FAD Tools 5.2.3 Release.

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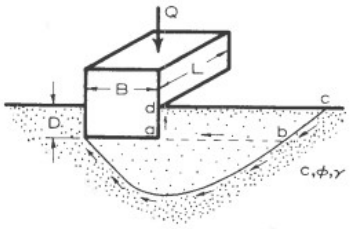
The following modifications and enhancements are made to FAD TOOLS:

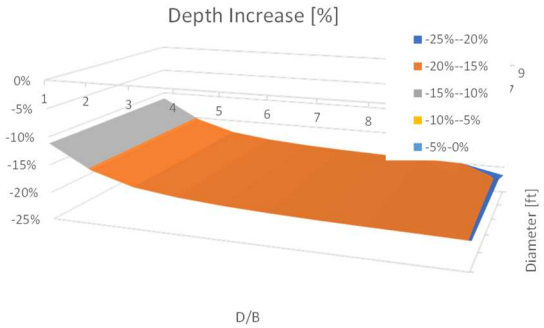
- Modification of the bearing capacity formulation used in HFAD and TFAD. Details of the modification, verification of the implementation, and associated input files, can be found here. Parametric studies are available upon request.

MODIFICATION OF THE BEARING CAPACITY FORMULATION.

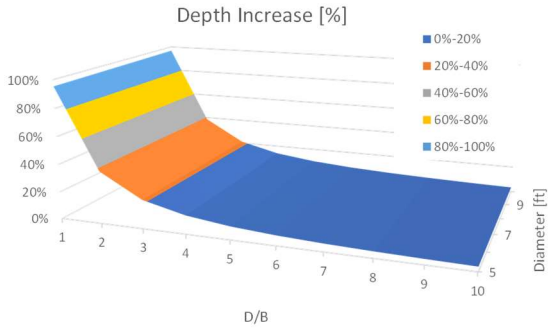


PARAMETRIC STUDY

Sandy soil



Cohesive soil



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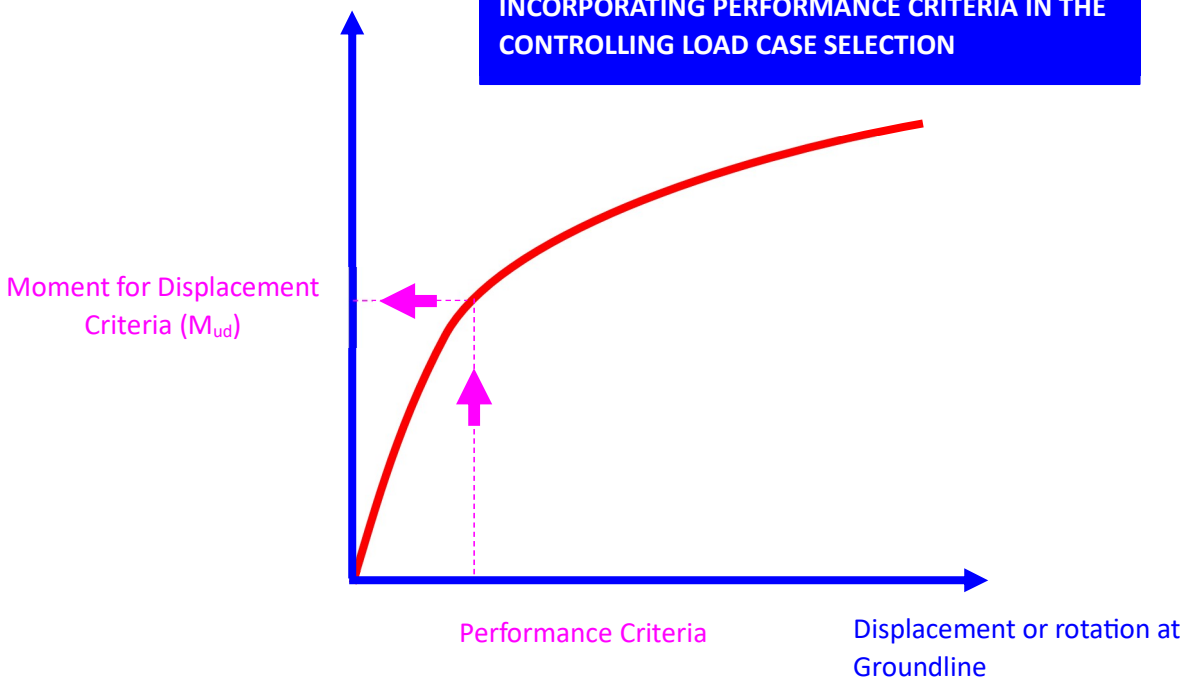
- Improved methodology application to select the controlling load case in MFAD and increased transparency in the selection process. (see details here).

Moment at Groundline

INCORPORATING PERFORMANCE CRITERIA IN THE CONTROLLING LOAD CASE SELECTION



SUMMARY OF ALL LOAD CASES ADDED TO REPORT

Summary of Capacity Verification for all load cases.

Load Case No.	Load Case Name	Shear Design Capacity / Applied Shear Load	Moment Design Capacity / Applied Moment Load
1	DL+0.75L+0.45W+H	12.1 / 15.0 = 0.80	66.0 / 82.0 = 0.80
2	DL+0.6W+H	11.0 / 10.5 = 1.05	72.2 / 69.0 = 1.05

Summary of Performance Verification for all load cases at Groundline.

