



June 13, 2018

Mr. Robert Caravella, P.E.
440 Park Avenue South, 7th Fl.
New York, N.Y. 10016

Vincent Sapienza, P.E.
Commissioner

Re: **8477- 2759 2763 Webster Avenue (Phase-1)**; Site connection proposal for
Block 3278, Lot 84; Borough of the Bronx.

Anastasios Georgellis, P.E.
Acting Deputy Commissioner
Bureau of Water and
Sewer Operations

Dear Mr. Caravella:

This office has completed its review of the referenced site connection proposal application submitted with your letter received on May 17, 2018 and has certified it. Copies of the certified forms for the owner, the NYC Department of Buildings (DOB) and the applicant have been sent to the Borough of Bronx Local Records Office of the Department of Environmental Protection (DEP). A copy of the same has been sent to the Site Connection Inspection Unit of the DEP as well.

59-17 Junction Boulevard
Flushing, NY 11373

watersewerplanning@dep.nyc.gov
sewerinfo@dep.nyc.gov

Very truly yours,


Vincent Malveaux,
Engineer - In - Charge
Site Connection Review Unit

cc: Guo Zhan Wu, P.E., Chief, Site Connection, Green Infrastructure
and Plan Review
Mark Safari, P.E. Chief, Construction & Permitting Section
David Spektor, Engineer-In- Charge, Bronx Local Sever Office
File/AY



DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER & SEWER OPERATIONS

SITE CONNECTION PROPOSAL FORM
VALID FOR TWO (2) YEARS
[SC ID # 8477 / (Ph-1)]



A. PROJECT DATA:

Borough of BRONX Building Dept. No (s) 210178118
Tax Block 3278 Lot (s) 84 Zoning C2-4 IN R7D Map No. 3C
Project Location 2759-2763 WEBSTER AVE, BRONX, NY 10458
Applicant AKRF, INC. - ROBERT CARAVELLA, P.E.
Address 440 PARK AVENUE SOUTH, 7TH FL., NY, NY Zip 10016 Phone (646) 388-9828
Owner PART OF THE SOLUTION
Address 2795 WEBSTER AVE, BRONX, NY Zip 10458 Phone (718) 220-4892

B. PROJECT USE:

TYPE: ☐ 1, 2, 3, Family ☐ Multiple Dwelling ☒ Commercial Community Services
Number of Buildings 1 Total Number of Dwelling Units N/A
Ownership: ☒ Fee Simple ☐ Condominium ☐ Home Owner Association ☐ Other.....

C. SITE CONNECTIONS REQUESTED:

Total Developed Site Storm Flow 0.385 cfs
Allow. Storm Flow to the Sewers 0.250 cfs
Phase 1 allow. storm flow to the sewer 0.082 cfs
☒ Detention ☐ Retention

	Sanitary	Storm	Comb.	Drywells
No. Requested	<u>N/A</u>	<u>N/A</u>	<u>1</u>	<u>xxxxxxx</u>
Size	<u>N/A</u>	<u>N/A</u>	<u>8"</u>	<u>xxxxxxx</u>
Material (s)	<u>N/A</u>	<u>N/A</u>	<u>DIP</u>	<u>xxxxxxx</u>
Total Q (s)	<u>N/A</u>	<u>N/A</u>	<u>0.097 *</u>	<u>N/A</u>

Note: $0.015 \text{ (sanitary)} + 0.082 \text{ (storm)} = 0.097 \text{ (combined)}$
The property owner is responsible for plugging all inactive pre-existing sewer connections

D. CONNECTION INFO:

- ☐ Connection to exist:
☐ Spur ☐ Riser ☐ Curb Connection
- ☒ Proposed New Riser
- ☐ Fold Spur in
- ☐ Drill in
- ☐ M.H. Conn. ☐ Exist. ☐ Prop.
- ☐ Reuse Plugged Connections

E. PRIVATE SEWER/DRAIN DATA:

- P.D. Plan No. N/A Date Approved N/A Expiration Date N/A
- Date Construction Permit Was Issued N/A
- Date Sewer Was Accepted By DEP N/A
- Sanitary Discharge Tributary to:

		Location
Private Sewage Treatment Plant	☒ No ☐ Yes	<u></u>
Private Pumping Station	☒ No ☐ Yes	<u></u>
Private Sewer	☒ No ☐ Yes	<u></u>

F. LOCATION PLAN:

- ☐ As Shown Below ☒ See Attached Location Plan Attachment "F"
(8 1/2 x 14 Size)

* THIS IS A MASTER PLAN SITE CONNECTION PROPOSAL FOR PHASE I. THE DEVELOPED STORM FLOW OF 0.385 CFS (PHASE I) WILL BE RESTRICTED TO 0.082 CFS IN ACCORDANCE WITH THE MASTER PLAN BY MEANS OF ROOF DETENTION CONNECTED IN SERIES TO AN UNDERGROUND DETENTION FACILITY WITH AN OUTLET CONTROL STRUCTURE. THE ADDITIONAL SANITARY PEAK FLOW OF 0.015 CFS WILL DISCHARGE VIA THE NEW COMBINED CONNECTION FOR A TOTAL FLOW (Q) OF 0.097 CFS.

