANS (4 SUPPORTS) WHEREVER POSSIBLE. SEE FLOOR AND ROOF CONSTRUCTION SCHEDULE ON SHEET 1/S0-0.6 FOR STRUCTURAL DECK AND FILL REQUIREMENTS.
- C = 1/2" : INDICATES AMOUNT OF CAMBER IN STEEL BEAM. NO CAMBER REQUIRED WHERE NONE SHOWN.
- : INDICATES BEAM SPLICE IN STEEL BEAM PER DETAIL 10/S0-0.5 .
- : INDICATES TYPICAL CONNECTION WITH ASTM A325SC BOLTS.
- : INDICATES WELDED MOMENT CONNECTION.
- : INDICATES COVER PLATED MOMENT CONNECTION.

KEY PLAN



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REGISTERED PROFESSIONAL ENGINEER JOSH RANDELL No. 4506 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE:
ROOF FRAMING PLAN PARTIAL NORTH

SHEET NUMBER:
S2-2.1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/8" = 1'
0 8 16 24

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ROOF FRAMING PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

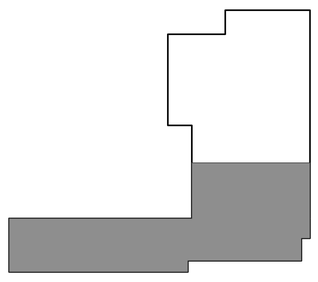
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4. ALL BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMNS, UNLESS NOTED OTHERWISE.
5. "MU" DENOTES MECHANICAL UNIT. MAXIMUM ALLOWABLE WEIGHT IS SHOWN. SEE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR EXACT SIZE AND WEIGHT OF MECHANICAL UNITS. FOR TYPICAL FRAMING AT MECHANICAL UNITS, SEE DETAIL 5/S0-0.7 & 6/S0-0.7.
6. THE CONTRACTOR SHALL COORDINATE LOCATION OF ALL FRAMING BEAMS AT MECHANICAL UNITS WITH MECHANICAL DRAWINGS. THE LOCATION OF FRAMING SHALL MATCH CURB LAYOUT AND ROOF PENETRATIONS FOR THE SUPPLIED UNITS.

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REGISTERED PROFESSIONAL ENGINEER JOSH RANDALL No. 45061 Exp. 6-30-19 STRUCTURAL STATE OF CALIFORNIA

SHEET TITLE:
ROOF FRAMING PLAN PARTIAL SOUTH

SHEET NUMBER:
S2-2.1.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	JR	JR	02/18/2019

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1/8" = 1'
0 8 16 24

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PROJECT SPECIFIC INFORMATION

PROJECT NUMBER: **18193**

SUBMITTAL NUMBER: S-01
PROJECT NAME: LOS ALAMITOS HIGH SCHOOL
LOCATION: LOS ALAMITOS, CA
CONNECTION TYPE: SIDEPLATE PLUS
NUMBER OF BUILDINGS: 1
APPROX. TOTAL GROSS SQUARE FOOTAGE: 84,000
NUMBER OF STORIES: 3
TRANSMITTAL NUMBER: 00000000000000

eDATA:

a. THERE MAY BE eDATA AVAILABLE FOR YOUR PROJECT WHICH IS AVAILABLE FOR DOWNLOAD AT WWW.SIDEPLATE.COM. eDATA MAY INCLUDE:
  - eSTIMATE FILE IN EXCEL FORMAT FOR USE IN AFFIRMING SIDEPLATE CONNECTION MATERIAL QUANTITIES.
  - ComponentXML FILE FOR USE IN ASSISTING DETAILING EFFORTS.

b. ESTIMATED NUMBER OF SIDEPLATE JOINTS FOR THIS PROJECT = 103
c. ESTIMATED NUMBER OF SIDEPLATE JOINTS FOR THIS PROJECT THAT ARE **NOT** SUPPORTED BY eDATA = 103
d. MISCELLANEOUS DETAILS, TYPICALLY DESIGNATED BY M#, ARE NOT SUPPORTED.

INSTRUCTIONS TO STEEL FABRICATOR

1. SIDEPLATE LICENSE FEE:
   a. THE STEEL FABRICATOR'S BID PRICE FOR PROCUREMENT, FABRICATION AND ERECTION OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL INCLUDE THE SIDEPLATE LICENSE FEE FOR THE PROJECT. EACH PROSPECTIVE STEEL FABRICATOR WHO BIDS THE PROJECT SHALL FORMALLY REQUEST THE SIDEPLATE LICENSE FEE BY ACCESSING THE SIDEPLATE WEBSITE (http://www.sideplate.com).
   b. UPON THE SUCCESSFUL STEEL FABRICATOR SIGNING A CONTRACT TO FABRICATE STRUCTURAL STEEL FOR THIS PROJECT, THE STEEL FABRICATOR SHALL SUBMIT A PURCHASE ORDER (PO) TO SIDEPLATE SYSTEMS, INC. FOR THE TOTAL AMOUNT OF THE SIDEPLATE LICENSE FEE AND SHALL INCLUDE SAID FEE IN ITS FIRST CONSTRUCTION DRAW.
   c. THE STEEL FABRICATOR SHALL MAKE PAYMENT OF THE SIDEPLATE LICENSE FEE DIRECTLY TO:

SIDEPLATE SYSTEMS, INC.
25909 PALA, SUITE 200
MISSION VIEJO, CA 92691
TEL: 949-238-8900

SUBMITTALS

1. IN ADDITION TO THE REQUIRED SUBMITTALS SPECIFIED BY THE BALANCE OF THE CONTRACT DOCUMENTS, THE FOLLOWING SUBMITTALS SHALL BE SENT TO SIDEPLATE SYSTEMS, INC. ELECTRONICALLY VIA THE STRUCTURAL ENGINEER OF RECORD FOR THEIR REVIEW AND DISPOSITION:
   a. QUALITY CONTROL PROGRAM (REQUIRED IF NOT AISC CERTIFIED)
   b. ONE ELECTRONIC COPY OF ALL STRUCTURAL STEEL DRAWINGS THAT EITHER DIRECTLY PERTAINS TO AND/OR AFFECTS THE SHOP FABRICATION OR FIELD ERECTION OF THE SIDEPLATE STEEL FRAME CONNECTION SYSTEM, INCLUDING THE INITIAL SUBMITTAL AND ALL CORRECTED RE-SUBMITTALS OF AFFECTED DRAWINGS. SIDEPLATE SYSTEMS, INC. SHALL BE GIVEN, AS A MINIMUM, THE SAME SPECIFIED REVIEW TIME (NOT LESS THAN SEVEN BUSINESS DAYS) AS THE ENGINEER OF RECORD.
   c. PROCEDURE QUALIFICATION RECORD (PQR), OR WELDING PROCEDURE SPECIFICATIONS (WPS) AND CURRENT CERTIFICATE OF CONFORMANCE BY THE WIRE MANUFACTURER.

MEETINGS

1. PRE-DETAILING MEETING
   a. PRIOR TO THE START OF DETAILING OF THE SHOP DRAWINGS, THE FABRICATION CONTRACTOR SHALL FORMALLY REQUEST A PRE-DETAILING MEETING FROM SIDEPLATE SYSTEMS, INC. THIS MEETING IS TYPICALLY A WEBINAR TO DISCUSS BEST PRACTICES FOR THE DETAILING OF THE SIDEPLATE CONNECTIONS, AND TO CREATE A PROACTIVE FORUM TO ANSWER ANY QUESTIONS.
2. PRE-FABRICATION MEETING
   a. PRIOR TO THE START OF FABRICATION, THE FABRICATION CONTRACTOR SHALL FORMALLY REQUEST A PRE-FABRICATION MEETING FROM SIDEPLATE SYSTEMS, INC. THIS MEETING IS TYPICALLY A WEBINAR TO DISCUSS BEST PRACTICES FOR THE FABRICATION OF THE SIDEPLATE CONNECTIONS, AND TO CREATE A PROACTIVE FORUM TO ANSWER ANY QUESTIONS.
3. PRE-ERECTION MEETING
   a. PRIOR TO THE START OF STEEL ERECTION, THE ERECTION CONTRACTOR SHALL FORMALLY REQUEST A PRE-ERECTION MEETING FROM SIDEPLATE SYSTEMS, INC. THIS MEETING IS TYPICALLY A WEBINAR TO DISCUSS BEST PRACTICES FOR FIELD ERECTION OF THE SIDEPLATE BEAMS AND COLUMNS, AND TO CREATE A PROACTIVE FORUM TO ANSWER ANY QUESTIONS.

GENERAL

1. THE GOVERNING CODES SHALL CONSIST OF ANSI/AWS D1.1-2010 (AWS D1.1), ANSI/AWS D1.8-2009, IAPMO UNIFORM ER-0525, ANSI/AISC 358-10 (INCLUDING SUPPLEMENT NO. 2), AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES (APRIL 14, 2010), 2009 RCSC SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS, AND ALL APPLICABLE BUILDING AND JURISDICTIONAL CODES AND PROJECT STANDARDS SPECIFIED IN THE PROJECT SPECIFICATION STRUCTURAL STEEL SECTION. WHERE THE REQUIREMENTS DIFFER BETWEEN SIDEPLATE CONNECTION NOTES, THE GENERAL STRUCTURAL NOTES, AND THE GOVERNING CODES, THE MORE STRINGENT SECTION CRITERIA SHALL CONTROL.
2. ALPHA AND NUMERIC DESIGNATORS {X} & {#} USED HEREIN TO SIMPLIFY THE IDENTIFICATION OF PLATES, ANGLES, AND WELDS ARE DEFINED BELOW:

{A}	SIDE PLATE FOR UNIAXIAL CONNECTIONS
{B}	BEAM FLANGE COVER PLATE, AS REQUIRED
{C}	VERTICAL SHEAR PLATE OR FLAT BAR, AS REQUIRED
{D}	HORIZONTAL SHEAR PLATE OR FLAT BAR, AS REQUIRED
{E}	VERTICAL ANGLE WELDED TO THE VERTICAL SHEAR PLATE {C}, AS REQUIRED
{F}	VERTICAL SHEAR ELEMENT (VSE) WHICH CONSISTS OF PLATE {C} AND ANGLE {E} MATERIAL, AS REQUIRED
{G}	LONGITUDINAL ANGLE WELDED TO THE OUTSIDE FACE OF SIDE PLATE {A}, AS REQUIRED
{H}	LONGITUDINAL ANGLE WELDED TO THE BOTTOM BEAM FLANGE (OR TOP BEAM FLANGE AS REQUIRED)
{T}	HORIZONTAL PLATE WELDED TO THE OUTSIDE FACE OF SIDE PLATE {A}, AS REQUIRED
{1}	FILLET WELD CONNECTING SIDE PLATE {A} TO HORIZONTAL SHEAR PLATE {D} OR COLUMN
{2}	FILLET (AND/OR FLARE BEVEL) WELD CONNECTING INSIDE FACE OF SIDE PLATE {A} TO COLUMN [DEMAND CRITICAL]
{3}	FILLET WELD CONNECTING HORIZONTAL SHEAR PLATE {D} TO COLUMN, AS REQUIRED
{4}	FILLET WELD TO CONSTRUCT VSE {F} AND TO CONNECT IT TO THE WEB OF THE BEAM, AS REQUIRED
{5}	FILLET (AND/OR PJP) WELD CONNECTING BEAM FLANGE TIPS TO COVER PLATE {B} AND/OR LONGITUDINAL ANGLE {H}, AS REQUIRED [DEMAND CRITICAL]
{5a}	FILLET WELD CONNECTING OUTSIDE FACE OF BEAM FLANGE TO COVER PLATE {B} AND/OR LONGITUDINAL ANGLE {H}, AS REQUIRED [DEMAND CRITICAL]
({5p})	PJP WELD CONNECTING ANGLE {H} TO BEVELED BEAM FLANGE [DEMAND CRITICAL]
{8}	FILLET (AND/OR PJP) WELD CONNECTING LONGITUDINAL ANGLE {G} (AND/OR PLATE {T}) TO SIDE PLATE {A}, AS REQUIRED [DEMAND CRITICAL]
({8p})	PJP WELD CONNECTING PLATE {T} TO SIDE PLATE {A} AND/OR CONNECTING BUILT UP ANGLE {H} PLATES TOGETHER, AS REQUIRED [DEMAND CRITICAL]
{9}	FILLET WELD CONNECTING SIDE PLATE {A} TO COLUMN FACE, WRAPPED AROUND THREE SIDES OF SIDE PLATE {A} [DEMAND CRITICAL]
{10}	FILLET WELD TO CONSTRUCT SIDE PLATE SLOTTED INTERLOCK ASSEMBLY [DEMAND CRITICAL]
{10p}	PJP WELD TO CONSTRUCT SIDE PLATE SLOTTED INTERLOCK ASSEMBLY [DEMAND CRITICAL]
{10r}	REINFORCING FILLET WELD TO CONSTRUCT SIDE PLATE SLOTTED INTERLOCK ASSEMBLY [DEMAND CRITICAL]

3. ALPHA DESIGNATORS, USED HEREIN TO SIMPLIFY THE IDENTIFICATION OF DIMENSIONS OF THE SIDEPLATE CONNECTIONS, ARE DEFINED BELOW:

GAP	PHYSICAL SEPARATION BETWEEN THE END OF THE MOMENT FRAME BEAM AND THE ADJOINING FACE OF THE COLUMN FLANGE
A	EXTENSION OF SIDE PLATE {A} FROM THE FACE OF THE COLUMN
B	DEPTH OF SIDE PLATE {A}
C	LENGTH OF COVER PLATE {B} AND/OR LONGITUDINAL ANGLE {H}
D	LENGTH OF SLOT FROM THE TOE OF THE RADIUS IN THE COVER PLATE {B}, AS REQUIRED
E	EDGE DISTANCE OF BOLT HOLES IN COVER PLATE {B}, AS REQUIRED
G	GAGE DISTANCE TO CENTERLINE OF BOLT HOLES IN ANGLES {G} AND {H}, AND PLATE {T}, AS REQUIRED
H	ADDED DIMENSION TO COLUMN FLANGE WIDTH TO DEFINE TOTAL COVER PLATE {B} WIDTH
J	DISTANCE FROM END OF THE BEAM TO CENTERLINE OF VERTICAL BOLT HOLES IN VSE {F}, AS REQUIRED
K	CUT DIMENSION ON ANGLE {H}
R	RADIUS OF SLOT DIMENSION IN COVER PLATE {B}
S	HORIZONTAL SPACING BETWEEN BOLT HOLES
Y	ADDED DIMENSION TO COLUMN FLANGE WIDTH FOR ALLOWABLE SPREAD OF SIDE PLATES {A}

MATERIAL

1. PLATE, FLAT BAR, AND ANGLE MATERIAL:
   a. ALL PLATE MATERIAL SHALL BE ASTM A572, GRADE 50.
   b. ANGLE AND BAR MATERIAL SHALL HAVE A HIGH STRENGTH STEEL SPECIFICATION AND SHALL HAVE A MINIMUM YIELD STRENGTH (F_y) OF 50 KSI.
   c. ALL PLATE MATERIAL 2 INCHES THICK AND GREATER SHALL MEET THE FOLLOWING ADDITIONAL REQUIREMENTS:
      - CHARPY V-NOTCH (CVN) TOUGHNESS SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROVISIONS OF ASTM A673, FREQUENCY P. A MINIMUM CVN TOUGHNESS OF 20 FT-LB AT A TEMPERATURE OF 70°F, IN ACCORDANCE WITH ASTM A6, SUPPLEMENTARY REQUIREMENT S5, SHALL BE DOCUMENTED IN THE CERTIFIED MILL TEST REPORT (CMTR). IF THE CMTR DOES NOT DOCUMENT THE MINIMUM CVN VALUES, A COUPON SHALL BE REMOVED FROM THE END OF EACH PIECE OF PLATE TO BE TESTED. THE LENGTH OF COUPON SHALL BE ORIENTED PARALLEL TO THE LONGITUDINAL AXIS OF THE MEMBER. A TEST SPECIMEN SHALL BE MACHINED FROM EACH COUPON IN ACCORDANCE WITH THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, SECTION A3-1d, BUILT-UP HEAVY SHAPES.
2. WELD FILLER METAL:
   a. THE WELD FILLER METAL AND ASSOCIATED WELDING PROCESS FOR ALL FILLET WELDS SHALL MEET THE REQUIREMENTS OF AWS D1.1 AND D1.8 SECTION 6.3 AND SHALL BE ANY OF THE FOLLOWING:
      - E70T-6, E71T-8, OR E70TG-K2 FOR FCAW
      - E7XT-9 FOR FLUX CORED ARC WELDING (FCAW) WITH GAS SHIELDING
      - F7A2-EXXX FOR SUBMERGED ARC WELDING (SAW)
      - E7018 STICK ELECTRODE FOR SHIELDED METAL ARC WELDING (SMAW)
      - ER70S-X, E70C-XM, OR E70C-XC FOR GMAW (EXCEPT SHORT CIRCUIT TRANSFER)
   b. THE WELD FILLER METAL USED FOR FILLET WELDS TO CONSTRUCT THE SIDEPLATE CONNECTION SYSTEM PRESENTED HEREIN SHALL DEMONSTRATE AN ENERGY EQUIVALENT TO A MINIMUM CVN TOUGHNESS OF 20 FT-LB IMPACT STRENGTH AT A TEMPERATURE OF -20°F AND 40 FT-LB IMPACT STRENGTH AT 70°F AS DETERMINED BY AWS CLASSIFICATION TEST METHODS OR MANUFACTURER CERTIFICATION.
   c. ALL WELD FILLER METAL SHALL SATISFY A MAXIMUM DIFFUSIBLE HYDROGEN CONTENT REQUIREMENT PER AWS D1.1 AND D1.8 SECTION 6.3, OF 16 MILLILITERS OF HYDROGEN PER 100 GRAMS OF WELD METAL (H16) OR LESS.
   d. REFER TO AWS D1.8 ANNEX B FOR REQUIREMENTS WHEN MIXING FCAW-S WITH OTHER WELD PROCESSES.
3. HIGH STRENGTH BOLTS/FASTENERS:
   a. BOLTS SHALL BE TYPE 1 OR TYPE 3 AND SHALL BE A490 HEAVY HEX, F2280 TWIST-OFF-TYPE TENSION-CONTROL BOLT ASSEMBLIES, OR F3148 FIXED SPLINE BOLT ASSEMBLIES. THE BOLT HEAD SHALL BE DISTINCTIVELY MARKED WITH A MINIMUM MARKING OF A490, A490TC, OR 144 RESPECTIVELY. AN ALTERNATIVE DESIGN THAT MEETS THE REQUIREMENTS OF RCSC SECTION 2.8 MAY BE USED, WITH THE WRITTEN APPROVAL FROM SIDEPLATE SYSTEMS, INC.
   b. WASHERS SHALL BE ORDINARY THICKNESS AND ASTM F436 TYPE 1 OR TYPE 3.
   c. NUTS SHALL BE ASTM A563 GRADE DH OR DH3.
   d. THE BOLT ASSEMBLY SHALL BE COVERED IN A LIGHT PROTECTIVE OIL. F2280 AND F3148 ASSEMBLIES SHALL ONLY BE LUBRICATED BY THE SUPPLIER.
   e. THE MILL TEST REPORT (MTR) MUST HAVE DOCUMENTED LOT TRACEABILITY, STATEMENT OF DIMENSIONAL RESULTS, FULL CHEMICAL AND MECHANICAL TEST RESULTS TO THE SPECIFICATIONS ABOVE.
   f. THE USE OF FINGER SHIMS ARE ACCEPTABLE PER BOLTING SECTION 8.
4. ROLLED SHAPES:
   a. ALL ROLLED SHAPES USED FOR COLUMNS AND BEAMS IN CONSTRUCTING SIDEPLATE MOMENT FRAMES SHALL BE ASTM A992 GRADE 50 UNO.
   b. FOR EACH DIFFERENT SIZE OF STEEL FRAME COLUMNS AND BEAMS IDENTIFIED IN THE CONTRACT DOCUMENTS AS PART OF THE SFRS INVOLVING ASTM A6 HOT-ROLLED SHAPES WITH FLANGES 2 INCHES THICK OR THICKER, CHARPY V-NOTCH (CVN) TOUGHNESS SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROVISIONS OF ASTM A673, FREQUENCY H. A MINIMUM CVN TOUGHNESS OF 20 FT-LB AT A TEMPERATURE OF 70°F, IN ACCORDANCE WITH ASTM A6, SUPPLEMENTARY REQUIREMENT S30, SHALL BE DOCUMENTED IN THE CERTIFIED MILL TEST REPORT (CMTR). IF THE CMTR DOES NOT DOCUMENT THE MINIMUM CVN VALUES, A COUPON SHALL BE REMOVED FROM THE END OF EACH MEMBER SHAPE SAMPLED. THE LENGTH OF COUPON SHALL BE ORIENTED PARALLEL TO THE LONGITUDINAL AXIS OF THE MEMBER. A TEST SPECIMEN SHALL BE MACHINED FROM EACH COUPON, IN ACCORDANCE WITH THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, SECTION A3-1c, ROLLED HEAVY SHAPES. THE LONGITUDINAL AXIS OF THE TEST SPECIMEN SHALL BE LOCATED AS NEAR AS PRACTICABLE TO A POINT MIDWAY BETWEEN THE INNER FLANGE SURFACE AND THE CENTER OF FLANGE THICKNESS, AT THE INTERSECTION OF THE WEB MID-THICKNESS.
5. WELDED BUILT-UP SHAPES:
   a. FOR EACH DIFFERENT SIZE OF STEEL FRAME COLUMNS AND BEAMS IDENTIFIED IN THE CONTRACT DOCUMENTS AS PART OF THE SFRS INVOLVING PLATE 2 INCHES THICK OR THICKER USED TO CONSTRUCT WELDED BUILT-UP SECTIONS SHALL FOLLOW PLATE MATERIAL SPECIFICATIONS OUTLINED IN SECTION 1.
6. HSS TUBE SHAPES:
   a. ALL HSS SHAPES USED FOR COLUMNS AND BEAMS IN CONSTRUCTING SIDEPLATE MOMENT FRAMES SHALL, AS A MINIMUM, BE ASTM A500 GRADE B OR GRADE C OR ASTM1085.

PREPARATION

1. THE STEEL FABRICATION AND ERECTION SUBCONTRACTORS SHALL EMPLOY A DISTORTION CONTROL PROGRAM PRIOR TO THE START OF SIDEPLATE MOMENT FRAME FABRICATION. THE DISTORTION CONTROL PROGRAM SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF AWS D1.1 SECTION 5.21 AND 5.22 TO ENSURE THAT THE FOLLOWING ARE MAINTAINED:
   - DIMENSIONAL ACCURACY
   - FRAMING AND ALIGNMENT TOLERANCES
   - COMPLIANCE WITH AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, SECTION 7.0, ERECTION PROVISIONS
   - CONTROL OF DISTORTION AND WELD SHRINKAGE
2. BASE METAL SURFACE PREPARATION: SURFACES ON WHICH WELD METAL IS TO BE DEPOSITED, INCLUDING BUT NOT LIMITED TO COLUMN FLANGE TIPS (I.E., COLUMN FLANGE-TO-SIDE PLATE {A} ATTACHMENT), BEAM FLANGE TIPS (I.E., BEAM FLANGE-TO-COVER PLATE {B} ATTACHMENT), AND THERMAL CUT EDGES (E.G., LONGITUDINAL EDGES OF COVER PLATE {B}), SHALL BE SMOOTH, UNIFORM, AND FREE FROM LOOSE OR THICK SCALE, SLAG, RUST, MOISTURE, GREASE AND OTHER FOREIGN MATERIAL THAT WOULD PREVENT PROPER WELDING.
3. THERMAL CUTTING:
   a. THE ROUGHNESS OF ALL THERMAL-CUT SURFACES SHALL BE NO GREATER THAN AN ANSI SURFACE ROUGHNESS VALUE OF 1000 MICRO-INCHES; CUT ROUGHNESS EXCEEDING THIS VALUE AND NOTCHES OR GOUGES NOT MORE THAN 3/16 INCH DEEP SHALL BE REMOVED BY MACHINING OR GRINDING. NOTCHES OR GOUGES DEEPER THAN 3/16 INCH SHALL BE REPAIRED PER AWS.
   b. FLAME CUT SURFACES SHALL BE FREE OF GLOBULES AND LOOSE SLAG. THE THERMAL CUTTING EQUIPMENT SHALL BE ADJUSTED AND MANIPULATED SO AS TO AVOID CUTTING BEYOND (INSIDE) THE PRESCRIBED LINES.
   c. THERMAL CUTTING PROCESSES SHALL BE LIMITED TO PLASMA ARC-CUTTING OR OXYFUEL GAS PROCESSES.
4. WEB/FLANGE FILLET AREA:
   a. UNLESS NOTED OTHERWISE, VERTICAL SHEAR PLATES {C} (AS REQUIRED) AND HORIZONTAL SHEAR PLATES {D} (AS REQUIRED) SHALL HAVE THEIR INSIDE CORNERS CLIPPED PER AWS D1.8 CLAUSE 4 TO PREVENT WELDING IN THE K-AREA BETWEEN WEB AND FLANGE WHEN THE COLUMN IS DEEPER THAN W16x, THESE CLIPS SHALL START AND STOP A DISTANCE OF 1 1/2 INCHES FROM THE TANGENT OF THE FLANGE TO THE WEB FILLET (I.E., THE AISC 'k' DIMENSION). THE DIMENSIONS OF THE CLIPPED CORNER SHALL BE DETAILED ON THE SHOP DRAWINGS.
   b. WELD {3} RETURNS ON THE INSIDE FACE OF THE COLUMN FLANGES (AS OCCURS): IN NO CASE SHALL A WELD TIE-IN OF WELD {3} BE ALLOWED ACROSS THE CLIPPED CORNER OF THE HORIZONTAL SHEAR PLATES {D} AT THE K-AREA BETWEEN WEB AND FLANGE.
5. BOLT HOLES MAY BE PRODUCED BY MECHANICALLY GUIDED MEANS OR BY FREE HAND METHODS: HOLES SHALL BE MADE BY DRILLING, THERMAL CUTTING, OR PUNCHING.

WELDING

1. WELDER QUALIFICATION: THE PERFORMANCE OF ALL WELDERS, WELDING OPERATORS AND TACK WELDERS SHALL BE QUALIFIED IN CONFORMANCE WITH AWS D1.1, SECTION 4, PART C TO DEMONSTRATE ABILITY TO PRODUCE SOUND WELDS.
2. WELDING PROCEDURE SPECIFICATIONS (WPS):
   a. THE APPROPRIATE STEEL SUB-CONTRACTOR SHALL PREPARE A SPECIFIC WRITTEN WPS FOR EVERY DIFFERENT WELDING APPLICATION. DIFFERENT WELDING APPLICATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE JOINT DETAILS AND TOLERANCES, PREHEAT AND INTERPASS TEMPERATURE, SINGLE OR MULTIPLE STRINGER PASSES, WELDING CURRENT, POLARITY, ALLOWABLE AMPERAGE RANGES, ALLOWABLE VOLTAGE RANGES, ALLOWABLE TRAVEL SPEED RANGES, ELECTRODE EXTENSION, ROOT TREATMENT, WELDING POSITION, WELDING PROCESS, ELECTRODE MANUFACTURER, FILLER METAL TRADE NAME FOR THE ELECTRODE TYPE SELECTED, AND OTHER ESSENTIAL VARIABLES AS DEFINED IN AWS D1.1 REQUIRED TO COMPLETE THE FABRICATION AND ERECTION OF THE SPECIFIED SIDEPLATE CONNECTIONS. AMPERAGE, VOLTAGE, TRAVEL SPEED AND ELECTRODE EXTENSION SHALL BE WITHIN THE FILLER METAL MANUFACTURER'S RECOMMENDATIONS.
   b. EACH WPS PREPARED SHALL BE BASED ON AND REFERENCED TO A CURRENT CERTIFICATE OF CONFORMANCE PROVIDED BY THE WIRE MANUFACTURER AND SHALL BE USED AS A SUPPORTING PQR PROVIDED FULL COMPLIANCE WITH EVERY SINGLE CONDITION OF PREQUALIFICATION FOUND IN AWS D1.1 SECTION 3 AND AWS D1.8 HIGH AND LOW HEAT INPUT FOR PREQUALIFIED FILLET AND CJP WELDS. THE SELECTION OF THIS OPTION BY THE STEEL FABRICATION/ERECTION SUBCONTRACTOR IS PREDICATED ON ITS ACKNOWLEDGEMENT THAT ITS CERTIFIED WELDERS ARE EXPERIENCED AND CONFIDENT IN THE USE AND SETTINGS SPECIFIED IN THE CERTIFICATE OF CONFORMANCE WITH THE ALLOWABLE TOLERANCES FOR ESSENTIAL VARIABLES FOUND IN TABLE 3.8 OF AWS D1.1. PREVIOUS WPS QUALIFICATION PERFORMED BY THE STEEL FABRICATION/ERECTION SUBCONTRACTOR THAT COMPLIES WITH THE PROVISIONS HEREIN MAY SATISFY THIS REQUIREMENT. EACH WPS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD, AND TO SIDEPLATE SYSTEMS, INC. FOR REVIEW AND DISPOSITION PRIOR TO STARTING THE WORK.
   c. THE APPROVED WPS FOR EACH APPLICABLE PRODUCTION WELD SHALL BE CLEARLY DISPLAYED TO PROVIDE READY ACCESS BY THE ASSIGNED WELDERS, WELDING SUPERVISORS AND INSPECTORS.
   d. IN LIEU OF THE ABOVE PROCEDURE, THE STEEL FABRICATOR MAY CHOOSE TO QUALIFY A WPS BASED ON A PROCEDURE QUALIFICATION RECORD (PQR), WHICH SHALL BE PROVIDED WITH THE WPS SUBMITTAL. THE PQR SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1, SECTION 4.1 AND EMPLOY THE PROPER ACCEPTANCE CRITERIA.
3. TACK WELDS:
   a. TACK WELDS SHALL BE PLACED WHERE THEY WILL BE INCORPORATED INTO A FINAL WELD AND SHALL BE SUBJECT TO THE SAME QUALITY REQUIREMENTS AS THE FINAL WELDS, INCLUDING POSITION, PREHEAT AND UNDERCUT, IN ACCORDANCE WITH AWS D1.1. THESE QUALITY REQUIREMENTS SHALL APPLY EQUALLY TO TACK WELDING OF ANY OTHER CONSTRUCTION AIDS.
4. PREHEAT AND INTERPASS TEMPERATURE REQUIREMENTS:
   a. THE MINIMUM PREHEAT AND INTERPASS TEMPERATURES FOR A GIVEN THICKNESS OF BASE METAL TO BE WELDED SHALL BE IN ACCORDANCE WITH AWS D1.1 TABLE 3.2.
   b. IN NO CASE, REGARDLESS OF THE WELDING PROCESS, SHALL THE PREHEAT TEMPERATURE BE LESS THAN THAT REQUIRED TO DRIVE OFF ANY SURFACE MOISTURE OR CONDENSATION WHICH MAY BE PRESENT ON THE STEEL ELEMENTS TO BE WELDED.
   c. MAXIMUM INTERPASS TEMPERATURE SHALL NOT EXCEED 550°F, MEASURED AT A DISTANCE NOT EXCEEDING THREE INCHES FROM THE START OF THE WELD PASS. WELDING OPERATORS AND INSPECTORS SHALL UTILIZE TEMPERATURE MEASURING DEVICES.
5. ALL SLAG SHALL BE REMOVED AFTER EACH WELD PASS AND THE WELD AND THE ADJACENT BASE METAL SHALL BE CLEANED BEFORE WELDING OVER PREVIOUSLY DEPOSITED WELD METAL. THIS REQUIREMENT SHALL APPLY NOT ONLY TO SUCCESSIVE LAYERS BUT ALSO TO SUCCESSIVE BEADS AND TO THE CRATER AREA WHEN WELDING IS RESUMED AFTER ANY INTERRUPTION, IN ACCORDANCE WITH AWS D1.1 SECTION 5.30.1.
6. PEENING SHALL NOT BE ALLOWED.
7. WELD RUN-OFF TABS SHALL NOT BE USED FOR FILLET WELDS.
8. WELD END TERMINATIONS FOR RECESSED PLATE {D} OPTION ONLY WHERE WELD {3} IS REQUIRED ON BOTH WEB AND FLANGES:
   a. IN ORDER TO PREVENT TIE-IN BETWEEN THE ENDS OF WELD {3} CLOSEST TO THE INSIDE FACE OF SIDE PLATE {A} AND WELD {1} THE ENDS OF WELD {1} SHALL BE HELD BACK FROM THE FLANGE TIP OF COLUMN BY A DISTANCE EQUAL TO WELD {3} PLUS 1/8 INCH. IN NO CASE SHALL A WELD TIE-IN BETWEEN THE ENDS OF WELD {1} AND THE ENDS OF WELD {3} CLOSEST TO THE INSIDE FACE OF SIDE PLATE {A} BE ALLOWED. FABRICATION PRIORITY IS GIVEN HEREIN TO WELDING FILLET WELD {3} ALONG ITS FULL DISTANCE.
9. ARC STRIKES WITHIN THE SIDEPLATE PROTECTED ZONE ON BOTH THE INTERIOR AND EXTERIOR FACES OF SIDE PLATES {A}, WITHIN THE TOP AND BOTTOM 6 INCHES OF PLATE HEIGHT SHALL BE AVOIDED. IF THEY DO OCCUR, THEY SHALL BE REMOVED BY GRINDING AND SHALL HAVE BASE METAL REPAIRED PER AWS D1.8 SECTION 6.15, WITH NON-DESTRUCTIVE TESTING AS NECESSARY.

BOLTING

1. BOLTS/FASTENERS SHALL BE INSTALLED TO PRETENSIONED CONDITION USING ONE OF THE METHODS PRESCRIBED HERE: TURN-OF-NUT (A490), CALIBRATED WRENCH (A490), TWIST-OFF-TYPE TENSION-CONTROL BOLT (F2280), OR TORQUE AND ANGLE METHOD(F3148).
2. FOR ALL PRETENSIONING METHODOLOGIES, ALL FASTENER ASSEMBLIES WITHIN THE JOINT SHALL FIRST BE BROUGHT TO A SNUG TIGHT CONDITION, FOLLOWED BY A SYSTEMATIC PRETENSIONING PROCESS. PRETENSIONING SHALL BEGIN AT THE MOST RIGID PART OF THE JOINT AND CONTINUE IN A MANNER THAT WILL MINIMIZE THE RELAXATION OF PREVIOUSLY PRETENSIONED FASTENERS, UNTIL THE CONNECTED PLIES ARE IN AS FIRM CONTACT AS POSSIBLE. IN ADDITION:
   a. FOR TURN-OF-NUT METHOD, AFTER SNUGGING THE JOINT USING AT LEAST A FEW IMPACTS OF A WRENCH OR THE FULL EFFORT OF AN IRON WORKER, ROUTINE MARKING OR MATCH-MARKING SHALL BE USED TO VERIFY RELATIVE BOLT AND NUT ROTATION TO RCSC TABLE 8.3. FOR BOLT LENGTHS OVER 4D UP TO 8D, THE BOLT OR NUT SHALL BE ROTATED 180 DEGREES (1/2 TURN). FOR BOLT LENGTHS OVER 8D UP TO 12D, THE BOLT OR NUT SHALL BE ROTATED 240 DEGREES (2/3 TURN). FOR BOLT LENGTHS OVER 12D, THE REQUIRED ROTATION SHALL BE DETERMINED USING A BOLT TENSION MEASUREMENT DEVICE.
   b. FOR CALIBRATED WRENCH METHOD, THE WRENCH AND BOLT ASSEMBLY LOT SHALL BE TESTED IN COMBINATION DAILY. IF NECESSARY, THE WRENCH SHALL BE CALIBRATED FOR PROPER OUTPUT PRIOR TO USE. THE INSTALLATION TORQUE NEED NOT PRODUCE A RELATIVE ROTATION EQUAL TO OR GREATER THAN THAT SPECIFIED BY THE TURN-OF-NUT METHOD.
   c. FOR TWIST-OFF-TYPE TENSION-CONTROL BOLT METHOD, FINAL TENSIONING SHALL BE DONE IN A CONTINUOUS OPERATION UNTIL THE TIP TWISTS OFF. ANY BOLT ASSEMBLIES WHICH HAD THE TIP TWIST OFF DURING THE SNUGGING OPERATION SHALL BE REMOVED AND REPLACED.
   d. FOR COMBINED METHOD (ASTM F3148), AFTER SNUGGING THE JOINT USING THE APPROPRIATE INSTALLATION TOOL, ROUTINE MONITORING OR MATCH MARKING SHALL BE USED TO VERIFY RELATIVE BOLT AND NUT ROTATION. FOR BOLT LENGTHS UP TO 4D, THE NUT SHALL BE ROTATED 90 DEGREES (1/4 TURN). FOR BOLT LENGTHS OVER 4D UP TO 8D, THE NUT SHALL BE ROTATED 120 DEGREES (1/3 TURN). FOR BOLT LENGTHS OVER 8D THE MANUFACTURER SHALL PROVIDE APPROPRIATE INSTALLATION REQUIREMENTS.
3. REUSE OF A490, F2280, AND F3148 BOLT ASSEMBLIES SHALL NOT BE ALLOWED. TOUCHING UP OR RE-TIGHTENING BOLTS THAT MAY HAVE BEEN LOOSENED BY THE INSTALLATION OF ADJACENT BOLTS SHALL NOT BE CONSIDERED TO BE A REUSE.
4. ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS.
5. THE BOLT LENGTH USED SHALL BE SUCH THAT THE BOLT THREAD EXTENDS BEYOND OR IS AT LEAST FLUSH WITH THE OUTER FACE OF THE NUT WHEN PROPERLY INSTALLED.
6. FASTENER COMPONENTS SHALL BE PROTECTED FROM DIRT AND MOISTURE IN CLOSED CONTAINERS AT THE SITE OF INSTALLATION.
7. F2280 OR F3148 ASSEMBLIES AND ALTERNATIVE DESIGN FASTENERS THAT MEET THE SPECIFIED REQUIREMENTS PREVIOUSLY MENTIONED SHALL NOT BE RE-LUBRICATED, EXCEPT BY THE MANUFACTURER.
8. FINGER SHIMS MAY BE USED UP TO 1/4 INCH WITHOUT RESTRICTION, SHIM REQUIREMENTS GREATER THAN 1/4 INCH SHALL BE SUBMITTED TO SIDEPLATE SYSTEMS INC FOR APPROVAL PRIOR TO USE.
9. WASHERS SHALL BE ASTM F436 ORDINARY THICKNESS AND SHALL BE USED UNDER THE NUT OF THE FASTENER ASSEMBLY SO AS TO PROVIDE A HARDENED NON-GALLING SURFACE OF THE TURNED ELEMENT. WHEN USING THE TURN-OF-NUT OR CALIBRATED WRENCH METHOD, THE TURNED ELEMENT MUST BE THE SAME AS WAS USED WHEN PERFORMING PREINSTALLATION VERIFICATION TESTING.

QUALITY CONTROL

1. THE FABRICATOR AND ERECTOR SHALL BE RESPONSIBLE FOR QUALITY CONTROL BY PROVIDING, AS A MINIMUM, IN-PROCESS VISUAL INSPECTION OF ALL FABRICATION AND ERECTION ACTIVITIES TO ENSURE THAT MATERIALS AND WORKMANSHIP MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, AND SHALL INCLUDE WORK PERFORMED PRIOR TO ASSEMBLY. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, VERIFYING THAT EFFECTIVE PROCEDURES AND METHODS HAVE BEEN EMPLOYED IN THE FORM OF A DISTORTION CONTROL PROGRAM TO ACCOUNT FOR AND COUNTERACT THE EFFECTS OF WELD SHRINKAGE, EXISTING BEAM SWEEP AND CAMBER, AND CHANGES IN MOMENT FRAME GEOMETRY DUE TO SKEWED AND CURVED DESIGN CONFIGURATIONS (AS OCCURS), TO ENSURE COMPLIANCE WITH SPECIFIED ERECTION AND ALIGNMENT TOLERANCES. QC INSPECTION SHALL INCLUDE **HOLD POINTS** FOR THE FOLLOWING:
   a. COLUMN TREE ASSEMBLY
      1. VERIFICATION THAT ACTUAL COLUMN FLANGE WIDTH IS AT LEAST NOMINAL COLUMN FLANGE WIDTH WHERE THE SIDE PLATES {A} ARE TO BE INSTALLED. IN THE UNLIKELY EVENT ACTUAL COLUMN FLANGE WIDTH IS LESS THAN NOMINAL, BUT WITHIN AISC STANDARD MILL TOLERANCES (-3/16 INCH MAX), CONTACT SIDEPLATE SYSTEMS, INC FOR APPROPRIATE RECOMMENDATIONS.
      2. MINIMUM CLEAR DIMENSION SHALL BE VERIFIED AFTER PLACEMENT OF WELD {2}, COOLING OF WELD {2}, AND REMOVAL OF TEMPORARY SHOP CONSTRUCTION AID(S). VERIFY THAT A MINIMUM ACTUAL COLUMN FLANGE WIDTH DIMENSION OCCURS ANYWHERE IN BETWEEN THE SIDE PLATES {A} FROM TOP TO BOTTOM. THE SIDE PLATES SHALL BE PARALLEL TO ONE ANOTHER. IN NO CASE SHALL THEY BE LESS THAN THE ACTUAL COLUMN FLANGE WIDTH.
      3. MAXIMUM SPREAD DIMENSION OF SIDE PLATE {A} SHALL NOT EXCEED ACTUAL COLUMN FLANGE WIDTH PLUS THE SCHEDULED SPREAD DIMENSION Y. THE FIELD CONSTRUCTION AID SHALL BE PLACED AND HOLD THE SIDE PLATES IN THIS FLARED CONDITION UNTIL THE BEAM HAS BEEN SAFELY ERECTED. IN NO CASE SHALL THE SPREAD CAUSE PERMANENT DEFORMATION IN THE SIDE PLATES.
      4. VERIFICATION OF BOLT HOLE ELEVATION AND SPACING FOR POSITION OF SIDE PLATE {A} AND PROPER POSITION AND ELEVATION OF ANGLES {G}.
   b. BEAM ASSEMBLY
      1. VERIFICATION OF PERPENDICULAR ALIGNMENT BETWEEN THE TOP COVER PLATE {B} AND BOTTOM ANGLES {H} TO THE WEB OF THE BEAM, TO MINIMIZE, IF NOT ELIMINATE, ANY MISALIGNMENT OF BOLT HOLES DUE TO BEAM FLANGE TILT WHEN THE BEAM HAS BEEN LOWERED INTO PLACE.
      2. VERIFICATION OF BOLT HOLE SPACING AND POSITION ON COVER PLATE {B} AND ANGLES {H}. CONSIDERATION SHALL BE GIVEN TO THE CUPPING EFFECT OF THE TOP COVER PLATE {B}, DUE TO WELD SHRINKAGE.
      3. VERIFICATION OF THE DISTANCE BETWEEN EXTERIOR ANGLE {H} FACES AND THEIR RESPECTIVE BOLT HOLE PLACEMENT TO EACH OTHER (VERTICALLY AND HORIZONTALLY).
      4. VERIFICATION THAT IN NO CASE SHALL THE OUTSIDE FACE OF VSE {F} EXTEND BEYOND THE OUTSIDE FACES OF THE LONGITUDINAL ANGLES {H}.
      5. VERIFICATION THAT VERTICAL PLACEMENT OF VSE {F} IS IN THE CORRECT LOCATION.
2. EXPOSURE LIMITATIONS ON ELECTRODES:
   a. AFTER REMOVAL FROM PROTECTIVE PACKAGING, THE PERMISSIBLE ATMOSPHERIC EXPOSURE TIME OF ELECTRODES SHALL NOT EXCEED THE ELECTRODE MANUFACTURER'S GUIDELINES AND SHALL BE IN ACCORDANCE WITH AWS D1.8 SECTION 6.4.
3. FILLET WELD FIT-UP TOLERANCES:
   a. THE PARTS TO BE JOINED BY FILLET WELDS SHALL BE BROUGHT INTO AS CLOSE CONTACT AS PRACTICABLE, USING AS NECESSARY SUITABLE CLAMPING MEANS. THE ROOT OPENING (I.E., THE FIT-UP GAP) SHALL NOT EXCEED 1/4 INCH. FOR FILLET WELD ROOT GAPS GREATER THAN 1/16 INCH, THE LEG SIZE (I.E., THE SPECIFIED SIZE) OF FILLET WELD SHALL BE INCREASED BY THE AMOUNT OF THE ROOT OPENING.
4. THERMAL CUTTING:
   a. THE ROUGHNESS OF ALL THERMAL-CUT SURFACES SHALL BE NO GREATER THAN AN ANSI SURFACE ROUGHNESS VALUE OF 1000 MICRO-INCHES. ROUGHNESS EXCEEDING THIS VALUE AND NOTCHES OR GOUGES NOT MORE THAN 3/16 INCH DEEP SHALL BE REMOVED BY MACHINING OR GRINDING. NOTCHES OR GOUGES IN THE THERMALLY CUT EDGES DEEPER THAN 3/16 INCH SHALL BE REPAIRED PER AWS.
5. TENSION CALIBRATION FOR PRE-INSTALLATION:
   a. TENSION CALIBRATION SHALL BE USED TO CONFIRM THE SUITABILITY OF THE COMPLETE FASTENER ASSEMBLY, AND THE PROCEDURE TO BE USED BY THE BOLTING CREW. A MINIMUM SAMPLING OF AT LEAST THREE COMPETE FASTENER ASSEMBLIES OF EACH COMBINATION OF DIAMETER, LENGTH, GRADE, WASHER REQUIREMENTS, LUBRICATION, AND LOT SHALL BE USED. CALIBRATION SHALL BE DONE AT THE SITE OF INSTALLATION IN A TENSION CALIBRATOR TO VERIFY THAT THE PRETENSIONING METHOD IS ADEQUATE.
   b. IF FASTENER ASSEMBLIES ARE FOUND TO BE LESS THAN THE FOLLOWING SPECIFIED REQUIREMENTS (PRETENSION VALUE AS FOLLOWS: 1 INCH DIAMETER = 67 KIPS, 1 1/8 INCH DIAMETER = 84 KIPS, 1 1/4 INCH DIAMETER = 107 KIPS, AND 1 1/2 INCH DIAMETER = 155 KIPS), THE CAUSE(S) SHALL BE DETERMINED AND RESOLVED BEFORE USING SAID FASTENER ASSEMBLIES.
6. EXPOSURE LIMITATION ON FASTENERS:
   a. FASTENER COMPONENTS SHALL BE PROTECTED FROM CONTAMINATION (DIRT AND MOISTURE) AND SHALL BE STORED IN CLOSED CONTAINERS AT THE SITE OF INSTALLATION. FASTENER COMPONENTS THAT ARE NOT INCORPORATED INTO THE WORK SHALL BE RETURNED TO PROTECTED STORAGE AT THE END OF THE WORK SHIFT. FASTENER COMPONENTS THAT ACCUMULATE RUST OR DIRT SHALL NOT BE USED UNLESS THEY ARE RE-QUALIFIED AND APPROVED BY SIDEPLATE SYSTEMS, INC.
7. WASHERS:
   a. CONFIRM ORDINARY THICKNESS (NOTE: EXTRA THICK WASHER MAY ALSO BE USED) F436 SIZED WASHERS HAVE BEEN USED UNDER THE NUT IN THE FASTENER ASSEMBLY.

QUALITY ASSURANCE

IN ADDITION TO ALL OTHER QUALITY ASSURANCE INSPECTION ACTIVITIES, THE OWNER'S VERIFICATION INSPECTOR SHALL BE RESPONSIBLE FOR:

1. WELDING:
   a. TO ASSURE THE PROPER AMPERAGE AND VOLTAGE OF THE WELDING PROCESS, THE USE OF HAND HELD CALIBRATED AMP AND VOLT METERS SHALL BE USED. THIS EQUIPMENT SHALL BE USED BY THE FABRICATOR AND THE INSPECTOR. AMPERAGE AND VOLTAGE SHALL BE MEASURED NEAR THE ARC. TRAVEL SPEED AND ELECTRODE STICK OUT SHALL BE VERIFIED TO BE IN COMPLIANCE WITH THE APPROVED WPS.
   b. VISUAL INSPECTION SHALL BE PERFORMED ON ALL SHOP WELDS.
   c. EACH WELDER EMPLOYED ON THE PROJECT SHALL UNDERSTAND ALL THE REQUIREMENTS OF THE WELDING PROCEDURE SPECIFICATION(S) BEFORE WELDING ON THE PROJECT.
   d. AS-BUILT BEAM TO COLUMN GAP PER CONNECTION SCHEDULE IS ALLOWED TO BE INSTALLED WITH A TOLERANCE OF PLUS OR MINUS 1/2 INCH.
   e. EACH WPS AND QUALIFICATION DOCUMENT SHALL BE SUBMITTED TO THE SEOR AND TO SIDEPLATE SYSTEMS, INC. FOR REVIEW AND APPROVAL PRIOR TO THE START OF FABRICATION.
   f. WHERE WELDING OF HORIZONTAL SHEAR PLATE {D} OR VERTICAL SHEAR PLATE {C} ENCROACH INTO THE K-AREA (AS DEFINED IN AISC 341), THE WEB SHALL BE VISUALLY CHECKED FOR CRACKS. THE INSPECTION AREA SHALL INCLUDE THE K-AREA BASE METAL WITHIN 3 INCHES OF THE WELD. THE INSPECTION SHALL BE PERFORMED NO SOONER THAN 48 HOURS FOLLOWING COMPLETION OF THE WELDING PER AWS D1.8, SECTION 7.4.
2. FAYING SURFACES:
   a. THE SURFACES ADJACENT TO THE BOLT HEAD AND NUT SHALL BE FREE OF DIRT AND OTHER FOREIGN MATERIAL. COMPRESSIBLE MATERIALS, OTHER THAN THE SPECIFIED COATINGS, SHALL NOT BE PLACED WITHIN THE GRIP OF THE BOLT.
   b. FAYING SURFACES ARE PERMITTED TO BE COATED AND UNCOATED AND SHALL BE FREE OF LOOSE SCALE AND ANY INADVERTENT OVERSPRAY. IF COATING IS REQUIRED, THE FAYING SURFACES SHALL FIRST BE BLAST CLEANED AND SUBSEQUENTLY COATED WITH A COATING THAT QUALIFIES AS A CLASS 'A' COATING.
   c. GALVANIZED FAYING SURFACES SHALL BE IN ACCORDANCE WITH ASTM A123 AND HAVE THEIR FINAL SURFACES ROUGHENED BY MEANS OF HAND WIRE BRUSHING.
   d. TO AVOID COMPRESSIVE CREEP AND SIGNIFICANT LOSS OF PRETENSION, THE COMBINED COATING THICKNESS SHALL IN NO CASE BE MORE THAN 15 MILS PER SURFACE.
   e. AFTER THE CONNECTIONS HAVE BEEN ASSEMBLED, VISUALLY ENSURE THAT THE PLIES OF THE CONNECTED ELEMENTS HAVE BEEN BROUGHT INTO AS CLOSE OF CONTACT AS PRACTICABLE WITH ONE ANOTHER. GAPS UP TO 1/8 INCH BETWEEN THE SURFACES SHALL BE ALLOWED. GAPS GREATER THAN 1/8 INCH UP TO 1/4 INCH SHALL HAVE FINGER SHIMS INSTALLED BEFORE PRETENSIONING. FOR GAPS GREATER THAN 1/4 INCH, CONTACT SIDEPLATE SYSTEMS, INC.
3. PRETENSIONING:
   A MINIMUM BOLT PRETENSION VALUE SHALL BE AS FOLLOWS: 1 INCH DIAMETER = 64 KIPS, 1 1/8 INCH DIAMETER = 80 KIPS, 1 1/4 INCH DIAMETER = 102 KIPS, AND 1 1/2 INCH DIAMETER = 148 KIPS. THE INSPECTOR SHALL OBSERVE THE PRE-INSTALLATION VERIFICATION TESTING. SUBSEQUENTLY, THE INSPECTOR SHALL ENSURE THAT THE BOLTING CREW PROPERLY FOLLOW THE CORRECT METHODOLOGY OUTLINED BELOW:
   a. FOR TURN OF THE NUT METHOD: BY VISUAL OBSERVATION ENSURE THAT THE NUT AND PROTRUDING END OF THE BOLT HAVE BEEN MATCH-MARKED SO THAT THE PROPERLY ROTATED TURNED ELEMENT CAN BE VISUALLY OBSERVED RELATIVE TO THE UNTURNED ELEMENT.
   b. FOR CALIBRATED WRENCH METHOD: BY ROUTINE OBSERVATION ENSURE THAT THE CALIBRATED WRENCH IS BEING APPLIED TO THE TURNED ELEMENT.
   c. FOR TWIST-OFF-TYPE TENSION CONTROL METHOD: BY ROUTINE OBSERVATION ENSURE THAT THE SPLINED ENDS ARE PROPERLY SEVERED DURING INSTALLATION.
   d. FOR COMBINED METHOD (ASTM F3148): BY ROUTINE OBSERVATION OR MATCH MARKING TO VERIFY RELATIVE BOLT AND NUT ROTATION.

PROTECTED ZONES

1. PER AISC 341 SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, SECTION D1.3, SPECIAL (SMF) AND INTERMEDIATE (IMF) MOMENT FRAME SYSTEMS SHALL HAVE DESIGNATED PROTECTED ZONES AS FOLLOWS:
   BEAM
   - THE PROTECTED ZONE STARTS FROM THE VERTICAL EDGE OF SIDE PLATE {A}, AWAY FROM THE COLUMN, AND ENDS ON THE BEAM AS DETAILED. SEE SIDEPLATE TYPICAL DETAILS.

   SIDE PLATE
   - THE PROTECTED ZONE FOR THE SIDE PLATES {A} ARE DEFINED AS A RECTANGULAR AREA AT THE COLUMN/BEAM SEPARATION (GAP) ALONG THE TOP AND BOTTOM EDGES OF THE SIDE PLATES {A}. SEE SIDEPLATE TYPICAL DETAILS. NOTE: WELDS {2} AND {8} ARE EXEMPT FROM THIS PROTECTED ZONE AND SHALL BE PERFORMED FOR THEIR ENTIRE REQUIRED LENGTH.
2. IDENTIFICATION OF PROTECTED ZONES
   a. THE CONTRACTOR SHALL IDENTIFY THE PROTECTED ZONES ON BOTH THE BEAM AND THE SIDE PLATES {A} BY USING ANY SUITABLE NON-DESTRUCTIVE MEANS.
   b. ONCE THE STEEL DECKING IS IN PLACE, THE CONTRACTOR SHALL USE ANY SUITABLE NON-DESTRUCTIVE MEANS TO IDENTIFY THE PROTECTED ZONES PRIOR TO THE INSTALLATION OF SHEAR STUDS, DECK ATTACHMENTS, ETC.
   c. AFTER SPRAYED ON FIRE-RESISTIVE MATERIAL HAS BEEN APPLIED, THE CONTRACTOR SHALL USE ANY SUITABLE NON-DESTRUCTIVE MEANS TO IDENTIFY THE PROTECTED ZONES FOR OTHER DISCIPLINES TO PRECLUDE UNAUTHORIZED ATTACHMENTS.

HOT DIPPED GALVANIZING

1. SIDEPLATE CONNECTIONS REQUIRING THIS TYPE OF FINISH SHALL FOLLOW THE SAME CONSTRUCTION SEQUENCING AS PREVIOUSLY OUTLINED WITH THE FOLLOWING MODIFICATIONS:
   a. HORIZONTAL SHEAR PLATES {D} SHALL HAVE AN INCREASED CLIP SIZE WHICH SHALL BE 1 5/8 INCH BY 1 5/8 INCH TO PROVIDE ADEQUATE VENTILATION AND DRAINAGE. CONTACT SIDEPLATE SYSTEMS, INC. IN THE EVENT THAT THE GALVANIZING CONTRACTOR SPECIFICATIONS REQUIRE A LARGER OPENING THAN THAT SPECIFIED HEREIN.
   b. SEAL WELDING SHALL NOT BE ALLOWED ON THE TOP COVER PLATES {B} AND/OR ANGLES {H}; THUS, THEY SHALL HAVE A 1/16 INCH GAP INTRODUCED BETWEEN THEM AND THE OUTBOARD FACE OF THE BEAM FLANGES TO ALLOW THE MOLTEN ZINC TO PENETRATE AND SEAL BETWEEN THEIR FAYING SURFACES.
   c. ANY DEVIATIONS TO THESE MODIFICATIONS SHALL BE COORDINATED WITH SIDEPLATE SYSTEMS, INC. AND THE SEOR.

FIREPROOFING

1. WHEN REQUIRED BY THE GOVERNING CODE FOR CERTAIN TYPES OF CONSTRUCTION, SIDEPLATE CONNECTIONS SHALL HAVE A FIRE-RESISTANCE RATING LIKE THAT OF A STEEL "STRUCTURAL FRAME".
2. THE MINIMUM THICKNESS OF SPRAY-APPLIED FIRE-RESISTIVE MATERIAL (SFRM) FOR STEEL SIDEPLATE CONNECTIONS PLATES THAT ARE NOT ENCASED IN CONCRETE, SHALL BE DETERMINED JUST LIKE THAT OF A PIPE/TUBE COLUMN SECTION WITH A CONSTANT STEEL WALL THICKNESS USING THE THICKNESS OF SIDE PLATE {A} FOR EACH SIDEPLATE CONNECTION ID PER THE SIDEPLATE CONNECTION SCHEDULE, WHICH ARE UNIFORMLY HEATED AND PROTECTED (THE FIRE EXPOSURE OF A PIPE/TUBE COLUMN IS DIRECTLY ANALOGOUS TO A PLATE WITH A 1-SIDED FIRE EXPOSURE AND PROTECTION). THE SFRM SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ASTM E119 AND LISTED FOR FIRE RESISTIVE PIPE/TUBE COLUMN APPLICATIONS FOR NO LESS THAN THE REQUIRED RATED TIME.
3. THE CONTRACTOR SHALL PROVIDE THE MEANS, TYPICALLY DONE WITH A LAYERING TECHNIQUE, FOR FIREPROOFING ACROSS THE PHYSICAL COLUMN/BEAM SEPARATION (GAP) BETWEEN THE BOTTOM BEAM FLANGE AND THE FACE OF THE COLUMN FLANGE. IF CLOSURE IS REQUIRED FOLLOW ITEMS 4a AND 4b IN THE SIDEPLATE CONSTRUCTION GUIDELINES.

INTELLECTUAL PROPERTY

1. IN ORDER TO SAFEGUARD THE AUTHORIZED USE AND INTELLECTUAL PROPERTY OF THE PATENTED SIDEPLATE CONNECTION TECHNOLOGY, THE STEEL FABRICATION SUBCONTRACTOR SHALL SATISFY THE FOLLOWING REQUIREMENTS:
   a. A NOTICE OF INTELLECTUAL PROPERTY, IDENTICAL TO THAT PROVIDED ON THIS SHEET, SHALL BE AFFIXED ON EACH SHEET OF SHOP DETAIL AND FIELD ERECTION DRAWINGS CONTAINING SIDEPLATE SYSTEM INFORMATION WHICH DISCLOSES IN ANY WAY THE SIDEPLATE CONNECTION CONCEPT PRIOR TO RELEASING SUCH INFORMATION FOR ITS INTENDED USE. SUCH NOTICE SHALL BE PROVIDED TO THE STEEL FABRICATION SUBCONTRACTOR BY SIDEPLATE SYSTEMS, INC. IN A FORMAT (E.G. WORD OR AUTOCAD) SUITABLE TO THE NEEDS OF THE STEEL FABRICATION SUBCONTRACTOR'S DETAILER.
   b. PATENT LABELS SHALL BE APPLIED ON THE OUTSIDE FACE OF ONE OF THE TWO BOTTOM HORIZONTAL SHEAR PLATES {D} OF EACH MOMENT CONNECTION AND ON ONE END OF THE BEAM WEB IN COMPLIANCE WITH THE PATENT AND INTELLECTUAL PROPERTY LAWS.

INTELLECTUAL PROPERTY RIGHTS NOTICE
The SIDEPLATE® steel frame connection system is covered by one or more of U.S. Pat. Nos. 6,138,427; 6,516,583; 6,591,573; 7,178,296; 8,122,671; 8,122,672; 8,146,322; 8,176,706; 8,205,408; and 9,091,065 and foreign counterparts. Other U.S. and foreign applications pending.

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v17.05.02
SMF BOLTED

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DATE__________

New Multi-story STEM
Classroom Building

Los Alamitos Unified
School District

3591 W Cerritos Avenue, Los
Alamitos, CA 90720

ISSUED FOR:
SCHEMATIC DESIGN 10/26/2018

REVISIONS:

SCHEMATIC DESIGN 10/26/2018

REGISTRATION/SIGNATURE:

SHEET TITLE:

**SIDEPLATE
GENERAL NOTES**

SHEET NUMBER:

S6.1

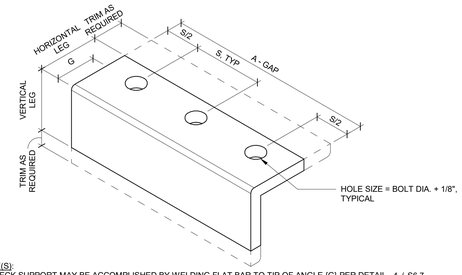
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18451	KDW	KDW	10/22/2018

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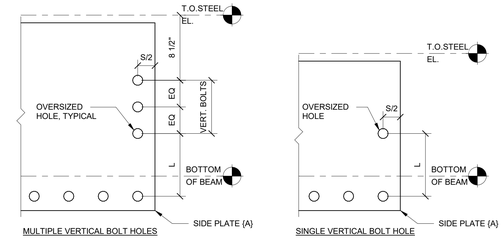
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NOTE(S):
1. DECK SUPPORT MAY BE ACCOMPLISHED BY WELDING FLAT BAR TO TIP OF ANGLE {G} PER DETAIL 4 / S6.7 OR BY EXTENDING HORIZONTAL LEG OF ANGLE {G} PER DETAIL 6 / S6.7
2. EDGE SUPPORT MAY BE ACCOMPLISHED BY WELDING FLAT BAR TO TIP OF ANGLE {G} PER DETAIL 5 / S6.7 OR BY EXTENDING HORIZONTAL LEG OF ANGLE {G} PER DETAIL 7 / S6.7
3. IF THE ANGLE {G} SECTION WITH THE GIVEN DIMENSIONS CANNOT BE OBTAINED, THE PIECE SHALL BE FABRICATED BY TRIMMING ONE OR BOTH LEGS OF A LARGER AVAILABLE ANGLE SECTION.
4. ANY ANGLE OF THE REQUIRED THICKNESS THAT IS CAPABLE OF MEETING THE PROPER MATERIAL SPECIFICATIONS AND THE DIMENSIONS SHOWN ABOVE MAY BE USED FOR ANGLE {G}.

4 ANGLE {G} DETAIL
N.T.S.



MULTIPLE VERTICAL BOLT HOLES

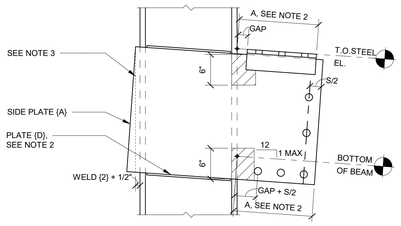
SINGLE VERTICAL BOLT HOLE

NOTE(S):
1. SEE COLUMN SCHEDULE FOR BOLT QUANTITY.
2. TOP ANGLE {G} NOT SHOWN FOR CLARITY.

3 SIDE PLATE {A} VSE BOLT HOLE DETAIL
N.T.S.

ID	COLUMN PANEL ZONE DESIGN							SIDEPLATE {A} EXTENSION DESIGN													
	MEMBER SIZE	PLATE THICKNESS		WELD			WELD HOLDBACK	MEMBER SIZE		DIMENSION									WELD	MISCELLANEOUS		
	COLUMN SERIES USED	{A}	{D}	{1}	{2}	{3}	{2} HB	BEAM	SUGGESTED ANGLE {G}	REQUIRED HORIZONTAL ANGLE {G} LEG	REQUIRED VERTICAL ANGLE {G} LEG	GAP	A	B	G	L	S	Y	{8}	BOLT DIAMETER	HORIZONTAL BOLTS	VERTICAL BOLTS

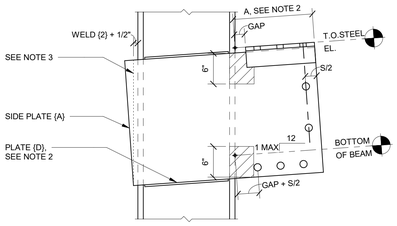
2 A TYPE COLUMN CONNECTION SCHEDULE
N.T.S.



FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. AT CONTRACTOR'S DISCRETION, SIDE PLATE {A} MAY BE CUT AS SHOWN.

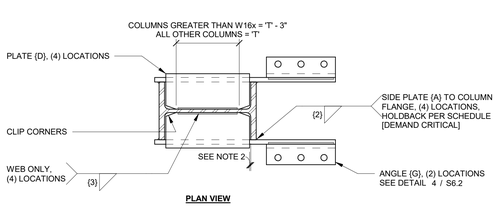
6 SLOPED DOWN CONNECTION
N.T.S.



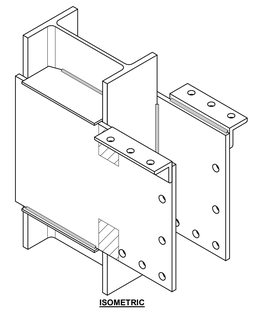
FRONT ELEVATION

NOTE(S):
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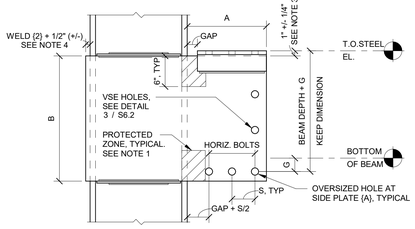
5 SLOPED UP CONNECTION
N.T.S.



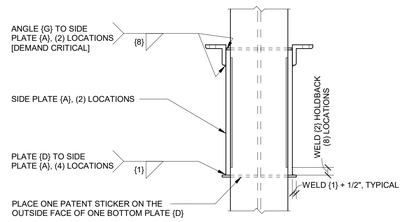
PLAN VIEW



ISOMETRIC



FRONT ELEVATION



SIDE ELEVATION

NOTE(S):
1. PROTECTED ZONE ON SIDE PLATE EXTENDS FROM INSIDE FACE OF COLUMN FLANGE TO EDGE OF BOLT HOLE.
2. DIMENSION BETWEEN PLATE {D} AND INSIDE FACE OF COLUMN FLANGE SHALL NOT EXCEED 1/4 INCH. THIS DIMENSION MAY VARY DEPENDING ON THE DETAILER'S PREFERENCE TO ACCOMMODATE MILL TOLERANCE AND/OR THE UNIFORMITY OF PIECE MARKS.
3. THE +/- 1/4 INCH TOLERANCE FOR PLACEMENT OF ANGLES {G} IS TO ENSURE CORRECT TOP OF STEEL PLACEMENT RELATIVE TO THE CENTERLINE OF THE BOTTOM HORIZONTAL ROW OF BOLT HOLES. THE PLACEMENT OF ANGLES {G} SHALL NEVER BE MEASURED FROM THE BOTTOM EDGE OF SIDE PLATE {A} TO ESTABLISH THE CORRECT TOP OF STEEL.
4. THE 1/2 INCH OVERHANG ON THE SIDE PLATE {A} IS TO ENSURE SUFFICIENT ROOM FOR WELD {2}, THE +/- TOLERANCE IS APPLIED SO THAT IF DESIRED, THE DETAILER CAN MAKE THE SIDE PLATES {A} THE SAME LENGTH WITH SLIGHTLY VARYING COLUMN DEPTHS WITHIN A GROUP OF THE SAME CONNECTION ID'S.

1 A TYPE BOLTED CONNECTION
N.T.S.

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Los Alamitos Unified School District

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ISSUED FOR:
SCHEMATIC DESIGN 10/26/2018

REVISIONS:
-

REGISTRATION/SIGNATURE:

SHEET TITLE:
SIDEPLATE COLUMN DETAILS, A TYPE

SHEET NUMBER:
S6.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	KDW	KDW	10/22/2018

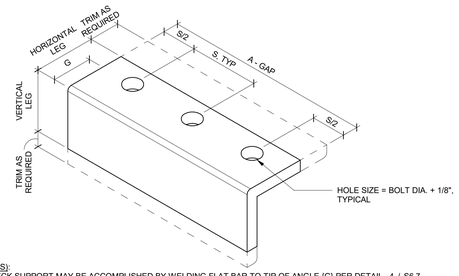
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SCHEMATIC DESIGN 10/26/2018

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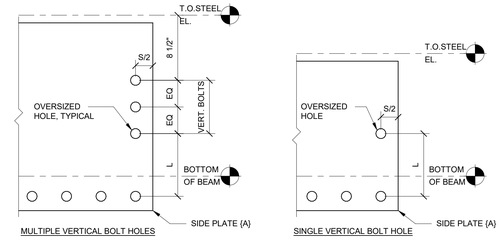
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v17.05.02
SMF BOLTED



NOTE(S):
1. DECK SUPPORT MAY BE ACCOMPLISHED BY WELDING FLAT BAR TO TIP OF ANGLE {G} PER DETAIL 4 / S6.7 OR BY EXTENDING HORIZONTAL LEG OF ANGLE {G} PER DETAIL 6 / S6.7
2. EDGE SUPPORT MAY BE ACCOMPLISHED BY WELDING FLAT BAR TO TIP OF ANGLE {G} PER DETAIL 5 / S6.7 OR BY EXTENDING HORIZONTAL LEG OF ANGLE {G} PER DETAIL 7 / S6.7
3. IF THE ANGLE {G} SECTION WITH THE GIVEN DIMENSIONS CANNOT BE OBTAINED, THE PIECE SHALL BE FABRICATED BY TRIMMING ONE OR BOTH LEGS OF A LARGER AVAILABLE ANGLE SECTION.
4. ANY ANGLE OF THE REQUIRED THICKNESS THAT IS CAPABLE OF MEETING THE PROPER MATERIAL SPECIFICATIONS AND THE DIMENSIONS SHOWN ABOVE MAY BE USED FOR ANGLE (G).

4 ANGLE {G} DETAIL
N.T.S.



MULTIPLE VERTICAL BOLT HOLES

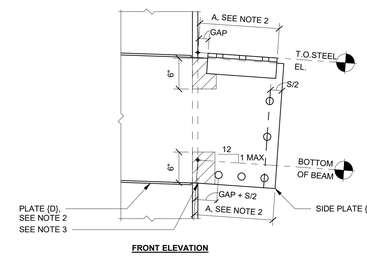
SINGLE VERTICAL BOLT HOLE

NOTE(S):
1. SEE COLUMN SCHEDULE FOR BOLT QUANTITY.
2. TOP ANGLE {G} NOT SHOWN FOR CLARITY.

3 SIDE PLATE {A} VSE BOLT HOLE DETAIL
N.T.S.

ID	COLUMN PANEL ZONE DESIGN							SIDEPLATE {A} EXTENSION DESIGN													
	MEMBER SIZE	PLATE THICKNESS		WELD			WELD HOLDBACK	MEMBER SIZE		DIMENSION									WELD	MISCELLANEOUS		
	COLUMN SERIES USED	{A}	{D}	{1}	{2}	{3}	{2} HB	BEAM	SUGGESTED ANGLE {G}	REQUIRED HORIZONTAL ANGLE {G} LEG	REQUIRED VERTICAL ANGLE {G} LEG	GAP	A	B	G	L	S	Y	{8}	BOLT DIAMETER	HORIZONTAL BOLTS	VERTICAL BOLTS

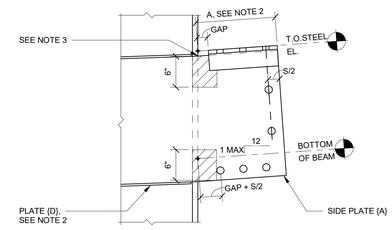
2 B TYPE COLUMN CONNECTION SCHEDULE
N.T.S.



FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. BEGIN SLOPE OF SIDE PLATE AT OUTSIDE FACE OF COLUMN FLANGE, TYPICAL. NOTE THAT SLOPE OF SIDE PLATE WITHIN THE COLUMN EXTENTS MAY NOT MATCH SLOPE OF BEAM.

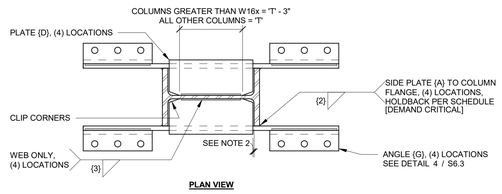
6 SLOPED DOWN CONNECTION
N.T.S.



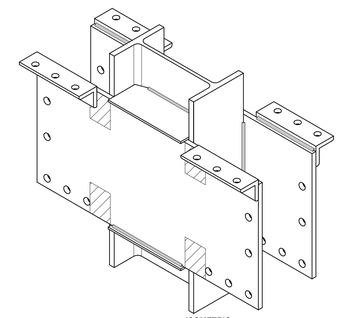
FRONT ELEVATION

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.
2. COORDINATE PLATES, ANGLES, AND DIMENSIONS WITH RESPECT TO THE SLOPE OF THE CONNECTION.
3. BEGIN SLOPE OF SIDE PLATE AT OUTSIDE FACE OF COLUMN FLANGE, TYPICAL. NOTE THAT SLOPE OF SIDE PLATE WITHIN THE COLUMN EXTENTS MAY NOT MATCH SLOPE OF BEAM.

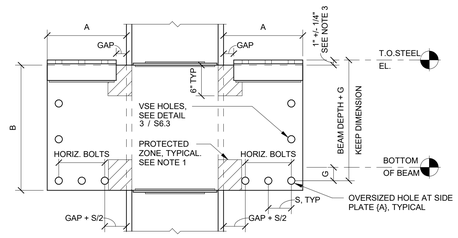
5 SLOPED UP CONNECTION
N.T.S.



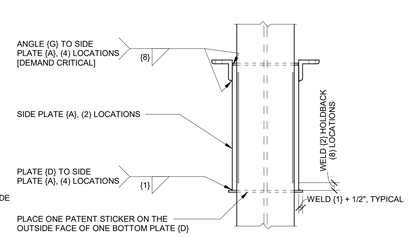
PLAN VIEW



ISOMETRIC



FRONT ELEVATION



SIDE ELEVATION

NOTE(S):
1. PROTECTED ZONE ON SIDE PLATE EXTENDS FROM INSIDE FACE OF COLUMN FLANGE TO EDGE OF BOLT HOLE.
2. DIMENSION BETWEEN PLATE {D} AND INSIDE FACE OF COLUMN FLANGE SHALL NOT EXCEED 1/4 INCH. THIS DIMENSION MAY VARY DEPENDING ON THE DETAILER'S PREFERENCE TO ACCOMMODATE MILL TOLERANCE AND/OR THE UNIFORMITY OF PIECE MARKS.
3. THE +/- 1/4 INCH TOLERANCE FOR PLACEMENT OF ANGLES {G} IS TO ENSURE CORRECT TOP OF STEEL PLACEMENT RELATIVE TO THE CENTERLINE OF THE BOTTOM HORIZONTAL ROW OF BOLT HOLES. THE PLACEMENT OF ANGLES {G} SHALL NEVER BE MEASURED FROM THE BOTTOM EDGE OF SIDE PLATE {A} TO ESTABLISH THE CORRECT TOP OF STEEL.

1 B TYPE BOLTED CONNECTION
N.T.S.

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
SCHEMATIC DESIGN 10/26/2018

REVISIONS:
-

REGISTRATION/SIGNATURE:

SHEET TITLE:
SIDEPLATE COLUMN DETAILS, B TYPE

SHEET NUMBER:
S6.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	KDW	KDW	10/22/2018

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SCHEMATIC DESIGN 10/26/2018

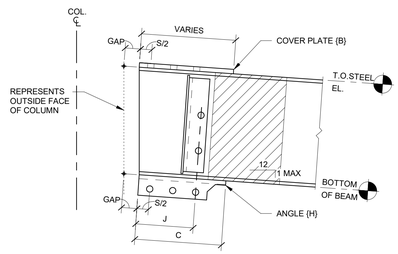
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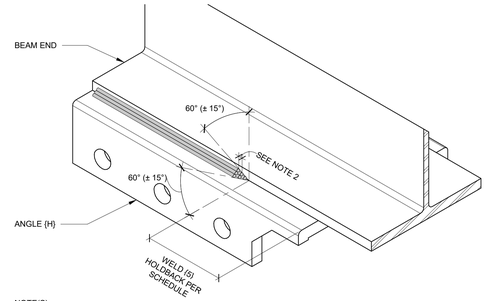
SMF BOLTED



ELEVATION VIEW

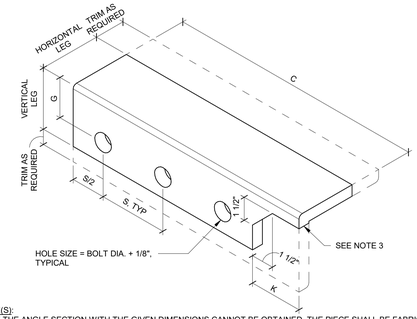
NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.

8 SLOPED DOWN BEAM END
N.T.S.



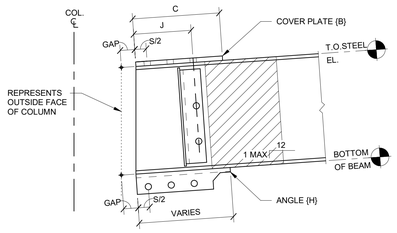
NOTE(S):
1. WELD {5} IS SHOWN FROM THE BOTTOM BEAM FLANGE TO THE BOTTOM ANGLE {H}, BUT IT ALSO OCCURS ON THE TOP BEAM FLANGE WHERE IT CONNECTS TO COVER PLATE {B} OR TOP ANGLE {H}. THERE ARE FOUR TOTAL LOCATIONS PER BEAM END.
2. USING APPROXIMATELY A 1/4 INCH STEP BETWEEN ALL WELD PASSES WILL PROVIDE THE REQUIRED TRANSITION AS DEMONSTRATED THROUGH PHYSICAL TESTING. END PROFILE SHALL BE APPROXIMATELY 60 DEGREES +/- 15 DEGREES.

4 WELD {5} HOLDBACK AND END PROFILE
N.T.S.



NOTE(S):
1. IF THE ANGLE SECTION WITH THE GIVEN DIMENSIONS CANNOT BE OBTAINED, THE PIECE SHALL BE FABRICATED BY TRIMMING ONE OR BOTH LEGS OF A LARGER ROLLED ANGLE SECTION.
2. ANY ANGLE OF THE REQUIRED THICKNESS THAT IS CAPABLE OF MEETING THE PROPER MATERIAL SPECIFICATIONS AND LEG DIMENSION REQUIREMENTS GIVEN IN THE SCHEDULE MAY BE USED FOR ANGLE {H}.
3. MITER CUT NEED NOT BE FLUSH WITH HORIZONTAL LEG. DIMENSION MITER CUT TO UNDERSIDE OF HORIZONTAL LEG SHALL NOT EXCEED 1/2 INCH.

3 ANGLE {H} DETAIL
N.T.S.



ELEVATION VIEW

NOTE(S):
1. FOR BEAM SLOPES > 1" PER FOOT, CONTACT SIDEPLATE SYSTEMS, INC.

7 SLOPED UP BEAM END
N.T.S.

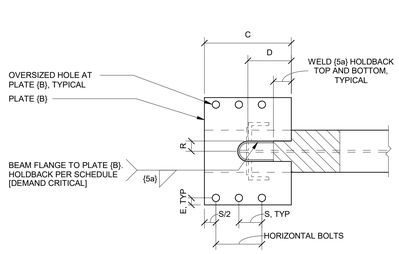
ID	BEAM DESIGN																											
	MEMBER SIZE			PLATE THICKNESS		DIMENSION													WELD				WELD HOLDBACK		MISCELLANEOUS		
	BEAM	SUGGESTED ANGLE {H}	ANGLE {E}	{B}	{C}	REQUIRED HORIZONTAL ANGLE {H} LEG	REQUIRED VERTICAL ANGLE {H} LEG	GAP	C	D	E	G	H	J	K	L	R	S	{4}	{5}	{5} REQUIRED FULL THROAT	{5a}	{5} HB	{5a} HB	BOLT DIAMETER	HORIZONTAL BOLTS	VERTICAL BOLTS

2 BEAM END SCHEDULE
N.T.S.

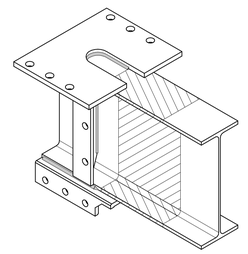


NOTE(S):
1. SEE SIDEPLATE SCHEDULE FOR BOLT QUANTITY

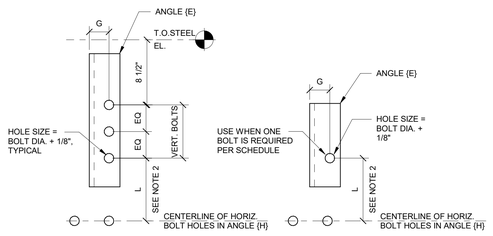
6 VSE {F} DETAIL
N.T.S.



PLAN VIEW



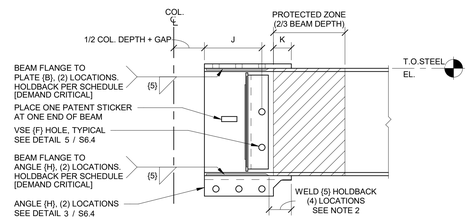
ISOMETRIC VIEW



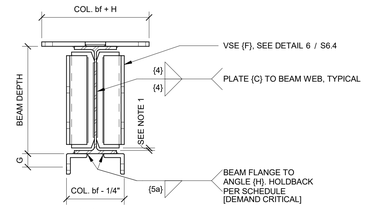
MULTIPLE VERTICAL BOLT HOLES **SINGLE VERTICAL BOLT HOLE**

NOTE(S):
1. SEE BEAM END SCHEDULE FOR BOLT QUANTITY.
2. EFFECTS OF MILL AND FABRICATION TOLERANCES ARE ACCOUNTED FOR BY MEASURING FROM THE CENTERLINE OF THE HORIZONTAL ROW OF BOLTS IN THE BOTTOM ANGLES {H}.

5 VSE {F} HOLES AND PLACEMENT
N.T.S.



FRONT ELEVATION



SECTION VIEW

NOTE(S):
1. DIMENSION BETWEEN PLATE {C} AND INSIDE FACE OF BEAM FLANGE SHALL NOT EXCEED 1/4 INCH, AND MAY VARY DEPENDING ON BEAM MILL TOLERANCES. PLATE {C} SHALL BE CENTERED ON THE DEPTH OF THE BEAM.
2. THIS HOLDBACK AND WELD END PROFILE ARE CRITICAL TO THE PERFORMANCE OF THE CONNECTION. SEE DETAIL 4 / S6.4

1 BEAM END DETAIL
N.T.S.

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
SCHEMATIC DESIGN 10/26/2018

REVISIONS:
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SIDEPLATE BEAM DETAILS

SHEET NUMBER:

S6.4

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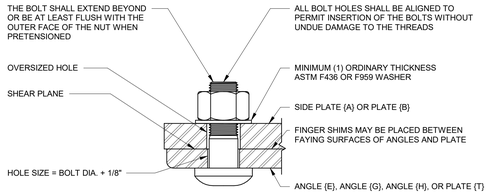
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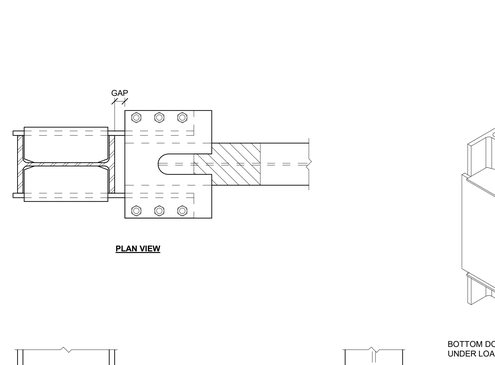


NOTE(S):
1. BOLTS SHALL BE INSTALLED AS SHOWN TO KEEP THREADS OUTSIDE OF SHEAR PLANE.
2. BOLTS SHALL BE SYSTEMATICALLY INSTALLED AS OUTLINED IN THE BOLTING SPECIFICATIONS. FIRST TO A SNUG TIGHT CONDITION, AND THEN PRETENSIONED.
3. THE USE OF FINGER SHIMS ARE ALLOWED FOR GAPS GREATER THAN 1/8 INCH UP TO 1/4 INCH. CONTACT SIDEPLATE SYSTEMS, INC. IF GAPS ARE GREATER THAN 1/4 INCH.
4. NUT SHALL BE ASTM A563.
5. THE BOLT/FASTENER ASSEMBLY SHALL BE COVERED IN A LIGHT PROTECTIVE OIL.
6. FOLLOW QUALITY CONTROL SECTION FOR EXPOSURE LIMITATION ON BOLTS/FASTENERS.

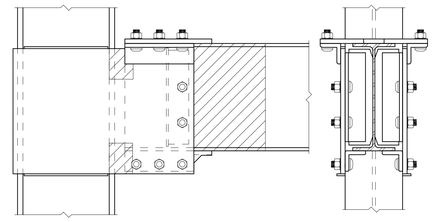
3 FIELD BOLTING DETAIL
N.T.S.

ID	ERECTION DESIGN				
	MEMBER SIZE	MISCELLANEOUS			
	BEAM	BOLT DIAMETER	HORIZONTAL BOLTS	VERTICAL BOLTS	TOTAL BOLTS PER BEAM END

2 BEAM ERECTION SCHEDULE
N.T.S.



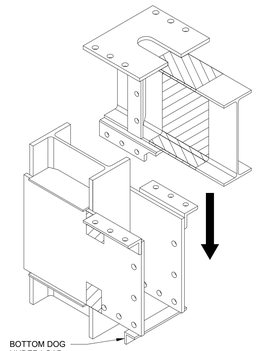
PLAN VIEW



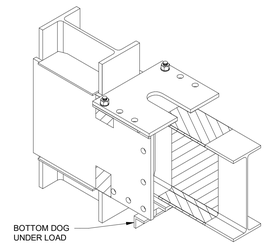
FRONT ELEVATION

SECTION VIEW

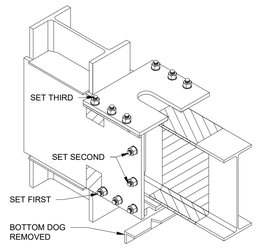
TYPICAL SEQUENCE OF ERECTION:
1. LOWER THE BEAM INTO PLACE FROM ABOVE.
2. STUFF A FEW BOLTS TO SECURE ASSEMBLY.
3. **BOTTOM DOG SHALL BE REMOVED**. IT IS RECOMMENDED THAT IT BE REMOVED BY TORCH CUTTING A "V" SECTION OUT OF ONE OF THE ANGLE LEGS TO ALLEVIATE THE LOAD AND THEN PROCEED TO REMOVE IT. **IT IS NOT RECOMMENDED TO USE A GRINDING WHEEL TO REMOVE THE WELDS WHILE THE DOG IS UNDER LOAD!**
4. BOLTS SHALL BE STUFFED INTO HOLES IN THE BEAM COVER PLATE {B} AND THE SIDE PLATES {A}.
5. SYSTEMATICALLY TIGHTEN BOLTS PER RCSC SPECIFICATIONS.
6. THE WELD REMNANTS OF THE BOTTOM DOG MAY REMAIN IN PLACE AND DO NOT NEED TO BE GROUND SMOOTH.



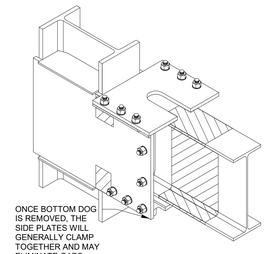
1. LOWER BEAM INTO PLACE



2. STUFF A FEW BOLTS TO SECURE ASSEMBLY



3. CAREFULLY REMOVE BOTTOM DOG AS IT IS UNDER LOAD. THEN STUFF ALL REMAINING BOLTS STARTING WITH THE BOTTOM ROW, THEN THE VERTICAL ROW, AND LAST THE TOP ROW.



4. SYSTEMATICALLY TIGHTEN BOLTS PER SPECIFICATIONS.

1 BEAM ERECTION DETAIL
N.T.S.

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ISSUED FOR:
SCHEMATIC DESIGN 10/26/2018

REVISIONS:
-

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SIDEPLATE FIELD ERECTION DETAILS

SHEET NUMBER:
S6.5

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	KDW	KDW	10/22/2018

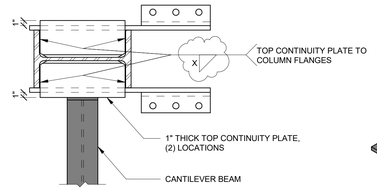
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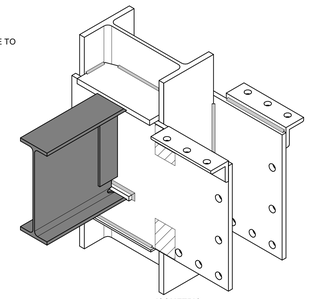
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The SIDEPLATE® steel frame connection system is covered by one or more of U.S. Pat. Nos. 6,138,427; 6,516,583; 6,591,573; 7,178,296; 8,122,671; 8,122,672; 8,146,322; 8,176,706; 8,205,408; and 9,091,065 and foreign counterparts. Other U.S. and foreign applications pending.

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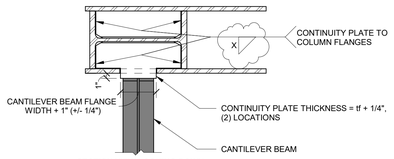
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v17.05.02
DMF BOLTED



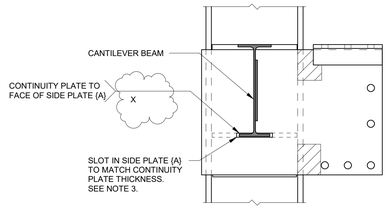
PLAN VIEW



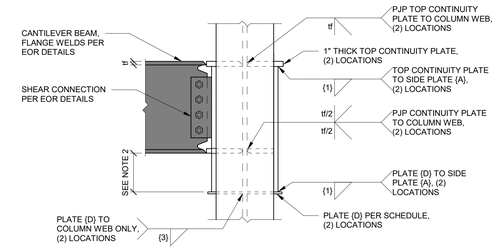
ISOMETRIC



SECTION VIEW LOOKING DOWN



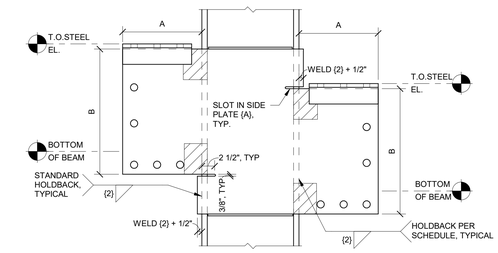
FRONT ELEVATION



SIDE ELEVATION

NOTE(S):
1. ATTACHMENT SHOWN ON ONE SIDE OF SIDEPLATE CONNECTION FOR ILLUSTRATION. ATTACHMENT CAN OCCUR ON LEFT SIDE, RIGHT SIDE, OR BOTH SIDES OF CONNECTION AS APPLICABLE.
2. IF THE BOTTOM FLANGE OF THE CANTILEVER BEAM FALLS WITHIN 3 INCHES OF THE BOTTOM OF SIDE PLATE (A), BOTTOM PLATE (D) SHALL BE OMITTED.
3. SLOT IN SIDE PLATE (A) MAY BE BIGGER THAN CONTINUITY PLATE BY AS MUCH AS 1/8" FOLLOWING AWS REQUIREMENTS FOR ROOT OPENINGS.

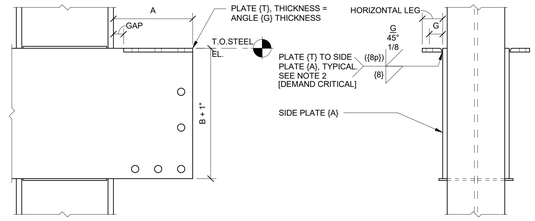
6 SLOTTED CANTILEVER TO SIDEPLATE CONNECTION
N.T.S.



FRONT ELEVATION

NOTE(S):
1. END OF SLOT SHALL BE ROUND.

4 UNIVERSAL STEP DETAIL
N.T.S.



FRONT ELEVATION

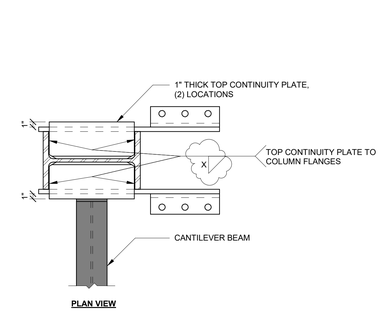
SIDE ELEVATION

NOTE(S):
1. TOP PLATE {D} NOT SHOWN FOR CLARITY IN SIDE ELEVATION.
2. TO HOLD 1/8 INCH GAP, IT IS RECOMMENDED THAT A 1/8 INCH WELD WIRE BE PLACED BETWEEN THE PLATES BEFORE WELDING. THE WIRE WILL BE CONSUMED DURING THE WELDING PROCESS. WELD SIZES AS SCHEDULED DOES NOT ACCOUNT FOR 1/8 INCH ROOT OPENING.

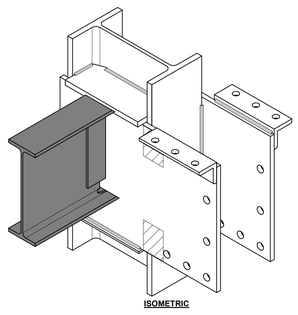
3 PLATE {T} DETAIL
N.T.S.

NOTE: SINCE THE DIFFERENCE BETWEEN THE NOMINAL COLUMN FLANGE AND NOMINAL BEAM FLANGE WIDTH IS LESS THAN 1 1/2 INCHES, THERE MAY BE A NEED TO APPLY THIS DETAIL DEPENDING ON THE ACTUAL CONDITIONS OF THE MEMBERS BEING USED IN THE FABRICATION SHOP (I.E. WEB OFFSET, ANGLE APEX, MILL TOLERANCES, ETC.). BECAUSE SUCH CONDITIONS ARE NOT KNOWN UNTIL THE TIME OF FABRICATION, THE DETAILER SHOULD DETAIL THE CONNECTION WITH THE STANDARD FILLET WELD {5}, AND NOT THIS DETAIL.

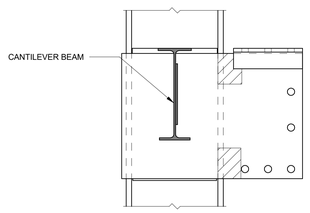
TO PROVIDE DIRECTION TO THE FITTER/FABRICATOR, THE DETAILER SHALL DIRECTLY COPY THIS DETAIL ONTO THE BEAM SHOP DRAWING WHERE THIS DETAIL IS REFERENCED ON THE MOMENT FRAME ELEVATIONS WITH A NOTE THAT SAYS: "USE THIS DETAIL WHEN THERE IS NOT SUFFICIENT ROOM TO APPLY WELD {5}".



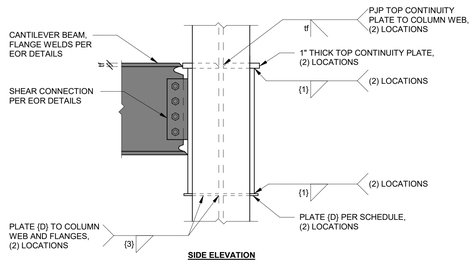
PLAN VIEW



ISOMETRIC



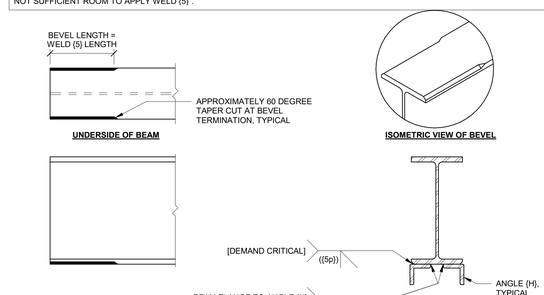
FRONT ELEVATION



SIDE ELEVATION

NOTE(S):
1. ATTACHMENT SHOWN ON ONE SIDE OF SIDEPLATE CONNECTION FOR ILLUSTRATION. ATTACHMENT CAN OCCUR ON LEFT SIDE, RIGHT SIDE, OR BOTH SIDES OF CONNECTION AS APPLICABLE.

5 CANTILEVER TO SIDEPLATE CONNECTION
N.T.S.



NOTE(S):
1. FOR NARROW CONFIGURATIONS, TOP FLANGE OF BEAM SHALL ALSO BE BEVELED.

2 PJP WELD {5} DETAIL
N.T.S.

Miscellaneous Details Schedule	
MISC ID	DETAIL NUMBER
M#	#/SP110

1 MISCELLANEOUS DETAILS SCHEDULE
N.T.S.

WESTGROUP DESIGNS
ARCHITECTURE | PLANNING | INTERIOR DESIGN
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KNA JOB No.: 352.023

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
SCHEMATIC DESIGN 10/26/2018

REVISIONS:
.

REGISTRATION/SIGNATURE:

SHEET TITLE:
SIDEPLATE MISCELLANEOUS DETAILS

SHEET NUMBER:
S6.6

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	KDW	KDW	10/22/2018

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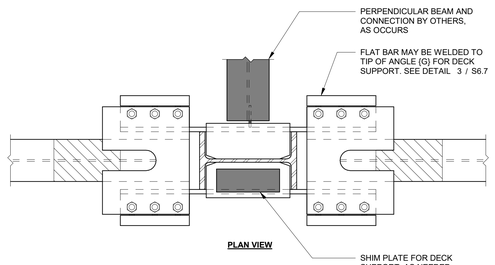
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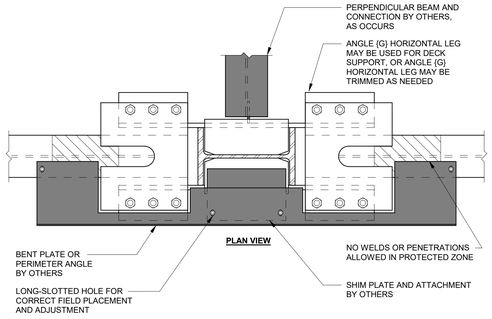
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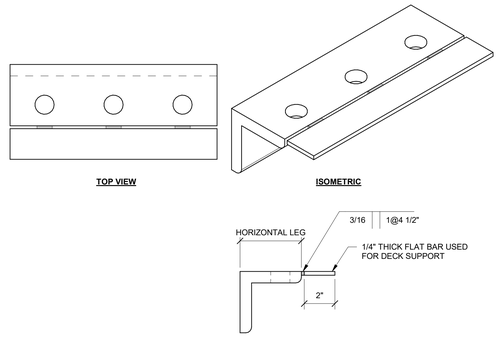
DSM BOILTED



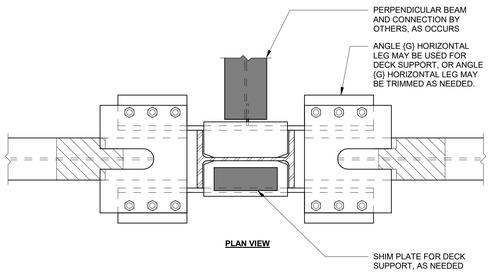
4 WELDED FLAT BAR DECK SUPPORT DETAIL
N.T.S.



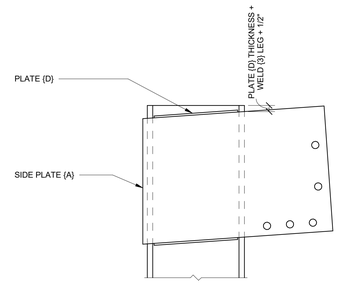
7 ANGLE {G} HORIZONTAL LEG FOR SLAB EDGE SUPPORT DETAIL
N.T.S.



3 WELDED FLAT BAR TO ANGLE {G} FOR DECK SUPPORT
N.T.S.

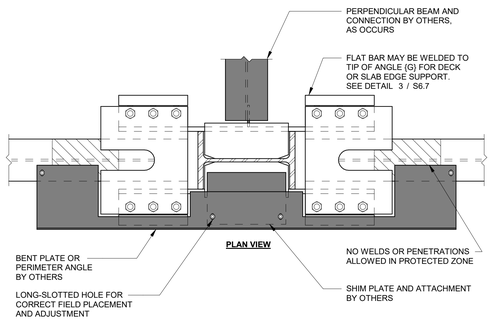


6 ANGLE {G} HORIZONTAL LEG DECK SUPPORT DETAIL
N.T.S.

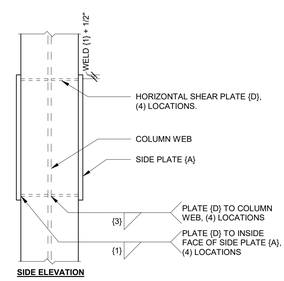


NOTE(S):
1. SLOPED CONDITION SHOWN, CONNECTION MAY BE FLAT.
2. LONGITUDINAL ANGLES {G} NOT SHOWN FOR CLARITY.

2 DISCONTINUOUS COLUMN DETAIL
N.T.S.



5 WELDED FLAT BAR FOR SLAB EDGE SUPPORT DETAIL
N.T.S.



NOTE(S):
1. LONGITUDINAL ANGLES {G} NOT SHOWN FOR CLARITY.
2. SEE SCHEDULE FOR INFORMATION NOT SHOWN.

1 PLATE {D} ALTERNATE DETAIL
N.T.S.

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
SCHEMATIC DESIGN 10/26/2018

REVISIONS:
-

REGISTRATION/SIGNATURE:

SHEET TITLE:
SIDEPLATE COORDINATION ITEMS

SHEET NUMBER:
S6.7

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	KDW	KDW	10/22/2018

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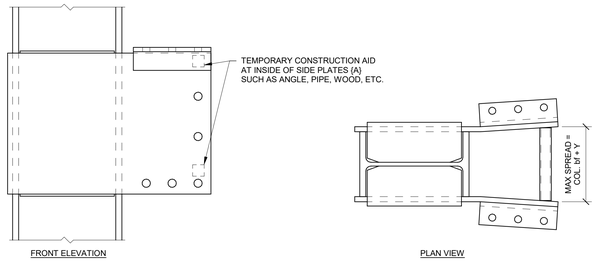
CONSTRUCTION GUIDELINES

1. THE CONTRACTOR SHALL ASSUME FULL AND COMPLETE RESPONSIBILITY FOR THE MEANS AND METHODS OF CONSTRUCTING THE STEEL FRAME USING THE SIDEPLATE BOLTED SYSTEM. CONSTRUCTION MEANS AND METHODS SHALL BE COMPLIANT WITH THE CURRENT PROVISIONS OF AWS D1.1, AWS D1.8, THE AISC 360 CODE OF STANDARD PRACTICE, THE RCSC HIGH-STRENGTH BOLTING SPECIFICATIONS, AND THE CONSTRUCTION GUIDELINES PROVIDED HEREIN AND SHALL INCLUDE, BUT ARE NOT LIMITED TO:
   a. DIMENSIONAL VERIFICATION AND CONTROL
   b. FILLET WELD END PROFILE AND HOLD BACK DISTANCES FROM EDGE OF PLATE, SEE GRAPHIC NO. 7 AND GRAPHIC NO. 8
   c. STEEL DETAILING AND ERECTION DRAWINGS
   d. FABRICATION AND ERECTION PROCEDURES (INCLUDING METHODS FOR CONTROLLING DISTORTION DUE TO WELD SHRINKAGE, AND FOR CONTROLLING COMBINED MILL, FABRICATION AND ERECTION TOLERANCES)
   e. WELDING PROCEDURES
   f. WELDING SEQUENCE OF FABRICATED AND ERECTED ELEMENTS
   g. QUALITY CONTROL MEASURES
   h. CONSTRUCTION AIDS SUCH AS ERECTION RIGGING AND SHORING
   i. PROPER BOLT HOLE ALIGNMENT
   j. PROPER PRETENSIONING OF BOLTS
2. THE SEQUENCE OF CONSTRUCTION OPTIONS PROVIDED BELOW IN THESE CONSTRUCTION GUIDELINES HAVE PROVEN TO BE SUCCESSFUL BY STEEL FABRICATORS AND ERECTORS TO COST EFFICIENTLY CONSTRUCT THE BOLTED SIDEPLATE CONNECTION SYSTEM. VARIATIONS TO THESE CONSTRUCTION SEQUENCE OPTIONS PROVIDED BELOW SHALL BE SUBMITTED FOR REVIEW AND DISPOSITION TO SIDEPLATE SYSTEMS, INC.
3. A PRE-DETAILING MEETING, PRE-FABRICATION MEETING, AND PRE-ERECTION MEETING WITH A SIDEPLATE SYSTEMS, INC REPRESENTATIVE ARE REQUIRED FOR ALL PROJECTS. THE MEETINGS ARE INTENDED TO SHARE BEST PRACTICES AND COMMON MISTAKES TO AVOID.

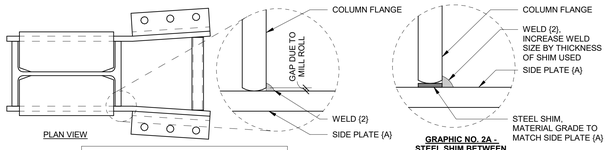
4. COLUMN/BEAM SEPARATION (GAP) CLOSURE
   a. PROVIDE A FOLDED STRIP OF LIGHT GAGE METAL, OR SIMILAR, SECURED TO STEEL SURFACES BY DUCT TAPE OR A TACK WELD LOCATED AS CLOSE AS PRACTICABLE TO THE MID SECTION OF THE BEAM FLANGES OR TOP COVER PLATE (B) ACROSS THE PHYSICAL COLUMN/BEAM SEPARATION (GAP) BETWEEN THE BEAM FLANGES OR TOP COVER PLATE (B) AND THE FACE OF COLUMN FLANGE. THIS SHALL PREVENT CONCRETE FILL FROM ENTERING THROUGH THE SEPARATION (GAP).
   b. IN NO CASE SHALL THE FOLDED STRIP OF LIGHT GAGE MATERIAL BE WELDED TO THE EDGE OF SIDE PLATE (A), OR TO THE FACE OF COLUMN FLANGE TO ACHIEVE CLOSURE OF THE PHYSICAL COLUMN/BEAM SEPARATIONS.

SHOP FABRICATION OF THE SIDEPLATE BOLTED SYSTEM

1. COLUMN TREE ASSEMBLY
   a. TACK SIDE PLATES (A) AND HORIZONTAL SHEAR PLATES (D) TO THE COLUMN.
      - QC INSPECTION SHALL PROVIDE VERIFICATION THAT ACTUAL COLUMN FLANGE WIDTH IS AT LEAST NOMINAL COLUMN FLANGE WIDTH WHERE THE SIDE PLATES (A) ARE TO BE INSTALLED. IN THE UNLIKELY EVENT ACTUAL COLUMN FLANGE WIDTH IS LESS THAN NOMINAL, BUT WITHIN AISC STANDARD MILL TOLERANCES (-3/16 INCH), OR THERE IS A FLANGE OFFSET CREATING A CONDITION WHERE THE SIDE PLATES (A) ARE NOT PARALLEL TO ONE ANOTHER, THE FOLLOWING MAY BE APPLIED:
        - PLACE A STRUCTURAL GRADE SHIM (A572 GRADE 50KSI) BETWEEN THE SIDE PLATE (A) AND THE COLUMN FLANGE TO OFFSET THE DEFICIENT DISTANCE. THE CORRESPONDING WELD (2) SHALL THEN BE INCREASED BY THE SHIM THICKNESS.
      - QC INSPECTION SHALL PROVIDE VERIFICATION THAT THE CENTERLINE OF THE BOTTOM ROW OF THE LONGITUDINAL BOLT HOLES ARE SET TO THEIR CORRECT ELEVATION. THIS CENTERLINE MARK WILL BECOME THE WORKING POINT FOR THE CORRECT PLACEMENT OF ANGLE (G), AS REQUIRED, AND IS ULTIMATELY USED TO SET THE ELEVATION FOR THE TOP OF STEEL IN THE SYSTEM.
   b. WELD HORIZONTAL SHEAR PLATES (D) TO COLUMN WEB USING FILLET WELDS (3) ON OUTER FACE OF PLATE. WHEN WELD (3) OCCURS ON THE COLUMN FLANGES, A WELD TIE-IN OF FILLET WELDS (3) SHALL NOT BE ALLOWED ACROSS THE CLIPPED CORNER OF HORIZONTAL SHEAR PLATE (D) AT THE K-LINE AREA. SEE **PREPARATION** NOTE 4.a IN SIDEPLATE GENERAL NOTES.
   c. WELD HORIZONTAL SHEAR PLATES (D) TO SIDE PLATE (A) USING FILLET WELD (1).
   d. TEMPORARILY MAINTAIN A SLIGHT (E.G. 1/2 INCH +/-) FLARED-OUT SEPARATION OF SIDE PLATES (A) (CARE SHALL BE TAKEN TO NOT OVER SPREAD IN THIS CONDITION, AS THAT MAY BREAK THE TACKS HOLDING THE SIDE PLATE (A) IN PLACE). IN ANTICIPATION OF WELD (2) SHRINKAGE EFFECTS, PLACE SUITABLE CONSTRUCTION AIDS (SUCH AS ANGLE, PIPES OR WOOD BLOCK) AT THE TOP AND BOTTOM OF SIDE PLATE (A). AIDS MAY BE CUT TO FIT AND BEAR ON THE INSIDE FACE OF SIDE PLATES (A) OR CUT LONG AND TACKED TO THE EDGES OF SIDE PLATES (A). SUCH CONSTRUCTION AIDS ACT AS SPACERS DURING THE WELDING AND SUBSEQUENT COOL DOWN OF FILLET WELDS (2). SEE GRAPHIC NO. 1.
   e. WELD INSIDE FACE OF SIDE PLATES (A) TO THE FLANGE TIPS OF COLUMN USING FILLET WELDS (2). REFER TO GRAPHIC NO. 2 FOR CONDITIONS WITH NON-SQUARE COLUMN FLANGE TOES DUE TO MILL ROLLING.
      - SHIMS ARE PERMITTED BETWEEN SIDE PLATE (A) AND COLUMN FLANGE IN CONDITIONS DUE TO MILL ROLLING.
      - THE MATERIAL GRADE OF THE SHIM SHALL MATCH THE GRADE USED ON THE SIDE PLATE (A).
      - FILLET WELD SIZE SHALL BE INCREASED BY THE THICKNESS OF THE SHIM USED.
      - REFER TO GRAPHIC NO. 2A FOR MORE DETAIL.
   f. COLUMN FLANGE TRIMMING IS PERMITTED FOR CONDITIONS DUE TO MILL ROLLING.
      - TRIMMING MAY BE PERFORMED VIA GRINDING TO SMOOTH OUT ROUGH TRANSITIONS.
      - TRIMMING SHALL BE DONE FOR THE FULL LENGTH OF THE SIDE PLATE (A) DEPTH (DIMENSION B) PLUS 12 INCHES ABOVE AND BELOW THE TOP AND BOTTOM EDGES OF SIDE PLATE (A).
      - IF REPAIR WELDING IS REQUIRED TO FIX GAPS AND GOUGES LARGER THAN 3/16 INCH, IT SHALL BE DONE FOLLOWING AWS PROTOCOLS AND WITH AN APPROVED WPS. T
      - THE FINAL SURFACE SHALL HAVE A MINIMUM 500 MICRO-INCH ANSI WORKMANLIKE FINISH.
      - ANY AND ALL TRANSITIONS SHALL BE 10:1.
      - THE FINAL FLANGE WIDTH DIMENSION SHALL BE, AS A MINIMUM, THE NOMINAL DESIGN DIMENSION.
   g. AS REQUIRED, WELD ANGLES (G) TO THE TOP EDGE AND FACE OF SIDE PLATE (A) USING FILLET WELDS (8). CARE SHALL BE GIVEN TO THE PLACEMENT OF ANGLE (G) AT THE CORRECT ELEVATION RELATIVE TO THE 'WORKING POINT' OF THE CENTERLINE OF THE BOTTOM LONGITUDINAL BOLT HOLES IN SIDE PLATE (A).
   h. AFTER COOL DOWN OF COMPLETED FILLET WELDS (2), REMOVE TOP CONSTRUCTION AID. VERIFY MINIMUM CLEAR SPREAD DIMENSION (ACTUAL COLUMN FLANGE WIDTH) BETWEEN SIDE PLATES (A), SEE GRAPHIC NO. 3. THIS IS THE REQUIRED CLEARANCE FOR INSERTING THE BEAM ASSEMBLY.
      - IF CLEARANCE VERIFICATION IS SUFFICIENT (I.E. NOT LESS THAN THE ACTUAL COLUMN FLANGE WIDTH AND NOT EXCEEDING THE MAXIMUM SPREAD DIMENSION Y), A SUITABLE ERECTION AID (AKA BOTTOM 'DOG') SHALL BE WELDED TO THE BOTTOM EDGE OF THE SIDE PLATES (A). IT SHALL BE SUFFICIENTLY STRONG TO REMAIN IN PLACE DURING TRANSPORTATION AND ERECTION OF THE BEAM. THIS ERECTION AID WILL BE UNDER LOAD AND CARE SHALL BE TAKEN WHEN REMOVING.
      - IF CLEARANCE VERIFICATION IS NOT SUFFICIENT (I.E. LESS THAN THE NOMINAL COLUMN FLANGE WIDTH), FLEX SIDE PLATES (A) BY JACKING THEM APART TO A DIMENSION GREATER THAN THE WIDTH OF COLUMN FLANGE. MAXIMUM SEPARATION SHALL NOT EXCEED WIDTH OF COLUMN FLANGE PLUS SCHEDULED SPREAD DIMENSION Y. ONCE NECESSARY CLEARANCE HAS BEEN ESTABLISHED, A SUITABLE ERECTION AID (AKA BOTTOM 'DOG') SHALL THEN BE WELDED TO BOTTOM EDGE OF SIDE PLATES (A). IT SHALL BE SUFFICIENTLY STRONG TO REMAIN IN PLACE DURING TRANSPORTATION AND ERECTION OF BEAM ASSEMBLY. THIS ERECTION AID WILL BE UNDER LOAD AND CARE SHALL BE TAKEN WHEN REMOVING.
      - ALTERNATELY, HEAT STRAIGHTENING OF THE PLATES MAY BE USED TO MEET THE MINIMUM CLEAR DIMENSION SPREAD WITH THE FOLLOWING CRITERIA:
        - USING A 3/4 INCH ROSE BUD HEATING TIP, HEAT THE OUTSIDE FACE OF THE SIDE PLATE ADJUNCT TO THE FREE UNSUPPORTED SIDE OF THE COLUMN FLANGE FOR MAJORITY OF THE FULL DIMENSION B DEPTH (HOLD HEATING BACK FROM TOP AND BOTTOM ENDS OF SIDE PLATE (A) BY 2 INCHES). THE WIDTH OR HEAT ZONE SHALL BE 3/4 INCH TO 1 1/4 INCH. TRAVEL SPEED OF HEATING SHALL BE 2 INCHES PER MINUTE AND MAXIMUM TEMPERATURE MUST SHALL NOT BE MORE THAN 60 DEGREES



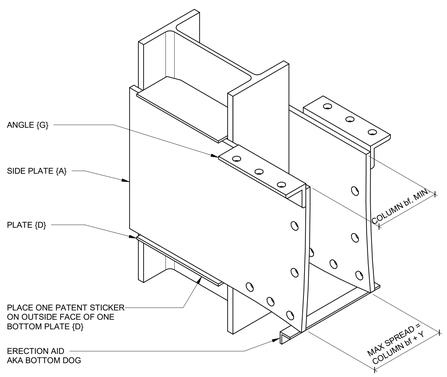
GRAPHIC NO. 1 - COLUMN TREE ASSEMBLY PREPARATION FOR WELD (2)



GRAPHIC NO. 2A - STEEL SHIM BETWEEN COLUMN FLANGE AND SIDE PLATE (A)

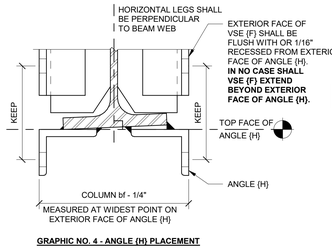
- IF MILL ROLL GAP ≤ 1/16", PERFORM FILLET WELD (2) AS SCHEDULED.
- IF MILL ROLL GAP ≥ 1/16", RUN AN INITIAL PASS TO FILL GAP, THEN PERFORM FILLET WELD (2) AS SCHEDULED.

GRAPHIC NO. 2 - MILL ROLL INDUCED GAP

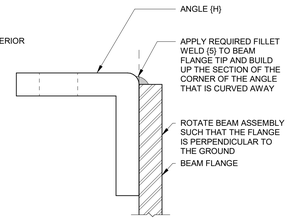


GRAPHIC NO. 3 - COMPLETED SIDEPLATE BOLTED COLUMN TREE ASSEMBLY

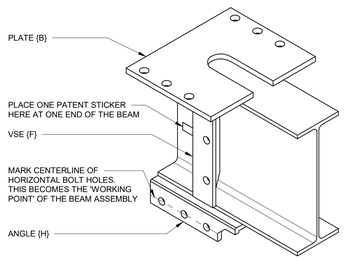
2. BEAM ASSEMBLY
   a. THE COVER PLATE (B) AND LONGITUDINAL ANGLES (H) SHALL BE PLACED AS PERPENDICULAR AS POSSIBLE TO THE WEB OF BEAM, REGARDLESS OF POSSIBLE FLANGE TILT (AS ROLLED BY THE MILL). SEE GRAPHIC NO. 4.
   b. PLACEMENT OF ANGLES (H) SHALL BE SUCH THAT THEIR BOLT HOLES ARE ALIGNED WITH EACH OTHER AS MUCH AS POSSIBLE IN BOTH THEIR VERTICAL AND HORIZONTAL POSITIONS, ALLOWING THE CENTERLINE OF THE LONGITUDINAL ROWS TO BE THE 'WORKING POINT' FOR THE PLACEMENT OF VSE (F). THIS WILL PROVIDE ASSURANCE THAT THE LONGITUDINAL BOLT HOLES IN THE BEAM ASSEMBLY WILL LINE UP WITH THE LONGITUDINAL BOLT HOLTS IN THE COLUMN ASSEMBLY. ANY OVER RUN IN THE AS BUILT DIMENSIONS WILL CREATE A GAP BETWEEN ANGLES (G) AND COVER PLATE (B). SHIM AS REQUIRED. ANY UNDER RUN IN THE AS BUILT DIMENSIONS SHOULD BE ACCOMMODATED BY THE OVERSIZED BOLT HOLE TOLERANCES.
   c. IN THE EVENT THE RADIUS OF THE ANGLE IS LARGER THAN THE EDGE DISTANCE REQUIRED TO PLACE FILLET WELD (5) FROM THE ANGLE (H) TO THE BEAM FLANGE TIPS, ROTATE ASSEMBLY ON ITS SIDE SO THAT THE WEB IS PARALLEL TO THE GROUND. IN THIS POSITION THE RADIUS OF THE ANGLE CAN BE BUILT UP. SEE GRAPHIC NO. 5.
   d. NOTE THAT IN SOME CONDITIONS ANGLES MAY NOT BE 90 DEGREES. CARE SHALL BE GIVEN TO MEASURE THE SUGGESTED WIDTH FROM THE MOST EXTREME POINT ON THE EXTERIOR FACE OF ANGLE (H) (WHICH MAY OCCUR AT THE TOE OF THE ANGLE VERSES ITS APEX).
   e. THE ENTIRE EXTERIOR FACE OF THE OUTSTANDING LEG OF ANGLE (H) SHALL BE PLACED PARALLEL TO THE WEB OF THE BEAM AS MUCH AS PRACTICABLE.
   f. WELD COVER PLATES (B) AND ANGLES (H) TO BEAM FLANGE USING FILLET WELD (5) AND (5a). SEE GRAPHIC NO. 8.
   g. WELD VSE (F) TO THE BEAM WEB, AS REQUIRED. SEE GRAPHIC NO. 8. IT IS RECOMMENDED THAT THE VSE (F) BE WELDED LAST AS A DISTORTION CONTROL METHOD DUE TO THE POTENTIAL WARPING EFFECTS OF WELD (5). THE EXTERIOR FACE OF THE VSE (F) SHALL EITHER BE FLUSH WITH THE EXTERIOR FACE OF ANGLE (H), OR SLIGHTLY RECESSED TOWARDS THE BEAM WEB UP TO 1/16 INCH FROM THE EXTERIOR FACE OF ANGLE (H), SEE GRAPHIC NO. 4. THE VERTICAL PLACEMENT OF THE VSE (F) SHALL BE SET BY THE KEEP DIMENSION FROM THE BOTTOM BOLT HOLE TO THE CENTERLINE OF THE BOTTOM LONGITUDINAL ROW OF BOLT HOLES IN ANGLES (H) (I.E. THE 'WORKING POINT' OF THE BEAM). THIS WILL VERIFY PROPER ALIGNMENT OF THE BOLT HOLES IN THE COLUMN ASSEMBLY WITH THOSE IN THE BEAM ASSEMBLY, IRRESPECTIVE OF MILL TOLERANCES.
   h. TACK WELDING IN THE BEAM PROTECTED ZONE SHALL NOT BE PERMITTED. IF THIS SHOULD OCCUR, IT SHALL BE REPAIRED BY FOLLOWING AWS PROTOCOLS.



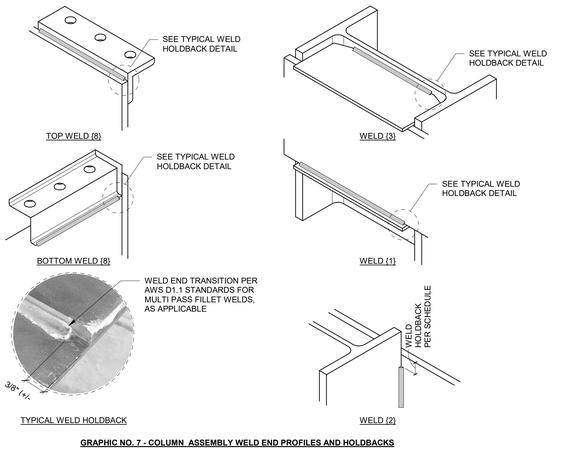
GRAPHIC NO. 4 - ANGLE (H) PLACEMENT



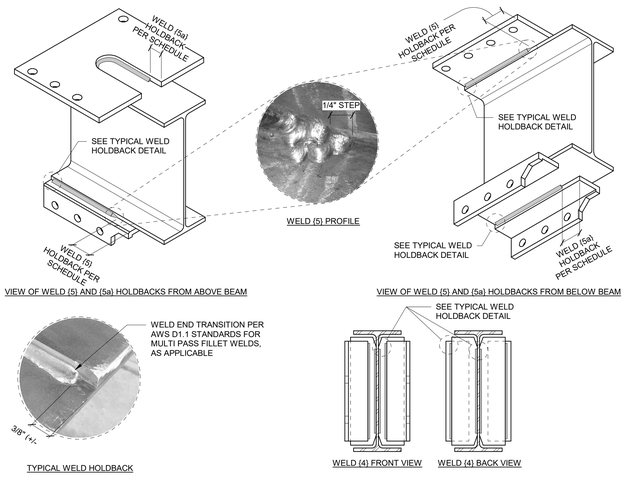
GRAPHIC NO. 5 - ROTATE BEAM ASSEMBLY TO FACILITATE WELD (5) MATERIAL AT MINIMAL EDGE DISTANCE



GRAPHIC NO. 6 - COMPLETED SIDE PLATE BOLTED BEAM END



GRAPHIC NO. 7 - COLUMN ASSEMBLY WELD END PROFILES AND HOLDBACKS

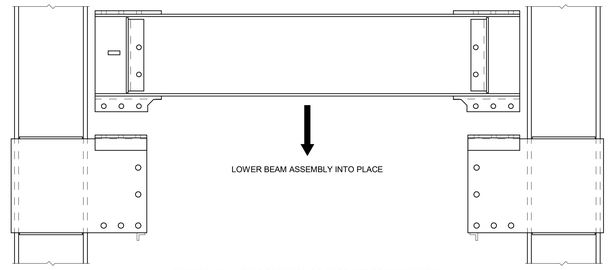


GRAPHIC NO. 8 - BEAM ASSEMBLY WELD END PROFILES AND HOLDBACKS

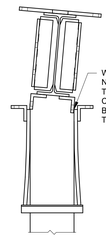
3. THE FOLLOWING FABRICATION AND SEPARATION MEASURES ARE IMPLEMENTED AND MAINTAINED THROUGH DELIVERY TO THE FIELD IN ORDER TO FACILITATE THE LOWERING INTO PLACE OF THE BEAM ASSEMBLY BETWEEN SIDE PLATES (A) OF OPPOSING COLUMN ASSEMBLIES.
   a. MAINTAIN, AS A MINIMUM, THE ACTUAL COLUMN FLANGE WIDTH ANYWHERE IN BETWEEN THE INTERIOR FACES OF SIDES PLATES (A) FROM TOP TO BOTTOM, TO ENSURE SUFFICIENT RATTLE SPACE UPON LOWERING THE BEAM ASSEMBLY INTO PLACE.
   b. THE DETAILED DISTANCE FROM EXTERIOR FACES OF ANGLES (H) ON THE BEAM ASSEMBLY SHALL BE CORRESPONDINGLY DIMENSIONED PER THE TABLE IN GRAPHIC NO. 4. THIS REDUCTION SHALL BE BASED ON THE FABRICATOR'S EXPERIENCE WITH THE TYPICAL MILL OVERRUNS IN THE COLUMN FLANGE WIDTH FOR THE COLUMN SECTIONS BEING USED. THE PROPER DETAILED DIMENSIONING OF THESE ANGLES (H) IS TO FACILITATE ERECTION CLEARANCE DURING THE LOWERING OF THE BEAM ASSEMBLY INTO PLACE.
      - IT IS IMPORTANT TO MAINTAIN SUFFICIENT EDGE DISTANCE BETWEEN THE LONGITUDINAL FACE OF THE BOTTOM ANGLES (H) WITH RESPECT TO ITS APEX AND RADIUS AND THE CORRESPONDING FLANGE TIP OF THE BEAM FOR PLACEMENT OF WELD (5), SEE GRAPHIC NO. 5.

FIELD ERECTION OF SIDEPLATE BOLTED SYSTEM

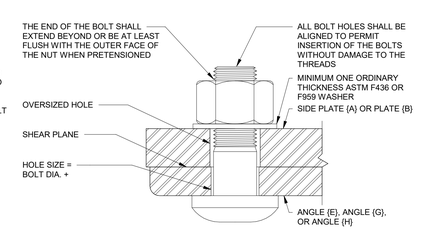
1. LOWER THE BEAM ASSEMBLY INTO OPPOSING COLUMN ASSEMBLIES. SEE GRAPHIC NO. 9
   a. RACK BEAM SUCH THAT WEB IS PERPENDICULAR TO THE GROUND, FACILITATING MAXIMUM TOLERANCE WITHOUT THE BEAM BEING TILTED AS IT IS LOWERED DOWN BETWEEN THE SIDE PLATES (A). SEE GRAPHIC NO. 10.
   b. IF THE OPPOSING COLUMNS ARE SLIGHTLY SKEWED IN RELATION TO ONE ANOTHER, MAKING IT DIFFICULT TO LOWER THE BEAM DOWN BETWEEN THEM SIMULTANEOUSLY, THE BEAM ASSEMBLY CAN BE TILTED AND PLACED FIRST ON ONE COLUMN (LIKELY THE ONE WITH THE GREATEST TWIST). THEN A CHOKER ON THE OPPOSITE END OF THE BEAM CAN BE USED TO PULL IT OVER SO THAT IT IS IN ALIGNMENT ALLOWING THE FREE END OF THE BEAM TO BE DROPPED DOWN INTO PLACE. **IN NO CASE SHALL THE BEAM BE OVERDRAWN OR TWISTED SUCH THAT THE NON-PARALLEL COLUMNS' ERECTION AIDS FAIL.**
2. CAREFULLY REMOVE BOTTOM 'DOG' WHICH IS UNDER LOAD. IT IS RECOMMENDED THAT IT BE REMOVED BY TORCH CUTTING A 'V' SECTION OUT OF ONE OF THE ANGLE LEGS TO ALLEVIATE THE LOAD AND THEN PROCEED TO REMOVE IT. **IT IS NOT RECOMMENDED TO USE A GRINDING WHEEL TO REMOVE THE WELDS WHILE THE DOG IS UNDER LOAD!** BOTTOM 'DOG' ATTACHMENT WELD MAY REMAIN AND IS NOT NECESSARY TO BE GROUND FLUSH. BOTTOM DOGS SHALL BE REMOVED PRIOR TO PRETENSIONING SIDEPLATE BOLTS.
3. INSTALL BOLTS WITH SUFFICIENT CLAMPING DEVICES TO 1) PULL SIDE PLATES (A) IN AS CLOSE AS PRACTICABLE TO THE ANGLES (H) OF THE BEAM ASSEMBLY AND 2) PULL ANGLES (G) ON COLUMN TREE ASSEMBLY AS CLOSE AS PRACTICABLE TO COVER PLATE (B). BOLTS SHALL BE SYSTEMATICALLY INSTALLED AS OUTLINED IN THE BOLTING SPECIFICATIONS. FIRST TO A SNUG TIGHT CONDITION AND THEN PRETENSIONED. ONLY ONE ORDINARY WASHER IS REQUIRED UNDER THE NUT. BOLTS SHALL BE INSTALLED AS SHOWN IN GRAPHIC NO. 11. THE USE OF FINGER SHIMS ARE ALLOWED AS NEEDED UP TO 1/4 INCH GAPS WITHOUT RESTRICTIONS, OTHERWISE CONTACT SIDEPLATE FOR REMEDIAL MEASURES.
4. BOLT IN FIELD AS SHOWN IN GRAPHIC NO. 12 AND GRAPHIC NO. 13.



