### SEISMIC AND WIND DESIGN COMPONENTS: RESIDENTIAL

- 1. THE DELAWARE VALLEY IS IN SESIMIC CATEGORY "C". COMMERCIAL BUILDINGS HAVE REQUIREMENTS, DETACHED ONE AND TWO FAMILY DWELLINGS ARE EXEMPT.
- 2. CODE CLASSIFIES BUCKS AND MONTGOMERY COUNTIES AS HAVING WIND SPEEDS OF 90 MPH. THE LOWER (MOST EASTERLY) PART OF BUCKS COUNTY IS RATED WITH WIND SPEEDS OF 100 MPH. "CRITICAL LOAD PATH" ANCHORAGE IS REQUIRED.

#### THE PROJECT HAS BEEN DESIGNED WITH THESE LOADS

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	ROOF5	SLEEPING FLOORS	SLEEPING FLOORS	ATTIC FLOOR NO STORAGE	BALCONIES /DECKS
DESIGN LOADS	WOOD OR ASPHALT SHINGLES	WOOD, CARPET OR VCT	CERAMIC, SLATE OR STONE	UNFINISHED SHEATHING	SPACED DECK
DEAD LOAD (PSF)	15	15	25	10	N/A
LIVE LOAD (PSF)	30	30	30	10	N/A
TOTAL (PSF)	45	45	55	20	N/A

### FOOTING PLACEMENT FOR FOUNDATION WALLS

- 1. BOTTOMS OF ALL FOOTINGS (OR EARTH BORN WALLS) SHALL BEAR ON UNDISTURBED SOILS CAPABLE OF SUPPORTING THE DESIGN LOAD OF 3,000 PSF. THE CONTRACTOR SHALL EXAMINE AND VERIFY THE SOIL CONDITIONS BEFORE ALLOWING CONCRETE FOOTINGS AND FOUNDATIONS TO BE INSTALLED. IF SOILS EXHIBIT A LESSER VALUE, NOTIFY THE ARCHITECT IMMEDIATELY, AS THE FOUNDATION DESIGN MUST BE RE-EVALUATED AND POSSIBLY REDESIGNED.
- 2. THE SOIL IN THE TRENCHES FOR ALL FOOTINGS SHALL BE INSPECTED BY A MUNICIPAL OFFICIAL BEFORE ANY FOOTINGS ARE PLACED. PROVIDE INSPECTION CERTIFICATE.
- 3. THE BOTTOM ELEVATION SHOWN FOR ALL FOOTINGS IS THE MINIMUM, AND SHALL BE NO LESS THAN 36 INCHES BELOW FINAL EXTERIOR GRADE. SOIL CONDITIONS MAY REQUIRE ADDITIONAL DEPTH.
- 4. ALL FOOTING EXCAVATIONS FOR FOUNDATION WALLS ENCLOSING CRAWLSPACES OR OTHER OCCUPIED SPACE SHALL BE MADE WIDE ENOUGH TO ALLOW FOR THE PLACEMENT OF FOUNDATION DRAINAGE PIPING AND DRAINAGE STONE BELOW THE TOP OF THE FOOTING AND THUS MUST BE "FORMED" AS A MINIMUM ON THE EXTERIOR SIDE. IF ALLOWED BY THE MUNICIPALITY, FOOTING FOR "SLABS ON GRADE" MAY BE PLACED IN TRENCH FORMED FOOTINGS.
- 5. FOOTINGS AND SLABS SHALL NOT BE PLACED ON FROZEN SOILS.
- 6. FOOTING CONCRETE SHALL BE MINIMUM 3,000 PSI DESIGN MIX @ 28 DAYS. IN LIEU OF TESTING, CONCRETE SUPPLIER SHALL PROVIDE MIX CERTIFICATE TO CONTRACTOR FOR DELIVERY TO OWNER.
- 7. WHERE PIPES PASS THROUGH A FOOTING, THE FOOTING SHALL BE MINIMUM OF 12 INCHES THICK SOLID BELOW, STEP AS REQUIRED, INSTALL SLEEVE SIZE OF PIPE DIAMETER PLUS 2 INCHES.
- 8. FOOTING TO FOUNDATION WALL ANCHORAGE: INSTALL HOOKS FORMED FROM #4
  DEFORMED REINFORCING BARS. VERTICAL LEG SHALL BE 20 INCHES LONG, AND HOOK
  SHALL BE 3-INCHES. BOTTOM OR HOOK SHALL BE 3 INCHES FROM BOTTOM OF FOOTING.
  INSTALL NOT MORE THAN 12 INCHES FROM ANY CORNER (BOTH SIDES) AND THEN NOT
  MORE THAN 48 INCHES ON CENTER FOR ENTIRE LENGTH OF WALLS. ALIGN HOOKS TO BE
  CENTERED IN FOUNDATION THICKNESS AND IN BLOCK CORES IF CMU WALLS.