G. SUPPORT DOCUMENTS:

- *1. Site Plan – 6 copies with hydraulic calculations ☒ _____
*2. Survey – 3 copies with watercourse note ☒ _____
*3. Tentative Lot Number Request Form – Attached ☒ _____ Not Applicable _____
**4. Owner's Consent for STP/PS Connection – Attached _____ Not Applicable ☒ _____
5. Department of Health Approval – Attached _____ Not Applicable ☒ _____
6. Department of Buildings Amendment – Attached _____ Not Applicable ☒ _____
***7. Condo/HOA Prospectus or Affidavit – Attached _____ Not Applicable ☒ _____
8. Industrial Waste Approval – Attached _____ Not Applicable ☒ _____
9. Associated Mapping/Demapping Action – Attached _____ Not Applicable ☒ _____
10. Builders Pavement Plan – Attached _____ Not Applicable ☒ _____
11. Boring Logs – Attached _____ Not Applicable ☒ _____
12. Other (Specify) Master Plan, Tax Map, Zoning Map, Sewer Maps, Pre-App Memo Attached ☒ _____

- * Requires PE/RA Stamp and Original Signature (L.S. for Survey)
** Must Be Notarized and have Corporate Seal
*** Must be Notarized

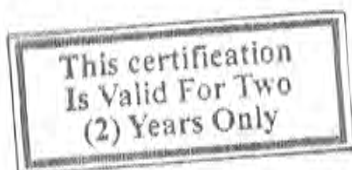
SEWER INFORMATION CERTIFIED BY DEP

- | | | | <u>PUBLIC</u> | <u>PRIVATE</u> |
|---|--|---|-------------------------------------|----------------|
| 1. There (is) (is not) a sanitary sewer fronting the property available for connections. | SIZE | _____ | _____ | _____ |
| 2. There (is) (is not) a storm sewer fronting the property available for connections. | SIZE | _____ | _____ | _____ |
| 3. There (is) (is not) a combined sewer fronting the property available for connections. | SIZE | 6" x 72" | ☒ | _____ |
| 4. Sanitary discharge tributary to: | | | | |
| City Treatment Plant - | ☐ NO | ☒ YES | <u>Location</u>
<u>Wards Is.</u> | |
| Private Sewage Treatment Plant - | ☒ NO | ☐ YES | _____ | |
| Private Pumping Station - | ☒ NO | ☐ YES | _____ | |
| 5. Distance to, and location of nearest allowable drainage plan sewer: | | | | |
| a) Sanitary Outlet | } N/A | _____ | | |
| b) Storm Outlet | | _____ | | |
| c) Combined Outlet | | _____ | | |

CERTIFICATION, RESTRICTIONS, SPECIAL CONDITIONS:

No sewer connection permits will be issued until the building department certifies that the storm flow detention facilities have been satisfactorily built.

No sewer connection permits will be issued until the tentative lot sheet is finalized.



ADDITIONAL INFORMATION, COMMENTS BY DEP OFFICE:

1. Topo Map No. _____ Watercourse shown: ☐ YES ☐ NO
2. Comments: _____

BUREAU OF WATER & SEWER OPERATIONS
DIVISION OF REVIEW &
CONSTRUCTION COMPLIANCE

SEWER INFORMATION
CERTIFIED

6/13/18 A. [Signature]
DATE DRAINAGE REVIEW SECTION

This certification
Is Valid For Two
(2) Years Only

FILED IN CONJUNCTION WITH DOB JOB # 210178118

AVENUE

DECATUR

EAST 197th STREET

EAST 198th STREET

WEBSTER AVENUE

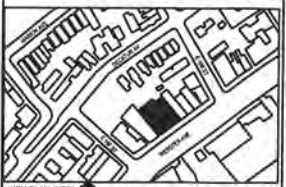
LEGEND

- PROPERTY LINE (PER RP-602 MERGER)
- /// OUTLINE OF PROPOSED BUILDING ADDITION
- OUTLINE OF EXISTING BUILDING TO REMAIN
- PROPOSED COMBINED STORM / SANITARY CONNECTION
- PROPOSED SITE STORM DRAINAGE / DETENTION SYSTEM PIPING
- SW --- SW --- PROPOSED STORM DRAINAGE BENEATH BUILDING (SEE MEP PLANS)
- PROPOSED OUTLET CONTROL STRUCTURE WITH GRATED DRAINAGE INLET AT SURFACE
- PROPOSED ON-SITE PAVING (SEE ARCHITECTURAL & LANDSCAPE)
- PROPOSED ON-SITE PLANTING (SEE LANDSCAPE)

GENERAL NOTES:

1. ZONING DISTRICT C2-4 IN R7D, ZONING MAP NO. 3C.
2. FILED IN CONJUNCTION WITH DOB PROPOSED BUILDING APPLICATION # TBD.
3. ELEVATIONS ARE BASED UPON NAVD83 DATUM, WHICH IS 1.51 FEET HIGHER THAN THE BRONX DATUM.
4. THE CONTRACTOR SHALL FIELD VERIFY EXISTING MANHOLE ELEVATIONS IN THE VICINITY OF THE PROPOSED CONNECTION.
5. THE CONTRACTOR SHALL ENSURE THAT THE PAVEMENT CROSS SLOPES CREATED BY THE PROPOSED PAVEMENT RESTORATION WILL PROVIDE POSITIVE DRAINAGE TOWARDS APPROPRIATE DRAINAGE STRUCTURES.
6. THE CONTRACTOR SHALL EXAMINE AND FIELD VERIFY ALL EXISTING AND GIVEN DIMENSIONS AND CONDITIONS WITH THOSE SHOWN ON THE PLANS. IN CASE OF ANY DISCREPANCY, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER.
7. ALL DAMAGED CITY SEWER PIPING, MANHOLES, CATCH BASINS, ETC. CAUSED BY THE CONTRACTOR'S WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, AT NO COST TO THE AUTHORITY.
8. PRIOR TO INSTALLATION OF THE DRAINAGE FACILITIES UNDER THIS PLAN, PERMITS ARE TO BE OBTAINED IN PERSON FROM THE LOCAL BRONX SEWER RECORDS OFFICE OF NYCDEP.
9. ALL INVERT ELEVATIONS ON THE SEWER MANHOLES ARE PER THE SURVEYOR.
10. NO EXISTING SEWER EASEMENTS HAVE BEEN IDENTIFIED WITHIN THE LOTS SUBJECT TO THIS SITE CONNECTION PROPOSAL.

0 20 40 80
SCALE: 1" = 40'



OWNER/APPLICANT

PART OF THE SOLUTION
2759 WEBSTER AVENUE,
BRONX, NY, 10458
(718) 220-4892 (PHONE)

SITE/CIVIL ENGINEER

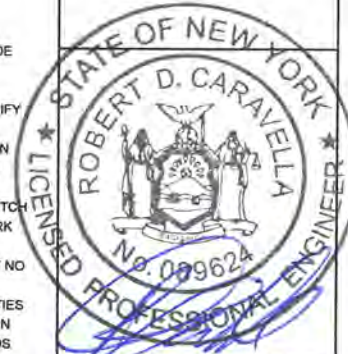
AKRF, INC.
440 PARK AVENUE SOUTH
NEW YORK, NY 10016
(212) 696-0670 (PHONE)
(212) 726-0942 (FAX)

ARCHITECT

MARBLE FAIRBANKS
20 JAY STREET, SUITE 202
BROOKLYN, NY 11201
(212) 233-0653 (PHONE)

SURVEYOR

MONTROSE SURVEYING CO., LLP.
115 20 METROPOLITAN AVE.
RICHMOND HILL, NY 11418
(718) 849-0800 (PHONE)



ROBERT D. CARAVELLA, P.E.

PROJECT
PART OF THE SOLUTION
2759 WEBSTER AVE,
BRONX, NY 10458
(BLOCK 3278, LOT 84)

DRAWN BY AM	CHECKED BY JC
PROJECT NO. 170182	DATE 05/16/2018

SHEET TITLE
ATTACHMENT F

ID #8477 (PH-1)

MASTER PLAN SITE CONNECTION - PHASE 1

SITE DATA

LOT AREA TOTAL = 9,401 SF = 0.2158 AC
PHASE I AREA OF WORK = 3,098 SF = 0.0711 AC (PER MASTER PLAN)

STORMWATER FLOW CALCULATIONS

MAXIMUM RESTRICTED RELEASE RATE FOR PHASE I PER MASTER PLAN = **0.082 CFS**

DEVELOPED FLOW:

ROOF AREA = 2,280 SF = 0.052 AC
C = 0.95; R = 5.95 IN/HR
Q(ROOF) = A x C x R = 0.052 x 0.95 x 5.95 = 0.296 CFS
PAVED AREA = 755 SF = 0.017 AC
C = 0.85; R = 5.95 IN/HR
Q(PAVED) = A x C x R = 0.017 x 0.85 x 5.95 = 0.088 CFS
LANDSCAPED AREA = 63 SF = 0.001 AC
C = 0.20; R = 5.95 IN/HR
Q(LANDSCAPE) = A x C x R = 0.001 x 0.20 x 5.95 = 0.001 CFS
Q(DEVELOPED) = Q(ROOF) + Q(PAVED) + Q(LANDSCAPE)
= 0.296 + 0.088 + 0.001 = **0.385 CFS**

DETENTION STRATEGY:

THE TOTAL ROOF AREA WILL BE USED FOR DETENTION AND WILL DISCHARGE IN SERIES THROUGH A SUBSURFACE DETENTION FACILITY LOCATED IN THE REAR YARD.