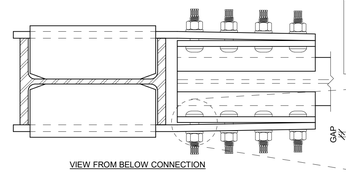
GRAPHIC NO. 9 - FIELD ERECTION OF SIDEPLATE BEAM ASSEMBLY



GRAPHIC NO. 10 - INCORRECTLY RACKED BEAM

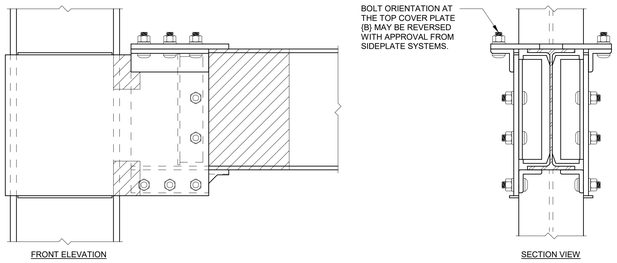


GRAPHIC NO. 11 - BOLTING DETAIL

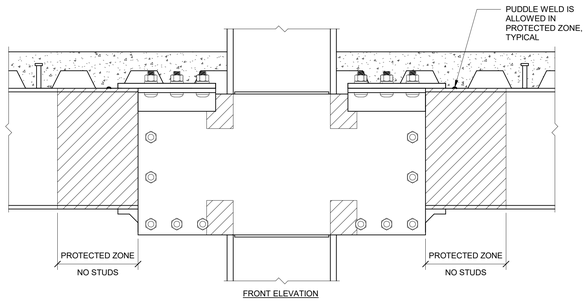


GAP MAY OCCUR
- GAPS GREATER THAN 1/8" UP TO 1/4" SHALL HAVE FINGER SHIMS INSTALLED BEFORE PRETENSIONING .
- FOR GAPS GREATER THAN 1/4", CONTACT SIDEPLATE SYSTEMS, INC.
- GAPS UP TO 1/8" SHALL BE ALLOWED AFTER BOLTS HAVE BEEN PRETENSIONED

GRAPHIC NO. 12 - SNUG TIGHT CONDITION PRIOR TO PRETENSIONING BOLTS



GRAPHIC NO. 13 - COMPLETED SIDEPLATE BOLTED CONNECTION



GRAPHIC NO. 14 - STUDS AND PUDDLE WELDS AT BEAM PROTECTED ZONE

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The SIDEPLATE® steel frame connection system is covered by one or more of U.S. Pat. Nos. 6,138,427; 6,516,583; 6,591,573; 7,178,299; 8,122,671; 8,122,672; 8,146,322; 8,176,706; 8,205,408; and 9,091,065 and foreign counterparts. Other U.S. and foreign applications pending.

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:
SCHEMATIC DESIGN 10/26/2018

REVISIONS:
-

REGISTRATION/SIGNATURE:

SHEET TITLE:
SIDEPLATE CONSTRUCTION GUIDELINES

SHEET NUMBER:
S6.8

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	KDW	KDW	10/22/2018

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SCHEMATIC DESIGN 10/26/2018

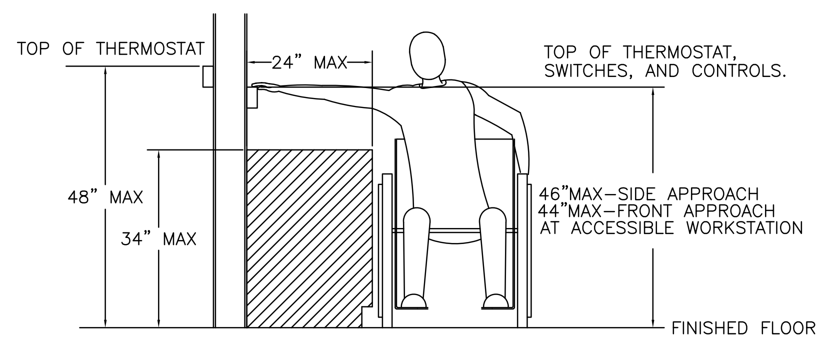
MECHANICAL ABBREVIATIONS AND SYMBOLS LIST

MECHANICAL ABBREVIATIONS

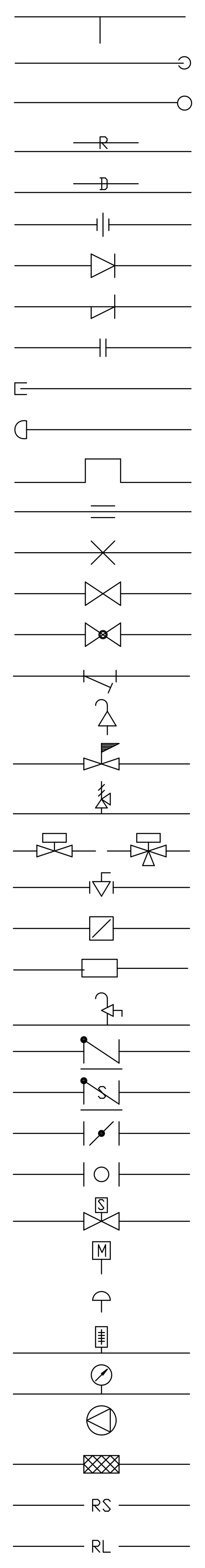
AAV	AUTOMATIC AIR VENT
AC	AIR CONDITIONING
ACD	AUTOMATIC CONTROL DAMPER
ACU	AIR CONDITIONING UNIT
ACV	AUTOMATIC CONTROL VALVE
AD	ACCESS DOOR
AF	AIR FOIL
AFF	ABOVE FINISHED FLOOR
AFS	AUTOMATIC FIRE SPRINKLER
AHU	AIR HANDLING UNIT
AMB	AMBIENT
AMD	AIR MEASURING DEVICE
AN	PIPE ANCHOR
ANV	ANGLE VALVE
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
AT	AIR TERMINAL
ATC	AUTOMATIC TEMPERATURE CONTROL
BC	BALANCING COCK
BDD	BACK DRAFT DAMPER
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BIW	BACKWARD INCLINED WHEEL
BLV	BALL VALVES
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
BV	BALANCING COCK
BOP	BOTTOM OF PIPE
BOD	BOTTOM OF DUCT
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING
COMP	COMPRESSOR
COND	CONDENSATE
CONT	CONTINUATION
COP	COEFFICIENT OF PERFORMANCE
CT	FACTORY-FABRICATED COOLING TOWER
CU	CONDENSING UNIT
CV	CHECK VALVE
C	FLOW COEFFICIENT
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DCV	DEMAND CONTROLLED VENTILATION
D	DROP
D-D	DOUBLE DEFLECTION (PATTERN)
DAD	DUCT ACCESS DOOR
DB	DRY BULB
DCV	DEMAND CONTROLLED VENTILATION
DIAM	DIAMETER
DIFF	DIFFUSER
DL	DOOR LOUVER
DR	DRAIN
E (NAME)	EXISTING PIPE
ESP	EXTERNAL STATIC PRESSURE
EA	EXHAUST AIR
EAR	EXHAUST AIR REGISTER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ENT	ENTERING
ER	ECCENTRIC REDUCER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FILTER
°F	DEGREE FAHRENHEIT
F&BP	FACE AND BYPASS DAMPERS
F&T	FLOAT AND THERMOSTATIC TRAPS
FLA	FULL LOAD AMPERAGE
FA	FREE AREA
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FIN	FINISHED
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FEET
FF	FINISHED
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GAS COCK
GLV	GLOBE VALVE
GPM	GALLONS PER MINUTE
GV	GATE VALVE
H	HIGH
HB	HOSE BIBB
HC	HEATING COIL
HEPA-AF	HIGH EFFICIENCY PARTICULATE AIR FILTERS
HP	HORSEPOWER
HPR	HIGH PRESSURE RETURN
HPS	HIGH PRESSURE STEAM
HVAC	HEATING, VENTILATING AND AIR-CONDITIONING
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
KW	KILOWATT
L	LONG
LRA	LOCKED ROTOR (AMPERAGE)
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER
LDB	LEAVING DB TEMPERATURE
LIN FT	LINEAR FEET
LPR	LOW-PRESSURE RETURN
LPS	LOW-PRESSURE STEAM
LVG	LEAVING
LWB	LEAVING WB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE

MAV	MANUAL AIR VENT
MAX	MAXIMUM
MB	MIXING BOX
MBH	THOUSAND BTU PER HOUR
MCC	MOTOR CONTROL CENTER
MG	GAS - MEDIUM PRESSURE
MIN	MINIMUM
MOT	MOTOR
MPR	MEDIUM PRESSURE RETURN
MPS	MEDIUM PRESSURE STEAM
MU	MAKE-UP WATER
MV	MOTOR OPERATED VALVE
MVD	MANUAL VOLUME DAMPER
MZ-AHU	MULTI-ZONE AIR HANDLING UNITS
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OBD	OPPOSED BLADE DAMPER
OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
OPW	OPERATING WEIGHT
OSA	OUTSIDE AIR
OV	OUTLET VELOCITY
OPNG	OPENING
PD	PRESSURE DROP
PF	PERFORATED (FACE)
PG	PRESSURE GAUGE
PH	PHASE (ELECTRICAL)
POC	POINT OF CONNECTION
POR	POINT OF REMOVAL
PRSS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
PT	PLUGGED TEE
PTR	PRESSURE-TEMPERATURE RELIEF VALVE
PVC	POLYVINYL CHLORIDE PIPE
R	RISE
RLA	RATED LOAD (AMPERAGE)
RA	RETURN AIR
RAR	RETURN AIR REGISTER
RAG	RETURN AIR GRILLE
RCT	RECTANGULAR (FACE)
RD	REFRIGERANT DISCHARGE LINE
RD	ROOF DRAINS
REG	REGISTER
RG	RELIEF GRILLE
RHC	REHEATING COIL
RL	REFRIGERANT LIQUID LINE
RPM	REVOLUTION PER MINUTE
RS	REFRIGERANT SUCTION LINE
RV	RELIEF VALVE
SA	SUPPLY AIR
SAC	SPLIT AIR CONDITIONER
SAD	SUPPLY AIR DIFFUSER
SAR	SUPPLY AIR REGISTER
SD	SMOKE DETECTOR
SEER	SEASONAL ENERGY-EFFICIENCY RATIO
SENS	SENSIBLE
SF	SUPPLY FAN
SHR	SENSIBLE HEAT RATIO
SMACNA	SHEET METAL & AC NATIONAL ASSOCIATION
SMD	AUTOMATIC SMOKE DAMPER
SOH	SHUT OFF HEAD
SOV	SHUT OFF VALVE
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE (FACE)
SQ.FT.	SQUARE FOOT
ST	SOUND TRAP
STR	STRAINER
TA	THROW AWAY (FILTER)
TC	TEMPERATURE CONTROL
TCP	TEMPERATURE CONTROL PANEL
TCV	AUTOMATIC TEMPERATURE CONTROL VALVE
TD	TRANSFER DUCT
TDH	TOTAL DYNAMIC HEAD
TEFC	TOTALLY ENCLOSED FAN-COOLED MOTOR
TOP	TOP OF PIPE
TOD	TOP OF DUCT
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TH	THERMOMETER
TV	TURNING VANES
TW	THERMOMETER WELL
TYP	TYPICAL
UC	UNDERCUT (DOOR)
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UN	UNION
UTR	UP THRU ROOF
UV	UNIT VENTILATOR
V	VENT OR ATMOSPHERIC RELIEF
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VIL	VERTICAL IN-LINE
VTR	VENT THRU ROOF
W	WIDE
W/	WITH
W-CLR	WATER COOLER
W C	WATER COOLED
W G	WATER GAUGE (PRESSURE)
W/O	WITHOUT
WB	WET BULB
WBT	WET BULB TEMPERATURE
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
WP	WORKING PRESSURE

THERMOSTAT MOUNTING HEIGHTS / OVER OBSTRUCTIONS



PIPING SYMBOLS



- PIPING BRANCH
- PIPE DROP
- PIPE RISE
- PITCH OF PIPE RISE
- PITCH OF PIPE DROP
- UNION
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER, FLAT TOP
- FLANGED CONNECTION
- DEAD END, SCREWED CAP
- DEAD END, WELDED CAP
- EXPANSION LOOP
- PIPE ALIGNMENT GUIDE
- PIPE ANCHOR
- GATE VALVE
- GLOBE VALVE
- "Y" TYPE STRAINER
- AUTOMATIC AIR VENT
- PRESSURE REDUCING VALVE
- RELIEF VALVE
- AUTOMATIC TEMPERATURE CONTROL VALVE - 2 OR 3 WAY
- BALANCING OR PRESSURE GAUGE COCK
- AUTOMATIC FLOW CONTROL VALVE
- FLOW MEASURING DEVICE
- MANUAL AIR VENT
- CHECK VALVE, SWING OR LIFT
- SILENT CHECK VALVE
- BUTTERFLY VALVE
- BALL VALVE
- SOLENOID VALVE
- ELECTRIC MOTORIZED VALVE OPERATOR
- PNEUMATIC VALVE OPERATOR
- THERMOMETER AND WELL
- PRESSURE GAUGE
- PUMP
- FLEXIBLE PIPE CONNECTION
- REFRIGERANT SUCTION LINE
- REFRIGERANT LIQUID LINE

MEP COMPONENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26, AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS, OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT NEED NOT TO BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL BE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENTS AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEM, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECTED TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENT PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8, AND THE 2016 CBC, SECTION 1616A.1.23, 1616A.1.24, 1616A.1,25, AND 1616A.1.26

THE METHOD OF SHOWING BRACING AND ATTACHMENT TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENT ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

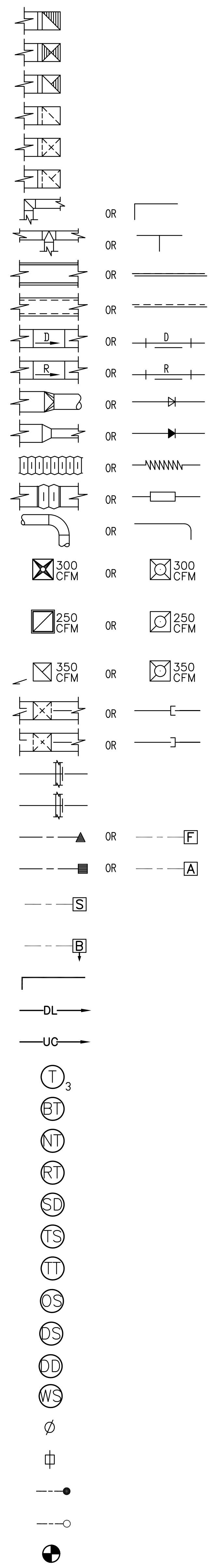
MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEM (E):

MP☐ MD☒ PP☐ E☐ OPTION 1: DETAILED ON THE APPROVED DRAWING WITH PROJECT SPECIFIC NOTES AND DETAILS

MP☐ MD☐ PP☐ E☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM#) #______.

MP☐ MD☐ PP☐ E☐ OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009) INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL _____ AND CONNECTION LEVEL ____ FOR THE PROJECT AND CONDITIONS.

DUCTWORK SYMBOLS



- RETURN AIR DUCT UP
- SUPPLY AIR DUCT UP
- EXHAUST AIR DUCT UP
- RETURN AIR DUCT DOWN
- SUPPLY AIR DUCT DOWN
- EXHAUST AIR DUCT DOWN
- ELBOWS WITH TURNING VANES
- TEE DUCT WITH TURNING VANES
- DUCT WITH INSULATION WRAP
- DUCT WITH ACOUSTICAL LINING
- DUCT DROP
- DUCT RISE
- SQUARE TO ROUND TRANSITION
- ROUND TO ROUND TRANSITION
- FLEXIBLE DUCT
- FLEXIBLE CONNECTION
- RADIUS ELBOW
- SUPPLY AIR RECTANGULAR CEILING DIFFUSER 4-WAY AIR FLOW UNLESS SPECIFIED ON THE FLOOR PLANS, 300 CFM, SEE AIR DISTRIBUTION SCHEDULE FOR SIZE AND MODEL
- RETURN AIR RECTANGLAR CEILING REGISTER /GRILLE, 250 CFM, SEE AIR DISTRIBUTION SCHEDULE FOR SIZE AND MODEL
- EXHAUST AIR GRILLE, 350 CFM, SEE AIR DISTRIBUTION SCHEDULE FOR SIZE AND MODEL.
- VERTICAL DUCT DROP
- VERTICAL DUCT RISE
- SIDE WALL REGISTER SUPPLY AIR
- SIDE WALL REGISTER RETURN AIR
- FIRE DAMPER
- AUTOMATIC CONTROL DAMPER
- COMBINATION OF SMOKE AND FIRE DAMPER AND ASSOCIATED DUCT SMOKE DETECTOR
- BACK DRAFT DAMPER (w/ direction of flow)
- MANUAL VOLUME DAMPER
- DOOR LOUVER
- UNDERCUT (DOOR)
- THERMOSTAT # CORRESPONDS WITH UNIT NUMBER, SEE DETAIL BELOW.
- BY-PASS TIMER
- NIGHT THERMOSTAT
- RETURN AIR THERMOSTAT
- DUCT SMOKE DETECTOR
- TIME SWITCH
- TWIST TIMER
- OVERRIDE SWITCH
- DOOR SENSOR
- DUCT DETECTOR
- WALL SWITCH
- DIAMETER / ROUND
- SQUARE FEET
- ZONE CONTROL DAMPER
- BY-PASS DAMPER
- POINT OF CONNECTION

APPLICABLE CODES

2016 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
2016 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
2016 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
2016 CALIFORNIA GREEN BUILDING STANDARD CODE, PART 11, TITLE 24 C.C.R.
2016 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

COORDINATION

1- THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW IN GENERAL WHERE THE DUCTWORK, PIPING AND OTHER WORK SPECIFIED IN THE HVAC SECTIONS OF THE SPECIFICATIONS IS TO BE LOCATED. THE DRAWINGS DO NOT NECESSARILY INDICATE ANY AND ALL OFFSETS AND CONFIGURATIONS REQUIRED FOR COORDINATION WITH THE SPACE REQUIREMENTS OF OTHER TRADES. THE CONTRACTOR IS RESPONSIBLE FOR THE CORRECT PLACING, LOCATION, AND CONNECTION OF THIS WORK IN RELATION TO THE WORK OF OTHER TRADES.

2- THE CONTRACTOR SHALL EXAMINE AND COORDINATE WITH ALL MECHANICAL, PLUMBING, CIVIL, ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND OTHER DRAWINGS THAT HAVE BEEN PREPARED FOR THIS PROJECT, AND ACCEPT SUCH CONDITIONS, AND MAKE ALLOWANCES FOR THEM IN PREPARING THE BID.

3- COORDINATE FINISHING COLOR OF ALL AIR TERMINALS WITH ARCHITECT. FINISHING COLOR SPECIFIED ON EQUIPMENT SCHEDULE IS FOR REFERENCE ONLY.

4- CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR SIZE AND LOCATION OF DUCTWORK ROOF/WALL OPENINGS AND WITH ELECTRICAL CONTRACTOR FOR ELECTRICAL REQUIREMENTS OF ALL MECHANICAL EQUIPMENT.

POLLUTANT CONTROL NOTES

FOR THE PERIOD OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT, PROVIDE COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY. (5.504.3 CAL GREEN)

ADHESIVES, SEALANTS, AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA GREEN BUILDING STANDARDS (5.504.4.1 CAL GREEN)

GENERAL DEMOLITION NOTES

REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR BUILDINGS BEING MODERNIZED IN THIS PHASE AND FOR DEMOLITION AREAS AND EXISTING WALLS. THE SCOPE OF THE DEMOLITION WORK SHALL INCLUDE ALL LABOR, MATERIALS, SERVICES AND EQUIPMENT REQUIRED FOR THE REMOVAL OF EXISTING HVAC EQUIPMENT AND SYSTEMS. VERIFY ALL SPECIFIC DEMOLITION WORK PRIOR TO COMMENCING. THIS WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

1- REMOVE ALL DUCTWORK, DUCTWORK ACCESSORIES, DIFFUSERS, GRILLES, HVAC SYSTEM INSULATION AND SUPPORTS, TEMPERATURE CONTROL DEVICES, HVAC EQUIPMENT AND SPECIALTIES.

2- PERFORM CUTTING AND PATCHING OF THE CONSTRUCTION WORK WHICH MAY BE REQUIRED FOR THE PROPER INSTALLATION OF MECHANICAL WORK OR REMOVAL OF EXISTING MECHANICAL EQUIPMENT AND SYSTEMS. PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP AND FINISH AS AND ACCURATELY MATCH SURROUNDING WORK TO THE SATISFACTION OF THE ARCHITECT.

3- WHERE NEW PARTITIONS OR OTHER CONSTRUCTION AND/OR INSTALLATION OF NEW CEILING INTERFERES WITH THE EXISTING AIR DISTRIBUTION SYSTEM, MODIFY THE AIR OUTLETS / INLETS AND ASSOCIATED DUCTWORK AND ACCESSORIES AS REQUIRED TO MATCH THE NEW ARCHITECTURAL LAYOUT TO SATISFACTION OF THE ARCHITECT.

4- ALL REMOVED MATERIALS AND EQUIPMENT WHICH, IN THE OPINION OF THE ARCHITECT, ARE SALVAGEABLE SHALL REMAIN THE PROPERTY OF THE DISTRICT. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON PREMISES AS DIRECTED, AND NEATLY PILE OR STORE THEM AND PROTECT FROM DAMAGE. WHERE MATERIALS AND EQUIPMENT HAVE BEEN REMOVED AND NOT REPLACED THE EXPOSED SURFACE BEHIND MATERIAL OR EQUIPMENT SHALL BE PAINTED TO MATCH SURROUNDING SURFACES. DO NOT REUSE MATERIALS AND EQUIPMENT, UNLESS SPECIFICALLY SPECIFIED ON PLANS. REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY ARCHITECT TO BE SCRAP.

5- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL FEATURES OF THE BUILDING AND SITE, WHICH MAY AFFECT THE PROPER PERFORMANCE OF THIS WORK.

6- EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING UNDERGROUND UTILITIES, AND TO PREVENT HAZARD TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY, WHICH IS THE RESPONSIBILITY OF THE CONTRACTOR.

SELECTIVE DEMOLITION NOTES

1. THIS SECTION INCLUDES LIMITED SCOPE OF SELECTIVE MECHANICAL DEMOLITION WORK AS FOLLOWS:

A. NONDESTRUCTIVE REMOVAL OF MATERIALS AND EQUIPMENT FOR REUSE OR SALVAGE AS INDICATED.

B. DISMANTLING MECHANICAL MATERIALS AND EQUIPMENT MADE OBSOLETE BY THESE INSTALLATIONS.

2 GENERAL CONDITIONS

A. GENERAL: SUBMIT THE FOLLOWING IN ACCORDANCE WITH CONDITIONS OF CONTRACT AND DIVISION 01 AND 23 SPECIFICATION SECTIONS.

B. SCHEDULES INDICATING PROPOSED METHODS AND SEQUENCE OF OPERATION FOR SELECTIVE DEMOLITION PRIOR TO COMMENCEMENT OF WORK. INCLUDE COORDINATION FOR SHUT-OFF OF UTILITY SERVICES AND DETAILS FOR DUST AND NOISE CONTROL.

1. COORDINATE SEQUENCING AND OWNER OCCUPANCY SPECIFIED IN DIVISION 01.
2. COORDINATE OTHER SELECTIVE DEMOLITION WORK AS OUTLINED IN DIVISION 01.

3 PROJECT CONDITIONS

A. CONDITIONS AFFECTING SELECTIVE DEMOLITION: THE FOLLOWING PROJECT CONDITIONS APPLY:

1. PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER DEMOLITION OPERATIONS ARE COMPLETE.

2. LOCATE, IDENTIFY, AND PROTECT MECHANICAL SERVICES PASSING THROUGH DEMOLITION AREA AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS. PROVIDE MINIMUM OF 72-HOUR NOTICE TO OWNER PRIOR TO UTILITY INTERRUPTION.

4 SEQUENCE AND SCHEDULING

A. COORDINATE THE SHUT-OFF AND DISCONNECTION OF UTILITY SERVICES WITH THE OWNER AND THE UTILITY COMPANY.

B. NOTIFY THE ARCHITECT AT LEAST 5 DAYS PRIOR TO COMMENCING DEMOLITION OPERATIONS.

C. PERFORM DEMOLITION IN PHASES AS INDICATED.

5 EXAMINATION

A. EXAMINE AREAS WHERE SELECTIVE DEMOLITION IS TO OCCUR. DETERMINE EXTENT OF WORK AND AFFECT ON EXISTING CONDITIONS TO REMAIN. ADVISE ARCHITECT OF ANY CONDITIONS THAT MIGHT CREATE EXTENSIVE ALTERATIONS BEYOND INDICATED SCOPE.

6 SELECTIVE DEMOLITION

A. GENERAL: DEMOLISH, REMOVE, DEMOUNT, AND DISCONNECT ABANDONED MECHANICAL MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED AND NOT INDICATED TO BE SALVAGED OR SAVED.

B. MATERIALS AND EQUIPMENT TO BE SALVAGED: REMOVE, DEMOUNT, AND DISCONNECT EXISTING MECHANICAL MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED AND SALVAGED, AND DELIVER MATERIALS AND EQUIPMENT TO THE LOCATION DESIGNATED FOR STORAGE.

C. DISPOSAL AND CLEANUP: REMOVE FROM THE SITE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS AND EQUIPMENT NOT INDICATED TO BE SALVAGED.

D. MECHANICAL MATERIALS AND EQUIPMENT: DEMOLISH, REMOVE, DEMOUNT, AND DISCONNECT THE FOLLOWING ITEMS:

1. INACTIVE AND OBSOLETE PIPING, FITTINGS AND SPECIALTIES, EQUIPMENT, DUCTWORK, CONTROLS, FIXTURES, AND INSULATION.

a. PIPING AND DUCTS EMBEDDED IN FLOORS, WALLS, AND CEILINGS MAY REMAIN IF SUCH MATERIALS DO NOT INTERFERE WITH NEW INSTALLATIONS. REMOVE MATERIALS ABOVE ACCESSIBLE CEILINGS. DRAIN AND CAP PIPING AND DUCTS ALLOWED TO REMAIN.

2. PERFORM CUTTING AND PATCHING REQUIRED FOR DEMOLITION.

STRUCTURAL NOTES

1- UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, NEITHER DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT/AUTHORITIES HAVING JURISDICTION.

2- CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAIL IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT WITH THE APPROVAL OF DSA/AHJ.

3- ALL WELDING SHALL BE SPECIALLY INSPECTED BY AN AWS-CWI QUALIFIED INSPECTOR APPROVED BY DSA/AHJ.

4- ALL BRACING OF DUCTS AND PIPINGS SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA MANUAL. SEE SEISMIC RESTRAINT NOTES ON THIS SHEET.

5- WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE SMACNA GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECTED TO THE APPROVAL OF THE ARCHITECT, STRUCTURAL ENGINEER AND DSA FIELD ENGINEER OR AHJ.

6- A COPY OF THE MANUAL PUBLISHED BY SMACNA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.

COMBINATION SMOKE/FIRE DAMPER NOTE

1- FIRE DAMPERS SHALL BE STATE FIRE MARSHAL APPROVED, UL LISTED AND INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND LISTING. MANUFACTURER'S INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITY. DETAILS SHOWN ARE FOR REFERENCE ONLY.

COMBINATION SMOKE/FIRE DAMPER NOTE

1- ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE ACOUSTICALLY LINED FROM CONNECTION POINT OF UNIT TO MIN. 20 FEET DOWN STREAM OF THE UNIT OPENING. SEE MECHANICAL DRAWINGS FOR EXTENDED (MORE THAN 20')REQUIREMENT OF DUCT LINING. ALL BRANCH DUCTWORK WITH TAKEOFF FROM MAIN SUPPLY/RETURN DUCTS WITHIN 20 FEET OF THE UNIT OPENING SHALL BE ACOUSTICALLY LINED IN ITS ENTIRETY INCLUDING ANY DUCT FITTINGS, ELBOWS, SUB-BRANCH DUCTS, AND SUPPLY/RETURN DIFFUSER/GRILLE PLENUMS. ALL DUCT FITTINGS AND ELBOWS WHERE SHOWN TO BE CONNECTED TO A LINED DUCTWORK SHOULD BE PROVIDED WITH THE SAME LINING SPECIFIED FOR THE DUCT. DUCT LINING AND INSULATION MATERIAL AND THICKNESS SHALL BE PER SPECIFICATION BOOK.

GENERAL NOTES

1- ALL DUCT DIMENSIONS ON DRAWINGS TO BE INSIDE CLEAR.
2- ALL ROOM THERMOSTATS TO BE MOUNTED AT ELEVATION SHOWN ON THIS SHEET. SEE DETAIL BELOW.
3- ALL INDIVIDUAL DUCTWORK BRANCH CONNECTING TO SUPPLY, RETURN, EXHAUST, OUTSIDE AIR, ETC.. AIR TERMINAL SHALL BE EQUIPPED WITH A MANUAL VOLUME DAMPER.
4- ALL SQUARE ELBOWS TO BE PROVIDED WITH TURNING VANES UNLESS OTHERWISE INDICATED.
5- DO NOT USE SQUARE ELBOW WITH TURNING VANES AT THE FIRST CHANGE IN DIRECTION OF AIR AFTER THE FAN DISCHARGE. INSTALL ACOUSTICALLY LINED RADIUS ELBOW.
6- TO DETERMINE THE EXACT NUMBER AND LOCATION OF FIRE DAMPERS AND COMBINATION SMOKE/FIRE DAMPERS THAT MAY BE REQUIRED, THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS WHICH INDICATE THE LOCATION OF FIRE RATED WALLS, PARTITIONS AND CEILINGS.
7- COORDINATE LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN AND ELECTRICAL LIGHTING PLAN.
8- FOR BUILDING LOCATIONS, DIMENSIONS AND GRADE ELEVATIONS SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
9- PROVIDE WATER-PROOFING FOR ALL EQUIPMENT ANCHORAGE ON ROOF AND DUCT PENETRATIONS THRU ROOF PER ARCHITECTURAL DETAILS.
10- ROUND AND RECTANGULAR DUCTWORK IS INTERCHANGEABLE UPON APPROVAL OF MECHANICAL ENGINEER. CONTRACTOR IS TO VERIFY THE EXACT CEILING SPACE AND INTERCHANGE THE DUCT SIZE TO FIT THE CEILING SPACE WITHOUT ADDITIONAL FEE.
11- PROVIDE BACK-DRAFT DAMPER FOR ALL EXHAUST AIR DUCT THRU BUILDING ENVELOPE UNLESS OTHERWISE NOTED.
12- PROVIDE ALL FRESH AIR INTAKES AND EXHAUST OUTLETS WITH HOOD, 1/2" GALVANIZED MESH SCREENS.
13- EXHAUST DUCT TERMINATION SHALL BE MINIMUM 10'-0" AWAY OR 3'-0" ABOVE FROM ANY FRESH AIR INTAKE, OPENABLE WINDOWS, DOORS AND 10'-0" MINIMUM ABOVE GRADE.
14- CONTRACTOR SHALL COORDINATE MOUNTING HEIGHT OF ALL DUCTWORK WITH THE WORK OF ALL OTHER TRADES SUCH AS STRUCTURAL BEAMS, PLUMBING PIPING, FIRE SPRINKLER PIPING, ELECTRICAL CONDUITS, LIGHT FIXTURES, ETC.. WHERE REQUIRED OR NOTED ON DRAWINGS, RUN DUCTWORK BETWEEN LIGHT FIXTURES, BEAMS, ETC..
15- PROVIDE WATER PROOFING FOR ALL FLASHING AND COUNTERFLASHING FOR MECHANICAL WORK.
16- THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
17- SYMBOLS AND ABBREVIATIONS ON THIS SHEET ARE SHOWN FOR REFERENCE; NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED.
18- ALL NOTES ON THIS SHEET REMAIN PART OF THE CONTRACT DOCUMENTS.
19- ASBESTOS OR HAZARDOUS WASTE: IT IS UNDERSTOOD AND AGREED THAT THIS CONTRACT DOES NOT CONTEMPLATE THE HANDLING OF ASBESTOS OR ANY HAZARDOUS WASTE MATERIAL. IF ASBESTOS OR ANY HAZARDOUS WASTE MATERIAL IS ENCOUNTERED, NOTIFY THE OWNER IMMEDIATELY. DO NOT DISTURB, HANDLE OR ATTEMPT TO REMOVE.
20- FOR ACTUAL DIMENSIONS OF LOUVER SIZES SEE ARCHITECTURAL DRAWINGS, PROVIDE AND ATTACH PLENUMS AND OR DUCTS TO ACCOMMODATE THOSE DIMENSIONS AS NEEDED.
21- UNIT NUMBERS FOR MECHANICAL EQUIPMENT SHOWN IN SCHEDULES ARE FOR TYPE OF UNIT ONLY. FOR QUANTITIES & LOCATIONS OF MECHANICAL UNITS, SEE MECHANICAL DRAWINGS.
22- ALL ZONE DAMPERS AND COMBINATION SMOKE FIRE DAMPERS TO BE PERMANENTLY LABELED TO INDICATE THE ROOM(S) THEY SERVE.
23- ALL WORK SHALL CONFORM TO THE 2016 EDITION OF THE CALIFORNIA MECHANICAL CODE, INCLUDING ALL APPLICABLE STATE TITLE 24 AMENDMENTS, CITY AND COUNTY LAWS AND ORDINANCES.
24- THE CONTRACTOR SHALL FURNISH AND INSTALL ACCESS DOORS AND/OR ACCESS PANELS AT LOCATIONS AS NECESSARY TO PROVIDE ACCESSIBILITY FOR SERVICE/ MAINTENANCE OF FIRE/SMOKE DAMPERS, MECHANICAL EQUIPMENT AND DEVICES. ALL ACCESS DOORS AND PANEL LOCATIONS AND SIZES SHALL BE PROVIDED BY CONTRACTOR AND SUBMITTED TO ARCHITECT PRIOR TO INSTALLATION FOR VERIFICATION PURPOSES.
25- CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO VERIFY OPERABILITY, LOCATION AND SIZES OF ALL EXISTING EQUIPMENT/ SERVICES AND INFORM THE ARCHITECT OF ANY DISCREPANCIES.
26- THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION AND SERVICES NECESSARY FOR COMPLETION OF THE WORK. ALL MATERIALS AND WORK SHALL COMPLY WITH APPLICABLE CODES AND GOVERNING REGULATIONS AND MEET THE APPROVAL OF THE LOCAL JURISDICTION, OR DIVISION OF STATE ARCHITECT, WHERE APPLICABLE.
27- TAKE ALL PRECAUTIONS NECESSARY TO PROTECT THE MATERIALS BEFORE, DURING AND AFTER INSTALLATION. IN THE EVENT OF DAMAGE, IMMEDIATELY REPAIR ALL DAMAGED AND DEFECTIVE WORK TO THE APPROVAL OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
28- ALL SPACE CONDITIONING EQUIPMENT SHALL BE CERTIFIED BY MANUFACTURER TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS.
29- INSTALLATION INSTRUCTIONS FOR ALL LISTED EQUIPMENT SHALL BE MADE AVAILABLE TO THE BUILDING INSPECTOR AT THE TIME OF INSPECTION.
30- PROVIDE AIR DIFFUSERS AND GRILLES TO MATCH THE CURVATURE WHEN AIR DIFFUSERS AND GRILLES APPEAR TO BE CURVED OR TO BE INSTALLED ON A CURVED SURFACE.
31- ALL PARTS OF AN EXPOSED AIR DISTRIBUTION SYSTEM TO BE PAINTED AS REQUIRED PER ARCHITECT. COORDINATE FINISHING COLOR WITH ARCHITECT.

MANUAL VOLUME DAMPER NOTE

1- PROVIDE MANUAL VOLUME DAMPERS WITH REMOTE CONTROL WHERE HARD LID CEILING IS INSTALLED OR ACCESS TO TYPICAL MANUAL VOLUME DAMPER IS NOT POSSIBLE. PROVIDE PRODUCTS OF METROPOLITAN AIR TECHNOLOGY, ROTO-TWIST MODEL NUMBER RT-250 SERIES III FOR ROUND DUCT AND MODEL RT-100 SP/CC FOR RECTANGULAR DUCT APPLICATION OR APPROVED EQUAL PRODUCTS. PROVIDE GUIDE CABLE OF REQUIRED LENGTH FOR INSTALLATION OF THE CEILING CUP AND COVER PLATE AT LOCATIONS APPROVED BY ARCHITECT. CONTRACTOR SHALL SUBMIT ON PROPOSED LOCATIONS OF CEILING CUPS FOR REVIEW AND APPROVAL BY THE ARCHITECT.

THERMOSTAT NOTES

1- TEMPERATURE THERMOSTAT: TEMPERATURE RANGE 55°F TO 85°F SEQUENCE HEATING AND COOLING, ADJUSTABLE TO 10°F BETWEEN HEATING AND COOLING, CAPABILITY TO TERMINATE ALL HEATING AT NO MORE THAN 70°F AND TERMINATE ALL COOLING AT NOT LESS THAN 78°F OR PROVIDE T-STAT TO MEET THE OWNER'S STANDARDS, WHERE APPLICABLE.

2- THE LOCATION OF THERMOSTATS TO BE FINALIZED DURING CONSTRUCTION. IF THE LOCATION OF THE THERMOSTATS SHOWN ON MECHANICAL DRAWINGS ARE IN CONFLICT WITH BUILDING ELEMENTS OR DESIGN, CONTRACTOR SHALL RELOCATE THE THERMOSTAT AND RUN REQUIRED WIRING FOR A SUCCESSFUL INSTALLATION TO ANOTHER LOCATION APPROVED BY MECHANICAL ENGINEER AND ARCHITECT AT NO ADDITIONAL COST TO THE OWNER UP TO MAXIMUM 20' AWAY FROM ORIGINAL LOCATION SHOWN ON MECHANICAL DRAWINGS.

3- DO NOT INSTALL THERMOSTATS WHERE THE OPERATION OF THE DEVICE MAY BE EFFECTED BY:

a. DIRECT SUNSHINE EFFECT.
b. MINIMIZED AIR CIRCULATION (BEHIND THE DOORS OR CABINETS OR SIMILAR LOCATIONS).
c. OUTDOOR TEMPERATURE (ON EXTERIOR WALLS, OR SIMILAR LOCATIONS).
d. HEAT GENERATING EQUIPMENT (PROVIDE PROPER DISTANCE FROM HEAT GENERATING EQUIPMENT).
e. LOCATIONS SHOWN ON THE DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE BETWEEN DRAWINGS AND WORKS OF OTHER TRADES AND ENSURE PROPER LOCATION SELECTION FOR INSTALLATION OF THE THERMOSTAT FOR SATISFACTORY OPERATION OF THE DEVICE.
f. THERMOSTATS SHALL BE INSTALLED AT HEIGHTS SHOWN ON CONTRACT DOCUMENTS AND AS REQUIRED FOR ACCESSIBILITY REGULATIONS.

4- PROVIDE INSULATED THERMOSTAT BOX IF THERMOSTAT TO BE INSTALLED ON EXTERIOR WALL.

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

REVISIONS:

100% DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

MECHANICAL ABBREVIATIONS AND SYMBOLS LIST

SHEET NUMBER:

M0-1.0

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/18/19

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SPLIT AIR CONDITIONER SCHEDULE

UNIT SYMBOL			SAC-1
MANUFACTURER			TOSHIBA-CARRIER
TYPE			HIGH WALL
INDOOR UNIT	MODEL		RAS-15EACV
	LOCATION		ROOF
	BLOWER - CFM		560
	COOLING	RATED CAPACITY - MBH	15000
		EER / SEER	13.0 / 20.0
	HEATING	RATED CAPACITY (47°F)-MBH	NA
		HSPF	NA
		COP (47°F)	NA
	DIMENSIONS (HxWxD) - IN		12 x 41 x 10
	WEIGHT - LBS		35
OUTDOOR UNIT	MODEL		RAS-15EACV
	LOCATION		ROOF
	REFRIGERANT TYPE		R410
	MCA / MOCP		13.0 / 20.0
	VOLTS / PHASE		208 / 1
	DIMENSIONS (HxWxD) - IN		22 X 30 X 12
	WEIGHT - LBS		100
DETAIL REFERENCE			6,7,8,9/M0-1.3
REMARKS			

◯ REMARKS

1- INDOOR UNIT POWERED FROM OUTDOOR UNIT.
2- REFRIGERANT AND SUCTION LINES SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION BASED ON ACTUAL DISTANCE BETWEEN INDOOR AND OUTDOOR UNITS.
3- PROVIDE WIRED REMOTE CONTROLLER.

FUME HOOD EXHAUST FAN SCHEDULE

UNIT SYMBOL	FHE-1
LOCATION	ROOF
SERVICE	FUME HOOD
MANUFACTURER	COOK
MODEL	100 CPV
TYPE	CENTRIFUGAL
FAN - CFM	675
EXTERNAL S.P. - "WG	0.75
DRIVE TYPE	BELT
FAN MOTOR - HP	1/3
FAN MOTOR - RPM	1752
DISCHARGE LOCATION	VERT. UPBLAST
WHEEL TYPE	BACKWARD INCLINED
V - Ph	120 - 1
DIMENSIONS (LxWxH) - IN	24x22x25
OPERATING WEIGHT - LBS	225
DETAIL REFERENCE	7,8/M0-1.4

1- PROVIDE WITH MANUFACTURER'S INLET AND OUTLET ADAPTER.
2- PROVIDE WITH MANUFACTURER'S VERTICAL EXHAUST DUCT STAINLESS STEEL STACKHEAD ASSEMBLY.
3- PROVIDE WITH BACKDRAFT DAMPER.
4- INTERLOCK WITH ASSOCIATED FUME HOOD. PROVIDE DEDICATED WALL SWITCH FOR EACH CORRESPONDING FUME HOOD. PROVIDE ID TAG NEXT TO WALL SWITCH STATING "FOR FUME HOOD OPERATION".
5- PROVIDE TYPE 316 STAINLESS STEEL DUCTWORK FROM ASSOCIATED HOOD EXHAUST CONNECTION TO FAN INLET CONNECTION.
6- PROVIDE WITH EXPLOSION-PROOF MOTOR, SPARK-PROOF HOUSING, AND SPARK-PROOF IMPELLER WHEEL CONSTRUCTION.
7- OPERATING WEIGHT INCLUDES UNIT, STACK, FITTINGS AND TRANSITIONS.

EXHAUST FAN SCHEDULE

UNIT SYMBOL	EF-1	EF-2
LOCATION	ROOF	ROOF
SERVICE	-	-
TYPE	ROOF MOUNTED	ROOF MOUNTED
MANUFACTURER	COOK	COOK
MODEL	100 ACEB	165 ACEB
FAN - CFM	625	1550
EXTERNAL S.P. - "WG	0.5	0.75
DRIVE TYPE	BELT	BELT
FAN MOTOR - HP	1/6	1/3
FAN MOTOR - RPM / MAX	1523	904
OUTLET VELOCITY - FPM	955	869
TIP SPEED - FPM	3987	3905
DISCHARGE LOCATION	DOWNBLAST	DOWNBLAST
WHEEL TYPE	BACKWARD INCLINED	BACKWARD INCLINED
VOLTAGE / PHASE	115 / 1	115 / 1
CURB TYPE	COOK RCG	RCG
OPERATING WEIGHT - LBS	90	141
DETAIL REFERENCE	4&6/M022	4&6/M022
INTERLOCK	--	--
REMARKS	1, 4	1, 4

◯ REMARKS

1- UNIT COMPLETE WITH BACKDRAFT DAMPER, BIRDSCREEN, AND MANUFACTURER'S PREFABRICATED GALVANIZED ROOF CURB. WHERE ROOF IS SLOPED, PROVIDE SLOPED ROOF CURB TO MATCH ROOF.
2- UNIT COMPLETE WITH FAN SPEED CONTROLLER.
3- INTERLOCK FAN OPERATION WITH SPACE LIGHTING. PROVIDE TIME DELAY SWITCH TO TURN OFF EXHAUST FAN 5 MINUTES AFTER SPACE LIGHTING TURNS OFF.
4- INTERLOCK FAN OPERATION WITH SPACE CONDITIONING EQUIPMENT. SEE CONTROL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
5- INTERLOCK FAN OPERATION WITH LINE VOLTAGE THERMOSTAT. SET TEMPERATURE TO 80°F (ADJ.) TO TURN ON THE FAN.
6- INTERLOCK FAN OPERATION WITH ON/OFF WALL SWITCH.

AIR CONDITIONER SCHEDULE (PACKAGED)

UNIT SYMBOL		AC-1	AC-2	AC-3
LOCATION		ROOF	ROOF	ROOF
SERVICE		-	-	-
MANUFACTURER		CARRIER	CARRIER	CARRIER
MODEL		48HCLA05	48HCLA06	48HCDD09
TYPE		GAS/ELEC	GAS/ELEC	GAS/ELEC
SUPPLY FAN	INDOOR FAN - CFM	1400	1820	4000
	OUTSIDE AIR - CFM	600	940	1620
	EXTERNAL S.P. - "WG	0.5	0.5	0.5
	BLOWER BHP / RPM	0.57 / 1011	0.96 / 1167	2.28 / 916
COOLING	EVAP. EAT - °F - DB	84.4	84.0	83.8
	EVAP. EAT - °F - WB	66.1	66.0	65.9
	CND. EAT - °F - DB	98.0	98.0	98.0
	COOLING CAPACITY - MBH	47.87	57.60	102.73
	COOLING CAPACITY SENSIBLE - MBH	41.96	52.99	102.53
	REFRIGERANT TYPE / CAPACITY (LBS-OZ)	R410A / 12.0	R410A / 13.0	R410A /
	ARI EER / SEER	13.0 / 15.60	12.45 / 15.20	12.00 / 13.80
	COMPRESSOR INPUT - KW	3.35	4.09	7.10
HEATING	INDOOR COIL EAT - °F - DB	70.0	70.0	70.0
	INDOOR COIL LAT - °F - DB	102.4	95.2	93.8
	HEATING INPUT - MBH / STAGE	60.0 / 1ST	60.0 / 1ST	90.0 / 1ST
	MIN AFUE %	81.0	81.0	82.0
ELECTRICAL	COMPRESSOR NO. / RLA (EA)	1 / 6.2	1 / 7.0	1 / 6.2
	OUTDOOR FAN MOTOR NO. / FLA (EA)	1 / 0.9	1 / 0.9	2 / 0.8
	INDOOR FAN MOTOR FLA	2.5	3.4	3.8
	COMBUSTION FAN MOTOR FLA (EA)	0.25	0.25	0.25
	MCA / MOCP	12 / 15	14 / 20	20 / 25
	VOLTAGE / PHASE	460 / 3	460 / 3	460 / 3
FILTER TYPE		2" MERV 8	2" MERV 8	2" MERV 8
CONDENSER COIL HAIL GUARD (LOUVERED)		REQUIRED	REQUIRED	REQUIRED
FLUE DEFLECTOR		REQUIRED	REQUIRED	REQUIRED
POWER EXHAUST/ECONOMIZER		PE-S1	PE-S2	PE-S8
CURB MANUFACTURER / TYPE		VIBREX / ISO CURB	VIBREX / ISO CURB	VIBREX / ISO CURB
OPERATING WEIGHT (LBS)		1540	1630	2245
DIMENSIONS (L"xW"xH")		75 X 47 X 42	75 X 47 X 42	88 x 60 x 50
DETAIL REFERENCE		2,4,7/M0-1.6	2,4,7/M0-1.6	2,7,8/M0-1.6
REMARKS		1, 2, 3, & 4.	1, 2, 3, & 4.	1, 2, 3, & 4.

◯ REMARKS

1- UNIT COMPLETE WITH MODULATING POWER EXHAUST/ECONOMIZER WITH OUTSIDE AIR INTAKE, CONVENIENCE OUTLET, LOUVERED HAIL GUARD, FLUE DEFLECTOR.
2- ALL ROOF CURBS AND ISOLATORS SHALL BE ADJUSTED AFTER INSTALLATION OF THE COMPLETE SYSTEM INCLUDING THE AC UNIT BY THE CURB MANUFACTURER. SUBMIT MANUFACTURER'S CERTIFIED REPORT TO THE AOR/MEOR FOR RECORD KEEPING.
3- OPERATING WEIGHT INCLUDES WEIGHT OF BASE UNIT, ACCESSORIES, ROOF CURB, POWER EXHAUST ECONOMIZER, AND ALL ACOUSTICAL ELEMENTS INSIDE THE ROOF CURB INCLUDING 2" THICK ACOUSTICAL CONCRETE. SEE REMARK NO 4 BELOW.
4- PROVIDE THE FOLLOWING ACOUSTICAL ELEMENTS INSIDE THE ROOF CURB PER REQUIREMENTS OF DETAIL 5/M0-1.5; 2" THICK ACOUSTICAL LIGHTWEIGHT CONCRETE, 3" OF ACOUSTICAL BOARD, AND 4" OF ACOUSTICAL BATT INSULATION.

AIR DISTRIBUTION SCHEDULE - SUPPLY AIR

SYMBOL	⊠	⊠	⊠	⊠
CFM RANGE	50 - 250	251 - 350	351 - 500	501 - 750
TYPE	MODULAR CORE	MODULAR CORE	MODULAR CORE	MODULAR CORE
NECK SIZE	8"x8"	10"x10"	12"x12"	14"x14"
MAX NC LEVEL	17	21	24	29
FRAME SIZE (T-BAR)	24"x24"	24"x24"	24"x24"	24"x24"
FRAME SIZE (HARD LID)	14"x14"	16"x16"	18"x18"	20"x20"
MANUFACTURER/MODEL	KRUEGER/1240	KRUEGER/1240	KRUEGER/1240	KRUEGER/1240

◯ REMARKS

1- ALL DIFFUSERS ARE 4-WAY PATTERN EXCEPT WHERE SPECIFIED ON DRAWINGS W/ ARROWS.
2- FOR INSTALLATION OF DIFFUSERS, SEE DETAIL 1/M0-1.3.
3- PROVIDE MINIMUM 6" TALL AIR PLENUM ON TOP OF DIFFUSER AND GRILLES. NECK SIZE OF THE AIR PLENUM MUST MATCH THE SIZE OF CONNECTIOR DUCTWORK.
4- IT IS CONTRACTOR'S RESPONSIBILITY TO PROVIDE CONCEALED FRAMING OF TYPE REQUIRED FOR T-BAR AND HARD LID CEILING APPLICATIONS.

AIR DISTRIBUTION SCHEDULE - EXHAUST AIR

SYMBOL	⊡	⊡	⊡	⊡	⊡	⊡
CFM RANGE	50 - 150	151 - 300	301 - 450	451 - 600	601 - 800	801 - 1000
TYPE	EGGCRATE	EGGCRATE	EGGCRATE	EGGCRATE	EGGCRATE	EGGCRATE
NECK SIZE	8"x8"	10"x10"	12"x12"	14"x14"	16"x16"	18"x18"
MAX NC LEVEL	-	13	14	16	14	14
FRAME SIZE (T-BAR)	24"x24"	24"x24"	24"x24"	24"x24"	24"x24"	24"x24"
FRAME SIZE (HARD LID)	10"x10"	12"x12"	14"x14"	16"x16"	18"x18"	20"x20"
MANUFACTURER/MODEL	KRUEGER/EGC5	KRUEGER/EGC5	KRUEGER/EGC5	KRUEGER/EGC5	KRUEGER/EGC5	KRUEGER/EGC5

◯ REMARKS

1- FOR INSTALLATION OF GRILLES, SEE DETAIL -/-.
2- PROVIDE MINIMUM 6" TALL AIR PLENUM ON TOP OF DIFFUSER AND GRILLES. NECK SIZE OF THE AIR PLENUM MUST MATCH THE SIZE OF CONNECTING DUCTWORK.
3- IT IS CONTRACTOR'S RESPONSIBILITY TO PROVIDE CONCEALED FRAMING OF TYPE REQUIRED FOR T-BAR AND HARD LID CEILING APPLICATIONS.

AIR DISTRIBUTION SCHEDULE - RETURN & TRANSFER AIR

SYMBOL	⊡	⊡	⊡	⊡	⊡	⊡
CFM RANGE	50 - 150	151 - 300	301 - 450	451 - 600	601 - 800	801 - 1000
TYPE	EGGCRATE	EGGCRATE	EGGCRATE	EGGCRATE	EGGCRATE	EGGCRATE
NECK SIZE	8"x8"	10"x10"	12"x12"	14"x14"	16"x16"	18"x18"
MAX NC LEVEL	-	13	14	16	14	14
FRAME SIZE (T-BAR)	24"x24"	24"x24"	24"x24"	24"x24"	24"x24"	24"x24"
FRAME SIZE (HARD LID)	10"x10"	12"x12"	14"x14"	16"x16"	18"x18"	20"x20"
MANUFACTURER/MODEL	KRUEGER/EGC5	KRUEGER/EGC5	KRUEGER/EGC5	KRUEGER/EGC5	KRUEGER/EGC5	KRUEGER/EGC5

◯ REMARKS

1- FOR INSTALLATION OF GRILLES, SEE DETAIL 1/M0-1.3.
2- PROVIDE MINIMUM 6" TALL AIR PLENUM ON TOP OF DIFFUSER AND GRILLES. NECK SIZE OF THE AIR PLENUM MUST MATCH THE SIZE OF CONNECTING DUCTWORK.
3- IT IS CONTRACTOR'S RESPONSIBILITY TO PROVIDE CONCEALED FRAMING OF TYPE REQUIRED FOR T-BAR AND HARD LID CEILING APPLICATIONS.

POWER EXHAUST/ECONOMIZER SCHEDULE (FOR PACKAGED AIR CONDITIONER UNITS)

UNIT SYMBOL	PE-1	PE-2	PE-3
SERVICE	AC-1	AC-2	AC-3
MANUFACTURER	MICROMETL	MICROMETL	MICROMETL
MODEL	PECD-SRT12TA	PECD-SRT12TA	PECD-SRT34TA
CONTROL TYPE	DIFFERENTIAL DRY BULB TEMPERATURE	DIFFERENTIAL DRY BULB TEMPERATURE	DIFFERENTIAL DRY BULB TEMPERATURE
TYPE	MODULATING	MODULATING	MODULATING
MOTOR SIZE - HP	0.5	0.5	1.00
VOLTAGE / PHASE	460 / 3	460 / 3	460 / 3
FLA	1.1	1.1	1.9
MCA / MOCP	1.4 / 2.5	1.4 / 2.5	2.4 / 4.3
REMARKS			

◯ REMARKS

1- POWER EXHAUST/ECONOMIZER UNIT WEIGHT IS REFLECTED IN THE TOTAL OPERATING WEIGHT OF THE ASSOCIATED AIR CONDITIONER UNIT.
2- PROVIDE SEPARATE POWER SOURCE AND DISCONNECT TO POWER EXHAUST/ECONOMIZER UNIT. PASS-THRU POWER FROM AIR CONDITIONING UNIT TO POWER EXHAUST/ECONOMIZER IS NOT ACCEPTABLE.
3- POWER EXHAUST SHALL RELIEVE THE EXCESS AIR TO MAINTAIN BUILDING PRESSURE DURING UNIT OPERATION. POWER EXHAUST SHALL BE CAPABLE OF 100% ECONOMIZER MODE TO RELIEVE 100% AIR.

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

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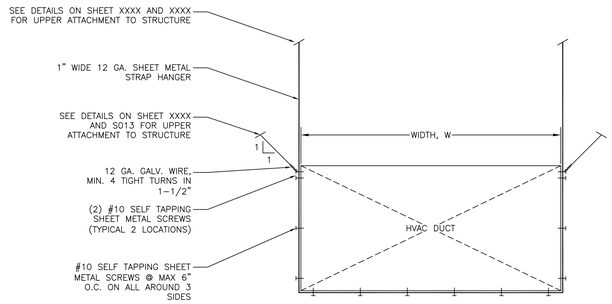
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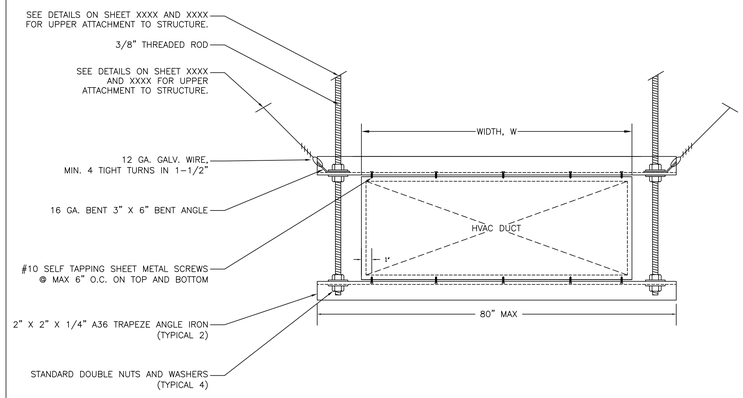
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LOWER HANGER ATTACHMENT

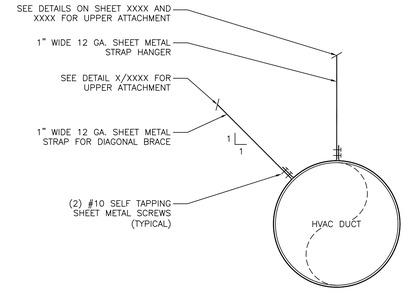
NOTES:
1. PROVIDE DUCT SUPPORT AND BRACING MAXIMUM 8'-0" O.C.

CONCEALED RECTANGULAR DUCTWORK - UP TO 40" WIDE DETAIL | 1 | NOT TO SCALE



NOTES:
1. PROVIDE DUCT SUPPORT AND BRACING MAXIMUM 8'-0" O.C.

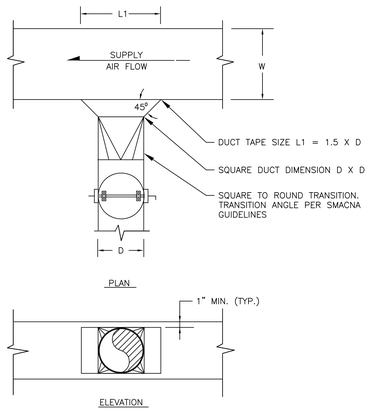
CONCEALED RECTANGULAR DUCTWORK - OVER 40" WIDE DETAIL | 2 | NOT TO SCALE



LOWER HANGER ATTACHMENT

NOTES:
1. PROVIDE DUCT SUPPORT AND BRACING MAXIMUM 8'-0" O.C.

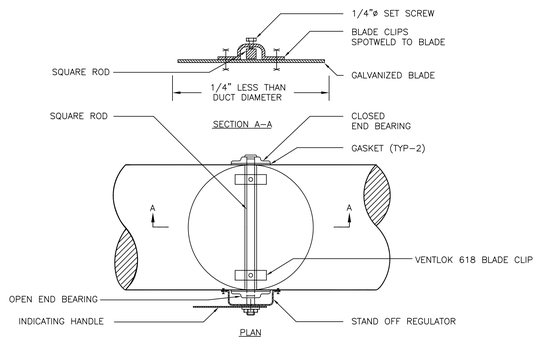
ROUND DUCTWORK - MAX. 20" DIA. DETAIL | 3 | NOT TO SCALE



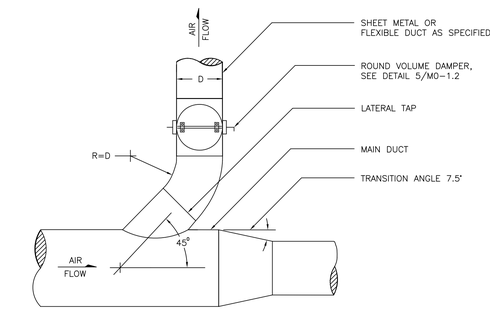
NOTES:
1. PROVIDE MANUAL VOLUME DAMPER FOR ALL BRANCH DUCTWORK.

RECTANGULAR TO ROUND BRANCH TAP DETAIL | 4 | NOT TO SCALE

DIAMETER	4"-20"	22"-30"	32"-40"	
FRAME	20 GA.	20 GA.	20 GA.	GALV. STEEL
BLADES	16 GA.	16 GA.	10 GA.	GALV. STEEL
AXLES	3/8" □	1/2" □	3/4"ø	FULL LENGTH PLATED STEEL AXLE
REGULATOR	VENTLOK 635	VENTLOK 555	VENTLOK 560	FOR NON-INSULATED DUCT
REGULATOR W/ INSUL.	VENTLOK 639	VENTLOK 555	VENTLOK 560	2" STANDOFF BRACKET
END BEARING	HVEL 609	HVEL 609	STEEL SLEEVE	CLOSED END
END BEARING	VENTLOK 607	VENTLOK 607	STEEL SLEEVE	OPEN END

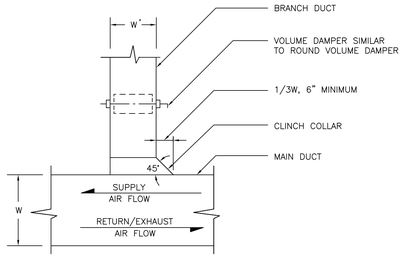


ROUND VOLUME DAMPER DETAIL | 5 | NOT TO SCALE



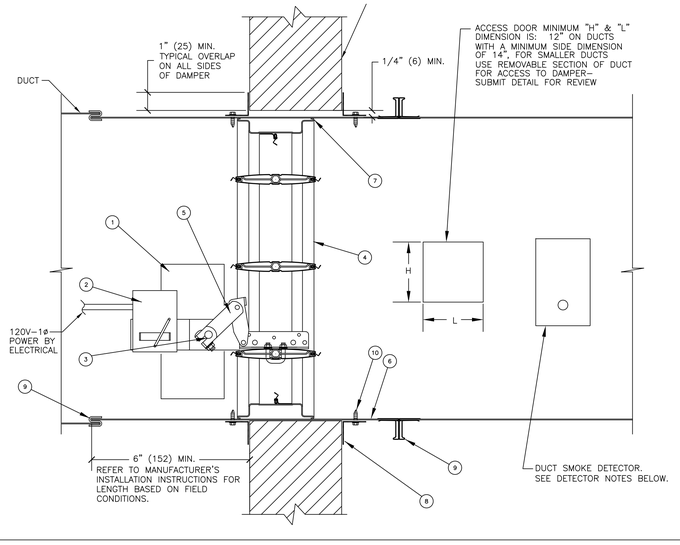
NOTES:
1. PROVIDE MANUAL VOLUME DAMPER FOR ALL BRANCH DUCTWORK.
2. USE FOR SYMBOL ⊥ WHERE BRANCH DUCT IS ROUND FROM ROUND MAIN AND BRANCH DUCT AIR QUANTITY IS 50% OR LESS OF TOTAL AIR FLOW.

CIRCULAR DUCT LATERAL TAP W/ VOLUME DAMPER DETAIL | 6 | NOT TO SCALE



NOTES:
1. PROVIDE MANUAL VOLUME DAMPER FOR ALL BRANCH DUCTWORK.
2. USE FOR SYMBOL ⊥ WHERE BRANCH DUCT IS ROUND FROM ROUND MAIN AND BRANCH DUCT AIR QUANTITY IS 50% OR LESS OF TOTAL AIR FLOW.
3. DEPTH AT "W'" MUST BE AT LEAST 2" LESS THAN DEPTH AT "W"

RECTANGULAR DUCT ANGULAR TAP W/ VOLUME DAMPER DETAIL | 7 | NOT TO SCALE



KEYNOTED ITEMS

1- ACTUATOR (LOCATION MAY VARY). DAMPER MAY BE SUPPLIED WITHOUT ACTUATOR INSTALLED. MANUFACTURER'S UL LISTED FIRE DAMPER ACTUATORS MAY BE FIELD INSTALLED IF PROPERLY LABELED. SEE MANUFACTURER'S ACTUATOR INSTALLATION INSTRUCTIONS FOR FIELD MOUNTING OF DAMPER ACTUATORS.

2- OPTIONAL FIRESTAT OR SP100(RUSKIN)

3- AUXILIARY OPERATING JACK SHAFT

4- DAMPER

5- OVER CENTER LOCK

6- SLEEVE-GAGE OF SLEEVE PER UL LISTING, SFM LISTING, AND MANUFACTURER'S INSTALLATION INSTRUCTION.

7- APPROVED CAULKING MATERIAL. SEE MANUFACTURER'S INSTALLATION INSTRUCTION FOR APPLICATION OF CAULKING.

8- PFMA OR CONVENTIONAL MOUNTING ANGLES

9- S-JOINT/DUCT MATE, SLEEVE TO DUCT

10- #8 SHEET METAL SCREWS @ 12" O.C. TO DUCT. NO SCREWS TO WALL (TYPICAL)

DETECTOR NOTES:

1- WHEN A TOTAL COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED WITH AREAS SERVED BY AN HVAC SYSTEM, DAMPERS SHALL BE CONTROLLED BY THE SMOKE-DETECTION SYSTEM. NO DUCT SMOKE DETECTOR IS REQUIRED. ALL SMOKE DAMPER ACTUATION SHALL COMPLY WITH 2016 CBC SECTION 717.3.3.2.

2- REFER TO CBC ARTICLE 717 FOR ADDITIONAL INFORMATION.

ANGLE TABLE	
WALL OPENING	ANGLE SIZE
UP TO 30"	1" x 1" x 1/8"
31" TO 54"	1-1/2"x1-1/2"x1/8"
55" TO 84"	3" x 2" x 3/16"

LISTING NOTES:

1- INSTALL COMBINATION FIRE AND SMOKE DAMPER AS MANUFACTURED BY RUSKIN MODEL FSD36 OR EQUAL. RATING FOR 1-½ HOURS UL555 RATED, UL555S LEAKAGE CLASS 2.

2- UL CLASSIFIED, UL555 LISTING R5531, UL555S LISTING R5531

3- NFPA STANDARDS 90A, 92A, 92B AND 101

4- CSFM CALIFORNIA STATE FIRE MARSHAL LISTING #3235-0245:0124.

GENERAL NOTES:

1- COMBINATION SMOKE/FIRE DAMPER TO BE U.L. LABELED, N.F.P.A. 90 A & STATE FIRE MARSHAL APPROVED.

2- N.F.P.A. APPROVED INSTALLATION DETAILS TO BE PART OF SUBMISSION OF FIRE DAMPER FOR APPROVAL, WHICH SHALL MEET N.F.P.A. STANDARD 90 A.

3- DETAILS SHOWN ARE FOR FIRE DAMPERS IN HORIZONTAL DUCTWORK.

4- ACCESS DOOR IS SHOWN IN SIDE OF DUCT, IF FUSIBLE LINK IS MORE ACCESSIBLE FROM BOTTOM OF DUCT RELOCATE ACCESS DOOR.

5- LABEL ACCESS DOOR WITH 1/2" LETTERS "FIRE DAMPER".

6- SMOKE FIRE DAMPERS SHALL BE STATE FIRE MARSHAL APPROVED AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. MANUFACTURER'S INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITY. DETAILS SHOWN ARE FOR REFERENCE ONLY.

PROVIDE COMBINATION FIRE SMOKE DAMPER AS REQUIRED FOR EACH APPLICATION. THIS DETAIL IS FOR REFERENCE ONLY. THE ABOVE DETAIL SHOWS VERTICAL MOUNT DAMPER ONLY.

COMBINATION SMOKE/FIRE DAMPER DETAIL | 9 | NOT TO SCALE

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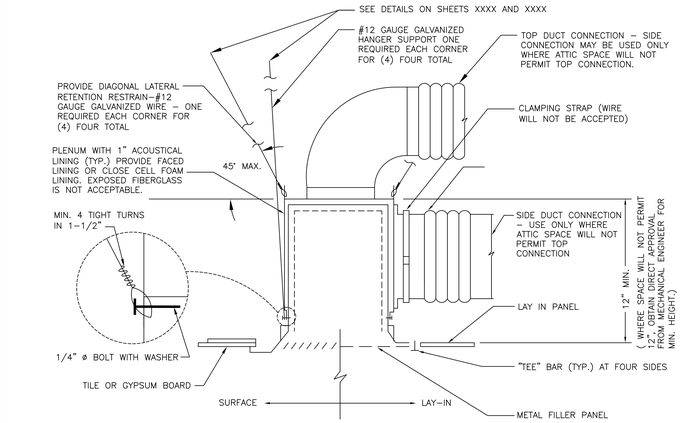
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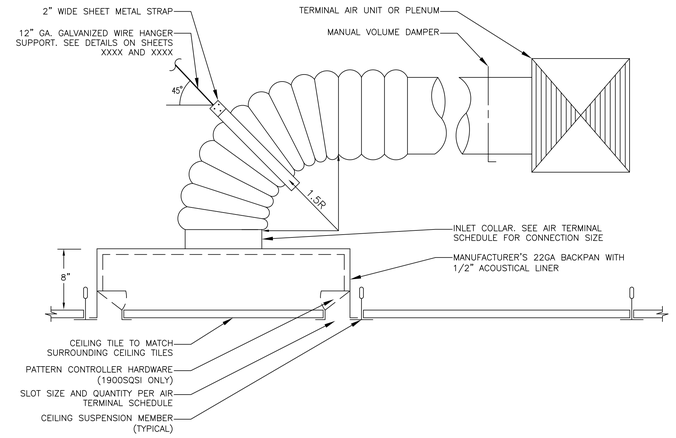
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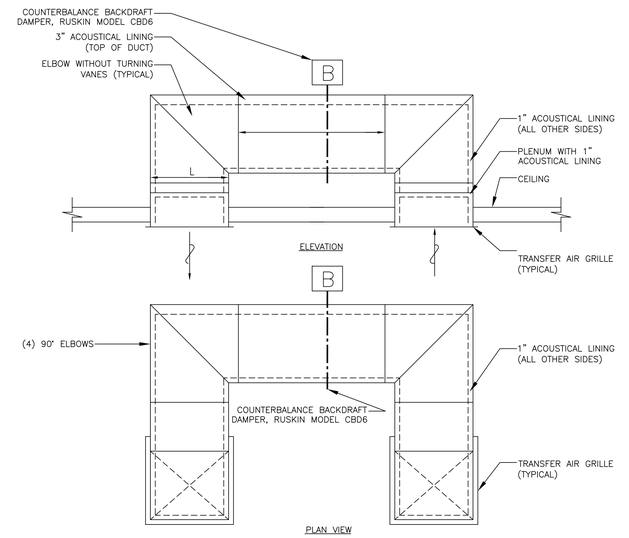


NOTE:
FOR GRILLES/DIFFUSERS IN LOCATIONS WHERE THERE ARE HARD LID CEILINGS, FLEXIBLE DUCT CONNECTIONS ARE NOT ACCEPTABLE.

SUPPLY/RETURN/EXHAUST DIFFUSER/GRILLE INSTALLATION DETAIL — 1 — NOT TO SCALE

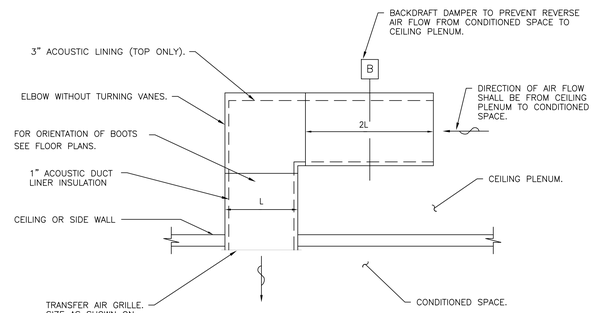


SUPPLY DIFFUSER INSTALLATION DETAIL — 2 — NOT TO SCALE



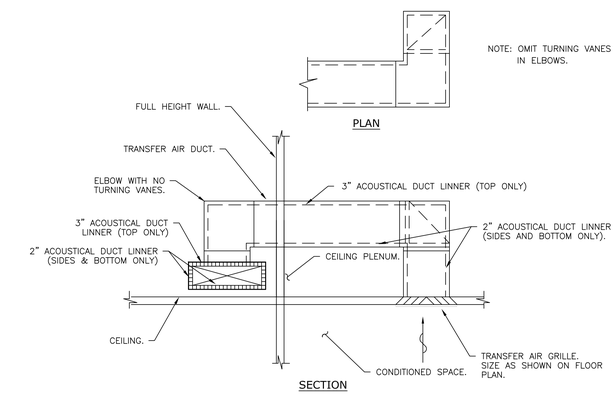
NOTE:
1. THE USE OF FLEXIBLE DUCTWORK IS NOT ACCEPTABLE.

TRANSFER AIR DUCT DETAIL — 3 — NOT TO SCALE



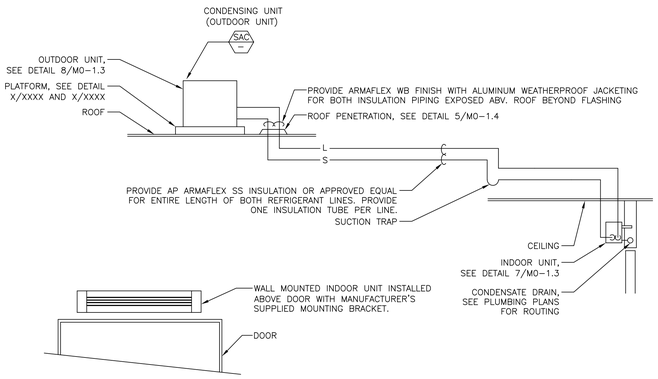
NOTE:
1.– THIS DETAIL APPLIES ONLY TO REST ROOM AND JANITOR ROOMS WHICH ARE BEING EXHAUSTED USING MAKE–UP AIR FROM CEILING PLENUM.

RESTROOM AND JANITOR ROOM TRANSFER DUCT DETAIL — 4 — NOT TO SCALE



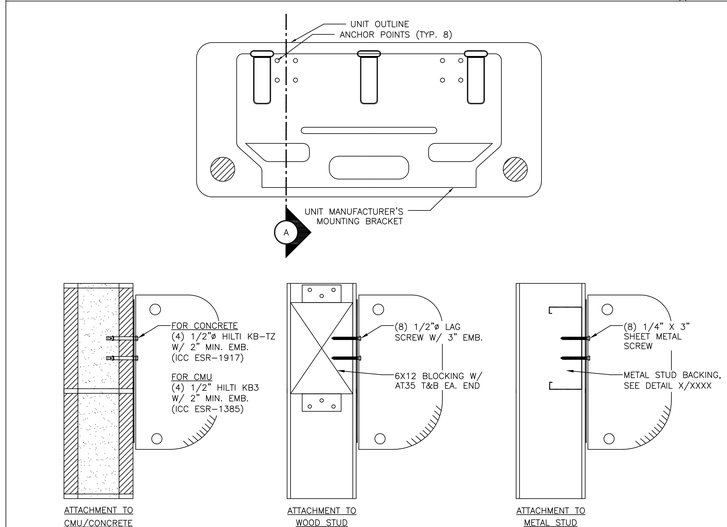
NOTE:
1.– THIS DETAIL APPLIES ONLY TO OFFICES WITH FULL HEIGHT WALLS AND AIR IS BEING TRANSFER FROM THE CONDITIONED SPACE TO RETURN CEILING PLENUM.

FULL HEIGHT WALL OFFICE TRANSFER DUCT W/ SOUND TRAP DETAIL — 5 — NOT TO SCALE

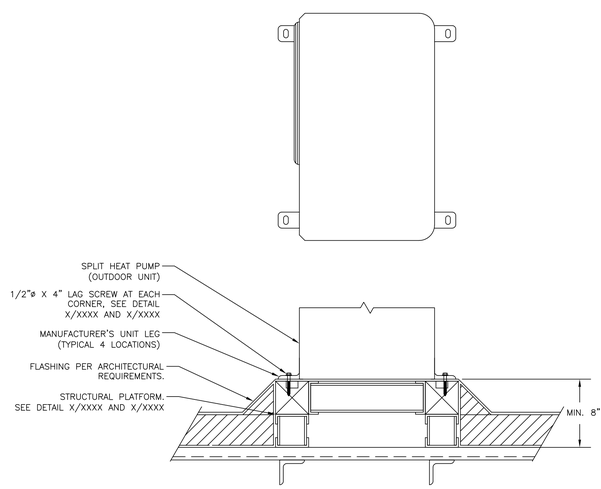


NOTES:
1– ALL LIQUID AND SUCTION LINES IN THE CEILING SPACE AND INSIDE THE WALL SHALL BE FULLY INSULATED.
2– ALL REFRIGERANT LINES SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION BASED ON ACTUAL DISTANCE BETWEEN THE INDOOR AND OUTDOOR UNITS.
3– RUN ALL REFRIGERANT, SUCTION AND CONDENSATE DRAIN PIPES OUTSIDE OF THE ELECTRICAL ROOM, DATA ROOM OR ELEVATOR MECHANICAL ROOM.
4– PROVIDE CONDENSATE PUMP WHERE THE CONDENSATE CANNOT BE HANDLED BY GRAVITY. CONDENSATE PUMP SHALL BE EQUAL TO LITTLE GIANT VCC–20 SERIES PRODUCT. SHP MANUFACTURER'S CONDENSATE PUMP IS NOT ACCEPTABLE.
5– PROVIDE CONDUIT FOR COMMUNICATION WIRING BETWEEN INDOOR AND OUTDOOR UNITS AS REQUIRED.

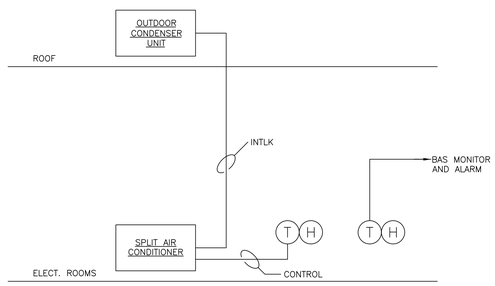
SPLIT AIR CONDITIONER - INSTALLATION DETAIL — 6 — NOT TO SCALE



SPLIT AIR CONDITIONER - INDOOR UNIT INSTALLATION DETAIL — 7 — NOT TO SCALE



SPLIT-AIR CONDITIONER (OUTDOOR UNIT) INSTALLATION DETAIL — 8 — NOT TO SCALE



SPLIT AIR CONDITIONER CONTROL DETAIL — 9 — NOT TO SCALE

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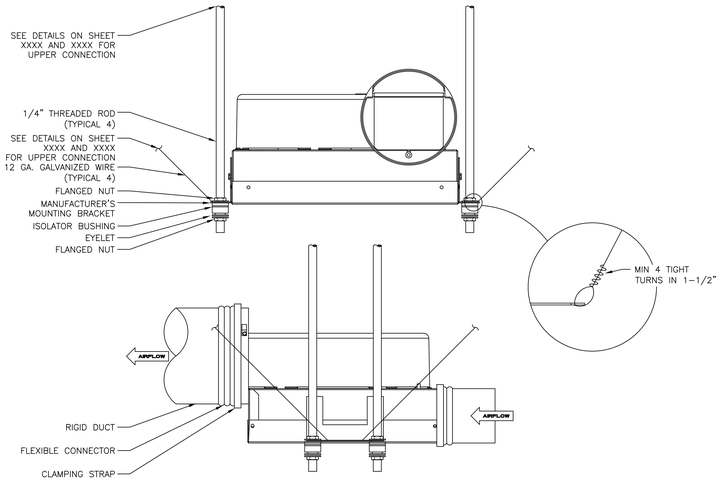
MECHANICAL DETAILS

SHEET NUMBER:

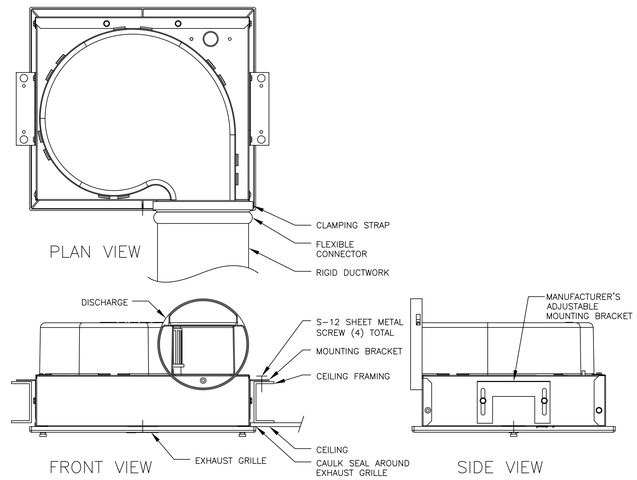
M0-1.3

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18451	Author	Checker	02/18/19

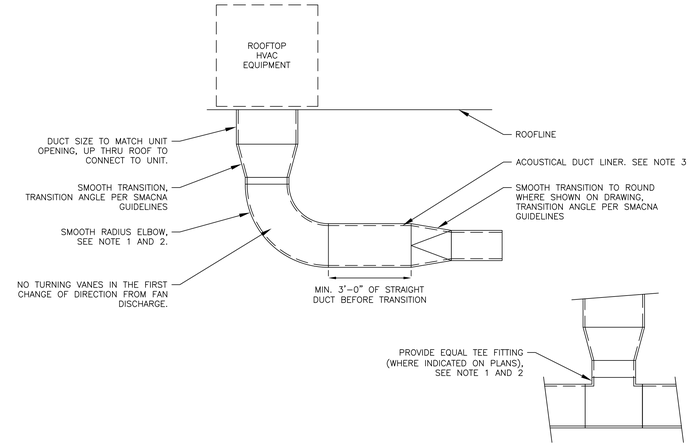
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INLINE EXHAUST FAN DETAIL | 1 | NOT TO SCALE

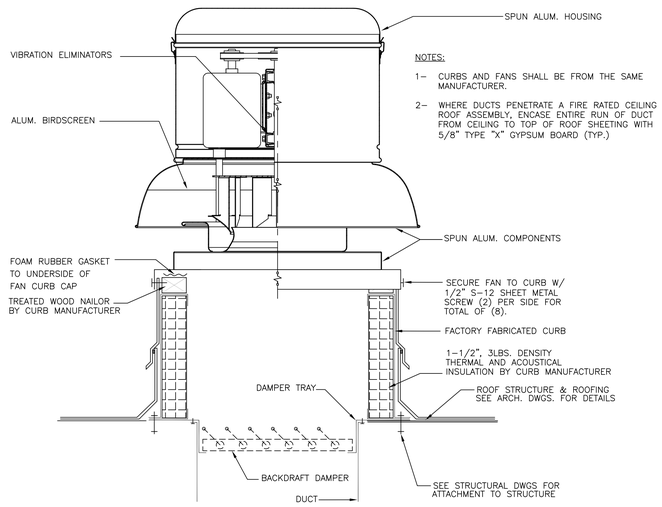


CEILING MOUNTED EXHAUST FAN DETAIL | 2 | NOT TO SCALE



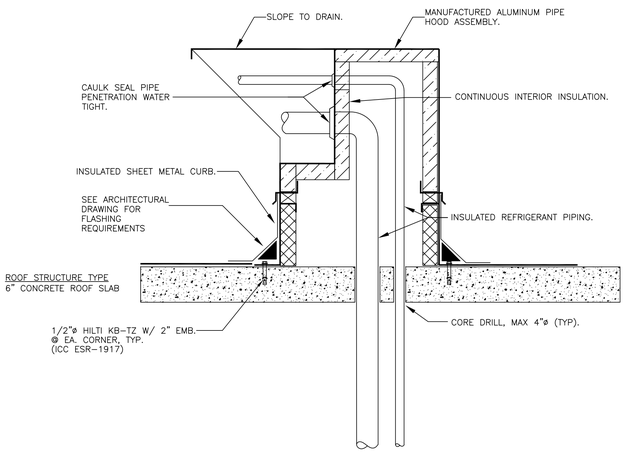
NOTES:
1. USE OF PLENUM IN LIEU OF DUCT TRANSITION AND/OR ELBOW IS NOT ACCEPTABLE.
2. NO TURNING VANES IN THE FIRST CHANGE OF DIRECTION FROM FAN DISCHARGE.
3. ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE ACOUSTICALLY LINED FROM CONNECTION OF UNIT TO MIN. 20'-0" DOWN STREAM OF UNIT OPENING. ALL BRANCH DUCTWORK AND TAKEOFF FROM MAIN WITHIN 20'-0" OF UNIT OPENING SHALL ALSO BE ACOUSTICALLY LINED IN ITS ENTIRETY (INCLUDING BUT NOT LIMITED TO SUB BRANCH DUCT, SUPPLY/RETURN DIFFUSER/GRILLES PLENUMS. DUCT LINING AND INSULATION MATERIAL/THICKNESS SHALL BE PER SPECIFICATION BOOK.

DUCT THRU ROOF TO EQUIPMENT ON ROOF DETAIL | 3 | NOT TO SCALE



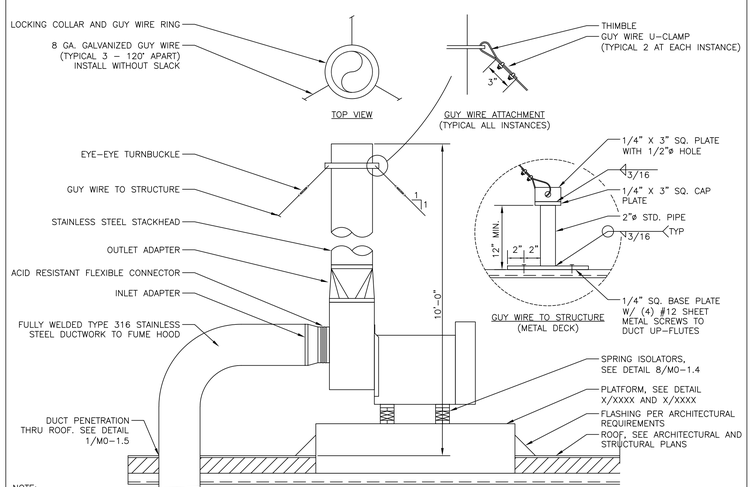
NOTES:
1- CURBS AND FANS SHALL BE FROM THE SAME MANUFACTURER.
2- WHERE DUCTS PENETRATE A FIRE RATED CEILING ROOF ASSEMBLY, ENCASE ENTIRE RUN OF DUCT FROM CEILING TO TOP OF ROOF SHEETING WITH 5/8" TYPE "X" GYPSUM BOARD (TYP.)

ROOF MOUNTED EXHAUST FAN DETAIL | 4 | NOT TO SCALE



REFRIGERANT PIPING THRU ROOF DETAIL | 5 | NOT TO SCALE

NOT USED | 6 | NOT TO SCALE



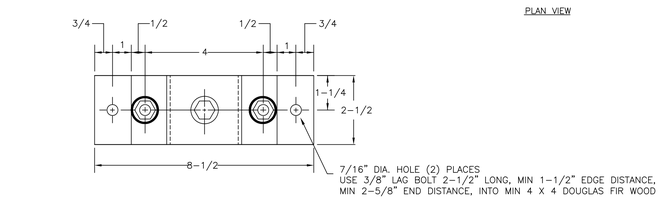
NOTE:
1- DUCT SHALL TERMINATE NOT LESS THAN 30'-0" FROM A PROPERTY LINE, 10'-0" FROM OPENINGS INTO THE BUILDING, 6'-0" FROM EXTERIOR WALLS OR ROOFS, 30'-0" FROM COMBUSTIBLE WALLS OR OPENINGS INTO THE BUILDING THAT ARE IN THE DIRECTION OF THE EXHAUST DISCHARGE AND 10'-0" ABOVE ADJOINING GRADE (2016 CMC 502.2.2)

FUME HOOD EXHAUST INSTALLATION DETAIL | 7 | NOT TO SCALE

UNIT TAG	MAKE	MODEL	SPRING OD	DEFLECTION
FHE-1	COOK	100 CPV	2 INCH	1 INCH

VIBREX TYPE: RMU-EQ-SH

NOTES:
1. ALL DIMENSIONS ARE IN INCHES.
2. MAXIMUM ALLOWABLE LOADS
HORIZONTAL: 600LBS
VERTICAL (UP): 940LBS



FUME HOOD EXHAUST FAN - SPRING ISOLATOR DETAIL | 8 | NOT TO SCALE

NOT USED | 9 | NOT TO SCALE

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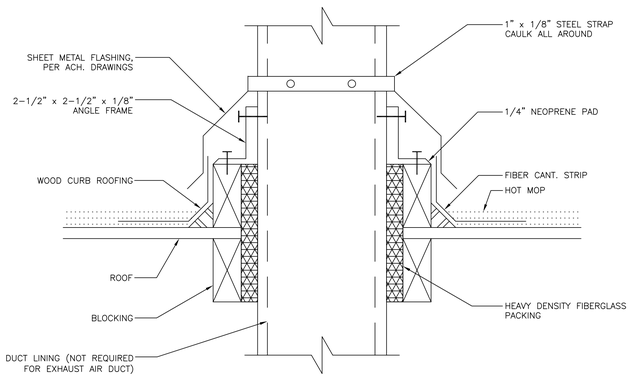
MECHANICAL DETAILS

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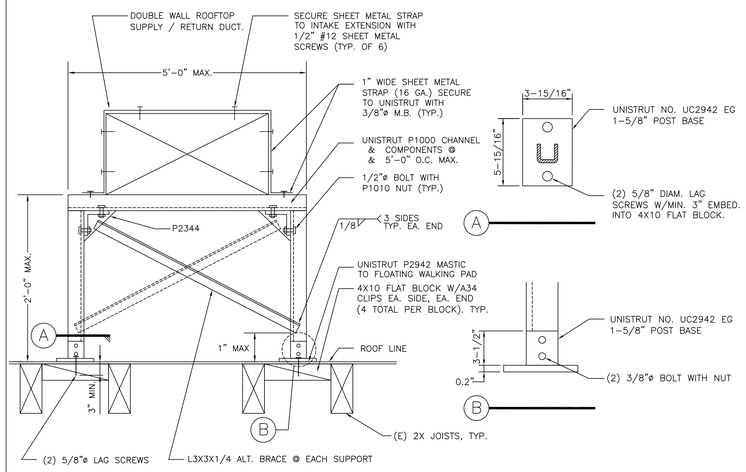
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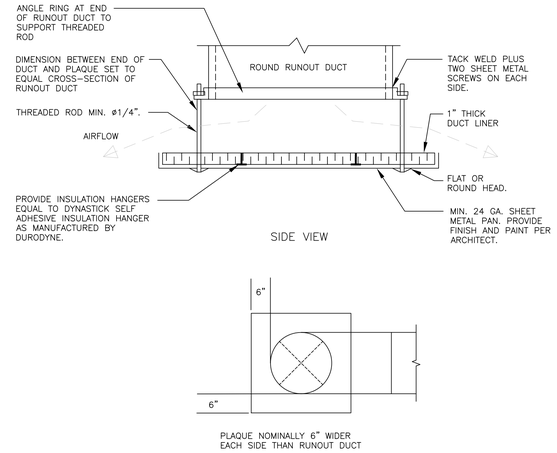
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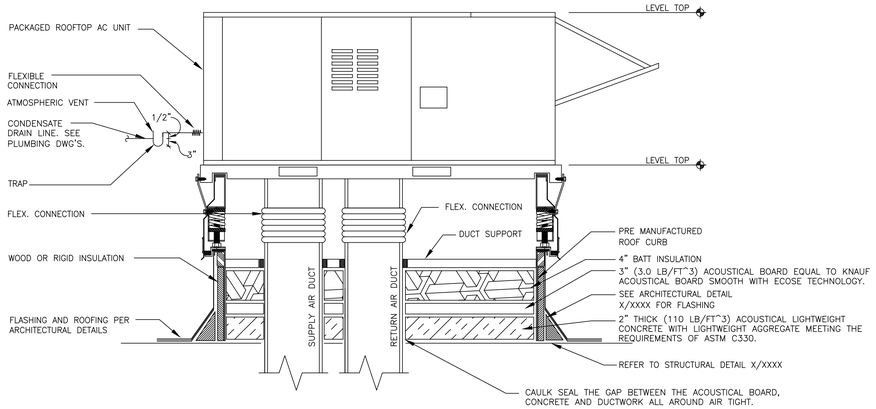
DUCT PENETRATION THRU ROOF DETAIL — 1 — NOT TO SCALE



ROOFTOP DUCT SUPPORT DETAIL — 2 — NOT TO SCALE



PLAQUE TYPE AIR DIFFUSER DETAIL — 3 — NOT TO SCALE



AIR CONDITIONER UNIT INSTALLATION DETAIL (DOWN DISCHARGE) — 5 — NOT TO SCALE

NOTES:

1- ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE ACOUSTICALLY LINED FROM CONNECTION TO THE UNIT UP TO MIN. 20 FEET DOWN STREAM OF THE UNIT OPENING. ALL BRANCH DUCTWORK WITH TAKEOFF FROM MAIN SUPPLY/RETURN DUCTS WITHIN 20 FEET OF THE UNIT OPENING SHALL BE ACOUSTICALLY LINED IN ITS ENTIRETY INCLUDING ANY SUB BRANCH DUCTS AND SUPPLY/RETURN DIFFUSER/GRILL PLENUMS. DUCT LINING AND INSULATION MATERIAL AND THICKNESS SHALL BE PER SPECIFICATIONS.

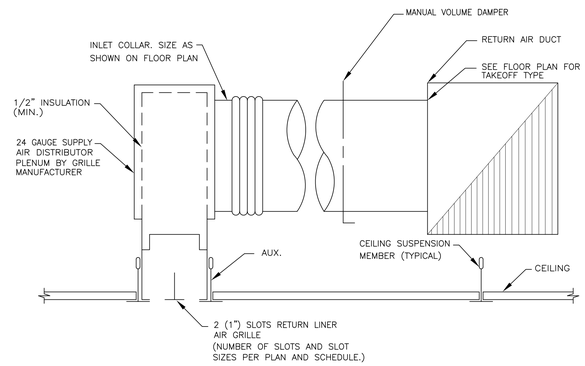
2- PROVIDE FIRE MARSHAL APPROVED DUCT SMOKE DETECTOR FOR AIR MOVING SYSTEM SUPPLYING IN EXCESS OF 2000 CFM FOR AUTOMATIC SHUT OFF. IF BUILDING IS SERVED BY TOTAL COVERAGE SMOKE-DETECTION SYSTEM, AUTOMATIC UNIT SHUT OFF CAN BE ACCOMPLISHED BY INTERCONNECTION TO SUCH SYSTEM. REFER TO FIRE ALARM DRAWINGS FOR ADDITIONAL INFORMATION.

3- PROVIDE NECESSARY TRANSITION FROM THE UNIT DISCHARGE AND RETURN OPENING TO THE ASSOCIATED SUPPLY AND RETURN AIR DUCTWORK.

4- WHERE DUCTS PENETRATE A FIRE RATED CEILING ROOF ASSEMBLY ENCASE ENTIRE RUN OF DUCT FROM CEILING TO TOP OF ROOF SHEETING WITH 5/8" TYPE "X" GYPSUM BOARD (TYP.)

5- SEE ARCHITECTURAL SHEETS FOR MORE INFORMATION ON CURB AND WATERPROOFING.

6- WHERE UNIT IS INSTALLED ON A SLOPED ROOF PROVIDE A PREFABRICATED PITCHED ROOF CURB TO MATCH THE SLOPE OF THE ROOF FOR A LEVEL INSTALLATION OF THE AC UNIT. ROOF CURB MUST BE A MANUFACTURED PITCHED ROOF CURB. SITE BUILT CURBS ARE NOT ACCEPTABLE. IF THE MANUFACTURER OF ROOF CURB CAN NOT PROVIDE A PITCHED ROOF CURB DUE TO THE EXCESSIVE SLOPE OF THE ROOF, PROVIDE A STRUCTURAL LEVELING PLATFORM. THEN INSTALL A LEVEL ROOF CURB. COORDINATE THIS EFFORT WITH WORK OF ALL OTHER TRADES INVOLVED



LINEAR SLOT DIFFUSER DETAIL — 6 — NOT TO SCALE

NOT USED — 7 — NOT TO SCALE

NOT USED — 8 — NOT TO SCALE

NOT USED — 9 — NOT TO SCALE

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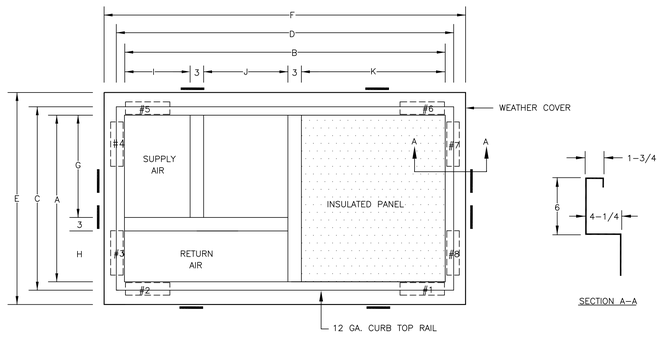
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NOTES:

1) ▬ INDICATES SEISMIC TIE-DOWN PLATE.
(2) REQUIRED PER SIDE, SEE DETAIL 2/M0-1.6.
2) #1 THRU #8 INDICATE ISOLATOR LOCATIONS. SEE DETAIL 2/M0-1.6.

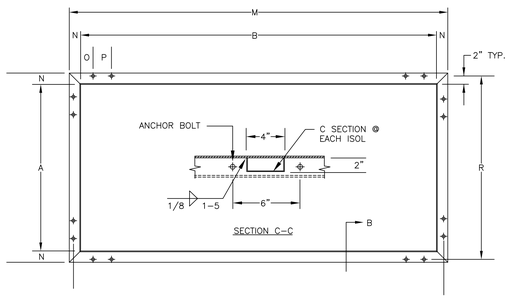
MARK	MAKE	TYPE	SIZE	CURB WT.
AC-1	CARRIER	48HC	05	310#
AC-2	CARRIER	48HC	06	



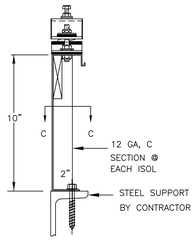
TOP SECTION PLAN VIEW

SECTION A-A

A	B	C	D	E	F	G	H	I	J	K
36-15/16	67-1/8	40-7/16	70-5/8	45-7/16	75-5/8	20-1/4	13-11/16	13-7/8	15-3/16	32-1/16
				L	M	N	O	P	Q	R
				42-15/16	73-1/8	3	3	6	71-1/8	40-15/16



BOTTOM SECTION FOOTPRINT



SECTION B-B

VERTICAL WALL OF CURB MUST BE FULLY SUPPORTED

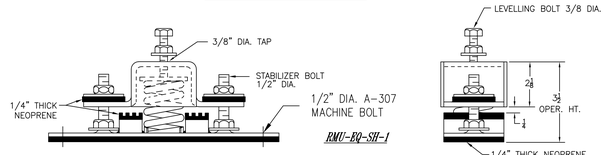
NOTES:

1. FOR ANCHORAGE, USE 3/8" DIA. A-307 MACHINE BOLTS
2. Q & R DIMENSIONS ARE CENTERLINES OF ANCHOR HOLES IN CURB BOTTOM FLANGE.

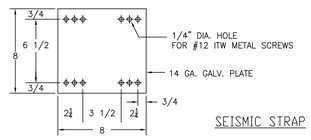
ISO. CURB DETAIL | 4 | NOT TO SCALE

NOTES: 1) ALL DIMENSIONS IN INCHES
2) SPRING DEFLECTION = 1"

ISOLATORS ARE O.S.H.P.D. PRE-APPROVED No. OPA-0098

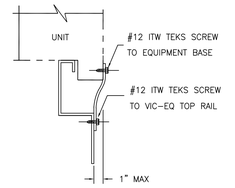


MAX. ALLOW. LOADS: HORIZ: 1100 LBS VERT. (UP): 1400 LBS



LONG SIDE

SEISMIC STRAP

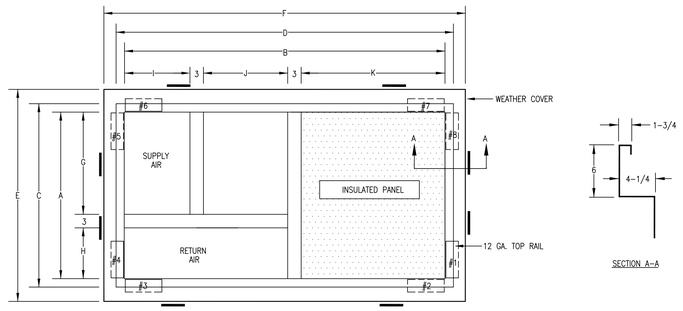


SPRING AND SEISMIC STRAP DETAIL | 2 | NOT TO SCALE

NOTES:

1) ▬ INDICATES SEISMIC TIE-DOWN PLATE.
(2) REQUIRED PER SIDE, SEE DETAIL 2/M0-1.6.
2) #1 THRU #8 INDICATE ISOLATOR LOCATIONS. SEE DETAIL 2/M0-1.6.

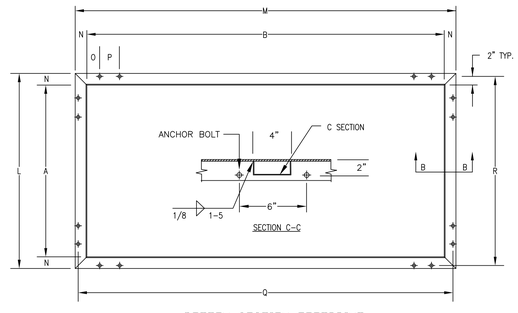
MARK	MAKE	TYPE	SIZE	VIC-EQ WT.
AC-3	CARRIER	48HC	09	370 #
--				



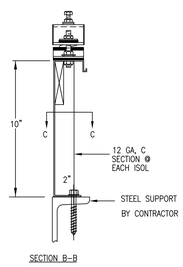
TOP SECTION PLAN VIEW

SECTION A-A

A	B	C	D	E	F	G	H	I	J	K
49-3/4	78	53-1/4	81-1/2	58-1/4	86-1/2	31-3/8	15-3/8	15-11/16	21-3/8	34-15/16
L	M	N	O	P	Q	R				
55-3/4	84	3	3	6	82	53-3/4				



BOTTOM SECTION FOOTPRINT



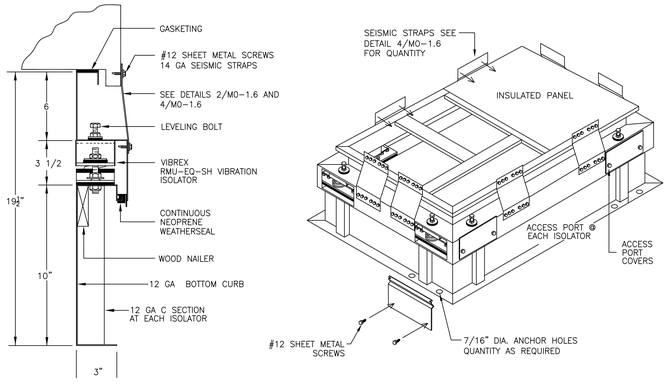
SECTION B-B

VERTICAL WALL OF CURB MUST BE FULLY SUPPORTED

NOTES:

1. Q & R DIMENSIONS ARE CENTERLINES OF ANCHOR HOLES IN CURB BOTTOM FLANGE.
2. FOR ANCHORAGE, USE 3/8" DIA. A-307 MACHINE BOLTS

ISO. CURB DETAIL | 8 | NOT TO SCALE



NOTES:

1. FOR ANCHOR REQUIREMENTS AND DETAILS OF ISOLATORS AND SEISMIC STRAPS, SEE DETAILS 2/M0-1.6 AND 4/M0-1.6.
2. SUBMITTED ROOF CURBS ARE LEVEL. PITCHED ROOF CURBS ARE AVAILABLE UPON REQUEST TO MATCH ROOF SLOPE.
3. NOT FOR CONSTRUCTION, ALL DIMENSIONS REQUIRE FINAL REVIEW AT COMMENCEMENT OF PROJECT

ISO. CURB DETAIL | 7 | NOT TO SCALE

NOT USED | 3 | NOT TO SCALE

NOT USED | 6 | NOT TO SCALE

NOT USED | 9 | NOT TO SCALE

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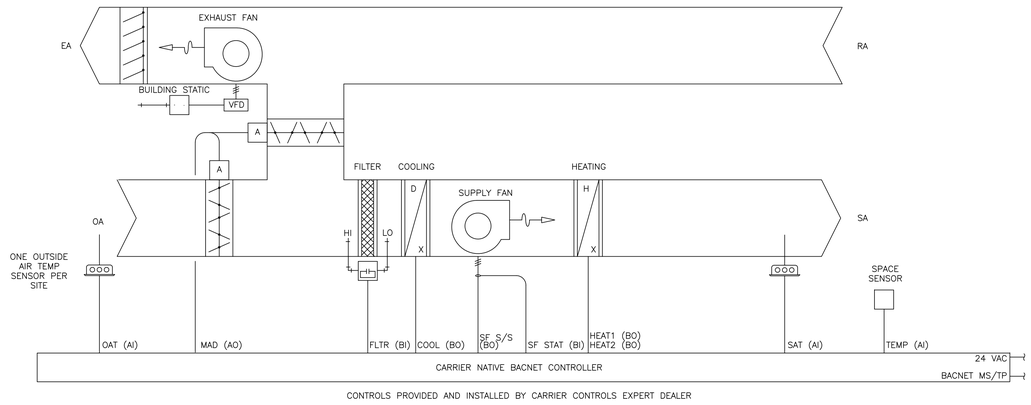
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M0-1.6

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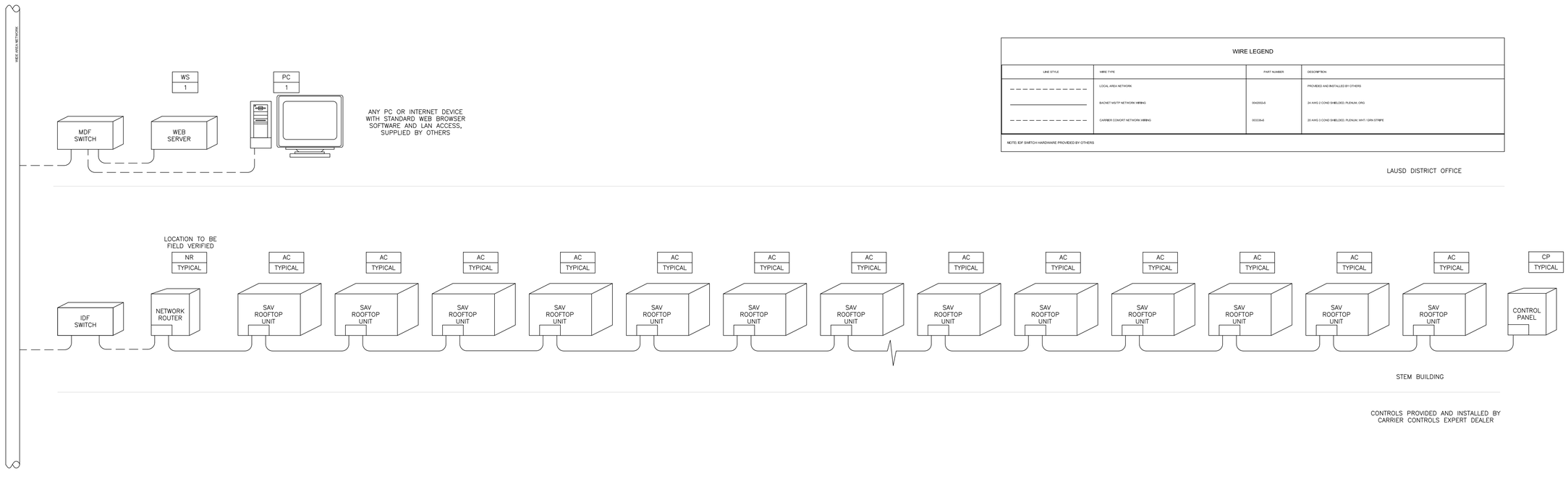


CONTROLS PROVIDED AND INSTALLED BY CARRIER CONTROLS EXPERT DEALER

CONTROL PANEL SHALL CONFORM TO UL 508A STANDARDS

RTU DETAIL (AC-TYPICAL) | 1 | NOT TO SCALE

NOT USED | 2 | NOT TO SCALE



WIRE LEGEND

LINE STYLE	WIRE TYPE	PART NUMBER	DESCRIPTION
- - - - - - - - - - - - - - - -	LOCAL AREA NETWORK		PROVIDED AND INSTALLED BY OTHERS
————————	BACNET MS/TP NETWORK WIRING	004350-5	24 AWG 2 COND SHIELDED, PLENUM, ORG
- - - - - - - - - - - - - - - -	CARRIER COMFORT NETWORK WIRING	003336-5	20 AWG 3 COND SHIELDED, PLENUM, WHT / GRN STRIPE

NOTE: IDF SWITCH HARDWARE PROVIDED BY OTHERS

LAUSD DISTRICT OFFICE

STEM BUILDING

CONTROLS PROVIDED AND INSTALLED BY CARRIER CONTROLS EXPERT DEALER

EMCS RISER DIAGRAM | 3 | NOT TO SCALE

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Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

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100% DESIGN DEVELOPMENT

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CONTROL RISER DIAGRAM

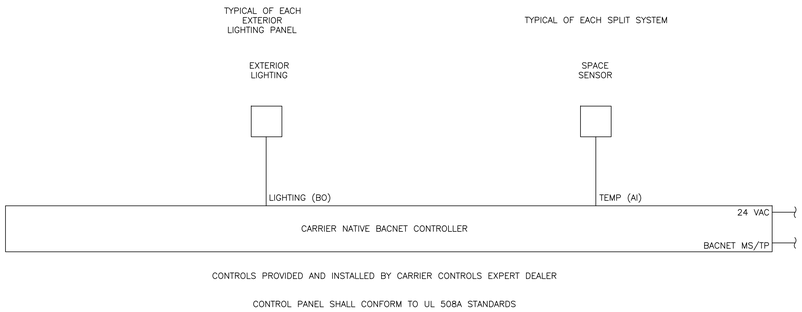
SHEET NUMBER:

M0-2.0

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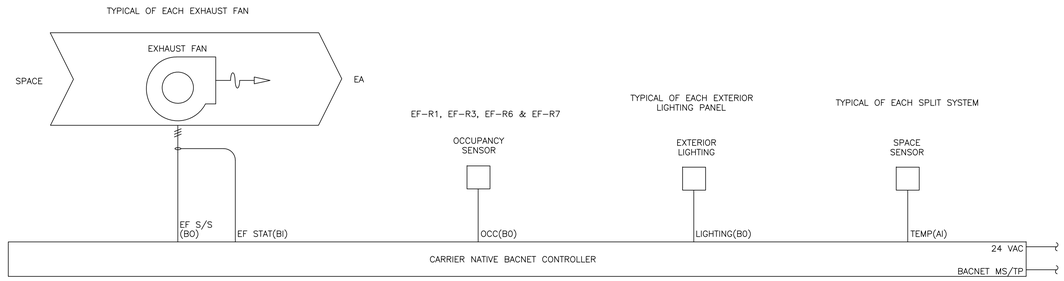
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CONTROLS PROVIDED AND INSTALLED BY CARRIER CONTROLS EXPERT DEALER

CONTROL PANEL SHALL CONFORM TO UL 508A STANDARDS

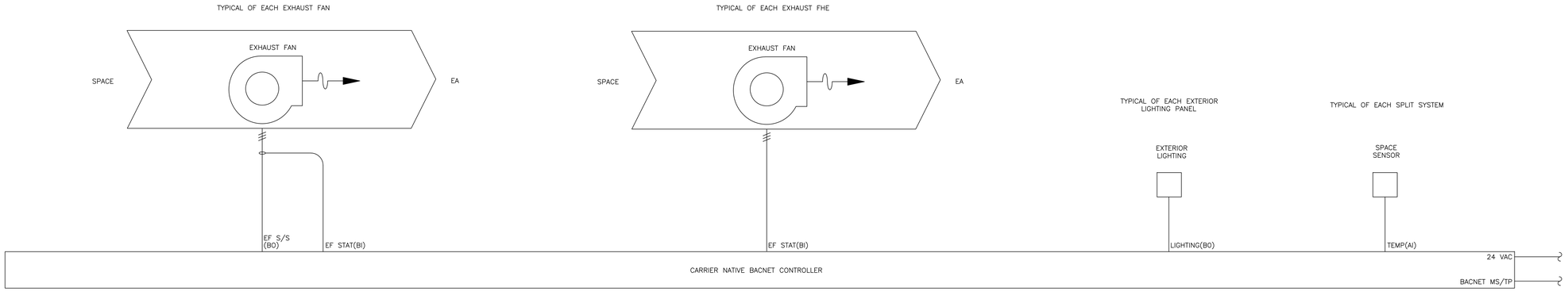
CONTROL PANEL DETAIL | 1 | NOT TO SCALE



CONTROLS PROVIDED AND INSTALLED BY CARRIER CONTROLS EXPERT DEALER

CONTROL PANEL SHALL CONFORM TO UL 508A STANDARDS

CONTROL PANEL DETAIL | 2 | NOT TO SCALE



CONTROLS PROVIDED AND INSTALLED BY CARRIER CONTROLS EXPERT DEALER

CONTROL PANEL SHALL CONFORM TO UL 508A STANDARDS

CONTROL PANEL DETAIL | 3 | NOT TO SCALE

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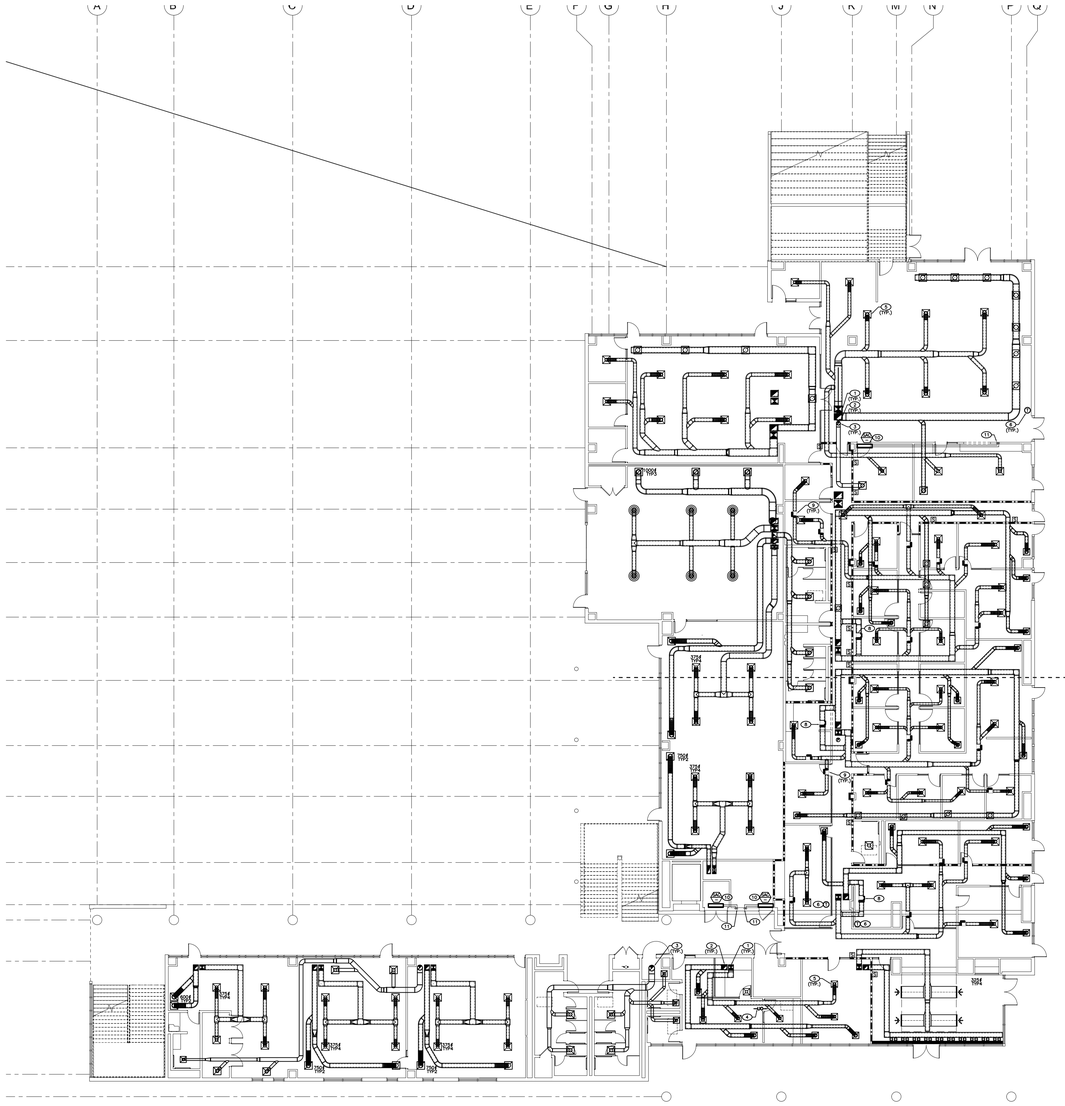
CONTROL PANEL DETAILS

SHEET NUMBER:

M0-2.1

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NORTH

MECHANICAL FIRST FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

PLAN NOTES

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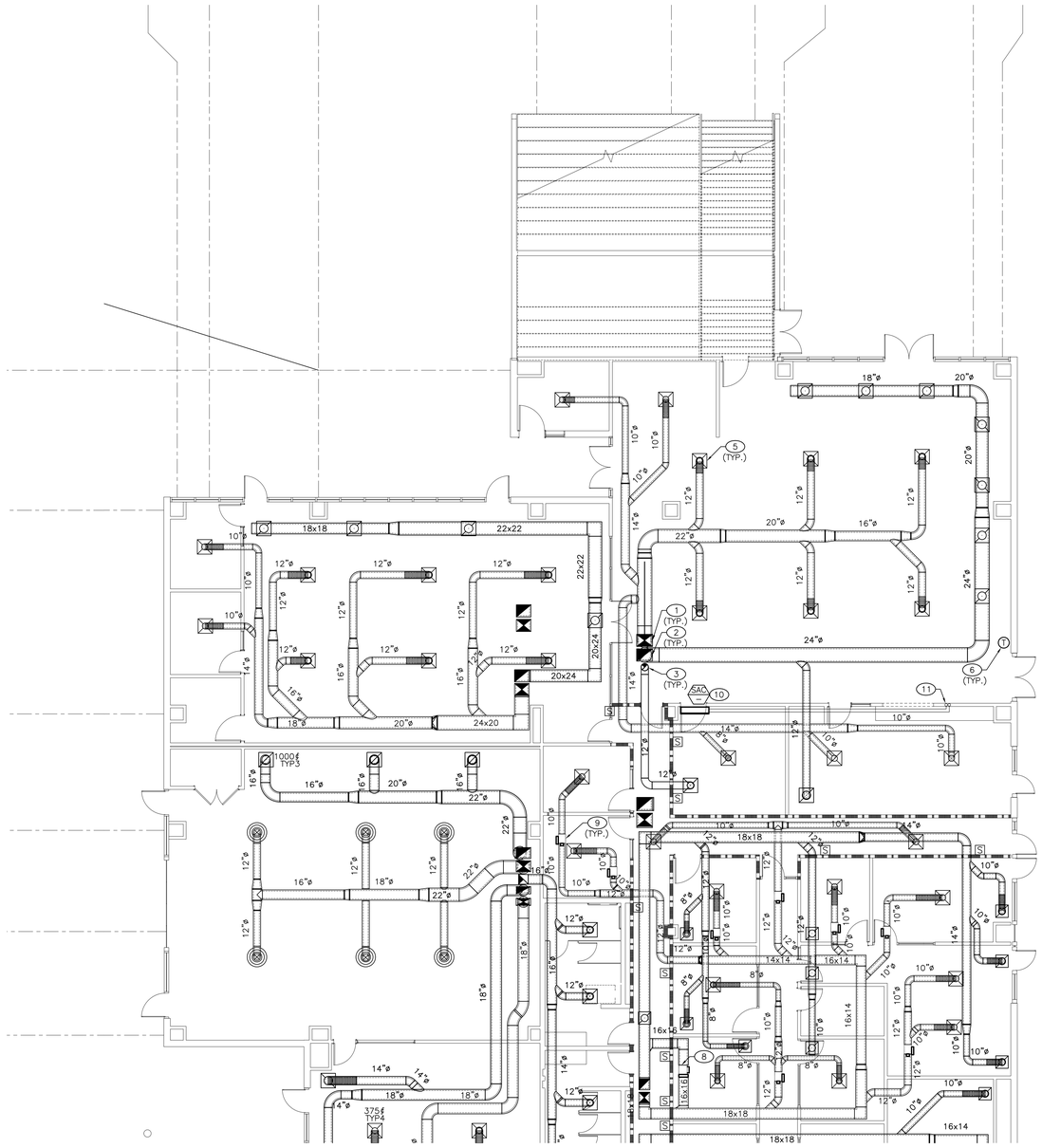
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M1-1.1

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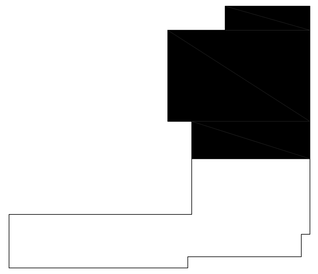
NORTH

MECHANICAL FIRST FLOOR PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

PLAN NOTES

1. – SA DUCT UP INSIDE SHAFT TO FLR. ABV.
2. – RA DUCT UP INSIDE SHAFT TO FLR. ABV.
3. – EA DUCT UP INSIDE SHAFT TO FLR. ABV.
4. – PROVIDE 1" DOOR UNDERCUT. CONTRACTOR TO COORDINATE WITH OTHER TRADES FOR INSTALLATION.
5. – RETURN/EXHAUST GRILLE WITH ACOUSTICALLY LINED PLENUM (TYPICAL ALL INSTANCES). SEE DETAIL X/XXXX FOR INSTALLATION REQUIREMENTS.
6. – THERMOSTAT AND CO2 SENSOR. INSTALL AT 44" ABOVE FINISH FLOOR. COORDINATE LOCATION OF SENSOR WITH ARCHITECT PRIOR TO INSTALLATION.
7. – PROVIDE COMBINATION SMOKE FIRE DAMPER (TYPICAL). COMBINATION SMOKE FIRE DAMPER SHALL BE STATE FIRE MARSHAL APPROVED, UL LISTED, AND INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WHICH SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITY. SEE DETAIL X/XXXX FOR ADDITIONAL REQUIREMENTS. TYPICAL TO ALL INSTANCES.
8. – BYPASS DAMPER.
9. – ZONE DAMPER COMPLETE WITH ASSOCIATED SLAVE THERMOSTAT.
10. – HIGH WALL MOUNTED INDOOR SAC UNIT. SEE SCHEDULE AND DETAIL X & X/MXXX FOR ADDITIONAL INFORMATION.
11. – FULLY INSULATED REFRIGERANT LINES FROM INDOOR UNIT UP TO OUTDOOR UNIT ON ROOF. SEE SCHEDULE AND DETAIL X/MXXX FOR ADDITIONAL INFORMATION.

KEY PLAN



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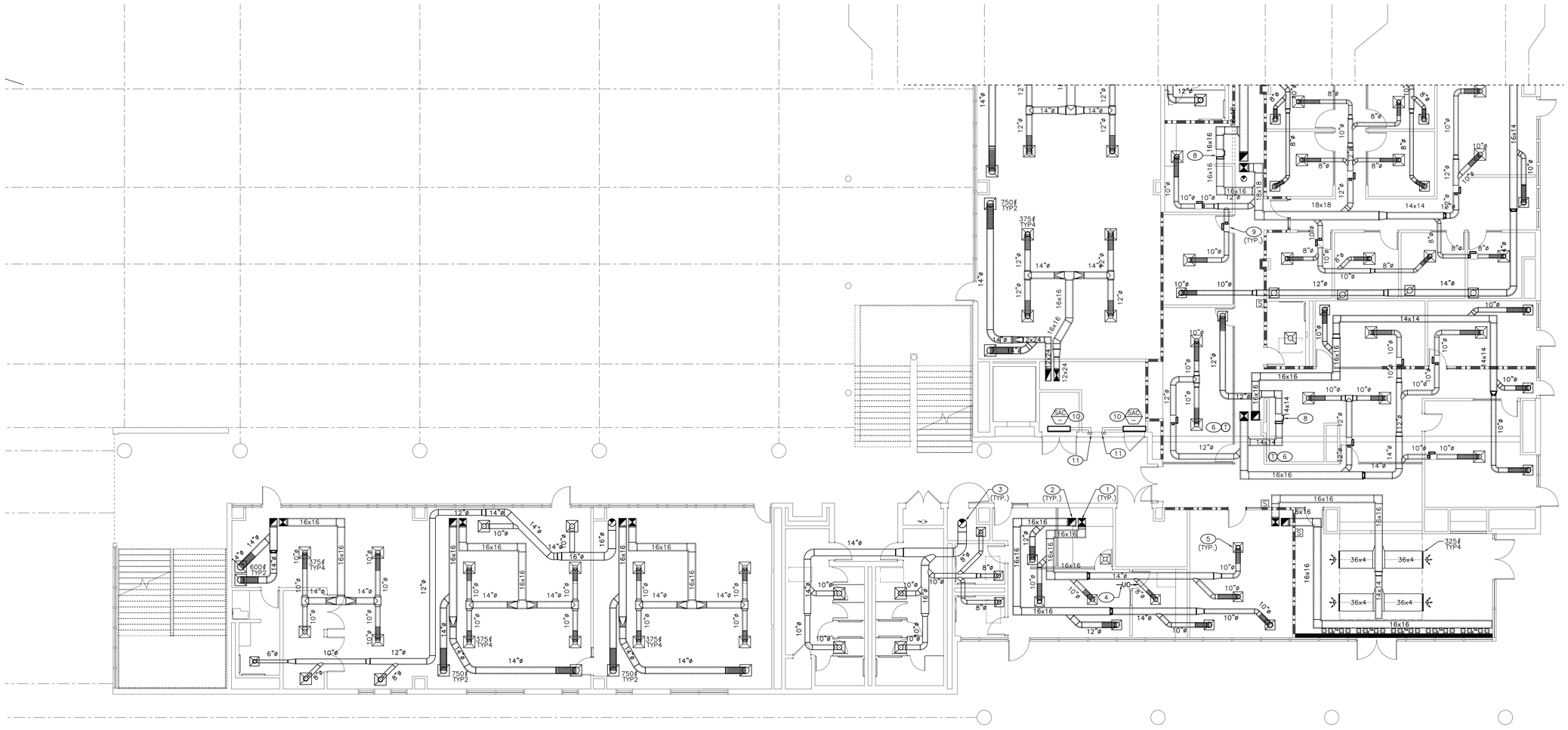
REGISTRATION/SIGNATURE:

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MECHANICAL FIRST FLOOR PLAN - PARTIAL NORTH

SHEET NUMBER:
M1-1.1.1

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MECHANICAL FIRST FLOOR PLAN - PARTIAL SOUTH

1
1/8" = 1'-0"

PLAN NOTES

1.– SA DUCT UP INSIDE SHAFT TO FLR. ABV.

2.– RA DUCT UP INSIDE SHAFT TO FLR. ABV.

3.– EA DUCT UP INSIDE SHAFT TO FLR. ABV.

4.– PROVIDE 1" DOOR UNDERCUT. CONTRACTOR TO COORDINATE WITH OTHER TRADES FOR INSTALLATION.

5.– RETURN/EXHAUST GRILLE WITH ACOUSTICALLY LINED PLENUM (TYPICAL ALL INSTANCES). SEE DETAIL X/XXXX FOR INSTALLATION REQUIREMENTS.

6.– THERMOSTAT AND CO2 SENSOR. INSTALL AT 44" ABOVE FINISH FLOOR. COORDINATE LOCATION OF SENSOR WITH ARCHITECT PRIOR TO INSTALLATION.

7.– PROVIDE COMBINATION SMOKE FIRE DAMPER (TYPICAL). COMBINATION SMOKE FIRE DAMPER SHALL BE STATE FIRE MARSHAL APPROVED, UL LISTED, AND INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WHICH SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITY. SEE DETAIL X/XXXX FOR ADDITIONAL REQUIREMENTS. TYPICAL TO ALL INSTANCES.

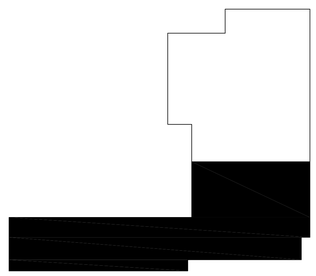
8.– BYPASS DAMPER.

9.– ZONE DAMPER COMPLETE WITH ASSOCIATED SLAVE THERMOSTAT.

10.– HIGH WALL MOUNTED INDOOR SAC UNIT. SEE SCHEDULE AND DETAIL X & X/MXXX FOR ADDITIONAL INFORMATION.

11.– FULLY INSULATED REFRIGERANT LINES FROM INDOOR UNIT UP TO OUTDOOR UNIT ON ROOF. SEE SCHEDULE AND DETAIL X/MXXX FOR ADDITIONAL INFORMATION.

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REGISTRATION/SIGNATURE:

SHEET TITLE:
MECHANICAL FIRST FLOOR PLAN - PARTIAL SOUTH

SHEET NUMBER:
M1-1.1.2

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NORTH

MECHANICAL SECOND FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

PLAN NOTES

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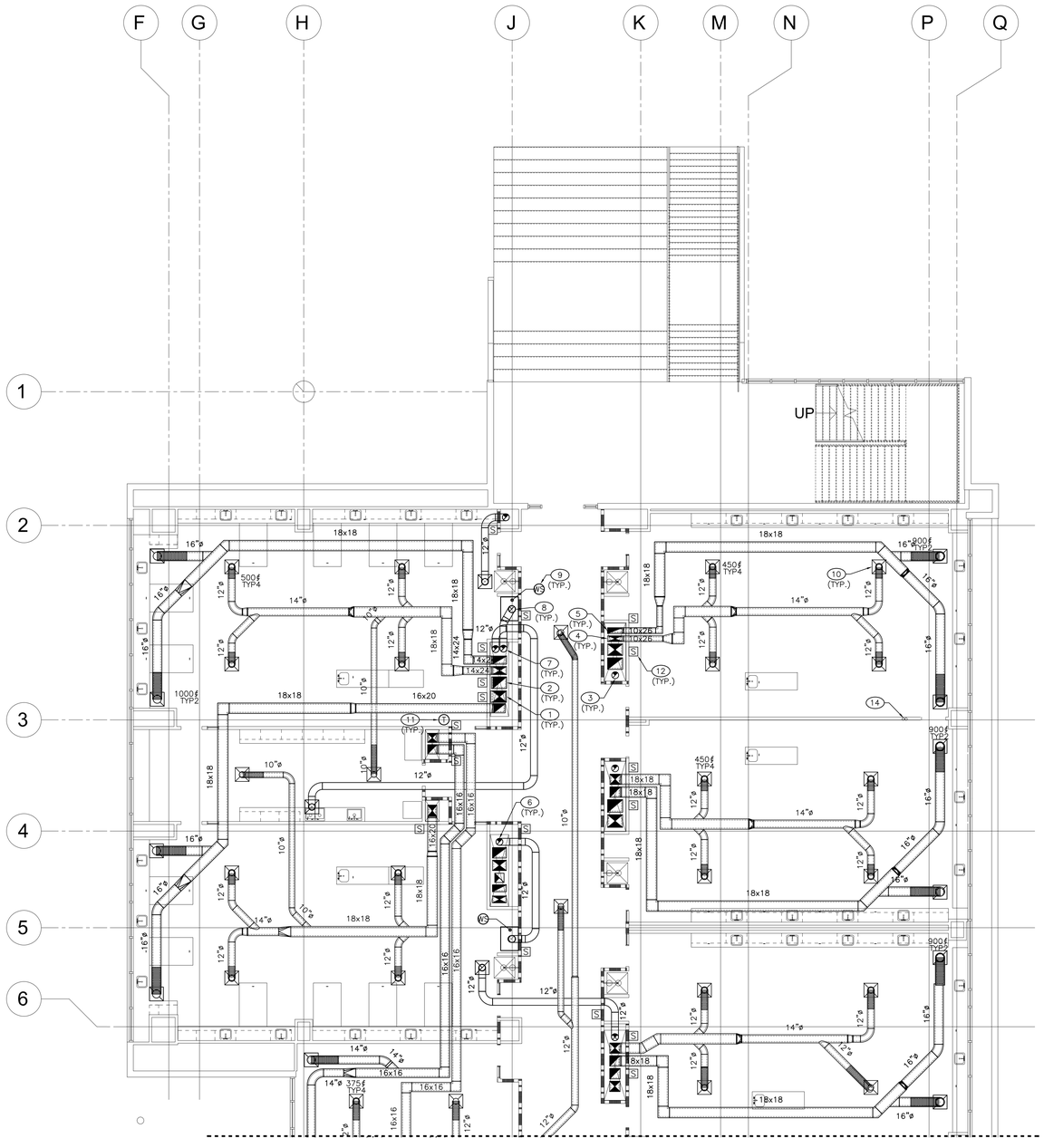
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SHEET TITLE:
MECHANICAL SECOND FLOOR PLAN - OVERALL

SHEET NUMBER:
M1-1.2

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NORTH

MECHANICAL SECOND FLOOR PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

PLAN NOTES

1.– SA DUCT UP AND DN. INSIDE SHAFT TO FLR. ABV. AND FLR. BEL.

