pch architects, l.l.p.

ADDENDUM NUMBER 5

To the Contract Documents
For the Construction of

Bid No. F13-04 COMMUNITY DAY SCHOOL
For
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

February 28, 2014

NOTICE TO BIDDERS

It is intended that all work affected by the following provisions shall conform to the original plans and specifications. Delete or modify each of the following items wherever appearing on Drawings, and/or Specifications. Acknowledge receipt of Addendum No.5 in the space provided on the Contractor's Proposal. Failure to do so may subject bidder to disqualification.

SPECIFICATIONS:

Item Number 1; Add Section **09544 – Fiber Reinforced Plastic Panels.**

Item Number 2; Reference Section 09650 – Resilient Flooring; Replace this section with the attached, revised Section **09650 – Resilient Flooring** (sheet vinyl flooring was added to this section).

Item Number 3; Reference Section 21 13 00 – Automatic Fire Sprinklers; Replace this section with the attached, revised Section **21 13 00 - Automatic Fire Sprinklers**

DRAWINGS:

Item Number 4; Reference Sheet T – Title Sheet, Scope of Work, Relocatables; Add the following workscope notes for site repairs at the relocatable removal sites:

1. Remove and dispose of all metal ramps. Cut or break out any asphalt or concrete ramp extensions and repair surface flush with, and to match existing surfaces.

30 South Center Street
Redlands, California 92373
Telephone: 909/792-7397
Fax: 909/793-7873
www.pcharchitects.com

2. Disconnect (at the distribution panel) all circuits feeding the relocatables being removed. Remove conductors from conduit, cut and cap conduit below grade and repair finish surface. (this work shall be done under the supervision of the District M&O Elect Dept.)
3. Cut back and cap all plumbing below grade. Terminate sewer lines with cleanout boxes and covers flush to grade. Terminate water line in concrete yard box flush to grade.
4. Demo and remove concrete ramps and railing at toilet buildings. Patch and repair surfaces flush to match existing.

Item Number 5; Reference Sheet A3, Electrical Enclosure adjacent to Building C; Revise the enclosure per attached drawings **AR-01, AR-02, AR-03, AR-04, AR-05** and **AR-06.**

Item Number 6; Reference Sheet A5- Admin Building; Provide roof closure flashings per attached drawing **AR-07**

Item Number 7; Reference Sheet P-1 – Plumbing Legend Schedule & General Notes; Replace this sheet with attached Sheet **P-1 – Plumbing Legend Schedule & General Notes**

Item Number 8; Reference Sheet P-2 – Plumbing Site Plan; Replace this sheet with attached Sheet **P-2 – Plumbing Site Plan.**

Item Number 9; Reference Sheet P-3 – Plumbing Floor Plans; Replace this sheet with attached Sheet **P-3 – Plumbing Floor Plans.**

Item Number 10; Reference Sheet P-4 – Plumbing Floor Plans; Replace this sheet with attached Sheet **P-4 – Plumbing Floor Plans**

Item Number 11; Reference Sheet E0.3 – Single Line Diagram:

- Revise New Main Switchboard DS1 to a 1600Amp,3Phase,4wire, Weatherproof board.
- Add Provisions to extend the 1600Amp Buss with a future 4' section in a forthcoming Phase -3 project.
- Revise SCE Transformer Pad to a New SCE Transformer Pad with Slab box per SCE recommendations.
- Provide a 200A/3pole and 100A/3pole spare circuit breakers on New 1600amp DS1 switchboard.

Item Number 12; Reference Sheet E1.1 – Site Electrical Plan:

- Add New Conduit only stub out DS1-4 and DS1-5 to property line for future Phase 3 per attached **ESK-1**.

- Add a 2'X3' Concrete pull box for DPR2- 1 through 4 feeders and locate behind relo B5.
- Revised New Utility enclosure per attached **ESK-2** drawing.

Item Number 13; Reference Sheet FP-101 – Fire Sprinkler Piping Plan; Replace this sheet with attached revised Sheet **FP-101 – Fire Sprinkler Piping Plan.**

Item Number 14; Reference Sheet FP-101 – Fire Sprinkler Piping Plan; At each seismic loop (indicated between buildings) provide and install a support post per attached drawing **AR-08**

End of Addendum 5

Ralph Pacini,
PCH ARCHITECTS, LLP

PART 1 – GENERAL

1.1 SUMMARY:

The work includes the furnishing and installing of fiberglass reinforced plastic (FRP) panels and panel moldings, as shown and noted on the drawings and as specified. The General Conditions, Changes to the General Conditions Division 1 apply to this section as fully as if repeated herein

1.2 REFERENCES:

1.2.1 ASTM E84 – Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS:

1.3.1 Submit product data and samples under provisions of Section 01 33 00.

1.3.2 Submit 2 samples 4 x 4 inches in size illustrating panel pattern and color. Submit two 12 inch long samples of panel moldings.

1.3.5 Submit manufacturers installation instructions under provisions of Section 01 33 00.

1.4 OPERATION AND MAINTENANCE DATA:

1.4.1 Submit maintenance data under provisions of Section 01 77 00.

1.4.2 Include data for cleaning and stain removal.

1.4.3 Include manufacturers recommendations for cleaning materials, polishes, and waxes.

1.5 REGULATORY REQUIREMENTS:

1.5.1 Conform to flame/smoke developed rating of 25/450 when tested in accordance with ASTM E84.

1.6 DELIVERY, STORAGE, AND HANDLING:

1.6.1 Deliver, store and protect products to site under provisions of Section 01 60 00.

1.7 ENVIRONMENTAL REQUIREMENTS:

1.7.1 Do not install fiberglass reinforced plastic panels when temperatures are below 60 degrees F or above 90 F.

1.7.2 Maintain temperature range for 24 hours before, during and 72 hours after installation of panels.

1.8 WARRANTY:

1.8.1 Provide one-year warranty.

1.8.2 Include coverage for surfaces staining and finish deteriorations.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

2.1.1 Kemlite Co., (800) 435-0080

2.1.2 Lasco Products, (800) 877-0464

2.1.3 Substitutions: Under provisions of Section 01 25 00

2.2 MATERIALS:

2.2.1 Fiberglass reinforced plastic panels of 0.090 inch thickness in 4 x 9 foot sheet sizes.

2.2.2 Panels are to have pebble textured surface finish in color selected by Architect.

2.2.3 Panels are to have a flame/smoke rating of 25/450 for a Class A finish when tested according to ASTM E84.

2.3 ACCESSORIES:

2.3.1 Molding: Extruded aluminum or plastic panel accessories in maximum practical lengths. Finish to match panels.

2.3.2 Adhesive: Latex based non-flammable construction adhesive.

2.3.3 Sealant: Silicone sealant specified in Section07920.

PART 3 – EXECUTION

3.1 EXAMINATION:

3.1.1 Verify that surfaces and openings are ready to receive work.

3.1.2 Verify that field measurements and tolerances are as instructed by manufacturer.

3.1.3 Verify that required utilities are available, in proper location and ready for use.

3.1.4 Beginning of installation constitutes acceptance of existing substrate surface conditions by installer.

3.2 PREPARATION:

3.2.1 Clean substrate surfaces.

3.2.2 Protect elements of work adjacent to work of this Section from damage or disfiguration.

3.3 INSTALLATION:

3.3.1 Install panels and accessories in accordance with manufacturer's instructions.

3.3.2 Apply panel adhesive at 6 inches on center over entire field of panel.

3.3.3 Set panel ends and edges in moldings.

3.3.4 Seal moldings and panel joints with the sealant.

3.4 FIELD QUALITY CONTROL:

3.4.1 Panels shall lay flush with substrate, without air pockets or warpage.

3.4.2 Remove and replace panels not conforming to manufacturer's installation guidelines.

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PART 1 - GENERAL

1.1 SUMMARY:

The work includes the furnishing and installing of resilient flooring and base, edge trim, and accessories, as shown and noted on the drawings and as specified. The Conditions of the Contract and Division 1 apply to this section as fully as if repeated herein.

1.2 SUBMITTALS:

1.2.1 Samples: Submit samples of resilient flooring material, resilient base, edge trim, and accessories for review.

1.2.2 Maintenance Instructions: Submit copies of manufacturer's written instructions for recommended maintenance practices for each type of flooring and accessory. Refer to Section 01 77 00.

1.2.3 Replacement Materials: After completion of work deliver replacement materials to the project site. Furnish as additional 1% of each different tile flooring, from the same manufactured lot as the material installed. Identify materials as to location installed.

PART 2 - PRODUCTS

2.1 MATERIALS:

2.1.1 Vinyl Composition Tile: 12" X 12" X 1/8" thick, meeting or exceeding the minimum requirements of ASTM F 1066 Class 2 – through pattern, as manufactured by Armstrong, GAF Corporation, or equal. Manufacturer's type, color, and patterns shall be as selected. Coefficient of Friction 0.6 min per ASTM D 2047. All tile in any one room shall be from the same manufacturer's run.

2.1.2 Vinyl Sheet Flooring: with backing: 72 in. wide, having a nominal total thickness of 0.080 in. The polyurethane-coated wear surface shall be composed of polyvinyl chloride resin, plasticizers, stabilizers, fillers, and pigments with a granular visual embossed with a subtle surface texture. Vinyl granules shall extend through the thickness of the wear layer. Vinyl sheet flooring shall conform to the requirements of ASTM F 1303, Type II. As manufactured by Armstrong World Industries Inc., Type “Possibilities”. Coefficient of Friction 0.6 min per D 2047

.1 Where meeting these requirements and the selected colors and patterns, the following are considered equal products:

a. Mannington Commercial
b. Congoleum.

.2 Provide solid color vinyl weld rod as produced by Armstrong World Industries, Inc., or approved equal manufacturer and intended for heat welding of seams. Color shall be compatible with field color of flooring.

2.1.3 Base: Topset (cove) and carpet (straight) base as manufactured by Burke, Roppe, or equal, 4" high, rubber, in colors as selected and approved by the Architect from manufacturer's standard color range. Base at all external and internal corners shall be pre-molded.

2.1.4 Edging Strips: Molded vinyl as manufactured by Burke-Mercer, Roppe, or equal, 1-1/2" X 1/8" thick, tapered, in color as selected and approved by the Architect from manufacturer's standard to match flooring.

2.1.5 Adhesives and Primers: Adhesives and primers shall be only those products specified or recommended by the manufacturer of the particular resilient flooring furnished. Adhesives shall be cut-back type where required.

2.1.6 Floor Patch and Leveling Compound: Products manufactured specifically for the purpose as recommended by the manufacturer of the particular resilient flooring furnished. Where floors require extensive leveling or repair necessitating several thicknesses of leveling compound, apply "Vi-Tex" Leveling Compound as manufactured by Industrial Products, Inc., underlayment S-180 as manufactured by Armstrong, “DeepPour” by ProSpec Cements or other equal latex underlayment.

PART 3 - EXECUTION

3.1 INSPECTION AND PREPARATION OF SURFACES:

3.1.1 Before starting the installations of resilient flooring or base thoroughly examine surfaces on which the finish flooring and base are to be applied. Starting of work will be considered acceptance of on site conditions and application for a period of five (5) years.

3.1.2 Subfloor surfaces shall be thoroughly dry, clean of dust, paint spots, grease, and bond-breaking or curing compounds. Subsurface shall also be free from unusual roughness and sharp edges to prevent protrusions and bulges after resilient material is laid. Fill joints, cracks, or depressions in concrete slabs and subfloors with specified floor patch. Allow twenty-four (24) hours drying time before applying resilient flooring.

3.1.3 Installation shall not begin until the work of other trades in the area, including painting, has been completed.

3.2 INSTALLATION:

3.2.1 Keep materials at a temperature of 70 degrees F. or higher for at least forty-eight (48) hours before using, and maintain 70-degree or higher room temperatures at least 3 days before, during, and after application of materials. Apply materials in accordance with the manufacturer's installation instructions.

3.2.2 Vinyl Composition Tile:

.1 Layout center lines in both directions of room parallel to walls. Adjust to make cut tile borders of equal width on opposite sides. Lay tile with joints aligned and without contrasting borders. Lay tile with grain running in the same direction, except as otherwise directed.

.2 Apply specified adhesive with a notched steel trowel to ensure an even bed of adhesive for the tile. Cross-trowel to achieve an even thickness.

.3 Lay tile when adhesive has set tacky, starting at the center of the room and working toward walls. Embed each tile in adhesive with closely fitted, straight, hairline joints. Do not cut tile except at walls or obstructions. Neatly scribe around pipes, fixtures, and equipment to form tight joints free of gaps. Finished floors shall be smooth and free from buckles, cracks, breaks, waves, and projecting edges and shall fit neatly at pipes and other installations and obstructions. Remove excess adhesive.

.4 Install edging strips wherever tile terminates at an opening or where there is an unprotected edge. Top of strips shall be flush with top of tile.

3.2.3 Vinyl Sheet Flooring:

.1 Scribe, cut, and fit or flash cove to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets.

.2 Adhere flooring to the subfloor without cracks, voids, raising and puckering at the seams. Roll with a 100-pound (45.36 kilogram) roller in the field areas. Hand-roll flooring at the perimeter and the seams to assure adhesion. Refer to specific rolling instructions of the flooring manufacturer.

.3 Lay flooring to provide a minimum number of seams. Avoid cross seams, filler pieces, and strips. Match edges for color shading and pattern at the seams in compliance with the manufacturer's recommendations.

.4 Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times.

.5 Prepare heat-welded seams with special routing tool supplied for this purpose and heat weld with vinyl welding rod in seams. Use methods and sequence of work in conformance with written instructions of the flooring manufacturer. Finish all seams flush and free from voids, recesses, and raised areas.

.6 Provide integral flash cove wall base where shown on the drawings, including cove fillet support strip and top edge cap trim. Construct flash cove base in accordance with the flooring manufacturer's instructions. Heat-weld seams as specified for those on the floor.

3.2.4 Topset or carpet bases: Install base on all walls as indicated and on fronts, toe space, and backs of finished cabinets with adhesive recommended by manufacturer of base. Apply adhesive to both wall and base and press firmly into place. Maintain top edge at true horizontal line. Toe of coved base shall contact floor for entire length. Closely butt end joints, top edge, and faces flush.

Remove excess adhesive. Corners, both inside and outside, shall be molded one piece. Do not cut standard base to obtain job base built corners.

3.2.5 Topset or carpet bases: Install base on all walls as indicated and on fronts, toe space, and backs of finished cabinets with adhesive recommended by manufacturer of base. Apply adhesive to both wall and base and press firmly into place. Maintain top edge at true horizontal line. Toe of coved base shall contact floor for entire length. Closely butt end joints, top edge, and faces flush. Remove excess adhesive. Corners, both inside and outside, shall be molded one piece. Do not cut standard base to obtain job base built corners.

3.3 CLEANING, SEALING AND PROTECTION:

3.3.1 Until floors are well seated, at least 72 hours, at a maintained temperature of not less than 70 degrees F., traffic shall be kept to an absolute minimum, and under no conditions shall fixtures, equipment, trucks be allowed.

3.3.2 Cleaning and Sealing: Just before turning building over to the Owner, clean resilient flooring and base thoroughly in accordance with the manufacturer's recommendations. After cleaning, apply one coat of approved non-skid finish to floors and polish with a mechanical buffer.

3.3.3 For the entire period between installation of resilient flooring and acceptance of the project by the Owner, Contractor shall be responsible for protection of floors and keeping them in top condition.

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SECTION 21 13 00

AUTOMATIC FIRE SPRINKLERS

1. PART - GENERAL

1.1 SECTION INCLUDES

A. Design, furnish and install wet pipe fire sprinkler system for protection of building.

B. Furnish all labor, materials, services, testing, transportation and equipment necessary for and reasonably incidental to the proper and satisfactory installation of the automatic fire protection systems as specified herein.

C. The Contractor shall be responsible for the automatic fire protection system inside the building and within 5 feet of the building itself. See Civil Engineer's plans for on-site fire line design. This specification is intended to establish the required performance and quality of the work necessary to provide for a complete automatic fire protection system to serve the building on site as indicated on the drawings.

