



November 19, 2012

David J. Freeman, Esq.
Director, Real Property & Environmental Law
Gibbons P.C.
One Pennsylvania Plaza, 37th Floor
New York, New York 10119-3701

Re: Revised Response to USEPA's March 31, 2011 Letter
"Gowanus Canal Superfund Site, Brooklyn, Kings County
New York Notice of Potential Liability" and
March 12, 2012 Preliminary Draft Document "Condensed Summary: MRC Holdings, Inc."
MRC Holdings, Inc. Former American Can Co. Facility, Brooklyn, New York

Dear Mr. Freeman:

Roux Associates, Inc. (Roux Associates) is submitting this revised letter to Gibbons P.C. (Gibbons) with regard to the Gowanus Canal Superfund Site (the Gowanus Canal Site, or Site), located in Brooklyn, Kings County, New York. Specifically, you have asked us to review and evaluate the United States Environmental Protection Agency's (USEPA) letter dated March 31, 2011, in which USEPA identified MRC Holdings, Inc. (MRC) as a potentially responsible party (PRP) to environmental response actions associated with the Gowanus Canal Site. Additionally, this letter addresses the issues raised in the preliminary draft document titled "Condensed Summary: MRC Holdings, Inc.," dated March 12, 2012 (Summary Document).

USEPA contends that MRC is a corporate successor to the American Can Company, which formerly operated a facility at 232 Third Street, Brooklyn, New York (the former American Can Co. Facility, or Facility). The former American Can Co. Facility is located adjacent to and on the east side of the upper Gowanus Canal. A Site Location Map is provided as Figure 1

Background

Roux Associates completed a technical evaluation of available environmental documentation related to the Facility and summarized our findings in a letter dated November 22, 2011 which was transmitted to Mr. Brian Carr of USEPA on November 29, 2011. Mr. Brian Carr provided feedback to this letter on a December 1, 2011 telephone conference with you. He subsequently provided an electronic version of sewer maps of the area surrounding the former American Can Co. Facility. A revised letter was prepared in light of this supplemental information provided by USEPA. This revised letter was dated March 14, 2012 and transmitted to Mr. Brian Carr on March 22, 2012. This latest, second revision was prepared to incorporate our response to the

issues raised in the preliminary draft document titled “Condensed Summary: MRC Holdings, Inc.,” dated March 12, 2012.

Based on our technical evaluation of the materials listed below, we conclude that the former American Can Co. Facility is almost certainly not a historic or current source of environmental contamination to the Gowanus Canal and that, accordingly, MRC should not be included in USEPA’s list of PRPs for the Site.

The principal facts supporting MRC’s non-liability are as follows:

- Non-Aqueous Phase Liquid (NAPL), including Dense Non-Aqueous Phase Liquid (DNAPL) and coal tar wastes (collectively referred to as NAPL), volatile organic compounds (VOCs), metals, and polycyclic aromatic hydrocarbons (PAHs) are the principal contaminants present in the Gowanus Canal. NAPL (including VOCs and PAHs) are primarily associated with the former MGP sites located on the Canal and have not been identified at or near the former American Can Co. Facility. Metals and PAHs are associated with discharges from combined sewer overflows (CSOs) and other outfalls. Our findings indicate that sewers located near the Facility primarily flow away from the Canal.
- Groundwater around the former American Can Co. Facility is relatively clean, further eliminating the Facility as a potential source of contamination to the Site.
- Sewers adjacent to the Facility primarily drain away from the Gowanus Canal (see Figure 2), mitigating this potential contaminant migration pathway, and further supporting that the Facility did not act as a potential source of contamination to the Site.

A more detailed discussion of supporting information is provided below.

Technical Evaluation

Roux Associates has completed a technical evaluation of environmental quality data and existing documents associated with the Gowanus Canal Site, as they relate to the former American Can Co. Facility. This evaluation included:

- Review of USEPA’s Draft Gowanus Canal Remedial Investigation (RI) Report dated January 2011.
- Review of USEPA’s Draft Feasibility Study (FS) Report for the Gowanus Canal dated December 2011.
- Review of National Grid’s Preliminary Draft document titled “Condensed Summary: MRC Holdings, Inc.,” dated March 12, 2012.
- Review of Government Environmental Databases (i.e., EDR Reports).

- Review of aerial photographs and historic Sanborn Fire Insurance Maps.
- Freedom of Information Act (FOIA) searches of applicable agencies.
- Review of New York City Department of Environmental Protection (NYCDEP) Sewer Maps.
- Review of Bureau of Sewer records archive at the Brooklyn Historical Society.
- Review of report titled “363-365 Bond Street Final Environmental Impact Statement (FEIS)” prepared by AKRF, Inc., dated February 2009.
- Review of report titled “Gowanus Canal Waterbody/Watershed Facility Plan Report” prepared by NYCDEP Bureau of Engineering Design and Construction, dated August 2008.
- Site inspection/area reconnaissance.
- Review of environmental quality data from the Whole Foods site, an adjacent property, a portion of which is hydraulically downgradient of the Facility. This property, located at 220 3rd Street in Brooklyn, is currently in the New York State Department of Environmental Conservation (NYSDEC) Brownfields Cleanup Program (BCP). This data was not collected by USEPA, nor was it included in USEPA’s Gowanus Canal RI.

Only limited RI data were collected by USEPA in close proximity to the former American Can Co. Facility. These data included:

- one canal surface sediment and surface water sample (designated 310);
- one canal river sediment core sample (designated 87A); and
- soil samples and groundwater samples from shallow and intermediate well clusters MW-38 and MW-39.

Figure 2 presents the approximate location of key USEPA RI sampling locations in the vicinity of the Facility.

Summary of Technical Evaluation Finding

Following completion of the environmental evaluation tasks described above, Roux Associates concludes as follows:

1. No NAPL Is Present in Groundwater Near the Former American Can Co. Facility:

Based on the draft Gowanus Canal RI Report and groundwater quality data obtained from the local area, NAPL does not appear to be present in groundwater beneath and in the immediate vicinity of the former American Can Co. Facility. Further, a review of environmental databases did not identify any registered or leaking petroleum underground storage tanks

(USTs) or aboveground storage tanks (ASTs) at the Facility, further supporting that NAPL is not an issue at the Facility.

The only NAPL identified near the Facility was in the buried former Gowanus Canal sediment (i.e., at MW-39), associated with the infilled 5th Street Basin. The environmental data for this location however indicates the Gowanus Canal itself was the source/pathway of the NAPL. Specifically, NAPL was identified only at depth, below the mudline in soft sediment and in native sediment in the Gowanus Canal, and in soft and native sediment within the former footprint of the Gowanus Canal in the infilled 5th Street Basin. Monitoring well MW-39 was installed within the infilled 5th Street basin, and is screened close to these buried impacted sediments. The soil quality vertical profile from MW-39 reveals that the shallow soil representing the fill materials used to fill in the Canal is relatively unimpacted. The soil at MW-39 becomes impacted beginning at 27 feet below land surface (bls) – the depth of the former Canal soft sediment.