#### UNIT MASONRY FOUNDATION WALLS

CONCRETE MASONRY UNIT (CMU) CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6-88)" PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE.

HOLLOW LOAD BEARING CMU SHALL CONFORM TO ASTM C90, TYPE I, "NORMAL WEIGHT". MINIMUM NET TENSILE STRENGTH OF 1250 PSI; 0.06% MAXIMUM. LINEAR SHRINKAGE FROM SATURATED TO OVEN DRY; CURE 28 DAYS.

MORTAR TO BE TYPE S, CONFORMING TO ASTM C270. MORTAR SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.

INSTALL 9 GA. DUROWALL TRUSS TYPE JOINT REINFORCEMENT @ 16" O.C. VERTICALLY (EVERY OTHER COURSE), ALL CMU WALLS. SEE DRAWINGS

CMU WALLS: FILL SOLID TOP TO BOTTOM, FOR ENTIRE LENGTHS, WITH CONCRETE, PUMP MIX. MAX. 48-INCH LIFTS.

WHERE PIPES OR WIRE PASS THROUGH A FOUNDATION WALL, INSTALL SLEEVE MINIMUM OF PIPE OR WIRE DIAMETER PLUS 2 INCHES.

REINFORCING BARS SHALL BE "DEFORMED" CONFORMING TO ASTM GRADE-60 FOR #4 AND LARGER BARS. "LAP JOIN" ALL REINFORCING BARS 30 BAR DIAMETERS MINIMUM. CORNER BARS FOR CONTINUOUS REINFORCING SHALL BE LAPPED MINIMUM 30 BAR DIA. EACH WAY. DO NOT BACKFILL AGAINST FOUNDATION WALLS WITHOUT APPROPRIATE BRACING AND SHORING, OR UNTIL ALL FRAMING IS COMPLETE, AND THE ROOF MATERIALS INSTALLED. COMPACT BACKFILL BEHIND FOUNDATION WALLS TO MINIMUM OF 90% DENSITY, IN 8" LIFTS. BACKFILL MATERIAL SHALL BE CLEAN MODIFIED STONE, FREE OF ORGANIC OR OTHER DETRIMENTAL MATERIAL.

PARGING FOUNDATION WALLS: TO EXPOSED BLOCK WALLS APPLY 1/2" CEMENT COATING, CONTINUE TO 12" BELOW FINAL GRADE.

DAMPPROOFING OF CRAWLSPACES AND BASEMENTS (NONE SHOWN)

WATERPROOFING (NONE SHOWN):

DO NOT APPLY CONCENTRATED LOADS FOR AT LEAST 3 DAYS AFTER BUILDING MASONRY WALLS. DO NOT APPLY UNIFORM FLOOR OR ROOF LOADS FOR AT LEAST 12 HOURS AFTER BUILDING MASONRY WALLS.

