#### **SECTION 33 41 00**

#### STORM DRAIN

# **PART 1 GENERAL**

#### 1.01 SECTION INCLUDES

A. This Section describes materials and installation of non-pressure storm drain pipe, fittings, inlets, and accessories for gravity flow and all appurtenant work as indicated on the plans, as specified in this section and as directed by the Engineer.

#### 1.02 REFERENCES

- A. Standard Specifications for Public Works Construction (Greenbook) Latest Edition
- B. California Pluming Code Latest Edition

#### 1.03 SUBMITTALS

A. Product data for each type of manufactured material and product included.

#### 1.04 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of embedded utilities and components that are concealed from view.

## **PART 2 PRODUCTS**

#### 2.01 MATERIALS

A. Plastic Pipe: ASTM D3034, SDR35 minimum wall thickness, polyvinyl chloride (PVC) material, bell and spigot style solvent sealed end joints.

#### 2.02 ACCESSORIES

A. Fittings: Same material as pipe, molded or formed to suite pipe size and end design, in required "T" bends, elbows, cleanouts, reducers, traps, and other configurations required.

#### 2.03 CATCH BASINS

A. Basin Lid and Frame: Galvanized cast-iron construction, hinged lid, linear grill lid design, nominal lid and frame sizes as indicated.

## 2.04 MANHOLES AND CLEANOUTS

- A. Lid and Frame: Cast-iron construction, removable lid, closed lid design, nominal frame and lid diameter as indicated.
- B. Shaft Construction and Cone Top Section: Reinforced pre-cast concrete pipe sections, lipped male/female dry joints: cast steel ladder rungs into shaft sections at 12-inches nominal shaft diameter as indicated.

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STORM DRAIN
Project Number 75-10621-00

33 41 00 - 1

- C. Base Pad: Cast-in-place concrete, leveled top surface to receive concrete shaft sections, sleeved to receive sewer pipe sections.
- D. Cleanouts: Cast-iron ferrule and countersunk brass cleanout plug, with round cast-iron access frame and heavy-duty secured, scoriated cast-iron cover.

#### 2.05 PIPE IDENTIFICATION

A. Metallic-Lined Underground Warning Tapes: Polyethylene plastic tape with metallic core, 6 inches wide by 4 mils thick, solid blue in color with continuously printed caption in black letters "CAUTION-STORM SEWER LINE BURIED BELOW".

### PART 3 EXECUTION

#### 3.01 EXAMINATION

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated.
- B. Beginning of installation means acceptance of existing conditions.

#### 3.02 PREPARATION

- A. Hand trim excavations to required elevations.
- B. Correct over excavations with sand fill material.
- C. Remove large stones or other hard matter which could damage pipe or impede consistent backfilling or compaction.

#### 3.03 INSTALLATION

# A. Pipe

- Install sanitary sewerage system to connect to building sanitary drain, of size and in locations indicated.
- Solvent cement PVC pipe and fittings in accordance with ASTM D2855 and install piping in accordance with ASTM D2321.
- 3. Place pipe on minimum 4-inch deep bed of sand.
- 4. Lay pipe to slope noted with maximum variation from true slope 1/8 inch per 10 feet
- 5. Install sand on sides and over top of pipe. Provide top cover to minimum compacted thickness of 12 inches.
- 6. Do not displace or damage pipe when compacting.
- Install warning tape during backfilling of trench for storm drain pipe. Locate tape
   8 inches below finished grade directly over piping.

# B. Catch Basins, Manholes, and Cleanouts

- 1. Form bottom of excavation clean and smooth to correct elevation.
- 2. Form and place cast-in-place concrete base pad, with provision for storm drain pipe end sections.
- 3. Establish elevations and locations for pipe inlets and outlets as indicated.

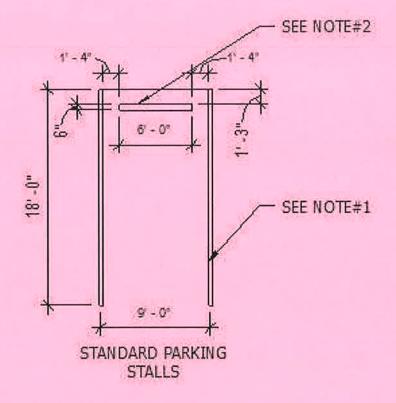
REDEVELOPMENT AGENCY FOR THE COUNTY OF RIVERSIDE MEAD VALLEY LIBRARY

- 4. Mount lid and frame level in grout, secure to top cone section to elevation indicated.
- 5. Install cleanouts and extension from storm drain pipe to cleanout at grade indicated.
- 6. Set cleanout frame and cover in concrete block 18 x 18 x 12 inches deep.
- 7. Set top of cleanouts flush with paved surfaces. If in unpaved areas, set top 1 inch above surrounding grades.

## 3.04 PROTECTION OF WORK

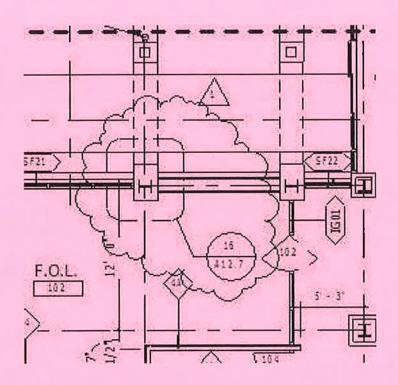
- A. Protect open excavations, trenches, and the like with fences, covers, and railings as required to maintain safe pedestrian and vehicular traffic passage.
- B. Protect pipe from damage or displacement until backfilling operation is in progress.

# **END OF SECTION**

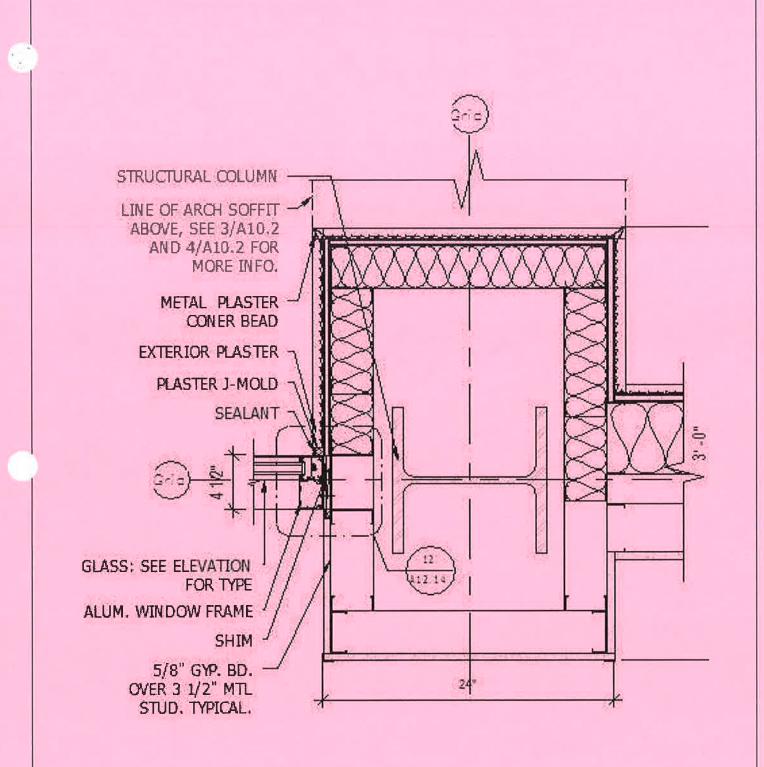


# NOTE:

- 1. 4" WIDE PAINTED STRIPING TYPICAL
- 2. CURB RAMP PER 5/-





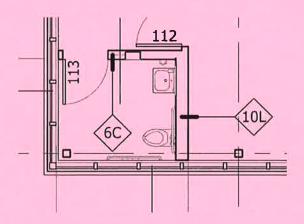


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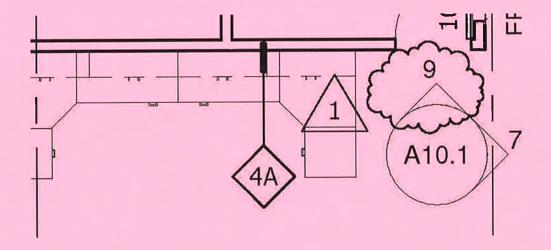


ASK-1-02.1

75-10621 02/06/2011 Column Wraping at Entrace Area(16/A12.7)
Mead Valley Library



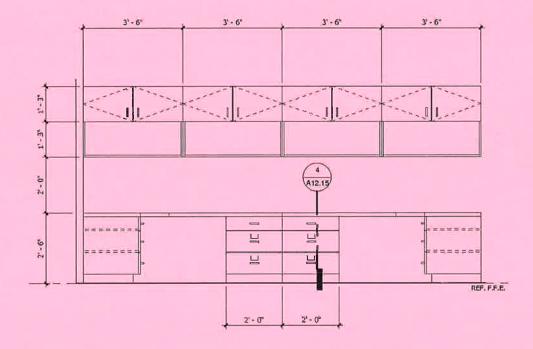




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ASK-1-04.0

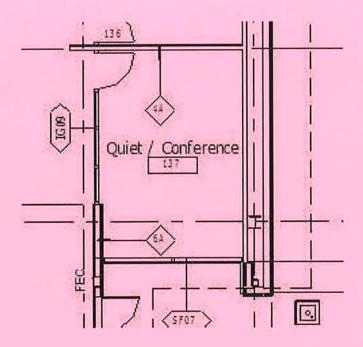


N.T.S.