The fact that the depth horizon of the NAPL is coincident with the depth horizon of the Canal sediments indicates that the Canal itself is the source of this contamination. Simply put, prior to the infilling of the 5th Street Basin, NAPL was released into the Canal elsewhere and was transported to and deposited at the location of MW-39. These impacts were then buried at depth following the infilling of the Basin. Conversely, if an adjacent landside property were the source, the depth of the NAPL at MW-39 would be much shallower (coincident with the depth of the water table). That is not the case.

2. Lead Is Widespread Throughout Gowanus Canal Sediments:

Similarly, lead was detected in soil from MW-39 (located within the infilled 5th Street basin) at a maximum concentration of 1,030 milligrams per kilogram (mg/kg) at 25 to 30 feet bls (the depth of the former Canal soft sediment). Very similar concentrations of lead were found at corresponding depths in soil samples collected from other infilled basins, which were also filled with Canal soft sediment. This indicates that lead at this concentration in former Canal soft sediment is typical throughout filled portions of the Canal, and that the lead concentration at MW-39 is not attributable to operations at the former American Can Co. Facility.

3. Groundwater Near the Former American Can Co. Facility Is Relatively Clean:

Groundwater from MW-39, located south of the Facility, approximately 100 feet from the current footprint of the Gowanus Canal (within the former infilled 5th Street Basin) contained volatile organic compounds (VOCs) and metals. Concentrations are low in the shallow well, and increase significantly in the intermediate well. The contamination detected in the intermediate well cannot be attributed to the Facility for the following reasons.

- The chemical signature found in groundwater at MW-39 is consistent with contamination from MGP sites (there were formerly three on the Gowanus Canal), and not the former American Can Co. Facility operations.

- The groundwater contamination detected in MW-39 occurs at the same horizon as the buried Canal sediment. This provides strong evidence that groundwater impacts are attributable to the Canal sediment contamination, and not local groundwater.
- Shallow groundwater at MW-39 is relatively clean, indicating that shallow upgradient groundwater from adjacent landside properties is also clean.
- Groundwater quality data from the nearby Whole Foods site, located at 220 3rd Street (less than 100 feet west, hydraulically sidegradient/downgradient of the former American Can Co. Facility), is also relatively clean. The site has soil impacts attributed to historic onsite sources and former operations at this BCP site, which include a former 200,000 gallon oil AST, and former site uses as a coal storage yard, truck repair facility, and location for junk car storage. Despite those soil impacts and former uses, groundwater at the site is relatively clean.

Prior to completing interim remedial measures at the Whole Foods site, VOC (gasoline) and SVOC plumes were identified in shallow groundwater. The VOC plume was attributed to an upgradient site with a known gasoline UST release, located to the northeast of the former American Can Co. Facility. The SVOC plume was attributed to the 200,000 gallon oil UST formerly located at the Whole Foods site. There were no significant metals impacts to groundwater.

After the implementation of interim remedial measures (which included removal of onsite sources), groundwater quality at the Whole Foods site improved. Based on groundwater samples collected in 2006, 2007, and 2009, the only metals found in excess of applicable NYSDEC criteria were iron, magnesium, manganese, sodium, and lead (in one sample, marginally above the groundwater cleanup standard). Additionally, the only polycyclic aromatic hydrocarbon (PAH) found to exceed the NYSDEC criteria was acenaphthalene, (in one sample, marginally exceeding NYSDEC cleanup criteria).

To summarize, despite the significant historic operations at the Whole Foods site, groundwater at that site is relatively clean. VOC and SVOC impacts identified are clearly attributable to sources other than the former American Can Co. Facility. It is also important to note that this site (along with its potential onsite sources of contamination and onsite soil impacts) lies between the former American Can Co. Facility and the Gowanus Canal.

- Groundwater flow local to MW-39 is likely shaped in a horseshoe-like pattern. Groundwater from the south, north, and east--not just groundwater from beneath the Facility--likely flows to this well.

Based on groundwater quality data generated at the Whole Foods site, coupled with the relatively clean groundwater data from USEPA's MW-38, and the lack of NAPL in wells, provides compelling evidence that the former American Can Co. Facility did not contribute to the contamination in the Gowanus Canal via the groundwater pathway.

4. Sewers Near the Former American Can Co. Facility Primarily Flow Away from the Canal:

Review of available information, including the NYCDEP as-built sewer maps (provided as Attachment 1) show two main sewer lines near the Site (see Figure 2). Both are 12-inch combined sewer lines. The first originates on the corner of 3rd Avenue and 3rd Street, and flows southeast along 3rd Street (referred to as Sewer Line 1 below). The second originates near the west side of the Site on 3rd Avenue, and flows northeast on 3rd Avenue (referred to as Sewer Line 2 below). A description of these sewers is provided below.

- **Sewer Line 1** – This sewer line flows in the southeastern direction to 4th Avenue, where it turns to the southwest and ties into the 3rd Avenue Sewer line for discharge to the NYCDEP's Owls Head Water Pollution Control Plant (WPCP). When the former American Can Co. Facility operated, prior to the construction of the Owls Head Water WPCP which began operation in 1952, the 3rd Avenue Sewer drained southward to Gowanus Bay. Based on documents reviewed, at no time historically did the 3rd Avenue Sewer discharge directly to the Gowanus Canal. Moreover, based on our historical research, this line did not have a CSO. Most importantly, based on NYCDEP sewer drawings (provided as Attachment 1), it appears the former American Can Co. Facility likely tied into this sewer line, and not into Sewer Line 2 described below (NYCDEP sewer drawings indicate three building tie-ins go into Sewer Line 1, which historically drained to Gowanus Bay, and not the Canal).
- **Sewer Line 2** – This sewer line flows northeast approximately 1,150 feet to the intersection of 3rd Avenue and Carroll Street, at which point it turns to the southeast, for ultimate tie-in to the 3rd Avenue Sewer line and discharge to the NYCDEP's Owls Head WPCP. As described above, when the former American Can Co. Facility operated, prior to the construction of the Owls Head WPCP (which began operation in 1952), the 3rd Avenue sewer drained southward to Gowanus Bay. Based on documents reviewed, historically at no time did the 3rd Avenue sewer discharge directly to the Gowanus Canal.

A CSO Relief Structure does exist in connection with Sewer Line 2, prior to joining the 3rd Avenue Sewer Line (see Figure 2). Although a CSO does exist tied to Sewer Line 2, as described below, NYCDEP monitoring of flow at outfalls along the Canal shows that the OH-005 contribution to the Canal is expected to be *de minimis*.

Specifically, as shown in a drawing from the Bureau of Sewer dated August 19, 1906 (provided as part of Attachment 1) and in Figure 2, this CSO Relief Structure is located at the intersection of 3rd Avenue and Carroll Street. From this intersection, a 42-inch wet

weather relief line runs in the northwestern direction under Carroll Street to CSO outfall OH-005, which discharges to the Gowanus Canal.

