

MIB MARKETING INFORMATION BULLETIN OLIVETTI 500 PARK AVENUE NEW YORK N.Y. 10022	MARKETING DIVISION	
	SUBJECT New and Consolidated Programs from Ross H. Bryan, Inc. Order #78166	DATE September 11, 1972
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Mr. Tim Carroll of Ross H. Bryan, Inc., has communicated to us some improvements in the original Structural Engineering package introduced in MIB#79. We are forwarding his material to you immediately so no time will be lost in gaining ground in this market.

Attached are program descriptions and sample runs of his new programs and his newly consolidated programs. By expanding the original scope of material and making more use of the P 602/MLU capacity, this system is now much more powerful.

Tim's comments are as follows:

"Due to the New York meeting and comments received from the field, we reviewed the 71 existing programs to determine if some could be consolidated. It was decided that a number of existing programs could be rewritten and consolidated. Consequently, the original 71 have been reduced to 47, using the full capacity of the P 602 and MLU 600. We retained the original listing, so that the complete group is available if desired. We are enclosing some examples of the consolidation process (3, 7, 10, 22, 25).

Also enclosed is descriptive data on three newly developed programs. Program #52 is a 'new breed' which will accept data from a time-sharing terminal by means of the LN20 (or manually) and designs individual steel or wood truss members.

Program #64 performs reinforced concrete member analysis by ultimate strength criteria and is useful to any structural design group.

Program #120 is an excellent example of a versatile steel base plate analysis, in that it handles any combination of axial load and applied moment. All other examples of steel base plate, such as Wang's software, lack this versatility."

Notes on Ross H. Bryan, Inc. Solution to Common Structural Engineering Problems:

Beams

Ross H. Bryan's #7 and #25 are complete and will handle any type beam analysis required. Both of these programs have been developed since the New York meeting and were included in the material sent on August 15, 1972.

Influence Lines

Influence lines were very popular years ago, before the availability of the computer. Today the demand for this analysis is limited to some bridge engineers but has no value to the majority of structural engineers.

Base Plate Design

This program will design base plates, anchor bolts and compute bearing stresses under the plate. Allowable bearing stresses are computed for comparison purposes.

Ross H. Bryan has completed this program and included it in the August 15 transmittal as Program #120.

Composite Section

More correctly titled composite steel design.

This is #27 in our structural library, and is one of the demonstration programs. This section could also refer to composite concrete design, which we have already developed.

Frames

Frame programs are very popular and useful. More general programs in this area are needed.

Ross H. Bryan plans to include multi-story frame analysis by the cantilever method or by the portal method. For beam lines with columns included, an accurate moment distribution method will be employed.

Trusses

This would have the same appeal as the frame program. Wang has developed this program completely.

Ross H. Bryan has developed the truss design (#53) and is currently working on the truss analysis program.

Steel Column Design

This is especially useful to consulting engineers and steel fabricators.

Ross H. Bryan has this program available now.

Continuous Beam Design

This is another program that should be popular with structural engineers. TPI's software will solve up to eight spans.

Ross H. Bryan's #127 will solve up to a ten span continuous beam, which is a distinct advantage over the Wang software.

Concrete Column Design

Ross H. Bryan's #15 designs columns with bending about one axis. We do not, at present, have a program which designs columns with simultaneous bending about two axis. This program will be added to our library after some of the more important programs have been written.

Foundation Design

Ross H. Bryan's #59 computes the soil pressure under the corners of the footing, checks the moment capacity of the footing based on allowable soil pressure and safety against overturning, checks beam shear and punching shear, and design the flexural reinforcement for the top and bottom of the footing. The program will not handle two directional bending. This is not a severe limitation, since it is rare that footings occur that must be designed with simultaneous two direction bending.

Errata:

Please change the definition of "modular ratio" in the original glossary to read: "Ratio of modulus of elasticity of steel to the modulus of electricity of concrete".

The only comments received to date regarding the Ross H. Bryan package are the following (from one source):

1. Objection: "Two many short specific programs - need a few large general programs."

Answer: As you can see, this consolidation process has been in progress for some time. With this MIB we are now offering many more general programs.

It is still the case, however, that the shorter programs are more convenient to some users. We now have the flexibility of offering both versions.

2. Objection: "Too much material is based on out-dated concrete design criteria (specifically WSD methods)."

Answer: There are two types of design procedures listed in the new 1971 ACI Code:

- those based on Working Stress Design (WSD)
- those based on Ultimate Strength Design (USD)

The current trend in structural engineering is the adoption of the second method as a basis for design. While this method is less conservative than the WSD, it does represent the actual design more accurately.

Since some engineers still use WSD methods, the programs based on WSD will remain in the catalog of available programs. For example:

#16 is stirrup design based on WSD.

#17 is stirrup design based on USD.

#44 is effective inertia based on Section 9.5.2.2 of ACI 318-71.

#64 is concrete beam design based on ACI 318-71 using USD.

With the new consolidations, the price remains unchanged:

Package A (Basic P 602) 20 programs \$495

Package B (P 602/MLU) (programs individually priced)

With this kind of rapid improvements in an important package, we should have early success in this new market. Further improvements will be published as they are received.

Please send comments on Industry acceptance of this system to Bruce Lerner, Marketing. Without feedback from the field it is difficult to gauge the value of packages or what is required to remedy objections. Field experience is necessary to know if we are offering practical solutions to the computational problems of the markets we are interested in.