PennDOT e-Notification

Bureau of Business Solutions and Services
Highway/Engineering Applications Division

pennsylvania
DEPARTMENT OF TRANSPORTATION

ABLRFD

No. 015
June 10, 2013

Release of Version 1.12.0.0

The Department's LRFD Abutment and Retaining Wall Analysis and Design (ABLRFD) program has been revised as described in the attached "Summary of April 2013 Revisions – Version 1.12.0.0".

The new version has been placed on PennDOT servers for use by the Districts. Consultants and others, who have a current license agreement for **ABLRFD Version 1.11.0.0**, can obtain the updated version by submitting an Update Request form along with an **update fee of $500 for private organizations and $50 for governmental agencies**. Updates for **ABLRFD Version 1.10.0.0 or earlier** will require an **additional fee**. For ABLRFD update fee details, refer to the following link: http://penndot.engrprograms.com/home/Ordering/ABLRFD.htm. The update fee is waived for federal and state transportation agencies.

The Software Update Request form can be obtained on the PennDOT Engineering Software Support website at http://penndot.engrprograms.com by clicking on "Ordering/Updating" and, then on, "Update Form".

Please note that the software will no longer be provided on a CD. Once payment is received, an e-mail will be sent with download instructions. The new installation will require a License Key that will be provided in the e-mail. A valid e-mail address must be provided on the Update Form in order to receive the download instructions.

Please direct any questions concerning the above to:

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Attachment

SUMMARY OF APRIL 2013 REVISIONS - VERSION 1.12.0.0

Since the release of ABLRFD Version 1.11.0.0 several revision requests and user requested enhancements have been received. This release of ABLRFD Version 1.12.0.0 contains the following revisions and enhancements.

Input Revisions

1. The program has been modified to produce and error when a Backfill Slope is defined and the Backfill Slope Height is set equal to zero on the RWL command. Previously, the program would calculate a Broken Backfill lateral earth pressure rather than the intended continuous slope lateral earth pressure. (Requests 304)

2. An input check as been added to the program to ensure the Backfill Slope does not exceed 1:1.5 when the Backfill Slope Height is entered on the RWL command. Previously, the program would allow the slope to exceed the specified maximum slope of 1:1.5. (Request 329)

3. The SLL Load Factor application has been revised to correctly apply the user input load factors for all the applicable load types. Previously, the program was using default load factors rather than the input factors from the SLL command. (Request 334)

4. The program has been revised to treat a pile as a vertical pile when both the horizontal and vertical pile batter values are entered as zero for pile batter on the LYA and LYD commands. Also, input checks have been added to ensure that a battered pile has both horizontal and vertical batter component values that are greater than zero. Previously, the program would stop execution with a cryptic error message when one or both of the batter component values was zero. (Requests 356)

5. The default value for the Stem Notch Width on the AT2 command has been revised to 20 inches. Previously the default value was 21 inches. (Request 359)

6. The upper limit of the Effective Friction Angle on the SOI command has been revised to be 45 degrees. Also, the upper limit for the $N_{\gamma q}$ input value has been revised to produce an error if exceeded. Previously, the Effective Friction Angle upper limit was 60 degrees and the program would issue a warning if the upper limit of the $N_{\gamma q}$ was exceeded. (Request 360)

Output Revisions

7. The $N_{\gamma q}$ value format in the Intermediate Bearing Resistance Values table has been revised to accommodate values up to 999.9. Previously the format field was limited to 99.99. (Request 330)

8. The units for Actual Stress on the Gravity Wall Stress Check Table have been revised to show ksf. Previously, the units were incorrectly shown as ksi. (Request 335)

Flexural Revisions

9. The program has been revised to provide over-reinforced warning messages for the stem and backwall locations and to also issue a warning in the Specification Check tables. Previously, the program would only show warnings for the footing only without indicating there was an issue in the Specification Check tables (Request 332)

Backwall Revisions

10. A new check has been added to the backwall calculations for analysis and design runs to verify that a lap splice with the stem bars has adequate room to develop within the backwall. Additionally, for a design run, the program will now set the spacing of the backwall reinforcement to either the optimum stem bar spacing or a multiple thereof. The new bar alignment option is activated by a new input on the AT1 and AT2 commands. Previously, the spacings for backwall and stem bars were always calculated independently. (Request 337)

Development Length Revisions

11. The calculation of the Actual Development for the Toe and Heel in the footing has been revised to include a tolerance. Previously, for certain input files, the program would not find a valid development length due to significant digits. (Request 318)

Engineering Assistant Revisions

12. The Engineering Assistant lower limit for the Void Ratio and Compression Index on the Consolidation Command has been revised to now allow zero to be entered. Previously, the lower limit was set at 0.1 and 0.001 respectively even though the descriptions said to enter zero for certain soil conditions. (Requests 351)

Pile Revisions

13. The limit on the ratio specified in DM-4 Section 6.15.1 of vertical load to horizontal load at the service limit state for pile foundations has been revised from 3.5 to 2.4. (Request 352)

14. The minimum pile spacing for H piles has been revised to be 2.0 times the diagonal dimension of the pile. Previously, the program would calculate the minimum spacing of H piles as 2.5 times the depth or width of the pile cross-section. (Request 357)