

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: **0505786**

Insp Area: **2**

Thos Bros: **317C1**

Site Address: **1711 9TH AV SAC**

Parcel No: **012-0305-015**

Sub-Type: **RES**

Housing (Y/N): **N**

CONTRACTOR

MONARCH ROOFING INC
8262 ALPINE AVE SUITE A
SACRAMENTO, CA 95826

OWNER

CRUZ, STEVE
1711 9TH AV
SACRAMENTO CA 95818

ARCHITECT

Nature of Work: REROOF T/O RESHEET INSTALL 38 SQRS METAL BATTEN AND LIGHT WEIGHT TILE

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____ Lender's Address _____

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class C39 License Number 806787 Date 4-27-05 Contractor Signature [Signature]

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

____ I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

____ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

____ I am exempt under Sec. _____ B & PC for this reason: _____

Date _____ Owner Signature _____

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 4-27-05 Applicant/Agent Signature [Signature]

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

____ I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier **VIRGINIA SURETY COMPANY, INC** Policy Number **005-00016796** Exp Date **01/01/2006**

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that, I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 4-27-05 Applicant Signature [Signature]

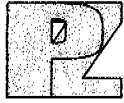
WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

RAID
CITY OF SACRAMENTO
APR 27 2005
ENTER

0505786

Cruz

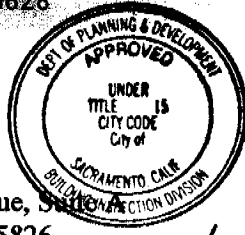


Paul Zacher - Structural Engineers, Inc
4701 Lakeside Way
Fair Oaks, CA 95628

TEL: 916.961.3960
FAX: 916.961.6552

April 22, 2005

Monarch Roofing
8262 Alpine Avenue, Suite A
Sacramento, CA 95826
TEL: (916) 978-3182
FAX: (916) 456-1703



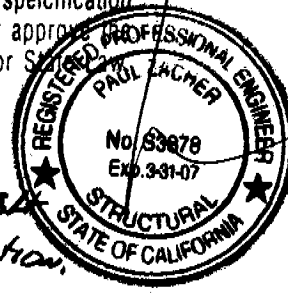
This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.

The approval of this plan and specification SHALL NOT be held to permit or approve a violation of any City Ordinance or State Code.

*Imp - 4/22/05 - field verify
Max Tile 7.3' dia, see detail*

Attn.: Mr. Neal Weber,

re: Job 2005141: CRUZ



*Agmt 3, 4 & 7. Max span on 2x4-8'x8'
Do not cover prior to inspection.*

Subject: Structural Investigation Report of the Roof for the Residence located at 1711 9th Avenue, Sacramento, CA 95818.

As requested by Mr. Neal Weber, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site April 20, 2005. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report are based on the 1997 Uniform Building Code with 2001 CBC Title 24 Amendments.

The following is based on visual observations with no subsurface investigation being made.

DESCRIPTION:

Type of Facility: Residence.
Year Built: Estimated 1980's vintage.
Occupancy: Residential.
No. of Stories: One.
Dimensions: Approximately 2000 square feet.

ISSUED
City of Sacramento
APR 27 2005
NORTH PERMIT CENTER

CONSTRUCTION:

Roof:
The roof covering will consist of a Light Weight Concrete Tile over a batten system. The roof structure is conventionally framed with 2x4 rafters spaced at 24" on center with 2x4 purlins supported at no more than 15'-0" on center by 2x4 struts bearing on walls below.

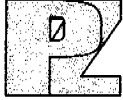
CONCLUSIONS:

Roof:
The roof structure currently lacks sufficient structural capacity for the applied live and dead loads. See "Recommendations" for location and repair to bring the roof structure up to the required capacity.

PERMITS CENTER

CITY COPY

1711 9TH AV



RECOMMENDATIONS:

If any of the following recommendations do not correspond to actual field conditions, the engineer of record shall be notified for further investigation and evaluation before continuing work.