# BELOW SLAB VAPOR BARRIERS

- 1. BELOW ALL INTERIOR GROUND SUPPORTED CONCRETE SLABS, INCLUDING GARAGES, SHALL BE INSTALLED A VAPOR BARRIER, RADON / METHANE BARRIER. THE LOWER THE WATER VAPOR PERMEANCE RATING OF THE BARRIER, THE MORE RESISTIVE IT IS TO
- 2. ALL VAPOR BARRIERS SHALL BE PLACED ON THE PREPARED SUB GRADE, BELOW ANY INSULATION BOARDS. THE V.B. SHALL BE EXTENDED UP EDGES TO BE VISIBLE ABOVE THE SLAB; REMOVE EXCESS AFTER SLAB HAS CURED. FOR THE V.B. TO PERFORM AS A GOOD RADON GAS BARRIER ALL PENETRATIONS SHALL BE SEALED AND ALL JOINTS LAP SPLICED A MINIMUM OF 6-INCHES, AND TAPED PER MFG. RECOMMENDATIONS.
- 3. PRODUCT SHALL BE A HIGH QUALITY POLYETHYLENE PLASTIC, AT LEAST 8-MILS THICK. THE MINIMUM PERM RATING SHALL BE "CLASS 1" VAPOR RETARDER, PERM RATING OF 0.10 OR LESS, CONFORMING TO ASTM E96. MEMBRANE SHALL MEET ASTM E-1745.
- 1. BASE BID: 10 MIL, W.R. MEADOWS PERMINATOR™ UNDER SLAB VAPOR RETARDER, OR EQUAL AS FOLLOWS: VAPOR RETARDERS CREATED TO PROVIDE THE VAPOR PROOFING INDUSTRY WITH ECONOMICAL, HIGHLY EFFECTIVE METHODS FOR PREVENTING THE PENETRATION THROUGH THE SLAB OF DAMAGING ALKALINE SALTS, MOISTURE, MOLD, RADON GAS AND WATER VAPOR.
- 2. ACCESSORIES: SEAM TAPE HIGH DENSITY POLYETHYLENE TAPE WITH PRESSURE SENSITIVE ADHESIVE. MINIMUM WIDTH 4 INCHES.

# BELOW SLAB RIGID INSULATION BOARD

1. INSULATION BOARD PLACED BELOW INTERIOR CONCRETE SLABS SHALL BE A MINIMUM OF 2-INCHES THICK, R-10, TIGHTLY FITTED DOW BLUE BOARD.

# CONCRETE SEALER

ALLOW NEW CONCRETE TO CURE FOR THIRTY DAYS.

CONCRETE SEALER FOR ALL HORIZONTAL INTERIOR AND EXTERIOR SLABS WHERE INDICATED SHALL BE "SEALTIGHT INTEX" BY W.R. MEADOWS, INC., P.O. BOX 543, ELGIN,

ILLINOIS 60121, (312)683-4500.

INTEX IS A NON-YELLOWING WATER BASE ACRYLIC CURING AND SEALING COMPOUND.

APPLICATION SHALL BE TWO COATS, PER MANUFACTURES RECOMMENDATIONS WITH

MINIMUM OF 24 HOURS BETWEEN COATS. APPLICATOR SHALL PROVIDE THE OWNER WITH

RECEIPT SHOWING THE QUANTITY OF MATERIAL SUPPLIED TO THE SITE.

NOTE: COORDINATE WITH OWNER'S FINAL FLOOR FINISH SELECTIONS.

### CONCRETE WORK

- CODES AND STANDARDS: ACI-318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI-301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"; ACI-347, "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK; ACI-304, "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE"; READY MIX CONCRETE SHALL BE IN ACCORDANCE WITH ASTM C-94.
- 2. COMPRESSIVE STRENGTH OF CONCRETE 3,000 PSI AT 28 DAYS. MAX. SLUMP OF ALL CONC. SHALL BE 4". IN LIEU OF TESTING, CONTRACTOR SHALL PROVIDE CERTIFIED MIX RECEIPTS, DELIVERED TO OWNER.
- 3. SLAB REINFORCING: 6×6× 12 GA. WELDED WIRE FABRIC IN BOTTOM 1/3 OF SLAB.
- 4. WHEN PLACING INTERIOR CONCRETE SLABS, DO NOT PUNCTURE THE VAPOR BARRIER. BE CAREFUL WITH CURING BECAUSE VIRTUALLY NO WATER WILL BE LOST TO THE SUBGRADE.
- 5. USE AIR-ENTRAINING ADMIXTURE IN ALL CONCRETE THAT IS EXPOSED TO FREEZING
- AND THAWING, PROVIDING NOT LESS THAN 4% NOR MORE THAN 6% ENTRAINED AIR.

  6. NO CONCRETE SLABS OR FOOTINGS SHALL BE PLACED UNTIL SUBGRADE PREPARATION IS
- INSPECTED AND APPROVED BY THE MUNICIPALITY.