2.– RA DUCT UP AND DN. INSIDE SHAFT TO FLR. ABV. AND FLR. BEL.

3.– EA DUCT UP AND DN. INSIDE SHAFT TO FLR. ABV. AND FLR. BEL.

4.– SA DUCT UP INSIDE SHAFT TO FLR. ABV.

5.– RA DUCT UP INSIDE SHAFT TO FLR. ABV.

6.– EA DUCT UP INSIDE SHAFT TO FLR. ABV.

7.– 12"ø FULLY WELDED TYPE 316 STAINLESS STEEL FUME HOOD EXHAUST AIR DUCT UP INSIDE SHAFT TO FLR. ABV.

8.– 12"ø FULLY WELDED TYPE 316 STAINLESS STEEL FUME HOOD EXHAUST AIR DUCT DOWN AND CONNECT TO FUME HOOD DUCT COLLAR.

9.– FUME HOOD ON/OFF WALL SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECTURAL FURNITURE LAYOUT. INTERLOCK BASED WITH NOTED EQUIPMENT FAN OPERATION. SEE INTERLOCK SCHEDULE FOR ADDITIONAL INFORMATION.

10.– RETURN/EXHAUST GRILLE WITH ACOUSTICALLY LINED PLENUM (TYPICAL ALL INSTANCES). SEE DETAIL X/XXXX FOR INSTALLATION REQUIREMENTS.

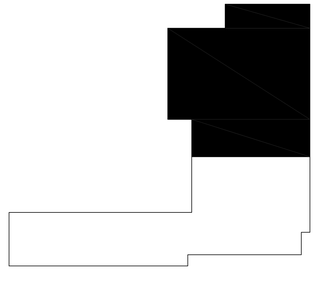
11.– THERMOSTAT AND CO2 SENSOR. INSTALL AT 44" ABOVE FINISH FLOOR. COORDINATE LOCATION OF SENSOR WITH ARCHITECT PRIOR TO INSTALLATION.

12.– PROVIDE COMBINATION SMOKE FIRE DAMPER (TYPICAL). COMBINATION SMOKE FIRE DAMPER SHALL BE STATE FIRE MARSHAL APPROVED, UL LISTED, AND INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WHICH SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITY. SEE DETAIL X/XXXX FOR ADDITIONAL REQUIREMENTS. TYPICAL TO ALL INSTANCES.

13.– HIGH WALL MOUNTED INDOOR SAC UNIT. SEE SCHEDULE AND DETAIL X & 7/MXXX FOR ADDITIONAL INFORMATION.

14.– FULLY INSULATED REFRIGERANT LINES FROM INDOOR UNIT UP TO OUTDOOR UNIT ON ROOF. SEE SCHEDULE AND DETAIL X/MXXX FOR ADDITIONAL INFORMATION.

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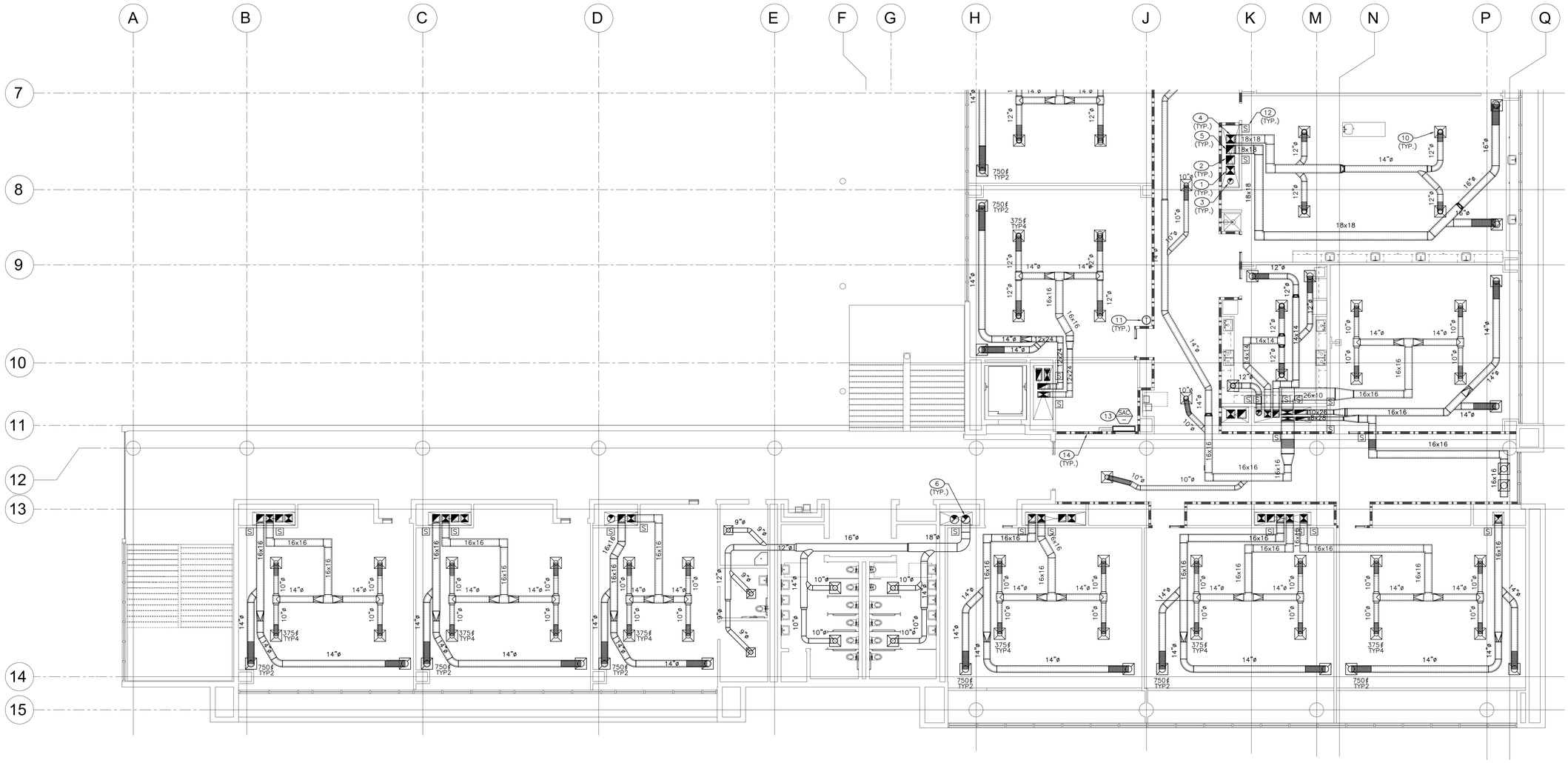
REGISTRATION/SIGNATURE:

SHEET TITLE:
MECHANICAL SECOND FLOOR PLAN - PARTIAL NORTH

SHEET NUMBER:
M1-1.2.1

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MECHANICAL SECOND FLOOR PLAN - PARTIAL SOUTH

1
1/8" = 1'-0"

PLAN NOTES

1.– SA DUCT UP AND DN. INSIDE SHAFT TO FLR. ABV. AND FLR. BEL.

2.– RA DUCT UP AND DN. INSIDE SHAFT TO FLR. ABV. AND FLR. BEL.

3.– EA DUCT UP AND DN. INSIDE SHAFT TO FLR. ABV. AND FLR. BEL.

4.– SA DUCT UP INSIDE SHAFT TO FLR. ABV.

5.– RA DUCT UP INSIDE SHAFT TO FLR. ABV.

6.– EA DUCT UP INSIDE SHAFT TO FLR. ABV.

7.– 12"ø FULLY WELDED TYPE 316 STAINLESS STEEL FUME HOOD EXHAUST AIR DUCT UP INSIDE SHAFT TO FLR. ABV.

8.– 12"ø FULLY WELDED TYPE 316 STAINLESS STEEL FUME HOOD EXHAUST AIR DUCT DOWN AND CONNECT TO FUME HOOD DUCT COLLAR.

9.– FUME HOOD ON/OFF WALL SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECTURAL FURNITURE LAYOUT. INTERLOCK BASED WITH NOTED EQUIPMENT FAN OPERATION. SEE INTERLOCK SCHEDULE FOR ADDITIONAL INFORMATION.

10.– RETURN/EXHAUST GRILLE WITH ACOUSTICALLY LINED PLENUM (TYPICAL ALL INSTANCES). SEE DETAIL X/XXXX FOR INSTALLATION REQUIREMENTS.

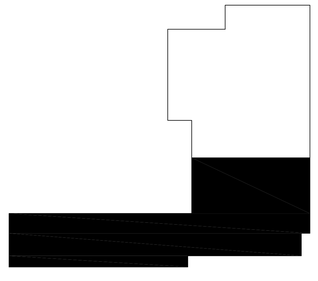
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13.– HIGH WALL MOUNTED INDOOR SAC UNIT. SEE SCHEDULE AND DETAIL X & X/MXXX FOR ADDITIONAL INFORMATION.

14.– FULLY INSULATED REFRIGERANT LINES FROM INDOOR UNIT UP TO OUTDOOR UNIT ON ROOF. SEE SCHEDULE AND DETAIL X/MXXX FOR ADDITIONAL INFORMATION.

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SHEET NUMBER:
M1-1.2.2

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NORTH

MECHANICAL THIRD FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

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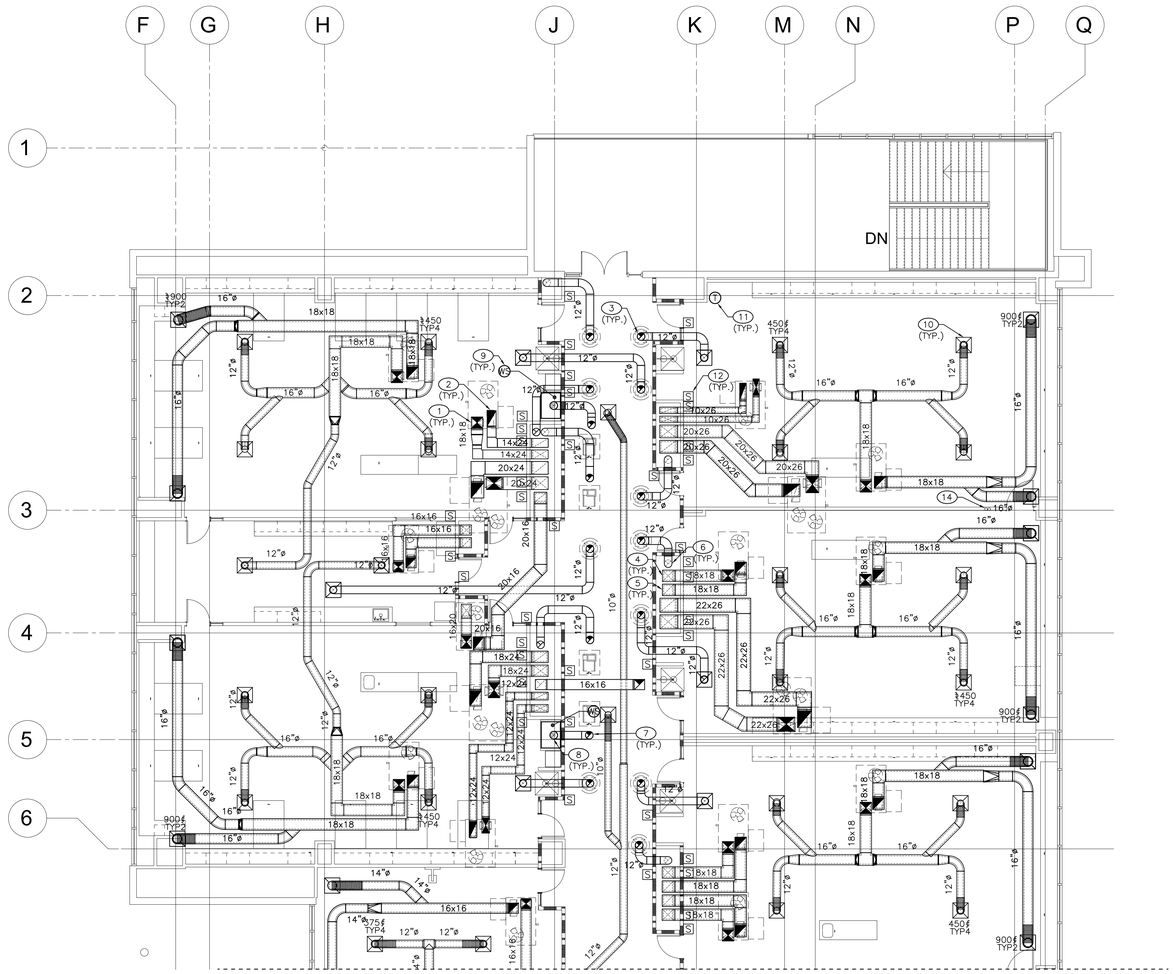
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SHEET TITLE:
MECHANICAL THIRD FLOOR PLAN - OVERALL

SHEET NUMBER:
M1-1.3

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NORTH

MECHANICAL THIRD FLOOR PLAN - PARTIAL NORTH | 1

1/8" = 1'-0"

PLAN NOTES

1.– SA DUCT UP AND TRANSITION IN RISE TO UNIT SA OPENING SIZE AND UP THRU ROOF TO AC UNIT ON ROOF. SEE DETAIL X/XXXX AND FOR ADDITIONAL INFORMATION.

2.– RA DUCT UP AND TRANSITION IN RISE TO UNIT SA OPENING SIZE AND UP THRU ROOF TO AC UNIT ON ROOF. SEE DETAIL X/XXXX AND FOR ADDITIONAL INFORMATION.

3.– EA DUCT UP AND TRANSITION IN RISE TO EF UNIT OPENING SIZE AND UP THRU ROOF TO EF UNIT ON ROOF.

4.– SA DUCT DN. INSIDE SHAFT TO FLR. BEL.

5.– RA DUCT DN. INSIDE SHAFT TO FLR. BEL.

6.– EA DUCT DN. INSIDE SHAFT TO FLR. BEL.

7.– 12 ø FULLY WELDED 316 STAINLESS STEEL FUME HOOD EXHAUST AIR DUCT UP THRU ROOF TO FHE–01 ON ROOF. FOR ADDITIONAL INFORMATION SEE DETAIL X/XXXX AND FUME HOOD EXHAUST FAN SCHEDULE ON SHEET XXXX.

8.– 12 ø FULLY WELDED TYPE 316 STAINLESS STEEL FUME HOOD EXHAUST AIR DUCT DOWN AND CONNECT TO FUME HOOD DUCT COLLAR.

9.– FUME HOOD ON/OFF WALL SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECTURAL FURNITURE LAYOUT. INTERLOCK BASED WITH NOTED EQUIPMENT FAN OPERATION. SEE INTERLOCK SCHEDULE FOR ADDITIONAL INFORMATION.

10.– RETURN/EXHAUST GRILLE WITH ACOUSTICALLY LINED PLENUM (TYPICAL ALL INSTANCES). SEE DETAIL X/XXXX FOR INSTALLATION REQUIREMENTS.

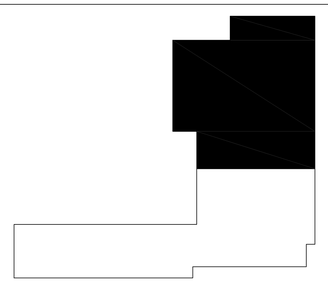
11.– THERMOSTAT AND CO2 SENSOR. INSTALL AT 44" ABOVE FINISH FLOOR. COORDINATE LOCATION OF SENSOR WITH ARCHITECT PRIOR TO INSTALLATION.

12.– PROVIDE COMBINATION SMOKE FIRE DAMPER (TYPICAL). COMBINATION SMOKE FIRE DAMPER SHALL BE STATE FIRE MARSHAL APPROVED, UL LISTED, AND INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WHICH SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITY. SEE DETAIL X/XXXX FOR ADDITIONAL REQUIREMENTS. TYPICAL TO ALL INSTANCES.

13.– HIGH WALL MOUNTED INDOOR SAC UNIT. SEE SCHEDULE AND DETAIL X & X/MXXX FOR ADDITIONAL INFORMATION.

14.– FULLY INSULATED REFRIGERANT LINES FROM INDOOR UNIT UP TO OUTDOOR UNIT ON ROOF. SEE SCHEDULE AND DETAIL X/MXXX FOR ADDITIONAL INFORMATION.

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Los Alamitos Unified School District

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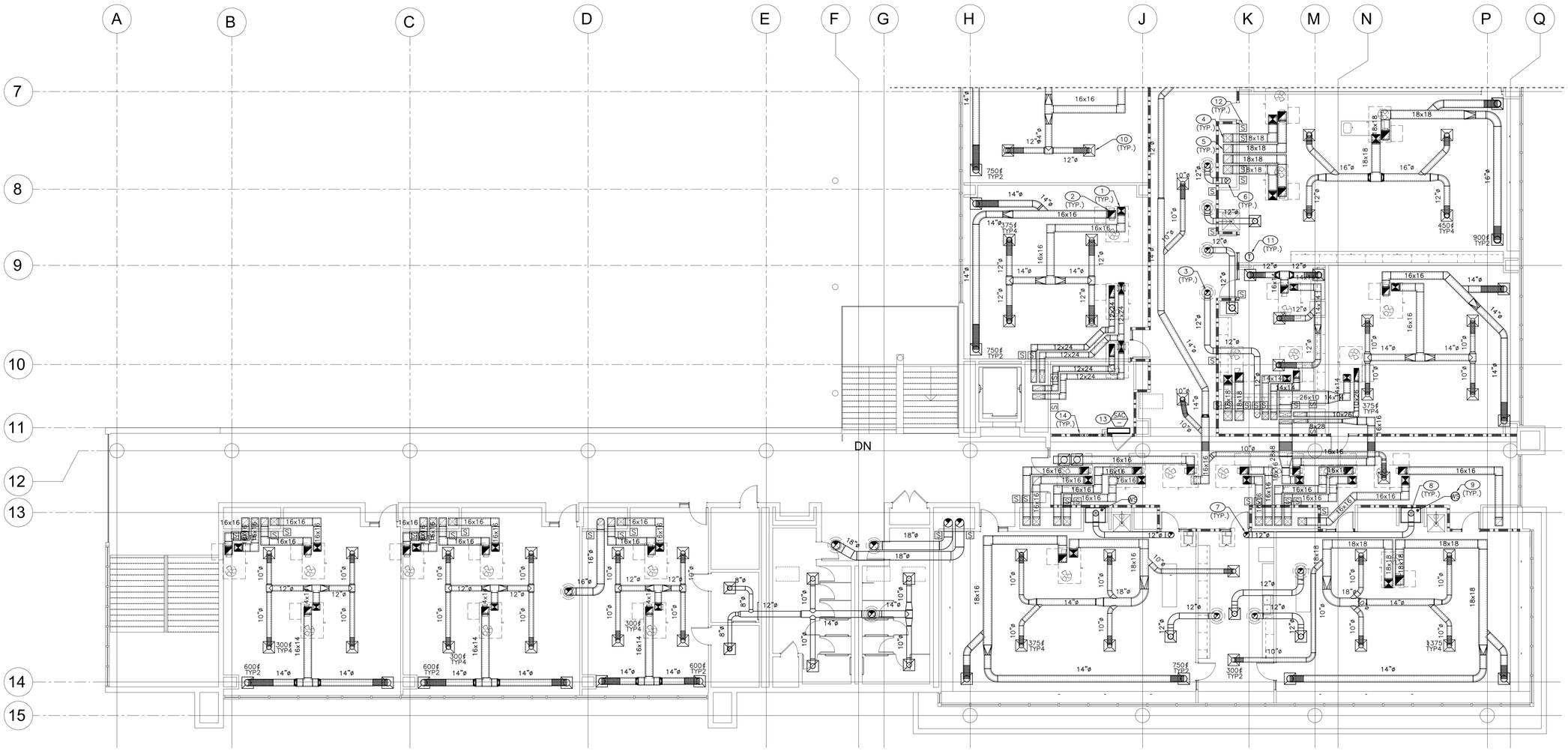
REGISTRATION/SIGNATURE:

SHEET TITLE:
MECHANICAL THIRD FLOOR PLAN - PARTIAL NORTH

SHEET NUMBER:
M1-1.3.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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NORTH

MECHANICAL THIRD FLOOR PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

PLAN NOTES

1.– SA DUCT UP AND TRANSITION IN RISE TO UNIT SA OPENING SIZE AND UP THRU ROOF TO AC UNIT ON ROOF. SEE DETAIL X/XXXX AND FOR ADDITIONAL INFORMATION.

2.– RA DUCT UP AND TRANSITION IN RISE TO UNIT SA OPENING SIZE AND UP THRU ROOF TO AC UNIT ON ROOF. SEE DETAIL X/XXXX AND FOR ADDITIONAL INFORMATION.

3.– EA DUCT UP AND TRANSITION IN RISE TO EF UNIT OPENING SIZE AND UP THRU ROOF TO EF UNIT ON ROOF.

4.– SA DUCT DN. INSIDE SHAFT TO FLR. BEL.

5.– RA DUCT DN. INSIDE SHAFT TO FLR. BEL.

6.– EA DUCT DN. INSIDE SHAFT TO FLR. BEL.

7.– 12 ø FULLY WELDED 316 STAINLESS STEEL FUME HOOD EXHAUST AIR DUCT UP THRU ROOF TO FHE–01 ON ROOF. FOR ADDITIONAL INFORMATION SEE DETAIL X/XXXX AND FUME HOOD EXHAUST FAN SCHEDULE ON SHEET XXXX.

8.– 12 ø FULLY WELDED TYPE 316 STAINLESS STEEL FUME HOOD EXHAUST AIR DUCT DOWN AND CONNECT TO FUME HOOD DUCT COLLAR.

9.– FUME HOOD ON/OFF WALL SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECTURAL FURNITURE LAYOUT. INTERLOCK BASED WITH NOTED EQUIPMENT FAN OPERATION. SEE INTERLOCK SCHEDULE FOR ADDITIONAL INFORMATION.

10.– RETURN/EXHAUST GRILLE WITH ACOUSTICALLY LINED PLENUM (TYPICAL ALL INSTANCES). SEE DETAIL X/XXXX FOR INSTALLATION REQUIREMENTS.

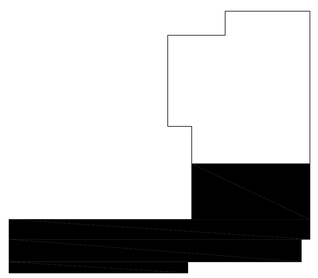
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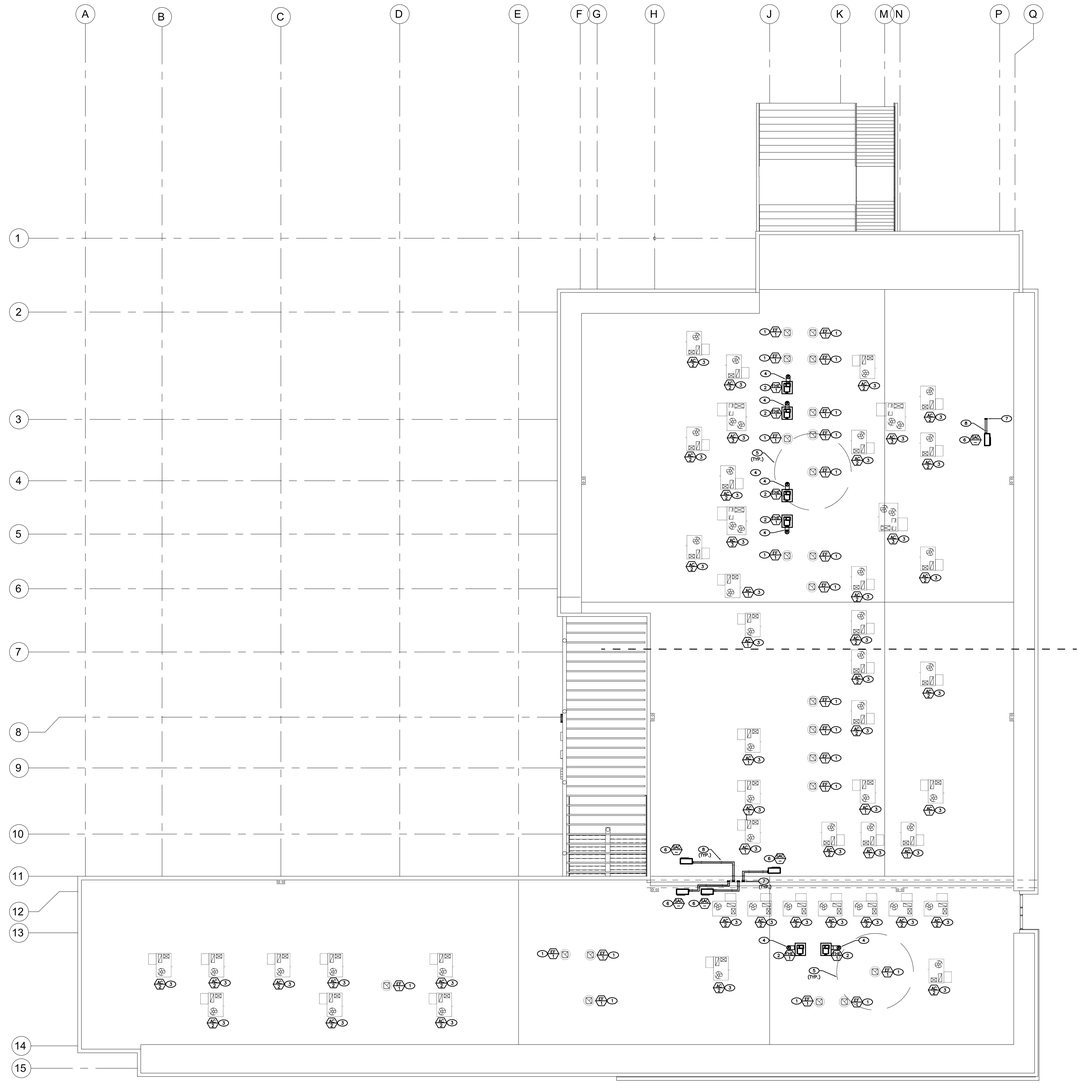
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MECHANICAL THIRD FLOOR PLAN - PARTIAL SOUTH

SHEET NUMBER:
M1-1.3.2

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NORTH

MECHANICAL ROOF PLAN - OVERALL | 1 | 1/16" = 1'-0"

PLAN NOTES

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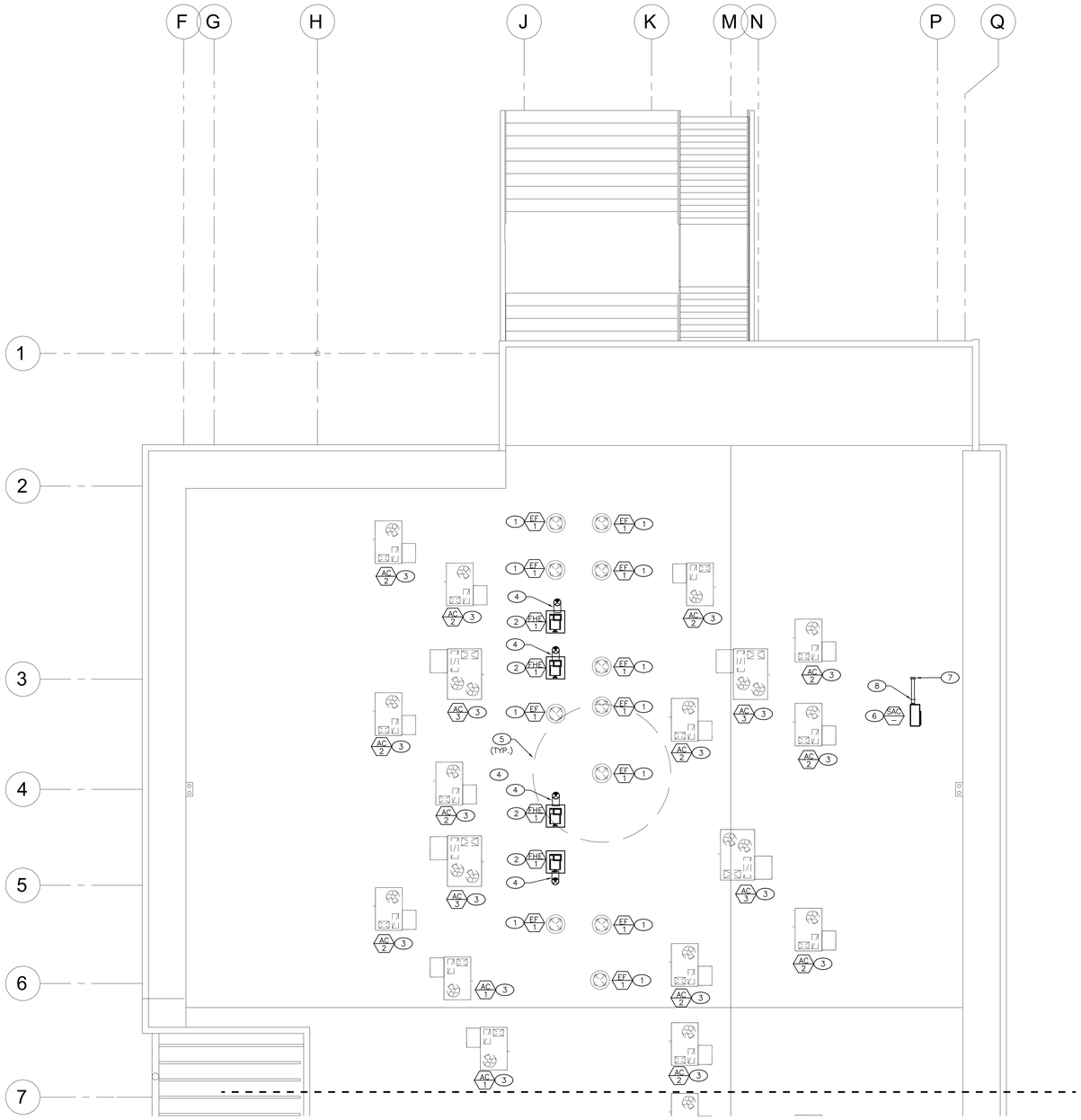
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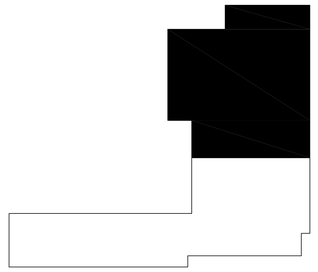
NORTH

MECHANICAL ROOF PLAN - PARTIAL NORTH | 1 | 1/8" = 1'-0"

PLAN NOTES

1. – ROOF MOUNTED EXHAUST FAN. SEE SCHEDULE AND DETAIL X/XXXX FOR ADDITIONAL INFORMATION.
2. – FUME HOOD EXHAUST FAN. SEE SCHEDULE AND DETAIL X/XXXX FOR ADDITIONAL INFORMATION.
3. – PACKAGED ROOFTOP AIR CONDITIONER UNIT. SEE SCHEDULE AND DETAIL X/XXXX FOR ADDITIONAL INFORMATION.
4. – 12"ø FULLY WELDED 316 STAINLESS STEEL EXHAUST AIR DUCT UP THRU ROOF AND CONNECT TO FUME HOOD EXHAUST FAN. SEE DETAIL X/XXXX FOR ADDITIONAL INFORMATION.
5. – ALL EXHAUST FANS TO MAINTAIN A 10'–0" MIN. CLEARANCE FROM ALL OUTSIDE AIR INTAKE (TYP.).
6. – SAC OUTDOOR UNIT. SEE SCHEDUL AND DETAIL X & X/MXXX FOR ADDITIONAL INFORMATION.
7. – FULLY INSULATED REFRIGERANT LINES DOWN THRU ROOF TO SAC INDOOR UNIT. SEE DETAIL X/MXXX & X/MXXX FOR ADDITIONAL INFORMATION.
8. – REFRIGERANT PIPE SUPPORT EQUAL TO ERICO PYRAMID SERIES. PROVIDE EVERY 6'–0" O.C. (TYP.).

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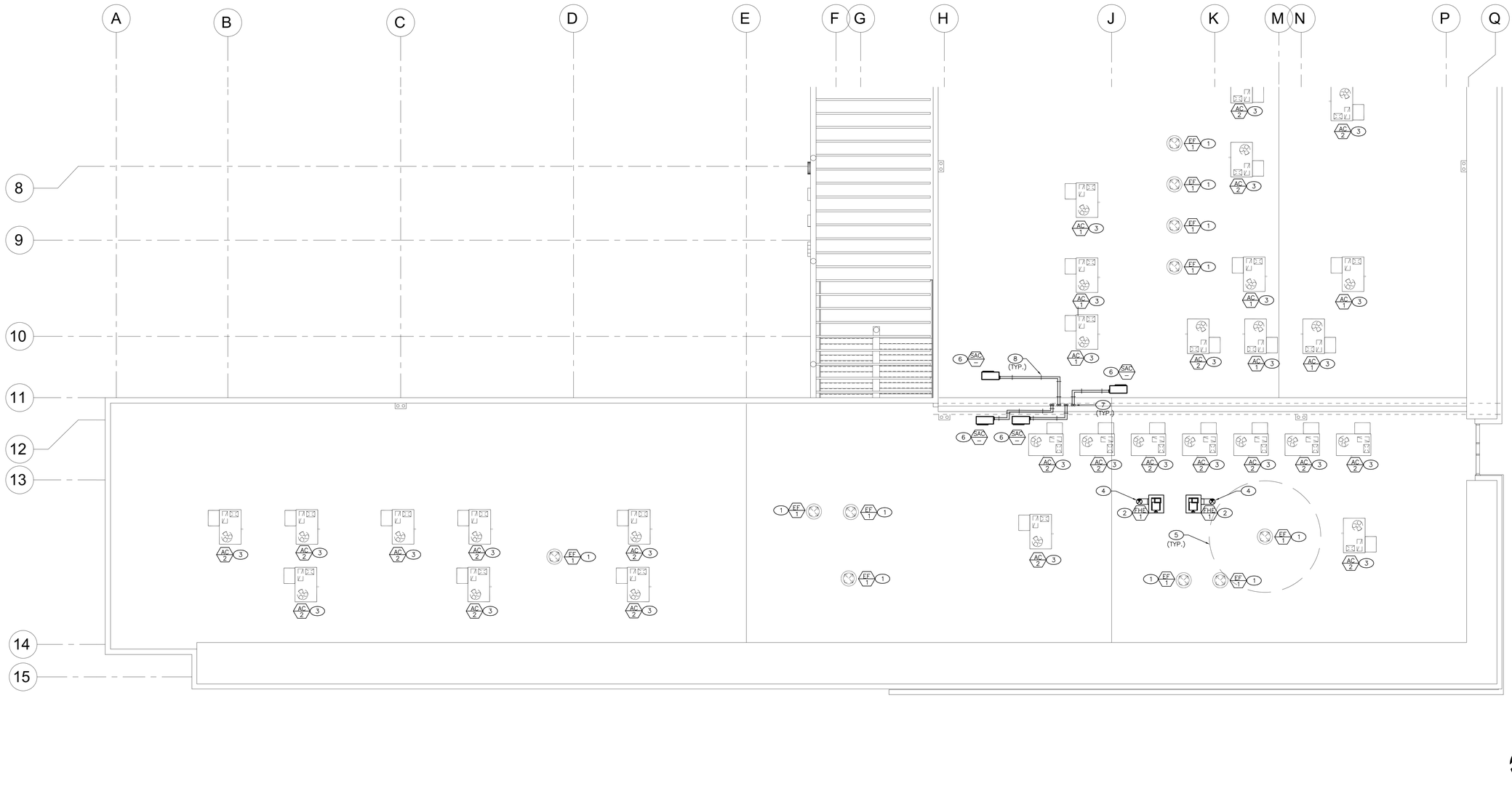
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MECHANICAL ROOF PLAN - PARTIAL NORTH

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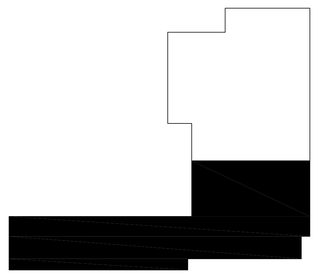
NORTH

MECHANICAL ROOF PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

PLAN NOTES

1. – ROOF MOUNTED EXHAUST FAN. SEE SCHEDULE AND DETAIL X/XXXX FOR ADDITIONAL INFORMATION.
2. – FUME HOOD EXHAUST FAN. SEE SCHEDULE AND DETAIL X/XXXX FOR ADDITIONAL INFORMATION.
3. – PACKAGED ROOFTOP AIR CONDITIONER UNIT. SEE SCHEDULE AND DETAIL X/XXXX FOR ADDITIONAL INFORMATION.
4. – 12"ø FULLY WELDED 316 STAINLESS STEEL EXHAUST AIR DUCT UP THRU ROOF AND CONNECT TO FUME HOOD EXHAUST FAN. SEE DETAIL X/XXXX FOR ADDITIONAL INFORMATION.
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GENERAL NOTES

1. THE ELECTRICAL CONTRACTOR (EC) SHALL INCLUDE AND PROVIDE IN BID ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE AND OPERATIONAL INSTALLATION OF ALL ELECTRICAL SYSTEMS.
2. EC SHALL COORDINATE AND OBTAIN ALL APPROVALS, PERMITS, AND DOCUMENTS FROM REGULATORY AGENCIES AND UTILITY COMPANIES.
3. ALL CONDUIT RACEWAY SYSTEMS ARE TO BE INSTALLED AS FOLLOWS:
    a. RIGID GALVANIZED STEEL IS TO BE INSTALLED IN ALL AREAS WHICH ARE EXPOSED TO WEATHER AND/OR PHYSICAL DAMAGE.
    b. FLEXIBLE METALLIC CONDUIT I S PERMITTED FOR SHORT CONNECTIONS TO LIGHT FIXTURES (6'-0" MAX). FLEXIBLE CONDUIT SHALL ALSO BE INSTALLED FOR EQUIPMENT REQUIRING VIBRATION ISOLATION AND HORIZONTAL RUNS IN WOODEN STUD WALLS.
    c. ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION TYPE FITTINGS SHALL BE USED FOR BUILDING INTERIOR WORK.
    d. P.V.C. CONDUIT SHALL BE USED FOR UNDERGROUND CONDUITS. ROUTE CODE SIZED GROUND WIRE INSIDE OF CONDUIT. CONDUIT RISERS AND STUBS ABOVE GRADE SHALL BE I.M.C. WITH HALF-LAPPED TAPE COVERING OR P.V.C. COATING.
4. UNLESS OTHERWISE NOTED OR REFERENCED ON THE DRAWINGS ALL NEW ELECTRICAL WIRING IS TO BE 600V RATED COPPER WITH TYPE "THHN/THWN" INSULATION.
5. ALL MOUNTING HEIGHTS REFERENCED ON DRAWINGS ARE MEASURED FROM FINISHED FLOOR UNLESS OTHERWISE REFERENCED OR INDICATED ON THE DRAWINGS.
6. ALL ELECTRICAL EQUIPMENT LOCATIONS (LIGHTING, RECEPTACLE, FLOOR BOX, ETC.) ARE TO BE VERIFIED WITH THE ARCHITECT AND/OR EQUIPMENT SUPPLIER PRIOR TO BEGINNING ANY ROUGH-IN.
7. ALL LIGHTING FIXTURES SHALL BE MOUNTED AND SUPPORTED IN ACCORDANCE WITH OSHA STANDARDS, AND ALL STATE, LOCAL, SEISMIC, AND NATIONAL ELECTRIC CODES.
8. THE DRAWINGS INCLUDED IN THIS DOCUMENT SET ARE DIAGRAMMATIC. THEY ARE REPRESENTATIVE OF THE ENGINEER OF RECORDS DESIGN INTENT FOR ALL ELECTRICAL DEVICES/EQUIPMENT AND THE INDIVIDUAL POWER FEEDS THEY ARE TO BE CONNECTED TO. THE SELECTED EC SHALL BE RESPONSIBLE FOR PROVIDING ALL J-BOXES, CONDUIT, WIRING/ CABLING, ETC. AS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL INSTALLATION.
9. ALL ELECTRICAL EQUIPMENT (PANELS, RECEPTACLES, J-BOXES, ETC.) SHALL BE WEATHERPROOF AND/OR INSTALLED IN A NEMA 3R ENCLOSURE WHERE APPLICABLE OR INSTALLED OUTDOORS.
10. ALL ELECTRICAL WORK SHALL BE PERFORMED ACCORDING TO STATE, LOCAL, NATIONAL, AND DISTRICT STANDARDS AND CODES. COORDINATE SPECIFIC REQUIREMENTS WITH DISTRICT STANDARDS AND AUTHORITY HAVING JURISDICTION.
11. ALL ELECTRICAL EQUIPMENT SHALL BE NEW AND IS TO BE CLEARLY LABELED/IDENTIFIED AS UNDERWRITER LABORATORIES (UL) COMPLIANT UNLESS OTHERWISE NOTED OR REFERENCED IN THE DRAWINGS OR SPECIFICATIONS.
12. EC IS RESPONSIBLE FOR SECURING ALL REQUIRED BUILDING PERMITS AND SHALL INCLUDE THE COST TO SECURE BUILDING PERMITS IN THEIR FINAL BID.
13. UNLESS OTHERWISE WRITTEN, STATED, OR REFERENCED IN DRAWINGS OR SPECIFICATIONS CONTRACTOR SHALL GUARANTEE THE COMPLETE ELECTRICAL INSTALLATION FOR A PERIOD OF 1-YEAR.
14. ALL ELECTRICAL DISTRIBUTION EQUIPMENT (PANELS, DISTRIBUTION BOARDS, TRANSFORMERS, ETC), FEEDERS (CONDUIT, CONDUCTOR SIZE, AND QUANTITY), MECHANICAL EQUIPMENT, ELEVATORS, VARIABLE FREQUENCY DRIVES (VFD'S), ETC. MAY ONLY BE REFERENCED ON THE SINGLE-LINE DRAWING AND NOT INDIVIDUAL PLAN SHEETS. EC SHALL REVIEW AND VERIFY ALL REFERENCED INFORMATION ON THE SINGLE-LINE DRAWING.
15. EC SHALL BE RESPONSIBLE FOR ALL REQUIRED SAW-CUTTING, CORE DRILLING, PATCHING, REFINISHING, ETC. AS REQUIRED FOR INSTALLATION OF ELECTRICAL EQUIPMENT AND SYSTEMS. ANY PENETRATIONS OR OPENINGS MADE IN WALLS OR STRUCTURES SHALL BE PATCHED AND/OR SEALED AS REQUIRED TO MAINTAIN THE INTEGRITY AND/OR RATING OF THE WALL OR STRUCTURE.
16. EC SHALL VISIT THE SITE PRIOR TO SUBMISSION OF THEIR FINAL BID TO VERIFY ALL EXISTING SITE CONDITIONS WHICH MAY AFFECT THE COMPLETION OF THE ELECTRICAL INSTALLATION. ALL METHODS AND REQUIREMENTS FOR \ INSTALLATION SHALL BE DETERMINED PRIOR TO BID DATE. ELECTRICAL EC SHALL NOTIFY THE ENGINEER OF RECORD OF ANY REQUIRED MODIFICATIONS WHICH ARE NOT REFERENCED ON THESE ELECTRICAL PLANS. SUBMITTAL OF THE EC'S BID DEMONSTRATES THE CONTRACTOR'S AWARENESS OF ALL SITE CONDITIONS AND REQUIRED WORK TO BE PERFORMED.
17. ALL CEILINGS AND CEILING SYSTEMS AS A RULE ARE CONSIDERED TO BE INACCESSIBLE. ALL ELECTRICAL DEVICES AND EQUIPMENT INSTALLED ABOVE CEILINGS ARE TO BE MOUNTED IN A LOCATION WHICH IS ACCESSIBLE. IN SITUATIONS WHERE ELECTRICAL DEVICES AND EQUIPMENT MUST BE INSTALLED IN AN AREA WHICH IS INACCESSIBLE, EC SHALL INSTALL AN ADEQUATELY SIZED, CODE COMPLIANT ACCESS PANEL AS REQUIRED BY CURRENT CODES - LOCATION OF THE REQUIRED ACCESS PANEL SHALL BE COORDINATE WITH THE ARCHITECT AND INTERIOR DESIGNER PRIOR TO ROUGH-IN.
18. EC IS RESPONSIBLE FOR COMPLETING ALL FINAL ELECTRICAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT AND SHALL PROVIDE ALL MOTOR START SWITCHES, DISCONNECTS, ETC. AS REQUIRED.
19. ALL ELECTRICAL EQUIPMENT CONNECTIONS, MOUNTING LOCATIONS, ELECTRICAL REQUIREMENTS, ETC. ARE TO BE COORDINATED AND VERIFIED PRIOR TO COMMENCEMENT OF ELECTRICAL ROUGH-IN.
20. EC TO SUBMIT SHOP DRAWINGS FOR THE APPROVAL OF THE ELECTRICAL ENGINEER OF RECORD FOR ALL ELECTRICAL EQUIPMENT AND MATERIALS TO BE UTILIZED IN THE ELECTRICAL INSTALLATION. ALL APPROVALS BY THE ENGINEER OF RECORD MUST BE SECURED PRIOR TO COMPLETION OF ANY PURCHASE ORDERS OR ROUGH-IN WORK.
21. THESE ELECTRICAL DRAWINGS AND ASSOCIATED SPECIFICATIONS ARE TO BE CONSIDERED CONTRACT DOCUMENTS FOR AGENCY REVIEW/APROVAL AND EC BIDDING PURPOSES.
22. THE COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH NEC/CEC ARTICLE 250. ALL POWER AND LIGHTING CIRCUITS SHALL BE INSTALLED WITH A MINIMUM #12AWG CU GROUND WIRE UNLESS OTHERWISE NOTED OR REFERENCED.
23. EC TO PROVIDE ENGRAVED PHENOLIC NAMEPLATES ON ALL DISCONNECT SWITCHES, DISTRIBUTION EQUIPMENT, J-BOXES ETC. WITH METALLIC COVERS. SEE GENERAL NOTES ON SINGLE-LINE DIAGRAM FOR SPECIFIC INFORMATION REGARDING NAMEPLATE REQUIREMENTS.
24. ALL COVER PLATES FOR LIGHT SWITCHES AND OUTLETS SHALL BE STAINLESS STEEL WITH PANEL AND CIRCUIT ENGRAVED NAMEPLATES FOR THE FOLLOWING AREAS: ALL CLASSROOM/RECREATIONAL/THEATRICAL ETC. BUILDINGS ON ELEMENTARY SCHOOL/MIDDLE SCHOOL/HIGH SCHOOL/COLLEGE/UNIVERSITY CAMPUSES; AND IN RESTROOMS/LAB SPACES/HEALTHCARE FACILITIES/ABOVE COUNTER SPACES/KITCHENS/SHOP AREAS/ANY HIGH ABUSE AREAS/ETC IN ALL CIVIC/INSTITUTIONAL/HEALTHCARE/OFFICE-WORKSPACE ENVIRONMENTS - UNLESS OTHERWISE NOTED. PLASTIC COVER PLATES WITH THE APPROPRIATE COLOR SHALL BE PERMITTED IN ALL OTHER AREAS - UNLESS OTHERWISE NOTED. IN INSTANCES WHERE PLASTIC COVER PLATES ARE UTILIZED EC SHALL WALL MOUNT AN ENGRAVED PHENOLIC NAMEPLATE WITH THE PANEL AND CIRCUIT NUMBER DIRECTLY ABOVE THE DEVICE.
25. AT THE COMPLETION OF THE PROJECT THE EC SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF AS-BUILT ELECTRICAL DRAWINGS.
26. ANY AND ALL WORK THAT REQUIRES AN INTERRUPTION TO A BUILDING(S) ELECTRICAL SERVICE MUST BE COORDINATED WITH THE DISTRICT A MINIMUM OF 48 HOURS IN ADVANCE. ANY SERVICE DOWNTOWN SHALL NOT OCCUR DURING SCHOOL HOURS.
27. EC SHALL BE RESPONSIBLE FOR FOR ENSURING THAT ALL LOW VOLTAGE SYSTEMS ARE COMPATIBLE AND ARE COMPLETE AND OPERATIONAL.
28. EC SHALL PERMANENTLY TAG ALL CONDUCTORS IN EACH ELECTRICAL AND LOW VOLTAGE SYSTEM AS REFERENCED IN THE SPECIFICATIONS.
29. ANY SURFACE MOUNTED EXPOSED CONDUIT IN VIEW OF THE PUBLIC SHALL BE PAINTED TO MATCH THE FINISH OF THE SURFACE TO WHICH IT IS MOUNTED WITH TWO (2) COATS OF PAINT. ALL EXTERIOR SURFACE MOUNTED EXPOSED CONDUITS ARE TO BE PAINTED WITH TWO (2) COATS OF WEATHERPROOF LATEX PAINT.
30. EC TO PROVIDE ALL CONDUIT ONLY (C.O.) INFRASTRUCTURE WITH A 3/16" NYLON PULL ROPE. LABEL PULL ROPE AT EACH END WITH THE LOCATIONS OF ORIGIN AND TERMINATION.
31. IN INSTANCES WHERE A CONFLICT BETWEEN THE ELECTRICAL DRAWINGS AND THE SPECIFICATIONS FOR THE PROJECT EXISTS, THE EC SHALL ADHERE TO THE MORE STRINGENT REQUIREMENT.
32. THE SEISMIC ANCHORAGE OF ELECTRICAL EQUIPMENT SHALL CONFORM TO C.C.R. TITLE 24, 2007 CBC SECTION 1613A AND ASCE7-05 SECTION 13.3 THRU 13.6. ANCHORAGE DETAILS NOT SHOWN ON THE APPROVED PLANS OR OTHERWISE APPROVED BY DSA ARE SUBJECT TO FIELD APPROVAL BY THE ARCHITECT AND/OR STRUCTURAL ENGINEER OF RECORD AND DSA.
33. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. AS SUCH, ALL ELECTRICAL EQUIPMENT LOCATIONS, CONDUIT ROUTING, ETC. ARE NOT PRECISE AND SHALL BE COORDINATED, VERIFIED, AND DETERMINED IN THE FIELD. EC TO INSTALL ALL ELECTRICAL EQUIPMENT AND ROUTE ALL CONDUITS IN LOCATIONS WHICH MEET CODE REQUIREMENTS FOR ACCESSIBILITY/MOUNTING AND DO NOT INTERFERE WITH ANY BUILDING STRUCTURES, UTILITIES, OR OTHER TRADE EQUIPMENT.
34. ALL EXISTING SITE RELATED ELECTRICAL EQUIPMENT (I.E. UNDERGROUND UTILITIES, DUCTS, STRUCTURES, PULL BOXES, ETC.) LOCATIONS ARE DIAGRAMMATIC IN NATURE AND ONLY REFLECT APPROXIMATE LOCATIONS, QUANTITIES, AND/OR ROUTING INFORMATION. ALL REFERENCED INFORMATION HAS EITHER BEEN SURVEYED, REPORTED BY THE OWNER/ OWNERS REP, AND/OR REFERENCED ON AN AS-BUILT RECORD DOCUMENTS. ALL EXISTING ELECTRICAL EQUIPMENT REFERENCE D ON THESE DRAWINGS IS TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. BY ACCEPTING THESE PLANS OR PROCEEDING WITH ELECTRICAL SCOPE OF WORK, AGREES TO ACCEPT LIABILITY AND SHALL RENDER THE ENGINEER OF RECORD HARMLESS FOR ANY ELECTRICAL EQUIPMENT NOT REPORTED TO THE ENGINEER DURING THE DESIGN PROCESS. THE CONTRACT TO TAKE THE REQUIRED PRECAUTIONARY MEASURES TO ENSURE ALL EXISTING ELECTRICAL EQUIPMENT IS PROTECTED IN PLACE.
35. ANY EXISTING BUILDING STRUCTURES OR SURFACES DAMAGED BY DEMOLITION OR DURING INSTALLATION ACTIVITIES SHALL BE REPAIRED, PATCHED, AND/OR REFINISHED TO THE SATISFACTION OF THE OWNER.
36. ALL EXISTING ELECTRICAL EQUIPMENT INDICATED TO BE DEMOLISHED SHALL BE REMOVED ENTIRELY AND ALL AFFECTED SURFACES OR STRUCTURES SHALL BE REPAIRED, REPLACED, AND/OR REFINISHED TO MATCH THE ADJACENT SURFACES OR DAMAGED ITEM(S).
37. FOR CLARITY ONLY RECONSTRUCTION OR NEW WORK RELATED ELEMENTS AND SELECT EXISTING FACILITIES SPECIFICALLY REQUIRING COORDINATION WITH ANY NEW WORK.
38. ALL CONDUITS, BOXES, SURFACE MOUNTED RACEWAYS, SUPPORT DEVICES, AND ASSOCIATED FITTINGS SHALL BE MOUNTED IN CONCEALED LOCATIONS ABOVE CEILINGS, DUCTS, TRUSSES, BEAMS, ETC. IN AREAS WHERE A CONCEALED MOUNTING LOCATION IS NOT AVAILABLE EQUIPMENT SHALL BE PAINTED TO MATCH THE ADJACENT SURFACES.
39. ANY PENETRATIONS BY CONDUITS OR OTHER ELECTRICAL EQUIPMENT THROUGH A FIRE RATED WALL - WHETHER EXISTING OR NEW - SHALL MAINTAIN THE APPROPRIATE FIRE RATING BY SEALING THE PENETRATION WITH THE APPROPRIATE UL-LISTED FIRE-STOP MATERIAL/SYSTEM.
40. ELECTRICAL CONTRACTOR SHALL PREPARE AND SUBMIT THE FOLLOWING CALIFORNIA ENERGY COMMISSION T-24 FORMS: CERTIFICATE OF ACCEPTANCE LTG-1-1, PARTS 1, 2, & 3; LIGHTING CONTROL LTG-2-A; AND/OR AUTOMATIC DAYLIGHTING CONTROL LTG-3-A, AS THEY APPLY TO THE BUILDING DEPARTMENT PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
41. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED OR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DISTRICT STRUCTURAL ENGINEER FROM THE DIVISION OF STATE ARCHITECT.

ABBREVIATIONS

4S/DP	4" SQUARE BY 2 1/8" DEEP BOX
ADA	AMERICAN WITH DISABILITIES ACT
A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
AWG	AMERICAN WIRE GAUGE
AMP, A	AMPERE
A.I.C.	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
AF/AT	AMP FRAME, AMP TRIP
AHJ	AUTHORITY HAVING JURISDICTION
AS/AF	AMP SWITCH, AMP FUSE
ATS	AUTOMATIC TRANSFER SWITCH
AVG	AVERAGE
BDF	BUILDING DISTRIBUTION FRAME
BR	BRANCH
BLDG	BUILDING
CEC	CALIFORNIA ELECTRICAL CODE
CIRC., CKT.	CIRCUIT
CB	CIRCUIT BREAKER
CSFD	COMBINATION SMOKE FIRE DAMPER
C	CONDUIT
C.O.	CONDUIT ONLY, COMPLETE WITH PULLSTRING
CONN	CONNECTED
CPT	CONTROL POWER TRANSFORMER
CLCB	CURRENT LIMITING CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
E	EXISTING EQUIP. TO REMAIN
E.C.	ELECTRICAL CONTRACTOR
EMS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
EWC	ELECTRIC WATER COOLER
E.P.O.	EMERGENCY POWER OFF
E-O-L	END-OF-LINE CIRCUIT TERMINATOR.
EF	EXHAUST FAN
E/G	EQUIPMENT GROUND (GREEN)
EP	EXPLOSION PROOF
ER*	EXISTING EQUIP. TO BE REOLCATED (* CORRESPONDS TO NEW LOCATION)
ERT*	NEW LOCATION FOR REOLCATED EQUIP. (* CORRESPONDS TO PREVIOUS LOCATION)
FT or '	FEET
FA	FIRE ALARM
FLA	FULL LOAD AMPS
GRD	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER.
GFP	GROUND FAULT PROTECTION
GEC	GROUNDING ELECTRODE CONDUCTOR
HACR	HEATING AIR CONDITIONING REFRIGERATION
HOA	HAND-OFF-AUTO
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
H.,W.,D.,L.	HEIGHT, WIDTH, DEPTH, LENGTH
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
IN. or "	INCHES
I/G	ISOLATED GROUND
IDF	INTERMEDIATE DISTRIBUTION FRAME
JBOX	JUNCTION BOX
K	DEGREE KELVIN
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LCL	LONG CONTINUOUS LOAD
L.F.	LINEAR FEET

LTG, LTS	LIGHTING
LPS	LOW PRESSURE SODIUM
MAX.	MAXIMUM
MDF	MAIN DISTRIBUTION FRAME
MOCP	MAXIMUM OVERCURRENT PROTECTION
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
M.C.	MECHANICAL CONTRACTOR
M	METER
M/M	METER MAIN
MV	MERCURY VAPOR
MH	METAL HALIDE
MIN.	MINIMUM
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MFR.	MANUFACTURER
MTD	MOUNTED
MW	MICROWAVE
N	NEW EQUIP.
NATS	NON AUTOMATIC DISCONNECT
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
NF	NON-FUSED
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NL	NIGHT LIGHT
NO. or #	NUMBER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED.
%Z	PERCENT IMPEDANCE
PH. or Ø	PHASE
PC	PHOTOCELL
P.C.	PLUMBING CONTRACTOR
P	POLE
PVC	POLY VINYL CHLORIDE
PDU	POWER DISTRIBUTION UNIT
PRIMARY	OVER 600 VOLTS
PROVIDE	FURNISH, INSTALL AND CONNECT.
PT	POTENTIAL TRANSFORMER
PA	PUBLIC ADDRESS
REC, RECEPT	RECEPTACLE
REF	REFRIGERATOR
RGS	RIGID GALVANIZED STEEL
RMS	ROOT MEAN SQUARE
SCC	SHORT CIRCUIT CURRENT
SCS	STRUCTURED CABLING SYSTEM
SFD	SMOKE FIRE DAMPER
SECONDARY	600 VOLTS AND LESS
SMACNA	SHEET METAL & AIR COND. CONTRACTORS' NAT'L ASSOC.
SQ.	SQUARE
TC	TIMECLOCK
TEL/DATA	TELEPHONE AND DATA
TV	TELEVISION
T.V.S.S.	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
U.G.P.S.	UNDERGROUND PULL SECTION
U.O.N.	UNLESS OTHERWISE NOTED
U.P.S.	UNINTERRUPTABLE POWER SYSTEM
VAV	VARIABLE AIR VOLUME
V	VOLTS
VA	VOLT AMPERES
VD	VOLTAGE DROP
WP	WEATHERPROOF
W	WIRE
XFMR	TRANSFORMER
XX	EXISTING EQUIP. TO BE DEMO'D

MISCELLANEOUS SYMBOLS

d1 D ab — ON/OFF WALL MOUNTED DIGITIAL SWITCH WITH RAISE/LOWER. MOUNT PER ADA DEVICE MOUNTING DETAIL U.O.N. LOWER CASE LETTER REFERS TO QUANTITY OF DEVICES AND REFERENCES CORRESPONDING FIXTURE SWITCH LEG(S). DEVICE TO BE nLIGHT #nPODM DX (COLOR PER ARCHITECT) OR APPROVED EQUAL DEVICE. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

d2 D ab — 2-CHANNEL ON/OFF WALL MOUNTED DIGITAL SWITCH WITH RAISE/LOWER. MOUNT PER ADA DEVICE MOUNTING DETAIL U.O.N. LOWER CASE LETTER REFERS TO QUANTITY OF DEVICES AND REFERENCES CORRESPONDING FIXTURE SWITCH LEG(S). DEVICE TO BE nLIGHT #nPODM 2P DX (COLOR PER ARCHITECT) OR APPROVED EQUAL DEVICE. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

d4 D ab — 4-CHANNEL ON/OFF WALL MOUNTED DIGITAL SWITCH WITH RAISE/LOWER. MOUNT PER ADA DEVICE MOUNTING DETAIL U.O.N. LOWER CASE LETTER REFERS TO QUANTITY OF DEVICES AND REFERENCES CORRESPONDING FIXTURE SWITCH LEG(S). DEVICE TO BE nLIGHT #nPODM 4P DX (COLOR PER ARCHITECT) OR APPROVED EQUAL DEVICE. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

s4 D ab — 4-SCENE ON/OFF WALL MOUNTED DIGITAL SWITCH WITH RAISE/LOWER. MOUNT PER ADA DEVICE MOUNTING DETAIL U.O.N. LOWER CASE LETTER REFERS TO QUANTITY OF DEVICES AND REFERENCES CORRESPONDING FIXTURE SWITCH LEG(S). DEVICE TO BE nLIGHT #nPODM 4S DX (COLOR PER ARCHITECT) OR APPROVED EQUAL DEVICE. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

C/P OS ab d1 — DIGITAL LOW VOLTAGE DUAL TECHNOLOGY OCCUPANCY SENSOR EITHER CEILING MOUNTED ("C") OR PENDANT MOUNTED ("P") - NOTE: IF PENDANT MOUNTED MOUNT DEVICE UTILIZING A 3/4" CONDUIT PAINTED TO MATCH THE ADJACENT SURFACES AND MOUNT AT THE SAME HEIGHT AS THE UNDERSIDE OF THE ADJACENT FIXTURES. LOWER CASE LETTER REFERS TO QUANTITY OF DEVICES AND REFERENCES CORRESPONDING FIXTURE SWITCH LEG(S). DEVICE TO BE nLIGHT #nCM PDT 10 RJB OR APPROVED EQUAL DEVICE. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

W OS ab d1 — DIGITAL WALL MOUNTED LOW VOLTAGE DUAL TECHNOLOGY OCCUPANCY SENSOR. LOWER CASE LETTER REFERS TO QUANTITY OF DEVICES AND REFERENCES CORRESPONDING FIXTURE SWITCH LEG(S). DEVICE TO BE nLIGHT #nWV PDT 16 KIT OR APPROVED EQUAL DEVICE. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

C/P PC ab d1 — DIGITAL LOW VOLTAGE PHOTOCELL EITHER CEILING MOUNTED ("C") OR PENDANT MOUNTED ("P") - NOTE: IF PENDANT MOUNTED MOUNT DEVICE UTILIZING A 3/4" CONDUIT PAINTED TO MATCH THE ADJACENT SURFACES AND MOUNT AT THE SAME HEIGHT AS THE UNDERSIDE OF THE ADJACENT FIXTURES. LOWER CASE LETTER REFERS TO QUANTITY OF DEVICES AND REFERENCES CORRESPONDING FIXTURE SWITCH LEG(S). DEVICE TO BE nLIGHT #nCM 10 OR APPROVED EQUAL DEVICE. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

S — WALL MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR. MOUNT PER ADA DEVICE MOUNTING DETAIL. DEVICE TO BE WATTSTOPPER #DW-200 OR APPROVED EQUAL DEVICE.

OS — CEILING MOUNTED DUAL TECHNOLOGY (INFRARED / ULTRASONIC) OCCUPANCY SENSOR COMPLETE WITH ALL MANUFACTURER REQUIRED POWER SUPPLIES, RELAY PACKS AND CONNECTIONS. WATTSTOPPER #DT-300 OR APPROVED EQUAL DEVICE.

LCR — nLIGHT #nPP20 PL T24 RELAY PACK FOR PLUG LOAD CONTROL. DEVICE IS TO BE MOUNTED TO A 4S BOX ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. POWER TO DEVICE IS TO BE CONNECTED TO THE 120V RECEPTACLE BRANCH CIRCUIT(S) IN ASSOCIATED ROOM OR OFFICE. INTERCONNECT THE DEVICE CONTROL WITH THE ROOM OR OFFICE OCCUPANCY SENSOR. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

M LCE — nLIGHT #nPP16 D ER SA RELAY PACK FOR VACANCY MODE CONTROL OF EMERGENCY LIGHTING DEVICE IS TO BE MOUNTED TO A 4S BOX ABOVE THE CEILING IN AN ACCESSIBLE LOCATION AND INTERFACED WITH ROOM/SPACE OCCUPANCY SENSOR(S) AND DIGITAL SWITCH DEVICES. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

A LCE — nLIGHT #nPP16 D ER RELAY PACK FOR OCCUPANCY MODE CONTROL OF EMERGENCY LIGHTING DEVICE IS TO BE MOUNTED TO A 4S BOX ABOVE THE CEILING IN AN ACCESSIBLE LOCATION AND INTERFACED WITH ROOM/SPACE OCCUPANCY SENSOR(S) AND DIGITAL SWITCH DEVICES. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

M LC1 — nLIGHT #nPP16 D SA RELAY PACK FOR VACANCY MODE CONTROL OF NORMAL LIGHTING DEVICE IS TO BE MOUNTED TO A 4S BOX ABOVE THE CEILING IN AN ACCESSIBLE LOCATION AND INTERFACED WITH ROOM/SPACE OCCUPANCY SENSOR(S) AND DIGITAL SWITCH DEVICES. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

A LC1 — nLIGHT #nPP16 D RELAY PACK FOR OCCUPANCY MODE CONTROL OF NORMAL LIGHTING DEVICE IS TO BE MOUNTED TO A 4S BOX ABOVE THE CEILING IN AN ACCESSIBLE LOCATION AND INTERFACED WITH ROOM/SPACE OCCUPANCY SENSOR(S) AND DIGITAL SWITCH DEVICES. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

BRG — nLIGHT #nBRG8 KIT BRIDGE WITH POWER SUPPLY FOR NETWORKING nLIGHT SWITCHES AND SENSORS. DEVICE IS TO BE MOUNTED TO A 4S BOX IN AN ACCESSIBLE LOCATION. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

GWY — nLIGHT #nECY 120 GATEWAY WITH POWER SUPPLY FOR INTERFACE WITH SENSORVIEW SOFTWARE. DEVICE IS TO BE MOUNTED TO A 4S BOX IN AN ACCESSIBLE LOCATION. REFER TO LIGHTING CONTROL WIRING DIAGRAM DETAIL 1 ON E505 FOR ADDITIONAL REQUIREMENTS.

LIGHTING SYMBOLS

SURFACE MOUNTED FLUORESCENT STRIP LIGHTING FIXTURE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.

CHAIN HUNG FLUORESCENT STRIP LIGHTING FIXTURE. MOUNTING HEIGHT TO BE AS INDICATED ON FIXTURE SCHEDULE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.

NL — SURFACE MOUNTED FLUORESCENT WRAPAROUND TYPE LIGHTING FIXTURE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.

NL — RECESSED FLUORESCENT LIGHTING FIXTURE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.

RECESSED OR SURFACED MOUNTED DOWN LIGHTING FIXTURE. "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.

RECESSED WALLWASHER LIGHTING FIXTURE.

WALL MOUNTED LIGHTING FIXTURE.

RECESSED STEP LIGHTING FIXTURE.

BOLLARD TYPE LIGHTING FIXTURE. PROVIDE CONCRETE FOOTING PER MFGRS. REQUIREMENTS.

UPLIGHT TYPE LIGHTING FIXTURE. PROVIDE CONCRETE FOOTING PER MFGRS. REQUIREMENTS.

SINGLE OR TWO CKT. LIGHTING TRACK AS SPEC'D IN LTG. FIXTURE SCHEDULE.

LANDSCAPE FLOOD LIGHTING FIXTURE.

POLE MOUNTED H.I.D. LIGHTING FIXTURE.

WALL MOUNTED INFRA-RED OCCUPANCY SENSOR. USE WATTSTOPPER "WI 200" FOR SINGLE SWITCH AND "WI 300" FOR "ab" SWITCHING OR EQUAL. MOUNTING HEIGHT PER ADA MOUNTING DETAIL THIS SHEET - UON OR REQUIRED.

WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR. USE WATTSTOPPER "DT 200" WITH POWER PACK OR EQUAL. MOUNTING HEIGHT PER ADA MOUNTING DETAIL THIS SHEET - UON OR REQUIRED.

ab — VACANCY SENSOR (MANUAL ON), MOUNTING HEIGHT PER ADA MOUNTING DETAIL THIS SHEET - UON OR REQUIRED. LETTERS "ab" INDICATES DUAL RELAY SENSOR. BOTH SWITCH LEGS TO BE CONFIGURED IN A "MANUAL ON" CONFIGURATION.

ab — WALL MOUNTED ULTRASONIC OCCUPANCY SENSOR. LETTERS "ab" INDICATES DUAL RELAY SENSOR. MOUNTING HEIGHT PER ADA MOUNTING DETAIL THIS SHEET - UON OR REQUIRED.

m — CEILING MOUNTED ULTRASONIC OCCUPANCY SENSOR. "m" INDICATES WATTSTOPPER "WT" SENSOR WITH POWER PACK OR EQUAL. "s" INDICATES SATELLITE SENSOR.

(50) D x* — AUTOMATIC CONTINUOUS DIMMING DAYLIGHTING CONTROLLER USED TO DIM LIGHTS WHEN SUFFICIENT NATURAL LIGHT IS PRESENT. NUMBER IN PARENTHESIS INDICATES THE AVERAGE WORKPLANE "TARGET ILLUMINATION" SYMBOL VALUE. ADJACENT LOWER CASE LETTERS "x*" INDICATES SWITCH LEG(S) CONTROLLED.

— — LV — — LOW VOLTAGE (LV) WIRING BETWEEN OCCUPANCY, DAYLIGHT SENSORS, AND/OR LV SWITCHES. QUANTITY AND SPECIFICATIONS OF WIRE PER MANUFACTURER REQUIREMENTS.

ILLUMINATED EXIT SIGN WITH NUMBER OF FACES AND DIRECTION OF EGRESS ARROWS AS INDICATED.

LOW LEVEL EXIT SIGN AS SPECIFIED ON LIGHTING FIXTURE SCHEDULE.

EGRESS EMERGENCY BATTERY PACK LIGHT FIXTURE (BUGEYE).

TELEPHONE/DATA SYMBOLS

TELEPHONE OUTLET BOX, WALL MOUNTED AT +15" A.F.F. (MIN. AS MEASURED TO BOTTOM OF BOX) - UON OR REQUIRED. STUB 3/4"C.O. WITH PULL STRINGS TO 6" ABOVE THE ACCESSIBLE CEILING AND AND PROVIDE A BUSHING. 4S/DP MINIMUM WITH SINGLE GANG RING.
"W" = WALL MOUNTED PHONE AT +44" A.F.F. (MAX. TO HIGHEST OPERABLE PART OF DEVICE)
"P" = PUBLIC (PAY) PHONE. VERIFY ALL REQUIREMENTS WITH THE TELEPHONE UTILITY COMPANY. PROVIDE 1"C.O. (MIN) TO THE MAIN TELEPHONE BACKBOARD. MOUNTING HEIGHT AS REQUIRED.

DATA OUTLET BOX, WALL MOUNTED AT +15" A.F.F. (MIN. AS MEASURED TO BOTTOM OF BOX) - UON OR REQUIRED. STUB 3/4"C.O. WITH PULL STRINGS UP 6" ABOVE THE ACCESSIBLE CEILING AND PROVIDE A BUSHING. 4S/DP MINIMUM WITH SINGLE GANG RING.

COMBINATION TELEPHONE AND DATA OUTLET BOX WALL MOUNTED AT +15" A.F.F. (MIN. AS MEASURED TO THE BOTTOM OF THE B0X) - UON OR REQUIRED. STUB A 1-1/4"C.O. WITH PULL STRINGS UP 6" ABOVE THE ACCESSIBLE CEILING AND PROVIDE A BUSHING. 4S/DP MINIMUM WITH SINGLE GANG RING.

TELEPHONE OUTLET BOX, FLUSH MOUNTED IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.

DATA OUTLET BOX FLUSH MOUNTED IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.

COMBINATION TELEPHONE AND DATA OUTLET BOX FLUSH MOUNTED IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.

TELEPHONE OUTLET BOX, WALL MOUNTED AT 44" MAX AFF TO HIGHEST OPERABLE PART OF DEVICE - UON OR REQUIRED. STUB A 3/4" C.O. WITH PULL STRING UP 6" ABOVE THE ACCESSIBLE CEILING AND PROVIDE A BUSHING. 4S/DP MINIMUM WITH SINGLE GANG RING.

DATA OUTLET BOX,WALL MOUNTED AT 44" MAX AFF TO HIGHEST OPERABLE PART OF DEVICE - UON OR REQUIRED. STUB A 3/4"C.O. WITH PULL STRING UP 6" ABOVE THE ACCESSIBLE CEILING AND PROVIDE A BUSHING. 4S/DP MINIMUM WITH SINGLE GANG RING.

COMBINATION TELE AND DATA OUTLET BOX,WALL MOUNTED AT 44" MAX AFF TO HIGHEST OPERABLE PART OF DEVICE - UON OR REQUIRED. STUB A 1-1/4"C.O. WITH PULL STRING UP 6" ABOVE THE ACCESSIBLE CEILING AND PROVIDE A BUSHING. 4S/DP MINIMUM WITH SINGLE GANG RING.

DATA OUTLET BOX FOR WAP CONNETION, WALL MOUNTED 12" BELOW FINISHED CEILING. STUB A 1" C.O. UP 6" ABOVE THE ACCESSIBLE CEILING AND PROVIDE A BUSHING. 4S/DP MINIMUM WITH SINGLE GANG RING.

—— T —— CONCEALED TELEPHONE/DATA CONDUIT RUN, 3/4" CONDUIT ONLY (MIN). SEE TABLE FOR CONDUIT SIZE VARIATIONS

T1 = 1" C.O.	T2 = 1-1/4" C.O.	T3 = 1-1/2" C.O.	T4 = 2" C.O.	T5 = (2) 3/4" C.O.

FLUSH MOUNTED, LOCKABLE TERMINAL CABINET WITH TERMINAL STRIPS AS REQUIRED.

SURFACE MOUNTED, LOCKABLE TERMINAL CABINET WITH TERMINAL STRIPS AS REQUIRED.

TELEPHONE TERMINAL BACKBOARD SIZED AS NOTED, REFER TO SYSTEM GROUND DETAIL.

BRANCH CIRCUIT SYMBOLS

A-1,3,5 — HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS. HASH MARKS INDICATE NUMBER OF CONDUCTORS IN CONDUIT RUN, #12 AWG MINIMUM UNLESS OTHERWISE NOTED.

A-1&3&5 — HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS WITH SEPARATE NEUTRALS. "&" INDICATES SEPARATE NEUTRALS.

A-1+3+5 — HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS. "+" INDICATES SEPARATE #10 NEUTRAL THROUGHOUT BRANCH CIRCUIT. HASH MARK " " INDICATES AN ISOLATED GROUND CONDUCTOR.

CONCEALED CONDUIT OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED. 1/2" CONDUIT MINIMUM, (2) #12 AWG CONDUCTORS MINIMUM

CONCEALED CONDUIT OR BRANCH CIRCUIT ROUTED IN FLOOR SLAB OR CONCRETE. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND SUPPORT AS REQUIRED. 1/2" CONDUIT (2) #12 AWG CONDUCTORS MINIMUM.

CONDUIT OR BRANCH CIRCUIT CONCEALED BELOW GRADE, 3/4" CONDUIT MINIMUM WITH (2) 12 AWG CONDUCTORS MINIMUM AND A CODE SIZED EQUIPMENT GROUND.

SURFACE-MOUNTED CONDUIT OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED. 1/2" CONDUIT MINIMUM, (2) #12 AWG CONDUCTORS MINIMUM. CONDUIT SHALL BE PAINTED TO MATCH ADJACENT SURFACE. COORDINATE COLOR WITH ARCHITECT/INTERIORS.

TANDEM WIRING CONNECTION.

CONDUIT STUB OUT, CAP, MARK AND RECORD ON AS-BUILT DRAWINGS

CONDUIT CONTINUATION.

FLEXIBLE CONNECTION AS REQUIRED. NUMBER OF CONDUCTORS AS REQUIRED. VERIFY CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN.

CONDUIT/ BRANCH CIRCUIT/FEEDER CONTINUATION DOWN WALL TO FLOOR BELOW

CONDUIT/ BRANCH CIRCUIT/FEEDER CONTINUATION UP WALL TO FLOOR ABOVE

ANNOTATIONS

EF 2 — MECHANICAL EQUIPMENT CALLOUT, "AC" INDICATES UNIT TYPE AND "2" INDICATES UNIT NUMBER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND ELECTRICAL REQUIREMENTS.

3 E-1 — DETAIL CALLOUT, "3" INDICATES DETAIL NUMBER "E-1" INDICATES SHEET NUMBER.

XXX-X — LIGHTING FIXTURE DESIGNATION

X — PLAN NOTE REFERENCE, REFER TO NOTES ON SHEET, OR AS DIRECTED.

1 — REVISION REFERENCE.

WYE CONFIGURATION

△ DELTA CONFIGURATION

GROUND

UNLESS SPECIFICALLY SHOWN ON THESE PLANS, STRUCTURAL MEMBERS SHALL NOT BE CUT, DRILLED, OR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT.

POWER SYMBOLS

DUPLEX RECEPTACLE - MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED.

DOUBLE DUPLEX RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED.

DUPLEX RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED. DEVICE TO BE CONTROLLED ON/OFF BY OCCUPANCY SENSOR PER CALIFORNIA T-24 REQUIREMENTS. DEVICE IS TO BE GREEN IN COLOR CLEARLY LABELED AND ENGRAVED WITH "SENSOR CONTROLLED" TO IDENTIFY ITS PURPOSE TO THE USER. REFER TO LIGHTING CONTROL WIRING DIAGRAM FOR ADDITIONAL REQUIREMENTS.

DUPLEX, GFCI RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED. WP INDICATES WEATHERPROOF, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.

DOUBLE DUPLEX, GFCI RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED. WP INDICATES WEATHERPROOF, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.

SPECIAL RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED. REFER TO PLAN NOTES.

DUPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.

DOUBLE DUPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.

DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED.

DOUBLE DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED.

DUPLEX, GFCI RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED. WP INDICATES WEATHERPROOF, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.

DOUBLE DUPLEX, GFCI RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED. WP INDICATES WEATHERPROOF, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.

SPECIAL RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED.

J — WALL MOUNTED JUNCTION BOX. MOUNTING HEIGHT AS NOTED. 4S/DP MINIMUM OR AS REQUIRED BY N.E.C..

J — JUNCTION BOX, MOUNTED IN ACCESSIBLE CEILING FOR APPLICATION DENOTED ON PLAN. 4S/DP MINIMUM OR AS REQUIRED BY N.E.C..

M — ELECTRICAL CONNECTION TO INTERACTIVE MARKER-BOARD. COORDINATE CONNECTION TYPE AND REQUIREMENTS WITH MANUFACTURER'S INSTALLATION GUIDES. VERIFY MOUNTING LOCATION AND HEIGHT WITH ARCHITECT AND DISTRICT EQUIPMENT INSTALLER PRIOR TO ROUGH-IN OF ELECTRICAL.

SURFACE MOUNTED MULTI-OUTLET ASSEMBLY. REFER TO GENERAL PRODUCT SPECIFICATIONS. PROVIDE ALL COMPONENTS NECESSARY FOR A COMPLETE INSTALLATION.

T — THERMOSTAT OUTLET BOX, PROVIDE 1/2"C.O. TO RESPECTIVE MECHANICAL UNIT.

3 — EXHAUST FAN, OR MOTOR LOAD. REFER TO MECHANICAL, PLUMBING OR KITCHEN DRAWINGS FOR SPECIFIC LOAD REQUIREMENTS OR AS NOTED.

FLUSH MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.

SURFACE MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.

▨ DISTRIBUTION SWITCHBOARD. REFER TO SINGLE LINE DIAGRAM.

T — TRANSFORMER, REFER TO SINGLE LINE DIAGRAM.

F — FUSED DISCONNECT SWITCH, HP RATED, OR COMBINATION MOTOR STARTER/DISCONNECT SWITCH WITH FUSES PER EQUIPMENT MANUFACTURER AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT. SEE MOTORIZED EQUIPMENT SCHEDULE FOR DISCONNECT AND STARTER SIZES.

ST — NON-FUSED DISCONNECT SWITCH, HP RATED AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT. SEE MOTORIZED EQUIPMENT SCHEDULE FOR DISCONNECT SIZES.

M CT. — UTILITY COMPANY METER. PROVIDE "CT's" AND "PT's" AS REQUIRED, REFER TO SINGLE LINE DIAGRAM.

1, 150AF, 150AT, 3P — CIRCUIT BREAKER, LINE 1 REPRESENTS FRAME SIZE/RATING; LINE 2 REPRESENTS TRIP SIZE/RATING; LINE 3 REPRESENTS NUMBER OF POLES AND LINE 4 REPRESENTS MISCELLANEOUS BREAKER INFO. (SEE BELOW):
- ST = PROVIDE SHUNT TRIP MECHANISM.
- HACR = PROVIDE HACR-RATED BREAKER.
- GFP = GROUND FAULT PROTECTION
- CLCB = CURRENT LIMITING CIRCUIT BREAKER
- SS = PROVIDE SOLID STATE CIRCUIT BREAKER

60AS, 3P, 50AF, CLASS J — FUSIBLE SWITCH: LINE 1 REPRESENTS SWITCH SIZE/RATING; LINE 2 REPRESENTS NUMBER OF POLES; LINE 3 REPRESENTS FUSE SIZE/RATING; LINE 4 REPRESENTS FUSE TYPE; LINE 5 REPRESENTS MISCELLANEOUS FUSE INFO. (SEE BELOW):
- SHUNT= PROVIDE SHUNT TRIP MECHANISM.
- GFP = GROUND FAULT PROTECTION
- CLF = CURRENT LIMITING FUSE

GROUND CONNECTION, SIZE AS INDICATED OR AS REQUIRED.

$\$^{3}_{ab}$ — SINGLE POLE SWITCHES, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS. SUBSCRIPTS AT SYMBOL INDICATE THE FOLLOWING:

2 - DOUBLE POLE	LV - LOW VOLTAGE
3 - THREE WAY	P - PILOT LIGHT
4 - FOUR WAY	R - REMOTE CONTROL
K - KEY OPERATED	M - MOTOR STARTING

NOTE: ALL WALL SWITCHES CONTROLLING EMERGENCY CIRCUITS SHALL BE ENGRAVED WITH "EMERGENCY"

PB OR P — PULLBOX, SIZED PER N.E.C. OR AS NOTED.

MEP COMPONENT ANCHORAGE NOTE:

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTERS 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPARTMENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND THE DSA STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK AND ELEC. DIST. SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.8, 13.6.7, AND 2016 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G. SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

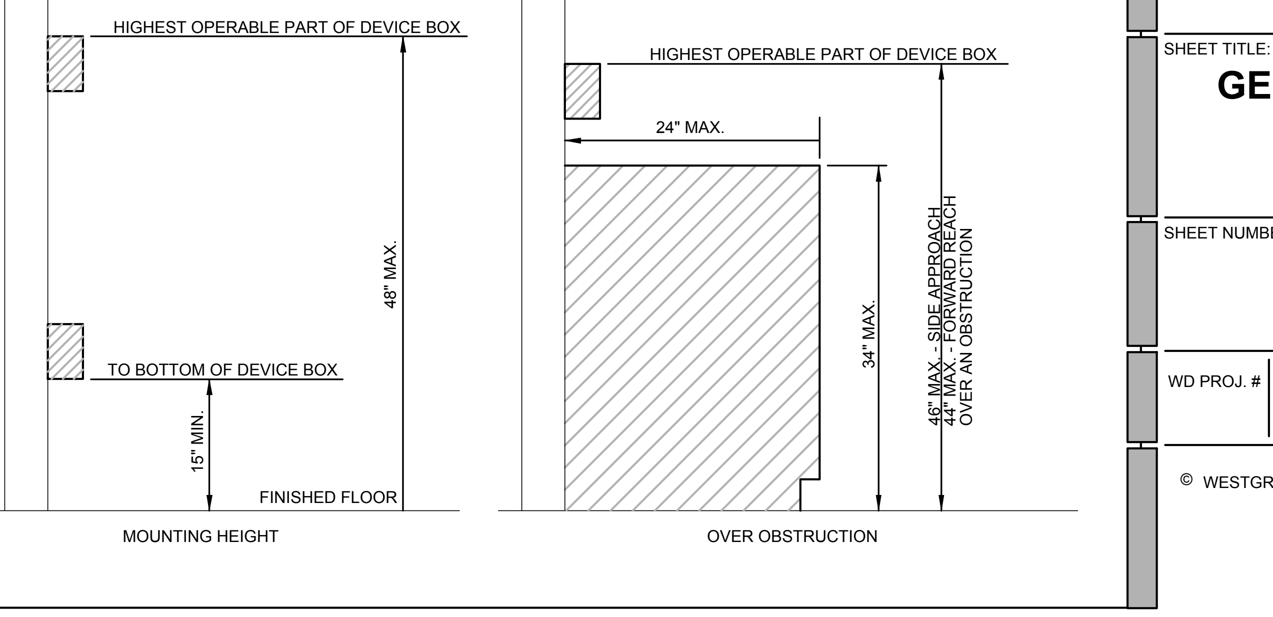
MECHANICAL PIPING (MP, MECHANICAL DUCTS (MD), PLUMING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐MD☐PP☐E☐- OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP☐MD☐PP☐E☐- OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) #_______________

MP☐MD☐PP☐ - OPTION 3: SHALL COMPLY WITH SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITIONS 2009, INCLUDING ANY ADDENDA(S). FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION, AR DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL ___ AND CONNECTION LEVEL ___ FOR THE PROJECT CONDITIONS.

ACCESSIBLE DEVICE MOUNTING DETAIL



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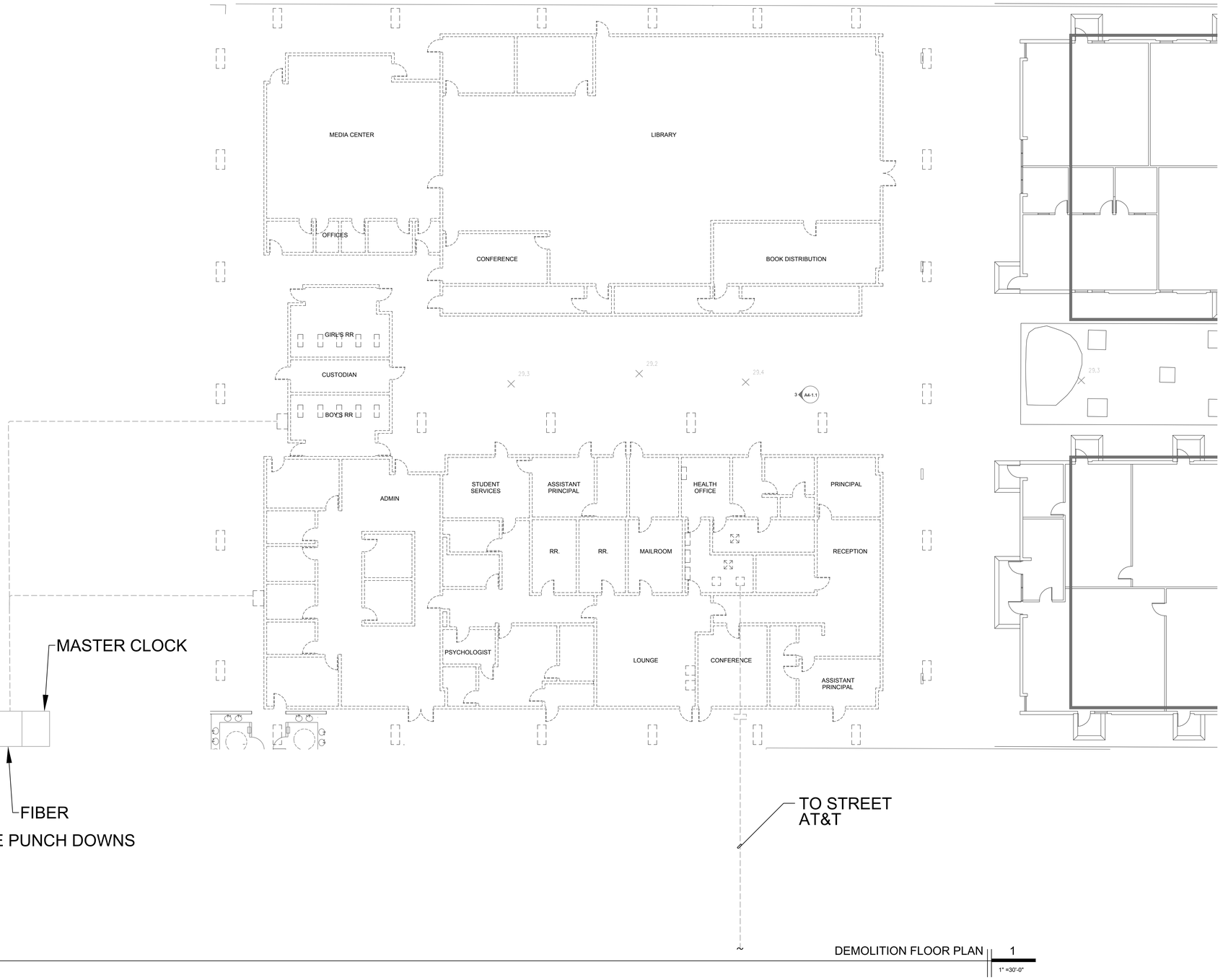
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SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
E001

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DEMOLITION FLOOR PLAN 1
1" =30'-0"

KEYNOTES

1. ELECTRICAL POWER ROOM.
2. TELEPHONE / COMMUNICATION / DATA RACK ROOM.

LV 2-4"C
5-2"C

GENERAL NOTES

1. EXISTING 36" X 60" X 48" COMM VAULT WITH 12/12 (SM OS2 & MM OM4, (1) 25 PAIR PE- 89, TIMES FIBER 500 SERIES TYPE T 10500JBXv1) FROM MDF ROOM @ BLDG "F", WITH (5) 4" + (4) 2" + (1) 1" WITH MAX-CELL (CABLE LENGTH APPROXIMATELY 400' FROM THIS VAULT TO A WEST (FOR EACH OF THE (2) IDF LOCATIONS. SEE T200.

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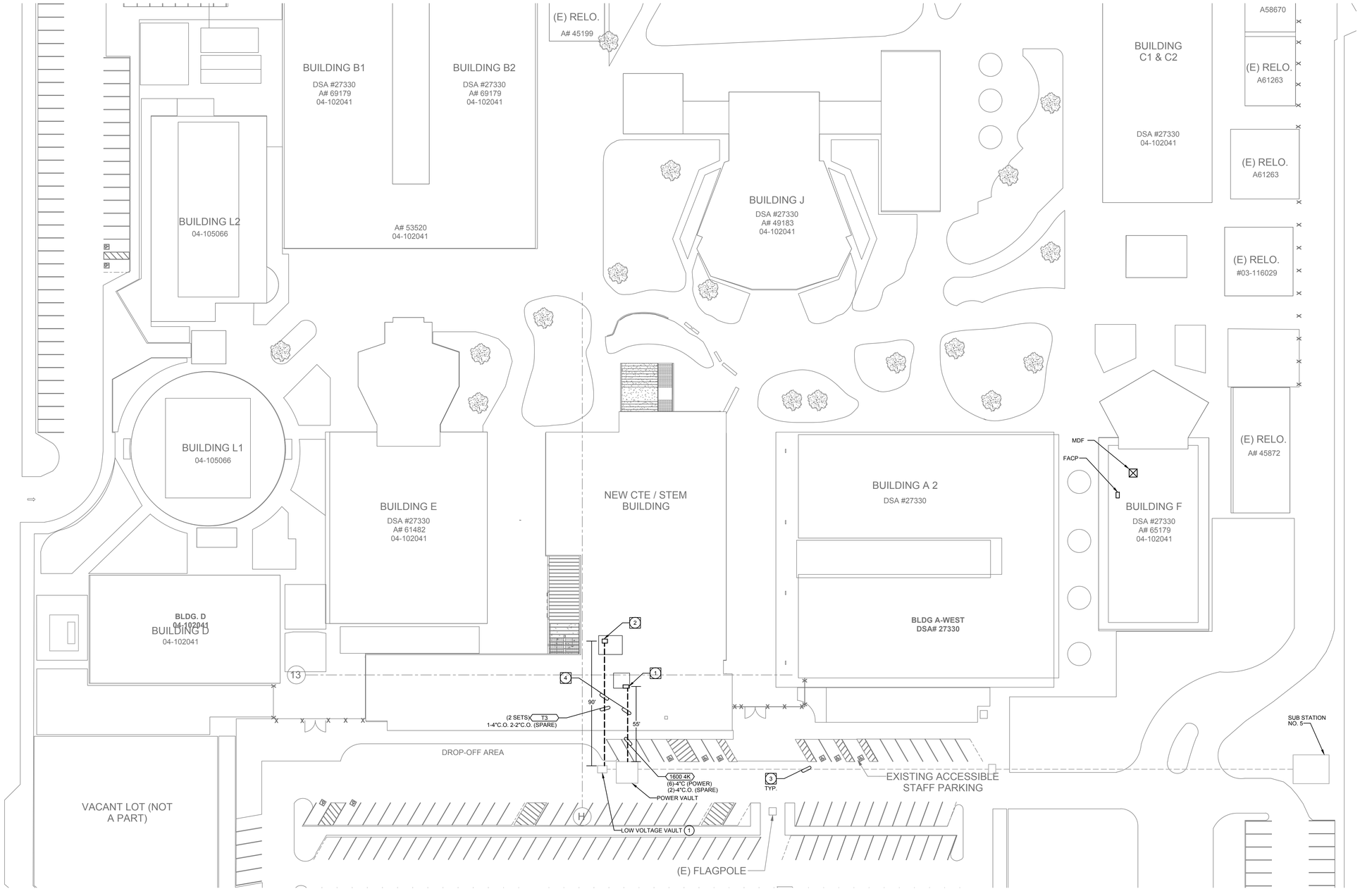
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DEMOLITION FLOOR PLAN

SHEET NUMBER:
E0-1.1D

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ELECTRICAL SITE PLAN 1

1" =30'-0"

KEYNOTES

1. ELECTRICAL POWER ROOM.
2. TELEPHONE / COMMUNICATION / DATA RACK ROOM.
3. EXISTING CONDUIT, PULL IN POWER CONDUCTORS PER SLD.
4. INTERCEPT AND EXTEND.

LV 2-4"C
5-2"C

GENERAL NOTES

1. EXISTING 36" X 60" X 48" COMM VAULT WITH 12/12 (SM OS2 & MM OM4, (1) 25 PAIR PE- 89, TIMES FIBER 500 SERIES TYPE T 10500JBXv1) FROM MDF ROOM @ BLDG "F", WITH (5) 4" + (4) 2" + (1) 1" WITH MAX-CELL (CABLE LENGTH APPROXIMATELY 400' FROM THIS VAULT TO A WEST (FOR EACH OF THE (2) IDF LOCATIONS. SEE T200.

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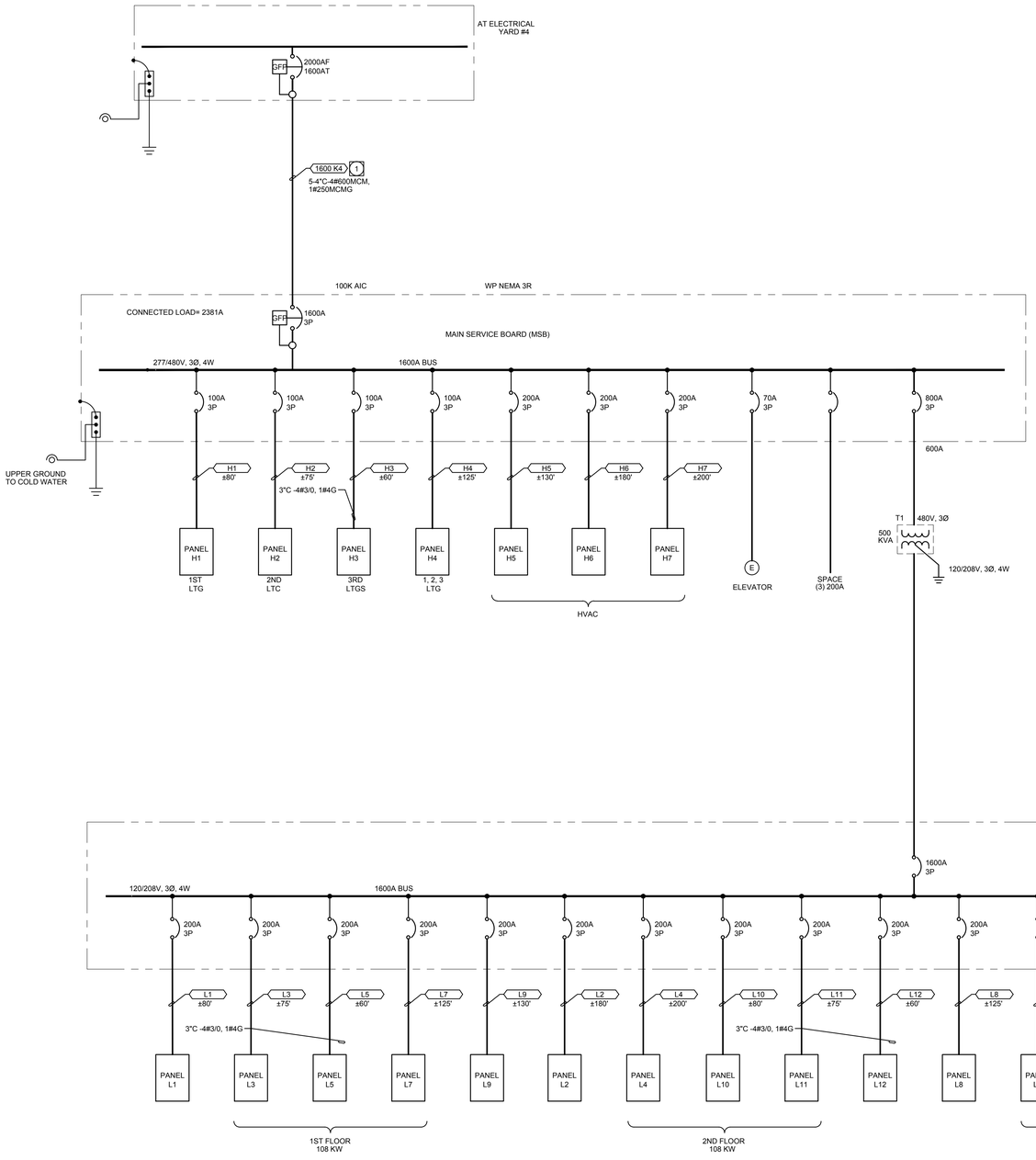
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ELECTRICAL SITE PLAN

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E0-2.1P

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KEYNOTES

HDAG HDT2 FEEDER CONDUCTORS.

4SP 4" CONDUIT ONLY (X) QUANTITY.

1 PULL IN FEEDER AS SHOWN ON SINGLE LINE DIAGRAM.

GENERAL NOTES

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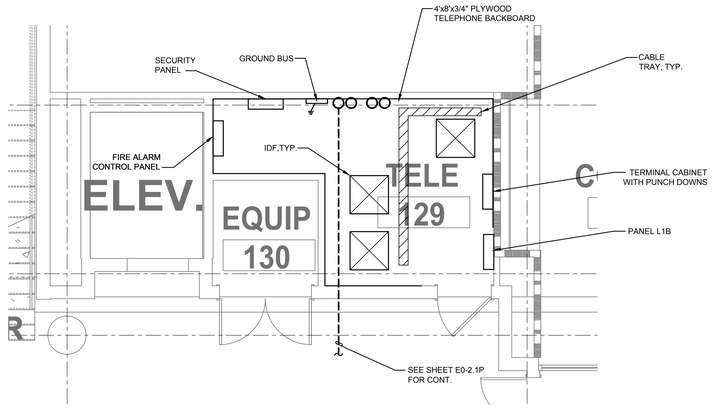
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SINGLE-LINE DIAGRAM

SHEET NUMBER:
E002

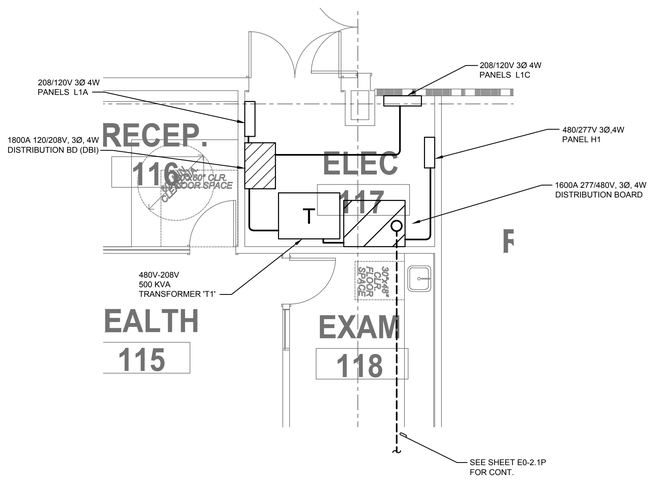
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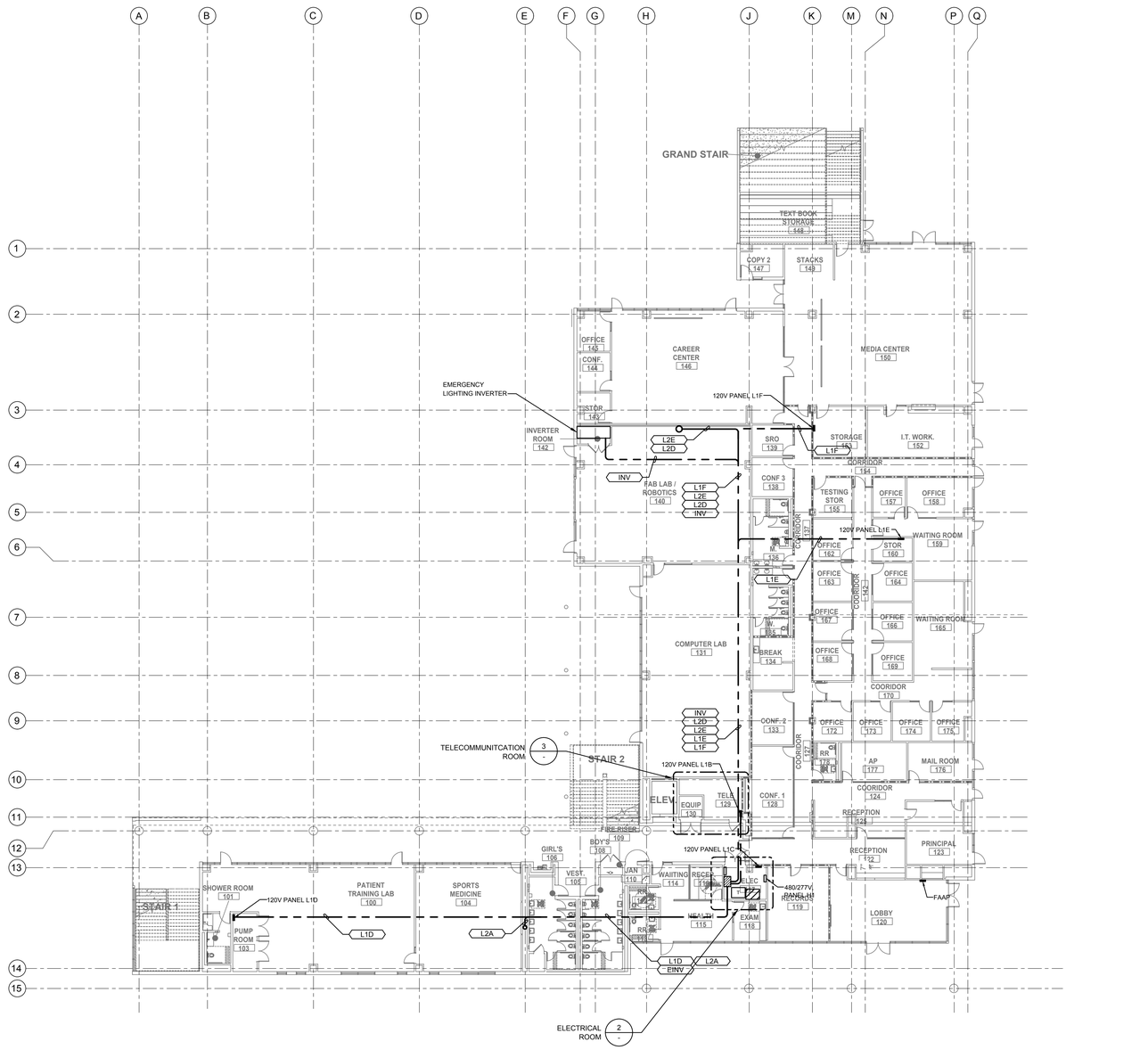
FIRST FLOOR - TELE ROOM 3
1/4" =1'-0"

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FIRST FLOOR - ELECTRICAL ROOM 2
1/4" =1'-0"

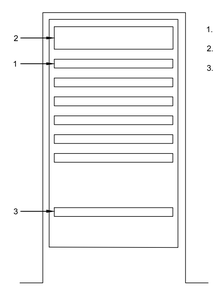
NORTH



GROUND FLOOR - OVERALL PLAN 1
1/16" =1'-0"

NORTH

IDF DETAILS



NOTES:

1. PROVIDE AND INSTALL (12) CAT 6, 48 PORT PATCH PANEL.
2. PROVIDE AND INSTALL (1) 72 PORT FIBER TERMINAL.
3. PROVIDE (1) CAT 6 PATCH PANEL FOR VOICE EXTENSION FROM MPOE.

KEYNOTES

GENERAL NOTES

1 PROJECTOR POWER

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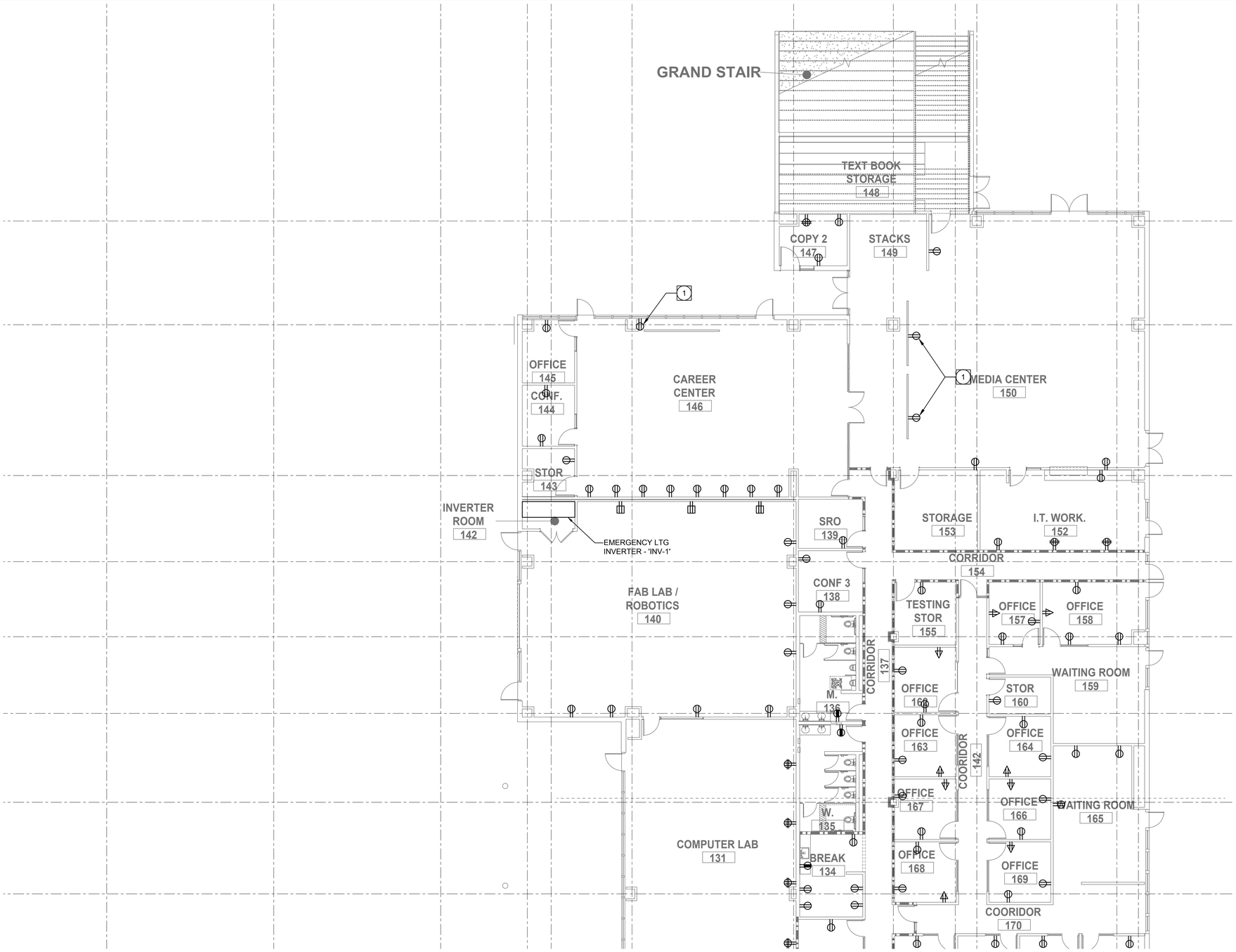
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GROUND FLOOR - POWER PLAN NORTH

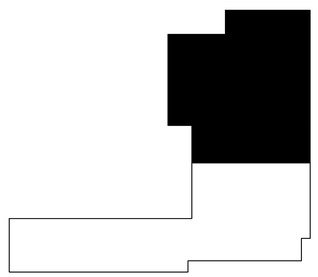
1/8" =1'-0"

KEYNOTES

GENERAL NOTES

1 PROJECTOR POWER

KEY PLAN



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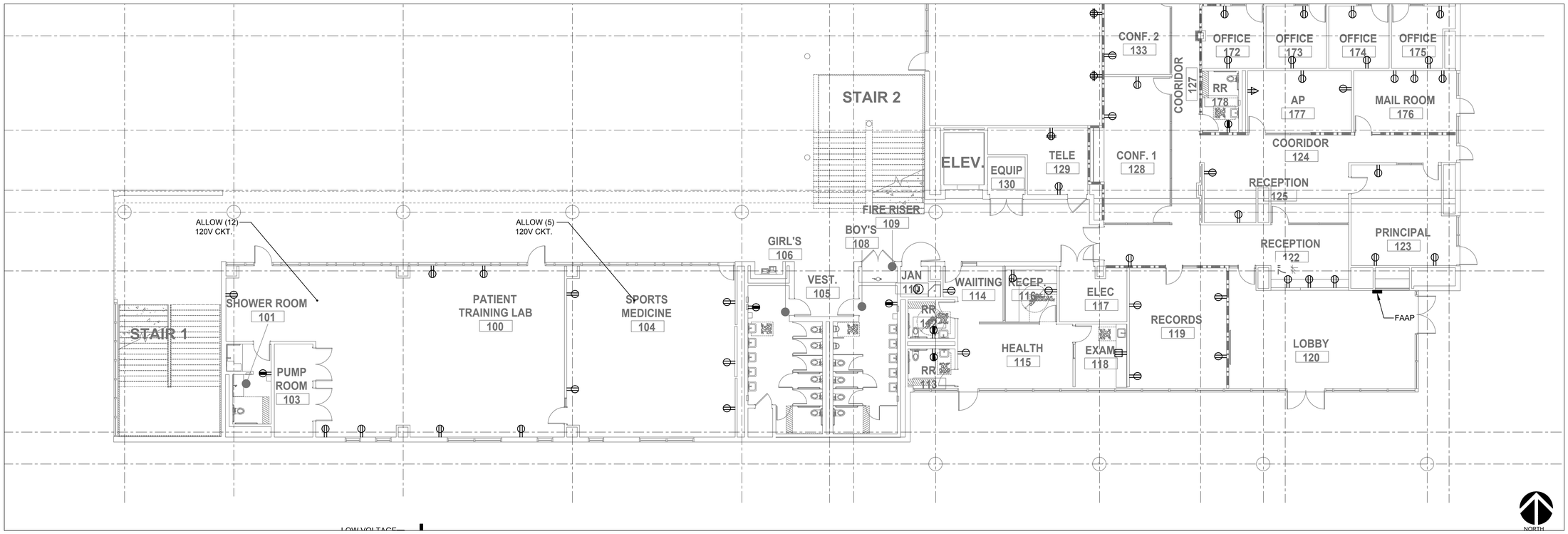
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GROUND FLOOR POWER PLAN NORTH

SHEET NUMBER:
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GROUND FLOOR - POWER PLAN SOUTH

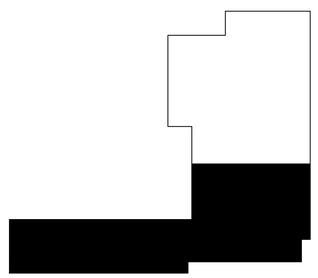
1/8" =1'-0"

KEYNOTES

GENERAL NOTES

1 PROJECTOR POWER

KEY PLAN



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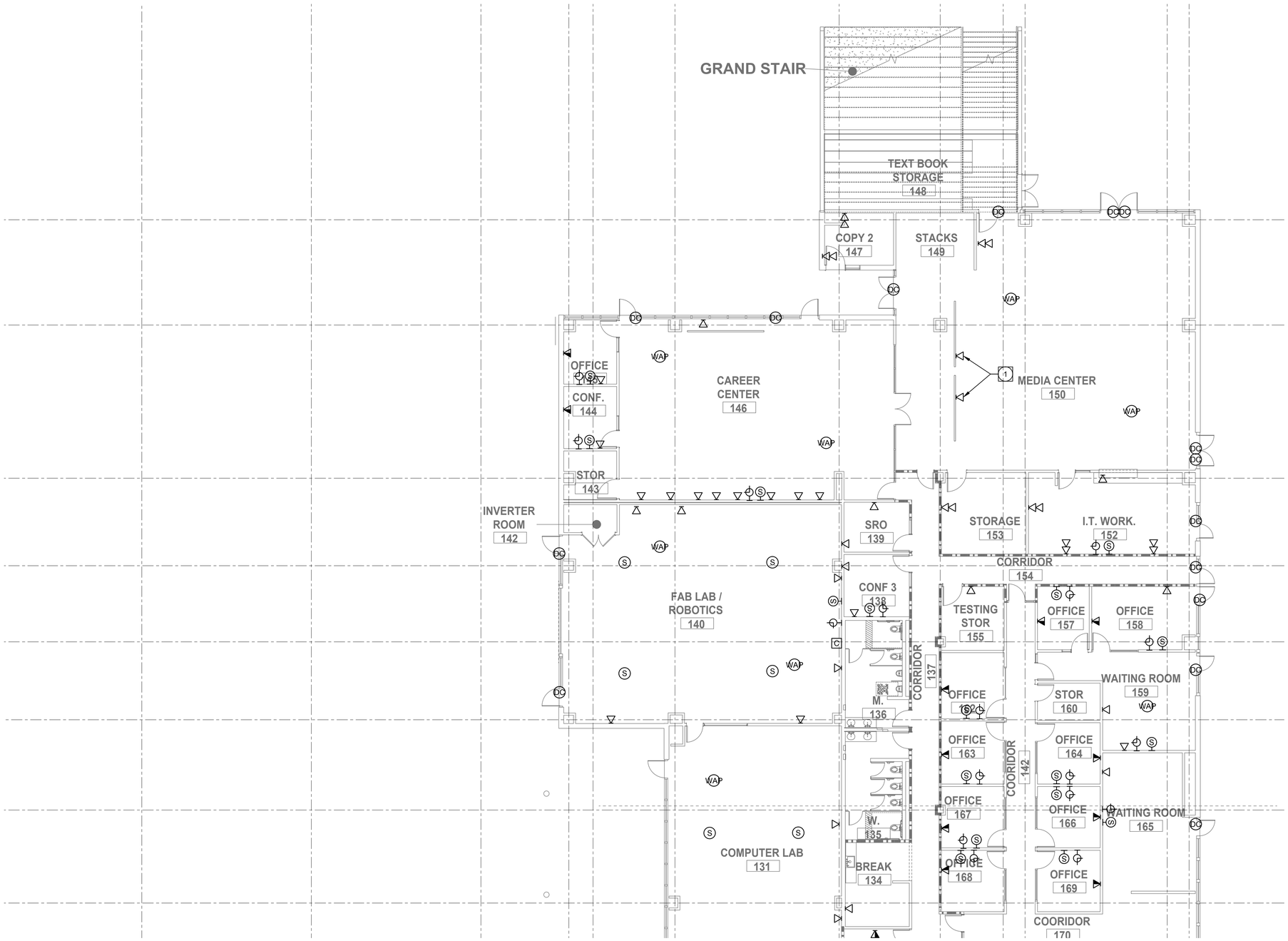
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GROUND FLOOR - LOW VOLTAGE PLAN NORTH 1

1/8" =1'-0"

KEYNOTES

PROVIDE THE FOLLOWING SYSTEM:

- CLOCK/SPEAKER (ATLAS SYSTEM = 4 DATA DROPS)
- A/V SYSTEM
- INTRUSION SECURITY
- CCTV
- DATA
- EXTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- INTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- DOOR CONTROL (ACCESS CONTROL)

TYPICAL CLASSROOM

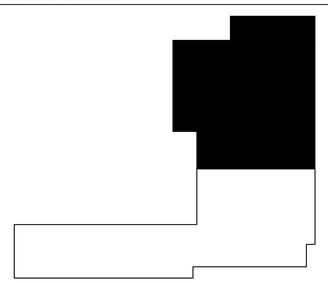
1. WAP (4)
2. SPEAKER/ CLOCK (1)
3. TEACHERS LOCATION (2)
4. PROJECTOR (1)
5. STUDENT (4)

TOTAL=12 DROPS

GENERAL NOTES

1 PROJECTOR DATA

KEY PLAN



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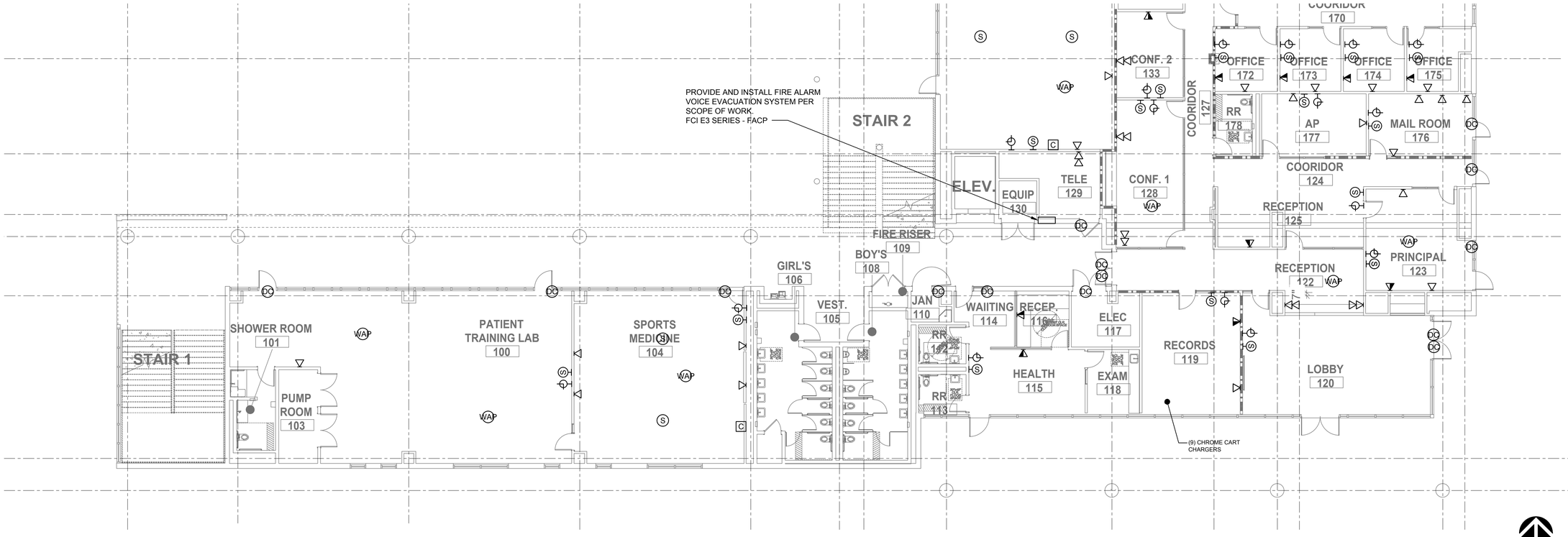
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GROUND FLOOR LOW VOLTAGE PLAN NORTH

SHEET NUMBER:
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GROUND FLOOR - LOW VOLTAGE PLAN SOUTH

1
3/32" =1'-0"

KEYNOTES

PROVIDE THE FOLLOWING SYSTEM:

- CLOCK/SPEAKER (ATLAS SYSTEM = 4 DATA DROPS)
- A/V SYSTEM
- INTRUSION SECURITY
- CCTV
- DATA
- EXTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- INTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- DOOR CONTROL (ACCESS CONTROL)

TYPICAL CLASSROOM

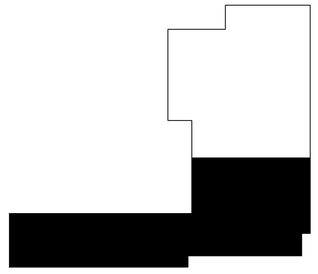
1. WAP (4)
2. SPEAKER/ CLOCK (1)
3. TEACHERS LOCATION (2)
4. PROJECTOR (1)
5. STUDENT (4)

TOTAL=12 DROPS

GENERAL NOTES

1 PROJECTOR DATA

KEY PLAN



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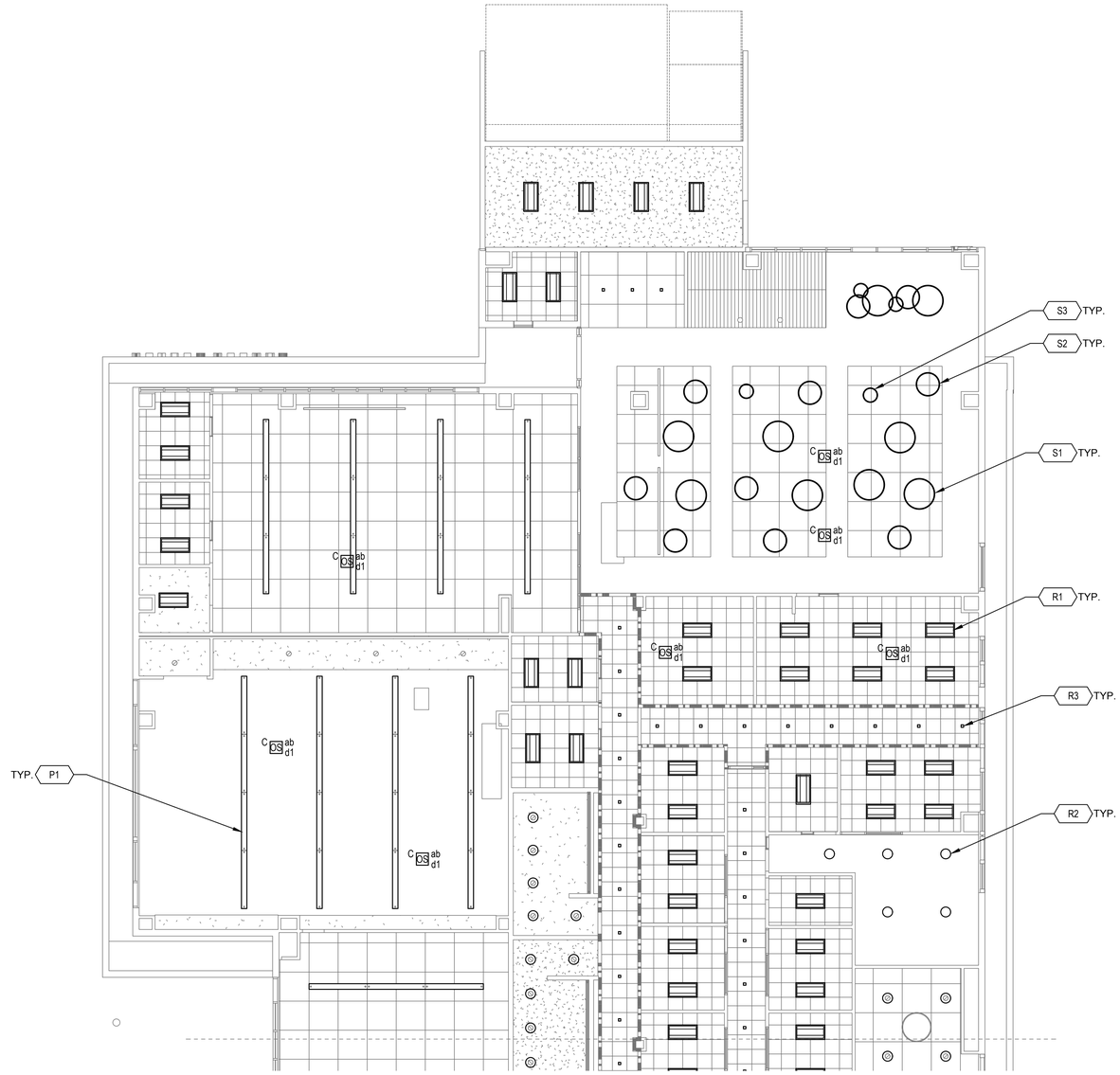
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NORTH

FIRST FLOOR - LIGHTING PLAN NORTH 1

1/8" =1'-0"

KEYNOTES

GENERAL NOTES

LV 6-2"C.O.
- FIRE ALARM
- DATA
- COMMUNICATION
- SECURITY
- 2-2" SPARE

HDAG HDT2 FEEDER CONDUCTORS.

4SP. 4" CONDUIT ONLY (X) QUANTITY.

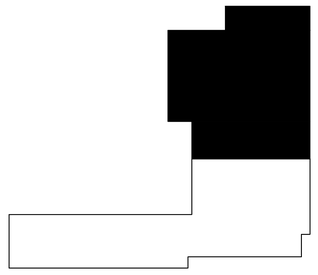
1 PULL IN FEEDER AS SHOWN ON SINGLE LINE DIAGRAM.