D. Work or equipment not indicated or specified which is necessary for the complete and proper operation of the work of the Section in accordance with the true intent and meaning of the contract documents shall be provided by this contractor and incorporated under this Section of the work at no additional cost

1.2 DESIGN REQUIREMENTS

A. Wet pipe fire sprinkler system shall conform to NFPA13, 2010 edition.

1. Contractor shall prepare fully coordinated shop drawings for approval prior to installation. Piping system shown on plans is for reference only and general design intent. Contractor shall not make substantial changes and must determine final number of fittings and routing to meet system and building demands.

2. Pipe sizes used in shop drawings shall not be less than those shown on drawings.

3. No AutoCAD backgrounds of the fire sprinkler system piping network will be made available.

B. Manufacture's Data

1. Submit complete and detailed equipment and material list of items to be furnished and installed under this Section

2. Submit manufacturer's specifications and other data required to demonstrate compliance with specified requirements.

C. Drawings and Hydraulic calculations

1. System shall be hydraulically designed per NFPA 13 requirements.

2. Drawings shall be made in AutoCAD 2007 version as the latest. Drawings shall be same size as contract drawings.

1.3 QUALIFICATIONS

A. Code Requirements: All work covered by this Section shall conform to the 2010 edition of NFPA 13, California State Fire Marshall, DSA, Uniform Fire Code with California amendments.

B. UL and FM Compliance: All material and components shall be UL listed and labeled and/or Factory Mutual Approved for the application anticipated.

C. Permits and Inspections: Contractor must obtain and pay all fees for permits, licenses, inspections, etc. which are required and shall deliver all certificates to Owner.

D. Installing contractor shall have a current C-16 license and have had prior experience in similar scope of this project within last 2 years.

1.4 REGULATORY REQUIREMENTS

A. All work covered in this Section shall conform to the regulatory requirements of California State Fire Marshall, DSA, Uniform Fire Code with California amendments. If there are conflicts the more strict standard shall apply.

1.5 SCHEDULING

A. Contractor shall coordinate installation of system with all other trades.

B. Examination of Premises

1. Contractor shall make a careful examination of the premises and shall thoroughly familiarize themselves with the requirements of the contract. By submitting a proposal for the work under this section of the specification, the Contractor shall be deemed to have made such a study and the he is familiar with and accepts all conditions of the site.

C. Coordination

1. Contractor shall cooperate and coordinate his work with all other trades to avoid confliction and permit for a neat and orderly appearance of the entire installation. The contractor shall, in advance of the work, furnish instructions to the General Contractor as to his requirements for equipment and material installation of any kind, whether or not specifically mentioned on drawing or in specifications, and shall include recesses, chases in walls, and all required openings in the structure. Should furnishing this information be neglected, delayed or incorrect and additional cuttings are found to be required, this cost shall be charge to this Contractor.

2. Piping runs found to be in conflict with the work of other trades, as a result of neglected coordination, shall be removed and reinstalled in new locations designated by the architect at no additional cost to the Owner.

3. To achieve coordination, contractor shall contact Architect and obtain necessary information to design his system into the allotted spaces without interfering with work by other trades.

2. PART - PRODUCTS

2.1 REQUIRMENTS

A. Submittal Data

1. Furnish and install at one time, in accordance with General Conditions, six bound copies of valid submittal data on all material, equipment and devices. The Contractor shall make all presentations and clarifications although he may bring suppliers and representatives for technical assistance to meetings called by architect. Each submitted item shall be indexed and referenced to these specifications and to put identification numbers on fixture and equipment submittals.

2. Submittals are required on all items to insure the latest and most complete manufacturer's data is available for review. Manufacturer's submittal literature and shop drawings often contain information not available in design literature; requirements of the submittals and engineer's submittal notes are part of the work of this Section except that engineer's notes may be used as a means of increasing the scope of work of this Section.

3. Submittals will be checked for general conformance with the design concept of the project, but the review does not guarantee quantities shown and does not supersede requirements of the Division to properly install work.

B. Underground Piping

1. Pipe installed below grade shall be ductile iron, cement lined with mechanical joint fittings Class 250, flanged or mechanical joint, in accordance with ANSI-AWWA C111/A2.11, class 52 or AWWA C153 ductile iron compact fittings of dimensions to match pipe outside diameter, with AWWA 104, cement lining and AWWA C111 neoprene gaskets. Provide concrete thrust blocks at all underground footings per manufacturer's recommendations. Provide rod restraint at flange penetrating building floor.

2. Ames In-Building Riser manufactured of Series 300 stainless steel.

C. Wet Pipe System

1. Black Steel, 1"-2", Schedule 40, ASTM A135 or ASTM A795 for all piping with threaded joints and fittings. Pipe must be UL Listed or FM approved

2. Black Steel 2 ½" -6", Schedule 10, ASTM A135 or ASTM A795 for all piping with grooved joints and fittings.

3. Threaded fitting shall be cast iron, class 125, conforming to ANSI B16.3 and ANSI B16.4.

4. Flanged fittings shall be cast iron, class 125, conforming to ANSI B16.9.

5. Welded fitting shall be forged steel welding outlet fitting conforming to ANSI B1.20.1

6. One-piece reducing fittings shall be used wherever a change is made in pipe size. Bushings and reducing couplings shall not be permitted.

D. Sprinkler Heads

1. Provide sprinklers of types and sizes as indicated on drawings

2. Provide upright sprinklers in areas with exposed piping.

3. Sprinklers shall be glass bulb type.

4. Sprinklers in concealed spaces, exterior locations and any other areas which may experience over 100 degrees F ambient temperatures shall be furnished with 200 to 225 degree rated sprinklers. Sprinkler heads in boiler rooms shall be furnished with sprinklers rated at 250 to 290 degrees F.

5. Sprinklers may be 401 canopy type with head guard installed in ceiling with surface mounted lighting.

6. Sprinkler heads in light hazard occupancy shall be quick response type. Sprinklers shall be same manufacturer throughout. Extended coverage heads will not be permitted.

7. Sprinklers shall be installed in center of tile at 12” increments from tile edge and shall be aligned with other ceiling mounted devices.

8. Sprinkler head guards shall be installed where any sprinkler is subject to damage and at elevations of 7’-6” or lower in exposed locations. Sprinkler head guards shall utilize a bolt-on feature to the base of the sprinkler or be a factory installed guard. Install head guards in gymnasium and locker room.

9. Sprinklers installed underneath catwalks, floors or other intermediate areas shall have intermediate heat shield attached.

10. Flow indicator shall have retard feature and set between 45 and 90 seconds. Connection of this work shall be under Division 16. All shut-off valves including PIV and backflow preventer shall be electronically supervised.

11. Pipe through ceilings at head locations shall be furnished with a two-piece or fully concealed escutcheon. Escutcheons shall be identical and match the other escutcheon of the same type throughout the building. Exposed pipe through walls and =ceilings shall have split ring chrome escutcheon.

12. Furnish and install all required signs, spare heads, special wrenches and spare sprinkler heads and boxes as required by NFPA13.

13. Sprinkler system piping shall be provided with complete drainage as required by NFPA 13. All drain valves shall be plugged and piped to accessible location. Those installed within walls shall be equipped with locking access panels.

14. Provide seismic separation assemblies as indicated. Assembly shall be UL/FM swing joint assembly rated at a minimum of 175 psi.

15. System main drain shall be piped to nearest standpipe drain in riser room.

16. Hanging, bracing and support shall utilize only UL/FM approved products and comply with NFPA 13. Hanging, bracing and supports shall be by one manufacturer and listed as an approved assembly.

17. Fire sprinkler riser shall be equipped with butterfly valve, check valve, water flow switch and gauge.

2.2 MATERIALS

A. ACCESS PANELS

1. Square, stainless steel, with vandal proof door lock operated by allen wrench:

Manufacturer's: Smith – 4760, Elmdor – DW-AKL

B. Globe or Angle Valves: UL/FM

1. Bronze 2 inches and smaller, screwed in bonnet, threaded ends, riding stem: Manufacturers: Nibco-T301, Kennedy-98 SD – United-126T

C. Automatic Sprinkler Head

1. Brass pendant: temperature, size, and k-factor as indicated on drawings. Manufacturers: Reliable F1FR56, Viking-VK302, Tyco-TY3231, Victualic-V27

2. Brass uprights – temperature, size and k-factor as indicated on drawings: Manufacturers: Reliable F1FR300, Viking – VK300, Tyco-TY3131, Victualic-V-27.

3. Chrome or poly coated semi-recessed type with semi-recessed escutcheon: temperature, size and k-factor as indicated on drawings. Manufacturers: Relieable-F1FR56, Viking-VK302, Tyco-TY3531, Victaulic-V27.

4. Fully concealed, white or chrome cover: temperature, size and k-factor as indicated in drawings. Manufacturers: Reliable F4FR or G4A, Viking-VK462, Tyco-TY3531, Victaulic V38.

D. Gear Operated Butterfly Valves: Grooved end, gear operated Butterfly Valve, 300 psi for fire protection and sprinkler risers. UL/FM Listed and Approved, with weatherproof gearbox and DPDT monitor switch, double seal design for bubble tight shut off at 175 psi. Corrosion resistant, fusion bonded nylon II body coating, easy to read position indicator: Manufacturers: Victualic705W, Tyco-580, Nibco-GD-4765-8N,.Kennedy-82M

E. Check Valves:

1. 2” and smaller” bronze, 200 psi WOG, bronze disc, swing type, bolted cap, threaded ends: Manufacturers: Crane-37, Nibco-T-433-Y, Stockham-B-319, United-62T

2. 2 ½” and Larger: Iron check valve, class 175, composition disc, swing type, bolted cap, UL Listed, FM Approved flanged ends: Manufacturers: Kennedy-126, Tyco-Model G, Clow-F5380, Stockham-G-940.

3. 2 ½” and larger: Grooved check valve: Manufacturers: Victaulic –Series 717, Tyco-590F, Gruvlock-7800, United-67.

F. Flexible Pipe Connections:

1. Manufacturer: Metraflex fireloop

3. PART - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions under which Work of this section shal be performed. Correct conditions detrimental to proper and timely completion of Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Ream pipe and tube ends. Remove all burrs. Bevel or groove all plain end ferrous pipe ends.

B. Protection

1. All work, equipment and materials shall be protected at all time. Contractor shall repair all damage caused either indirectly or directly by his own workers. Contractor shall also protect his own work from damage. He shall sloe all pipe openings with caps or plugs during installation. He shall protect all his equipment and materials against dirt, water, chemical and mechanical injury.

2. Contractor shall be held responsible for all damage to equipment and material until he has received written notice from the Architect or Engineer that work has been accepted

C. Uninspected work

1. The contractor shall not allow or cause any of his work to be covered up or closed until it has been inspected, tested and approved by all authorities having jurisdiction and until Project Record drawings have been properly annotated.

2. Should any of his work be covered up or closed in before such inspection, he shall, at his own expense, uncover the work to the satisfaction of the inspection party. All related work cost shall be borne by the contractor.

D. Record Drawings

1. Contractor shall provide and keep up-to-date a complete “as-built” record set of red line drawings which shall show every change from the original drawings and the exact “as-built” locations and size of the work provided under this section. This set shall include locations, dimensions, depth of bury. On completion of the work this set of prints shall be delivered to the Architect and updated on CAD drawings by Contractor.

E. Final Approval

1. Prior to final acceptance of the installation, the contractor shall furnish to the Architect “certificates of approval” signed by the State Fire Marshall having jurisdiction, stating that the systems, as installed, have been inspected and tested and meet all governing code requirements.

F. Guarantees

1. Contractor shall guarantee the automatic fire sprinkler system unconditionally for a period of one (1) year after final acceptance. If during this period, any material, equipment or any part of the system fail to function properly, Contractor shall make good the defects and without any expense to the Owner.

3.3 CLEANING

A. Remove scale and foreign matter from inside and outside of pipes before assembly.

3.4 INSTALLATION

A. Install underground piping connected to detector check or water main indicated 5’-0” from building. Braced or clamped bends shall be in accordance with the requirements of NFPA 24. Provide vertical clamp rods at flange and spigot piece of riser, long enough to pass through riser’s base flange where required. Furnish concrete thrust blocks where required. Tracer wire shall be according to other provision of this project’s specification.

B. Install check valves, control valves, gauges inspectors test and drain assemblies and flow indicator per DSA approved drawings. .

C. Pipe through floors, wall and ceiling, at head locations, shall be furnished with required sleeves, escutcheons and fire caulking where indicated or required by code. Escutcheons shall be polished chrome plated in unfinished area and white in areas with ceilings unless other finish is selected by Architect.

D. Sprinkler system shall be provided with complete drainage facilities in accordance with CBC standards. Drain discharge shall be into sanitary sewer and such drainage receptacles shall be designed to accept the full flow of water at drain test conditions under full working pressure.

E. Upon completion of work and before substantial completion, subject entire system, including underground piping, to tests as required by NFPA13 and CBC standards and furnish Owner with a certificate of compliance as required.

F. Close nipples and threaded unions are prohibited. Where a threaded union or coupling is need, a groove type fitting shall be used.

G. Mechanical tee bolted branch outlet fittings and plain-end locking fittings are prohibited.

H. Grooved joints shall be installed in accordance with the manufacturer's latest published installation instructions. Grooved ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove. Gaskets shall be of elastomer grade suitable for the intended service, and shall be molded and produced by the coupling manufacturer.

I. Sprinkler lines within the building shall be concealed within the structure. Risers shall be installed as indicated in drawings.

J. Sprinklers that have been dropped, damaged, have cracked bulbs, or show a visible loss of fluid shall not be installed.

K. Sprinkler bulb protectors shall be removed by hand after installation.

L. Routing of pipe in exposed areas shall be subject to the Architects approval in the final shop drawings.

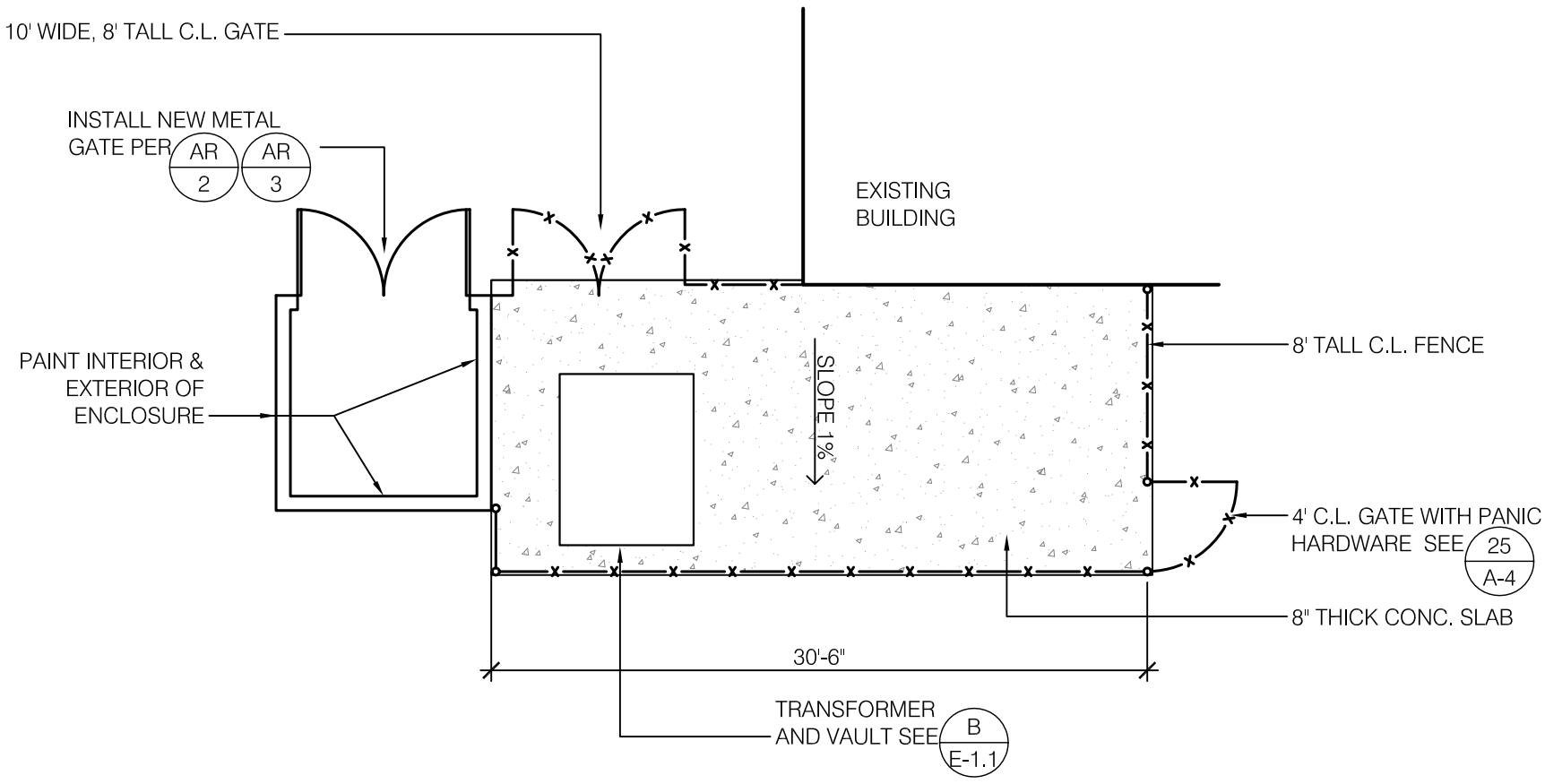
M. Underground piping shall have a 36" minimum bury. Pipe shall be installed on a flat undisturbed sand bed. After required pressure leak test, pipe shall be covered with sand not less than 6 inches thick before backfilling. Comply with all NFPA Standards.

