

City of Aurora
Building Codes Division
15151 E Alameda Pkwy
Aurora, CO 80012
(303) 739-7420



Notice

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17 United States Code
Section 106.**

Date 9-25-07**PLAN REVIEW REVISION SUBMITTAL**

This form should be completed and submitted with all building plan revisions. All changes from the previously approved drawings must be clearly shown by clouding, circling, etc.

Project address 1445 DALLAS STREET

Unit # _____

Project name RESIDENCES @ TROLLEY PARK

Valuation \$ _____

Contractor AURORA HOUSING AUTHORITY

Contractor License _____

Contact Name CHRIS STUMPO

Phone # _____

Fax 303 670-7162

Email _____

Owner AURORA HOUSING AUTHORITY

Phone # _____

Address KENTUCKY ST ...

Fax _____

Have there been any permits issued for this job?

Yes _____ No _____

If yes, what is the permit number? _____

What type of work is being proposed in the attached plans being submitted?

REVISION TO SWITCHBOARD SERIES PANEL RATING**----- THIS SPACE FOR OFFICE USE ONLY -----****Reviews****Review time**

☐ Mechanical + _____
☐ Plumbing + _____
☒ Electrical + _____
☐ Structural + _____
☐ Life Safety + _____

**Additional review
time greater than
(>) two hour
minimum.**

Plan Location 49-2-BParent RSN 215264Permit Number 06-108667 CMPermit Type Limited (LT)Subtype Plan RevisionsIntake by JIMC (P.E.)Minimum plan fee \$ 94.00

Additional plan review fee: \$ _____

RSN 277622**BOARD OF APPEALS**

The City of Aurora has created a Building Code and Contractor's Appeals and Standards Board. Applicants have the right to have the board hear appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of the building code. Any application for appeal to the board shall be based on a claim that the true intent of the code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of the building code do not fully apply or an equally good or better form of construction is proposed.

UL Online Certifications Directory

BXUV.U305 Fire Resistance Ratings - ANSI/UL 263

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Fire Resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - ANSI/UL 263

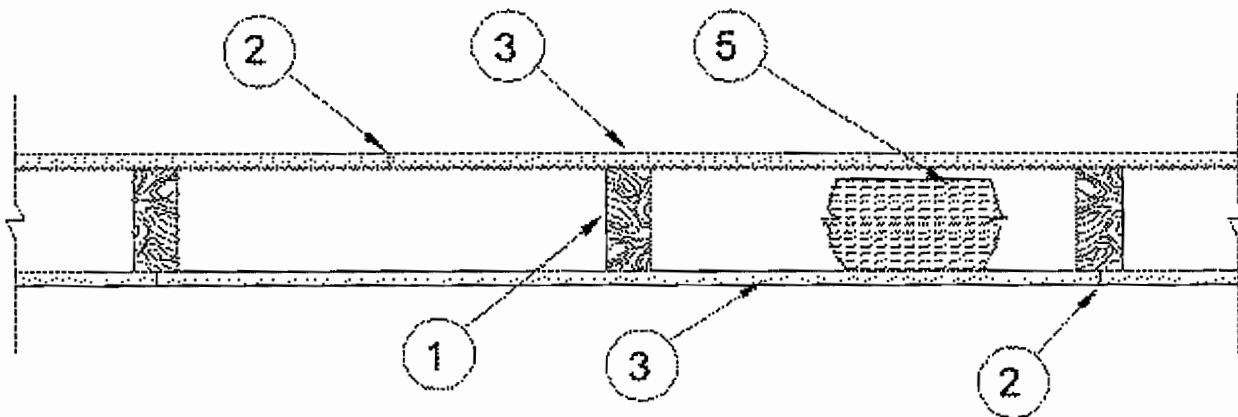
Design No. U305

March 08, 2006

Bearing Wall Rating — 1 HR.

Finish Rating — See Items 3, 3A, and 3D.

STC Rating - 56 (See Item 8)



1. **Wood Studs** — Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

2. **Joints and Nail-Heads** — Exposed or covered with fiber tape and joint compound, except where required for specific edge configuration. For tapered, rounded-edge gypsum board, joints covered with joint compound or fiber tape and joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Nailheads exposed or covered with joint compound.

3. **Gypsum Board*** — 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Item 6 or 6A, Steel Framing Members*.

When Item 6, Steel Framing Members*, is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 6A, Steel Framing Members*, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3.

When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

AMERICAN GYPSUM CO — Types AGX-1 (finish rating 23 min.), Type AGX-11 (finish rating 26 min) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC

LTD CO — Type DBX-1 (finish rating 24 min).

BPB AMERICA INC — Type 1, Type SF3 (finish rating 20 min) or FRPC, ProRoc Type C or ProRoc Type X (finish rating 26 min), Type EGRG (finish rating 23 min)

BPB CANADA INC — ProRoc Type C, ProRoc Type X or ProRoc Type Abuse-Resistant (finish rating 26 min)

CANADIAN GYPSUM COMPANY — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FCV (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min) .

G-P GYPSUM CORP, SUB OF

GEORGIA-PACIFIC CORP — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), DA.

LAFARGE NORTH AMERICA INC — Type LGFC2 (finish rating 20 min), Type LGFC3 (finish rating 20 min), Type LGFC6 (finish rating 26 min), Type LGFC-C (finish rating 20 min), Type LGFC6A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A.

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C.

PABCO BUILDING PRODUCTS L L C, DBA

PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-5W (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min) or Type PG-C.

PANEL REY S A — Type PRX.

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

STANDARD GYPSUM L L C — Type SGC(finish rating 20 min), Type SGC-3 (finish rating 20 min.) Type SG-C or SGC-G(finish rating 20 min). FRX-6, VPBX-6, FRWRX-6, TG-C or FRX-6 Exterior Gypsum Soffit Board.

TEMPLE-INLAND FOREST PRODUCTS CORP — Types T (finish rating 20 min), VPB-Type T (finish rating 20 min), WR-Type T (finish rating 20 min), Type T SHTG (finish rating 20 min). Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X.

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SCX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type FCV (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type FCV (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min).

3A. Gypsum Board* — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), Type AG-C (finish rating 25 min.).

CANADIAN GYPSUM COMPANY — Type Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FCV (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min).

UNITED STATES GYPSUM CO — Type Type AR (finish rating 24 min), Type SCX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type FCV (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type FRX-G (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min).

USG MEXICO S A DE C V — Type Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type FCV (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min).

3B. Gypsum Board* — (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.

CANADIAN GYPSUM COMPANY — Types AR, IP-AR.

UNITED STATES GYPSUM CO — Types AR, IP-AR.

USG MEXICO S A DE C V — Types AR, IP-AR.

3C. Gypsum Board* — (As an alternate to Items 3, 3A and 3B) - 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required.

CANADIAN GYPSUM COMPANY — Type SHX.

UNITED STATES GYPSUM CO — Type SHX.

USG MEXICO S A DE C V — Type SHX.

3D. Wall and Partition Facings and Accessories* — (As an alternate to Items 3, 3A, 3B and 3C, not shown) - Nominal 5/8 in. thick, 4 ft wide panels, applied vertically to studs and bearing plates on one side of the assembly with 1-5/8 in. long Type S screws spaced 12 in. OC at perimeter of panels and 8 in. OC in the field. Horizontal joints of vertically applied panels need not be backed by studs. Panel joints covered with paper tape and two layers of joint compound. Screwheads covered with two layers of joint compound. Batts and Blankets placed in stud cavity as described in Item 5E. Not evaluated for use with Steel Framing Members, Furring Channels or Fiber, Sprayed.

QUIET SOLUTION INC — Type QuietRock QR-530 (finish rating 23 min).

4. Steel Corner Fasteners — (Optional) — For use at wall corners. Channel shaped, 2 in. long by 1 in. high on the back side with two 1/8 in. wide cleats protruding into the 5/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the gypsum board, no greater than 2 in. from corner of gypsum board, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.

5. Batts and Blankets* — (Optional - Required when Item 6A is used) Glass fiber or mineral wool insulation. Placed to completely or partially fill the stud cavities. When Item 6A is used, glass fiber or mineral wool insulation shall be placed to completely fill the stud cavities and shall be secured to the studs 24 in. OC with staples, nails or screws.

CERTAINTED CORP

GUARDIAN FIBERGLASS INC

JOHNS MANVILLE INTERNATIONAL INC

KNAUF INSULATION GMBH

OWENS CORNING HT INC, DIV OF OWENS

CORNING — Corning Fiberglas Corp.

ROCK WOOL MANUFACTURING CO — Delta Board.

ROXUL INC

THERMAFIBER INC — Type SAFB.

5A. Fiber, Sprayed* — (Not shown - Not for use with Item 6A) As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 3.0 lb/ft³. Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft³.

U S GREENFIBER L L C — Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)

5B. Fiber, Sprayed* — (Not shown - Not for use with Item 6A) As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

5C. Batts and Blankets* — Required for use with resilient channels, Item 7, 3 in. thick mineral wool batts,

placed to fill interior of wall, attached to the 4 in. face of the studs with staples placed 24 in. OC.

THERMAFIBER INC — Type SAFB

5D. Glass Fiber Insulation — (As an alternate to Item 5C) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall, attached to the 4 in. face of the studs with staples placed 24 in. OC. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

5E. Batts and Blankets* — (Required for use with Wall and Partition Facings and Accessories, Item 3D) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

6. Steel Framing Members (Optional, Not Shown)* — Furring channels and Steel Framing Members as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — used to attach furring channels (Item 6 a) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

PAC INTERNATIONAL INC — Type RSIC-1.

6A. Steel Framing Members (Optional, Not Shown)* — Furring channels and Steel Framing Members on one side of studs as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. Steel Framing Members* — used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

KINETICS NOISE CONTROL INC — Type Isomax.

7. Furring Channel — Optional - Not Shown - For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. Caulking and Sealants — (not shown, optional) A bead of acoustical sealant applied around the partition perimeter for sound control.

9. STC Rating — The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 1, above - Nailheads Shall be covered with joint compound.

B. Item 2, above - Joints As described, shall be covered with fiber tape and joint compound.

C. Item 5, above - Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.

D. Item 6, above - Steel Framing Members* Shall be used to attach gypsum board to studs on either the acoustical source or receiving side of the wall assembly.

E. Item 7, above - Caulking and Sealants (not shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

*Bearing the UL Classification Mark

Last Updated on 2006-03-08

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UL Online Certifications Directory

BXRH.GuideInfo Fire Resistance Ratings

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Fire Resistance Ratings

Fire resistance ratings are included for:

1. Assemblies, such as beams, floors, roofs, columns, and walls and partitions. These fire resistance designs provide the detailed construction of the assemblies and the components used.
2. Systems, such as construction joint systems, through-penetration firestop systems, electrical circuit protective systems and duct assemblies. These designs provide the detailed construction of the systems and the components used.
3. Opening protectives, such as dampers, fire doors, glazing and related equipment. Opening protectives are used to protect openings in fire resistance rated assemblies.

These materials are intended for use only in specific assembly or system designs as described in the general Guide Information for each product category and individual Listings, except for opening protectives. Opening protectives have been investigated for use as described in the instructions and markings provided with the opening protectives. The use of the materials and opening protectives in conditions other than described in the instructions, markings and the general Guide Information for the applicable product category has not been investigated by UL.

INVESTIGATION REQUIREMENTS AND STANDARDS

The scope of product sizes and ratings appearing in the general Guide Information for some product categories is intended to indicate the current range of Listed products, however, it is not necessarily indicative of limitations for those Listed products.

The standards used to investigate products are identified in the general Guide Information for each product category. There may not always be a published standard for investigating a product to determine its acceptability for Listing or Classification. If no applicable standard is available, UL will exercise its judgment in the selection of applicable requirements from related standards and other sources to develop the requirements to cover uses and conditions for which specific requirements did not previously exist.

Products, equipment and construction materials certified by UL in accordance with international or regional standards only (e.g., products Classified to an IEC or ISO Standard) are intended for distribution, installation and use in areas of the world where the specified standards have been adopted and are in effect as national or regional standards.

INSTALLATION REQUIREMENTS

The limitations for the equipment as specified in the general Guide Information for each product category such as voltage and temperature limits, markings, special descriptions and installation provisions need to be noted prior to installation and use.

Equipment has been investigated with reference to risks to life and property and for potential conformity to the installation and use provisions of the applicable installation codes and standards of the National Fire Protection Association (NFPA), and applicable model codes identified in the general Guide Information for each product category.

Some products are certified for uses not within the scope of nationally recognized installation codes and standards. Such products are investigated for the specifications or use conditions indicated in the general Guide Information for each product category.

These products are intended for installation subject to approval by the Authority Having Jurisdiction. Authorities Having Jurisdiction should be consulted before installation.

INSTRUCTIONS AND PRODUCT MARKINGS

These products are intended to be installed in accordance with the installation instructions provided with the product. It is critical that the cautionary statements and installation and operating instructions on the product and in accompanying literature be

followed.

FIELD MODIFICATIONS

The UL Mark applies to the product as it is originally manufactured when shipped from the factory. Authorized use of the UL Mark is the manufacturer's declaration that the product was originally manufactured in accordance with the applicable requirements. UL does not know what the effect of a modification may have on the safety of the product or the continued validity of the UL certification mark unless the field modifications have been specifically investigated by UL. Unless UL investigates a modified product, UL cannot indicate that the product continues to meet UL's safety requirements.

The only exception for a field modification authorized by UL is when the product has specific replacement markings. For example, a switchboard may have specific grounding kits added in the field. The switchboard is marked with a list of specific kit numbers that have been investigated for use in that particular switchboard. Only grounding kits that are included on the product have been investigated for use in that product.

TECHNICAL SERVICE

Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.

Design Modifications

Careful consideration needs to be given to alterations or modifications of the fire resistance assemblies.

When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.

Contacting UL

UL provides assistance to users of fire resistance assemblies and products, which includes clarification of the published information.

UL also provides a service to investigate modifications to the fire resistance assemblies when requested by the design submitter or by an end user. Requests for clarification should describe the change and include drawings, if necessary.

Requests for clarifications or investigations can be made by contacting UL at:

- Phone: +1 847-664-2364
- Fax: +1 847-509-6292
- E-mail: nbk.architectural.services@us.ul.com
- or
- UL's website: www.ul.com

Last Updated on 2004-10-12

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Fire Resistance Ratings - ANSI/UL 263

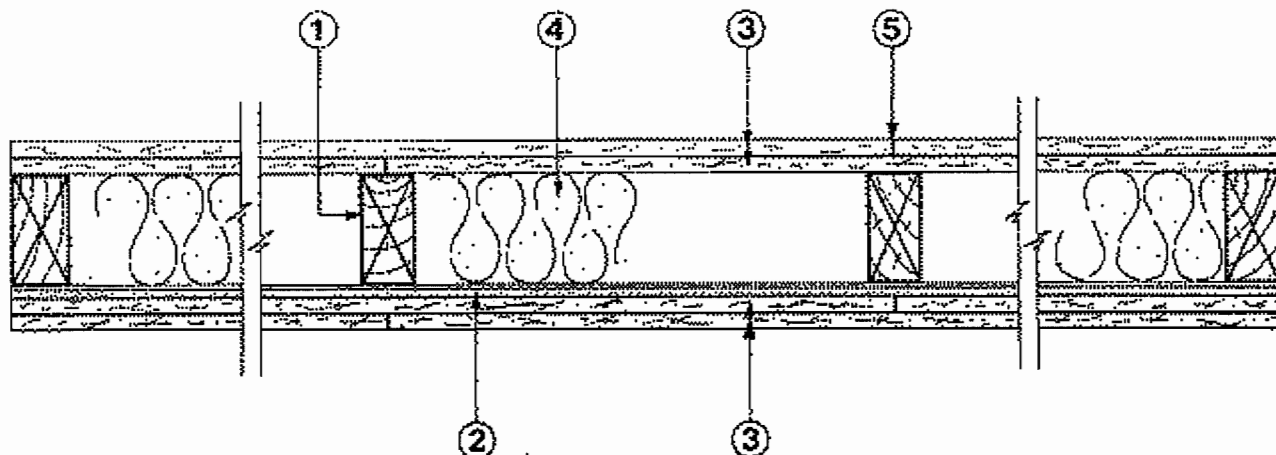
See General Information for Fire Resistance Ratings - ANSI/UL 263

Design No. U334

October 14, 2004

Bearing Wall Rating — 2 HR.

STC Rating - 62 (See Item 7)



1. Wood Studs — Nom 2 by 4 in., spaced 16 in. OC. Studs cross braced at mid-height and effectively fire stopped at top and bottom of wall.

2. Resilient Channel — 25 MSG galv steel, nom 2-1/2 in. wide by 1/2 in. deep. Resilient channels placed perpendicular to studs, spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1 in. long Type S steel screws.

2A. Steel Framing Members (Optional, Not Shown)* — As an alternate to Item 2, furring channels and resilient sound isolation clip as described below:

a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

b. Steel Framing Members* — resilient sound isolation clip used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

PAC INTERNATIONAL INC — Type RSIC-1.

3. Gypsum Board* — 5/8 in. thick, 4 ft wide. Attached to furring channels: base layer with 1 in. long Type S steel screws spaced max 24 in. OC, face layer with 1-5/8 in. long Type S steel screws spaced max 12 in. OC. Attached to wood studs: base layer with 1-7/8 in. long 6d coated nails spaced max 14 in. OC, face layer with 2-3/8 in. long 8d coated nails spaced max 7 in. OC. Base layers installed vertically. Face layers installed horizontally with butt joints offset 16 in. from base layers.

AMERICAN GYPSUM CO — Types AG-C

BPB AMERICA INC — ProRoc Type C.

BPB CANADA INC — ProRoc Type C.

CANADIAN GYPSUM COMPANY — Types C, IP-X2, IPC-AR.

G-P GYPSUM CORP, SUB OF

GEORGIA-PACIFIC CORP — Type 5.

LAFARGE NORTH AMERICA INC — Types LGFC-C, LGFC-C/A.

NATIONAL GYPSUM CO — Types FSK-C, FSW-C, FSW-G.

PABCO BUILDING PRODUCTS L L C, DBA

PABCO GYPSUM — Type C or PG-C.

STANDARD GYPSUM L L C — Type SG-C.

TEMPLE-INLAND FOREST PRODUCTS CORP — Type TG-C.

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR.

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR.

4. Batts and Blankets* — Nom 2 in. thick mineral wool insulation, 96 in. long, cut to 15 in. widths, friction fitted between studs in wall cavity.

THERMAFIBER INC — Type SAFB.

4A.. Batts and Blankets* — Glass fiber insulation. The cavities formed by the studs friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide. See Batts and Blankets* (BZJZ) category for names of Classified Companies.

5. Joint Tape and Compound — Vinyl, dry or premixed joint compound, applied to joints, screw heads, and nail heads (two applications); paper tape, 2 in. wide, embedded in first layer of compound over all joints.

6. Caulking and Sealants — (not shown, optional) A bead of acoustical sealant applied around the partition perimeter for sound control

7. STC Rating — The STC Rating of the wall assembly is 62 when it is constructed as described by Items 1 through 5, except:

a. Item 2A, above - **Steel Framing Members*** Shall be used to attach wallboard to studs on either the acoustical source or receiving side of the wall assembly.

b. Item 4a above - **Batts and Blankets*** As described above, fiberglass insulation shall be used.

c. Item 6, above - **Caulking and Sealants** (not shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

*Bearing the UL Classification Mark

Last Updated on 2004-10-14

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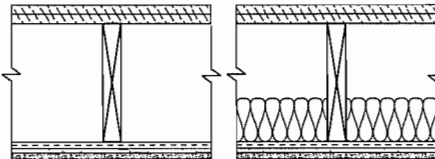
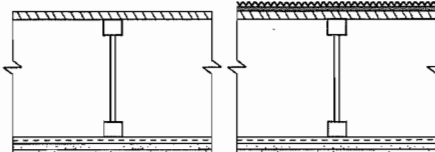
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FLOOR-CEILING SYSTEMS, WOOD-FRAMED

GA FILE NO. FC 5107	PROPRIETARY †	1 HOUR FIRE	55 to 59 FSTC SOUND																					
GYPSON WALLBOARD, RESILIENT CHANNELS, WOOD JOISTS, GYPSON FLOOR UNDERLAYMENT One layer 5/8" proprietary type X gypsum wallboard or gypsum veneer base applied at right angles to resilient furring channels 24" o.c. with 1" Type S drywall screws 12" o.c. Gypsum board end joints located midway between continuous channels and attached to additional pieces of channel 54" long with screws at 12" o.c. Resilient furring channels applied at right angles to 2 x 10 wood joists 16" o.c. with 1 1/4" Type W screws. Wood joists supporting 19/32" plywood subfloor and 3/4" 1000 psi sanded gypsum floor underlayment. PROPRIETARY GYPSON BOARD <table><tr><td>BPB America Inc.</td><td>-</td><td>5/8" ProRoc™ Type C Gypsum Panels</td></tr><tr><td>G-P Gypsum</td><td>-</td><td>5/8" ToughRock® Fireguard® C</td></tr><tr><td>Lafarge North America Inc.</td><td>-</td><td>5/8" Firecheck® Type C</td></tr><tr><td>National Gypsum Company</td><td>-</td><td>5/8" Gold Bond® Brand FIRE-SHIELD C™ Gypsum Wallboard</td></tr><tr><td>PABCO Gypsum</td><td>-</td><td>5/8" FLAME CURB® Super 'C'</td></tr><tr><td>Temple-Inland Forest Products Corporation</td><td>-</td><td>5/8" TG-C</td></tr><tr><td>United States Gypsum Company</td><td>-</td><td>5/8" SHEETROCK® Brand Gypsum Panels, FIRECODE® C Core</td></tr></table>		BPB America Inc.	-	5/8" ProRoc™ Type C Gypsum Panels	G-P Gypsum	-	5/8" ToughRock® Fireguard® C	Lafarge North America Inc.	-	5/8" Firecheck® Type C	National Gypsum Company	-	5/8" Gold Bond® Brand FIRE-SHIELD C™ Gypsum Wallboard	PABCO Gypsum	-	5/8" FLAME CURB® Super 'C'	Temple-Inland Forest Products Corporation	-	5/8" TG-C	United States Gypsum Company	-	5/8" SHEETROCK® Brand Gypsum Panels, FIRECODE® C Core	 Approx. Ceiling Weight: 3 psf Fire Test: UL R1319-65, 11-16-64, UL Design L514 Field Sound Test: INTEST 5-761-3, 12-5-77	
BPB America Inc.	-	5/8" ProRoc™ Type C Gypsum Panels																						
G-P Gypsum	-	5/8" ToughRock® Fireguard® C																						
Lafarge North America Inc.	-	5/8" Firecheck® Type C																						
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Temple-Inland Forest Products Corporation	-	5/8" TG-C																						
United States Gypsum Company	-	5/8" SHEETROCK® Brand Gypsum Panels, FIRECODE® C Core																						
GA FILE NO. FC 5110	GENERIC	1 HOUR FIRE	50 to 54 STC SOUND																					
WOOD JOISTS, GYPSON LATH, GYPSON PLASTER, RESILIENT CHANNELS 1/2" 1:2-1:3 gypsum-sand plaster applied over 3/8" type X gypsum lath applied at right angles to resilient furring channels 16" o.c. with three 3/4" Type S drywall screws at each furring channel 3" wide woven wire strips applied over gypsum lath and parallel to and directly over resilient channels with 7/8" Type S drywall screws with diamond washers 16" o.c. Resilient channels applied at right angles to 2 x 10 wood joists 16" o.c. with 6d coated nails, 17/8" long, 0.0915" shank, 1/4" heads. Wood joists supporting 1" nominal wood subfloor and 1" nominal wood finish floor. Sound tested with 3" glass fiber insulation batts in joist space, sound deadening felt, and carpet and pad. A face layer of 1/2" or 5/8" type X gypsum wallboard required to achieve 1 hour fire resistance rating when glass fiber insulation is used.		 Approx. Ceiling Weight: 6.25 psf Fire Test: SFT-42, 5-7-66 Sound Test: CK 6712-5, 6-9-67 IIC & Test: (68 C & P) CK 6712-5, 6-9-67																						
GA FILE NO. FC 5111	GENERIC	1 HOUR FIRE	50 to 54 STC SOUND																					
WOOD I-JOISTS, GYPSON WALLBOARD, RESILIENT CHANNELS Base layer 1/2" type X gypsum wallboard applied at right angles to resilient channels 16" o.c. with 1 1/4" Type S drywall screws 12" o.c. Resilient channels applied at right angles to minimum 9 1/2" deep wood I-joists, with minimum 1 1/4" deep x 1 1/2" wide flanges and minimum 3/8" webs, 24" o.c. with 1 1/4" Type W drywall screws. Face layer 1/2" type X gypsum wallboard applied at right angles to channels with 1 5/8" Type S drywall screws 12" o.c. Face layer end joints located midway between channels and attached to base layer with 1 1/2" Type G screws 12" o.c. Edge joints offset 24" from base layer edge joints. Wood I-joists supporting 5/8" oriented strand board applied at right angles to I-joists with 8d common nails 12" o.c. STC and IIC tested with 40 oz carpet over 1/4" foam pad.		 Approx. Ceiling Weight: 5 psf Fire Test: NRCC A-4440.1 (Revised), 6-24-97 Sound Test: NRCC B-3150.2, 6-30-00 IIC & Test: (68 C & P) NRCC B-3150.2, 6-30-00																						

Wayne Thorne - Re: Fw: Use of structural panels within a rated wall assembly

From: <Richard.N.Walke@us.ul.com>
To: "Wayne Thorne" <wthorne@ci.aurora.co.us>
Date: 5/17/2006 11:38 AM
Subject: Re: Fw: Use of structural panels within a rated wall assembly
CC: <Howard.D.Hopper@us.ul.com>, <John.K.Taecker@us.ul.com>

Wayne,

The use of a structural wood panel between the wood studs and the gypsum board in these three designs will not jeopardize their ratings providing the length of the fasteners securing the gypsum board to the studs is increased a corresponding amount. The increased fuel load within the stud cavity is more than offset by the performance added by the structural wood panel.

At this point in time, there is no way for you to know this other than writing or calling us. This is not an across the board rule, so it is not something we could publish in the Guide Information (i.e. the first 10 pages of Volume 1 of the Fire Resistance Directory). As such, when questions like this come up, please feel free to write or call.

Best regards.

Richard N. Walke
 Staff Engineer
 Regulatory Services
 Underwriters Laboratories Inc.
 Phone: (847) 664 - 3084
 Cell: (847) 274 - 0283
 Fax: (847) 313 - 3084
 Email: Richard.N.Walke@US.UL.com

Howard D. Hopper/SCL/ULI

05/17/2006 11:23 AM

To Richard N. Walke/NBK/ULI@ULI

cc john k. taecker

Subject Fw: Use of structural panels within a rated wall assembly

"Wayne Thorne" <wthorne@ci.aurora.co.us>

05/17/2006 08:40 AM

To <John.K.Taecker@us.ul.com>, <Howard.D.Hopper@us.ul.com>

cc

Subject Use of structural panels within a rated wall assembly

Assemblies are - U305, U334, U356.

Between the layer(s) of gypsum and the framing, on the side opposite the resilient channel, can structural wood panels be applied? Would this assembly still be valid, or do they need to choose another assembly showing the structural panel within the assembly? Is there any written

information that I may obtain that could lead me in the correct direction.

Thank you in advance.

Wayne R. Thorne
City of Aurora, Colorado
Building Inspections
Plans Examiner III
303-739-7224

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ODELL ARCHITECTS, P.C.

May 9, 2006

Wayne Thorne
City of Aurora
Building Division
15151 E Alameda Pkwy, 2nd Floor
Aurora, CO 80013

Re: Reference Number (RSN): 215264
Project: Residences at Trolley Park
Job Address: 1445 N. Dallas Street

Mr. Thorne,

We are in receipt of the plan review comments by the City of Aurora Building Department. Below are the comment numbers followed by our responses. Please forward this information to the appropriate parties for review.

ARCHITECTURAL

A-1 To determine that allowable opening protection requirements are met provide evidence that the alleys are public ways with dimensions of them.

Response – The north side property line separates the parking lot for the Auto Body shop to the north, and there is no alley at this location. The alley runs north south on the west side of the property. The garage exhaust vent has been relocated off this wall. See attached drawings.

A-2 Provide fire resistive protection for the beams supporting floor and bearing wall loads. IBC Table 601.

Response – The specified floor/ceiling assembly, GA File #FC 5111 provides the required fire resistive protection for these beams. The Gypsum Association manual in Section II, states that this is acceptable where the bottom of the beam projects less than 6" below the ceiling, which applies in all cases.

A-3 Provide documentation that the use of the structural sheathing as called is approved for the within the assemblies called out. See UL BXRH.GuideInfo and Gypsum association manual.

Response – The Gypsum Association manual in the General Explanatory Notes #22, states that "When not specified as a component of a fire-resistance rated wall or partition system, wood structural panels shall be permitted to be added to one or both sides."

A-4 Provide the method of achieving fire resistive ratings for the following assemblies. 16/A9.0, 15/A9.3, and 20/A9.3.

Response – 16/A9.0 has been revised to show a heavy timber column. 15/A9.3 has been revised to demonstrate a 1 hour rating. 20/A9.3 is rated by UL# U305, as noted.

A-5 Provide the assemblies to be used at detail 13/A9.3.

Response – 2 hour assemblies, wall type 'T' and wall type 'J' have been indicated.

A-6 Wall type V between the decks will be considered as an exterior wall. Fire resistance rating will be required.

Response – Wall type 'V' has been revised to show a 1 hour rating.

ODELL ARCHITECTS, P. C.

- A-7 Sheet A2.0 indicate that there is an opening in the horizontal assembly for the venting of the garage. This opening is adjacent to the residence portion above and would not be afforded proper protection. The walls below shall be of 3-hour with an appropriate fire damper. IBC 711.4 and 716.6.1.

Response – The walls have been revised to Wall Type 'U' 8" cast in place concrete.

- A-8 The exhaust opening for the garage ventilation is less than 10-feet to the building above and has exhaust air that will become a nuisance to the windows of the residences at this location. IMC 401.5 and 405.5.2. Unable to verify that the alley along the north wall is 20-feet or more.

Response – The exhaust grate has been relocated to the east wall of the garage 10'-0" away from the property line and 10'-0" away from any openings. See attached drawings

- A-9 Provide opening protection for roof and plumbing drains that penetrate the horizontal assembly of the garage. IBC 712.

Response – All penetrations through the horizontal assembly will be protected as specified.

- A-10 Sheets A2.1 and A2.2 indicate that there are windows between units 120 and 121. I assume this was in error, please revise.

Response – This is a result of the drafting program and has been revised to not show the windows.

- A-11 Sheet A2.1 the refuse collection room is a continuation of the refuse chute above. The opening to the access corridor at the first floor from the compactor will not be allowed. IBC 707.13.1 and 707.13.3.

Response – The current solution does not show a compactor. The door has been rated 90 minutes.

- A-12 Openings into the shaft for the refuse chute shall be protected. IBC 707.13.1.

Response – Specification section 14560 2.3 A specifies 1-1/2 hour fire rated doors.

- A-13 Openings into the refuse access from the corridors shall be protected. IBC 707.13.3.

Response – The openings have been protected with 60 minute doors.

- A-14 Openings into the refuse termination room from the corridor shall be protected. IBC 707.13.4.

Response – The opening has been protected with a 90 minute door.

- A-15 Openings into rated fire barriers shall be protected. IBC 706.7.

Response – Openings have been protected with appropriately rated doors.

- A-16 Common path of travel for units 113, 114, 210, 211, 310, and 311 exceeds 75-feet. IBC 1013.3.

Response – The stairway doors at levels 1, 2, and 3 have been relocated and doors 117C, 215B and 315B have been added. This reduces the common path of travel on Unit Type 'G' to 74'-6" and on Unit Type "F" to 72'-6".

- A-17 The corridor leading to units 113, 114, 210, 211, 310, and 311 exceeds 20-feet as a dead end corridor. IBC 1016.3.

Response – The stairway doors at levels 1, 2, and 3 have been relocated and doors 117C, 215B and 315B have been added. This reduces the dead end corridor to 17'-9".

- A-18 The windows on the corridor wall at room 111 shall comply with IBC 715.4.

Response – The windows have been assigned a ¾ hour fire rating.

- A-19 The window adjacent to door 111A shall be of safety glazing IBC 2306.3.

ODELL ARCHITECTS, P. C.

Response – The window has been changed to safety glazing.

- A-20 Unit J, accessible dwelling unit. The door from the master bedroom to the hall does not comply with ANSI A117.1-1998 section 404.2.4 for maneuvering clearances.

Response – The opening has been widened to show appropriate clearances.

- A-21 Demonstrate that the windows within the type A accessible dwelling units comply with ANSI A117.1-1998 section 309 and 1002.13.

Response – All egress windows at Type A accessible dwelling units will have a sill opening of a minimum height of 15" and a maximum opening of 48".

- A-22 Demonstrate that toe and knee clearances are met for the lavatories in the Type A and B bathrooms.

Response – Units have been revised to demonstrate the clearances for Type B bathrooms.

- A-23 Demonstrate that the Type B accessible dwelling units bathrooms are option A or B compliant. ANSI A117.1-1998 section 1003.11.3.

Response – Units have been revised to demonstrate the clearances for Type B bathrooms.

- A-24 Provide grab bar reinforcements for future installation of grab bars in the type B accessible units. ANSI A117.1-1998 Section 1003.11.2

Response – Note has been added to provide appropriate blocking.

- A-25 Provide a hardware schedule for the doors.

Response – Hardware schedule enclosed and issued as Addendum to the documents.

STRUCTURAL

- S-1 Special inspection table item 4 appears to be incomplete for the design strengths.

Response - No.4 in the Special Inspection Table was missing a design strength for shear studs. However, shear studs are not used, so "N.A." was added.

- S-2 The plans indicate that staples may be used as an alternate fastener. The calculations reflect the use of nails only.

Response - Reference to staples in note #17 under the Wood section was deleted.

MECHANICAL : Review comments per Alberto Barrios-Marquez

- M-1 2003 IMC 401.5: Outside air exhaust and intake openings shall be located a minimum of 10' from lot lines or buildings in the same lot. The distance from the centerline of the alley(s) to the units exhaust discharge does not meet the minimum distance required by this section.

Response - Unit plans G, H, J, J-ADA, K, K-ADA, and L are revised to locate all air intakes and exhaust locations in areas set back from the property line. See revised unit plan layouts, sheets M3.2, M3.3, and M3.4.

- M-2 Sheet M2.2: The exhaust chase on the northeast corner of the building does not meet the requirements for intake openings for the dwelling units located above the point of discharge. 2003 IMC 401.5.1.

Response - The garage exhaust is revised to blow out the east garage wall. See revised sheet M2.1 and revised architectural drawings.

ODELL ARCHITECTS, P. C.

M-3 Sheets M2.2: Coordinate with the architectural drawings the location of rated walls and provide fire/smoke dampers as required.

Response - Combination fire/smoke dampers added to provide separation between lobby and office area. See revised sheet M2.2.

PLUMBING : Review comments per Alberto Barrios-Marquez

P-1 Sheet M2.1 Provide a secondary (Emergency) roof drains for the garden area between grid lines 4-8 and F-J, as required by 2003 IPC 1107.

Response - Storm overflow provided via scuppers on east garden wall. See architectural.

ELECTRICAL : Review comments per Alberto Barrios-Marquez

Sheet E3.3: Revise the dwelling unit's load calculations; the load shown in amps does not match with the total load in volt-amperes.

Response - We have revised our unit calculations to be correct. Originally the calculation took the load times 125% but we removed this from the calculations so the math should flow a little smoother. See revised drawings E3.1, E3.2, E3.3, E3.4, E3.5, E3.6 and E3.7.

Additional Electrical Revisions

Sheet E2.1 Relocate exhaust fan EF-1 and fire smoke dampers to relocated area well. See revised drawing E2.1.

Sheet E2.2 Add two fire smoke dampers to corridor. See revised drawing E2.2.

Sheet E3.4 Add dryer booster fan "BF-1" to unit type "H". See revised drawing E3.4

Sheet E3.6 Add dryer booster fan "BF-1" to unit type "L". See revised drawing E3.6.

Sincerely,



Sean M. O'Hara
Odell Architects, P.C.

SECTION 08710 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware for the following:
 - a. Swinging doors.
 - b. Sliding doors.
 - c. Other doors to the extent indicated.

1.2 SUBMITTALS

- A. Product Data: Include installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening.
 - 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
- C. Warranties: Special warranties specified in this Section.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Supplier Qualifications: Door hardware supplier with warehousing facilities in Project's vicinity and who is or employs a qualified Architectural Hardware Consultant, available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.

- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

1.4 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this Section and hardware sets indicated on the Drawings.
- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to manufacturers indicated in Article "Door Hardware Schedule" Part 3 of this specification section.

2.2 HINGES AND PIVOTS

- A. Standards: Comply with the following:
 - 1. Butts and Hinges: BHMA A156.1.
 - 2. Template Hinge Dimensions: BHMA A156.7.
 - 3. Self-Closing Hinges and Pivots: BHMA A156.17.
 - 4. Pivots: BHMA A156.4.
- B. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- C. Hinge Weight: Unless otherwise indicated, provide the following:
 - 1. Entrance Doors: Heavy-weight hinges.
 - 2. Doors with Closers: Antifriction-bearing hinges.
 - 3. Interior Doors: Standard-weight hinges.

2.3 LOCKS AND LATCHES

- A. Standards: Comply with the following:
 - 1. Bored Locks and Latches: BHMA A156.2.
 - 2. Mortise Locks and Latches: BHMA A156.13.
 - 3. Interconnected Locks and Latches: BHMA A156.12.
 - 4. Auxiliary Locks: BHMA A156.5.
 - 5. Push-Button Combination Locks: BHMA A156.2.
 - 6. Electromagnetic Locks: BHMA A156.23.
 - 7. Delayed-Egress Locks: BHMA A156.24.
 - 8. Exit Locks: BHMA A156.5.

2.4 DOOR BOLTS

- A. Standards: Comply with the following:
 - 1. Surface Bolts: BHMA A156.16.
 - 2. Automatic and Self-Latching Flush Bolts: BHMA A156.3.
 - 3. Manual Flush Bolts: BHMA A156.16.

2.5 EXIT DEVICES

- A. Standard: BHMA A156.3.
- B. Certified Products: Provide exit devices listed in BHMA's "Directory of Certified Exit Devices."
- C. Panic Exit Devices: Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- D. Fire Exit Devices: Complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252.

2.6 CYLINDERS AND KEYING

- A. Standards: Comply with the following:
 - 1. Cylinders: BHMA A156.5.
 - 2. Key Control System: BHMA A156.5.

2.7 STRIKES

- A. Standards: Comply with the following:
 - 1. Strikes for Bored Locks and Latches: BHMA A156.2.
 - 2. Strikes for Mortise Locks and Latches: BHMA A156.13.
 - 3. Strikes for Interconnected Locks and Latches: BHMA A156.12.
 - 4. Strikes for Auxiliary Deadlocks: BHMA A156.5.
 - 5. Dustproof Strikes: BHMA A156.16.
 - 6. Electric Strikes: BHMA A156.5.

2.8 OPERATING TRIM

- A. Push-Pull Design: As scheduled.
- B. Standard: Comply with BHMA A156.6.

2.9 ACCESSORIES FOR PAIRS OF DOORS

- A. Standards: Comply with the following:
 - 1. Coordinators: BHMA A156.3.

- B. Carry-Open Bars: Provide carry-open bars for inactive leaves of pairs of doors, unless automatic or self-latching bolts are used.

2.10 CLOSERS

- A. Standards: Comply with the following:
 - 1. Closers: BHMA A156.4.
 - 2. Closer Holder Release Devices: BHMA A156.15.

2.11 PROTECTIVE TRIM UNITS

- A. Protective Trim Units: Sized as indicated within Door Hardware Sets. Fasten with exposed machine or self-tapping screws.
 - 1. Material: Metal.
- B. Standard: Comply with BHMA A156.6.

2.12 STOPS AND HOLDERS

- A. Stops and Holders: Provide wall stops for doors, unless floor or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic. Where floor or wall stops are not appropriate, provide overhead holders.
- B. Silencers for Door Frames: Neoprene or rubber; fabricated for drilled-in application to frame.
- C. Standards: Comply with the following:
 - 1. Stops and Bumpers: BHMA A156.16.
 - 2. Mechanical Door Holders: BHMA A156.16.
 - 3. Electromagnetic Door Holders: BHMA A156.15.
 - 4. Combination Overhead Holders and Stops: BHMA A156.8.
 - 5. Door Silencers: BHMA A156.16.

2.13 DOOR GASKETING

- A. Door Gasketing: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
- B. Standard: Comply with BHMA A156.22.
- C. General: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
 - 1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
 - 2. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
 - 3. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

- D. Air Leakage: Not to exceed 0.50 cfm per foot (0.000774 cu. m/s per m) of crack length for gasketing other than for smoke control, as tested according to ASTM E 283.
- E. Smoke-Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke-control ratings indicated, based on testing according to UL 1784.
 - 1. Provide smoke-labeled gasketing on 20-minute-rated doors and on smoke-labeled doors.
- F. Fire-Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL 10B or NFPA 252.
- G. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated, based on testing according to ASTM E 1408.
- H. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- I. Gasketing Materials: Comply with ASTM D 2000 and AAMA 701/702.

2.14 THRESHOLDS

- A. Thresholds: Of type scheduled or indicated.
- B. Standard: Comply with BHMA A156.21.

2.15 SLIDING DOOR HARDWARE

- A. Sliding Door Hardware: Of type scheduled or indicated.
- B. Standard: Comply with BHMA A156.14.
- C. Sliding Door Hardware: Provide complete sets consisting of rails, hangers, supports, bumpers, floor guides, and accessories indicated.

2.16 MISCELLANEOUS DOOR HARDWARE

- A. Standard: Comply with the following:
 - 1. Auxiliary Hardware: BHMA A156.16.
 - 2. Exit Alarms: BHMA A156.5.

2.17 FINISHES

- A. Standard: Comply with BHMA A156.18.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to SDI 107.
- B. Wood Doors: Comply with DHI A115-W series.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Key Control System: Place keys on markers and hooks in key control system cabinet, as determined by final keying schedule.

- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
1. Spring Hinges: Adjust to achieve positive latching when door is allowed to close freely from an open position of 30 degrees.
 2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 3. Door Closers: Adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DOOR HARDWARE SCHEDULE

MANUFACTURER'S LEGEND

DELTANA ARCHITECTURAL HARDWARE	DELT
DORMA ARCHITECTURAL HARDWARE	DAH
PEMKO	PEMK
PRECISION BUILT BUTTS	PPB
SCHLAGE	SCH
STANLEY HARDWARE	STAN
TRIMCO	TRIM

HARDWARE SET NO. 1

DOORS: 001,002, 005B, 007

3 EA. HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA. STOREROOM LOCKSET	CL780 x LRC	630	DAH
1 EA. CLOSER	7414 AR	689	DAH
1 EA. WALL STOP	1270 WVCP	US32D	TRIM
1 EA. KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA. THRESHOLD	171 A	AL	PEMK
1 EA. DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET WEATHERSTRIPPING	P385(HEAD & JAMBS)	GRAY	PEMK

HARDWARE SET NO. 2

DOOR: 005A

3 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	STOREROOM LOCKSET	CL780 x LRC	630	DAH
1 EA.	CLOSER	7414 AR	689	DAH
1 EA.	FLOOR STOP	1201	US32D	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	WEATHERSTRIPPING	P385(HEAD & JAMBS)	GRAY	PEMK

HARDWARE SET NO. 3

DOOR: 004

3 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	STOREROOM LOCKSET	CL780 x LRC	630	DAH
1 EA.	CLOSER	7414 ARJ	689	DAH
1 EA.	WALL STOP	1270 WVCP	US32D	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	WEATHERSTRIPPING	P385(HEAD & JAMBS)	GRAY	PEMK

HARDWARE SET NO. 4

DOORS: 003, 008

3 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	PASSAGE LATCHSET	CL810 x LRC	630	DAH
1 EA.	CLOSER	8616 x JT	689	DAH
1 EA.	WALL STOP	1270 WVCP	US32D	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	SMOKE SEAL	S88D x HSS2000	DBR	PEMK

HARDWARE SET NO. 5

DOOR: 006

3 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	PASSAGE LATCHSET	CL810 x LRC	630	DAH
1 EA.	POCKET CLOSER	8907 x PKT 180	689	DAH
1 EA.	MAGNETIC HOLDER	EM-R24120	US26D	DAH
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	SMOKE SEAL	S88D x HSS2000	DBR	PEMK

HARDWARE SET NO. 6

DOORS: 105A, 117A

4 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	EXIT DEVICE	9300 x 03 x CYLINDER	630E	DAH
1 EA.	CLOSER	8616 x DS	689	DAH
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	WEATHERSTRIPPING	P385(HEAD & JAMBS)	GRAY	PEMK

HARDWARE SET NO. 7

DOOR: 110B

8 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	EXIT DEVICE	ESF 9300 x PTT03 x CYLINDER	630E	DAH
1 EA.	EXIT DEVICE	F9300 x PTT02	630E	DAH
1 EA.	POWER SUPPLY	PS 501(TWO ZONE)		DAH
1 EA.	POWER TRANSFER	ES 101		DAH
1 EA.	AUTO OPERATOR	ED 800 T	619E	DAH
2 EA.	WALL SWITCH	800 WS-1	US32D	DAH
1 EA.	KEY SWITCH	K-701-6		DAH
1 EA.	CLOSER	8616 x T	619E	DAH
1 EA.	REMOVABLE MULLION	1310-8	628	DAH
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	WEATHERSTRIPPING	P385 (HEAD & JAMBS)	GRAY	PEMK

* - HARDWARE INSTALLER TO INSTALL EXTERIOR AND INTERIOR WALL SWITCH'S AS DIRECTED BY ARCHITECT.

** - HARDWARE INSTALLER TO INSTALL INTERIOR KEY SWITCH (FOR WALL SWITCH DISCONNECT) AS DIRECTED BY ARCHITECT.

HARDWARE SET NO. 8

DOOR: 122

8 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	EXIT DEVICE	ESF 9300 x PTT03 x CYLINDER	630E	DAH
1 EA.	EXIT DEVICE	F9300 x PTT02	630E	DAH
1 EA.	AUTO OPERATOR	ED 800 T	619E	DAH
2 EA.	WALL SWITCH	800 WS-1	US32D	DAH
1 EA.	KEY SWITCH	K-701-6		DAH
1 EA.	CLOSER	8616 x T	619E	DAH
1 EA.	REMOVABLE MULLION	1310-8	628	DAH
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	WEATHERSTRIPPING	P385 (HEAD & JAMBS)	GRAY	PEMK
1 EA.	KNOX-BOX	AS REQUIRED		KNOX

- * - HARDWARE INSTALLER TO INSTALL EXTERIOR AND INTERIOR WALL SWITCH'S AS DIRECTED BY ARCHITECT.
- ** - KNOX-BOX LOCATION AS APPROVED BY THE ARCHITECT AND FIRE DEPT./LOCAL AUTHORITY HAVING JURISDICTION IN THE MATTER.
- *** - HARDWARE SUPPLIER TO VERIFY KNOX-BOX KEYING IS COMPATIBLE WITH FIRE DEPT. / LOCAL AUTHORITY HAVING JURISDICTION IN THE MASTER KEYING.
- **** - HARDWARE INSTALLER TO INSTALL INTERIOR KEY SWITCH (FOR WALL SWITCH DISCONNECT) AS DIRECTED BY ARCHITECT.
- ***** - PROVIDE TWO ZONE POWER SUPPLY TO FACILITY POWER TO BOTH DOOR 122 AND 110B.

HARDWARE SET NO. 9

DOOR: 106B

3 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	STOREROOM LOCKSET	CL880 x LRC	630	DAH
1 EA.	CLOSER	8616 x PH	689	DAH
1 EA.	WALL STOP	1270 WVCP	US32D	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	WEATHERSTRIPPING	P385 (HEAD & JAMBS)	GRAY	PEMK

HARDWARE SET NO. 10

DOORS: 123, 223, 323

3 EA.	HINGES	BB 21 4-1/2" x 4-1/2"	US15	PBB
1 EA.	PASSAGE LATCHSET	CL810 x LRC	630	DAH
1 EA.	POCKET CLOSER	8907 x PKT 180	689	DAH
1 EA.	MAGNETIC HOLDER	EM-R24120	US26D	DAH
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US32D	TRIM
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	SMOKE SEAL	S88D x HSS2000	DBR	PEMK

HARDWARE SET NO. 11

DOORS: 205, 215, 305, 315

3 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	PASSAGE LATCHSET	CL810 x LRC	630	DAH
1 EA.	CLOSER	8616 x JT	619E	DAH
1 EA.	WALL STOP	1270 WVCP	US32D	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US32D	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US32D	TRIM
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	SMOKE SEAL	S88D x HSS2000	DBR	PEMK

HARDWARE SET NO. 12

DOOR: 106A

4 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	STOREROOM LOCKSET	CL780 x LRC	630	DAH
1 EA.	CLOSER	7414 x FH	689	DAH
1 EA.	WALL STOP	1270 WVCP	US15	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US15	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US15	TRIM
3 EA.	SILENCERS	1229A	GRY	TRIM

HARDWARE SET NO. 13

DOOR: 106C

* - ALL DOOR HARDWARE TO BE SUPPLIED BY THE ROLL-UP DOOR MANUFACTURER.

HARDWARE SET NO. 14

DOORS: 220, 317

3 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	STOREROOM LOCKSET	CL780 x LRC	630	DAH
1 EA.	CLOSER	7414 x FH	689	DAH
1 EA.	WALL STOP	1270 WVCP	US15	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US15	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US15	TRIM
3 EA.	SILENCERS	1229A	GRY	TRIM

HARDWARE SET NO. 15

DOORS: 118, 214, 314

3 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	STOREROOM LOCKSET	CL780 x LRC	630	DAH
1 EA.	CLOSER	7414 x AR	689	DAH
1 EA.	WALL STOP	1270 WVCP	US15	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US15	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US15	TRIM
3 EA.	SILENCERS	1229A	GRY	TRIM

HARDWARE SET NO. 16

DOOR: 117B

3 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	STOREROOM LOCKSET	CL880 x LRC	630	DAH
1 EA.	CLOSER	8616 x DS	689	DAH
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US15	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US15	TRIM
1 SET	SMOKE SEAL	S88D x HSS2000	DBR	PEMK

HARDWARE SET NO. 17

DOOR: 105B

3 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	STOREROOM LOCKSET	CL880 x LRC	630	DAH
1 EA.	CLOSER	8616 x JT	689	DAH
1 EA.	WALL STOP	1270 WVCP	US15	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US15	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US15	TRIM
1 SET	SMOKE SEAL	S88D x HSS2000	DBR	PEMK

HARDWARE SET NO. 18

DOORS: 111A, 111B

3 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	CLASSROOM LOCKSET	CL777 x LRC	630	DAH
1 EA.	WALL STOP	1270 WVCP	US15	TRIM
3 EA.	SILENCERS	1229A	GRY	TRIM

HARDWARE SET NO. 19

DOOR: 112

3 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	PRIVACY LOCKSET	CL740 x LRC	630	DAH
1 EA.	CLOSER	7414 x AR	689	DAH
1 EA.	WALL STOP	1270 WVCP	US15	TRIM
1 EA.	KICK PLATE	KOO50 8" x 2" LDW	US15	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US15	TRIM
3 EA.	SILENCERS	1229A	GRY	TRIM

HARDWARE SET NO. 20

DOOR: 110A

6 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	CLASSROOM LOCKSET	CL777 x LRC	630	DAH
1 EA.	DUMMY TRIM	CL701 x LRC	630	DAH
2 EA.	CLOSERS	8616 x SPA8	619E	DAH
1 EA.	COORDINATOR	3092	BLK	TRIM
1 SET	AUTO FLUSH BOLTS	3815	US32D	TRIM
1 EA.	ADJ. DUST PROOF STRIKE	3911	US32D	TRIM
2 EA.	WALL STOP	1270 WVCP	US15	TRIM
2 EA.	KICK PLATE	KOO50 8" x 2" LDW	US15	TRIM
1 SET	SMOKE SEAL	S88D x HSS2000	DBR	PEMK

HARDWARE SET NO. 21

DOORS: 219A, 316A

3 EA.	HINGES	BB 81 4-1/2" x 4-1/2"	US15	PBB
1 EA.	STOREROOM LOCKSET	CL780 x LRC	630	DAH
1 EA.	WALL STOP	1270 WVCP	US15	TRIM
3 EA.	SILENCERS	1229A	GRY	TRIM

DOOR HARDWARE

HARDWARE SET NO. 22

DOORS: GATE AT STAIR 1 (ROOM/AREA 117), GATE AT STAIR 2 (ROOM/AREA 105)

2 EA.	SPRING HINGES	SP 81 4" x 4"	US15	PBB
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* - BALANCE OF GATE HARDWARE TO BE SUPPLIED BY THE GATE SUPPLIER.

HARDWARE SET NO. 23

DOOR: 405

3 EA.	HINGES	BB 21 4-1/2" x 4-1/2" NRP	US32D	PBB
1 EA.	STOREROOM LOCKSET	CL880 x LRC (KEYED RM. 405 SIDE)	630	DAH
1 EA.	CLOSER	8616 x JT	689	DAH
1 EA.	WALL STOP	1270 WVCP	US32D	TRIM
1 EA.	MOP PLATE	KM050 4" x 1" LDW	US32D	TRIM
1 EA.	THRESHOLD	171 A	AL	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	AL	PEMK
1 SET	SMOKE SEAL	S88D x HSS2000	DBR	PEMK

TYPICAL TOWNHOME AND APARTMENT UNITS

HARDWARE SET NO. 24

DOOR: 01 (ENTRY DOOR TO TOWNHOME UNITS)

3 EA.	SPRING HINGES	SP 51 4" x 4" RC NRP	US15	PBB
1 EA.	ENTRY LOCKSET	F51 AVA 619 x CYLINDER	619	SCH
1 EA.	DOOR BUMPER	SDS375U15	US15	DELT
1 EA.	THRESHOLD	213 SN	US15	PEMK
1 EA.	DOOR BOTTOM SWEEP	315 SSN	US15	PEMK
1 SET	WEATHERSTRIPPING	P385 (HEAD & JAMBS)	GRAY	PEMK

HARDWARE SET NO. 25

DOOR: 01 (ENTRY DOOR TO APARTMENT UNITS)

3 EA.	SPRING HINGES	SP 51 4" x 4" RC NRP	US15	PBB
1 EA.	ENTRY LOCKSET	F51 AVA 619 x CYLINDER	619	SCH
1 EA.	DOOR BUMPER	SDS375U15	US15	DELT
1 EA.	DOOR BOTTOM SWEEP	315 SSN	US15	PEMK
3 EA.	SILENCERS	1229A	GRY	TRIM

HARDWARE SET NO. 26

DOOR: 02

3 EA.	HINGES	RP 81 4" x 4" RC	US15	PBB
1 EA.	PRIVACY LOCKSET	F40 AVA 619	619	SCH
2 EA.	HINGE PIN STOPS	HP70U15	US15	DELT
3 EA.	SILENCERS	1229B	GRY	TRIM

HARDWARE SET NO. 27

DOOR: 03

3 EA. HINGES	RP 81 4" x 4" RC	US15	PBB
1 EA. DUMMY TRIM	F170 AVA 619	619	SCH
1 EA. ROLLER CATCH	RCA336U15	US15	DELT
2 EA. HINGE PIN STOPS	HP70U15 (TOP & BTM HINGE)	US15	DELT
3 EA. SILENCERS	1229B	GRY	TRIM

HARDWARE SET NO. 28

DOOR: 04

3 EA. HINGES	RP 81 4" x 4" RC	US15	PBB
1 EA. PASSAGE LATCHSET	F10 AVA 619	619	SCH
2 EA. HINGE PIN STOPS	HP70U15 (TOP & BTM HINGE)	US15	DELT
3 EA. SILENCERS	1229B	GRY	TRIM

HARDWARE SET NO. 29

DOOR: 05

1 SET. BI-FOLD DOOR KIT	BFC125N-00-48		STAN
2 EA. WIRE PULLS	PW400U15	US15	DELT

HARDWARE SET NO. 30

DOOR: 06

1 EA. BI-FOLD DOOR KIT	BFC125N-00-72		STAN
2 EA. WIRE PULLS	PW400U15	US15	DELT

HARDWARE SET NO. 31

DOOR: 07

6 EA. HINGES	RP 81 4" x 4" RC	US15	PBB
2 EA. DUMMY TRIM	F170 AVA 619	619	SCH
2 EA. ROLLER CATCH	RCA336U15	US15	DELT
4 EA. HINGE PIN STOPS	HP70U15 (TOP & BTM HINGE)	US15	DELT
2 EA. SILENCERS	1229B	GRY	TRIM

END OF SECTION 08710



EATON

Cutler-Hammer

Panelboard and Switchboards
Series Rating Information Manual
Information Manual

Play it Safe...
Read This Manual!

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Introduction

The purpose of this publication is to explain the proper application of series ratings in Cutler-Hammer® panelboards and switchboards.

Industry standards and NFPA 70 — the National Electrical Code® (NEC®) require protection of the entire electrical distribution system from damage due to short circuit faults. NEC Article 110.10 states "The overcurrent protective devices... shall be selected and coordinated to permit the circuit-protective devices used to clear a fault to do so without extensive damage to the electrical components of the circuit." The entire distribution system is required to meet this standard. Series rated systems have become an effective method of meeting these requirements.

There are three protection systems used to protect low voltage power distribution conductors and equipment. They are:

- Fully rated protection.
- Fully rated, selectively coordinated protection.
- Series rated protection.

Fully Rated Protection: Where all overcurrent devices are rated for the full prospective short circuit current at their line side terminals throughout the system.

Selectively Coordinated Protection: Is a fully rated system where the overcurrent device closest to the fault will open first, thus isolating the faulty circuit.

Series Rated Protection: A short circuit interrupting rating assigned to a combination of two or more overcurrent protective devices which are connected in series and which the rating of the downstream device(s) in the combination is less than the series rating.

The short circuit interrupting rating of the first device in the series must be equal to or greater than the available fault current. Downstream breakers, however, are not fully rated for the system's available fault current.

Series ratings are also known in the industry as integrated ratings, series combination ratings and series connected ratings. The upstream overcurrent device in the series may be either internally or externally feeding downstream devices.

UL Issues

In a series rated system, the overcurrent devices in series in the protective scheme must have been tested and listed by Underwriters Laboratories® (UL®), for series combination use in the system.

All Eaton's Cutler-Hammer series ratings are in full compliance with all applicable requirements of the latest editions of UL 489, 891 and 67.

The *UL Recognized Components Directory* (the Yellow Book) contains breaker manufacturers' series connected listings. These are intended only as a guideline for use by others who are responsible for their own testing, labeling and listing. Therefore, the *UL Recognized Components Directory* can not be used to interpret series connected ratings in equipment.

Code Issues

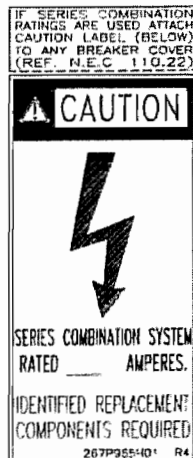
Requirements of NFPA 70 — the National Electrical Code for series ratings may be met by equipment marked with ratings adequate for the available fault current at the point of application in the electrical system. The Cutler-Hammer panelboards and switchboards are marked consistent with NEC Article 240.86 (A).

2002 NEC 240.86 (B) Motor Contribution. Series ratings shall not be used where:

1. Motors are connected on the load side of the higher-rated overcurrent device and on the line side of the lower-rated device.
2. The sum of the full-load currents exceeds 1% of the interrupting rating of the lower-rated breaker.

Note: NEC 240.86 (B) is additive and both conditions must be met to apply.

Additionally, NEC Article 110.22 requires field marking on equipment where series ratings are used. This label is supplied with Cutler-Hammer panelboards and switchboards utilizing series combination ratings and reads "Caution — Series Combination System Rated _____ Amperes Available. Identified Replacement Component Required."



Note to Installing Electrician: NEC 110.22 requires the installer to properly apply and complete this label. Label(s) must be placed on all equipment where series ratings are utilized.



CAUTION: Do not apply fuses using the up-over-down method for sizing a current-limiting fuse that protects a downstream molded case circuit breaker with a specified rms symmetrical interrupting rating. The method can lead to erroneous and unsafe conclusions and should not be used.

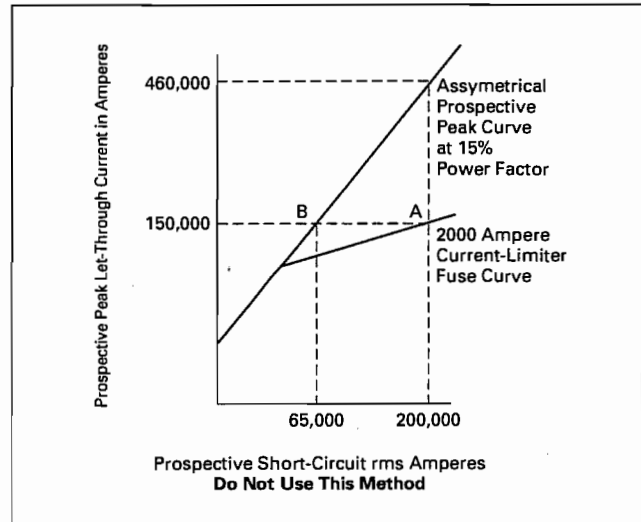


Figure 1.

Conclusion: This conclusion is wrong when the downstream service has a blow-open contact assembly, as does a molded case circuit breaker or similar device. It may be valid when the current-limiting fuse is sized to protect a passive bus bar system.

The up-over-down method ignores dynamic impedance (the inherent current-limiting of the downstream molded case circuit breaker). Such impedance is developed directly by the forces of the let-through current created when the contacts are blown open.

Some breakers rated 15 to 50 amperes, 120/240 volt maximum have been investigated and found suitable for use in panelboards from a different manufacturer. These are identified as "Classified" breakers. DO NOT USE SERIES RATINGS WITH "CLASSIFIED" BREAKERS! Series ratings apply ONLY to those Cutler-Hammer breakers listed and published in this booklet.



DANGER: Use of other devices can cause explosion, severe injury or death!

Applying Series Ratings

The following is provided to use the series rating tables on the following pages:

- Step 1. Determine the available system voltage and fault current.
- Step 2. Select the appropriate table using the system voltage.
- Step 3. Use the appropriate "Series Equipment Rating" column equal to, or greater than, the available fault current, to determine the allowable UL recognized combinations of main (upstream) and branch (downstream) overcurrent devices. Main devices are shown in bold/shaded areas. Respective branch breakers are shown directly below their associated main device. **If a rating is not initially found in a column, first look to the columns to the right for higher "Series Equipment Ratings" within the same table. If still not found, use ratings from table of a higher system voltage (higher numbered table).**

Example 1:

208Y/120 volt, 3-phase, 4-wire, ac system with available fault current of 26,438 amperes. Main (upstream) device is a 3-pole, 225 ampere, EDS breaker. The branch (downstream) breakers are 1- and 2-pole, 20, 30 and 60 amperes, 120 volt and 120/240 volt BAB breakers.

1. Go to the 120/240 volts table (Table 1).
2. Look down under the 22 kA column. This rating is not shown.
3. Look to the columns to the right. This combination rating is shown under the 42 kA column, and therefore is valid.

Example 2:

480Y/277 volt, 3-phase, 4-wire, ac system with available fault current of 62,097 amperes. Main (upstream) device is a 3-pole 250 ampere, HJD breaker. The branch (downstream) breakers are 2- and 3-pole, 60, 70 and 100 ampere EHD breakers.

1. Go to the 480Y/277 volts table (Table 4).
2. Look down under the 65 kA column. This rating is not shown.
3. Look to the columns to the right. This rating is not shown.
4. Look at the table with the next higher system voltage. (480 volts, Table 5).
5. This combination rating is shown under the 65 kA column, and therefore is valid.

Example 3:

480Y/277 volt, 3-phase, 4-wire, ac system with available fault current of 24,324 amperes. Main (upstream) device is a 3-pole, 225 ampere, FD breaker. The branch (downstream) breakers are 1-pole, 20 ampere, GHQ; 2-pole, 30 ampere, GHB; and 3-pole, 50 ampere, GHB devices.

1. Go to the 480Y/277 volts table (Table 4).
2. Look under the 25 kA column. This rating is not shown. Look to the columns to the right. This rating is shown under the 35 kA column, and therefore is valid for combinations with the 2- and 3-pole GHB breakers.
3. Go to the 277 volts table (Table 3).
4. Look under the 25 kA column. This rating is not shown. Look to the columns to the right. This rating is shown under the 35 kA column, and therefore is valid for combinations with the 1-pole GHQ breaker.

Other Applications of Series Ratings

Series ratings can also be applied under the following guidelines:

- Any FULLY RATED breaker can be applied upstream, downstream or in the middle of any of the series ratings stated in the tables.
- Any series rating stated in the tables may have additional series rated branch breakers of the EXACT SAME TYPE further downstream in that rating.

COMBINING SERIES RATINGS are allowed under certain conditions. Main and branch ratings may be combined if:

- Breakers A, B and C are in series respectively from main to branch. Breakers A and B series rate together. Breakers A and C series rate at the same interrupting level (or higher). It is allowable to use A, B and C together at the A-B series rating.

It is improper to combine series ratings under the following condition:

- Breakers A, B and C are in series respectively from main to branch. Breakers A and B series rate together. Breakers B and C series rate at the Breaker B interrupting rating level. It is not allowable to use A, B and C together at the A-B series rating. However, combining multiple overcurrent devices as in this example, can be accomplished if all devices in the series combination have been tested together and listed in triple rating Table 13.

Note: The information contained in this manual also applies to specifying the upstream overcurrent protective device for use with through-feed and sub-feed panelboards without an integral main.

Series Rating — Panelboards and Switchboards



Cutler-Hammer

Series Rating Tables

Table 1. 120/240 Volts ac — Breaker/Breaker Series Ratings

Main devices are shown centered at top, in shaded area. Respective branch devices shown directly below.

Main Breaker Maximum Amperes	Series Equipment Rating — kA Symmetrical									
	18	22	42	65			100			200
100	EHD BA, BAB BABRP BABRSP HQP QBGF QBAF QBAG	QBHW QPHW BA, BAB HQP QBGF QPGF QBAF QBAG		GB, GHB BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW			FB-P BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW EHD FD			FCL BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW GB, GHB GHQ EHD FD HFD
150	FDB BA, BAB HQP QBGF QBAF QBAG									
200							LA-P BA, BAB HQP QBHW QPHW EHD FD			
225		EDB BA, BAB BABRP BABRSP HQP QBGF QPGF QBHGF QPHGF QBHW QPHW QBAF QBAG	EDS BA, BAB BABRP BABRSP HQP QBGF QPGF QBHGF QPHGF QBHW QPHW QBAF QBAG	ED, FD BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QBHGF			EDH, EDC BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG	HFD BA, BAB HQP QBGF QBAF QBAG QBHW QPHW QBHGF GB, GHB GHQ, GHQRSP EHD FD	FDC BA, BAB HQP QBHW QPHW	FDC GB, GHB GHQ GHQRSP EHD FD HFD
250				JD, JDB BA (15 – 70 A) BAB (15 – 70 A) HQP (15 – 70 A) QBHW QPHW EHD	HJD BA, BAB HQP QBHW QPHW	JDC QBGF QPGF QBAF QBAG	HJD GB, GHB EHD FD	JDC BA, BAB HQP QBHW QPHW		JDC GB, GHB EHD FD HFD
400		DK, KD KDB BA, BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG	DK, KD KDB, CKD BA (15 – 70 A) BAB (15 – 70 A) BABRP BABRSP HQP (15 – 70 A) QBHW QPHW	HKD, CHKD BA (15 – 70 A) BAB (15 – 70 A) BABRP BABRSP HQP (15 – 70 A) QBHW QPHW	DK, KD KDB CKD EHD	KDC BA (15 – 70 A) BAB (15 – 70 A) HQP (15 – 70 A)	HKD, CHKD GB, GHB EHD FD	KDC QBHW QPHW		KDC GB, GHB EHD FD HFD
										LCL BA, BAB HQP QBGF QPGF QBAF QBAG QBHW QPHW GB, GHB EHD FD HFD
600							CHLD, HLD EHD			
800							HMOL EHD			
1200							HMO EHD			

Table 2. 240 Volts ac — Breaker/Breaker — Series Ratings

For 1- and 2-pole 120/240 volt rated breakers (BA, BAB, HQP, QBHW, QPHW), see **Table 1**.

Main devices are shown centered at top, in shaded area. Respective branch devices shown directly below.

Main Breaker Maximum Amperes	Series Equipment Rating — kA Symmetrical								
	18	22	42	65		100			200
100	EHD BAB_H HQP_H	QBHW_H QPHW_H BAB_H HQP_H		GB, GHB BAB_H HQP_H QBHW_H QPHW_H		FB-P BAB_H HQP_H EHD FDB FD			FCL BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FD FDB HFD
150	FDB BAB_H HQP_H								
200						LA-P BAB_H HQP_H QBHW_H QPHW_H EHD FDB FD JD, JDB			
225		EDB HQP_H BAB_H QBHW QPHW	EDS HQP_H BAB_H QBHW QPHW	ED BAB_H HQP_H QBHW_H	FD BAB_H HQP_H QBHW_H QPHW_H EHD (15 – 70 A) FDB	EDH, EDC BAB_H HQP_H	HFD BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FDB FD	FDC BAB_H HQP_H QBHW_H QPHW_H	FDC GB, GHB EHD FDB FD HFD
250				JD, JDB BAB_H (15 – 70 A) HQP_H (15 – 70 A) QBHW_H QPHW_H EHD FDB	HJD BAB_H (15 – 70 A) HQP_H (15 – 70 A) QBHW_H QPHW_H	HJD GB, GHB EHD FD FDB ED JD, JDB	JDC BAB_H HQP_H QBHW_H QPHW_H		JDC GB, GHB EHD FD FDB HFD, EDB, EDS ED EDH JD, JDB HJD

Series Rating — Panelboards and Switchboards

EATON**Cutler-Hammer****Table 2. (Continued) 240 Volts ac — Breaker/Breaker — Series Ratings**

For 1- and 2-pole 120/240 volt rated breakers (BA, BAB, HQP, QBHW, QPHW), see Table 1.

Main devices are shown centered at top, in shaded area. Respective branch devices shown directly below.

Main Breaker Maximum Amperes	Series Equipment Rating — kA Symmetrical				
	65	100		200	
400	DK, KD, KDB CKD BAB_H HQP_H QBHW_H QPHW_H EHD FDB	HKD, CHKD QBHW_H ① QPHW_H ① GB, GHB EHD FDB FD, EDB, EDS ED JD, JDB DK, KD, KDB	KDC QBHW_H QPHW_H	KDC GB, GHB EHD FDB FD HFD, EDB, EDS ED EDH JD, JDB HJD DK, KD, KDB HKD	LCL BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FDB FD, HFD, EDB, EDS ED EDH JD, JDB HJD DK, KD, KDB HKD
500		NB-P JD, JDB KD, KDB, DK CKD			
600		HLD, HLDB, CHLD GB ①, GHB ① FD, EDB, EDS ED, EHD JD, JDB KD, KDB, DK, CKD LD, LDB		LDC EDB, EDS, ED EDH	
800		NB-P KD, KDB, DK	HMDL EHD FD		
1200		HND, CHND EDB, EDS, ED EHD			NDC EDB, EDS, ED EDH
2500		RD EDB, EDS, ED			RDC EDB, EDS, ED EDH

① Valid on 2- and 3-pole breakers only. Not valid for 1-pole.

Table 3. 277 Volts ac — Breaker/Breaker Series Ratings

Main devices are shown centered at top, in shaded area. Respective branch devices shown directly below.

All ratings in this table apply to single-pole branch breakers only. For 2- and 3-pole branch breakers, see other tables.

Main Breaker Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	22	25	35	65	100	150
100						FCL GHB GHQ, GHQRSP EHD FD HFD
225			FD GHB GHQ GHQRSP	HFD GHB, GHQRSP GHQ EHD FD	FDC GHB EHD FD HFD	
250	JD, JDB GHB		JD, JDB GHB (15 – 50 A)	HJD GHB (15 – 50 A) EHD FD	LCL GHBS	JDC GHB EHD FD HFD
400	KD, KDB CKD GHB	HKD CHKD GHB	KD, KDB CKD GHB (15 – 50 A) EHD FD	HKD, CHKD GHB (15 – 50 A) EHD FD	KDC GHB (15 – 50 A) EHD FD HFD	LCL GHB EHD FD HFD

Table 4. 480Y/277 Volts ac — Breaker/Breaker Series Ratings

Main devices are shown centered at top, in shaded area. Respective branch devices shown directly below.

All ratings in this table apply to 2- and 3-pole branch breakers only. For single-pole branch breakers, see Table 3.

Main Breaker Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	22	25	35	65	100	150
100						FCL GHB, GHQRSP
225			FD GHB, GHQRSP	HFD GHB, GHQRSP	FDC GHB	
250	JD, JDB GHB		JD, JDB GHB (15 – 50 A)	HJD GHB (15 – 50 A)	JDC GHB	
400	KD, KDB CKD GHB	HKD, CHKD GHB	KD, KDB CKD GHB (15 – 50 A)	HKD, CHKD GHB (15 – 50 A)	KDC GHB (15 – 50 A)	LCL GHB

Series Rating — Panelboards and Switchboards

EATON**Cutler-Hammer****Table 5. 480 Volts ac — Breaker/Breaker Series Ratings**

Main devices are shown centered at top, in shaded area. Respective branch devices shown directly below.
All ratings in this table apply to 2- and 3-pole branch breakers only. Not valid for 1-pole branch breakers.

Main Breaker Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	25	35	65	100	150	
100				FB-P EHD FDB FD HFD		FCL EHD FDB FD HFD
200				LA-P EHD FDB FD HFD JD, JDB HJD		
225		FD EHD FDB	HFD EHD FDB FD	FDC EHD FDB FD HFD		
250	JD, JDB EHD FDB		HJD EHD FDB FD JD, JDB	JDC EHD FDB FD HFD JD, JDB HJD		
400		KD, KDB EHD FDB	HKD EHD FDB FD JD, JDB KD, KDB	KDC EHD FDB FD HFD JD, JDB HJD KD, KDB HKD	LA-P JD, JDB HJD KD, KDB HKD	LCL EHD FDB FD HFD FDC JD, JDB HJD KD, KDB HKD
500				NB-P JD, JDB HJD KD, KDB HKD		
600		LD, LDB CLD JD, JDB	HLDB, HLDB CHLD FD JD, JDB KD, KDB LD, LDB			

Table 6. 600 Volts ac — Breaker/Breaker Series Ratings

Main fuse class shown centered at top, in shaded area. Respective branch devices shown directly below.
All ratings in this table apply to 2- and 3-pole branch breakers only. Not valid for 1-pole branch breakers.

Main Breaker Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	18	25	35	42	50	100
225	FD FDB	HFD FDB FD	FDC FDB FD HFD			
250	JD, JDB FDB	HJD FDB FD JD, JDB	JDC FDB FD HFD JD, JDB HJD			
400		KD, KDB CKD FDB FD JD, JDB	HKD, CHKD FDB FD HFD JD, JDB HJD	KDC FDB FD HFD	KDC JD, JDB HJD KD, KDB HKD	LCL FDB FD HFD FDC JD, JDB HJD JDC KD, KDB HKD KDC
600		LD, LDB CLD FD JD, JDB	HLD, HLDB CHLD KD, KDB LD, LDB			

Table 7. 120/240 Volts ac — Fuse/Breaker Series Ratings

Main fuse class shown centered at top, in shaded area. Respective branch devices shown directly below.

Main Fuse Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	100			200		
100						R BA, BAB HQP QBHW QPHW GB GHB
200			R GB GHB	J BA, BAB HQP QBHW QPHW	T BA, BAB HQP QBHW QPHW	
400	J BA, BAB HQP QBHW QPHW	T BA, BAB HQP QBHW QPHW		J GB GHB	T GB GHB	

Series Rating — Panelboards and Switchboards


Cutler-Hammer
Table 8. 240 Volts ac — Fuse/Breaker Series Ratings

 For 1- and 2-pole 120/240 volt rated breakers (BA, BAB, HQP, QBHW, QPHW), see **Table 7**.

Main fuse class shown centered at top, in shaded area. Respective branch devices shown directly below.

Main Fuse Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	100				200	
100						R BAB_H HQP_H QBHW_H QPHW_H GB GHB
200			R GB GHB	J BAB_H HQP_H QBHW_H QPHW_H	T BAB_H HQP_H QBHW_H QPHW_H	R GB ① GHB ①
400	J BAB_H HQP_H QBHW_H QPHW_H	T BAB_H HQP_H QBHW_H QPHW_H		J GB GHB	T GB GHB	
600			L EHD FDB FD ED JD, JDB DK, KD, KDB			

 ① Valid on 2- and 3-pole breakers only. See **Table 7** for 1-pole.

Table 9. 277 Volts ac Fuse/Breaker Series Ratings

Main fuse class are shown centered at top, in shaded area. Respective branch devices shown directly below.

All ratings in this table apply to single-pole branch breakers only. For 2- and 3-pole branch breakers, consult other tables.

Main Fuse Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	65		100		200	
100			J GHBS GHQ GHQRSP	T GHBS GHQ GHQRSP		R GHB
200	J GHBS GHQ GHQRSP	T GHBS GHQ GHQRSP	J EHD FD HFD	T EHD FD HFD	R GHB	
400						J GHB T GHB

Table 10. 480Y/277 Volts ac — Fuse/Breaker Series Ratings

Main fuse class shown centered at top, in shaded area. Respective branch devices shown directly below. All ratings in this table apply to 2- and 3-pole branch breakers only. For single-pole branch breakers, see **Table 9**.

Main Fuse Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	65	100	200			
100			J GHBS	T GHBS		R GHB
200	J GHBS	T GHBS		R GHB		
400					J GHB	T GHB
600			J EHD FD HFD FDC	T GHB EHD FD HFD FDC JD HJD JDC		

Table 11. 480 Volts ac — Fuse/Breaker Series Ratings

Main fuse class shown centered at top, in shaded area. Respective branch devices shown directly below. All ratings in this table apply to 2- and 3-pole branch breakers only. Not valid for 1-pole branch breakers.

Main Fuse Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	100	200				
100			R EHD			
200	J EHD FD HFD FDC	T EHD FD HFD FDC				

Table 12. 600 Volts ac — Fuse/Breaker Series Ratings

Main fuse class shown centered at top, in shaded area. Respective branch devices shown directly below. All ratings in this table apply to 2- and 3-pole branch breakers only. Not valid for 1-pole branch breakers.

Main Fuse Maximum Amperes	Series Equipment Rating — kA Symmetrical					
	100	200				
100			R FD HFD FDC			
200	J FD HFD FDC	T FD HFD FDC	R JD HJD JDC			
400	J JD HJD JDC	T JD HJD JDC	R KD HKD KDC			
600				J KD HKD KDC	T KD HKD KDC	

Table 13. Triple Series Ratings

Main Fuse Class and Maximum Amperes	Tenant Main Type	Branch Type	System Voltage	Short Circuit Series Rating (kA, Sym.)
L-6000	DK, KD, KDB	GB, GHB, EHD ①	240	100
L-6000	DK, KD, KDB	GB, GHB	120/240	100
L-6000	DK, KD, KDB	FD ①, FDB	240	100
L-6000	DK, KD, KDB	JD, JDB	240	100
L-6000	JD, JDB	GB, GHB	240	100
L-6000	JD, JDB	GB, GHB	120/240	100
L-6000	FD	GB, GHB	240	100
L-6000	FD	GB, GHB	120/240	100
L-6000	FD, FDB	BAB_H, HQP_H QBHW_H, QPHW_H	240	100
L-6000	FD, FDB	BA, BAB HQP (15 – 70A)	120/240	100
L-6000	EHD	BAB_H, HQP_H	240	100
L-6000	EHD	BA, BAB, HQP	120/240	100

① Valid on 2- and 3-pole breakers only. Not valid for 1-pole.

Cutler-Hammer is a federally registered trademark of Eaton Corporation. National Electrical Code and NEC are registered trademarks of the National Fire Protection Association, Quincy, Mass. UL is a federally registered trademark of Underwriters Laboratories Inc.

Notes



125 AMP MAX

1-PHASE PANELS, TABLETS 1 PHASE
120/240 VACVCA 1PH, 3W, 1 FASE, 3 HILOS
208/120 VACVCA 3W, 3 HILOS
3-PHASE PANELS, TABLETS 3 PHASE
240 VACVCA 3PH, 3W, 3 FASE, 3 HILOS; SEE (1); VER(1)
208/120 VACVCA 3PH, 3W, 3 FASE, 3 HILOS
240/208 VACVCA 3PH, 3W, 3 FASE, 3 HILOS
SEE (2); VER(2)

(1) USE ONLY 240 VOLTS CIRCUIT BREAKER.
(2) 240 VOLT CIRCUIT BREAKERS MAY BE USED FOR
ALL RATINGS. USE 120/240 VOLT CIRCUIT BREAKERS
ONLY WHEN PHASE TO GROUND VOLTAGE DOES NOT
EXCEED 120 VOLTS.

(1) SOLOAMENTE UTILICE INTERRUPTORES (BREAKERS) DE
CIRCUITO DE 240 VCA.
(2) INTERRUPTORES (BREAKERS) DE CIRCUITO DE 240 VCA
PUEDEN SER UTILIZADOS PARA TODAS LAS CAPACIDADES
UTILICE INTERRUPTORES (BREAKERS) DE CIRCUITO DE
120/240 VCA SOLOAMENTE CUANDO EL VOLTAGE DE FASE A
TIERRA NO EXCEDE 120 VCA.

SEE CASE SIDEWALL FOR FURTHER INFORMATION

PARA INFORMACION ADICIONAL, VEA LA PARED LATERAL
DEL GABINETE Y EL REVERSO DE LA CUBIERTA DE LOS
INTERRUPTORES.

TYPE 3R ENCLOSURE - RAINPROOF

USE CUTLER-HAMMER TYPE CH1, CHAF, CH2 OR CHT USE
CH1 ON BOTH POSITION HAVING RESECTION TABS CIRCUIT
BREAKERS MAX. SUM OF BREAKER RATINGS PER (SAB, 200)
AMP.

ALL COPPER BUS: PLATED AND / OR UNPLATED.

TO CLOSE UNUSED OPENINGS IN COVER, USE FILLER
PLATE CUTLER-HAMMER CAT. NO. CHFP.

USE 40 AMP MAX WIRE FOR BREAKER LOADS OPPOSITE
TO NEUTRAL.

FOR ADDITIONAL #6 - 2/0 NEUTRAL OR GROUND
TERMINALS, USE CUTLER-HAMMER CAT. NO. NL20.

PUB 26539

WHEN USED AS SERVICE EQUIPMENT, ANY UNUSED NEUTRAL HOLES MAY BE USED FOR EQUIPMENT GROUNDING.
FOR EQUIPMENT GROUNDING APPLICATIONS, WIRE HOLES ARE SUITABLE FOR (1) #14-4 OR UP TO (2) #14-10
WIRES. MULTIPLE WIRES IN THE SAME HOLE MUST BE THE SAME SIZE AND MATERIAL.

THIS DEVICE ACCEPTS CUTLER-HAMMER TYPE GBK GROUND BARS. WIRE HOLES ARE SUITABLE FOR (1) #14-4 OR
UP TO (2) #14-10 WIRES. MULTIPLE WIRES IN THE SAME HOLE MUST BE THE SAME SIZE AND MATERIAL.

FOR PANELS WITH MAIN CIRCUIT BREAKER:
SUITABLE FOR USE AS SERVICE EQUIPMENT.

FOR PANELS WITH MAIN LUG:
SUITABLE FOR USE AS SERVICE EQUIPMENT WHEN A MAIN BREAKER IS USED WITH HOLD DOWN BRACKET

CAT NO. CH125R8 OR WHEN NOT MORE THAN SIX MAIN DISCONNECTING MEANS ARE PROVIDED AND
WHEN NOT USED AS A LIGHTING AND APPLIANCE BRANCH CIRCUIT PANEL BOARD, (SEE ARTICLE 408.14
OF THE NEC). WHEN A MAIN BREAKER IS USED, THE PANEL RATING IS THAT OF THE MAIN BREAKER.

BREAKER HANDLE IN MID POSITION INDICATES BREAKER IS TRIPPED. TO RESTORE SERVICE, MOVE HANDLE TO
EXTREME "OFF" THEN TO "ON".

CORNER GROUNDING DELTA: THIS PANEL IS UL LISTED FOR USE WITH GROUNDING B OR C DELTA SYSTEM
240 VAC 3 PH - 3 WIRE. REMOVE AND DISCARD NEUTRAL. USE ONLY CUTLER-HAMMER 2 OR 3 POLE
BREAKERS, RATED 240 V.

WHEN USED FOR SUB-FEED APPLICATIONS THIS PANEL MUST BE PROTECTED BY AN UP-STREAM MAIN
OVER-CURRENT DEVICE THAT IS MARKED AND WIRED FOR GROUNDING DELTA APPLICATIONS. WHEN USED
AS SERVICE EQUIPMENT ADAPTER KIT CHGRD1 MUST BE INSTALLED PER INSTRUCTION WITH KIT.

DELTA CON ESQUINA CONECTADA A TIERRA. ESTE TABLERO ESTA LISTADO POR UL PARA USARSE CON
SISTEMAS DELTA CONECTADOS A TIERRA B o C. 240 VCA 3 FASES - 3 HILOS. QUITE Y DESHECHE EL NEUTRO.
SOLOAMENTE UTILICE INTERRUPTORES (BREAKERS) CUTLER-HAMMER DE 2 o 3 POLOS, DE 240V DE
CAPACIDAD.

CUANDO SEA UTILIZADO EN APLICACIONES PARA SUBALIMENTACION, ESTE TABLERO DEBERA SER
PROTEGIDO POR UN DISPOSITIVO DE SOBRECORRIENTE PRINCIPAL. INSTALADO ANTERIOR AL TABLERO.
QUE ESTE MARCADO Y ALAMBRADO PARA APLICACIONES DE DELTA CONECTADA A TIERRA.

CUANDO SEA UTILIZADO COMO EQUIPO DE SERVICIO, EL KIT ADAPTADOR CHGRD1 DEBERA SER INSTALADO
SEGUN LAS INSTRUCCIONES EN EL KIT.

TORQUE WIRE PRESSURE SCREWS AS FOLLOWS:

APRIETE LOS TORNILLOS DE SUCCION DE CABLE A LOS VALORES
DE TORQUE SIGUIENTES:

WIRE SIZE
CABLE CALIBRE
62/74°C
AL CU
AWG/CMIL

314 - 10
44 - 8
48 - 6
53 - 4

200 28
212 42
263 96
500 45

TORQUE CIRCUIT BREAKER USE TO VALUES SPECIFIED ON CIRCUIT
BREAKER.

APRIETE EL TERMINAL E3 DEL INTERRUPTOR A LOS VALORES DE
TORQUE ESPECIFICADOS EN EL INTERRUPTOR.

MADE IN USA - HECHO EN ELA

FOR RAINPROOF FITTINGS, REFER TO TAB
BELOW.

PARA ACCESORIO A PRUEBA DE LLUVIA
CONSULTE LA SIGUIENTE TABLA.

WIRE SIZE
TAMANO DE
CAMPIANA

3/4" (19.05 mm)
1" (25.40 mm)
1-1/4" (31.75 mm)
1-1/2" (38.10 mm)
2" (50.80 mm)

DS075H1
DS100H1
DS125H1
DS150H1
DS200H1

REV. F

SERIES CONNECTED SHORT CIRCUIT RATING - CAPACIDAD DE CORTO CIRCUITO CONECTADO EN SERIE
SYSTEM MAIN OVERCURRENT DEVICE
CUTLER-HAMMER BREAKER TYPE OR
CLASS FUSE

DISPOSITIVO DE SOBRECORRIENTE PRINCIPAL
DEL SISTEMA, TIPO INTERRUPTOR (BREAKER)
CUTLER-HAMMER O CLASE FUSIBLE

PANEL MAIN BREAKER (INTERNAL) OR FEEDER /
TENANT BREAKER (REMOTE) CUTLER-HAMMER
TYPE
INTERRUPTOR (BREAKER) PRINCIPAL DEL TABLERO
(INTERNAL) o ALIMENTADOR INTERRUPTOR (BREAKER)
DEL INDOLEO (REMOTE) TIPO CUTLER-HAMMER

CH, CH2, CH3, CH4, CH5, CH6, CH7, CH8, CH9, CH10, CH11, CH12, CH13, CH14, CH15, CH16, CH17, CH18, CH19, CH20, CH21, CH22, CH23, CH24, CH25, CH26, CH27, CH28, CH29, CH30, CH31, CH32, CH33, CH34, CH35, CH36, CH37, CH38, CH39, CH40, CH41, CH42, CH43, CH44, CH45, CH46, CH47, CH48, CH49, CH50, CH51, CH52, CH53, CH54, CH55, CH56, CH57, CH58, CH59, CH60, CH61, CH62, CH63, CH64, CH65, CH66, CH67, CH68, CH69, CH70, CH71, CH72, CH73, CH74, CH75, CH76, CH77, CH78, CH79, CH80, CH81, CH82, CH83, CH84, CH85, CH86, CH87, CH88, CH89, CH90, CH91, CH92, CH93, CH94, CH95, CH96, CH97, CH98, CH99, CH100, CH101, CH102, CH103, CH104, CH105, CH106, CH107, CH108, CH109, CH110, CH111, CH112, CH113, CH114, CH115, CH116, CH117, CH118, CH119, CH120, CH121, CH122, CH123, CH124, CH125, CH126, CH127, CH128, CH129, CH130, CH131, CH132, CH133, CH134, CH135, CH136, CH137, CH138, CH139, CH140, CH141, CH142, CH143, CH144, CH145, CH146, CH147, CH148, CH149, CH150, CH151, CH152, CH153, CH154, CH155, CH156, CH157, CH158, 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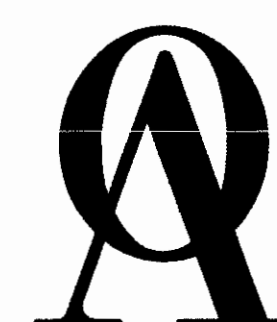


Residences at Trolley Park

1445^{N.} Dallas Street

Housing Authority of the City of Aurora
Aurora, Colorado

9 MARCH 2006
100% CONSTRUCTION DOCUMENTS



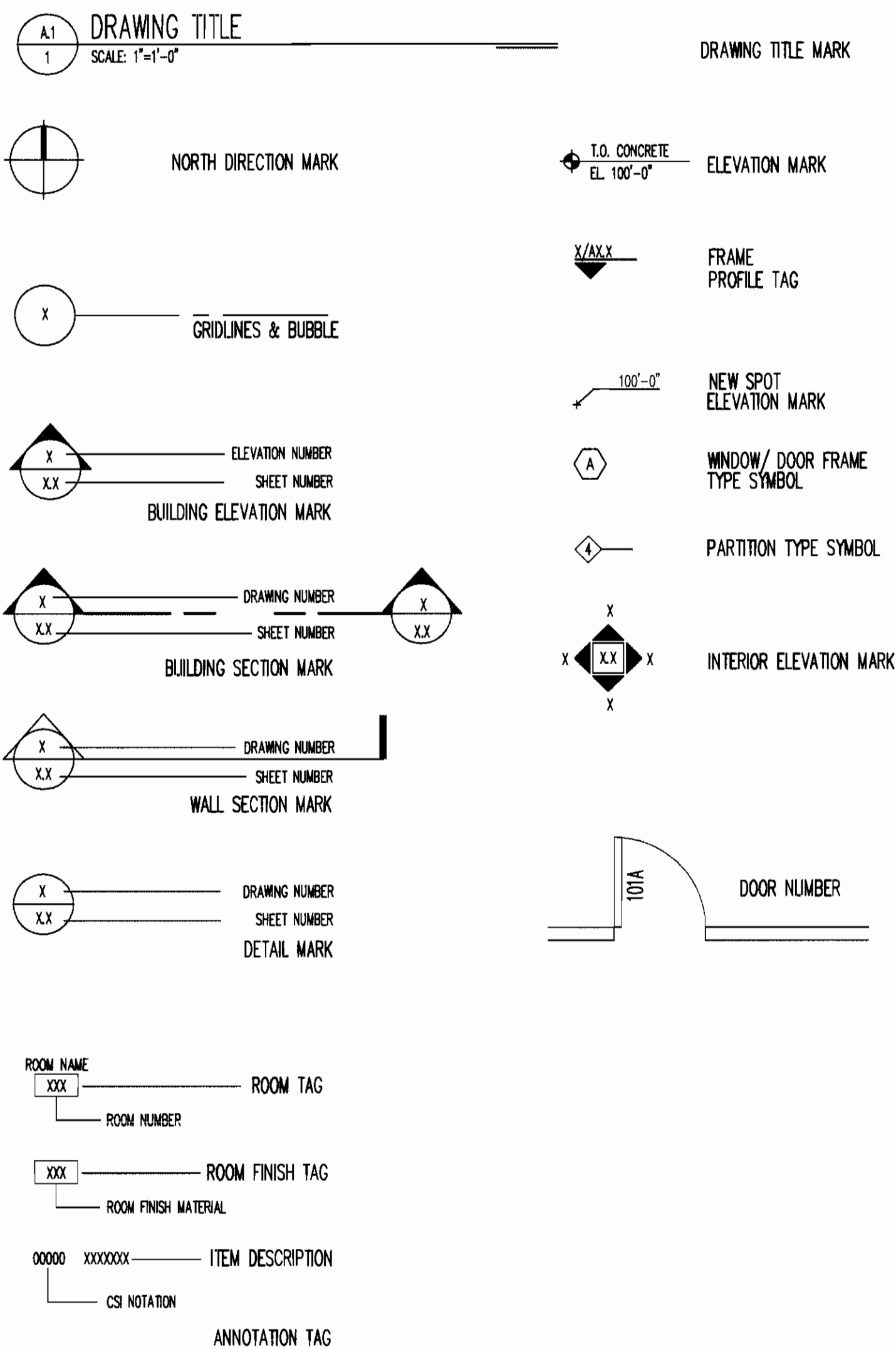
ODELL ARCHITECTS, P.C.
ARCHITECTURE PLANNING INTERIORS

City of Aurora Plan Review
Occ. Type: S-2/R-2
Const. Type: 1-A/10-A (S/R)
Square Footage: 8880
Code: 03-18000
RSN: 03-18000
Permit No. 06-108667-CM

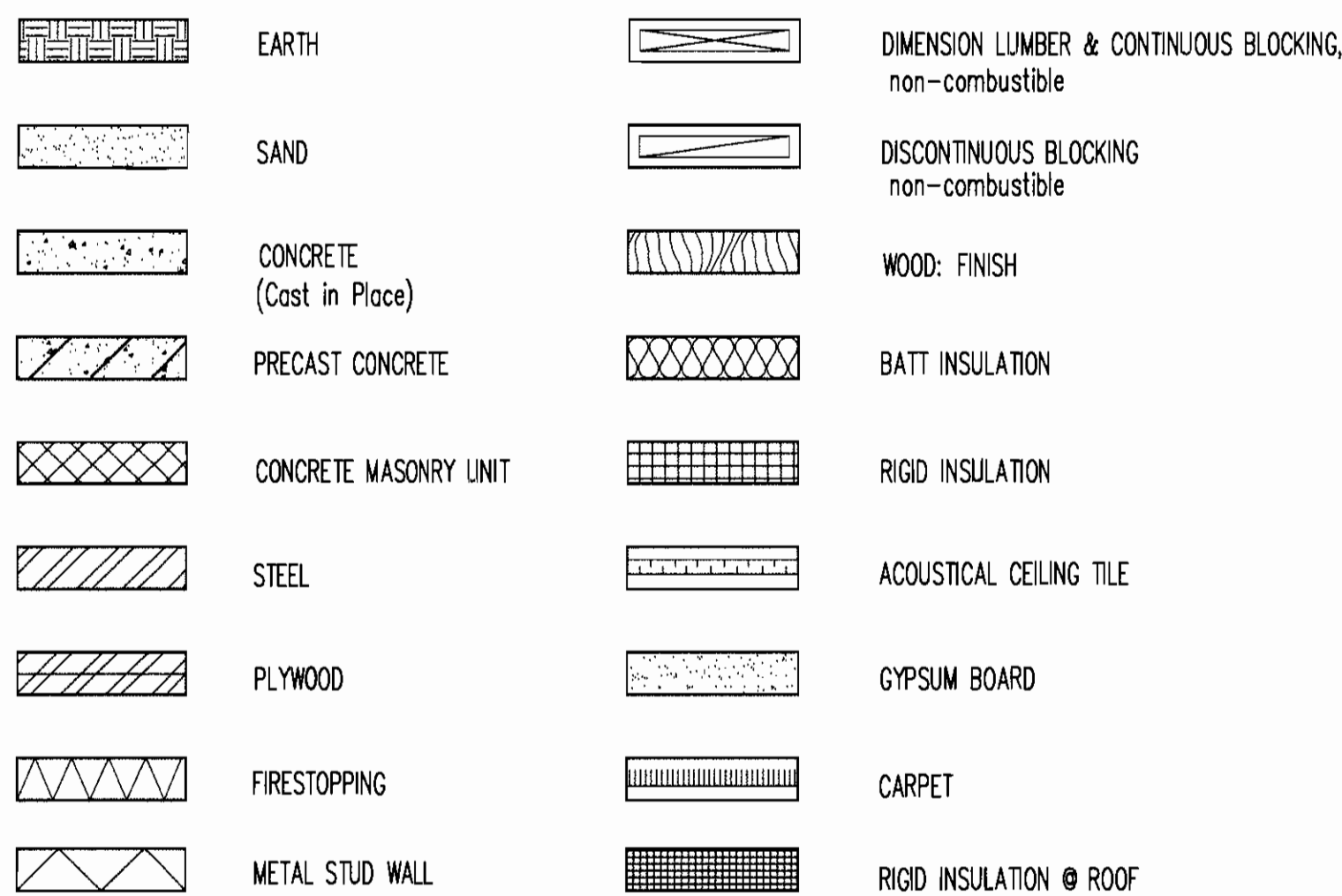


3.14.06

SYMBOLS



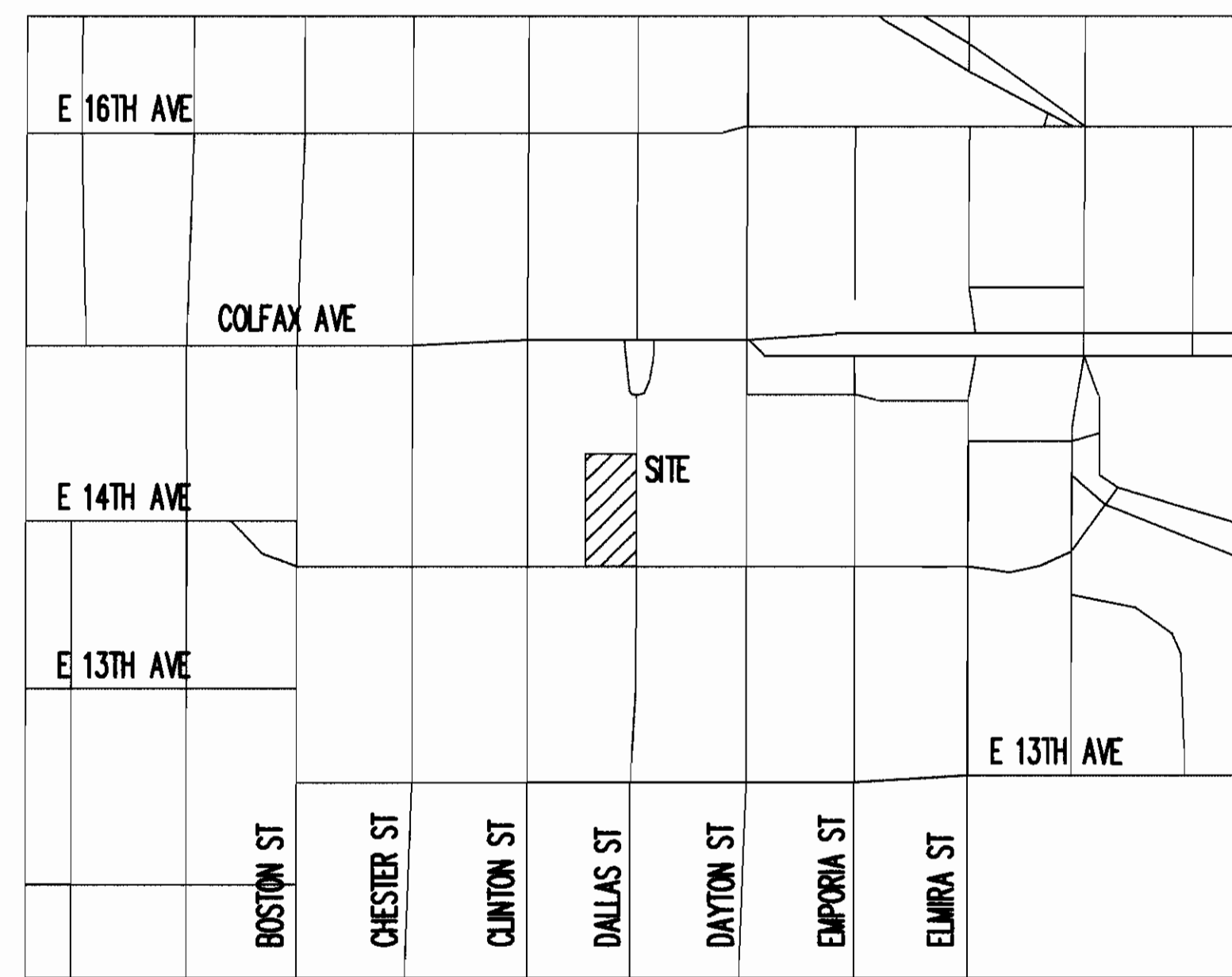
MATERIALS



ABBREVIATIONS

A.F.F.	Above Finish Floor	M.O.	Masonry Opening
ALUM.	Aluminum	N	New
ARCH.	Architectural	N.I.C.	Not in Contract
B.L.D.G.	Building	NOM.	Nominal
BRG.	Bearing	Non-Com.	Non-Combustible
C.I.P.	Cast in Place	N.T.S.	Not to Scale
C.J.	Control Joint	O.C.	On Center
CLG.	Ceiling	O.D.	Outside Diameter
C.M.U.	Concrete Masonry Unit	O.H.	Opposite Hand
CONC.	Concrete	OPG.	Opening
CONT.	Continuous	OPP.	Opposite
CONSTR.	Construction	P	Point
C.T.	Ceramic Tile	P.C.	Precast
DN.	Down	PR.	Pair
D.S.	Downspout	PT.	Point of Tangency
DWG.	Drawing	PT DISP.	Paper Towel Dispenser
(E)	Existing	R	Riser
E.A.	Each	Re	Remove
E.J.	Expansion Joint	Re	Refer
ELEC.	Electrical	REQD.	Required
EL.	Elevation	R.D.	Roof Drain
ELEV.	Elevator	R.O.	Rough Opening
EQUIP.	Equipment	SHT.	Sheet
E.O.S.	Edge of Slab	S.C.	Solid Core
EQ.	Equip.	S.F.	Square Feet
F.D.	Floor Drain	SM.	Similar
FIN.	Finish	SN DISP.	Sanitary Napkin Dispenser/ Disposal
FL.	Fluorescent	SPEC.	Specifications
FLR.	Floor	S.S.	Stainless Steel
FNDN.	Foundation	SG.	Seamless Quartz
F.O.C.	Face of Concrete	STD.	Standard
F.O.F.	Face of Framing	STR.	Structural
F.O.M.	Face of Masonry	SYM.	Symmetrical
F.O.S.	Face of Stud	S.A.C.	Suspended Acoustical Ceiling
F.S.R.	Flexible Sheet Roofing	T	Tread
FTG.	Footing	T.O.B.	Top of Beam
G/A	Gas and Air outlets	T.O.C.	Top of Concrete
GA.	Gauge	T.O.W.	Top of Wall
G.C.	General Contractor	TP DISP.	Toilet Paper Dispenser
GALV.	Galvanized	TYP.	Typical
GL.	Galvanized Iron	U.N.O.	Unless Noted Otherwise
GYP.BD.	Gypsum Board	V.C.T	Vinyl Composition Tile
HCP.	Handicapped	VERT.	Vertical
H.C.	Hollow Core	W/	With
H.M.	Hollow Metal	W/O	Without
HORIZ.	Horizontal	W.C.	Water Closet
HT.	Height	W.R.GYP.BD.	Water-Resistant Gypsum Board
INSUL.	Insulation/ Insulating	W.W.F.	Welded Wire Mesh
JT.	Joint	WD.	Wood
LAV.	Lavatory	Z	Angle
MAX.	Maximum	@	At
MECH.	Mechanical	C	Centerline
MFR.	Manufacturer	DIA.	Diameter
MIN.	Minimum		

VICINITY MAP



CODE REFERENCES

GOVERNING CODES:
 2003 INTERNATIONAL BUILDING CODE
 2003 INTERNATIONAL MECHANICAL CODE
 2002 NATIONAL ELECTRICAL CODE
 2003 INTERNATIONAL PLUMBING CODE
 1987 UNIFORM SOIL CODE
 1989 MODEL ENERGY CODE
 2003 INTERNATIONAL FUEL GAS CODE
 ICC/ANSI A117.1-1998
 FAIR HOUSING ACT
 AMERICANS WITH DISABILITIES ACT (OFFICE AND COMMUNITY ROOM ONLY)
 CITY OF AURORA ZONING CODE

AREA CALCULATION METHOD
 AREA IS MEASURED FROM EXTERIOR FACE OF EXTERIOR WALL. GROSS FLOOR AREA CALCULATION INCLUDES THE AREA OF ONE LEVEL OF THE STAIR AND EXTERIOR BALCONIES ON THE SECOND FLOOR ONLY PER DEFINITION OF "AREA BUILDING" IN SECTION 502.1 OF THE 2003 INTERNATIONAL BUILDING CODE.

TOTAL LIVING UNITS

TOWNHOMES	3
FIRST LEVEL	11
SECOND LEVEL	12
THIRD LEVEL	12
TOTAL	38 LIVING UNITS

ACCESSIBLE UNITS

2 FULLY ACCESSIBLE (ANSI TYPE "A" UNITS)
 1 - TWO BEDROOM TYPE "A" UNIT
 1 - THREE BEDROOM TYPE "A" UNIT

USABLE/ADAPTABLE UNITS (ANSI TYPE "B" UNITS)
 15 - TWO BEDROOM UNITS
 18 - THREE BEDROOM UNITS

ALL MAIN BUILDING UNITS ARE FULLY ACCESSIBLE OR ADAPTABLE

ACCESSIBILITY POINTS PER COLORADO REVISED STATUTE (CRS) 9-5 (NB-1221)

POINTS REQUIRED FOR 28-42 UNITS = 18

POINTS PROVIDED:
 (2) TYPE A UNITS AT 8 POINTS PER UNIT = 12 POINTS
 (33) TYPE B UNITS AT 4 POINTS PER UNIT = 132 POINTS
 TOTAL POINTS PROVIDED = 144

PARKING SUMMARY

68 SPACES REQUIRED
 70 SPACES PROVIDED
 2 FAIR HOUSING ACT ACCESSIBLE SPACES
 1 ADA VAN ACCESSIBLE SPACE
 67 STANDARD SPACES (9' x 16')

SHEET INDEX

A.00 COVER SHEET

GENERAL

A.01 GENERAL INFORMATION / CODE
 A.02 CODE SITE PLAN
 A.03 ARCHITECTURAL SITE DEMO

CIVIL

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 C.4 OVERALL UTILITY PLAN
 C.5 DRAINAGE AREA MAP
 C.6 DRAINAGE PLAN
 C.7 EROSION CONTROL PLAN

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 E3.3 UNIT ELECTRICAL PLANS
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 Fax: 720-320-9387

Kerry Sharrock
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CODE ANALYSIS - GARAGE

LOWER LEVEL PARKING GARAGE

CONSTRUCTION TYPE:

I-A (RE: SPRINKLER BELOW)

OCCUPANCY:

PRINCIPAL OCCUPANCY: S-2

OCCUPANCY SEPARATION:

THREE-HOUR BETWEEN S-2 AND R-2

AREA :

BASIC ALLOWABLE: UNLIMITED AREA

GARAGE AREA:

30,004 S.F.

MAX. ALLOWABLE

UNLIMITED

GARAGE HEIGHT:

N/A

MAX. ALLOWABLE STORES

UNLIMITED

GARAGE STORES

1

NFA TYPE 13 SYSTEM

SECTION 903.2.9

GARAGE:

30,004 S.F. @ 1/200 S.F. = 151

TOTAL OCCUPANCY:

151

EXITING:

EXITS REQUIRED = 2 ACCESSIBLE (10 TO 500 OCCUPANTS)

EXITS PROVIDED = 2 ACCESSIBLE

EXITING TRAVEL DISTANCE:

250' TRAVEL DISTANCE ALLOWED (FULLY-SPRINKLED)

EXIT SEPARATION DISTANCE:

1/3 OF DIAGONAL = 278' / 3 = 93' MINIMUM

COMMON TRAVEL PATH:

100' MAXIMUM COMMON PATH OF EGRESS TRAVEL ALLOWED

EXITING WIDTH:

EXITING WIDTH REQ'D AT STAIRS = 151 x 0.2 = 30.2' = 44' MIN.

EXITING WIDTH PROVIDED AT STAIRS = 48' (5'-10")

EXITING WIDTH REQ'D AT EXIT CORRIDOR = 0.15 x 323 = 48' / 2 = 24.5' = 44' (5'-8")

EXITING WIDTH DIVIDED AMONG TWO MEANS OF EGRESS

EXITING WIDTH PROVIDED AT EXIT CORRIDOR = 44' (5'-8")

OPENING PROTECTIVES:

90 MINUTE DOORS REQUIRED AT STAIRWELLS

90 MINUTE SHUTTER REQUIRED AT ELEVATOR

CODE REF.

SECTION 508.2

CH.3 BEC

SECTION 302.3.3

SECTION 508.2

TABLE 503

TABLE 503

TABLE 503

TABLE 503

SECTION 903.2.9

SECTION 406.4

TABLE 1004.1.2

SECTIONS 1003.3,

104.1, 1018.1

SECTION 1015.1

SECTION 1014.2.1

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EXCEPTION 2

SECTIONS 1016.2,

1015.1, 1009.1

SECTIONS 1016,

704, 708, 715

TABLES 1016.1,

715.3, 715.4.3

708.5, 704.8

SECTION 717.3.2, EXCEPTION 1

SECTION 717.4.2, EXCEPTION 2

CODE ANALYSIS - LEVELS 1-3

RESIDENTIAL LIVING UNITS - FIRST, SECOND AND THIRD LEVELS

CONSTRUCTION TYPE:

V-A, V-B AT BALCONIES. (RE: SPRINKLER BELOW)

OCCUPANCY:

PRINCIPAL OCCUPANCY: R-2

OCCUPANCY SEPARATION:

THREE-HOUR BETWEEN R-2 AND S-2

(COMMUNITY SPACE AND OFFICE ON FIRST LEVEL IS LESS THAN 10% OF FIRST FLOOR AREA)

FIRE SEPARATIONS:

ONE-HOUR FIRE PARTITION BETWEEN LIVING UNITS (WALL AND FLOOR ASSEMBLIES)

ONE-HOUR FIRE PARTITION BETWEEN UNITS AND CORRIDOR (WALL AND FLOOR ASSEMBLIES)

2 HOURS FOR VERTICAL EXT. ENCLOSURES (WALL AND FLOOR ASSEMBLIES)

AREA :

BASIC ALLOWABLE: 13,000 S.F. ONE STORY

FRONTAGE INCREASE (V): 120K -

SPRINKLER INCREASE (V): 200K

AREA MODIFICATION (Aa): 29,280 S.F. ONE STORY

INCREASE FOR SECOND STORY: 29,280 S.F.

INCREASE FOR THIRD STORY: 29,280 S.F.

TOTAL ALLOWABLE AREA: 87,840 S.F.

BUILDING AREA: FLOOR 1 - 17,822 G.S.F.

FLOOR 2 - 17,899 G.S.F.

FLOOR 3 - 15,044 G.S.F.

TOTAL BUILDING AREA G.S.F.: 51,026 G.S.F.

BLDG. HEIGHT:

MAX. ALLOWABLE: 50' (BEC) 100' (AURORA ZONING)

APPROX. 35'

MAX. ALLOWABLE STORES: 4 (WITH NFPA 13 SPRINKLER SYSTEM)

BLDG. STORES: 3

SPRINKLERS:

NFPA TYPE 13 SYSTEM

BALCONIES MUST BE SPRINKLED, AND ARE ALLOWED TO BE TYPE V-B CONSTRUCTION

OCCUPANCY LOAD:

FIRST FLOOR MAIN BUILDING: 13,061 S.F. @ 1/200 S.F. = 68



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY:
 CHECKED BY:

REVISIONS:

No.	Description	Date
1		
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10		

ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	2/17/2006

SHEET CONTENTS:
 CODE SITE PLAN



PROJECT NO.: 3-04-18
 DATE: February 13, 2006

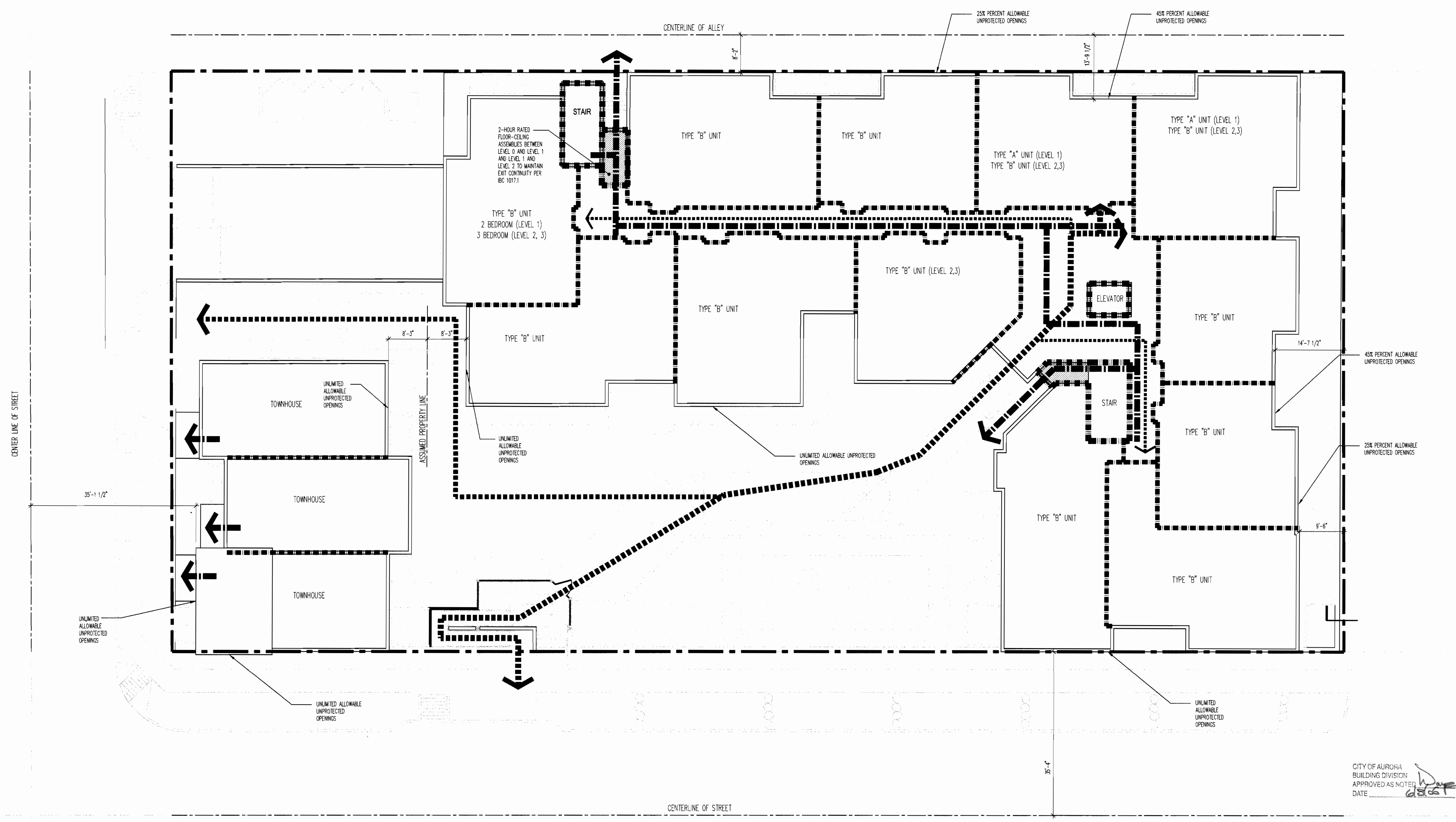
DRAWING NO.:

A0.2

CODE PLAN LEGEND

	EMERGENCY EXIT SIGN	
	FIRE EXTINGUISHER	
FIRE PARTITION (1 HOUR, UL# U305)		
FIRE BARRIER (2 HOUR, GA FILE # WP 3810 - INTERIOR) (2 HOUR, GA FILE #WP 8415 - EXTERIOR)		
EXTERIOR WALLS - 1 HOUR RATED (UL# 356)		

NOTE: CONTRACTOR TO MAINTAIN CONTINUOUS RATING WHERE NON-RATED WALLS INTERSECT RATED WALL ASSEMBLIES.

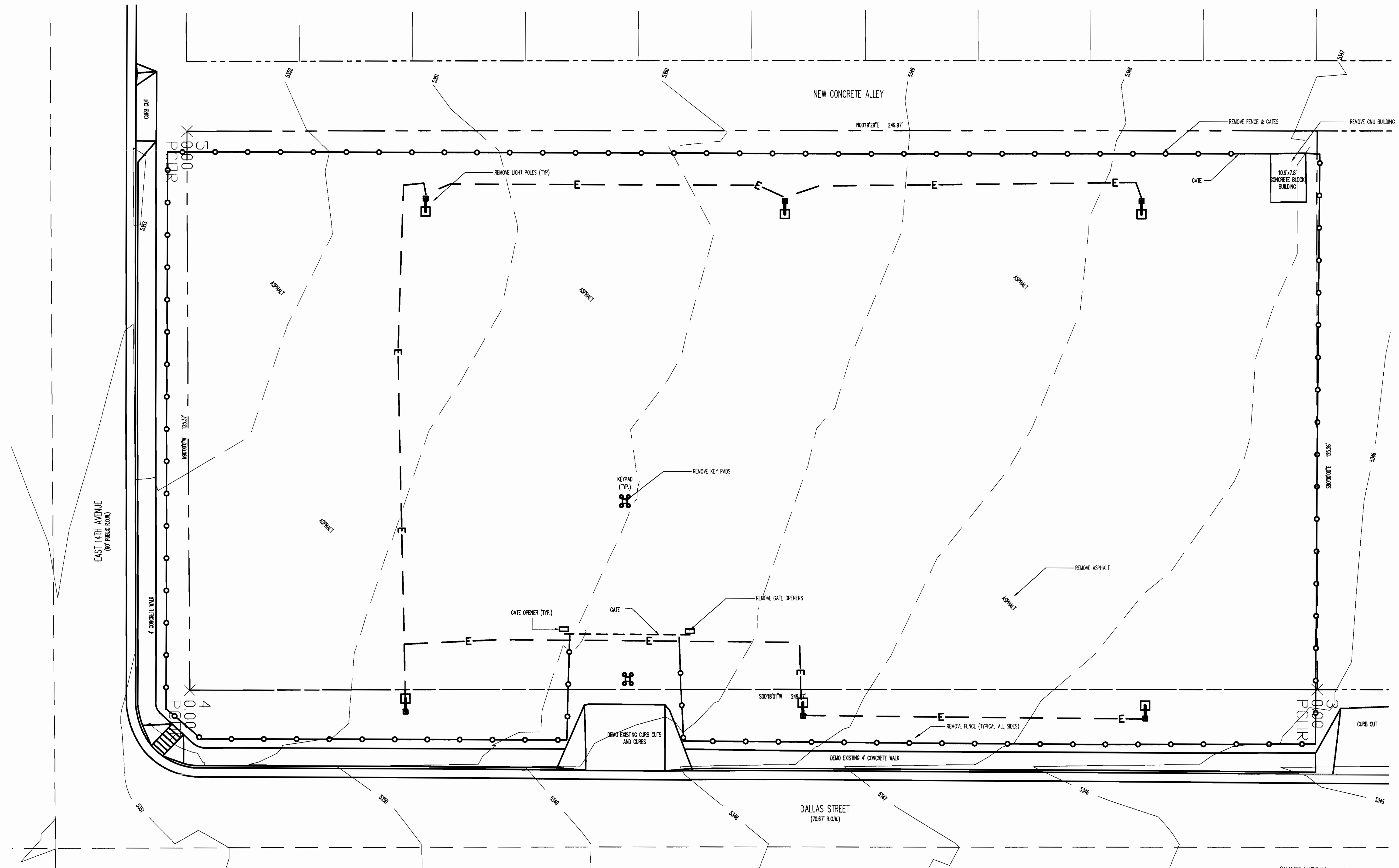


CITY OF AURORA
 BUILDING DIVISION
 APPROVED AS NOTED
 DATE: 3-14-06

06-108667

DEMOLITION NOTES

1. INFORMATION CONTAINED ON THESE DRAWINGS WITH REGARD TO EXISTING CONDITIONS OF CONSTRUCTION IS PROVIDED FOR THE CONVENIENCE OF THE GENERAL CONTRACTOR IN EXECUTING THE WORK. EVERY ATTEMPT HAS BEEN MADE TO PROVIDE COMPLETE AND ACCURATE REPRESENTATIONS OF SUCH EXISTING CONDITIONS. THE ARCHITECT CANNOT AND DOES NOT GUARANTEE THE ACCURACY OF ANY SUCH INFORMATION AND ASSUMES NO LIABILITY THEREFOR. ALL DIMENSIONS ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING WITH CONSTRUCTION.
2. DO NOT SCALE DRAWINGS. DRAWING DIMENSIONS GOVERN.
3. THE ARCHITECT HAS ENDEAVORED TO IDENTIFY AS COMPLETELY AS POSSIBLE IN THE DRAWINGS AND SPECIFICATIONS EXISTING ITEMS OF EQUIPMENT AND CONSTRUCTION THAT ARE REQUIRED TO BE REMOVED TO ALLOW THE EXECUTION OF NEW WORK. THIS INFORMATION IS NOT MEANT THAT DEMOLITION IS LIMITED ONLY TO THOSE IDENTIFIED ITEMS. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO EXECUTE DEMOLITION WORK AS REQUIRED TO ALLOW THE EXECUTION OF NEW WORK.
4. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING THE EXTENT OF EXISTING SYSTEMS AND IS RESPONSIBLE FOR ACCOMMODATING ANY SYSTEMS AFFECTED BY NEW WORK SO THAT ALL CODE REQUIREMENTS ARE SATISFIED.
5. ALL DEBRIS IS TO BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR.
6. REFERENCE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL DETAIL NOTES AND INFORMATION.
7. AT BUILDINGS WHICH ARE BEING DEMOLISHED AND DISCARDED, THE GENERAL CONTRACTOR MUST REMOVE ALL RELATED EXISTING CONSTRUCTION INCLUDING ANY FOUNDATIONS, ELECTRICAL SYSTEMS, AND WASTE SYSTEMS.
8. UPON THE FINDING OF ANY ARCHEOLOGICAL ITEMS, STOP WORK AND CONTACT THE ARCHITECT.
9. CONTACT OWNER BEFORE ANY DEMOLITION IN ORDER TO DETERMINE ITEMS TO BE SALVAGED AND RETAINED BY OWNERS.



1 ARCHITECTURAL SITE DEMO PLAN
A0.3 SCALE: 1"=10'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE 1/11/17

06 - 108667



ODELL ARCHITECTS, P.C.
ARCHITECTURE PLANNING INTERIORS
32065 Castle Court, Suite 150, Evergreen, Colorado 80439
Telephone: 303.670.5800 Facsimile: 303.670.7182

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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

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VISIONS:

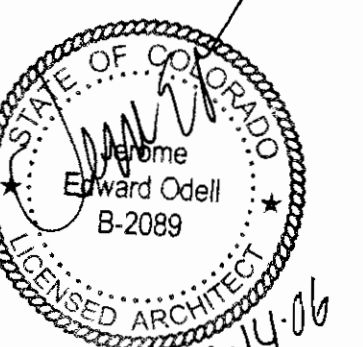
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CRIMINAL RECORD:

	Description	Date
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2	100% DO PACKAGE	1/14/2005
3	50% CO PACKAGE	5/6/2005
4	100% CO PACKAGE	6/6/2005

MEET CONTENTS:

ARCHITECTURAL SITE DEMO

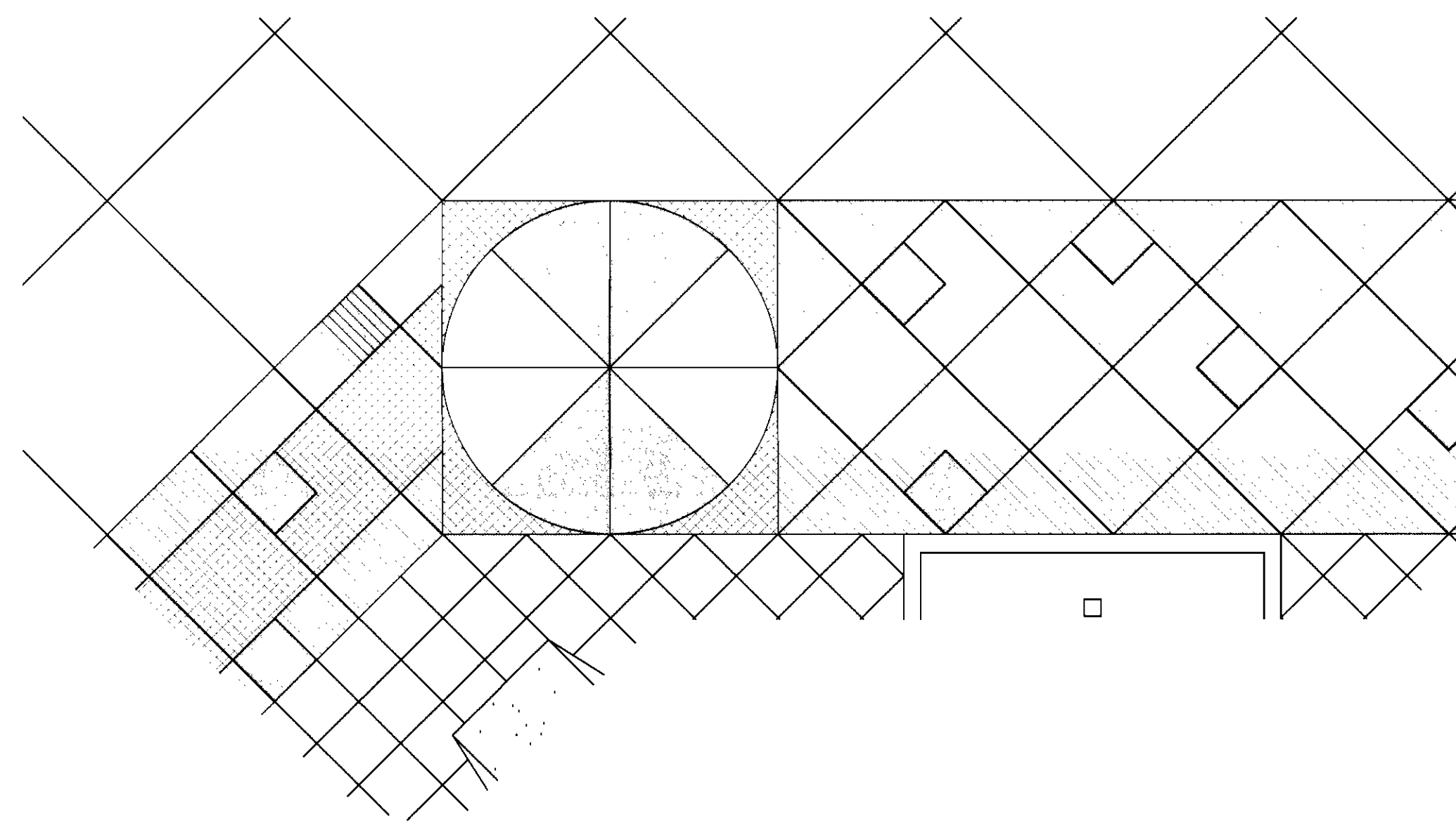


PROJECT NO.: 3-04-18

TE: February 3, 2006

DRAWING NO.:

A0.3



3 DETAIL OF PLAZA PAVING
SCALE: 1/4"=1'-0"

- STAINED CONCRETE SCHEDULE:
- 1. WEATHERED SAGE (FIELD COLOR)
 - 2. SLATE GRAY (ACCENT COLOR)
 - 3. TERRA COTTA (ACCENT COLOR)
 - 4. MUTED GREEN (ACCENT COLOR)



RESIDENCES AT TROLLEY PARK

Opening Spring of 2007

Owner & General Contractor
**AURORA HOUSING
AUTHORITY**
(303) 340-1900

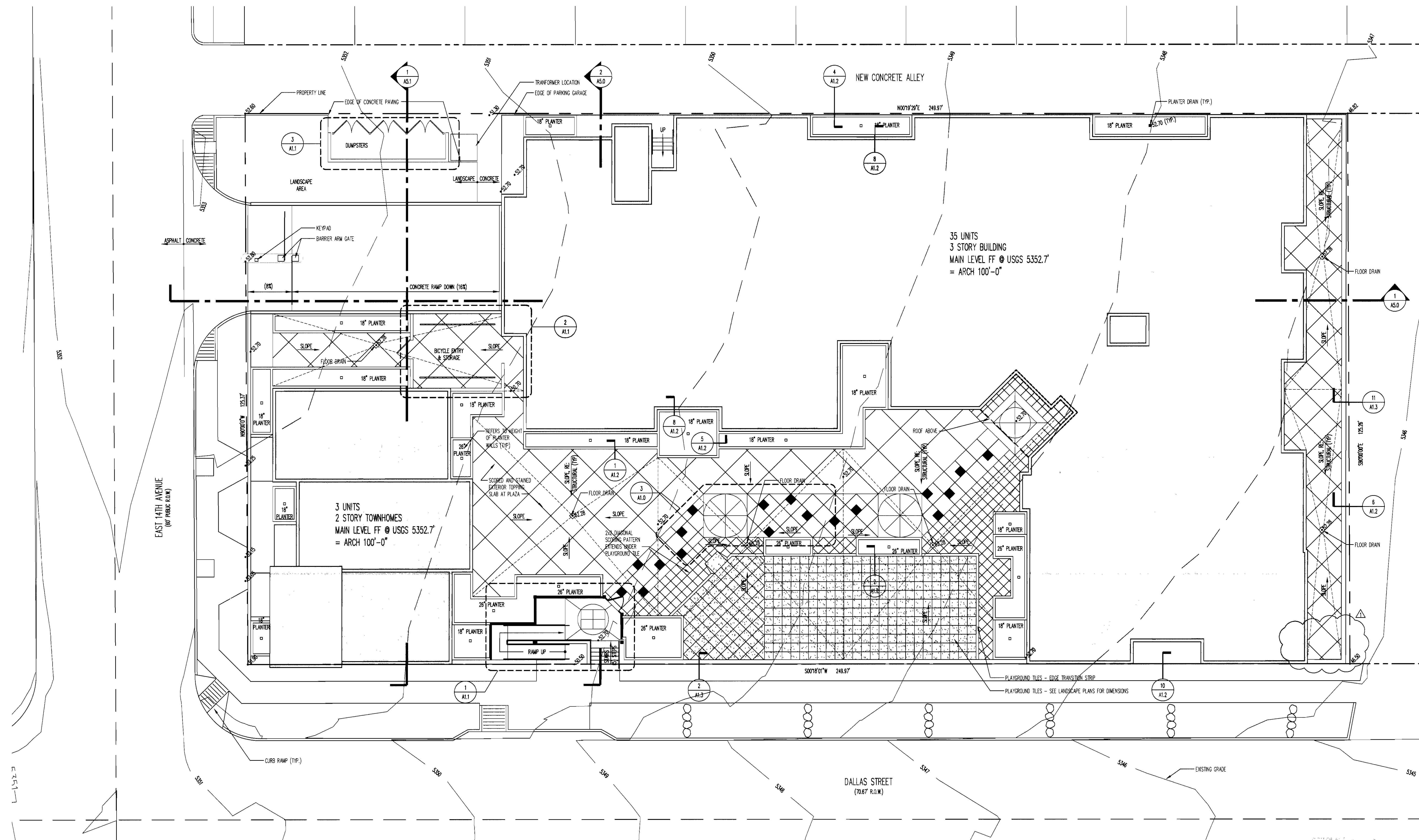
Architect of Record
ODELL ARCHITECTS, P.C.
(303) 670-5980

3/4" PLYWOOD SIGN ATTACHED TO CONSTRUCTION FENCE
VERIFY FINAL TEXT WITH OWNER AND ARCHITECT

2 CONSTRUCTION SITE SIGN
SCALE: 1"=1'-0"

GENERAL NOTES:

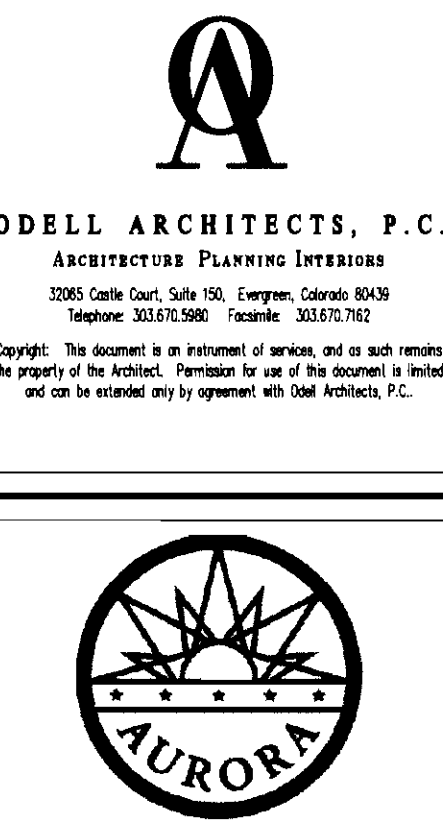
1. SEE CIVIL SITE PLAN FOR BUILDING LOCATION AND HORIZONTAL CONTROL
2. ALL SITE SURVEY DATA HAS BEEN PROVIDED BY OWNER
3. SEE CIVIL DRAWING FOR ALL GRADING, DRAINAGE AND UTILITIES
4. SEE LANDSCAPE PLAN FOR DETAILED PLAZA LAYOUT AND PLANTING INFORMATION
5. SEE ELECTRICAL PLAN FOR SITE LIGHTING INFORMATION
6. PLAZA SLOPES TO FLOOR DRAINS, REFER TO STRUCTURAL DRAWINGS FOR SLOPE OF STRUCTURE



1 ARCHITECTURAL SITE PLAN
SCALE: 1"=1'-0"

DATE: 3/1/06
APPROVED: [Signature]
DATE: 3/1/06

08-108567



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY:
CHECKED BY:

REVISIONS:		
No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
2		
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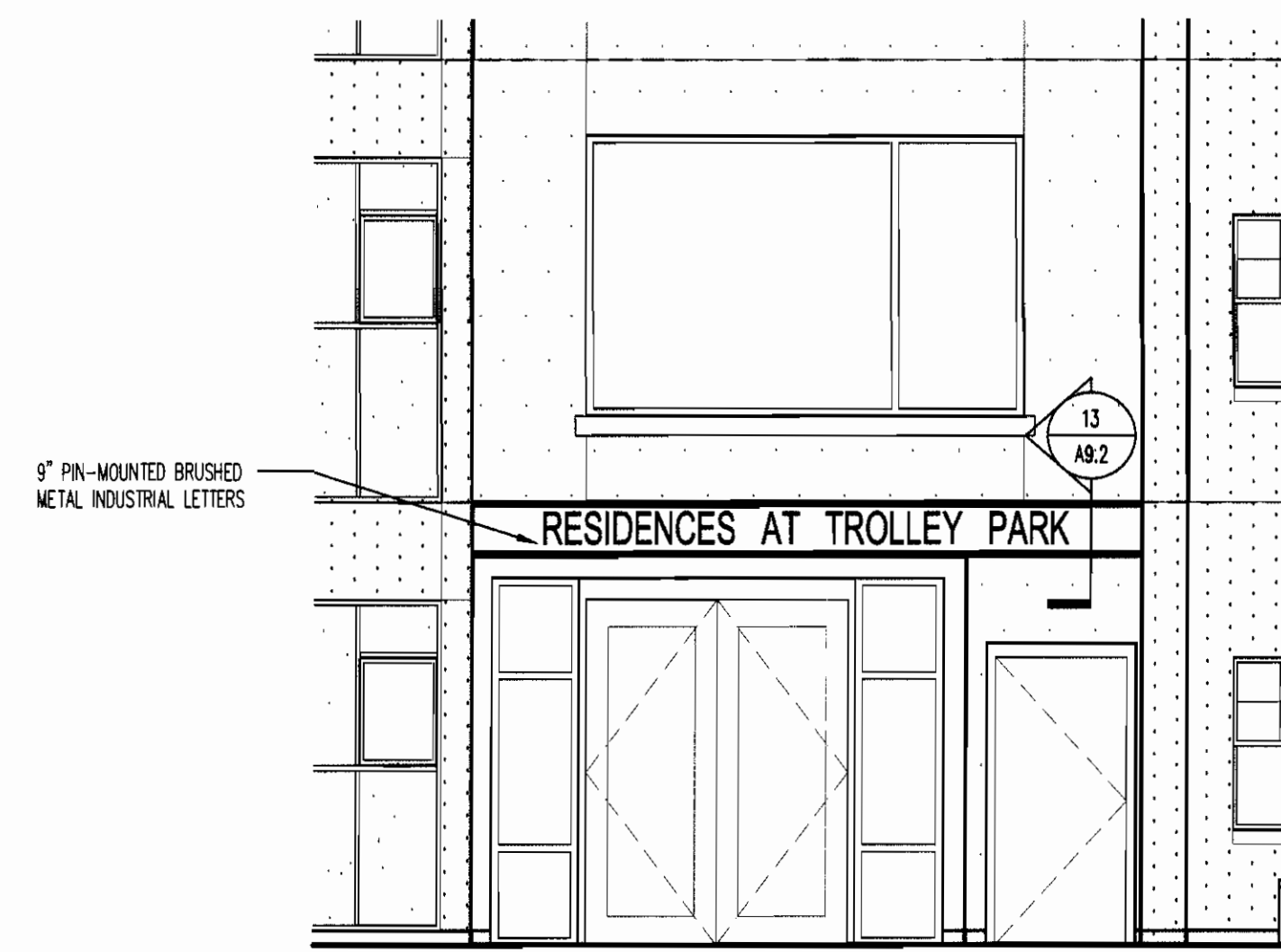
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3	50% CD PACKAGE	5/8/2005
4	100% CD PACKAGE	3/8/2006
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11		

SHEET CONTENTS:
ARCHITECTURAL SITE PLAN

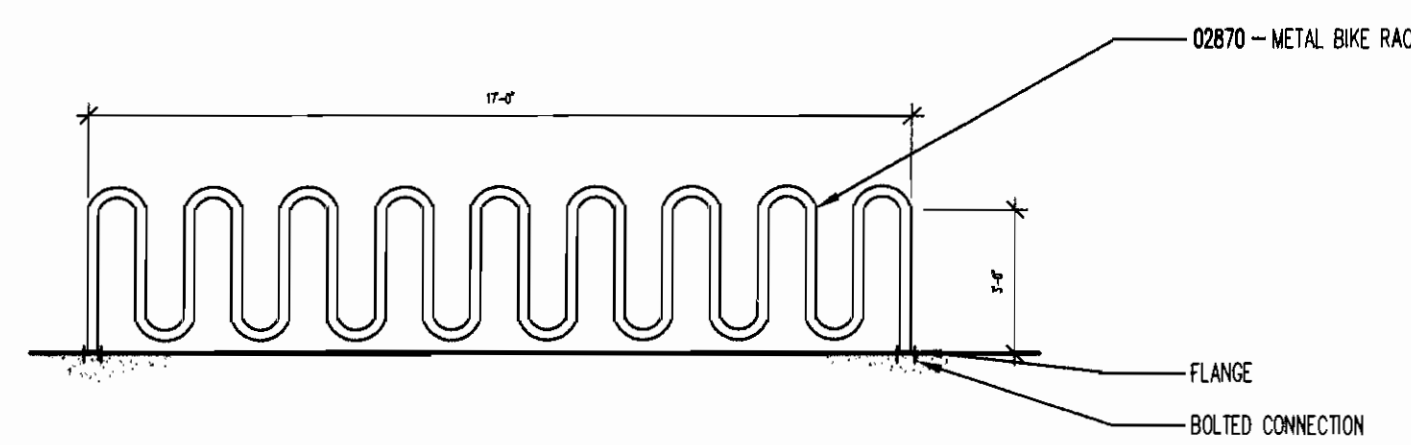
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DATE: March 9, 2006

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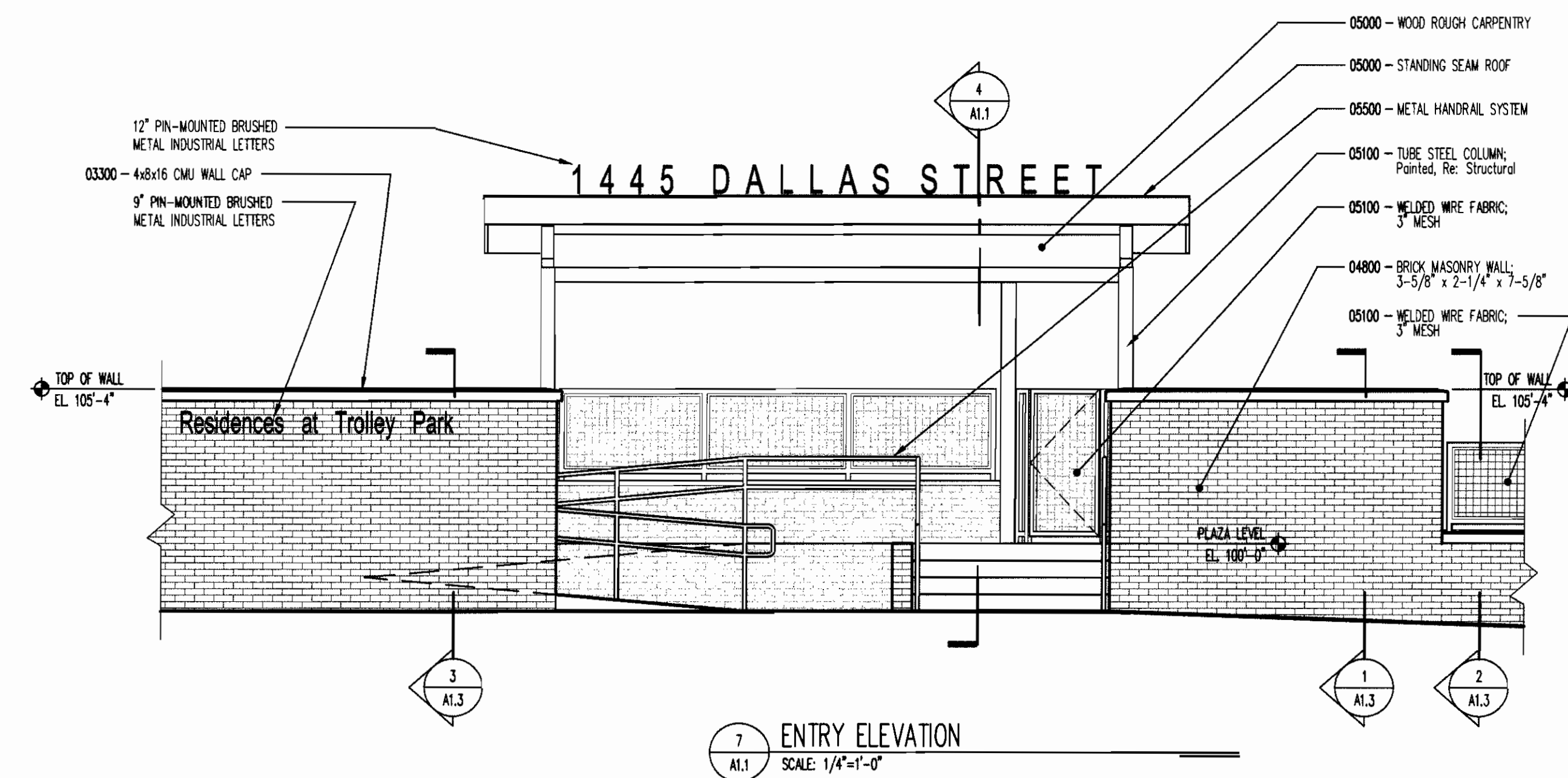
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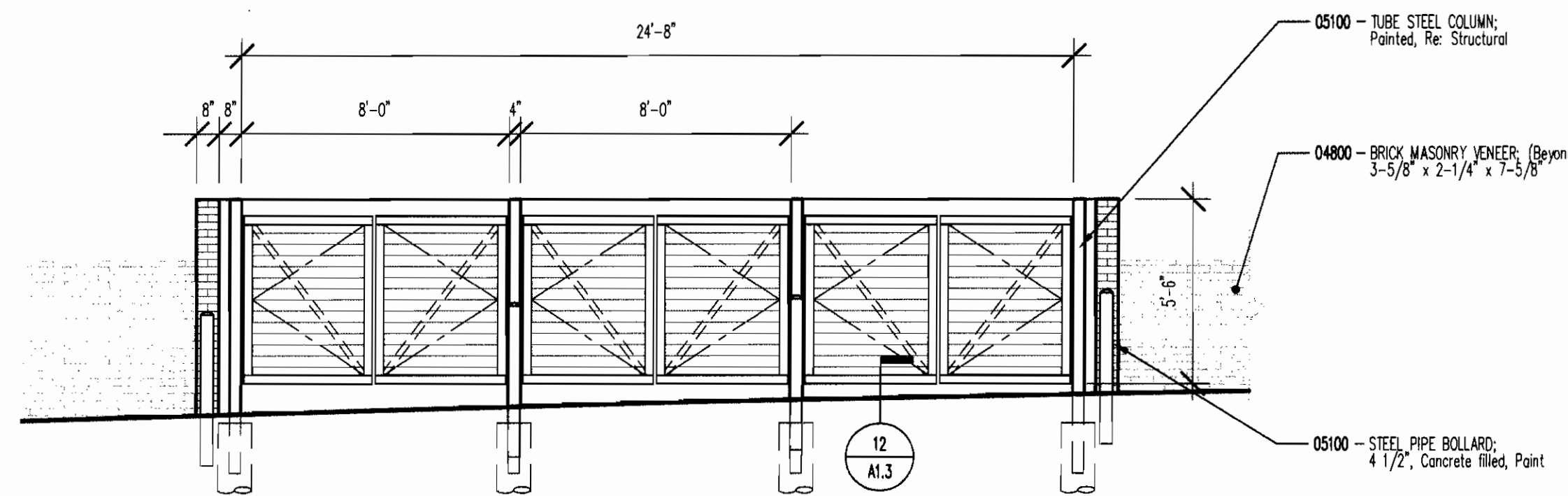
9 ENTRY CANOPY SIGN
SCALE: 1/4"=1'-0"



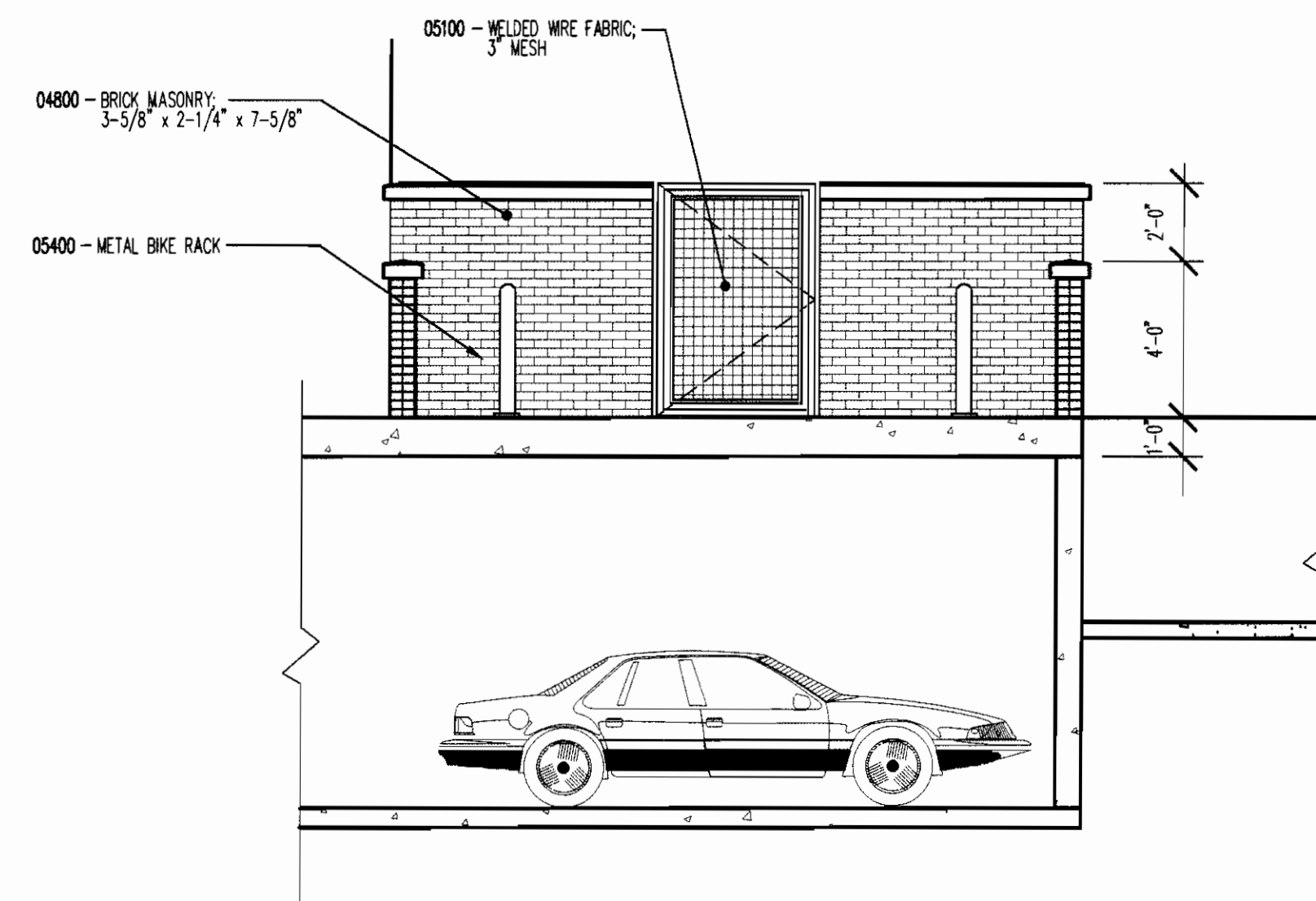
8 BIKE RACK DETAIL
SCALE: 1/4"=1'-0"



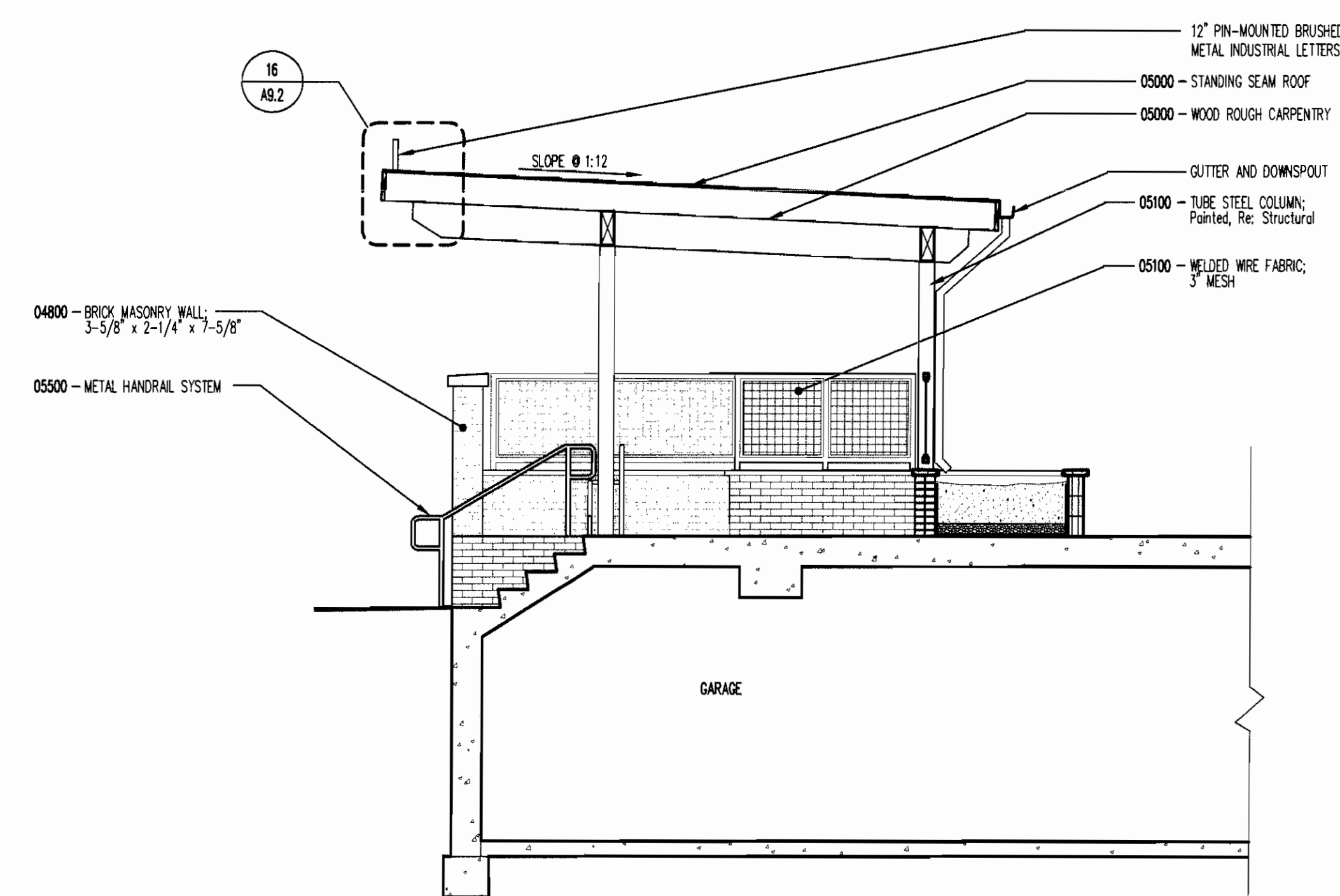
7 ENTRY ELEVATION
SCALE: 1/4"=1'-0"



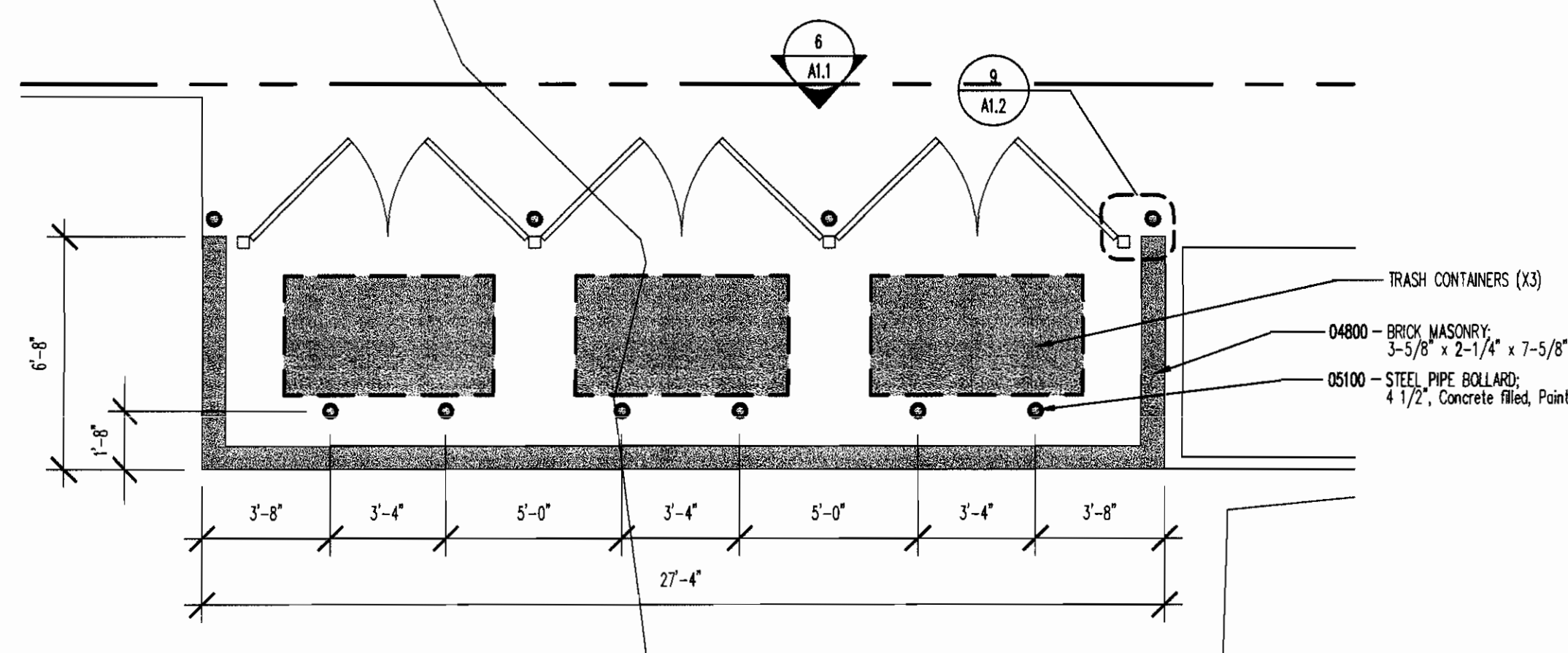
6 DUMPSTER CONTAINER ELEVATION WEST
SCALE: 1/4"=1'-0"



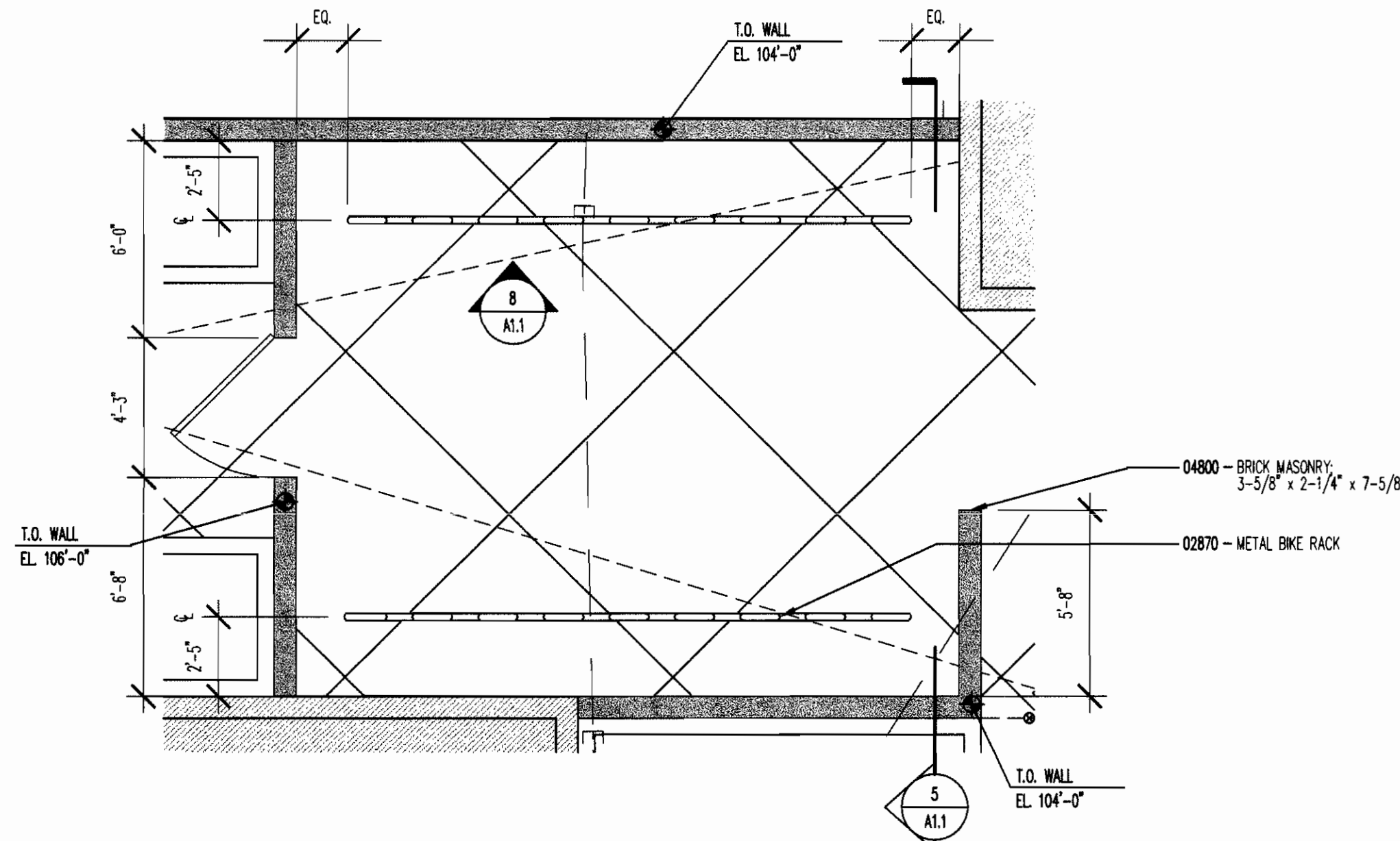
5 BIKE STORAGE SECTION
SCALE: 1/4"=1'-0"



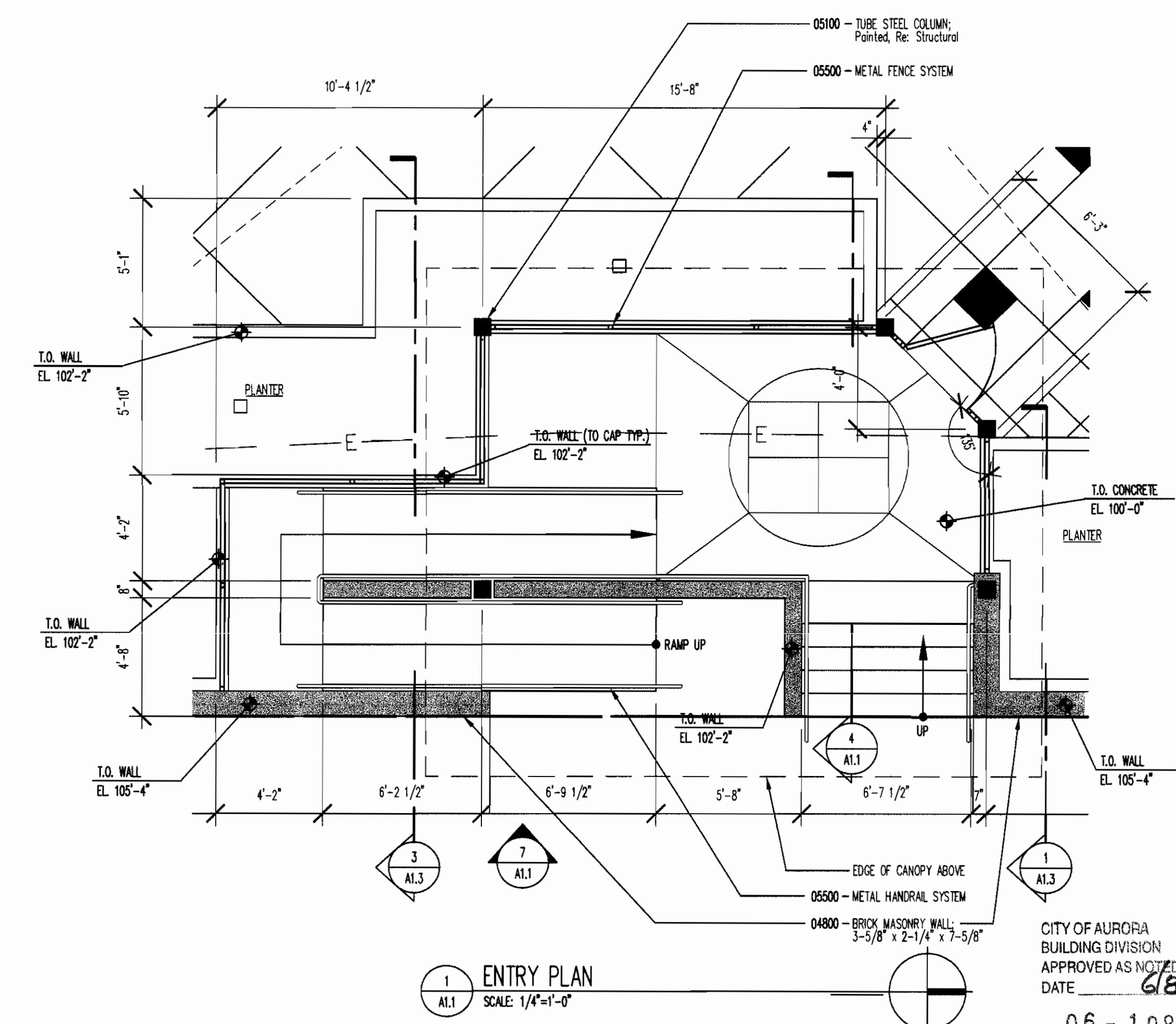
4 ENTRY CANOPY SECTION
SCALE: 1/4"=1'-0"



3 DUMPSTER CONTAINER ENLARGED PLAN
SCALE: 1/4"=1'-0"



2 BIKE STORAGE PLAN
SCALE: 1/4"=1'-0"



1 ENTRY PLAN
SCALE: 1/4"=1'-0"



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

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REVISIONS:

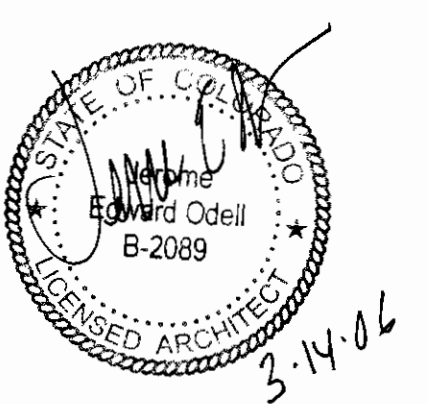
No.	Description	Date
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ISSUE RECORD:

No.	Description	Date
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2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/8/2005
4	100% CD PACKAGE	3/09/2006

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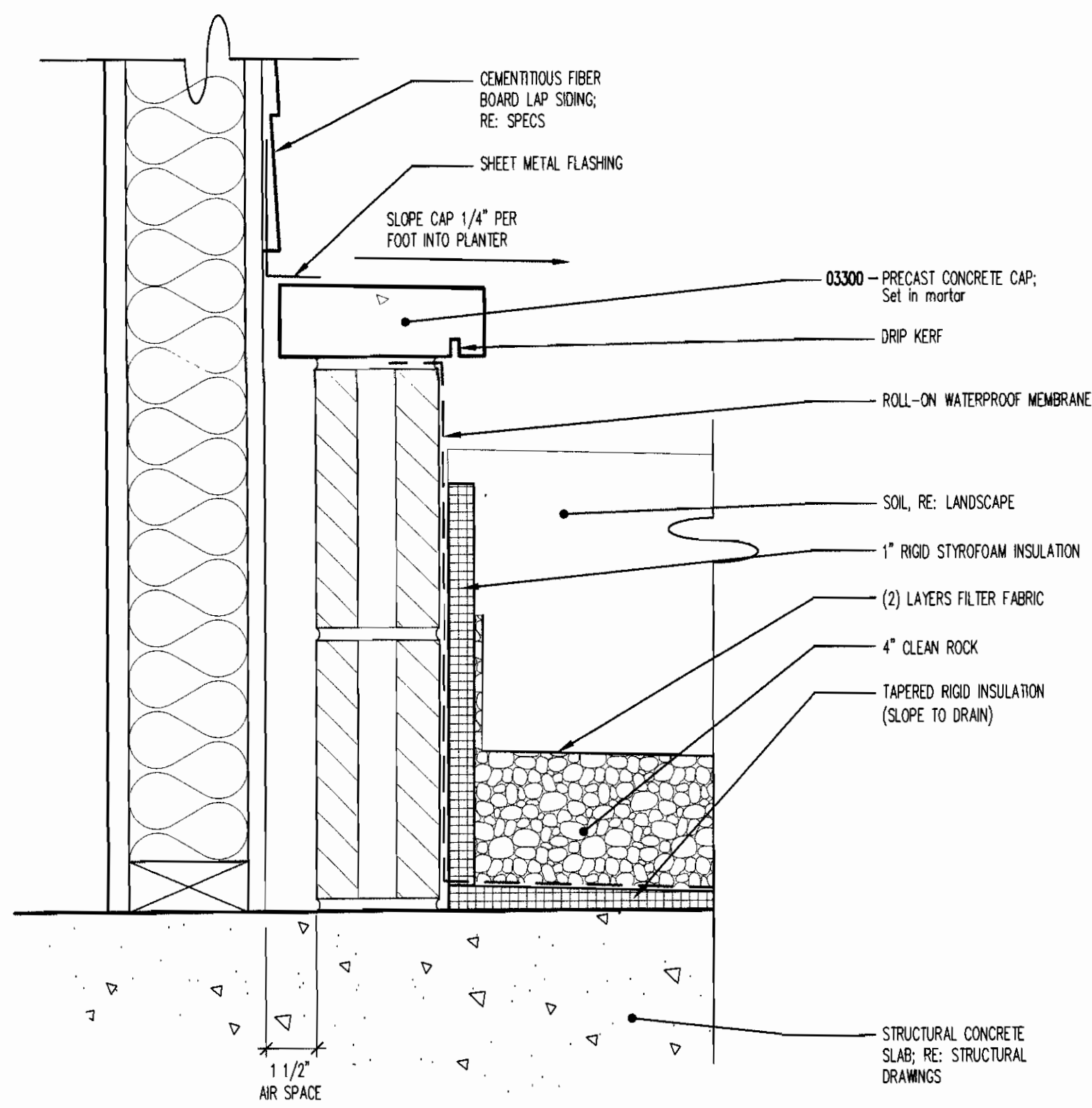
SITE DETAILS



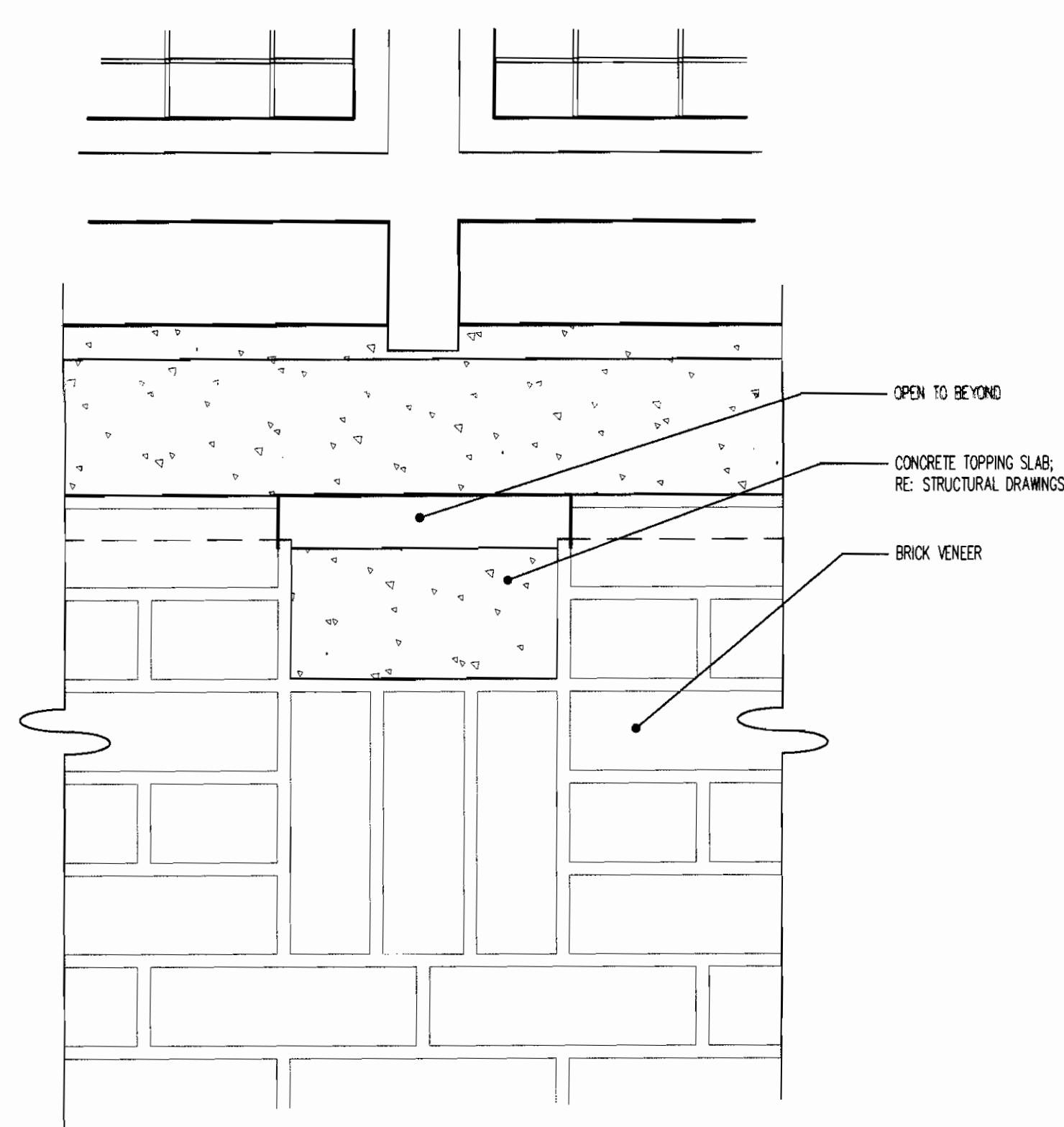
PROJECT NO.: 3-04-18
DATE: March 8, 2006
DRAWING NO.:

