

PENNDOT e-Notification

Bureau of Design
Engineering Computing Management Division



BRADD

No. 004

March 28, 2005

Bearing Capacity Drawing --- Error in Table Headers

On the Bearing Capacity Drawing for Spread Footings on Rock, the unit labels listed in the headers of the Bearing Capacity table for Maximum Bearing Pressure and Bearing Resistance of Rock are incorrect (see figure below). The units listed in the headers should be the same as those given in the ABLRFD output file for these output items. This occurs only for US unit jobs. Metric unit jobs are correct.

BEARING CAPACITY							
LOCATION	LIMIT STATE	LOAD CASE	STAGE	A MAXIMUM BEARING PRESSURE (psi)	B BEARING RESISTANCE (psi)	B/A PERFORMANCE RATIO	EMPIRICAL BEARING CAPACITY (ksf)
ABUTMENT	STR-I	Max	F _{1n}	6.30	105.60	16.77	192.00
LEFT WING	STR-I	Max	F _{1n}	3.13	105.60	33.71	192.00
RIGHT WING	STR-I	Max	F _{1n}	2.84	105.60	37.22	192.00

Should be
KSF

Sample Table from BEARING CAPACITY on rock in BRADD

Limit State	Load Case	Stage	Ecc (ft)	Footing Toe (ksf)	Pressure Heel (ksf)	Uniform Bearing Pressure (ksf)	Bearing Resist (ksf)	Perform Ratio
STR-I	Max	Tmp	-0.06	1.83	1.94	1.90	105.60	55.455
STR-I	Min	Tmp	0.07	1.48	1.38	1.44	105.60	73.094
STR-I	Max	Fin	1.87	8.39	0.04	6.30	105.60	16.774
STR-I	Min	Fin	2.00	5.56	0.00	4.17	105.60	25.331

Sample ABLRFD Output

Archived copies of all previously distributed e-Notifications can be obtained from the PENNDOT BRADD website at <http://bradd.engrprograms.com> and clicking on "e-Notification" and then "Mailing List Archives."

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On the Bearing Capacity Drawing for Spread Footings on Soil, the unit labels listed in the headers of the Bearing Capacity table for Uniform Bearing Pressure, Bearing Resistance, Undrained Shear Strength, and Cohesion are incorrect (see figure below). The units listed in the headers should be the same as those given in the ABLRFD output file for these output items. This occurs only for US unit jobs. Metric unit jobs are correct.

BEARING CAPACITY							
A	B	B/A	UNDRAINED	MASS UNIT	SATURATED	COHESION	EFFECTIVE
UNIFORM	BEARING	PERFORMANCE	SHEAR	DENSITY	UNIT	(psi)	FRICTION
BEARING	RESISTANCE	RATIO	STRENGTH	(lb/ft**3)	DENSITY		ANGLE
PRESSURE	(psi)		(psi)		(lb/ft**3)		(deg.)
(psi)							
3.21	8.52	2.65	N/A	N/A	130	1.00	30.00
1.59	12.68	3.00	N/A	N/A	130	1.00	30.00
2.45	11.04	4.50	N/A	N/A	130	1.00	30.00

Should be
KSF

Sample Table from BEARING CAPACITY on soil in BRADD

SPREAD FOOTING - BEARING RESISTANCE

Unit	Load		Footing	Pressure	Uniform	Bearing	Perform	
State	Case	Stage	Toe	Heel	Bearing	Resist	Ratio	
			(ksf)	(ksf)	Pressure	(ksf)		
STR-I	Min	Fin	1.84	4.28	0.00	3.21	8.52	2.653

Sample ABLRFD Output

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Users should check and revise as necessary all the unit labels listed in the headers of the Bearing Capacity table for all spread footings to make sure that they agree with the unit labels for the given output items of the appropriate ABLRFD output file.

BRADD will be corrected for this problem as a part of the next release of BRADD, currently scheduled for summer 2005.

Please direct any questions to:

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