2 INTERCEPT CONDUIT STUBS AND EXTEND.

3 INTERCEPT PULL BOX AND EXTEND CONDUIT PATHWAY.

4 CAP AND MARK CONDUIT STUBS.

KEY PLAN



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LOS ALAMITOS HIGH SCHOOL

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REVISIONS:

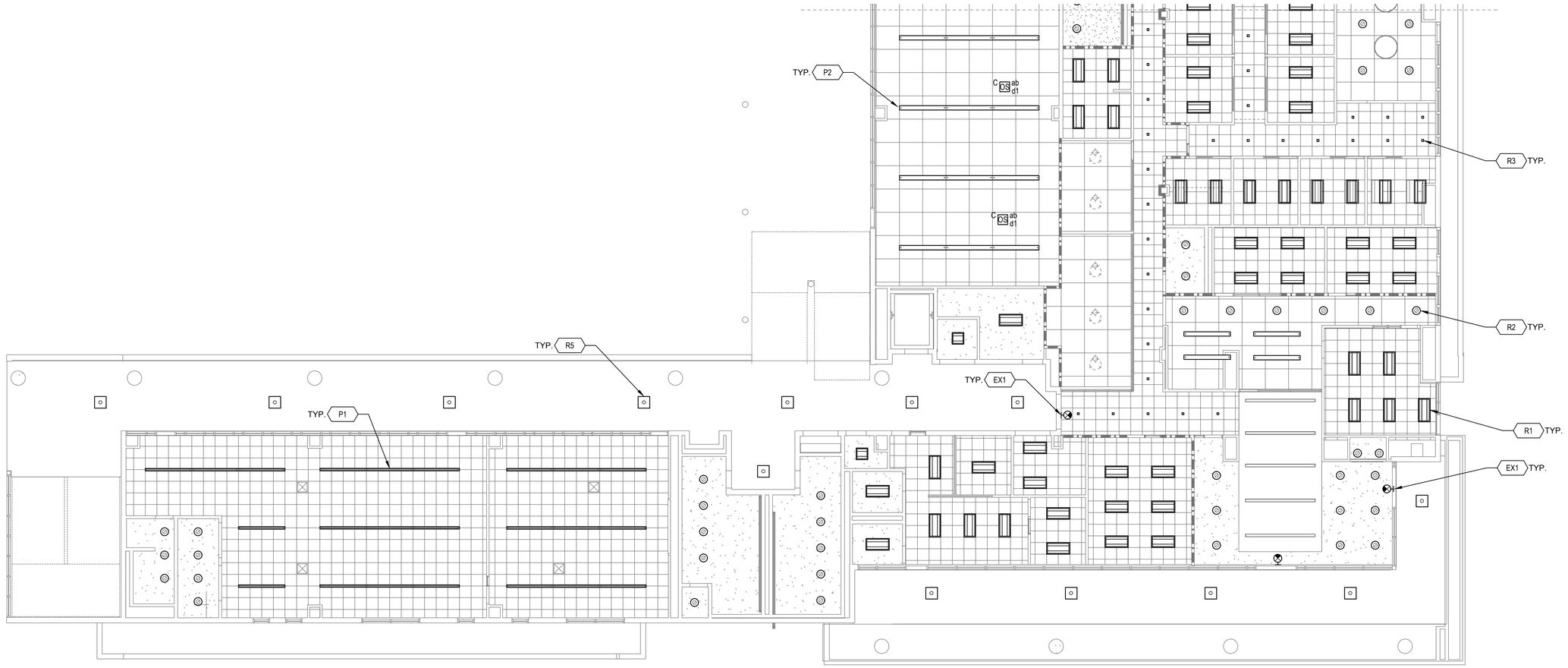
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SHEET TITLE:
GROUND FLOOR LIGHTING PLAN NORTH

SHEET NUMBER:
E3-1.1.1L

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FIRST FLOOR - LIGHTING PLAN SOUTH

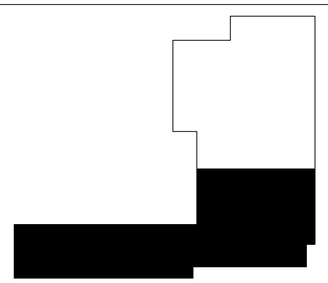
1
3/32" =1'-0"

NORTH

KEYNOTES

GENERAL NOTES

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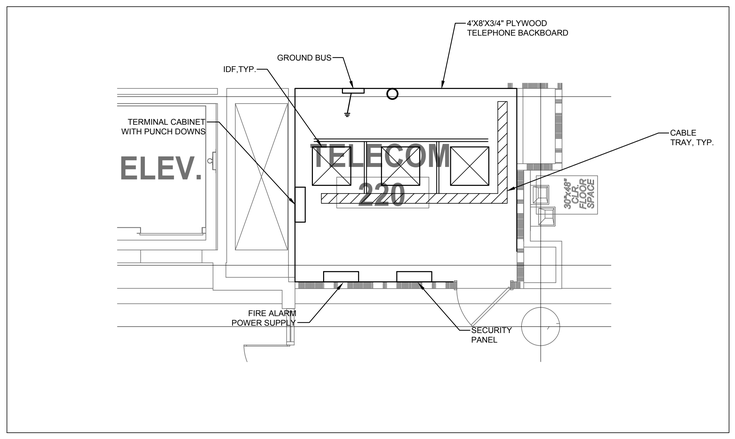
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SHEET TITLE:
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SHEET NUMBER:
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SECOND FLOOR - TELE ROOM 2

1/4" =1'-0"

NORTH

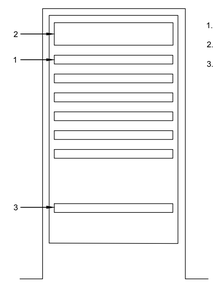


2ND FLOOR - OVERALL PLAN 1

1/16" =1'-0"

NORTH

IDF DETAILS



NOTES:

1. PROVIDE AND INSTALL (12) CAT 6, 48 PORT PATCH PANEL.
2. PROVIDE AND INSTALL (1) 72 PORT FIBER TERMINAL.
3. PROVIDE (1) CAT 6 PATCH PANEL FOR VOICE EXTENSION FROM MPOE.

KEYNOTES

GENERAL NOTES

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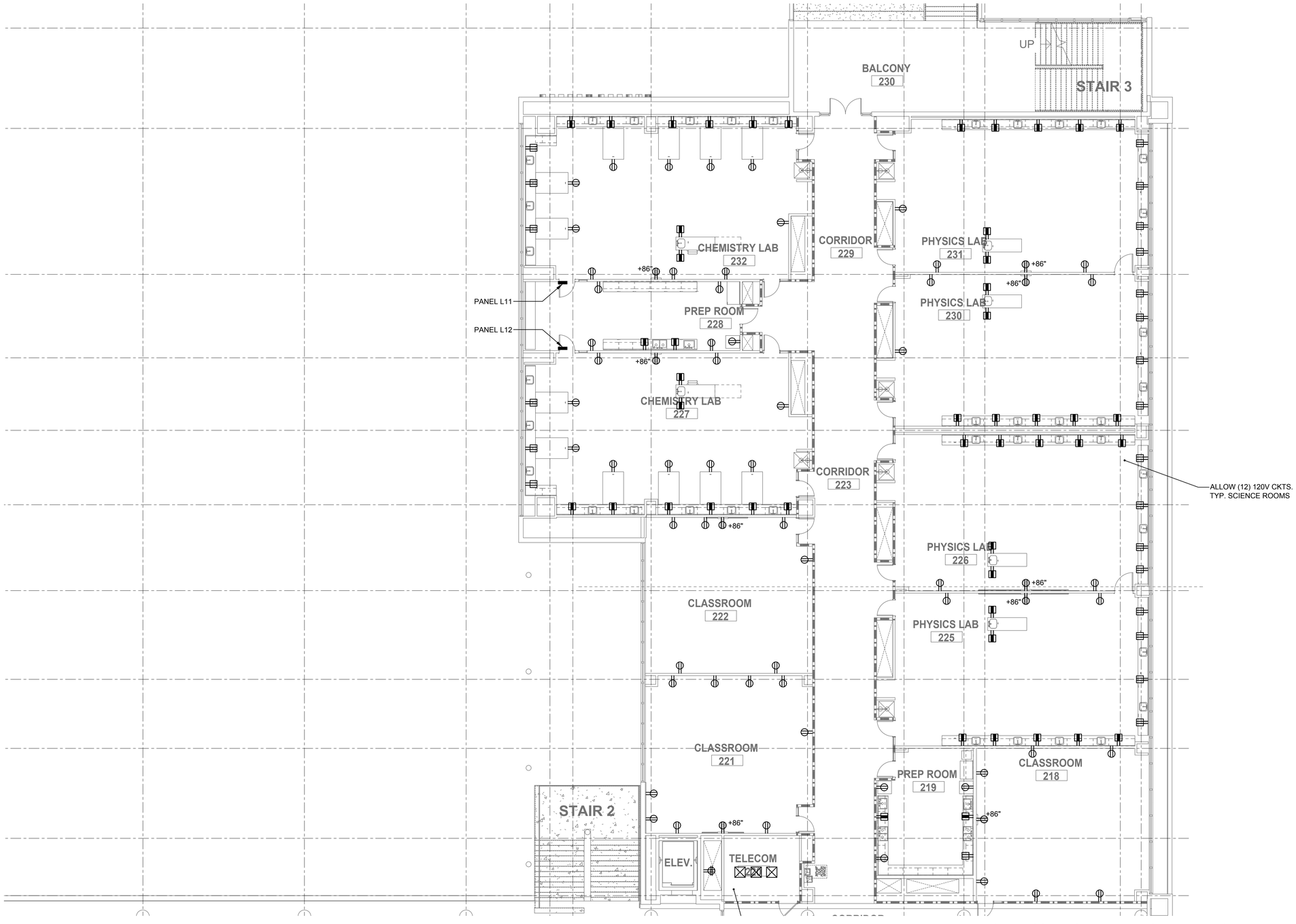
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SECOND FLOOR OVERALL PLAN

SHEET NUMBER:
E2-1.2P

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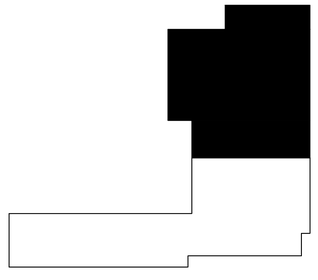
2ND FLOOR - POWER PLAN NORTH

1/8" =1'-0"

KEYNOTES

GENERAL NOTES

KEY PLAN



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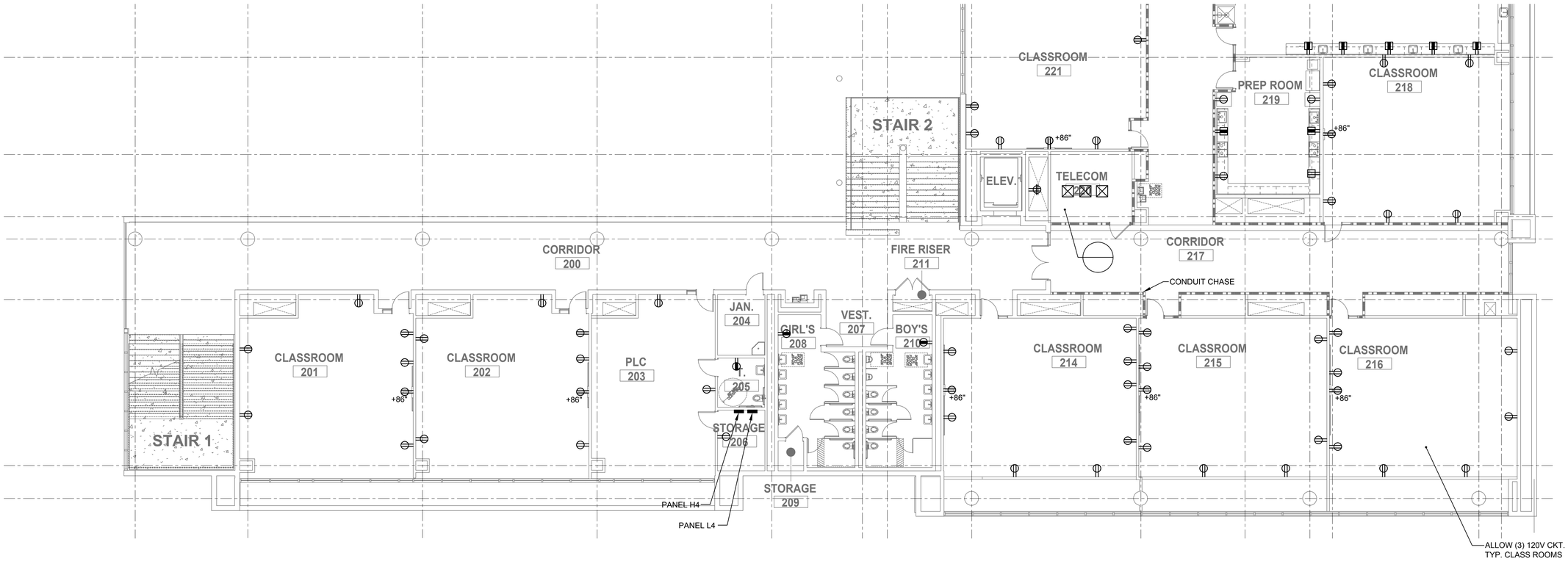
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SHEET NUMBER:
E2-1.2.1P

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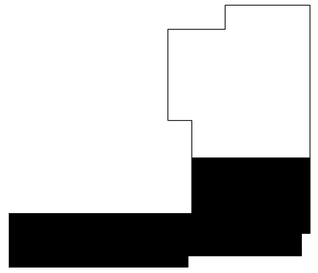
2ND FLOOR - POWER PLAN SOUTH

1/8" =1'-0"

KEYNOTES

GENERAL NOTES

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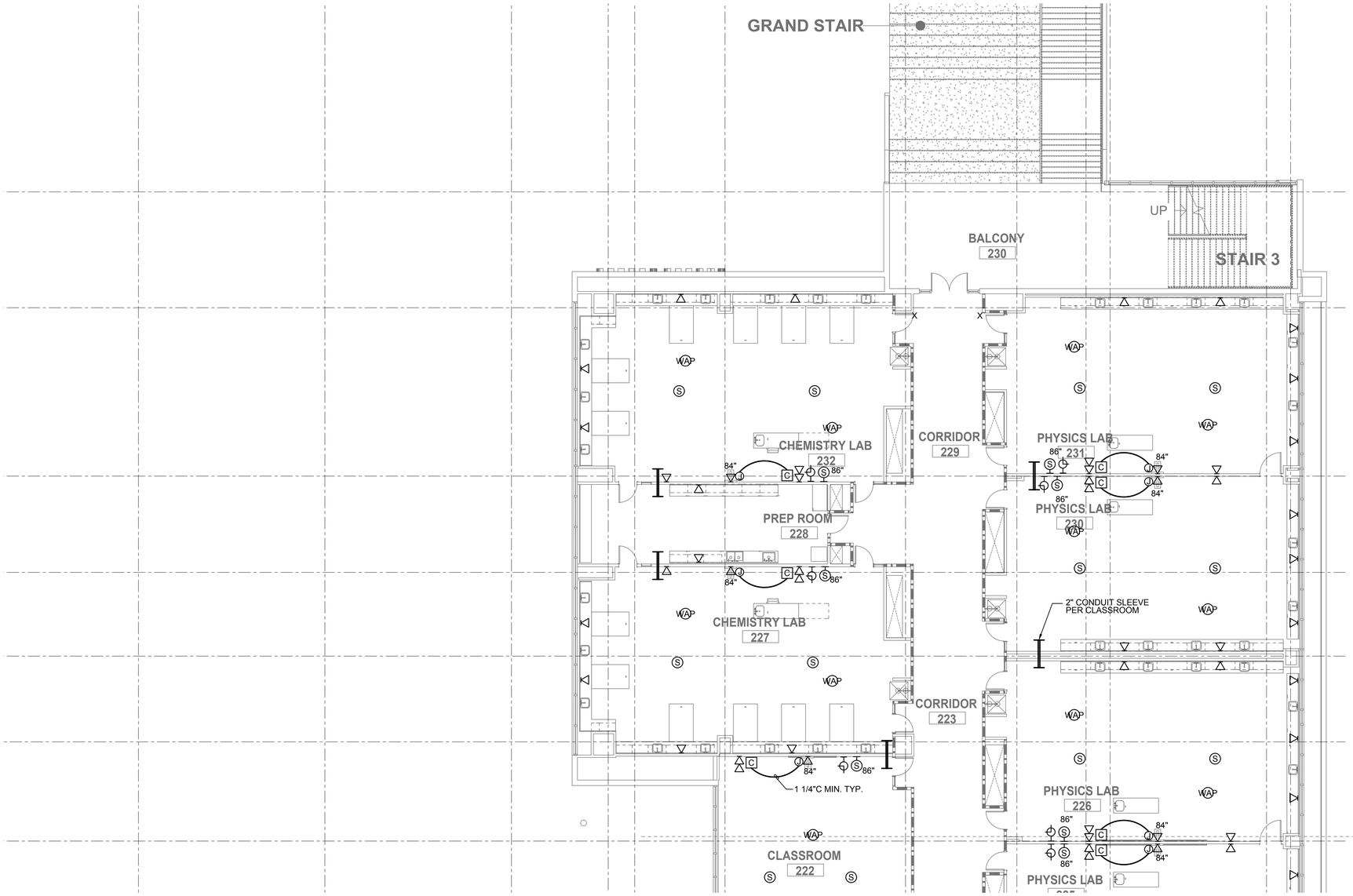
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SECOND FLOOR POWER PLAN SOUTH

SHEET NUMBER:
E2-1.2.2P

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2ND FLOOR - LOW VOLTAGE PLAN

1/8" =1'-0"

NORTH

KEYNOTES

PROVIDE THE FOLLOWING SYSTEM:

- CLOCK/SPEAKER (ATLAS SYSTEM = 4 DATA DROPS)
- A/V SYSTEM
- INTRUSION SECURITY
- CCTV
- DATA
- EXTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- INTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- DOOR CONTROL (ACCESS CONTROL)

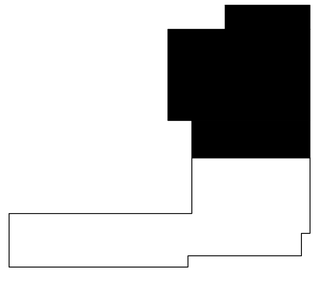
TYPICAL CLASSROOM

1. WAP (4)
2. SPEAKER/ CLOCK (1)
3. TEACHERS LOCATION (2)
4. PROJECTOR (1)
5. STUDENT (4)

TOTAL=12 DROPS

GENERAL NOTES

KEY PLAN



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SHEET TITLE:

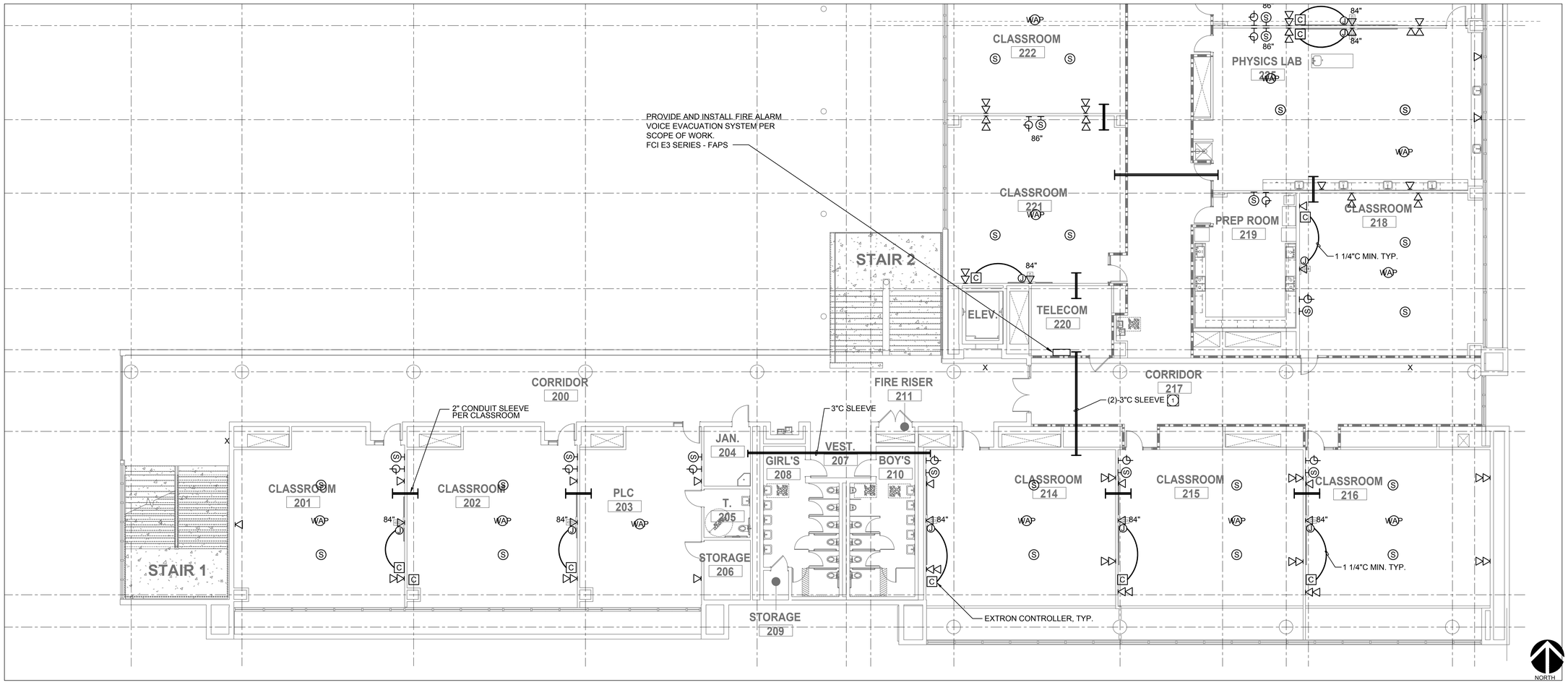
SECOND FLOOR LOW VOLTAGE PLAN NORTH

SHEET NUMBER:

E2-1.2.1LV

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2ND FLOOR - LOW VOLTAGE PLAN SOUTH 1

1/8" =1'-0"

KEYNOTES

PROVIDE THE FOLLOWING SYSTEM:

- CLOCK/SPEAKER (ATLAS SYSTEM = 4 DATA DROPS)
- A/V SYSTEM
- INTRUSION SECURITY
- CCTV
- DATA
- EXTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- INTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- DOOR CONTROL (ACCESS CONTROL)

TYPICAL CLASSROOM

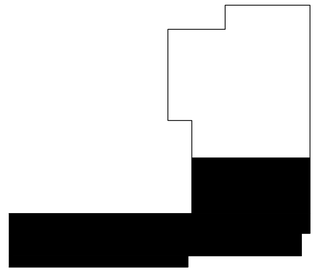
1. WAP (4)
2. SPEAKER/ CLOCK (1)
3. TEACHERS LOCATION (2)
4. PROJECTOR (1)
5. STUDENT (4)

TOTAL=12 DROPS

GENERAL NOTES

1 EXPANSION SLEEVE

KEY PLAN



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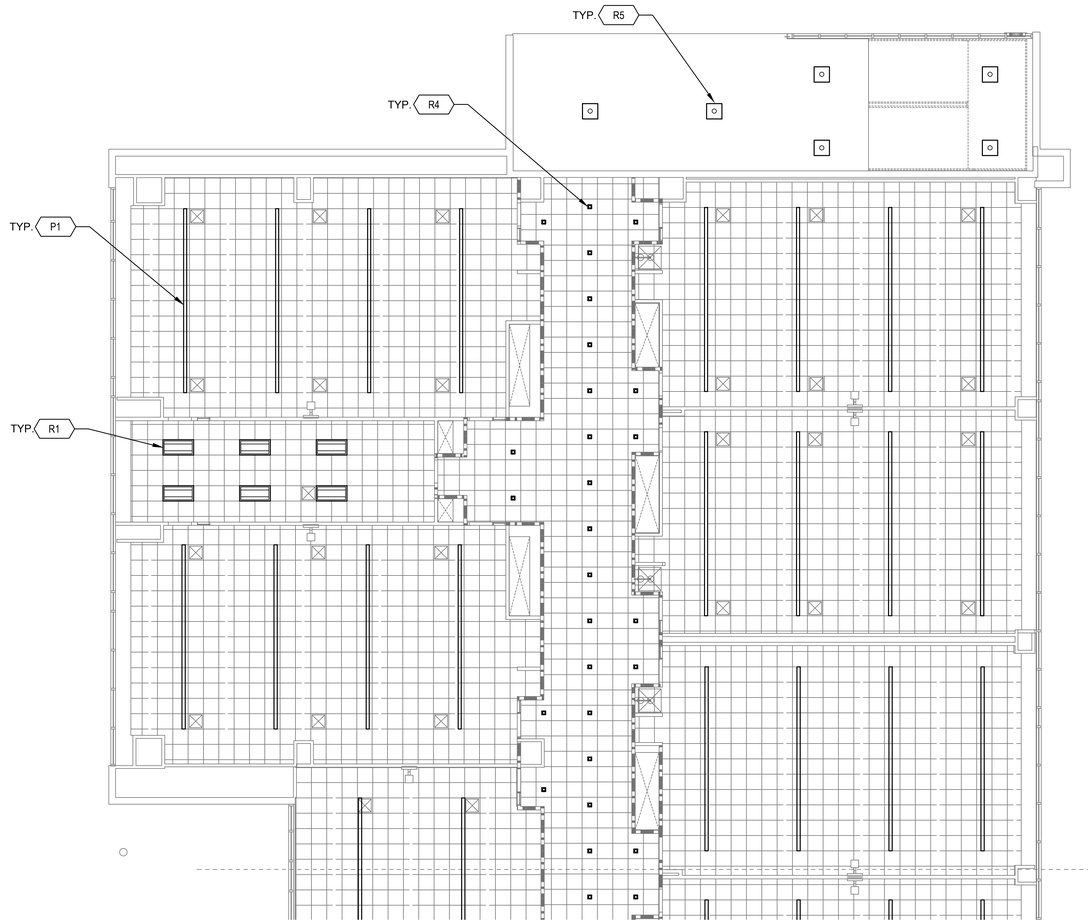
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SECOND FLOOR LOW VOLTAGE PLAN SOUTH

SHEET NUMBER:
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2ND FLOOR - LIGHTING PLAN NORTH

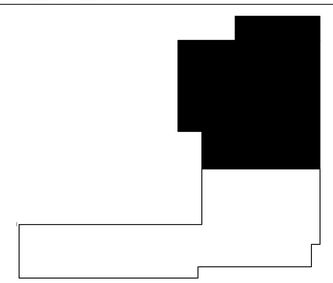
1/8" = 1'-0"

NORTH

KEYNOTES

GENERAL NOTES

KEY PLAN



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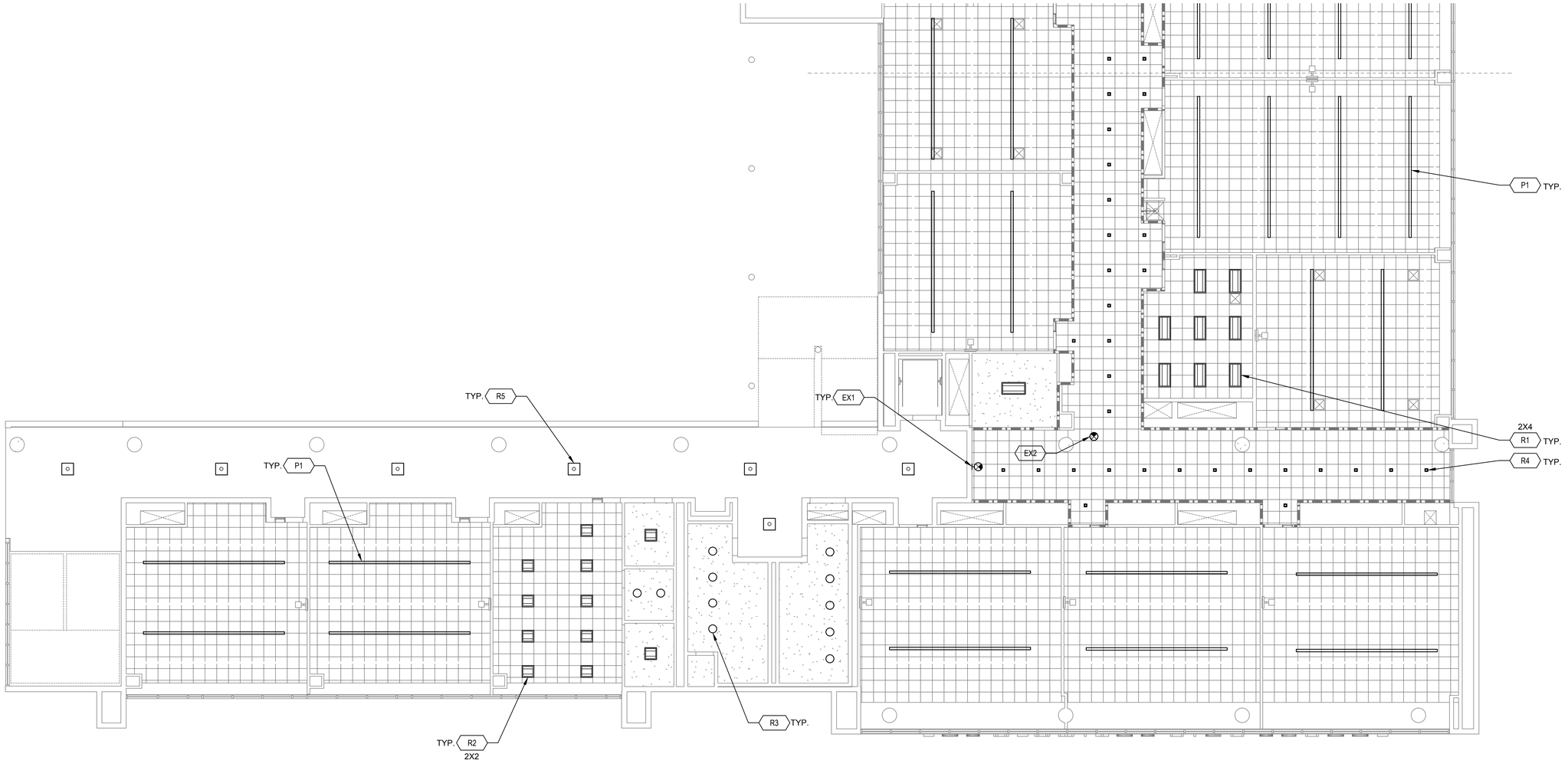
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SHEET NUMBER:
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2ND FLOOR - LIGHTING PLAN SOUTH

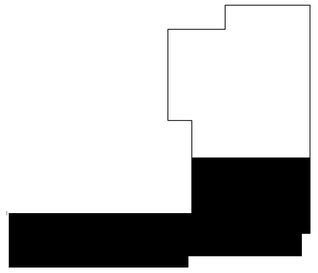
1/8" =1'-0"

NORTH

KEYNOTES

GENERAL NOTES

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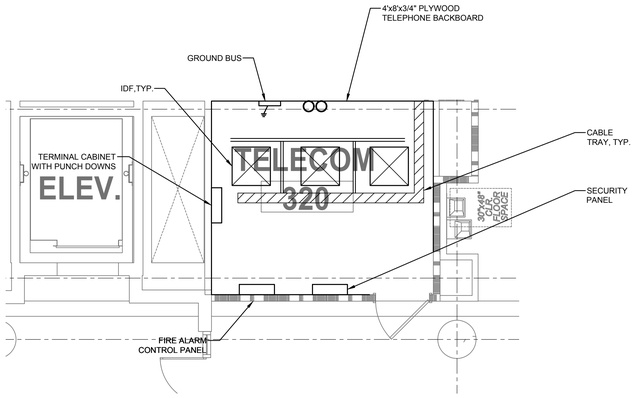
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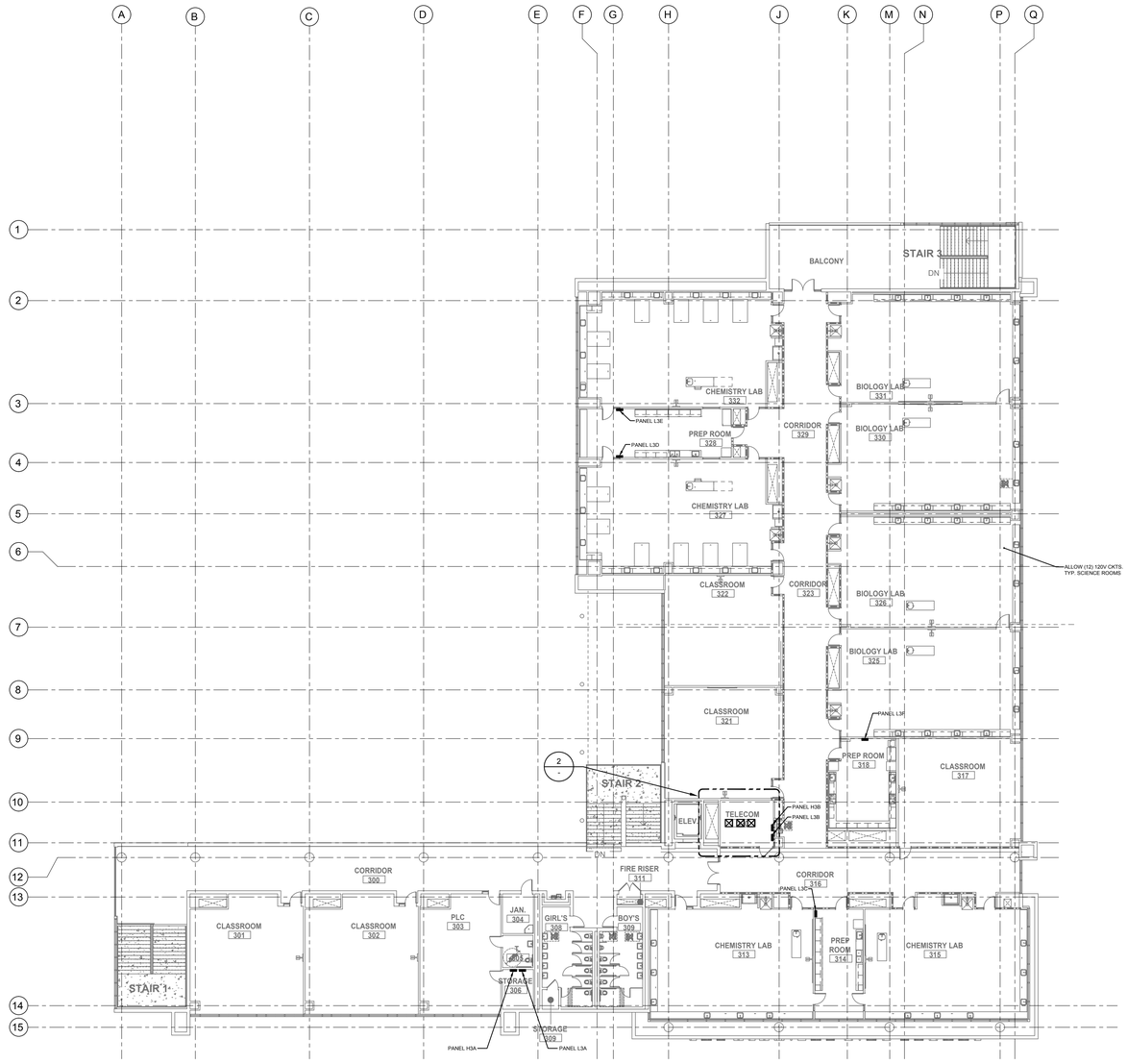
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FIRST FLOOR - TELE ROOM 2

1/4" =1'-0"

NORTH

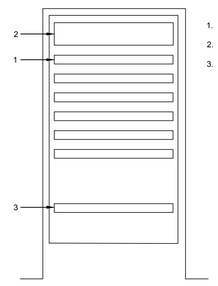


THIRD FLOOR - POWER PLAN OVERALL 1

1/16" =1'-0"

NORTH

IDF DETAILS



NOTES:

1. PROVIDE AND INSTALL (12) CAT 6, 48 PORT PATCH PANEL.
2. PROVIDE AND INSTALL (1) 72 PORT FIBER TERMINAL.
3. PROVIDE (1) CAT 6 PATCH PANEL FOR VOICE EXTENSION FROM MPOE.

KEYNOTES

GENERAL NOTES

1 XXX

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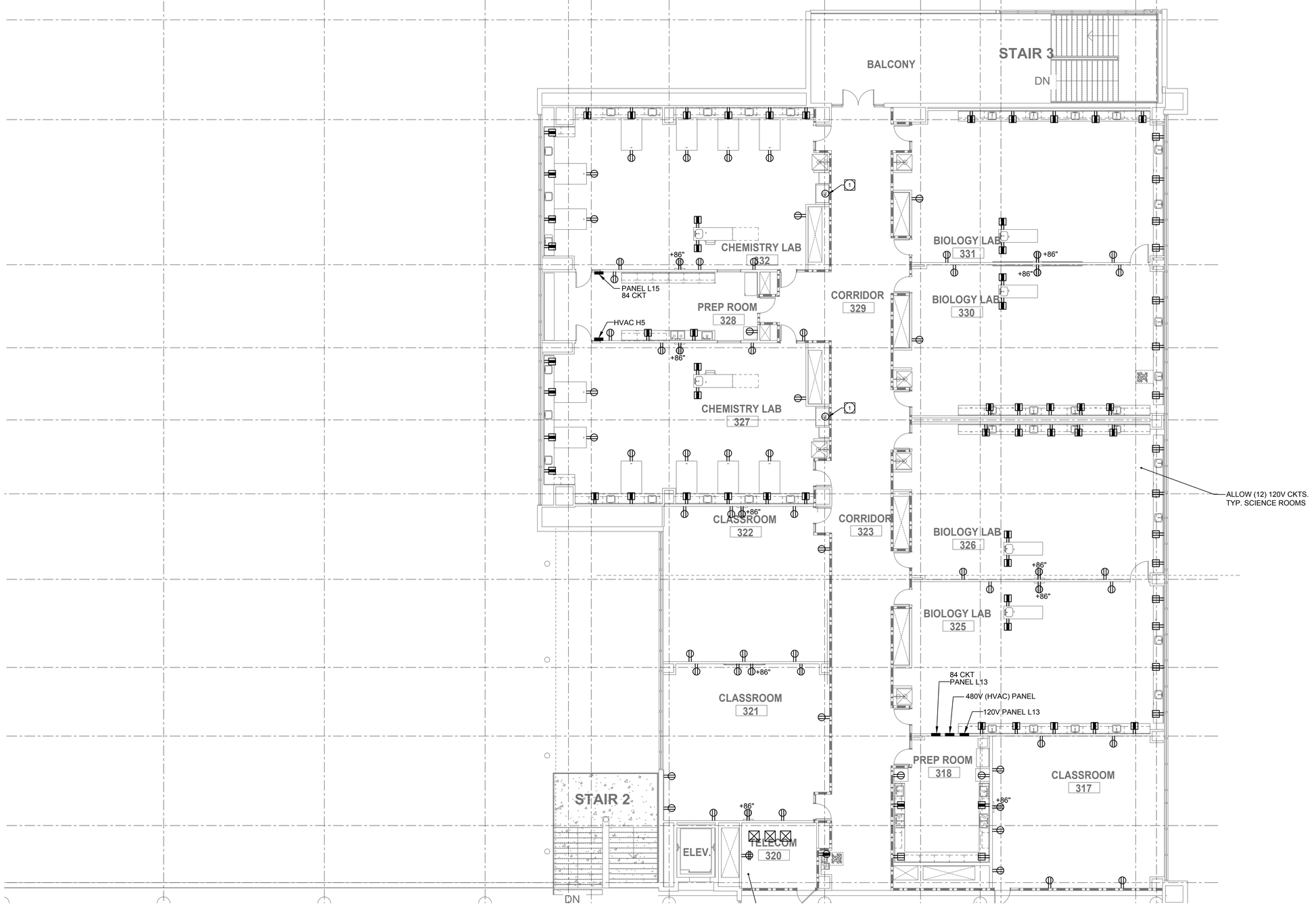
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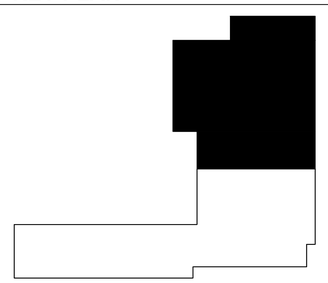
THIRD FLOOR - POWER PLAN NORTH 1 1/8" =1'-0"

KEYNOTES

GENERAL NOTES

1. CONNECT TO FUME HOOD.
2. DISHWASHER.

KEY PLAN



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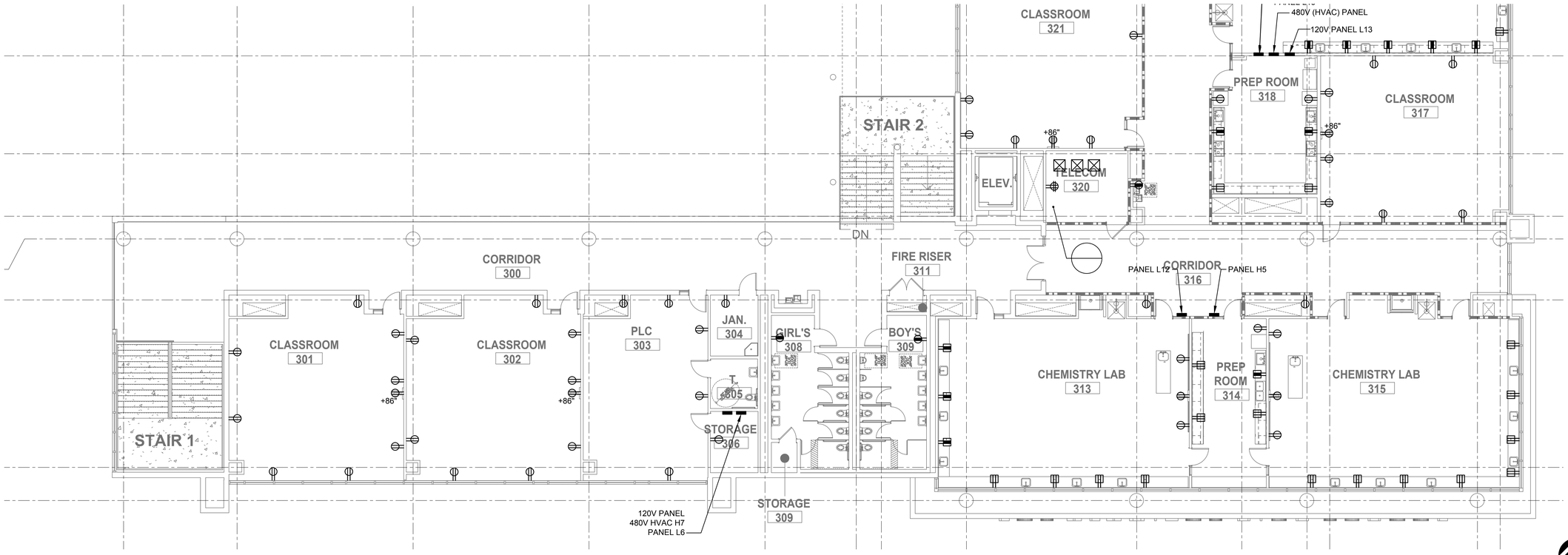
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THIRD FLOOR POWER PLAN NORTH

SHEET NUMBER:
E2-1.3.1P

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THIRD FLOOR - POWER PLAN SOUTH

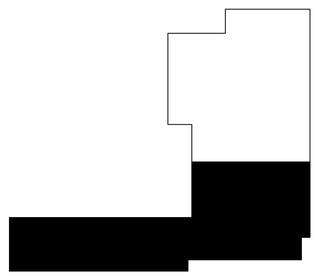
1/8" =1'-0"

KEYNOTES

GENERAL NOTES

1 xxx

KEY PLAN



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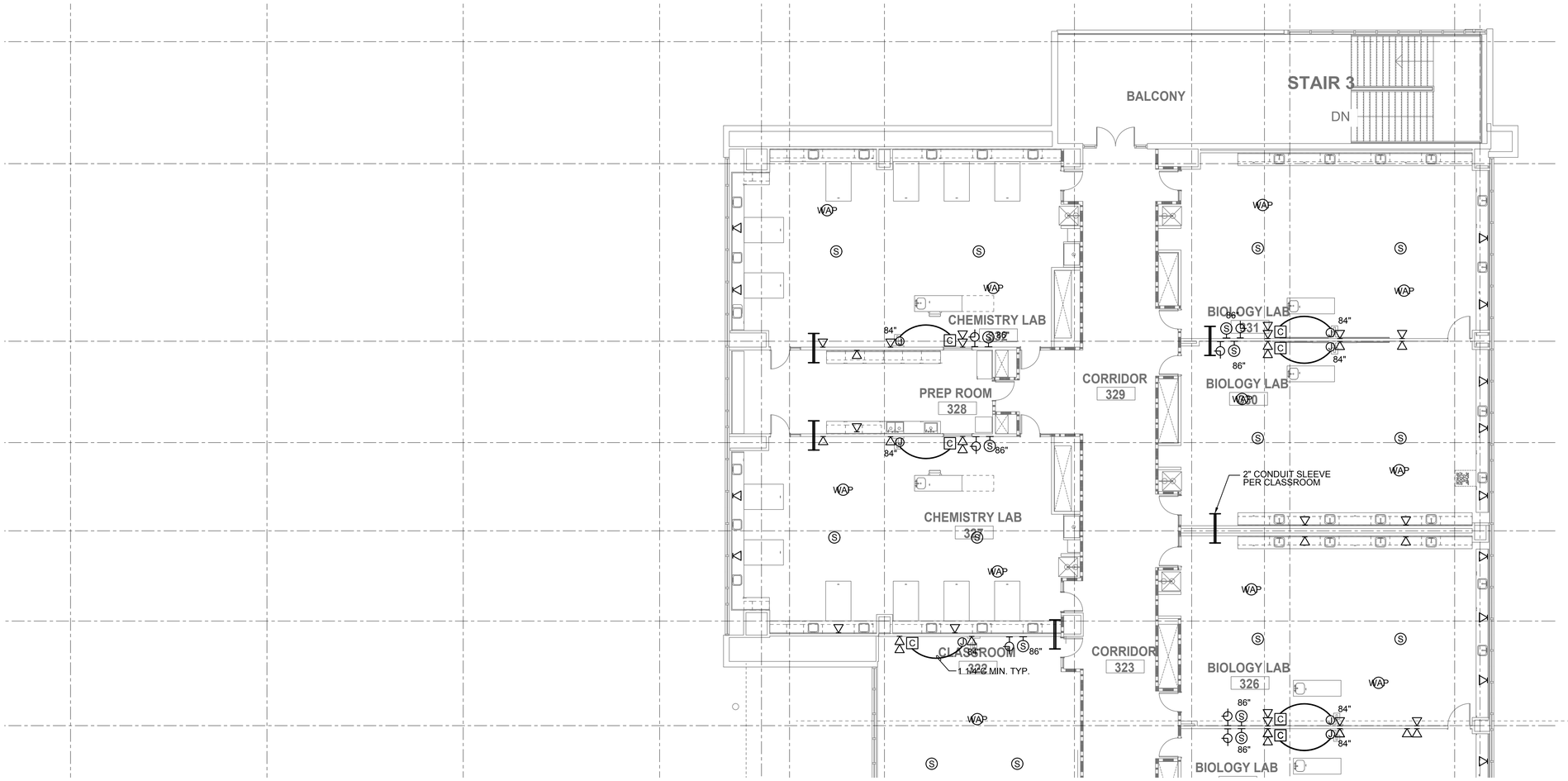
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NORTH

THIRD FLOOR - LOW VOLTAGE PLAN NORTH 1

1/8" = 1'-0"

KEYNOTES

PROVIDE THE FOLLOWING SYSTEM:

- CLOCK/SPEAKER (ATLAS SYSTEM = 4 DATA DROPS)
- A/V SYSTEM
- INTRUSION SECURITY
- CCTV
- DATA
- EXTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- INTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- DOOR CONTROL (ACCESS CONTROL)

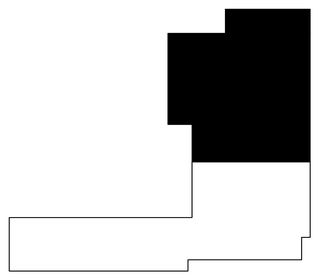
TYPICAL CLASSROOM

1. WAP (4)
2. SPEAKER/ CLOCK (1)
3. TEACHERS LOCATION (2)
4. PROJECTOR (1)
5. STUDENT (4)

TOTAL=12 DROPS

GENERAL NOTES

KEY PLAN



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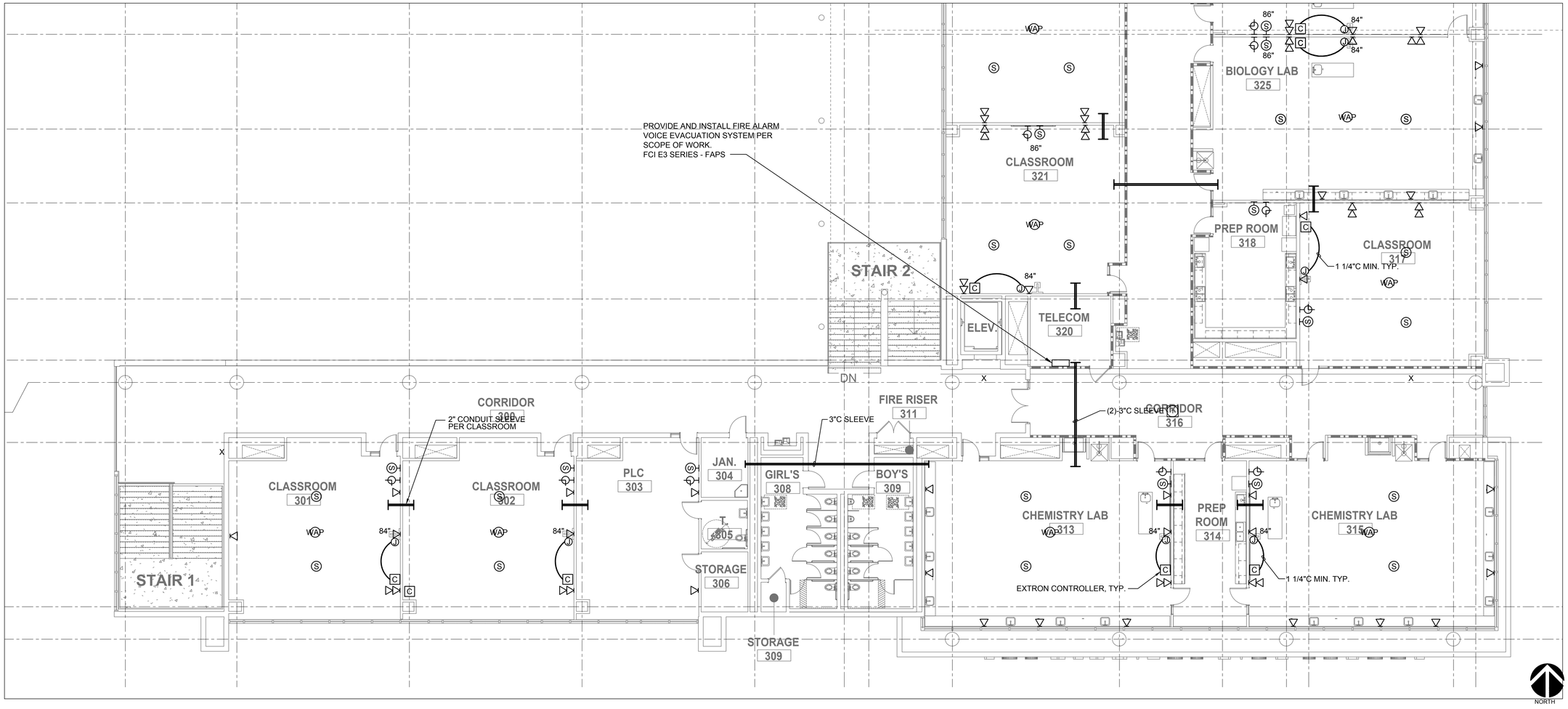
REGISTRATION/SIGNATURE:

SHEET TITLE:
THIRD FLOOR LOW VOLTAGE PLAN NORTH

SHEET NUMBER:
E2-1.3.1LV

WD PROJ. #	DRAWN BY:	CHECKED	DATE

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THIRD FLOOR - LOW VOLTAGE PLAN SOUTH 1 — 1/8" =1'-0"

KEYNOTES

PROVIDE THE FOLLOWING SYSTEM:

- CLOCK/SPEAKER (ATLAS SYSTEM = 4 DATA DROPS)
- A/V SYSTEM
- INTRUSION SECURITY
- CCTV
- DATA
- EXTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- INTERIOR CLASS PASSING SPEAKER (1 DATA NODE)
- DOOR CONTROL (ACCESS CONTROL)

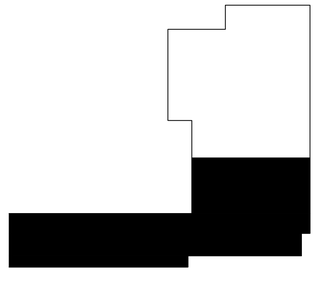
TYPICAL CLASSROOM

1. WAP (4)
2. SPEAKER/ CLOCK (1)
3. TEACHERS LOCATION (2)
4. PROJECTOR (1)
5. STUDENT (4)

TOTAL=12 DROPS

GENERAL NOTES

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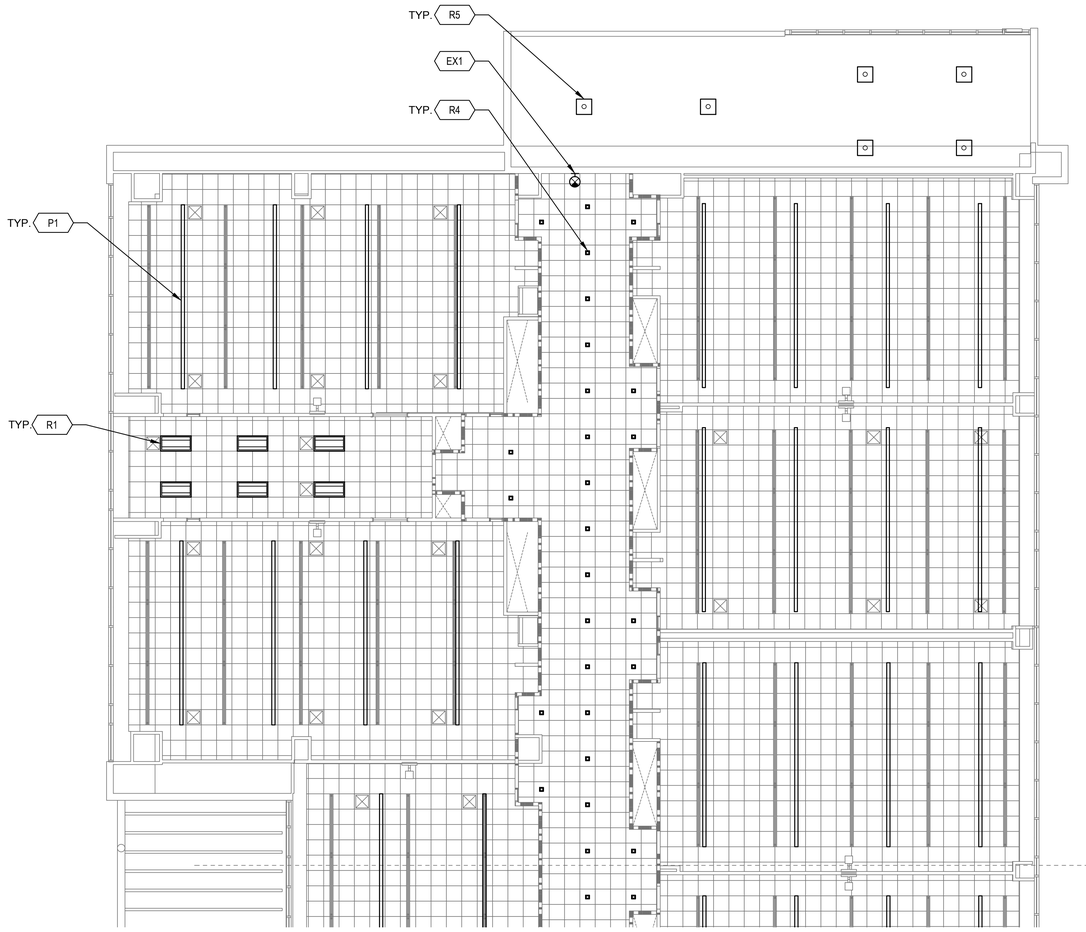
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SHEET TITLE:
THIRD FLOOR LOW VOLTAGE PLAN SOUTH

SHEET NUMBER:
E2-1.3.2LV

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THIRD FLOOR - LIGHTING PLAN NORTH 1

1/8" =1'-0"

NORTH

KEYNOTES

GENERAL NOTES

LV 6-2"C.O.
- FIRE ALARM
- DATA
- COMMUNICATION
- SECURITY
- 2-2" SPARE

HDAG HDT2 FEEDER CONDUCTORS.

4SP... 4" CONDUIT ONLY (X) QUANTITY.

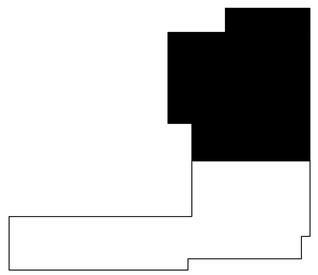
1 PULL IN FEEDER AS SHOWN ON SINGLE LINE DIAGRAM.

2 INTERCEPT CONDUIT STUBS AND EXTEND.

3 INTERCEPT PULL BOX AND EXTEND CONDUIT PATHWAY.

4 CAP AND MARK CONDUIT STUBS.

KEY PLAN



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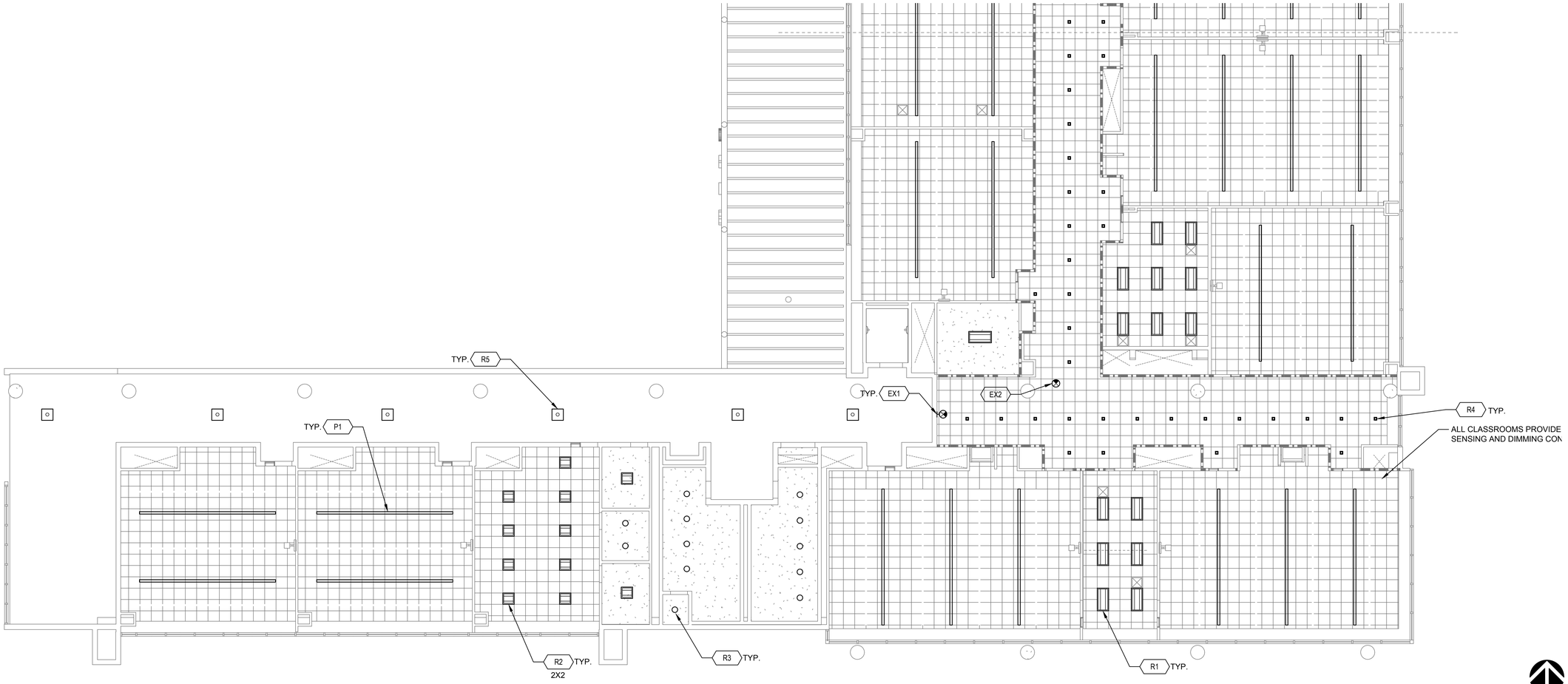
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SHEET TITLE:
THIRD FLOOR LIGHTING PLAN

SHEET NUMBER:
E3-1.3.1L

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THIRD FLOOR - LIGHTING PLAN SOUTH 1

1/8" =1'-0"

KEYNOTES

LV 6-2"C.O.
- FIRE ALARM
- DATA
- COMMUNICATION
- SECURITY
- 2-2" SPARE

HDAG HDT2 FEEDER CONDUCTORS.

4SP 4" CONDUIT ONLY (X) QUANTITY.

1 PULL IN FEEDER AS SHOWN ON SINGLE LINE DIAGRAM.

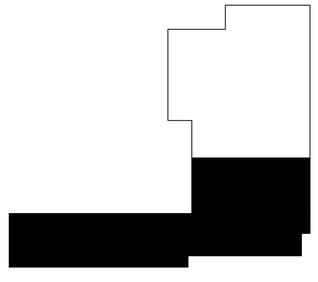
2 INTERCEPT CONDUIT STUBS AND EXTEND.

3 INTERCEPT PULL BOX AND EXTEND CONDUIT PATHWAY.

4 CAP AND MARK CONDUIT STUBS.

GENERAL NOTES

KEY PLAN



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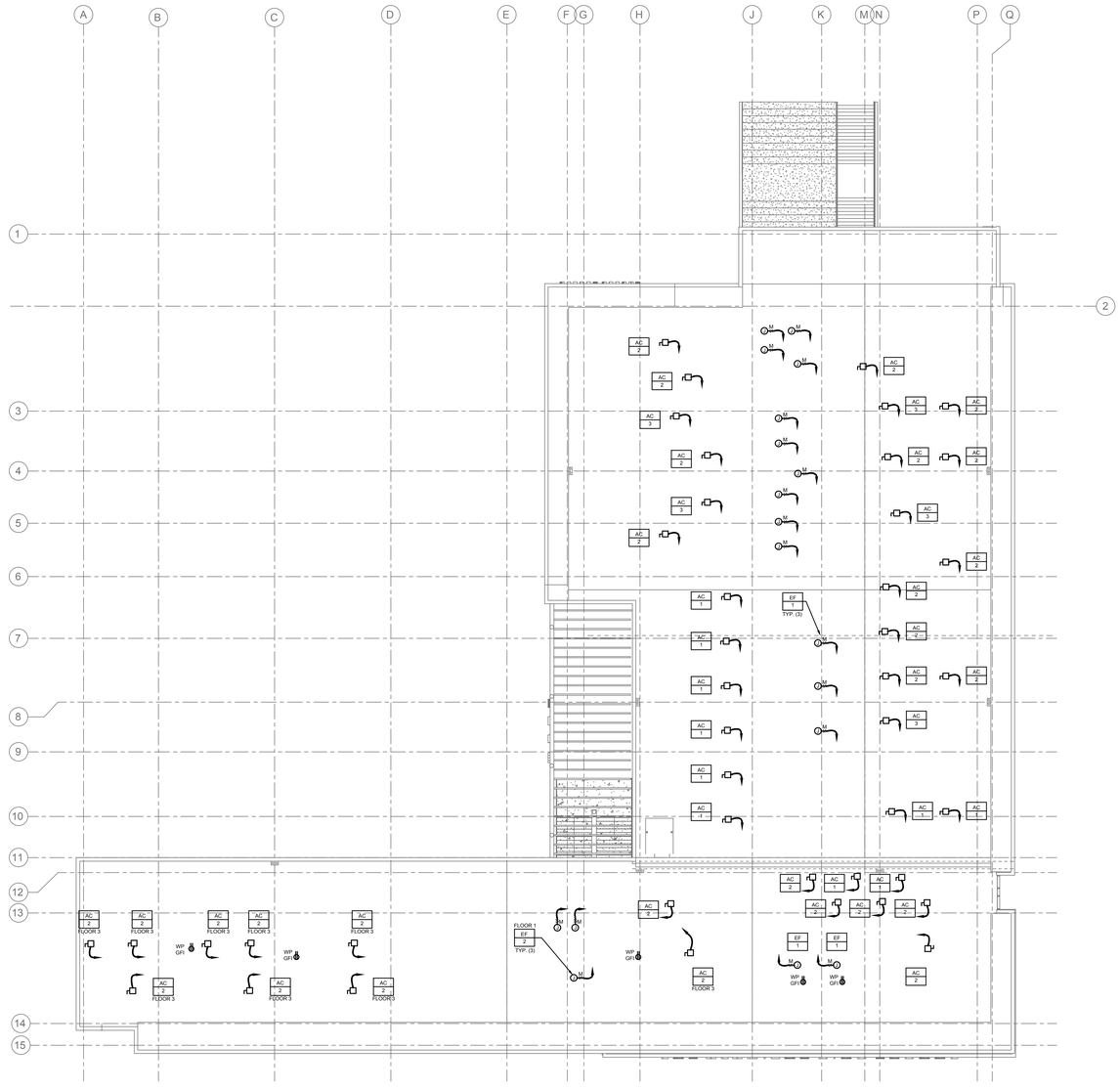
REGISTRATION/SIGNATURE:

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THIRD FLOOR LIGHTING PLAN SOUTH

SHEET NUMBER:
E3-1.3.2L

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ROOF - POWER PLAN 1

1/16" =1'-0"

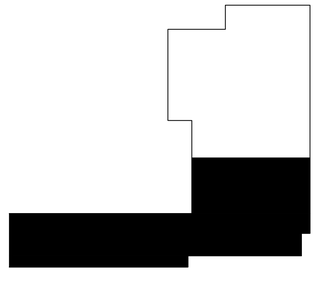
NORTH

KEYNOTES

GENERAL NOTES

1 XXX

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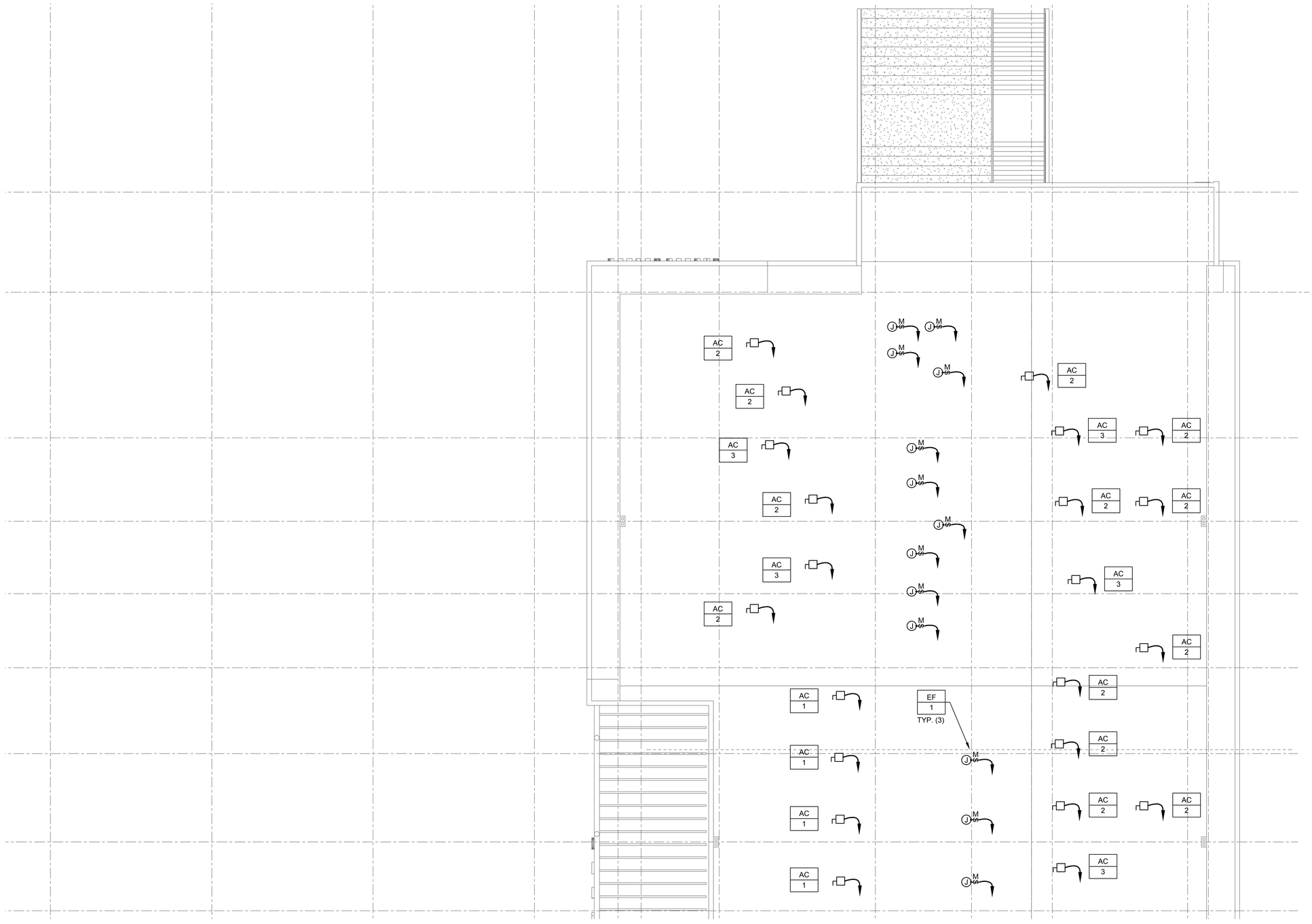
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ROOF POWER PLAN

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ROOF - POWER PLAN NORTH 1

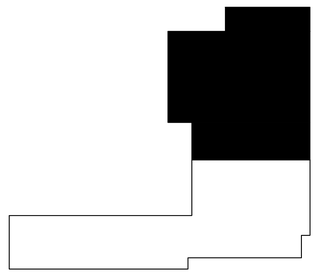
1/8" =1'-0"

KEYNOTES

GENERAL NOTES

1

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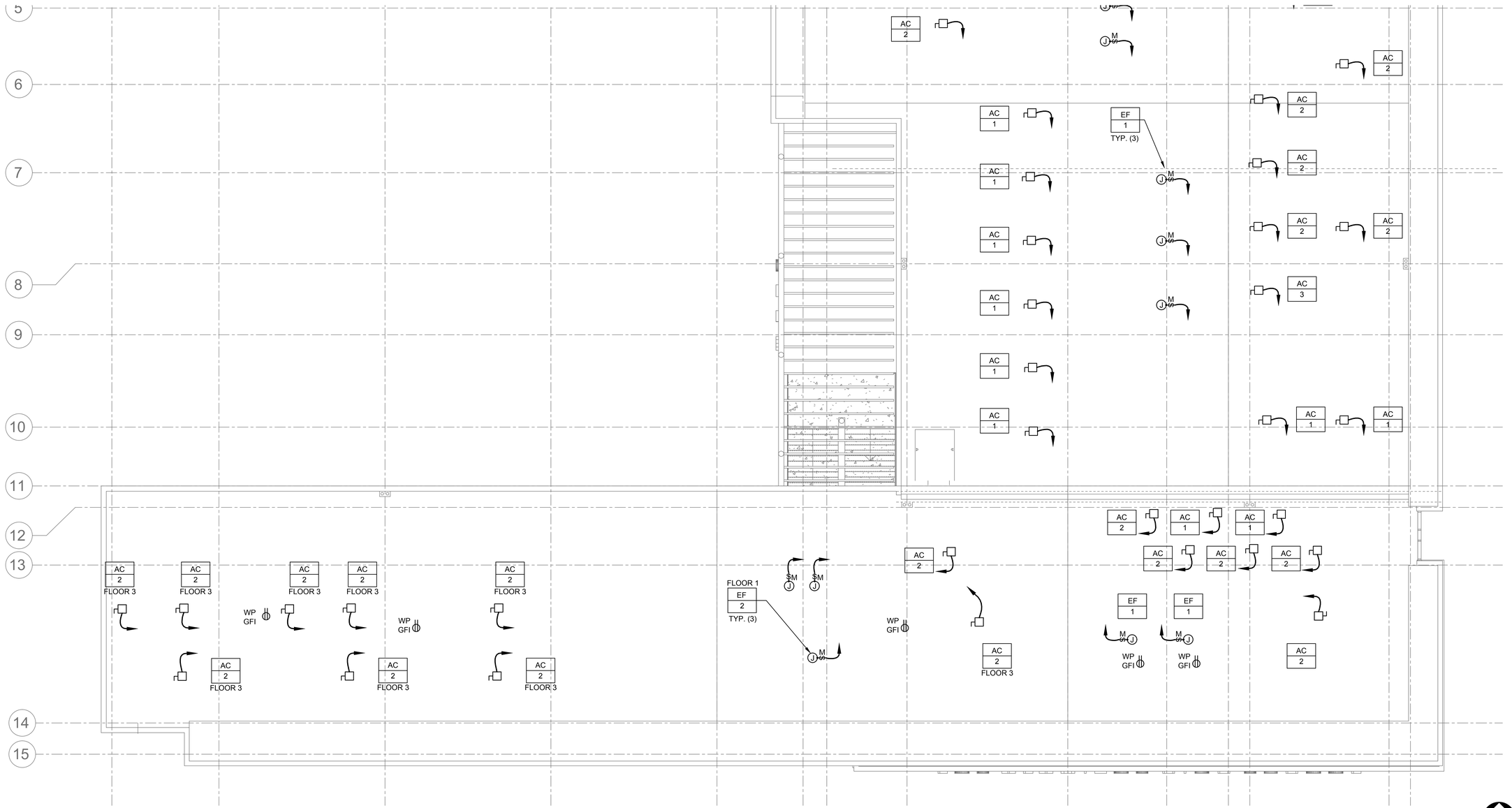
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ROOF - POWER PLAN SOUTH 1

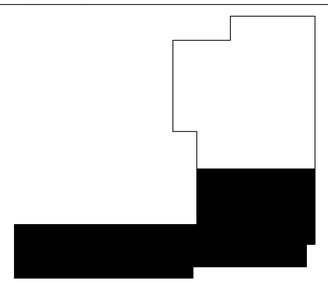
1/8" =1'-0"

KEYNOTES

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ROOF POWER PLAN SOUTH

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E2-2.1.2P

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GENERAL NOTES - LIGHTING FIXTURE/SCHEDULE:

1. ALL LIGHTING FIXTURES SHALL BE LABELED WITH THE APPROPRIATE UL LABEL (DAMP, WET, ETC) AS REQUIRED BY CODES AND LOCAL ORDINANCES.

2. SHOP DRAWING SUBMITTALS SHALL INCLUDE ALL FIXTURES, LAMPS, AND BALLAST INFORMATION. ANY SHOP DRAWINGS WHICH ARE SUBMITTED WITHOUT ANY ONE OF THESE ITEMS WILL BE REJECTED AS INCOMPLETE AND WILL BE REQUIRED TO BE RESUBMITTED WITH THE REQUIRED INFORMATION.

3. ALL LIGHTING FIXTURE SPECIFIC INFORMATION (TYPE, LAMPING, BALLAST, COLOR, MOUNTING, ETC.) HAS BEEN SPECIFIED WITH THE CONSIDERATION OF SPECIFIC PERFORMANCE AND AESTHETIC REQUIREMENTS. ANY SUBSTITUTION OF THE SPECIFIED FIXTURES IS SUBJECT TO THE ARCHITECT AND ENGINEER OF RECORDS FINAL APPROVAL AND ARE SUBJECT TO THE FOLLOWING CRITERIA:

   a. AN OPERABLE SAMPLE WITH THE SPECIFIED LAMP/BALLAST COMBINATION AND A 120V CORD AND PLUG.

   b. SITE LIGHTING FIXTURES - PROVIDE A COMPLETE PHOTOMETRIC REPORT WHICH INCLUDES THE FOLLOWING INFORMATION SITE PLAN WHICH CLEARLY IDENTIFIES FOOT-CANDLE LEVELS. PLAN IS TO INCLUDE ALL INPUT DATA UTILIZED IN THE CALCULATION (LAMP/BALLAST TYPE, LAMP LUMENS, LIGHT LOSS FACTOR, ETC.). IN SITUATIONS WHERE SUBSTITUTIONS AFFECT FIXTURES EQUIPPED WITH EMERGENCY BATTERY PACKS, OR OTHER EMERGENCY SOURCES OF POWER, PROVIDE ADDITIONAL PHOTOMETRIC REPORT(S) WHICH CLEARLY IDENTIFY A MINIMUM 1.0 FOOT-CANDLES ALONG THE PATH(S) OF EGRESS - THIS REPORT SHALL ALSO INCLUDE ALL INPUT DATA UTILIZED IN THE CALCULATIONS (FOR FIXTURES UTILIZING AN EMERGENCY BATTERY PACK INCLUDE THE LUMEN RATING AND QUANTITY OF LAMPS FOR THE EMERGENCY BATTERY PACK). SEE BELOW FOR PHOTOMETRIC PLAN GUIDELINES:

      1) POINT BY POINT SPACING IS NOT EXCEED 10'-0" IN ANY DIRECTION.

      2) PHOTOMETRIC STUDY IS TO BE BASED ON A MAINTAINED FOOT-CANDLE LEVEL USING MEAN LAMP LUMENS AND A LIGHT LOSS FACTOR TO BE DETERMINED BY THE ENGINEER OF RECORD.

      3) ASSOCIATED REPORT TO INCLUDE AN ENERGY COST MODEL WHICH IDENTIFIES ADDITIONAL ENERGY OR ENERGY COSTS FOR A 10-YEAR PERIOD AS COMPARED TO THE SPECIFIED ITEM. ALL ADDITIONAL EXPENSES WILL BE SUBTRACTED FROM THE CONTRACT COST.

   c. INTERIOR LIGHTING FIXTURES - SPECIFIC INTERIOR FIXTURES AS DETERMINED BY THE ENGINEER OF RECORD WILL REQUIRE SUPPLEMENTAL PHOTOMETRIC REPORTS CONFIRMING SUBSTITUTE FIXTURE LIGHT LEVELS EQUAL OR EXCEED DESIGNED LIGHT LEVELS IN SPACES IDENTIFIED. IF THE SUBSTITUTED FIXTURE IS AN EMERGENCY FIXTURE A PHOTOMETRIC REPORT SHALL BE SUBMITTED FOR ALL PATHS OF EGRESS WHICH CLEARLY IDENTIFIES 1.0 MINIMUM FOOT-CANDLES ALONG THE PATH. IN ADDITION, TEST SWITCH MOUNTING (INTEGRAL OR REMOTE) SHALL MATCH THE MOUNTING AS SPECIFIED ON THE DESIGN DOCUMENTS - CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED COVER PLATES, TRIMS, REFLECTORS, ETC NECESSARY FOR THE SPECIFIC TEST SWITCH MOUNTING. ALL REPORTS SHALL INCLUDE INPUT DATA UTILIZED IN THE CALCULATIONS (FOR FIXTURES UTILIZING AN EMERGENCY BATTERY PACK INCLUDE THE LUMEN RATING AND QUANTITY OF LAMPS FOR THE EMERGENCY BATTERY PACK).

   d. MANUFACTURER'S CATALOG CUT SHEET WHICH INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING INFORMATION: 1) LAMP TYPES AND QUANTITIES; 2) BALLAST OPTIONS; 3) VOLTAGES; 4) EPA RATING (WHERE APPLICABLE); 5) FIXTURE DIMENSIONS; 5) EMERGENCY BATTERY PACK AND TEST SWITCH OPTIONS (WHERE APPLICABLE); AND 6) FIXTURE FINISHES.

   e. FOR ALL SITE LIGHTING FIXTURES PROVIDE POLE SPECIFICATIONS WITH SUPPLEMENTAL DOCUMENTATION IDENTIFYING POLE SIZE IS RATED ACCORDINGLY BASED ON FIXTURE(S) EPA AND A WIND RATING FOR THE PROJECT ZONE.

   f. A SIGNED COPY OF THE "SUBSTITUTION COMPLIANCE FORM" LOCATED IN THE DIVISION 1 SPECIFICATION WHICH STATES THAT IF THE PROPOSED SUBSTITUTION IS ACCEPTED, THEN THE PROJECT SCHEDULE WILL NOT BE NEGATIVELY AFFECTED. IF THE COMPLETION OF THE PROJECT IS DELAYED DUE TO THE PROPOSED SUBSTITUTION THEN THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL ESTABLISHED LIQUIDATED DAMAGES.

   g. CONTRACTOR TO PROVIDE ARCHITECT AND ENGINEER OF RECORD WITH ALL SUBSTITUTE INFORMATION REFERENCED ABOVE NO LATER THAN TWO WORKING WEEKS PRIOR TO THE BID DEADLINE.

4. CATALOG NUMBERS AS REFERENCED ON THE FIXTURE SCHEDULE PROVIDE GENERAL FIXTURE INFORMATION. CONTRACTOR SHALL REVIEW LIGHTING PLANS AND SPECIFICATIONS TO VERIFY ALL FIXTURE ASSOCIATED DESIGN INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND PIECES REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION. ANY DISCREPANCIES BETWEEN DESCRIPTIONS, SPECIFICATIONS, AND CATALOG NUMBERS ARE TO BE PRESENTED TO THE ENGINEER OF RECORD PRIOR TO COMPLETION OF THE BID PROCESS FOR CLARIFICATION.

5. ALL COLOR SPECIFIC INFORMATION WHICH RELATES TO LIGHTING FIXTURES AND/OR THEIR RELATED PARTS ARE TO BE REVIEWED AND COMMENTED ON BY THE ARCHITECT. FIXTURES WHICH REQUIRE A CUSTOM COLOR WILL HAVE A CUSTOM COLOR PAINT WHICH WILL BE INCLUDED IN THE ARCHITECT'S SHOP DRAWING REVIEW COMMENTS.

6. ALL LIGHTING EQUIPMENT LOCATIONS ARE TO BE COORDINATED WITH THE ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ORDERING AND INSTALLING.

7. ALL FIXTURES MOUNTED IN FIRE RATED CEILINGS ARE TO BE PROVIDED AND INSTALLED WITH AN APPROVED FIRE RATED ENCLOSURE.

8. ENSURE COMPATIBILITY OF ALL DIMMING SYSTEM AND INDIVIDUAL LIGHTING CONTROLS WITH LAMPS AND FIXTURES. ALL COMPONENTS ARE TO BE FACTORY CERTIFIED COMPATIBLE FOR A FULL RANGE OF DIMMING.

9. LIGHTING FIXTURE CLEARANCES FROM COMBUSTIBLE MATERIALS ARE TO BE A MINIMUM OF 1/2" (OTHER THAN AT POINTS OF SUPPORT) AND 3" FROM INSULATION FOR NON-IC RATED RECESSED LIGHTING FIXTURES.

10. ALL LIGHTING FIXTURES TO BE MOUNTED IN A SUSPENDED CEILING ARE TO BE SUPPORTED BY T-BAR CLIPS AND (2)#12 SUPPORT WIRES ATTACHED TO THE BUILDING FRAME. IN ADDITION, LIGHTING FIXTURES ARE TO BE SECURED TO THE CEILING GRID WITH (4) SHEET METAL SCREWS ((1) AT EACH CORNER OF THE FIXTURE) - SCREWS SHALL BE NEITHER VISIBLE NOR IMPEDE THE INSTALLATION OF CEILING TILES.

11. ALL LIGHTING FIXTURES WHICH ARE TO BE MOUNTED IN FOOD SERVICE AREAS SHALL BE PROVIDED WITH THE FOLLOWING CHARACTERISTICS: DOOR TO FRAME GASKETS; LENS TO FRAME GASKETS; INVERTED LENS; AND A FOOD SERVICE RATING.

13. ALL FIXTURES MUST BE SUPPLIED WITH "QUICK DISCONNECT" SAFETY BALLASTS WHICH ARE UL AND CSA CERTIFIED IN ACCORDANCE WITH NEC 410.73(G) AND CEC 30-308(4).

14. ALL FIXTURES ARE TO BE PROVIDED WITH THE REQUIRED UL AND CBM LABELS AND MUST CONFORM TO T-24 STANDARDS AND REQUIREMENTS FOR PERFORMANCE AND EFFICIENCY.

15. ALL FIXTURES, TRIMS, AND LAMPS SHALL BE CLEANED AND FREE FROM DIRT, DUST, LABEL/ADHESIVE, AND FINGER PRINTS.

16. FIXTURES REFERENCED ON THE PLANS TO BE WIRED IN TANDEM (MASTER/SATTELITE) ARE TO BE INSTALLED FOLLOWING THE GUIDELINES REFERENCED BELOW:

   a. FIXTURES ARE TO BE PROVIDED WITH MULTIPLE BALLASTS AS REQUIRED. FIXTURES TO BE PROVIDED WITH FACTORY SPECIFIED AND INSTALLED WIRING HARNESS OF LENGTHS SPECIFIED ON THE PLANS. ALL AREAS WITH TANDEM FIXTURES ARE TO BE PROVIDED WITH THE REQUIRED QUANTITY AND TYPE OF CONTROL DEVICES AS INDICATED ON PLANS.

   b. 3-LAMP FIXTURES TO BE TANDEM WIRED WITH ELECTRONIC BALLAST CONFIGURATIONS AS FOLLOWS:

      1) "M" REFERENCES A MASTER FIXTURE WHICH IS TO PROVIDED WITH (1) 4-LAMP BALLAST WHICH CONTROLS THE OUTBOARD LAMPS; AND (1) 2-LAMP BALLAST WHICH CONTROLS THE INBOARD LAMPS - OF BOTH THE MASTER ("M") AND THE SATELLITE ("S") FIXTURES.

      2) "S" REFERENCES A SATELLITE FIXTURE WHICH IS CONNECTED TO THE MASTER ("M") FIXTURE VIA FACTORY PROVIDED WIRING HARNESS OR WHIP.

      3) "O" REFERENCES AN ODD FIXTURE WHICH IS TO BE PROVIDED WITH (1) 2-LAMP BALLAST WHICH CONTROLS THE OUTBOARD LAMPS; AND (1) 1-LAMP BALLAST WHICH CONTROLS THE INBOARD LAMP.

      4) FIXTURES DESIGNATED AS "EMERGENCY" ARE TO BE PROVIDED WITH THE APPROPRIATE EMERGENCY BATTERY PACK (SEE EMERGENCY BATTERY PACK SPECS BELOW) AND ARE TO BE FED WITH SPECIFIED SWITCH LEGS, AS WELL AS A CONSTANT HOT CIRCUIT. EM BATTERY PACK IS TO BE MOUNTED IN THE MASTER FIXTURE.

      5) CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE APPROPRIATE LAMP AND BALLAST TYPE AND QUANTITY BASED ON THE FIXTURE SPECIFICATION AND SWITCHING CONFIGURATIONS.

18. EMERGENCY LIGHTING FIXTURES AND BATTERY PACKS ARE TO BE PROVIDED BASED ON FOLLOWING THE CRITERIA:

   a. FIXTURES SPECIFIED WITH INTEGRAL EMERGENCY BATTERY PACKS ARE TO BE FED USING THE FOLLOWING GUIDELINES:

      1a,1* - FOR EMERGENCY FIXTURES SPECIFIED WITH AN EMERGENCY BATTERY PACK REPRESENTS A FIXTURE WITH A NORMAL BALLAST TO BE CONNECTED TO SWITCH LEG "a" AND AN EMERGENCY BALLAST TO BE CONNECTED TO A CONSTANT HOT LEG "1" (CONSTANT HOT CIRCUITS ARE TO BE TAPPED AHEAD OF ANY TIME-CLOCK/PHOTO-CELL CONTROLLED DEVICES).

      1* - REPRESENTS ONE OF THE FOLLOWING FIXTURE TYPES WHICH ARE TO BE CONNECTED TO A CONSTANT HOT CIRCUIT "1": a) NORMAL FIXTURE DESIGNATED AS A NIGHT LIGHT (NL); b) EXIT SIGN(S); AND/OR c) AN EMERGENCY FIXTURE EQUIPPED WITH AN EMERGENCY BATTERY PACK WHICH ALSO SPECIFIED TO BE A NIGHT LIGHT. (ALL CONSTANT HOT CIRCUITS ARE TO BE TAPPED AHEAD OF ANY TIME-CLOCK/PHOTO-CELL CONTROLLED DEVICES)

   b. EMERGENCY BATTERY PACKS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:

      LED LAMPS:

      BODINE #BSL23 OR #BSL722 OR EQUAL IF AVAILABLE

      NOTE: ALL LED FIXTURES EQUIPPED WITH EMERGENCY BATTERY PACKS SHALL HAVE THE BATTERY PACKS FACTORY INSTALLED AND TESTED AT THE FIXTURE MANUFACTURER'S FACILITY TO ENSURE UL LISTING OF THE FIXTURE IS MAINTAINED. FIELD INSTALLATION OF LED EMERGENCY BATTERY PACKS IS STRICTLY PROHIBITED. NOTIFY ENGINEER OF RECORD SHOULD SPECIFIED FIXTURE NOT HAVE ADEQUATE SPACE TO ACCOMMODATE THE EMERGENCY BATTERY PACK. CONTRACTOR TO MODIFY BASE BID TO INCLUDE ALL NECESSARY EQUIPMENT FOR A COMPLETE AND OPERATIONAL, ADEQUATELY SIZED MINIATURE INVERTER SYSTEM TO BE MOUNTED IN NEAREST ELECTRICAL ROOM IN THE EVENT THE BATTERY PACK CAN NOT BE INSTALLED IN THE FIXTURE.

      NOTE: ALL BATTERY PACKS ARE TO BE FACTORY INSTALLED IN FIXTURE ASSEMBLIES WHEN APPLICABLE. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CONTACTING FIXTURE MANUFACTURERS TO VERIFY SPECIFIED (OR APPROVED SUBSTITUTE) FIXTURE HAS ADEQUATE SPACE WITHIN THE FIXTURE TO MOUNT THE EMERGENCY BATTERY PACK. IF IT IS DETERMINED THE BATTERY PACK CANNOT BE MOUNTED IN THE FIXTURE THEN CONTRACTOR SHALL INCLUDE ALL COSTS REQUIRED FOR REMOTE MOUNTING THE EMERGENCY BATTERY PACK ABOVE NEAREST ACCESSIBLE CEILING. ENSURE DISTANCE FROM FIXTURE TO REMOTE BATTERY PACK LOCATION DOES NOT EXCEED THE MANUFACTURER'S RECOMMENDED DISTANCES. COORDINATE ALL ACCESS PANELS WITH ARCHITECT OF \ RECORD PRIOR TO INSTALL.

   c. ALL LIGHTING FIXTURES WITH EMERGENCY BATTERY PACKS ARE TO BE PROVIDED WITH INTEGRAL TEST SWITCHES AND CHARGE LIGHTS UNLESS OTHERWISE NOTED OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ). IN THE EVENT INTEGRAL TEST SWITCHES ARE NOT ALLOWED NOTIFY ENGINEER OF RECORD PRIOR TO INSTALLATION OF REMOTE TEST SWITCHES. TEST SWITCHES TO BE INSTALLED IN FIXTURES WITH A MINIMUM OF 18" OF ADDITIONAL WIRING TO ALLOW FOR GENERAL FIXTURE MAINTENANCE.

19. INSTALL ALL EXIT SIGNS IN ACCORDANCE WITH THE LOCAL AHJ AND FIRE AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED PARTS, PIECES, AND MOUNTING HARDWARE FOR EXIT SIGNS, AS WELL AS, ENSURING THE EXIT SIGNS ARE MOUNTED IN AN APPROVED VISIBLE LOCATION. VERIFY ALL REQUIRED CHEVRONS, MIRRORS, AND FACES AS REFERENCED ON THE ARCHITECTURAL REFLECTED CEILING PLAN. NOTIFY ARCHITECT AND ENGINEER OF RECORD OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ELECTRICAL DRAWINGS PRIOR TO ORDERING OF EQUIPMENT.

20. TRACK LIGHTING FIXTURE SPECIFICATIONS ARE TO BE COORDINATED, VERIFIED AND CONFIRMED WITH EQUIPMENT MANUFACTURER AND/OR DISTRIBUTOR PRIOR TO ORDERING AND INSTALLING. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND PIECES FOR A COMPLETE, FUNCTIONAL AND OPERATIONAL INSTALLATION. TRACK LENGTHS ARE AS SPECIFIED ON THE FIXTURE SCHEDULE.

21. CONTRACTOR SHALL INSTALL ALL LIGHTING FIXTURES PER LOCAL AND NATIONAL BUILDING, ELECTRICAL AND SEISMIC CODES. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED MOUNTING HARDWARE AND BRACING MATERIALS FOR COMPLETE AND CODE COMPLIANT INSTALLATION. COORDINATE REQUIREMENTS WITH AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.

22. CONTRACTOR SHALL COORDINATE ALL LIGHTING FIXTURE LOCATIONS AND QUANTITIES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. IN ADDITION, CONTRACTOR SHALL ALSO COORDINATE ANY FIXTURE SPECIFIC DIMENSIONS WITH ARCHITECTURAL RCP. NOTIFY ARCHITECT AND ENGINEER OF RECORD OF ANY DISCREPANCIES PRIOR TO FINALIZING FIXTURE ORDER WITH THE DISTRIBUTOR.

23. CONTRACTOR TO INCLUDE IN BASE BID A MINIMUM OF 2-HOURS FOR A ONE TIME AIMING AND ADJUSTMENT TIME OF ALL MULTI-HEAD AND DIRECTIONAL FIXTURE ASSEMBLIES. AIMING AND ADJUSTMENT TO BE SCHEDULED FOR AT NIGHT AND AFTER HOURS WITH THE ARCHITECT, ENGINEER, AND OWNER PRESENT. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AN APPROPRIATE TIME PRIOR TO ORDERING THE FINAL PUNCH WALK FOR THE PROJECT.

24. SUPPLEMENTARY OVERCURRENT PROTECTION PANEL FOR TRACK LIGHTING SYSTEMS TO BE PROMINENTLY LABELED AS FOLLOWS: NOTICE: THIS PANEL FOR TRACK LIGHTING ENERGY CODE COMPLIANCE ONLY. THE OVERCURRENT PROTECTION DEVICES IN THIS PANEL SHALL ONLY BE REPLACED WITH THE SAME OR LOWER AMPERAGE. NO OTHER OVERCURRENT PROTECTIVE DEVICE SHALL BE ADDED TO THIS PANEL. ADDING TO, OR REPLACEMENT OF EXISTING OVERCURRENT PROTECTIVE DEVICE(S) WITH HIGHER CONTINUOUS AMPERE RATING, WILL VOID THE PANEL LISTING AND REQUIRE RESUBMITTAL AND RE-CERTIFICATION OF CALIFORNIA TITLE 24, PART 6 COMPLIANCE DOCUMENTATION.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER & CATALOG #	LAMP	FIXT. WATTAGE	FIXT. FINISH	VOLTS	ADDITIONAL INFORMATION
P1 P1E	PEERLESS #VNM LLP MSLB8 80CRI 35K ID1350LMF 20/80 DARK NLIGHT 277 1EC APD F1 18F C041	LED 35K	35	WHITE	277V MVOLT	SUSPENDED DIRECT/INDERECT LINEAR LED FIXTURE. *LENGTHS AS NOTED ON DRAWINGS.
R1 R1E	LITHONIA #2ALL4 6000 LUMENS (EM)	LED 35K	47	WHITE	MVOLT	RECESSED 2'x4' DIRECT/INDIRECT LED FIXTURE WITH 47W/6,000-LUMEN 3500°K LED MODULE(S). COORDINATE CEILING TYPE AND INSTALLATION REQUIREMENTS WITH ARCHITECTURAL PLANS PRIOR TO ROUGH-IN OF ELECTRICAL. FIXTURE TO BE PROVIDED WITH INTEGRAL CONTROLS CAPABLE OF INTERFACING WITH nLIGHT (OR OTHER APPROVED EQUAL 0-10V) LIGHTING CONTROL SYSTEM.
R2	LITHONIA #2ALL4 6000 LUMENS	LED 40K	35	WHITE	MVOLT	RECESSED 2'x2' DIRECT/INDIRECT LED FIXTURE WITH 35W/4,000-LUMEN 3500°K LED MODULE(S). COORDINATE CEILING TYPE AND INSTALLATION REQUIREMENTS WITH ARCHITECTURAL PLANS PRIOR TO ROUGH-IN OF ELECTRICAL. FIXTURE TO BE PROVIDED WITH INTEGRAL CONTROLS CAPABLE OF INTERFACING WITH nLIGHT (OR OTHER APPROVED EQUAL 0-10V) LIGHTING CONTROL SYSTEM.
R3	LITHONIA #WF4 SQ S LED 35K MW	LED 35K	11	MATTE WHITE	MVOLT	RECESSED 4" SQUARE LED DOWNLIGHT WITH REMOTE DRIVER.
R4	LITHONIA #WF6 SQ S LED 35K MW	LED 35K	14	MATTE WHITE	277V DV	RECESSED 6" SQUARE LED DOWNLIGHT WITH REMOTE DRIVER.
R5	LIGMAN #UMO-80012	LED 40K	21	WHITE	MVOLT	EXTERIOR RECESSED LED DOWNLIGHT.
R6	GOTHAM #EVO6 35 25 6AR MWD 277 GZ10	LED 35K	35	WHITE	MVOLT	INTERIOR LED DOWNLIGHT WITH 0-10V DRIVER DIMMING TO 10%.
S1	XAL #VELA 48"	LED 35K	21	PER ARCH.	MVOLT	SURFACE MOUNTED DIRECT/INDIRECT ROUND LED LUMINAIR. EQUIPED WITH MOUNTING BASE.
S2	XAL #VELA 36"	LED 35K		PER ARCH.		SURFACE MOUNTED DIRECT/INDIRECT ROUND LED LUMINAIR. EQUIPED WITH MOUNTING BASE.
S3	XAL #VELA 24"	LED 35K		PER ARCH.		SURFACE MOUNTED DIRECT/INDIRECT ROUND LED LUMINAIR. EQUIPED WITH MOUNTING BASE.
EX1	LITHONIA XX	LED		PER ARCH.		VANDAL PROOF EXIT SIGN
EX2	LITHONIA XX	LED		PER ARCH.		EDGE LIT EXIT SIGN.

MEETING THESE REQUIREMENTS CONTRACTOR IS RESPONSIBLE FOR PROVIDING LINE ITEM PRICING COMPARISONS BETWEEN THE SPECIFIED FIXTURE AND THE PROPOSED ALTERNATE FIXTURE TO THE ENGINEER OF RECORD/OWNER/ARCHITECT - PRICING SHALL BE REPRESENTATIVE OF THE FINAL COST PER UNIT TO THE OWNER AND INCLUSIVE OF ALL CONTRACTOR/DISTRIBUTOR MARK-UPS AND SHIPPING COSTS. ALL FIXTURES WHICH ARE NOT SUBMITTED PER THESE REQUIREMENTS WILL BE REJECTED AS INCOMPLETE.

NOTE:
"OR EQUAL = IN ORDER FOR A PRODUCT BY ONE OF THE REFERENCED "OR EQUAL" MANUFACTURERS TO BE CONSIDERED AN EQUAL PRODUCT ALL REQUIREMENTS IDENTIFIED IN THE "GENERAL NOTES - LIGHTING FIXTURE/SCHEDULE:" AND PROJECT SPECIFICATIONS MUST BE MET WITHIN TWO-WEEKS PRIOR TO THE BID DEADLINE. ANY PRODUCTS SELECTED WHICH DO NOT MEET THESE REQUIREMENTS WILL BE DETERMINED NOT TO BE AN EQUAL AND THEREFORE NOT A CONSIDERATION FOR THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COPY OF THE FIXTURE SCHEDULE AND LIGHTING/FIXTURE SCHEDULE GENERAL NOTES TO ALL REPRESENTATIVE AGENCIES/DISTRIBUTORS."

NOTE: ALL FIXTURES AND LIGHTING CONTROLS SHALL BE PROVIDED AS SPECIFIED. NO FIXTURE/CONTROL SUBSTITUTIONS WILL BE CONSIDERED OR ACCEPTED UNLESS SPECIFICALLY REFERENCED AS AN EQUAL ON THE SCHEDULE OR HEREIN. IN SITUATIONS WHERE THE OWNER CHOOSES TO CONSIDER "VALUE ENGINEERING ALTERNATIVES" WHICH DEVIATE FROM ANY OF THE SPECIFIED/REFERENCED FIXTURES/EQUIPMENT - ALL FIXTURE SUBSTITUTIONS MUST BE SUBMITTED PER NOTE 3 OF THE "GENERAL NOTES - LIGHTING FIXTURE SCHEDULE". IN ADDITION TO

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LOS ALAMITOS UNIFIED SCHOOL DISTRICT

LOS ALAMITOS HIGH SCHOOL

3591 W Cerritos Ave, Los Alamitos, CA 90720

ISSUED FOR:

REVISIONS:

REGISTRATION/SIGNATURE:

SHEET TITLE:
LIGHTING SCHEDULE

SHEET NUMBER:
E400

WD PROJ. #	DRAWN BY:	CHECKED	DATE

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GENERAL FIRE ALARM NOTES

1. THE FIRE ALARM SYSTEM AND ALL WIRING SHALL CONFORM TO CFC 907.2.3 ARTICLE 760 OF THE 2016 CALIFORNIA ELECTRIC CODE AND 2016 NFPA 72, WITH CA AMENDMENTS.
2. THE SYSTEM SHALL CONFORM TO CURRENT CALIFORNIA CODE OF REGULATIONS (CCR) TITLES 19 & 24 AS APPLICABLE TO THIS PROJECT, AND NATIONAL FIRE PROTECTION AGENCY (NFPA) STANDARD 723.
3. ALL DEVICES OF THE FIRE ALARM SYSTEM SHALL BE APPROVED AND LISTED BY THE CALIFORNIA STATE FIRE MARSHAL AND SHALL BE COMPATIBLE AND INSTALLED ACCORDING TO MANUFACTURERS SPECIFICATIONS.
4. THE EXISTING FIRE ALARM SYSTEM SHALL BE PROTECTED IN PLACE, MAINTAINED AND LEFT IN OPERATION DURING THE SCOPE OF THIS PROJECT.
5. THE SILENT KNIGHT FIRE ALARM SYSTEM AND ROUGH-IN DEMONSTRATED ON THIS PLAN IS ALL NEW. A COMPLETE NEW FIRE ALARM INFRASTRUCTURE WILL BE INSTALLED.
6. AN APPROVED SET OF FIRE ALARM PLANS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES, SHALL BE APPROVED BY THE DSA FIRE MARSHAL.
7. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF THE INSPECTOR OF RECORD.
8. ALL ANNUNCIATORS, INITIATING, AND INDICATING DEVICES SHALL BE SUPERVISED TO THE PRINCIPLE POINT OF ANNUNCIATION, THE FIRE ALARM CONTROL PANEL.
9. WIRING SHALL NOT BE LOOPED THROUGH DEVICES AND MUST BE CUT IN AND OUT AT EACH DEVICE.
10. ONLY SIGNALING LINE CIRCUITS (SLC) MAY BE T-TAPPED TO PROVIDE LESS RESISTANCE ON THE CIRCUIT. SIGNALING LINE CIRCUITS SHALL ONLY BE T-TAPPED AT DEVICES, IN TERMINAL OR CONTROL LOCATIONS. REFER TO AND COMPLY WITH THE MANUFACTURERS REQUIREMENTS AND LIMITS FOR T-TAPPING.
11. AUDIBLE AND VISUAL DEVICES SHALL COMPLY WITH THE AUDIBILITY AND FLASH LEVELS AS SPECIFIED IN NFPA 72 AND ALL AMENDMENTS SPECIFIED IN TITLE 24. THIS INCLUDES DEVICE LOCATION AND COVERAGE. VOICE ANNOUNCEMENTS SHALL BE INTELLIGIBLE PER CHAPTER 18 NFPA 72.
12. THE AUDIBLE ALERT TONE SHALL BE CODED TEMPORAL PATTERN FOLLOWED BY A VOICE ANNOUNCEMENT. THE AUDIBLE SIGNAL SHALL HAVE A MINIMUM SOUND LEVEL OF 15 DECIBELS ABOVE THE AVERAGE AMBIENT NOISE LEVEL OR 5 dB ABOVE THE MAXIMUM SOUND LEVEL FOR A DURATION OF AT LEAST 60 SECONDS NOT TO EXCEED 110 DECIBELS AT THE MINIMUM HEARING DISTANCE. THE AUDIBLE SIGNAL SHALL BE SYNCHRONIZED THROUGH OUT THE CAMPUS.
13. AUDIBILITY WILL BE DETERMINED BY SOUND METER TESTING BY THE INSPECTOR OF RECORD.
14. INSTALL 3/4" CONDUIT MINIMUM OR SERIES V2400 WIREMOLD FOR ABOVE GROUND RACEWAY. WIREMOLD SHALL BE SIZED ACCORDING TO FILL AND EXISTING CONDITIONS. ALL SURFACE MOUNT WIREMOLD SHALL BE STEEL V2400 SERIES. SURFACE WIREMOLD SHALL ONLY BE INSTALLED WHERE CONCEALED CONDUIT CAN NOT BE INSTALLED DUE TO LACK OF ACCESS. ALL NEW 2" UNDERGROUND CONDUITS SHALL BE INSTALLED TO PROVIDE A NEW FIRE ALARM BACKBONE INFRASTRUCTURE.
15. THE ELECTRICAL CONTRACTOR SHALL INSTALL PULL ROPES IN THE EMPTY CONDUIT SYSTEM AS INSTALLED.
16. WIRING MUST BE LISTED FOR USE AS REQUIRED BY TITLE 24/CEC, ARTICLE 760.
17. CABLE INSTALLED IN WET LOCATIONS EITHER ABOVE OR BELOW GROUND SHALL BE MOISTURE RESISTANT OR A TYPE APPROVED AND LISTED FOR USE UNDER WET CONDITIONS. (SECTION 310-8.1 C.E.C.)
18. ONLY WIRING CONNECTED TO THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN THE SAME JUNCTION BOXES, RACEWAY AND CONDUIT SYSTEM.
19. ALL ROUGH-IN CONDUIT, WIREMOLD, BACKBOXES, PULL BOXES, & 120 VAC POWER SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UNDER DIRECTION OF THE FIRE ALARM CONTRACTOR.
20. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL DEDICATED 120VAC POWER CIRCUITS TO ALL NEW FIRE ALARM SYSTEM PANELS. PROVIDE A LOCK-ON BREAKER AT THE ELECTRICAL PANELS AND PERMANENTLY LABEL THE BREAKER AS "FIRE ALARM CONTROL POWER."
21. ALL TERMINATIONS IN MAIN TERMINAL CABINETS SHALL BE MADE ON TERMINAL STRIPS. ALL FIRE ALARM WIRING TERMINATIONS SHALL BE MADE AT THE FIRE ALARM DEVICES, JUNCTION BOXES OR IN THE TERMINAL CABINETS. NO TERMINATIONS SHALL BE MADE IN UNDERGROUND PULL BOXES.
22. IDENTIFY FIRE ALARM CIRCUITS AT TERMINAL AND JUNCTION LOCATIONS PER CEC 760-42.
23. THE FIRE ALARM FLOOR PLANS ARE DIAGRAMMATIC. ADJUST DEVICE LOCATIONS (WITHIN LIMITS OF NFPA 72 REQUIREMENTS), AND WIRING FOR ACTUAL FIELD CONDITIONS.
24. ALL SMOKE DETECTORS AND OTHER FIRE ALARM DEVICES SHALL BE COVERED AND PROTECTED UNTIL THE AREA OF WORK IS CLEAN AND FREE OF DUST AND DEBRIS. TO ENSURE THAT EACH SMOKE DETECTOR IS WITHIN ITS LISTED AND MARKED SENSITIVITY RANGE, IT SHALL BE TESTED USING EITHER A CALIBRATED TEST METHOD, THE MANUFACTURER'S CALIBRATED SENSITIVITY TEST INSTRUMENT, LISTED CONTROL EQUIPMENT ARRANGED FOR THE PURPOSE, A SMOKE DETECTOR/ CONTROL UNIT ARRANGEMENT WHEREBY THE DETECTOR CAUSES A SIGNAL AT THE CONTROL UNIT WHERE ITS SENSITIVITY IS OUTSIDE ITS ACCEPTABLE RANGE OR OTHER CALIBRATED SENSITIVITY TEST METHOD ACCEPTABLE TO THE FIRE CODE OFFICIAL. DETECTORS FOUND TO HAVE A SENSITIVITY OUTSIDE THE LISTED AND MARKED SENSITIVITY RANGE SHALL BE CLEANED AND RECALIBRATED OR REPLACED. EXCEPTIONS: 1) DETECTORS LISTED AS FIELD ADJUSTABLE SHALL BE PERMITTED TO BE EITHER ADJUSTED WITHIN THE LISTED AND MARKED SENSITIVITY RANGE AND CLEANED AND RECALIBRATED OR THEY SHALL BE REPLACED. 2) THIS REQUIREMENT SHALL NOT APPLY TO SINGLE-STATION SMOKE ALARMS.
25. ALL EXTERIOR ALARM COMPONENTS SHALL BE LISTED FOR OUTDOOR USE.
26. PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES AND PROTECTED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE.
27. THE NEW FIRE ALARM SYSTEM SHALL BE A FULLY AUTOMATIC SYSTEM. THE NEW SYSTEM DEVICES SHALL BE INSTALLED AS AN AUTOMATIC SYSTEM WITH FULL SMOKE DETECTOR COVERAGE AND HEAT DETECTORS IN ATTICS AND ABOVE ACCESSIBLE CEILING SPACES.
28. A MINIMUM OF 48 HOURS NOTICE SHALL BE REQUIRED FOR ANY INSPECTION AND/OR TESTING.
29. UPON COMPLETION OF SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF THE PROJECT INSPECTOR AND IN A MANNER ACCEPTABLE TO DSA/PROJECT INSPECTOR. THE CONTRACTOR MUST SUPPLY NECESSARY TESTING EQUIPMENT INCLUDING A "SOUND LEVEL METER" TO CHECK ACCEPTABLE DECIBEL LEVELS OF AUDIBLE DEVICES. PROVIDE TEST RESULTS PER THE NFPA 72 "RECORD OF COMPLETION" TO THE ARCHITECT, DSA, PROJECT INSPECTOR, OWNER AND TO THE LOCAL FIRE AUTHORITY. ALL NORMALLY OCCUPIED AREAS SHALL BE PROVIDED WITH A FIRE ALARM DECIBEL LEVEL AT 15 dBa ABOVE AMBIENT NOISE LEVELS. REQUEST FOR INSPECTION SHALL INCLUDE STATEMENT OF COMPLIANCE NOTED IN CFC SECTION 901.2.1.
30. THE "END OF LINE RESISTANCE" FOR EACH CIRCUIT SHALL BE TESTED IN THE PRESENCE OF THE PROJECT INSPECTOR AND SHALL NOT EXCEED A MAXIMUM OF 10% OF THE 24 VOLT SYSTEM. EACH COMPONENT IN THE CIRCUIT SHALL NOT EXCEED THE LISTED MANUFACTURER'S MINIMUM OPERATING VOLTAGES. SEE NFPA 72, LOOP RESISTANCE. THIS SECTION REQUIRES THAT ALL INITIATING AND INDICATING (NOTIFICATION APPLIANCE) CIRCUITS TO BE MEASURED AND RECORDED.
31. AFTER INSTALLATION AND TESTING HAS BEEN COMPLETED AND WITNESSED BY THE FIRE INSPECTOR, A COMPLETED NFPA CERTIFICATE OF COMPLIANCE (RECORD OF COMPLETION) SHALL BE ISSUED FROM THE INSTALLING COMPANY AND PROVIDED TO THE INSPECTOR AND DISTRICT.
32. AT COMPLETION OF THE PROJECT, A COPY OF "AS BUILT" DRAWINGS SHALL BE PROVIDED TO THE OWNER/ OCCUPANT ALONG WITH WRITTEN OPERATING INSTRUCTIONS, AND MAINTENANCE/TESTING INFORMATION FOR THE FIRE ALARM SYSTEM. A 24-HOUR EMERGENCY RESPONSE PHONE NUMBER FOR AN ALARM COMPANY REPRESENTATIVE SHALL BE PERMANENTLY INSTALLED ADJACENT TO THE CONTROL PANEL. RETAIN ON PREMISES MINIMUM 5 YEARS PER TITLE 19 SECTION 904.1(B). (3 YRS. PER CFC 901.6.2.)
33. ALL FIRE ALARM SYSTEM DOCUMENTATION SHALL BE PROVIDED TO THE OWNER/ OCCUPANT EITHER IN A DOCUMENT CABINET ADJACENT TO THE FACP OR IN A LOCATION DESIGNATED BY OWNER/OCCUPANT AND THE LOCATION NOTATED AT THE FACP.
34. INSURE THAT THE MANUFACTURERS DATE IS PROVIDED ON THE BATTERIES. PERMANENTLY MARK THE INSTALLATION DATE ON THE BATTERIES.
35. THE FIRE ALARM CONTRACTOR SHALL COORDINATE, THROUGH THE GENERAL CONTRACTOR, WITH THE DISTRICT TO PROVIDE A DEDICATED PRIMARY TELEPHONE LINE FOR SUPERVISING STATION MONITORING. THE LINE SHALL BE IN PLACE BEFORE FINAL ACCEPTANCE TESTING. SECONDARY MEANS WILL BE BY CELLULAR TRANSMISSION. THE DISTRICT WILL DETERMINE THE CENTRAL STATIONS MONITORING COMPANY.

FIRE ALARM PROJECT NOTES

1. ALL WORK SHALL CONFORM TO THE 2016 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS.
2. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF ALTERATION, REHABILITATION, OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH THE 2016 EDITION OF TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID, TITLE 24 , CALIFORNIA CODE OF REGULATIONS, A CCD, OR SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF STATE ARCHITECTS BEFORE PROCEEDING WITH THE WORK. (REFERENCE: SECTION 4-338 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 CCR)
3. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING CONDITIONS AS WELL AS ALL ASPECTS OF THE SCOPE OF THE WORK FOR THIS PROJECT BEFORE SUBMITTING THE BID. THE CONTRACTOR SHALL INCLUDE ALL RESULTING COSTS IN THE BID. BY THE ACT OF SUBMITTING THE BID, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH AN EXAMINATION, HAVE ACCEPTED THE EXISTING CONDITIONS AND HAVE INCLUDED THOSE COST IN THE BID.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS, ADDENDA, DRAWINGS AND SPECIFICATIONS. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM DOING THE WORK IN COMPLETE ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
5. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE EXISTING CONDITION OF THE SITE. ANY COSTS TO INSTALL WORK TO ACCOMPLISH THESE REQUIREMENT WHICH DIFFERS FROM THE WORK AS SHOWN ON THE DRAWINGS SHALL BE INCURRED BY THE CONTRACTOR. DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DISTRICT.
6. IT IS THE INTENT OF THESE DRAWINGS THAT THE NEW FIRE ALARM SYSTEM SHALL BE INSTALLED INDEPENDENT OF THE EXISTING SYSTEM. THE EXISTING FIRE ALARM SYSTEM SHALL BE MAINTAINED IN OPERATION UNTIL THE NEW FIRE ALARM SYSTEM HAS BEEN INSTALLED, TESTED AND ACCEPTED BY THE DSA AHJ FOR OCCUPANCY. IF FOR ANY REASON THE EXISTING FIRE ALARM SYSTEM MUST BE TAKEN OUT OF SERVICE THE CONTRACTOR SHALL NOTIFY THE DSA IOR, DISTRICT & LOCAL FIRE CHIEF BEFORE REMOVING THE SYSTEM FROM SERVICE. IN ADDITION, THE CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL TO PERFORM FIRE WATCH PER THE REQUIREMENTS OF CFC 901.7 AND 1404.5..
7. MINOR ADJUSTMENTS CAUSED BY UNFORESEEN CONFLICTS WITH OTHER SYSTEMS OR UTILITIES DURING THE INSTALLATION OF THE NEW FIRE ALARM SYSTEM INFRASTRUCTURE SHALL BE COORDINATED IN THE FIELD. MAJOR DEVIATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DISTRICT, ARCHITECT AND ENGINEER FOR RESOLUTION BEFORE ANY CHANGES ARE PERFORMED. POTENTIAL CONFLICTS SHOULD BE ANTICIPATED AND RESOLVED DURING THE BID SITE VISIT AND PREPARATION PER NOTE 3 ABOVE.
8. CONDUIT AND RACEWAY INFRASTRUCTURE ROUTING SHALL BE INSTALLED ACCORDING TO THE PLAN TO PREVENT UNACCOUNTABLE AND UNANTICIPATED VOLTAGE DROP AND COVERAGE PROBLEMS.
9. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA ELECTRICAL CODE AND ALL ALL APPLICABLE CALIFORNIA AND LOCAL CODES AND REGULATIONS.
10. THE CONTRACTOR SHALL PROVIDE AND KEEP UP-TO-DATE A COMPLETE RECORD SET OF DRAWINGS. THESE PRINTS SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DSA APPROVED DRAWINGS. THIS SET OF DRAWINGS SHALL BE KEPT ON THE JOB SITE AND SHALL BE USED ONLY AS A RECORD SET. UPON FINAL COMPLETION OF THE WORK, THE RECORD DRAWINGS SHALL BE USED TO GENERATE AN ACCURATE SET OF AS BUILT DRAWINGS FOR SUBMISSION PER THE REQUIREMENTS OF THE SPECIFICATIONS. FINAL AS BUILT DRAWINGS SHALL BE PROVIDED IN AUTOCAD AND HARD COPY FORMAT.
11. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY HARDWARE, FITTINGS, TERMINAL STRIPS, ANCILLARY PARTS, ETC. FOR THE INSTALLATION OF A COMPLETE, COMPLIANT AND CERTIFIED FIRE ALARM SYSTEM. ADDITIONAL QUANTITIES OF FIRE ALARM SYSTEM DEVICES, IF NECESSARY, SHALL BE PROVIDED TO INSURE A COMPLETE AND OPERABLE FIRE ALARM SYSTEM ACCEPTABLE TO DISTRICT AND THE INSPECTOR OF RECORD. DEVICE QUANTITIES SHALL BE REEXAMINED AND VERIFIED BY THE CONTRACTOR BEFORE THE BID IS SUBMITTED.
12. UPON ACCEPTANCE OF THE NEW SILENT KNIGHT FIRE ALARM SYSTEM THE EXISTING FIRE"LITE SYSTEM SHALL BE REMOVED FROM SERVICE AND DEVICES SHALL BE REMOVED AND DEMOLISHED. ALL WIRING AND ACCESSIBLE CONDUIT, RACEWAY AND BACKBOXES SHALL BE REMOVED. ALL SURFACES SHALL BE RESTORED AND REFINISHED TO MATCH ADJACENT SURFACES.

PROJECT SCOPE

INSTALL CODE COMPLIANT AUTOMATIC FIRE ALARM SYSTEM WITH VOICE EVACUATION IN PORTABLE VILLAGE. SYSTEM TO BE POWERED FROM AND EXISTING FCI-E3 SEREIS APPLIANCES AND VOICE EVACUATION/PAGING SYSTEM. NOTIFICATION APPLIANCE CIRCUIT ARE TO BE POWERED FROM A SEPARATE FIRE ALARM POWER SUPPLY NOTIFIER #FCPS-2426. REQUIRED 120V-1PH APPLIANCE BRANCH CIRCUITS ARE TO BE PROVIDED FROM THE BRANCH CIRCUIT LOAD CENTER SUPPLIED WITH THE ADMINISTRATION PORTABLE BUILDING.

SYMBOL LEGEND WITH CSFM LISTING NUMBERS

SYMBOL	DESCRIPTION	PART #	BACKBOX	MANUFACTURER	CSFM LISTING
FACP	(E) FIRE ALARM POWER CONTROL PANEL (E) A#-04-115246	CONTROL PANEL	INCLUDED	FCI -HONEYWELL	-
FACP	FIRE ALARM POWER CONTROL PANEL	E3 SERIES CONTROL PANEL	INCLUDED	FCI -HONEYWELL	7165-1703:0125
FAPS	FIRE ALARM POWER SUPPLY W/ 50W AMP & NAC/SLC MODULE	INX-VGX W/ ILI-MB-E3 & AM-50	INCLUDED	FCI -HONEYWELL	7165-1703:0125
S	INTELLIGENT PHOTO SMOKE DETECTOR STANDARD DETECTOR BASE	ASDPL2F B210LP	4 "S" DEEP W/ 3"O" RING	FCI -HONEYWELL VELOCITI	7272-1703:0121 7300-1653:0109
H A	INTELLIGENT HEAT DETECTOR (190° F) STANDARD DETECTOR BASE	ATDHL2F B210LP	4 "S" DEEP W/ 3"O" RING	FCI -HONEYWELL VELOCITI	7270-1703:0115 7300-1653:0109
W #cd	FIRE ALARM WALL SPEAKER/STROBE	SPSW	4 "S" 2-1/8" DEEP BOX	SYSTEM SENSOR	7320-1653:0201
W WP	FIRE ALARM WP WALL SPEAKER	SPRK	MWBB	SYSTEM SENSOR	7320-1653:0201
	NAC END OF LINE RESISTER				

SYMBOL LEGEND FOR DEVICES BY OTHERS

PB WP	WALL MOUNTED PULLBOX	REFER TO SITE PLAN	-	-	N/A
FATC	FIRE ALARM TERMINAL CABINET	REFER TO MOUNTING DETAILS	24"X24"X6"	CIRCLE AW/B-LINE	N/A
PB	IN-GRADE PULLBOX	REFER TO MOUNTING DETAILS	-	-	N/A

CONTRACTOR TO VERIFY DEVICE QUANTITIES WITH FLOOR PLANS

OTHER SYMBOLS AND ABBREVIATIONS

- I = INTELLIQUAD SMOKE/CO DETECTOR
- #cd = VISUAL NOTIFICATION APPLIANCE CANDELA VALUE
- A#-# = AUDIBLE (VOICE) NOTIFICATION APPLIANCE CIRCUIT NUMBER - DEVICE NUMBER
- V#-# = VISUAL NOTIFICATION APPLIANCE CIRCUIT NUMBER - DEVICE NUMBER
- L#-# = INITIATING DEVICE ADDRESS - LOOP# - DEVICE#
- WP = WEATHERPROOF DEVICE OR ELECTRICAL BOX
- W = WALL MOUNT
- AHU # = EXISTING AIR HANDLING UNITS
- FSCP = HOOD SUPPRESSION SYSTEM BY OTHERS
- DOC = DOCUMENT CABINET
- = UP AND DOWN CONDUIT RISERS - 3/4" MINIMUM

SEQUENCE OF OPERATIONS

	AREA SMOKE DETECTOR	AREA HEAT DETECTOR	MANUAL PULL STATION	FAPS OR AMP FAILURE	FACP 120VAC POWER FAILURE	
ANNUNCIATE ALARM CONDITION AT FIRE CONTROL PANEL AND REMOTE ANNUNCIATOR	YES	YES	YES	NO	NO	
ANNUNCIATE TROUBLE CONDITION AT FIRE CONTROL PANEL AND REMOTE ANNUNCIATORS	ON FAULT	ON FAULT	ON FAULT	YES	YES	
ANNUNCIATE SUPERVISORY CONDITION AT FIRE CONTROL PANEL AND REMOTE ANNUNCIATOR	NO	NO	NO	NO	NO	
SOUND AN ALERT TONE FOLLOWED BY VOICE INSTRUCTION & ACTIVATE VISUAL ALARM THROUGHOUT FACILITY	YES	YES	YES	NO	NO	
ACTIVATE CO ALARM & TEMPORAL 4 NOTIFICATION THROUGHOUT FACILITY	NO	NO	NO	NO	NO	
ANNUNCIATE STATUS AT THE CENTRAL STATION	YES	YES	YES	YES	YES	

APPLICABLE CODES

THE EQUIPMENT MUST BE LISTED, LABELED AND APPROVED FOR THE APPLICATION SHOWN IN THE CONTRACT DOCUMENTS, AS FIRE ALARM EQUIPMENT COMPLYING WITH THE FOLLOWING REQUIREMENTS:

1. ALL PARTS OF THE 2016 CALIFORNIA BUILDING CODE BECOME EFFECTIVE JANUARY 1, 2014 EXCEPT THE EFFECTIVE DATE FOR THE USE OF THE 2016 BUILDING ENERGY EFFICIENCY STANDARDS [TITLE 24, PART 1, CHAPTER 10, PART 6 AND AFFECTED PROVISIONS IN PART 11 (CAL GREEN BUILDING STANDARDS CODE)] IS JULY 1, 2014 AND THE EFFECTIVE DATE FOR CALIFORNIA ADMINISTRATIVE CODE, PART 1 TITLE 24 IS FEBRUARY 28, 2016. TITLE 24 CODES ARE AS FOLLOWS:

a. 2016 CALIFORNIA ADMINISTRATIVE CODE (CAC) PART 1, TITLE 24, CCR
b. 2016 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1 AND PART 2, PART 2 TITLE 24 CCR (2015 EDITION INTERNATIONAL BUILDING CODE WITH 2016 CALIFORNIA AMENDMENTS).
c. 2016 CALIFORNIA ELECTRICAL CODE (CED, PART 3, TITLE 24 CCR (2015 NATIONAL ELECTRICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
d. 2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR (2015 EDITION AND 2016 CALIFORNIA AMENDMENTS)
e. 2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, CCR (2015 EDITION UNIFORM PLUMBING CODE AND 2016 CALIFORNIA AMENDMENTS)
f. 2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
g. 2016 CALIFORNIA FIRE CODE, PART 9, TITLE 24 CCR (2015 EDITION OF INTERNATIONAL FIRE CODE WITH 2016 CALIFORNIA AMENDMENTS)
h. 2016 CALIFORNIA GREEN STANDARDS CODE, PART 11, TITLE 24, CCR
i. 2016 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 CCR
j. TITLE 19 CCR PUBLIC SAFETY, STATE MARSHALL REGULATIONS. 20017 ASME A17.1 (WITH A12.1a/csa B44A-08 ADDENDA) SAFETY CODE FOR ELEVATORS AND ESCALATORS

2. NFPA STANDARDS AND GUIDLINES:

a. NFPA 13 AUTOMATIC SPRINKLER SYSTEMS, 2016 EDITION
b. NFPA 14 STANDPIPE SYSTEMS 2016 EDITION
c. NFPA 17 DRY CHEMICAL EXTINGUISHING SYSTEMS 2013 EDITION
d. NFPA 17a WET CHEMICAL SYSTEMS 2016 EDITION
e. NFPA 20 STATIONARY PUMPS 2016 EDITION
f. NFPA 24 PRIVATE FIRE ALARM CODE 2016 EDITION
g. NFPA 72 NATIONAL FIRE ALARM CODE 2016 EDITION
h. NFPA 80 FIRE DOOR AND OTHER OPENING EDITION PROTECTIVES 2016 EDITION
i. NFPA 92 STANDARD FOR SMOKE CONTROL SYSTEMS 2016 EDITION
j. NFPA 243 CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS 2011 EDITION
k. NFPA 2001 CLEAN AGENT FIRE EXTINGUISHING SYSTEMS 2012 EDITION
m. UL 300 FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF RESTAURANT COOKING AREA 2005 EDITION
n. UL 464 AUDIBLE SIGNAL APPLIANCES 2003 EDITION
o. UL 521 HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS 1999 EDITION

BUILDING DATA

PROJECT ADDRESS:
HELEN ESTSOCK ELEMENTARY SCHOOL
TUSTIN UNIFIED SCHOOL DISTRICT
14741 NORTH B STREET
TUSTIN CALIFORNIA 92780

PERMANENT PORTABLE VILLAGE TO BE PROVIDED WITH CODE COMPLIANT MANUAL AND AUTOMATIC FIRE ALARM SYSTEM WITH VOICE EVACUATION AND VOICE PAGING

FIRE ALARM SYSTEM CABLE SCHEDULE

TAG	USAGE	WIRE IN CONDUIT	TYPE	MANUFACTURER	PART #
A	AUDIBLE NAC - SPEAKER CIRCUIT	1 PAIR #16 TSP TWISTED/SHIELDED	FPLR	WEST PENN WIRE	991
C	CONTROL WIRING	2#14 THHN	THHN	GENERAL	#14 THHN
M	REMOTE MICROPHONE CABLE	1 PAIR #16 TSP TWISTED/SHIELDED	FPLR	WEST PENN WIRE	991
N	NETWORK CABLE UNDERGROUND	1 PAIR #14 TSP TWISTED/SHIELDED	FPL/PLTC	WEST PENN WIRE	AQ295
P	AUX POWER CIRCUIT	2#14 THHN	THHN	GENERAL	#14 THHN
S	SLC - SIGNALING LINE CIRCUIT	2 COND. #16 TWISTED	FPLR	WEST PENN WIRE	990
V	VISUAL NAC - STROBE CIRCUIT	2#12 THHN	THHN	GENERAL	#12 THHN
X	VOICE BUS UNDERGROUND	2 COND. #14 TSP TWISTED/SHIELDED	FPL/PLTC	WEST PENN WIRE	AQ295
Y	NAC SYNC. WIRING UNDERGROUND	2#12 THWN	THWN	GENERAL	#12 THWN
Z	MONITOR WIRING	2#14 THWN	THWN	GENERAL	#14 THWN
UA	UNDERGROUND AUDIBLE NAC	1 PAIR #16 TSP TWISTED/SHIELDED	FPL/PLTC	WEST PENN WIRE	AQ294
US	UNDERGROUND SLC CIRCUIT	1 PAIR #16 TWISTED	FPL/PLTC	WEST PENN WIRE	AQ225
UV	UNDERGROUND VISUAL NAC	2#12 THWN	THWN	GENERAL	#12 THWN
UF	REMOTE AMP TRIGGER	MULTIMODE 62.5-125 6 STRAND	FIBER	WEST PENN	M9B172

WEST PENN CSFM LISTING: 7161-0859:0101

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GENERAL FIRE ALARM SYMBOLS LIST

SHEET TITLE:

FA000

SHEET NUMBER:

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SHEET NOTES:

1. UDACT DIALER FOR REMOTE MONITORING.
2. 1/2"C. WITH (2)CAT 6 CABLES TO TELEPHONE BACKBOARD FOR REMOTE MONITORING.
3. PULL NEW WIRING INDICATED THROUGH EXISTING CONDUIT.
4. PULLBOX PER SITE PLAN.
5. PULLBOX PER FIRE ALARM PLAN.
6. TO 120V. DEDICATED CIRCUIT. REFER TO FIRE ALARM PLANS FOR ADDITIONAL INFORMATION.