A1.1

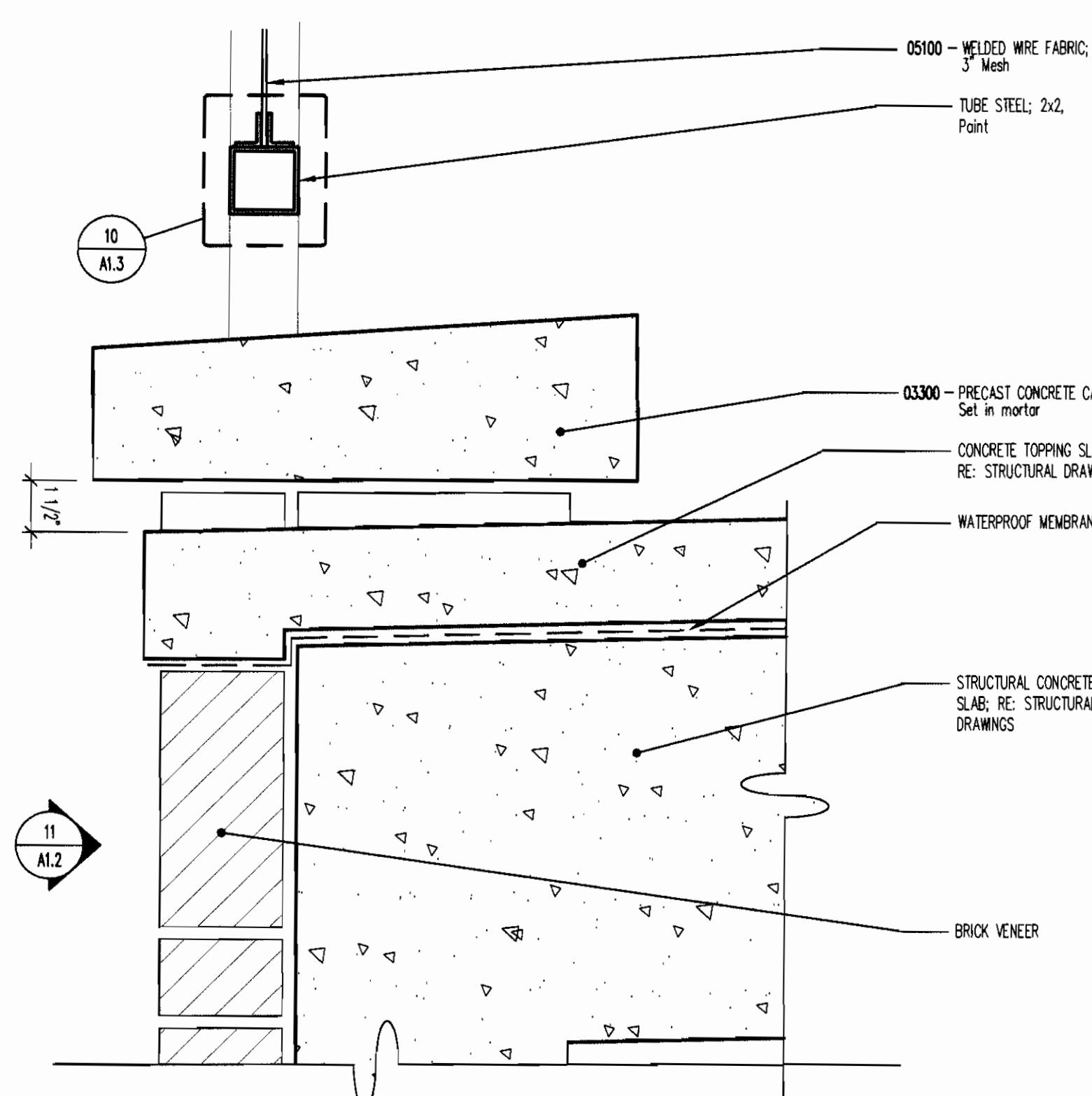
06 - 108 667



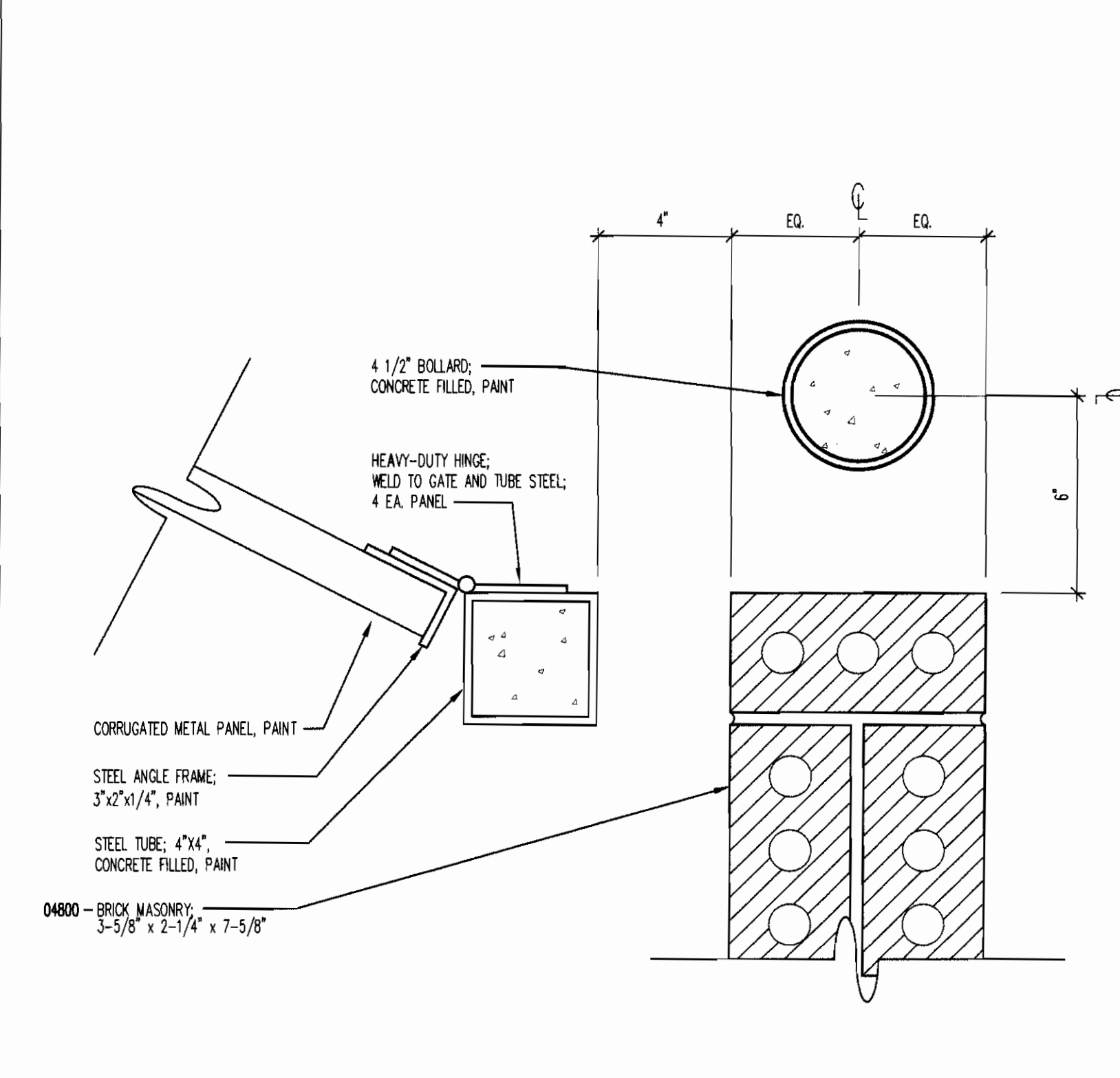
12 18" PLANTER @ WALL
SCALE: 3/4"=1'-0"



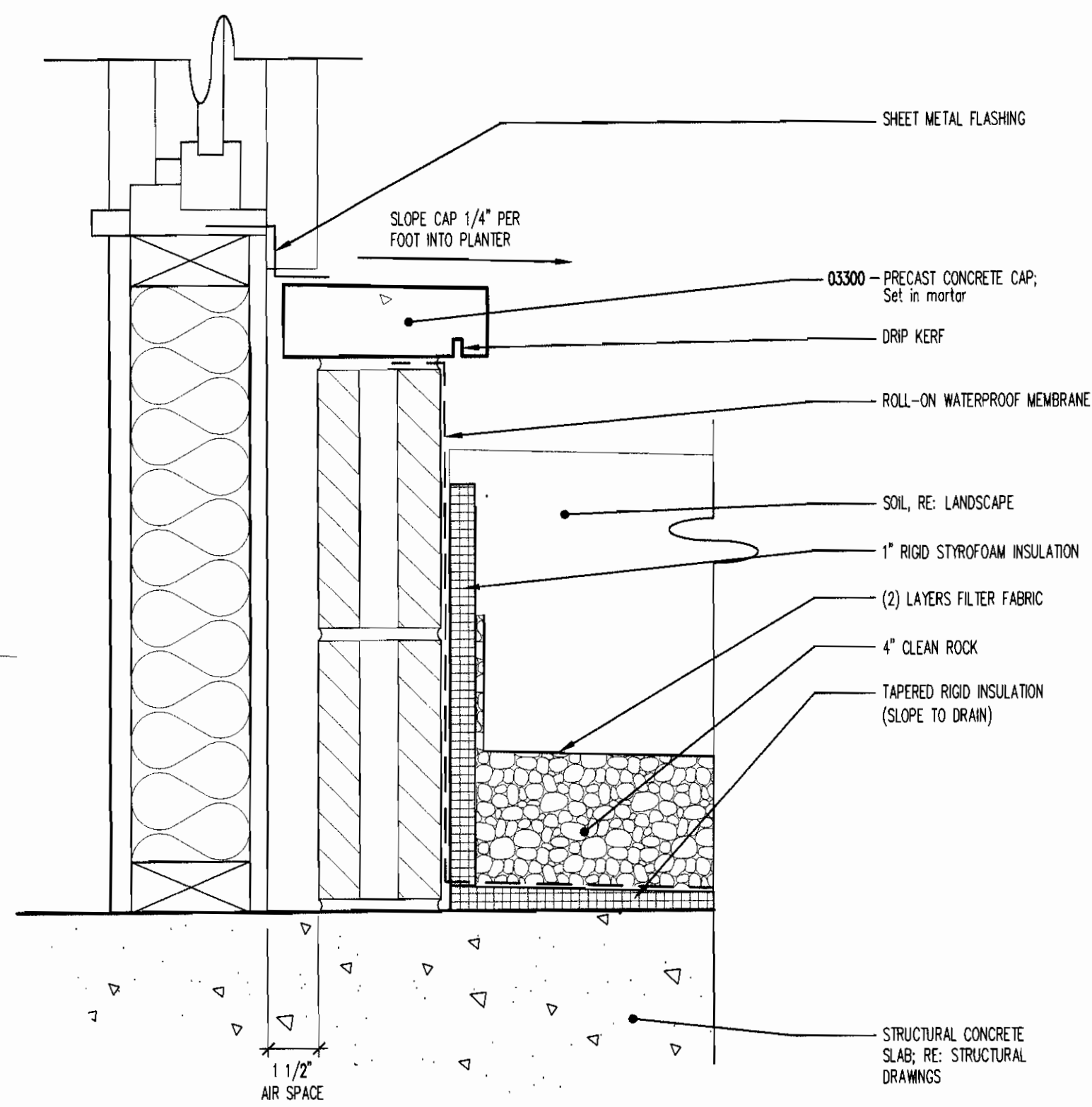
11 ELEVATION @ SCUPPER
SCALE: 3/4"=1'-0"



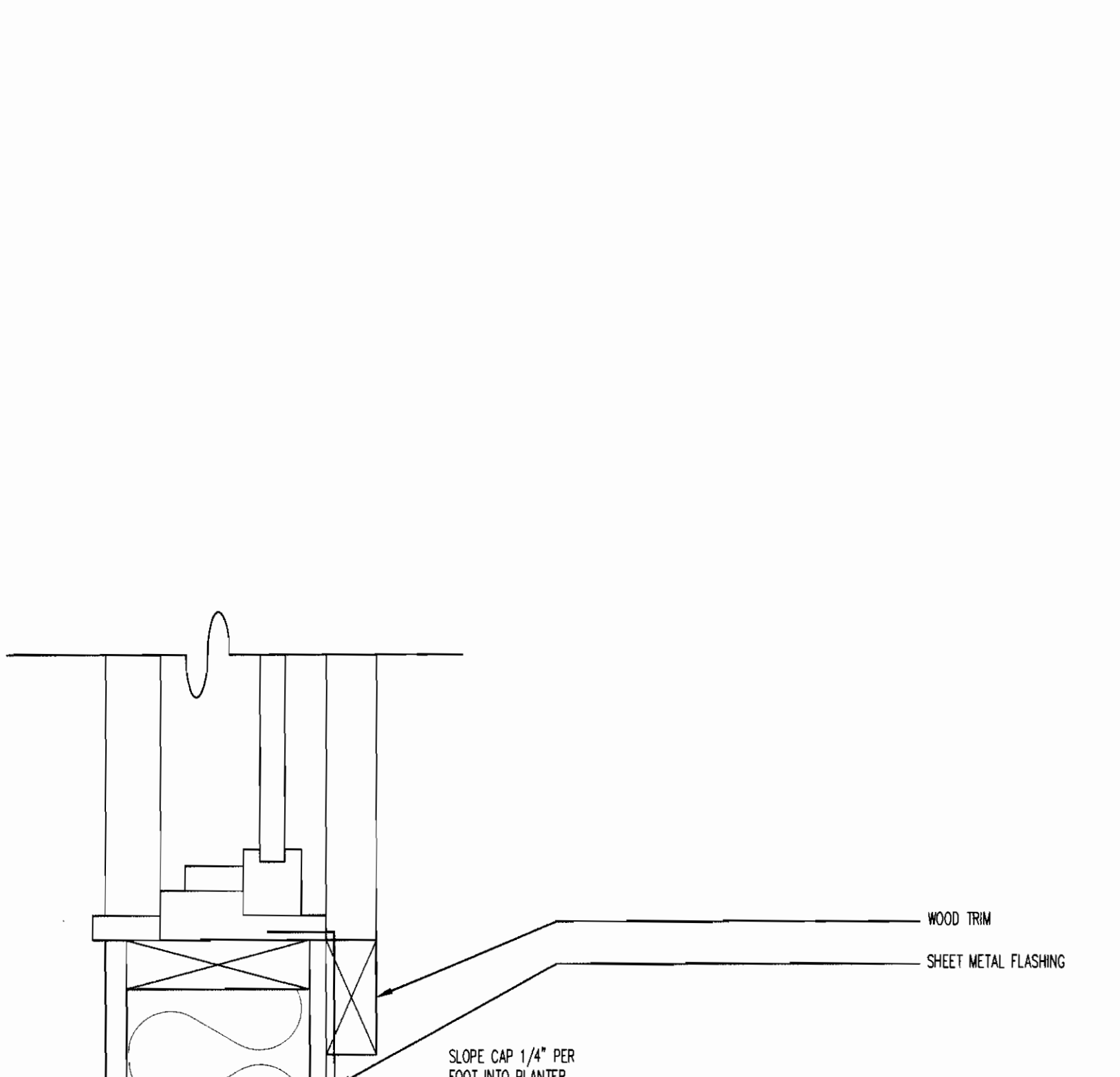
10 SECTION @ PATIO SCUPPER
SCALE: 3/4"=1'-0"



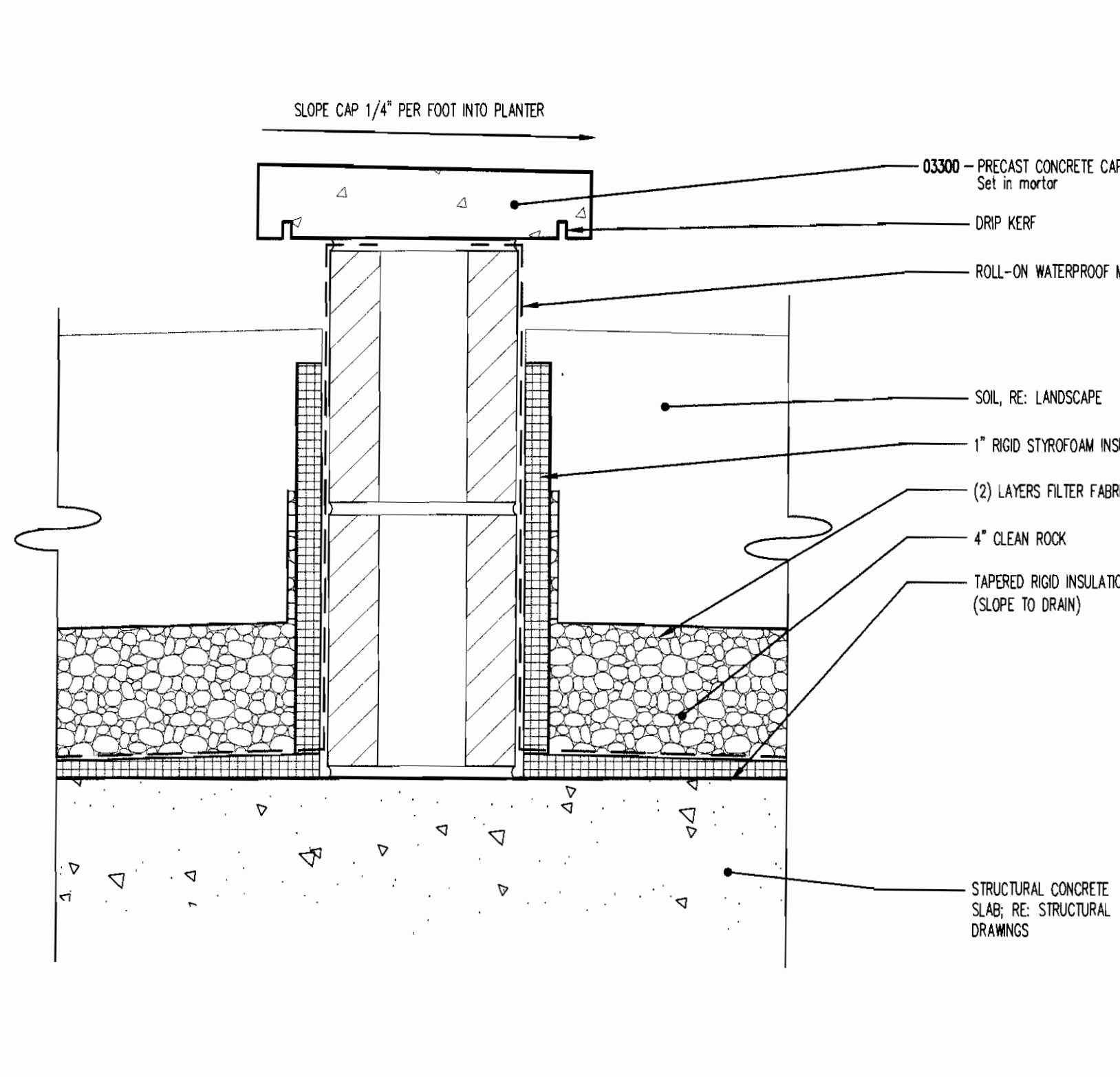
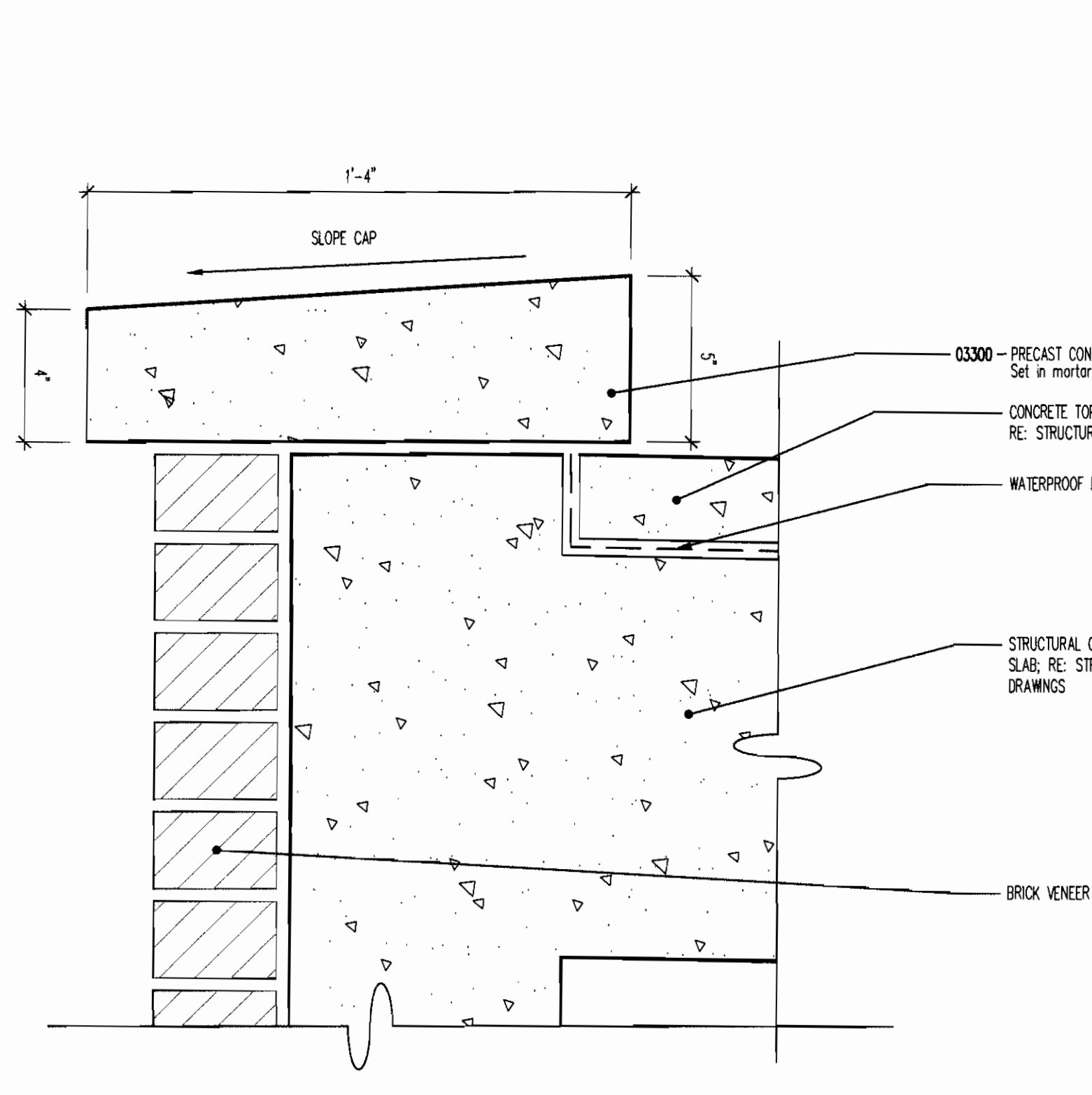
9 HINGE/BOLLARD DETAIL
SCALE: 3/4"=1'-0"



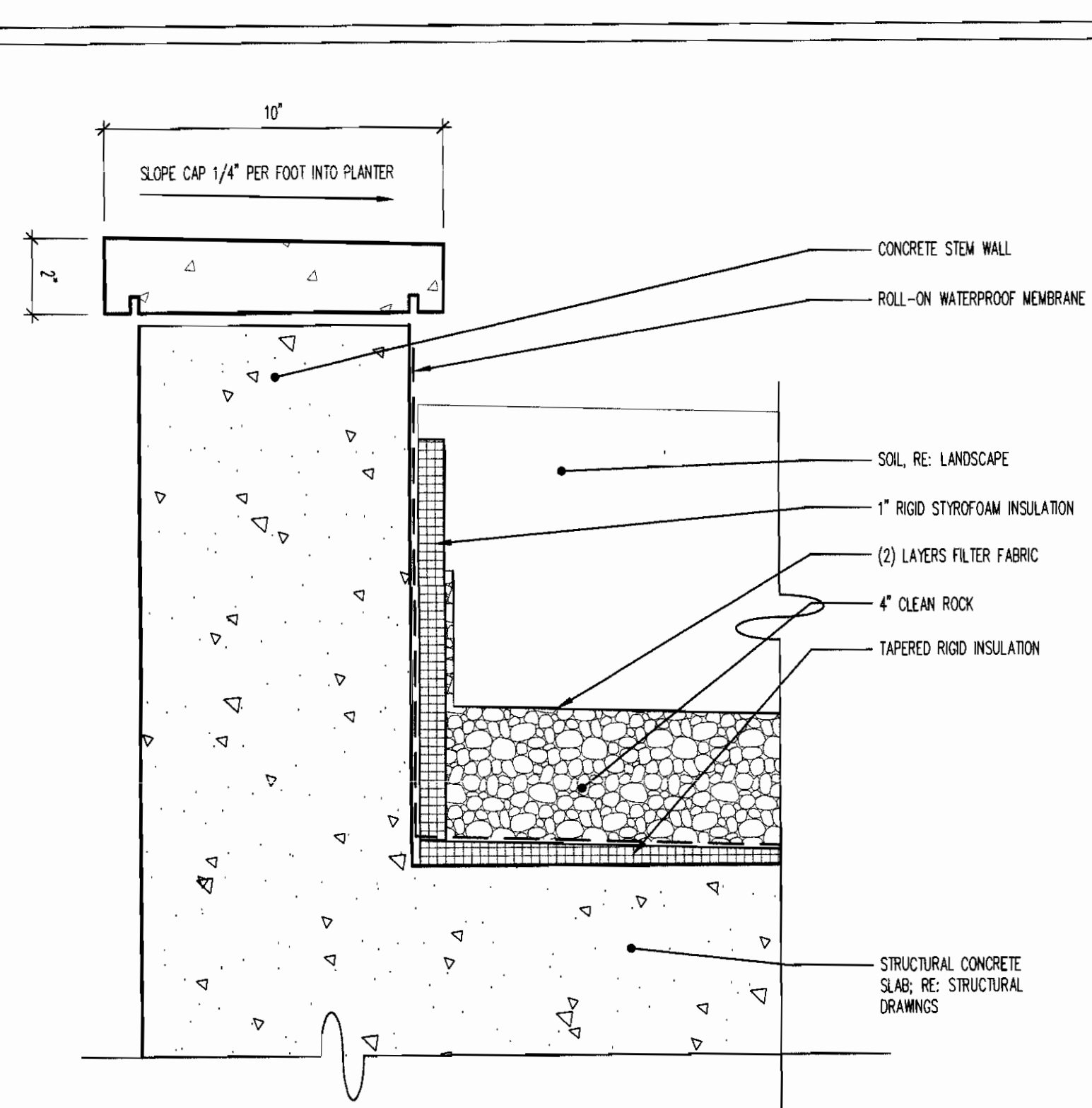
8 18" PLANTER @ WALL (AT WINDOW SILL)
SCALE: 3/4"=1'-0"



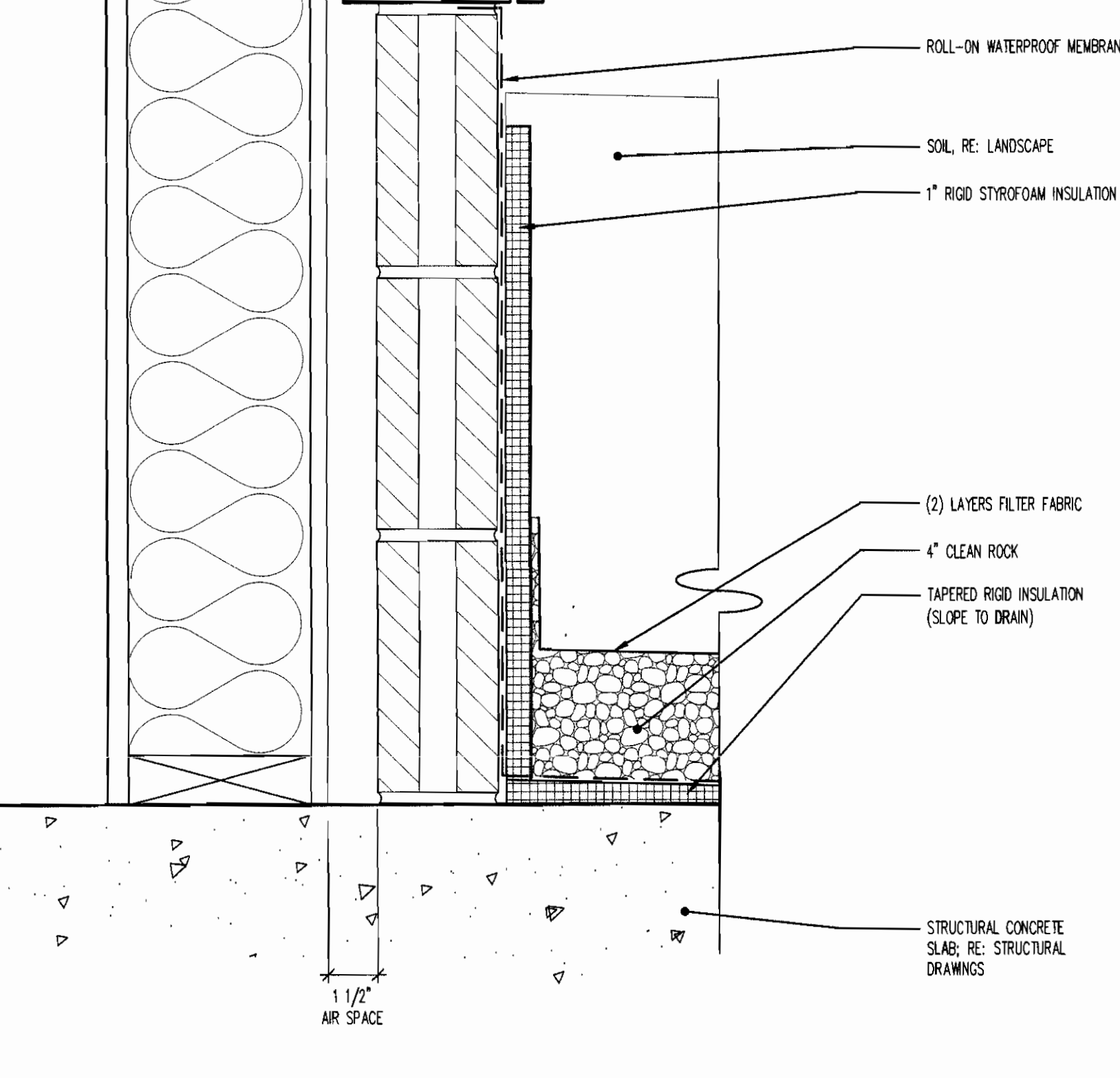
6 PATIO EDGE DETAIL
SCALE: 3/4"=1'-0"



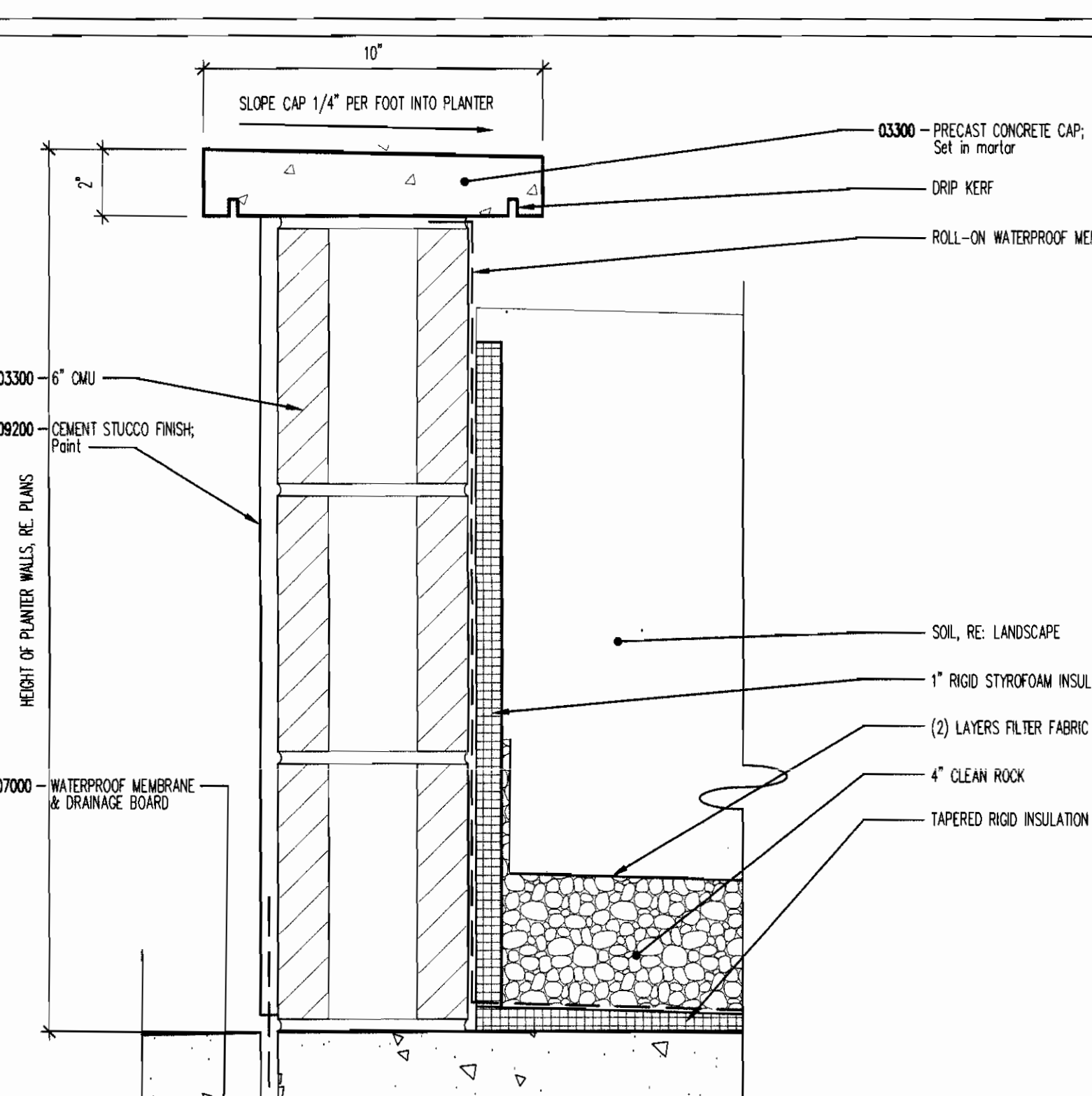
5 PLANTER WALL DETAIL
SCALE: 3/4"=1'-0"



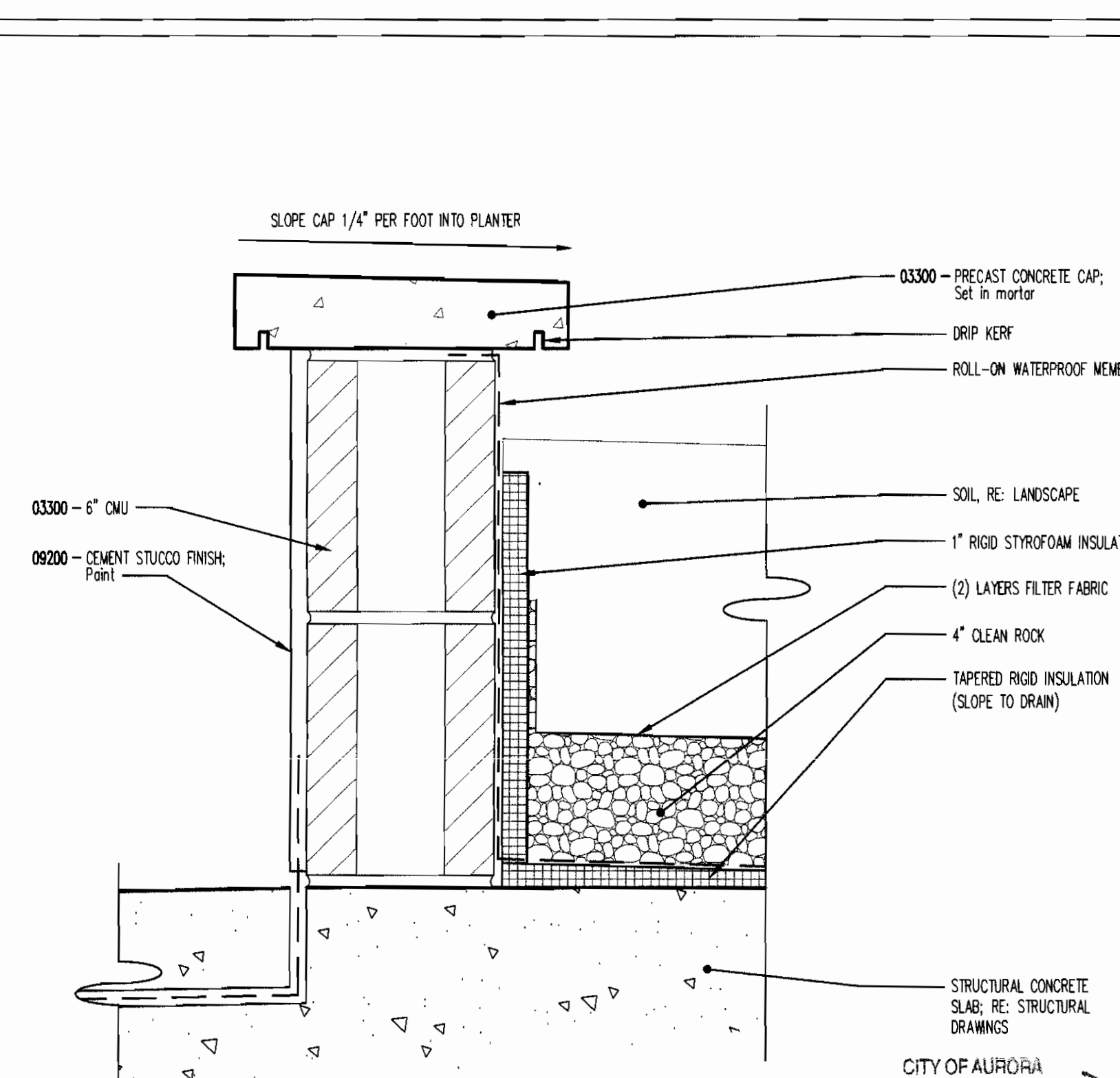
4 CONCRETE PLANTER WALL DETAIL
SCALE: 3/4"=1'-0"



3 26" PLANTER @ WALL
SCALE: 3/4"=1'-0"



2 26" PLANTER WALL DETAIL
SCALE: 3/4"=1'-0"



1 18" PLANTER WALL DETAIL
SCALE: 3/4"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 3/14/06
06-108667



ODELL ARCHITECTS, P.C.
ARCHITECTURAL PLANNING DIVISION
3085 Cedar Court, Suite 100, Englewood, Colorado 80150
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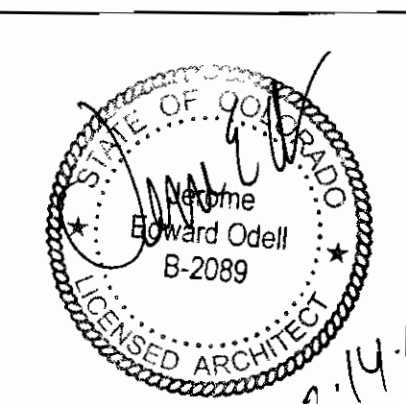


Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

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ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/09/2006

SHEET CONTENTS:
SIGN DETAILS



3/14/06

PROJECT NO.: 3-04-18
DATE: March 9, 2006
DRAWING NO.:

A1.2



Aurora Housing Authority
 1445 Dallas Street
 Aurora, Colorado

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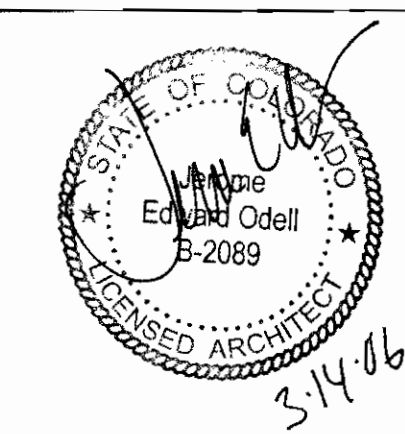
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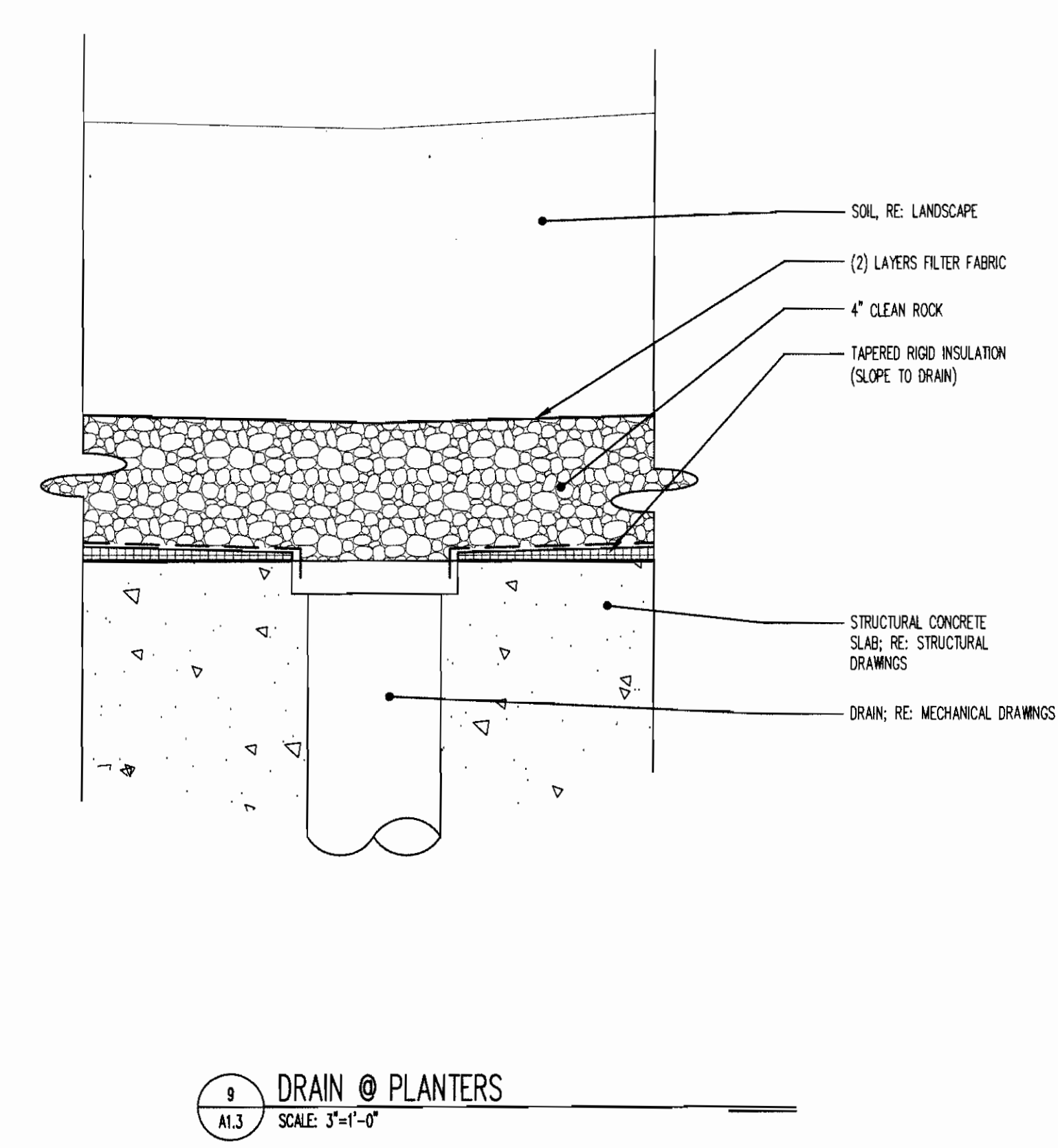
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4	100% CD PACKAGE	5/28/2006
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SHEET CONTENTS:
 SITE DETAILS

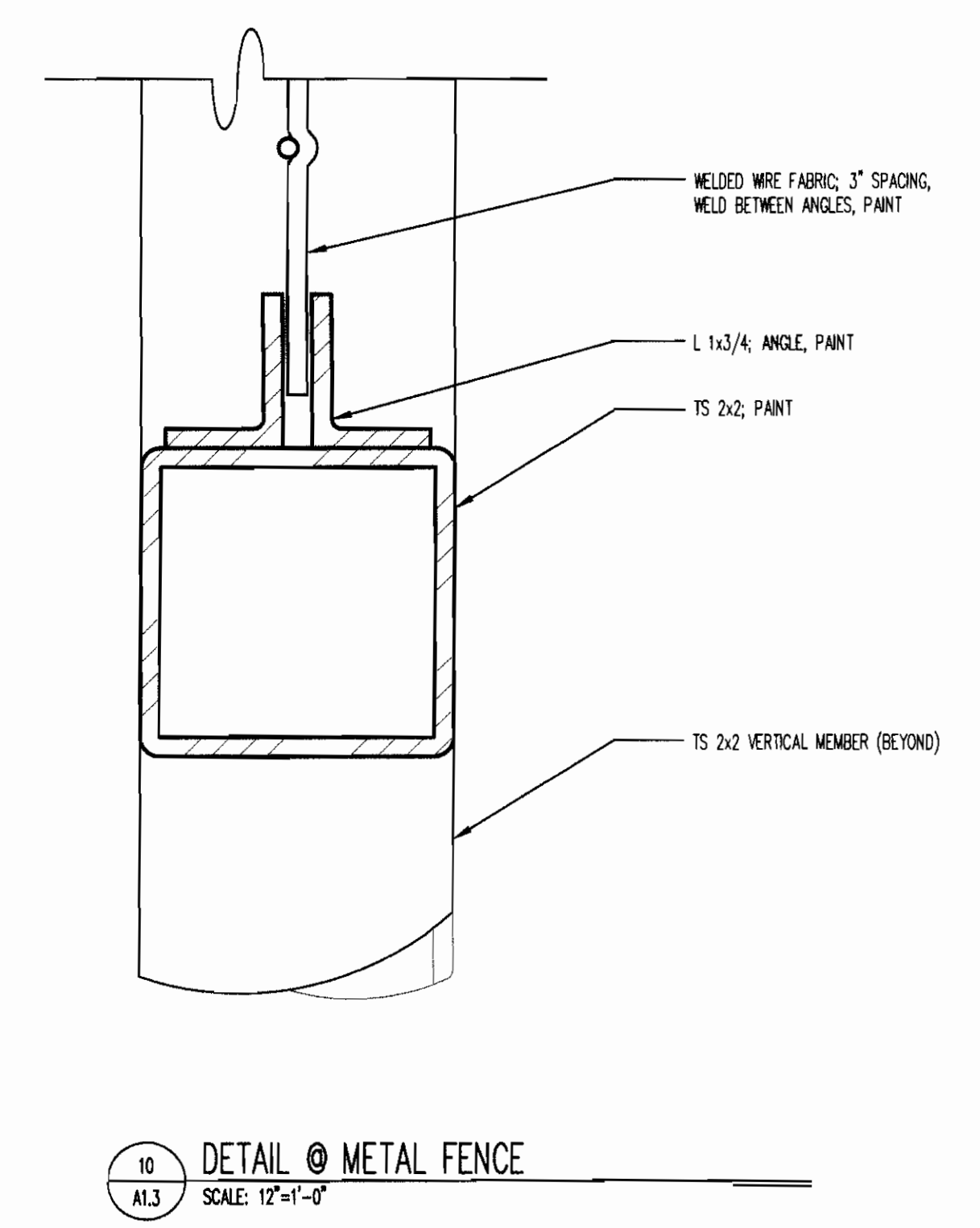


PROJECT NO.: 3-04-18
 DATE: March 8, 2006
 DRAWING NO.:

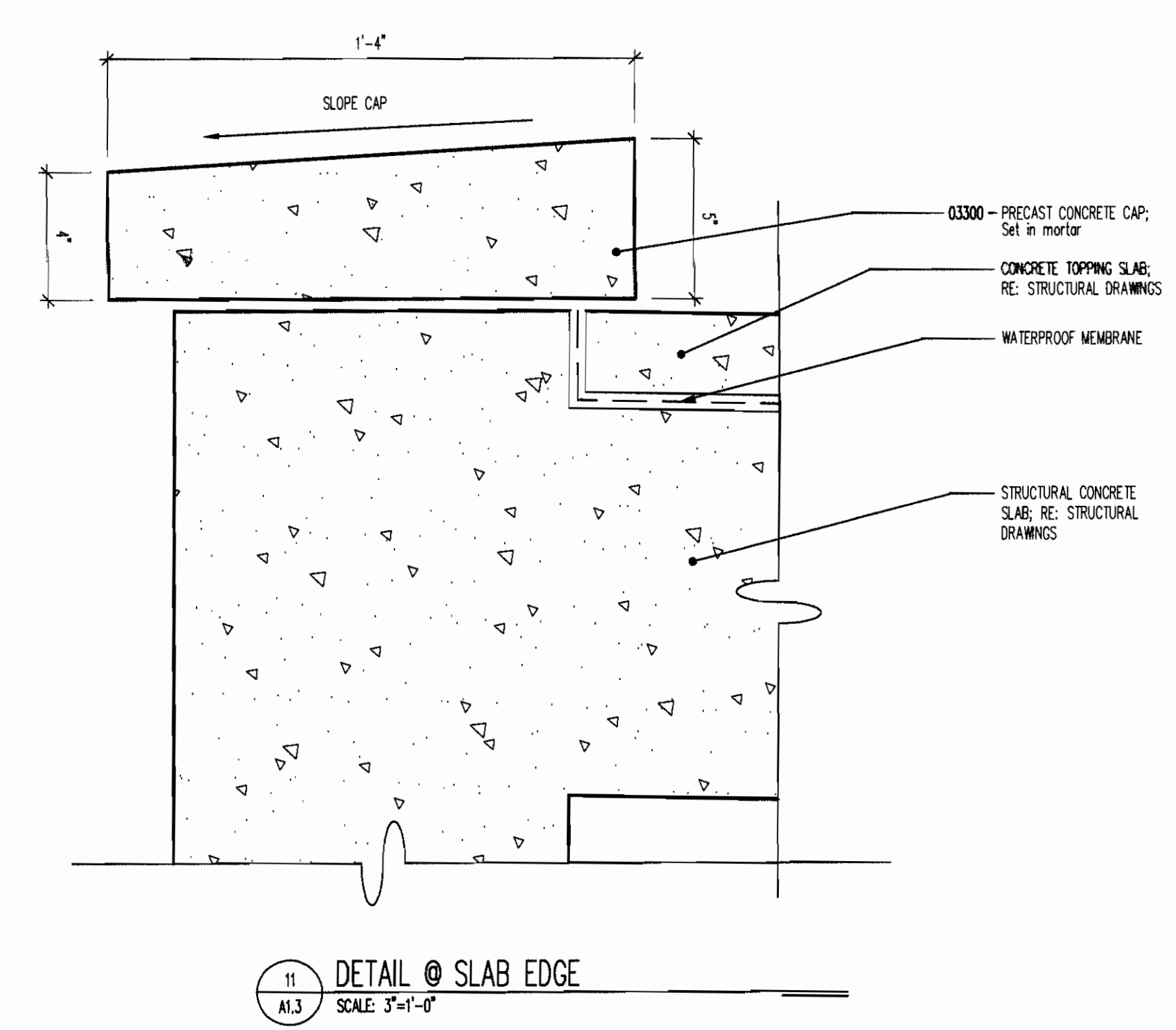
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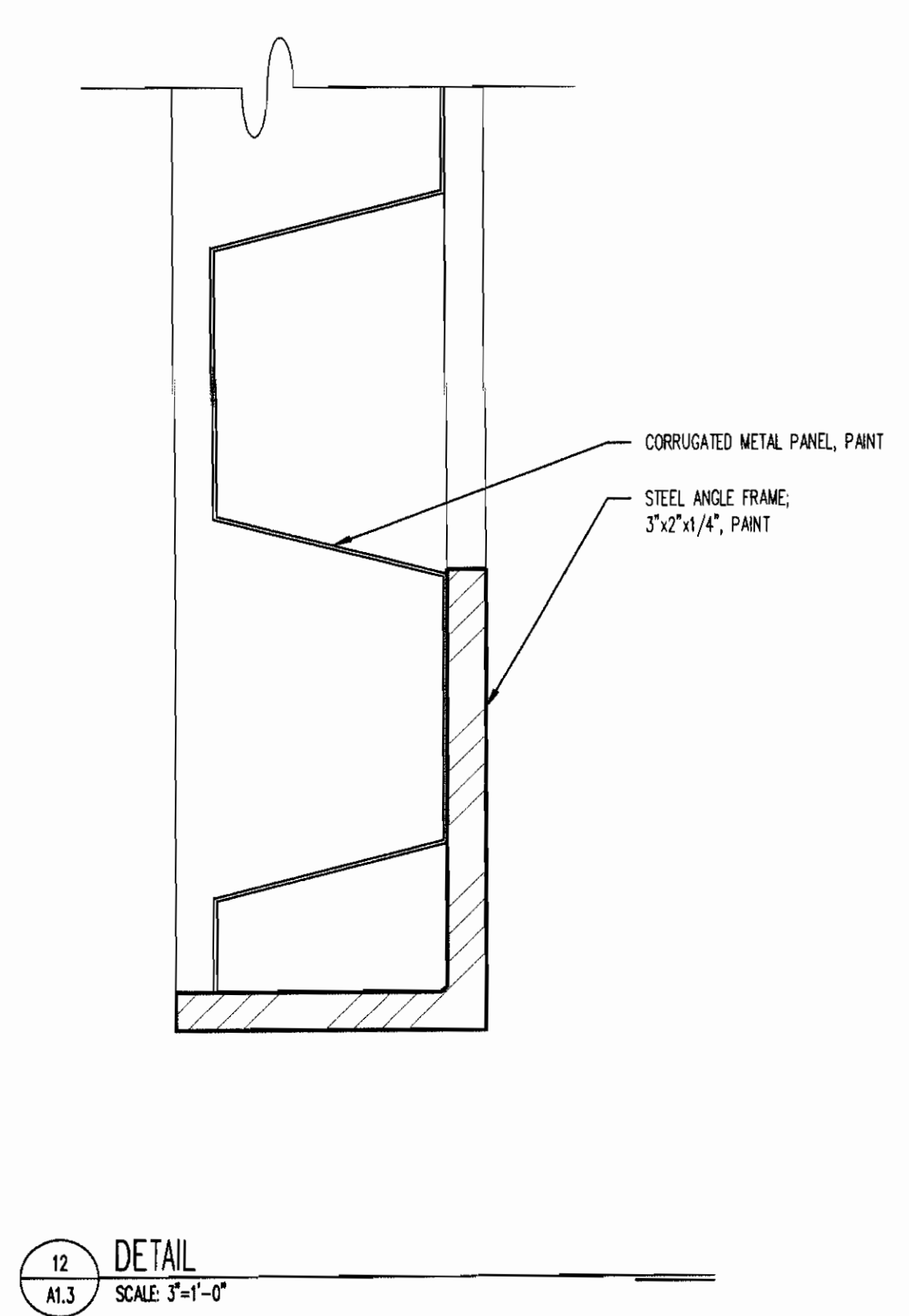
9 DRAIN @ PLANTERS
 SCALE: 3\"/>



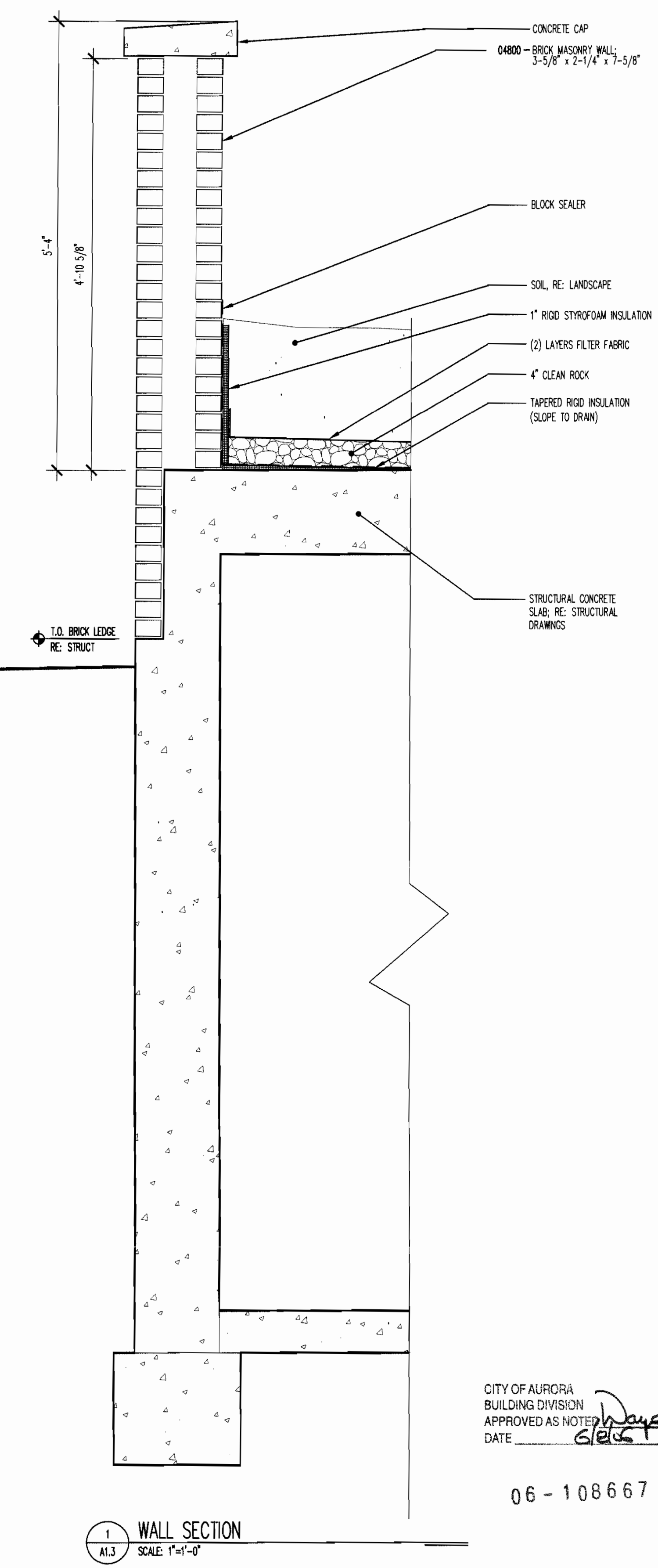
10 DETAIL @ METAL FENCE
 SCALE: 12\"/>



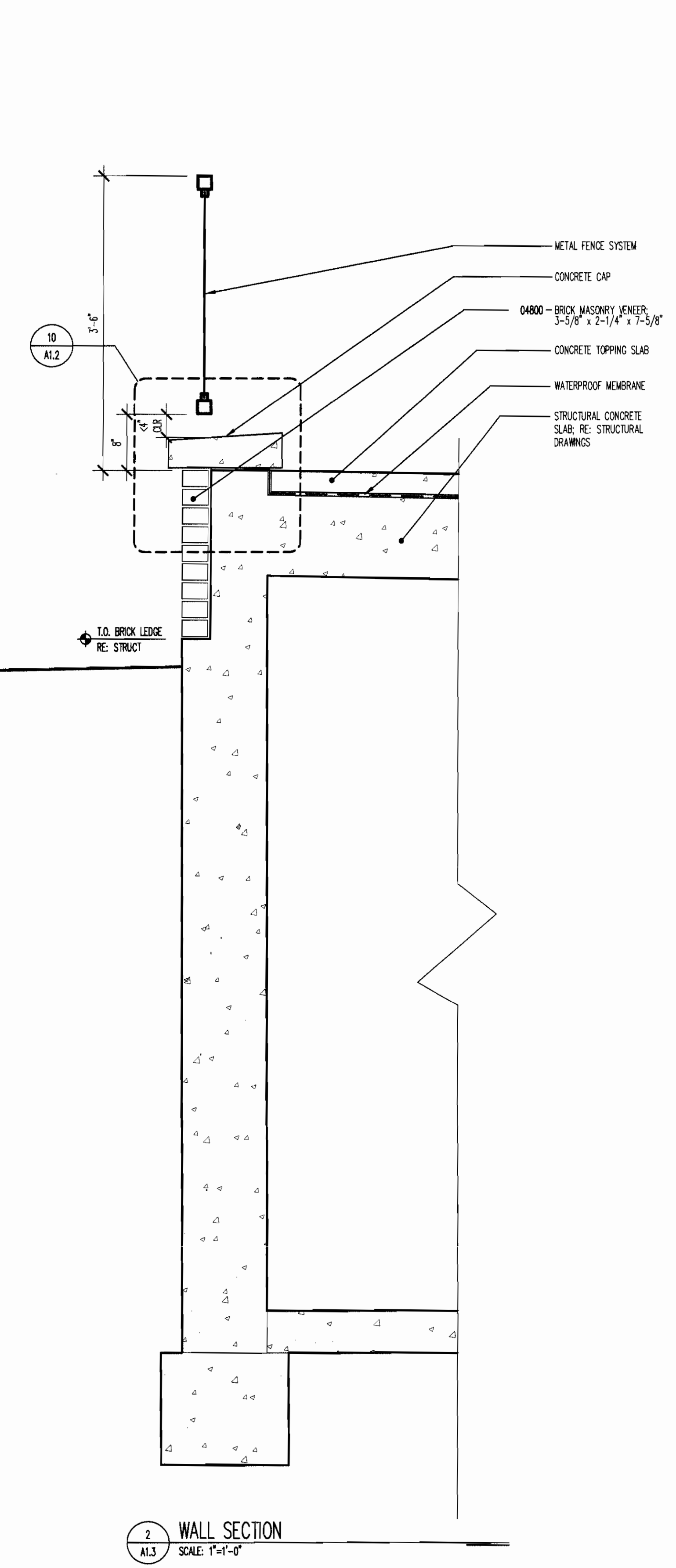
11 DETAIL @ SLAB EDGE
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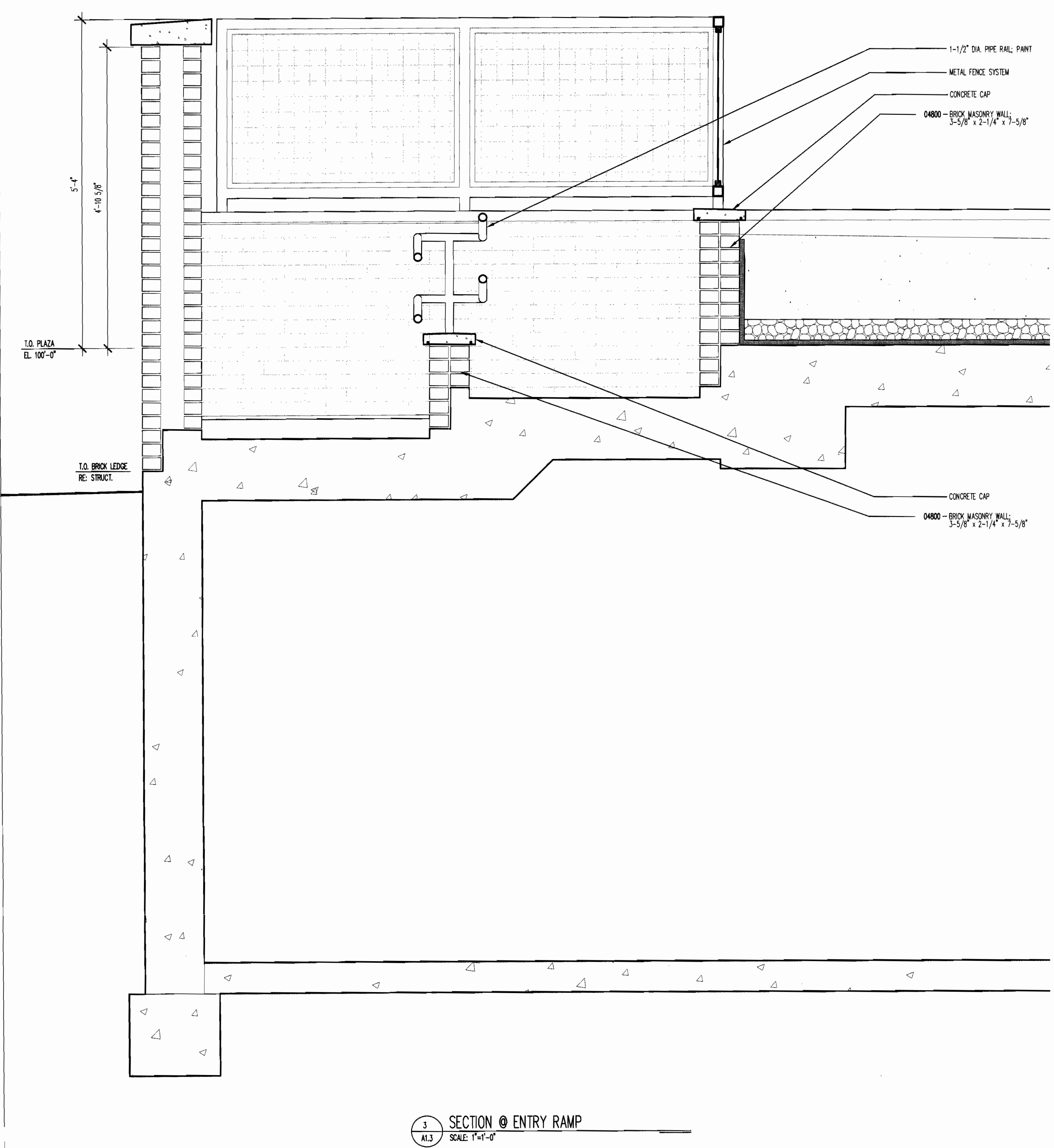
12 DETAIL
 SCALE: 3\"/>



1 WALL SECTION
 SCALE: 1\"/>



2 WALL SECTION
 SCALE: 1\"/>



3 SECTION @ ENTRY RAMP
 SCALE: 1\"/>

CITY OF AURORA
 BUILDING DIVISION
 APPROVED AS NOTED
 DATE: March 8, 2006

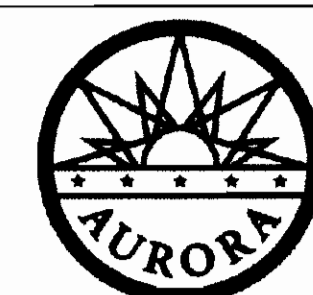
06-108667



ODELL ARCHITECTS, P.C.
ARCHITECTURAL PLANNING DIVISION

2200 South Cook Street, Suite 100, Aurora, Colorado 80012
Telephone: 303.430.5800 Fax: 303.430.7102

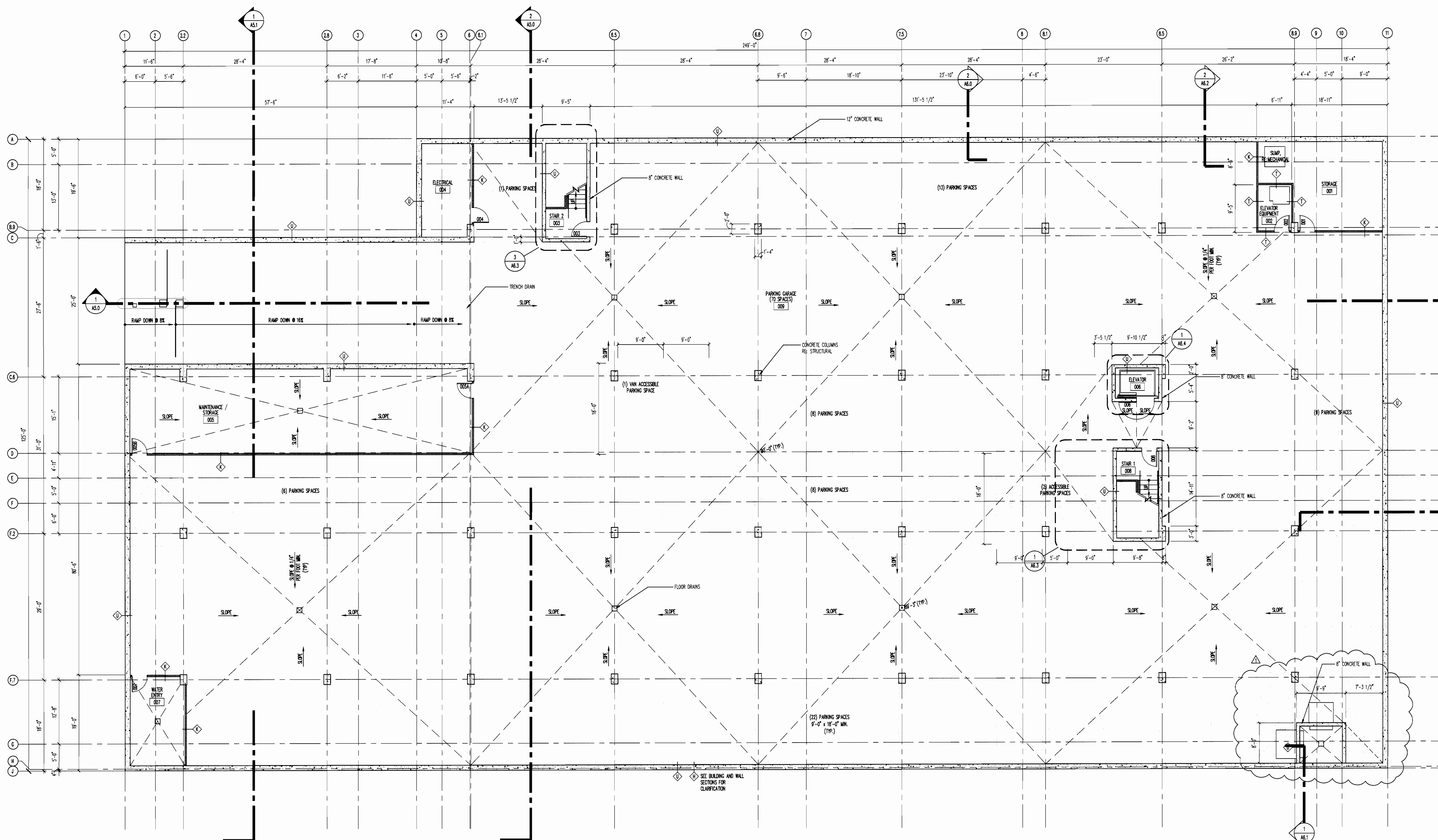
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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

GENERAL NOTES

1. SEE SHEET A2.1 FOR WALL TYPE INFORMATION
2. SEE BLDG ELEVATIONS FOR EXACT EXTENT/LOCATION OF WALL TYPES
3. SEE SHEETS A3.0 THROUGH A3.3 FOR ADDITIONAL INFORMATION REGARDING TYPICAL LIVING UNITS
4. DIMENSIONS ARE TO FACE OF WOOD FRAMING, CMU, AND CONCRETE OR CENTERLINE OF DOORS AND WINDOWS.
5. GYPSUM BOARD WALLS THAT ALIGN WITH CONCRETE WALLS ARE TO BE SET BACK 1" OFF THE FACE OF CONCRETE.



1 A2.0 GARAGE LEVEL FLOOR PLAN
SCALE: 1/8"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 5/10/06

06 - 108667

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CHECKED BY:

REVISIONS:

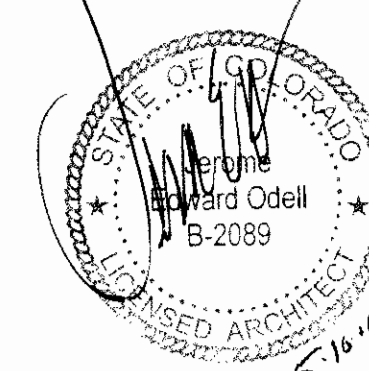
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ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
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4	100% CD PACKAGE	3/05/2006
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SHEET CONTENTS:

GARAGE FLOOR PLAN

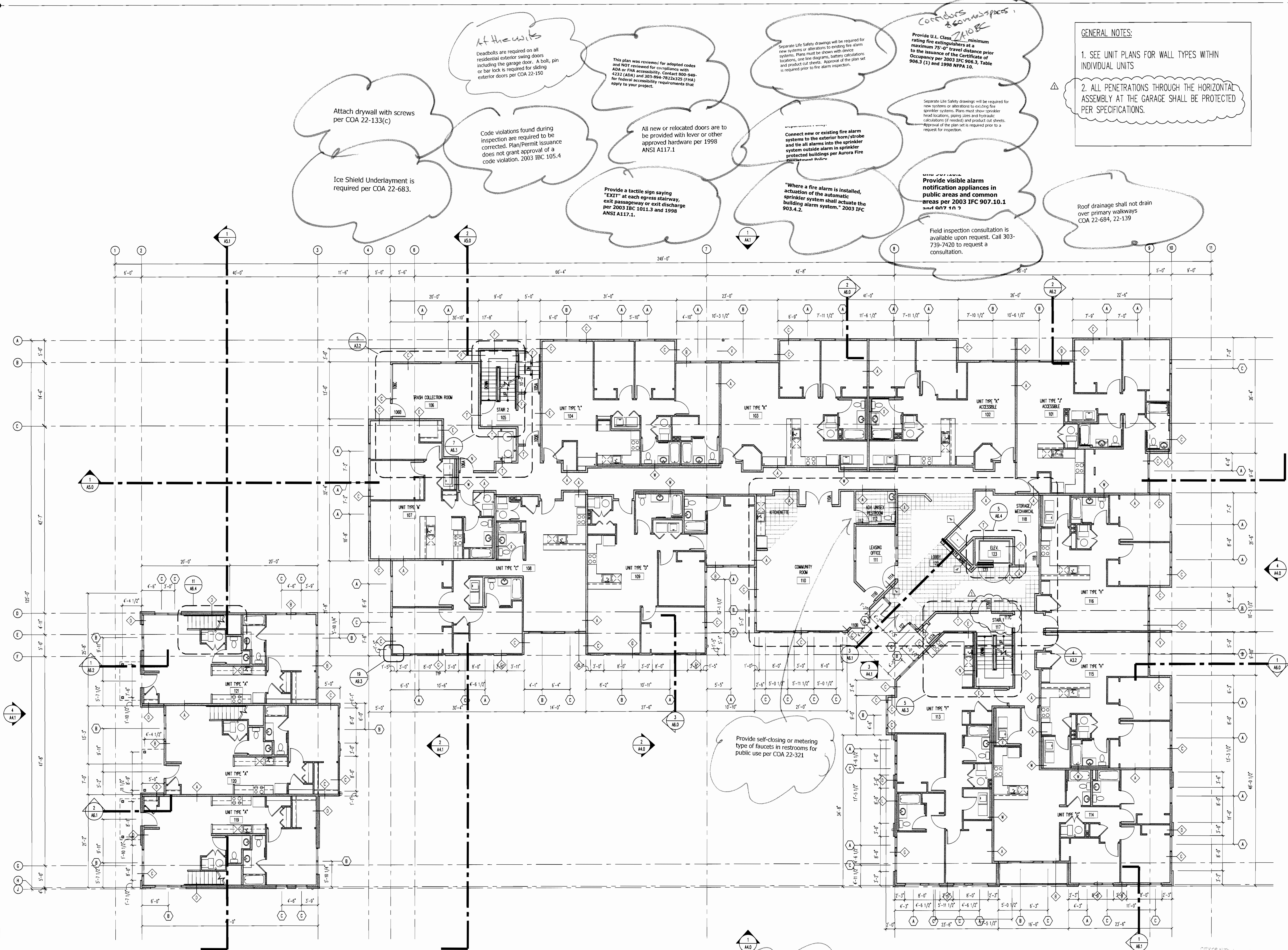


PROJECT NO.: 3-04-18

DATE: March 9, 2006

DRAWING NO.:

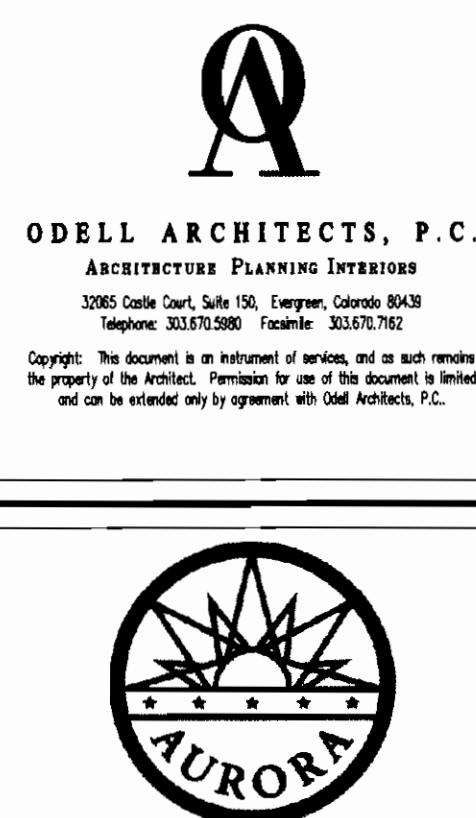
A2.0



1 1ST LEVEL FLOOR PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTES:

- SEE UNIT PLANS FOR WALL TYPES WITHIN INDIVIDUAL UNITS
- ALL PENETRATIONS THROUGH THE HORIZONTAL ASSEMBLY AT THE GARAGE SHALL BE PROTECTED PER SPECIFICATIONS.



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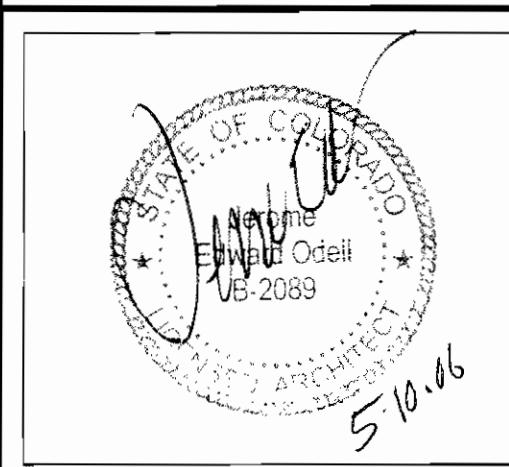
REVISIONS:

No.	Description	Date
1	BUILDING DPT COMMENTS	5/1/2006
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ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/8/2005
4	100% CD PACKAGE	3/29/2006

SHEET CONTENTS
FIRST FLOOR PLAN



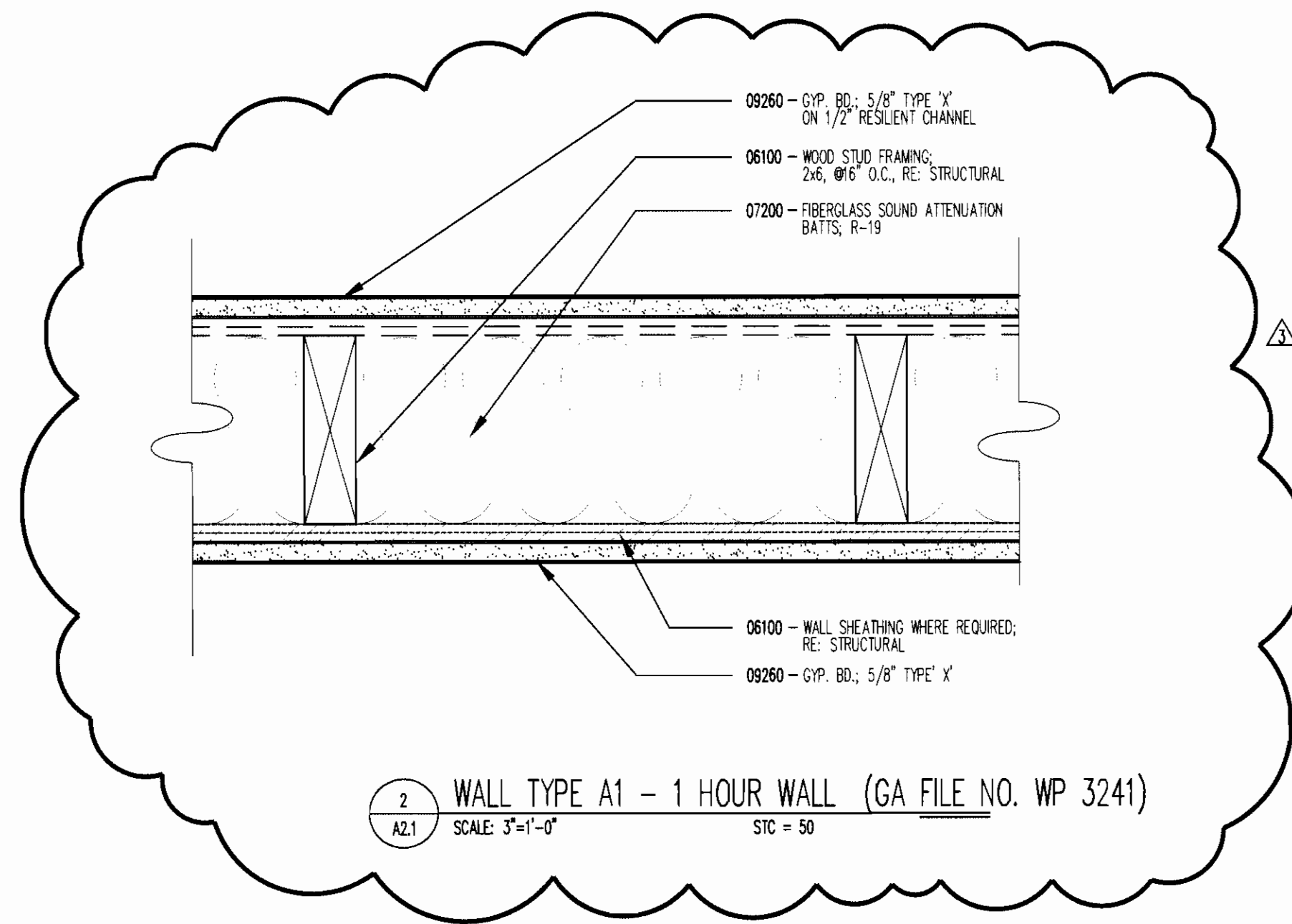
PROJECT NO.: 3-04-18

DATE: March 9, 2006

DRAWING NO.:

A2.1

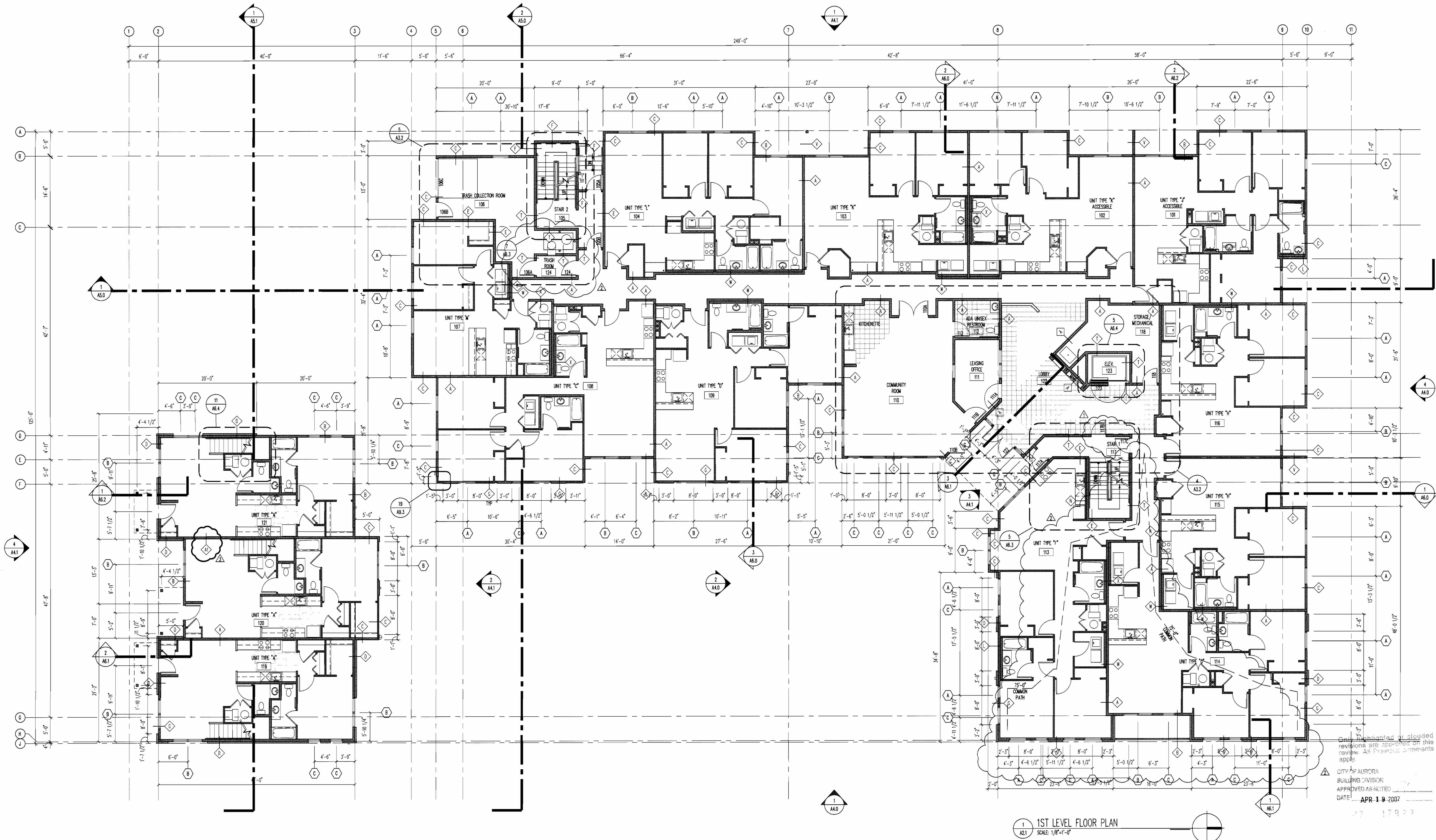
06-108667



GENERAL NOTES:

1. SEE UNIT PLANS FOR WALL TYPES WITHIN
INDIVIDUAL UNITS

2. ALL PENETRATIONS THROUGH THE HORIZONTAL
ASSEMBLY AT THE GARAGE SHALL BE PROTECTED
PER SPECIFICATIONS.



ODELL ARCHITECTS, P.C.

ARCHITECTURE PLANNING INTERIORS

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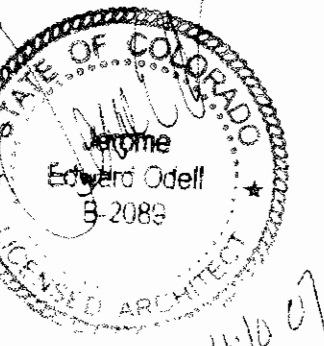
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2	BUILDING OPT COMMENTS	5/18/2006
3	WALL-TYPE-CHANGE	4/5/2007

ISSUE RECORD:

No.	Description	Date
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2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/19/2006

SHEET CONTENTS:

FIRST FLOOR PLAN



PROJECT NO: 3-04-18

DATE: March 9, 2006

DRAWING NO:

A2.1



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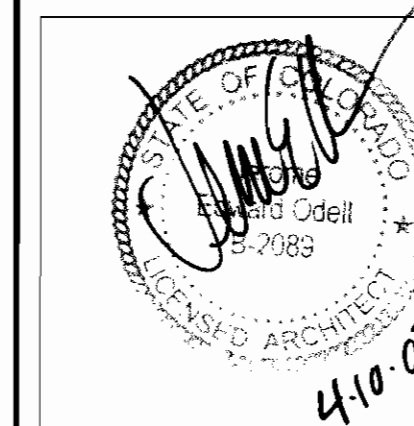
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2	BUILDING OPT COMMENTS	5/16/2006
3	WALL-TYPE-CHANGE	4/5/2007

ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
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4	100% CD PACKAGE	3/29/2006

SHEET CONTENTS:

SECOND FLOOR PLAN

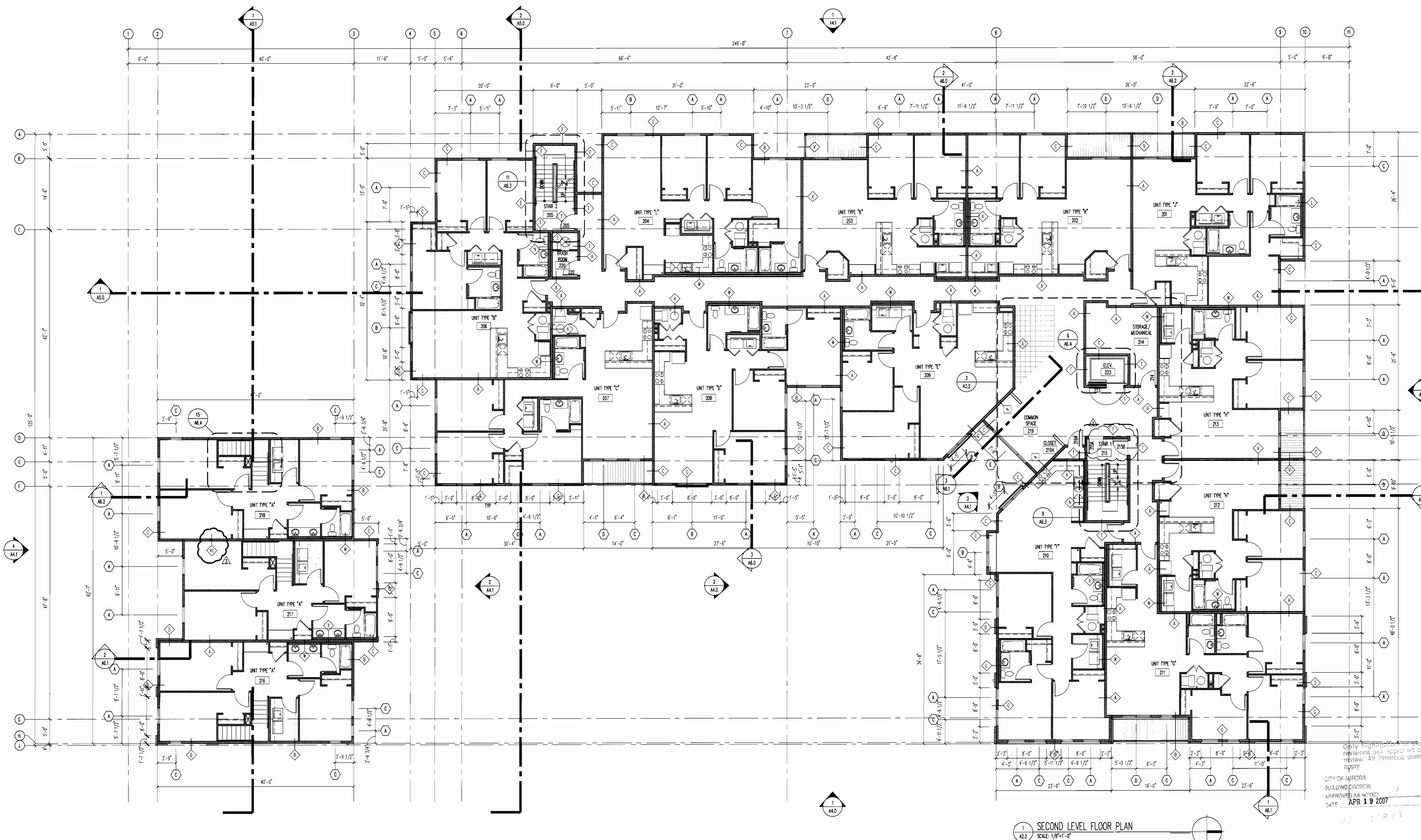
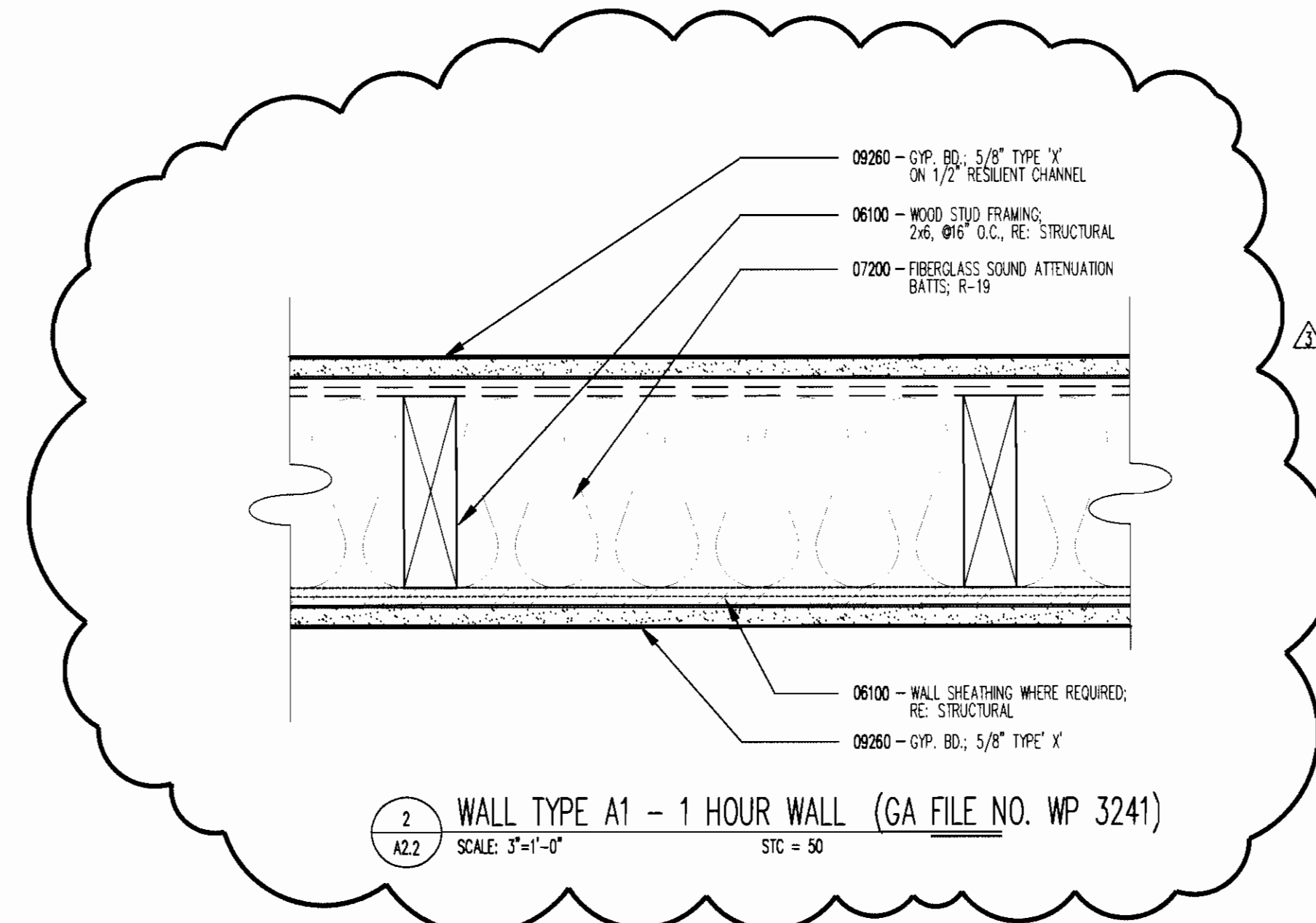


PROJECT NO: 3-04-18

DATE: March 9, 2006

DRAWING NO:

A2.2



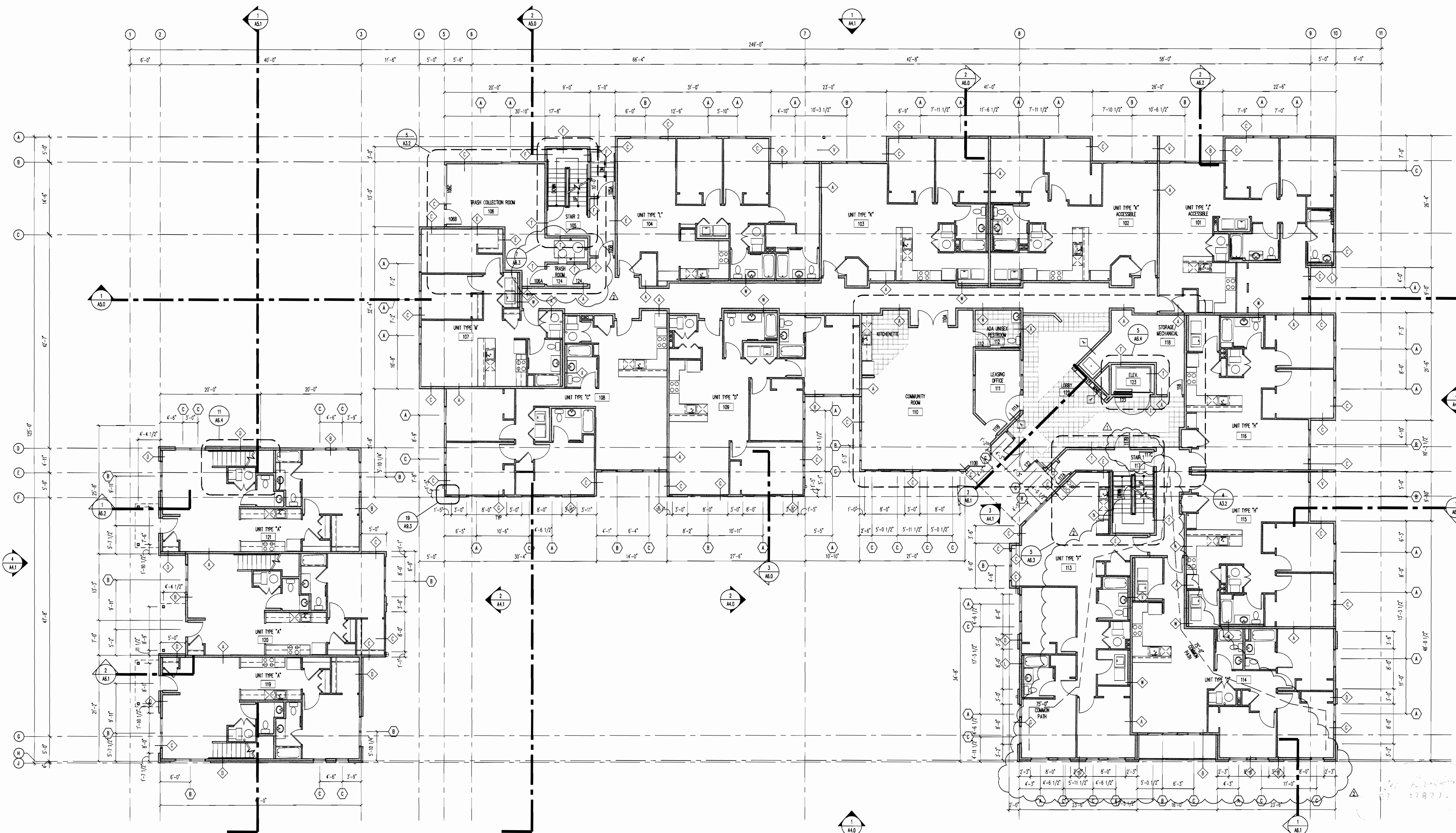


Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

GENERAL NOTES:

1. SEE UNIT PLANS FOR WALL TYPES WITHIN INDIVIDUAL UNITS

2. ALL PENETRATIONS THROUGH THE HORIZONTAL ASSEMBLY AT THE GARAGE SHALL BE PROTECTED PER SPECIFICATIONS.



1ST LEVEL FLOOR PLAN
SCALE: 1/8"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 6/8/06
Common Path of Travel
06 - 108667

REVISIONS:

No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
2	BUILDING OPT COMMENTS	5/18/2006
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ISSUE RECORD:

No.	Description	Date
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SHEET CONTENTS:
FIRST FLOOR PLAN

PROJECT NO.: 3-04-18
DATE: March 9, 2006

DRAWING NO:

A2.1



Aurora Housing Authority
 1445 Dallas Street
 Aurora, Colorado

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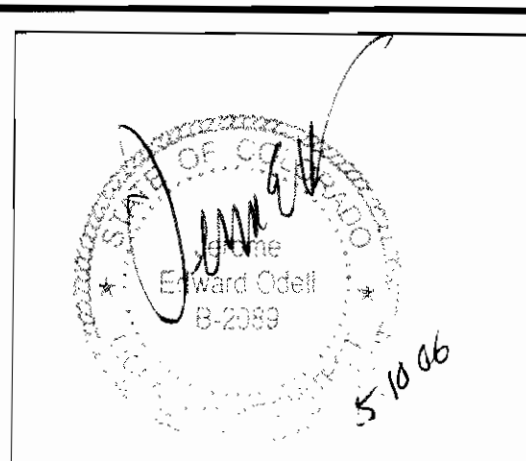
REVISIONS:

No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006

ISSUE RECORD:

No.	Description	Date
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2	100% CD PACKAGE	1/14/2005
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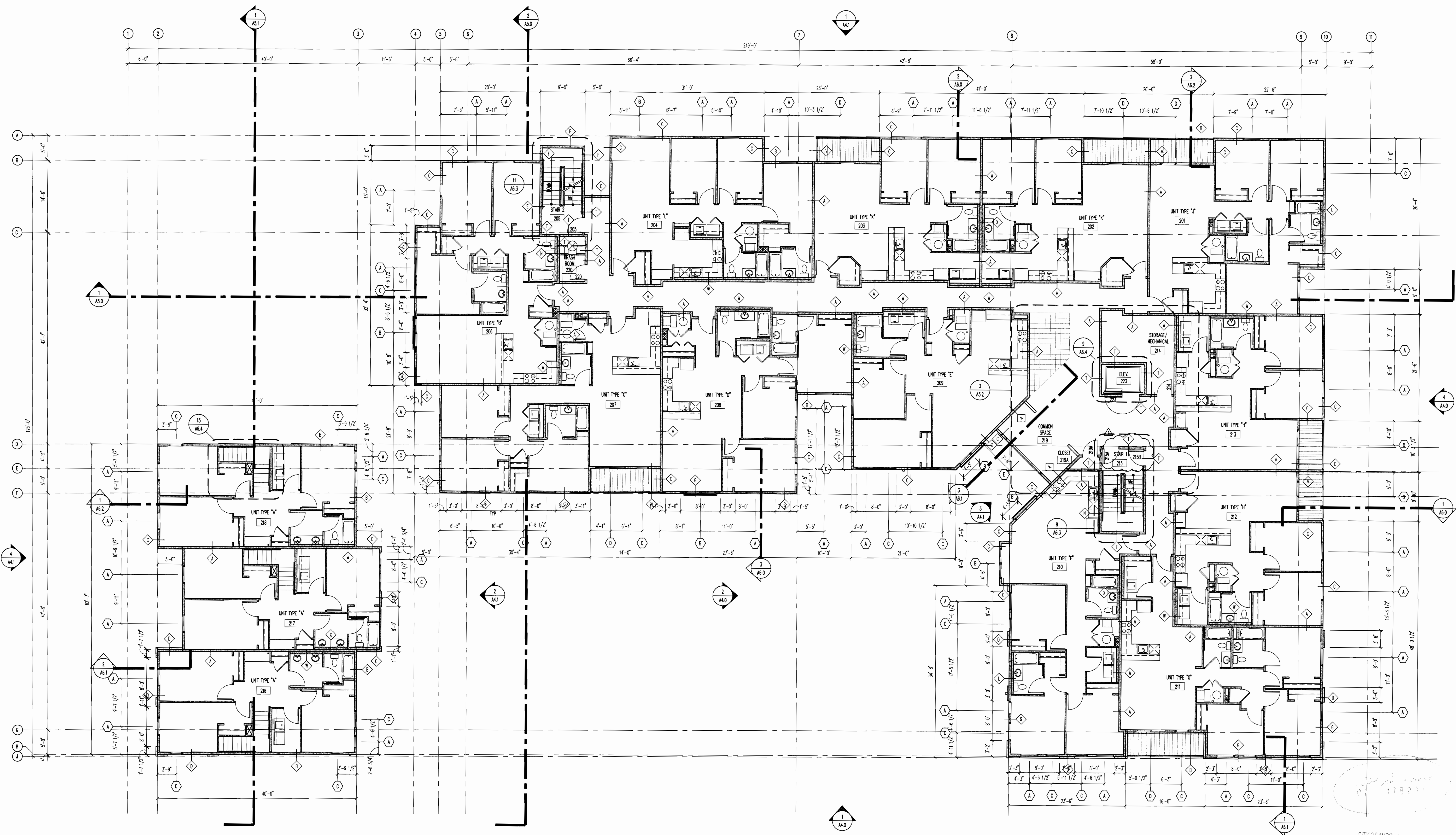
SHEET CONTENTS:
 SECOND FLOOR PLAN



PROJECT NO.: 3-04-18
 DATE: March 9, 2006

DRAWING NO:

A2.2



1 SECOND LEVEL FLOOR PLAN
 A2.2 SCALE: 1/8"=1'-0"

CITY OF AURORA
 BUILDING DIVISION
 APPROVED AS NOTED
 DATE: 6/26/06
 06-108667



ODELL ARCHITECTS, P.C.

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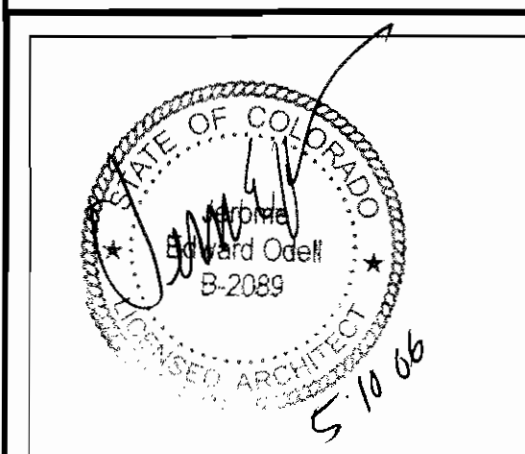
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ISSUE RECORD:

No.	Description	Date
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SHEET CONTENTS:

THIRD FLOOR PLAN

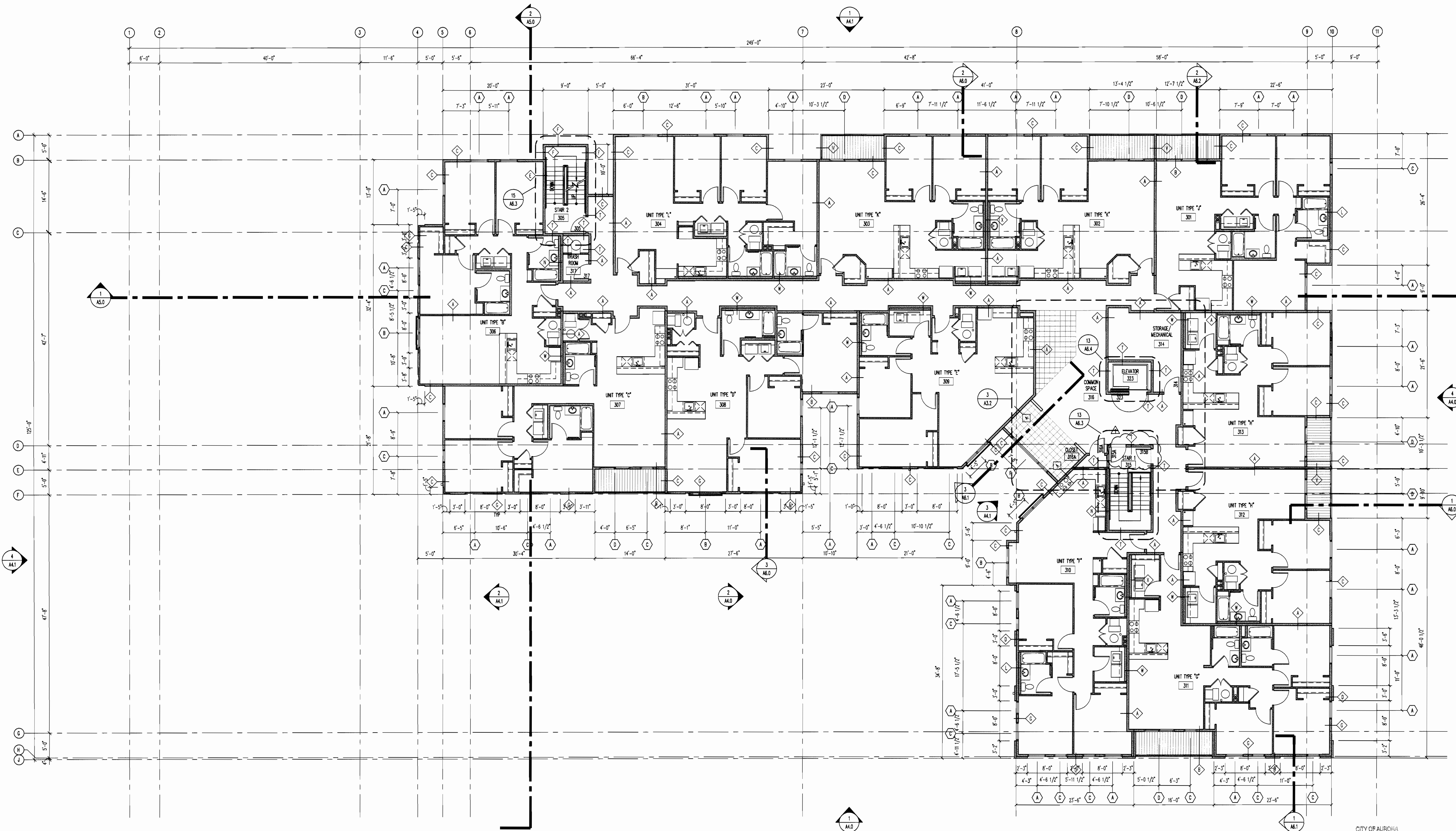


PROJECT NO.: 3-04-18

DATE: March 9, 2006

DRAWING NO.:

A2.3



1 THIRD LEVEL FLOOR PLAN
SCALE: 1/8"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 3/9/06

06 - 108667



ODELL ARCHITECTS, P.C.
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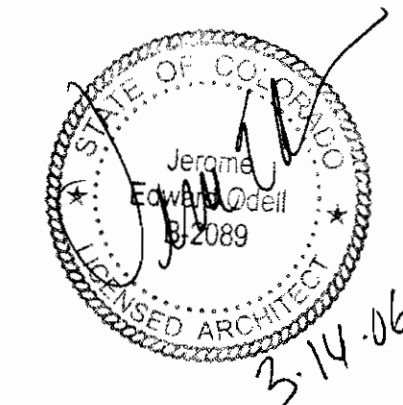
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1445 Dallas Street
Aurora, Colorado

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CHECKED BY:

REVISIONS:		
No.	Description	Date

ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/28/2006

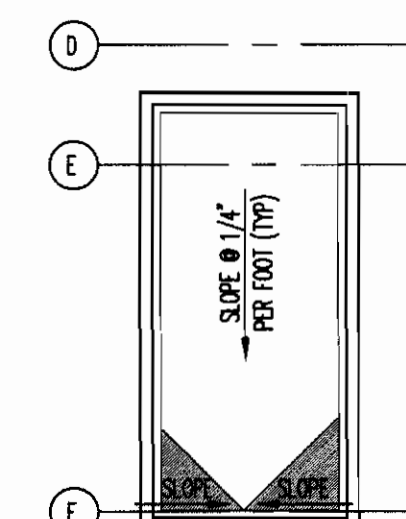
SHEET CONTENTS:
ROOF PLAN



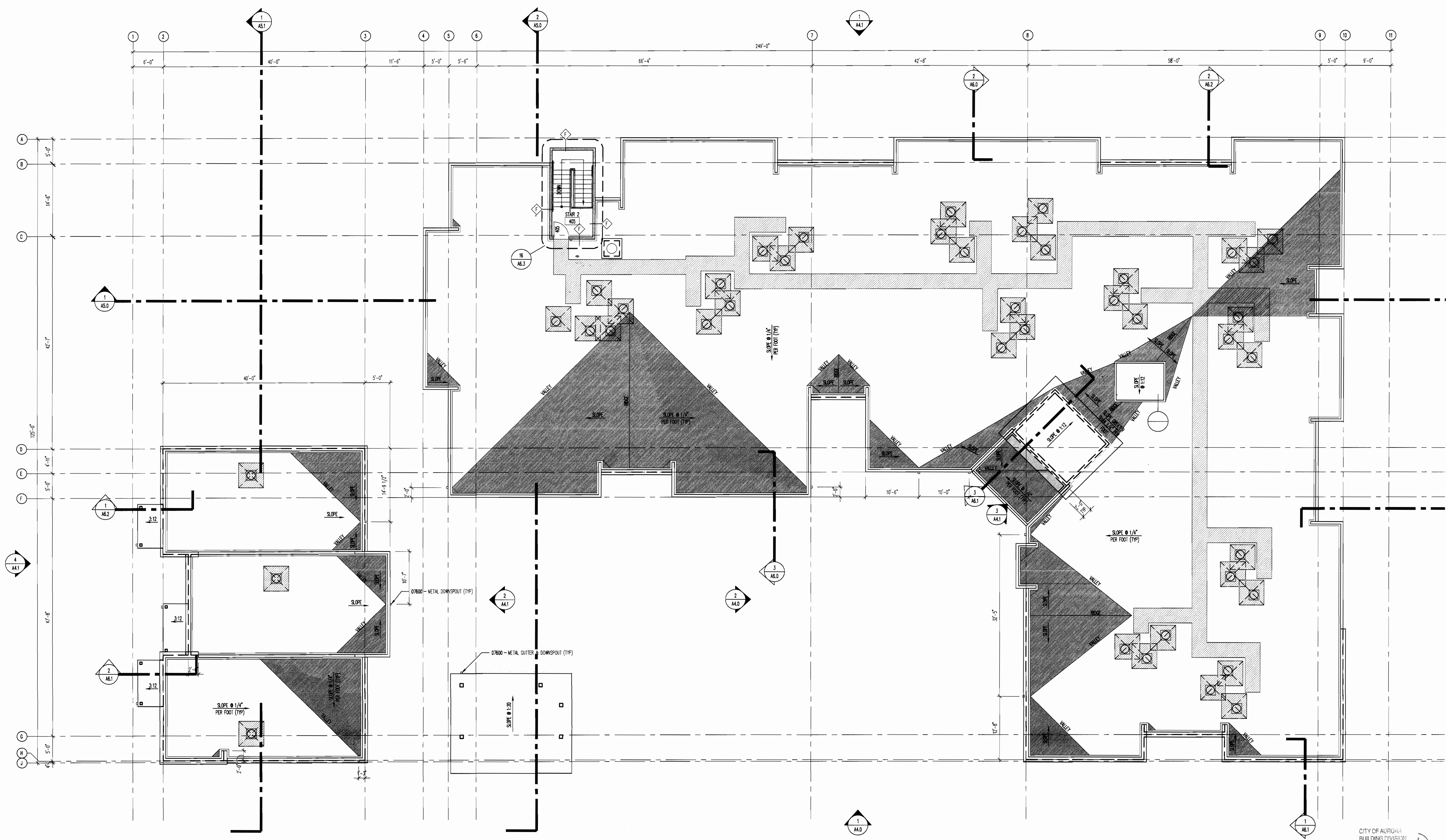
PROJECT NO.: 3-04-18
DATE: March 9, 2006

DRAWING NO:

A2.4



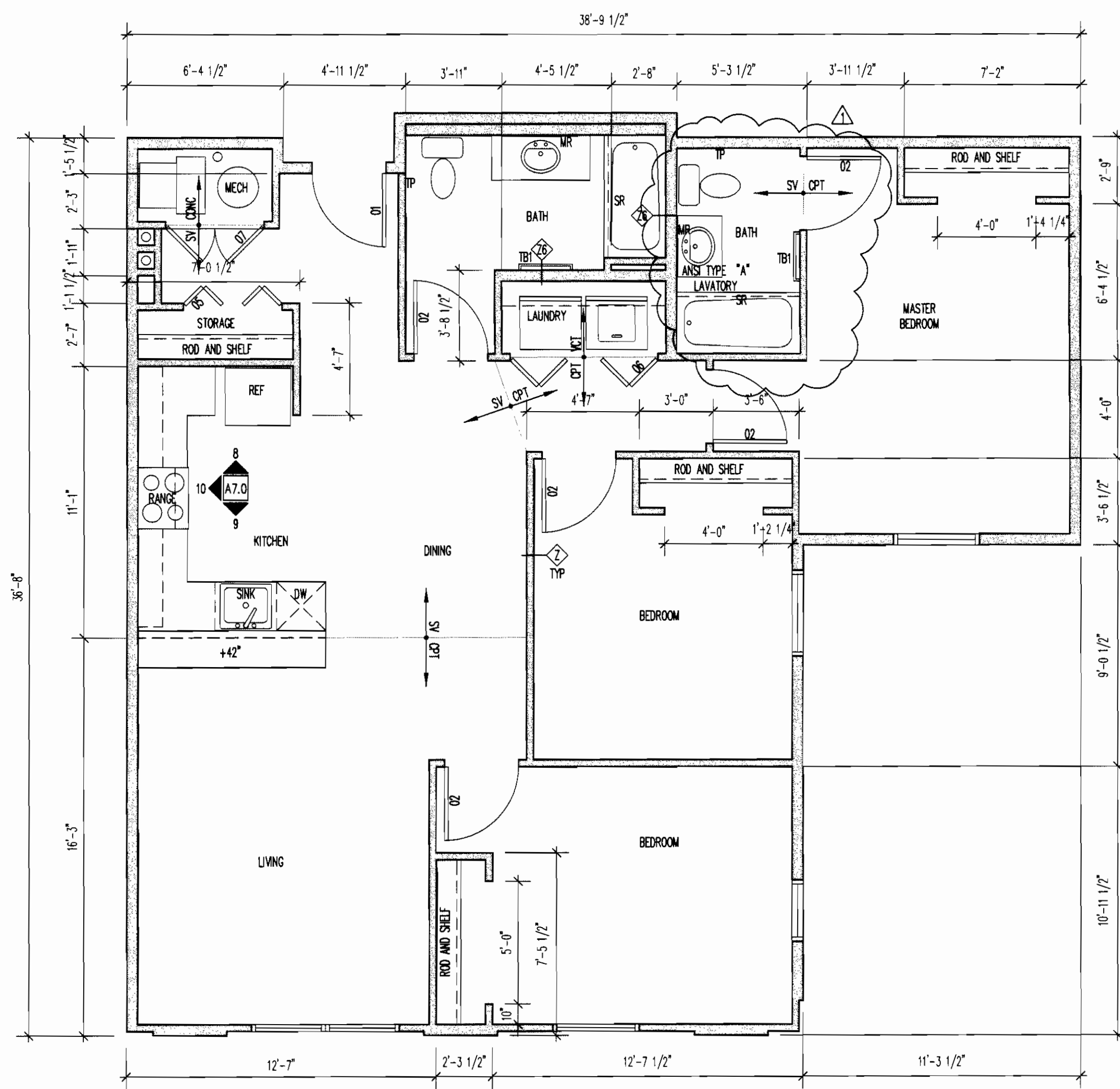
2 ROOF PLAN - STAIR 2
SCALE: 1/8"=1'-0"



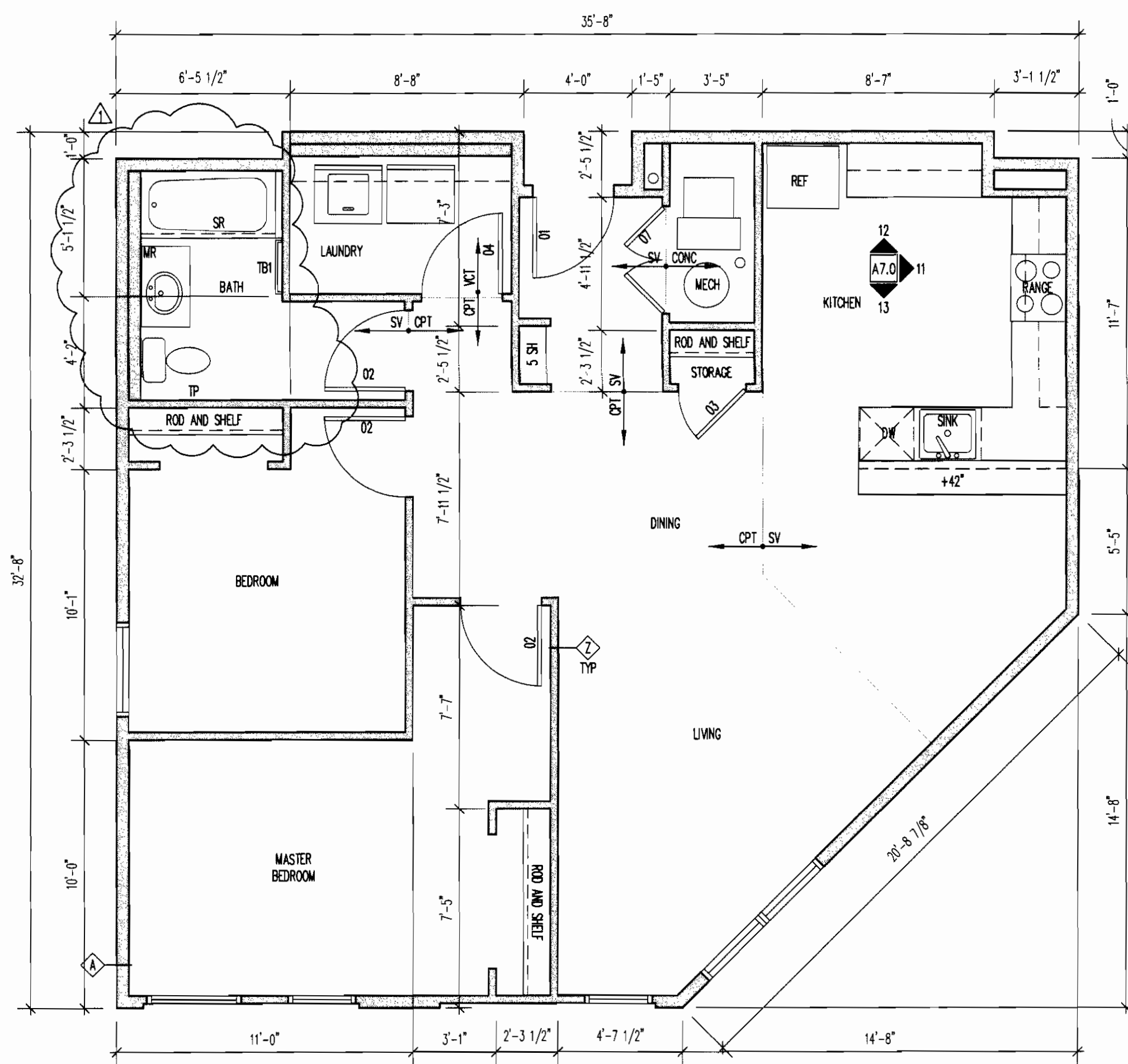
1 ROOF PLAN
SCALE: 1/8"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE 3/14/06

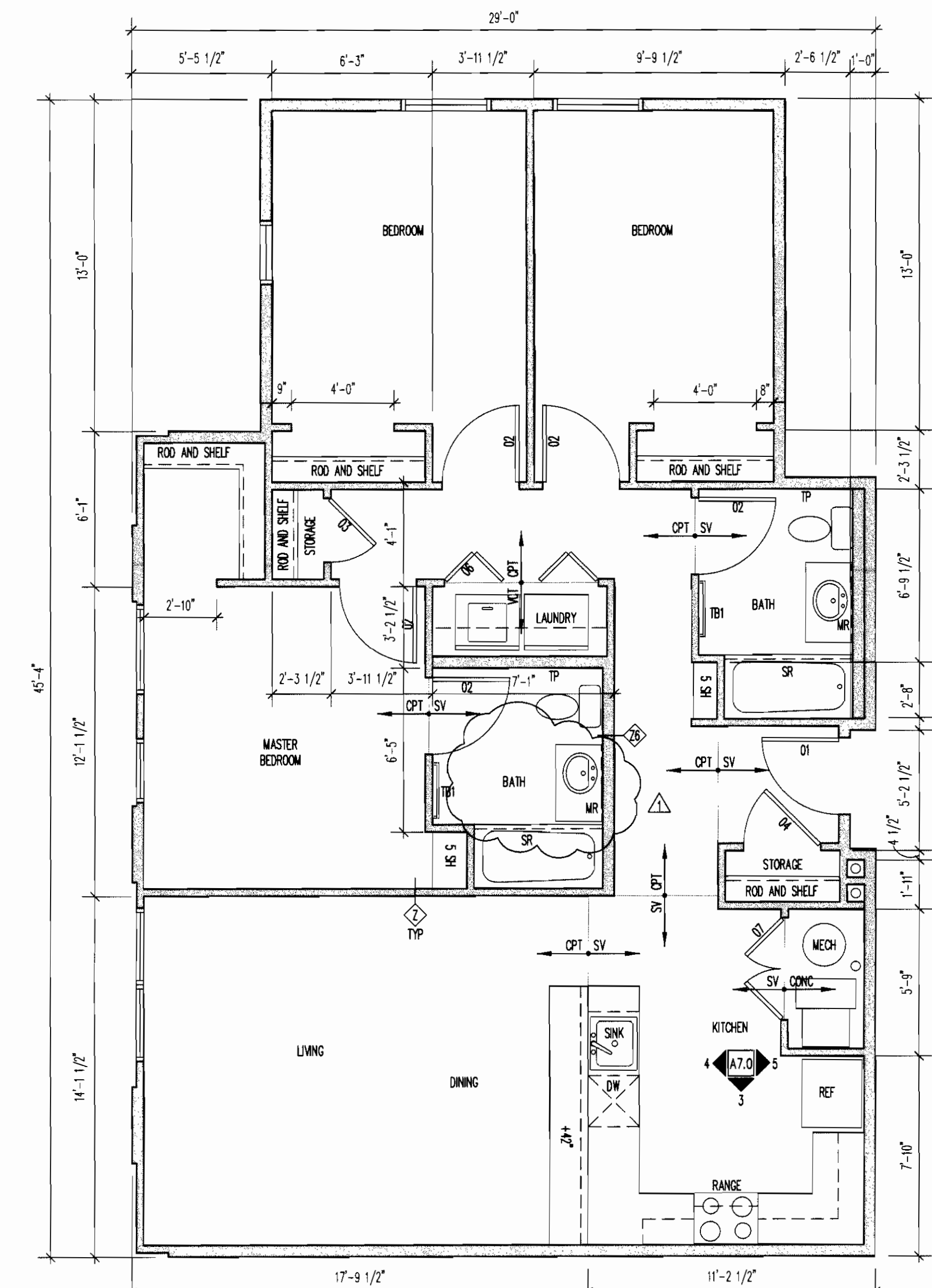
06 - 108667



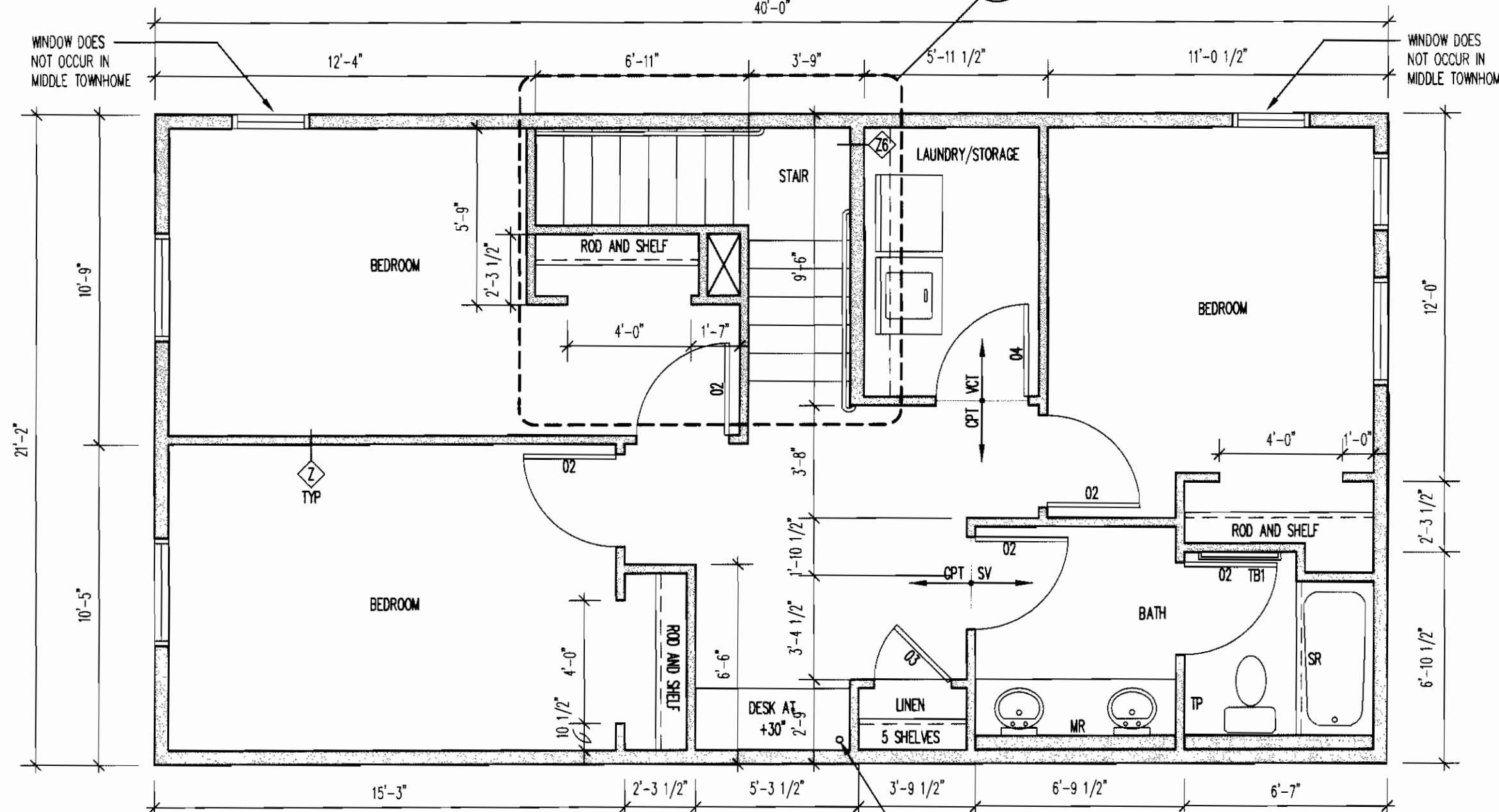
UNIT "D" FLOOR PLAN
SCALE: 1/4"=1'-0"



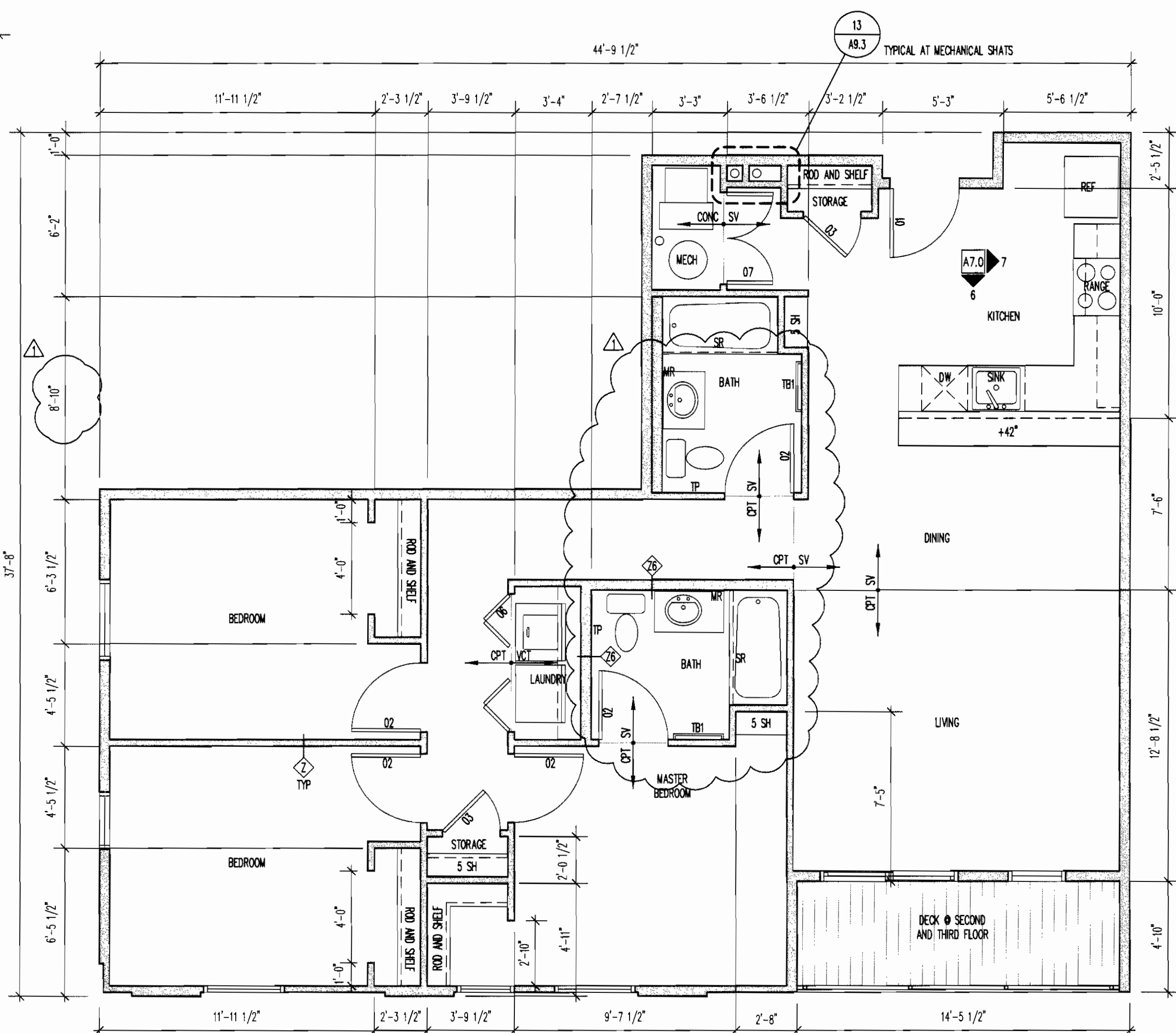
UNIT "E" FLOOR PLAN
SCALE: 1/4"=1'-0"



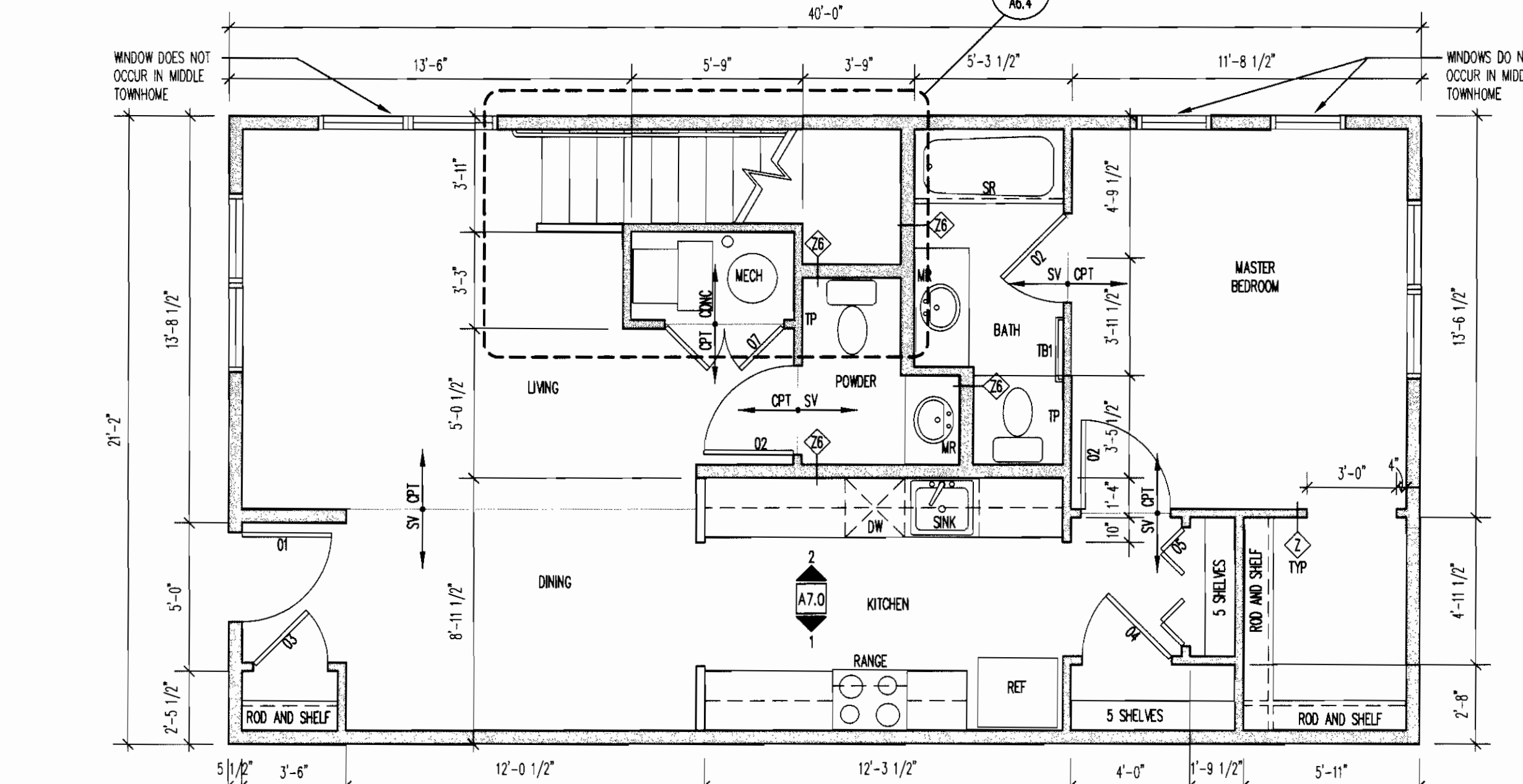
UNIT "B" FLOOR PLAN
SCALE: 1/4"=1'-0"



UNIT "A" 2ND FLOOR PLAN
SCALE: 1/4"=1'-0"



UNIT "C" FLOOR PLAN
SCALE: 1/4"=1'-0"



UNIT "A" 1ST FLOOR PLAN
SCALE: 1/4"=1'-0"

- NOTES:
- SEE 1/8" FLOOR PLANS FOR WINDOW LOCATIONS AND DEMISING WALL TYPES.
 - MINIMUM DOOR JAMB @ HINGE SIDE = 4".
 - DIMENSIONS ARE TO FACE OF FRAMING.
 - PROVIDE BLOCKING AT FRAMED WALLS AS REQUIRED FOR SECURE ATTACHMENT; BATHROOM VANITIES/COUNTERS - 1'-10" DEEP AND 32" HT.
 - ALL ELECTRICAL OUTLETS, LIGHT SWITCHES, AND THERMOSTATS SHALL BE POSITIONED RE: ELECTRICAL.
 - UNIT MECHANICAL SHAFTS ARE SHOWN AS REQUIRED FOR THIRD LEVEL CONDITIONS. THE SHAFT IS NOT REQUIRED FOR FIRST FLOOR LEVEL AND WILL NEED TO CONTAIN ONLY ONE VENT AT SECOND LEVEL.
 - ALL INTERIOR UNIT WALLS ARE WALL TYPE "7" UNLESS OTHERWISE NOTED.
 - PROVIDE BLOCKING FOR EXISTING AND FUTURE GRAB BARS AND TOWEL BARS AT ALL BATHROOMS PER ANSI 2003 604.5.1
 - BATHROOMS AT TYPE B UNITS UTILIZE OPTION A. PROVIDE ANSI TYPE A LAVATORIES WHERE PARALLEL APPROACH IS NOT FEASIBLE. SEE DETAIL 6/A3.2.

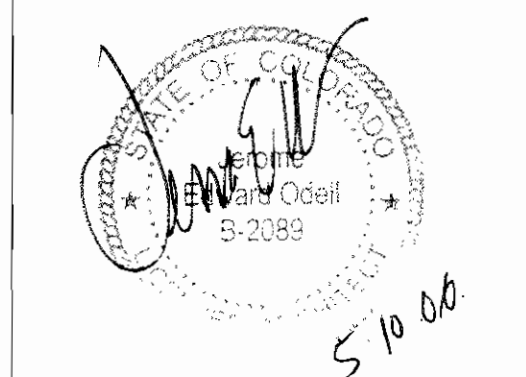
RESIDENTIAL BATHROOM HARDWARE SCHEDULE:
 TP = TOILET PAPER HOLDER; FRANKLIN BRASS 300 LIBERTY SERIES, 308 BPC, CHROME FINISH, MOUNT @ 26" ABOVE FLOOR.
 TB1 = TOWEL BAR; FRANKLIN BRASS 300 LIBERTY SERIES, 324 APC, 24" CHROME
 TB2 = TOWEL RING; FRANKLIN BRASS 300 LIBERTY SERIES - 316, POLISHED CHROME MOUNT 40" ABOVE FLOOR
 SR = SHOWER ROD; FRANKLIN BRASS 300 LIBERTY SERIES, #77, 5" @ TUBS, MOUNT @ 72" ABOVE FLOOR.
 GB = GRAB BAR. PROVIDE REINFORCING IN WALL BETWEEN 30" AND 40" A.F.F.
 MR = MIRROR
 (X)R/(X)SH = (NO. OF) RODS / (NO. OF) SHELVES. MOUNT ROD @ 66" & SHELF @ 72" ABOVE FLOOR, TYP.



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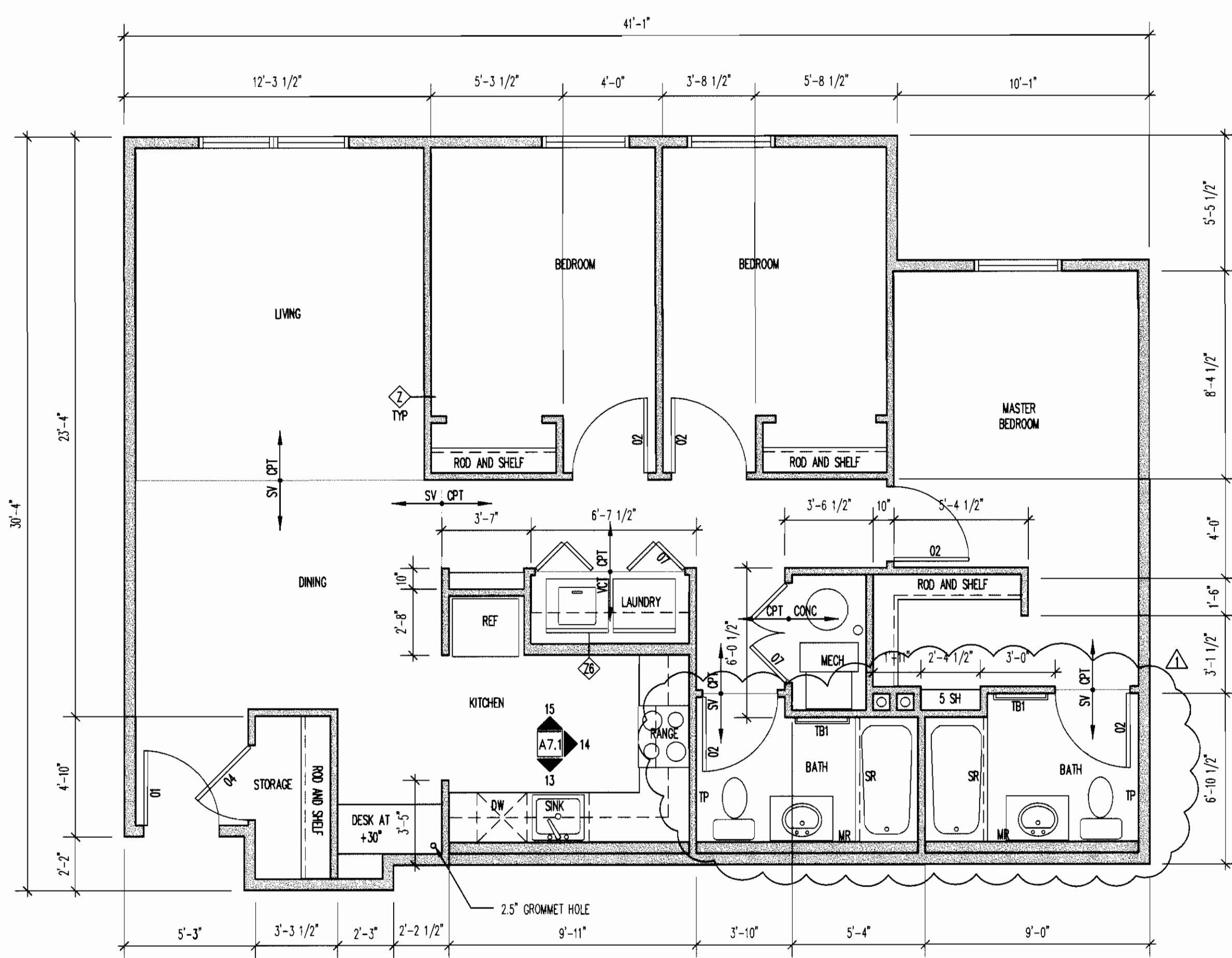
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REVISIONS:		
No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
2		
3		
4		
ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% DD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/8/2006

SHEET CONTENTS:
 UNIT PLANS
 A, B, C, D, E & M

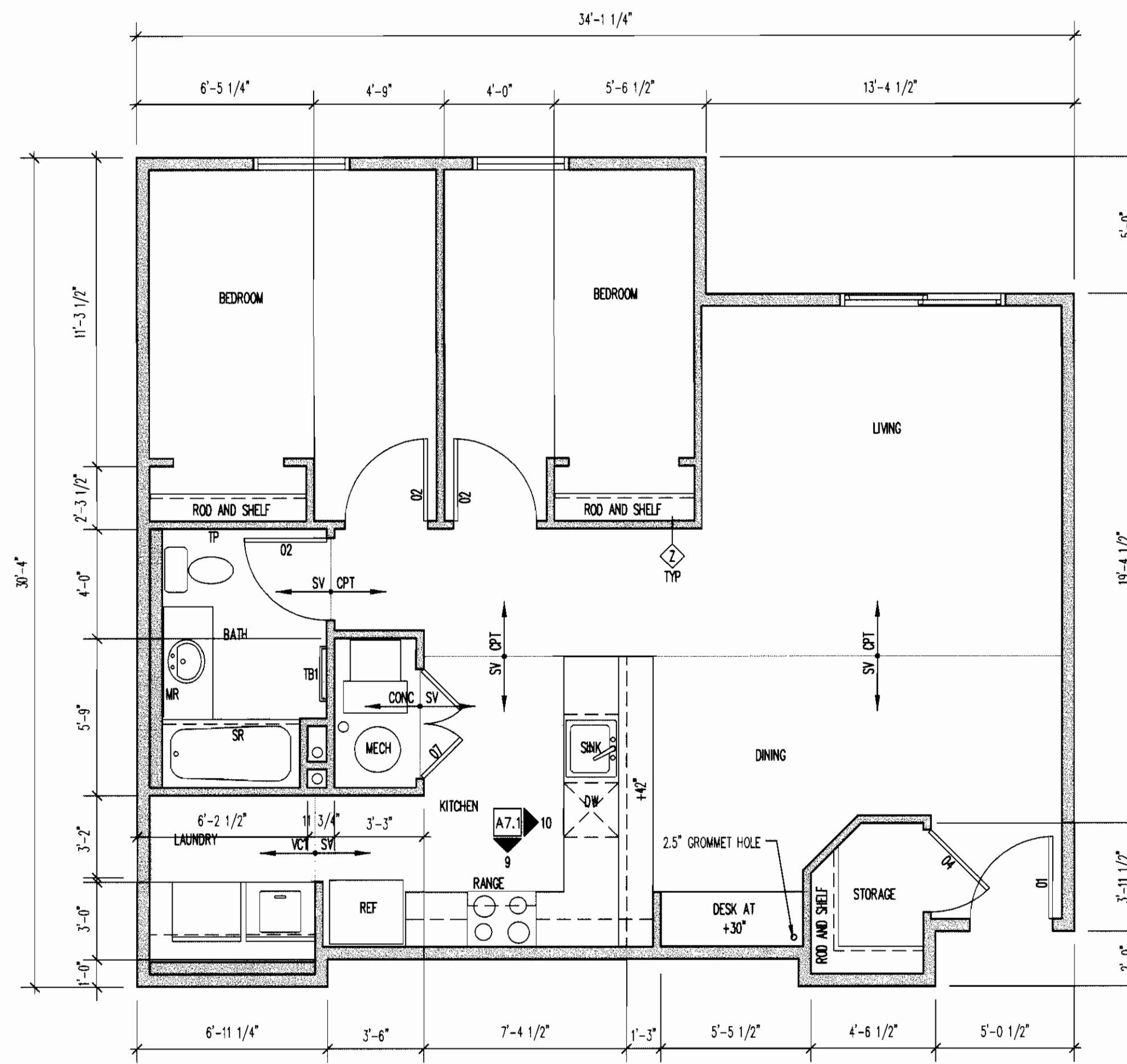


PROJECT NO.: 3-04-18
 DATE: March 9, 2006

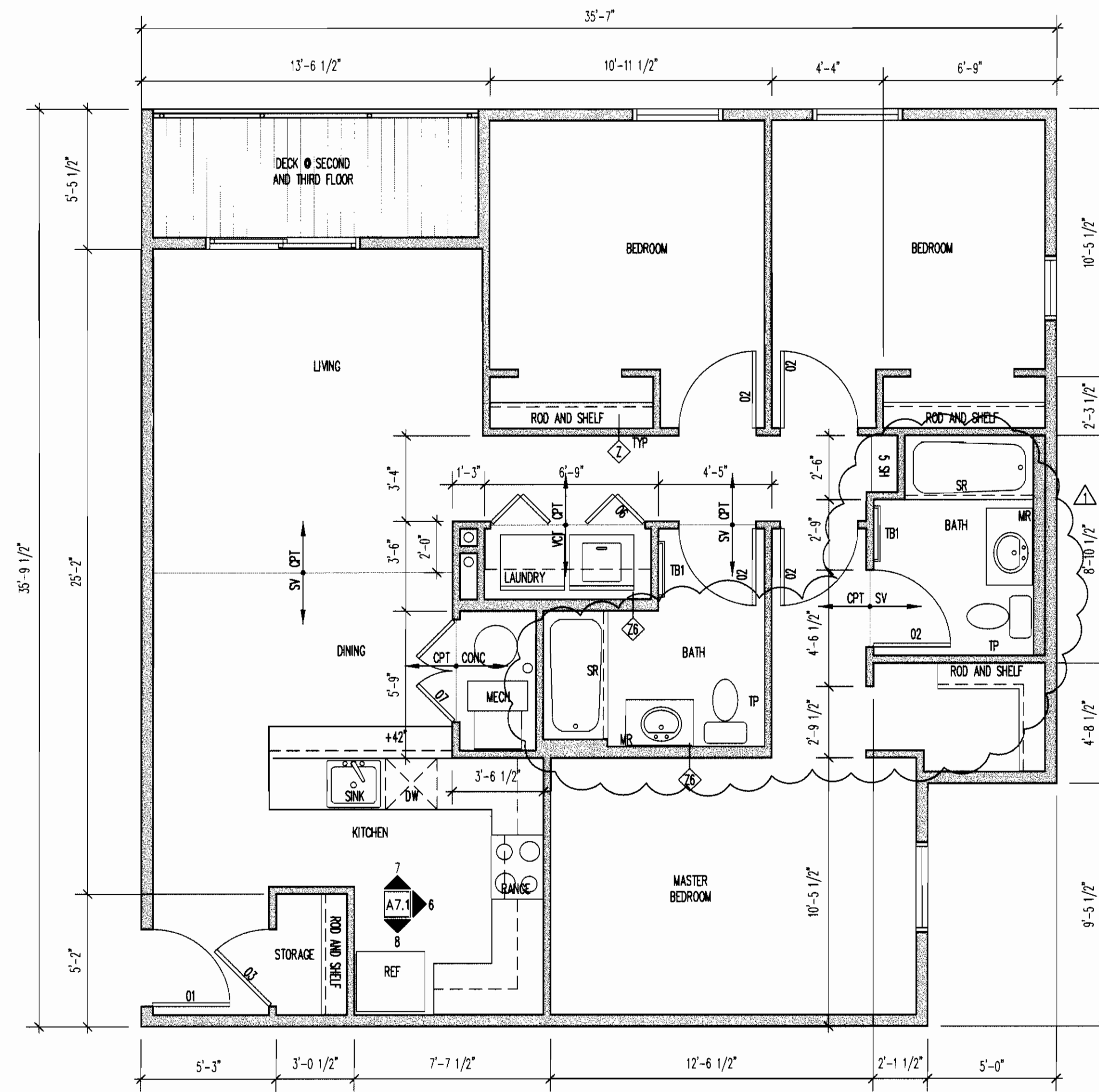
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A3.0



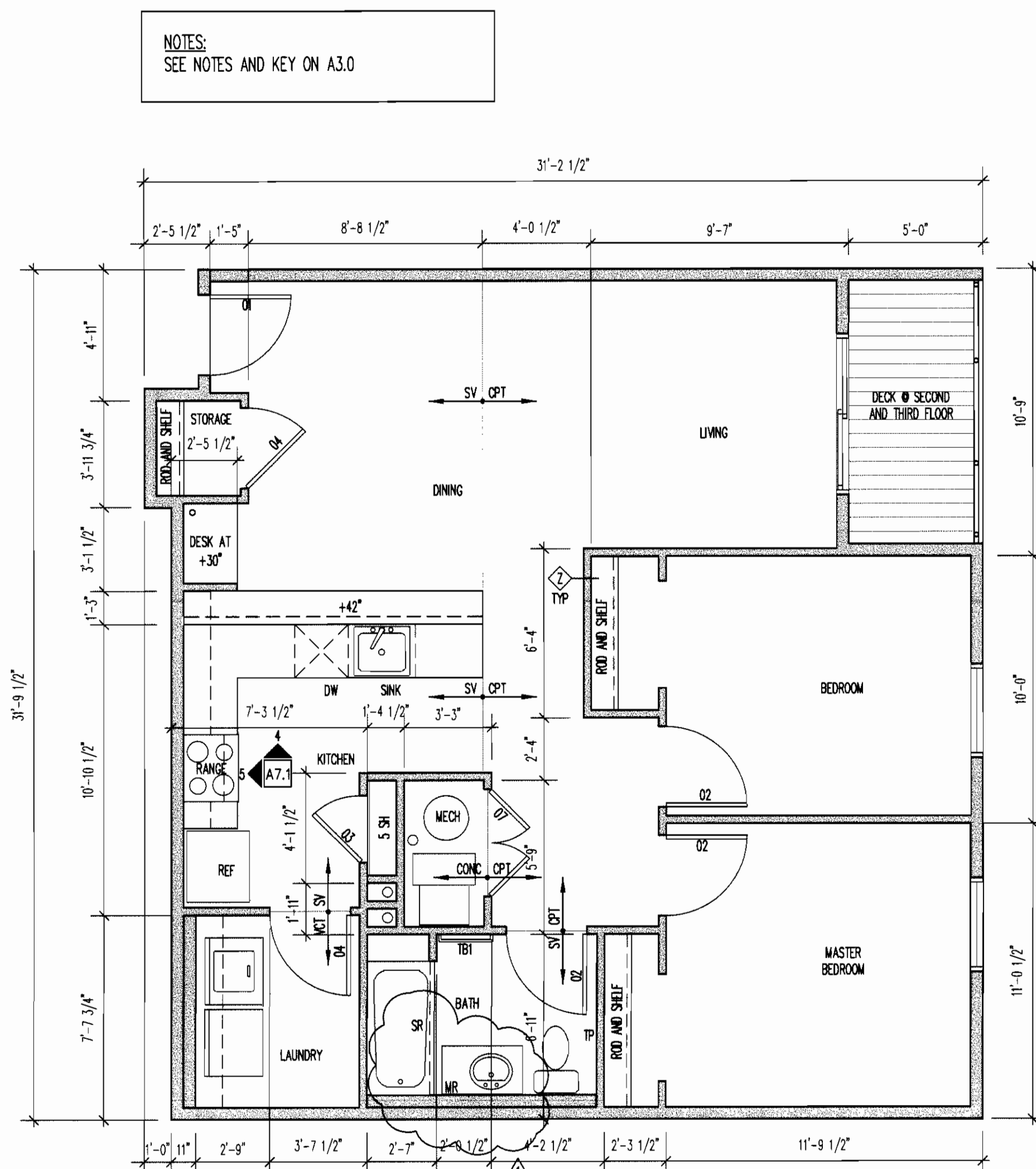
UNIT "L" FLOOR PLAN
A3.1 SCALE: 1/4"=1'-0" 3 BEDROOM/2 BATH - 1055 SF



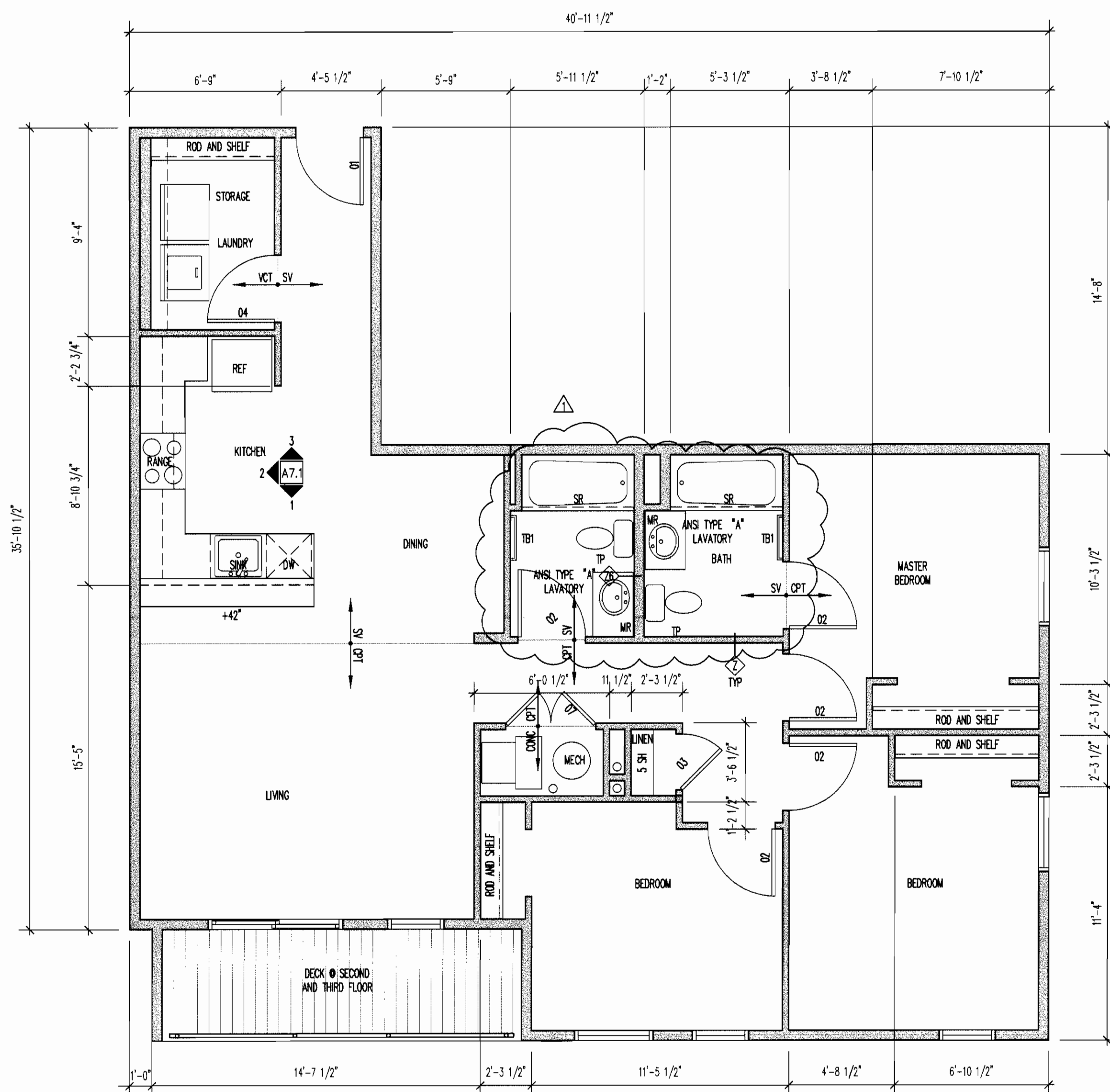
UNIT "K" FLOOR PLAN
A3.1 SCALE: 1/4"=1'-0" 2 BEDROOM/1 BATH - 875 SF



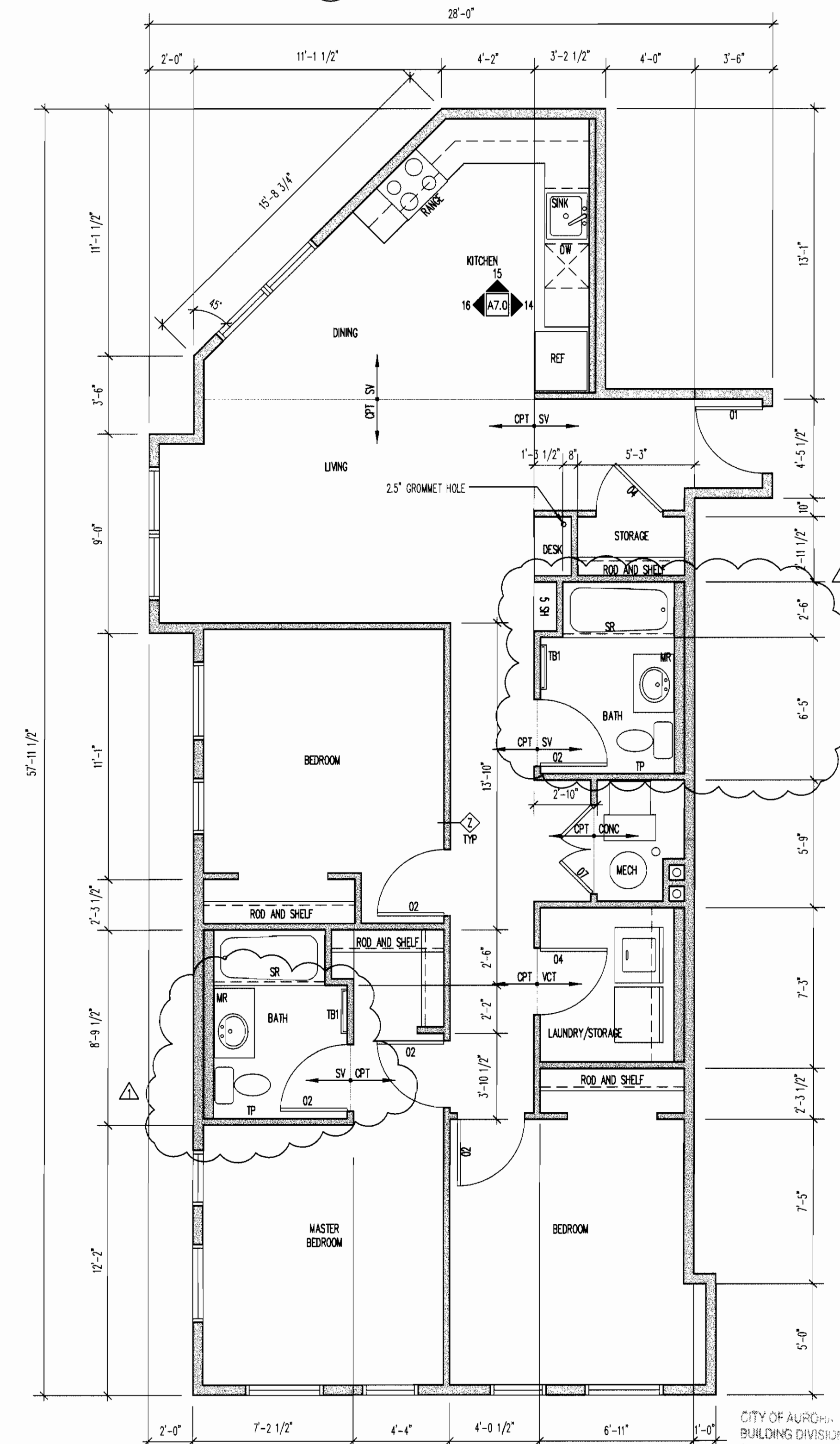
UNIT "J" FLOOR PLAN
A3.1 SCALE: 1/4"=1'-0" 3 BEDROOM/2 BATH - 1055 SF



UNIT "H" FLOOR PLAN
A3.1 SCALE: 1/4"=1'-0" 2 BEDROOM/1 BATH - 853 SF



UNIT "G" FLOOR PLAN
A3.1 SCALE: 1/4"=1'-0" 3 BEDROOM/2 BATH - 1103 SF



UNIT "F" FLOOR PLAN
A3.1 SCALE: 1/4"=1'-0" 3 BEDROOM/2 BATH - 1156 SF

NOTES:
SEE NOTES AND KEY ON A3.0



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No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/8/2005
4	100% CD PACKAGE	3/9/2006

SHEET CONTENTS:
UNIT PLANS
F, G, H, J, K & L

[Signature]
5/10/06

PROJECT NO.: 3-04-18
DATE: March 8, 2006

DRAWING NO.:

A3.1

CITY OF AURORA
BUILDING DIVISION
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ODELL ARCHITECTS, P.C.

