ENERGSOLUTIONS
LICENSE AMENDMENT REQUEST:
CLASS A SOUTH/11E.(2)
EMBANKMENT

REVISION 1
JUNE 9, 2009


**11e.(2) COVER DESIGNS**

- **12" THICK TOP ROCK**
- **12" THICK FILTER ZONE**
- **12" OF 5 X 10^7 CM/SEC RADON BARRIER**
- **3' OF 1 X 10^6 CM/SEC RADON BARRIER**

**11e.(2) TOP SLOPES**

- **18" THICK SIDE ROCK**
- **12" THICK FILTER ZONE**
- **12" OF 5 X 10^7 CM/SEC RADON BARRIER**
- **2.5' OF 1 X 10^6 CM/SEC RADON BARRIER**

**11e.(2) SIDE SLOPES**

- **18" THICK SIDE ROCK**
- **12" THICK FILTER ZONE**
- **12" OF 5 X 10^7 CM/SEC RADON BARRIER**
- **7.5' OF 1 X 10^6 CM/SEC RADON BARRIER**

**11e.(2) TOP SLOPES**

- **18" THICK SIDE ROCK**
- **12" THICK FILTER ZONE**
- **12" OF 5 X 10^7 CM/SEC RADON BARRIER**
- **7.5' OF 1 X 10^6 CM/SEC RADON BARRIER**

**CLASS A SOUTH COVER DESIGNS**

- **12" THICK TYPE A RIP RAP**
- **8" THICK TYPE A FILTER ZONE**
- **NATURAL GROUND OR IMPORTED NATIVE BARRIER MATERIAL**

**PERIMETER DITCH**

**CLASS A SOUTH TOP SLOPES**

- **18" THICK TYPE B RIP RAP**
- **6" THICK TYPE B FILTER ZONE**
- **12" THICK SACRIFICIAL SOIL**
- **12" OF 5 X 10^7 CM/SEC RADON BARRIER**
- **12" OF 1 X 10^6 CM/SEC RADON BARRIER**

**CLASS A SOUTH SIDE SLOPES**

- **18" THICK TYPE A RIP RAP**
- **6" THICK TYPE A FILTER ZONE**
- **12" THICK SACRIFICIAL SOIL**
- **18" THICK TYPE B FILTER ZONE**
- **12" OF 5 X 10^7 CM/SEC RADON BARRIER**
- **12" OF 1 X 10^6 CM/SEC RADON BARRIER**

**GRADATIONS - ASTM C-136**

**TYPE A RIP RAP**

- D100 = 8 INCH
- D50 = 2-1/2 INCH
- D10 = 1-1/2 INCH

**TYPE B RIP RAP**

- D100 = 4-1/2 INCH
- D50 = 2-1/2 INCH
- D10 = 3/4 INCH

**TYPE A FILTER ZONE**

- D100 = 3 INCH
- D50 = 1-1/2 INCH
- D10 = 1/2 INCH

**TYPE B FILTER ZONE**

- D100 = 2 INCH
- D50 = 1/4 INCH
- D10 = 0

**SACRIFICIAL SOIL**

- MUST BE < 5
- MUST BE < 25

**TYPE B FILTER MIN. PERMEABILITY**

- 3.5 cm/sec

**SACRIFICIAL SOIL MIN. MOISTURE**

- 15% at 22°C