

### VHGArchitects

2428 Baylor Drive SE Albuquerque, NM 87106 505.247.9955

www.vhgarchitects.com

New Mexico = Colorado

DATE: February 4, 2020

FROM: Van H. Gilbert Architect PC 2428 Baylor Drive SE Albuquerque, NM 87106 (505) 247-9955

RE: ADDENDUM NUMBER 1 to the Bidding Documents for: Albuquerque Public Schools Rio Grande High School Title IX New Gymnasium and Various Athletic Facility Renovations

To Whom It May Concern:

This Addendum forms a part of the Contract Documents and modifies, as noted below, the original Bidding Documents identified as the Albuquerque Public Schools Rio Grande High School Title IX New Gymnasium and Various Athletic Facility Renovations

This Addendum consists of Twenty-eight (28) full size sheets and forty (40) 8-1/2 X 11 pages.

Bidder must acknowledge receipt of this Addendum on Bid Proposal.

- I. INFORMATION AVAILABLE TO BIDDERS
  - A. Sol Luna Solar Engineering Report, see attached Exhibit A (4 pages)
  - B. APS Asbestos Consideration Reports, see attached Exhibit B (2 pages)
  - C. PreProposal Meeting Minutes including sign in sheets, see attached Exhibit C (4 pages)
  - D. Contractor Questions, see attached Exhibit D (2 pages)
- **II. SPECIFICATIONS** 
  - A. Request for Proposals, Bid Proposal for Lump Sum Contract, page 2 of 3,
    - 1. Bid Lots, Item (4) DELETE: Bid Lot No. 3
    - Allowances, (1) Allowance No. 1 ADD: Allowance to be \$316,000. Additional information regarding coordination with Sol Luna will be issued in Addendum 2.
  - B. Section 01 23 01, Bid Lots, Part 1.3, Schedule of Bid Lots DELETE: Item C, Bid Lot No. 3
  - C. Section 04 01 10, Masonry Cleaning DELETE: Section 04 01 10 in its entirety.
  - D. Section 10 44 00, Fire Protection Specialties DELETE: Part 2.1, Fire Extinguishers. APS to furnish fire extinguishers. Contractor to furnish fire extinguisher cabinets.



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## III. DRAWINGS

- A. The General contractor shall utilize the attached Sound and Signal's [S&S] drawings, in addition to and in coordination with the Electrical sheets, to provide complete pricing for the provision and installation of all conduits/ pathways leading up to any and all devices depicted on S&S's drawings. See attached Exhibit E (twenty-eight (28) full size sheets).
- B. Sheet G-001, Cover Sheet (and Title Block on G and A Sheets) CHANGE: Project address from 2330 Arenal Road SW TO: 2300 Arenal Road SW
- C. Sheets A-101, A-102, A-103, A-104 and A-301, Specification Keynotes CHANGE: 11 66 23.08 & .08, Telescopic Seating TO: 12 66 00, Telescoping Stands
- D. Sheet A101, First Floor Plan North Phase I
  - 1. DELETE: General Note C.
  - Specification Keynote 11 66 23.12, Projector per APS ADD: Provide two (2) projectors; contractor furnished and contractor installed. See attached Exhibit F (12 pages) for basis of design, accessories and mounting.
  - 3. Specification Keynote 11 66 23.11, Projection Screen, see attached Exhibit G (13 pages) for basis of design.
- E. Sheet A-104 Second Floor Plan South Phase I DELETE: General Note C.
- F. Sheet A-411, Interior Elevations Phase I & II, Detail B5 DELETE: By OFCI. Contractor to furnish refrigerator.
- G. Sheet A-301, Building Section Phase I, Section A1 & C1 CHANGE: 11 66 23.02, Portable Mechanical Backstop TO: 11 66 23.03, Forward Folding Backstop
- H. Sheet A-601, Room Finish Schedules, Room Finish Legend, Floors DELETE: F9, Alternate #1 Running Track
- I. Sheet A-611, Door Schedule First Floor Phase I
  - 1. ADD: Door111 Frame Matl. HM
  - 2. ADD: Door111 Door Matl. HM
  - 3. ADD: Door111 Type. 2
  - 4. ADD: Door122 Door Matl. HM
  - 5. DELETE: Door 134.
  - 6. CHANGE: Door 167 TO: Cubicle Curtain 167



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J. Sheet A-305, A3 Wall Section – Phase 1 ADD: Re-purposed Old Gym Floor – 1" Thick to North Wall Rm 205

## IV. MECHANICAL – See attached Exhibit H (1 page)

## V. APPROVED SUBSTITUTIONS

The following substitutions have been approved for use, as outlined in Section 01 63 00, Product Substitution Procedures. These approvals do not relieve the Contractor from any requirements originally stated in the Contract Documents for the original specification section. The Contractor is responsible for all manufacturers' requirements related to the substitution. Where conflicts occur between the original specification and the substitution, the higher quality and quantity and the most stringent requirements shall be followed. Any conflict or problem with the substitution, with regard to interface with adjacent materials or substrates, shall be brought to the attention of the Architect immediately, in writing, with proposed method of meeting substitution requirements stated above.

- A. Section 07 42 13, Metal Wall Panels1. Fabral 7/8" Corrugated Metal Wall Panel is approved.
- B. Section 08 45 23, Insulated Fiberglass Sandwich Panel Assemblies
  - 1. Guardian 275 by Major Industries is approved.
  - 2. Kingspan Light + Air / CPI Daylighting, Inc. is not approved.
- C. 09 64 66 Wood Athletic Flooring
  - 1. Connor Sports Duracushion I is approved.

PROJECT TITLE:Rio Grande High School RM5PROJECT ID:QR-20191218-6240Name:Rio Grande High School RM5Address:2300 Arenal Rd SWCity, State:Albuquerque, NM 87105Module:Canadian Solar CS3U-375M5375 Watts

## **BILL OF MATERIALS**

## **PARTS AND ACCESSORIES**

Legend: Base System

Part Accessory

Part Number	Part Type	Descr	iption	Quantity	Suggested Quantity	Unit Price (USD)	Total List Price (USD)
NA - User Supplied	Module	Module		387	387	NA	-
310800	BAY	RM5 BAY		584	584	26.73	15610.32
310820	ENDCLAMP	RM5/DT ENDCLAMP 32-4	40MM	2039	2039	1.94	3955.66
310860	NUT	RM5/DT 1/4-20 CLIP U-N	UT SS18-8	3109	3109	0.32	994.88
310810	WIND DEFLECTOR	RM5 WIND DEFLECTOR,	84"	387	387	14.15	5476.05
310861	DEFLECTOR HARDWARE	RM5, WIND DEFLECTOR	HDW KIT	1070	1070	0.21	224.70
310850	WIRE MGMT CLIP	RM5/DT WIRE MGMT CL	IP	387	387	0.97	375.39
310851	WIRE MGMT CLIP	RM5 WD WIRE MGMT CLIP		39	39	0.81	31.59
310882	ATTACHMENT KIT	RM5 ATTACHMENT KIT		42	42	23.98	1007.16
NA - User Supplied	Ballast Block	32 lb. Concrete Block w/4 (ASTM C1491 (Concrete		704	704	NA	-
NA - User Supplied	Attachment	Attachment - Anchor Pro Attached - U-2400 Ancho	•	42	42	NA	-
			BASE SYSTEM \$26261.61 \$0.19 PER WATT	\$141	CESSORY 14.14 ER WATT	\$276	L PRICE 575.75 R WATT

This design is to be evaluated to the product appropriate Unirac code compliant Installation Guide which references the ASCE 7-10. The installation of products related to this design is subject to requirements in the above mentioned Installation Guide.

Designed By: ES Product: RM5 375 Watt Panels 10211 Sq Ft. 145.1 kWs

PROJECT REPORT VERSION:INT 06.15.18

12-18-19 2:53 PM

PROJECT TITLE: PROJECT ID: Rio Grande High School RM5 QR-20191218-6240

Name: Address: City, State: Module: Rio Grande High School RM5 2300 Arenal Rd SW Albuquerque, NM 87105 Canadian Solar CS3U-375M5 375 Watts

## ENGINEERING REPORT

## **PLAN REVIEW**

AVERAGE PSF:	4.85 psf
Total weight on roof:	49517 lbs
- Racking weight:	7716 lbs
- Module weight:	19273 lbs
- Ballast weight:	22528 lbs
- Max Bay Load (Dead):	138 lbs
- Down Wind (qh*GCp down):	21.91 psf
- Module Area:	21.4 sqft
- Max Bay Load (Dead+ 0.6 Wind):	419 lbs
- Max Bay Load (D+ 0.75S+ (.75*0.6)W):	557 lbs

### Loads Used for Design

ASCE 7-10
120 mph
20 psf
0.46 g
C

## **INSPECTION**

Product:	RM5 (5 Degree Tilt)
Module Manufacturer:	Canadian Solar
Model:	CS3U-375M5
Module Watts:	375 watts
Module Length:	78.74 in
Module Width:	39.06 in
Module Thickness:	1.38 in
Module Weight:	49.80 in
Module Type:	I
Ballast Block Weight:	32.0 lbs
Max Blocks per Bay:	2
Building Height:	40 ft
Roof Type:	ТРО
Parapet Height:	2 Array Height
Row Spacing:	7.5 in

Roof Attachment:

U-2400 by Anchor Products

PROJECT REPORT VERSION:INT 06.15.18

12-18-19 2:53 PM

Designed By: ES Product: RM5 375 Watt Panels 10211 Sq Ft. 145.1 kWs

## **WORKSPACE 1**

4.85
387
145.1 kWs
10211 Sq Ft.
49517 lbs
7716 lbs
19273 lbs
22528 lbs

## Minimum Seismic Separation (Unattached Arrays):

- Array to Array:	3 in
- To Obstruction or Parapet:	8 in
- To Roof Edge (No Parapet):	11 in

## Max Array (Seismic) (For Unattached Arrays)

- NS Rows:	29
- EW Columns:	23

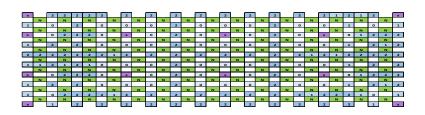


PROJECT TITLE: PROJECT ID: Rio Grande High School RM5 QR-20191218-6240

Name: Address: City, State: Module: Rio Grande High School RM5 2300 Arenal Rd SW Albuquerque, NM 87105 Canadian Solar CS3U-375M5 375 Watts

## INSTALLATION AND DESIGN PLAN







 Legend

 M
 Module with No Deflector

 N
 Module with North Deflector

 S
 Module with South Deflector

 NS
 Module with North and South Deflectors

 2
 Bay with Block Count

 x
 Bay with Attachment

PROJECT REPORT VERSION:INT 06.15.18

12-18-19 2:53 PM

Designed By: ES Product: RM5 375 Watt Panels 10211 Sq Ft. 145.1 kWs

# ALBUQUERQUE PUBLIC SCHOOLS

Exhibit B

MAINTENANCE AND OPERATIONS

**Environmental Management Department** 

915 Locust St SE P.O. Box 25704 Albuquerque, New Mexico 87106 (505) 765-5950

JOHN DUFAY EXECUTIVE DIRECTOR MAINTENANCE & OPERATIONS

## Asbestos Consideration Rio Grande High School #540 Partial Demolition of Gymnasium Building AC 7104

2/5/15

## PROJECT:

This report is provided for the purposes of an asbestos consideration for the partial demolition of the Gymnasium Building. The auxiliary gymnasium will be renovated but not demolished.

## ASBESTOS CONTAINING MATERIALS:

Asbestos-Containing Material (ACM), by definition, is any material that contains greater than 1% of any form of Asbestos. The following materials are ACM:

- Various Types of Floor Tile and Mastic East Hallways, Several Offices and Storage Rooms in the East Area, Weight Room and the Bottom of East and West Main Gym Stairwells (Asbestos Containing Material)
- Transite Panels small section of South Overhang (Asbestos Containing Material)
- Mudded Insulation Fittings throughout Building (Asbestos Containing Material)
- Mudded Tank and Fittings Mechanical Room (Asbestos Containment Material)

## NON-ASBESTOS, NON-SUSPECT AND TRACE ASBESTOS MATERIALS:

Non-suspect materials and materials that were sampled and were reported to be Non-Asbestos containing or containing trace amounts of asbestos.

- Texture and Sheetrock Ceilings and Walls Non Asbestos Material
- Various Types of 2' x 4' Ceiling Tiles Non Asbestos Material
- Plaster Ceilings, Soffits and Walls Non Asbestos Material
- Light Weight Concrete Ceilings Non-Suspect Material
- Texture on CMU Wall Gym Balcony and Stairwells Only Trace Asbestos Material
- Various Types of Basecove and Mastic Non Asbestos Material
- Various Types of Floor Tile and Mastic in North and West Hallways, and in North and West Offices and Storage Areas *Non-Asbestos Material*
- Fiberglass Insulation Non-Suspect Material

## **PRECAUTIONS:**

As part of this report, you must be aware that there may be additional suspect materials not addressed in the initial inspection, i.e., Vermiculite in CMU walls and Thermal Systems Insulations. In the event

that any of these materials are discovered, under no circumstance is the Contractor to continue working in this area. All work impacting the suspect material will be halted until such time as the material can be sampled and analyzed.

## The contractor shall be aware that asbestos abatement or any other related asbestos work is <u>not</u> <u>included</u> in this contract. This is for informational purposes only.

Additional Asbestos Considerations are as follows:

- a) There shall be no disturbance, cutting, encapsulating, removal, handling, disposal, transport, storage, or any other support activities involving asbestos work of any kind or nature.
- b) If in the course of his work the contractor's personnel should encounter existing material of a suspicious nature which might possibly contain asbestos, certain precautions shall be taken: All work in the vicinity of the questionable material shall be stopped immediately. The Contractor shall notify the APS designated Inspector who will take samples and have laboratory analyses performed unless previously identified. If asbestos is found to be present, the Inspector will direct procedures to be followed. Under no circumstance is the Contractor to continue working on construction involving such suspicious or questionable materials.
- c) If the Contractor finds it necessary to cut through a material which is known to contain asbestos, or finds it necessary to mount a bracket or support on such an existing surface, or has to remove a portion of such existing material, the Contractor shall notify the APS designated Inspector that some work is required in, on or through the material and identify exactly what needs to be done.
- d) The Contractor is cautioned that the Inspector may not always be able to schedule the support work by APS or Contracted abatement qualified personnel as quickly as the Contractor would like to see it done. The Contractor shall be prepared to work on other areas of construction until such scheduled asbestos work by APS or Abatement Contractor is completed. Reasonable delays due to scheduling are to be anticipated and will not be justification for additional compensation to the Contractor.

Andrew Roark

Environmental Inspector, EMD

## [XX] Conference: RGHS

PARTICIPATING PERSONNEL: See attached sign-in sheet

SUBJECTS DISCUSSED: Preproposal Conference, see attached Agenda

- 1. The project consists of:
  - a. Base bid is demolition of the main gymnasium and construction of the new gymnasium, demolition in areas of the auxiliary gym and new construction.
  - b. Bid Lot 1, Concessions and Parking
  - c. Bid Lot 2, Turn-Key Photo Voltaic System
  - d. Bid Lot 3, Landscape. Bid Lot 3 will be deleted from the project. The work shown on Sheet LS 101 will be done by an APS on-call landscape contractor, but the general contractor is responsible for coordinating irrigation sleeve installation and must provide two day's minimum notice for all sleeve installation. The general contractor is to coordinate with APS to avoid damaging existing water lines.
  - e. Allowance No. 1: Coordinate with APS contractor for Bid Lot 2 PV system. Amount to be determined and issued in Addendum.
- 2. The RFP Schedule is as follows:

Request for Prior Approval	February 3, 2020 @ 3:00 pm
Submission of Written Questions	February 3, 2020 @ 3:00 pm
Release of Final Addendum	February 7, 2020 @ 5:00 pm
Submission of Price Proposal, Volume I	February 14, 2020 @ 3:00 pm
Submission of Technical Proposal, Volume II	February 15, 2020 @ 3:00 pm

- 3. APS will accept the electronic copy of Volume I on February 15<sup>th</sup> if it is identical to the hard copy submitted on February 14<sup>th</sup> and it is received by APS before 3:00 pm on the 15<sup>th</sup>. APS noted that proposals are to be submitted to 6400 Uptown Boulevard NE, Suite 500E.
- 4. APS will evaluate and score proposals on 02/18/2020 and begin contract negotiations with the highest ranked contractor on 02/19/2020. The notice to proceed with construction is scheduled for 03/18/2020.
- 5. Sheet G-003, Project Phasing, illustrates how the project can be done in three phases. The phasing plan does not include the Bid Lot 1 Concessions and Parking work. The construction documents allow for a construction period of 850 days, but APS and the design team are open to ideas from the general contractor on ways to adjust the phasing and shorten the construction time.
- 6. Commissioning and Test & Balance are done by APS. The mechanical contractor is responsible for full maintenance (filter changes, etc.), as well as service and repair of all mechanical equipment during the warranty period. This includes purchase of any required filters, belts, etc.
- 7. The general contractor is to coordinate with APS on the PNM rebates for gas, water and electric. PNM will issue the rebates to the general contractor who will credit them to the project via change order.
- 8. APS tracks all dedicated data drops through a spreadsheet on Google docs and the general contractor is to work with APS to update tracking.
- 9. Electric, gas and water are sub-metered to an E-Mon unit.

Mandatory Pre-Proposal Conference

**RIO GRANDE HIGH SCHOOL** Title IX New Gym + Various Athletic Facility Renovations

RFP No. 20-027 RRR

SIGN-IN

NAME	COMPANY	PHONE	EMAIL
Antoinette Valenzuela	APS- Rio Grande High School	505.873.0220	valenzuela_a@aps.edu
Jenna Bludworth	APS- Rio Grande High School	505.873.0220	jenna.bludworth@aps.edu
Tony Sparks RS	Albuquerque Public Schools – FD&C	505.206.9422	tony.sparks@aps.edu
Susan Lloyd	VHG Architects	505.247.9955	slloyd@vhgarchitect.com
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Tony Otero	Albuquerque Public Schools	505.830.6225	tony.otero@aps.edu
BR. HNEY Johnson	APS Procurement	505-878-6124	brittany.johnson@aps.edu
ALLIE MOORE	TCI	505.321.0672	ALLIE@ TCI-NM.COM
DENNIS THOMPSON	+ 1	505.991.2597	DENNIS@ TCI-NM. COM
Energy VANOL	BEP	505 - 507-1937	2AVADOZ @ BPCE.com
Aaron O. Brogdon	KLH	505-268-4361	Didg @KLhouse.com
Wylee Curry	Faturs	585-365-7176	Wharmy Cofentures mechanical.
Jaclyn Broderie	de Jaynes Corp	(505) 288-1173	jaclyn.broderick @ jaynescorp.com
Steve Garaa	Baycon Contraction	505 433-3664	estimatingum e bey con.com
Paul Nors.s	Enter prise Buildons	505-264-3940	Anorris @ Chnm. roz
Thomas Piper	RGHS	(505) 414-0874	+homas piper Capsed
J.SH MARTINZZ	NATIONAL ROOFING	(505) 293-300	O JOSHM QNATIONAL ROOFING

505 - 883. 3000 edward banasimalrooking.com Natran ( Kook up Ed Bradey 505 702 5920 Nichobs, nomero 200ps.con Nicholos homeo AR FDC KEITH S. WHALE CORONADO WRECKEN 505 - 877-2821 CORONADOII3E questaffice. Ner 505-881-8925 ×114 patrick@westwindlandscape. PAT GAY WESTWIND LES **1** of 2

IO GRANDE HIGH SCHOOL Title IX New Gym + Various Athletic Facility Renovations

RFP No. 20-027 RRR

GN-IN roposal Conference Pre-P М datory n COMPANY PHONE EMAIL NAME 505.873.0220 valenzuela\_a@aps.edu APS- Rio Grande High School Antoinette Valenzuela 250-7817 505.873.0220 jenna.bludworth@aps.edu Jenna Bludworth APS- Rio Grande High School tony.sparks@aps.edu 505.206.9422 Albuquerque Public Schools - FD&C **Tony Sparks** slloyd@vhgarchitect.com **VHG** Architects 505.247.9955 Susan Lloyd dcavezadebaca@vhgarchitect.com 505.247.9955 **VHG** Architects Darlene Cabeza de Vaca jgonzales@vhgarchitect.com 505.247.9955 **VHG** Architects Jorge Gonzales aarchibeque@vhgarchitect.com 505.247.9955 **VHG** Architects Andrew Archibeque robert.rodarte@aps.edu **Robert Rodarte** Albuquerque Public Schools - Procurement 505.878.6125 505.848.8871 pasion@aps.edu **Roldan Pasion** Albuquerque Public Schools – FD&C tony.otero@aps.edu 505.830.6225 Albuquerque Public Schools **Tony Otero** James Vigil Vigil 1j. vigil & comcastinet CSI 505-877-6325 BIDGO BIZGD BOIDSTALLY PHEREN MORTENGEL BRADBURY STANM 505-765-1200 Bids@ bradburgstamm.com Bradburg Stamm 505-765-1200 Matthew Farmer High Dosont Roul tome e desertment.com EULEY 505-342-1092 amin mtramineze lipce. en 883-4111 , bidea h.bconstruction.com ulia Ellis 856-0404 HR Construction 3-155 tray. O tan O Ma 514 ) tomo

Fage 12

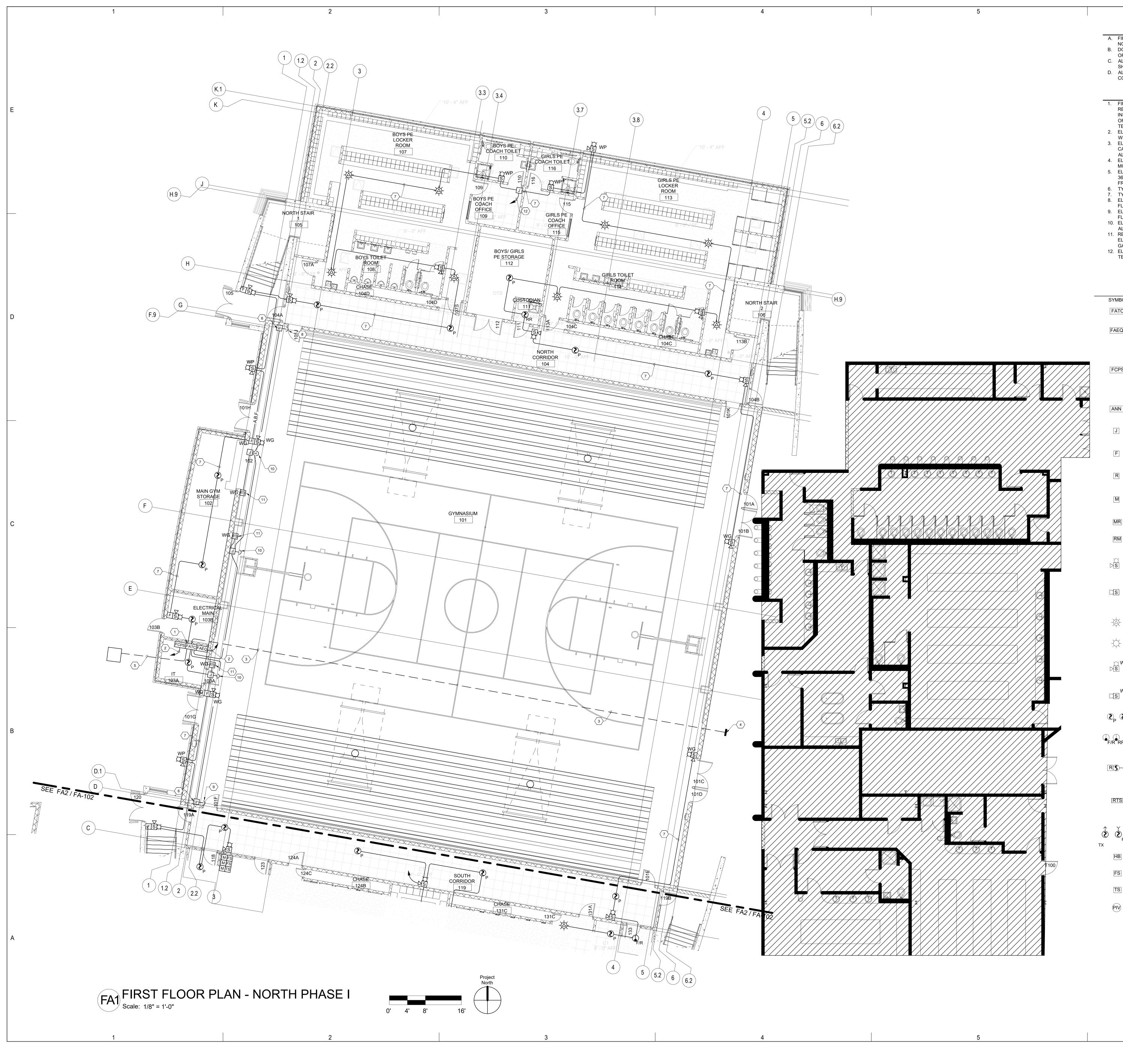
## 29 January 2020, 10 am RFP No. **20-027 RRR**

1.	Welcoming Remarks	Antoinette Valenzuela   RGHS Principal
2.	Procurement Rules	Robert Rodarte   APS Procurement
	<ul> <li>Key dates</li> <li>Issuance of addenda</li> <li>Procedures for directing [and the last day for</li> <li>Deadline</li> <li>Proposal Evaluation</li> <li>other</li> </ul>	] written questions
3.	Overview of Scope	Van Gilbert Architects   Architect of Record
	<ul> <li>Base Bid</li> <li>Bid Lot No. 1, 2,3</li> <li>Allowances</li> <li>Phasing</li> <li>other</li> </ul>	
4.	Building Energy Savings features + T&B/ CmX	Tony Sparks   APS Manager Sustainabilty
5.	Questions + Answers	
No	tes	

Rio Grande High School Gym Questions/Reponses

- A-101 Spec. Key Note 11-6623.04 call for new wall pad. The plan says re-use existing. Which is correct?
   RESPONSE: A: Specification Keynote 11 66 23.04 is correct. Remove 'RE-USE EXISTING PER OWNER/ARCHITECT' reference on sheet A-101.
   Additionally, change the following:
  - Remove following note on A1/A-301 'RE-USE EXISTING PADDING; ADD AS APPROPRIATE (BOTH SIDES) PER APS INSTRUCTION' and replace with Specification Keynote 11 66 23.04 NEW WALL PAD. Wall pads to be provided on both sides.
  - Revise Sheet Keynote 42 on sheet AD-101 to read as follows: SALVAGE EXISTING WALL PAD AND PROTECT DURING CONSTRUCTION; TO BE RE-INSTALLED AT EXISTING AUXILARY GYMNASIUM 186 IN PHASE III PER OWNER/ARCHITECT.
- A-101 Spec. Key Note 11-6623.12 Project per APS. Who furnishes and installs? What are the support requirements?
   RESPONSE: General Contractor to furnish and install projector and screen. See addendum notes Sheet A101 for basis of design and cage/support requirements.
- 3. A-104 General Note C says to view D4/A104. There is no D4/A104. RESPONSE: Delete General Note C.
- 4. What is the Building Permit status?RESPONSE: Documents have been submitted to PSFA for review and submittal to CID.
- 5. Who will be the APS Construction Manager? RESPONSE: APS will Determine.
- Spec. 03-3543 Polished Concrete calls for 4000 PSI. S-002 calls for 3000 PSI at interior slabs. Which is correct? RESPONSE: 4000 PSF
- 7. There is a Spec. Section 04-0110 Masonry Cleaning. Where does this apply? RESPONSE: Delete Section 04 01 10 in its entirety.
- A-101, 11-6623.02, Portable backstops. Is this correct?
   RESPONSE: Remove following note on A-101 11-6623.02 'PORTABLE BACKSTOPS' and replace with Specification Keynote 11 66 23.03 FORWARD FOLDING BACKSTOP.
- Spec. 10-4400 calls out fire extinguishers. APS normally furnishes these. Are we to furnish the fire extinguishers?
   RESPONSE: APS is furnishing fire extinguishers.
- A3/A-402: who furnishes ice maker, refrigerator, and microwave?
   RESPONSE: General Contractor to furnish ice maker, refrigerator and microwave.
- A1/A-402: Who furnishes the chemical storage cabinet? RESPONSE: General contractor to furnish chemical storage cabinet. Cabinet to be steel, five shelf locking cabinet.
- 12. A-611: Doors 111, 122, 134, 167 are missing information. Please provide. RESPONSE: See Addendum for response.
- A112: Please provide a specification for the Ballet Bar. RESPONSE: Ballet Barre System, basis of design Vita Vibe or equal.

- 14. Spec. 10191: Cubicle Curtain. Are there any of these in this project? If so, please provide location(s). RESPONSE: Door 167 to be a Cubicle Curtain.
- A-111, Room 170: What type of lockers are these?
   RESPONSE: See: LOCKER SCHEDULE -FIRST FLOOR PHASE 2 ON A-11 TYPE 5: WRESTLING LOCKER 2-TIER 18"x18" QTY: 37
- Spec. 10-5613 Metal Storage Shelving. Are there any of these on this project? If so, please provide location(s).
   RESPONSE: Yes, metal storage shelving is provided in Rm:139 TRAINING STORAGE.
- 17. B5/A-411: What is OFCI? RESPONSE: Refrigerator. Owner Furnished Contractor Installed.
- 18. AD-101, KN30 does not match A-601 for floor finish. Please clarify.
   RESPONSE: See: A-601 ROOM FINISH SCHEDULE SECOND FLOOR PHASE 1
   Rm: 205 WALL NORTH
   Rm: 211 WALL SOUTH
   ROOM FINISH LEGEND: W6 RE-PURPOSED GYM FLOORING FROM EXISTING (TO 10')
- 19. Will APS allow for the ELECTRONIC copy of Volume I: Price Proposal to be submitted by the deadline for Volume II: Technical Proposal on February 14, 2020, so long as the content is identical to the hard copy Volume I: Price Proposal submitted on February 13, 2020? While this question was asked and answered at the pre-bid meeting, it is submitted here for project record. RESPONSE: Yes
- The augercast pile specifications require compression load test on 2 sacrificial piles to 200% of the design load, but the design load is not shown on the augercast pile schedule. Can you please provide the design loads for each pile type?
   RESPONSE: These tests were completed for the RGHS 9<sup>th</sup> grade Academy and they were successful. Based on this, these tests will be removed from this project in the addendum.
- The load test are very expensive and time consuming. Would the design team consider high strain dynamic load testing on production piles instead (ASTM D4945)?
   RESPONSE: See response to 20.
- 22. There appear to be a few augercast piles without pile types as shown on the attached sketch. Can you please provide these?RESPONSE: We will identify these in the addendum.
- 23. Can you provide the required loads for the helical anchors referenced (Key Notes 6 and 7) on the attached?RESPONSE: We will identify these in the addendum.

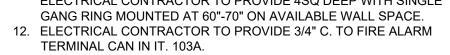


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- A. FIRE ALARM SYSTEM SHALL BE ENTIRELY IN 3/4" (MIN.) UNLESS NOTED OTHERWISE.
- B. DO NOT MOUNT SMOKE DETECTORS / HEAT DETECTORS WITHIN 3'-0" OF AN AIR DIFFUSER.
- C. ALL CEILING MOUNT DETECTORS IN EXPOSED STRUCTURE AREAS SHALL BE MOUNTED TO THE DECK. D. ALL ROUGH-IN AND RACEWAY WITH PULL STRING BY ELECTRICAL
- CONTRACTOR.

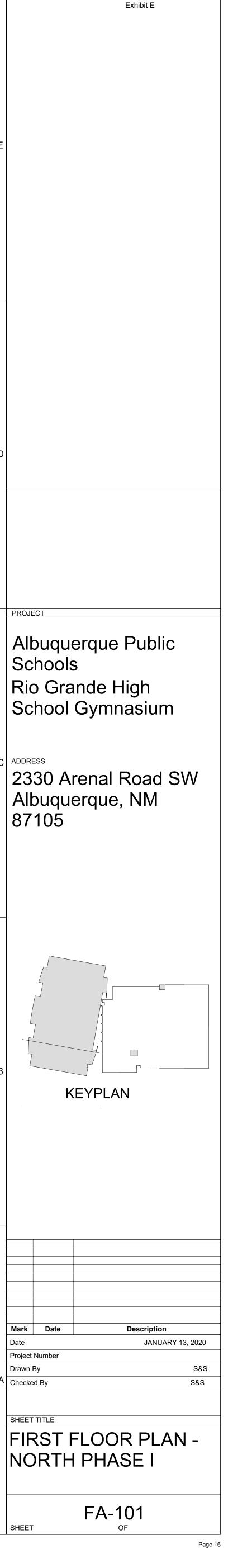
# KEYNOTES

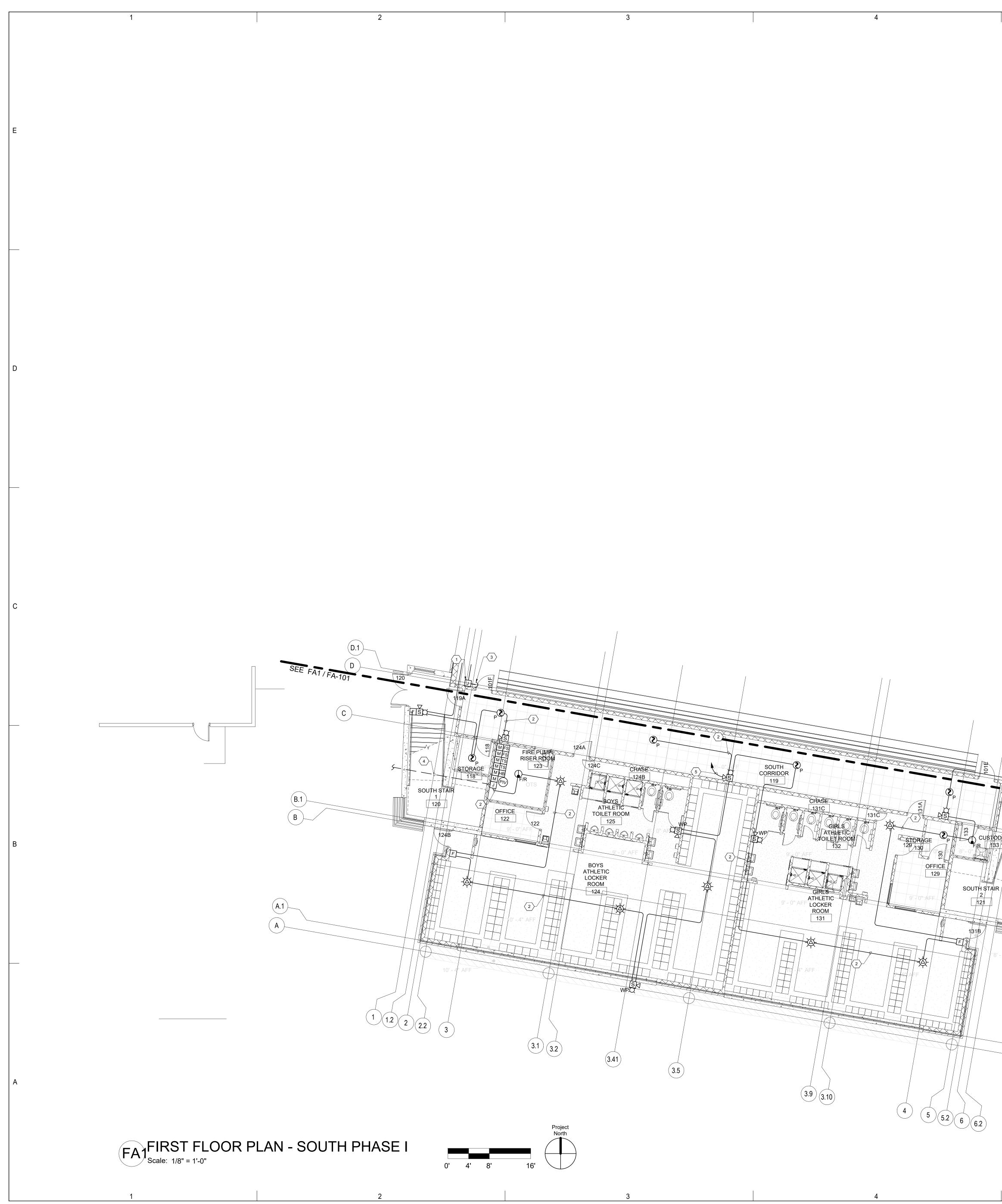
1.	FIRE ALARM POWER SUPPLY AND DIGITAL AUDIO AMPLIFIER
	REQUIRES SPECIAL BACK BOX SUPPLIED BY APS VENDOR.
	INSTALLED BY ELECTRICAL CONTRACTOR. MOUNT AT 66" AFF TO TOP
	OF CABINETS. ELECTRICAL CONTRACTOR TO PROVIDE FIRE ALARM
	TERMINAL CAN. REFER TO DETAIL 1 SHEET FA-300.
2.	ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT
	WITH BREAKER LOCKING DEVICE.
3.	ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR FIRE ALARM
	CABLING FROM FIRE ALARM TERMINAL CAN IN IT 103A TO FIRE
	ALARM TERMINAL CAN IN 1ST FLOOR IT 155 PHASE II.
4.	ELECTRICAL CONTRACTOR TO CAP OFF CONDUIT TO PREVENT
	MOISTER AND CONTINUE TO EXTEND CONDUIT DURING PHASE II.
5.	ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. TO IN GROUND
	36"X36"X18" HANDHOLES FOR FIRE ALARM NETWORK CONNECTIONS
	FROM MAIN FIRE ALARM CONTROL PANEL IN ADMIN BUILDING.
6.	TYPICAL J-BOX WITH COVER PLATE BY ELECTRICAL CONTRACTOR.
7.	TYPICAL 3/4" RACEWAY BY ELECTRICAL CONTRACTOR.
8.	ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY UP TO 2ND
	FLOOR NORTH MEZZANINE BLEACHERS 204.
9.	ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY UP TO 2ND
	FLOOR SOUTH MEZZANINE BLEACHERS 208.
10.	ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY UP TO FIRE
	ALARM BEAM SMOKE DETECTOR ABOVE. REFER TO SHEET FA-103.
11.	REMOTE TEST SWITCH PROVIDED AND CONNECTED BY APS VENDOR.
	ELECTRICAL CONTRACTOR TO PROVIDE 4SQ DEEP WITH SINGLE
	GANG RING MOUNTED AT 60"-70" ON AVAILABLE WALL SPACE.



DEVICE LEGEND

SYMBOL	DESCRIPTION	
FATC	FIRE ALARM TERMINAL CAN 18" x18" x 6" PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.	D
FAEQ	FIRE ALARM EQUIPMENT CAN - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.	-
FCPS	FIRE ALARM REMOTE POWER SUPPLY - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.	
ANN	FIRE ALARM ANNUNCIATOR - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR MOUNT AT 60" TO TOP OF BOX AFF.	
J	JBOX - COORDINATE WITH APS VENDOR FOREMAN ON ROUGH-IN TYPE AND HEIGHTS INSTALLED AND PROVIDED BY ELECTRICAL CONTRACTOR	
F	PULL STATION PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ SINGLE GANG RING. MOUNT AT 48" TO TOP OF BOX BY ELECTRICAL CONTRACTOR.	
R	RELAY MODULE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR.	
Μ	MONITOR MODULE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR.	
MR	MECHANICAL RELAY PROVIDED BY APS VENDOR INSTALLED AND CABLED BY ELECTRICAL CONTRACTOR.	с
RM	REMOTE MICROPHONE PROVIDED BY APS VENDOR - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR MOUNT AT 60" TO TOP OF BOX.	
DS	WALL MOUNT FIRE ALARM SPEAKER / STROBE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR.	
) (S	WALL MOUNT FIRE ALARM STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR.	
-☆-	CEILING MOUNT SPEAKER / STROBE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/4SQ EXTENSION RING BY ELECTRICAL CONTRACTOR.	
-\	CEILING MOUNT STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING BY ELECTRICAL CONTRACTOR.	
₩P DS	WEATHER PROOF WALL MOUNT SPEAKER /STROBE PROVIDED AND INSTALLED BY APS VENDOR- REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.	
WP OS	WEATHER PROOF WALL MOUNT STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.	
8 <sub>P</sub> 8	SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR . P = PHOTOELECTRIC, Q = INTELLIQUAD.	Р
) ( ) F/R RR HH	HEAT DETECTORS PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR. F/R = FIXED RATE, RR = RATE OF RISE, HH = HIGH HEAT.	В
R( <b>S</b> )=	DUCT SMOKE DETECTOR WITH RELAY MODULE MOUNTED IN DETECTOR HOUSING. FURNISHED & CONNECTED BY APS VENDOR, INSTALLED BY MECHANICAL CONTRACTOR IN DUCT WORK. INSTALLED PER INSTALL MANUAL PROVIDED WITH DUCT SMOKE DETECTOR.	
RTS	REMOTE TEST STATION PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP BOX WITH SINGLE GANG RING MOUNTED IN CEILING OR AVAILABLE WALL SPACE BY ELECTRICAL CONTRACTOR.	
	BEAM SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION WITH ALL TRADES, ARCHITECT & OWNER.	
HB	HOTBOX PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.	-
FS	FLOW SWITCH PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.	-
TS	TAMPER SWITCH PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.	
PIV	POST INDICATOR VALVE PROVIDED & INSTALLED BY OTHERS. MONITORED BY FIRE ALARM SYSTEM.	





