

7/29@
10:30**Glanda Thomas**

From: Bhol, Saroj [sbhol@panynj.gov]
Sent: Friday, July 15, 2011 3:40 PM
To: Thomas Fariello
Cc: Glanda Thomas; Keith Wen; Lin, C. John
Subject: WTC-Fire proofing of Oculus frame
Attachments: oculus.pdf

Glanda
Pls set up
meeting
w/ Keith and I
F.RST.
THANKS
TS
7/26/11

Tom,

There is a fireproofing issue for the WTC Transportation HUB oculus structure that I would like to present to you and seek your opinion/concurrence.

The oculus at the WTC Transportation Hub is an unique structure comprising portal frames which rise more than 160 feet above the plaza level (See attachment for cross section). It functions as the weather enclosure to the main entrance from the street level to the transportation concourses below. The WTC transportation Hub is designed as Construction Class 1-C per the 1968 code. For 1-C construction, columns, girders, trusses (other than roof trusses) require 1-1/2 hr fireproofing, as per Table 3-4. The issue is whether the oculus structure needs fire proofing similar to that required for columns.

The A/E of record has performed a structural Fire Engineering Analysis and demonstrated that due to the high volume of the space and robustness of the structure, the maximum temperature of the steel, without any fire resistive coating, will never exceed 105 degree F under all possible fire scenarios. Since Steel strength begins to deteriorate at 400 degrees F, it can be concluded that the structure, without any fireproofing provides an inherent equivalent fire rating of more than 1-1/2 hour that the code requires for columns, girders trusses and framing.

Keith participated in some discussion on this in last December. I will call Glanda to set up a meeting towards the end of July, your calendar permitting.

I will see you on the 19th for Delta project at JFK.

Have a nice weekend.