FIRE ALARM RISER DIAGRAM | 1
NTS

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SHEET TITLE:
FIRE ALARM RISER DIAGRAM & CALCULATIONS

SHEET NUMBER:
FA001

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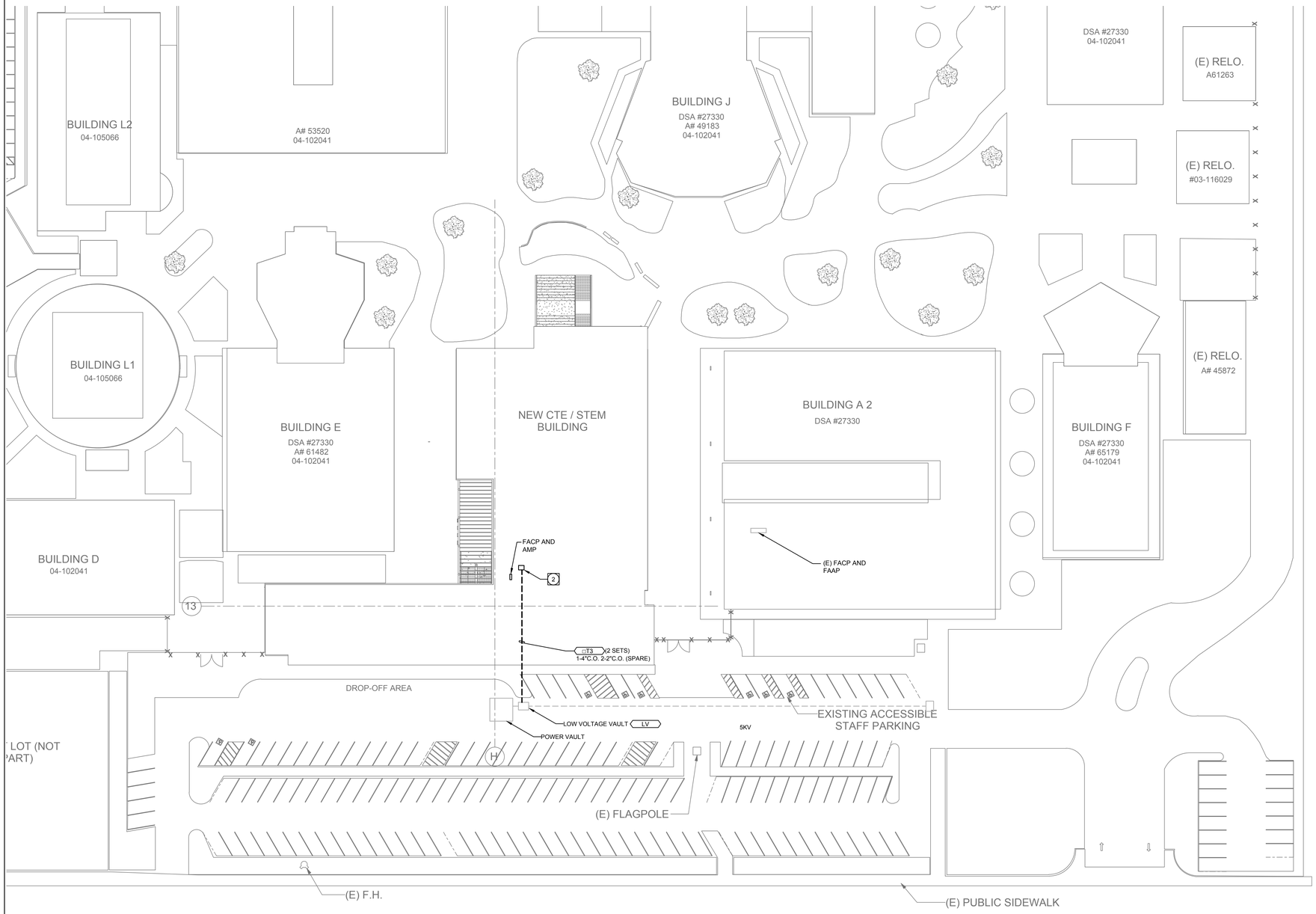
FIRE ALARM BATTERY CALCS

SHEET NUMBER:

FA004

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FIRE ALARM SITE PLAN

SCALE: 1" = 30'-0"

0 20' 40' 80'

KEYNOTES

1. TYPICAL ALL EXISTING AUDIBLE DEVICES WITHIN THE SPACE - CONTRACTOR IS TO REPLACE EXISTING HORN STROBE/HORN DEVICE ONE FOR ONE WITH A SPEAKER-STROBE/SPEAKER DEVICE. REFER TO SYMBOLS LIST ON EFA001, RISER DIAGRAM ON SHEET EFA0.3 AND FIRE ALARM SITE PLAN ON SHEET EFA100 FOR ADDITIONAL DEVICE TYPES AND WIRING REQUIREMENTS. RE-USE AND RECONNECT EXISTING FIRE ALARM NOTIFICATION CIRCUIT TO STROBES AS REQUIRED AND ROUTE AUDIBLE DEVICE WIRING ("A" WIRE TYPE PER "WIRING LEGEND") TO EACH SPEAKER AND SPEAKER/STROBE DEVICE WITHIN EXISTING CONDUIT. COORDINATE ROUTING AND REQUIREMENTS WITH EXISTING CONDITIONS.
2. REPLACE EXISTING SMOKE DETECTOR WITH HEAT DETECTOR. COORDINATE LOCATION AND REQUIREMENTS WITH EXISTING FIELD CONDITIONS.
3. ROUTE (1)1/2"C WITH FIRE ALARM WIRING TO UNIT DUCT DETECTOR (DETECTOR PROVIDED WITH UNIT). COORDINATE LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR AND MANUFACTURER'S SHOP DRAWINGS.

GENERAL NOTES

1. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING DUCTS, PIPING OR CONDUITS, ETC., AND TO PREVENT HAZARDS TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN AND INSTALLED BY ANY OTHER CONTRACTS. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE THE NECESSARY ELEMENTS FOR CONSTRUCTION SAFETY.
2. CALL UNDERGROUND SERVICE ALERT (USA) AT 1 (800) 422-4133 OR APPLICABLE STATE AND LOCALDIG SAFE OR UNDERGROUND ALERT HOTLINES PRIOR TO CONSTRUCTION START.
3. MINIMUM CONDUIT SIZE SHALL BE 3/4" - U.O.N.
4. MINIMUM CONDUCTOR SIZE SHALL BE #10 AWG. - U.O.N.
5. ALL SITE BRANCH CIRCUITS SHALL INCLUDE A NEC SIZED EQUIPMENT GROUND CONDUCTOR.
6. ALL ELECTRICAL EQUIPMENT MOUNTED OUTDOORS SHALL BE WEATHERPROOF (NEMA #3R).
7. ALL CONDUIT ONLY SHALL BE PROVIDED WITH A NYLON PULL STRING.
8. SEE ARCHITECTURAL/LANDSCAPE ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF FIXTURES, PULLBOXES, MANHOLES, OTHER ELECTRICAL DEVICES, ETC. COORDINATE ALL UNDERGROUND STRUCTURES AND CONDUIT ROUTING WITH LANDSCAPE ARCHITECT PRIOR TO ROUGH-IN TO ENSURE THAT SUCH ITEMS ARE NOT PLACED IN CRITICAL LANDSCAPE PLANTING/HARDSCAPE AREAS.
9. HOME-RUNS ONLY ARE REFERENCED ON PLANS. CONDUIT PATHWAYS BETWEEN DEVICES ARE NOT INCLUDED TO PROVIDE THE INSTALLING CONTRACTOR TO INSTALL ALL CONDUIT AND WIRE IN THE MOST EFFICIENT AND NEAT MANNER POSSIBLE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED CONDUIT AND CONDUCTORS AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
10. CONDUIT LAYOUTS AS IDENTIFIED ARE BASED ON VISUAL SURVEYS OF THE EXISTING CONDITION AND AS-BUILT DOCUMENTS PROVIDED TO THE EEOR BY THE DISTRICT. CONTRACTOR IS REQUIRED TO FIELD VERIFY ALL CONDUIT ROUTING AND REQUIREMENTS AND NOTIFY EEOR OF ANY MAJOR DISCREPANCIES PRIOR TO COMMENCING WORK .

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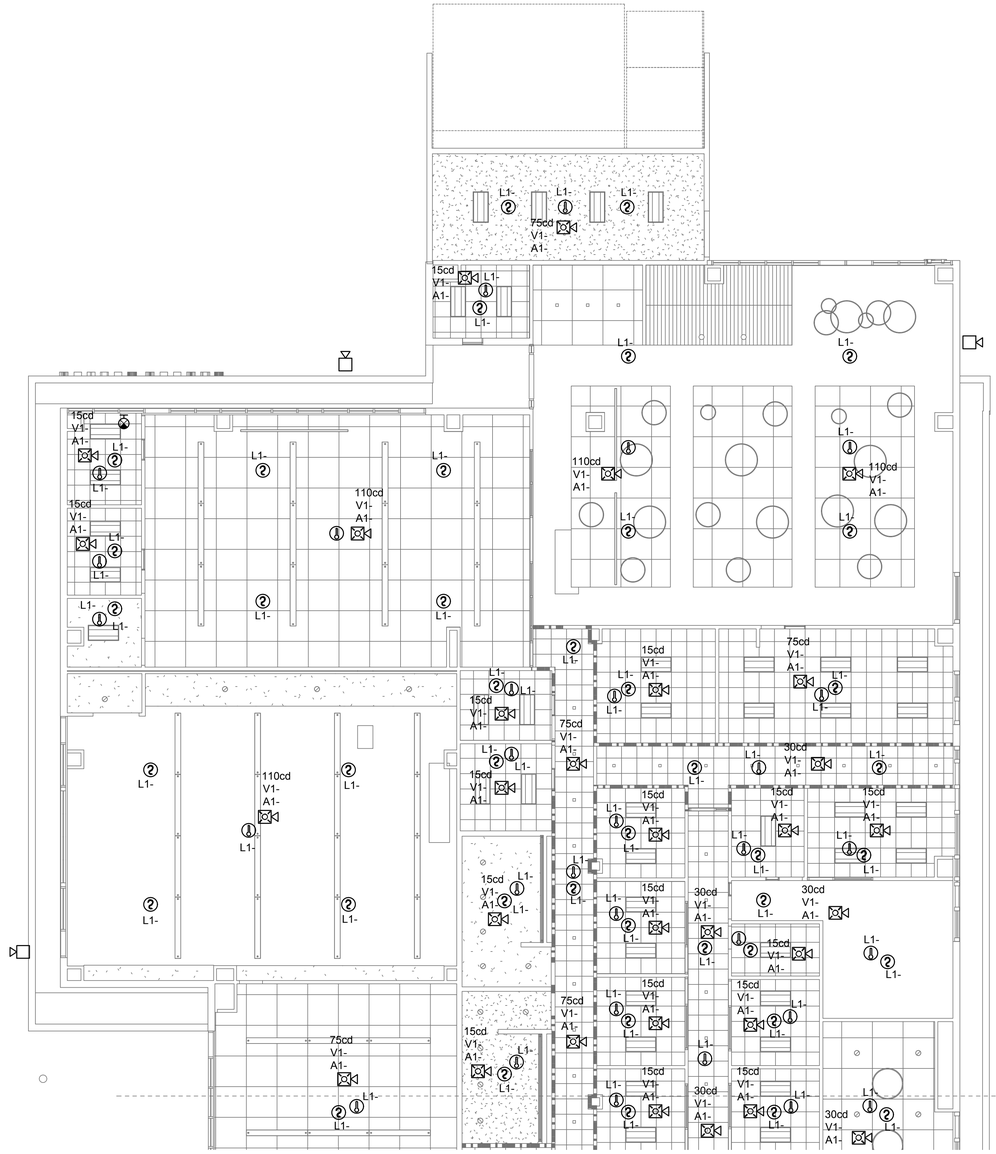
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FIRE ALARM SITE PLAN

SHEET NUMBER:
FA100

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FIRST FLOOR - FIRE ALARM PLAN NORTH

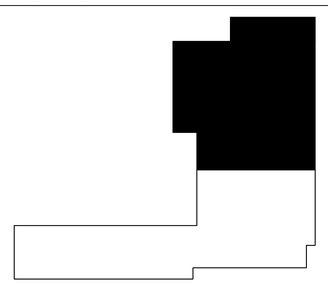
1
1/8" =1'-0"

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KEYNOTES

GENERAL NOTES

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GROUND FLOOR FIRE ALARM PLAN NORTH

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FA2-1.1.1

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FIRST FLOOR - FIRE ALARM PLAN SOUTH

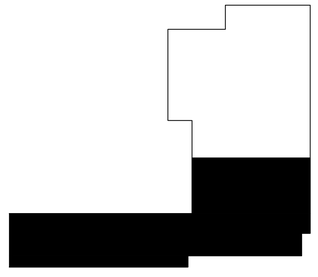
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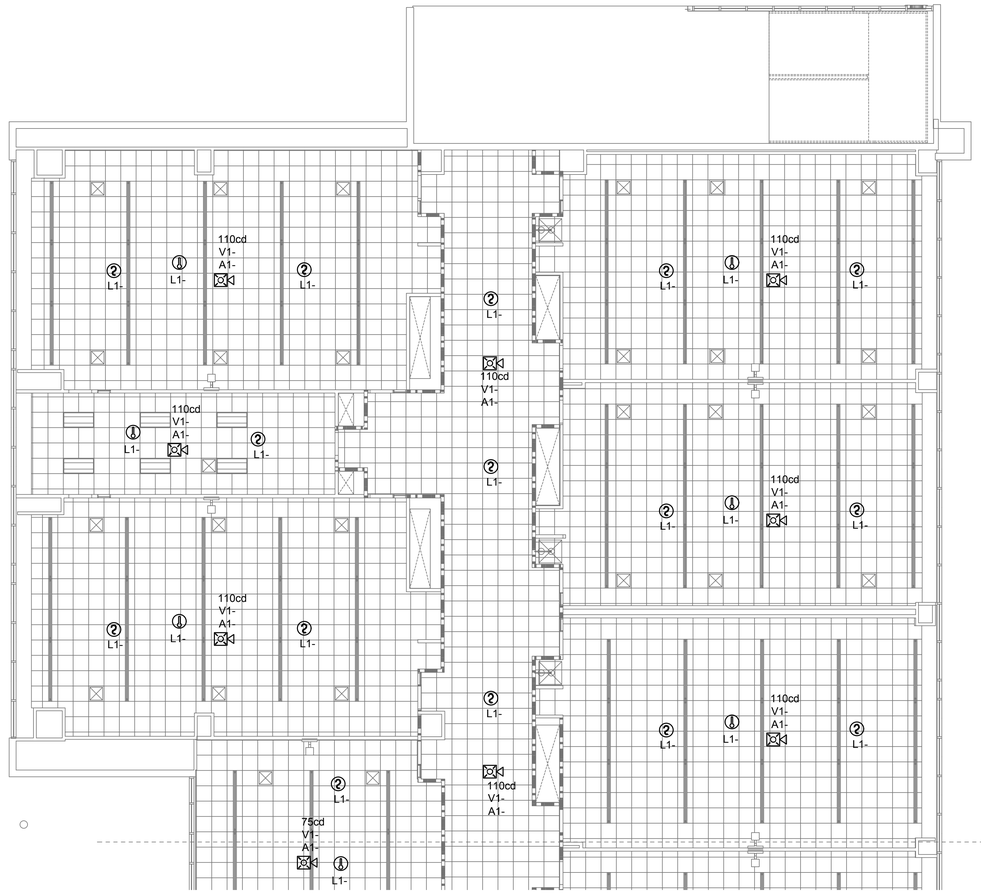
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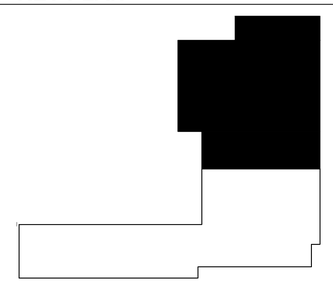
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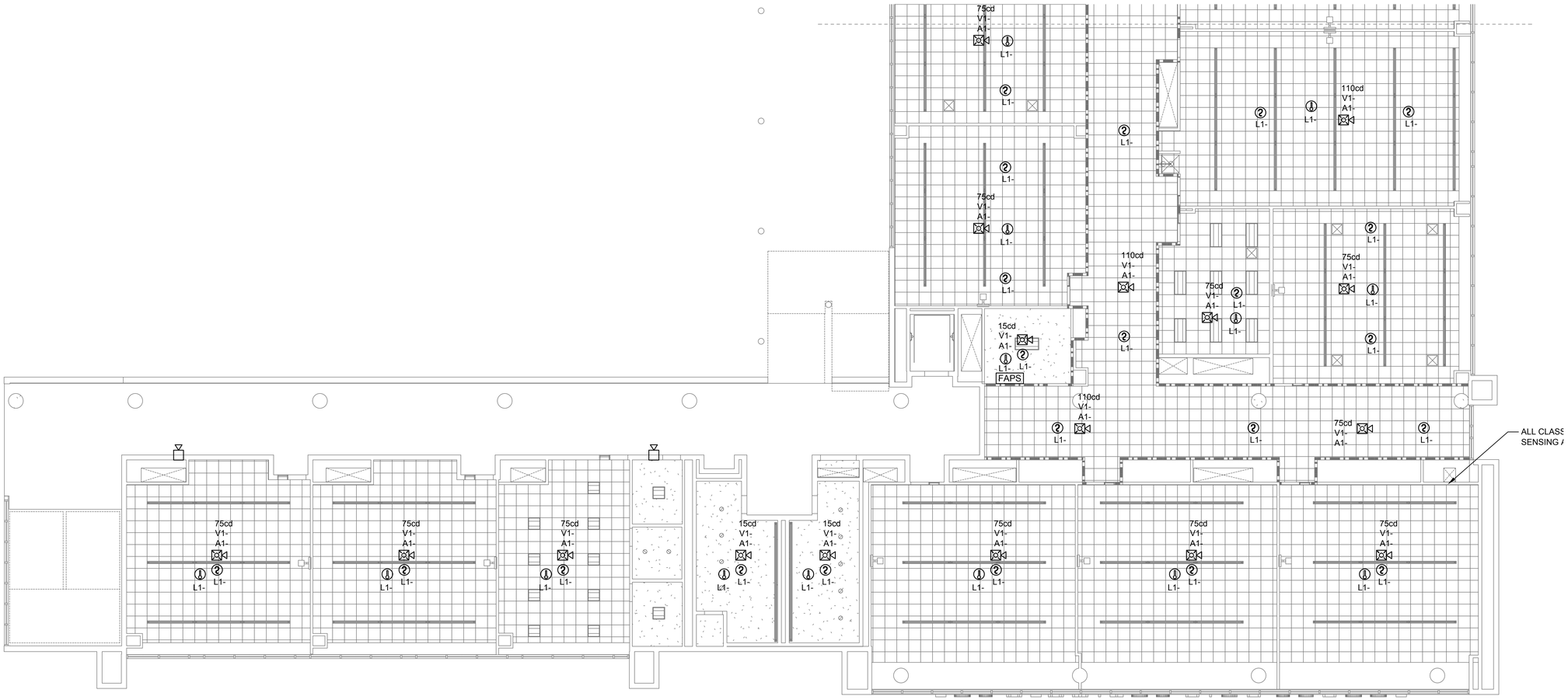
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SECOND FLOOR FIRE ALARM PLAN NORTH

SHEET NUMBER:
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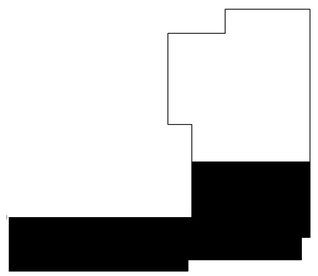
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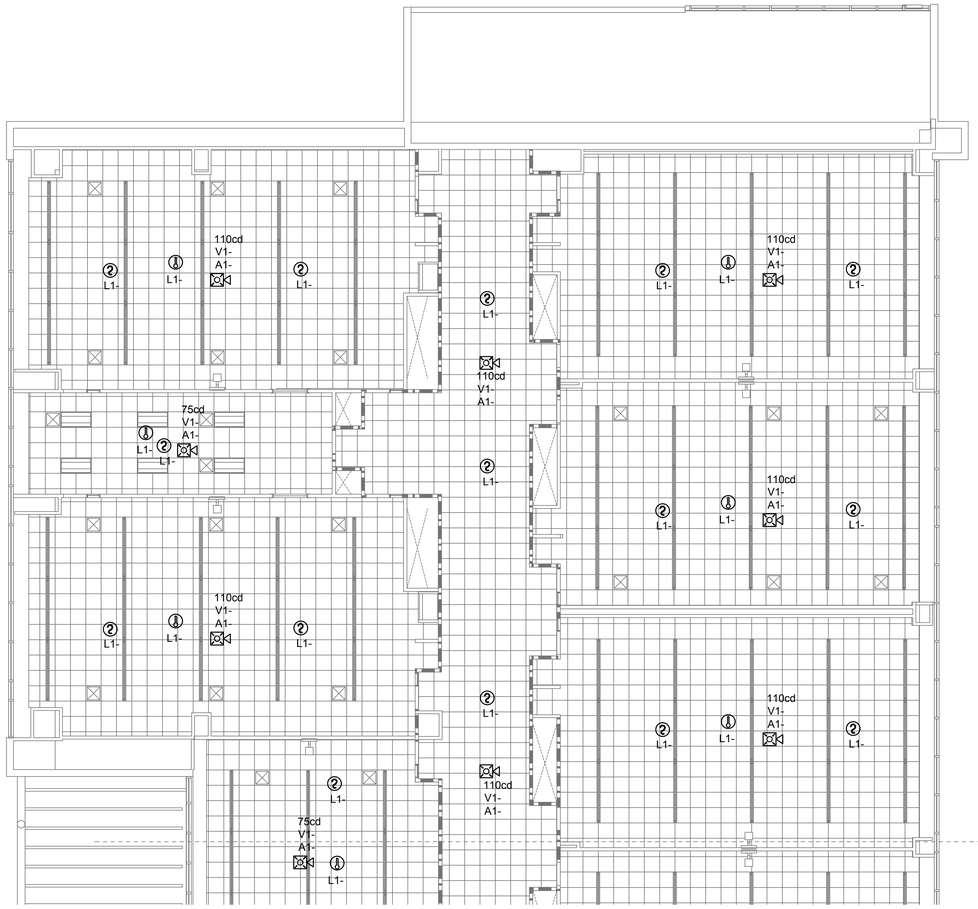
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THIRD FLOOR - FIRE ALARM PLAN NORTH

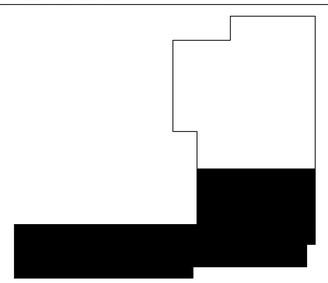
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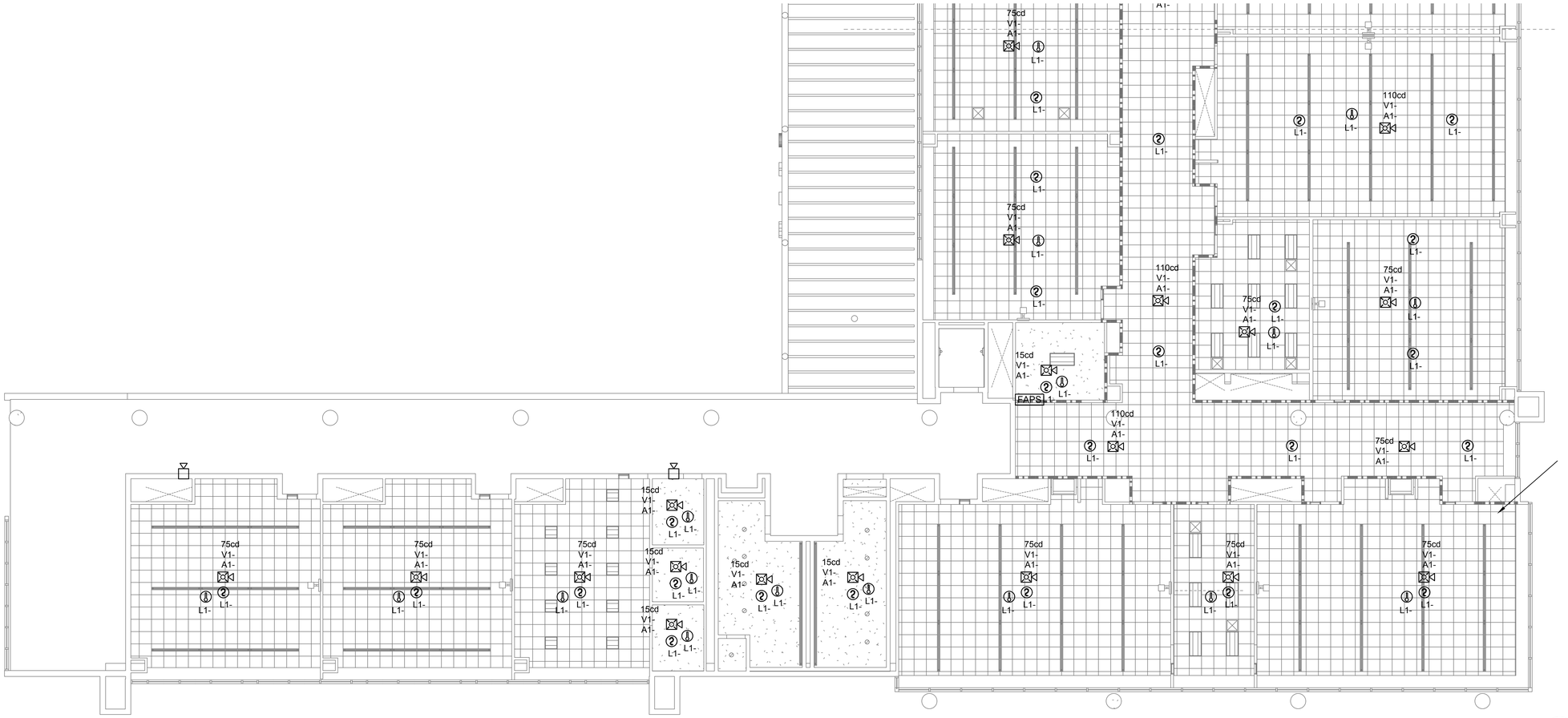
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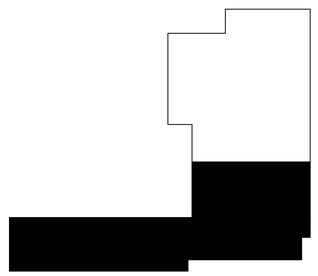
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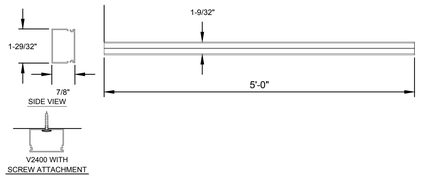
SHEET TITLE:
THIRD FLOOR FIRE ALARM PLAN SOUTH

SHEET NUMBER:
FA2-1.3.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE

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WIREMOLD 2400 SERIES

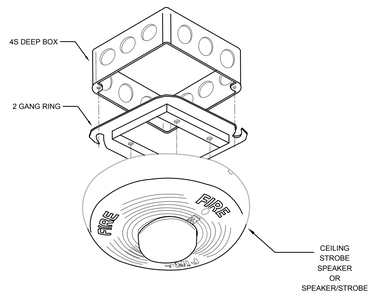


ANCHOR TYPE CHART

TYPE OF WIREMOLD	STRAP W/ANCHOR TYPE 2 ANCHORS PER STRAP	STRAP SPACING	WALL TYPE
V2400	3/16"Ø TOGGLE BOLTS	2-4 FT. C/C MAX.	DRYWALL ½" OR ⅝"
V2400	3/16"Ø TOGGLE BOLTS	2-4 FT. C/C MAX	LATH & PLASTER
V2400	A) 3/16"Ø WOOD SCREWS FLAT HEAD, PENET = 1" B) 8 GAGE FLAT HEAD FLAT HEAD, PENET= 1"	2-4 FT. 2-4 FT. C/C	WOOD STUDS OR DRY WALL OVER WOOD STUDS
V2400	SHOT IN HILTI X-U P8 S15 FASTENER WITH WASHER ICC-ES ESR-2269	2-4 FT. C/C	CONCRETE/ MASONRY

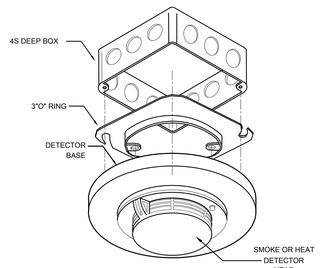
V2400 WIREMOLD MOUNTING | NOT TO SCALE | 1

BACKBOX SHALL BE MOUNTED ACCORDING TO THE ELECTRICAL SPECIFICATIONS. INSTALL WIREMOLD EQUIVALANT FOR SURFACE MOUNTING



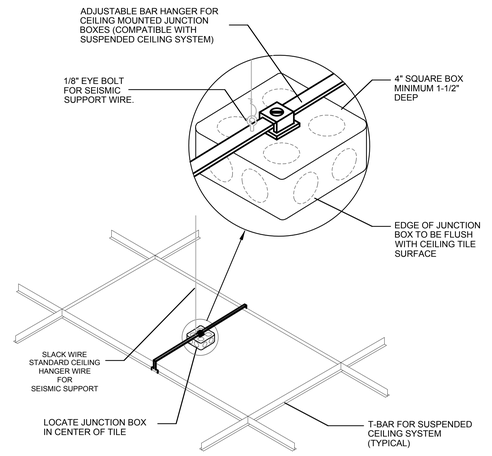
CEILING MOUNT STROBE, SPEAKER & SPEAKER/STROBE DETAIL | NOT TO SCALE | 2

BACKBOX SHALL BE MOUNTED ACCORDING TO THE ELECTRICAL SPECIFICATIONS. INSTALL WIREMOLD EQUIVALANT FOR SURFACE MOUNTING

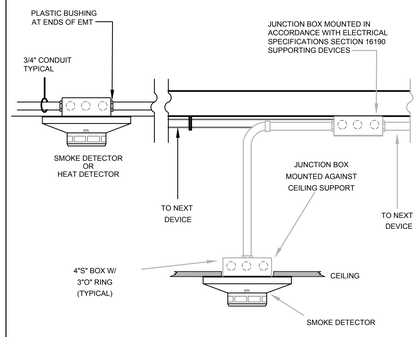


CEILING/ATTIC MOUNT SMOKE & HEAT DETAIL | NOT TO SCALE | 3

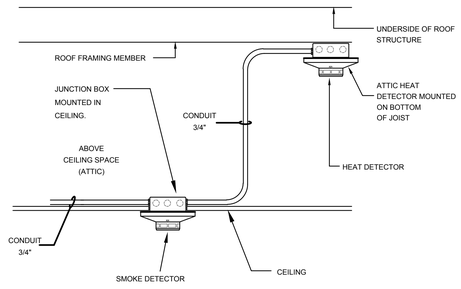
CEILING INSTALLATION ON SUSPENDED CEILING



SMOKE DETECTOR, STROBE, SPEAKER & SPEAKER/STROBE MOUNTING | NOT TO SCALE | 4

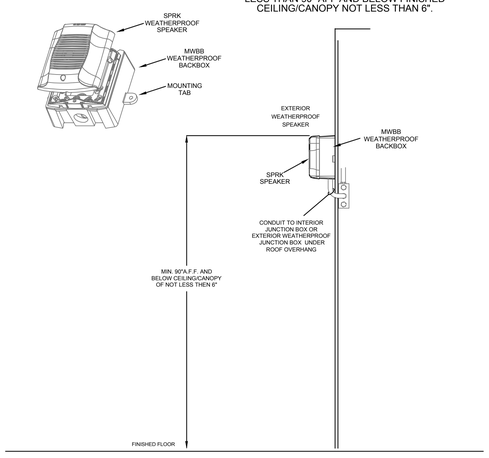


TYPICAL DETECTOR MOUNTING DETAIL | NOT TO SCALE | 5



TYPICAL SMOKE DETECTOR & HEAT DETECTOR MOUNTING | NOT TO SCALE | 6

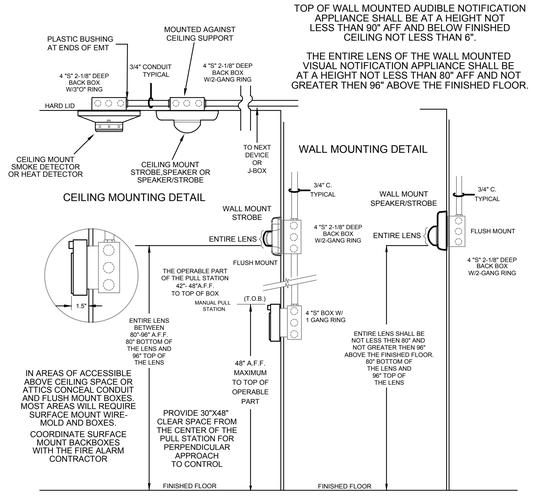
TOP OF WALL MOUNTED AUDIBLE NOTIFICATION APPLIANCE SHALL BE AT A HEIGHT NOT LESS THAN 90" AFF AND BELOW FINISHED CEILING/CANOPY NOT LESS THAN 6".



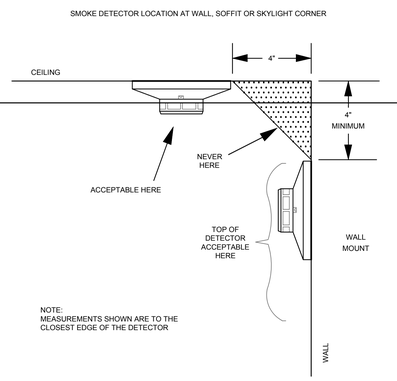
EXTERIOR SPEAKER MOUNTING | NOT TO SCALE | 7

TOP OF WALL MOUNTED AUDIBLE NOTIFICATION APPLIANCE SHALL BE AT A HEIGHT NOT LESS THAN 90" AFF AND BELOW FINISHED CEILING NOT LESS THAN 6".

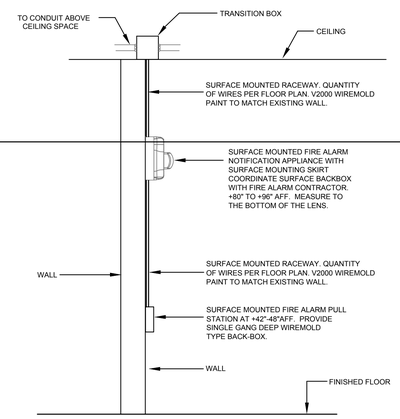
THE ENTIRE LENS OF THE WALL MOUNTED VISUAL NOTIFICATION APPLIANCE SHALL BE AT A HEIGHT NOT LESS THAN 80" AFF AND NOT GREATER THEN 96" ABOVE THE FINISHED FLOOR.



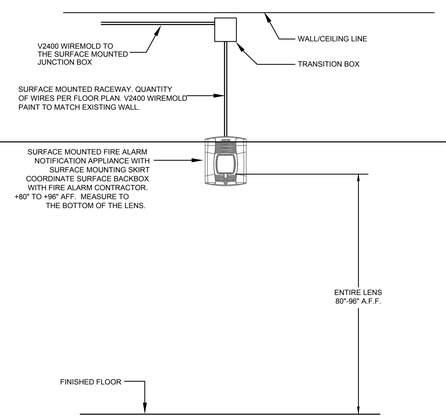
MOUNTING HEIGHT DETAIL | NOT TO SCALE | 8



SMOKE DETECTOR CORNER MOUNTING DETAIL | NOT TO SCALE | 9

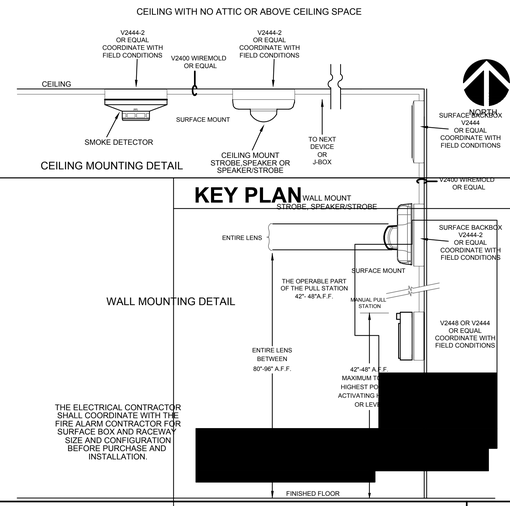


SURFACE MOUNT IN BUILDING WITH CEILING | NOT TO SCALE | 10



SURFACE MOUNT IN BUILDING WITHOUT CEILING | NOT TO SCALE | 11

CEILING WITH NO ATTIC OR ABOVE CEILING SPACE



SURFACE MOUNTING DETAIL | NOT TO SCALE | 12

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LOS ALAMITOS UNIFIED SCHOOL DISTRICT

LOS ALAMITOS HIGH SCHOOL

3591 W Cerritos Ave, Los Alamitos, CA 90720

ISSUED FOR:

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SHEET TITLE:

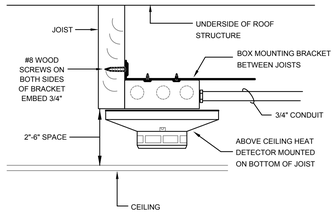
FIRE ALARM DETAILS

SHEET NUMBER:

FA501

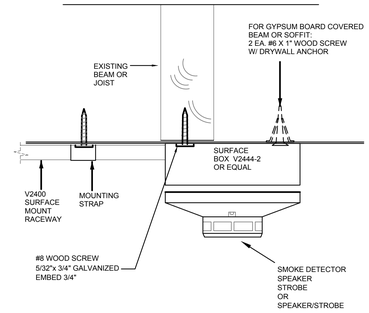
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NOT TO SCALE

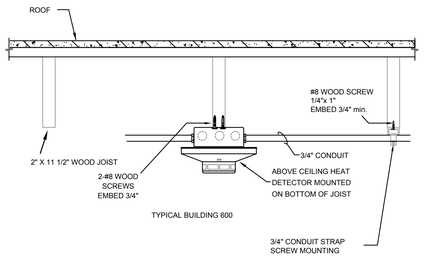
HEAT DETECTOR ABOVE CEILING - LIMITED CLEARANCE | TO SCALE | 1



THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE SURFACE MOUNTING ROUGH-IN WITH THE ELECTRICAL ELECTRICAL SPECIFICATIONS AND FIRE ALARM CONTRACTOR BEFORE INSTALLATION.

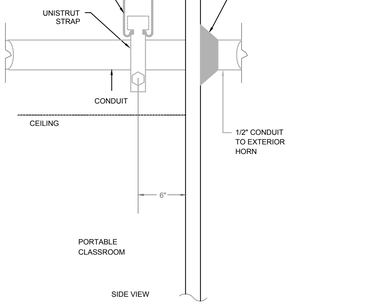
NOT TO SCALE

V2400 WIREMOLD/BACK BOX MOUNTING | TO SCALE | 2



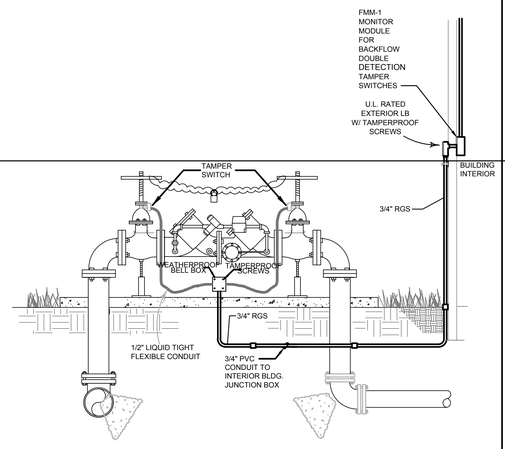
NOT TO SCALE

ATTIC HEAT DETECTOR MOUNTING WITH SOILD JOISTS | TO SCALE | 9



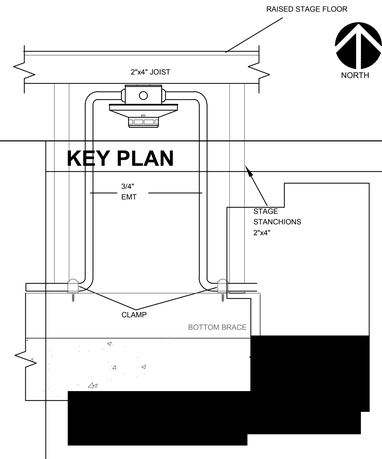
NOT TO SCALE

SEAL TIGHT PENETRATION | TO SCALE | 6



NOT TO SCALE

BACKFLOW DOUBLE DETECTION TAMPER SWITCH DETAIL | TO SCALE | 10



NOT TO SCALE

UNDER STAGE SMOKE DETECTOR MOUNTING | TO SCALE | 11

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SHEET TITLE:
FIRE ALARM DETAILS

SHEET NUMBER:
FA502

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PLUMBING ABBREVIATIONS AND SYMBOLS LIST

PLUMBING ABBREVIATIONS

ABV	ABOVE
ABV CLG	ABOVE CEILING
AC	AIR CONDITIONING
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFSR	AUTOMATIC FIRE SPRINKLER RISER
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
@	AT
ATMOS	ATMOSPHERE OR ATMOSPHERIC
AW	ACID WASTE
AV	ACID VENT
BEL	BELOW
BFP	BACKFLOW PREVENTOR
BLV	BALL VALVE
BR	BRANCH
BV	BALANCING VALVE
BWV	BACKWATER VALVE
CA	COMPRESSED AIR
CD	CONDENSATE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
℄	CENTERLINE
CLG	CEILING
CO	CLEANOUT
COP	CLEANOUT PLUG
CONC	CONCRETE
CONN	CONNECT OR CONNECTION
CONT	CONTINUE OR CONTINUATION
COTG	CLEAN OUT TO GRADE
CW	COLD WATER
CV	CHECK VALVE
DF	DRINKING FOUNTAIN
DIA	DIAMETER
D.I.	DUCTILE IRON
DN	DOWN
DP	DISABLED PERSON
DR	DRAIN
DS	DOWNSPOUT
DWG	DRAWING
E	EXISTING PIPE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EXIST	EXISTING
F	FIRE
°F	DEGREES FAHRENHEIT
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FLR	FLOOR
FOC	FACE OF CURB
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FR	FROM
FS	FLOOR SINK
FSH	FIRE SPRINKLER HEAD
FT	FEET
FTR	FLUE THRU ROOF
FU	FIXTURE UNITS
G	GAS–LOW PRESSURE
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GAS COCK
GLV	GLOBE VALVE
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GR	GRADE
GV	GATE VALVE
H	HIGH
HB	HOSE BIBB
HDR	HEADER
HP	HORSEPOWER
HTG	HEATING
HTR	HEATER
HW	HOT WATER
HWR	HOT WATER RETURN
ID	INSIDE DIAMETER
IPS	IRON PIPE SIZE
IE	INVERT ELEVATION
IW	INDUSTRIAL WASTE
KW	KILOWATT

L	LONG
LAV	LAVATORY
LBS	POUNDS
LF	LINEAR FEET
MBH	THOUSAND BTU PER HOUR
MH	MANHOLE
MIN	MINIMUM
MPG	GAS–MEDIUM PRESSURE
MS	MOP SINK
MUA	MAKE–UP AIR
MV	MOTOR OPERATED VALVE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OD	OVERFLOW DRAIN
ODIA	OUTSIDE DIAMETER
OPWT	OPERATING WEIGHT
PG	PRESSURE GAUGE
PH	PHASE (ELECTRICAL)
℄	PROPERTY LINE
POC	POINT OF CONNECTION
POD	POINT OF DISCONNECTION
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PSIA	PSI GAUGE
PT	PLUGGED TEE
PTRV	PRESSURE/TEMPERATURE RELIEF VALVE
PVC	POLYVINYL CHLORIDE
PW	PLUGGED WYE
RD	ROOF DRAIN
REQ'D	REQUIRED
RHB	RECESSED HOSE BIBB
RI&C	ROUGH–IN AND CONNECT
RP	REDUCED PRESSURE
RPM	REVOLUTIONS PER MINUTE
RV	RELIEF VALVE
S	SINK
SD	STORM DRAIN
SHT	SHEET
SOV	SHUT OFF VALVE
SPEC	SPECIFICATION
SQ. FT.	SQUARE FEET
SS	SERVICE SINK
ST	STORAGE TANK
STL	STEEL
STR	STRAINER
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TH	THERMOMETER
TP	TRAP PRIMER
TYP	TYPICAL
U	URINAL
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UN	UNION
UOS	UNDER OTHER SECTION
UTR	UP THRU ROOF
V	VENT
VB	VACUUM BREAKER
VBF	VENT BELOW FLOOR
VCP	VITRIFIED CLAY PIPE
VTR	VENT THRU ROOF
W	WIDE OR WASTE
W/	WITH
WH	WATER HEATER
WHA	WATER HAMMER ARRESTER
W/O	WITHOUT
WTR	WATER
WCO	WALL CLEANOUT
WC	WATER CLOSET
WT	WEIGHT
YB	YARDBOX

1. SYMBOLS AND ABBREVIATIONS ARE SHOWN FOR REFERENCE; NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED.
2. ALL NOTES ON THIS SHEET REMAIN PART OF THE CONTRACT DOCUMENTS.

PLUMBING SYMBOLS

- PIPING BRANCH
- PIPE DROP
- PIPE RISE
- RISER OR DROP
- BRANCH – TOP CONNECTION
- BRANCH – BOTTOM CONNECTION
- UNION (SCREWED)
- PLUGGED TEE
- FLANGED CONNECTION
- CAP ON END OF PIPE
- RED BRASS NIPPLE
- VALVE IN RISER
- GATE VALVE OR SHUT–OFF VALVE
- GLOBE VALVE
- "Y" TYPE STRAINER
- PRESSURE – TEMPERATURE RELIEF VALVE
- GAS COCK
- WATER HAMMER ARRESTER
- CHECK VALVE, SWING OR LIFT
- SLOPE – IN DIRECTION OF ARROW
- FLOW – IN DIRECTION OF ARROW
- GAS OUTLET/TURRET
- GAS/WATER SHUT–OFF VALVE IN YARDBOX
- FLOOR CLEANOUT
- CLEANOUT IN YARDBOX – TRAFFIC WEIGHT
- WALL CLEANOUT
- HOSE BIBB WITH VACUUM BREAKER
- CAP PIPING FOR RECONNECTION

- SANITARY WASTE ABOVE GRADE
- SANITARY WASTE BELOW GRADE
- SANITARY VENT ABOVE GRADE
- SANITARY VENT BELOW GRADE
- STORM DRAIN ABOVE GRADE
- STORM DRAIN BELOW GRADE
- OVERFLOW DRAIN
- INDUSTRIAL WASTE
- ACID WASTE
- ACID VENT
- INDIRECT DRAIN
- CONDENSATE DRAIN
- COMPRESSED AIR
- DOMESTIC COLD WATER ABOVE GRADE
- DOMESTIC COLD WATER BELOW GRADE
- DOMESTIC HOT WATER ABOVE GRADE
- DOMESTIC HOT WATER BELOW GRADE
- GAS – LOW PRESSURE
- EXISTING GAS – LOW PRESSURE
- GAS – MEDIUM PRESSURE
- EXISTING GAS – MEDIUM PRESSURE
- HOT WATER RETURN ABOVE GRADE
- EXISTING PIPING TO BE ABANDONED
- EXISTING PIPING TO BE REMOVED
- REPRESENTS REMODEL NOTES
- REPRESENTS DETAIL NUMBER / REPRESENTS PLUMBING SHEET
- REPRESENTS PLUMBING FIXTURE / REPRESENTS QUANTITY

* PIPE MATERIAL SCHEDULE

AG: ABOVE GRADE
BG: BELOW GRADE

SERVICES		C.I. NO–HUB	POLYPROPYLENE	COPPER DWV	SCH 40 BLACK STEEL	SDR–35	COPPER TYPE M	COPPER TYPE L	COPPER TYPE K	SCH 10 BLACK STEEL	YELLOW PE PIPE	DUCTILE IRON	REMARKS
WATER	AG						●						IAPMO IS 3–2006
	BG							●					IAPMO IS 3–2006 WRAPPED
WASTE	AG	●											IAPMO IS 6–2006
	BG	●											IAPMO IS 6–2006
ACID WASTE	AG		●										
	BG		●										
INDUSTRIAL WASTE	AG	●											IAPMO IS 6–2006
	BG	●											IAPMO IS 6–2006
VENT	AG	●											IAPMO IS 6–2006
	BG	●											IAPMO IS 6–2006
ACID VENT	AG		●										
	BG		●										
INDIRECT WASTE	AG						●						IAPMO IS 3–2006 CD
	BG						●						IAPMO IS 3–2006 CD WRAPPED
COMP AIR	AG				●								IAPMO IS 13–2006 GALV. EXPOSED
	BG												
GAS	AG				●								IAPMO IS 13–2006 GALV. WRAPPED
	BG										●		IAPMO IS 12–2006
STORM DRAIN	AG	●											IAPMO IS 6–2006
	BG	●											IAPMO IS 6–2006
FIRE	AG				●					●			IAPMO IS 6–2006
	BG											●	

* ALL PIPE MATERIAL SHALL BE OF DOMESTIC MANUFACTURER.

GENERAL NOTES

1.– THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

2.– FOR BUILDING LOCATIONS, FINISH FLOOR, AND GRADE ELEVATIONS, SEE ARCHITECTURAL AND CIVIL DRAWINGS.

3.– FOR PIPING RUNNING THROUGH AND PARALLEL TO FOOTING, SEE STRUCTURAL DRAWINGS.

4.– BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING, PRIOR TO START OF ANY TRENCHING, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.

5.– FOR SERVICE CONNECTIONS TO INDIVIDUAL FIXTURES REFER TO SPECIFICATIONS.

6.– ALL HOSE BIBBS SHALL BE INSTALLED 18" ABOVE FINISH FLOOR OR GRADE, UNLESS OTHERWISE NOTED.

7.– FOR EXACT LOCATION OF ROOF DRAINS, SEE ARCHITECTURAL DRAWINGS.

8.– ALL PLUGGED TEES AND PLUGGED WYES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.

9.– ALL PLUMBING FIXTURE VENTS TO TERMINATE A MIN. OF 12 INCHES FROM ANY VERTICAL SURFACE AND 10 FEET FROM, OR 3 FEET ABOVE, ANY OUTSIDE AIR INTAKES.

10.– THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING ACCESS PANELS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN AND THE ELECTRICAL LIGHTING LAYOUT.

11.– EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS

12.– CONNECTION BETWEEN INCOMPATIBLE MATERIALS ABOVE GRADE AND INSIDE BUILDING SHALL BE MADE WITH TWO (2) DIELECTRIC UNIONS SEPARATED BY A 12" SECTION OF RED BRASS PIPE.

13.– ALL CUTTING OF EXISTING PAVINGS, WALKS AND/OR FLOORS SHALL BE BY MACHINE SAW CUTTING. HOLES FOR PIPING IN CONCRETE WALLS OR FLOORS SHALL BE DONE BY CORE DRILLING EQUIPMENT.

14.– THE CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND REPAIRING ALL PAVED AREAS WHICH ARE EXCAVATED AND/OR DAMAGED BY HIS OPERATIONS.

15.– ALL CONNECTIONS TO EXISTING SERVICES SHALL BE MADE SUCH THAT INTERRUPTION TIME WILL BE AS SHORT AS POSSIBLE. THE CONTRACTOR SHALL GIVE THE OWNER'S REPRESENTATIVE SUFFICIENT NOTICE OF SUCH INTERRUPTION AND THE ACTUAL SHUT–DOWN TIME SHALL BE AT A TIME DESIGNATED BY THE OWNER'S REPRESENTATIVE.

16.– COORDINATE LOCATION OF GAS & CONDENSATE CONNECTIONS ON MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.

17.– FOR CONTINUATION OF STORM DRAINS OUTSIDE OF BUILDING, SEE CIVIL DRAWINGS.

18.– ALL SHUT–OFF VALVES, OUTSIDE THE BUILDINGS, SHALL BE IN CONCRETE YARD BOXES WITH THE NAME OF THE SERVICE CONSPICUOUSLY CAST IN THE COVER.

19.– DURING THE PROGRESS OF WORK THE PLUMBING CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE IN THE PLUMBING SYSTEMS. THE RECORD DRAWING SHALL SHOW CHANGES IN MANUFACTURER (WITH NUMBERS AND TRADE NAMES). MATERIALS, SIZES, LOCATIONS AND HOOK–UP POINTS. AS–BUILTS SHALL BE GIVEN TO THE OWNER'S CONSTRUCTION MANAGER AT COMPLETION OF JOB.

20.– INSTALL ALL PLUMBING TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING. NO WATER OR DRAIN PIPING PERMITTED OVER OR UNDER ELECTRICAL PANELS.

21.– ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL LOCAL CODES, RULES AND REGULATIONS GOVERNING THIS PROJECT AS SET FORTH BY THE LOCAL ADMINISTRATIVE AUTHORITY.

22.– SEE ARCHITECTURAL DRAWINGS FOR ACCESSIBLE FIXTURE LOCATIONS AND MOUNTING HEIGHTS. (INSULATE ALL EXPOSED HOT WATER AND DRAIN PIPING BELOW ACCESSIBLE LAVATORIES AND SINKS WITH PREFORMED INSULATED FITTING COVERS (TRUEBRO OR EQUAL) WITH A MAX. FLAME SPREAD RATING OF 25, MAX. SMOKE RATING OF 50 PER ASTM E–84) OFFSET P–TRAP AGAINST WALL. ALSO, ALL FLUSH VALVES SHALL BE ON WIDE SIDE OF STALL.

23.– ALL CONDENSATE PIPING IN ATTIC SPACES SHALL BE INSULATED WITH 3/4" MICRO–LOK INSULATION OR APPROVED EQUAL BY ARMACELL LLC. CLOSED–CELL WHITE PIPE INSULATION (L–APWT) WITH A MAX. FLAME SPREAD RATING OF 25, MAX. SMOKE RATING OF 50 PER ASTM E–84 25/50.

24.– ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS WITH EQUIPMENT, CABINETS, ETC., AND THE ARCHITECT PRIOR TO ANY INSTALLATION.

25.– ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS PIPE UNLESS OTHERWISE INDICATED ON DRAWINGS.

26.– UNIONS SHALL BE PROVIDED AND INSTALLED AFTER EACH SCREW–TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.

27.– BEFORE FABRICATION OR INSTALLATION THIS CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND EQUIPMENT PROVIDED UNDER ANOTHER SECTION OF SPECIFICATIONS. EXACT ROUGH–IN LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED IN FIELD.

28.– THE PLUMBING CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO BID.

29.– ALL WASTE AND VENT PIPING SHALL SLOPE AT 2% MIN. UNLESS OTHERWISE INDICATED.

30.– ALL VALVES, TRAP PRIMER, WATER HAMMER ARRESTORS OR OTHER EQUIPMENT SHOWN IN WALLS OR ABOVE NON–ACCESSIBLE CEILINGS SHALL BE INSTALLED BEHIND AN ACCESS PANEL.

31.– ALL LAVATORIES TO BE EQUIPPED WITH PRESSURE COMPENSATING FLOW CONTROL DEVICES RESTRICTING THE FLOW TO 0.35 GPM., FAUCET CONTROLS SHALL REQUIRE NO MORE THAN 5 LBS/FORCE TO OPERATE.

32.– WATER OR SOIL PIPE BELOW GRADE OUTSIDE SHALL HAVE MINIMUM COVER AS RECOMMENDED BY LOCAL AUTHORITIES.

33.– BEFORE ANY USE OF WATER SYSTEM IS MADE FOR DOMESTIC PURPOSES, IT SHALL BE STERILIZED BY SLOWLY FILLING THE SYSTEM WITH A WATER–CHLORINE SOLUTION CONTAINING AT LEAST FIFTY (50) PPM OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVED OFF AND ALLOWED TO STAND FOR TWENTY FOUR (24) HOURS; OR, THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER–CHLORINE SOLUTION CONTAINING AT LEAST TWO HUNDRED (200) PPM OF CHLORINE AND ALLOWED TO STAND FOR THREE (3) HOURS. FOLLOWING THE ALLOWED STANDING TIME, THE SYSTEM SHALL BE FLUSH WITH CLEAN POTABLE WATER UNTIL THE CHLORINE RESIDUAL IN THE WATER COMING FROM THE SYSTEM DOES NOT EXCEED THE CHLORINE RESIDUAL IN THE FLUSHING WATER. THIS PROCEDURE OF FLUSHING THE SYSTEM SHALL BE REPEATED IF IT IS SHOWN BY BACTERIOLOGICAL EXAMINATION MADE BY AN APPROVED AGENCY THAT CONTAMINATION PERSIST IN THE SYSTEM.

34.– ALL ELECTRICAL DEVICES, WIRING AND CONDUITS, ETC., SERVING PLUMBING FIXTURES, INCLUDING BUT NOT LIMITED TO SENSOR OPERATED FAUCETS AND FLUSH VALVES SHALL BE INSTALLED RECESSED, PROVIDED WITH REQUIRED ACCESS PANEL AND COVER. COORDINATE WITH ARCHITECT FOR INSTALLATION LOCATION, DIMENSION AND THE FINISH COLOR OR MATERIAL OF THESE PANELS.

35.– ALL PLUMBING WORK SHALL CONFORM TO 2016 CPC.

36.– UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, NEITHER DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT.

37.– CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT OR STRUCTURAL ENGINEER WITH THE APPROVAL OF DSA REPRESENTATIVE.

38.– THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT SHALL CONFORM TO ASCE 7–10 SECTION 13.3.1 AND TABLE 13.6–1. ANCHORAGE DETAILS FOR ROOF/FLOOR MOUNTED EQUIPMENT SHALL BE SHOWN ON PLANS.

39.– ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES AS APPROVED BY DSA.

GENERAL NOTES

40.– WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECTED TO THE APPROVAL OF THE ARCHITECT, STRUCTURAL ENGINEER AND DSA FIELD ENGINEER.

41.– A COPY OF THE GUIDELINES PUBLISHED BY SMACNA AND APPROVED BY DSA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.

42.– PROVIDE ARMACELL LLC INSULATED PIPE HANGERS (IPH07812) OR APPROVED EQUAL WHERE PIPE CLAMPS ARE NECCESSARY IN ORDER TO KEEP THE INTEGRITY OF PIPE INSULATION.

SEISMIC RESTRAINT

THE SEISMIC ANCHORAGE FOR ALL MECHANICAL EQUIPMENT SHALL BE DESIGNED TO WITHSTAND A LATERAL FORCE AS CALCULATED BASED ON SECTION 1614A.1.13 OF THE VOL. 2, TITLE 24, 2016 CBC AND ASCE 7–10 SECTION 13 (SECTIONS 13.3, 13.4 & 13.6).

WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON DRAWINGS THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF MECHANICAL/ELECTRICAL ENGINEER AND THE FIELD ENGINEER OF THE DIVISION OF THE STATE ARCHITECT.

DUCTWORK & PIPING RESTRAINT SHALL BE IN ACCORDANCE WITH "SMACNA" GUIDELINES FOR RESTRAINT OF MECHANICAL SYSTEMS, INCLUDING SUPPLEMENT DATED 2000 FOR SEISMIC LEVEL "AA".

SPECIAL NOTE

ALL PLUMBING DRAWINGS CONTAINED IN THIS SET SHALL DISPLAY THE DIVISION OF THE STATE ARCHITECT STAMP BEFORE THESE DRAWINGS CAN BE USED AS CONSTRUCTION DOCUMENTS.

COORDINATION

THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW IN GENERAL WHERE THE PIPING AND OTHER WORK SPECIFIED IN THE DIVISION 22000 SECTIONS OF THE SPECIFICATIONS IS TO BE LOCATED. THE DRAWINGS DO NOT NECESSARILY INDICATE ANY AND ALL OFFSETS AND CONFIGURATIONS REQUIRED FOR COORDINATION WITH THE SPACE REQUIREMENTS OF OTHER TRADES. THE CONTRACTOR IS RESPONSIBLE FOR THE CORRECT PLACING, LOCATION AND CONNECTION OF THIS WORK IN RELATION TO THE WORK OF OTHER TRADES.

THE CONTRACTOR, SHALL EXAMINE ALL MECHANICAL, ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND OTHER DRAWINGS THAT HAVE BEEN PREPARED FOR THIS PROJECT, AND ACCEPT SUCH CONDITIONS, AND MAKE ALLOWANCES FOR THEM IN PREPARING THE BID.

SEISMIC RESTRAINT

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAILS IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7–10 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. ALL TEMPORARY OR MOVEABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS, OR WATER.
3. MOVEABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT THE ATTACHMENT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENTS AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

A. COMPONENTS WEIGHTING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7–10 SECTION 13.3 AS DEFINED IN ASCE 7–10 SECTION 13.6.5.6, 13.6.7, 13.6.8, AND 2016 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP ☐ MD ☐ PP ☐ E ☐ – OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP ☐ MD ☐ PP ☐ E ☐ – OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE–APPROVAL (OPM#) #_____ .

MP ☐ MD ☐ PP ☒ E ☐ – OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA RESTRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL _____ AND CONNECTION LEVEL _____ FOR THE PROJECT AND CONDITIONS.

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

REVISIONS:

REGISTRATION/SIGNATURE:

SHEET TITLE:
PLUMBING ABBREVIATIONS AND SYMBOLS LIST

SHEET NUMBER:
P0-1.0

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PLUMBING FIXTURE SCHEDULE

ITEM	FIXTURE	ROUGH-IN CONNECTIONS					DESCRIPTION
		COLD WATER	HOT WATER	WASTE	VENT	AS NOTED	
WC 1	WATER CLOSET (WALL HUNG)	1"	–	4"	2"	–	AMERICAN STANDARD "AFWALL" NO. 3351.101EC, WHITE EVERCLEAN, ELONGATED BOWL, WALL HUNG, TOP SPUD, COMPLETE WITH SLOAN ROYAL NO. '111-1.28 ES-S TMO' ELECTRONIC FLUSH VALVE, NO. 'EL-154' 120 VAC TRANSFORMER, 1.28 GPF, LOW CONSUMPTION FLUSHOMETER VALVE WITH VACUUM BREAKER, TRUE MANUAL OVERRIDE. PROVIDE BEMIS NO. 1955SSCT OPEN FRONT SEAT. PROVIDE J.R. SMITH WALL CARRIER. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.
WC 2	WATER CLOSET (ACCESSIBLE)	1"	–	4"	2"	–	AMERICAN STANDARD "AFWALL" NO. 3351.101EC, WHITE, EVERCLEAN, ELONGATED BOWL, WALL HUNG, TOP SPUD, COMPLETE WITH SLOAN ROYAL NO. '111-1.28 ES-S TMO' ELECTRONIC FLUSH VALVE, NO. 'EL-154' 120 VAC TRANSFORMER, 1.28 GPF, LOW CONSUMPTION FLUSHOMETER VALVE WITH VACUUM BREAKER & TRUE MANUAL OVERRIDE. PROVIDE BEMIS NO. 1955SSCT OPEN FRONT SEAT. PROVIDE J.R. SMITH WALL CARRIER. TOP OF SEAT TO BE 17"-19" A.F.F.
U 1	URINAL*	<3/4">	–	2"	1-1/2"	–	SLOAN WES-1000 'WATERFREE', COMPLETE WITH 16 ADDITIONAL CARTRIDGES PER FIXTURE. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
U 2	URINAL* (ACCESSIBLE)	<3/4">	–	2"	1-1/2"	–	SLOAN WES-1000 'WATERFREE', COMPLETE WITH 16 ADDITIONAL CARTRIDGES PER FIXTURE. SET RIM AT +17" MAX.
L 1	LAVATORY (ACCESSIBLE)	1/2"	1/2"	2"	1-1/2"	–	AMERICAN STANDARD 'LUCERNE' NO. 0355.012, WHITE, VITEROUS CHINA, WALL HUNG, THREE HOLE, CONCEALED ARMS AND SUPPORTS, COMPLETE WITH SLOAN ETF-600, SENSOR FAUCET WITH .35 AERATOR, CHICAGO NO. 327-XCP GRID STRAINER, McGUIRE NO. V8090CNC VANDAL-PROOF CHROME PLATED 17 GA. L.A. PATTERN CAST BRASS P-TRAP WITH SECURED ESCUTCHEON AND TRUEBRO 'LAVGUARD 2' NO. EZ SERIES. PROVIDE CHICAGO NO. 1017-ABCP LOOSE KEY STOPS AND RIGID SUPPLIES. SET TOP OF LAV AT +34" MAX. (MANUALLY SET THE FAUCET RUN TIME FOR 10 SECONDS).
L 2	LAVATORY (ACCESSIBLE)	1/2"	1/2"	2"	1-1/2"	–	AMERICAN STANDARD 'OVATYLN' NO. 0495.221, WHITE, VITEROUS CHINA UNDER-COUNTER MOUNTED, THREE HOLE, COMPLETE WITH SLOAN ETF-600, SENSOR FAUCET WITH 0.35 AERATOR CHICAGO NO. 327-XCP GRID STRAINER, McGUIRE NO. 8089CNC CHROME PLATED 17 GA. L.A. PATTERN CAST BRASS P-TRAP WITH SECURED ESCUTCHEON AND TRUEBRO 'LAVGUARD 2' NO. EZ SERIES. PROVIDE CHICAGO NO. 1017-ABCP LOOSE KEY STOP AND RIGID SUPPLY. SET TOP OF LAV AT +34" MAX. (MANUALLY SET THE FAUCET RUN TIME FOR 10 SECONDS).
S 1	NURSE'S SINK (ACCESSIBLE)	1/2"	1/2"	2"	1-1/2"	–	JUST NO. SL-ADA-1921-AGR, STAINLESS STEEL COUNTERTOP COMPLETE WITH NO. J-ADA-35 STRAINER, CHICAGO NO. 50 E35ABCP GOOSENECK FAUCET, MCGUIRE NO. 8089CNC P-TRAP, CHICAGO NO. 1017-ABCP LOOSE KEY STOPS AND RIGID SUPPLIES.
S 2	SCIENCE CLASSROOM SINK**	1/2"	1/2"	2" AW	1-1/2" AV	–	LAB TECH NO. A25, COUNTERTOP, COMPLETE WITH STRAINER, AND CHICAGO NO. 928-VR369CP FAUCET, NO. 50-3R STRAINER, ORION NO. RBP P-TRAP AND CHICAGO NO. 1017-ABCP LOOSE KEY STOPS AND RIGID SUPPLIES.
S 3	SCIENCE SINK** (ACCESSIBLE)	1/2"	1/2"	2"	1-1/2"	–	LAB TECH NO. A25, COUNTERTOP, COMPLETE WITH STRAINER, AND (2) CHICAGO NO. 928-VR369CP FAUCETS, NO. 50-3R STRAINER, ORION NO. RBP P-TRAP AND CHICAGO NO. 1017-ABCP LOOSE KEY STOPS AND RIGID SUPPLIES.
S 4	SCIENCE CLASSROOM SINK**	1/2"	1/2"	2" AW	1-1/2" AV	–	LAB TECH NO. A25, COUNTERTOP, COMPLETE WITH STRAINER, AND (2) CHICAGO NO. 928-VR369CP FAUCETS, NO. 50-3R STRAINER, ORION NO. RBP P-TRAP AND CHICAGO NO. 1017-ABCP LOOSE KEY STOPS AND RIGID SUPPLIES.
S 5	SCIENCE SINK** (ACCESSIBLE)	1/2"	1/2"	2" AW	1-1/2" AV	–	LAB TECH NO. D30D, 2-COMP COMPLETE WITH STRAINER, RIMGUARD AND CHICAGO NO. 928-VR369CP FAUCET, NO. 50-3R STRAINER, ORION NO. RBP P-TRAP AND CHICAGO NO. 1017-ABCP LOOSE KEY STOPS AND RIGID SUPPLIES.
SS 1	SERVICE SINK	3/4"	3/4"	3"	2"	–	CECO NO. 871 FLOOR MOUNTED, COMPLETE WITH STRAINER, AND CHICAGO NO. 897-CCP WALL MOUNTED FAUCET WITH VACUUM BREAKER. PROVIDE 3'-0" LONG BLACK RUBBER HOSE AND STAINLESS STEEL MOP RACK.
DF 1	DRINKING FOUNTAIN (ACCESSIBLE)	3/4"	–	2"	1-1/2"	–	HAWS NO. 1011 HPS, DUAL-HEIGHT STAINLESS STEEL, BARRIER FREE COMPLETE MOUNTED PLATE, 17 GA. L.A. PATTERN CAST BRASS P-TRAP AND CHICAGO NO. 1017-ABCP LOOSE KEY STOP AND RIGID SUPPLY. SET A.D.A. BUBBLER HEIGHT AT +36" MAX.
HB 1	HOSE BIBB (INDOOR)	3/4"	–	–	–	–	ACORN NO. 8151-SSLF, LEAD FREE, STAINLESS STEEL WITH VACUUM BREAKER AND LOOSE TEE KEY WITH LOCKING DOOR.
HB 2	HOSE BIBB (ROOF)	3/4"	–	–	–	–	ACORN NO. 8126CR-LF, LEAD FREE, VERTICAL STANDPIPE, ROUGH CHROME-PLATED WITH VACUUM BREAKER AND LOOSE TEE KEY.
FD 1	FLOOR DRAIN (TOILETS)	1/2"	–	2"	1-1/2"	–	J.R. SMITH NO. 2005Y(A)-U-P050-NB-02, CAST IRON BODY, TRAP PRIMER CONNECTION, INTEGRAL FLASHING DEVICE, 5" ROUND ADJUSTABLE NICKEL BRONZE STRAINER WITH VANDAL-PROOF SCREWS.
FD 2	FLOOR DRAIN (EMERGENCY SHOWER)	1/2"	–	3"	2"	–	J.R. SMITH NO. 2005Y(A)-U-P050-CP-02/-03, CAST IRON BODY, TRAP PRIMER CONNECTION INTEGRAL FLASHING DEVICE, 5" ROUND ADJUSTABLE CHROME PLATED STRAINER WITH VANDAL-PROOF SCREWS. 1/4" MAX OPENING IN ALL DIRECTIONS @ GRATE (HEEL PROOF).
FS 1	FLOOR SINK	1/2"	–	3"	2"	–	J.R. SMITH NO. 3100Y-12-C-4, NO HUB WITH ALUMINUM DOME STRAINER AND TRAP PRIMER CONNECTION.
TP 1	TRAP PRIMER	1/2"	–	–	–	–	P.P.P. INC. NO. PR-500 "PRIME-RITE", AND NO. DU-4 DISTRIBUTION UNIT INSTALL COMPLETE WITH SHUT-OFF VALVE AND ACCESS PANEL.
WHA 1	WATER HAMMER ARRESTOR	1"	–	–	–	–	P.P.P. INC. MODEL SC, COPPER BODY, SIZED AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. INSTALL COMPLETE WITH ACCESS PANEL.
GO 1	GAS OUTLET (ACCESSIBLE)	–	–	–	–	3/4"G	CHICAGO NO. 901-VR909CAGCP, DECK MOUNTED DUAL BALL VALVES TURRET @ 180° WITH CHECK.
NT 1	NUETRALIZING TANK	–	–	4"	3"	4"AW	PARK NO. ANT300-C-P, 300 GALLON, 48"Lx48"Wx48"ø, 30"FL, 600 GPH NEUTRALIZING TANK, INTERIOR TANK 2" CERAMIC BRICK AND EXTERIOR TANK 3/16" H.D. POLYETHYLENE, COMPLETE WITH 24"ø CAST IRON COVER WITH SS BOLT DOWN TOP CLEANOUT, LIMESTONE. 4" INLET & OUTLET, WITH 3" VENT. APPROX OPER. WEIGHT 7,200 LBS.
EW 1	EYE WASH (ACCESSIBLE)	3/4"	–	–	–	–	HAWS NO. 7610 DECK MOUNTED PULL DOWN.
ESH 1	EMERGENCY SHOWER (ACCESSIBLE)	1-1/4"	–	–	–	–	HAWS NO. 8356WCC OVERHEAD SHOWER WITH PULL DOWN EYE-WASH.
WH 1	GAS FIRED WATER HEATER	1-1/2"	1-1/2"	–	–	–	A.O. SMITH CYCLONE MXI NO. BTH-120A, CONCENTRIC VENT KIT NO. 9006328005, 60 GALLON CAPACITY, 120,000 BTUH INPUT, T&P VALVE, 3"ø INTAKE/EXHAUST AND 276 GPH RECOVERY @ 50° TEMPERATURE RISE, 120V, APPROX. OPER. WT.=990 LBS.
ET 1	EXPANSION TANK	3/4"	–	–	–	–	WATTS NO. PLT-12, 4.5 GALLON CAPACITY LEAD-FREE, FACTORY PRE-CHARGED AT 40 PSI.
CP 1	CIRCULATING PUMP	–	1"	–	–	–	BELL&GOSSET NO. SERIES PL-36B, ALL LEAD-FREE BRONZE CONSTRUCTION, 1/6 HP, 1.75 AMPS, 3300 RPM AND 115V-1ø-60Hz. APPROX SHIPPING WEIGHT 13.1 LBS.
TD 1	TEACHER'S DEMONSTRATION UTILITY TRENCH	3/4"	3/4"	–	–	3/4" G	ZURN NO. Z874-U-12-LDRA, LIGHT DUTY UTILITY TRENCH, 40" LENGTH NUETRAL NON-SLOPED HDPE CHANNEL, COMPLETE WITH ALUMINUM FRAME, CALMP AND SOLID COVER.
AC 1	AIR COMPRESSOR	–	–	–	–	1" C.A.	INGERSOLL RAND VERTICAL TANK COMPRESSOR UNIT. 60 GALLON RECEIVER. 120 PSI, 10 SCFM.
GPR 1	GAS PRESSURE REGULATOR	SEE PLANS FOR SIZE					AMERICAN METER 1800 SERIES, 5 PSI INLET 8" W.C. OUTLET, COMPLETE WITH SHUT-OFF VALVE.
GV 1	EMERGENCY GAS SHUT-OFF (ACCESSIBLE)	SEE PLANS FOR SIZE					WESTERN GAS PRODUCTS NO. MESO-110V, RECESSED BOX STAINLESS STEEL COVER, COMPLETE WITH "SYSTEM ACTIVE" LIGHT 120V. INTERLOCK WITH CLG. MOUNTED ASCO NO. 8210 SERIES ELECTRIC SOLENOID VALVE.
RD 1	ROOF DRAIN	SEE PLANS FOR SIZE					J.R. SMITH SQ-1-1481, COMBO UNIT NO-HUB OUTLETS AND VANDAL PROOF CAST IRON DOMES.

NOTES:
1- THE ABOVE ITEMS SHALL BE PROVIDED AND INSTALLED IN FULL ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2- COORDINATE LOCATION AND ARRANGEMENT OF ACCESSIBLE FIXTURES WITH THE ARCHITECTURAL PLANS.
3- MANUAL FAUCET CONTROLS AT LAVS/SINKS SHALL REQUIRE NO GREATER THAN 5 LBS. OF FORCE TO ACTIVATE CONTROLS.
4- ALL FAUCET TRIM SHALL COMPLY WITH LATEST AB1953 REQUIREMENTS.
5- THE ABOVE ITEMS SHALL COMPLY WITH THE 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE.
6- PROVIDE PRE-FORMED INSULATED COVERS BY "TRUBRO" TO ALL EXPOSED PIPING BELOW ACCESSIBLE LAV/SINK.
7- METERING MANUAL CONTROL FAUCETS SHALL REMAIN OPEN/OPERATE FOR AT LEAST 10 SECONDS FOR ADA COMPLIANCE.
*- DENOTES A "WATERLESS" URINAL FIXTURE
**- LAB SINKS AND PREP SINKS REQUIRE ACID WASTE PIPING.

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PEI #600.001

New Multi-story STEM Classroom Building

Los Alamitos Unified School District

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ISSUED FOR:

REVISIONS:

100% DESIGN DEVELOPMENT

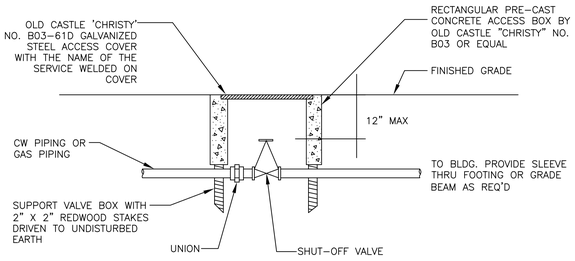
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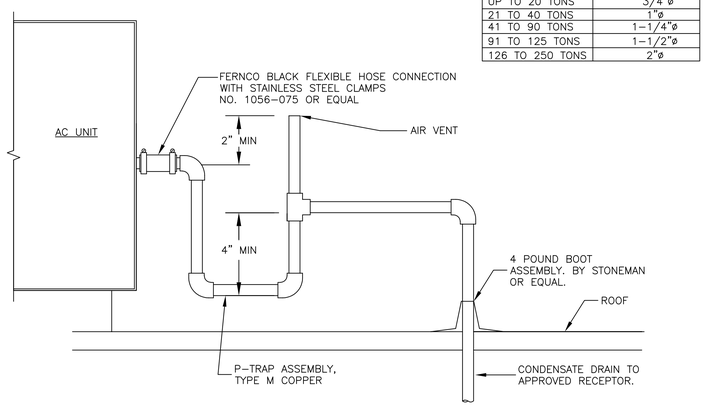
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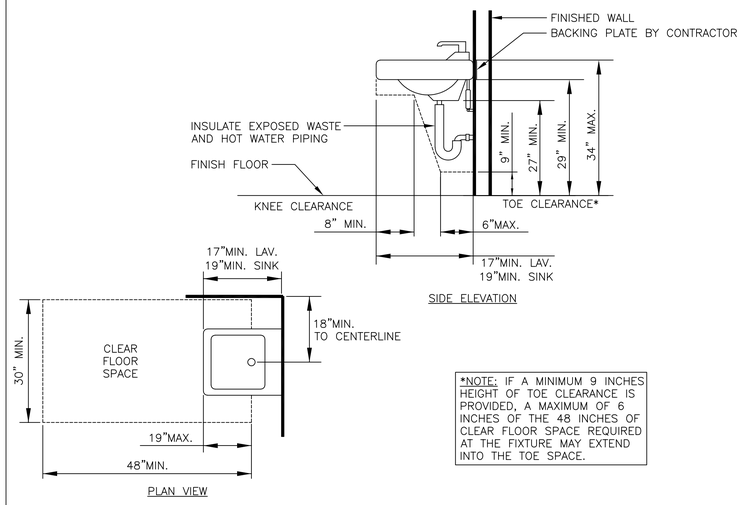


SHUT-OFF VALVE IN YARDBOX DETAIL | 1 | NOT TO SCALE



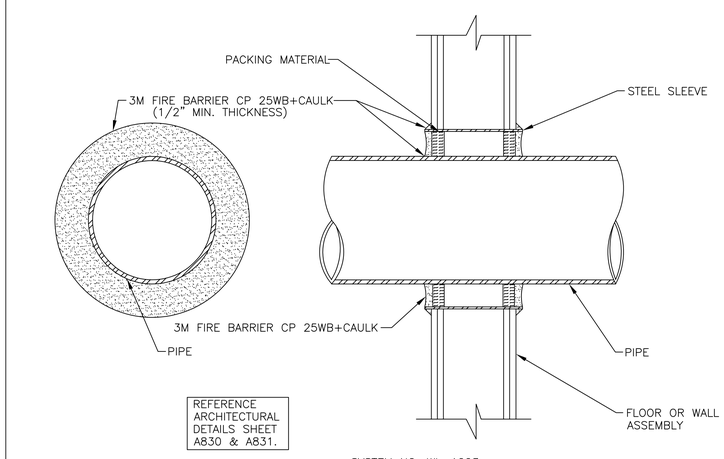
2016 CPC TABLE 814.3	
EQUIPMENT CAPACITY	PIPE SIZE DIAMETER
UP TO 20 TONS	3/4"ø
21 TO 40 TONS	1"ø
41 TO 90 TONS	1-1/4"ø
91 TO 125 TONS	1-1/2"ø
126 TO 250 TONS	2"ø

CONDENSATE DRAIN DETAIL | 2 | NOT TO SCALE



*NOTE: IF A MINIMUM 9 INCHES HEIGHT OF TOE CLEARANCE IS PROVIDED, A MAXIMUM OF 6 INCHES OF THE 48 INCHES OF CLEAR FLOOR SPACE REQUIRED AT THE FIXTURE MAY EXTEND INTO THE TOE SPACE.

A.D.A. LAVATORY/SINK COMPLIANCE DETAIL | 3 | NOT TO SCALE

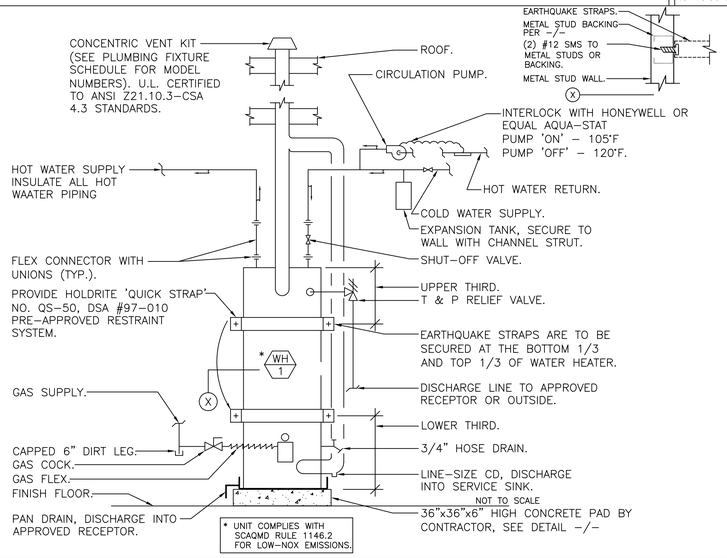


REFERENCE ARCHITECTURAL DETAILS SHEET A830 & A831.

SYSTEM NO. WL-1003

NOTE:
REFER TO; CBC 714, CPC 1404.3, ASTM-E-814.

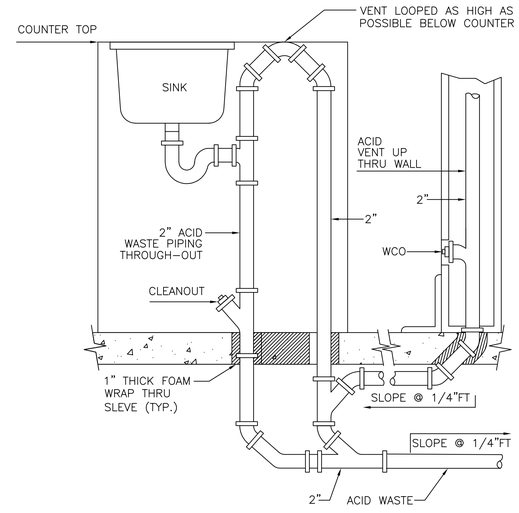
PIPE THRU RATED WALL DETAIL | 4 | NOT TO SCALE



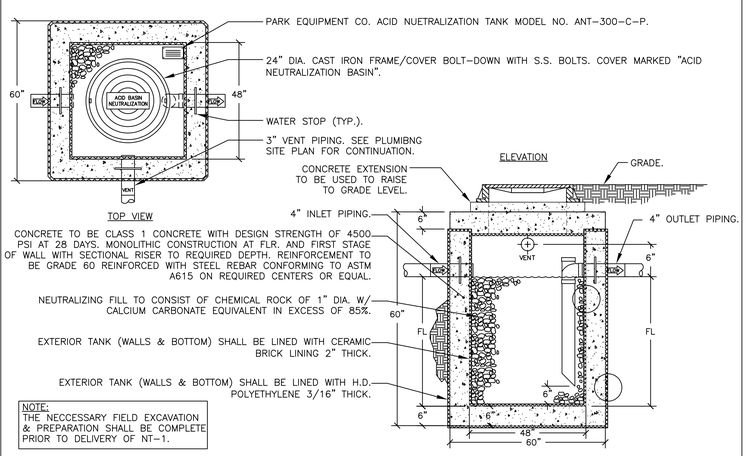
NOT TO SCALE

* UNIT COMPLIES WITH SCAQMD RULE 1146.2 FOR LOW-NOX EMISSIONS.

GAS FIRED WATER HEATER DETAIL | 5 | NOT TO SCALE

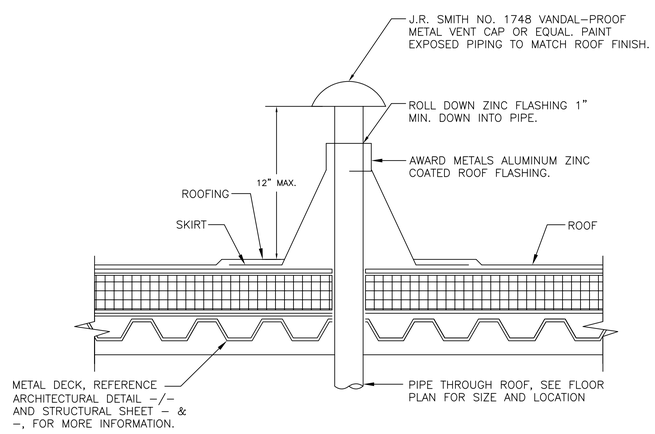


SCIENCE LAB ISLAND VENT DETAIL | 9 | NOT TO SCALE



NOTE:
THE NECCESSARY FIELD EXCAVATION & PREPARATION SHALL BE COMPLETE PRIOR TO DELIVERY OF NT-1.

NEUTRALIZATION TANK DETAIL | 7 | NOT TO SCALE



VENT THRU ROOF DETAIL | 8 | NOT TO SCALE

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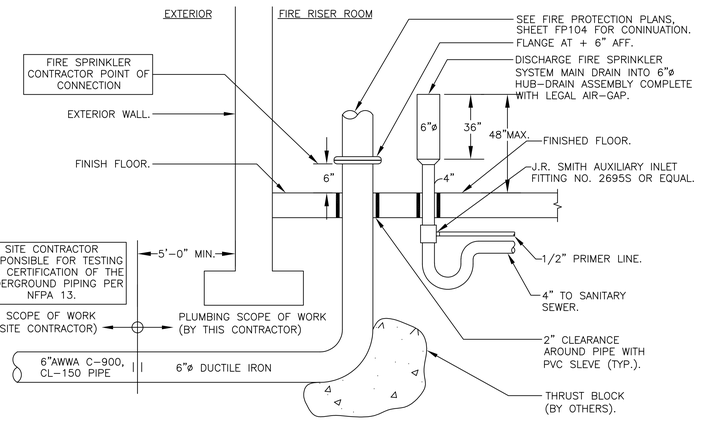
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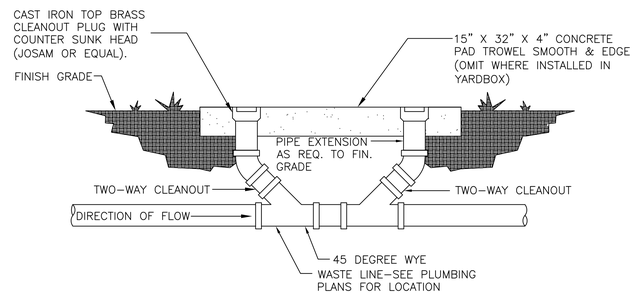
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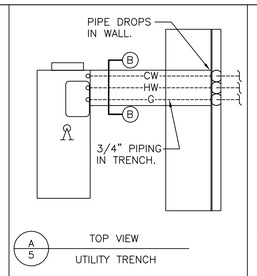
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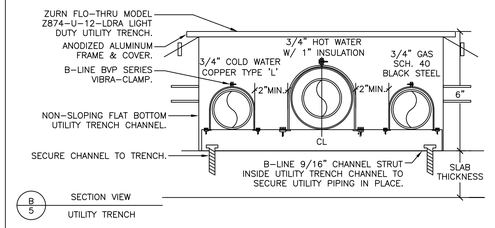


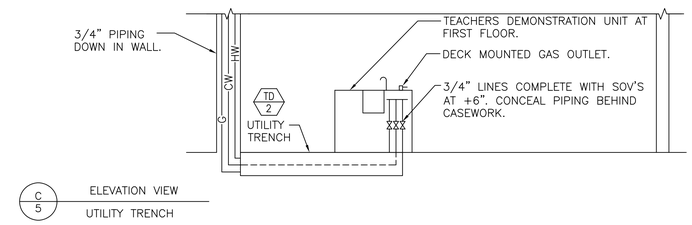
FIRE RISER HUB-DRAIN DETAIL | 1 | NOT TO SCALE



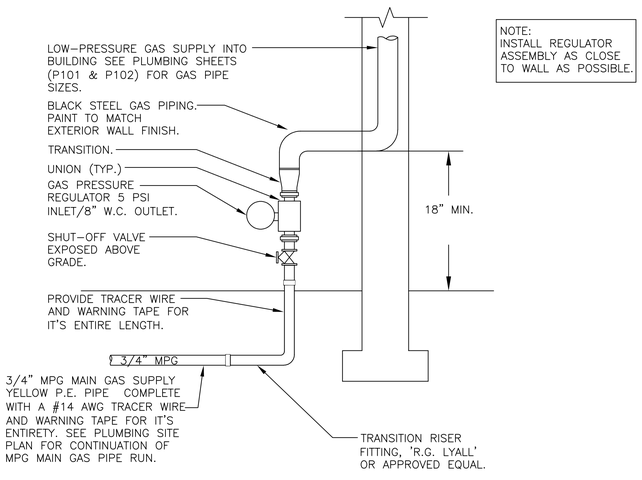
DOUBLE CLEANOUT TO GRADE DETAIL | 2 | NOT TO SCALE



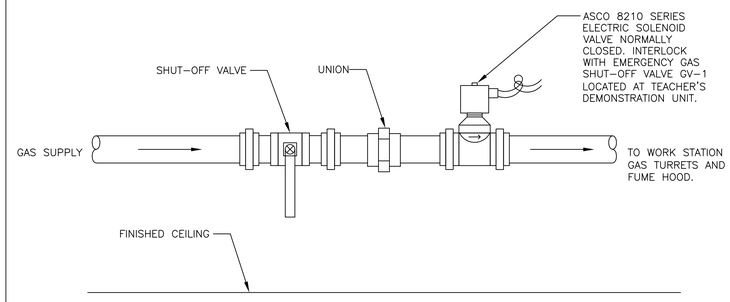




TEACHER'S DEMONSTRATION UNIT PIPING DETAIL | 3 | NOT TO SCALE



GAS PRESSURE REGULATOR WITH SHUT-OFF VALVE DETAIL | 4 | NOT TO SCALE



SCIENCE LAB GAS SUPPLY DETAIL | 5 | NOT TO SCALE

NOT USED | 6 | NOT TO SCALE

NOT USED | 7 | NOT TO SCALE

NOT USED | 8 | NOT TO SCALE

NOT USED | 9 | NOT TO SCALE

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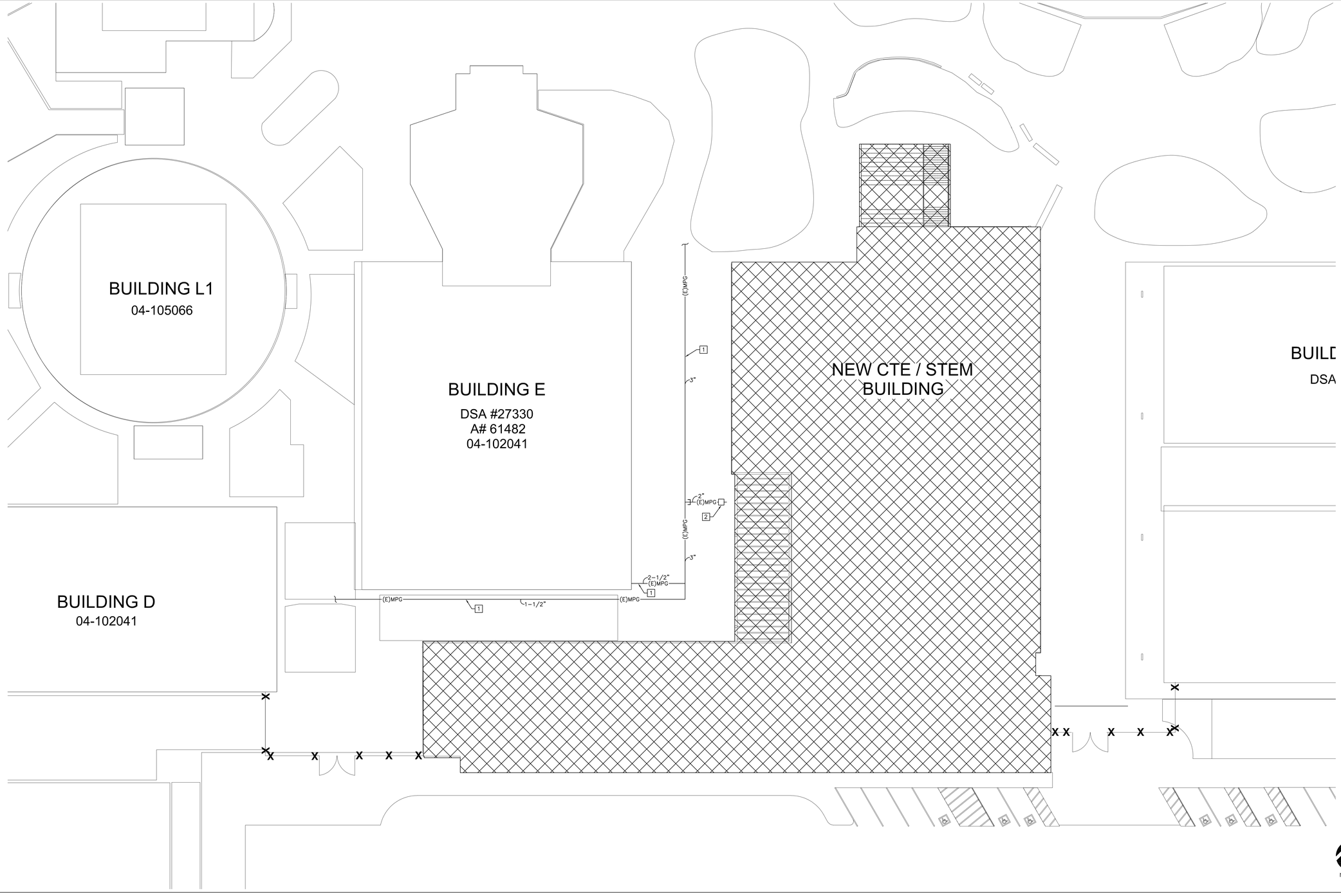
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PLUMBING SITE PLAN | 1 | 1/16" = 1'-0"

DEMOLITION NOTES

1.– EXISTING MEDIUM PRESSURE GAS TO REMAIN. PROTECT IN PLACE DURING CONSTRUCTION.

2.– EXISTING GAS PRESSURE REGULATOR ASSEMBLY TO BE REMOVED. REMOVE PIPING BACK TO MAIN AND CAP BEL. GRADE AS INDICATED.

PLAN NOTES

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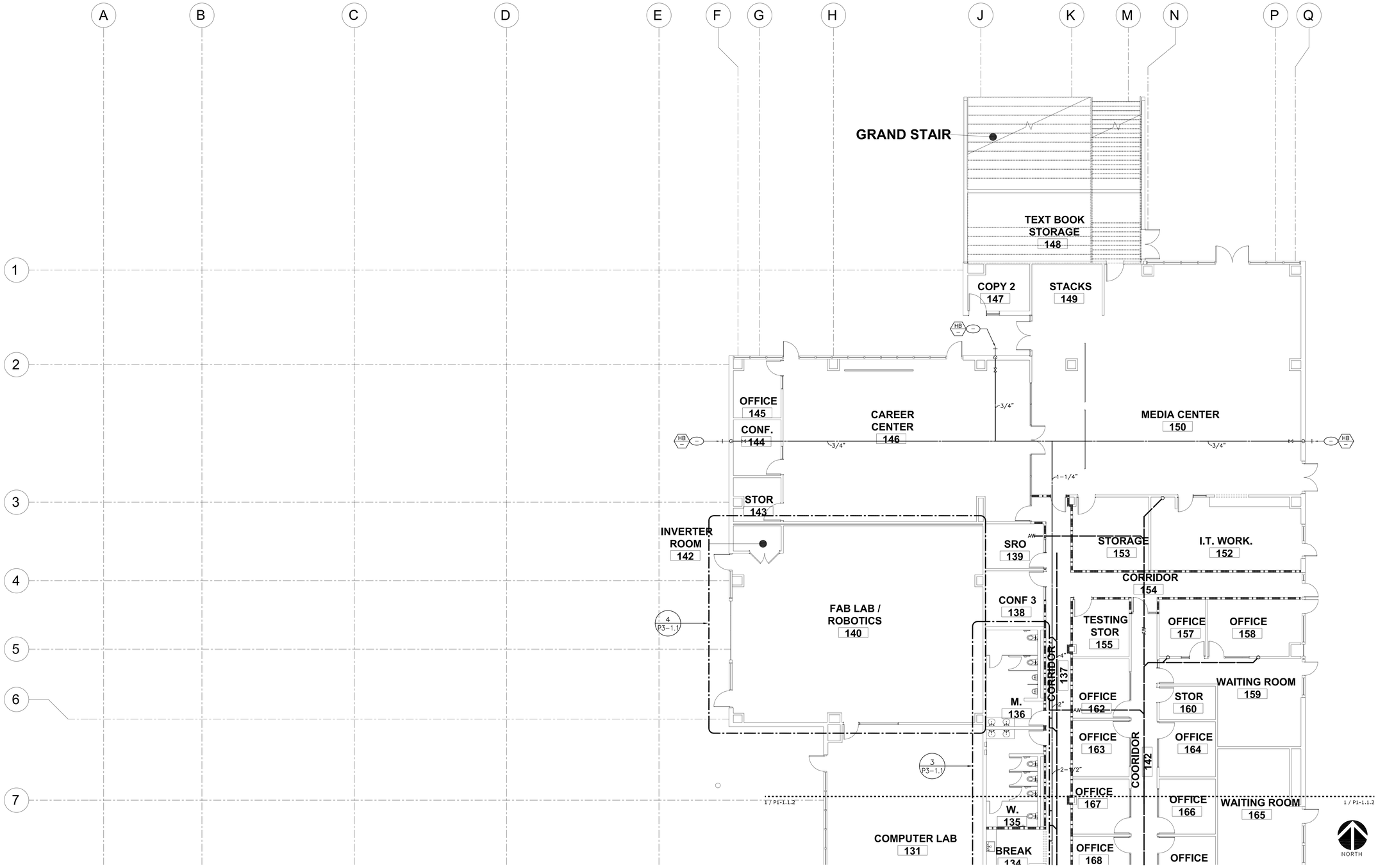
PLUMBING SITE PLAN

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PLUMBING FIRST FLOOR PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

PLAN NOTES

1.– 4" SANITARY SEWER, CONNECT TO SITE SANITARY SEWER. PATCH GRADE TO MATCH EXISTING.

2.– 4" ACID WASTE, CONNECT TO ACID NEUTRALIZING TANK (NT–1). PATCH GRADE TO MATCH EXISTING.

3.– 3" ACID WASTE AND 1–1/4" CW UP.

4.– 2" DOMESTIC COLD WATER COMPLETE WITH SHUT–OFF VALVE IN YARDBOX.

5.– PROVIDE 4" WASTE, 2" VENT AND 1" CW TO WC–1. PROVIDE 2" WASTE, 1–1/2" VENT, AND 1/2" HW AND CW TO L–1. EXTEND 3/4" TO WHA–1.

6.– PROVIDE 4" WASTE, 2" VENT AND 1" CW TO WC–3 AND 3/4" CW TO WHA–1 AND 1/2" CW TO TP–1.

7.– PROVIDE 4" WASTE, 2" VENT AND 1" CW TO WC–3 AND 3/4" TO WHA–1.

8.– PROVIDE 2" WASTE WITH WCO AND 1–1/2" VENT TO U–2. PROVIDE A CHROME PLATED 3/4" CW TO STUB–OUT FOR FUTURE.

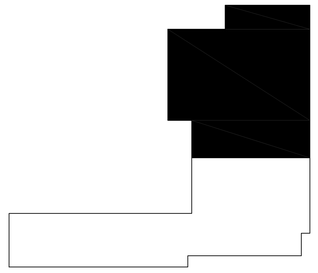
9.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" HW & CW TO L–1. EXTEND 3/4" CW TO HB–1 (TYP.).

10.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" PRIMER LINE TO FD–1.

11.– 1–1/2" CW UP TO EMERGENCY SHOWER (TYP.).

12.– LINE SIZE SHUT–OFF VALVE ABV. ACCESSIBLE CLG.

KEY PLAN



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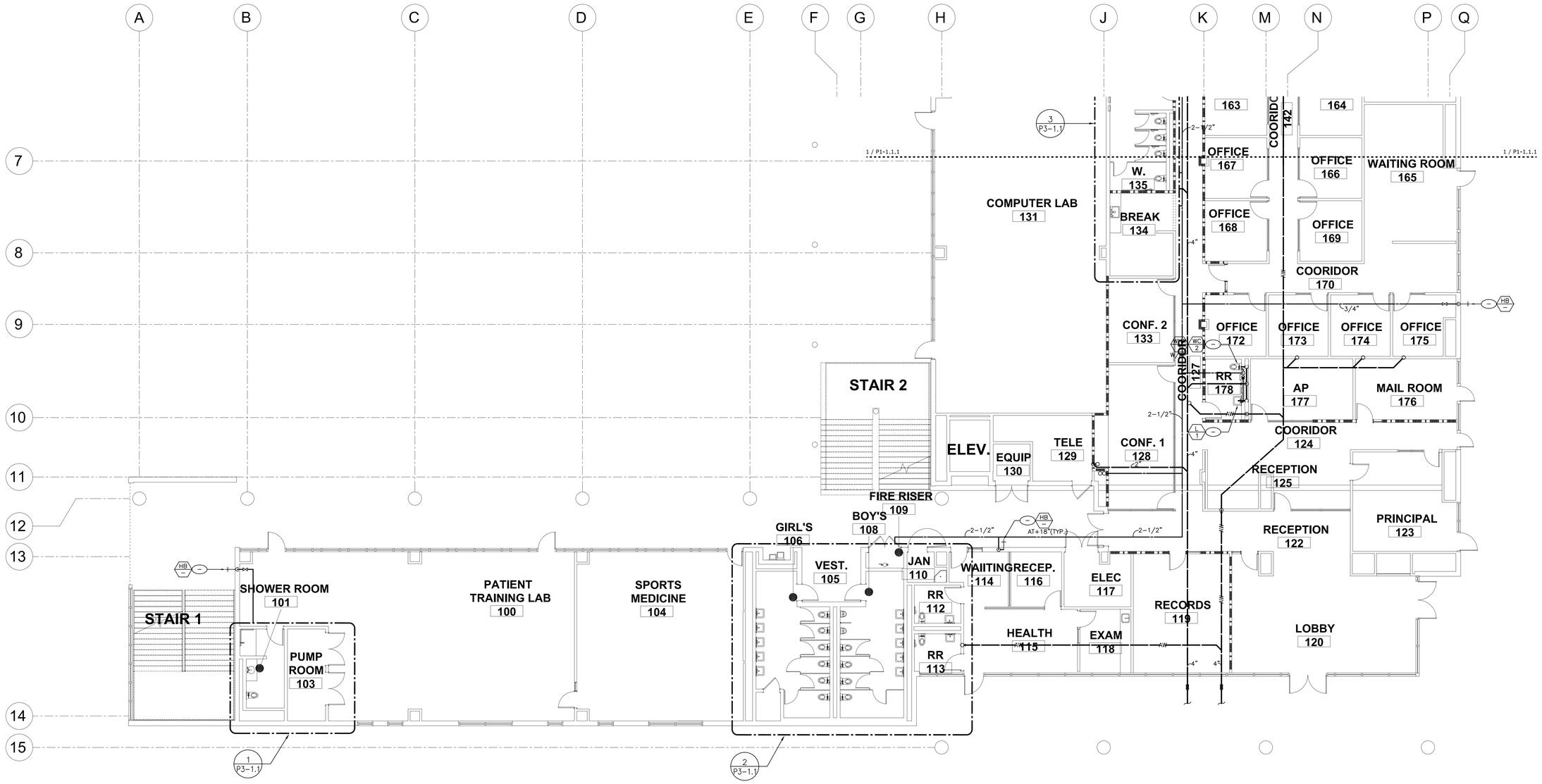
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PLUMBING FIRST FLOOR PLAN - PARTIAL NORTH

SHEET NUMBER:
P1-1.1.1

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NORTH

PLUMBING FIRST FLOOR PLAN - PARTIAL SOUTH | 1 | 1/8" = 1'-0"

PLAN NOTES

1.– 4" SANITARY SEWER, CONNECT TO SITE SANITARY SEWER. PATCH GRADE TO MATCH EXISTING.

2.– 4" ACID WASTE, CONNECT TO ACID NEUTRALIZING TANK (NT–1). PATCH GRADE TO MATCH EXISTING.

3.– 3" ACID WASTE AND 1–1/4" CW UP.

4.– 2" DOMESTIC COLD WATER COMPLETE WITH SHUT–OFF VALVE IN YARDBOX.

5.– PROVIDE 4" WASTE, 2" VENT AND 1" CW TO WC–1. PROVIDE 2" WASTE, 1–1/2" VENT, AND 1/2" HW AND CW TO L–1. EXTEND 3/4" TO WHA–1.

6.– PROVIDE 4" WASTE, 2" VENT AND 1" CW TO WC–3 AND 3/4" CW TO WHA–1 AND 1/2" CW TO TP–1.

7.– PROVIDE 4" WASTE, 2" VENT AND 1" CW TO WC–3 AND 3/4" TO WHA–1.

8.– PROVIDE 2" WASTE WITH WCO AND 1–1/2" VENT TO U–2. PROVIDE A CHROME PLATED 3/4" CW TO STUB–OUT FOR FUTURE.

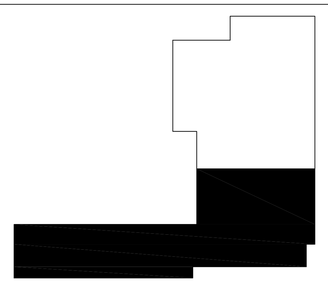
9.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" HW & CW TO L–1. EXTEND 3/4" CW TO HB–1 (TYP.).

10.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" PRIMER LINE TO FD–1.

11.– 1–1/2" CW UP TO EMERGENCY SHOWER (TYP.).

12.– LINE SIZE SHUT–OFF VALVE ABV. ACCESSIBLE CLG.

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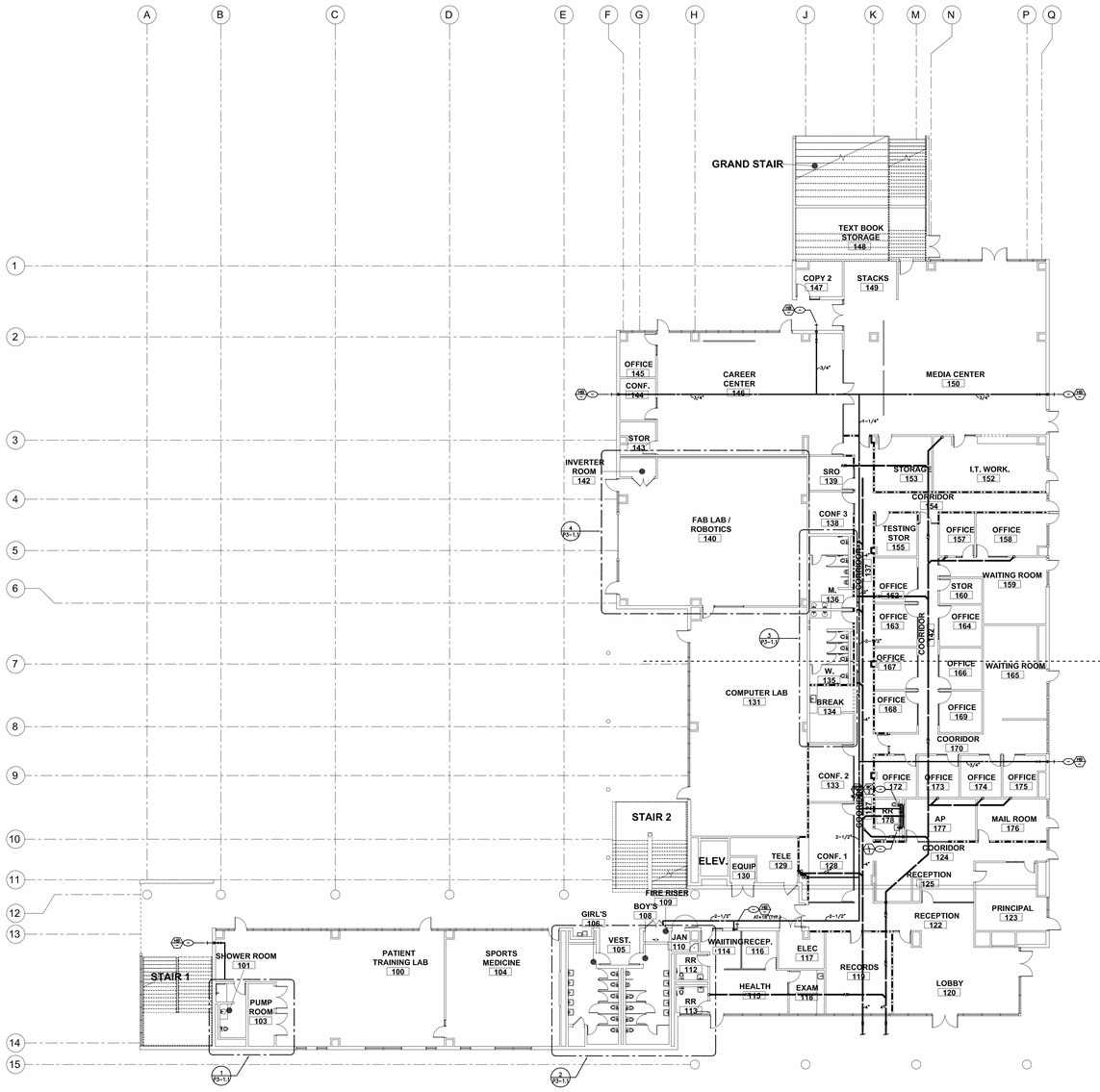
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PLUMBING FIRST FLOOR PLAN - PARTIAL SOUTH

SHEET NUMBER:
P1-1.1.2

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NORTH

PLUMBING FIRST FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

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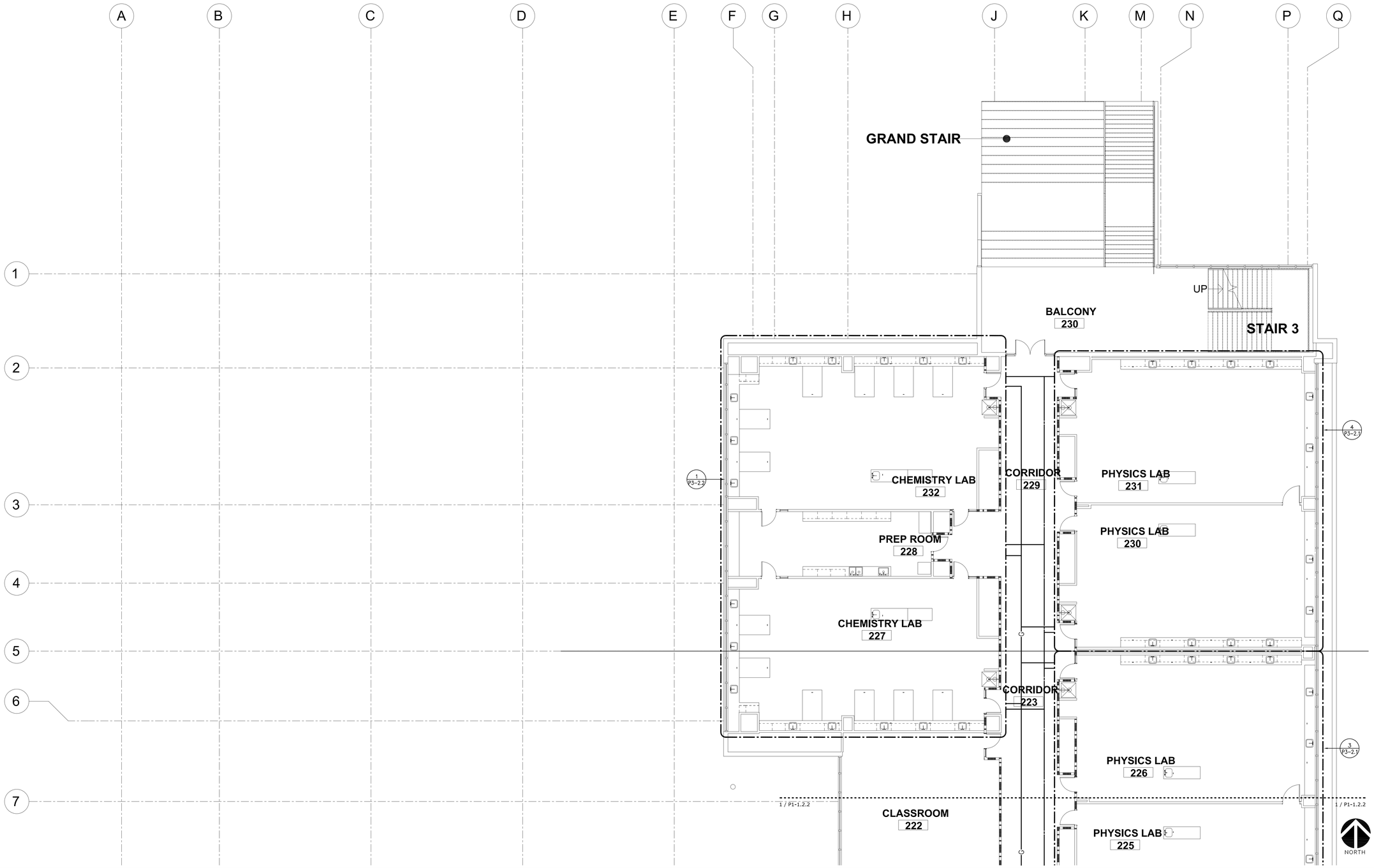
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PLUMBING SECOND FLOOR PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

PLAN NOTES

1.– 2" WASTE UP WITH 2" WASTE DN TO BEL. FLR. COMPLETE WITH W.C.O., I.E. = –15".

2.– 4" WASTE UP WITH 4" WASTE DN TO BEL. FLR. COMPLETE WITH W.C.O., I.E. = –24".

3.– 2" VENT UP.

4.– 2" CONTINUOUS WASTE ABV. FLR.

5.– 1–1/2" CW UP WITH 1" CW HEADER COMPLETE WITH SHUT–OFF VALVE BEHIND ACCESS PANEL. EXTEND SERVICE TO (5) LAVATORIES, WATER HAMMER ARRESTORS. AND HOSE BIBB.

6.– 3" W.C.O., I.E. = –24".

7.– 1–1/4" CW UP WITH ¾" CW HEADER COMPLETE WITH SHUT–OFF VALVE BEHIND ACCESS PANEL.

8.– 3" VENT UP.

9.– 3" CW UP WITH 2" CW HEADER COMPLETE WITH SHUT–OFF VALVE BEHIND ACCESS PANEL. EXTEND SERVICE TO WATER CLOSETS, URINALS AND WATER HAMMER ARRESTORS.

10.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" CW TO EACH DRINKING FOUNTAIN.

11.– PROVIDE 2" WASTE, 1–1/2" VENT AND 3/4" CW TO EACH LAVATORY.

12.– PROVIDE 3/4" CW TO HOSE BIBB.

13.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" PRIMER LINE TO EACH FLOOR DRAIN.

14.– PROVIDE 4" WASTE, 2" VENT AND 1" CW TO EACH WATER CLOSET.

15.– PROVIDE 2" WASTE WITH W.C.O., 1–1/2 VENT AND 3/4" CW TO EACH URINAL.

16.– ASDF

17.– W.C.O., I.E. = –24".

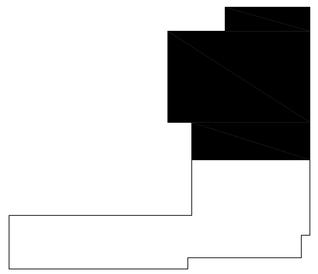
18.– TWO–WAY CLEANOUT, I.E.=

19.– TWO–WAY CLEANOUT, I.E.=

20.– 4" CW SHUT–OFF VALVE IN YARD BOX.

21.– PROVIDE SLEEVE THRU

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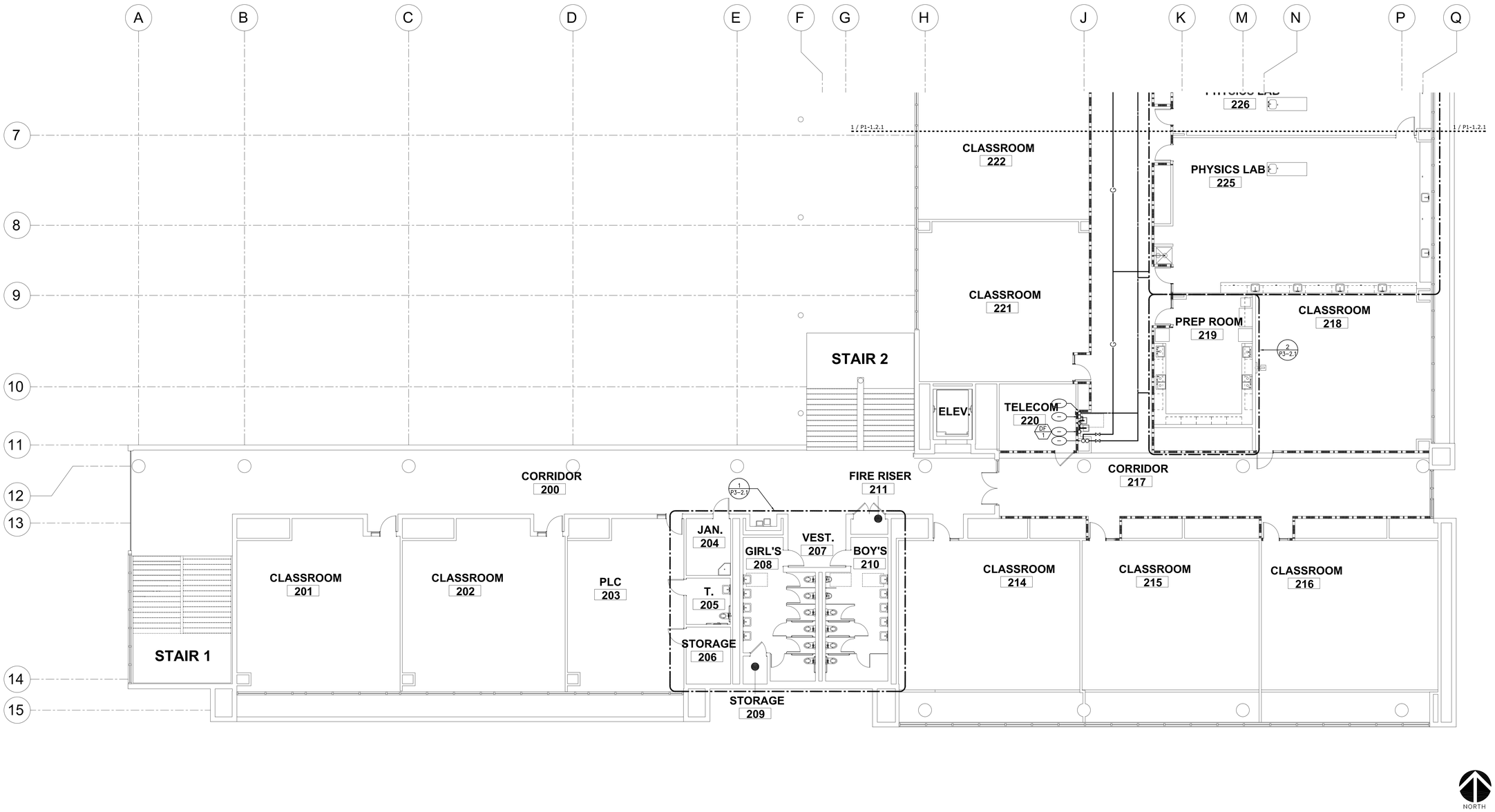
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PLUMBING SECOND FLOOR PLAN - PARTIAL NORTH

SHEET NUMBER:
P1-1.2.1

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PLUMBING SECOND FLOOR PLAN - PARTIAL SOUTH

1
1/8" = 1'-0"

PLAN NOTES

1.– 2" WASTE UP WITH 2" WASTE DN TO BEL. FLR. COMPLETE WITH W.C.O., I.E. = –15".

2.– 4" WASTE UP WITH 4" WASTE DN TO BEL. FLR. COMPLETE WITH W.C.O., I.E. = –24".

3.– 2" VENT UP.

4.– 2" CONTINUOUS WASTE ABV. FLR.

5.– 1–1/2" CW UP WITH 1" CW HEADER COMPLETE WITH SHUT–OFF VALVE BEHIND ACCESS PANEL. EXTEND SERVICE TO (5) LAVATORIES, WATER HAMMER ARRESTORS. AND HOSE BIBB.

6.– 3" W.C.O., I.E. = –24".

7.– 1–1/4" CW UP WITH ¾" CW HEADER COMPLETE WITH SHUT–OFF VALVE BEHIND ACCESS PANEL.

8.– 3" VENT UP.

9.– 3" CW UP WITH 2" CW HEADER COMPLETE WITH SHUT–OFF VALVE BEHIND ACCESS PANEL. EXTEND SERVICE TO WATER CLOSETS, URINALS AND WATER HAMMER ARRESTORS.

10.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" CW TO EACH DRINKING FOUNTAIN.

11.– PROVIDE 2" WASTE, 1–1/2" VENT AND 3/4" CW TO EACH LAVATORY.

12.– PROVIDE 3/4" CW TO HOSE BIBB.

13.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" PRIMER LINE TO EACH FLOOR DRAIN.

14.– PROVIDE 4" WASTE, 2" VENT AND 1" CW TO EACH WATER CLOSET.

15.– PROVIDE 2" WASTE WITH W.C.O., 1–1/2 VENT AND 3/4" CW TO EACH URINAL.

16.– ASDF

17.– W.C.O., I.E. = –24".

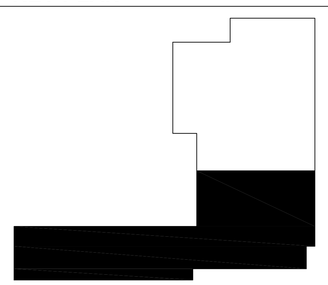
18.– TWO–WAY CLEANOUT, I.E.=

19.– TWO–WAY CLEANOUT, I.E.=

20.– 4" CW SHUT–OFF VALVE IN YARD BOX.

21.– PROVIDE SLEEVE THRU

KEY PLAN



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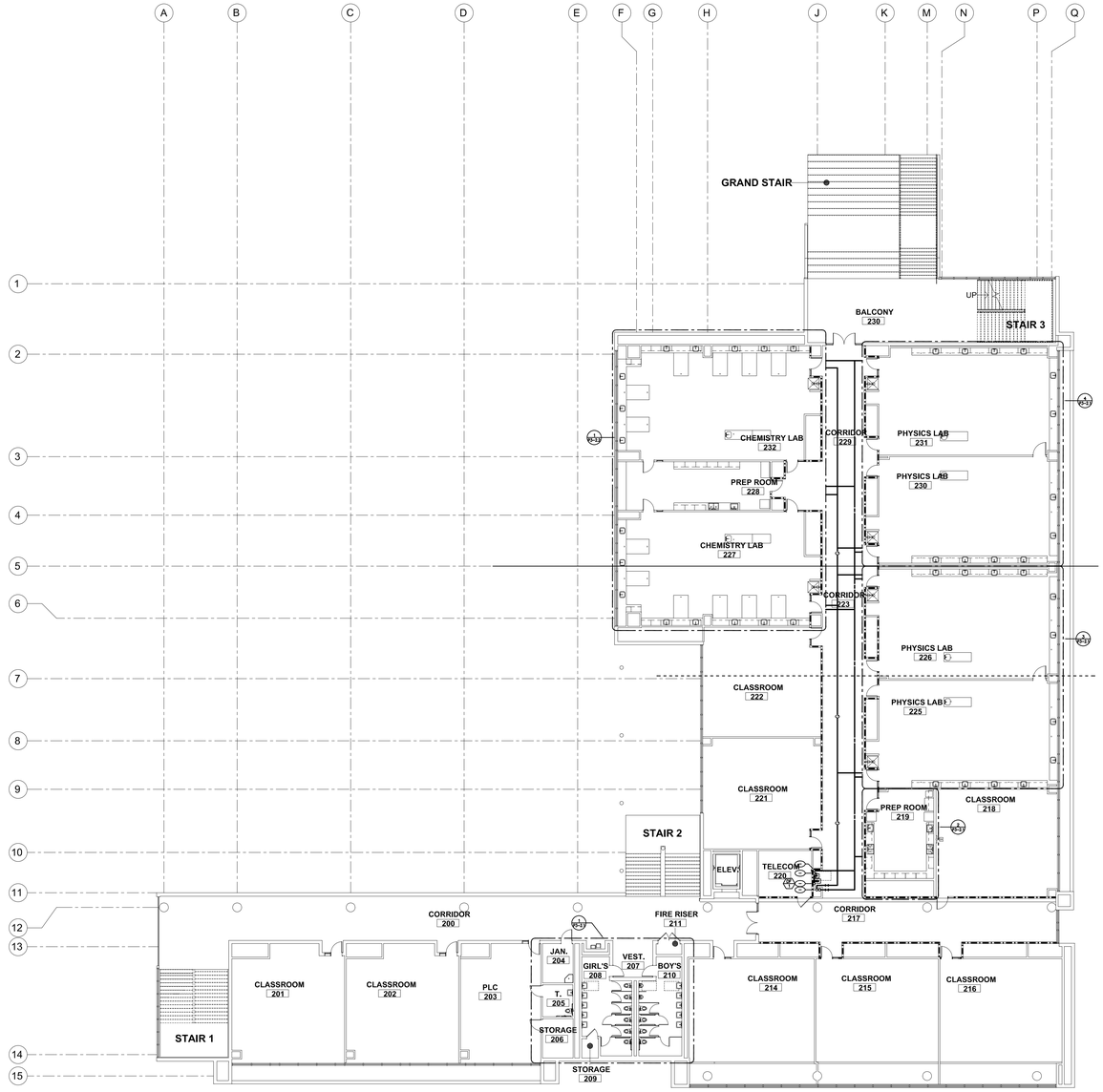
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SHEET TITLE:
PLUMBING SECOND FLOOR PLAN - PARTIAL SOUTH

SHEET NUMBER:
P1-1.2.2

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NORTH

PLUMBING SECOND FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

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WD PROJ. #	DRAWN BY:	CHECKED	DATE
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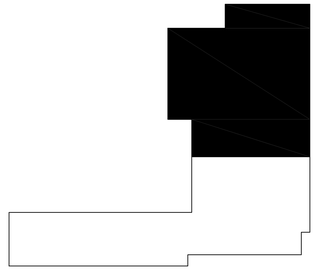


PLUMBING THIRD FLOOR PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

PLAN NOTES

KEY PLAN



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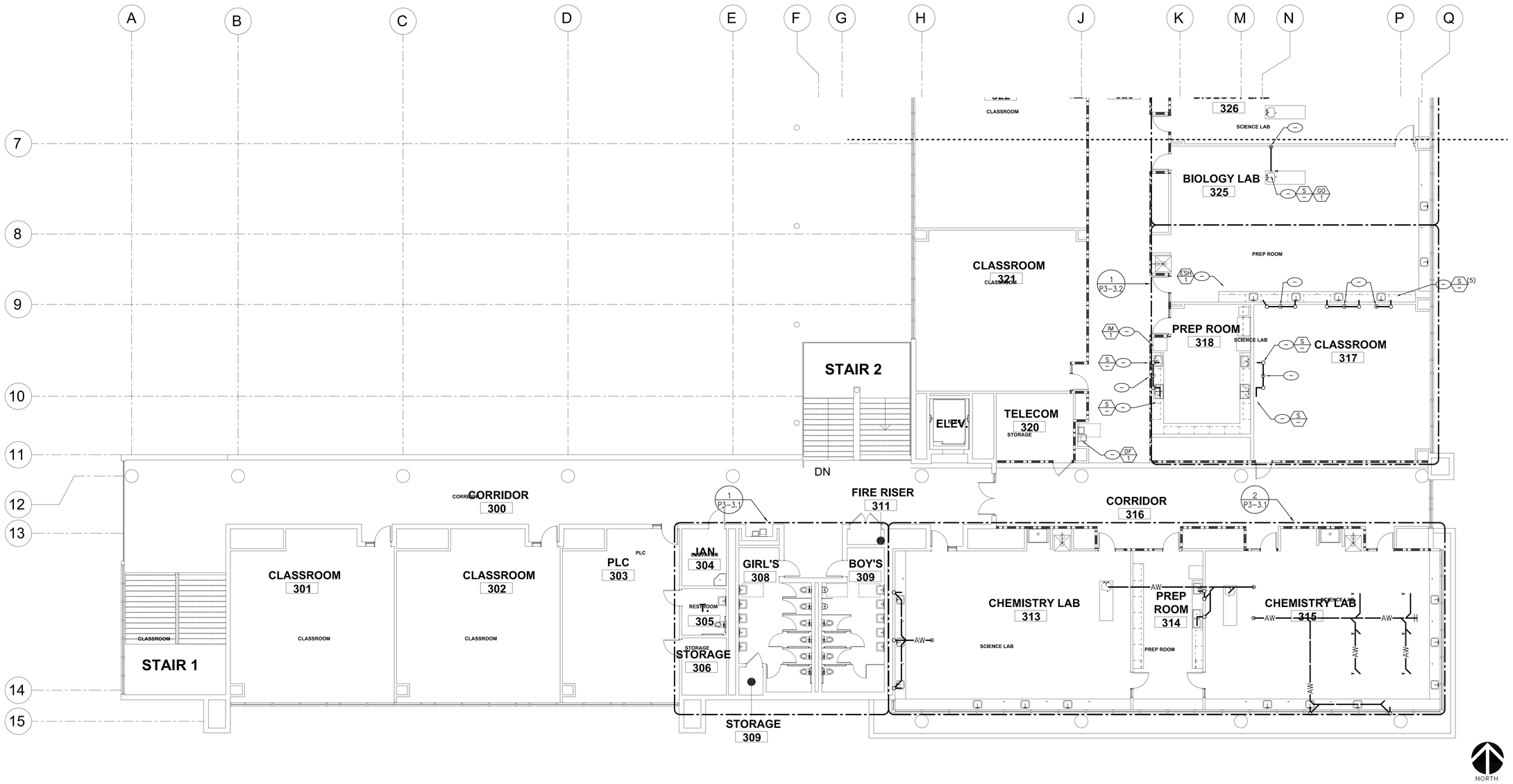
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PLUMBING THIRD FLOOR PLAN - NORTH PORTION

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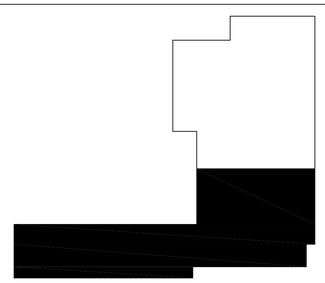
PLUMBING THIRD FLOOR PLAN - PARTIAL SOUTH

1

1/8" = 1'-0"

PLAN NOTES

KEY PLAN



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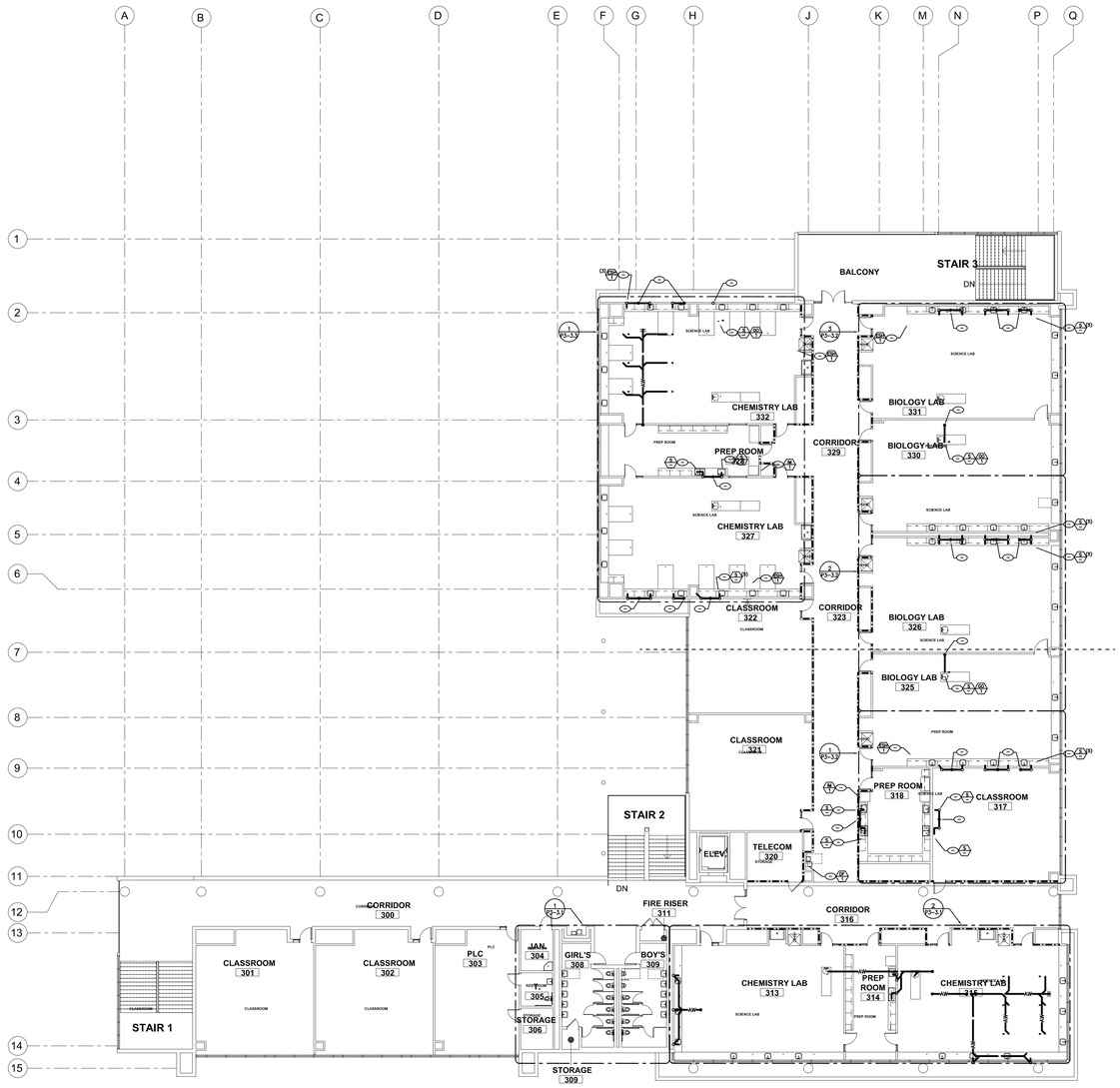
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PLUMBING THIRD FLOOR PLAN - OVERALL | 1 | 1/16" = 1'-0"

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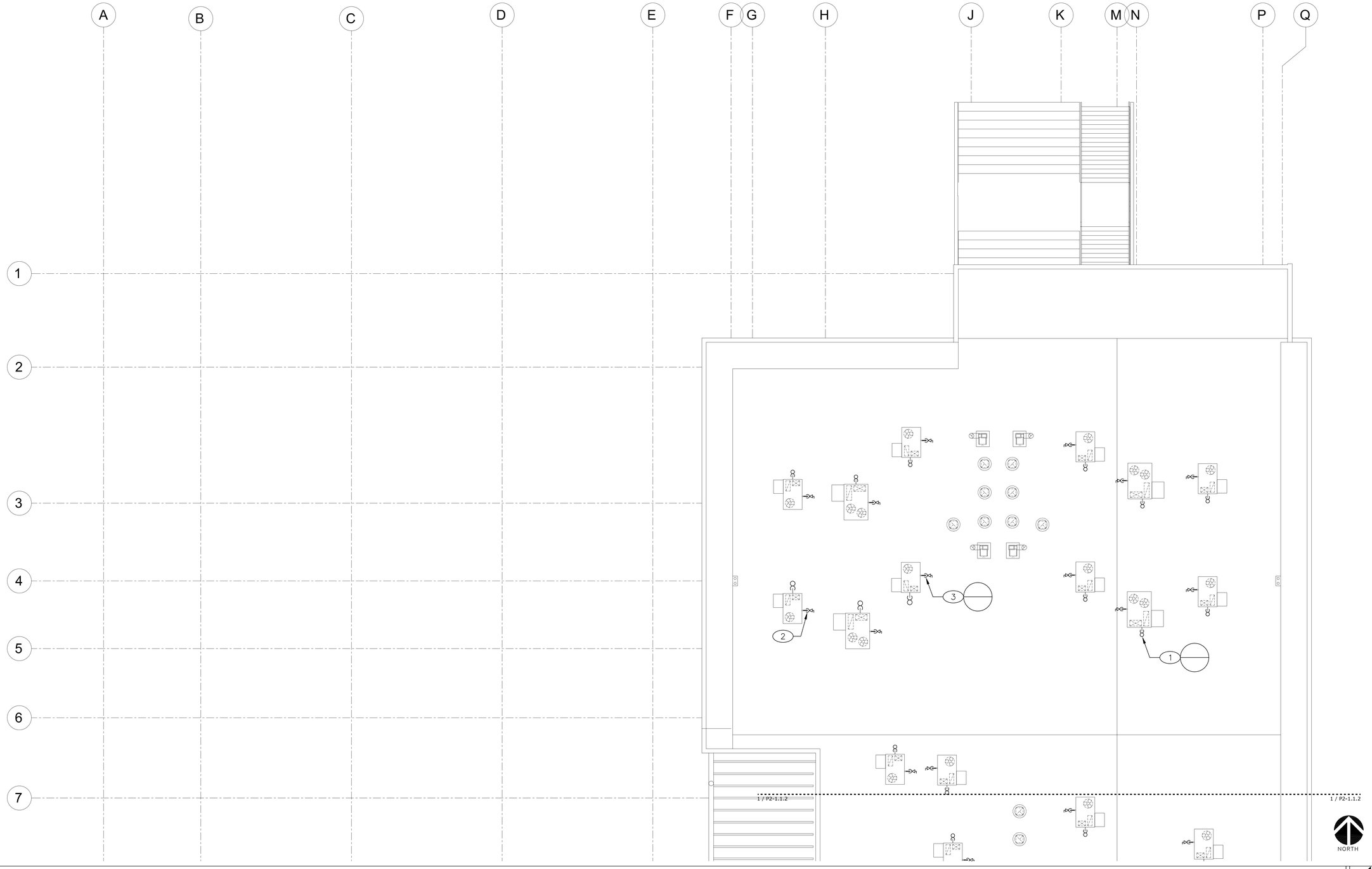
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PLUMBING ROOF PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

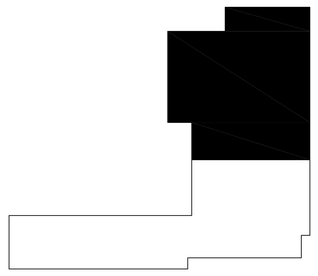
PLAN NOTES

1.– PROVIDE 3/4" CD COMPLETE WITH TRAP AND VENT. 3/4" CD DN.