Roof Structure:

1. Scab a 2x4 rafter to the existing 2x4 rafters with 16d's @ 12" on center where the span is greater than 8'-0". The rafter to be scabbed to the existing rafter may be held short of the intersecting bearing wall, hip, valley, ridge or purlin by no more than 4". See detail 1.
2. Add a 2x6 DF#2 x 30'-0" long purlin with 2x4 struts to the bearing walls below. See detail 1.
3. Provide additional 2x4 struts from the existing purlins to the bearing walls below. The maximum spacing between the new and existing struts shall not exceed 4'-0" on center. The unbraced length of the struts shall not exceed 8'-0" and the minimum slope of the struts shall not be less than 45 degrees from the horizontal. See detail 1.
4. Remove the existing purlin and scab a 2x6 rafter to the existing 2x4 rafters with 16d's @ 12" on center where the span is greater than 10'-0". The rafter to be scabbed to the existing rafter may be held short of the intersecting bearing wall, hip, valley, ridge or purlin by no more than 4". See detail 1.
5. Scab a 1 3/4" x 9 1/2" x 16'-0" long LVL to the existing 2x6 purlin which spans 15'-0". Attach it with 16d's @ 3" on center. Support the LVL to the bearing walls below with 2x4 struts. See details 1 and 2.

It shall be noted that small hairline cracking may occur at exterior stucco and interior gypboard finished walls that are load bearing or distributing roof strut loads. These cracks are a natural occurrence as the existing structure re-distributes the new roof weight. They are cosmetic in nature and are not an indication of a structural hazard or failure.

It shall be noted that some deflection of the rafters may be evident after installation of the tile. The existing roof framing has deflected but this may not be readily evident due to the uneven nature of the existing roofing material. Concrete tile is a very consistent and uniform product and when installed in an even plane, even small deflections can become apparent. This is only a cosmetic issue and not a structural concern.

The inspection consisted of visual observation only, made solely to determine the structural capacity of the existing roof. Analysis does not determine any effects on the overall structure under lateral forces or effects on the foundation unless specifically noted in the calculations and in this document. No warranties, expressed or implied, are made or intended in conjunction with this report. The inspection was made only to the portions that were accessible. The specific items noted were those that were observable and there may be defects that are not observable, or are hidden by architectural and structural materials.

If you have any questions on the above, do not hesitate to call.

Sincerely,



Paul Zacher, P.E., S.E.

Job #: 05_141

Date: 04/22/2005

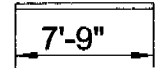
LOADING:

Rafter:

Dr = 10.4 psf x 2'-0" = 22.8 plf
 Lr = 16.0 psf x 2'-0" = 32.0 plf

2x4 #2

20.8 / 32.0

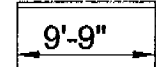


Rafter:

Dr = 10.4 psf x 2'-0" = 22.8 plf
 Lr = 16.0 psf x 2'-0" = 32.0 plf

2-2x4 #2

20.8 / 32.0

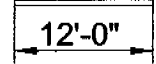


Rafter:

Dr = 10.4 psf x 2'-0" = 22.8 plf
 Lr = 16.0 psf x 2'-0" = 32.0 plf

2x6 #2

20.8 / 32.0

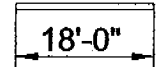


B1:

Dr = 10.4 psf x 3'-0" = 31 plf
 Lr = 16.0 psf x 3'-0" = 48 plf

4x12 #2

31 / 48

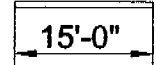


LVL:

Dr = 10.4 psf x 6'-0" = 62 plf
 Lr = 16.0 psf x 6'-0" = 96 plf

1-3/4" x 9-1/2" LVL

62 / 96



Paul Zacher Structural Engr's, Inc.
 4701 Lakeside Way
 Fair Oaks, CA 95628

Title :
 Dsgnr:
 Description :

Job #
 Date: 4:22PM, 22 APR 05

Scope :

Rev: 580008
 User: KW-0602844, Ver 5.8.0, 1-Dec-2003
 (c)1983-2003 ENERCALC Engineering Software

Timber Beam & Joist

Cruz.ecw:Calculations

Description RAFTERS AND BEAMS

Timber Member Information Code Ref: 1997/2001 NDS, 2000/2003 IBC, 2003 NFPA 5000. Base allowables are user defined

	rafter	rafter	rafter	B1	LVL
Timber Section	2x4	2-2x4	2x6	4x12 MicroLam: 1.75x9.5	
Beam Width	in 1.500	3.000	1.500	3.500	1.750
Beam Depth	in 3.500	3.500	5.500	11.250	9.500
Le: Unbraced Length	ft 0.00	0.00	0.00	0.00	0.00
Timber Grade	Douglas Fir - Larch, No.2	Douglas Fir - Larch, No.2	Douglas Fir - Larch, No.2	Douglas Fir - Larch, No.1	Truss Joist - MacMillan,
Fb - Basic Allow	psi 875.0	875.0	875.0	1,000.0	2,600.0
Fv - Basic Allow	psi 95.0	95.0	95.0	95.0	285.0
Elastic Modulus	ksi 1,600.0	1,600.0	1,600.0	1,700.0	1,900.0
Load Duration Factor	1.250	1.250	1.250	1.250	1.250
Member Type	Sawn	Sawn	Sawn	Sawn	Manuf/Pine
Repetitive Status	Repetitive	Repetitive	Repetitive	No	No