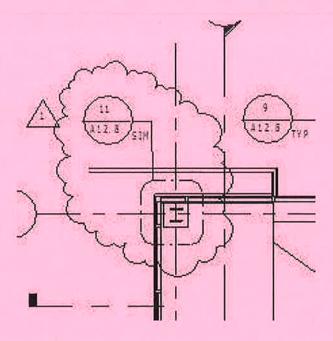


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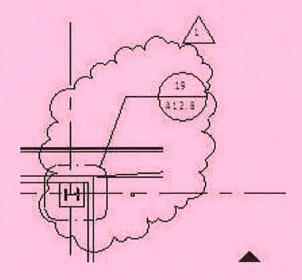
75-10621 02/06/2011 Workroom Workstation (9/A10.1)
Mead Valley Library



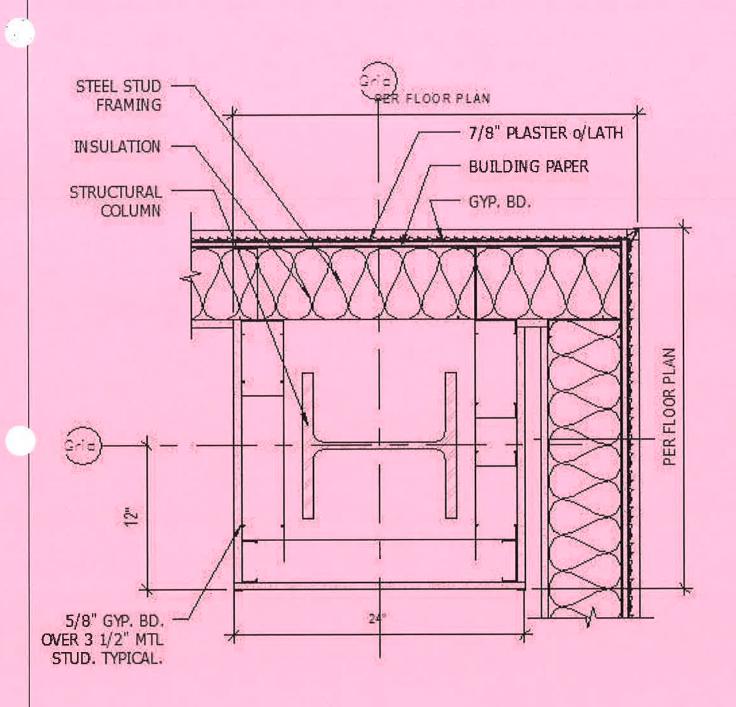










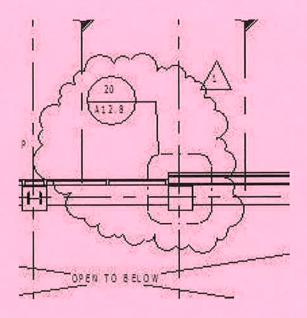


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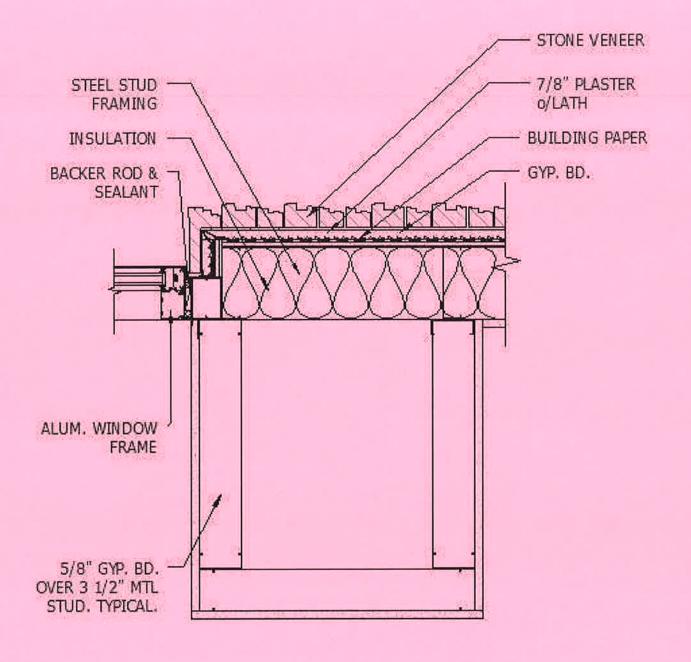


ASK-1-07.1

75-10621 02/06/2011 Column Wraping at Clerestory(19/A12.8)
Mead Valley Library







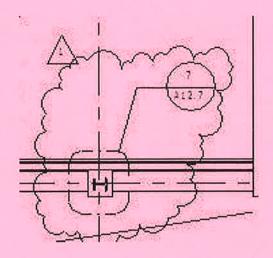
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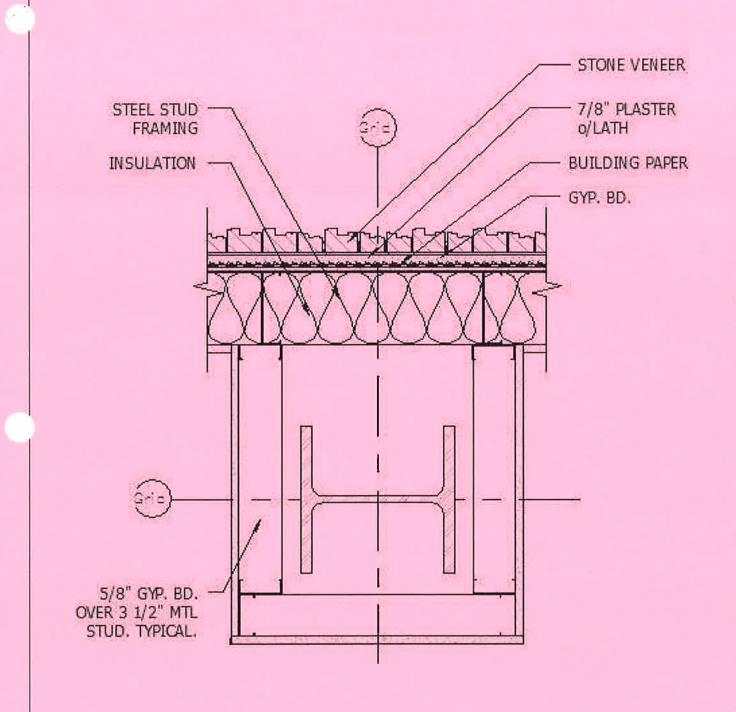
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02/06/2011

Column Wraping (20/A12.8) Mead Valley Library





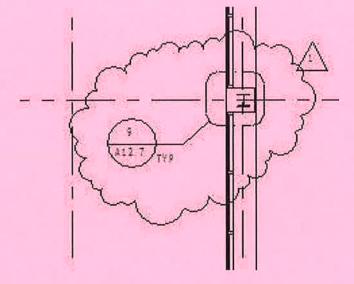


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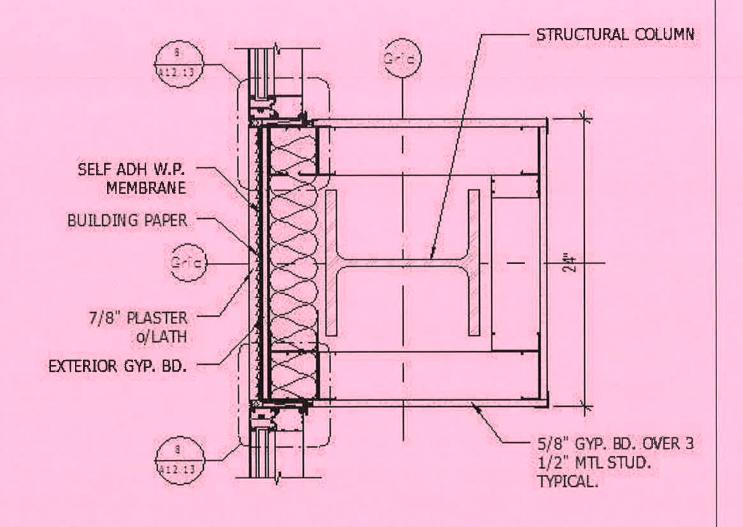