WEIGHTED EFFECTIVE COEFFICIENT FOR SERIES DETENTION SYSTEMS:

$C_{WE(ROOF)} = 311 \times Q_{DRR} \times (T + 15) / A_t$
 $t_r = 0.27 \times (C_{WT} \times A_t / Q_{DRR})^{0.5} - 15$
 $t_r = 0.27 \times (0.95 \times 2,280 / 0.100)^{0.5} - 15$
 $t_r = 24.7 \text{ min}$
 $C_{WE(ROOF)} = 311 \times 0.100 \times (24.7 + 15) / 2,280$
 $C_{WE(ROOF)} = 0.542$
 $C_{WT} = [(A \times C_{WE})_{ROOF} + (A \times C)_{PAVED} + (A \times C)_{LANDSCAPE}] / \text{TOTAL AREA}$
 $C_{WT} = [(2,280 \times 0.542) + (755 \times 0.85) + (63 \times 0.20)] / 3,098 = 0.61$

BLUE ROOF DETENTION CALCULATIONS:

$V_{REQD} = [(0.19 \times C_W \times A) / (T + 15)] - (40 \times Q(\text{MAX})) \times T$
 $= [((0.19 \times 0.95 \times 2280) / (24.7 + 15)) - (40 \times 0.100)] \times 24.7$
 $= 157.25 \text{ CF}$
 $V_{PROV} = \frac{1}{2} \times L \times W \times H \times N_{DRN}$ (NUMBER OF DRAINAGE AREAS)
 $H = (Q_{DRR} / N_{DRN}) / [(gpm / in) \times (cfs/gpm)]$
 $= (0.100 / 3) / (5 \times 0.00223) = 2.98 \text{ IN} = 0.248 \text{ FT}$
 $V_{PROV} = 1/3 \times 29 \times 23 \times 0.248 \times 3 = 165.4 \text{ CF} (> 157.25 \text{ THEREFORE, OKAY})$

SUB-SURFACE DETENTION CALCULATIONS:

ORIFICE DESIGN CALCULATIONS:

TOP OF STORAGE = ELEV. 68.13
BOTTOM OF STORAGE = ELEV. 67.30
ORIFICE DIAMETER = 0.167 FT (2 IN)
ORIFICE AREA = 0.022 FT²
MAXIMUM H = (68.13 - 67.30) - (0.5 x 0.167) = 0.75 FT
C FOR RE-ENTRANT ORIFICE = 0.52
g = 32.2 FT/SEC²
Q(MAX) = CA(SQRT(2gh)) = (0.52 x 0.022) x (SQRT(2 x 32.2 x 0.75)) = 0.080 CFS
VARIABLE FLOW THROUGH 0.167 FT (2 IN) ORIFICE Q(MAX) = 0.080 CFS
(<0.082 CFS THEREFORE, OKAY)

REQUIRED DETENTION VOLUME CALCULATION:

$T = [0.27 \times \text{SQRT}((C_{WT} \times A) / Q(\text{MAX}))] - 15$
 $T = [0.27 \times \text{SQRT}((0.61 \times 3,098) / 0.082)] - 15 = 26.4 \text{ MIN}$
 $V = [(0.19 \times C_W \times A) / (T + 15)] - (40 \times Q(\text{MAX})) \times T$
 $V = [(0.19 \times 0.61 \times 3,098) / (26.8 + 15)] - (40 \times 0.082) \times 26.8 = 143 \text{ CF}$
REQUIRED VOLUME = 143 CF

10-INCH DIAMETER HDPE PIPE (PERFORATED) PROVIDED STORAGE:

PIPE DIAMETER = 0.833 FT (10 IN)
PIPE CROSS SECTION AREA = 0.545 SF
PIPE STORAGE TO BE PROVIDED IN SEVEN (7) ROWS OF 20 LF HDPE AND 12 LF MANIFOLDS EACH END
PIPE STORAGE VOLUME = 7 x 20 x 0.545 + 2 x 12 x 0.545 = 89.4 CF

STONE BEDDING AND BACKFILL PROVIDED STORAGE:

FOOTPRINT = 14 FT x 22 FT = 308 SF
NET STORAGE VOLUME = (TOTAL VOLUME - PIPE DISPLACEMENT) x STONE POROSITY
= [(308 x 0.83) - (1.1 x 89.4)] x 0.33
= 51.9 CF

OUTLET CONTROL STRUCTURE PROVIDED STORAGE:

STORAGE VOLUME = 2 FT x 2 FT x 0.83 FT = 3.3 CF

TOTAL PROVIDED STORAGE:

TOTAL = 10-INCH PIPE + STONE + OUTLET CONTROL STRUCTURE
89.4 CF + 51.9 CF + 3.3 CF = 144.6 CF (> 143 CF, THEREFORE OKAY)

DEVELOPED STORM FLOW OF 0.385 CFS TO WEBSTER AVE WILL BE RESTRICTED TO 0.082 CFS BY MEANS OF A ROOF DETENTION SYSTEM CONNECTED IN SERIES TO A SUB-SURFACE DETENTION FACILITY WITH A RE-ENTRANT ORIFICE (2" DIA) RESTRICTING THE RELEASE.