Center Span Data

		7.75	9.75	12.00	18.00	15.00
Span	ft					
Dead Load	#/ft	20.80	20.80	20.40	31.00	62.00
Live Load	#/ft	32.00	32.00	32.00	48.00	96.00

Results

	Ratio =	0.8233	0.6515	0.9153	0.3782	0.6233
Mmax @ Center @ X =	in-k ft	4.76 3.87	7.53 4.87	11.32 6.00	38.39 9.00	53.32 7.50
fb : Actual	psi	1,553.3	1,229.2	1,496.6	520.0	2,025.8
Fb : Allowable	psi	1,886.7	1,886.7	1,635.2	1,375.0	3,250.0
		Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
fv : Actual	psi	54.2	34.7	53.0	24.3	95.8
Fv : Allowable	psi	118.8	118.8	118.8	118.8	356.3
		Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

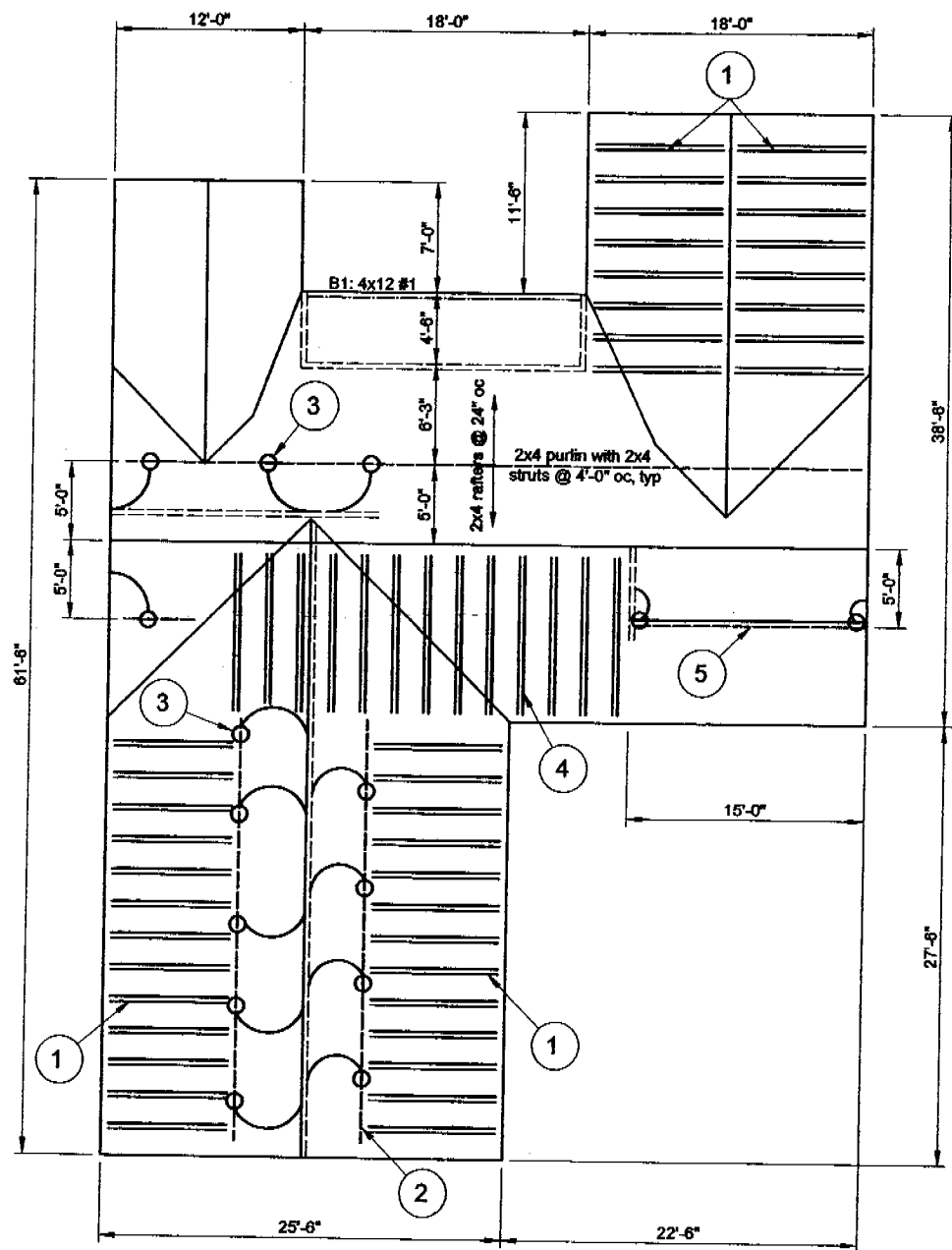
Reactions

		80.60	101.40	122.40	279.00	465.00
@ Left End	DL	80.60	101.40	122.40	279.00	465.00
	LL	124.00	156.00	192.00	432.00	720.00
	Max. DL+LL	204.60	257.40	314.40	711.00	1,185.00
@ Right End	DL	80.60	101.40	122.40	279.00	465.00
	LL	124.00	156.00	192.00	432.00	720.00
