

SECTION 04 22 00
CONCRETE UNIT MASONRY

PART 1 – GENERAL

1.1 Work Included

1.1 A Related Documents

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section

1.1 B Unit Masonry Types and Accessories (select all that apply)

- A. Precision (smooth surface) concrete masonry units.
- B. Precision (smooth surface) scored concrete masonry units
- C. Split-face concrete masonry units.
- D. Split-face scored concrete masonry units
- E. Split-face fluted concrete masonry units
- F. Combed face concrete masonry units.
- G. Ground-face (burnished) concrete masonry units.
- H. Ground-face (burnished) scored concrete masonry units
 - I. Slump stone (adobe) concrete masonry units.
- J. Trenwyth Astra-Glaze (thermo-set glazing compound) concrete masonry units.
- K. Specialty features concrete masonry units.
- L. Shot-blast surface concrete masonry units.
- M. Shot-blast surface scored concrete masonry units
- N. Proudfoot Soundblox sound absorbing concrete masonry units.
- O. Basalite Solar Stone dual cavity (insulating) concrete masonry units.
- P. CBIS Korfil Icon pre- insulated concrete masonry units.
- Q. CBIS Korfil Hi-R specialty insulating concrete masonry units
- R. Concrete masonry screen wall units.
- S. Concrete masonry veneer units
- T. Spec-Brik (brick look) concrete masonry units
- U. (CMU) Integral water repellant admixture, BASF Rheapel plus, ACM Rain-Bloc, WR Grace Dry-Block.
- V. Pre-blended mortar.
- W. Bagged Grout Mix, Amerimix by Basalite.
- X. Sill Block.

- Y. Masonry Accessories
- Z. Concrete Masonry Cleaners
- AA. Concrete Masonry Sealers

1.2 RELATED SECTIONS

1.2 A RELATED SECTIONS TYPES (select all that apply)

- A. Section 03 48 00 – Pre-cast Concrete Specialties, concrete lintels.
- B. Section 04 05 00 - Masonry Mortar.
- C. Section 04 05 00 - Masonry Grout.
- D. Section 04 05 00 - Masonry Anchorage and Reinforcement.
- E. Section 04 20 00 -Masonry cleaners
- F. Section 04 21 00 - Clay Masonry Units
- G. Section 04 22 19 -Masonry cell insulation
- H. Section 04 23 00 - Glass Masonry Units.
- I. Section 04 48 10 - Unit Masonry Assemblies.
- J. Section 04 82 00 - Reinforced Unit Masonry Assemblies.
- K. Section 04 83 00 - Non-Reinforced Unit Masonry Assemblies.
- L. Section 05 10 00 - Structural Steel, steel lintels.
- M. Section 05 50 00 - Metal Fabrications.
- N. Section 07 19 00 -Masonry post applied sealers
- O. Section 07 60 00 - Flashing and Sheet Metal.
- P. Section 07 90 00 - Joint Protection

1.3 REFERENCES

- A. ASTM International (ASTM):
 1. ASTM C33 - Standard Specification for Concrete Aggregates.
 2. ASTM C55 - Standard Specification for Concrete Building Brick.
 3. ASTM C90-11b - Standard Specification for Load-Bearing Concrete Masonry Units.
 4. ASTM C129 - Standard Specification for Non-Load-Bearing Concrete Masonry Units.
 5. ASTM C140-12 - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
 6. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.
 7. ASTM C150 - Standard Specification for Portland Cement.
 8. ASTM C270-12 - Standard Specification for Mortar for Unit Masonry.
 9. ASTM C331 - Standard Specification for Lightweight Aggregates for Concrete Masonry Units

10. ASTM C 404- Standard Specification for Aggregates for Masonry Grout.
 11. ASTM C476-10- Standard Specification for Grout for Masonry
 12. ASTM C514- Standard Test Method for Water Penetration and Leakage through Masonry.
 13. ASTM C1019 – Standard Test Method for Sampling and Testing Grout.
 14. TMS 402/ACI 530/ASCE 5, TMS 602/ACI 530.1/ASCE 6.
- B. Building Code Requirements and Specification for Masonry Structures:
1. TMS 402/ACI 530/ASCE 5, TMS 602/ACI 530.1/ASCE 6
- C. International Building Code Standards (IBC)
- D. National Concrete Masonry Association (NCMA):
1. NCMA TEK Bulletin #8-2A – Removal of Stains from Concrete Masonry.
 2. NCMA TEK Bulletin #8-3A – Control and Removal of Efflorescence.
 3. NCMA TEK Bulletin #9-2B – Self-Consolidating Grout for Concrete Masonry.
 4. NCMA TEK Bulletin #9-4A – Grouts for Concrete Masonry.
 5. NCMA TEK Bulletin #10-1 – Design of Concrete Masonry for Crack Control.
 6. NCMA TEK Bulletin #19-2 – Details for Building Dry Concrete Masonry Walls.
 7. NCMA TEK Bulletin #19-4 – Flashing for Concrete Masonry.
 8. NCMA TEK Bulletin # 19-7 – Characteristics of Concrete Masonry Units with Integral Water Repellant.
 9. NCMA TEK Bulletin #3-1B – All-Weather Concrete Masonry Construction.