ARCHITECTS PLANNING INTERIORS

1005 South East, Suite 100, Englewood, Colorado 80150

Telephone: 303.755.0000 Fax: 303.755.0001

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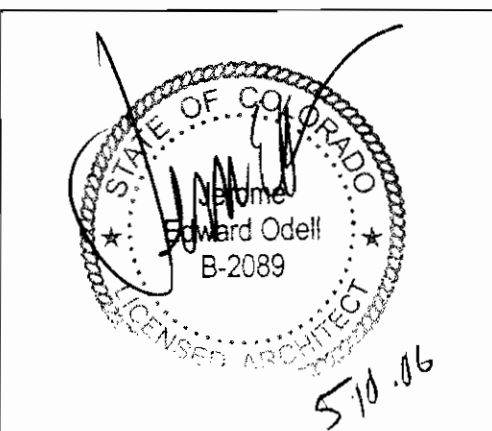
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ISSUE RECORD:

No.	Description	Date
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3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/9/2006
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SHEET CONTENTS:

UNIT PLANS
J-TYPE A, K-TYPE A
LOBBIES



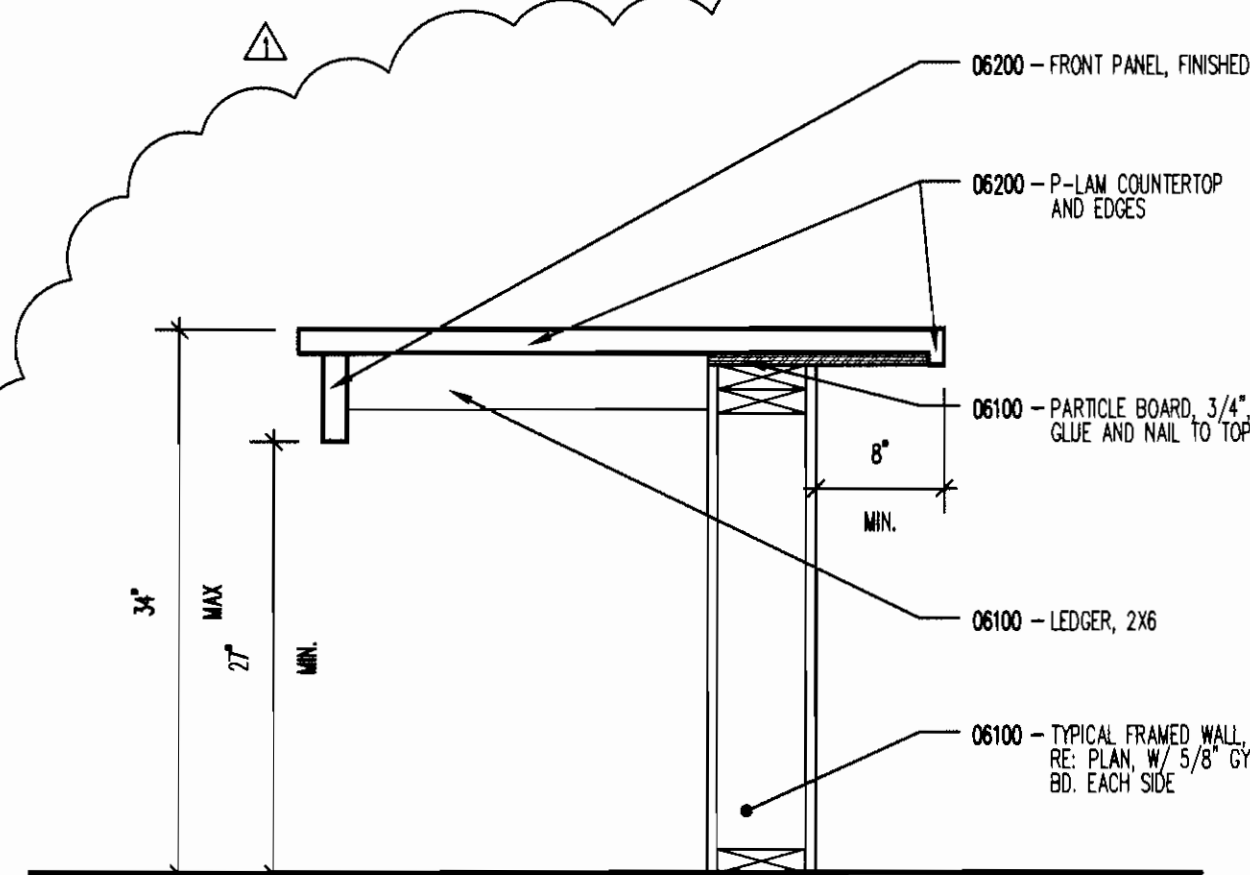
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DATE: March 9, 2006

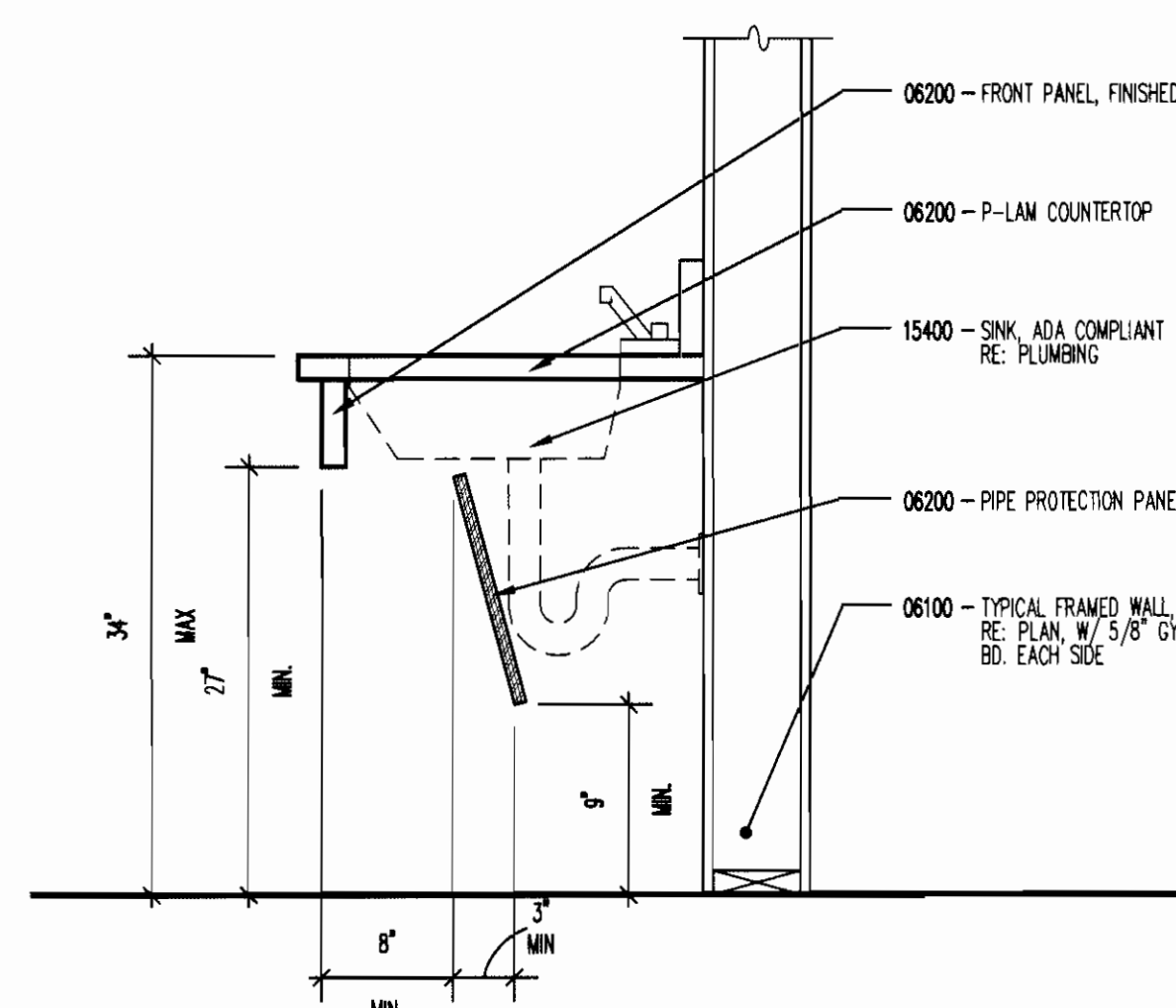
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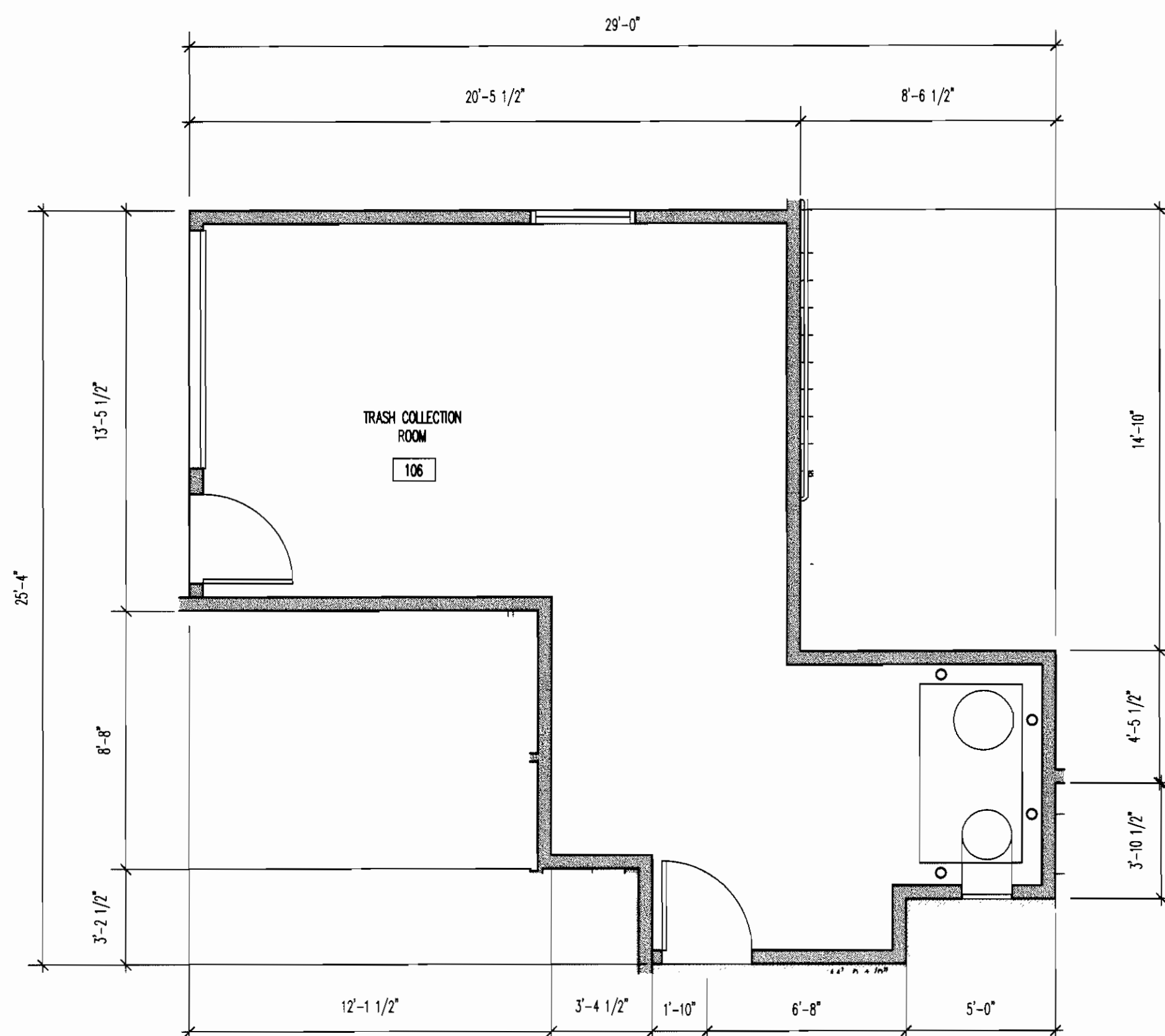
NOTES:
SEE NOTES AND KEY ON A3.0



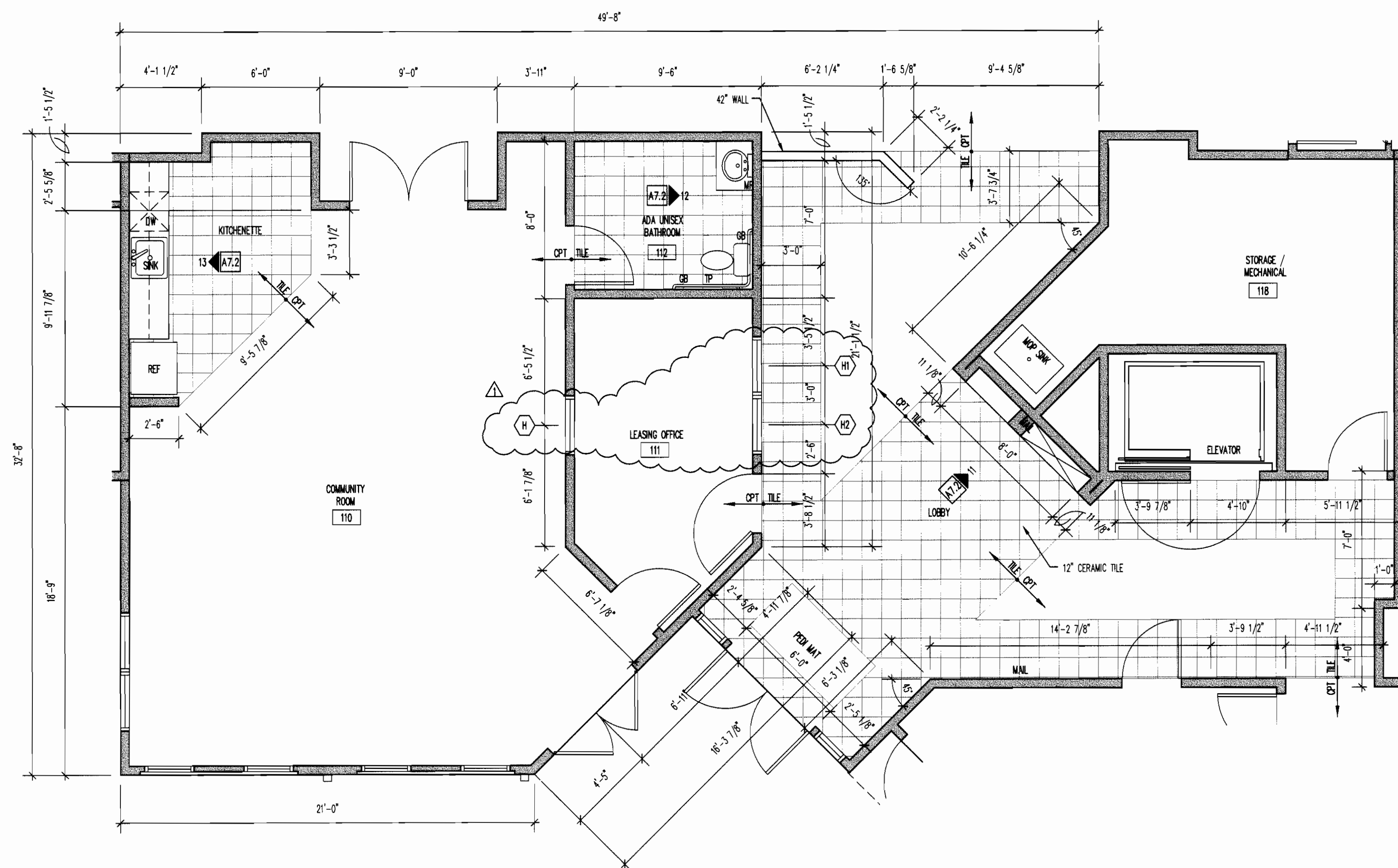
7 COUNTER AT ACCESSIBLE UNIT
SCALE: 1/4"=1'-0"



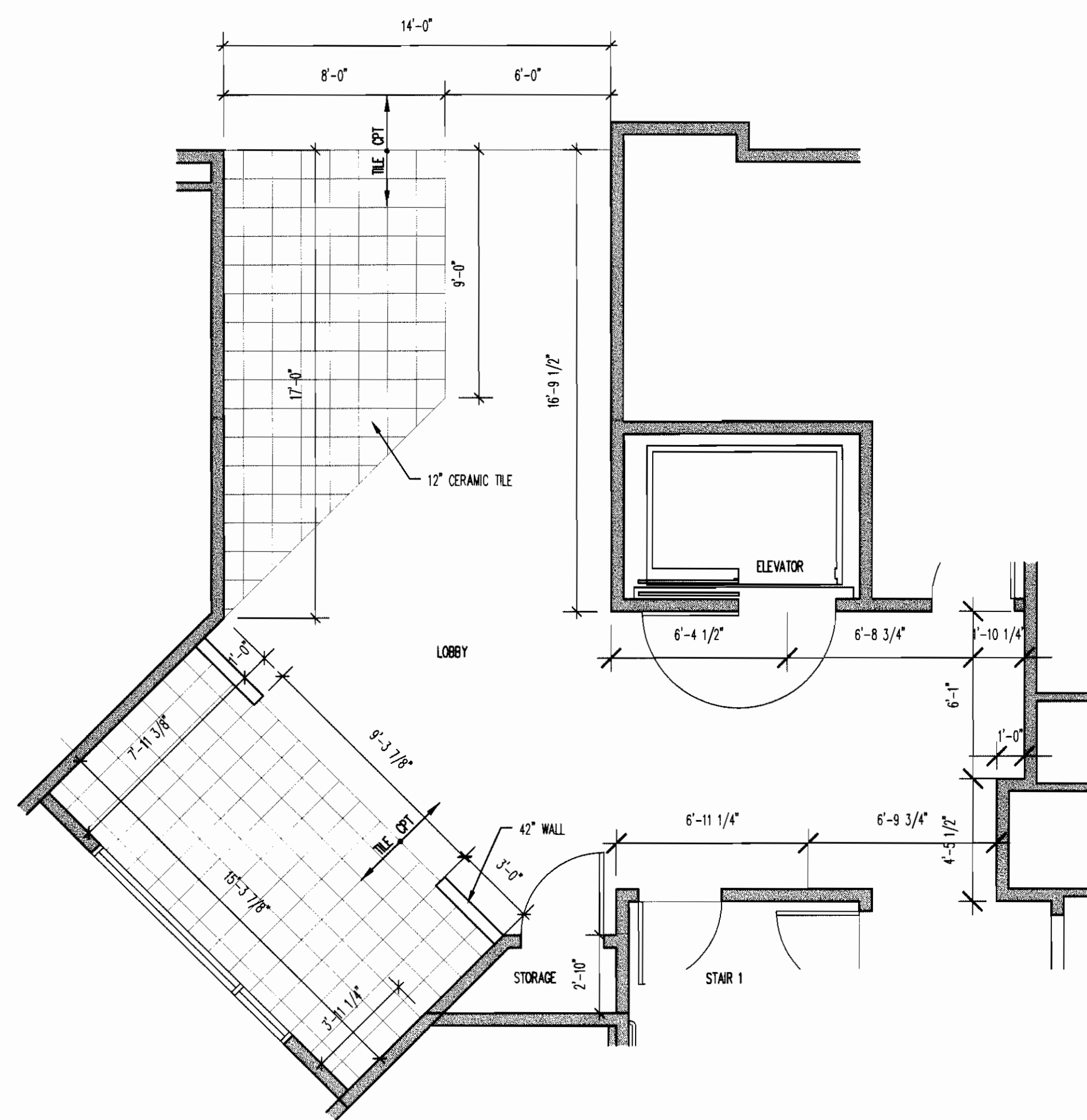
6 SINK AT ACCESSIBLE UNIT
SCALE: 1/4"=1'-0"



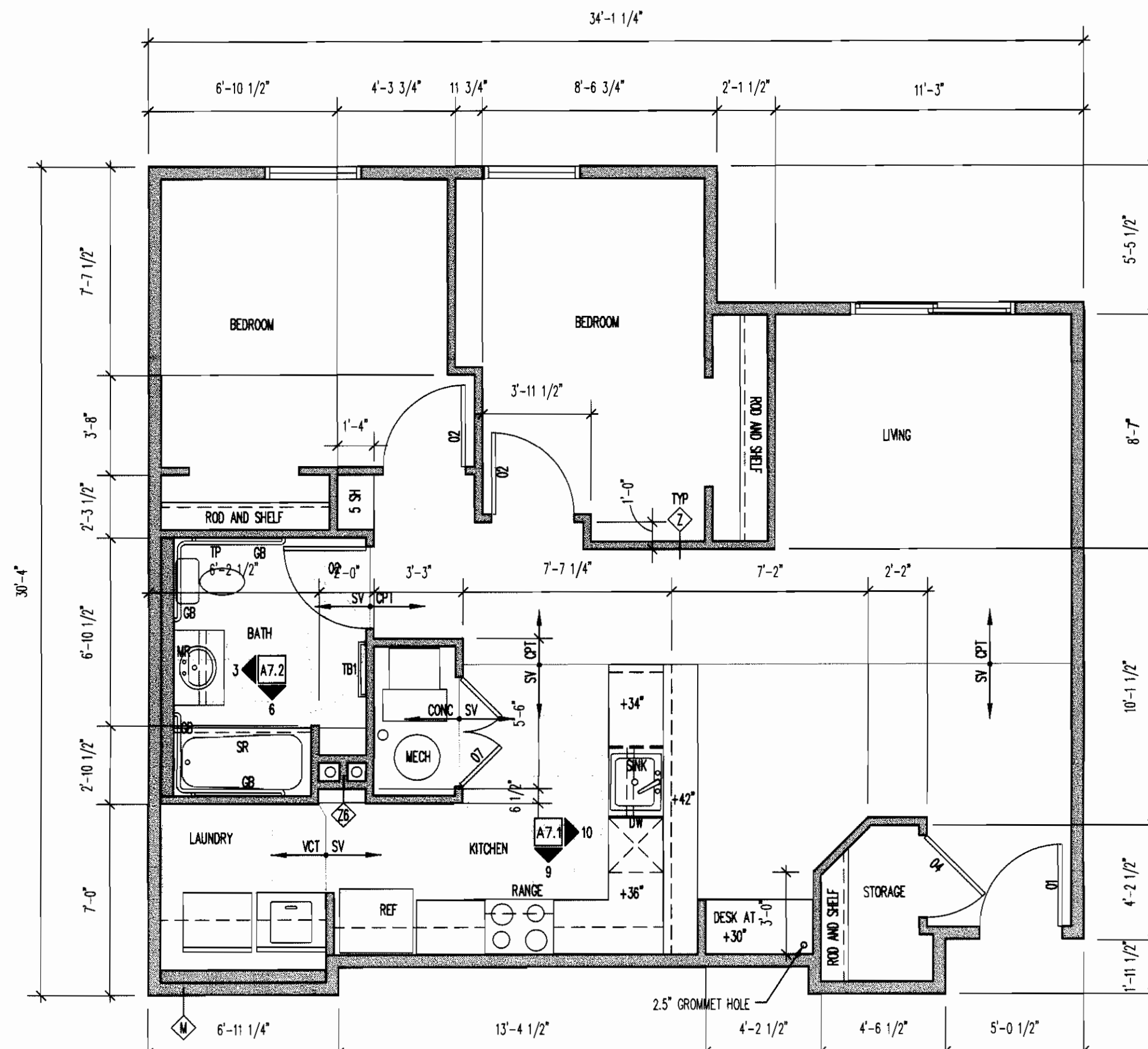
5 TRASH COLLECTION ROOM
SCALE: 1/4"=1'-0"



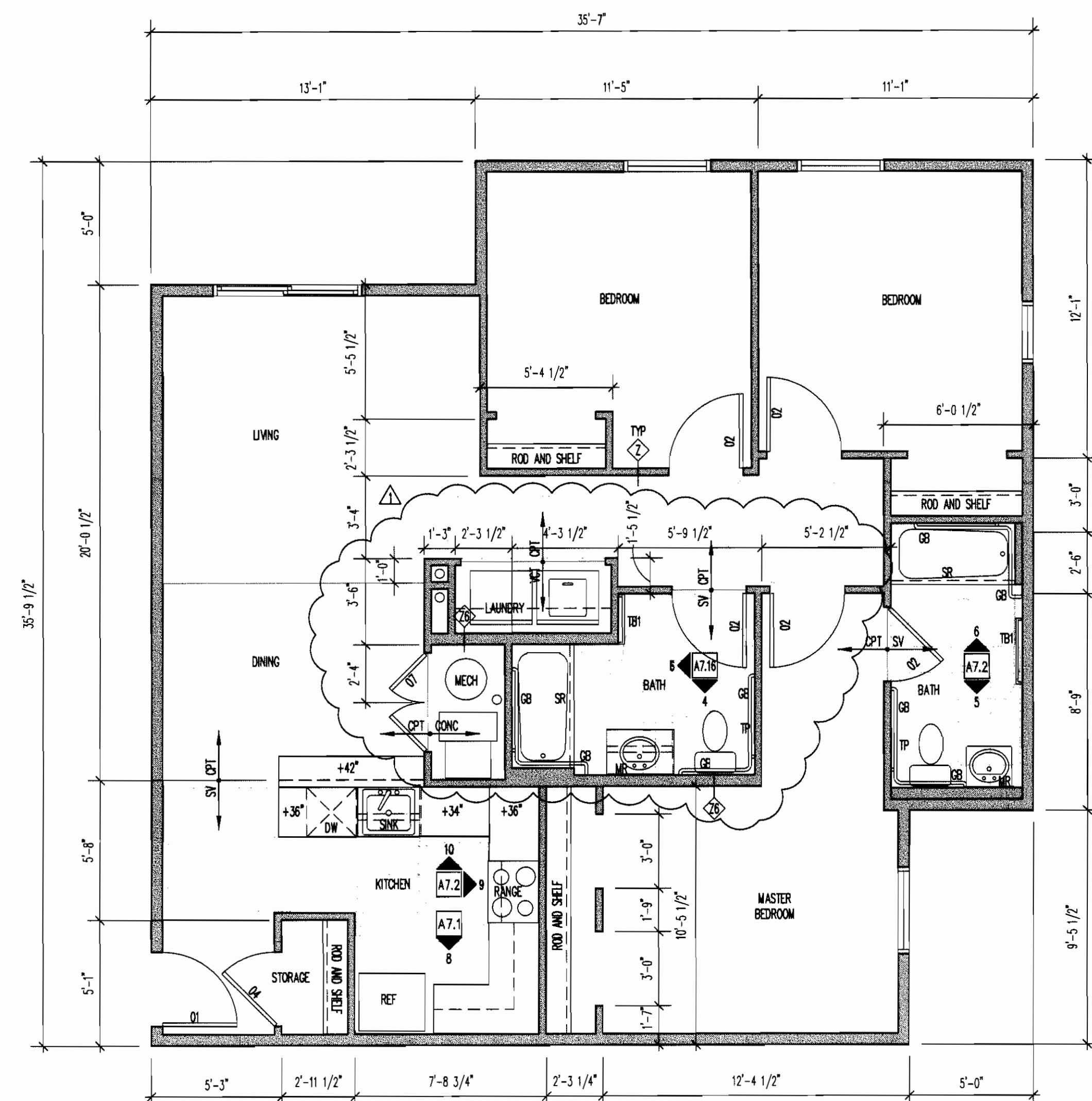
4 MAIN FLOOR LOBBY
SCALE: 1/4"=1'-0"



3 2ND AND 3RD FLOOR LOBBY
SCALE: 1/4"=1'-0"



2 UNIT "K" TYPE "A" FLOOR PLAN
SCALE: 1/4"=1'-0"
2 BEDROOM/1 BATH - 875 SF



1 UNIT "J" TYPE "A" FLOOR PLAN
SCALE: 1/4"=1'-0"
3 BEDROOM/2 BATH - 1156 SF

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 6/16/06

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Aurora Housing Authority
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Aurora, Colorado

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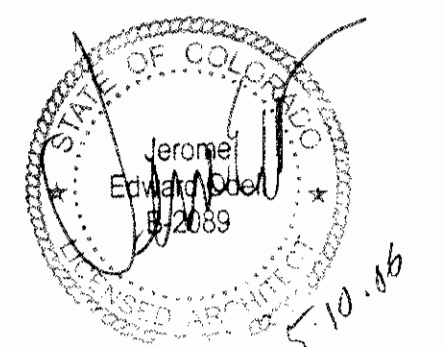
REVISIONS:

No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
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ISSUE RECORD:

No.	Description	Date
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4	100% CD PACKAGE	3/19/2006
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SHEET CONTENTS:
 ELEVATIONS, EAST, SOUTH & NORTH

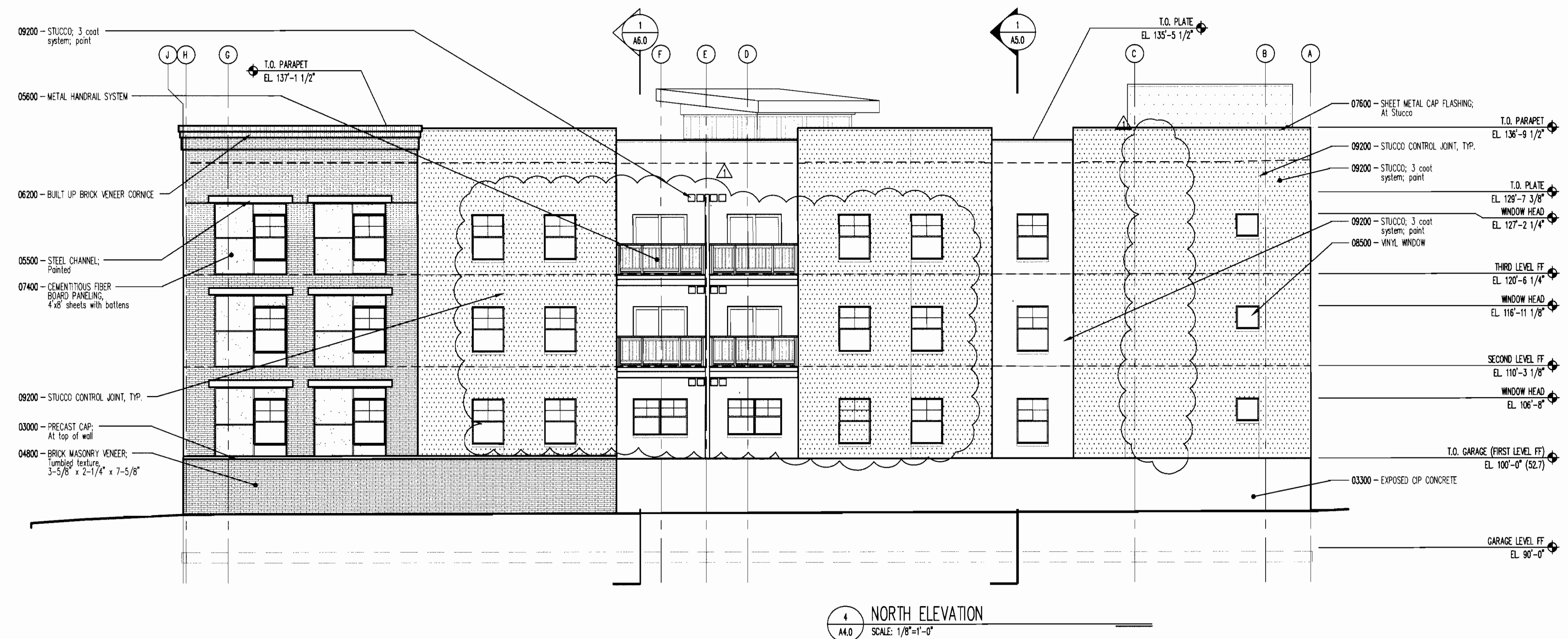


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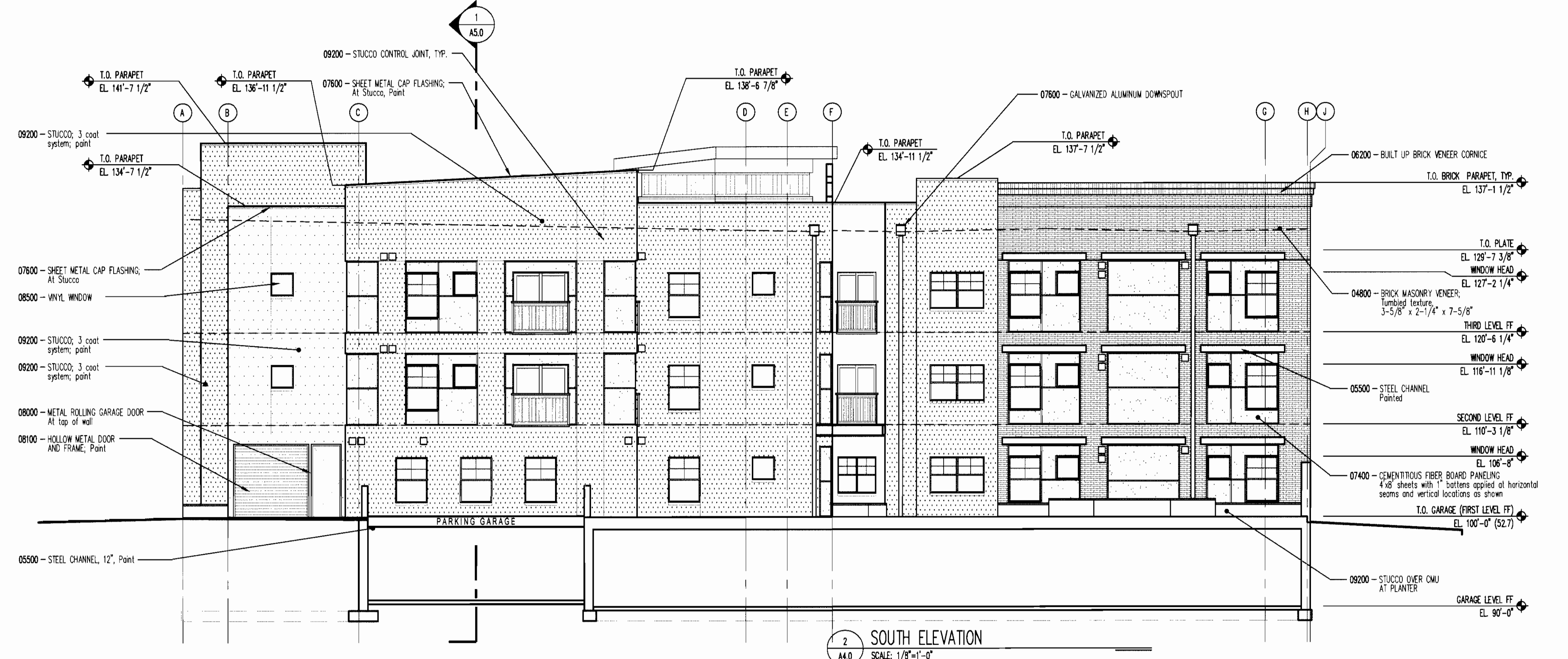
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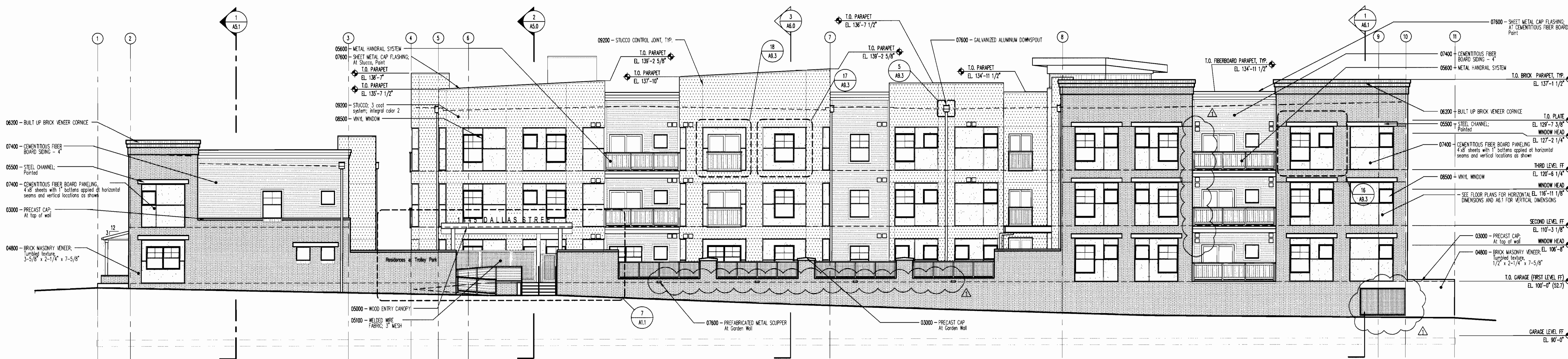
A4.0



4 NORTH ELEVATION
 SCALE: 1/8"=1'-0"



2 SOUTH ELEVATION
 SCALE: 1/8"=1'-0"



1 EAST ELEVATION
 SCALE: 1/8"=1'-0"

CITY OF AURORA
 BUILDING DEPARTMENT
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No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006

ISSUE RECORD:

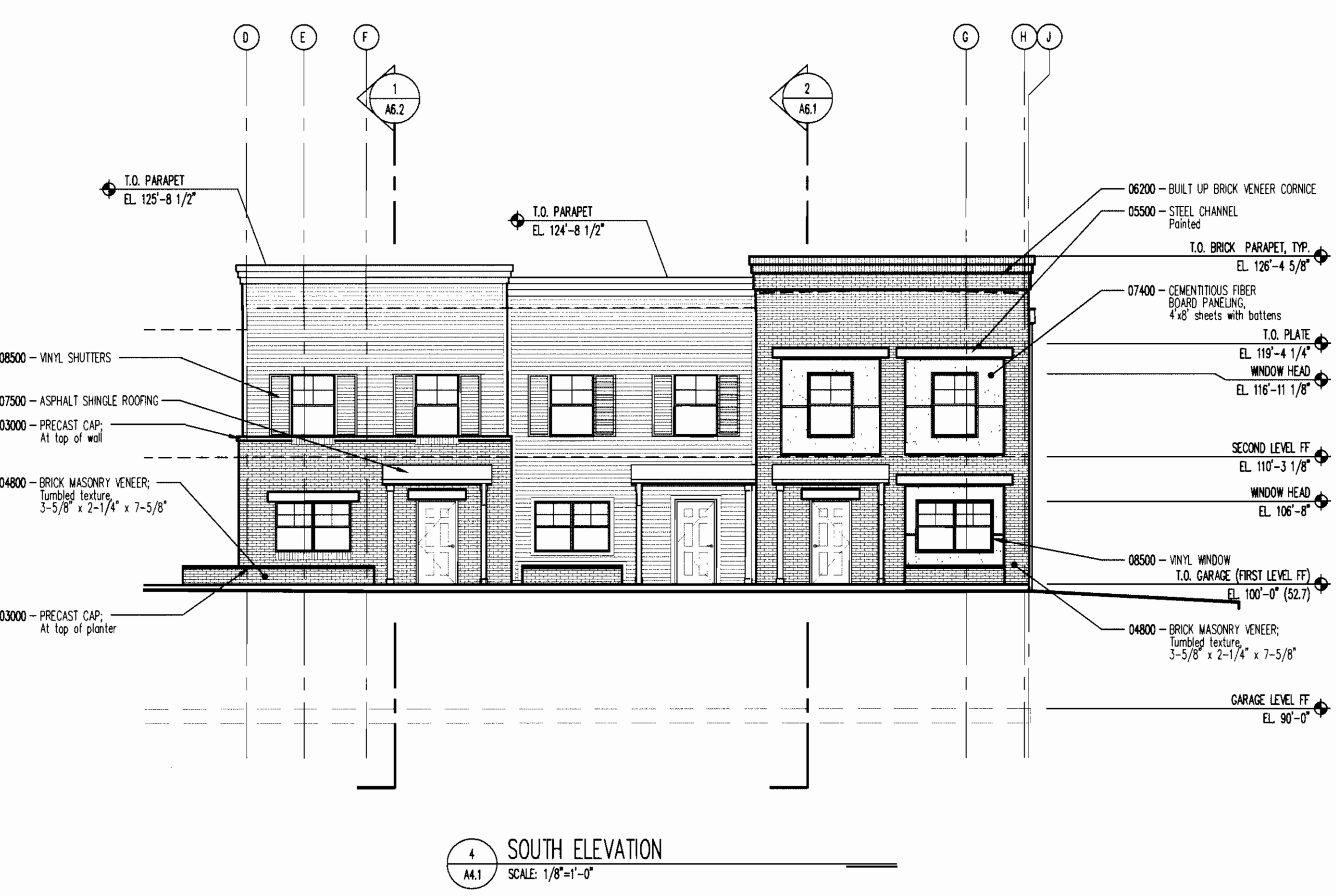
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4	100% CD PACKAGE	3/9/2006

SHEET CONTENTS:
 ELEVATIONS, WEST, ENTRY
 NORTH TOWNHOMES

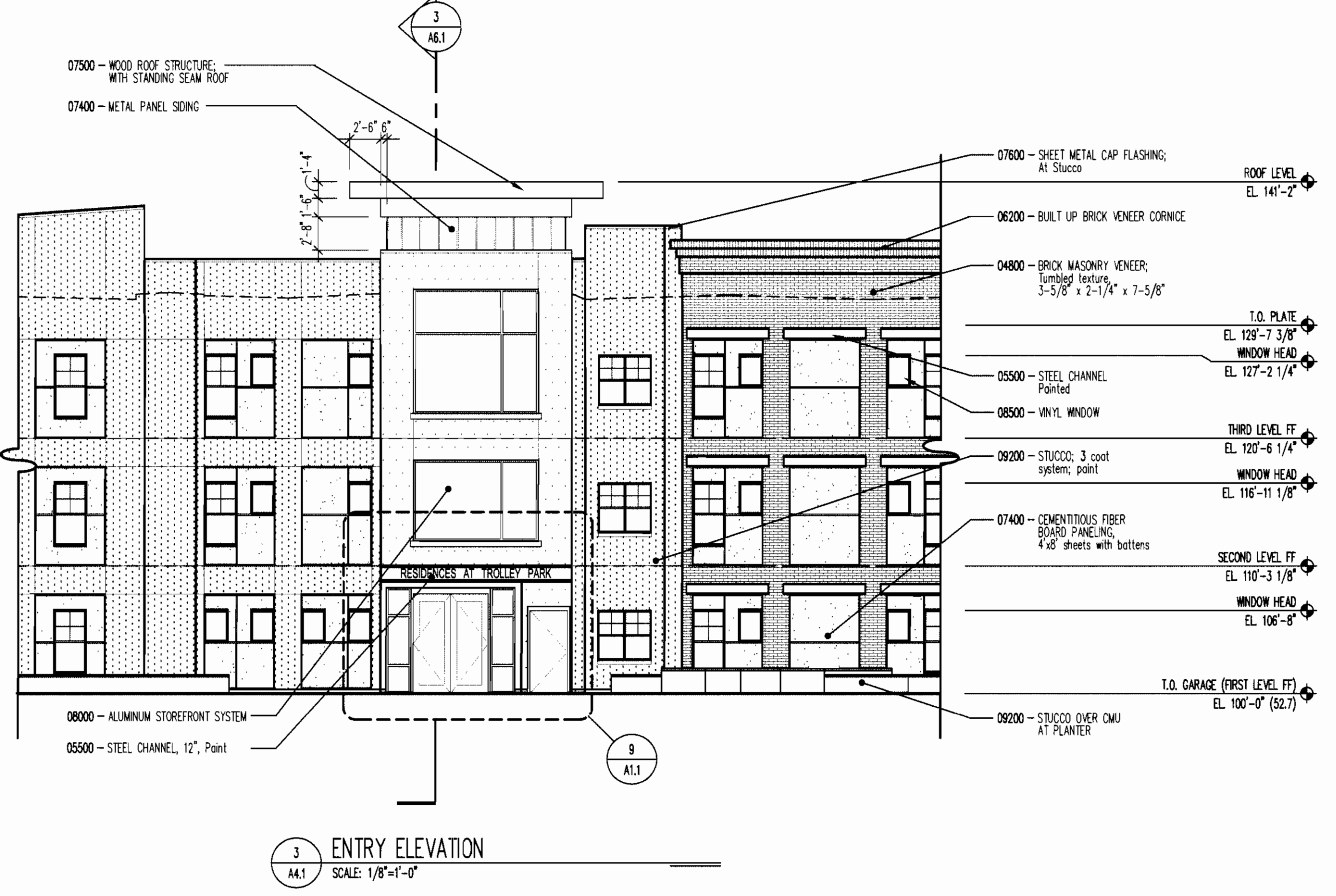
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 5/10/06

PROJECT NO.: 3-04-18
DATE: March 9, 2006
DRAWING NO.:

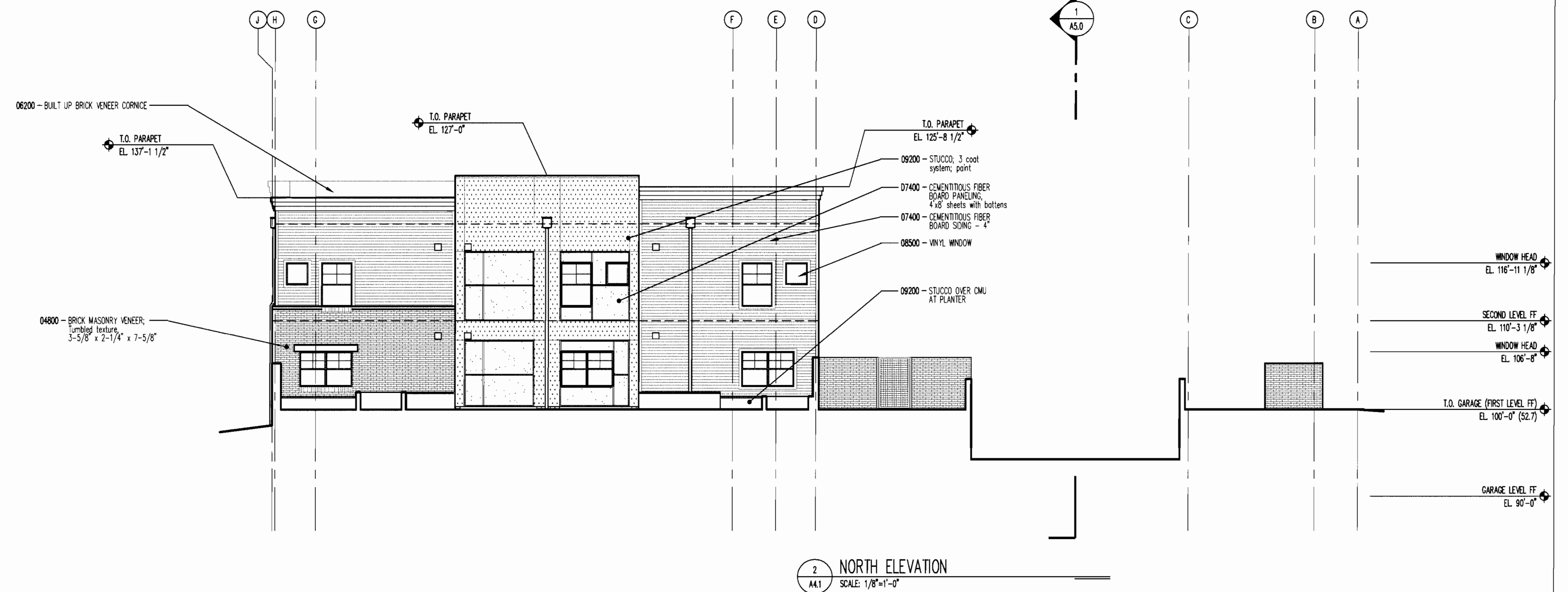
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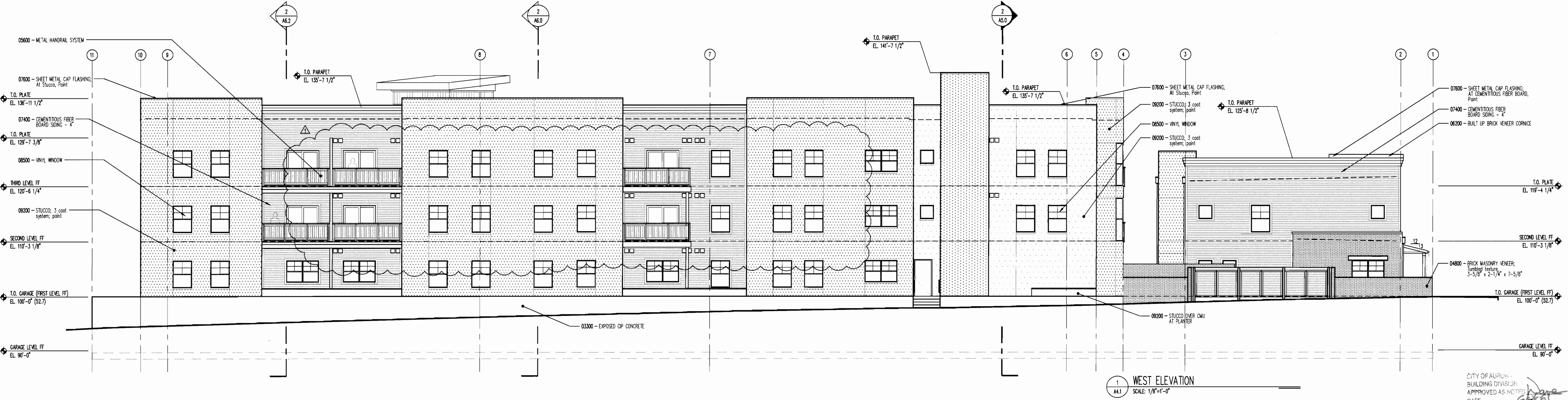
4 SOUTH ELEVATION
 SCALE: 1/8"=1'-0"



3 ENTRY ELEVATION
 SCALE: 1/8"=1'-0"



2 NORTH ELEVATION
 SCALE: 1/8"=1'-0"



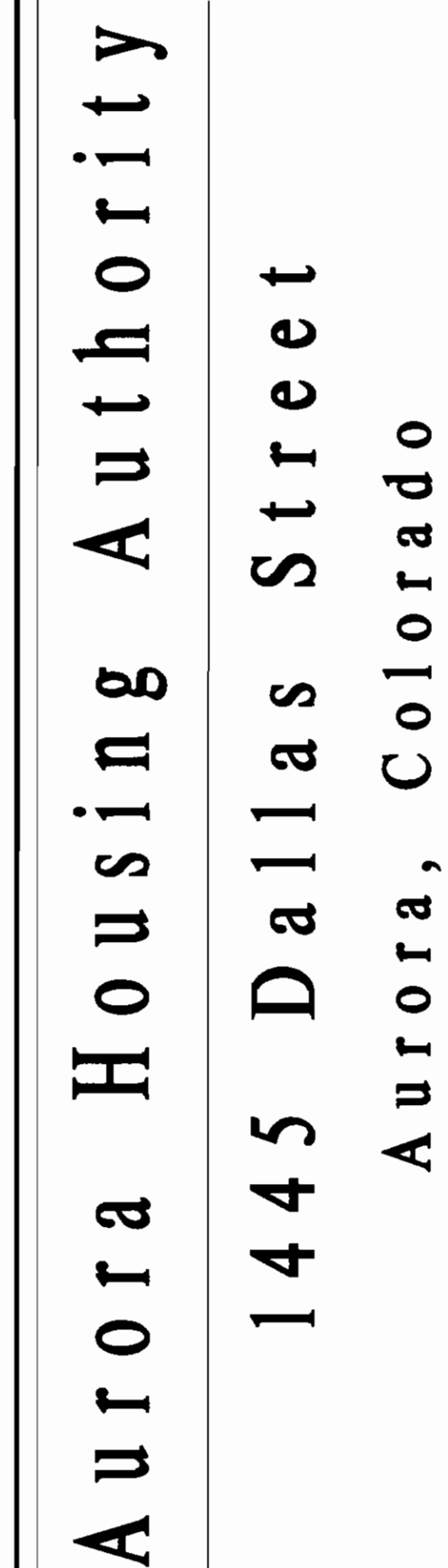
1 WEST ELEVATION
 SCALE: 1/8"=1'-0"

CITY OF AURORA
 BUILDING DIVISION
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32085 Castle Court, Suite 150, Evergreen, Colorado 80439
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	BUILDING DPT COMMENTS	5/1/2006
		
		
		
		
		

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No.	Description	Date
1	S.D. PACKAGE	10/20/2000
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3	50% CD PACKAGE	5/6/2005
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SHEET CONT.

BUILDING SECTIONS

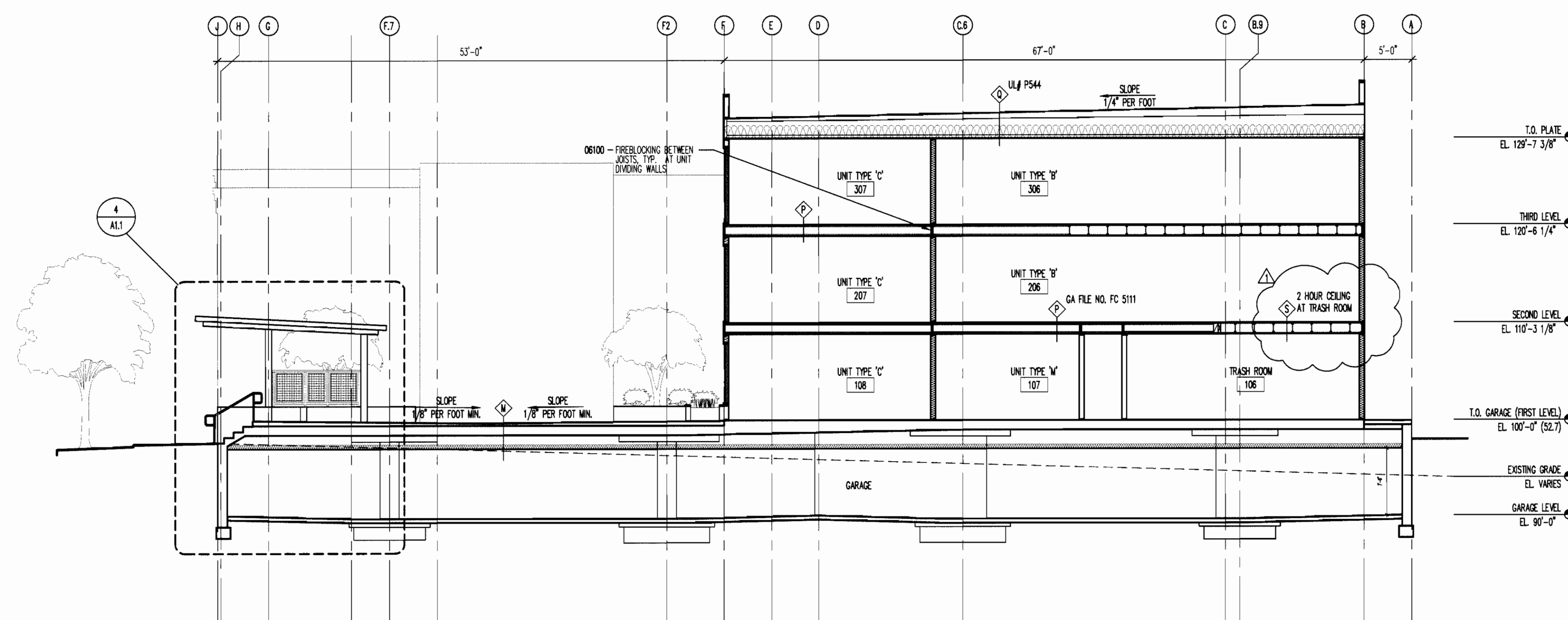


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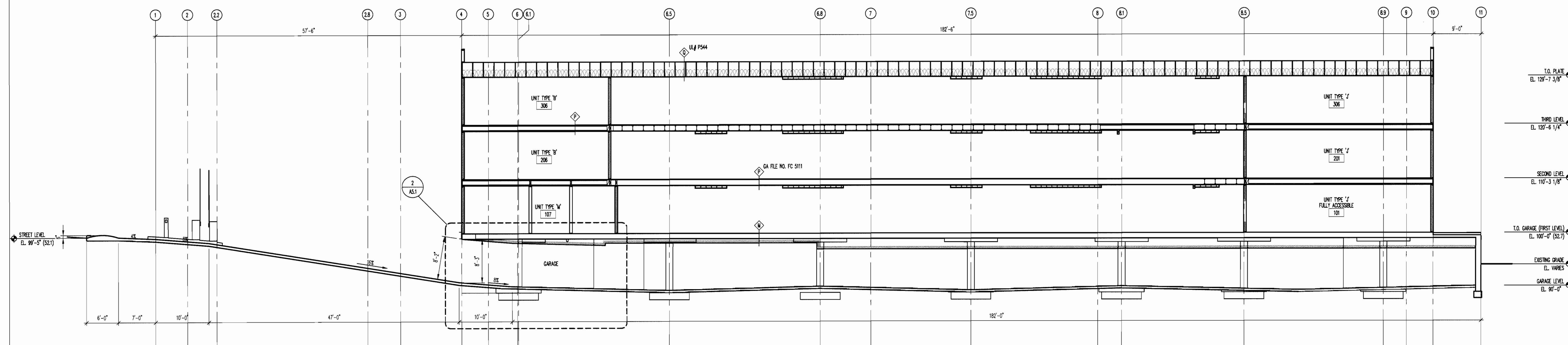
DATE: March 9, 2006

DRAWING NO.

A5.0



2 BUILDING SECTION
ASD SCALE: 1/8"=1'-0"



1 BUILDING SECTION
A5.0 SCALE: 1/8"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE 6/1/01

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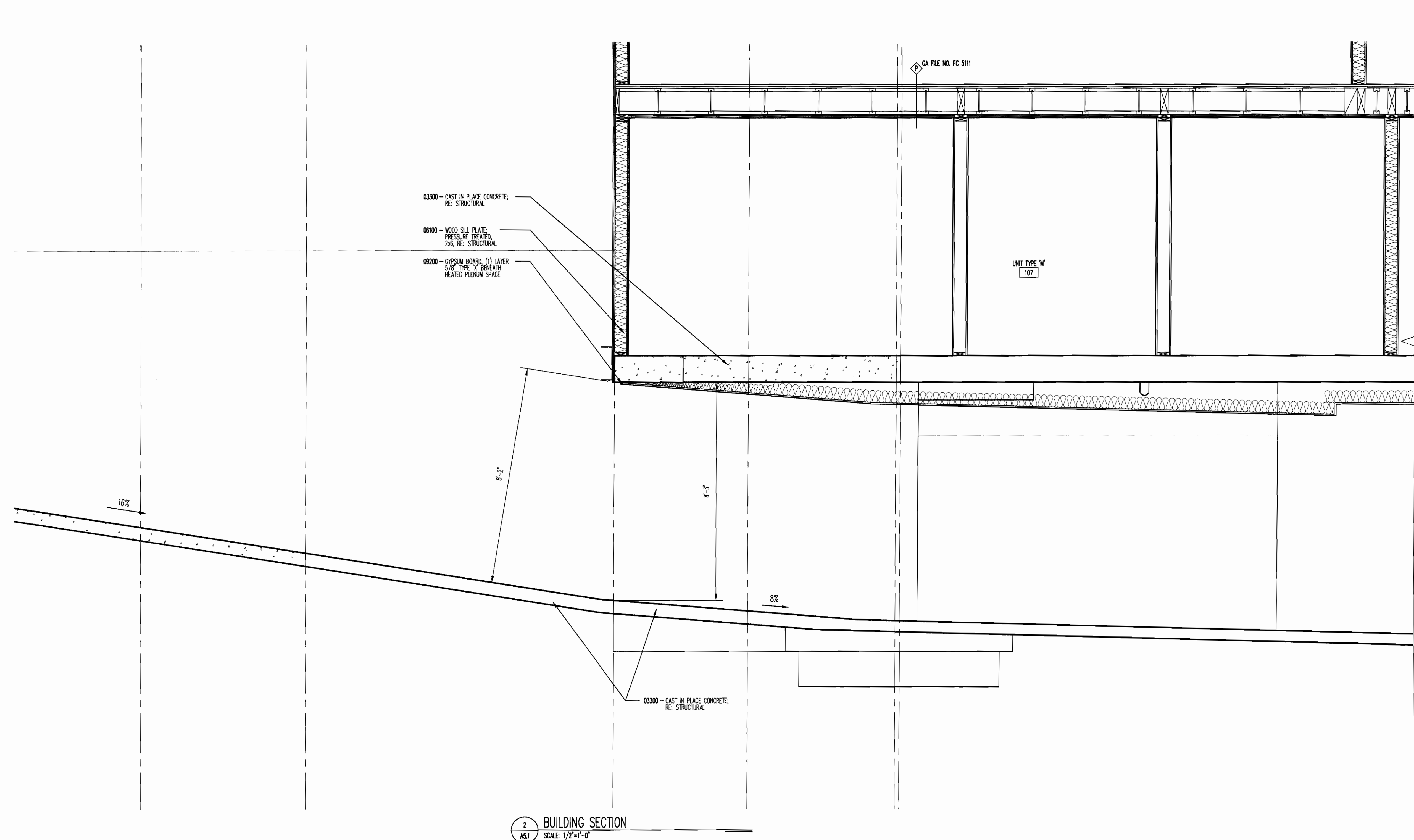
ODELL ARCHITECTS, P.C.

ARCHITECTURAL PLANNING DIVISION
3305 South Gaylord Street, Suite 100, Aurora, Colorado 80014
Telephone: 303.581.5800 Fax: 303.581.7462

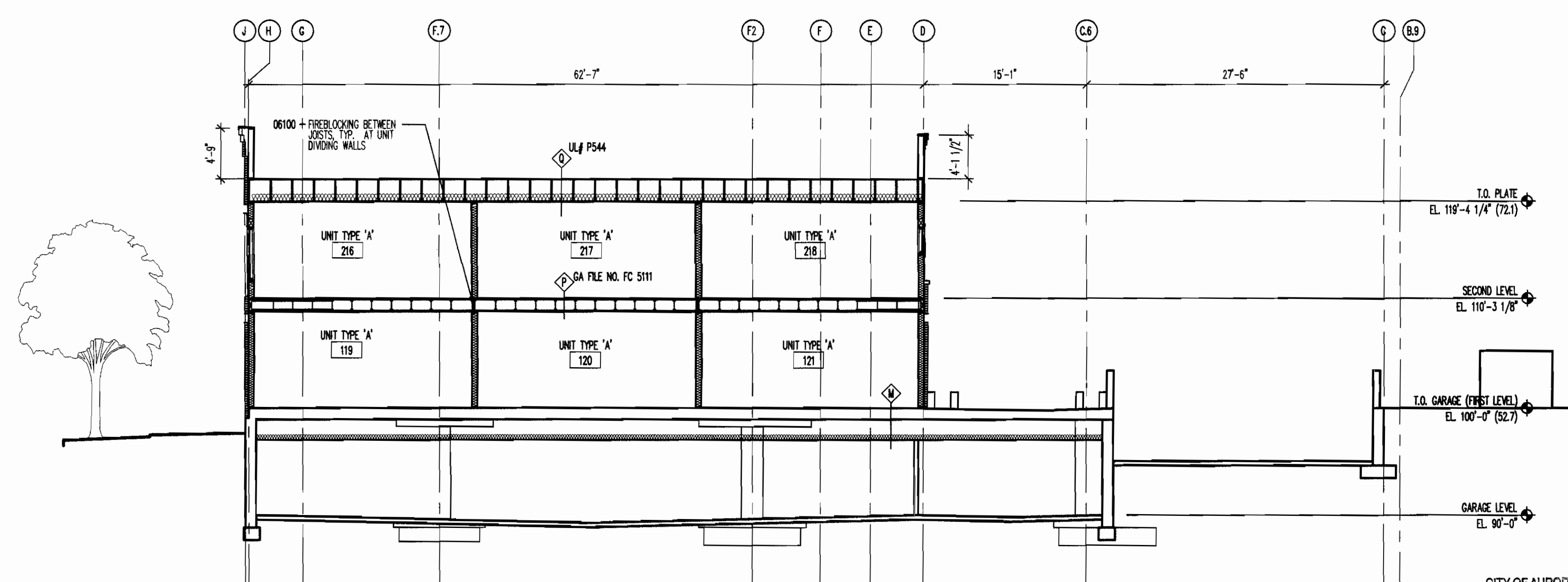
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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado



2 BUILDING SECTION
SCALE: 1/2\"/>



1 BUILDING SECTION
SCALE: 1/8\"/>

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 2/13/2006

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REVISIONS:

No.	Description	Date
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ISSUE RECORD:

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SHEET CONTENTS:

BUILDING SECTIONS

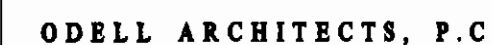


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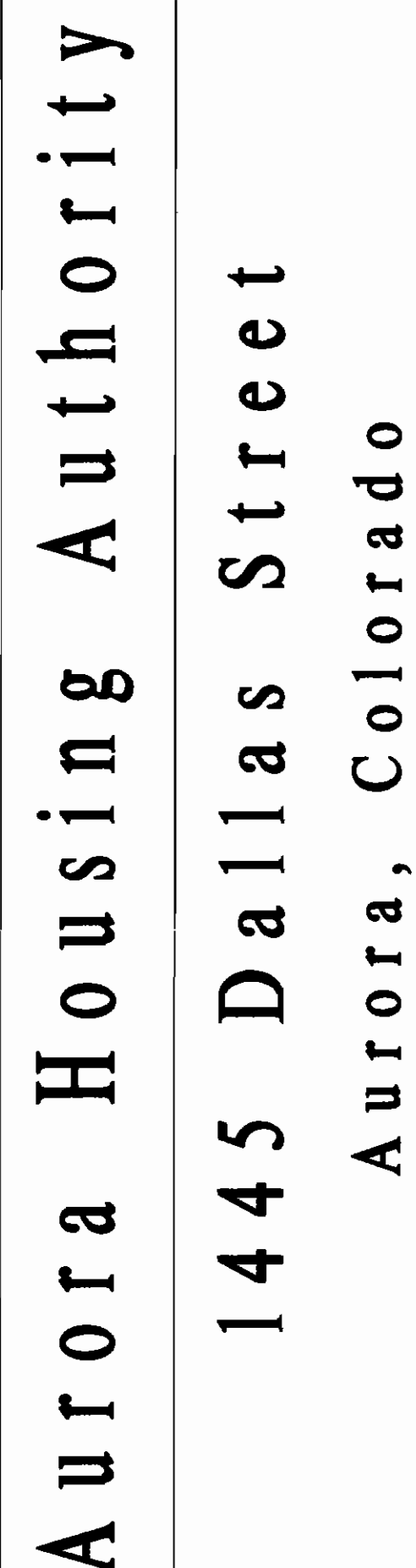
DATE: February 13, 2006

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A5.1



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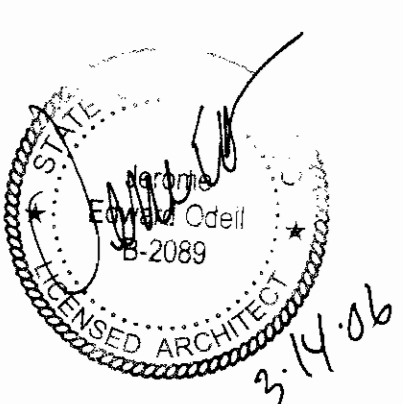
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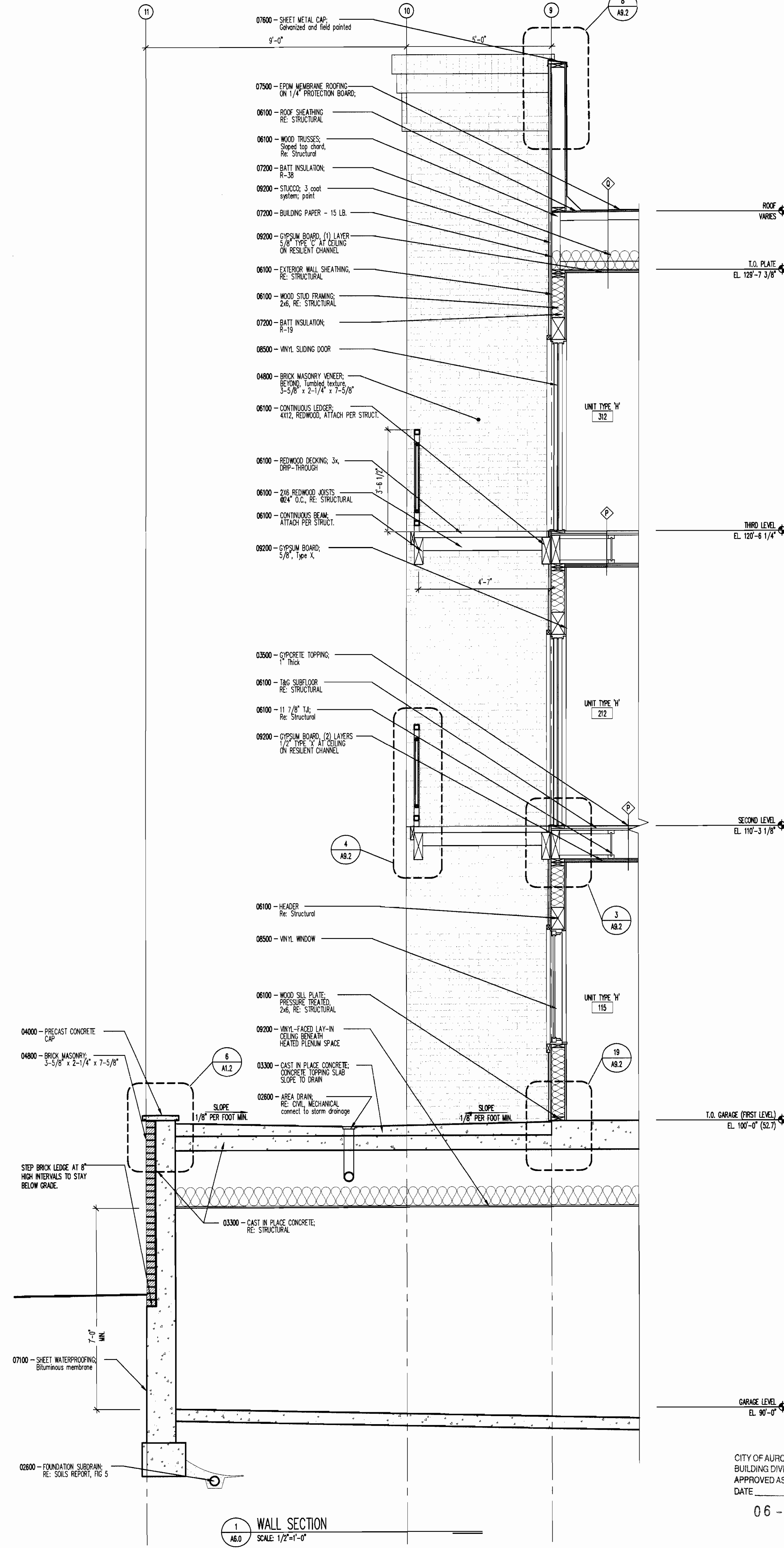
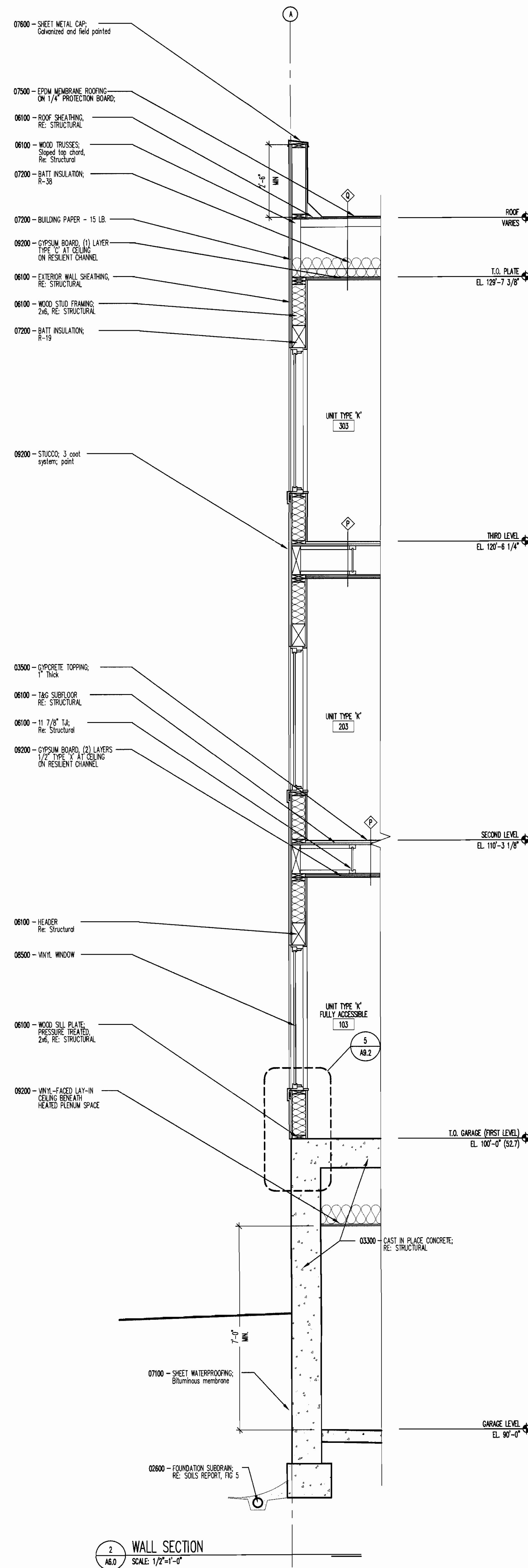
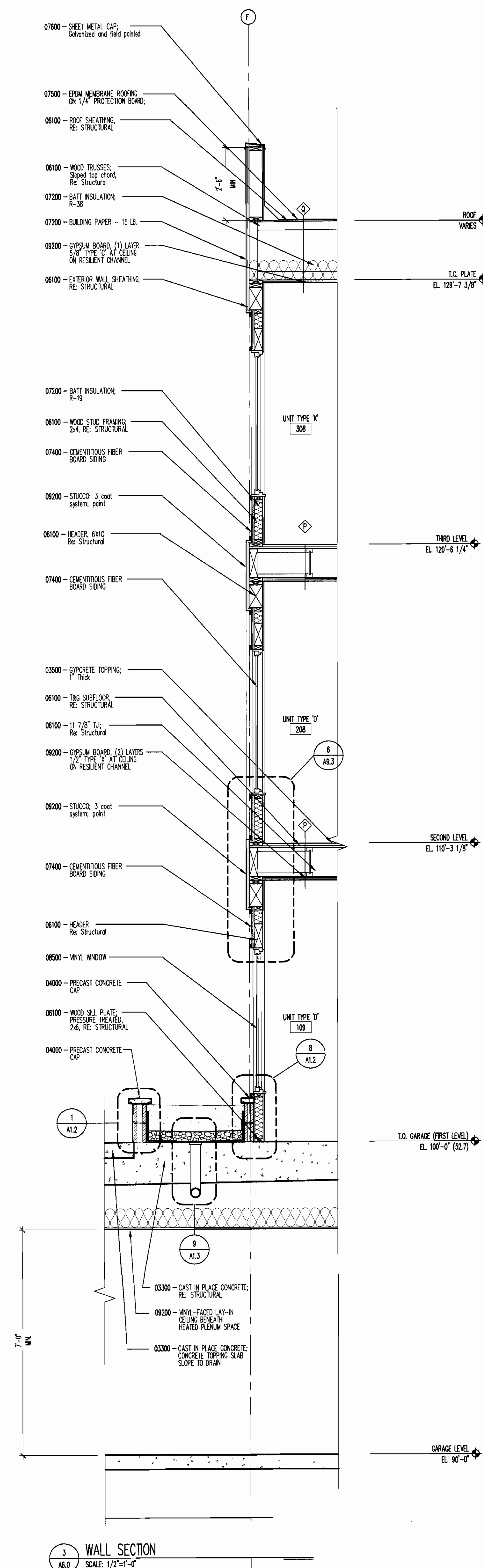
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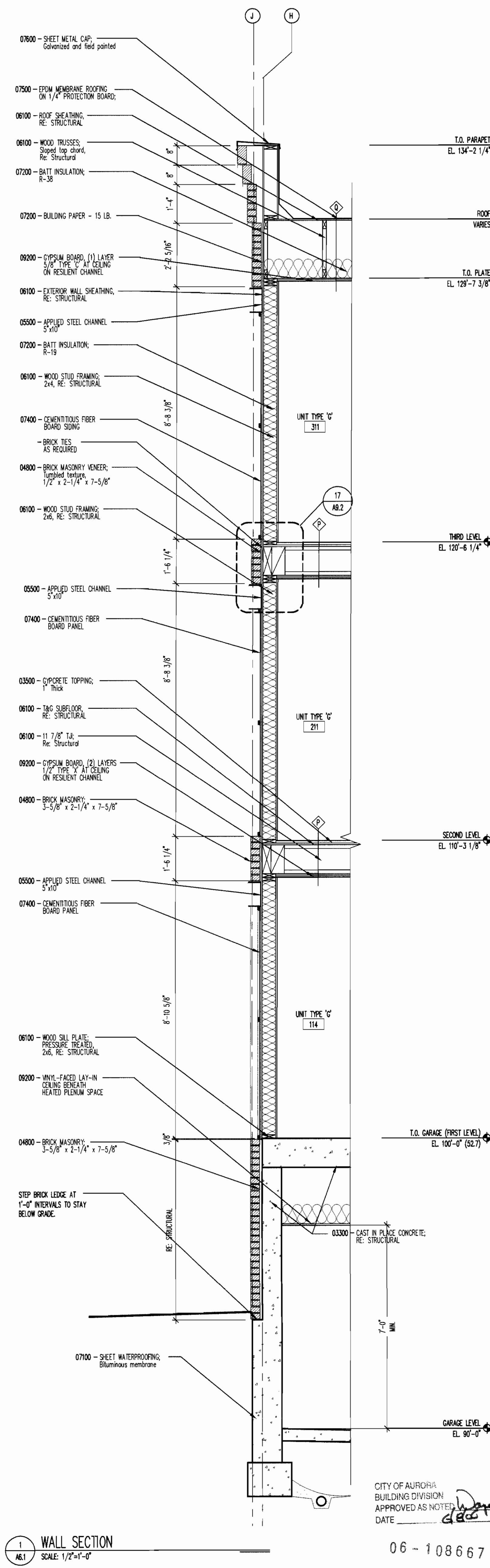
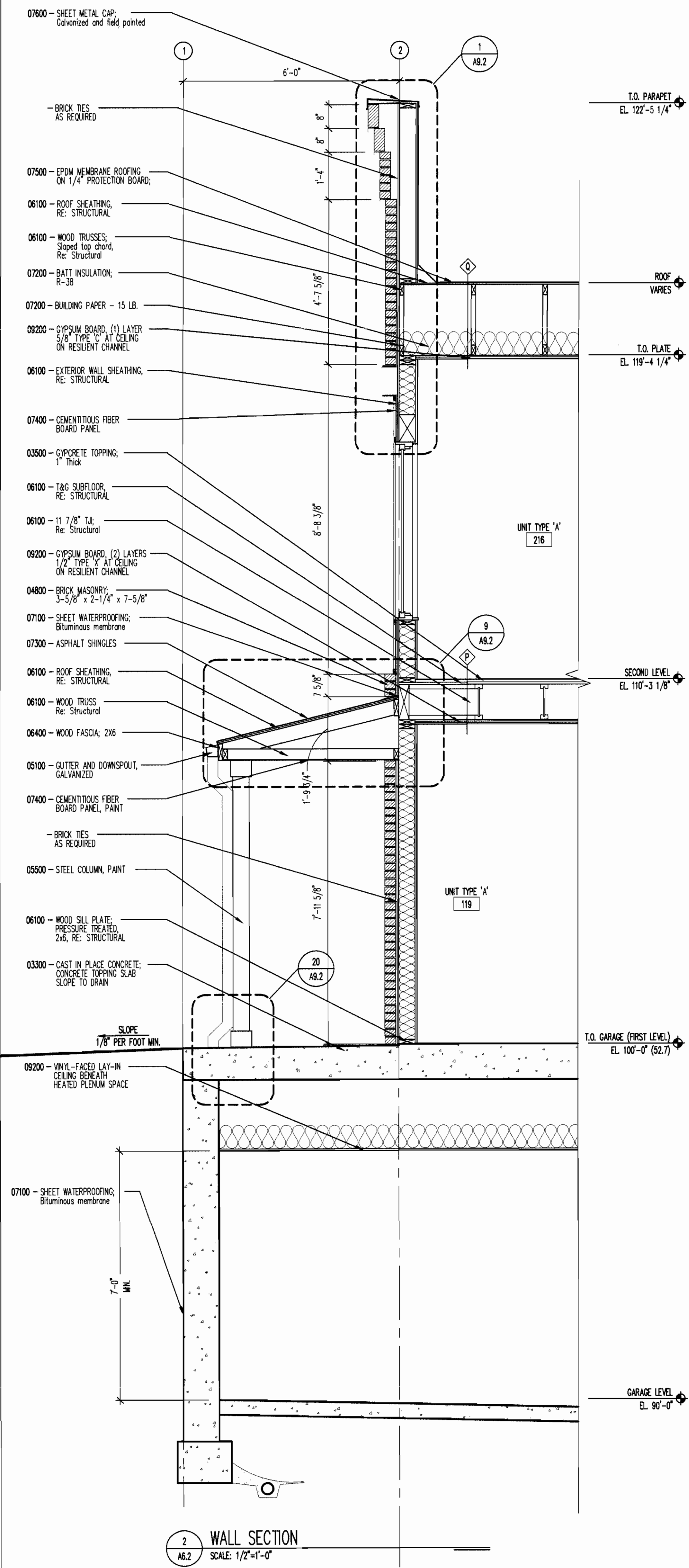
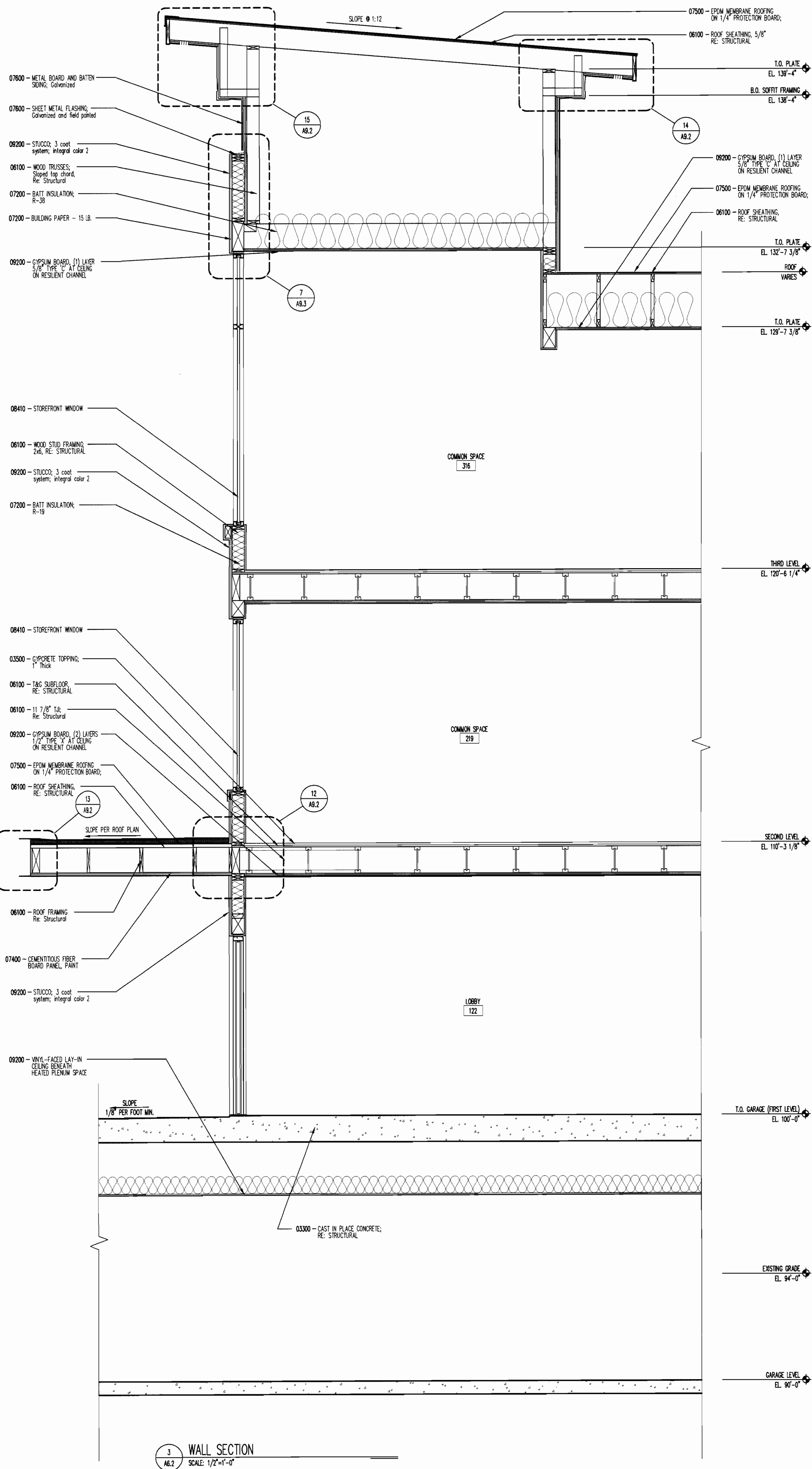
WALL SECTIONS



DATE: February 13, 2006

A6.0







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Aurora, Colorado

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REVISIONS:

No.	Description	Date

ISSUE RECORD:

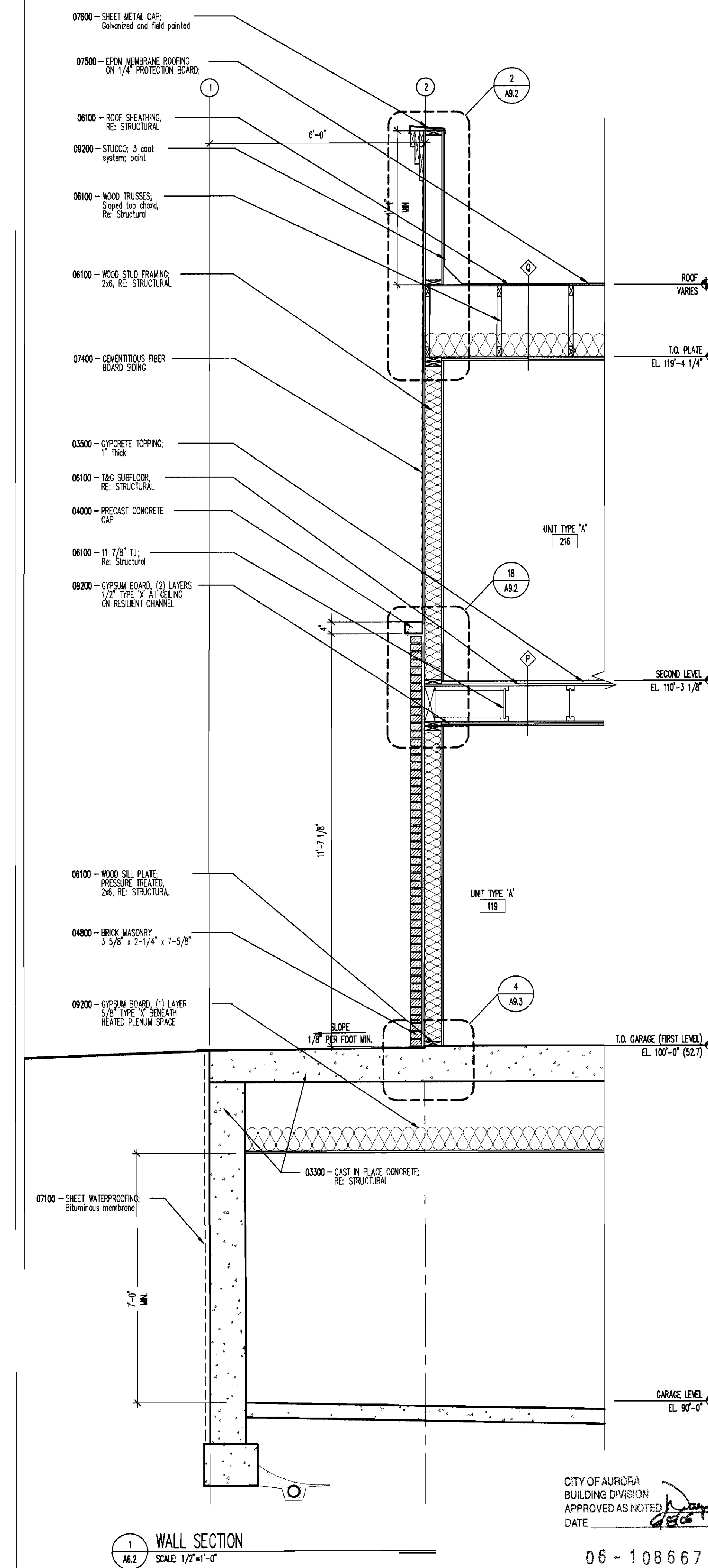
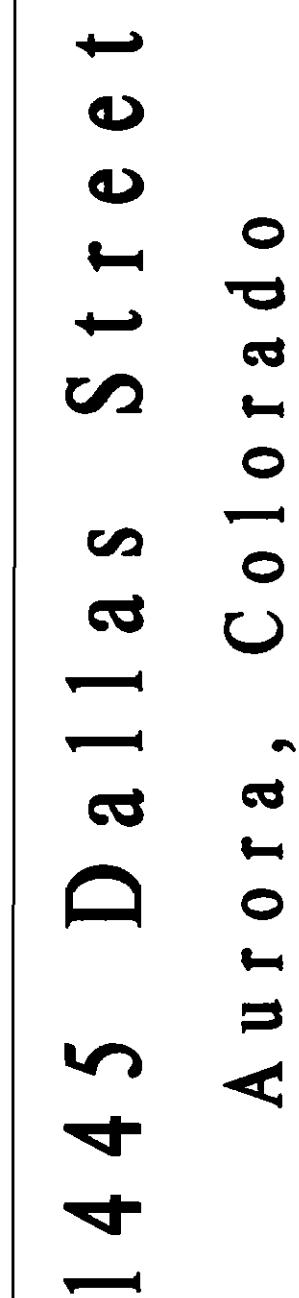
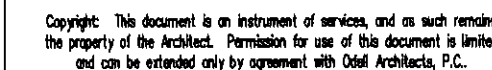
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SHEET CONTENTS:
WALL SECTIONS

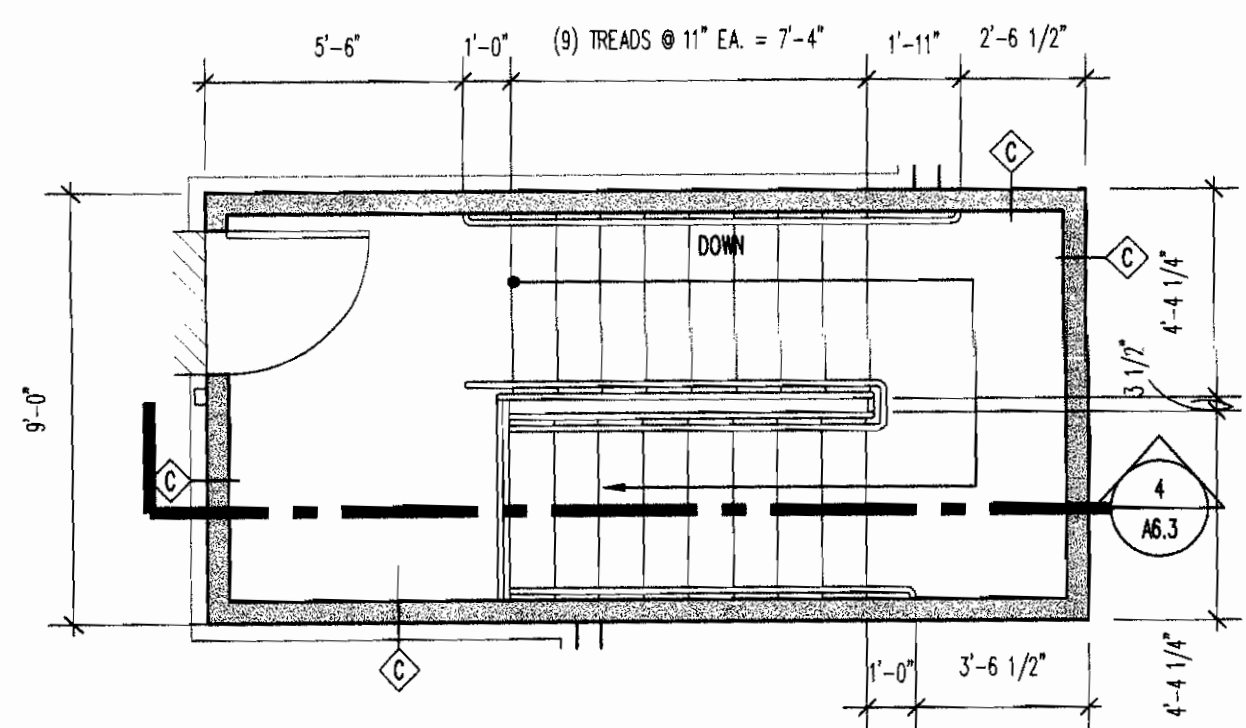
CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: _____

PROJECT NO.: J-04-18
DATE: February 13, 2006
DRAWING NO.: _____

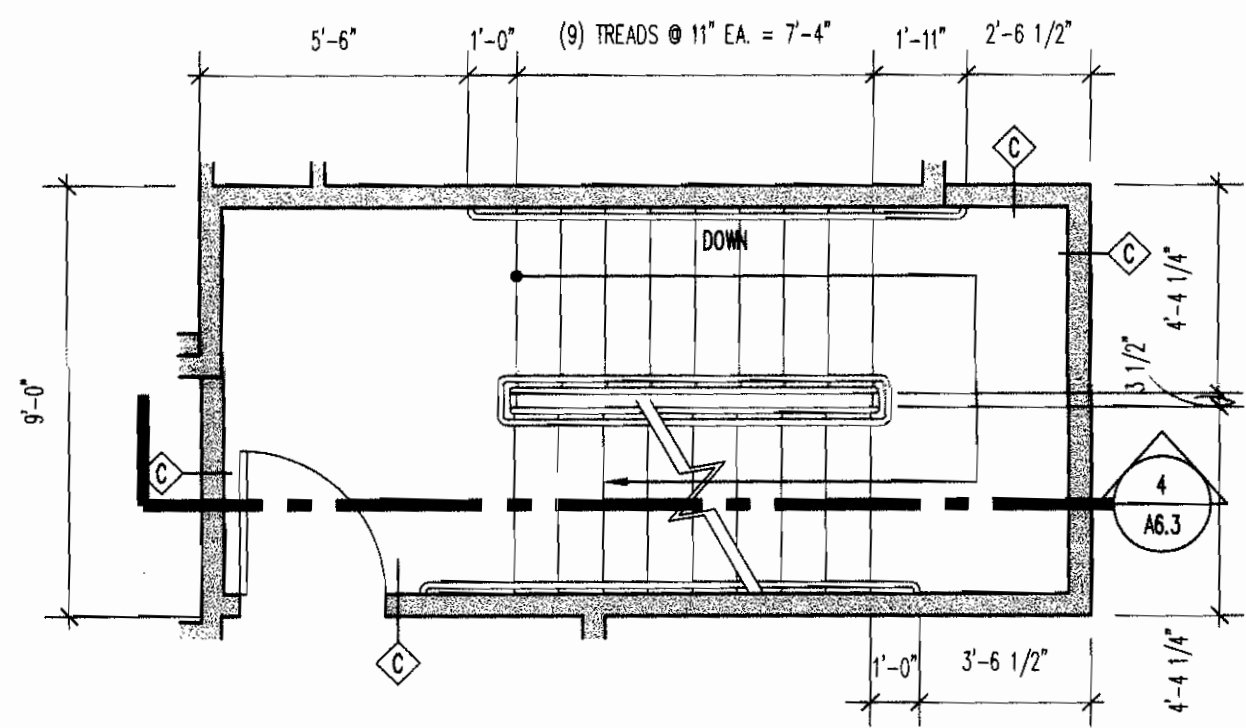
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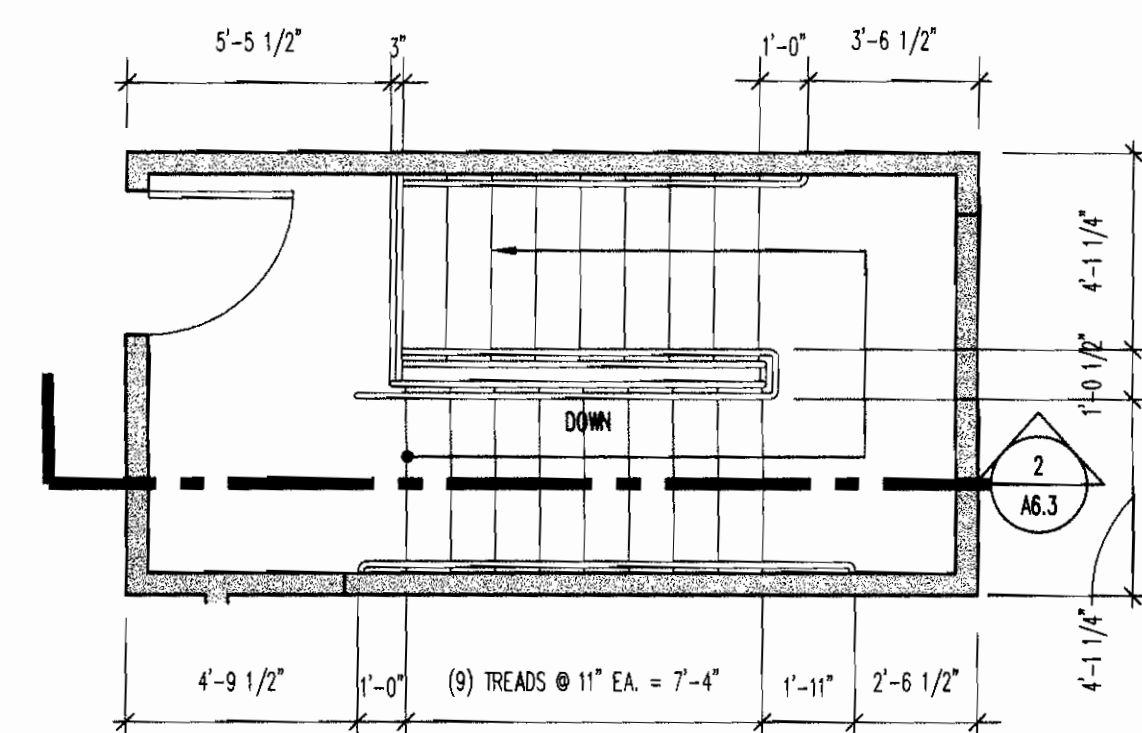
06 - 108667



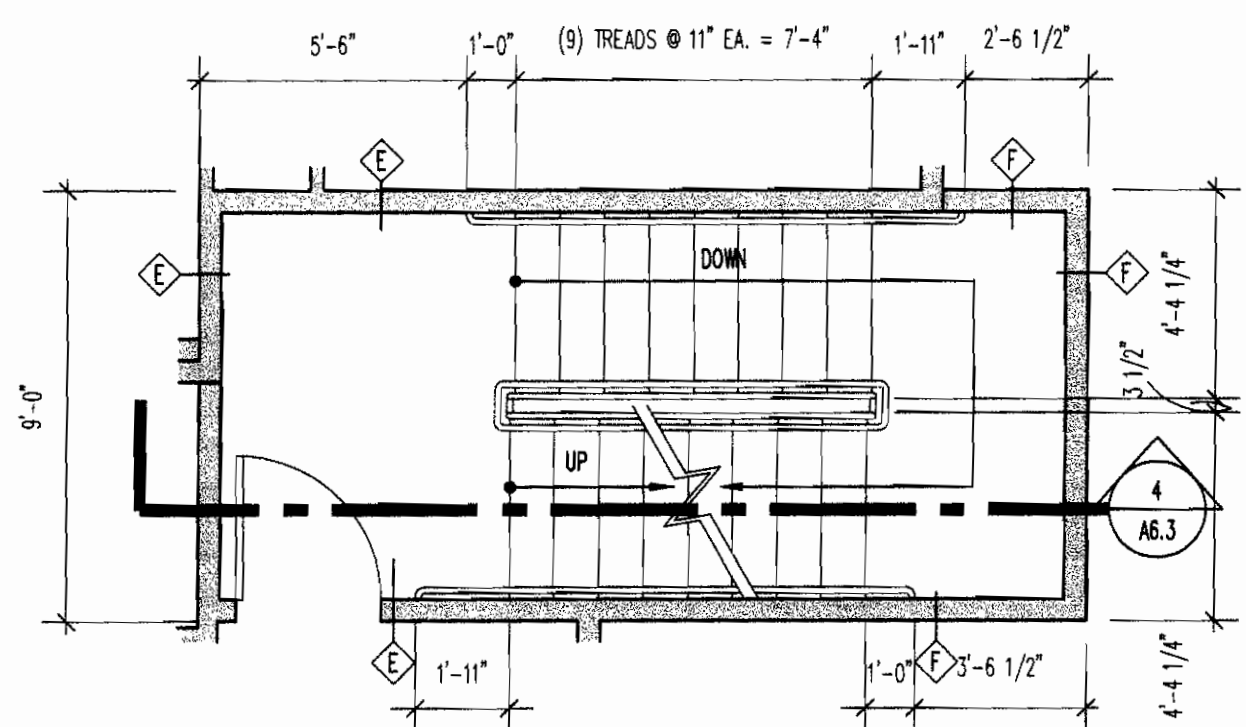
16 STAIR 2 ROOF PLAN
SCALE: 1/4"=1'-0"



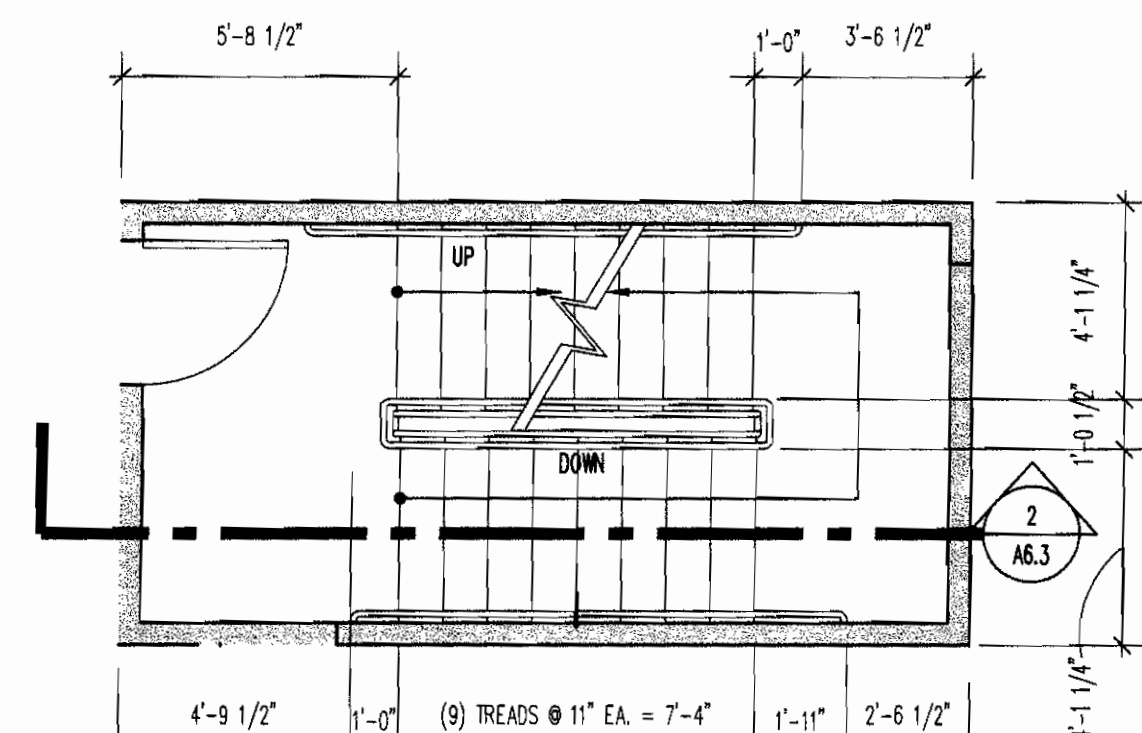
15 STAIR 2 THIRD FLOOR PLAN
SCALE: 1/4"=1'-0"



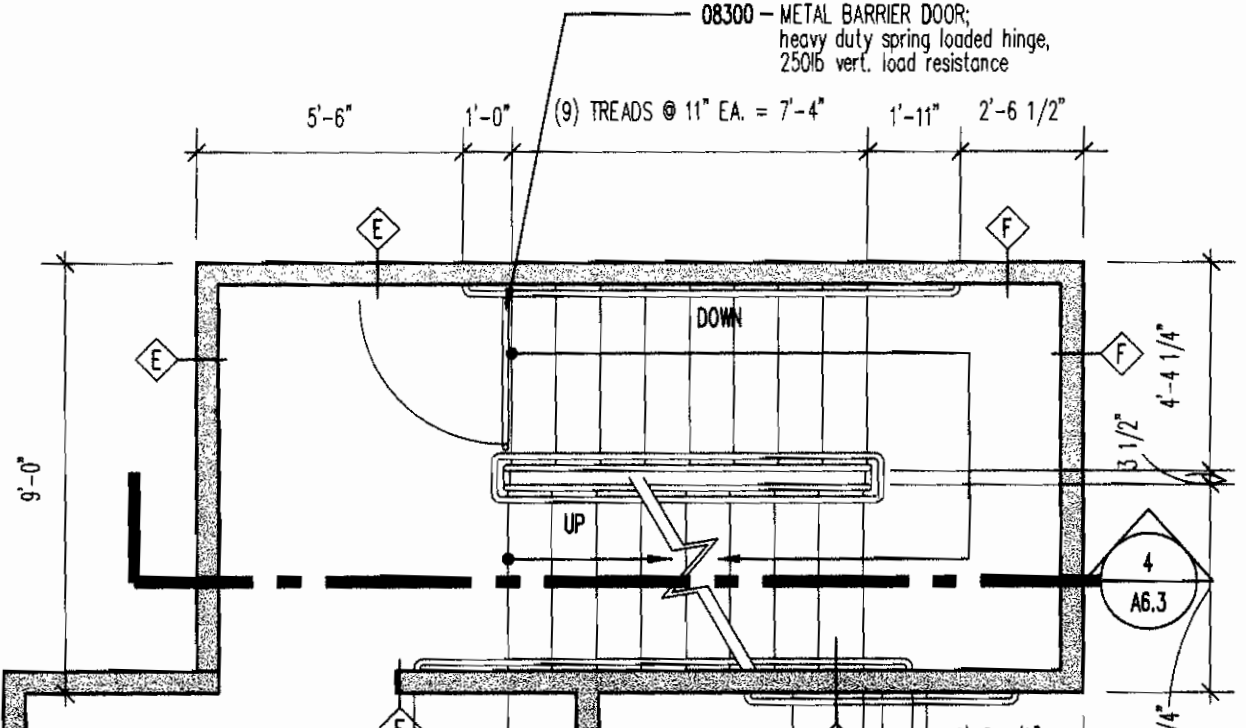
13 STAIR 1 THIRD FLOOR PLAN
SCALE: 1/4"=1'-0"



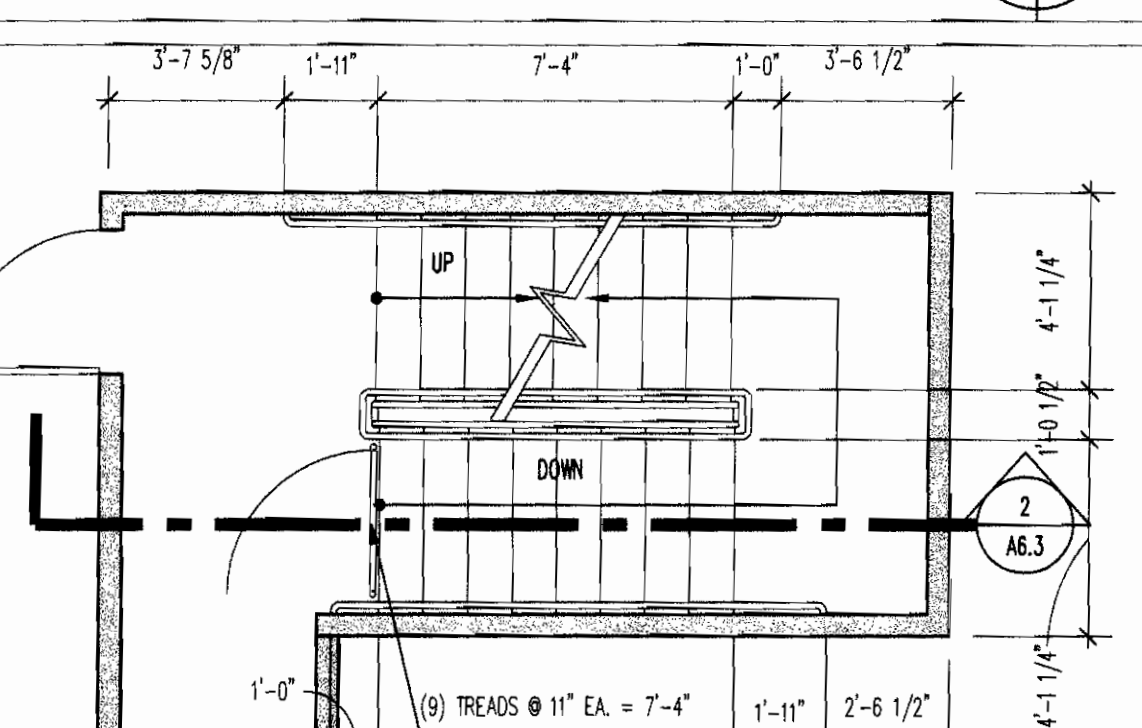
11 STAIR 2 SECOND FLOOR PLAN
SCALE: 1/4"=1'-0"



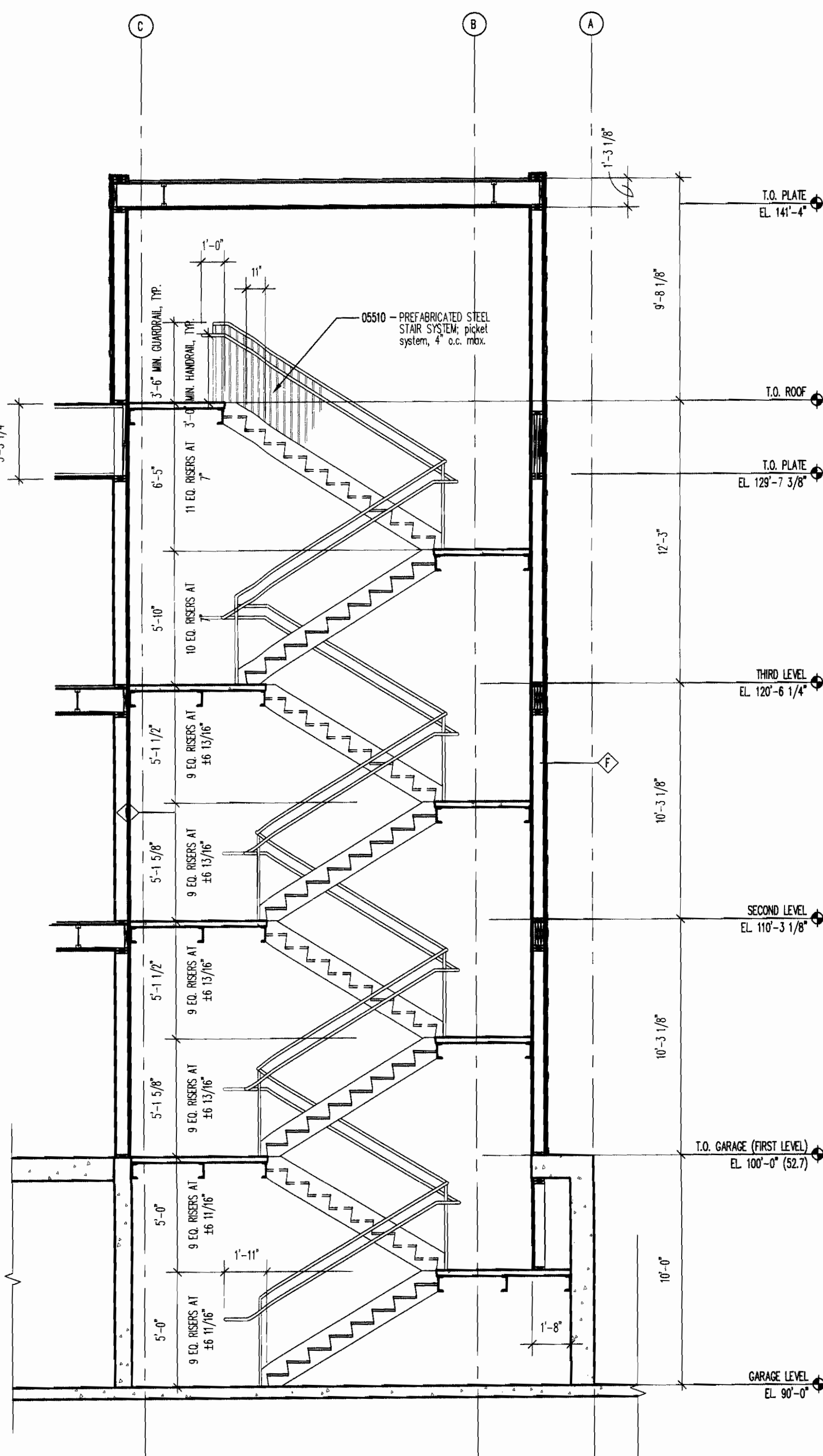
9 STAIR 1 SECOND FLOOR PLAN
SCALE: 1/4"=1'-0"



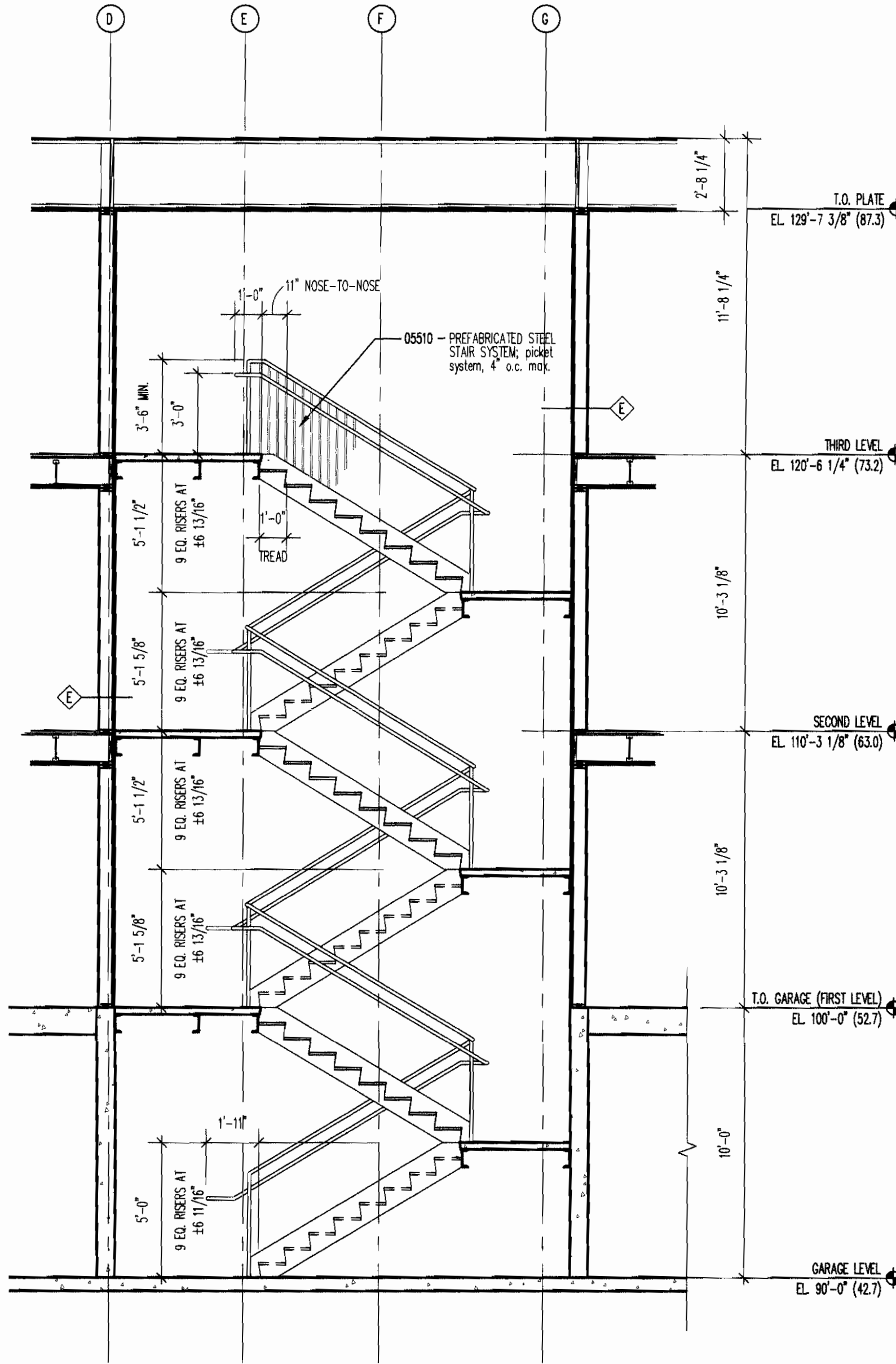
7 STAIR 2 FIRST FLOOR PLAN
SCALE: 1/4"=1'-0"



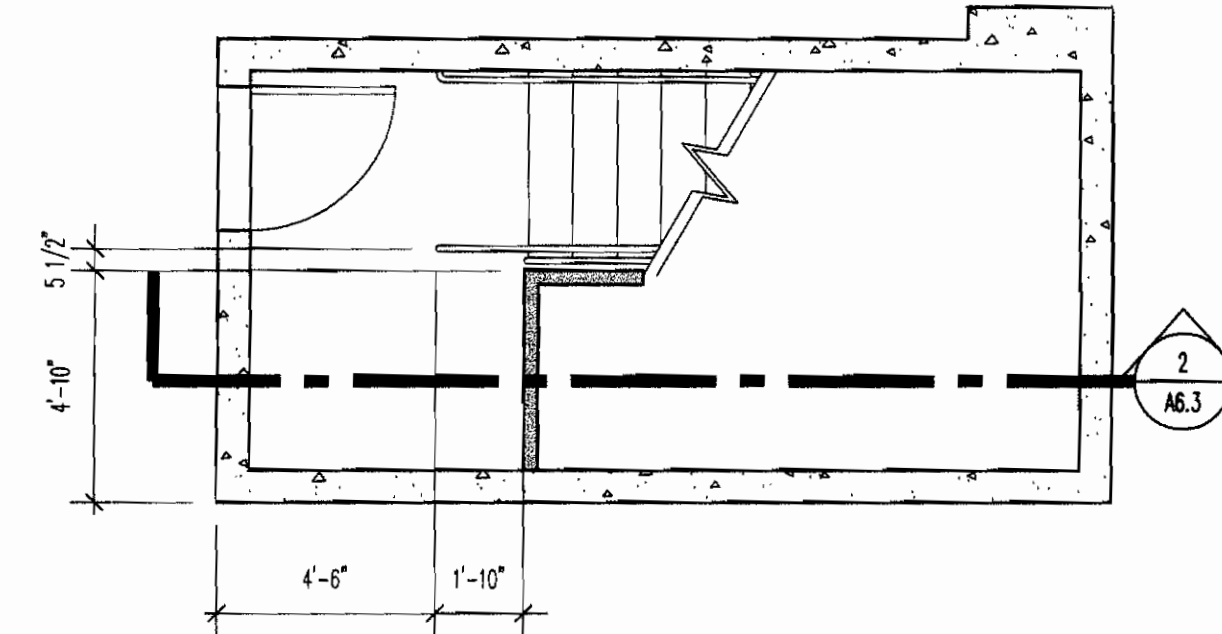
5 STAIR 1 FIRST FLOOR PLAN
SCALE: 1/4"=1'-0"



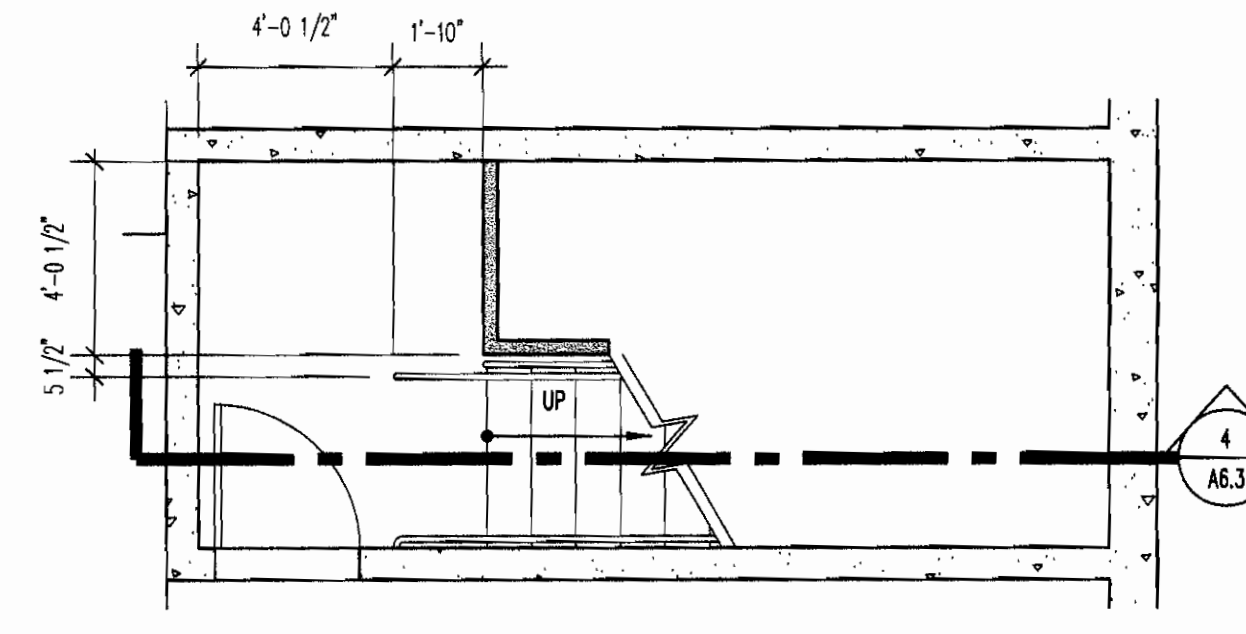
4 STAIR 2 SECTION
SCALE: 1/4"=1'-0"



2 STAIR 1 SECTION
SCALE: 1/4"=1'-0"



1 STAIR 1 GARAGE PLAN
SCALE: 1/4"=1'-0"



3 STAIR 2 GARAGE PLAN
SCALE: 1/4"=1'-0"

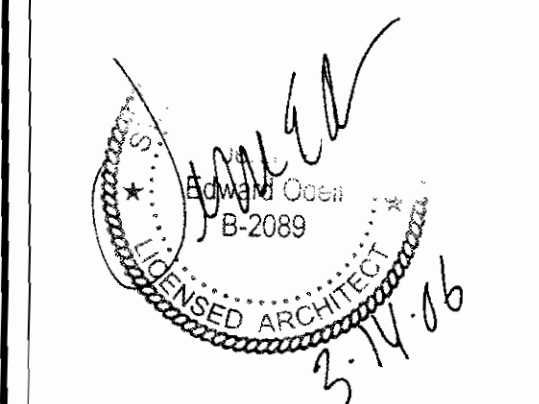
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No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/29/2006

ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/29/2006

SHEET CONTENTS:
STAIR PLANS & SECTIONS



PROJECT NO.: 3-04-18
DATE: March 9, 2006

DRAWING NO.:

A6.3

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 3/29/06
06-108667



ODELL ARCHITECTS, P.C.

ARCHITECTURE PLANNING INTERIORS

3300 South Glick Street, Suite 100, Englewood, Colorado 80150

Telephone: 303.555.5800 Fax: 303.555.7802

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Aurora Housing Authority

1445 Dallas Street

Aurora, Colorado

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CHECKED BY:

REVISIONS:

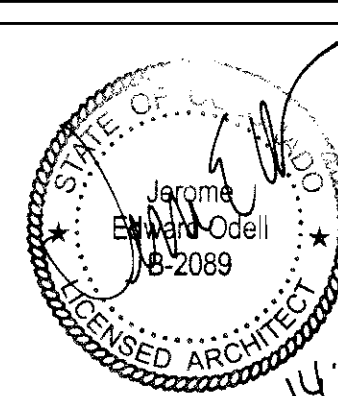
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3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/29/2006
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SHEET CONTENTS:

ELEVATOR PLAN & SECTION
STAIR PLANS & SECTIONS

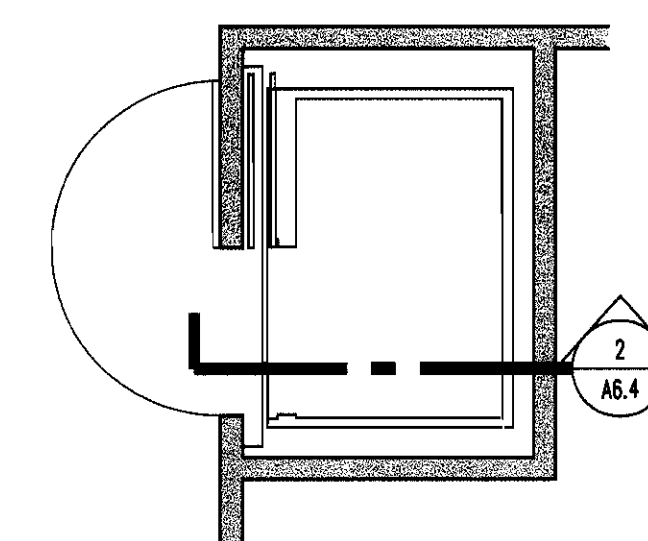


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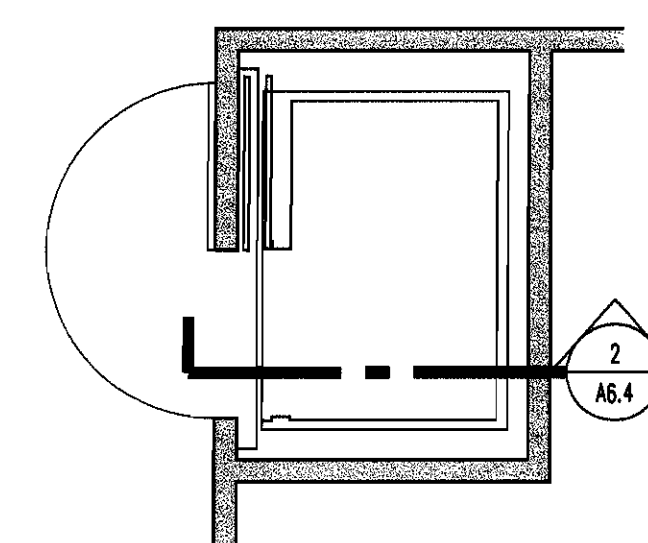
DATE: March 9, 2006

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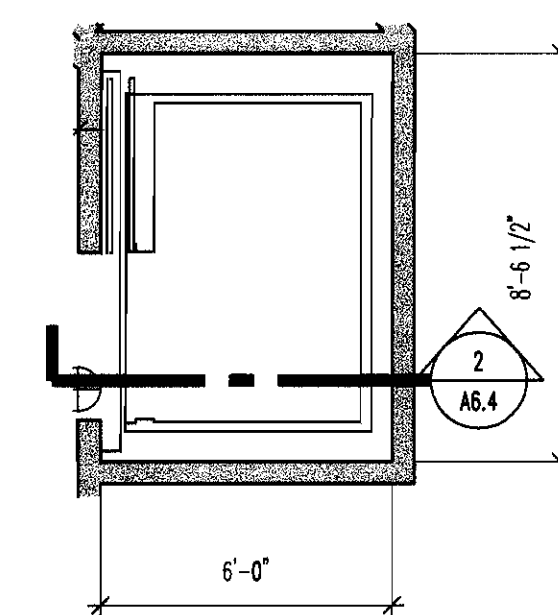
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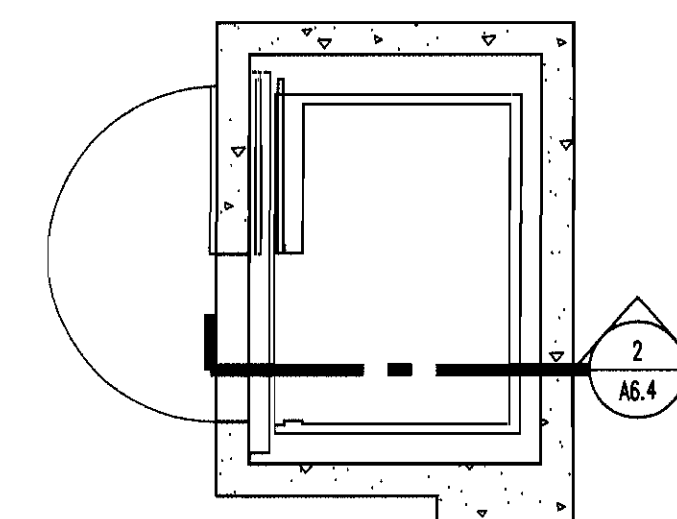
13 ELEVATOR PLAN - THIRD FLOOR
SCALE: 1/4"=1'-0"



9 ELEVATOR PLAN - SECOND FLOOR
SCALE: 1/4"=1'-0"



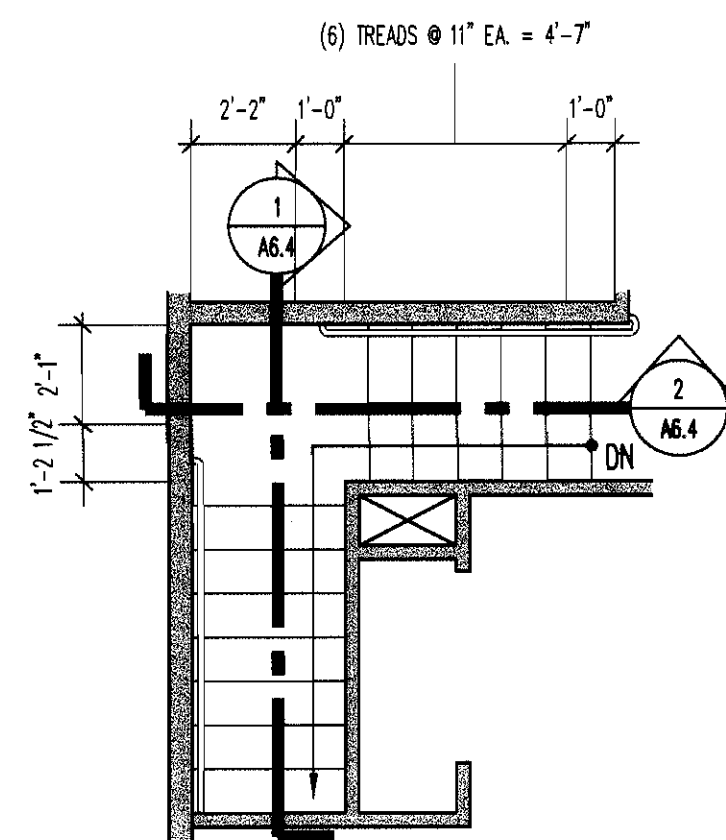
5 ELEVATOR PLAN - FIRST FLOOR
SCALE: 1/4"=1'-0"



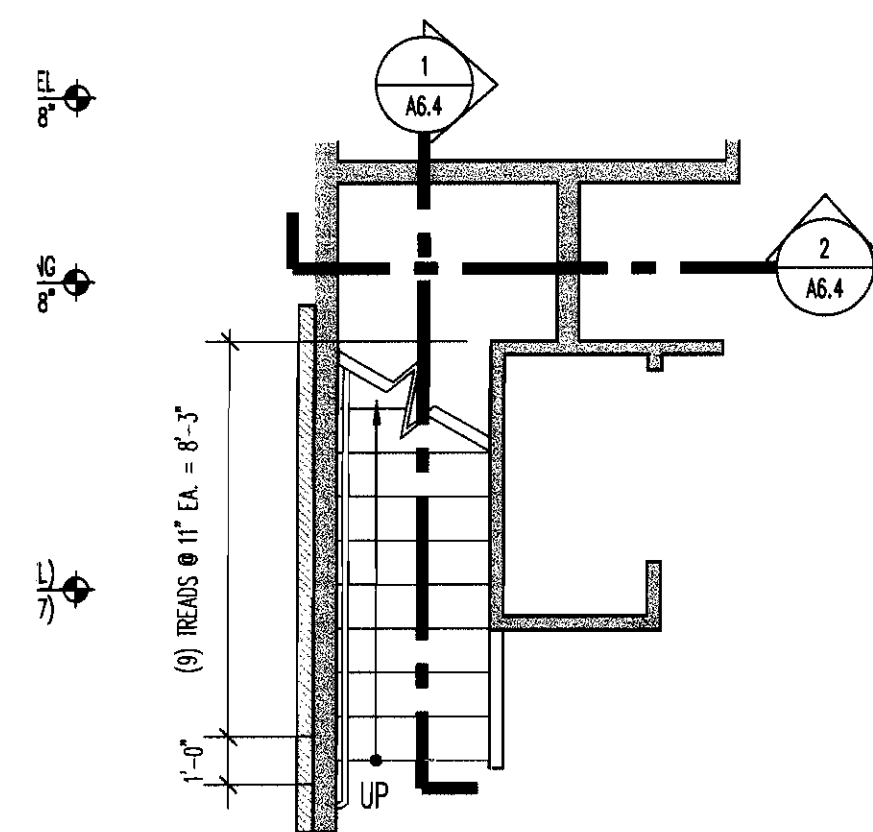
1 ELEVATOR PLAN - GARAGE
SCALE: 1/4"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 3/9/06

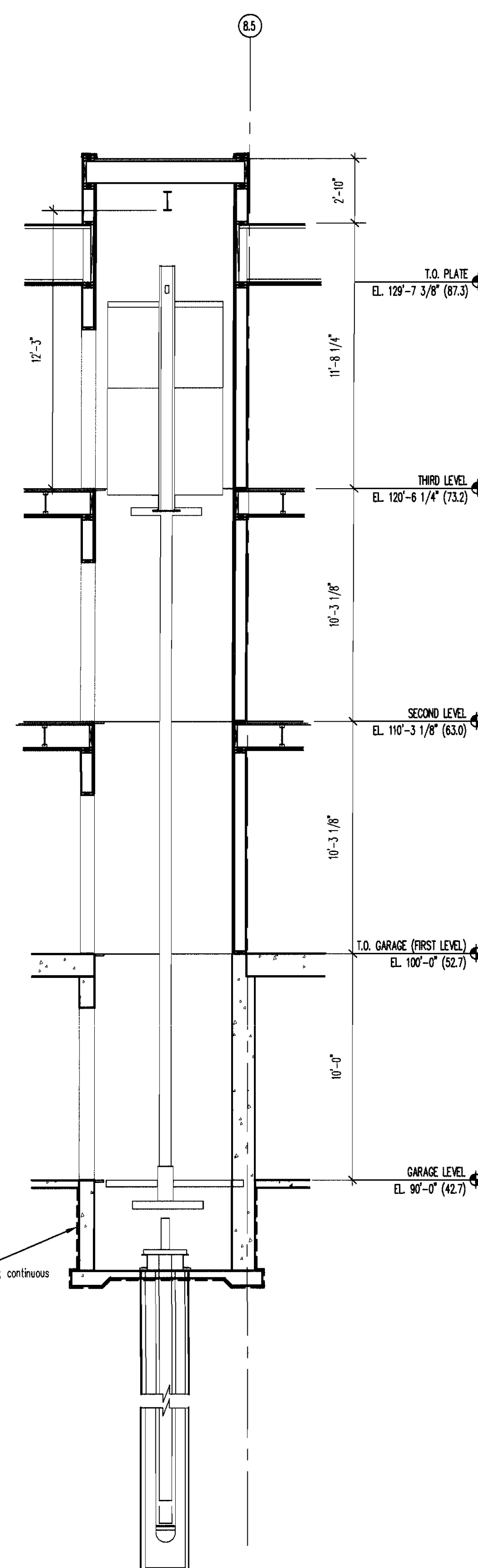
06-108667



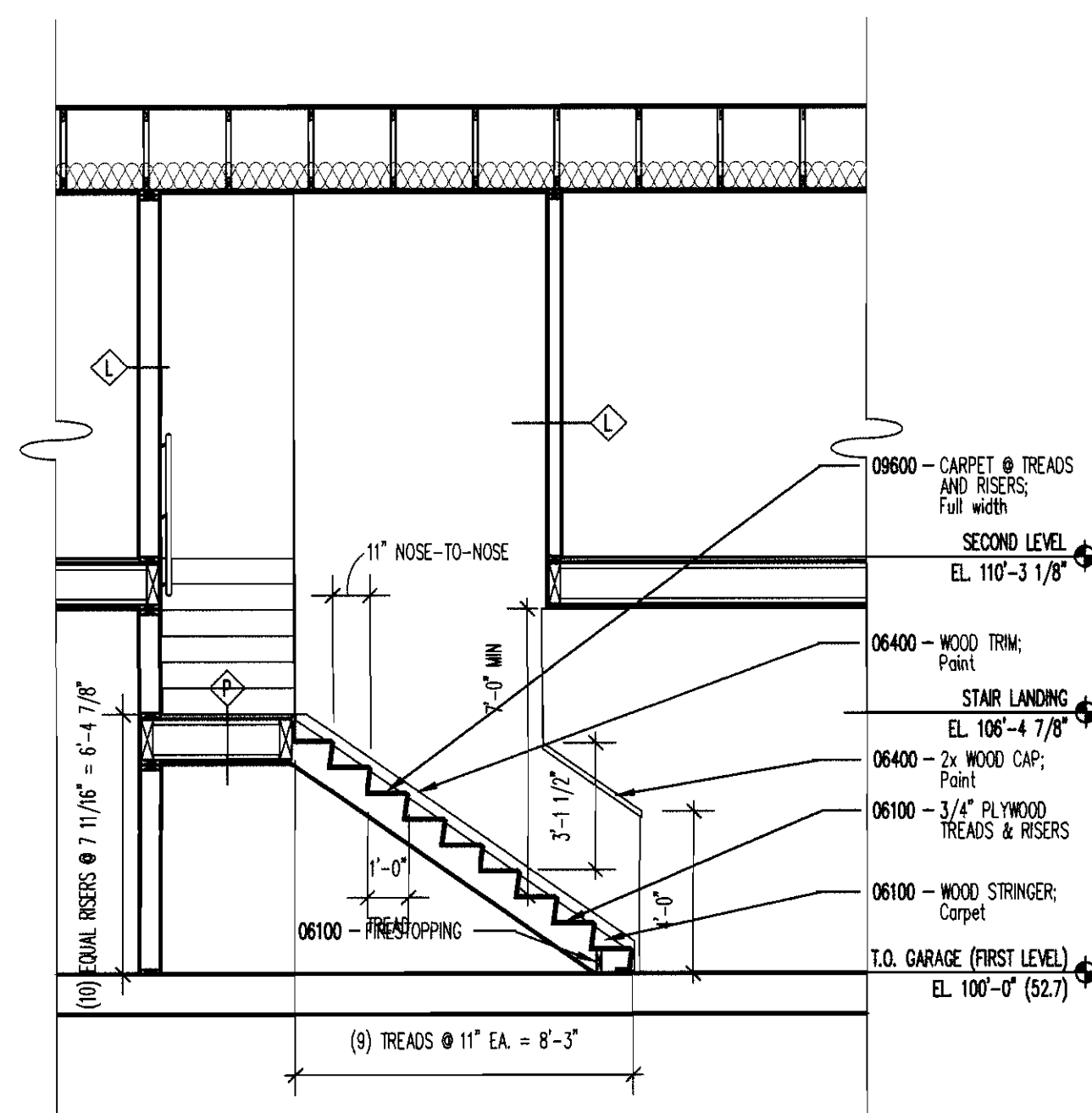
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SCALE: 1/4"=1'-0"



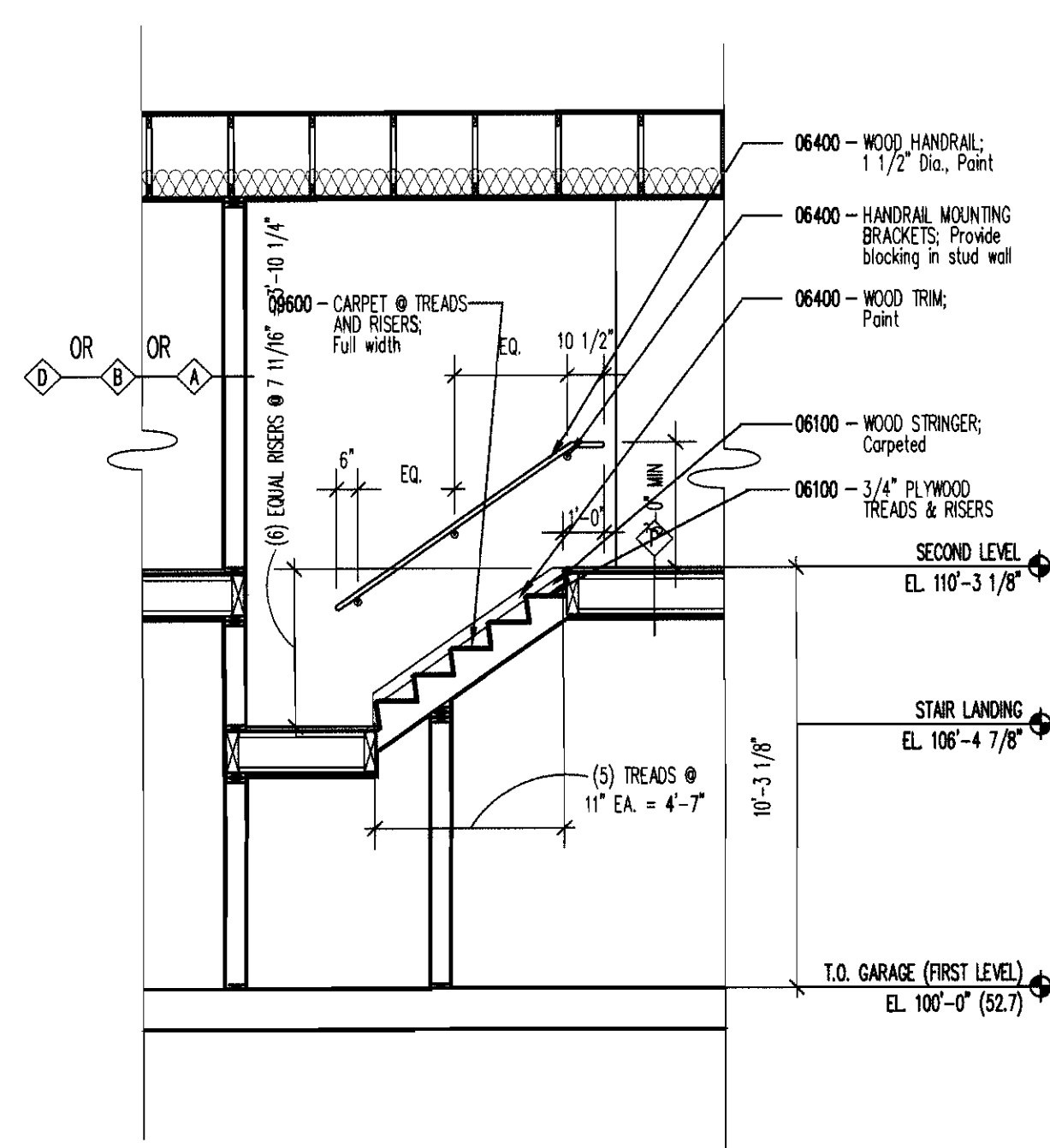
11 TOWNHOME STAIR PLAN - FIRST FLOOR
SCALE: 1/4"=1'-0"



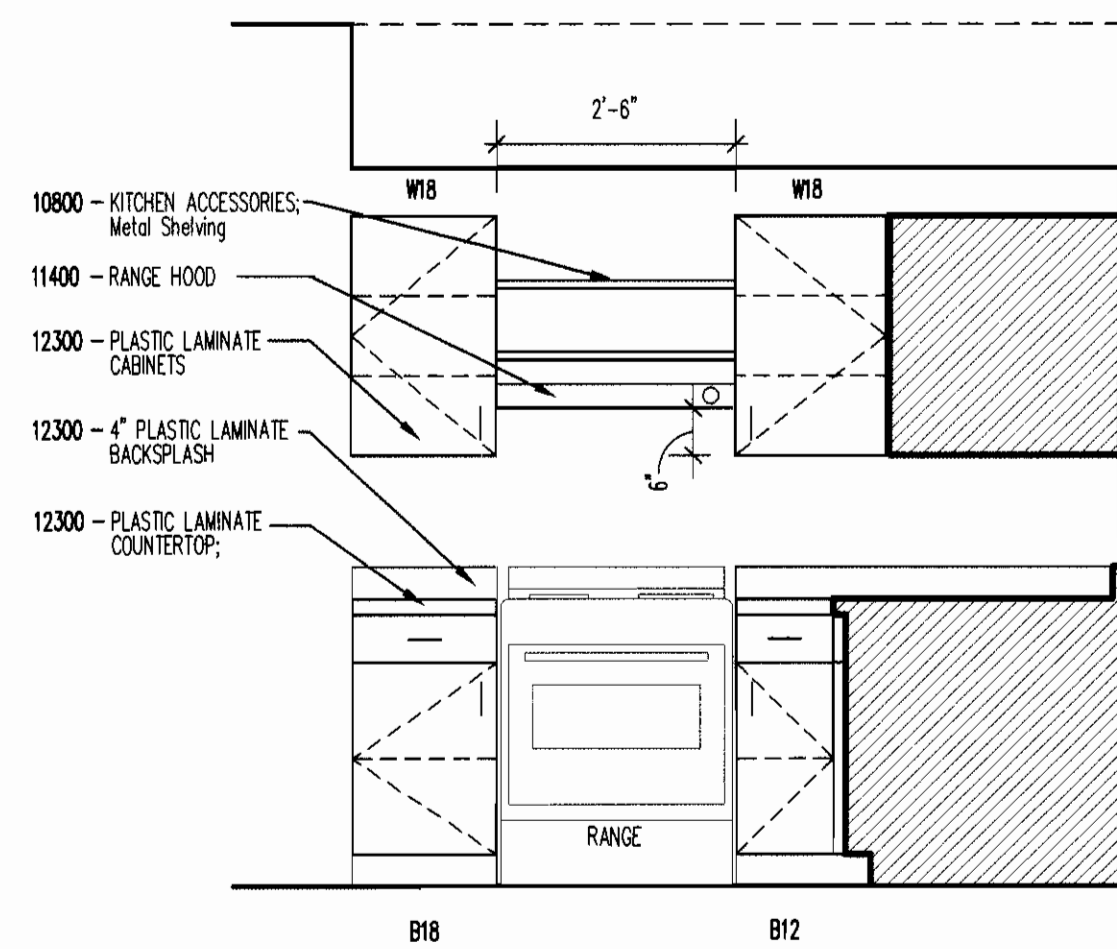
2 ELEVATOR SECTION
SCALE: 1/4"=1'-0"



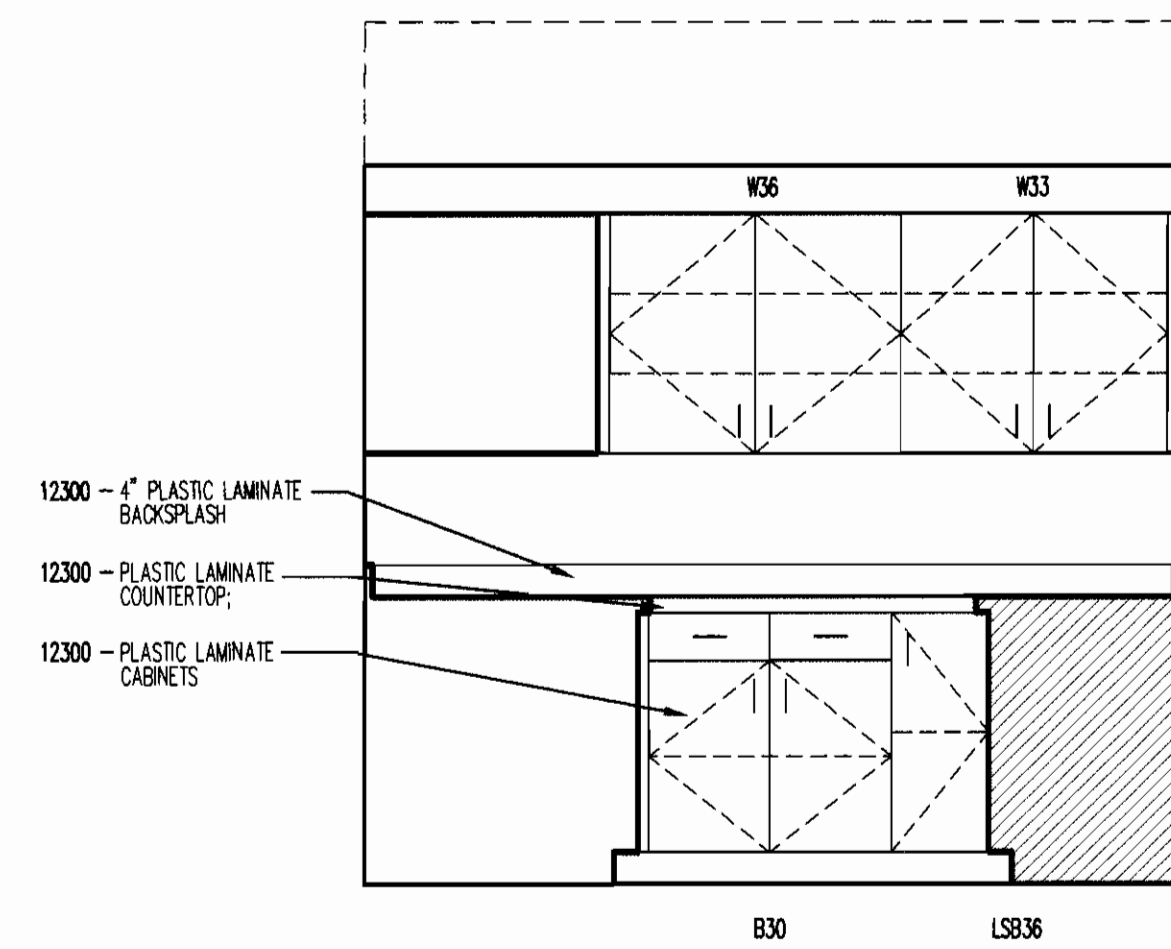
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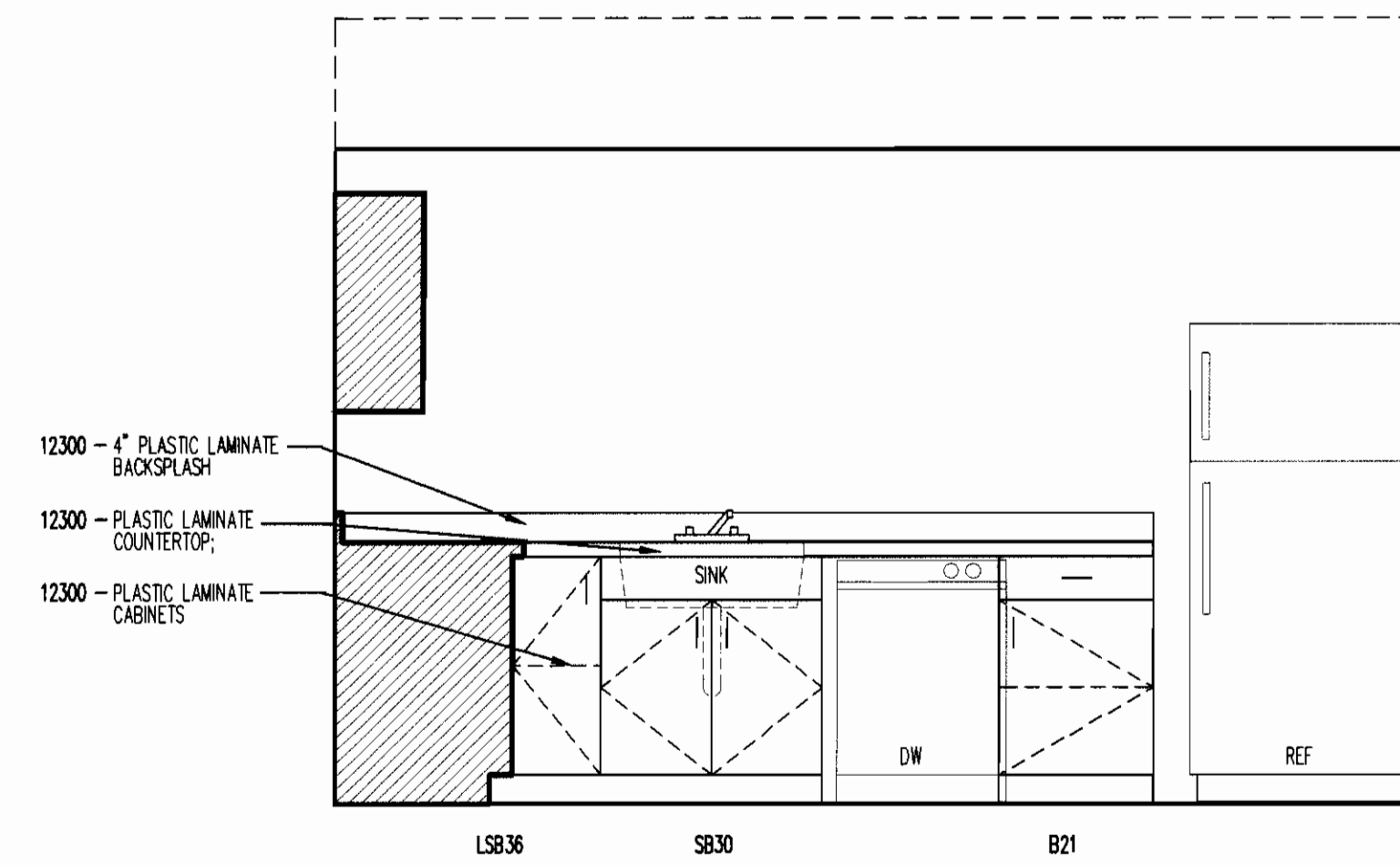
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SCALE: 1/4"=1'-0"



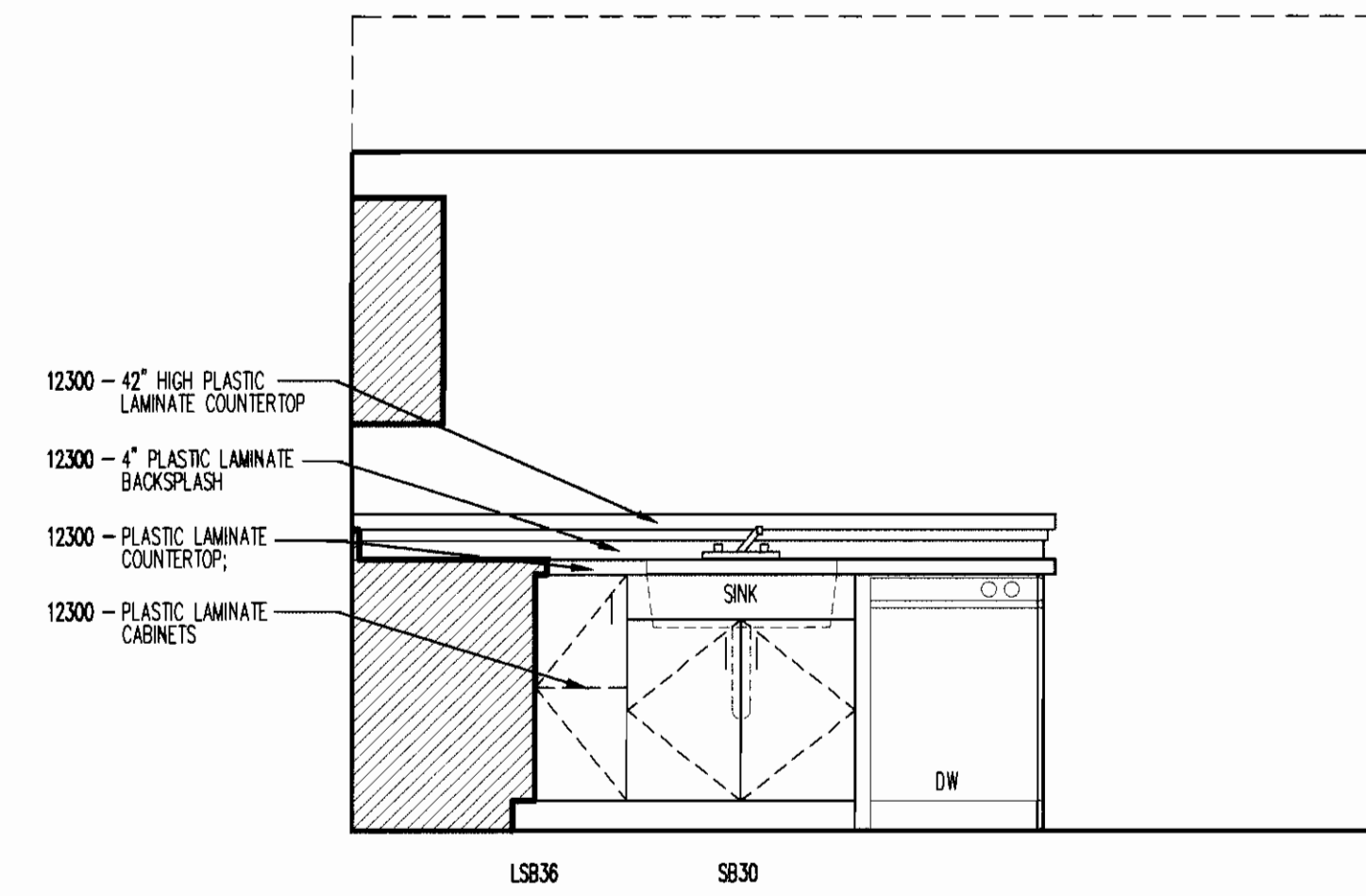
16 UNIT "F" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



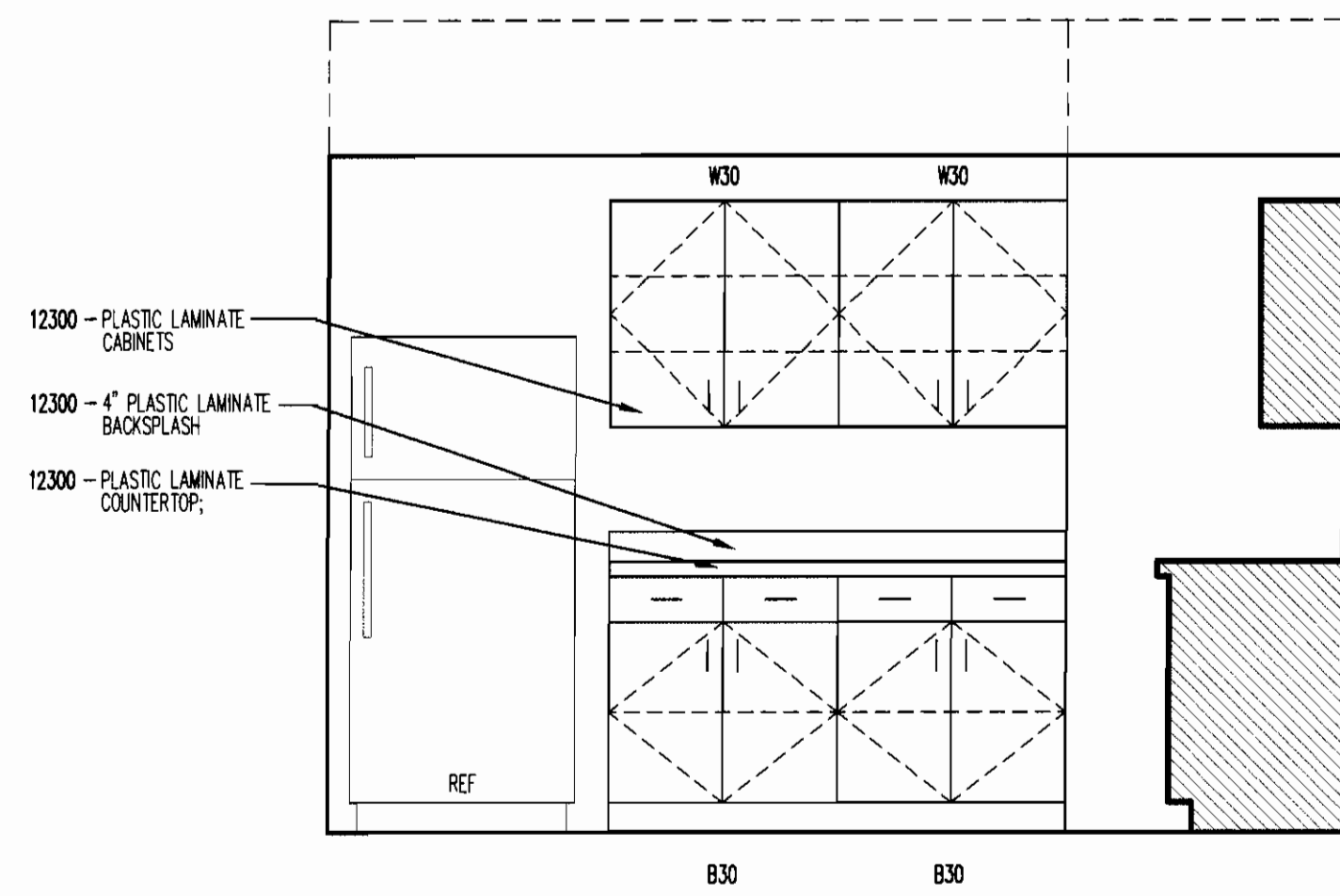
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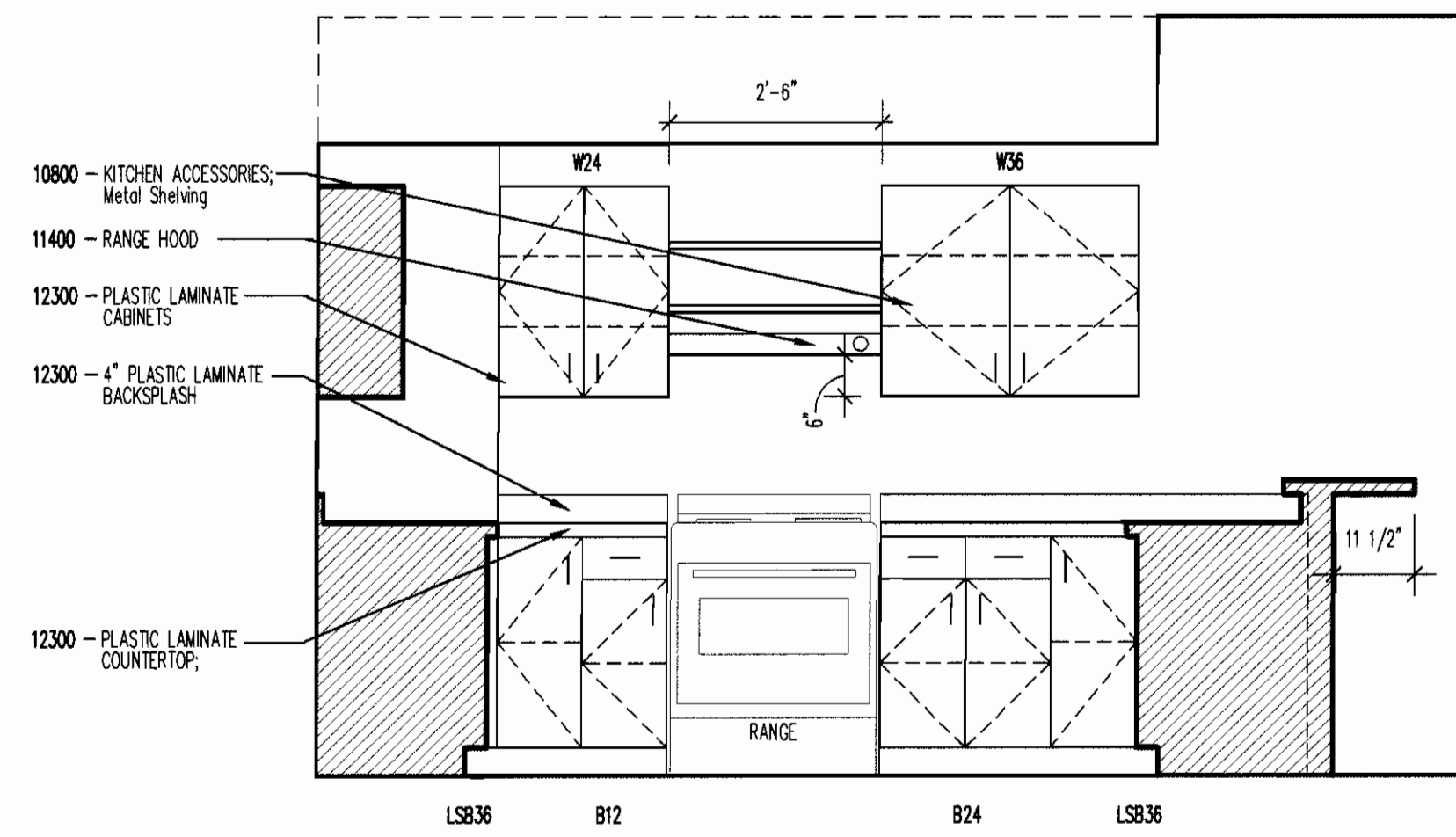
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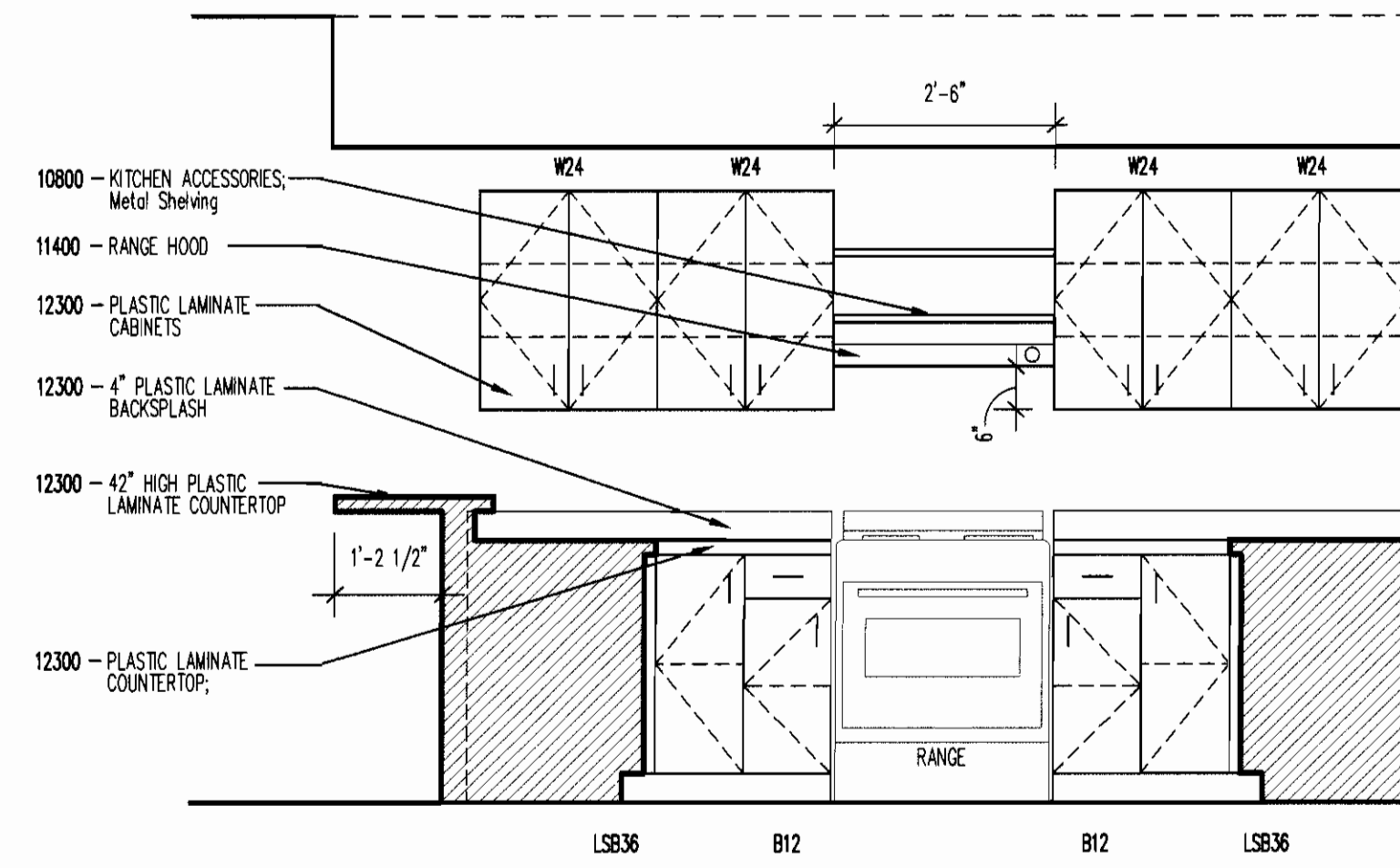
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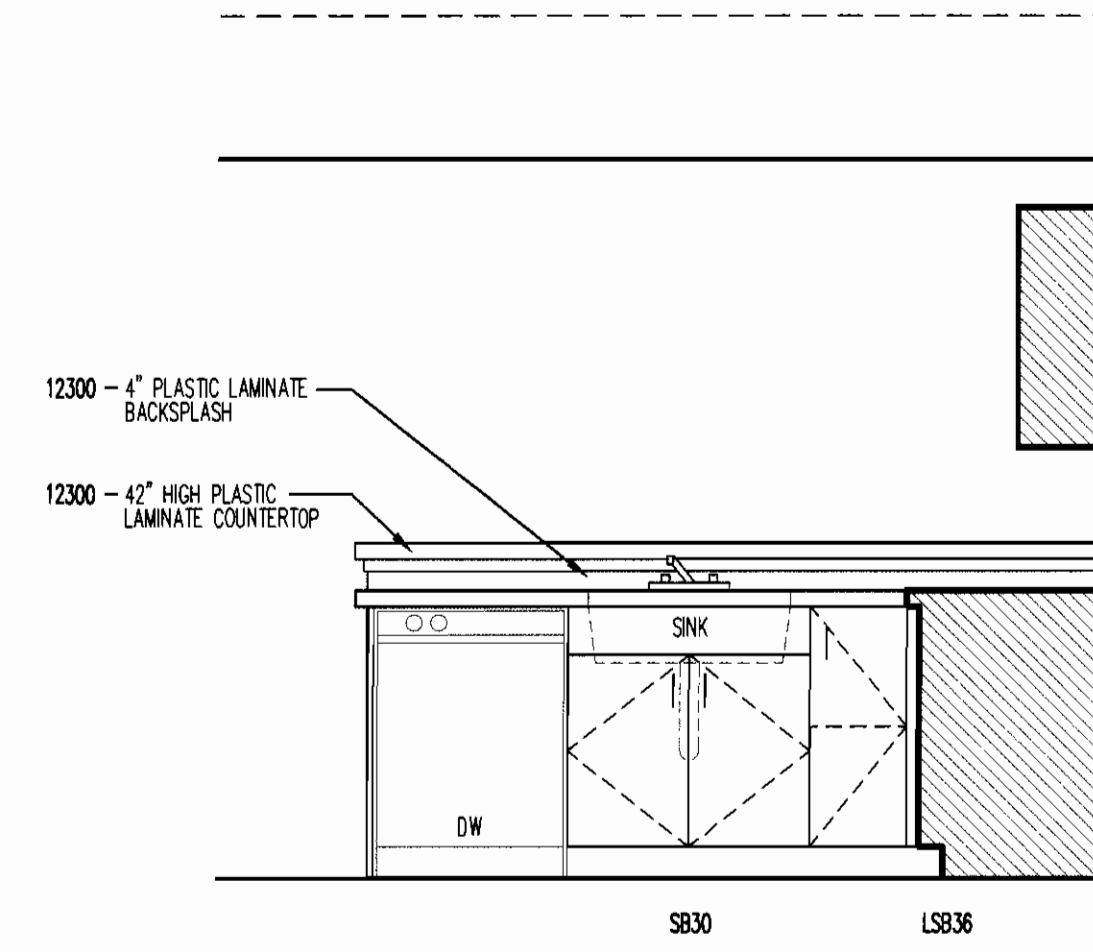
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SCALE: 1/2"=1'-0"



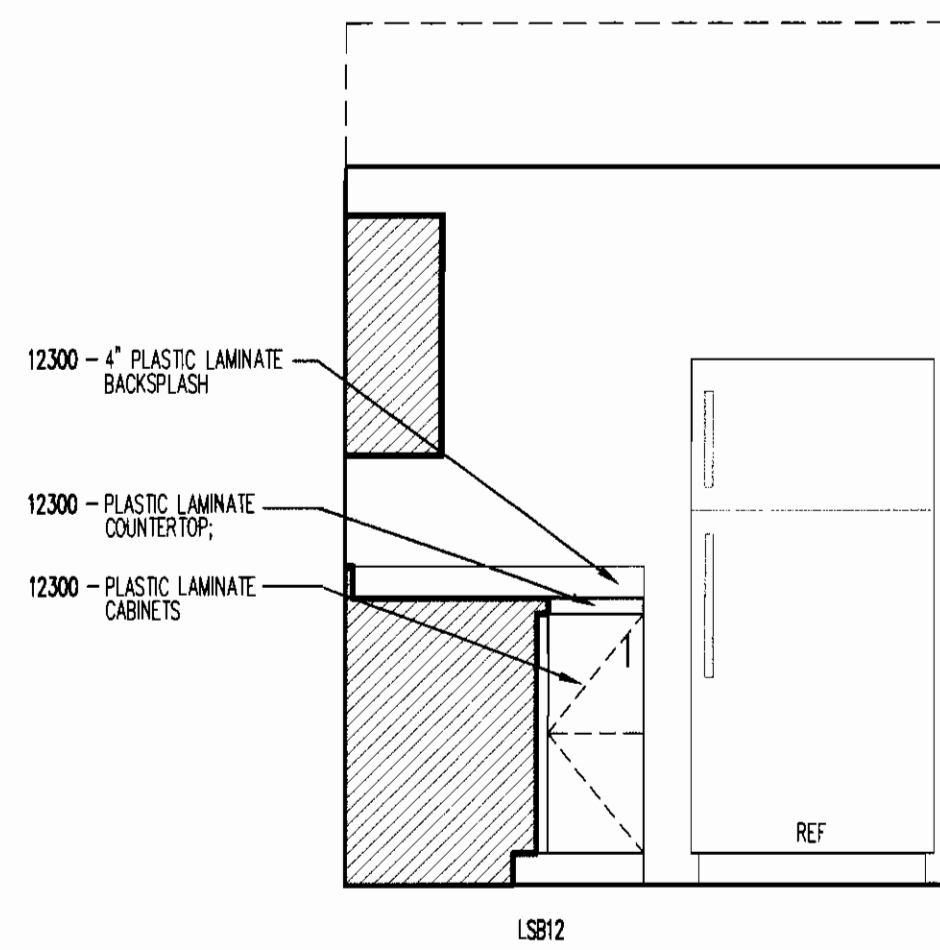
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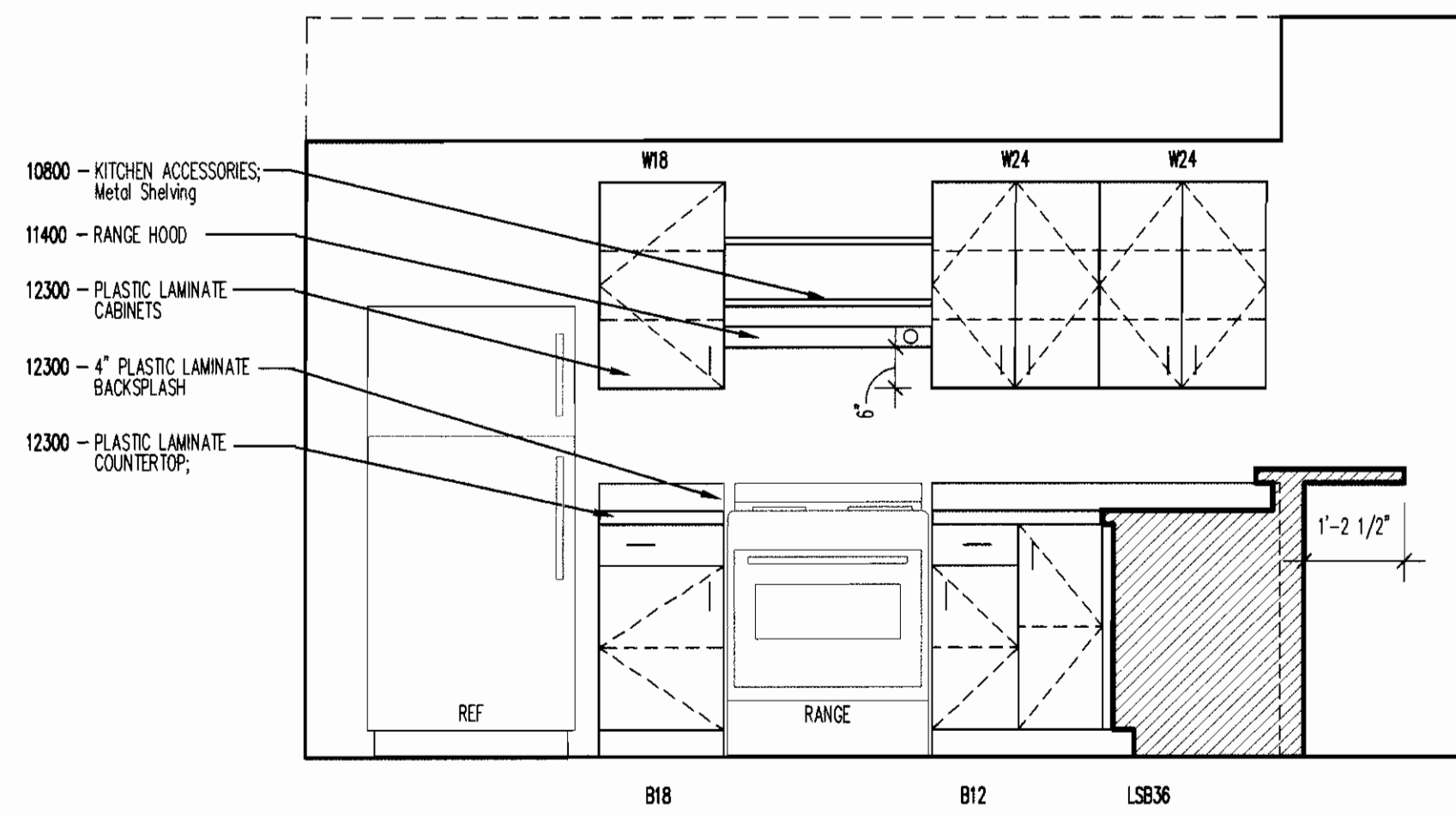
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SCALE: 1/2"=1'-0"



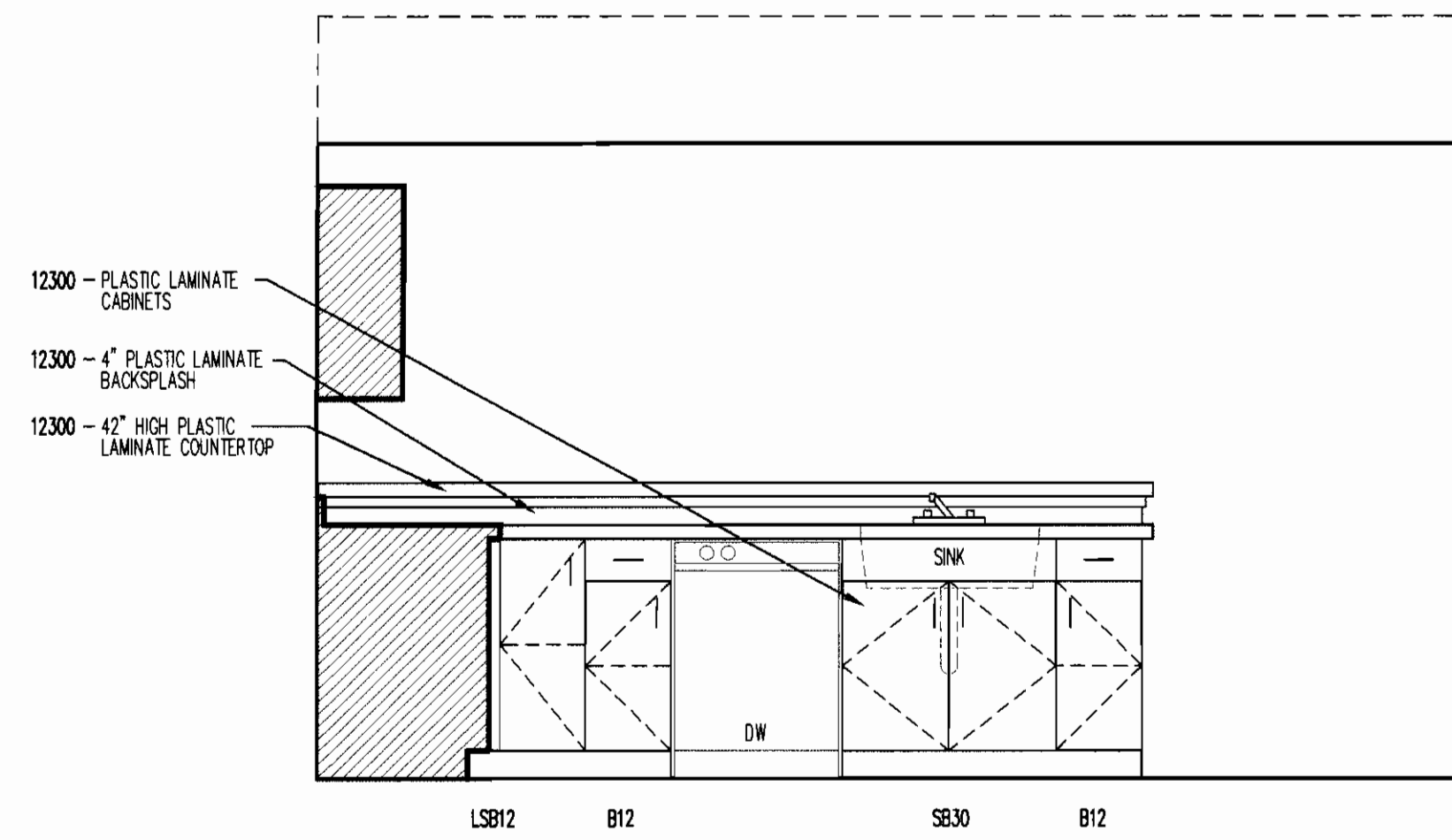
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SCALE: 1/2"=1'-0"