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- A. FIRE ALARM SYSTEM SHALL BE ENTIRELY IN 3/4" (MIN.) UNLESS NOTED OTHERWISE.
- B. DO NOT MOUNT SMOKE DETECTORS / HEAT DETECTORS WITHIN 3'-0" OF AN AIR DIFFUSER.
- C. ALL CEILING MOUNT DETECTORS IN EXPOSED STRUCTURE AREAS SHALL BE MOUNTED TO THE DECK.
- D. ALL ROUGH-IN AND RACEWAY WITH PULL STRING BY ELECTRICAL CONTRACTOR.

## **KEYNOTES**

- 1. TYPICAL J-BOX WITH COVER PLATE BY ELECTRICAL CONTRACTOR. TYPICAL 3/4" RACEWAY BY ELECTRICAL CONTRACTOR. 3. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY UP TO 2ND
- FLOOR SOUTH MEZZANINE BLEACHERS 208. 4. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY TO PIV / HOT BOX.
- REFER TO UTILITY PLANS. 5. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. TO FIRE ALARM
- TERMINAL CAN IN IT 103A.

DEVICE LEGEND

INSTALLED BY ELECTRICAL CONTRACTOR.

ENTER BOTTOM OF BOX.

ENTER BOTTOM OF BOX.

ELECTRICAL CONTRACTOR

DESCRIPTION

FIRE ALARM TERMINAL CAN 18" x18" x 6" PROVIDED AND

FIRE ALARM EQUIPMENT CAN - REQ'S SPECIAL BACK BOX

FIRE ALARM REMOTE POWER SUPPLY - REQ'S SPECIAL BACK

BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL

FIRE ALARM ANNUNCIATOR - REQ'S SPECIAL BACK BOX

PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR MOUNT AT 60" TO TOP OF BOX AFF.

JBOX - COORDINATE WITH APS VENDOR FOREMAN ON ROUGH-IN TYPE AND HEIGHTS INSTALLED AND PROVIDED BY

REQ'S 4SQ. DEEP W/ SINGLE GANG RING. MOUNT AT 48" TO

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TOP OF BOX BY ELECTRICAL CONTRACTOR.

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SYMBOL

FATC

FAEQ

FCPS

ANN

SEE FA1/FA-101
FA-101

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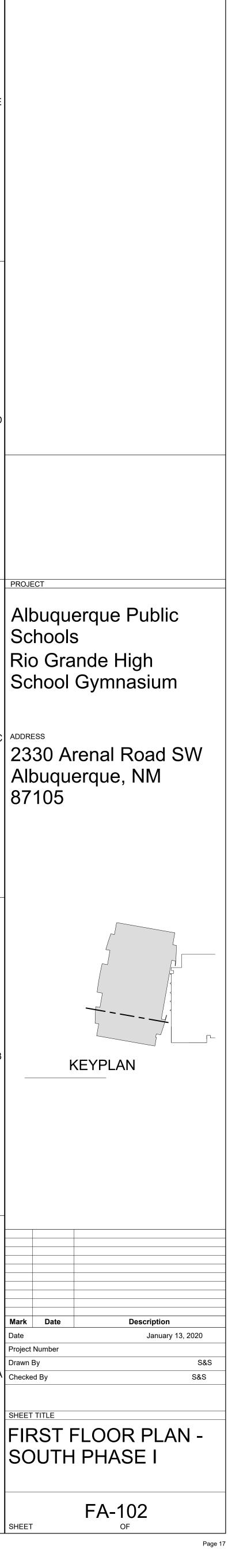
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Μ	MONITOR MODULE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR.
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DS	WALL MOUNT FIRE ALARM SPEAKER / STROBE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR.
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Ŭ WP ⊳S	WEATHER PROOF WALL MOUNT SPEAKER /STROBE PROVIDED AND INSTALLED BY APS VENDOR- REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.
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(), (), (), (), (), (), (), (), (), (),	SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR . P = PHOTOELECTRIC, Q = INTELLIQUAD.
F/R RR HH	HEAT DETECTORS PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR. F/R = FIXED RATE, RR = RATE OF RISE, HH = HIGH HEAT.
<b>RS</b>	DUCT SMOKE DETECTOR WITH RELAY MODULE MOUNTED IN DETECTOR HOUSING. FURNISHED & CONNECTED BY APS VENDOR, INSTALLED BY MECHANICAL CONTRACTOR IN DUCT WORK. INSTALLED PER INSTALL MANUAL PROVIDED WITH DUCT SMOKE DETECTOR

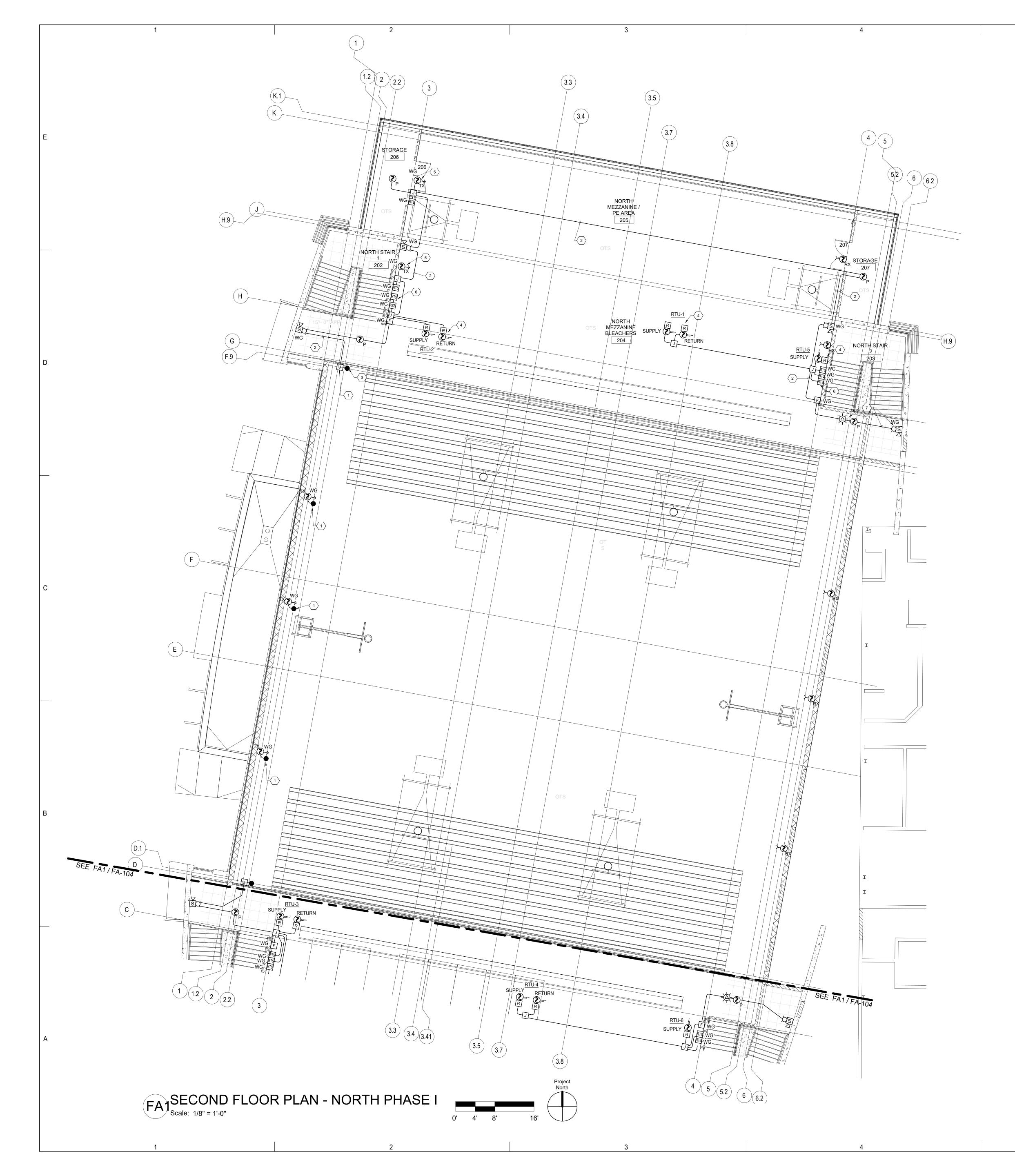
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DUCT SMOKE DETECTOR.

ΤХ

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- Drawn By





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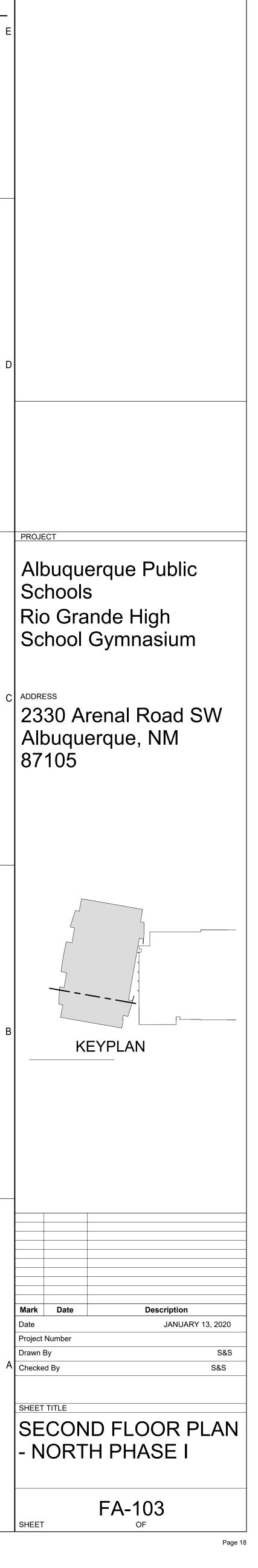
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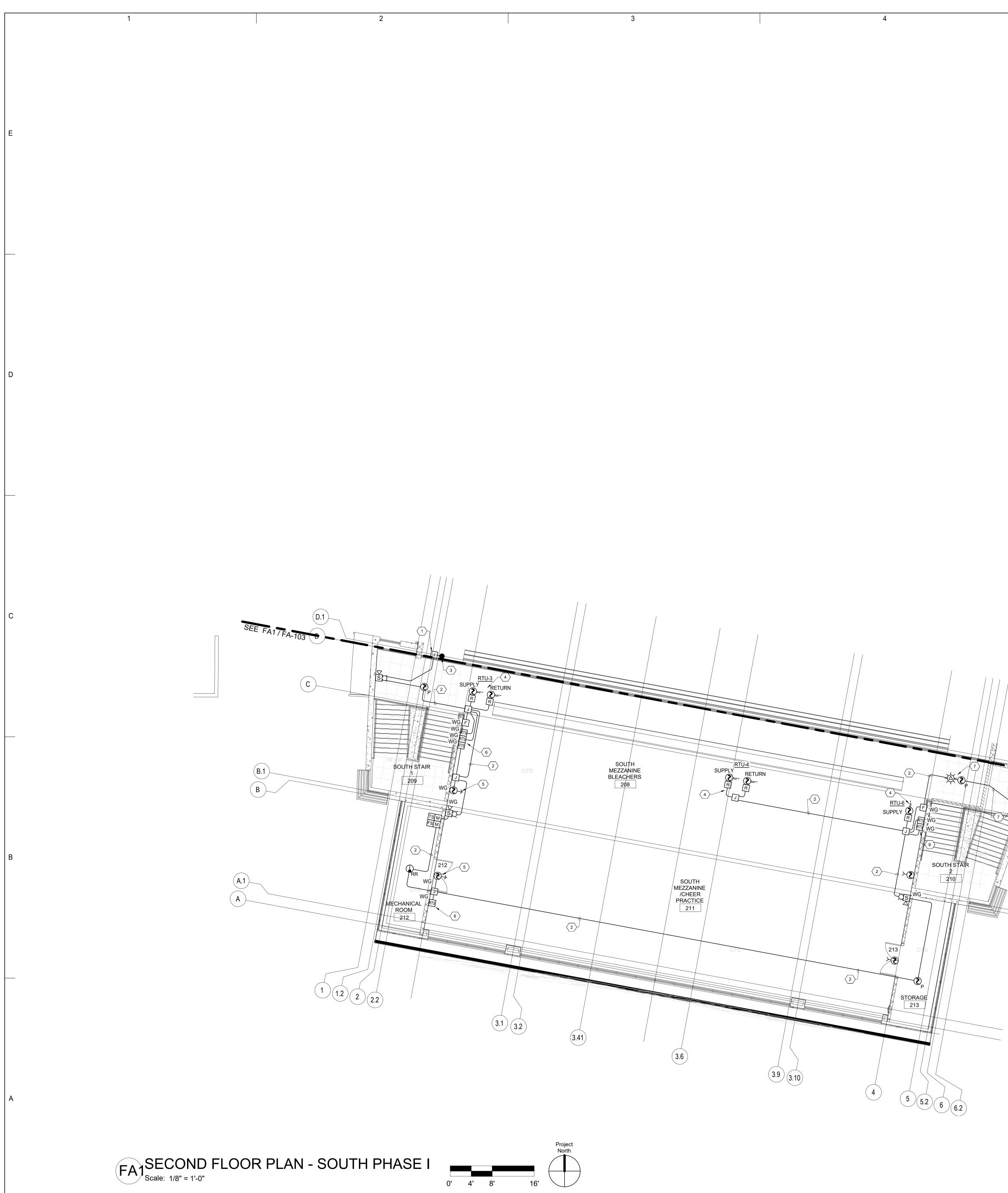
- A. FIRE ALARM SYSTEM SHALL BE ENTIRELY IN 3/4" (MIN.) UNLESS NOTED OTHERWISE.
   B. DO NOT MOUNT SMOKE DETECTORS / HEAT DETECTORS WITHIN 3'-0"
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# KEYNOTES

1.	TYPICAL J-BOX WITH COVER PLATE BY ELECTRICAL CONTRACTOR.
2.	TYPICAL 3/4" RACEWAY BY ELECTRICAL CONTRACTOR.
3.	ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY UP TO 1ST
	FLOOR GYM. REFER TO SHEET FA-101.
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	OFF. ELECTRICAL CONTRACTOR TO PROVIDE ALL RACEWAY AND RTU
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5.	ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY UP TO FIRE
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6.	REMOTE TEST SWITCH PROVIDED AND CONNECTED BY APS VENDOR.
	ELECTRICAL CONTRACTOR TO PROVIDE 4SQ DEEP WITH SINGLE
	GANG RING MOUNTED AT 60"-70" ON AVAILABLE WALL SPACE.
7.	TEMPORARILY CEILING MOUNTED SPEAKER STROBE. ELECTRICAL
	CONTRACTOR TO EXTEND RACEWAY TO WALL MOUNTED SPEAKER
	STROBE IN PHASE II

	DEVICE LEGEND
SYMBOL FATC	DESCRIPTION FIRE ALARM TERMINAL CAN 18" x18" x 6" PROVIDED AND
FAEQ	INSTALLED BY ELECTRICAL CONTRACTOR. FIRE ALARM EQUIPMENT CAN - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE
	120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.
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6

- A. FIRE ALARM SYSTEM SHALL BE ENTIRELY IN 3/4" (MIN.) UNLESS NOTED OTHERWISE. B. DO NOT MOUNT SMOKE DETECTORS / HEAT DETECTORS WITHIN 3'-0"
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STROBE IN PHASE II

SYMBOL

# KEYNOTES

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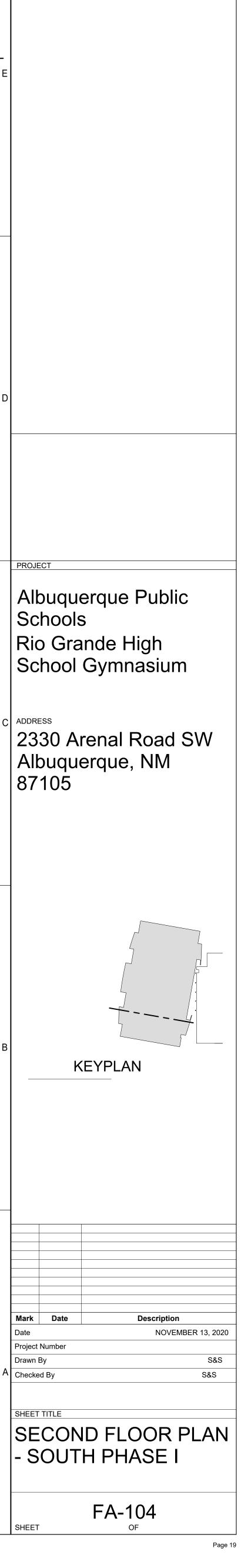
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DEVICE	LEGEND

SYMBOL	DESCRIPTION	
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∭ ∭S	WEATHER PROOF WALL MOUNT STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.	
(2) <sub>P</sub> (2) <sub>Q</sub>	SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR . P = PHOTOELECTRIC, Q = INTELLIQUAD.	_
F/R RR HH	HEAT DETECTORS PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR. F/R = FIXED RATE, RR = RATE OF RISE, HH = HIGH HEAT.	В
<b>RS</b> =	DUCT SMOKE DETECTOR WITH RELAY MODULE MOUNTED IN DETECTOR HOUSING. FURNISHED & CONNECTED BY APS VENDOR, INSTALLED BY MECHANICAL CONTRACTOR IN DUCT WORK. INSTALLED PER INSTALL MANUAL PROVIDED WITH DUCT SMOKE DETECTOR.	
RTS	REMOTE TEST STATION PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP BOX WITH SINGLE GANG RING MOUNTED IN CEILING OR AVAILABLE WALL SPACE BY ELECTRICAL CONTRACTOR.	
° Č KRX	BEAM SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION WITH ALL TRADES, ARCHITECT & OWNER.	
HB	HOTBOX PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.	
FS	FLOW SWITCH PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.	
TS	TAMPER SWITCH PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.	
PIV	POST INDICATOR VALVE PROVIDED & INSTALLED BY OTHERS. MONITORED BY FIRE ALARM SYSTEM.	

Date





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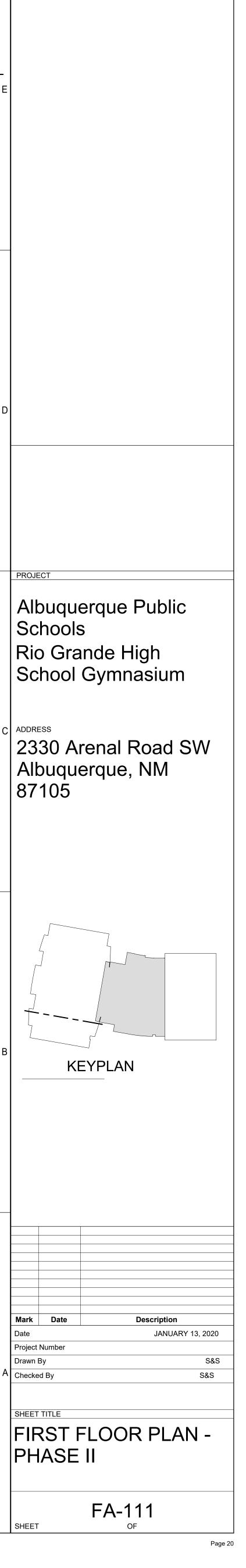
- A. FIRE ALARM SYSTEM SHALL BE ENTIRELY IN 3/4" (MIN.) UNLESS NOTED OTHERWISE.
- B. DO NOT MOUNT SMOKE DETECTORS / HEAT DETECTORS WITHIN 3'-0" OF AN AIR DIFFUSER.
- C. ALL CEILING MOUNT DETECTORS IN EXPOSED STRUCTURE AREAS SHALL BE MOUNTED TO THE DECK.
- D. ALL ROUGH-IN AND RACEWAY WITH PULL STRING BY ELECTRICAL CONTRACTOR.

# **KEYNOTES**

- 1. FIRE ALARM POWER SUPPLY AND DIGITAL AUDIO AMPLIFIER REQUIRES SPECIAL BACK BOX SUPPLIED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. MOUNT AT 66" AFF TO TOP OF CABINETS. ELECTRICAL CONTRACTOR TO PROVIDE FIRE ALARM TERMINAL CAN. REFER TO DETAIL 2 SHEET FA-300. 2. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. 3. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR FIRE ALARM CABLING FROM IT 103A TO 1ST FLOOR IT 155 PHASE II. 4. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR FIRE ALARM CABLING FROM FIRE ALARM TERMINAL CAN IN IT 155 TO 2ND FLOOR FIRE ALARM TERMINAL CAN IN IT 233C. REFER TO SHEET FA-112. 5. TYPICAL J-BOX WITH COVER PLATE BY ELECTRICAL CONTRACTOR.
- REFER TO DETAIL 3 ON SHEET FA-300. 6. TYPICAL 3/4" RACEWAY BY ELECTRICAL CONTRACTOR.
- 7. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY TO FIRE ALARM DEVICES IN ELEVATOR PIT. COORDINATE WITH APS VENDOR. 8. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN FOR HEAT
- DETECTOR. HEAT DETECTOR TO BE ROUGH-IN WITHIN 18" OF EACH SPRINKLER HEAD. COORDINATE WITH APS VENDOR.
- 9. FIRE ALARM DEVICE TO BE ACCESSIBLE FOR MAINTENANCE. GENERAL CONTRACTOR TO PROVIDE ACCESSIBLE DOOR.
- 10. REMOTE TEST SWITCH PROVIDED AND CONNECTED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4SQ DEEP WITH SINGLE GANG RING MOUNTED AT 60"-70" ON AVAILABLE WALL SPACE OR
- CEILING MOUNT TO LAY-IN CEILING TILE. 11. ELECTRICAL CONTRACTOR TO PROVIDE 1-1" C. TO FIRE ALARM TERMINAL CAN IN IT 155.
- 12. ELECTRICAL CONTRACTOR TO PROVIDE 1- 1 1/4" C. & J-BOX FOR PHASE III FIRE ALARM DEVICE CABLING.
- 13. FIRE ALARM ANNUNCIATOR AND REMOTE MICROPHONE REQUIRES SPECIAL BACK BOX SUPPLIED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. MOUNT AT60" TO TOP OF BOX. REFER TO DETAIL 3 ON SHEET FA-300.

# **DEVICE LEGEND**

	DEVICE LEGEND
SYMBOL	DESCRIPTION
FATC	FIRE ALARM TERMINAL CAN 18" x18" x 6" PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
FAEQ	FIRE ALARM EQUIPMENT CAN - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.
FCPS	FIRE ALARM REMOTE POWER SUPPLY - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.
ANN	FIRE ALARM ANNUNCIATOR - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR MOUNT AT 60" TO TOP OF BOX AFF.
J	JBOX - COORDINATE WITH APS VENDOR FOREMAN ON ROUGH-IN TYPE AND HEIGHTS INSTALLED AND PROVIDED BY ELECTRICAL CONTRACTOR
F	PULL STATION PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ SINGLE GANG RING. MOUNT AT 48" TO TOP OF BOX BY ELECTRICAL CONTRACTOR.
R	RELAY MODULE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR.
Μ	MONITOR MODULE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR.
MR	MECHANICAL RELAY PROVIDED BY APS VENDOR INSTALLED AND CABLED BY ELECTRICAL CONTRACTOR.
RM	REMOTE MICROPHONE PROVIDED BY APS VENDOR - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR MOUNT AT 60" TO TOP OF BOX.
) S	WALL MOUNT FIRE ALARM SPEAKER / STROBE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR.
) S	WALL MOUNT FIRE ALARM STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR.
-&-	CEILING MOUNT SPEAKER / STROBE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/4SQ EXTENSION RING BY ELECTRICAL CONTRACTOR.
-Ċ-	CEILING MOUNT STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING BY ELECTRICAL CONTRACTOR.
⊖ WP ⊳S	WEATHER PROOF WALL MOUNT SPEAKER /STROBE PROVIDED AND INSTALLED BY APS VENDOR- REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.
WP CS	WEATHER PROOF WALL MOUNT STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.
<b>(2</b> <sub>P</sub> <b>(2</b> <sub>Q</sub>	SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR . P = PHOTOELECTRIC, Q = INTELLIQUAD.
F/R RR HH	HEAT DETECTORS PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR. F/R = FIXED RATE, RR = RATE OF RISE, HH = HIGH HEAT.
<b>RS</b> =	DUCT SMOKE DETECTOR WITH RELAY MODULE MOUNTED IN DETECTOR HOUSING. FURNISHED & CONNECTED BY APS VENDOR, INSTALLED BY MECHANICAL CONTRACTOR IN DUCT WORK. INSTALLED PER INSTALL MANUAL PROVIDED WITH DUCT SMOKE DETECTOR.
RTS	REMOTE TEST STATION PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP BOX WITH SINGLE GANG RING MOUNTED IN CEILING OR AVAILABLE WALL SPACE BY ELECTRICAL CONTRACTOR.
¢ č <sub>RX</sub>	BEAM SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION WITH ALL TRADES, ARCHITECT & OWNER.
HB	HOTBOX PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.
FS	FLOW SWITCH PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.
TS	TAMPER SWITCH PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.
PIV	POST INDICATOR VALVE PROVIDED & INSTALLED BY OTHERS. MONITORED BY FIRE ALARM SYSTEM.





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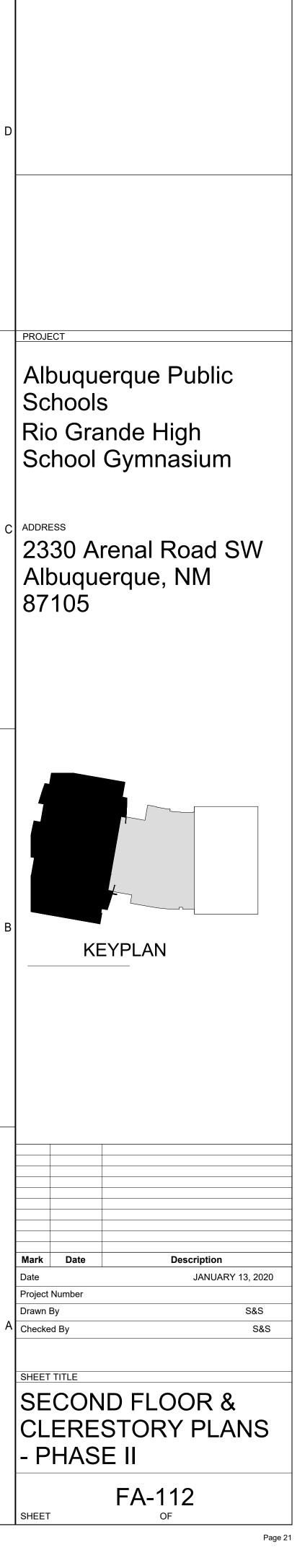
- A. FIRE ALARM SYSTEM SHALL BE ENTIRELY IN 3/4" (MIN.) UNLESS NOTED OTHERWISE.
- B. DO NOT MOUNT SMOKE DETECTORS / HEAT DETECTORS WITHIN 3'-0" OF AN AIR DIFFUSER.
- C. ALL CEILING MOUNT DETECTORS IN EXPOSED STRUCTURE AREAS SHALL BE MOUNTED TO THE DECK.
- D. ALL ROUGH-IN AND RACEWAY WITH PULL STRING BY ELECTRICAL CONTRACTOR.

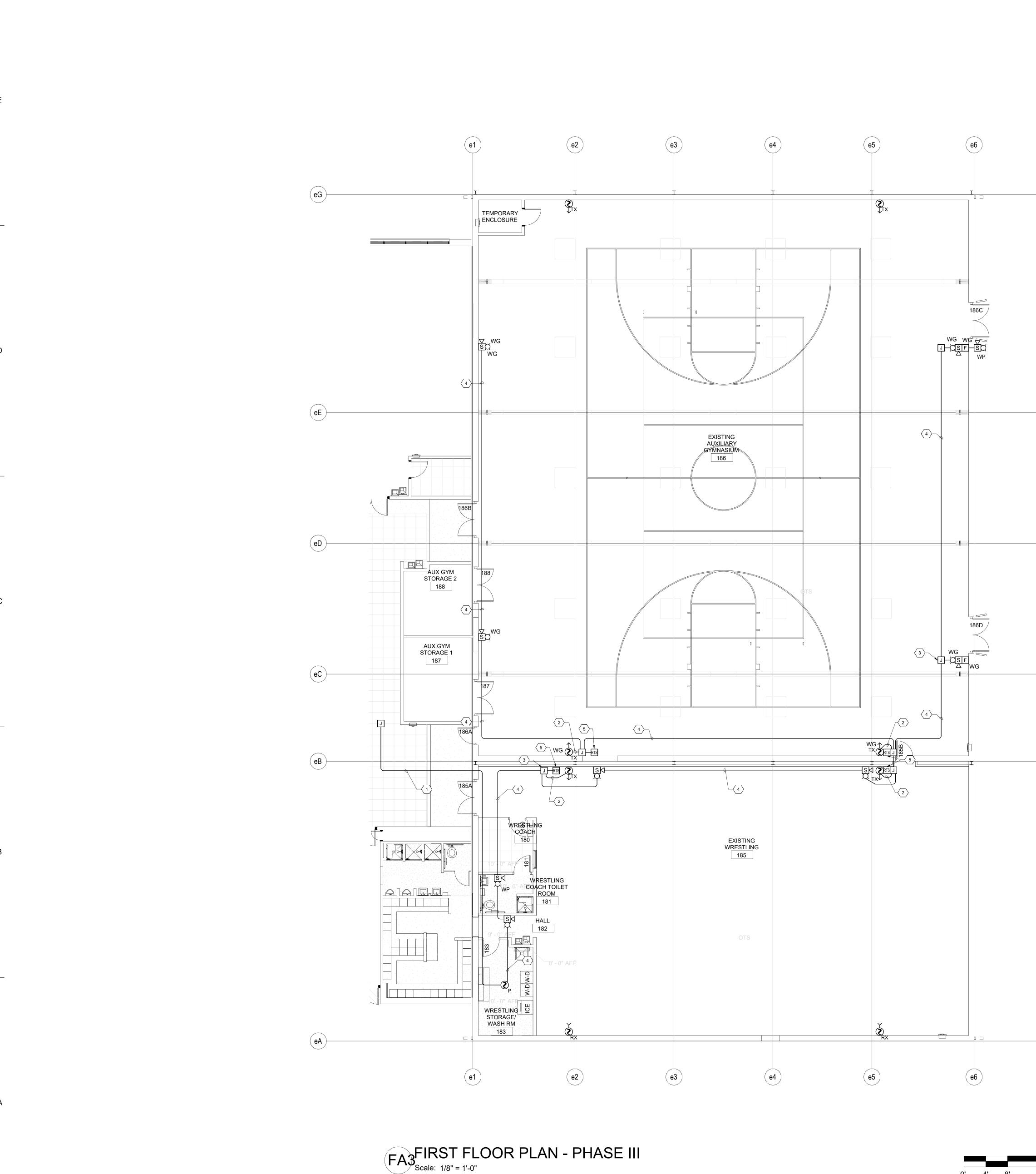
# KEYNOTES

- FIRE ALARM POWER SUPPLY REQUIRES SPECIAL BACK BOX SUPPLIED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. MOUNT AT 66" AFF TO TOP OF CABINET. ELECTRICAL CONTRACTOR TO PROVIDE FIRE ALARM TERMINAL CAN. REFER TO DETAIL 4 SHEET FA-300.
- ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE.
   ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR FIRE ALARM CABLING FROM FIRE ALARM TERMINAL CAN IN 1ST FLOOR IT 155 TO 2ND FLOOR FIRE ALARM TERMINAL CAN IN IT 233C. REFER TO SHEET
- FA-111.
  TYPICAL J-BOX WITH COVER PLATE BY ELECTRICAL CONTRACTOR.
  TYPICAL 3/4" RACEWAY BY ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY TO FIRE ALARM DEVICES IN ELEVATOR SHAFT. COORDINATE WITH APS VENDOR.
- ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN FOR HEAT DETECTOR. HEAT DETECTOR TO BE ROUGH-IN WITHIN 18" OF EACH SPRINKLER HEAD. COORDINATE WITH APS VENDOR.
- FIRE ALARM DEVICE TO BE ACCESSIBLE FOR MAINTENANCE. GENERAL CONTRACTOR TO PROVIDE ACCESSIBLE DOOR.
   REMOTE TEST SWITCH PROVIDED AND CONNECTED BY APS VENDOR.
- ELECTRICAL CONTRACTOR TO PROVIDE 4SQ DEEP WITH SINGLE
  GANG RING MOUNTED AT 60"-70" ON AVAILABLE WALL SPACE OR
  CEILING MOUNT TO LAY-IN CEILING TILE.
  ELECTRICAL CONTRACTOR TO PROVIDE 1-1 1/4" C. TO J-BOX ABOVE
- IN ELEVATOR LOBBY ELEV-L. 11. ELECTRICAL CONTRACTOR TO PROVIDE 1- 1 1/4" C. TO J-BOX ABOVE
- IN ATHLETIC DIRECTOR 223. 12. ELECTRICAL CONTRACTOR TO PROVIDE 1-1" C. TO ELEVATOR
- CONTROLLER FOR FIRE ALARM CABLING. 13. ELECTRICAL CONTRACTOR TO ROUGH-IN FIRE ALARM DEVICE NEAR
- ELEVATOR CONTROLLER ON AVAILABLE WALL SPACE.

# DEVICE LEGEND

	DEVICE LEGEND
SYMBOL	DESCRIPTION
FATC	FIRE ALARM TERMINAL CAN 18" x18" x 6" PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
FAEQ	FIRE ALARM EQUIPMENT CAN - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.
FCPS	FIRE ALARM REMOTE POWER SUPPLY - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.
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J	JBOX - COORDINATE WITH APS VENDOR FOREMAN ON ROUGH-IN TYPE AND HEIGHTS INSTALLED AND PROVIDED BY ELECTRICAL CONTRACTOR
F	PULL STATION PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ SINGLE GANG RING. MOUNT AT 48" TO TOP OF BOX BY ELECTRICAL CONTRACTOR.
R	RELAY MODULE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR.
Μ	MONITOR MODULE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR.
MR	MECHANICAL RELAY PROVIDED BY APS VENDOR INSTALLED AND CABLED BY ELECTRICAL CONTRACTOR.
RM	REMOTE MICROPHONE PROVIDED BY APS VENDOR - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR MOUNT AT 60" TO TOP OF BOX.
) DS	WALL MOUNT FIRE ALARM SPEAKER / STROBE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR.
ĊS	WALL MOUNT FIRE ALARM STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR.
-\-	CEILING MOUNT SPEAKER / STROBE PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/4SQ EXTENSION RING BY ELECTRICAL CONTRACTOR.
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∖) S VB	WEATHER PROOF WALL MOUNT SPEAKER /STROBE PROVIDED AND INSTALLED BY APS VENDOR- REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.
WP CS	WEATHER PROOF WALL MOUNT STROBE ONLY PROVIDED AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.
(), P (), Q	SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR . P = PHOTOELECTRIC, Q = INTELLIQUAD.
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<b>RS</b> =-	DUCT SMOKE DETECTOR WITH RELAY MODULE MOUNTED IN DETECTOR HOUSING. FURNISHED & CONNECTED BY APS VENDOR, INSTALLED BY MECHANICAL CONTRACTOR IN DUCT WORK. INSTALLED PER INSTALL MANUAL PROVIDED WITH DUCT SMOKE DETECTOR.
RTS	REMOTE TEST STATION PROVIDED AND INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP BOX WITH SINGLE GANG RING MOUNTED IN CEILING OR AVAILABLE WALL SPACE BY ELECTRICAL CONTRACTOR.
<pre></pre>	BEAM SMOKE DETECTOR PROVIDED AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION WITH ALL TRADES, ARCHITECT & OWNER.
HB	HOTBOX PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.
FS	FLOW SWITCH PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.
TS	TAMPER SWITCH PROVIDED AND INSTALLED BY OTHERS MONITORED BY FIRE ALARM SYSTEM.
	POST INDICATOR VALVE PROVIDED & INSTALLED BY OTHERS.





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## GENERAL SHEET NOTES

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- A. FIRE ALARM SYSTEM SHALL BE ENTIRELY IN 3/4" (MIN.) UNLESS NOTED OTHERWISE.
- B. DO NOT MOUNT SMOKE DETECTORS / HEAT DETECTORS WITHIN 3'-0" OF AN AIR DIFFUSER.
- C. ALL CEILING MOUNT DETECTORS IN EXPOSED STRUCTURE AREAS SHALL BE MOUNTED TO THE DECK.
- D. ALL ROUGH-IN AND RACEWAY WITH PULL STRING BY ELECTRICAL CONTRACTOR.

# KEYNOTES

- 1. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. TO J-BOX FROM PHASE II. FOR FIRE ALARM CABLING. 2. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. UP TO BEAM SMOKE DETECTOR. COORDINATE WITH FIRE ALARM CONTRACTOR.
- 3. TYPICAL J-BOX WITH COVER PLATE BY ELECTRICAL CONTRACTOR. 4. TYPICAL 3/4" RACEWAY BY ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO PROVIDE 4SQ DEEP BOX WITH SINGLE GANG RING MOUNTED AT 60" - 70" AFF ON AVAILABLE WALL SPACE FOR REMOTE TEST SWITCH. COORDINATE WITH FIRE ALARM
- CONTRACTOR FOR EXACT LOCATIONS.

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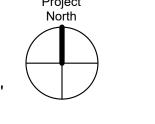
# -(eD)

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	MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.
FCPS	FIRE ALARM REMOTE POWER SUPPLY - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE. MOUNT AT 66" A.F.F. TO TOP OF BOX. NO CONDUIT SHALL ENTER BOTTOM OF BOX.
ANN	FIRE ALARM ANNUNCIATOR - REQ'S SPECIAL BACK BOX PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR MOUNT AT 60" TO TOP OF BOX AFF.

SYMBOL

FATC

FAEQ

## T AT 60" TO TOP OF BOX AFF. JBOX - COORDINATE WITH APS VENDOR FOREMAN ON ROUGH-IN TYPE AND HEIGHTS INSTALLED AND PROVIDED BY ELECTRICAL CONTRACTOR PULL STATION PROVIDED AND INSTALLED BY APS VENDOR -F REQ'S 4SQ. DEEP W/ SINGLE GANG RING. MOUNT AT 48" TO TOP OF BOX BY ELECTRICAL CONTRACTOR.

**DEVICE LEGEND** 

INSTALLED BY ELECTRICAL CONTRACTOR.