1.4 SUBMITTALS

- A. Submit under provisions of Division I.
- B. Product Data: Manufacturer's product data for each type of masonry unit, mortar, accessory and other manufactured products.
- C. Compliance: Certifications that each type of product and material complies with specified requirements.
- D. Color Selection: For initial selection submit:
 1. Unit masonry samples showing full extent of colors and textures available for each type of exposed unit masonry required.
 2. Colored mortar samples showing full extent of colors available.
- E. Samples: For verification purposes submit:
 1. Samples for each style & color specified of exposed masonry unit specified, including full range of color and texture to be expected in completed work.

2. Colored masonry mortar samples for each color required. Show full range of color which can be expected in finished work; label samples to indicate type and amount of colorant used.

F. Submit warranties in accordance with Section 01 78 00.

1.5 QUALITY ASSURANCE

- A. Hot and Cold weather requirements: In accordance with TMS 602/ACI 530.1/ASCE 6.
- B. Preconstruction meetings: Conduct preconstruction meetings including the Architect, General Contractor, Mason Subcontractor, and the CMU Manufacturer to verify project requirements, substrate conditions, manufacturer's installation instructions and other requirements. Comply with Division 1 requirements.
- C. Mock-Ups:
 1. Before installation of masonry work, erect mock-ups:
 - a. To further verify selections made for color and texture characteristics under sample submittals of masonry units and mortar.
 - b. To represent completed masonry work for qualities of appearance, materials, construction and workmanship.
 2. Erect mock-ups approximately 6 feet (1829 mm) long by 4 feet (1219 mm) high by full thickness, for the following types of masonry, including face and back-up wythes as well as accessories:
 - a. Each type of exposed unit masonry work.
 - b. Typical exterior wall.
 - c. Typical interior wall.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle materials to prevent their deterioration or damage due to moisture, freezing, contaminants, corrosion or other causes.
- C. Store cementitious materials off the ground, under cover, and in a dry location.
- D. Store and protect aggregates where grading and other required characteristics can be maintained.
- E. Store masonry accessories, including metal items, to prevent deterioration by corrosion and accumulation of dirt.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Basalite Concrete Products, LLC; Corporate Offices, which is located at: 605 Industrial Way ; Dixon, CA 95620-9779; Tel: 707-678-1901. Email: Web: www.basalite.com **(choose closest Basalite Manufacturing facility to your project. Consult with local Representative for manufacturing capabilities of specific products, shapes, colors, and sizes.**
1. Basalite Concrete Products, LLC 605 Industrial Way, Dixon, CA 95620 Tel: 707-678-1901. Email contact: david.willis@paccoast.com
 2. Basalite, 1201 Golden State Blvd. Selma, CA 93662 Tel: 559-896-1649. Email contact: david.willis@paccoast.com
 3. Basalite Boise, 1300 East Franklin Road, Meridian, ID 83642 Tel: 208-888-4050. Email contact: mark.dooley@paccoast.com
 4. Basalite Sparks, 355 Greg Street, Sparks, NV 89431 Tel: 775-358-1200. Email contact: gary.indiano@paccoast.com
 5. Basalite Denver, 4900 Race Street, Denver, CO 80216 Tel: 303-292-2345. Email contact: jacob.wipf@paccoast.com
 6. Basalite Dupont, 3299 International Place, Dupont, WA 98327 Tel: 253-964-5000. Email contact: blair.harther@paccoast.com
 7. Basalite Surrey, 13066 88th Avenue, Surrey, BC V3W3K3 Canada Tel: 604-596-3844. Email contact: shelagh.wright@paccoast.com
- B. Requests for substitutions will be considered in accordance with provisions of Division I.
- C. Obtain products from a single manufacturer.