	Max. DL+LL	204.60	257.40	314.40	711.00	1,185.00

Deflections

		Ratio OK	Deflection OK	Deflection OK	Deflection OK	Deflection OK
Center DL Defl	in	-0.197	-0.247	-0.286	-0.104	-0.297
L/Defl Ratio		472.4	474.5	503.4	2,082.7	605.5
Center LL Defl	in	-0.303	-0.379	-0.449	-0.161	-0.460
L/Defl Ratio		307.0	308.4	320.9	1,345.1	391.1
Center Total Defl	in	-0.500	-0.626	-0.735	-0.264	-0.758
Location	ft	3.875	4.875	6.000	9.000	7.500
L/Defl Ratio		186.1	186.9	196.0	817.3	237.6

5



FRAMING NOTES:

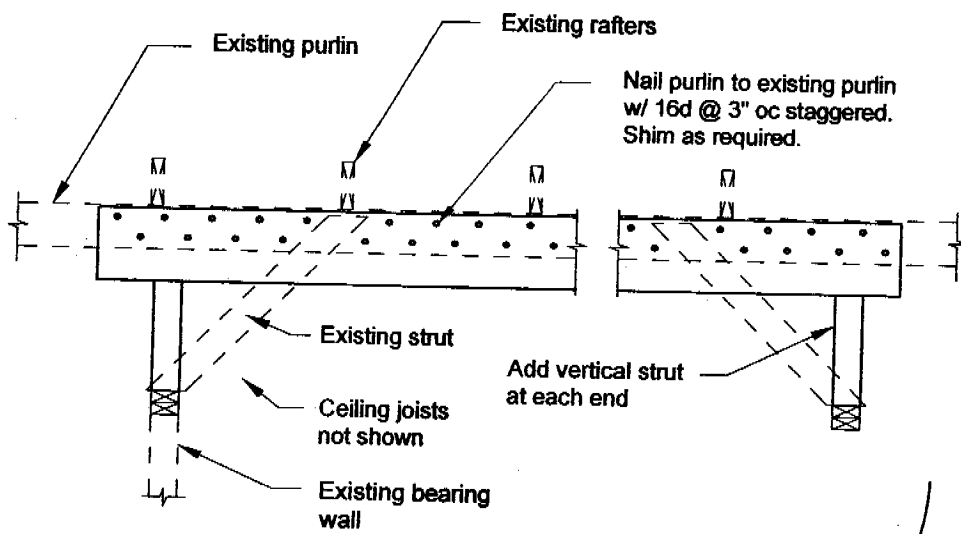
1. Scab a 2x4 to existing 2x4 rafters where the span is greater than 8'-0" (total 42).
2. Add a 2x6 DF#2 x 30'-0" long purlin with 2x4 struts to bearing below.
3. Add 2x4 struts to bearing below (total 8).
4. Remove the existing purlin. Scab a 2x6 to existing 2x4 rafters where the span is greater than 10'-0" (total 13).
5. Scab a 1-3/4" x 9-1/2" x 16'-0" long LVL to the existing 2x4 purlin. See detail 2.