Load Case No.	Load Case Name	Total Displacement Criteria/ Total Displacement	Total Rotation Criteria/ Total Rotation	Nonrecoverable Displacement Criteria/ Nonrecoverable Displacement	Nonrecoverable Rotation Criteria/ Nonrecoverable Rotation
1	DL+0.75L+0.45W+H	0.5 / 1.6 = 0.31	0.3 / 1.3 = 0.19	0.3 / 0.5 = 0.58	0.2 / 0.5 = 0.33
2	DL+0.6W+H	0.5 / 1.0 = 0.51	0.3 / 0.8 = 0.31	0.3 / 0.2 = 1.22	0.2 / 0.2 = 0.65

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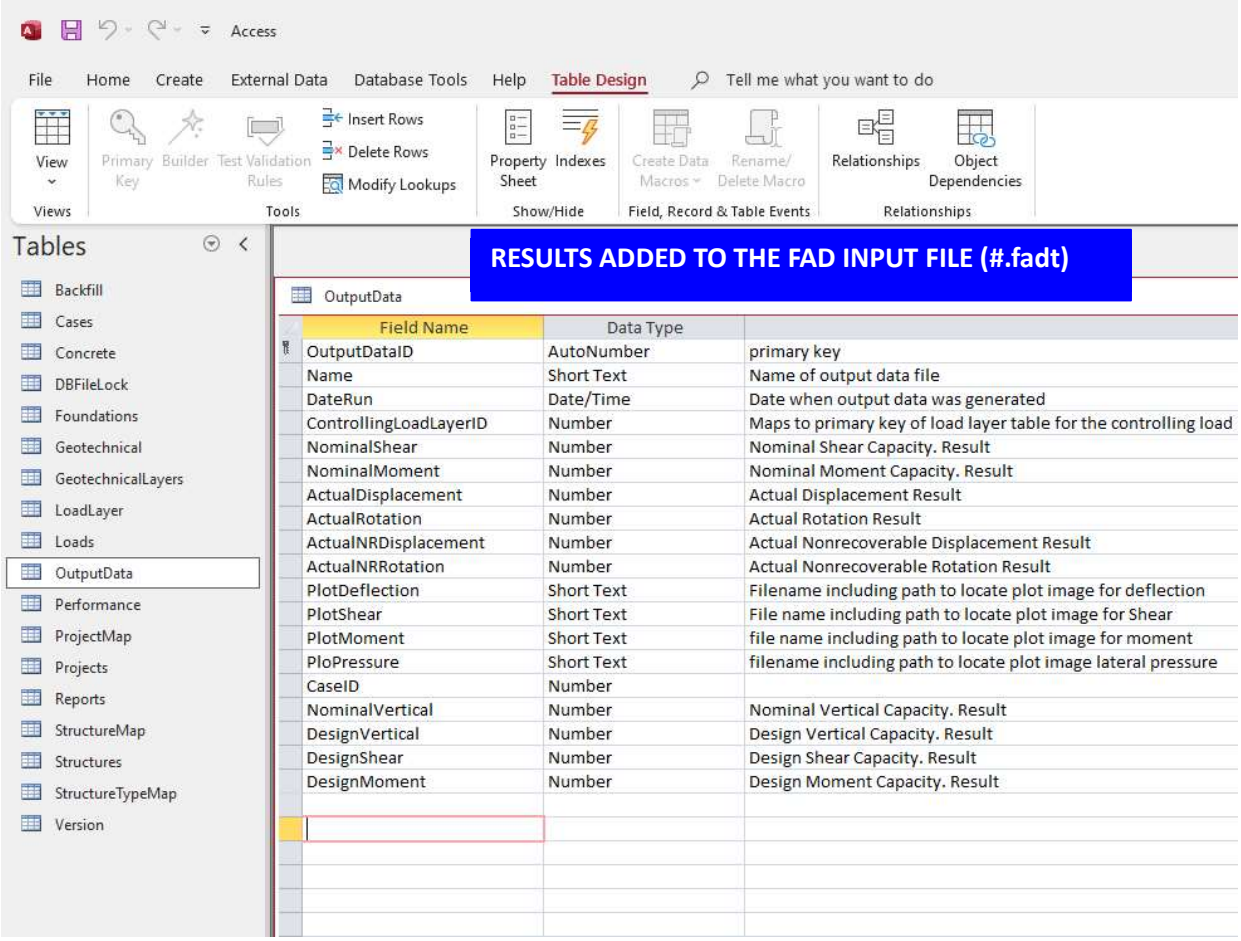
- Storing results in the FAD input file (e.g., #.fadt). This link provides a description of the results saved.