SANITARY FLOW CALCULATIONS

PER MASTER PLAN, PHASE I SANITARY PEAK FLOW IS CALCULATED AS: **0.015 CFS**

COMBINED CONNECTION CAPACITY CALCULATIONS

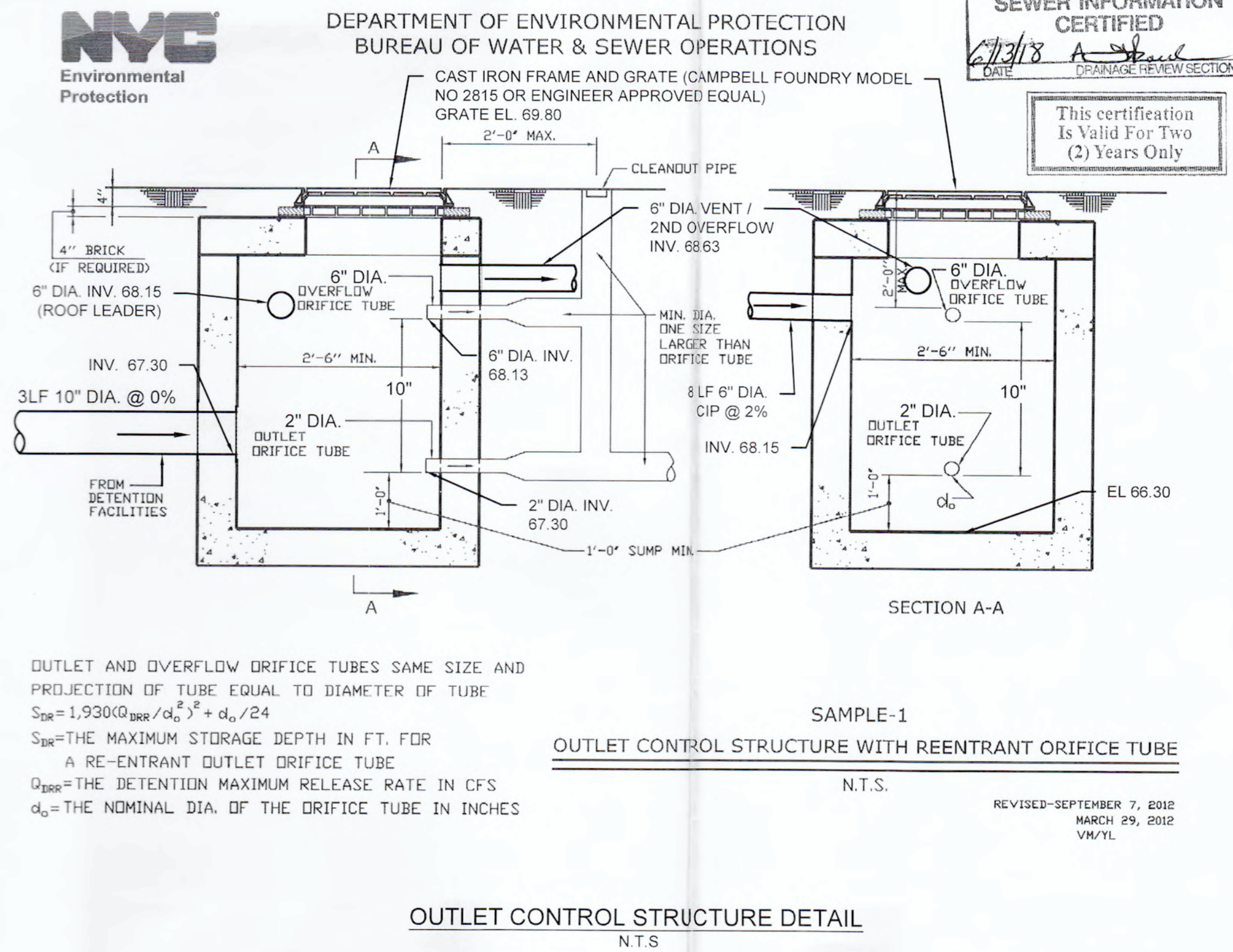
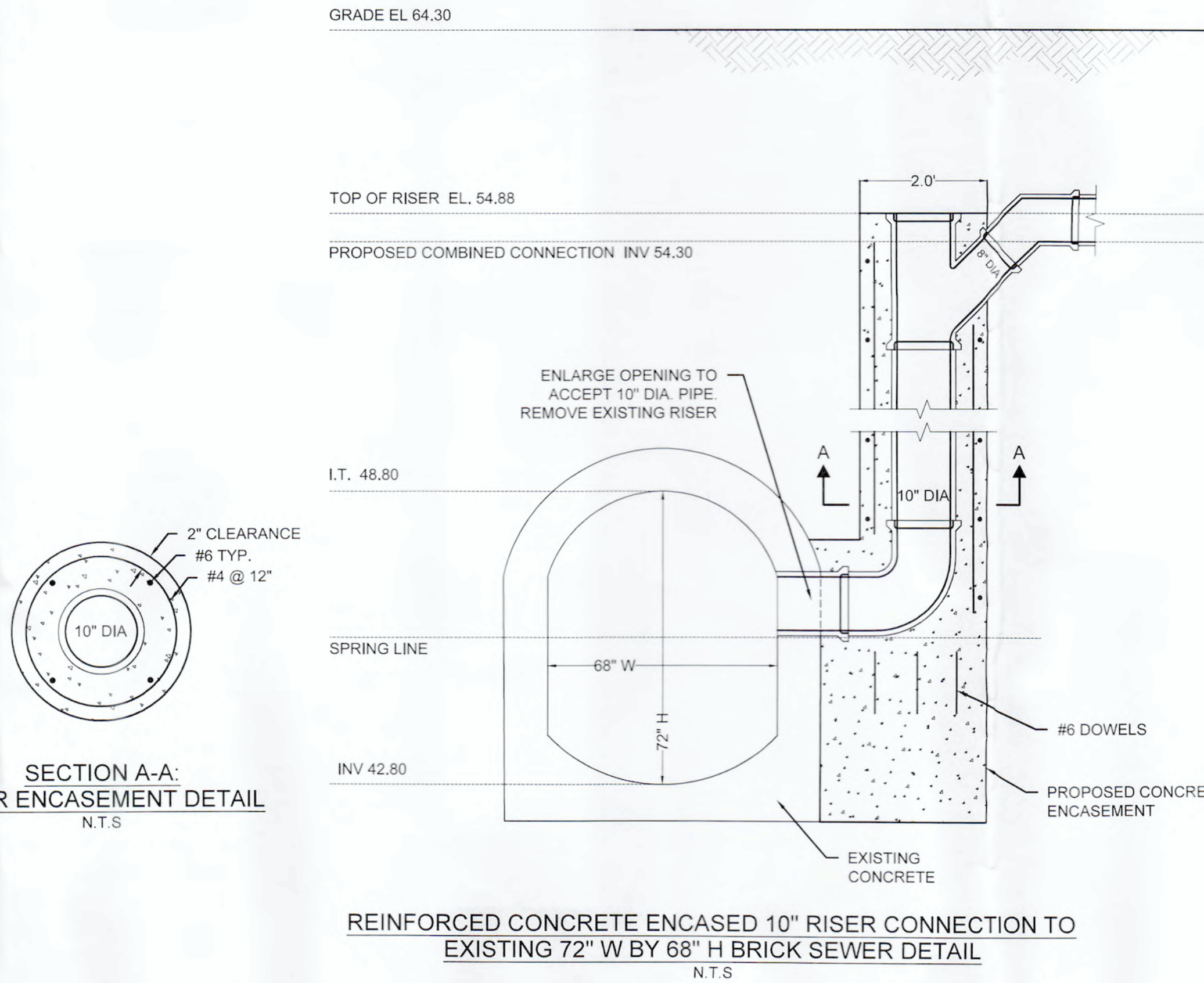
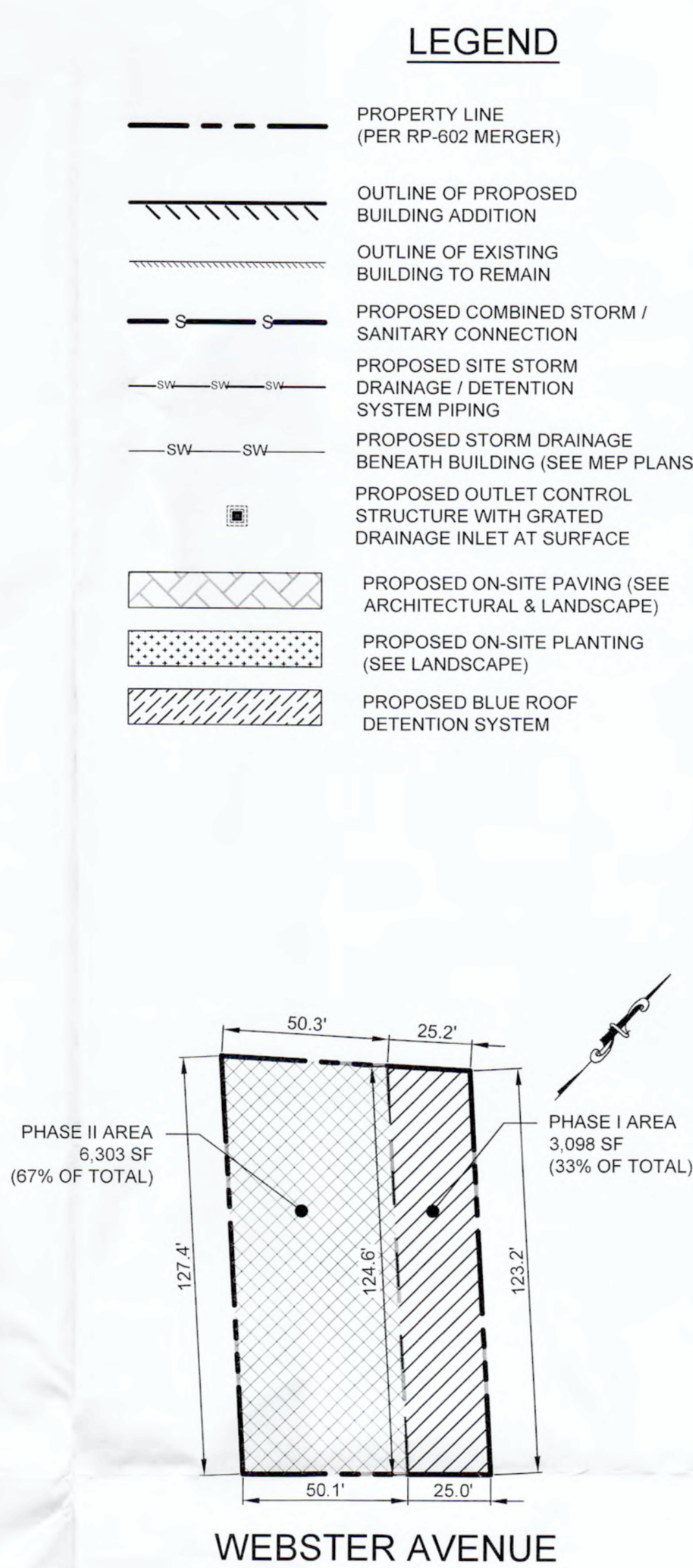