NOTES:

- A. This is a reroof project. The new roofing material shall be a Light Weight Concrete Tile. The tile shall weigh less than or equal to 7.3 psf.
- B. All framing members including rafters, purlins, joists and beams are existing unless otherwise noted in the framing notes above.
- C. All rafters are 2x6 DF#2 and hips and valleys are 2x8 DF#2 unless otherwise noted.
- D. All existing rafter, hips, valleys, rafter ties, and purlins are braced per UBC Section 2320.1 "Roof and Ceiling Framing" unless otherwise shown.
- E. All structural wood members that were observed appear to be in sound condition and without structural defect.

1 ROOF PLAN - CRUZ
Not to Scale





2

PURLIN DETAIL

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

7



Filling Category: ROOF COVERING AND ROOF DECK CONSTRUCTION—Roof Covering

BARTILE EXTRUDED CONCRETE ROOF TILES

BARTILE ROOFS, INC.
725 NORTH 1000 WEST
CENTERVILLE, UTAH 84014

1.0 SUBJECT

Bartile Extruded Concrete Roof Tiles.

2.0 DESCRIPTION

2.1 General:

Bartile Extruded Concrete Roof Tiles are available in European, Mission "S" and Flat styles. Flat tiles are available in shake and slate designs. The tiles are 15¹/₄ inches long by 10¹/₂ inches wide and have 1¹/₈ inch to 1¹/₄ inch interlocking double tongue-and-groove side laps. The tiles also have anchor lugs at the bottom intended for installation over wood furring strips. The lugs are typically 1/2 inch deep, 1¹/₂ inches wide and 5/8 inch thick. The tile thickness varies from 1/2 inch to 1 inch at the ribs. Accessory tiles in each style are available for rakes, ridges and hips.

The tiles are available in both standard weight and lightweight varieties for each style. They vary only in weight due to the lightweight tiles using crushed lightweight shale in place of sand.

The basic concrete mix for the tiles is three parts of white sand (crushed lightweight shale for lightweight tiles) to one part of portland cement with appropriate amounts of water, air-entraining agents and accelerators. Mineral oxide coloring is added to the mix design as desired. When installed with a standard 3-inch head lap, the following are the approximate installed weights:

DESCRIPTION	INSTALLED WEIGHT* (pounds per square foot)	
	Standard-weight Tiles	Lightweight Tiles
European	9.0	7.0
Mission "S"	9.0	7.0
Flat (Shake & Slate)	9.5	7.25

*Includes underlayment and battens.

See Figure 1 for details.

2.2 Installation:

On roof slopes less than 3:12, tiles are only considered as decorative and must be applied over an approved roof covering, subject to the local building official's approval.

2.2.1 Standard-weight Tiles: On roof slopes 3:12 to 24:12, the tiles are installed over a minimum 1/2-inch thick solid sheathing with one layer of Type 30 asphalt-saturated organic roofing felt placed with a minimum 3-inch head lap and 6-inch end lap. 1-inch by 2-inch nominal cedar or fir wood strips perpendicular to the eaves may be optionally

used between 4:12 and 6:12 slope. 1-inch by 2-inch nominal wood battens are laid parallel to the eaves and spaced maximum 12¹/₂-inches on center. Battens are attached with 8 penny common corrosion-resistant nails spaced 24 inches on center. Nails must be of sufficient length to penetrate 1 inch into or through the sheathing thickness, whichever is less. A minimum 1/2-inch space is provided between the ends of battens every 4 feet to allow for water drainage. Tiles are nailed to battens with No. 11 gage corrosion-resistant roofing nails in accordance with Tables 15-D-1 and 15-D-2 of the 1997 *Uniform Building Code*™ (UBC). Nails must be of sufficient length to penetrate 3/4 inch into or through the thickness of the supporting member, whichever is less.

Ridge, hip and rake tiles are attached with 8 penny common corrosion-resistant nails. All tiles must have a minimum 3-inch head lap, and vertical edges must be interlocked and staggered from adjacent courses.

On slopes 3:12 to 24:12, 1-inch by 6-inch spaced sheathing, grade marked in accordance with Chapter 23 of the code and installed at a maximum 12 inches on center, may be used.