This wet weather relief line discharges to the Gowanus Canal only during wet weather events when an appreciable rate of precipitation occurs, exceeding the capacity of the sewer system. According to the August 2008 Gowanus Canal Waterbody/Watershed Facility Plan Report prepared by NYCDEP, there are a total of 11 CSOs within the 1,758-acre Gowanus Canal Watershed which discharge an estimated 377 million gallons (mg) per year to the Gowanus Canal (see Table below).

Annual CSO Discharge to Gowanus Canal

(Source: Gowanus Canal Waterbody/Watershed Facility Plan Report, prepared by NYCDEP, dated August 2008)

CSO Outfall	Volume (mg)	Events (annual)
RH-034 (Gowanus Pumping Station)	121.1	56
RH-033	0.2	14
RH-038	0.9	18
RH-037	0.5	16
RH-036	1.6	21
OH-005	0.7	5
OH-007	69.4	47
RH-035	111.3	75
RH-031	35.3	33
OH-006	12.6	33
OH-024	23.4	35
Total	377	

As presented in the table above, the CSO associated with Sewer Line 2 (OH-005) is a minor contributor to the Gowanus Canal. Of the estimated 377 mg annually discharged to the Gowanus Canal through CSOs, OH-005 contributes only 0.7 mg (less than 0.2 percent), through only 5 CSO events annually. Compared to the other CSOs, contributing as much as 121.1 mg annually through 56 CSO events, OH-005 is a very minor contributor. Thus, even if (contrary to available evidence) the former American Can Co. Facility was tied into this sewer rather than Sewer Line 1, its contribution to any possible contamination in the Canal would be, at most, miniscule.

Provided in Attachment 2 is a Figure titled “Historic Sewer Drainage to the Gowanus Canal,” which was prepared by GEI Consultants, Inc. on behalf of Keyspan Energy. This Figure depicts the former American Can Co. Facility as being on the outer fringe of the area designated “Gowanus Canal Sewer Drainage (Approximately 1857 to mid-1950s).” We believe the Former American Can Co. Facility is located within the fringe of the historic Gowanus Canal Sewer Drainage area on this figure based on possible association with Sewer Line 2. However, as described above, based on NYCDEP sewer drawings (provided in Attachment 1), it appears the former American Can Facility was tied in to Sewer Line 1, which historically drained to Gowanus Bay, and not the Canal. Therefore, the former American Can Co. Facility should not be included within the area designated “Gowanus Canal Sewer Drainage (Approximately 1857 to mid-1950s),” the timing of which coincides with the time period the former American Can Co. Facility operated.

Based on these data, the sewer pathway can likely be eliminated as a source of contaminant migration from the Facility to the Gowanus Canal.

5. *Minimal Surface Water Runoff:*

Based on a review of historic fire insurance maps, it appears approximately 85 percent of the entire Facility was covered with structures going back as far as 1906, greatly reducing the potential for surface water runoff as a pathway for contamination to go from the Facility to the Gowanus Canal.

Sewer Nexus Evaluation Provided in March 12, 2012 Summary Document

A brief nexus evaluation was provided by National Grid in its Preliminary Draft document titled “Condensed Summary: MRC Holdings, Inc.,” dated March 12, 2012. In this evaluation, National Grid identified sewers as a potential nexus between the American Can Co. Facility and the Gowanus Canal. The evaluation in the Summary Document contained several key observations related to the potential sewer nexus. Below is a summary of these key observations (excerpts taken from the Summary Document are shown below in *underlined italics text*), followed by our responses supported by the historical information reviewed:

1. **Key Observation 1 from Summary Document:** *“Information in the Site’s ‘tap file’ indicated the site tapped three times into a 16-inch sewer on Third Street in 1913.”*

This is consistent with our findings presented above, and the NYCDEP sewer drawings provided in Attachment 1 (with the exception that these drawings indicate 12-inch sewer line, not 16-inch). Therefore, as stated above, and supported by historical information and information in the Summary Document, it is our understanding that the former American Can Co. Facility historically was tied into the sewer on 3rd Street (i.e., Sewer Line 1), and not the sewer line on 3rd Avenue (i.e., Sewer Line 2).

2. **Key Observation 2 from Summary Document:** *“a sewer map contained in a 1908 Brooklyn Report of the Bureau of Sewers indicates that the sewer tapped into by the*

American Can facility connected to a sewer on Third Avenue. At least as of 1908, the Third Avenue sewer flowed to the 42-inch sewer on Carroll Street which flowed to the Gowanus Canal.”

Based on our research, historic sewer drawings clearly show that the sewer line the former Facility was tied to, as affirmed by National Grid in Key Observation 1, (i.e., Sewer Line 1 on the attached Figure) was never interconnected with the 3rd Avenue Sewer (Sewer Line 2 on the attached Figure) near the Former American Can Co. Facility. Therefore, we disagree with the statement that Sewer Line 1 flowed towards Carroll Street. Rather, this sewer line flowed east along 3rd Street, eventually reaching 3rd Avenue (several blocks southwest of the former American Can Co. Facility), and flowing southwest (away from Carroll Street) ¹.

3. **Key Observation 3 from Summary Document:** “if ACC’s flows would have been directed to the sewer which flowed down Fourth Avenue during this period, flows would have been transported along Seventh Street and eventually made their way [to] Second Avenue and discharged in the Gowanus Canal at the Fifth Street Basin.”

Based on the documents we reviewed, it appears that the sewer flowed northwest on 7th Street, then diverted to the southwest at 3rd Avenue (away from the 5th Street Basin), and did not continue along 7th Street past 3rd Avenue (see Figure 2). This is supported by historic sewer drawings provided in Attachment 1. Although it is possible that a CSO was or is present in this intersection, the historic data we reviewed does not indicate any such structure existed. This is further supported by the Figure titled “Historic Sewer Drainage to the Gowanus Canal,” which was prepared by GEI Consultants, Inc. on behalf of Keyspan Energy and is provided in Attachment 2. In this Figure, the intersection of 7th Street and 3rd Avenue is clearly shown outside of the area labeled “Gowanus Canal Sewer Drainage (Approximately 1857 to Mid 1950’s),” but rather is in the area designated “Sewer Drainage to Gowanus Bay.”

Conclusion

In summary, the former American Can Co. Facility does not appear to be a historic or current source of contamination to the Gowanus Canal, based upon the available environmental quality data and records reviewed. Similar to most of the Gowanus Canal, the portion of the Canal located proximate to the Facility is impacted with elevated PAHs and elevated VOCs from the operations of the former MGP sites located on the Canal. These contaminants are not indicative of operations at the Facility. Further, our evaluation indicates that potential transport pathways

¹ Although likely not relevant to the former American Can Co. Facility since historic data does not support that flow from the Facility was directed to Carroll Street, the CSO relief structure in this intersection of Carroll Street and 3rd Avenue only allowed flow to the Gowanus Canal under wet weather conditions when sewer relief was needed. As supported by the table above (Page 7 of this document), this was not a frequent occurrence. Again, this is likely a moot point since historic data suggest that the former American Can Co. Facility was never tied to this sewer line.

David J. Freeman, Esq.