N. Provide shunt trip when sprinklers are installed in elevator machine rooms and elevator hoistway unless the sprinklers are located 2 feet or less from hoist way pit floor.

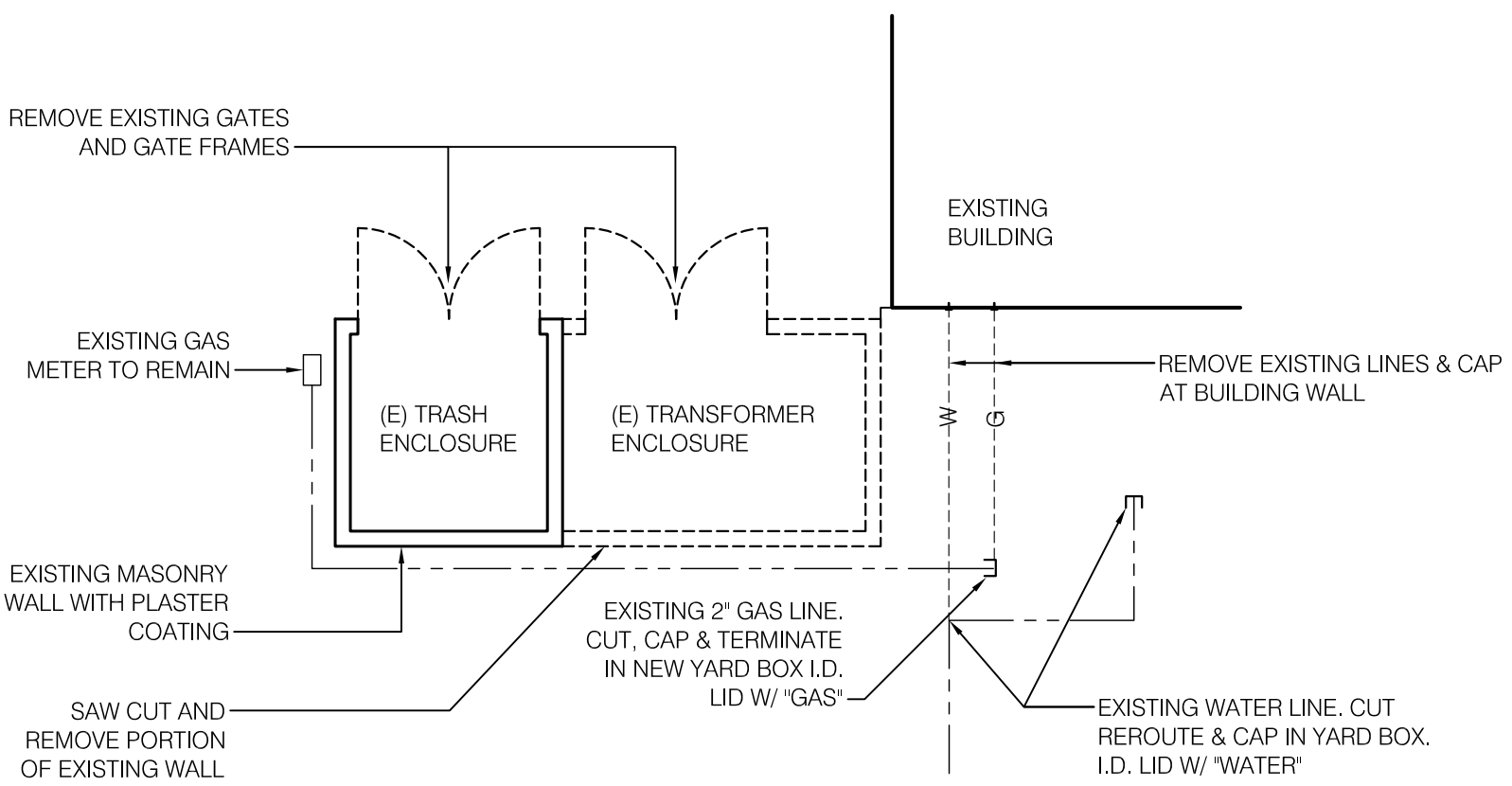
3.5 CLEANING

A. Remove rubbish, debris and waste material and legally dispose at off-project site.

END OF SECTION



TRASH / ELECTRICAL ENCLOSURE - NEW WORK PLAN



TRASH / ELECTRICAL ENCLOSURE - DEMOLITION PLAN

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LICENSED ARCHITECT
RALPH PACINI
NO. C11095
REN. 08-31-15
STATE OF CALIFORNIA

TITLE: TRASH - ELECTRICAL ENCLOSURE

PROJECT: COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

PCH # 10955

SCALE 1/ 8" = 1'-0"

DATE 02-28-2014

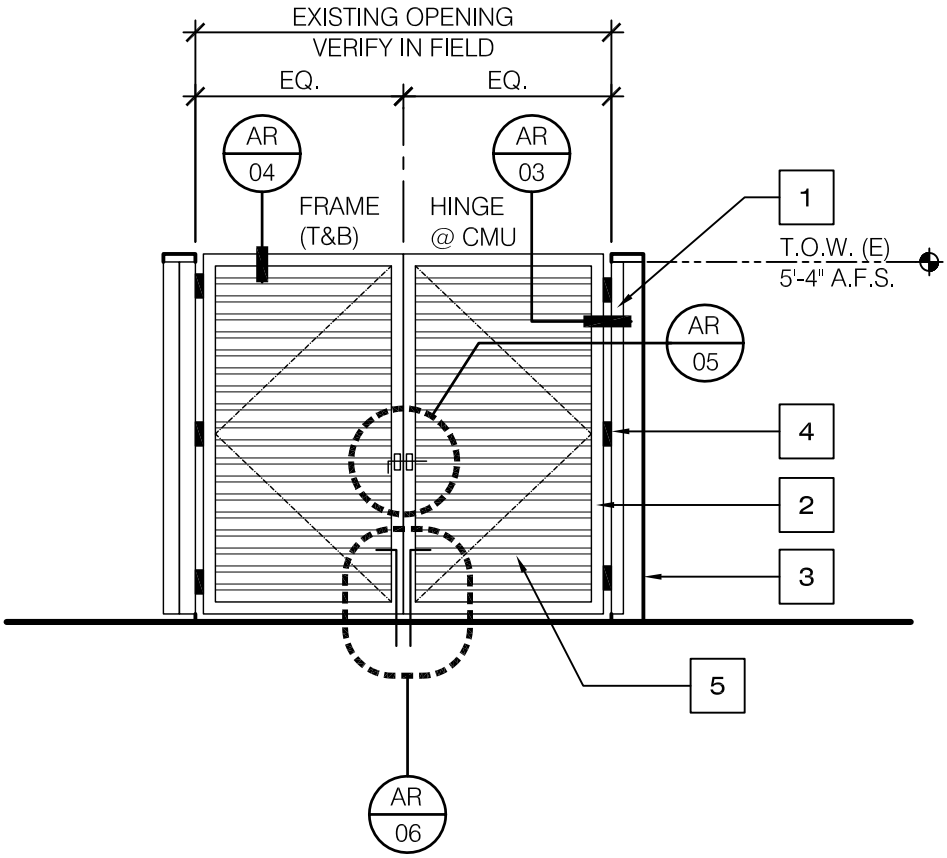
SHEET # **AR-01**

KEYNOTES

1. 5" x 3" x 3/8" STL. ANGLE HINGE SUPPORT PAINTED,TYP.
2. 3" x 3" x 3/16" STEEL GATE FRAME, PAINTED TYPICAL.
3. (E) 8" x 8" x 16" CMU WALL WITH PLASTER FINISH
4. (3) 2 1/2" x 2 1/2" x 3/16" STEEL WELD ON HEAVY-DUTY, 5 - KNUCKLE HINGES W/ NON-REMOVABLE PINS, EACH LEAF.
5. 18 GA. 3" MTL. DECK PRE-PRIMED, ASC N-32 OR EQUAL. PAINTED TYP.

FINISH NOTES

1. ALL EXPOSED METAL TO BE PRIMED & PAINTED, U.N.O.



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LICENSED ARCHITECT RALPH PACINI NO. C11095 REN. 08-31-15 STATE OF CALIFORNIA

TITLE TRASH ENCLOSURE GATE ELEVATION

PROJECT COMMUNITY DAY SCHOOL

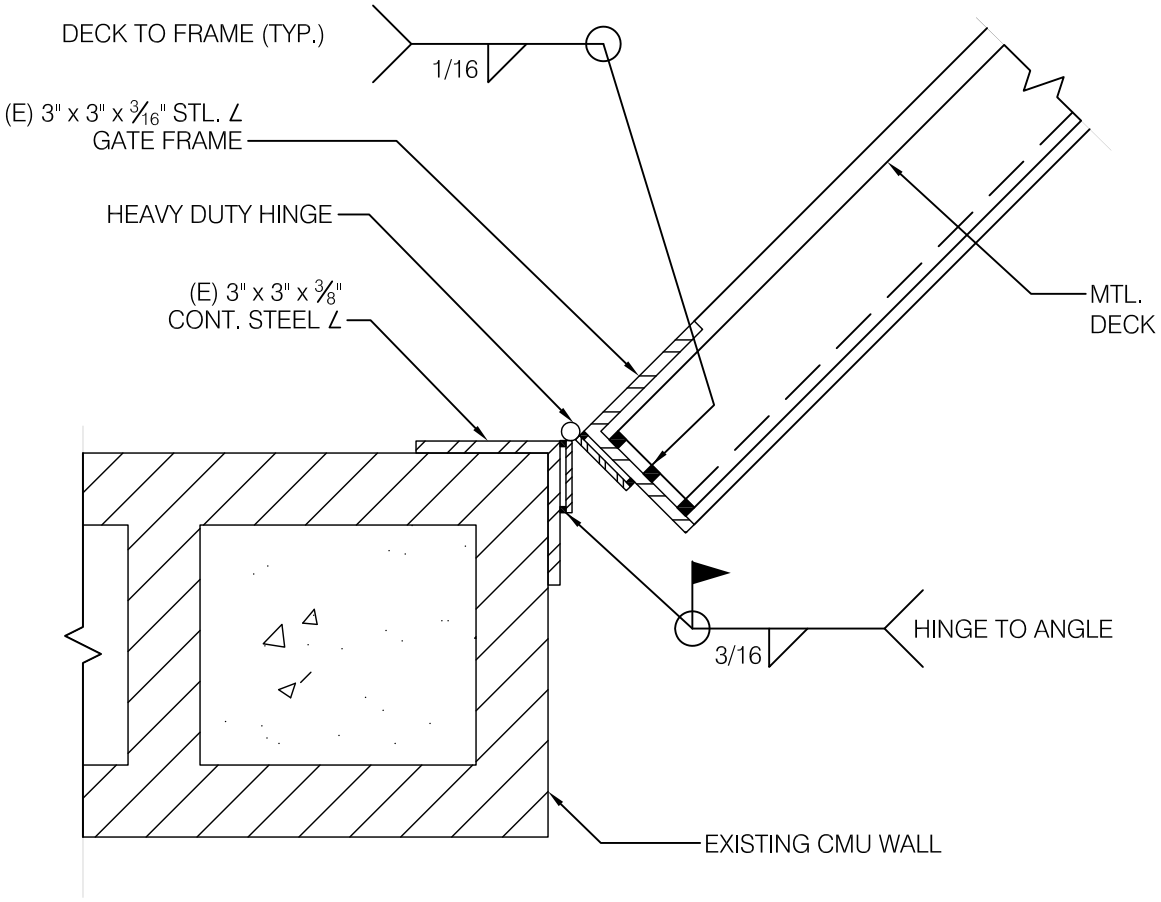
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

PCH # 10955

SCALE 1/4" = 1'-0"

DATE 02-28-2014

SHEET # **AR-02**



APPL. # APPROVAL #

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LICENSED ARCHITECT
RALPH PACINI
NO. C11095
REN. 08-31-15
STATE OF CALIFORNIA

TITLE TRASH ENCLOSURE GATE JAMB

PCH # 10955

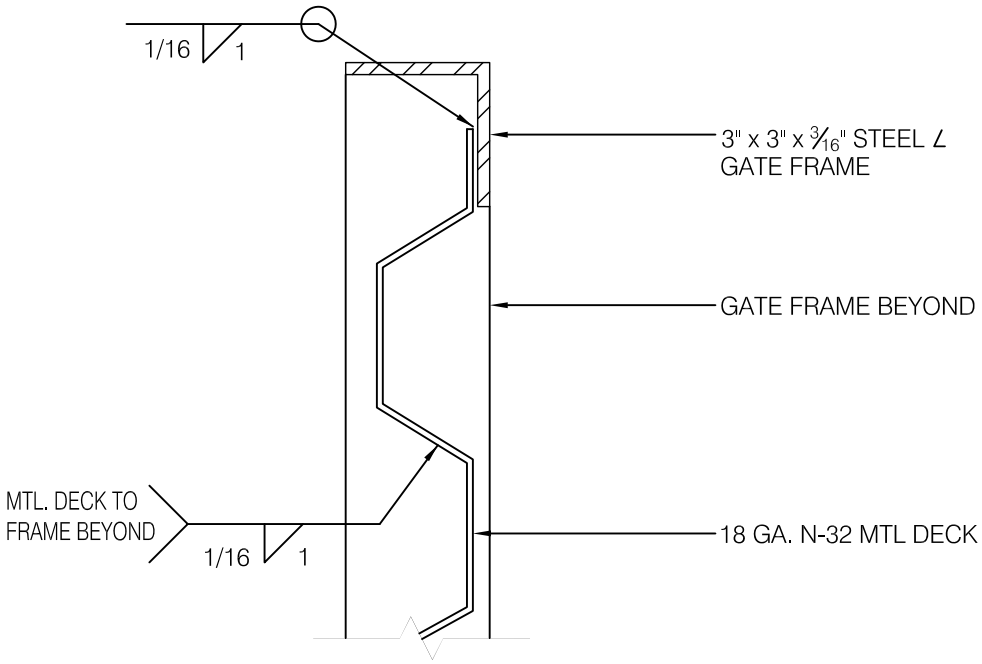
SCALE 3" = 1'-0"

DATE 02-28-2014

PROJECT COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

SHEET # **AR-03**



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LICENSED ARCHITECT
RALPH PACINI
NO. C11095
REN. 08-31-15
STATE OF CALIFORNIA

TITLE TRASH ENCLOSURE GATE FRAME (TOP & BOTTOM)