2.2 MASONRY UNITS

2.2 A Masonry Unit Types

- A. Precision (smooth surface) Concrete Masonry Units.
1. Product: Basalite Precision Concrete Masonry Units.
 2. Applicable Standards: ASTM C 90-11b, Lightweight, Medium Weight, Normal Weight **(choose density required)**
 3. Face: Smooth uniform, as molded finish.
 4. Unit size: _____.
 5. Size: As indicated on Drawings.
 6. Color:
 - a. Standard color _____
 - b. Premium color _____
 7. Color: To be selected by Architect from manufacturer's full line.

8. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.
- B. Precision (smooth surface) Scored Concrete Masonry Units:
1. Product: Basalite Precision Scored Units.
 2. Applicable Standards: ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**
 3. Face: Smooth uniform texture with vertical scores**(choose score size and style, confirm availability of local Basalite plant).**
 - a. Product: Basalite 1 Square Score unit
(1) 3/8 inch by 3/8 inch square score.
 - b. Product: Basalite 1 V score unit
(1) 3/8 inch by 3/8 inch V-score.
 - c. Product: Basalite 1 Concave Score unit
(1) 3/8 inch diameter concave score.
 - d. Product: Basalite 2 Square Score unit
(1) Two 3/8 inch by 3/8 inch square scores
 - e. Product: Basalite 3 Square Score unit
(1) Three 3/8 inch by 3/8 inch square scores
 - f. Product: Basalite Three Random Score unit
(1) Three Random 3/8 inch by 3/8 inch square scores
 - g. Product: Basalite Five Square Score unit
(1) Five 3/8 inch by 3/8 inch square scores
 - h. Product: Basalite 5 Random Score unit
(1) Five Random 3/8 inch by 3/8 inch square scores
 - i. Product: Basalite 11 Square Score unit
(1) Eleven 3/8 inch by 1/4 inch square scores.
 4. Score Pattern: As indicated on Drawings.
 5. Unit size: _____.
 6. Size: As indicated on Drawings.
 7. Color:
 - a. Standard color _____
 - b. Premium color _____
 8. Color: As selected by Architect from manufacturer's full line.
 9. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

C. Split-face Concrete Masonry Units:

1. Product: Basalite Split-face Units.
2. Applicable Standards: ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**
3. Face: Unevenly textured exposed aggregate appearance.
4. Unit size: _____.
5. Size: As indicated on Drawings.
6. Color:
 - a. Standard color _____
 - b. Premium color _____
7. Color: As selected by Architect from manufacturer's full line.
8. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

D. Split-face Scored Concrete Masonry Units: Product:

1. Product: Basalite Split-face Single Score Unit.
 - a. Face profile: Scored unevenly textured appearance with 5/8" inch wide scores and 5/8" inch depth in split-face texture.
2. Product: Basalite Split-face 1 inch Three Score Unit.
 - a. Face profile: Scored unevenly textured appearance with 1 inch wide scores and 1 inch deep projections in split-face texture.
3. Product: Basalite Split-face 1 inch Four Score unit.
 - a. Face Profile: Scored unevenly textured appearance with 1 inch wide scores and 1 inch deep projections in split-face texture.
4. Product: Basalite 2" Four Score Unit
 - a. Face profile: Scored unevenly textured appearance with 2 inch wide scores and 1-1/2 inch projections from split-face.
5. Product: Basalite 6 taper score.
 - a. Face Profile: 3/8 inch (9 mm) by 3/4 inch (19 mm) tapered flutes with 5/8 inch (16 mm) projection at 2-1/4 inches (57 mm) on center.
6. Applicable Standards: ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**
7. Unit size: _____.
8. Size: As indicated on Drawings.
9. Color:

a. Standard color_____

b. Premium color_____

10. Color: As selected by Architect from manufacturer's full line.

11. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

E. Split-face Fluted Concrete Masonry Units:

1. Product: Basalite 9" Split-face 4 Flute.

a. Face Profile: 1 inch (25 mm) concave radius with 1 inch (25 mm) projection and 2 inch (51 mm) flute face.

2. Product: Basalite 13" Split-face 4 Flute

a. Face Profile: 1-1/4 (32 mm) inch concave radius with 1 inch (25 mm) projection and 1- 1/2 inch (38 mm) flute face.

3. Product: Basalite CastleWall

a. Face Profile: 5/8 inch (16 mm) by 1 inch (25 mm) tapered flutes with 1-1/8 (29 mm)inch projection and 1 inch (25 mm) flute face.

4. Product: Basalite CastleWall

a. Face Profile: 5/8 inch (16 mm) by 1 inch (25 mm) tapered flutes with 1-1/8 (29 mm)inch projection and 3 inch (76 mm) flute face.

