

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0507946

Insp Area: 2
Thos Bros: 297C7

Site Address: 2945 14TH ST SAC
Parcel No: 012-0213-013

Sub-Type: RES
Housing (Y/N): N

CONTRACTOR
BAE ROOFING
7602 MEADOW LARK LN
GRANIT BAY CA. 95746

OWNER
CORBELA FAMILY LIVING TRUST
2945 14TH ST
SACRAMENTO, CA 95818

ARCHITECT

Nature of Work: T/O, RESHEET & APPLY LGT STONE COATED STEEL ON 2 STORY 31 SQS. REPLACE 45 FT GUTTERS

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 C251 License Number 645537 Date 6/6/05 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).

PAID
CITY OF SACRAMENTO
JUN 06 2005

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 6/6/05 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 STATE FUND Policy Number 285-02 UNIT 0000732 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 if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 6/6/05 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.



CITY OF SACRAMENTO

www.cityofsacramento.org

Help Line: 1-916-808-5656 OR 1-866-EZ-PERMIT
 Inspection Request: 1-916-808-7622

Downtown Permit Center
 1231 I Street, Suite 200
 Sacramento, CA 95814
 North Permit Center
 2101 Arena Blvd., Suite 200
 Sacramento, CA 95834
 Fax # 916-264-1901

MINOR PERMIT APPLICATION

Date: 6/6/05

Faxed/web request must be received in this office by 3:00 P.M. to be processed the following workday. Contractors must have a current certificate of Worker's Compensation Insurance. Note: Work started before a Building Permit is issued will be subject to quad fee.

Permits requiring Plan Review are not eligible for the MINOR PERMIT PROGRAM

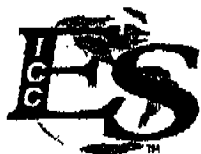
Design Review and Historic Preservation approval may be required if job address is located in those areas (additional forms may be required)

IN ORDER TO PROCESS THIS REQUEST, ALL THE FOLLOWING INFORMATION MUST BE PROVIDED:

Job Address: 2945 14TH ST Bidg Type: RESIDENTIAL APARTMENTS (4+ units per building) COMMERCIAL (limited)
 CONTACT INFO Name: LYNN EBEL Unit # Contract Price 18,000.00
 Property Owner: VICTOR CORBELLA Contractor: FRETINA JAC & ASSOCIATES License #: C45537
 Address: 2945 14TH ST Address: 8707 LUPIN LANE
 City/State/Zip: SACRAMENTO CA 95818 City/State/Zip: GRANITE BAY CA 95746
 Phone: 916 442 8861 Phone: 916 772-1792 Fax: 916 772-1281
 Nature of Work: Provide description of work & indicate type of work in selections below. Pre-Registered? YES NO X Registration #

Description of Work: T/O CEDAR SHAKE ROOF, SUPPLY & INSTALL GERALD STONE CORNER STEEL
 140# P/SQ WEIGHT

<input checked="" type="checkbox"/> Reroof (excluding tile) <input checked="" type="checkbox"/> Tear-Off <input type="checkbox"/> Resheet <input checked="" type="checkbox"/> House <input checked="" type="checkbox"/> Garage # Stories: 2 # Squares: 31 Material: GERALD STONE Siding: GERALD STEEL <input type="checkbox"/> Wood <input type="checkbox"/> T-111 <input type="checkbox"/> Horiz <input type="checkbox"/> Vinyl <input type="checkbox"/> Stucco	<input type="checkbox"/> HVAC Installations (Residential Only) <input type="checkbox"/> Change-out <input type="checkbox"/> New <input type="checkbox"/> Heat Pump <input type="checkbox"/> Package <input type="checkbox"/> Split system <input type="checkbox"/> Roof mount <input type="checkbox"/> Cut-in <input type="checkbox"/> Heat pump or elect. unit to gas. <input type="checkbox"/> Wall furnace <input type="checkbox"/> Other (describe below) Value of duct work: Equipment: \$ Cut-in: \$	<input type="checkbox"/> Water Heater (Residential Only) <input type="checkbox"/> Electric <input type="checkbox"/> Gas <input type="checkbox"/> Change-out <input type="checkbox"/> Electric to Gas <input type="checkbox"/> Relocate <input type="checkbox"/> New <input type="checkbox"/> Dry Rot or Termitic Damage Repair <input type="checkbox"/> Flooring/Joists <input type="checkbox"/> Mudsill/Studs <input type="checkbox"/> Roof Structure <input type="checkbox"/> Exterior	<input type="checkbox"/> Minor Electric and/or Minor Plumbing (Residential Only) <input type="checkbox"/> Electric Service Change # amps <input type="checkbox"/> New electric circuits <input type="checkbox"/> Re-write <input type="checkbox"/> Water Service Replacement <input type="checkbox"/> Sewer Service Replacement <input type="checkbox"/> Gas Line Replacement <input type="checkbox"/> Re-plumb <input type="checkbox"/> Water <input type="checkbox"/> Waste	<input type="checkbox"/> Public Utilities Safety Inspection <input type="checkbox"/> Public Utilities Safety Inspection (Residential and single apartment units Only) <input type="checkbox"/> SMULD <input type="checkbox"/> PG&E * NOTE * Correction Notice items will require an additional building permit.
Office Use Only: Parcel #:	Date Received:	Date Issued:	Processor's Initials:	Permit #:



LEGACY REPORT

NER-423

Re-issued - November 1, 2002

Revision A November 1, 2003

ICC Evaluation Service, Inc.
www.icc-es.org

Business/Regional Office ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543
Regional Office ■ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ■ (205) 599-8800
Regional Office ■ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ■ (708) 799-2305

Legacy Report on the 2000 *International Building Code*® with 2002 Accumulative Supplement to the *International Codes*®, the 2000 *International Residential Code*® with 2002 Accumulative Supplement to the *International Codes*®, the 1999 *Standard Building Code*®, the BOCA® *National Building Code*®/1999, the 1997 *Uniform Building Code*™ and the 1998 *International One-and Two-Family Dwelling Code*®.