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75-10621 02/06/2011 Column Wraping (7/A12.7) Mead Valley Library

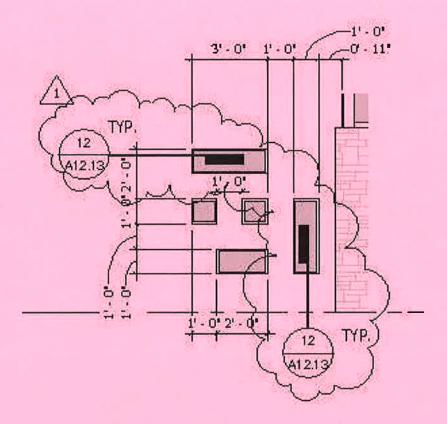




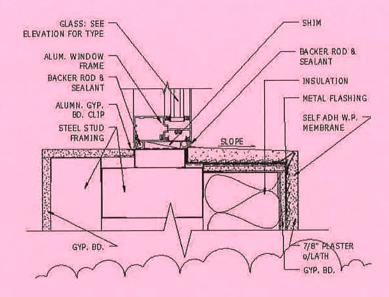


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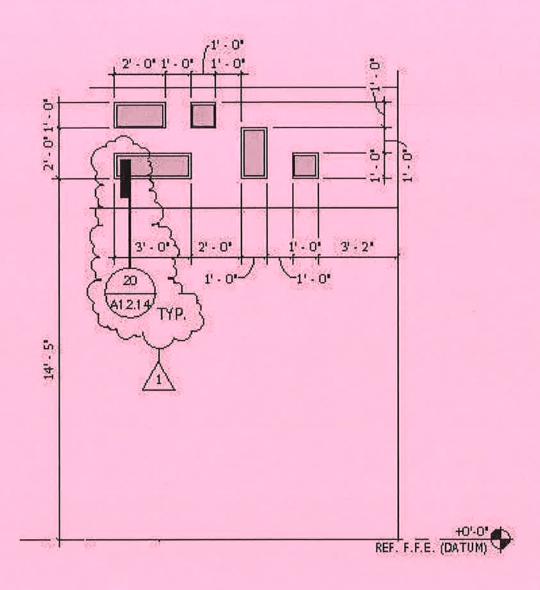




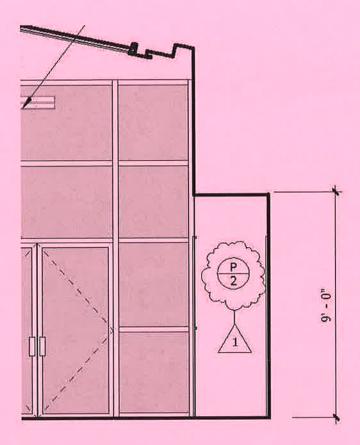


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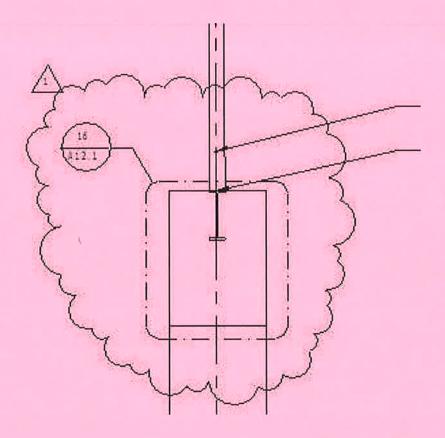




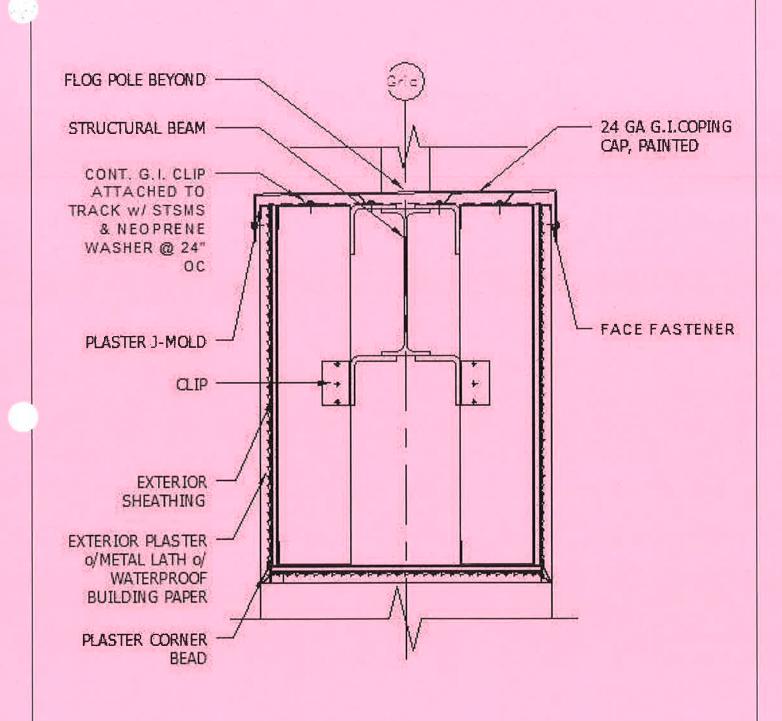


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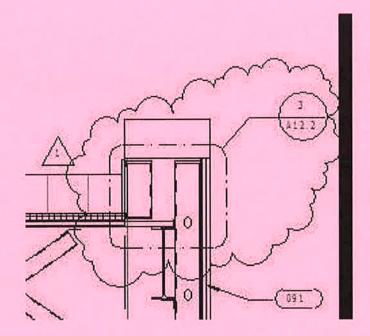


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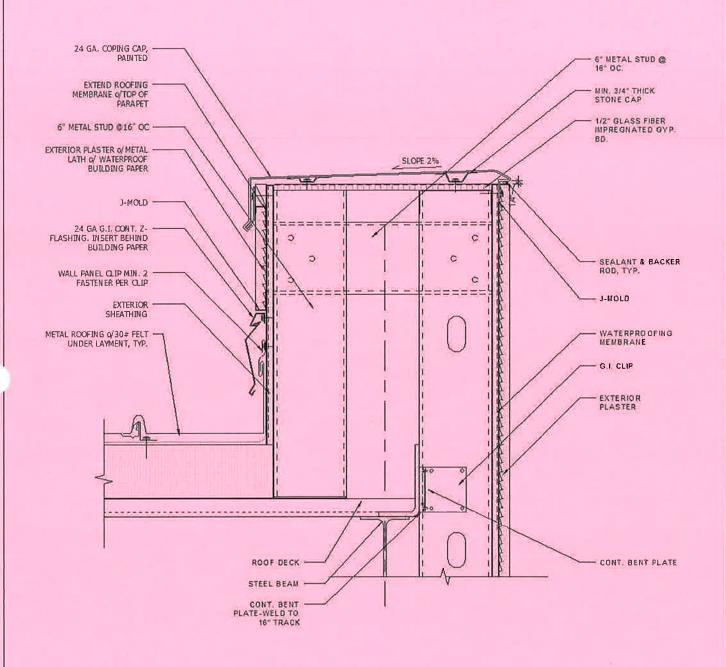