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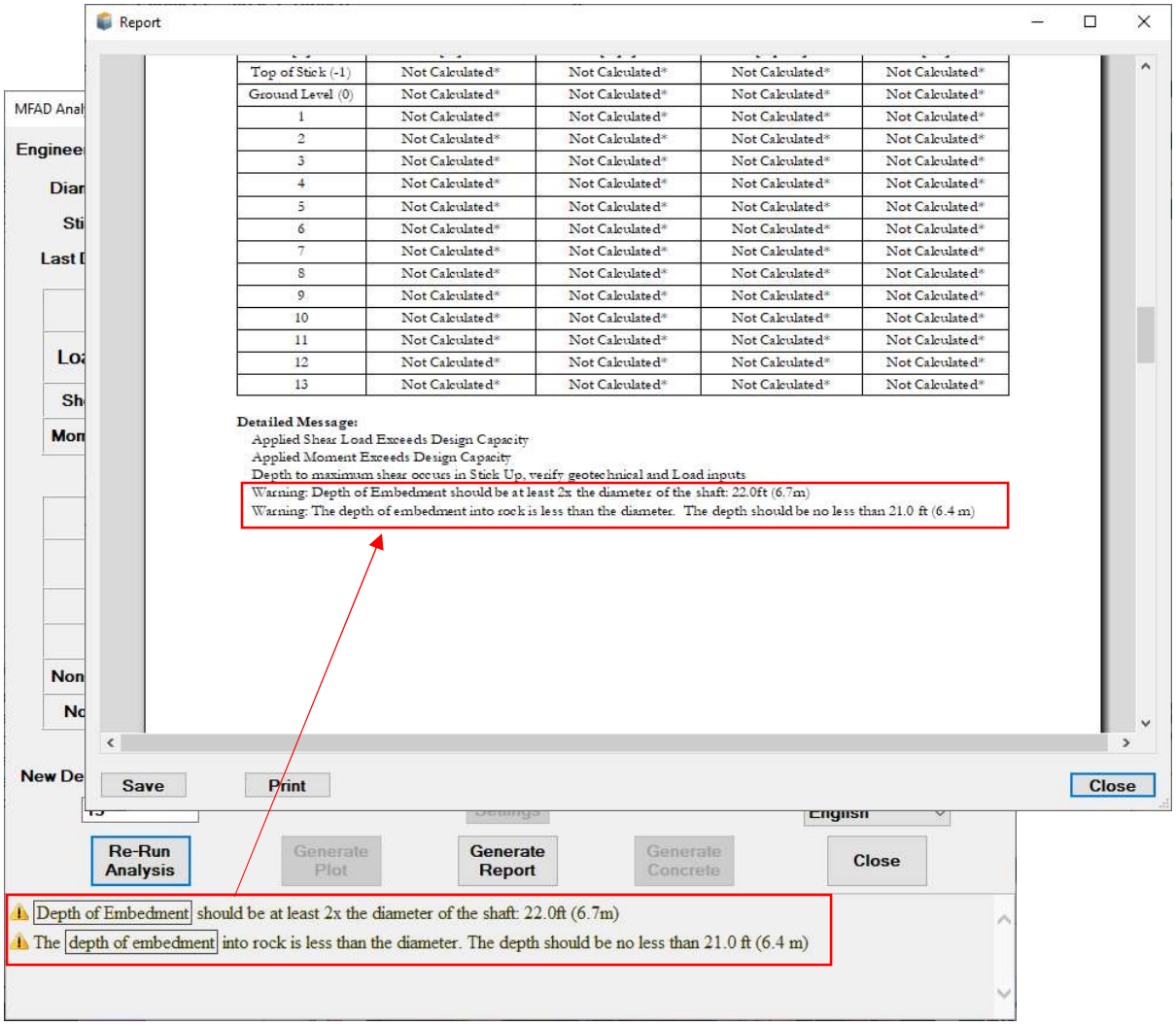
- Adding warning/error messages to the Detailed Message section of the report.



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Service Packs.

Service Pack 1 (SP1). September 2024.

- Fixing issues in the PC License validation system.

Service Pack 2 (SP2). January 2025.

- Prevent licenses from being downloaded to folders where FAD does not have write permissions

Service Pack 3 (SP3). July 2025.

- Added license-usage tracking and logging for cloud licenses.
- Improved automatic closure of inactive cloud-license sessions.
- Clarified the on-screen messages for downloading a license file (Figures SP3.1 and SP3.2).
- Fixed button distortion / clipping on screens that use large Scale settings in Windows Display Settings (Figures SP3.3 and SP3.4).

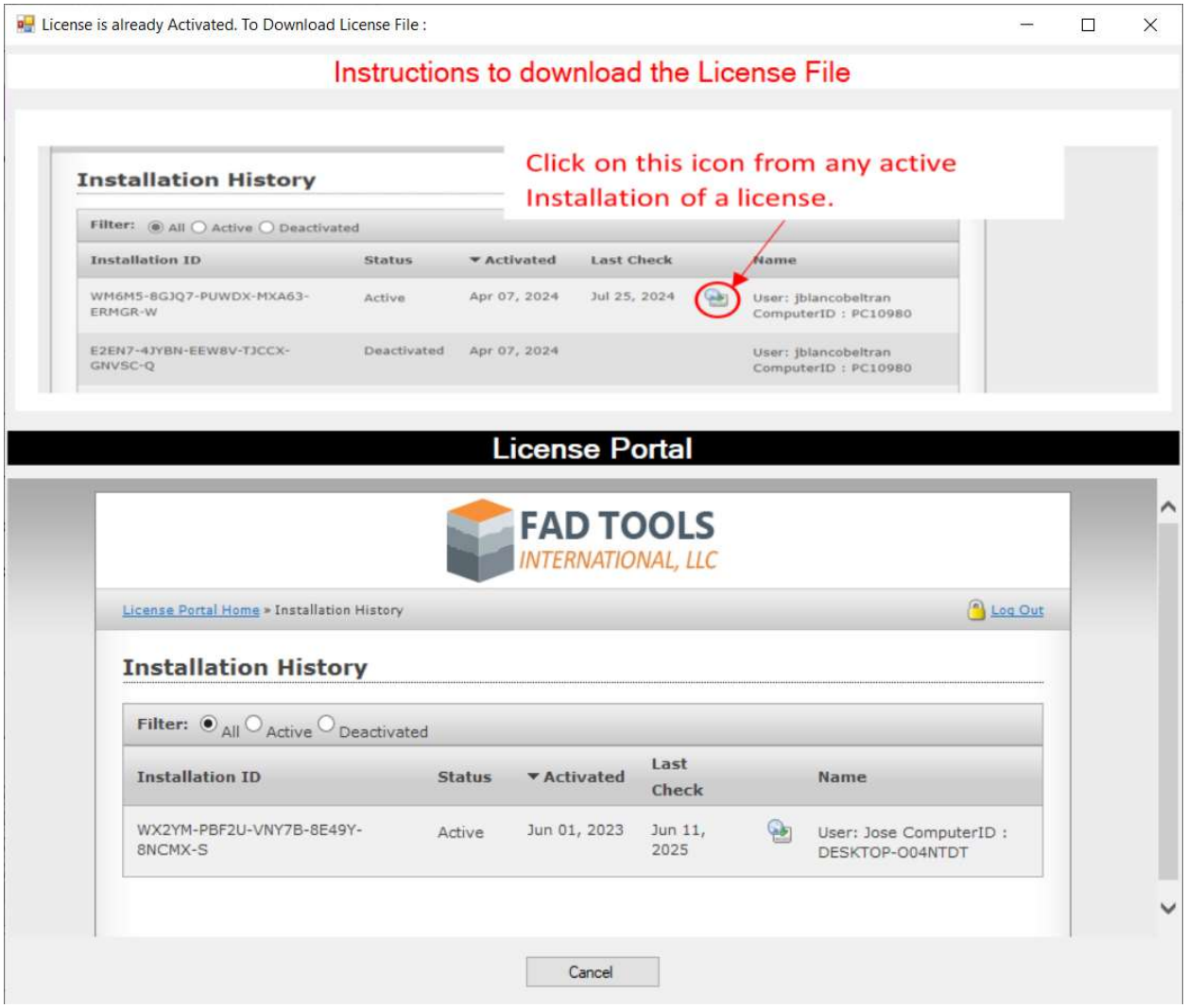
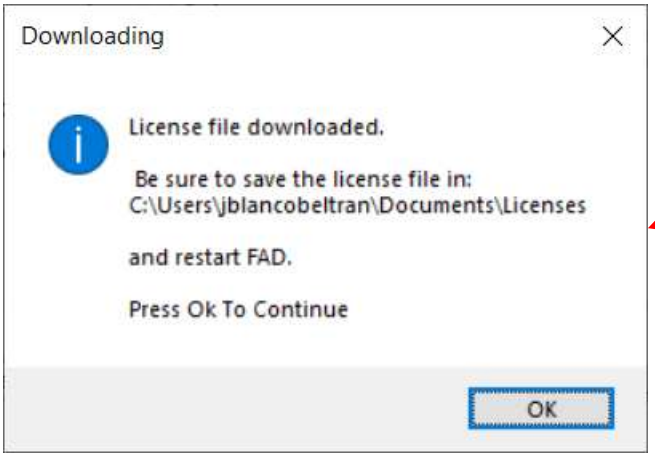