DIVISION 07 - THERMAL AND MOISTURE PROTECTION
Section 07320 - Roof Tiles

Shake panels are 44 3/4 in. (1137mm) wide by 15 1/2 in. (394 mm) deep.

GERARD ROOFING TECHNOLOGIES
955 COLUMBIA STREET
BREA, CALIFORNIA 92821-2923
1-800-23ROOFS
www.gerardusa.com

* Galvalume is a registered trademark of BIEC International Inc.

REFERENCE ONLY

4.0 INSTALLATION

1.0 SUBJECT

4.1 General

Coated Steel Roofing Panels:

- 1.1 Gerard® Stone-Coated Tile and Shake Panels
- 1.2 Armor Stone-Coated Tile and Shake Panels
- 1.3 Diplomat Stone-Coated Tile and Shake Panels
- 1.4 Canyon Shake Stone Coated Panels

Gerard® Stone-Coated Tile and Shake Panels shall be installed on wood or steel battens spaced approximately 14 1/2 in. (368 mm) on center over open rafters, spaced or solid sheathing, or an existing roof covering in accordance with the following:

2.0 PROPERTIES FOR WHICH EVALUATION IS SOUGHT

4.2 Battens and Counterbattens

- 2.1 Roof Covering Classification
- 2.2 Wind Resistance
- 2.3 Weather Resistance

Wood battens are nominal 2x2 in. (51x51 mm) and counterbattens are nominal 1x4 in. (25x102 mm) standard grade, or better, Douglas fir or other species having a specific gravity of 0.50 or greater. Steel battens are hat-shaped sections with a 1 1/2 in. (38 mm) minimum height, fabricated from minimum No. 22 gage [0.0025 in. (0.64 mm)] galvanized steel. Battens are as shown in Figure 1 of this report.

3.0 DESCRIPTION

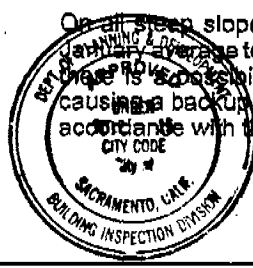
4.3 Roof Slope and Underlayment

Gerard® Stone-Coated Tile and Shake Panels described in this report are used as roof coverings over new and existing roofs.

Gerard® Stone-Coated Tile and Shake Panels shall be installed on roof slopes of 2 1/2:12 (20.8 percent slope) or greater with an underlayment of two layers Type I No. 15 organic-fiber felt (or one layer of Type II No. 30 organic-fiber felt underlayment in jurisdictions adopting the Uniform Building Code), complying with ASTM D226, Type 1. Where the roof slope is less than 2 1/2:12, the panels are limited to use as a decorative roof covering only, and shall be installed over a roof covering system in accordance with the applicable code.

The roofing panels are formed from mild steel complying with ASTM A653 Structural Grade 33, minimum, and have a zinc-galvanized G90 coating complying with ASTM A924 or a Galvalume® AZ50 coating complying with ASTM A792. The steel panels have a baked-on primer on both sides with a semigloss wash coat on the underside. The base metal thickness is 26 gage [0.0159 in. (0.40 mm)]. After the panels are formed, the upper surface and flange edges are coated with crushed stone chips bonded to the panels with an acrylic resin. A clear acrylic overglaze is applied to the panels to complete the process. The panels weight 1.4 pounds per square foot (6.84 kg/m²).

Tile panels are 45 3/4 in. (1162 mm) wide by 15 1/2 in. (394 mm) deep.



This set of plans and specifications must be approved by the Building Inspection Division. On all steep slope roofs (greater than 2 1/2:12) where the average temperature is 40°F or less, or where there is a possibility of ice or snow accumulation, an ice shield shall be installed from the eave to the ridge without written permission from the Building Inspection Division.

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

ICC-ES legacy 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 ICC 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.

CITY COPY



- Spaced or solid sheathing and two layers No. 15 (or one layer No. 30 in jurisdictions adopting the Uniform Building Code) organic-fiber felt underlayment shall be installed in the field of the roof.
- Solid sheathing and two layers No. 15 felt applied, shingle fashion, solid-cemented between the plies or a waterproofing membrane shall extend from the eaves edge to a point 24 in. (610 mm) minimum inside the exterior wall line of the building. Felt layers or waterproofing membrane shall also run the full length of the metal valleys.

4.4 New Roofing Application

4.4.1 Class A: The roofing panels, recognized as Class A, noncombustible, are designed to be installed on wood or steel battens placed 14 1/2 in. (368 mm) on center, over spaced or solid sheathing.

Wood battens are attached to the supporting framing members, spaced 24 in. (610 mm) on center, maximum, with 16d nails of sufficient length to penetrate at least 1 in. (25 mm) into the framing member. When 1x4 in. (25x102 mm) counterbattens (installed parallel to framing) are used, wood battens shall be attached with 16d nails spaced 12 in. (305 mm) on center.