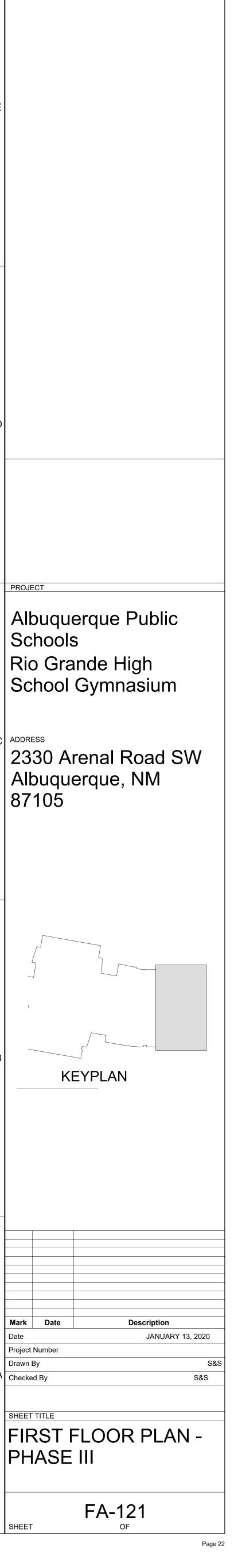
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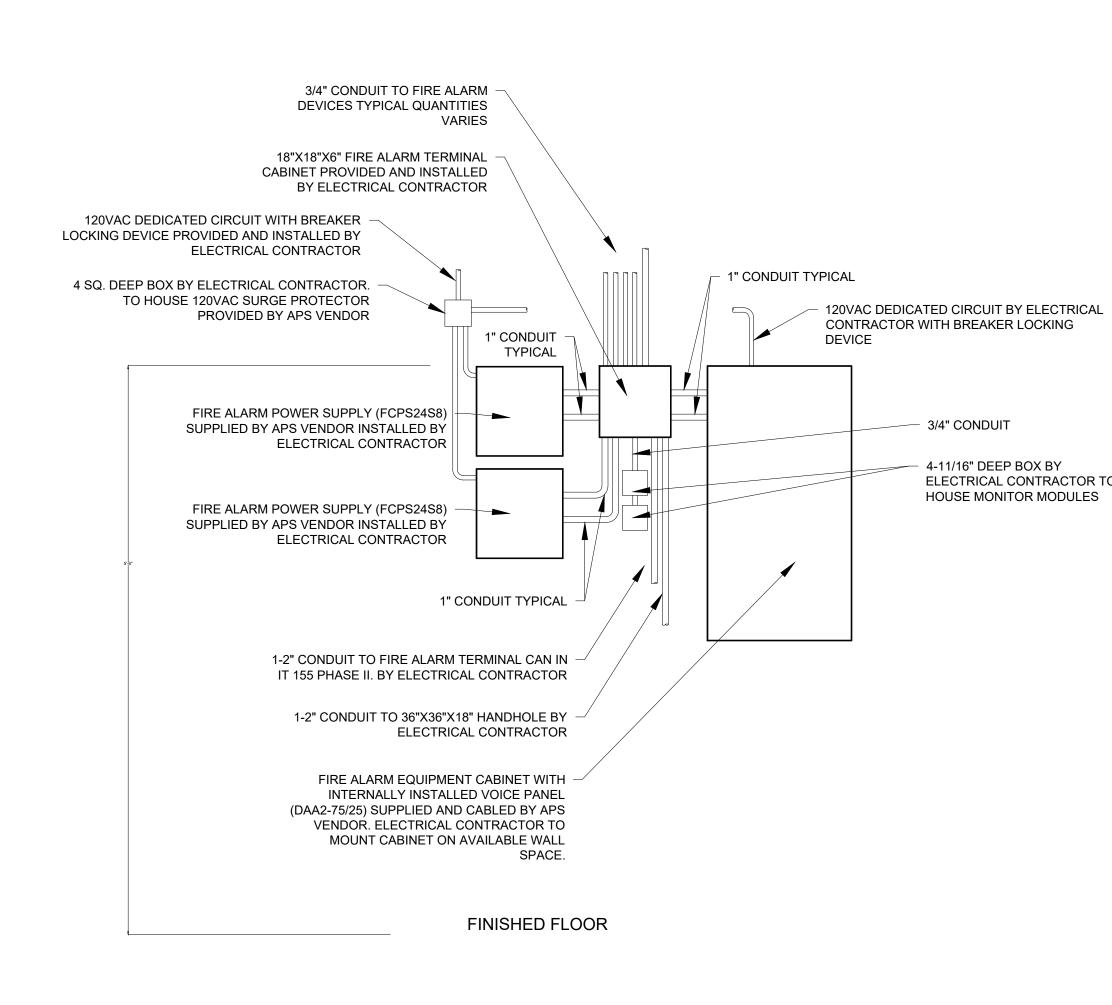
FIRE ALARM TERMINAL CAN 18" x18" x 6" PROVIDED AND

FIRE ALARM EQUIPMENT CAN - REQ'S SPECIAL BACK BOX

PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DEDICATED CIRCUIT WITH BREAKER LOCKING DEVICE.

- RELAY MODULE PROVIDED AND INSTALLED BY APS VENDOR -R REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR. MONITOR MODULE PROVIDED AND INSTALLED BY APS
- Μ VENDOR - REQ'S 4-11/16" DEEP BOX WITH DOUBLE GANG RING BY ELECTRICAL CONTRACTOR. MECHANICAL RELAY PROVIDED BY APS VENDOR INSTALLED MR
- AND CABLED BY ELECTRICAL CONTRACTOR. REMOTE MICROPHONE PROVIDED BY APS VENDOR - REQ'S RM SPECIAL BACK BOX PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR MOUNT AT 60" TO TOP OF BOX.
- WALL MOUNT FIRE ALARM SPEAKER / STROBE PROVIDED AND DS INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR.
- WALL MOUNT FIRE ALARM STROBE ONLY PROVIDED AND ŊS INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING MOUNT AT 80" TO BOTTOM OF BOX BY ELECTRICAL CONTRACTOR. CEILING MOUNT SPEAKER / STROBE PROVIDED AND
- INSTALLED BY APS VENDOR - REQ'S 4SQ. DEEP W/4SQ EXTENSION RING BY ELECTRICAL CONTRACTOR. CEILING MOUNT STROBE ONLY PROVIDED AND INSTALLED BY -À-APS VENDOR - REQ'S 4SQ. DEEP W/ 4SQ EXTENSION RING BY ELECTRICAL CONTRACTOR.
- WEATHER PROOF WALL MOUNT SPEAKER /STROBE ΥWP PROVIDED AND INSTALLED BY APS VENDOR- REQ'S SPECIAL ⊳SS BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR.
- WEATHER PROOF WALL MOUNT STROBE ONLY PROVIDED WP QS AND INSTALLED BY APS VENDOR - REQ'S SPECIAL BACK BOX BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. SMOKE DETECTOR PROVIDED AND INSTALLED BY APS
- VENDOR - REQ'S 4SQ. DEEP WITH 3-0 RING BY ELECTRICAL CONTRACTOR . P = PHOTOELECTRIC, Q = INTELLIQUAD. HEAT DETECTORS PROVIDED AND INSTALLED BY APS VENDOR HEAT DETECTORS PROVIDED AND INSTALLED BY AF F/R RR HH CONTRACTOR. F/R = FIXED RATE, RR = RATE OF RISE, HH =
- HIGH HEAT. DUCT SMOKE DETECTOR WITH RELAY MODULE MOUNTED IN R(\$)=--DETECTOR HOUSING. FURNISHED & CONNECTED BY APS VENDOR, INSTALLED BY MECHANICAL CONTRACTOR IN DUCT WORK. INSTALLED PER INSTALL MANUAL PROVIDED WITH DUCT SMOKE DETECTOR.
- REMOTE TEST STATION PROVIDED AND INSTALLED BY APS RTS VENDOR - REQ'S 4SQ. DEEP BOX WITH SINGLE GANG RING MOUNTED IN CEILING OR AVAILABLE WALL SPACE BY ELECTRICAL CONTRACTOR. BEAM SMOKE DETECTOR PROVIDED AND INSTALLED BY APS
- VENDOR REQ'S SPECIAL BACK BOX BY APS VENDOR. () () <sub>RX</sub> INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION WITH ALL TRADES, ARCHITECT & OWNER. ΤХ HOTBOX PROVIDED AND INSTALLED BY OTHERS MONITORED HB BY FIRE ALARM SYSTEM.
  - FLOW SWITCH PROVIDED AND INSTALLED BY OTHERS FS MONITORED BY FIRE ALARM SYSTEM. TAMPER SWITCH PROVIDED AND INSTALLED BY OTHERS TS MONITORED BY FIRE ALARM SYSTEM.
- POST INDICATOR VALVE PROVIDED & INSTALLED BY OTHERS. PIV MONITORED BY FIRE ALARM SYSTEM.

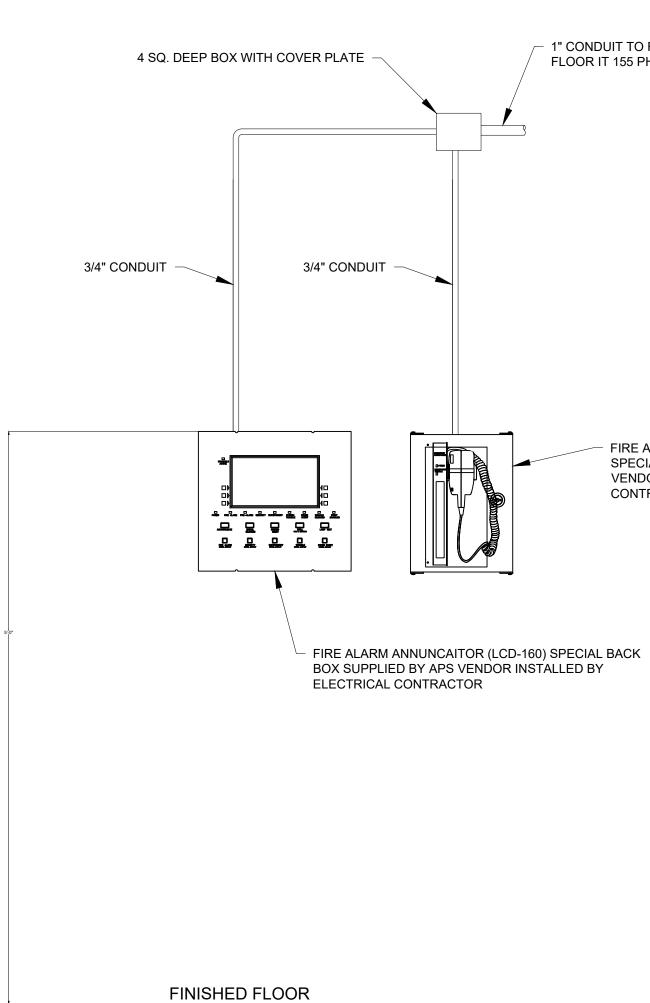




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120VAC DEDICATED CIRCUIT WITH BREAKER  $\neg$ LOCKING DEVICE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR

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4 SQ. DEEP BOX BY ELECTRICAL CONTRACTOR. -TO HOUSE 120VAC SURGE PROTECTOR PROVIDED BY APS VENDOR

2)

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- 3/4" CONDUIT

— 4-11/16" DEEP BOX BY

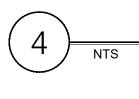
ELECTRICAL CONTRACTOR TO

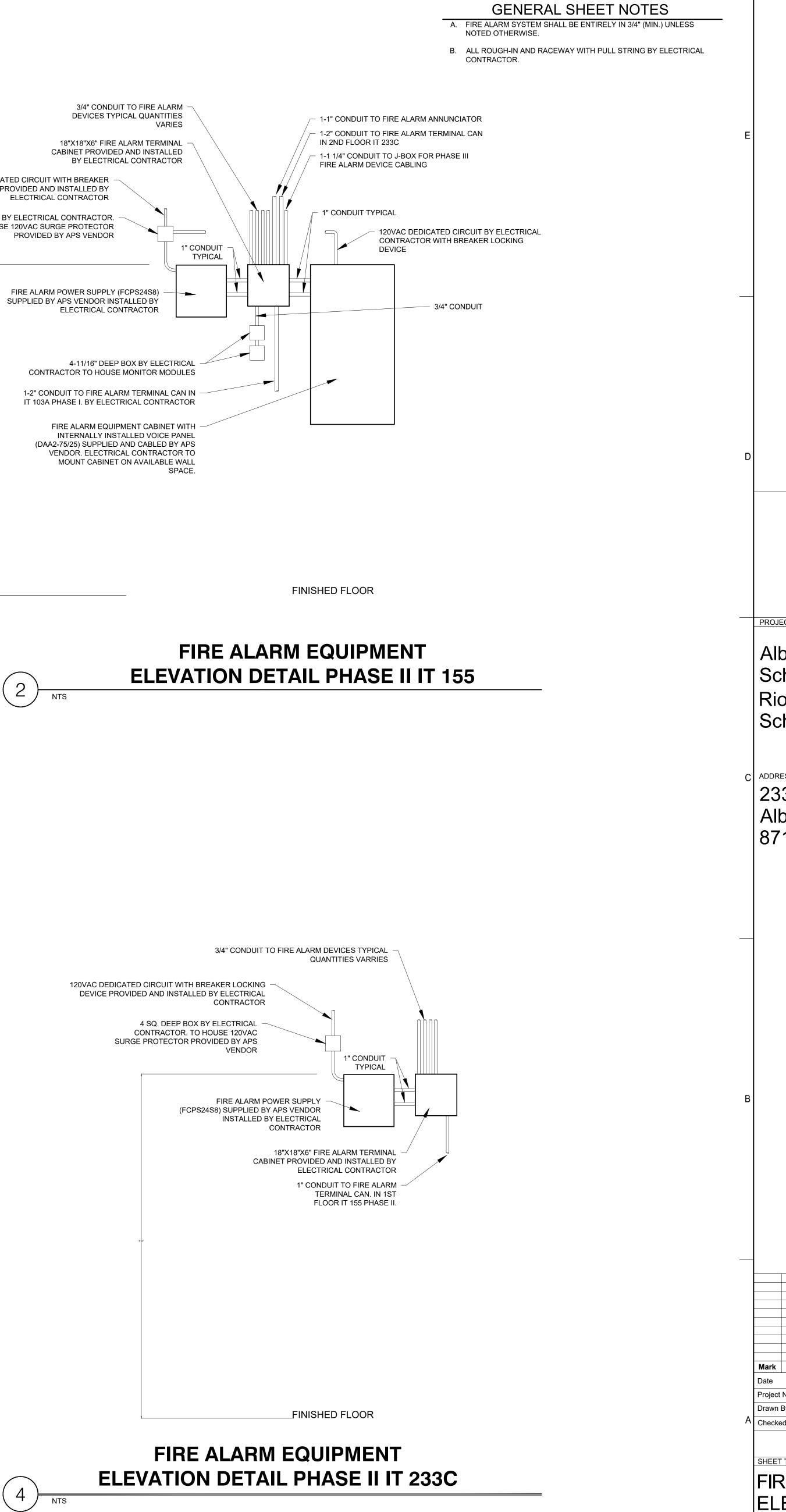
HOUSE MONITOR MODULES

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- 1" CONDUIT TO FIRE ALARM TERMINAL CAN IN 1ST FLOOR IT 155 PHASE II

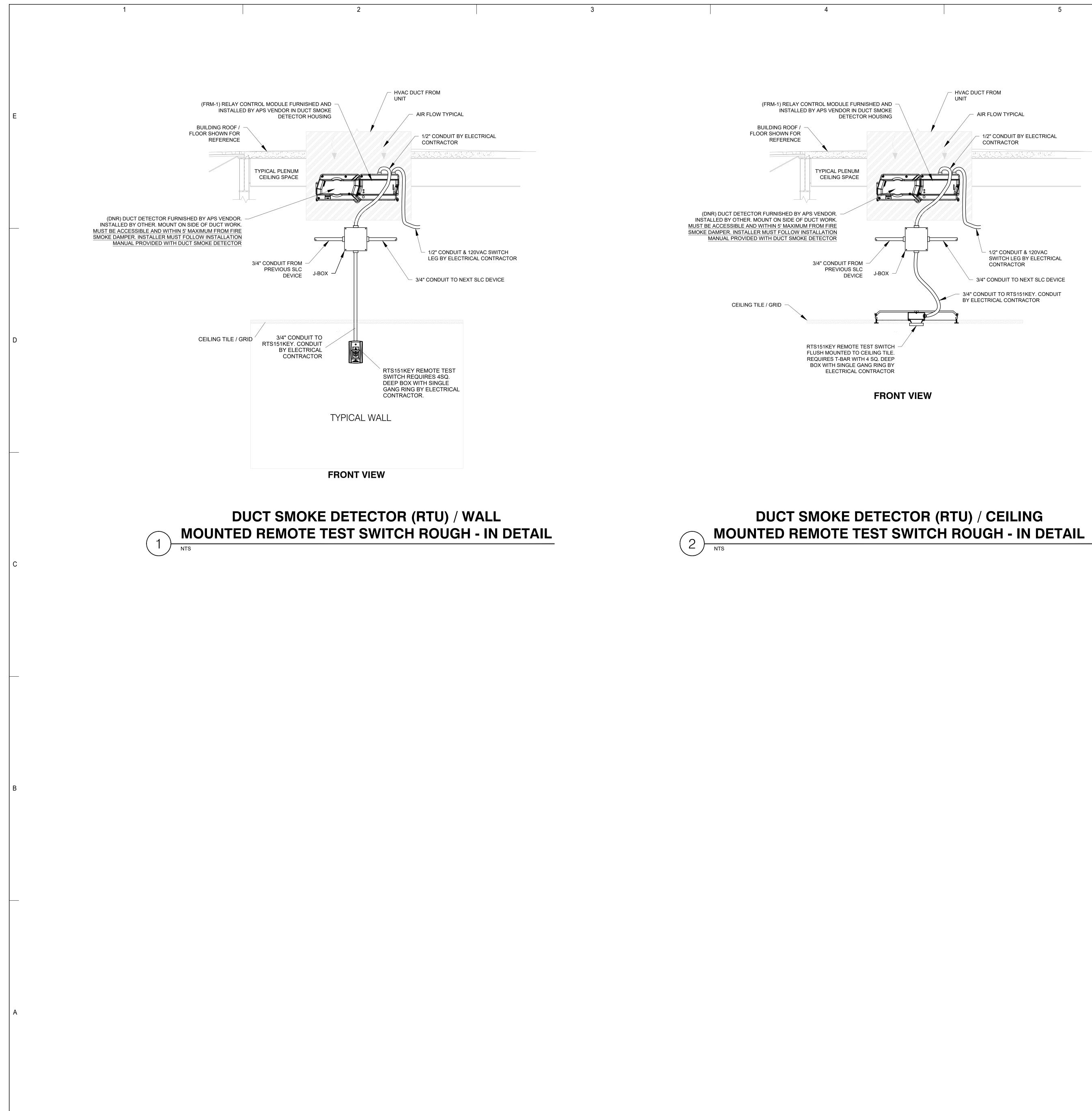
> - FIRE ALARM REMOTE MICROPHONE SPECIAL BACK BOX SUPPLIED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR





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Sc Ric	ouque hools o Gra	erque Public S Inde High Gymnasium	
23 All	ADDRESS 2330 Arenal Road SW Albuquerque, NM 87105		
Mark Date Project Drawn	<b>Date</b> Number By	Description JANUARY 13, 2020 S&S	
	RE AL	S&S ARM EQUIPMENT TION DETAILS	
SHEET		FA-300 OF Page 23	



GENERAL SHEET NOTES A. FIRE ALARM SYSTEM SHALL BE ENTIRELY IN 3/4" (MIN.) UNLESS NOTED OTHERWISE.

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B. ALL ROUGH-IN AND RACEWAY WITH PULL STRING BY ELECTRICAL CONTRACTOR.

- HVAC DUCT FROM

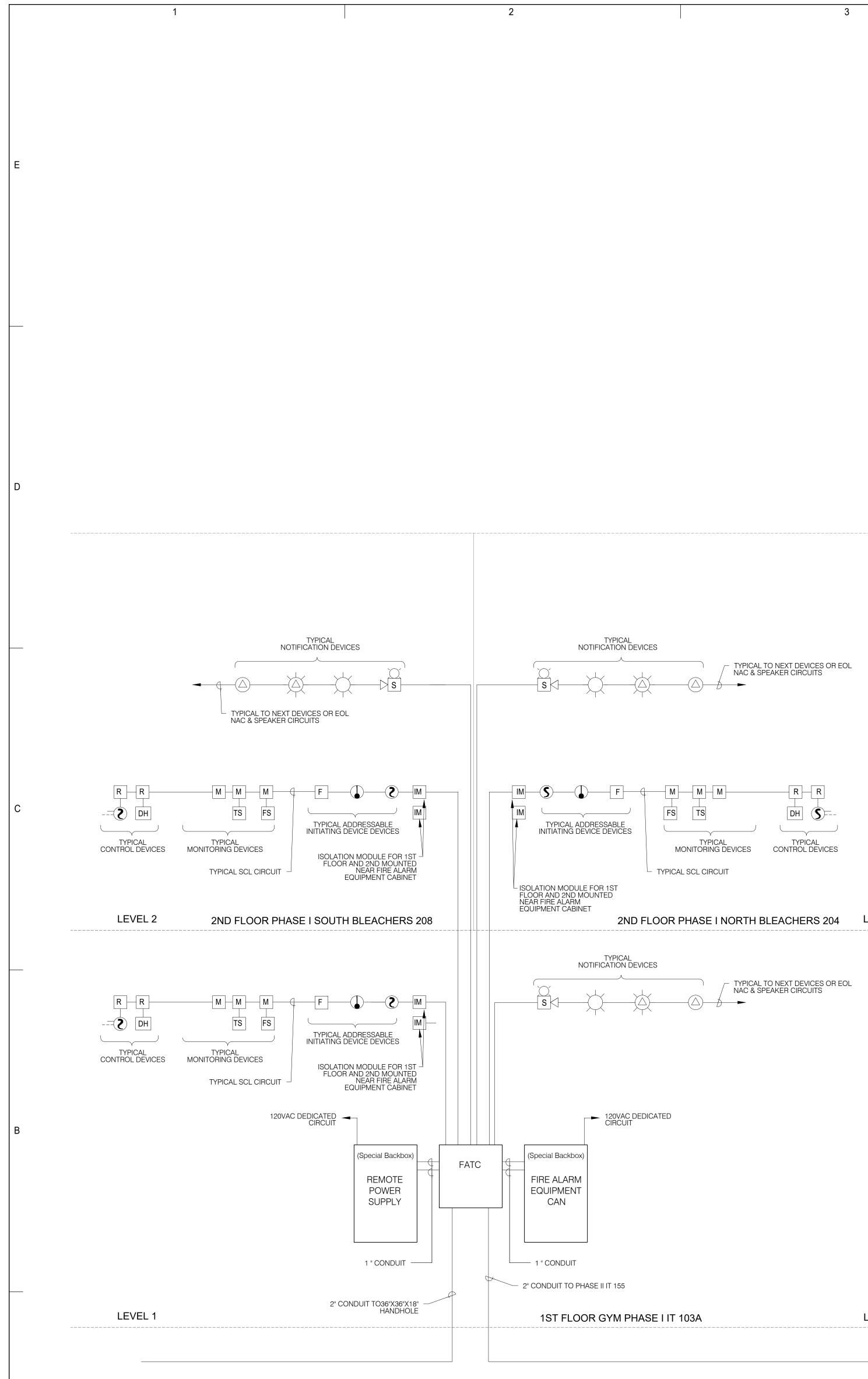
# UNIT AIR FLOW TYPICAL - 1/2" CONDUIT BY ELECTRICAL CONTRACTOR - 1/2" CONDUIT & 120VAC SWITCH LEG BY ELECTRICAL CONTRACTOR

5

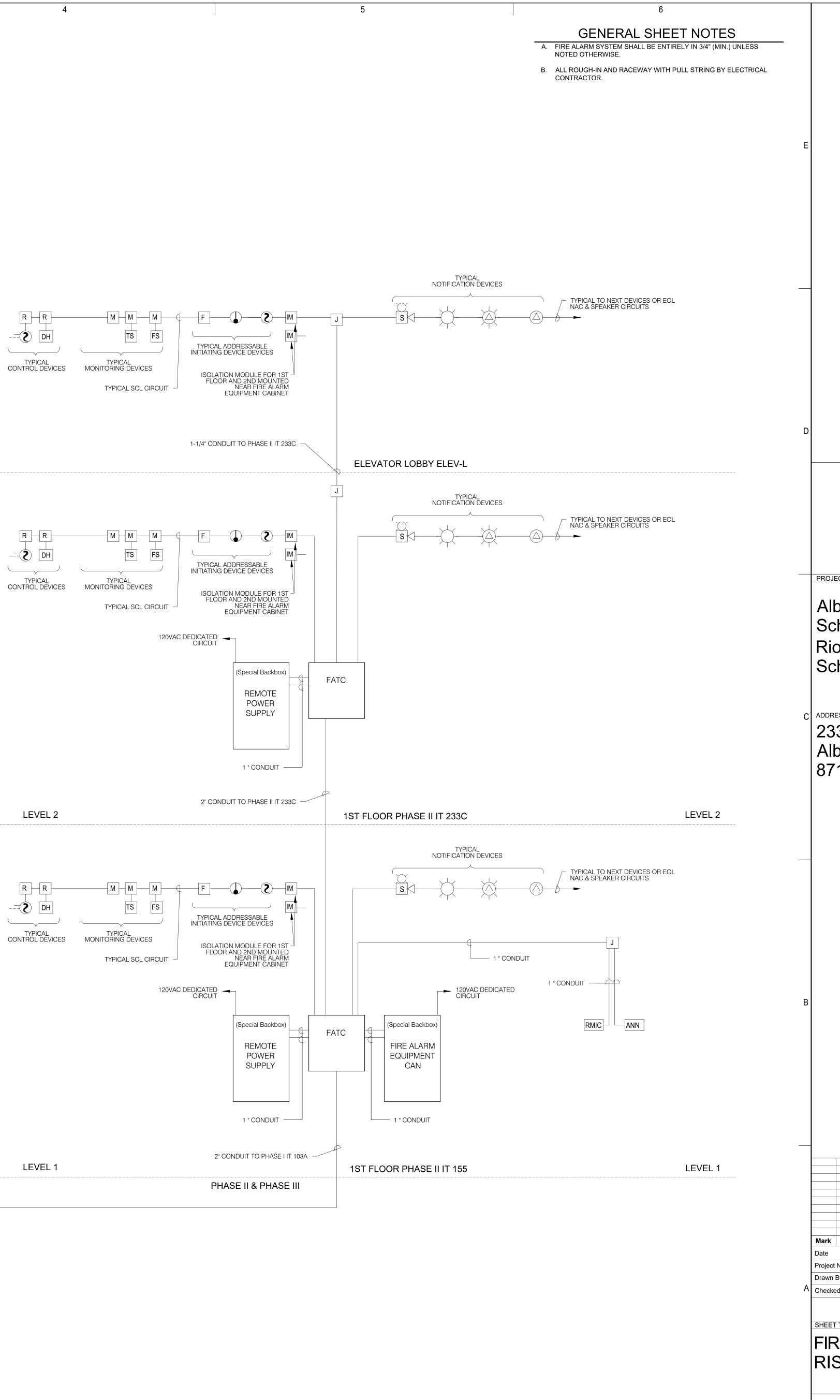
## - 3/4" CONDUIT TO NEXT SLC DEVICE - 3/4" CONDUIT TO RTS151KEY. CONDUIT BY ELECTRICAL CONTRACTOR

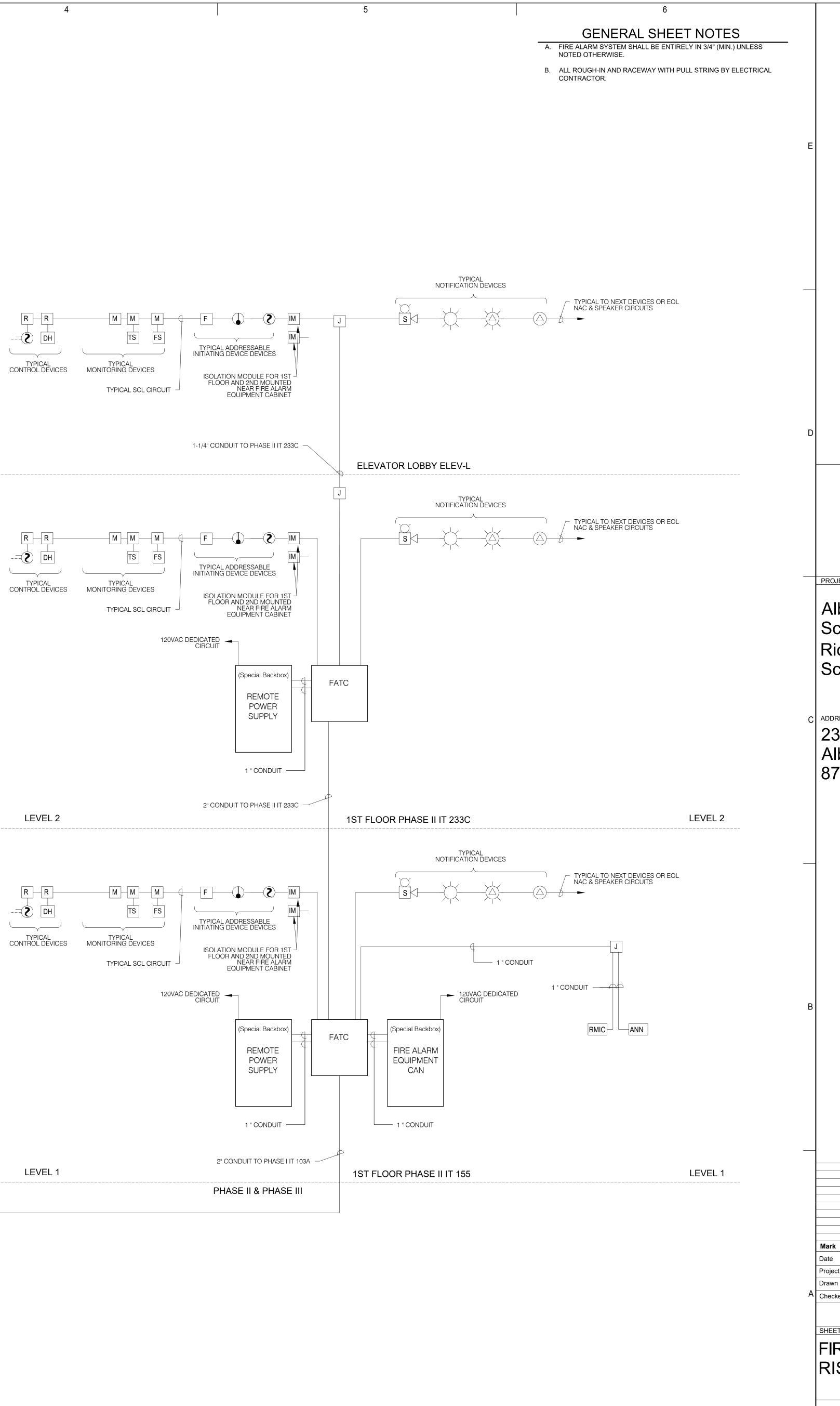
PROJEC Alk Scl Ric Sch C ADDRES 233 Alt 87 **Mark** Date Project Drawn I Checke

PROJECT Albuquerque Public Schools Rio Grande High School Gymnasium  ADDRESS 2330 Arenal Road SW Albuquerque, NM 87105  Albuquerque, NM 8		
Albuquerque Public Schools Rio Grande High School Gymnasium	)	
Schools Rio Grande High School Gymnasium ADDRESS 2330 Arenal Road SW Albuquerque, NM 87105 Mark Date Description Date JANUJARY 13, 2020 Project Number Drawn By S&S Checked By S&S		PROJECT
2330 Arenal Road SW Albuquerque, NM 87105		Schools Rio Grande High
Date JANUARY 13, 2020 Project Number Drawn By S&S Checked By S&S		2330 Arenal Road SW Albuquerque, NM
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Date JANUARY 13, 2020 Project Number Drawn By S&S Checked By S&S		
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SHEET TITLE FIRE ALARM EQUIPMENT DETAILS		FIRE ALARM EQUIPMENT
FA-500 SHEET OF Page 24		SHEET OF









M     M     M     R     R       FS     TS     DH     S       TYPICAL     TYPICAL     TYPICAL       MONITORING DEVICES     TYPICAL	
YPICAL SCL CIRCUIT	
SOR PHASE I NORTH BLEACHERS 204	LEVEL 2
TYPICAL TO NEXT DEVICES OR EOL	

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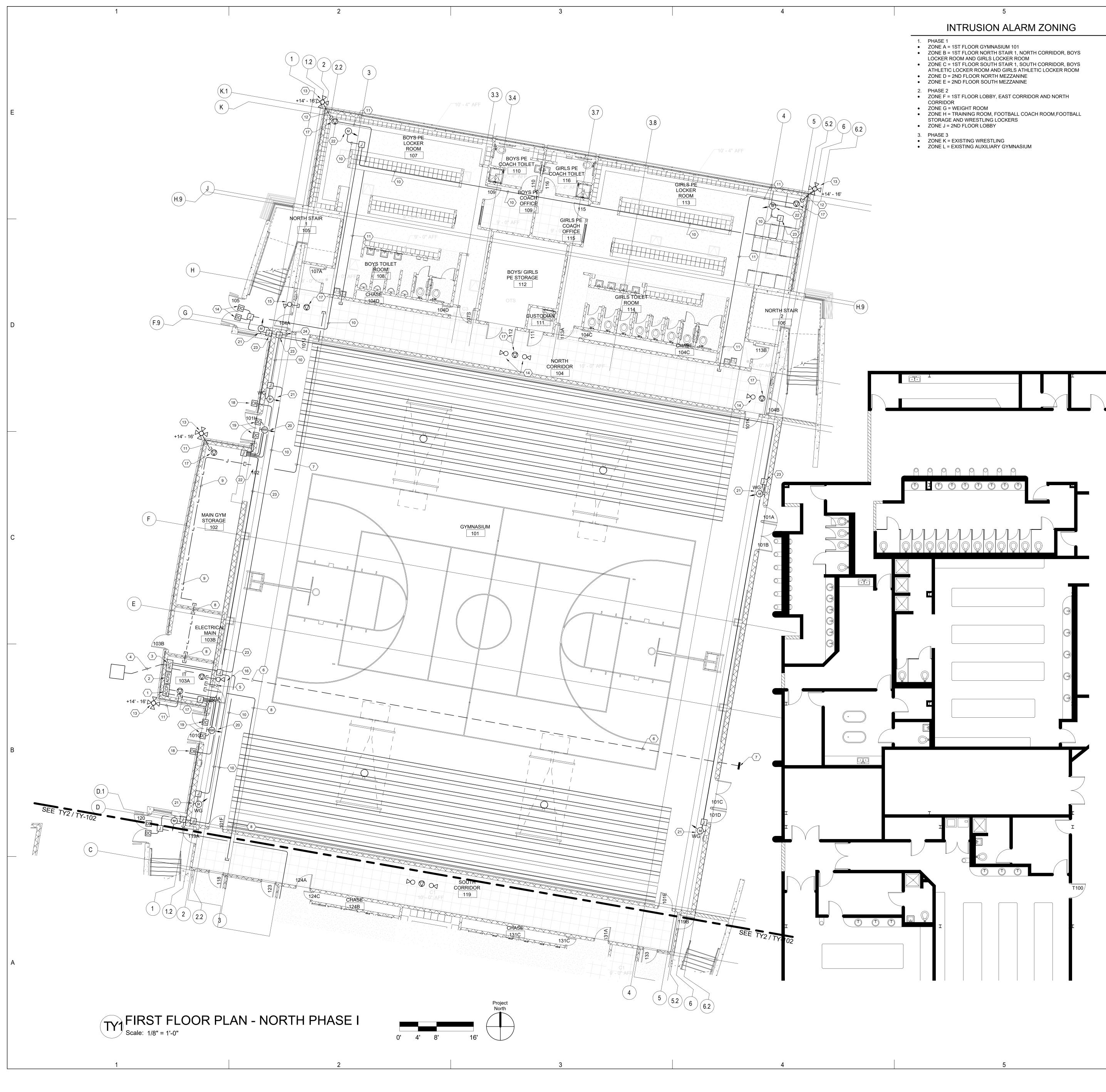
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TYPICAL AE INITIATING DE		( <b>P</b>	
ISOLATION FLOOR	TYPICAL MONITORING DEVICES	TYPICAL CONTROL DEVICES	
] E	TYPICAL SCL CIRCUIT $\neg$		
C DEDICATED -	120VA0		

LEVEL 1

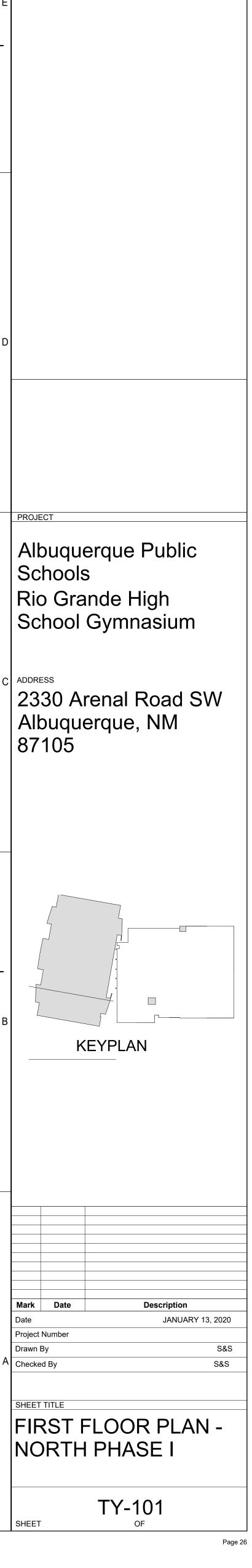
FAT FIRE ALARM EQUIPMENT RISER DIAGRAM Scale: NOT TO SCALE

Schools Rio Gra School	nde High Gymnasium
	renal Road SW erque, NM
Mark Date	Description
Date Project Number Drawn By Checked By	JANUARY 13, 2020 S&S S&S
SHEET TITLE	ARM EQUIPMENT DIAGRAM
SHEET	FA-600
	Page 25



	6
	GENERAL SHEET NOTES
OTH B. ALL	. CCTV NETWORK CABLING CONDUIT SHALL BE 1" C. UNLESS HERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS. . ACCESS CONTROL CONDUIT SHALL BE 3/4" C. UNLESS HERWISE NOTED.
C. STL CAE	JB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF BLE TRAY. PROVIDE 2" C. SLEEVES THROUGH
D. COO E. ALL	ASSROOM/CORRIDOR WALLS. ORDINATE ALL ACCESS & SECURITY WITH APS VENDOR. . DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH
F. SEE	GLE GANG RING. E SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR CTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT
	QUIREMENTS. RUSION ALARM SHALL BE IN COMPLETE 3/4" CONDUIT SYSTEM.
	KEYNOTES
ELE	CESS CONTROL PANEL PROVIDED BY APS VENDOR. INSTALLED BY ECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE OVAC. REFER TO ACCESS CONTROL PANEL DETAIL.
2. AC ELE	CESS CONTROL POWER SUPPLY BY APS VENDOR. INSTALLED BY ECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE DVAC. REFER TO POWER SUPPLY PANEL DETAIL.
3. INT 1 B RE LO	RUSION ALARM/SECURITY TERMINAL CAN 18X18X6 HINGED NEMA OX. PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. QUIRES 120VAC RECEPTACLE INSTALLED INSIDE CABINET IN WER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY
4. ELE 36" 5. ELE	RMINAL CAN DETAIL. ECTRICAL CONTRACTOR TO PROVIDE 1-2" C. TO IN GROUND 'X36"X18" HANDHOLES FOR INTRUSION ALARM/SECURITY CABLING ECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK BLING FROM IT 103A TO 2ND FLOOR NORTH MEZZANINE
6. EL	EACHERS 204. REFER TO SHEET TY-103. ECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTRUSION ARM/SECURITY CABLING FROM IT 103A TO 1ST FLOOR IT 155
PH. 7. ELE	ASE II. ECTRICAL CONTRACTOR TO CAP OFF CONDUIT TO PREVENT DISTURE AND CONTINUE TO EXTEND CONDUIT DURING PHASE II.
8. ELE CA	ECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK BLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND S VENDOR FOR CORRECT PATH WAY. REFER TO SHEET TY-102.
9. ELE NE	ECTRICAL CONTRACTOR TO PROVIDE J-HOOK PATH FOR CCTV TWORK CABLING. COORDINATE WITH APS TECHNOLOGY PARTMENT AND APS VENDOR FOR CORRECT PATH WAY.
10. TY FO	PICAL 3/4 C. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY R INTRUSION ALARM/SECURITY & ACCESS CONTROL CABLING.
AC CA	ECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO CESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK BLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND
12. ELE	S VENDOR FOR CORRECT PATH WAY. ECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO CCTV TWORK CABLING CONNECTION. COORDINATE WITH APS VENDOR
AN 13. CO	D APS FOR EXACT LOCATION. RNER MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY S VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY
FO MC	R CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT OUNTING DETAIL. Y-IN CEILING MOUNTED CCTV CAMERA PROVIDED AND INSTALLED
BY FO	APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY R CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT
15. CE VE	DUNTING DETAIL. ILING MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS NDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR
16. WA	TV CAMERA CABLING. REFER TO CCTV CEILING MOUNTED DETAIL ALL MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS NDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR
17. ELE WI CO	TV CAMERA CABLING. REFER TO CCTV WALL MOUNTED DETAIL. ECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX TH NO RISE SINGLE GANG RING FOR CCTV NETWORK CABLING INNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS CHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION
18. CA	ID CABLING BY APS VENDOR. RD READER PROVIDED BY APS VENDOR. INSTALLED BY APS NDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP
BO RE	X WITH SINGLE GANG RING MOUNT AT 48" AFF TO TOP OF BOX. FER TO ACCESS CONTROL DETAIL. RUSION ALARM DOOR CONTACTS PROVIDED BY APS VENDOR.
INS 3/4	STALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDI "RACEWAY FOR INTRUSION ALARM CABLING. REFER TO SECURIT OR DETAILS.
20. EX BY	IT MOTION PIR DETECTOR PROVIDED BY APS VENDOR INSTALLED APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE
HO 21. WA	EP BOX WITH SINGLE GANG RING MOUNTED ABOVE DOOR JAM RIZONTALLY. REFER TO ACCESS CONTROL DOOR DETAILS. ALL MOUNTED MOTION DETECTOR PROVIDE BY APS VENDOR
4 S	STALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDI SQUARE DEEP BOX WITH SINGLE GANG RING. MOUNT AT 90" AFF T IP OF BOX.
INS	ILING MOUNTED MOTION DETECTOR PROVIDE BY APS VENDOR STALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDI SQUARE DEEP BOX WITH SINGLE GANG RING.
23. TY 24. EL	PICAL J-BOX BY ELECTRICAL CONTRACTOR. ECTRICAL CONTRACTOR TO PROVIDE RACEWAY UP TO 2ND FLOO RTH MEZZANINE INTRUSION ALARM/SECURITY DEVICES. REFER
SYMBOL	DEVICE LEGEND DESCRIPTION
ACCP	ACCESS CONTROL PANEL - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCESS CONTROL PANEL DETAIL.
ACPS	ACCESS CONTROL POWER SUPPLY - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCESS CONTROL POWER SUPPLY DETAIL.
IATC	INTRUSION ALARM TERMINAL CABINET (18x18x6) HINGED NEMA 1 - PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQ. 120V. RECEPTACLE. INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL.
₩Q	WALL MOUNT MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 90" A.F.F. TO TOP. ARROW INDICATES DIRECTION.
Ø,	CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING.
DC	INTRUSION ALARM DOOR CONTACT PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN / RACEWA' REFER TO ACCESS CONTROL/SECURITY DOOR DETAIL FOR ROUGH-IN REQUIREMENTS.
CR	CARD READER PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICA CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT U 48" A.F.F. TO TOP BOX. PLACE ADJACENT TO AUTOMATIC DOOR OPENEF IF APPLICABLE. EXTEND CONDUIT TO 4SQ BOX. LOCATED ABOVE ACCESSIBLE CEILING. SEE ACCESS CONTROL DOOR DETAIL.
@H	EXIT MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RIN MOUNTED HORIZONTALLY ABOVE DOOR JAM. REFER TO ACCESS

- ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING MOUNTED HORIZONTALLY ABOVE DOOR JAM. REFER TO ACCESS CONTROL DOOR DETAIL FOR ROUGH IN REQUIREMENTS. COORDINATE WITH APS VENDOR PRIOR TO ROUGH-IN. CCTV CAMERA LOCATION PROVIDED AND INSTALLED BY APS VENDOR.
- $\bowtie$ ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY. RACEWAY MUST EXTEND TO ACCESSIBLE CEILING SPACE, ADJACENT TO DEVICE. REFER TO CCTV MOUNTING DETAILS. COORDINATE ALL EXTERIOR CAMERA ROUGH-IN HEIGHT AND LOCATION WITH APS AND ARCHITECT PRIOR TO ROUGH-IN.
- DATA NETWORK CONNECTION BOX PROVIDED AND INSTALLED BY APS  $\mathbf{O}$ VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4-11/16 DEEP BOX WITH NO RISE SINGLE GANG RING. NETWORK CONNECTION AND CABLING BY APS VENDOR.