5. Product: Basalite CastleWall

a. Face Profile: 2 inch (51 mm) by 2 inch (51 mm) square flutes with 2 inch (51 mm) projection and 2 inch (51 mm) flute face.

6. Face Profile: As indicated on Drawings.

7. Applicable Standards: ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**

8. Unit size: _____.

9. Size: As indicated on Drawings.

10. Color:

a. Standard color_____

b. Premium color_____

11. Color: As selected by Architect from manufacturer's full line.

12. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

F. Combed face Concrete Masonry Units:

1. Product: Basalite Combed Face Block.

2. Applicable Standards: ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**
3. Face: Combed block with vertically rough furrowed face.
4. Unit size: _____.
5. Size: As indicated on Drawings.
6. Color:
 - a. Standard color _____
 - b. Premium color _____
7. Color: As selected by Architect from manufacturer's full line.
8. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

G. Ground-face Concrete Masonry Units:

1. Product: Basalite Ground-face Concrete Masonry Units.
2. Applicable Standards: ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**
3. Face: Smooth ground textured, exposed aggregate honed appearance.
4. Unit size: _____.
5. Size: As indicated on Drawings.
6. Color:
 - a. Standard color _____
 - b. Premium color _____
7. Color: As selected by Architect from manufacturer's full line.
8. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

H. Ground-face Scored Concrete Masonry Units:

1. Face: Smooth uniform texture with vertical scores. **(choose score size and style)**
2. Square Score: 3/8 inch by 1/4 inch square score.
3. Square Score: 3/8 inch by 3/8 inch square score.
4. V-Score: 3/8 inch by 3/8 inch V-score.
5. V-Score: 7/16 inch by 7/16 inch V-score.
6. Concave Score: 3/8 inch diameter concave score.
7. Score Pattern: As indicated on Drawings.
8. Unit size: _____.
9. Size: As indicated on Drawings.

10. Color:
 - a. Standard color _____
 - b. Premium color _____

11. Color: As selected by Architect from manufacturer's full line.

12. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

I. Slump Stone (adobe) Concrete Masonry Units:

1. Product: Basalite Slump Units.
2. Applicable Standards: ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**
3. Face: Slump block, adobe finish.
4. Unit size: _____.
5. Size: As indicated on Drawings.
6. Color: _____.
7. Color: As selected by Architect from manufacturer's full line.
8. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

J. Glazed (thermo-set glazing compound) Concrete Masonry Units:

1. Product: Trenwyth Astra-Glaze SW+ as manufactured by Trenwyth Industries.
2. Applicable Standards: ASTM C90-11b, Medium Weight Classification.
3. Face: Glazed surface of the concrete masonry unit shall have a smooth satin-gloss finish, externally heat-polymerized cast-on facing conforming to ASTM C744.
4. Integral Water Repellent Admixture: All units shall contain integral water repellent CMU admixture at the time of manufacture.
5. Unit size: _____.
6. Size: As indicated on Drawings.
7. Color: _____.
8. Color: As selected by Architect from manufacturer's full line.
9. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

K. Specialty concrete masonry units:

1. Product: Basalite Patterned Units.
2. Applicable Standards: ASTM C90-08B, Lightweight, Medium Weight, Normal Weight Classification. **(choose density**

required)

(Choose style, verify with local Basalite manufacturer for availability)

- a. Face: High Rib.
 - b. Face: Offset.
 - c. Face: Notch.
 - d. Face: Hilite.
 - e. Face: Double Hilite.
 - f. Face: Shadowwall.
 - g. Face: K-Dron multi- faceted
 - h. Spec-Finish pre-conditioned concrete masonry unit
 - i. Recycled content concrete masonry unit
3. Unit size: _____.
 4. Size: As indicated on Drawings.
 5. Color:
 - a. Standard color _____
 - b. Premium color _____
 6. Color: As selected by Architect from manufacturer's full line.
 7. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.
- L. Shot-blast surface concrete masonry units:
1. Product: Basalite Shot-blast Masonry Units.
 2. Applicable Standards: ASTM C90-11b, Lightweight, Medium Weight, or Normal Weight Classification.
 3. Face Profile: Factory applied medium setting, bead blasted finish texture.
 4. Unit size: _____.
 5. Size: As indicated on Drawings.
 6. Color:
 - a. Standard color _____
 - b. Premium color _____
 7. Color: As selected by Architect from manufacturer's full line.
 8. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.
- M. Shot-blast scored concrete masonry units:
1. Face: Factory applied medium setting, bead blasted finish texture. **(choose score size and style)**

