



DARG, BOLGREAN, MENK, INC.
CONSULTING STRUCTURAL ENGINEERS

A Publication For Our Clients & Friends

Winter 1996-97

**THANK
YOU**

**Celebrating 30 Years
in Business!!!**

Darg, Bolgrean, Menk, Inc. extends a very heartfelt THANK YOU to our many clients and friends for your business and support over the last 30 years! We look forward to many more years of working together designing successful projects.

Elected CASE Officer

Gene Bolgrean, PE, principal, has been elected Vice President of the Minnesota Chapter of the Council of American Structural Engineers (CASE).

A graduate of NDSU, Gene has over 16 years experience as the project Structural Engineer on over 700 projects nationwide in addition to serving as a consultant to the precast concrete industry. He is licensed in several states including Illinois, which has special earthquake design requirements. CASE represents about 40 structural engineering firms and departments in Minnesota.

New Direct Dial Option



In an effort to serve you better, DBM is providing the option to dial in direct to the DBM staff person with whom you would like to speak. Just dial 544-8457 and when you hear the recorded message enter the extension number which is listed below. If you would prefer to continue to go through Jan, our main number remains 544-8456.

Name	Extension #
Lloyd Darg, P.E.	17
Harry Menk, P.E.	16
Gene Bolgrean, P.E.	15
Siobhan Cahill, EIT	13
Dale Urevig.....	12
James Fixsen, EIT	11
Janet Bank	10

Fly Ash In Concrete

Ancient Romans mixed the ash from the volcano Vesuvius with lime mortar to obtain a paste which "hardened" in the presence of water. This was called "Roman Cement" and was the predecessor to modern day concrete.



Replacing a portion of cement with a high quality fly ash in our concrete mixes is an outstanding way to utilize one of the by-products of the electrical power supply industry and in most cases improve the qualities of the concrete.

Fly ash is the fine powder "flying" ash that is collected after pulverized coal is burned to generate electricity. As the power plant burns the coal to produce the steam that drives the turbines, this "flying" ash is collected by electrostatic precipitators. The collection of the ash prevents air pollution and provides a renewable resource.



Our new e-mail address is
DARG@WORLDNET.ATT.NET

Minimum Roof Slope

Pursuant to UBC 1506.1 “Unless designed for water accumulation... and approved by the building official, roof systems shall be sloped a minimum of 1/4 unit vertical in 12 units horizontal (2% slope) for drainage.” We understand this requirement originated in the southern states which have relatively light roof design loads; but due to the considerable strength of roofs designed for Minnesota’s snow loads (30 or 40 psf), most steel roofs could be sloped less and will still satisfy the above ponding requirement without increasing the size of the framing members.



DBM is happy to announce we have added Florida, Georgia and Arkansas to the other states in which we are licensed to practice. Following is a complete list of those twenty-one states:

- Arizona
- Arkansas
- Florida
- Georgia
- Illinois
- Indiana
- Iowa
- Michigan
- Minnesota
- Missouri
- Montana
- Nebraska
- North Dakota
- Ohio
- Oregon
- Pennsylvania
- South Dakota
- Texas
- Utah
- Wisconsin
- Washington



DBM Welcomes New Staff

DBM is proud to welcome James Fixsen, EIT, and Dale Urevig, drafting, to our staff.

Mr. Fixsen, formerly with Maxim is a '96 graduate of the University of Minnesota with a Bachelor of Civil Engineering degree. James also has a B. A. degree in Physics and Engineering Science from Bethel College, where he lettered in hockey four times. He and wife Laura are the proud parents of eight month old baby, Olivia.

Formerly with Ulteig Engineers Inc., Mr. Urevig, a graduate of Dunwoody Institute, attended CAD/CAM Engineering Systems, Inc. and has eleven years of computer experience. He and wife Rebecca are the proud parents of their 1 1/2 year old son, Andrew.

DBM Projects

DBM is very pleased to be starting the structural design on a 20 million dollar public school project. Some other DBM projects in design or under construction include:

- .. 45,000 square foot retail stores in PA, WI, IA and OH
- .. Golf clubhouses in WA, UT, IN and AR
- .. Three story hotel in Ft. Meyers, Florida
- .. Assisted living projects in MT, WA, TX and GA

Another

Winning

Season!



Congratulations and thanks to the DBM softball team for the successful (7-3) season and beautiful “A” Division consolation trophy won at the CEC/M tournament in August.

Maximum Duct Opening Sizes in Bar Joists

We are frequently asked “What is the biggest duct that can run through a bar joist?” Indicated below is a convenient table with the maximum duct size for round,

rectangular, and square ducts with varying joist depth. It should be noted that the dimensions indicated are good for the vast majority of bar joists, but should be verified with each joist supplier.

Joist Depth	Round	Square	Rectangle
8 inches	5 inches	4x4 inches	3x8 inches
10 inches	6 inches	5x5 inches	3x8 inches
12 inches	7 inches	6x6 inches	4x9 inches
14 inches	8 inches	6x6 inches	5x9 inches
16 inches	9 inches	7.5 x 7.5 inches	6x10 inches
18 inches	11 inches	8x8 inches	7x11 inches
20 inches	12 inches	9x9 inches	7x12 inches
22 inches	12 inches	9.5 x 9.5 inches	8x12 inches
24 inches	13 inches	10x10 inches	8x13 inches
26 inches	15.5 inches	12x12 inches	9x18 inches
28 inches	16 inches	12x13 inches	9x18 inches
30 inches	17 inches	14x14 inches	10x18 inches