

ENTRY FORM



DVASE 2016 Excellence in Structural Engineering Awards Program

PROJECT CATEGORY (check one):

Buildings under \$2M		Buildings Over \$100M	X
Buildings \$2M-\$10M		Other Structures Under \$5M	
Buildings \$10M - \$30M		Other Structures Over \$5M	
Buildings \$30M - \$100M		Single Family Home	

Approximate construction cost of facility submitted:	\$334 Million
Entry Fee:	FREE
Name of Project:	Bio-Manguinhos - Viral Antigens Building 010
Location of Project:	Rio de Janeiro, Brazil
Date construction was completed (M/Y):	January 2015
Structural Design Firm:	Mainstay Engineering Group, Inc.
Affiliation:	All entries must be submitted by DVASE member firms or members.
Architect:	Integrated Project Services
General Contractor:	TBD

Company Logo (insert .jpg in box below)



Important Notes:

- Please .pdf your completed entry form and email to bkoroncai@barrpino.com.
- Please also email separately 2-3 of the best .jpg images of your project, for the slide presentation at the May dinner and for the DVASE website. Include a brief (approx. 4 sentences) summary of the project for the DVASE Awards Presentation with this separate email.

- Provide a concise project description in the following box (one page maximum). Include the significant aspects of the project and their relationship to the judging criteria.

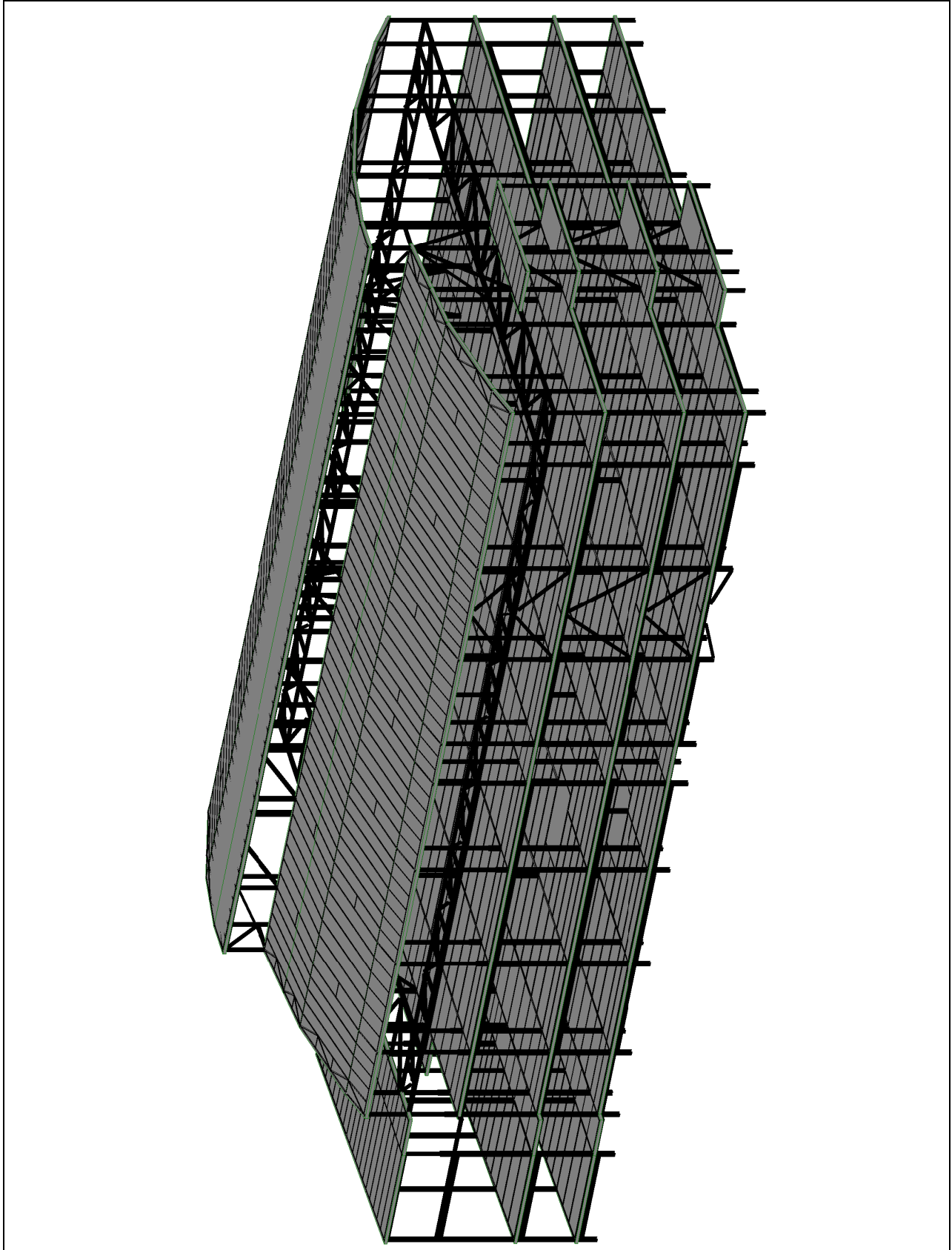
Mainstay Engineering Group was awarded the design of a 3 story plus roof pharmaceutical manufacturing building in Rio de Janeiro, Brazil. The facility required large column bays with high live load capacities to accommodate production activities as well as production support. The ground level is a framed floor over a crawl space and will contain the offices and support spaces, such as locker rooms and break rooms as well as some of the process and mechanical equipment. The first floor level is the main production floor. The second floor is a mechanical floor to house all of the air handlers and electrical equipment to support the process space below.