- a. Square Score: 3/8 inch by 1/4 inch square score.
 - b. Square Score: 3/8 inch by 3/8 inch square score.
 - c. V-Score: 3/8 inch by 3/8 inch V-score.
 - d. V-Score: 7/16 inch by 7/16 inch V-score.
 - e. Concave Score: 3/8 inch diameter concave score.
 - f. Score Pattern: As indicated on Drawings.
2. Unit size: _____.
 3. Size: As indicated on Drawings.
 4. Color:
 - a. Standard color _____
 - b. Premium color _____
 5. Color: As selected by Architect from manufacturer's full line.
 6. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

N. Sound Absorbing Concrete Masonry Units:

1. Product: Proudfoot Soundblox.
2. Applicable Standards:

ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**

- a. Block Type A-1: Narrow slots, unfilled cavities; 2 exposed slots/2 cavities.
- b. Block Type RSR: Split rib units; wide slots flare inward; fibrous filler and metal septa in cavities; 2 exposed slots/2 cavities.
- c. Block Type Q: Flared slots; metal septa in unfilled cavities; 2 exposed slots/2 cavities.
- d. Block Type RSC: Flared slots; multiple sequential cavities; fibrous filler and metal septa in cavities; 2 exposed slots/3 or 4 cavities.
- e. Block Type RSC/RF with Straight Through Cavities: Flared slots; multiple sequential cavities; fibrous filler and metal septa in cavities; 2 exposed slots/5 cavities; accommodates vertical reinforcing, conduit, pipe or thermal insulation.
- f. Finish: Ground face.
- g. Finish: Burnished.
- h. Finish: Glazed.
- i. Finish: Split-Rib.
- j. Finish: As indicated on Drawings.

3. Filler: Incombustible fibrous material, cut to fill into block cavities. Fillers shall have metal septa laminated to one side. Septa shall face away from slots when installed.
4. Filler: Install metal septa into each cavity at manufacturing facility. Do not include fibrous material.
5. Unit size: _____.
6. Size: As indicated on Drawings.
7. Color: _____.
8. Color: As selected by Architect from manufacturer's full line.
9. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

O. Dual Cavity (insulating) Concrete Masonry Units:

1. Product: Basalite Solar Stone, Selma, CA.
2. Applicable Standards:
 - a. ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. **(choose density required)**
 - b. ASHRAE Series - Parallel Isothermal Planes Methodology.
 - c. ICBO Evaluation Report: Four hour fire test.
3. Insulation: Polyurethane foam.
4. R-Values: ASHRAE Series - Parallel Isothermal Planes Methodology with thermal mass (solid grout) positioned on interior of the envelope and insulation positioned on exterior of the envelope.
 - a. 10 inch wall: R8.8.
 - b. 12 inch wall: R9.2.
 - c. 14 inch wall: R9.5.
 - d. 16 inch wall: R9.8.
 - e. Size: As indicated on Drawings.
5. Face: Precision.
6. Face: Scored.
7. Face: Combed.
8. Face: Split-face
9. Face: As indicated on Drawings.
10. Unit size: _____.
11. Size: As indicated on Drawings.
12. Color: _____.
13. Color: As selected by Architect from manufacturer's full line.
 - a. Standard Color _____

b. Premium Color_____.

14. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.

15.

P. CBIS Korfil Icon pre- insulated concrete masonry units.

Q. CBIS Korfil Hi-R speciHalty insulating concrete masonry units

R. Masonry Screen Units: **(verify with local Basalite manufacturer for availability)**

1. Product: Basalite Screen Units.

2. Applicable Standards: ASTM C90-11b.

a. Pattern: Constellation.

b. Pattern: Larkmead.

c. Pattern: Cloverleaf.

3. Pattern: As indicated on Drawings.

4. Unit size: _____.

5. Size: As indicated on Drawings.

6. Color: _____.

7. Color: As selected by Architect from manufacturer's full line.

a. Standard Color_____

b. Premium Color_____

S. Concrete Masonry Veneer Units:

1. Applicable Standards: ASTM C90-11b.

(choose profile, check local Basalite manufacturer for availability)

a. Precision(smooth)veneer unit

b. Precision(smooth) scored veneer unit

c. Split-face veneer unit

d. Split-face scored veneer unit

e. Ground-face (burnished) veneer unit

f. Ground-face scored veneer unit.