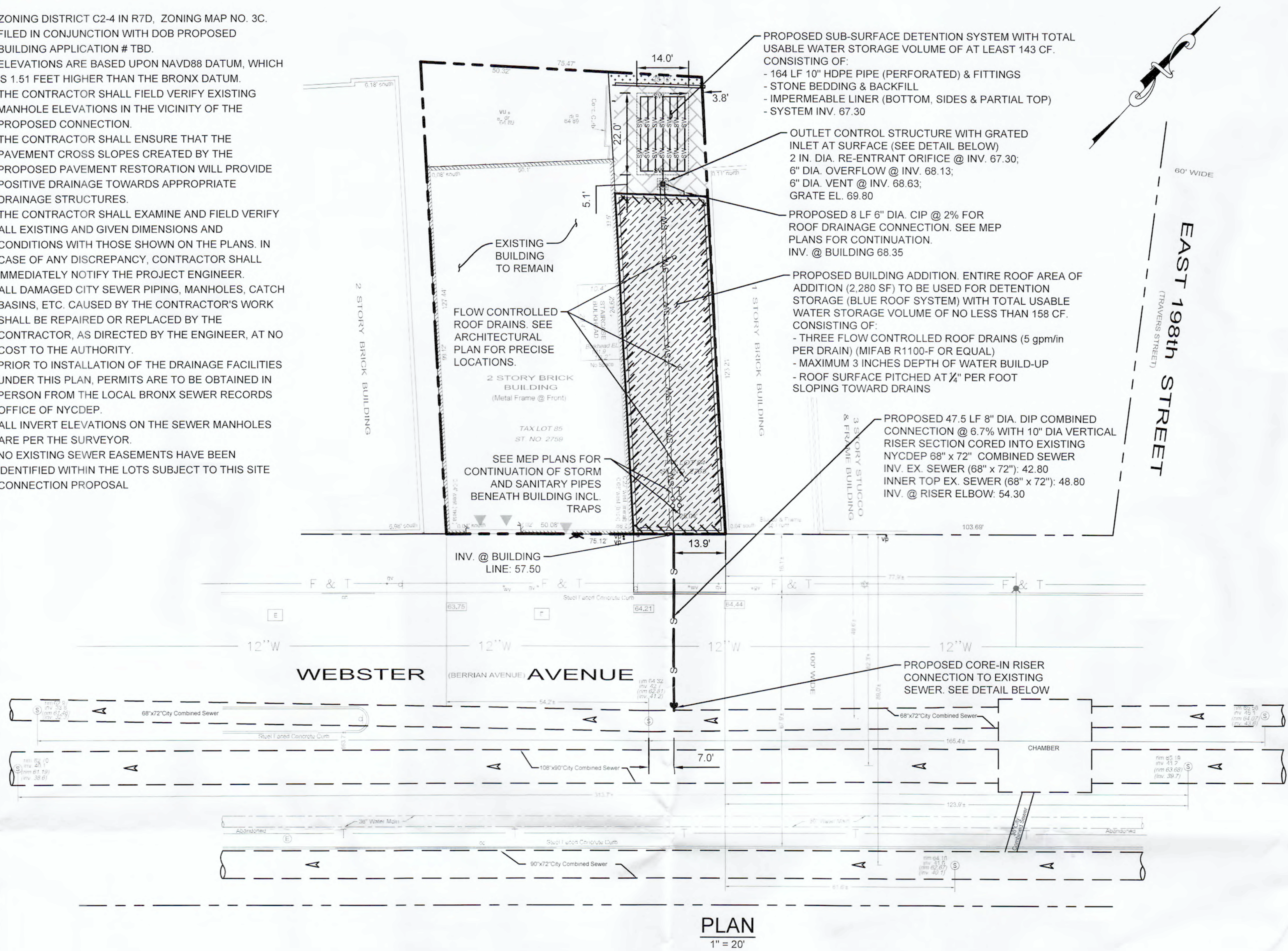
FLOW THROUGH 8" DIA. DIP CONNECTION AT 6.7% GRADE
TO EXISTING COMBINED SEWER IN WEBSTER AVE