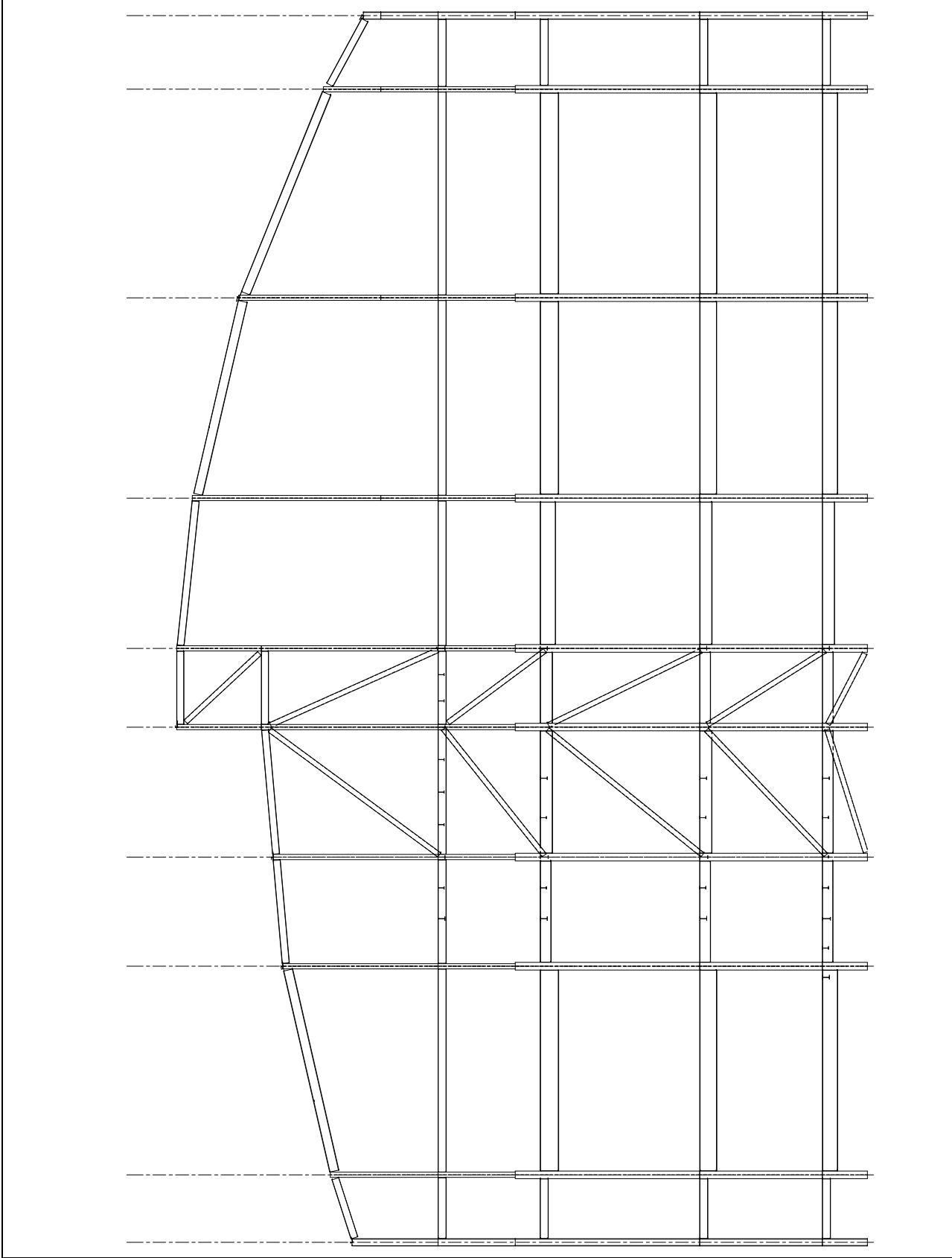
Due to the tropical location of the project where extreme rain fall totals are possible, a curved roof was selected to easily shed water. In order to maintain proportion and get the added benefit of using air as an insulator, a very tall roof story was selected. The roof extends to 12778mm (nearly 42 feet) above the 2nd floor at its peak. To maximize functionality of the process and support level, they too have tall story heights. The ground to first floor story height is 6000mm (approximately 19'-8") and the 1st to second floor is 7800mm (approximately 25'-7").