**ASK-1-15.1** 

75-10621 02/06/2011 Main Entry Arch Top Condition(16/A12.1)
Mead Valley Library





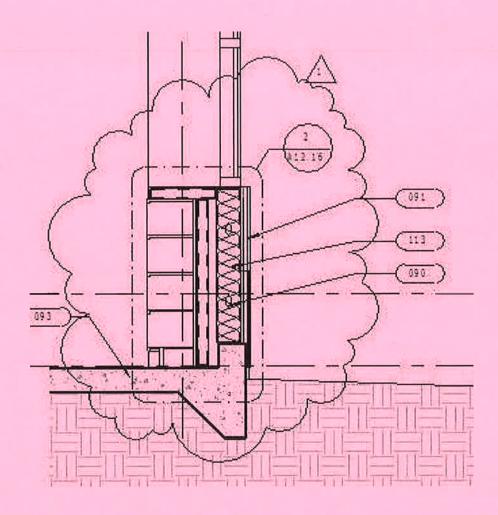


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**ASK-1-16.1** 

75-10621 02/06/2011 Parapet at Children's (3/A12.2)
Mead Valley Library

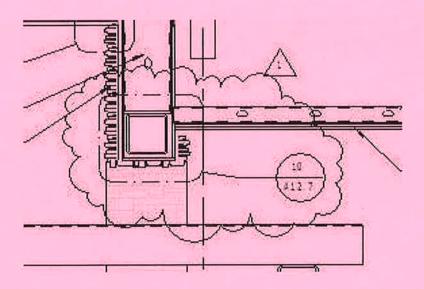




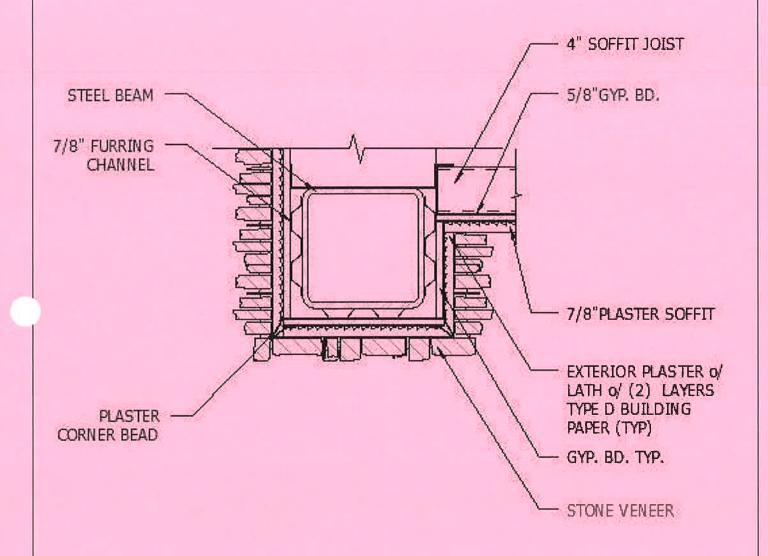


ASK-1-17.1

75-10621 02/06/2011 Sill & Casework at Children's (2/A12.16)
Mead Valley Library

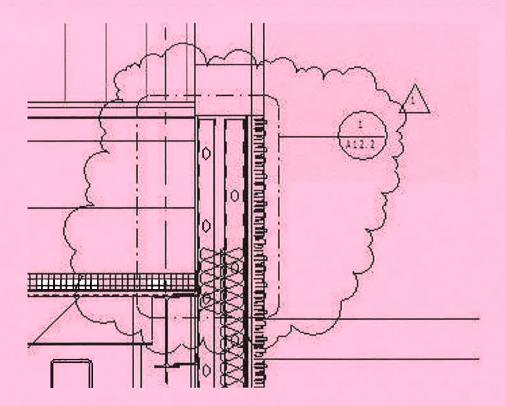






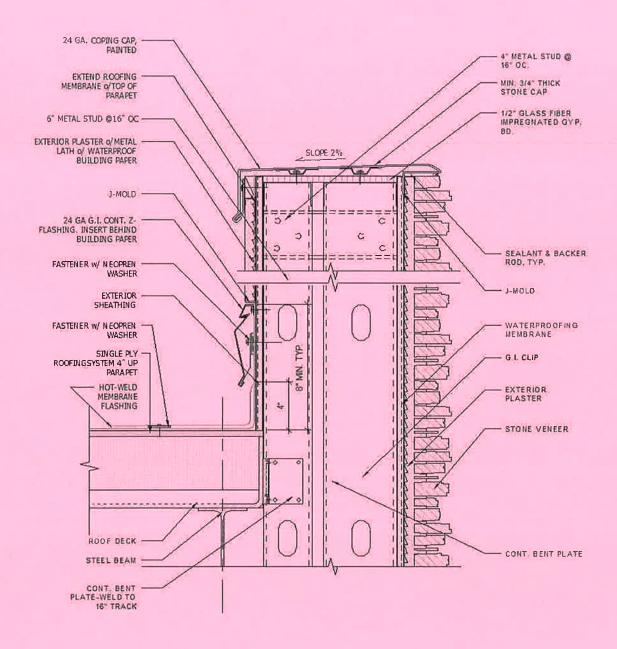
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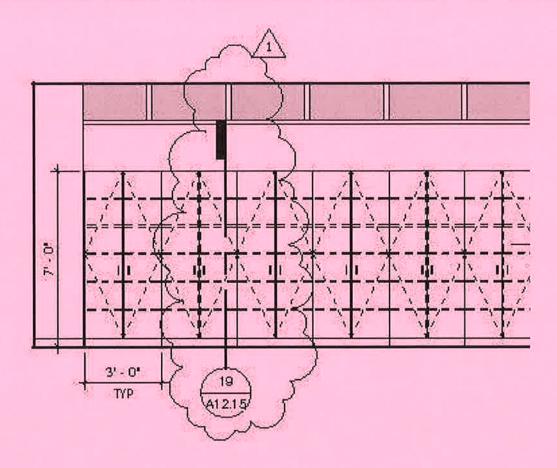
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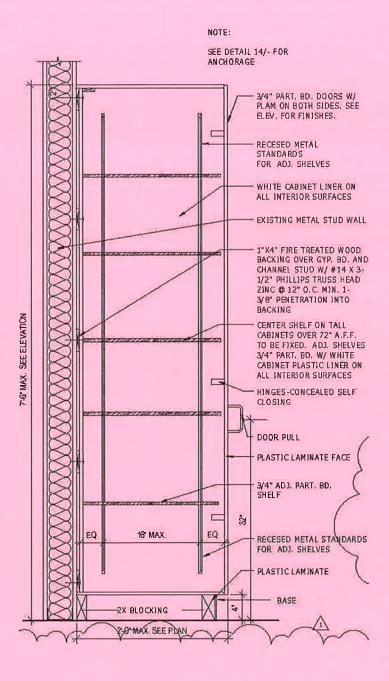


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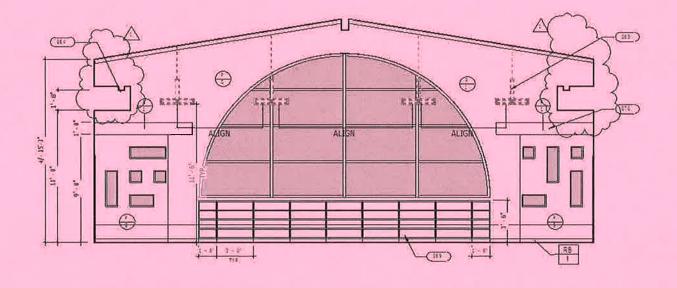








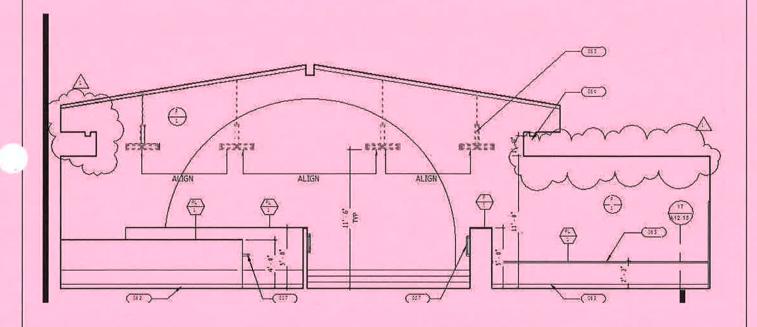






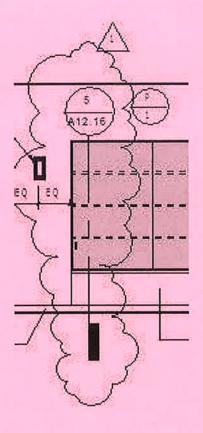
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75-10621 02/06/2011 Soffit Adjustment(15/A10.1)
Mead Valley Library

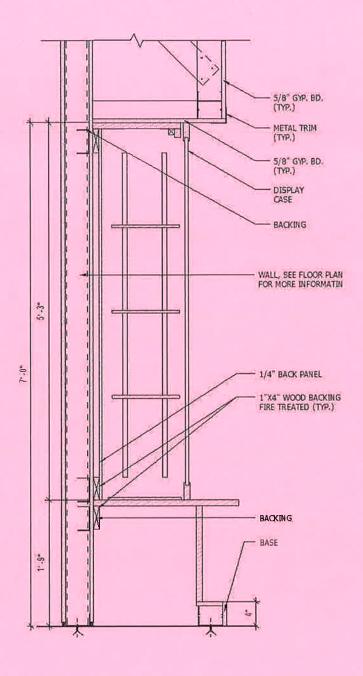


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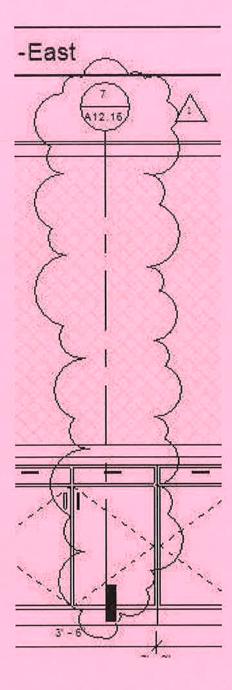