g. Shot-blast veneer unit

h. Shot-blast scored veneer unit

2. Unit size: _____.

3. Size: As indicated on Drawings.

4. Color:

- a. Standard Color _____
 - b. Premium Color _____
- 5. Color: As selected by Architect from manufacturer's full line.
- T. Spec-Brik concrete masonry units: **(verify with local Basalite manufacturer for availability)**
 - 1. Product: Basalite Spec-Brik Concrete Masonry Units.
 - 2. Applicable Standards: ASTM C90-11b, normal weight units.
 - 3. Size: 8 x 4 x 16 inches.
 - 4. Size 12 x 4 x 16 inches.
 - 5. Size 8 x 8 x 16 inches.
 - 6. Size 12 x 8 x 16 inches.
 - 7. Choose color:
 - a. Birmingham Blend
 - b. Chesapeake Blend
 - c. Delaware Blend
 - d. Dixon Blend
 - e. Gardner Blend
 - f. Houston Blend
 - g. Jefferson City Blend
 - h. Panama City Blend
 - i. Philadelphia Blend
 - j. St. Cloud Blend
 - k. Stanton Blend
 - l. Syracuse Blend
 - 8. Color: As selected by Architect from manufacturer's full line.
 - 9. Shapes: Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.
- U. Integral water repellent admixtures for block and mortar **(check with local Basalite Manufacturer for type used in CMU)**
 - Rheopel Plus, by BASF
 - RainBloc, by ACM Chemistries
 - DryBlock II by WR Grace.
- V. Pre-blended Mortar **(Choose one)**
 - 1. Basalite Concrete Products
 - 2. Amerimix by Basalite **(Choose all that apply)**
 - a. Type S or type M **(Choose one)**

- b. Colored Mortar (**Specify Color**)
 - c. Water Repellant Mortar
 - d. Stone Veneer Mortar
 - e. Polymer Modified Stone Veneer Mortar
- W. Bagged Grout by Amerimix (**Choose one**)
 - a. Coarse Grout Mix
 - b. Fine Grout Mix
- X. Sill block
 - 1. Product: Basalite Sill unit
 - 2. Applicable Standards:
 - a. ASTM C90-11b, Lightweight, Medium Weight, Normal Weight Classification. (**choose density required**)
 - 3. Size:_____.
 - 4. Color:_____.
- Y. Masonry Accessories
- Z. Concrete Masonry Cleaners (**Choose based on CMU specified**)
 - 1. Prosoco, Sureclean Custom Masonry Cleaner.
 - 2. Prosoco, Burnished Custom Masonry Cleaner.
 - 3. Prosoco, SureClean 600 Masonry Cleaner.
- AA. Concrete Masonry Sealers (**Choose based on CMU specified**)
 - 1. Prosoco, SureClean Burnished Block Sealer
 - 2. Prosoco, Groundface Block Enhancer WB
 - 3. Prosoco, Blok-Guard and Graffiti Control
 - 4. Prosoco, Siloxane WB Concentrate

2.3 MASONRY CELL INSULATION

- A. Inserts: CBIS/Korfil. Inserts.
 - 1. Korfil U-Shaped Inserts: Individually molded U-shaped polystyrene inserts designed to fit standard two core masonry units of 6, 8, 10, and 12-inch widths for single wythe and cavity wall construction; density range 0.90 to 1.14 lbs. per cubic foot. Inserted in block prior to delivery to site.
 - 2. Applicable Standards: ASTM C90-08B, ASTM C 578.
 - 3. Thermal Resistance (R) at 75 Degrees F: 3.92.
 - 4. Icon Universal Insulation Inserts: Molded polystyrene inserts designed to compress in core of all sizes of masonry units; density range 0.90 to 1.14 lbs. per cubic foot. Inserted in block prior to delivery to site.
 - 5. Applicable Standards: ASTM C90-08B, ASTM C 578.
 - 6. Thermal Resistance (R) at 75 Degrees F: 3.8.

7. Korfil Hi-R Wall System: Molded polystyrene inserts assembled in specially formed concrete block prior to delivery to site; density 1.3 lbs. per cubic foot.
8. Applicable Standards: ASTM C90-08B, ASTM C 578, Type X.
9. Thermal Resistance (R) at 75 Degrees F: 5.0.