Figure SP3.1. Updated prompt to download a license file.



BEFORE.

User can think that the license file is already downloaded.

AFTER

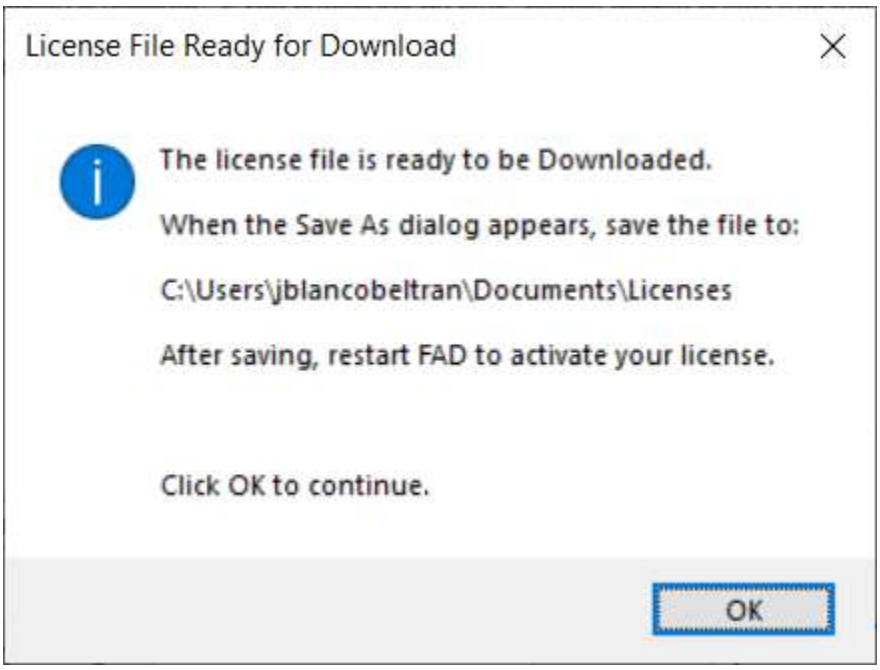


Figure SP3.2 Revised confirmation message after downloading the license file.

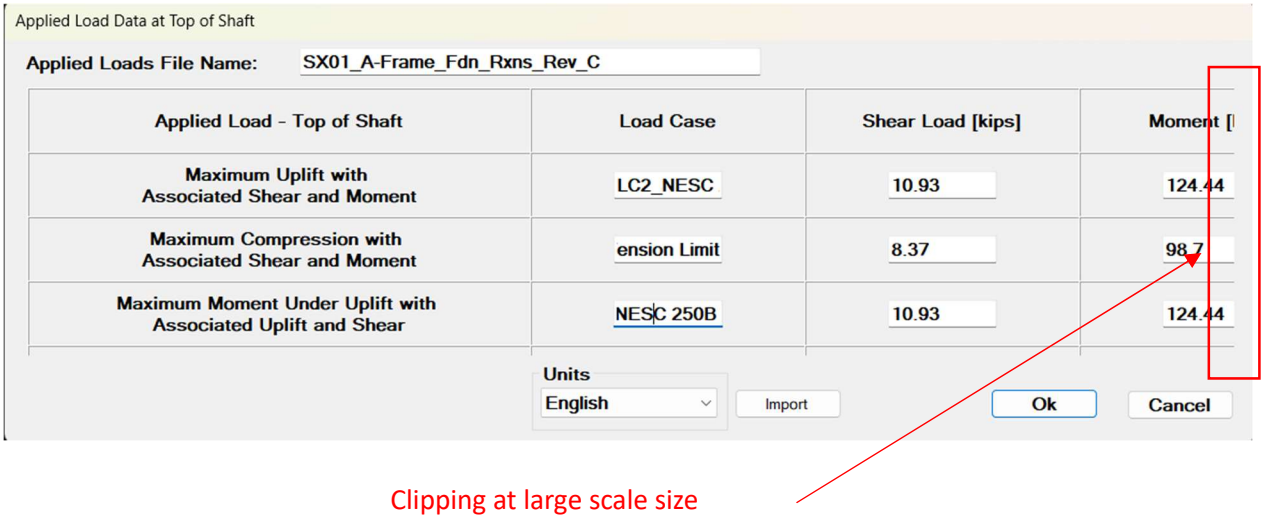


Figure SP3.3 Distortion / clipping on screens that use large Scale settings in Windows Display Settings.