# INTRUSION ALARM ZONING

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- ZONE A = 1ST FLOOR GYMNASIUM 101 • ZONE B = 1ST FLOOR NORTH STAIR 1, NORTH CORRIDOR, BOYS
- LOCKER ROOM AND GIRLS LOCKER ROOM • ZONE C = 1ST FLOOR SOUTH STAIR 1, SOUTH CORRIDOR, BOYS
- ATHLETIC LOCKER ROOM AND GIRLS ATHLETIC LOCKER ROOM ZONE D = 2ND FLOOR NORTH MEZZANINE
- ZONE E = 2ND FLOOR SOUTH MEZZANINE 2. PHASE 2
- ZONE F = 1ST FLOOR LOBBY, EAST CORRIDOR AND NORTH CORRIDOR
- ZONE G = WEIGHT ROOM ZONE H = TRAINING ROOM, FOOTBALL COACH ROOM, FOOTBALL
- STORAGE AND WRESTLING LOCKERS • ZONE J = 2ND FLOOR LOBBY
- 3. PHASE 3

1. PHASE 1

 ZONE K = EXISTING WRESTLING ZONE L = EXISTING AUXILIARY GYMNASIUM

# GENERAL SHEET NOTES

6

- A. ALL CCTV NETWORK CABLING CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS. B. ALL ACCESS CONTROL CONDUIT SHALL BE 3/4" C. UNLESS OTHERWISE NOTED.
- C. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS.
- D. COORDINATE ALL ACCESS & SECURITY WITH APS VENDOR. E. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING. F. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR
- ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT REQUIREMENTS. G. INTRUSION ALARM SHALL BE IN COMPLETE 3/4" CONDUIT SYSTEM.

## **KEYNOTES**

- 1. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK CABLING FROM IT 103A TO CABLE TRAY. REFER TO SHEET TY-101. 2. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND
- APS VENDOR FOR CORRECT PATH WAY. 3. ELECTRICAL CONTRACTOR TO PROVIDE J-HOOK PATH FOR CCTV
- NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY.
- 4. TYPICAL 3/4 C. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR INTRUSION ALARM/SECURITY & ACCESS CONTROL CABLING. 5. ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO
- ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND
- APS VENDOR FOR CORRECT PATH WAY. 6. ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO CCTV NETWORK CABLING CONNECTION. COORDINATE WITH APS VENDOR
- AND APS FOR EXACT LOCATION. 7. CORNER MOUNTED CCTV CAMERA PROVIDE AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT
- MOUNTING DETAIL. 8. LAY-IN CEILING MOUNTED CCTV CAMERA PROVIDE AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT MOUNTING DETAIL.
- 9. ELECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX WITH NO RISE SINGLE GANG RING FOR CCTV NETWORK CABLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION AND CABLING BY APS VENDOR.
- 10. INTRUSION ALARM DOOR CONTACTS PROVIDE AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY FOR INTRUSION ALARM CABLING. REFER TO SECURITY DOOR DETAILS.
- 11. WALL MOUNTED MOTION DETECTOR PROVIDE AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING. MOUNT AT 90" AFF TO TOP OF
- BOX. 12. CEILING MOUNTED MOTION DETECTOR PROVIDE AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING.
- 13. TYPICAL J-BOX BY ELECTRICAL CONTRACTOR. 14. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY UP TO 2ND FLOOR SOUTH MEZZANINE BLEACHERS 208 FOR INTRUSION ALARM/SECURITY DEVICES. REFER TO REFER TO SHEET TY-104.

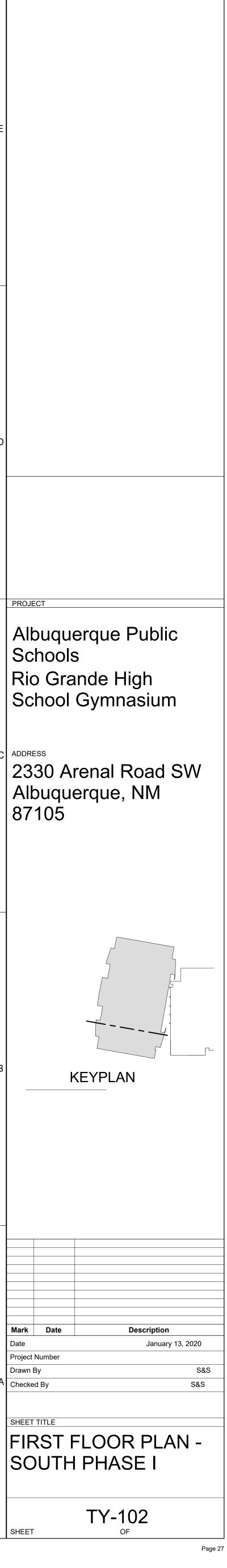
SEE TY1/TY-101

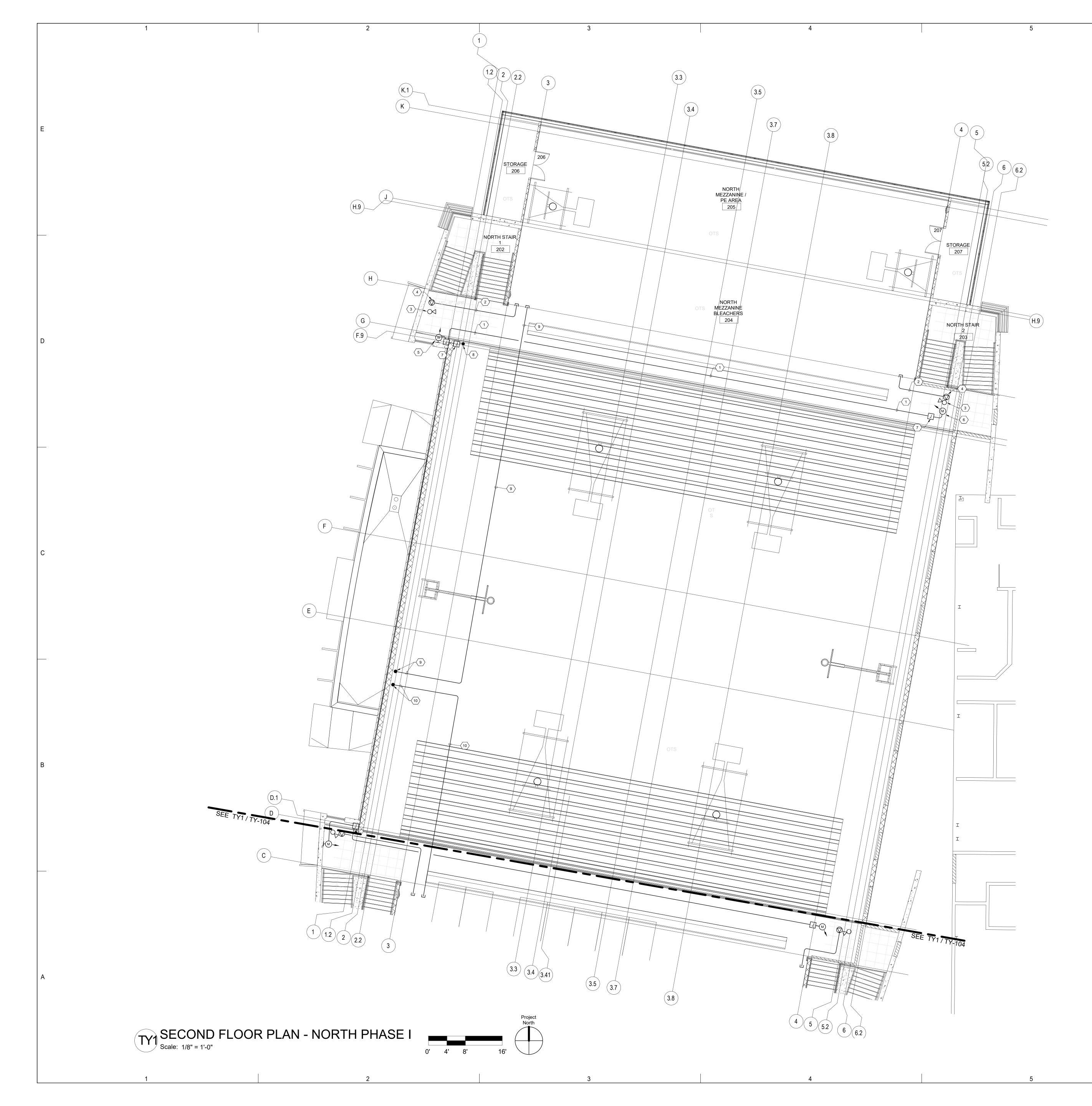
# DEVICE LEGEND

DESCRIPTION

SYMBOL

- ACCESS CONTROL PANEL PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCESS CONTROL PANEL DETAIL. ACCP ACCESS CONTROL POWER SUPPLY - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACPS ACCESS CONTROL POWER SUPPLY DETAIL. INTRUSION ALARM TERMINAL CABINET (18x18x6) HINGED NEMA 1 -IATC PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQ. 120V. RECEPTACLE. INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL. WALL MOUNT MOTION DETECTOR PROVIDED AND INSTALLED BY APS KØ\_\_ VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/
- SINGLE RING. MOUNT UP 90" A.F.F. TO TOP. ARROW INDICATES DIRECTION.
- CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING.
- INTRUSION ALARM DOOR CONTACT PROVIDED AND INSTALLED BY APS DC VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN / RACEWAY. REFER TO ACCESS CONTROL/SECURITY DOOR DETAIL FOR ROUGH-IN REQUIREMENTS.
- CARD READER PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CR CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP BOX. PLACE ADJACENT TO AUTOMATIC DOOR OPENER IF APPLICABLE. EXTEND CONDUIT TO 4SQ BOX. LOCATED ABOVE ACCESSIBLE CEILING. SEE ACCESS CONTROL DOOR DETAIL.
- EXIT MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. **--**@H ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING MOUNTED HORIZONTALLY ABOVE DOOR JAM. REFER TO ACCESS CONTROL DOOR DETAIL FOR ROUGH IN REQUIREMENTS. COORDINATE WITH APS VENDOR PRIOR TO ROUGH-IN.
- CCTV CAMERA LOCATION PROVIDED AND INSTALLED BY APS VENDOR.  $\mathbf{b}$ ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY. RACEWAY MUST EXTEND TO ACCESSIBLE CEILING SPACE, ADJACENT TO DEVICE. REFER TO CCTV MOUNTING DETAILS. COORDINATE ALL EXTERIOR CAMERA ROUGH-IN HEIGHT AND LOCATION WITH APS AND ARCHITECT PRIOR TO ROUGH-IN.
- DATA NETWORK CONNECTION BOX PROVIDED AND INSTALLED BY APS  $\bigcirc$ VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4-11/16 DEEP BOX WITH NO RISE SINGLE GANG RING. NETWORK CONNECTION AND CABLING BY APS VENDOR.





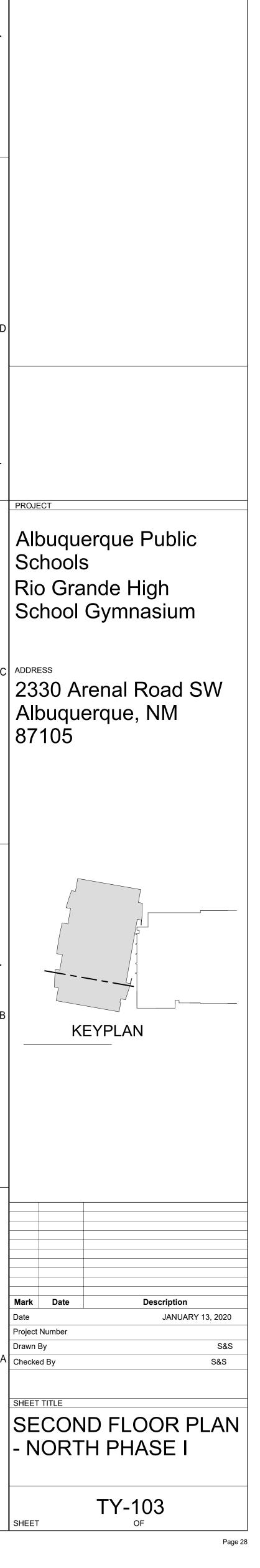
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-	OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS.		
В.	ALL ACCESS CONTROL CONDUIT SHALL BE 3/4" C. UNLESS OTHERWISE NOTED.		
C.	STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF		
	CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS.		
D.	COORDINATE ALL ACCESS & SECURITY WITH APS VENDOR.		
Ε.	ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING.		
F.	SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR		
	ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT REQUIREMENTS.		
G.		E	
	KEYNOTES		
1.	TYPICAL 3/4 C. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY		
~	FOR INTRUSION ALARM/SECURITY & ACCESS CONTROL CABLING.		
2.	ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK		
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3.	APS VENDOR FOR CORRECT PATH WAY. LAY-IN CEILING MOUNTED CCTV CAMERA PROVIDED AND INSTALLED		
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	FOR CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT MOUNTING DETAIL.		
4.			
	WITH NO RISE SINGLE GANG RING FOR CCTV NETWORK CABLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS		
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F	AND CABLING BY APS VENDOR. WALL MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY		
5.	APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE		
	DEEP BOX WITH SINGLE GANG RING. MOUNT AT 90" AFF TO TOP OF		
6.	BOX. CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY		
	APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE		
7.	DEEP BOX WITH SINGLE GANG RING. TYPICAL J-BOX BY ELECTRICAL CONTRACTOR.		
8.	ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY DOWN TO 1ST		
	FLOOR NORTH FOR INTRUSION ALARM/SECURITY DEVICES. REFER TO REFER TO SHEET TY-101.		
9.			
	CABLING TO IT 103A FROM 2ND FLOOR NORTH MEZZANINE		
	BLEACHERS 204 ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY		
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10.	TO SHEET TY-101. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK		
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	BLEACHERS 208 ACCESSIBLE CEILING SPACE / CABLE TRAY FOR	-	
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	BLEACHERS 208 ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY. REFER	-	
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1.	BLEACHERS 208 ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY. REFER TO SHEET TY-101 & TY-104. INTRUSION ALARM ZONING PHASE 1 ZONE A = 1ST FLOOR GYMNASIUM 101		
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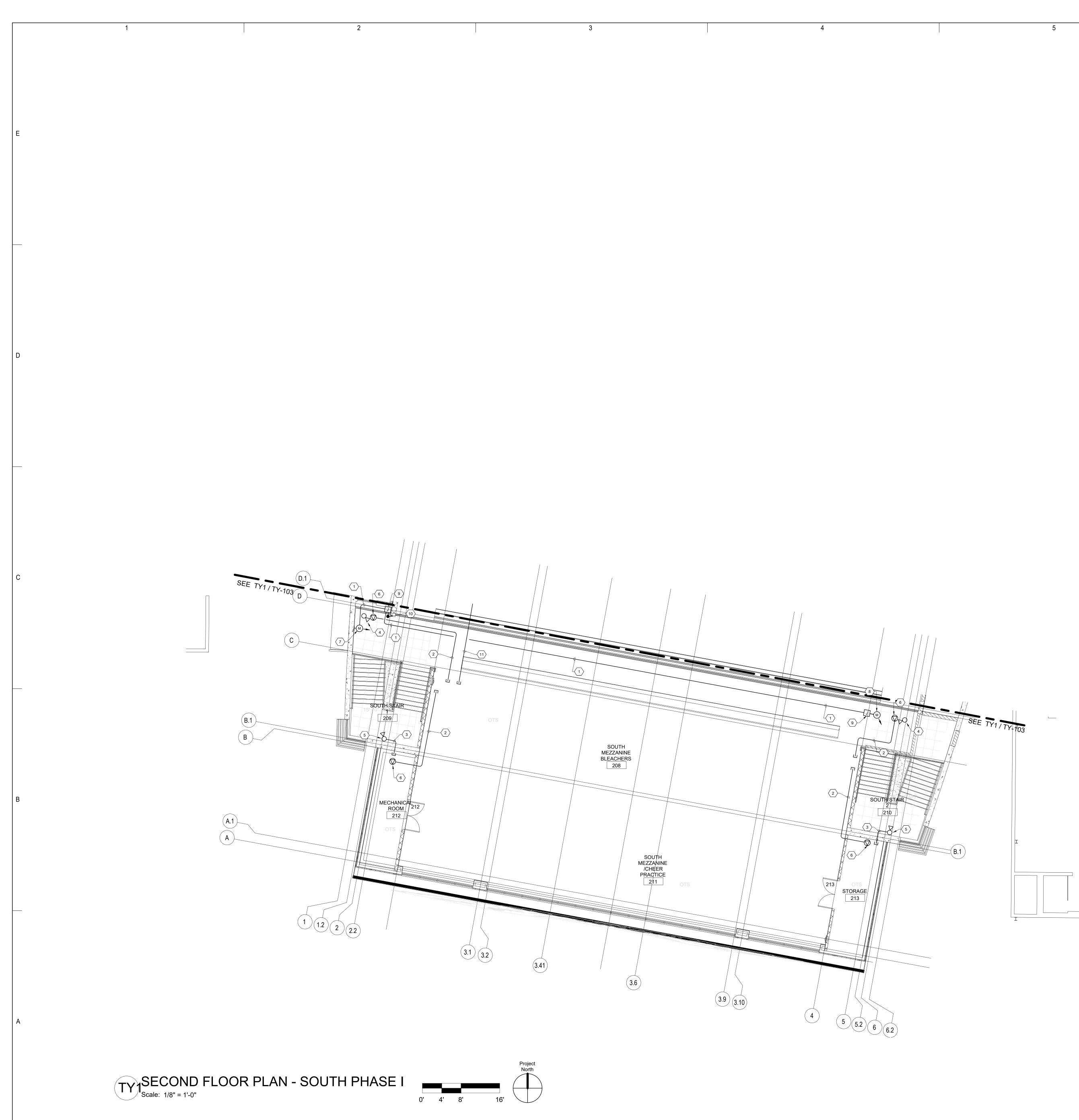
GENERAL SHEET NOTES

# DEVICE LEGEND

DESCRIPTION

ACCP	ACCESS CONTROL PANEL - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCESS CONTROL PANEL DETAIL.
ACPS	ACCESS CONTROL POWER SUPPLY - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCESS CONTROL POWER SUPPLY DETAIL.
IATC	INTRUSION ALARM TERMINAL CABINET (18x18x6) HINGED NEMA 1 - PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQ. 120V. RECEPTACLE. INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL.
₩Q	WALL MOUNT MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 90" A.F.F. TO TOP. ARROW INDICATES DIRECTION.
0	CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING.
DC	INTRUSION ALARM DOOR CONTACT PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN / RACEWAY. REFER TO ACCESS CONTROL/SECURITY DOOR DETAIL FOR ROUGH-IN REQUIREMENTS.
CR	CARD READER PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP BOX. PLACE ADJACENT TO AUTOMATIC DOOR OPENER IF APPLICABLE. EXTEND CONDUIT TO 4SQ BOX. LOCATED ABOVE ACCESSIBLE CEILING. SEE ACCESS CONTROL DOOR DETAIL.
(Pi)	EXIT MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING MOUNTED HORIZONTALLY ABOVE DOOR JAM. REFER TO ACCESS CONTROL DOOR DETAIL FOR ROUGH IN REQUIREMENTS. COORDINATE WITH APS VENDOR PRIOR TO ROUGH-IN.
ÞO	CCTV CAMERA LOCATION PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY. RACEWAY MUST EXTEND TO ACCESSIBLE CEILING SPACE, ADJACENT TO DEVICE. REFER TO CCTV MOUNTING DETAILS. COORDINATE ALL EXTERIOR CAMERA ROUGH-IN HEIGHT AND LOCATION WITH APS AND ARCHITECT PRIOR TO ROUGH-IN.
$\heartsuit$	DATA NETWORK CONNECTION BOX PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4-11/16 DEEP BOX WITH NO RISE SINGLE GANG RING. NETWORK CONNECTION AND CABLING BY APS VENDOR.





6

- A. ALL CCTV NETWORK CABLING CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS. B. ALL ACCESS CONTROL CONDUIT SHALL BE 3/4" C. UNLESS OTHERWISE NOTED.
- C. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS. D. COORDINATE ALL ACCESS & SECURITY WITH APS VENDOR.
- E. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING. F. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR
- ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT REQUIREMENTS. G. INTRUSION ALARM SHALL BE IN COMPLETE 3/4" CONDUIT SYSTEM.

## **KEYNOTES**

- 1. TYPICAL 3/4 C. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR INTRUSION ALARM/SECURITY & ACCESS CONTROL CABLING. 2. ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY. 3. ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO CCTV NETWORK CABLING CONNECTION. COORDINATE WITH APS VENDOR AND APS FOR EXACT LOCATION 4. LAY-IN CEILING MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT MOUNTING DETAIL. 5. WALL MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR CCTV CAMERA CABLING. REFER TO CCTV WALL MOUNTED DETAIL 6. ELECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX WITH NO RISE SINGLE GANG RING FOR CCTV NETWORK CABLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION AND CABLING BY APS VENDOR. 7. WALL MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING. MOUNT AT 90" AFF TO TOP OF BOX.
- 8. CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING. 9. TYPICAL J-BOX BY ELECTRICAL CONTRACTOR. 10. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY DOWN TO 1ST
- FLOOR NORTH FOR INTRUSION ALARM/SECURITY DEVICES. REFER TO REFER TO SHEET TY-102. 11. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK CABLING TO IT 103A FROM 2ND FLOOR SOUTH MEZZANINE BLEACHERS 208 ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY. REFER TO SHEET TY-101.

## INTRUSION ALARM ZONING 1. PHASE 1 • ZONE A = 1ST FLOOR GYMNASIUM 101 • ZONE B = 1ST FLOOR NORTH STAIR 1, NORTH CORRIDOR, BOYS LOCKER ROOM AND GIRLS LOCKER ROOM • ZONE C = 1ST FLOOR SOUTH STAIR 1, SOUTH CORRIDOR, BOYS ATHLETIC LOCKER ROOM AND GIRLS ATHLETIC LOCKER ROOM • ZONE D = 2ND FLOOR NORTH MEZZANINE • ZONE E = 2ND FLOOR SOUTH MEZZANINE 2. PHASE 2 • ZONE F = 1ST FLOOR LOBBY, EAST CORRIDOR AND NORTH CORRIDOR • ZONE G = WEIGHT ROOM • ZONE H = TRAINING ROOM, FOOTBALL COACH ROOM, FOOTBALL STORAGE AND WRESTLING LOCKERS • ZONE J = 2ND FLOOR LOBBY 3. PHASE 3

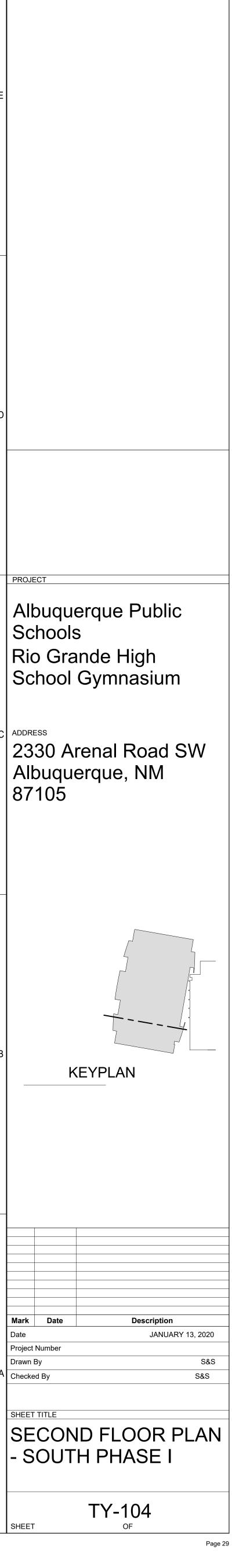
• ZONE K = EXISTING WRESTLING • ZONE L = EXISTING AUXILIARY GYMNASIUM

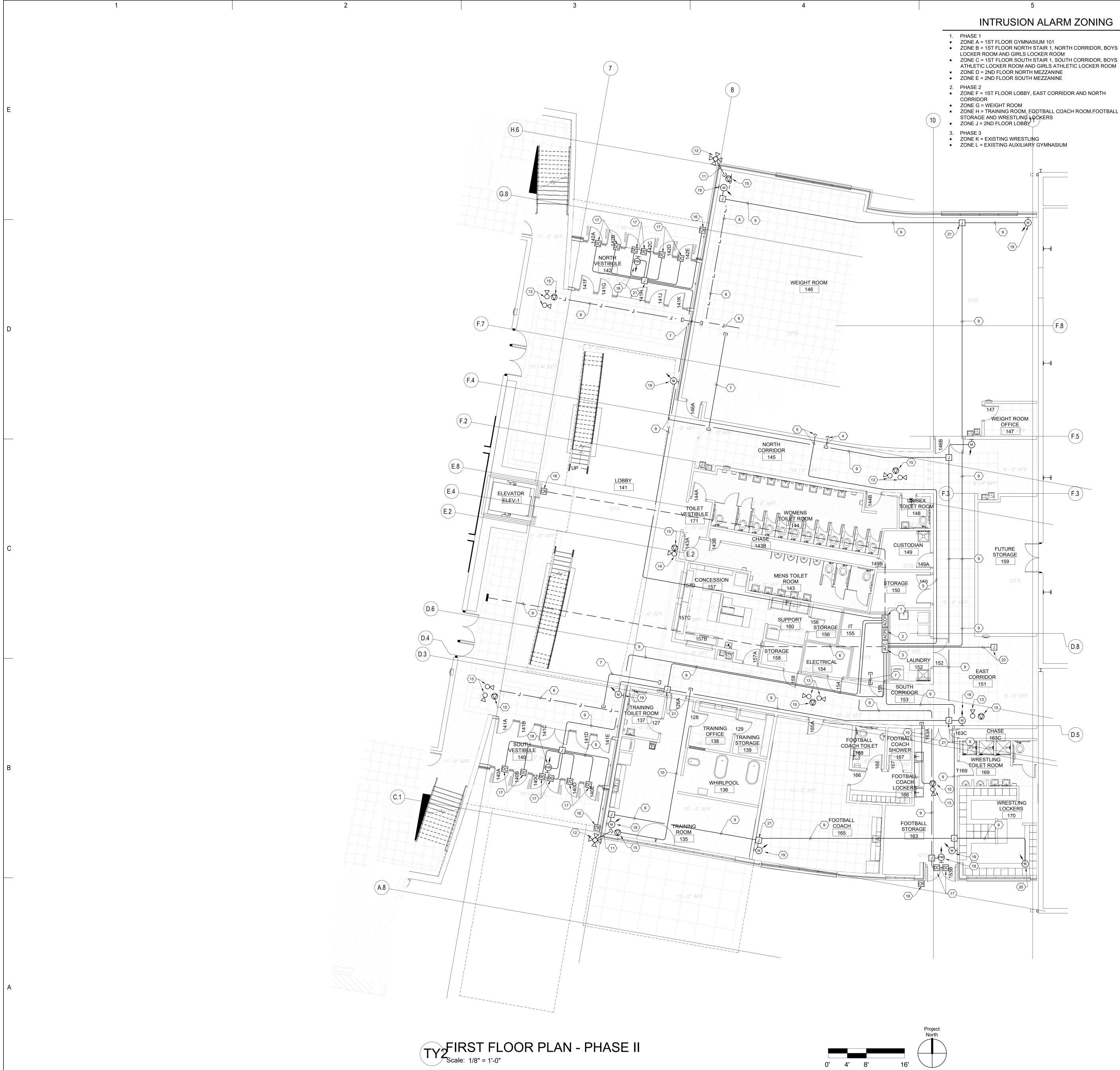
## DEVICE LEGEND

DESCRIPTION

SYMBOL

- ACCESS CONTROL PANEL PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCESS CONTROL PANEL DETAIL. ACCP ACCESS CONTROL POWER SUPPLY - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACPS ACCESS CONTROL POWER SUPPLY DETAIL. INTRUSION ALARM TERMINAL CABINET (18x18x6) HINGED NEMA 1 -IATC PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQ. 120V. RECEPTACLE. INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL.
- WALL MOUNT MOTION DETECTOR PROVIDED AND INSTALLED BY APS Ю VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 90" A.F.F. TO TOP. ARROW INDICATES DIRECTION.
- CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX  $\square$ W/ SINGLE RING.
- INTRUSION ALARM DOOR CONTACT PROVIDED AND INSTALLED BY APS DC VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN / RACEWAY. REFER TO ACCESS CONTROL/SECURITY DOOR DETAIL FOR ROUGH-IN REQUIREMENTS.
- CARD READER PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CR CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP BOX. PLACE ADJACENT TO AUTOMATIC DOOR OPENER IF APPLICABLE. EXTEND CONDUIT TO 4SQ BOX. LOCATED ABOVE ACCESSIBLE CEILING. SEE ACCESS CONTROL DOOR DETAIL.
- EXIT MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. <del>--</del>िभ ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING MOUNTED HORIZONTALLY ABOVE DOOR JAM. REFER TO ACCESS CONTROL DOOR DETAIL FOR ROUGH IN REQUIREMENTS. COORDINATE WITH APS VENDOR PRIOR TO ROUGH-IN.
- CCTV CAMERA LOCATION PROVIDED AND INSTALLED BY APS VENDOR.  $\mathbf{\Sigma}$ ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY. RACEWAY MUST EXTEND TO ACCESSIBLE CEILING SPACE, ADJACENT TO DEVICE. REFER TO CCTV MOUNTING DETAILS. COORDINATE ALL EXTERIOR CAMERA ROUGH-IN HEIGHT AND LOCATION WITH APS AND ARCHITECT PRIOR TO ROUGH-IN.
- DATA NETWORK CONNECTION BOX PROVIDED AND INSTALLED BY APS  $\mathbf{O}$ VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4-11/16 DEEP BOX WITH NO RISE SINGLE GANG RING. NETWORK CONNECTION AND CABLING BY APS VENDOR.





## GENERAL SHEET NOTES A. ALL CCTV NETWORK CABLING CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS. B. ALL ACCESS CONTROL CONDUIT SHALL BE 3/4" C. UNLESS OTHERWISE NOTED. C. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS. D. COORDINATE ALL ACCESS & SECURITY WITH APS VENDOR. E. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT REQUIREMENTS. G. INTRUSION ALARM SHALL BE IN COMPLETE 3/4" CONDUIT SYSTEM. **KEYNOTES** 1. ACCESS CONTROL PANEL PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC. REFER TO ACCESS CONTROL PANEL DETAIL. 2. ACCESS CONTROL POWER SUPPLY BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC. REFER TO POWER SUPPLY PANEL DETAIL. 3. INTRUSION ALARM/SECURITY TERMINAL CAN 18X18X6 HINGED NEMA 1 BOX. PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL 4. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK CABLING TO IT 233C IN 2ND FLOOR PHASE II CABLE TRAY/LADDER RACK. REFER TO SHEET TY-112. 5. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTRUSION ALARM/SECURITY CABLING TO INTRUSION ALARM TERMINAL CAN IN IT 233C IN 2ND FLOOR PHASE II. REFER TO SHEET TY-112. 6. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTRUSION ALARM/SECURITY CABLING FROM IT 103A PHASE I TO 1ST FLOOR IT 155 PHASE II. 7. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY. 8. ELECTRICAL CONTRACTOR TO PROVIDE J-HOOK PATH FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY. 9. TYPICAL 3/4 C. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR INTRUSION ALARM/SECURITY & ACCESS CONTROL CABLING. 10. ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY. 11. ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO CCTV NETWORK CABLING CONNECTION. COORDINATE WITH APS VENDOR AND APS FOR EXACT LOCATION. 12. CORNER MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT MOUNTING DETAIL. 13. LAY-IN/HAR-LID/OPEN TO STRUCTURE CEILING MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT MOUNTING DETAIL. 14. WALL MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR CCTV CAMERA CABLING. REFER TO CCTV WALL MOUNTED DETAIL. 15. ELECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX WITH NO RISE SINGLE GANG RING FOR CCTV NETWORK CABLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION AND CABLING BY APS VENDOR. 16. CARD READER PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING MOUNT AT 48" AFF TO TOP OF BOX. REFER TO ACCESS CONTROL DETAIL. 17. INTRUSION ALARM DOOR CONTACTS PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY FOR INTRUSION ALARM CABLING. REFER TO SECURITY DOOR DETAILS. 18. EXIT MOTION PIR DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING MOUNTED ABOVE DOOR JAM HORIZONTALLY. REFER TO ACCESS CONTROL DOOR DETAILS. 19. WALL MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING. MOUNT AT 90" AFF TO TOP OF BOX. 20. CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING. 21. TYPICAL J-BOX BY ELECTRICAL CONTRACTOR. 22. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C AND J-BOX FOR INTRUSION ALARM/SECURITY CABLING FOR ZONE K &L FOR PHASE III. DEVICE LEGEND DESCRIPTION SYMBOL ACCESS CONTROL PANEL - PROVIDED BY APS VENDOR ACCP INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCESS CONTROL PANEL DETAIL. ACCESS CONTROL POWER SUPPLY - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACPS ACCESS CONTROL POWER SUPPLY DETAIL. INTRUSION ALARM TERMINAL CABINET (18x18x6) HINGED NEMA 1 -IATC PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQ. 120V. RECEPTACLE. INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL. WALL MOUNT MOTION DETECTOR PROVIDED AND INSTALLED BY APS Ю VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 90" A.F.F. TO TOP. ARROW INDICATES DIRECTION. CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. INTRUSION ALARM DOOR CONTACT PROVIDED AND INSTALLED BY APS DC VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN / RACEWAY. REFER TO ACCESS CONTROL/SECURITY DOOR DETAIL FOR ROUGH-IN REQUIREMENTS. CARD READER PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CR CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP BOX. PLACE ADJACENT TO AUTOMATIC DOOR OPENER IF APPLICABLE. EXTEND CONDUIT TO 4SQ BOX. LOCATED ABOVE

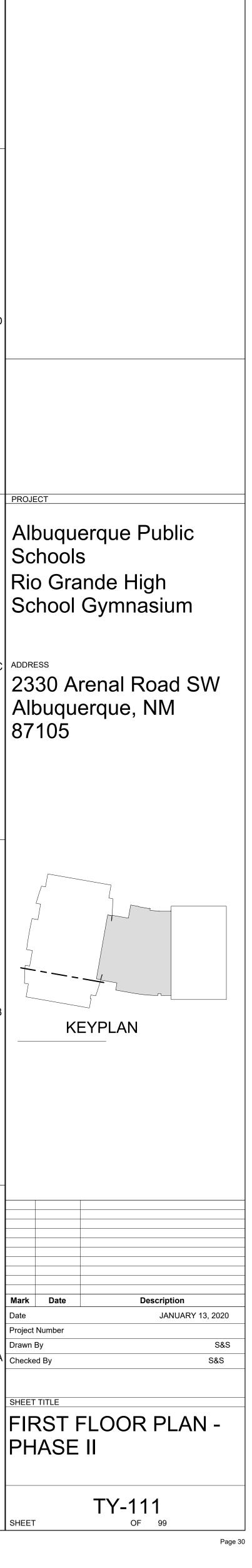
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EXIT MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. <del>-</del>@H ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING MOUNTED HORIZONTALLY ABOVE DOOR JAM. REFER TO ACCESS CONTROL DOOR DETAIL FOR ROUGH IN REQUIREMENTS. COORDINATE WITH APS VENDOR PRIOR TO ROUGH-IN.

ACCESSIBLE CEILING. SEE ACCESS CONTROL DOOR DETAIL.

CCTV CAMERA LOCATION PROVIDED AND INSTALLED BY APS VENDOR.  $\mathbf{\Sigma}$ ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY. RACEWAY MUST EXTEND TO ACCESSIBLE CEILING SPACE, ADJACENT TO DEVICE. REFER TO CCTV MOUNTING DETAILS. COORDINATE ALL EXTERIOR CAMERA ROUGH-IN HEIGHT AND LOCATION WITH APS AND ARCHITECT PRIOR TO ROUGH-IN.

DATA NETWORK CONNECTION BOX PROVIDED AND INSTALLED BY APS  $\mathbf{O}$ VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4-11/16 DEEP BOX WITH NO RISE SINGLE GANG RING. NETWORK CONNECTION AND CABLING BY APS VENDOR.





## GENERAL SHEET NOTES A. ALL CCTV NETWORK CABLING CONDUIT SHALL BE 1" C. UNLESS

6

- OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS. B. ALL ACCESS CONTROL CONDUIT SHALL BE 3/4" C. UNLESS OTHERWISE NOTED.
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- E. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR
- ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT REQUIREMENTS. G. INTRUSION ALARM SHALL BE IN COMPLETE 3/4" CONDUIT SYSTEM.

## **KEYNOTES**

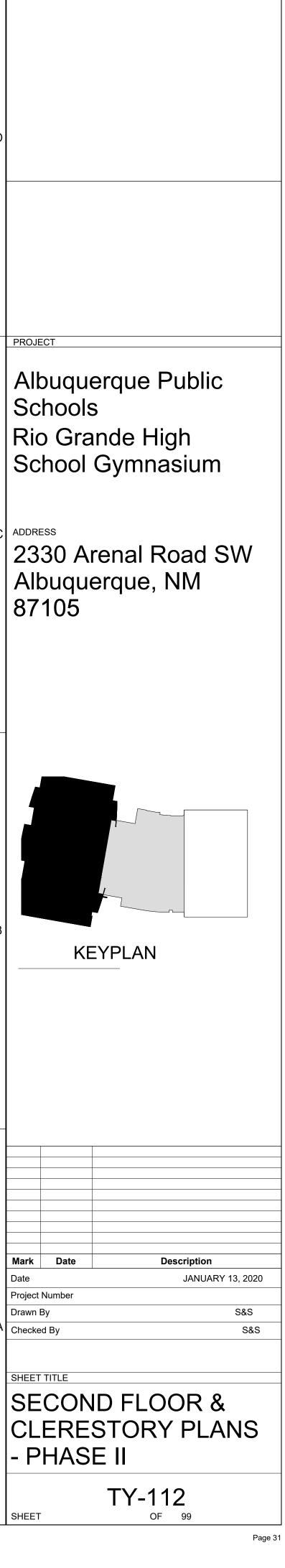
- 1. ACCESS CONTROL PANEL PROVIDED BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC. REFER TO ACCESS CONTROL PANEL DETAIL. 2. ACCESS CONTROL POWER SUPPLY BY APS VENDOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE
- 120VAC. REFER TO POWER SUPPLY PANEL DETAIL. 3. INTRUSION ALARM/SECURITY TERMINAL CAN 18X18X6 HINGED NEMA 1 BOX. PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- REQUIRES 120VAC RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL
- 4. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK CABLING TO CABLE TRAY IN 1ST FLOOR PHASE II. REFER TO SHEET TY-111.
- 5. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTRUSION ALARM/SECURITY CABLING TO INTRUSION ALARM TERMINAL CAN IN IT 155 IN 1ST FLOOR PHASE II. REFER TO SHEET TY-111. 6. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR CCTV NETWORK
- CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY. 7. ELECTRICAL CONTRACTOR TO PROVIDE J-HOOK PATH FOR CCTV
- NETWORK CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY.
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- 11. WALL MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR CCTV CAMERA CABLING. REFER TO CCTV WALL MOUNTED DETAIL. 12. ELECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX WITH NO RISE SINGLE GANG RING FOR CCTV NETWORK CABLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION
- AND CABLING BY APS VENDOR. 13. CARD READER PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING MOUNT AT 48" AFF TO TOP OF BOX. REFER TO ACCESS CONTROL DETAIL.
- 14. WALL MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE DEEP BOX WITH SINGLE GANG RING. MOUNT AT 90" AFF TO TOP OF BOX.
- 15. TYPICAL J-BOX BY ELECTRICAL CONTRACTOR. 16. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. STUB DOWN TO
- CABLE TRAY BELOW. 17. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. TO ELEV LOBBY ELEV ABOVE FOR INTRUSION ALARM/SECURITY.
- 18. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. TO INTRUSION ALARM TERMINAL CAN IN IT 233C.