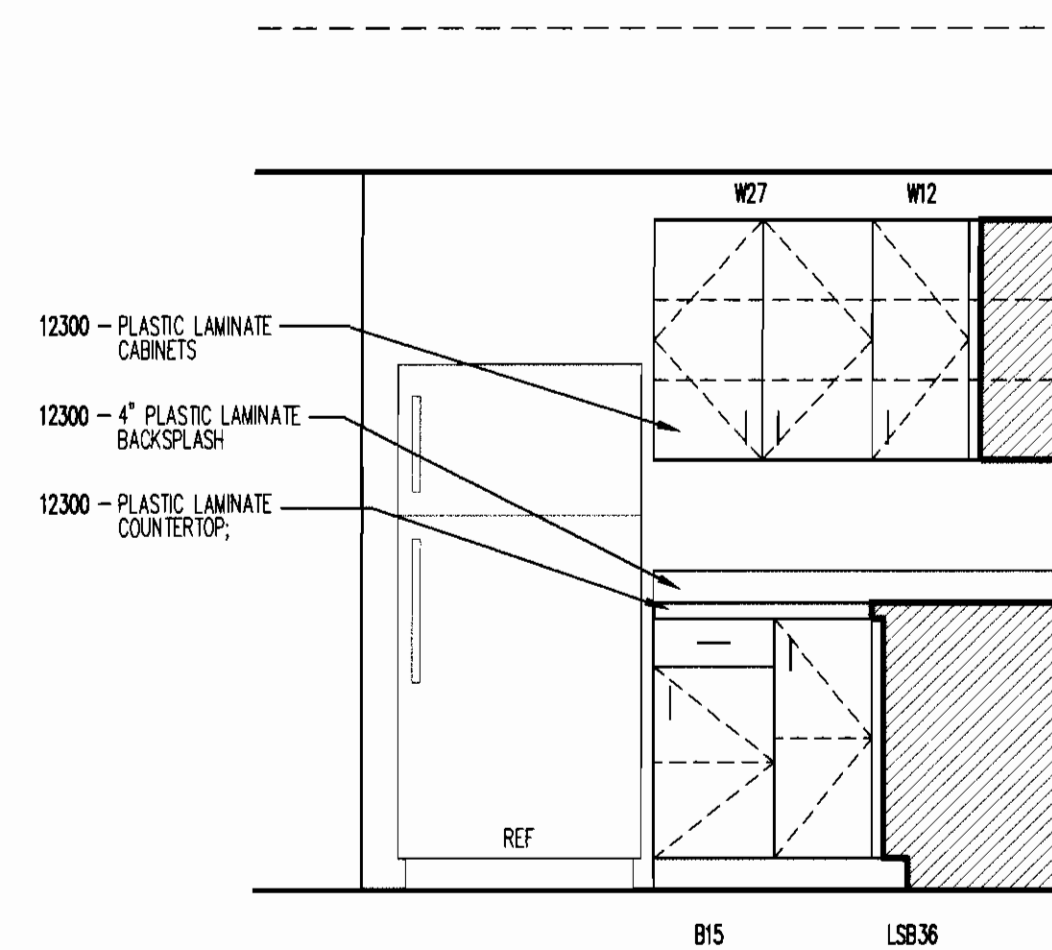
8 UNIT "D" KITCHEN ELEVATION
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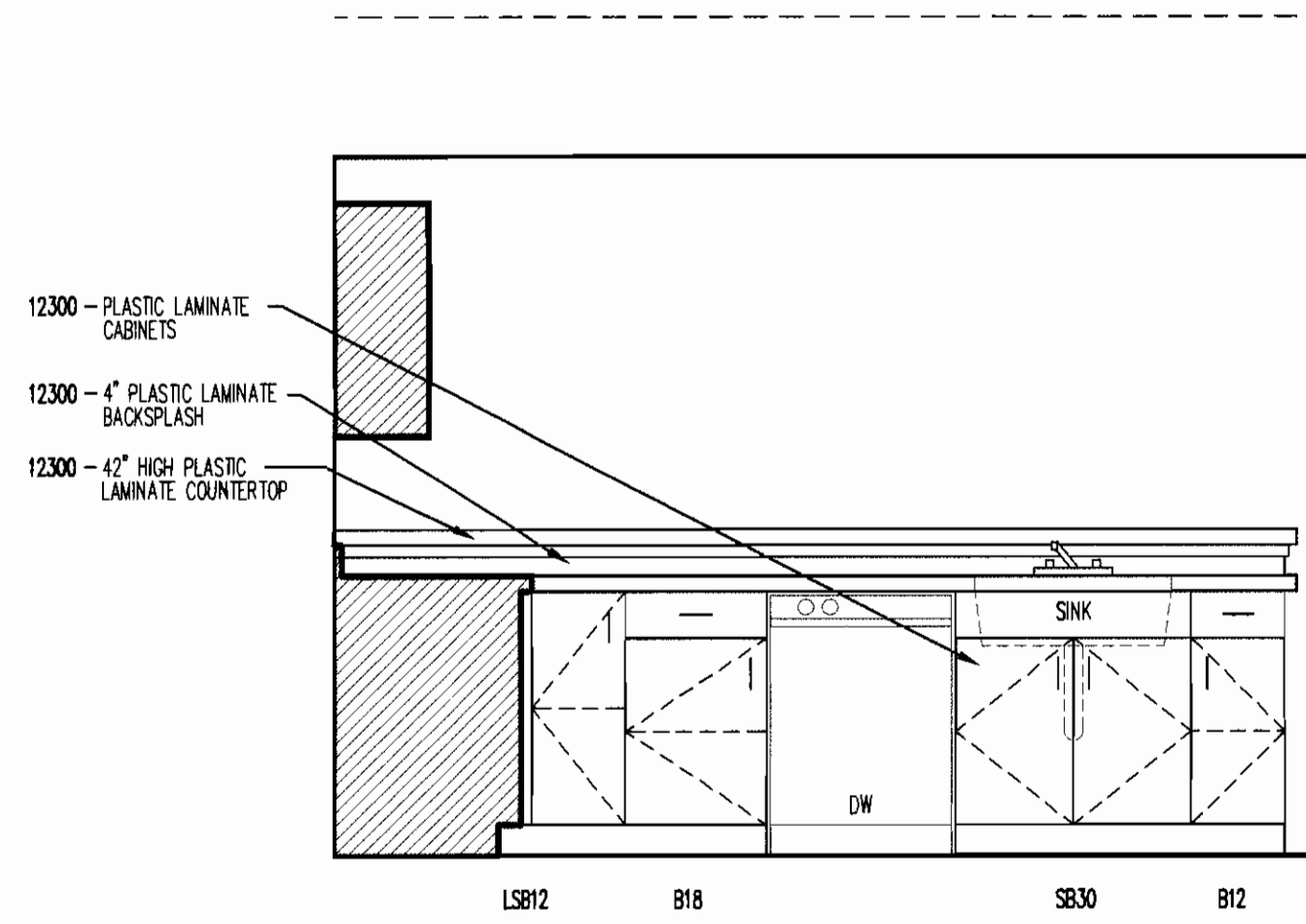
7 UNIT "C" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



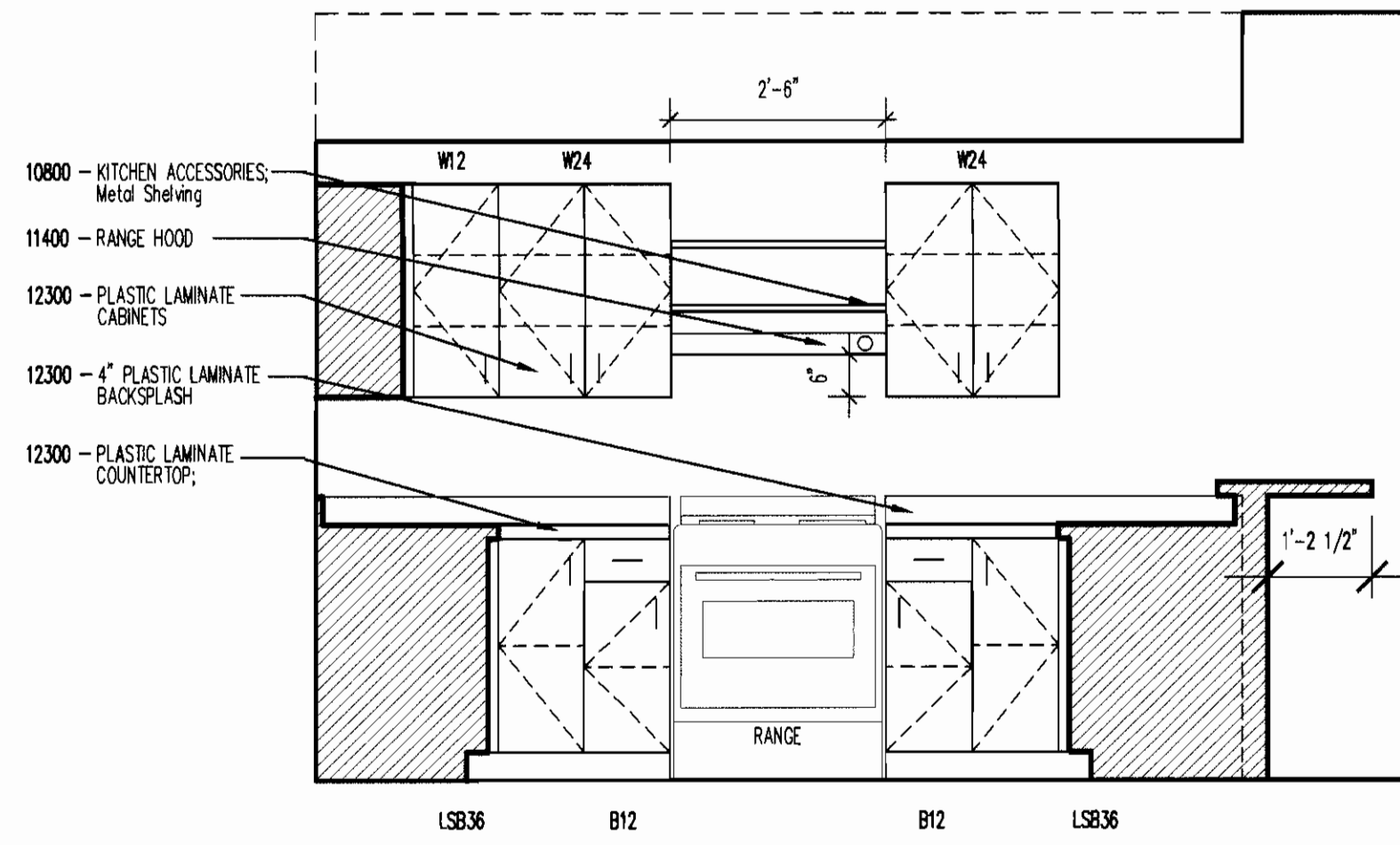
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SCALE: 1/2"=1'-0"



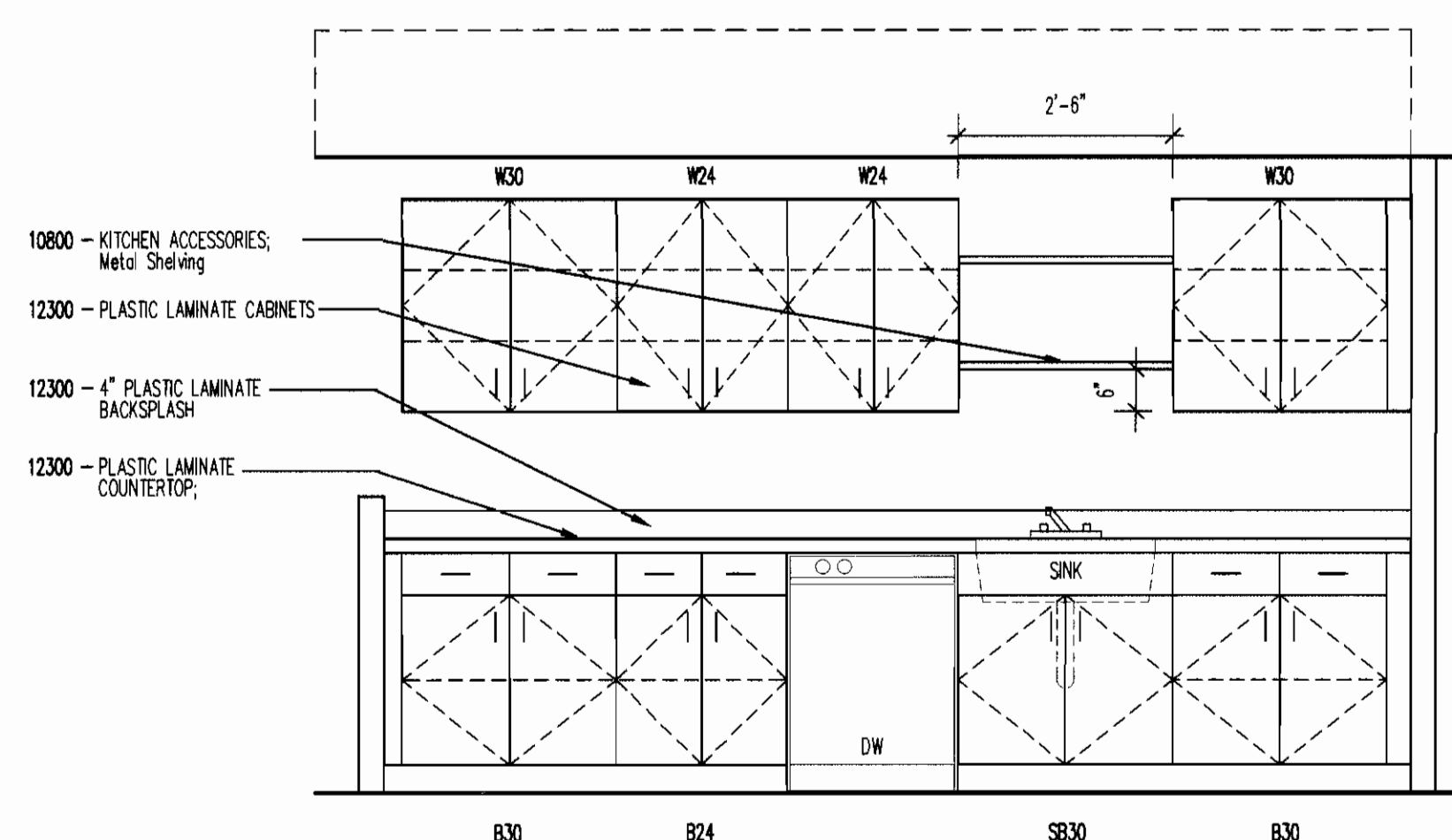
5 UNIT "B" KITCHEN ELEVATION
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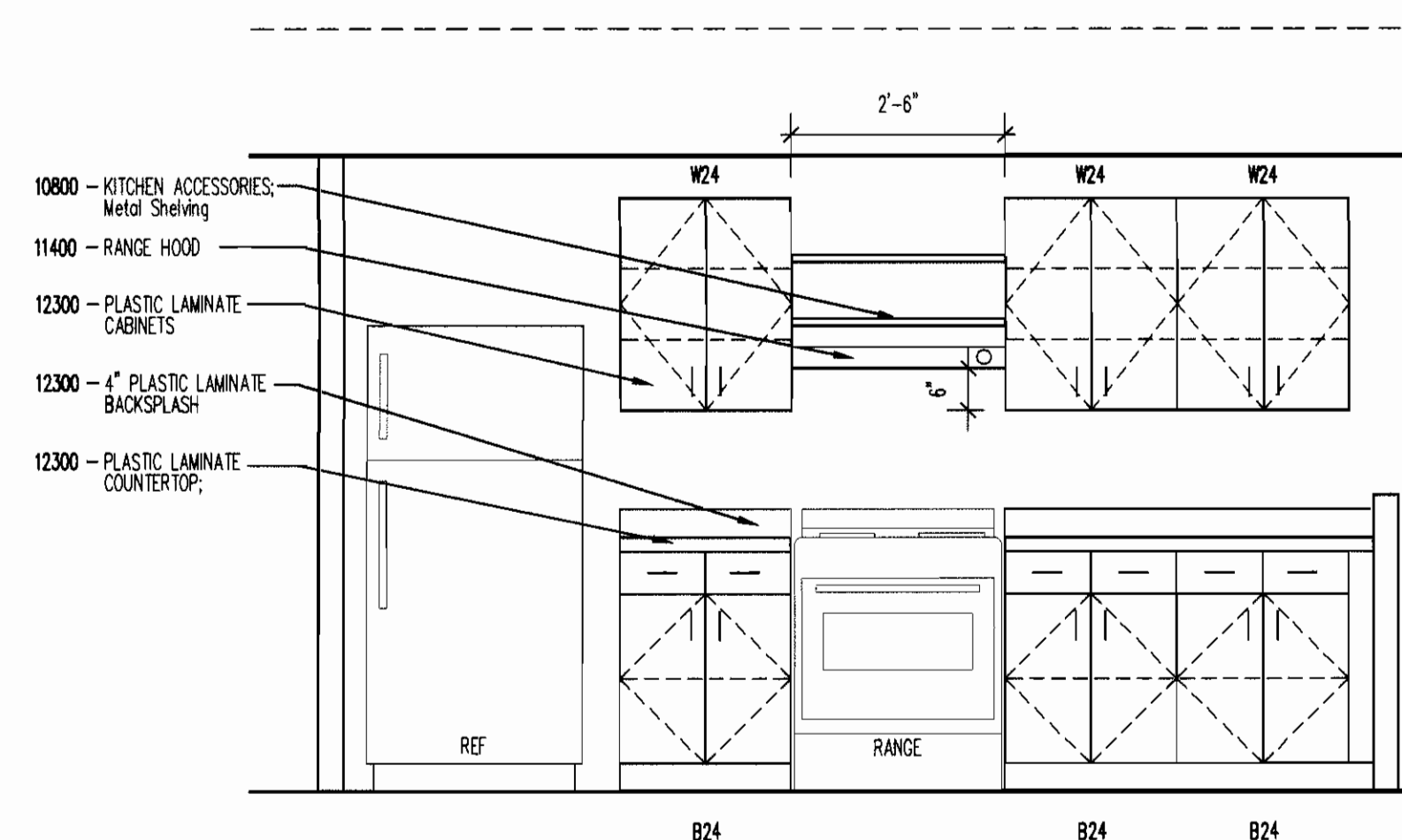
4 UNIT "B" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



3 UNIT "B" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



2 UNIT "A" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



1 UNIT "A" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 6/26/06

06 - 108667



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY:
CHECKED BY:

No.	Description	Date

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
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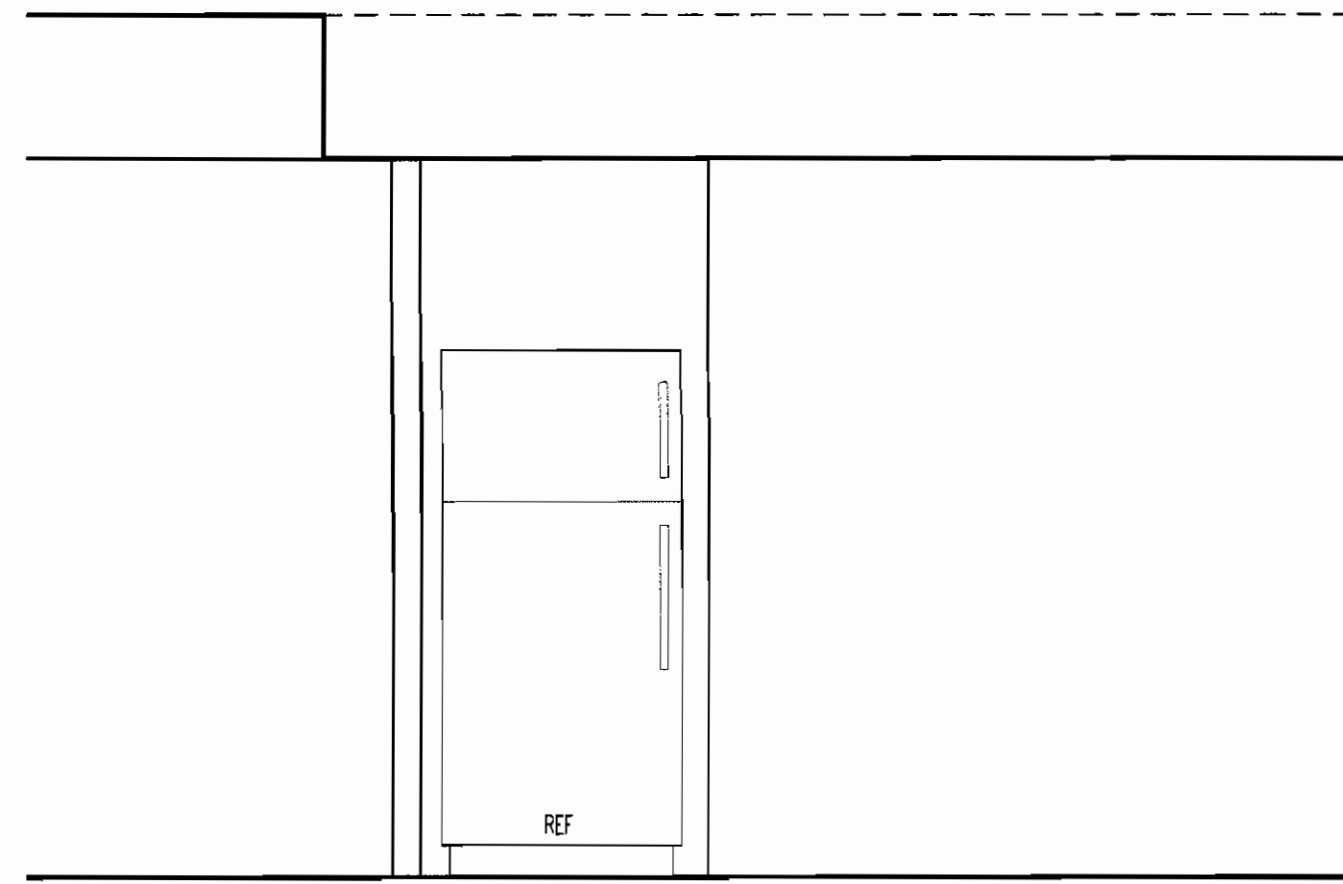
SHEET CONTENTS:
INTERIOR ELEVATIONS



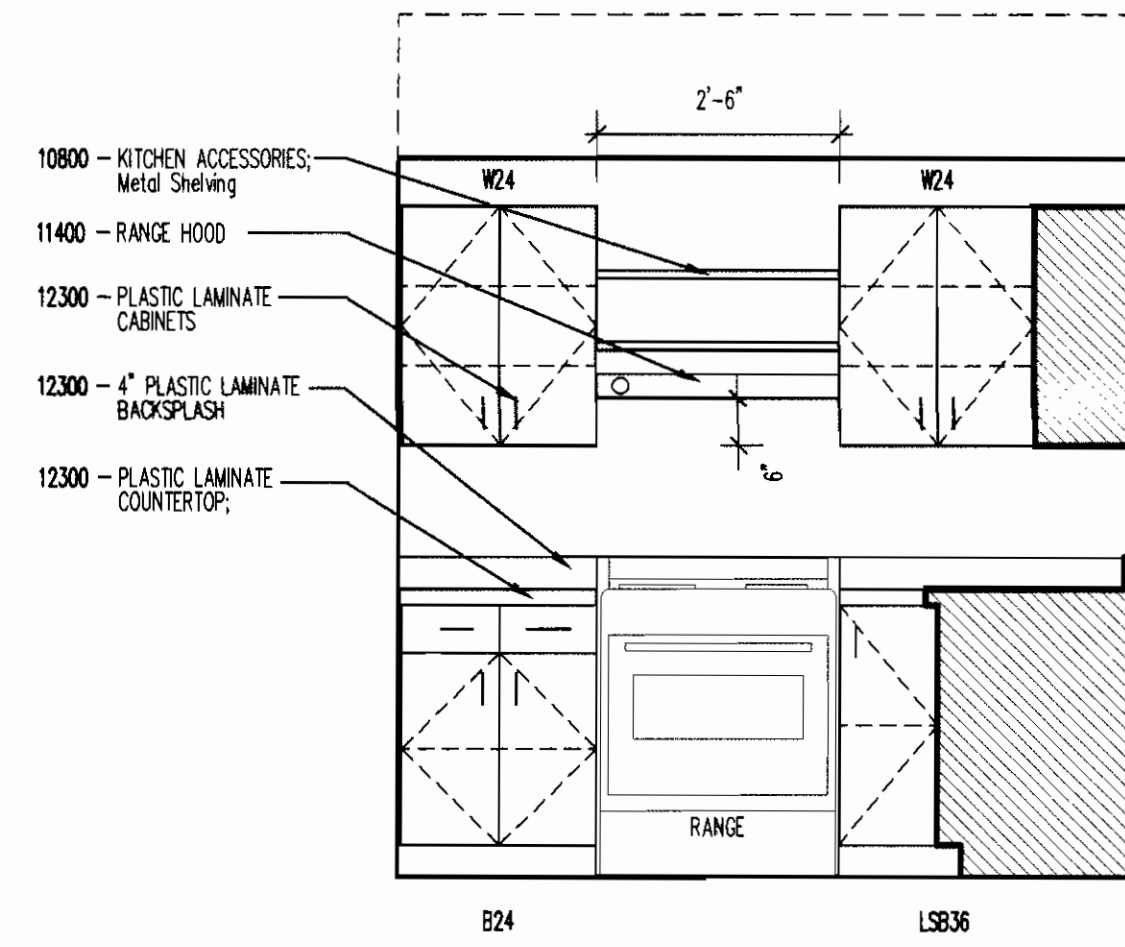
PROJECT NO.: 3-04-18
DATE: March 9, 2006

DRAWING NO:

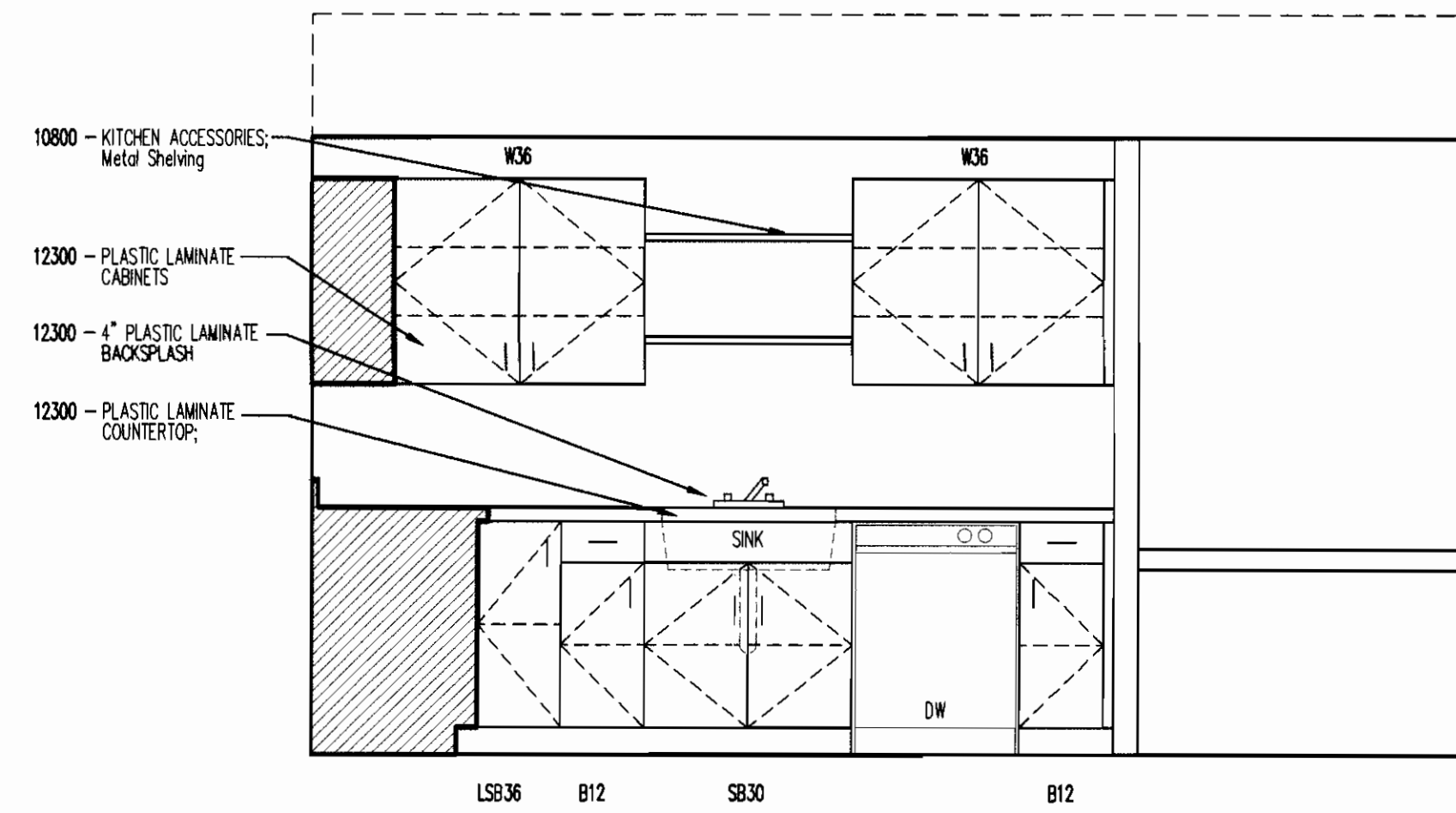
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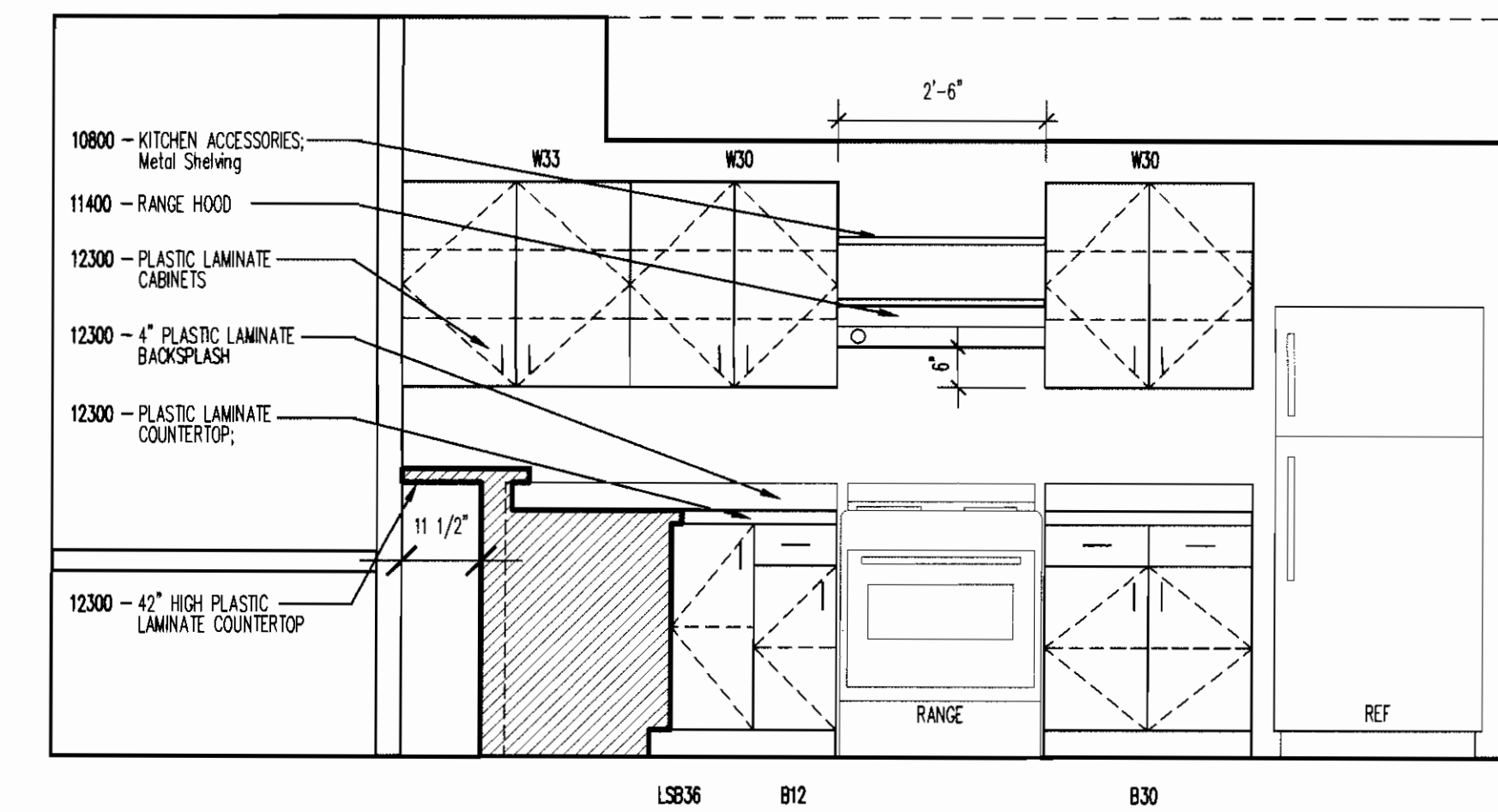
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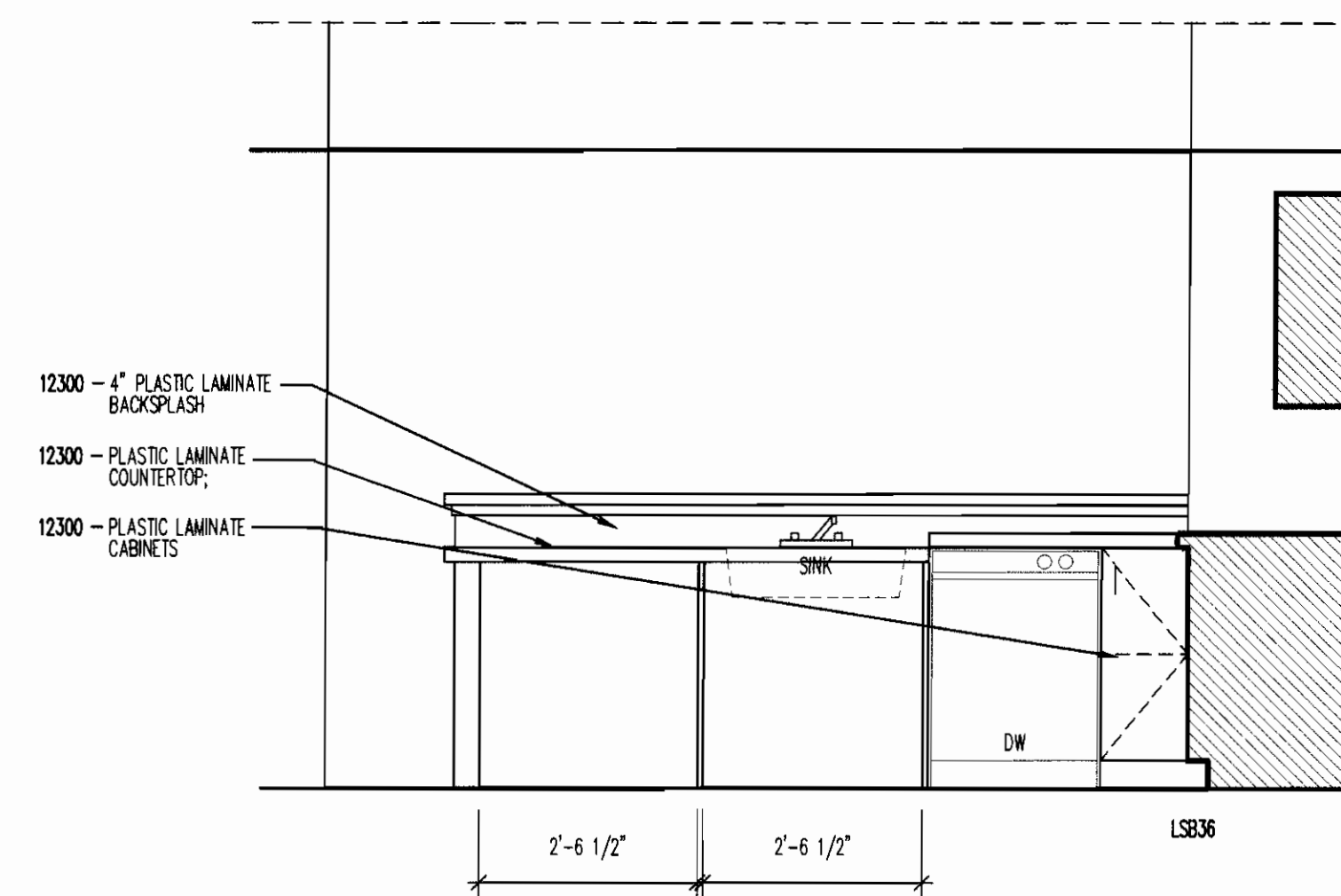
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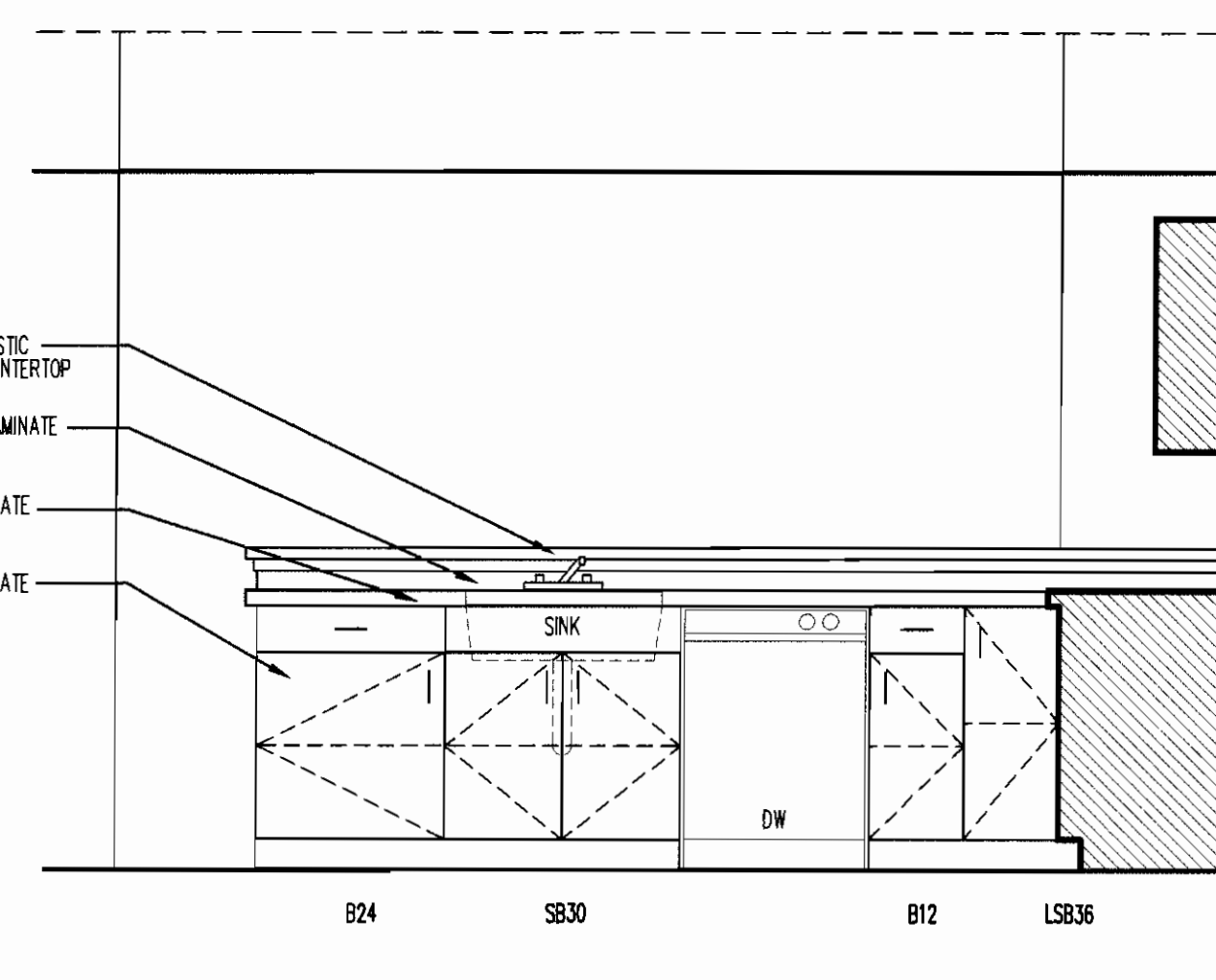
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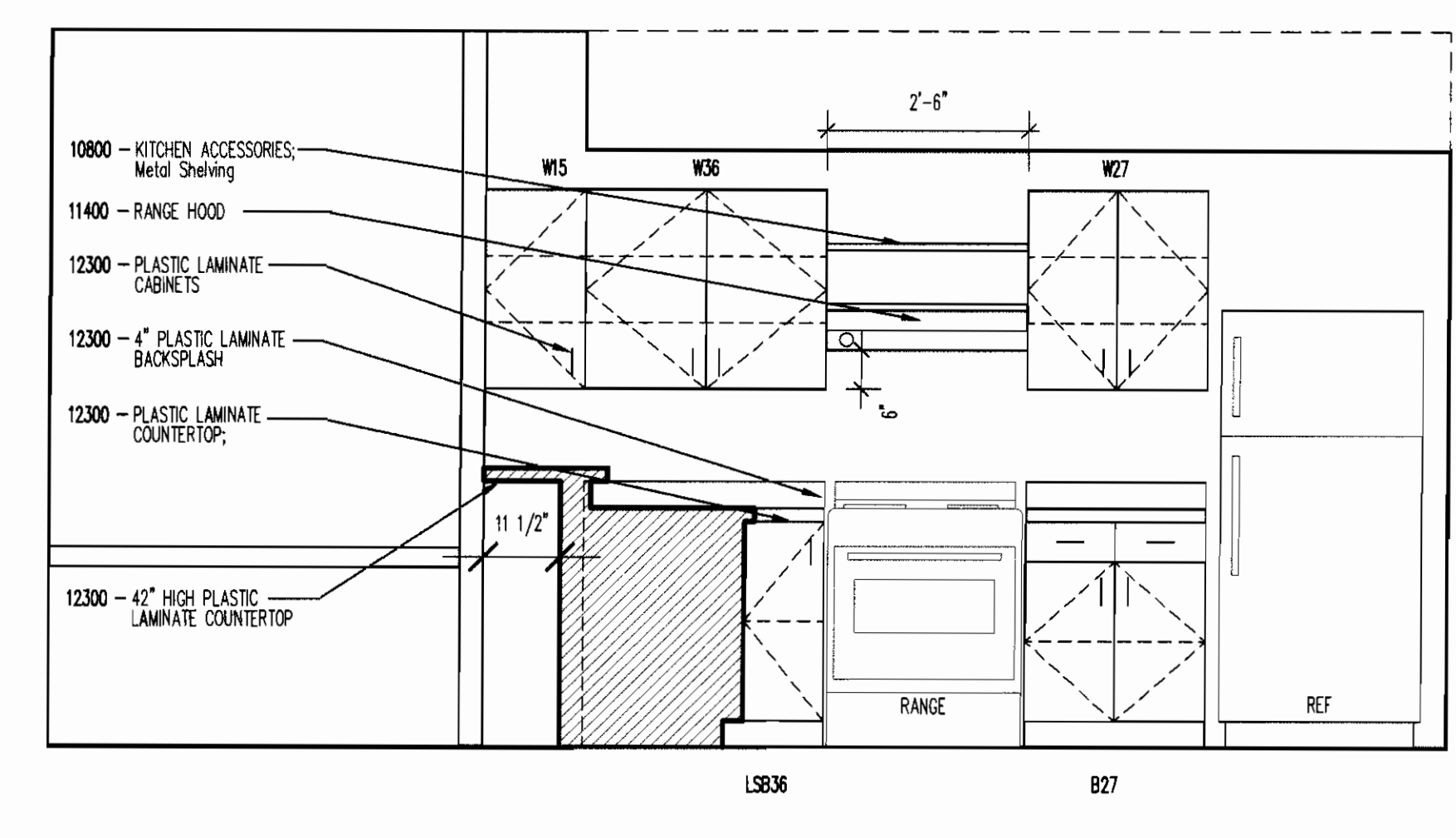
12 UNIT "K" TYPE 'A' KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



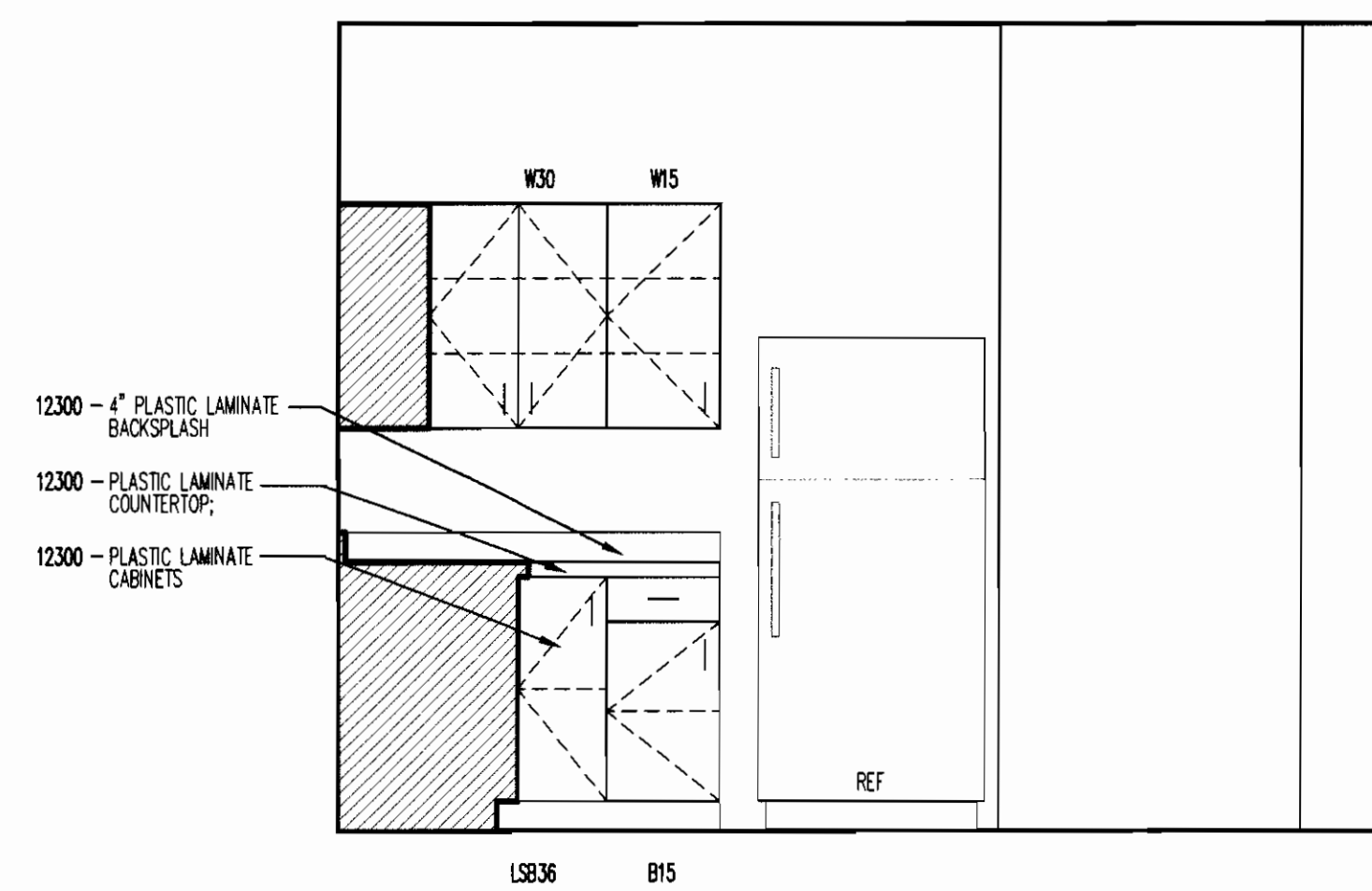
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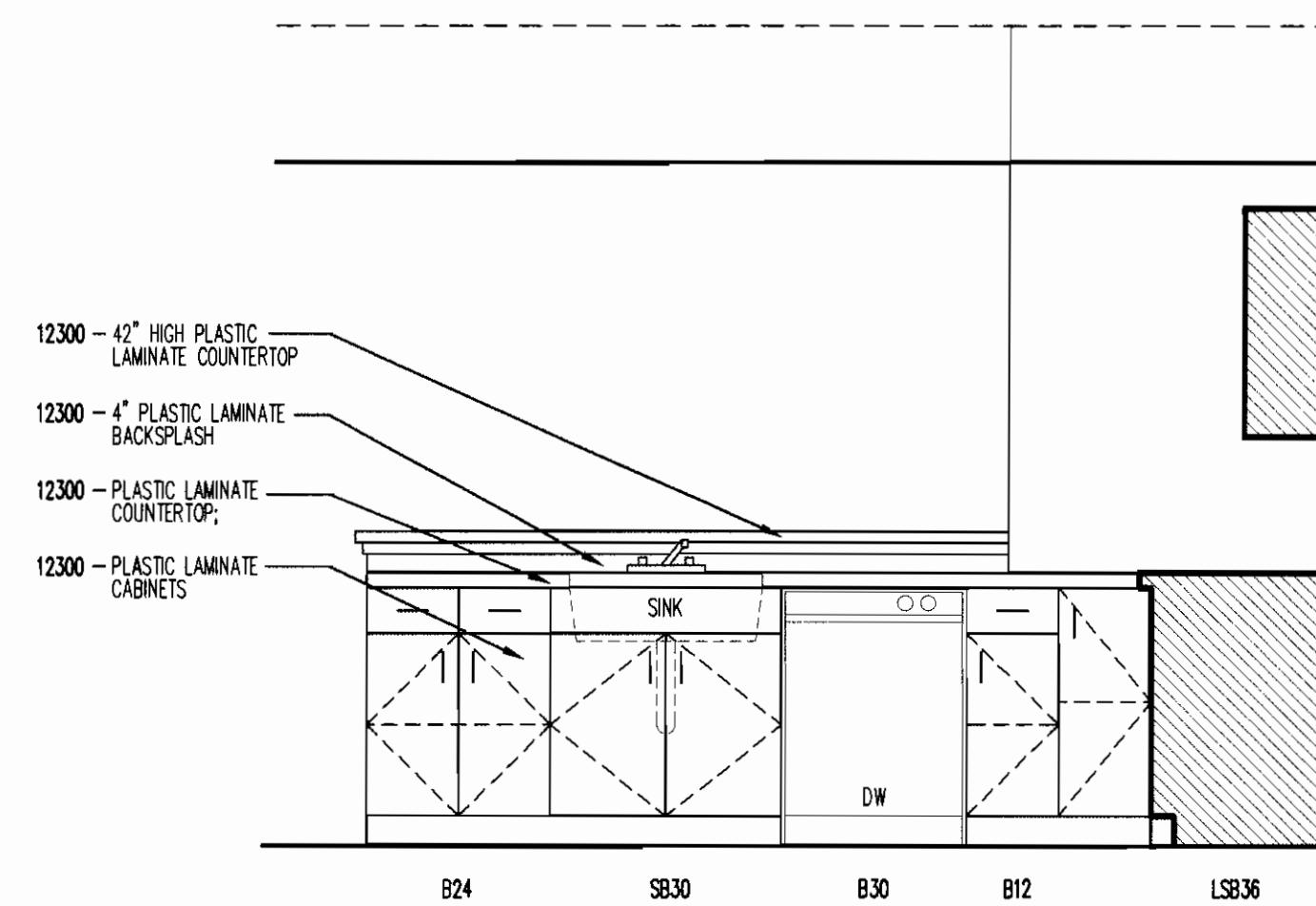
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SCALE: 1/2"=1'-0"



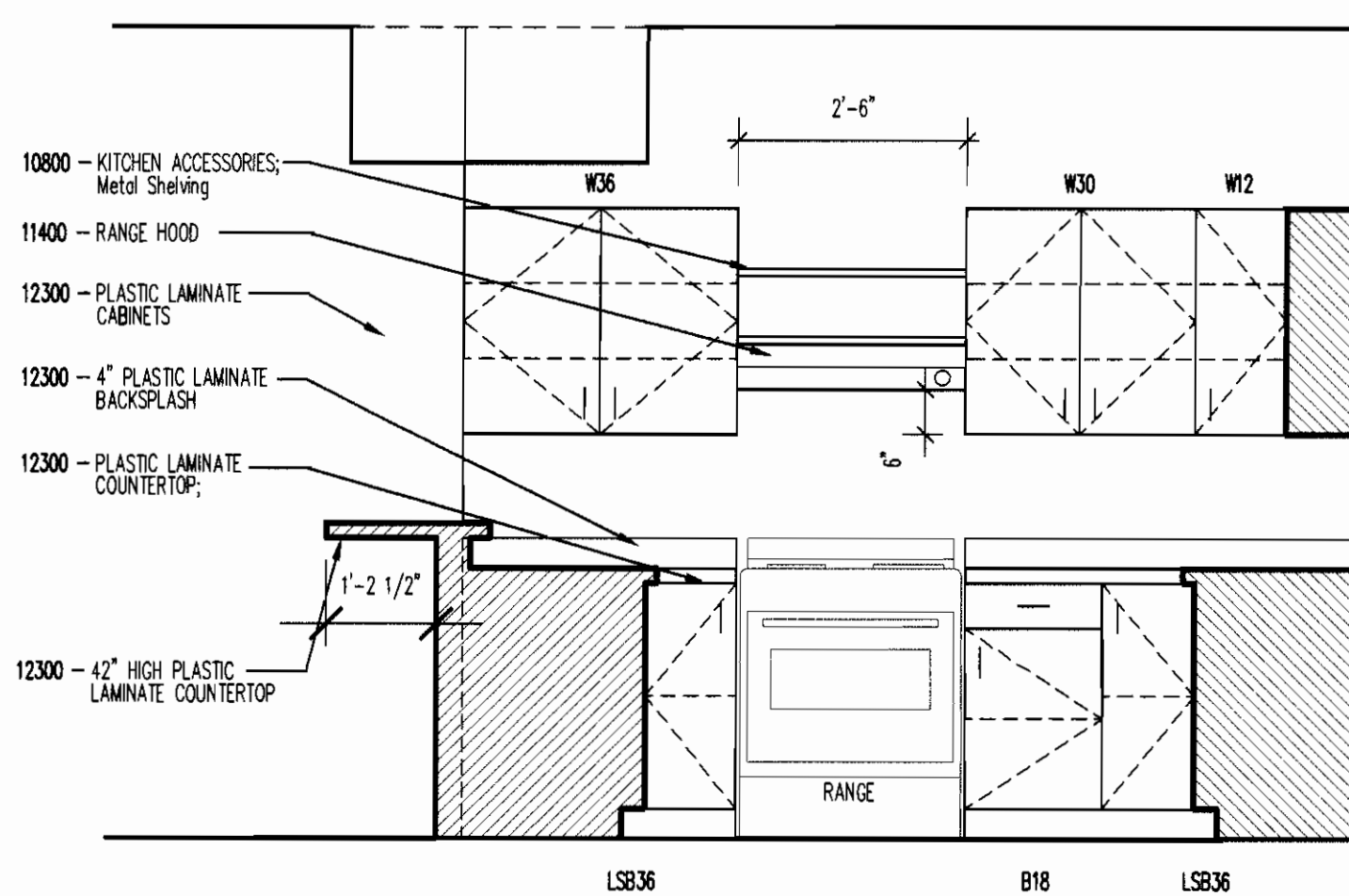
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SCALE: 1/2"=1'-0"



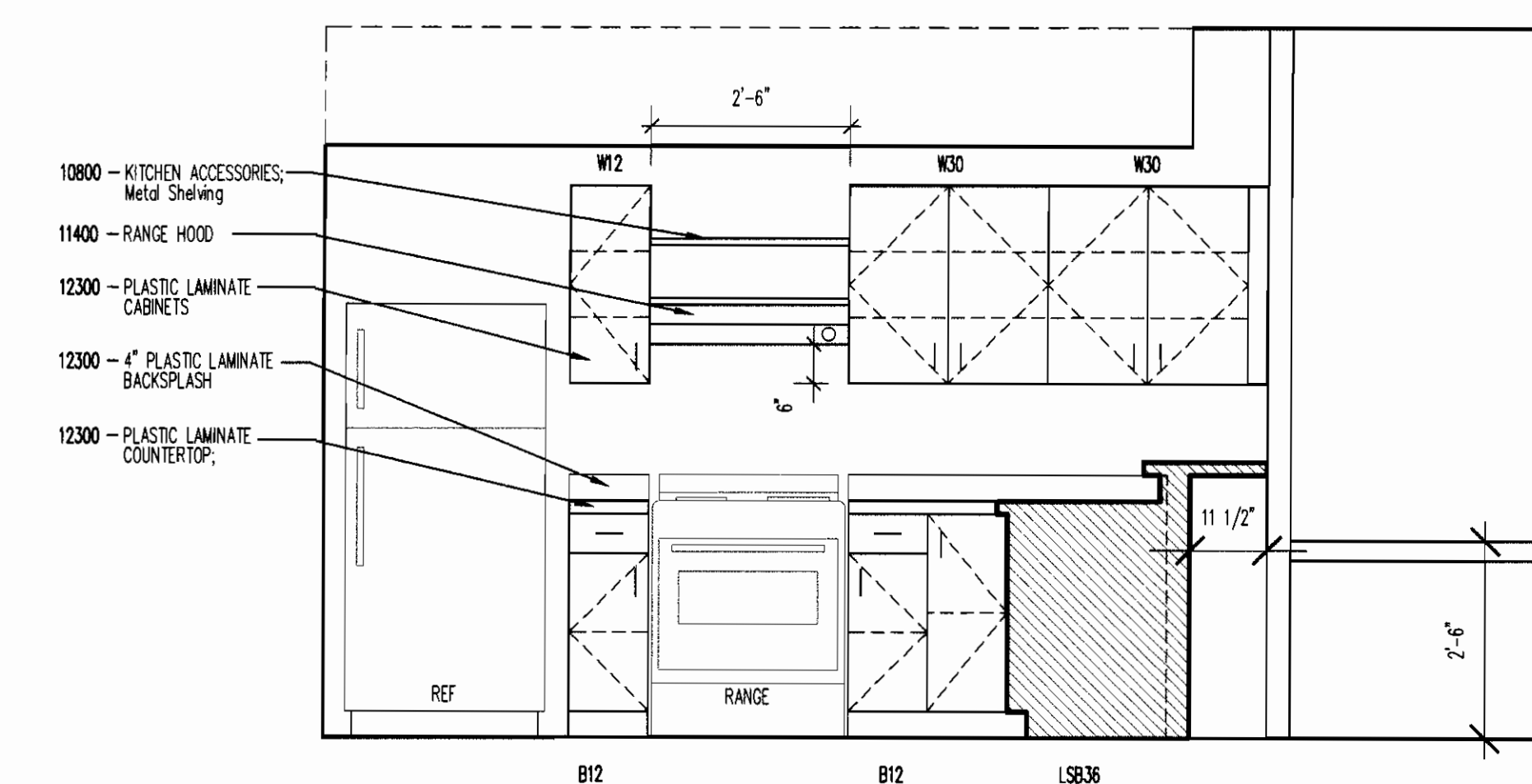
8 UNIT "J" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



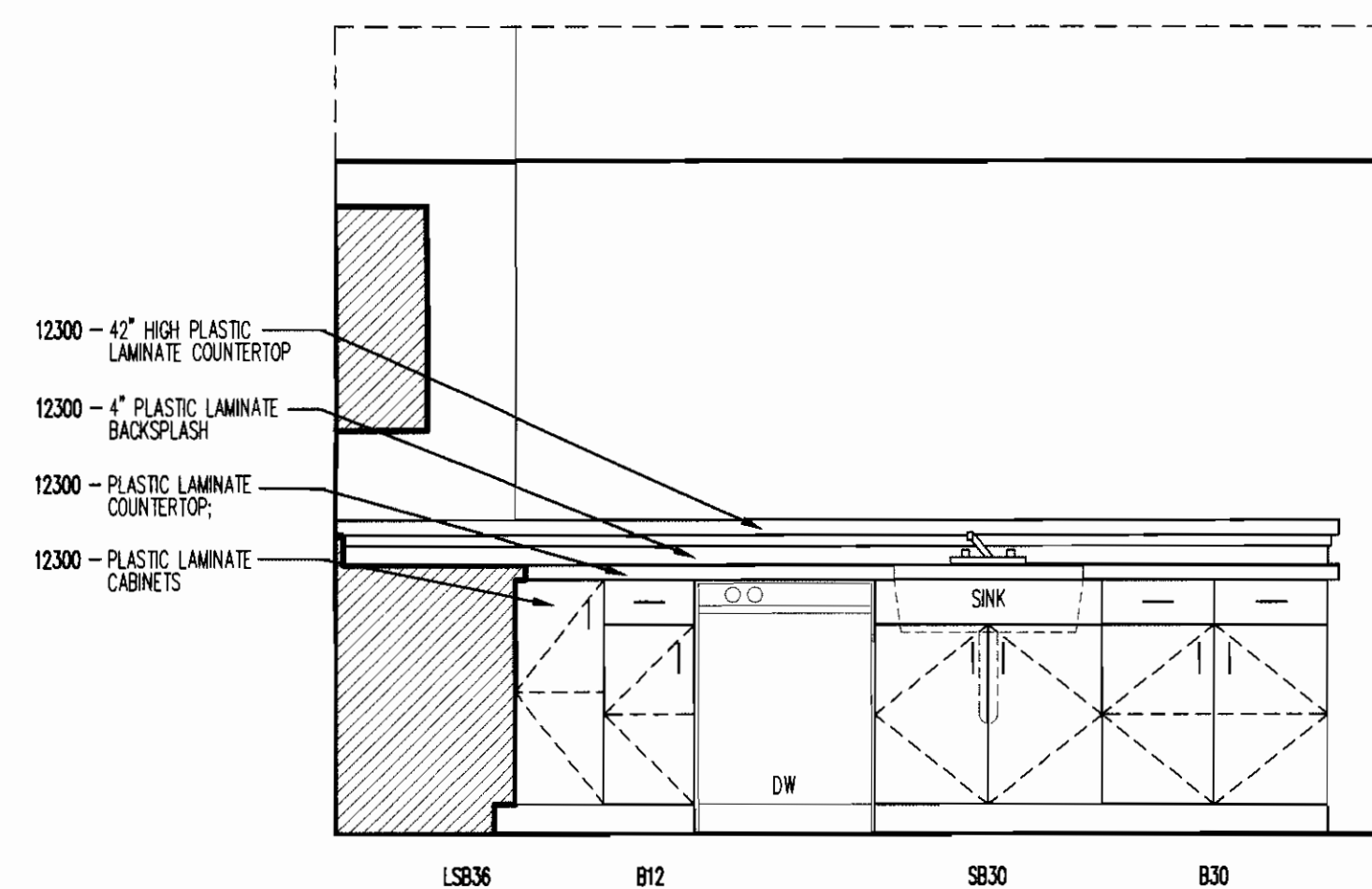
7 UNIT "I" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



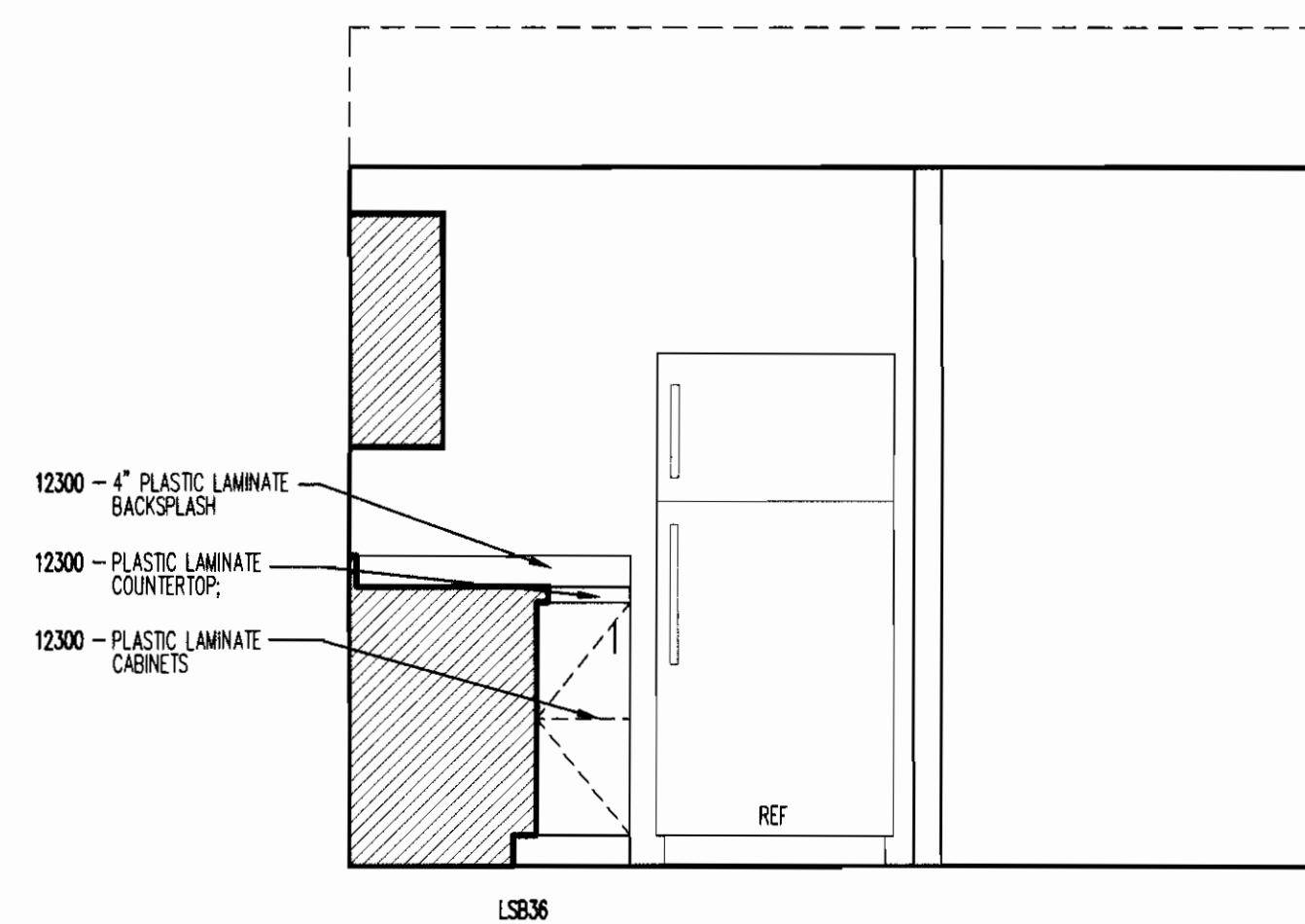
6 UNIT "J" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



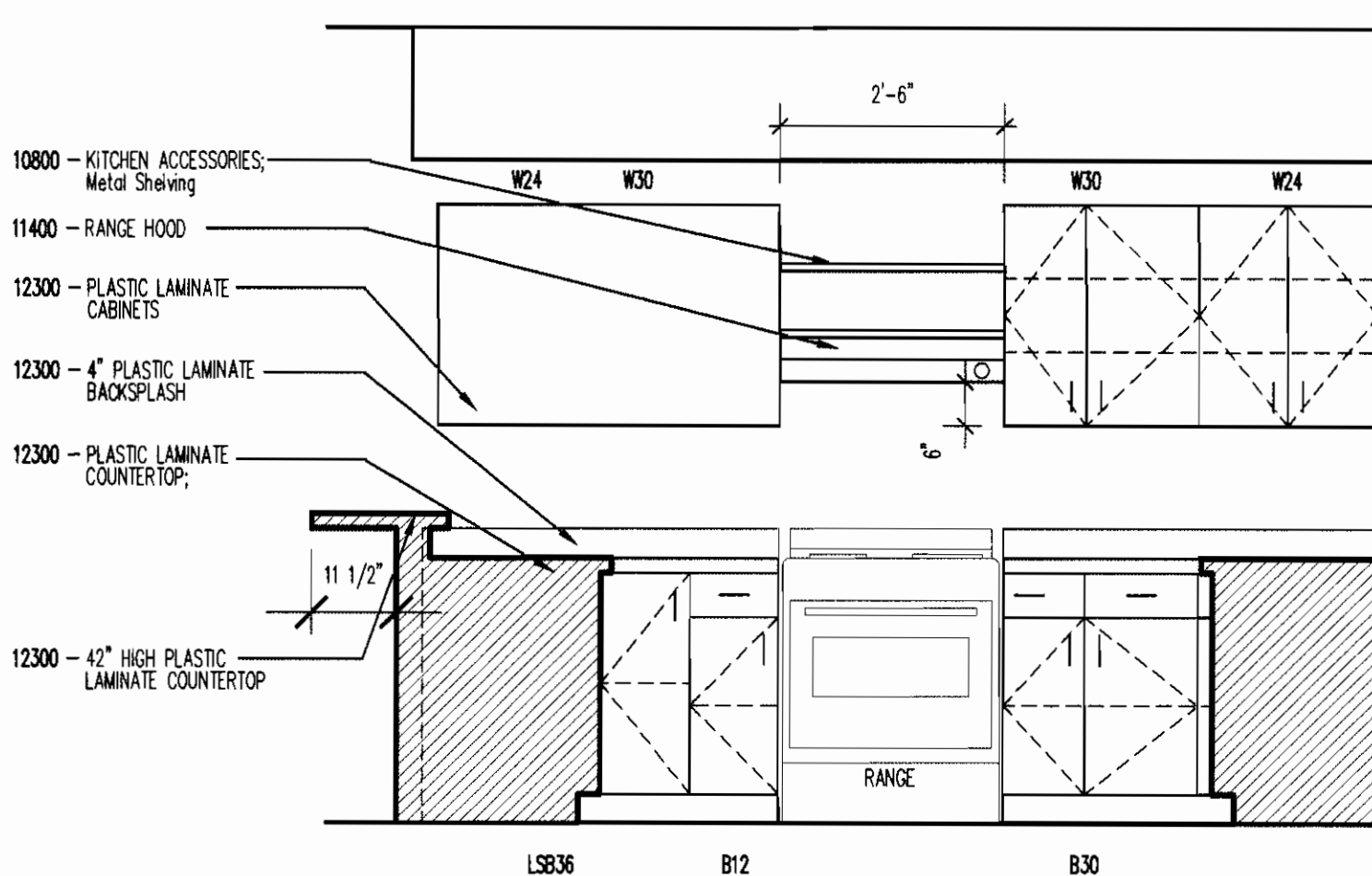
5 UNIT "H" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



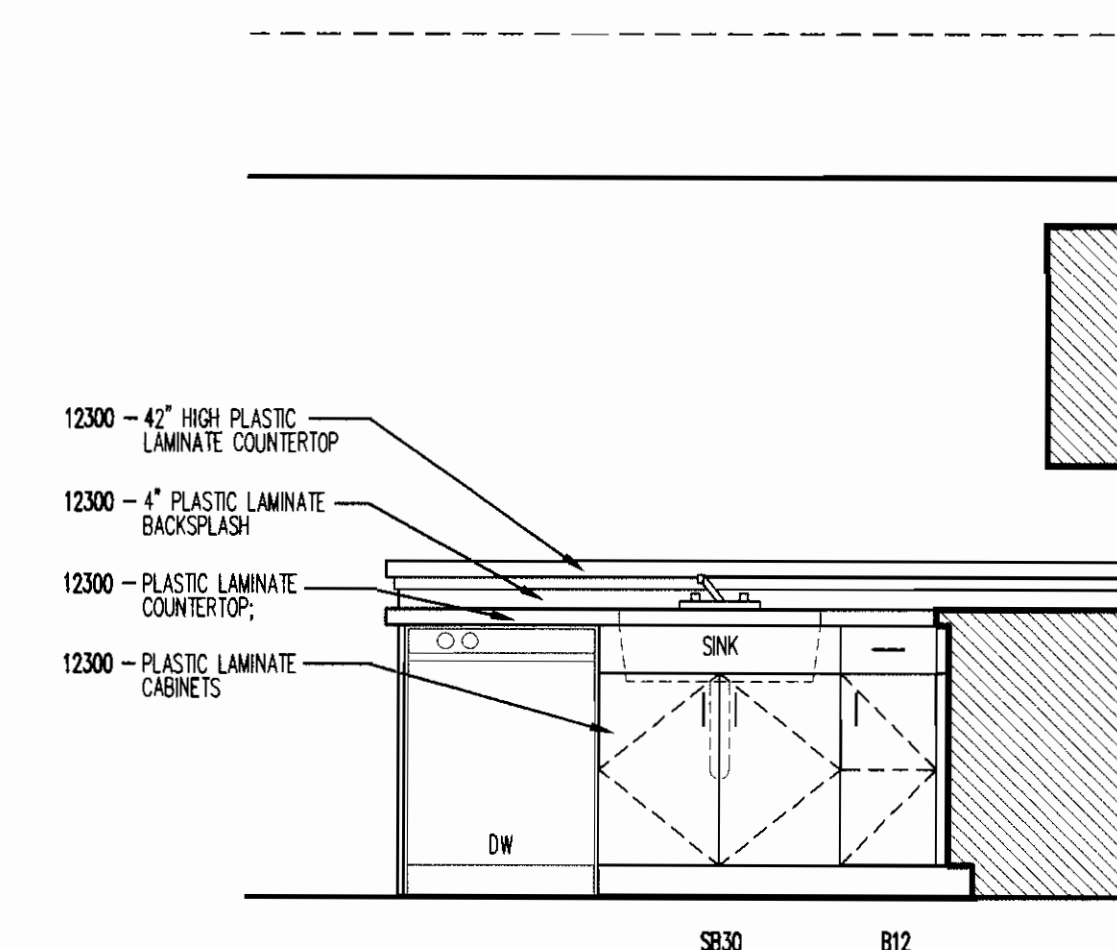
4 UNIT "H" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



3 UNIT "G" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



2 UNIT "G" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



1 UNIT "G" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE 6/18/06

06 - 108667



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

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CHECKED BY:

REVISIONS:

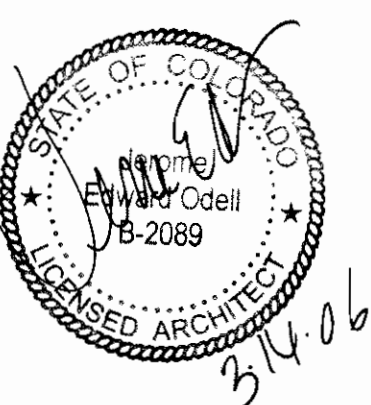
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ISSUE RECORD:

No.	Description	Date
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3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/09/2006
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SHEET CONTENTS:

INTERIOR ELEVATIONS



PROJECT NO: 3-04-18

DATE: March 9, 2006

DRAWING NO:

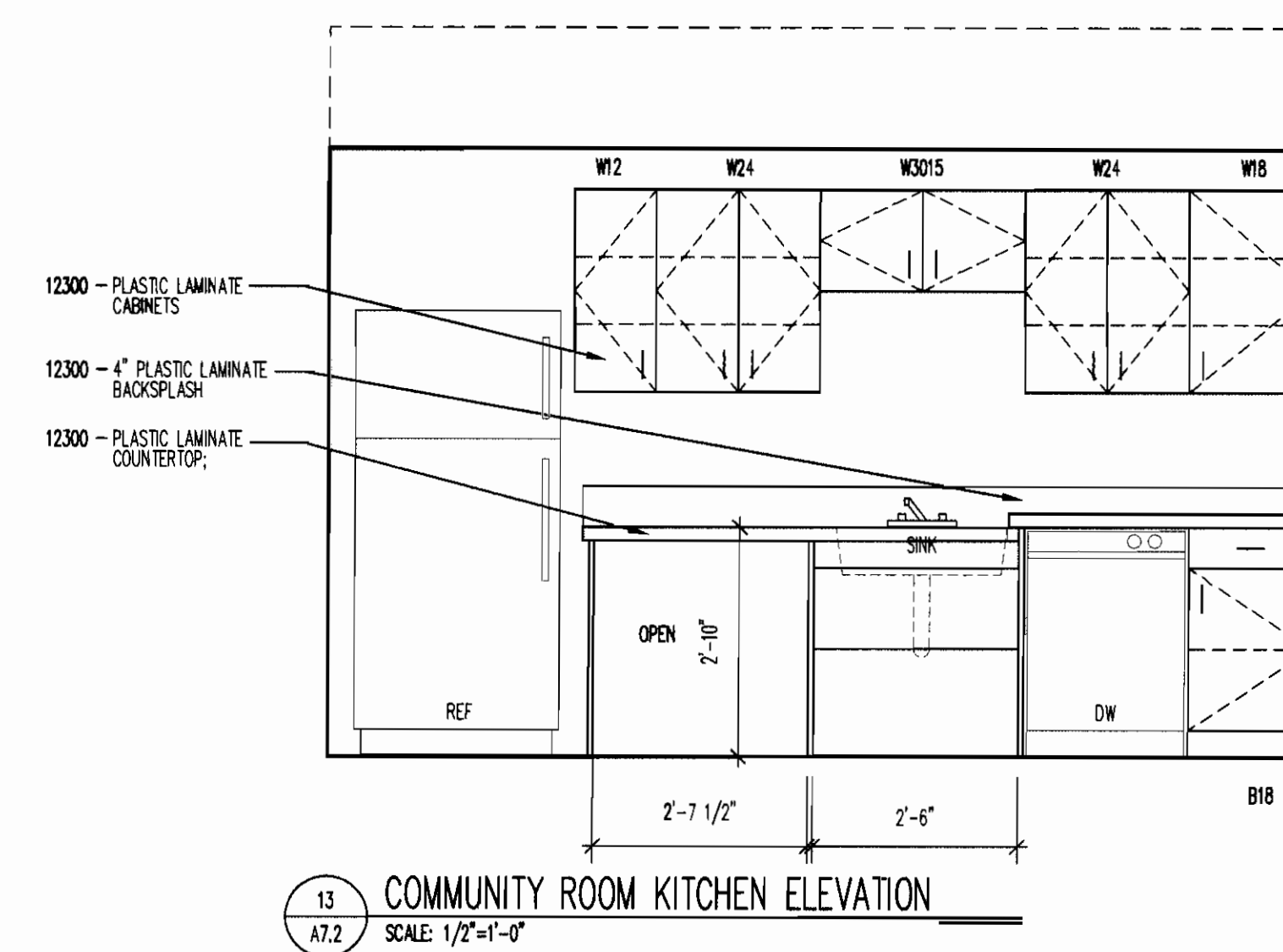
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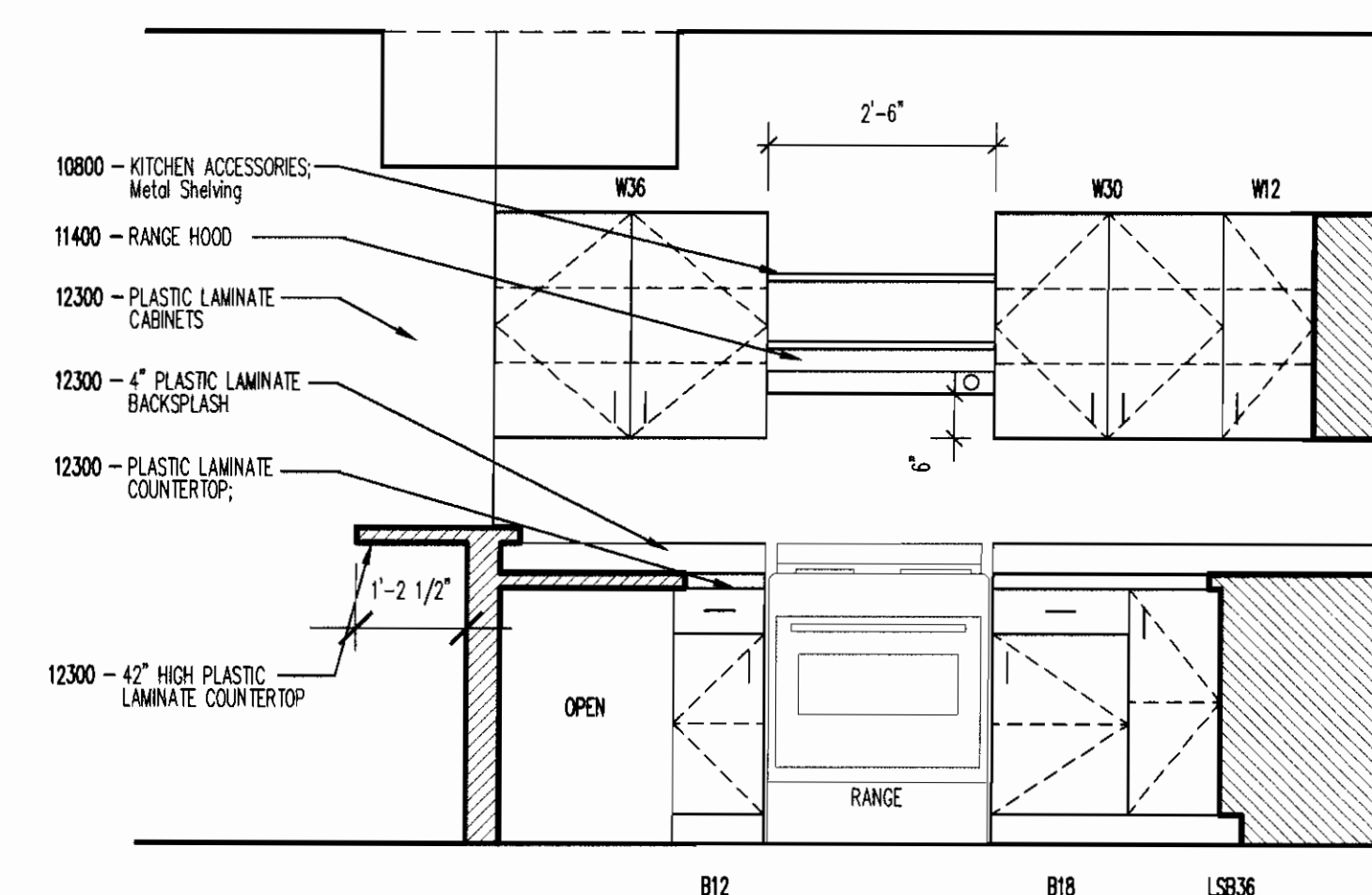
ODELL ARCHITECTS, P.C.
ARCHITECTURE PLANNING INTERIORS
3500 Castle Court, Suite 100, Englewood, Colorado 80150
Telephone: 303.755.0888 Fax: 303.755.7121
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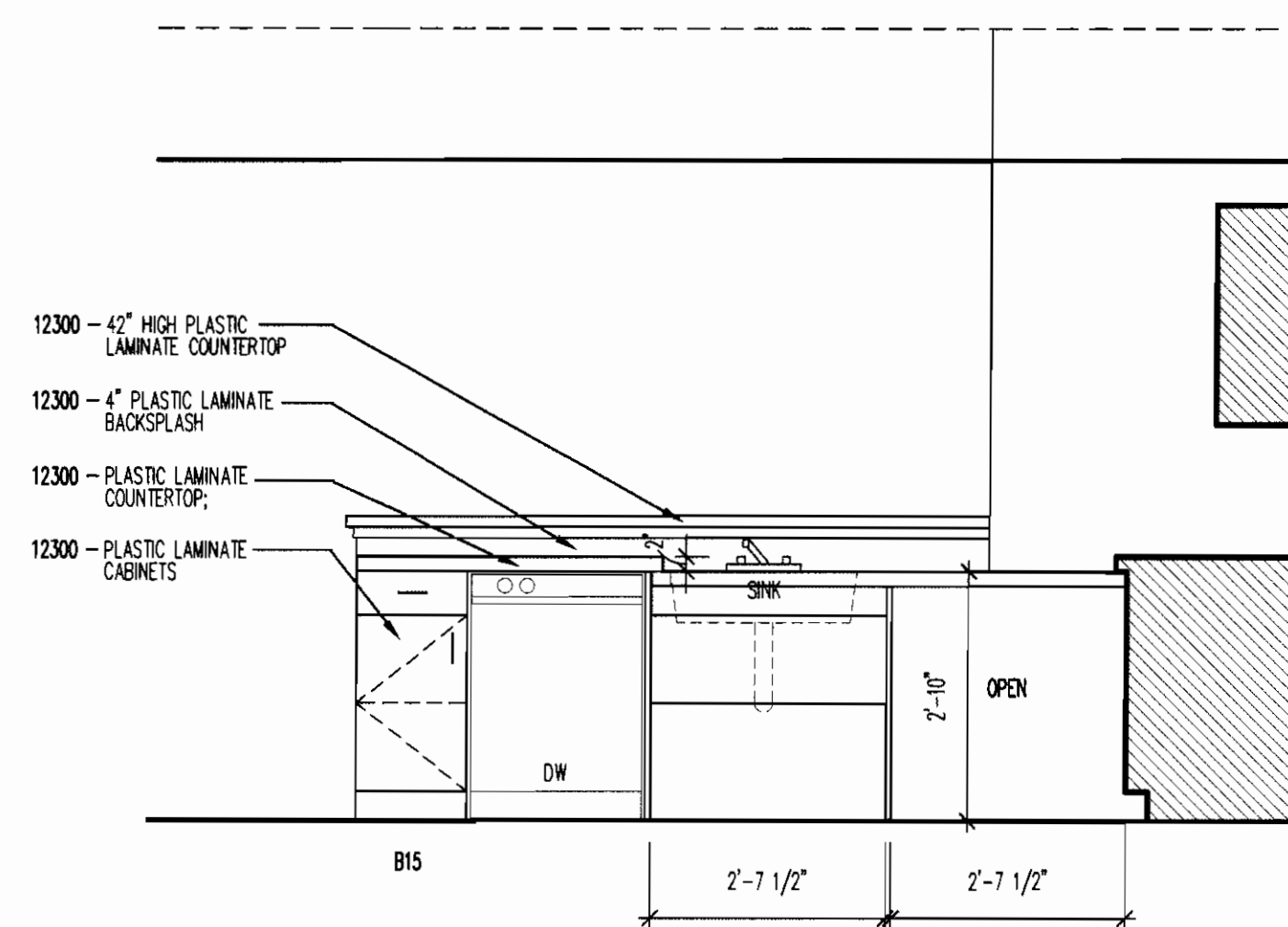
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado



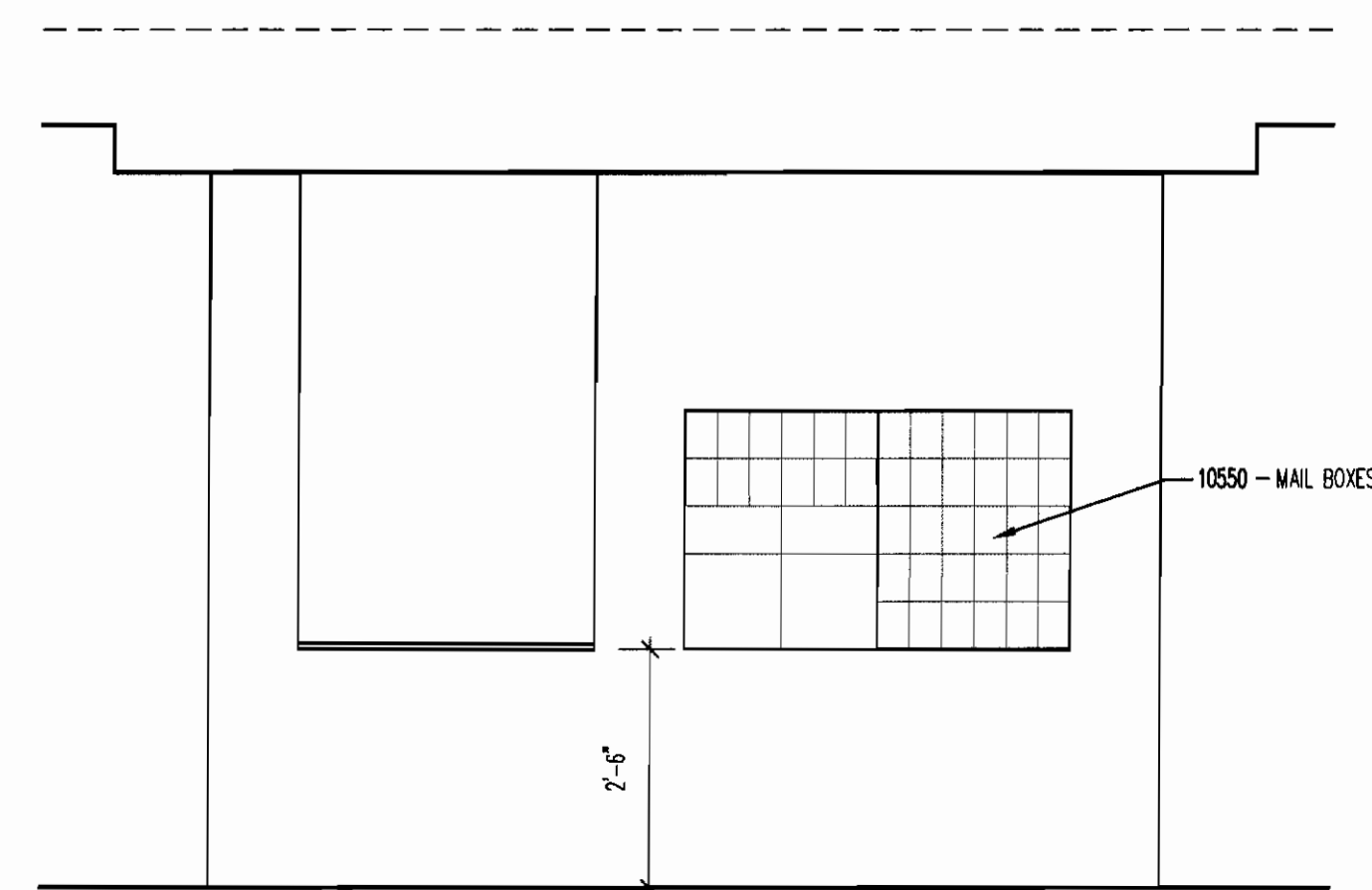
13 COMMUNITY ROOM KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



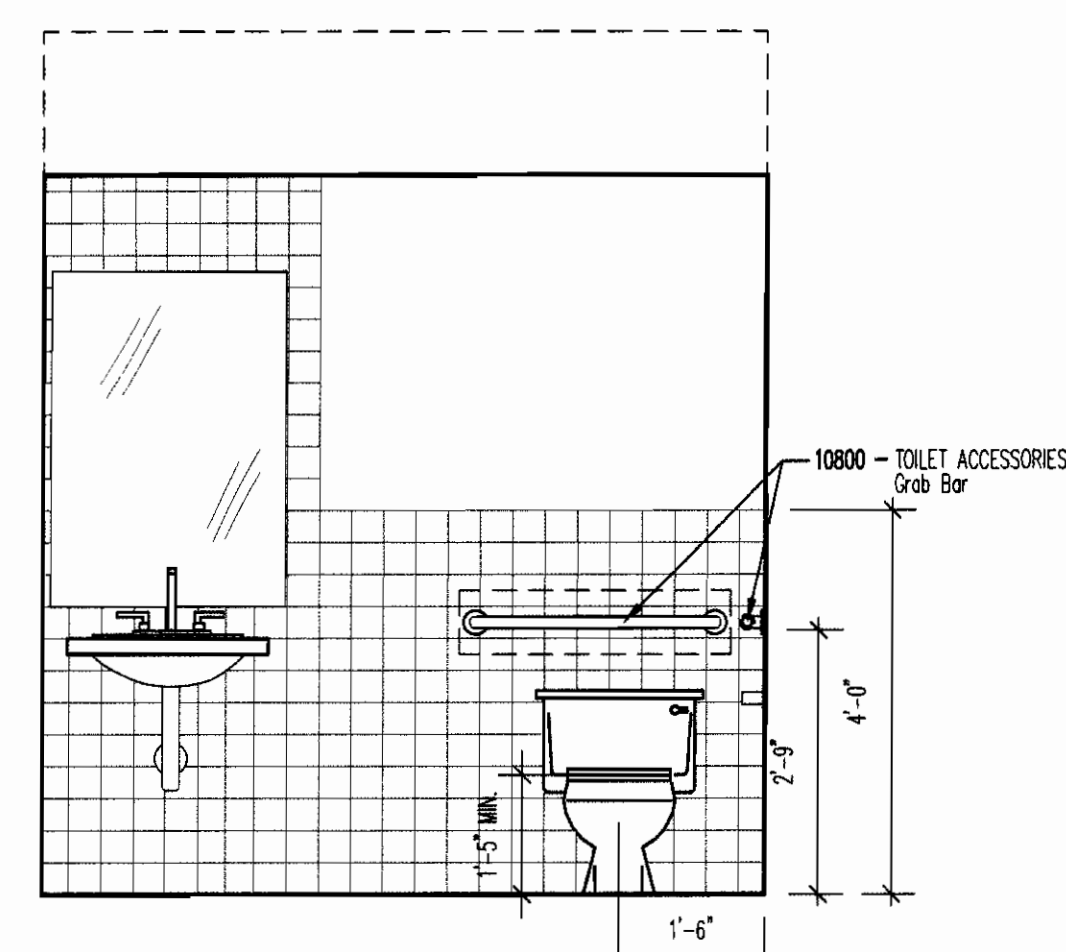
9 UNIT "J" TYPE "A" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



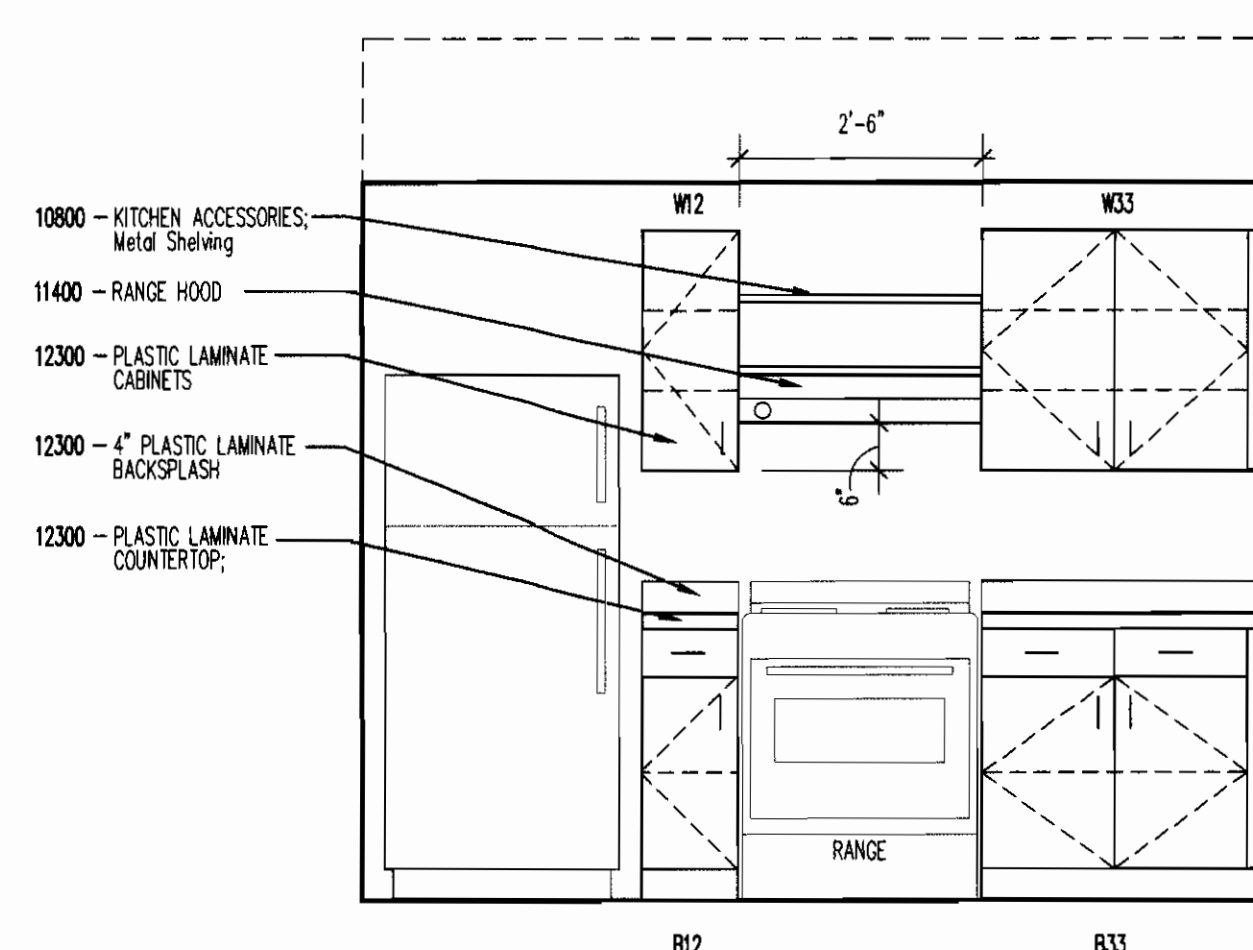
10 UNIT "J" TYPE "A" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



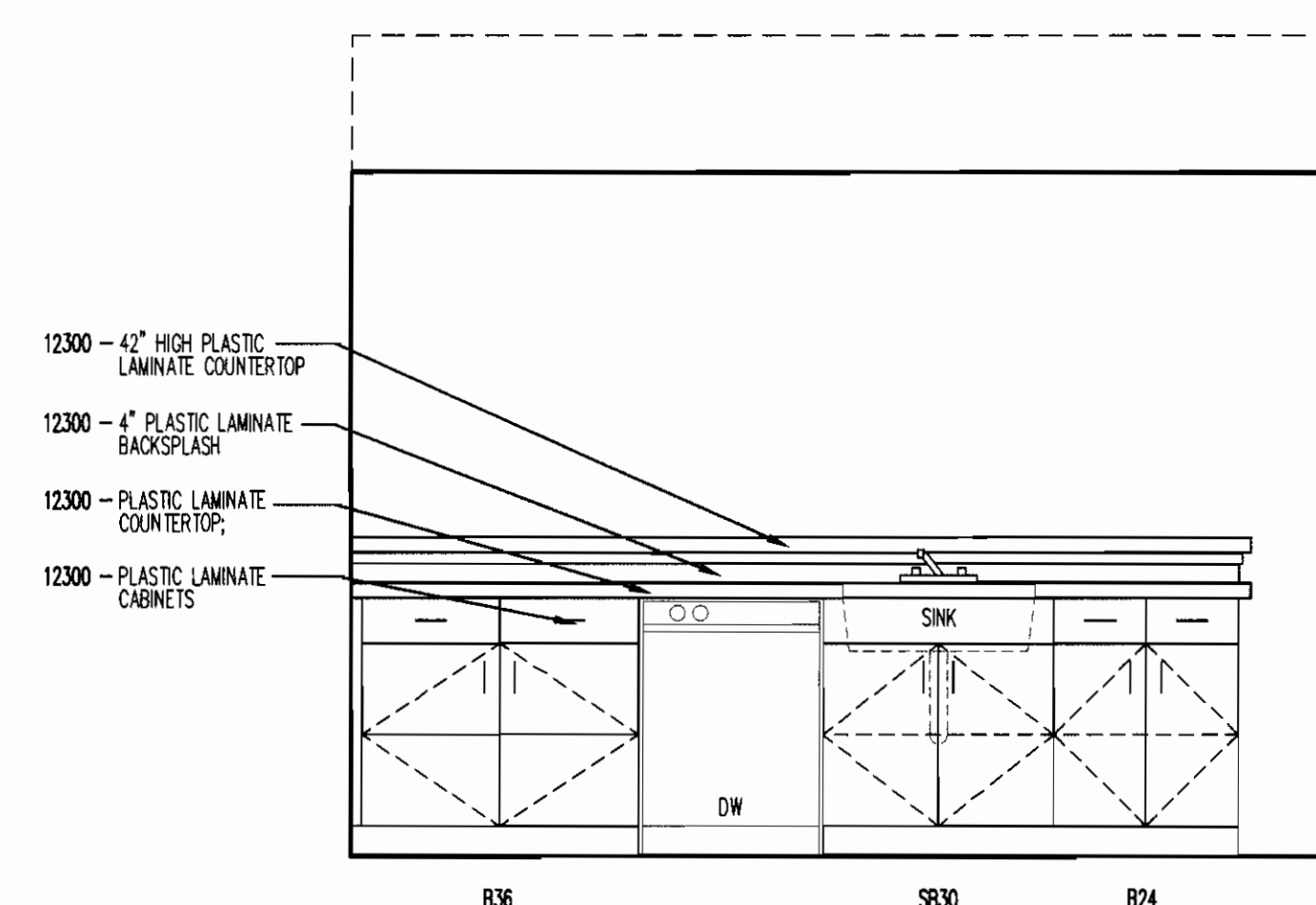
9 MAIL BOX INTERIOR ELEVATION
SCALE: 1/2"=1'-0"



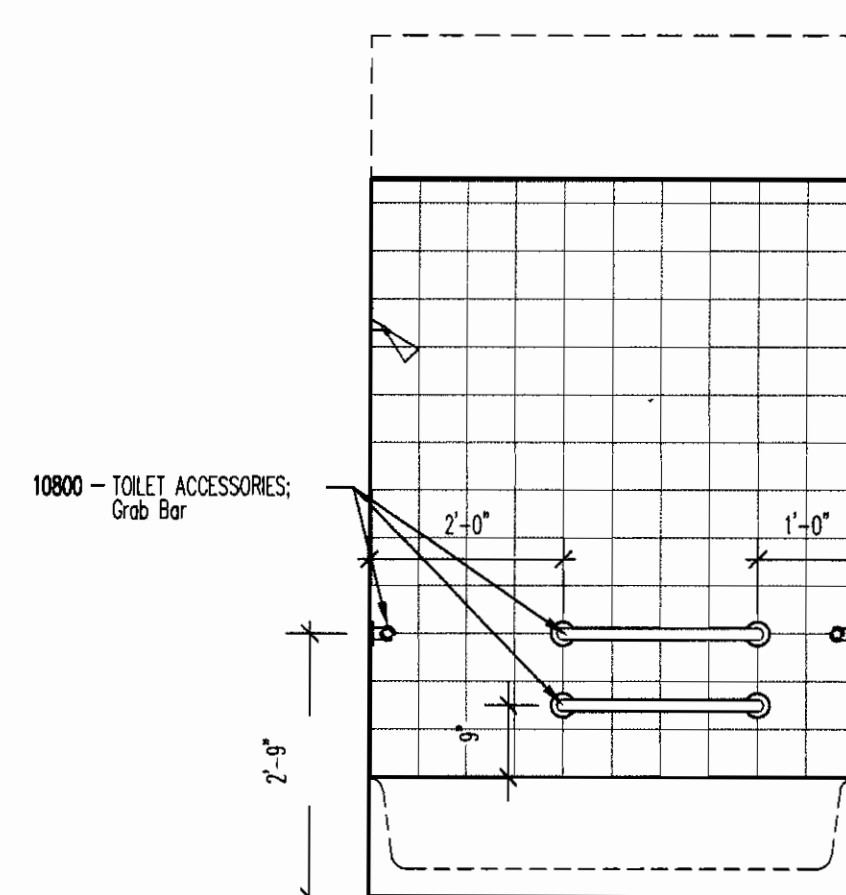
10 COMMUNITY ROOM RESTROOM ELEVATION
SCALE: 1/2"=1'-0"



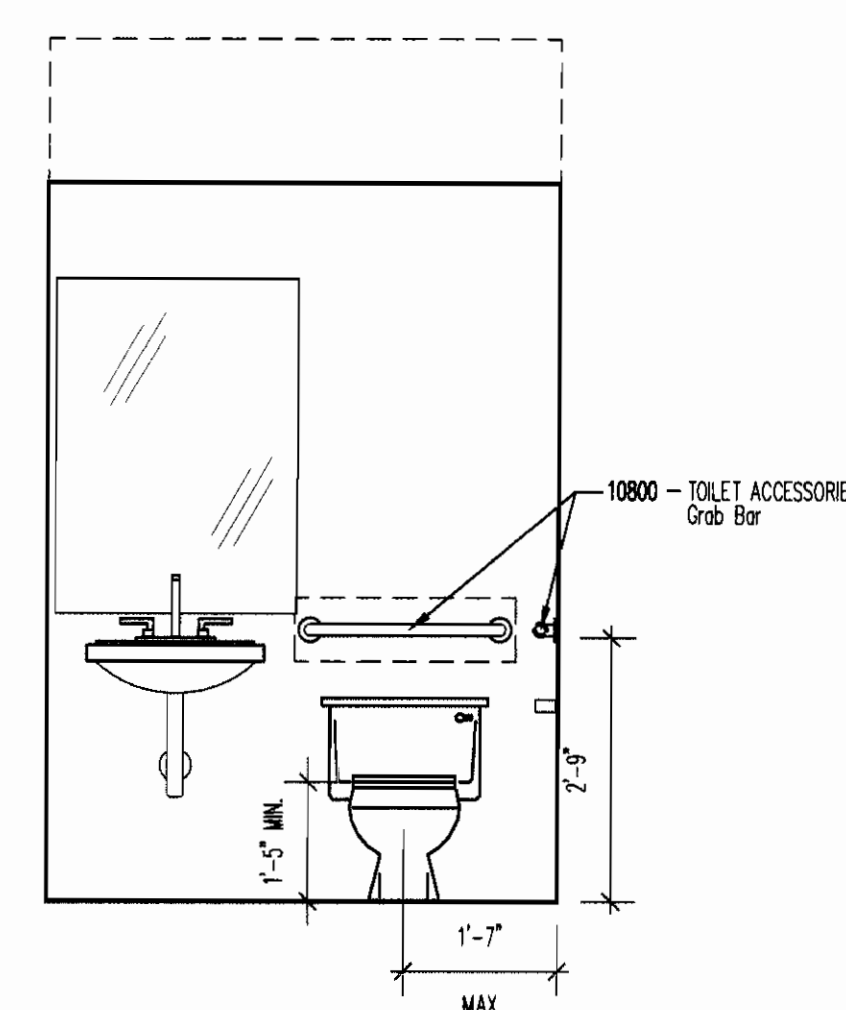
8 UNIT "M" KITCHEN ELEVATION
SCALE: 1/2"=1'-0"



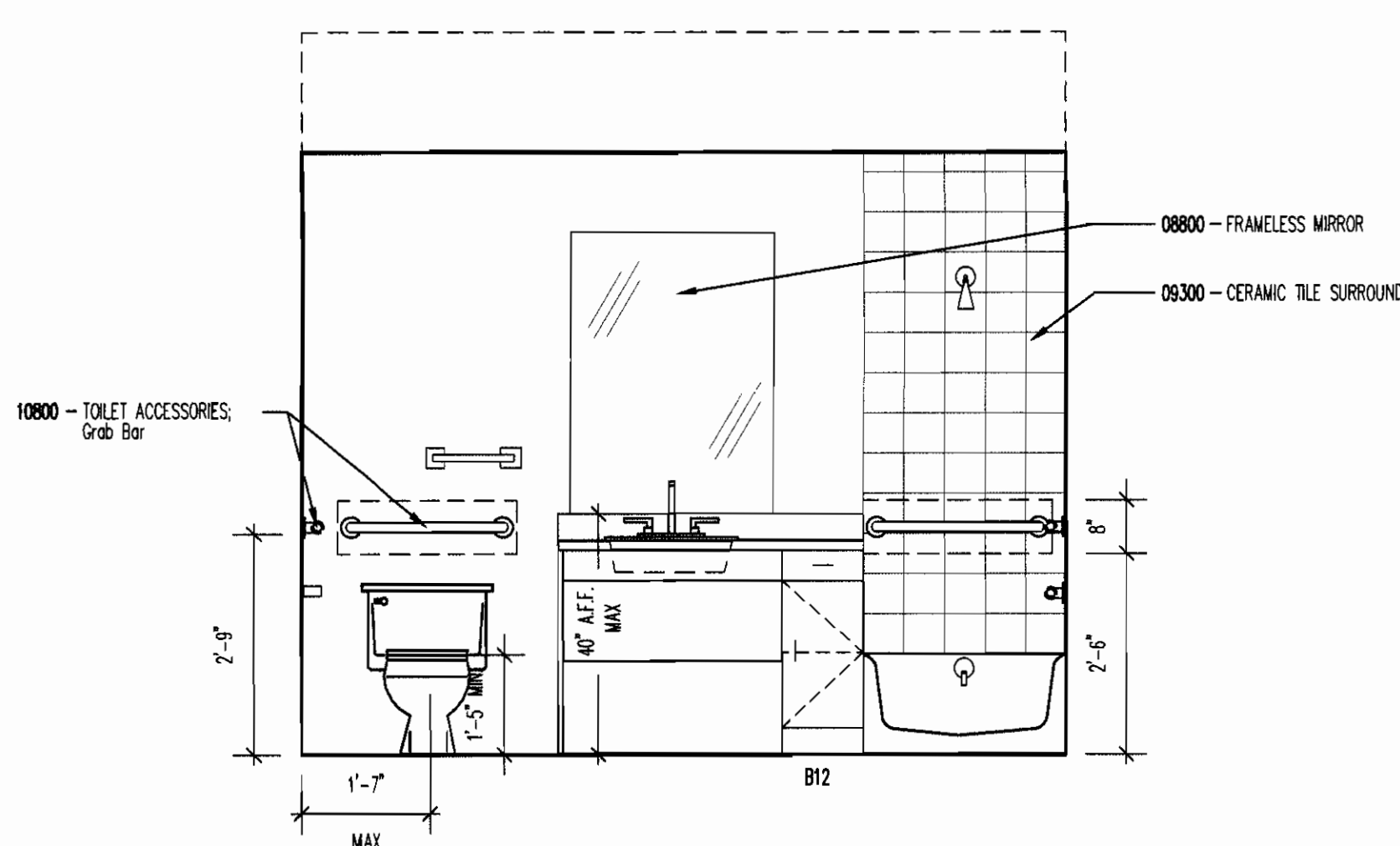
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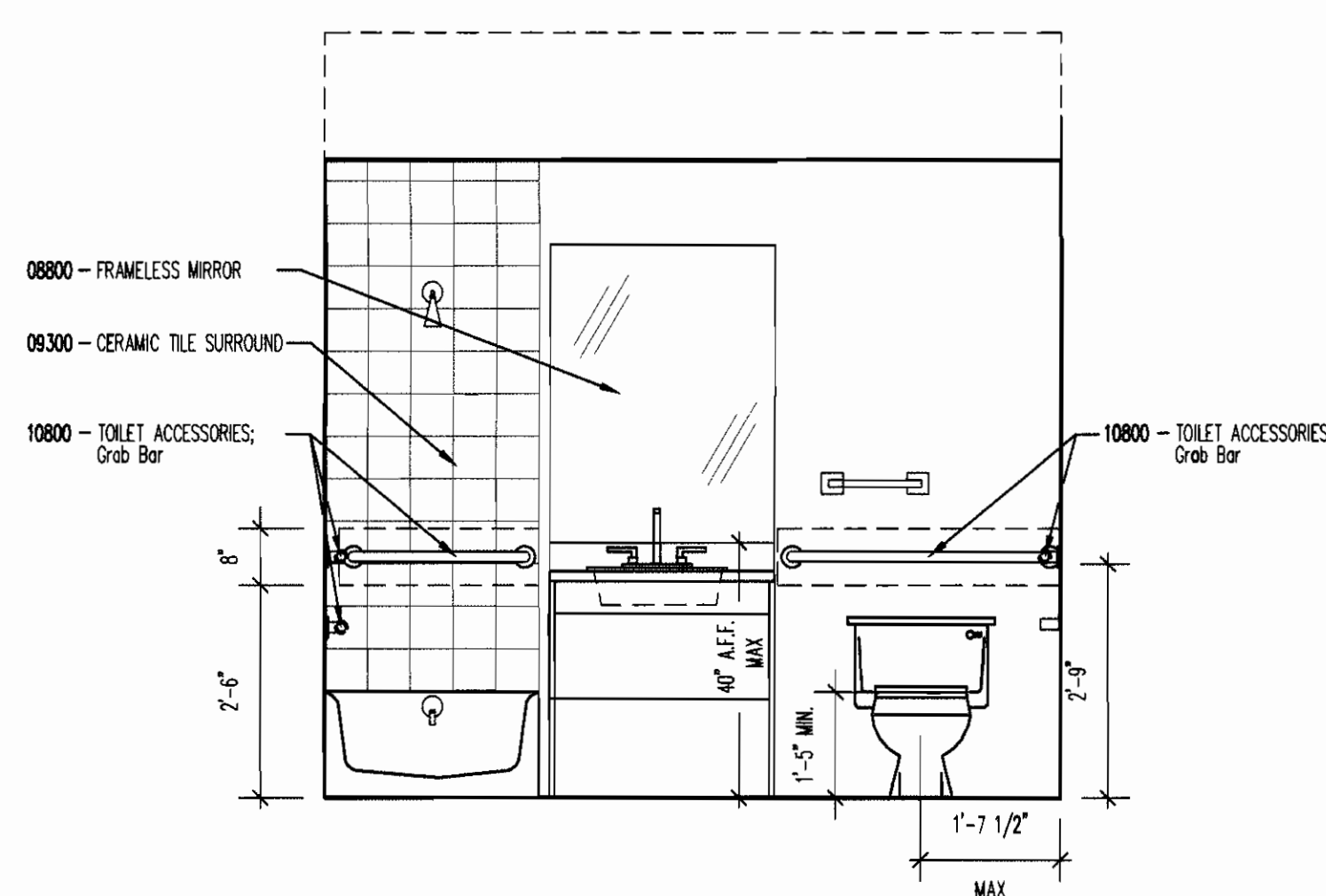
6 TYPE "A" BATHTUB ELEVATION
SCALE: 1/2"=1'-0"



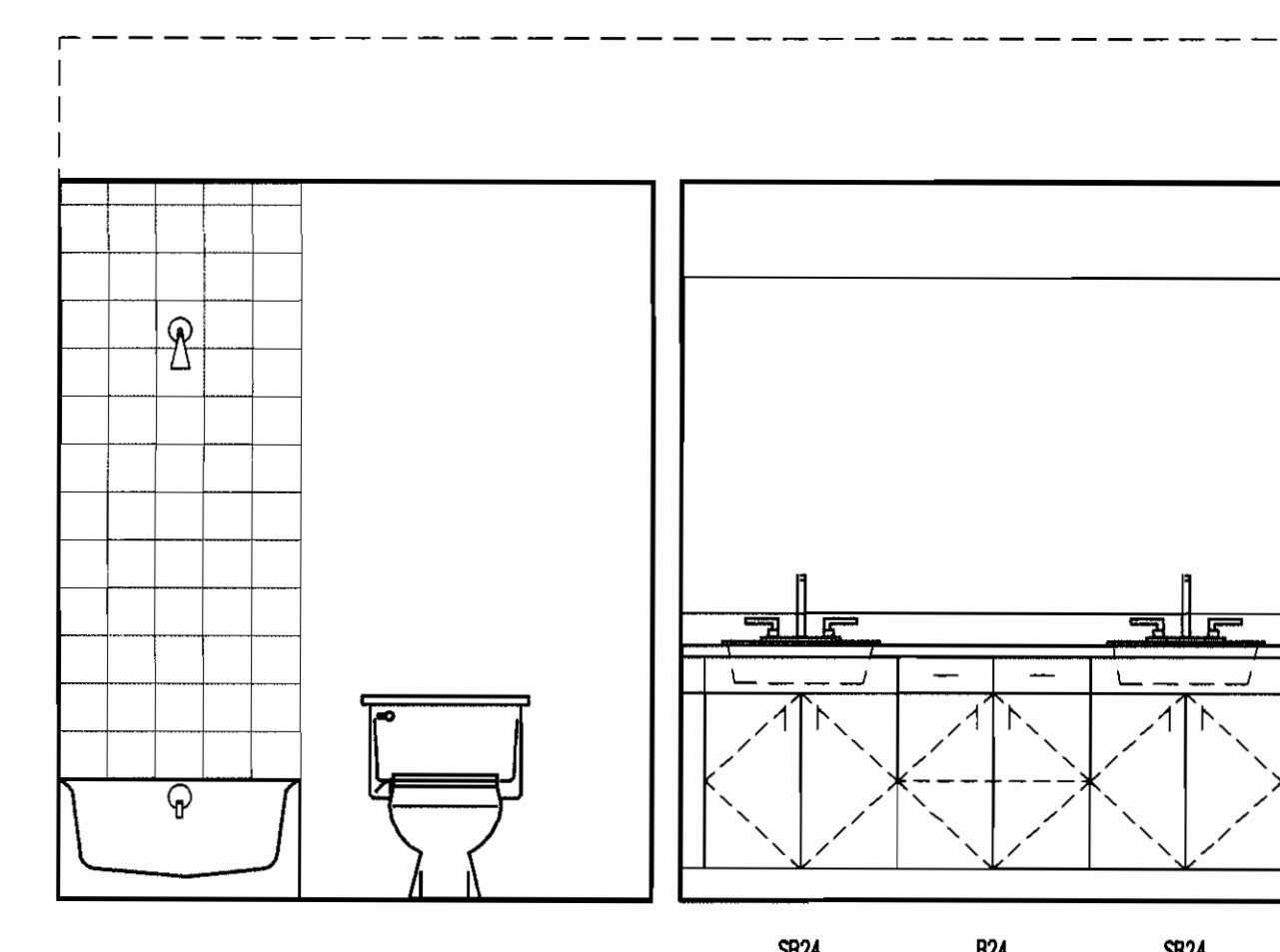
5 UNIT "J" TYPE "A" BATHROOM ELEVATION
SCALE: 1/2"=1'-0"



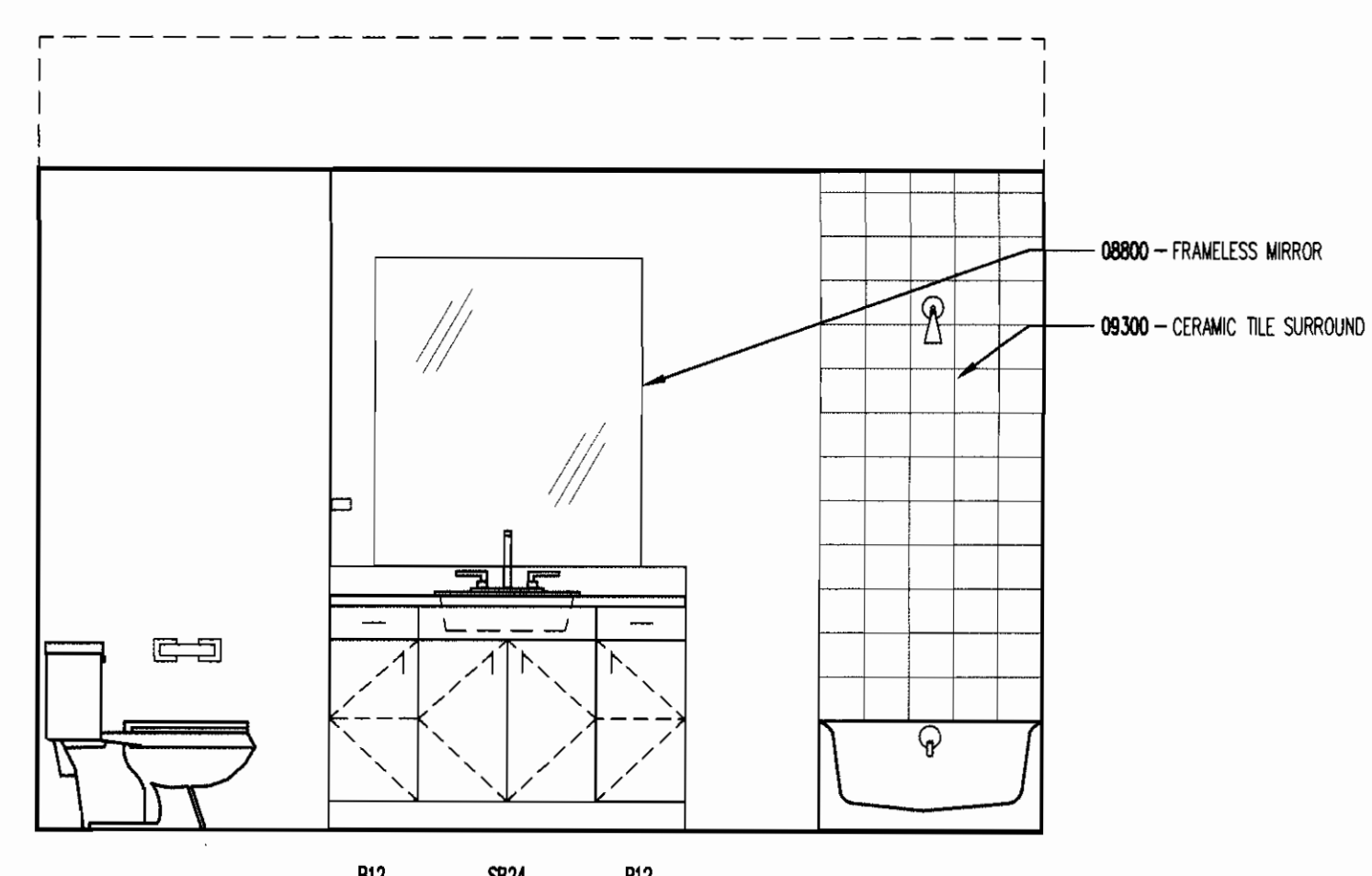
4 UNIT "J" TYPE "A" BATHROOM ELEVATION
SCALE: 1/2"=1'-0"



3 UNIT "K" TYPE "A" BATHROOM ELEVATION
SCALE: 1/2"=1'-0"



2 UNIT "A" UPSTAIRS BATH ELEVATION
SCALE: 1/2"=1'-0"



1 UNIT "A" DOWNSTAIRS BATH ELEVATION
SCALE: 1/2"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE 6/16/05

06 - 108667

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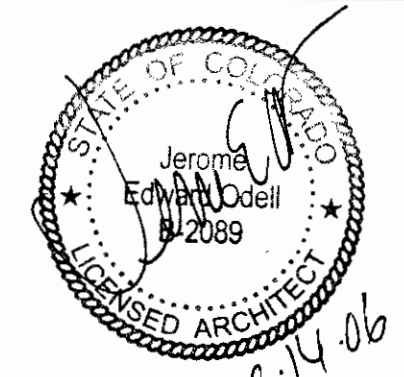
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ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% DD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/29/2006

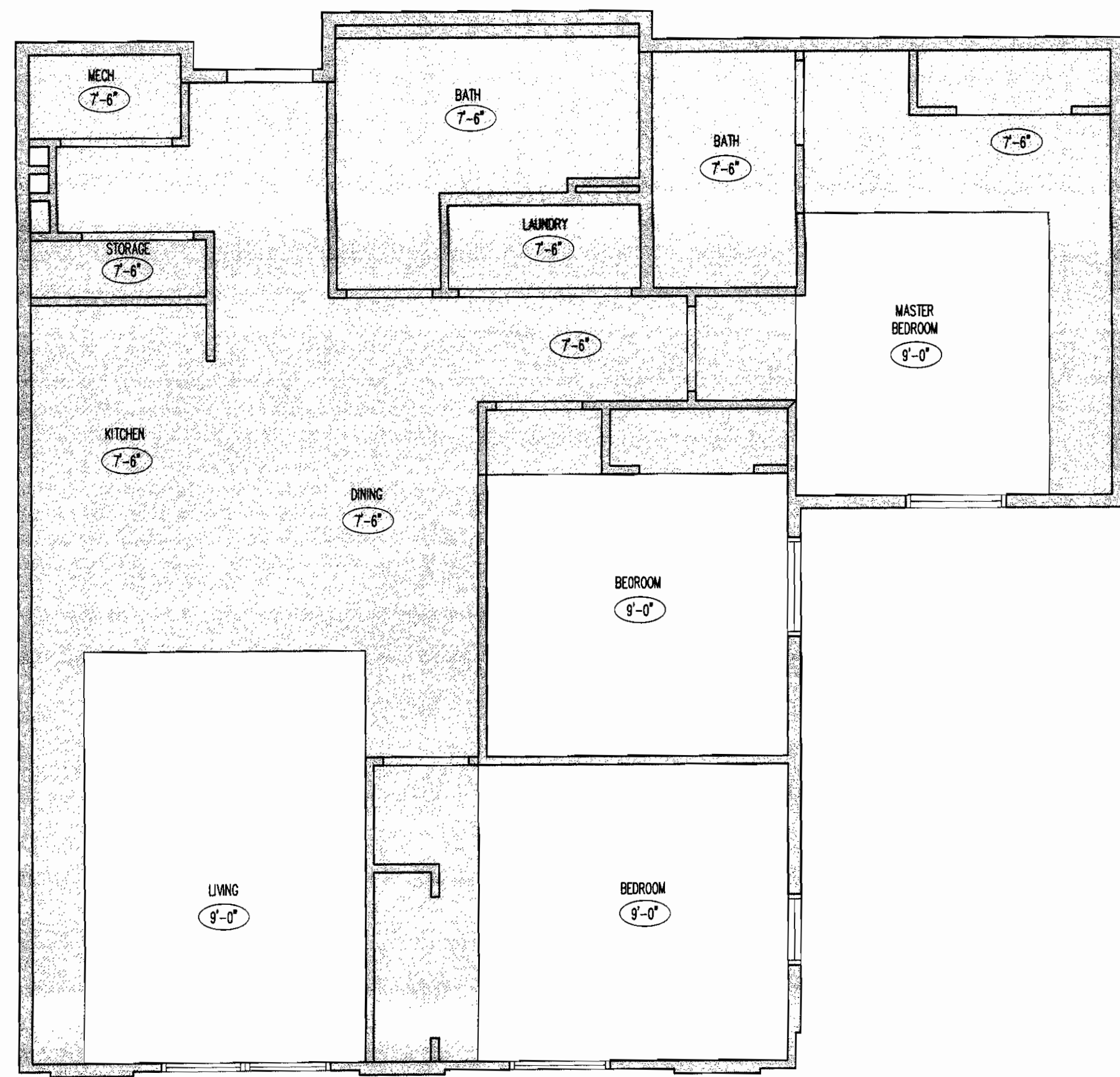
SHEET CONTENTS:
INTERIOR ELEVATIONS



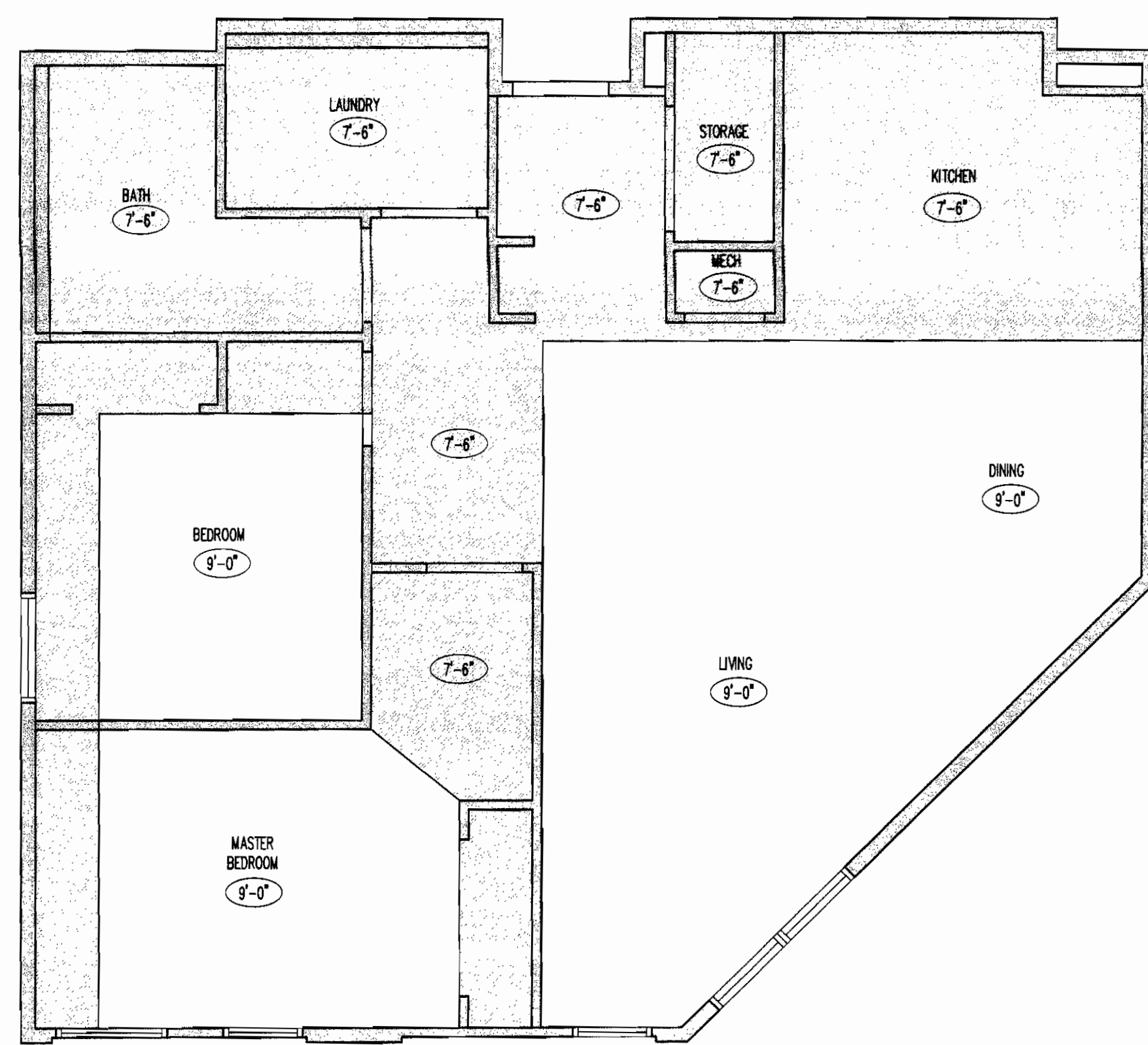
PROJECT NO.: 3-04-18
DATE: March 8, 2006

DRAWING NO:

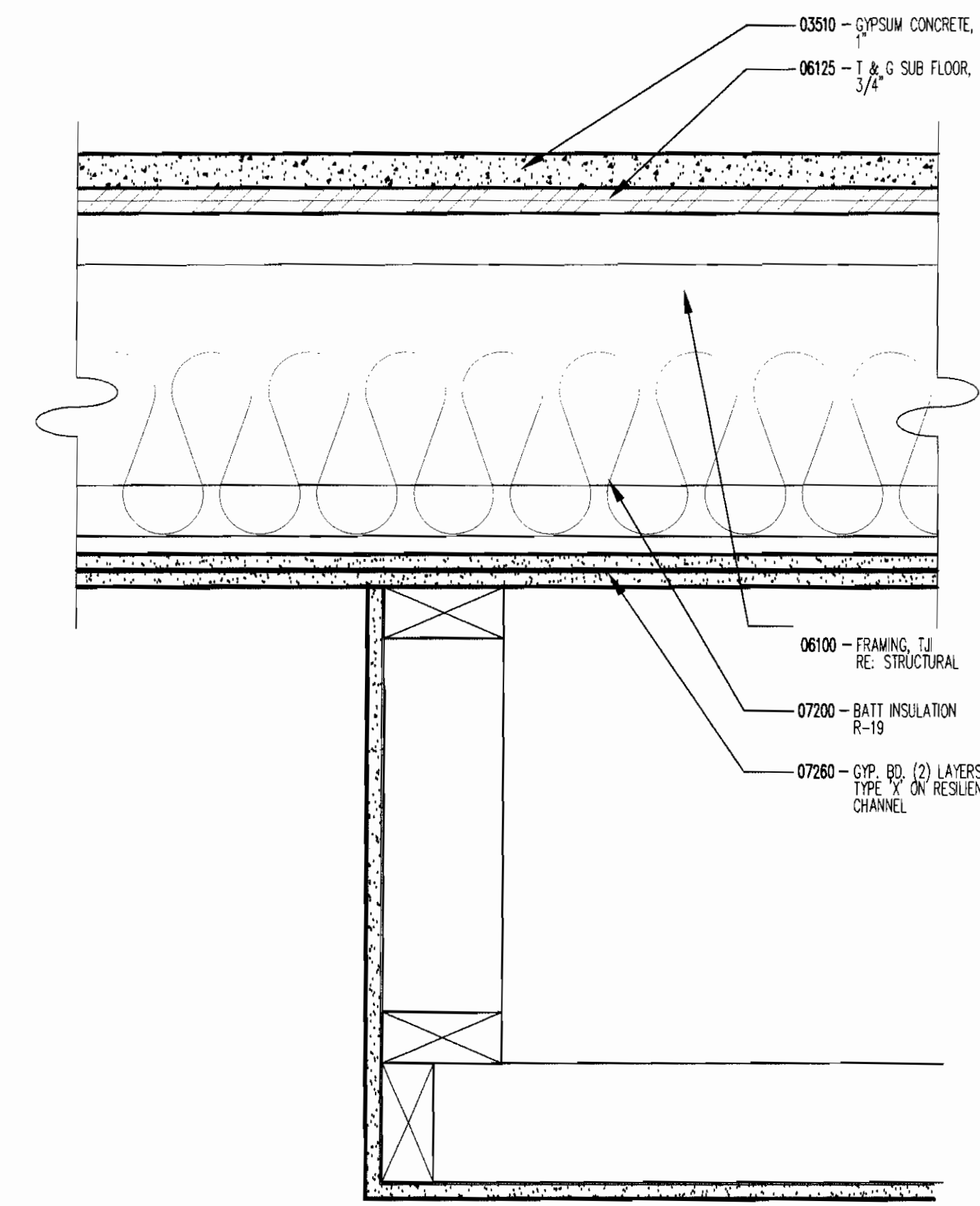
A7.2



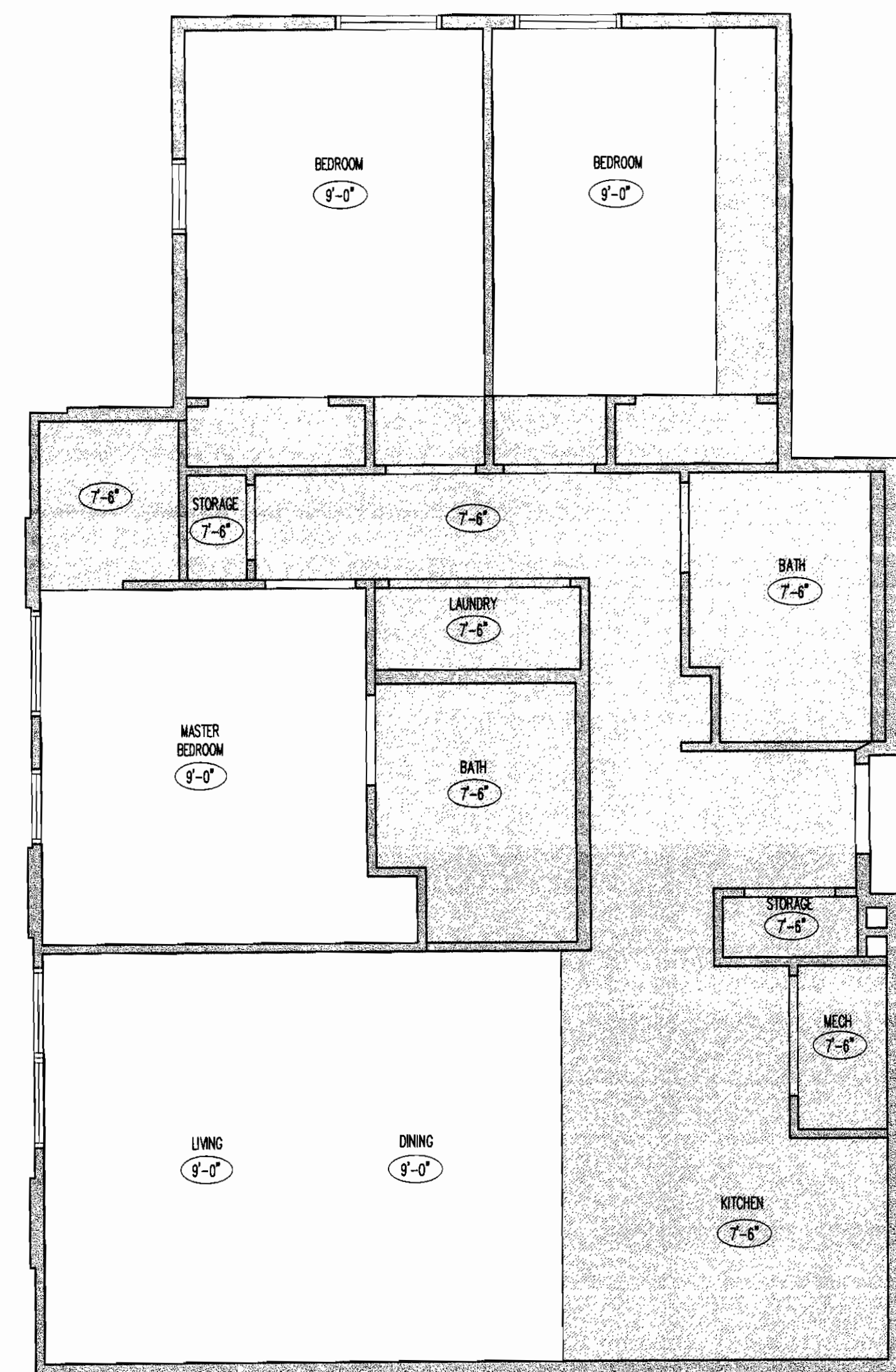
8 UNIT "D" REFLECTED CEILING PLAN
A8.0 SCALE: 1/4"=1'-0"



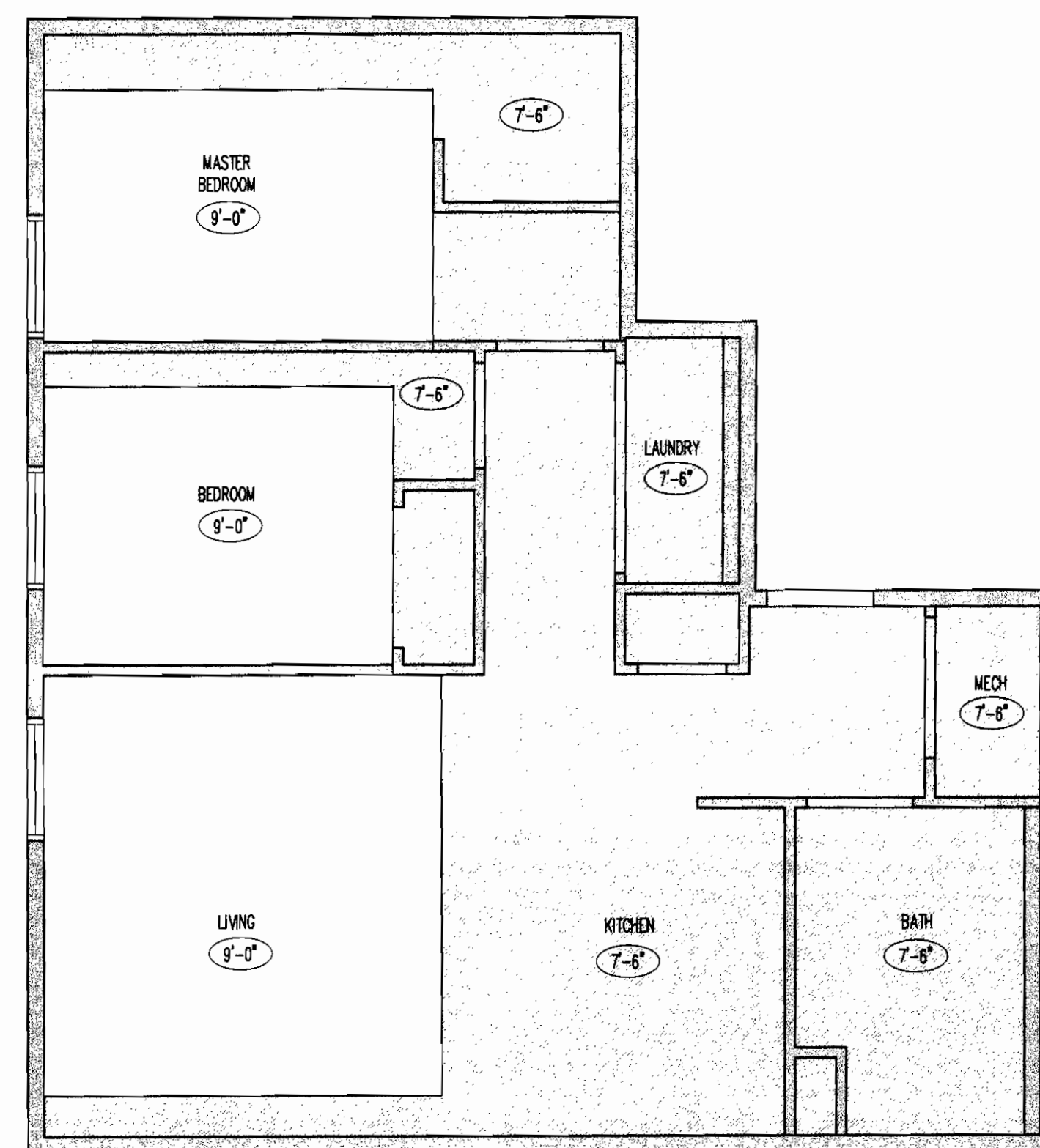
7 UNIT "E" REFLECTED CEILING PLAN
A8.0 SCALE: 1/4"=1'-0"



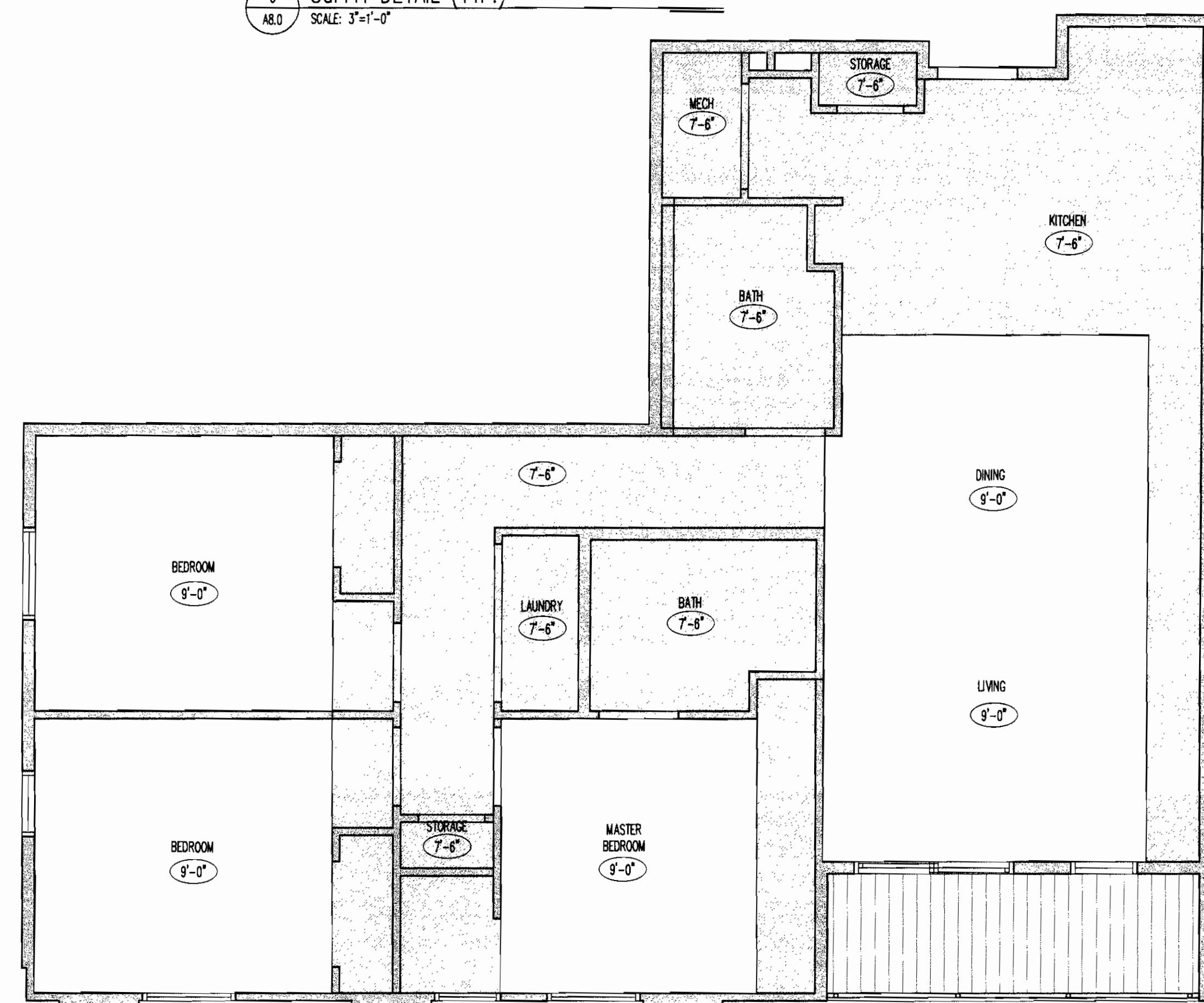
6 SOFFIT DETAIL (TYP.)
A8.0 SCALE: 3/4"=1'-0"



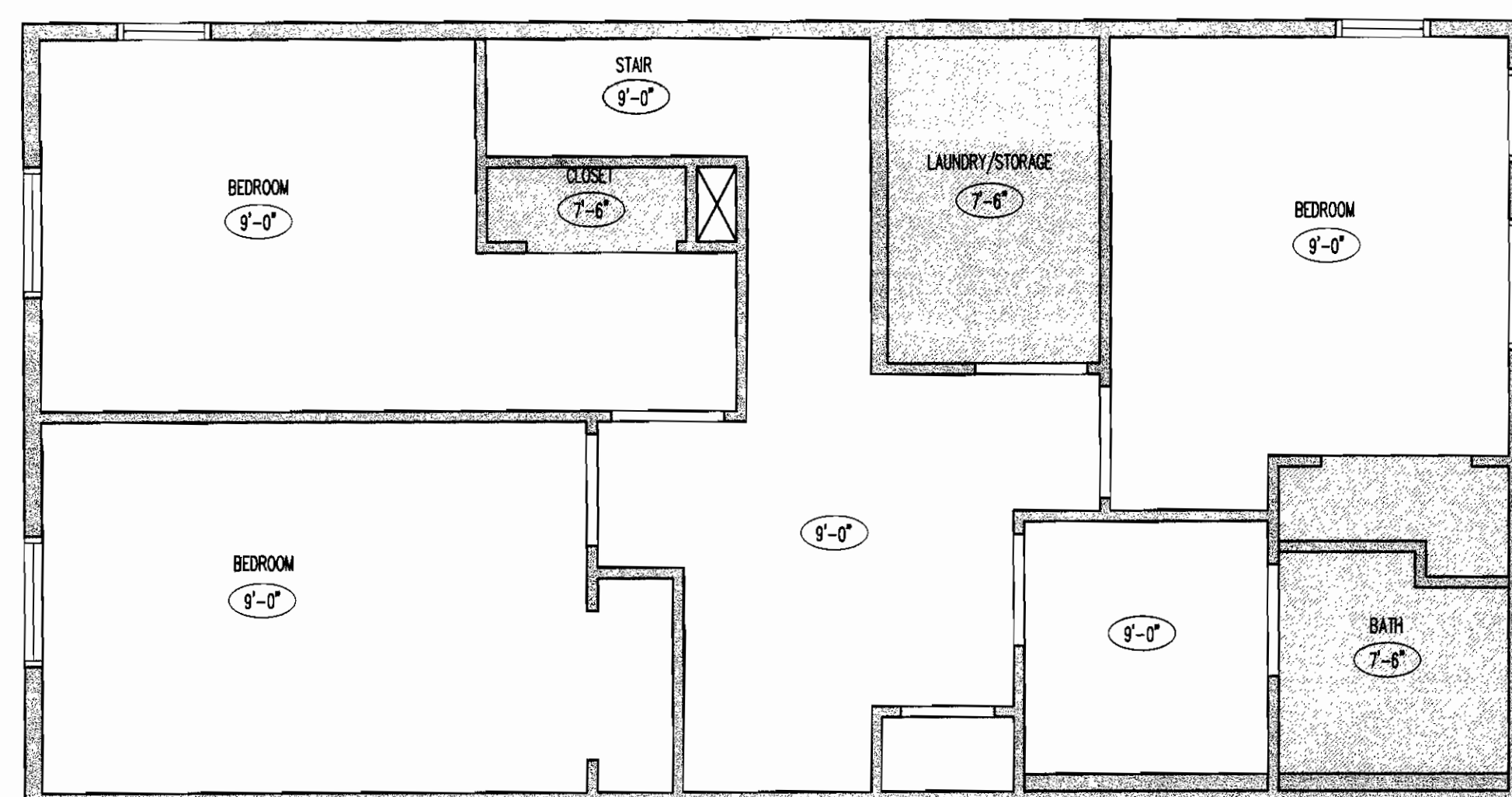
3 UNIT "B" REFLECTED CEILING PLAN
A8.0 SCALE: 1/4"=1'-0"



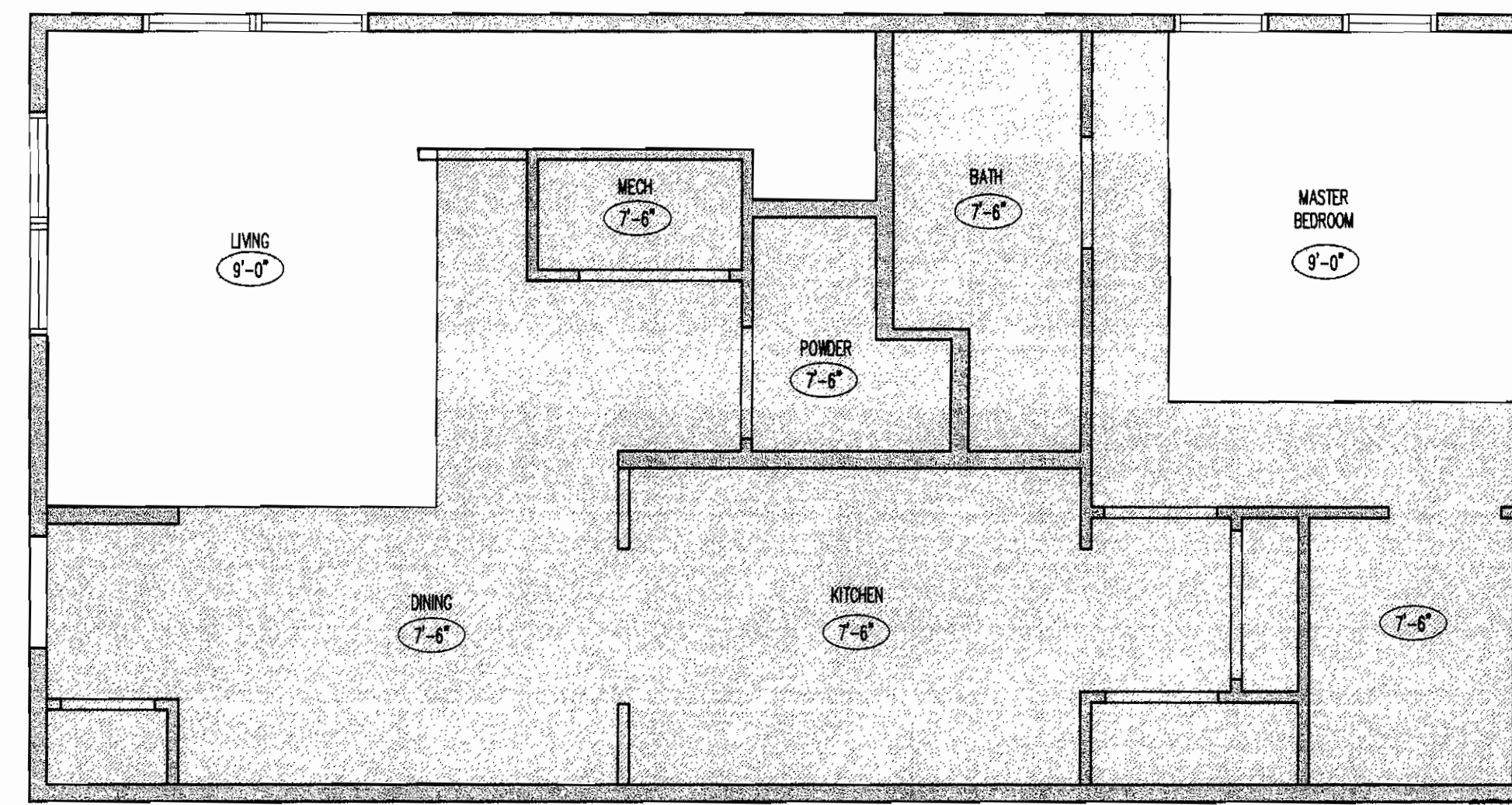
5 UNIT "M" REFLECTED CEILING PLAN
A8.0 SCALE: 1/4"=1'-0"



4 UNIT "C" REFLECTED CEILING PLAN
A8.0 SCALE: 1/4"=1'-0"



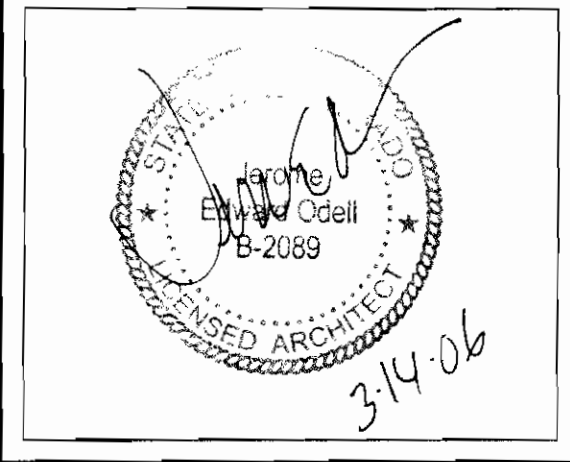
2 UNIT "A" 2ND FLOOR REFLECTED CEILING PLAN
A8.0 SCALE: 1/4"=1'-0"



1 UNIT "A" 1ST FLOOR REFLECTED CEILING PLAN
A8.0 SCALE: 1/4"=1'-0"

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ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/09/2006

SHEET CONTENTS:
REFLECTED CEILING PLANS
UNITS A, B, C, D & E



PROJECT NO.: 3-04-18
DATE: March 9, 2006

DRAWING NO.:
A8.0

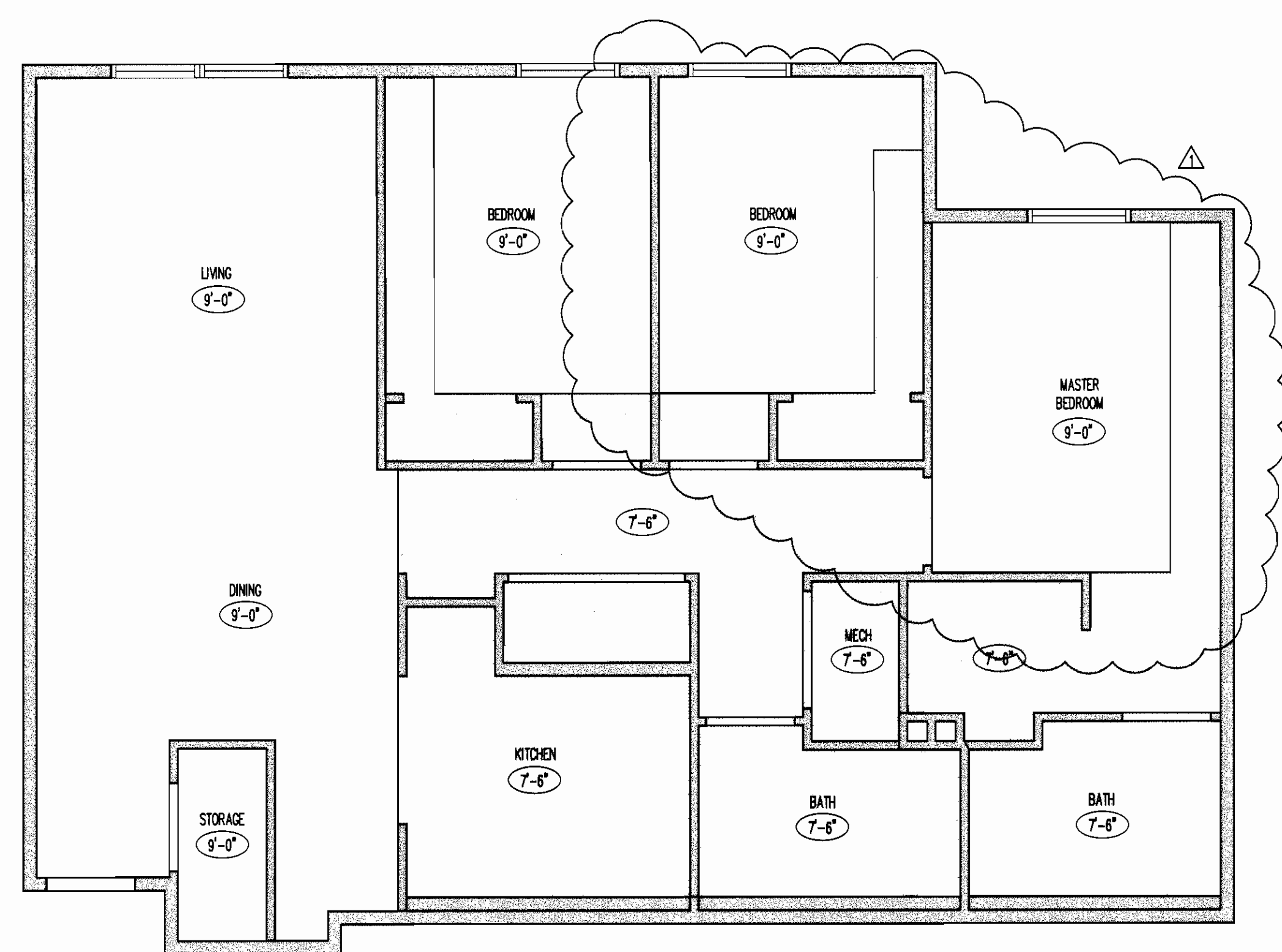
DATE: 3/9/06
APPROVED AS SHOWN
DATE: 3/9/06
31406



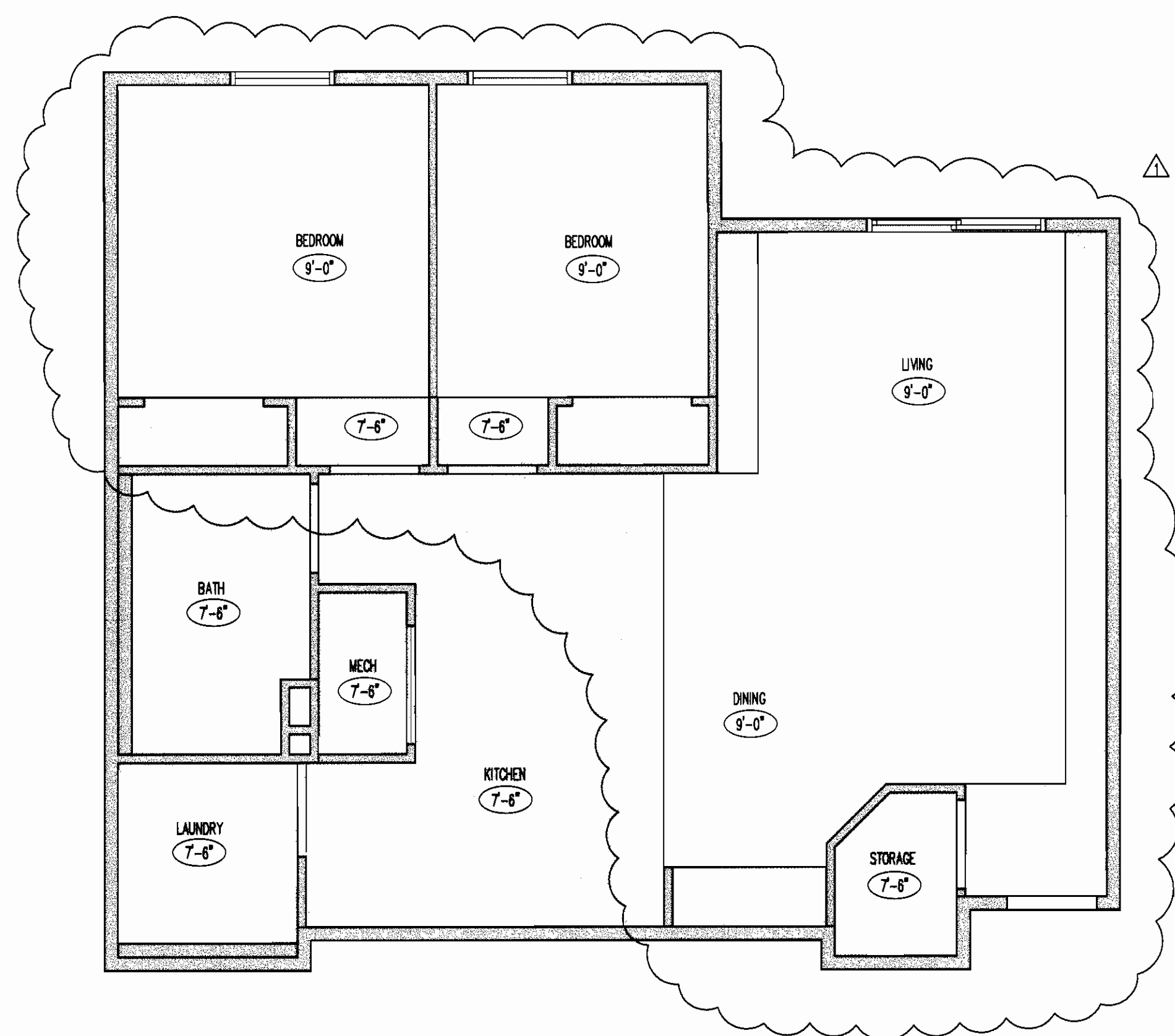
ODELL ARCHITECTS, P.C.
ARCHITECTS PLANNING INTERIORS
2005 Castle Court, Suite 101, Englewood, Colorado 80150
Telephone: 303.755.0000 Fax: 303.755.0002
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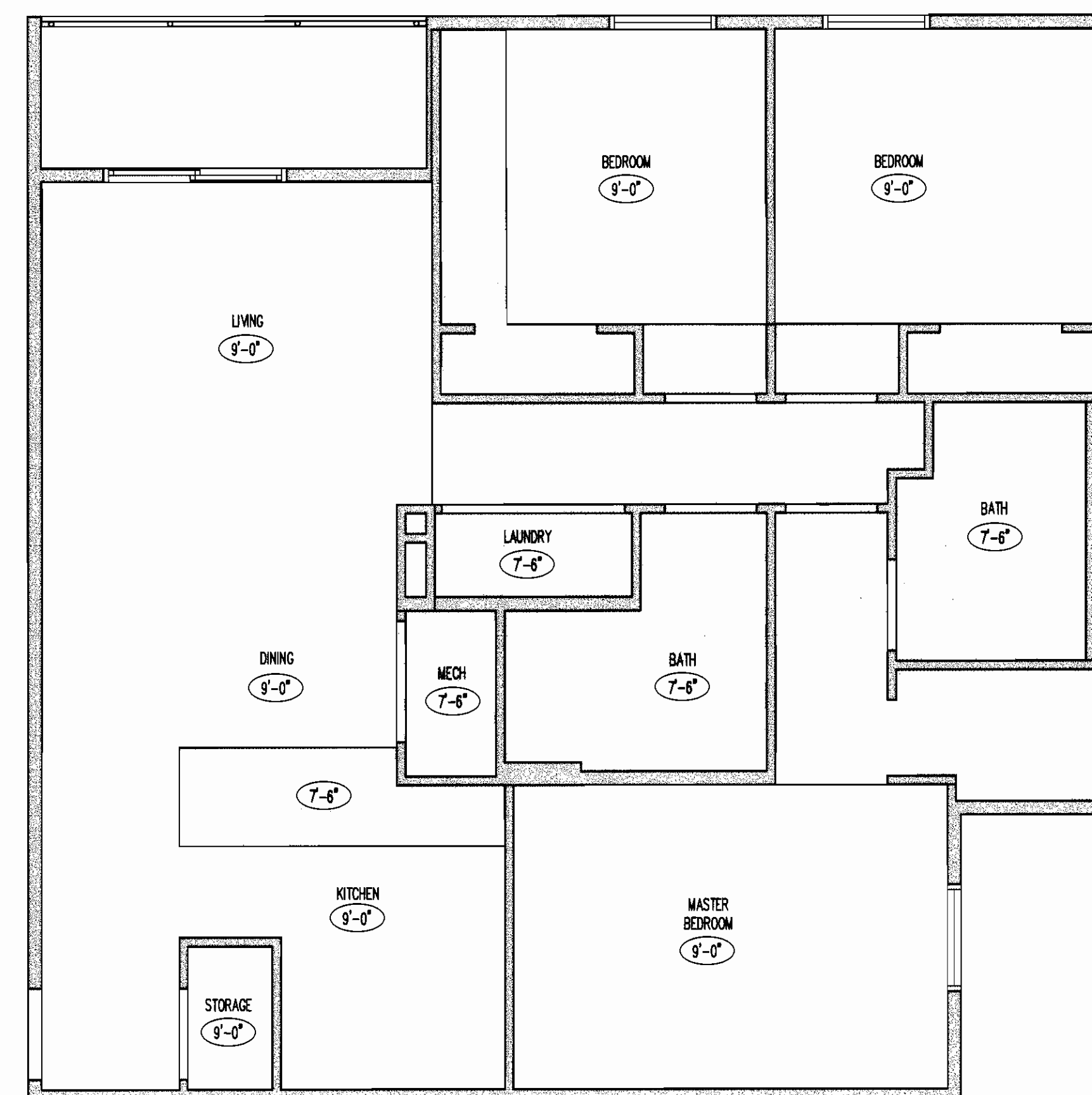
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado



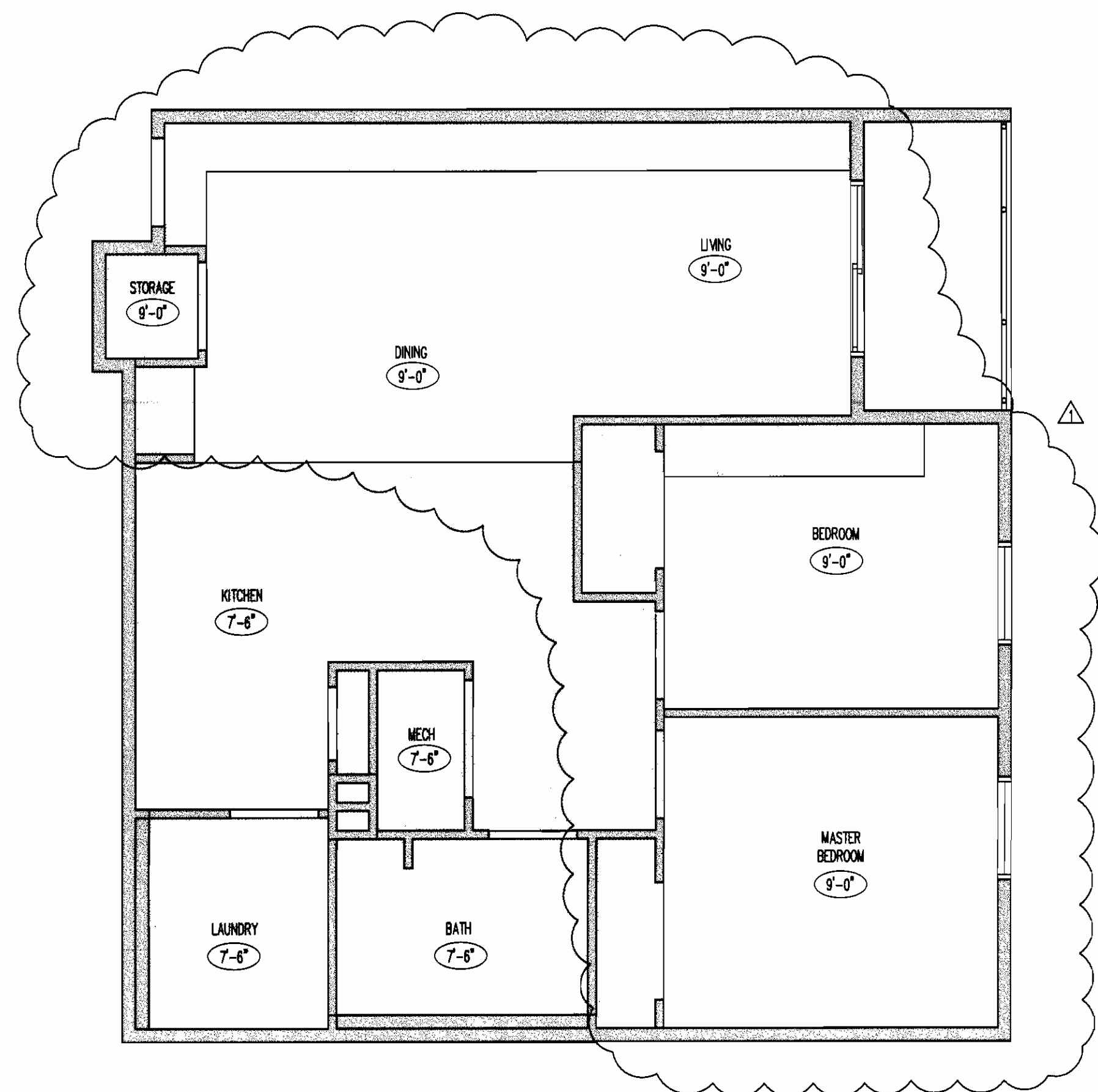
6 UNIT "L" REFLECTED CEILING PLAN
SCALE: 1/4"=1'-0"



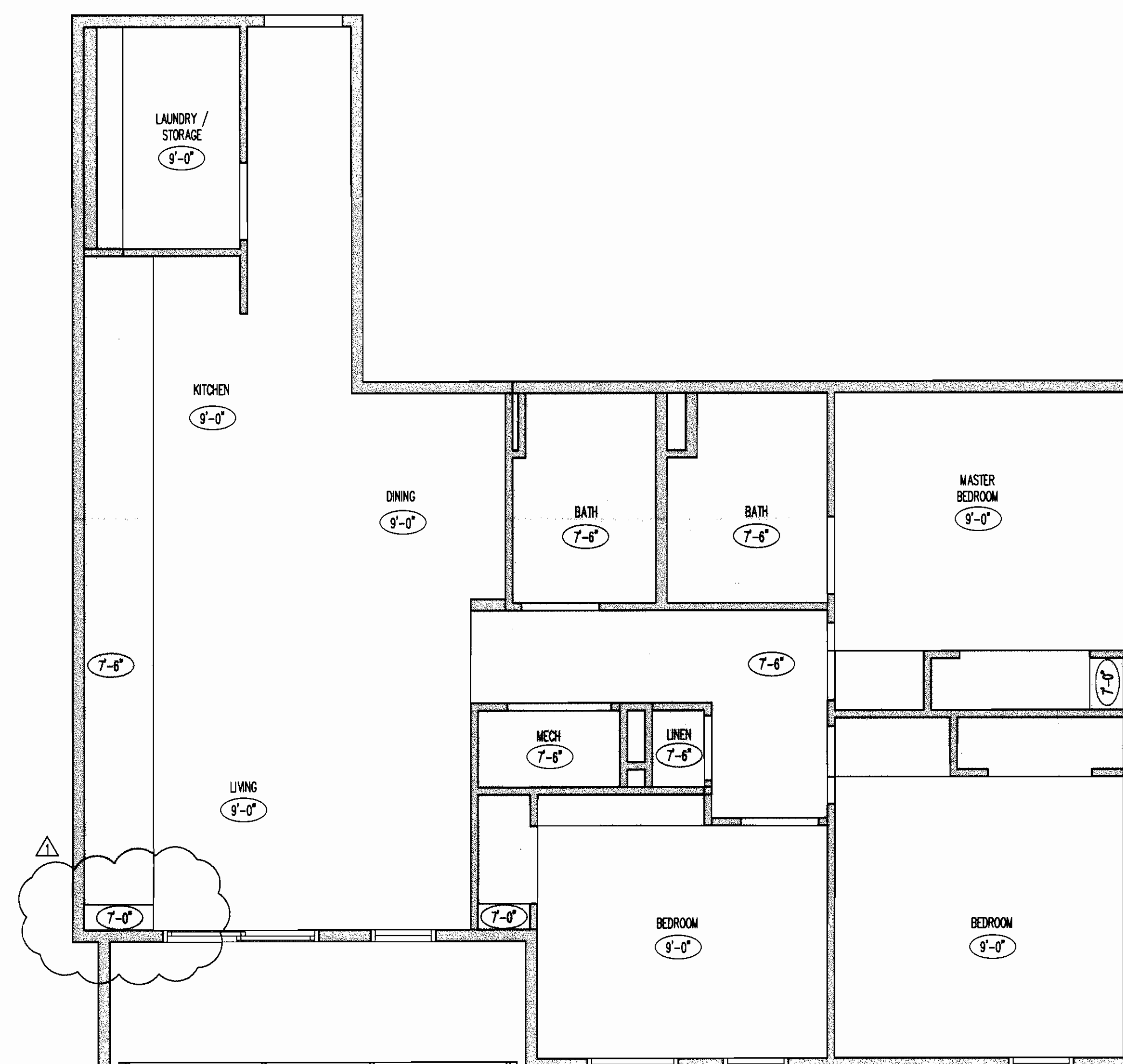
5 UNIT "K" REFLECTED CEILING PLAN
SCALE: 1/4"=1'-0"



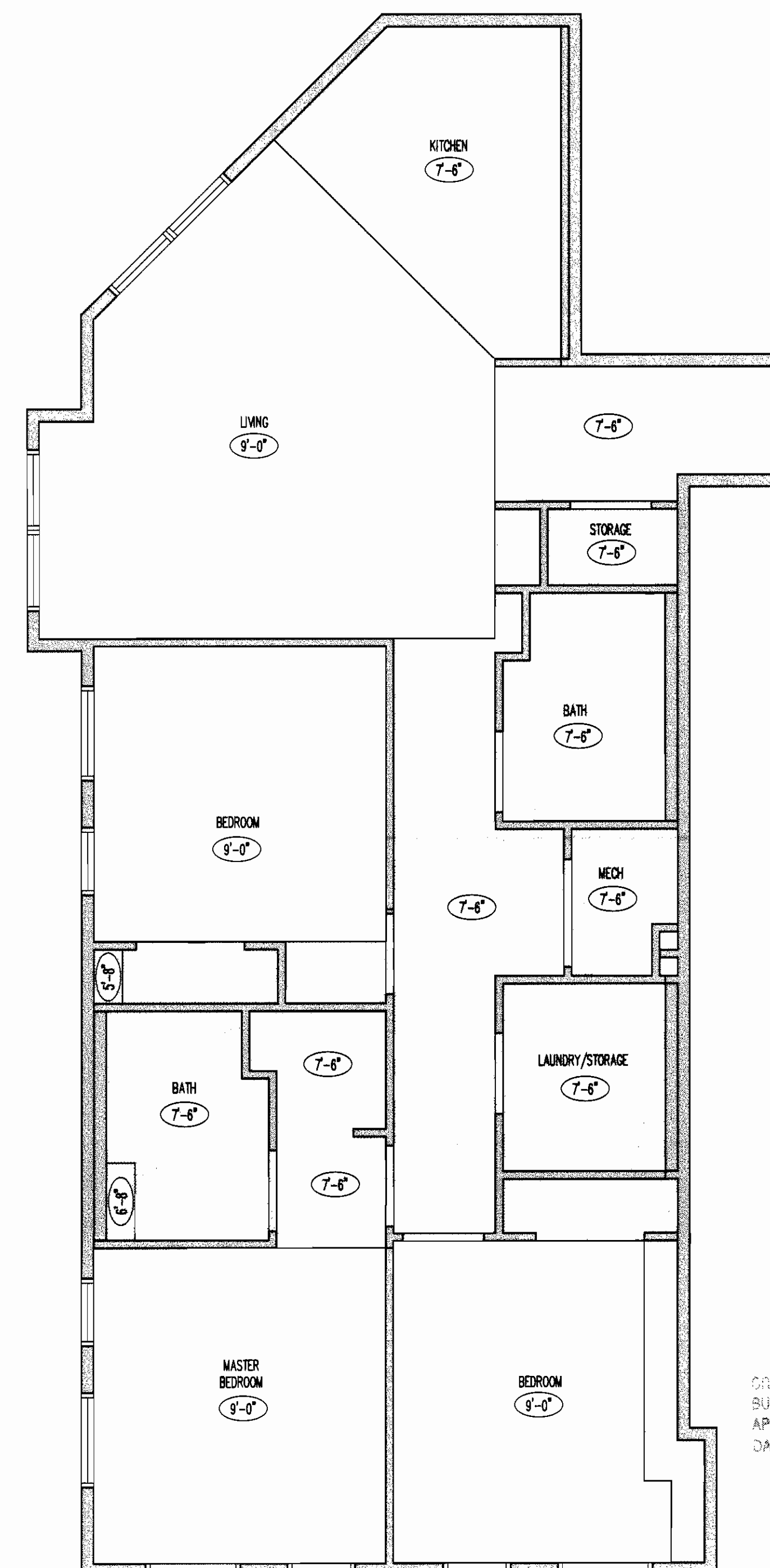
4 UNIT "J" REFLECTED CEILING PLAN
SCALE: 1/4"=1'-0"



3 UNIT "H" REFLECTED CEILING PLAN
SCALE: 1/4"=1'-0"



2 UNIT "G" REFLECTED CEILING PLAN
SCALE: 1/4"=1'-0"



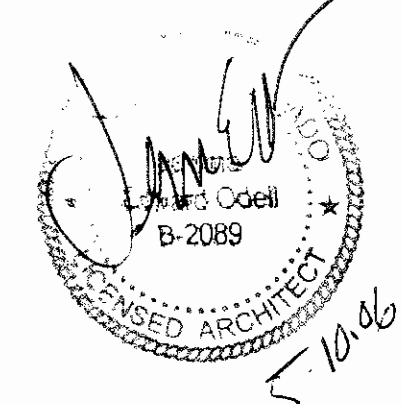
1 UNIT "F" REFLECTED CEILING PLAN
SCALE: 1/4"=1'-0"