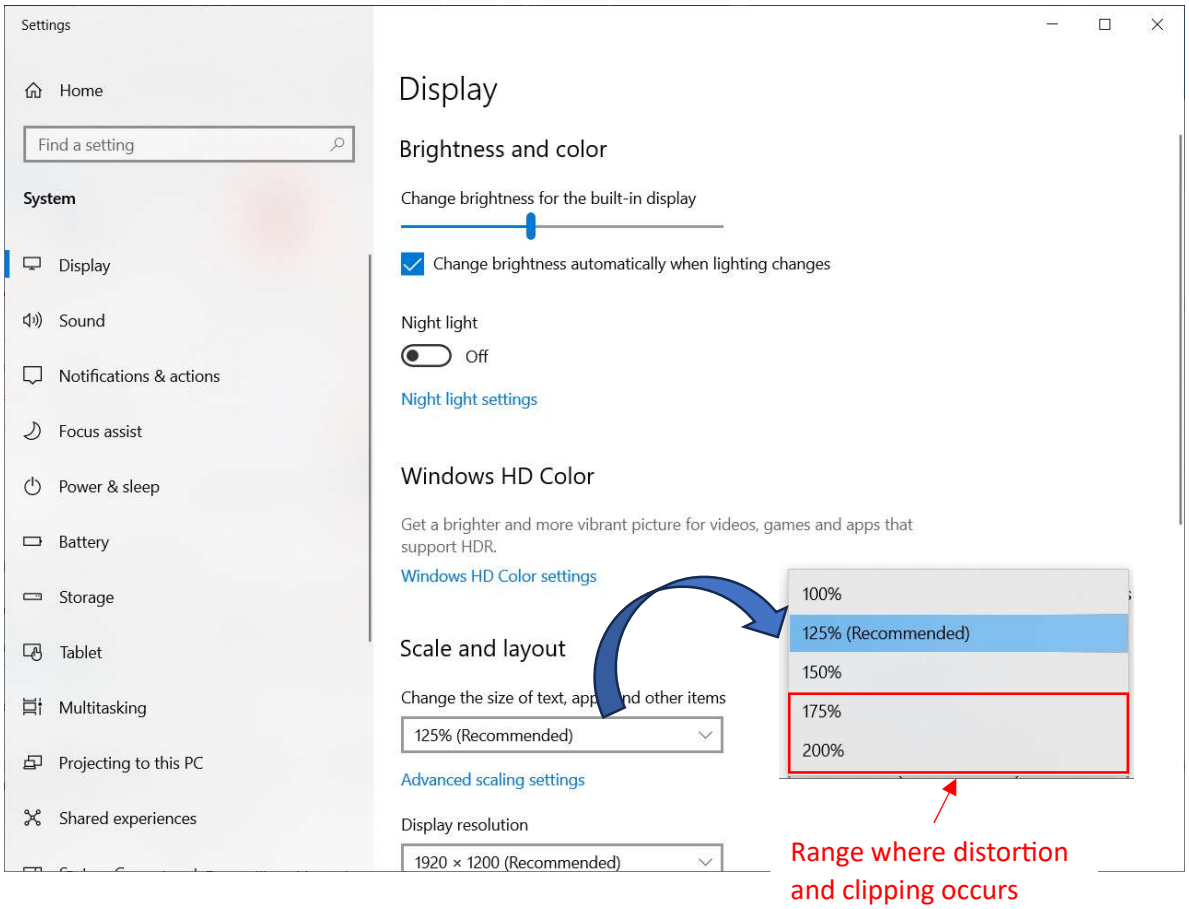


Figure SP3.4. Large Scale settings in Windows Display Setting

Service Pack 4 (SP4). July 2025.

- Fixing a bug in “Save As” button.

Service Pack 5 (SP5). July 2025.

- **Applied Load form buttons fixed** – Corrects the SP3 regression that left **Add, Edit,** and **Delete** inoperative.
- **Over-length load descriptions handled gracefully** – FAD now warns when a load name exceeds 50 characters and automatically truncates it, preventing the crash seen in earlier builds (see Figures SP5-1 & SP5-2). Figure SP5-3 shows the new warning.

- **Database lock cleared on "Save As"** – Eliminates the leftover SP4 issue in which the file lock remained in place before saving under a new name.

Load name longer than 50 characters.