PCH # 10955

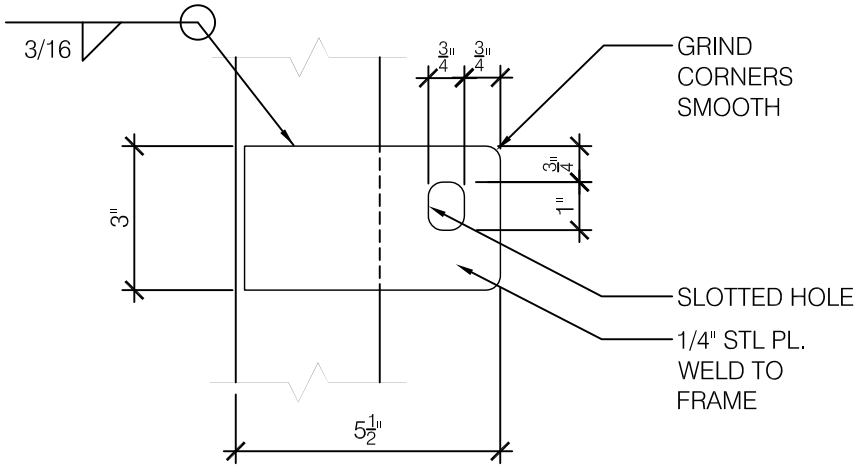
SCALE 3" = 1'-0"

DATE 02-28-2014

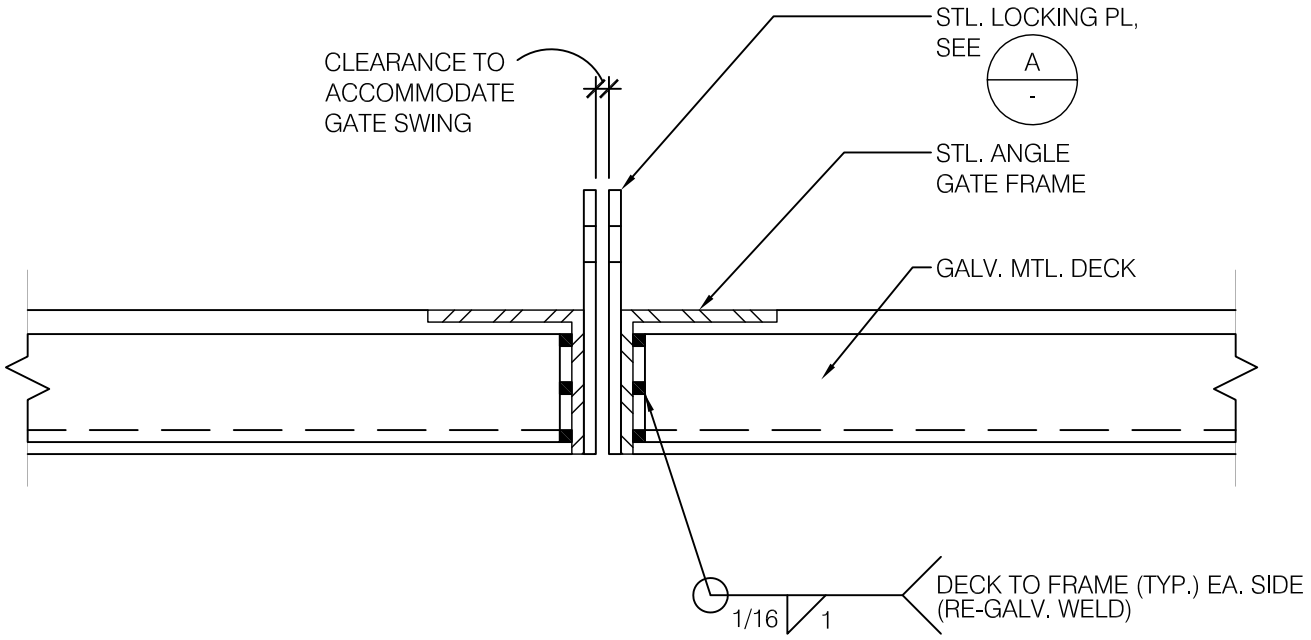
PROJECT COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

SHEET # **AR-04**



A STL LOCK PLATE



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LICENSED ARCHITECT RALPH PACINI NO. C11095 REN. 08-31-15 STATE OF CALIFORNIA

TITLE TRASH ENCLOSURE GATE LOCKING TABS

PROJECT COMMUNITY DAY SCHOOL

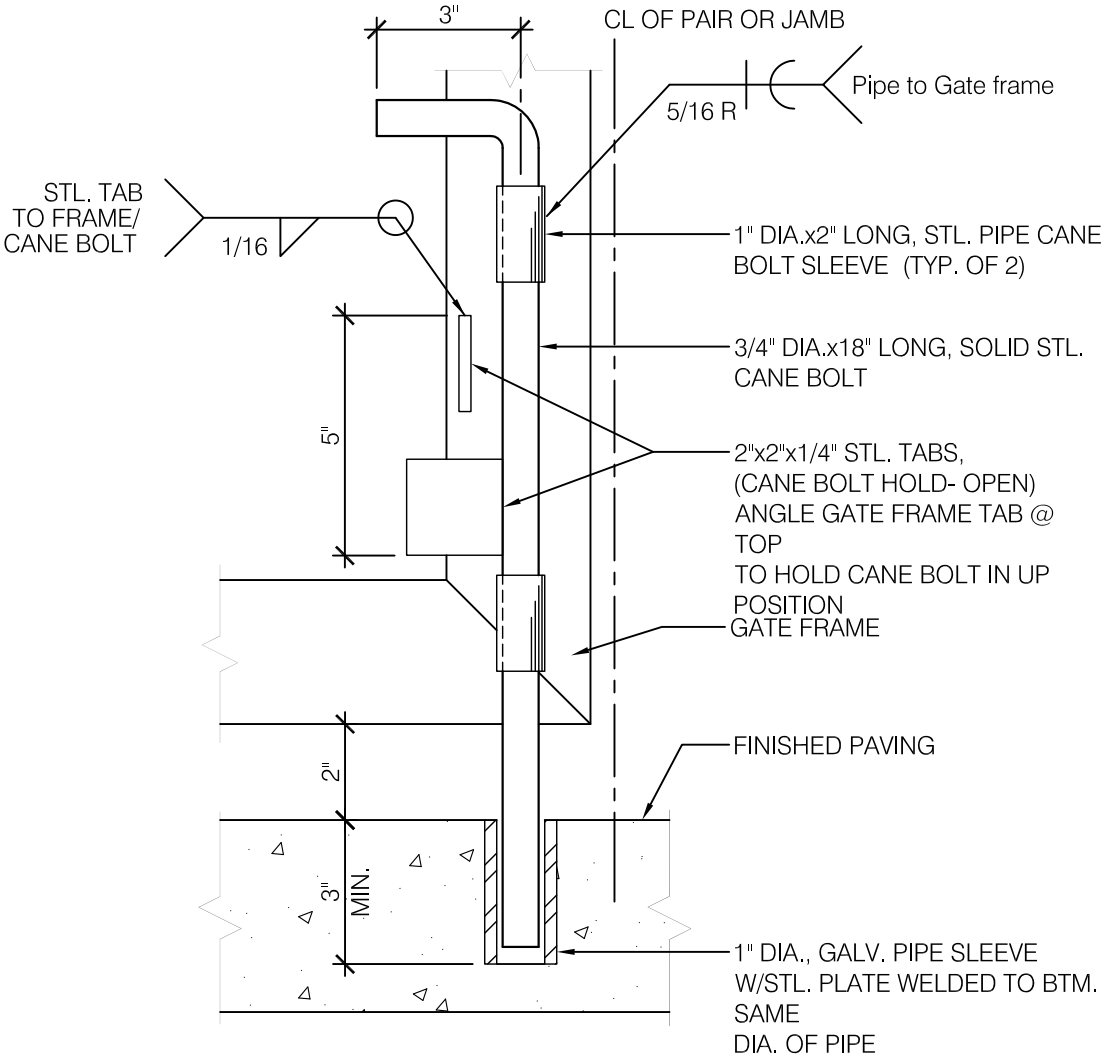
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

PCH # 10955

SCALE 3" = 1'-0"

DATE 02-28-2014

SHEET # AR-05



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LICENSED ARCHITECT
RALPH PACINI
NO. C11095
REN. 08-31-15
STATE OF CALIFORNIA

TITLE TRASH ENCLOSURE CANE BOLT

PROJECT COMMUNITY DAY SCHOOL

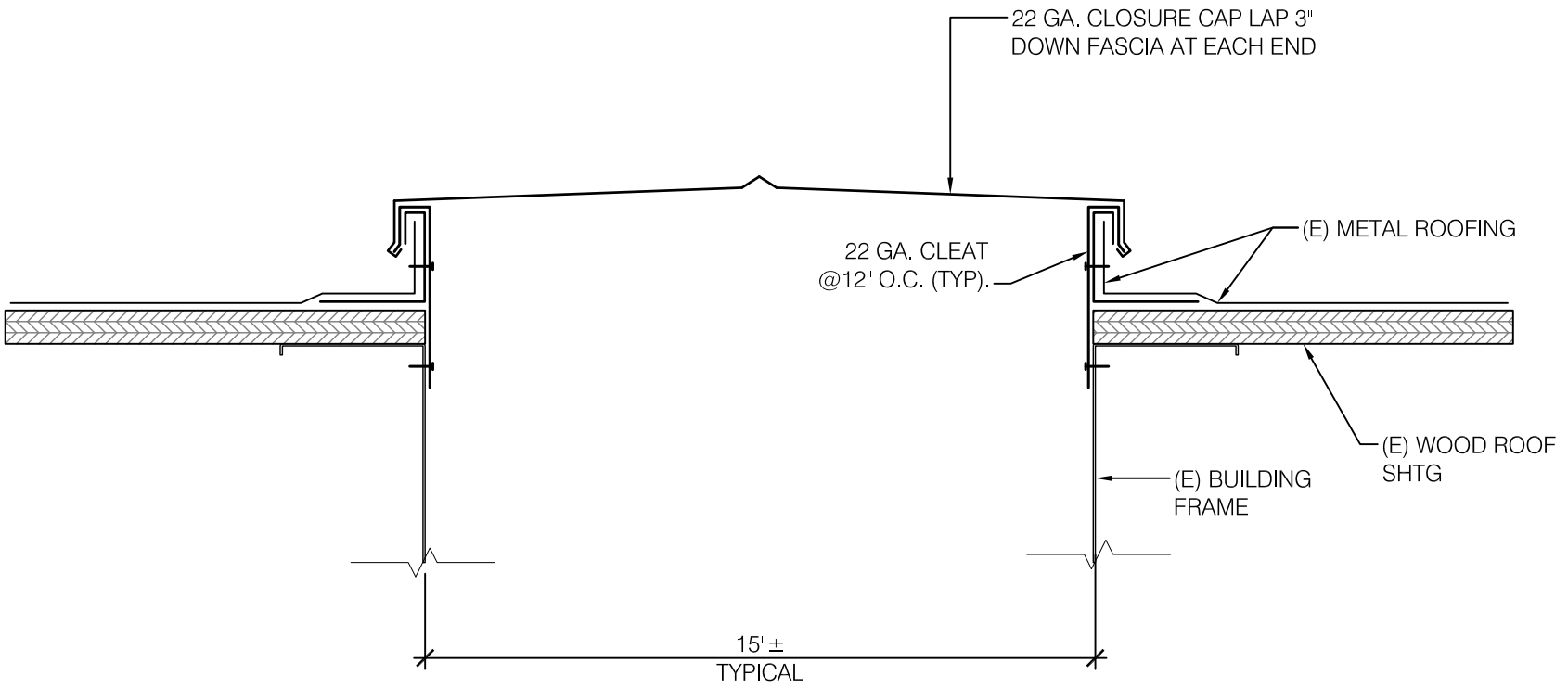
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

PCH # 10955

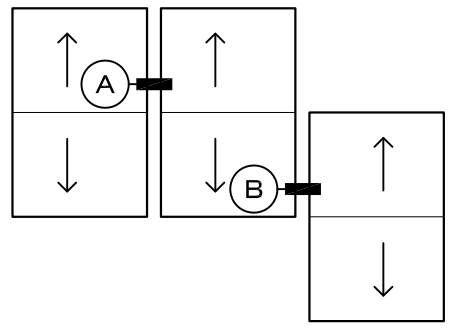
SCALE 3" = 1'-0"

DATE 02-28-2014

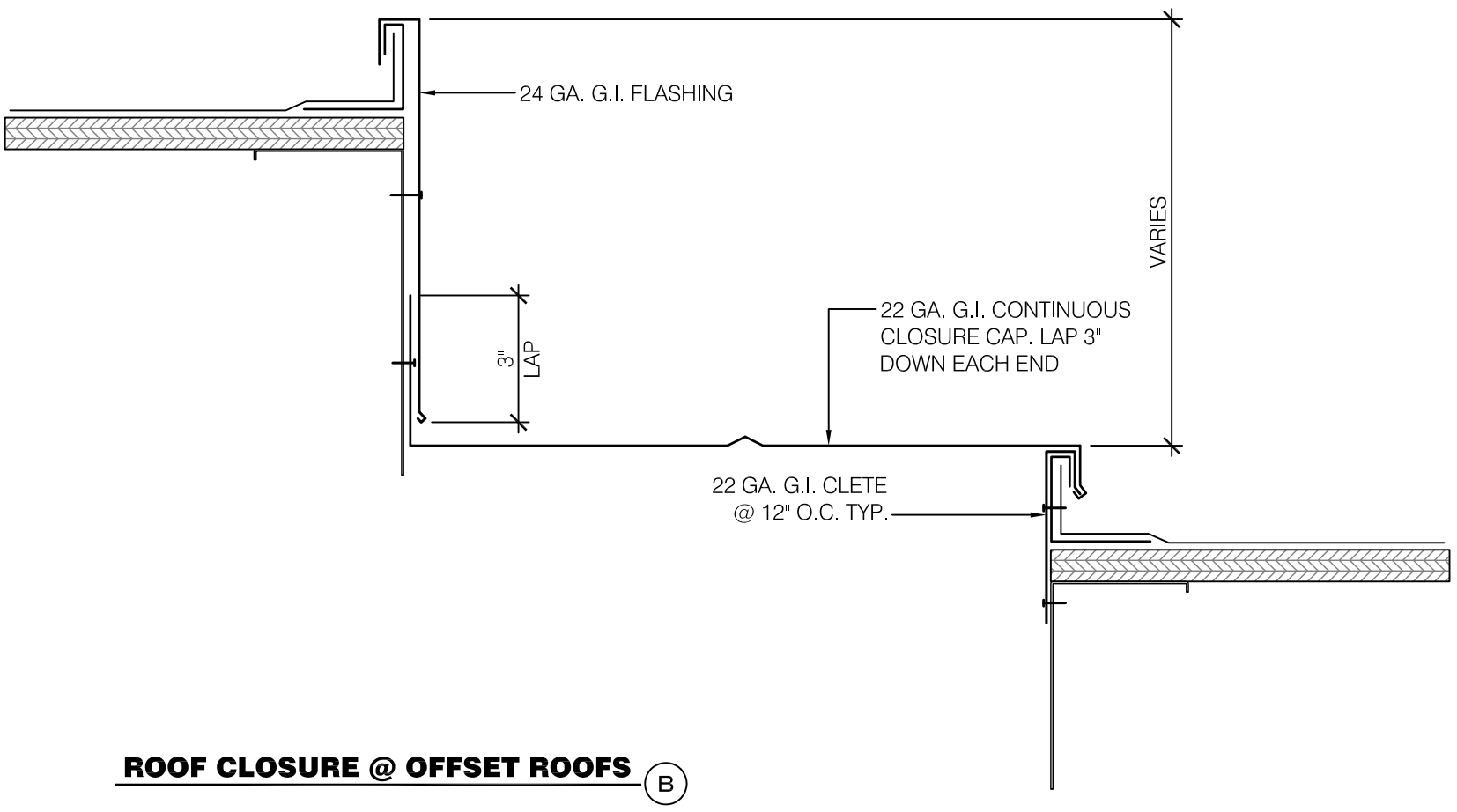
SHEET # **AR-06**



ROOF CLOSURE @ MATCHING ROOFS (A)



ADMIN ROOF PLAN
N.T.S.



