# Earthwork Modeling Step-by-Step
## Error-Check and Correct Design Data Lines

The same error-checking methods used for the Existing surface (see page 82) are also used to identify data-entry and interpolation errors related to the Design Data Lines. Examples using most of these tools for the Design surface follow, but remember to adjust your error-checking and editing efforts to match the intended purpose of the surface model: A Design model that will be used for machine control applications requires more accuracy (and more error-checking) than a Design model that will only be used for quantity takeoff purposes.

| Design Surface Error Check Method | Applicable to Modeling for Quantity Takeoff | Applicable to Modeling for Grade Setting/Checking/Control | Comments |
|---|---|---|---|
| 2D Plan View Display in Edit Mode | Always | Always | Excellent way to spot crossing lines and other obvious horizontal errors (see page 159) |
| 3D View Display in Edit (or 3D View) Mode | Always | Always | Excellent way to spot obvious elevation errors (see pages 159, 161) |
| Find Elevation Function in Edit Mode | When 3D View Shows Multiple Elevation Spikes from CAD Import | When 3D View Shows Multiple Elevation Spikes from CAD Import | Select all objects with elevations above/below specified value (see page 88 and *Day 2 Handbook*) |
| Show Trimesh Utility in Edit/Entry Mode | Yes | Yes | Excellent way to evaluate Design point-to-point interpolation at problem areas on the surface (see pages 160, 163) |
| Water Flow Utility in Edit or Entry Mode | Yes | Yes | Excellent way to identify drainage problems on Design surface (see page 160) |
| Contour Surface Utility in Edit Mode | Yes | Yes | Generate contours at close interval (0.1 ft. to 0.2 ft.) to evaluate relatively flat areas (see pages 160, 162) |
| 2D Plan View Display in 3D View Mode | Potentially | Potentially | Displays interpolated *Ref* surface elevation at *Arrow* pointer tip (see page 161) |
| Profiles in Profile View Mode | Potentially | Potentially | Excellent way to evaluate multiple-surface relationships along specified alignments (see page 196) |

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