RULE 250B GRADE B MAX DE Back (wind towards 90),S Max

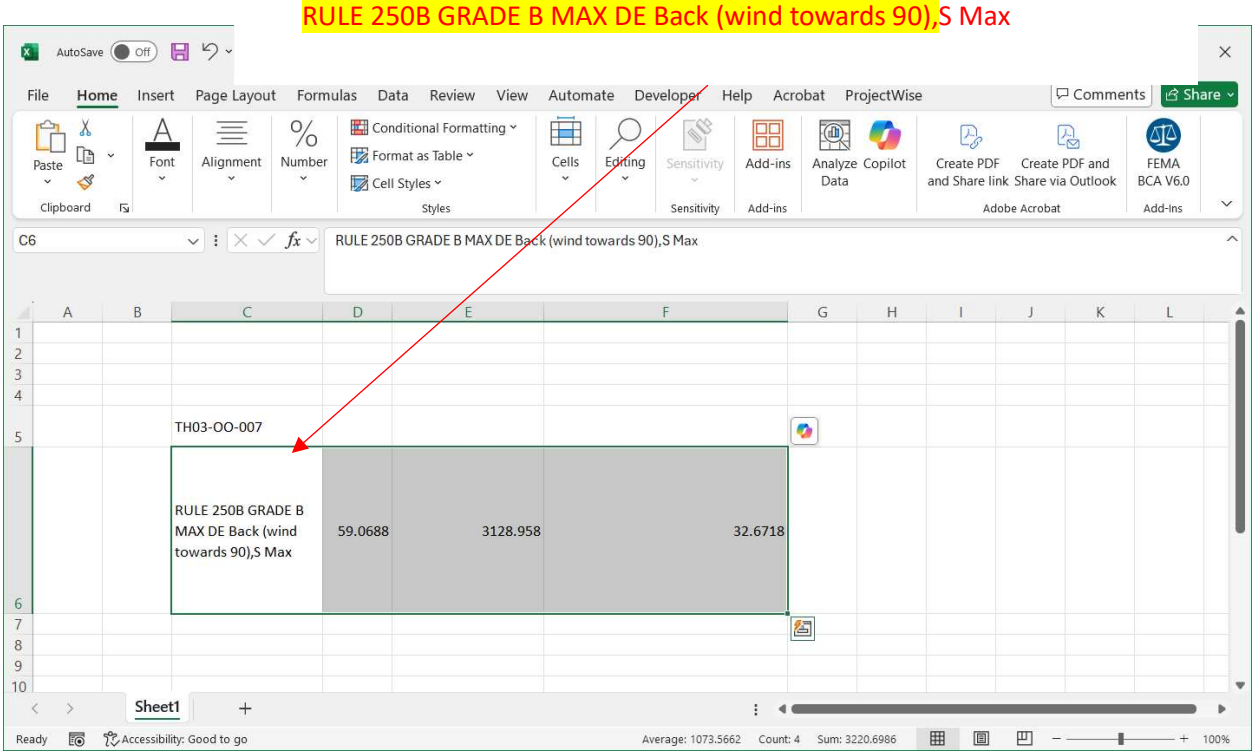
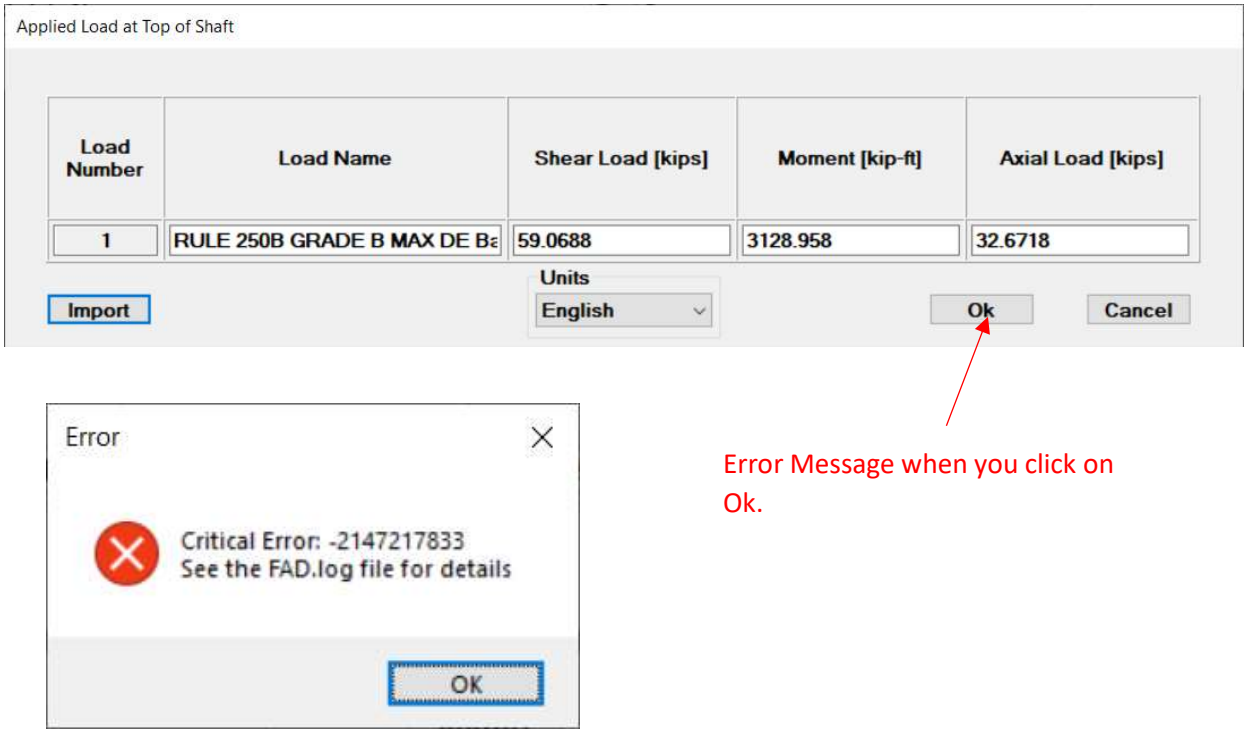


Figure SP5.1. Example of load name larger than 50 characters.



ERROR|FAD.Program|System.Data.OleDb.OleDbException (0x80040E57): The field is too small to accept the amount of data you attempted to add. Try inserting or pasting less data.