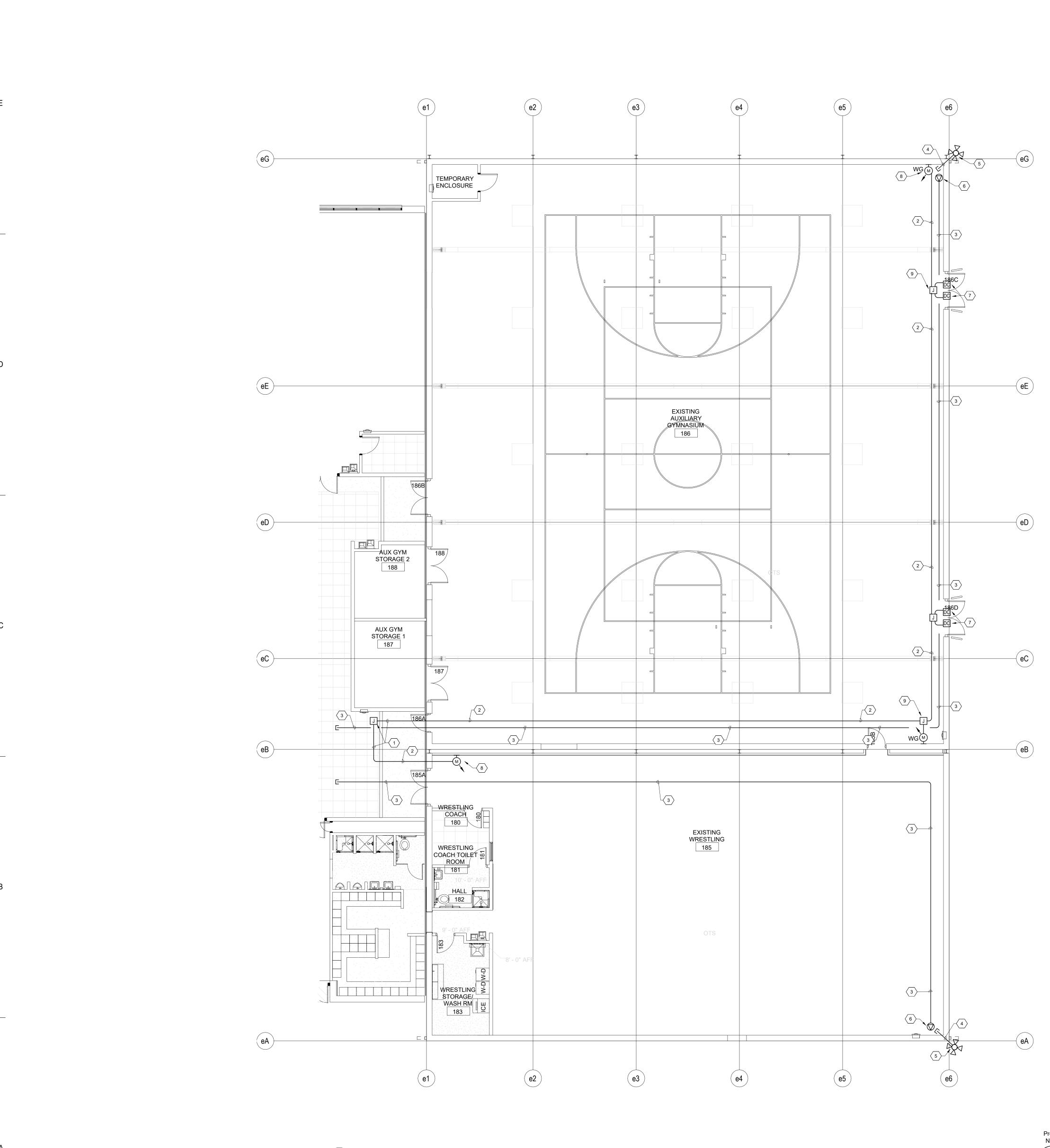
## DEVICE LEGEND

- DESCRIPTION SYMBOL ACCESS CONTROL PANEL - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCP ACCESS CONTROL PANEL DETAIL. ACCESS CONTROL POWER SUPPLY - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACPS ACCESS CONTROL POWER SUPPLY DETAIL. INTRUSION ALARM TERMINAL CABINET (18x18x6) HINGED NEMA 1 -PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQ. 120V. RECEPTACLE. INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER.
- WALL MOUNT MOTION DETECTOR PROVIDED AND INSTALLED BY APS Ю VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 90" A.F.F. TO TOP. ARROW INDICATES DIRECTION.

REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL.

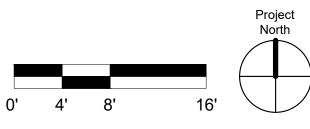
- CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING.
- INTRUSION ALARM DOOR CONTACT PROVIDED AND INSTALLED BY APS DC VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN / RACEWAY. REFER TO ACCESS CONTROL/SECURITY DOOR DETAIL FOR ROUGH-IN REQUIREMENTS.
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2





# INTRUSION ALARM ZONING

1. PHASE 1 ZONE A = 1ST FLOOR GYMNASIUM 101

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- ZONE B = 1ST FLOOR NORTH STAIR 1, NORTH CORRIDOR, BOYS LOCKER ROOM AND GIRLS LOCKER ROOM
- ZONE C = 1ST FLOOR SOUTH STAIR 1, SOUTH CORRIDOR, BOYS ATHLETIC LOCKER ROOM AND GIRLS ATHLETIC LOCKER ROOM
- ZONE D = 2ND FLOOR NORTH MEZZANINE ZONE E = 2ND FLOOR SOUTH MEZZANINE
- 2. PHASE 2

4

- ZONE F = 1ST FLOOR LOBBY, EAST CORRIDOR AND NORTH CORRIDOR
- ZONE G = WEIGHT ROOM • ZONE H = TRAINING ROOM, FOOTBALL COACH ROOM, FOOTBALL
- STORAGE AND WRESTLING LOCKERS • ZONE J = 2ND FLOOR LOBBY
- 3. PHASE 3
- ZONE K = EXISTING WRESTLING ZONE L = EXISTING AUXILIARY GYMNASIUM

## GENERAL SHEET NOTES A. ALL CCTV NETWORK CABLING CONDUIT SHALL BE 1" C. UNLESS

6

- OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS. B. ALL ACCESS CONTROL CONDUIT SHALL BE 3/4" C. UNLESS OTHERWISE NOTED. C. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF
- CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS. D. COORDINATE ALL ACCESS & SECURITY WITH APS VENDOR.
- E. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR
- ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT REQUIREMENTS. G. INTRUSION ALARM SHALL BE IN COMPLETE 3/4" CONDUIT SYSTEM.

## **KEYNOTES**

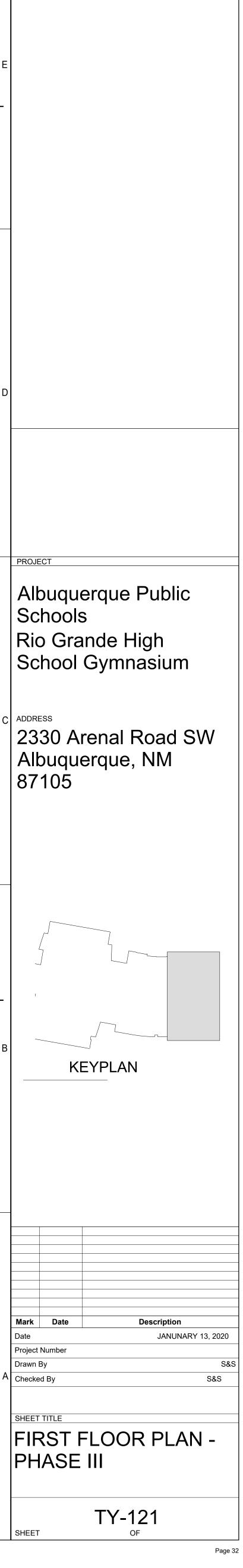
- 1. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. FOR INTRUSION ALARM/SECURITY CABLING TO J-BOX PROVIDED IN PHASE II. 2. TYPICAL 3/4 C. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY FOR INTRUSION ALARM/SECURITY & ACCESS CONTROL CABLING. 3. ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO ACCESSIBLE CEILING SPACE / CABLE TRAY FOR CCTV NETWORK
- CABLING. COORDINATE WITH APS TECHNOLOGY DEPARTMENT AND APS VENDOR FOR CORRECT PATH WAY.
- 4. ELECTRICAL CONTRACTOR TO PROVIDE 1" C. RACEWAY TO CCTV NETWORK CABLING CONNECTION. COORDINATE WITH APS AND APS
- VENDOR FOR EXACT LOCATION. 5. CORNER MOUNTED CCTV CAMERA PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY
- FOR CCTV CAMERA CABLING. REFER TO CCTV CORNER MOUNT MOUNTING DETAIL. 6. ELECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX WITH NO RISE SINGLE GANG RING FOR CCTV NETWORK CABLING
- CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION AND CABLING BY APS VENDOR. 7. INTRUSION ALARM DOOR CONTACTS PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RACEWAY
- FOR INTRUSION ALARM CABLING. REFER TO SECURITY DOOR DETAILS. 8. WALL MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4 SQUARE
- DEEP BOX WITH SINGLE GANG RING. MOUNT AT 90" AFF TO TOP OF BOX. 9. TYPICAL J-BOX BY ELECTRICAL CONTRACTOR.

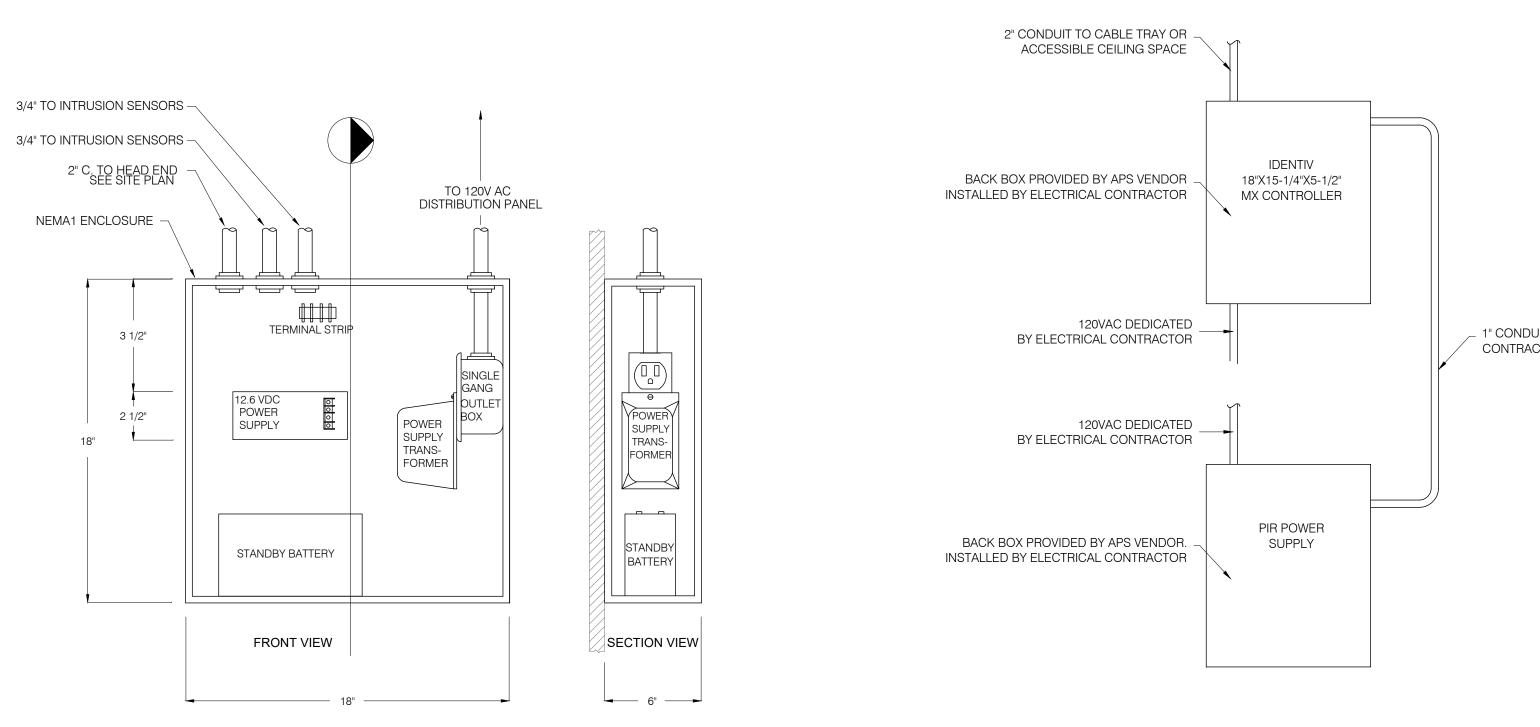
# DEVICE LEGEND

DESCRIPTION

SYMBOL

- ACCESS CONTROL PANEL PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACCESS CONTROL PANEL DETAIL. ACCP ACCESS CONTROL POWER SUPPLY - PROVIDED BY APS VENDOR INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. REFER TO ACPS ACCESS CONTROL POWER SUPPLY DETAIL. INTRUSION ALARM TERMINAL CABINET (18x18x6) HINGED NEMA 1 -IATC PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQ. 120V. RECEPTACLE. INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTRUSION ALARM/SECURITY TERMINAL CAN DETAIL. WALL MOUNT MOTION DETECTOR PROVIDED AND INSTALLED BY APS Ю, VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 90" A.F.F. TO TOP. ARROW INDICATES DIRECTION. CEILING MOUNTED MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX  $\mathbb{M}$ W/ SINGLE RING. INTRUSION ALARM DOOR CONTACT PROVIDED AND INSTALLED BY APS DC VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN / RACEWAY. REFER TO ACCESS CONTROL/SECURITY DOOR DETAIL FOR ROUGH-IN REQUIREMENTS. CARD READER PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CR CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP BOX. PLACE ADJACENT TO AUTOMATIC DOOR OPENER IF APPLICABLE. EXTEND CONDUIT TO 4SQ BOX. LOCATED ABOVE ACCESSIBLE CEILING. SEE ACCESS CONTROL DOOR DETAIL.
- EXIT MOTION DETECTOR PROVIDED AND INSTALLED BY APS VENDOR. ---®H ELECTRICAL CONTRACTOR TO PROVIDE 4" SQ. DEEP BOX W/ SINGLE RING MOUNTED HORIZONTALLY ABOVE DOOR JAM. REFER TO ACCESS CONTROL DOOR DETAIL FOR ROUGH IN REQUIREMENTS. COORDINATE WITH APS VENDOR PRIOR TO ROUGH-IN.
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2

1

ACCESS CONTROL HEAD-END EQUIPMENT

4

4

# GENERAL SHEET NOTES

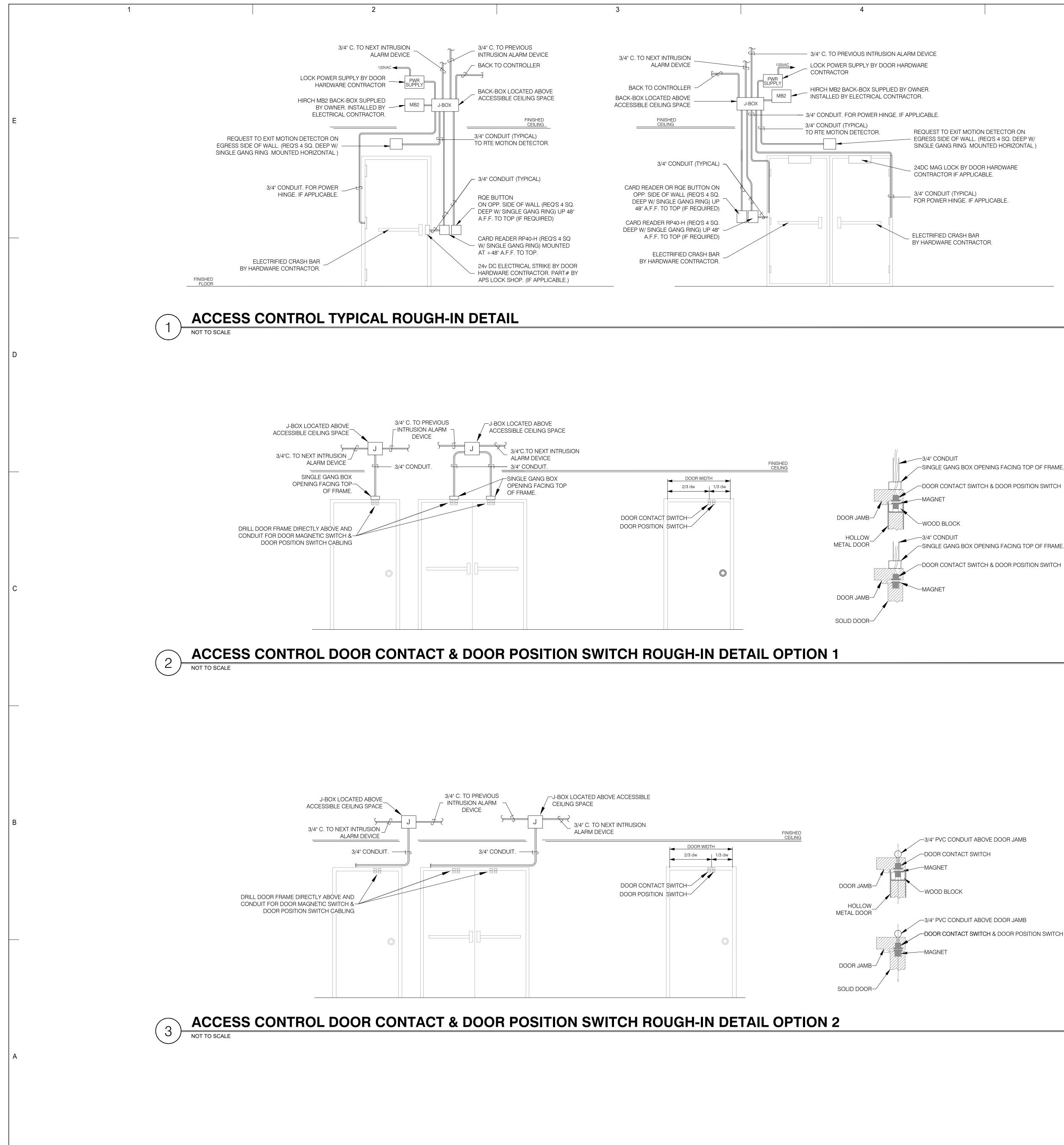
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- A. ALL CCTV NETWORK CABLING CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS. B. ALL ACCESS CONTROL CONDUIT SHALL BE 3/4" C. UNLESS OTHERWISE NOTED.
- C. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS.
- D. COORDINATE ALL ACCESS & SECURITY WITH APS VENDOR. E. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING. F. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR
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- G. INTRUSION ALARM SHALL BE IN COMPLETE 3/4" CONDUIT SYSTEM.

- 1" CONDUIT BY ELECTRICAL CONTRACTOR

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C	PROJECT Albuquerque Public Schools Rio Grande High School Gymnasium	
	2330 Arenal Road SW Albuquerque, NM 87105	
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A. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT

REQUIREMENTS. B. INTRUSION ALARM SHALL BE IN COMPLETE 3/4" CONDUIT SYSTEM.

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## -SINGLE GANG BOX OPENING FACING TOP OF FRAME.

-DOOR CONTACT SWITCH & DOOR POSITION SWITCH

-DOOR CONTACT SWITCH & DOOR POSITION SWITCH

PROJECT

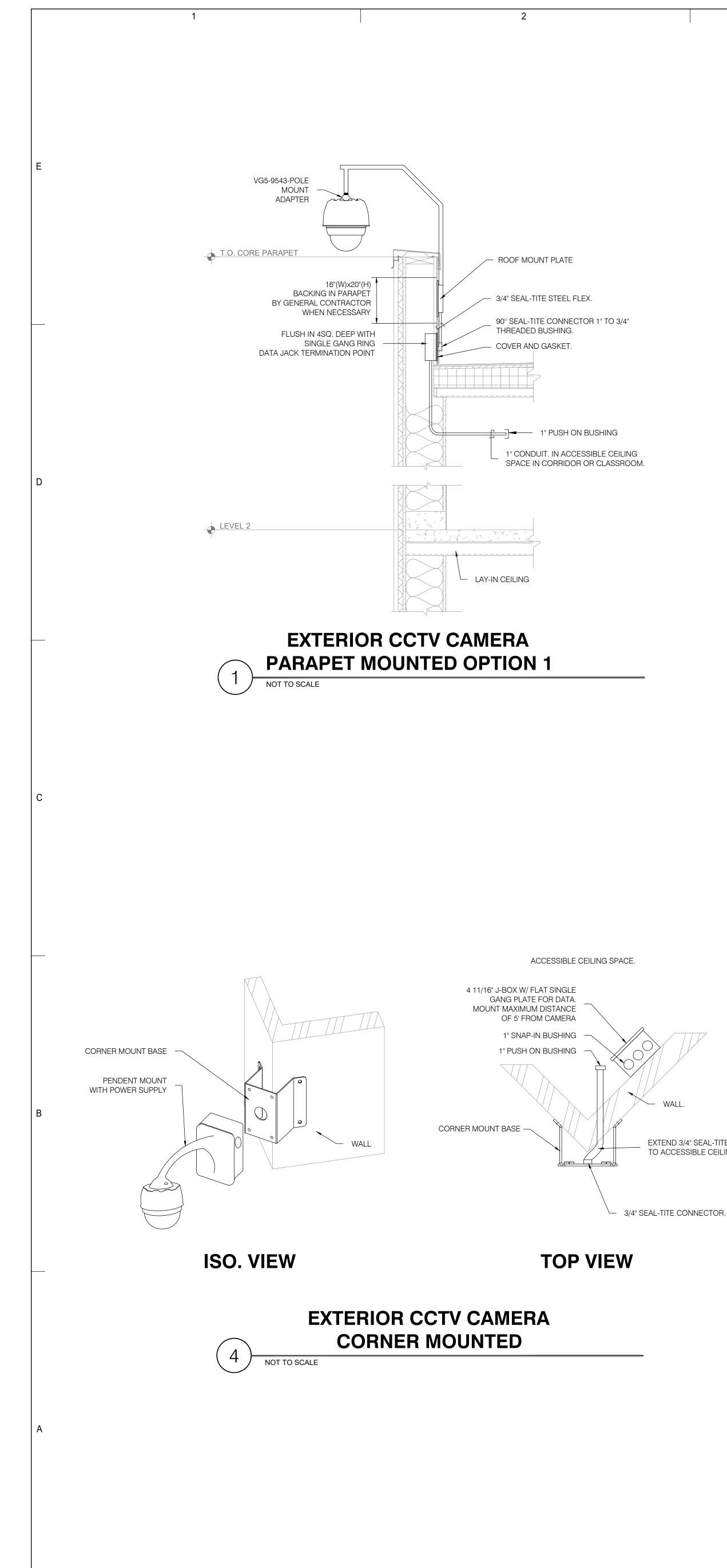
Schools

Albuquerque Public

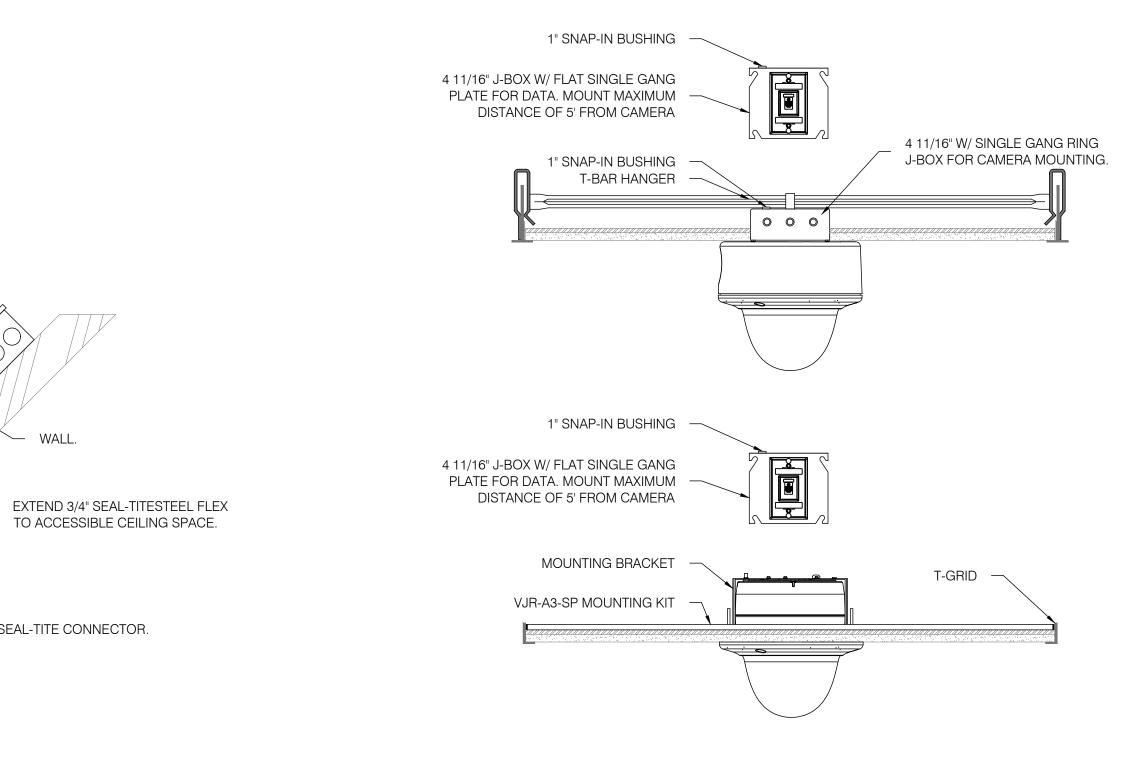
Rio Grande High

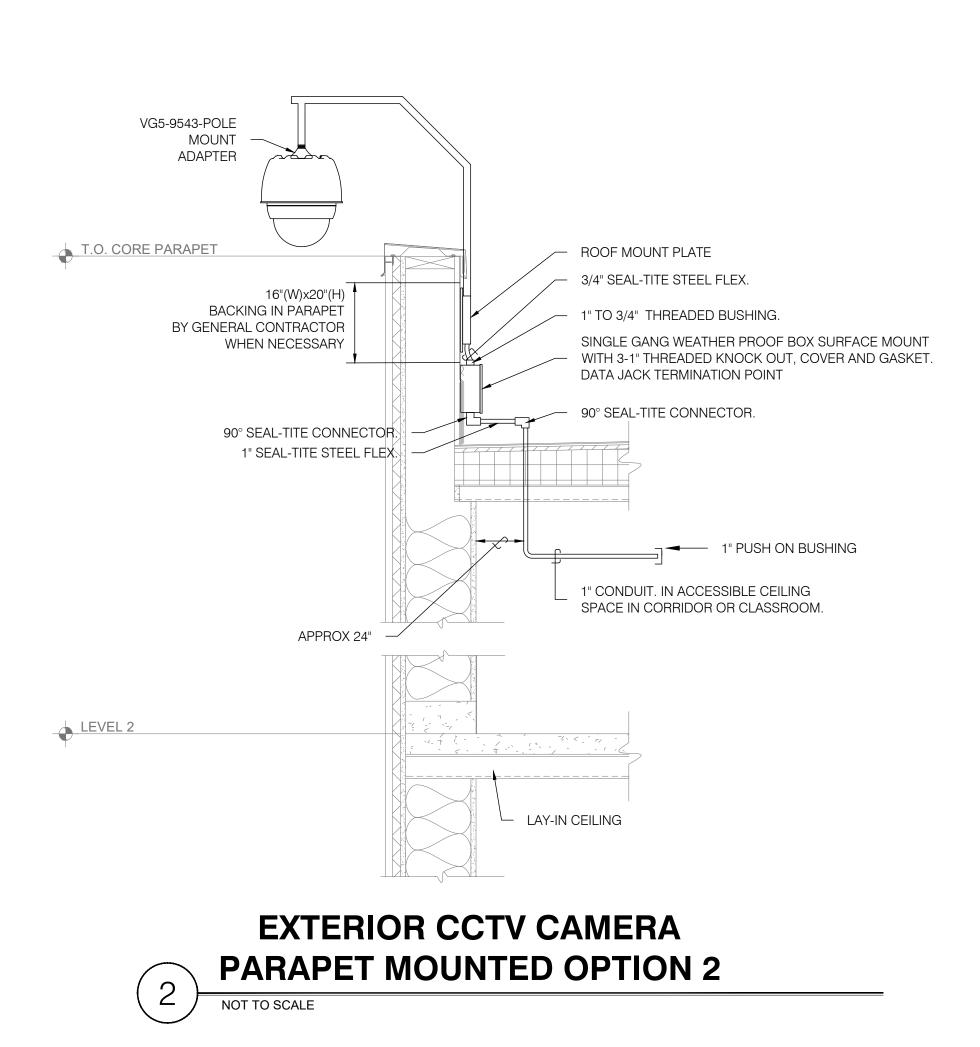
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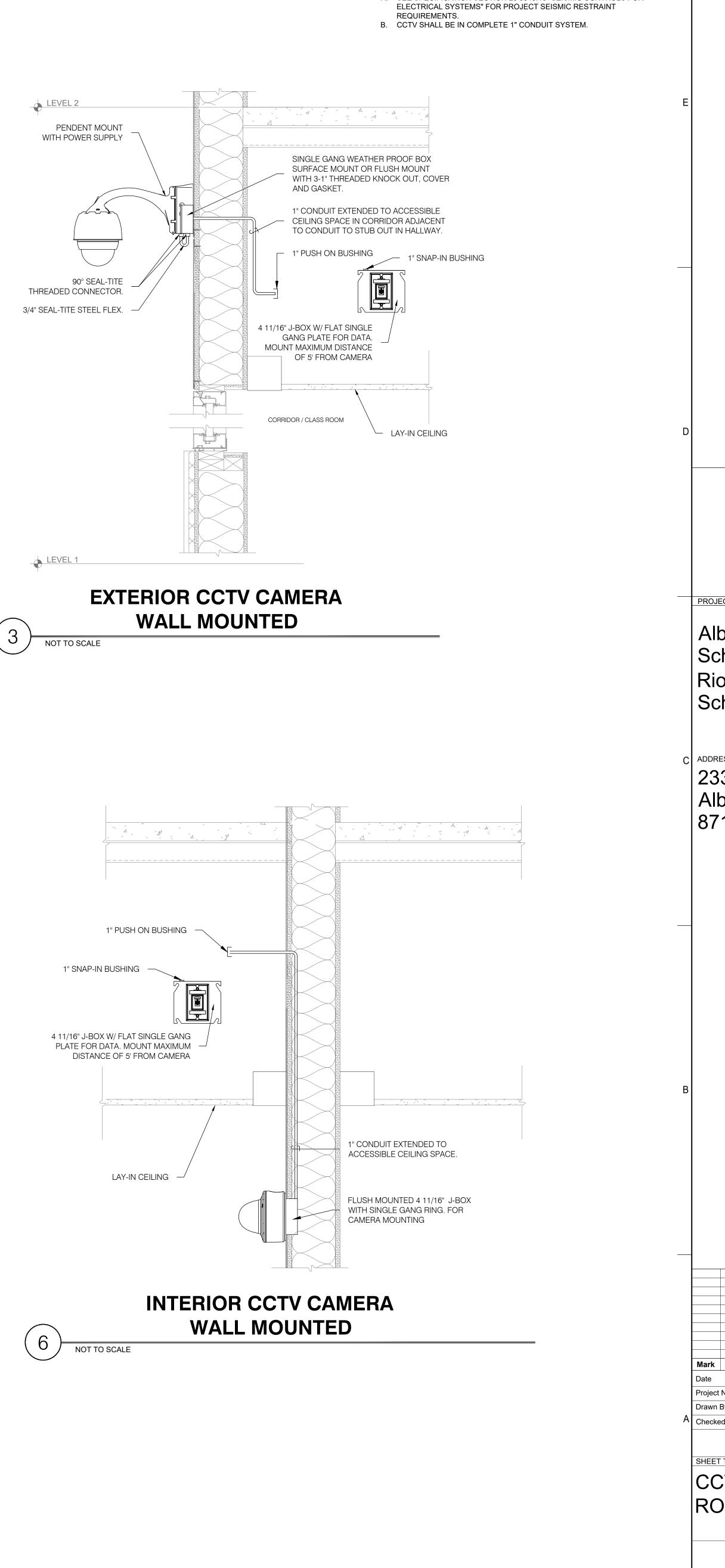
# INTERIOR CCTV CAMERA SURFACE & RECESSED CEILING MOUNTED NOT TO SCALE





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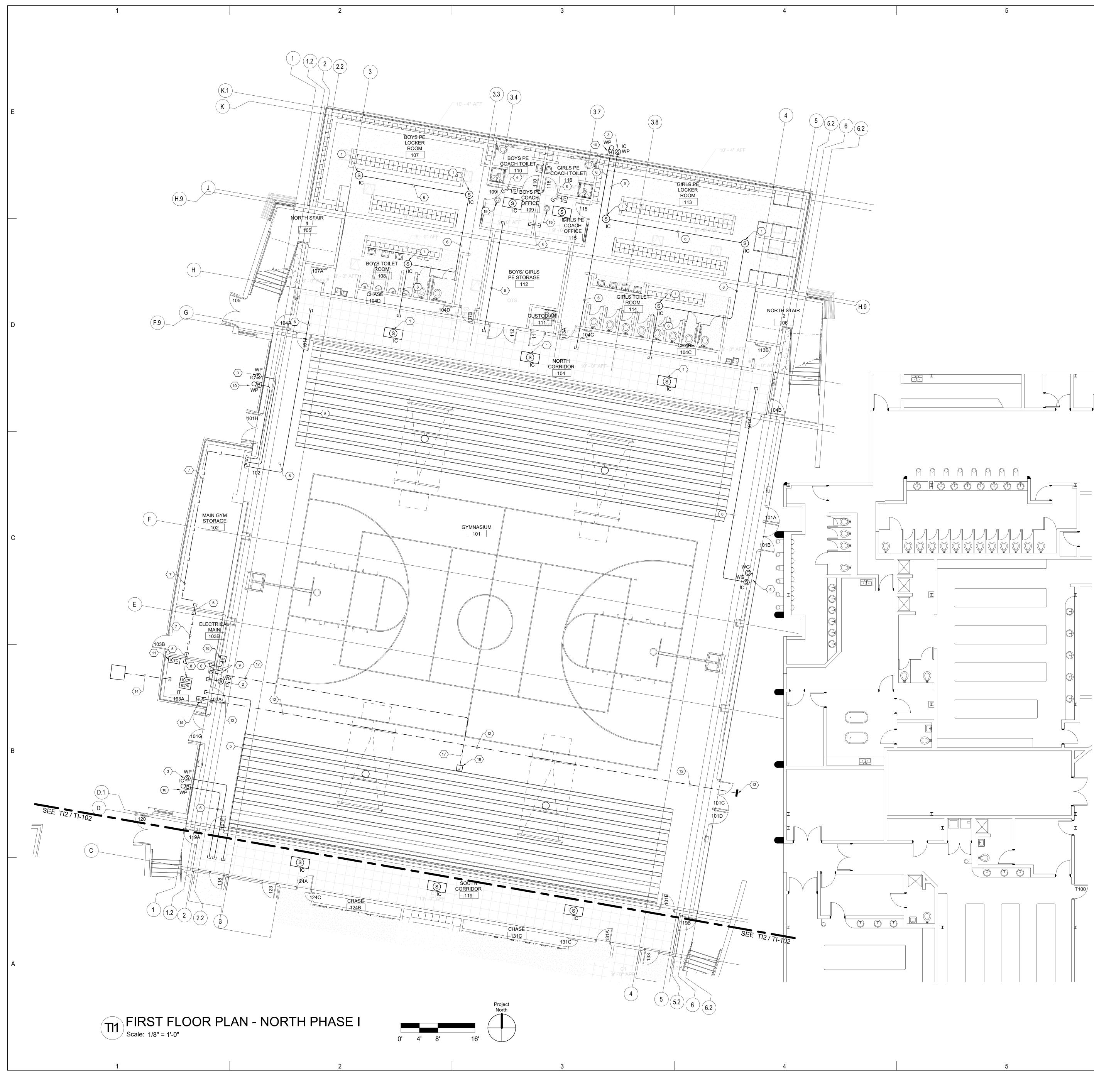
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GENERAL SHEET NOTES