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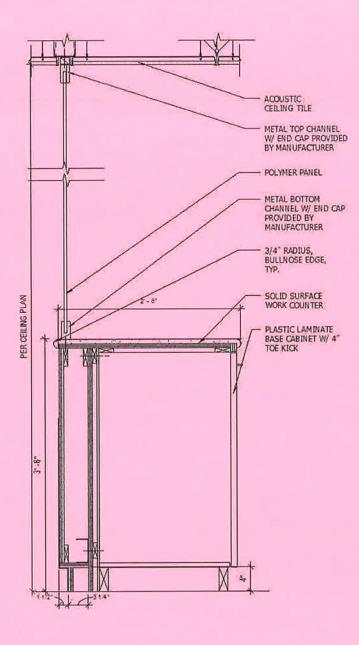
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1/2" =1'-0"



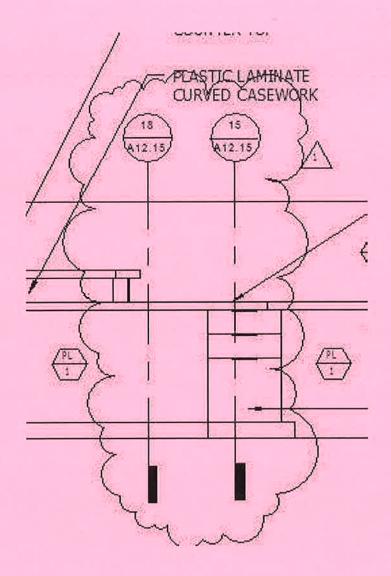


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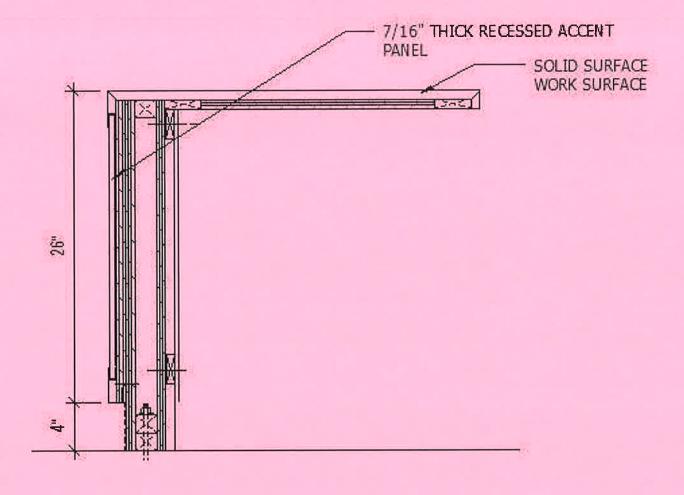
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75-10621 02/06/2011 Circulation Credenza(7/A12.16)
Mead Valley Library



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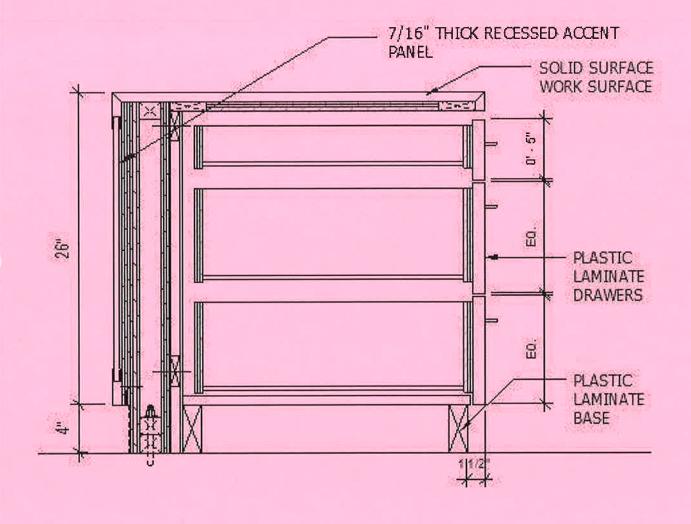


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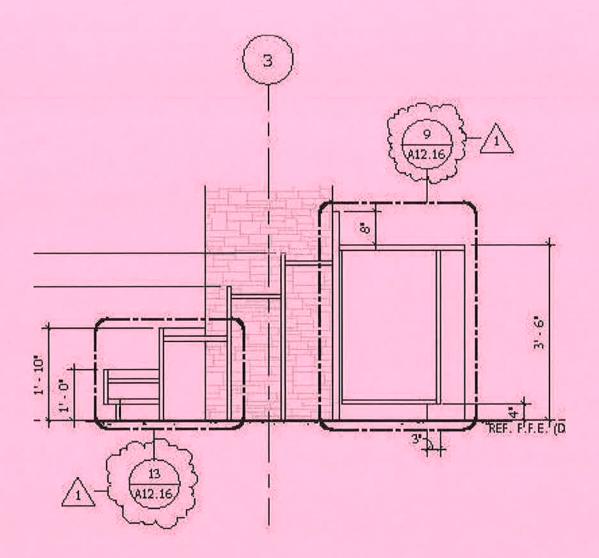
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75-10621 02/06/2011 Circulation Desk(18/A12.15)
Mead Valley Library



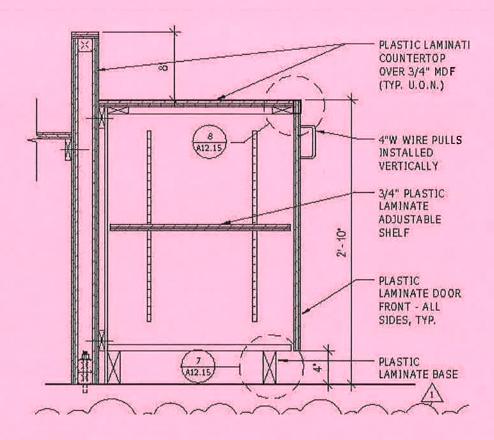
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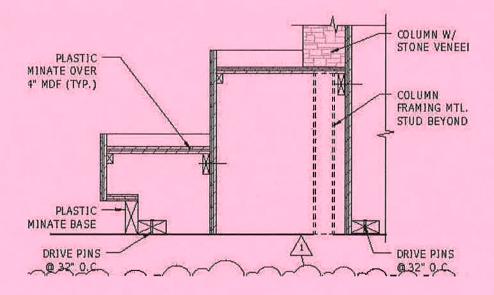
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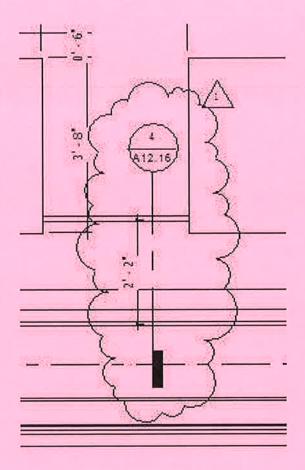
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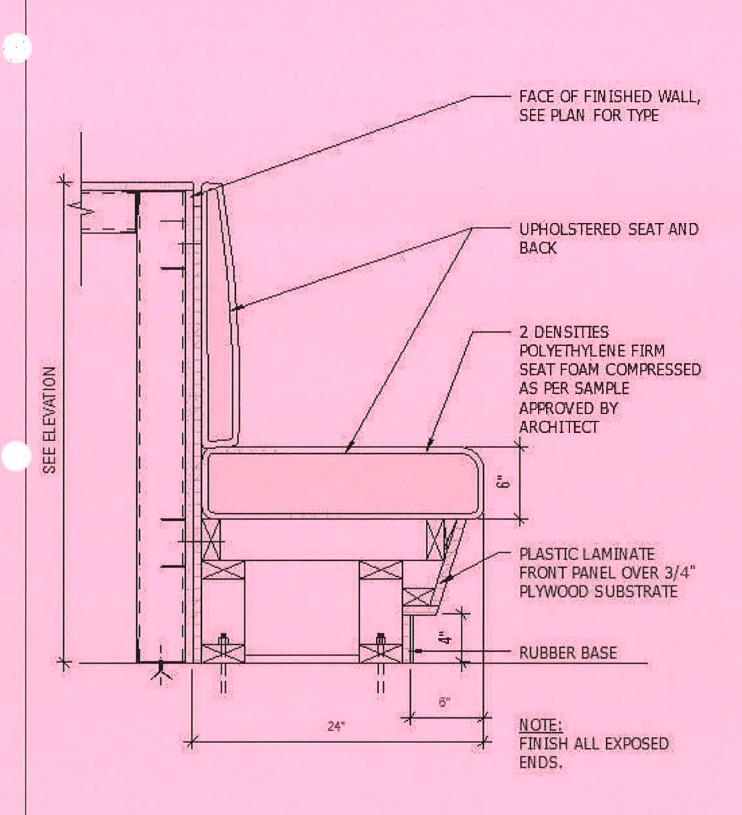