DRAWN BY:
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REVISIONS:		
No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
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ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/8/2005
4	100% CD PACKAGE	3/9/2006

SHEET CONTENTS:
REFLECTED CEILING PLANS
UNITS F, G, H, J, K & L



PROJECT NO: 3-04-18
DATE: March 9, 2006

DRAWING NO:

A8.1



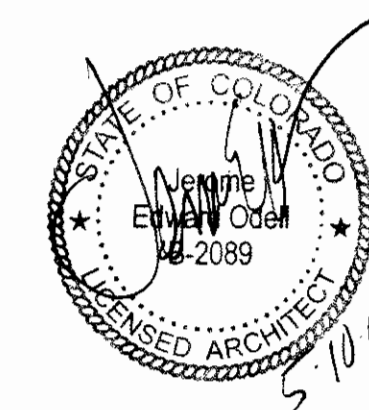
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1445 Dallas Street
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No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
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ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
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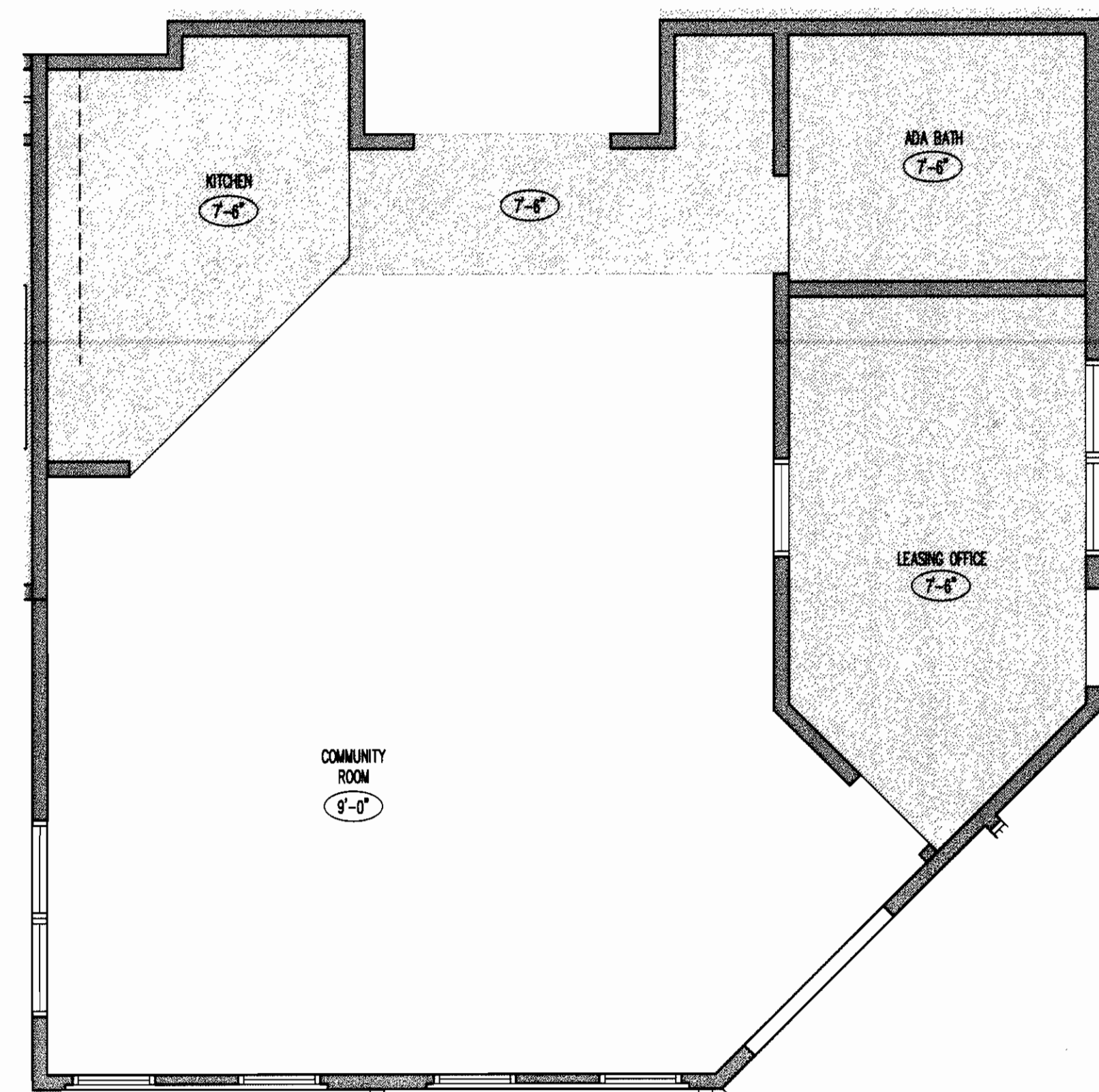
SHEET CONTENTS:
REFLECTED CEILING PLANS
UNITS J-TYPE A, K-TYPE A



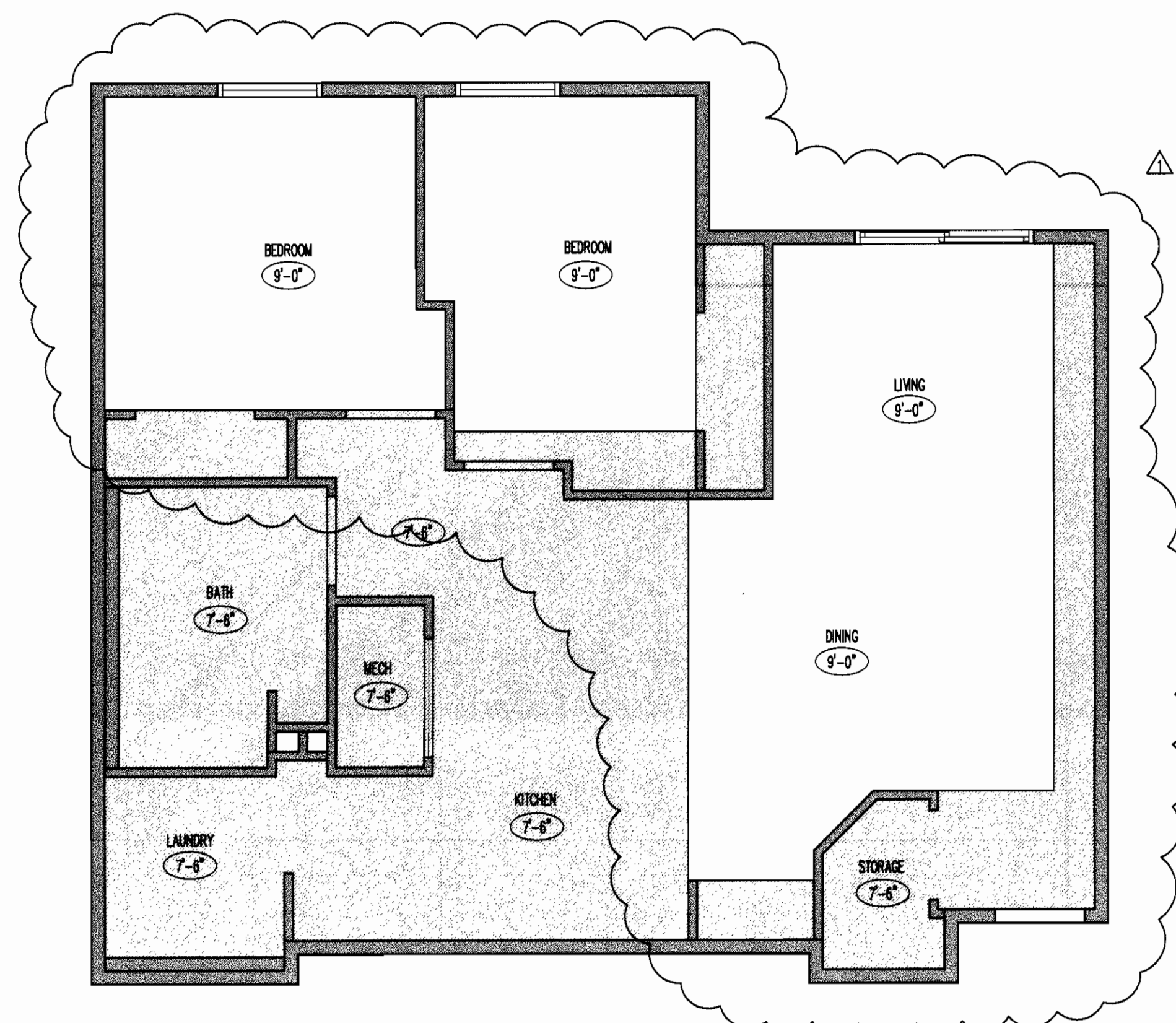
PROJECT NO.: 3-04-18
DATE: March 9, 2006

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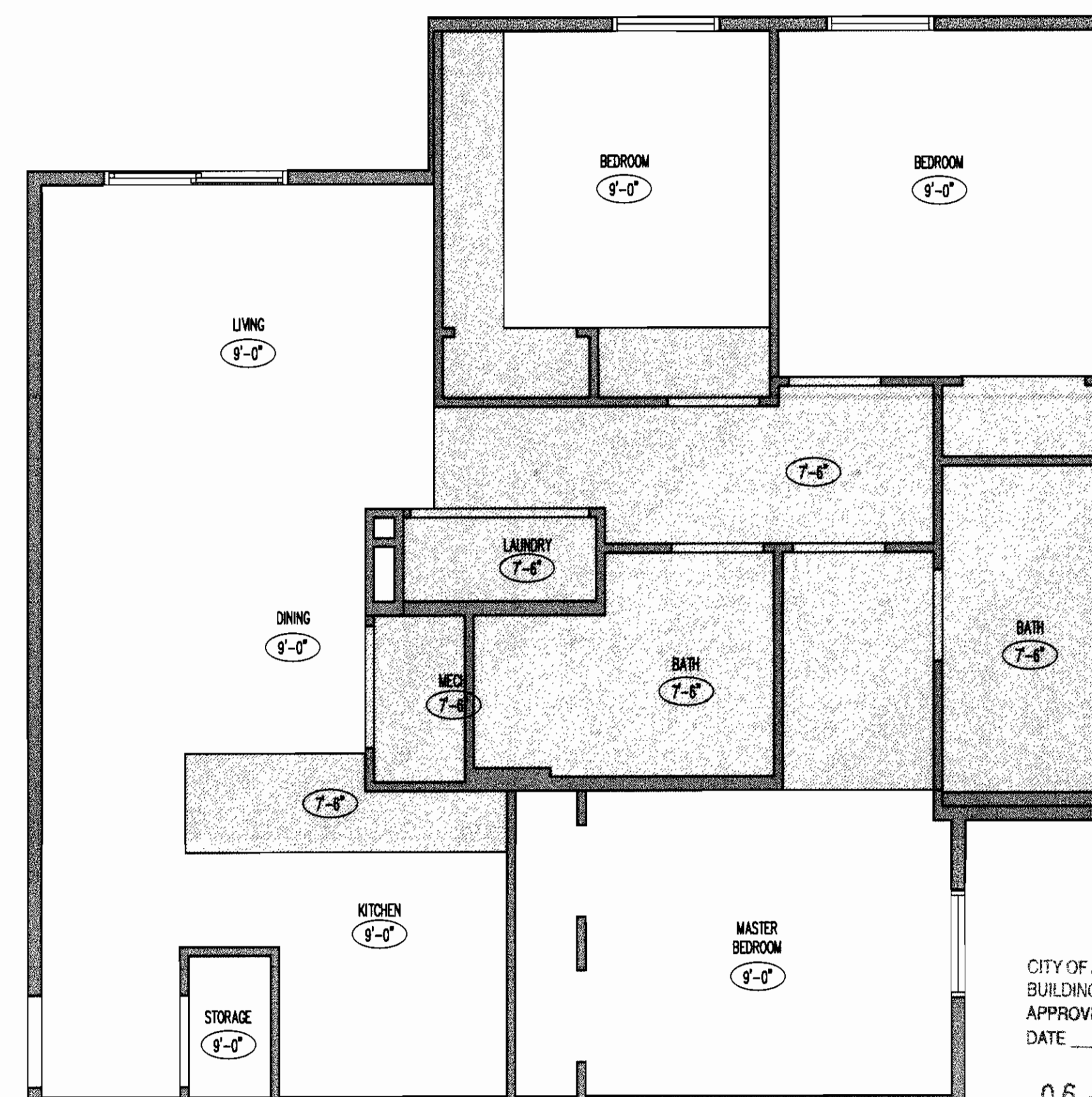
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3 COMMUNITY ROOM FLOOR PLAN
SCALE: 1/4"=1'-0"

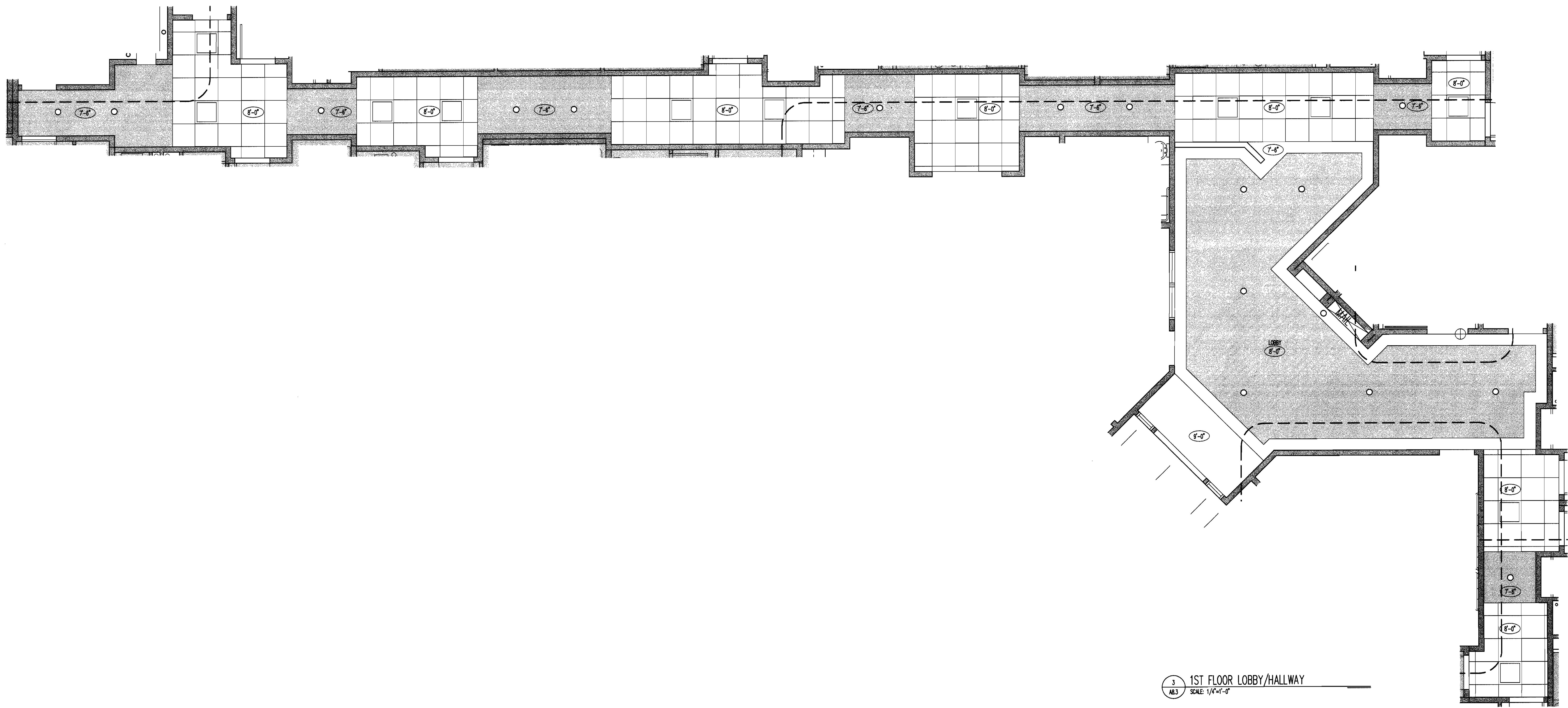


2 UNIT "K" TYPE A FLOOR PLAN
SCALE: 1/4"=1'-0"



1 UNIT "J" TYPE 'A' FLOOR PLAN
SCALE: 1/4"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 5/10/06
06-108667



3 1ST FLOOR LOBBY/HALLWAY
A8.3 SCALE: 1/4"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 3/14/06

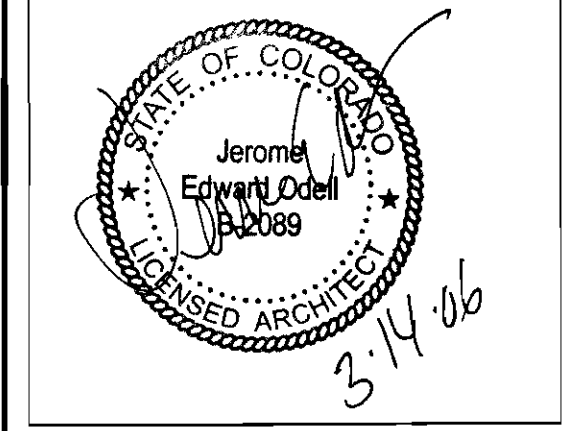
06 - 108667



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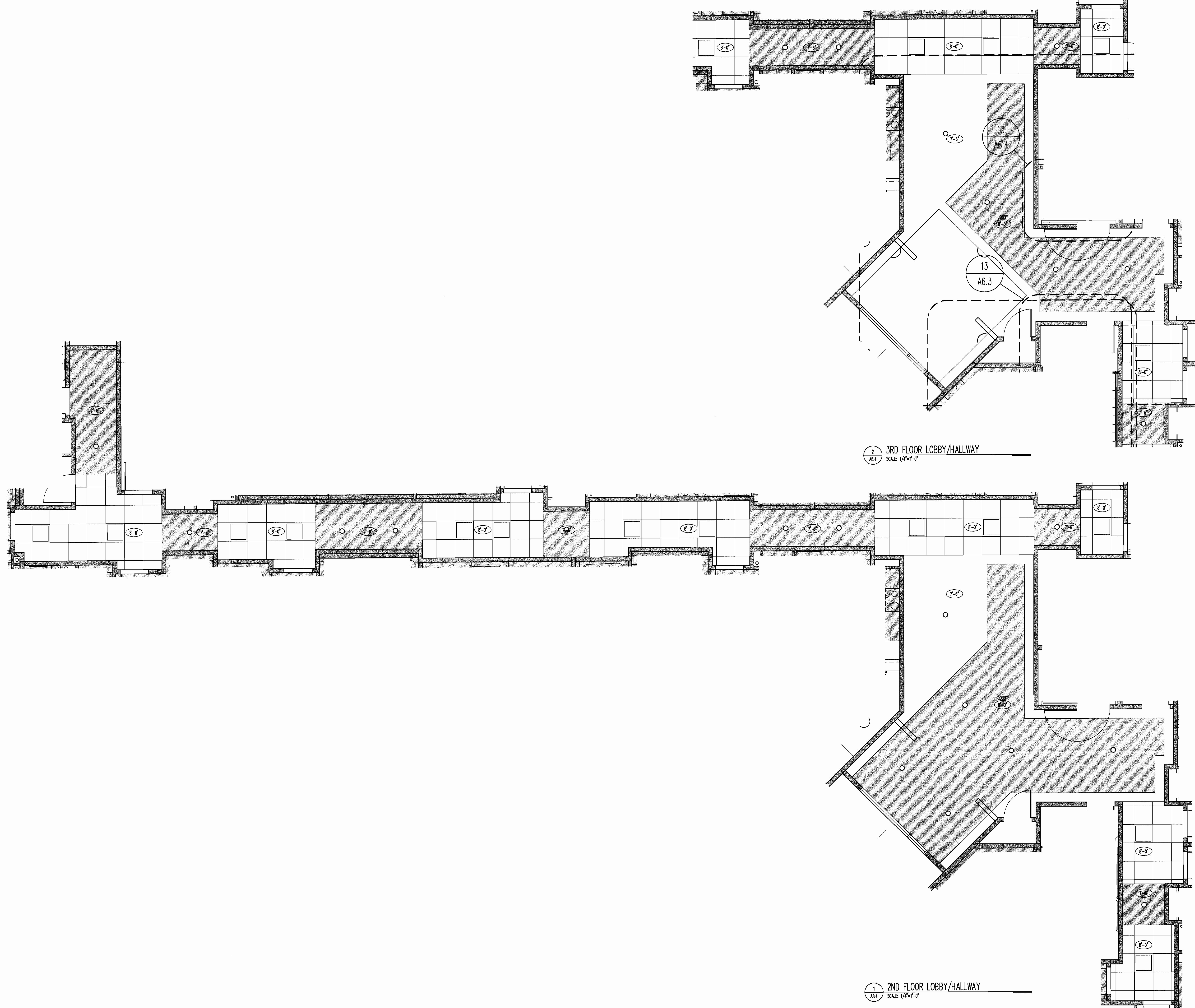
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1	S.D. PACKAGE	10/20/2004
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3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/09/2006
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SHEET CONTENTS:
REFLECTED CEILING PLANS
1ST, 2ND, 3RD FLOOR
LOBBY/HALLWAY



PROJECT NO.: 3-04-18
DATE: March 9, 2006
DRAWING NO.:

A8.3



2 3RD FLOOR LOBBY/HALLWAY
SCALE: 1/4"=1'-0"

1 2ND FLOOR LOBBY/HALLWAY
SCALE: 1/4"=1'-0"

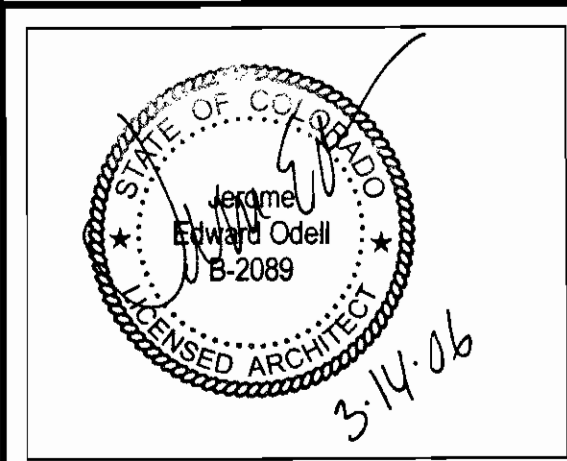
CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 3/14/06

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ARCHITECTS PLANNING INTERIORS
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2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/09/2006

SHEET CONTENTS:
REFLECTED CEILING PLANS
1ST, 2ND, 3RD FLOOR
LOBBY/HALLWAY



PROJECT NO.: 3-04-18
DATE: March 9, 2006

DRAWING NO.:
A8.4



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No.	Description	Date
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SHEET CONTENTS:

GARAGE
REFLECTED CEILING PLAN



PROJECT NO.: 3-04-18

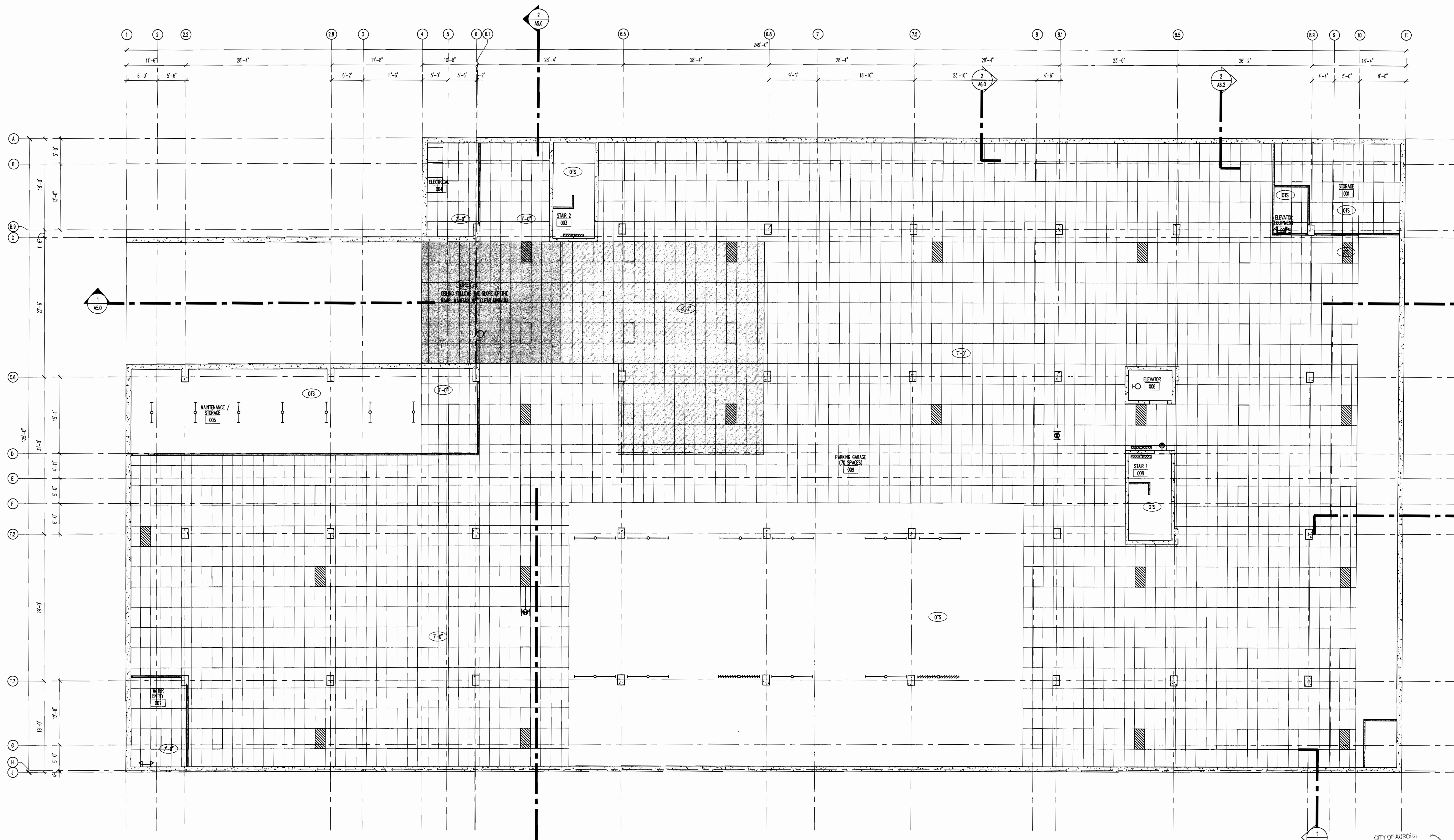
DATE: March 9, 2006

DRAWING NO.:

A8.5

GENERAL NOTES:

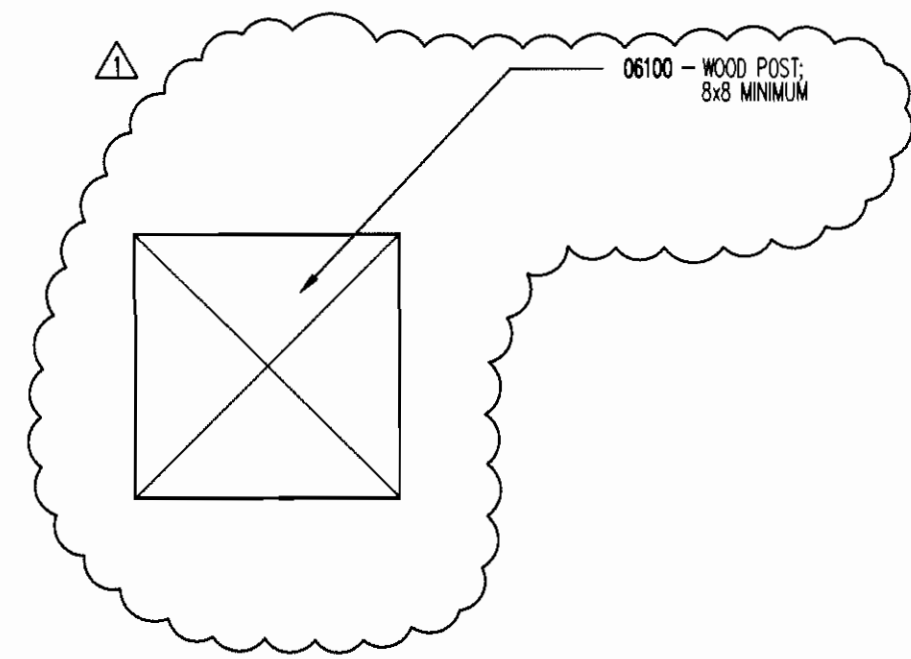
1. GARAGE CEILING HEIGHTS ARE LISTED AS THE HEIGHT ABOVE ARCH ELEVATION 90'-0"



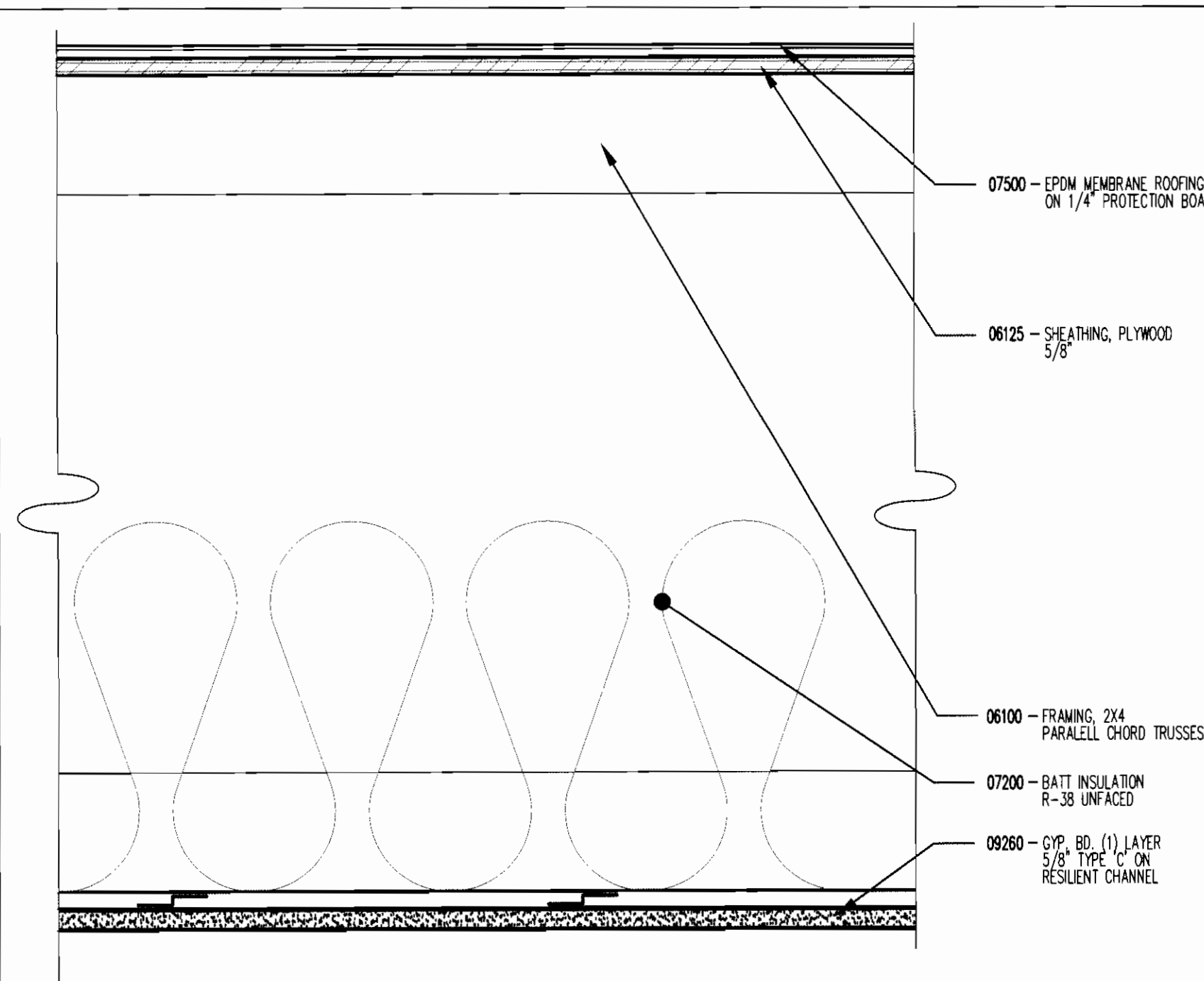
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A8.0
GARAGE LEVEL CEILING PLAN
SCALE: 1/8"=1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 5/14/06

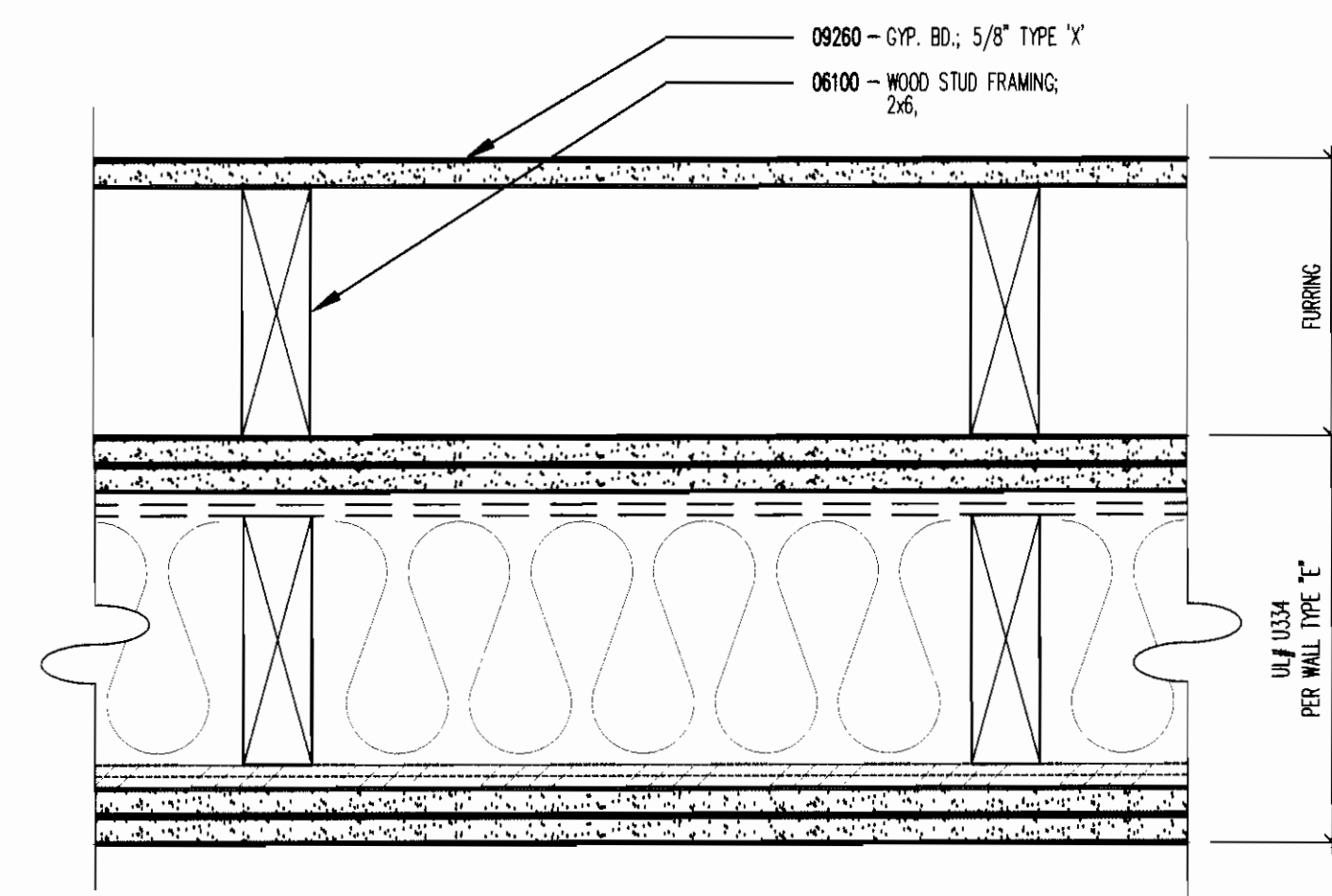
06-108667



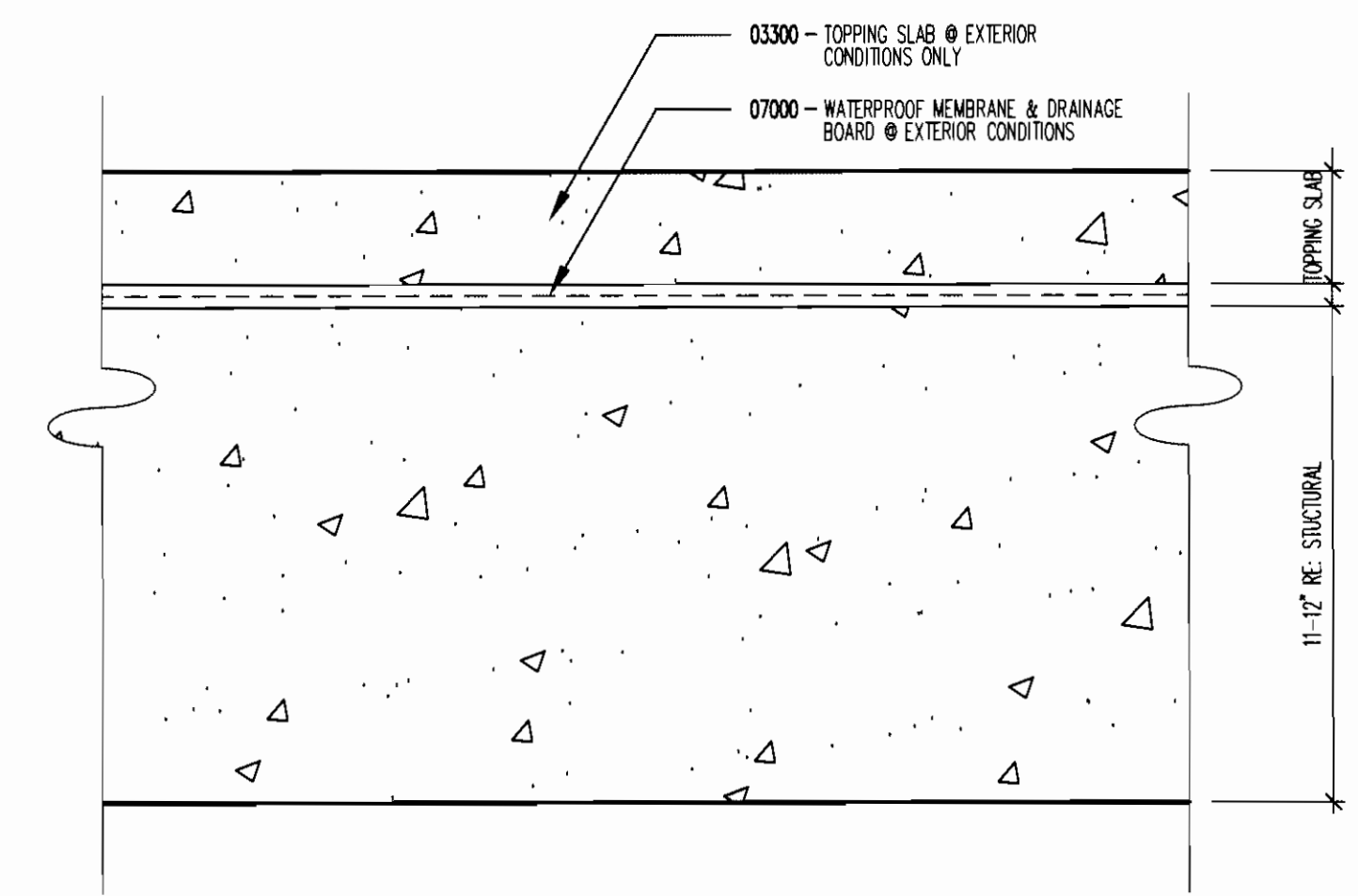
16 ONE HOUR HEAVY TIMBER POST CONDITION
SCALE: 3/4"=1'-0"



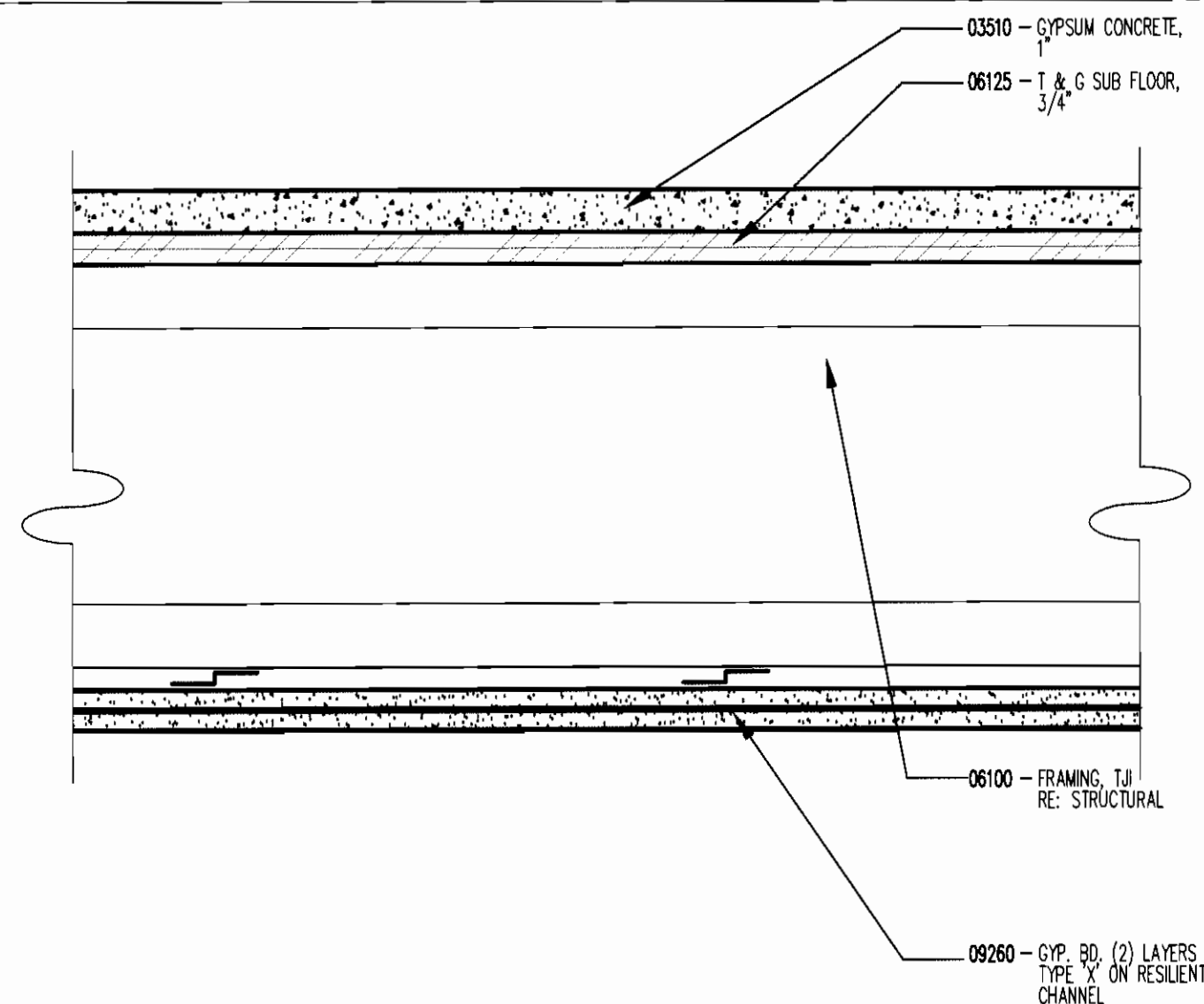
15 ROOF CEILING ASSEMBLY TYPE Q - 1 HOUR RATED (UL# P544)
SCALE: 3/4"=1'-0" ALSO U/L# P522, P531



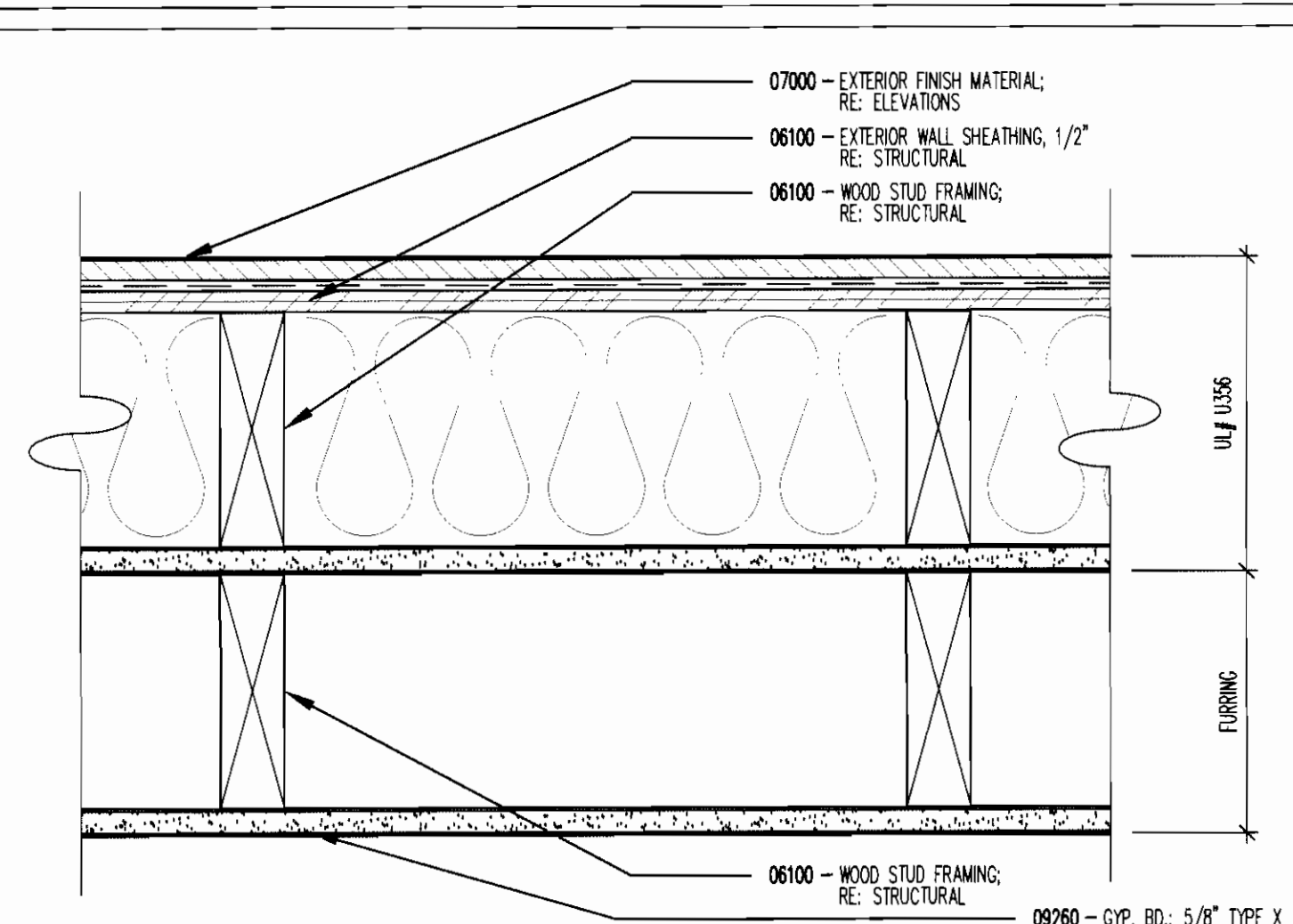
14 WALL TYPE N - 2 HOUR WALL (UL# U334)
SCALE: 3/4"=1'-0" STC = 62



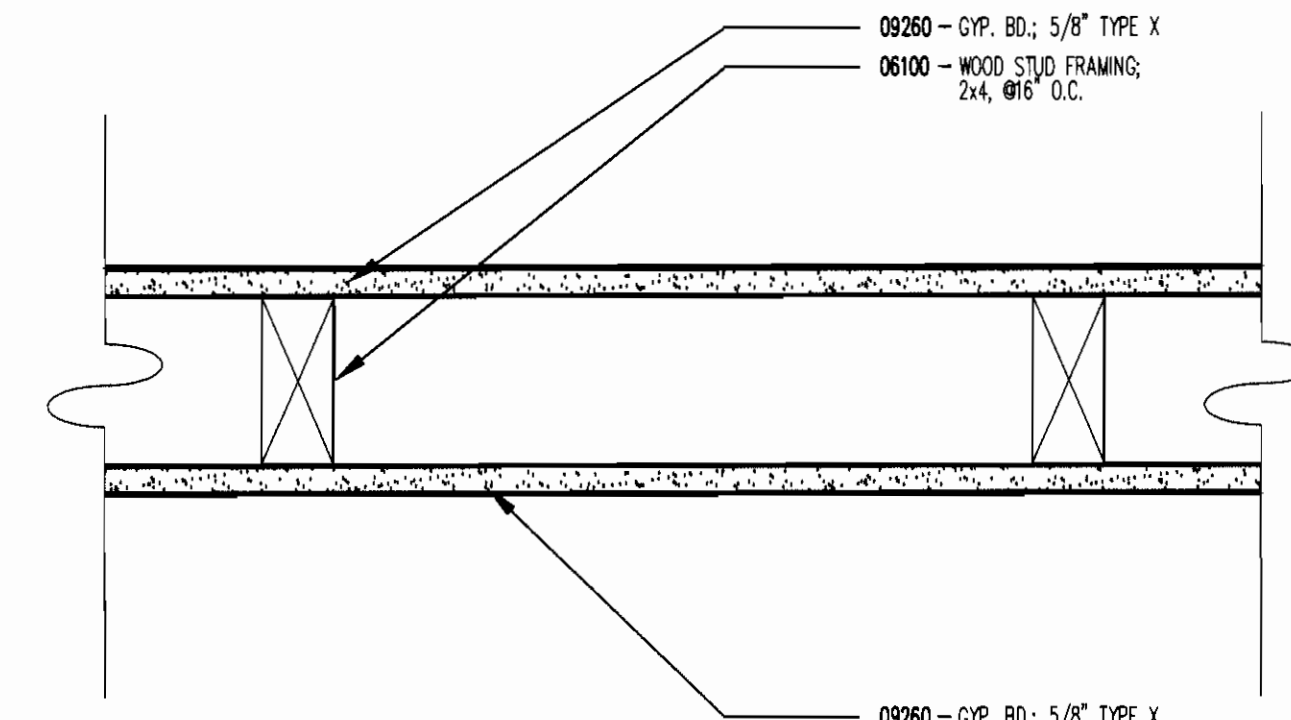
13 PARTITION TYPE M - 3 HOUR SEPERATION (PER IBC TABLE 721.2.2.1)
SCALE: 3/4"=1'-0"



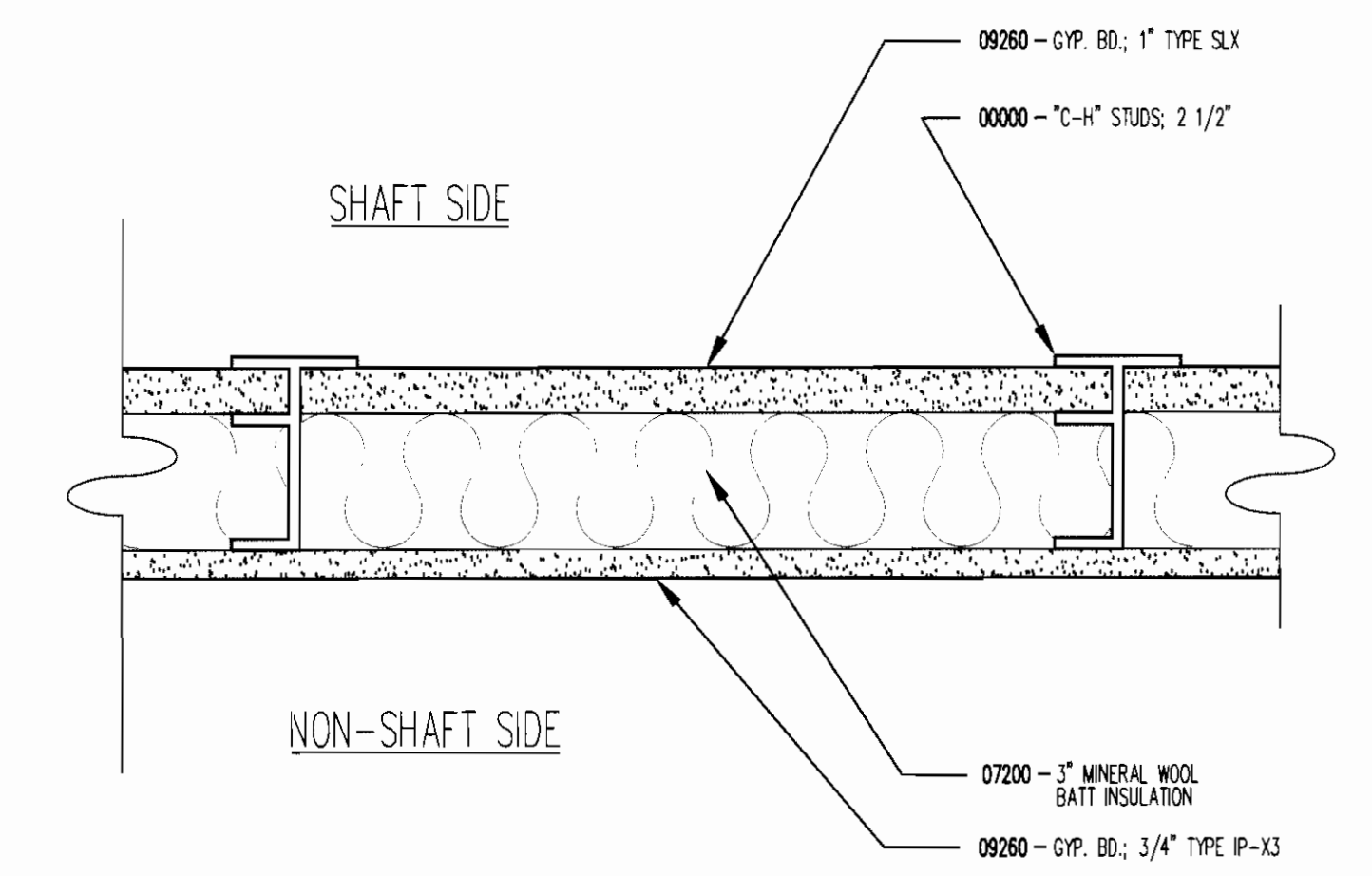
12 FLOOR/CEILING ASSEMBLY TYPE P - 1 HOUR RATED (GA FILE # FC 5111)
SCALE: 3/4"=1'-0"



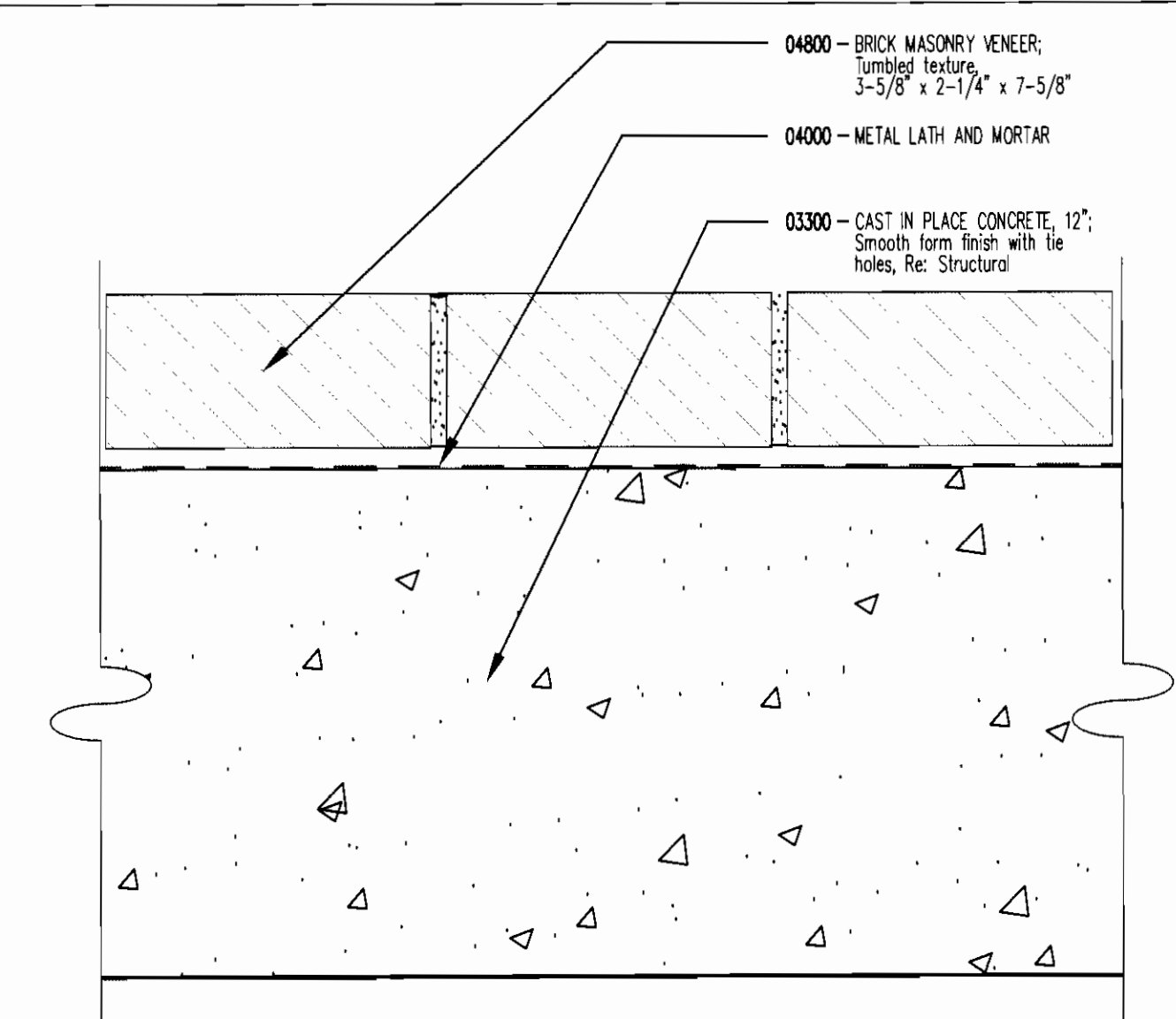
11 WALL TYPE L - 1 HOUR RATED (UL# U356)
SCALE: 3/4"=1'-0"



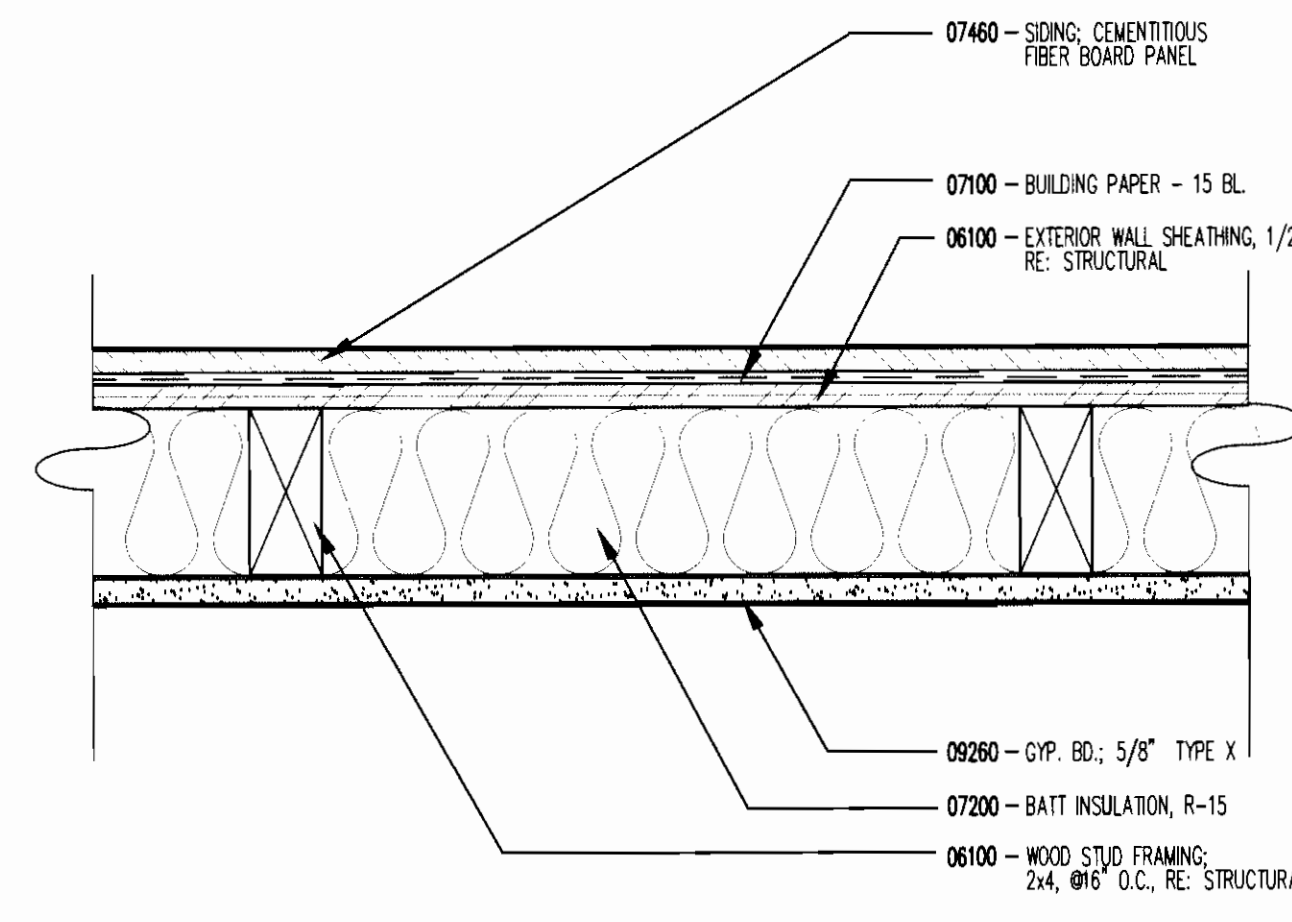
10 WALL TYPE K - 1 HOUR RATED (UL# U305)
SCALE: 3/4"=1'-0"



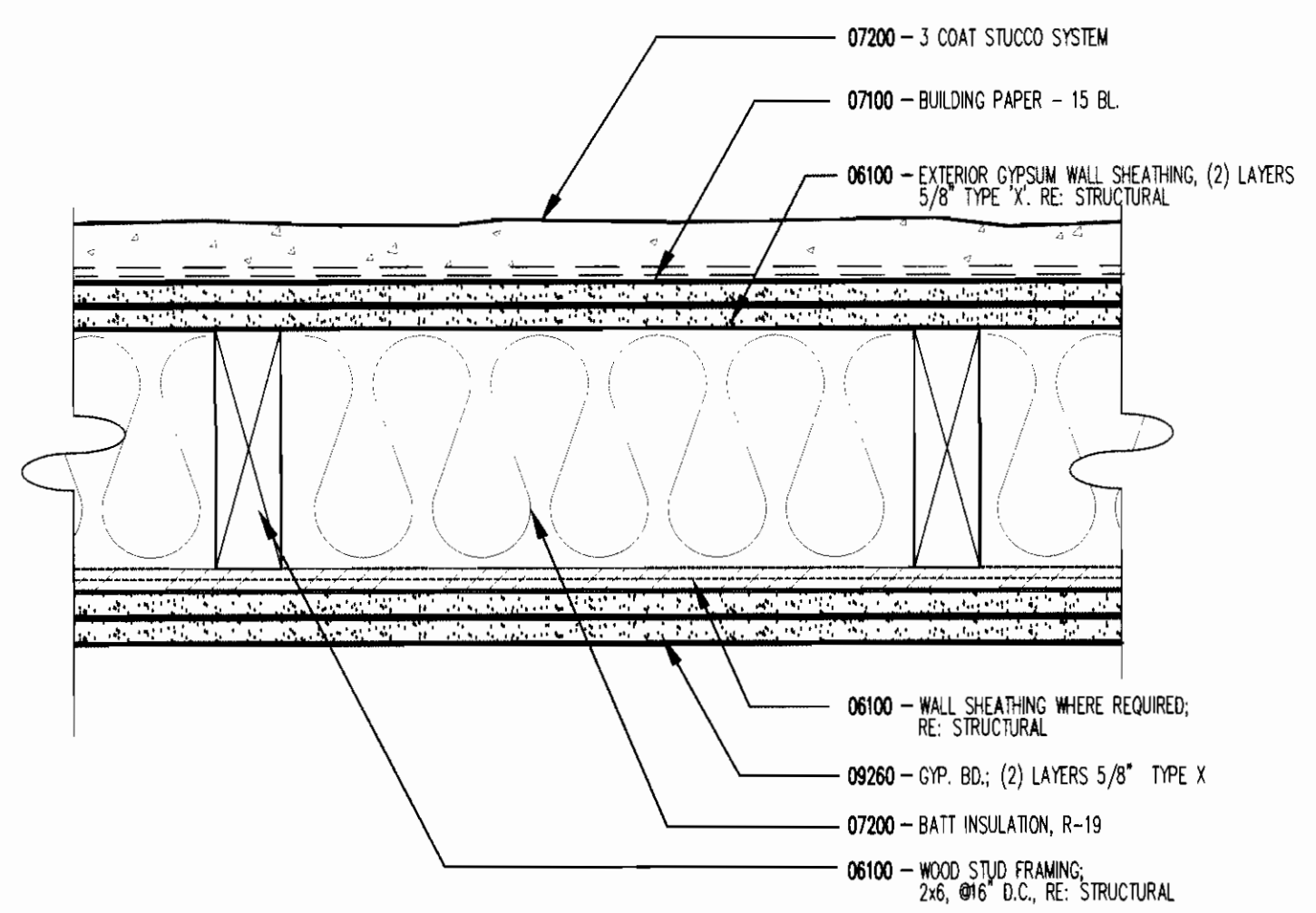
9 WALL TYPE J - 2 HOUR SHAFT CONSTRUCTION (UL# U492)
SCALE: 3/4"=1'-0"



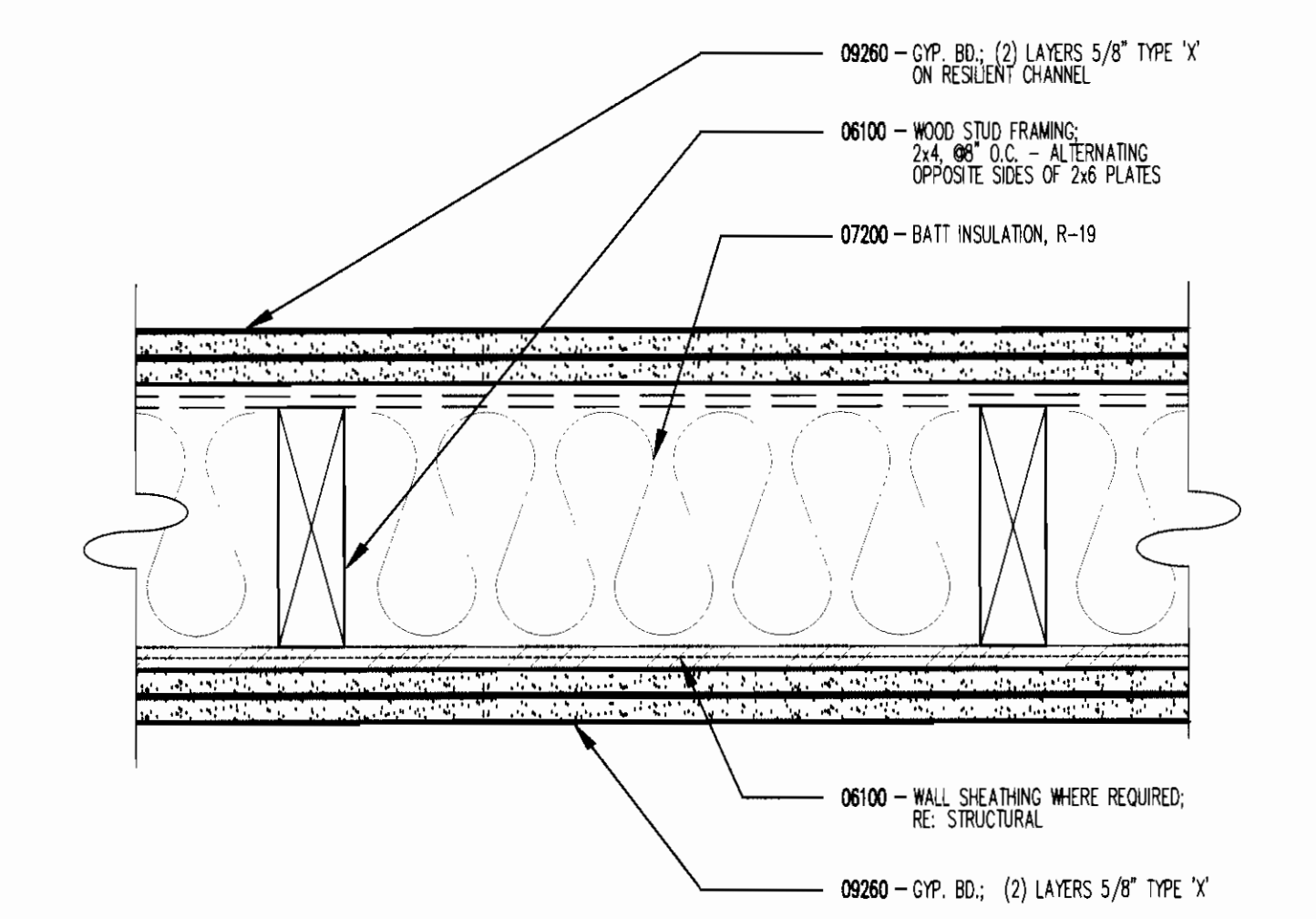
8 WALL TYPE H
SCALE: 3/4"=1'-0"



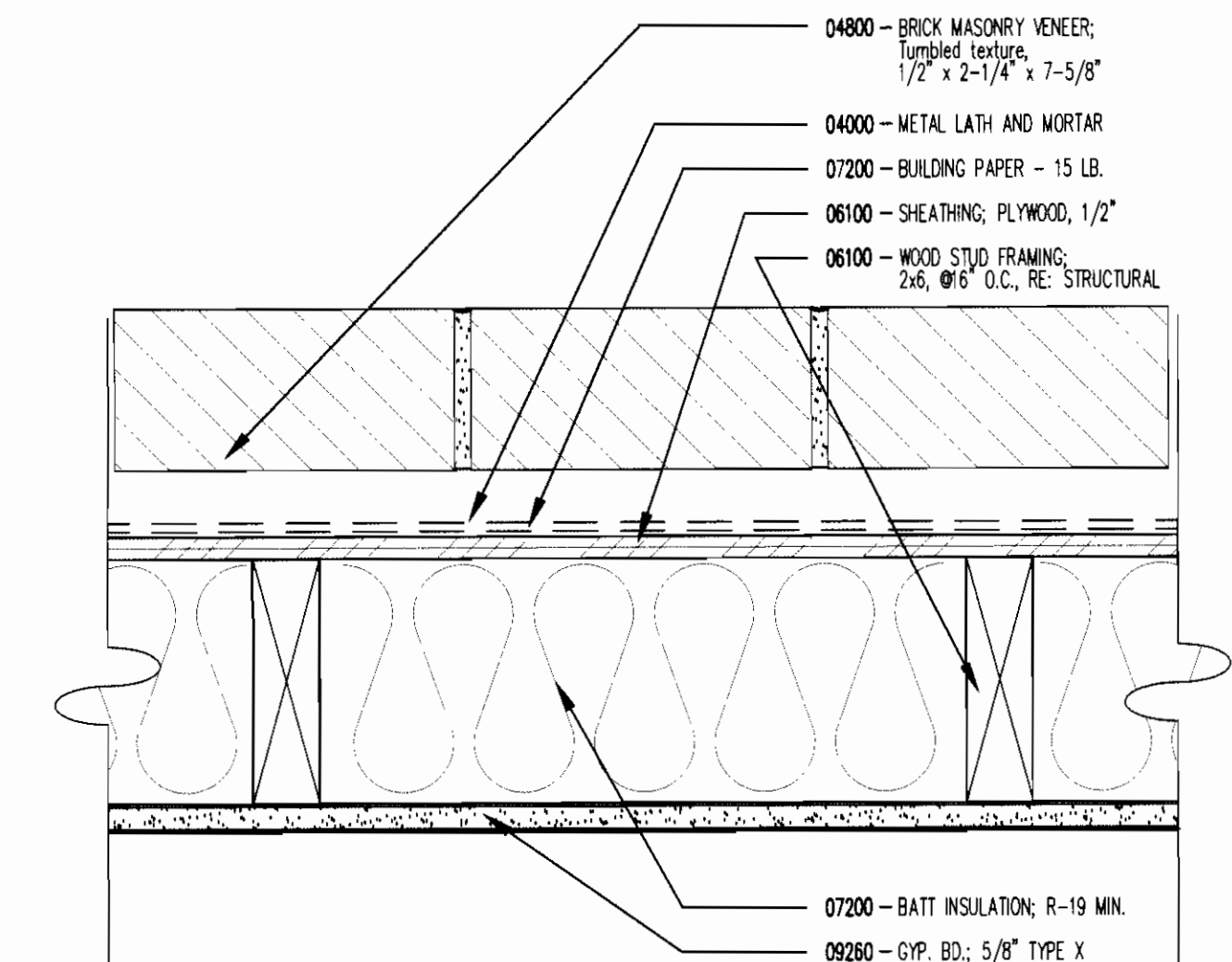
7 WALL TYPE G - 1 HOUR RATED (UL# U356)
SCALE: 3/4"=1'-0"



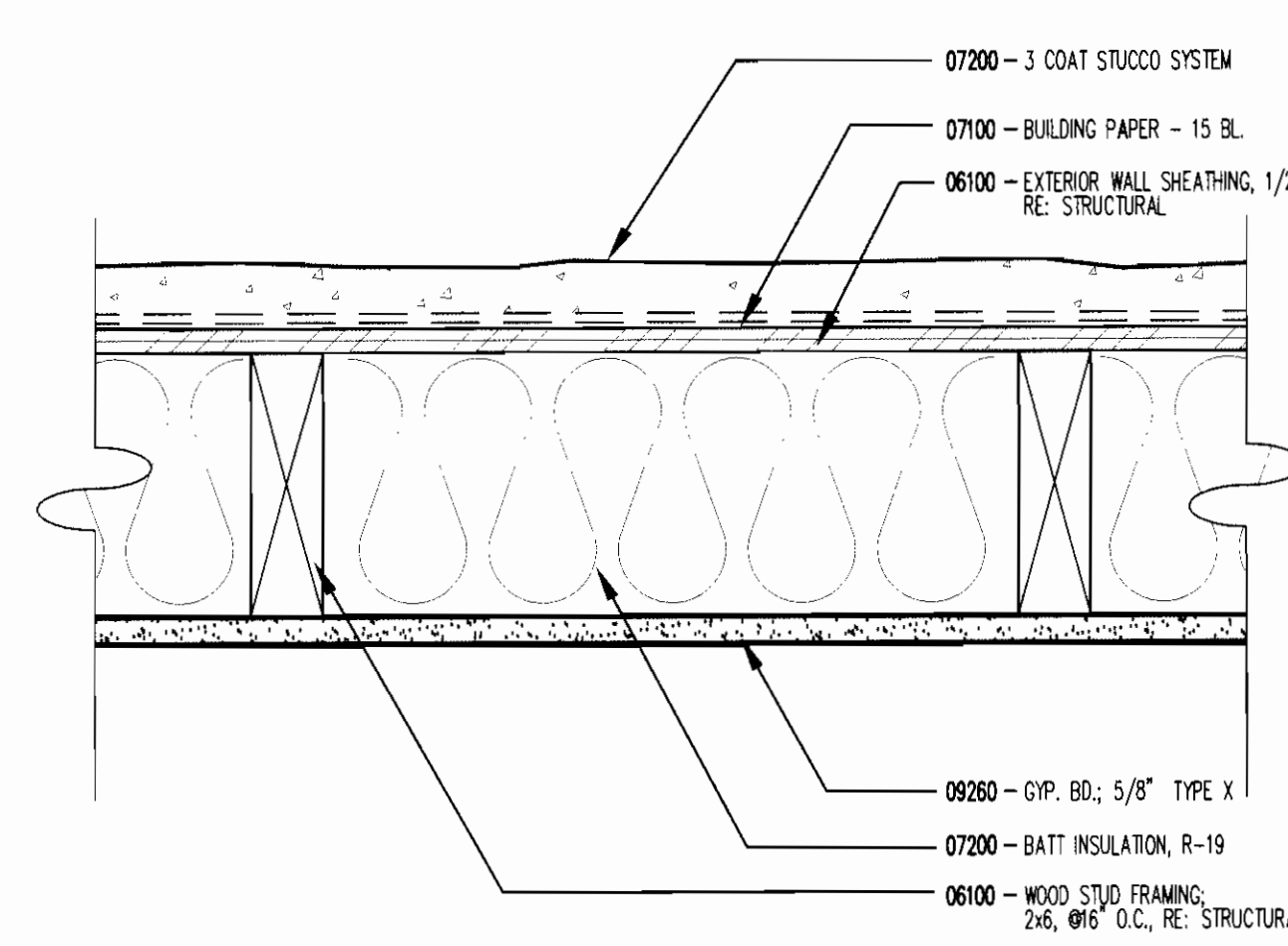
6 WALL TYPE F - 2 HOUR RATED (GA FILE # WP 8415)
SCALE: 3/4"=1'-0"



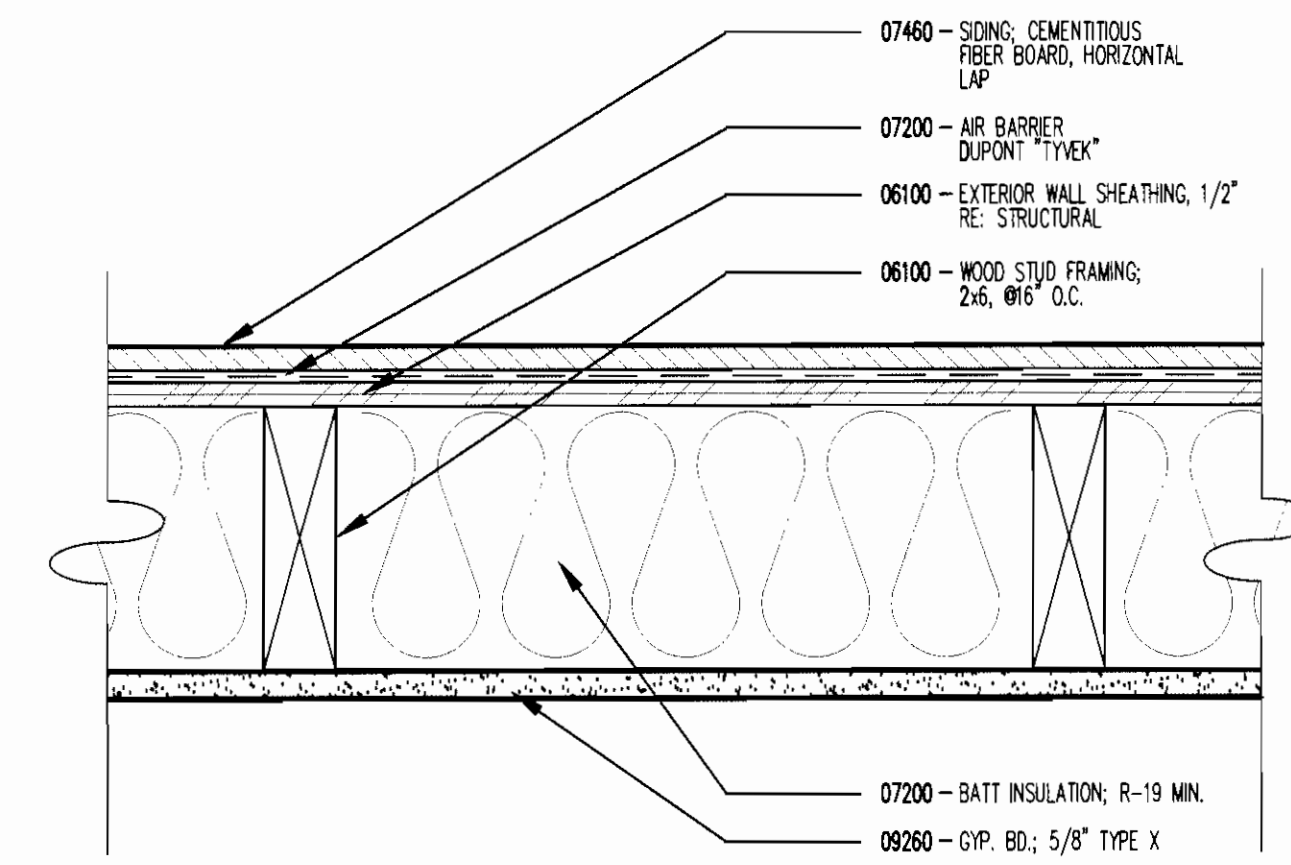
5 WALL TYPE E - 2 HOUR WALL (UL# U334)
SCALE: 3/4"=1'-0" STC = 62



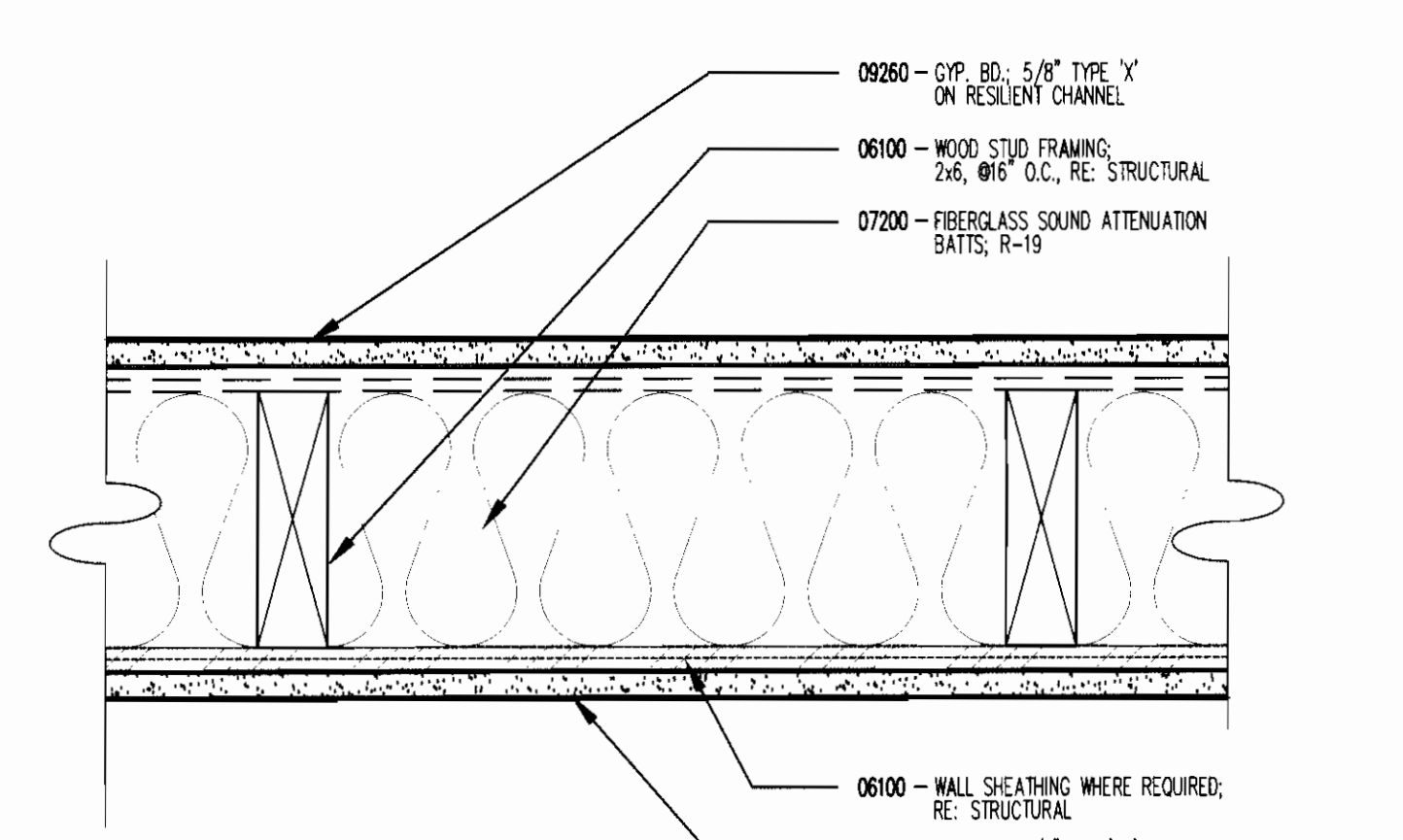
4 WALL TYPE D - 1 HOUR WALL (UL# U356)
SCALE: 3/4"=1'-0"



3 WALL TYPE C - 1 HOUR WALL (UL# U356)
SCALE: 3/4"=1'-0"



2 WALL TYPE B - 1 HOUR WALL (UL# U356)
SCALE: 3/4"=1'-0"



1 WALL TYPE A - 1 HOUR WALL (UL# U305)
SCALE: 3/4"=1'-0" STC = 56



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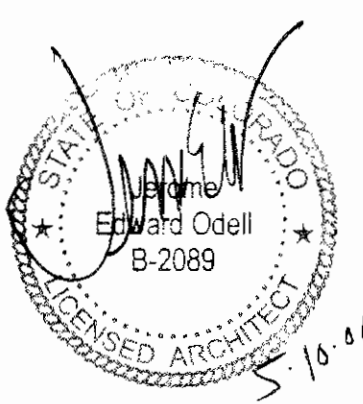
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No.	Description	Date
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ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/9/2006
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SHEET CONTENTS:
WALL TYPES



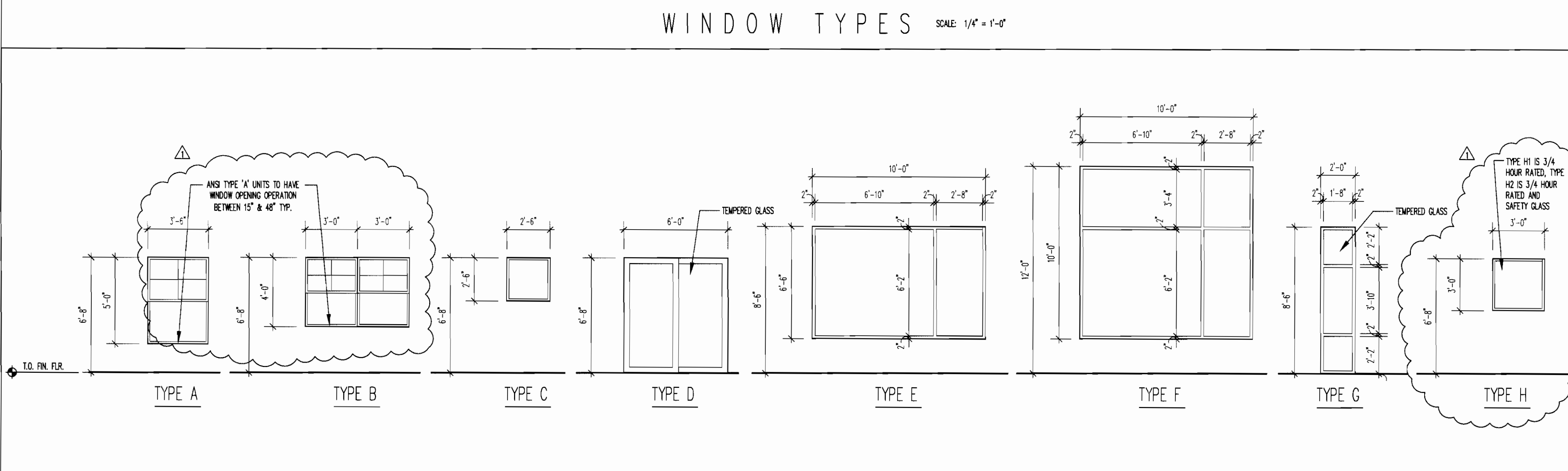
PROJECT NO: 3-04-18
DATE: March 9, 2006
DRAWING NO:

A9.0

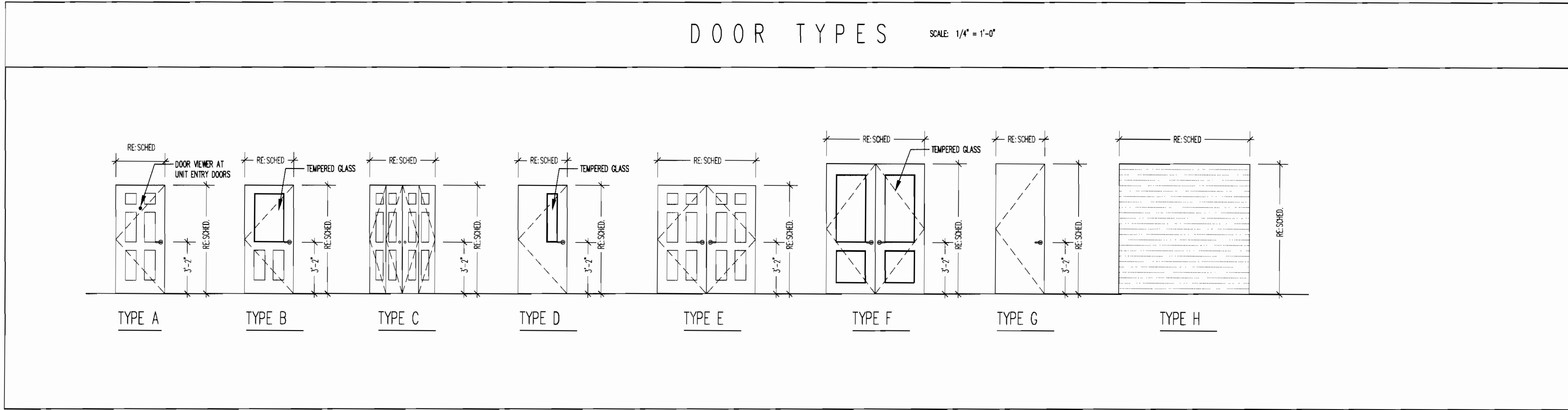
CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 6/26/06
06-108667

WINDOW SCHEDULE										
TYPE	WIDTH x HEIGHT	THICK	WINDOW TYPE	FRAME TYPE	JAMB DETAIL REF.	HEAD DETAIL REF.	SILL DETAIL REF.	GLAZING TYPE	REMARKS	
A	3'-0" x 4'-0"	1"	SH	VNLT	-	-	-	1	EXPRESS WINDOW @ BEDROOMS	
B	3'-0" x 4'-0"	1"	SH	VNLT	-	-	-	1		
C	2'-0" x 4'-0"	1"	SH	VNLT	-	-	-	1		
D	6'-0" x 6'-0"	1"	SH	VNLT	-	-	-	1	SLIDING GLASS DOOR @ BALCONES	
E	10'-0" x 10'-0"	1"	SH	VNLT	-	-	-	1		
F	10'-0" x 10'-0"	1"	SH	VNLT	-	-	-	1		
G	2'-0" x 4'-0"	1"	SH	VNLT	-	-	-	1		
H	3'-0" x 4'-0"	1"	SH	VNLT	-	-	-	1	SEE REMARK WINDOW TYPE H1 IS 3/4 HOUR FIRE RATED, WINDOW TYPE H2 IS 3/4 HOUR FIRE RATED AND SAFETY GLASS	

ROOM FINISH SCHEDULE														
ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS								CEILING		REMARKS
		NORTH		SOUTH		EAST		WEST		MATERIAL	FINISH			
		MATERIAL		FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL			FINISH		
	- TYPICAL UNIT -													
	LIVING ROOM	01T	MD	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	COAT CLOSET	01T	MD	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	KITCHEN	SV	RB	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	BATHROOM	SV	RB	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	BEDROOM	01T	MD	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	CLOSET	01T	MD	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	LINEN CLOSET	01T	MD	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	UNIT MECHANICAL CLOSET	CONC	-	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	ENTRY FOYER	SV	RB	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
	LAUNDRY	VCT	RB	CYP	P	CYP	P	CYP	P	CYP	P	CYP	P	
		</												



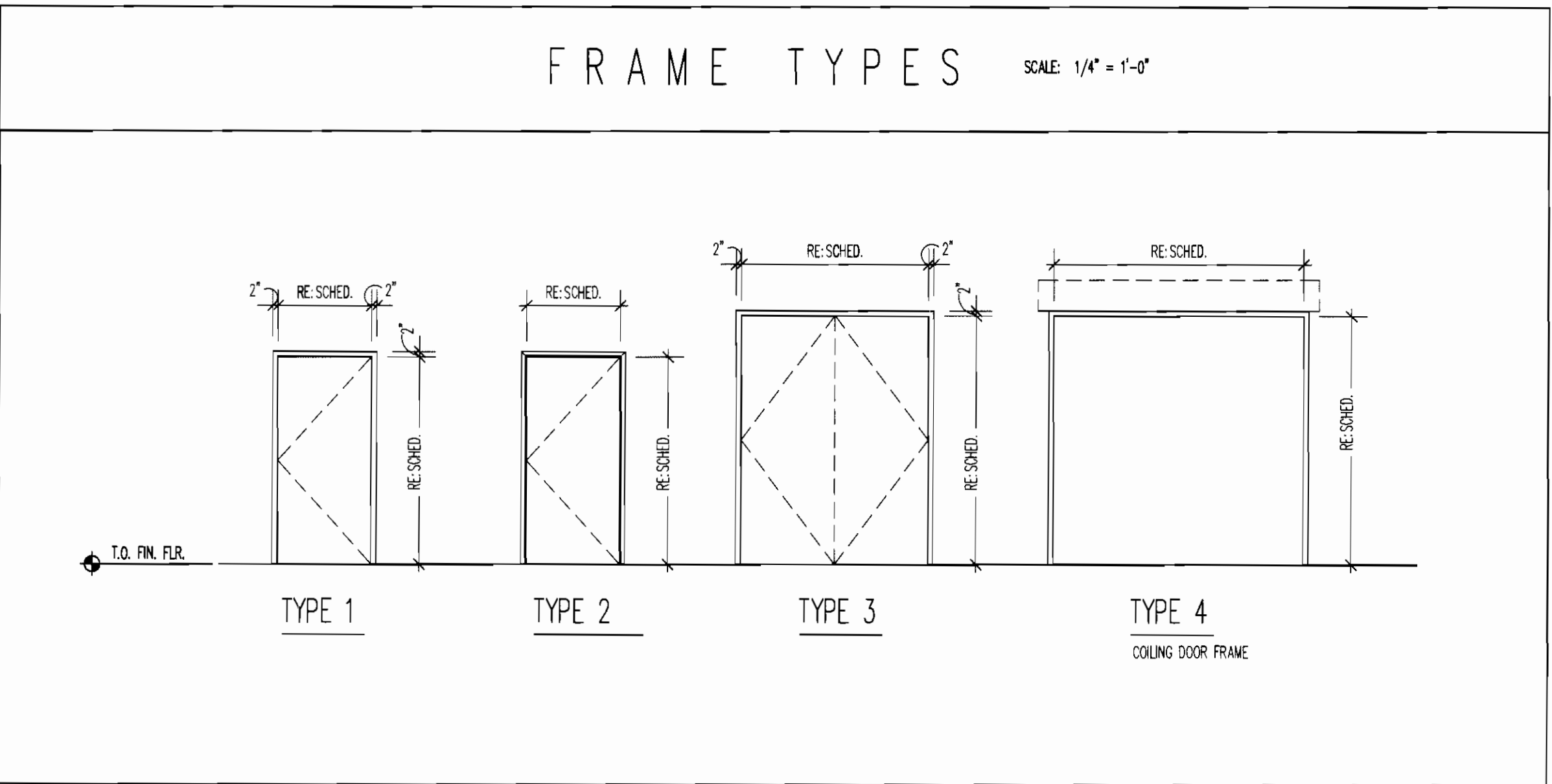
DOOR SCHEDULE														
No.	Width x Height	Room Name	Door Type	HWK	Fire Rating	Const.	Glass	Fin.	Thick	Frc	Fff	Frame Type	Jamb	Head
UNIT PLANS														
01	3'-0" x 4'-0"	ENTRY	A	-	60 MIN	INSUL. WTL	-	P	1.75	HM	P	1	-	-
02	3'-0" x 4'-0"	BATHROOM & BEDROOM	B	-	-	INSUL. WTL	-	P	1.75	HM	P	2	-	-
03	2'-0" x 4'-0"	CLOSET	B	-	-	W.D.	-	P	1.75	HM	P	2	-	-
04	3'-0" x 4'-0"	CLOSET & LAUNDRY	B	-	-	W.D.	-	P	1.75	HM	P	2	-	-
05	2'-0" x 4'-0"	CLOSET	C	-	-	W.D.	-	P	1.75	HM	P	2	-	-
06	3'-0" x 4'-0"	LAUNDRY	C	-	-	W.D.	-	P	1.75	HM	P	2	-	-
07	2'-0" x 4'-0"	MECHANICAL	E	-	-	W.D.	-	P	1.75	HM	P	2	-	-
COMMON SPACE														
001	3'-0" x 4'-0"	STORAGE	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
002	3'-0" x 4'-0"	ELEVATOR EQUIPMENT	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
003	3'-0" x 4'-0"	STAIR 2	D	-	60 MIN	INSUL. HM	-	P	1.75	HM	P	1	-	-
004	3'-0" x 4'-0"	ELECTRICAL	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
005A	3'-0" x 4'-0"	MAINTENANCE/STORAGE	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
005B	3'-0" x 4'-0"	MAINTENANCE/STORAGE	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
006	3'-0" x 4'-0"	ELEVATOR SMOKE DOOR	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
007	3'-0" x 4'-0"	WATER ENTRY	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
008	3'-0" x 4'-0"	STAIR 1	D	-	60 MIN	INSUL. HM	-	P	1.75	HM	P	1	-	-
105A	3'-0" x 4'-0"	STAIR 2	G	-	60 MIN	INSUL. HM	-	P	1.75	HM	P	1	-	-
105B	3'-0" x 4'-0"	STAIR 2	D	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
106A	3'-0" x 4'-0"	TRASH COLLECTION	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
106B	3'-0" x 4'-0"	TRASH COLLECTION	G	-	60 MIN	INSUL. HM	-	P	1.75	HM	P	1	-	-
106C	8'-0" x 4'-0"	TRASH COLLECTION	H	-	-	INSUL. HM	-	P	1.75	HM	P	4	-	-
110A	3'-0" x 4'-0"	COMMUNITY ROOM	F	-	60 MIN	WOOD	-	ST	1.75	HM	P	3	-	-
110B	3'-0" x 4'-0"	COMMUNITY ROOM	F	-	-	WOOD	-	ST	1.75	HM	P	3	-	-
111A	3'-0" x 4'-0"	LEASING OFFICE	B	-	60 MIN	WOOD	-	ST	1.75	HM	P	1	-	-
111B	3'-0" x 4'-0"	LEASING OFFICE	B	-	-	WOOD	-	ST	1.75	HM	P	1	-	-
112	3'-0" x 4'-0"	RESTROOM	A	-	-	WOOD	-	ST	1.75	HM	P	1	-	-
117A	3'-0" x 4'-0"	STAIR 1	G	-	60 MIN	INSUL. HM	-	P	1.75	HM	P	1	-	-
117B	3'-0" x 4'-0"	STAIR 1	D	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
117C	3'-0" x 4'-0"	STAIR 1	A	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
118	3'-0" x 4'-0"	STORAGE/MECHANICAL	A	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
122	3'-0" x 4'-0"	LOBBY	F	-	-	ALUM	-	FF	1.75	ALUM	FF	3	-	-
123	3'-0" x 4'-0"	ELEVATOR SMOKE DOOR	R	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
124	3'-0" x 4'-0"	TRASH ROOM	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
205	3'-0" x 4'-0"	STAIR 2	D	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
220	3'-0" x 4'-0"	TRASH ROOM	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
214	3'-0" x 4'-0"	STORAGE/MECHANICAL	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
215A	3'-0" x 4'-0"	STAIR 1	D	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
215B	3'-0" x 4'-0"	STAIR 1	D	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
216A	3'-0" x 4'-0"	CLOSET	A	-	60 MIN	WOOD	-	ST	1.75	HM	P	1	-	-
223	3'-0" x 4'-0"	ELEVATOR SMOKE DOOR	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
305	3'-0" x 4'-0"	STAIR 2	D	-	60 MIN	INSUL. HM	-	P	1.75	HM	P	1	-	-
314	3'-0" x 4'-0"	STORAGE/MECHANICAL	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
315A	3'-0" x 4'-0"	STAIR 1	D	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
316B	3'-0" x 4'-0"	STAIR 1	D	-	60 MIN	ALUM	-	ST	1.75	HM	P	1	-	-
316A	3'-0" x 4'-0"	CLOSET	A	-	60 MIN	WOOD	-	ST	1.75	HM	P	1	-	-
317	3'-0" x 4'-0"	TRASH ROOM	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
323	3'-0" x 4'-0"	ELEVATOR SMOKE DOOR	G	-	60 MIN	HM	-	P	1.75	HM	P	1	-	-
405	3'-0" x 4'-0"	STAIR 2	G	-	60 MIN	INSUL. HM	-	P	1.75	HM	P	1	-	-

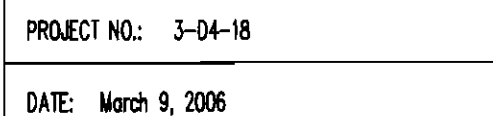
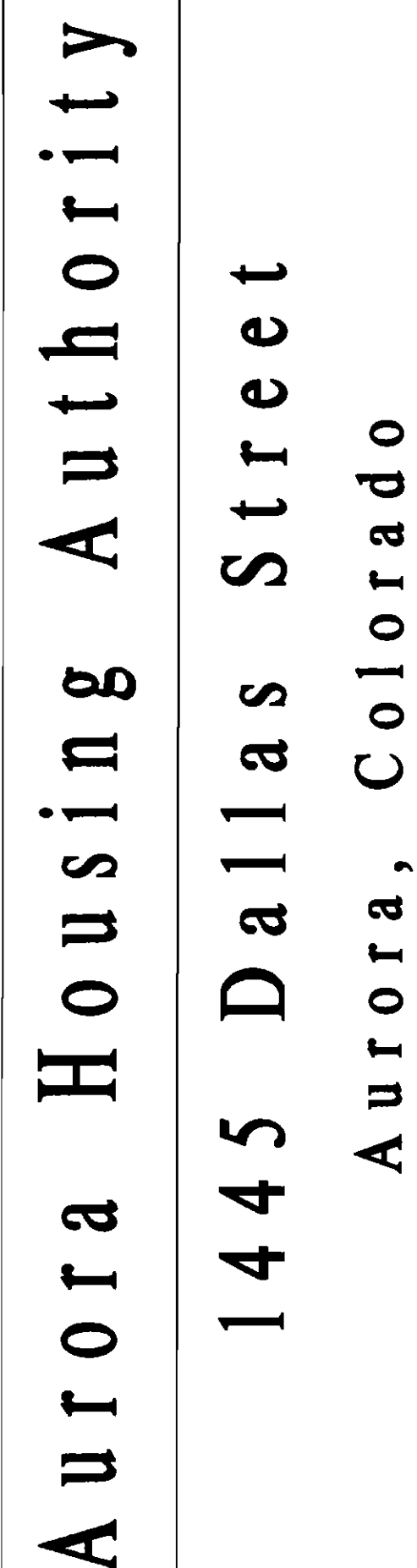


FINISH LEGEND									
ACT	ACOUSTIC CEILING TILE	SV	SHEET VINYL	UF	UNFINISHED	VCT	VINYL COMPOSITION TILE	MD	WOOD
CONC	CONCRETE	VCT	VINYL COMPOSITION TILE	MD	WOOD	CT	CERAMIC TILE	RB	RUBBER
OPT	CARPET	CT	CERAMIC TILE	RB	RUBBER				
CYP	CYP/SUM BOARD								
OTS	OPEN TO STRUCTURE								
P	PAINT								

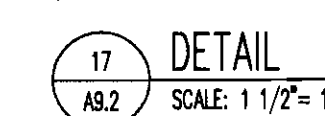
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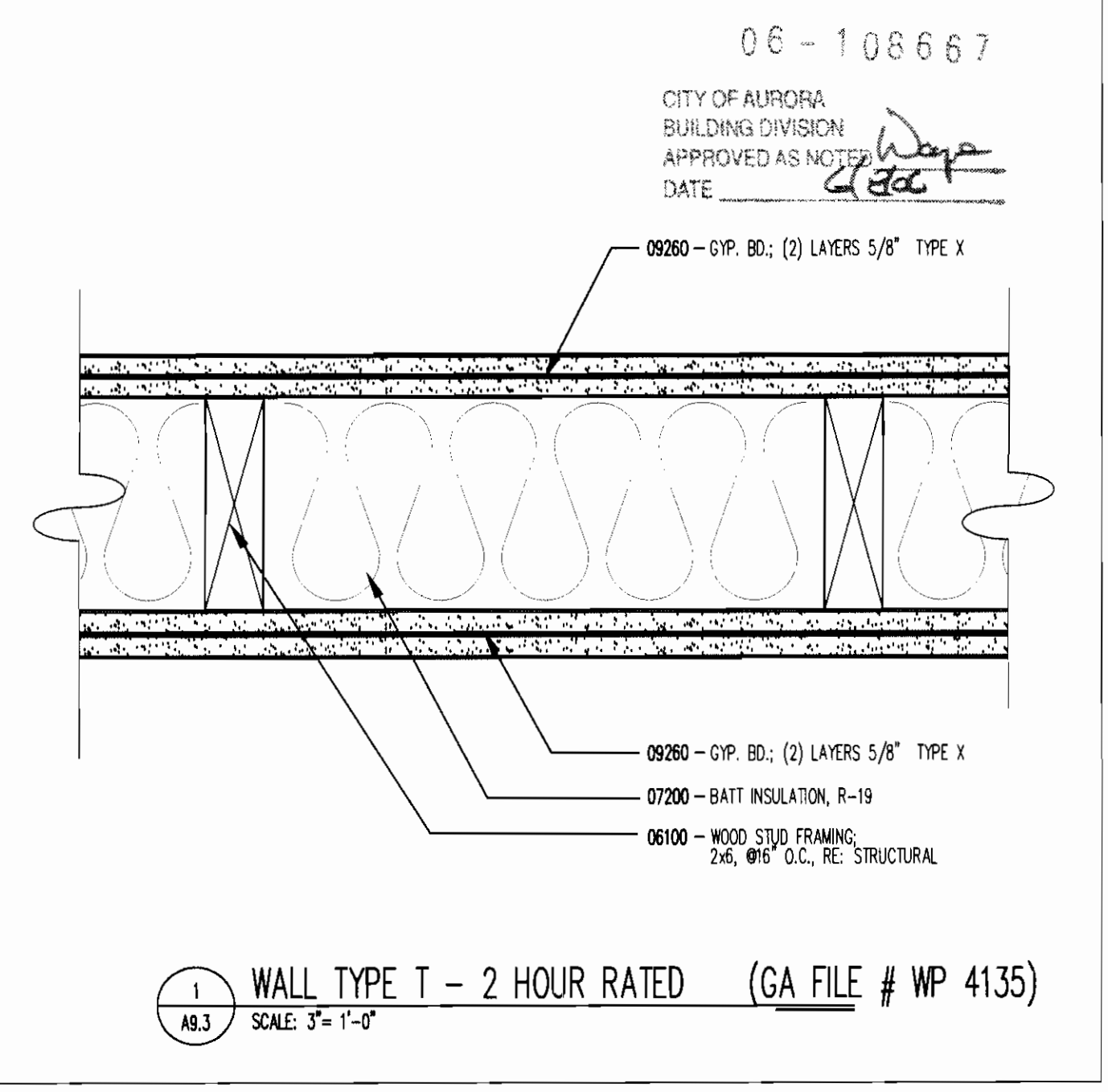
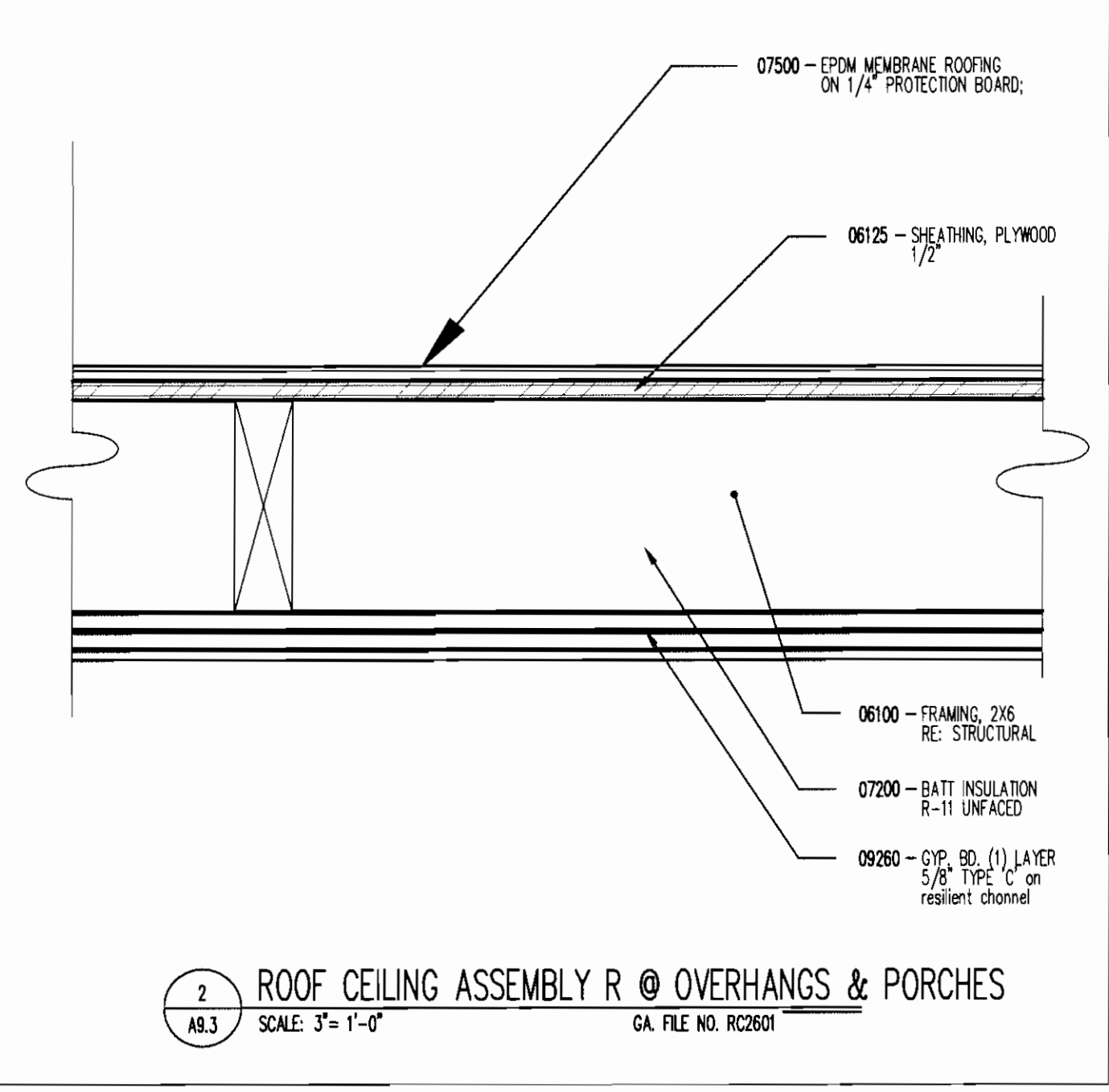
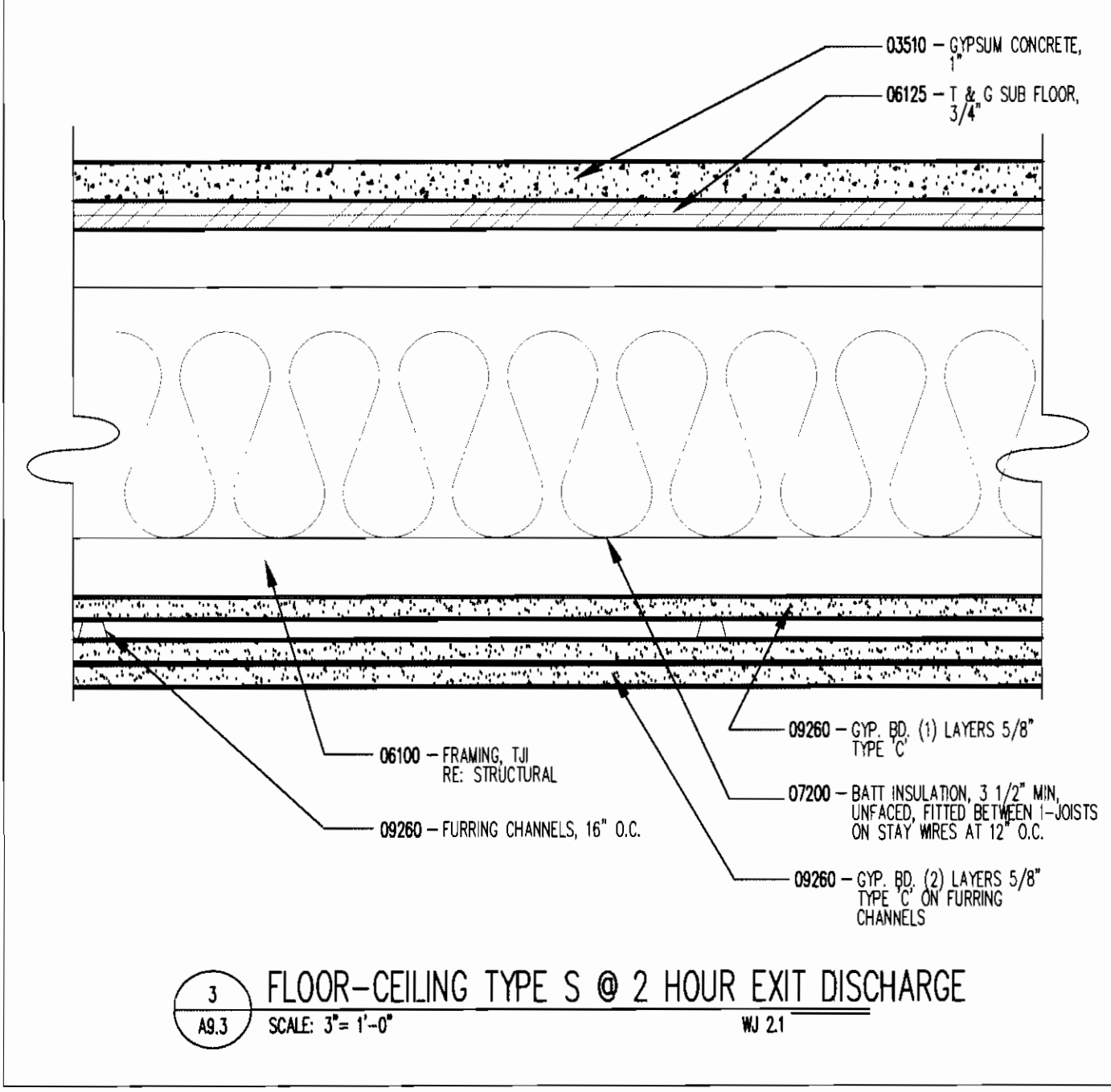
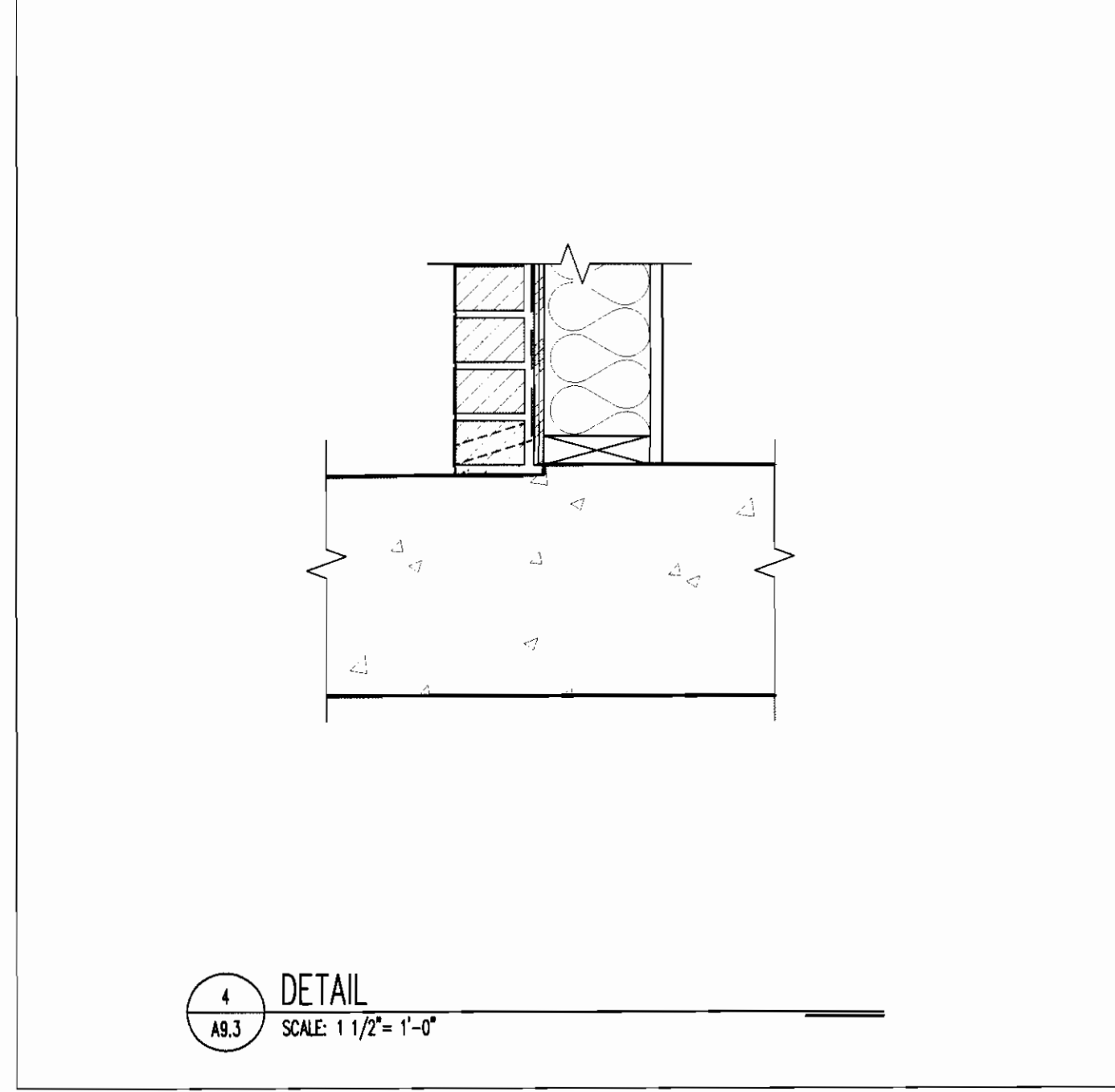
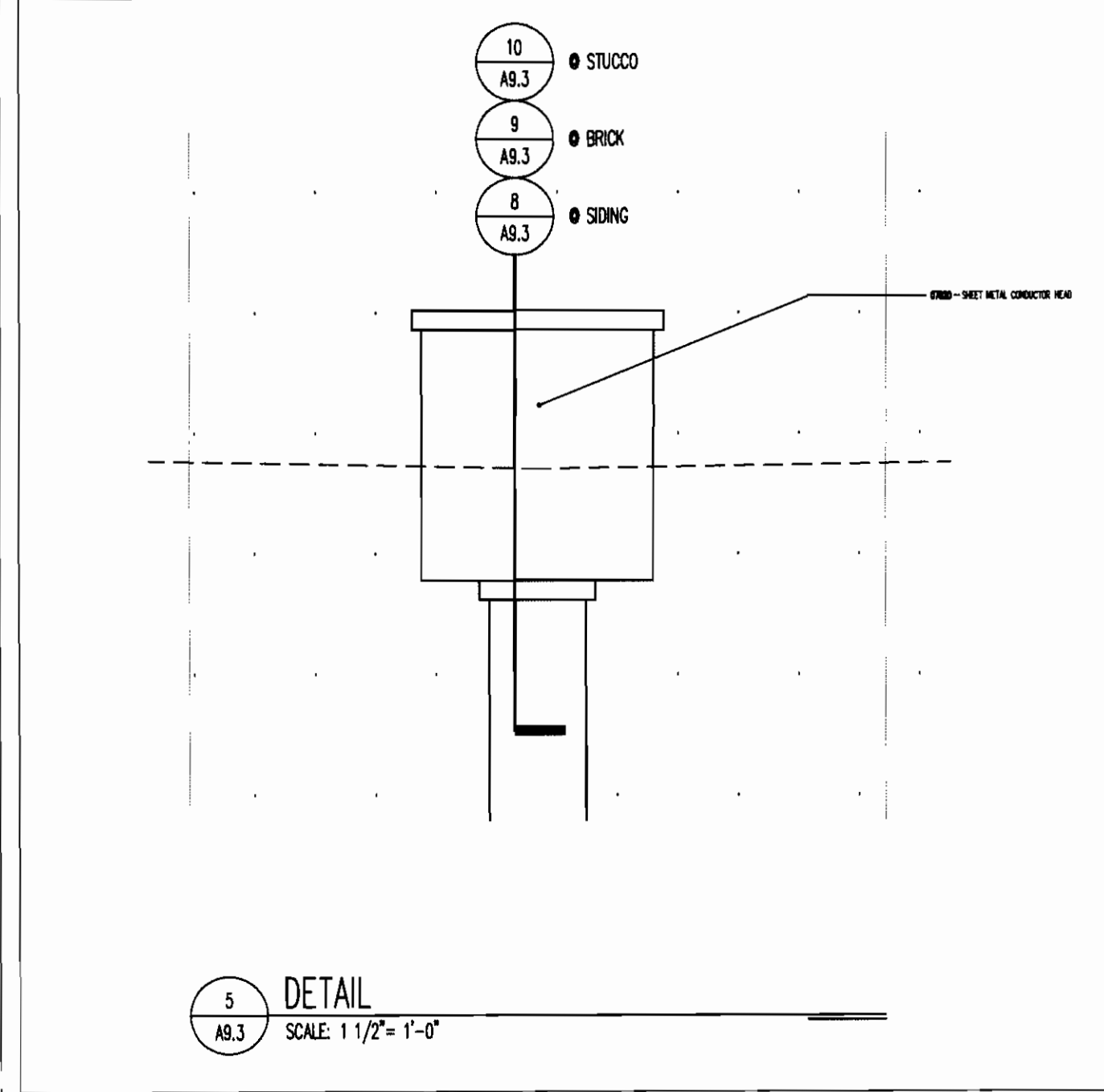
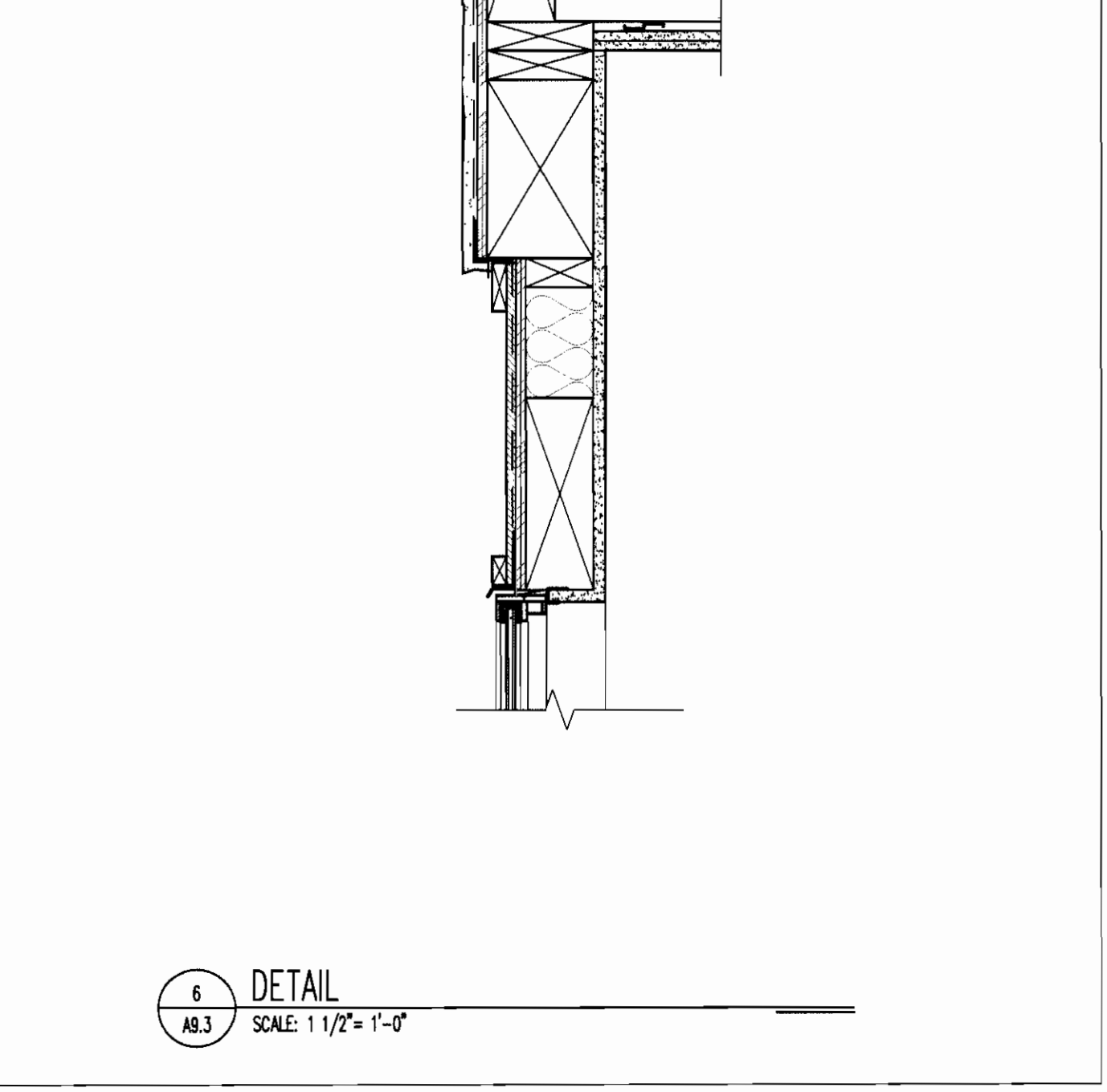
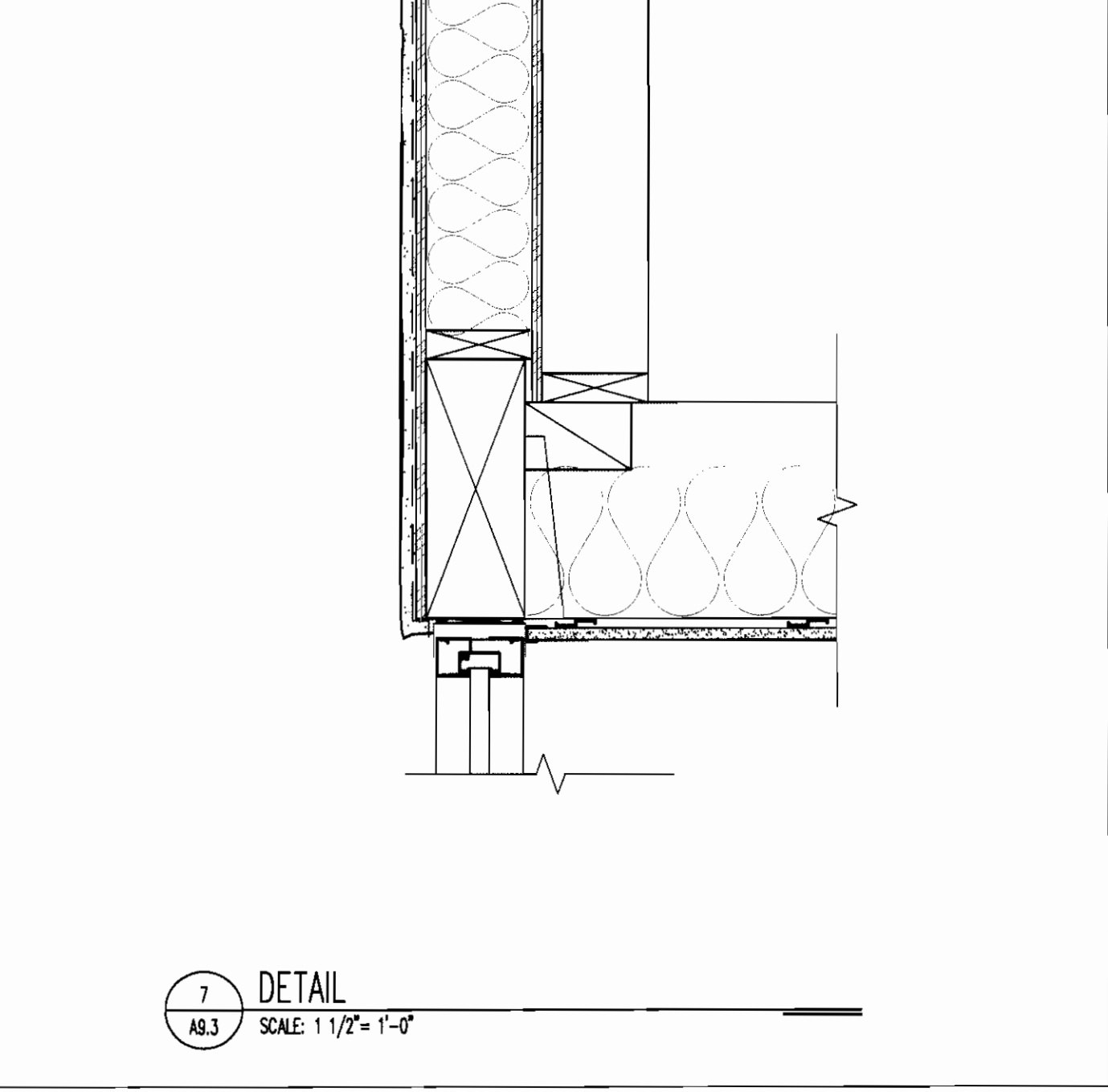
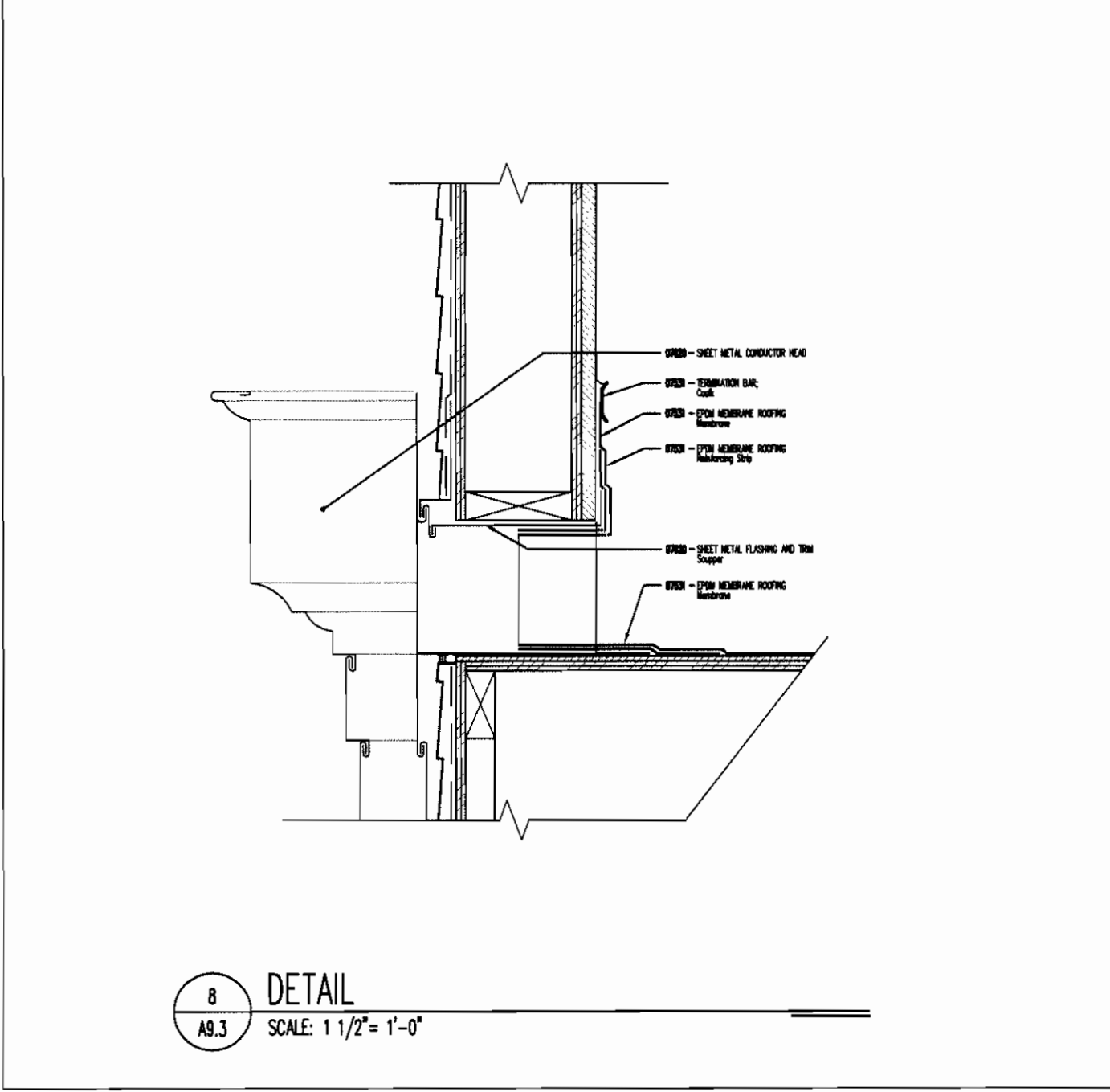
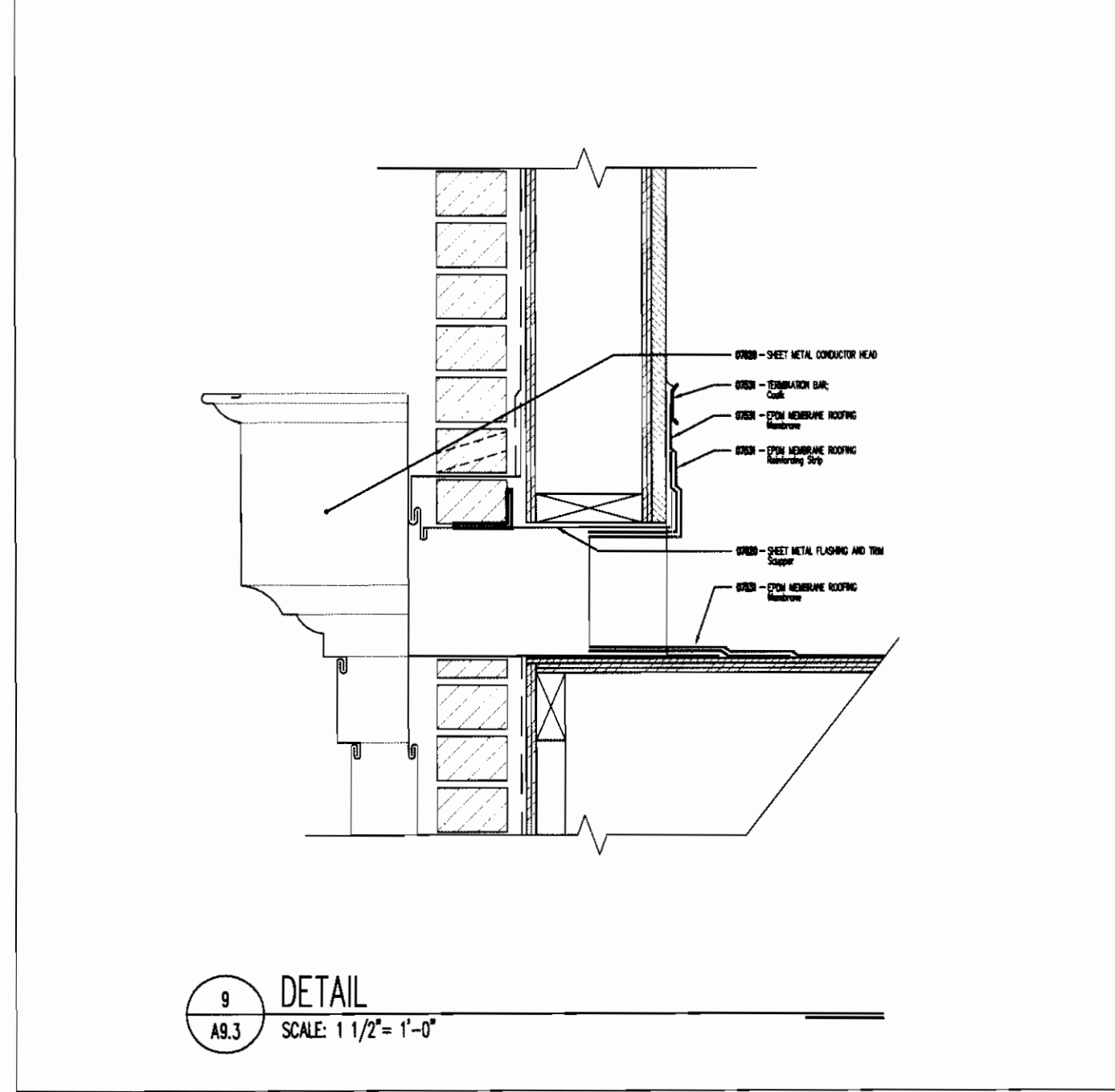
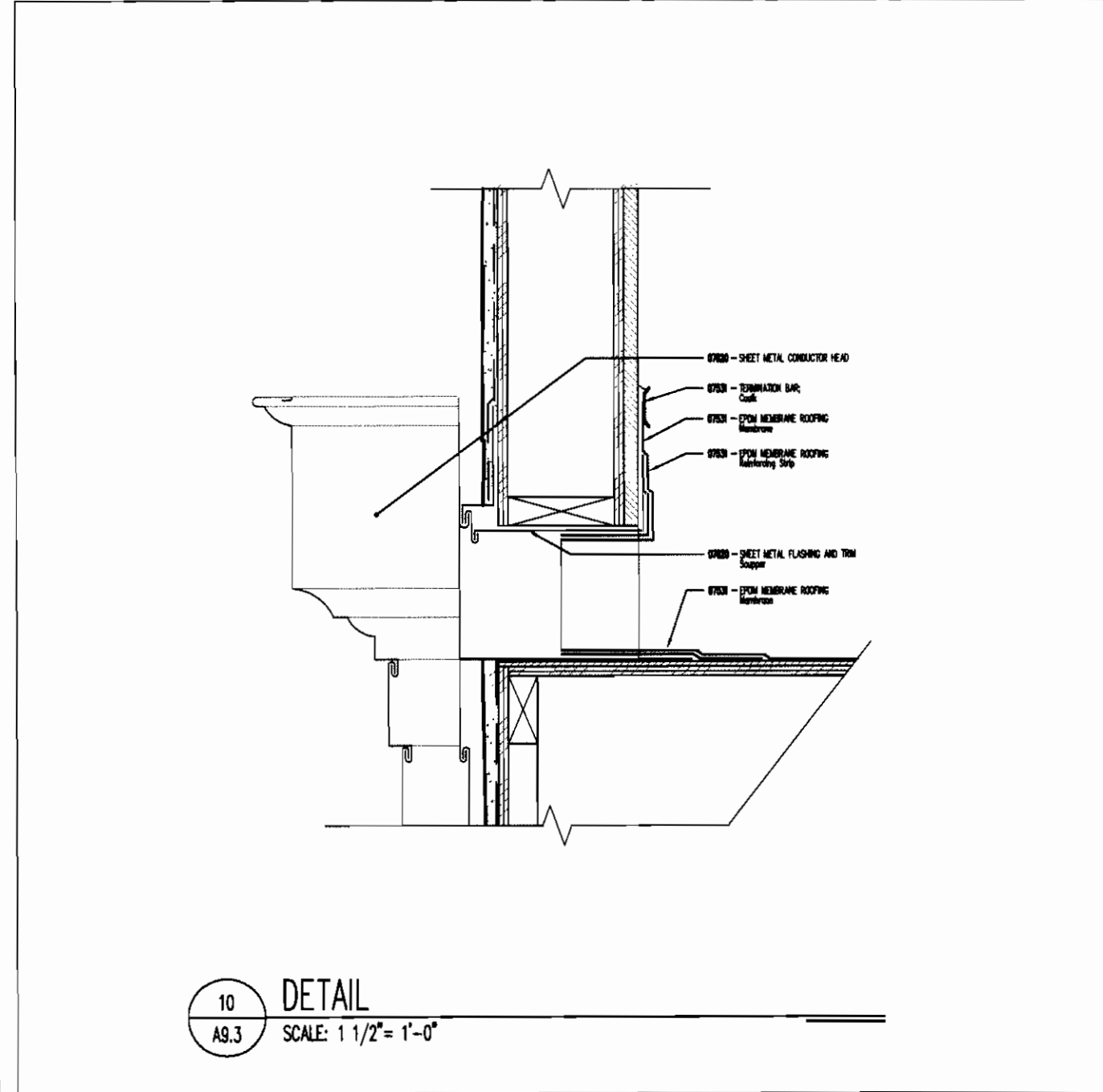
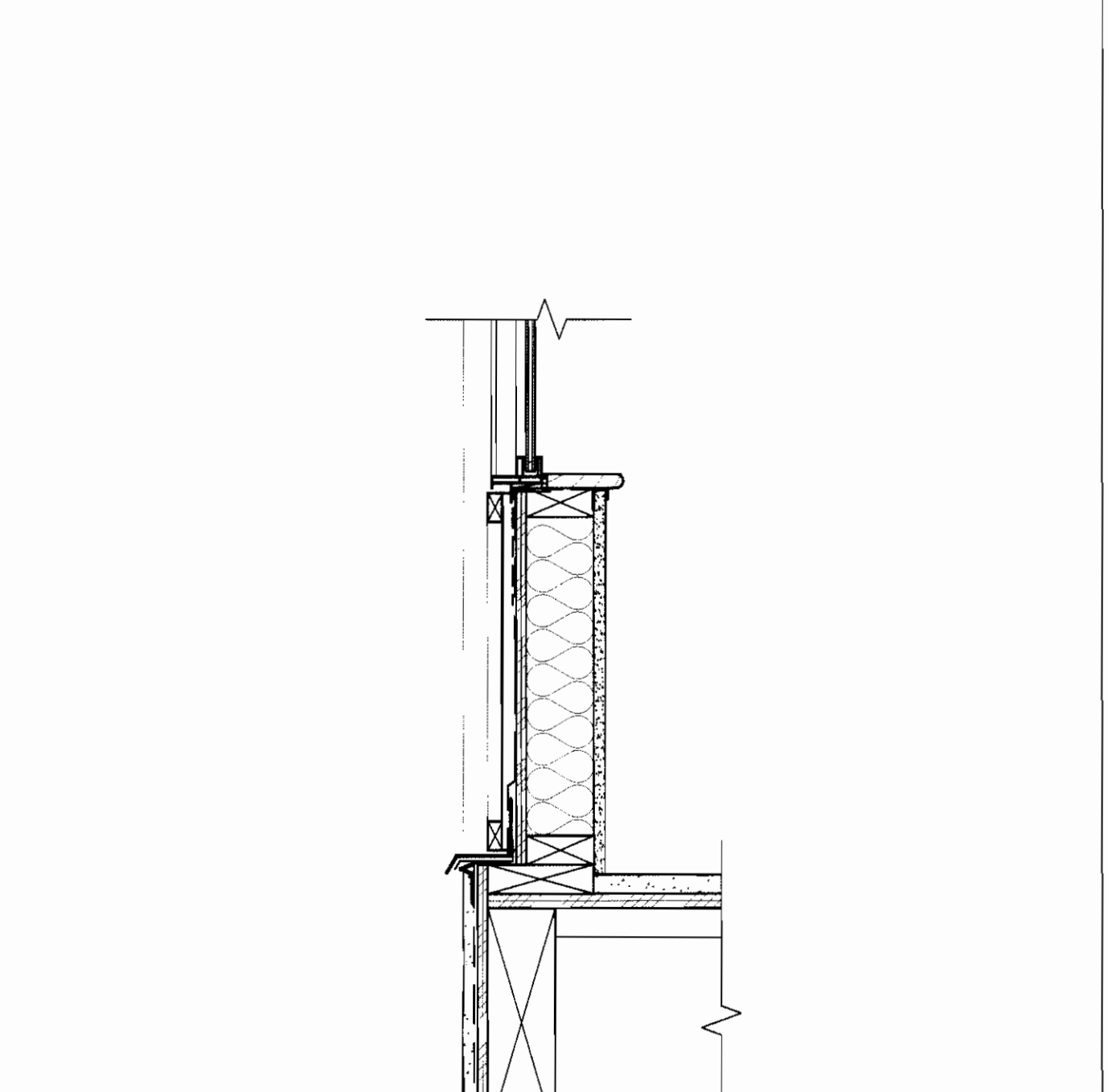
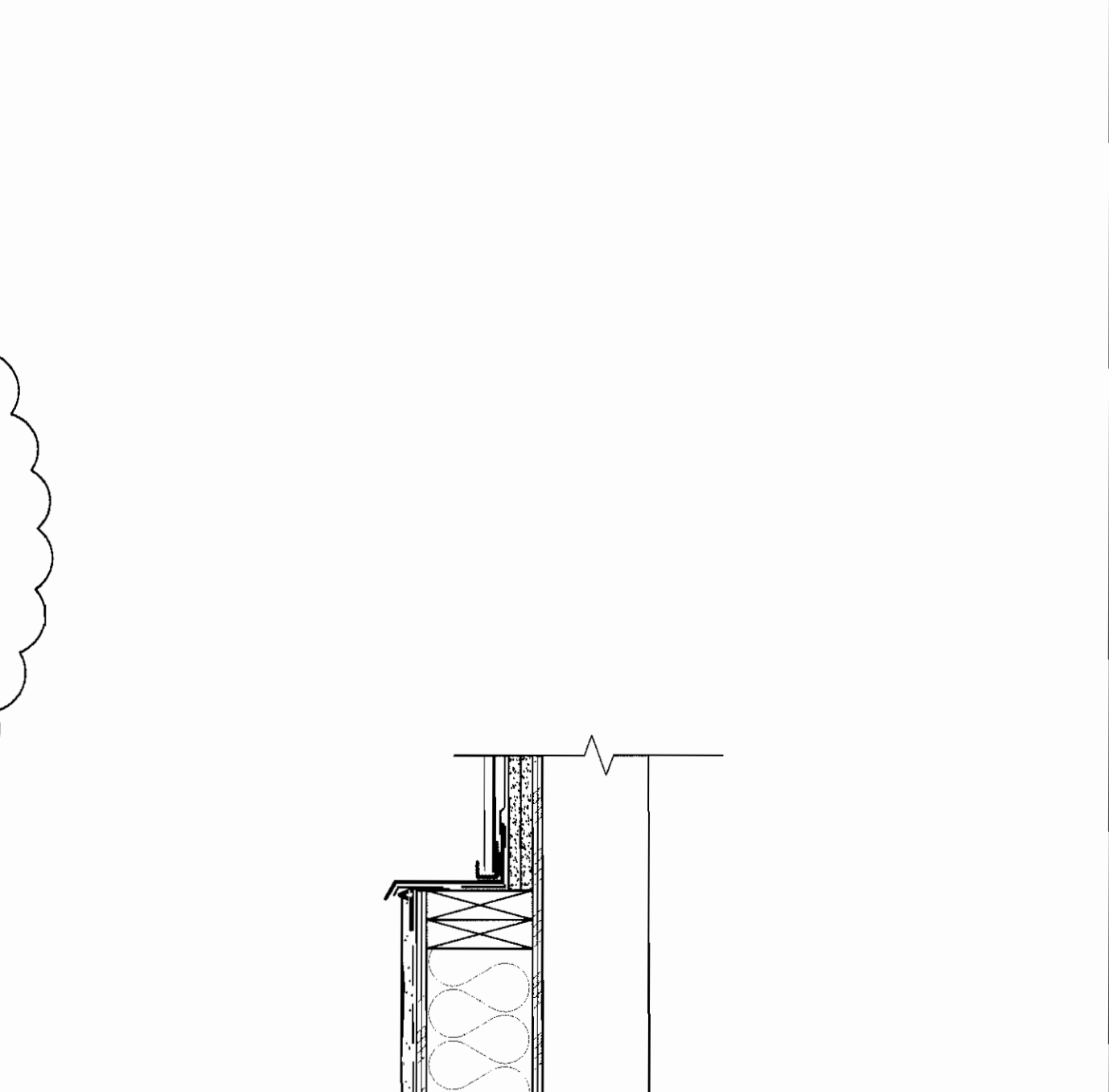
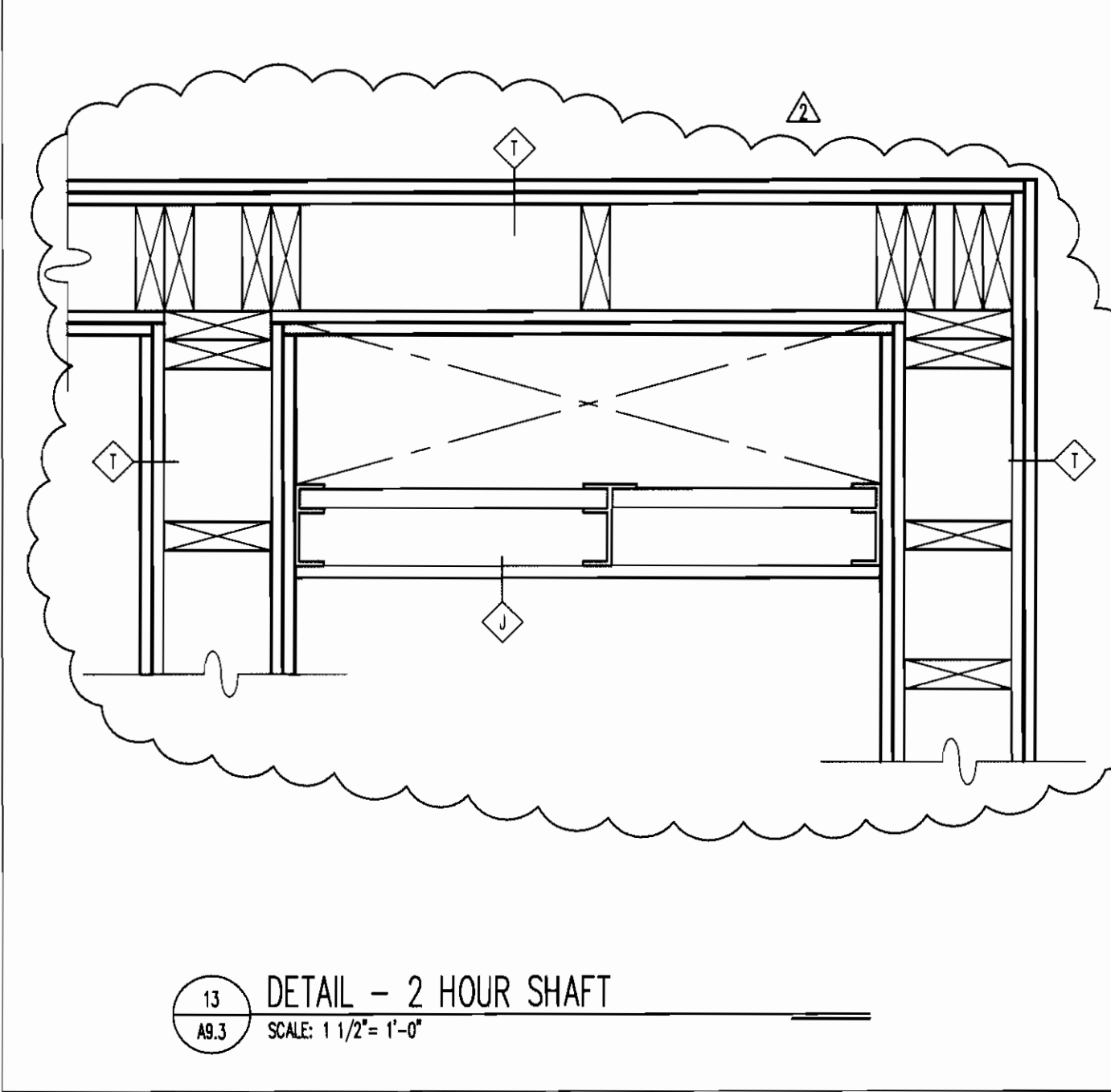
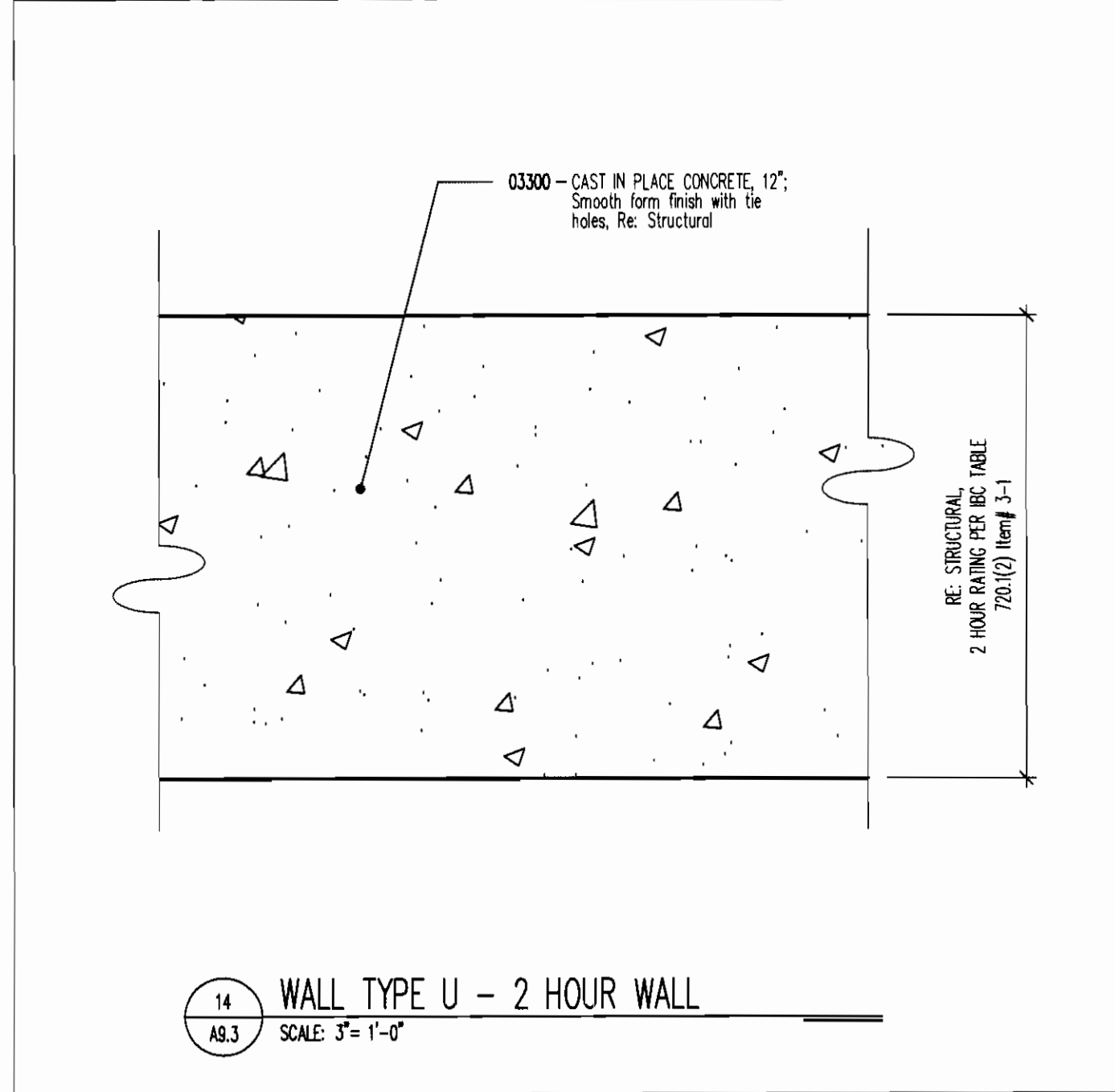
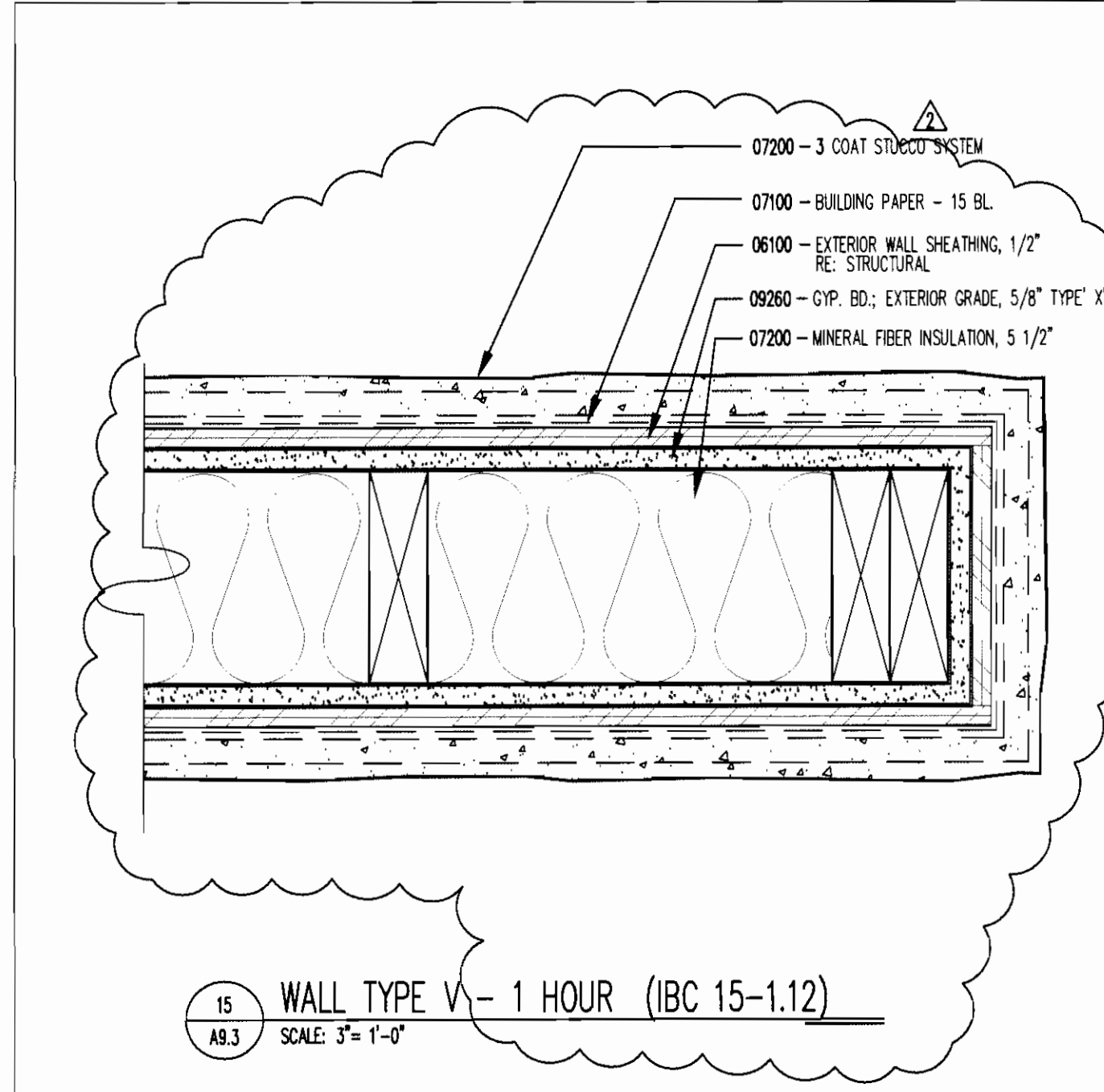
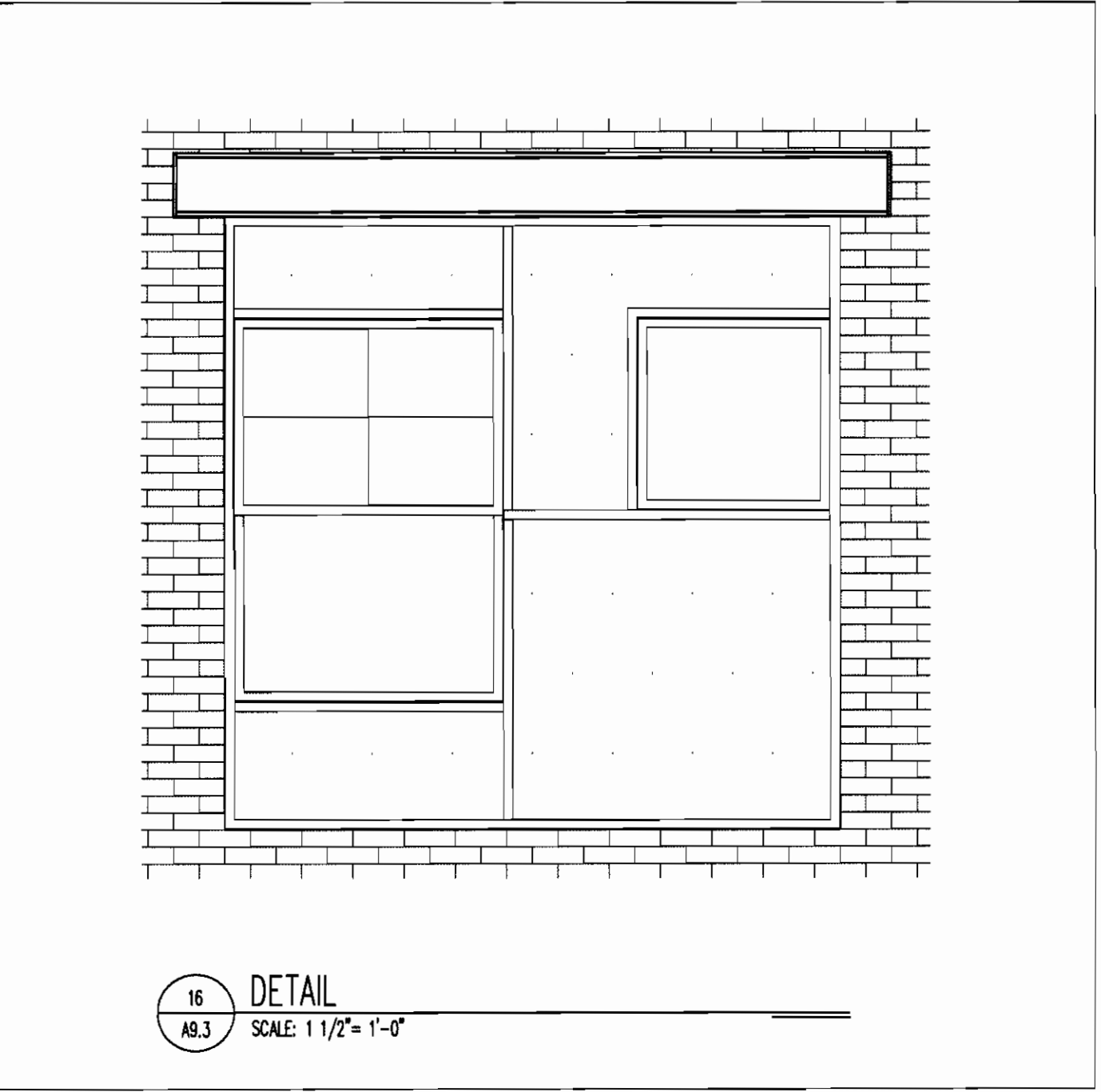
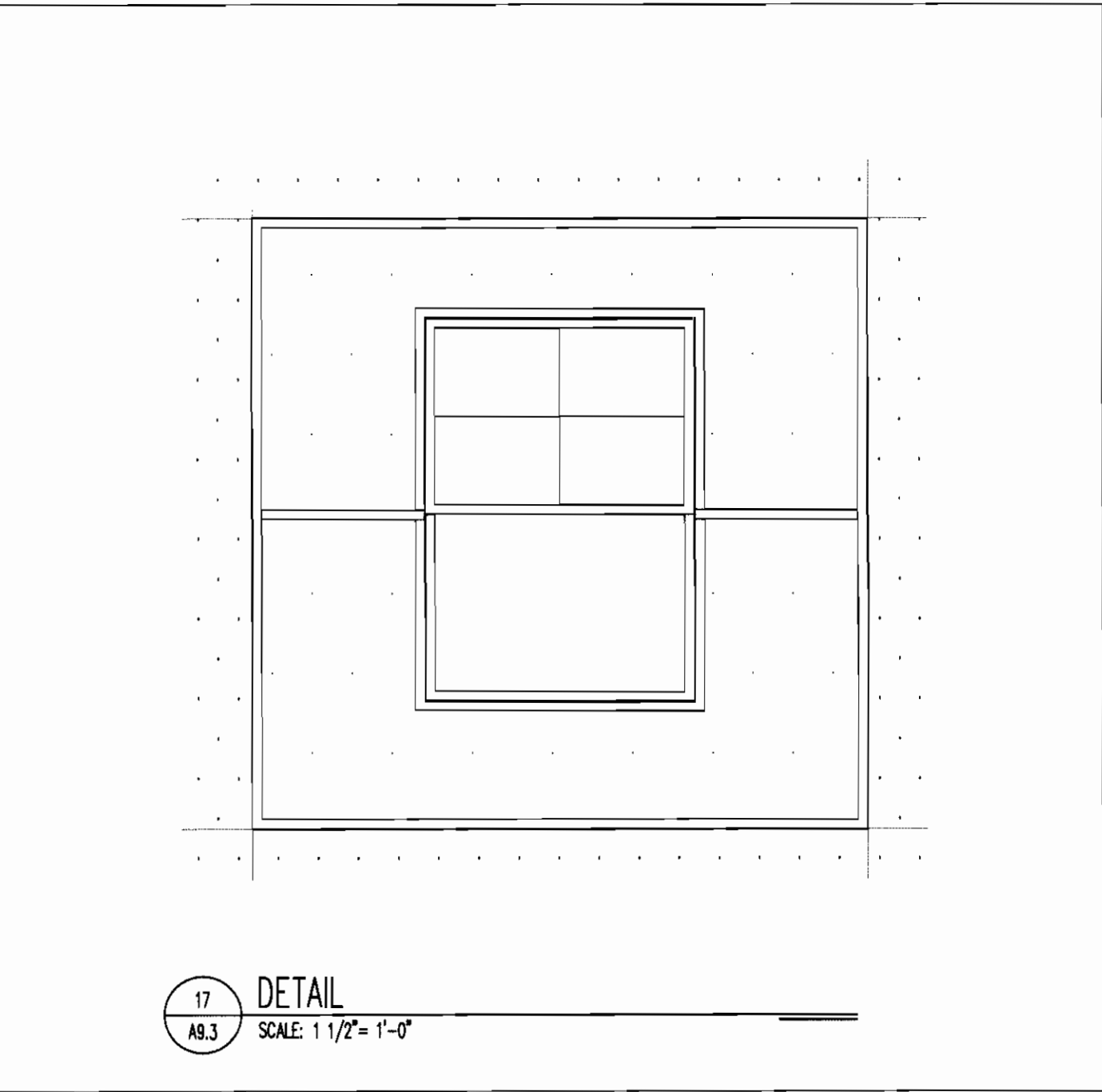
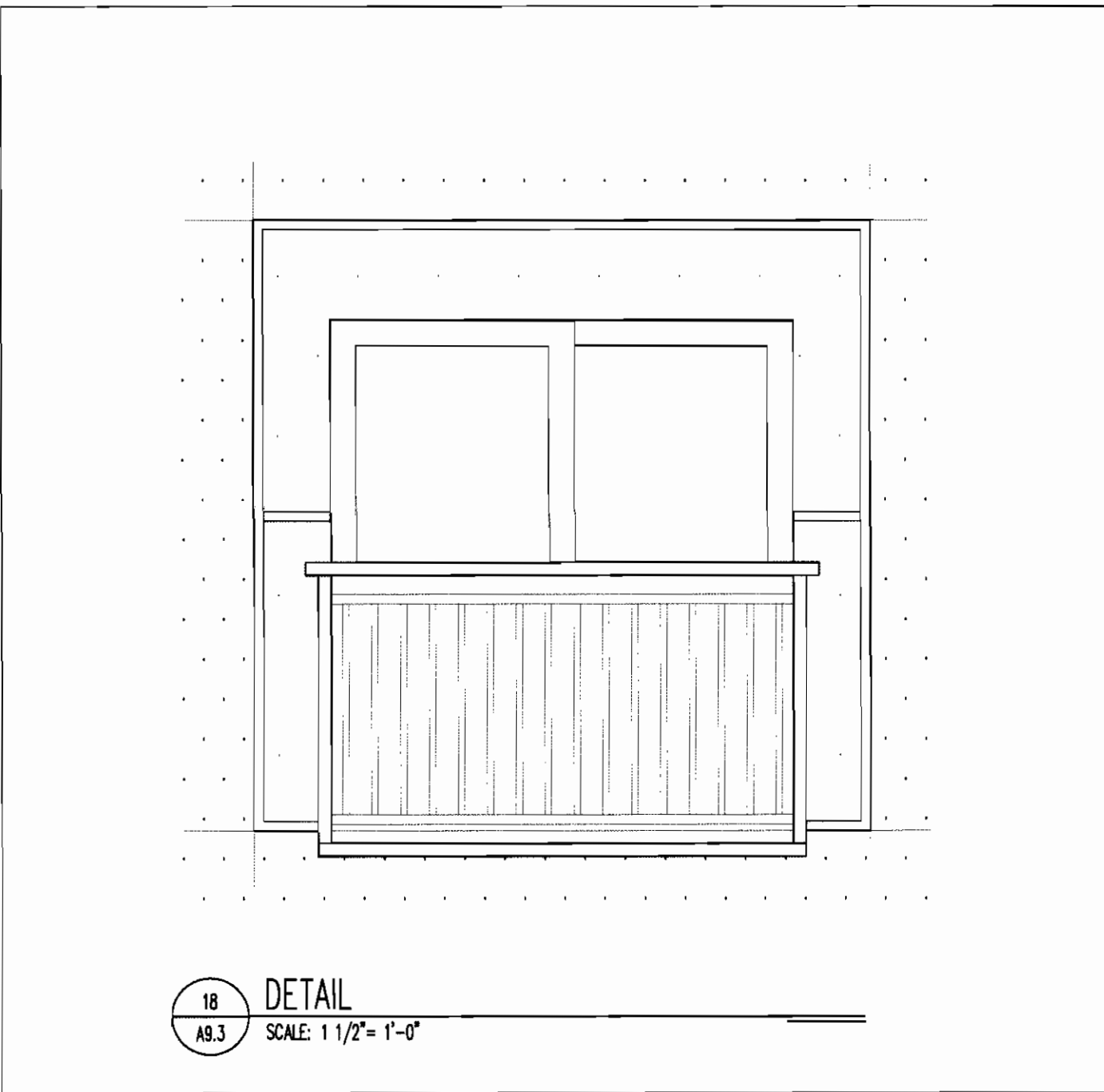
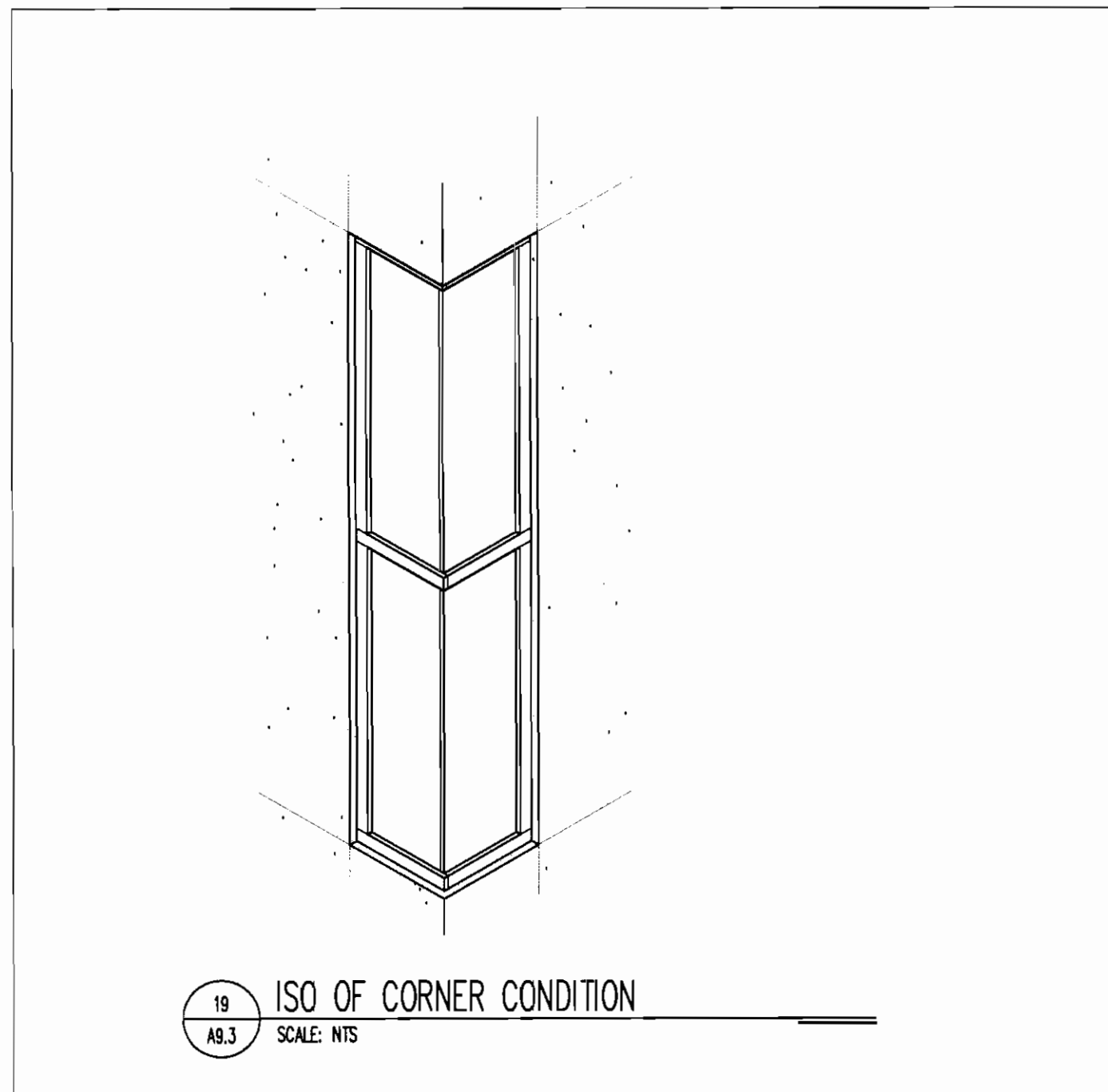
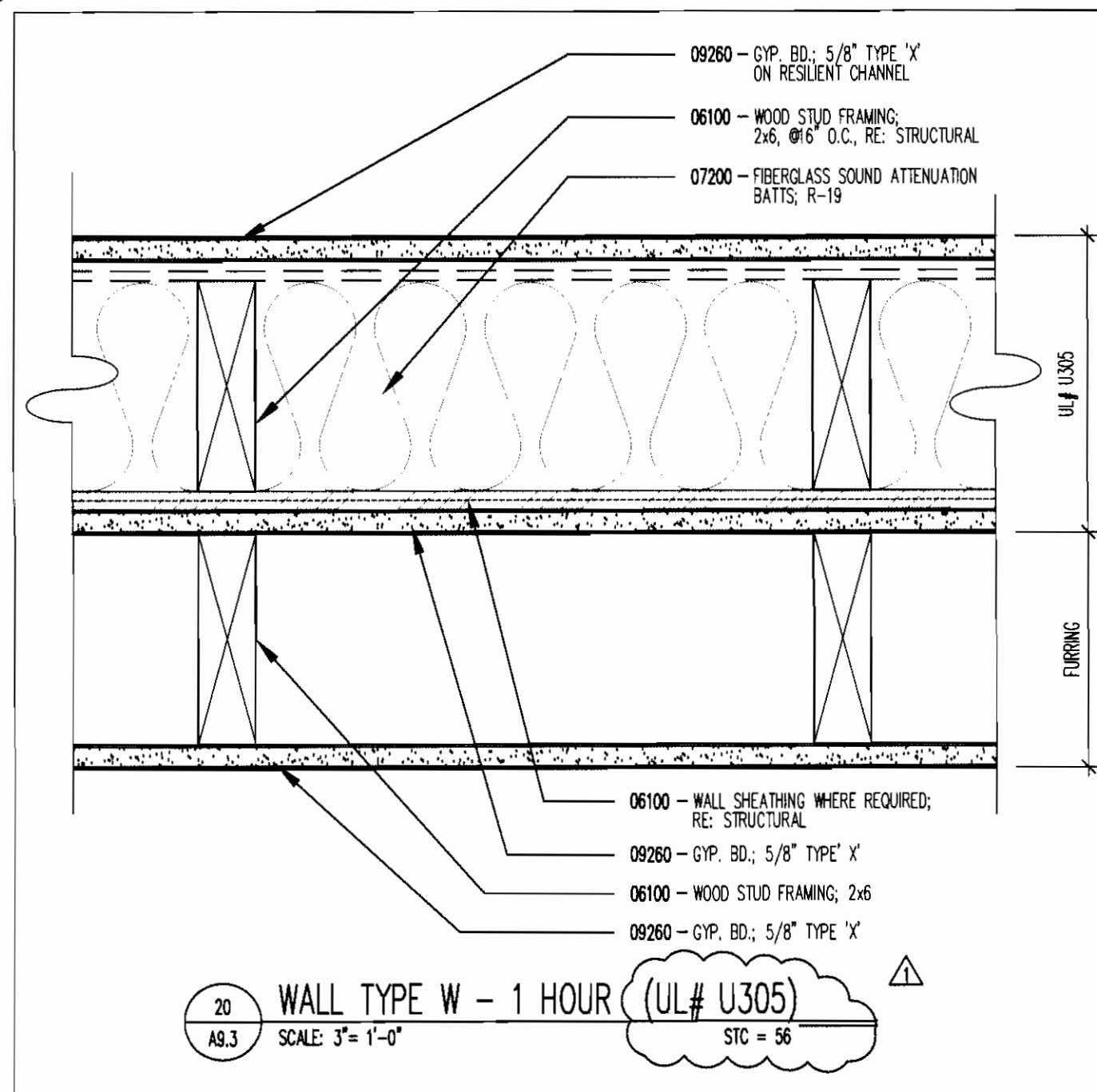
1. ALL DIMENSIONS ARE NOMINAL, R.O. WILL BE COORDINATED AFTER A DOOR MANUFACTURER IS SELECTED.
2. SEE PLANS FOR DOOR LOCATIONS.
3. GLAZING IN INTERIOR DOORS TO BE TEMPERED.
4. GLAZING IN EXTERIOR DOORS TO BE TEMPERED, LOW "E", DOUBLE PANE, THERMALLY INSULATED.
5. REFER TO PROJECT MANUAL SECTION 08700 FOR DOOR HARDWARE HEADING SCHEDULE.
6. SEE FLOOR PLANS & ELEVATIONS FOR WINDOW LOCATIONS, WINDOW PROPORTIONS, ETC.
7. SEE ELEVATIONS FOR WINDOW MUNTIN PATTERNS AND LOCATIONS.