Steel battens are attached to the supporting framing members, spaced 24 in. (610 mm) on center, maximum, with two No. 10x3/4 in. (19.1 mm) corrosion-resistant galvanized sheet metal screws spaced 24 in. (610 mm) on center.

Panels adjacent to the ridge are field adjusted by cutting and bending vertically.

Valleys are framed using wood or steel battens spaced 6 in. (152 mm) apart, fastened on both sides of the valley. Valleys are framed to receive No. 28 gage [0.016 in. (0.41 mm)] corrosion-resistant metal flashing which extends out at least 3 in. (76 mm) on both sides of the center line. Valley flashing end laps are 4 in. (102 mm) minimum. Metal valley flashing shall have one layer of Type 30 felt underlayment, 36 in. (914 mm) wide, under the full flashing length.

All full size panels shall be fastened to the roof prior to cutting panels for placement at hips, ridges or valleys. The panels are staggered a minimum of one module, and are fastened to the battens with five 6d galvanized nails, 1 1/2 in. (38 mm) long, or No. 10x1 1/2 in. (38 mm) galvanized sheet metal screws. Fasteners are positioned 1 1/2 in. (38 mm) from the center of the concave and along the down-turned edge of the panel. Care shall be exercised in nailing to avoid striking the finished surface of the panel.

Ridge and hips shall have a minimum 2 in. (51 mm) nominal thickness and project approximately 4 in. (102 mm), minimum, above the rafters or existing roof surface. The panels shall be fastened to the side of the ridges and hips after mitering, cutting, and bending, and shall then be capped with the appropriate trim and finished as the regular panels.

Gable ends shall be capped with gable cap pieces, rake or barge molds, or individual trim caps.

Roof openings shall be flashed with flashing formed to match the shape of the panels.

4.5 Reroofing Application

Gerard® Stone-Coated Tile and Shake Panels shall be installed over existing wood shake, wood shingle, asphalt shingle or gravel surfaced roofing, subject to the conditions set forth here and providing the roof slope complies with Section 4.3 of this report. Battens and counterbattens shall be installed in accordance with the applicable code. When

classified roofs, the classification shall remain the same.

For installations over existing built-up roof coverings, all loose gravel and debris shall be swept off. Blisters in the plies shall be cut and nailed flat. Raised perimeters, such as gravel stops, shall be covered by the Gerard roofing system. Where the system is installed over integral gutters, a fascia board nailed to the rafters shall be provided and installed outside the gutter.

Class C: Wood shake and wood shingle ridge and hip caps shall be removed, and the existing roof covering cut back flush with the fascia or barge cover. Nominal 1x4 in. (25x102 mm) wood counterbattens are installed parallel to the framing (perpendicular to the eaves) at a maximum spacing of 24 in. (610 mm) on center. Counterbattens shall be fastened to the framing members using nails of sufficient length to penetrate 1 in. (25 mm) into the framing member or through minimum 3/4 in. (19.1 mm) thick sheathing. Nail spacing is 12 in. (305 mm) on center. The diamond point of the nail shall be fully exposed on the underside of the sheathing. Nominal 2x2 in. (51x51 mm) battens are spaced 14 1/2 in. (368 mm) on center for Gerard shake panels, and are nailed to the counterbattens using 16d nails. Nailing shall be done to prevent splitting the battens or counterbattens. The panels shall be fastened to the battens in the same manner as described in Section 4.4 of this report. New flashing shall be installed over and around all existing valleys, vents and chimneys in accordance with the requirements of the applicable code. The valley used in reroofing shall be as shown in Figure 3 of this report.

Class B: When a Class B roof assembly is required over an existing non-rated roof covering, installation shall be as described for the Class C roof with the following addition:

Mineral-surfaced 72 pound cap sheet, complying with ASTM D3909, shall be fastened in place over the existing roofing material with 2 in. (51 mm) minimum head and side laps, prior to the application of 1x4 in. (25x102 mm) counterbattens and 2x2 in. (51x51 mm) battens. The cap sheet functions as a fire resistive sheet and is permitted to be used to satisfy the underlayment requirement of Section 4.3 of this report.

As an alternative to using mineral-surfaced 72 pound cap sheet for Class B installations, an underlayment of 1 1/2 in. (38 mm) thick foil-faced fiberglass blanket insulation, or 1-1/2 inch thick foil-faced fiberglass batt insulation placed between each 2x2 batten, or one layer of Elk Corporation's "Verashield Underlayment" is permitted to be installed. Installation shall be with the foil face up and 2 in. (51 mm) headlaps over the existing roof surface prior to the application of 1x4 in. (25x102 mm) counterbattens and 2x2 in. (51x51 mm) battens.