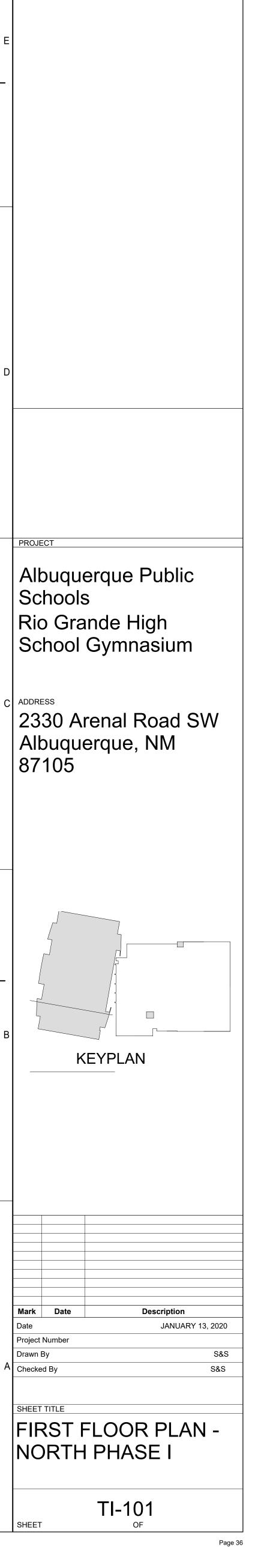
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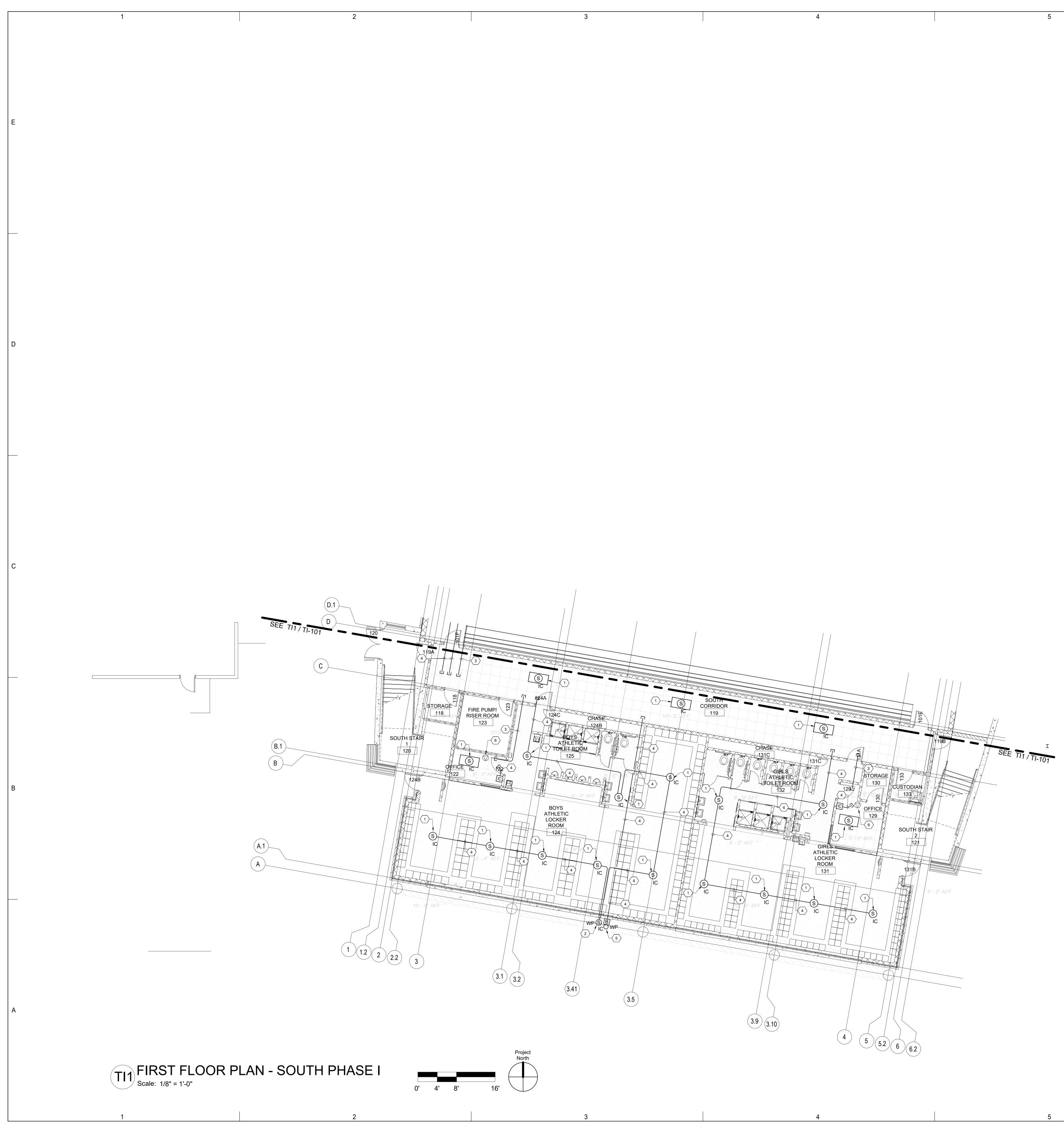
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PROJE	ECT	
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	GENERAL SHEET NOTES
REC B. STU	L CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS QUIRED AT CONDUIT ENDS. JB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF
CLA	BLE TRAY. PROVIDE 2" C. SLEEVES THROUGH ASSROOM/CORRIDOR WALLS. ORDINATE ALL INTERCOM WITH APS VENDOR.
D. ALL SIN	DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH IGLE GANG RING.
ELE	E SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT QUIREMENTS.
1. CEI	<b>KEYNOTES</b>
BAG	NDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. CK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO AREST ACCESSIBLE CEILING SPACE OR TO CABLE TRAY.
AP	LL MOUNTED INTERCOM SPEAKER. PROVIDED AND INSTALLED BY S VENDOR. REQUIRES SPECIAL BACK BOX AND WIRE GUARD BY
3. WA	S VENDOR, INSTALLED BY ELECTRICAL CONTRACTOR. ILL MOUNTED WEATHER PROOF INTERCOM SPEAKER PROVIDED D INSTALLED BY APS VENDOR. REQUIRES SPECIAL BACK BOX BY
AP: 4. WA	S VENDOR, INSTALLED BY ELECTRICAL CONTRACTOR. LL MOUNTED SPEAKER CLOCK COMBO. PROVIDED BY APS
BY	NDOR. REQUIRES SPECIAL BACK BOX BY APS VENDOR, INSTALLED ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO OVIDE 120VAC TO CLOCK.
5. ELE CAI	ECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM BLING.
PAG	ECTRICAL CONTRACTOR TO PROVIDE 3/4" C. FOR INTERCOM / GING SYSTEM CABLING. STUB UP TO ACCESSIBLE CEILING SPACE SHOWN.
INT	ECTRICAL CONTRACTOR TO PROVIDE J-HOOK PATH FOR ERCOM CABLING. ERCOM CONTROL PANEL (ICCP) AND INTERCOM PATCH PANEL
(ICI	PP) PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL NTRACTOR TO PROVIDE 120VAC REQUIREMENTS PER APS
9. ELE	TWORK SPECIFICATIONS. ECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM BLING FROM IT 103A TO 2ND FLOOR NORTH MEZZANINE
BLE 10. WA	EACHERS 204. REFER TO SHEET TI-103. ILL MOUNTED BELL. PROVIDED BY APS VENDOR. REQUIRES
CO	ECIAL BACK BOX BY APS VENDOR, INSTALLED BY ELECTRICAL NTRACTOR. ERCOM TERMINAL CAN 18X18X6 HINGED NEMA 1 BOX. PROVIDED
AN REC	D INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC CEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER.
12. ELE	FER TO INTERCOM TERMINAL CAN DETAIL. ECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM BLING FROM IT 103A TO 1ST FLOOR IT 155 PHASE II.
13. ELE MO	ECTRICAL CONTRACTOR TO CAP OFF CONDUIT TO PREVENT ISTURE AND CONTINUE TO EXTEND CONDUIT DURING PHASE II.
36".	ECTRICAL CONTRACTOR TO PROVIDE 1-2" C. TO IN GROUND X36"X18" HANDHOLES FOR INTERCOM CABLING. DIO/VISUAL EQUIPMENT RACK PROVIDED AND INSTALLED BY APS
VEI DEI	NDOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC DICATED CIRCUIT. COORDINATE WITH APS TECHNOLOGY AND APS
16. AU	NDOR FOR EXACT LOCATION. DO/VISUAL MICROPHONE PROVIDED AND INSTALLED BY APS NDOR. ELECTRICAL CONTRACTOR TO PROVIDE 3 GANG DEEP BOX
MO EQI	UNTED AT 18" AFF AND 1" RACEWAY STUB NEXT TO AUDIO/VISUAL UIPMENT RACK.
AU	ECTRICAL CONTRACTOR TO PROVIDE 1-1/2" RACEWAY NEAR DIO/VISUAL EQUIPMENT RACK IN IT 103A FOR AUDIO/VISUAL BLING ONLY.
SH	ECTRICAL CONTRACTOR TO PROVIDE 24"X24"X6" INCLOSURE TO ARE DATA CABLING / CONNECTIONS WITH AUDIO/VISUAL CABLING
19. ELE	ONNECTIONS FOR SCORERS TABLE. ECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX I'H NO RISE SINGLE GANG RING FOR INTERCOM NETWORK
WI	BLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE IH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. NNECTION AND CABLING BY APS VENDOR.
0	NNECTION AND CABLING BY APS VENDOR.
	DEVICE LEGEND
ICCP	DEVICE LEGEND INTERCOM CONTROL PANEL - PROVIDED AND INSTALLED BY APS VENDOF
ICCP ICPP	INTERCOM CONTROL PANEL - PROVIDED AND INSTALLED BY APS VENDOR INTERCOM PATCH PANEL - PROVIDED AND INSTALLED BY APS VENDOR.
	INTERCOM CONTROL PANEL - PROVIDED AND INSTALLED BY APS VENDOR
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ICPP ICTC © IC	<ul> <li>INTERCOM CONTROL PANEL - PROVIDED AND INSTALLED BY APS VENDOF</li> <li>INTERCOM PATCH PANEL - PROVIDED AND INSTALLED BY APS VENDOR.</li> <li>INTERCOM TERMINAL CABINET (18x18x6) HINGED NEMA 1 - PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC.</li> <li>RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER.</li> <li>HARD LID CEILING SPEAKER PROVIDED AND INSTALLED BY APS VENDOR REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO NEAREST ACCESSIBLE CEILING SPACE.</li> <li>2'x2' LAY-IN CEILING MOUNT SPEAKER PROVIDED AND INSTALLED BY APS VENDOR.</li> <li>CALL SWITCH PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP. STUB UP 3/4"C. I SAME ROOM IN ACCESSIBLE CEILING WITH PUSH-ON BUSHING BY ELECTRICAL CONTRACTOR.</li> </ul>
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- A. ALL CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS.
- B. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS.
- C. COORDINATE ALL INTERCOM WITH APS VENDOR. D. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH
- SINGLE GANG RING. E. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT
- REQUIREMENTS.

## **KEYNOTES**

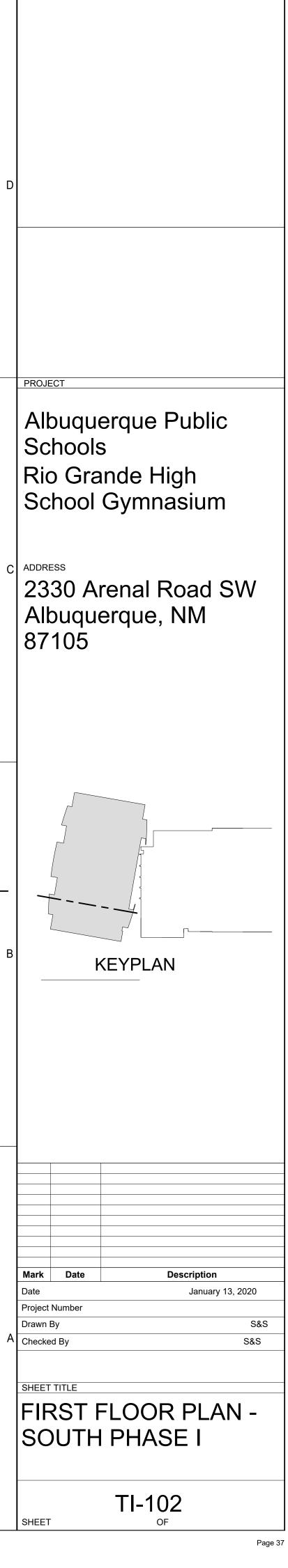
- 1. CEILING MOUNTED SPEAKER. PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO NEAREST ACCESSIBLE CEILING SPACE OR TO CABLE TRAY. 2. WALL MOUNTED WEATHER PROOF INTERCOM SPEAKER BY APS VENDOR. REQUIRES SPECIAL BACK BOX BY APS VENDOR, INSTALLED
- BY ELECTRICAL CONTRACTOR. 3. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM CABLING. 4. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. FOR INTERCOM /
- PAGING SYSTEM CABLING. STUB UP TO ACCESSIBLE CEILING SPACE AS SHOWN. 5. WALL MOUNTED BELL. PROVIDED BY APS VENDOR. REQUIRES
- SPECIAL BACK BOX BY APS VENDOR, INSTALLED BY ELECTRICAL CONTRACTOR. 6. ELECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX WITH NO RISE SINGLE GANG RING FOR INTERCOM NETWORK
- CABLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION AND CABLING BY APS VENDOR

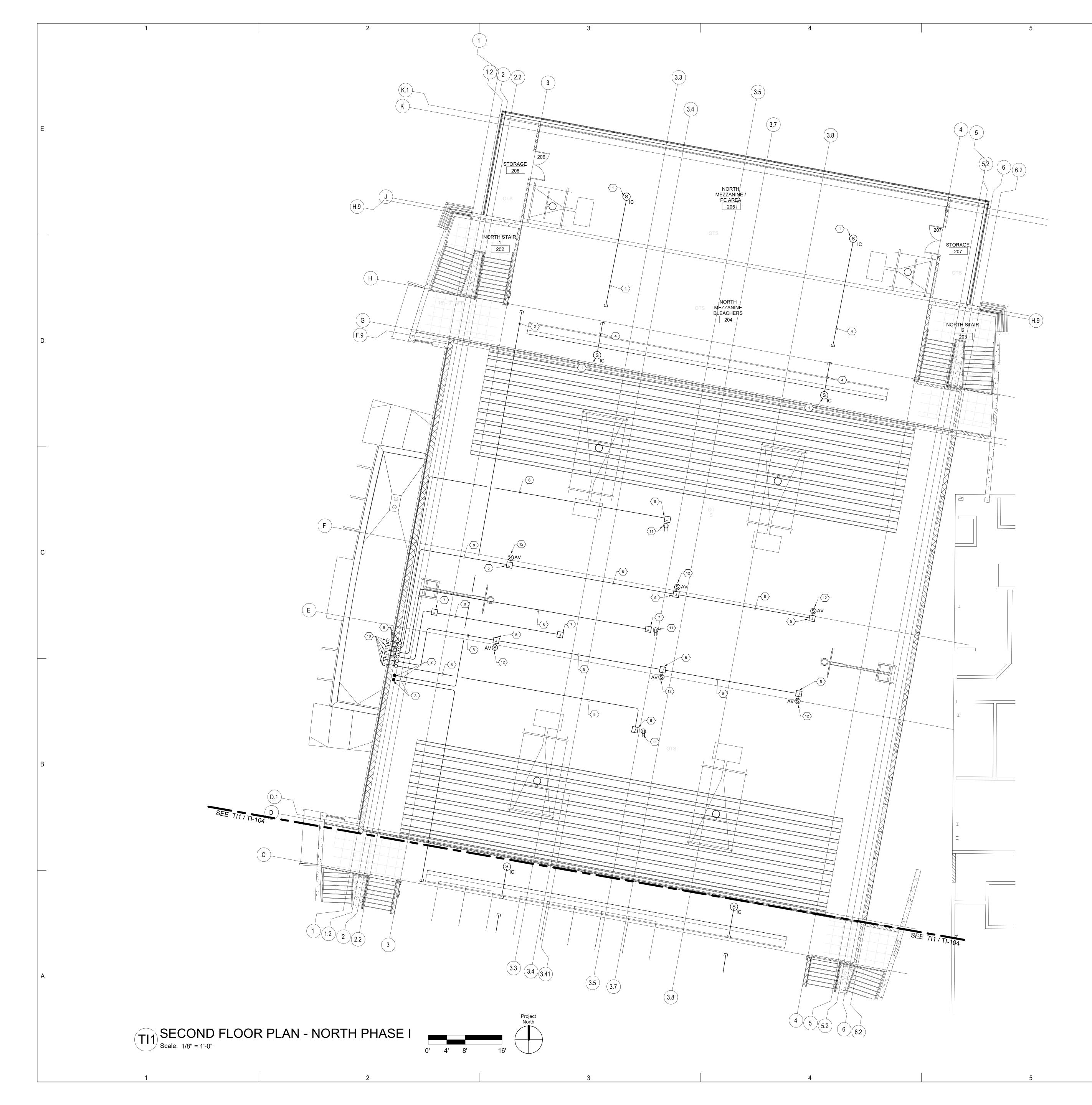
# ADDRESS

## DEVICE LEGEND

INTERCOM CONTROL PANEL - PROVIDED AND INSTALLED BY APS VENDOR. ICCP INTERCOM PATCH PANEL - PROVIDED AND INSTALLED BY APS VENDOR. ICPP ICTC INTERCOM TERMINAL CABINET (18x18x6) HINGED NEMA 1 - PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. HARD LID CEILING SPEAKER PROVIDED AND INSTALLED BY APS VENDOR -REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO NEAREST  $\odot$ ACCESSIBLE CEILING SPACE. 2'x2' LAY-IN CEILING MOUNT SPEAKER PROVIDED AND INSTALLED BY APS 0VENDOR. CALL SWITCH PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP. STUB UP 3/4"C. IN SAME ROOM IN ACCESSIBLE CEILING WITH PUSH-ON BUSHING BY IC ELECTRICAL CONTRACTOR. WEATHER PROOF WALL MOUNT SPEAKER PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. ю BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB UP 3/4"C. TO ACCESSIBLE CEILING WITH PUSH-ON BUSHING. COORDINATE HEIGHT WITH ARCHITECT. WP DENOTES WEATHER PROOF DEVICE. WG DENOTES WIRE GUARD. WEATHER PROOF WALL MOUNT COMMUNICATION BELL PROVIDED AND B INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB UP 3/4"C. TO ACCESSIBLE CEILING WITH PUSH-ON BUSHING. COORDINATE HEIGHT WITH ARCHITECT. WP DENOTES WEATHER PROOF DEVICE. SPEAKER CLOCK COMBO PROVIDED AND INSTALLED BY APS VENDOR -REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. ю́

Drawn By





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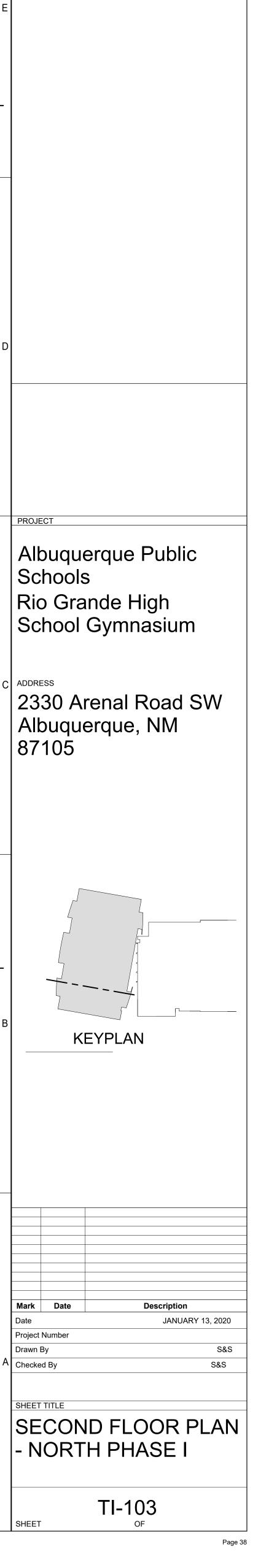
- A. ALL CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS.
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- CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS.
- C. COORDINATE ALL INTERCOM WITH APS VENDOR.D. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING.
- E. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT
- REQUIREMENTS. F. ELECTRICAL CONTRACTOR TO SUPPLY ALL SUPPORTS AND
- RACEWAY FOR AUDIO AND VISUAL PROJECTOR SCREENS PROJECTORS AND SPEAKERS. G. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH APS AUDIO
- G. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH APS AUDIO VISUAL CONTRACTOR AND APS FOR EXACT LOCATION OF AUDIO AND VISUAL LOCATIONS.

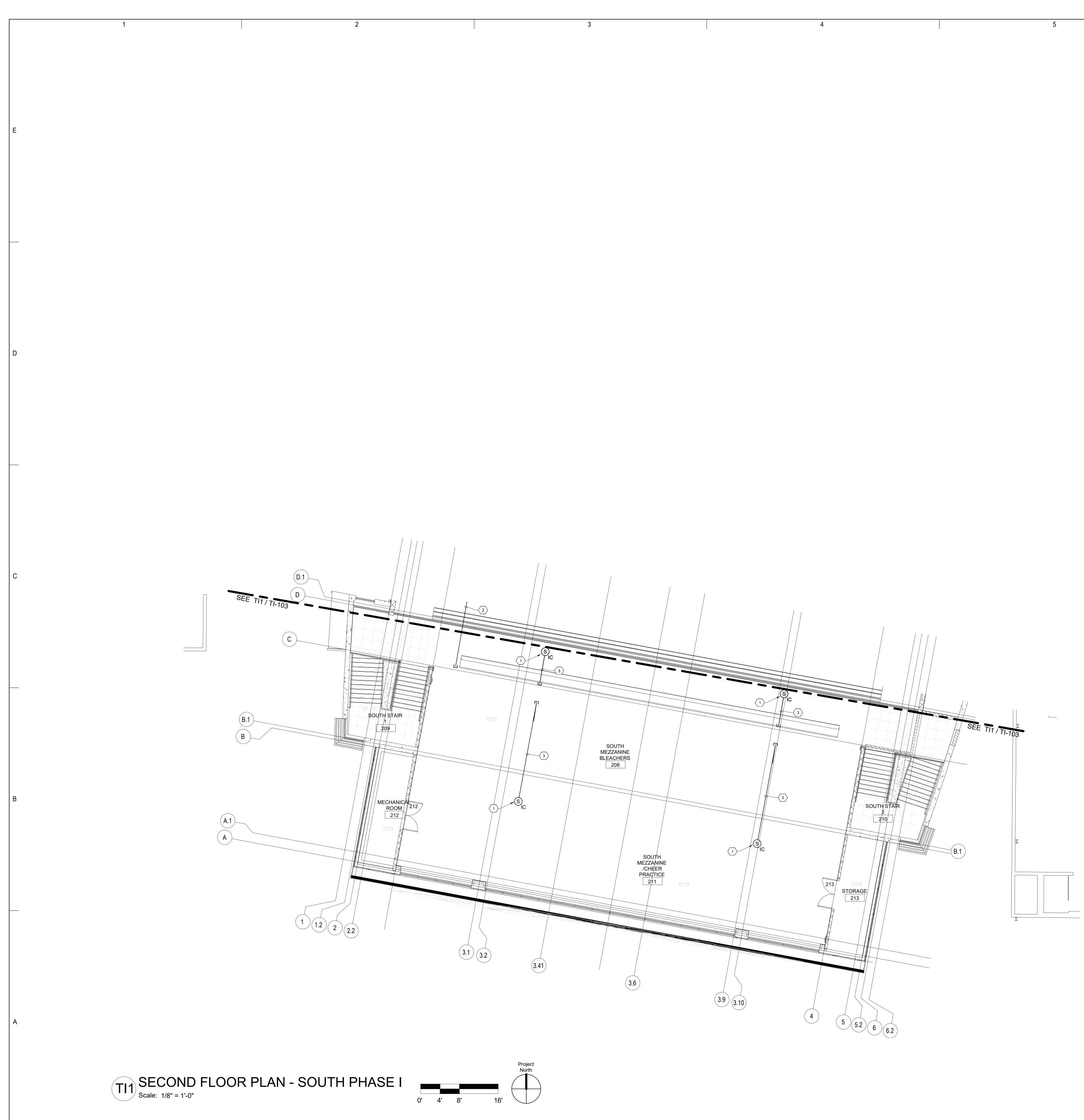
## KEYNOTES

- CEILING MOUNTED SPEAKER. PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO
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- CABLING FROM IT 103A TO 2ND FLOOR NORTH MEZZANINE
  BLEACHERS 204. REFER TO SHEET TI-101.
  3. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM
- CABLING FROM IT 103A TO 2ND FLOOR SOUTH MEZZANINE BLEACHERS 208. REFER TO SHEET TI-104.
- ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. FOR INTERCOM / PAGING SYSTEM CABLING. STUB UP TO ACCESSIBLE CEILING SPACE AS SHOWN.
   ELECTRICAL CONTRACTOR TO PROVIDE 4SQ DEEP BOX WITH 1/2"
- BUSHING AND COVER PLATE FOR AUDIO/VISUAL SPEAKER.
  6. ELECTRICAL CONTRACTOR TO PROVIDE 4SQ DEEP BOX WITH SINGLE GANG RING FOR AUDIO/VISUAL PROJECTOR CONNECTIONS. PROJECTOR AND CONNECTIONS INSTALLED AND SUPPLIED BY APS
- VENDOR.
  7. ELECTRICAL CONTRACTOR TO PROVIDE 4SQ DEEP BOX WITH SINGLE GANG RING FOR PROJECTOR SCREEN CONNECTIONS. CONTROL
- CONNECTIONS INSTALLED AND SUPPLIED BY APS VENDOR.
  8. ELECTRICAL CONTRACTOR TO PROVIDE 1 1/2" RACEWAY STUB INTO 1ST FLOOR IT 103A NEAR AUDIO/VISUAL EQUIPMENT RACK.
- 9. TYPICAL RACEWAY DOWN TO 1ST FLOOR BY ELECTRICAL CONTRACTOR
- TYPICAL RACEWAY STUBED INTO 1ST FLOOR IT 103A NEAR AUDIO/VISUAL EQUIPMENT RACK. BY ELECTRICAL CONTRACTOR.
   ELECTRICAL CONTRACTOR TO PROVIDE 120VAC POWER FOR
- 11. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC POWER FOR PROJECTOR / PROJECTOR SCREEN. COORDINATE WITH APS VENDOR BEFORE INSTALLATION.
- WALL MOUNTED SPEAKER PROVIDED AND INSTALLED BY APS VENDOR.

## **DEVICE LEGEND**

INTERCOM CONTROL PANEL - PROVIDED AND INSTALLED BY APS VENDOR. ICCP INTERCOM PATCH PANEL - PROVIDED AND INSTALLED BY APS VENDOR. ICPP ICTC INTERCOM TERMINAL CABINET (18x18x6) HINGED NEMA 1 - PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. HARD LID CEILING SPEAKER PROVIDED AND INSTALLED BY APS VENDOR -REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO NEAREST (s)ACCESSIBLE CEILING SPACE. 2'x2' LAY-IN CEILING MOUNT SPEAKER PROVIDED AND INSTALLED BY APS VENDOR. CALL SWITCH PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S 4" SQ. IC DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP. STUB UP 3/4"C. IN SAME ROOM IN ACCESSIBLE CEILING WITH PUSH-ON BUSHING BY ELECTRICAL CONTRACTOR. WEATHER PROOF WALL MOUNT SPEAKER PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. ю BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB UP 3/4"C. TO ACCESSIBLE CEILING WITH PUSH-ON BUSHING. COORDINATE HEIGHT WITH ARCHITECT. WP DENOTES WEATHER PROOF DEVICE. WG DENOTES WIRE GUARD. WEATHER PROOF WALL MOUNT COMMUNICATION BELL PROVIDED AND B INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB UP 3/4"C. TO ACCESSIBLE CEILING WITH PUSH-ON BUSHING. COORDINATE HEIGHT WITH ARCHITECT. WP DENOTES WEATHER PROOF DEVICE. SPEAKER CLOCK COMBO PROVIDED AND INSTALLED BY APS VENDOR -REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. ю ю́





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- A. ALL CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS.
- B. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS.
- C. COORDINATE ALL INTERCOM WITH APS VENDOR. D. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH

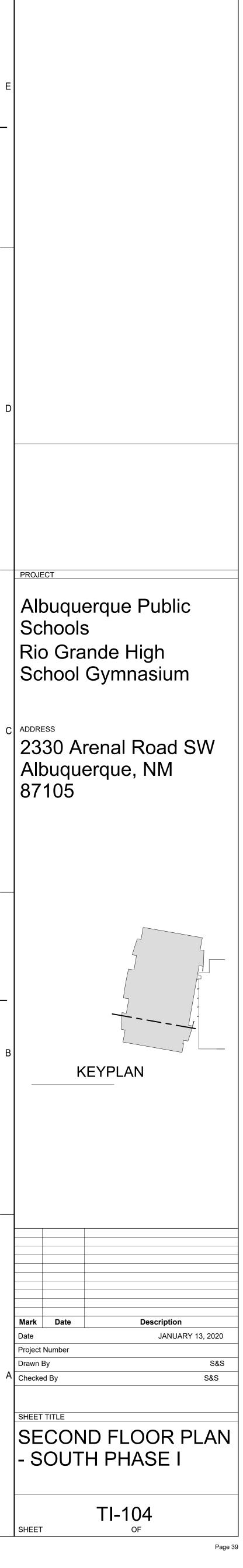
SINGLE GANG RING. E. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT REQUIREMENTS.

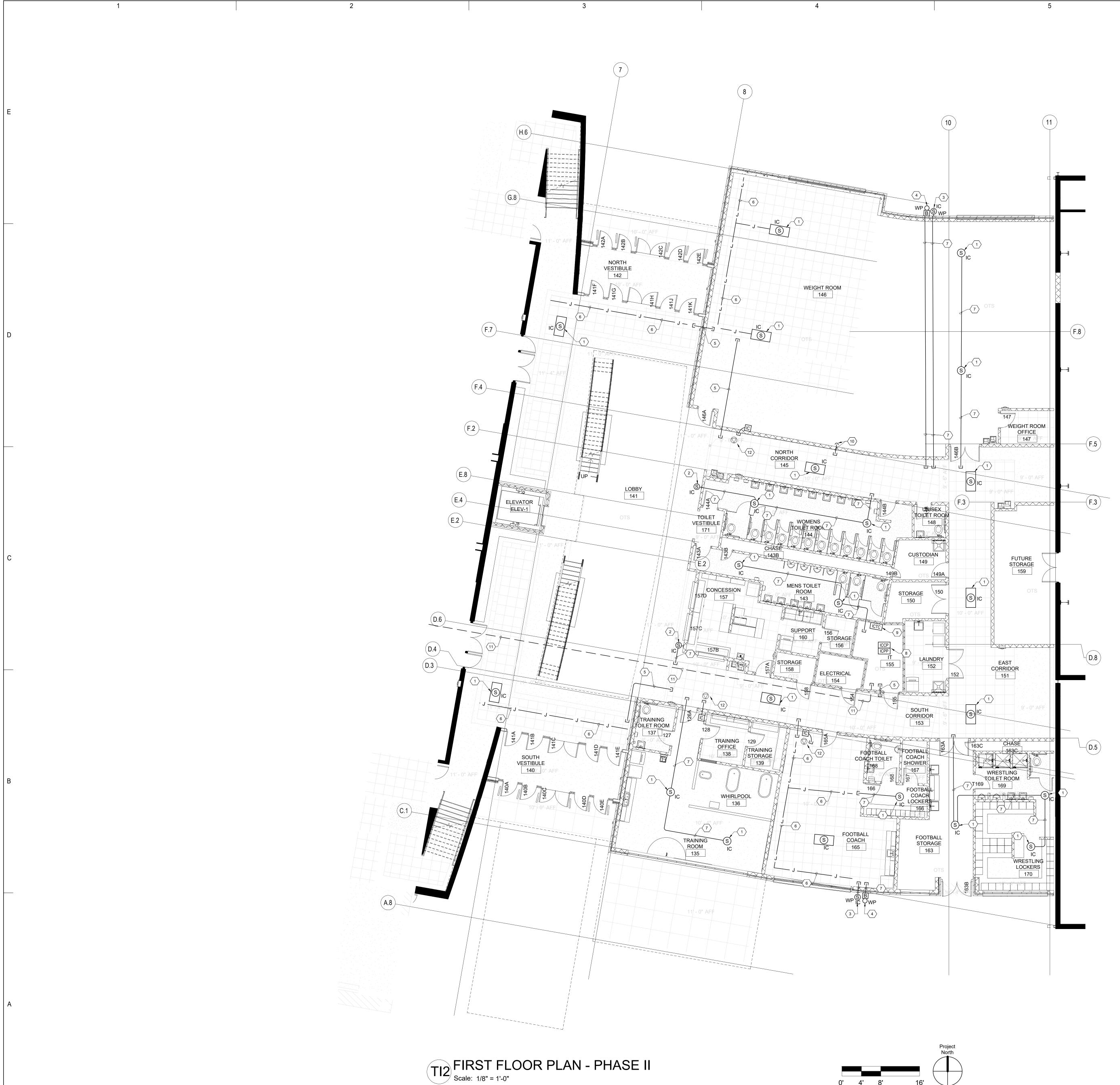
_		KEYNOTES
	1.	CEILING MOUNTED SPEAKER. PROVIDED AND INSTALLED BY APS
		VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR.
		BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO
		NEAREST ACCESSIBLE CEILING SPACE OR TO CABLE TRAY.
	2.	ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM
		CABLING FROM IT 103A TO 2ND FLOOR SOUTH MEZZANINE
		BLEACHERS 208. REFER TO SHEET TI-101.
	3.	ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. FOR INTERCOM /
		PAGING SYSTEM CABLING. STUB UP TO ACCESSIBLE CEILING SPACE
		AS SHOWN.

## DEVICE LEGEND

ICCP	INTERCOM CONTROL PANEL - PROVIDED AND INSTALLED BY APS VENDOR.
ICPP	INTERCOM PATCH PANEL - PROVIDED AND INSTALLED BY APS VENDOR.
ICTC	INTERCOM TERMINAL CABINET (18x18x6) HINGED NEMA 1 - PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER.
9	HARD LID CEILING SPEAKER PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO NEAREST ACCESSIBLE CEILING SPACE.
	2'x2' LAY-IN CEILING MOUNT SPEAKER PROVIDED AND INSTALLED BY APS VENDOR.
IJ	CALL SWITCH PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S 4" SQ. DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP. STUB UP 3/4"C. IN SAME ROOM IN ACCESSIBLE CEILING WITH PUSH-ON BUSHING BY ELECTRICAL CONTRACTOR.
	WEATHER PROOF WALL MOUNT SPEAKER PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB UP 3/4"C. TO ACCESSIBLE CEILING WITH PUSH-ON BUSHING. COORDINATE HEIGHT WITH ARCHITECT. WP DENOTES WEATHER PROOF DEVICE. WG DENOTES WIRE GUARD.
BD	WEATHER PROOF WALL MOUNT COMMUNICATION BELL PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB UP 3/4"C. TO ACCESSIBLE CEILING WITH PUSH-ON BUSHING. COORDINATE HEIGHT WITH ARCHITECT. WP DENOTES WEATHER PROOF DEVICE.
Q Q Q	SPEAKER CLOCK COMBO PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR.

Date Drawn By





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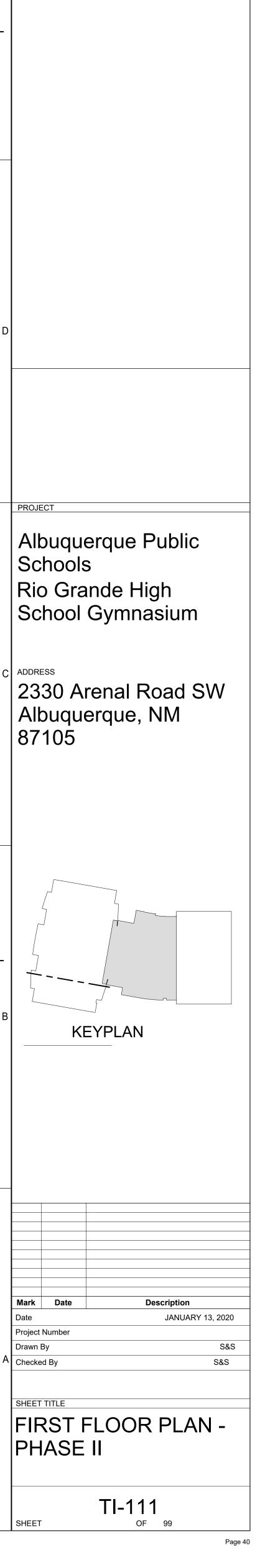
- A. ALL CONDUIT SHALL BE 1" C. UNLESS OTHERWISE NOTED. BUSHINGS REQUIRED AT CONDUIT ENDS. B. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH
- CLASSROOM/CORRIDOR WALLS. C. COORDINATE ALL INTERCOM WITH SPECIAL SYSTEMS CONTRACTOR.
- D. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING. E. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT
- REQUIREMENTS.

## **KEYNOTES**

- 1. CEILING MOUNTED SPEAKER. PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO NEAREST ACCESSIBLE CEILING SPACE OR TO CABLE TRAY. 2. WALL MOUNTED INTERCOM SPEAKER. PROVIDED AND INSTALLED BY APS VENDOR. REQUIRES SPECIAL BACK BOX AND WIRE GUARD BY APS VENDOR, INSTALLED BY ELECTRICAL CONTRACTOR. 3. WALL MOUNTED WEATHER PROOF INTERCOM SPEAKER PROVIDED AND INSTALLED BY APS VENDOR. REQUIRES SPECIAL BACK BOX BY APS VENDOR, INSTALLED BY ELECTRICAL CONTRACTOR.
- 4. WALL MOUNTED BELL. PROVIDED AND INSTALLED BY APS VENDOR. REQUIRES SPECIAL BACK BOX BY APS VENDOR, INSTALLED BY ELECTRICAL CONTRACTOR. 5. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM
- CABLING. 6. ELECTRICAL CONTRACTOR TO PROVIDE J-HOOK PATH FOR
- INTERCOM CABLING. 7. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. FOR INTERCOM / PAGING SYSTEM CABLING. STUB UP TO ACCESSIBLE CEILING SPACE
- AS SHOWN. 8. INTERCOM CONTROL PANEL (ICCP) AND INTERCOM PATCH PANEL
- (ICPP) PROVIDED AND INSTALLED BY APS VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE 120VAC REQUIREMENTS PER APS NETWORK SPECIFICATIONS. 9. INTERCOM TERMINAL CAN 18X18X6 HINGED NEMA 1 BOX. PROVIDED
- AND INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTERCOM TERMINAL CAN DETAIL. 10. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM
- CABLING FROM CABLE TRAY TO 2ND FLOOR IT 233C. REFER TO SHEET TI-112. 11. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM
- CABLING FROM IT-103A PHASE I TO IT-155 PHASE II. 12. ELECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX WITH NO RISE SINGLE GANG RING FOR INTERCOM NETWORK CABLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION AND CABLING BY APS VENDOR.

## DEVICE LEGEND

ICCP NTERCOM CONTROL PANEL - PROVIDED AND INSTALLED BY APS VENDOR. INTERCOM PATCH PANEL - PROVIDED AND INSTALLED BY APS VENDOR. ICPP ICTC INTERCOM TERMINAL CABINET (18x18x6) HINGED NEMA 1 - PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC. RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. HARD LID CEILING SPEAKER PROVIDED AND INSTALLED BY APS VENDOR -REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO NEAREST  $\odot$ ACCESSIBLE CEILING SPACE. 2'x2' LAY-IN CEILING MOUNT SPEAKER PROVIDED AND INSTALLED BY APS 6 VENDOR. CALL SWITCH PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S 4" SQ. IC DEEP BOX W/ SINGLE RING. MOUNT UP 48" A.F.F. TO TOP. STUB UP 3/4"C. IN SAME ROOM IN ACCESSIBLE CEILING WITH PUSH-ON BUSHING BY ELECTRICAL CONTRACTOR. WEATHER PROOF WALL MOUNT SPEAKER PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. KS) BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB UP 3/4"C. TO ACCESSIBLE CEILING WITH PUSH-ON BUSHING. COORDINATE HEIGHT WITH ARCHITECT. WP DENOTES WEATHER PROOF DEVICE. WG DENOTES WIRE GUARD. WEATHER PROOF WALL MOUNT COMMUNICATION BELL PROVIDED AND BD INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB UP 3/4"C. TO ACCESSIBLE CEILING WITH PUSH-ON BUSHING. COORDINATE HEIGHT WITH ARCHITECT. WP DENOTES WEATHER PROOF DEVICE. SPEAKER CLOCK COMBO PROVIDED AND INSTALLED BY APS VENDOR ю́ REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR.





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- REQUIREMENTS.

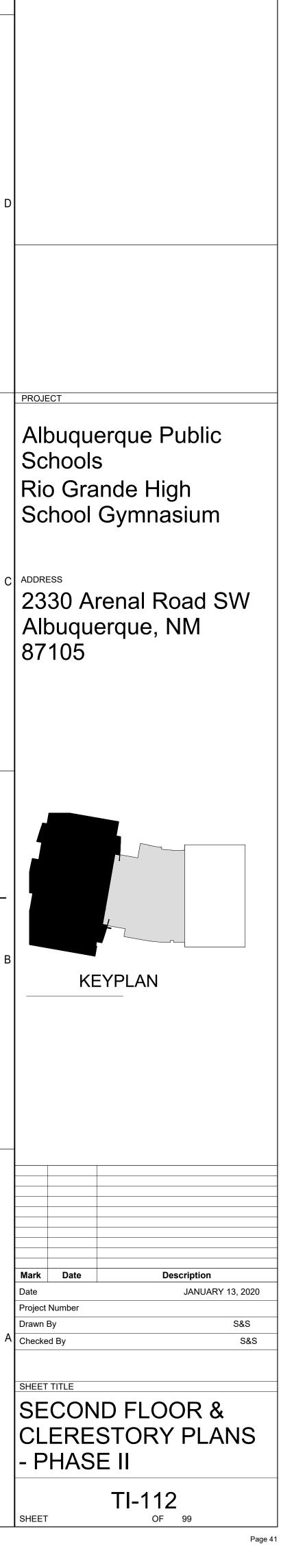
## **KEYNOTES**

- 1. CEILING MOUNTED SPEAKER. PROVIDED AND INSTALLED BY APS VENDOR - REQ.'S SPECIAL BACK BOX FURNISHED BY APS VENDOR. BACK BOX INSTALLED BY ELECTRICAL CONTRACTOR. STUB 3/4" C. TO NEAREST ACCESSIBLE CEILING SPACE OR TO CABLE TRAY. 2. ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM CABLING.
- 3. ELECTRICAL CONTRACTOR TO PROVIDE J-HOOK PATH FOR INTERCOM CABLING.
- 4. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" C. FOR INTERCOM / PAGING SYSTEM CABLING. STUB UP TO ACCESSIBLE CEILING SPACE AS SHOWN.
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- INTERCOM TERMINAL CAN 18X18X6 HINGED NEMA 1 BOX. PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. REQUIRES 120VAC RECEPTACLE INSTALLED INSIDE CABINET IN LOWER RIGHT CORNER. REFER TO INTERCOM TERMINAL CAN DETAIL.
- ELECTRICAL CONTRACTOR TO PROVIDE 1-2" C. FOR INTERCOM CABLING FROM 2ND FLOOR IT 233C TO CABLE TRAY IN 1ST FLOOR NORTH CORRIDOR 145. REFER TO SHEET TI-111.
- 8. ELECTRICAL CONTRACTOR TO PROVIDE 4 11/16" SQUARE DEEP BOX WITH NO RISE SINGLE GANG RING FOR INTERCOM NETWORK CABLING CONNECTION. BOX MUST BE ACCESSIBLE COORDINATE WITH APS TECHNOLOGY DEPARTMENT FOR EXACT LOCATION. CONNECTION AND CABLING BY APS VENDOR.