ROOF CLOSURE @ OFFSET ROOFS (B)

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LICENSED ARCHITECT
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REN. 08-31-15
STATE OF CALIFORNIA

TITLE ROOF CLOSURES

PROJECT COMMUNITY DAY SCHOOL

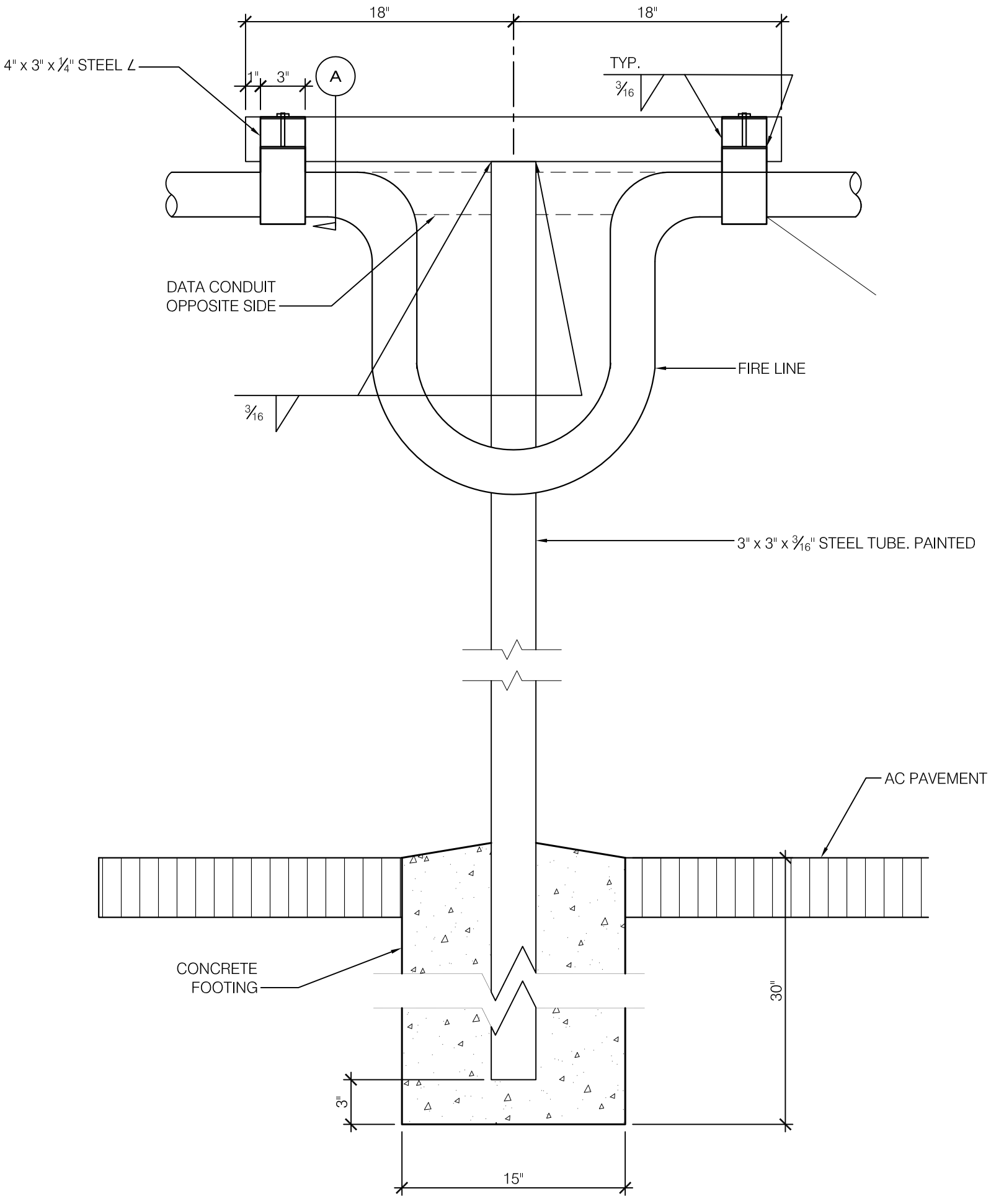
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

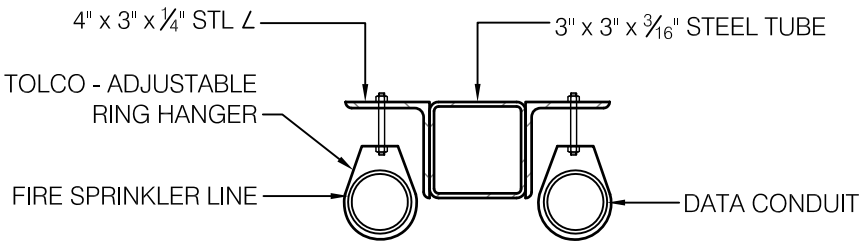
PCH # 10955

SCALE 3" = 1'-0"

DATE 02-28-2014

SHEET # **AR-07**





SECTION A
N.T.S.

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LICENSED ARCHITECT
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NO. C11095
REN. 08-31-15
STATE OF CALIFORNIA

TITLE PIPE SUPPORT

PROJECT COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

PCH # 10955

SCALE 1-1/2" = 1'0"

DATE 02-28-2014

SHEET # **AR-08**

WATER HEATER SCHEDULE

ITEM	MANUFACTURER	MODEL NO.	SERVICE	LOCATION	STORAGE	ELECTRICAL DEMANDS				RECOVERY CAPACITY @ 60°F	INLET TEMP °F	OUTLET TEMPER °F	OPER. WT. LBS.	REMARKS
						VOLT	PHASE	KW/AMP	CYCLE					
WH 1	CHRONOMITE MICRO	INSTANT-TEMP M-40	DOMESTIC HOT WATER	SEE PLANS	INSTANT-FLOW	208	1	40 A	60	INSTANT	60	110	8 LBS.	MUST HAVE ASHRAE STICKER OR OTHERWISE COMPLY WITH TITLE 24 REQUIREMENT FOR SERVICE WATER HEATERS.

FIXTURE SCHEDULE

ITEM	FIXTURE	ROUGH-IN CONNECTIONS						DESCRIPTION
		TRAP	WASTE	VENT	HOT WATER	COLD WATER	GAS	
WC 1	WATER CLOSET (ACCESSIBLE)	INT	4"	2"	--	1"	--	AMERICAN STANDARD (A/S) NO. 3461.001 "MADERA 16-1/8" UNIVERSAL HEIGHT ELONGATED FLUSH VALVE TOILET", SIPHON JET, FLOOR MOUNTED, ELONGATED BOWL, 17" HIGH. COMPLETE WITH SLOAN ROYAL NO. 111-1.28 GPF FLUSH VALVE, OLSONITE NO. 95CC-SS SEAT AND A/S BOLT CAPS.
L 1	LAVATORY (ACCESSIBLE, HW/CW)	1-1/4"	2"	1-1/2"	1/2"	1/2"	--	AMERICAN STANDARD (A/S) NO. 0355.012 "LUCERNE WALL HUNG LAVATORY", 20" X 18", WALL HUNG, COMPLETE WITH CHICAGO NO. 2200-4-E2805-ABCP SINGLE LEVER FAUCET WITH 0.5 GPM AERATOR AND VANDAL RESISTANT COVER PLATE, McGUIRE NO. 155A 1-1/4" OUTLET "OPEN GRID P.O. PLUG", McGUIRE NO. PW8090NC0 1-1/4" L.A. PATTERN P-TRAP WITH TRAP AND SUPPLY COVERS, GALVANIZED NIPPLE AND CHROMIUM PLATED BRASS CASING, CHICAGO NO. 1017-ABCP LOOSE KEY STOPS WITH RIGID SUPPLIES, AND ZURN NO. Z-1231 CARRIER WITH STEEL PLATE. MOUNT AT ADA ACCESSIBLE HEIGHT.
S 1	SINK (FACULTY, COUNTER, SINGLE BOWL, ACCESSIBLE, HW/CW)	1-1/2"	2"	1-1/2"	1/2"	1/2"	--	ELKAY NO. LRAD221955 "LUSTERTONE SINGLE BOWL", SINGLE COMPARTMENT, 18 GAUGE TYPE 304 STAINLESS STEEL, SELF-RIMMING, 22" X 19" X 5-1/2" DEEP. COMPLETE WITH CHICAGO NO. 786-E35VPCAB-CP FAUCET WITH 1.5 GPM AERATOR, McGUIRE NO. 152 1-1/2" OUTLET "WIDE TOP SINK STRAINER" McGUIRE NO. PW8089NC0 1-1/2" L.A. PATTERN P-TRAP WITH TRAP AND SUPPLY COVERS, GALVANIZED NIPPLE AND CHROMIUM PLATED BRASS CASING, AND CHICAGO NO. 1017-ABCP LOOSE KEY STOP WITH RIGID SUPPLIES. MOUNT IN ACCORDANCE WITH ADA REQUIREMENTS.
S 2	SINK (STUDENT, CHEMICAL, RESIN, CW ONLY)	1-1/2" AW	2" AW	1-1/2" AV	--	1/2"	--	KEWAUNEE NO. 1000-00 "KEMRESIN TUB SINK", 14" X 10" X 6" DEEP, MODIFIED EPOXY RESIN, ACID AND CHEMICAL RESISTANT, COMPLETE WITH CHICAGO NO. 928VR-317-CP DECK MOUNTED GOOSENECK FAUCET WITH NO. E-7 SERRATED NOZZLE, INTEGRAL VACUUM BREAKER, AND NO. 317 HANDLE, KEWAUNEE NO. 0464-00 1-1/2" POLYETHYLENE TRAP & SINK OUTLET ASSEMBLY WITH ADJUSTABLE TAILPIECE, AND CHICAGO NO. 1017-ABCP LOOSE KEY STOP.
S 3	SINK (STUDENT, CHEMICAL, ACCESSIBLE, RESIN, CW ONLY)	1-1/2" AW	2" AW	1-1/2" AV	--	1/2"	--	KEWAUNEE NO. 1000-00 "KEMRESIN TUB SINK", 14" X 10" X 6" DEEP, MODIFIED EPOXY RESIN, ACID AND CHEMICAL RESISTANT, COMPLETE WITH CHICAGO NO. 928VR-317-CP DECK MOUNTED GOOSENECK FAUCET WITH NO. E-7 SERRATED NOZZLE, INTEGRAL VACUUM BREAKER, AND NO. 317 HANDLE, KEWAUNEE NO. 0464-00 1-1/2" POLYETHYLENE TRAP & SINK OUTLET ASSEMBLY WITH ADJUSTABLE TAILPIECE, AND CHICAGO NO. 1017-ABCP LOOSE KEY STOPS. MOUNT IN ACCORDANCE WITH ADA REQUIREMENTS.
S 4	SINK (INSTRUCTOR, CHEMICAL, ACCESSIBLE, RESIN, HW/CW)	1-1/2" AW	2" AW	1-1/2" AV	1/2"	1/2"	--	KEWAUNEE NO. 1000-00 "KEMRESIN TUB SINK", 14" X 10" X 6" DEEP, MODIFIED EPOXY RESIN, ACID AND CHEMICAL RESISTANT, COMPLETE WITH CHICAGO NO. 930VR-317-CP DECK MOUNTED GOOSENECK FAUCET WITH NO. E-7 SERRATED NOZZLE, INTEGRAL VACUUM BREAKER, AND NO. 317 HANDLES, KEWAUNEE NO. 0464-00 1-1/2" POLYETHYLENE TRAP & SINK OUTLET ASSEMBLY WITH ADJUSTABLE TAILPIECE, AND CHICAGO NO. 1017-ABCP LOOSE KEY STOPS. MOUNT IN ACCORDANCE WITH ADA REQUIREMENTS.
WHA 1	WATER HAMMER ARRESTOR	--	--	--	--	--	--	ZURN NO. Z-1700 SERIES "SHOKTROL" WATER HAMMER ARRESTOR COMPLETE BEHIND ACCESS PANEL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
DF 1	DRINKING FOUNTAIN (ACCESSIBLE, PEDESTAL)	1-1/2"	2"	1-1/2"	--	3/4"	--	HAWS NO. 3300, PEDESTAL MOUNTED, TWO-BUBBLER, BARRIER FREE, 11 GAUGE GALVANIZED STEEL, STAINLESS STEEL RECEPTORS, VANDAL-PROOF BUBBLERS, PUSH BUTTON VALVES AND STAINLESS STEEL ACCESS PLATES, COMPLETE WITH HAWS NO. 6620 CONCRETE STEP, 10" HIGH. INSTALL WITH 30" SQUARE X 6" THICK CONCRETE SLAB PER MANUFACTURER'S RECOMMENDATION.
NT 1	ACID NEUTRALIZER TANK	--	--	--	--	--	--	IPEX MODEL NO. CT0030 "EZ ACCESS POLYPROPYLENE NEUTRALIZATION TANK", 30 GALLON CAPACITY, 4" INLET AND 4" OUTLET, 4" VENT, 18" DIAMETER X 29" HIGH, PROVIDE WITH LIMESTONE CHIPS AND INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

GENERAL NOTES

1. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. ALL ACCESSIBLE WATER CLOSETS SHALL HAVE FLUSH VALVE WITH HANDLE ON OPEN SIDE.
3. ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS PIPE UNLESS OTHERWISE INDICATED ON DRAWINGS.
4. ALL PLUMBING FIXTURE VENTS TO TERMINATE A MINIMUM OF 12 INCHES FROM ANY VERTICAL SURFACE AND 10 FEET FROM ANY OUTSIDE AIR INTAKES.
5. EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS.
6. ALL EXTERIOR GAS COCKS, WATER SHUT OFF VALVES AND/OR SEWER CLEANOUTS BELOW GROUND SHALL BE INSTALLED IN YARD BOXES WITH THE COVERS CONSPICUOUSLY MARKED "GAS", "WATER", AND "SEWER" RESPECTIVELY.
7. CONNECTION BETWEEN INCOMPATIBLE MATERIALS ABOVE GRADE AND INSIDE BUILDING SHALL BE MADE WITH TWO (2) DIELECTRIC UNIONS SEPARATED BY A TWELVE INCH (12") SECTION OF RED BRASS PIPE.
8. ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS WITH EQUIPMENT, CABINETS, ETC., AND THE ARCHITECT PRIOR TO ANY INSTALLATION.
9. SEE ARCHITECTURAL DRAWINGS FOR ACCESSIBLE FIXTURE LOCATIONS AND MOUNTING HEIGHTS. INSULATE ALL EXPOSED HOT WATER AND DRAIN PIPING BELOW ACCESSIBLE LAVATORIES AND SINKS.
10. ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING.
11. ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH CALIFORNIA PLUMBING CODE 2010.

    THESE DRAWINGS INDICATE THE SEWER, WATER, AND STORM DRAIN SYSTEMS TO POINT OF CONNECTION 5'-0" OUTSIDE OF THE BUILDING. CONTINUATION OF THESE SYSTEMS IS SHOWN ON THE CIVIL DRAWINGS AND IS SPECIFIED UNDER ANOTHER SECTION OF THE SPECIFICATIONS. THE PIPING SHALL BE INSTALLED TO MEET THE INVERT ELEVATIONS SHOWN ON THE CIVIL DRAWINGS.
13. INSULATION (SEE SPECIFICATION FOR TYPE REQUIRED) AND COVERING ON PIPE AND TUBING SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH 2010 C.B.C. SECTION 719.7.
14. ANY ALTERATIONS TO A STRUCTURAL MEMBER, SUCH AS CUTTING, BORING, BRAZING, DRILLING, WELDING, ETC. SHALL HAVE PRIOR WRITTEN APPROVAL OF ARCHITECT, STRUCTURAL ENGINEER AND DSA.
15. PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

    PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-05 SECTION 13.3 AS DEFINED IN ASCE 7-05 SECTION 13.6.8, 13.6.7. 13.6.5.6 AND 2010 CBC, SECTIONS 1615A.1.20, 1615A.1.21 AND 1615A.1.22.

    THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL COMPLY WITH ONE OF THE OSHPD PREAPPROVALS WITH AN OPS #, SUCH AS MASON INDUSTRIES (OPA 349), OR ISAT (OPA 485) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

    COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS.

    THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.
16. M.E.P. COMPONENT ANCHORAGE NOTE:

    ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2010 CBC, SECTION 1615A.1.12 THROUGH 1615A.1,22 AND ASCE 7-05 CHAPTER 6 AND 13.

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

    THE ATTACHMENT OF THE FOLLOWNG MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THE PROJECT INSPECTOR WILL VERIFY THAT THESE ITEMS HAVE BEEN POSITIVELY ATTACHED. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT:

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

    FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL ENGINEER.

LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	S OR W	SOIL OR WASTE BELOW FLOOR OR GRADE
AW	AW	ACID WASTE BELOW
	V	SANITARY VENT
	CW	COLD WATER
	HW	HOT WATER
CD	CD	CONDENSATE DRAIN
AV	AV	ACID VENT
ESS	ESS	EXISTING SANITARY SEWER
EV	EV	EXISTING SANITARY VENT
ECW	ECW	EXISTING COLD WATER
		DIRECTION OF FLOW
	SOV	SHUT-OFF VALVE
	FCO	FLOOR CLEANOUT
	WCO	WALL CLEANOUT
		RISER UP
		RISER DOWN
	ABV	ABOVE
	AP	ACCESS PANEL
	BEL	BELOW
	CLG	CEILING
	CONT	CONTINUATION
	COTG	CLEANOUT TO GRADE
	DN	DOWN
	EXIST	EXISTING
	FLR	FLOOR
	FFE	FINISH FLOOR ELEVATION
	I.E.	INVERT ELEVATION
	POC	POINT OF CONNECTION
	PLCS	PLACES
	SLVE	SLEEVE
	VTR	VENT THRU ROOF
	YB	YARD BOX

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ARCHITECT STAMP

CONSULTANT STAMP

REGISTERED PROFESSIONAL ENGINEER No. M35839 Exp. 12/31/14 MECHANICAL STATE OF CALIFORNIA

CONSULTANT LOGO

PDS Pocock Design Solutions Inc.

COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

DSA STAMP

MARK	DATE	DESCRIPTION
2	2/28/14	ADDENDUM 5

PROJECT NO: 10955

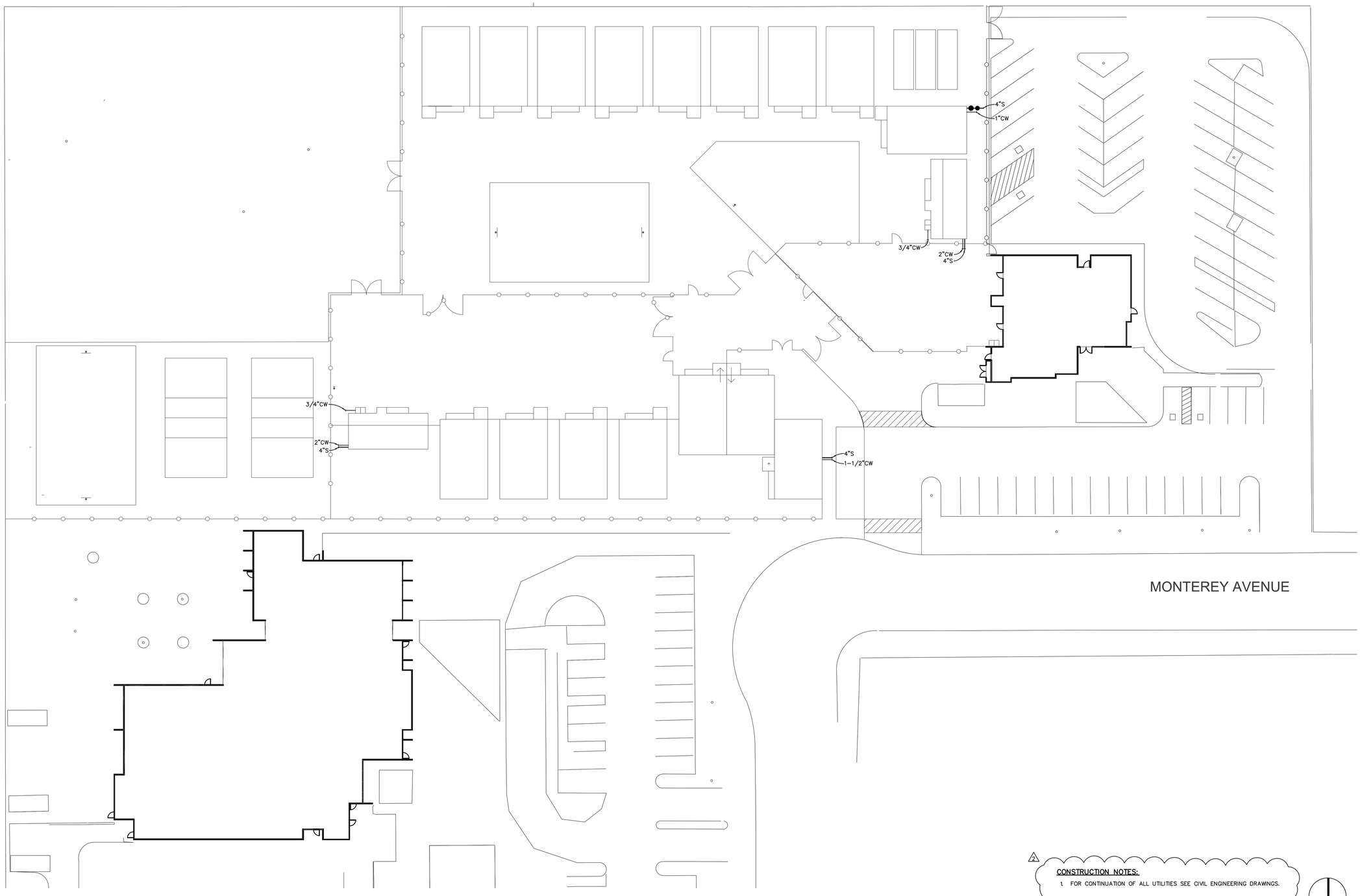
CHK'D BY:

DATE:

SHEET TITLE

PLUMBING LEGEND, SCHEDULES, GENERAL NOTES

P-1



CONSTRUCTION NOTES:

1. FOR CONTINUATION OF ALL UTILITIES SEE CIVIL ENGINEERING DRAWINGS.

NORTH

PLUMBING SITE PLAN

SCALE 1"=20'-0" 1

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No. M35839
Exp. 1/31/14
MECHANICAL
STATE OF CALIFORNIA

CONSULTANT LOGO

PDS
Pocock Design Solutions Inc.

COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

DSA STAMP

MARK	DATE	DESCRIPTION
2	2/28/14	ADDENDUM 5

PROJECT NO: 10955

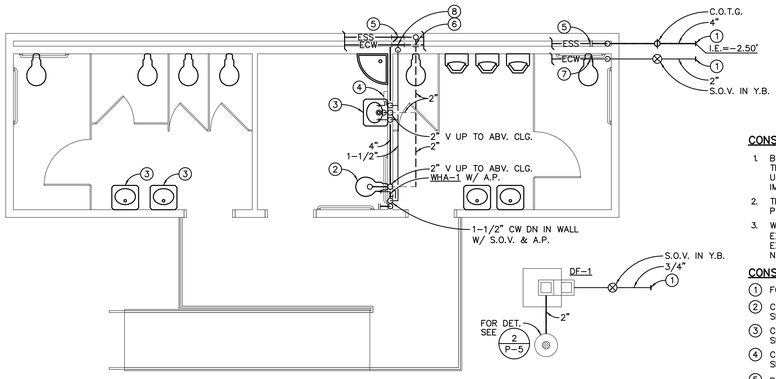
CHK'D BY:

DATE:

SHEET TITLE

PLUMBING SITE PLAN

P-2



CONSTRUCTION NOTES:

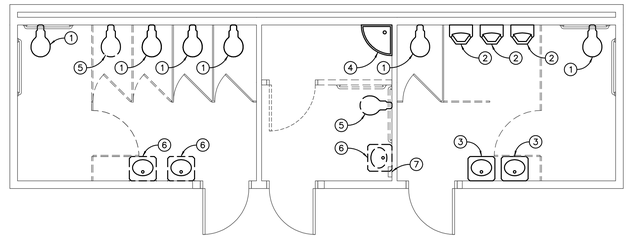
1. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTION PRIOR TO BIDDING PROJECT.
3. WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO SUIT THE NEW FIXTURE.

CONSTRUCTION KEY NOTES:

1. FOR CONTINUATION OF ALL UTILITIES SEE SHEET P-2.
2. CONTRACTOR SHALL ROUGH-IN AND CONNECT TO EXISTING AND NEW SERVICES FOR EXISTING RELOCATED WATER CLOSET.
3. CONTRACTOR SHALL ROUGH-IN AND CONNECT TO EXISTING AND NEW SERVICES FOR EXISTING RELOCATED LAVATORY.
4. CONTRACTOR SHALL ROUGH-IN AND CONNECT TO EXISTING AND NEW SERVICES FOR EXISTING RELOCATED INSTANTANEOUS WATER HEATER.
5. P.O.C. NEW 4" SEWER LINE TO EXISTING SEWER LINE ABOVE GRADE. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
6. P.O.C. NEW 2" VENT LINE TO EXISTING VENT THRU ROOF ABOVE CEILING. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
7. P.O.C. NEW 2" COLD WATER LINE TO EXISTING COLD WATER LINE IN WALL. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.
8. P.O.C. NEW 1-1/2" COLD WATER LINE TO EXISTING COLD WATER LINE IN WALL. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING.

PLUMBING TYPICAL TOILET BUILDING REMODEL PLAN

SCALE 1/4"=1'-0" | 3



DEMOLITION NOTES:

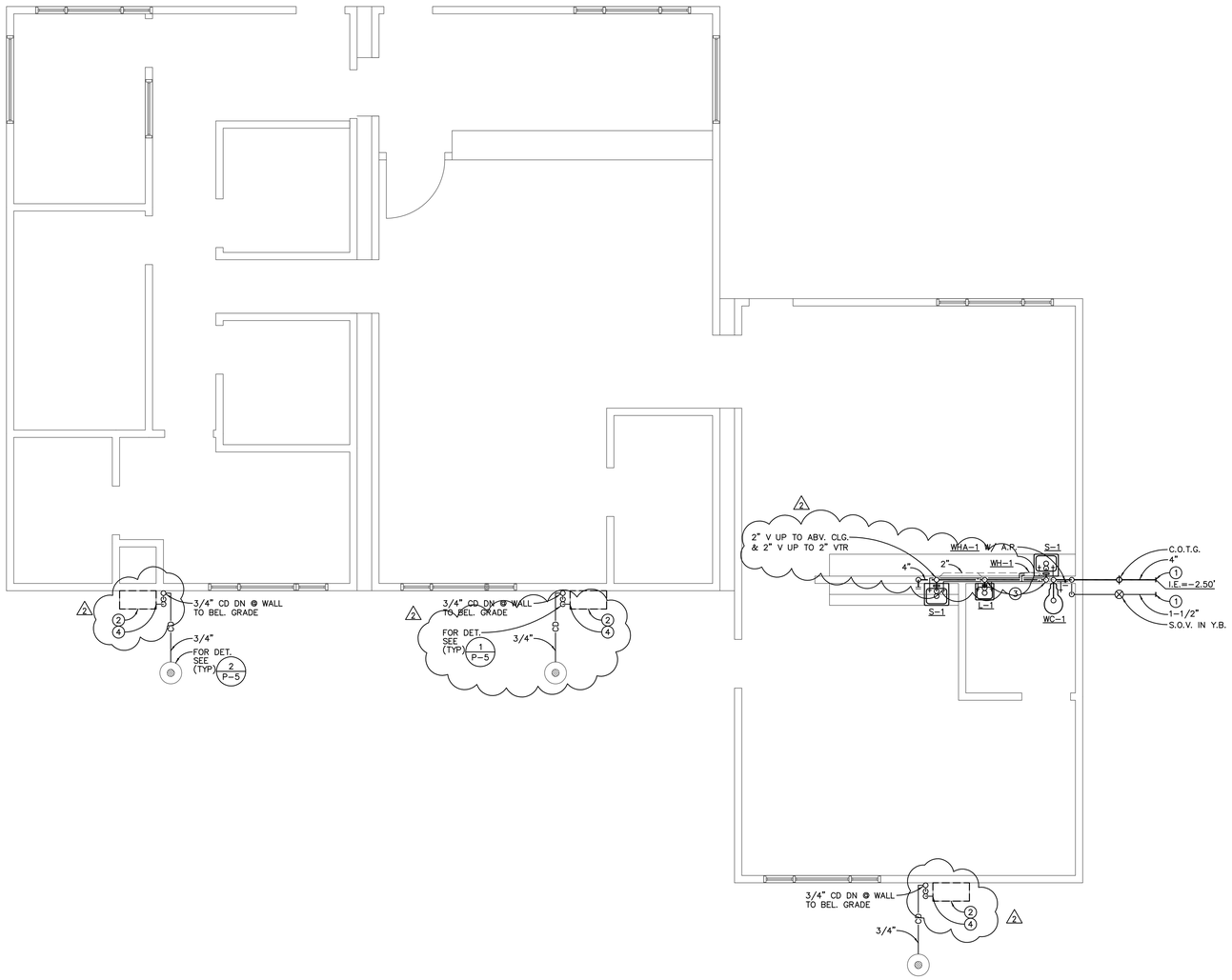
1. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL ITEMS INDICATED TO BE REMOVED. CONTRACTOR SHALL VERIFY ALL SUCH ITEMS WITH OWNER PRIOR TO REMOVAL. ALL ITEMS NOT REFUSED BY OWNER SHALL BE REMOVED INTACT AND FULLY FUNCTIONAL BY CONTRACTOR FOR OWNER'S USE. ALL ITEMS REFUSED BY OWNER SHALL BE PROPERLY DISPOSED OF BY CONTRACTOR.
2. REMOVE EXISTING FIXTURES AND EQUIPMENT AS INDICATED. HOT WATER, COLD WATER, VENT AND/OR GAS PIPING SERVING SUCH ITEMS SHALL BE REMOVED TO A SUITABLE CONCEALED LOCATION WITHIN WALL OR ABOVE CEILING AND CAPPED OR PLUGGED UNLESS OTHERWISE NOTED (U.O.N.). WASTE PIPING SERVING SUCH FIXTURES SHALL BE REMOVED TO A SUITABLE CONCEALED LOCATION BELOW FINISHED FLOOR OR BEHIND WALL AND CAPPED OR PLUGGED U.O.N. ASSOCIATED EXISTING DEFUNCT PIPING IN CONCEALED LOCATIONS ABOVE CEILING, WITHIN WALLS, BELOW SLAB, OR BELOW GRADE SHALL BE ABANDONED IN PLACE OR REMOVED AS NECESSARY TO AVOID INTERFERENCE WITH NEW WORK. ASSOCIATED EXISTING DEFUNCT PIPING AND COMPONENTS IN EXPOSED LOCATIONS SHALL BE REMOVED U.O.N. (INCLUDING FLOOR DRAINS, WALL AND FLOOR CLEANOUTS, CLEANOUTS TO GRADE, ACCESS PANELS, SHUT-OFF VALVES AND COCKS, YARD BOXES, MANHOLES, CATCH BASINS, AND OTHER EXPOSED COMPONENTS). EXISTING DEFUNCT ELECTRICAL COMPONENTS SERVING EXISTING TO BE REMOVED EQUIPMENT SHALL BE DEMOLISHED AND REMOVED TO POINT OF ORIGIN.

DEMOLITION KEY NOTES:

1. EXISTING WATER CLOSET TO REMAIN.
2. EXISTING URINAL TO REMAIN.
3. EXISTING LAVATORY TO REMAIN.
4. EXISTING SERVICE SINK TO REMAIN.
5. EXISTING WATER CLOSET TO BE REMOVED AND RELOCATED BY PLUMBING CONTRACTOR.
6. EXISTING LAVATORY TO BE REMOVED AND RELOCATED BY PLUMBING CONTRACTOR.
7. EXISTING INSTANTANEOUS WATER HEATER TO BE REMOVED AND RELOCATED BY PLUMBING CONTRACTOR.

PLUMBING TYPICAL TOILET BUILDING DEMOLITION PLAN

SCALE 1/4"=1'-0" | 2



CONSTRUCTION KEY NOTES:

1. FOR CONTINUATION OF ALL UTILITIES SEE SHEET P-2.
2. EXISTING A/C UNIT ON WALL.
3. 2" V UP TO ABV. CLG.
4. P.O.C. NEW 3/4" CD TO EXISTING A/C UNIT.

PLUMBING ADMINISTRATION BUILDING PLAN

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

architects, llp
30 South Center Street, Redlands California 92373
Telephone: 909.792.7397, Fax: 909.793.7873

ARCHITECT STAMP

CONSULTANT STAMP

REGISTERED PROFESSIONAL ENGINEER
No. M30639
Exp. 3/31/14
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CONSULTANT LOGO

PDS
Pocock Design Solutions Inc.

COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

DSA STAMP

MARK	DATE	DESCRIPTION
2	2/28/14	ADDENDUM 5

PROJECT NO: 10955

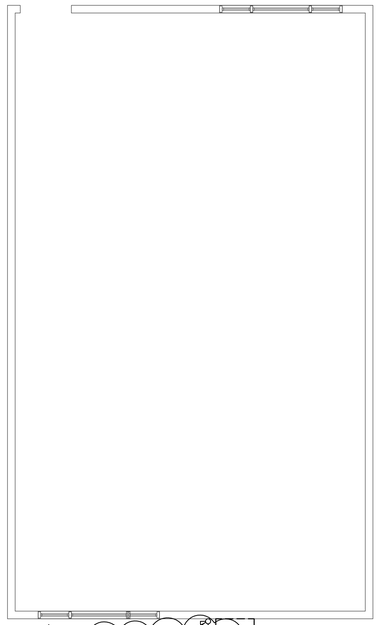
CHK'D BY:

DATE:

SHEET TITLE

PLUMBING FLOOR PLANS

P-3



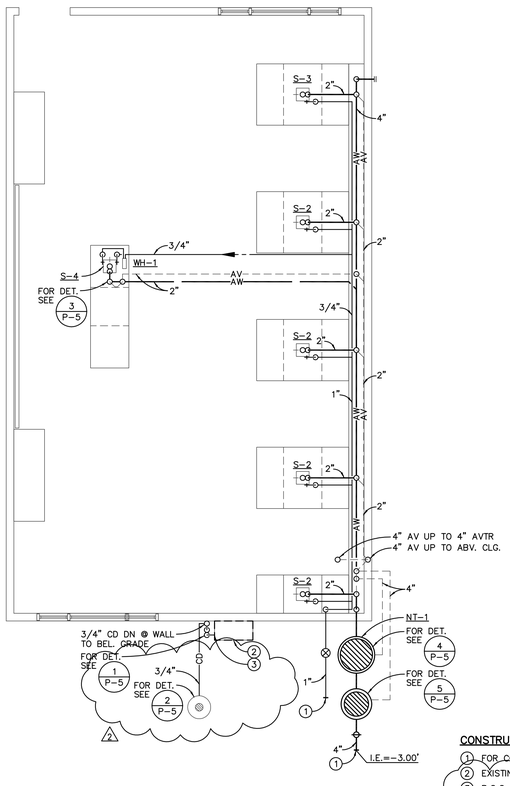
CONSTRUCTION KEY NOTES:

2

1. EXISTING A/C UNIT ON WALL.
2. P.O.C. 3/4" CD TO EXISTING A/C.

FLOOR PLAN

SCALE 1/4"=1'-0" | 2



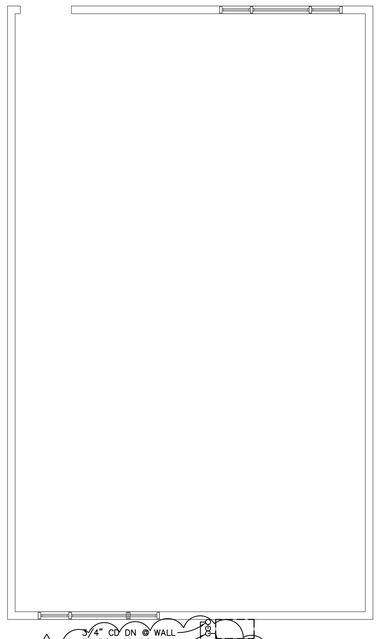
CONSTRUCTION KEY NOTES:

2

1. FOR CONTINUATION OF ALL UTILITIES SEE SHEET P-2.
2. EXISTING A/C UNIT ON WALL.
3. P.O.C. 3/4" CD TO EXISTING A/C.

FLOOR PLAN

SCALE 1/4"=1'-0" | 3



CONSTRUCTION KEY NOTES:

2

1. EXISTING A/C UNIT ON WALL.
2. P.O.C. 3/4" CD TO EXISTING A/C.

FLOOR PLAN

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

pdh architects, llp

30 South Center Street, Redlands California 92373
Telephone: 909.792.7397, Fax: 909.793.7873

ARCHITECT STAMP

CONSULTANT STAMP

REGISTERED PROFESSIONAL ENGINEER
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Exp. 12/31/14
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STATE OF CALIFORNIA

CONSULTANT LOGO

PDS
Pocock Design Solutions Inc.

COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

DSA STAMP

MARK	DATE	DESCRIPTION
2	2/28/14	ADDENDUM 5

PROJECT NO: 10955

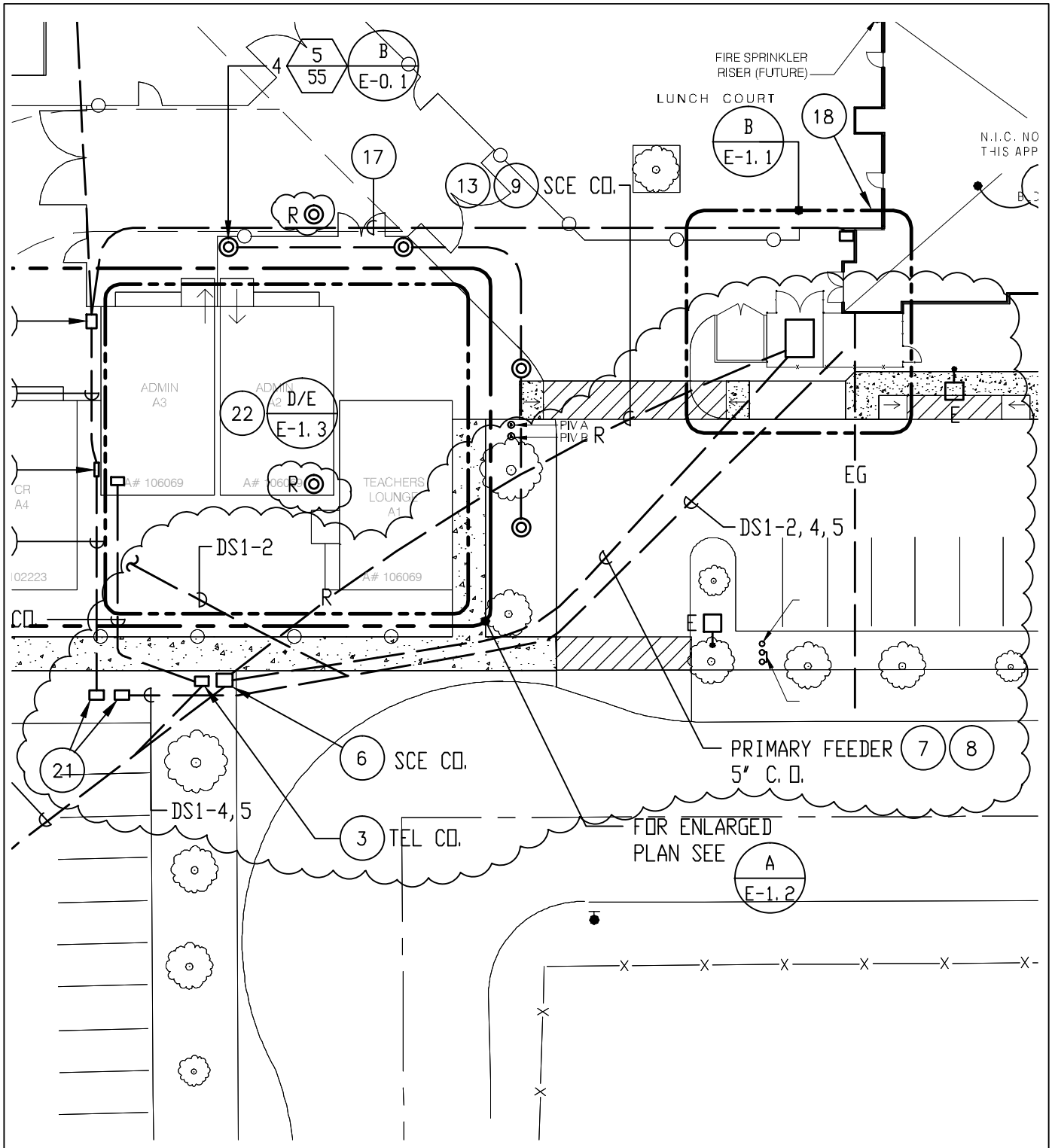
CHK'D BY:

DATE:

SHEET TITLE

PLUMBING FLOOR PLANS

P-4



REFERENCE SHEET: E-1.1

pcb architects, llp
30 South Center Street, Redlands California 92373
Telephone: 909.792.7397, Fax: 909.793.7873

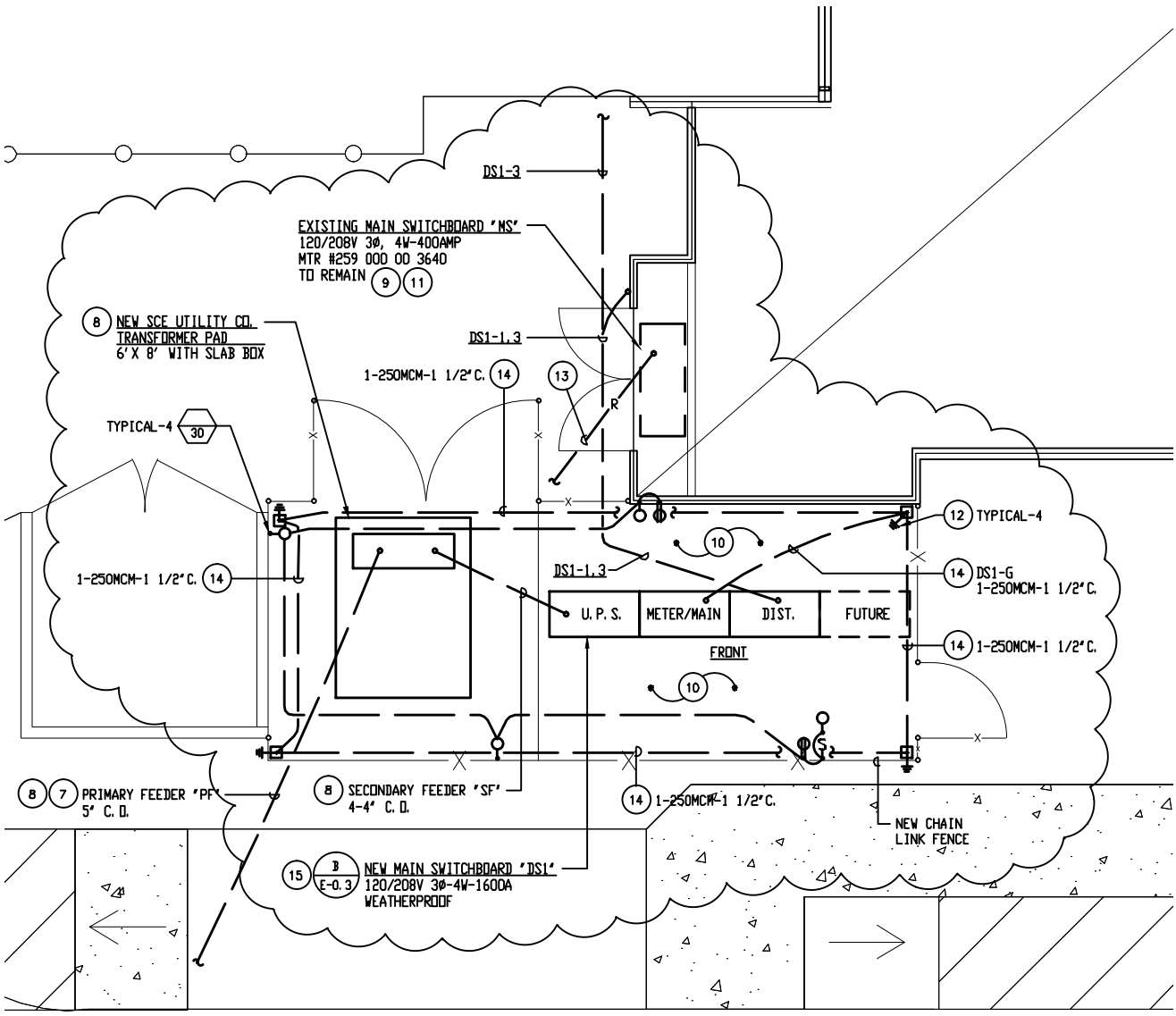
FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 205.159

COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

DATE 02-28-14
SCALE NONE

ESK-1



REFERENCE SHEET: E-1.1

pcb architects, llp
30 South Center Street, Redlands California 92373
Telephone: 909.792.7397, Fax: 909.793.7873

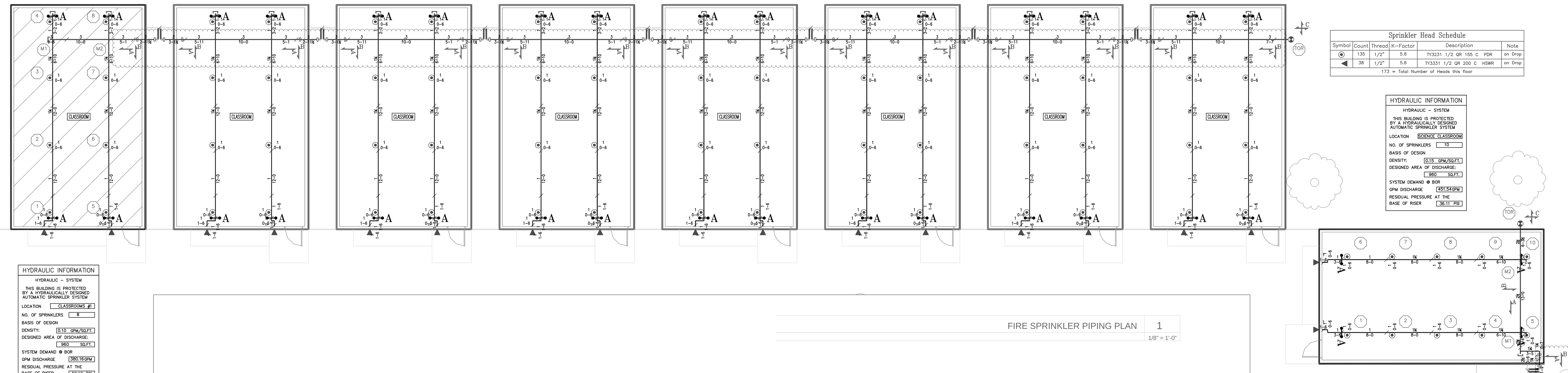
FBA Engineering
Consulting Electrical Engineers
150 Paularino Avenue Suite A120
Costa Mesa, CA 92626
949.852.9995 • 949.852.1657 (fax)
fbaengr.com
FBA Job Number: 205.159

COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

DATE 02-28-14
SCALE NONE

ESK-2



Sprinkler Head Schedule					
Symbol	Count	Thread	K–Factor	Description	Note
◉	135	1/2"	5.6	TY3231 1/2 QR 155 C PDR	on Drop
◀	38	1/2"	5.6	TY3331 1/2 QR 200 C HSWR	on Drop
173 = Total Number of Heads this floor					