Class A: When a Class A roof assembly is required over an existing non-rated roof covering, installation shall be as described for the Class C roof with the following exceptions:

- One layer of 1/4 in. (6.4 mm) thick minimum Georgia Pacific Dens-Deck® overlayment followed by nominal 2x2 in. (51x51 mm) battens shall be placed directly over existing shakes or shingles (mechanically fastened to the roof deck) or attached to 1x4 in. (25x102 mm) counterbattens; or
- One layer of Type G3 Cap Sheet, granule side up, shall be placed over existing shakes or shingles followed by nominal 1x4 in. (25x102 mm) counterbattens mechanically fastened to the roof deck. Nominal 2x2 in. (51x51 mm) battens shall be mechanically fastened to the nominal 1x4 in. (25x102 mm) counterbattens followed by 1 1/2 in. (12.7 mm) thick FSK-faced insulation, foil face up, placed between each nominal 2x2 in. (51x51 mm) batten row; or

- Gerard foam insert/insulation and support panels over existing wood shake or shingles shall be placed between the vertical nominal 1×4 in. (25×102 mm) counterbattens and between the horizontal nominal 2×2 in. (51×51 mm) battens
- One layer of minimum ½ inch thick (12.7 mm) water-resistant core gypsum sheathing, complying with ASTM C 79, is installed over the counterbattens using 4d drywall nails or equivalent. The gypsum sheathing joints must be tightly butted. As an alternative to ½ inch thick (12.7 mm) gypsum sheathing, use two layers of Elk Corporation's "Versashield Underlayment". In jurisdictions utilizing the 1997 *Uniform Building Code*, when the steel panel roofing system is installed over wood shake or wood shingle roofs, the above ½ inch thick (12.7 mm) water-resistant core gypsum sheathing, is installed over the counterbattens and covering the entire surface of the existing wood roof or one layer of Elk Corporation's "Versashield Underlayment", satisfies the requirements of Section 1516.3 and Table A-15-A of the UBC Appendix. Steel roof panels so installed over existing roofs comply with UBC Standard 15-2 and are Class A fire-retardant roofing assemblies.

In all four assemblies the roof panels shall be attached to the 2×2 in. (51×51 mm) battens.

4.6 Wind-resistant Assemblies

Recognition in jurisdictions utilizing the 1997 *Uniform Building Code* is limited to Exposure B areas where the basic wind speed does not exceed 80 mph (129 km/h), the building height is less than 40 ft (12192 mm), and installation is in accordance with Section 4.4 or 4.5 of this report. In jurisdictions utilizing the 2000 *International Building Code*, the 2000 *International Residential Code*, the 1998 *International One and Two Family Dwelling Code*, the *BOCA National Building Code/1999*, and the 1999 *Standard Building Code* the maximum allowable wind uplift pressure is as shown in **Table 1** of this report. The balance of the installation shall be as described in Section 4.0 of this report.

4.7 Structural Diaphragm

Structural roof diaphragms using the roof panels described in this report shall be constructed as follows:

Nominal 1×6 in. (24×152 mm) standard grade, or better, Douglas fir sheathing or sheathing of other species having a specific gravity of 0.50 or greater, spaced a maximum of 9 1/2 in. (241 mm) on center, shall be nailed to framing in accordance with the applicable code. The framing shall be spaced a maximum of 24 in. (610 mm) on center. Wood battens, counterbattens and the roofing panels are installed over the spaced sheathing in accordance with Section 4.1 of this report. Fasteners attaching the counterbattens to the roof shall penetrate into the framing and shall be within 6 in. (152 mm) of the counterbatten ends.

The resulting diaphragm has an allowable shear of 180 lbf/ft (2628 N/m) and is equivalent to 15/32 in. (11.9 mm) thick CDX plywood using 8d nails over 2 in. (51 mm) wood framing members in an unblocked diaphragm, with nails 6 in. (152 mm) on center at the edges and 10 in. (254 mm) on center in the face of the plywood. The maximum aspect ratio is 4:1. Diaphragm deflections, based on using 15/32 in. (11.9 mm) thick CDX plywood, shall be estimated by using the following equation:

$$\Delta = 5vL^3/8EAb + vL/59600 + 0.003384L + \sum(\Delta_s X)/2b$$

For SI:

$$\Delta = 381vL^3/2EAb + vL/2347 + 0.086L + 25.4\sum(\Delta_s X)/2b$$

where:

A = Area of chord cross section [(in² (mm²))]

b = Diaphragm width [ft (mm)]

E = Elastic modulus of chords [lbf/ft² (kPa)] (per AFPA-NDS)

L = Diaphragm length [ft (mm)]

v = Maximum shear due to design loads in the direction under consideration [lbf/ft (N/m)]

Δ = Deflection [in. (mm)]

∑(Δ_sX) = Sum of individual chord-splice slip values on both side of the diaphragm, each multiplied by X, the splice distance to the nearest support.

Calculations for diaphragm deflection shall account for the usual bending and shear components as well as any other factors, such as nail deformation, which will contribute to the deflection.

5.0 IDENTIFICATION

Pallets or bundles of Gerard Stone-Coated Tile and Shake Panels shall bear a label indicating the manufacturer's name, address, product name, and this ICC-ES Legacy Evaluation Report No. (NER-423).