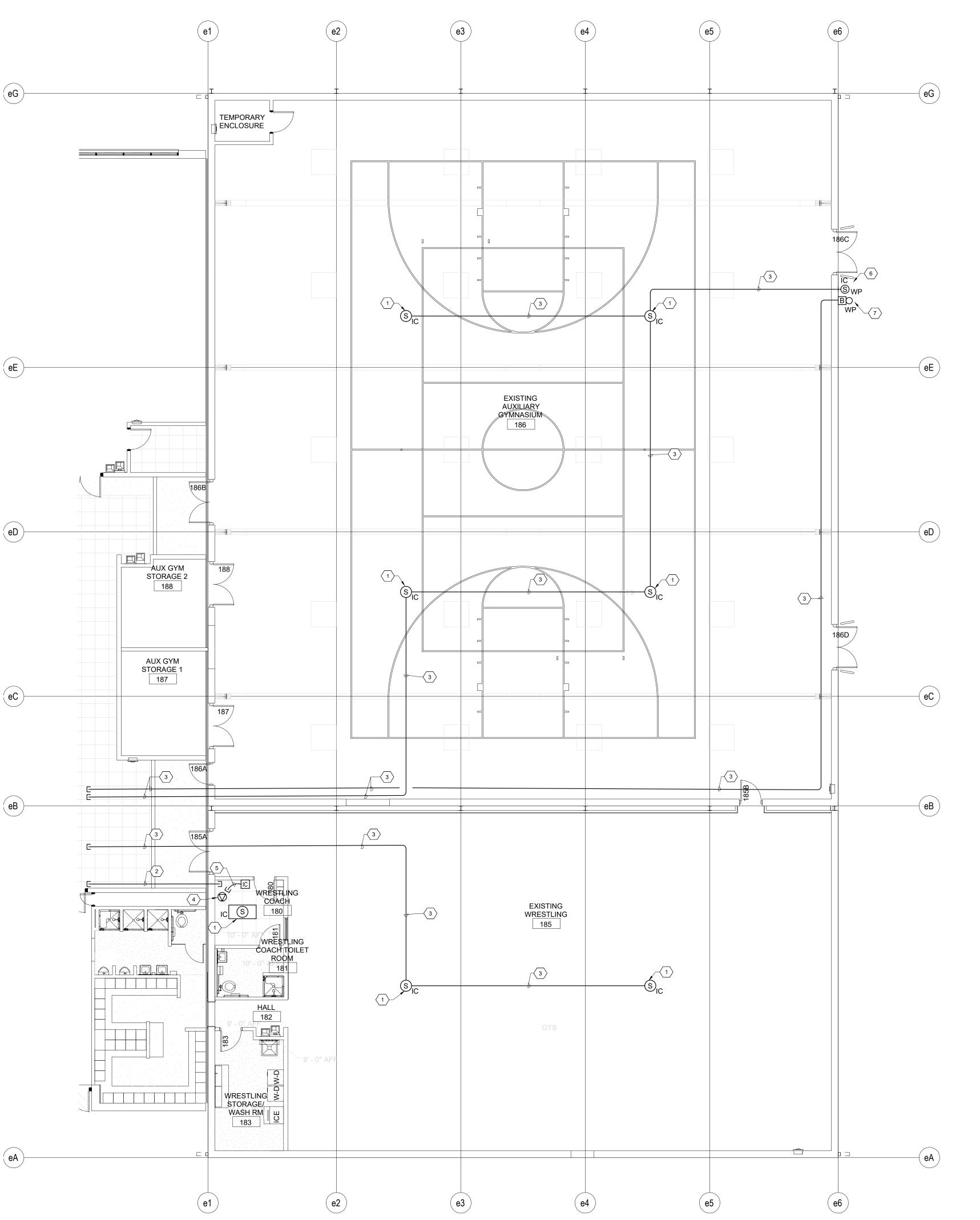
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# TI3 FIRST FLOOR PLAN - PHASE III Scale: 1/8" = 1'-0"

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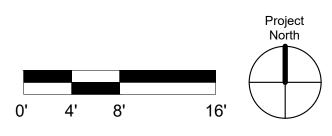


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- B. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH CLASSROOM/CORRIDOR WALLS.

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- C. COORDINATE ALL INTERCOM WITH APS VENDOR. D. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH
- SINGLE GANG RING. E. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT REQUIREMENTS.



## **KEYNOTES**

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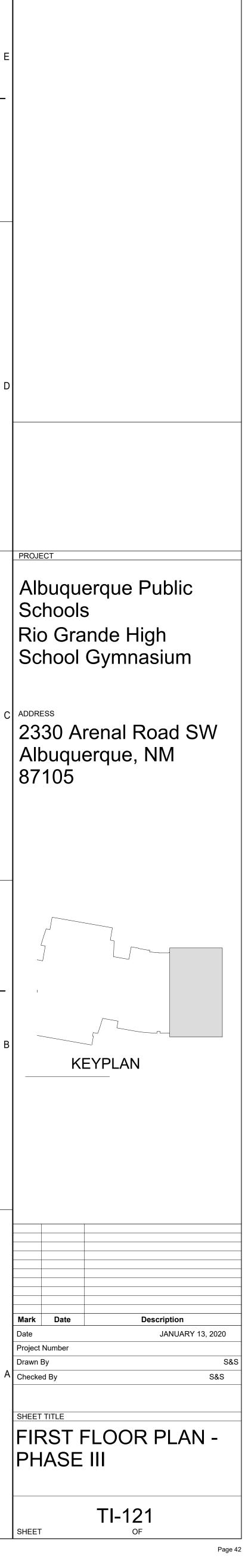
## **DEVICE LEGEND**

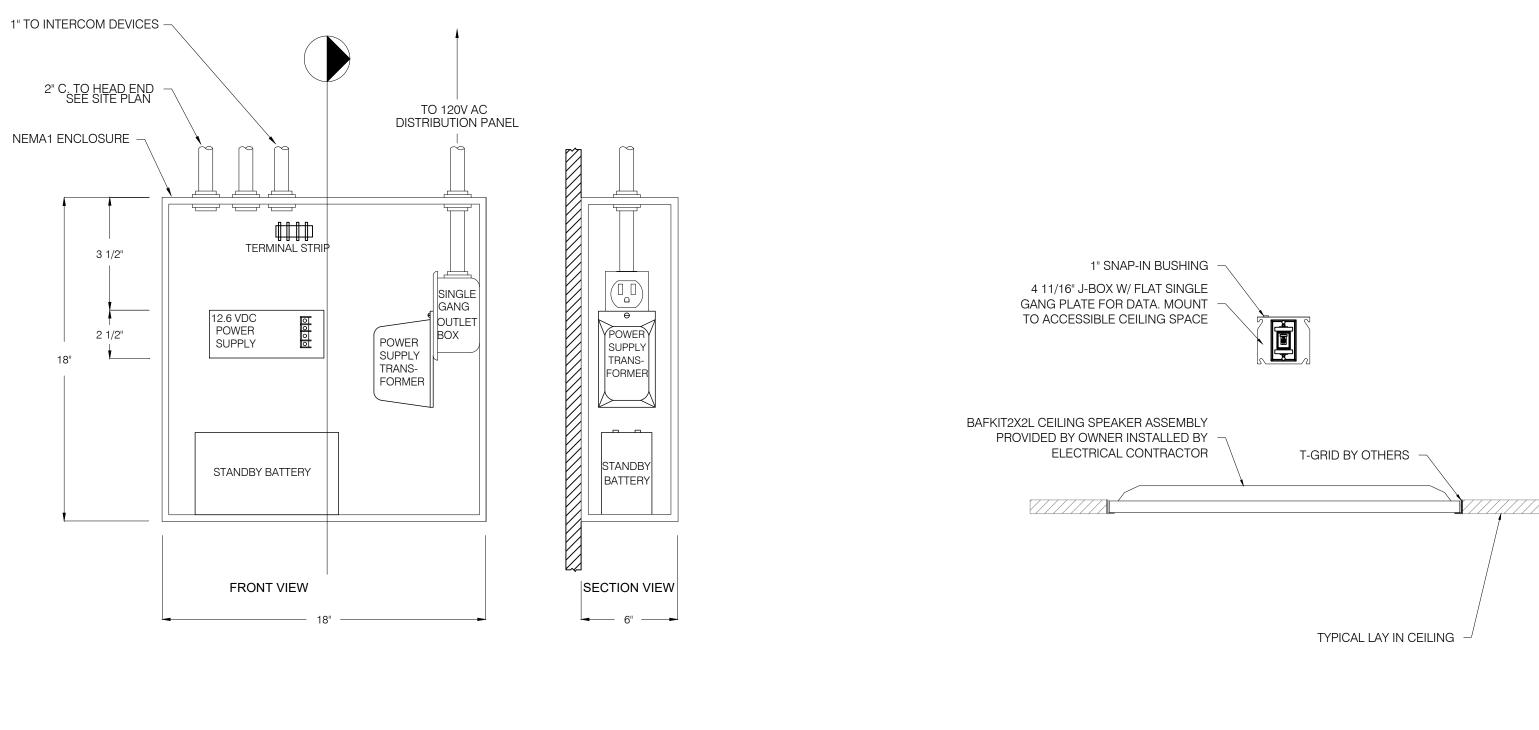
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WIRE GUARD.

Drawn By

SHEET TITLE





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## INTERCOM TERMINAL BOX DETAIL

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INTERCOM SPEAKER DETAIL

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## GENERAL SHEET NOTES

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- A. STUB ALL CONDUIT INTO CEILING CAVITY. POINT IN DIRECTION OF CABLE TRAY. PROVIDE 2" C. SLEEVES THROUGH
- CLASSROOM/CORRIDOR WALLS. B. COORDINATE ALL INTERCOM SYSTEMS WITH APS VENDOR.
- C. ALL DATA DEVICE BOXES SHALL BE 4 11/16" SQUARE DEEP BOX WITH SINGLE GANG RING.
- D. SEE SPECIFICATION SECTION 26 0548.16 "SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS" FOR PROJECT SEISMIC RESTRAINT
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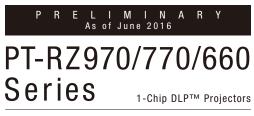
E. INTERCOM SHALL BE IN COMPLETE 1" CONDUIT SYSTEM.

PROJEC Alb Scł Rio Scł 233 Alb 87

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	Albuquerque Public Schools Rio Grande High School Gymnasium
	ADDRESS 2330 Arenal Road SW Albuquerque, NM 87105
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A	Image: Sheet Title       Image: Sheet Title         Image: Sheet Title       Image: Sheet Title
	ELEVATION DETAILS TI-300 SHEET OF Page 43

Exhibit F





#### Available from Summer 2016

## Extraordinary SOLID SHINE Power from Compact and Versatile 1-Chip DLP™ Laser Projectors



	PT-RZ970/770/660 Series								
	PT-RZ970	PT-RZ770	PT-RZ660	PT-RW930	PT-RW730	PT-RW620	PT-RX110		
Resolution		WUXGA			WXGA		XGA		
Brightness	10,000 lm (Center) 9,400 lm*	7,200 lm (Center) 7,000 lm*	6,200 lm (Center) 6,000 lm*	10,000 lm (Center) 9,400 lm*	7,200 lm (Center) 7,000 lm*	6,200 lm (Center) 6,000 lm*	10,400 lm (Center) 10,000 lm*		
Contrast				10,000:1					

## Radiant Picture Quality and Long-Lasting Reliability

- Up to 10,400 Im<sup>\*1</sup> Brightness in a Compact and Lightweight Design
- I -Chip DLP<sup>™</sup> Imaging and SOLID SHINE Laser Technology Deliver Superior White-balance and Color Accuracy
- Dynamic Light Control for 10,000:1\*2 Contrast
- Consistent Long-Lasting Picture Quality
- Detail Clarity Processor 3 Improves Image Clarity, Detail, and Depth
- System Daylight View 3 Ensures Crisp Images for Projection Mapping and Brightly Lit Indoor Environments

#### **Consistently Stable Performance**

- Filterless Dust-Resistant Optical Drive
- Up to 20,000 hours of Continuous Maintenance-free Operation\*<sup>3</sup>
- Selectable Operational Modes Extend Service Life to Up to 10 Years\*4
- Dual-Drive Laser Optical Engine Ensures Reliable 24/7 Operation with Light-source Failover Protection Circuitry
- Efficient Cooling System for Stable Operation and Low 35 dB\*5 Noise Levels
- Backup Input Setting Maintains Image Display for Mission-Critical Applications

\* Measured according to strict international ISO 21118 standards

## Easy System Integration and Installation Flexibility

- Contrast Sync and Shutter Sync Function for Multiple-unit Projection
- Free 360-degree Installation (Vertical and Horizontal)
- DIGITAL LINK Supports Transmission of Uncompressed Full HD Video, Audio, and Control Commands Through a Single CAT 5e or Higher STP Cable for Distances of Up to 150 m (492 ft)\*6
- Quick Start\*7/Quick Off with No Cool-down or Warm-up Required
- Compatible with Art-Net Lighting-control Protocol
- Geometric Adjustment for Curved and Specially Shaped Screens
- Geometry Manager Pro<sup>\*8</sup> and Optional Upgrade Kit (ET-UK20 Series)<sup>\*9</sup>

\*1 PT-R2970 and PT-RW930 features 10,000 lm (Center), PT-RX110 10,400 lm (Center), PT-R2770 and PT-RW730 7,200 lm (Center), PT-R2660 and PT-RW620 6,200 lm (Center) of brightness. \*2 With Dynamic Contrast Mode set to 3. \*3 At 20,000 hours, projector brightness decreases to about half of its original level (Dynamic Contrast Mode: 3, Image Mode: Dynamic). Panasonic recommends cleaning or checkup at point of purchase after 20,000 hours (approximately). Light source may be required in a shorter period. \*4 With Doperating Mode set to 1. \*3 Center 10,000 hours (approximately). Light source may be required in a shorter period. \*4 With Operating Mode set to 1. \*16: 3. 24 hours/day 366 days/eax 10 years = 87.600 hours, Replacement of parts other than the light source may be required in a shorter period. \*4 With Operating Mode set to 1. \*16: 3. 24 hours/day 366 days/eax 10 years = 87.600 hours, Replacement of parts other than the light source may be required in a shorter period. \*4 With Operating Mode set to 1. \*16: 3. 24 hours/day 366 days/eax 10 years = 87.600 hours, Replacement of parts other than the light source may be required in a shorter period. \*4 With Operating Mode set to 1. \*16: 3. 24 hours/day 366 days/eax 10 years = 87.600 hours, Beplacement of parts other than the light source may be required in a shorter period. \*4 With Operating Mode set to 1. \*16: 3. 24 hours/days 366 days/eax 10 years = 87.600 hours, Beplacement of parts other than the light source may be required in a shorter period. \*4 With Operating Mode set to 1. \*16: 3. 24 hours/days 36 days/eax 10 years = 87.600 hours, Beplacement of parts about one second after the power button is pressed. Quick Startup note resets to OFF if the projector has not been switched on for more than 90 minutes to reduce power consumption. \*8 Geometry Manager Pro software is available only with PT-R2970/RZ70/RZ660. \*9 ET-UK20 series is available only with PT-R2970/RZ70/RZ660.

#### Specifications (Tentative)

Model		PT-RZ970/RZ770/RZ660	PT-RW930/RW730/RW620	PT-RX110			
Power supply		AC 100-240 V, 50/60 Hz					
Power consum	nption	PT-RZ970/RW930/RX110: Normal: 1050 W, Eco: 770 W, Long Life 1: 480 IEC62087: 2008 Broadcast Content, Picture Mode: Standard, Dynamic Con Other Models: TBD	W, Long Life 2: 440 W, Long Life 3: 390 W, Shutter: 82 W (Operating tempe trast: 2), 0.3 W with Standby Mode set to ECO, 3 W with Standby Mode set to	rature 25 °C (77 °F), altitude 700 m (2,297 ft), Normal			
DLP™ chip	Panel size	17.0 mm (0.67 in) diagonal (16:10 aspect ratio)	16.5 mm (0.65 in) diagonal (16:10 aspect ratio)	17.8 mm (0.7 in) diagonal (4:3 aspect ratio)			
	Display method	DLP <sup>™</sup> chip × 1, DLP <sup>™</sup> projection system					
Pixels		2,304,000 (1920 x 1200) pixels	1,024,000 (1280 x 800) pixels	786,432 (1024 x 768) pixels			
Lens Light source		Powered zoom (throw ratio 1.7–2.4:1), powered focus F 1.7–1.9, f 25.6–35.7 mm					
Light source		Laser diodes laser Class 1 (Class 3R for US models), light source life*1: 20	0,000 hours (Normal Mode) / 24,000 hours (Eco Mode). At this time the brig	htness will have decreased to approximately half of its original level.			
Screen size (di	liagonal)	1.27-15.24 m (50-600 in), 1.27-5.08 m (50-200 in) with ET-DLE055, 2	2.54-8.89 m (100-350 in) with ET-DLE030, 16:10 aspect ratio (except PT-	RX110), 4:3 aspect ratio (PT-RX110)			
Brightness		PT-R2970: 10,000 lm (Center) / 9,400 lm*1 PT-R2770: 7,200 lm (Center) / 7,000 lm*1 PT-R2660: 6,200 lm (Center) / 6,000 lm*1	PT-RW930: 10,000 Im (Center) / 9,400 Im* <sup>1</sup> PT-RW730: 7,200 Im (Center) / 7,000 Im* <sup>1</sup> PT-RW620: 6,200 Im (Center) / 6,000 Im* <sup>1</sup>	10,400 lm (Center) / 10,000 lm*1			
Center-to-corr	ner uniformity* <sup>1</sup>	90 %					
Contrast*1		10,000:1 (Full On/Full Off, Dynamic Contrast Mode: ON)					
Resolution		1920 x 1200 pixels	1280 x 800 pixels	1024 x 768 pixels			
Scanning	SD-SDI	SMPTE ST 259 compliant, [YCBCR 4:2:2 10-bit] 480i (525i), 576i (625i)	-				
frequency	HD-SDI	SMPTE ST 292 compliant, [YPBPR 4:2:2 10-bit] 720 (750)/60p, 720 (750)/50p, 1080 (1125)/60i, 1080 (1125)/50i, 1080 (1125)/25p, 1080 (1125)/24p, 1080 (1125)/24sF, 1080 (1125)/30p	-	_			
	3G-SDI	SMPTE ST 424 compliant, [RGB 4:4:4 12-bit/10-bit] 1080(1125)/60i, 1080(1125)/50i, 1080(1125)/25p, 1080(1125)/24p, 1080(1125)/24sF, 1080(1125)/30p, [VPBPR 4:2:2 10-bit] 1080(1125)/60p, 1080(1125)/50p	-	-			
	HDMI/DVI-D/DIGITAL LINK	480i (525i)* <sup>2</sup> , 576i (625i)* <sup>2</sup> , 480p (525p), 576p (625p), 720 (750)/60p, 7 1080 (1125)/50p, VGA (640 x 480)–WUXGA* <sup>3</sup> (1920 x 1200) (compatible	720 (750)/50p, 1080 (1125)/60i, 1080 (1125)/50i, 1080 (1125)/25p, 1080 a with non-interlaced signals only), dot clock: 25–162 MHz	0 (1125)/24p, 1080 (1125)/24sF, 1080 (1125)/30p, 1080 (1125)/60p			
	RGB	fH: 15–100 kHz, fV: 24–120 Hz, dot clock: 20–162 MHz					
Video/YC Optical Vertical (from center of screen)		Int. 13-100 M/L; Nr. 24-120 Hz, 001 C000z 20-102 MHZ HH 15, 75 KHz, Nr. 60 Hz (480) (525)], Ht: 15.63 KHz, Nr. 50 Hz [576) (625)], Ht: 45.00 KHz, fN: 60 Hz (720 (750)/60)], Ht: 33.75 KHz, Nr. 60 Hz (125)/60], Ht: 28.13 KHz, Nr. 50 Hz [1080 (1125)/50], Ht: 27.00 KHz, Nr. 44 Hz (1080 (1125)/40], Ht: 33.75 KHz, Nr. 50 Hz [1080 (1125)/40], Ht: 33.57 KHz, Nr. 50 Hz [1080 (1125)/40], Ht: 35.57 KHz, Nr. 50 Hz [30 Hz, Nr. 48 Hz [1080 (1125)/24], Ht: 67.50 KHz, Nr. 60 Hz [1080 (1125)/40], Ht: 35.57 KHz, Nr. 50 Hz [30 Hz, Nr. 48 Hz [1080 (1125)/40], Ht: 35.57 KHz, Nr. 50 Hz [30 Hz, Nr. 48 Hz [1080 (1125)/40], Ht: 35.57 KHz, Nr. 50 Hz [30 Hz, Nr. 48 Hz [1080 (1125)/40], Ht: 35.57 KHz, Nr. 50 Hz [30 Hz, Nr. 48 Hz [1080 (1125)/40], Ht: 35.57 KHz, Nr. 50 Hz [30 Hz, Nr. 48 Hz [1080 (1125)/40], Ht: 35.57 KHz, Nr. 50 Hz [30 Hz, Nr. 48 Hz [1080 (1125)/40], Ht: 35.57 KHz, Nr. 48 Hz					
		fH: 15.75 kHz, fV: 60 Hz (NTSC/NTSC4.43/PAL-M/PAL60), fH: 15.63 kHz	, fV: 50 Hz (PAL/PAL-N/SECAM)				
	Vertical (from center of screen)	+50 %, -16 % (powered)	+60 %, -16 % (powered)	+50 %, -13 % (+45 %, -13 % with ET-DLE085) (powered)			
	Horizontal (from center of screen)	+50 %, -16 % (powered) +30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)	+60 %, -16 % (powered)	+50 %, -13 % (+45 %, -13 % with ET-DLE085) (powered)			
	Horizontal (from center of screen)	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),					
axis shift*4 Keystone corre Keystone corre	Horizontal (from center of screen) ection range	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)		Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030), Vertical: ±45 ° (±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), Up to a total of ±55 ° during simultaneous horizontal and vertical correction. Celling/floor, front/rear, free 360-degree installation		Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
xis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030), Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), Up to a total of ±55 ° during simultaneous horizontal and vertical correction.		Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
xis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN HDMI IN	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030), Vertical: ±45 ° (±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), Up to a total of ±55 ° during simultaneous horizontal and vertical correction. Celling/floor, front/rear, free 360-degree installation		Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN HDMI IN DVI-D IN	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030), Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), Up to a total of ±55 ° during simultaneous horizontal and vertical correction. Ceiling/floor, front/rear, free 360-degree installation BNC x 1: 3G/HD/SD-SDI input HDMI 19-pin x 1 (Deep Color, compatible with HDCP) DVI-D 24-pin x 1 (DVI 1.0 compliant, compatible with HDCP, compatible	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN HDMI IN	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030), Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE065), Up to a total of ±55 ° during simultaneous horizontal and vertical correction. Ceiling/floor, front/rear, free 360-degree installation BNC × 1: 3G/HD/SD-SDI input HDMI 19-pin × 1 (Deep Color, compatible with HDCP)	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range upgrade Kit ET-UK20 SDI IN HOMI IN DVI-D IN RGB 1 IN RGB 2 IN	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030), Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), Up to a total of ±55 ° during simultaneous horizontal and vertical correction. Ceiling/floor, front/rear, free 360-degree installation BNC x 1: 3G/HD/SD-SDI input HDMI 19-pin x 1 (Deep Color, compatible with HDCP) DVI-D 24-pin x 1 (DVI 1.0 compliant, compatible with HDCP, compatible	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN HDMI IN DVI-D IN RGB 1 IN	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030), Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horzontal: ±40 ° (±15 ° with ET-DLE085/DLE055), Up to a total of ±55 ° during simultaneous horizontal and vertical correction. Ceiling/floor, front/rear, free 360-degree installation BNC × 1: 3G/HD/SD-SDI input HDMI 19-pin × 1 (Deep Color, compatible with HDCP) DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP, compatible 1 RGB × 1 (BNC × 5): RGB/YPB/PX/C8CR/YC/VIDE0	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range upgrade Kit ET-UK20 SDI IN HOMI IN DVI-D IN RGB 1 IN RGB 2 IN	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)         Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),         Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055),         Up to a total of ±55 ° during simultaneous horizontal and vertical correction.         Ceiling/floor, front/rear, free 360-degree installation         BNC × 1: 3G/HDSD-SDI input         HDMI 19-pin × 1 (Deep Color, compatible with HDCP)         DVI-D 24-pin × 1 (DVI 1.0 complaint, compatible with HDCP, compatible vith R6B × 1 (BNC × 5): R6B/YPaPa/YCaCa/YC/VIDE0         D-sub HD 15-pin (female) × 1: R6B/YPaPa/YCaCR	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range upgrade Kit ET-UK20 SDI IN HDMI IN DVI-D IN RGB 1 IN RGB 2 IN SERIAL IN SERIAL IN SERIAL OUT REMOTE 1 IN	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)         Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),         Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055),         Up to a total of ±55 ° during simultaneous horizontal and vertical correction.         Ceiling/floor, front/rear, free 360-degree installation         BNC × 1: 3G/HD/SD-SDI input         HDMI 19-pin × 1 (Deep Color, compatible with HDCP)         DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP, compatible v         DSB × 1 (BNC ×5): RGB/YPBPA/YCaCR/VCVIDE0         D-sub HD 15-pin (female) × 1: RGB/YPBPA/YCaCR         D-sub 9-pin (female) × 1 for external control (RS-232C compliant)	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN HOMI IN DVI-D IN RGB 2 IN SERIAL IN SERIAL OUT	+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered) Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030), Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055, hortzontal: ±40 ° (±15 ° with ET-DLE085/DLE055), Up to a total of ±55 ° during simultaneous horizontal and vertical correction. Ceiling/floor, front/rear, free 360-degree installation BNC × 1: 3G/HD/SD-SDI input HDMI 19-pin × 1 (Deep Color, compatible with HDCP) DVI-D 24-pin × 1 (DU 1.0 compliant, compatible with HDCP) DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP) O-sub HD 15-pin (female) × 1: RGB/YE9Pa/YCaCR D-sub HD 15-pin (female) × 1 for external control (RS-232C compliant) D-sub 9-pin (male) × 1 for ink control	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range upgrade Kit ET-UK20 SDI IN HDMI IN DVI-D IN RGB 1 IN RGB 2 IN SERIAL IN SERIAL IN SERIAL OUT REMOTE 1 IN	<ul> <li>+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)</li> <li>Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),</li> <li>Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055),</li> <li>Up to a total of ±55 ° during simultaneous horizontal and vertical correction.</li> <li>Ceiling/floor, from/rear, free 360-degree installation</li> <li>BNC × 1: 3G/HD/SD-SD input</li> <li>HDMI 19-pin × 1 (Deep Color, compatible with HDCP)</li> <li>DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP, compatible r</li> <li>RGB × 1 (BNC × 5): RGB/YPBPX/YCG/YC/VIDE0</li> <li>D-sub HD 15-pin (female) × 1: RGB/YPBPX/YCGCR</li> <li>D-sub 9-pin (male) × 1 for ink control</li> <li>M3 × 1 for wired remote control</li> </ul>	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation	Horizontal (from center of screen) ection range ection range upgrade Kit ET-UK20 SDI IN HDMI IN DV-D IN RGB 1 IN RGB 2 IN SERIAL IN SERIAL IN SERIAL OUT REMOTE 1 IN REMOTE 1 OUT	<ul> <li>+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)</li> <li>Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),</li> <li>Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055),</li> <li>Up to a total of ±55 ° during simultaneous horizontal and vertical correction.</li> <li>Ceiling/floor, front/rear, free 360-degree installation</li> <li>BNC x1: 3G/HD/SD-SD input</li> <li>HDMI 19-pin x 1 (Deep Color, compatible with HDCP)</li> <li>DVI-D 24-pin x 1 (DVI 1.0 compliant, compatible with HDCP, compatible to the 15-pin (female) x 1: RGB/YPB/RYCaCR</li> <li>D-sub 4D 15-pin (female) x 1: RGB/YPB/RYCaCR</li> <li>D-sub 9-pin (male) x 1 for ink control</li> <li>M3 x 1 for wired remote control</li> <li>M3 x 1 for kink control (for wired remote control)</li> </ul>	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
xxis shift*4 Keystone corre Keystone corre with optional U Installation Terminals	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN HDMI IN DVI-D IN RGB 1 IN RGB 2 IN SERIAL IN SERIAL OUT REMOTE 1 IN REMOTE 1 OUT REMOTE 1 IN REMOTE 2 IN LAN/DIGITAL LINK	<ul> <li>+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)</li> <li>Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),</li> <li>Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), lup to a total of ±55 ° during simultaneous horizontal and vertical correction.</li> <li>Celling/floor, front/rear, free 360-degree installation</li> <li>BNC x 1: 3G/HD/SD-SD input</li> <li>HDMI 19-pin x 1 (Deep Color, compatible with HDCP)</li> <li>DVI-D 24-pin x 1 (DVI 1.0 compliant, compatible with HDCP, compatible</li> <li>RGB x 1 (BNC x 5): RGB/YPBP/YCsCR/YC/IDE0</li> <li>D-sub 9-pin (menale) x 1 for external control (RS-232C compliant)</li> <li>D-sub 9-pin (menale) x 1 for link control</li> <li>M3 x 1 for wired remote control</li> <li>M3 x 1 for link control (for wired remote control)</li> <li>D-sub 9-pin (menale) x 1 for external control (parallel)</li> </ul>	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation Terminals Cabinet materi	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN HOMI IN DVI-D IN RGB 2 IN SERIAL IN SERIAL OUT REMOTE 1 OUT REMOTE 2 IN LAN/DIGITAL LINK ials	<ul> <li>+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)</li> <li>Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),</li> <li>Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), up to a total of ±55 ° during simultaneous horizontal and vertical correction.</li> <li>Ceiling/floor, front/rear, free 360-degree installation</li> <li>BNC × 1: 3G/HDSD-SDI input</li> <li>HDMI 19-pin × 1 (Deep Color, compatible with HDCP)</li> <li>DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP, compatible</li> <li>RGB × 1 (BNC × 5): RGB/YPaPa/YCaCR/YCA/IDE0</li> <li>D-sub HD 15-pin (female) × 1: RGB/YPaPa/YCaCR</li> <li>D-sub 9-pin (male) × 1 for link control</li> <li>M3 × 1 for link control</li> <li>M3 × 1 for link control</li> <li>M3 × 1 for network, DIGITAL LINK connection, 100Base-TX, compatible</li> </ul>	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation Terminals Cabinet materi Dimensions (W	Horizontal (from center of screen) ection range ection range Upgrade Kit ET-UK20 SDI IN HOMI IN DVI-D IN RGB 2 IN SERIAL IN SERIAL OUT REMOTE 1 OUT REMOTE 2 IN LAN/DIGITAL LINK ials	<ul> <li>+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)</li> <li>Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),</li> <li>Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), up to a total of ±55 ° during simultaneous horizontal and vertical correction.</li> <li>Ceiling/floor, front/rear, free 360-degree installation</li> <li>BNC x1: 3G/HD/SD-SD input</li> <li>HDMI 19-pin x 1 (Deep Color, compatible with HDCP)</li> <li>DVI-D 24-pin x 1 (DVI 1.0 compliant, compatible with HDCP, compatible no. 4 (BR/YBPR/YCaCR)</li> <li>D-sub 9-pin (female) x 1 for external control (RS-232C compliant)</li> <li>D-sub 9-pin (male) x 1 for ink control</li> <li>M3 x 1 for wired remote control</li> <li>M3 x 1 for ink control (for wired remote control)</li> <li>D-sub 9-pin (female) x 1 for external control (parallel)</li> <li>RJ-45 x 1 for network, DIGITAL LINK connection, 100Base-TX, compatible</li> <li>Molded plastic</li> <li>498 x 200<sup>-5</sup> x 581 mm (19 <sup>19</sup>/<sub>30</sub><sup>-</sup> x 7 <sup>7</sup>/<sub>8</sub><sup>-5</sup> x 22 <sup>7</sup>/<sub>8</sub><sup>-5</sup>) (with supplied lens)</li> </ul>	horizontal: ±15 ° (Cannot be operated with ET-DLE030)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE0			
axis shift*4 Keystone corre Keystone corre with optional U Installation Terminals Cabinet materi Dimensions (W Weight*6	Horizontal (from center of screen)           ection range           ection range           bull grade Kit ET-UK20           SDI IN           HDMI IN           DVI-D IN           RGB 2 IN           SERIAL IN           SERIAL OUT           REMOTE 1 IN           REMOTE 1 OUT           REMOTE 2 IN           LAN/DIGITAL LINK           tals           W × H × D)	<ul> <li>+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)</li> <li>Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE085/DLE055), the total of ±55 ° during simultaneous horizontal and vertical correction.</li> <li>Ceiling/floor, front/rear, free 360-degree installation</li> <li>BNC × 1: 3G/HD/SD-SDI input</li> <li>HDMI 19-pin × 1 (Deep Color, compatible with HDCP)</li> <li>DVI-D 24-pin × 1 (DVI 1.0 complaint, compatible with HDCP)</li> <li>DVI-D 24-pin × 1 (DVI 1.0 complaint, compatible with HDCP)</li> <li>D-sub HD 15-pin (female) × 1: RGB/YP8/Pa/YCaCa/YC/VIDE0</li> <li>D-sub D 15-pin (female) × 1: for external control (RS-232C compliant)</li> <li>D-sub 9-pin (male) × 1 for external control (RS-232C compliant)</li> <li>D-sub 9-pin (male) × 1 for external control (parallel)</li> <li>H3 × 1 for inic control</li> <li>M3 × 1 for inic control</li> <li>M3 × 1 for network, DIGITAL LINK connection, 100Base-TX, compatible</li> <li>Molded plastic</li> <li>498 × 200<sup>-5</sup> x 581 mm (19 <sup>19</sup>/<sub>20</sub><sup>2</sup> x 7 7/<sub>8</sub><sup>-5</sup> x 22 7/<sub>8</sub>) (with supplied lens)</li> <li>9 +R-R2970/RW930/RX110/RZ770/RW730: Aprox. 23.2 kg (51.1 bs.) (with</li> </ul>	horizontal: ±15 ° (Cannot be operated with ET-DLE030)  horizontal: ±15 ° (Cannot be operated with ET-DLE030)  with single link only)  i with single link only)  i with Art-Net, PJLink™  i with art-Net, PJLink™ i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art-Net, PJLink™  i with art	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE			
axis shift*4 Keystone corre Keystone corre with optional U Installation Terminals Cabinet materi Dimensions (W Weight*6 Operation nois	Horizontal (from center of screen)           ection range           ection range           bull grade Kit ET-UK20           SDI IN           HDMI IN           DVI-D IN           RGB 1 IN           RGB 2 IN           SERIAL OUT           REMOTE 1 IN           REMOTE 1 OUT           REMOTE 1 N           Ials           V × H × D)	<ul> <li>+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)</li> <li>Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE080/).</li> <li>Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), lup to a total of ±55 ° during simultaneous horizontal and vertical correction.</li> <li>Ceiling/floor, front/rear, free 360-degree installation</li> <li>BNC × 1: 36/HD/SD-SDI input</li> <li>HDMI 19-pin × 1 (Deep Color, compatible with HDCP)</li> <li>DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP)</li> <li>DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP)</li> <li>DVI-D 24-pin (female) × 1 for external control (RS-232C compliant)</li> <li>D-sub 9-pin (female) × 1 for external control (RS-232C compliant)</li> <li>D-sub 9-pin (male) × 1 for external control (parallel)</li> <li>R3 × 1 for ink control (for wired remote control)</li> <li>M3 × 1 for ink control (for wired remote control)</li> <li>D-sub 9-pin (female) × 1 for external control (parallel)</li> <li>RJ-45 × 1 for network, DIGITAL LINK connection, 100Base-TX, compatible lens 498 × 200°5 × 581 mm (19 <sup>19</sup>/<sub>22</sub> × 7.7/6<sup>-15</sup> × 21.7/6<sup>-1</sup>) (with supplied lens), Approx</li> </ul>	horizontal: ±15 ° (Cannot be operated with ET-DLE030)  horizontal: ±15 ° (Cannot be operated with ET-DLE030)  with single link only)  e with Art-Net, PJLink™  e with Art-Net, PJLink™  f)  h supplied lens), Approx. 22.4 kg (49.4 lbs.) (without lens) 2.1.9 kg (48.3 lbs.) (without lens) PT-RZ660/RW620. 35 dB (tentative)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE			
axis shift*4 Keystone corre Keystone corre	Horizontal (from center of screen) ection range ection range upgrade Kit ET-UK20 SDI IN HDMI IN DV-D IN RGB 1 IN RGB 2 IN SERIAL IN SERIAL IN SERIAL IN SERIAL IN SERIAL OUT REMOTE 1 OUT REMOTE 1 OUT REMOTE 2 IN LAN/DIGITAL LINK itals V × H × D)	<ul> <li>+30 %, -10 % (+28 %, -10 % with ET-DLE085) (powered)</li> <li>Vertical: ±40 ° (±22 ° with ET-DLE085/DLE055, +5 ° with ET-DLE030),</li> <li>Vertical: ±45 °(±40 ° with ET-DLE150/DLE250/supplied lens, ±22 ° with ET-DLE085/DLE055), horizontal: ±40 ° (±15 ° with ET-DLE085/DLE055), up to a total of ±55 ° during simultaneous horizontal and vertical correction.</li> <li>Ceiling/Horr, fromt/rear, free 360-degree installation</li> <li>BNC ×1: 3G/HD/SD-SD input</li> <li>HDMI 19-pin × 1 (Deep Color, compatible with HDCP)</li> <li>DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP)</li> <li>DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP, compatible n</li> <li>RGB ×1 (BNC × 5): RGB/YPBP/YCBC/VC/VDE0</li> <li>D-sub H 15-pin (female) × 1 for external control (RS-232C compliant)</li> <li>D-sub 9-pin (male) × 1 for ink control</li> <li>M3 × 1 for wired remote control</li> <li>M3 × 1 for network, DIGITAL LINK connection, 100Base-TX, compatible indel patsic</li> <li>498 × 200°<sup>5</sup> × 538 mm (19 <sup>19</sup>/<sub>32</sub> × 7 7/g<sup>-15</sup> × 21 <sup>7</sup>/g<sup>-15</sup>) (with supplied lens, 498 × 200°<sup>5</sup> × 538 mm (19 <sup>19</sup>/<sub>32</sub> × 7 7/g<sup>-15</sup> × 21 <sup>7</sup>/g<sup>-15</sup>), X2 (g (51.1 bits), (with FURS), Aprica</li> <li>PT-R260/RW620: Approx. 227 /kg (50.0 bits), (with supplied lens), Approx</li> </ul>	horizontal: ±15 ° (Cannot be operated with ET-DLE030)  horizontal: ±15 ° (Cannot be operated with ET-DLE030)  with single link only)  e with Art-Net, PJLink™  e with Art-Net, PJLink™  s)  h supplied lens), Approx. 22.4 kg (49.4 lbs.) (without lens) 2.19 kg (48.3 lbs.) (without lens) PT-R2660/RW620: 35 dB (tentative) 80 % (no condensation)	Vertical: ±40 ° (±30 ° with ET-DLE085/DLE055, +5 ° with ET-DLE			

\*1 Measurement, measuring conditions, and method of notation all comply with ISO 21118 international standards. \*2 Only compatible with dot clock frequency of 27 MHz (pixel repetition signal). \*3 WUXGA resolution is supported only when the signals are compliant with VESA CVT-RB (Coordinated Video Timing-Reduced Blanking). \*4 Optical axis shift is not supported on the ET-DLE055, and the optical axis is fixed with the ET-DLE030. \*5 With legs at shortest position. \*6 Average value. May differ depending on the actual unit. \*7 When used in locations from 0 m to 4,200 m (0 ft to 13,780 ft) above sea level in Normal mode, and from 0 m to 2,700 m (0 ft to 8,858 ft) above sea level in other modes. If the ambient temperature exceeds 35 °C (95 °F) when used in locations from 0 m to 2,700 m (0 ft to 8,858 ft) above sea level in other modes. if it exceeds 25 °C (77 °F) when used in locations from 0 m to 4,200 m (0 ft to 13,780 ft) above sea level, the light output may be reduced to protect the projector. \*8 Geometry Manager Pro software is available only with PT-R2970/RZ760. \*9 ET-UK20 Series is available only with PT-RZ970/RZ770/RZ660.

#### **Optional Accessories**

Fixed-Focus Lens

ET-DLE030

Zoom Lens ET-DLE085 / ET-DLE150 / ET-DLE250 / ET-DLE350 / ET-DLE450 / ET-DLE055



Weights and dimensions shown are approximate. Specifications and appearance are subject to change without notice. Product availability differs depending on region and country. This product may be subject to export control regulations. DLP, DLP logo and DLP Medallion logo are trademarks or registered trademarks of Texas Instruments. HOMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HOMI Licensing LLC in the United States and other countries. The PJLink trademark is an application trademark in Japan, the United States, and other countries. The PJLink trademark s. All other trademarks are the property of their respective trademark owners. © 2016 Panasonic Corporation. All rights reserved.