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1/2" = 1'-0"

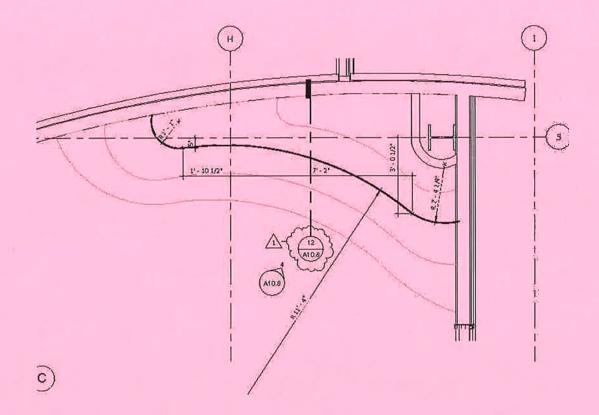


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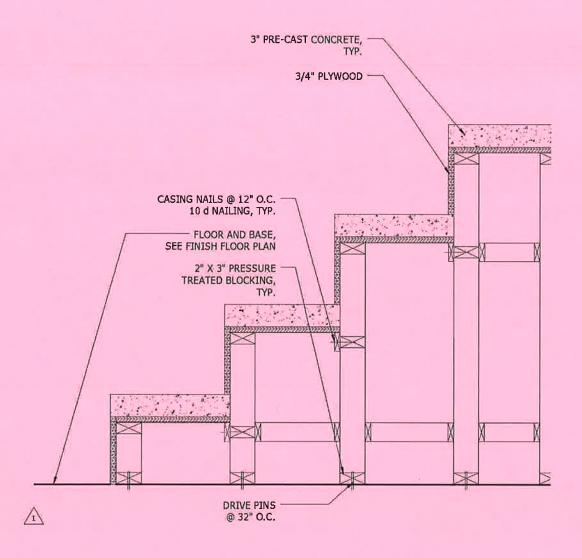
ASK-1-27.1

75-10621 02/06/2011 **Teen Banquette(4/A12.16)**Mead Valley Library



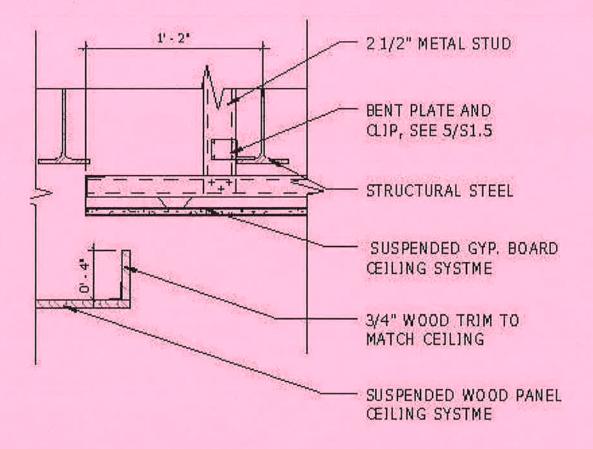
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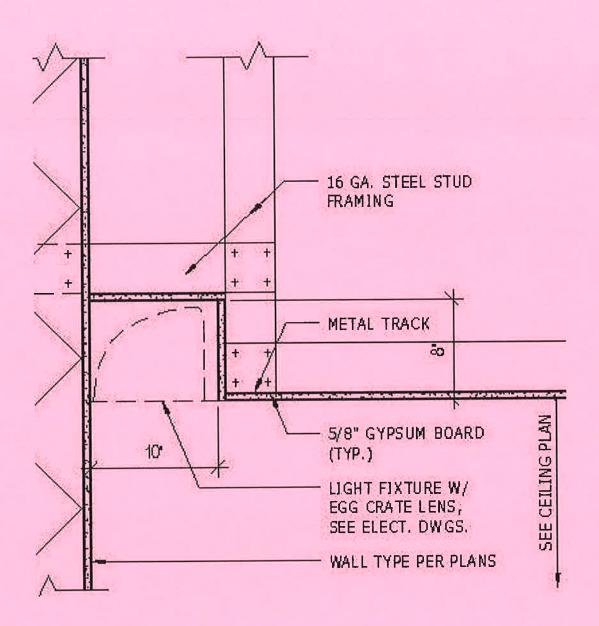
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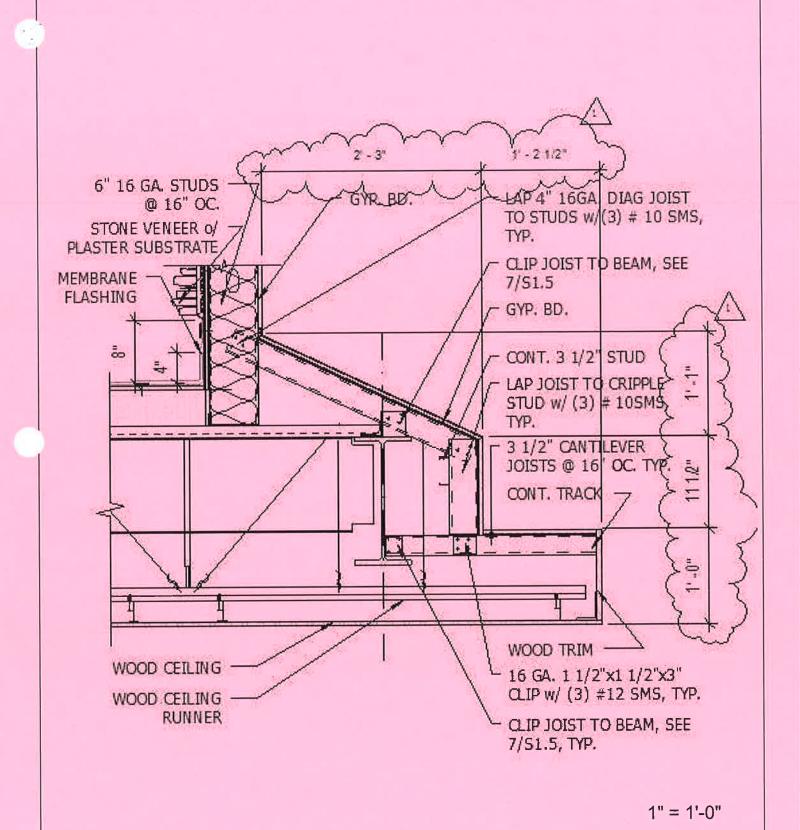
1 1/2" = 1'-0"





1 1/2" = 1'-0"