6.0 EVIDENCE SUBMITTED

- 6.1 Manufacturer's descriptive literature and installation recommendations, Product & Installation Manual, Stone Coated Steel Roofing, ©Gerard Roofing Technologies, 2001-03-01.
- 6.2 Test report on Class A fire resistance in accordance with ASTM E108 (UL 790), prepared by Underwriters Laboratories Inc., File R12596/87NK4-698, dated June 24, 1987, signed by James M. O'Shea and R.L. Donahue.
- 6.3 Fire Resistance Classification Tests in accordance with ASTM E108 (UL 790), performed by United States Testing Company, Inc., signed by Michael S. Elliott and Patrick V. McCullen:

Classification	Report No.	Date
B	LA21024	6-30-82
B (Over Existing Roofs)	LA21992 (Addendum, to LA21557)	11-30-82
C	LA40231	3-27-84

- 6.4 Test report on static pressure uplift, prepared by Construction Research Laboratory, Inc., CRL Test 4170, dated September 26, 1984, signed by A.A. Sakhnovsky.
- 6.5 Engineering calculations for wind design, prepared by Johnson Engineering, dated October 8, 1987, signed and sealed by Gary D. Johnson, P.E.
- 6.6 BRANTZ MTR 836 5000 Hour Accelerated Weathering Test. Copy of BRANTZ Test MTR 836 certified and signed by J.R. Duncan, head of Building Science Group.
- 6.7 BRANTZ Appraisal 128 1985.
- 6.8 Test report, Assessment of Resistance of Roof Coverings to Impact of Hailstones, prepared by Commonwealth Scientific and Industrial Research Organization, Report CSIRO, DBR, August 1978, signed by K.J. Martin, officer conducting test, and F.A. Blakey, chief of division.

- 6.9 Test report, Simulated Wind and Snow Load Tests, prepared by Department of Scientific and Industrial Research, Auckland Industrial Development Division (A.I.D.D.), Reference 81/971, dated June 6, 1979, signed by J. Phillips.
- 6.10 Test report on Cyclic Loading, prepared by Cyclone Testing Station, Report TS 126, dated July 23, 1980, signed by Professor K. P. Stark.
- 6.11 Test report on ultraviolet light testing, prepared by Wakefield Laboratories, Limited, Report 9870, dated August 18, 1983.
- 6.12 Test Report on Test Record 1, Class B fire resistance of reroofing over Class C organic felt shingles, and Class A fire resistance of reroofing over Class A fiberglass shingles. Test Report on Test Record 2, penetration test of 200 lb load with 3 inch diameter steel plate. Test report on Test Record 3, weatherometer test, 2000-hour carbon arc, performed by Underwriters Laboratories Inc., File R12596, Project 88NK17073, dated February 24, 1989, signed by Kenneth D. Rhodes, engineering group leader, Fire Protection Department, and Wayne A. Kleinfelder, associate managing engineer, Fire Protection Department.
- 6.13 Underwriters Laboratories Inc. written reply/opinion on modifications to existing Gerard tile and introduction of Gerard shake. Letter dated February 7, 1989, signed by Kenneth D. Rhodes, engineering group leader, Fire Protection Department, and William G. Marshall, senior engineering assistant, Fire Protection Department.
- 6.14 Test report on wind-driven rain using a 2:12 roof slope, prepared by Underwriters Laboratories Inc., File R12596, Project 90NK5766, dated May 8, 1990, signed by Roger Anderson and Kenneth Rhodes.
- 6.15 Test report on wind-uplift resistance, prepared by Underwriters Laboratories Inc., Files R14086-2 and R14086-3, Project 90NK5767, issued May 31, 1990, revised September 19, 1990, signed by Greg Rezek and Kenneth Rhodes.
- 6.16 Engineering calculations for wind and diaphragm design, prepared by Research and Code Development, dated June 1992 (revised September 3, 1992), and additional calculations dated November 16, 1993, signed and sealed by T.H. Carter, P.E.
- 6.17 Test report on racking shear, prepared by United States Testing Company, Inc., Test Report 188038-1, dated May 13, 1992, signed by Michael Beaton, P.E., and David Pereg.
- 6.18 Test report on wind driven rain and static pressure uplift performance tests using a 2 1/2 :12 roof slope, prepared by Construction Research Laboratory, Inc., Test 5603, dated May 19, 1992, signed by Richard Sambella.
- 6.19 Test report on Class A spread of flame test in accordance with ASTM E108, by Underwriters Laboratories Inc., File R12596, Project 92NK11696, dated June 22, 1992, signed by William G. Marshall, senior engineering assistant, Engineering Services, Dept. 411, and Douglas C. Miller, engineering team leader, Engineering Services, Dept. 411.
- 6.20 Test reports on racking tests in accordance with ASTM E72, by United States Testing Company, Inc., Test Report 176653, dated March 28, 1990, revised April 3, 1990, and Test Report 176676, dated October 9, 1990, signed by Michael Beaton, test engineer, and Stephen A. Castle, manager, Engineering Department.
- 6.21 Report of static, transverse uplift load tests, prepared by RADCO, Test Report RAD-165, Project C-5086, issued June 1993.
- 6.22 Underwriters Laboratories Inc., Test Report File R12596, Project 93NK11426, dated February 3, 1994, containing fire tests conducted in accordance with ASTM E108 on panels with an alternate base coat and panels installed over wood shingles and shakes, signed Douglas C. Miller, engineer team leader.
- 6.23 Underwriters Laboratories Inc., Test Report File R12596, Project 96NK26630, issued November 27, 1996, revised April 15, 1997, containing 2000 hour carbon-arc accelerated weathering tests on panels with an alternate base coat, signed by Roger Anderson, senior engineer associate, and James Hatcher, staff engineer.
- 6.24 Underwriters Laboratories Inc., Test Report File R12596, Project 98NK14487, dated May 27, 1998, containing fire tests conducted in accordance with ASTM E108 for Class A fire resistance classification on panel assembly as described in section 4.5 Class A exceptions 1 and 2, signed by Roger Anderson, senior engineer associate, and Douglas C. Miller, engineer team leader.
- 6.25 Underwriters Laboratories Inc., Test Report File R12596, Project 00NK19313, dated August 10, 2000, containing fire tests conducted in accordance with ASTM E108 for Class A fire resistance classification on panel assembly as described in section 4.5 Class A exception 4, signed by William G. Marshall, engineering associate, and Douglas C. Miller, engineer team leader.
- 6.26 Underwriters Laboratories Inc., Test Report File R12254, Project 00NK11270, dated October 9, 2000, containing fire tests conducted in accordance with ASTM E108 for Class A fire resistance classification on panel assembly as described in section 4.5 Class A exception 3, signed by Roger Anderson, senior engineer associate, and Douglas C. Miller, engineer team leader.
- 6.27 Underwriters Laboratories Inc., Test Report File R19254, Project 99NK45831, dated March 21, 2000, containing fire tests conducted in accordance with ASTM E108 for Class A fire resistance classification on panel assembly as described in section 4.5 Class A exception 3 and Class B alternative, signed by Roger Anderson, senior engineer associate, and Douglas C. Miller, engineer team leader.
- 6.28 Test reports under ASTM E 108 for Elk Corporation's Versashield Underlayment, Underwriters laboratories Inc., File R19254, signed by Roger Anderson and Douglas C. Miller:
 - Project 99NK45831, March 21, 2000
 - Project 00NK5315, March 21, 2000.
 - Project 00NK37280, December 5, 2000.
 - Project 01NK08235, March 15, 2002.
- 6.29 Letter report, Gerard Listing R12596, Underwriters Laboratories Inc., October 26, 2001, signed by William G. Marshall and Douglas C. Miller.
- 6.30 Engineering calculations, Wind Loadings ASCE 7-98, Walker Engineering, Inc., August 21, 2002, signed and sealed by Gary W. Walker, P.E.