November 19, 2012

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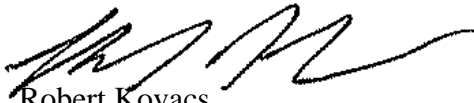
connecting the Facility and the Gowanus Canal (i.e., groundwater, sewers, and surface water runoff) have almost certainly not contributed to the impacts to the Canal.

To reiterate, Roux Associates concludes that the former American Can Co. Facility almost certainly did not contribute to the environmental contamination present in the Gowanus Canal and that, accordingly, MRC should not be included in USEPA's list of PRPs at the Gowanus Canal Site.

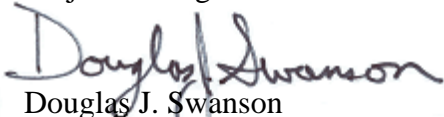
Should you have any questions or require additional information related to this matter, please do not hesitate to contact either of the undersigned at (631) 232-2600.

Sincerely,

ROUX ASSOCIATES, INC.



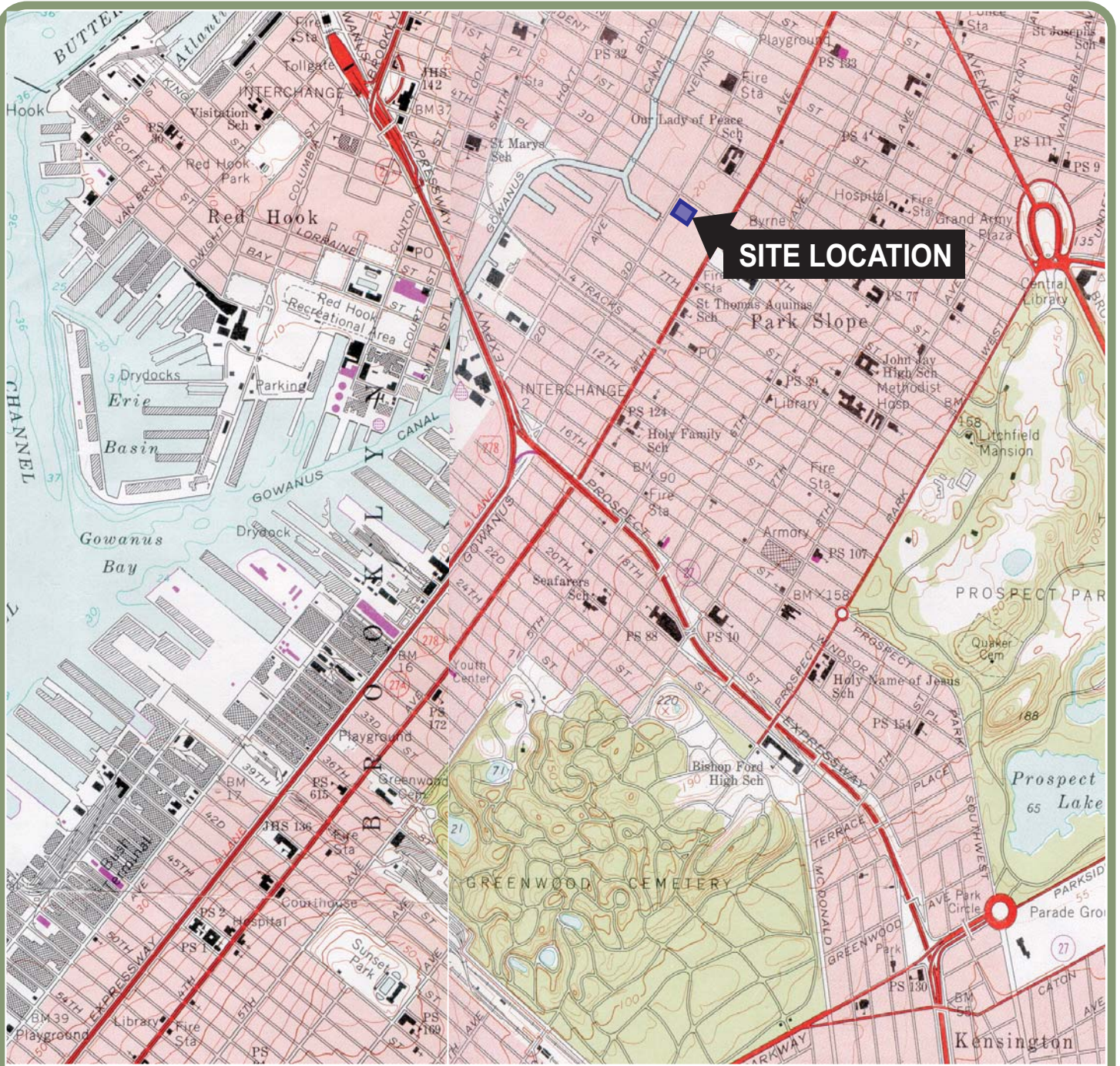
Robert Kovacs
Senior Environmental Scientist/
Project Manager



Douglas J. Swanson
Principal Hydrogeologist/
CEO

Attachments

cc: John Preston Turner, Esq., MRC Holdings, Inc.

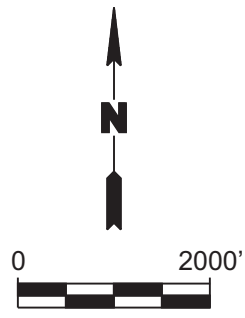


SITE LOCATION

QUADRANGLE LOCATION



SOURCE:
USGS; 1979, Brooklyn, NEW YORK
7.5 Minute Topographic Quadrangle



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ROUX ASSOCIATES, INC.
Environmental Consulting
& Management

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PROJ. NO.:	1758.0002Y000
SCALE:	AS SHOWN
COMPILED:	E.L.
PREPARED:	J.A.D.
PROJ. MGR.:	R.S.K.
OFFICE:	NY

Subject:

SITE LOCATION MAP

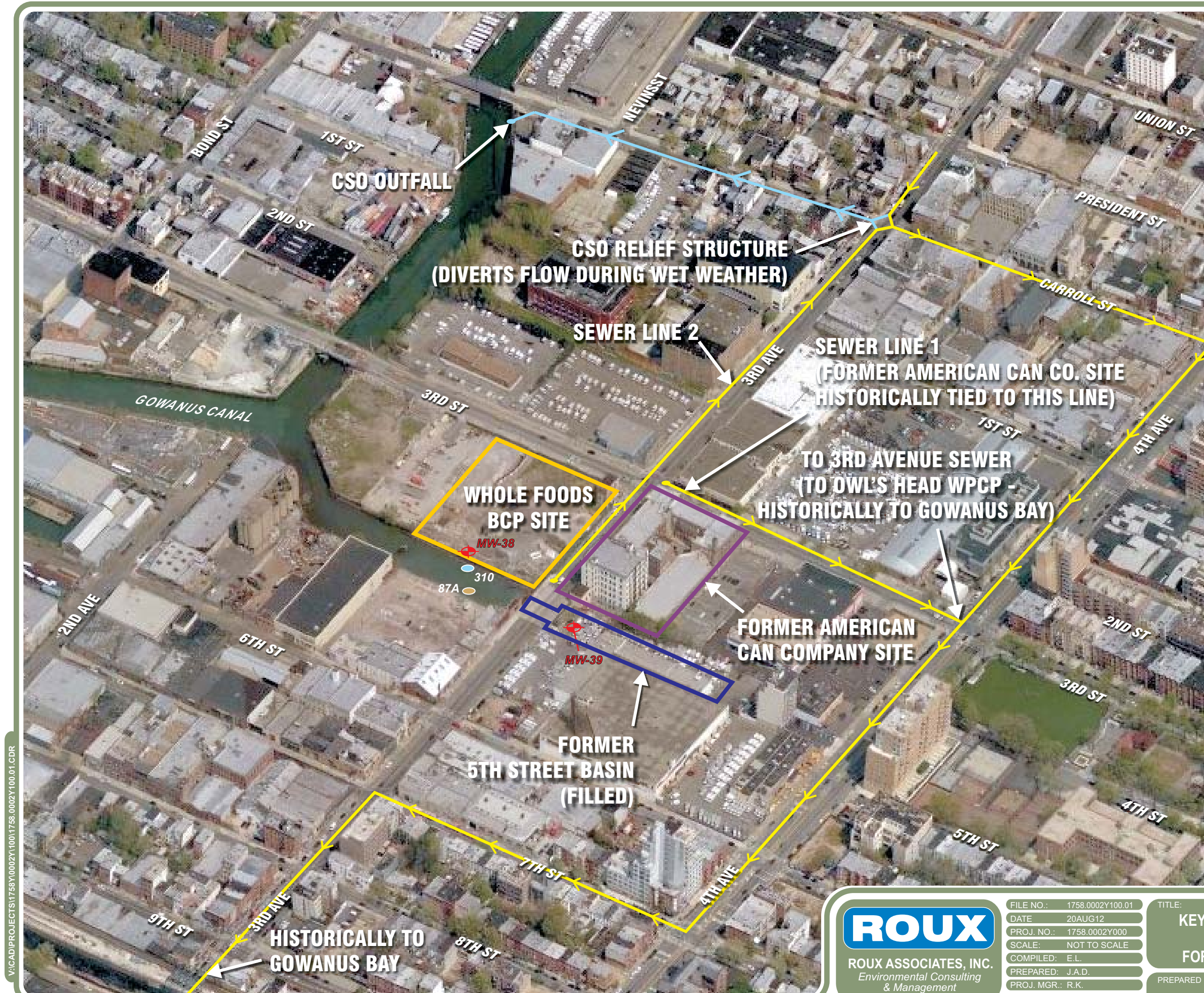
232 THIRD STREET
BROOKLYN, NEW YORK

Prepared for:






GIBBONS P.C.

FIG.

1



LEGEND

-  MONITORING WELL CLUSTER (SHALLOW AND INTERMEDIATE WELLS)
-  SURFACE WATER AND SURFACE SEDIMENT SAMPLE
-  SEDIMENT CORE SAMPLE
-  APPROXIMATE LOCATION OF COMBINED SEWER LINE
-  APPROXIMATE LOCATION OF WET WEATHER RELIEF LINE
- CSO COMBINED SEWER OVERFLOW
- WPCP WATER POLLUTION CONTROL PLANT



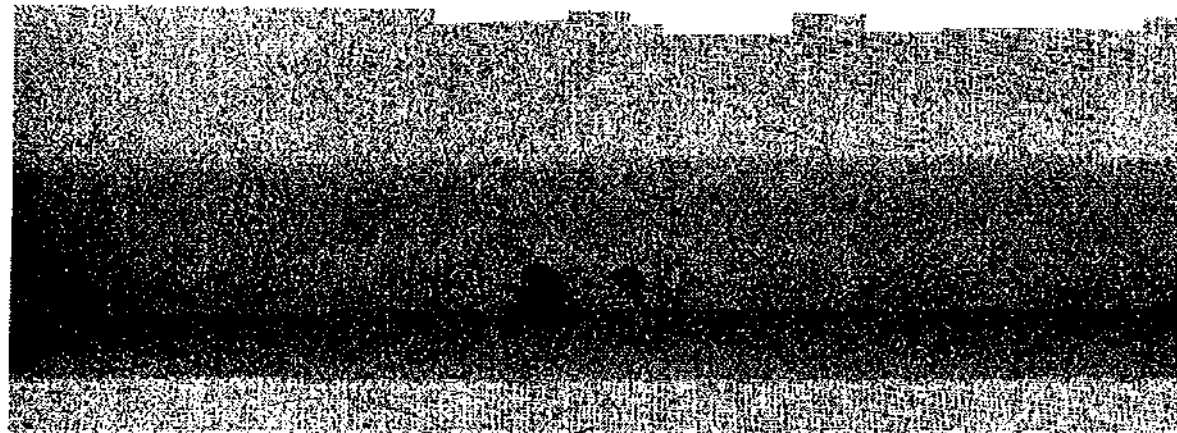
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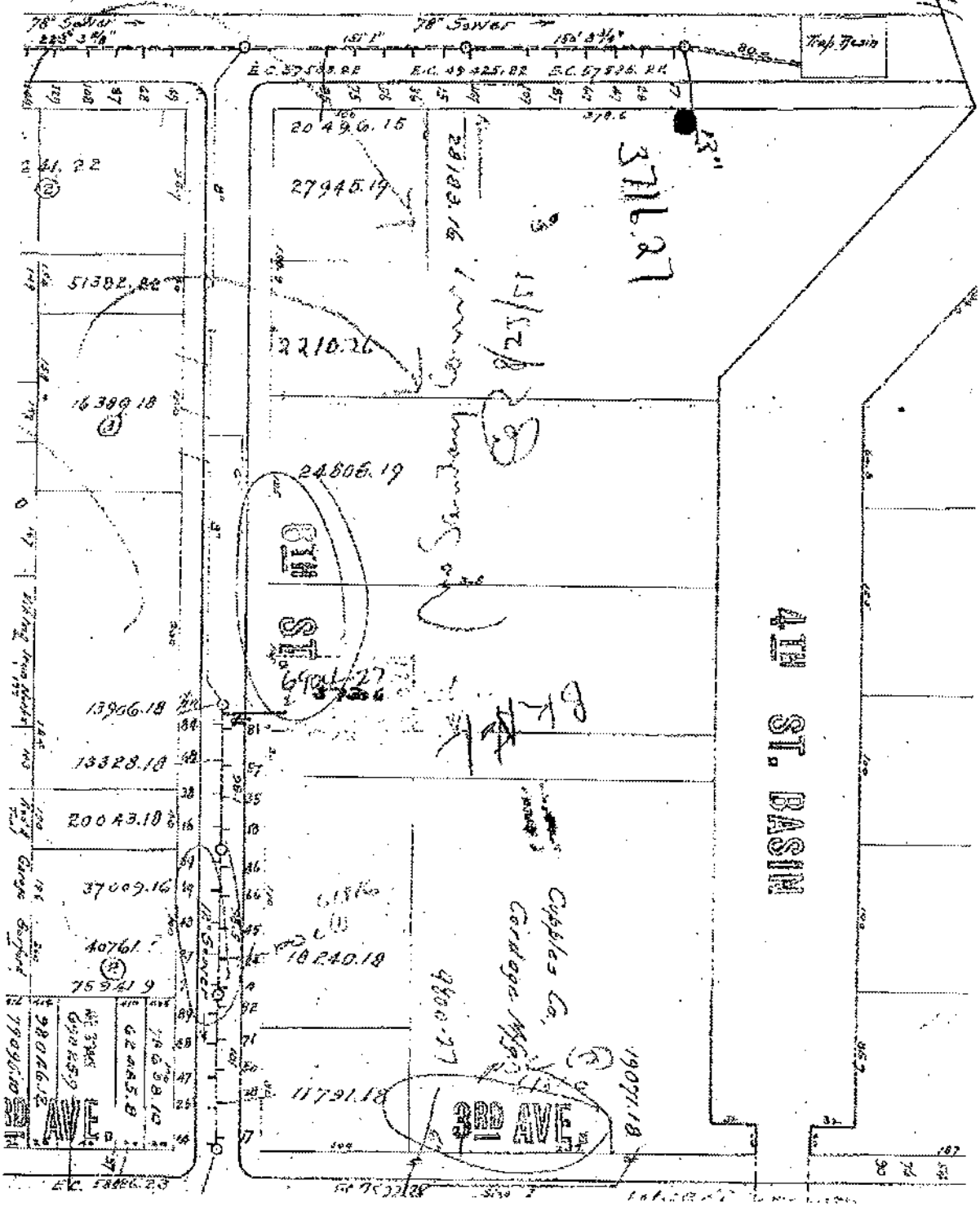
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 COMPILED: E.L.
 PREPARED: J.A.D.
 PROJ. MGR.: R.K.
 OFFICE: NY