- B. Perlite/Vermiculite (Consult local manufacturers/Suppliers)
- C. Pump in polyurethane foam (Consult local manufacturers/Suppliers)

2.4 WATER REPELLENT ADMIXTURE (choose of these equal systems. Each plant may use a specific admixture for that local. Please verify type used)

- A. Product: The Rheopel Plus Series as manufactured by BASF Corporation.
- B. Product: RainBloc as manufactured by ACM Chemistries.
- C. Product: The Dry-Block II System as manufactured by W. R. Grace & Co.
 1. Applicable Standards:
 - a. Admixture shall provide wind driven rain resistance as measure by ASTM E 514-74 Class E, extended to 72 hours.
 - b. Bond strength as determined by ASTM E 72 shall not be reduced by the use of water repellent admixture.
 2. Performance Requirements:
 - a. Admixture provided in both the masonry unit and the mortar shall constitute a complete integral water repellent system for exterior above grade walls.
 - b. Admixture shall leave the finished surfaces water repellent and shall not alter the natural texture or color of the masonry units or mortar.
 3. System:
 - a. Block Admixture: An integral liquid polymeric admixture mixed with concrete during production of concrete masonry units which cross links and becomes permanently locked into the CMU, bond, beam or CMU lintel to provide resistance to water penetration.
 - b. Mortar Admixture: An integral admixture for use in mortar mix, which cross links and becomes permanently locked into mortar to provide resistance to water penetration.
 - c. Certification: Water Repellant Admixture:
 - (1) BASF Rheopel Plus Series, ACM Rainbloc, WR GraceDry Block II, or equal..
 - (2) Concrete masonry units shall be manufactured by a Qualified Producer.
 - d. Concrete masonry units, pre-cast lintels, CMU lintels, bond beams and special shapes shall meet the requirements of ASTM C90-11b.

4. No other admixtures shall be used in conjunction with the water-repellent admixture unless approved in writing by the water repellent admixture manufacturer.

2.5 PRE-BLENDED MORTAR

- A. Manufacturer: Basalite Concrete Products, LLC, www.basalite.com.
 1. Amerimix by Basalite Concrete Products, LLC 605 Industrial Way, Dixon, CA 95620 Tel: 707-678-1901. Email contact: david.willis@paccoast.com
 2. Amerimix by Basalite, 1201 Golden State Blvd. Selma, CA 93662 Tel: 559-896-1649. Email contact: david.willis@paccoast.com
 3. Basalite Boise, 1300 East Franklin Road, Meridian, ID 83642 Tel: 208-888-4050. Email contact: mark.dooley@paccoast.com
 4. Amerimix by Basalite Sparks, 355 Greg Street, Sparks, NV 89431 Tel: 775-358-1200. Email contact: gary.indiano@paccoast.com
 5. Basalite Denver, 4900 Race Street, Denver, CO 80216 Tel: 303-292-2345. Email contact: jacob.wipf@paccoast.com
 6. Basalite Dupont, 3299 International Place, Dupont, WA 98327 Tel: 253-964-5000. Email contact: blair.harter@paccoast.com
 7. Basalite Surrey, 13066 88th Avenue, Surrey, BC V3W3K3 Canada Tel: 604-596-3844. Email contact:
- B. Proprietary Products and Systems(**Choose One**)
 1. Basalite Pre-Blended Mortar Mix
 2. Amerimix Pre-Blended Mortar by Basalite (Northern California and Nevada markets) including the following:
 3. Material: Pre-blended factory mix of Portland cement, hydrated lime, and fine sand aggregate mixtures. Color pigment and dry integral water repellent may also apply.
 - a. Color: _____
 - b. Color: As selected.
 - c. Include dry integral admixture in mortar blend from factory
 - d. Amerimix Water Repellent Mortar.
 4. Mortar Type (**Choose all that apply**)
 - a. Property Mixture: Type M. .
 - b. Property Mixture: Type S.
 - c. Property Mixture: Type N.
 - d. Amerimix by Basalite Stone Veneer Mortar.
 - e. Amerimix by Basalite Polymer Modified Stone Veneer Mortar.
 5. Material Standard for Aggregate: ASTM C 144.
 6. Material Standard for Portland Cement: ASTM C 150.

7. Material Standard for Hydrated Lime: ASTM C 207.
 8. Material Standard for Pre-Blended Mortar: ASTM C 270.
 9. Material Standard for Pigments: ASTM C 979.
- C. Water: Clean and potable.
- D. Integral Water Repellent Admixture for mortar: Liquid polymeric admixture for mortar added during mixing.
1. Rheopel Plus Mortar admixture, by BASF.
 2. RainBloc for Mortar, by ACM Chemistries.
 3. Dry-Block Integral Water Repellent Admixture for mortar, by W. R. Grace & Co.
- E. Dry integral mortar admix (blended in at the manufacturing plant)
1. Rheopel Plus D by BASF.