7.0 CONDITIONS OF USE

The ICC-ES Subcommittee for the National Evaluation Service finds that the Gerard Stone-Coated Tile and Shake Panels as described in this report complies with or is a suitable alternate to that specified in the 2000 *International Building Code*® with 2002 Accumulative Supplement to the *International Codes*®, the 2000 *International Residential Code*® with 2002 Accumulative Supplement to the *International Codes*®, the 1999 *Standard Building Code*®, the *BOCA National Building Code/1999*, the 1997 *Uniform Building Code*™ and the 1998 *International One-and Two-Family Dwelling Code*® subject to the following conditions:

- 7.1 Prior to reroofing with the panels, the existing roof shall be inspected and approved by the code official, when required by the applicable code.
- 7.2 This report is subject to periodic re-examination. For information on the current status of this report, consult the ICC-ES website.

**Table 1 - REROOFING OVER EXISTING ROOFS
FASTENER REQUIREMENTS FOR STONE-COATED STEEL ROOF PANELS AND BATTENS**

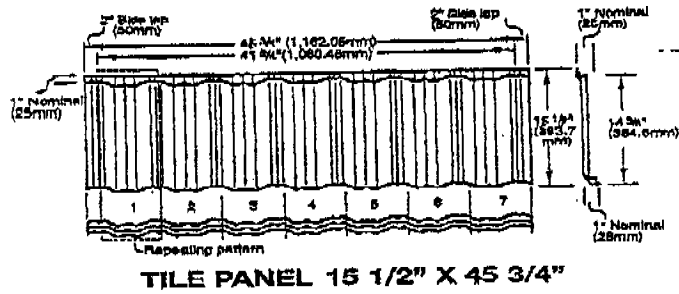
WIND SPEED (mph)	ROOF HGT ABOVE GRADE (ft)	SITE EXP RATING	ROOF AREA	DESIGN WIND UPLIFT PRESSURE (lb/ft ²)	COUNTER-BATTEN TO RAFTER OVER EXISTING WOOD SHAKES ¹ (qty-size)				BATTEN TO COUNTER-BATTEN ² (qty-size)		PANEL TO BATTEN	
					7 in. spaced sheathing		10 in. spaced sheathing		16 in. o.c.	24 in. o.c.		min. # of fasteners
					16 in. o.c.	24 in. o.c.	16 in. o.c.	24 in. o.c.				
110	60 max	B	FIELD	35.5	1-16d @ 14 in. o.c.	1-16d @ 7 in. o.c.	1-16d @ 10 in. o.c.	1-15d @ 10 in. o.c.	2-16d	1 #8x3" screw	5-8d in each panel	
125 max	30	C			90	60 max	110 max	20				
130	60 max				B	EDGE	84.5	1-16d @ 7 in. o.c.	2-16d @ 7 in. o.c.	2-16d @ 10 in. o.c.	1-#8x3" screw @ 10 in. o.c.	1-16d & 1 #8x3" screw
140 max	30	C	110	60 max	130 max			15				
140	60 max		B	FIELD	52.8			1-16d @ 7 in. o.c.	2-16d @ 10 in. o.c.	1-16d @ 10 in. o.c.	2-16d @ 10 in. o.c.	1 #8x3" screw
150 max	30	C	120			60 max	140 max	15				
170	60		B			EDGE	125.9	1-16d @ 7 in. o.c.	1-#8x3" screw @ 7 in. o.c.	2-16d @ 10 in. o.c.	1-16d & 1 #8x3" screw @ 10 in. o.c.	2 #8x3" screw
130-	60 max	C	160 max	15								
160	60 max		B	FIELD	73.8			1-16d @ 7 in. o.c.	2-16d @ 7 in. o.c.	2-16d @ 10 in. o.c.	2-16d @ 10 in. o.c.	1 #8x3" screw
170 max	50	C	140			80 max	160 max	20				
170	60		B			EDGE	175.9	2-16d @ 7 in. o.c.	1-16d & 1 #8x3" screw @ 7 in. o.c.	1-#8x3" screw @ 10 in. o.c.	1-#8x3" screw @ 10 in. o.c.	2 #8x3" screw
160	60 max	C	170 max	40								
170 max	40											

