These are well-drained, moderately coarse textured soils underlain by sand and gravel. They formed under bunchgrass, in glacial outwash material derived from loess, basalt, and small amounts of quartzite and granite. They occupy nearly level to strongly sloping outwash plains and terraces in Adams, Franklin, Grant and Yakima Counties.

Representative Description:

**EPHRATA sandy loam**

- **Surface soil:** 0-6", Dark grayish brown sandy loam, granular, very friable, pH 7.4 - 7.8
  - Water holding capacity: 0.22 in/in
  - Permeability: 2.0-6.3 in/hr
  - Shrink-swell potential: low
  - Engineering classification: SM, Unified AASHO A-4 or A-2

- **Subsoil:** 6-21", Dark brown fine sandy loam, blocky, very friable, pH 7.9 - 8.4
  - Water holding capacity: 0.23 in/in
  - Permeability: 2.0-6.3 in/hr
  - Shrink-swell potential: low
  - Engineering classification: SM, Unified AASHO A-4 or A-2

- **Upper Substratum:** 21-28", Dark brown very gravelly sandy loam, pH 7.8 - 8.4
  - Water holding capacity: 0.16 in/in
  - Permeability: 6.3-20.0 in/hr
  - Shrink-swell potential: low
  - Engineering classification: GM, Unified AASHO A-1 or A-2

- **Lower Substratum:** 28" +, Gravel and sand
  - Water holding capacity: 6.3-20.0 in/in
  - Permeability: 6.3-20.0 in/hr
  - Shrink-swell potential: low
  - Engineering classification: GM, Unified AASHO A-1

Caution: All Ephrata soils are not exactly like the one shown above. Differences in characteristics will affect suitability and limitations for various uses. See Capability Classification table.

ABOUT THE SOIL GUIDE SHEETS: Soil Guide Sheets are written primarily to indicate suitability for irrigation farming. In addition, some engineering properties are shown. These will serve as a preliminary guide but on-site investigation will be needed before making final decisions on non-agricultural uses. Certain terms and soil ratings may not be self-explanatory. Refer to "Guide to the Use of Soil Guide Sheets".

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Cooperative Extension Service, John P. Miller, Director
## EPHRATA soils

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<th>Ephrata soils</th>
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### Suitability as a source of:
- **Topsoil - Good to 20"**
- **Sand - Not suitable**
- **Gravel - Good (20-40")**
- **Road Fill - Good**

### Soil features affecting engineering uses:
- **Highway location** - Moderate number of shallow cuts and fills required because of uneven relief; coarse gravel at depth of 20-40".
- **Dikes, Levees, Embankments** - Susceptibility to piping, coarse gravel and cobbles at depth of 20-40".
- **Reservoir** - Very rapidly permeable, below 20".
- **Septic disposal systems** - Moderate permeability in upper 20", rapidly permeable below 20", well drained.

### Suitability for irrigation farming:
- **Water holding capacity** - Low to moderate, higher on deeper soils.
- **Infiltration** - Moderate
- **Permeability** - Moderate to rapid
- **Drainage** - Well drained, except where underlain by Ringold beds.
- **Erosion hazard** - Water erosion, slight; wind erosion, slight to moderate.
- **Salinity and alkali hazard** - Low except where underlain by Ringold beds.

### General Evaluation:
Most Ephrata soils produce well under irrigation with normal good management practices. Suitable for both surface and sprinkler irrigation where soils are deep. On shallow soils, leveling may expose gravelly spots. Leveling may expose subsoils which are low in fertility. Have your soils tested to determine fertilizer needs. Deeper Ephrata soils have high water holding capacity and are well adapted for row crops, grain and most crops under general irrigation farming.

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This Soil Guide Sheet was prepared by A.I. Dow, Extension Soils Specialist, Washington State University in cooperation with Charles D. Lenfestey, Soil Scientist, Robert F. Mitchel, State Soil Scientist, Soil Conservation Service, USDA; and Mel A. Hagood, Extension Irrigation and Water Use Specialist, Washington State University.