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**Parsons
Brinckerhoff
Quade &
Douglas, Inc.**

**One Penn Plaza
New York, NY 10119
212-613-5000**

**Engineers
Planners**

**Cable: Parklap, New York
Telex: RCA 232 117 PKLP UR**

April 29, 1987

**Mr. Douglas Smith, P.E.
Acting Chief
Engineering Review Section
Bureau of Sewers
40 Worth Street
New York, NY 10013**

**Re: Westside Connection Project North Access Tunnel from W. 33rd Street
to W. 38th Street, Borough of Manhattan -- Response to Bureau
of Sewer Comments on 60 percent submission**

Dear Mr. Smith:

**Thank you for your timely comments on the above referenced project.
Attached are our responses to those comments, the substance of which
will be incorporated into the 90 percent complete submission to your
office.**

**Please do not hesitate to contact me should you have additional questions
or comments, or if you require further clarification regarding our
attached responses.**

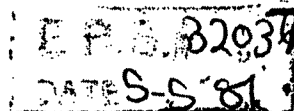
Sincerely yours,

PARSONS BRINCKERHOFF QUADE & DOUGLAS

**Ahmet Gursoy
Project Manager**

**jr/1
Attachment**

cc: I. Oncu/AMTRAK



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RESPONSES TO COMMENTS FROM THE NYC DEP BUREAU OF SEWERS - 4/15/87

1. On Drawing No. C-7. The following note will be added:

All elevations refer to Penn R.R. Tunnels Datum, which is 297.275 feet below Mean Sea Level as established by the U.S. Coast and Geodetic Survey at Sandy Hook, New Jersey. To convert elevations to Borough of Manhattan Sewer Datum Plane, subtract 300.025 feet. For example:

EL. 302.10 Penn R.R. Tunnels Datum
 -300.025
 EL. 2.075 Sewer Datum Plane

On Drawing Nos. C-8, C-9, C-10, C-11, C-12, C-13 and C-13A, the following note will be added:

"For converting Sewer elevations to Borough of Manhattan Sewer Datum Plane, see note on Drawing No. C-7".

2. On Drawing No. C-11, 11th Avenue is shown in the screened background. On Drawing Nos. C-9, C-10, C-13 and C-13A, 11th Avenue is beyond the limit of coverage of these drawings.
3. Drawings C-7 to C-13A showed invert elevations that were surveyed in July 1986 specifically for this project. These elevations are slightly higher than shown on the North River I & I study and are believed to result from siltation that has occurred since the construction of the sewers.

We will add the as built data from the North River I & I study to the above referenced drawings.
4. Legend for proposed catch basin will be revised to differentiate from that for the proposed manhole.
5. The elevations shown on Drawing S-28 at the connections of the existing sewers and the proposed siphon facilities are existing and proposed elevations. Wherever only one elevation appears at any manhole on that drawing, the upstream and downstream ends have the same invert elevation. Notes will be added to clarify your comment on the above referenced drawing.
6. The limits of abandonment of the existing sewer in the 34th Street will be added to Drawing No. S-28.
7. On drawing No. C-11, the proposed 15" E.S.V.P. is a sewer, and the third catch basin in series has been changed to a manhole instead
8. The existing sewer to be picked up at manhole No.1 was shown on Drawing No. S-28 by four dashed lines. For greater clarity we will add a note labeling the four dashed lines as "EXISTING SEWERS".

The location of sewer to be plugged at manhole No. 2 will be shown on Drawing No. 28 and the following note will be added at that location: "BREAK AND PLUG THE EXISTING SEWER".

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9. The existing and proposed structures will be shown on plans and profiles appearing in Drawing Nos. C-11 and S-28.
10. On Drawing Nos. C-12, C-13 and C-13A, the 12" storm sewers shown at track level were part of the original railroad drainage system installed at time of railroad construction.
11. Structural computations signed and sealed by a N.Y.S.P.E. will be submitted for the flow distribution maintenance, flow adaptor and flow redirection chambers will be submitted. Hydraulic design of the connection piece between the flow adaptor chamber and manhole No. 2 is based on chamber design examples provided by the Bureau of Sewers (See Attachment). The "90° BEND" labeling shown on Drawing No. S-28 is incorrect and will be changed to read "FLOW REDIRECTION CHAMBER". Manholes Nos. 1, 2 and 3 are not standard manholes therefore their design details are shown on Drawing No. 30A.

Information regarding type of catch basins and proposed 15 inch diameter sewer will be added to Drawing No. S-28.

12. Deflection angles and radii, where required, are shown on Drawings Nos. S-30 and S-30A.
13. A note will be added at the location of each abandoned sewer shown on Drawing No. S-28. This note will read: "NO HOUSE CONNECTIONS ARE LOCATED WITHIN THESE LIMITS" (of abandonment).
14. Drawing No. C-21 will be submitted as part of contract drawings.
15. Because of multi-disciplinary requirements of this project, the N.Y.C. standard details for catch basin type 3, etc. have been included for contractor's guidance, as shown on drawing Nos. C-19 and C-20.