TITLE:
**KEY SAMPLING LOCATIONS AND SEWERS
 IN THE VICINITY OF THE
 FORMER AMERICAN CAN COMPANY SITE**
 PREPARED FOR:
 GIBBONS P.C.

NYCDEP As-Built Sewer Maps



2ND AVE.



pg 44
Other side
of Basin

M.T. Coal Yard.

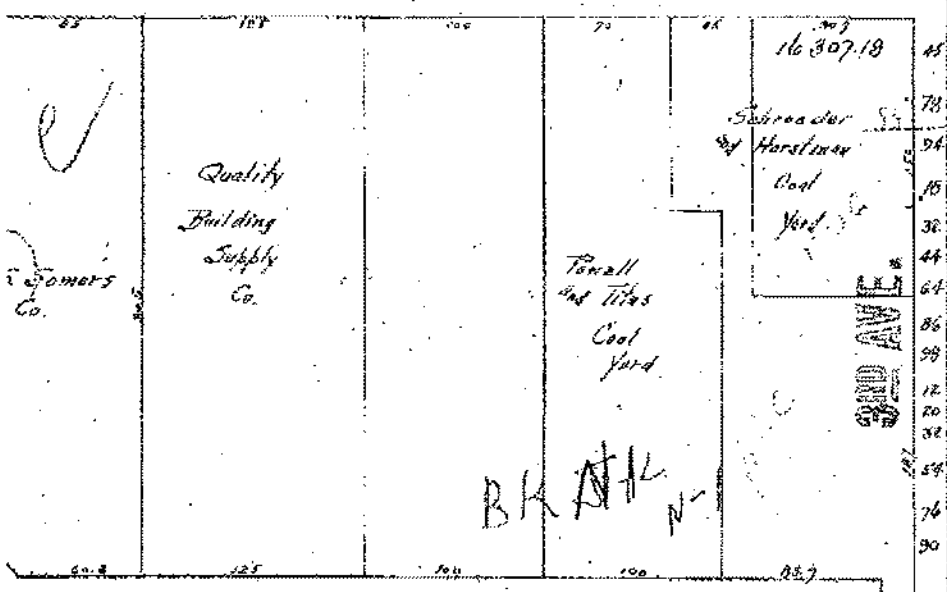
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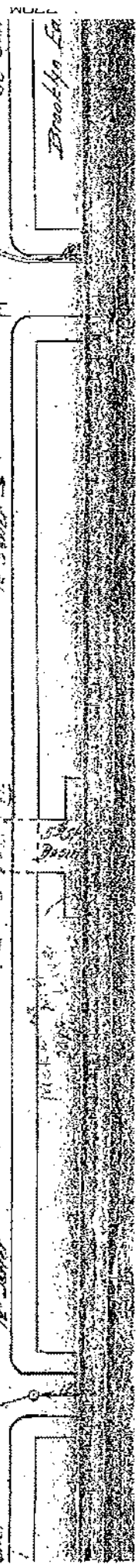
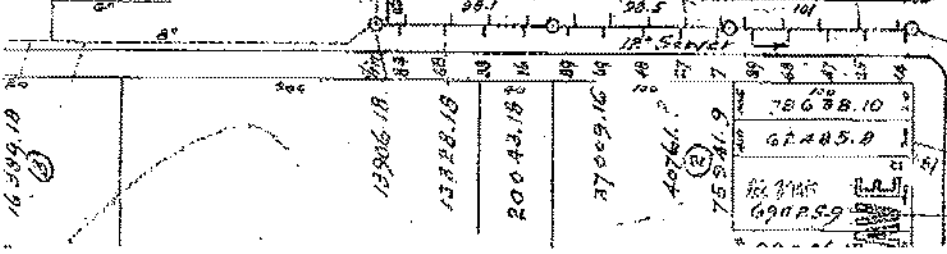
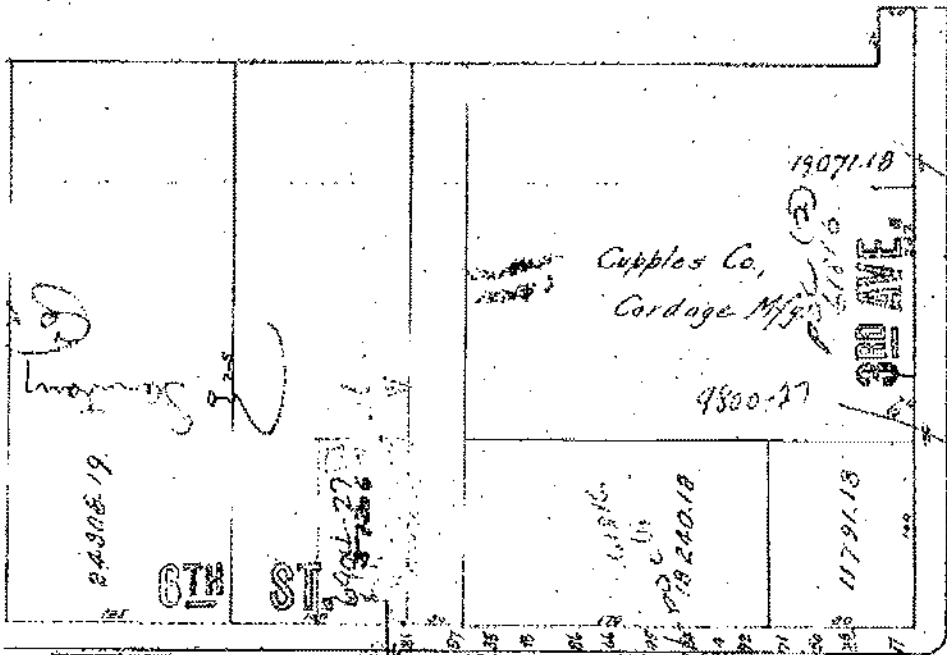
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4TH ST. BASIN