DLR Group

Architecture Engineering Planning Interiors

ASK-1-32.0

75-10621 02/06/2011 U - Soffit Detail(4/A12.9)
Mead Valley Library

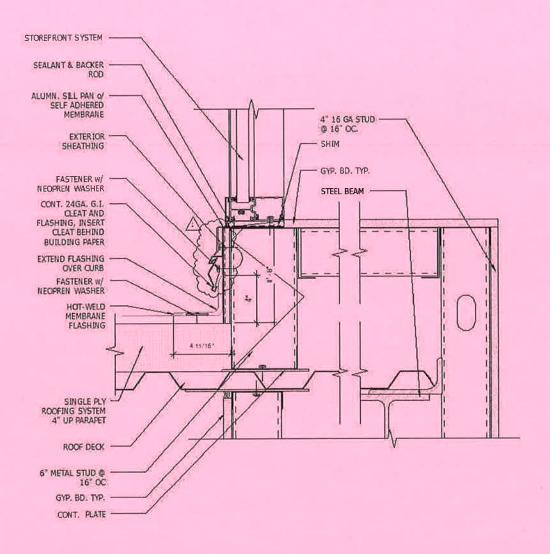
JLK Group

Architecture Engineering Planning Interiors

02/06/2011

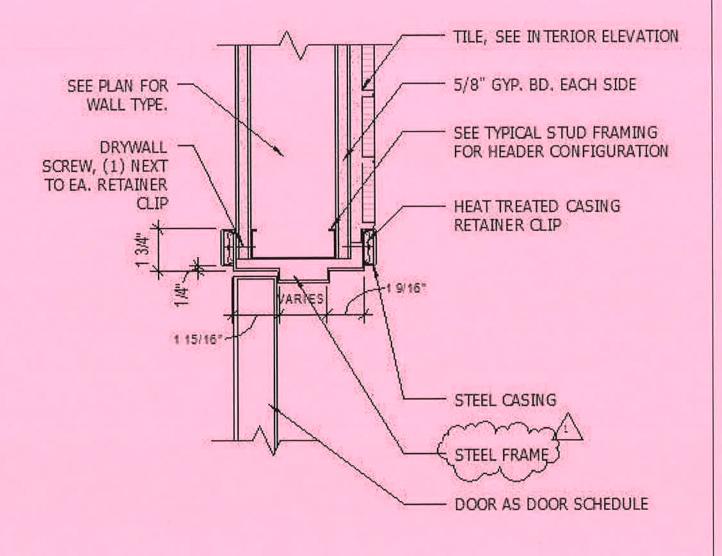
Mead Valley Library

02/06/2011



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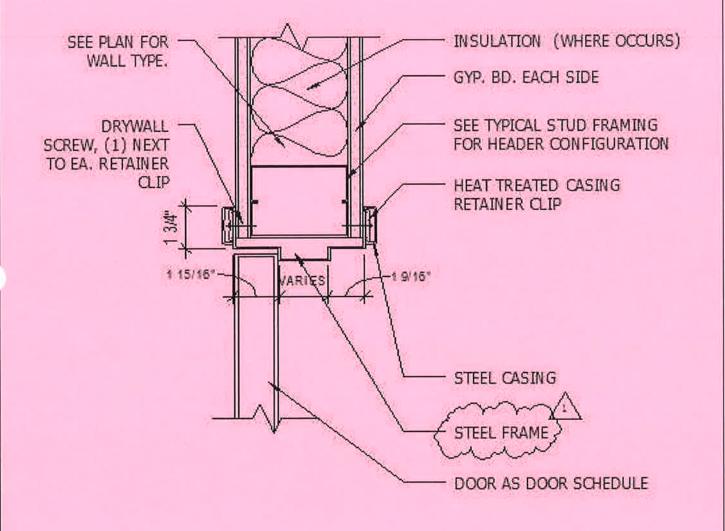


3" = 1'-0"



**ASK-1-36.0** 

75-10621 02/06/2011 Door Frame Jamb (Ceramic Wall)(10/A12.12)
Mead Valley Library



3" = 1'-0"



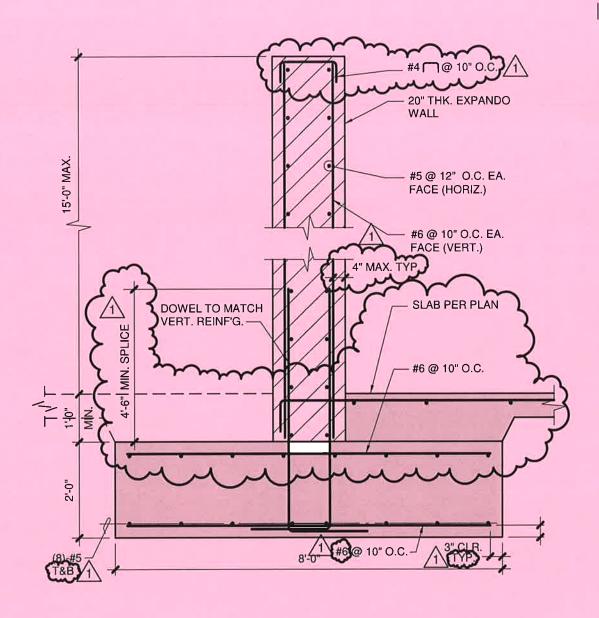
029	ALUMINUM FOLDING PANEL SYSTEM.
036	PROJECTION SCREEN.
039	FOLDING PARTITION SYSTEM.
063	LIGHTING FIXTURE
067	WOODWORKS LINEAR CEILING SYSTEM
070	SOFFIT
076	1" ALUMINUM REVEAL MOLDING (FRY REGLET DRM-50-100)
077	AV EQUIPMENT CLOSET

N.A.



ASK-1-38.0

75-10621 02/06/2011 **Keynote Legen - A10.3**Mead Valley Library

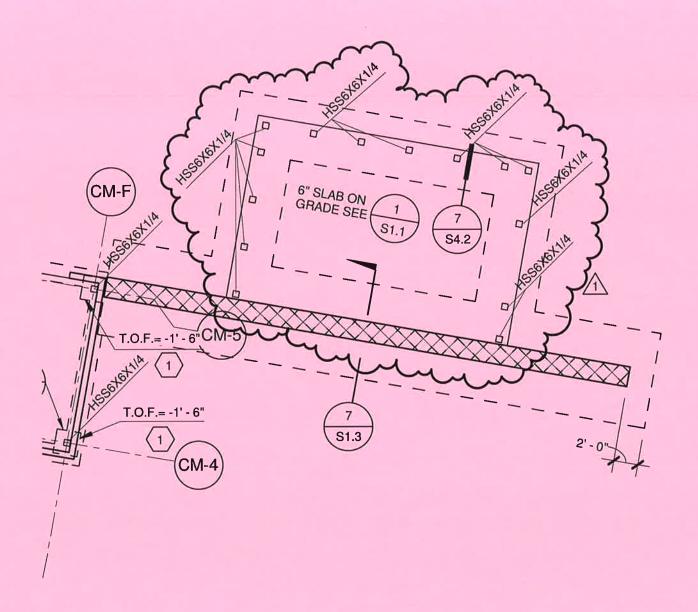


SCALE: 1/2=1'-0"