4/29/87

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SUGGESTED APPROACH FOR CHAMBER LAYOUT

Public Safety - Critical Infrastructure

Where:

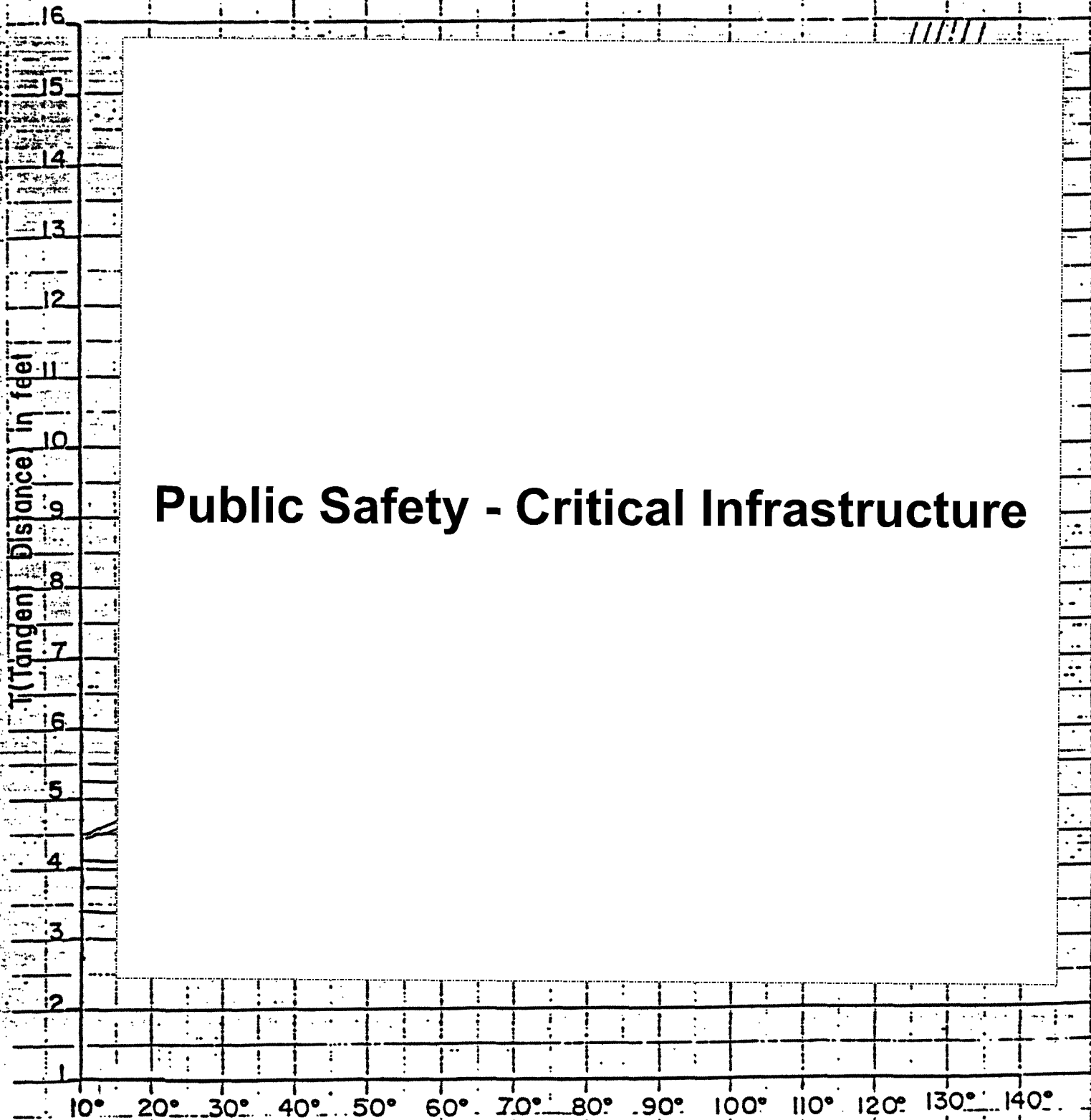
- Δ = Deflection or Central Angle in degrees
- d = Diameter of Outgoing Sewer
- R = Radius of centerline curve in feet
- T = Tangent Distance at centerline curve in feet
- a = 8'-0"
- b = Bench width = 1.5' min.

EXHIBIT 1

SHEET 1 OF 3

A.R.R. - 10/26/73

TANGENT VS. DEFLECTION ANGLE FOR VARIOUS SIZE SEWERS



Δ (Deflection Angle)

EXHIBIT I

Drawn by A. Rossin
Made by M. Farag
Date 9/29/73

RADIUS vs DEFLECTION ANGLE FOR VARIOUS SIZE SEWERS

Public Safety - Critical Infrastructure

10° 20° 30° 40° 50° 60° 70° 80° 90° 100° 110° 120° 130°

Δ (Deflection Angle)

EXHIBIT 1

Drawn by A. Rossin

Made by M. Farag

Date 10/5/73

SHEET 3 OF 3