When installed on spaced sheathing, an underlayment recognized specifically for this type of use in an ICBO ES evaluation report must be installed with 6-inch side and head laps. Rake and coping tiles are fastened with two nails. See Tables 15-D-1 and 15-D-2 of the UBC for field and perimeter tile nailing schedule. Valley flashing consists of minimum No. 28 gauge corrosion-resistant metal extending at least 12 inches from the centerline each way. See Figure 2 for installation details.

2.2.2 Lightweight Tiles: Lightweight tiles are installed in the same manner as standard-weight tiles except that each tile is attached with roofing nails as specified in Table 15-D-2 of Chapter 15 of the UBC.

2.3 Identification:

The shipping pallets have labels bearing the name "Bartile," the style, color of the tile, date of manufacture, installed weight and the evaluation report number (ICBO ES ER-3909). The lightweight tile labels bear the words LT. WT. Bartile.

3.0 EVIDENCE SUBMITTED

Test in accordance with the Acceptance Criteria for Clay and Concrete Roof Tiles (AC180), dated January 2002.

4.0 FINDINGS

That the Bartile Extruded Concrete Roof Tiles described in this report and applied over new construction are noncombustible roof coverings complying with the 1997 Uniform Building Code™, subject to the following conditions:

ES REPORTS™ are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICBO Evaluation Service, Inc., express or implied, as to any finding or other matter in this report, or as to any product covered by the report.



- 4.1 The tiles are manufactured, identified and installed in accordance with this report and the manufacturer's instructions.
- 4.2 Underlayment must be used in all installations, and the maximum roof slope must not exceed 24 inches in 12 inches.

4.3 The tiles are manufactured at the Bartile Roofs, Inc., facility at Centerville, Utah.
 This report is subject to re-examination in two years.