  7. FINISHES: EXPOSED TO VIEW VERTICAL SURFACES SHALL HAVE A RUBBED FINISH IN ACCORDANCE WITH ACI-301. FLOOR SLABS SHALL HAVE A STEEL TROWEL FINISH. EXTERIOR WALKWAYS TO HAVE BROOM FINISH.
- 8. OPTION POLISHED CONCRETE AS FINAL FINISH: REVIEW WITH OWNER, DENSIFY TOP SURFACE, ADD COLOR IF DESIRED, POLISHED MATTE FINISH, NOT SLIPPERY.

### EXTERIOR WOOD DOOR & WINDOW TRIMS FOR PAINT:

- RECOMMENDED IS BORAL COMPOSITE MADE WITH FLY ASH. IT IS APPROVED FOR GROUND CONTACT, IT DOES NOT ABSORB WATER. IT HAS A LOW COEFICIENT OF EXPANSION. CAN BE USED AS SUBSTITUTE FOR PRESSURE TREATED SILL PLATES.
- RECOMMENDED ADHESIVE FOR BORAL IS PIO PREMIUM A URETHANE BASE.
   WHEN OTHER TRIM MATERIALS ARE USED, SUCH AS PVC OR VINYL, PAY CAREFUL
- . WHEN OTHER TRIM MATERIALS ARE USED, SUCH AS PVC OR VINYL, PAY CAREFUL ATTENTION TO REQUIRED PAINT "LIGHT REFLECTANCE" VALUES. PLASTIC PRODUCTS HAVE HIGH COEFICIENTS OF EXPANSION; DARK COLORS WILL TEAR JOINTS APART.

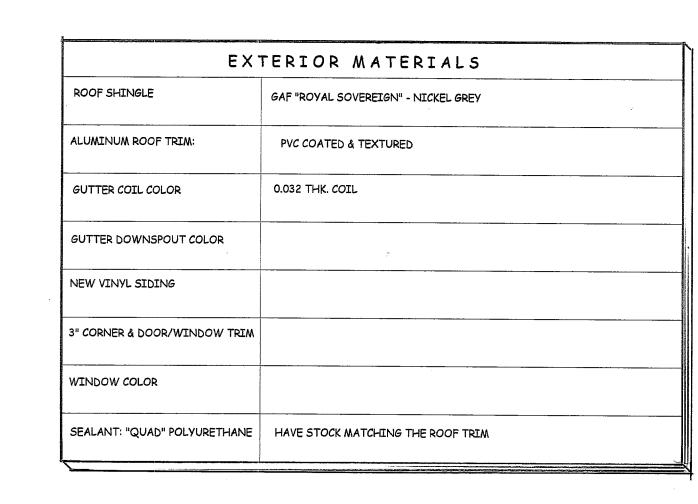
#### PAINT: GENERAL EXTERIOR

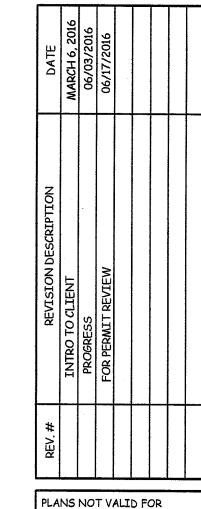
1. TRIM PAINTING FOR DOORS AND WINDOWS SHALL HAVE A "LIGHT REFLECTANCE VALUE" AS RECOMMENDED BY THE MFG. VERY IMPORTANT FOR SOUTH AND WEST FACING WALLS.

### CAULKING

- 1. PERMITTED MATERIALS: ALL EXTERIOR CAULKING SHALL BE TWO-PART POLYURETHANE COMPONENT BASED. NO SILICONE CAULKS ARE PERMITTED UNLESS THE APPLICATION IS FOR A "GLASS TO GLASS" ADHESIVE. ALL CAULKS USED IN PREPARATION FOR INTERIOR PAINTING SHALL BE POLYURETHANE OR LATEX, WITH NO SILICONES.
- 2. WHERE TO APPLY: CAULKING SHALL BE PROVIDED:
- BETWEEN ALL EXTERIOR DISSIMILAR MATERIALS WHERE A MECHANICAL CONNECTION DOES NOT MAKE A WATERTIGHT SEAL.

  AROUND THE PERIMETERS OF ALL DOORS AND WINDOWS RETWEEN SURDOUNDING
- AROUND THE PERIMETERS OF ALL DOORS AND WINDOWS BETWEEN SURROUNDING FINISH SURFACES.





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