Q(MAX) = 0.391 CFS (DEVELOPED STORM FLOW) + 0.015 CFS (SANITARY PEAK FLOW)
Q(MAX) = 0.406 CFS
CAPACITY OF THE DISCHARGE PIPE
Q(CAPACITY) = ((1.49/N) x A x R^{2/3} x S^{1/2})
= ((1.49/0.013) x 0.349 x (0.167)^{2/3} x (0.067)^{1/2}) = 3.136 CFS (> 0.406 CFS, THEREFORE OKAY)

GENERAL NOTES:

- ZONING DISTRICT C2-4 IN R7D, ZONING MAP NO. 3C.
- FILED IN CONJUNCTION WITH DOB PROPOSED BUILDING APPLICATION # TBD.
- ELEVATIONS ARE BASED UPON NAVD88 DATUM, WHICH IS 1.51 FEET HIGHER THAN THE BRONX DATUM.
- THE CONTRACTOR SHALL FIELD VERIFY EXISTING MANHOLE ELEVATIONS IN THE VICINITY OF THE PROPOSED CONNECTION.
- THE CONTRACTOR SHALL ENSURE THAT THE PAVEMENT CROSS SLOPES CREATED BY THE PROPOSED PAVEMENT RESTORATION WILL PROVIDE POSITIVE DRAINAGE TOWARDS APPROPRIATE DRAINAGE STRUCTURES.
- THE CONTRACTOR SHALL EXAMINE AND FIELD VERIFY ALL EXISTING AND GIVEN DIMENSIONS AND CONDITIONS WITH THOSE SHOWN ON THE PLANS. IN CASE OF ANY DISCREPANCY, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER.
- ALL DAMAGED CITY SEWER PIPING, MANHOLES, CATCH BASINS, ETC. CAUSED BY THE CONTRACTOR'S WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, AT NO COST TO THE AUTHORITY.
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- ALL INVERT ELEVATIONS ON THE SEWER MANHOLES ARE PER THE SURVEYOR.
- NO EXISTING SEWER EASEMENTS HAVE BEEN IDENTIFIED WITHIN THE LOTS SUBJECT TO THIS SITE CONNECTION PROPOSAL.

FILED IN CONJUNCTION WITH DOB JOB # 210178118



OWNER/APPLICANT

PART OF THE SOLUTION
2759 WEBSTER AVENUE,
BRONX, NY, 10458
(718) 220-4892 (PHONE)

SITE/CIVIL ENGINEER

AKRF

AKRF, INC.
440 PARK AVENUE SOUTH
NEW YORK, NY 10016
(212) 696-0670 (PHONE)
(212) 726-0942 (FAX)

ARCHITECT

MARBLE FAIRBANKS
20 JAY STREET, SUITE 202
BROOKLYN, NY 11201
(212) 233-0653 (PHONE)

SURVEYOR

MONTROSE SURVEYING CO., LLP.
116 20 METROPOLITAN AVE,
RICHMOND HILL, NY 11418
(718) 849-0600 (PHONE)

NEW YORK STATE EDUCATION LAW 145, SECTION 7209, PROHIBITS ANY INDIVIDUAL FROM ALTERING THESE DRAWINGS AND/OR ACCOMPANYING SPECIFICATIONS IN ANY WAY, UNLESS IT IS UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. IF ALTERATIONS ARE MADE, THE ALTERING ENGINEER MUST SIGN, SEAL, DATE, AND DESCRIBE THE FULL DESCRIPTION OF THE ALTERATION ON THE DRAWING AND/OR SPECIFICATIONS.

ROBERT D. CARAVELLA, P.E.

REVISIONS		
No.	DATE	DESCRIPTION
1	05/16/2018	Resubmission (ID # added)

PROJECT

PART OF THE SOLUTION
2759 WEBSTER AVE,
BRONX, NY 10458
(BLOCK 3278, TENTATIVE LOT 84)

DRAWN BY	CHECKED BY
AM	JC

SCALE	DATE
AS SHOWN	05/16/2018

SHEET TITLE

**SITE CONNECTION
PROPOSAL (PHASE I)
(ID # 8477)**

SHEET NO.

SCP-1

SHEET 1 OF 1