SSK-1-01.0

75-10621 05/10/2011 **EXPANDO WALL DETAIL (7/S1.3)**Mead Valley Library

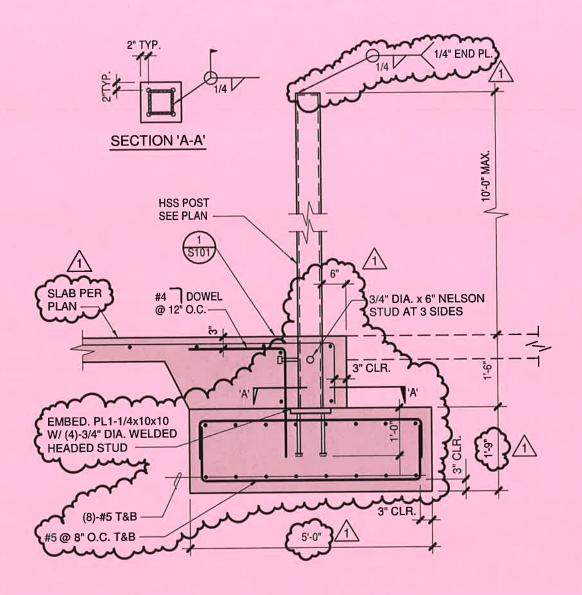


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SSK-1-02.0

75-10621 05/10/2011 Partial Foundation Plan (1/S2.1) Mead Valley Library

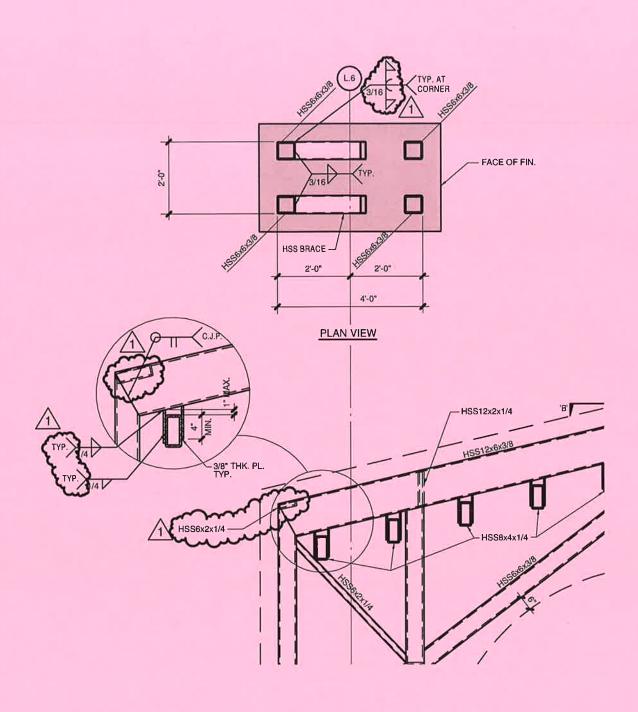


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SSK-1-03.0

75-10621 05/10/2011 SECTION (7/S4.2) Mead Valley Library

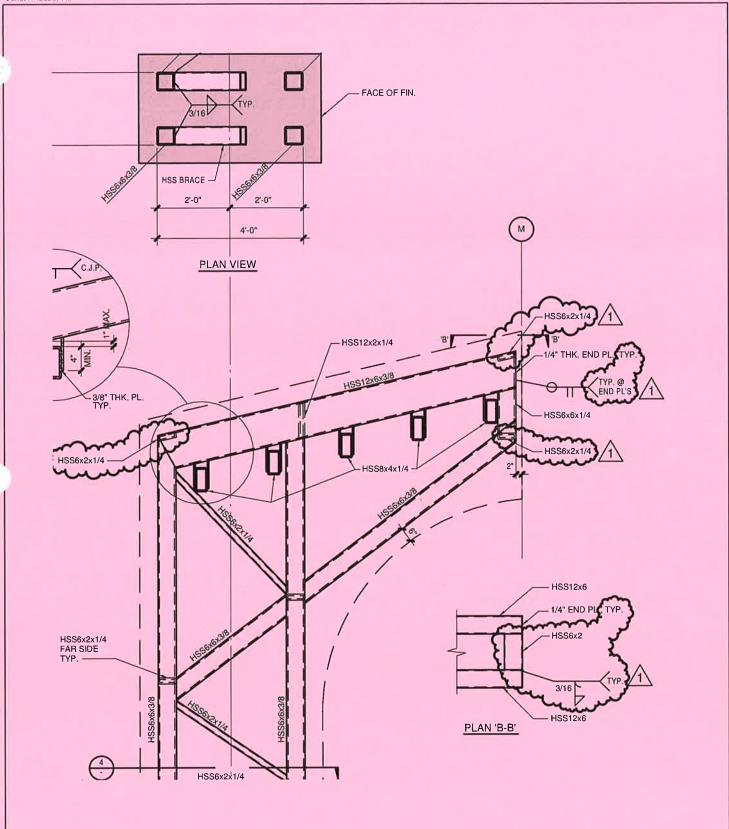


SCALE: 3/8" = 1'-0"



SSK-1-04.0

75-10621 05/10/2011 Partial Elevation (3/S4.3) Mead Valley Library

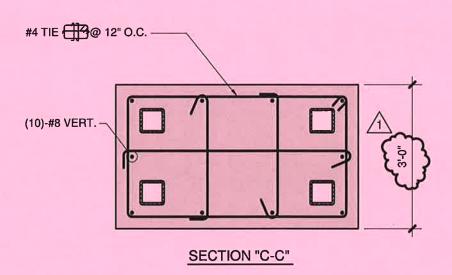


SCALE: 3/8"=1'-0"



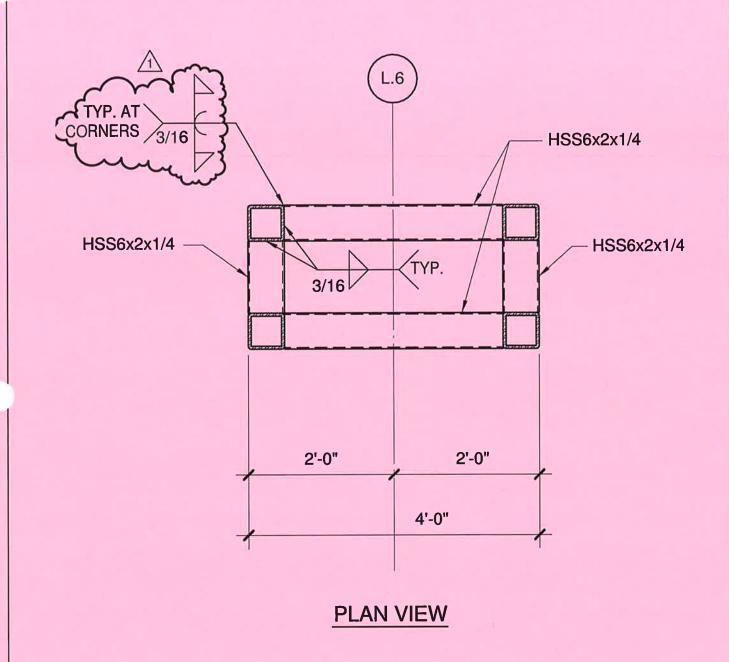
SSK-1-04.1

75-10621 05/10/2011 Partial Elevation (3/S4.3) Mead Valley Library



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





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



SSK-1-05.0

75-10621 05/10/2011 Section (4/S4.3) Mead Valley Library

ils, conditions. dded or inas. unless detailed

given as the guarantee hall be 1 approval

shall be

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 For footing of 2000 psf + nimum as shown ruction. Net soil or seismic loads. s to have a 18" below the

per foot of footing havbe increased by resistance maybe ning the total lateral tional forces

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th the above of the approved

oring. ations of, the and eroding cavation shall existing ded by the

at of 1970. ailable for the a possible GEOR

afety. labs until the vs min.) or

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## REINFORCING

- All reinforcing shall conform to ASTM A-706 specifications Typ. except #3 bars may be Grade 40.
- Reinforcing bars shall be spliced and bent in strict accordance with the drawings and details and C.R.S.I. publications. No kinks allowed. All bars shall be clean prior to concrete placement.
- Provide dowels of same size and number from adjacent pour, both vertically and horizontally to match typical reinforcing shown. Laps to be in accordance with the drawings and details. Dowels shall be cleaned after pour.
- Use low hydrogen electrodes, Grade E-90, for welding of reinforcing bars.
- Shop drawings for reinforcing steel shall be submitted to the structural engineer for approval prior to fabrication. Shop Drawings to include information on recycle content.
- Field welding or bending of reinforcing is not permitted except as indicated on the drawings or as approved by the Structural Engineer.
- Bars shall not be re-bent.
- The Contractor shall furnish 2 tons of reinforcing in placed, in addition to that required by the drawings to be used at the discretion of the Structural Engineer, at no additional cost to the owner.

STRUCTURAL STEEL

- 1. Structural steel shapes shall conform to ASTM A-992 (GR50) specifications and to the AISC Specifications for fabrication and erection. Plates shall conform to ASTM A572 grade 50 (except floor/roof edge bent plate).
- Tubes shall conform to ASTM A-500 standard specifications, Grade B. Fy = 46 ksi. Pipes shall conform to ASTM A-500, Grade B, Fy = 42 ksi. Specifications.
- All welding shall conform to the specifications of the American Welding Society and shall be performed by certified welders using the electric arc process.
- 4. Bolts shall conform to A325. High Strength bolts to be ASTM A-325SC Class 5. All structural steel shall be fabricated in the shop of a fabricator licensed by the and the shop drawings shall be submitted to the Architect for approval prior to fabrication. Shop drawings to include information on recycled content.
- 6. All field welding except tack welding shall be continuously inspected by an approved welding inspector.
- Provide one shop coat of paint on all structural steel not covered with concrete, fireproofing, masonry or at contact surfaces at high strength bolts
- At moment connections: High strength bolts shall be fully tightened after welding is done and welded connections shall be inspected by non-destructive methods such as
- x-ray, ultrasonic or otherwise. Check for laminar tearing.

  9. All complete penetration groove welds contained in joints and splices shall be tested 100%
- 10. High strength bolting shall be continuously inspected by an approved inspector.
- 11. Weld filler metal shall have a notch toughness of 20 ft. lbs. at -20 F (see Spec.
- Section 05120 for special welding requirement). E70-T4 shall not be used in this project.

  12. Bolt Holes in Structural Steel including cold form steel shall be no larger than 1/16 inch larger in diameter than the nominal bolt size specified unless noted otherwise (Base plates included).

## CONCRETE MASONRY UNITS

- 1. Concrete blocks shall be of sizes shown on the drawings, type and color as selected by the Architect and conform to ASTM C-90, Grade N-1. Block shall be medium weight units, fm 1900 psi.
- 2. Grout mix shall be 1:3:2 Portland cement to sand to pea gravel with 1/10 part lime putt or hydrated lime, 2000 psi.
- 3. Mortar mix shall be 1:3 Portland cement to sand with not more than one-half nor less than one-quarter part lime putty with Suconem Red Label added, Type S, 1500 psi.
- 4. All reinforcing shall have a minimum coverage of one bar diameter (1/2 inch min.) of grout and vertical bars shall be placed in the center of the wall unless shown otherwise.

  5. Grout cells solid in all walls Reinforcing shall be securely held in place. Grout in 4'-0"
- maximum lifts. All masonry units shall be laid in running bond.
- No pipes or ducts shall be placed in masonry unless noted or detailed specifically.
- Continuous inspection of block laying is required.
- Bolts shall be grouted solid with 1 inch min. grout between bolt and masonry at block face, and shall be accurately set with templates.

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F. Test equipme with standard

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TORQUE WE following limit:

- J. For WEDGE any group arr not previously frequency.
- K. When Installir care and caul minimum clea

SCALE: NONE





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75-10621 01/13/2011 **BOILER FLUE TERMINATION (5/M402)** Mead Valley Library

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