2.– PROVIDE 3/4" GAS (60 CFH) COMPLETE WITH 'LISTED' YELLOW FLEXIBLE CONNECTOR SHUT–OFF COCK, UNION AND 6" DIRT–LEG.

3.– PROVIDE 1" GAS (90 CFH) COMPLETE WITH 'LISTED' YELLOW FLEXIBLE CONNECTOR SHUT–OFF COCK, UNION AND 6" DIRT–LEG.

KEY PLAN



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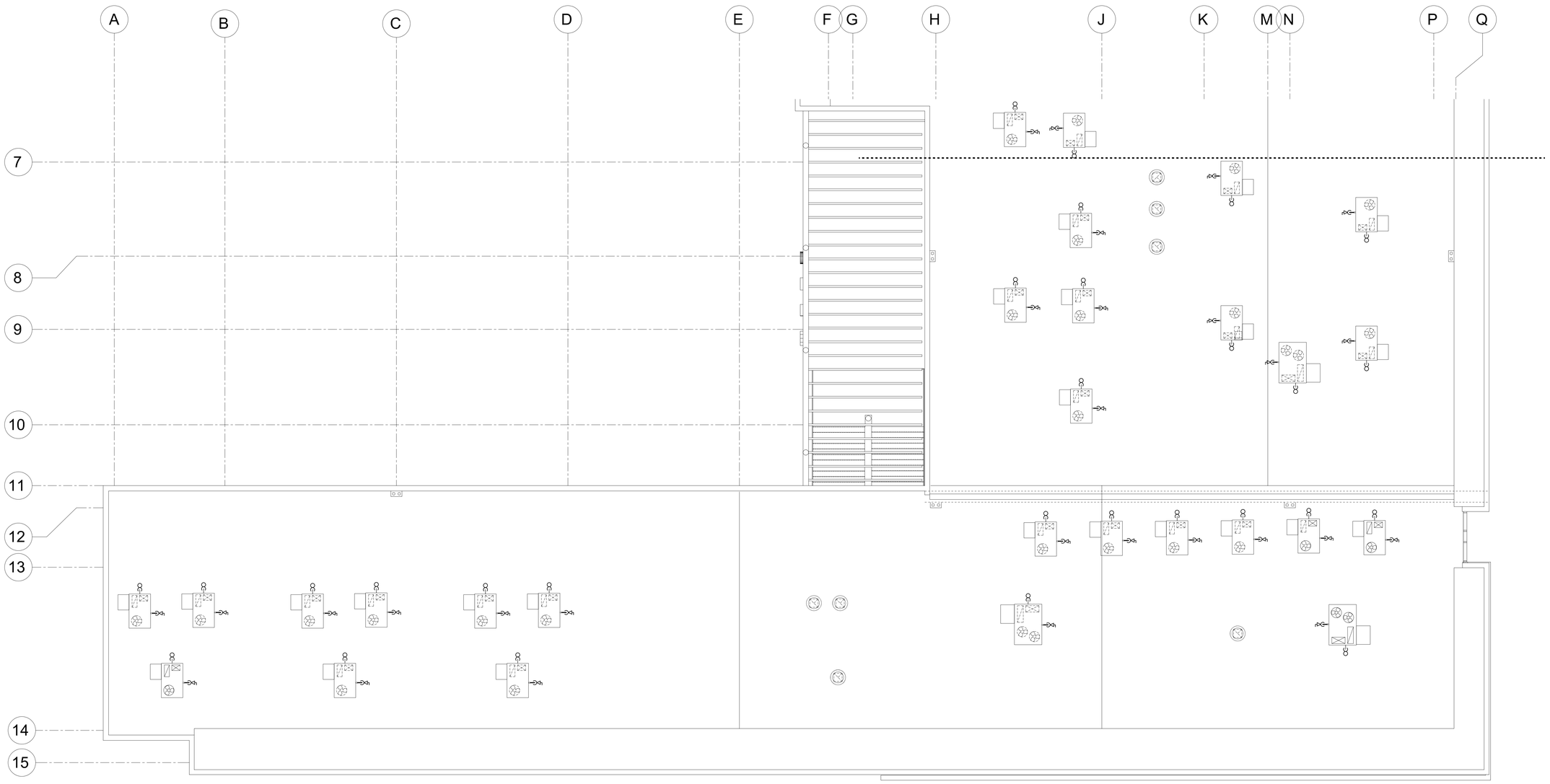
PLUMBING ROOF PLAN - PARTIAL NORTH

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PLUMBING ROOF PLAN - PARTIAL SOUTH

1

1/8" = 1'-0"

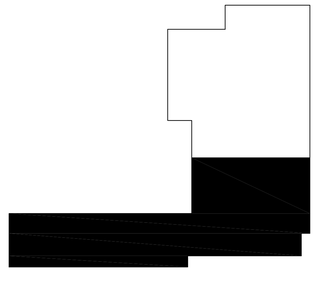
PLAN NOTES

1.– PROVIDE 3/4" CD COMPLETE WITH TRAP AND VENT. 3/4" CD DN.

2.– PROVIDE 3/4" GAS (60 CFH) COMPLETE WITH 'LISTED' YELLOW FLEXIBLE CONNECTOR SHUT–OFF COCK, UNION AND 6" DIRT–LEG.

3.– PROVIDE 1" GAS (90 CFH) COMPLETE WITH 'LISTED' YELLOW FLEXIBLE CONNECTOR SHUT–OFF COCK, UNION AND 6" DIRT–LEG.

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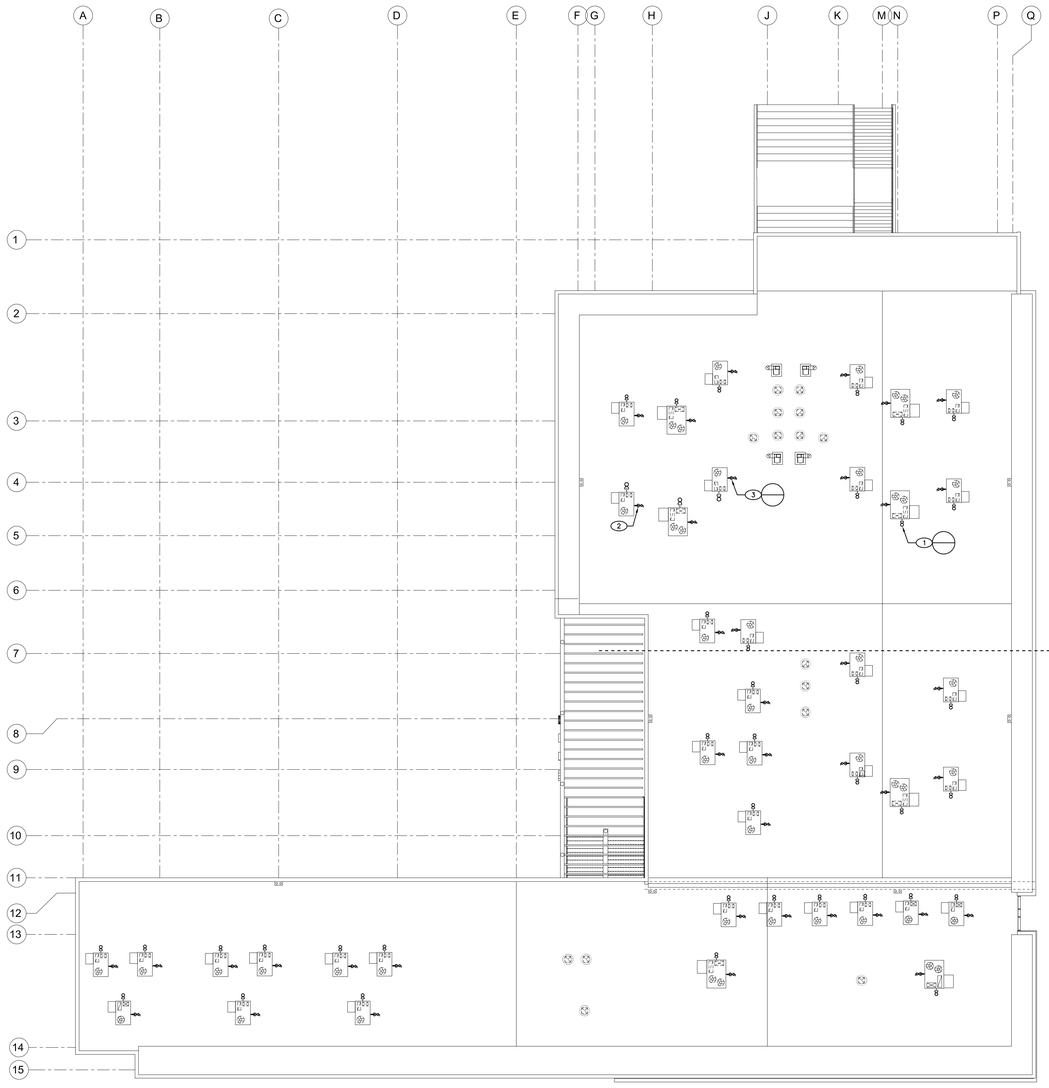
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PLUMBING ROOF PLAN - OVERALL | 1 | 1/16" = 1'-0"

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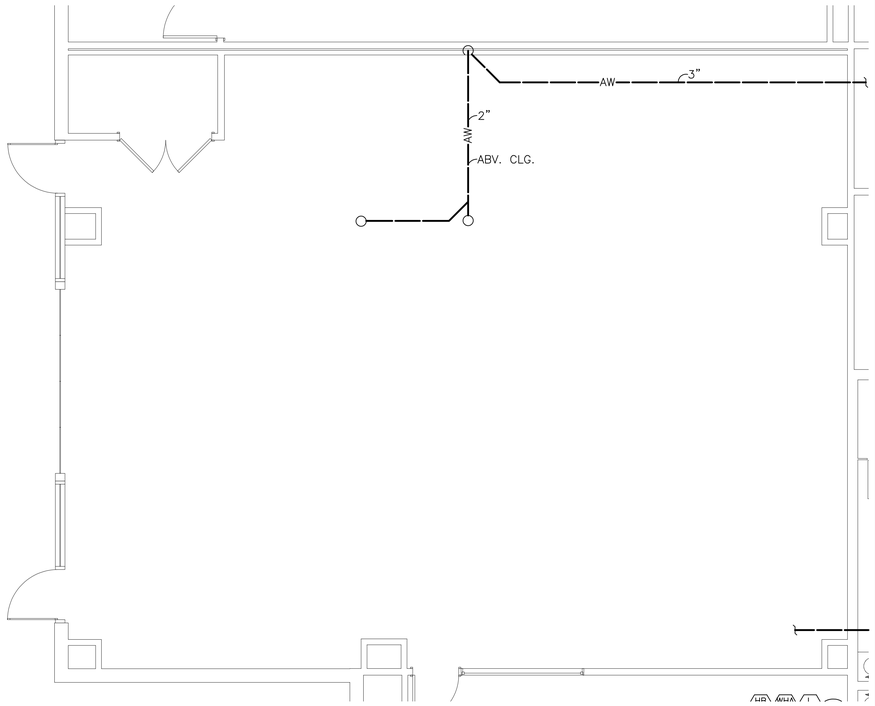
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PLUMBING ROOF PLAN - OVERALL

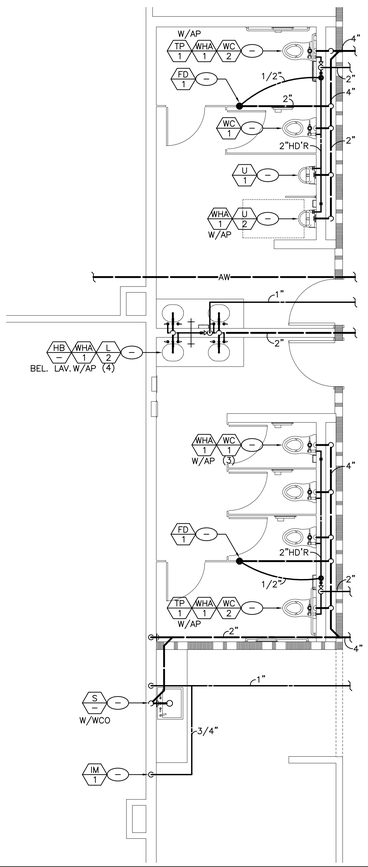
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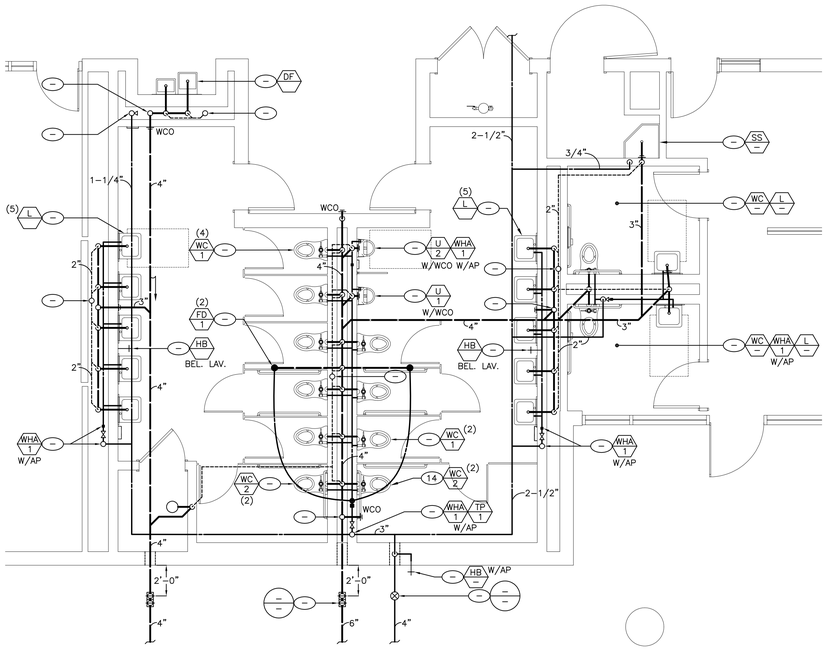
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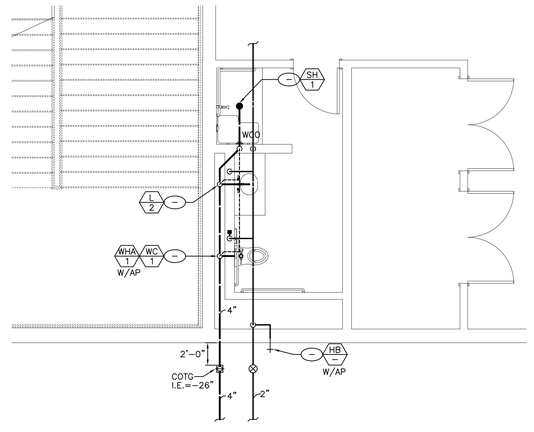
PLUMBING FAB LAB/ROBOTICS 140 ENLARGED PLAN | 4 | 1/4" = 1'-0"



PLUMBING ENLARGED WOMEN 135 AND MEN 136 TOILET PLAN | 3 | 1/4" = 1'-0"



PLUMBING ENLARGED TOILET PLAN | 2 | 1/4" = 1'-0"



PLUMBING SHOWER ROOM 101 ENLARGED PLAN | 1 | 1/4" = 1'-0"

PLAN NOTES

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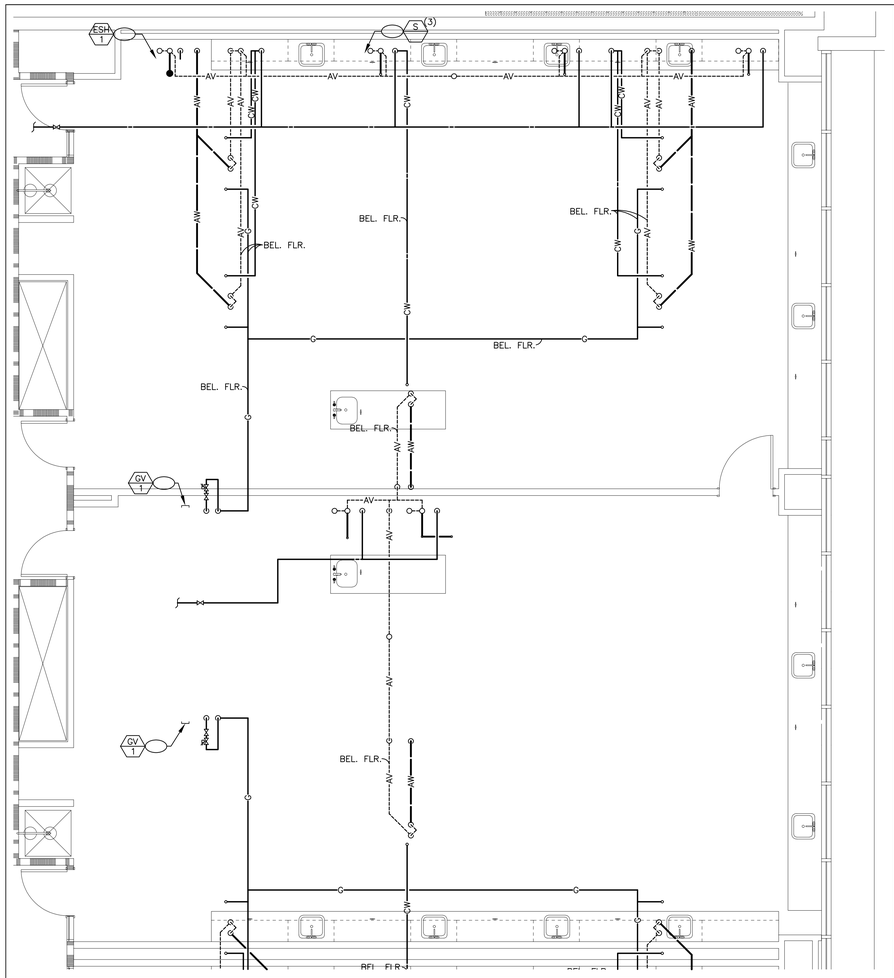
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SHEET TITLE:
PLUMBING FIRST FLOOR ENLARGED PLANS

SHEET NUMBER:
P3-1.1

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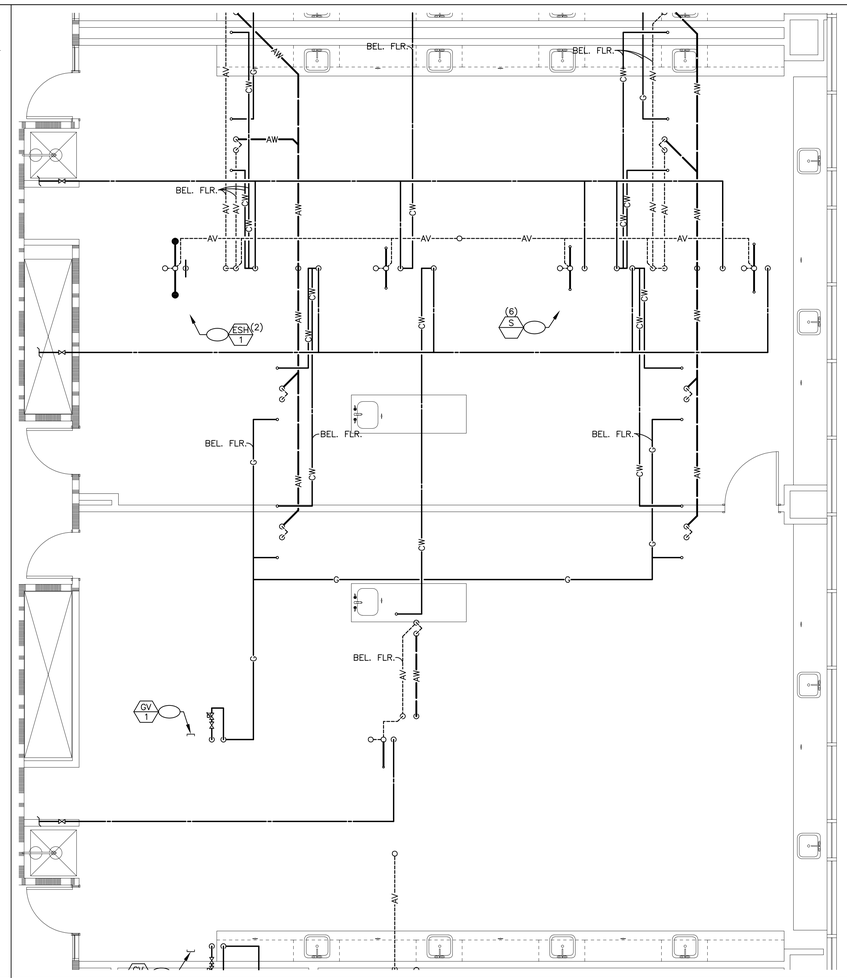
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PLUMBING PHYSICS LAB 230 AND 231 ENLARGED PLAN

4

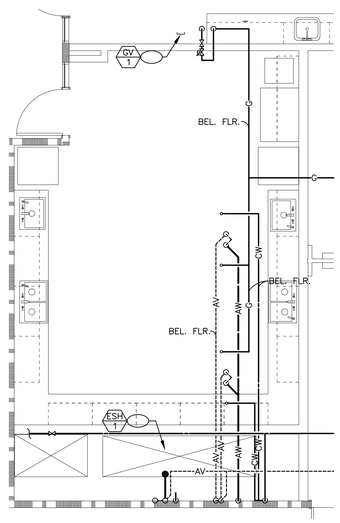
1/4" = 1'-0"



PLUMBING PHYSICS LABS 225 AND 226 ENLARGED PLAN

3

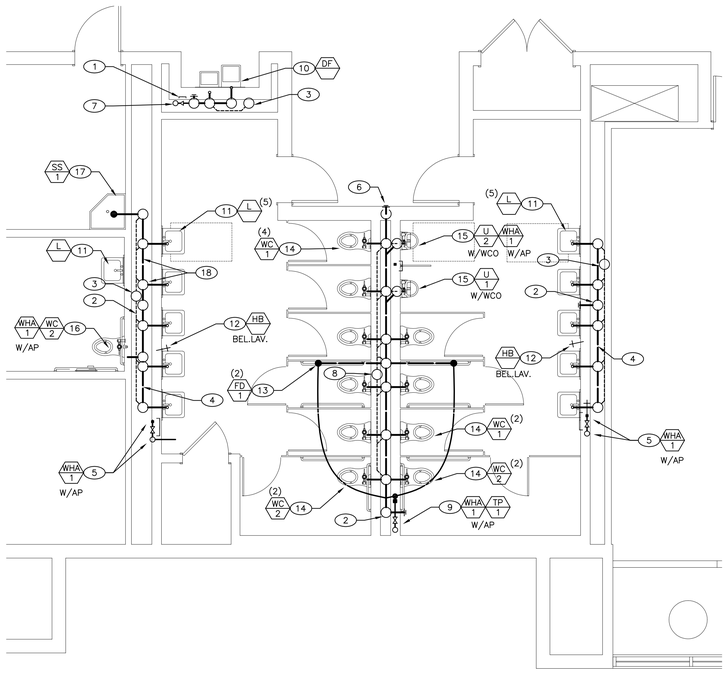
1/4" = 1'-0"



PLUMBING PREP. ROOM 219 ENLARGED PLAN

2

1/4" = 1'-0"



PLUMBING ENLARGED TOILET PLAN

1

1/4" = 1'-0"

PLAN NOTES

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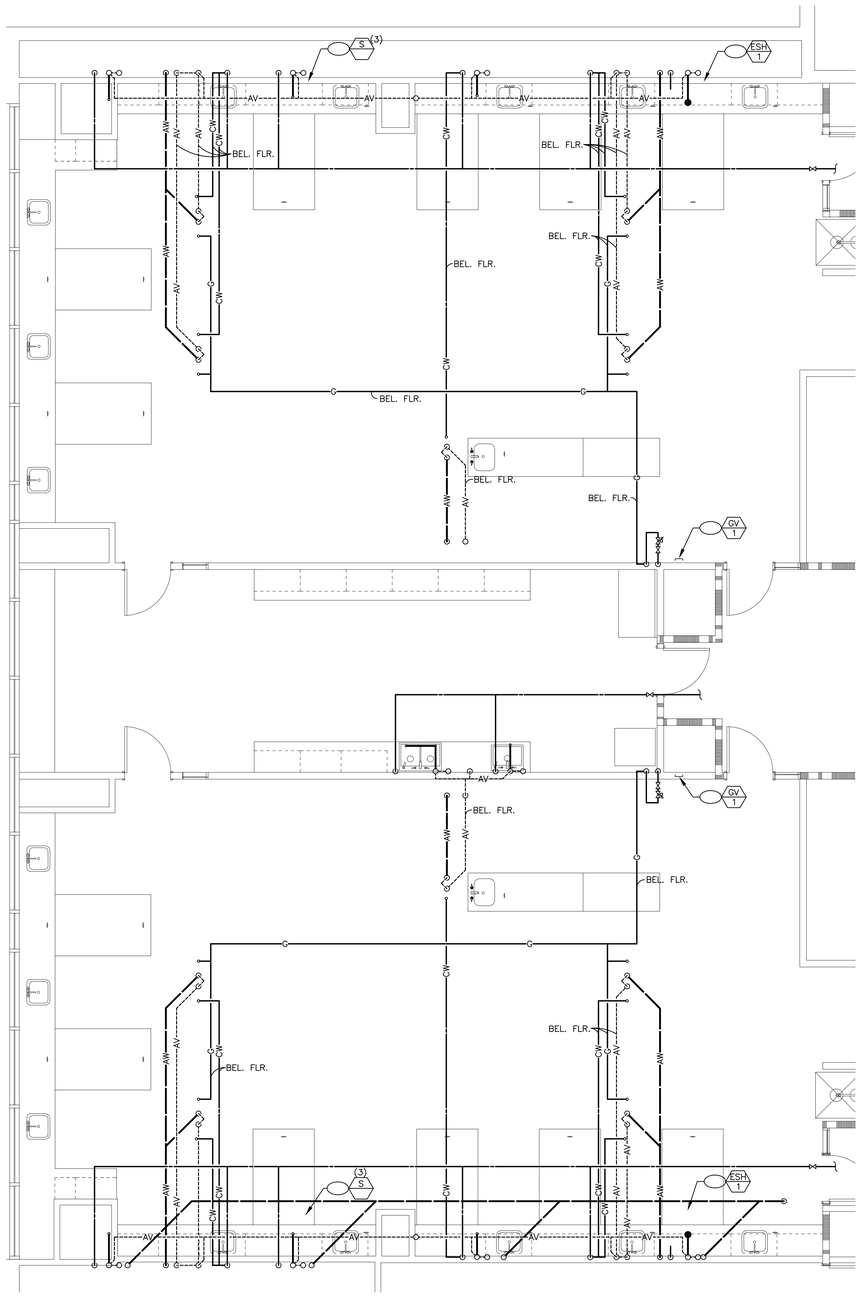
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PLAN NOTES



PLUMBING CHEMISTRY LABS 227 AND 232 AND PREP. ROOM 228 ENLARGED PLAN

2 — 1/4" = 1'-0"

1 — 1/4" = 1'-0"

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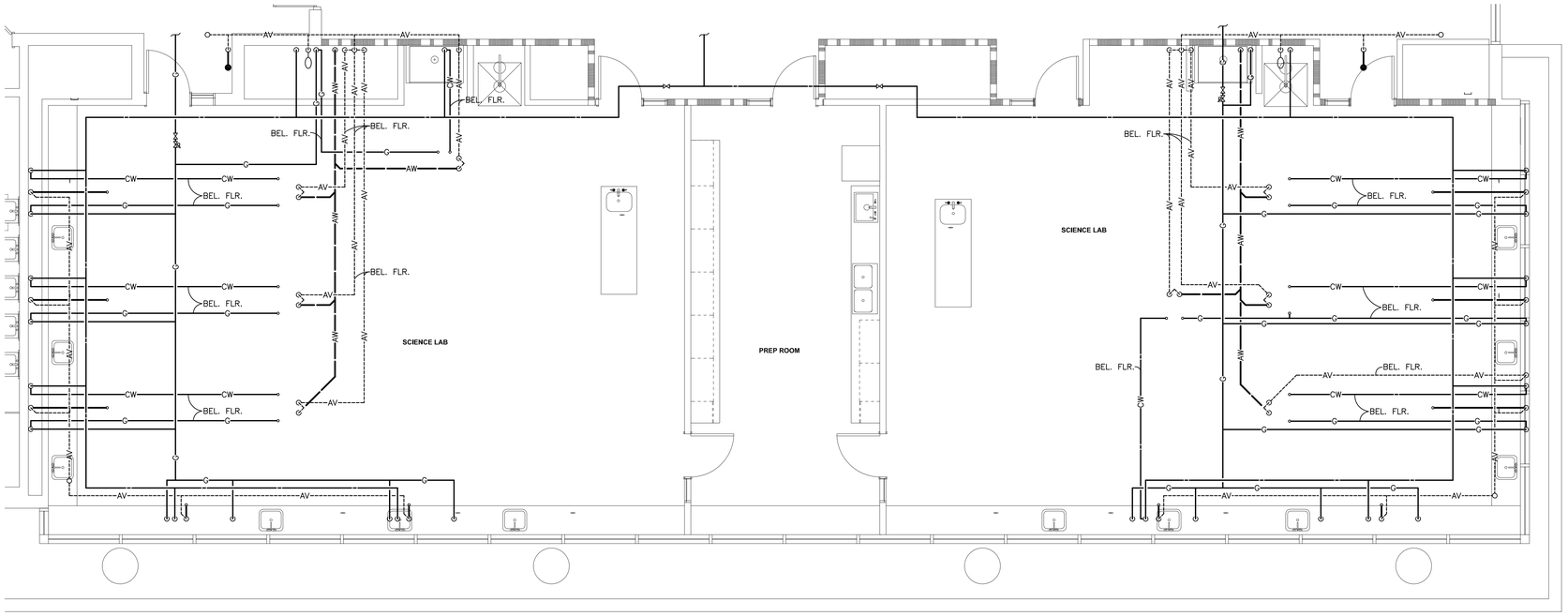
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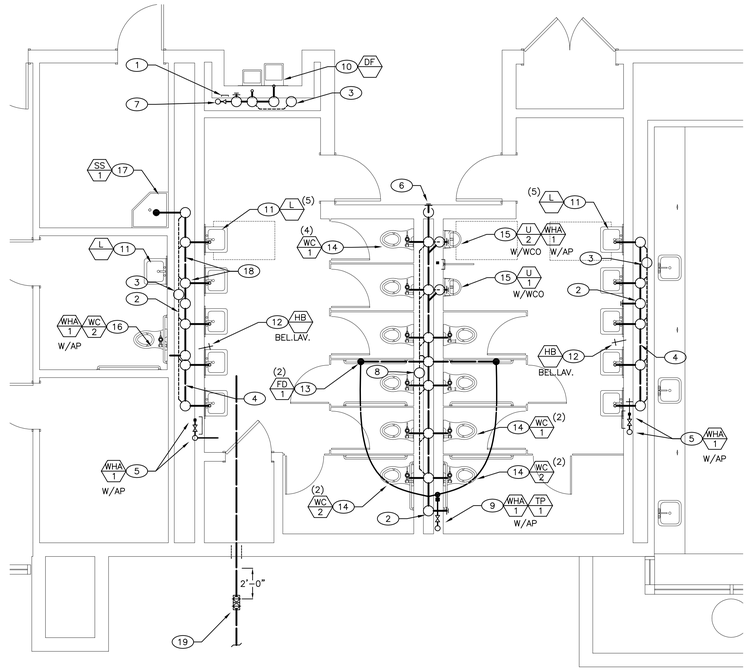
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PLUMBING SCIENCE LABS AND PREP. ROOM ENLARGED PLAN | 3 | 1/4" = 1'-0"



PLUMBING ENLARGED TOILET PLAN | 1 | 1/4" = 1'-0"

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

PLAN NOTES

1.– 1" CW UP WITH 3/4" CW SOV.

2.– 1–1/4" CW UP WITH 3/4" CW SOV.

3.– 2" CW UP WITH 1–1/2" CW CAPPED FOR FUTURE.

4.– 2" CW UP WITH 2" CW SOV.

5.– 3" CW UP WITH 2" CW SOV.

6.– 3" WASTE AND VENT RISERS UP AND DN.

7.– 4" WASTE AND 3" VENT RISERS UP AND DN.

8.– 6" WASTE AND 3" VENT RISERS UP AND DN.

9.– PROVIDE 4" WASTE, 2" VENT AND 1" CW. EXTEND 3/4" CW TO EACH WHA–1.

10.– PROVIDE 2" WASTE (WITH WCO), 1–1/2" VENT AND A CHROME PLATED 3/4" STUB–OUT FOR FUTURE. EXTEND 3/4" CW TO EACH WHA–1.

11.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" HW AND CW. EXTEND 3/4" CW TO HOSE BIBB AND WHA–1 (WHERE OCCURS).

12.– 2" WASTE, 1–1/2" VENT AND 1/2" PRIMER LINE.

13.– 3" ACID WASTE AND 2" ACID VENT UP AND DN.

14.– PROVIDE 2" ACID WASTE, 1–1/2" ACID VENT AND 3/4" CW.

15.– EMERGENCY GAS SHUT–OFF, INTERLOCK WITH ASCO NO. 8210 ELECTRIC SOLENOID VALVE (120V) LOCATED ABV. CLG. (TYP. FOR EACH LAB).

16.– PROVIDE 2" ACID WASTE, 2" ACID VENT AND 3/4" CW AND 3/4" GAS TO EACH TURRET.

17.– PROVIDE 1–1/4" CW, 2" WASTE, 1–1/2" VENT AND 1/2" PRIMER LINE.

18.– PROVIDE 2" ACID WASTE, 1–1/2" ACID VENT, 1/2" CW AND 1/2" GAS TO FUME HOOD.

19.– PROVIDE 3/4" GAS TO EACH TURRET, DOWNSTREAM OF ELECTRIC SOLENOID VALVE.

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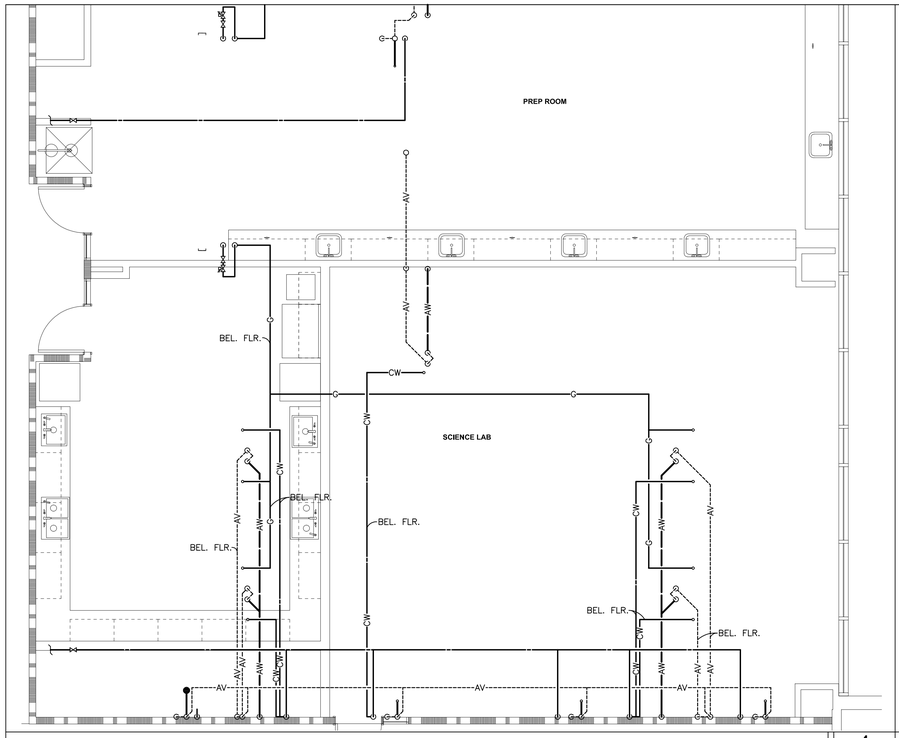
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SHEET TITLE:
PLUMBING THIRD FLOOR ENLARGED PLANS

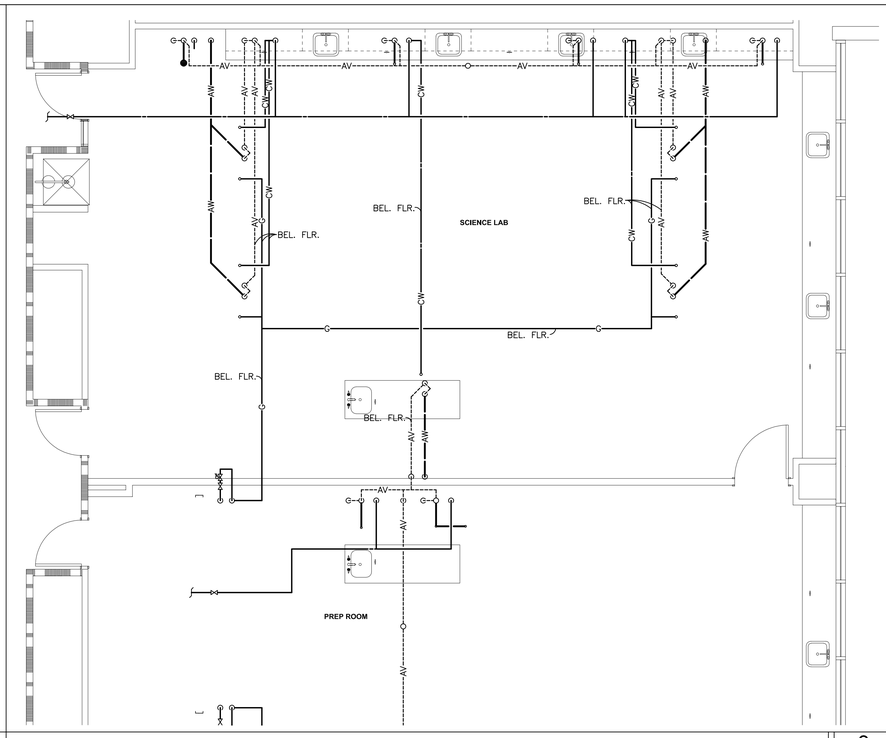
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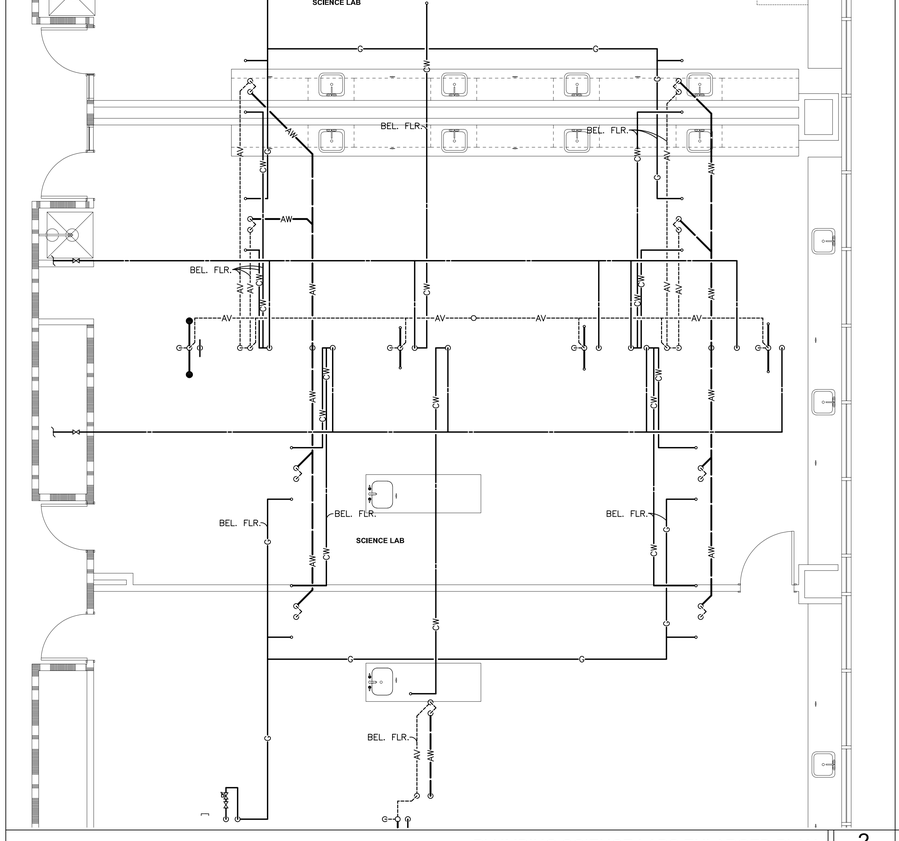
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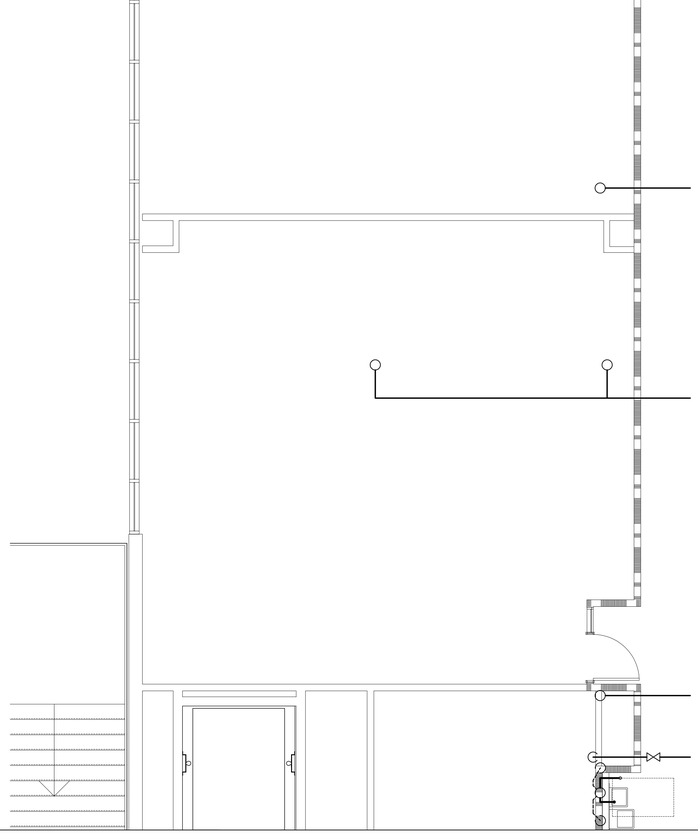
PLUMBING SCIENCE LAB AND PREP. ROOM ENLARGED PLAN | 4 | 1/4" = 1'-0"



PLUMBING SCIENCE LAB AND PREP. ROOM ENLARGED PLAN | 3 | 1/4" = 1'-0"



PLUMBING SCIENCE LABS ENLARGED PLAN | 2 | 1/4" = 1'-0"



CLASSROOM ENLARGED PLAN | 1 | 1/4" = 1'-0"

PLAN NOTES

1.– 1" CW UP WITH 3/4" CW SOV.

2.– 1–1/4" CW UP WITH 3/4" CW SOV.

3.– 2" CW UP WITH 1–1/2" CW CAPPED FOR FUTURE.

4.– 2" CW UP WITH 2" CW SOV.

5.– 3" CW UP WITH 2" CW SOV.

6.– 3" WASTE AND VENT RISERS UP AND DN.

7.– 4" WASTE AND 3" VENT RISERS UP AND DN.

8.– 6" WASTE AND 3" VENT RISERS UP AND DN.

9.– PROVIDE 4" WASTE, 2" VENT AND 1" CW. EXTEND 3/4" CW TO EACH WHA–1.

10.– PROVIDE 2" WASTE (WITH WCO), 1–1/2" VENT AND A CHROME PLATE. 3/4" STUB–OUT FOR FUTURE. EXTEND 3/4" CW TO EACH WHA–1.

11.– PROVIDE 2" WASTE, 1–1/2" VENT AND 1/2" HW AND CW. EXTEND 3/4" CW TO HOSE BIBB AND WHA–1 (WHERE OCCURS).

12.– 2" WASTE, 1–1/2" VENT AND 1/2" PRIMER LINE.

13.– 3" ACID WASTE AND 2"' ACID VENT UP AND DN.

14.– PROVIDE 2" ACID WASTE, 1–1/2" ACID VENT AND 3/4" CW.

15.– EMERGENCY GAS SHUT–OFF, INTERLOCK WITH ASCO NO. 8210 ELECTRIC SOLENOID VALVE (120V) LOCATED ABV. CLG. (TYP. FOR EACH LAB).

16.– PROVIDE 2" ACID WASTE, 2" ACID VENT, AND 3/4" CW AND 3/4" GAS TO EACH TURRET.

17.– PROVIDE 1–1/4" CW, 2" WASTE, 1–1/2" VENT AND 1/2" PRIMER LINE.

18.– PROVIDE 2" ACID WASTE, 1–1/2" ACID VENT, 1/2" CW AND 1/2" GAS TO FUME HOOD.

19.– PROVIDE 3/4" GAS TO EACH TURRET, DOWNSTREAM OF ELECTRIC SOLENOID VALVE.

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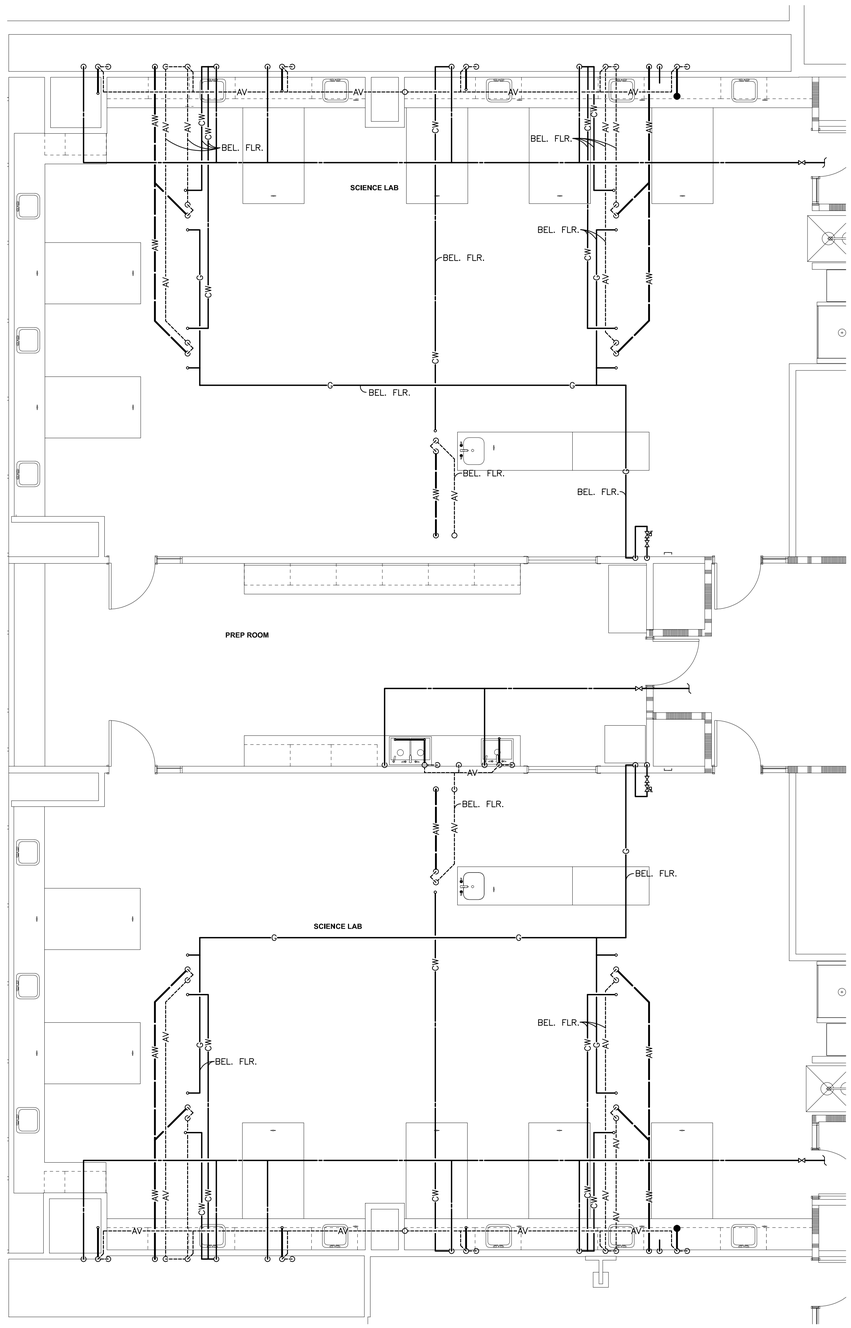
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PLAN NOTES



2
1/4" = 1'-0"

PLUMBING SCIENCE LABS AND PREP. ROOM ENLARGED PLAN

1
1/4" = 1'-0"

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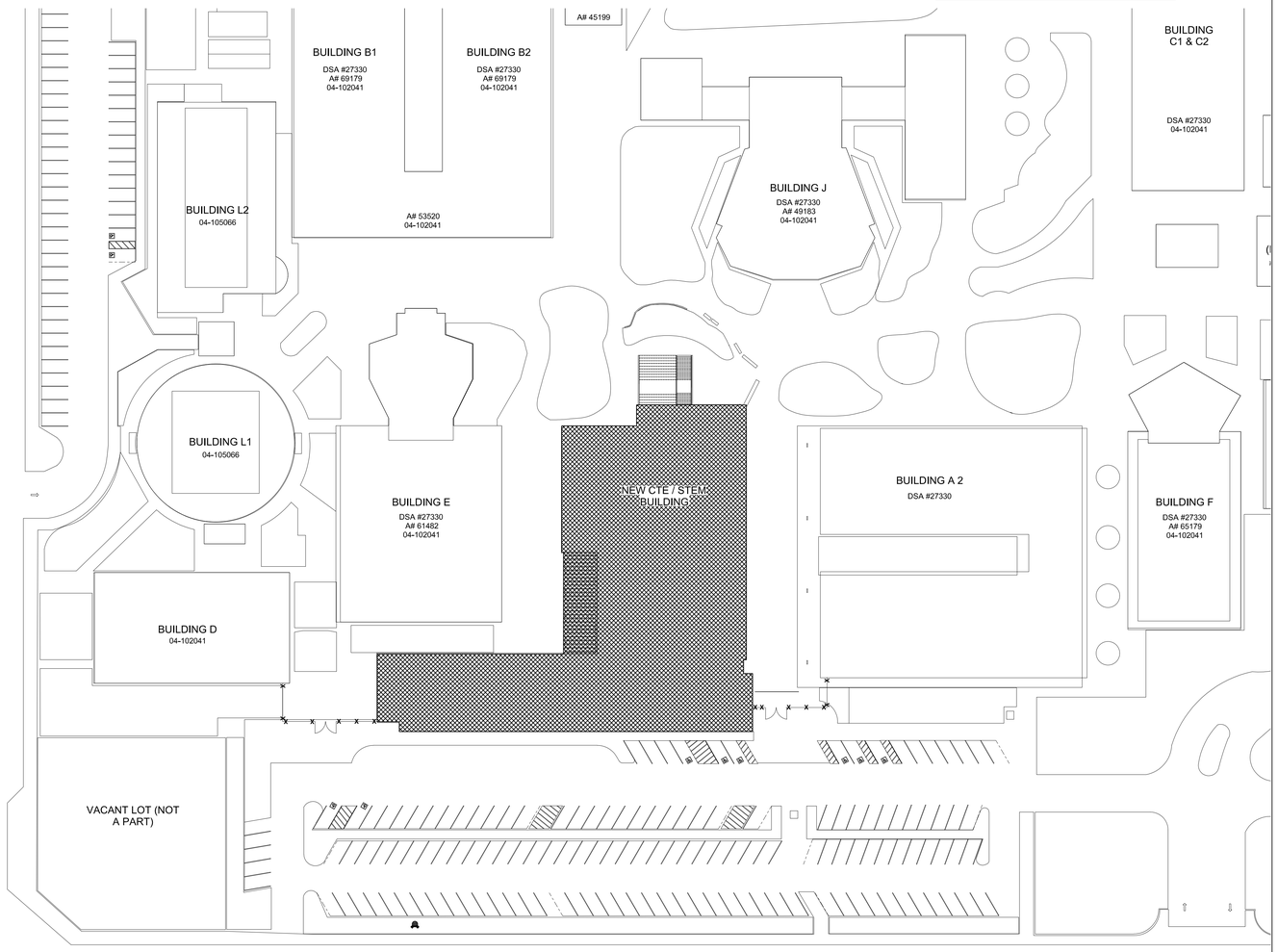
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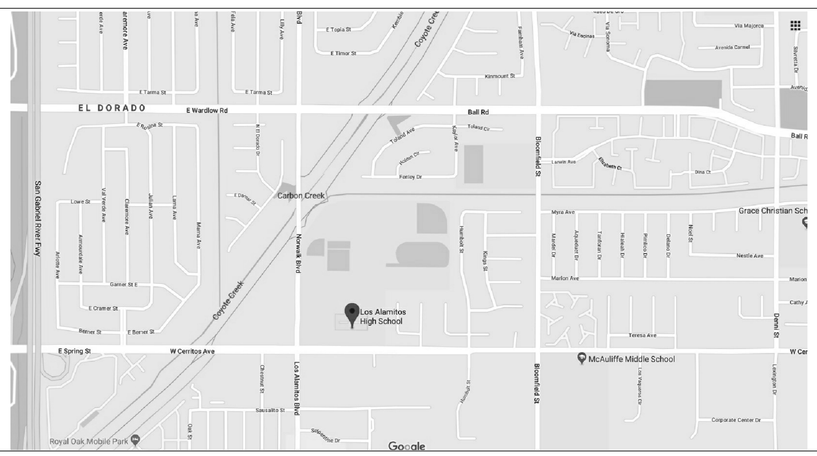
SPECIAL NOTE

FOR EXACT LOCATION AND CONSTRUCTION OF THE DOUBLE DETECTOR CHECK, FIRE HYDRANTS, POST INDICATOR VALVES AND FIRE DEPARTMENT CONNECTIONS, SEE CIVIL PLANS.



REF. NORTH

FIRE PROTECTION SITE PLAN | 3 | 1" = 40'-0"



REF. NORTH

VICINITY MAP | 2 | NOT TO SCALE

MATERIAL NOTES

ALL PIPING AND ACCESSORIES SHALL BE NEW AND OF DOMESTIC MANUFACTURE

1. ALL PIPE 1" – 2" TO BE BLACK STEEL, SCHEDULE 40 STANDARD WALL THREADED OR ROLL GROOVED, C=120 (USE GALVANIZED PIPE FOR DRAINS).
2. ALL 2–1/2" AND LARGER PIPE TO BE BLACK STEEL, SCHEDULE 10, ROLL GROOVED, C=120.
3. ALL 1" – 2" FITTINGS TO BE BLACK CAST IRON, SCREWED, 125# CAST OR DUCTILE IRON, SCREWED, 150# WWP (USE GALVANIZED FITTINGS FOR DRAINS). ALL FITTINGS FOR ROLL GROOVED BRANCH LINES ARE TO BE DUCTILE IRON, GROOVED, 175# AND WELDED OUTLETS (UNLESS NOTED OTHERWISE).
4. ALL 2–1/2" AND LARGER FITTINGS TO BE DUCTILE IRON, GROOVED, 175# WITH GROOVED ENDS AND WELDED OUTLETS FOR LINES (UNLESS OTHERWISE NOTED).
5. ALL GROOVED COUPLINGS ARE TO BE RIGID NON–FLEXIBLE TYPE (UNLESS OTHERWISE NOTED).
6. GROOVED FLEXIBLE COUPLINGS SHALL BE INSTALLED WITHIN 24" OF THE TOP AND BOTTOM OF ALL RISERS AND WITHIN 24" OF THE TOP OF DROPS EXCEEDING 15' IN LENGTH SUPPLYING MORE THAN ONE SPRINKLER HEAD.
7. ALL PIPE SUPPORTS TO BE PER NFPA 13 REQUIREMENTS. ACTUAL SIZE, TYPE AND ROD LENGTHS TO BE PER DETAILS OR AS NOTED ON PLANS.
8. THE LENGTH OF AN UNSUPPORTED ARM–OVER TO A SPRINKLER/DROP SHALL NOT EXCEED 12" IF THE STATIC PRESSURE IS GREATER THAN 100 PSI.
9. ALL MATERIALS TO BE UL LISTED AND/OR FM APPROVED FOR FIRE PROTECTION SYSTEMS. ALL MATERIALS SHALL BE IN ACCORDANCE WITH NFPA STANDARDS.
10. ALL MATERIALS SHOWN AND/OR LISTED AS SPECIFIED SHALL BE SUBSTITUTED WITH AN EQUAL OR BETTER PRODUCT DUE TO AVAILABILITY.

CURRENT CODES AND STANDARDS

2016 CA BUILDING CODE – TITLE 24 PART 2 VOLUME #1 AND #2
2016 CA ELECTRICAL CODE – TITLE 24 PART 3
2016 CA MECHANICAL CODE – TITLE 24 PART 4
2016 CA PLUMBING CODE – TITLE 24 PART 5
2016 CA FIRE CODE – TITLE 24 PART 9
2016 CA BUILDING STANDARDS – TITLE 24 PART 12
2016 NFPA 10 PORTABLE FIRE EXTINGUISHERS
2016 NFPA 13 INSTALLATION OF SPRINKLERS SYSTEMS PLUS CALIFORNIA AMENDMENTS
2016 NFPA 14 INSTALLATION OF STANDPIPE, PRIVATE HYDRANT AND HOSE SYSTEMS
2016 NFPA 72 NATIONAL FIRE ALARM CODE – SEE CALIFORNIA AMENDMENTS
2016 NFPA 20 INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
2016 NFPA 22 WATER TANKS FOR PRIVATE FIRE PROTECTION
2016 NFPA 24 INSTALLATION OF PRIVATE FIRE SERVICE MAINS PLUS CALIFORNIA AMENDMENTS
2016 NFPA 25 STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER–BASED FIRE PROTECTION SYSTEMS
2016 NFPA 80 FIRE DOORS AND OTHER OPENING PROTECTIVES
2016 NFPA 110 EMERGENCY AND STANDBY POWER SYSTEMS
ICC 300–07 STANDARD ON BLEACHERS, FOLDING AND TELESCOPIC SEATING AND GRANDSTANDS
2016 NFPA 17A–UL 300 FOR CLASS I HOOD FIRE SUPPRESSION SYSTEM (WET CHEMICAL SYSTEM)
2012 NFPA 2001 CLEAN AGENT FIRE EXTINGUISHING SYSTEMS
TITLE 19 CCR STATE FIRE MARSHAL REGULATIONS

DSA CODES AND STANDARDS

(UNDER THE 2016 CALIFORNIA BUILDING CODE)

TITLE 19, STATE FIRE MARSHAL – PUBLIC SAFETY
TITLE 24, CALIFORNIA BUILDING AND FIRE CODE (PARTS 1–9 INCLUSIVE)
NFPA 13, INSTALLATION OF FIRE SPRINKLER SYSTEMS
NFPA 14, STANDARD FOR THE INSTALLATION OF PRIVATE SERVICE MAINS
NFPA 25, INSPECTION, TESTING AND MAINTENANCE OF WATER–BASED FIRE PROTECTION SYSTEMS (WITH CALIFORNIA AMENDMENTS)

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FP1–1.1.1 – FIRE PROTECTION FIRST FLOOR REFLECTED CEILING PLAN – NORTH PORTION
FP1–1.1.2 – FIRE PROTECTION FIRST FLOOR REFLECTED CEILING PLAN – SOUTH PORTION
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FP3–1.0 – FIRE PROTECTION BUILDING SECTIONS
FP3–1.1 – FIRE PROTECTION SEISMIC BRACING DETAILS AND CALCULATIONS

FIRE TEST INFORMATION

STATIC PSI: – (– 10% CUSHION)
RESIDUAL PSI: –
FLOW GPM: – @ 20 PSI
DATE: –/–/–

INFORMATION FROM: –

DESIGN CRITERIA

BRACING DESIGN: Ss= –/Cp= –

LIGHT HAZARD (.10 OVER 1,500 SQ. FT.) (COVERAGE: 225 SQ. FT. MAX.)
ORDINARY HAZARD (GROUP 1) (.20 OVER 1,500 SQ. FT.) (COVERAGE: 130 SQ. FT. MAX.)

AREA ABOVE THE CEILING:
1. NON–COMBUSTIBLE OBSTRUCTED (ATTIC SPRINKLERS NOT REQUIRED)

AREA BELOW THE CEILING:
1. UN–OBSTRUCTED (SPRINKLERS: 225 SQ. FT. MAX.)
2. LABS, PREP. ROOMS, STORAGE AND UTILITY ROOMS (SPRINKLERS: 130 SQ. FT. MAX.)

FIRE FLOW INFORMATION

JOB SPECIFIC & GENERAL NOTES

1. SCOPE OF WORK: INSTALL NEW WET PIPE FIRE SPRINKLER SYSTEM IN NEW BUILDING AS SHOWN. P.O.C. IS AT A FLANGE, 0'–6" A.F.F. INSIDE BUILDING. ALL UNDERGROUND WORK IS BY SITE CONTRACTOR.
2. THE SYSTEM HAS BEEN HYDRAULICALLY CALCULATED TO PROVIDE .20 GPM/SQ. FT. OVER THE MOST DEMANDING 1500 SQ. FT. FOR ORDINARY HAZARD OCCUPANCIES. A MINIMUM 10% CUSHION SHALL BE MAINTAINED. AREAS ARE INCREASED BY 30% WHERE CEILING SLOPE EXCEEDS 2:12.
3. THE SPRINKLER SYSTEMS SHALL COMPLY WITH NFPA 13, 2016 ED., CITY OF LOS ALAMITOS AND DSA REQUIREMENTS (TITLE 24 PART 1, 2, 5, 9 & 12).
4. ALL MATERIAL SHALL BE UL LISTED/FM APPROVED FOR FIRE PROTECTION AND OF DOMESTIC MANUFACTURE.
5. BRANCH LINE PIPING (1"–2"): BLACK SCH. 40 THREADED (ASTM A–53) WITH CAST OR DUCTILE IRON SCREWED FITTINGS OR ROLL–GROOVED (ASTM A–795) WITH WELDED OUTLETS AND GROOVED FITTINGS.
6. SPRINKLER MAIN PIPING (2–1/2"–6"): BLACK SCH. 10 ROLL–GROOVED (ASTM A–795) WITH WELDED OUTLETS AND GROOVED FITTINGS.
7. NO SPRINKLERS ARE INSTALLED BELOW EXTERIOR NON–COMBUSTIBLE WALKWAYS AND OVERHANGS.
8. END HANGERS SHALL BE RESTRAINED (SEE DETAIL ON PLANS).
9. ALL PAINTING AND PRIMING IS BY GENERAL CONTRACTOR.
10. ALL WIRING IS BY ELECTRICAL CONTRACTOR.
11. PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE STOPPED IN ACCORDANCE WITH UL LISTING AND THE LATEST CBC REQUIREMENTS IN CHAPTER 7, SECTION 714.
12. ALL VALVES SHALL BE EQUIPPED WITH A TAMPER SWITCH AND LOCKED IN THE OPEN POSITION.
13. ALL BRANCH LINES SHALL BE LATERALLY RESTRAINED AGAINST EXCESSIVE MOVEMENT.
14. BRANCH LINE HANGERS SHALL NOT RESTRAIN BRANCH LINES FROM LONGITUDINAL MOVEMENT DURING AN EARTHQUAKE.
15. SYSTEM COMPONENTS SHALL BE RATED AT 175 PSI MINIMUM.
16. AT VARIOUS STAGES AND UPON COMPLETION, THE SYSTEMS SHALL BE TESTED IN THE PRESENCE OF THE DSA REPRESENTATIVE.
17. THE SPACING AND DETAILS OF THE SUPPORT AND BRACING OF FIRE SPRINKLER PIPING SHALL COMPLY WITH THE 2016 EDITION OF NFPA 13 AND DSA REQUIREMENTS.
18. NFPA 13 (2016) SEC. 10.10.2.1, UNDERGROUND MAINS AND LEAD–IN CONNECTIONS TO SYSTEM RISER SHALL BE COMPLETELY FLUSHED BEFORE CONNECTION IS MADE TO OVERHEAD SPRINKLER PIPING SYSTEMS (WITNESSED BY THE INSPECTOR OF RECORD) – BY OTHERS.
19. NFPA 13 (2016) SEC. 10.10.2.2.1, ALL INTERIOR PIPING AND APPURTENANCES SUBJECT TO SYSTEM WORKING PRESSURE SHALL BE HYDROSTATICALLY TESTED AT 200 PSI AND SHALL MAINTAIN THE PRESSURE WITHOUT LOSS FOR 2 HOURS (WITNESSED BY THE INSPECTOR OF RECORD). LOCAL FIRE DEPARTMENT SHALL BE NOTIFIED OF DATE AND TESTING SO THAT THEY MAY OBSERVE TESTING.
20. NFPA (2016) SEC. 6.2.9, PROVIDE SPARE SPRINKLER HEAD CABINET, SPRINKLER WRENCH AND NO FEWER THAN 6 SPARE SPRINKLER HEADS MATCHING THE TYPES AND TEMPERATURE RATINGS IN EACH PROTECTED BUILDING FOR SYSTEMS LESS THAN 300 SPRINKLERS (12 SPARE SPRINKLER HEADS FOR SYSTEMS 300 TO 1000 SPRINKLERS).
21. NFPA 13 (2016) SEC. 9.3.6.3, THE END SPRINKLER ON A LINE SHALL BE RESTRAINED AGAINST EXCESSIVE VERTICAL AND LATERAL MOVEMENT.
22. NFPA 72 (2016), SPRINKLER FLOW SWITCH SHALL BE TESTED BY IOR TO CONFIRM THAT WHEN THE INSPECTOR'S TEST VALVE IS ACTIVATED, AN ALARM WILL SOUND NO LESS THAN 20 SECONDS AND NOT MORE THAN 90 SECONDS.
23. CBC SEC. 903.4.1, MAIN FIRE ALARM PANEL VALVE MONITORING AND WATER–FLOW ALARM AND TROUBLE SIGNALS SHALL BE DISTINCTLY DIFFERENT AND SHALL BE AUTOMATICALLY TRANSMITTED TO AN APPROVED CENTRAL STATION MONITORING COMPANY (BY OTHERS).
24. NFPA 13 (2016) FLOW SWITCH SHALL BE CONNECTED TO A 10" DIAMETER OUTSIDE ALARM BELL AT THE RISER. APPROVED IDENTIFICATION SIGNS SHALL BE PROVIDED FOR OUTSIDE ALARM BELL, "SPRINKLER FIRE ALARM – WHEN BELL RINGS CALL 911/FIRE DEPARTMENT".
25. NFPA 13 (2016) A HYDRAULIC CALCULATION DESIGN DATA PLACARD SHALL BE ATTACHED TO THE RISER.
26. NFPA 13 (2016) SEC. 25.1, SPRINKLER CONTRACTOR (C16) SHALL COMPLETE AND SIGN CONTRACTOR'S MATERIAL TEST CERTIFICATE FOR THE OVERHEAD SPRINKLER SYSTEM USING FORM IN FIGURE 25.1. THIS FORM SHALL BE GIVEN TO THE INSPECTOR OF RECORD (IOR) WHO WILL TURN IN FOR DSA RECORDS.
27. NFPA 13 (2016) SEC. 25.2.3.4, THE MAIN DRAIN VALVE SHALL BE OPENED AND REMAIN OPEN UNTIL THE SYSTEM PRESSURE STABILIZES. THE STATIC AND RESIDUAL PRESSURE SHALL BE RECORDED ON THE CONTRACTOR'S TEST CERTIFICATE (WITNESSED BY THE IOR).
28. TITLE 19 ARTICLE 906(a), A LABEL OF THE SELF–ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR THE FIRE SPRINKLER SYSTEM WITH THE DATE OF SERVICE AND/OR DATE OF INSTALLATION WAS PERFORMED AND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK.
29. INSTALL APPROVED TYPE PROTECTIVE METAL BASKET HEAD GUARDS AT ALL EXPOSED HEADS.

GENERAL NOTES

1. THE FIRE SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 13 (2016 EDITION).
2. IT IS THE RESPONSIBILITY OF THE BUILDING OWNER TO MAINTAIN THE INTEGRITY OF THE SPRINKLER SYSTEM.
3. THE SPRINKLER CONTRACTOR WILL PROVIDE THE OWNER WITH THE NECESSARY INSTRUCTION MANUALS FOR THE UP–KEEP OF THE SYSTEM AS WELL AS A COPY OF NFPA 25 AT PROJECT CLOSEOUT.
4. ONLY NEW SPRINKLERS SHALL BE USED IN THE INSTALLATION OF THE SPRINKLER SYSTEM.
5. STAMPED AND APPROVED SPRINKLER PLANS SHALL BE MAINTAINED AT ALL TIMES ON THE JOBSITE.
6. AN APPOINTMENT SHALL BE MADE A MINIMUM OF 48 HOURS IN ADVANCE WITH THE APPROPRIATE FIRE PREVENTION OFFICE FOR ALL INSPECTIONS AND TESTS.
7. ALL SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR 2 HOURS, OR AT 50 PSI ABOVE THE SYSTEM OPERATING PRESSURE WHICH EVER IS GREATER.
8. ALL UNDERGROUND MAINS AND LEAD–IN CONNECTIONS SHALL BE FLUSHED AS INDICATED PER NFPA 13 PRIOR TO CONNECTION TO THE OVERHEAD PIPING. THE FLUSHING SHALL CONTINUE UNTIL THE WATER IS CLEAR.
9. ALL UNDERGROUND MAINS SHALL BE INSPECTED, PRESSURE TESTED AND FLUSHED IN THE PRESENCE OF THE LOCAL AUTHORITY HAVING JURISDICTION.
10. FIRE DEPARTMENT CONNECTIONS SHALL BE VISIBLE AND ACCESSIBLE. THEY SHALL HAVE NO FEMALE OUTLETS WITH PROTECTIVE CAPS AND AN APPROVED CHECK VALVE LOCATED AS CLOSE TO THE FDC AS POSSIBLE.
11. ALL VALVES SHALL HAVE A PERMANENT AFFIXED SIGN INDICATING ITS FUNCTION AND/OR AREA OF USE.
12. A STOCK OF SPARE SPRINKLERS OF EACH STYLE, TYPE AND TEMPERATURE RATING ALONG WITH A SPRINKLER WRENCH SHALL BE LOCATED NEXT TO THE MAIN BUILDING RISER.
13. ANY PORTION OF THE SPRINKLER SYSTEM WHICH IS EXPOSED TO FREEZING SHALL BE ADEQUATELY PROTECTED AGAINST EXPOSURE.
14. WHEN SERVING MORE THAN 100 SPRINKLERS, AUTOMATIC SPRINKLER SYSTEMS SHALL BE SUPERVISED BY AN APPROVED CENTRAL PROPRIETARY OR REMOTE STATION SERVICE AND/OR LOCAL ALARM WHICH WILL GIVE AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED LOCATION.
15. ALL WALLS SHOWN ON PLANS ARE FULL HEIGHT WALLS (UNLESS NOTED OTHERWISE).
16. HYDRAULIC CALCULATIONS ARE PROVIDED TO THE SUPPLY SOURCE WITH A FIXED PRESSURE LOSS FOR THE BACKFLOW DEVICE AND A MINIMUM 10% REDUCTION OF THE WATER SUPPLY CURVE.
17. FOR THROUGH–PENETRATION FIRESTOP SYSTEMS, SEE DETAILS 12/A835A AND 1/M009.

HYDRAULIC CALCULATIONS PERFORMED BY SPRINKCAD SOFTWARE PROGRAM.

FIRE PROTECTION GENERAL NOTES | 1 | NOT TO SCALE

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FIRE PROTECTION GENERAL NOTES AND SITE PLAN

SHEET NUMBER:

FP0-1.0

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FIRE PROTECTION FIRST FLOOR REFLECTED CEILING PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

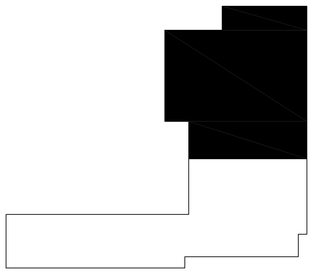
LEGEND

- REPRESENTS PIPE END CAP
- REPRESENTS PIPE RISE
- REPRESENTS PIPE DROP
- REPRESENTS EXISTING PIPING
- REPRESENTS POINT OF CONNECTION
- REPRESENTS DETAIL NUMBER
- REPRESENTS FIRE PROTECTION SHEET
- W1 REPRESENTS WATER SUPPLY NODE NOTED ON HYDRAULIC CALCULATIONS
- # REPRESENTS NODE NOTED ON HYDRAULIC CALCULATIONS
- #'–#" REPRESENTS HEAD ELEVATION
- +#'–#" REPRESENTS PIPE ELEVATION
- #2 #1 REPRESENTS PIPE HANGAR
- REPRESENTS END LINE RESTRAINT
- REPRESENTS 4–WAY BRACE WHERE OCCURS
- REPRESENTS LATERAL OR LONGITUDINAL SWAY BRACE WHERE OCCURS
- 3 REPRESENTS PIPE SIZE
- 1'–0 REPRESENTS PIPE LENGTH
- REPRESENTS PIPE SLOPE DIRECTION

A.F.F.: ABOVE FINISH FLOOR
BFP: BACKFLOW PREVENTER
BOP: BOTTOM OF PIPE
DSP: DRY STANDPIPE
(E): EXISTING
GPM: GALLONS PER MINUTE
FDC: FIRE DEPARTMENT CONNECTION
FH: FIRE HYDRANT
FHC: FIRE HOSE CABINET
L.F.: LINEAR FEET
N.I.C.: NOT IN CONTRACT
PSI: POUNDS PER SQUARE INCH
PVC: POLYVINYL CHLORIDE
(R): RELOCATED
SQ. FT.: SQUARE FEET
TYP.: TYPICAL
WSP: WET STANDPIPE

SYMBOLS AND ABBREVIATIONS ARE SHOWN FOR REFERENCE; NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED

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Los Alamitos Unified School District

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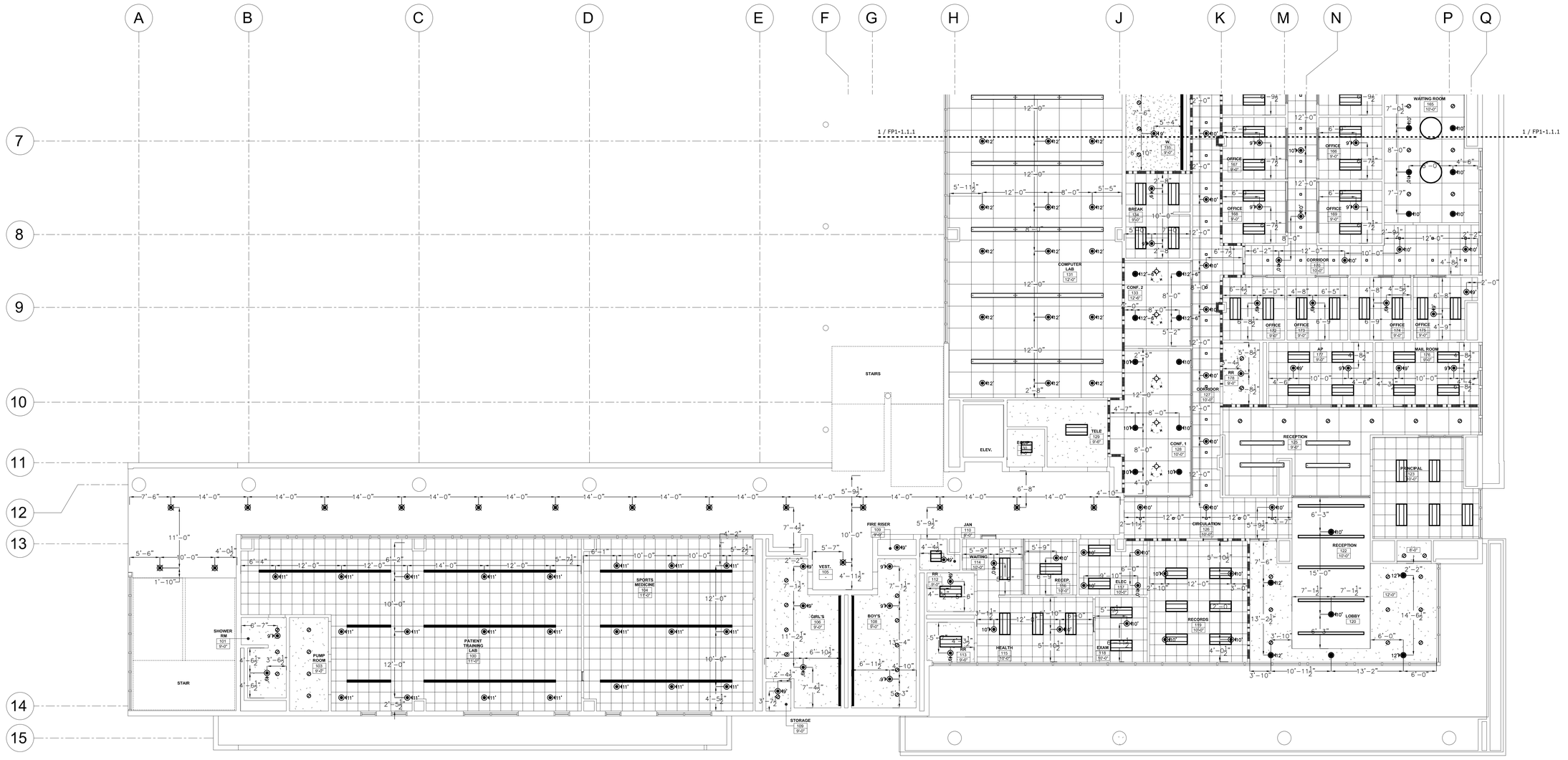
REGISTRATION/SIGNATURE:

SHEET TITLE:
FIRE PROTECTION FIRST FLOOR REFLECTED CEILING PLAN - PARTIAL NORTH

SHEET NUMBER:
FP1-1.1.1

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NORTH

FIRE PROTECTION FIRST FLOOR REFLECTED CEILING PLAN - PARTIAL SOUTH

1
1/8" = 1'-0"

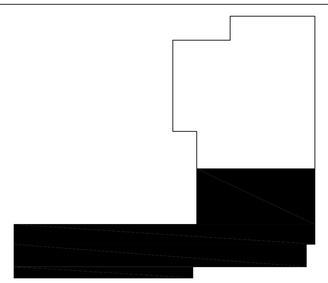
LEGEND

- REPRESENTS PIPE END CAP
- REPRESENTS PIPE RISE
- REPRESENTS PIPE DROP
- REPRESENTS EXISTING PIPING
- REPRESENTS POINT OF CONNECTION
- REPRESENTS DETAIL NUMBER
- REPRESENTS FIRE PROTECTION SHEET
- REPRESENTS WATER SUPPLY NODE NOTED ON HYDRAULIC CALCULATIONS
- REPRESENTS NODE NOTED ON HYDRAULIC CALCULATIONS
- REPRESENTS HEAD ELEVATION
- REPRESENTS PIPE ELEVATION
- REPRESENTS PIPE HANGAR
- REPRESENTS END LINE RESTRAINT
- REPRESENTS 4-WAY BRACE WHERE OCCURS
- REPRESENTS LATERAL OR LONGITUDINAL SWAY BRACE WHERE OCCURS
- REPRESENTS PIPE SIZE
- REPRESENTS PIPE LENGTH
- REPRESENTS PIPE SLOPE DIRECTION

A.F.F.: ABOVE FINISH FLOOR
BFP: BACKFLOW PREVENTER
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DSP: DRY STANDPIPE
(E): EXISTING
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FDC: FIRE DEPARTMENT CONNECTION
FH: FIRE HYDRANT
FHC: FIRE HOSE CABINET
L.F.: LINEAR FEET
N.I.C.: NOT IN CONTRACT
PSI: POUNDS PER SQUARE INCH
PVC: POLYVINYL CHLORIDE
(R): RELOCATED
SQ. FT.: SQUARE FEET
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WSP: WET STANDPIPE

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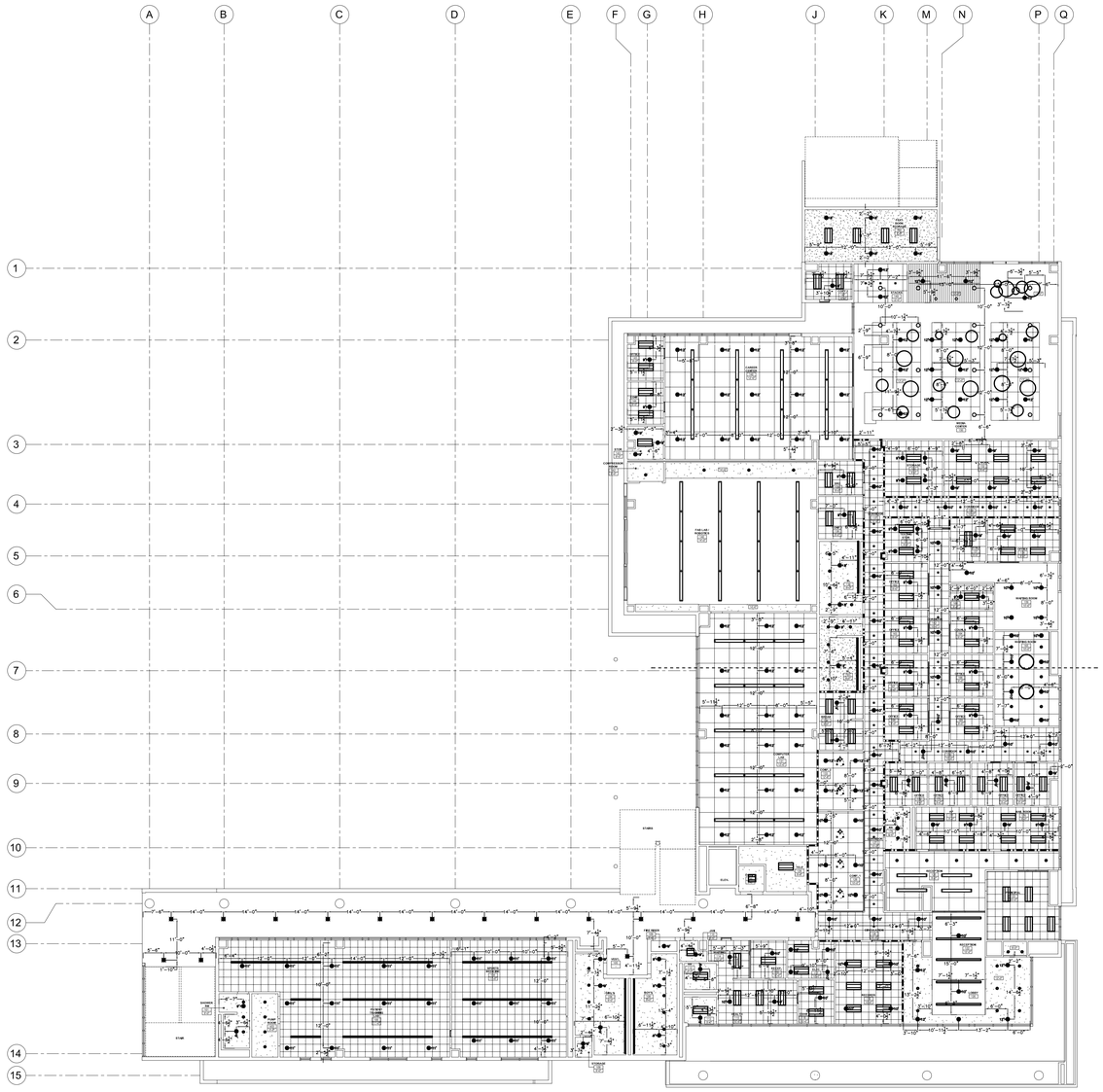
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SHEET TITLE:
FIRE PROTECTION FIRST FLOOR REFLECTED CEILING PLAN - PARTIAL SOUTH

SHEET NUMBER:
FP1-1.1.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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SPRINKLER LEGEND							
SYMBOL	SIN/MODEL	QUANTITY	K-FACTOR	TYPE	ORIFICE	FINISH	TEMP.	NOTES
◉	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	SEMI-RECESSED
○	TY 3131	–	5.6	UPRIGHT	1/2"	BRASS	155°F	EXPOSED
⊠	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	CORROSION-RESISTANT COATING
		TOTAL = –						

NORTH

FIRE PROTECTION FIRST FLOOR REFLECTED CEILING PLAN - OVERALL

1
1/16" = 1'-0"

LEGEND

- REPRESENTS PIPE END CAP
- REPRESENTS PIPE RISE
- REPRESENTS PIPE DROP
- REPRESENTS EXISTING PIPING
- REPRESENTS POINT OF CONNECTION
- REPRESENTS DETAIL NUMBER / REPRESENTS FIRE PROTECTION SHEET
- W1 REPRESENTS WATER SUPPLY NODE NOTED ON HYDRAULIC CALCULATIONS
- # REPRESENTS NODE NOTED ON HYDRAULIC CALCULATIONS
- #'-#" REPRESENTS HEAD ELEVATION
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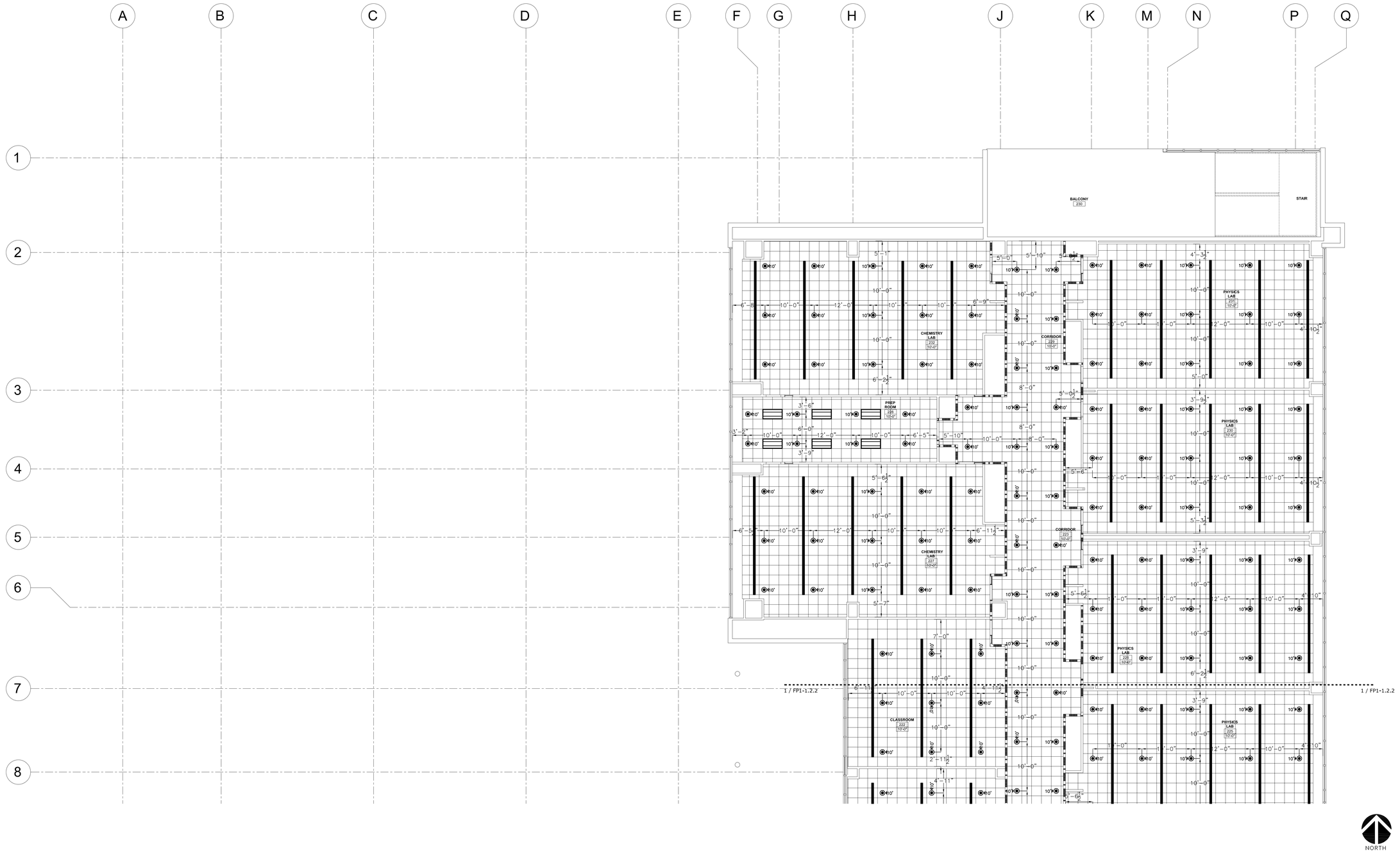
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FIRE PROTECTION SECOND FLOOR REFLECTED CEILING PLAN - PARTIAL NORTH

1

1/8" = 1'-0"

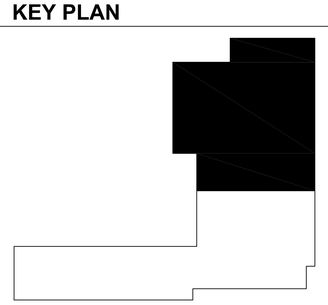
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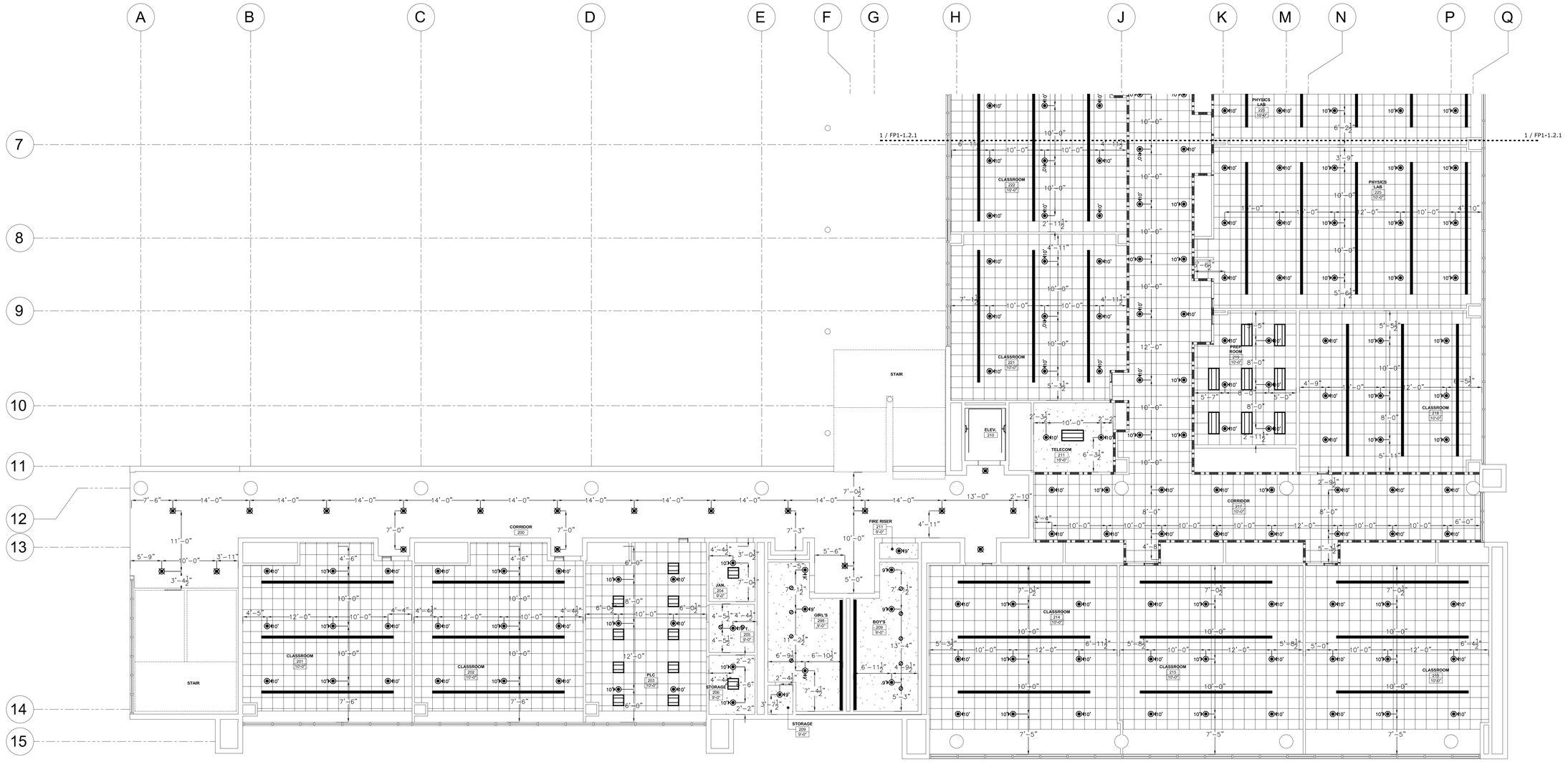
SHEET TITLE:
FIRE PROTECTION SECOND FLOOR REFLECTED CEILING PLAN - PARTIAL NORTH

SHEET NUMBER:
FP1-1.2.1

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NORTH

FIRE PROTECTION SECOND FLOOR REFLECTED CEILING PLAN - PARTIAL SOUTH

1

1/8" = 1'-0"

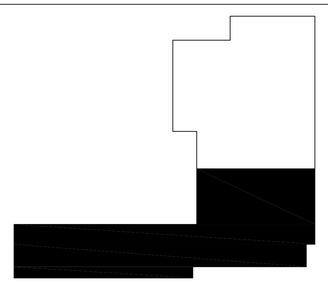
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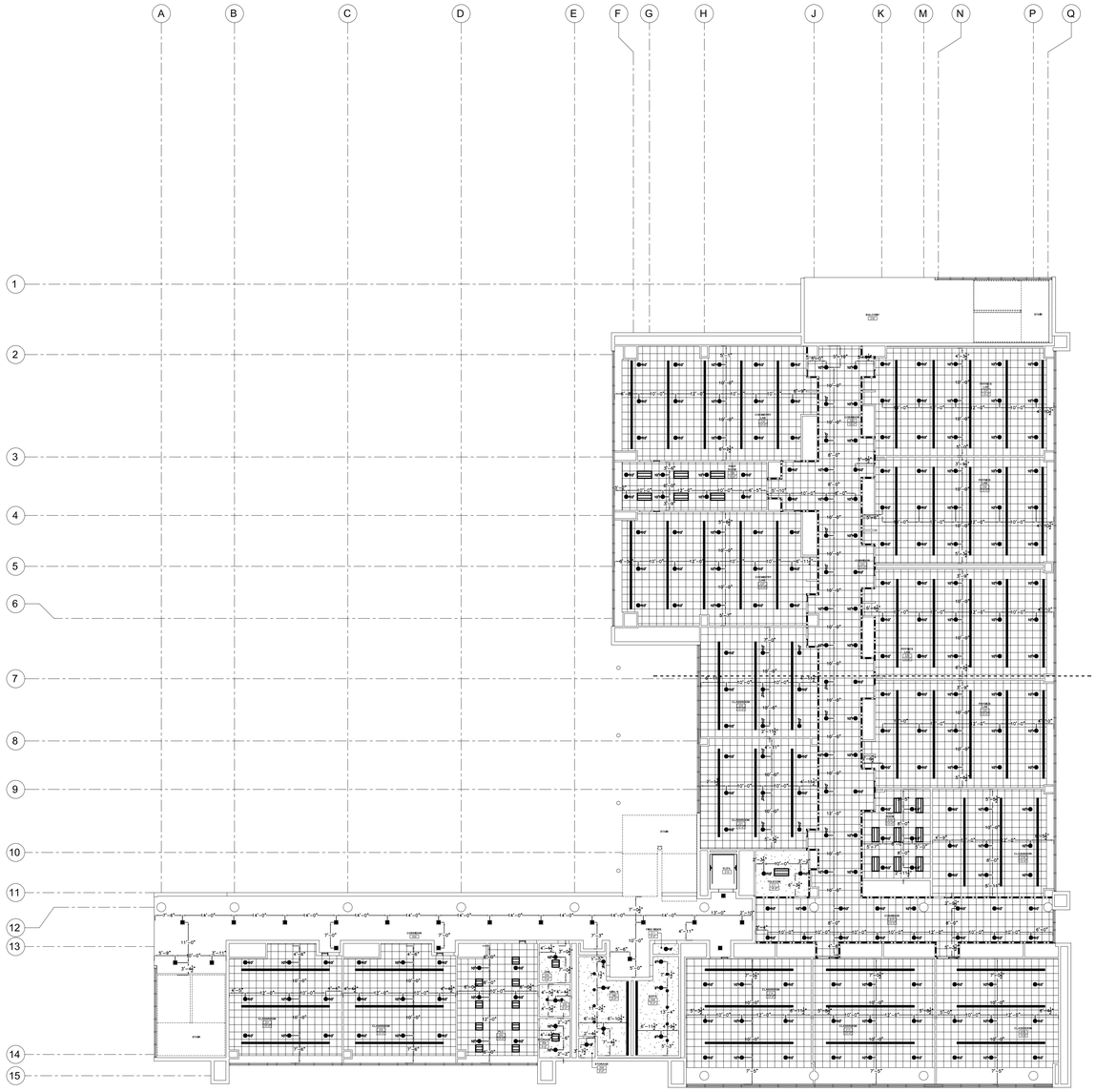
REGISTRATION/SIGNATURE:

SHEET TITLE:
FIRE PROTECTION ECOND FLOOR REFLECTED CEILING PLAN - PARTIAL SOUTH

SHEET NUMBER:
FP1-1.2.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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SPRINKLER LEGEND								
SYMBOL	SIN/MODEL	QUANTITY	K-FACTOR	TYPE	ORIFICE	FINISH	TEMP.	NOTES
◉	TY 3231	--	5.6	PENDENT	1/2"	CHROME	155°F	SEMI-RECESSED
⊠	TY 3231	--	5.6	PENDENT	1/2"	CHROME	155°F	CORROSION-RESISTANT COATING
		TOTAL = --						

NORTH

FIRE PROTECTION SECOND FLOOR REFLECTED CEILING PLAN - OVERALL

1
1/16" = 1'-0"

LEGEND

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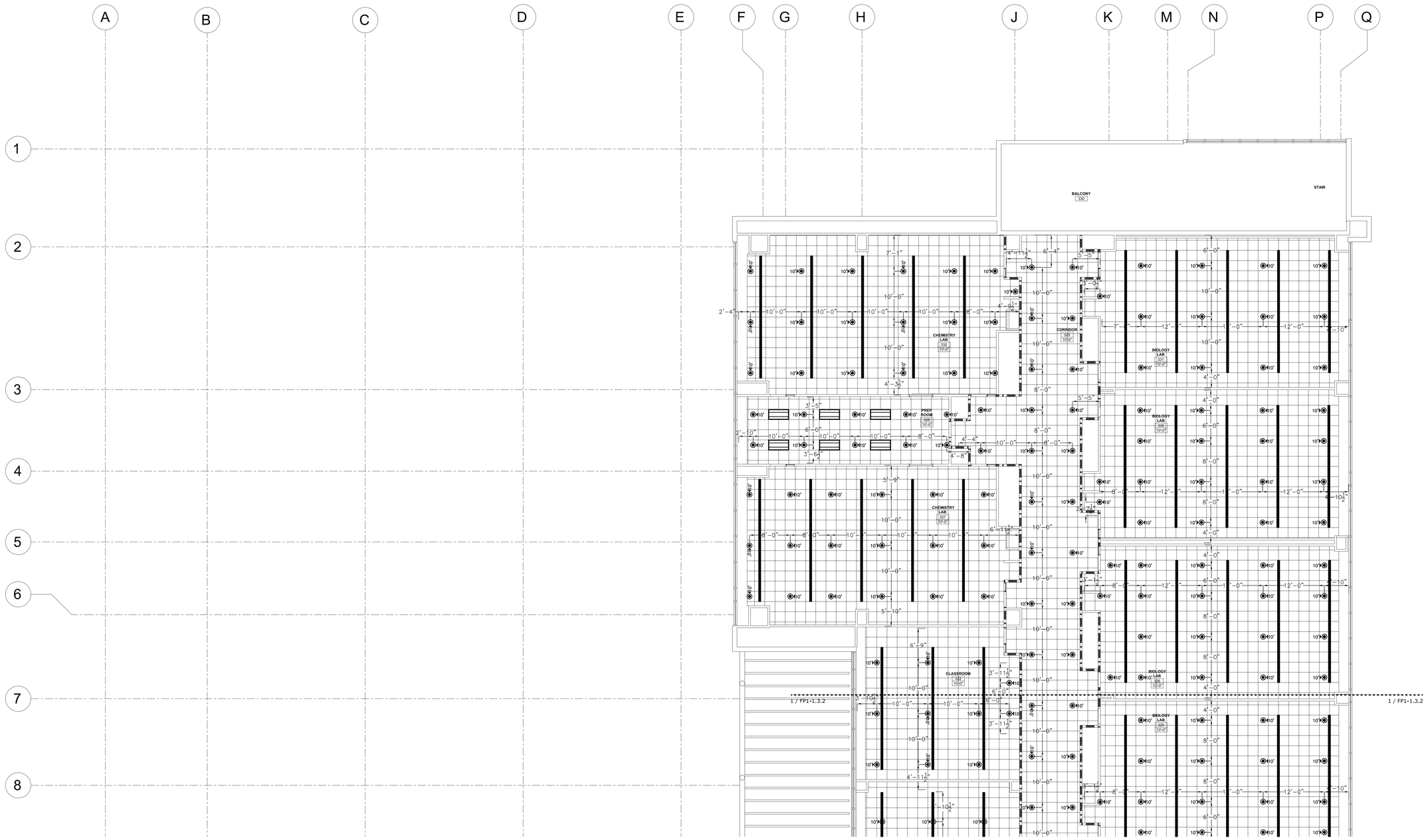
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FIRE PROTECTION THIRD FLOOR REFLECTED CEILING PLAN - PARTIAL NORTH

1
1/8" = 1'-0"

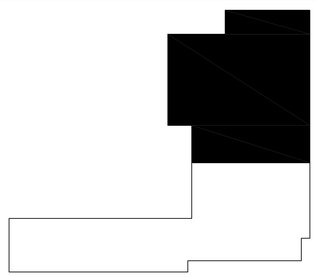
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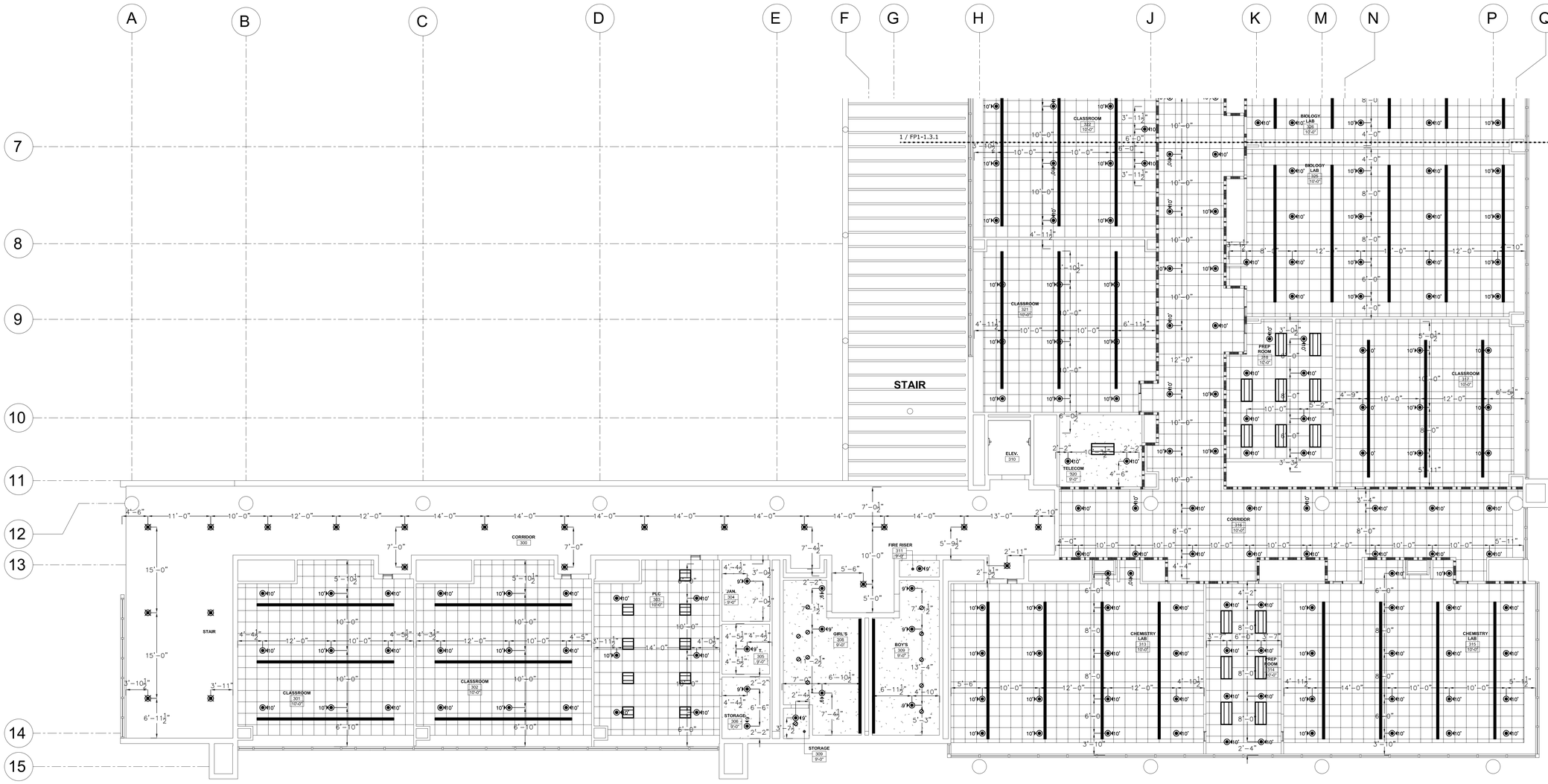
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SHEET TITLE:
FIRE PROTECTION THIRD FLOOR REFLECTED CEILING PLAN - PARTIAL NORTH

SHEET NUMBER:
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NORTH

FIRE PROTECTION THIRD FLOOR REFLECTED CEILING PLAN - PARTIAL SOUTH

1

1/8" = 1'-0"

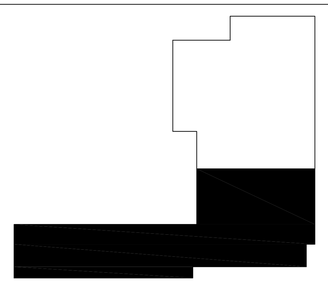
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SPRINKLER LEGEND								
SYMBOL	SIN/MODEL	QUANTITY	K-FACTOR	TYPE	ORIFICE	FINISH	TEMP.	NOTES
◉	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	SEMI–RECESSED
⊠	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	CORROSION–RESISTANT COATING
		TOTAL = –						

NORTH

FIRE PROTECTION THIRD FLOOR REFLECTED CEILING PLAN - OVERALL

1
1/16" = 1'-0"

LEGEND

- REPRESENTS PIPE END CAP
- REPRESENTS PIPE RISE
- REPRESENTS PIPE DROP
- REPRESENTS EXISTING PIPING
- REPRESENTS POINT OF CONNECTION
- REPRESENTS DETAIL NUMBER / REPRESENTS FIRE PROTECTION SHEET
- W1 REPRESENTS WATER SUPPLY NODE NOTED ON HYDRAULIC CALCULATIONS
- # REPRESENTS NODE NOTED ON HYDRAULIC CALCULATIONS
- #'–#" REPRESENTS HEAD ELEVATION
- +#'–#" REPRESENTS PIPE ELEVATION
- #2 / #1 REPRESENTS PIPE HANGAR
- REPRESENTS END LINE RESTRAINT
- REPRESENTS 4–WAY BRACE WHERE OCCURS
- REPRESENTS LATERAL OR LONGITUDINAL SWAY BRACE WHERE OCCURS
- 3 REPRESENTS PIPE SIZE
- 1'-0 REPRESENTS PIPE LENGTH
- REPRESENTS PIPE SLOPE DIRECTION

A.F.F.: ABOVE FINISH FLOOR
BFP: BACKFLOW PREVENTER
BOP: BOTTOM OF PIPE
DSP: DRY STANDPIPE
(E): EXISTING
GPM: GALLONS PER MINUTE
FDC: FIRE DEPARTMENT CONNECTION
FH: FIRE HYDRANT
FHC: FIRE HOSE CABINET
L.F.: LINEAR FEET
N.I.C.: NOT IN CONTRACT
PSI: POUNDS PER SQUARE INCH
PVC: POLYVINYL CHLORIDE
(R): RELOCATED
SQ. FT.: SQUARE FEET
TYP.: TYPICAL
WSP: WET STANDPIPE

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Los Alamitos Unified School District

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ISSUED FOR:

REVISIONS:

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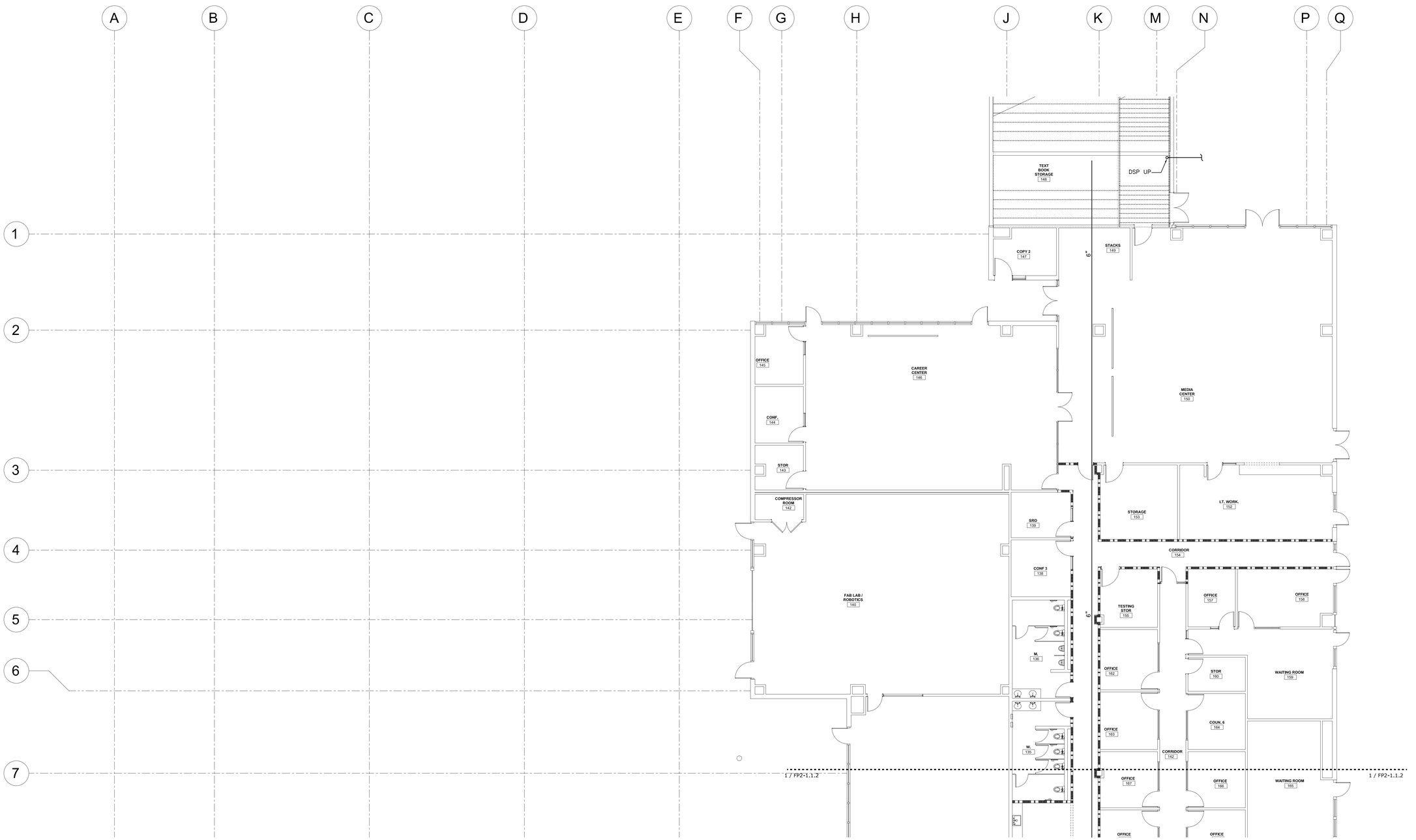
REGISTRATION/SIGNATURE:

SHEET TITLE:
FIRE PROTECTION THIRD FLOOR REFLECTED CEILING PLAN - OVERALL

SHEET NUMBER:
FP1-1.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/18/19

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FIRE PROTECTION FIRST FLOOR PIPING PLAN - NORTH PORTION

1
1/8" = 1'-0"

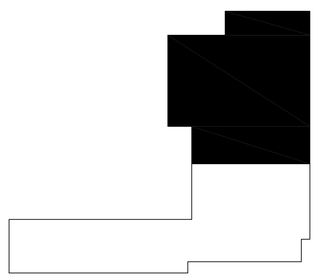
LEGEND

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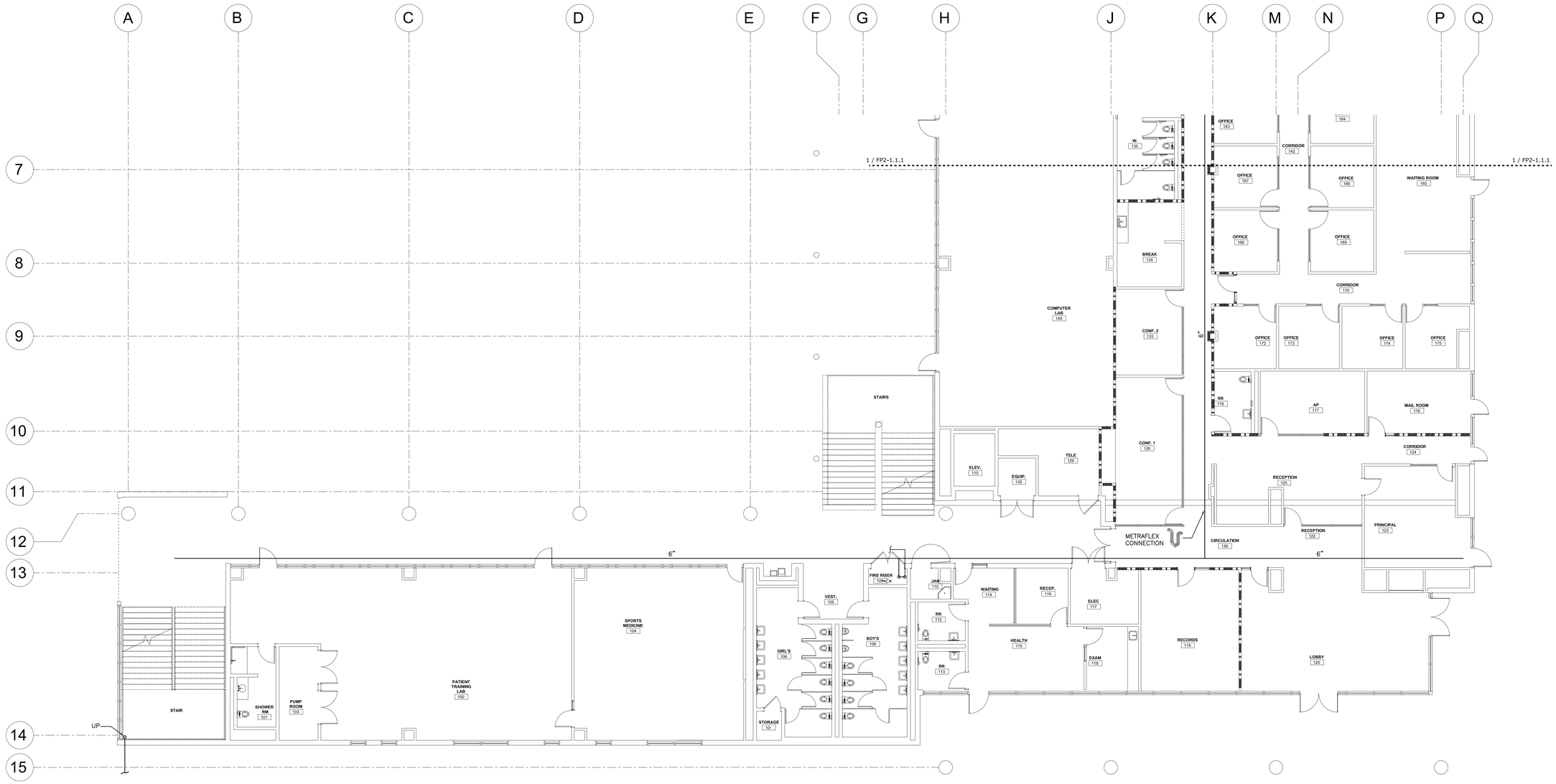
REGISTRATION/SIGNATURE:

SHEET TITLE:
FIRE PROTECTION FIRST FLOOR PIPING PLAN - NORTH PORTION

SHEET NUMBER:
FP2-1.1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/18/19

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COORDINATE W/ FIRE ALARM FOR ALL FLOW & TAMPER SWITCHES (TYP.)

FOR SB-1 AND SB-2 SWAY BRACE DETAILS, SEE SHEET FP3-1.1

NORTH

FIRE PROTECTION FIRST FLOOR PIPING PLAN - SOUTH PORTION

1
1/8" = 1'-0"

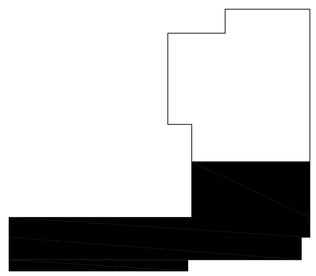
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SHEET TITLE:

FIRE PROTECTION FIRST FLOOR PIPING PLAN - SOUTH PORTION

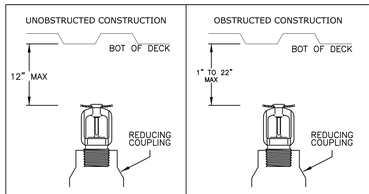
SHEET NUMBER:

FP2-1.1.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/18/19

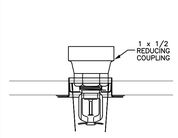
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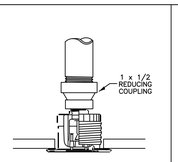


TYCO
MODEL TY - FRB
UPRIGHT TY 3131

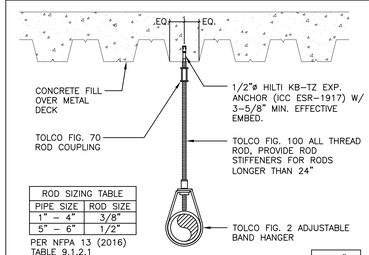
TYCO
MODEL TY - FRB
UPRIGHT TY 3131



TYCO
MODEL TY - FRB
SEMI-RECESSED
PENDENT TY 3231



TYCO
MODEL RF- II (ROYAL FLUSH)
(WHITE CONCEALED ESCUTCHEON)
TY 3531

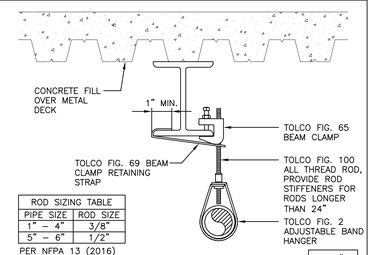


ROD SIZING TABLE	
PIPE SIZE	ROD SIZE
1" – 4"	3/8"
5" – 6"	1/2"

PER NFPA 13 (2016)
TABLE 9.1.2.1

#1
PLAN SYMB

ROD AND RING
(PRIMARY HANGER)

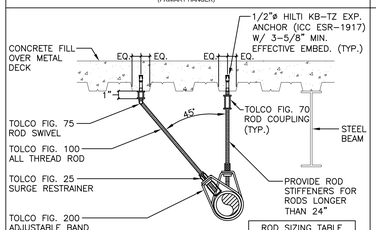


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PER NFPA 13 (2016)
TABLE 9.1.2.1

#1
PLAN SYMB

BEAM CLAMP, ROD, AND RING
(ALTERNATE/SECONDARY HANGER)

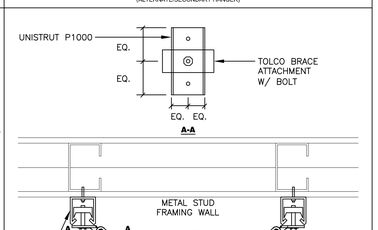


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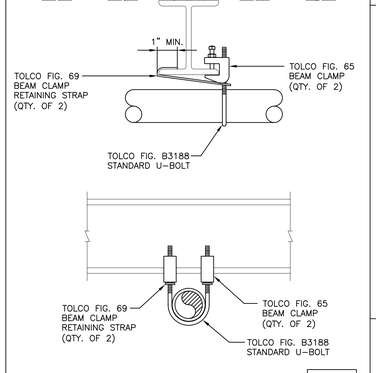
PLAN SYMB

(PRIMARY METHOD)
END OF LINE RESTRAINT
(NFPA 13, 2016 ED, 9.3.6.1)
PER FIG A.9.3.6.1(C), DETAIL A



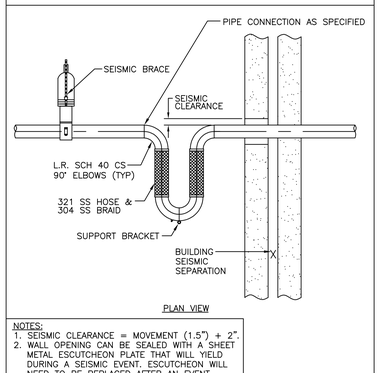
PLAN SYMB

4-WAY BRACE AT TOP OF RISER
SB-7



#1
PLAN SYMB

BEAM CLAMP AND U-BOLT
(ALTERNATE/SECONDARY HANGER)



NOTES:
1. SEISMIC CLEARANCE = MOVEMENT (1.5") + 2".
2. WALL OPENING CAN BE SEALED WITH A SHEET METAL ESCUTCHEON PLATE THAT WILL YIELD DURING A SEISMIC EVENT. ESCUTCHEON WILL NEED TO BE REPLACED AFTER AN EVENT.

SEISMIC JOINT



SPRINKLER LEGEND								
SYMBOL	SIN/MODEL	QUANTITY	K-FACTOR	TYPE	ORIFICE	FINISH	TEMP.	NOTES
◉	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	SEMI-RECESSED
○	TY 3131	–	5.6	UPRIGHT	1/2"	BRASS	155°F	EXPOSED
⊗	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	CORROSION-RESISTANT COATING
		TOTAL = –						

COORDINATE W/ FIRE ALARM FOR ALL FLOW & TAMPER SWITCHES (TYP.)