HYDRAULIC INFORMATION

HYDRAULIC – SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM

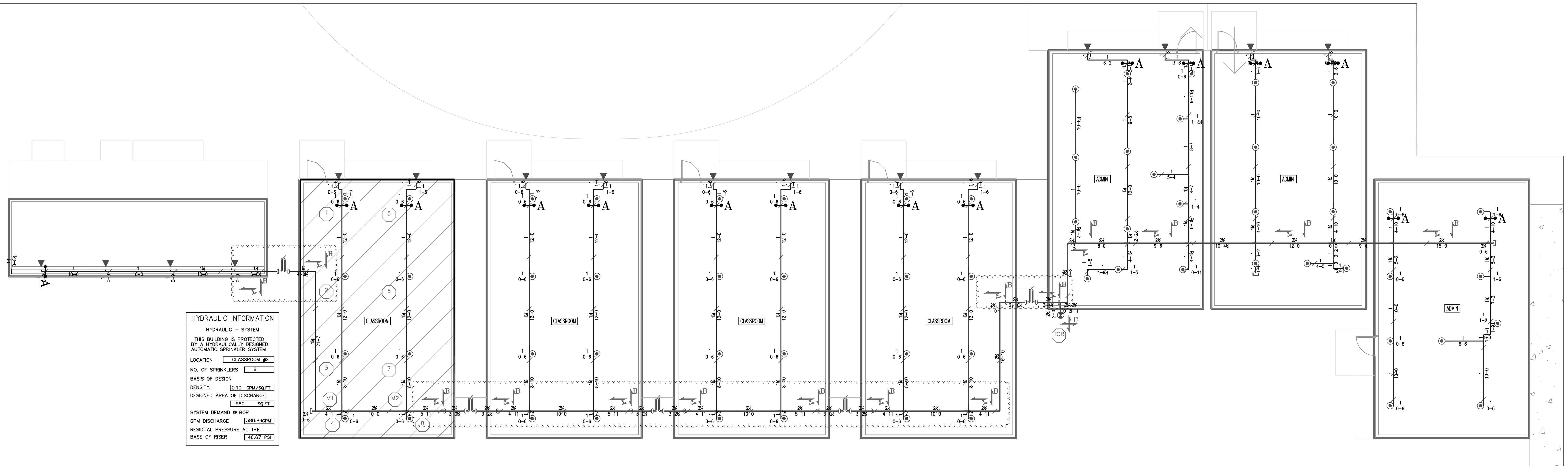
LOCATION: SCIENCE CLASSROOM
NO. OF SPRINKLERS: 10
BASIS OF DESIGN
DENSITY: 0.15 GPM/SQ.FT.
DESIGNED AREA OF DISCHARGE: 960 SQ.FT.
SYSTEM DEMAND @ BOR
GPM DISCHARGE: 451.54 GPM
RESIDUAL PRESSURE AT THE BASE OF RISER: 36.11 PSI

HYDRAULIC INFORMATION

HYDRAULIC – SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM

LOCATION: CLASSROOMS #1
NO. OF SPRINKLERS: 8
BASIS OF DESIGN
DENSITY: 0.10 GPM/SQ.FT.
DESIGNED AREA OF DISCHARGE: 960 SQ.FT.
SYSTEM DEMAND @ BOR
GPM DISCHARGE: 380.16 GPM
RESIDUAL PRESSURE AT THE BASE OF RISER: 59.10 PSI



HYDRAULIC INFORMATION

HYDRAULIC – SYSTEM

THIS BUILDING IS PROTECTED BY A HYDRAULICALLY DESIGNED AUTOMATIC SPRINKLER SYSTEM

LOCATION: CLASSROOM #2
NO. OF SPRINKLERS: 8
BASIS OF DESIGN
DENSITY: 0.10 GPM/SQ.FT.
DESIGNED AREA OF DISCHARGE: 960 SQ.FT.
SYSTEM DEMAND @ BOR
GPM DISCHARGE: 380.89 GPM
RESIDUAL PRESSURE AT THE BASE OF RISER: 46.67 PSI

Seismic Sway Brace Calculations

PER NFPA 13, 2010 EDITION, SECTION 9.3.5

Project Information:
SBCUSD Comm. Day School
794 E Monterey Ave
San Bernardino, CA 92410

Contractor Information:
Pocock Design Solutions, Inc.
3 Peters Canyon Road
Irvine, CA

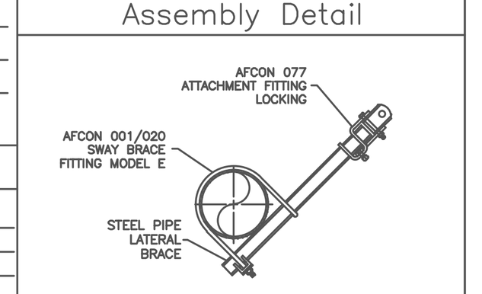
Brace Information

Maximum Spacing = 29–0"
Length of Brace = 7'–0"
Bracing Material = 1" SCH. 40
Angle from Vertical = 30°–45%
Least Radius of Gyration = 0.54
L/R Value = 200
Maximum Horizontal Load = 2,015 LBS.

Brace Components

Structure attachment fitting or tension–only bracing system
Make: AFCON Model: 001 / 020
Listed load rating: 655 Adj. load rating per Table 9.3.5.10.3: 567
Make: AFCON Model: 077
Listed load rating: 2015 Adj. load rating per Table 9.3.5.10.3: 1745

Assembly Detail



Brace identification no. (to be used on plans): A

☒ Lateral ☐ Longitudinal

Fastener Information

Fastener Orientation = NFPA Type A
Type of Fastener = BOLT
Diameter of Fastener = 1/2"
Length of Fastener = 2"
Maximum Load = 1265 LBS.
STEEL Z–PURLIN

Sprinkler System Load Calculation (Fp = 0.82 Wp)

Diameter	Type	Length (ft)	Weight per ft		Total Weight
3"	SCH. 10	29'–0"	7.94	lb/ft	230.20 LB
1 1/4"	SCH. 40	38–0"	2.93	lb/ft	111.30 LB
1"	SCH. 40	76'–0"	2.05	lb/ft	155.80 LB
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
Total Weight for Pipe					497.3 LB
Percentage added for Fittings and Sprinklers				15%	74.6 LB
Total Weight of Pipe, Fittings, and Sprinklers					571.9 LB
Total Assigned Load of all Pipe within Zone Of Influence					468.95 LB

Seismic Sway Brace Calculations

PER NFPA 13, 2010 EDITION, SECTION 9.3.5

Project Information:
SBCUSD Comm. Day School
794 E Monterey Ave
San Bernardino, CA 92410

Contractor Information:
Pocock Design Solutions, Inc.
3 Peters Canyon Road
Irvine, CA

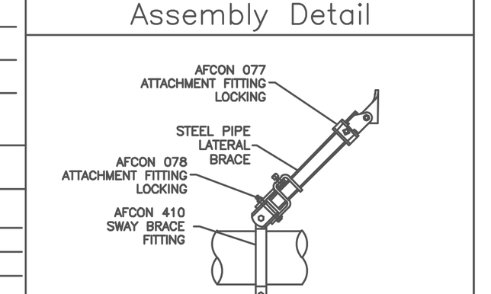
Brace Information

Maximum Spacing = 29'–0"
Length of Brace = 7'–0"
Bracing Material = 1" SCH. 40
Angle from Vertical = 30°–45%
Least Radius of Gyration = 0.54
L/R Value = 200
Maximum Horizontal Load = 2,015 LBS.

Brace Components

Structure attachment fitting or tension–only bracing system
Make: AFCON Model: 410
Listed load rating: 500 Adj. load rating per Table 9.3.5.10.3: 433
Make: AFCON Model: 077 & 078
Listed load rating: 2015 Adj. load rating per Table 9.3.5.10.3: 1745

Assembly Detail



Brace identification no. (to be used on plans): B

☐ Lateral ☒ Longitudinal

Fastener Information

Fastener Orientation = NFPA Type A
Type of Fastener = BOLT
Diameter of Fastener = 1/2"
Length of Fastener = 2"
Maximum Load = 1265 LBS.
STEEL Z–PURLIN

Sprinkler System Load Calculation (Fp = 0.82 Wp)

Diameter	Type	Length (ft)	Weight per ft		Total Weight
3"	SCH. 10	29'–0"	7.94	lb/ft	230.2 LB
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
Total Weight for Pipe					230.2 LB
Percentage added for Fittings and Sprinklers				15%	34.5 LB
Total Weight of Pipe, Fittings, and Sprinklers					264.7 LB
Total Assigned Load of all Pipe within Zone Of Influence					217.05 LB

Seismic Sway Brace Calculations

PER NFPA 13, 2010 EDITION, SECTION 9.3.5

Project Information:
SBCUSD Comm. Day School
794 E Monterey Ave
San Bernardino, CA 92410

Contractor Information:
Pocock Design Solutions, Inc.
3 Peters Canyon Road
Irvine, CA

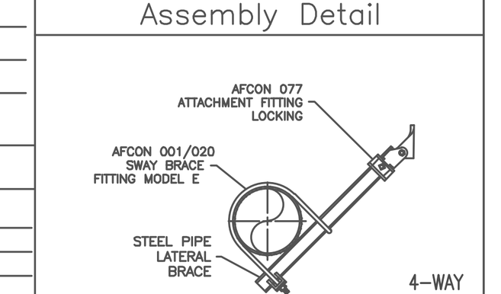
Brace Information

Maximum Spacing = 29'–0"
Length of Brace = 7'–0"
Bracing Material = 1" SCH. 40
Angle from Vertical = 30°–45%
Least Radius of Gyration = 0.54
L/R Value = 200
Maximum Horizontal Load = 2,015 LBS.

Brace Components

Structure attachment fitting or tension–only bracing system
Make: AFCON Model: 001 / 020
Listed load rating: 655 Adj. load rating per Table 9.3.5.10.3: 463
Make: AFCON Model: 077
Listed load rating: 2015 Adj. load rating per Table 9.3.5.10.3: 1425

Assembly Detail



Brace identification no. (to be used on plans): C

☒ Lateral ☐ Longitudinal

Fastener Information

Fastener Orientation = NFPA Type A
Type of Fastener = BOLT
Diameter of Fastener = 1/2"
Length of Fastener = 2"
Maximum Load = 1265 LBS.
STEEL Z–PURLIN

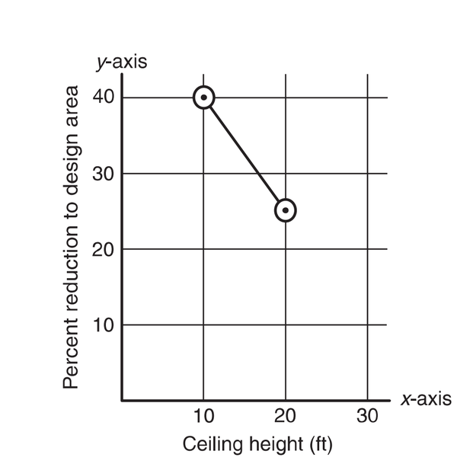
Sprinkler System Load Calculation (Fp = 0.82 Wp)

Diameter	Type	Length (ft)	Weight per ft		Total Weight
3"	SCH. 10	10'–0"	7.94	lb/ft	79.4 LB
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
				lb/ft	
Total Weight for Pipe					79.4 LB
Percentage added for Fittings and Sprinklers				15%	11.9 LB
Total Weight of Pipe, Fittings, and Sprinklers					91.3 LB
Total Assigned Load of all Pipe within Zone Of Influence					74.86 LB

FIRE SPRINKLER PIPING PLAN 2
1/8" = 1'-0"

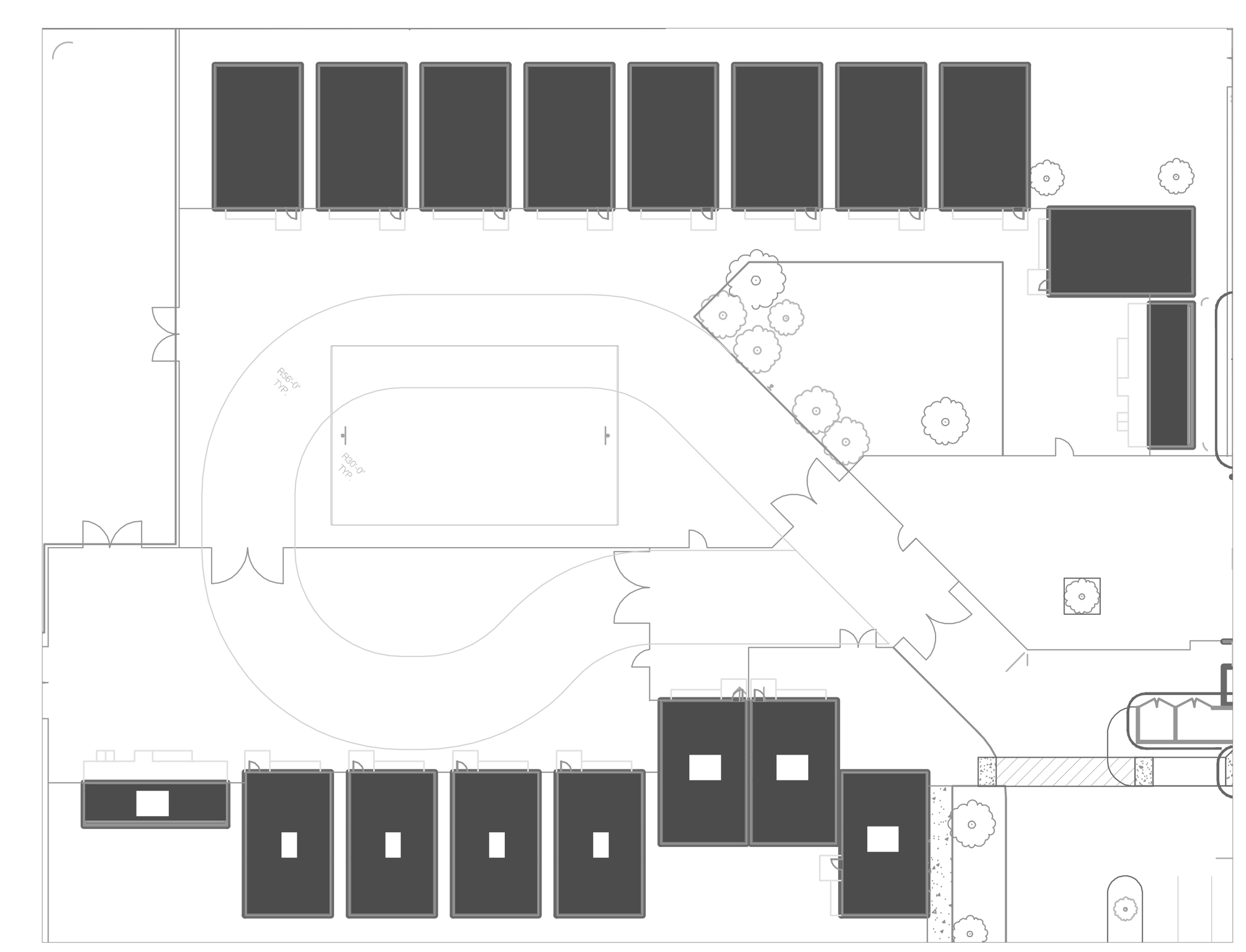
11.2.3.2.3.1 Where listed quick-response sprinklers, including extended coverage quick-response sprinklers, are used throughout a system or portion of a system having the same hydraulic design basis, the system area of operation shall be permitted to be reduced without revising the density as indicated in Figure 11.2.3.2.3.1 when all of the following conditions are satisfied:

(1) Wet pipe system
(2) Light hazard or ordinary hazard occupancy
(3) 20 ft (6.1 m) maximum ceiling height
(4) There are no unprotected ceiling pockets as allowed by 8.6.7 and 8.8.7 exceeding 32 ft^2 (3 m^2)



Note: $y = \frac{-3x}{2} + 55$

For ceiling height ≥10 ft and ≤20 ft, $y = \frac{-3x}{2} + 55$
For ceiling height <10 ft, $y = 40$
For ceiling height >20, $y = 0$
For SI units, 1 ft = 0.31 m.

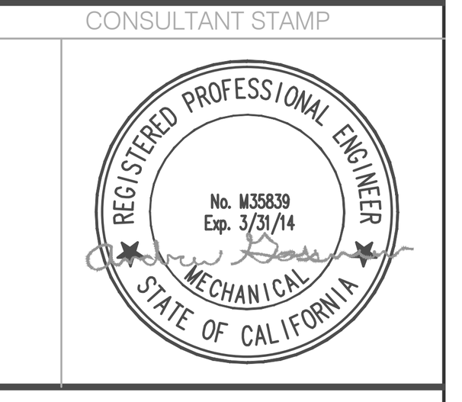


VICINITY MAP 3
NTS

pch architects, llp
30 South Center Street, Redlands California 92373
Telephone: 909.792.7397, Fax: 909.793.7873

ARCHITECT STAMP

CONSULTANT STAMP



CONSULTANT LOGO

PDS
POCOCK DESIGN SOLUTIONS

COMMUNITY DAY SCHOOL

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

DSA STAMP

MARK	DATE	DESCRIPTION
RB	2/25	CHANGE BRACING

PROJECT NO: 10955

CHK'D BY:

DATE:

SHEET TITLE

FIRE SPRINKLER PIPING PLAN

FP101