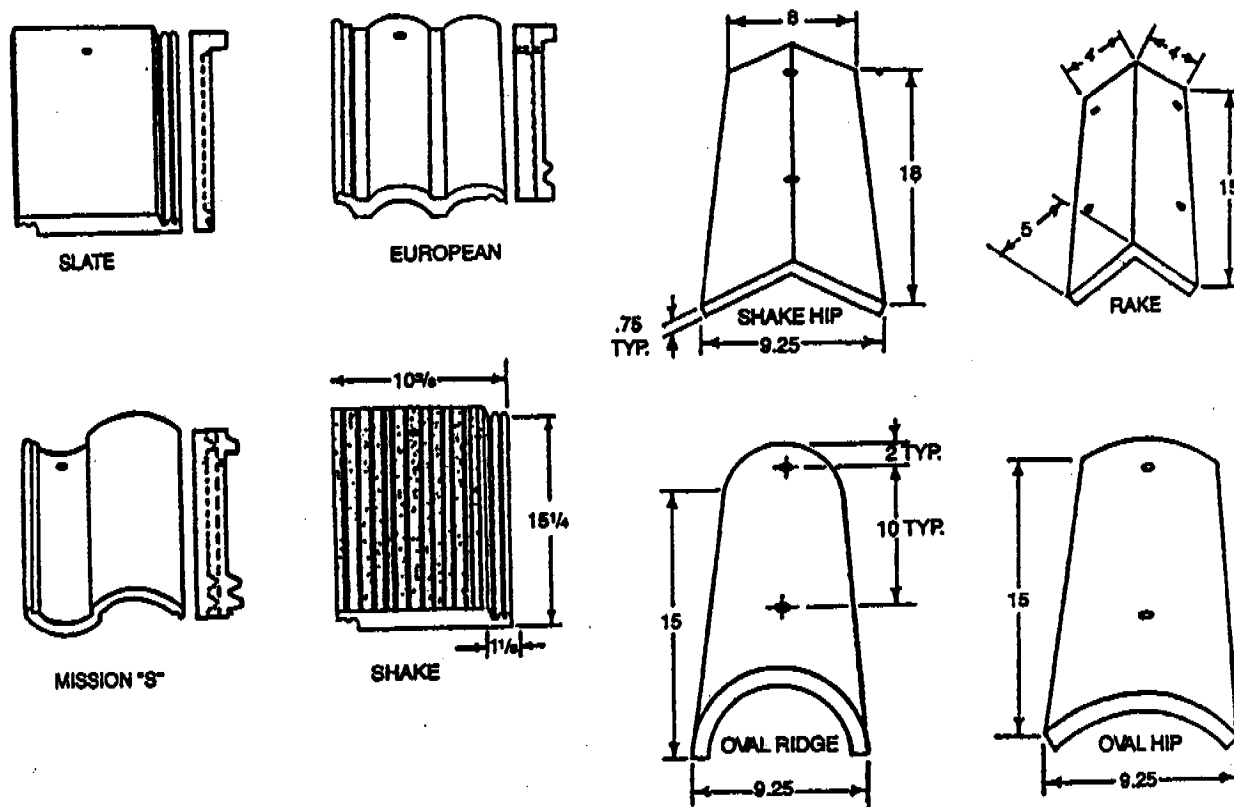


FIGURE 1

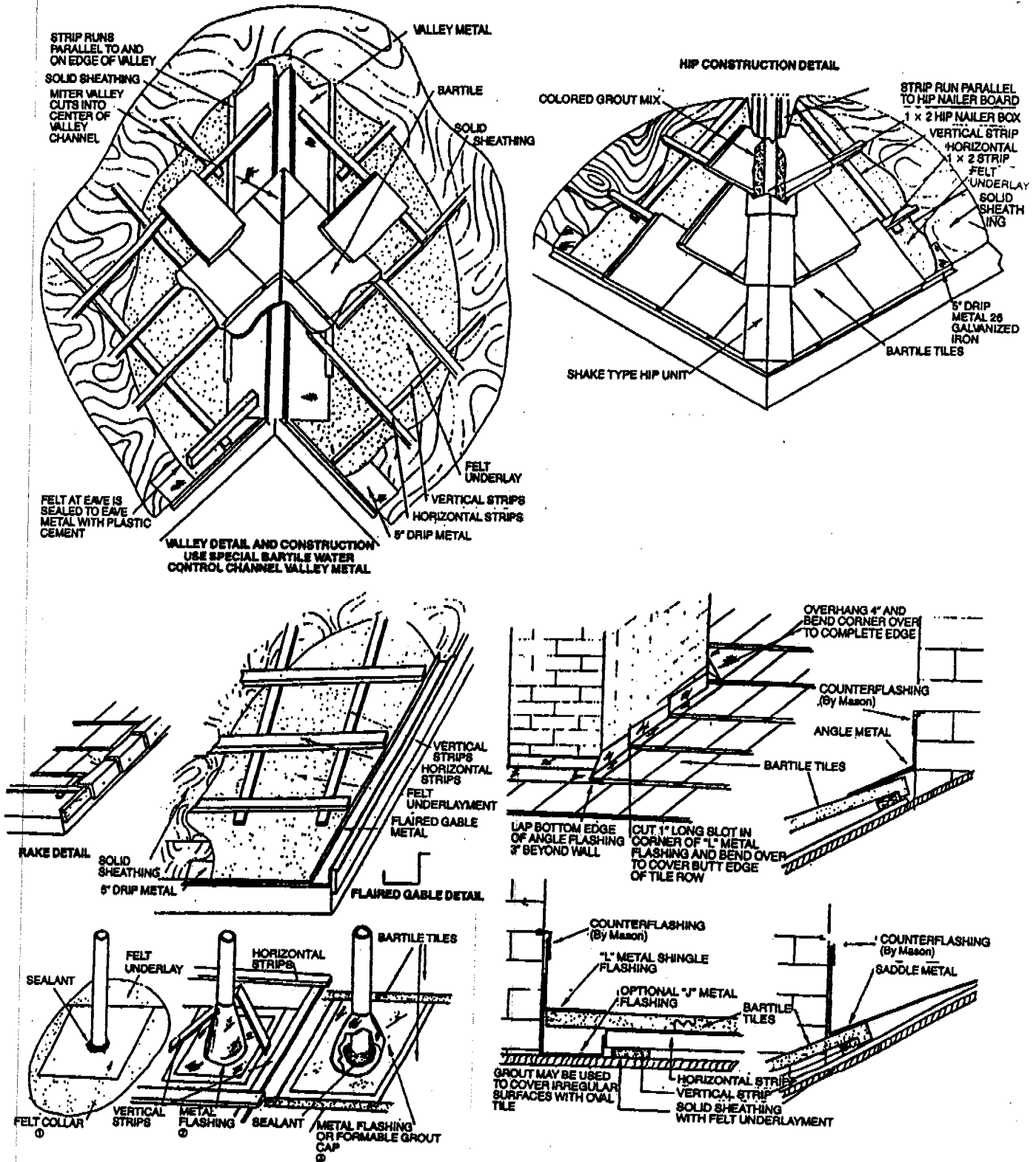


FIGURE 2