FOR SB-1 AND SB-2 SWAY BRACE DETAILS, SEE SHEET FP3-1.1

NORTH

FIRE PROTECTION FIRST FLOOR PIPING PLAN - OVERALL

1
1/16" = 1'-0"

LEGEND

- REPRESENTS PIPE END CAP
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- REPRESENTS PIPE DROP
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- REPRESENTS DETAIL NUMBER
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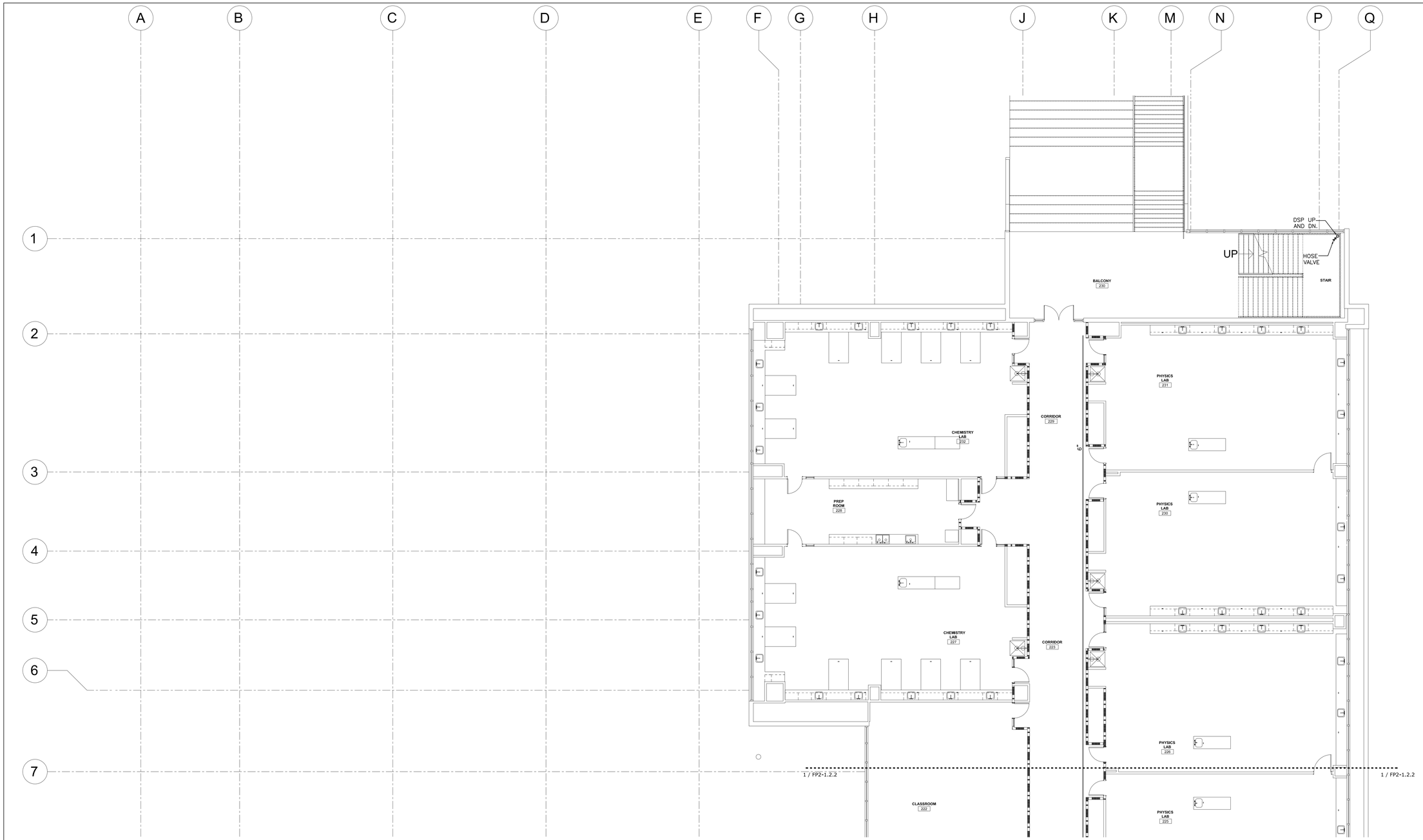
REGISTRATION/SIGNATURE:

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FIRE PROTECTION FIRST FLOOR PIPING PLAN - OVERALL

SHEET NUMBER:
FP2-1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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FIRE PROTECTION SECOND FLOOR PIPING PLAN - NORTH PORTION

1
1/8" = 1'-0"

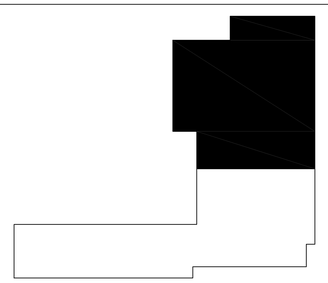
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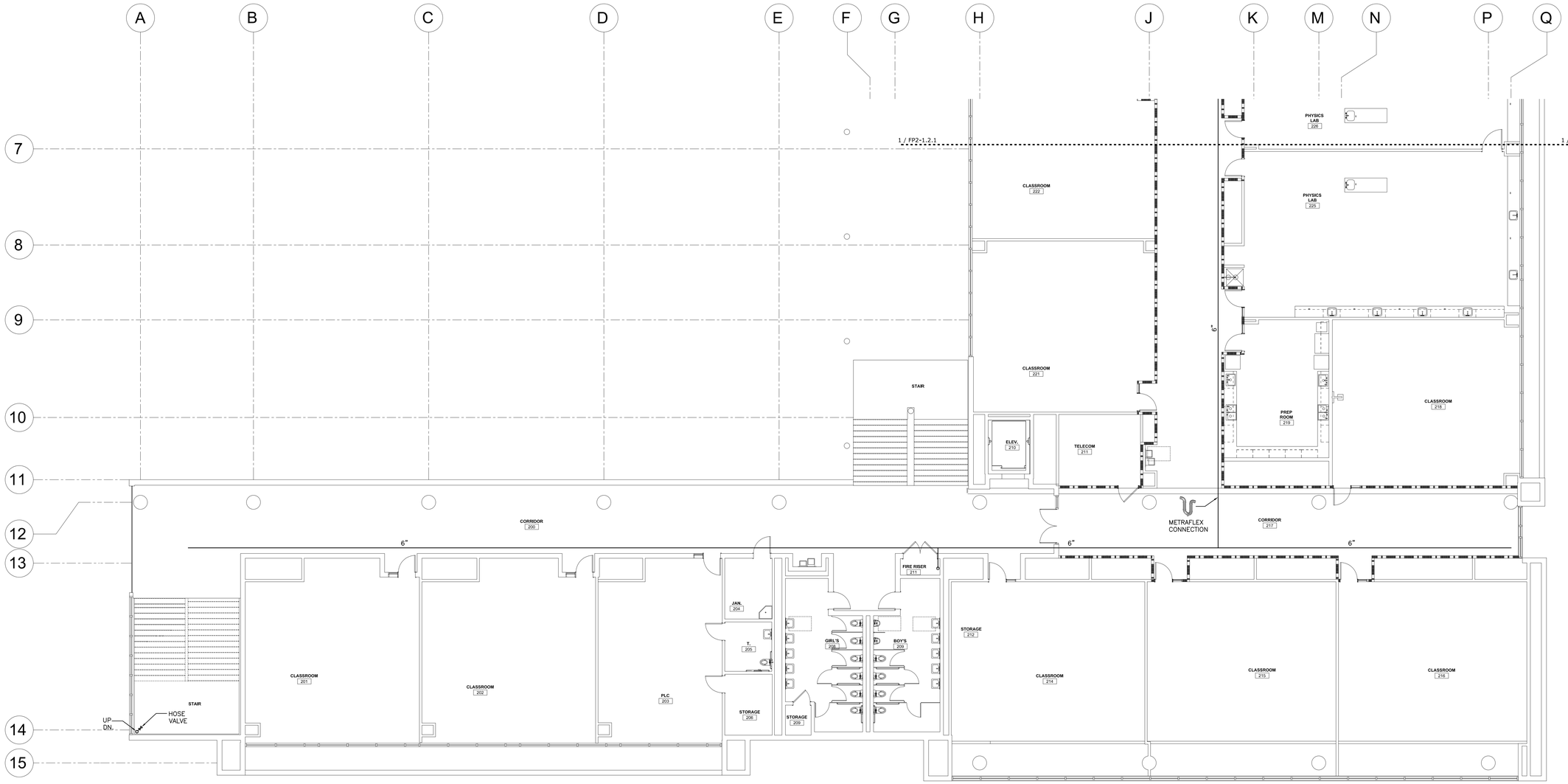
REGISTRATION/SIGNATURE:

SHEET TITLE:
FIRE PROTECTION SECOND FLOOR PIPING PLAN - NORTH PORTION

SHEET NUMBER:
FP2-1.2.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
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NORTH

FIRE PROTECTION SECOND FLOOR PIPING PLAN - SOUTH PORTION

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1/8" = 1'-0"

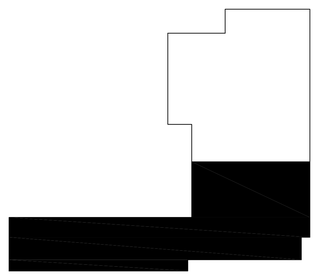
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- REPRESENTS END LINE RESTRAINT
- REPRESENTS 4-WAY BRACE WHERE OCCURS
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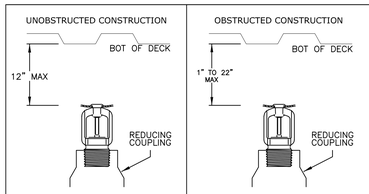
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FIRE PROTECTION SECOND FLOOR PIPING PLAN - SOUTH PORTION

SHEET NUMBER:
FP2-1.2.2

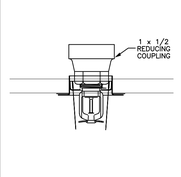
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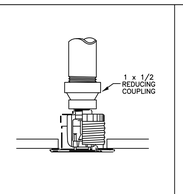


TYCO
MODEL TY-FRB
UPRIGHT TY 3131

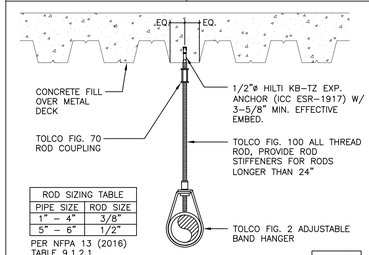
TYCO
MODEL TY-FRB
UPRIGHT TY 3131



TYCO
MODEL TY-FRB
SEMI-RECESSED
PENDENT TY 3231



TYCO
MODEL RF-II (ROYAL FLUSH)
(WHITE CONCEALED ESCUTCHEON)
TY 3531

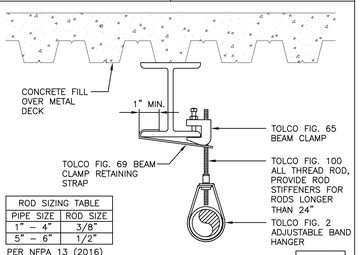


ROD SIZING TABLE	
PIPE SIZE	ROD SIZE
1" – 4"	3/8"
5" – 6"	1/2"

PER NFPA 13 (2016)
TABLE 9.1.2.1

PLAN SYMB #2

ROD AND RING
(PRIMARY HANGER)

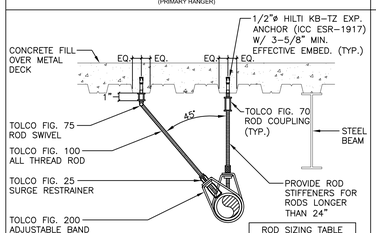


ROD SIZING TABLE	
PIPE SIZE	ROD SIZE
1" – 4"	3/8"
5" – 6"	1/2"

PER NFPA 13 (2016)
TABLE 9.1.2.1

PLAN SYMB #2

BEAM CLAMP, ROD, AND RING
(ALTERNATE/SECONDARY HANGER)



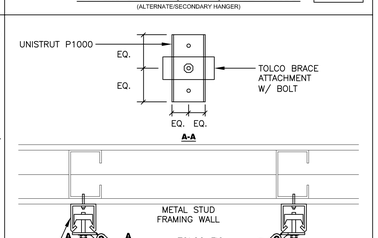
ROD SIZING TABLE	
PIPE SIZE	ROD SIZE
1" – 4"	3/8"
5" – 6"	1/2"

PER NFPA 13 (2016)
TABLE 9.1.2.1

(PRIMARY METHOD)

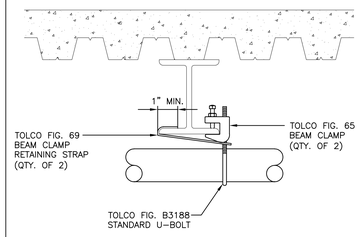
END OF LINE RESTRAINT
(NFPA 13, 2016 ED, 9.3.6.1)
PER FIG A.9.3.6.1(C), DETAIL A

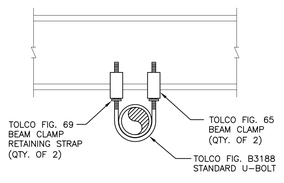
PLAN SYMB



4-WAY BRACE AT TOP OF RISER
SB-7

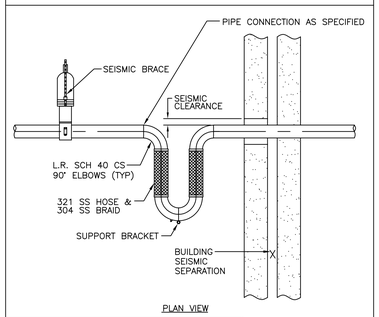
PLAN SYMB





PLAN SYMB #2

BEAM CLAMP AND U-BOLT
(ALTERNATE/SECONDARY HANGER)



NOTES:
1. SEISMIC CLEARANCE = MOVEMENT (1.5") + 2".
2. WALL OPENING CAN BE SEALED WITH A SHEET METAL ESCUTCHEON PLATE THAT WILL YIELD DURING A SEISMIC EVENT. ESCUTCHEON WILL NEED TO BE REPLACED AFTER AN EVENT.

SEISMIC JOINT



SPRINKLER LEGEND								
SYMBOL	SIN/MODEL	QUANTITY	K-FACTOR	TYPE	ORIFICE	FINISH	TEMP.	NOTES
◉	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	SEMI-RECESSED
⊠	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	CORROSION-RESISTANT COATING
		TOTAL = –						

COORDINATE W/ FIRE ALARM FOR ALL FLOW & TAMPER SWITCHES (TYP.)

FOR SB-1 AND SB-2 SWAY BRACE DETAILS, SEE SHEET FP3-1.1

NORTH

FIRE PROTECTION SECOND FLOOR PIPING PLAN - OVERALL

1
1/16" = 1'-0"

LEGEND

- REPRESENTS PIPE END CAP
- REPRESENTS PIPE RISE
- REPRESENTS PIPE DROP
- REPRESENTS EXISTING PIPING
- REPRESENTS POINT OF CONNECTION
- REPRESENTS DETAIL NUMBER / REPRESENTS FIRE PROTECTION SHEET
- W1 REPRESENTS WATER SUPPLY NODE NOTED ON HYDRAULIC CALCULATIONS
- # REPRESENTS NODE NOTED ON HYDRAULIC CALCULATIONS
- #'–#" REPRESENTS HEAD ELEVATION
- +#'–#" REPRESENTS PIPE ELEVATION
- #2 / #1 REPRESENTS PIPE HANGAR
- REPRESENTS END LINE RESTRAINT
- REPRESENTS 4-WAY BRACE WHERE OCCURS
- REPRESENTS LATERAL OR LONGITUDINAL SWAY BRACE WHERE OCCURS
- 3 REPRESENTS PIPE SIZE
- 6 REPRESENTS PIPE LENGTH
- REPRESENTS PIPE SLOPE DIRECTION

A.F.F.: ABOVE FINISH FLOOR
BFP: BACKFLOW PREVENTER
BOP: BOTTOM OF PIPE
DSP: DRY STANDPIPE
(E): EXISTING
GPM: GALLONS PER MINUTE
FDC: FIRE DEPARTMENT CONNECTION
FH: FIRE HYDRANT
FHC: FIRE HOSE CABINET
L.F.: LINEAR FEET
N.I.C.: NOT IN CONTRACT
PSI: POUNDS PER SQUARE INCH
PVC: POLYVINYL CHLORIDE
(R): RELOCATED
SQ. FT.: SQUARE FEET
TYP.: TYPICAL
WSP: WET STANDPIPE

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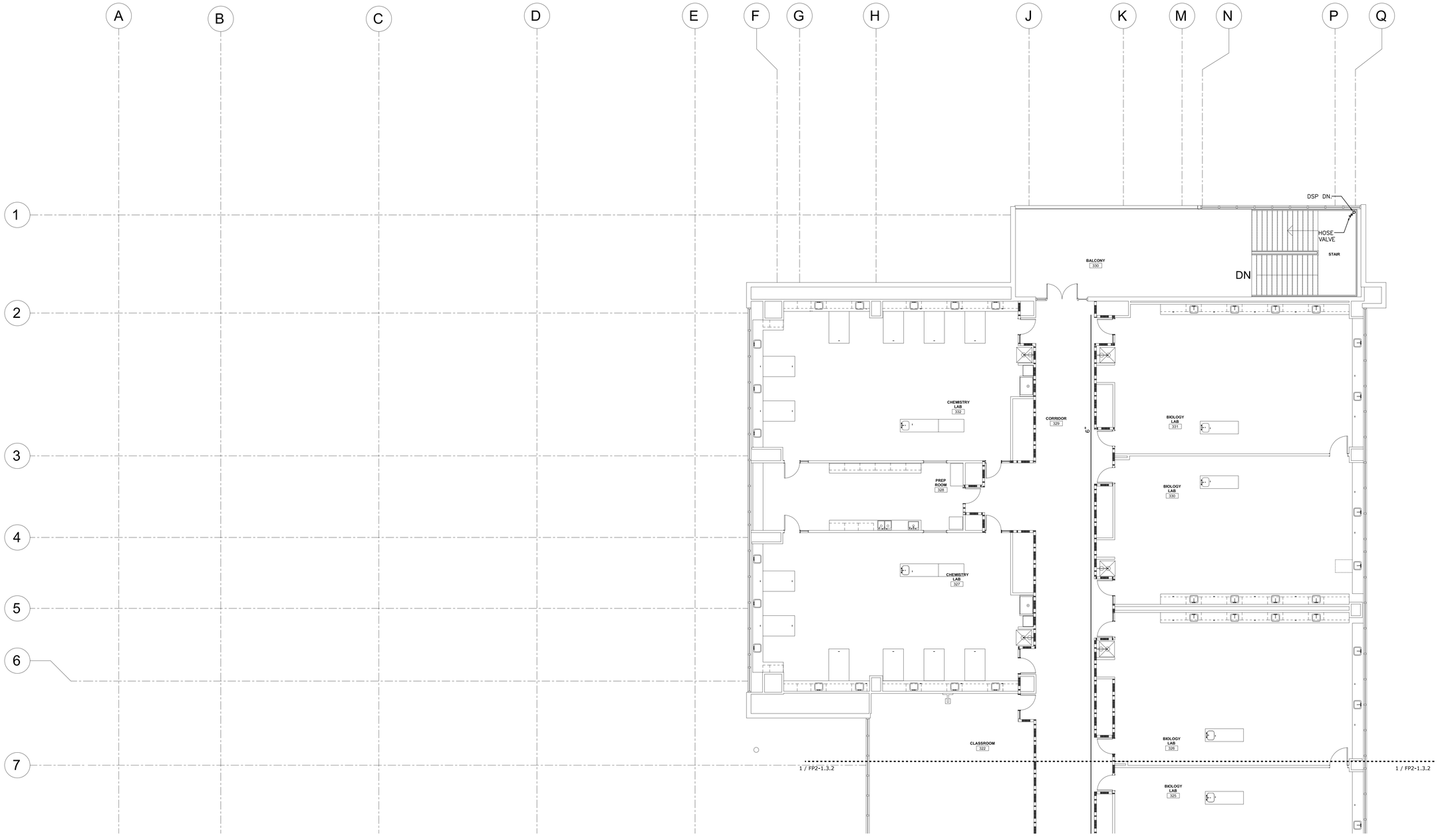
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SHEET TITLE:
FIRE PROTECTION SECOND FLOOR PIPING PLAN - OVERALL

SHEET NUMBER:
FP2-1.2

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FIRE PROTECTION THIRD FLOOR PIPING PLAN - NORTH PORTION

1
1/8" = 1'-0"

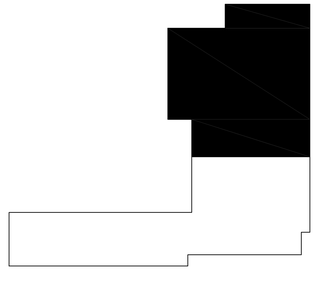
LEGEND

- REPRESENTS PIPE END CAP
- REPRESENTS PIPE RISE
- REPRESENTS PIPE DROP
- REPRESENTS EXISTING PIPING
- REPRESENTS POINT OF CONNECTION
- REPRESENTS DETAIL NUMBER / REPRESENTS FIRE PROTECTION SHEET
- W1 — REPRESENTS WATER SUPPLY NODE NOTED ON HYDRAULIC CALCULATIONS
- # — REPRESENTS NODE NOTED ON HYDRAULIC CALCULATIONS
- #'-#" — REPRESENTS HEAD ELEVATION
- +#'-#" — REPRESENTS PIPE ELEVATION
- #2 / #1 — REPRESENTS PIPE HANGAR
- REPRESENTS END LINE RESTRAINT
- REPRESENTS 4-WAY BRACE WHERE OCCURS
- REPRESENTS LATERAL OR LONGITUDINAL SWAY BRACE WHERE OCCURS
- 2 — REPRESENTS PIPE SIZE
- 1'-0" — REPRESENTS PIPE LENGTH
- REPRESENTS PIPE SLOPE DIRECTION

A.F.F.: ABOVE FINISH FLOOR
BFP: BACKFLOW PREVENTER
BOP: BOTTOM OF PIPE
DSP: DRY STANDPIPE
(E): EXISTING
GPM: GALLONS PER MINUTE
FDC: FIRE DEPARTMENT CONNECTION
FH: FIRE HYDRANT
FHC: FIRE HOSE CABINET
L.F.: LINEAR FEET
N.I.C.: NOT IN CONTRACT
PSI: POUNDS PER SQUARE INCH
PVC: POLYVINYL CHLORIDE
(R): RELOCATED
SQ. FT.: SQUARE FEET
TYP.: TYPICAL
WSP: WET STANDPIPE

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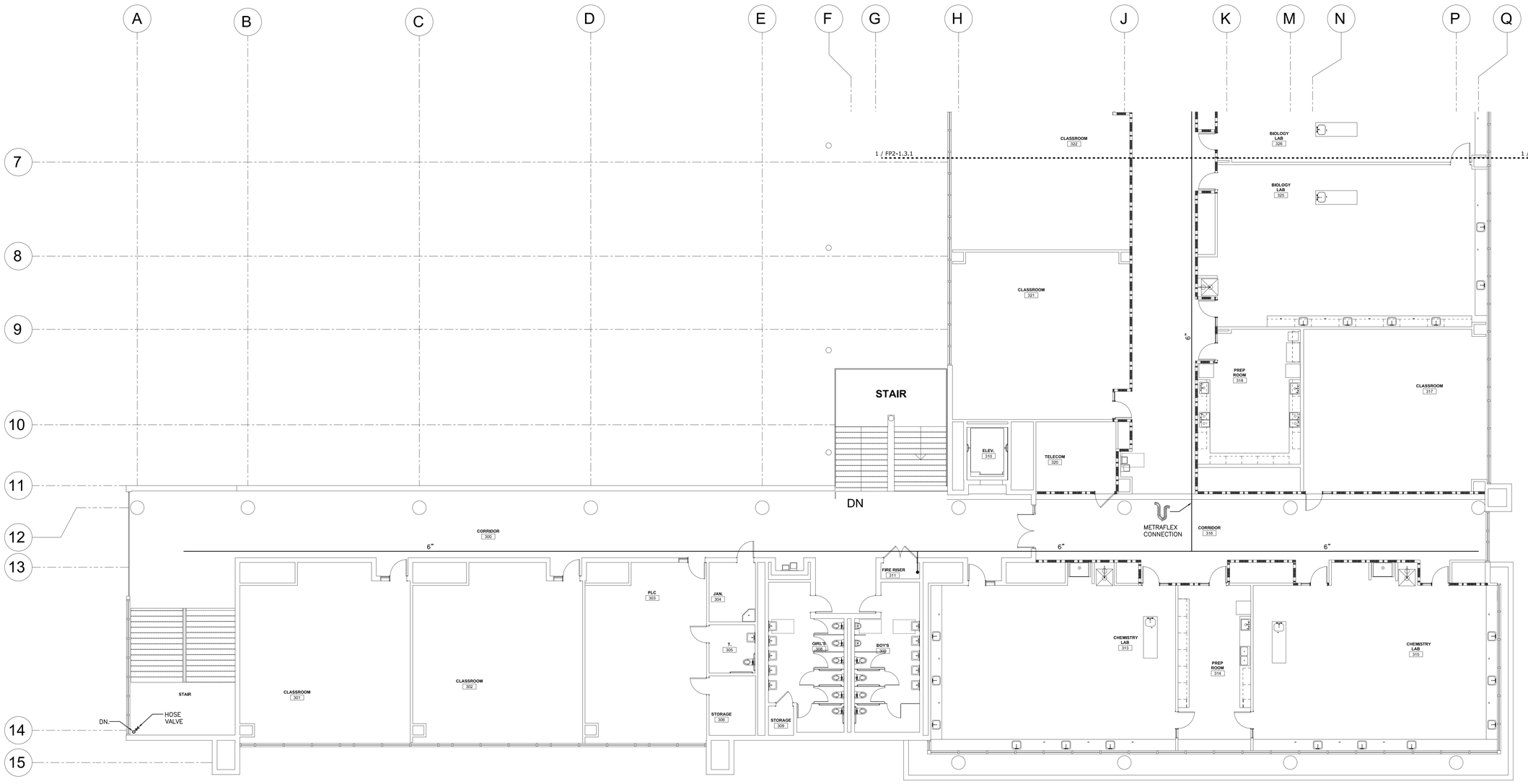
REGISTRATION/SIGNATURE:

SHEET TITLE:
FIRE PROTECTION THIRD FLOOR PIPING PLAN - NORTH PORTION

SHEET NUMBER:
FP2-1.3.1

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18451	Author	Checker	02/18/19

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FIRE PROTECTION THIRD FLOOR PIPING PLAN - SOUTH PORTION

1
1/8" = 1'-0"

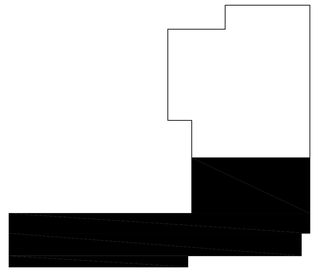
LEGEND

- REPRESENTS PIPE END CAP
- REPRESENTS PIPE RISE
- REPRESENTS PIPE DROP
- REPRESENTS EXISTING PIPING
- REPRESENTS POINT OF CONNECTION
- REPRESENTS DETAIL NUMBER
- REPRESENTS FIRE PROTECTION SHEET
- W1 REPRESENTS WATER SUPPLY NODE NOTED ON HYDRAULIC CALCULATIONS
- # REPRESENTS NODE NOTED ON HYDRAULIC CALCULATIONS
- #'-#" REPRESENTS HEAD ELEVATION
- +#'-#" REPRESENTS PIPE ELEVATION
- #2 #1 REPRESENTS PIPE HANGAR
- REPRESENTS END LINE RESTRAINT
- REPRESENTS 4-WAY BRACE WHERE OCCURS
- REPRESENTS LATERAL OR LONGITUDINAL SWAY BRACE WHERE OCCURS
- 3 REPRESENTS PIPE SIZE
- 1'-0" REPRESENTS PIPE LENGTH
- REPRESENTS PIPE SLOPE DIRECTION

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(E): EXISTING
GPM: GALLONS PER MINUTE
FDC: FIRE DEPARTMENT CONNECTION
FH: FIRE HYDRANT
FHC: FIRE HOSE CABINET
L.F.: LINEAR FEET
N.I.C.: NOT IN CONTRACT
PSI: POUNDS PER SQUARE INCH
PVC: POLYVINYL CHLORIDE
(R): RELOCATED
SQ. FT.: SQUARE FEET
TYP.: TYPICAL
WSP: WET STANDPIPE

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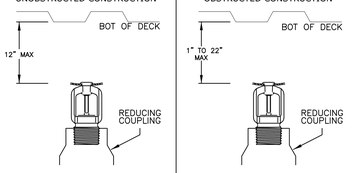
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SHEET TITLE:
FIRE PROTECTION THIRD FLOOR PIPING PLAN - SOUTH PORTION

SHEET NUMBER:
FP2-1.3.2

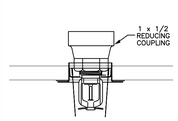
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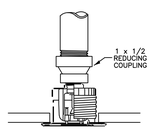


TYCO
MODEL TY - FRB
UPRIGHT TY 3131

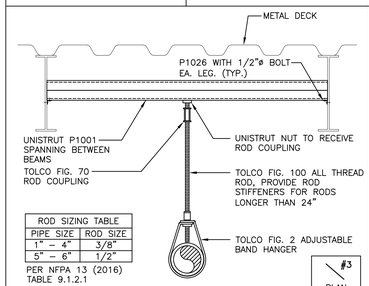
TYCO
MODEL TY - FRB
UPRIGHT TY 3131



TYCO
MODEL TY - FRB
SEMI-RECESSED
PENDENT TY 3231



TYCO
MODEL RF- II (ROYAL FLUSH)
(WHITE CONCEALED ESCUTCHEON)
TY 3531

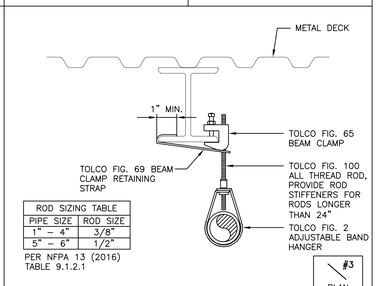


ROD SIZING TABLE	
PIPE SIZE	ROD SIZE
1" – 4"	3/8"
5" – 6"	1/2"

PER NFPA 13 (2016)
TABLE 9.1.2.1

PLAN SYMB #3

ROD AND RING
(PRIMARY HANGER)

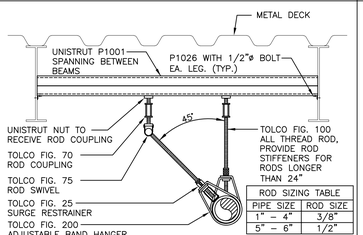


ROD SIZING TABLE	
PIPE SIZE	ROD SIZE
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5" – 6"	1/2"

PER NFPA 13 (2016)
TABLE 9.1.2.1

PLAN SYMB #3

BEAM CLAMP, ROD, AND RING
(ALTERNATE/SECONDARY HANGER)



ROD SIZING TABLE	
PIPE SIZE	ROD SIZE
1" – 4"	3/8"
5" – 6"	1/2"

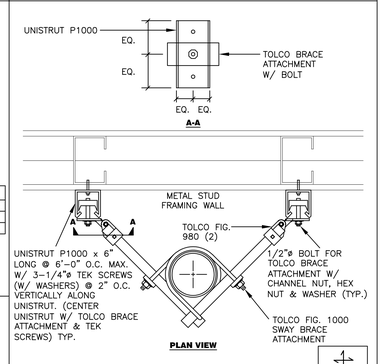
PER NFPA 13 (2016)
TABLE 9.1.2.1

PLAN SYMB

(PRIMARY METHOD)

END OF LINE RESTRAINT

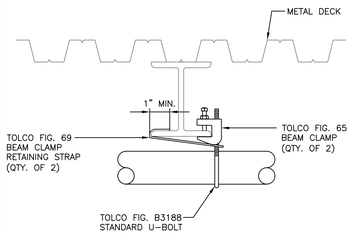
(NFPA 13, 2016 ED, 9.3.6.1)
PER FIG A.9.3.6.1(C), DETAIL A

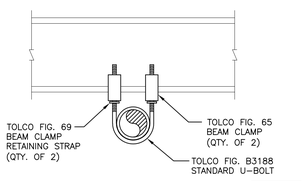


PLAN VIEW

PLAN SYMB

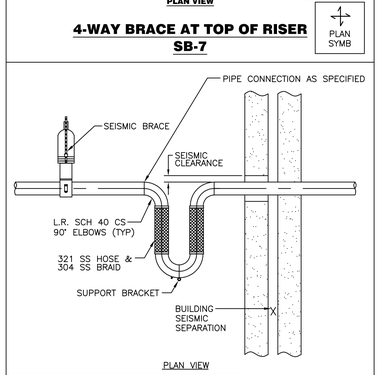
4-WAY BRACE AT TOP OF RISER
SB-7





PLAN SYMB #3

BEAM CLAMP AND U-BOLT
(ALTERNATE/SECONDARY HANGER)



PLAN VIEW

NOTES:
1. SEISMIC CLEARANCE = MOVEMENT (1.5") + 2".
2. WALL OPENING CAN BE SEALED WITH A SHEET METAL ESCUTCHEON PLATE THAT WILL YIELD DURING A SEISMIC EVENT. ESCUTCHEON WILL NEED TO BE REPLACED AFTER AN EVENT.

SEISMIC JOINT



SPRINKLER LEGEND								
SYMBOL	SIN/MODEL	QUANTITY	K-FACTOR	TYPE	ORIFICE	FINISH	TEMP.	NOTES
◉	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	SEMI–RECESSED
⊗	TY 3231	–	5.6	PENDENT	1/2"	CHROME	155°F	CORROSION–RESISTANT COATING
		TOTAL = –						

COORDINATE W/ FIRE ALARM FOR ALL FLOW & TAMPER SWITCHES (TYP.)

FOR SB–1 AND SB–2 SWAY BRACE DETAILS, SEE SHEET FP3–1.1

NORTH

FIRE PROTECTION THIRD FLOOR PIPING PLAN - OVERALL

1
1/16" = 1'-0"

LEGEND

- REPRESENTS PIPE END CAP
- REPRESENTS PIPE RISE
- REPRESENTS PIPE DROP
- REPRESENTS EXISTING PIPING
- REPRESENTS POINT OF CONNECTION
- REPRESENTS DETAIL NUMBER / REPRESENTS FIRE PROTECTION SHEET
- REPRESENTS WATER SUPPLY NODE NOTED ON HYDRAULIC CALCULATIONS
- REPRESENTS NODE NOTED ON HYDRAULIC CALCULATIONS
- #'–#" REPRESENTS HEAD ELEVATION
- +#'–#" REPRESENTS PIPE ELEVATION
- #2 – #1 REPRESENTS PIPE HANGAR
- REPRESENTS END LINE RESTRAINT
- REPRESENTS 4–WAY BRACE WHERE OCCURS
- REPRESENTS LATERAL OR LONGITUDINAL SWAY BRACE WHERE OCCURS
- 3 REPRESENTS PIPE SIZE
- 10'-0 REPRESENTS PIPE LENGTH
- REPRESENTS PIPE SLOPE DIRECTION

A.F.F.: ABOVE FINISH FLOOR
BFP: BACKFLOW PREVENTER
BOP: BOTTOM OF PIPE
DSP: DRY STANDPIPE
(E): EXISTING
GPM: GALLONS PER MINUTE
FDC: FIRE DEPARTMENT CONNECTION
FH: FIRE HYDRANT
FHC: FIRE HOSE CABINET
L.F.: LINEAR FEET
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PSI: POUNDS PER SQUARE INCH
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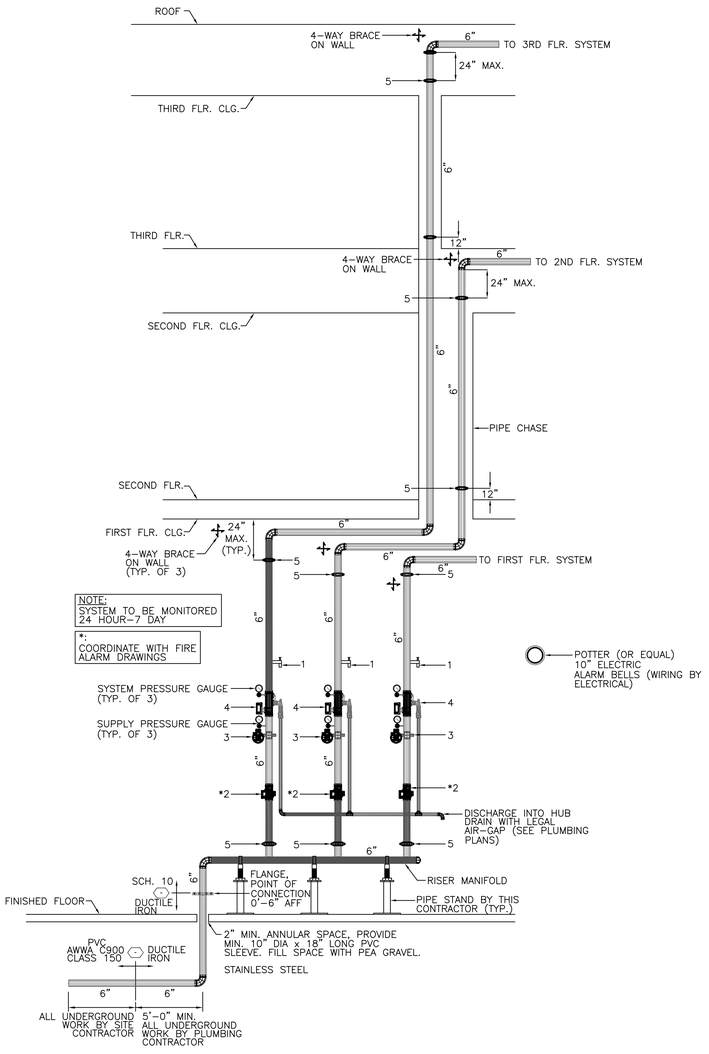
SHEET TITLE:
FIRE PROTECTION THIRD FLOOR PIPING PLAN - OVERALL

SHEET NUMBER:
FP2-1.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/18/19

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#	PARTS LEGEND
1	PRESSURE RELIEF VALVE (SET AT 175 PSI OR 10 PSI IN EXCESS OF MAX. SYSTEM PRESSURE, WHICH EVER IS GREATER). DRAIN INTO HUB DRAIN.
2	6" TYCO MODEL CV-1F CHECK VALVE
3	6" TYCO MODEL BFV-N BUTTERFLY VALVE
4	6" TYCO MODEL RM-1 COMMERCIAL RISER MANIFOLD
5	FLEX COUPLING MODEL 705 FLEX W/ TRISEAL GASKET

RISER DETAIL | 3 | NOT TO SCALE

LONGITUDINAL SECTION | 2 | 3/32" = 1'-0"

CROSS SECTION | 1 | 3/32" = 1'-0"

WESTGROUP DESIGNS
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949.250.0880 | FAX 949.250.0882
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1920 E Warner Ave., Suite 3-H
Santa Ana, CA 92705
Telephone (714) 884-3834
Fax (714) 884-3834
PEI #600.001

New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

REVISIONS:

100% DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:

FIRE PROTECTION BUILDING SECTIONS

SHEET NUMBER:

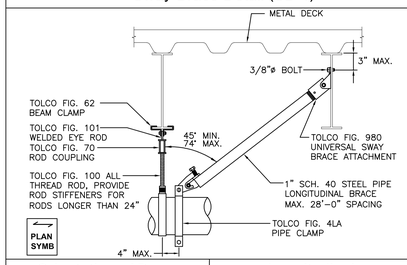
FP3-1.0

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/18/19

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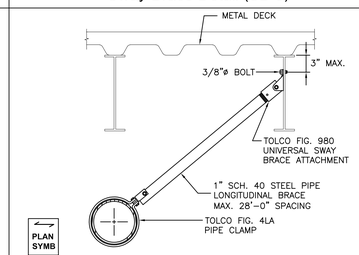
BUILDING S (2ND FLR)

Sway Brace Detail (SB-4)



Orientation of Brace	Longitudinal

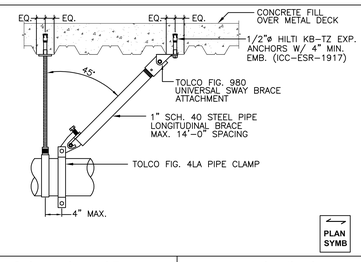
Sway Brace Detail (SB-3)



Orientation of Brace	Lateral

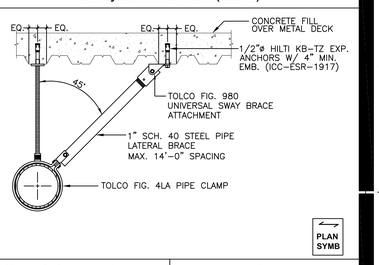
BUILDING S (1ST FLR)

Sway Brace Detail (SB-2)



Orientation of Brace	Longitudinal

Sway Brace Detail (SB-1)



Orientation of Brace	Lateral

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New Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue, Los Alamitos, CA 90720

ISSUED FOR:

REVISIONS:

100% DESIGN DEVELOPMENT

REGISTRATION/SIGNATURE:

SHEET TITLE:
FIRE PROTECTION SEISMIC BRACING DETAILS AND CALCULATIONS

SHEET NUMBER:
FP3-1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	Author	Checker	02/18/19

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S.T.E.M. CLASSROOM BUILDING

LOS ALAMITOS HIGH SCHOOL

LANDSCAPE CONSTRUCTION DOCUMENTS

3591 W. CERRITOS AVENUE
LOS ALAMITOS, CA 90720

GENERAL NOTES

1. VISIT SITE PRIOR TO SUBMITTING BIDS.
2. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLANS.
3. DO NOT SCALE DRAWINGS.
4. ALL WORK CONSTRUCTION AND MATERIALS SHALL COMPLY WITH ALL PROVISIONS OF THE LATEST BUILDING CODE AND WITH OTHER RULES, REGULATIONS AND ORDINANCES GOVERNING THE LOCATION OF THE WORK. BUILDING CODE REQUIREMENTS TAKE PRECEDENCE OVER THE DRAWINGS AND IT SHALL BE THE RESPONSIBILITY OF ANYONE SUPPLYING LABOR OR MATERIALS OR BOTH TO BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY DISCREPANCIES OR CONFLICT BETWEEN THE REQUIREMENTS OF THE CODE AND THE DRAWINGS.
5. REFERENCE TO ANY DETAIL OR DRAWING IS FOR CONVENIENCE ONLY AND DOES NOT LIMIT THE APPLICATION OF SUCH DETAIL OR DRAWINGS.
6. DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT. CORRECTED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.
7. GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS UNLESS SPECIFICALLY NOTED OTHERWISE.
8. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE UNLESS OTHERWISE SHOWN; THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE LANDSCAPE ARCHITECT SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES REQUIRED FOR SAME, WHICH ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ANY SUPPORT SERVICES PERFORMED BY THE LANDSCAPE ARCHITECT DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE LANDSCAPE ARCHITECT, WHETHER OF MATERIAL OR WORK, AND WHETHER PERFORMED BEFORE, DURING OR AFTER COMPLETION OF CONSTRUCTION ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS, BUT THEY DO NOT GUARANTEE GENERAL CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
9. A PROTECTION FENCE SHALL BE CONSTRUCTED AND MAINTAINED DURING CONSTRUCTION CONFORMING TO THE REQUIREMENTS OF THE BUILDING CODE.
10. MAINTAIN SANITARY TOILET FACILITIES DURING CONSTRUCTION AS REQUIRED BY APPLICABLE REGULATIONS.
11. THE GENERAL CONTRACTOR WARRANTS TO THE OWNER AND THE LANDSCAPE ARCHITECT THAT ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW UNLESS OTHERWISE SPECIFIED AND THAT ALL WORK WILL BE OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS.
12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK AND/OR EQUIPMENT SUPPLIED BY THE OWNER.
13. PROVIDE FACILITIES FOR THE PHYSICALLY HANDICAPPED IN ACCORDANCE WITH C.A.C. TITLE 24 AND AS REQUIRED BY THE LATEST VERSION OF THE CALIFORNIA BUILDING CODE.
14. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE GENERAL CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE EXECUTION OF THIS WORK.
15. PAVING, MASONRY AND CONCRETE SUBCONTRACTORS ARE TO COORDINATE WITH THE ELECTRICIAN, DRAINLINE SUBCONTRACTOR AND IRRIGATION SUBCONTRACTOR FOR SLEEVING, PIPING AND/OR CONDUIT INSTALLATION UNDER OR THROUGH HARDSCAPE ELEMENTS.
16. VERIFY ALL PROPERTY LINES OR OTHER LIMIT OF WORK LINES PRIOR TO COMMENCING WORK.
17. IN THE CASE OF DISCREPANCIES IN THE DRAWINGS, SPECIFICATIONS TAKE PRECEDENCE OVER DETAILS, AND DETAILS TAKE PRECEDENCE OVER PLANS.
18. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE OWNER.
19. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL TRADES ARE PROVIDED WITH CURRENT DRAWINGS AND SPECIFICATIONS APPROVED FOR CONSTRUCTION. DO NOT ALLOW DOCUMENTS NOT APPROVED FOR CONSTRUCTION TO BE USED IF SEEN ON SITE. KEEP ONE SET OF AGENCY-APPROVED STAMPED PLANS ON SITE IN CASE CITY INSPECTORS REQUIRE PROOF OF CITY-APPROVED PLANS.
20. REPAIR OR REPLACE ANY DAMAGE TO ADJACENT PROPERTIES, CURBS, WALKS, PLANTING, WALLS, ETC. AT NO ADDITIONAL COST TO THE OWNER.
21. LOCATIONS OF N.I.C. CONSTRUCTION ELEMENTS SUCH AS LIGHTS, SIGNS, VENTS, HYDRANTS, TRANSFORMERS, ETC. ARE APPROXIMATE. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD THE LOCATION OF THESE ITEMS INTERFERE WITH THE PROPER EXECUTION OF WORK.
22. PROVIDE THE OWNER WITH ALL WARRANTIES, GUARANTEES, AND INSTRUCTION MANUALS FOR EQUIPMENT, APPLIANCES, FIXTURES, ETC. AS DESCRIBED IN THE SPECIFICATIONS.
23. NOTIFY THE CITY'S AUTHORIZED REPRESENTATIVE 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULES.
24. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.
25. CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING AND ARCHITECTURAL PLANS BEFORE BEGINNING WORK.
26. LANDSCAPE ARCHITECT SHALL HAVE FINAL SAY ON INTERPRETATION OF ALL INFORMATION CONTAINED IN THE LANDSCAPE CONSTRUCTION DOCUMENTS, SPECIFICATIONS AND ASSOCIATED REPORTS FOR THE PROJECT.

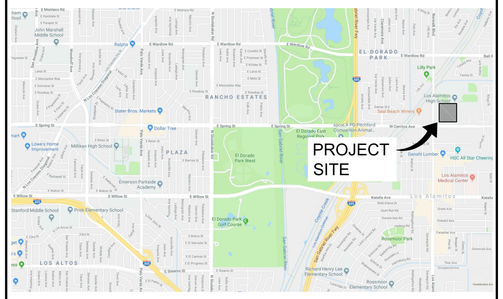
UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
811
TWO WORKING DAYS BEFORE YOU DIG

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIG ALERT IDENTIFICATION NUMBER CALL UNDERGROUND SERVICE ALERT.

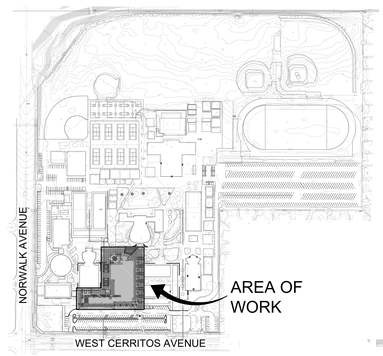
ABBREVIATIONS

@	AT	MISC	MISCELLANEOUS
℄	CENTERLINE	N.A.P.	NOT A PART
#	NUMBER	NCN	NO COMMON NAME
AC	ASPHALTIC CONCRETE	NIC	NOT IN CONTRACT
CF	CUBIC FOOT	NTS	NOT TO SCALE
CLR	CLEAR	O.C.	ON CENTER
CONC	CONCRETE	O.D.	OUTSIDE DIAMETER
CTR	CENTER	PL	PROPERTY LINE
DIA	DIAMETER	P.A.	PLANTER AREA
DIM	DIMENSION	P.I.P	POURED IN PLACE
EJ	EXPANSION JOINT	R	RADIUS
EQ	EQUAL	REV	REVISION
E.W.	EACH WAY	R.O.W.	RIGHT OF WAY
EX.	EXISTING	SHT	SHEET
FG	FINISH GRADE	SPEC	SPECIFICATION
FS	FINISH SURFACE	SF	SQUARE FOOT
GA	GAUGE	SQ	SQUARE
GALV	GALVANIZED	SS	STAINLESS STEEL
HORIZ	HORIZONTAL	STD	STANDARD
HT	HEIGHT	T	TRANSFORMER
I.D.	INSIDE DIAMETER	T.C.	TOP OF CURB
INCL	INCLUDING	T.D.	TOP OF DRAIN
INV	INVERT ELEVATION	T.R.	TOP OF RAILING
L.O.W.	LIMIT OF WORK	T.S.	TOP OF STEP
M	METER	T.W.	TOP OF WALL
MAX	MAXIMUM	TYP	TYPICAL
MFR	MANUFACTURER	VERT	VERTICAL
MH	MANHOLE	W/	WITH
MIN	MINIMUM	W.I.	WROUGHT IRON
		WT	WEIGHT

VICINITY MAP



SITE MAP



SHEET INDEX

SHEET REF.	DESCRIPTION	SCALE
L0.0	LANDSCAPE COVER SHEET	--
L1.0	HARDSCAPE NOTES & SCHEDULES	--
L1.1 - L1.2	HARDSCAPE PLAN	1" = 10'-0"
L1.3 - L1.4	HARDSCAPE LAYOUT PLAN	1" = 10'-0"
L2.1 - L2.2	HARDSCAPE DETAILS	AS SHOWN
L3.0	IRRIGATION SCHEDULE & CALCULATIONS	--
L3.1	IRRIGATION PLAN	1" = 20'-0"
L4.1	IRRIGATION NOTES	--
L5.1 - L5.2	IRRIGATION DETAILS	AS SHOWN
L6.1	PLANTING PLAN, NOTES & SCHEDULE	1" = 20'-0"
L7.1	PLANTING DETAILS	AS SHOWN

OWNER

LOS ALAMITOS UNIFIED SCHOOL DISTRICT
10293 BLOOMFIELD STREET
LOS ALAMITOS, CA 90720
CONTACT: CJ KNOWLAND
EMAIL: CKnowland@losal.org
PH: (562) 799-4592 Ext. 81116

PROJECT TEAM

ARCHITECT

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IRVINE, CA 92612
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LANDSCAPE

RIDGE LANDSCAPE ARCHITECTS
8841 RESEARCH DR., STE 200
IRVINE, CA 92618
CONTACT: ANDREW NEUBAUER
EMAIL: andrew@ridgela.com
PH: (949) 387-1323 ext. 23

CIVIL

COAST ENGINEERING DESIGNS
10231 SLATER AVE., SUITE 201
FOUNTAIN VALLEY, CA 92708
CONTACT: FARHAD REZAI
EMAIL: farhad@coastengr.com
PH: (714) 593-0337

MECH/ELEC/PLUMB

PEZESHKI ENGINEERING, INC.
1920 E. WARNER AVE., SUITE 3-H
SANTA ANA, CA 92705
CONTACT: MATTHEW M. PEZESHKI
EMAIL: mpezeshki@pei-eng.com
PH: (714) 884-3803 Ext. 201

STATEMENT OF COMPLIANCE

I HAVE COMPLIED WITH THE CRITERIA OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

05/29/19

JAMES J. RIDGE, LANDSCAPE ARCHITECT | RLA #2809 | DATE

A#04-118361 PTN#73924-84 FILE#30-H18

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949.387.1323
RIDGELA.COM

Los Alamitos High School Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:
REGISTERED LANDSCAPE ARCHITECT JAMES J. RIDGE No. 2809 05/29/19 (Date) 05/31/21 (Exp. Date) STATE OF CALIFORNIA

SHEET TITLE:
LANDSCAPE COVER SHEET

SHEET NUMBER:
L0.0

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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HARDSCAPE NOTES

1. VISIT THE SITE PRIOR TO SUBMITTING BIDS.
2. SUBMIT A UNIT COST FOR IMPORT SOIL IN-PLACE AND BE COMPLETELY AWARE OF THE AMOUNT OF SOIL NECESSARY TO REACH THE SATISFACTORY GROUND LEVEL.
3. VERIFY ALL PROPERTY LINES OR OTHER LIMIT OF WORK LINES PRIOR TO COMMENCING WORK.
4. **CONCRETE PAVING JOINTS INCLUDE THREE BASIC JOINT TYPES: CONTRACTION, DOWELED CONSTRUCTION, AND ISOLATION. SEE HARDSCAPE DETAILS FOR ADDITIONAL INFORMATION. PROVIDE DOWELED CONSTRUCTION JOINTS BETWEEN DIFFERENT PAVING TYPES, CHANGES IN DIRECTION, 50-FEET ON-CENTER FOR LINEAR WALKS, END OF DAY POURS, OR WHERE SPECIFICALLY INDICATED ON THE PLANS.**
5. **PROVIDE AN ISOLATION JOINT WHERE CONCRETE PAVING ABUTS A VERTICAL SURFACE SUCH AS BUILDINGS, WALLS, STEPS, ETC. SEE HARDSCAPE DETAILS FOR ADDITIONAL INFORMATION.**
6. SUBMIT A "PAVING JOINT AND POUR SEQUENCE PLAN" TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLING CONCRETE PAVING. THIS PLAN SHOULD CLEARLY INDICATE CONTRACTOR'S PROPOSED CONCRETE POUR SEQUENCE WITH JOINT LOCATIONS TO INCLUDE CONTRACTION, DOWELED CONSTRUCTION, AND ISOLATION JOINTS. PLAN TO ALSO CONFIRM JOINT TYPE WHETHER HAND-TOOLED OR SAW CUT.
7. USE PIERI "FACE-OFF" BY WR GRACE, OR APPROVED EQUAL, TO PREVENT PERMANENT CEMENTITIOUS STAINING ON ADJACENT HARDSCAPE ELEMENTS WHEN PLACING CONCRETE.
8. REPAIR OR REPLACE ANY DAMAGE TO ADJACENT PROPERTIES, CURBS, WALKS, PLANTING, WALLS, ETC. AT NO ADDITIONAL COST TO THE OWNER.
9. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLAN.
10. REPORT DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS TO THE LANDSCAPE ARCHITECT. CORRECTED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.
11. LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND PROTECT THEM FROM DAMAGE. NOTIFY THE OWNER IMMEDIATELY IF DAMAGE OCCURS AND ASSUME FULL RESPONSIBILITY FOR EXPENSE OF REPAIR OR REPLACEMENT.
12. COMPLY WITH ALL PROVISIONS OF THE LATEST BUILDING CODE, CURRENT EDITION OF THE ADA STANDARDS FOR ACCESSIBLE DESIGN, AND WITH OTHER CURRENT RULES, REGULATIONS AND ORDINANCES GOVERNING THE PLACE OF THE WORK. BUILDING CODE REQUIREMENTS TAKE PRECEDENCE OVER THE DRAWINGS AND IT SHALL BE THE RESPONSIBILITY OF ANYONE SUPPLYING LABOR OR MATERIALS OR BOTH TO BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY DISCREPANCIES OR CONFLICTS BETWEEN THE REQUIREMENTS OF THE CODE AND THE DRAWINGS.
13. LOCATIONS OF N.I.C. CONSTRUCTION ELEMENTS SUCH AS LIGHTS, SIGNS, VENTS, HYDRANTS, TRANSFORMERS, ETC., ARE APPROXIMATE. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD THE LOCATION OF THESE ITEMS INTERFERE WITH THE PROPER EXECUTION OF WORK.
14. VERIFY ALL PAVING AND HARDSCAPE CONSTRUCTION DRAWINGS WITH GEOTECHNICAL SOILS REPORT IN REGARD TO ITEMS SUCH AS SUB-BASE PREPARATION, PRE-SATURATION, SOIL COMPACTION, REINFORCING, SLAB THICKNESS, SLAB JOINTING/DOWELING AND FOOTING REQUIREMENTS. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IF GEOTECHNICAL SOILS REPORT RECOMMENDATIONS DIFFER FROM DRAWINGS. THE GEOTECHNICAL SOILS REPORT RECOMMENDATIONS, IF MORE STRINGENT THAN THE DRAWINGS, SHALL TAKE PRECEDENCE.
15. BE RESPONSIBLE FOR COORDINATION BETWEEN SUBCONTRACTORS FOR PROPER AND TIMELY PLACEMENT OF SLEEVING, PIPING AND / OR CONDUIT INSTALLATION UNDER OR THROUGH LANDSCAPE ELEMENTS.
16. LANDSCAPE LIGHT FIXTURE LOCATIONS AS INDICATED ON THESE PLANS ARE APPROXIMATE. FINAL LOCATION TO BE VERIFIED BY LANDSCAPE ARCHITECT ON SITE.
17. DO NOT SCALE DRAWINGS.
18. PROVIDE A REPRESENTATIVE SAMPLE OF EACH PAINTED OR STAINED ELEMENT TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO APPLYING FINISH. REFER TO DETAILS AND SPECIFICATIONS FOR SPECIFIC SUBMITTAL REQUIREMENTS.
19. PROVIDE A MOCK-UP OF EACH HARDSCAPE ELEMENT. ITEMS TO INCLUDE, BUT ARE NOT LIMITED TO PAVING AND WALL TYPES NOTED IN THE COLOR AND FINISH SCHEDULES. SAMPLES TO BE PLACED IN A LOCATION SPECIFIED BY THE OWNER'S AUTHORIZED REPRESENTATIVE FOR REVIEW AND APPROVAL BY THE OWNER AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. REFER TO MOCK-UP REQUIREMENTS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
20. WHERE PAVING AND FINISH GRADE MEET, DEPRESS FINISH GRADE 1" IN TURF AREAS AND 1-1/2" IN GROUND COVER / SHRUB AREAS, UNLESS OTHERWISE INDICATED.
21. PROJECT WALKS SHALL NOT EXCEED A SLOPE OF 1:20 (5% GRADIENT) UNLESS OTHERWISE INDICATED.
22. ACCESSIBLE RAMPS SHALL NOT EXCEED 1:12 OR 8.33%.
23. PLANTER AREAS SHALL NOT EXCEED 2:1 SLOPE UNLESS OTHERWISE INDICATED.
24. HOLD FINISH GRADE A MINIMUM OF 6" BELOW FINISH FLOOR, UNLESS OTHERWISE INDICATED.
25. CONSTRUCT ALL CURVE TO CURVE AND CURVE TO TANGENT LINES TO BE NEAT, TRIM, SMOOTH AND UNIFORM.
26. CONSTRUCT ALL CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS, UNLESS OTHERWISE INDICATED.
27. ALL CONCRETE PAVING BANDS AND CONCRETE CAPS SHALL HAVE CONTROL JOINTS AT 5'-0" ON CENTER MAXIMUM UNLESS NOTED OTHERWISE ON THE PLANS. ALL WALLS SHALL HAVE CONTROL JOINTS AT 20'-0" O.C. MAXIMUM UNLESS NOTED OTHERWISE ON THE PLANS.
28. PROVIDE THE OWNER WITH ALL WARRANTIES, GUARANTEES, AND INSTRUCTION MANUALS FOR EQUIPMENT, APPLIANCES, FIXTURES, ETC. AS DESCRIBED IN THE SPECIFICATIONS.
29. PRIOR TO INSTALLING ABOVE-GRADE DEVICES SUCH AS IRRIGATION VALVE BOXES, GATE VALVES, BASKET STRAINERS, FLOW SENSORS, BACKFLOW ASSEMBLIES, CONTROLLERS, QUICK COUPLERS, JUNCTION/ PULL BOXES, GFCI'S, TRANSFORMERS, SIGNS, GAS METERS, UTILITY VAULTS, LIGHT FIXTURES, CLEAN-OUTS, DRAINS, MANHOLES, PIV'S, FDC'S, AND WATER METERS, PLACE A WOOD STAKE IN PROPOSED LOCATIONS WITH DEVICE CLEARLY LABELED ON STAKE IN BLACK INK. OBTAIN LANDSCAPE ARCHITECT'S OR IRRIGATION DESIGNER'S APPROVAL OF STAKED LOCATIONS PRIOR TO INSTALLING DEVICES.
30. DO NOT INSTALL DEVICES SUCH AS CLEAN-OUTS, VALVE BOXES, GATE VALVES, ETC. IN PAVED AREAS WHEN INSTALLING THEM IN AN ADJACENT PLANTER IS POSSIBLE. IF THIS CANNOT BE ACHIEVED, CONTACT LANDSCAPE ARCHITECT FOR RESOLUTION.
31. INSTALL INTERSECTING ELEMENT AT 90 DEGREES UNLESS NOTED OTHERWISE ON PLANS.

MOCK-UP REQUIREMENTS

1. HARDSCAPE PAVING - PROVIDE (1) 4' x 4' SQUARE MOCK-UP FOR EACH PAVING TYPE NOTED IN THE COLOR AND FINISH SCHEDULE. EACH MOCK-UP TO INCLUDING THE SPECIFIED COLOR, FINISH, AN EXAMPLE OF EACH JOINTING TYPE NOTED IN THE CONSTRUCTION KEYNOTES AND DETAILS, AND SPECIFIED SEALER. IN PLACE MOCK-UPS WILL NOT BE ACCEPTED.
2. MOCK-UP LEAD TIMES - BE AWARE OF POSSIBLE LEAD TIMES FOR ITEMS SUCH AS BUT NOT LIMITED TO PRE-CAST CONCRETE PAVERS. SIMILAR COLORS AND SIZES WILL NOT BE ACCEPTED AS A MOCK-UP REVIEW.
3. HARDSCAPE ELEMENTS - PROVIDE A PHYSICAL SAMPLE OF SPECIFIED MATERIALS (COLOR, FINISH, AND SEALER) TO THE OWNER AND LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO PLACING ORDER. ITEMS SUCH AS BUT NOT LIMITED TO PRE-CAST CONCRETE ELEMENTS, INDICATED WOOD SAMPLES, AND OTHER SITE FURNISHING MATERIALS.
4. WALLS - PROVIDE (1) 3' TALL BY 3' LONG BY 8" WIDE MOCK-UP FOR EACH WALL TYPE NOTED IN THE WALL SCHEDULE. EACH MOCK-UP TO INCLUDING THE SPECIFIED COLOR, FINISH, JOINTING, EDGING, CAP (AS NOTED IN CONSTRUCTION KEYNOTES AND DETAILS), AND SPECIFIED SEALER.
5. MOCK-UPS TO BE PROTECTED ON-SITE THROUGHOUT THE DURATION OF THE CONSTRUCTION SCHEDULE.
6. REMOVE MOCK-UPS AT COMPLETION OF CONSTRUCTION WHEN DIRECTED BY THE OWNER OR LANDSCAPE ARCHITECT.
7. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

COLOR AND FINISH SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR	FINISH	COMMENTS
PAVING							
	P1	CONCRETE PAVING TYPE 1 PED: 3000 PSI	--	--	NATURAL GRAY	TOPCAST 03 BY GRACE; HLQ-125 SEALER BY SINAK	JOINTS:TOOLED CONTRACTION AND EXPANSION
	P2	CONCRETE PAVING TYPE 1 VEH: 4200 PSI	--	--	NATURAL GRAY	TOPCAST 03 BY GRACE; HLQ-125 SEALER BY SINAK	JOINTS:TOOLED CONTRACTION AND EXPANSION
	P3	CONCRETE PAVING TYPE 2 PED: 3000 PSI	DAVIS COLORS (844) 341-4780	--	GRAPHITE 8084	TOPCAST 03 BY GRACE; HLQ-125 SEALER BY SINAK	JOINTS: SAWCUT AND HIDDEN EXPANSION
	P4	CONCRETE PAVING TYPE 2 VEH: 4200 PSI	DAVIS COLORS (844) 341-4780	--	GRAPHITE 8084	TOPCAST 03 BY GRACE; HLQ-125 SEALER BY SINAK	JOINTS: SAWCUT AND HIDDEN EXPANSION
	P5	BRICK PAVING WITH BRICK BAND	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.	RUNNING BOND	--
	P6	PRECAST DETECTABLE WARNING PAVERS	ACKERSTONE (951) 674-0047	PALAZZO 12"X12" FM PTD-607	ONYX FM	SHOT BLAST FINISH	SEAL PAVERS AND GROUT WITH MANUFACTURER RECOMMENDED SEALER

WALL & FENCE SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	COLOR	FINISH	COMMENTS
WALLS						
	W1	CAST-IN-PLACE CONCRETE SEATWALL	--	NATURAL GRAY	SMOOTH TROWELED	1'-6" ABOVE FINISH SURFACE MAXIMUM
	W2	CAST-IN-PLACE CONCRETE PLANTER WALL	--	NATURAL GRAY	SMOOTH TROWELED	1'-6" ABOVE FINISH SURFACE MAXIMUM
	W3	CMU PERIMETER WALL WITH BRICK VENEER AND BRICK CAP	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.	6'-6" ABOVE FINISH SURFACE MAXIMUM
	W4	CMU PILASTER WITH BRICK VENEER AND BRICK CAP	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.	6'-6" ABOVE FINISH SURFACE MAXIMUM
FENCING & GATES						
SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR / FINISH	COMMENTS
	F1	TUBE STEEL PERIMETER FENCE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT	6'-0" HEIGHT
	F2	TUBE STEEL PEDESTRIAN GATE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT	6'-0" HEIGHT
	F3	TUBE STEEL DOUBLE VEHICULAR GATE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT	6'-0" HEIGHT

SITE FURNISHING SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR	FINISH	COMMENTS	QTY.
	S1	5' SQUARE TREE GRATE	URBAN ACCESSORIES (760) 690-4083	5' SQUARE FLAT RAINBOW	BRUSHED ALUMINUM	--		5

NOTE: SITE FURNISHINGS ARE LONG LEAD ITEMS. CONTRACTOR IS TO ACCOUNT FOR LEAD TIME IN THE CONSTRUCTION SCHEDULE.

HARDSCAPE KEYNOTES

SYMBOL	DESCRIPTION	DETAIL REF.
1	CONSTRUCT PEDESTRIAN RATED CONCRETE PAVING	A-B, L2.1
2	CONSTRUCT VEHICULAR RATED CONCRETE PAVING	A-B, L2.1
3	CONSTRUCT CONSTRUCTION JOINT	B, L2.1
4	CONSTRUCT ISOLATION JOINT AT ALL VERTICAL SURFACES	B, L2.1
5	CONSTRUCT NEW TO EXISTING CONCRETE PAVING	B, L2.1
6	CONSTRUCT CONCRETE PAVING TO CURB CONNECTION	F, L2.1
7	CONSTRUCT PRECAST DETECTABLE WARNING CONCRETE PAVERS	C, L2.1
8	CONSTRUCT PEDESTRIAN RATED BRICK PAVING	I, L2.1
9	CONSTRUCT CONCRETE STEP-OUT	A-B, L2.1
10	CONSTRUCT CAST-IN-PLACE CONCRETE SEATWALL	D, L2.1 A, L2.2
11	CONSTRUCT TUBE STEEL PERIMETER FENCE	J, L2.1
12	FURNISH AND INSTALL TREE GRATE	K, L2.1
13	CONSTRUCT CAST-IN-PLACE CONCRETE PLANTER WALL	H, L2.1 A, L2.2
14	CONSTRUCT 6'-6" TALL BRICK VENEER WALL	F, L2.2
15	CONSTRUCT 6'-6" TALL BRICK VENEER PILASTER	E, L2.2
16	CONSTRUCT TUBE STEEL PEDESTRIAN GATE	M, L2.1 B-D, L2.2
17	CONSTRUCT TUBE STEEL DOUBLE VEHICULAR GATE	M, L2.1
18	CONSTRUCT CONTRACTION JOINT	B, L2.1

THE FOLLOWING ITEMS ARE FOR REFERENCE ONLY:

A	A.C. PAVING PER CIVIL ENGINEER'S PLANS.
B	CONCRETE CURB PER CIVIL ENGINEER'S PLANS.
C	PAVEMENT STRIPING PER CIVIL ENGINEER'S PLANS.
D	CONCRETE PAVING PER CIVIL ENGINEER'S PLANS.
E	ZERO CURB PER CIVIL ENGINEER'S PLANS.
F	EXISTING UTILITIES PER CIVIL ENGINEER'S PLANS.
G	VEHICLE DROP-OFF AND PICK-UP PER CIVIL ENGINEER'S PLANS.
H	20'-0" WIDE EMERGENCY FIRE ACCESS LANE PER CIVIL ENGINEER'S PLANS.
I	BUILDING COLUMN PER ARCHITECT'S PLANS.
J	BUILDING WALL PER ARCHITECT'S PLANS.
K	STAIRS / TERRACED SEATING PER ARCHITECT'S PLANS.
L	EXISTING PAVING TO BE PROTECTED IN PLACE.
M	LIGHTING PER ELECTRICAL PLANS.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
- - - - - -	DOWELED CONSTRUCTION JOINT
———	CONTRACTION JOINT
PA	PLANTING AREA

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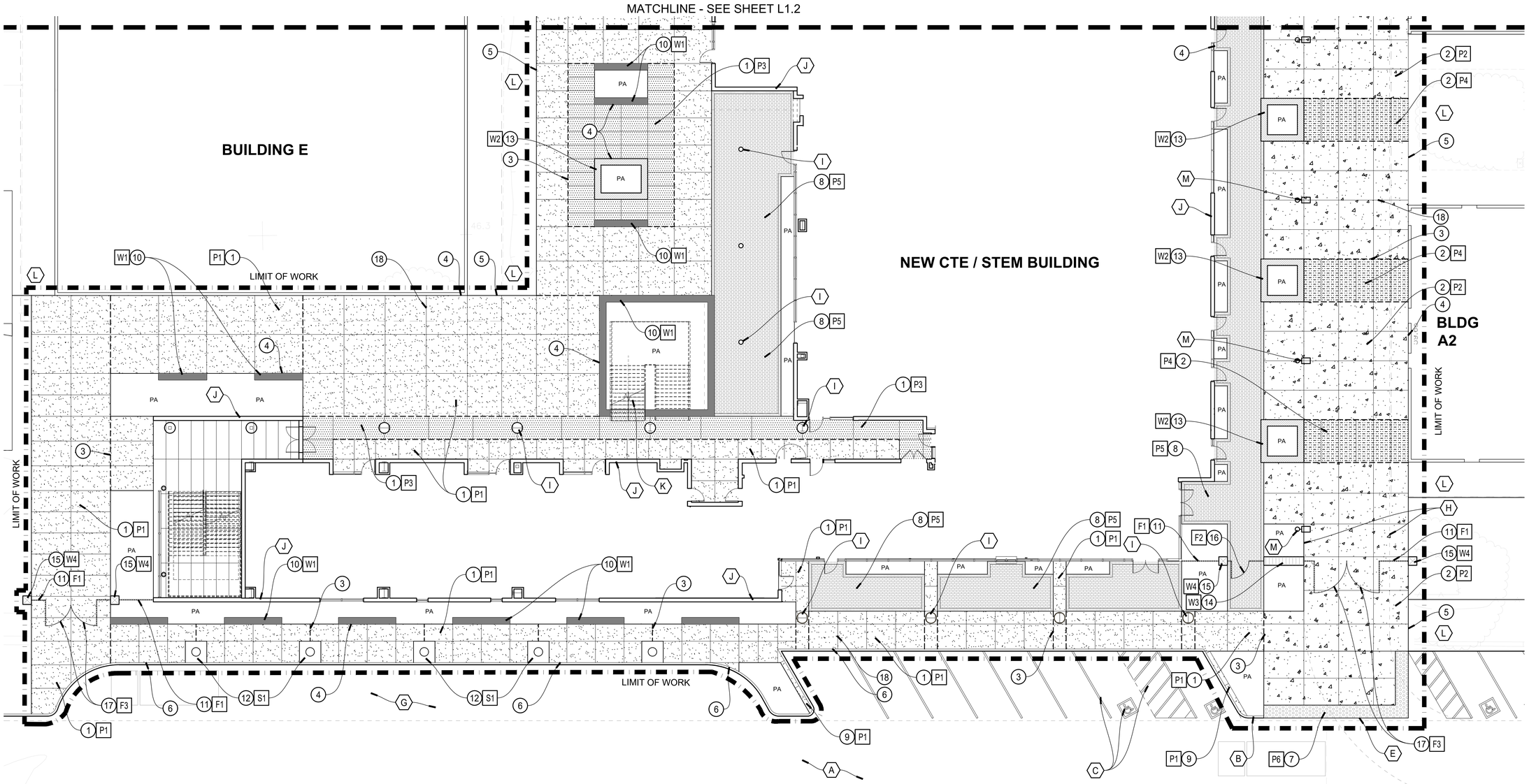
REGISTERED LANDSCAPE ARCHITECT
JAMES J. RIDGELL
No. 4759
05/29/19
(Date)
05/31/21
(Exp. Date)
STATE OF CALIFORNIA

SHEET TITLE:
HARDSCAPE NOTES & SCHEDULES

SHEET NUMBER:
L1.0

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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HARDSCAPE KEYNOTES

SYMBOL	DESCRIPTION	DETAIL REF.
1	CONSTRUCT PEDESTRIAN RATED CONCRETE PAVING	A-B, L2.1
2	CONSTRUCT VEHICULAR RATED CONCRETE PAVING	A-B, L2.1
3	CONSTRUCT CONSTRUCTION JOINT	B, L2.1
4	CONSTRUCT ISOLATION JOINT AT ALL VERTICAL SURFACES	B, L2.1
5	CONSTRUCT NEW TO EXISTING CONCRETE PAVING	B, L2.1
6	CONSTRUCT CONCRETE PAVING TO CURB CONNECTION	F, L2.1
7	CONSTRUCT PRECAST DETECTABLE WARNING CONCRETE PAVERS	C, L2.1
8	CONSTRUCT PEDESTRIAN RATED BRICK PAVING	I, L2.1
9	CONSTRUCT CONCRETE STEP-OUT	A-B, L2.1
10	CONSTRUCT CAST-IN-PLACE CONCRETE SEATWALL	D, L2.1 A, L2.2
11	CONSTRUCT TUBE STEEL PERIMETER FENCE	J, L2.1
12	FURNISH AND INSTALL TREE GRATE	K, L2.1
13	CONSTRUCT CAST-IN-PLACE CONCRETE PLANTER WALL	H, L2.1 A, L2.2
14	CONSTRUCT 6'-6" TALL BRICK VENEER WALL	F, L2.2
15	CONSTRUCT 6'-6" TALL BRICK VENEER PILASTER	E, L2.2
16	CONSTRUCT TUBE STEEL PEDESTRIAN GATE	M, L2.1 B-D, L2.2
17	CONSTRUCT TUBE STEEL DOUBLE VEHICULAR GATE	M, L2.1
18	CONSTRUCT CONTRACTION JOINT	B, L2.1

THE FOLLOWING ITEMS ARE FOR REFERENCE ONLY:

A	A.C. PAVING PER CIVIL ENGINEER'S PLANS.
B	CONCRETE CURB PER CIVIL ENGINEER'S PLANS.
C	PAVEMENT STRIPING PER CIVIL ENGINEER'S PLANS.
D	CONCRETE PAVING PER CIVIL ENGINEER'S PLANS.
E	ZERO CURB PER CIVIL ENGINEER'S PLANS.
F	EXISTING UTILITIES PER CIVIL ENGINEER'S PLANS.
G	VEHICLE DROP-OFF AND PICK-UP PER CIVIL ENGINEER'S PLANS.
H	20'-0" WIDE EMERGENCY FIRE ACCESS LANE PER CIVIL ENGINEER'S PLANS.
I	BUILDING COLUMN PER ARCHITECT'S PLANS.
J	BUILDING WALL PER ARCHITECT'S PLANS.
K	STAIRS / TERRACED SEATING PER ARCHITECT'S PLANS.
L	EXISTING PAVING TO BE PROTECTED IN PLACE.
M	LIGHTING PER ELECTRICAL PLANS.

WALL & FENCE SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	COLOR	FINISH
WALLS					
	W1	CAST-IN-PLACE CONCRETE SEATWALL	--	NATURAL GRAY	SMOOTH TROWELED
	W2	CAST-IN-PLACE CONCRETE PLANTER WALL	--	NATURAL GRAY	SMOOTH TROWELED
	W3	CMU PERIMETER WALL WITH BRICK VENEER AND BRICK CAP	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.
	W4	CMU PILASTER WITH BRICK VENEER AND BRICK CAP	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.
FENCING & GATES					
SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR / FINISH
	F1	TUBE STEEL PERIMETER FENCE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT
	F2	TUBE STEEL PEDESTRIAN GATE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT
	F3	TUBE STEEL DOUBLE VEHICULAR GATE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT

COLOR AND FINISH SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR
PAVING					
	P1	CONCRETE PAVING TYPE 1 PED: 3000 PSI	--	--	NATURAL GRAY
	P2	CONCRETE PAVING TYPE 1 VEH: 4200 PSI	--	--	NATURAL GRAY
	P3	CONCRETE PAVING TYPE 2 PED: 3000 PSI	DAVIS COLORS (844) 341-4780	--	GRAPHITE 8084
	P4	CONCRETE PAVING TYPE 2 VEH: 4200 PSI	DAVIS COLORS (844) 341-4780	--	GRAPHITE 8084
	P5	BRICK PAVING WITH BRICK BAND	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.
	P6	PRECAST DETECTABLE WARNING PAVERS	ACKERSTONE (951) 674-0047	PALAZZO 12"X12" FM PTD-607	ONYX FM

SYMBOL LEGEND

SYMBOL	DESCRIPTION
- - - - - -	DOWELED CONSTRUCTION JOINT
———	CONTRACTION JOINT
PA	PLANTING AREA

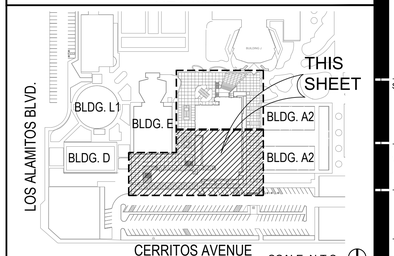
SITE FURNISHING SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR
	S1	5' SQUARE TREE GRATE	URBAN ACCESSORIES (760) 690-4083	5' SQUARE FLAT RAINBOW	BRUSHED ALUMINUM

FOR HARDSCAPE LAYOUT PLAN - SEE SHEETS L1.3 - L1.4
FOR HARDSCAPE NOTES AND SCHEDULES - SEE SHEET L1.0
FOR HARDSCAPE DETAILS - SEE SHEETS L2.1 - L2.2
FOR LANDSCAPE SPECIFICATIONS - SEE PROJECT MANUAL

0 5 10 20 30

KEY MAP



A#04-118361 PTN#873924-84 FILE#30-H18

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ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

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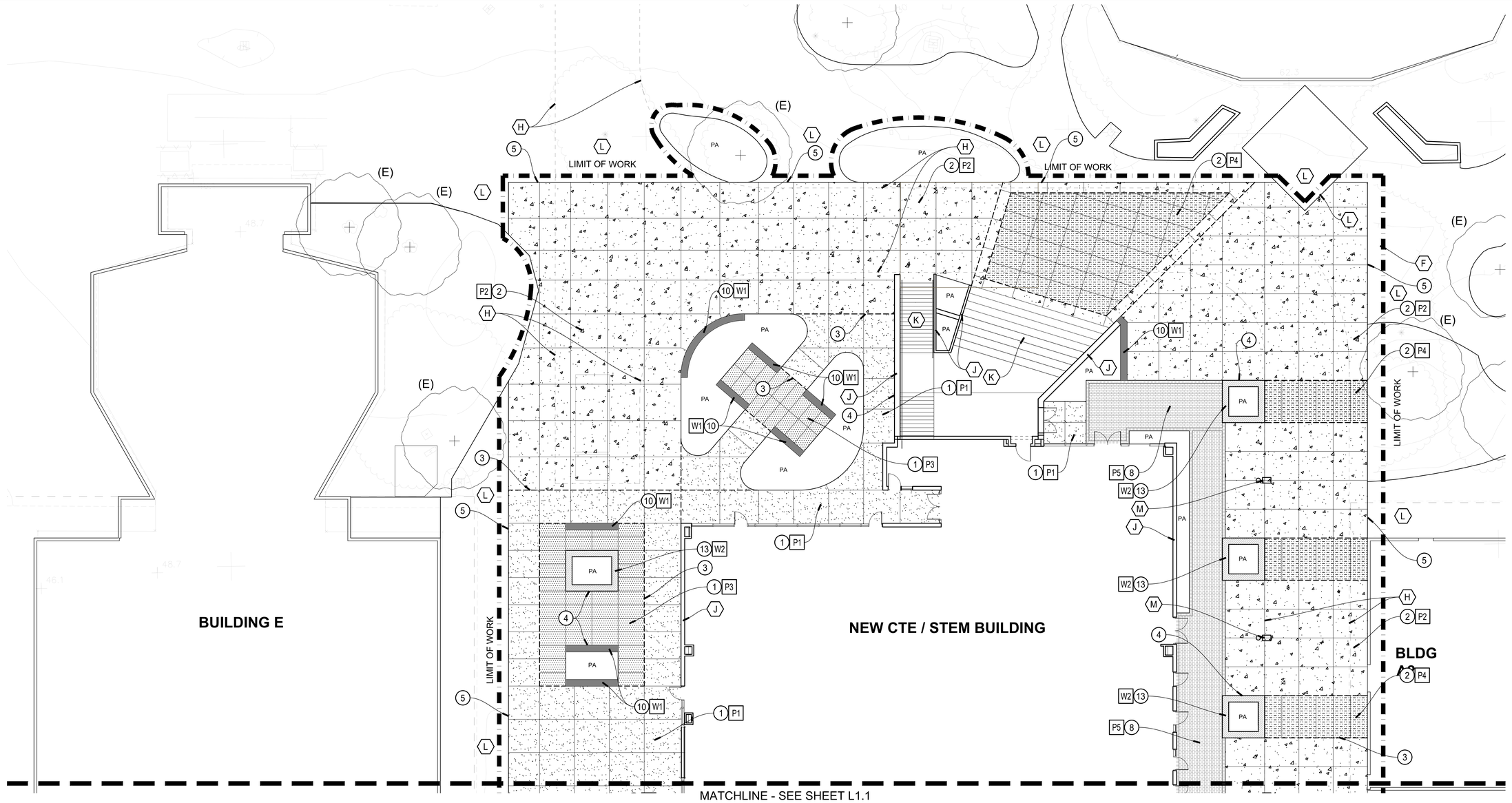
REGISTRATION/SIGNATURE:
REGISTERED LANDSCAPE ARCHITECT
JAMES J. RIDGELA
No. 3987
05/31/19
(Date)
(Exp. Date)
STATE OF CALIFORNIA

SHEET TITLE:
HARDSCAPE PLAN

SHEET NUMBER:
L1.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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HARDSCAPE KEYNOTES

SYMBOL	DESCRIPTION	DETAIL REF.
1	CONSTRUCT PEDESTRIAN RATED CONCRETE PAVING	A-B, L2.1
2	CONSTRUCT VEHICULAR RATED CONCRETE PAVING	A-B, L2.1
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7	CONSTRUCT PRECAST DETECTABLE WARNING CONCRETE PAVERS	C, L2.1
8	CONSTRUCT PEDESTRIAN RATED BRICK PAVING	I, L2.1
9	CONSTRUCT CONCRETE STEP-OUT	A-B, L2.1
10	CONSTRUCT CAST-IN-PLACE CONCRETE SEATWALL	D, L2.1 A, L2.2
11	CONSTRUCT TUBE STEEL PERIMETER FENCE	J, L2.1
12	FURNISH AND INSTALL TREE GRATE	K, L2.1
13	CONSTRUCT CAST-IN-PLACE CONCRETE PLANTER WALL	H, L2.1 A, L2.2
14	CONSTRUCT 6'-6" TALL BRICK VENEER WALL	F, L2.2
15	CONSTRUCT 6'-6" TALL BRICK VENEER PILASTER	E, L2.2
16	CONSTRUCT TUBE STEEL PEDESTRIAN GATE	M, L2.1 B-D, L2.2
17	CONSTRUCT TUBE STEEL DOUBLE VEHICULAR GATE	M, L2.1
18	CONSTRUCT CONTRACTION JOINT	B, L2.1

THE FOLLOWING ITEMS ARE FOR REFERENCE ONLY:

A	A.C. PAVING PER CIVIL ENGINEER'S PLANS.
B	CONCRETE CURB PER CIVIL ENGINEER'S PLANS.
C	PAVEMENT STRIPING PER CIVIL ENGINEER'S PLANS.
D	CONCRETE PAVING PER CIVIL ENGINEER'S PLANS.
E	ZERO CURB PER CIVIL ENGINEER'S PLANS.
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L	EXISTING PAVING TO BE PROTECTED IN PLACE.
M	LIGHTING PER ELECTRICAL PLANS.

WALL & FENCE SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	COLOR	FINISH
WALLS					
	W1	CAST-IN-PLACE CONCRETE SEATWALL	--	NATURAL GRAY	SMOOTH TROWELED
	W2	CAST-IN-PLACE CONCRETE PLANTER WALL	--	NATURAL GRAY	SMOOTH TROWELED
	W3	CMU PERIMETER WALL WITH BRICK VENEER AND BRICK CAP	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.
	W4	CMU PILASTER WITH BRICK VENEER AND BRICK CAP	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.

FENCING & GATES					
SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR / FINISH
	F1	TUBE STEEL PERIMETER FENCE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT
	F2	TUBE STEEL PEDESTRIAN GATE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT
	F3	TUBE STEEL DOUBLE VEHICULAR GATE	AMERISTAR (888) 333-3422	MONTAGE II MAJESTIC 3-RAIL	BLACK / POWDERCOAT

COLOR AND FINISH SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR
PAVING					
	P1	CONCRETE PAVING TYPE 1 PED: 3000 PSI	--	--	NATURAL GRAY
	P2	CONCRETE PAVING TYPE 1 VEH: 4200 PSI	--	--	NATURAL GRAY
	P3	CONCRETE PAVING TYPE 2 PED: 3000 PSI	DAVIS COLORS (844) 341-4780	--	GRAPHITE 8084
	P4	CONCRETE PAVING TYPE 2 VEH: 4200 PSI	DAVIS COLORS (844) 341-4780	--	GRAPHITE 8084
	P5	BRICK PAVING WITH BRICK BAND	TO MATCH ARCH.	TO MATCH ARCH.	TO MATCH ARCH.
	P6	PRECAST DETECTABLE WARNING PAVERS	ACKERSTONE (951) 674-0047	PALAZZO 12"X12" FM PTD-607	ONYX FM

SYMBOL LEGEND

SYMBOL	DESCRIPTION
- - - - - -	DOWELED CONSTRUCTION JOINT
———	CONTRACTION JOINT
PA	PLANTING AREA

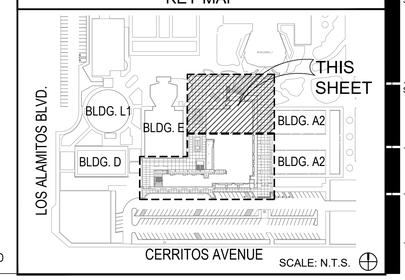
SITE FURNISHING SCHEDULE

SYMBOL	KEY	DESCRIPTION	MANUFACTURER	MODEL	COLOR
	S1	5' SQUARE TREE GRATE	URBAN ACCESSORIES (760) 690-4083	5' SQUARE FLAT RAINBOW	BRUSHED ALUMINUM

FOR HARDSCAPE LAYOUT PLAN - SEE SHEET L1.3 - L1.4
FOR HARDSCAPE NOTES AND SCHEDULES - SEE SHEET L1.0
FOR HARDSCAPE DETAILS - SEE SHEETS L2.1 - L2.2
FOR LANDSCAPE SPECIFICATIONS - SEE PROJECT MANUAL

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KEY MAP



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ISSUED FOR:
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REVISIONS:

REGISTRATION/SIGNATURE:
REGISTERED LANDSCAPE ARCHITECT
JAMES J. RIDGE
No. 4996
05/29/19
(Date)
05/31/21
(Exp. Date)
STATE OF CALIFORNIA

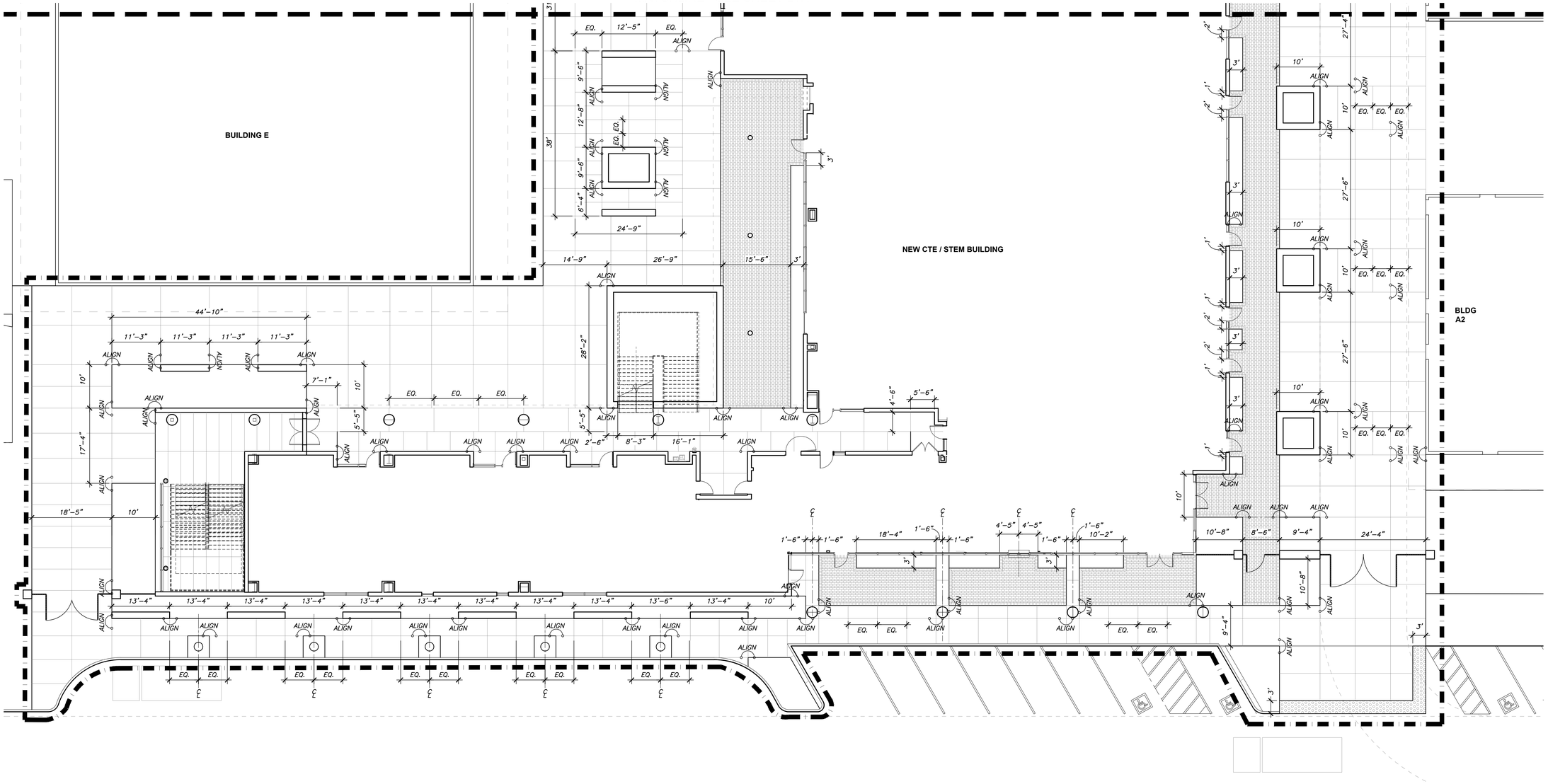
SHEET TITLE:
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SHEET NUMBER:
L1.2

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MATCHLINE - SEE SHEET L1.4



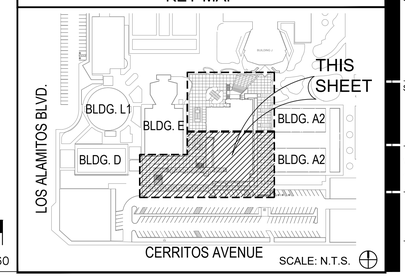
FOR HARDSCAPE PLANS - SEE SHEETS L1.1 - L1.2
FOR HARDSCAPE NOTES AND SCHEDULES - SEE SHEET L1.0
FOR HARDSCAPE DETAILS - SEE SHEETS L2.1 - L2.2
FOR LANDSCAPE SPECIFICATIONS - SEE PROJECT MANUAL

0 10 20 40 60

LAYOUT LEGEND

SYMBOL	DESCRIPTION
	POINT OF BEGINNING (P.O.B.)
	BASELINE
	CENTER POINT
	ALIGN EDGES
℄	CENTER LINE
	PERPENDICULAR

KEY MAP



A#04-118361 PTN#73924-84 FILE#30-H18

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REVISIONS:

REGISTRATION/SIGNATURE:

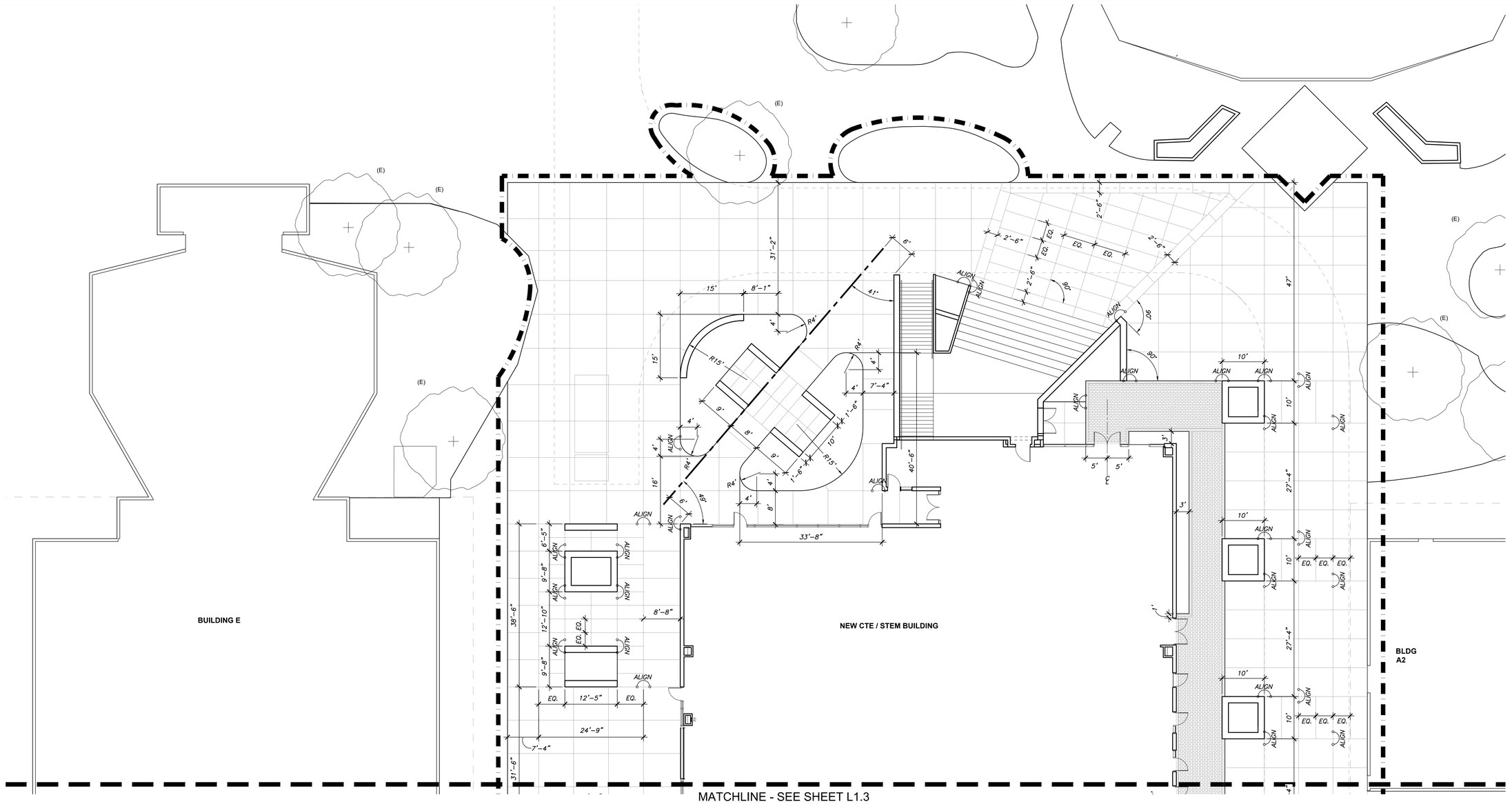
REGISTERED LANDSCAPE ARCHITECT
JAMES J. NITO
No. 3789
(Date)
05/31/21
(Exp. Date)
STATE OF CALIFORNIA

SHEET TITLE:
HARDSCAPE LAYOUT PLAN

SHEET NUMBER:
L1.3

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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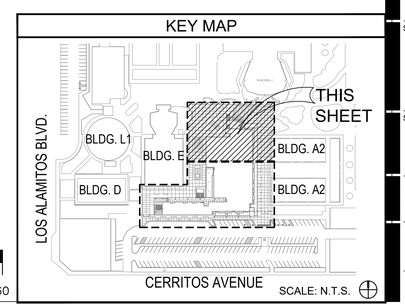
LAYOUT LEGEND

SYMBOL	DESCRIPTION
	POINT OF BEGINNING (P.O.B.)
	BASELINE
	CENTER POINT
	ALIGN EDGES
℄	CENTER LINE
	PERPENDICULAR

FOR HARDSCAPE PLANS - SEE SHEETS L1.1 - L1.2
FOR HARDSCAPE NOTES AND SCHEDULES - SEE SHEET L1.0
FOR HARDSCAPE DETAILS - SEE SHEETS L2.1 - L2.2
FOR LANDSCAPE SPECIFICATIONS - SEE PROJECT MANUAL

0 10 20 40 60

KEY MAP



A#04-118361 PTN#73924-84 FILE#30-H18

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949.250.0880 | FAX 949.250.0882
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Los Alamitos High School Multi-story STEM Classroom Building

Los Alamitos
Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

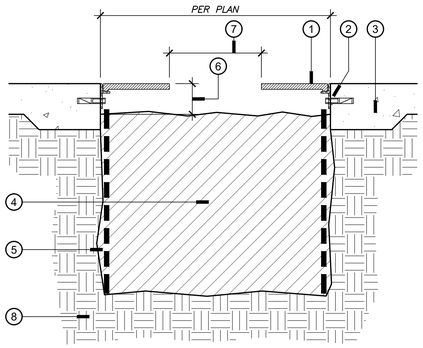
REGISTRATION/SIGNATURE:
REGISTERED LANDSCAPE ARCHITECT
JAMES J. RITTER
No. 5178
05/29/19 (Date)
05/31/21 (Exp. Date)
STATE OF CALIFORNIA

SHEET TITLE:
HARDSCAPE LAYOUT PLAN

SHEET NUMBER:
L1.4

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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LEGEND:
1. TREE GRATE, SEE FURNISHINGS LEGEND FOR SPEC.
2. TREE GRATE FRAME AT CONCRETE PAVING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE ANCHOR QUANTITY AND LOCATIONS PRIOR TO STARTING WORK.
3. THICKENED EDGE AT ADJACENT CONCRETE PAVING.
4. TREE PLANT PIT - SEE TREE PLANTING DETAIL.
5. ROOT BARRIER. SEE PLANTING PLAN FOR MODEL AND SIZE.
6. SET FINISH GRADE OF TREE PLANT PIT 4" +/- BELOW TOP OF GRATE.
7. TREE GRATE OPENING TO BE COORDINATED WITH TREE TYPE. CUSTOM CUT OPENING AS REQUIRED TO ACCOMMODATE TREE TYPE.
8. 90% COMPACTED SUBGRADE - VERIFY REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT.

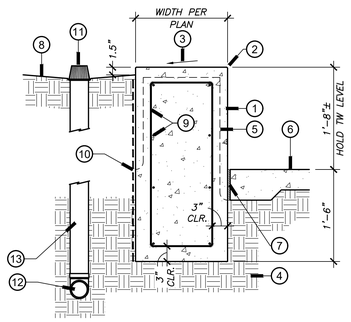
NOTES:
A. SUBMIT MANUFACTURER'S CUT SHEET FOR OWNER/LANDSCAPE ARCHITECT REVIEW PRIOR TO PLACING ORDER.
B. OPENINGS IN GRATES OR STRAINERS LOCATED IN PEDESTRIAN WAYS OR IN P.O.T. SHALL NOT ALLOW PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER. ELONGATED OPENINGS SHALL BE PLACED SO THAT LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL IN COMPLIANCE WITH SECTION 11B-302.3.

(K) TREE GRATE

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

(L) NOT USED

NO SCALE

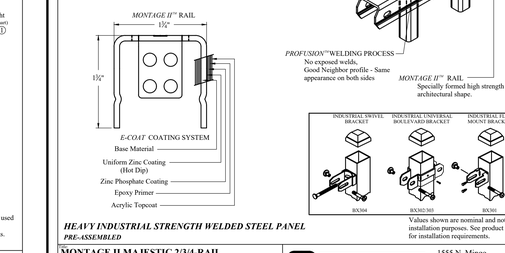


LEGEND:
1. P.I.P. CONCRETE LOW WALL - SEE WALL SCHEDULE FOR COLOR AND FINISH.
2. 1/4" RADIUS ON EDGES, TYPICAL.
3. SLOPE TOP OF WALL AT 1% MIN.
4. 90% COMPACTED SUBGRADE - VERIFY REQUIREMENTS WITH GEOTECHNICAL SOILS REPORT.
5. 1/8" WIDE BY 2" DEEP SAWCUT CONTRACTION JOINT - SEE HARDSCAPE PLAN FOR LOCATION.
6. ADJACENT PAVING - SEE HARDSCAPE PLAN FOR COLOR AND FINISH.
7. ISOLATION JOINT
8. FINISH GRADE - SLOPE TO DRAIN 1% MINIMUM.
9. #4's AT 10" O.C. BOTH WAYS.
10. WATER PROOFING AT PLANTER SIDE OF WALL TO INCLUDE:
    - MASTIC SEAL AT TERMINATION OF WATERPROOF MEMBRANE.
    - FLASHING STRIP - BITHUTANE, OR EQUAL.
    - PROTECTION BOARD OVER WATERPROOF MEMBRANE.
    - WATERPROOF MEMBRANE.
11. NDS PLASTIC ATRIUM DRAIN COVER - COLOR TO BE BLACK.
12. CATCH BASIN, OUTLET, ELBOW, AND DRAIN PIPE PER CIVIL SHEETS.
13. DRAIN LINE DEPTH ELEVATION PER CIVIL SHEETS.

NOTES:
A. ENSURE THAT FORM SEAMS ARE NOT PRESENT ONCE FORMS ARE STRIPPED.
B. REINFORCING, FOOTING DIMENSIONS, AND BASE INFORMATION ARE SHOWN FOR BID PURPOSES ONLY. VERIFY AND COMPLY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT AND STRUCTURAL ENGINEER'S SHEETS.
C. PROVIDE MOCK-UP PER SPECIFICATIONS.

(H) C.I.P. CONCRETE PLANTER WALL

SCALE: 1" = 1'-0"

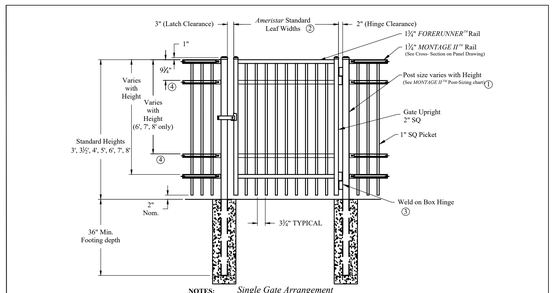


LEGEND:
1. EXTERIOR RATED BRICK PAVING - COLOR, FINISH, AND THICKNESS PER FINISH SCHEDULE.
2. ADJACENT CONCRETE PAVING/BAND - SEE HARDSCAPE SHEETS FOR COLOR AND FINISH.
3. PROVIDE THICKENED EDGE AT PAVING/BAND.
4. THIN SET MORTAR SETTING BED.
5. GROUTED JOINT - COLOR, TEXTURE, AND JOINT WIDTH TO MATCH BUILDING INTERIOR.
6. 90% COMPACTED SUBGRADE - VERIFY WITH REQUIREMENTS NOTES IN THE GEOTECHNICAL SOILS REPORT.
7. 9" LONG PLASTIC "SPEED DOWEL" WITH 5/8" DIAMETER BY 18" LONG SMOOTH STEEL DOWELS AT 30" O.C.
8. 4" THICK CONCRETE SUB-SLAB WITH #4's 24" O.C. BOTH WAYS.
9. 2-PART COLORED POLYURETHANE SEALANT - SEE SPECIFICATIONS. APPLY SILICA #30 GRADE SAND TO SURFACE OF SEALANT WHILE STILL TACKY.
10. 1/4" THICK POLYFOAM EXPANSION MATERIAL WITH "ZIP-STRIP" TOP - SPRAY GLUE TO SIDE OF POUR.
11. ADJACENT PLANTER AREA.

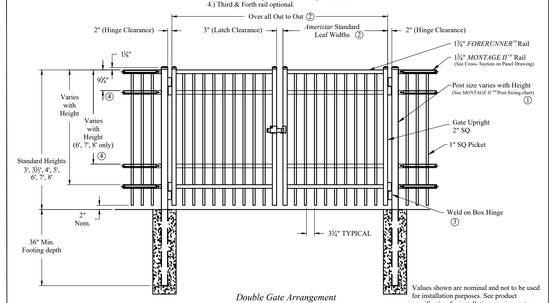
NOTES:
A. ENSURE THAT NO CONCRETE SLURRY STAINS BOND WITH EXISTING PAVING - USE PIERI "FACE-OFF", OR SIMILAR PRODUCT, TO ELIMINATE SLURRY STAINS ON ADJACENT SURFACES.

(I) BRICK PAVING WITH BRICK BAND

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



NOTES: *Single Gate Arrangement*
1.) Post size depends on fence height, weight and wind loads. See *MONTAGE II™* specifications for post sizing chart.
2.) See *Ameristar* gate table for standard out to outs. Custom gate openings available for special out to out/leaf widths.
3.) Additional styles of gate hardware are available on request This could change the Latch & Hinge Clearance.
4.) Third & Forth rail optional.



Double Gate Arrangement

INDUSTRIAL STRENGTH STEEL

Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

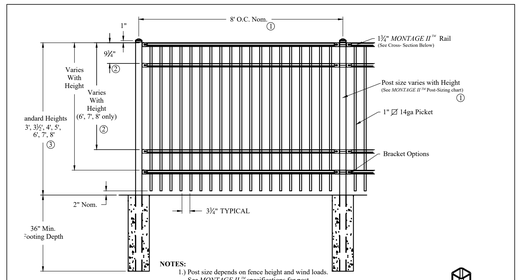
20MM06G

MONTAGE II MAJESTIC 2/3/4-RAIL SGL & DBL GATE			
DR: RTM	SH . 1of 1	SCALE: DO NOT SCALE	
CK: ME	Date 6/28/10		REV: b

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Tulsa, OK 74116
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(M) TUBE STEEL GATES

NOT TO SCALE



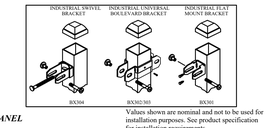
NOTES:
1.) Post size depends on fence height and wind loads. See *MONTAGE II™* specifications for post sizing chart and dimensions.
2.) Third & Forth rail optional.
3.) Available in Flush Bottom.

RAKING DIRECTIONAL ARROW
Welded panel can be raked 30° over 8' with arrow pointing down grade.

MONTAGE II™ RAIL
1½"
1½"
E-COAT COATING SYSTEM
Base Material
Uniform Zinc Coating (Hot Dip)
Zinc Phosphate Coating
Epoxy Primer
Acrylic Topcoat

PROFUSION™ WELDING PROCESS
No exposed welds, Good Neighbor profile - Same appearance on both sides

MONTAGE II™ RAIL
Specially formed high strength architectural shape.



Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

20MM06

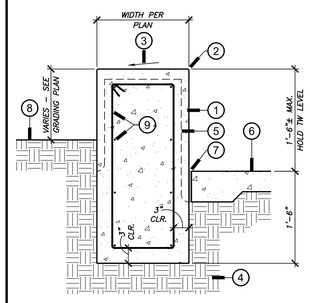
HEAVY INDUSTRIAL STRENGTH WELDED STEEL PANEL
PRE-ASSEMBLED

MONTAGE II MAJESTIC 2/3/4-RAIL			
DR: RTM	SH . 1of 1	SCALE: DO NOT SCALE	
CK: ME	Date 6/28/10		REV: b

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(J) TUBE STEEL PERIMETER FENCE

NOT TO SCALE

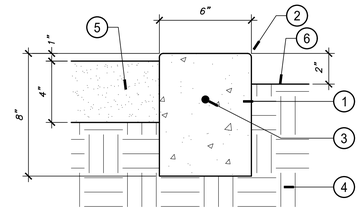


LEGEND:
1. P.I.P. CONCRETE LOW WALL - SEE WALL SCHEDULE FOR COLOR AND FINISH.
2. 1/4" RADIUS ON EDGES, TYPICAL.
3. SLOPE TOP OF WALL AT 1% MIN.
4. 90% COMPACTED SUBGRADE - VERIFY REQUIREMENTS WITH GEOTECHNICAL SOILS REPORT.
5. 1/8" WIDE BY 2" DEEP SAWCUT CONTRACTION JOINT - SEE HARDSCAPE PLAN FOR LOCATION.
6. ADJACENT PAVING - SEE HARDSCAPE PLAN FOR COLOR AND FINISH.
7. ISOLATION JOINT
8. FINISH GRADE.
9. #4's AT 10" O.C. BOTH WAYS.

NOTES:
A. ENSURE THAT FORM SEAMS ARE NOT PRESENT ONCE FORMS ARE STRIPPED.
B. REINFORCING, FOOTING DIMENSIONS, AND BASE INFORMATION ARE SHOWN FOR BID PURPOSES ONLY. VERIFY AND COMPLY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT AND STRUCTURAL ENGINEER'S SHEETS.
C. PROVIDE MOCK-UP PER SPECIFICATIONS.

(D) C.I.P. CONCRETE SEAT WALL

SCALE: 1" = 1' - 0"

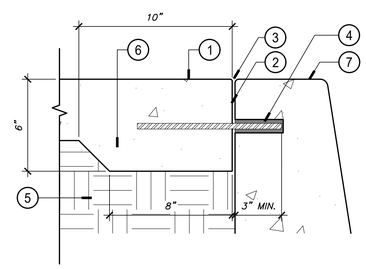


LEGEND:
1. CONCRETE MOW CURB - SEE HARDSCAPE SHEET FOR COLOR AND FINISH.
2. 1/4" RADIUS ON EDGES, TYPICAL.
3. CONTINUOUS #4 BAR CENTERED IN CURB.
4. 90% COMPACTED SUBGRADE - VERIFY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT.
5. BOCCE COURT SURFACING.
6. FINISH GRADE OF SHRUB AREA.

NOTES:
A. PROVIDE 1/8" WIDE BY 1-1/2" DEEP SAWCUT CONTRACTION JOINTS AT +/- 5' O.C. AND AT CHANGES OF DIRECTION. JOINT SPACING TO BE EQUAL THROUGHOUT.

(E) CONCRETE MOW CURB

SCALE: 3" = 1'-0"



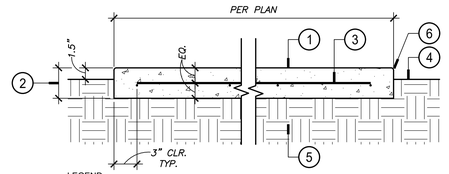
LEGEND:
1. CONCRETE PAVING - SEE HARDSCAPE SHEETS FOR COLOR AND FINISH.
2. COLD JOINT.
3. 1/8" TOOLED RADIUS ON EDGES.
4. #4x18" LONG SMOOTH STEEL DOWELS AT 30" O.C. DRILLED AND EPOXIED WITH SIMPSON "SET 22" EPOXY INTO EXISTING CONCRETE PAVING - MIN. 3" EMBED. STEEL DOWELS TO BE SAWCUT TO LENGTH, NOT SHEARED.
5. 90% COMPACTED SUBGRADE - VERIFY REQUIREMENTS WITH GEOTECHNICAL SOILS REPORT.
6. CONTINUOUS THICKENED EDGE AT PAVING.
7. CONCRETE CURB.

(F) CONCRETE PAVING TO CURB

SCALE: 3" = 1' - 0"

(G) NOT USED

NO SCALE

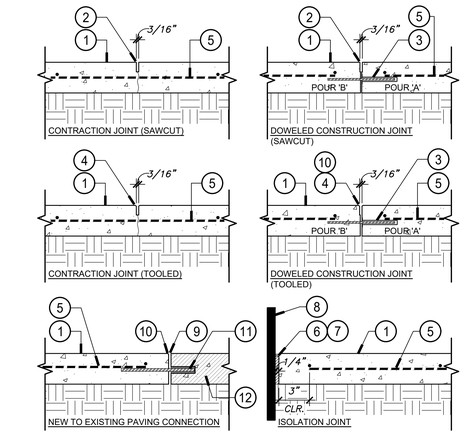


LEGEND:
1. CONCRETE PAVING - SEE HARDSCAPE SHEETS FOR COLOR AND FINISH.
2. PAVING THICKNESS:
   PEDESTRIAN RATED: 4"
   VEHICULAR RATED: 6"
3. REINFORCING AT PAVING:
   PEDESTRIAN RATED: #4 BARS AT 24" O.C. BOTH WAY, CENTER IN SLAB.
   VEHICULAR RATED: #4 BARS AT 18" O.C. BOTH WAYS, CENTER IN SLAB
4. FINISH GRADE.
5. 90% COMPACTED SUBGRADE - VERIFY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT.
6. 1/4" TOOLED RADIUS ON EDGED TYPICAL.

NOTES:
A. PAVING THICKNESS, BASE PREPARATION, AND REINFORCING ARE SHOWN FOR BID PURPOSES ONLY. VERIFY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT.
B. PROVIDE MOCK-UP PER MOCK-UP NOTES AND SPECIFICATIONS.
C. SEAL EXPOSED PORTIONS OF CONCRETE PAVING PER SPECIFICATIONS.
D. ENSURE THAT NO CONCRETE SLURRY STAINS BOND WITH EXISTING PAVING - USE PIERI "FACE-OFF", OR SIMILAR PRODUCT, TO ELIMINATE SLURRY STAINS ON ADJACENT SURFACES.

(A) CONCRETE PAVING

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

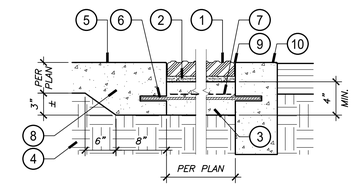


LEGEND:
1. CONCRETE PAVING - SEE HARDSCAPE SHEETS FOR COLOR AND FINISH.
2. 3/16" WIDE (MAX.) SAWCUT JOINT - CUT TO 1/4 THE DEPTH OF SLAB. AT DOWELED CONSTRUCTION JOINTS PROVIDE 1/8" WIDE (MAX.) BY 1" DEEP TOOLED PRE-SCORE JOINT AT PAVING JOINT BEFORE SAW CUTTING.
3. 9" LONG PLASTIC "SPEED DOWEL" WITH 5/8" DIAMETER BY 18" LONG SMOOTH STEEL DOWELS AT 30" O.C.
4. 3/16" WIDE (MAX.) TOOLED JOINT WITH 1/8" RADIUS ON EDGES - CUT TO 1/4 DEPTH OF SLAB.
5. REBAR - SEE DETAIL "B", THIS SHEET.
6. 2-PART COLORED POLYURETHANE SEALANT - SEE SPECIFICATIONS. APPLY SILICA #30 GRADE SAND TO SURFACE OF SEALANT WHILE STILL TACKY.
7. 1/4" THICK POLYFOAM BACKER MATERIAL WITH "ZIP-STRIP" TOP - SPRAY GLUE TO SIDE OF POUR.
8. FIXED VERTICAL EDGE, I.E. WALL, COLUMN, THRESHOLD, STEPS, CURB, OR BUILDING SLAB.
9. COLD JOINT.
10. 1/8" TOOLED RADIUS ON EDGES.
11. #4x18" LONG SMOOTH STEEL DOWELS AT 30" O.C. DRILLED AND EPOXIED WITH SIMPSON "SET 22" EPOXY INTO EXISTING CONCRETE PAVING - MIN. 3" EMBED. STEEL DOWELS TO BE SAWCUT TO LENGTH, NOT SHEARED.
12. EXISTING CONCRETE PAVING.

NOTES:
A. ENSURE THAT NO CONCRETE SLURRY STAINS BOND WITH EXISTING PAVING - USE PIERI "FACE-OFF", OR SIMILAR PRODUCT, TO ELIMINATE SLURRY STAINS ON ADJACENT SURFACES.
B. SUBMIT SEALANT COLOR SMAPLES FOR APPROVAL PRIOR TO INSTALLATION OF ISOLATION JOINT.
C. PRE-TOOL JOINTS AS SOON AS SLAB CAN BE TOOLED.
D. CLEAN AND SEAL CONCRETE PAVING PER SPECIFICATION PRIOR TO FINAL APPROVAL.

(B) CONCRETE JOINTS

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



LEGEND:
1. ACCESSIBLE PRECAST TRUNCATED DOME PAVER - SEE HARDSCAPE PLAN FOR COLOR AND SUPPLIER.
2. 1" TO 1-1/2" MORTAR SETTING BED W/ WELDED WIRE MESH, W6xW6.
3. CONCRETE SUB-SLAB.
4. 90% COMPACTED BASE MATERIAL AND SUBGRADE - VERIFY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT.
5. ADJACENT CONCRETE PAVING - SEE HARDSCAPE PLAN FOR COLOR AND FINISH.
6. #3 BY 12" LONG SMOOTH DOWELS 30" O.C.
7. REBAR SIZE AND SPACING TO MATCH ADJACENT PAVING.
8. THICKENED EDGE AT PAVING.
9. 1/8" WIDE MAX. GROUT JOINT AT EDGE - CONFIRM PAVING CUT-OUT SIZE WITH BUTT-JOINTED PAVERS BEFORE POURING CONCRETE. GROUT COLOR TO MATCH PAVERS.
10. 0" CONCRETE CURB - SEE CIVIL PLANS.

NOTES:
A. ENSURE THAT TRUNCATED DOME "SLIVERS" ARE EQUAL SIZE ON ALL SIDES.
B. PROVIDE BUTT JOINTS BETWEEN PAVERS WITHIN FIELD.
C. WHEN TRUNCATED DOME PAVERS ARE INSTALLED ON A RADIUS, PAVERS TO BE CUT SO THAT THERE IS A CLEAN BUTT JOINT ON ALL SIDES OF PAVERS AND THE DOME SPACING COMPLIES WITH BUILDING CODE REGULATES.
D. SEAL PAVERS AFTER JOINTS HAVE BEEN FILLED AND PAVERS HAVE BEEN CLEANED. SEALER TO BE BP PRO ENHANCING STABILIZING SEALER.
E. CONTRACTOR TO BE RESPONSIBLE FOR COORDINATING TRUNCATED DOME PAVER BLOCK OUT TO ACCOUNT FOR BUTT JOINTS BETWEEN PAVERS AND 1/8" MAX. GROUT JOINT AROUND PERIMETER.

(C) DETECTABLE WARNING PAVERS

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

A#04-118361 PTN#73924-84 FILE#30-H18

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Los Alamitos High School Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

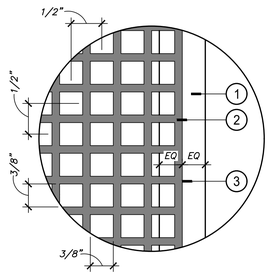
REGISTRATION/SIGNATURE:
REGISTERED LANDSCAPE ARCHITECT
JESS J. RIOS
No. 4759
05/29/19
(Date)
05/31/21
(Exp. Date)
STATE OF CALIFORNIA

SHEET TITLE:
HARDSCAPE DETAILS

SHEET NUMBER:
L2.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

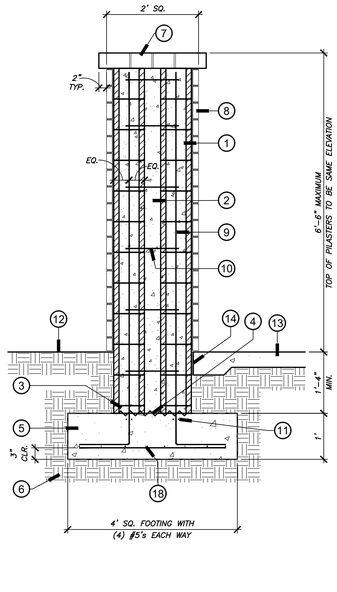
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LEGEND:
1. PAINTED 3/4" SQUARE HOLLOW TUBE STEEL PICKET.
2. PAINTED 3/8" SQUARE, 1/2" O.C STEEL PERFORATED METAL SCREEN. INSTALL SCREEN ON OUTSIDE FACE OF PICKETS. TACK WILD MESH AT EACH PICKET 12" O.C VERTICALLY. AVAILABLE THROUGH McNICHOLS AT (877) 884-4653 OR APPROVED EQUAL.
3. PROVIDE CLEAN AND STRAIGHT CUT ALONG VERTICAL EDGE OF SQUARED AND CENTER ON LAST PICKET.

(D) SECURITY SCREEN TERMINATION

SCALE: 1" = 1'-0"

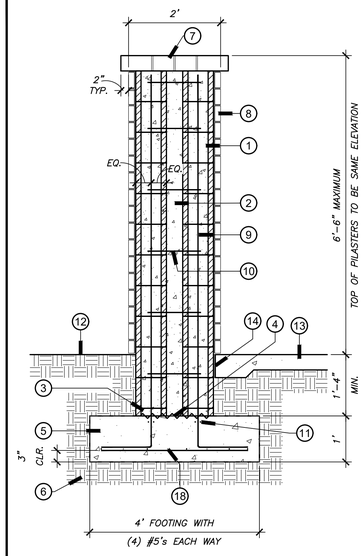


LEGEND:
1. 8"x8"x16" PRECISION CMU BLOCK, SOLID FILL GROUT FILL ALL CELLS.
2. SOLID FILL GROUT VOID SPACE.
3. STARTER BLOCK AS REQUIRED.
4. ROUGHEN CONCRETE SURFACE.
5. CONTINUOUS CONCRETE FOOTING.
6. 90% COMPACTED SUBGRADE - VERIFY WITH GEOTECHNICAL SOILS REPORT.
7. BRICK CAP. SEE HARDSCAPE PLAN FOR COLOR AND FINISH.
8. BRICK VENEER THIN SET LAYER, AND MESH LATH TO MATCH ARCHITECTURE. SEE ARCHITECTURE SHEETS FOR SUPPLIER, COLOR, AND SIZE.
9. #4's VERTICAL AT CORNERS.
10. #4 TIES AT 16" O.C.
11. (2) #5's CONTINUOUS.
12. ADJACENT FINISH GRADE.
13. ADJACENT CONCRETE PAVING.
14. ISOLATION JOINT.

NOTES:
A. REINFORCING, FOOTING DIMENSIONS, AND BASE INFORMATION ARE SHOWN FOR BID PURPOSES ONLY. VERIFY AND COMPLY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT AND STRUCTURAL ENGINEER'S SHEETS.

(E) BRICK VENEER PILASTER

SCALE: 3/4" = 1'-0"

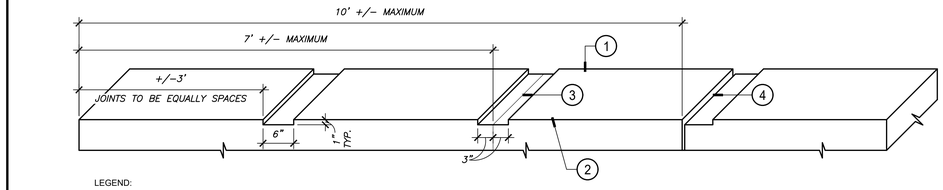


LEGEND:
1. 8"x8"x16" PRECISION CMU BLOCK, SOLID FILL GROUT FILL ALL CELLS.
2. SOLID FILL GROUT VOID SPACE.
3. STARTER BLOCK AS REQUIRED.
4. ROUGHEN CONCRETE SURFACE.
5. CONTINUOUS CONCRETE FOOTING.
6. 90% COMPACTED SUBGRADE - VERIFY WITH GEOTECHNICAL SOILS REPORT.
7. BRICK CAP. SEE HARDSCAPE PLAN FOR COLOR AND FINISH.
8. BRICK VENEER THIN SET LAYER, AND MESH LATH TO MATCH ARCHITECTURE. SEE ARCHITECTURE SHEETS FOR SUPPLIER, COLOR, AND SIZE.
9. #4's VERTICAL AT 24" O.C.
10. #4 TIES AT 16" O.C.
11. (2) #5's CONTINUOUS.
12. ADJACENT FINISH GRADE.
13. ADJACENT CONCRETE PAVING.
14. ISOLATION JOINT.

NOTES:
A. REINFORCING, FOOTING DIMENSIONS, AND BASE INFORMATION ARE SHOWN FOR BID PURPOSES ONLY. VERIFY AND COMPLY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT AND STRUCTURAL ENGINEER'S SHEETS.

(F) BRICK VENEER CMU BLOCK WALL

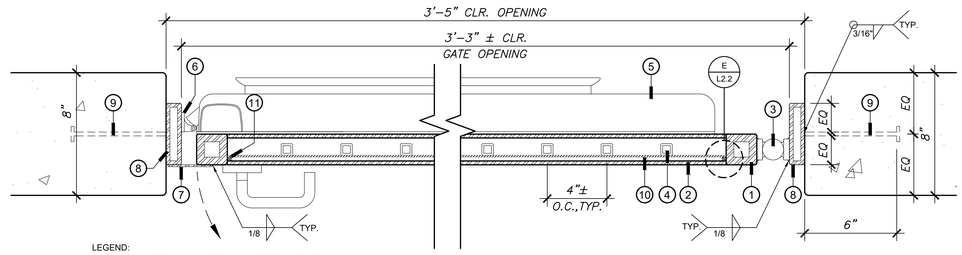
SCALE: 3/4" = 1'-0"



LEGEND:
1. P.I.P CONCRETE LOW WALL - SEE HARDSCAPE SHEETS FOR COLOR AND FINISH.
2. 1" CHAMFERED EDGE, TYPICAL.
3. 1/8" WIDE BY 2" DEEP CONTINUOUS SAWCUT CONTRACTION JOINT.
4. COLD JOINT.

(A) SKATEBOARD DETERRENT NOTCH AT CONCRETE WALLS

SCALE: 1" = 1'-0"

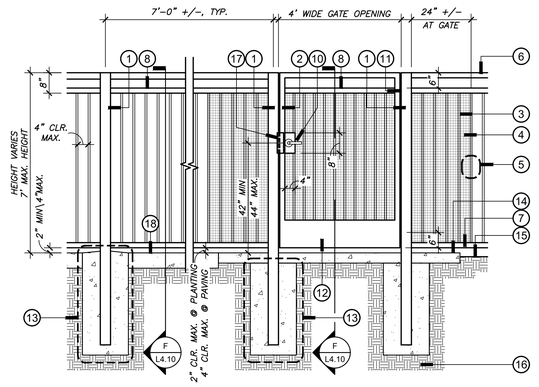


LEGEND:
1. 2"x2" PAINTED GALVANIZED TUBE STEEL GATE FRAME.
2. 2"x8" PAINTED GALVANIZED TUBE STEEL MOUNTING BOX FOR DOOR HARDWARE. WELD TO GATE FRAME.
3. COMMERCIAL GRADE HEAVY DUTY BARREL HINGE. HINGES TO BE "SEALED MAINTENANCE FREE" CONSTRUCTION. HINGES TO BE PAINTABLE, CONCEALED, AND SELF CLOSING. PROVIDE (4) PER GATE. SEE DOOR SCHEDULE FOR MAKE AND MODEL. WELD TO GATE FRAME AND HINGE POST.
4. PAINTED 3/4" SQUARE GALVANIZED STEEL HOLLOW PICKET WELDED TO GATE/FENCE FRAME AT 4" O.C. MAXIMUM (EQUALLY SPACED).
5. PANIC BAR EXIST DEVICE, DOOR HARDWARE AND DOOR CLOSER - COORDINATE WITH DOOR SCHEDULE FOR EXTERIOR GATES.
6. LATCH STRIKE - COORDINATE WITH DOOR SCHEDULE FOR EXTERIOR GATES.
7. 3" X 10" X 1/8" PAINTED GALVANIZED STEEL SECURITY PLATE ATTACHED TO EXTERIOR FACE OF GATE.
8. PAINTED 1"x4"x3/16" THICK GALVANIZED TUBE STEEL JAMB / HINGE POST WITH WELDED CAP AND BASE
9. 12" LONG BY 5/8" DIAMETER HEADED ANCHOR BOLT WELDED TO VERTICAL POSTS AND CAST IN TO P.I.P. CONCRETE WALL. PROVIDE (4) ANCHORS PER POST - EQUALLY SPACED.
10. PERFORATED METAL SECURITY SCREEN WELDED TO OUTSIDE FACE OF PICKETS. SEE DETAIL 'E' SHEET L2.2.
11. .25" SQUARE SOLID BAR STOCK WELDED TO GATE FRAME CONTINUOUS AROUND PERIMETER. TACK WELD SECURITY SCREEN TO BAR STOCK AROUND EDGES.

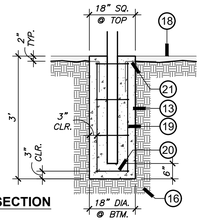
NOTES:
A. SEE DETAIL 'C', L2.2 FOR NOTES.