Page 57

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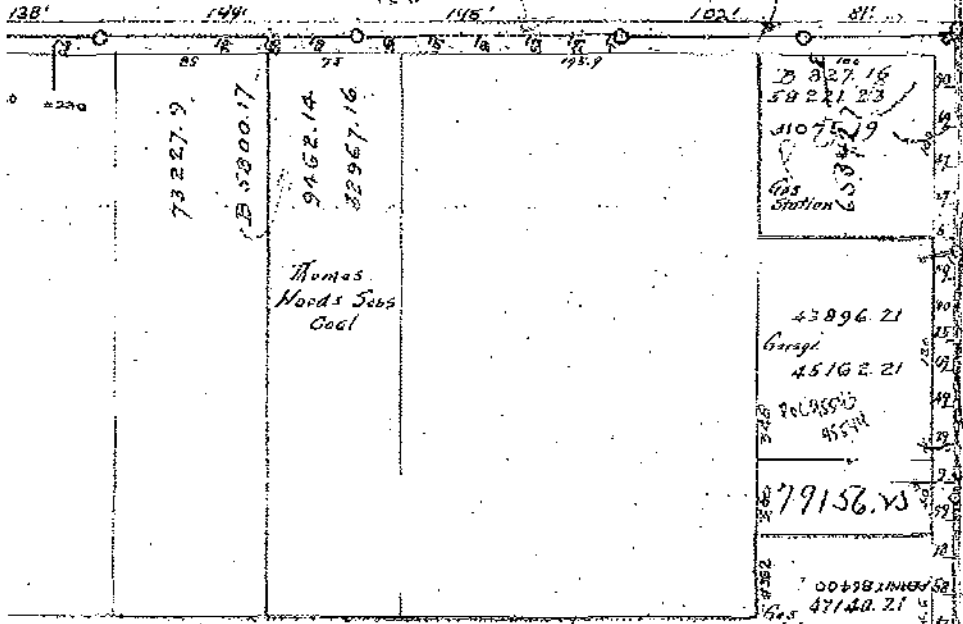
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Page 37

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NEW 12" COMB. SEWER



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Coal

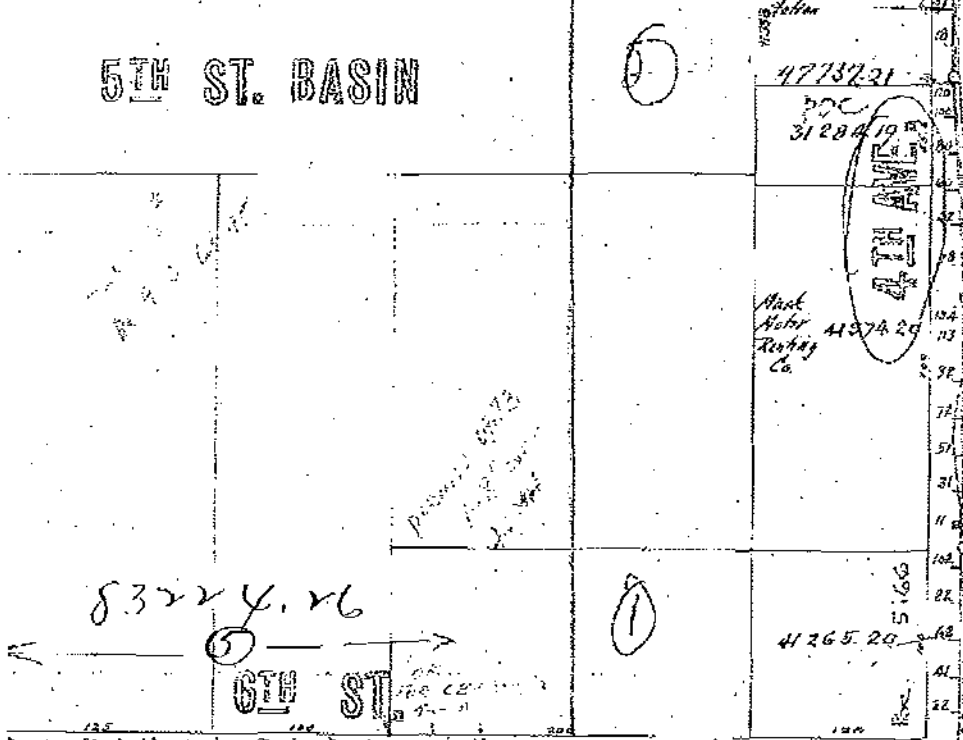
Garage

Gas Station

Gas Station

5TH ST. BASIN

(5)



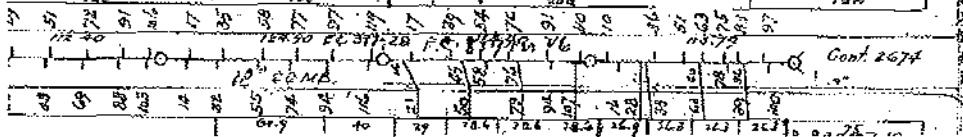
83224.26

5TH ST.

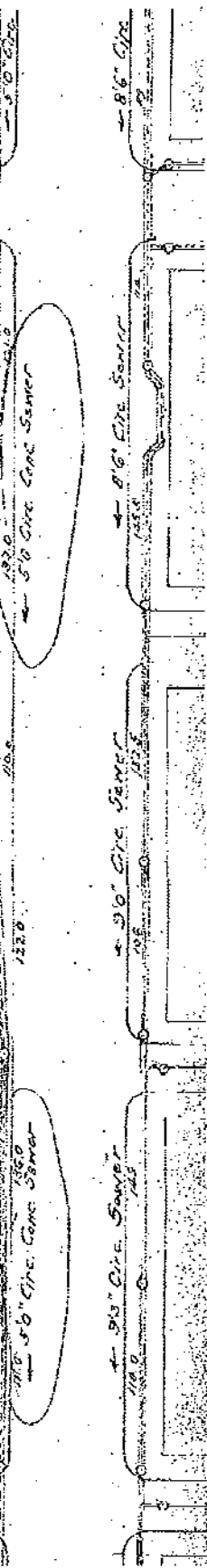
(1)

Gas Station

Gas Station



Cont. 2674



56" Circ. Conc. Sewer

86" Circ.