A9.2







ODELL ARCHITECTS, P.C.
ARCHITECTURE PLANNING INTERIORS
1005 Castle Court, Suite 100, Englewood, Colorado 80150
Telephone: 303.733.0800 Fax: 303.733.7022
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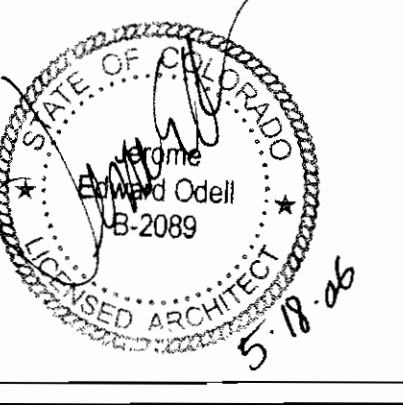


Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

REVISIONS:		
No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
2	BUILDING OPT COMMENTS	5/18/2006

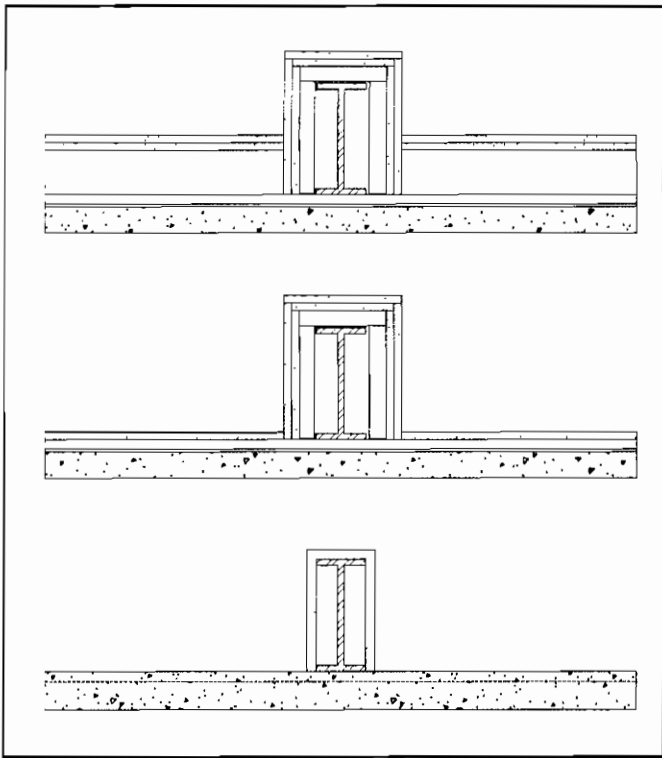
ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/9/2006

SHEET CONTENTS

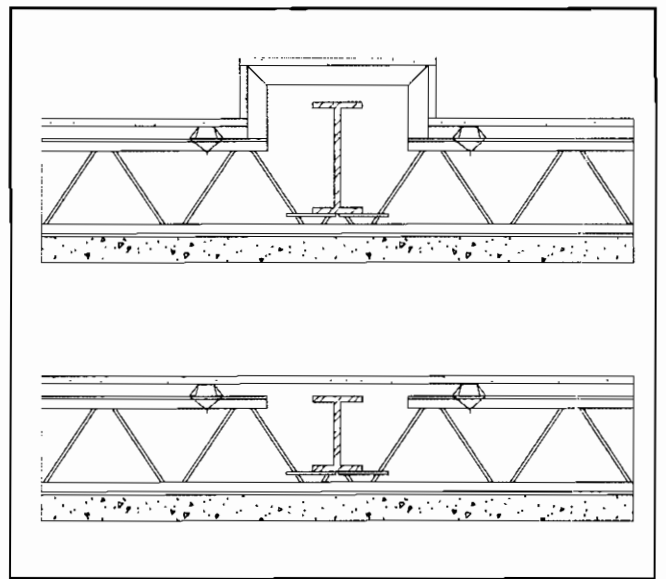


PROJECT NO.: 3-04-18
DATE: March 9, 2006
DRAWING NO.: **A9.3**

Steel Beam - Individual Encasement Protection
Figure 6



Membrane Protected Steel Beam-Continuous
Figure 5



1. When the fire-resistance requirement for the beam, girder, or truss is greater than the fire-resistance requirement for the floor-ceiling or roof-ceiling system being supported. Where there are relatively few three-hour or four-hour protected beams or girders, and only a two-hour floor-ceiling and only a two-hour floor-ceiling requirement, it is generally uneconomical to use a three-hour or four-hour floor-ceiling system throughout, or
 2. When either no ceiling is required or a non-rated ceiling is used, or
 3. When the bottom of the beam projects greater than 6 inches below the plane of the ceiling.
- When structural members support more than one floor, or a floor and a roof, consult local building codes for requirements.

If the bottom of the beam projects 6 inches or less below the plane of the ceiling, the ceiling is furred down and around the beam (Figure 5). If the projection is greater than 6 inches, the gypsum board or lath and plaster beam protection system shall extend from the ceiling to the floor above. (See Individual Encasement Protection.)

A ceiling used as membrane fireproofing usually consists of either gypsum board or gypsum plaster over gypsum or metal lath. These systems may be either attached directly to or suspended from the primary structural elements. The tested assembly consists of the ceiling membrane, beams, girders, joists, or trusses and the floor or roof deck system above.

Individual Encasement Protection

Individual encasement of beams, girders, and trusses with gypsum lath and plaster or gypsum board (Figure 6) is permitted where one or more of the following conditions exist.

Beams are tested with superimposed loads applied to simulate the maximum theoretical dead and live loads permitted by nationally recognized design standards. A fire-resistance rating is established for a system when the test specimen supports the load during the test and meets specific temperature requirements for the prescribed period. Beams, girders, and trusses shall be protected by either (1) a continuous ceiling membrane of either gypsum lath and plaster or gypsum board or (2) enclosing them individually.

Continuous Ceiling Protection

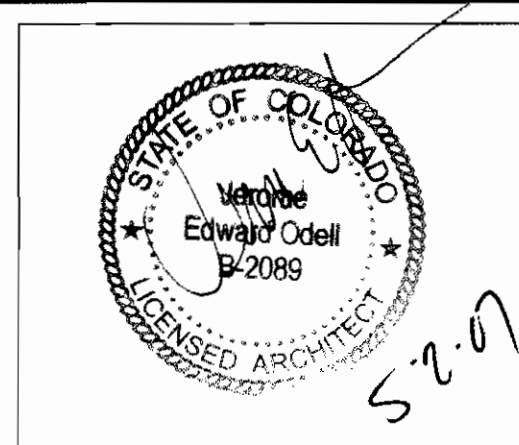
Building codes allow for the use of the gypsum board or gypsum lath and plaster ceilings described in the Floor-Ceiling Systems portion of this Manual for beam or girder protection. The complete floor-ceiling system shall provide no less than the rating required for the structural member being protected.

BEAM, GIRDER, AND TRUSS PROTECTION SYSTEMS



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY:		
CHECKED BY:		
REVISIONS:		
No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
2	BUILDING OPT COMMENTS	5/16/2006
3	FLOOR-CEILING ASSEMBLY	5/1/2007
4		
5		
6		
7		
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ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/29/2006
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20		
SHEET CONTENTS:		
1	WALL TYPE X - 1 HOUR RATED (UL# U305)	
2		
3		
4		
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20		



PROJECT NO.: 3-04-18
DATE: March 9, 2006

DRAWING NO.:
A9.4

20 WALL TYPE W - 1 HOUR
SCALE: 3/4" = 1'-0"
STC = 56

19 ISO OF CORNER CONDITION
SCALE: NTS

18 DETAIL
SCALE: 1 1/2" = 1'-0"

17 DETAIL
SCALE: 1 1/2" = 1'-0"

16 DETAIL
SCALE: 1 1/2" = 1'-0"

15 WALL TYPE V
SCALE: 3/4" = 1'-0"

14 WALL TYPE U - 2 HOUR WALL
SCALE: 3/4" = 1'-0"

13 DETAIL
SCALE: 1 1/2" = 1'-0"

12 DETAIL
SCALE: 1 1/2" = 1'-0"

11 DETAIL
SCALE: 1 1/2" = 1'-0"

10 DETAIL
SCALE: 1 1/2" = 1'-0"

9 DETAIL
SCALE: 1 1/2" = 1'-0"

8 DETAIL
SCALE: 1 1/2" = 1'-0"

7 DETAIL
SCALE: 1 1/2" = 1'-0"

5 DETAIL
SCALE: 1 1/2" = 1'-0"

4 DETAIL
SCALE: 1 1/2" = 1'-0"

3 FLOOR/CEILING ASSEMBLY TYPE P - 1 HR RATED (GA FILE # FC 5111)
SCALE: 3/4" = 1'-0"

WHERE BEAMS PER STRUCTURAL PROJECT BELOW CEILING PLANE: CONTINUOUS 1 HOUR RATING TO BE MAINTAINED

0310 - GYPSUM CONCRETE, 1" & 6 SUB FLOOR,
06125 - 1" & 6 SUB FLOOR,
06100 - FRAMING, TJI
RE: STRUCTURAL
06260 - GYP. BD., 5/8" TYPE 'X' ON RESIDENT
06260 - GYP. BD., 5/8" TYPE 'X' ON RESIDENT
MAX 6"

2 WALL TYPE Z - NON-RATED
SCALE: 3/4" = 1'-0"

06260 - GYP. BD., 5/8" TYPE 'X'
06100 - WOOD STUD FRAMING, 2x4
06260 - GYP. BD., 5/8" TYPE 'X'
06100 - WOOD STUD FRAMING, 2x4
WALL TYPE Z4
WALL TYPE Z6

1 WALL TYPE X - 1 HOUR RATED (UL# U305)
SCALE: 3/4" = 1'-0"

06100 - WOOD STUD FRAMING, 2x6
06260 - GYP. BD., 5/8" TYPE 'X'
06260 - GYP. BD., 5/8" TYPE 'X' ON RESIDENT CHANNEL
06100 - WOOD STUD FRAMING, 2x6, W/ 1/2" O.C. RE: STRUCTURAL
07200 - FIBERGLASS SOUND ATTENUATION BATT, R-15
06100 - WALL SHEATHING WHERE REQUIRED, RE: STRUCTURAL
06260 - GYP. BD., 5/8" TYPE 'X'
06100 - WOOD STUD FRAMING, 2x6
06260 - GYP. BD., 5/8" TYPE 'X'

TURNING
UL # U305
TURNING

RSN 259/29
Per # 07-180545-LT

John L.
CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 5/11/07
03 JLC

NOTICE: THE CITY OF AURORA IS LIMITED TO A GENERAL SURVEY OF CODE COMPLIANCE. NO REVIEW IS INTENDED NOR WAS UNDERTAKEN TO VERIFY STRUCTURAL ADEQUACY.



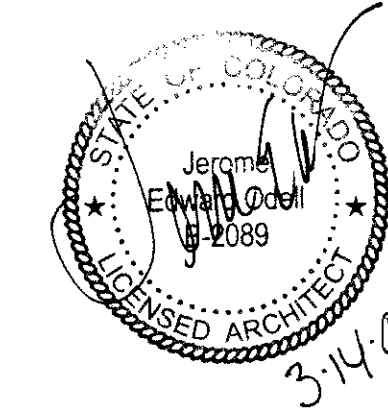
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY:
CHECKED BY:

REVISIONS:		
No.	Description	Date
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/29/2006
5		
6		
7		
8		
9		
10		

SHEET CONTENTS:



PROJECT NO.: 3-04-18

DATE: March 8, 2006

DRAWING NO.:

A9.4

20 WALL TYPE W - 1 HOUR
SCALE: 3" = 1'-0" STC = 56

19 ISO OF CORNER CONDITION
SCALE: NTS

18 DETAIL
SCALE: 1 1/2" = 1'-0"

17 DETAIL
SCALE: 1 1/2" = 1'-0"

16 DETAIL
SCALE: 1 1/2" = 1'-0"

15 WALL TYPE V
SCALE: 3" = 1'-0"

14 WALL TYPE U - 2 HOUR WALL
SCALE: 3" = 1'-0"

13 DETAIL
SCALE: 1 1/2" = 1'-0"

12 DETAIL
SCALE: 1 1/2" = 1'-0"

11 DETAIL
SCALE: 1 1/2" = 1'-0"

10 DETAIL
SCALE: 1 1/2" = 1'-0"

9 DETAIL
SCALE: 1 1/2" = 1'-0"

8 DETAIL
SCALE: 1 1/2" = 1'-0"

7 DETAIL
SCALE: 1 1/2" = 1'-0"

5 DETAIL
SCALE: 1 1/2" = 1'-0"

4 DETAIL
SCALE: 1 1/2" = 1'-0"

3 DETAIL
SCALE: 1 1/2" = 1'-0"

2 WALL TYPE Z - NON-RATED
SCALE: 3" = 1'-0"

1 WALL TYPE X - 1 HOUR RATED (UL# U305)
SCALE: 3" = 1'-0"

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: 6/8/27

06 - 108667

06100 - WOOD STUD FRAMING, 2x6

06260 - GYP. BD., 5/8" TYPE 'X'

06260 - GYP. BD., 5/8" TYPE 'X'

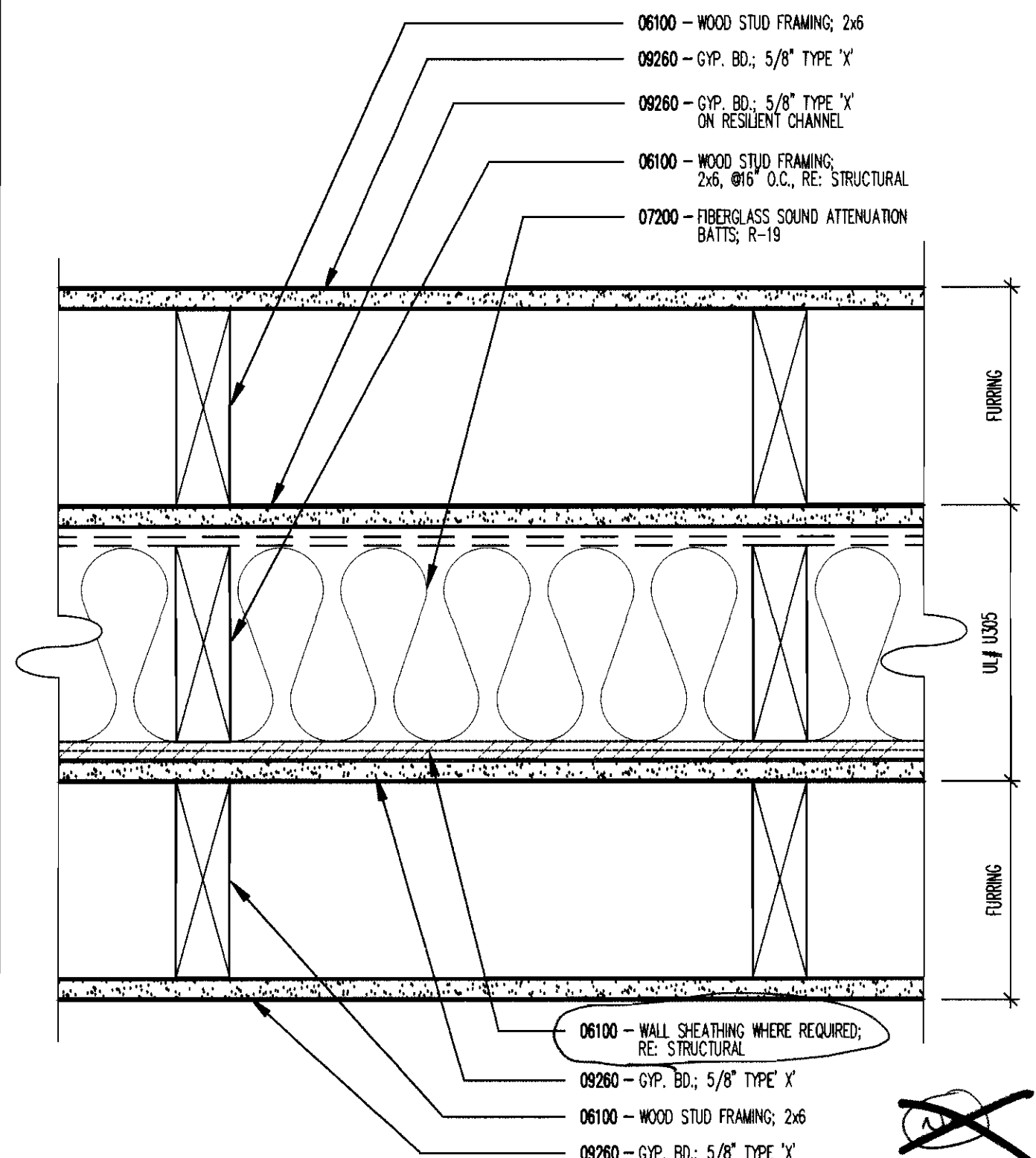
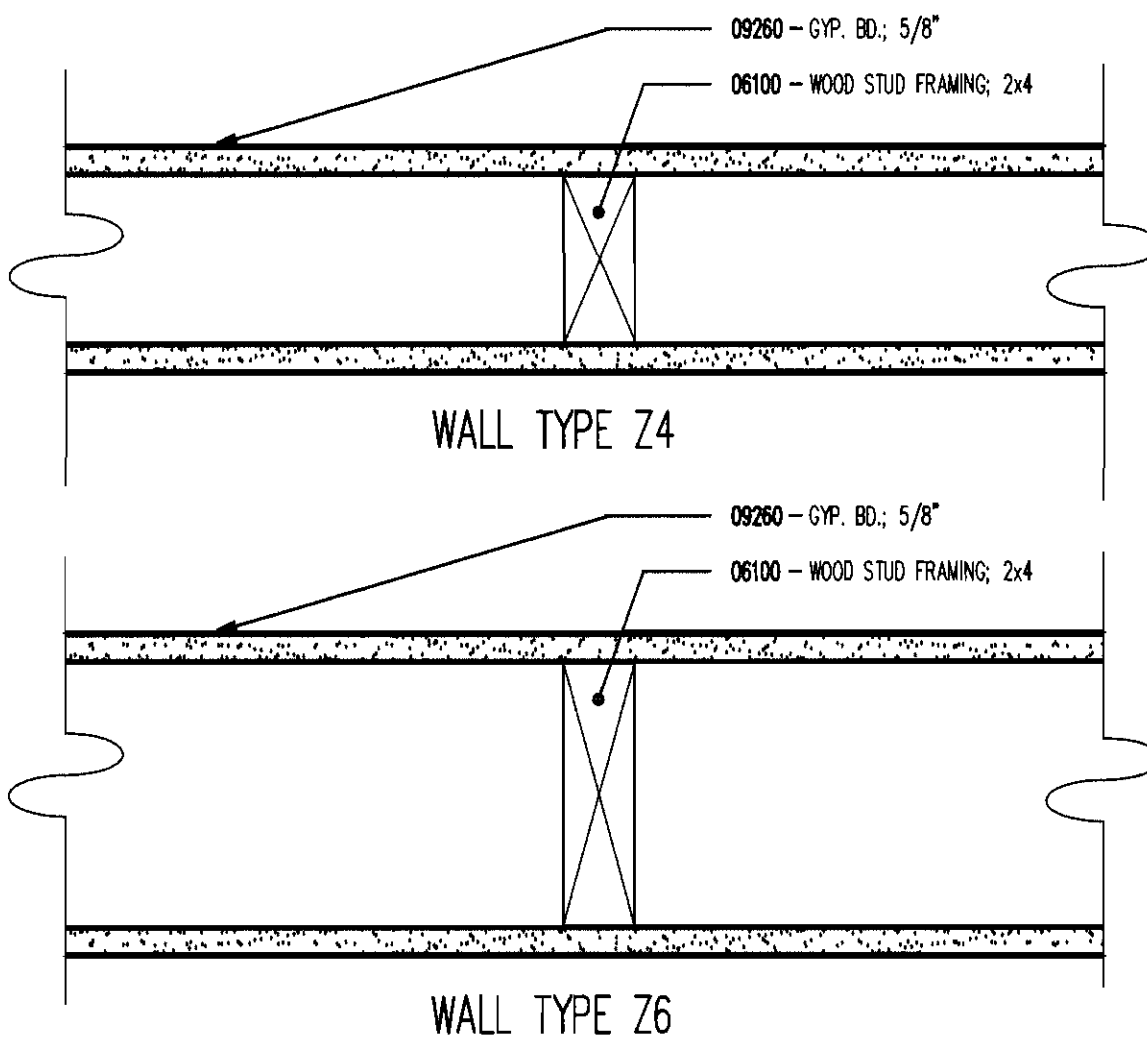
ON RESILIENT CHANNEL

06100 - WOOD STUD FRAMING,

2x6, RIG. JOIC. RE: STRUCTURAL

07200 - FIBERGLASS SOUND ATTENUATION

BATT, R-19



GENERAL STRUCTURAL NOTES (GSN)

DESIGN CRITERIA

CODE: 2003 INTERNATIONAL BUILDING CODE (IBC), REFERRED TO AS "THE CODE"

LIVE LOADS:
ROOF 30 PSF SNOW LOAD

TYPICAL FLOORS 40 PSF REDUCIBLE
CORRIDORS 100 PSF REDUCIBLE
STORAGE 125 PSF

WIND LOAD: BASIC WIND SPEED 105 MPH, EXPOSURE B

SEISMIC ANALYSIS: PER CHAPTER 16 OF THE CODE
SEISMIC USE GROUP 1, SITE CLASS D
SDS = B
I = 1.0
R = 6.5
SDS = .21
SD1 = .096
V = .04W

GENERAL

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES. IN CASE OF CONFLICT, MORE COSTLY REQUIREMENTS GOVERN FOR BIDDING. SUBMIT CLARIFICATION REQUEST PRIOR TO PROCEEDING WITH WORK.
- ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK. UNLESS NOTED OTHERWISE, DETAILS IN STRUCTURAL DRAWINGS ARE TYPICAL AS INDICATED BY CUTS, REFERENCES OR TITLES.
- ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES:
2003 IBC AND LATEST REVISIONS REFERRED TO HERE AS "THE CODE", AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK.
- SEE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, EXCEPT AS NOTED.
SIZE AND LOCATION OF ALL INTERIOR AND EXTERIOR NON-BEARING PARTITIONS.
SIZE AND LOCATION OF ALL CONCRETE CURBS, EQUIPMENT PADS, PITS, FLOOR DRAINS, SLOPES, DEPRESSED AREAS, CHANGE IN LEVEL, CHAMFERS, GROOVES, INSERTS, ETC.
SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS EXCEPT AS SHOWN.
FLOOR AND ROOF FINISHES.
DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.

- SEE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:
PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN OR NOTED.
ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.
CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL, OR PLUMBING FIXTURES.
SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES, ANCHOR BOLTS FOR MOTOR MOUNTS.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- OPENINGS, POCKETS, ETC., LARGER THAN 6" SHALL NOT BE PLACED IN CONCRETE SLABS, AT DROP PANELS OR BEAMS UNLESS SPECIALLY DETAILED ON THE STRUCTURAL DRAWINGS. NOTIFY STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., LARGER THAN 6" NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN STRUCTURAL MEMBERS. FOR ANY FURTHER RESTRICTIONS ON OPENINGS IN STRUCTURAL ELEMENTS, SEE PLANS AND APPLICABLE SECTIONS BELOW.
- ASTM SPECIFICATIONS ON THE DRAWINGS SHALL BE OF THE LATEST REVISION.
- CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES, SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH STRUCTURES ARE FOUND, STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED ROOF OR FLOOR. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
- UNLESS NOTED OTHERWISE, EXPANSION BOLTS IN CONCRETE SHALL BE 5/8" DIAMETER X 4 1/2" EMBEDMENT HILTI KWIK BOLTS II OR APPROVED ALTERNATE WITH ALLOWABLE VALUES EQUAL TO OR EXCEEDING THOSE FOR HILTI. PER CURRENT ICBO RESEARCH REPORT UNLESS NOTED OTHERWISE. ALL EPOXY ANCHORS SHALL BE HILTI HIT SYSTEM OR APPROVED ALTERNATE WITH ALLOWABLE VALUES EQUAL TO OR EXCEEDING THOSE FOR HILTI. PER CURRENT ICBO RESEARCH REPORT. INSTALL EXPANSION AND EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. ALL EXPANSION AND EPOXY ANCHORS REQUIRE SPECIAL INSPECTION.
- ALL CONSTRUCTION MEETING OR CROSSING EXPANSION OR SHRINKAGE CONTROL JOINTS IN FRAMED FLOORS OR ROOFS MUST HAVE PROVISIONS TO ACCOMMODATE THE MOVEMENT OR MUST BE DELAYED UNTIL THE JOINT IS CLOSED.
- GROUT OTHER THAN FOR MASONRY CELLS SHALL BE NON-SHRINK, NON-METALLIC, MEETING ASTM C-827, C-191, AND C-109, MIXED AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS. MINIMUM COMPRESSIVE STRENGTH 5,000 PSI IN TWO DAYS.

SPECIAL INSPECTION

THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTION PER IBC SECTION 1704.

NO.	DESCRIPTION OF TYPE OF INSPECTION REQUIRED	DESIGN STRENGTH
1	ALL CAST-IN-PLACE CONCRETE SHOWN ON STRUCTURAL DRAWINGS.	
	FOOTINGS	4000 psi
	WALLS	4000 psi
	SLAB ON GRADE	3000 psi
	ELEVATED SLAB	4000 psi
	COLUMNS	4000 psi
2	ALL BOLTS INSTALLED IN CONCRETE, INCLUDING EXPANSION & EPOXY ANCHORS, UNLESS SPECIFICALLY NOTED OTHERWISE IN DETAILS.	
3	PLACEMENT OF REINFORCING STEEL IN CONCRETE IDENTIFIED ABOVE.	
		Fy =60ksi

SPECIAL INSPECTION, CONT.

NO.	DESCRIPTION OF TYPE OF INSPECTION REQUIRED	DESIGN STRENGTH
4	ALL STRUCTURAL FIELD WELDING, (INCLUDING REINFORCING STEEL) AND SHOP WELDS PERFORMED AT ANY LOCATION OTHER THAN THE SHOP OF AN APPROVED FABRICATOR.	
	STRUCTURAL STEEL	E-70XX
	METAL DECKING	E-60XX
	SHEAR STUDS	(N.A.)
	REINFORCING STEEL	E-90XX
	SHEET STEEL FOR COLD FORMED	
	METAL FRAMING	E-60XX
	THE SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING WELDING OF THE FOLLOWING ITEMS PROVIDED THE MATERIALS, QUALIFICATIONS OF WELDING PROCEDURES, AND WELDERS ARE VERIFIED PRIOR TO THE START OF WORK; PERIODIC INSPECTIONS ARE MADE OF WORK IN PROGRESS; AND A VISUAL INSPECTION OF ALL WELDS IS MADE PRIOR TO COMPLETION OR PRIOR TO SHIPMENT OF SHOP WELDING:	
	1. SINGLE-PASS FILLET WELDS NOT EXCEEDING 5/16 INCH SIZE.	
	2. FLOOR AND ROOF DECK WELDING.	
	3. WELDED STUDS ON FLOOR BEAMS.	
	4. WELDED SHEET STEEL FOR COLD FORMED STEEL FRAMING MEMBERS SUCH AS STUDS AND JOISTS.	
	5. WELDING OF RAILING SYSTEMS.	
	PERIODIC INSPECTION SHALL OCCUR DAILY.	
5	HIGH-STRENGTH BOLTING	A325
	PER UBC CHAPTER 22, DIVISION IV	
6	REINFORCED GYPSUM CONCRETE	
7A	SOIL ENGINEER TO VERIFY SOIL CONDITIONS ARE SUBSTANTIALLY IN CONFORMANCE WITH THE SOIL INVESTIGATION REPORT	
7B	SOIL ENGINEER TO VERIFY THAT FOUNDATION EXCAVATIONS EXTEND TO PROPER DEPTH AND BEARING STRATA	
7C	PROVIDE COMPACTION TESTS, PER SOIL INVESTIGATION REPORT	

- THE CONSTRUCTION INSPECTIONS LISTED ARE IN ADDITION TO THE CALLED INSPECTIONS REQUIRED BY SECTION 109 OF THE IBC, AS AMENDED. SPECIAL INSPECTION IS NOT A SUBSTITUTE FOR INSPECTION BY A CITY INSPECTOR. SPECIALLY INSPECTED WORK WHICH IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE CITY INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE.
- CONTINUOUS INSPECTION IS ALWAYS REQUIRED DURING THE PERFORMANCE OF THE WORK UNLESS OTHERWISE SPECIFIED.
- THE SPECIAL INSPECTORS MUST BE CERTIFIED BY THE CITY OF AURORA TO PERFORM THE TYPES OF INSPECTION SPECIFIED.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THE SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION. ALL WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTION IS SUBJECT TO REMOVAL.
- A CERTIFICATE OF SATISFACTORY COMPLETION OF WORK REQUIRING SPECIAL INSPECTION MUST BE COMPLETED AND SUBMITTED TO THE INSPECTION SERVICES DIVISION.
- AN APPLICATION TO PERFORM OFF-SITE FABRICATION MUST BE SUBMITTED TO THE INSPECTION SERVICES DIVISION FOR APPROVAL PRIOR TO FABRICATION.
- A CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION MUST BE COMPLETED AND SUBMITTED TO THE INSPECTION SERVICES DIVISION PRIOR TO ERECTION OF PREFABRICATED COMPONENTS.

STRUCTURAL OBSERVATION

STRUCTURAL OBSERVATION PER REQUIREMENTS OF SECTION 1709 IS REQUIRED. STRUCTURAL ENGINEER SHALL VISIT THE PROJECT AT THE FOLLOWING STAGES OF CONSTRUCTION:

- FOUNDATION REINFORCING
- SLAB ON GRADE REINFORCING
- BASEMENT WALL REINFORCING
- CONCRETE SLAB REINFORCING
- FIRST STORY WOOD SHEARWALLS
- WOOD FRAMING 90% COMPLETE

SHOP DRAWINGS/SUBMITTALS

- THE STRUCTURAL SHOP DRAWING REVIEW IS INTENDED TO HELP THE ENGINEER VERIFY HIS DESIGN CONCEPT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK HIS OWN SHOP DRAWINGS.
- THE STRUCTURAL SHOP DRAWINGS WILL BE RETURNED FOR RESUBMITTAL IF A CURSORY REVIEW SHOWS MAJOR ERRORS WHICH SHOULD HAVE BEEN FOUND BY THE CONTRACTOR'S CHECKING.
- THE FOLLOWING SHOP DRAWINGS ARE NOT REQUIRED FOR SUBMITTAL FOR STRUCTURAL REVIEW.
 - SHORING AND BRACING.
 - PICK UP INSERT.
 - WINDOW MULLIONS AND ARCHITECTURAL ITEMS NORMALLY ENGINEERED BY THE CONTRACTOR.
 - UNSPICED REBAR AT SLAB-ON-GRADE AND SPREAD FOOTINGS.
 - FORMWORK.
 - STRUCTURAL STEEL MILL REPORTS.
- THE FOLLOWING SHOP DRAWINGS AND CALCULATIONS, WHEN APPLICABLE, ARE REQUIRED FOR SUBMITTAL FOR STRUCTURAL REVIEW.
 - CONCRETE MIX DESIGNS.
 - REINFORCING STEEL
 - STRUCTURAL STEEL SHOWN ON STRUCTURAL DRAWINGS.
 - PREMANUFACTURED WOOD MEMBERS
 - WOOD TRUSSES.
 - GLULAM BEAMS.
 - CURTAIN WALLS.
 - CONSTRUCTION JOINT LOCATIONS.
 - ELEVATOR RELATED LOADS TO STRUCTURE.

- ANY SUBMITTAL OF A DETAIL SHEET WITH ADDED INFORMATION SHALL BE ACCOMPANIED BY LOCATION PLAN IDENTIFYING THE MEMBERS INVOLVED AND CLOUDING AROUND ADDED INFORMATION.
- ANY ENGINEERING SUBMITTED FOR REVIEW SHALL BE APPROPRIATELY SEALED. FULL RESPONSIBILITY OF SUCH ENGINEERING RESTS WITH THE PERSON SEALING THE DESIGN.

FOUNDATION

- FOUNDATION DESIGN BASED ON SOILS REPORT BY: C.T.L. THOMPSON INC.
PROJECT NO: DN40,051-125.
- FOOTINGS ARE DESIGNED BASED ON THE FOLLOWING INFORMATION:
ALLOWABLE BEARING * = 4,500 PSF
EQUIVALENT FLUID PRESSURE = 45 PCF; UNRESTRAINED
= 65 PCF; RESTRAINED
PASSIVE EARTH PRESSURE = 275 PCF
COEFFICIENT OF FRICTION = 0.4
* ALLOWABLE BEARING MAY BE INCREASED BY 1/3 FOR WIND AND SEISMIC LOAD CASES.
- FOOTINGS SHALL BEAR ON FIRM NATURAL SOILS. MINIMUM DEPTH OF FOOTINGS BELOW LOWEST ADJACENT FINAL GRADE SHALL BE 36 INCHES. MINIMUM WIDTH OF FOOTING SHALL BE 16 INCHES AND ISOLATED COLUMN PADS SHALL BE A MINIMUM OF 24 INCHES SQUARE.
- CONTRACTOR TO PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER, OR SEEPAGE, IF REQUIRED.
- CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING, AND SHORING REQUIRED AND SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS, AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES.
- ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE OR GROUT HAS ATTAINED FULL DESIGN STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHED FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS, AND INSTALLATION OF SUCH BRACING.
- FOUNDATIONS SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON DRAWINGS. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE INSPECTOR OR SOILS ENGINEER, FOUNDATION ELEVATIONS WILL BE ALTERED BY CHANGE ORDER.
- FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS IN ACCORDANCE WITH THE SOILS REPORT AND APPROVED BY THE INSPECTOR.
- ALL ABANDONED FOOTINGS, UTILITIES, ETC. SHALL BE REMOVED. NEW FOOTINGS MUST EXTEND INTO UNDISTURBED SOILS.
- SLABS ON GRADE SHALL BE SUPPORTED ON NATURAL GRADE OR COMPACTED FILL PER THE RECOMMENDATIONS OF THE SOILS REPORT.

CONCRETE

- ALL CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19 OF THE CODE AND WITH THE PROVISIONS OF ACI 318, LATEST EDITION.
- CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE STRUCTURAL ENGINEER. MIX DESIGN METHODS (TEST HISTORY OR TRIAL BATCH METHOD) PER CODE SECTION 1905.3 SHALL BE USED TO PROPORTION CONCRETE. SUBMIT MIX DESIGN METHOD DATA.
- SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTH TYPES:

LOCATION IN STRUCTURE	STRENGTH	DENSITY	SLUMP
ALL CONCRETE FOOTINGS	4000	150 PCF	1-3
SLAB-ON-GRADE	3000	150 PCF	2-4
CONCRETE WALLS	4000	150 PCF	2-4
CURBS, AND OTHER NON-STRUCTURAL CONCRETE	2500	150 PCF	1-3
CONCRETE SLABS, BEAMS, COLUMNS	4000	150 PCF	2-4

- PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE I OR II. USE TYPE II AT FOUNDATIONS AND RETAINING WALLS.
- AGGREGATE FOR HARDROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C-33 AND PROJECT SPECIFICATIONS.
- CONCRETE MIXING OPERATION, ETC. SHALL CONFORM TO ASTM C-94.
- PLACEMENT OF CONCRETE SHALL CONFORM TO CODE SECTION 1905 AND PROJECT SPECIFICATIONS. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE ALL CONCRETE SURFACES AGAINST WHICH NEW CONCRETE IS TO BE PLACED.
- ALL REINFORCING BARS, ANCHOR BOLTS, AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS. SEE THESE DRAWINGS FOR ADDITIONAL RESTRICTIONS ON THE PLACEMENT OF OPENINGS IN SLABS AND WALLS.
- PIPES LARGER THAN 1 1/2" DIAMETER SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY STRUCTURAL ENGINEER. PIPES SHALL NOT DISPLACE, OR INTERRUPT REINFORCING BARS. PIPES SHALL NOT BE REPLACED IN COLUMN DROP HEAD AREA SPACE EMBEDDED PIPES AT A MINIMUM OF 3 DIAMETERS. MAX SIZE OF PIPE SHALL BE THIRD OF SLAB THICKNESS.
- CAST SLABS -ON-GRADE IN ALTERNATE SECTIONS UNLESS PERMANENT FORMS ARE USED. WAIT 48 HOURS BETWEEN ALL ADJACENT CONCRETE CASTINGS. REBRATE TOPS OF COLUMNS AND CAISSONS SOON AFTER PLACING CONCRETE TO CLOSE PLASTIC SHRINKAGE CRACKS.
- DO NOT PLACE CONCRETE IN LENGTHS EXCEEDING 100 FEET.
- MINIMUM STRENGTH FOR REMOVAL OF BOTTOM FORMS AND SHORING SHALL BE 75% OF SPECIFIED STRENGTH AT 28 DAYS. COLUMN AND WALL FORMS MAY BE REMOVED IN 24 HOURS FOR MINIMUM 4000 PSI CONCRETE.
- RECORD CAMBERS AT UNDERSIDES OF STRUCTURE IMMEDIATELY BEFORE AND AFTER RESHORING AND IMMEDIATELY AFTER DESHORING.
- REINFORCING STEEL ALLOWANCE: THE CONTRACTOR SHALL PROVIDE ____ POUNDS OF REINFORCEMENT TO USE AT THE ENGINEER'S DIRECTION DURING CONSTRUCTION. THE CONTRACTOR SHALL REIMBURSE THE OWNER FOR THE UNUSED PORTION.

REINFORCING STEEL (FOR CONCRETE AND MASONRY)

- REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 19 OF THE CODE, ASTM A615, GRADE 60 U.N.O. DEFORMATIONS SHALL BE IN ACCORDANCE WITH ASTM A-305.
- BARS SHALL BE CLEAN OF RUST, GREASE, OR OTHER MATERIALS LIKELY TO IMPAIR BOND. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. PROVIDE LAPS PER THE CODE SECTION 1912.8, 9" MINIMUM. WWF SHALL BE SUPPORTED ON APPROVED CHAIRS.
- REINFORCING BAR SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS. MINIMUM SPLICE LENGTH FOR REINFORCING STEEL BARS IN MASONRY SHALL BE 48 BAR DIAMETERS, OR 24", WHICHEVER IS LARGER. MINIMUM SPLICE LENGTH FOR REINFORCING STEEL BARS IN CONCRETE SHALL BE PER ACI 318. LAP ALL HORIZONTAL BARS AT CORNERS AND INTERSECTIONS. DOWEL ALL VERTICAL REBAR TO FOUNDATIONS. ALL SPLICE LOCATIONS ARE SUBJECT TO APPROVAL BY STRUCTURAL ENGINEER. PROVIDE REQUIRED SHOP DRAWINGS AND FABRICATE AFTER ENGINEER'S REVIEW.
- ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE.
- WHERE WELDING OF REINFORCING IS APPROVED BY THE STRUCTURAL ENGINEER, IT SHALL BE DONE BY AWS CERTIFIED WELDERS USING E6018 OR APPROVED ELECTRODES. WELDING PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF STRUCTURAL WELDING CODE - REINFORCING STEEL, AWS-D1.4, LATEST REVISION. REINFORCING BARS TO BE WELDED SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-706.
- BARS IN SLABS SHALL BE SECURELY SUPPORTED ON WELL-CURED CONCRETE BLOCKS OR APPROVED METAL CHAIRS, PRIOR TO PLACING CONCRETE.
- REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE "A.C.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED STRUCTURES", LATEST EDITION.
- COMPLETE AND DETAILED REINFORCING PLACEMENT DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR REVIEW BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION IN ACCORDANCE WITH SPECIFICATIONS AND APPLICABLE CODES. THESE DRAWINGS SHALL BE AVAILABLE ON THE JOB SITE PRIOR TO PLACING OF CONCRETE.
- REBAR SPACINGS GIVEN ARE MAXIMUM ON CENTER WHETHER STATED AS "O.C." OR NOT. ALL REBAR IS CONTINUOUS UNLESS STATED AS "CONT." OR NOT.
- WHERE REINFORCING IS SHOWN CONTINUOUS THROUGH CONSTRUCTION JOINTS, MECHANICAL BAR SPLICE DEVICES MAY BE USED. SIZES AND TYPES SHALL BE SELECTED TO DEVELOP THE FULL TENSION STRENGTH OF THE BAR PER ICBO RESEARCH REPORT. SUBMIT FOR APPROVAL BY STRUCTURAL ENGINEER.
- MILL TEST REPORTS FOR GRADE 60 BARS SHALL BE SUBMITTED PRIOR TO PLACEMENT OF CONCRETE.
- CONTINUOUS INSPECTION OF CONCRETE SHALL INCLUDE INSPECTION DURING INSTALLATION OF REINFORCING STEEL. INSPECTION SHALL BE SCHEDULED SO THAT PLACEMENT OF REINFORCING STEEL, CONDUIT, SLEEVES, AND EMBEDDED ITEMS MAY BE CORRECTED PRIOR TO PLACEMENT OF OVERLYING GRIDS OF REINFORCING STEEL.
- CONCRETE PROTECTION FOR REINFORCEMENT
(i) CAST-IN-PLACE CONCRETE (NON-PRESTRESSED), THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

	MIN. COVER, INCHES
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
B. CONCRETE EXPOSED TO EARTH OR WEATHER: NO. 6 THROUGH NO. 18 BAR	2
NO. 5 BAR, W31 OR D31 WIRE AND SMALLER	1 1/2
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS, JOISTS: NO. 14 AND NO. 18 BAR	1 1/2
NO. 11 BAR AND SMALLER	3/4
BEAMS, COLUMNS: PRIMARY REINFORCEMENT TIES, STIRRUPS, SPIRALS	1 1/2
SHELLS, FOLDED PLATE MEMBERS: NO. 6 BAR AND LARGER	3/4
NO. 5 BAR, W31 OR D31 WIRE AND SMALLER	1/2

(ii) PRESTRESSED CONCRETE: THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR PRESTRESSED AND NON-PRESTRESSED REINFORCEMENT, DUCTS, AND END FITTINGS, EXCEPT AS PROVIDED IN SECTIONS 1907.7.3.2 AND 1907.7.3.3 OF THE CODE:

	MIN. COVER, INCHES
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
B. CONCRETE EXPOSED TO EARTH OR WEATHER: WALL PANELS, SLABS, JOISTS OTHER MEMBERS	1 1/2
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS, JOISTS BEAMS, COLUMNS PRIMARY REINFORCEMENT TIES, STIRRUPS SPIRALS OTHER REINFORCEMENT	3/4
	1 1/2 db, BUT NOT LESS THAN 3/4

STRUCTURAL STEEL:

- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED BY AN APPROVED AND LICENSED FABRICATOR IN ACCORDANCE WITH THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS LATEST EDITION (EXCLUDING SECTION A7).
- ALL STRUCTURAL STEEL SHALL CONFORM TO THE ASTM DESIGNATION AS INDICATED BELOW (U.N.O.):

ALL BASE PLATES:	A-36
CONNECTION PLATES, ANGLES, CHANNELS, WT SHAPES, AND MISC.	
ALL WF SHAPES	A-992, GRADE 50
PIPE COLUMNS	A-53, GRADE B
TUBE SECTIONS	A-500, GRADE B
BOLTS	A-325
ANCHOR BOLTS	F1554, GRADE 36
- THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STEEL FOR ARCHITECT'S AND STRUCTURAL ENGINEER'S REVIEW BEFORE FABRICATION.
- HOLES IN STEEL SHALL BE 1/16" LARGER DIAMETER THAN NOMINAL SIZE OF BOLT USED, EXCEPT AS NOTED.
- ALL STRUCTURAL STEEL SURFACES THAT ARE ENCASED IN CONCRETE, MASONRY, OR SPRAY ON FIREPROOFING, OR ARE ENCASED BY BUILDING FINISH, SHALL BE LEFT UNPAINTED.
- ALL WELDING IS TO BE DONE BY CERTIFIED WELDERS USING E70XX ELECTRODES (U.N.O.). ALL WELDS SHALL BE IN CONFORMITY WITH THE PROJECT SPECIFICATIONS AND THE CODE FOR WELDING IN BUILDING CONSTRUCTION (AWS D1.1 LATEST REVISION) OF THE AMERICAN AND WELDING SOCIETY. SEE SPECIAL INSPECTION SECTION STEEL DETAIL DRAWINGS FOR WELDING INSPECTION REQUIREMENTS.
- WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.

- ALL EXPOSED STRUCTURAL STEEL AND MISCELLANEOUS METAL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION. GALVANIZING AT FIELD WELDS SHALL BE REPAIRED WITH A GALVANIZING REPAIR PAINT ACCORDING TO ASTM A780.

- TIGHTEN A325-N BOLTS TO "SNUG-TIGHT" CONDITION PER AISC SPECIFICATION FOR STRUCTURAL JOINTS. TEST A325-SC BOLTS WITH A CALIBRATED WRENCH UNLESS LOAD INDICATOR BOLTS ARE USED.

- ALL FULL-PENETRATION FIELD WELDS SHALL BE ULTRASONICALLY TESTED.

WOOD

- ALL STRUCTURAL LUMBER SHALL BE DOUGLAS FIR (DF), VISUALLY GRADED OR MACHINE GRADED UNDER THE LUMBER GRADING RULES OF WEST COAST LUMBER INSPECTION BUREAU (WCLIB), OR WESTERN WOOD PRODUCTS ASSOCIATION (WWPA), LATEST EDITION. ALL FRAMING MEMBERS SHALL BE AS FOLLOWS U.O.N.I.:

THICKNESS	GRADE
4" NOM. AND SMALLER	(DF) GRADE NO 2
6" NOM.	(DF) GRADE NO 1
LARGER THAN 6" NOM (EXCEPT AS SHOWN ON PLANS)	(DF) GRADE SELECT STRUCTURAL
STUDS (2x)	NON-BEARING EXTERIOR AND BEARING
SILLS AND TOP PLATES	HEM FIR STUD GRADE HEM FIR GRADE NO 2 MATCH GRADE OF WALL STUDS (PRESSURE TREATED-MUDSILLS ONLY)

- FLOOR JOISTS AND STUDS SHALL BE GRADE STAMPED "S-DRY" WHICH INDICATES A MOISTURE CONTENT NOT EXCEEDING 19 PERCENT.
- ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED. ALL LUMBER (EXCEPT REDWOOD) EXPOSED TO THE WEATHER SHALL BE PRESSURE TREATED OR PAINTED.
- APPROVED METAL TYPE BRIDGING SHALL BE USED ONLY FOR ROOFS.
- ALL WALLS SHALL HAVE BRACING PROVIDED BY ONE OF THE METHODS REQUIRED BY CODE SECTION 2320.11.3.
- JOIST HANGERS AND OTHER METAL FRAMING ACCESSORIES ARE REFERRED TO ON PLANS BY PARTICULAR TYPE AS MANUFACTURED BY SIMPSON COMPANY, SAN LEANDRO, CALIFORNIA. ACCESSORIES OF OTHER MANUFACTURER WITH EQUIVALENT LOAD CARRYING CHARACTERISTICS MAY BE USED. MANUFACTURER'S DATA INCLUDING LOAD CARRYING CAPACITIES SHALL BE SUBMITTED AS SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION. UNO, USE THE FOLLOWING HANGERS:
2x : LU
4x : HU
- FIRE STOPPING, BACKING FOR INTERIOR FINISHES, NONBEARING WALLS, AND OTHER NON-STRUCTURAL FRAMING ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS.
- UNLESS OTHERWISE NOTED, ALL WOOD SILL PLATES UNDER BEARING, EXTERIOR, OR SHEAR WALLS IN CONTACT WITH CONCRETE OR MASONRY SHALL BE BOLTED TO CONCRETE OR MASONRY W/ 5/8" x 12" BOLTS AT 48" O.C. BEGINNING AT 1/2" MAX. FROM EACH END OF THE PLATES. BOLTS SHALL EXTEND A MINIMUM OF 8" INTO CONCRETE OR MASONRY. A MINIMUM OF TWO ANCHOR BOLTS SHALL BE PLACED IN ANY ONE PIECE OF SILL PLATE. THESE AND ALL ADDITIONAL REQUIREMENTS OF CODE SECTION 2326.6 SHALL BE FOLLOWED IN THE INSTALLATION OF WALL SILL PLATES.
- ALL NAILS FOR CONNECTING WOOD MEMBERS SHALL CONFORM TO TABLE 23-1-G OF THE CODE. ALL NAILS SHALL BE COMMON NAILS. MINIMUM NAILING REQUIREMENTS OUTLINED IN TABLE 23-1-G SHALL BE FOLLOWED UNLESS OTHERWISE NOTED.
- USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY STRUCTURAL ENGINEER. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. MACHINE NAILING WILL NOT BE APPROVED IN 5/16 INCH PLYWOOD. IF NAILHEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
- ALL 5/8" DIAMETER AND LARGER BOLTS CALLED OUT ON DRAWINGS, INCLUDING ANCHOR BOLTS (A.B.), SHALL HAVE MALLEABLE IRON WASHERS AS LISTED BELOW UNDER THE HEAD AND/OR NUT BEARING ON WOOD. ALL BOLTS SHALL HAVE A MINIMUM EMBEDMENT IN CONCRETE OR MASONRY AS LISTED BELOW:

BOLT DIAMETER	1/2"	5/8"	3/4"	7/8"	1"
WASHER-THICKNESS	-	5/16"	3/8"	7/16"	1/2"
WASHER-DIAMETER	-	2 3/4"	3"	3 1/2"	4"
HORIZONTAL EMBEDMENT	4"	4"	5"	6"	7"

WOOD STRUCTURAL PANELS

- ROOF SHEATHING SHALL BE 1/2" SO EDGE IDENT INDEX 24/0
FLOOR SHEATHING SHALL BE 3/4" T&G IDENT INDEX 48/24
WALL SHEATHING SHALL BE 3/8" SQ. EDGE IDENT INDEX 16/0
- ALL WOOD STRUCTURAL PANELS SHALL BEAR LEGIBLE APA STAMPS AND SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF VOLUNTARY PRODUCT STANDARD PS1, VOLUNTARY PRODUCT STANDARD PS2, OR APA PRP-108 PERFORMANCE STANDARDS.
- SHEATHING PANELS USED FOR STRUCTURAL PURPOSES SHALL BE APA RATED SHEATHING EXP. 1. PANELS USED FOR PERMANENTLY EXPOSED APPLICATIONS SHALL HAVE MIN GRADE OF EXT. COMBINED SUBFLOOR-UNDERLAYMENT PANELS SHALL BE APA RATED STURD-I-FLOOR EXP 1.
- ROOF AND FLOOR SHEATHING SHALL BE LAID WITH THE GRAIN OF THE OUTER PLIES PERPENDICULAR TO THE FRAMING MEMBERS AND END JOINTS SHALL BE STAGGERED. WALL SHEATHING SHALL BE APPLIED VERTICALLY. SPACING OF 1/8" IS RECOMMENDED AT ALL PANEL EDGES. SHEATHING SHALL BE APPROVED BY THE BUILDING INSPECTOR PRIOR TO COVERING.
- UNLESS OTHERWISE NOTED, PLYWOOD NAILS SHALL BE COMMON. DRIVE NAILS SUCH THAT HEAD/CROWN IS FLUSH WITH THE SURFACE OF THE SHEATHING.
- PENETRATIONS IN SHEAR WALLS LARGER THAN 8" x 8" ARE NOT ALLOWED WITHOUT APPROVAL OF THE ENGINEER. SEE SHEAR WALL SCHEDULE FOR PENETRATION DETAIL.
- HEADERS SHALL BE PER SCHEDULE UNLESS NOTED OTHERWISE.
- FOR LAG BOLTS, PRE-DRILL HALF THE LAG DIAMETER IN THREADED PORTION AND FULL SHANK DIAMETER IN THE UNTHREADED PORTION.



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1	BUILDING OPT COMMENTS	5/1/2006
2		
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ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% DD PACKAGE	1/14/2005
3	SOC CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/9/2006
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7		
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10		

SHEET CONTENTS:

GENERAL NOTES



PROJECT NO: 3-04-18

DATE: March 9, 2006

DRAWING NO:

S1.1

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GENERAL STRUCTURAL NOTES (GSN), CONT.

GLUED FLOOR SYSTEM

- ALL FLOOR PANELS SHALL BE GLUED AND NAILED TO THE JOISTS. THE FIELD-GLUED FLOOR SYSTEM SHALL BE INSTALLED ACCORDING TO THE RECOMMENDATIONS OF THE APA, THE ENGINEERED WOOD ASSOCIATION. GLUE SHALL BE APPLIED TO THE JOISTS AND TO THE GROOVE IN THE EDGE OF THE T & G PANELS WHERE APPLICABLE. GLUE SHALL MEET THE REQUIREMENTS OF THE APA ADHESIVE SPEC. AFG-01 AND SHALL BE APPLIED AS DIRECTED BY THE GLUE MANUFACTURER. GLUE MAY BE APPLIED MANUALLY OR WITH PNEUMATIC OR ELECTRIC EQUIPMENT.

PARALLEL STRAND LUMBER (PSL)

- PARALLEL STRAND LUMBER SHALL BE AS MANUFACTURED BY TRUS JOIST MACMILLAN (PARALLAM) OR EQUIVALENT. DESIGN SHALL BE IN ACCORDANCE WITH NER-481.
- THE PSL MEMBERS SHALL PROVIDE STRESS VALUES THAT MEET OR EXCEED THE FOLLOWING:
SHEAR MODULUS OF ELASTICITY G 125,000 PSI
MODULUS OF ELASTICITY E 2.0 x 10 PSI
FLEXURAL STRESS F_b 2,900 PSI
COMPRESSION PERPENDICULAR TO GRAIN
PARALLEL TO WIDE FACE OF STRANDS $F_{c\perp}$ 650 PSI
COMPRESSION PARALLEL TO GRAIN $F_{c\parallel}$ 2,900 PSI
HORIZONTAL SHEAR PERPENDICULAR TO
WIDE FACE OF STRANDS F_v 290 PSI
- PRIOR TO FABRICATION, SHOP DRAWINGS INCLUDING THE FOLLOWING INFORMATION MUST BE SUBMITTED TO THE ARCHITECT FOR REVIEW:
(1) LAYOUT DRAWINGS WITH MEMBER IDENTIFICATION NUMBERS (AS IDENTIFIED IN CALCULATIONS)
(2) ICBO # AND MANUFACTURER

LAMINATED STRAND LUMBER (LSL)

- LAMINATED STRAND LUMBER SHALL BE AS MANUFACTURED BY TRUS JOIST MACMILLAN (TIMBERSTRAND 1.5E) OR EQUIVALENT. DESIGN SHALL BE IN ACCORDANCE WITH NER-292.
- THE LSL MEMBERS SHALL PROVIDE STRESS VALUES THAT MEET OR EXCEED THE FOLLOWING:
SHEAR MODULUS OF ELASTICITY G 93,750 PSI
MODULUS OF ELASTICITY E 1.5 x 10 PSI
FLEXURAL STRESS F_b 2,250 PSI
COMPRESSION PERPENDICULAR TO GRAIN
PARALLEL TO WIDE FACE OF STRANDS $F_{c\perp}$ 650 PSI
COMPRESSION PARALLEL TO GRAIN $F_{c\parallel}$ 1,950 PSI
HORIZONTAL SHEAR PERPENDICULAR TO
WIDE FACE OF STRANDS F_v 285 PSI
- PRIOR TO FABRICATION, SHOP DRAWINGS INCLUDING THE FOLLOWING INFORMATION MUST BE SUBMITTED TO THE ARCHITECT FOR REVIEW:
(1) LAYOUT DRAWINGS WITH MEMBER IDENTIFICATION NUMBERS (AS IDENTIFIED IN CALCULATIONS)
(2) ICBO # AND MANUFACTURER

PREFABRICATED WOOD JOISTS (PWJ)

- PREFABRICATED WOOD JOISTS SHALL BE MANUFACTURED BY TRUS JOIST MACMILLAN, TMI JOIST, OR EQUIVALENT. JOISTS SHALL BE FABRICATED USING STRUCTURAL GRADE PLYWOOD OR ORIENTED STRAND BOARD FOR WEB MATERIAL, MICRO-LAM LUMBER OR STRESS-RATED LUMBER FOR FLANGE MATERIAL, AND UTILIZING WATERPROOF GLUES. DESIGN SHALL BE IN ACCORDANCE WITH FFC #4354.
- PRIOR TO FABRICATION OF JOISTS, SHOP DRAWINGS INCLUDING THE FOLLOWING INFORMATION MUST BE SUBMITTED TO THE ARCHITECT FOR REVIEW: (1) JOIST LAYOUT DRAWINGS SHOWING BRACING, BLOCKING, AND WEB STIFFENERS WITH JOIST IDENTIFICATION NUMBERS (AS IDENTIFIED IN CALCULATIONS); AND (2) JOIST CALCULATIONS SHOWING ALL LOADS AND CLEARLY INDICATING THAT THE DESIGNS CONFORM TO THE CODE. (3) ICBO APPROVAL NUMBER, AND JOIST MANUFACTURER. CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF COLORADO.

DESIGN LOAD ON FLOOR JOISTS (PSF):

DL = 28 PSF
LL = 40 PSF TYPICAL
LL = 100 PSF - SEE KEY PLANS FOR EXTENT

DESIGN LOAD ON ROOF JOISTS (PSF):

DL = 21 PSF
SL = 30 PSF

DEFLECTION CRITERIA: ROOF FLOOR
DEAD + LIVE LOAD $\leq$ L/180 L/360
LIVE LOAD ONLY $\leq$ L/240 L/480

- THE MATERIALS AND FABRICATION PROCEDURES FOR ALL MEMBERS SHALL COMPLY WITH THE REQUIREMENT OF CURRENT ICBO REPORTS.
- PROVIDE WEB STIFFENERS AT JOISTS UNDER 4x OR LARGER POSTS.
- THE SIZE AND LOCATION OF ALL HOLES SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS OR ICBO REPORTS.
- TOP AND BOTTOM FLANGES ARE NOT TO BE CUT.
- MEMBERS SHALL BE DELIVERED TO THE JOB SITE IN BUNDLES AND STORED IN AN UPRIGHT POSITION NOT IN CONTACT WITH THE GROUND.
- ANY DAMAGE OR DISTORTION OF MEMBER SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE SUPPLIER. FIELD REPAIR OR MODIFICATIONS SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL FROM THE SUPPLIER AND THE ENGINEER.
- MEMBER SHALL BE ANCHORED AND BRACED AS IT IS ERRECTED. THE ERECTOR SHALL PROVIDE SUPPLEMENTAL LATERAL BRACING AS REQUIRED FOR THE TOP FLANGES UNTIL FLOOR OR ROOF DIAPHRAGMS ARE INSTALLED AND FOR THE BOTTOM FLANGES AT CANTILEVERED MEMBERS UNTIL CEILING IS INSTALLED.

PREFABRICATED WOOD TRUSSES

- ALL PREFABRICATED ROOF TRUSSES SHALL BE FABRICATED FROM STRESS GRADED LUMBER BY TRU-TRUSS OR EQUIVALENT. THE TRUSS MANUFACTURER SHALL DESIGN ALL MEMBERS CONNECTIONS, AND BRACING. THE DESIGN SHALL BE BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF COLORADO.
- PRIOR TO FABRICATION OF TRUSSES, THE FOLLOWING MATERIALS MUST BE SUBMITTED TO THE ARCHITECT FOR REVIEW: (1) TRUSS LAYOUT DRAWINGS; AND (2) TRUSS CALCULATIONS SHOWING ALL LOADS, AND DETAILS SHOWING AXIAL AND BENDING STRESSES AND JOINT DETAILS, CLEARLY INDICATING THAT THE DESIGNS CONFORM TO THE CODE. (3) TRUSS MANUFACTURER AND TRUSS IDENTIFICATION NUMBERS (AS IDENTIFIED IN CALCULATION) SHOWN ON TRUSS LAYOUT DRAWINGS 4) ALL NECESSARY BRACING. CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF COLORADO.
- TEMPORARY BRACING SHALL BE INSTALLED TO HOLD THE TRUSSES TRUE AND PLUMB UNTIL PERMANENT SHEATHING IS INSTALLED.

- DESIGN LOAD ON TRUSS (PSF): ROOF
UPPER CHORD DL 16
UPPER CHORD LL 30
LOWER CHORD DL 5
* LOWER CHORD LL 5
* NON-CONCURRENT WITH UPPER CHORD LOAD

DEFLECTION CRITERIA: ROOF
DEAD + LIVE LOAD $\leq$ L/180
LIVE LOAD ONLY $\leq$ L/240

- LATERAL LOAD ON TRUSSES AT SHEAR WALLS = 2K U.N.O. ON STRUCTURAL DRAWINGS. SEE ROOF FRAMING PLAN FOR ADDITIONAL LOADS ON TRUSSES.
- EACH TRUSS SHALL BE LEGIBLY BRANDED, MARKED OR OTHERWISE HAVE PERMANENTLY AFFIXED THERETO THE FOLLOWING INFORMATION LOCATED WITHIN 2 FEET OF THE CENTER OF THE SPAN ON THE FACE OF THE BOTTOM CHORD:
A.) IDENTITY OF THE COMPANY MANUFACTURING THE TRUSS.
B.) THE DESIGN LOAD.
C.) THE SPACING OF THE TRUSSES.
- MINIMUM DEPTH OF TRUSSES SHALL BE ACCORDING TO THE STRUCTURAL DRAWINGS. REFER TO ARCH'L DRAWINGS FOR SLOPE OF THE TOP CHORD AT ROOF TRUSSES.

NAILING SCHEDULE

FROM IBC TABLE 2304.9.1

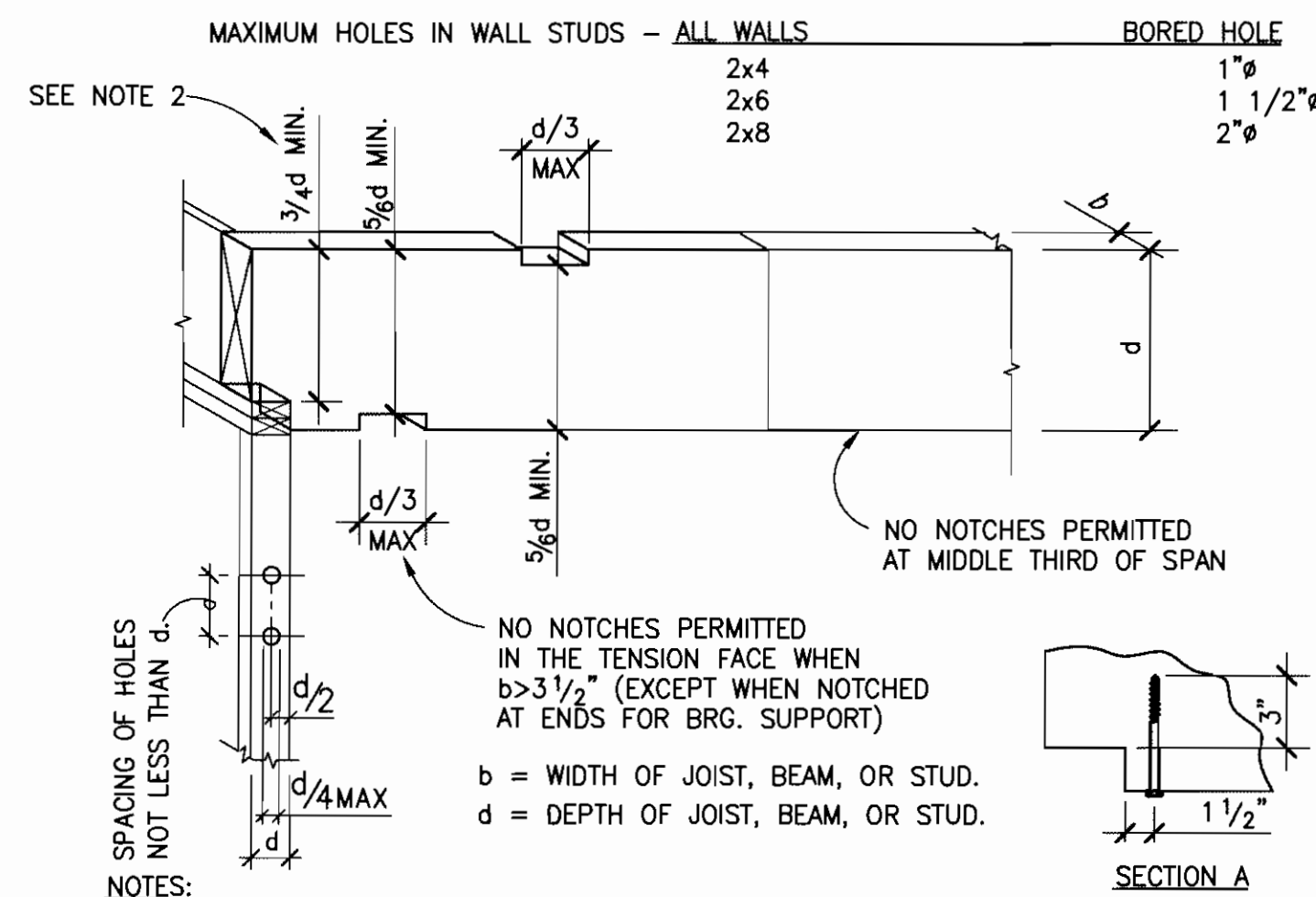
CONNECTION	NAILING
JOIST TO SILL OR GIRDER, TOENAIL	3-8d
BRIDGING TO JOIST, TOENAIL EACH END	2-8d
SOLE PLATE TO JOIST OR BLOCKING, TYP. FACE NAIL	16d @ 16" O.C.
SOLE PLATE TO JOIST OR BLOCKING, AT BRACED WALL PANELS	3-16d PER 16"
TOP PLATE TO STUD, END NAIL	2-16d
STUD TO SOLE PLATE	4-8d, TOENAIL OR 2-16d, END NAIL
DOUBLE STUDS, FACE NAILS	16d @ 24" O.C.
DOUBLED TOP PLATES, TYPICAL FACE NAIL	16d @ 16" O.C.
DOUBLED TOP PLATES, LAP SPLICE	8-16d
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOENAIL	3-8d
RIM JOIST TO TOP PLATE, TOENAIL	8d @ 6" O.C.
TOP PLATES, LAPS & INTERSECTIONS, FACE NAIL	2-16d
CONTINUOUS HEADER, TWO PIECES	16d @ 16" O.C. ALONG EACH EDGE
CONTINUOUS HEADER TO STUD, TOENAIL	4-8d
RAFTER TO PLATE, TOENAIL	3-8d
BUILT-UP CORNER STUDS	16d AT 24" O.C.
BUILT-UP GIRDER AND BEAMS	20d @ 32" O.C. @ T&B AND STAGGERED 2-20d AT ENDS & AT EACH SPLICE

CONNECTION NAIL	SHANK DIA.	LENGTH (UNO)
20d	0.192	4
16d	0.162	3 1/2
10d	0.148	3
8d	0.131	2 1/2
6d	0.113	2

NOTES:

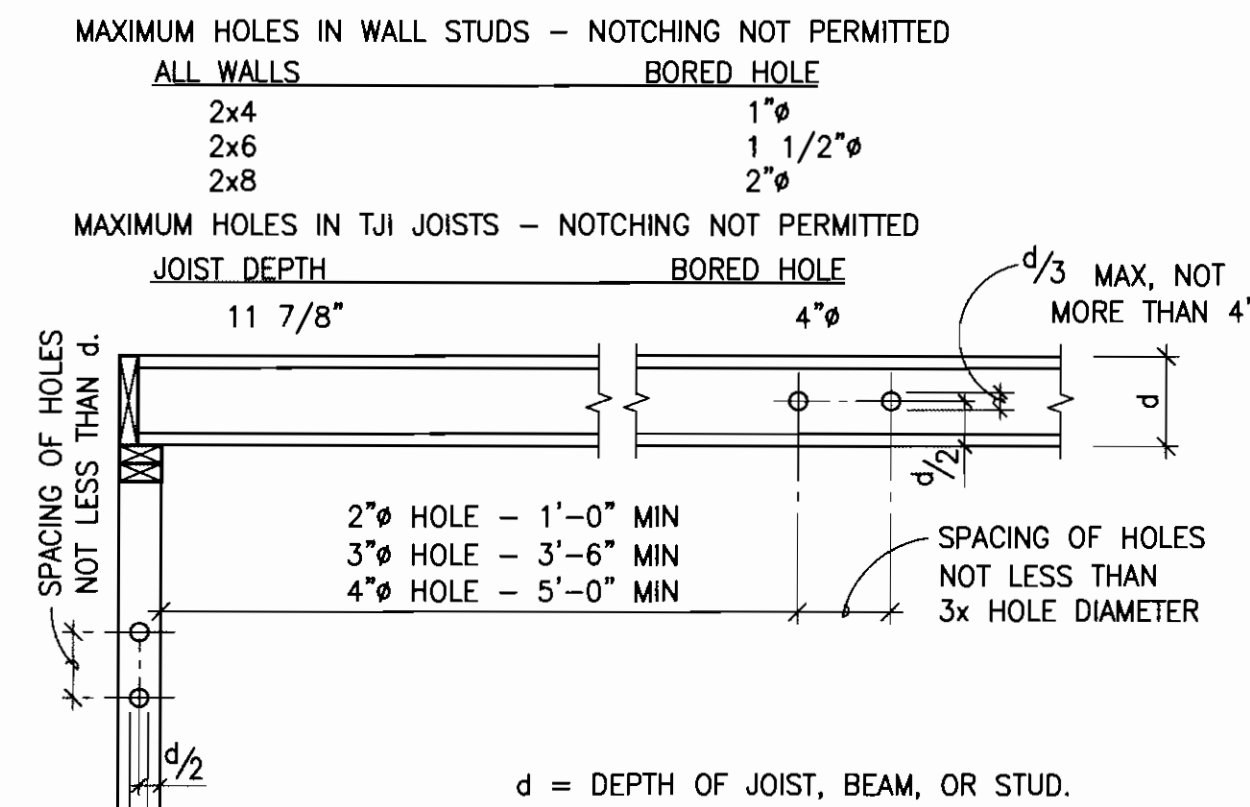
- BOX NAIL SHALL NOT BE USED.
- ALL NAILS TO BE COLOR CODED.

HOLE OR NOTCHES - SAWN LUMBER

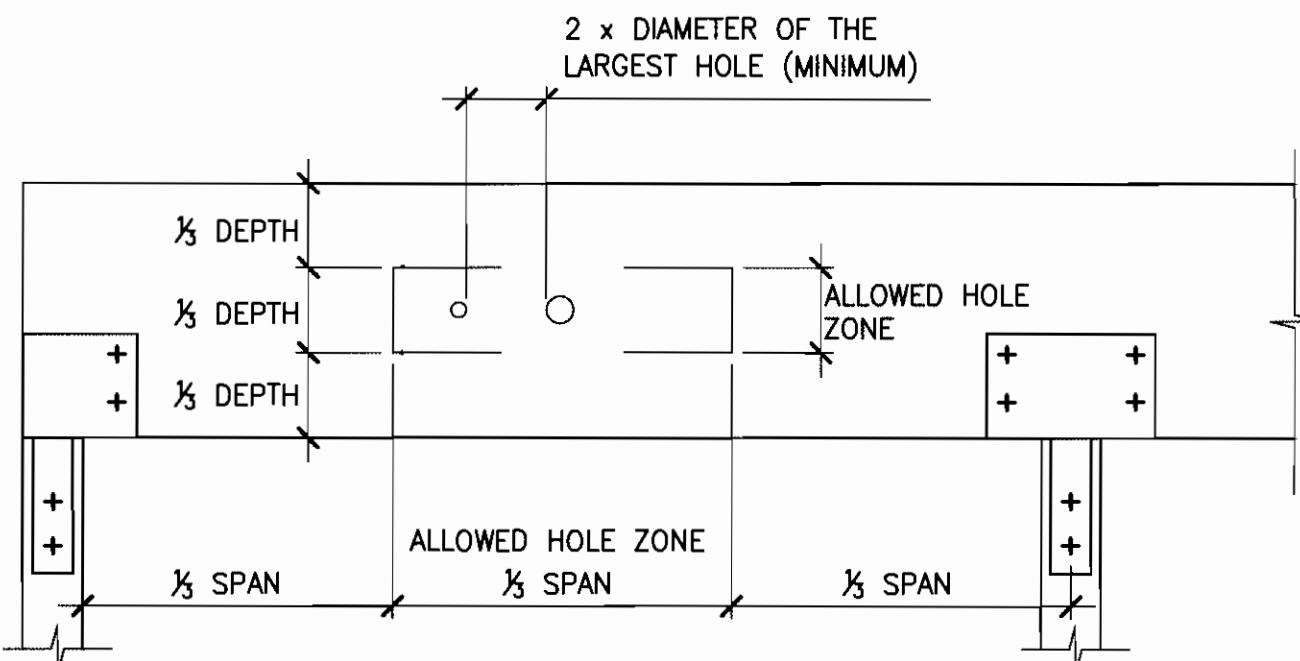


- NOTES:
- HOLES NOT PERMITTED IN JOISTS OR BEAMS WITHOUT APPROVAL OF STRUCTURAL ENGINEER.
 - WHERE BEAMS OR JOISTS ARE NOTCHED AT SUPPORTS PROVIDE 3/8" LAG SCREW W/ 3" MIN. PENETRATION BEYOND NOTCH. SEE SECTION A. COUNTERSINK IF REQ'D.
 - IF BEAM IS CANTILEVERED OR HAS MULTIPLE SPANS, NO NOTCHING SHALL BE PERMITTED.

HOLES OR NOTCHES - JOISTS



HOLES OR NOTCHES - PARALLAM



NOTES:

- THE ALLOWED HOLE ZONE IN THIS CHART IS SUITABLE FOR UNIFORMLY LOADED BEAMS.
- IF MORE THAN ONE HOLE IS TO BE CUT IN BEAM, THE LENGTH OF THE UNCUT BEAM BETWEEN HOLES MUST BE A MINIMUM OF TWICE THE DIAMETER OF THE LARGEST HOLE.
- RECTANGULAR HOLES ARE NOT ALLOWED.
- HOLES IN CANTILEVERS AND MULTISPAN BEAMS SHALL NOT BE PERMITTED WITHOUT ENGINEER'S APPROVAL.

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE 10/20/2004

06-108667

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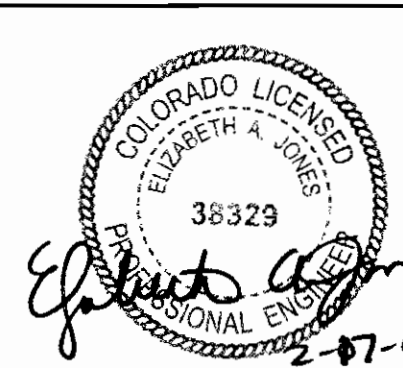
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ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/12/2005
3	50% CD PACKAGE	5/06/05
4	100% CD PACKAGE	2/13/06
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SHEET CONTENTS:

GENERAL NOTES



PROJECT NO: 3-04-18

DATE: FEB. 13, 2006

DRAWING NO:

S1.2



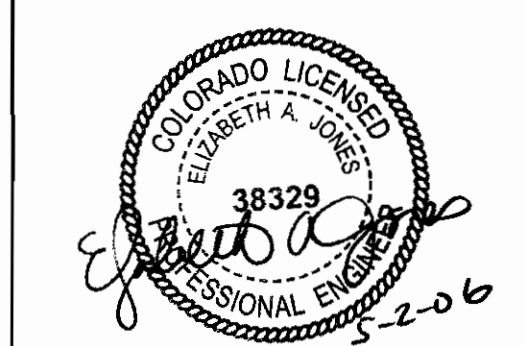
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No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/8/2005
4	100% CD PACKAGE	3/28/2006

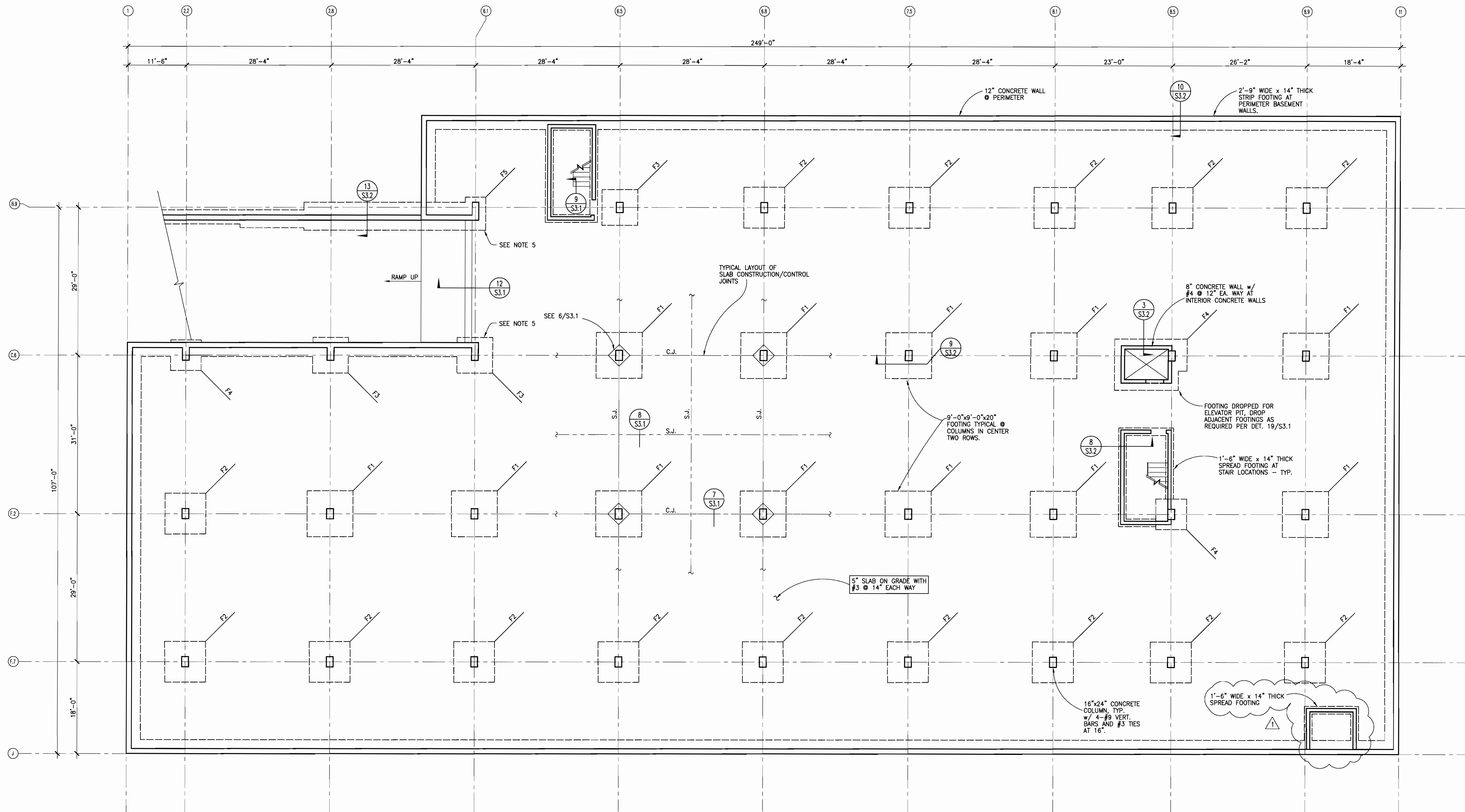
SHEET CONTENTS:
FOUNDATION PLAN



PROJECT NO: 3-04-18
 DATE: March 9, 2006

DRAWING NO:

S2.1



FOOTING SCHEDULE				
MARK	SIZE	MIN. * THICKNESS	REINFORCING BOTTOM **	REINFORCING TOP **
F1	9'-0"x9'-0"	21"	10-#7 EA. WAY	
F2	8'-0"x8'-0"	18"	8-#7 EA. WAY	
F3	7'-0"x7'-0"	15"	8-#6 EA. WAY	
F4	6'-0"x6'-0"	15"	5-#6 EA. WAY	
F5	4'-0"x6'-6"	14"	6-#4 EA. WAY	

* THICKEN AS REQUIRED TO MEET REQUIREMENTS OF S3.1
 ** EQUALLY SPACED

- NOTES:**
- SEE ARCHITECTURAL FOR SLAB SLOPES, STEPS, DEPRESSIONS, AND CURBS.
 - TOP OF COLUMN FOOTINGS AND INTERIOR WALL FOOTINGS AT 89'-0", U.N.O. TOP OF PERIMETER WALL FOOTING AT 89'-7", U.N.O.
 - CENTERLINE OF FOOTING SHALL MATCH CENTERLINE OF COLUMN OR WALL, U.N.O.
 - SEE SHEET S3.1 FOR TYPICAL SLAB, FOOTING, AND CONCRETE DETAILS.
 - BOTTOM OF FOOTING IS 3'-0" MIN. BELOW TOP OF FLOOR SLAB.

CITY OF AURORA
 BUILDING DIVISION
 APPROVED AS NOTED
 DATE: 5/1/2006
 06-108667

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 1445 Dallas Street
 Aurora, Colorado

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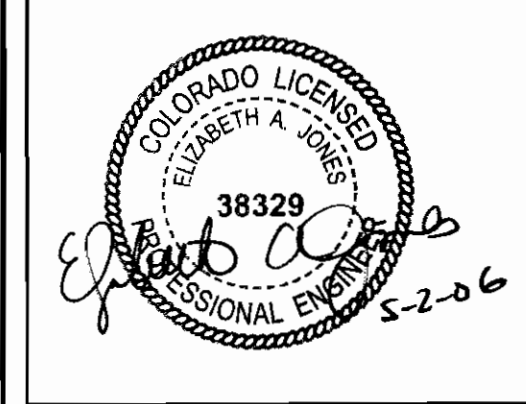
REVISIONS:

No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
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ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/9/2006
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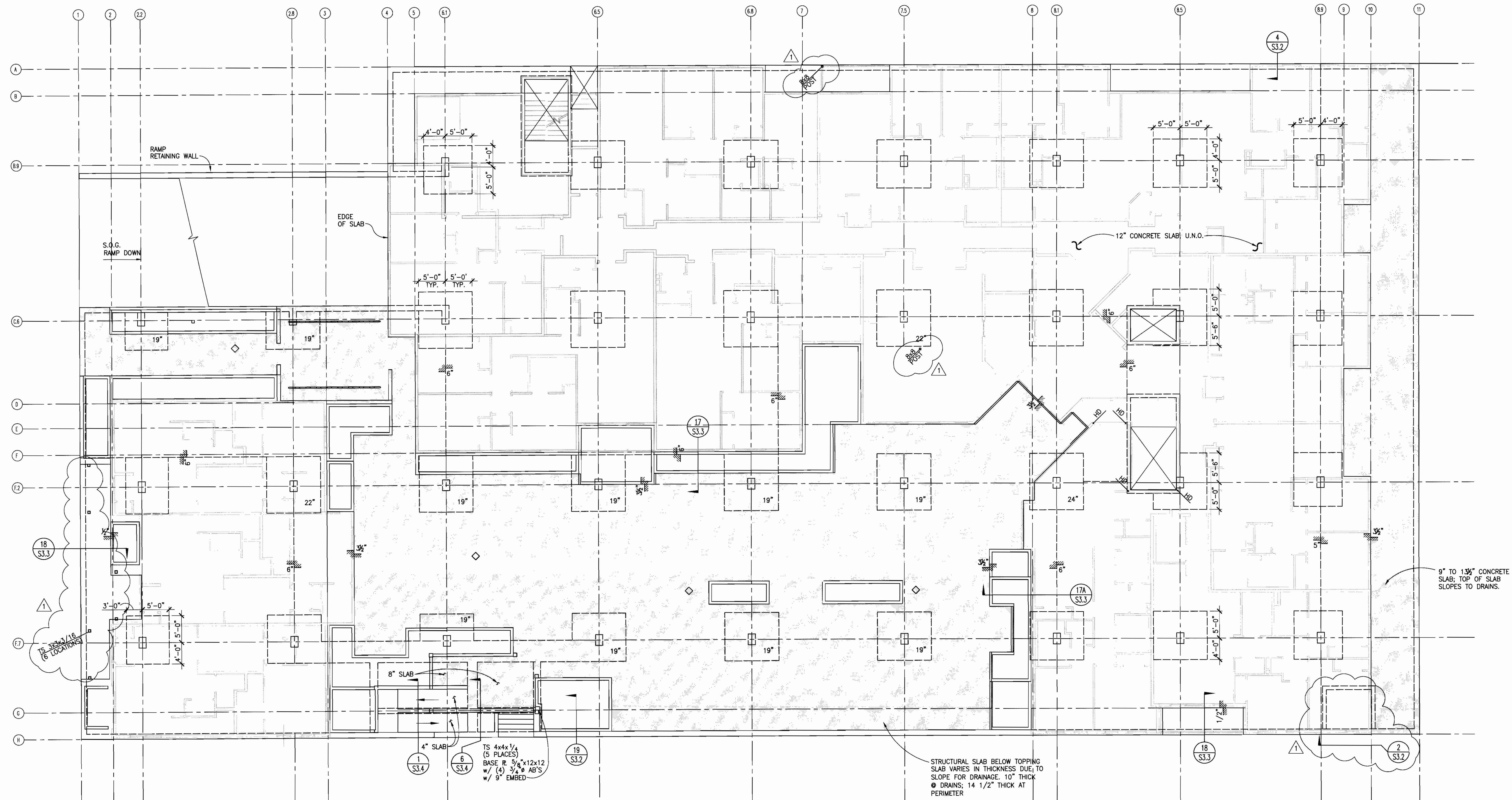
SHEET CONTENTS:
FIRST FLOOR FRAMING PLAN



PROJECT NO.: 3-04-18
 DATE: March 9, 2006

DRAWING NO.:

S2.2



1 FIRST FLOOR FRAMING PLAN
 S2.2 SCALE: 1/8"=1'-0"

- NOTES:
- SEE SHEET S2.2a FOR SLAB REINFORCING
 - INDICATES 3" THICK TOPPING SLAB.
 - SEE S2.3 FOR WOOD STRUCTURAL WALLS.
 - INDICATES STEP IN TOP OF SLAB.
 - INDICATES STEP IN BOTTOM OF SLAB.
 - INDICATES HOLDDOWN IN SLAB PER 13/S4.4
 - INDICATES SLAB DROP PANEL. INDICATES TOTAL THICKNESS. USE 20" WHERE NO THICKNESS IS NOTED.

CITY OF AURORA
 BUILDING DIVISION
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 DATE: 06-108667

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Architectural Planning Services
2001 South York Street, Suite 200, Aurora, Colorado 80012
Phone: 303.263.2000 Fax: 303.263.2001



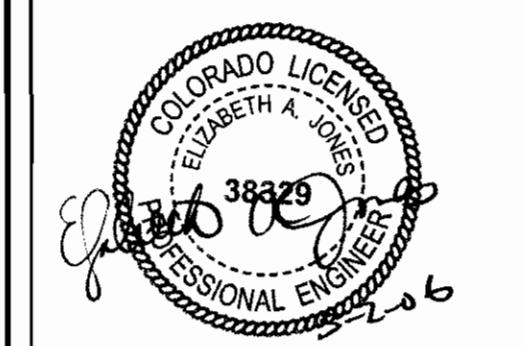
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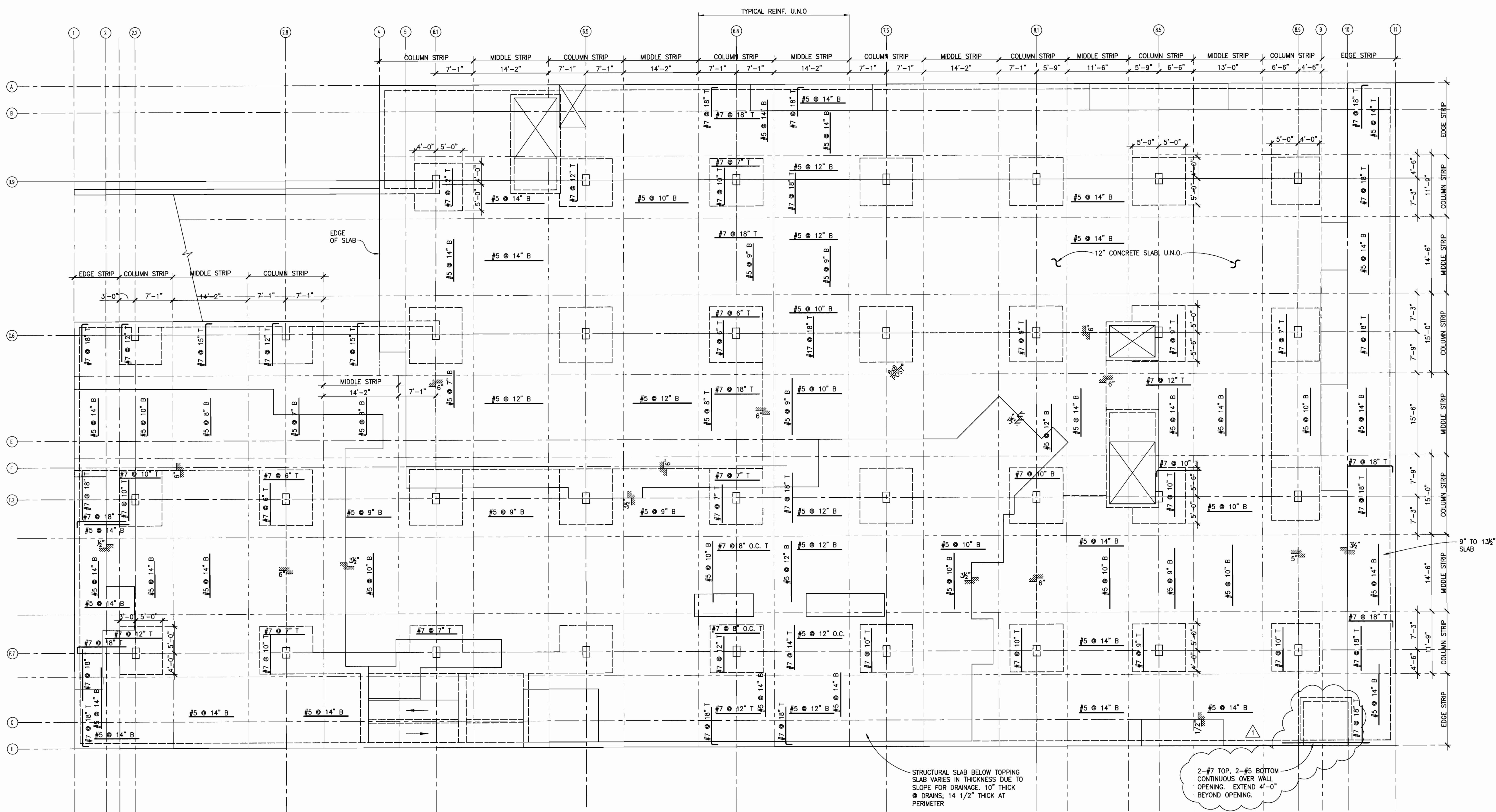
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SHEET CONTENTS:
FIRST FLOOR
REINFORCING PLAN



PROJECT NO.: 3-04-18
DATE: MAY 6, 2005

DRAWING NO.:
S2.2a



1
S2.2 FIRST FLOOR FRAMING PLAN
SCALE: 1/8"=1'-0"

NOTES:

- SEE SHEET S3.3 FOR FLAT SLAB NOTES AND REINFORCING DETAILS
- $\frac{3}{8}$ INDICATES STEP IN TOP OF SLAB.
- $\frac{3}{8}$ INDICATES STEP IN BOTTOM OF SLAB.

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No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/28/2006

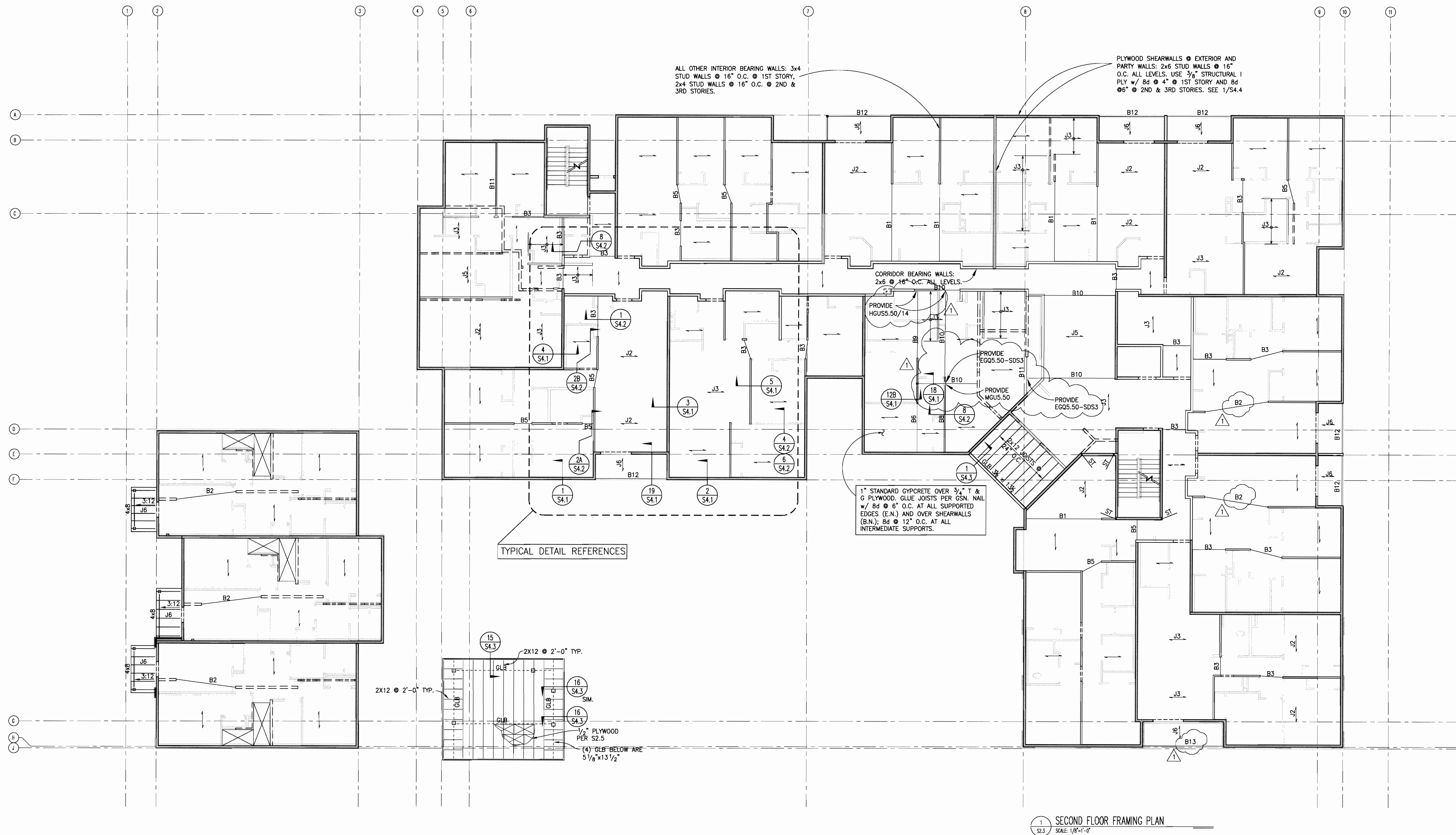
SHEET CONTENTS
SECOND FLOOR
FRAMING PLAN



PROJECT NO: J-04-18
 DATE: March 9, 2006

DRAWING NO:

S2.3



- NOTES:
- SEE S2.4 FOR NOTES, SCHEDULES, AND LEGEND.
 - INDICATES CS16 HOLDOWN STRAP PER 11/S4.4

CITY OF AURORA
 BUILDING DIVISION
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FRAMING LEGEND

- PARTITION WALL ABOVE
- BEARING WALL ABOVE & BELOW
- BEARING WALL BELOW
- BEARING WALL ABOVE ONLY
- SHEARWALL ABOVE & BELOW
- SHEARWALL BELOW
- STEEL COLUMN PER SCHEDULE
- WOOD POST PER SCHEDULE
- INDICATES HOLDOWN
- INDICATES JOIST PER SCHEDULE
JI TYPICAL U.N.O.
- INDICATES TRUSS PER SCHEDULE
- INDICATES WALL HEADER PER 15/S4.1
- INDICATES BEAM PER SCHEDULE

MARK	DESCRIPTION	COMMENTS
J1	11 7/8" TJI 210 @ 24" O.C.	TYPICAL
J2	11 7/8" TJI 210 @ 19.2" O.C.	
J3	11 7/8" TJI 210 @ 16" O.C.	
J4	11 7/8" TJI 210 @ 12" O.C.	
J5	11 7/8" TJI 210 @ 6" O.C.	
J6	2x6 @ 24" O.C.	w/REDWOOD DECKING

JOIST NOTES:
1. JOIST SIZES AS SHOWN ARE MINIMUM.

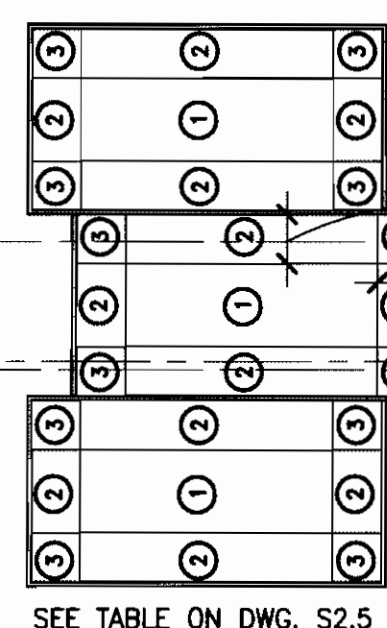
ALL OTHER INTERIOR BEARING WALLS: 3x4
STUD WALLS @ 16" O.C. @ 1ST STORY,
2x4 STUD WALLS @ 16" O.C. @ 2ND &
3RD STORIES.

MARK	DESCRIPTION	COMMENTS
B1	3 1/2"x14" PARALAM	
B2	3 1/2"x11 7/8" TIMBERSTRAND	
B3	3 1/2"x9 1/4" TIMBERSTRAND	
B4	1 3/4"x11 7/8" TIMBERSTRAND	
B5	11 7/8" TJI 210	PROVIDE BACKER BLOCK
B6	3 1/2"x11 7/8" MICROLAM	
B7	3 1/2"x11 7/8" MICROLAM	
B8	3 1/2"x11 7/8" MICROLAM	
B9	3 1/2"x16" PARALAM	
B10	3 1/2"x16" PARALAM	
B11	3 1/2"x16" PARALAM	
B12	4x12 REDWOOD	
B13	4x14 REDWOOD	

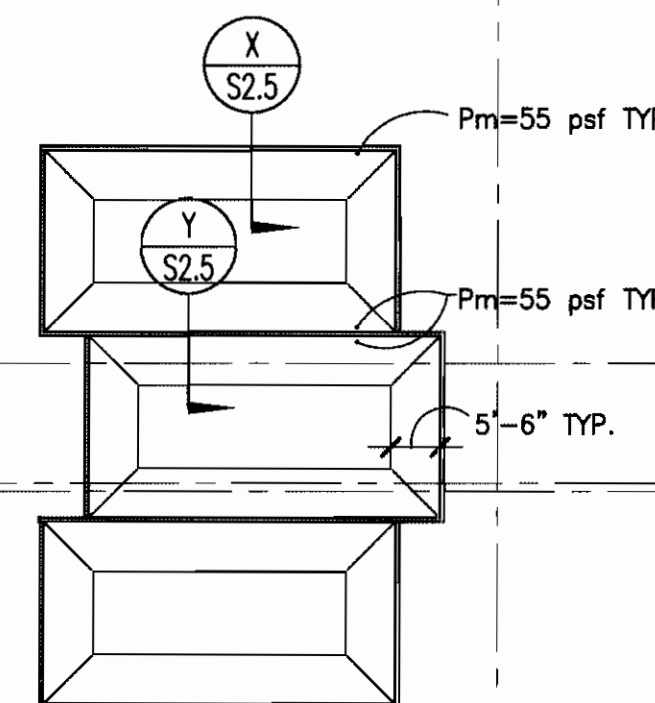
PLYWOOD SHEARWALLS @ EXTERIOR AND
PARTY WALLS: 2x6 STUD WALLS @ 16"
O.C. ALL LEVELS. USE 3/8" STRUCTURAL I
PLY w/ 8d @ 4" @ 1ST STORY AND 8d
@ 6" @ 2ND & 3RD STORIES. SEE 1/S4.4

CORRIDOR BEARING WALLS:
2x6 @ 16" O.C. ALL LEVELS.

1" STANDARD GYPCRETE OVER 3/4" T &
G PLYWOOD. GLUE JOISTS PER GSN. NAIL
w/ 8d @ 6" O.C. AT ALL SUPPORTED
EDGES (E.N.) AND OVER SHEARWALLS
(S.N.); 8d @ 12" O.C. AT ALL
INTERMEDIATE SUPPORTS.



SEE TABLE ON DWG. S2.5



2 WIND LOAD DIAGRAM
SCALE: 3/64"=1'-0"

3 SNOW LOAD DIAGRAM
SCALE: 3/64"=1'-0"

1 THIRD FLOOR FRAMING PLAN
SCALE: 1/8"=1'-0"

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ODELL ARCHITECTS, P.C.
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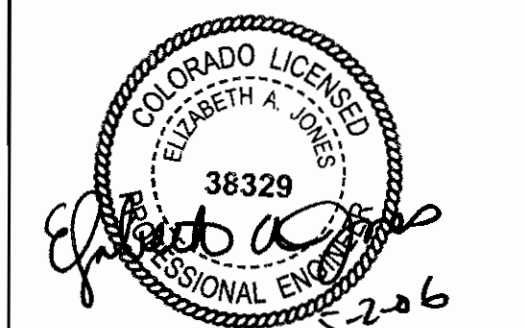
No.	Description	Date
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ISSUE RECORD:

No.	Description	Date
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4	100% CD PACKAGE	3/29/2006
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SHEET CONTENTS:

**THIRD FLOOR
FRAMING PLAN**

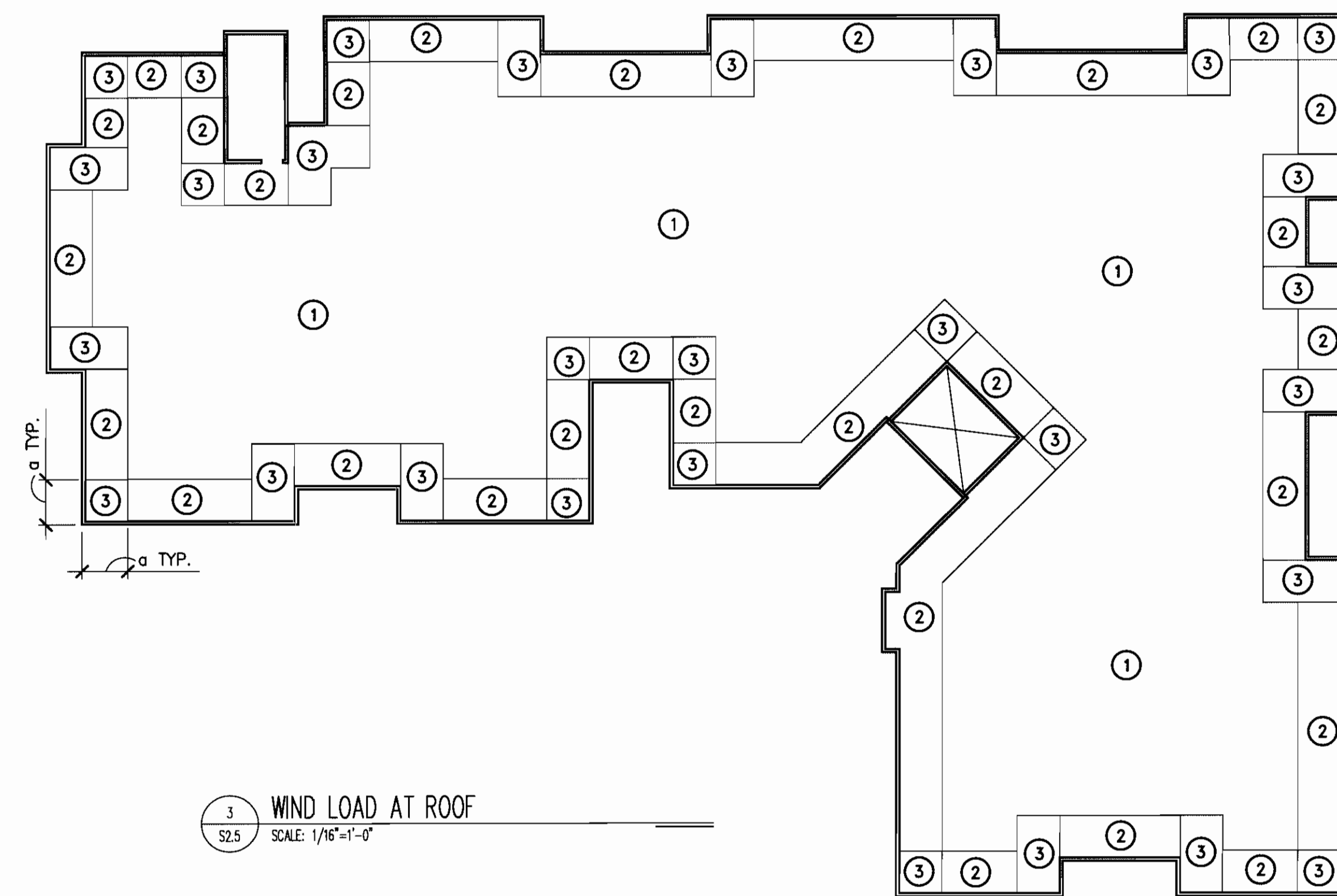


PROJECT NO.: 3-04-18

DATE: March 9, 2006

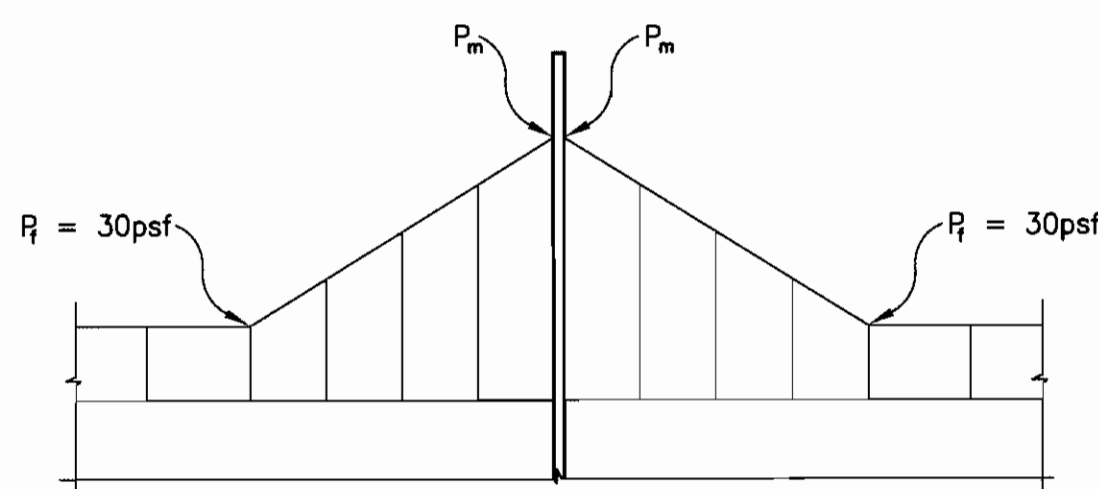
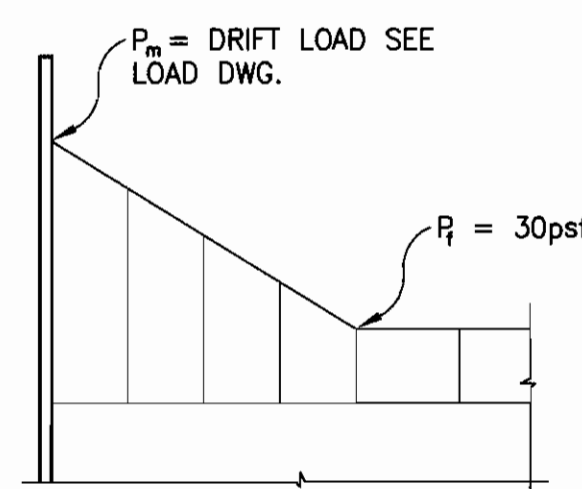
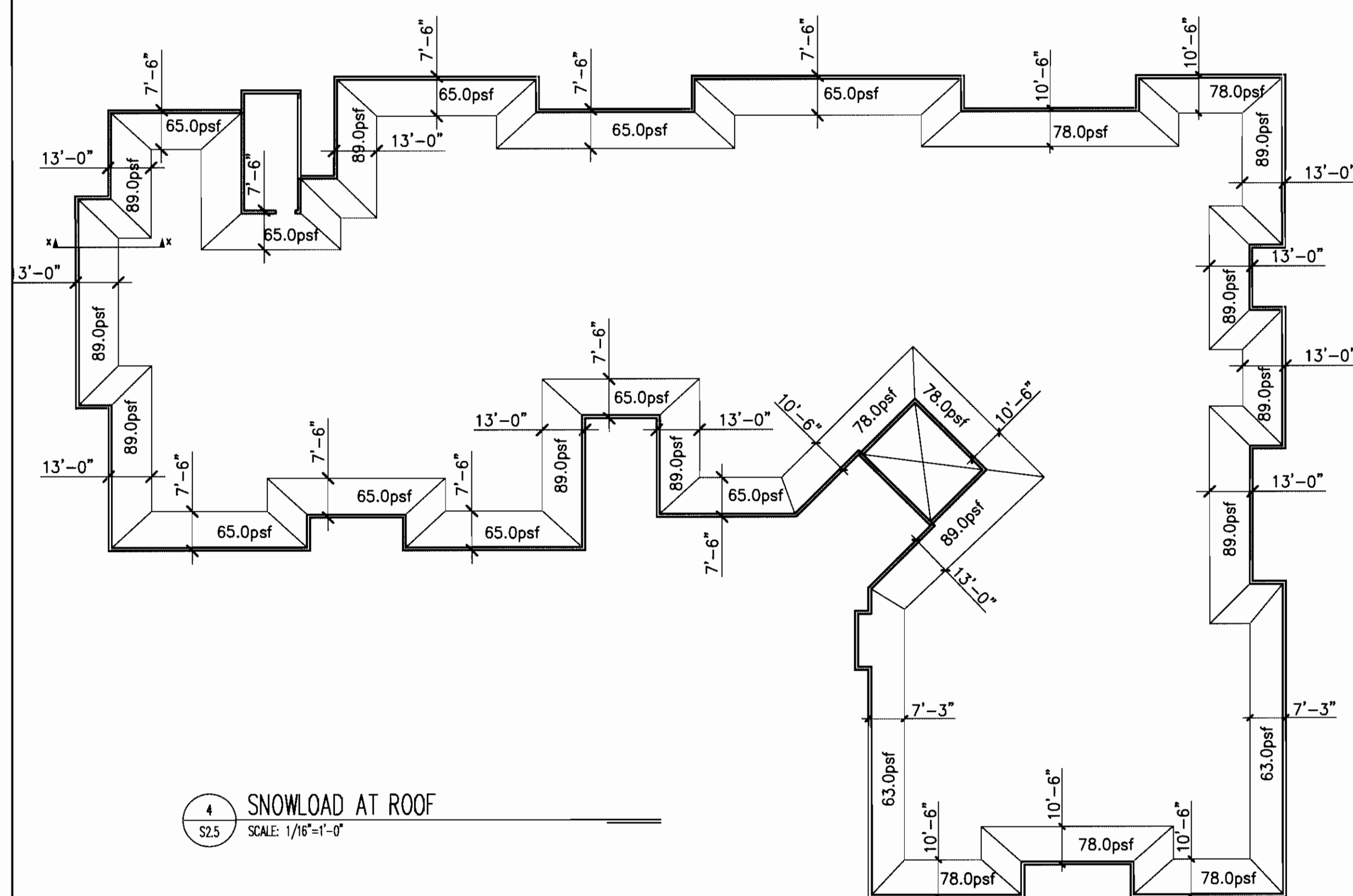
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S2.4



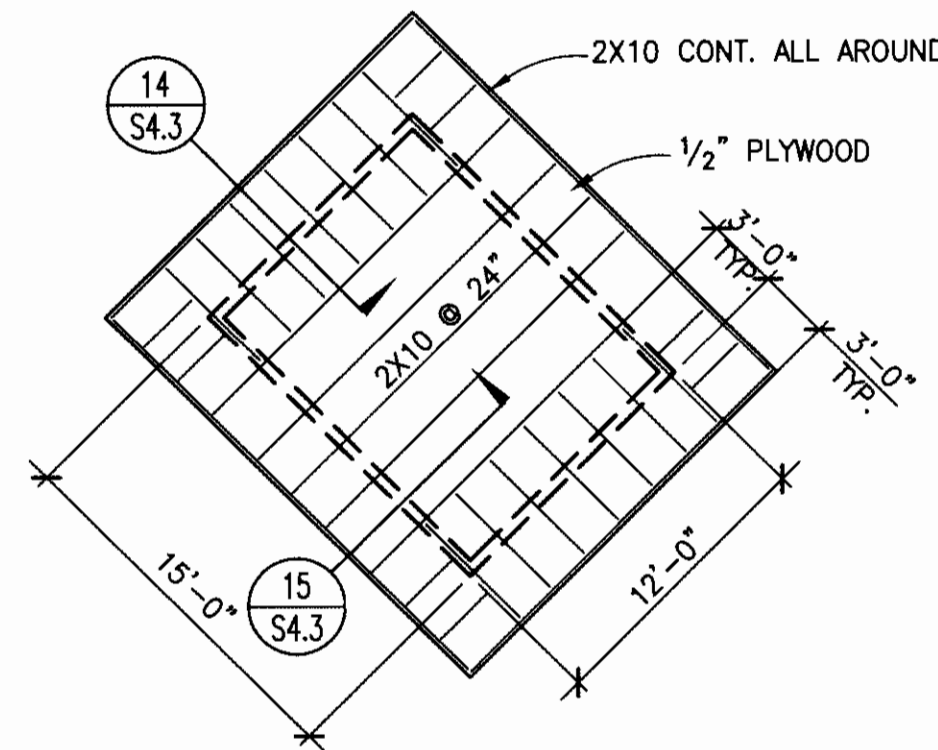
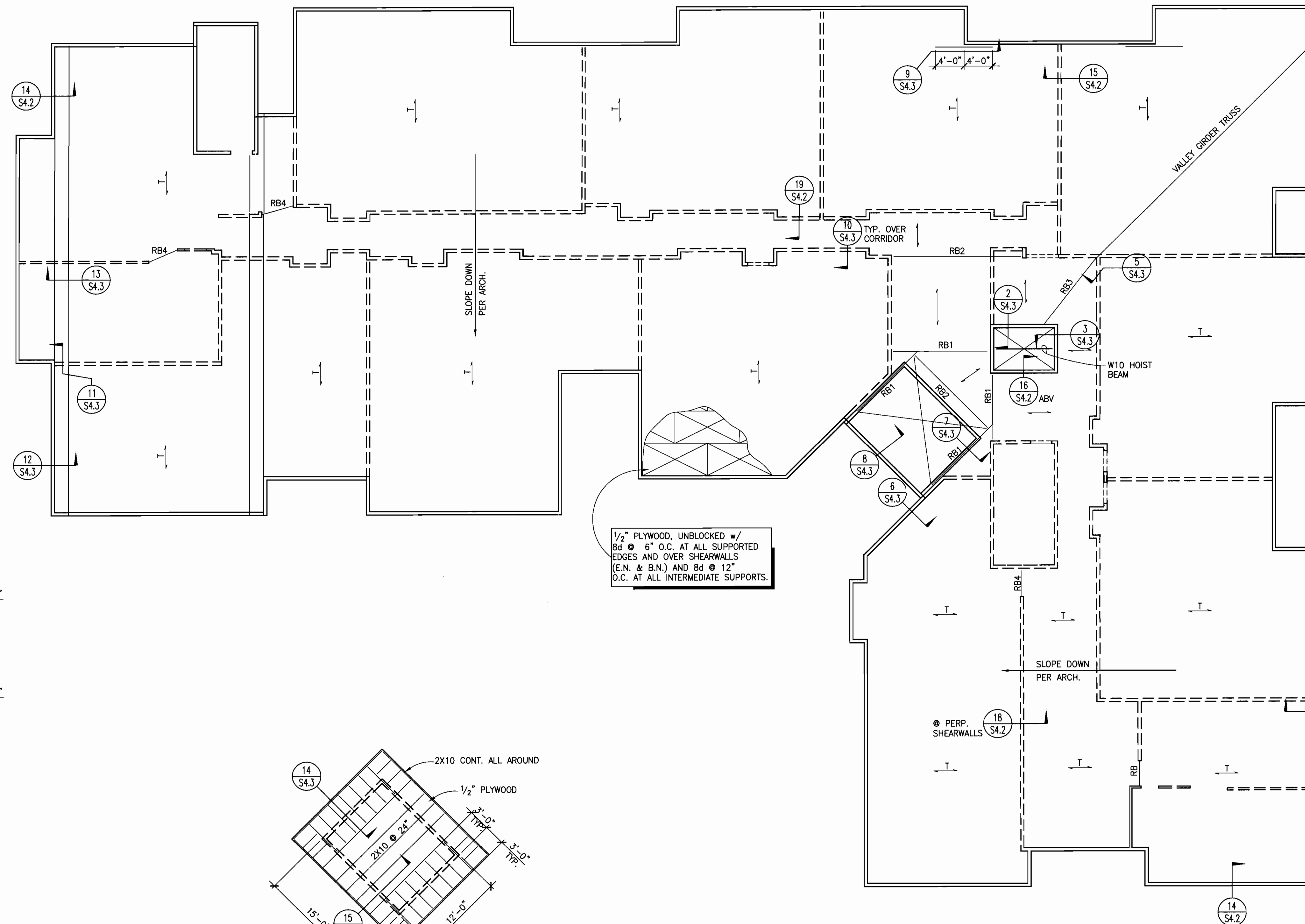
ZONE	AREA ≤ 10ft ²		50ft ² ≥ AREA < 100ft ²		AREA ≥ 100ft ²	
	DOWN LOAD	NET UPLIFT	DOWNWARD	NET UPLIFT	DOWNWARD	NET UPLIFT
1	10psf	-20.7psf	10psf	-19.8psf	10psf	-18.0psf
2	10psf	-34.7psf	10psf	-25.9psf	10psf	-22.4psf
3	10psf	-52.2psf	10psf	-31.2psf	10psf	-22.4psf

1. UPLIFT PRESSURES ARE NET PRESSURES
2. ZONE WIDTH α=6'-6"



ROOF BEAM SCHEDULE		
MARK	DESCRIPTION	COMMENTS
RB1	5 1/2" x 13 1/2" GLB	
RB2	3 1/2" x 13 1/2" GLB	
RB3	(2) 2x12	
RB4	(2) 2x10	

INDICATES 2x12 @ 24" O.C.
INDICATES PRE-MANUFACTURED TRUSSES @ 24" O.C. MINIMUM TOTAL DEPTH IS 24" AT LOW ENDS



2 UPPER ROOF FRAMING PLAN @ ENTRY TOWER
SCALE: 1/8"=1'-0"

2 ROOF FRAMING @ STAIR 2
SCALE: 1/8"=1'-0"

1 ROOF FRAMING PLAN
SCALE: 1/8"=1'-0"

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DATE: 1/12/2006

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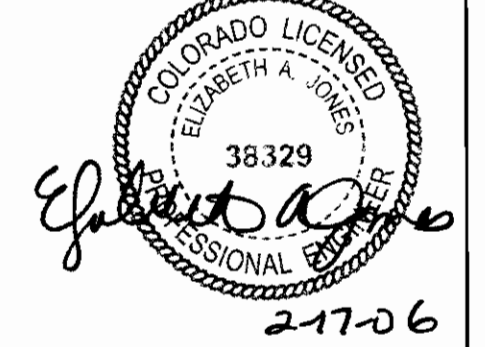
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2	100% CD PACKAGE	1/12/2005
3	50% CD PACKAGE	5/06/05
4	100% CD PACKAGE	2/13/06

No.	Description	Date
1	SD PACKAGE	10/20/2004
2	100% CD PACKAGE	1/12/2005
3	50% CD PACKAGE	5/06/05
4	100% CD PACKAGE	2/13/06

SHEET CONTENTS:
ROOF FRAMING PLAN



PROJECT NO.: 3-04-18
DATE: FEB. 13, 2006

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S2.5



2 SPLICE TABLE – WALLS AND SLABS

1. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICES ARE CALCULATED PER ACI318-95, SECTION 12.2.3 AND 12.15, RESPECTIVELY.
2. FOR TENSION DEVELOPMENT LENGTH "L", USE CLASS "A" SPLICE LENGTHS.
3. ALL SPLICES SHALL BE CLASS "B" UNLESS NOTED OTHERWISE ON PLANS.
4. IF DIMENSIONS SHOWN IN FIG. 1 NOT MET, USE 4/-.
5. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 IN. OF CONCRETE CAST BELOW THE BARS.
6. (SAME AS 4/-)

MEMBER.
RS.
LY

d_b

C-C SPACING

CLEAR COVER

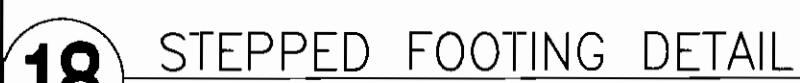
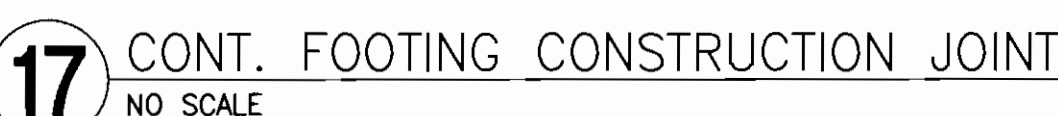
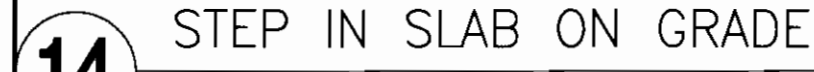
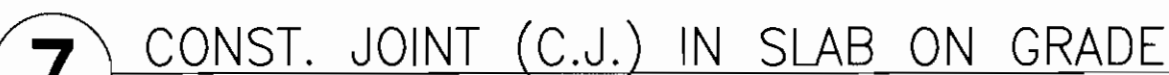
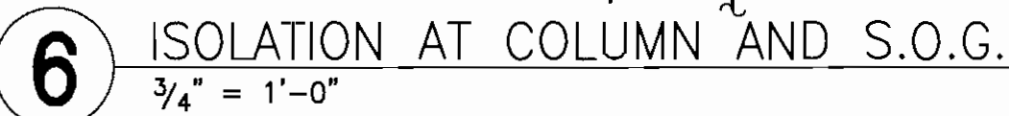
$C-C \text{ SPACING} > (2x \text{ CLR. COVER}) + d_b$

FIG. 1

4 SPLICE TABLE – GENERAL

1. USE THIS TABLE FOR BAR SPLICES UNLESS SPECIFICALLY DETAILED AND DIMENSIONED ON PLANS.
2. THIS SCHEDULE IS NOT APPLICABLE TO DUCTILE MOMENT FRAME MEMBERS RESISTING SEISMIC FORCES.
3. FOR TENSION DEVELOPMENT LENGTHS "ld", USE CLASS "A" SPLICE LENGTHS.
4. ALL SPLICES SHALL BE CLASS "B" UNLESS NOTED OTHERWISE ON PLANS.
5. TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF CONCRETE CAST BELOW BAR.

4 SPLICE TABLE – GENERAL



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No.	Description	Date
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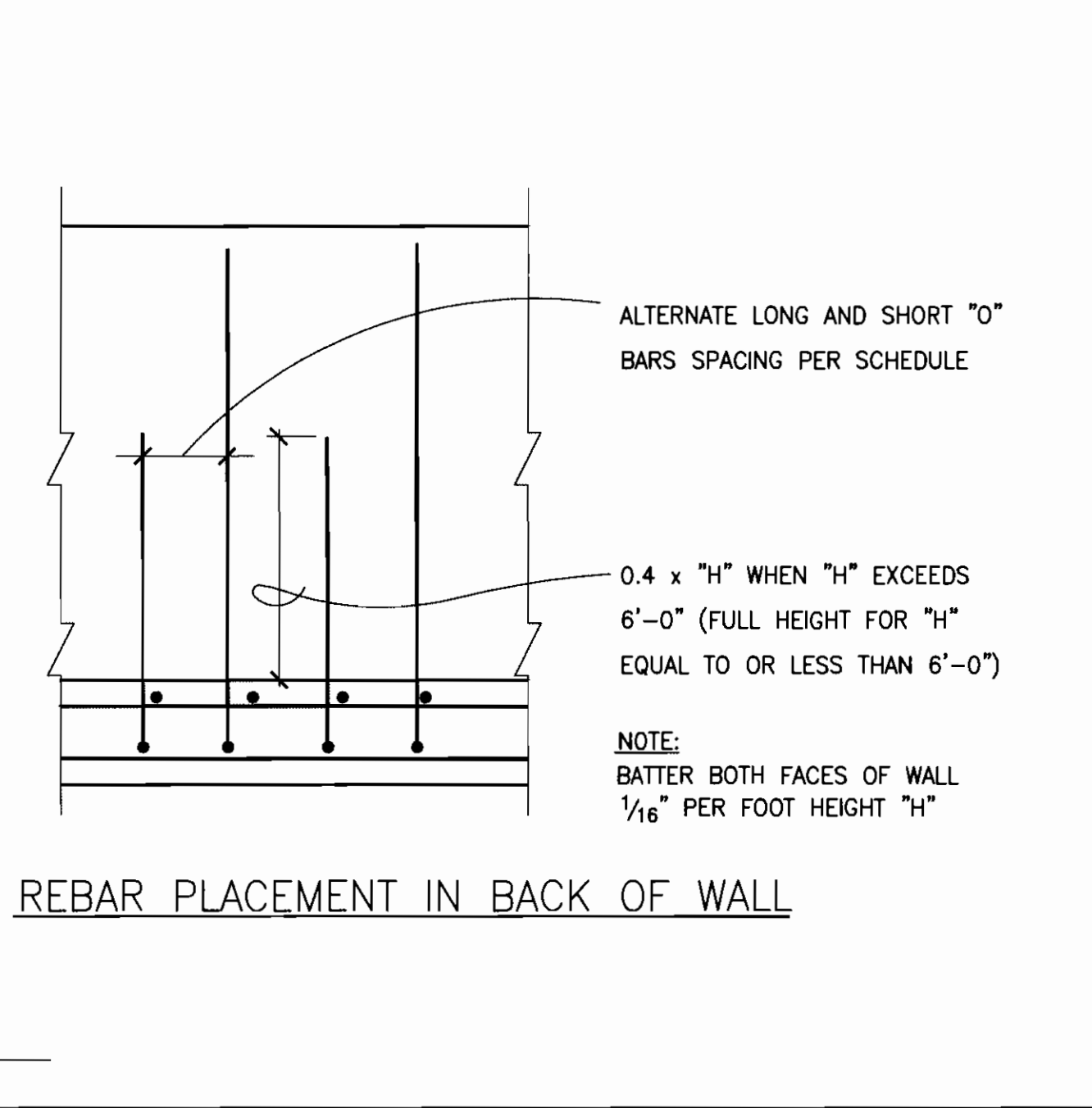
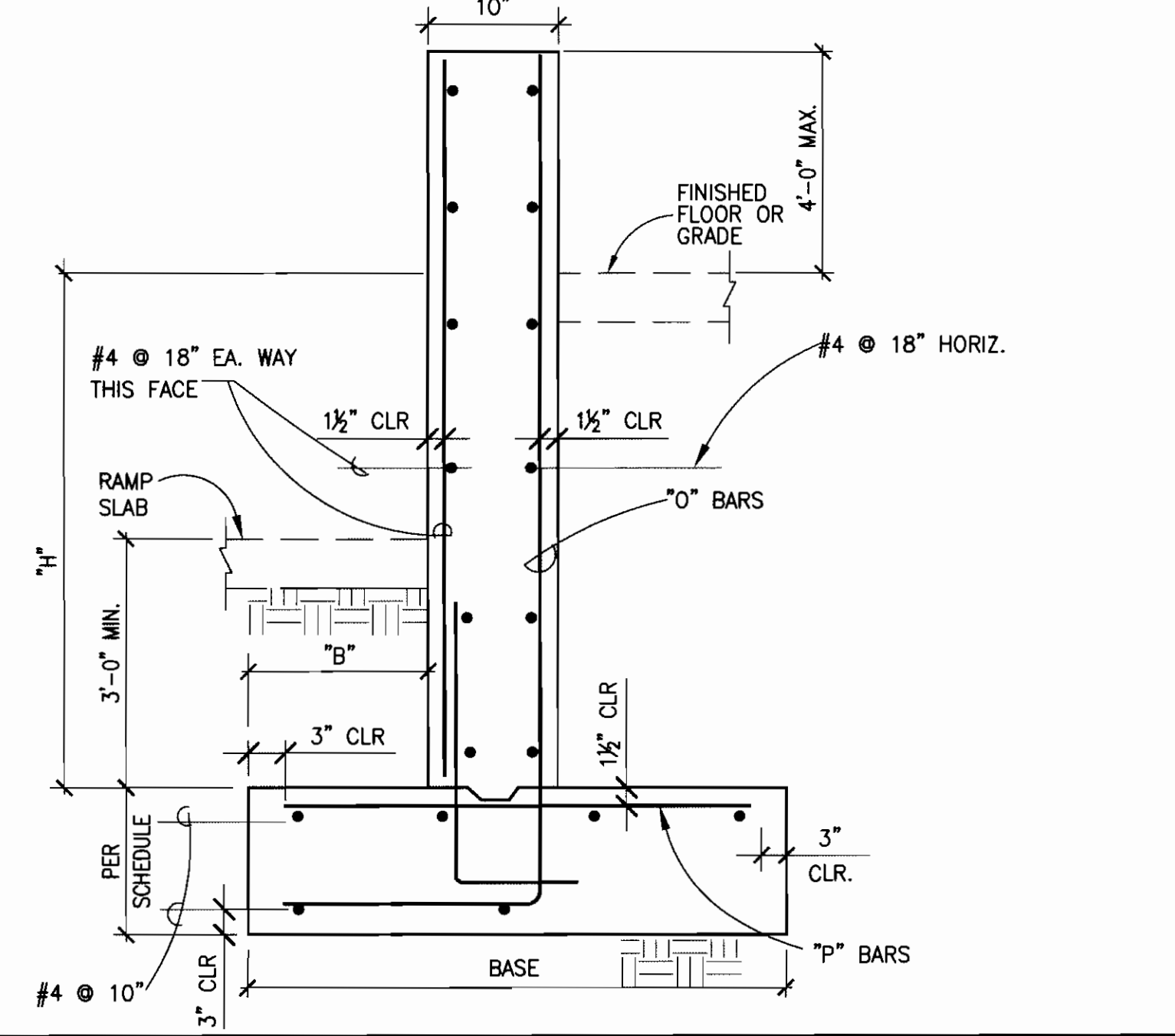
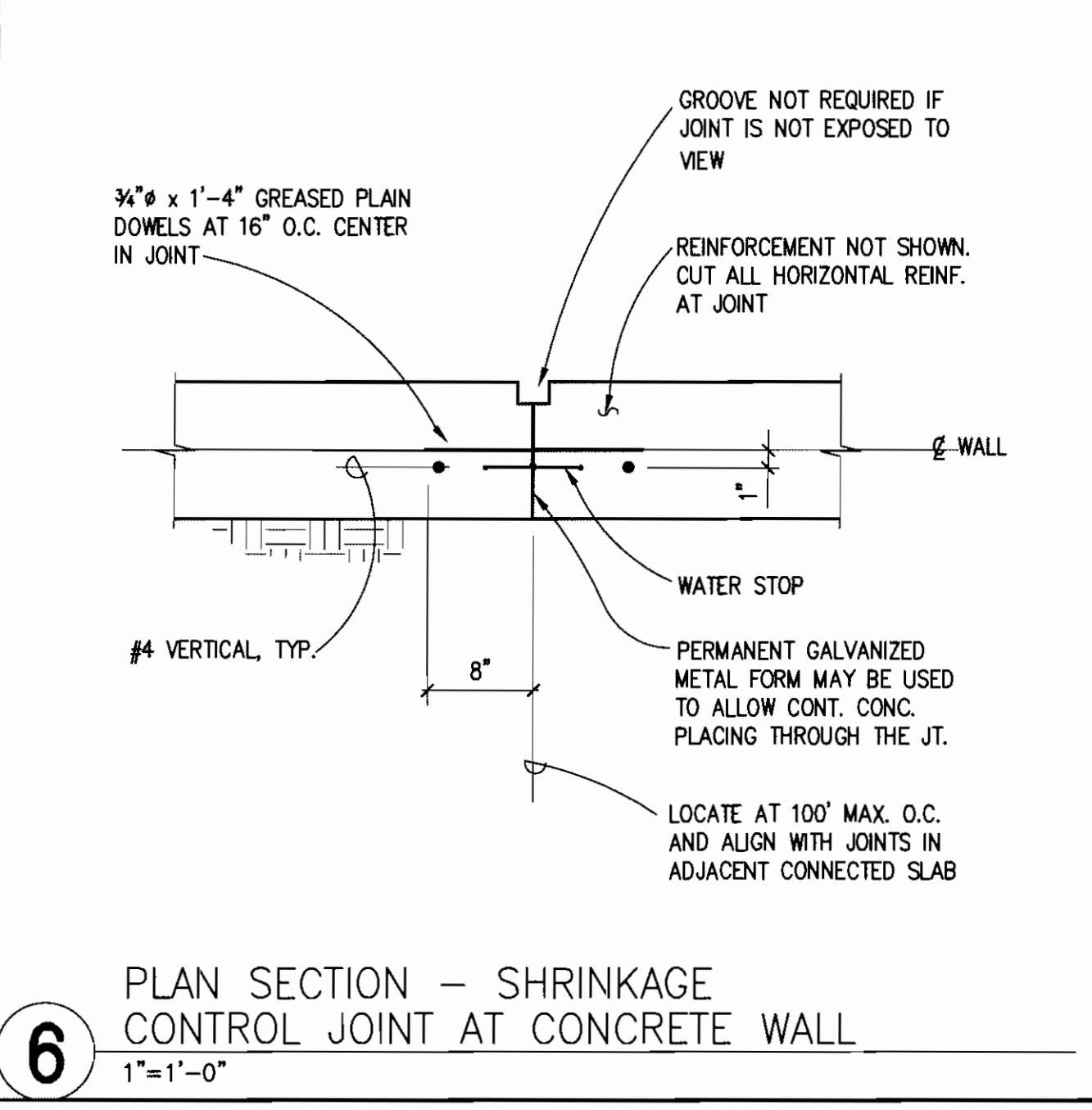
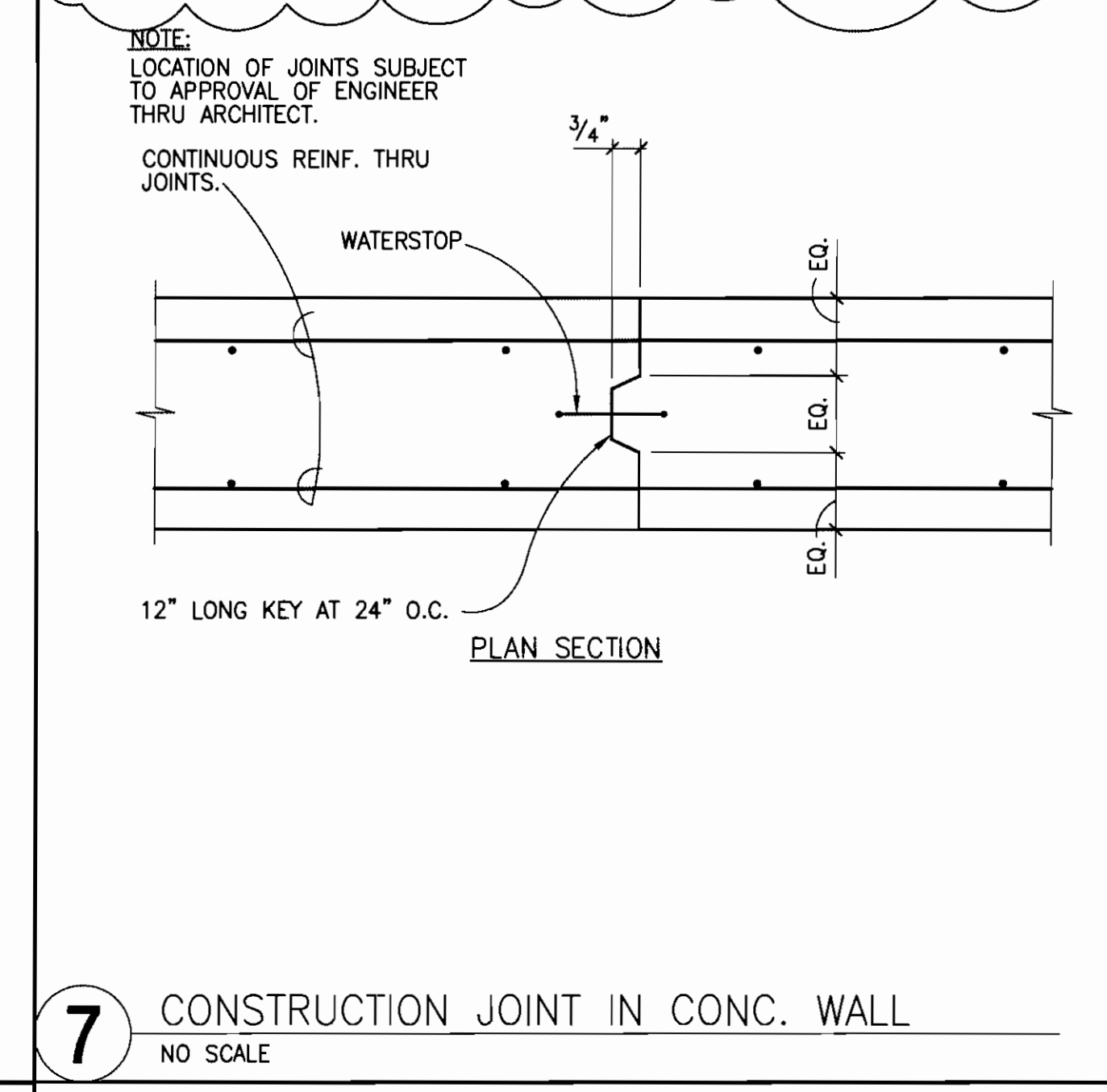
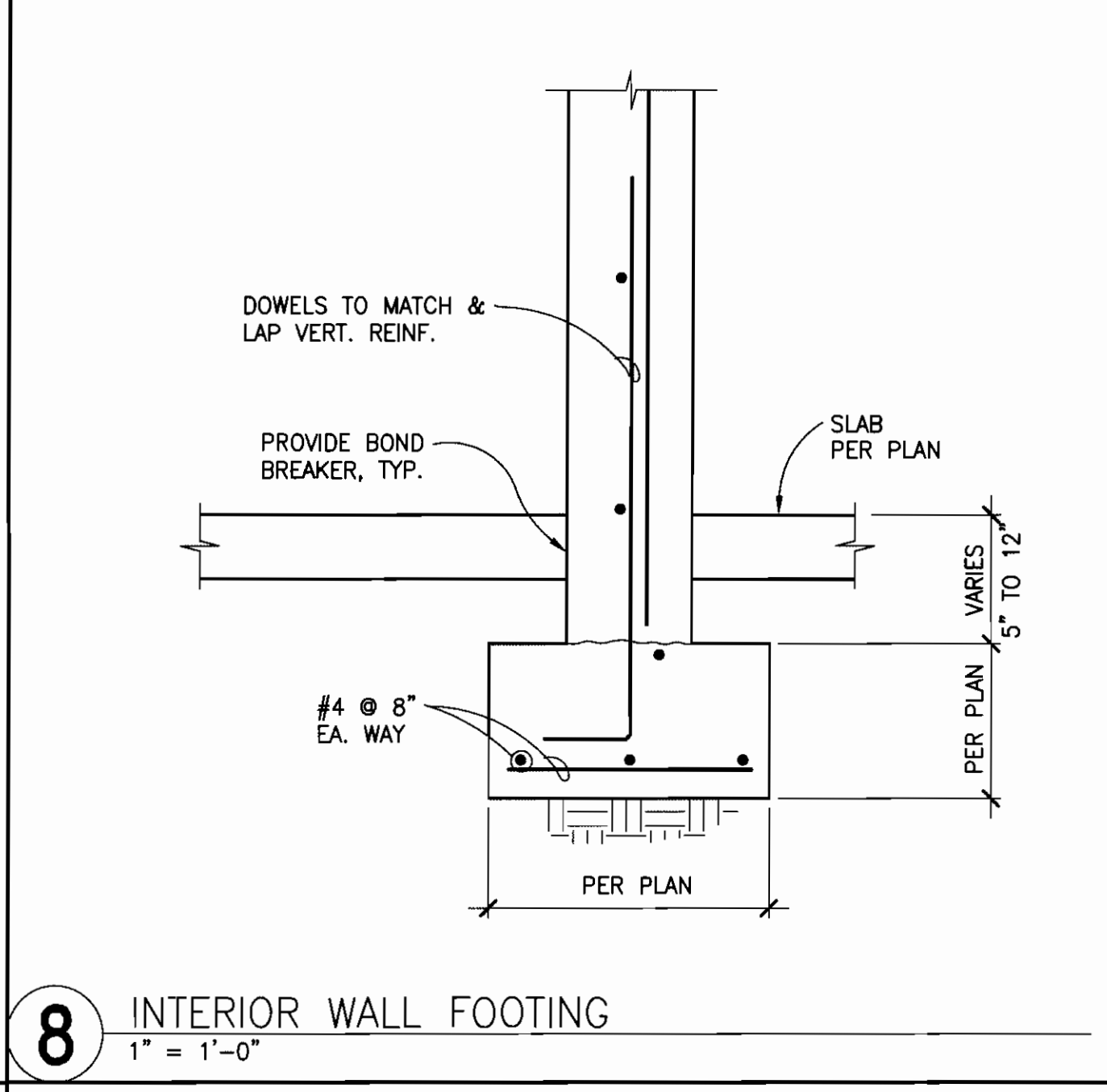
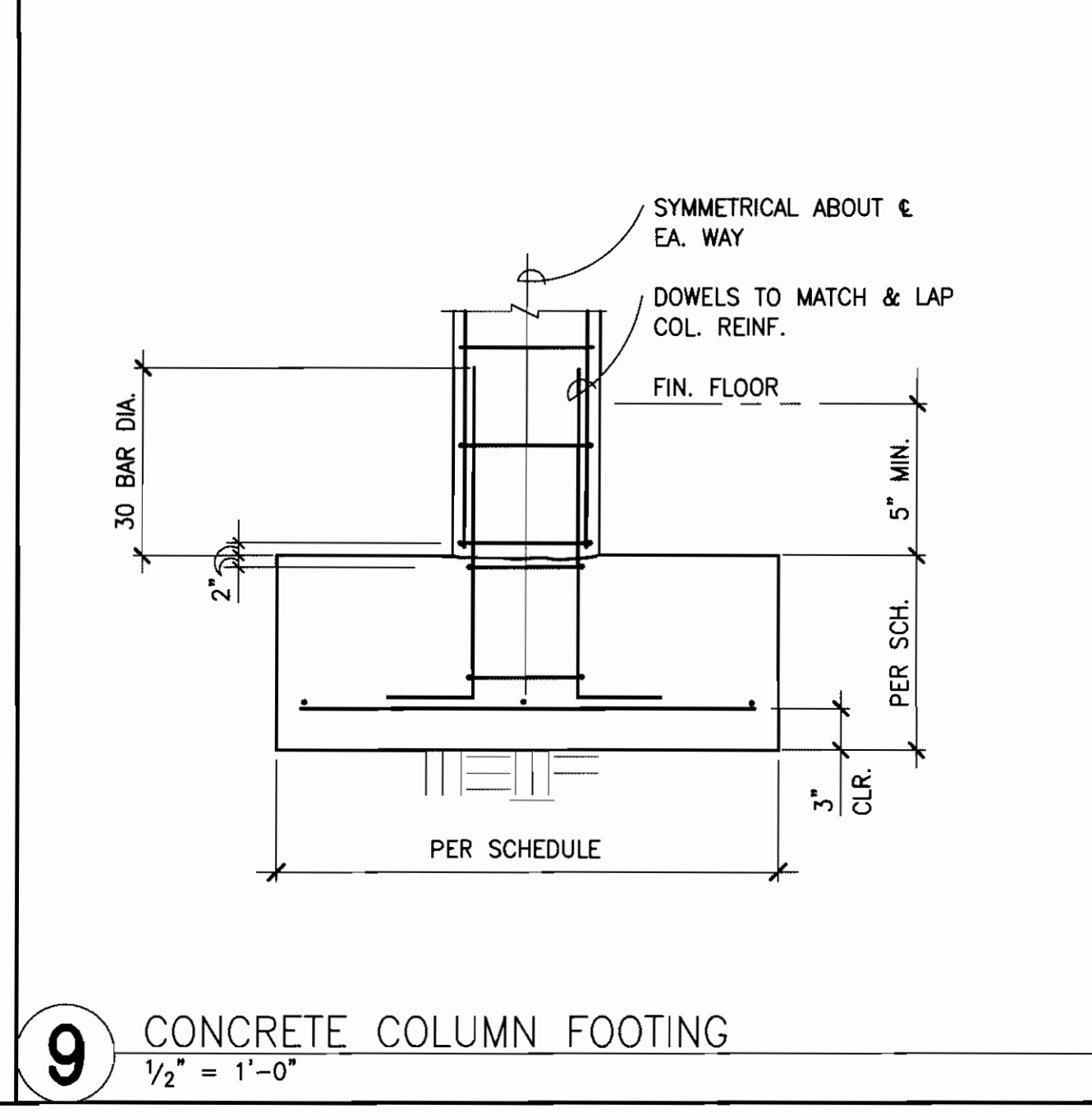
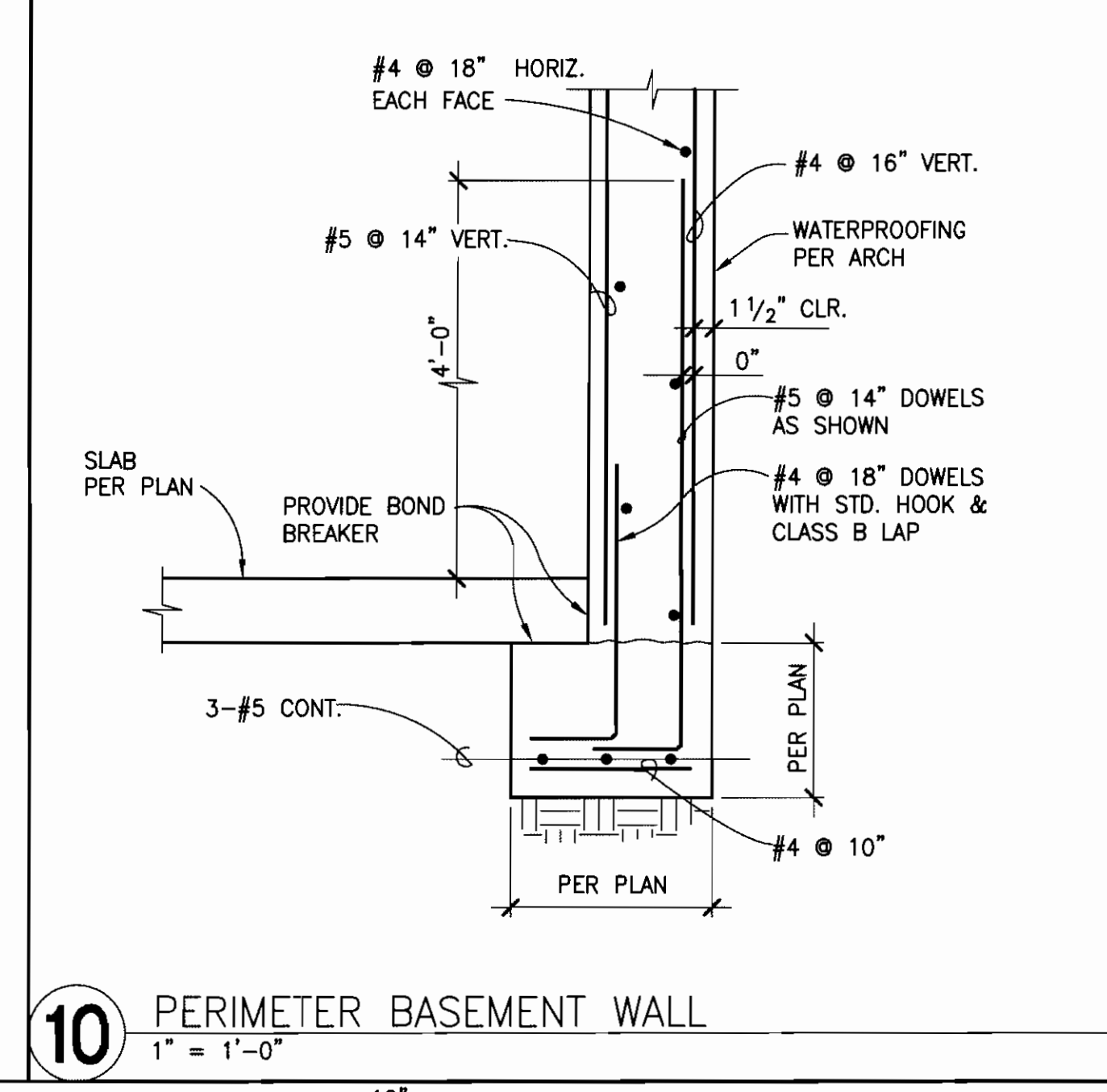
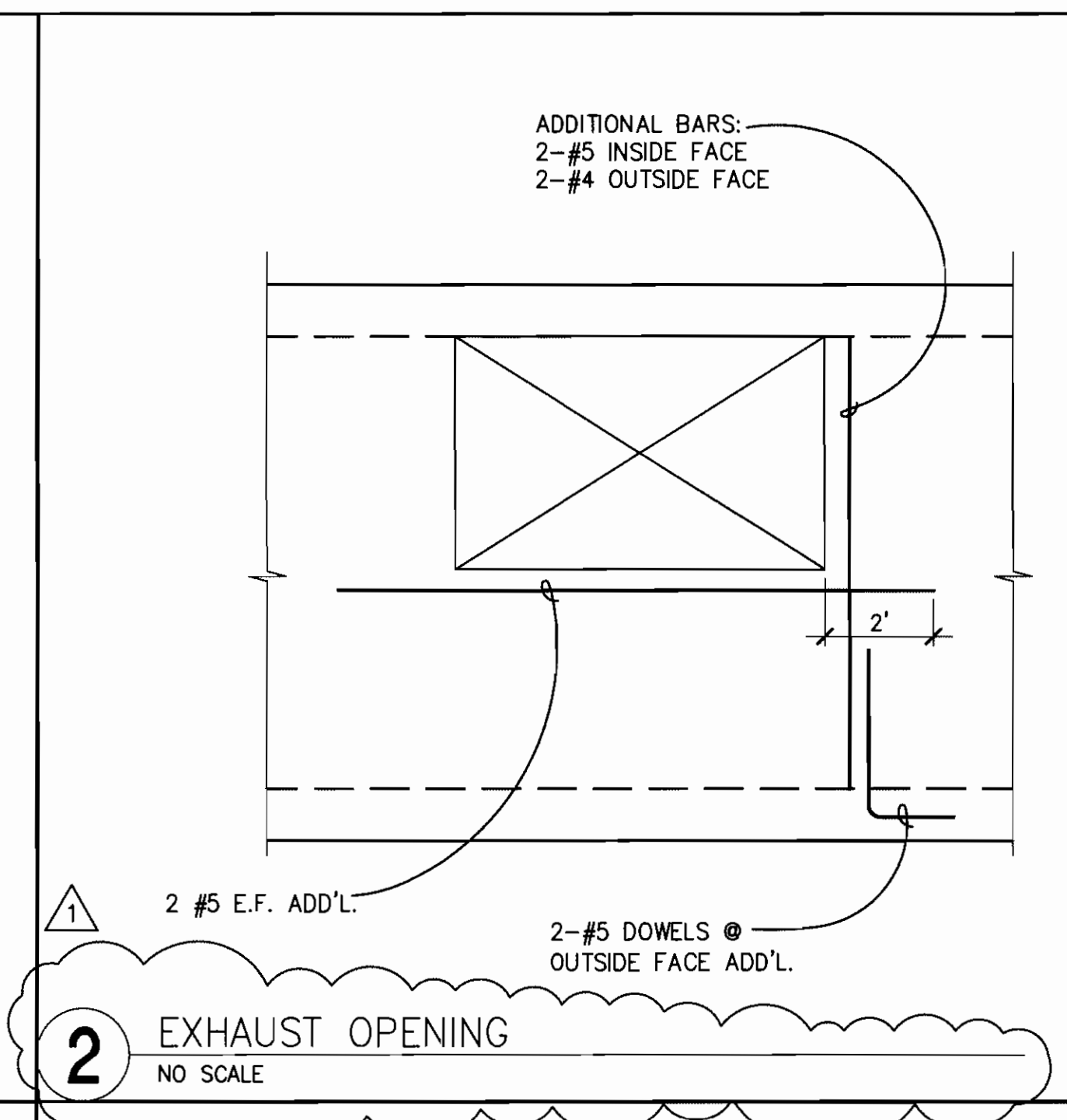
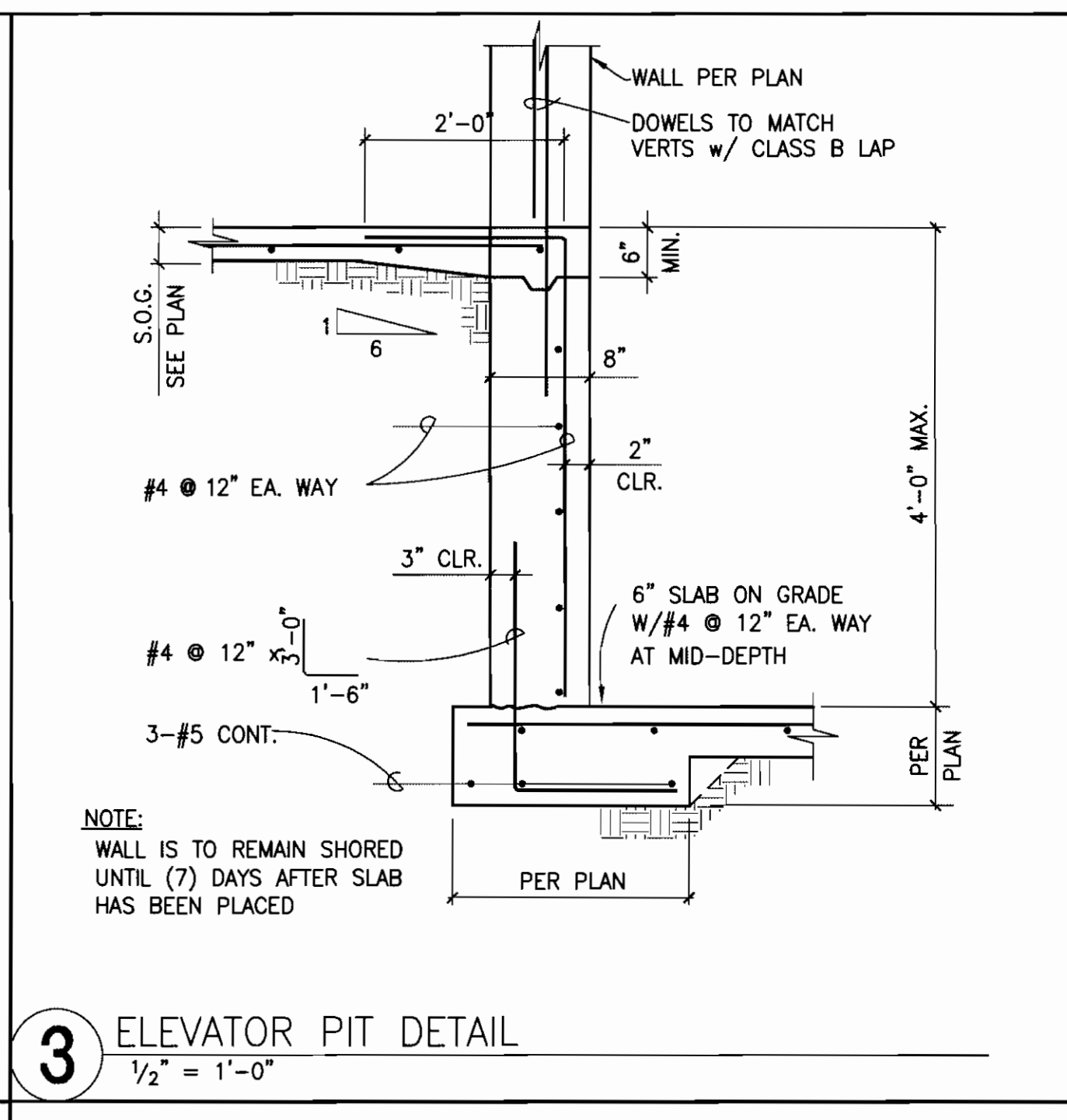
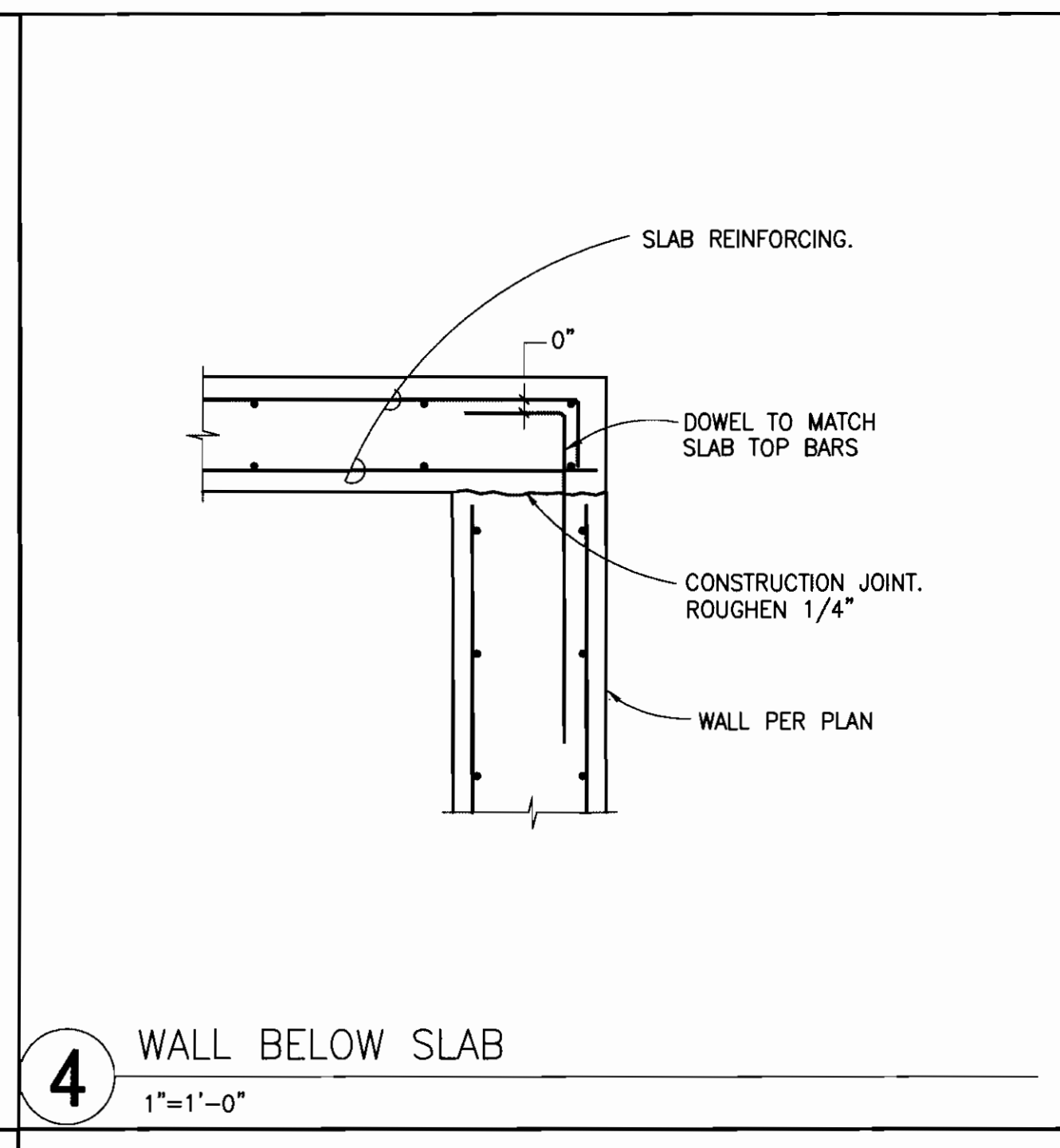
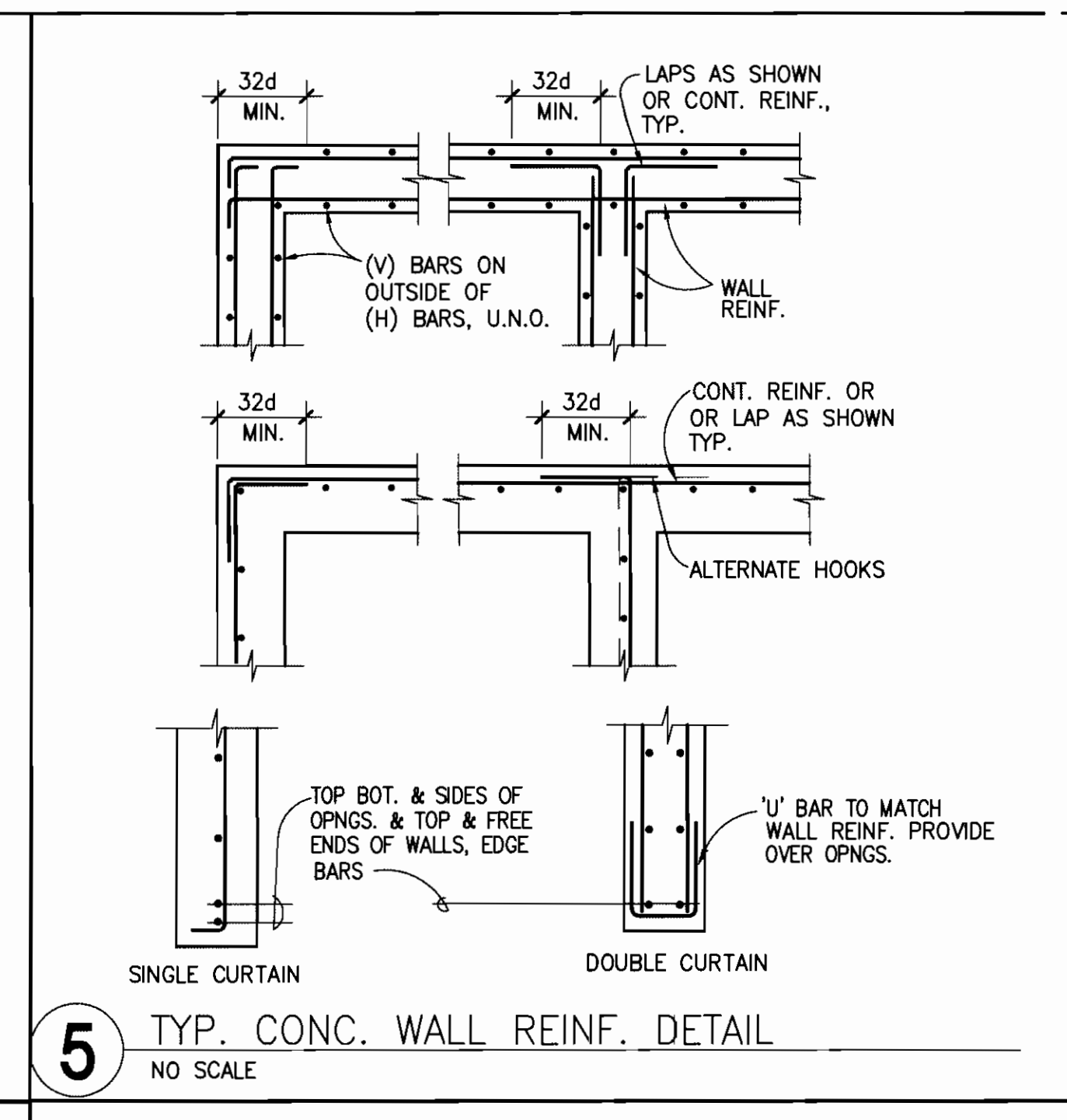
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CONCRETE DETAILS

CITY OF AURORA
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06-108667

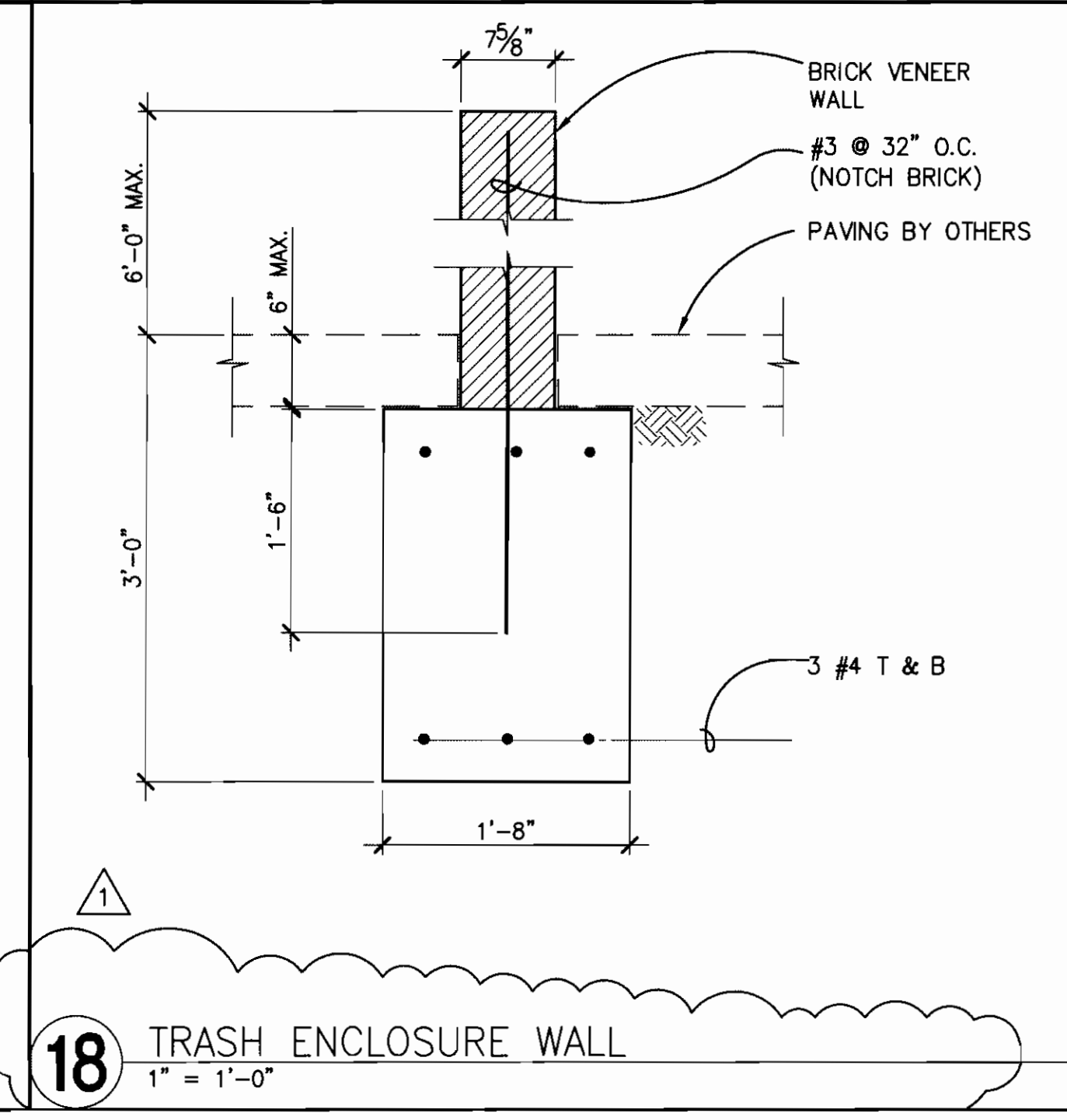
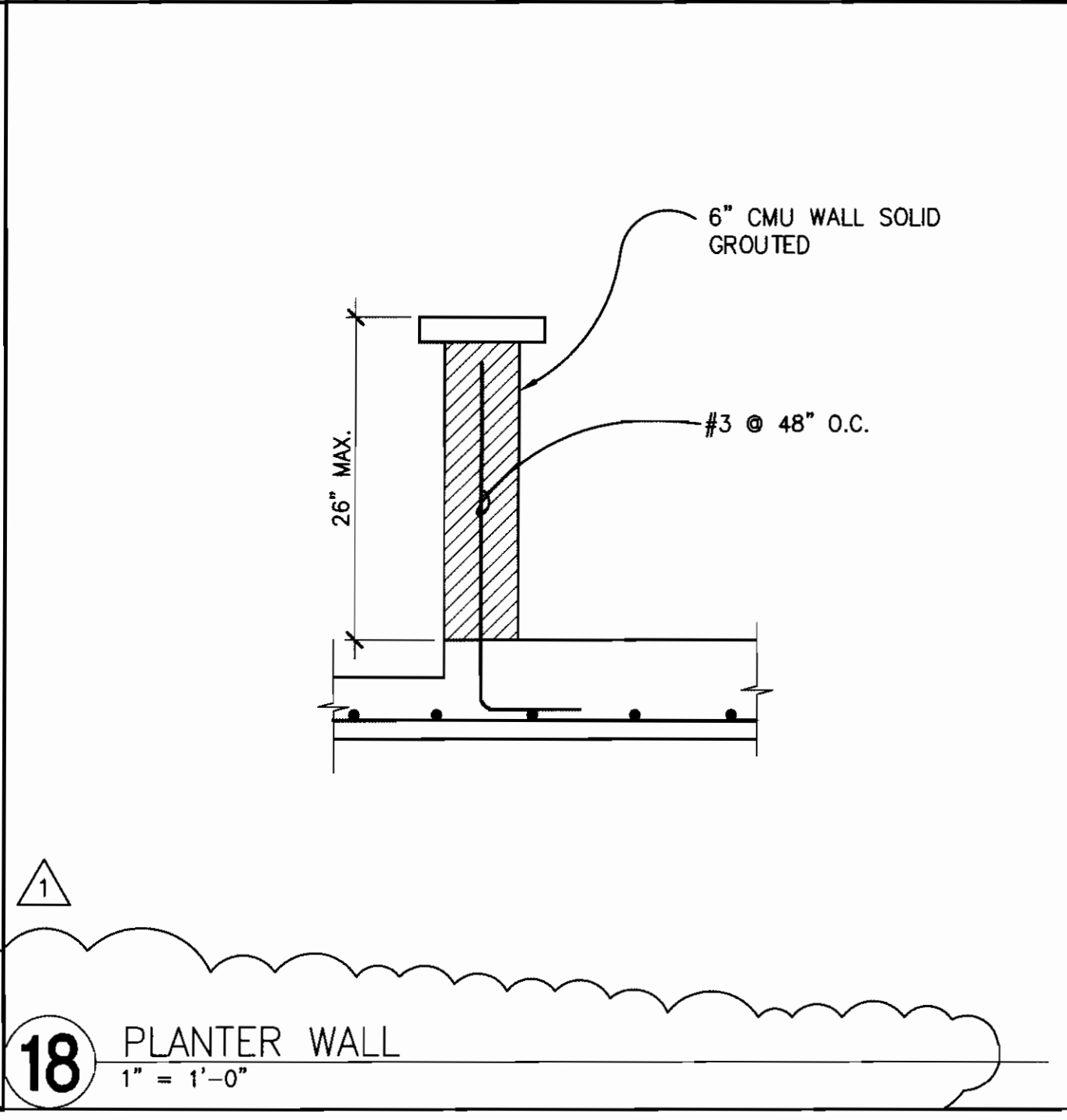
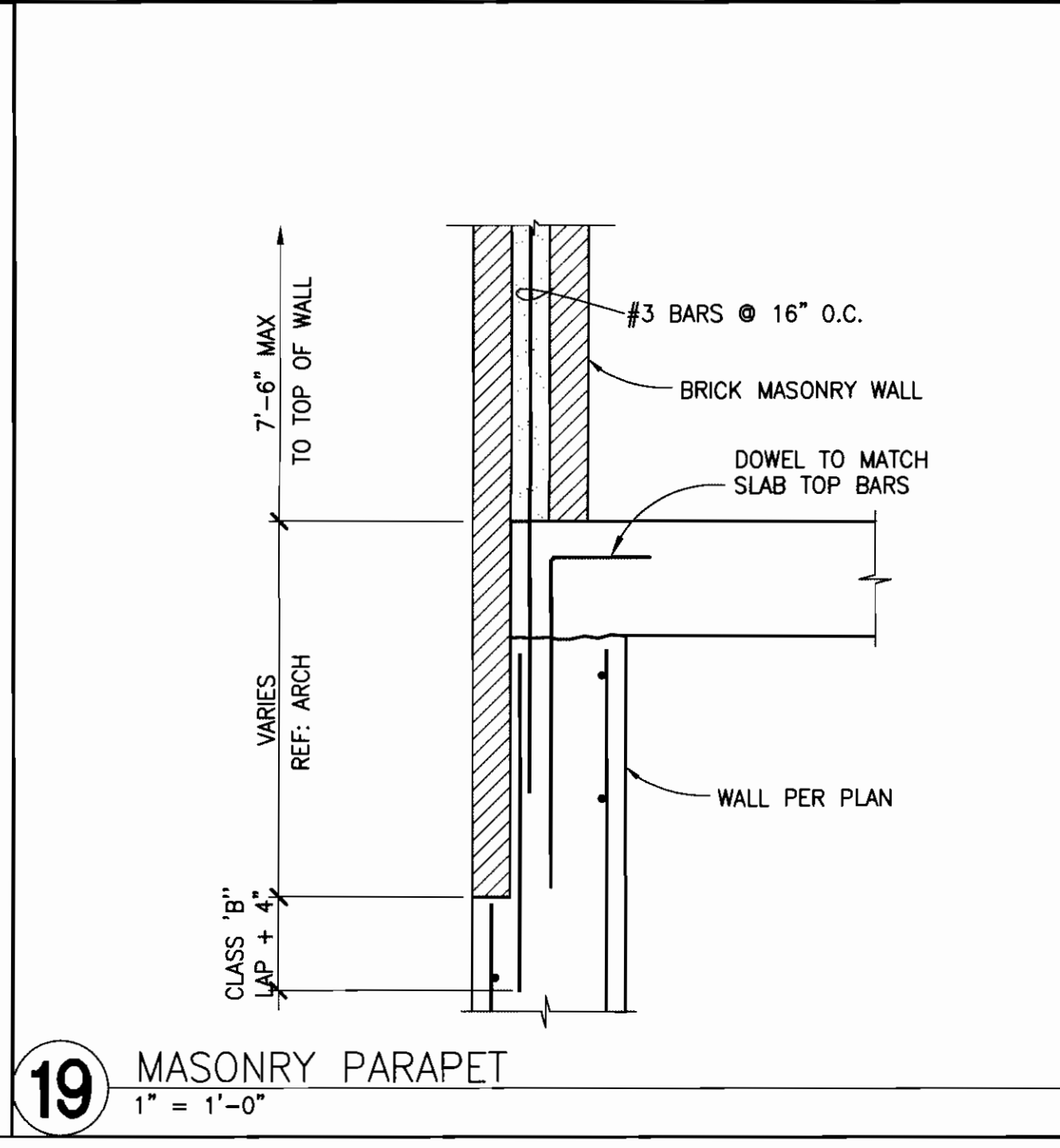
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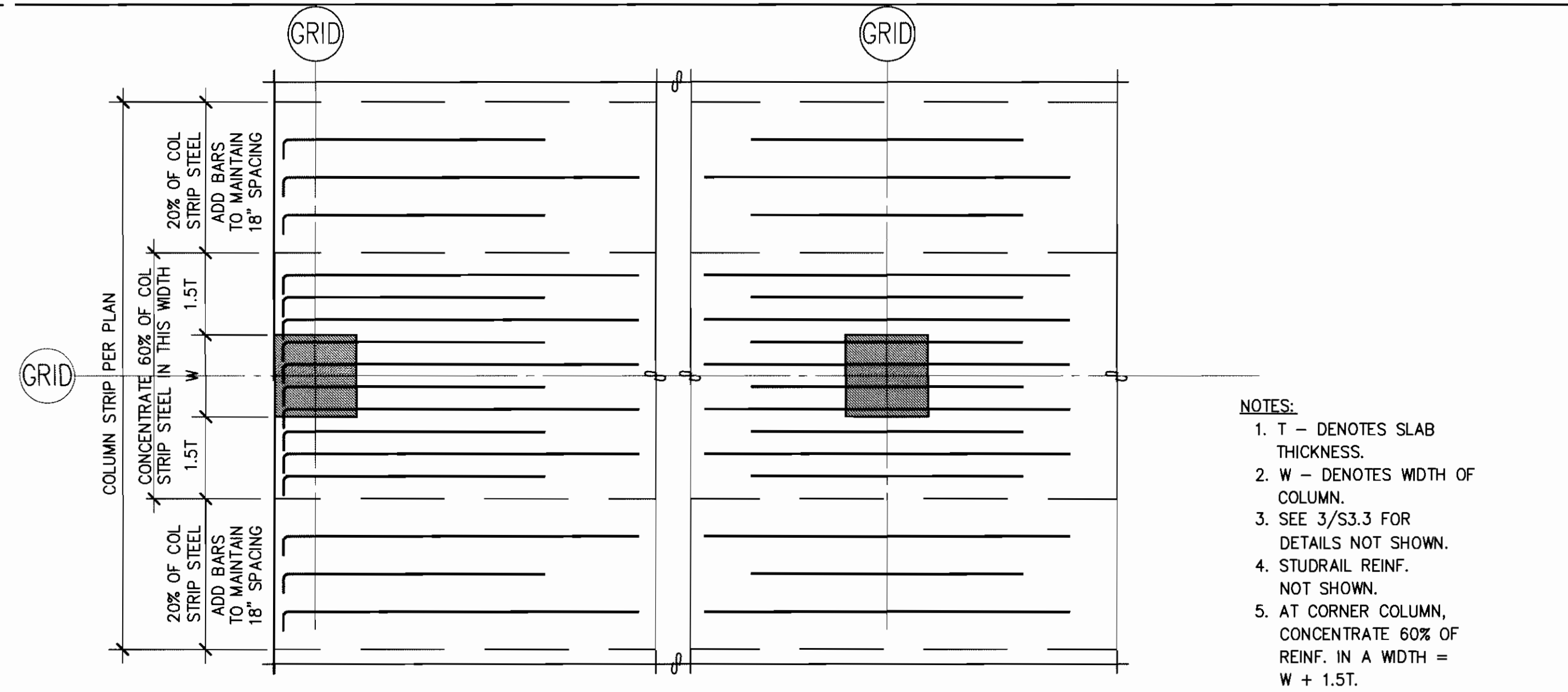
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PROJECT NO.: 3-04-18
DATE: March 9, 2006
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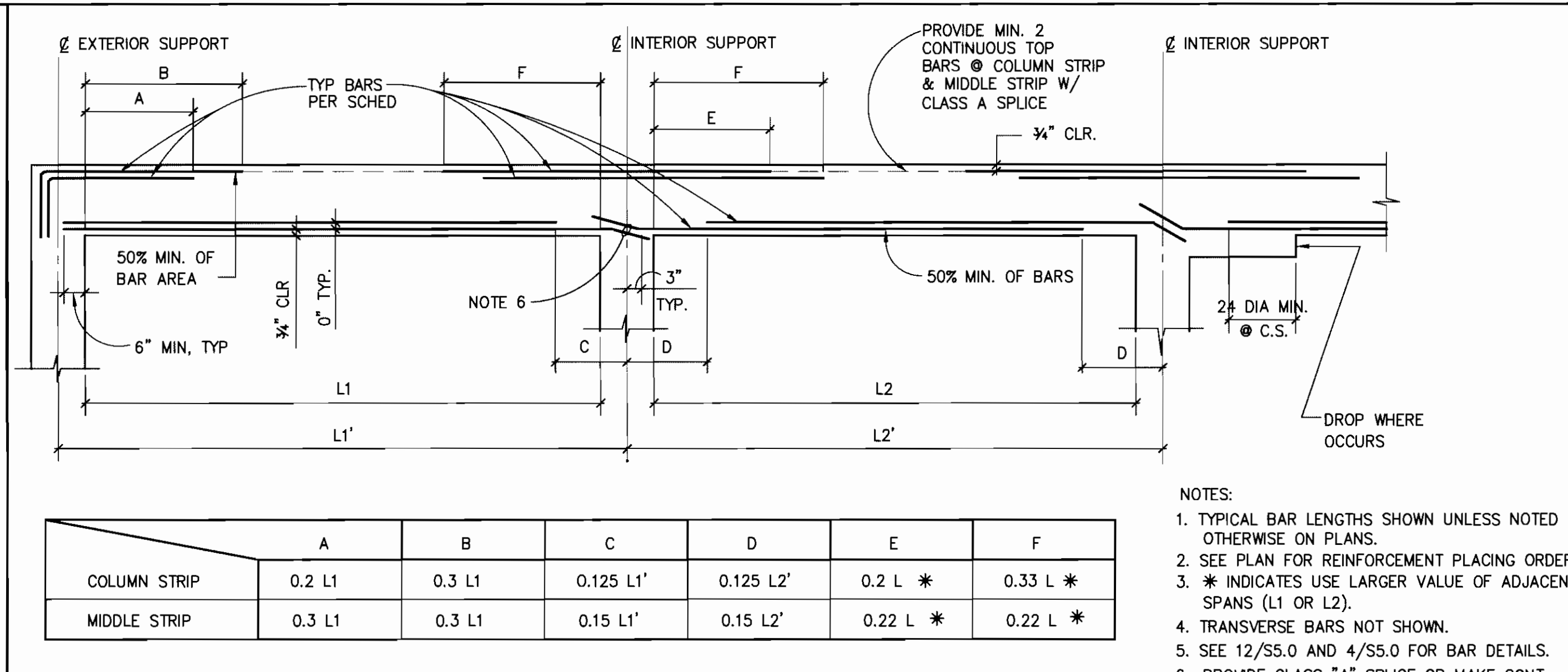


SCHEDULE					
"H" UP TO	BASE	"B"	"O" BARS	"P" BARS	FOOTING DEPTH
6'-0"	2'-9"	9"	#4 @ 18"	—	12"
8'-0"	3'-6"	1'-6"	#4 @ 18"	#4 @ 10"	12"
12'-0"	5'-3"	2'-0"	#5 @ 10"	#4 @ 10"	14"





1 TOP BAR LAYOUT @ COLUMN STRIP
1/2" = 1'-0"



3 TWO WAY CONCRETE SLAB DETAIL

FLAT SLAB REINFORCING NOTES

- FLAT SLABS ARE DIVIDED INTO COLUMN STRIPS (C.S.) AND MIDDLE STRIPS (M.S.). THESE STRIPS MAY BE SUBDIVIDED INTO TWO PARTS AT SOME LOCATIONS. WHEN SUBDIVIDED, THE REINFORCING IN EACH PART IS LISTED SEPARATELY.
- REINFORCING IN A STRIP OR PART OF A STRIP IS LISTED ON FRAMING PLANS AS FOLLOWS:

TOP BARS

THE NUMBER PRECEDING THE LETTER INDICATES THE NUMBER OF BARS IN THE STRIP OR PART OF STRIP.