Figure SP5.2 Error message

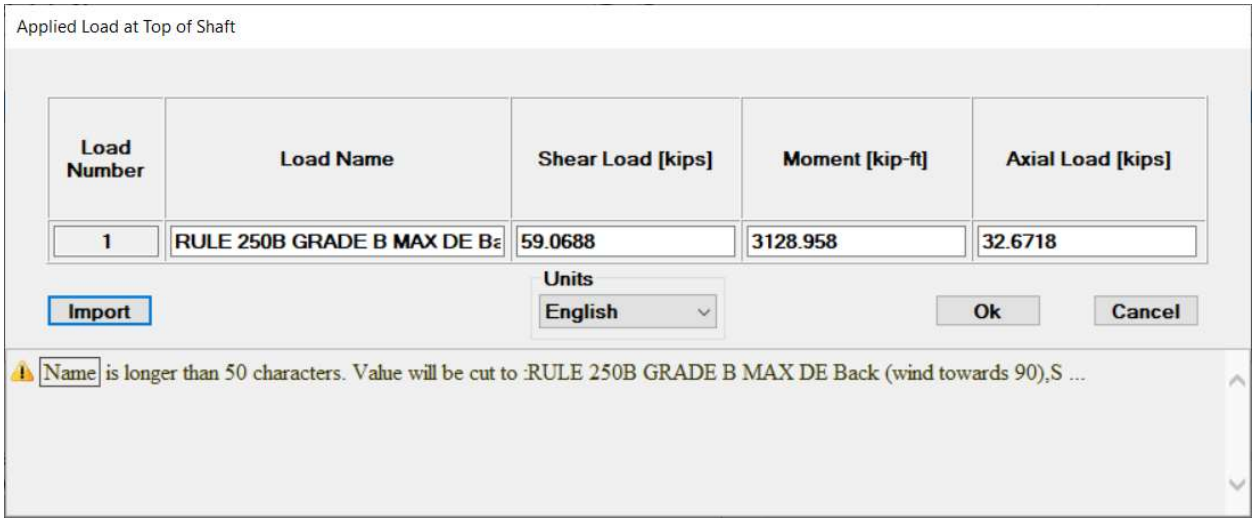


Figure SP5.3 New warning where the Load name is too long.

Service Pack 6 (SP6). November 2025.

- **Corrected concrete cover check in metric units:** Fixed an issue causing incorrect minimum concrete cover comparisons in metric units. Previously, the minimum cover value wasn't properly converted alongside the actual cover value, leading to erroneous warnings appearing in metric units but not in English units (see Figure SP6.1).
- **Enhanced instructions for unit setup:** Improved the error message and user guidance when project units have not been set before creating a project (see Figure SP6.2).