Thanks

Saroj

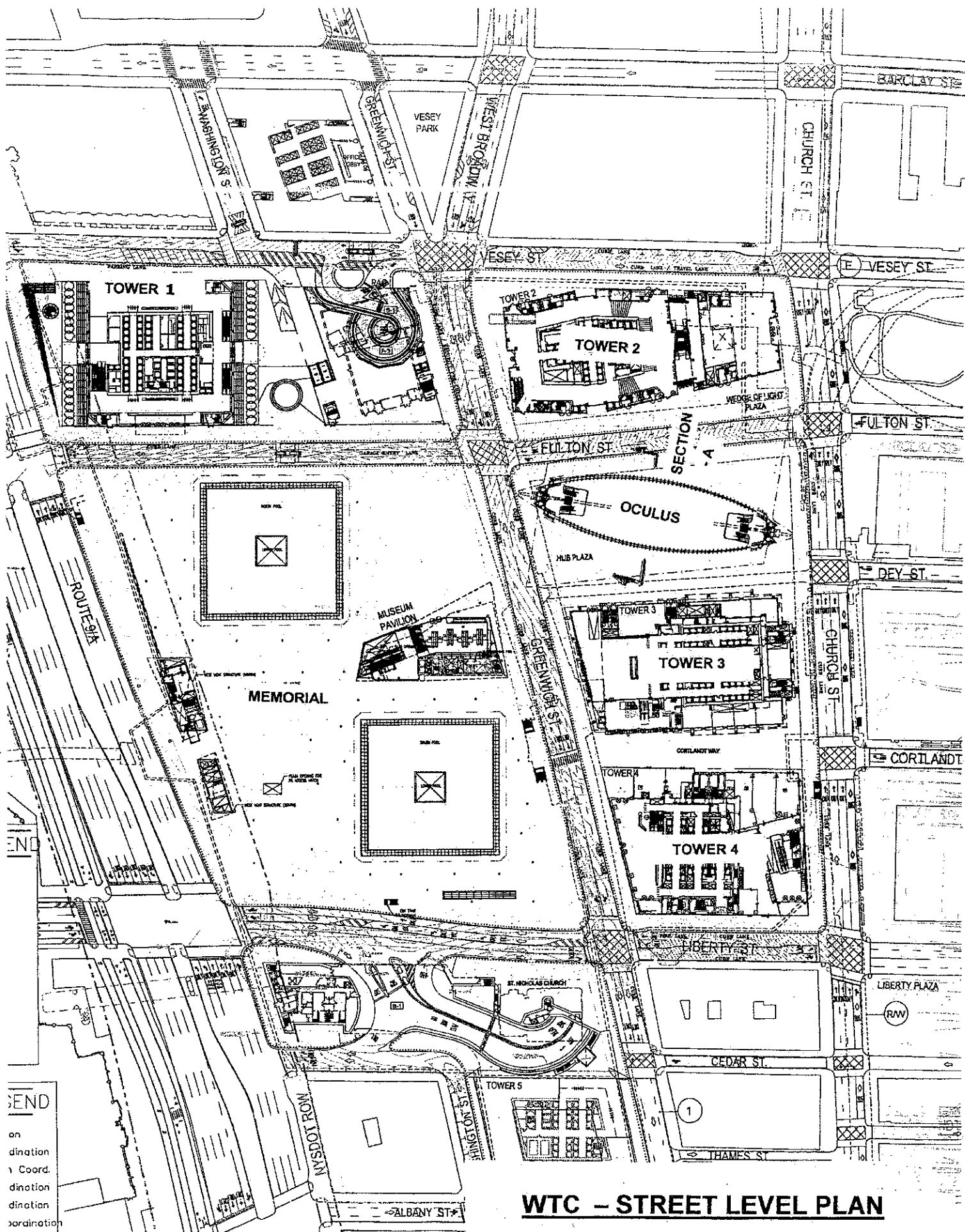
Thanks

Saroj

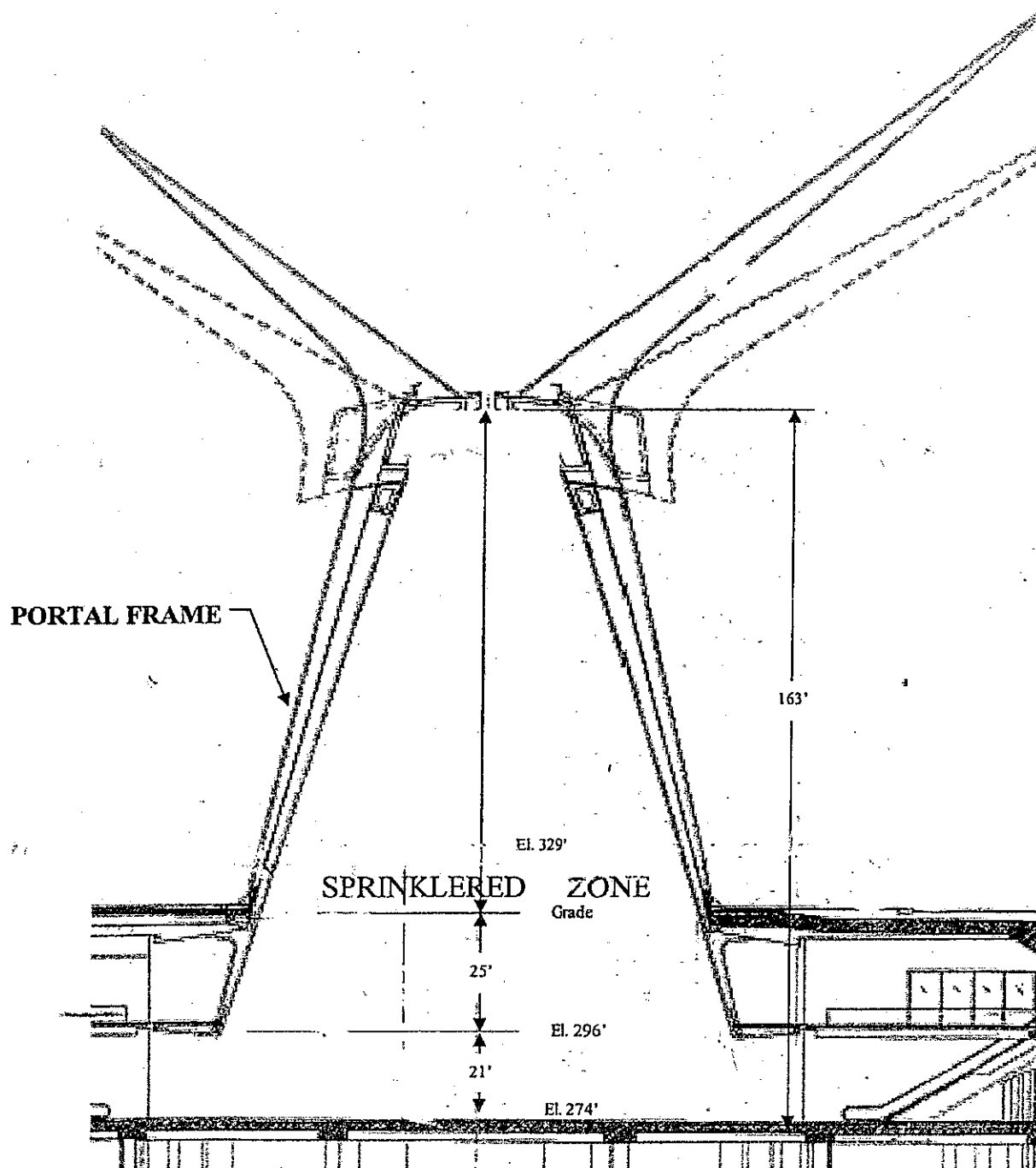
7/15/2011

<<oculus.pdf>>

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Lateral Section Through Oculus



SECTION - A