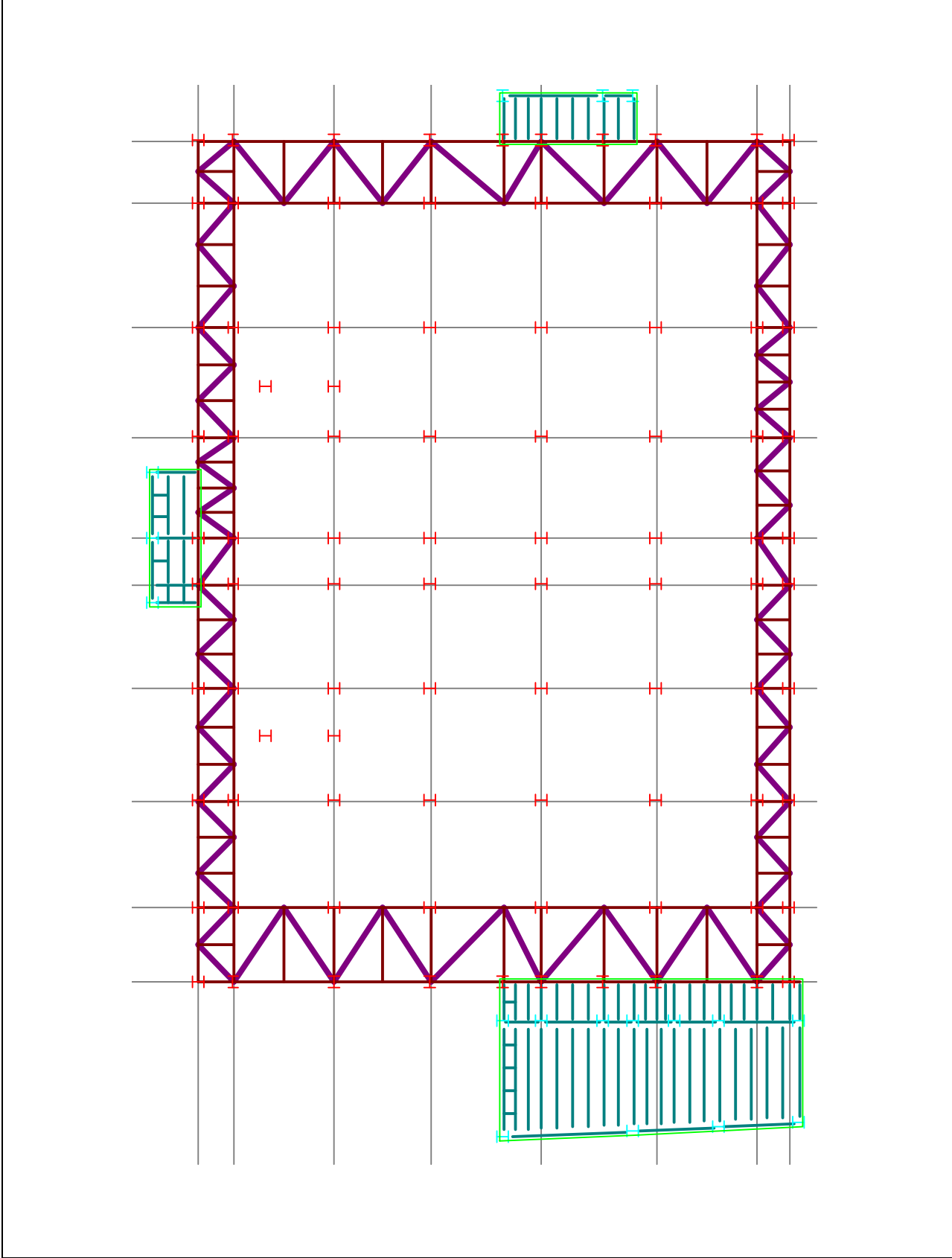
Steel ordinary concentrically braced steel frames provide the lateral resistance for the building. With Rio being located in low seismicity area, wind loads controlled the design of the lateral system. The presence of a stair tower on the North and East side of the structure, a support wing on the West side and a link structure to the south added complication to the lateral system. The roofs of these structures landed several feet below the eave height of the main roof. As a result, it was necessary to design a "belt truss" system around the exterior perimeter of the main building to tie the appendages back to the main lateral system.

Due to site conditions, the building will be founded on steel H piles with reinforced concrete pile caps. Because the building site is in a low area, the site surrounding the building will be raised up to 20 feet with imported fill. In order to eliminate the need to fill below the building, the ground level was designed as a supported floor with a crawl space below. Not only did this reduce the amount of fill required, the crawl space it created facilitated the distribution of utilities around the building.

- The following 5 pages (maximum) can be used to portray your project to the awards committee through photos, renderings, sketches, plans, etc...







By signing, signatory agrees to the following and represents that he or she is authorized to sign for the structural design firm of record:

All entries become the property of DVASE and will not be returned. By entering, the entrant grants a royalty-free license to DVASE to use any copyrighted material submitted.

Submitted by:

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