For SI: 1 in. = 25.4 mm, 1 mph = 1.61 km/h, 1 psf = 0.047 kPa

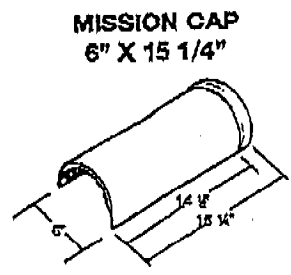
Notes to Table 1:

- Fasteners shall penetrate a minimum of 1 in. into or through the roof sheathing or framing member.
- Fasteners shall be spaced at 14-1/2 in. o.c.
- Wind design criteria is ASCE 7-98.
- Table is based on the following factors:
 - Importance Factor of 1.00
 - Category II Building
 - Partially enclosed building
 - Gable or Gable/Hip roofs
 - Roof slopes greater than 10°(2:12) and less than or equal to 30° (7:12).
- To convert wind speed from 3 second gust to fastest mile use Table 1609.3.1 of the IBC or Table R301.2.1.3 of the IRC.

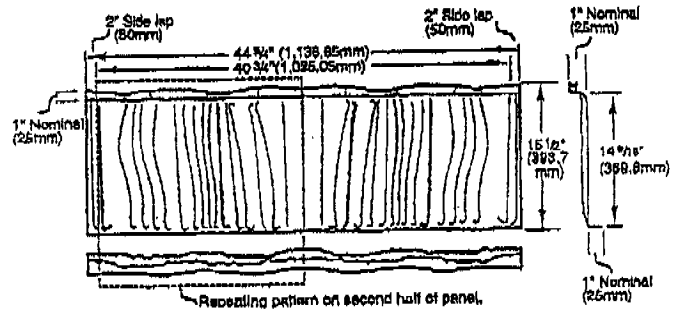
Figure 1* PRODUCT ILLUSTRATION



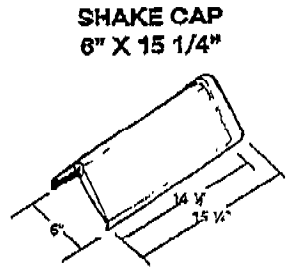
TILE PANEL 15 1/2" X 45 3/4"



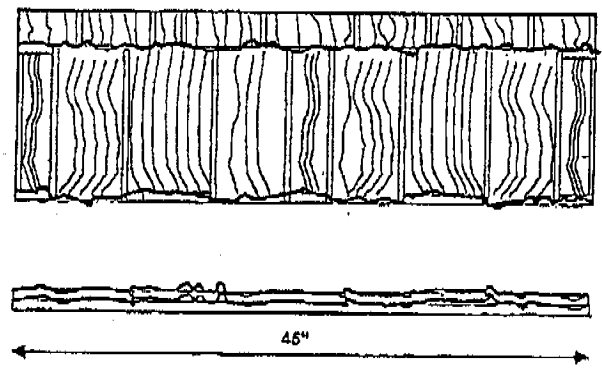
**MISSION CAP
6" X 15 1/4"**



SHAKE PANEL 15 1/2" X 44 3/4"



**SHAKE CAP
6" X 15 1/4"**



CANYON SHAKE PROFILE

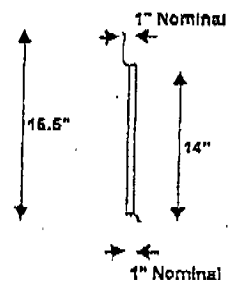
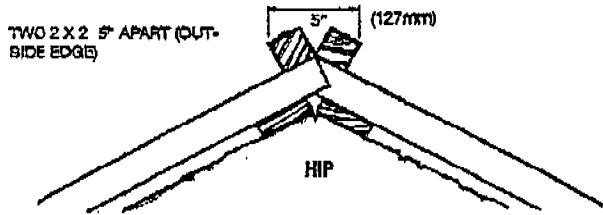
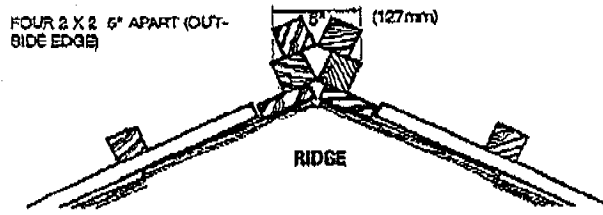
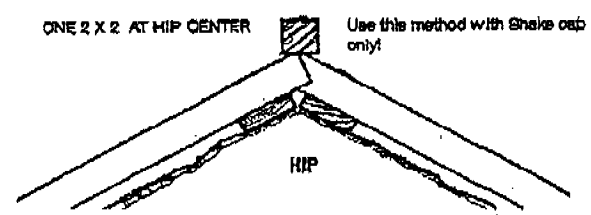
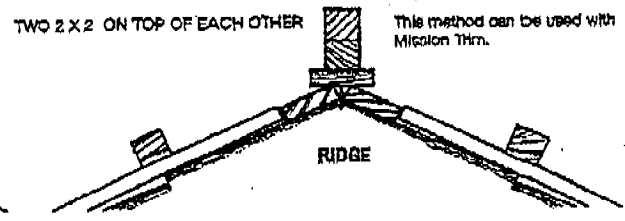