(B) PEDESTRIAN ACCESS GATE SECTION

SCALE: 3" = 1'-0"



LEGEND:
1. PAINTED HSS 4"x4"x.25" THICK GALVANIZED STEEL GATE HINGE/JAMB POST AND FENCE POST.
2. PAINTED 2"x2"x.25" THICK GALVANIZED STEEL GATE FRAME.
3. PAINTED 3/4" SQUARE GALVANIZED STEEL HOLLOW PICKET WELDED TO GATE/FENCE FRAME AT 4" O.C. MAXIMUM.
4. PERFORATED METAL SECURITY SCREEN WELDED TO OUTSIDE FACE OF PICKETS.
5. SECURITY SCREEN TERMINATION. - SEE DETAIL 'G', SHEET L2.2.
6. PAINTED 2" DIAMETER x.25" THICK GALVANIZED STEEL FENCE TOP RAIL. TOP RAIL TO BE ROTATED 45°.
7. PAINTED 2"x2"x.25" THICK GALVANIZED STEEL FENCE BOTTOM RAIL.
8. PAINTED 2"x2"x.25" THICK GALVANIZED STEEL GATE/FENCE MID RAIL.
9. NOT USED.
10. MORTIS, CYLINDER, AND STOREROOM SELF-LATCHING LOCKSET DOOR HARDWARE WITH AUTO CLOSER. DOOR LATCH TO BE LOCATED NO LOWER THAN 42" AND NO HIGHER THAN 44" ABOVE WALK OF DECK.
11. PAINTABLE CONCEALED SELF CLOSING HINGE. PROVIDING (3) PER GATE.
12. 10" TALL KICK PLATE.
13. CONCRETE CAISSON FOOTING. EXPOSED PORTION OF FOOTING TO MATCH COLOR AND FINISH OF ADJACENT PAVING - REFER TO FOOTING DETAIL.
14. FINISH SURFACE - SEE HARDSCAPE SHEETS FOR COLOR, FINISH, AND LAYOUT.
15. FINISH GRADE.
16. 90% COMPACTED SUBGRADE - VERIFY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT.
17. 2 3/4"x8"x.25" THICK GALVANIZED STEEL SECURITY PLATE WELDED TO GATE FRAME OVER HARDWARE.
18. 6"x6"x6" P.I.P. CONCRETE BAND BELOW PERIMETER FENCE AT POOL/SPA AREA. COLOR AND FINISH TO MATCH ADJACENT PAVING. PROVIDE SINGLE CONTINUOUS #4 BAR CENTERED IN BAND.
19. (4) #4's VERTICAL.
20. (4) #4 TIES EQUALLY SPACED.
21. #4 BY 24" LONG DOWELS BETWEEN FOOTING AND MOW CURB. CENTER DOWEL IN CURB. TYPICAL AT EACH CONNECTION POINT BETWEEN MOW CURB AND FOOTING.



FOOTING SECTION

NOTES:
A. SUBMIT SHOP DRAWINGS TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO START OF FABRICATION.
B. CONTRACTOR TO VERIFY WITH OWNER'S REPRESENTATIVE FOR CARD READER HARDWARE CONFIGURATION AND PREP GATE ACCORDINGLY PRIOR TO FABRICATION
C. ALL WELDS TO BE CONTINUOUS, GROUND SMOOTH.
D. ALL METAL TO RECEIVE SHOP-APPLIED PRIMER AND PAINT. SEE HARDSCAPE SHEETS FOR COLOR AND TEXTURE.
E. ENSURE GATE HINGES ALLOW GATE TO FULLY OPEN WITH USE OF 5 POUNDS OF FORCE OR LESS.
F. GATES TO BE CAPABLE OF BEING LOCKABLE DURING TIMES WHEN POOL IS CLOSED AND COMPLY WITH CHAPTER 10, TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS.
G. ALL GATES SHALL BE SELF SELF-CLOSING, IN ADDITION TO SELF-LATCHING.
H. POST FOOTING SHALL BE LOCATED BELOW THE ARCHITECTURAL CONCRETE PAVING WHEN LOCATED WITHIN PEDESTRIAN CONCRETE PAVED AREAS.

(C) TUBE STEEL PEDESTRIAN GATE ELEVATION

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

A#04-118361 PTN#73924-84 FILE#30-H18

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Los Alamitos High School Multi-story STEM Classroom Building

Los Alamitos
Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:

REGISTERED LANDSCAPE ARCHITECT
JAMES J. RIGA
No. 6189
05/29/19
(Date)
05/31/21
(Exp. Date)
STATE OF CALIFORNIA

SHEET TITLE:
HARDSCAPE DETAILS

SHEET NUMBER:
L2.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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Irrigation Pressure Calculation	
Meter No:	1
HGL:	1219 FT
Elevation of Meter:	1026 FT
Static Water Pressure PSI:	65 psi
Valve No:	8
Valve Demand	16 GPM
Maximum System Demand	16 GPM
Elevation Change P.O.C. to Highest Head:	0 FT
Losses:	
3" Water Meter	1.0 psi
3" Service line	0.6 psi
3" RP Backflow Device	12.0 psi
Isolation Valves	1.0 psi
1-1/2" R.C.V.	3.5 psi
100 Feet of 3" Mainline CL 315	0.0 psi
Fitting Loss 10%	1.8 psi
Lateral Line Loss 10%	3.0 psi
Loss to Highest Head	0.0 psi
Total Losses:	23 psi
Head Operating Pressure:	30 psi
Total Pressure Required:	53 psi
Static Pressure Available:	65 psi
Residual Pressure:	12 psi

FOR REFERENCE ONLY:

AB1881 WATER BUDGET CALCULATIONS SHOWN FOR REVISED LANDSCAPE AREA ONLY.

(CALCULATIONS SHOW THIS PROJECT TO BE IN COMPLIANCE WITH STATE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE "MWELO")

California Water Efficient Landscape Worksheet

Reference Evapotranspiration (ET_o): 49.6 | Project Type: Non-Residential | 0.45

Hydrozone # / Planting Description	Plant Factor (PF)	Irrigation Method[B]	Irrigation Efficiency (IE)[C]	ETAF (PF/IE)	Landscape Area (Sq. Ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[E]
Regular Landscape Areas							
1 - Shrub Drip (LOW)	0.3	Drip	0.81	0.370	2712	1004.44	30889
2 - Shrub Drip (MODERATE)	0.4	Drip	0.81	0.494	3028	1495.31	45984
3 - Tree Bubbler (MODERATE)	0.5	Bubbler	0.77	0.649	253	164.29	5052
				Totals	5993	2664.04	81925
Special Landscape Areas							
				1	0	0.00	0
				Totals	0	0.00	0
						ETWU Total	81,925
						Maximum Allowed Water Allowance (MAWA)[F]	82,934

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	2664
Total Area	5993
Average ETAF	0.44

All Landscape Areas

Total ETAF x Area	2664
Total Area	5993
Average ETAF	0.44

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

CONTROLLER SCHEDULING NOTE:
THESE SUGGESTED RUN TIMES ARE FOR REFERENCE ONLY. ACTUAL RUN TIMES MAY DIFFER DUE TO VARYING SITE CONDITIONS. CONTRACTOR SHALL ADJUST RUN TIMES AS REQUIRED TO PROVIDE APPROPRIATE WATER FOR EACH VALVE CIRCUIT. MULTIPLE CYCLES MAY BE REQUIRED TO MINIMIZE PONDING AND RUNOFF ONTO NON-IRRIGATED AREAS.

SEASONAL IRRIGATION SCHEDULE

Project Name: STEM Classroom Building, Los Alamitos HS
Meter Number: #1

Cycles Per Day:	1
Days Per Week:	7

Evapotranspiration Rates:

Eto Historical: 49.6	Winter	Spring	Summer	Fall
Eto Per Day	0.08	0.15	0.20	0.12
Eto Per Season	7.0	13.5	18.4	10.7

Irrigation Efficiency (%):

Rotors:	0.75
Spray Heads:	0.71
Bubbler Heads:	0.77
Drip Line:	0.81
Drip Emitter:	0.81
Stream Rotary:	0.75
Micro Spray	0.75

Precipitation Rate (in/hr)

Rotors:	0.45
Spray Heads:	1.60
Bubbler Heads:	1.80
Drip Line:	0.73
Drip Emitter:	0.40
Stream Rotary:	0.45
Micro Spray:	0.61

Run Times (Minutes per Day) = 60 x (Eto x PF) / (PR x IE) x (7/RD) / C
Eto = Daily Evapotranspiration Rate
IE = Irrigation Efficiency
PR = Precipitation Rate (Inches per Hour)
RD = Run days (Program run days per week)
C = Cycles per Day
PF = Plant Factor (Kc)
60 = Conversion to minutes
7 = Days in a week

Valve Quantity	Water Use Type	Planting	Irrigation Type	Kc	PR	IE	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)	
2	Low	Shrub	Drip Line	0.30	0.73	0.81	2	4	6	4	Min. Per Day
2	Mod	Shrub	Drip Line	0.50	0.73	0.81	4	7	10	6	Min. Per Day
4	Mod	Tree	Bubbler	0.50	1.80	0.77	2	3	4	3	Min. Per Day
Total Valves		8	Total Hour Run Times @ 7 Days Per Week				0.2	0.5	0.6	0.4	Hours Per Day

IN-LINE DRIP IRRIGATION LEGEND

SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	GPH	PSI	RADIUS	PREC RATE	DETAIL	SHEET
	RAIN BIRD - XFS-CV-6-12, XFS SUB-SURFACE "COPPER SHIELD" SERIES 17mm, 12" O.C. EMITTER, DRIPLINE WITH PRESSURE COMPENSATING, ANTI SIPHON CHECK VALVE AND COPPER SHIELD ROOT INTRUSION PROTECTION EMITTER. INSTALL DRIP TUBING @ 16" MAXIMUM ROW SPACING WITH TRIANGULAR SPACED EMITTER LAYOUT.	0.61	30	N/A	0.73	A, B, C, D	L5.1
	RAIN BIRD - DRIPLINE CONNECTIONS SHALL BE MADE USING "XF SERIES" 17mm DRIPLINE INSERT FITTINGS. INSTALL STAINLESS STEEL CLAMPS ON FITTINGS FOR ANY SYSTEM THAT EXCEEDS 50 PSI.					E	L5.1
FV	RAIN BIRD - 1812, 12" POP-UP DRIP SYSTEM COMBINATION FLUSH VALVE / DRIP INDICATOR. INSTALL WITH "GPH" IRRIGATION PRODUCTS MODEL #GDFN, SERIES FLUSH VALVE.					F	L5.1
P	NETAFIM - TL050MFV-1, TECHLINE AUTOMATIC FLUSH VALVE WITH TLSOV, MANUAL VALVE. LOCATE AT END OF DRIPZONE IN EACH DIRECTION, MINIMUM TWO PER ZONE. INSTALL INSIDE A 6" ROUND VALVE BOX 18" FROM PAVING.					G	L5.1
•	K.B.I. - KC-XXX-S SPRING CHECK VALVE, LINE SIZE. LOCATED AT RAISED PLANTER TO PREVENT ANY LOW HEAD DRAINAGE					N/A	N/A
	RAIN BIRD - XP-600X, XERI-POP MICRO SPRAY 6" POP-UP HEAD WITH RAIN BIRD SQ-SERIES, SQ-QTR: QUARTER PATTERN NOZZLE. PLACE AT EDGE OF TREE ROOTBALL ON OPPOSITE SIDES OF TREE. EACH SYMBOL REPRESENTS (2) MICRO-SPRAYS PER "EXISTING" TREE LOCATED WITHIN IN-LINE DRIP TUBING AREAS.	13.0 (26.0)	30	N/A	0.98	H, I	L5.1
	NOTE: ALL SUB-SURFACE TUBING SHALL BE INSTALLED 2" BELOW FINISH SOIL GRADE ANCHORED WITH RAIN BIRD 6" GALVANIZED WIRE STAKES, MODEL TDS-050 BEND, INSTALLED FOUR (4) FEET ON CENTER.						

IRRIGATION TREE BUBBLER LEGEND

SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	GPM	PSI	RADIUS	PREC RATE	DETAIL	SHEET
	RAIN BIRD - 1806-SAM-PRS, W/ 5Q-B NOZZLE W/ PCS-030	.30 (.60)	30	3 FT	1.9	J	L5.1
	NOTE: SINGLE SYMBOL ON PLANS REPRESENTS MINIMUM TWO (2) BUBBLERS PER TREE. (2) BUBBLERS REQUIRED FOR 24" BOX TREES AND SMALLER. (3) BUBBLERS REQUIRED FOR 36" BOX TREES. (4) BUBBLERS REQUIRED FOR 48" BOX AND LARGER TREES. PLACE BUBBLERS AT EDGE OF ROOTBALL ON OPPOSITE SIDES OF TREE WITHIN TREE WELL TYPICAL.						

IRRIGATION EQUIPMENT LEGEND

SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	DETAIL	SHEET
	NIBCO - F-619-SON, SERIES FLANGED IRON GATE VALVE, LINE SIZE PER MAINLINE.	K	L5.1
	RAIN BIRD - EFB-CP-PRS-D (1" OR 1-1/2") SERIES BRASS, REMOTE CONTROL VALVE, SIZE AS SHOWN. INSTALLED WITH RAIN BIRD PRB-QKCHK-100, 1" PRESSURE REGULATING, QUICK-CHECK BASKET FILTER(S). FOR DEMANDS (1 - 13) GPM. INSTALL ONE (1) BASKET FILTER. FOR DEMANDS (14 - 35) GPM. INSTALL TWO (2) BASKET FILTERS.	L, S	L5.1 L5.2
	EFB-CP-PRS-D (1" OR 1-1/2") SERIES BRASS REMOTE CONTROL VALVE, SIZE AS SHOWN	M, S	L5.2
	RAIN BIRD - 44RC, 1" QUICK COUPLER VALVE WITH LOCKING COVER.	N, S	L5.2

IRRIGATION PIPE & WIRE LEGEND

SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	DETAIL	SHEET
	BURIED NON-PRESSURE LATERAL LINE PIPE: SCH. 40 PVC PIPE FOR SIZES 3/4" TO 2-1/2". MINIMUM PIPE SIZE SHALL BE 3/4" - SIZE LATERALS PER PLAN.	O	L5.2
	BURIED PRESSURE IRRIGATION MAINLINE: SCH. 40 PVC PIPE FOR MAINLINE SIZES (1-1/2" AND SMALLER). CLASS 315 PVC PIPE FOR MAINLINE SIZES (2" AND LARGER).	O	L5.2
NO SYMBOL	AS APPROVED - CONCRETE THRUST BLOCKS CONSISTING OF MINIMUM (1) ONE CUBIC FOOT OF CONCRETE (2,000 PSI) SHALL BE INSTALLED FOR ALL MAINLINE 2-1/2" OR GREATER AT ELBOWS AND AT POINT OF CHANGE IN DIRECTION.	P	L5.2
	SLEEVING - SCH 40 PVC PIPE, EXTEND 12" BEYOND EDGE OF HARDSCAPE. SLEEVE SHALL BE MINIMUM TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE CARRIED, MINIMUM 2" SIZE. PLACE BELOW ALL PAVING, HARDSCAPE, ETC., AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. SLEEVE LOCATIONS SHALL BE MARKED AT EACH END AT THE TIME OF INSTALLATION WITH A PAINTED SPOT OR OTHER SIMILAR MARKING ON THE BACK OF THE CURB. EXACT SLEEVE LOCATIONS SHALL BE RECORDED ON RECORD DRAWINGS WITH DIMENSIONING FOR IRRIGATION AS-BUILT PLANS PRIOR TO BACKFILL.	Q	L5.2
	CONTROL WIRE CONDUIT - SCH. 40 PVC PIPE, INSTALL UNDER ALL PAVING / HARDSCAPE AREAS. CONDUIT SHALL BE MINIMUM TWICE THE DIAMETER OF WIRE BUNDLE CARRIED, MINIMUM 2" SIZE.	Q	L5.2
NO SYMBOL	PAIGE - P7079D, IRRIGATION CONTROL WIRE #14UF AWG DIRECT BURIAL (U.L. APPROVED)	O, Q, R	L5.2
NO SYMBOL	3M - DBR/Y-6 DIRECT BURIAL WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS.	R	L5.2

NOTE:
ALL WIRE SPLICES SHALL BE PLACED WITHIN PLASTIC VALVE BOX OR WIRE PULL BOX. WIRE SPLICES MUST BE TWISTED WITH WIRE TWISTING TOOL WITH A MAXIMUM OF TWO WIRES PER TWIST. REFER TO MANUFACTURE RECOMMENDATION FOR PROPER WIRE CONNECTIONS.

SPLICING RECOMMENDATIONS:
WIRE SPLICES ARE THE WEAK LINK OF ANY ELECTRICAL CIRCUIT. IT IS ESPECIALLY IMPORTANT TO MAKE PROPER JOINTS IN IRRIGATION SYSTEMS BECAUSE THE JOINTS ARE EXPOSED TO WET AND DAMP ENVIRONMENTS THAT CAN CAUSE CORROSION OF THE COPPER CONDUCTOR, AND PREMATURE FAILURE. PAIGE ELECTRIC RECOMMENDS THE STRICT USE OF MODEL DBR/Y-6, AS MANUFACTURED BY THE 3M COMPANY (PAIGE SPECIFICATION P7364D)

EXISTING EQUIPMENT LEGEND

SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION
M	(EXISTING) DOMESTIC WATER IRRIGATION METER. VERIFY SIZE, LOCATION, AND STATIC WATER PRESSURE IN FIELD.
RP	(EXISTING) R/P BACKFLOW PREVENTION ASSEMBLY. VERIFY AND TEST FOR PROPER OPERATION. HAVE R/P TESTED BY DISTRICT APPROVED BACKFLOW ASSEMBLY TECHNICIAN FOR CERTIFICATION. REPAIR OR REPLACE IF DAMAGED.
NO SYMBOL	(EXISTING) CONTROLLER, PROTECT IN PLACE. VERIFY AND TEST FOR PROPER OPERATION. REPAIR OR REPLACE IF DAMAGED. VERIFY QUANTITY OF AVAILABLE OPEN STATIONS, INSTALL NEW EXPANSION MODULES OR REPLACE CONTROLLER IF INADEQUATE NUMBER OF OPEN STATION EXIST.
	CONNECTION OF NEW MAINLINE TO EXISTING MAINLINE, VERIFY SIZE, LOCATION AND CONNECTION POINTS IN FIELD.
	(EXISTING) IRRIGATION MAINLINE SHOWN FOR REFERENCE ONLY. PROTECT IN PLACE, REPAIR ANY DAMAGE DUE TO CONSTRUCTION. VERIFY SIZE, TYPE, AND EXACT LOCATION IN FIELD. IF CONTRACTOR IS NOT ABLE TO LOCATE EXISTING MAINLINE CONTRACTOR SHALL PROVIDE AND INSTALL NEW MAINLINE AND MAKE ALL NECESSARY CONNECTIONS FOR PROPER OPERATION OF NEW AND EXISTING IRRIGATION SYSTEM.
	CUT AND CAP EXISTING MAINLINE, VERIFY EXACT LOCATION IN FIELD.
	(EXISTING) IRRIGATION SYSTEM TO BE ADJUSTED AND OR MODIFIED. CUT AND CAP EXISTING SYSTEM AS REQUIRED FOR PROPER OPERATION. REPAIR OR REPLACE ANY DAMAGED EQUIPMENT. PROVIDE 100% COVERAGE WITH NO PONDING, RUNOFF OR OVER SPRAY.

FOR IRRIGATION PLAN - SEE SHEET L3.1
FOR IRRIGATION NOTES - SEE SHEET L4.1
FOR IRRIGATION DETAILS - SEE SHEET L5.1 - L5.2
FOR LANDSCAPE SPECIFICATIONS - SEE SEPARATE BOOKLET

A#04-118361 PTN#73924-84 FILE#30-H18

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Los Alamitos
High School
Multi-story STEM
Classroom Building

Los Alamitos
Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:

REGISTERED LANDSCAPE ARCHITECT — JAMES J. RILEY — No. 5196 — (Date) 05/31/19 — (Exp. Date) 05/29/19 — STATE OF CALIFORNIA

SHEET TITLE:

IRRIGATION SCHEDULE & CALCULATIONS

SHEET NUMBER:

L3.0

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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IRRIGATION PIPE AND EQUIPMENT LOCATION NOTES

1. ALL IRRIGATION EQUIPMENT, SPRINKLERS AND PIPE THAT ARE SHOWN IN PAVING IS FOR DRAWING CLARITY ONLY. ALL EQUIPMENT SHALL BE INSTALLED WITHIN LANDSCAPED AREA. NO IRRIGATION EQUIPMENT SHALL BE LOCATED IN HARDSCAPE.

2. MAINLINE AND VALVE LOCATIONS SHOWN ON THIS DRAWING ARE DESIGNED AS DIAGRAMMATIC AND APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL STAKE ALL IRRIGATION PIPE / APPURTENANCE LOCATION FOR REVIEW AND APPROVAL. FINAL LOCATION AND EXACT POSITIONING OF ALL IRRIGATION SHALL BE DETERMINED BY THE OWNER'S AUTHORIZED REPRESENTATIVE. MINOR MODIFICATIONS OF ALL IRRIGATION APPURTENANCE AS REQUESTED BY THE OWNER SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST. FAILURE TO OBTAIN OWNER'S APPROVAL PRIOR TO THE INSTALLATION SHALL CAUSE THE CONTRACTOR TO MAKE OWNER DIRECTED REVISION AT NO CHARGE. ALL PIPING AND WIRES SHALL BE SLEEVED UNDER PAVING, HARDSCAPE, ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE.

IRRIGATION VALVE CALLOUT

CONTROLLER LETTER / VALVE NUMBER	A2	1.5" — VALVE SIZE
GALLONS PER MINUTE G.P.M.	16 GPM	30 PSI — OPERATING PRESSURE (P.S.I.)
HYDROZONE PLANT FACTOR	LW	D — HYDROZONE / IRRIGATION TYPE - SEE HYDROZONE LEGEND (BELOW)
LANDSCAPE HYDROZONE AREA SQUARE FOOTAGE	2000'	.73 A.R. — APPLICATION RATE IN INCHES PER HOUR

HYDROZONE LEGEND

Hydrozone Number

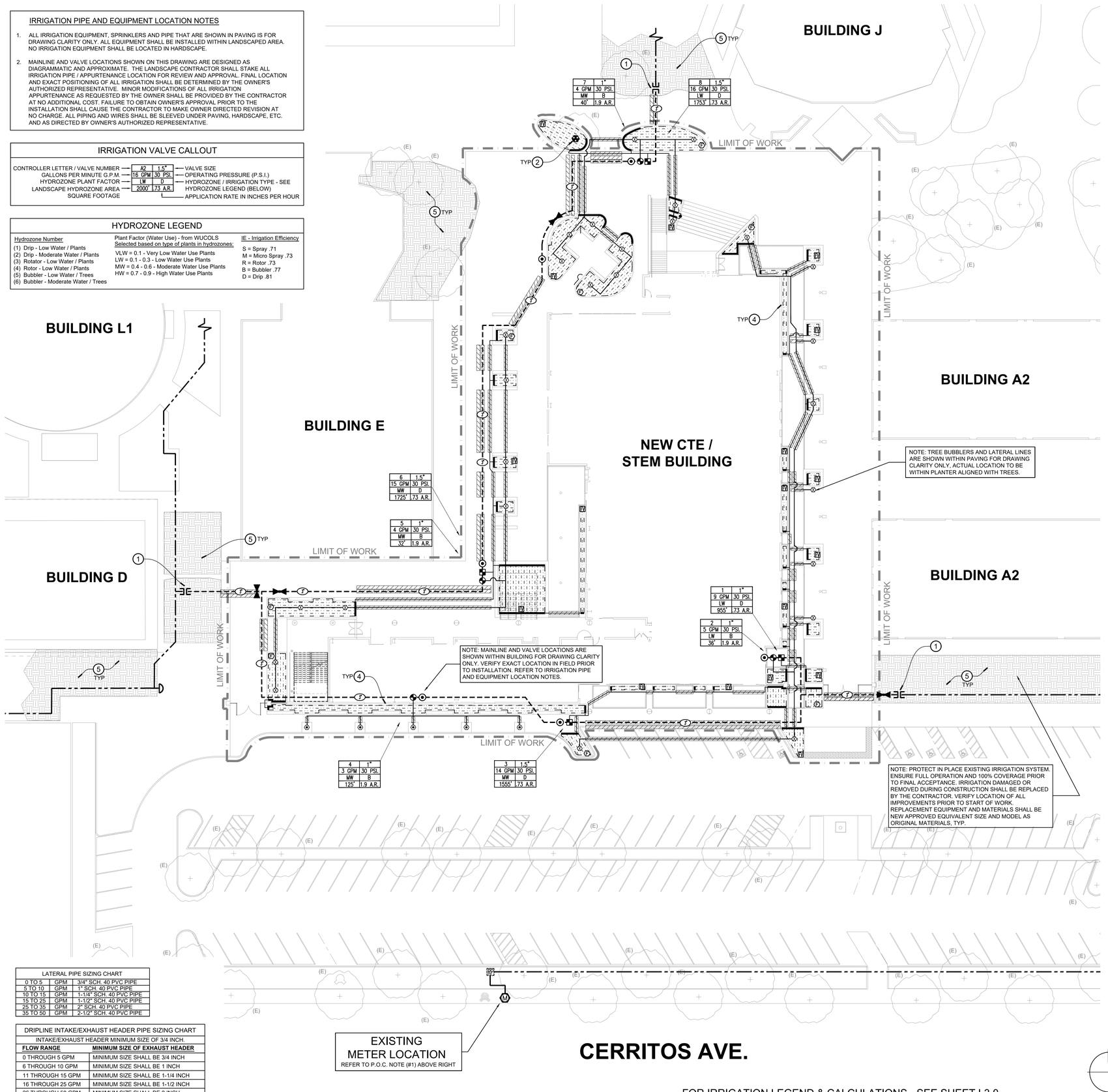
(1) Drip - Low Water / Plants
(2) Drip - Moderate Water / Plants
(3) Rotator - Low Water / Plants
(4) Rotor - Low Water / Plants
(5) Bubbler - Low Water / Trees
(6) Bubbler - Moderate Water / Trees

Plant Factor (Water Use) - from WUCOLS
Selected based on type of plants in hydrozones:

VLW = 0.1 - Very Low Water Use Plants
LW = 0.1 - 0.3 - Low Water Use Plants
MW = 0.4 - 0.6 - Moderate Water Use Plants
HW = 0.7 - 0.9 - High Water Use Plants

IE - Irrigation Efficiency

S = Spray .71
M = Micro Spray .73
R = Rotor .73
B = Bubbler .77
D = Drip .81



LATERAL PIPE SIZING CHART		
0 TO 5	GPM	3/4" SCH. 40 PVC PIPE
5 TO 10	GPM	1" SCH. 40 PVC PIPE
10 TO 15	GPM	1-1/4" SCH. 40 PVC PIPE
15 TO 25	GPM	1-1/2" SCH. 40 PVC PIPE
25 TO 35	GPM	2" SCH. 40 PVC PIPE
35 TO 50	GPM	2-1/2" SCH. 40 PVC PIPE

DRIPLINE INTAKE/EXHAUST HEADER PIPE SIZING CHART	
INTAKE/EXHAUST HEADER MINIMUM SIZE OF 3/4 INCH.	
FLOW RANGE	**MINIMUM SIZE OF EXHAUST HEADER**
0 THROUGH 5 GPM	MINIMUM SIZE SHALL BE 3/4 INCH
6 THROUGH 10 GPM	MINIMUM SIZE SHALL BE 1 INCH
11 THROUGH 15 GPM	MINIMUM SIZE SHALL BE 1-1/4 INCH
16 THROUGH 25 GPM	MINIMUM SIZE SHALL BE 1-1/2 INCH
26 THROUGH 50 GPM	MINIMUM SIZE SHALL BE 2 INCH
NOTE: CONTRACTOR SHALL SIZE ALL DRIPLINE INTAKE/EXHAUST HEADERS PER PIPE SIZING CHART, IN NO INSTANCE SHALL PIPE SIZE EXCEED DESIGNATED GPM RANGE.	

FOR IRRIGATION LEGEND & CALCULATIONS - SEE SHEET L3.0
FOR IRRIGATION NOTES - SEE SHEET L4.1
FOR IRRIGATION DETAILS - SEE SHEET L5.1 - L5.2
FOR LANDSCAPE SPECIFICATIONS - SEE SEPARATE BOOKLET

0 10 20 40 60

EXISTING P.O.C. / WATER METER NOTES

1 **P.O.C. NOTE #1:**
POINT OF CONNECTION SHALL BE DOWNSTREAM OF EXISTING IRRIGATION METER. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWING IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING BACKFLOW DEVICE AND TESTING FOR PROPER OPERATION. SHOULD BACKFLOW DEVICE BE INOPERABLE OR NOT IN PLACE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF SAID BACKFLOW DEVICE. CONFIRM ANY DISCREPANCIES WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING WORK AND PRIOR TO COMMENCING WORK.

(EXISTING) DOMESTIC WATER METER INFORMATION	
ADDRESS: 3591 W CERRITOS AVENUE LOS ALAMITOS, CA 90720	
METER SIZE	3"
STATIC PRESSURE	65 PSI.
SYSTEM DESIGN PRESSURE	53 PSI.
MAXIMUM SYSTEM DEMAND	16 GPM
REVISED LANDSCAPE AREA	5,993 SQ. FT.

EXISTING CONTROLLER NOTES

2 **EXISTING CONTROLLER NOTE #2:**
EXISTING CONTROLLER SHALL BE UTILIZED FOR PROPOSED VALVES WITHIN THE RENOVATED AREAS. VALVE NUMBERS SHOWN SHALL BE ADJUSTED AS REQUIRED TO UTILIZE THE AVAILABLE OPEN CONTROLLER STATIONS. CONTRACTOR SHALL VERIFY QUANTITY OF OPEN STATIONS OF EXISTING CONTROLLER PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK. SHOULD SAID CONTROLLER NOT CONTAIN ADEQUATE OPEN STATIONS, CONTRACTOR SHALL PROVIDE A NEW DISTRICT APPROVED CONTROLLER TO REPLACE THE EXISTING CONTROLLER. CONTRACTOR MAY UTILIZE EXISTING SPARE WIRES IF AVAILABLE. IF CONTRACTOR IS UNABLE TO LOCATE SUFFICIENT QUANTITY OF SPARE WIRES CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING OF NEW IRRIGATION CONTROL WIRES TO EXISTING CONTROLLER AND MAKING ALL NECESSARY CONNECTIONS FOR PROPER OPERATION. VERIFY ALL CONDITIONS AND LAYOUT IN FIELD PRIOR TO BIDDING WORK AND PRIOR TO COMMENCING WORK.

IRRIGATION CONSTRUCTION NOTES

1 **MAINLINE CONNECTION NOTE:**
CONTRACTOR SHALL CONNECT PROPOSED NEW IRRIGATION MAINLINE TO THE EXISTING IRRIGATION SYSTEM LOCATED IN THIS APPROXIMATE LOCATION. CONTRACTOR SHALL VERIFY ACTUAL EXISTING IRRIGATION MAINLINE LOCATION IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL REFER TO IRRIGATION AS-BUILTS FOR EXISTING IRRIGATION SYSTEM LAYOUT. CONTRACTOR SHALL VERIFY ALL IRRIGATION CONNECTION AND DISCONNECTION POINTS IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

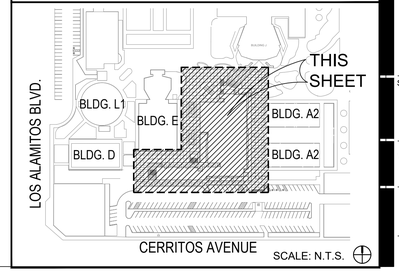
2 **TRENCHING IN VICINITY OF EXISTING TREES**
WHENEVER ROOTS OF EXISTING TREES ARE ENCOUNTERED DURING TRENCHING OPERATIONS, THE CONTRACTOR SHALL REROUTE MAIN LINE TRENCHES. DO NOT CUT ROOTS OVER 1" IN DIAMETER. ALL CUTS SHALL BE A CLEAN SHARP CUT. IF TRENCHING IS REQUIRED, THE CONTRACTOR SHALL HAND DIG THE TRENCHES TAKING CARE NOT TO DAMAGE ROOTS. NO MECHANICAL TRENCHING WITHIN THE DRIPLINE OF THE EXISTING TREE WILL BE ALLOWED. PROTECT ALL ROOTS EXPOSED TO SUNLIGHT WITH MOIST BURLAP UNTIL COVERED WITH SOIL.

3 **REMOVAL AND DISPOSAL NOTE:**
CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL AND DISPOSAL OF ALL EXISTING IRRIGATION EQUIPMENT AFFECTED BY THE PROPOSED IRRIGATION IMPROVEMENTS. CONTRACTOR SHALL VERIFY ALL EQUIPMENT TO BE REMOVED AND DISPOSED OF IN FIELD PRIOR TO COMMENCING WORK. CONTRACTOR SHALL MEET WITH THE OWNER PRIOR TO BEGINNING DEMOLITION OR ANY OTHER WORK, AND WALK SITE TO LOCATE EXISTING CONTROLLER AND LINES AND OTHER IRRIGATION TO BE PROTECTED IN PLACE.

4 **BUILDING IRRIGATION OFFSET NOTE:**
ALL IRRIGATION (SPRAY OR DRIP) ADJACENT TO BUILDING SHALL BE INSTALLED A MINIMUM DISTANCE OF 12" INCHES FROM BUILDING TO AVOID WATER / OVERSPRAY ONTO BUILDING OR WINDOWS.

5 **PERIMETER IRRIGATION NOTE:**
ALL ADJACENT SYSTEMS SHALL MAINTAIN AUTOMATIC PROGRAMMED WATERING SCHEDULES THROUGHOUT CONSTRUCTION, NO DISRUPTION OF THE EXISTING IRRIGATION SYSTEMS WATERING WILL BE ALLOWED DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR/MODIFICATION OF ALL ADJACENT IRRIGATION SYSTEMS EQUIPMENT THAT IS AFFECTED BY PROPOSED IRRIGATION IMPROVEMENTS. CONTRACTOR SHALL ADJUST AND CAP OFF EXISTING ADJACENT IRRIGATION SYSTEMS AS REQUIRED. CONTRACTOR SHALL REPAIR SAID SYSTEMS TO A LIKE NEW MANNER, PROVIDING COMPLETE 100% HEAD TO HEAD COVERAGE WITH NO PONDING, RUNOFF, OR OVER-SPRAY IN ALL AREAS. SYSTEM LAYOUT SHALL APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE. CONTRACTOR SHALL CONFIRM ALL AREAS REQUIRING MODIFICATION WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND COMMENCING WORK.

KEY MAP



A#04-118361 PTN#73924-84 FILE#30-H18

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Los Alamitos High School Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:
REGISTERED LANDSCAPE ARCHITECT JAMES J. RITK No. 4394 05/29/19 (Date) 05/31/21 (Exp. Date) STATE OF CALIFORNIA

SHEET TITLE:
IRRIGATION PLAN

SHEET NUMBER:
L3.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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IRRIGATION SYSTEM MAINTENANCE SCHEDULE

MAINTENANCE OF THE IRRIGATION SYSTEM IS A NECESSARY AND CONTINUING PROCESS INVOLVING MONITORING, ADJUSTMENT AND REPAIR. REPAIRS CAN BE MINIMIZED BY INSTITUTING A MAINTENANCE PROGRAM. SOME IRRIGATION SYSTEM MAINTENANCE ACTIVITIES NEED TO BE DONE AT REGULAR PERIODIC INTERVALS. OTHERS PERFORMED ON A NORMAL BASIS.

WEEKLY
* TRIM FOLIAGE FROM AROUND SPRINKLER HEADS AS NECESSARY TO AVOID SPRAY BLOCKAGE.
* BRIEFLY ACTIVATE EACH CONTROL VALVE AND OBSERVE SPRINKLERS FOR PROPER COVERAGE AND OPERATION AND MISALIGNED BY MOVING OPERATIONS.
* CHECK FOR IRRIGATION OVER SPRAY OR RUNOFF AND CORRECT AS NEEDED.
*CHECK ALL DRIP LINES FOR CLOGGED EMITTERS AND CLEAN OR REPLACE AS NEEDED.

MONTHLY
* ADJUST PROGRAMMING OF THE AUTOMATIC IRRIGATION CONTROLLER(S) BASED ON OBSERVED FIELD CONDITIONS.
* CHECK THE SOIL MOISTURE WITH AN AUGER AND EVALUATE WITH REGARD TO DURATION AND FREQUENCY OF THE IRRIGATION CYCLES. FINE TUNE SYSTEMS WEEKLY OR BIWEEKLY AND MAKE CORRECTIONS AS NECESSARY. KEEP RECORDS OF ALL INFORMATION. MAINTAIN PET COCKS OF VALVE IN GOOD OPERATIONAL CONDITION, PET COCKS SHALL BE ONLY "FINGER TIGHT" WHEN IN THE CLOSED POSITION.
* CONTROLLER OPERATION: CHECK FIELD VALVES FOR SEQUENCING, TIMING, ACCURACY, AND GENERAL FUNCTION AT THE BEGINNING OF EACH WATERING SEASON.
* WALK AND CHECK ALL ON GRADE PIPE, CHECK FOR BREAKS OR LEAKS, CHECK STAKING AND POSITION OF ALL PIPE AND SPRINKLER HEADS INSTALLED ON SLOPE.
* FLUSH ALL DRIP SYSTEM LATERAL LINES AT EACH END OF DRIP ZONES.
* CHECK AND CLEAN ALL DRIP REMOTE CONTROL BASKET FILTERS.

CONTINUALLY
* CLEAN SOIL AND DEBRIS FROM SPRINKLER BODIES, NOZZLES AND DRIP SYSTEMS TO ENSURE PROPER WATER DISCHARGE.
* STRAIGHTEN SPRINKLERS AND ADJUST NOZZLES TO INSURE PROPER WATER DISCHARGE.
* MAINTAIN ALL SPRINKLERS IN GOOD OPERATING ORDER, INCLUDING PROPER COVERAGE ADJUSTMENTS. REPAIR OR REPLACE SPRINKLERS AS NEEDED.
* MAINTAIN ELECTRIC CONTROL VALVE BOXES FREE OF DIRT AND DEBRIS.
* ADJUST WATER APPLICATIONS ACCORDING TO CHANGES IN THE WEATHER. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE RESULTING FROM EITHER OVER OR UNDER-WATERING.

AS NEEDED
* EXTEND THE HEIGHT OF SPRINKLERS AS NECESSARY IN SHRUB AREAS TO AVOID INTERFERENCE FROM ADJACENT FOLIAGE.
* THE STAFF SHALL REPAIR OR REPLACE ANY DAMAGED OR MALFUNCTIONING EQUIPMENT WITHIN ONE WEEK OF DETECTION.
* TURN OFF CONTROLLERS TEMPORARILY DURING PERIODS OF RAINFALL.

EQUIPMENT REPLACEMENT
* REPLACE ANY IRRIGATION VALVES, SPRINKLERS, DRIP LINE OR OTHER COMPONENTS WITH REPLACEMENT OF THE EXACT TYPE, GPM AND MANUFACTURE AS CALLED FOR IN THE ORIGINAL IRRIGATION PLANS.

MAJOR REPAIRS
* WHERE CONDITIONS DEVELOP WHICH CAN NOT BE HANDLED BY ROUTINE MAINTENANCE, THEY SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER.
* ALL DAMAGE NOT RESULTING FROM CONTRACTOR'S ACTIVITIES OR NEGLIGENCE SHOULD BE BROUGHT TO THE OWNER'S ATTENTION.
* DURING TIMES WHEN THE WATER SUPPLY IS CUT OFF OR THE IRRIGATION SYSTEM IS OTHERWISE INOPERABLE, THE LANDSCAPE SHOULD BE CAREFULLY MONITORED FOR SIGNS OF WATER STRESS. START A HAND WATERING PROGRAM IMMEDIATELY FOR ALL STRESSED LANDSCAPES. NOTIFY OWNER IN WRITING IF THIS OCCURS.

LANDSCAPE IRRIGATION AUDIT SCHEDULE
* LANDSCAPE IRRIGATION AUDITS SHALL BE PERFORMED IN ACCORDANCE WITH THE STATE OF CALIFORNIA WATER MANAGEMENT PROGRAM AS DESCRIBED IN THE "LANDSCAPE IRRIGATION AUDITOR HANDBOOK".
* AUDITS SHALL BE CONDUCTED BY CERTIFIED LANDSCAPE IRRIGATION AUDITOR.
* THE FIRST LANDSCAPE IRRIGATION AUDIT SHALL BE PERFORMED PRIOR TO ACCEPTANCE AND SHALL BE REPEATED EVERY FIVE YEARS THEREAFTER.

KEEPING OF RECORDS
* THE CONTRACTOR SHALL KEEP PERMANENT RECORDS OF ALL PERFORMED MAINTENANCE TASKS.
* RECORD ALL WATER USAGE AND CHANGES IN THE CONTROLLER TIMING, INCLUDING OFF TIMES DURING RAINFALL.
* RECORD ALL ACTIVITIES PERFORMED DURING THE QUARTERLY REVIEW.
* RECORD ALL PROPOSED AND EXECUTED REPAIRS.
* RECORD ALL TIMES WHEN THE IRRIGATION SYSTEMS ARE NOT OPERABLE.
* RECORD ALL PERFORMED IRRIGATION AUDITS.

COLOR CHART NOTE:
AS A REQUIREMENT THE AUTOMATIC CONTROLLER SHALL CONSIST OF A NEATLY DRAWN 11"x17" LAMINATED IRRIGATION PLAN AND COLORED ZONE MAP LAYOUT CHART. LAYOUT CHART SHALL BE COLOR CODED INDICATING LOCATION OF ALL CONTROLS, PIPING, SLEEVES, HEADS (INCLUDING TYPE), VALVES AND CONNECTION TO WATER SERVICE.

IRRIGATION WATER AUDIT NOTE:
LANDSCAPE CONTRACTOR TO PROVIDE AN IRRIGATION AUDIT, IN COMPLIANCE WITH THE STATE OF CALIFORNIA LANDSCAPE WATER MANAGEMENT PROGRAM, SHALL BE PERFORMED BY A CERTIFIED IRRIGATION AUDITOR, OTHER THAN THE DESIGNER OR INSTALLER, PRIOR TO TURNOVER OF PROJECT AND EVERY 5 YEARS THEREAFTER. A SCHEDULE SHALL BE ESTABLISHED AND SUBMITTED TO THE CITY OF AT LEAST ONCE EVERY FIVE YEARS AS REQUIRED BY THE CITY. THE REGULAR MAINTENANCE SCHEDULE COUPLED WITH THE AUDITS SHOULD HELP TO MAINTAIN THE IRRIGATION EFFICIENCY AS INTENDED IN THE DESIGN. IRRIGATION SYSTEM SHALL BE TESTED AND MAINTAINED ON A MONTHLY BASIS BY THE MAINTENANCE STAFF.

AT A MINIMUM, AUDITS SHALL BE IN ACCORDANCE WITH THE LATEST STATE OF CALIFORNIA LANDSCAPE WATER MANAGEMENT PROGRAM AS DESCRIBED IN THE LATEST LANDSCAPE IRRIGATION AUDITOR HANDBOOK, PREPARED FOR THE CALIFORNIA DEPARTMENT OF WATER RESOURCES, WATER CONSERVATION OFFICE, THE ENTIRE DOCUMENT, WHICH IS HEREBY INCORPORATED BY REFERENCE.

THE SCHEDULE SHALL PROVIDE FOR LANDSCAPE IRRIGATION AUDITS TO BE CONDUCTED BY A QUALIFIED INDIVIDUAL, OTHER THAN THE DESIGNER OR INSTALLER, AS DETERMINED BY THE DIRECTOR AT LEAST ONCE EVERY FIVE YEARS IN ACCORDANCE WITH THE REQUIREMENTS OF THE COUNTY.

Existing Irrigation Notes

1. THE CONTRACTOR MUST FAMILIARIZE HIMSELF WITH THE EXISTING IRRIGATION AND PLANTING ON PROPERTY. ANY DAMAGE OR ADJUSTMENTS REQUIRED INCLUDING REPLACING OR RELOCATING IRRIGATION LINES, HEADS, VALVES, WIRES OR ANY UTILITY THAT OCCURS ON THE PARCEL DUE TO THE CONSTRUCTION OF THIS PROJECT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. THE OWNER'S REPRESENTATIVE MUST REVIEW ANY REQUIRED MODIFICATIONS TO THESE AREAS PRIOR TO COMMENCING WORK. THE CONTRACTOR MUST NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE OF THESE CONDITIONS OR ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, PROPERTY LINES, DIMENSIONS, ETC. PRIOR TO COMMENCING WORK. ALL EXISTING IRRIGATION SYSTEMS SHALL BE VERIFIED IN THE FIELD AT START OF CONSTRUCTIONS. ALL EXISTING MAINLINES, RCVS, BACKFLOW DEVICES, CONTROLLERS, METERS, SERVICE LINES, ETC. SHALL BE VERIFIED IN FIELD. ALL EXISTING IRRIGATION EQUIPMENT SHALL BE CLEARLY INDICATED INCLUDING SIZES AND MODEL NUMBERS TO SCALE ON AN ACCURATE BASE DRAWING AND SUBMITTED AS A SHOP DRAWING. SAID SHOP DRAWING SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT, AND OWNER'S AUTHORIZED REPRESENTATIVE FOR REVIEW AND APPROVAL. NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND. NO WORK SHALL PROCEED WITHOUT APPROVAL OF SAID SHOP DRAWINGS.
3. ALL EQUIPMENT LOCATIONS AND PIPE ROUTING SHALL BE STAKED IN FIELD FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ALL LAYOUT SHALL BE AS APPROVED BY, LANDSCAPE ARCHITECT, AND OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION. NO EQUIPMENT SHALL BE INSTALLED WITHOUT APPROVAL OF LAYOUT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE INSTALLATION OF PROPOSED IRRIGATION EQUIPMENT AND RELATED EQUIPMENT, INCLUDING BUT NOT LIMITED TO R.C.V. CONTROL WIRES, ELECTRICAL WIRES, CONDUIT, REMOTE CONTROL VALVES, ETC. ALL LAYOUT AND LOCATIONS SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL AND DISPOSAL OF ALL EXISTING IRRIGATION EQUIPMENT AFFECTED BY THE PROPOSED IRRIGATION IMPROVEMENTS. CONTRACTOR SHALL VERIFY ALL EQUIPMENT TO BE REMOVED AND DISPOSED OF IN FIELD PRIOR TO COMMENCING WORK.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR/MODIFICATION OF ALL ADJACENT IRRIGATION SYSTEM EQUIPMENT THAT IS AFFECTED BY PROPOSED IRRIGATION IMPROVEMENTS. CONTRACTOR SHALL REPAIR SAID SYSTEMS TO A LIKE NEW MANNER, PROVIDING COMPLETE 100% HEAD TO HEAD COVERAGE IN ALL AREAS WITH SYSTEM LAYOUT AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE. CONTRACTOR SHALL CONFIRM ALL AREAS REQUIRING MODIFICATION WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING WORK AND PRIOR TO COMMENCING WORK.
7. CONTRACTOR SHALL ADJUST AND CAP OFF EXISTING ADJACENT IRRIGATION SYSTEM AS REQUIRED. SYSTEM SHALL PROVIDE COMPLETE 100% HEAD TO HEAD COVERAGE IN ALL AREAS AS APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE. ALL LAYOUT SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.
8. CONTRACTOR SHALL REFER TO CORRESPONDING ON-SITE WATER AND SEWER PLAN FOR UNDERLYING WATERLINES, EASMENTS, AND OTHER RELATED EQUIPMENT. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS IN FIELD WITH OWNERS AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS TO EXISTING IRRIGATION, LANDSCAPE AND HARDSCAPE DAMAGED BY NEW CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
10. CONTRACTOR SHALL MEET WITH THE OWNER PRIOR TO BEGINNING DEMOLITION OR ANY OTHER WORK, AND WALK SITE TO LOCATE EXISTING CONTROLLER AND LINES AND OTHER IRRIGATION TO BE PROTECTED IN PLACE.
11. CONTRACTOR SHALL PROVIDE FOR THE IRRIGATION OF EXISTING PLANT MATERIAL THROUGHOUT THE CONSTRUCTION PROCESS. ANY DAMAGE DUE TO CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY TO PREVENT ANY LAPSE IN IRRIGATION OF THE EXISTING PLANT MATERIAL. ANY PLANT MATERIAL AND/OR IRRIGATION DAMAGED AS PART OF CONSTRUCTION SHALL BE REPAIRED TO A LIKE NEW CONDITION AS PART OF CONTRACT.
12. ANY EXISTING IRRIGATION CONTROL VALVES CONNECTED TO THE EXISTING CONTROLLER SHALL BE RECONNECTED TO THE NEW CONTROLLER. CONFIRM PROPER CONTROLLER OPERATION AND INSTALLATION WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK AND UPON COMPLETION OF WORK.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE ADJUSTMENT/MODIFICATION OF EXISTING IRRIGATION SYSTEM WITHIN THIS AND OTHER AREAS AFFECTED BY THE PROPOSED IMPROVEMENTS. ALL LAYOUT SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.
14. NO DISRUPTION OF THE EXISTING IRRIGATION SYSTEMS WATERING WILL BE ALLOWED DURING CONSTRUCTION. ALL ADJACENT SYSTEM SHALL MAINTAIN AUTOMATIC PROGRAMMED WATERING SCHEDULES THROUGHOUT CONSTRUCTION.
15. CONTRACTOR SHALL OBTAIN EXISTING IRRIGATION AS-BUILT RECORD DRAWINGS FOR ADJACENT IRRIGATED AREAS PRIOR TO STARTING WORK. ALL EXISTING IRRIGATION EQUIPMENT LOCATION, SIZES, AND CONDITIONS SHALL BE VERIFIED IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE AT START OF WORK.
16. WHENEVER ROOTS OF EXISTING TREES ARE ENCOUNTERED DURING TRENCHING OPERATIONS, THE CONTRACTOR SHALL REROUTE MAIN LINE TRENCHES. DO NOT CUT ROOTS OVER 1" IN DIAMETER. ALL CUTS SHALL BE A CLEAN SHARP CUT. IF TRENCHING IS REQUIRED, THE CONTRACTOR SHALL HAND DIG THE TRENCHES TAKING CARE NOT TO DAMAGE ROOTS. NO MECHANICAL TRENCHING WITHIN THE DRIPLINE OF THE EXISTING TREE WILL BE ALLOWED. PROTECT ALL ROOTS EXPOSED TO SUNLIGHT WITH MOIST BURLAP UNTIL COVERED WITH SOIL.

AS-BUILT NOTE:
AS-BUILT RECORD DRAWINGS WERE NOT AVAILABLE AT TIME OF SYSTEM DESIGN. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXISTING IRRIGATION SYSTEM AS-BUILTS FROM OWNER PRIOR TO COMMENCING WORK. CONTRACTOR SHALL CONFIRM ALL CONNECTION POINTS AND EXISTING IRRIGATION SYSTEMS AFFECTED IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PROPOSED IRRIGATION SYSTEM CONNECTION POINT AND CONTROLLER LOCATION FOR APPROVAL BY OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. ALL LABOR AND MATERIALS REQUIRED TO IRRIGATE AREAS WITHIN THE LIMITS OF WORK AND TO ADJUST AREAS ADJACENT TO THE LIMITS OF WORK SHALL BE INCLUDED AS PART OF THIS CONTRACT. NO ADDITIONAL COSTS WILL BE ALLOWED FOR THE PROPOSED IRRIGATION IMPROVEMENTS OR ADJUSTMENT OF THE EXISTING ADJACENT IRRIGATION SYSTEMS.

NOTE:
"CONTRACTOR TO REPAIR OR REPLACE ALL LANDSCAPE AND IRRIGATION MISSING OR NOT WORKING TO A FULLY FUNCTIONING SYSTEM WITH 100% COVERAGE". ALL EXISTING SYSTEMS SHALL BE REPAIRED TO PREVENT OVERSPRAY OR RUNOFF ONTO SIDEWALKS OR STREETS.

Irrigation Installation Notes

1. THE CONTRACTOR SHALL OBTAIN, COORDINATE AND PAY FOR ANY AND ALL PERMITS AND ALL INSPECTIONS AS REQUIRED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY AND ALL DAMAGES TO OPERATIONS OR WORK OF OTHER CONTRACTORS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ACTIVITIES WITH ALL AGENCIES AND OTHER TRADES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY ENCROACHMENT INTO ADJACENT PROPERTY, R.O.W.'S, EASEMENTS, SETBACKS OR ANY OTHER LEGAL PROPERTY RESTRICTIONS EITHER MARKED OR UNMARKED.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL REPAIR OR REPLACE, AT NO ADDITIONAL COST TO THE OWNER, ANY DAMAGE TO UNDERGROUND UTILITIES THAT MAY OCCUR.
5. THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING PLANS BEFORE BEGINNING WORK.
6. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS SHOWN ON PLANS AT THE SITE PRIOR TO COMMENCEMENT OF ANY WORK. ALL DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO PROJECT LANDSCAPE ARCHITECT FOR DIRECTION. ANY CONTINUATION OF WORK IS AT THE CONTRACTOR'S RISK AND EXPENSE.
7. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE PROJECT LANDSCAPE ARCHITECT FOR DIRECTION.
8. BEFORE ANY WORK COMMENCES, A CONFERENCE SHALL BE HELD WITH THE CITY'S PUBLIC WORKS INSPECTOR, LANDSCAPE ARCHITECT AND THE CONTRACTOR, REGARDING GENERAL REQUIREMENTS OF THIS WORK.
9. INSTALL ALL IRRIGATION COMPONENTS ACCORDING TO LOCAL CODES AND ORDINANCES.
10. THE IRRIGATION WATER METER IS TO BE PROVIDED BY THE OWNER UNLESS SHOWN OTHERWISE ON THE PLANS. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL IRRIGATION EQUIPMENT DOWNSTREAM OF THE POINT OF CONNECTION (P.O.C.) AT THE IRRIGATION WATER METER.
11. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
12. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS (INCLUDING EXISTING AND/OR NEW PLANT MATERIAL), GRADE DIFFERENCES OR DIFFERENCES IN THE AREA'S DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE DESIGN. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
13. THE WORK SHOWN ON THESE PLANS IS DIAGRAMMATIC; ALL ITEMS, I.E. CONTROLLERS, VALVES, MAINLINES, SLEEVES, WIRES, IRRIGATION HEADS, ETC. ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. DO NOT SCALE DIMENSIONS. DETAIL DRAWINGS MAY CLARIFY LOCATIONS OF SOME ITEMS. THE CONTRACTOR SHALL NOT LOCATE ANY ITEMS WHERE IT IS OBVIOUS THAT THEY ARE IN CONFLICT WITH UNDERGROUND UTILITIES, STRUCTURES, OTHER IMPROVEMENTS, OR VEHICULAR OR PEDESTRIAN SAFETY CONSIDERATIONS.
14. CONTROLLER LOCATIONS ARE APPROXIMATE. FINAL LOCATION OF THE AUTOMATIC CONTROLLER AND THE BACKFLOW DEVICE SHALL BE APPROVED BY THE OWNER AND THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
15. ALL CONSTANT PRESSURE LINES SHALL BE TESTED FOR 3 HOURS UNDER A HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH AND BE PROVEN WATERTIGHT. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT FOR HYDROSTATIC TESTS. HYDROSTATIC TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE LANDSCAPE ARCHITECT, CITY PUBLIC WORKS INSPECTOR OR, IF APPROVED BY LANDSCAPE ARCHITECT, CONTRACTOR MAY E-MAIL DIGITAL PHOTOGRAPHS OF THE PRESSURE GAUGE TO THE LANDSCAPE ARCHITECT AT BEGINNING AND END OF TEST PERIOD.
16. 120-VOLT ELECTRICAL POWER OUTLET AT THE AUTOMATIC CONTROLLER LOCATION SHALL BE PROVIDED PER THE ELECTRICAL ENGINEER'S PLANS AND SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ELECTRICAL SERVICE WITH THE GENERAL CONTRACTOR AND TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL OUTLET TO THE AUTOMATIC CONTROLLER.
17. ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR.
18. BACKFLOW DEVICE SHALL BE INSTALLED IN GROUND COVER AREA WHEREVER POSSIBLE. FINAL LOCATION SHALL BE DETERMINED BY THE OWNER'S AUTHORIZED REPRESENTATIVE AND MAY VARY FROM THAT INDICATED ON THE DRAWINGS.
19. QUICK COUPLER VALVES, CONTROL VALVES, AND SHUT-OFF VALVES SHALL BE INSTALLED IN GROUND COVER AREAS WHEREVER POSSIBLE.
20. PIPING AND WIRE CONDUIT PENETRATIONS THROUGH WALLS AND INSTALLATION EQUIPMENT UNDER PAVING SHALL BE INSTALLED IN SCH 40 PVC SLEEVES, AS CALLED OUT ON PLANS, OR AS PER LOCAL CODES AND MUST BE COORDINATED WITH THE GENERAL CONTRACTOR AND CONTRACTORS OF ALL VARIOUS TRADES THAT MAY BE INVOLVED TO ELIMINATE PROBLEMS THAT MAY ARISE FROM INACCESSIBILITY OR DAMAGE TO ANOTHER TRADE'S WORK. PIPING AND WIRE CONDUIT PENETRATIONS THROUGH EXISTING WALLS SHALL BE CORE DRILLED AND SLEEVED PER ABOVE, UNLESS AN EXISTING SLEEVE IS AVAILABLE FOR RE-USE WHICH WILL NOT SIGNIFICANTLY AFFECT THE SYSTEM DESIGN.
21. USE CHECK VALVES AS REQUIRED TO ELIMINATE LOW HEAD DRAINAGE.
22. THE CONTRACTOR SHALL INSTALL KBI SERIES ANTI-DRAIN VALVES ON ALL LATERALS IN AREAS WHERE SLOPE OF GRADE EXCEEDS 4:1, WHERE POST VALVE SHUT-OFF DRAINING OF THE IRRIGATION OCCURS, OR AS DIRECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
23. THE CONTRACTOR SHALL ONLY APPLY SUFFICIENT WATER TO PROMOTE HEALTHY GROWTH OF PLANT MATERIAL. AT NO TIME SHALL THE CONTRACTOR APPLY WATER AT A RATE OF FREQUENCY WHICH CAUSES RUNOFF OR OVER-SATURATION OF THE SOIL.
24. THE CONTRACTOR SHALL FLUSH AND ADJUST ALL IRRIGATION, DRIP AND SPRAY, FOR OPTIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO ADJACENT PAVING, WALLS OR OTHER HARDSCAPE ELEMENTS TO THE EXTENT POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND ADJUSTING THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING FLOW FOR EACH SYSTEM.
25. WHEN RADIUS OF SPRINKLER HEADS AS REQUIRED FOR PROPER COVERAGE IS LESS THAN RADIUS SHOWN ON LEGEND, THE CONTRACTOR SHALL EQUIP SPRINKLER HEAD WITH A PRESSURE COMPENSATING SCREEN (PCS) FOR LOW FLOW AND RADIUS CONTROL.
26. USE ADJUSTABLE ARC NOZZLES FOR ALL HEADS LOCATED IN AREAS WHERE A STANDARD ARC PATTERN SPRAYS OVER ONTO ADJACENT PAVING, WALLS OR OTHER HARDSCAPE ELEMENTS. ADJUSTABLE ARC NOZZLE SHOULD HAVE THE SAME RADIUS OF THROW AS THE NOZZLE BEING REPLACED.
27. NO OVERSPRAY OR LOW HEAD DRAINAGE SHALL BE ALLOWED.
28. WHEN VERTICAL OBSTRUCTIONS (LIGHT POLES, FIRE HYDRANTS, TREES, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT PROPER COVERAGE, THE CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
29. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWING. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE IMMEDIATELY UPON REJECTION.
30. ALL ELECTRICAL CONTROL WIRE SHALL BE DIRECT BURIAL, #14 UL APPROVED, IN AN 18" DEEP TRENCH, INSTALLED UNDERNEATH AND ATTACHED WITH PLASTIC TIE 10' O.C. TO THE MAINLINE PIPE WHEN RUN IN THE SAME TRENCH. WIRE CONNECTORS SHALL BE PENTITE OR DRI-SPLICE ONLY.
    COLORS FOR CONTROL WIRE SHALL BE AS FOLLOWS:
    A. COMMON WIRE - WHITE WITH COLORED STRIPE (FOR MULTIPLE CONTROLLERS USE DIFFERING COLOR STRIPE PER CONTROLLER)
    B. EXTRA COMMON WIRES, PROVIDE A MINIMUM THREE (3) EACH DIRECTION AND MINIMUM ONE (1) TO EACH LEG OF MAINLINE PER CONTROLLER.
    C. LEAD/HOT WIRE - BLACK
    D. EXTRA LEAD WIRES, PROVIDE A MINIMUM OF TWO (2) EXTRA SPARE LEAD WIRES FOR EACH GROUP OF TEN (10) CONTROL VALVES AND ALSO TO EACH LEG OF MAINLINE END RUN - SPARE LEAD WIRES SHALL BE A DIFFERENT COLOR THAN CONTROL VALVE WIRES. LABEL ALL SPARE WIRES "SPARE" AT BOTH ENDS.
31. ALL AUTOMATIC CONTROLLER PROGRAMS MUST BE SET TO OPERATE BETWEEN THE HOURS OF 10 P.M. AND 6 A.M.
32. THE ENTIRE SPRINKLER SYSTEM SHALL BE GUARANTEED BY THE CONTRACTOR AS TO MATERIAL AND WORKMANSHIP, INCLUDING THE SETTLING OF BACKFILLED AREAS AND TRENCHES FOR A PERIOD OF ONE YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE WORK. SHOULD ANY OPERATION DIFFICULTIES IN CONNECTION WITH THE SPRINKLER SYSTEM DEVELOP WITHIN THE SPECIFIED GUARANTEE PERIOD, WHICH IN THE OPINION OF THE OWNER MAY BE DUE TO INFERIOR MATERIAL AND/OR WORKMANSHIP, SAID DIFFICULTIES SHALL BE IMMEDIATELY CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
33. THE CONTRACTOR SHALL AT ALL TIMES PROTECT HIS WORK FROM DAMAGE AND THEFT AND REPLACE ALL DAMAGED OR STOLEN PARTS AT HIS EXPENSE UNTIL THE WORK IS ACCEPTED IN WRITING BY THE OWNER.
34. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE AND THE MAXIMUM FLOW DEMAND SHOWN ON THE IRRIGATION DRAWINGS AT EACH POINT OF CONNECTION. THE CONTRACTOR SHALL VERIFY WATER PRESSURE IN THE FIELD PRIOR TO CONSTRUCTION TO DETERMINE IF IT IS SUFFICIENT TO OPERATE SYSTEMS AS DESIGNED. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE PROJECT LANDSCAPE ARCHITECT. IN THE EVENT PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
35. AFTER INSTALLATION OF THE IRRIGATION SYSTEM IS COMPLETED, THE CONTRACTOR SHALL PERFORM A COVERAGE AND PRESSURE TEST IN THE PRESENCE OF THE LANDSCAPE ARCHITECT AND CITY PUBLIC WORKS INSPECTOR TO DETERMINE IF THE IRRIGATION PRESSURE AND COVERAGE FOR PLANTING AREAS IS ADEQUATE AND COMPLETE. FURNISH ALL MATERIALS AND PERFORM ALL WORK REQUIRED TO CORRECT ANY INADEQUACIES OF PRESSURE AND COVERAGE DUE TO DEVIATIONS FROM THE PLANS OR BECAUSE DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS WERE NOT BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

Irrigation General Notes

1. IRRIGATION PLANS ARE DESIGNED AS DIAGRAMMATIC AND APPROXIMATE. ALL IRRIGATION EQUIPMENT, SPRINKLERS AND PIPE ARE TO BE INSTALLED IN LANDSCAPED AREA. NO IRRIGATION EQUIPMENT SHALL BE LOCATED IN HARDSCAPE. THE IRRIGATION CONTRACTOR SHALL ENSURE NO OVERSPRAY ONTO HARDSCAPE, STREETS, WALLS OR ANY OTHER HARDSCAPE / STRUCTURE.
2. MAINLINE SHOWN WITHIN PAVING FOR DRAWING CLARITY ONLY, ACTUAL MAINLINE LOCATION TO BE A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.
3. WHEN VERTICAL OBSTRUCTIONS (PROPS, STREET LIGHTS, TREES, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT PROPER COVERAGE, THE IRRIGATION CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
4. WHEN RADIUS OF SPRINKLER HEADS, REQUIRED FOR PROPER COVERAGE, IS LESS THAN RADIUS SHOWN ON LEGEND, THE CONTRACTOR SHALL EQUIP SPRINKLER HEAD WITH A RAIN BIRD "PCS" PRESSURE COMPENSATING SCREEN FOR LOW FLOW AND RADIUS CONTROL.
5. USE ADJUSTABLE ARC NOZZLES FOR ALL HEADS LOCATED IN AREAS WHERE A STANDARD ARC PATTERN OVER SPRAYS ONTO BUILDINGS, WALLS OR PAVING. ADJUSTABLE ARC NOZZLE SHOULD HAVE THE SAME RADIUS OF THROW AS THE NOZZLE BEING REPLACED.
6. OVERHEAD IRRIGATION SHALL NOT BE PERMITTED WITHIN 24 INCHES OF ANY NON-PERMEABLE SURFACE, (PER STATE ORDINANCE AB 1881.) ABSOLUTELY NO OVERSPRAY OR LOW HEAD DRAINAGE IS ALLOWED.
7. IRRIGATION SLEEVES SHOWN FOR MAJOR STREET AND DRIVEWAY CROSSINGS FOR CLARITY ONLY. CONTRACTOR SHALL INSTALL SLEEVING BELOW ALL PAVING, HARDSCAPE, ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE.
8. ALL PIPING AND WIRE SHALL BE SLEEVED UNDER PAVING / HARDSCAPE. ALL SLEEVES TO BE MINIMUM 2X DIAMETER OF PIPE SLEEVES. ALL MAINLINE SHALL BE ACCOMPANIED WITH A MINIMUM 2-INCH DIAMETER WIRE SLEEVE. SLEEVING TO EXTEND MINIMUM 12 INCHES BEYOND PAVING.
9. ALL LEAD WIRES TO BE #14 GAUGE, AND BLACK IN COLOR. ALL COMMON WIRE TO BE #14 GAUGE AND WHITE WITH COLORED STRIPE. FOR MULTIPLE CONTROLLERS USE DIFFERING COLOR STRIPE PER CONTROLLER.
10. PROVIDE A MINIMUM OF TWO (2) SPARE LEAD WIRES FOR EACH GROUP OF TEN (10) CONTROL VALVES AND ALSO TO EACH LEG OF MAINLINE END RUN. PROVIDE MINIMUM ONE (1) SPARE COMMON WIRE TO EACH MAINLINE END RUN. LOOP SPARE WIRES IN A NEARBY VALVE BOX WITH MINIMUM 2' OF COILED WIRE. SPARE LEAD WIRES SHALL BE A DIFFERENT COLOR THAN CONTROL VALVE WIRES. LABEL ALL SPARE WIRES "SPARE" AT BOTH ENDS.
11. ALL IRRIGATION ADJACENT TO BUILDING SHALL BE INSTALLED A MINIMUM DISTANCE OF 12" INCHES FROM BUILDING TO AVOID WATER/OVERSPRAY ONTO BUILDING OR WINDOWS. ALL LAYOUT SHALL BE CONFIRMED IN FIELD WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK.
12. ALL SPRAY HEADS ADJACENT TO PARKING STALLS CURBS WITHIN CAR OVERHANG AREAS SHALL BE INSTALLED WITH 6" POP-UP SPRAY HEADS LOCATED 8" FROM CURB TO AVOID CAR OVERHANG INTERFERENCE. CONTRACTOR SHALL VERIFY ALL CAR OVERHANG AREAS THAT SHALL RECEIVE THE 6" POP-UP SPRAY HEADS.
13. TREE BUBBLERS AND LATERAL LINES ARE SHOWN WITHIN PAVING AND BUILDINGS FOR DRAWING CLARITY ONLY, ACTUAL LOCATION TO BE WITHIN PLANTER. BUBBLERS SHALL BE ALIGNED WITH TREES AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. CONFIRM ALL LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.
14. IRRIGATION SYSTEM LAYOUT HAS BEEN DESIGNED TO ACCOMMODATE SHRUB HEDGES AND TO MINIMIZE SPRAY PATTERN DISTORTION OR BLOCKAGE FROM HEDGE ROWS. CONTRACTOR SHALL INSTALL SPRINKLERS IN FRONT OF HEDGE ROWS TO AVOID ANY DISTORTION OR BLOCKAGE FROM HEDGE ROWS AND ALSO TO PROVIDE ADEQUATE COVERAGE TO ALL PLANTER AREAS INCLUDING THE HEDGE ROWS. ALL LAYOUT SHALL BE CONFIRMED IN FIELD WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK.
15. CONTROLLER LOCATION SHOWN ON THIS DRAWING IS APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL STAKE OUT THE CONTROLLER LOCATION FOR REVIEW AND APPROVAL BY THE OWNER PRIOR TO INSTALLATION OF THIS EQUIPMENT. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL CONNECTION FROM 120 VOLT POWER SOURCE TO THE CONTROLLER AND ALL WIRE CONNECTIONS FROM ALL VALVES AND APPURTENANCE VALVES TO TERMINAL STRIP. REFER TO ELECTRICAL ENGINEER'S DRAWING'S FOR POWER SOURCE. ALL ELECTRICAL WORK SHALL CONFORM TO LOCAL STATE AND NATIONAL ELECTRICAL CODES AND REGULATIONS. FINAL LOCATION AND EXACT POSITIONING OF THE CONTROLLER SHALL BE DETERMINED BY THE OWNER. MINOR MODIFICATIONS OF CONTROLLER REQUESTED BY THE OWNER SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. FAILURE TO OBTAIN OWNER'S APPROVAL PRIOR TO THE INSTALLATION SHALL CAUSE THE CONTRACTOR TO MAKE OWNER DIRECTED REVISIONS AT NO ADDITIONAL COST TO THE OWNER.
16. ELECTRIC CONTROL VALVES AND ISOLATION VALVE LOCATIONS ON THIS DRAWING ARE APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL STAKE OUT EACH ELECTRICAL CONTROL VALVE AND ISOLATION VALVE LOCATION FOR REVIEW AND APPROVAL BY OWNER PRIOR TO INSTALLATION OF ALL VALVES. FINAL LOCATION AND EXACT POSITIONING FOR ELECTRIC CONTROL VALVES AND ISOLATION VALVES SHALL BE DETERMINED BY THE OWNER. MINOR MODIFICATIONS OF ELECTRIC CONTROL VALVES AND ISOLATION VALVE LOCATIONS AS REQUESTED BY THE OWNER SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. FAILURE TO OBTAIN OWNER'S APPROVAL PRIOR TO THE INSTALLATION SHALL CAUSE THE CONTRACTOR TO MAKE OWNER DIRECTED REVISIONS AT NO ADDITIONAL COST TO THE OWNER. IN GENERAL, UNLESS OTHERWISE DIRECTED BY OWNER, ALL VALVES SHALL BE INSTALLED THREE FEET FROM EDGE OF HARDSCAPE, WALK OR CURB IN SHRUB PLANTING AREAS.
17. BACKFLOW PREVENTER LOCATION SHOWN ON THIS DRAWING ARE APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL STAKE OUT THE BACKFLOW PREVENTER, AND ALL IRRIGATION APPURTENANCE LOCATION FOR REVIEW AND APPROVAL BY OWNER, LANDSCAPE ARCHITECT AND CITY'S PUBLIC WORKS INSPECTOR PRIOR TO INSTALLATION OF THIS EQUIPMENT. FINAL LOCATION AND EXACT POSITIONING OF BACKFLOW PREVENTER AND ALL IRRIGATION APPURTENANCE SHALL BE DETERMINED BY THE OWNER. MINOR MODIFICATIONS OF THE BACKFLOW PREVENTER, AND ALL IRRIGATION APPURTENANCE AS REQUESTED BY THE OWNER SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. FAILURE TO OBTAIN OWNER'S APPROVAL PRIOR TO THE INSTALLATION SHALL CAUSE THE CONTRACTOR TO MAKE OWNER DIRECTED REVISION AT NO CHARGE.

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Los Alamitos
High School
Multi-story STEM
Classroom Building

Los Alamitos
Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:

CONSTRUCTION DOCUMENTS	05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:

JAMES J. RIDGE
LIC. #2809
(Signature)
05/29/19
(Date)
05/31/21
(Exp. Date)

SHEET TITLE:

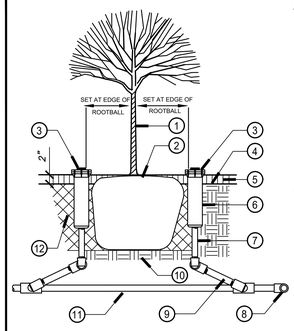
IRRIGATION NOTES

SHEET NUMBER:

L4.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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SECTION VIEW

LEGEND:

1. TREE TRUNK.
2. TREE ROOTBALL.
3. IRRIGATION POP-UP HEAD WITH BUBBLER NOZZLE - SEE LEGEND FOR TYPE.
4. FINISHED GRADE.
5. 2" LAYER OF MULCH, PER PLANTING PLANS.
6. IRRIGATION POP-UP HEAD - SEE LEGEND FOR TYPE.
7. SCH 80 PVC THREADED RISER - LENGTH AS REQUIRED.
8. PVC LATERAL, PER PLAN.
9. PRE-ASSEMBLED TRIPLE SWING JOINT: HUNTER SJ SERIES (OR APPROVED EQUAL). LAY LENGTH TO BE 6" MINIMUM, SIZE AS PER SPRINKLER OUTLET.
10. SET ROOTBALL ON UNDISTURBED NATIVE SOIL.
11. PVC SCH 40 TEE -SST OR ELL -ST ON PVC LATERAL.
12. TREE PIT, PER PLANTING DETAILS.

NOTE:

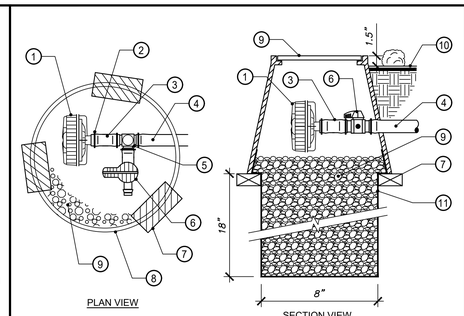
A. (2) BUBBLERS REQUIRED FOR 24" BOX TREES AND SMALLER.
(3) BUBBLERS REQUIRED FOR 36" BOX TREES.
(4) BUBBLERS REQUIRED FOR PALMS AND 48" BOX AND LARGER TREES.

B. PERCOLATION TEST TO BE DONE FOR DEEP WATERING, AND RESULTS RETURNED TO LANDSCAPE ARCHITECT.

C. PLACE BUBBLERS AT EDGE OF ROOTBALL ON OPPOSITE SIDES OF TREE. ADJUST PER ROOTBALL SIZE, TYPICAL.

D. USE TEFLON TAPE ON ALL THREADED FITTINGS, TYPICAL.

J POP-UP TREE BUBBLER NOT TO SCALE



PLAN VIEW

SECTION VIEW

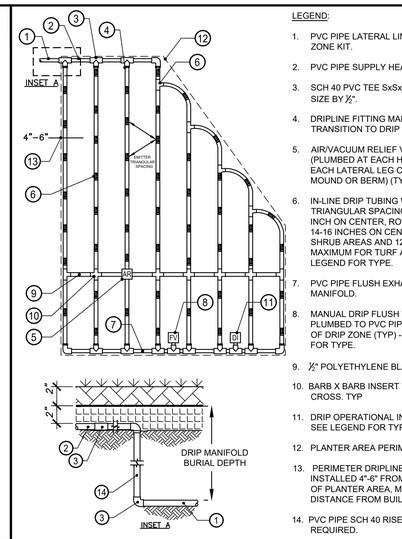
LEGEND:

1. AUTOMATIC FLUSH VALVE - SEE LEGEND FOR TYPE.
2. STAINLESS STEEL COMPRESSION RING, 5 REQ.
3. BLANK TUBING (TYP.)
4. POLYETHYLENE OR PVC LATERAL (OR EXHAUST HEADER).
5. BARBED TEE - SEE LEGEND FOR TYPE.
6. DRIP SHUT-OFF VALVE. (PROVIDE SUFFICIENT BLANK DRIP TUBING TO REMOVE SHUT-OFF VALVE FROM BOX (MINIMUM ONE FOOT LENGTH)
7. NOMINAL SIZE SOLID BRICK SUPPORTS (3 REQUIRED - EQUALLY SPACED).
8. 6" PLASTIC ROUND VALVE BOX - HEAT BRAND "FV" ONTO LID.
9. 1/2" ROUND PEA GRAVEL SUMP - 2.5 CUBIC FEET MINIMUM.
10. FINISHED GRADE.
11. LANDSCAPE FABRIC.

NOTES:

A. USE SCH 40 PVC 45 DEGREE ELLS TO TRANSITION TO DRIPLINE HEADER DEPTH.
B. SET TOP OF VALVE BOX 1-1/2" ABOVE FINISHED GRADE IN GROUNDCOVER / SHRUB AREAS.
C. INSTALL AIR RELIEF VALVE 18" FROM PAVING.

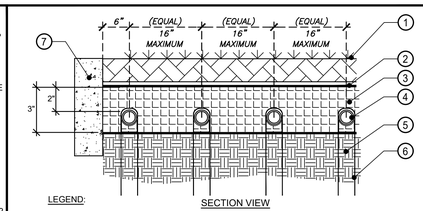
G AUTOMATIC DRIP FLUSH VALVE NOT TO SCALE



LEGEND:

1. PVC PIPE LATERAL LINE FROM DRIP ZONE KIT.
2. PVC PIPE SUPPLY HEADER.
3. SCH 40 PVC TEE SxSxT OR ELL, LINE SIZE BY ½".
4. DRIPLINE FITTING MALE ADAPTER TRANSITION TO DRIP TUBING.
5. AIR/VACUUM RELIEF VALVE (PLUMBED AT EACH HIGH POINT OF EACH LATERAL LEG CENTERED ON MOUND OR BERM) (TYP)
6. IN-LINE DRIP TUBING WITH TRIANGULAR SPACING EMITTERS 12 INCH ON CENTER, ROW SPACING 14-16 INCHES ON CENTER FOR SHRUB AREAS AND 12 INCHES MAXIMUM FOR TURF AREAS. - SEE LEGEND FOR TYPE.
7. PVC PIPE FLUSH EXHAUST MANIFOLD.
8. MANUAL DRIP FLUSH VALVE, PLUMBED TO PVC PIPE AT LOW/END OF DRIP ZONE (TYP) - SEE LEGEND FOR TYPE.
9. ½" POLYETHYLENE BLANK TUBING.
10. BARB X BARB INSERT TEE OR CROSS. TYP
11. DRIP OPERATIONAL INDICATOR - SEE LEGEND FOR TYPE.
12. PLANTER AREA PERIMETER.
13. PERIMETER DRIPLINE PIPE TO BE INSTALLED 4"-6" FROM PERIMETER OF PLANTER AREA, MINIMUM 12" DISTANCE FROM BUILDING.
14. PVC PIPE SCH 40 RISER, LENGTH AS REQUIRED.

D DRIPLINE LAYOUT (TYP) NOT TO SCALE



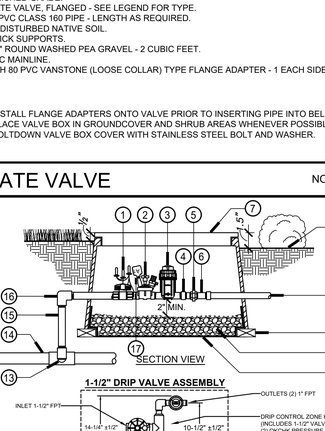
LEGEND:

1. BARK MULCH FOR SHRUB AREA PLANTING, SEE PLANTING PLAN FOR DEPTH AND TYPE.
2. FINISHED GRADE.
3. AMENDED SOIL. BRING SOIL LEVEL MINIMUM 3" BELOW FINISHED GRADE PRIOR TO DRIP TUBING INSTALLATION.
4. IN-LINE DRIP TUBING - SEE LEGEND FOR TYPE, EMITTER AND ROW SPACING.
5. AMENDED SOIL AS PER LANDSCAPE DRAWINGS.
6. 6" WIRE STAKES FIVE (5) FEET ON CENTER - SEE LEGEND FOR TYPE.
7. HARDSCAPE / CURB / PAVING.

NOTES

A. TO INSURE EVEN PARALLEL AND LEVEL TUBING ROWS IT IS RECOMMENDED THAT THE SOIL LEVEL IN THE PLANTER AREAS BE BROUGHT TO MINIMUM 3"- 4" BELOW FINISHED GRADE AND PROPERLY COMPACTED AS PER THE LANDSCAPED DRAWINGS PRIOR TO THE INSTALLATION OF THE TUBING.
B. INSTALL TUBING ROWS A MAXIMUM 16" ROW SPACING. SECURE TO GRADE USING 9" GALVANIZED WIRE HOOP STAKES AT MAXIMUM 4 FEET ON CENTER SPACING.
C. BACKFILL FINAL 2" - 3" OF SOIL AFTER INSTALLATION OF TUBING.
D. DRIP TUBING SHALL BE INSTALLED WITH EMITTERS TRIANGULAR SPACED.
E. INSTALL PERIMETER TUBING MAXIMUM 6" FROM PERIMETER EDGE FOR GROUNDCOVER AREAS OR AT FIRST LINE OF SHRUBS.
F. INSTALL PARALLEL TO SLOPE AT ALL TIMES.
G. CONTRACTOR SHALL DETERMINE MINIMUM ROW SPACING IN THE FIELD AFTER REVIEW OF PLANT SPACING FOR EACH PLANTER.
H. EACH AND EVERY SHRUB SHALL RECEIVE WATER FROM A MINIMUM OF TWO INLINE EMITTERS.
I. AREAS OF TIGHTLY SPACED GROUNDCOVER WILL REQUIRE 12" OR CLOSER ROW SPACING.
J. FOR ANY 'SINGLE' OR 'DOUBLE' ROW TYPE PLANTINGS, INSTALL DRIP TUBING ON BOTH SIDES OF THE SHRUB ROW TO IRRIGATE SHRUBS ON EITHER SIDE.
K. DUE TO SOIL STRATA DIFFERENCES AND POSSIBLE COMPACTION CONTRACTOR SHALL FIELD VERIFY PRIOR TO STARTING WORK AND BEFORE BACKFILLING THAT THE FINAL LAYOUT AND ROW SPACING WILL PROVIDE ADEQUATE WATER TO ALL PLANTS.

A DRIPLINE LAYOUT (TYP) NOT TO SCALE



SECTION VIEW

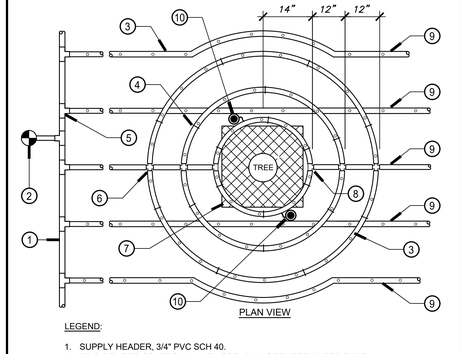
LEGEND:

1. 10' ROUND PLASTIC VALVE BOX - HEAT BRAND "GV" ONTO LID.
2. FINISHED GRADE.
3. GATE VALVE, FLANGED - SEE LEGEND FOR TYPE.
4. 6" PVC CLASS 160 PIPE - LENGTH AS REQUIRED.
5. UNDISTURBED NATIVE SOIL.
6. BRICK SUPPORTS.
7. 1/2" ROUND WASHED PEA GRAVEL - 2 CUBIC FEET.
8. PVC MAINLINE.
9. SCH 80 PVC VANSTONE (LOOSE COLLAR) TYPE FLANGE ADAPTER - 1 EACH SIDE OF VALVE.

NOTE:

A. INSTALL FLANGE ADAPTERS ONTO VALVE PRIOR TO INSERTING PIPE INTO BELLED ENDS.
B. PLACE VALVE BOX IN GROUNDCOVER AND SHRUB AREAS WHENEVER POSSIBLE.
C. BOLTDOWN VALVE BOX COVER WITH STAINLESS STEEL BOLT AND WASHER.

K GATE VALVE NOT TO SCALE



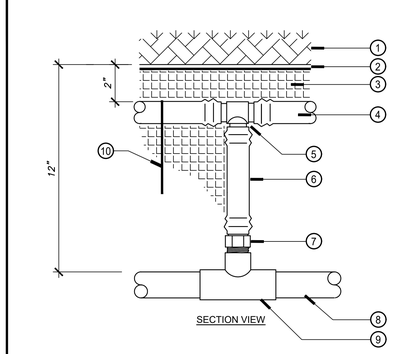
PLAN VIEW

LEGEND:

1. SUPPLY HEADER, 3/4" PVC SCH 40.
2. DRIP REMOTE CONTROL VALVE ASSEMBLY. SEE LEGEND FOR TYPE.
3. LANDSCAPE DRIPLINE TUBING. DRIPLINE SPACING: 12".
4. 9" WIRE STAKES - 5 FEET ON CENTER.
5. PVC SCH 40 SxSxT TEE / ELL WITH DRIPLINE INSERT FITTING.
6. DRIPLINE INSERT CROSS FITTINGS TYP.
7. TREE ROOTBALL.
8. DRIPLINE INSERT TEE FITTINGS TYP.
9. DRIPLINE TUBING CONTINUING TO FLUSH MANIFOLD.
10. 6" XERI-POP MICRO SPRAY BUBBLER. (2 REQ. PER TREE) SEE LEGEND FOR TYPE.

NOTE:
DRIPLINE TUBING TO BE INSTALLED BELOW GRADE WITH 2" TOPSOIL COVER. DRIP RINGS FOR ADDITIONAL DEEP WATER TO TREES PLANTED IN SHRUB AND GROUND COVER AREAS - RINGS TO BE CONNECTED TO SHRUB AND GROUND COVER DRIPLINES. DRIP EMITTERS TO BE PLACED AT TREE ROOTBALL AND ADJUST FLOW PER TREE WATER REQUIREMENT.

H TREE DRIP-RING LAYOUT NOT TO SCALE

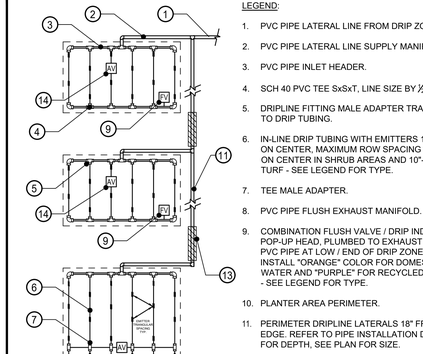


SECTION VIEW

LEGEND:

1. SUPPLY HEADER, 3/4" PVC SCH 40.
2. DRIP REMOTE CONTROL VALVE ASSEMBLY. SEE LEGEND FOR TYPE.
3. LANDSCAPE DRIPLINE TUBING. DRIPLINE SPACING: 12".
4. 9" WIRE STAKES - 5 FEET ON CENTER.
5. PVC SCH 40 SxSxT TEE / ELL WITH DRIPLINE INSERT FITTING.
6. DRIPLINE INSERT CROSS FITTINGS TYP.
7. TREE ROOTBALL.
8. DRIPLINE INSERT TEE FITTINGS TYP.
9. DRIPLINE TUBING CONTINUING TO FLUSH MANIFOLD.
10. SCH 40 PVC TEE SxSxT, LINE SIZE BY ½"
5. 6" WIRE STAKES FIVE (5) FEET ON CENTER - SEE LEGEND FOR TYPE.

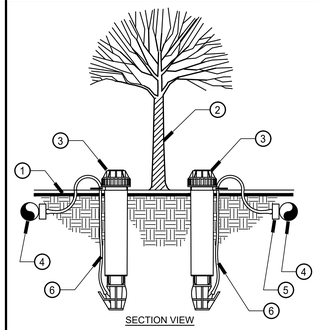
E DRIPLINE CONNECTION NOT TO SCALE



LEGEND:

1. BARK MULCH FOR SHRUB AREA PLANTING, SEE PLANTING PLAN FOR DEPTH AND TYPE.
2. FINISHED GRADE.
3. AMENDED SOIL.
4. DRIP TUBING - SEE LEGEND FOR TYPE.
5. DRIPLINE BARB INSERT FITTINGS - SEE LEGEND FOR TYPE.
6. BLANK POLY TUBING - LENGTH AS REQUIRED.
7. DRIP TUBING MALE ADAPTER.
8. PVC LATERAL LINE PIPING INLET OR EXHAUST MANIFOLD.
9. SCH 40 PVC TEE SxSxT, LINE SIZE BY ½"
10. 6" WIRE STAKES FIVE (5) FEET ON CENTER - SEE LEGEND FOR TYPE.

B DRIPLINE LAYOUT (TYP) NOT TO SCALE



SECTION VIEW

LEGEND:

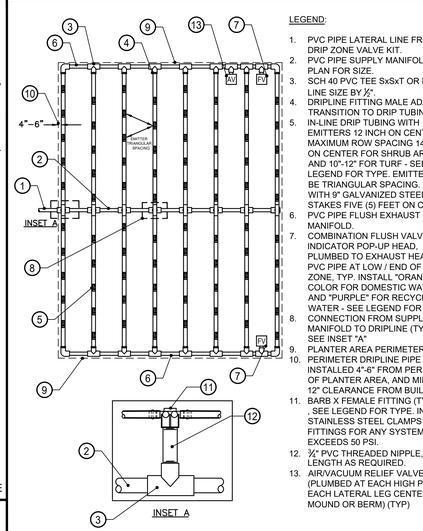
1. POP-UP DRIP INDICATOR HEAD, WITH DRIP FLUSH NOZZLE, - SEE LEGEND FOR TYPE.
2. FINISH GRADE. INSTALL POP-UP DRIP INDICATOR ½" ABOVE GRADE IN TURF DRIP AREAS AND 1" ABOVE GRADE IN SHRUB DRIP AREAS.
3. APPROVED AMENDED BACKFILL.
4. 12" POP-UP SPRAY HEAD - SEE LEGEND FOR TYPE.
5. MANUFACTURED SWING JOINT - HUNTER MODEL #SJ-512 OR RAIN BIRD MODEL #SA-125050 1/2" SWING JOINT ASSEMBLY.
6. SCH 40 PVC PIPE END FLUSH EXHAUST HEADER FROM DRIP SYSTEM, MINIMUM SIZE 1-1/4".
7. DRIP ASSEMBLY CONNECTION.
8. SUB-SURFACE IN-LINE DRIP TUBING - SEE LEGEND FOR TYPE.
9. HARDSCAPE / CURB / PAVING

NOTES:

A. AFTER COMPLETE SYSTEM FLUSH, INSTALL DRIP INDICATOR NOZZLE AND ADJUST TO FULLY CLOSED POSITION.
B. FOR POTABLE WATER INSTALL "ORANGE" COLORED FLUSH NOZZLE. FOR RECYCLED WATER INSTALL "PURPLE" COLORED FLUSH NOZZLE.
C. INSTALL POP-UP INDICATOR HEAD 10" FROM PERIMETER OF PLANTER / HARDSCAPE.
D. DISCHARGE EXHAUST HEADER SHALL BE INSTALLED 12" BELOW FINISHED SOIL GRADE, TYPICAL.
E. INSTALL MINIMUM ONE(1) DRIP INDICATOR / FLUSH ASSEMBLY PER DRIP ZONE.
E. USE TEFLON TAPE ON THREADED FITTINGS, TYPICAL. (NO LIQUID TEFLON)

NOT TO SCALE

F DRIP COMBINATION FLUSH VALVE / DRIP INDICATOR POP-UP HEAD



LEGEND:

1. PVC PIPE LATERAL LINE FROM DRIP ZONE VALVE KIT.
2. PVC PIPE SUPPLY MANIFOLD - SEE PLAN FOR SIZE.
3. SCH 40 PVC TEE SxSxT OR ELL, LINE SIZE BY ½".
4. DRIPLINE FITTING MALE ADAPTER TRANSITION TO DRIP TUBING.
5. IN-LINE DRIP TUBING WITH EMITTERS 12 INCH ON CENTER, MAXIMUM ROW SPACING 14"-16" ON CENTER FOR SHRUB AREAS AND 10"-12" FOR TURF - SEE LEGEND FOR TYPE. EMITTERS TO BE TRIANGULAR SPACING. INSTALL WITH 9" GALVANIZED STEEL WIRE STAKES FIVE (5) FEET ON CENTER.
6. PVC PIPE FLUSH EXHAUST MANIFOLD.
7. COMBINATION FLUSH VALVE / DRIP INDICATOR POP-UP HEAD, PLUMBED TO EXHAUST HEADER PVC PIPE AT LOW / END OF DRIP ZONE, TYP. INSTALL "ORANGE" COLOR FOR DOMESTIC WATER AND "PURPLE" FOR RECYCLED WATER - SEE LEGEND FOR TYPE.
8. CONNECTION FROM SUPPLY MANIFOLD TO DRIPLINE (TYPICAL)- SEE INSET "A"
9. PLANTER AREA PERIMETER.
10. PERIMETER DRIPLINE PIPE TO BE INSTALLED 4"-6" FROM PERIMETER OF PLANTER AREA, AND MINIMUM 12" CLEARANCE FROM BUILDING.
11. BARB X FEMALE FITTING (TYPICAL) , SEE LEGEND FOR TYPE. INSTALL STAINLESS STEEL CLAMPS ON FITTINGS FOR ANY SYSTEM THAT EXCEEDS 50 PSI.
12. ¾" PVC THREADED NIPPLE, LENGTH AS REQUIRED.
13. AIR/VACUUM RELIEF VALVE (PLUMBED AT EACH HIGH POINT OF EACH LATERAL LEG CENTERED ON MOUND OR BERM) (TYP)

C DRIPLINE LAYOUT (TYP) NOT TO SCALE

SECTION VIEW

LEGEND:

1. FINISH GRADE.
2. TREE.
3. XERI-POP, 6" MICRO SPRAY POP-UP HEAD. SEE LEGEND FOR MODEL AND NOZZLE TYPE. TWO REQUIRED PER TREE.
4. IN-LINE DRIP TUBING, SEE LEGEND FOR TYPE.
5. ¾" SELF-PIERCING BARB CONNECTOR: RAIN BIRD SPB-025.
6. ¾" DISTRIBUTION TUBING: RAIN BIRD XQ TUBING (LENGTH AS REQUIRED)
7. TREE ROOT BALL

PLAN VIEW - N.T.S.

NOTE:
A. INSTALL (2) XERI-POP MICRO SPRAY PER TREE AT EDGE OF ROOTBALL ON OPPOSITE SIDES OF TREE TYPICAL.

I TREE XERI-POP MICRO-SPRAY NOT TO SCALE

SECTION VIEW

PLAN VIEW

INSTALL ONE (1) BASKET FILTER FOR DEMANDS (1 - 14) GPM.
INSTALL TWO (2) BASKET FILTER FOR DEMANDS FOR DEMANDS (15 - 35) GPM.

LEGEND:

1. CONTROL WIRE CONNECTIONS, PRE-FILLED WITH WATER PROOF INSULATING GEL SEALANT - PROVIDE 24" COIL OF WIRE AT VALVE.
2. REMOTE CONTROL VALVE - SEE LEGEND FOR TYPE.
3. BASKET FILTER - SEE LEGEND FOR TYPE.
4. PVC SCH 40 MALE ADAPTER. (2 REQ. FOR 1" VALVE) (4 REQ. FOR 1-1/2" VALVE)
5. PVC SCH 80 UNION.(1 REQ. FOR 1" VALVE) (2 REQ. FOR 1-1/2" VALVE)
6. PVC SCH 80 NIPPLE - LENGTH AS REQUIRED, TYPICAL.
7. PLASTIC RECTANGULAR JUMBO VALVE BOX WITH LOCKING COVER, USE STAINLESS BOLT, NUT, AND WASHER. HEAT BRAND "RCV" & CONTROLLER STATION NUMBER ONTO LID.
8. FINISHED GRADE - SET TOP OF VALVE BOX ½" ABOVE GRADE IN TURF AREAS AND 2" ABOVE GRADE IN SHRUB / GROUND COVER AREAS.
9. PVC LATERAL LINE TO DRIP SYSTEM.
10. NOMINAL SIZE SOLID BRICK - 4 REQUIRED, ONE AT EACH CORNER OF VALVE BOX.
11. 1/2" ROUND WASHED PEA GRAVEL - MINIMUM 4" DEPTH.
12. LANDSCAPE FABRIC.
13. PVC SCH 80 NIPPLE (2" LENGTH, HIDDEN) AND PVC SCH 40 ELL.
14. PVC MAINLINE - DEPTH PER SPECIFICATIONS.
15. PVC SCH 80 NIPPLE. (LENGTH S REQUIRED)
16. PVC SCH 80 ELL.
17. CHRISTY'S VALVE STATION # I.D. TAG ATTACHED TO VALVE BONNET BOLT.

L DRIP REMOTE CONTROL VALVE NOT TO SCALE

A#04-118361 PTN#973924-84 FILE#30-H18

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Los Alamitos High School Multi-story STEM Classroom Building

Los Alamitos
Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:

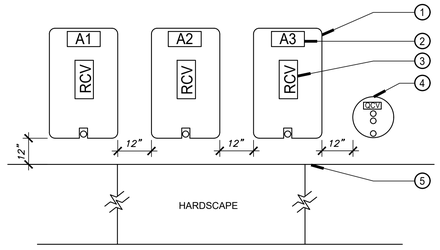
REGISTERED LANDSCAPE ARCHITECT
JAMES J. RIDGELA
No. 4294
05/29/19
(Date)
05/31/21
(Exp. Date)
STATE OF CALIFORNIA

SHEET TITLE:
IRRIGATION DETAILS

SHEET NUMBER:
L5.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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PLAN VIEW

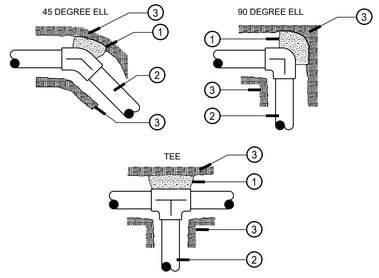
LEGEND:

1. RECTANGULAR VALVE BOX, TYPICAL.
2. APPROPRIATE STATION NUMBER HEAT-BRANDED ONTO VALVE BOX LID.
3. "RCV" HEAT-BRANDED ONTO VALVE BOX LID.
4. ROUND QUICK-COUPLING VALVE BOX, TYPICAL.
5. EDGE OF WALK, FENCE, CURB, ETC.

NOTES:

A. CENTER VALVE BOX OVER VALVE TO FACILITATE SERVICING OF VALVE.
B. SET VALVE BOXES 1-1/2" MAXIMUM ABOVE GRADE IN MULCH OR GROUNDCOVER / SHRUB AREAS, SET ½" ABOVE FINISH GRADE IN TURF AREAS.
C. SET VALVE BOX AND VALVE ASSEMBLY IN GROUNDCOVER / SHRUB AREAS WHERE POSSIBLE. INSTALL IN TURF ONLY IF THERE IS NO ADJACENT GROUNDCOVER.
D. SET VALVE BOXES PARALLEL TO ONE ANOTHER AND PERPENDICULAR TO EDGE.
E. AVOID HEAVY COMPACTION OF SOIL AROUND VALVE BOXES TO PREVENT THEIR DEFORMATION / COLLAPSE.

(S) VALVE BOX LAYOUT — NOT TO SCALE



PLAN VIEW

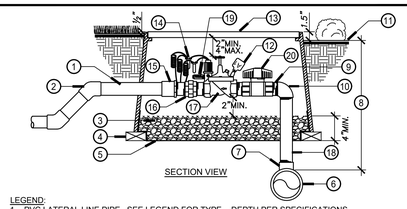
LEGEND:

1. CONCRETE THRUST BLOCK, TYPICAL.
2. MAINLINE PIPE - SEE LEGEND FOR TYPE.
3. UNDISTURBED SOIL.

NOTES:

A. THRUST BLOCKS TO BE MINIMUM 1 (ONE) CUBIC FEET OF CONCRETE.
B. THRUST BLOCKS TO BE USED FOR MAINLINE PVC PIPE 2-1/2" AND LARGER.
C. WRAP PLASTIC FITTINGS USING BLACK PIPE TAPE.
D. ALL CONCRETE TO BE PORTLAND CEMENT 420-C-2000.

(P) THRUST BLOCK — NOT TO SCALE



SECTION VIEW

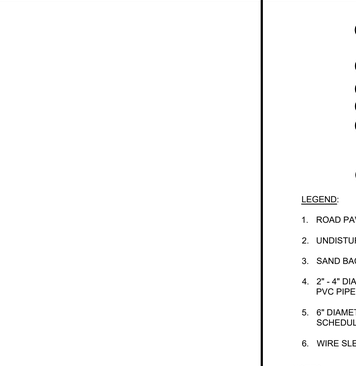
LEGEND:

1. PVC LATERAL LINE PIPE. SEE LEGEND FOR TYPE - DEPTH PER SPECIFICATIONS.
2. PVC SCH 40, 45 DEGREE ELL - TYP. (2X).
3. 1/2" ROUND WASHED PEA GRAVEL - MINIMUM 4" DEPTH WITH 2" VALVE CLEARANCE.
4. NOMINAL SIZE SOLID BRICK (4 REQUIRED - ONE AT EACH CORNER OF VALVE BOX).
5. LANDSCAPE FABRIC.
6. PVC MAINLINE. SEE LEGEND FOR TYPE, DEPTH PER SPECIFICATIONS.
7. PVC SCH 80 TEE OR ELL ON MAINLINE OR MANIFOLD.
8. SEE SPECIFICATIONS AND TRENCHING DETAIL FOR MAINLINE DEPTH.
9. SCH 80 PVC NIPPLE - LENGTH AS REQUIRED. (3 REQUIRED)
10. SCH 80 PVC THREADED ELL.
11. FINISHED GRADE. SET TOP OF VALVE BOX ½" ABOVE FINISHED GRADE IN TURF AREAS, AND 1-1/2" IN SHRUB / GROUND COVER AREAS.
12. CHRISTY'S VALVE STATION # I.D. TAG ATTACHED TO VALVE BONNET BOLT.
13. PLASTIC RECTANGULAR VALVE BOX WITH LOCKING COVER, USE STAINLESS BOLT, NUT, AND WASHER. HEAT BRAND "RCV" & CONTROLLER STATION NUMBER ONTO LID.
14. CONTROL WIRE CONNECTIONS, PRE-FILLED WITH WATER PROOF INSULATING GEL SEALANT. SEE LEGEND FOR TYPE. PROVIDE MINIMUM 24" WIRE EXPANSION COILS AT VALVE.
15. SCH 80 PVC FEMALE ADAPTER.
16. PVC SCH 80 UNION (VALVE SIZE) WITH REDUCING BUSH IF REQUIRED.
17. REMOTE CONTROL VALVE. SEE LEGEND FOR TYPE.
18. SCH 80 PVC RISER - LENGTH AS REQUIRED.
19. PRESSURE REGULATOR, IF SPECIFIED.
20. PVC BALL VALVE, LINE SIZE.

NOTES:

A. USE SCH 80 PVC FITTINGS ON UPSTREAM PRESSURE SIDE OF VALVE.
B. USE SCH 40 PVC FITTINGS ON NON-PRESSURE SIDE OF VALVE.
C. SET TOP OF VALVE BOX ½" ABOVE FINISHED GRADE IN TURF AREAS AND 1-1/2" ABOVE FINISHED GRADE IN GROUNDCOVER AND SHRUB AREAS.
D. SET VALVE BOX AND VALVE ASSEMBLY IN GROUNDCOVER / SHRUB AREAS WHERE POSSIBLE. INSTALL IN TURF ONLY IF THERE IS NO ADJACENT GROUNDCOVER.
E. USE TEFLON TAPE ON ALL THREADED FITTINGS, TYPICAL.
F. INSTALL 45 DEGREE ELLS AS REQUIRED TO ACHIEVE PROPER VALVE INSTALLATION ABOVE LATERAL LINE DEPTH.

(M) REMOTE CONTROL VALVE — NOT TO SCALE



SECTION VIEW

LEGEND:

1. ROAD PAVING.
2. UNDISTURBED SOIL.
3. SAND BACKFILL.
4. 2" - 4" DIAMETER SCHEDULE 40 PVC PIPE.
5. 6" DIAMETER OR GREATER SCHEDULE 40 PVC PIPE.
6. WIRE SLEEVE.
7. 2" DIAMETER SCHEDULE 40 PVC PIPE.
8. CLEAN COMPACTED BACKFILL.
9. PAVING (NON-ROAD).
10. METALLIC BACKED LOCATING TAPE INSTALLED ENTIRE LENGTH OF THE SLEEVE, LOCATED DIRECTLY ABOVE SLEEVE, ATTACHED EVERY 5 FEET. TAPE SHALL BE MARKED "IRRIGATION" IN TWO INCH CAPITAL LETTERS EVERY THREE FEET ALONG THE TAPE.
11. TRACER WIRE #14 GAUGE "PURPLE COLOR" TO BE INSTALLED ADJACENT TO MAINLINE, TAPE AND BUNDLE TO MAINLINE @ 10' O.C.

NOTES:

A. SLEEVES SHALL BE TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE CARRIED, MINIMUM 2" SIZE.
A. SLEEVES UNDER PAVING (NON-ROADS) LESS THAN 3" DIAMETER = 18" COVER, 3" - 5-1/2" DIAMETER = 24" COVER, 6" DIAMETER OR GREATER = 36" COVER - SCHEDULE 40 PVC PIPE.
B. SLEEVES UNDER ROADS, 6" DIAMETER OR LESS = 36" COVER, 6" DIAMETER OR GREATER = 48"COVER - SCHEDULE 80 PVC PIPE.
C. SLEEVE LOCATIONS SHALL BE MARKED AT EACH END AT THE TIME OF INSTALLATION WITH A PAINTED SPOT ON THE BACK FACE OF THE CURB OR OTHER SIMILAR MARKING.
D. EXACT SLEEVE LOCATION AND SIZE SHALL BE MARKED ON RECORD DRAWINGS WITH DIMENSIONING FOR IRRIGATION AS-BUILT PLANS PRIOR TO BACKFILL.
E. LINES MUST HAVE MIN. CLEARANCE OF 4" FROM EACH OTHER & 24" FROM OTHER TRADES.
F. RUN WIRING UNDER MAINLINE, TAPE & BUNDLE @ 10' O.C.
G. TIE A 24" LOOP IN ALL WIRING AT CHANGES IN DIRECTION.
H. ALL SLEEVES MUST HAVE EXPANDING FOAM SEALANT INSIDE PIPE ENDS.
I. ALL SLEEVES MUST EXTEND 12" MIN. DISTANCE PAST CURB OR SIDEWALK.

(Q) SLEEVE INSTALLATION — NOT TO SCALE

SECTION VIEW

DIMENSION	A	B
3/4" TO 3" IN SIZE	12"	18"
4" TO 6" IN SIZE	18"	24"

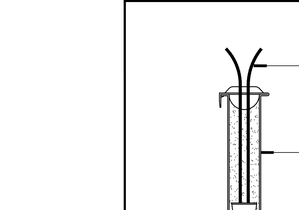
LEGEND:

1. FINISHED GRADE.
2. CLEAN COMPACTED BACKFILL.
3. UNDISTURBED SOIL.
4. PVC LATERAL LINE PIPE - SEE LEGEND FOR TYPE, SEE PLANS FOR SIZE.
5. PVC MAINLINE PIPE - SEE LEGEND FOR TYPE, SEE PLANS FOR SIZE.
6. CONTROL WIRES. TAPE AND BUNDLE TO MAINLINE @ 10' O.C.
7. TRACER WIRE #14 GAUGE "PURPLE COLOR" TO BE INSTALLED ADJACENT TO MAINLINE, TAPE AND BUNDLE TO MAINLINE @ 10' O.C.
8. TRACER WIRE #14 GAUGE "GREEN COLOR" TO BE INSTALLED ADJACENT TO LATERAL LINE, TAPE AND BUNDLE TO LATERAL LINE @ 10' O.C.

NOTES:

A. PIPE LINES MUST HAVE MINIMUM CLEARANCE OF 4" FROM EACH OTHER AND 24" FROM OTHER TRADES.
B. RUN WIRING NEXT TO MAINLINE PIPE WHEN RUN IN THE SAME TRENCH. BUNDLE ALL WIRES @ 10' O.C. WITH BLACK VINYL ELECTRICAL TAPE.
C. TIE A 24" LOOP IN ALL WIRING AT CHANGES IN DIRECTION.
D. CONTRACTOR MUST ADJUST MAINLINE AROUND ALL STREET LIGHT LOCATIONS.
E. PIPE SHALL BE SNAKED FROM SIDE-TO-SIDE ON TRENCH BOTTOM TO ALLOW FOR EXPANSION AND CONTRACTIONS.

(N) QUICK COUPLER VALVE — NOT TO SCALE



SECTION VIEW

DIMENSION	A	B
3/4" TO 3" IN SIZE	12"	18"
4" TO 6" IN SIZE	18"	24"

LEGEND:

1. LOW VOLTAGE WIRES - SEE LEGEND FOR SIZE AND TYPE.
2. POLY TUBE PRE-FILLED WITH WATERPROOF GEL - SEE LEGEND FOR TYPE.
3. WIRE CONNECTOR- AS APPROVED.

NOTES:

A. WIRES SHALL BE PRE-STRIPPED OF ½" OF THE INSULATION. JOIN WIRES AND TWIST TOGETHER. WIRE SPLICES MUST BE TWISTED WITH WIRE TWISTING TOOL WITH A MAXIMUM OF TWO WIRES PER TWIST, PRIOR TO INSTALLING CONNECTOR. TWIST CONNECTOR ONTO WIRES TO SEAT FIRMLY. CORRECT WIRE CONNECTIONS ARE EXTREMELY IMPORTANT. REFER TO MANUFACTURE RECOMMENDATION FOR PROPER WIRE CONNECTIONS.
B. ALL WIRE CONNECTIONS SHALL INCLUDE A WIRE NUT CONNECTOR AND A POLY TUBE PRE-FILLED WITH WATERPROOF SEALING GEL.
C. DIRECT BURY SPLICE KIT MODEL # SA 101 SHALL BE USED TO ELECTRICALLY CONNECT 2 - #14 AND/OR 1 - #18 PRE-STRIPPED COPPER WIRES. LARGER WIRES OR GREATER QUANTITIES OF WIRES SHALL REQUIRE MODEL # SA102, A LARGER WIRE CONNECTOR.
D. ALL WIRE SPLICES SHALL BE PLACED WITHIN PLASTIC VALVE BOX OR WIRE PULL BOX.

(R) WIRE CONNECTION — NOT TO SCALE

(O) PIPE INSTALLATION — NOT TO SCALE

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Los Alamitos High School Multi-story STEM Classroom Building

Los Alamitos
Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:

CONSTRUCTION DOCUMENTS	05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:

REGISTERED LANDSCAPE ARCHITECT — JAMES J. WESTGROUP — #2969 — 05/29/19 (Date) — 05/31/21 (Exp. Date) — STATE OF CALIFORNIA

SHEET TITLE:

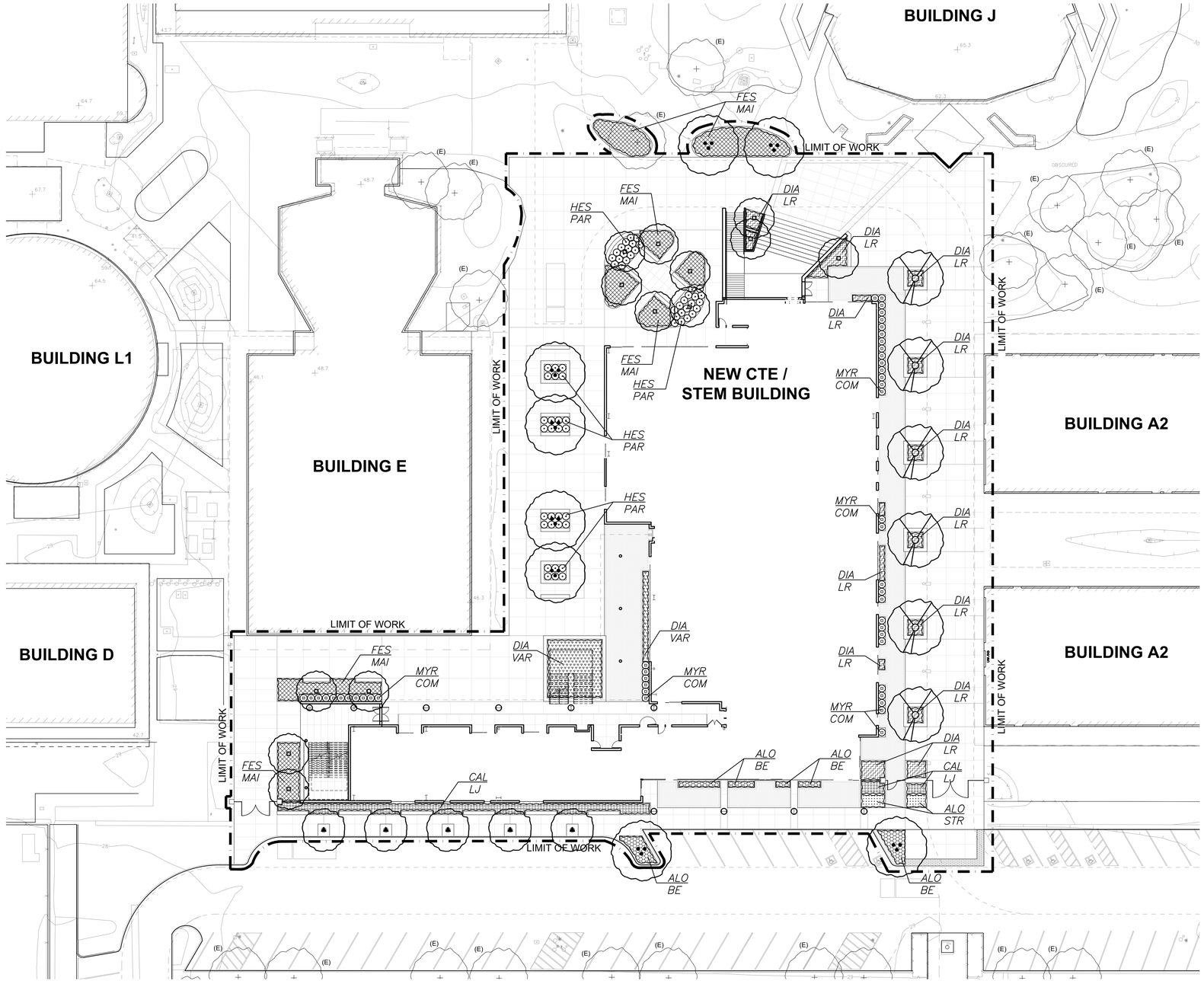
IRRIGATION DETAILS

SHEET NUMBER:

L5.2

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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PLANTING NOTES

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TREE PROTECTION NOTES

A. THE LIMITS OF ALL TREE PROTECTION ZONES SHALL BE STAKED IN THE FIELD. A 6'-0" HIGH CHAIN LINK FENCE WITH POSTS SUNK INTO THE GROUND SHALL BE ERECTED TO ENCLOSE THE TREE PROTECTION ZONE.

B. THE TREE PROTECTION ZONE (TPZ) IS DEFINED AS THE LARGER OF THE DRIP LINE OF THE TREE OR THE DISTANCE FROM THE TRUNK EQUAL TO ONE (1) FOOT FOR EACH INCH OF TRUNK DIAMETER MEASURED AT FOUR AND A HALF (4.5) FEET ABOVE EXISTING GRADE (AKA DBH; DIAMETER AT BREAST HEIGHT).

C. FENCES ARE TO REMAIN UNTIL ALL SITE WORK HAS BEEN COMPLETED. FENCES MAY NOT BE RELOCATED OR MOVED WITHOUT THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT.

D. STRUCTURES AND UNDERGROUND FEATURES TO BE REMOVED WITHIN THE TREE PROTECTION ZONE SHALL USE THE SMALLEST EQUIPMENT POSSIBLE, AND OPERATE FROM OUTSIDE THE TREE PROTECTION ZONE.

E. IF TEMPORARY HAUL OR ACCESS ROADS MUSS PASS OVER THE ROOT AREA OF TREES TO BE RETAINED, A ROAD BED OF 6" OF MULCH OR GRAVEL SHALL BE CREATED TO PROTECT THE SOIL. THE ROAD BED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A 6" DEPTH.

F. CONSTRUCTION TRAILERS AND TRAFFIC AND STORAGE AREAS MUST REMAIN OUTSIDE FENCED AREAS AT ALL TIMES.

G. NO MATERIALS, EQUIPMENT, WASTE OR WASHOUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN THE TREE PROTECTION ZONE. NO DEBRIS OR GARBAGE MAY BE DUMPED OR BURIED WITHIN THE TREE PROTECTION ZONE.

K. ANY GRADING, CONSTRUCTION, DEMOLITION OR OTHER WORK THAT IS EXPECTED TO ENCOUNTER TREE ROOTS, MUST BE MONITORED BY THE LANDSCAPE ARCHITECT.

L. ALL UNDERGROUND UTILITIES AND DRAIN OR IRRIGATION LINES SHALL BE ROUTED OUTSIDE THE TREE PROTECTION ZONE. IF REROUTING IS NOT POSSIBLE, TRENCHING WITHIN THE TPZ IS TO BE PERFORMED BY AIRSPADE UNDER THE SUPERVISION AND DIRECTION OF A LICENSED ARBORIST. IF AT ANY TIME, TWENTY-FIVE (25) PERCENT OF THE AREA WITHIN THE ROOT PROTECTION ZONE WOULD BE SEPARATED FROM THE TREE BY A TRENCH, THE LINE SHALL BE LOCATED BY BORING.

M. NO ROOTS LARGER THAN ONE INCH (1.5") DIAMETER SHALL BE CUT UNLESS REVIEWED AND APPROVED BY LICENSED ARBORIST. ALL SMALLER ROOTS THAT REQUIRE CUTTING SHALL BE CUT WITH PRUNING SAWS (NO TRENCHES OR BACKHOES). CUTS SHALL BE MADE FLUSH WITH THE SIDE OF THE EXCAVATION.

O. MINOR ROOT DAMAGE DURING GRADING OR CONSTRUCTION SHALL BE PRUNED TO SOUND TISSUE AND CUT CLEANLY WITH A SAW. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT IMMEDIATELY IN THE EVENT OF EXTENSIVE ROOT DAMAGE.

M. ADDITIONAL TREE PRUNING REQUIRED FOR CLEARANCE DURING CONSTRUCTION MUST BE PERFORMED BY A QUALIFIED ARBORIST OR AT THE DIRECTION OF THE LANDSCAPE ARCHITECT AND NOT BY CONSTRUCTION PERSONNEL.

N. EROSION CONTROL DEVICES SUCH AS SILT FENCING, DEBRIS BASINS, AND WATER DIVERSION STRUCTURES SHALL BE INSTALLED TO PREVENT SILTATION AND/OR EROSION WITHIN THE TREE PROTECTION ZONE.

O. SPOIL FROM TRENCHES OR OTHER EXCAVATIONS SHALL NOT BE PLACED WITHIN THE TREE PROTECTION ZONE, EITHER TEMPORARILY OR PERMANENTLY.

P. IF INJURY SHOULD OCCUR TO ANY TREE DURING CONSTRUCTION, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IN ORDER TO RECOMMEND EVALUATION BY A LICENSED ARBORIST. PROCUREMENT OF A LICENSED ARBORIST SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE / SPACING	WATER USE	QUANTITY
TREES					
(E)	EXISTING TREE - PROTECT IN PLACE				
	LAGERSTROEMIA INDICA 'TUSCARORA'	TUSCARORA CRAPE MYRTLE	36" BOX STD.	MOD	5
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	36" BOX STD.	MOD	13
	PLATANUS ACERIFOLIA 'COLUMBIA'	LONDON PLANE TREE	48" BOX STD.	MOD	6
	ULMUS PARVIFLORA 'DRAKE'	CHINESE ELM	48" BOX STD.	MOD	8

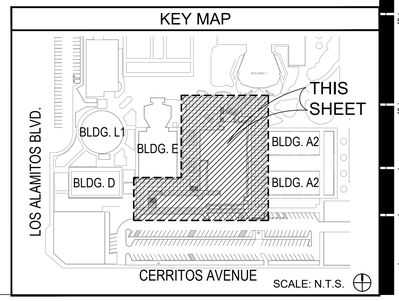
PLANT SCHEDULE

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE / SPACING	WATER USE	QUANTITY
SHRUBS AND GROUNDCOVERS						
	ALO BE	ALOE 'BLUE ELF'	BLUE ELF ALOE	1 GAL. / 24" O.C.	LOW	91
	ALO STR	ALOE STRIATA	CORAL ALOE	5 GAL. / 24" O.C.	LOW	28
	CAL LJ	CALLISTEMON 'LITTLE JOHN'	DWARF BOTTLEBRUSH	5 GAL. / 30" O.C.	LOW	156
	DIA LR	DIANELLA 'LITTLE REV'	LITTLE REV FLAX LILY	1 GAL. / 24" O.C.	LOW	155
	DIA VAR	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	1 GAL. / 30" O.C.	MOD	
	FES MAI	FESTUCA MAIREI	ATLAS FESCUE	1 GAL. / 30" O.C.	LOW	95
⊙	HES PAR	HESPERALOE PAR. 'BRAKELIGHTS'	BRAKELIGHTS RED YUCCA	5 GAL. / 36" O.C.	LOW	62
◎	MYR COM	MYRTUS COMMUNIS 'COMPACTA'	DWARF MYRTLE	5 GAL. / 36" O.C.	LOW	46

FOR PLANTING DETAILS - SEE SHEET L7.1
FOR LANDSCAPE SPECIFICATIONS - SEE PROJECT MANUAL

0 10 20 40 60

KEY MAP



A#04-118361 PTN#73924-84 FILE#30-H18

WESTGROUP DESIGNS
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949.387.1323
RIDGELA.COM

Los Alamitos High School Multi-story STEM Classroom Building

Los Alamitos Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:
REGISTERED LANDSCAPE ARCHITECT JAMES J. RIGA No. 4768 05/29/19 (Orig.) 05/31/21 (Add. Date) STATE OF CALIFORNIA

SHEET TITLE:
PLANTING PLAN, NOTES & SCHEDULE

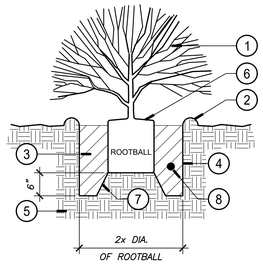
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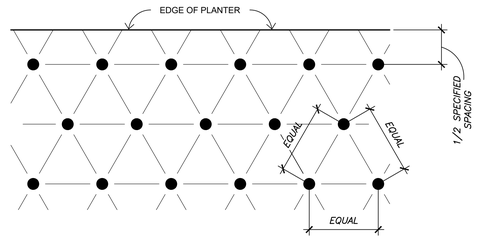
SECTION:

LEGEND:
1. SHRUB - PLUMB AND CENTER IN PIT.
2. WATER BASIN - 3" MINIMUM DEPTH. REMOVE BASIN IN LAWN AREAS AND AS DIRECTED BY LANDSCAPE ARCHITECT.
3. AMENDED BACKFILL PER SPECIFICATIONS.
4. SCARIFY SIDES AND BOTTOM OF SHRUB PIT.
5. NATIVE UNDISTURBED SOIL.
6. AFTER SETTLING SHRUB, SET TOP OF ROOTBALL 1" ABOVE SURROUNDING FINISH GRADE AND SLOPE GRADE FOR DRAINAGE.
7. CREATE A 45 DEGREE CHAMFERED PEDESTAL FROM UNDISTURBED NATIVE SOIL TO REDUCE TREE SETTLEMENT.
8. PLANT TABLET PER SPECIFICATION.

NOTES:
A. KEEP MULCH 4" CLEAR OF CROWN, TYPICAL.
B. ROOTS MUST NOT BE ROOT BOUND. LOOSEN ANY TIGHTLY PACKED ROOTS.

C SHRUB PLANTING

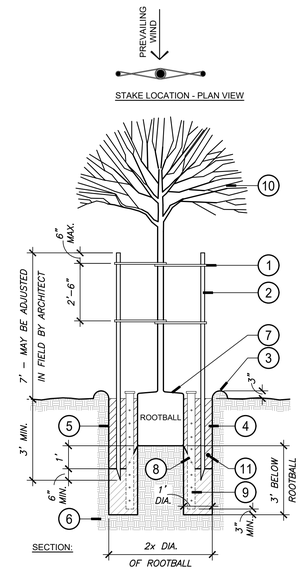
SCALE: 3/4"=1'-0"



NOTES:
A. ALL SHRUBS / GROUND COVERS TO BE PLANTED AT EQUAL SPACING (TRIANGULAR) UNLESS OTHERWISE INDICATED ON PLANS. SEE LEGEND FOR SPACING REQUIREMENTS.
B. PLANT MATERIAL AT THE EDGE OF PLANTER AREAS SHALL BE LOCATED ½ OF THE ON-CENTER SPACING DISTANCE INDICATED IN THE LEGEND. FOR EXAMPLE, IF SPACING IS INDICATED AS 24" ON CENTER, PLANTS AT THE EDGE OF THE PLANTER SHALL BE LOCATED 12" FROM THE EDGE.
C. PLANT SPACING INDICATED IN THE PLANTING LEGEND IS THE MAXIMUM ALLOWED SPACING. IN NARROW PLANTER AREAS, SPACING MAY NEED TO BE REDUCED IN ORDER TO MAINTAIN THE MAXIMUM ON-CENTER SPACING AND SPACING FROM EDGE OF PLANTER AS INDICATED ON THIS DETAIL.

D SHRUB / GROUNDCOVER SPACING

SCALE: 3/4"=1'-0"



STAKE LOCATION - PLAN VIEW

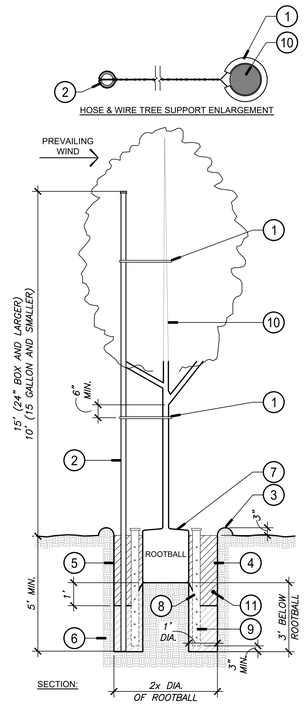
SECTION:

LEGEND:
1. (4) VIT RUBBER "CINCH TIES" - ATTACH TO WOOD STAKES IN A FIGURE EIGHT PATTERN WITH GALVANIZED ROOFING NAILS.
2. (2) 2" DIA. X 10' WOOD STAKES FOR 24" BOX AND SMALLER TREES OR (2) 3" DIA. X 10' WOOD STAKES FOR 36" BOX AND LARGER TREES. STAKES TO BE UNTREATED LODGEPOLE PINE WITH TAPERED POINTS AND CHAMFERED TOPS. EMBED STAKES 3' MINIMUM BELOW FINISH GRADE OR 6" BELOW BOTTOM OF PLANTING PIT, WHICHEVER IS GREATER. CUT TOP OF STAKES IF DIRECTED BY LANDSCAPE ARCHITECT. DO NOT ALLOW TOP OF STAKES TO EXTEND INTO TREE CANOPY. LONGER 12' LONG STAKES ARE TO BE USED, AS NECESSARY, TO PROVIDE ADDITIONAL SUPPORT FOR TALL AND/OR TOP-HEAVY TREES
3. WATER BASIN - 3" MINIMUM DEPTH. REMOVE BASIN IN LAWN AREAS AND AS DIRECTED BY LANDSCAPE ARCHITECT.
4. AMENDED BACKFILL PER SPECIFICATIONS.
5. SCARIFY SIDES AND BOTTOM OF PLANTING PIT.
6. NATIVE UNDISTURBED SOIL.
7. AFTER SETTLING TREE, SET TOP OF ROOTBALL 3" ABOVE SURROUNDING FINISH GRADE AND SLOPE GRADE FOR DRAINAGE.
8. CREATE A 45 DEGREE CHAMFERED PEDESTAL FROM UNDISTURBED NATIVE SOIL TO REDUCE TREE SETTLEMENT.
9. INSTALL (2) 4" DIA. SDR 35 PERFORATED PVC STANDPIPE WITH DRAIN SOCK AT OPPOSITE SIDES OF PLANTING PIT. PAINT TOP 6" OF STANDPIPE BLACK. TERMINATE TOP OF STANDPIPES WITH BLACK NDS #11 (4" ROUND) GRATES. INSTALL TOP OF GRATE 2" ABOVE FINISH GRADE. ORIENT STANDPIPES IN SAME LOCATION AT EACH TREE GROUPING TO FACILITATE VERIFICATION AND MAINTENANCE. PLANTING PIT TO DRAIN TOWARD STANDPIPES.
10. TREE - PLUMB AND CENTER IN PIT.
11. PLANT TABLET PER SPECIFICATION.

NOTES:
A. ENSURE THAT TREE TIES ARE INSTALLED LOOSE ENOUGH TO ALLOW FOR ADEQUATE TRUNK MOVEMENT.
B. INSTALL STANDPIPE FOR 24" BOX TREES AND LARGER TREES ONLY.
C. SLOPE BOTTOM OF PLANTING PIT TO SUMP AT 2% MINIMUM.
D. KEEP MULCH 4" CLEAR OF TRUNK, TYPICAL.
E. AT TURF AREAS, MAINTAIN TURF AT 12" CLEAR FROM BASE OF TRUNK AND INSTALL 'ARBOR GARD' TRUNK PROTECTOR.

A TREE PLANTING & STAKING

SCALE: N.T.S.



LEGEND:
1. VIT RUBBER HOSE & WIRE TREE SUPPORT. DRILL THROUGH METAL POLE TO FEED WIRE THROUGH AND WRAP ENDS BACK AROUND POLE AND TUCK INTO TWISTED WIRES.
2. (1) 1-1/2" DIA. X EITHER 15' LONG (15 GALLON AND SMALLER TREES) OR 20' LONG (24" BOX TREES AND LARGER) SCH 40 GALVANIZED METAL POLE WITH THREADED CAP AT END OF POLE. SET POLE OUTSIDE OF TREE ROOT ZONE AND EMBED POLE 5' MINIMUM BELOW FINISH GRADE.
3. WATER BASIN - 3" MINIMUM DEPTH. REMOVE BASIN IN LAWN AREAS AND AS DIRECTED BY LANDSCAPE ARCHITECT.
4. AMENDED BACKFILL PER SPECIFICATIONS.
5. SCARIFY SIDES AND BOTTOM OF PLANTING PIT.
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B LOPHOSTEMON TREE PLANTING

SCALE: N.T.S.

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Los Alamitos
High School
Multi-story STEM
Classroom Building

Los Alamitos
Unified School District

3591 W Cerritos Avenue
Los Alamitos, CA 90720

ISSUED FOR:
CONSTRUCTION DOCUMENTS 05/29/19

REVISIONS:

REGISTRATION/SIGNATURE:

REGISTERED LANDSCAPE ARCHITECT
JAMES J. RIDGELA
No. 4900
05/29/19 (Date)
05/31/21 (Exp. Date)
STATE OF CALIFORNIA

SHEET TITLE:
PLANTING DETAILS

SHEET NUMBER:
L7.1

WD PROJ. #	DRAWN BY:	CHECKED	DATE
18451	N/A	N/A	04/12/19

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