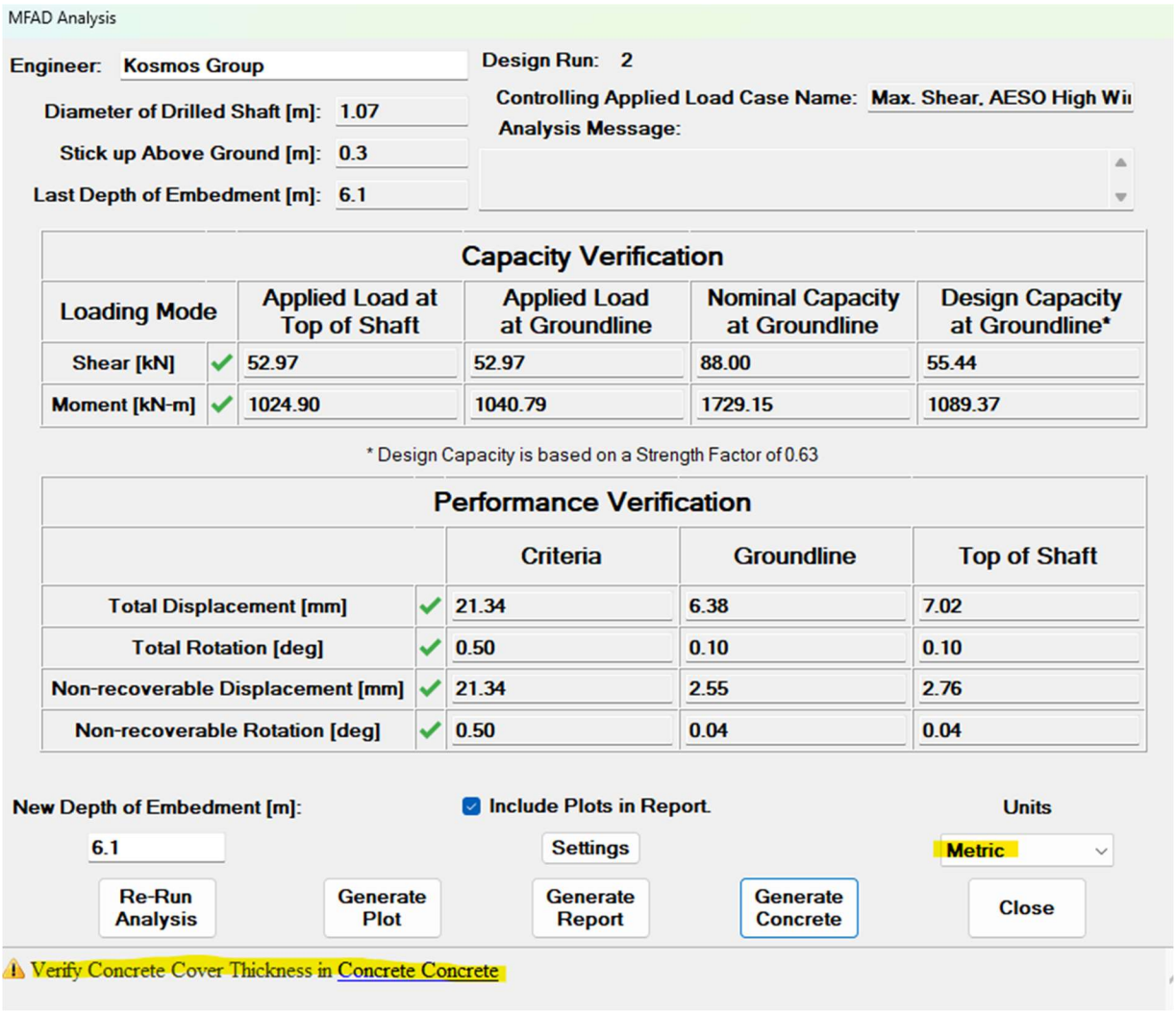
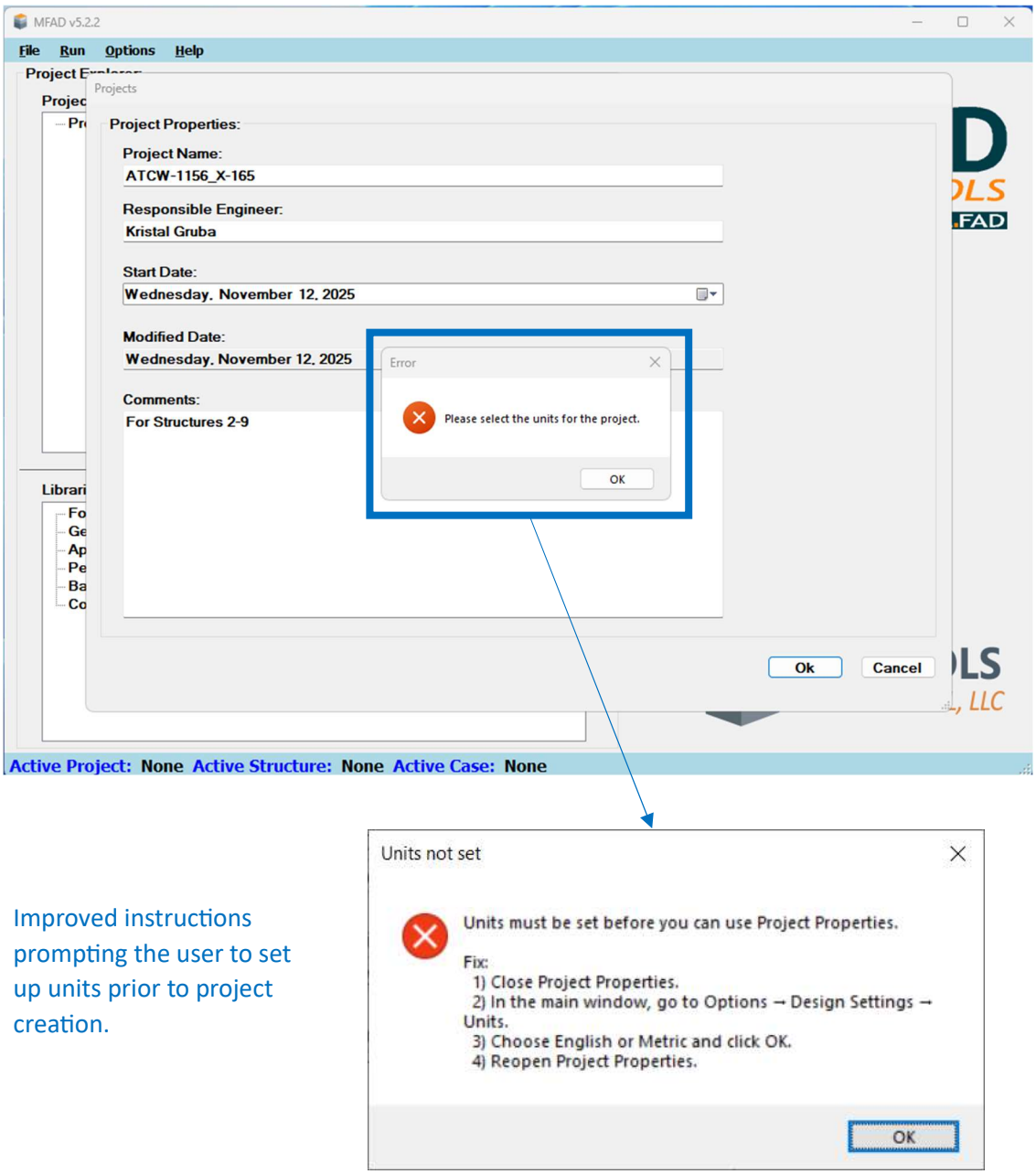


Figure SP6.1 Example of incorrect cover check warning displayed only in metric units.



Improved instructions prompting the user to set up units prior to project creation.

Figure SP6.2 Improved instructions prompting the user to set up units prior to project creation.

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Service Pack 7 (SP7). May 2026.

- **HFAD Concrete Design report:** Fixed an internal error that could prevent report generation for certain longitudinal bar selections (e.g., 14J and 18J).

- **Configuration & deployment improvements (SCCM/Intune/GPO friendly):**
  - **Configurable settings/log locations:** FAD now supports flexible configuration of where it writes key files (e.g., settings.xml, FAD.log, and optional internal diagnostics logs). By default, FAD prefers the standard shared application-data folder (ProgramData). Existing installs using prior locations are still supported.
  - **Reduced C:\Temp creation/usage:** FAD now avoids creating or probing C:\Temp unless it is truly necessary (e.g., if no approved writable location is available). This addresses IT environments where creating C:\Temp is not allowed. Startup diagnostics also report the resolved file locations to simplify support verification.
- **Updated Access driver / OLE Provider:** Improved compatibility with Microsoft 365 Access Runtime and newer Office installations by updating the Access database connectivity components.

- **Library cloning:** Fixed an error that could prevent cloned Geotechnical Profile and Applied Load library elements from being saved correctly.