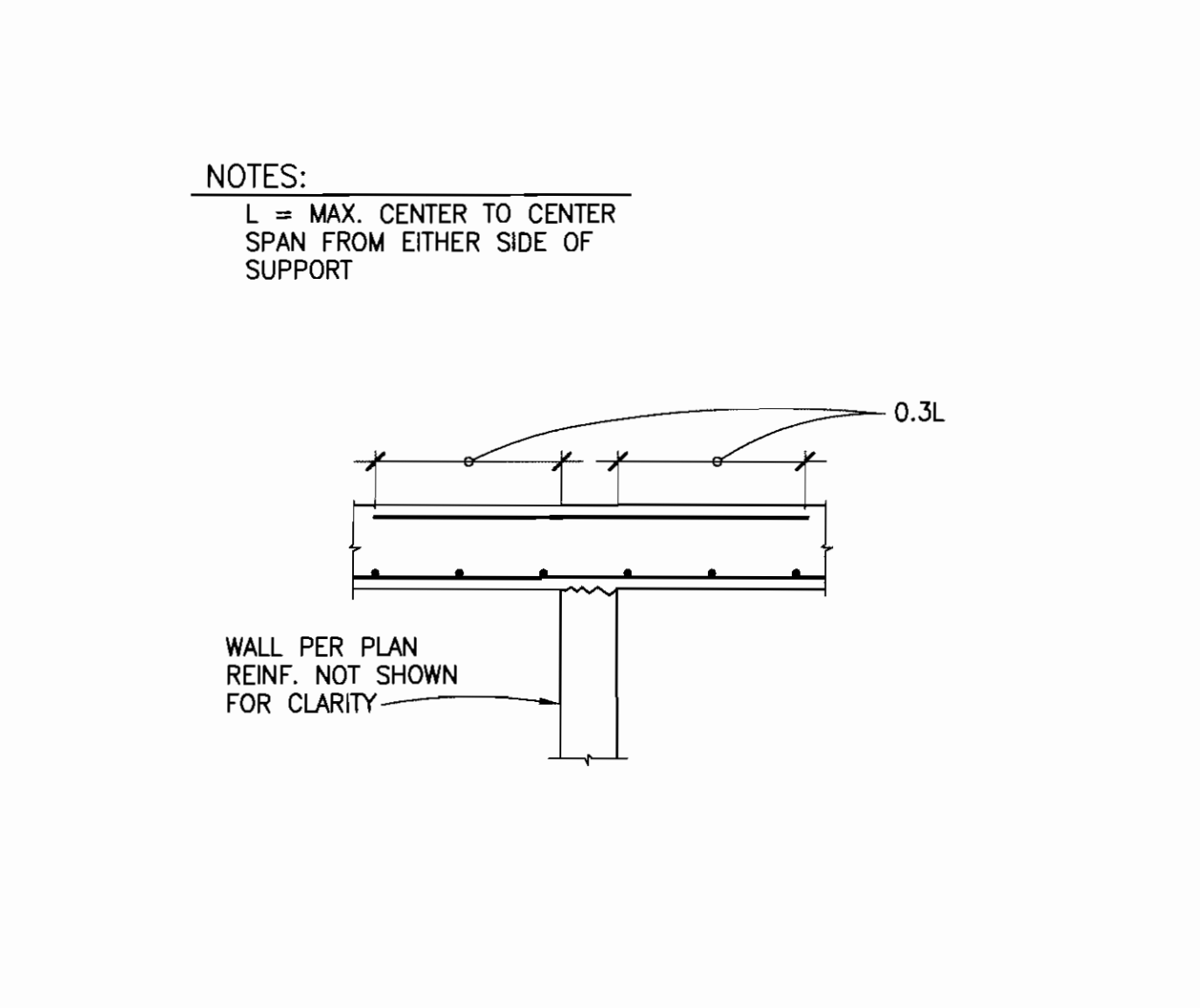
THE NUMBER FOLLOWING THE LETTER INDICATES THE SIZE OF BARS LARGER THAN #5. USE #5 BARS WHEN THE NUMBER IS OMITTED FROM CALLOUT.

BOTTOM BARS

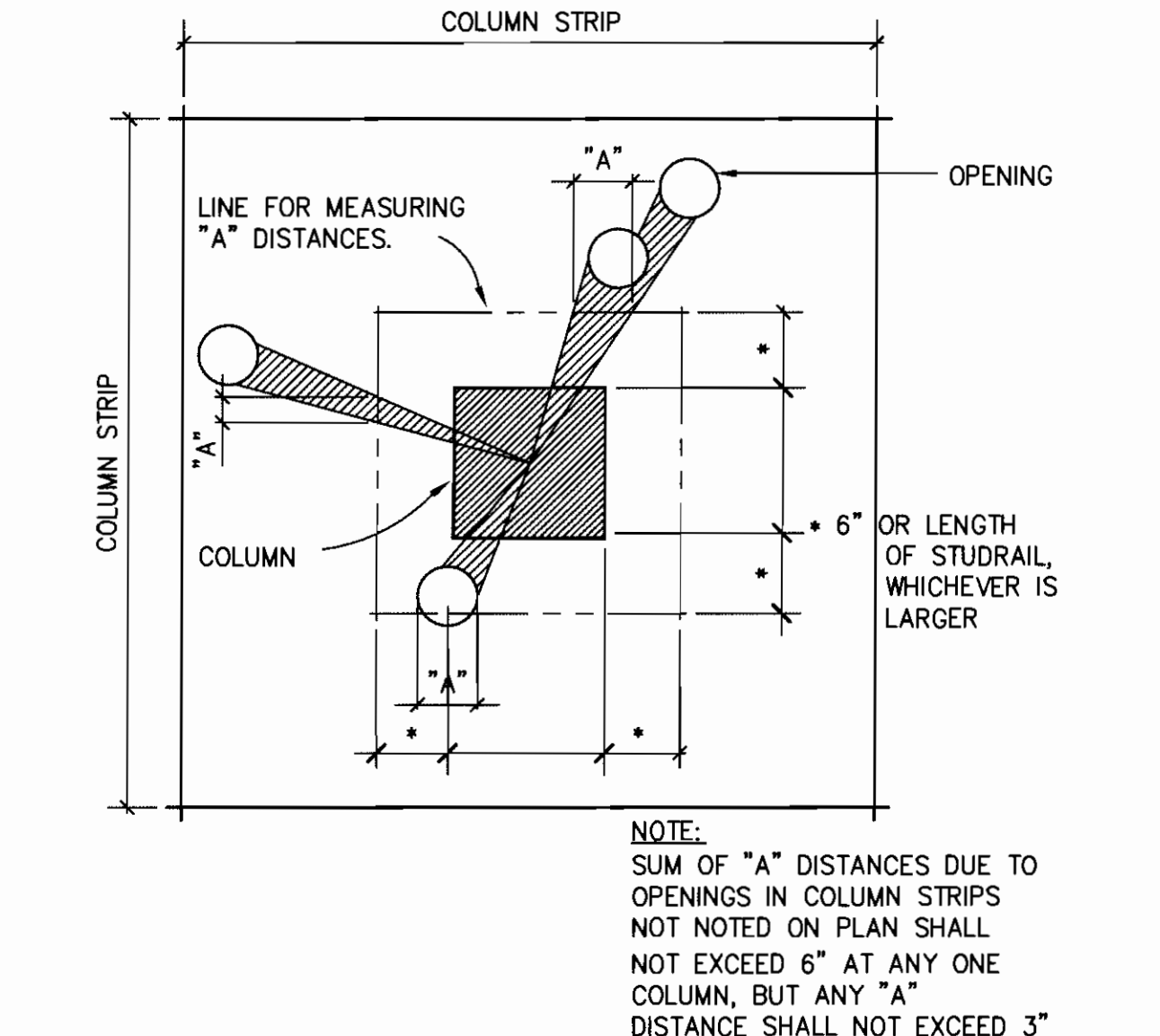
A + SIGN INDICATES THAT THE CALLOUT REFERS ONLY TO THE PART OF THE STRIP IN WHICH IT IS WRITTEN. (E.G. 7 T 6 +)

EAST-WEST BARS ARE LISTED HORIZONTALLY THUS: 12 T 6
NORTH-SOUTH BARS ARE LISTED VERTICALLY THUS: 8 T 6

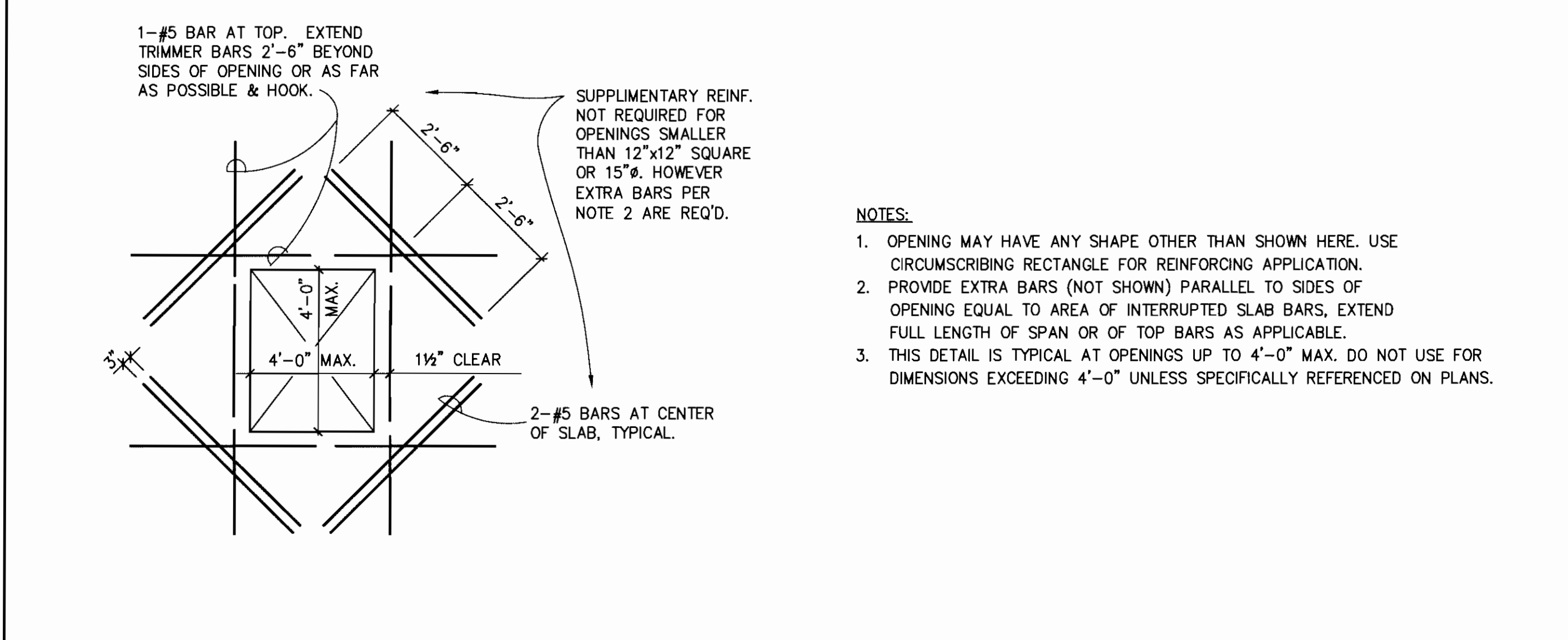
- EXCEPT FOR BARS SPECIFIED TO BE PLACED AT COLUMNS, SPACE BOTTOM (B) BARS EVENLY ACROSS THE WIDTH OR PART OF STRIP THEY REFER TO.
- SPACE TOP (T) BARS AT MIDDLE STRIPS EVENLY ACROSS THE WIDTH OF STRIP OR PART THEY REFER TO. SPACE TOP BARS AT COLUMN STRIPS PER DETAIL 1/S3.3.
- SEE DETAIL 3/S3.3 FOR TYPICAL BAR CUTOFFS. WHERE TOP AND BOTTOM BARS ARE SHOWN AS SHORT AND LONG A MINIMUM OF 50% OF TOP AND 50% OF BOTTOM BARS ARE LONG, (E.G. FROM A GROUP OF 11T6, SIX BARS ARE LONGER THAN THE OTHER FIVE) ALTERNATE THE LONG AND THE SHORT BARS IN THE PLACING PATTERN.
- WHERE BARS HOOK AT EDGE OF SLAB OR OPENING, TURN RIGHT ANGLE HOOK VERTICALLY IF POSSIBLE. IF SLAB IS TOO THIN, TURN HOOK SIDEWAYS.
- TOP BAR SPACING ALONG COLUMN LINES AND BOTTOM BAR SPACING AT MID SPANS, SHALL NOT EXCEED 18" O.C.
- PROVIDE EXTRA #5 BARS EQUAL IN LENGTH TO THE SHORTEST SCHEDULED BAR IF NECESSARY TO MAINTAIN THIS MAXIMUM SPACING.
- PROVIDE MINIMUM OF 2 - #5 TOP AND BOTTOM CONTINUOUS BARS AT UNSUPPORTED EDGE OF SLABS WHERE NO OTHER REINFORCING IS CALLED OUT.
- WHERE CONTINUOUS BARS ARE CALLED OUT, LOCATE ANY SPLICES IN TOP BARS AT MID SPAN AND IN BOTTOM BARS AT SUPPORTS UNLESS NOTED OTHERWISE.
- SEE DETAIL 20/S3.3 FOR CONSTRUCTION JOINTS IN SLABS.
- THE TOP BARS OF THE TOP MAT OF REINF. SHALL RUN EAST-WEST. THE BOTTOM BARS OF THE TOP MAT SHALL RUN NORTH-SOUTH. THE BOTTOM BARS OF THE BOTTOM MAT OF REINF. SHALL RUN EAST-WEST. THE TOP BARS OF THE BOTTOM MAT SHALL RUN NORTH-SOUTH.
- SEE DETAIL 7/S3.3 FOR LIMITATIONS ON FLAT SLAB OPENINGS NEAR COLUMNS.
- SEE DETAIL 13/S3.3 FOR SLAB CAMBER REQUIREMENTS.
- COLUMN STRIP CENTERED ON GRID LINE U.N.O.
- SEE 12/S3.3 FOR SPECIAL SLAB CORNER REINF.



6 SLAB TOP AT WALL
NOT TO SCALE

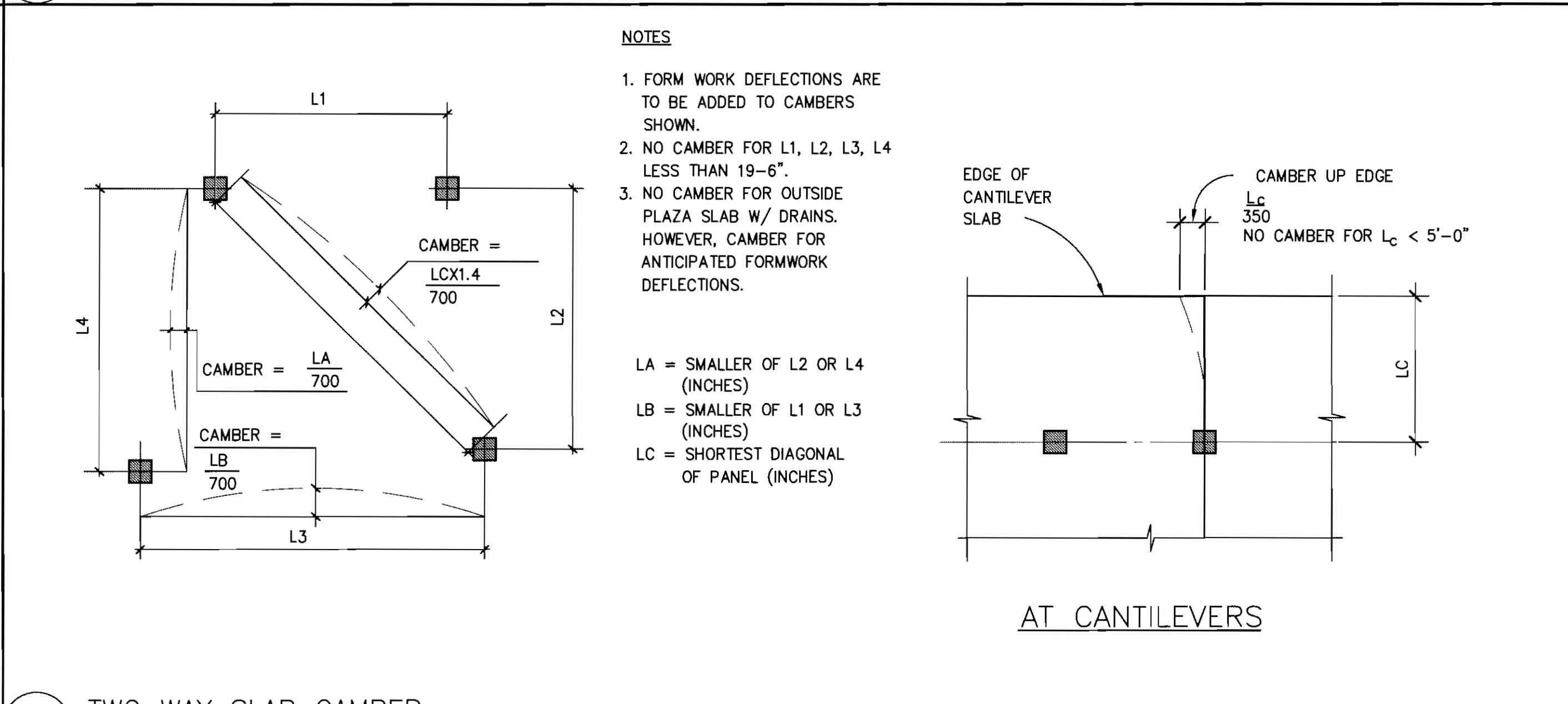
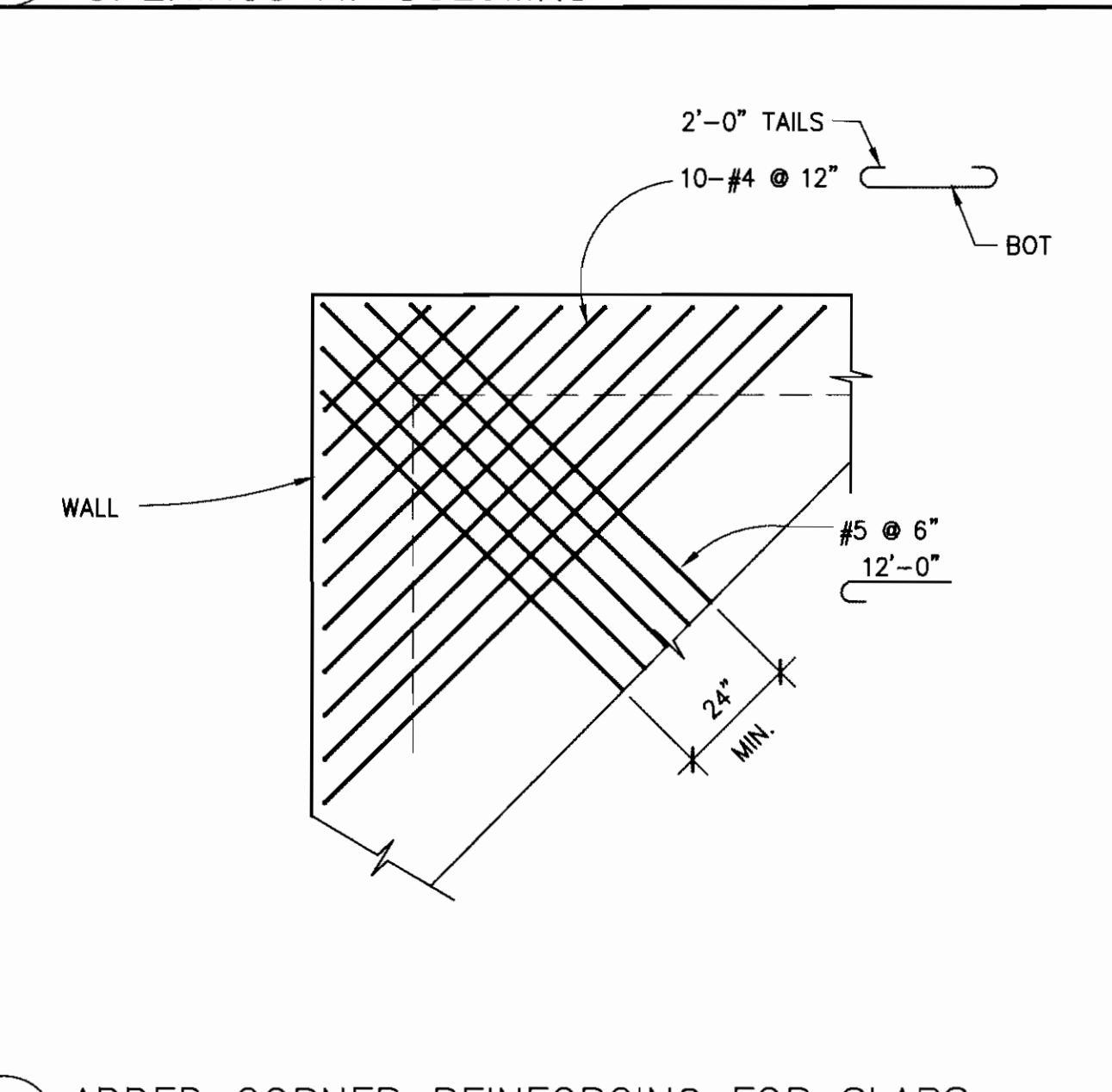
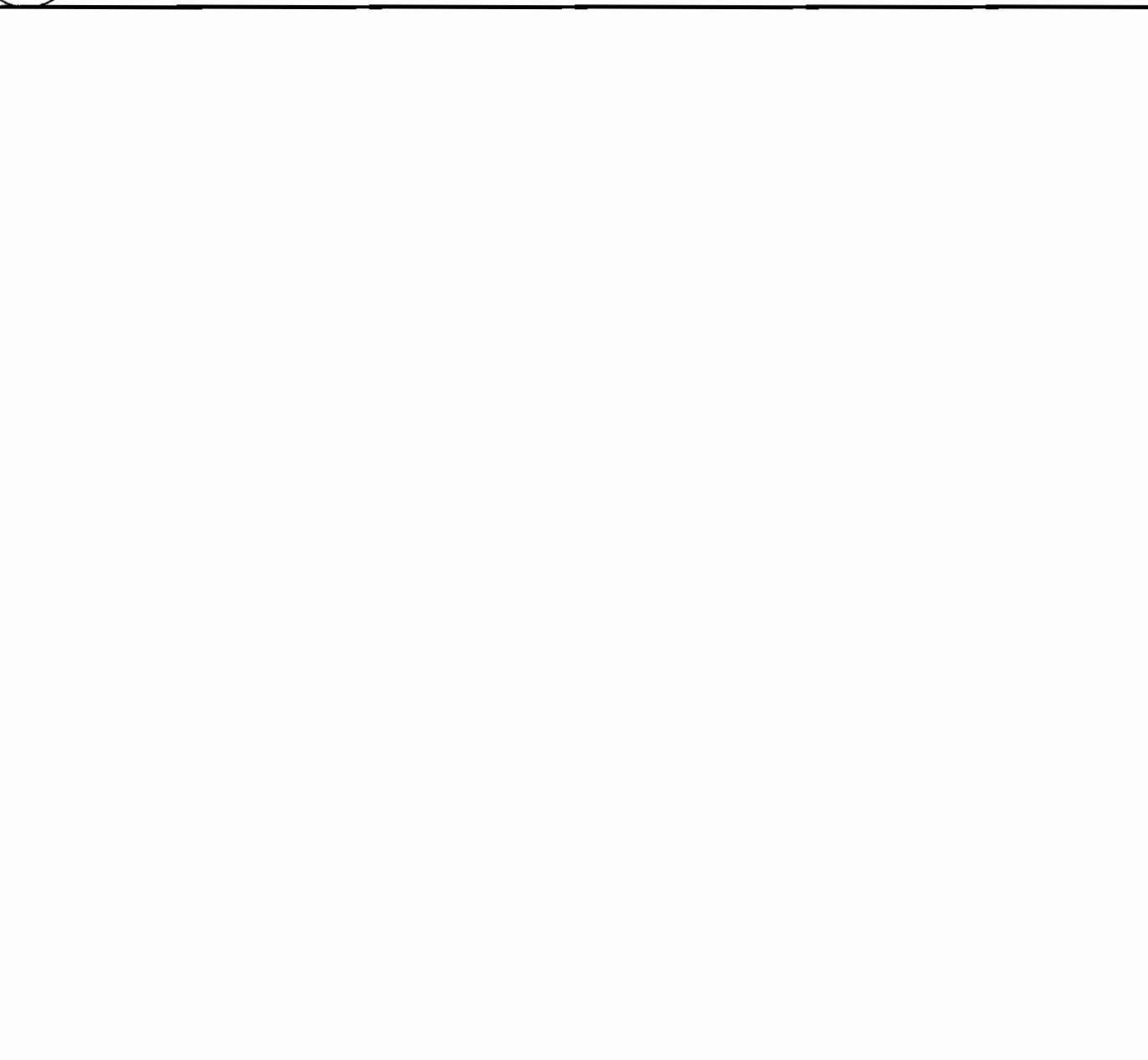


7 PLAN LIMITATIONS ON FLAT SLAB OPENINGS AT COLUMNS



8 SUPPLEMENTARY REINF. REQ'D AT SMALL OPENING IN SLAB
NO SCALE

10 FLAT SLAB NOTES



REVISIONS:

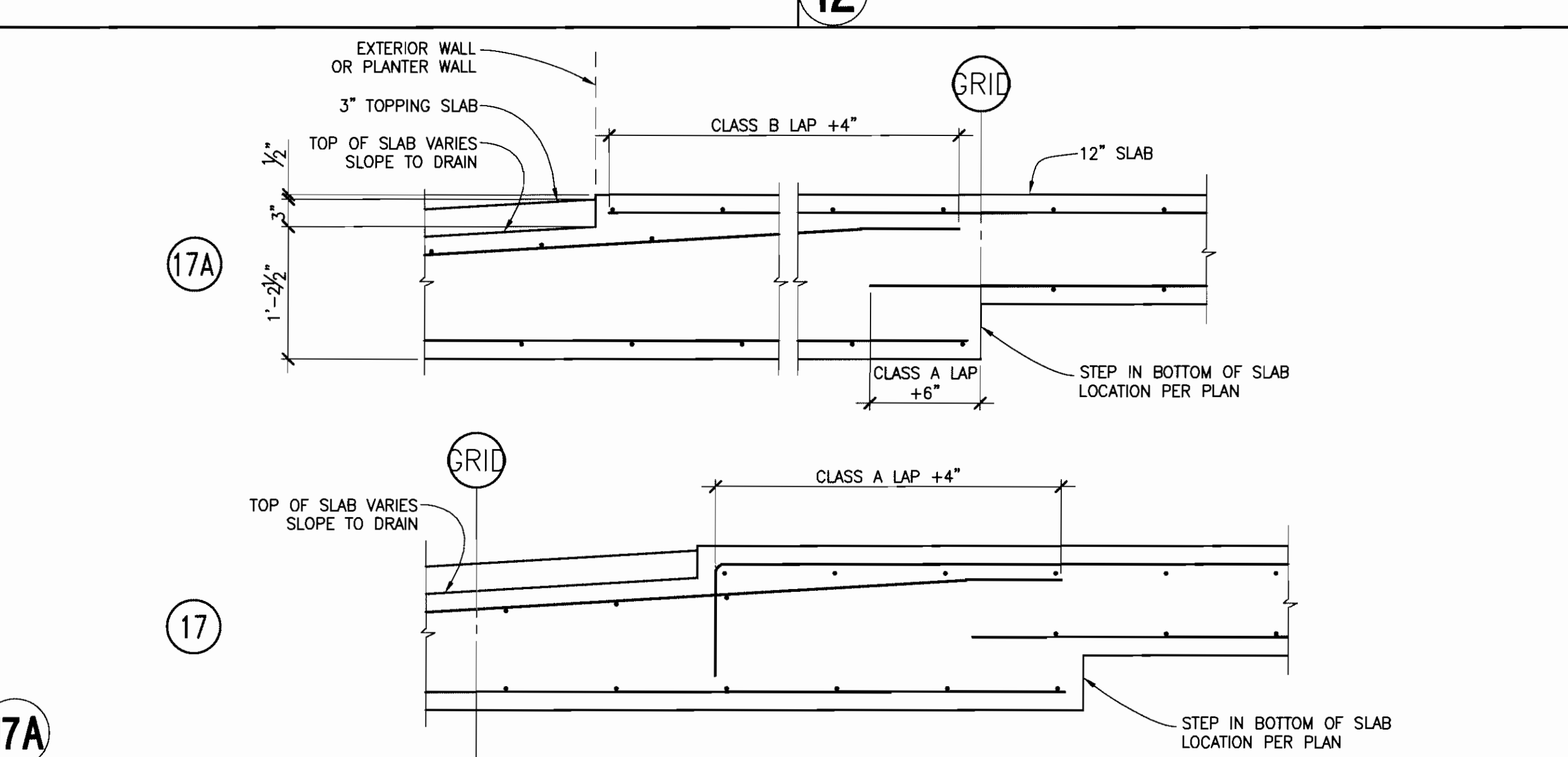
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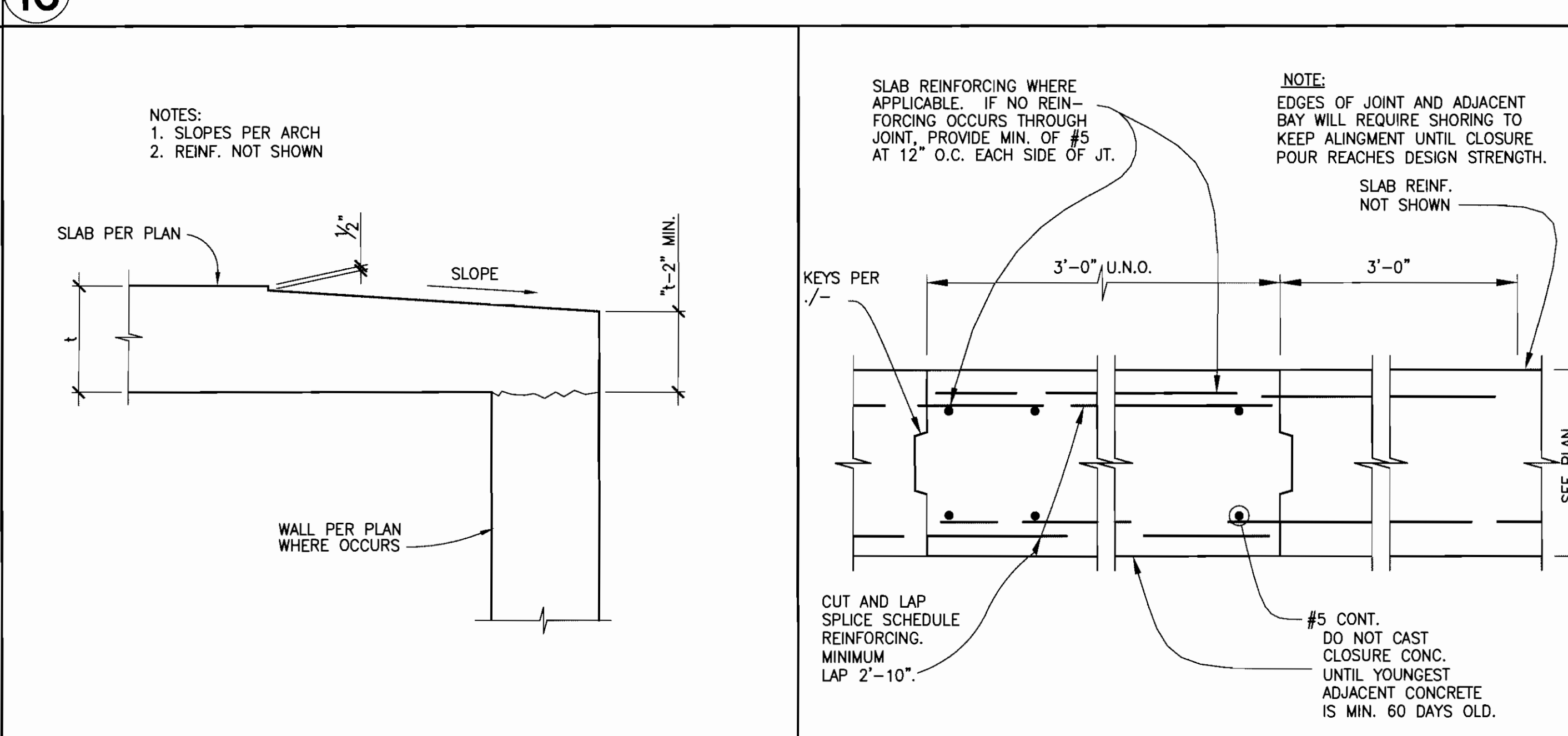
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3	50% CD PACKAGE	5/06/05
4	100% CD PACKAGE	2/13/06

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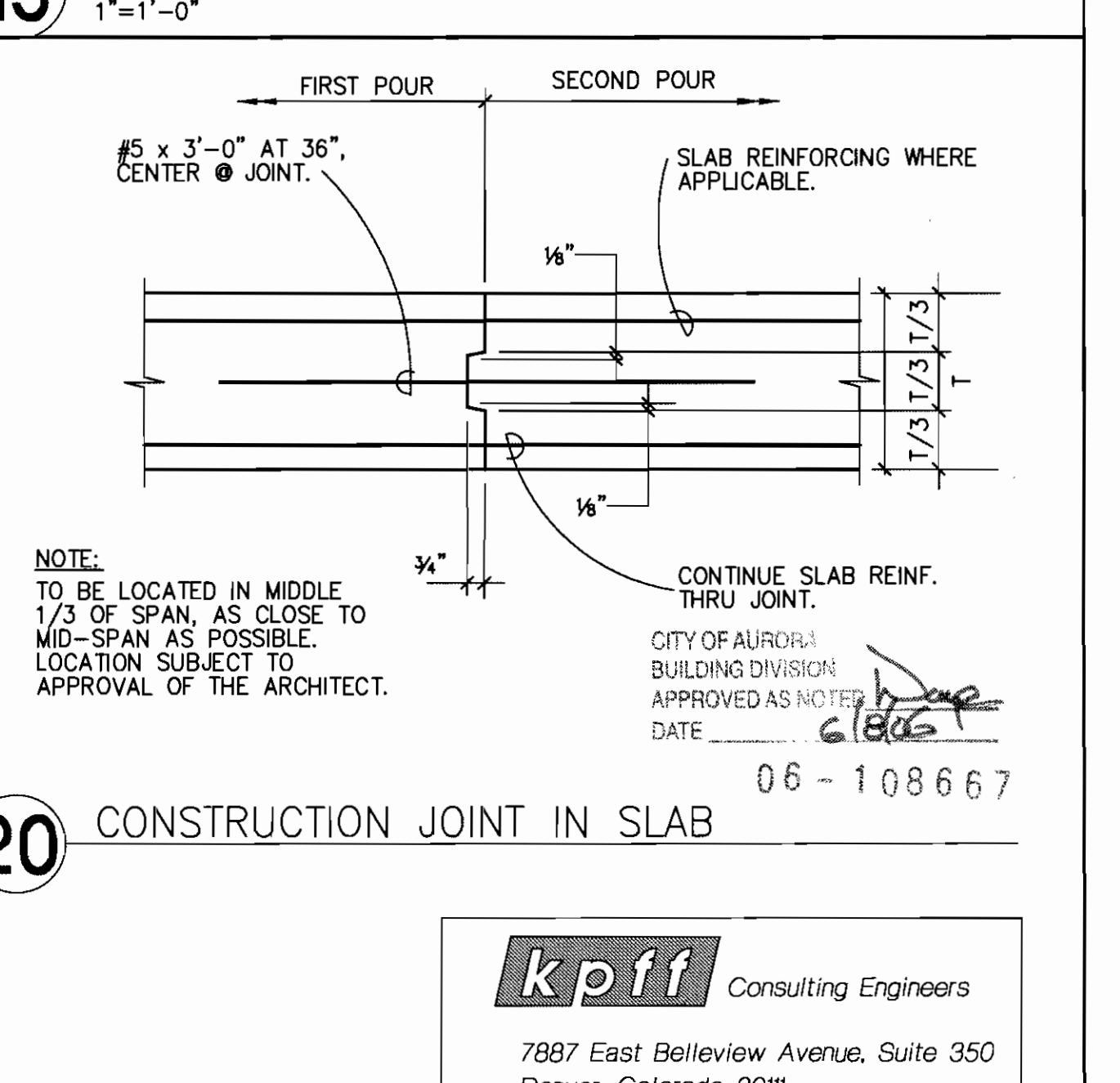
No.	Description	Date



17A SLAB STEP
1" = 1'-0"



18 STEP AND SLOPE DETAIL



19 SHRINKAGE CONTROL JOINT IN FLAT SLAB

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ARCHITECTS

AURORA

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CONCRETE DETAILS

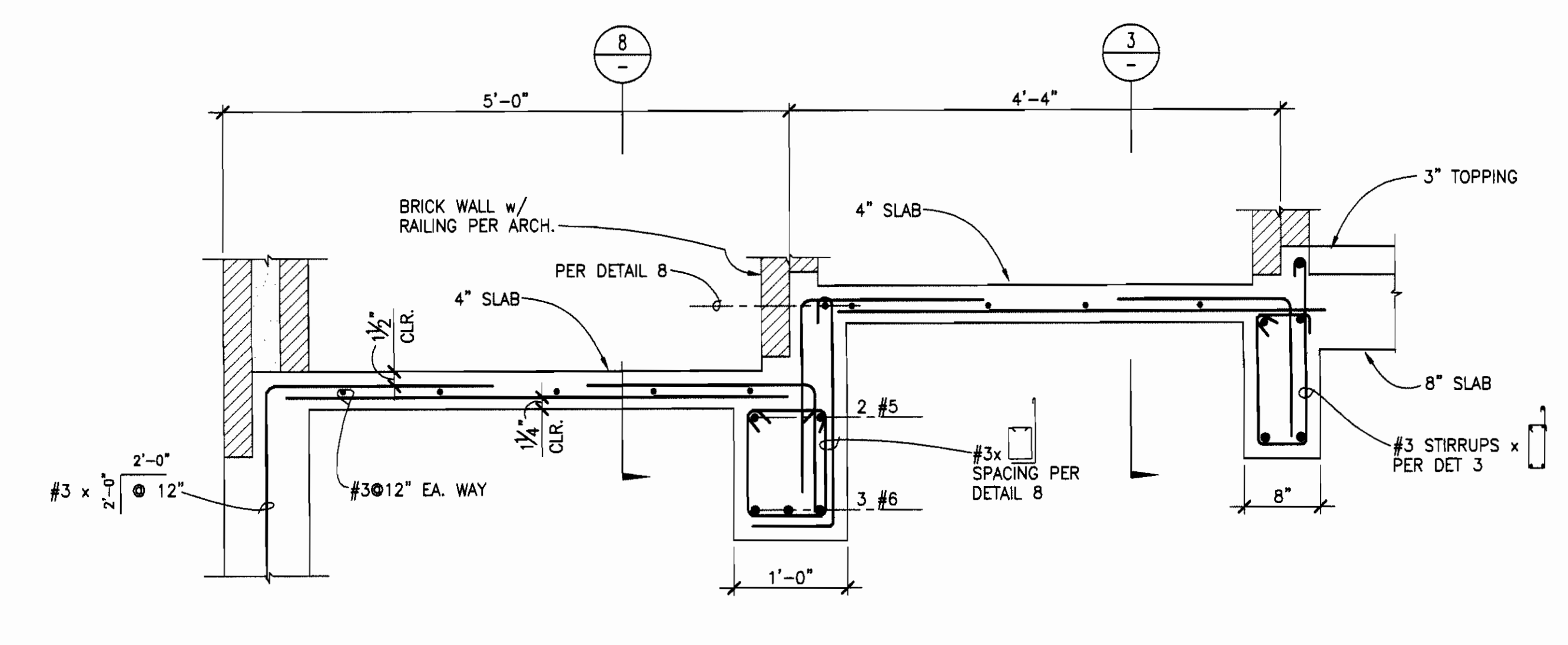
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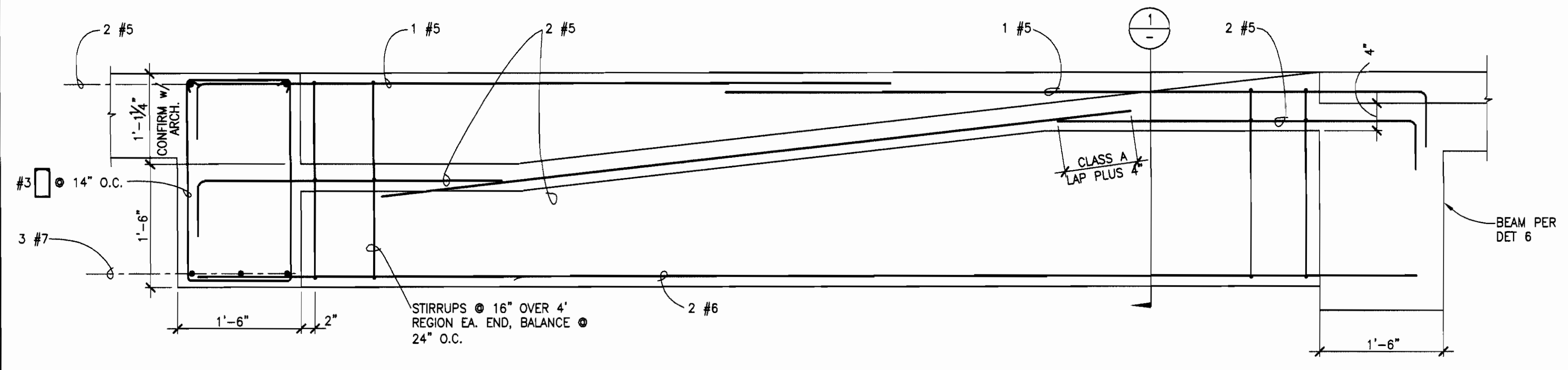
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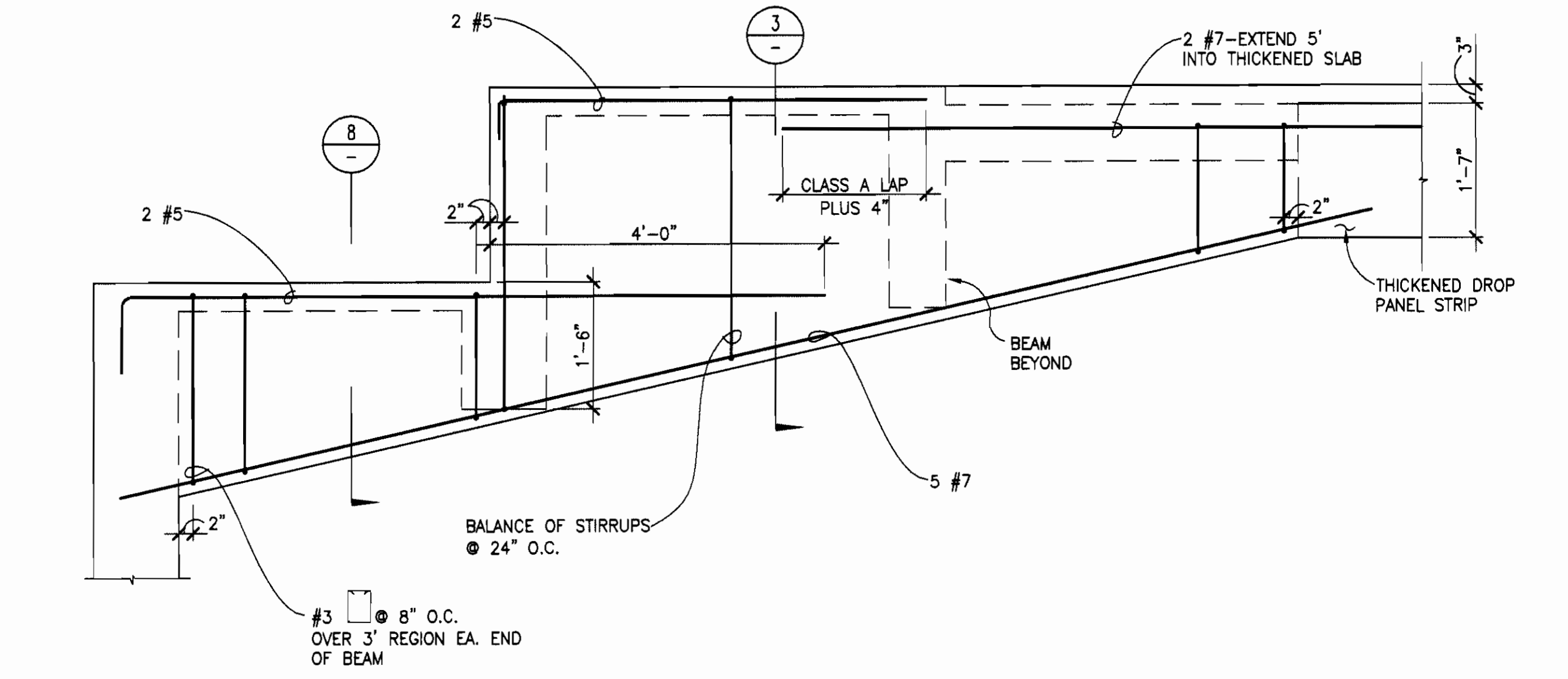
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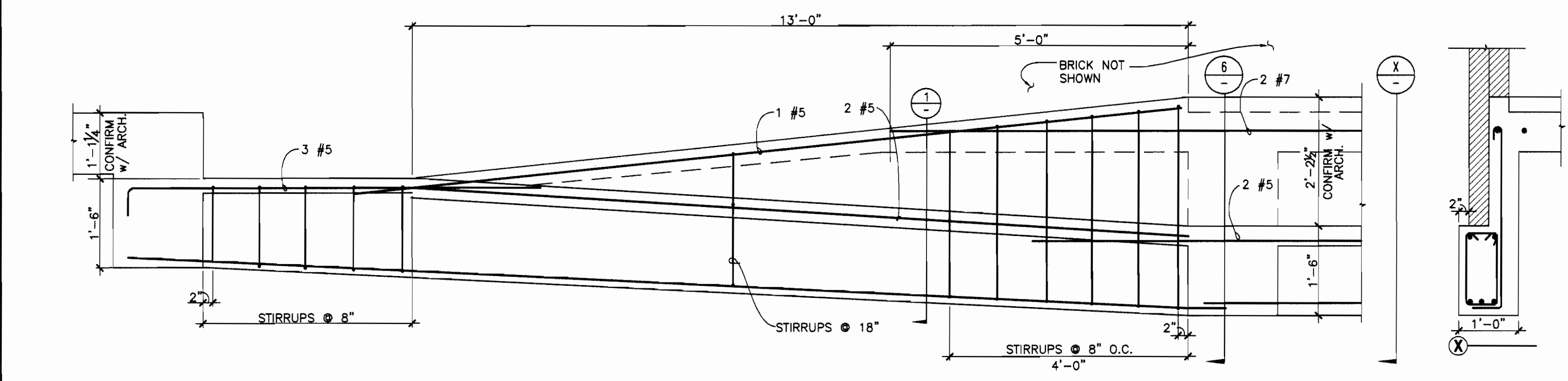
1 SECTION AT RAMP
 1"=1'-0"



3 SECTION AT RAMP
 1"=1'-0"



6 RAMP SUPPORT BEAM
 3/4"=1'-0"



8 SECTION AT RAMP
 3/4"=1'-0"

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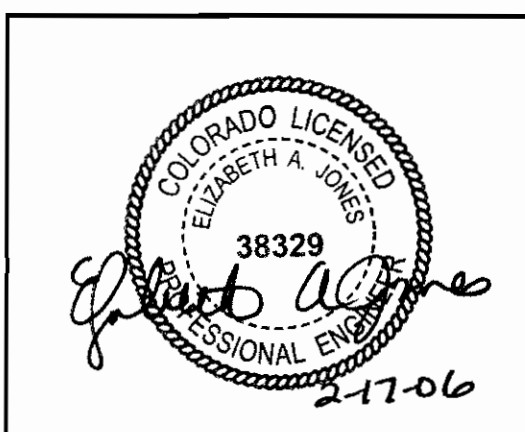
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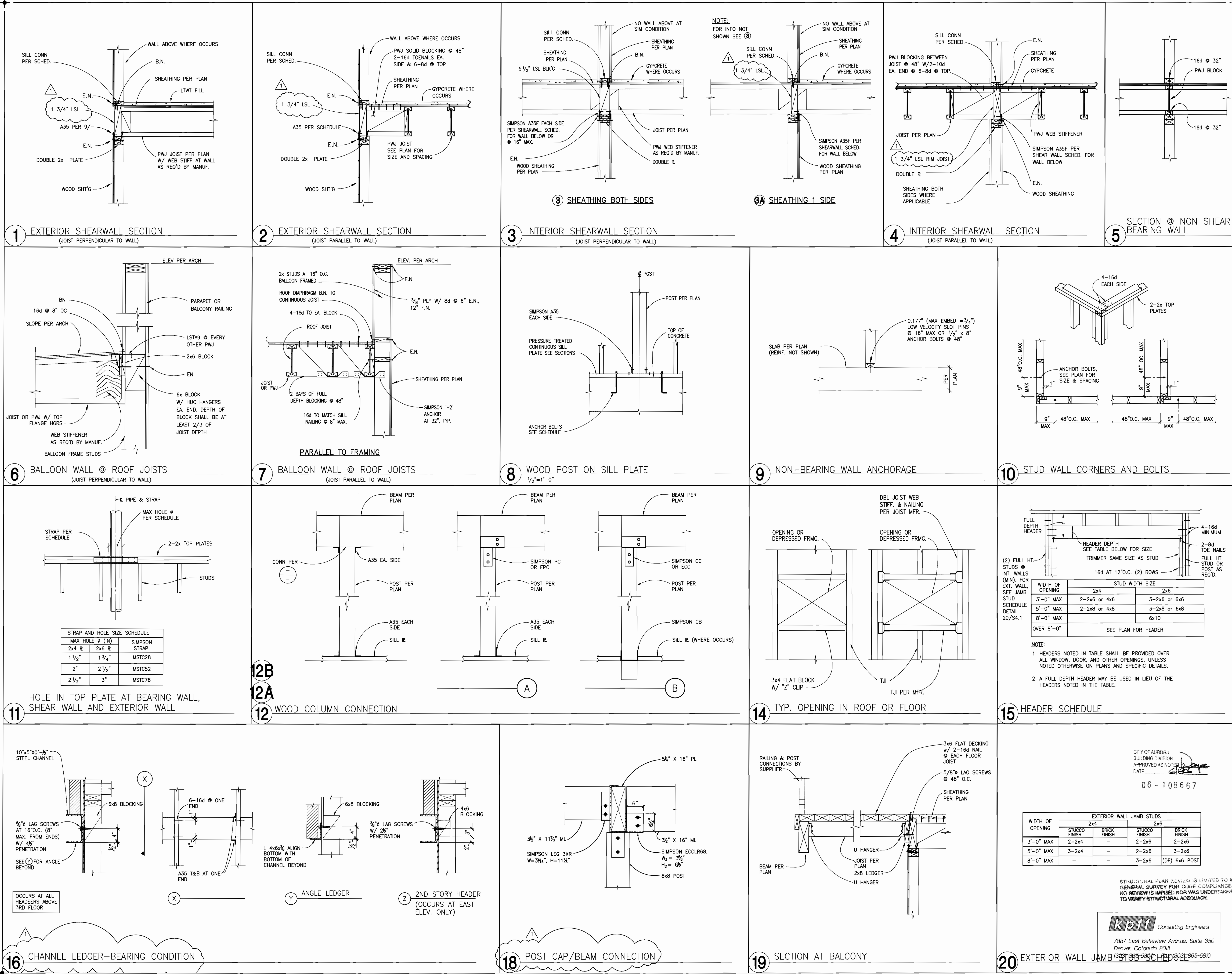
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PROJECT NO: 3-04-18
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S3.4



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Architects/Engineers/Planners/Interior Designers
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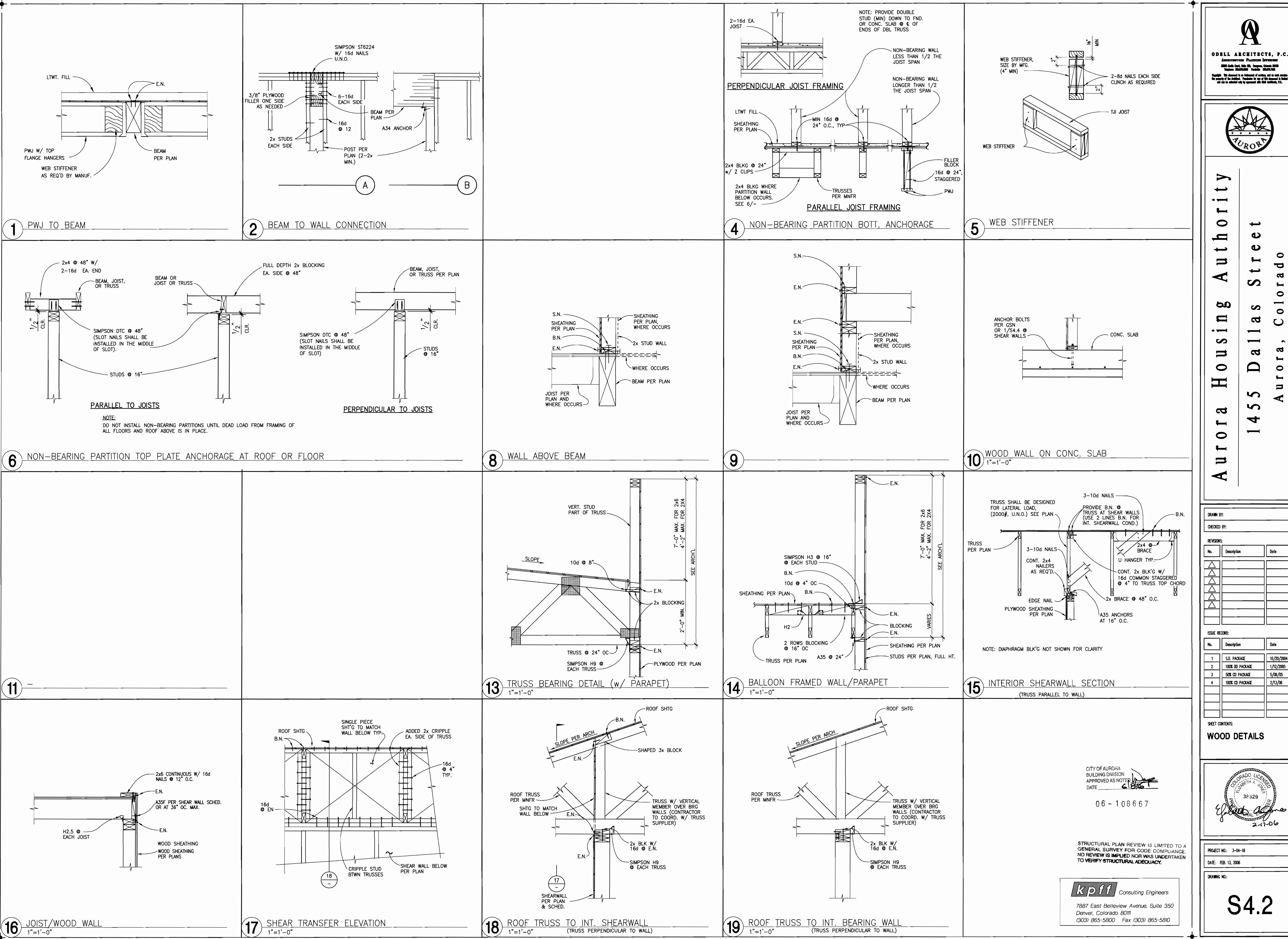
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SHEET CONTENTS:

WOOD DETAILS

PROJECT NO.: 3-04-18
DATE: March 9, 2006
DRAWING NO.: **S4.1**





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Aurora, Colorado

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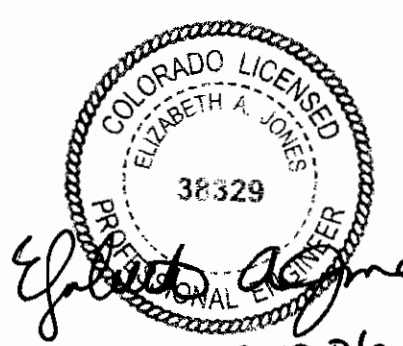
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WOOD DETAILS

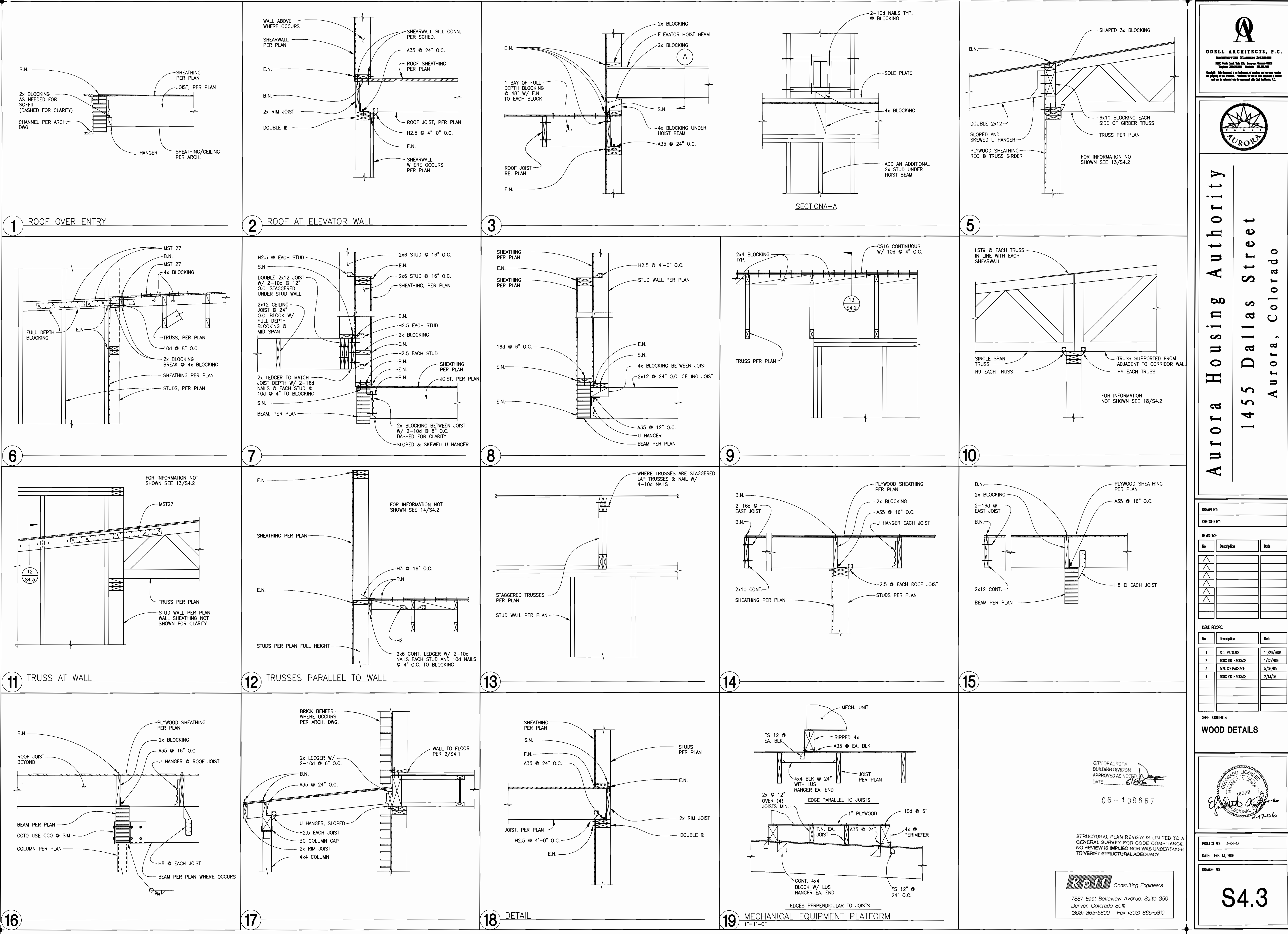


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PROJECT NO.: J-04-18
DATE: FEB. 13, 2006
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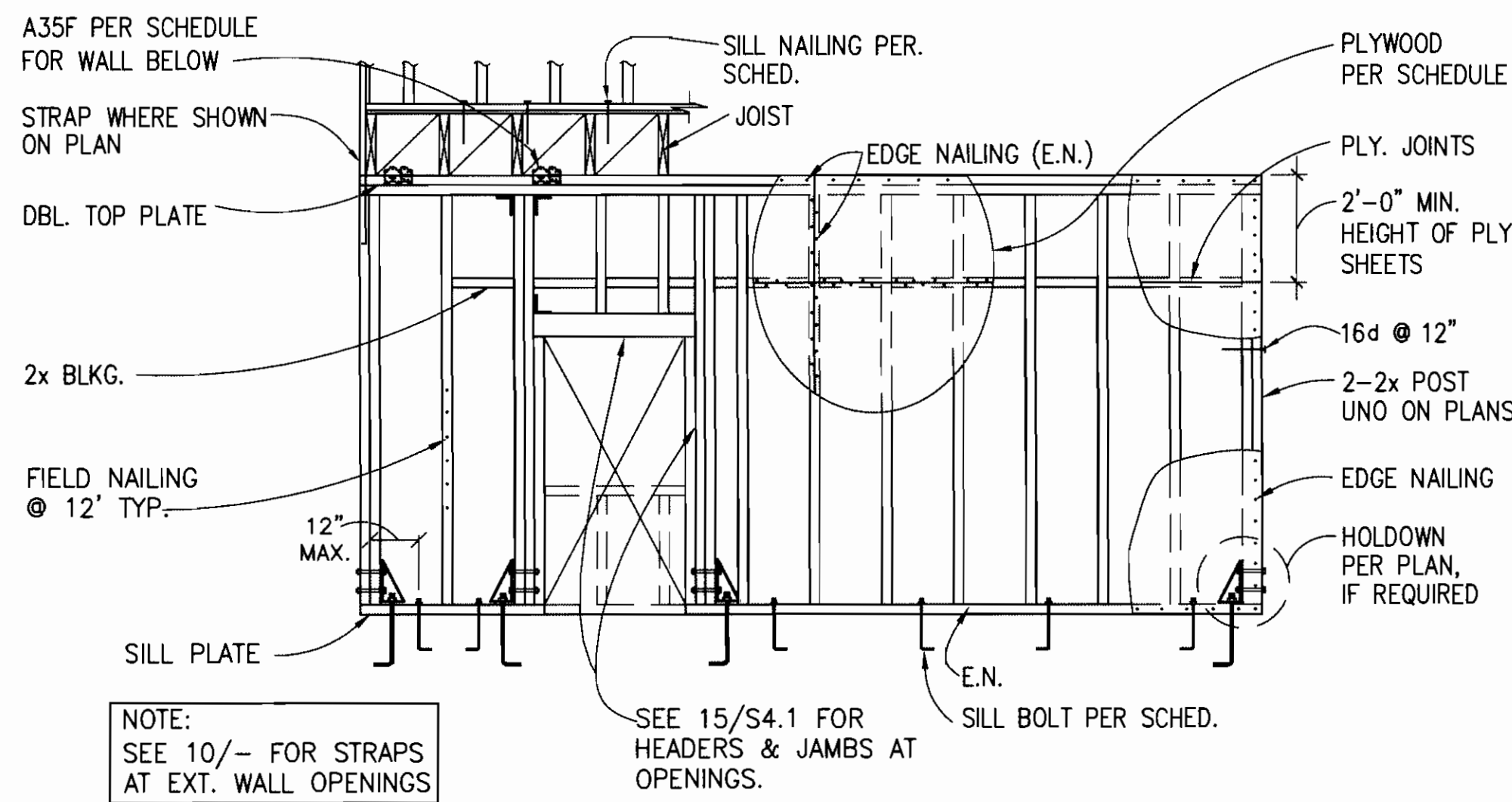
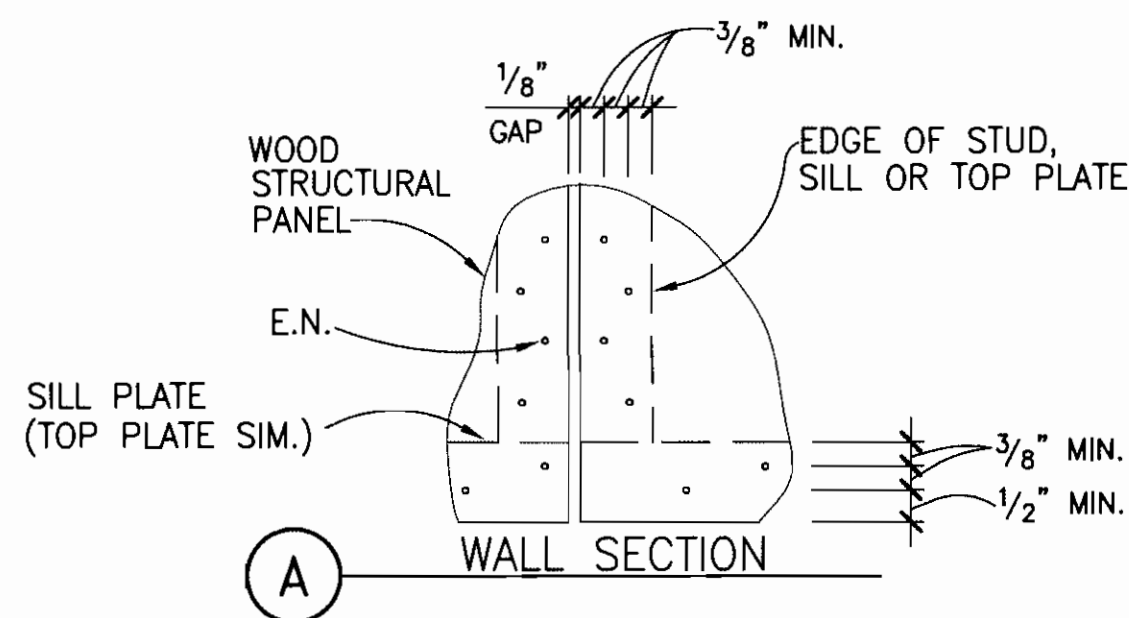
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DATE: FEB. 13, 2006
DRAWING NO:

S4.3

WOOD STRUCTURAL PANEL	FOUNDATION SILL, STUDS & BLKG RECEIVING E.N.	SILL PLATE ON WOOD	EDGE NAILING (E.N.)	FOUNDATIONS SILL BOLTS	SILL NAILING/LAG SCREWS	A35F'S (WHERE SHOWN ON DETAILS)
5/8" 1 SIDE	2x	2x	8d @ 6" OC	5/8" @ 40"	16d @ 6"	@ 16"
5/8" 1 SIDE	3x	2x	8d @ 4" OC	5/8" @ 32"	16d @ 4"	@ 12"

NOTES:

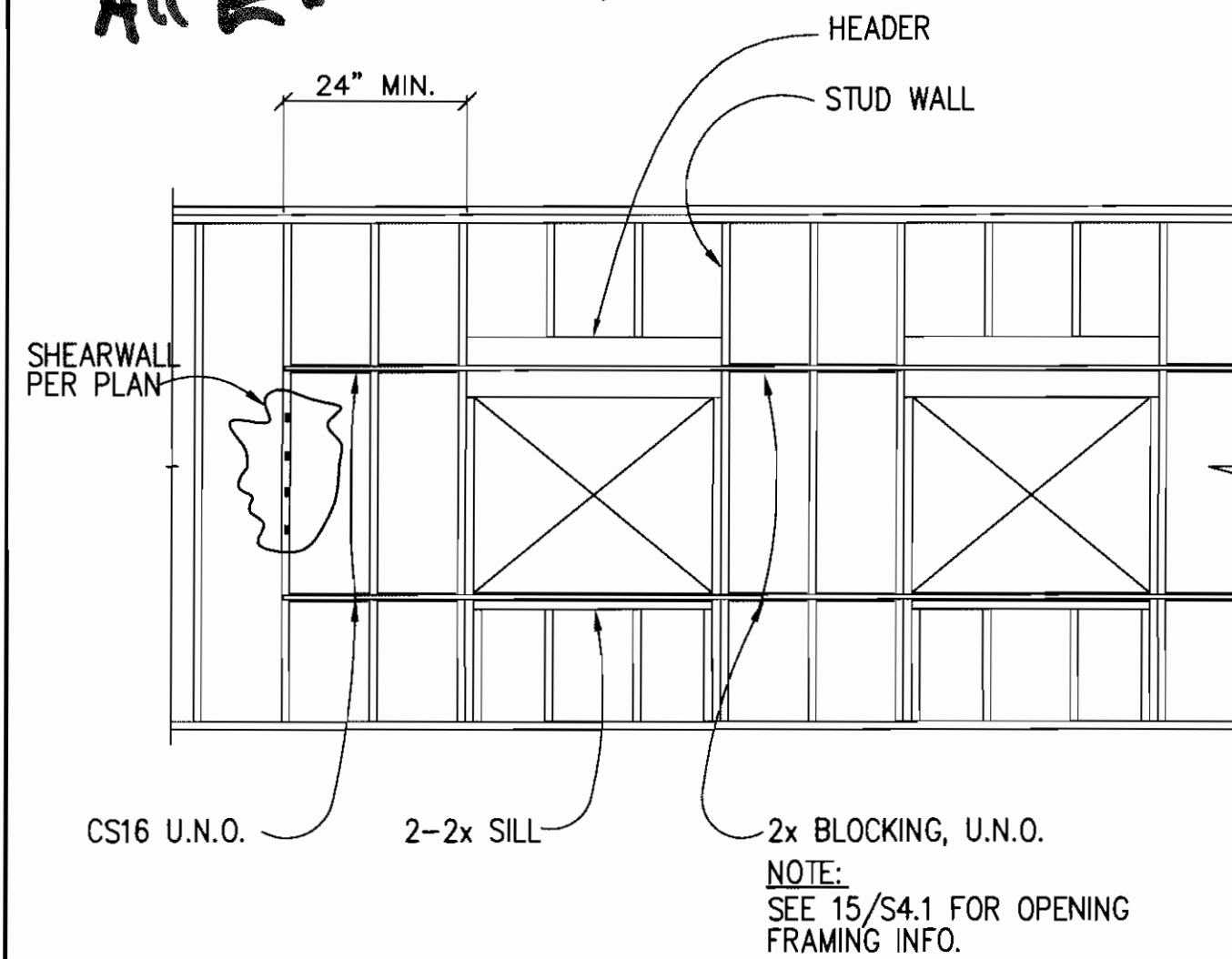
- ALL PLYWOOD SHALL BE 4 PLY MINIMUM FOR 3/8" PANELS AND 5 PLY FOR 1/2" PANELS.
- ALL NAILS SHALL BE COMMON NAILS.
- ALL PANEL EDGES SHALL BE BLOCKED.
- PROVIDE EDGE NAILING AT ALL END STUDS, SILL PLATES AND TOP PLATES. EDGE NAILING SPACED CLOSER THAN 6" OC. SHALL BE STAGGERED PER (A).
- NAILING TO INTERMEDIATE SUPPORTS SHALL BE 8d @ 12" O.C.
- NAILS SHALL BE 3/8 INCH MINIMUM FROM PLYWOOD PANEL EDGE AND 3/8 INCH MIN FROM CONNECTING MEMBER EDGE.
- SEE (S4.5) FOR SHEAR WALL PENETRATIONS.



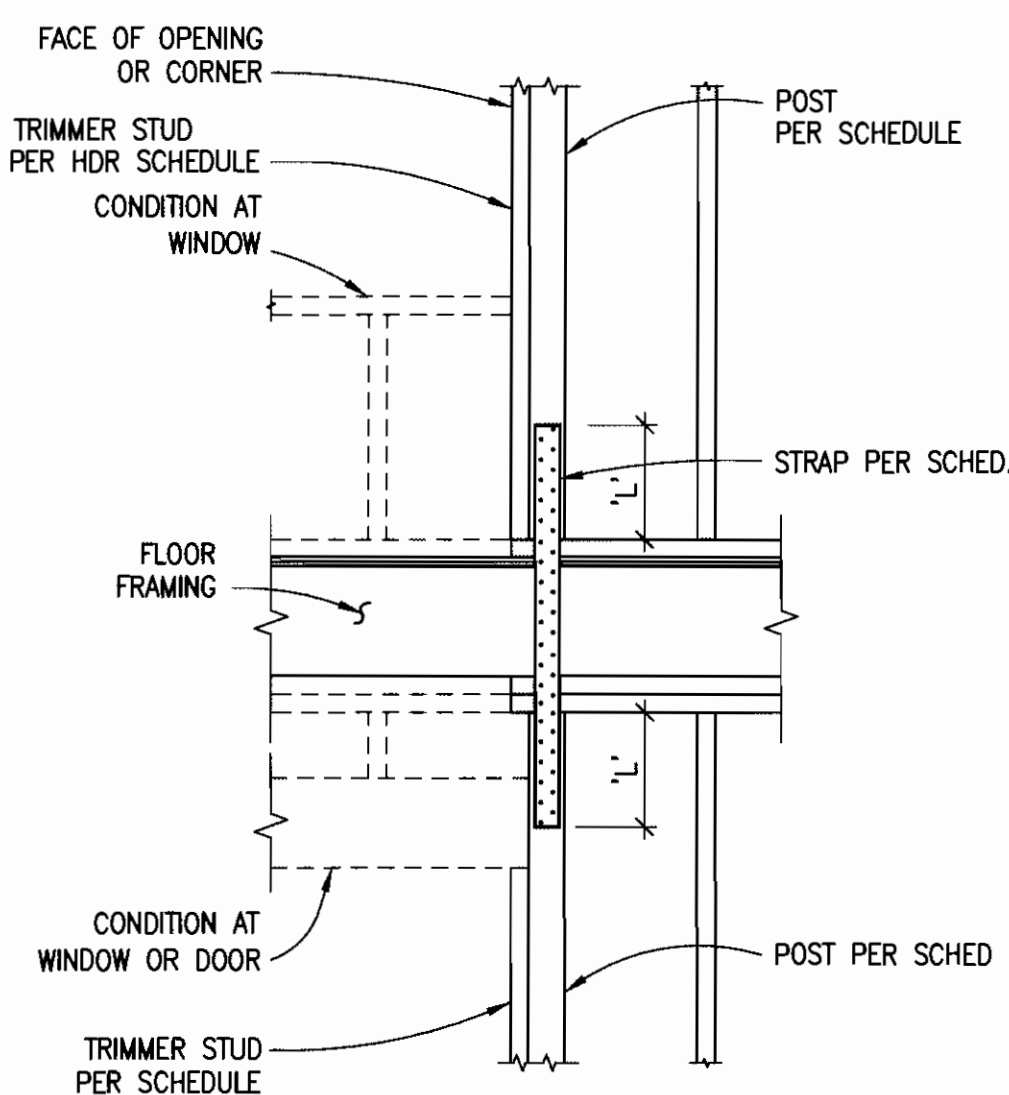
1 WOOD SHEARWALL

SHEAR PANEL ELEVATION

All Exterior walls.

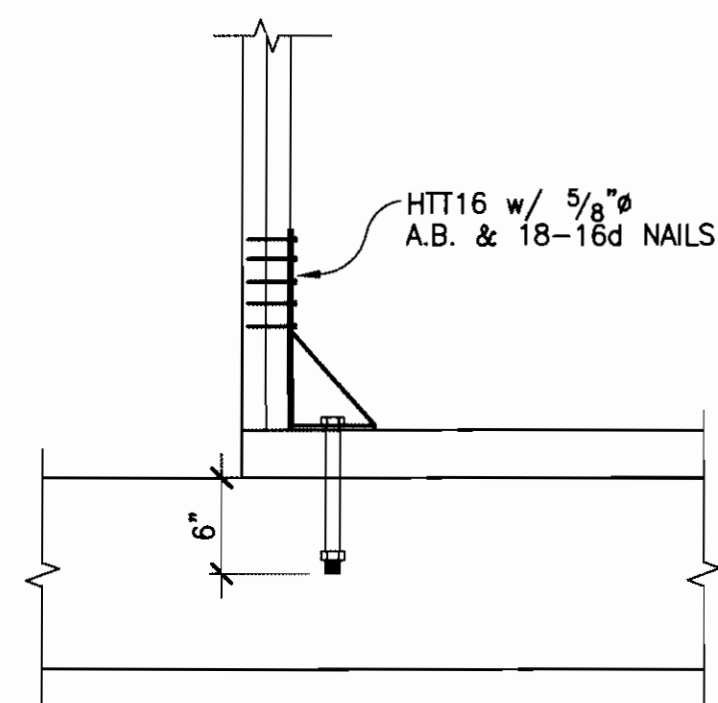


10 SHEAR WALL OPENING



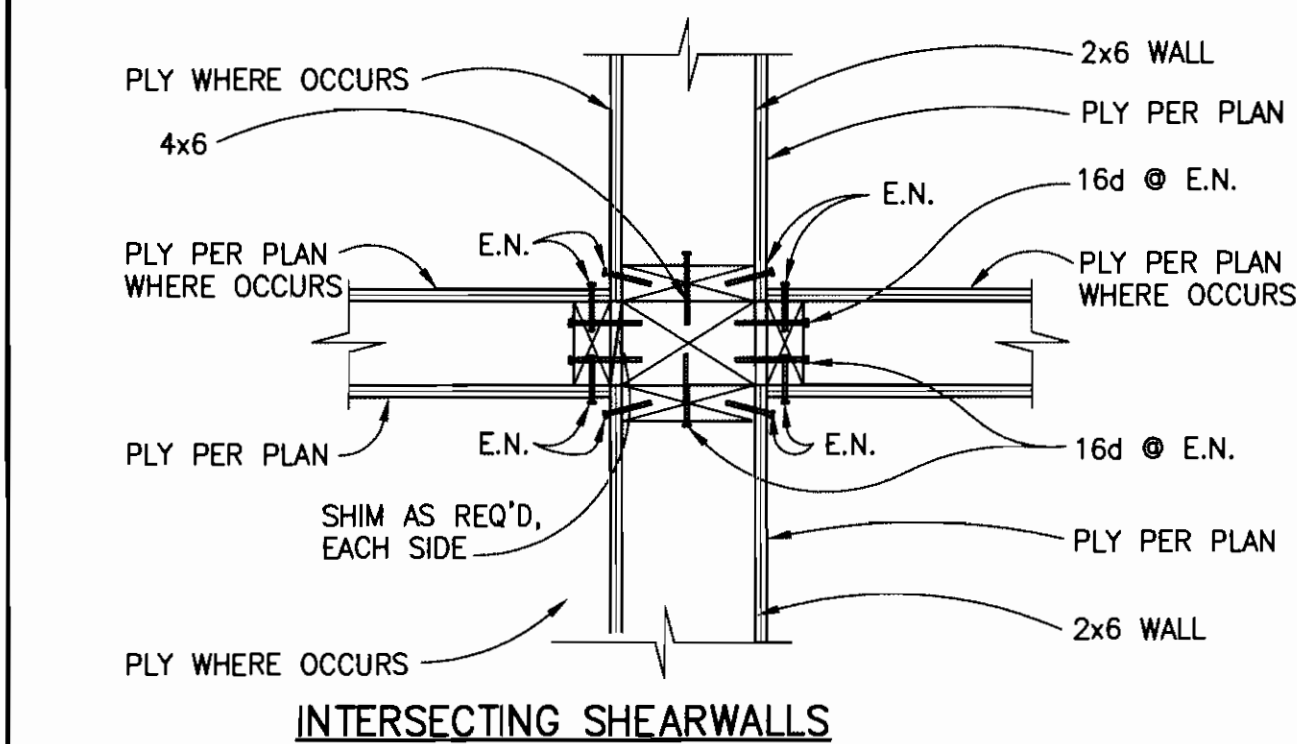
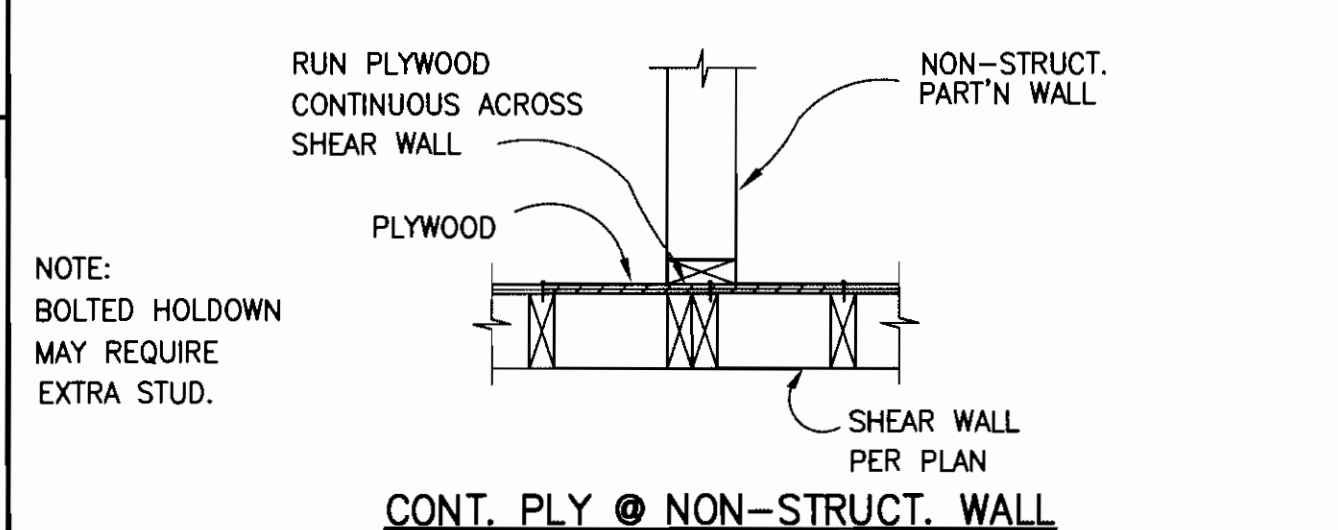
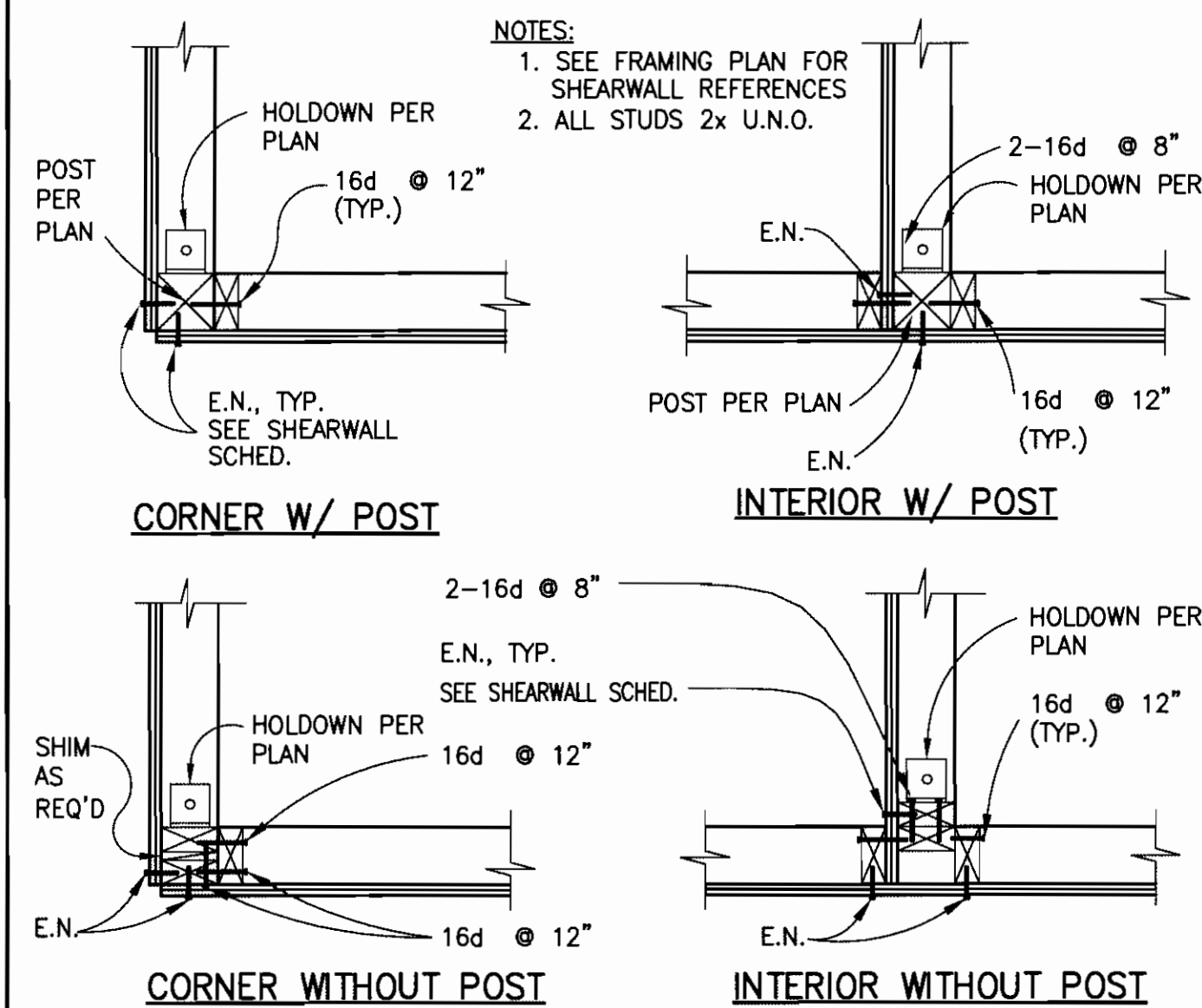
STRAP		
STRAP	END LENGTH 'L'	NUMBER OF FASTENERS EACH END
CS16	17"	15-8d
CS14	19"	17-10d

- NOTES:
- BEND IN STRAPS IS NOT PERMITTED.

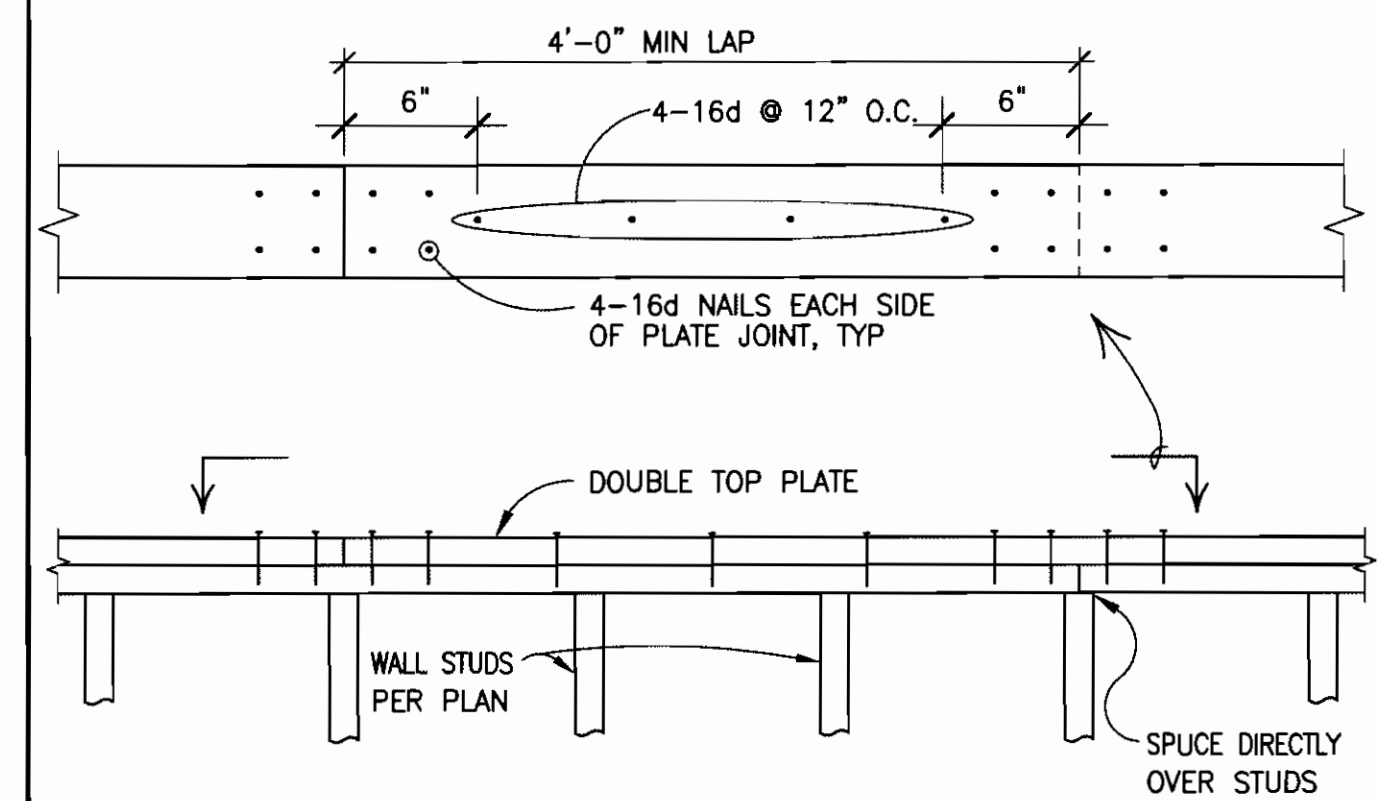


11 HOLDOWN AT FLOOR

13 HOLDOWN AT SLAB
1"=1'-0"



19 SHEAR WALL INTERSECTION



15 WALL TOP PLATE LAP
NOT TO SCALE

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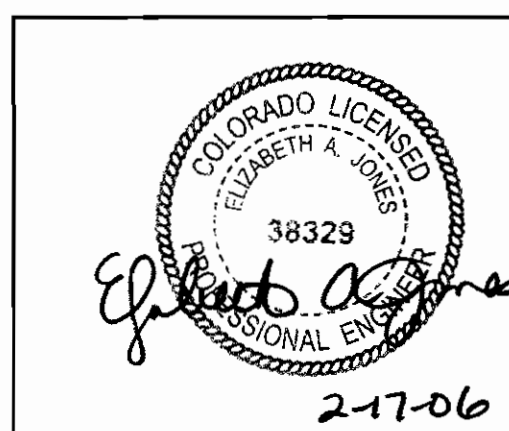
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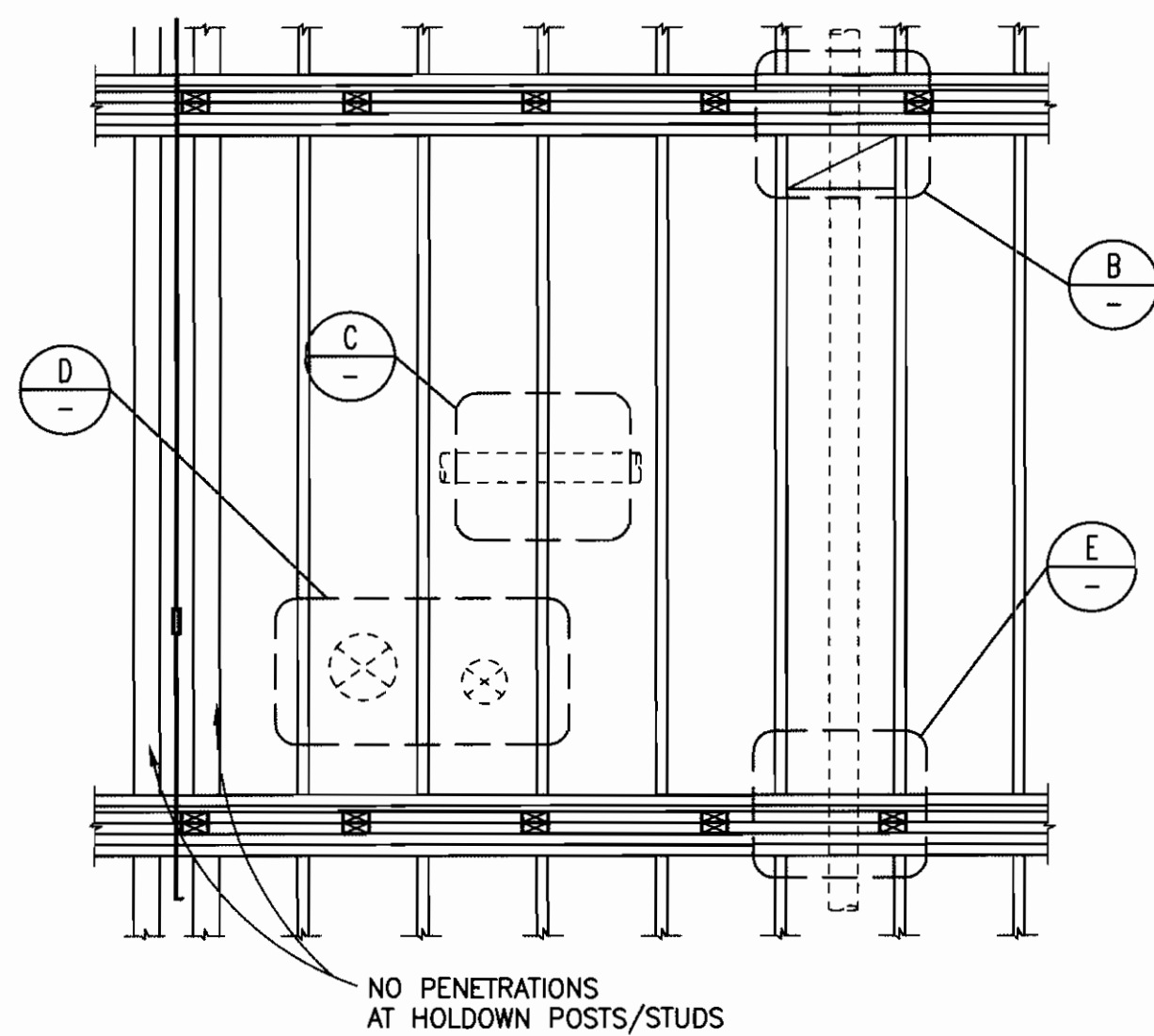
SHEET CONTENTS:
SHEAR WALL DETAILS



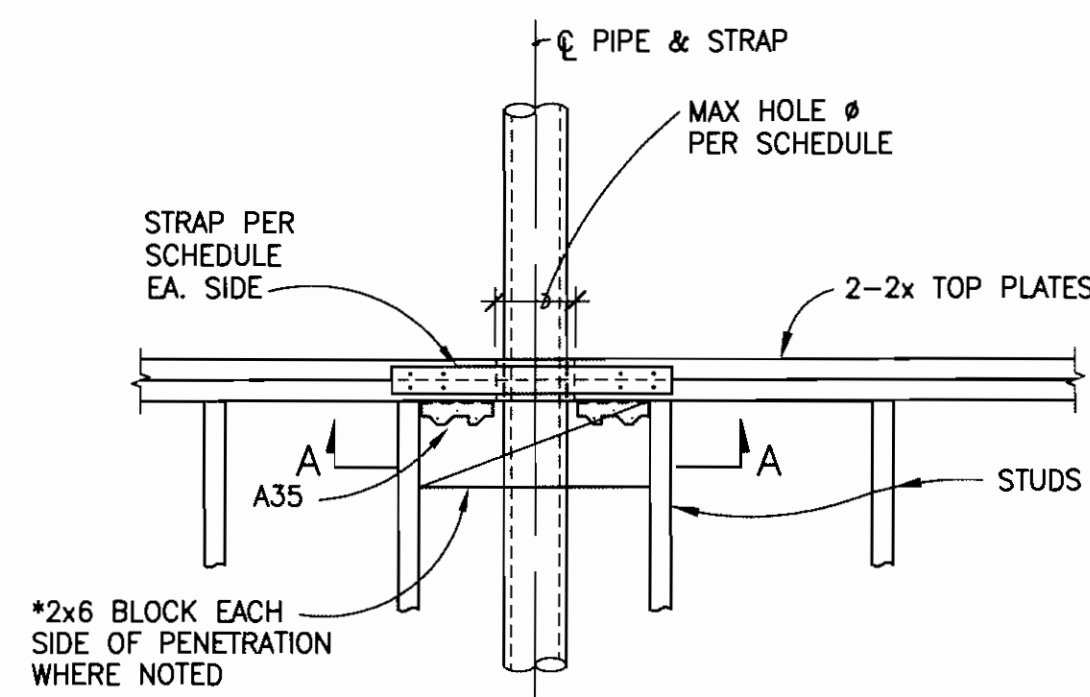
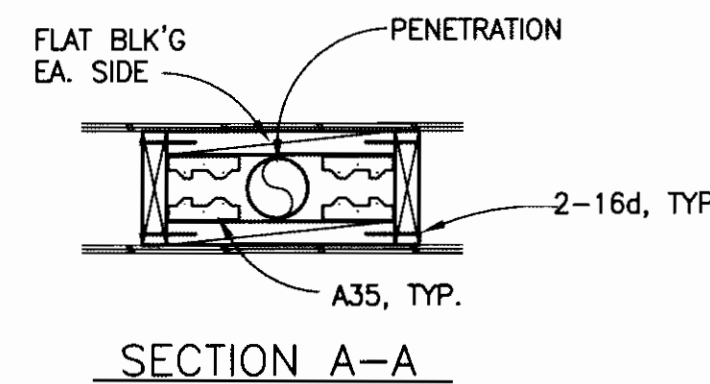
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S4.4



A STRUCTURAL WALL ELEVATION



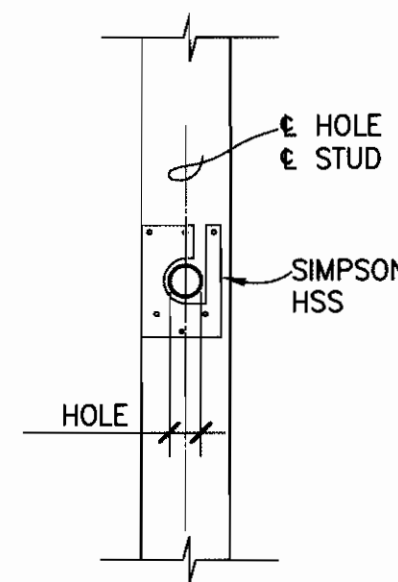
STRAP AND HOLE SIZE SCHEDULE			
MAX HOLE Ø (IN)			SIMPSON STRAP
2x4 R	2x6 R	2x8 R	
1"	1 1/2"	2 1/2"	NOT REQUIRED
1 3/4"	*2 1/2"	*4 1/4"	MSTC28 @ TOP R MSTA @ SILL

* PROVIDE BLOCK EACH SIDE OF PENETRATION PER SECTION A-A

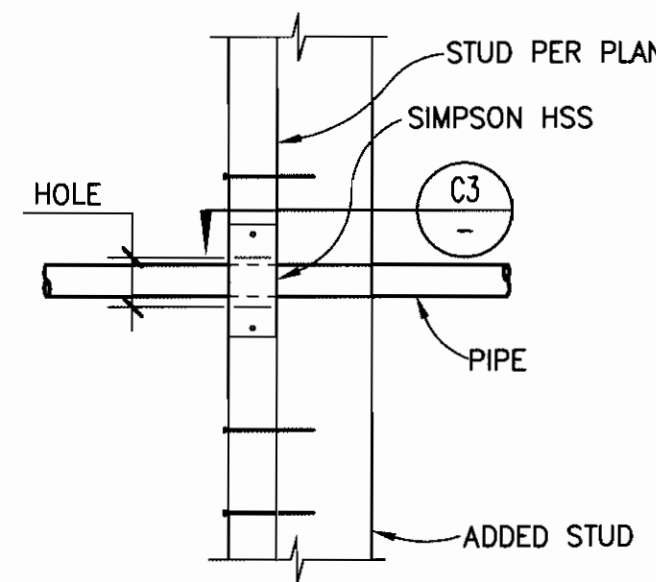
PIPE PENETRATION @ WALL TOP PLATE

NOTE: 1. INCREASE WALL THICKNESS AS REQUIRED FOR MAXIMUM PERMITTED TABULATED HOLES OR FURRING WALL PER 88/53.12. COORD. w/ MEP & ARCH PRIOR TO COMMENCING CONSTRUCTION.

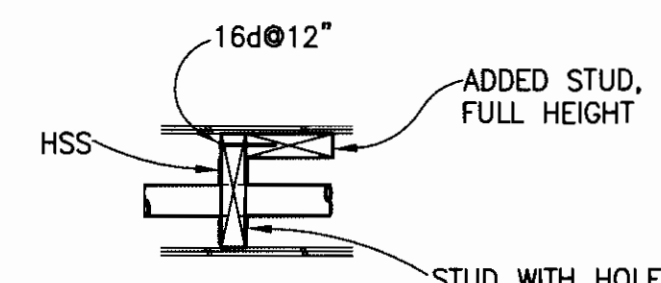
B HOLE IN TOP PLATE AT STRUCTURAL WALL
1"=1'-0"



C1



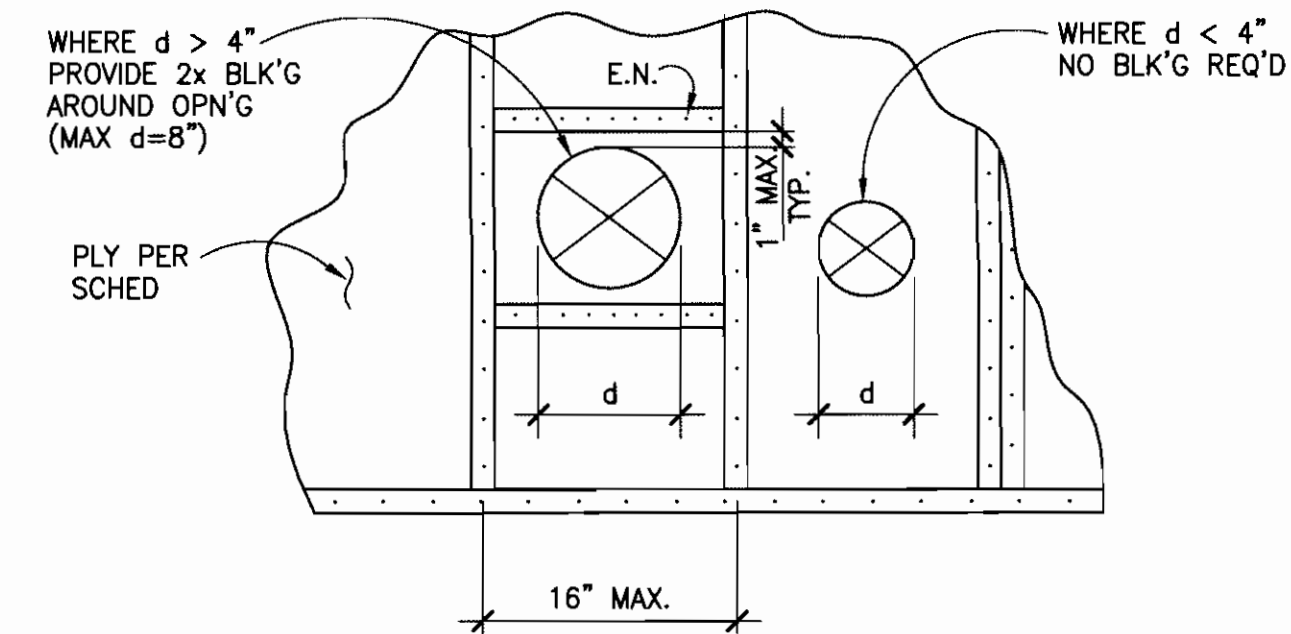
C2



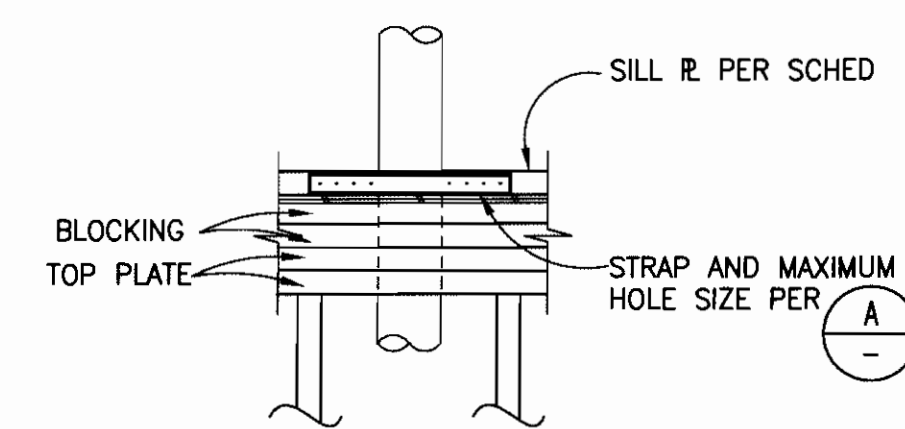
C3

NOTE:
1. HOLES SHALL BE DRILLED ROUND AND LOCATED IN THE MIDDLE OF THE STUD. SEE (C1)
2. NOTCH OR HOLE IS NOT PERMITTED @ POSTS AND STUDS WITH HOLDDOWNS.

C PIPE PENETRATION @ STUDS



D PENETRATIONS IN SHEAR WALLS



E PENETRATIONS IN SILL PLATE

6 WALL PENETRATIONS

NO SCALE

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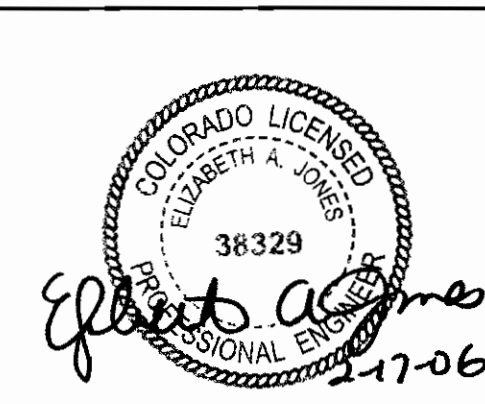
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SHEET CONTENTS:
WALL DETAILS



PROJECT NO.: 3-04-18
DATE: FEB. 13, 2006

DRAWING NO.:

S4.5

SYM.	TYPE	A.D.A.	ACCESSORIES	FINISH	MANUFACTURER & MODEL NUMBER	FAUCET TRIM MFG. & MODEL #	REMARKS
P1	LAVATORY	NO	DRAIN	WHITE/CHROME	CRANE 1315	AMERICAN STANDARD 2275.409	-
P2	WATER CLOSET	NO	SEAT	WHITE	CRANE 3832	-	-
P3	NOT USED						
P4	NOT USED						
P5	KITCHEN SINK	NO	STRAINER; INSINKERATOR BADGER 5	CHROME/ STAINLESS STEEL	ELKAY DCR252210	AMERICAN STANDARD 6270.112H	-
P6	TUB/SHOWER	NO	DRAIN; TEMP/ PRESS. BALANCE BATH/SHOWER VALVE	WHITE/CHROME	CRANE 2610 AND 6497	AMERICAN STANDARD 1495.502	PROVIDE WITH R120 PRESSURE BALANCE VALVE
P7	LAVATORY	YES	DRAIN	WHITE/CHROME	CRANE 1315	AMERICAN STANDARD 2275.209	ADA OFFSET TRAP AND INSULATION PACKAGE
P8	WATER CLOSET	YES	SEAT	WHITE	CRANE 3838	-	-
P9	NOT USED						
P10	NOT USED						
P11	KITCHEN SINK	YES	STRAINER; INSINKERATOR BADGER 5	CHROME/ STAINLESS STEEL	ELKAY GECR2521	AMERICAN STANDARD 6270.142H	ADA OFFSET TRAP AND INSULATION PACKAGE
P12	ROLL-IN SHOWER	YES	DRAIN; TEMP/ PRESS. BALANCE BATH/SHOWER VALVE	WHITE	SWANSTONE BF-3060L	AMERICAN STANDARD 1495.502	SLIDING BAR; PROVIDE WITH R120 PRESSURE BALANCE VALVE
P13	FLOOR DRAIN	-	-	CHROME	ZURN Z-415C-NH	-	-
P14	NOT USED						
P15	DOWNSPOUT NOZZLE	-	-	BRASS	ZURN Z199	-	MOUNT @ 18" A.F.G.
P16	GARAGE DRAIN	-	-	CAST IRON	ZURN Z-535-NH	-	-
P17	EQUIPMENT ROOM DRAIN	-	HALF GRATE	CAST IRON	ZURN Z-610-LY	-	-
P18	WASHER BOX	-	-	ENAMEL	GUY GRAY PL200	-	-
P19	ICE MAKER BOX	-	-	ENAMEL	GUY GRAY BIM875	-	-
P20	NOT USED	-	-	-	-	-	-
P21	TRENCH DRAIN	-	-	CAST IRON	ZURN Z-882-CT-U4 TRENCH #8201	-	PROVIDE WITH 1.04% BUILT-IN SLOPE
P22	DECK DRAIN	-	-	NICKEL BRONZE	ZURN Z-150-85	-	SEE CIVIL AND LANDSCAPE DRAWINGS FOR HEIGHT OF PERFORATED NECK, HEIGHT VARIES PER DRAIN.
P23	AREA WELL FLOOR DRAIN	-	-	CAST IRON	ZURN Z-507	-	-
P24	MOP SINK	-	DRAIN; VACUUM BREAKER	TERRAZO	FIAT MSB2424	AMERICAN STANDARD 8344.111	-
P25	FREEZE-PROOF WALL HYDRANT	-	LOCKABLE COVER	CHROME	WOODFORD B65	-	-
P26	HOSE BIBB	-	-	BRASS	WOODFORD 21	-	-
P27	PLANTER DRAIN	-	-	-	-	-	REFERENCE LANDSCAPE DRAWINGS FOR FIXTURE SPECIFICATION
P28	RECEPTOR DRAIN	-	-	CAST IRON	Z-122	-	-

* FIXTURE EQUIVALENTS: KOHLER, CRANE, FIAT, STERN WILLIAMS, AMERICAN STANDARD
DRAIN EQUIVALENTS: JOSAM, WADE, SMITH
FAUCET EQUIVALENTS: CHICAGO FAUCET, KOHLER, DELTA, AMERICAN
STANDARD

[illegible]

ISSUE LOG KEY:
'✓' ISSUED AS PART OF A SET
' ' NOT PART OF SET
'*' ISSUED FOR INFORMATION ONLY

GENERAL NOTES:

1. THESE DRAWING NOTES ACCOMPANY THE PUBLISHED CONSTRUCTION DOCUMENT SPECIFICATION BOOK (PROJECT MANUAL).
2. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
3. IT SHALL BE ASSUMED THAT ALL SUBCONTRACTORS ARE EXPERIENCED AND THOROUGHLY KNOWLEDGEABLE IN THEIR RESPECTIVE AREAS OF THE CONSTRUCTION INDUSTRY AND SHALL PERFORM IN A RESPONSIBLE MANNER TO MAINTAIN THE CONSTRUCTION SEQUENCE, RESPECTING THE PRIORITY OF THE CONSTRUCTION DOCUMENTS, DRAWING AND DETAILS, AND SHALL INFORM THE PRIME CONTRACTOR OF POTENTIAL PROBLEMS WHEN DRAWINGS ARE FOUND TO BE INCONSISTENT.
4. SUBCONTRACTORS SHALL BE RESPONSIBLE TO NOTIFY THE PRIME CONTRACTOR OF DISCREPANCIES OR CONFLICTS ON THESE CONSTRUCTION DOCUMENTS FOUND DURING BIDDING AND/OR CONSTRUCTION PRIOR TO THE PERFORMANCE OF THE WORK. THE PRIME CONTRACTOR SHALL BE ADVISED EXPEDITIOUSLY AND NOTIFICATION GIVEN TO THE SUBCONTRACTOR EITHER VERBALLY OR IN WRITING AS APPLICABLE TO THE CONDITION.
5. VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPES, AND CABLES. OBTAIN PERMITS PRIOR TO TRENCHING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS.
6. OFFSET PILING, DUCTWORK, ETC. AS NECESSARY TO ACCOMMODATE STRUCTURE, BEAMS, COLUMNS, AND EXISTING EQUIPMENT.
7. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM HIS/HER WORK IN CONFORMANCE WITH ALL APPLICABLE CODES, ORDINANCES AND LIFE SAFETY FEATURES AS REQUIRED BY LOCAL, STATE, OR NATIONAL AUTHORITIES. THE CONTRACTOR SHALL COMPLY WITH THE ARCHITECT IF MODIFICATION OF HIGH RISK WORK IS REQUIRED FOR COMPLIANCE.
9. ALL MATERIALS AND/OR EQUIPMENT SHALL BE HANDED AND INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
10. REPAIR ALL ACCIDENTAL OR INTENTIONAL DAMAGE TO MATCH EXISTING CONSTRUCTION WITH NO NOTICEABLE DIFFERENCE IN CONTINUITY, APPEARANCE OR FUNCTION.
11. COORDINATE ALL PENETRATIONS OF THE FLOOR SLAB PRIOR TO COMMENCEMENT OF WORK. COORDINATE ALL NEW PENETRATIONS WITH OTHER DIVISIONS OF THE WORK. ALL CONTRACTORS ARE INDIVIDUALLY RESPONSIBLE FOR ALL PENETRATIONS REQUIRED BY THEIR DIVISIONS.
12. PROVIDE 4" HIGH CONCRETE EQUIPMENT PADDS BENEATH FLOOR MOUNTED MECHANICAL EQUIPMENT, IN ADDITION TO ANY BASE REQUIREMENTS REQUIRED BY MANUFACTURER.
13. ALL FLOOR DRAINS CONNECTED TO THE SEWER SYSTEM SHALL BE EQUIPPED WITH TRAP PRIMERS. PROVIDE TRAP PRIMERS WITH BACKFLOW PREVENTION AND CONTROL TO THE NEAREST COLD WATER PIPING ADJACENT TO A FLOODING FIXTURE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
14. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR ALL CEILING PENETRATIONS AND AIR DEVICE LOCATIONS.
15. CAREFULLY VERIFY ELECTRICAL SERVICE VOLTAGE AND PHASE AVAILABLE.
16. PROVIDE SHOCK ARRESTORS AT ALL QUICK ACTION VALVES. SHOCK ARRESTORS TO BE SIOUX CHIEF OR EQUIVALENT.
17. MOUNT ALL STATS AT 4'-0" O.A.F.F. COORDINATE LOCATION WITH WALL FINISH, AND TO AVOID CASEWORK, FURNITURE, DOOR SWINGS, ETC. REPAIRS AND EXTENDERS TO BE INSTALLED TO PREVENT ANY CONFUSION PRIOR TO BEGINNING THERMOSTATS AT INSTALLATION.

SEQUENCE OF CONTROL:

1. FURNACE
- FURNACE SHALL BE SUPPLIED WITH 24 HOUR PROGRAMMABLE THERMOSTAT WITH MANUAL HEAT/COLDF CHANGEOVER. UPON A CALL FOR HEAT, FURNACE WILL INITIATE FACTORY BURNER STARTUP SEQUENCE AND SHALL CYCLE FAN WITH BURNER AT FULL HEAT UNTIL THERMOSTAT IS SATISFIED. UPON A CALL FOR COOLING, FURNACE FAN AND CONDENSING UNIT SHALL CYCLE UNTIL THERMOSTAT IS SATISFIED.
2. UNIT HEATER/CABINET UNIT HEATER
- UNIT HEATERS/CABINET UNIT HEATERS SHALL BE SUPPLIED WITH LOW VOLTAGE THERMOSTAT AND CONTROL TRANSFORMER. FAN AND ELECTRIC HEATING COIL SHALL CYCLE UPON A CALL FOR HEAT UNTIL THERMOSTAT IS SATISFIED.
3. WATER HEATER
- WATER HEATER SHALL BE SUPPLIED WITH FACTORY MOUNTED TANK ADJUSTABLE THERMOSTAT. GAS (OR ELECTRIC) SHALL CYCLE TO MAINTAIN TANK TEMPERATURE OF 110°F. ANTI-SCALD VALVE SHALL MIX HOT AND COLD WATER TO MAINTAIN DISCHARGE TEMPERATURE OF 110°F.
4. GARAGE EXHAUST FANS/CO SENSORS
- CO SENSORS SHALL BE VULCAN OR EQUIVALENT. CONTRACTOR TO SUPPLY CO SENSORS, VULCAN OR EQUIVALENT. UPON A SIGNAL FROM ANY CO SENSOR THAT CO LEVELS ARE HIGH, GARAGE EXHAUST FANS SHALL START. FANS SHALL RUN UNTIL ALL SENSORS ARE SATISFIED.
5. TRASH ROOM EXHAUST FAN
- FAN SHALL RUN CONTINUOUSLY. OUTSIDE AIR DAMPER SHALL BE OPEN WHEN FAN IS ON.
6. ELECTRICAL ROOM/ELEVATOR MECHANICAL ROOM EXHAUST FANS.
- FANS SHALL BE PROVIDED WITH VOLTAGE THERMOSTAT. PROVIDED BY M.C. WIRED BY E.C. FAN SHALL CYCLE UPON A CALL FOR COOLING FROM

MECHANICAL LEGEND

AF	ABOVE FINISHED GRADE	FLEXIBLE CONNECTOR
BFS	SAFETY RELIEF VALVE	AIR RELIEF VALVE
CFW	CLG	AIR VENT
CLG	CUBIC FEET PER MINUTE	PRESSURE = TEMP. PA
CON	CONCRETE	TERMINATOR
COTG	CLOCK GLAZED TO GRADE	1
CS	DOWN	2
EAT	ENTERING AIR TEMPERATURE	3
EHT	EXIT	4
FHT	EXITING WATER TEMPERATURE	5
LAT	LEAVING AIR TEMPERATURE	6
LWT	LEAVING WATER TEMPERATURE	7
INC	NOT IN CONTACT	8
OSD	OPPOSED BLADE VOLUME DAMPER	9
OSD	OPPOSED BLADE VOLUME DAMPER	10
OSD	OPPOSED BLADE VOLUME DAMPER	11
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OSD	OPPOSED BLADE VOLUME DAMPER	99
OSD	OPPOSED BLADE VOLUME DAMPER	100

SINGLE LINE DUCT LEGEND

SINGLE LINE DOUBLE LINE		SINGLE LINE DOUBLE LINE		SINGLE LINE DOUBLE LINE		SINGLE LINE DOUBLE LINE	
45° TEE (ROUND)		90° TEE (ROUND)		45° RADIUS ELL		CONICAL SPIN IN	
45° TEE (RECTANGULAR)		90° TEE (RECTANGULAR)		MANUAL VOLUME DAMPER		FLEX DUCT	
DUCT SPLIT		90° RADIUS ELL		DUCT DROP SYMBOL		REDUCER	
				DUCT RISE SYMBOL		90° ELL	

FIXTURE CONNECTION SCHEDULE

FIXTURE	HW	CW	WASTE	VENT
WATER CLOSET (FLUSH TANK)	—	½"	4"	2"
LAVATORY	½"	½"	1½"	1½"
SERVICE SINK	½"	½"	3"	2"
MOP SERVICE BASIN	—	½"	3"	2"
DRAINING FOUNTAIN / E.W.C.	—	½"	1½"	1½"
KITCHEN SINK W/ DISPOSER	½"	½"	2"	1½"
BATHTUB / SHOWER	¾"	¾"	2"	1½"
CLOTHES WASHER ROUGH-IN	½"	½"	2"	1½"
DISHWASHER ROUGH-IN	½"	—	2"	1½"
BAR SINK	½"	½"	1½"	1½"

SIZES SHOWN ARE MINIMUM PIPE SIZES TO A SINGLE FIXTURE.
MINIMUM PIPE SIZE TO 2 OR MORE FIXTURES IS 3/4".
ALL FIXTURES LISTED ARE NOT NECESSARILY USED ON
THIS PROJECT.

COLD WATER PLUMBING FIXTURE COUNT	
1. SINKS	1
2. TOILETS	1
3. SHOWERS	1
4. BATHTUBS	1
5. OTHER	0
TOTAL	4

TOTAL FIXTURE TYPE	NO. OF FIXTURES	CW FIX UNITS	TOTAL FL
CLOTHESWASHER	38	1.4	53.2
DISHWASHER	38	1.4	53.2
HOSE BIBB	10	1	10
KITCHEN SINK W/DISPOSER	38	1.4	53.2
LAVATORY	80	0.7	56
SHOWER/TUBCOMBIN	73	1.4	102.2
WATER CLOSET (FLUSH TANK)	77	2.2	169.4
TOTAL FIXTURE UNITS			497.2

This sheet of drawings has not been reviewed for code compliance.

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PUMP SCHEDULE												
MARK	SERVICE	TYPE	GPM	TDH (FT)	FLUID	MOTOR		MANUFACTURER * MODEL NUMBER	SUCT	DISC	REMARKS	
						HP	RPM VOLT/PH					
FP-1	FIRE	DOUBLE SUCTION	750	72 PSI	WATER	50	3560	208/3	AURORA 4-481-11C	4"	5"	-
JP-1	JOCKEY	INLINE	7	92 PSI	WATER	1	3450	208/3	GRUNDFOS CR1-8	1 1/4"	1 1/4"	-
SP-1,2	SAND/OIL	SUMP	45	15	WATER	1	3450	208/1	ZOELLER 270	-	2"	DUPLEX CONTROLLER, 36"ø SUMP PIT
SP-3,4	SANITARY	SUMP	150	20	WATER	1 1/2	3450	208/3	ZOELLER 294	-	3"	DUPLEX CONTROLLER, 36"ø SUMP PIT
SP-5	ELEVATOR	SUMP	15	12	WATER	1/4	3000	120/1	ZOELLER 48	-	1 1/2"	INTEGRAL FLOAT CONTROLLER
SP-6,7	STORM	SUMP	15	17	WATER	1/2	1725	120/1	ZOELLER 266	-	2"	DUPLEX CONTROLLER, 36"ø SUMP PIT

* B&G, TACO, OR AURORA EQUIVALENT

UNIT, CABINET HEATER SCHEDULE									
MARK	TYPE	CFM	HP/WATT	HEATING COIL			MANUFACTURER * & MODEL NO.		REMARKS
				kW	P.D.(FT.)	T.MBH			
UH-1	ELECTRIC	650	1/30	10	-	34	208/3	QMARK MUH-10	LINE VOLTAGE FACTORY UNIT MOUNTED THERMOSTAT
UH-2	ELECTRIC	210	1/100	5.0	-	17.0	208/3	QMARK MUH-05	LINE VOLTAGE FACTORY UNIT MOUNTED THERMOSTAT
UH-3	ELECTRIC	180	1/100	3.0	-	10	208/1	QMARK MUH-03	LINE VOLTAGE FACTORY UNIT MOUNTED THERMOSTAT
CUH-1	ELECTRIC	200	1/100	3	-	7	208/3	QMARK CUF-STF-1300	LINE VOLTAGE FACTORY UNIT MOUNTED THERMOSTAT INTEGRAL DISCONNECT

* TRANE, MCQUAY, MODINE EQUIVALENT

GRILLE, REGISTER, DIFFUSER, & LOUVER SCHEDULE						
SYMBOL	USE	PATTERN	ACCESSORIES	FINISH	MANUFACTURER & * MODEL NO.	REMARKS
	SUPPLY DIFFUSER	15" DEFLECTION	O.B.D.	SUITABLE FOR PAINTING	TITUS 271RL	-
	RETURN GRILLE	15" DEFLECTION	-	SUITABLE FOR PAINTING	TITUS 23RL	-
	SUPPLY DIFFUSER	PERFORATED	O.B.D.	WHITE	TITUS PAS	24x24 MODULE
	LOUVER	-	BIRD SCREEN	SUITABLE FOR PAINTING	RUSKIN 375ELFD	-
RH-1	ROOF HOOD	TIERED	MOTORIZED DAMPER, 18" ROOF CURB	SUITABLE FOR PAINTING	COOK 12X36X2 TRE	MINIMUM FREE AREA = 3 SQUARE FEET

* GRID EQUIVALENT: TITUS, KRUEGER, METALLAIRE, HART & COOLEY, ANEMOSTAT
LOUVER EQUIVALENT: PENN, DOWCO, LOUVERS & DAMPERS, RUSKIN

FURNACE SCHEDULE																
MARK	SERVICE	TYPE	CFM				ESP		ELECTRICAL		INPUT ♂ SL (MBH)	OUTPUT ♂ ALT. (MBH)	ACCESSORIES	FILTER	MANUFACTURER & MODEL NUMBER	REMARKS
			LOW	MED- LOW	MED- HIGH	HIGH	♂ ALT. (IN W.C.)	♂ S.L. (IN W.C.)	HP	VOLTAGE/PHASE						
F-1	UNITS AND COMMON AREAS	VERTICAL	705	1005	—	1365	.30	.35	1/2	120/1	50	30	PROVIDE DX COOLING COIL AS NOTED IN CU SCHEDULE	T.A.	RHEEM RGPP-05EAUER	CONTRACTOR TO SET FAN TO SPEED CLOSEST TO TOTAL CFM SHOWN ON PLANS

* REZNOR, TRANE, LENNOX EQUIVALENT

EXHAUST FAN SCHEDULE									
MARK	TYPE	FAN			MOTOR		MANUFACTURER & MODEL NO.	ACCESSORIES	REMARKS
		CFM	S.P. @ S.L. (IN W.C.)	S.P. @ ALT. (IN W.C.)	HP /WATT	VOLTAGE/ PHASE			
EF-1	PROPELLER EXHAUST	19250	0.1	0.08	3	208/3	COOK 42XMPH	BDD, F/S DAMPER WIRE GUARD	QUANTITY = 2
EF-2	PROPELLER EXHAUST	845	.14	.125	1/6	120/1	COOK 14SP100	BDD, WIRE GUARD	-
EF-3	NOT USED								
EF-4	CEILING	100	.125	.11	70W	120/1	COOK GC140	BDD	-
EF-5	CEILING	300	.125	.11	110W	120/1	COOK GC180	BDD	LINE VOLTAGE T-STAT
BF-1	DRYER BOOSTER	139	.125	.11	83W	120/1	FANTECH DBF4XL	PRESSURE SWITCH	-

* PENN, ILG, GREENHECK, COOK, ACME EQUIVALENT

CONDENSING UNIT SCHEDULE									
MARK	FURNACE SERVED	ELECTRICAL		EVAPORATOR		CONDENSOR		MANUFACTURER * & MODEL NO.	REMARKS
		VOLTAGE/PHASE	FLA	EAT DB(°F)	SENSIBLE TMBH	EAT (°F) DB			
CU-1	F-1	208/1	10.1	75	61	20.8	95	YORK H1RD018S06	MCCP = 15 MATCH WITH INDOOR COIL YORK MODEL G1FA024S14
CU-2	F-1	208/1	11.8	75	61	22.6	95	YORK H1RD024S06	MCCP = 20 MATCH WITH INDOOR COIL YORK MODEL G1FA024S14
CU-3	F-1	208/1	18.9	75	61	29.7	95	YORK H1RD036S06	MCCP = 30 MATCH WITH INDOOR COIL YORK MODEL G1FA048S17

* TRANE, CARRIER, LENNOX EQUIVALENT

WATER HEATER SCHEDULE								
MARK	TYPE	STOR. CAP. GALLONS	RECOVERY G.P.H.	WATER TEMP. RISE (°F)	INPUT		MANUFACTURER & * MODEL NUMBER	REMARKS
					MBH	KW		
WH-1	GAS	40	41	90	40	24	BRADFORD WHITE M-1-40356EN	-
WH-2,3	ELECTRIC	2	7	90	-	1.5 KW	BRADFORD WHITE M-1-PC2U6SS	120V/1 PHASE
WH-4	ELECTRIC	19	7	90	-	2.5 KW	BRADFORD WHITE LD-20U3-1C015	120V/1 PHASE

* STATE, RUUD, OR A.O. SMITH EQUIVALENT

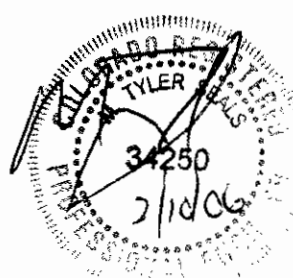
This sheet of drawings has not been reviewed for code compliance.

06 - 108667



DRAWN BY: JSD		
REVIEWED BY: TSD		
REVISIONS:		
No.	Description	Date
ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006

SHEET CONTENTS:
MECHANICAL
LEGENDS



PROJECT NO.:
DATE: FEBRUARY 13, 2006
DRAWING NO.:

M1.2

RISER LEGEND	
	PLUMBING RISER
	FIRE PROTECTION RISER

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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: JAC
REVIEWED BY: TSD

REVISIONS:		
No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006

ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/5/2005
4	100% CD PACKAGE	3/9/2006

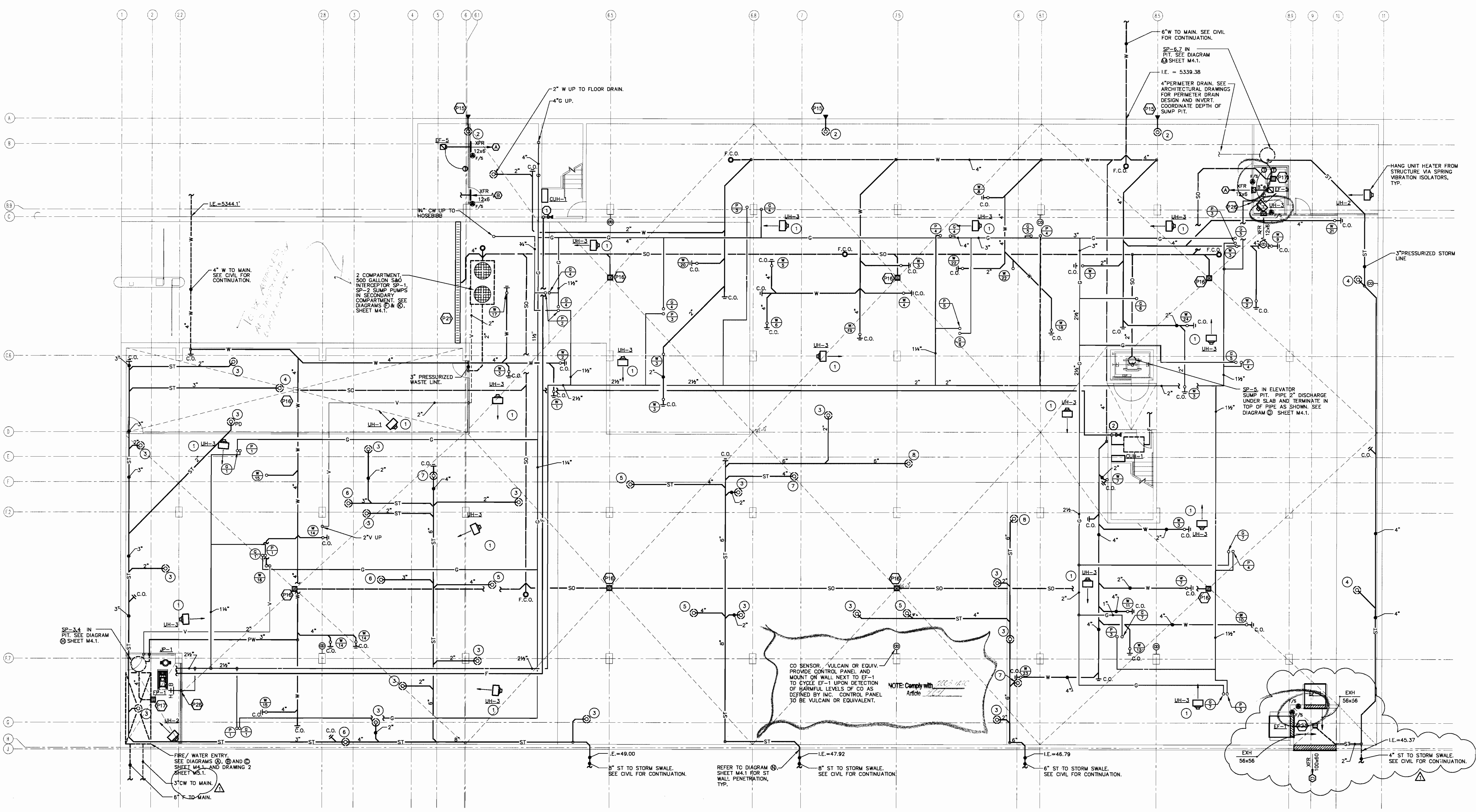
SHEET CONTENTS:
GARAGE LEVEL
MECHANICAL PLAN

SEAL
24250
APPROVED AS NOTED
DATE: APPROVED MAY 16 2006

PROJECT NO.:
DATE: March 9, 2006

DRAWING NO.:
M2.1

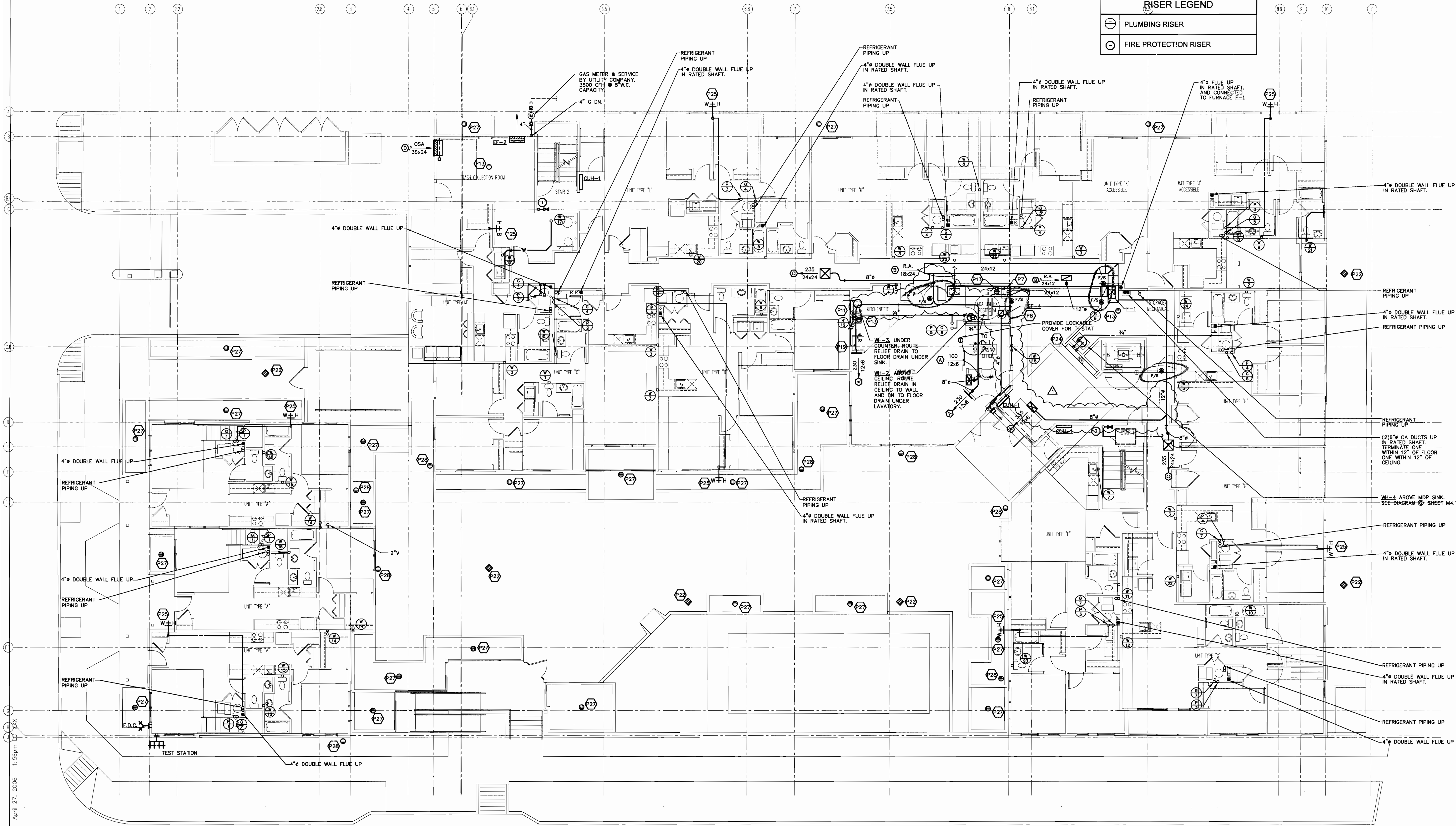
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www.bga.com



1 GARAGE LEVEL MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

- NOTES:**
- SEE UNIT PLANS SHEET M3.1 THRU M3.4 FOR PLUMBING & HVAC IN RESIDENTIAL UNITS.
 - SEE SHEET M5.1 FOR FIRE PROTECTION RISER DIAGRAM.
 - SEE SHEET M6.1 FOR GAS RISER DIAGRAMS.
 - SEE SHEET M6.1 FOR DOMESTIC WATER RISER DIAGRAM.
 - SEE SHEET M7.1 AND M7.2 FOR WASTE & VENT ISOMETRICS.
 - ALL SO PIPING 4" U.N.O.
 - ALL PIPING NOT ABOVE LAY-IN CEILING SHALL BE INSULATED AND HEAT TAPED. REFER TO DIAGRAM @, SHEET M4.1 AND ELECTRICAL PLANS.
 - REFER TO DIAGRAM @ AND @, SHEET M4.1 FOR WASTE PIPING CLEANOUTS.
- FLAG NOTES:**
- UNIT HEATER LOCATED IN PLENUM.
 - 2" ST UP TO PLANTER DRAIN AND OUT TO LANDS TONGUE. SEE LANDSCAPE DRAWINGS FOR PLANTER DRAIN SPECIFICATIONS.
 - 2" ST UP TO PLANTER DRAIN. SEE LANDSCAPE DRAWINGS FOR PLANTER DRAIN SPECIFICATIONS.
 - 3" ST UP TO AREA DRAIN. PROVIDE SIDE OUTLET WHERE NECESSARY TO MAINTAIN PIPE ELEVATION ABOVE CEILING.
 - 4" ST UP TO AREA DRAIN. PROVIDE SIDE OUTLET WHERE NECESSARY TO MAINTAIN PIPE ELEVATION ABOVE CEILING.
 - 3" ST UP TO ROOF DRAIN RECEPTOR.
 - 4" ST UP TO ROOF DRAIN RECEPTOR.
 - 6" ST UP TO ROOF DRAIN RECEPTOR.

S:\BGP\Projects\8070.00 Aurora Affordable Housing\BGC\CAUD\807000Mx21.dwg Printed By: eng-tsd April 27, 2006 1:56pm LC-xxx



RISER LEGEND	
	PLUMBING RISER
	FIRE PROTECTION RISER

1 1ST LEVEL MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

- NOTES:
- SEE UNIT PLANS SHEET M3.1 THRU M3.4 FOR PLUMBING & HVAC IN RESIDENTIAL UNITS.
 - SEE SHEET M5.1 FOR FIRE PROTECTION RISER DIAGRAM.
 - SEE SHEET M6.1 FOR GAS RISER DIAGRAMS.
 - SEE SHEET M6.1 FOR DOMESTIC WATER RISER DIAGRAM.
 - SEE SHEETS M7.1 AND M7.2 FOR WASTE & VENT ISOMETRICS.
 - REFER TO DIAGRAM @, SHEET M4.1 FOR WATER HEATER INSTALLATION.
 - REFER TO DIAGRAMS @, @, AND @, SHEET M4.1 FOR DUCTWORK DETAILS.
 - REFER TO DIAGRAMS @ AND @, SHEET M4.1 FOR FURNACE AND DX COOLING COIL DETAILS.

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: MAY 18 2006
06-108667

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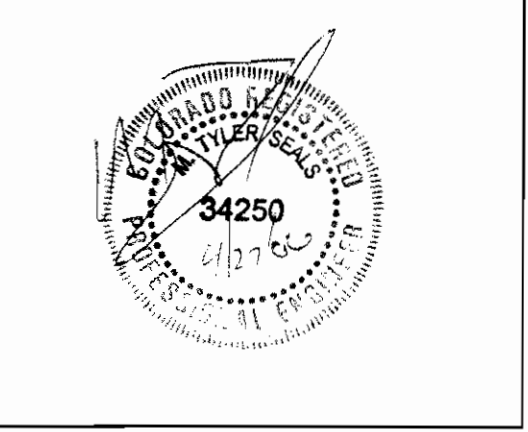
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: JAC
REVIEWED BY: TSD

No.	Description	Date
1	BUILDING DEPARTMENTS	04/25/2006

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/09/2006

SHEET CONTENTS:
1ST LEVEL
MECHANICAL PLAN



PROJECT NO.:
DATE: March 9, 2006

DRAWING NO.:
M2.2

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Consulting Engineers, Inc.
1400 17th Avenue, Suite 100, Aurora, CO 80012
Tel: (303) 440-1100 Fax: (303) 440-1101
www.bradenganze.com


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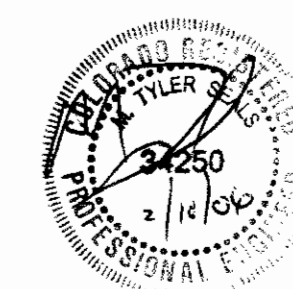


Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

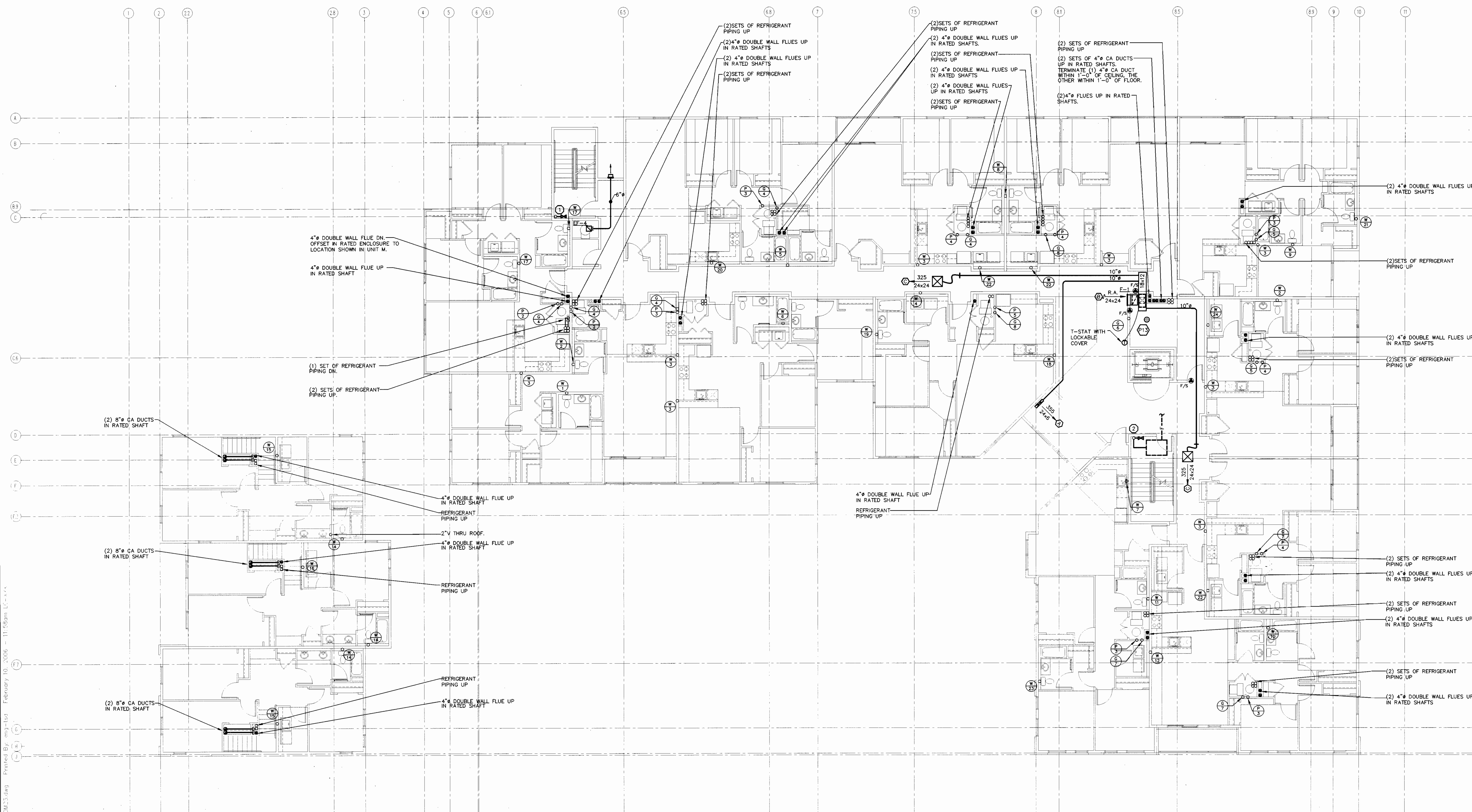
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No.	Description	Date
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SHEET CONTENTS:
2ND LEVEL
MECHANICAL PLAN



M2.3



NOTES:

1. SEE UNIT PLANS SHEET M3.1 THRU M3.4 FOR PLUMBING & HVAC IN RESIDENTIAL UNITS.
2. SEE SHEET M5.1 FOR FIRE PROTECTION RISE DIAGRAM.
3. SEE SHEET M6.1 FOR GAS RISER DIAGRAMS.
4. SEE SHEET M6.1 FOR DOMESTIC WATER RISE DIAGRAMS.
5. SEE SHEETS M7.1 AND M7.2 FOR WASTE & VENT ISOMETRICS.
6. REFER TO DIAGRAMS ①, ② AND ③, SHEET M4.1 FOR DUCTWORK DETAILS.
7. REFER DIAGRAMS ④ AND ⑤, SHEET M4.1 FOR FURNACE AND DX COOLING COIL DETAILS.

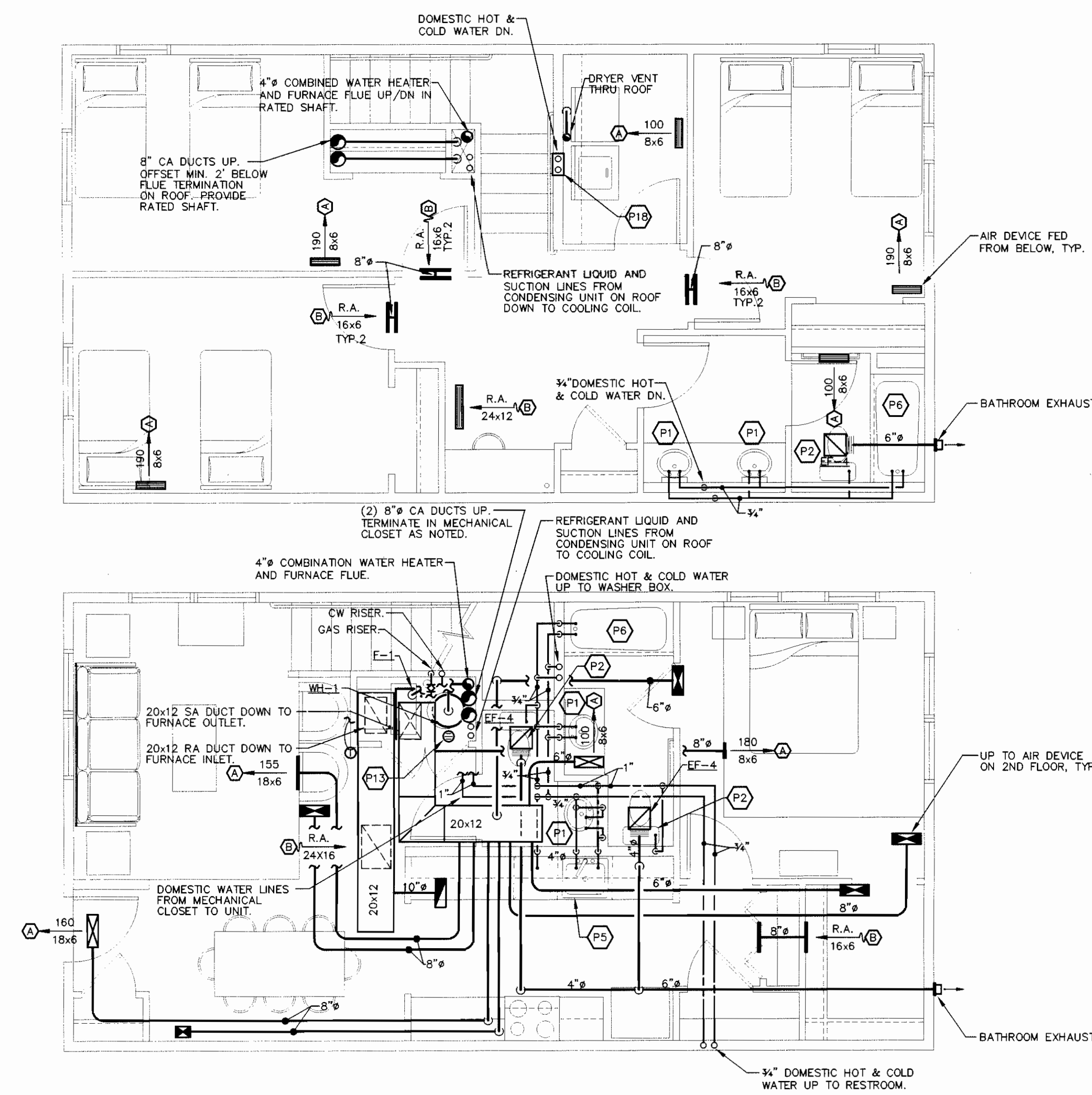
CITY OF AURORA
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APPROVED AS NOTED 
DATE **APPROVED MAY 16 2000**

06 - 108667

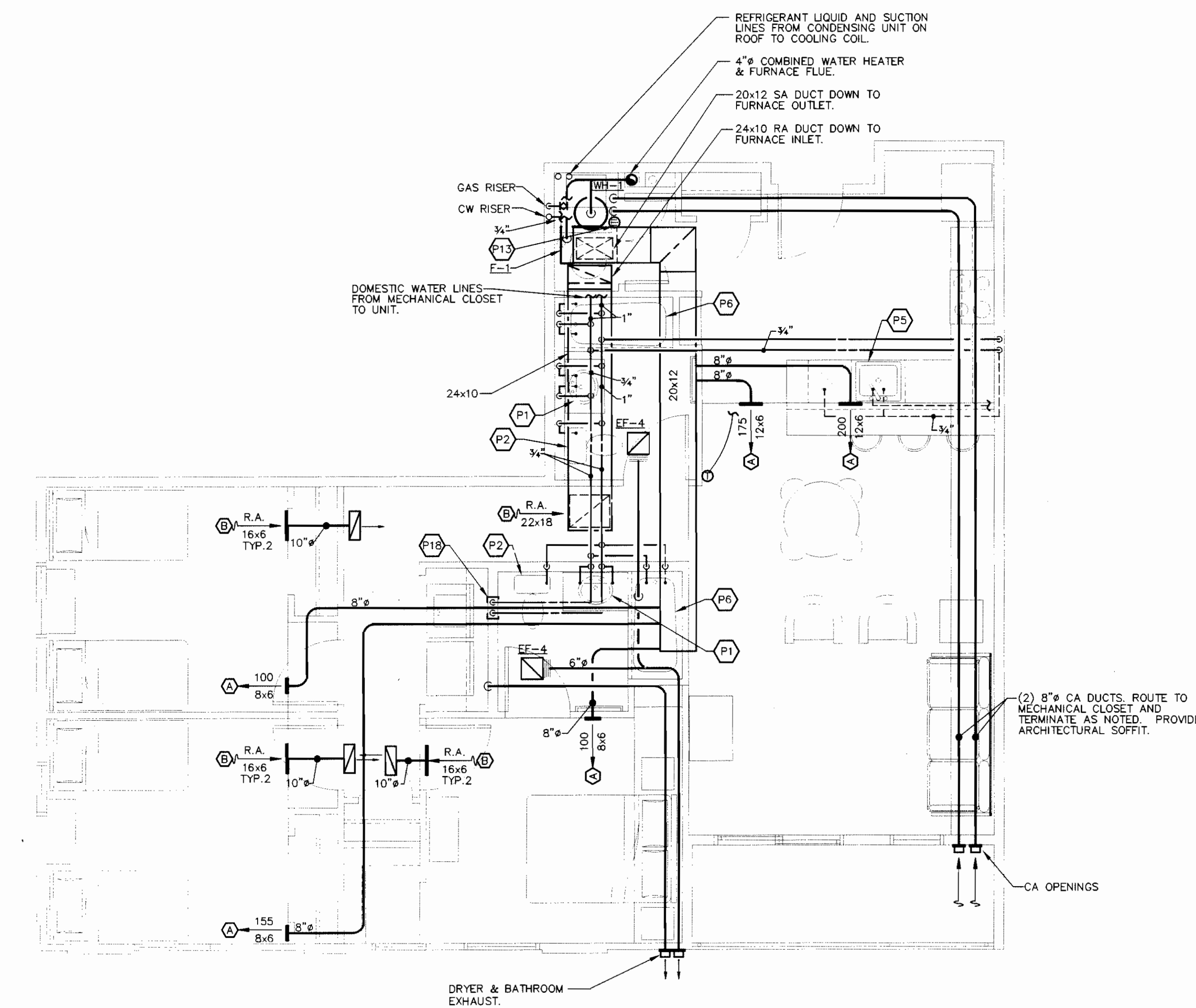
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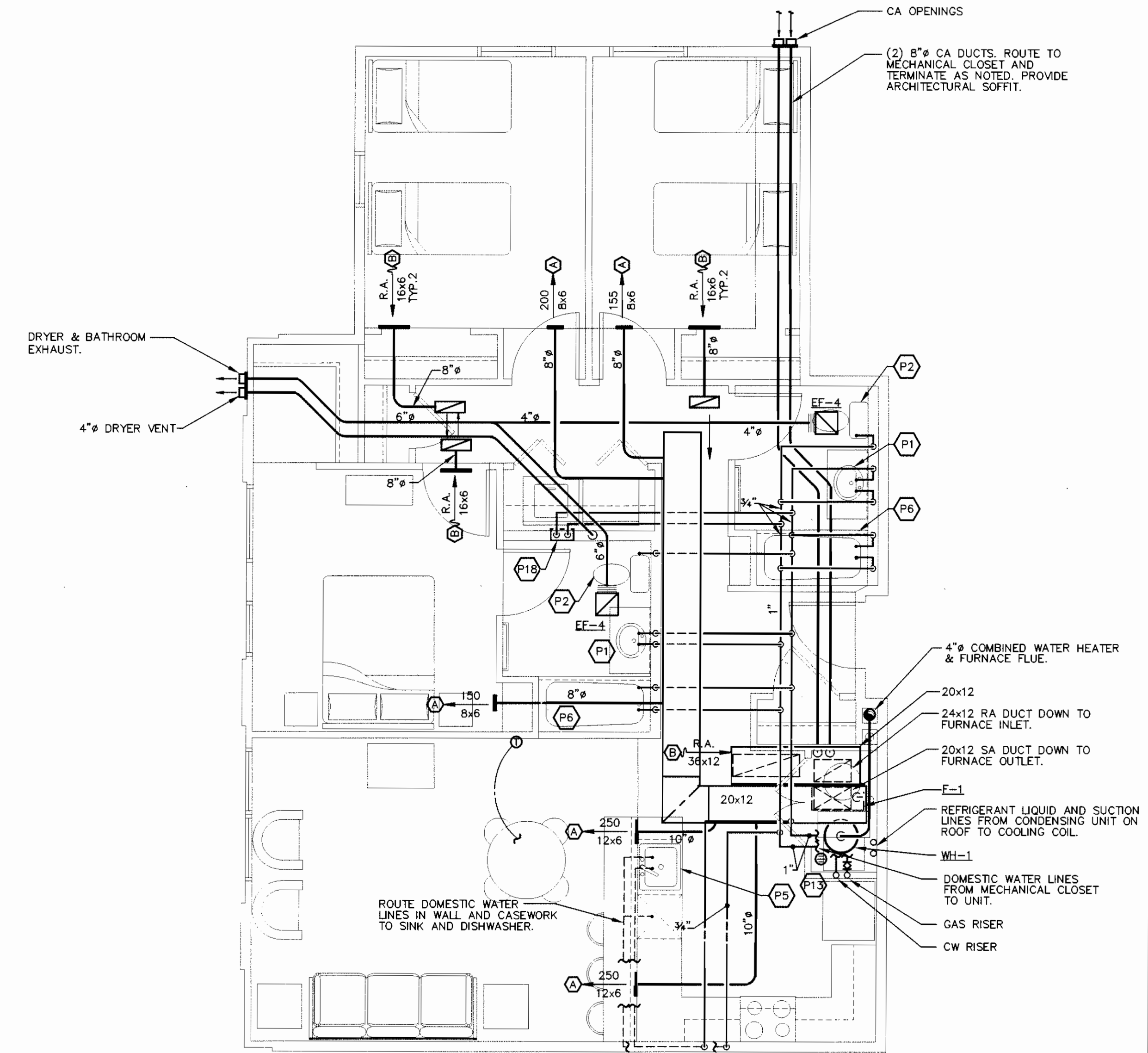


1 UNIT A MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

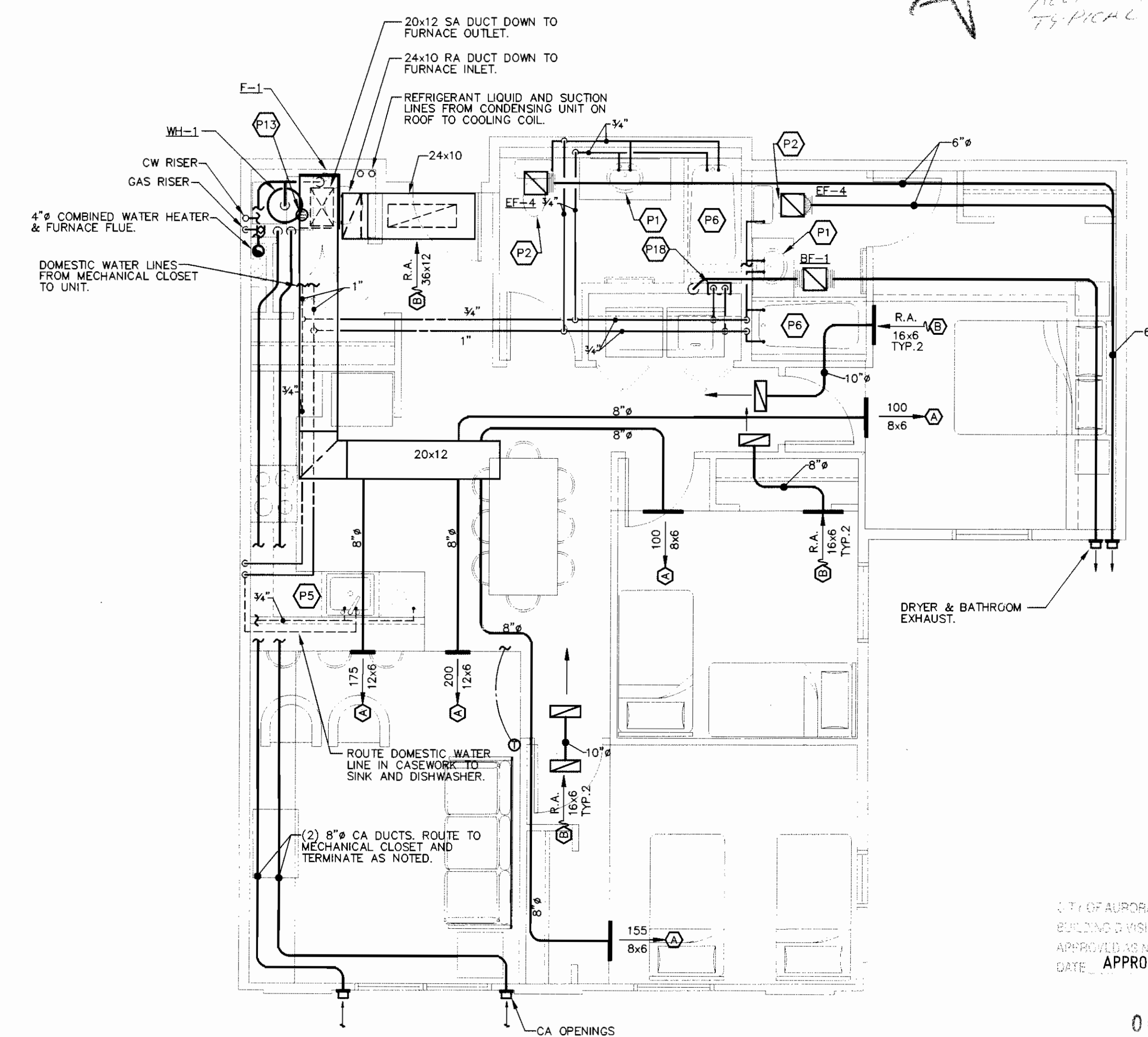


3 UNIT C MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

- NOTES:**
- COORDINATE ALL CEILING DEVICES AND DUCTWORK ABOVE CEILING WITH ARCHITECTURAL RCP'S, LIGHTING PLANS, FIRE PROTECTION, ETC. PRIOR TO INSTALLATION.
 - CA DUCTS SHALL BE INSTALLED IN MECHANICAL CLOSET SUCH THAT ONE DUCT TERMINATES WITHIN 1'-0" OF THE FLOOR AND ONE DUCT TERMINATES WITHIN 1'-0" OF THE CEILING PER 2003 IMC.
 - DUCT CONNECTIONS TO FURNACE SHALL BE FULL SIZE OF FURNACE CONNECTION FLANGES AND BE PROVIDED WITH FLEXIBLE CONNECTIONS.
 - ROUTE PRIMARY CONDENSATE DRAIN FROM COOLING COIL TO SINK TAILPIECE. ROUTE OVERFLOW CONDENSATE DRAIN FROM COOLING COIL TO WATER HEATER DRAIN.
 - ROUTE DISHWASHER WASTE LINE TO GARBAGE DISPOSAL THRU APPROVED AIR GAP FITTING ON TOP OF KITCHEN SINK.
 - ROUTE FLUES UP THRU BUILDING IN 2HR RATED SHAFT BY ARCHITECT PER MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE UPFLOW, FULL CASED DX COOLING COIL ON OUTLET OF ALL FURNACES. COIL MODELS TO BE MATCHED TO CONDENSING UNITS AS INDICATED IN CONDENSING UNIT SCHEDULE. REFER TO DIAGRAMS (D) AND (E), SHEET M4.1 FOR FURNACE AND DX COIL DETAILS.
 - REFER TO DIAGRAM (S), SHEET M4.1 FOR WATER HEATER DETAILS.