Figure 2* BATTENS

MISSION TRIM FRAMING



SHAKE TRIM FRAMING



STEEL BATTEN CHANNEL SECTIONS

PANEL BATTEN CHANNEL SECTIONS

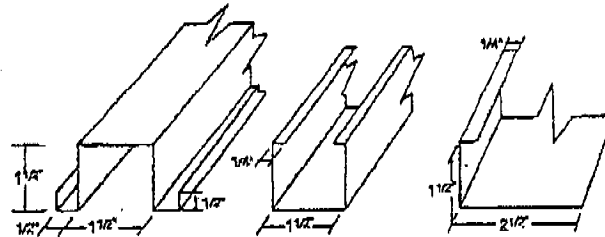
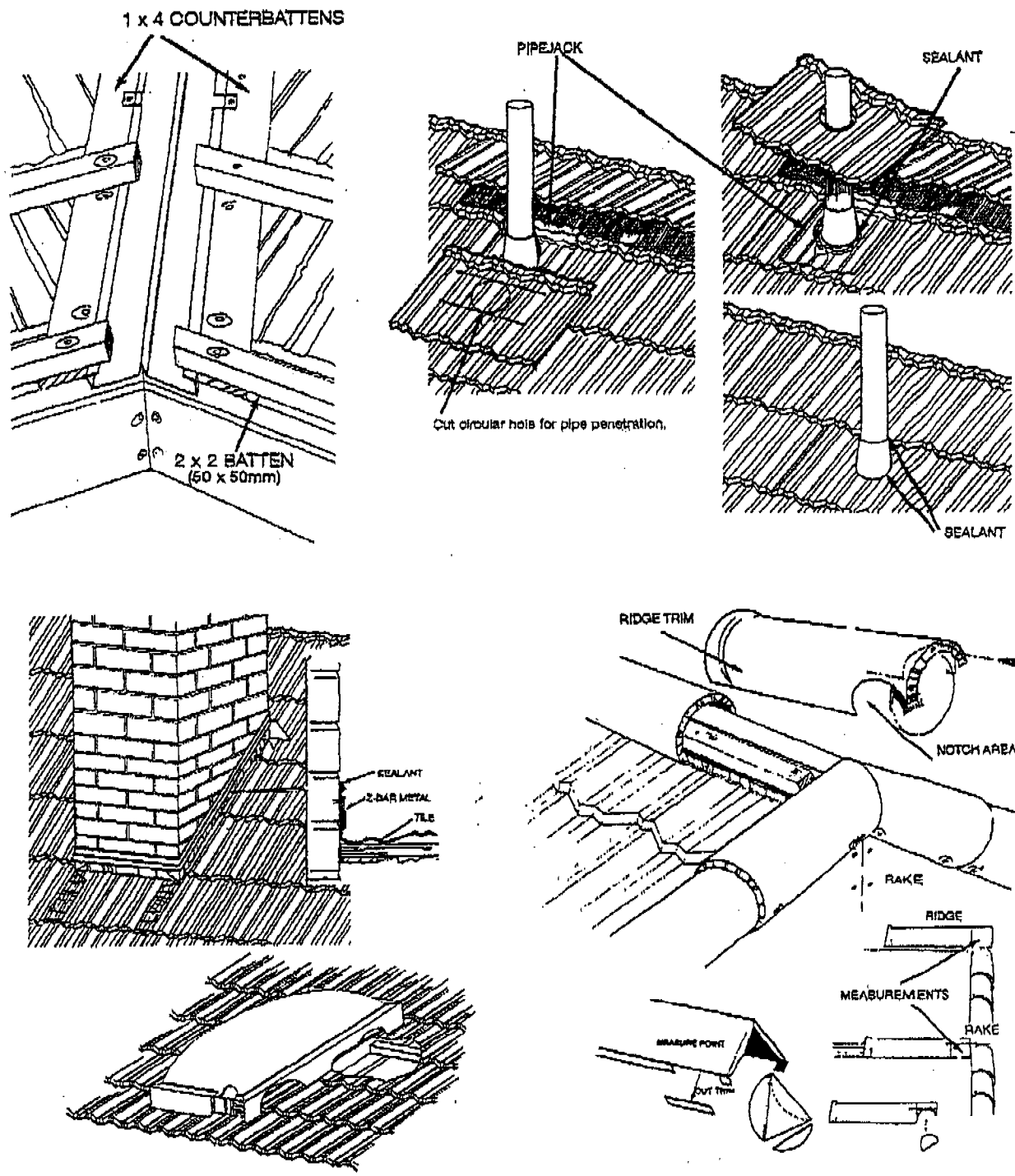


Figure 3*
TYPICAL DETAILS



*THESE DRAWINGS ARE FOR ILLUSTRATION PURPOSES ONLY. THEY ARE NOT INTENDED FOR USE AS CONSTRUCTION DOCUMENTS FOR THE PURPOSE OF DESIGN, FABRICATION OR ERECTION.