Geometry Manager Pro

Early Warning Software

ET-SWA100 Series

ET-UK20 Series

Software Upgrade Kit (PT-RZ970/RZ770/RZ660 Only)



DIGITAL LINK Switcher

Digital Interface Box

ET-YFB200G

ET-YFB100G

Projector Mount Bracket ET-PKD130B For more information about Panasonic projectors, please visit:

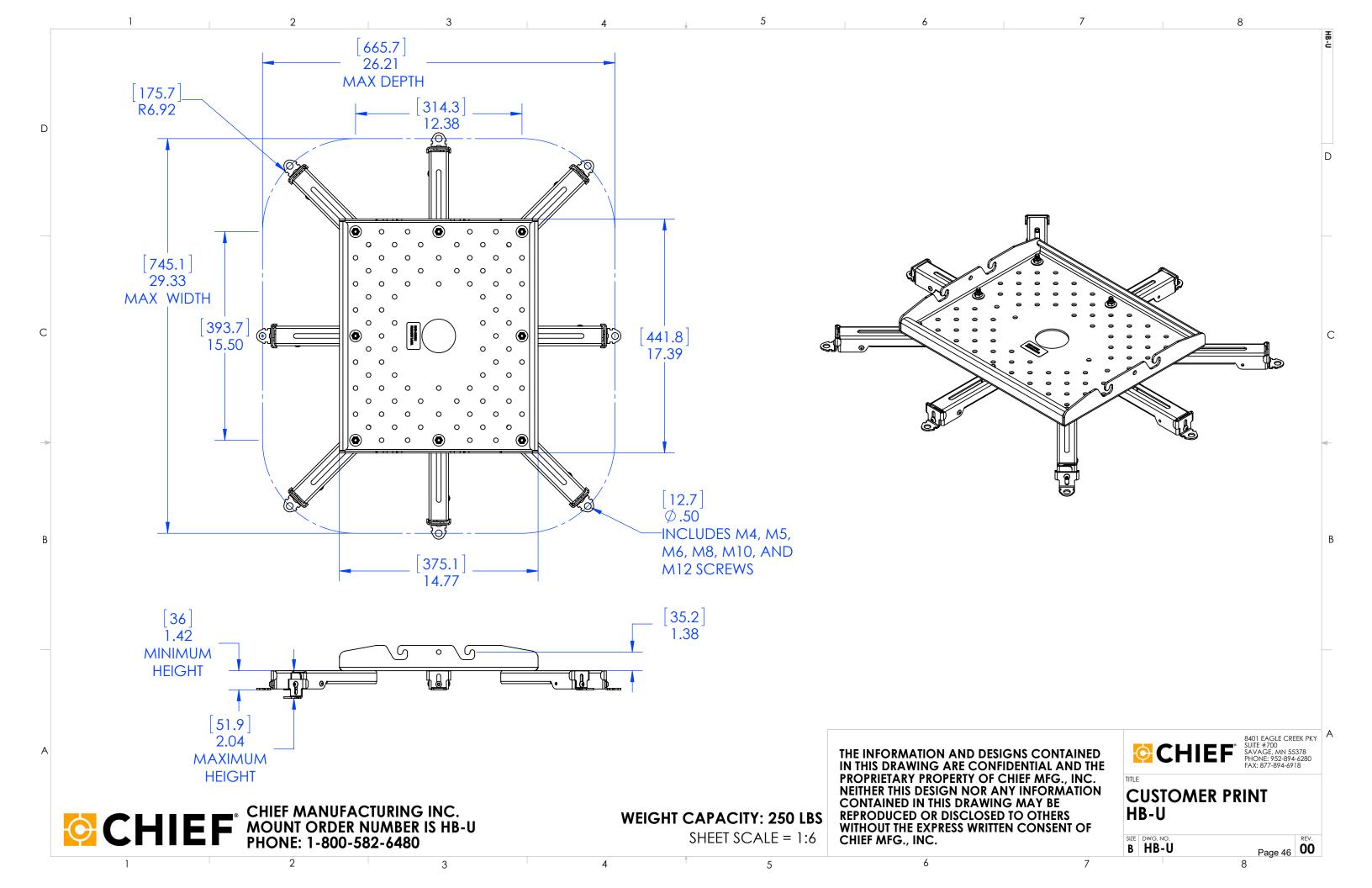
Projector Global Website – panasonic.net/avc/projector Facebook – www.facebook.com/panasonicprojector

ET-PKD130H (6-axis, for high ceiling) ET-PKD120H (for high ceiling)

ET-PKD120S (for low ceiling)

Ceiling Mount Bracket

All information included here is valid as of June 2016. PT-RZ970RZ770RZ660PRE1 Printed in Japan.





Sheet 1 of 4

### Office of Statewide Health Planning and Development

ANCHORAGE PRE-APPROVAL

## OPA-2103-07

Equipment Manufacturer: Chief Manufacturing Inc.

Equipment Type: PCS Single. PDC Dual Ceiling Mount (Not to be used in patient rooms)

#### GENERAL NOTES

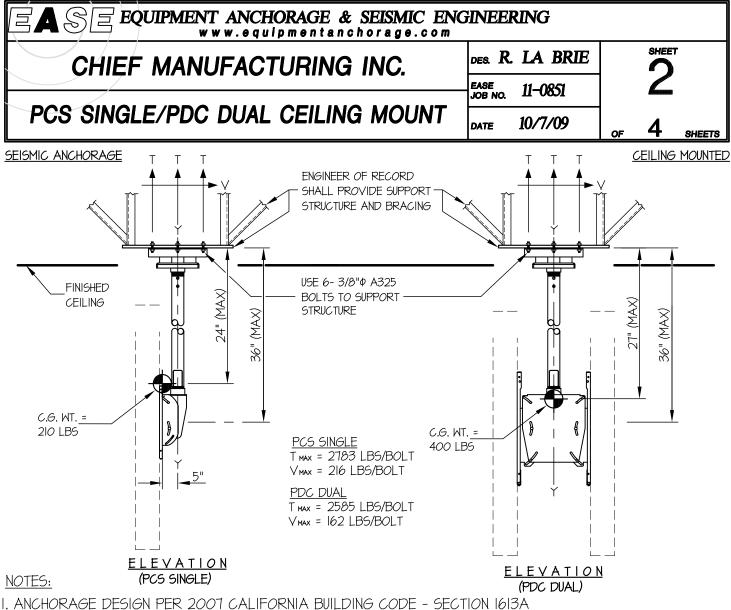
- 1. FORCES PER ASCE 7-05 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3, WHERE S  $_{DS}$  = 1.93,  $a_p$  = 2.5,  $I_p$  = 1.5 &  $R_p$  = 2.5
- 2. THIS PRE-APPROVAL CONFORMS TO THE 2007 CALIFORNIA BUILDING CODE.
- 3. THE DETAILS IN THIS PRE-APPROVAL MAY BE USED AT ANY LOCATION IN THE STATE OF CALIFORNIA. THE ELEVATED FLOOR DETAILS MAY BE USED AT ANY HEIGHT IN A BUILDING.
- 4. ALL ANCHOR FORCES SHOWN ON THE DRAWINGS ARE WORKING LOADS (AS OPPOSED TO STRENGTH LEVEL LOADS) AND MAY BE USED FOR ALLOWABLE STRESS DESIGN.
- 5. PER CAN 2-1708A.5, THIS UNIT DOES NOT REQUIRE "SPECIAL SEISMIC CERTIFICATION".

#### RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD

- 6. DESIGN BACKING BARS, STUDS, ETC. WHICH THE UNITS ARE ATTACHED TO AS NOTED ON THE DRAWINGS. THE SEOR SHALL ALSO VERIFY THE ADEQUACY OF THE STRUCTURES (SUCH AS WALLS AND FLOORS) WHICH SUPPORT THE UNITS FOR THE LOADS IMPOSED ON THEM BY THE UNITS AS WELL AS ALL OTHER LOADS.
- 7. PROVIDE ANY SUPPORTING STRUCTURE REQUIRED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- 8. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2007 CBC AND WITH THE DETAILS SHOWN IN THIS PRE-APPROVAL. VERIFY THAT THE ACTUAL EQUIPMENT'S WEIGHT, CG LOCATION, ANCHOR LOCATIONS, ANCHOR DETAILS AND THE MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.







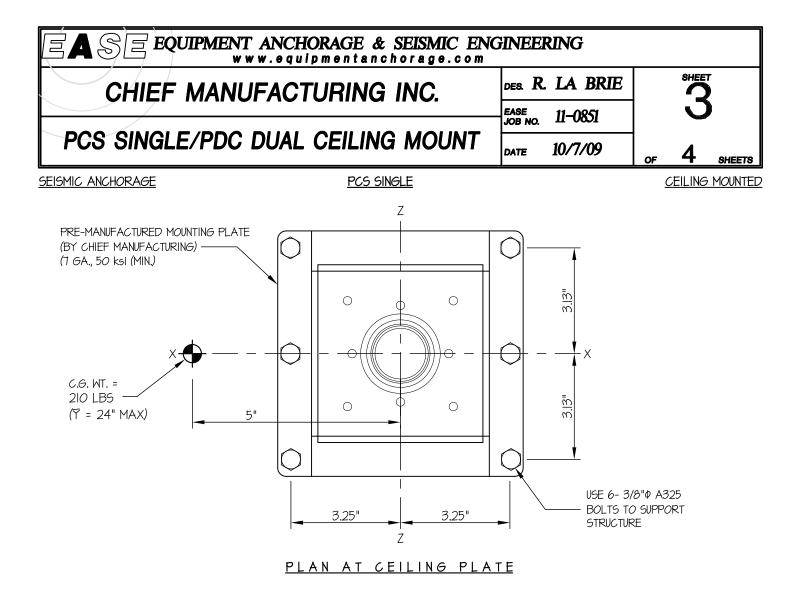
AND ASCE 7-05 SECTIONS 12 AND 13. ALLOWABLE STRESS DESIGN IS USED.

HORIZONTAL FORCE (E<sub>h</sub>) = 2.43  $W_p(S_{DS}$  = 1.93, I<sub>p</sub> = 1.5, a<sub>p</sub> = 2.5, R<sub>p</sub> = 2.5) VERTICAL FORCE (E<sub>v</sub>) = 0.27  $W_p$ 

- 2. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- 3. ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN, IN ADDITION TO ALL OTHER LOADS.
- 4. THIS PRE-A FOVAL IS NOT VALID FOR INSTALLATIONS IN PATIENT ROOMS
- 5. SEE GENERAL OT 5. SHEET I

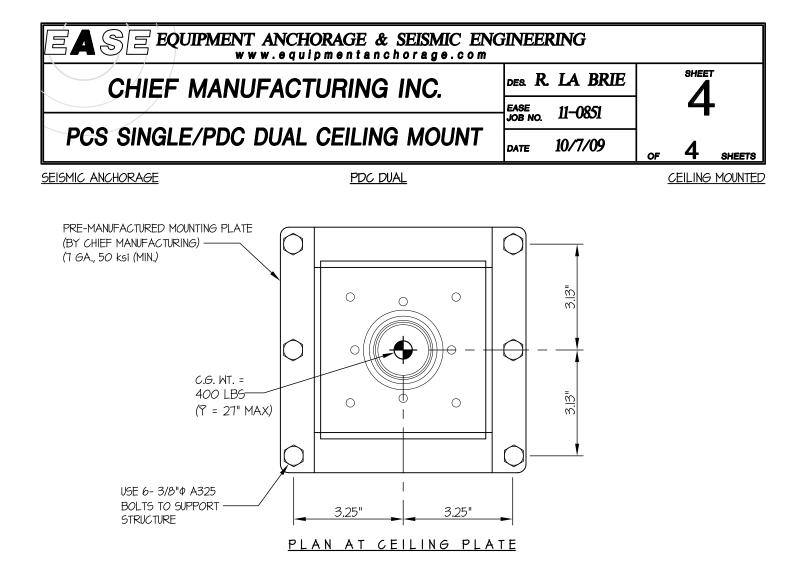






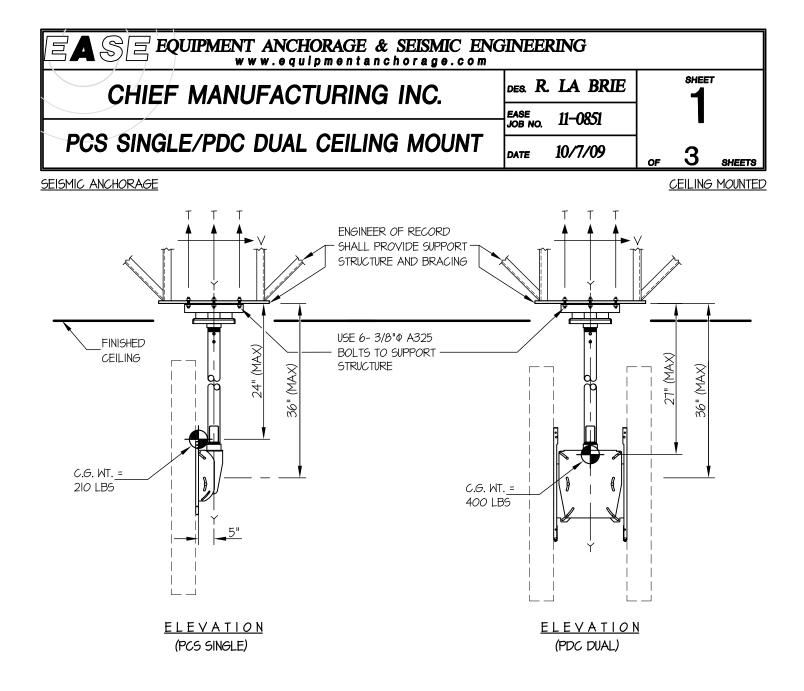












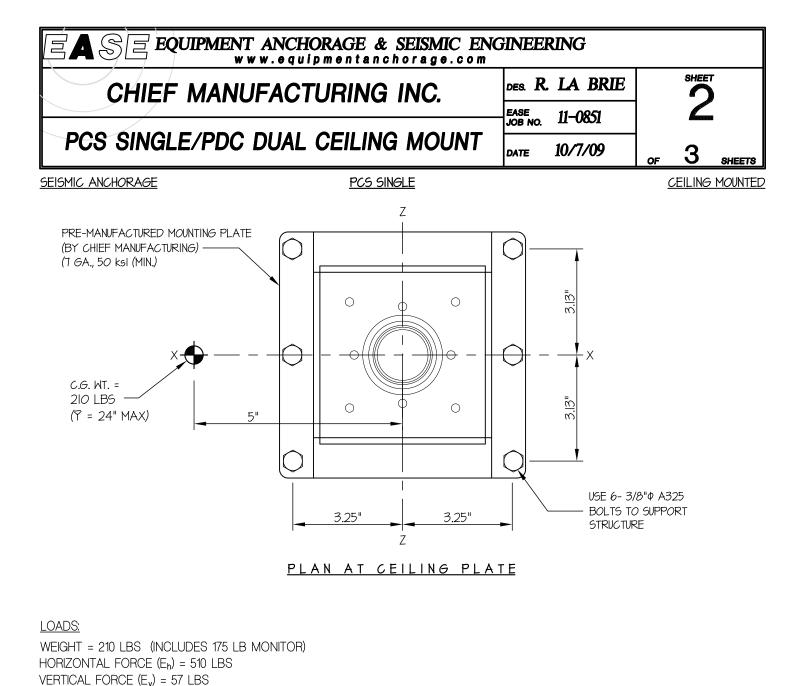
#### NOTES:

1. FORCES ARE DETERMINED PER 2007 CALIFORNIA BUILDING CODE SECTION 1613A AND ASCE 7-05 SECTIONS 12 AND 13. ALLOWABLE STRESS DESIGN IS USED.

HORIZONTAL FORCE (E\_h) = 2.43 Wp (S  $_{DS}$  = 1.93, a  $_p$  = 2.5, lp = 1.5, Rp = 2.5) VERTICAL FORCE (E\_v) = 0.27 Wp

- 2. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- 3. ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.



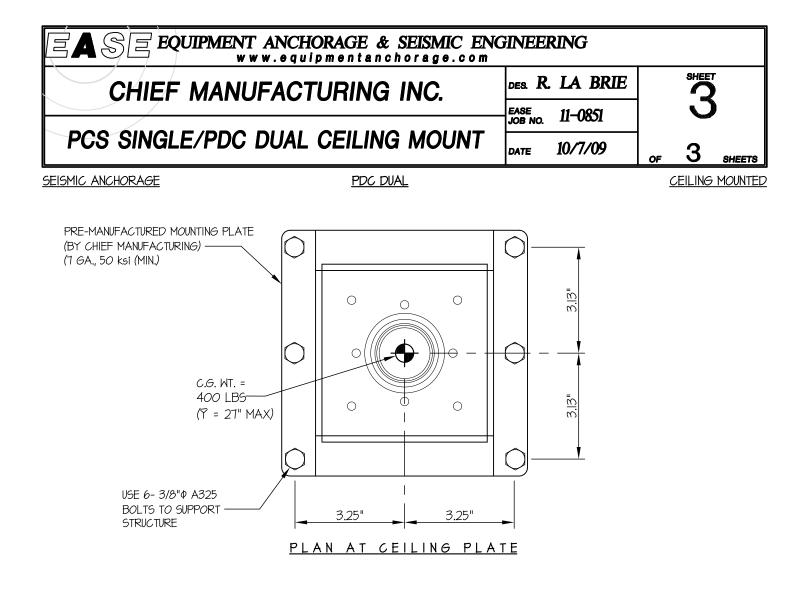


BOLT FORCES:

TENSION (T)

 $T_{\text{MAXIMUM}} = \left[ \frac{510 \# (24'')}{3 \text{ BOLTS}(6.5'')} \times (0.3) \right] + \frac{510 \# (24'')(8.25'')}{(6.26'')(6.5'')} + \frac{(210\# + 57\#)(8.25'')}{3 \text{ BOLTS}(6.5'')} = 2783 \text{ LBS/BOLT} (MAX)$   $(\text{HORIZ - SIDE TO SIDE}) \qquad (\text{HORIZ - FRONT TO BACK}) \qquad (\text{WEIGHT + E_v})$ 

 $V_{MAXIMUM} = \frac{510\#(8.25")}{3 \text{ BOLTS}(6.5")} = 216 \text{ LBS/BOLT (MAX)}$ 



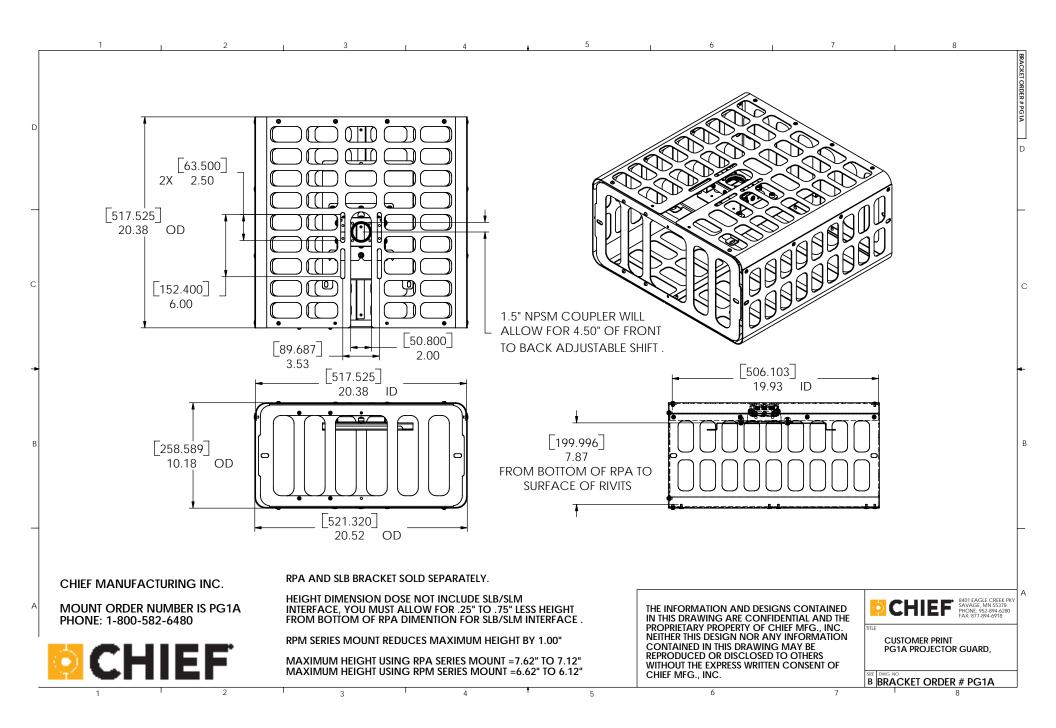
#### LOADS:

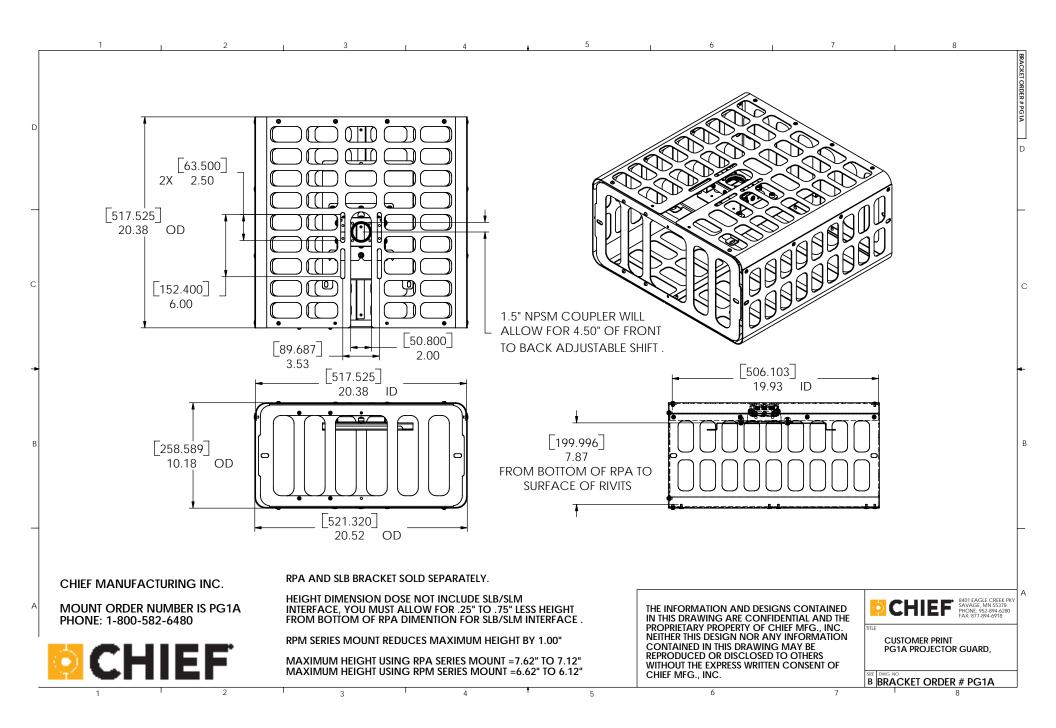
WEIGHT = 400 LBS (INCLUDES 350 LB MONITOR) HORIZONTAL FORCE ( $E_h$ ) = 972 LBS VERTICAL FORCE ( $E_v$ ) = 108 LBS BOLT FORCES:

TENSION (T)

$$T_{\text{MAXIMUM}} = \left[\frac{972\#(27'')}{3 \text{ BOLTS}(6.5'')} \times (0.3)\right] + \frac{972\#(27'')}{2 \text{ BOLTS}(6.26'')} + \frac{400\# + 108\#}{6 \text{ BOLTS}} = 2585 \text{ LBS/BOLT} (\text{MAX})$$
(HORIZ - SIDE TO SIDE) (HORIZ - FRONT TO BACK) (WEIGHT + E<sub>v</sub>)

$$V_{\text{MAXIMUM}} = \frac{972\#}{6 \text{ BOLTS}} = 162 \text{ LBS/BOLT (MAX)}$$







Following a tradition of business in New Mexico since 1935

OF NEW MEXICO

#### Section 116623 Article 2.8- GYMNASIUM EQUIPMENT by Fair Play

#### MAIN GYMNASIUM (403), BASKETBALL SCOREBOARD One (1) Model #BB-3620-4 Scoreboard #1 with Electronic Stat Panels

- LED Digits and Indicators
- 120 V Singe Phase Power
- 12"H Clock and Score Digits

#### - One (1) Model PDI 1518

#### One (1) Model #BB-3620-4 Scoreboard #2

- LED Digits and Indicators
- 120 V Singe Phase Power
- 12"H Clock and Score Digits
- One (1) Model PDI -0918
- One (1) Model PL-1641

#### Two (2) Model MP-73-0213 Wireless Controllers

- Multiple Scoreboard and Shot Timer Operation
- 1,500 foot outdoor and 500 foot indoor range
- Memory Circuit which Retains Information if Power is Lost
- Wireless Receivers

#### One (1) Model SP-70-0113 Controller

#### One (1) Model ST-1401-4 Shot Clock (Set of Two)

- 17"H x 20"L x 6'D
- Backstop or Wall Mounted
- Universal ST-1400 Control

#### Three (3) Model C1225 Carrying Cases for MP-72-0213/ SP-70-0113 Controller

#### Continued on Next Page

BB 3620 Scoreboard #1 Color: (Please Select)
BB 3620 Scoreboard #1 Trim Tape Color: (Please Select)
BB 3620 Scoreboard #2 Color: (Please Select)
BB 3620 Scoreboard #2 Trim Tape Color: (Please Select)
Shot Timer Clock Color: (Please Select)
Shot Timer Clock Trim Tape Color: (Please Select)
Stat Display PL-1641 Color: Black ONLY
Install Date: (Please Select)



#### FAIR-PLAY BASKETBALL SCOREBOARD Scoreboard #1



#### Model: **BB-3620-4** with Stat Panels DIMENSIONS:

#### STANDARD EQUIPMENT:

- Energy efficient LED designs
- Three distinct LED digit colors to visually organize critical game information
- Heavy-duty, vibrating horn (103 dB)
- Free Help Desk Support
- Free project design renderings
- Factory authorized national and local sales, service and installation
- Choose from 10 durable paint colors
- Choose from 15 popular vinyl trim colors
- Over 75 years of sports scoring experience
- Sport-specific control console inserts
- HB-800 data connection kit
- Choice of Fair-Play's scorekeeper approved control systems\*
- · Changeable scoreboard game captions\*
- 5-year limited warranty
- ETL/CETL listed to UL standard
- Convenient built-in service points for easyaccess
- Durable, corrosion resistant aluminum construction
- Complete, safe and durable display mounting system

#### **OPTIONAL EQUIPMENT:**

- Custom paint and vinyl trim colors
- Personalized vinyl home team name
- Illuminated and non-illuminated identification and sponsorship signage
- Custom, unique signage options
- Programmable electronic team name message centers\*
- Mono- or full-color electronic message display with Fair-Play's exclusive ProLine control system
- Carrying case for scoreboard console
- Wireless data transmission (includes receiver and transmitter)
- Portable, battery-operated scoreboard control
- Integrated, second operator statistics control\*
- Fully-integrated or stand-alone shot and game timers Plug-and-play clock, shot time and horn hand switches
- Illuminated backboard goal lights
- Scorer's table with built-in BB-1600-4
- scoreboard
- Synchronized locker room game / time of day clocks
- Protective net



#### **OPERATING TEMPERATURES:**

Scoreboard display: -22° to 131° Fahrenheit (-30° to 55° Celsius) Control console: 32° to 131° Fahrenheit (0° to 55° Celsius)

#### OTHER DIMENSIONS:

CAPTIONS (H"	x W")	DIGIT SI	ZES(H")	
HOME	6" x 18"	Game Clock	12"	
VISITOR	6" x 25"	Period	10"	
PERIOD	4" x 17"	Personal Fouls	10"	
BONUS	4" x 15"	Player Number	10"	
POSS	3" x 9"	Team Fouls	10"	
FOULS (Personal)	4" x 14"	Team Scores	12"	
FOULS (Team)	4" x 14"			
PLAYER	4" x 17"			

ELECT	RICAL		
Voltage	120 VAC		
Hertz	60		
Watts	151		
Amps	2		
Phase	1		
Wiring	2-Wire + ground		
Circuits Required	1		
Safety Listing	ETL/CETL		

#### Fair-Play offers 15 EBEE standard trim tape colors

WHITE       BLACK       BRIGHT       SUNFLOWER       BRIGHT       TOMATO       CARDINAL       BURGUNDY       PURPLE       LIGHT       INTENSE       FOREST       SILVER       SATIN GOLD         air-Play offers       12       FREE       standard scoreboard colors. Custom colors available       Intense       Green       Intense       Green       Intense       Intense       Intense       Intense       Intense       Green       Intense       Intense<												
ir-Play offers 12 FREE standard scoreboard colors. Custom colors available	NHITE	BLACK		SUNFLOWER				BURGUNDY	PURPLE			MEDIL GRA
BRIGHT CRIMSON DEEP GRAPE CHAMPION REFLEX ROYAL FOREST KELLY SIGNAL CHARCOAL	ir-Play o	offers 12 F	REE stan	dard scoreb	oard colo	rs. Custom	colors av	ailable				

#### Fair-Play by Trans-Lux Corporation

1700 Delaware Avenue • Des Moines, IA 50317 • 800.247.0265 • sales@fair-play.com • fair-play.com



#### FAIR-PLAY BASKETBALL SCOREBOARD Scoreboard # 2



#### Model: BB-3620-4

DIMENSIONS:

HEIGHT:	5'-6"	LENGTH:	9'-0"	DEPTH:	4"	WEIGHT:	121 lbs.

#### STANDARD EQUIPMENT:

- Energy efficient LED designs
- Three distinct LED digit colors to visually organize critical game information
- Heavy-duty, vibrating horn (103 dB)
- Free Help Desk Support
- Free project design renderings
- Factory authorized national and local sales, service and installation
- Choose from 10 durable paint colors
- Choose from 15 popular vinyl trim colors
- Over 75 years of sports scoring experience
- Sport-specific control console inserts
- HB-800 data connection kit
- Choice of Fair-Play's scorekeeper approved control systems\*
- Changeable scoreboard game captions\*
- 5-year limited warranty
- ETL/CETL listed to UL standard
- Convenient built-in service points for easyaccess
- Durable, corrosion resistant aluminum construction
- Complete, safe and durable display mounting system

#### **OPTIONAL EQUIPMENT:**

- Custom paint and vinyl trim colors
- Personalized vinyl home team name
- Illuminated and non-illuminated identification and sponsorship signage
- Custom, unique signage options
- Programmable electronic team name message centers\*
- Mono- or full-color electronic message display with Fair-Play's exclusive ProLine control system
- Carrying case for scoreboard console
- Wireless data transmission (includes receiver and transmitter)
- Portable, battery-operated scoreboard control
- Integrated, second operator statistics control\*
- Fully-integrated or stand-alone shot and game timers Plug-and-play clock, shot time and horn hand switches
- Illuminated backboard goal lights
- Scorer's table with built-in BB-1600-4
- scoreboard
- Synchronized locker room game / time of day clocks
- Protective net



#### **OPERATING TEMPERATURES:**

Scoreboard display: -22° to 131° Fahrenheit (-30° to 55° Celsius) Control console: 32° to 131° Fahrenheit (0° to 55° Celsius)

#### OTHER DIMENSIONS:

CAPTIONS (H"	x W")	DIGIT SIZES (H")			
HOME	6" x 18"	Game Clock	12"		
VISITOR	6" x 25"	Period	10"		
PERIOD	4" x 17"	Personal Fouls	10"		
BONUS	4" x 15"	Player Number	10"		
POSS	3" x 9"	Team Fouls	10"		
FOULS (Personal)	4" x 14"	Team Scores	12"		
FOULS (Team)	4" x 14"				
PLAYER	4" x 17"				

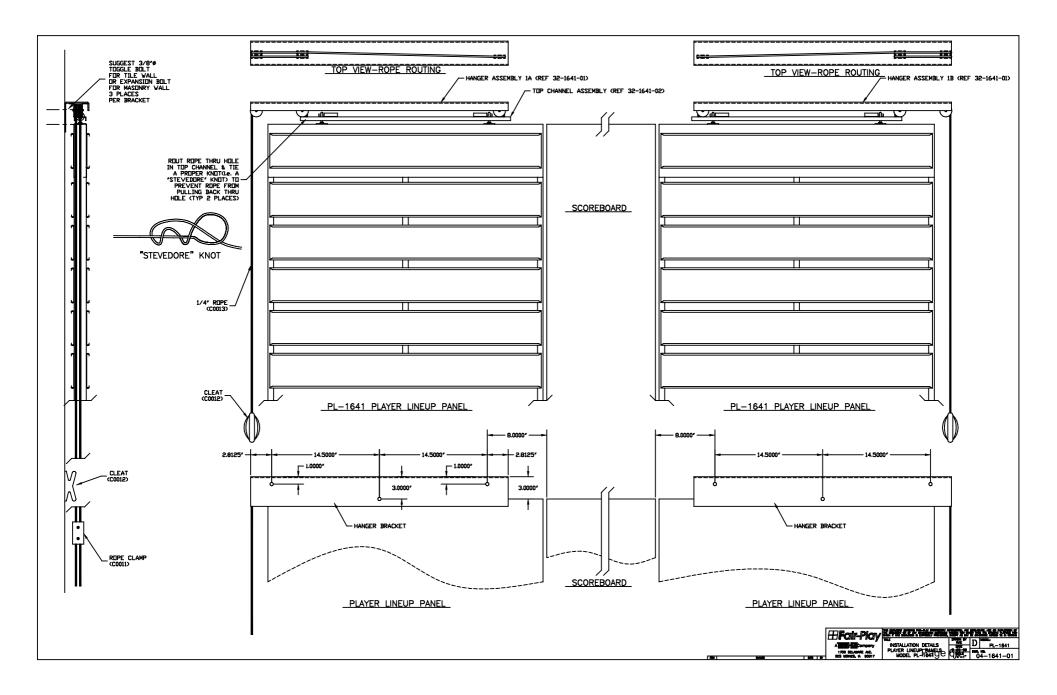
ELECTRICAL							
Voltage	120 VAC						
Hertz	60						
Watts	151						
Amps	2						
Phase	1						
Wiring	2-Wire + ground						
Circuits Required	1						
Safety Listing	ETL/CETL						

#### Fair-Play offers 15 EBEE standard trim tape colors

WHITE	BLACK	BRIGHT YELLOW	SUNFLOWER	BRIGHT ORANGE	TOMATO RED	CARDINAL RED	BURGUNDY	PURPLE	LIGHT	INTENSE BLUE	FOREST GREEN	SILVER METALLIC	SATIN GOLD METALLIC	MEDIL GRA
ir-Play o	offers 12 F	REE stan	dard scoreb	oard colo	rs. Custom	colors av	ailable							
ir-Play o	offers 12 F	REE stan	dard scoreb	oard colo	rs. Custom	colors av	ailable							

#### Fair-Play by Trans-Lux Corporation

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#### **FAIR-PLAY SHOT TIMER**



#### Model: ST-1410-4

#### DIMENSIONS:

|--|

#### STANDARD EQUIPMENT:

- Energy efficient LED designs
- Three distinct LED digit colors to visually
- organize critical game information
- Heavy-duty, vibrating horn (103 dB)
- Free Help Desk Support
- Free project design renderings
- · Factory authorized national and local sales, service and installation
- Choose from 10 durable paint colors • Choose from 15 popular vinyl trim colors
- Over 75 years of sports scoring experience
- Sport-specific control console inserts
- HB-800 data connection kit
- · Choice of Fair-Play's scorekeeper approved control systems\*
- Changeable scoreboard game captions\*
- 5-year limited warranty
- ETL/CETL listed to UL standard
- · Convenient built-in service points for easyaccess
- Durable. corrosion resistant aluminum construction
- · Complete, safe and durable display mounting system

#### **OPTIONAL EQUIPMENT:**

- · Custom paint and vinyl trim colors
- · Personalized vinyl home team name
- Illuminated and non-illuminated identification and sponsorship signage
- Custom, unique signage options
- Programmable electronic team name message centers\*
- Mono- or full-color electronic message display with Fair-Play's exclusive ProLine control svstem
- · Carrying case for scoreboard console
- Wireless data transmission (includes receiver and transmitter)
- · Portable, battery-operated scoreboard control
- Integrated, second operator statistics control\*
- Fully-integrated or stand-alone shot and game timers Plug-and-play clock, shot time and horn hand switches
- Illuminated backboard goal lights
- Scorer's table with built-in BB-1600-4 scoreboard
- Synchronized locker room game / time of day clocks
- Protective net



#### **OPERATING TEMPERATURES:**

Scoreboard display: -22° to 131° Fahrenheit (-30° to 55° Celsius) Control console: 32° to 131° Fahrenheit (0° to 55° Celsius)

#### OTHER DIMENSIONS:

CAPTIONS (H" x W")	DIGIT SIZES (H")				
	Shot Clock	12"			

ELECT	RICAL					
Voltage	120 VAC					
Hertz	60					
Watts	30					
Amps	0.25					
Phase	1					
Wiring	2-Wire + ground					
Circuits Required	1					
Safety Listing	ETL/CETL					

Fair-Play offers 15 FREE standard trim tape colors

WHITE	BLACK	BRIGHT YELLOW	SUNFLOWER	BRIGHT ORANGE	TOMATO RED	CARDINAL RED	BURGUNDY	PURPLE	LIGHT	INTENSE BLUE	FOREST GREEN	SILVER METALLIC	SATIN GOLD METALLIC	MEDIU GRAY
12 12	100	202 8		12.12	2.12									
air-Play (	offers 12 F	REE stan	dard scoreb	oard colo	rs. Custom	colors av	vailable							

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#### FAIR-PLAY SCOREBOARD ACCESSORY





#### MODEL: ST-1401-4

DIMENSIONS:

HEIGHT:	1'-9"	LENGTH:	1'-8"	DEPTH:	6.5"	WEIGHT:	188 lbs.
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#### **OPERATING TEMPERATURES:**

Scoreboard display: -22° to 131° Fahrenheit (-30° to 55° Celsius) Control console: 32° to 131° Fahrenheit (0° to 55° Celsius)

OTHER DIMENSIONS:

DIGIT SIZE					
SHOT CLOCK	12"				

ELECTRICAL							
VOLTAGE	120 VAC						
HERTZ	60						
WATTS	36						
AMPS	0.3						
PHASE	1						
WIRING	2-Wire + ground						
CIRCUITS REQUIRED	1						
SAFETY LISTING	ETL/CETL						

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# Paint & Tape Colors FAIR-PL

SCOREBOARD	С	Μ	Y	κ	R	G	В	PANTONE	HEXIDECIMAL
Deep Maroon	49	99	84	25	119	34	87	209C	77222f
Kelly Green	93	13	81	0	0	143	94	356C	008f5e
Royal Blue	100	40	0	0	0	125	197	300C	007dc5
Forest Green	85	49	60	36	34	82	80	5477C	225250
Signal Black	78	67	64	95	0	0	2	0	000002
Charcoal	42	8	0	40	93	135	161	5415C	5f7389
White	0	0	0	0	0	0	0	0	0
Grape Purple	73	87	35	9	96	63	110	525C	603f6e
Reflex Blue	100	95	25	18	144	149	214	ReflexBlue	C 9095d6
Champion Blue	97	88	45	26	36	50	86	289C	243256
Crimson Red	37	100	92	7	160	39	50	194C	a02732
Bright Red	1	100	95	0	254	155	160	485C	fe9BA0
TRIMTAPE	С	Μ	Y	κ	R	G	В	PANTONE	HEXIDECIMAL
Black	81	69	69	60	34	43	43	0	000002
White	0	0	0	0	0	0	0	0	0
Bright Yellow							76	108C	f9e54c
Sunflower	1	27	95	0	250	189	36	123C	fabd24
Bright Orange	0	87	96	0	239	73	39	151C	ef4927
Tomato Red	1	100	95	0	234	29	41	485C	ea1d29
Cardinal Red	23	100	97	0	196	38	46	200C	c4262e
Burgandy	44	99	97	0	160	47	52	209C	a02f34
Purple	77	94	21	1	97	56	127	525C	61387f
Light Navy	99	92	18	2	43	60	131	282C	2b3c83
Intense Blue	100	69	0	0	0	92	171	300C	005cab
Forest Green	04	55	92	32	34	82	80	5070	104e34
	94	55	52	02	54	02	00	567C	104634
Silver*			11	0	241			567C 877C	efeeed
Silver* Satin Gold*	14		11		241		244		

\*Metallic Colors



## MP-70/50 Series Scoreboard Controller User Guide



Document No. 98-0002-29

Revision Date: 08-01-12

Effective with firmware ver. 3.05

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada.

Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference, and
- 2. This device must accept any interference received, including interference that may cause undesired operation.

The term "IC" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

#### Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### **RF Exposure**

To comply with FCC RF exposure requirements for mobile transmitting devices, this transmitter should only be used or installed at locations where there is at least 20 cm separation distance between the antenna and all persons.

#### **PRIOR APPROVALS**

The following manufacturers have properly submitted their request to be allowed to bid substitute equipment and services for the referenced project. Based on information submitted, and our knowledge of and previous experience with the companies and products represented, we feel that the following are capable of providing products and services equivalent to those specified.

#### EQUIPMENT

#### SUBSTITUTE

B-1 & 2 P-1 thru P-4

#### Raypak Taco

#### SPECIFICATIONS

- 1. Section 23 05 93:
  - a. Part 1.1.C. Replace the first sentence with "The TAB Agency will be selected and paid for by the owner."

END OF ADDENDUM