2 UNIT B MECHANICAL PLAN
SCALE: 1/4" = 1'-0"



4 UNIT D MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

NOTE: Comply with Article 100.1 of the International Mechanical Code (IMC) 2006 Edition. See also IMC 100.2.1 for requirements for mechanical equipment in mechanical closets.

0.1 OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: APPROVED MAY 18 2005

06-108667

ODELL ARCHITECTS, P.C.
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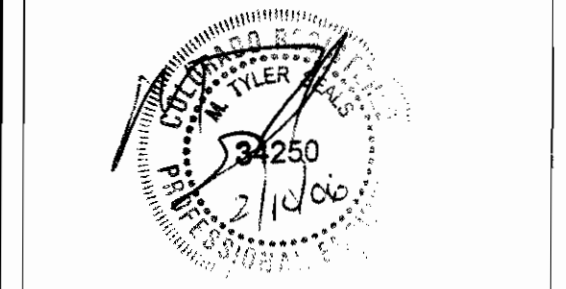
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: JAC
REVIEWED BY: TSD

No.	Description	Date
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2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006

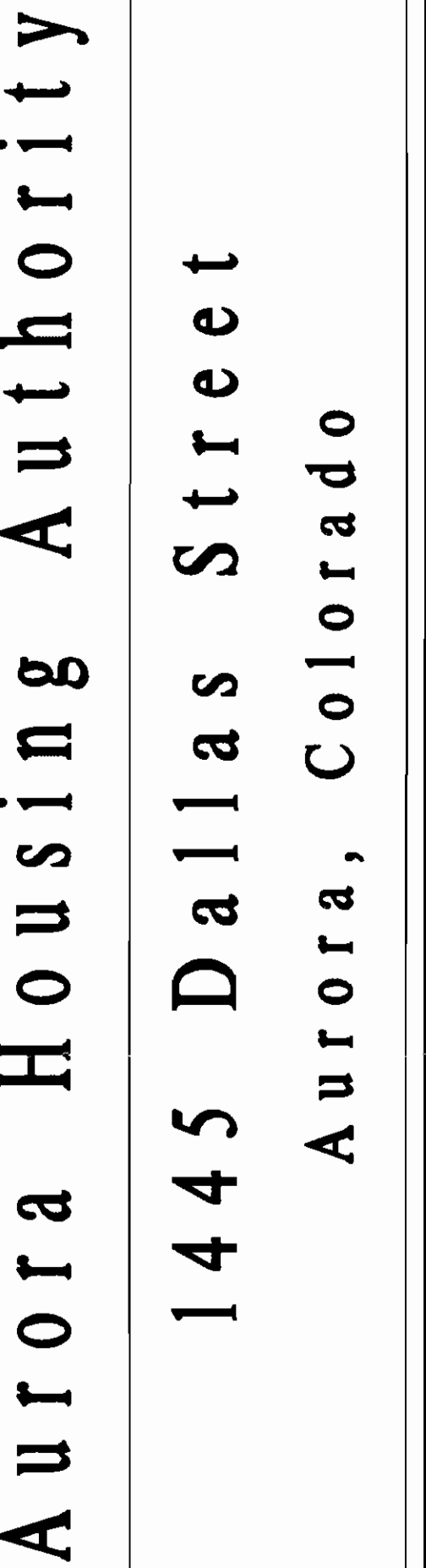
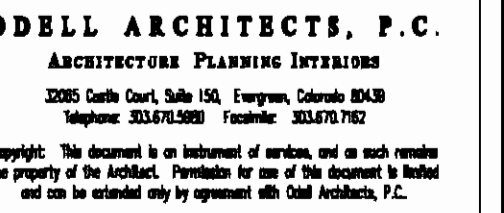
SHEET CONTENTS:
UNIT
MECHANICAL PLANS



PROJECT NO.:
DATE: FEBRUARY 13, 2006

DRAWING NO.:
M3.1

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- ### C.A. OPENINGS



3 UNIT G MECHANICAL PLAN



M3.2

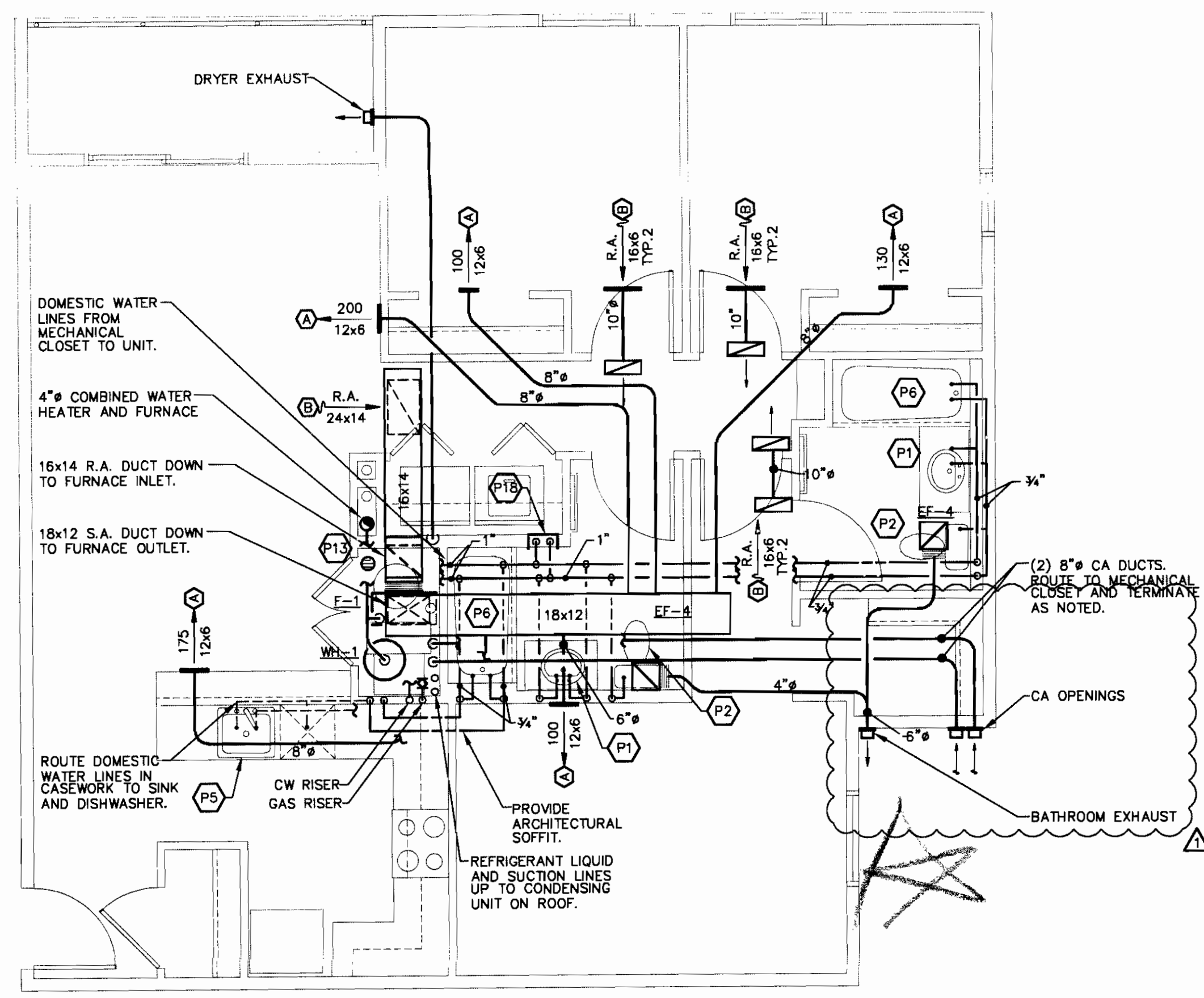
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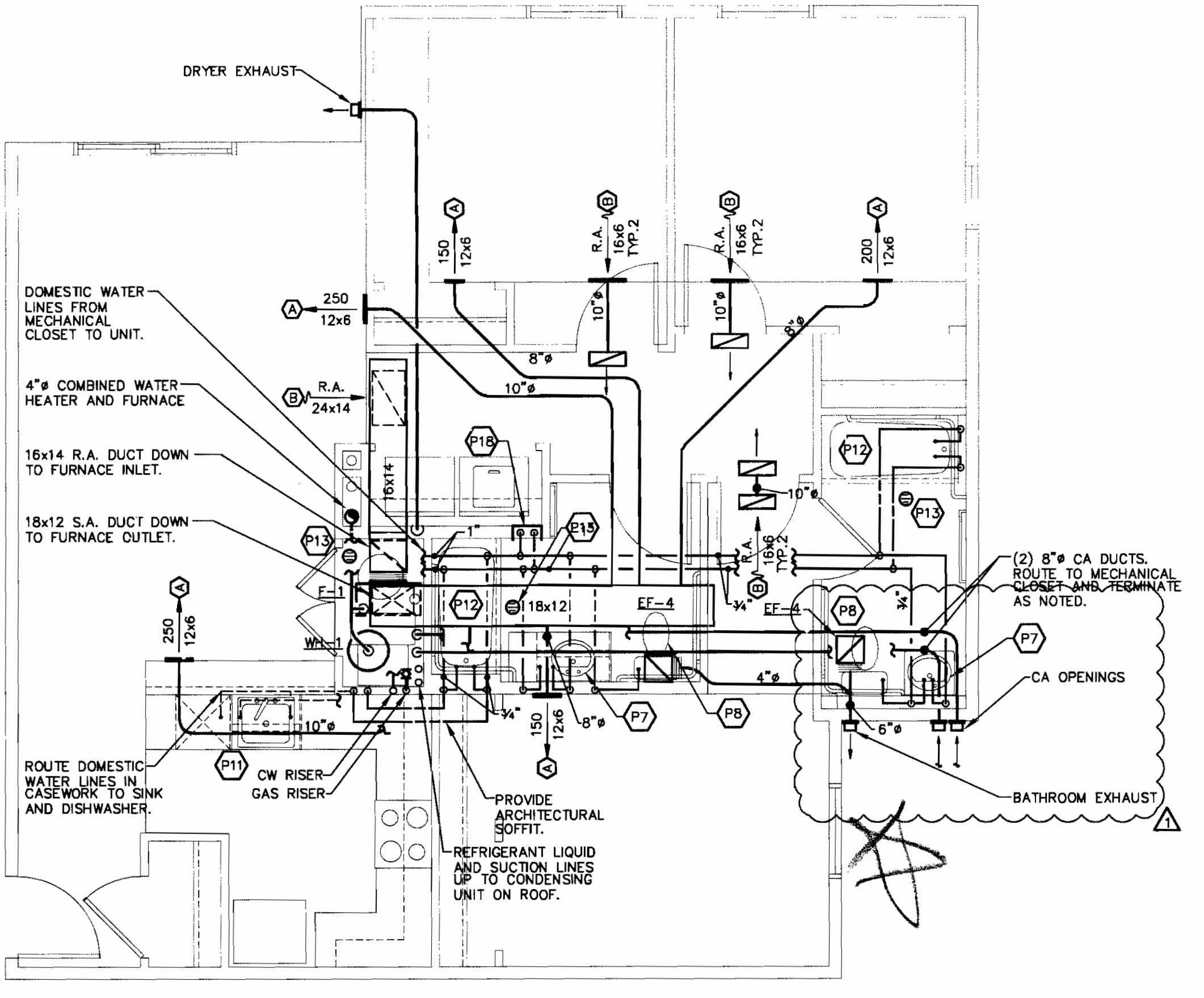

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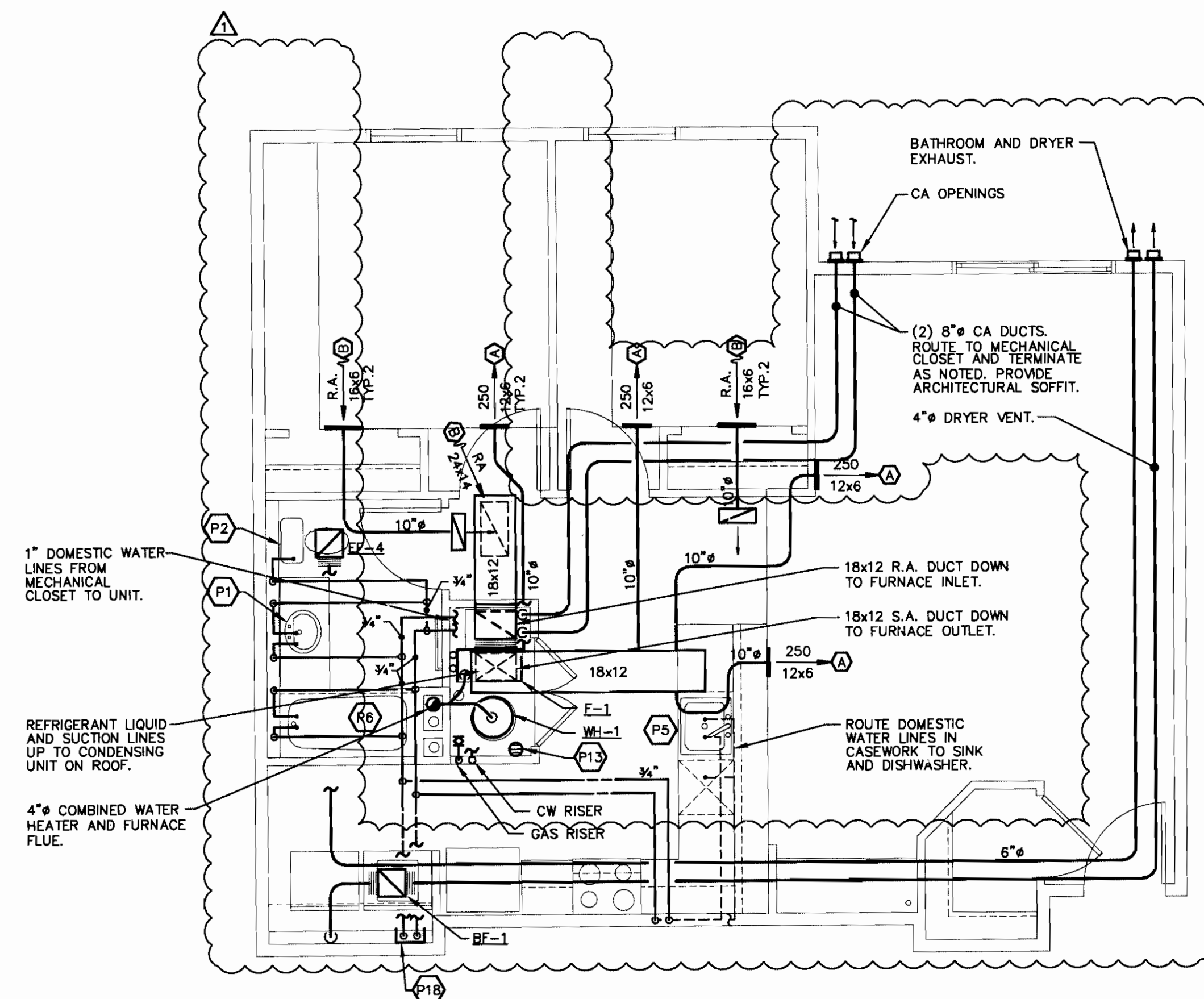
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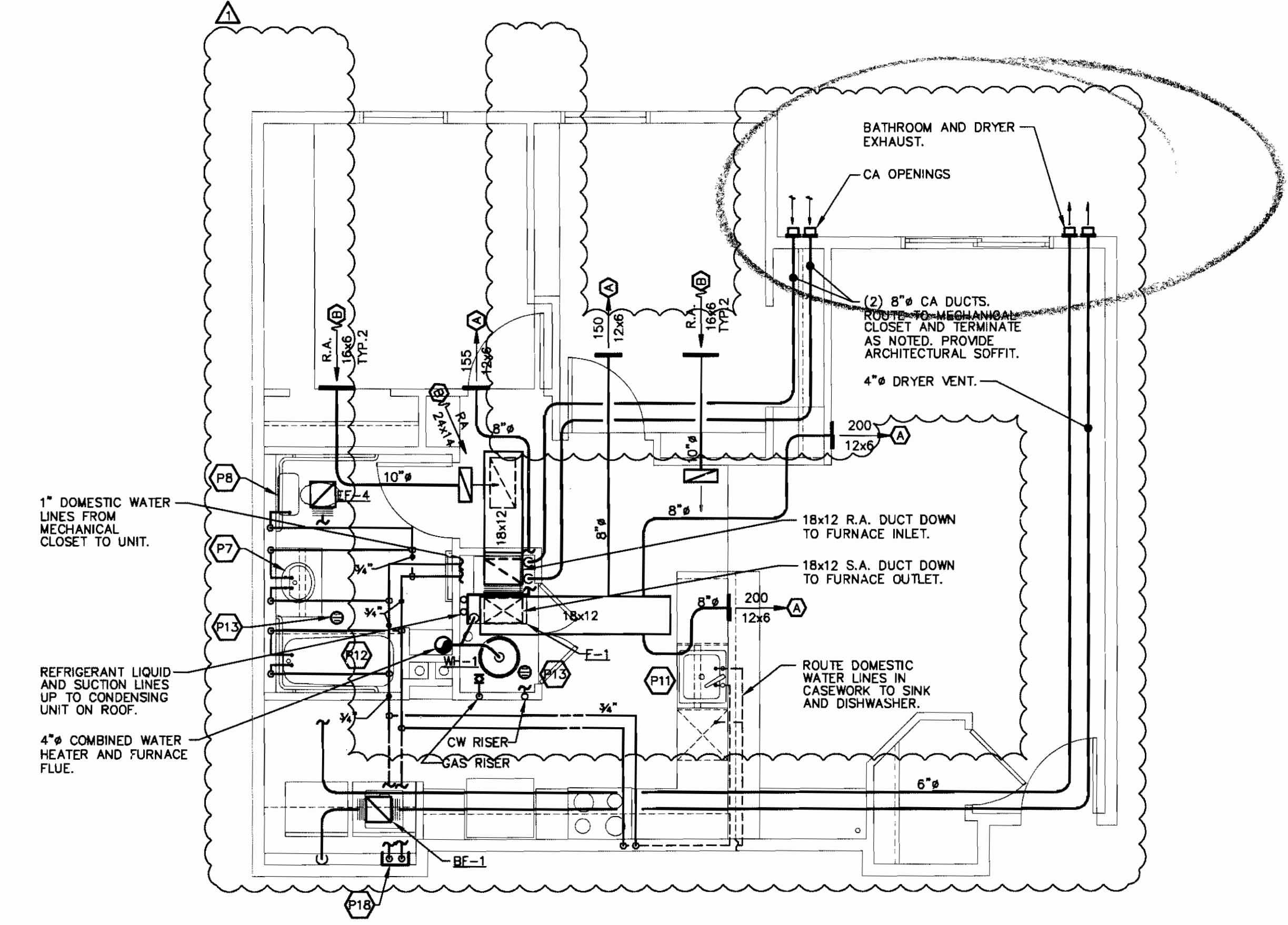
1 UNIT J MECHANICAL PLAN
 SCALE: 1/4" = 1'-0"



2 UNIT J-ADA MECHANICAL PLAN
 SCALE: 1/4" = 1'-0"



3 UNIT K MECHANICAL PLAN
 SCALE: 1/4" = 1'-0"



4 UNIT K-ADA MECHANICAL PLAN
 SCALE: 1/4" = 1'-0"

- NOTES:**
- COORDINATE ALL CEILING DEVICES AND DUCTWORK ABOVE CEILING WITH ARCHITECTURAL RCP'S, LIGHTING PLANS, FIRE PROTECTION, ETC. PRIOR TO INSTALLATION.
 - CA DUCTS SHALL BE INSTALLED IN MECHANICAL CLOSET SUCH THAT ONE DUCT TERMINATES WITHIN 1'-0" OF THE FLOOR AND ONE DUCT TERMINATES WITHIN 1'-0" OF THE CEILING PER 2003 IMC.
 - DUCT CONNECTIONS TO FURNACE SHALL BE FULL SIZE OF FURNACE CONNECTION FLANGES AND BE PROVIDED WITH FLEXIBLE CONNECTIONS.
 - ROUTE PRIMARY CONDENSATE DRAIN FROM COOLING COIL TO SINK TAILPIECE. ROUTE OVERFLOW CONDENSATE DRAIN FROM COOLING COIL TO WATER HEATER DRAIN.
 - ROUTE DISHWASHER WASTE LINE TO GARBAGE DISPOSAL THRU APPROVED AIR GAP FITTING ON TOP OF KITCHEN SINK.
 - ROUTE FLUES UP THRU BUILDING IN 2HR RATED SHAFT BY ARCHITECT PER MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE UPFLOW, FULL CASED DX COOLING COIL ON OUTLET OF ALL FURNACES. COIL MODELS TO BE MATCHED TO CONDENSING UNITS AS INDICATED IN CONDENSING UNIT SCHEDULE. REFER TO DIAGRAMS C AND D, SHEET M4.1 FOR FURNACE AND DX COIL DETAILS.
 - REFER TO DIAGRAM C, SHEET M4.1 FOR WATER HEATER DETAILS.

NOTE: Comply with Article 1207.1.2.1

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 REVIEWED BY: XXX

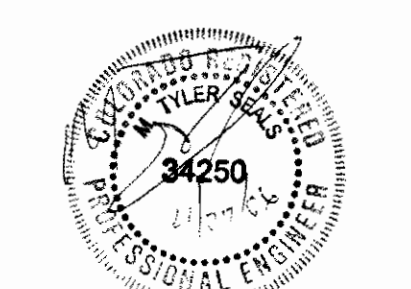
REVISIONS:

No.	Description	Date
1	BUILDING DEPARTMENTS	06/20/2006

ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/09/2006

SHEET CONTENTS:
 UNIT
 MECHANICAL PLANS



PROJECT NO:
 DATE: March 9, 2006

DRAWING NO:

M3.3

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 1445 Dallas Street, Suite 100
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 Fax: (303) 255-7234
 www.bga.com



1. COORDINATE ALL CEILING DEVICES AND DUCTWORK ABOVE CEILING WITH MECHANICAL ROOM EQUIPMENT PLANS, FIRE PROTECTION, ETC. PRIOR TO INSTALLATION.
2. CA DUCTS SHALL BE INSTALLED IN MECHANICAL CLOSET SUCH THAT ONE DUCT TERMINATES WITHIN 1'-0" OF THE FLOOR AND ONE DUCT TERMINATES WITHIN 1'-0" OF THE CEILING PER 2003 IMC.
3. DUCT CONNECTIONS TO FURNACE SHALL BE FULL SIZE OF FURNACE CONNECTION FLANGES AND BE PROVIDED WITH FLEXIBLE CONNECTIONS.
4. ROUTE PRIMARY CONDENSATE DRAIN FROM COILING COIL TO SINK TAILPIPE, ROUTE OVERHEAD CONDENSATE DRAIN FROM COILING COIL TO WATER HEATER DRAIN.
5. ROUTE DISHWASHER WASTE LINE TO GARBAGE DISPOSAL THRU APPROVED AIR GAP FITTING ON TOP OF KITCHEN SINK.
6. ROUTE FLUES UP THRU BUILDING IN 2HR RATED SHAFT BY ARCHITECT PER MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE UPFLOW, FULL CASX DC COILING COIL, ONE COIL SET OF EACH COILING MODEL TO BE MATCHED TO CONDENSING UNITS AS INDICATED IN CONDENSING UNIT SCHEDULE. REFER TO DIAGRAMS 0-AND 0- SHEET M-4.1 FOR FURNACE AND DC COIL DETAILS.
8. REFER TO DIAGRAM 0- SHEET M-4.1 FOR WATER HEATER DETAILS.



06 - 108667

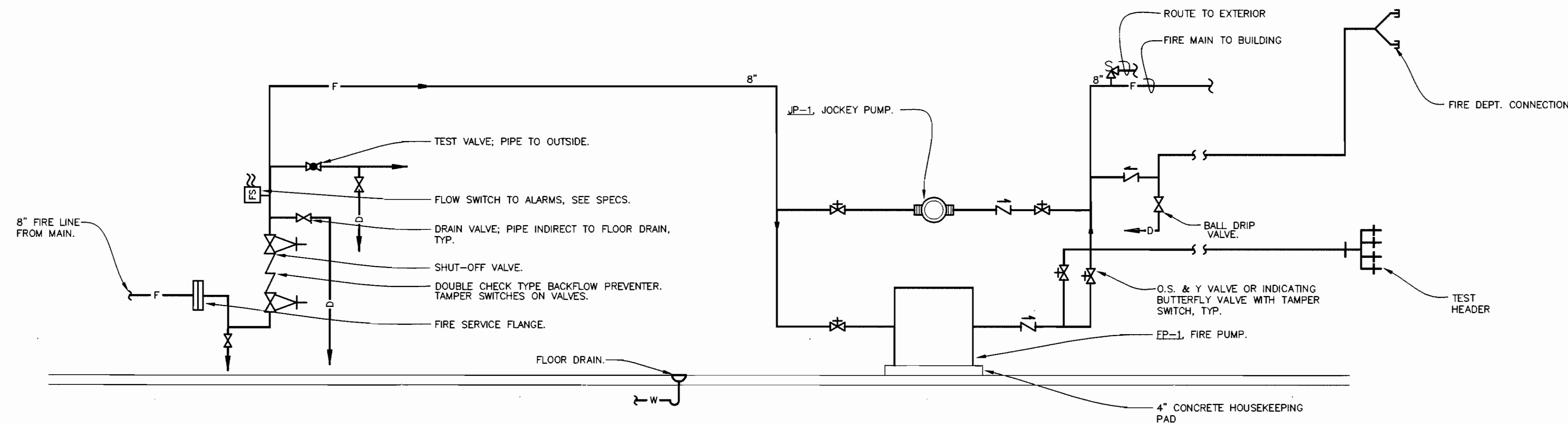
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

M3.4

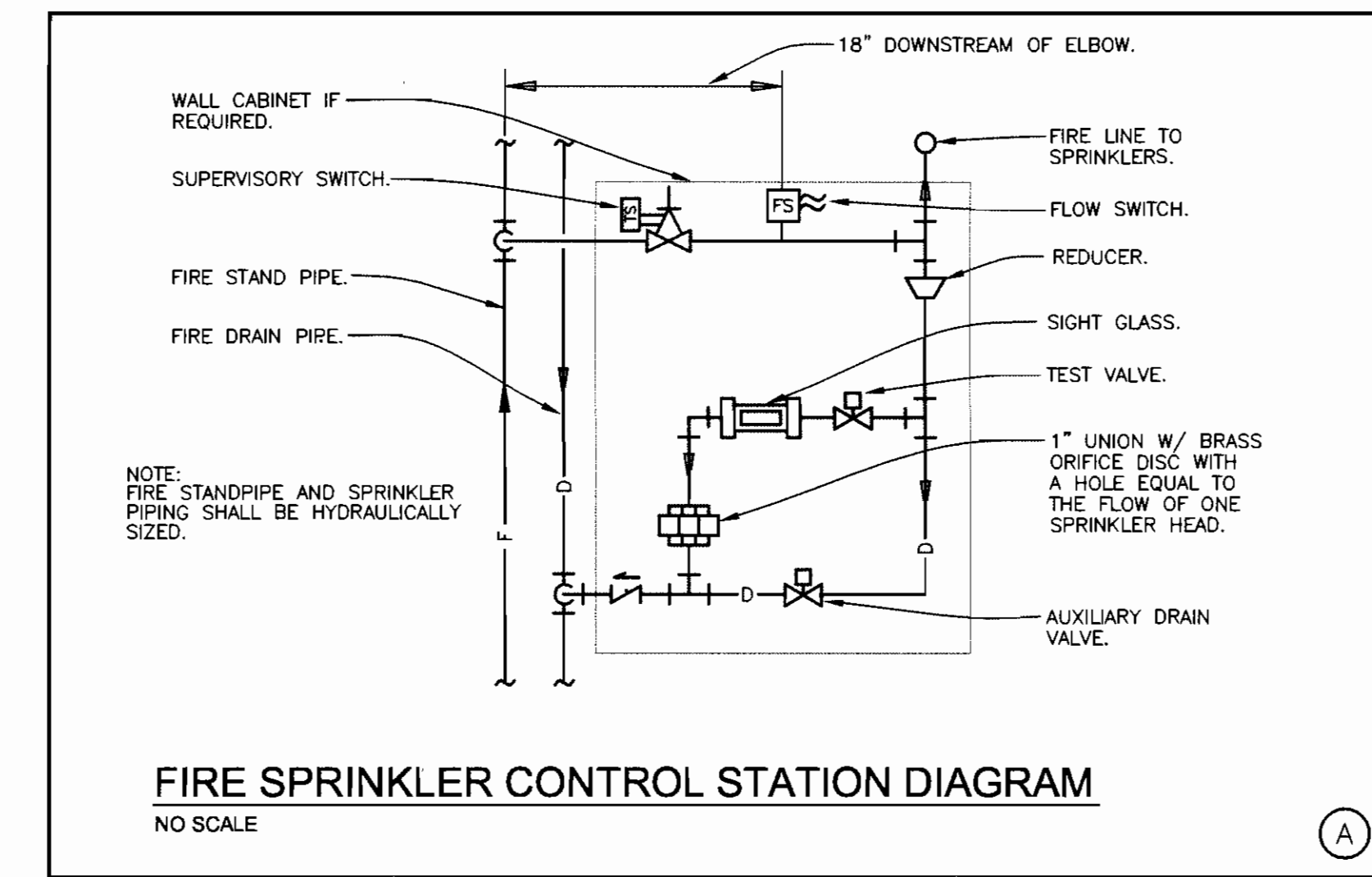
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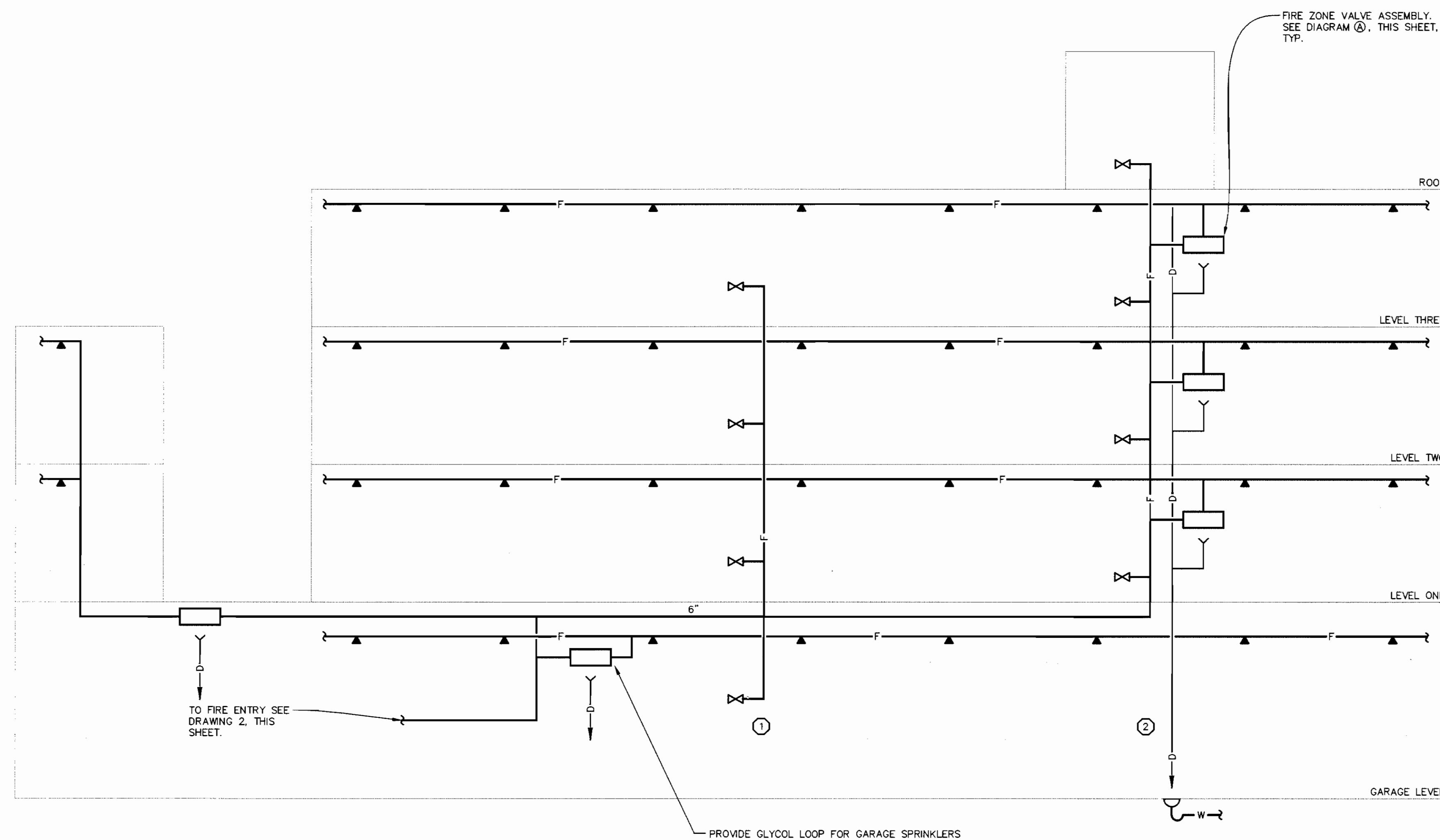


2 FIRE PUMP PIPING SCHEMATIC
NO SCALE



NOTES:

1. EXTEND DRAIN LINES TO EXTERIOR AND TERMINATE PER NFPA REQUIREMENTS, TYP.
2. PROVIDE SPRINKLERS IN TRASH CHUTE PER NFPA 13.



1 FIRE RISER DIAGRAM
SCALE: NO SCALE

SEPARATE PERMIT
FOR SPRINKLER
SYSTEM IS REQUIRED



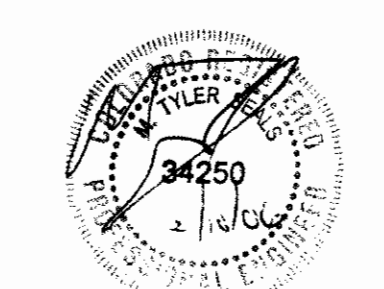
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1445 Dallas Street
Aurora, Colorado

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REVIEWED BY: XXX

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No.	Description	Date

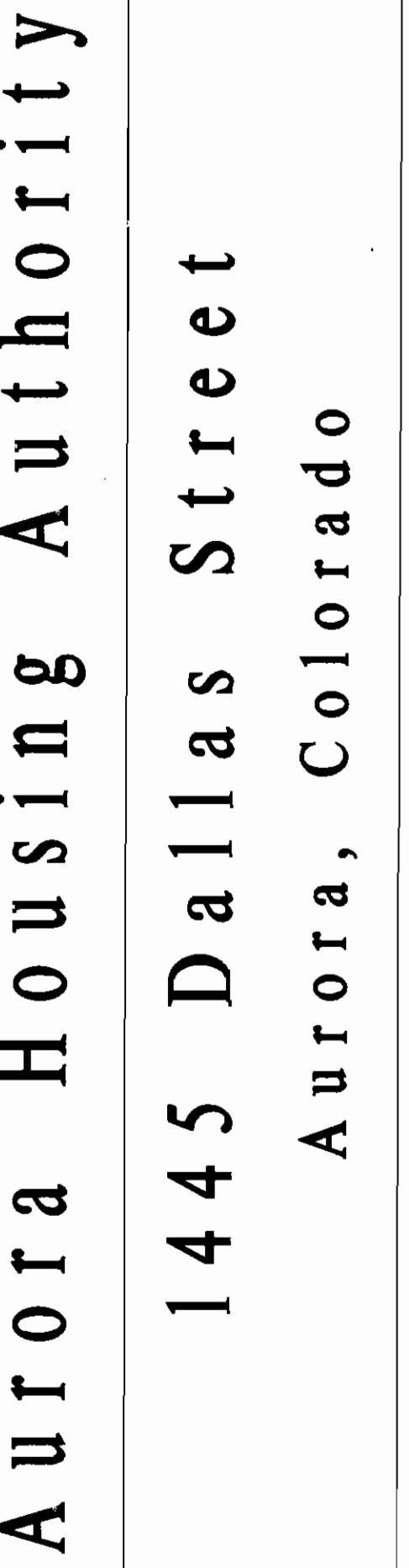
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No.	Description	Date
1	SD PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006

SHEET CONTENTS:
FIRE PROTECTION
RISER



PROJECT NO.:
DATE: FEBRUARY 13, 2006

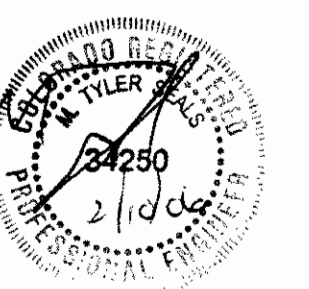
DRAWING NO.:
M5.1



- NOTES:**
1. ALL PIPING TO ONE APPLIANCE 3/4" U.N.O.
 2. SEE SCHEDULES ON SHEET M1.2 FOR BTU INPUT OF INDIVIDUAL APPLIANCES.



CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED 
DATE APPROVED MAY 16 2006



M6.1

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1		
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10		

ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006
5		
6		
7		
8		
9		
10		

SHEET CONTENTS:
 WASTE AND VENT
 ISOMETRICS



PROJECT NO.:

DATE: FEBRUARY 13, 2006

DRAWING NO.:

M7.1

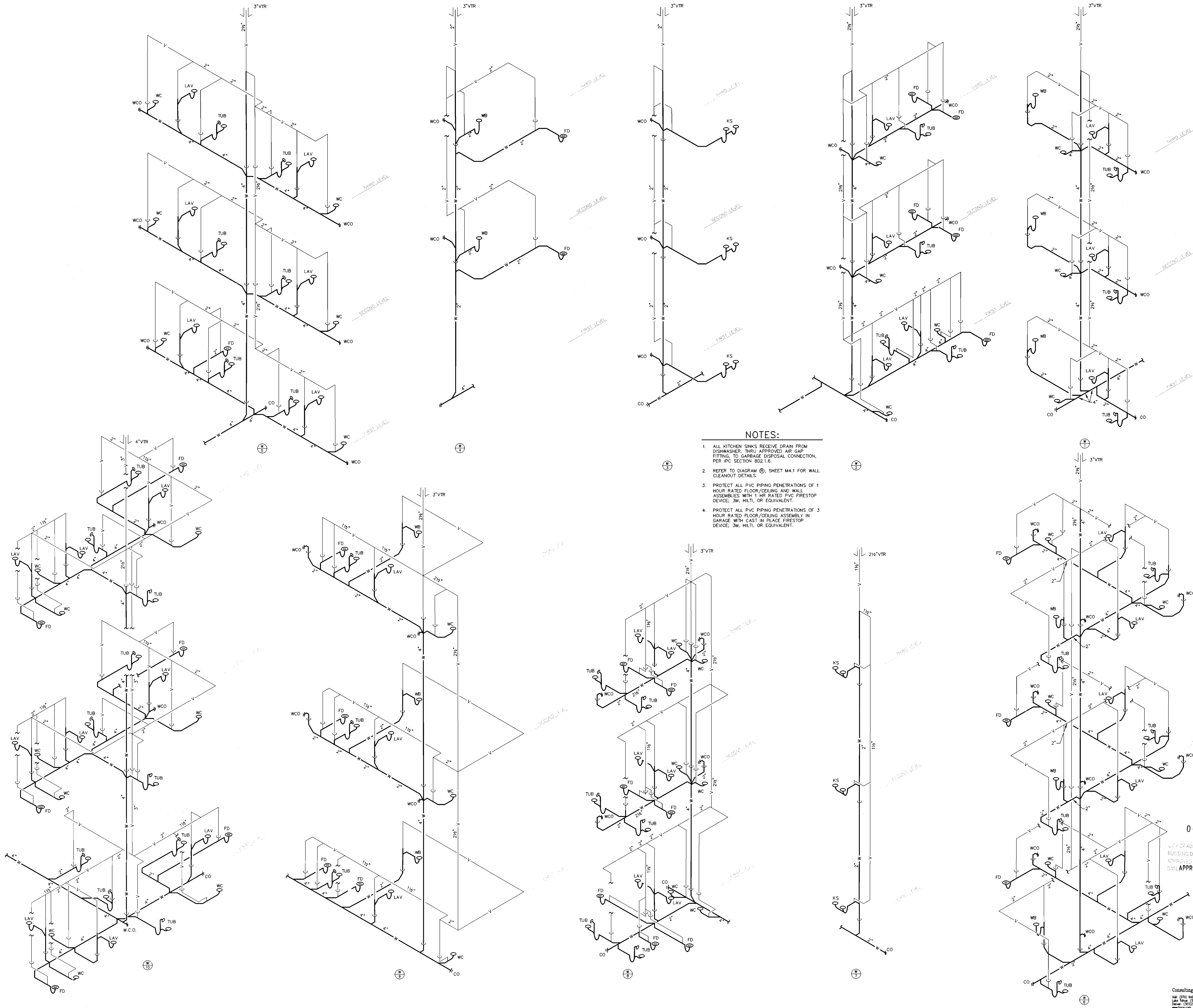
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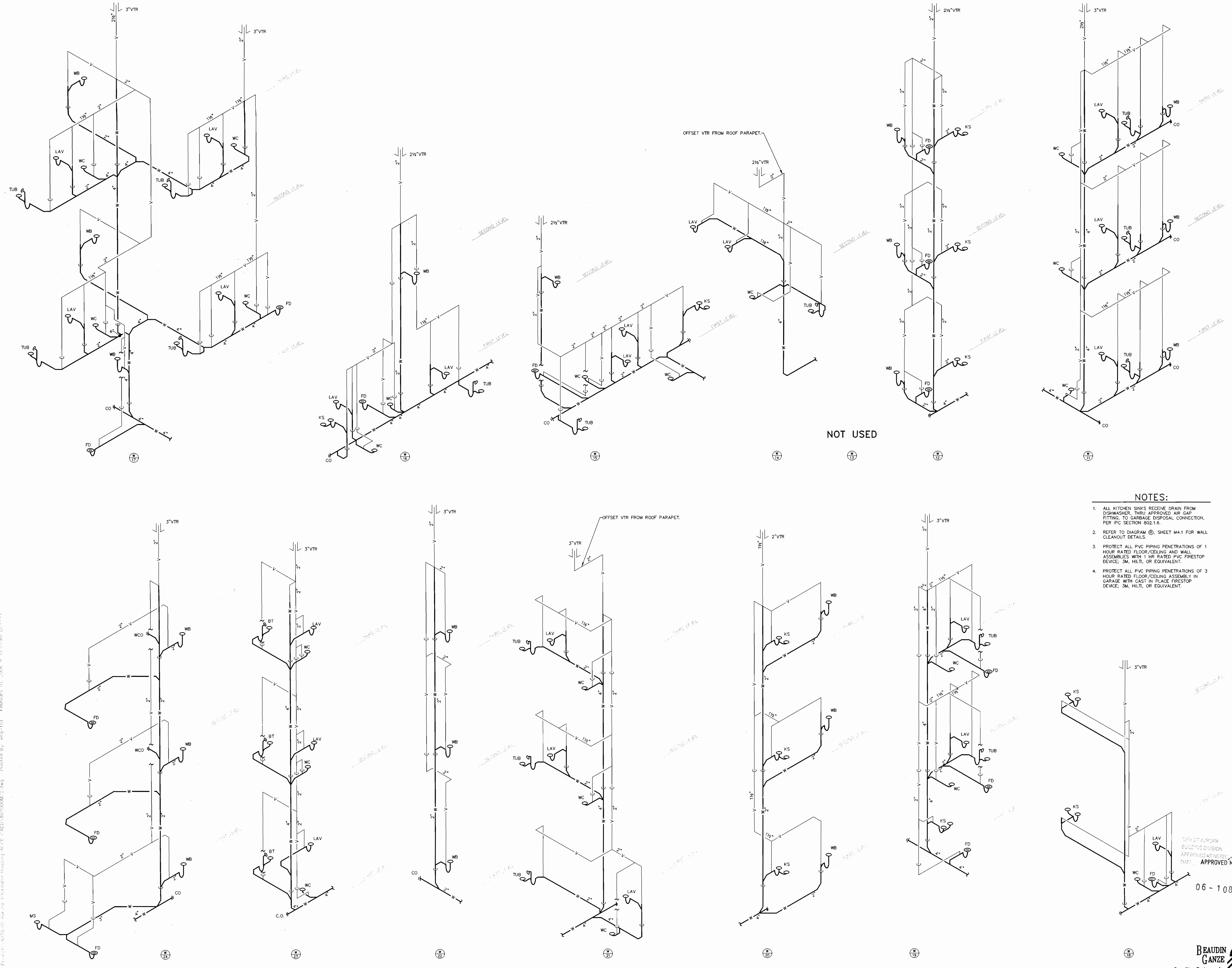
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 APPROVED AS NOTED
 DATE APPROVED MAY 16 2006

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 Denver, CO 80202-3020
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NOTES:

1. ALL KITCHEN SINKS RECEIVE DRAIN FROM DISHWASHER, THRU APPROVED AIR GAP FITTING, TO GARBAGE DISPOSAL CONNECTION, PER IPC SECTION 802.1.6.
2. REFER TO DIAGRAM (B), SHEET M4.1 FOR WALL CLEANOUT DETAILS.
3. PROTECT ALL PVC PIPING PENETRATIONS OF 1 HOUR RATED FLOOR/CEILING AND WALL ASSEMBLIES WITH 1 HR RATED PVC FIRESTOP DEVICE, 3M, HILTI, OR EQUIVALENT.
4. PROTECT ALL PVC PIPING PENETRATIONS OF 3 HOUR RATED FLOOR/CEILING ASSEMBLY IN GARAGE WITH CAST-IN PLACE FIRESTOP DEVICE, 3M, HILTI, OR EQUIVALENT.





- NOTES:
1. ALL KITCHEN SINKS RECEIVE DRAIN FROM DISHWASHER, THRU APPROVED AIR GAP FITTING, TO GARBAGE DISPOSAL CONNECTION, PER IPC SECTION 802.1.6.
 2. REFER TO DIAGRAM (B), SHEET M4.1 FOR WALL CLEANOUT DETAILS.
 3. PROTECT ALL PVC PIPING PENETRATIONS OF 1 HOUR RATED FLOOR/CEILING AND WALL ASSEMBLIES WITH 1 HR. RATED PVC FIRESTOP DEVICE, 3M, HILTI, OR EQUIVALENT.
 4. PROTECT ALL PVC PIPING PENETRATIONS OF 3 HOUR RATED FLOOR/CEILING ASSEMBLY IN GARAGE WITH CAST IN PLACE FIRESTOP DEVICE, 3M, HILTI, OR EQUIVALENT.

ODELL ARCHITECTS, P.C.
ARCHITECTURAL PLANNING DESIGNERS
3305 Gable Court, Suite 100, Englewood, Colorado 80150
Telephone: 303.675.0505 Fax: 303.675.1702
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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

REVISIONS:

No.	Description	Date

ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006

SHEET CONTENTS:
WASTE AND VENT
ISOMETRICS

City of Aurora
BUILDING DIVISION
APPROVED AS NOTED
DATE: APPROVED MAY 18 2006

PROJECT NO.:
DATE: FEBRUARY 13, 2006
DRAWING NO.:
M7.2

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Denver: (303) 733-7334
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Aurora Housing Authority
1445 Dallas Street
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DRAWN BY: WTR
REVIEWED BY: HMO

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1		
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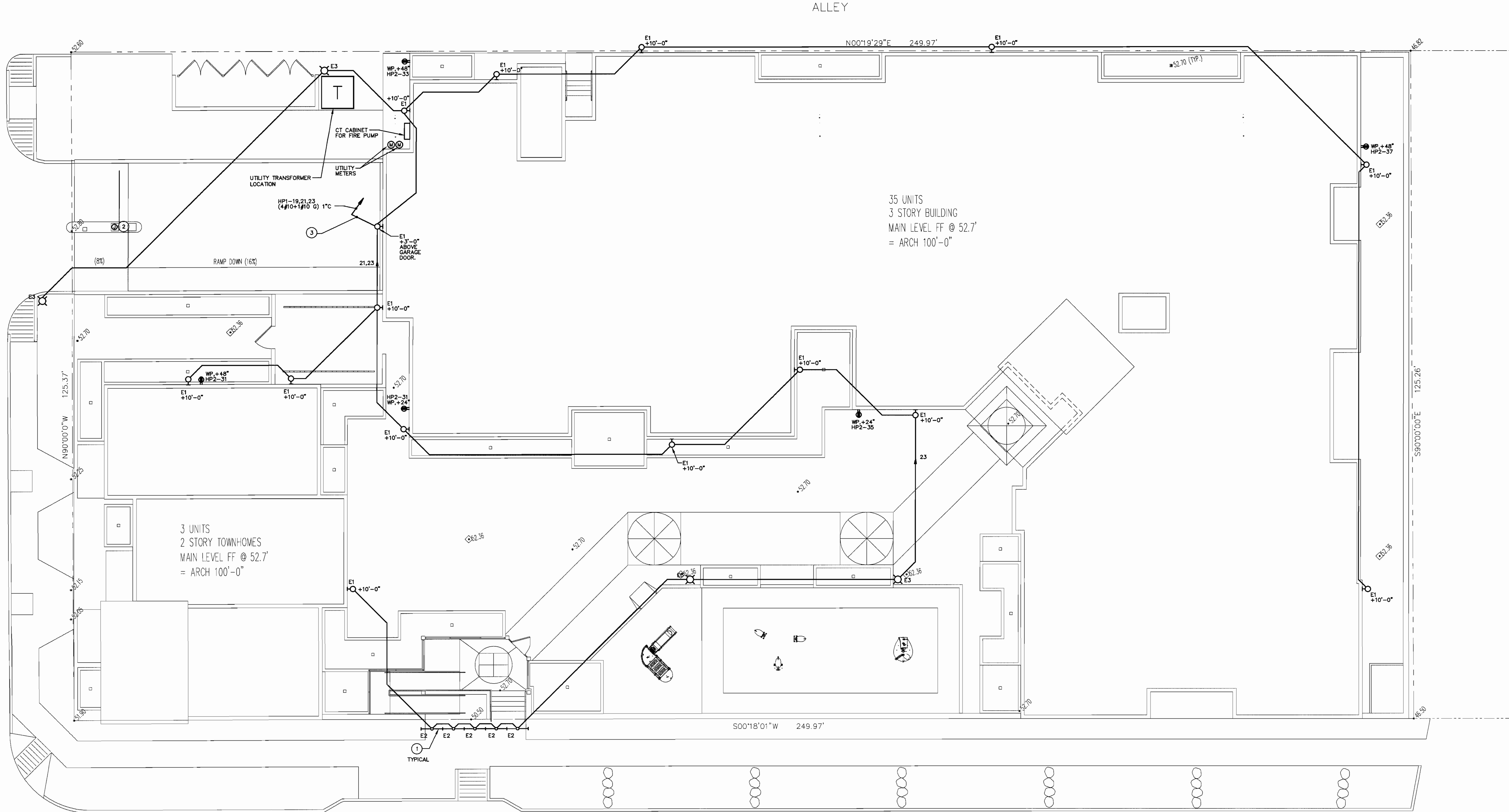
ISSUE RECORD:		
No.	Description	Date
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3	SOOR CD PACKAGE	05/24/2005
4	SOOR CD PACKAGE	02/13/2006
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6		
7		
8		
9		
10		

SHEET CONTENTS:
ELECTRICAL SITE PLAN



PROJECT NO.:
DATE: FEBRUARY 13, 2006

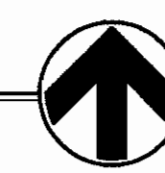
DRAWING NO.:
E1.2



NOTES:
1. ALL LIGHTING BRANCH CIRCUITS ON THIS SHEET SHALL CONSIST OF #10 CONDUCTORS.

FLAG NOTES:
1. MOUNT FIXTURE UNDER CANOPY.
2. JUNCTION BOX FOR INSTALLATION OF CARD READER AT GARAGE DOOR ENTRANCE. ROUTE 1" CONDUIT FROM JUNCTION BOX TO ELECTRICAL ROOM.
3. ROUTE BRANCH CIRCUITS THRU LIGHTING CONTACTOR FOR ON/OFF CONTROL.

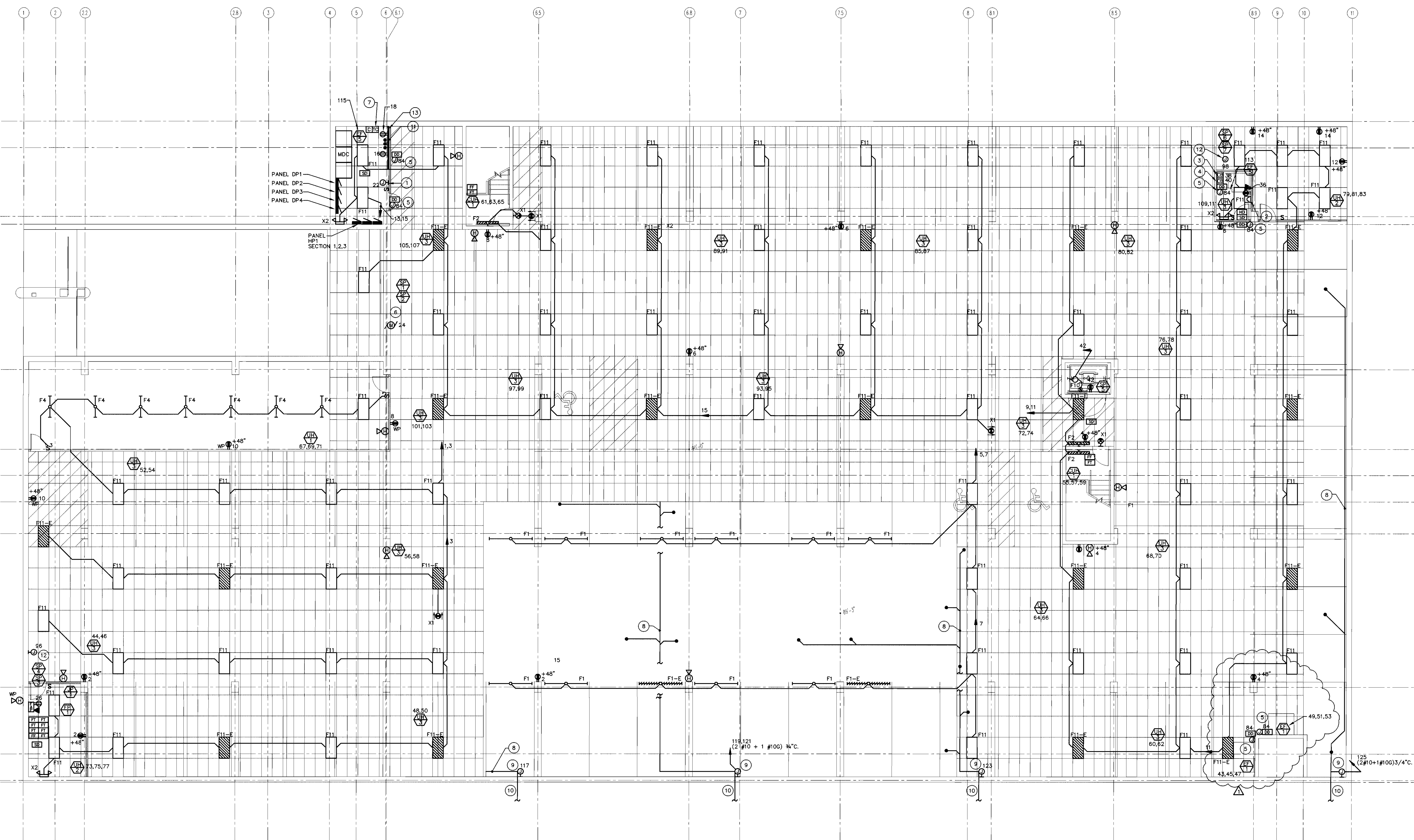
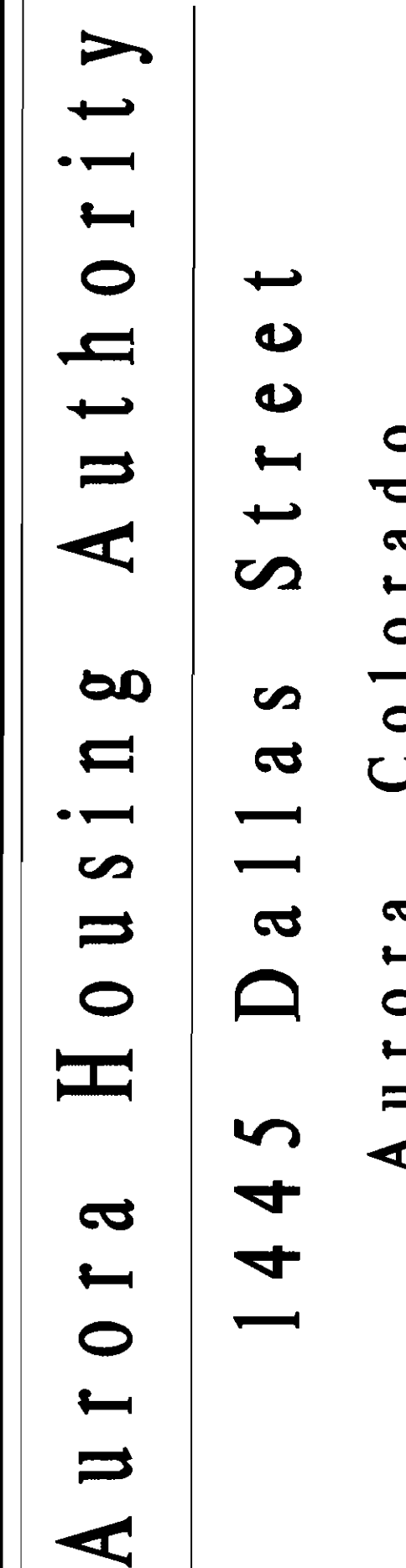
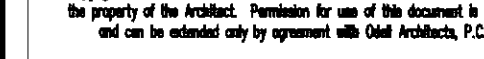
1 ELECTRICAL SITE PLAN
SCALE: 1/8" = 1'-0"



NOTE: Comply with 2003 IBC Article 220.5
EMERGENCY LIGHTING FOR EGRESS DISABLING

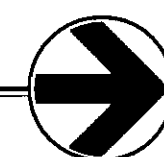
CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: APPROVED MAY 16 2006

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Denver: (303) 777-3007
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1 GARAGE LEVEL ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"



NOTES:

1. NUMBER NEXT TO ELECTRICAL DEVICE INDICATES CIRCUIT POSITION THAT BRANCH CIRCUIT SHALL OCCUPY IN PANEL "HP1" UNLESS NOTED OTHERWISE.
2. FIXTURES IN PARKING GARAGE SHALL BE ON 24/7.

FLAG NOTES:

- 1) PROVIDE 120-VOLT POWER TO CARBON MONOXIDE CONTROL PANEL. VERIFY LOCATION WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN.
 - 2) SHUNT-TRIP CIRCUIT BREAKER FOR ELEVATOR REFER TO ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
 - 3) PROVIDE BRANCH CIRCUIT OVER CURRENT PROTECTION DEVICE FOR ELEVATOR CAB LIGHTS, POWER, AND VENTILATION. CIRCUIT BREAKER SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION.
 - 4) PROVIDE BRANCH CIRCUIT OVER CURRENT PROTECTION DEVICE FOR ELEVATOR CAB AIR CONDITIONING. CIRCUIT BREAKER SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION.
 - 5) PROVIDE 120V POWER AND FIRE ALARM CONNECTION TO FIRE/SMOKE DAMPER. DAMPER SHALL SHUT UPON ACTIVATOR FOR DUCT DETECTOR.
 - 6) PROVIDE CONNECTION TO GARAGE DOOR OPENER.
 - 7) PROVIDE TIME CLOCK AND CONTACTOR FOR THE CONTROL OF EXTERIOR LIGHTING. SEE DIAGRAM (D) ON SHEET ES.1 FOR MORE INFORMATION. CIRCUIT TO HP1-20.
 - 8) ELECTRICAL CONTRACTOR SHALL PROVIDE RAYCHEM BXGL-CR HEAT TAPE BETWEEN PLUMBING PIPING AND INSULATION, PROVIDE ALL REQUIRED HARDWARE, SPLICES, ETC. FOR A COMPLETE AND OPERATIONAL ASSEMBLY.
 - 9) RAYCHEM #TTC-XC HEAT TAPE POWER CONNECTION.
 - 10) ROUTE HEAT TAPE ALONG PIPING TO BELOW FROST LINE.
 - 11) CONDUITS FROM TELEPHONE/CABLE TELEVISION PROVIDER TO COMMUNICATIONS BACKBOARD. REFER TO COMMUNICATIONS ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
 - 12) PROVIDE 120-VOLT POWER CONNECTION TO PUMP PUMP HIGH WATER ALARMS.
 - 13) PROVIDE TWO 4"x8" FIERERATED PLYWOOD BACKBOARD FOR COMMUNICATIONS EQUIPMENT. FROM BACKBOARD PROVIDE #6 BARE COPPER GROUND TO BUILDING STEEL.

06 - 108

APPROVED MAY 11, 2011

06 - 108667

APPROVED MAY 16 2000

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E2.1



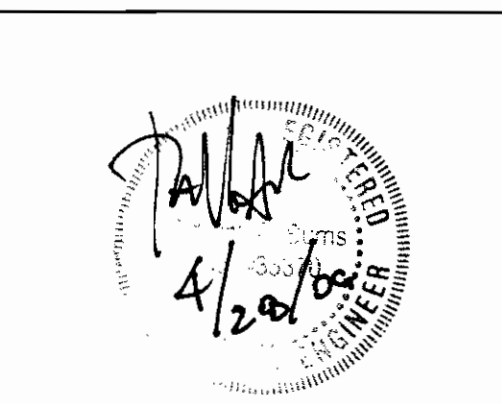
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: MTR
REVIEWED BY: HMD

No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
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No.	Description	Date
1	SD PACKAGE	10/20/2004
2	100% DD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/09/2006
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SHEET CONTENTS
1ST LEVEL
ELECTRICAL PLAN



PROJECT NO:
DATE: March 9, 2006

DRAWING NO:

E2.2

06 - 108667

CITY OF AURORA
BUILDING DIVISION
APPROVED MAY 16 2006
DATE: 5/16/2006

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NOTES:

- NUMBERS NEXT TO ELECTRICAL DEVICE INDICATES CIRCUIT POSITION THAT BRANCH CIRCUIT SHALL OCCUPY IN PANEL "HP2" UNLESS NOTED OTHERWISE.
- FOR EACH TELEPHONE / COMMUNICATION DEVICE PROVIDE A 4"x4" JUNCTION BOX WITH SINGLE GANG MUD RING. FROM JUNCTION BOX ROUTE 3/4" EMT CONDUIT TO ABOVE ACCESSIBLE CEILING. PROVIDE BUSHING ON EXPOSED END OF CONDUIT.

FLAG NOTES:

- PROVIDE 4"x4" RECESSED JUNCTION BOX AT 4'x2' FOR INTERCOM SYSTEM. FROM JUNCTION BOX ROUTE 1" CONDUIT BACK TO TELEPHONE BOARD IN ELECTRICAL ROOM.
- PROVIDE 120-VOLT POWER AND FIRE ALARM CONNECTION TO FIRE SMOKE DAMPER. FIRE SMOKE DAMPER SHALL SHUT UPON ACTIVATION OF DUCT DETECTOR.
- PROVIDE 120-VOLT POWER CONNECTION TO TRASH CHUTE COMPRESSOR.
- PROVIDE 120-VOLT POWER FOR TRASH CHUTE DEODORIZER.

1 1ST LEVEL ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"





ODELL ARCHITECTS, P.C.
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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: MTR
REVIEWED BY: HVO

REVISIONS:		
No.	Description	Date

ISSUE RECORD:		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006

SHEET CONTENTS:
2ND LEVEL
ELECTRICAL PLAN



PROJECT NO.:
DATE: FEBRUARY 13, 2006

DRAWING NO.:

E2.3

06 - 108667

APPROVED MAY 16 2006

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NOTES:

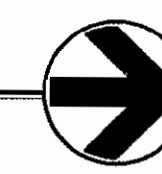
- NUMBERS NEXT TO ELECTRICAL DEVICE INDICATES CIRCUIT POSITION THAT BRANCH CIRCUIT SHALL OCCUPY IN PANEL "HP3" UNLESS NOTED OTHERWISE.

FLAG NOTES:

- PROVIDE 120-VOLT POWER AND FIRE ALARM CONNECTION TO FIRE SMOKE DAMPER. FIRE SMOKE DAMPER SHALL SHUT UPON ACTIVATION OF DUCT DETECTOR.

1 2ND LEVEL ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"



REFER TO SHEET E3.1 FOR ELECTRICAL INFORMATION ON THIS UNIT.

REFER TO SHEET E3.6 FOR ELECTRICAL INFORMATION ON THIS UNIT.

REFER TO SHEET E3.5 FOR ELECTRICAL INFORMATION ON THIS UNIT.

REFER TO SHEET E3.2 FOR ELECTRICAL INFORMATION ON THIS UNIT.

REFER TO SHEET E3.3 FOR ELECTRICAL INFORMATION ON THIS UNIT.

REFER TO SHEET E3.4 FOR ELECTRICAL INFORMATION ON THIS UNIT.

REFER TO SHEET E3.1 FOR ELECTRICAL INFORMATION ON THIS UNIT.



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: MTR
REVIEWED BY: HMO

REVISIONS

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ISSUE RECORD

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006
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SHEET CONTENTS

3RD LEVEL
ELECTRICAL PLAN

PROJECT NO:

DATE: FEBRUARY 13, 2006

DRAWING NO:

E2.4

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06-108667

APPROVED MAY 16 2006

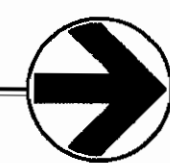
NOTES:

1. NUMBER NEXT TO ELECTRICAL DEVICE INDICATES CIRCUIT POSITION THAT BRANCH CIRCUIT SHALL OCCUPY IN PANEL "HP3" UNLESS NOTED OTHERWISE.

FLAG NOTES:

- 1 PROVIDE 120-VOLT POWER AND FIRE ALARM CONNECTION TO FIRE SMOKE DAMPER. FIRE SMOKE DAMPER SHALL SHUT UPON ACTIVATION OF DUST DETECTOR.

1 3RD LEVEL ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"



REFER TO SHEET E3.6
FOR ELECTRICAL
INFORMATION ON
THIS UNIT.

REFER TO SHEET E3.5
FOR ELECTRICAL
INFORMATION ON
THIS UNIT.

REFER TO SHEET E3.1
FOR ELECTRICAL
INFORMATION ON
THIS UNIT.

REFER TO SHEET E3.2
FOR ELECTRICAL
INFORMATION ON
THIS UNIT.

REFER TO SHEET E3.5
FOR ELECTRICAL
INFORMATION ON
THIS UNIT.

REFER TO SHEET E3.4
FOR ELECTRICAL
INFORMATION ON
THIS UNIT.



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: WJR
REVIEWED BY: HVO

REVISIONS		
No.	Description	Date

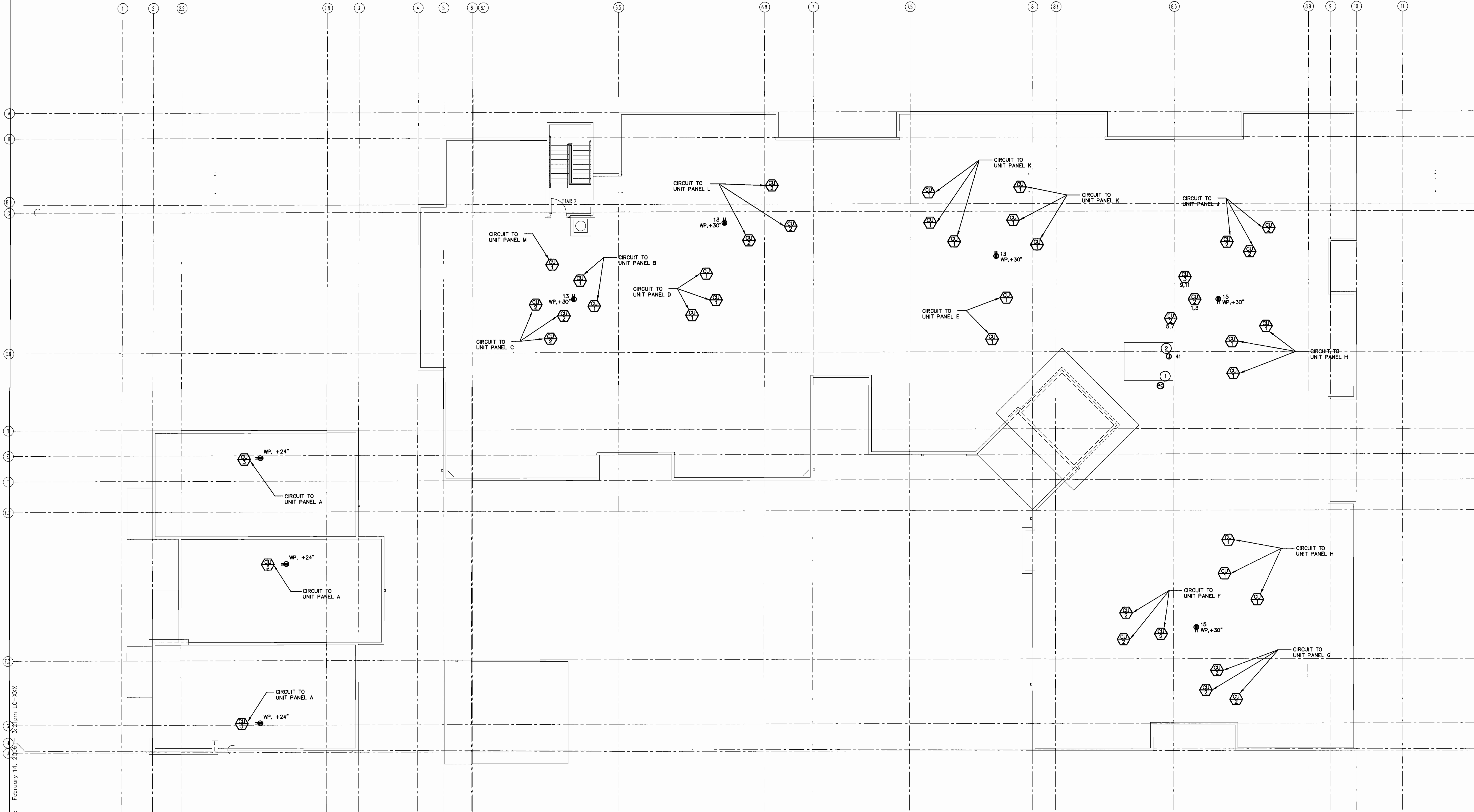
ISSUE RECORD		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% DD PACKAGE	1/14/2005
3	50% CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/15/2006

SHEET CONTENTS:
ROOF LEVEL
ELECTRICAL PLAN



PROJECT NO.:
DATE: FEBRUARY 13, 2006
DRAWING NO.:

E2.5



1 ROOF LEVEL ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

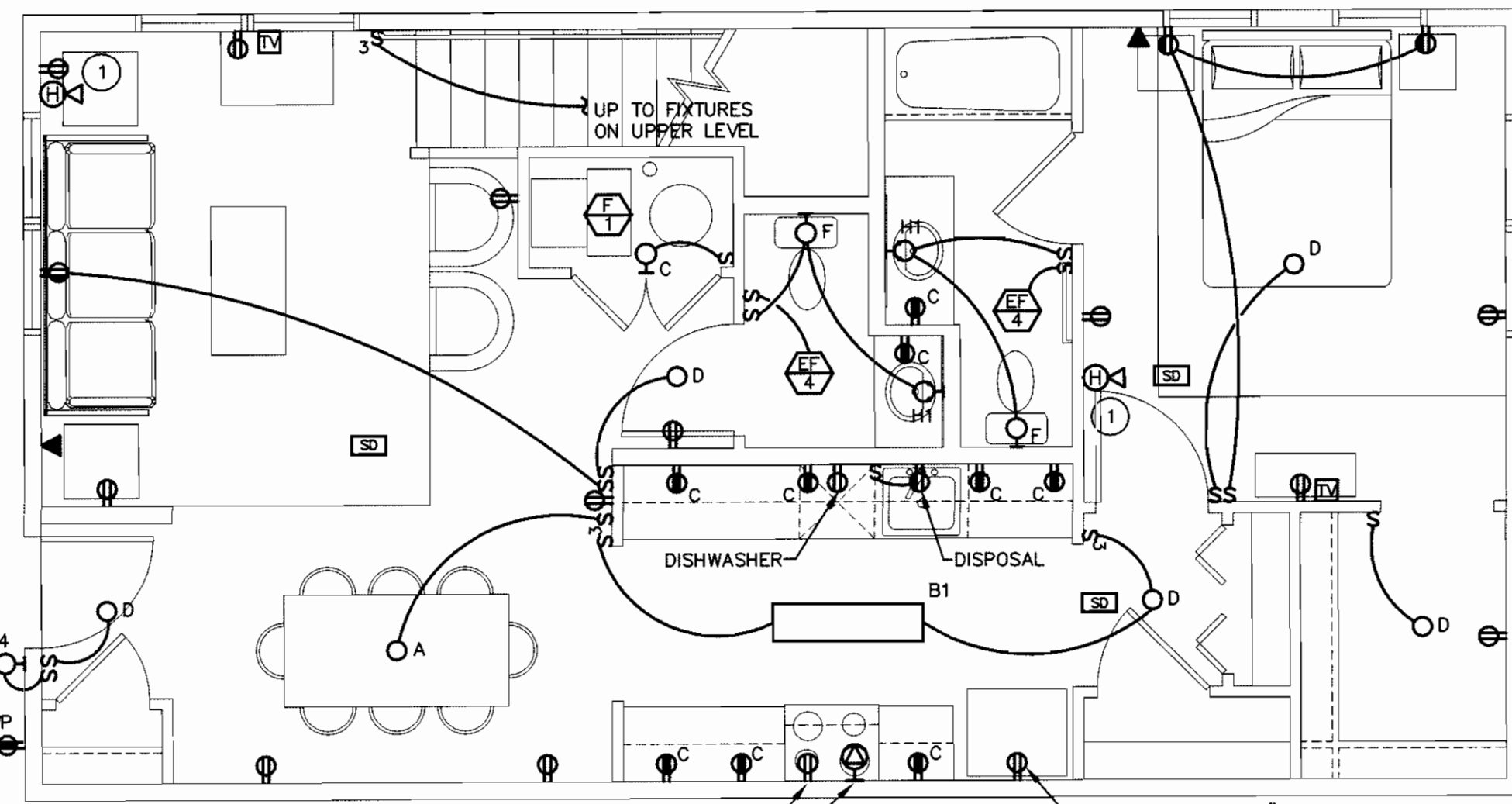
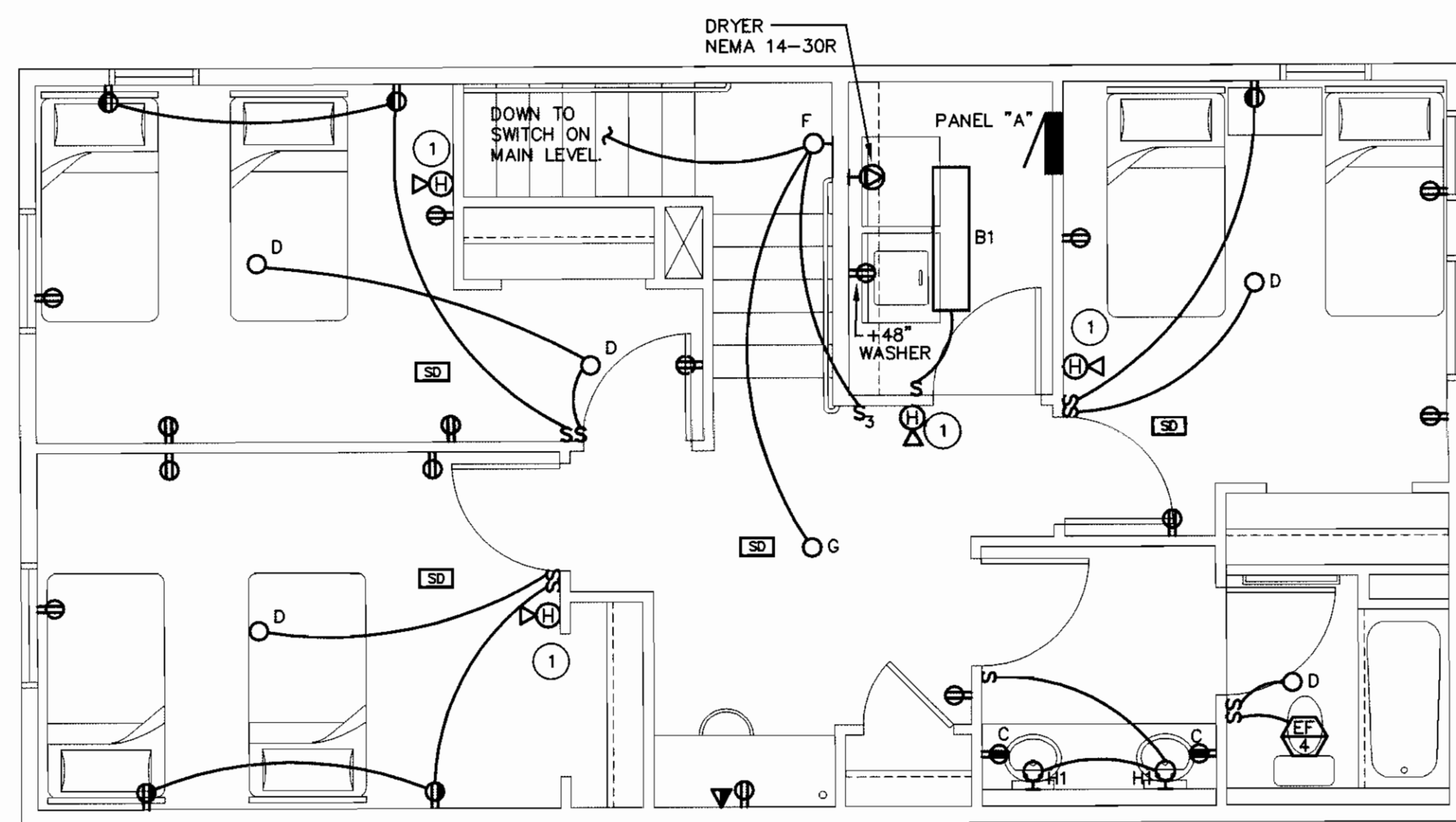
NOTES:
1. NUMBERS NEXT TO ELECTRICAL DEVICE INDICATES CIRCUIT POSITION THAT BRANCH CIRCUIT SHALL OCCUPY IN PANEL "HP4" UNLESS NOTED OTHERWISE.

FLAG NOTES:
1. PROVIDE PHOTOELECTRIC CELL ON THE ROOF FOR CONTROL OF EXTERIOR LIGHTING. INSTALL 3'-0" ABOVE ROOF WITH NORTHERN EXPOSURE. SEE DIAGRAM D ON SHEET E6.1 FOR MORE INFORMATION.
2. PROVIDE 120-VOLT POWER TO MOTORIZED ELEVATOR SHAFT DAMPER. DAMPER SHALL BE SWITCHED OPEN/CLOSED AT FIRE ALARM PANEL.

06 - 108667

DATE: APPROVED MAY 16 2006

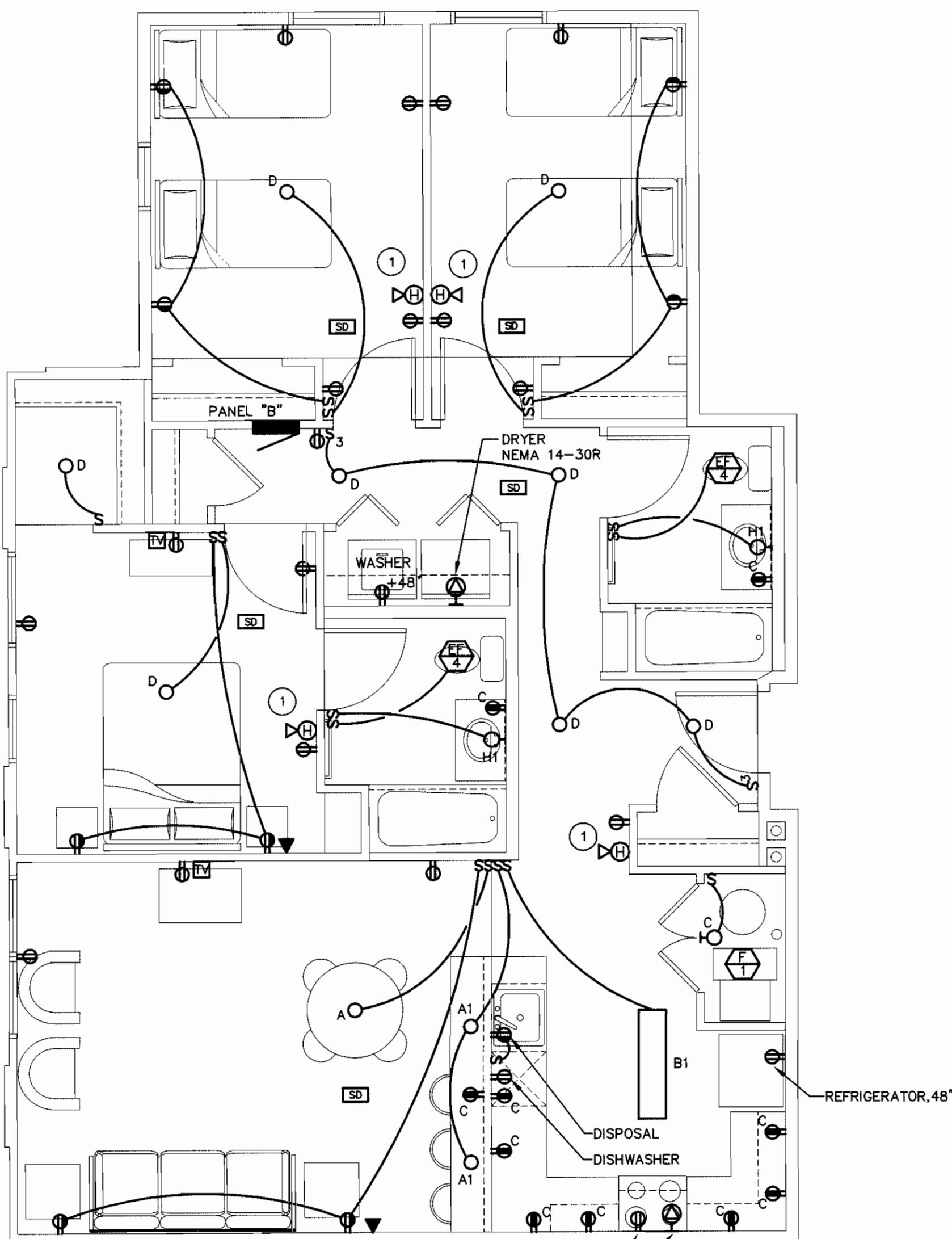
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Denver, CO 80202-3825
www.bganze.com
CPE#00011 2004
Project No: 0670100



1 UNIT A ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

FLAG NOTES:

- ① BASE BUILDING FIRE ALARM NOTIFICATION DEVICE.



2 UNIT B ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

N.E.C. LOAD CALC. FOR DWELLING UNITS		BY: HVO
PROJECT NAME		Aurora Affordable Housing
BLDG	UNIT #	
1	A	
LIGHTING & GENERAL RECEPTACLES		
AREA(S.F.):	LOAD	
1,680	3	= 5040 VA
SMALL APPLIANCES		
2	1500	= 3000 VA
LAUNDRY CIRCUITS:		
1	1500	= 1500 VA
		9540 VA
NEC 220-17 FASTENED IN PLACE APPLIANCES:		
APPLIANCE	#	LOAD
REFRIGERATOR	1	900 VA
MICROWAVE	1	1500 VA
RANGE	1	8000 VA
DISPOSAL	1	1176 VA
EXHAUST FANS	2	70 VA
DRYER	1	5000 VA
DISHWASHER	1	1200 VA
		17916 VA X 100% = 17916 VA
NEC 220-30 NEC DEMAND FACTOR FOR OPTIONAL METHOD SINGLE UNIT:		
FIRST 10KVA AT 100%		10000 VA
REMAINDER AT 40%		6992 VA
TOTAL DEMANDED LOAD		16992 VA
MECHANICAL EQUIPMENT:		
CONDENSING UNIT	1	3931 VA
FURNACE	1	1176 VA
		5107 VA
TOTAL UNIT MECH. LOAD:		5107 X 100% = 5107 VA
TOTAL PRE-DEMAND ELECTRICAL LOAD:		32563 VA
TOTAL DEMAND LOAD ELECTRICAL LOAD:		22089 VA
MINIMUM ELECTRICAL SERVICE SIZE @		208-VOLT, 1-PHASE
		108.2 AMPS

N.E.C. LOAD CALC. FOR DWELLING UNITS		BY: HVO
PROJECT NAME		Aurora Affordable Housing
BLDG	UNIT #	
1	B	
LIGHTING & GENERAL RECEPTACLES		
AREA(S.F.):	LOAD	
1,130	3	= 3390 VA
SMALL APPLIANCES		
2	1500	= 3000 VA
LAUNDRY CIRCUITS:		
1	1500	= 1500 VA
		7890 VA
NEC 220-17 FASTENED IN PLACE APPLIANCES:		
APPLIANCE	#	LOAD
REFRIGERATOR	1	900 VA
MICROWAVE	1	1500 VA
RANGE	1	8000 VA
DISPOSAL	1	1176 VA
EXHAUST FANS	2	70 VA
DRYER	1	5000 VA
DISHWASHER	1	1200 VA
		17916 VA X 100% = 17916 VA
NEC 220-30 NEC DEMAND FACTOR FOR OPTIONAL METHOD SINGLE UNIT:		
FIRST 10KVA AT 100%		10000 VA
REMAINDER AT 40%		6322 VA
TOTAL DEMANDED LOAD		16322 VA
MECHANICAL EQUIPMENT:		
CONDENSING UNIT	1	2101 VA
FURNACE	1	1176 VA
		3277 VA
TOTAL UNIT MECH. LOAD:		3277 X 100% = 3277 VA
TOTAL PRE-DEMAND ELECTRICAL LOAD:		28663 VA
TOTAL DEMAND LOAD ELECTRICAL LOAD:		19599 VA
MINIMUM ELECTRICAL SERVICE SIZE @		208-VOLT, 1-PHASE
		94.2 AMPS

06-108667

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Fax: (703) 940-7334
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PANEL A		208 Y/ 120 VOLT 1PH 3 WIRE		150		AMPERE MAIN LO :		150		AMPERE BUS								
LOCATION UNIT A				MOUNTING RECESSED				A.I.C. SERIES RATED										
CIRCUIT NUMBER	LOAD		CIRCUIT TYPE L/R/M LME/AS	LOAD DESCRIPTION	CIRCUIT BREAKER		BUS		CIRCUIT BREAKER		CIRCUIT TYPE L/R/M LME/AS	LOAD DESCRIPTION		LOAD		CIRCUIT NUMBER		
	LINE A	LINE B			POLE	TRIP	A	B	TRIP	POLE		LINE A	LINE B					
1				SMOKE DETECTORS (1)	1	15	+		30	2		DRYER (2)				2		
3				SPARE	1	15	+					--				4		
5				LIGHTING	1	15	+		20	1		WASHER				6		
7				LIGHTING	1	15	+		20	1		DISHWASHER				8		
9				RECEPTACLES	1	15	+		20	1		DISPOSAL				10		
11				RECEPTACLES	1	15	+		20	1		REFRIGERATOR				12		
13				BEDROOM REC / LTG (1)	1	15	+		50	2		STOVE (3)				14		
15				BEDROOM REC / LTG (1)	1	15	+					--				16		
17				BEDROOM REC / LTG (1)	1	15	+		20	1		HOOD/MICROWAVE				18		
19				BEDROOM REC / LTG (1)	1	15	+		20	1		KITCHEN RECEPTACLES				20		
21				LIVINGROOM RECEPT.	1	15	+		20	1		KITCHEN RECEPTACLES				22		
23				BATHROOM RECEPT.	1	20	+		15	1		EXHAUST FANS				24		
25				BATHROOM RECEPT.	1	20	+		20	1		F-1				26		
27				DINING ROOM REC.	1	20	+		15	1		SPARE				28		
29				CU-3		30	+		15	1		SPARE				30		
31				--	2	30	+					SPACE				32		
33				ROOF REC	1	20	+					SPACE				34		
35				SPACE			+					SPACE				36		
37				SPACE			+					SPACE				38		
39				SPACE			+					SPACE				40		
41				SPACE			+					SPACE				42		
	0	0		SUB TOTALS									0	0				
CIRCUIT TYPE				L=LIGHTING, R=RECEPTACLE, M=MOTOR, LM=LARGEST MOTOR								LINE TOTALS				0		0
DESCRIPTION:				E=EQUIPMENT, A=APPLIANCE, S=SUBFEED PANEL								NEC ADDER				0		0
NOTES:												FEED THRU LOAD						
1. PROVIDE DEDICATED ARC-FAULT CIRCUIT BREAKER. PROVIDE A SEPARATE NEUTRAL FOR EACH HOT CONDUCTOR FOR ARC-FAULT BRANCH CIRCUIT.												TOTAL VAPH				0		0
2. CIRCUIT SHALL CONSIST OF 3#10+1#10G, 3/4"C.												LINE AMPS				0		0
3. CIRCUIT SHALL CONSIST OF 3#8+1#10G, 1"C.												TOTAL KVA LOAD				0.0		0.0
												FEEDER AMPS				0.0		0.0

PANEL B		208 Y/ 120 VOLT 1PH 3 WIRE		125		AMPERE MAIN LO :		125		AMPERE BUS							
LOCATION UNIT B				MOUNTING RECESSED				A.I.C. SERIES RATED									
CIRCUIT NUMBER	LOAD		CIRCUIT TYPE L/R/M LME/AS	LOAD DESCRIPTION		CIRCUIT BREAKER		BUS		CIRCUIT BREAKER		CIRCUIT TYPE L/R/M LME/AS	LOAD DESCRIPTION		LOAD		CIRCUIT NUMBER
	LINE A	LINE B		POLE	TRIP	A	B	TRIP	POLE	LINE A	LINE B						
1				SMOKE DETECTORS (1)	1	15	+			30	2		DRYER (2)				2
3				SPARE	1	15	+	+					--				4
5				LIGHTING	1	15	+			20	1		WASHER				6
7				LIGHTING	1	15	+			20	1		DISHWASHER				8
9				RECEPTACLES	1	15	+			20	1		DISPOSAL				10
11				RECEPTACLES	1	15	+			20	1		REFRIGERATOR				12
13				BEDROOM REC / LTG (1)	1	15	+			50	2		STOVE (3)				14
15				BEDROOM REC / LTG (1)	1	15	+						--				16
17				BEDROOM REC / LTG (1)	1	15	+			20	1		HOOD/MICROWAVE				18
19				LIVINGROOM RECEPT.	1	15	+			20	1		KITCHEN RECEPTACLES				20
21				BATHROOM RECEPT.	1	20	+			20	1		KITCHEN RECEPTACLES				22
23				BATHROOM RECEPT.	1	20	+			20	1		F-1				24
25				DINING ROOM REC	1	20	+			20	2		CU-1				26
27				EXHAUST FANS	1	15	+						--				28
29				SPACE			+			15	1		SPARE				30
0		0		SUB TOTALS										0		0	
CIRCUIT TYPE				L=LIGHTING, R=RECEPTACLE, M=MOTOR, LM=LARGEST MOTOR										LINE TOTALS			
DESCRIPTION:				E=EQUIPMENT, A=APPLIANCE, S=SUBFEED PANEL										NEC ADDER			
NOTES: 1. PROVIDE DEDICATED ARC-FAULT CIRCUIT BREAKER. PROVIDE A SEPARATE NEUTRAL FOR EACH HOT CONDUCTOR FOR ARC-FAULT BRANCH CIRCUIT. 2. CIRCUIT SHALL CONSIST OF 3#10+1#10G, 3/4"C. 3. CIRCUIT SHALL CONSIST OF 3#8+1#10G, 1"C.														FEED THRU LOAD			
														TOTAL VA/PH			
														LINE AMPS			
														TOTAL KVA LOAD			
														FEEDER AMPS			
														0.0			

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ARCHITECTURAL PLANNING SERVICES
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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: MTR
REVIEWED BY: HVO

No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006

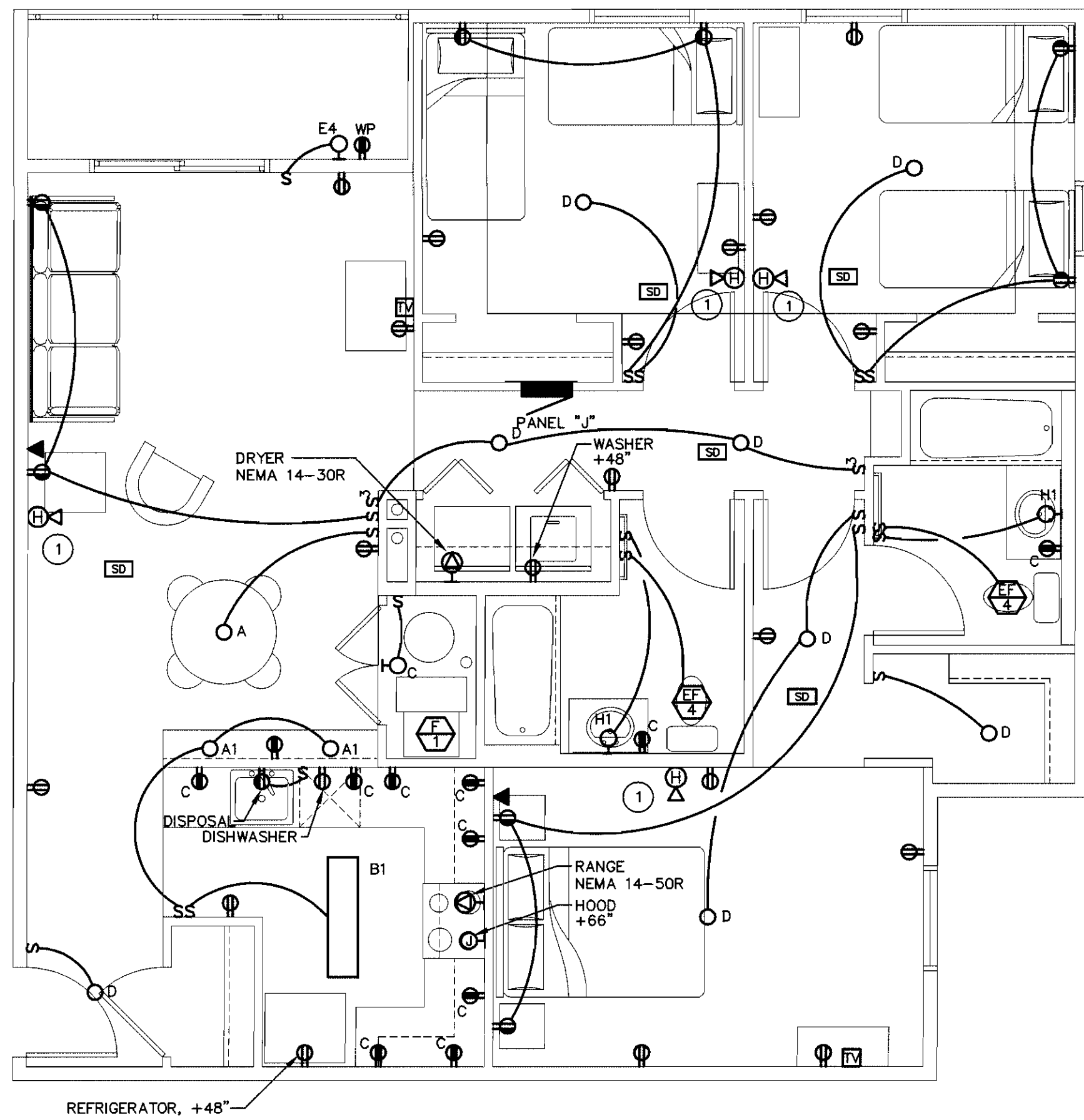
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/08/2006

SHEET CONTENTS:
UNIT
ELECTRICAL PLANS

APPROVED MAY 16 2006

PROJECT NO.:
DATE: March 9, 2006

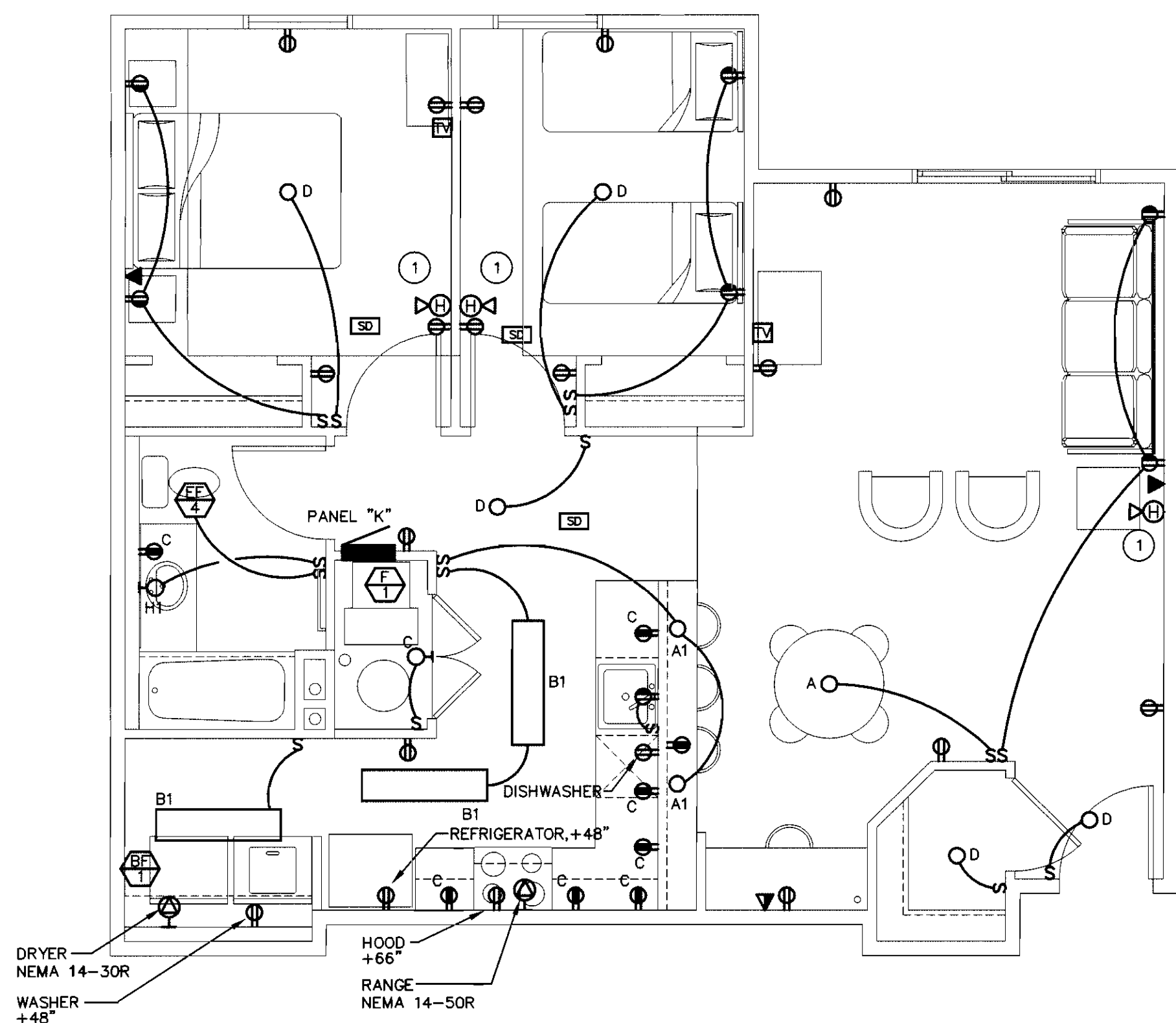
DRAWING NO.:
E3.1



1 UNIT J ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

FLAG NOTES:

- ① BASE BUILDING FIRE ALARM NOTIFICATION DEVICE.



2 UNIT K ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

N.E.C. LOAD CALC. FOR DWELLING UNITS

PROJECT NAME Aurora Affordable Housing

BY: HVO

BLDG 1 UNIT # J

LIGHTING & GENERAL RECEPTACLES

AREA(S.F.)	#	LOAD
1,095	3	= 3285 VA

SMALL APPLIANCES
2 1500 = 3000 VA

LAUNDRY CIRCUITS:
1 1500 = 1500 VA
7785 VA

FASTENED IN PLACE APPLIANCES:

APPLIANCE	#	LOAD
REFRIGERATOR	1	900 VA
MICROWAVE	1	1500 VA
RANGE	1	8000 VA
DISPOSAL	1	1176 VA
EXHAUST FANS	2	70 VA
DRYER	1	5000 VA
DISHWASHER	1	1200 VA

= 900 VA
= 1500 VA
= 8000 VA
= 1176 VA
= 140 VA
= 5000 VA
1200 VA
17816 VA X 100% = 17816 VA
TOTAL NON-MECHANICAL LOAD: 25701 VA

NEC 220-30 NEC DEMAND FACTOR FOR OPTIONAL METHOD SINGLE UNIT:

FIRST 10KVA AT 100% 10000 VA
REMAINDER AT 40% 6280 VA
TOTAL DEMANDED LOAD 16280 VA

MECHANICAL EQUIPMENT:

CONDENSING UNIT	1	2454 VA
FURNACE	1	1176 VA

TOTAL UNIT MECH LOAD: 3630 X 100% = 3630 VA

TOTAL PRE-DEMAND ELECTRICAL LOAD:
TOTAL DEMAND LOAD ELECTRICAL LOAD:
MINIMUM ELECTRICAL SERVICE SIZE @

208 -VOLT, 1-PHASE

29331 VA
19910 VA
95.7 AMPS

N.E.C. LOAD CALC. FOR DWELLING UNITS

PROJECT NAME Aurora Affordable Housing

BY: HVO

BLDG 1 UNIT # K

LIGHTING & GENERAL RECEPTACLES

AREA(S.F.)	#	LOAD
875	3	= 2625 VA

SMALL APPLIANCES
2 1500 = 3000 VA

LAUNDRY CIRCUITS:
1 1500 = 1500 VA
7125 VA

FASTENED IN PLACE APPLIANCES:

APPLIANCE	#	LOAD
REFRIGERATOR	1	900 VA
MICROWAVE	1	1500 VA
RANGE	1	8000 VA
DISPOSAL	1	1176 VA
EXHAUST FANS	1	70 VA
DRYER	1	5000 VA
DISHWASHER	1	1200 VA

= 900 VA
= 1500 VA
= 8000 VA
= 1176 VA
= 70 VA
= 5000 VA
1200 VA
17846 VA X 100% = 17846 VA
TOTAL NON-MECHANICAL LOAD: 24971 VA

NEC 220-30 NEC DEMAND FACTOR FOR OPTIONAL METHOD SINGLE UNIT:

FIRST 10KVA AT 100% 10000 VA
REMAINDER AT 40% 5988 VA
TOTAL DEMANDED LOAD 15988 VA

MECHANICAL EQUIPMENT:

CONDENSING UNIT	1	2101 VA
FURNACE	1	1176 VA

TOTAL UNIT MECH LOAD: 3277 X 100% = 3277 VA

TOTAL PRE-DEMAND ELECTRICAL LOAD:
TOTAL DEMAND LOAD ELECTRICAL LOAD:
MINIMUM ELECTRICAL SERVICE SIZE @

208 -VOLT, 1-PHASE

28248 VA
19265 VA
92.6 AMPS

BEAUDIN
CANZE
Consulting Engineers, Inc.
Tel: (202) 946-6108
Fax: (202) 946-7334
www.bcp.com

APPROVED MAY 16 2006

06-108667

ODELL ARCHITECTS, P.C.
Architects - Planning Interiors
2000 South York Road, Suite 100, Aurora, Colorado 80012
Telephone: 303.675.3800 Fax: 303.675.3802
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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: MTR
REVIEWED BY: HVO

REVISIONS:

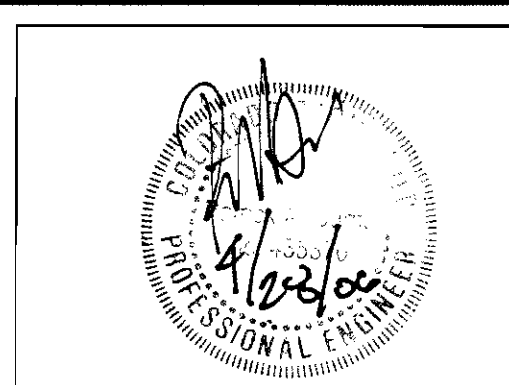
No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006

ISSUE RECORD:

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	5/19/2006

SHEET CONTENTS:

UNIT
ELECTRICAL PLANS



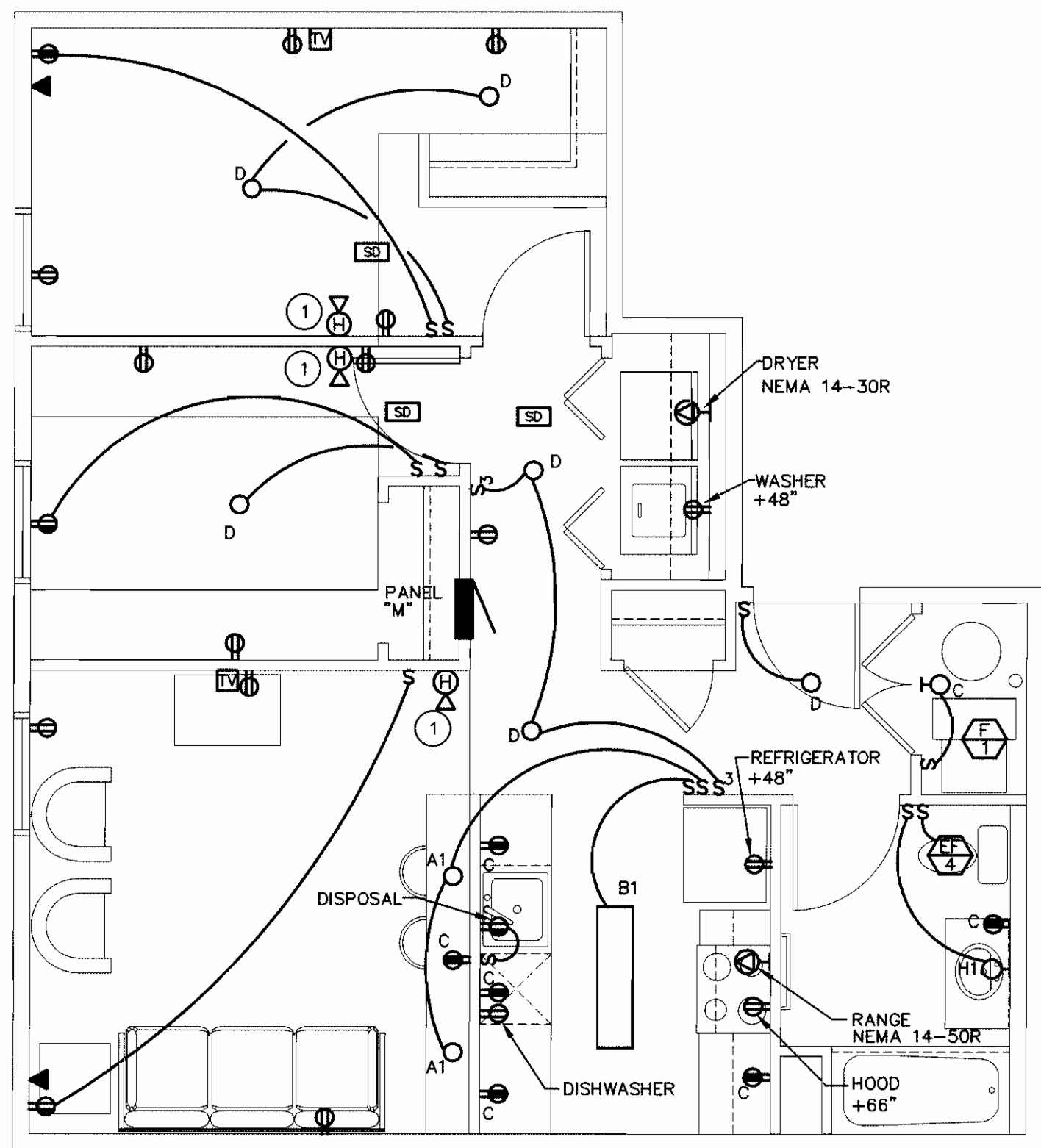
PROJECT NO.:
DATE: March 9, 2006

DRAWING NO.:

E3.5



Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado



FLAG NOTES:
1 BASE BUILDING FIRE ALARM NOTIFICATION DEVICE.

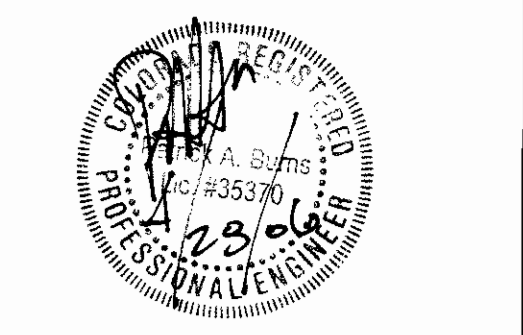
1 UNIT M ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

PANEL M 208 Y/ 120 VOLT 1PH 3 WIRE 125 AMPERE MAIN LO : 125 AMPERE BUS																
LOCATION UNIT M					MOUNTING RECESSED					A.I.C. SERIES RATED						
CIRCUIT NUMBER	LOAD		CIRCUIT TYPE	LOAD DESCRIPTION	CIRCUIT BREAKER		BUS		CIRCUIT BREAKER		CIRCUIT TYPE	LOAD DESCRIPTION	LOAD		CIRCUIT NUMBER	
	LINE A	LINE B			U/RM LME/A/S	POLE	TRIP	A	B	TRIP			POLE	U/RM LME/A/S		LINE A
1				SMOKE DETECTORS (1)	1	15	+		30	2		DRYER (2)			2	
3				SPARE	1	15	+					--			4	
5				LIGHTING	1	15	+		20	1		WASHER			6	
7				LIGHTING	1	15	+		20	1		DISHWASHER			8	
9				RECEPTACLES	1	15	+		20	1		DISPOSAL			10	
11				RECEPTACLES	1	15	+		20	1		REFRIGERATOR			12	
13				BEDROOM REC / LTG (1)	1	15	+					STOVE (3)			14	
15				BEDROOM REC / LTG (1)	1	15	+		50	2		--			16	
17				LIVINGROOM RECEPT.	1	15	+		20	1		HOOD/MICROWAVE			18	
19				BATHROOM RECEPT.	1	20	+		20	1		KITCHEN RECEPTACLES			20	
21				DINING ROOM REC	1	20	+		20	1		KITCHEN RECEPTACLES			22	
23				EXHAUST FANS	1	15	+					CU-1			24	
25				F-1	1	20	+		20	2		--			26	
27				SPACE				+	15	1		SPARE			28	
29				SPACE				+	15	1		SPARE			30	
	0	0		SUB TOTALS									0	0		
CIRCUIT TYPE DESCRIPTION:												LINE TOTALS		0		0
NOTES:												NEC ADDER				
1. PROVIDE DEDICATED ARC-FAULT CIRCUIT BREAKER. PROVIDE A SEPARATE NEUTRAL FOR EACH HOT CONDUCTOR FOR ARC-FAULT BRANCH CIRCUIT.												FEED THRU LOAD				
2. CIRCUIT SHALL CONSIST OF 3#10+1#10G, 3/4".												TOTAL VAPH				
3. CIRCUIT SHALL CONSIST OF 3#8+1#10G, 1".												LINE AMPS				
												TOTAL KVA LOAD		0.0		
												FEEDER AMPS		0.0		

N.E.C. LOAD CALC. FOR DWELLING UNITS											
BY: HVO											
PROJECT NAME Aurora Affordable Housing											
BLDG 1 UNIT # M											
LIGHTING & GENERAL RECEPTACLES											
AREA(S.F.): 790 3 = 2370 VA											
SMALL APPLIANCES 2 1500 = 3000 VA											
LAUNDRY CIRCUITS: 1 1500 = 1500 VA											
6870 VA											
NEC 220-17 FASTENED IN PLACE APPLIANCES:											
APPLIANCE # LOAD											
REFRIGERATOR 1 900 VA = 900 VA											
MICROWAVE 1 1500 VA = 1500 VA											
RANGE 1 8000 VA = 8000 VA											
DISPOSAL 1 1176 VA = 1176 VA											
EXHAUST FANS 1 70 VA = 70 VA											
DRYER 1 5000 VA = 5000 VA											
DISHWASHER 1 1200 VA = 1200 VA											
17846 VA X 100% = 17846 VA											
TOTAL NON-MECHANICAL LOAD: 24716 VA											
NEC 220-30 NEC DEMAND FACTOR FOR OPTIONAL METHOD SINGLE UNIT:											
FIRST 10KVA AT 100% 10000 VA											
REMAINDER AT 40% 5886 VA											
TOTAL DEMANDED LOAD 15886 VA											
MECHANICAL EQUIPMENT:											
CONDENSING UNIT 1 2101 2101 VA											
FURNACE 1 1176 1176 VA											
TOTAL UNIT MECH LOAD: 3277 X 100% = 3277 VA											
TOTAL PRE-DEMAND ELECTRICAL LOAD: 27993 VA											
TOTAL DEMAND LOAD ELECTRICAL LOAD: 19163 VA											
MINIMUM ELECTRICAL SERVICE SIZE @ 208-VOLT, 1-PHASE 92.1 AMPS											

DRAWN BY: MTR		
REVIEWED BY: HVO		
REVISIONS:		
No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006
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SHEET CONTENTS:
UNIT
ELECTRICAL PLANS



PROJECT NO:
DATE: March 9, 2006

DRAWING NO:

E3.7

WIRING SCHEDULE--COPPER CONDUCTORS				
AMPS	(0)GROUND AND SINGLE PHASE	(N)NEUTRAL GROUND	MINIMUM CONDUIT SIZE	
20	3#12 & #12 GND	4#12 & #12 GND	1/2"	
30	3#10 & #10 GND	4#10 & #10 GND	1/2"	
40	3#8 & #10 GND	4#8 & #10 GND	3/4"	
50	3#6 & #10 GND	4#6 & #10 GND	1"	
60	3#4 & #10 GND	4#4 & #10 GND	1 1/4"	
70	3#4 & #8 GND	4#4 & #8 GND	1 1/4"	
80	3#2 & #8 GND	4#2 & #8 GND	1 1/4"	
90	3#2 & #8 GND	4#2 & #8 GND	1 1/4"	
100	3#1 & #6 GND	4#1 & #6 GND	1 1/2"	
110	3#1 & #6 GND	4#1 & #6 GND	1 1/2"	
125	3#1 & #6 GND	4#1 & #6 GND	1 1/2"	
150	3#1/0 & #6 GND	4#1/0 & #6 GND	2"	
175	3#2/0 & #6 GND	4#2/0 & #6 GND	2"	
200	3#3/0 & #6 GND	4#3/0 & #6 GND	2"	
225	3#4/0 & #4 GND	4#4/0 & #4 GND	2 1/2"	
250	3 250KC & #4 GND	4 250KC & #4 GND	2 1/2"	
300	3 350KC & #4 GND	4 350KC & #4 GND	3 1/2"	
400	3 500KC & #3 GND	4 500KC & #3 GND	3 1/2"	
450	2[3#4/0 & #2 GND]	2[4#4/0 & #2 GND]	2[2 1/2"]	
500	2[3 250KC & #2 GND]	2[4 250KC & #2 GND]	2[2 1/2"]	
600	2[3 350KC & #1 GND]	2[4 350KC & #1 GND]	2[3 1/2"]	
700	2[3 500KC & #1/0 GND]	2[4 500KC & #1/0 GND]	2[3 1/2"]	
800	2[3 500KC & #1/0 GND]	2[4 500KC & #1/0 GND]	2[3 1/2"]	
1000	3[3 400KC & #2/0 GND]	3[4 400KC & #2/0 GND]	3[3 1/2"]	
1200	4[3 350KC & #3/0 GND]	4[4 350KC & #3/0 GND]	4[3 1/2"]	
1600	5[3 400KC & #4/0 GND]	5[4 400KC & #4/0 GND]	5[3 1/2"]	
2000	6[3 500KC & 250KC GND]	6[4 500KC & 250KC GND]	6[3 1/2"]	
2500	7[3 500KC & 350KC GND]	7[4 500KC & 350KC GND]	7[3 1/2"]	
3000	8[3 500KC & 400KC GND]	8[4 500KC & 400KC GND]	8[3 1/2"]	
3500	10[3 500KC & 500KC GND]	10[4 500KC & 500KC GND]	10[3 1/2"]	
4000	11[3 500KC & 500KC GND]	11[4 500KC & 500KC GND]	11[3 1/2"]	

LOAD SUMMARY - (2000 AMPS - 208 VOLTS)			
LOAD	DEMAND LOAD (VA)	DEMAND FACTOR PER NEC	SERVICE DEMAND LOAD
RESIDENTIAL LOAD	1,010,807	30%	303,242
UNIT TYPE A	27,869	200%	27,869
HP1	128,349	100%	128,349
HP2-HP3-HP4	40,788	100%	40,788
ELEVATOR	43,200	125%	54,000
TOTAL LOAD (VA)			561,858
TOTAL LOAD (AMPS)			1558
POTENTIAL SPARE CAPACITY ON ELECTRICAL SERVICE AT 208VOLT, 3-PHASE			441

FLAG NOTES:

- 225A3P SHUNT-TYPE CIRCUIT BREAKER FOR ELEVATOR MACHINE ROOM DISCONNECTING MEANS. VERIFY EXACT CIRCUIT BREAKER SIZE WITH ELEVATOR MANUFACTURER PRIOR TO ORDERING ELECTRICAL EQUIPMENT.

NOTES:

- THE ELECTRICAL SERVICE SHALL BE SERIES RATED.
- THE CIRCUIT BREAKERS INDICATED ON THE ONE LINE DIAGRAM MUST UTILIZE THE CIRCUIT BREAKER TYPE AS INDICATED IN THE CIRCUIT BREAKER COORDINATION SCHEDULE INDICATED ON THIS SHEET.

UTILITY CONTACT:
KELI NEMOTO
XCEL ENERGY
2070 SOUTH VALENTIA STREET
DENVER, COLORADO 80231
303-671-3922

SHORT CIRCUIT SUMMARY

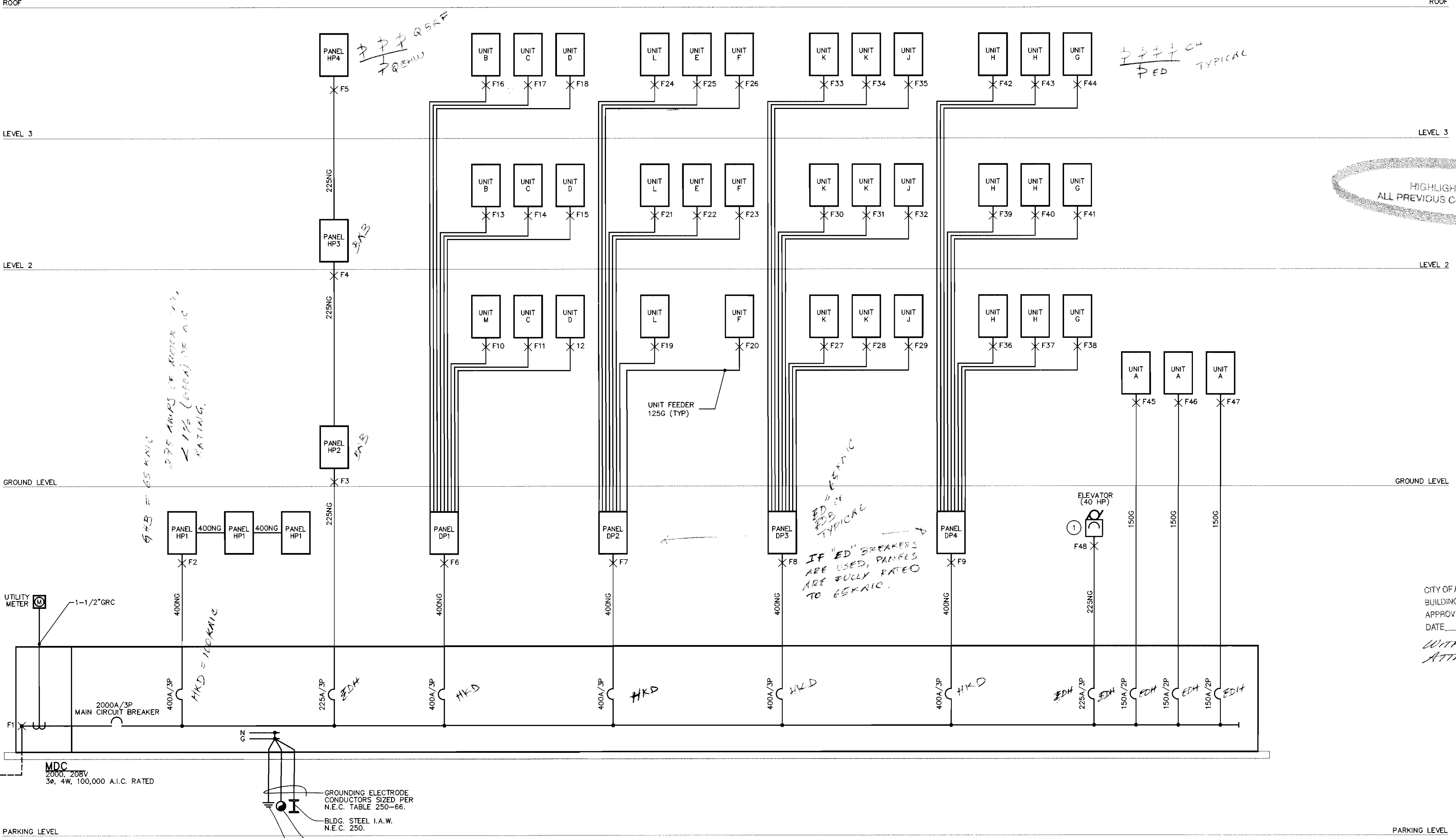
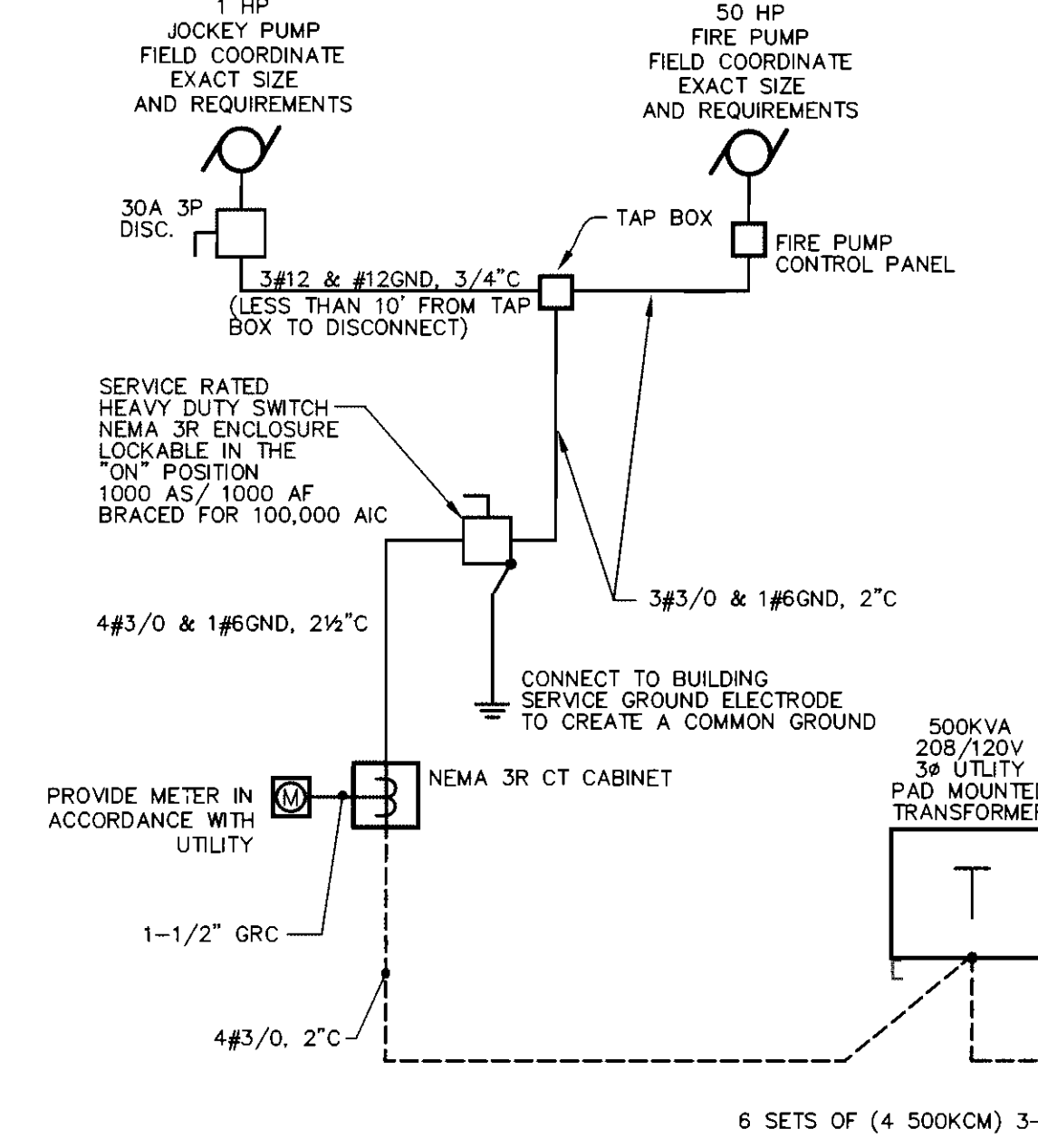
- THE SHORT CIRCUIT STUDY WAS REVISED TO INDICATE THE ACTUAL SHORT CIRCUIT BASED UPON THE INSTALLATION OF A 300 KVA TRANSFORMER BY XCEL ENERGY.
- THE UNIT LOAD CENTERS WITH A SHORT CIRCUIT GREATER THAN 10,000 AMPS (F10, F11, F13, F14, F16, F17, F19 AND F21) WILL BE PROVIDED WITH A TYPE ED CIRCUIT BREAKER (CUTLER HAMMER) WITH TYPE CH BRANCH CIRCUIT BREAKER IN UNIT LOAD CENTERS. THIS COMBINATION WILL PROVIDE A SERIES RATING AT THE UNIT LOAD CENTERS OF 65,000 AMPS PER CUTLER HAMMER PUBLICATION.
- THE USE OF TYPE ED OR EDB CIRCUIT BREAKER IN THE DISTRIBUTION PANELS DP1, DP2, DP3 AND DP4 WITH AN UPSTREAM CIRCUIT BREAKER OF TYPE HDK WILL PROVIDE A SERIES RATING FOR PANELS DP1, DP2, DP3 AND DP4 OF 100,000 AMPS PER THE CUTLER HAMMER SERIES RATING PANELBOARDS AND SWITCHBOARDS PUBLICATION.
- THE USE OF TYPE GHB CIRCUIT BREAKER IN PANEL HP1 WITH AN UPSTREAM CIRCUIT BREAKER OF TYPE HDK WILL PROVIDE A SERIES RATING FOR PANEL HP1 OF 100,000 AMPS PER THE CUTLER HAMMER SERIES RATING PANELBOARDS AND SWITCHBOARDS PUBLICATION.
- THE USE OF TYPE BAB CIRCUIT BREAKER IN PANEL HP2 AND HP3 WITH AN UPSTREAM CIRCUIT BREAKER OF TYPE EDH WILL PROVIDE A SERIES RATING FOR PANELS HP2 AND HP3 OF 100,000 AMPS PER THE CUTLER HAMMER SERIES RATING PANELBOARDS AND SWITCHBOARDS PUBLICATION.
- THE USE OF TYPE QBHW AND QBHOF CIRCUIT BREAKER IN PANEL HP4 PROVIDE A FULLY RATED PANEL WITH AN AIC RATING OF 22,000 AMPS.

SHORT CIRCUIT CALCULATIONS SUMMARY

EQUIP.	LENGTH	VOLTAGE	WIRE SIZE	CONDUCTOR MATERIAL (C OR A)	CONDUIT (S OR N)	VOLTAGE CLASS (V)	PHASE (S OR T)	% VALUE	# OF PARALLEL RUNS	INC AVAILABLE UPSTREAM	T	M	(% FAULT)		
F1	MDC	40	208	500	N	S	600	T	21.384	6	58.906	0	1	51.081	F1
F2	HP1	10	208	500	C	S	600	T	28.980	1	51.081	0	1	44.132	F2
F3	HP2	14	208	4X	C	S	600	T	16.391	1	51.081	2	0	16.895	F3
F4	HP3	15	208	4X	C	S	600	T	16.391	1	16.085	0	1	14.313	F4
F5	HP4	15	208	4X	C	S	600	T	16.391	1	14.313	0	1	12.866	F5
F6	DP1	5	208	500	C	S	600	T	26.980	1	51.081	0	1	47.357	F6
F7	DP2	5	208	500	C	S	600	T	26.980	1	51.081	0	1	47.357	F7
F8	DP3	5	208	500	C	S	600	T	26.980	1	51.081	0	1	47.357	F8
F9	DP4	5	208	500	C	S	600	T	26.980	1	51.081	0	1	47.357	F9
F10	UNIT 1 1ST	20	208	1	C	S	600	T	7.454	1	47.357	1	0	23.010	F10
F11	UNIT 1 1ST	40	208	1	C	S	600	T	7.454	1	47.357	2	0	18.197	F11
F12	UNIT 1 1ST	75	208	1	C	S	600	T	7.454	1	47.357	4	0	9.533	F12
F13	UNIT 1 2ND	35	208	1	C	S	600	T	7.454	1	47.357	2	0	16.807	F13
F14	UNIT 1 2ND	55	208	1	C	S	600	T	7.454	1	47.357	3	0	12.113	F14
F15	UNIT 1 2ND	80	208	1	C	S	600	T	7.454	1	47.357	5	0	8.220	F15
F16	UNIT 1 3RD	50	208	1	C	S	600	T	7.454	1	47.357	3	0	12.992	F16
F17	UNIT 1 3RD	70	208	1	C	S	600	T	7.454	1	47.357	4	0	10.999	F17
F18	UNIT 1 3RD	105	208	1	C	S	600	T	7.454	1	47.357	6	0	7.225	F18
F19	UNIT 1 1ST	85	208	1	C	S	600	T	7.454	1	47.357	3	0	12.113	F19
F20	UNIT 1 1ST	180	208	1	C	S	600	T	7.454	1	47.357	10	0	4.500	F20
F21	UNIT 1 2ND	70	208	1	C	S	600	T	7.454	1	47.357	4	0	10.999	F21
F22	UNIT 1 2ND	120	208	1	C	S	600	T	7.454	1	47.357	6	0	6.444	F22
F23	UNIT 1 2ND	185	208	1	C	S	600	T	7.454	1	47.357	10	0	4.185	F23
F24	UNIT 1 3RD	85	208	1	C	S	600	T	7.454	1	47.357	4	0	8.915	F24
F25	UNIT 1 3RD	135	208	1	C	S	600	T	7.454	1	47.357	7	0	5.916	F25
F26	UNIT 1 3RD	210	208	1	C	S	600	T	7.454	1	47.357	11	0	3.911	F26
F27	UNIT 1 1ST	105	208	1	C	S	600	T	7.454	1	47.357	6	0	7.225	F27
F28	UNIT 1 1ST	120	208	1	C	S	600	T	7.454	1	47.357	6	0	6.444	F28
F29	UNIT 1 1ST	165	208	1	C	S	600	T	7.454	1	47.357	9	0	4.868	F29
F30	UNIT 1 2ND	120	208	1	C	S	600	T	7.454	1	47.357	6	0	6.444	F30
F31	UNIT 1 2ND	135	208	1	C	S	600	T	7.454	1	47.357	7	0	5.916	F31
F32	UNIT 1 2ND	180	208	1	C	S	600	T	7.454	1	47.357	10	0	4.500	F32
F33	UNIT 1 3RD	135	208	1	C	S	600	T	7.454	1	47.357	7	0	5.916	F33
F34	UNIT 1 3RD	150	208	1	C	S	600	T	7.454	1	47.357	8	0	5.300	F34
F35	UNIT 1 3RD	195	208	1	C	S	600	T	7.454	1	47.357	10	0	4.185	F35
F36	UNIT 1 1ST	165	208	1	C	S	600	T	7.454	1	47.357	9	0	5.054	F36
F37	UNIT 1 1ST	180	208	1	C	S	600	T	7.454	1	47.357	10	0	4.500	F37
F38	UNIT 1 1ST	175	208	1	C	S	600	T	7.454	1	47.357	9	0	4.818	F38
F39	UNIT 1 2ND	175	208	1	C	S	600	T	7.454	1	47.357	9	0	4.818	F39
F40	UNIT 1 2ND	200	208	1	C	S	600	T	7.454	1	47.357	11	0	4.099	F40
F41	UNIT 1 2ND	190	208	1	C	S	600	T	7.454	1	47.357	10	0	4.285	F41
F42	UNIT 1 3RD	190	208	1	C	S	600	T	7.454	1	47.357	10	0	4.285	F42
F43	UNIT 1 3RD	215	208	1	C	S	600	T	7.454	1	47.357	11	0	3.827	F43
F44	UNIT 1 3RD	205	208	1	C	S	600	T	7.454	1	47.357	11	0	3.998	F44
F45	UNIT A	100	208	1x	C	S	600	T	9.209	1	51.081	5	0	9.051	F45
F46	UNIT A	130	208	1x	C	S	600	T	9.209	1	51.081	6	0	7.293	F46
F47	UNIT A	160	208	1x	C	S	600	T	9.209	1	51.081	7	0	6.088	F47
F48	ELEVATOR	175	208	4X	N	S	600	T	11.184	1	51.081	7	0	8.672	F47

FORM INFORMATION ONLY - CALCULATED

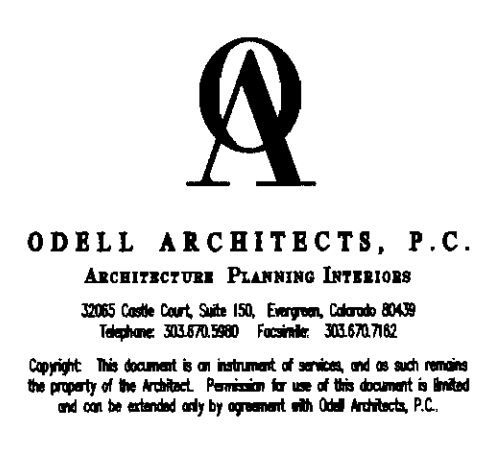
ASSUMED UTILITY TRANSFORMER SIZE IS 300KVA.
PER XCEL ENERGY THE MAXIMUM AVAILABLE (ASYMMETRICAL) FAULT AT THE SECONDARY IS 96,200 AMPS. A MOTOR CONTRIBUTION OF (100 FLA x 4 = 400 AMPS) IS ADDED TO THE XCEL ENERGY MAXIMUM AVAILABLE FAULT AT THE SECONDARY FOR A TOTAL AVAILABLE SHORT CIRCUIT OF 96,600 AMPS.



1 ELECTRICAL ONE-LINE DIAGRAM

NO SCALE

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE: APPROVED SEP 27 2007
WITH 14 PAGES
ATTACHMENT ONLY.



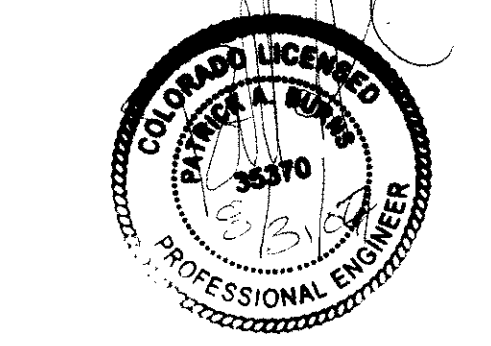
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: MTR
REVIEWED BY: HVO

No.	Description	Date
1	BUILDING OPT COMMENTS	5/1/2006

No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	50% CD PACKAGE	5/6/2005
4	100% CD PACKAGE	3/28/2006
5	SERIES RATING TO CITY	8/31/2007

SHEET CONTENTS:
ONE-LINE
DIAGRAM



PROJECT NO.:
DATE: March 9, 2006

DRAWING NO.:

E4.1

BEAUDIN GANZE
Consulting Engineers, Inc.
Tel: (720) 949-6100
Fax: (720) 949-6101
Web: www.bgc.com

CD#000173004
Project No. 9070.00

PROJECT CIRCUIT BREAKER SCHEDULE				
DISTRIBUTION EQUIPMENT NAME	CIRCUIT BREAKER TYPE	UPSTREAM CIRCUIT BREAKER	UPSTREAM FAULT AT EQUIPMENT	MAXIMUM FAULT AT EQUIPMENT
MDC				
0-225 AMPS	EDH	NONE		78,512
250-400 AMPS	HWI	NONE		78,512
2000 AMPS	RD	NONE		78,512
<u>Panel DP1</u>	BAB	HKI		83,198
<u>Panel DP2, DP3 AND DP4</u>	BAB	EDH		18,047
<u>Panel DP1, DP2, DP3 AND DP4</u>	EDH	HKI		70,028
<u>Unit Panels (Except unit A)</u>	BA OR BAB	EDH		32,219
<u>ELEVATOR</u>	JD	EDH		9,981
<u>Unit Panel A</u>	BA OR BAB	EDH		9,986

LOAD SUMMARY - (2000 AMPS - 208 VOLTS)				
	PRE DEMAND (LOADS (VA)	DEMAND FACTOR PER NEC	SERVICE DEMAND LOAD	
LOAD				
RESIDENTIAL LOAD	1,010,807	30%	303242	
UNIT TYPE A	97,898	30%	29367	
HP1	126,340	100%	126340	
HP2,HP3,HP4	48,788	100%	48788	
ELEVATOR	43,200	125%	54000	
TOTAL LOAD (VA)			581895	
TOTAL LOAD (AMPS)			1599	
POTENTIAL SPARE CAPACITY ON ELECTRICAL SERVICE AT 208-VOLTS, 3-PHASE				441

1 225A3P SHUNT-TRIP CIRCUIT BREAKER FOR ELEVATOR MACHINE ROOM DISCONNECTING MEANS. VERIFY EXACT CIRCUIT BREAKER SIZE WITH ELEVATOR MANUFACTURER PRIOR TO ORDERING ELECTRICAL EQUIPMENT.

1. THE ELECTRICAL SERVICE SHALL BE SERIES RATED.
2. THE CIRCUIT BREAKERS INDICATED ON THE ONE LINE DIAGRAM MUST UTILIZE THE CIRCUIT BREAKER TYPE AS INDICATED IN THE CIRCUIT BREAKER COORDINATION SCHEDULE INDICATED ON THIS SHEET.

UTILITY CONTACT:
KEN NUMOTO
XCEL ENERGY
2070 SOUTH VALENTIA STRE
DENVER, COLORADO 80231
303-671-3922

EQUIP.	LENGTH	VOLTAGE	WIRE SIZE	CONDUCTOR MATERIAL (C OR A)	CON DUCTION (S OR T)	VOLTAGE CLASS (V)	PHASE (S OR T)	"C" VALUE	% OF PARALLEL RUNS	Inc AVAILABLE UPSTREAM	T	"M	"Inc(Fault)		
F1	MDP1	40	208	500	C	S	800	T	21,394		28,600	0	1	78,512	F1
F2	HPG1	10	208	600	C	S	800	T	26,890		78,512	0	1	65,198	F2
F3	HP2	84	208	4X	C	S	800	T	16,391		78,512	3	0	18,047	F3
F4	HP3	15	208	4X	C	S	800	T	16,391		16,391	0	1	15,686	F4
F5	HP4	14	208	4X	C	S	800	T	16,391		15,985	0	1	14,154	F5
F6	DP1	5	208	500	C	S	800	T	26,890		78,512	0	1	70,028	F6
F7	DP2	5	208	500	C	S	800	T	26,890		78,512	0	1	70,028	F7
F8	DP3	209	500	S	C	S	800	T	26,890		78,512	0	1	70,028	F8
F9	DP4	5	208	500	C	S	800	T	26,890		78,512	0	1	70,028	F9
F10	UNIT M 1ST	15	208	1	C	S	800	T	7,454		70,028	1	0	32,218	F10
F11	UNIT K 1ST	40	208	1	C	S	800	T	7,454		70,028	1	0	18,699	F11
F12	UNIT L 1ST	75	208	1	C	S	800	T	7,454		70,028	6	0	10,917	F12
F13	UNIT B 2ND	30	208	1	C	S	800	T	7,454		70,028	2	0	26,163	F13
F14	UNIT C 2ND	51	208	1	C	S	800	T	7,454		70,028	4	0	13,206	F14
F15	UNIT D 2ND	80	208	1	C	S	800	T	7,454		70,028	7	0	8,709	F15
F16	UNIT B 3RD	45	208	1	C	S	800	T	7,454		70,028	4	0	15,482	F16
F17	UNIT C 3RD	70	208	1	C	S	800	T	7,454		70,028	5	0	10,813	F17
F18	UNIT D 3RD	109	208	1	C	S	800	T	7,454		70,028	8	0	7,900	F18
F19	UNIT L 1ST	56	208	1	C	S	800	T	7,454		70,028	4	0	13,266	F19
F20	UNIT E 1ST	180	208	1	C	S	800	T	7,454		70,028	14	0	5,843	F20
F21	UNIT J 2ND	70	208	1	C	S	800	T	7,454		70,028	8	0	10,813	F21
F22	UNIT E 2ND	120	208	1	C	S	800	T	7,454		70,028	8	0	8,741	F22
F23	UNIT F 2ND	195	208	1	C	S	800	T	7,454		70,028	15	0	4,328	F23
F24	UNIT G 2ND	85	208	1	C	S	800	T	7,454		70,028	7	0	9,754	F24
F25	UNIT E 3RD	135	208	1	C	S	800	T	7,454		70,028	11	0	6,507	F25
F26	UNIT F 3RD	210	208	1	C	S	800	T	7,454		70,028	16	0	4,018	F26
F27	UNIT K 1ST	125	208	1	C	S	800	T	7,454		70,028	8	0	7,602	F27
F28	UNIT K 1ST	120	208	1	C	S	800	T	7,454		70,028	8	0	6,741	F28
F29	UNIT L 1ST	185	208	1	C	S	800	T	7,454		70,028	13	0	6,507	F29
F30	UNIT E 2ND	120	208	1	C	S	800	T	7,454		70,028	9	0	6,507	F30
F31	UNIT E 2ND	135	208	1	C	S	800	T	7,454		70,028	10	0	6,741	F31
F32	UNIT E 2ND	180	208	1	C	S	800	T	7,454		70,028	14	0	4,843	F32
F33	UNIT E 3RD	135	208	1	C	S	800	T	7,454		70,028	11	0	6,507	F33
F34	UNIT E 3RD	190													



ODELL ARCHITECTS, P.C.
ARCHITECTURE PLANNING INTERIORS
3385 Centile Court, Suite 151, Englewood, Colorado 80150
Telephone: 303.690.5900 Facsimile: 303.670.7962

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Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

[illegible]

SHEET CONTENTS:
ONE-LINE
DIAGRAM

A circular professional engineer seal for David L. Williams, No. 433370, State of California. The seal features the text "CALIFORNIA REGISTERED PROFESSIONAL ENGINEER" around the perimeter. In the center, the name "DAVID L. WILLIAMS" is written above the number "433370". The seal is stamped over the signature of David L. Williams on the contract document.

PROJECT NO.: _____

DATE: FEBRUARY 13, 2006

DRAWING NO.: _____

E4.1

**BEAUDIN
GANZE**
Consulting Engineers, Inc.

(970) 949-6108
Toll-free: (800) 550-7334
Fax: (303) 278-3620
www.bge.com



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Project No. B070.0

1 ELECTRICAL ONE-LINE DIAGRAM

N.E.C. Load Calculation - Total Main Building Residential Load (Multiple Dwelling Units, Optional Method)			
Project Name	Aurora Affordable Housing		
Project Number	8070.00		
Engineer	ALW		
UNIT LIGHTING & GENERAL RECEPTACLES			
NEC 220-3(a)	RECEPTACLE	VA	LOAD
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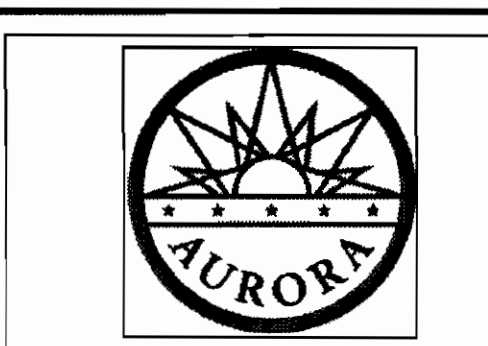
MECHANICAL EQUIPMENT SCHEDULE									
MARK	DESCRIPTION	VOLTAGE/PHASE	HP/WATTS	FLA	MCA	DISCONNECT	FEEDER	CIRCUIT	REMARKS
BF-1	BOOSTER FAN #1	120V	80 WATTS			20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	SEE PLANS	
CU-1	CONDENSING UNIT #1	208V1	2101 WATTS	10.1	12.8	30A/3P NEMA 3R	(2P12-1P120)34°C	SEE PLANS	20A FUSES
CU-2	CONDENSING UNIT #2	208V1	2454 WATTS	11.8	14.8	30A/3P NEMA 3R	(2P12-1P120)34°C	SEE PLANS	20A FUSES
CU-3	CONDENSING UNIT #3	208V1	3091 WATTS	18.9	23.6	30A/3P NEMA 3R	(2P12-1P120)34°C	SEE PLANS	20A FUSES
CUH-1	CABINET UNIT HEATER #1	208V3	3000 WATTS	8.3	10.4	WITH UNIT	(2P12-1P120)34°C	SEE PLANS	NOTE #1
EF-1	EXHAUST FAN #1	208V3	3 HP	11.0	13.75	30A/3P	(2P12-1P120)34°C	SEE PLANS	NOTE #1
EF-2	EXHAUST FAN #2	120V1	1/8 HP	4.4	5.5	30A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	HP2-28	
EF-3	NOT USED								
EF-4	EXHAUST FAN #4	120V1	70 WATTS	80	73	20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	SEE PLANS	
EF-5	EXHAUST FAN #5	120V1	110 WATTS	82	1.15	20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	SEE PLANS	
F-1	FURNACE #1	120V1	1/2 HP	9.8	12.25	20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	SEE PLANS	
F-2	FURNACE #2	120V1	3/4 HP	13.8	17.25	20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	HP2-28	
SP-1 & 2	SUMP PUMP #1 & #2 SAND OIL	208V1	(2) @ 1 HP	16.0	18.0	30A/3P NEMA 3R DISCONNECT	(2P12-1P120)34°C	HP1-48,58	NOTE #1, 3
SP-3 & 4	SUMP PUMP #3 & #4 SANITARY	208V3	(2) @ 1-1/2 HP	13.8	15.52	30A/3P NEMA 3R DISCONNECT	(2P12-1P120)34°C	HP1-60,62,64	NOTE #1, 3
SP-5	ELEVATOR SUMP PUMP	120V1	1/4 HP	5.8	7.25	20A/1P CORO AND PLUG CONNECTION NEMA 5-20R	(2P12-1P120)34°C	SEE PLANS	NOTE #2
SP-6,7	STORM WATER SUMP PUMP	120V1	(2) @ 1-1/2 HP	18.0	22.50	20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	HP1-100	NOTE #3
UH-1	UNIT HEATER #1	208V3	10000 WATTS	27.8	34.8	80A/3P FUSED DISCONNECT	(4P8-1P100)11°C	SEE PLANS	40 AMP FUSES
UH-2	UNIT HEATER #2	208V3	5000 WATTS	13.8	17.25	30A/3P FUSED DISCONNECT	(4P10-1P100)34°C	SEE PLANS	20 AMP FUSES
UH-3	UNIT HEATER #3	208V1	3000 WATTS	14.4	18.0	30A/3P FUSED DISCONNECT	(2P12-1P120)34°C	HP2-20	20 AMP FUSES
WH-2	WATER HEATER #2	120V1	1500 WATTS	12.5	15.8	20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	HP2-22	
WH-3	WATER HEATER #3	120V1	1500 WATTS	12.5	15.8	20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	HP2-24	
WH-4	WATER HEATER #4	120V1	1500 WATTS	12.5	15.8	20A/1P MOTOR RATED SWITCH	(2P12-1P120)34°C	HP2-24	

GENERAL NOTES:
A. ALL STARTERS FOR ALL EQUIPMENT LISTED ON THIS SCHEDULE ARE PROVIDED BY THE DIVISION 15 CONTRACTOR.
B. FOR ALL MOTORS ABOVE 7.5HP PROVIDE THREE PHASE PROTECTION.
C. PROVIDE ALL EXTERIOR DISCONNECTS WITH NEMA 3R RATING.
D. COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH APPROVED ELEVATOR SHOP DRAWINGS PRIOR TO FINAL FABRICATION OF ELECTRICAL EQUIPMENT.

NOTES:
1. VERIFY FUSE TYPE AND AMPACITY WITH EQUIPMENT MANUFACTURER.
2. CIRCUIT PUMP WITH ELEVATOR PIT LIGHTING BRANCH CIRCUIT.
3. ROUTE BRANCH CIRCUIT THRU PUMP CONTROLLER.

LIGHTING FIXTURE SCHEDULE											
FIXT. TYPE	MANUFACTURER		NAME	MANUFACTURER		VOLT. AMPS	MOUNTING	RECESS DEPTH	LAMP TYPE	REMARKS	VOLTAGE
	NAME	CATALOG NO.		CATALOG NO.							
A	HAMPTON BAY	385-589	NO DUPLICATE	-	120	SURFACE	-	(2) 60W A19	INCANDESCENT SURFACE MOUNT WITH GLASS SHADE	120	
A1	HAMPTON BAY	MODEL 3051-01 #101645	NO DUPLICATE	-	60	PENDANT	-	(1) 60W A19	PENDANT WITH TAPERED GLASS	120	
B1	HE WILLIAMS	DIG-14-232-WHR-E82-120	-	-	70	SURFACE	-	(2) 32W T8	1'X4' SURFACE FLUORESCENT FIXTURE WITH WHITE PERFORATED BASKET	120	
C		PORCELAIN GENERIC	COOPER WIRING	659	80	CEILING / WALL	-	(1) 60W A19	PORCELAIN CEILING MOUNTED LAMPHOLDER W/ PLUG DOWN	120	
D	HAMPTON BAY	385-740	NO DUPLICATE	-	150	SURFACE	-	(2) 75W A19	10" DIA. INCANDESCENT SURFACE MOUNTED FIXTURE WITH WHITE ACRYLIC LENS	120	
D1	NO DUPLICATE	-	PROGRESS LIGHTING	P83-FB-P830-21ACLEAR	30	CEILING	-	(2) 13W CF	COMPACT FLUORESCENT DOWNLIGHT WITH FIREBOX	120	
D2	NO DUPLICATE	-	PROGRESS LIGHTING	P83-FB-P830-21ACLEAR-F8641-01	30	CEILING	-	(2) 13W CF	COMPACT FLUORESCENT DOWNLIGHT WITH FIREBOX AND EMERGENCY BATTERY PACK	120	
D3	LITHONIA LIGHTING	LP8-211DIT-MVOLT-ELR	COOPER PORTFOLIO	CG13-EEM-4255-U	30	RECESSED	-	(2) 13W CF	COMPACT FLUORESCENT DOWNLIGHT WITH EMERGENCY BATTERY PACK	120	
E1	LITHONIA LIGHTING	W87 70M MD 120 DBST	COOPER LIGHTING	MHP-T-75-120V-BK	80	WALL	-	(1) 70W MH	METAL HALIDE WALL MOUNTED EXTERIOR LIGHT WITH EMERGENCY BATTERY PACK	120	
E2	LITHONIA LIGHTING	VOC 2 32 120V 120 CW20 WL	COOPER LIGHTING	FMCOR-232-120-42-E8B1 COLD TEMPERATURE BALLAST	70	SURFACE	-	(2) 32W T8	4"X4" FLUORESCENT CORNER AND SURFACE MOUNT WITH WHITE POLYCARBONATE LENS AND COLD WEATHER BALLAST	120	
E3	LITHONIA LIGHTING	AEB8 AS1 100W SR88 120 RPA DEL RS42 SERIES POLE	COOPER LIGHTING	VX5-100-MH-120V-5F82P-CP-PM-MA10748Z SRX SERIES POLE	140	12" O.D. POLE ON Z-BASE	-	(1) 100W MH	POLE MOUNTED METAL HALIDE SQUARE AREA DISTRIBUTION	120	
E4	HAMPTON BAY	245-746	NO DUPLICATE	-	80	WALL	-	(1) 60W A19 FROSTED	OUTDOOR LIGHTING FIXTURE	120	
E5	PROGRESS LIGHTING	P830-31 BLACK FINISH	SEA GULL LIGHTING	8898-12 BLACK FINISH	50	WALL	-	(1) 50W PAR30 FL	WALL MOUNTED ADJUSTABLE DOWNLIGHT	120	
F	PROGRESS LIGHTING	P7112-30	SEA GULL LIGHTING	4148-15	100	WALL	-	(1) 100W A19	INCANDESCENT WHITE QUARTERSPHERE WITH WHITE GLASS	120	
F1	LITHONIA LIGHTING	TAP 2 32 120 CW WGAPFV	COOPER LIGHTING	8T-EIM-232-120V-EL-E8B1-WGUD1-4FT-U COLD TEMPERATURE BALLAST	140	CEILING	-	(4) 32W T8	8'X4" FLUORESCENT STRIP WITH WHITE REFLECTOR AND WIRE GUARD	120	
F1-E	LITHONIA LIGHTING	TAP 2 32 120 CW EL WGAPFV	COOPER LIGHTING	TEIM-232-120V-EL-E8B1-WGUD1-4FT-U COLD TEMPERATURE BALLAST	140	CEILING	-	(4) 32W T8	8'X4" FLUORESCENT STRIP WITH WHITE REFLECTOR, WIRE GUARD AND EMERGENCY BATTERY BALLAST	120	
F2	LITHONIA LIGHTING	CA 2 32 AR 120 GEB EL	COOPER LIGHTING	BC-232-120V-EL-E8B1	70	WALL	-	(2) 32W T8	4"X4" FLUORESCENT WALL MOUNT WITH EM. BATTERY PACK AND HIGH IMPACT LENS	120	
F3	LITHONIA LIGHTING	C 2 32 120 GEB EL WSGUN	COOPER LIGHTING	SS-232-120V-EL-E8B1-WGUS5-4FT-U	70	WALL	-	(2) 32W T8	4"X4" FLUORESCENT STRIP WITH EM. BATTERY BALLAST AND WIRE GUARD	120	
F4	LITHONIA LIGHTING	C 2 32 120 GEB WSGUN	COOPER LIGHTING	SS-232-120V-EL-E8B1-WGUS5-4FT-U	70	WALL	-	(2) 32W T8	4"X4" FLUORESCENT STRIP WITH EM. BATTERY BALLAST AND WIRE GUARD	120	
F5	LITHONIA LIGHTING	CA 2 25 AR 120 GEB EL	COOPER LIGHTING	BC-225-120V-EL-E8B1	80	WALL	-	(2) 25W T8	3"X4" FLUORESCENT WALL MOUNT WITH EM. BATTERY PACK AND HIGH IMPACT LENS	120	
F8	LITHONIA LIGHTING	2AV-217-120-GBE	COOPER LIGHTING	2RD1-217-RP-120V-E8B-U	40	SURFACE	-	(2) 17W T8	2'-0" X 2'-0" FLUORESCENT	120	
F7	LITHONIA LIGHTING	2AV-217-120-GBE-EL	COOPER LIGHTING	2RD1-217-RP-120V-E8B-E8-U	40	SURFACE	-	(2) 17W T8	2'-0" X 2'-0" FLUORESCENT WITH WITH EM. BATTERY PACK	120	
F8	PIERLESS	CRW1-1-54TSHO-WHR-R4-120-GBE10-1-SC1	CORELITE	AW-S4-1-15-1-1-120-SLWA-04-R	80	WALL	-	(1) 54W TSHO	4' WALL MOUNTED FLUORESCENT IN-ROOF	120	
F9	LITHONIA	DMW-22-AR-120-GBE	METALUX	VTD-232-DR100-120V-E8B1-1M	70	SURFACE	-	(2) 32W T8	SURFACE MOUNTED FLUORESCENT FIXTURE WITH ACRYLIC LENS AND MET LABEL	120	
F10	CANLET	8802FVF28H	NO DUPLICATE	-	30	SURFACE	-	(1) 28W DTT	SURFACE MOUNTED FLUORESCENT ELEVATOR PIT LIGHT	120	
F11	LITHONIA	20T8 2 32 A12 120 GEB	METALUX	2-G-232-A-120V-E8B	70	RECESSED	5"	(2) 32W T8	LENSED TROFFER FOR GARAGE	120	
F11-E	LITHONIA	20T8 2 32 A12 120 GEB EL	METALUX	2-G-232-A-120V-E8B-E8B	70	RECESSED	5"	(2) 32W T8	LENSED TROFFER FOR GARAGE WITH EM. BATTERY PACK	120	
G	PROGRESS LIGHTING	P3854-30	SEA GULL LIGHTING	7542-82	180	SURFACE	-	(3) 60W A19	INCANDESCENT WHITE GLASS BOWL WITH WHITE TRIM	120	
H	PROGRESS LIGHTING	P3117-15 BROADWAY LIGHTS	SEA GULL LIGHTING	4339-05	360	WALL	-	(8) 60W G	4' INCANDESCENT WALL STRIP WITH LAMPS	120	
H1	HAMPTON BAY	MODEL 84065-9 #10710	NO DUPLICATE	-	180	WALL	-	(3) 60W G	DECORATIVE WALL SCENE AT BATHROOM VANITY WITH 3 LAMPS	120	
X1	LITHONIA LIGHTING	LOM X W X X 12027T ELN	COOPER LIGHTING	CAX-K-80-X-W	15	SURFACE	-	LED	THERMOPLASTIC LED EXIT SIGN	120	
X2	LITHONIA LIGHTING	APN-W-PREM	NO DUPLICATE	-	5	SURFACE	-	AS SUPPLIED	EMERGENCY FROG EYE	120	
X2	LITHONIA LIGHTING	APN-W-PREM	SURE-LITE	CC7	5	SURFACE	-	AS SUPPLIED	EMERGENCY FROG EYE	120	
X3	LITHONIA LIGHTING	W87 320DIT MD 120 BLW DBST PE	NO DUPLICATE	-	80	SURFACE	-	(2) 28W DTT	COMPACT FLUORESCENT WALL MOUNTED EXTERIOR LIGHT WITH EMERGENCY BATTERY PACK AND PHOTOCELL	120	

GENERAL NOTES:
A. FAILURE TO INCLUDE ONE OF THE SPECIFIED PRODUCTS AS A PART OF THE BASE BID MAY, AT THE DISCRETION OF THE OWNER, INVALIDATE THE ENTIRE LIGHTING PRODUCT BID AND EXCLUDE THE CONTRACTOR FROM FURTHER CONSIDERATION.
B. WITHIN TWENTY-ONE DAYS OF CONTRACT AWARD, SUCCESSFUL CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF LIGHTING PRODUCTS HE INTENDS ON FURNISHING WITH MANUFACTURER AND CATALOG DESIGNATIONS, ALONG WITH CURRENTLY QUOTED LEAD TIMES FOR THE DELIVERY OF THE SAME. SHOULD THE CONTRACTOR ANTICIPATE THAT THE DELIVERY SCHEDULE OF ANY SPECIFIED PRODUCT MAY ADVERSELY IMPACT THE CONSTRUCTION SCHEDULE, HE SHALL BRING IT TO THE ATTENTION OF THE OWNER AT THIS TIME.
C. CONTRACTOR SHALL SUPPLY CONTRACTOR NET LUMP SUM PRICING FOR THE LIGHT FIXTURE PACKAGE ON THE COMMODITY LIGHT FIXTURE SCHEDULE. PRICING SHALL BE FOR EQUIPMENT ONLY AND NOT INCLUDE INSTALLATION OR MISCELLANEOUS ELECTRICAL COSTS.
D. COMMODITY LIGHT FIXTURE SCHEDULE CAN NOT BE USED INDEPENDENTLY OF THE DRAWINGS AND SPECIFICATIONS TO OBTAIN LUMINAIRE FIXTURE COSTS. THE INDIVIDUAL PUTTING TOGETHER FIXTURE COSTS SHALL NOT QUOTE PRICING WITHOUT FIRST SEEING APPLICABLE ELECTRICAL DRAWINGS AND DIVISION 16 SPECIFICATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE NECESSARY DRAWINGS AND SPECIFICATIONS TO THE INDIVIDUAL QUOTING LUMINAIRE PRICING.
E. REFER TO DRAWINGS FOR ALL FIXTURES REQUIRING EMERGENCY BATTERY BACKUP OPTION.
F. ALL FLUORESCENT LAMPS ARE TO BE 3500 DEG KELVIN COLOR TEMPERATURE.



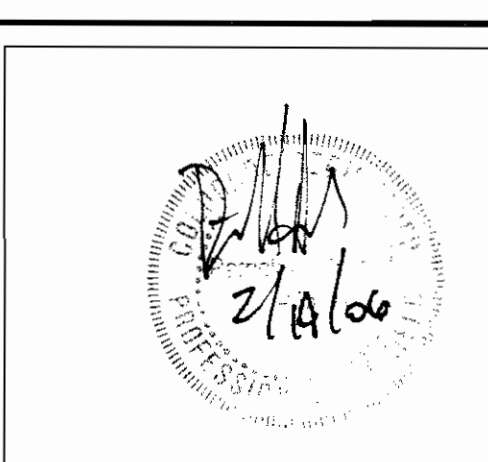
Aurora Housing Authority
1445 Dallas Street
Aurora, Colorado

DRAWN BY: MTR
REVIEWED BY: RFD

REVISIONS		
No.	Description	Date
1		
2		
3		
4		

ISSUE RECORD		
No.	Description	Date
1	S.D. PACKAGE	10/20/2004
2	100% CD PACKAGE	1/14/2005
3	S&M CD PACKAGE	05/04/2005
4	100% CD PACKAGE	02/13/2006

SHEET CONTENTS
ELECTRICAL EQUIPMENT
SCHEDULES



PROJECT NO:
DATE: FEBRUARY 13, 2006

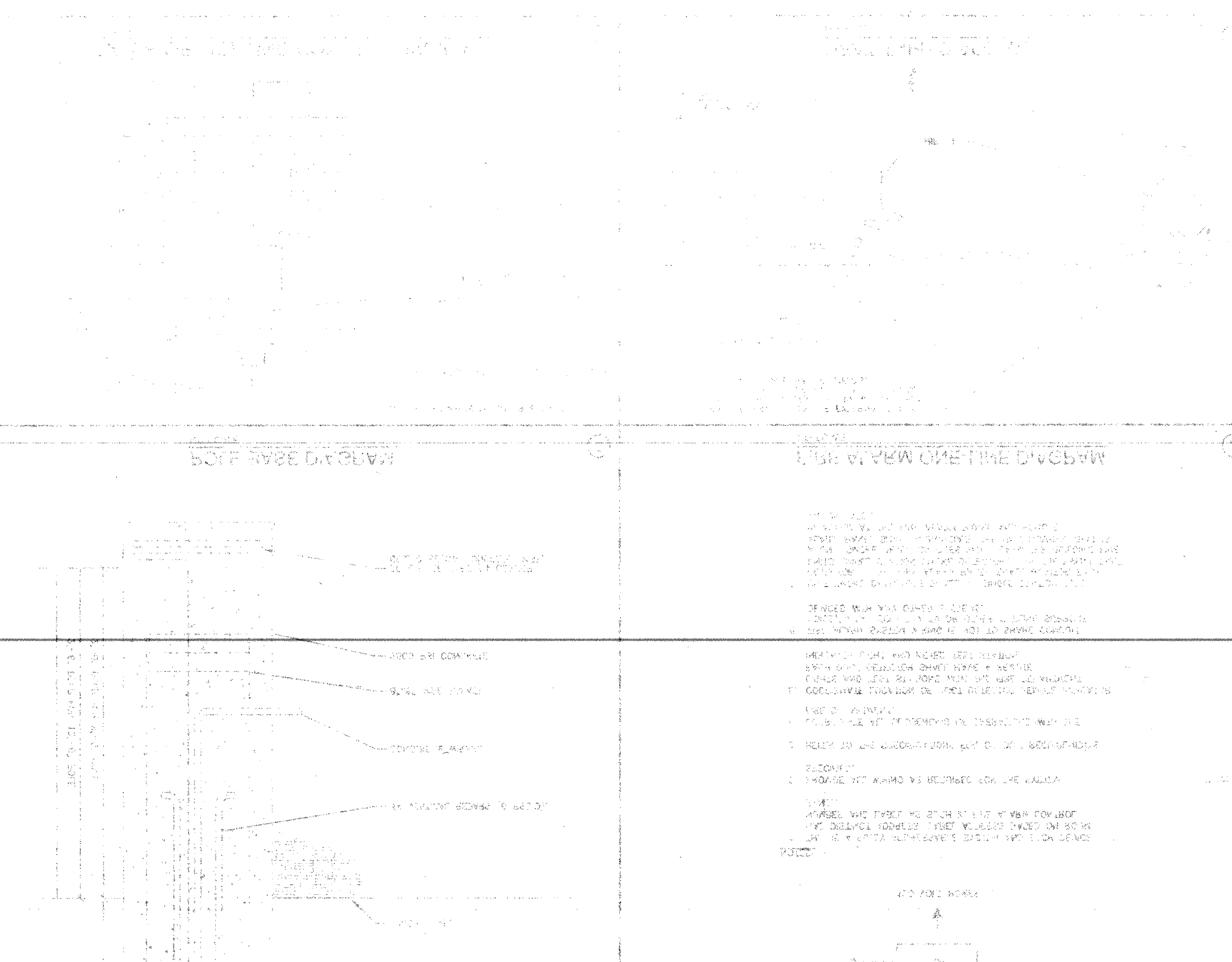
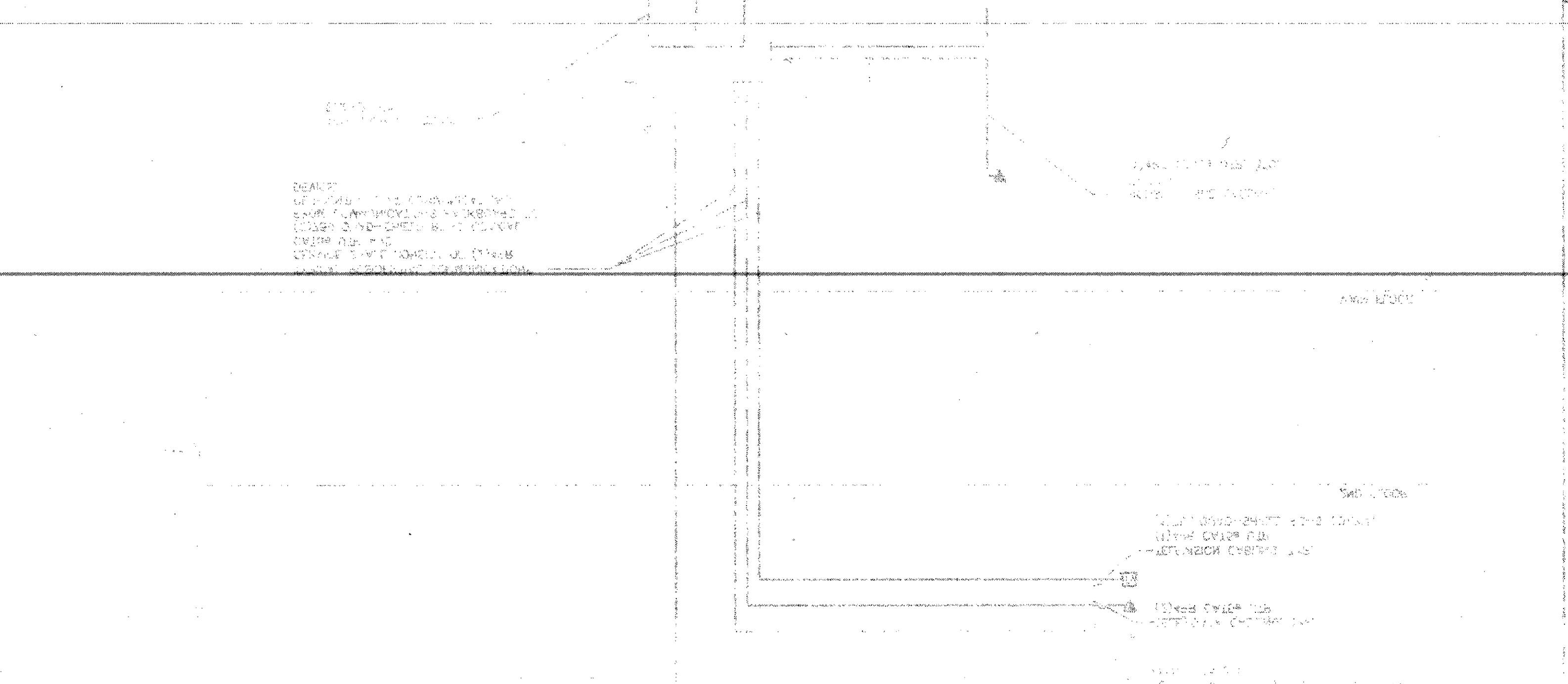
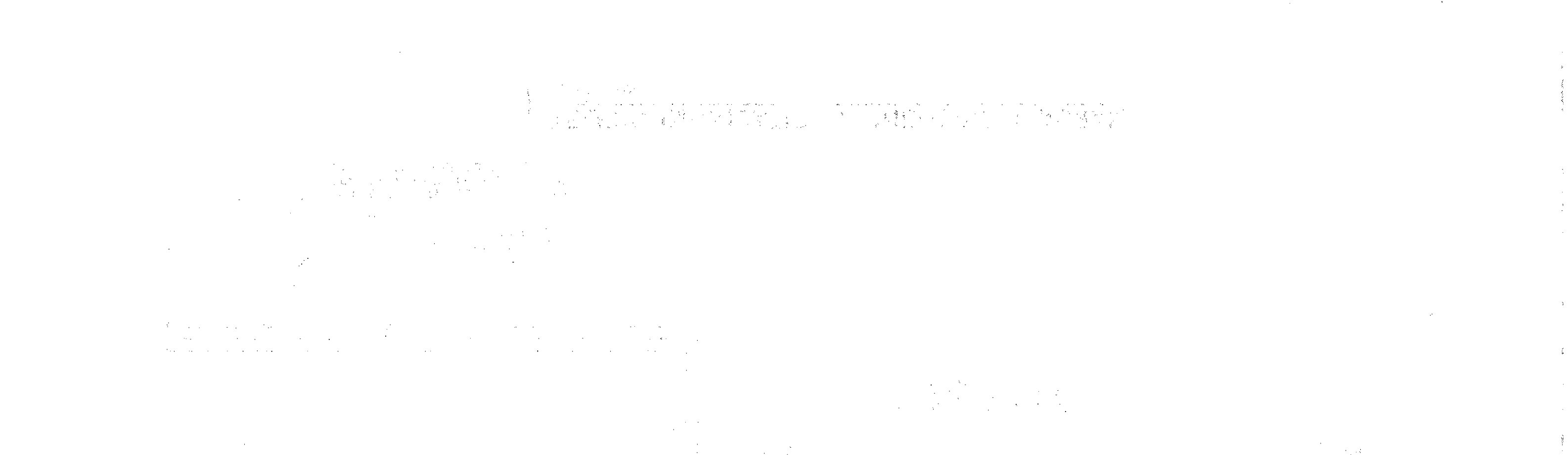
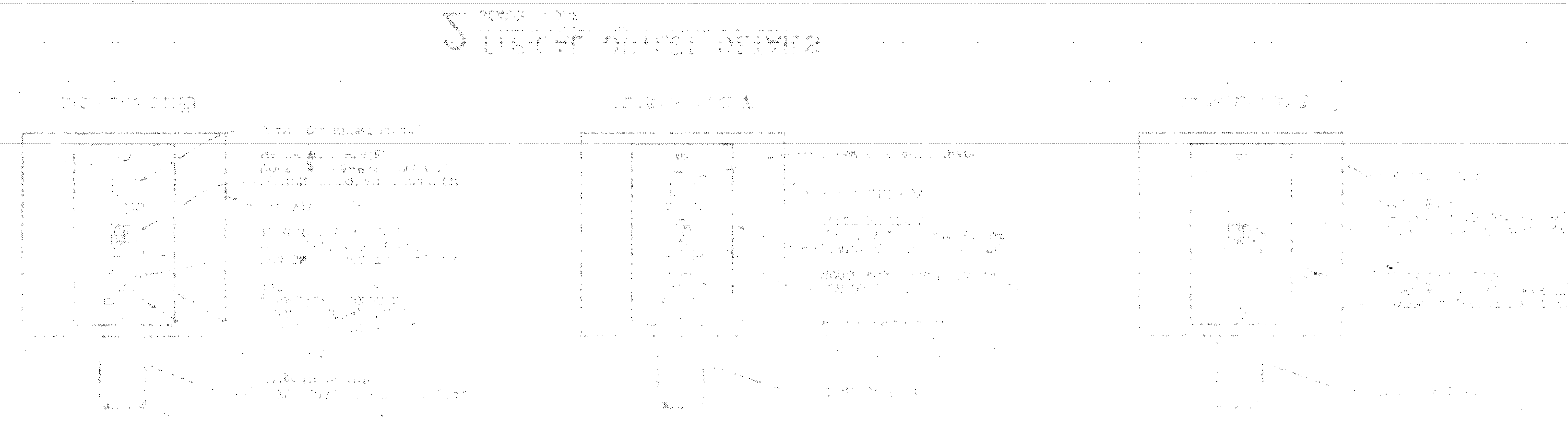
DRAWING NO:

E5.2

06 - 108667

APPROVED MAY 16 2006

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Completed Drawings
2003 IPC
2003 INC
2003 NEC
2003 IPC

108801-80

108801-80

BUILDING DIVISION
COPY

Stamp: Revisions
RSM 259129
RSM 51167

108801-80

City of Aurora Plan Review
Occ. Type: 32162
Const. Type: 32162
Square Footage: 2100
Code: OS-2100
RSM: OS-2100
Permit No.:

City of Aurora Plan Review
Project: 1450 S. 1st St.
Address: 1450 S. 1st St.
Contractor: 1450 S. 1st St.
RSM: 1450 S. 1st St.
Permit Number: 1450 S. 1st St.
Plan Location: 1450 S. 1st St.