2.6 JOINT REINFORCEMENT, TIES AND ANCHORS

- A. Manufacturers:
1. Hohmann & Barnard, Inc.
- B. General: Comply with requirements indicated below for basic materials, as well as requirements for each form of joint reinforcement, tie, and anchor for size and other characteristics.
- C. Hot-Dip Galvanized Steel Wire: Uncoated wire in accordance with ASTM A 82, with zinc coating applied after prefabrication into units in accordance with ASTM A 123, 1.5 oz. per sq.ft. (0.46 kg/sq m) of wire surface.
- D. Joint Reinforcement: Welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10 feet (3 m), with prefabricated corner and tee units.
1. Width: Approximately 2 inches (51 mm) less than nominal width of walls and partitions, providing mortar cover of not less than 5/8 inch (16 mm) on joint faces exposed to exterior and 1/2 inch (13 mm) elsewhere.
 2. Wire Size, Side Rods: 9 gauge, 0.15 inches (4 mm).
 3. Wire Size, Cross Rods: 9 gauge, 0.15 inches (4 mm).
 4. Wire Size, Two-Piece Adjustable: 9 gauge (6 mm) diameter in exterior walls.
 5. Single-Wythe Configuration: Truss design, continuous diagonal cross rods spaced not more than 16 inches (406 mm) on center.
 6. Multi-Wythe Configuration, Non-Aligned Bed Joints in Cavity or Composite Masonry Walls:
 - a. Adjustable wall tie pintle section fitting into eye section of rectangular box-type cross ties spaced not more than 16 inches (406 mm) on center.
 - b. Truss type units with side rods spaced for embedment within each face shell of back-up wythe, ties extended to within 1 inch (25 mm) (25 mm) of exterior face of facing wythe.

- E. Flexible Anchors, Masonry to Structural Framework: Two-piece anchors permitting vertical or horizontal differential movement between wall and framework parallel to, but resisting tension and compression forces perpendicular to, plane of wall.
 - 1. Anchorage to Steel Framework: Manufacturer's standard anchors with crimped ¼ inch (6 mm) diameter wire anchor section for welding to steel 3/16", triangular-shaped wire tie section sized to extend within 1 inch (25 mm) (25 mm) of exterior face of facing wythe
- F. Unit Type Masonry Inserts in Concrete: Cast iron or malleable iron inserts of type and size indicated.
- G. Dovetail Slots: Dovetail slots with filler strips, of slot size indicated; 22-gage sheet metal.
- H. Anchor Bolts: Steel bolts with hex nuts and flat washers, complying with ASTM A 307, Grade A, hot dip galvanized complying with ASTM A 153, Class C; sizes and configurations indicated.
- I. Reinforcing Bars: Deformed steel, ASTM A 615, Grade 60 for bars No. 3 to No. 18.

2.7 MISCELLANEOUS MASONRY ACCESSORIES

- A. Non-Metallic Expansion Joint Strips: Premolded, flexible cellular neoprene rubber filler strips, complying with ASTM D 1056, Grade RE41E1, capable of compression up to 35 percent; width and thickness indicated.
- B. Weepholes:
 - 1. Pre-manufactured weeps.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL

- A. Perform work in accordance with:
TMS 402/ACI 530/ASCE 5, TMS 602/ACI 530.1/ASCE 6

3.2 CLEANING

- A. Comply with applicable environmental laws and restrictions.
- B. Comply with cleaning procedures and recommendations of the manufacturers of both the cleaning solution and the unit masonry.
 - 1. Utilize the same approved cleaning procedure as used on the mock-up.
- C. Remove efflorescence from masonry wall exposed in the finished work in accordance with manufacturer's recommendation and NCMA TEK Bulletin #8-3A.
- D. Remove dirt or stains from masonry walls exposed in the finished work in accordance with the manufacturer's recommendations and NCMA TEK Bulletin #8-2A.
- E. Masonry with Integral Water Repellent Admixtures:

1. Promptly remove excess wet mortar containing integral water repellent mortar admixture from the face of the masonry as work progresses.
2. Do not power wash masonry with water repellent admixtures.

3.3 PROTECTION

- A. Protection: During installation, cover the top of unfinished masonry work to protect it from the weather and to prevent accumulation of water in the cores of the masonry units.
- B. Protect installed work from damage due to subsequent construction activity on the site.

Perform work in accordance with TMS 402/ACI 530/ASCE 5, TMS 602/ACI 530.1/ASCE 6.

END OF SECTION