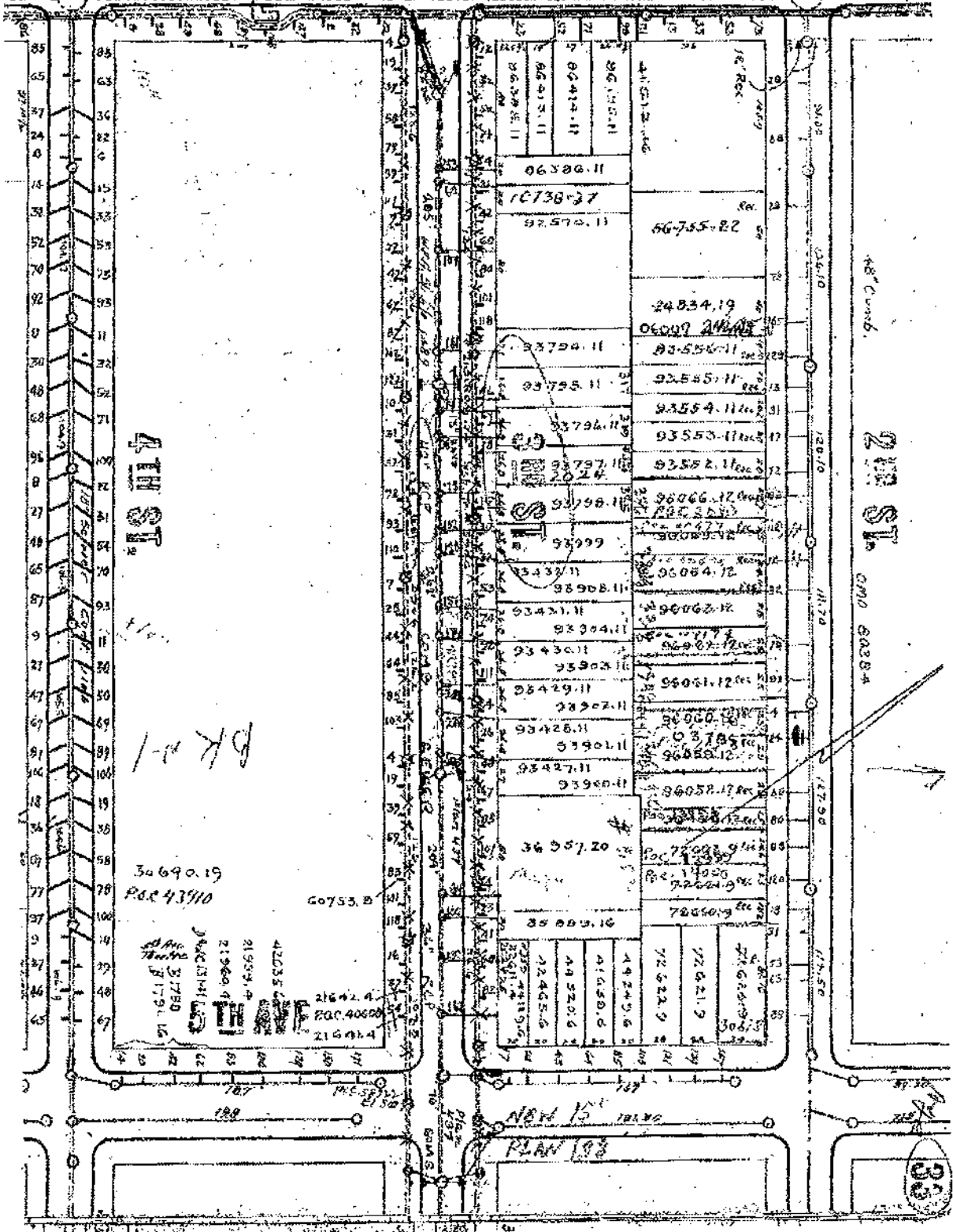
56" Circ. Conc. Sewer

56" Circ. Conc. Sewer

56" Circ. Conc. Sewer

4TH AVE

1



4TH ST

2ND ST

BK #1

30690.19
P.O.C. 43910

60753.2

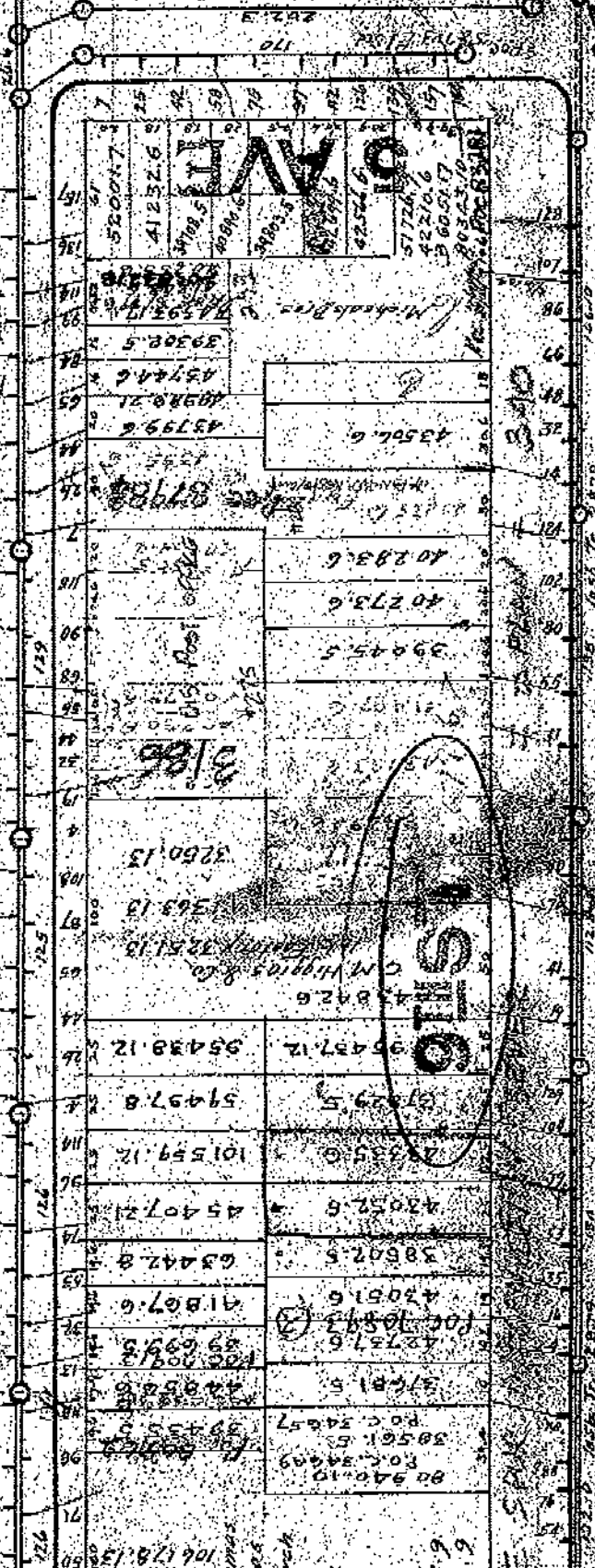
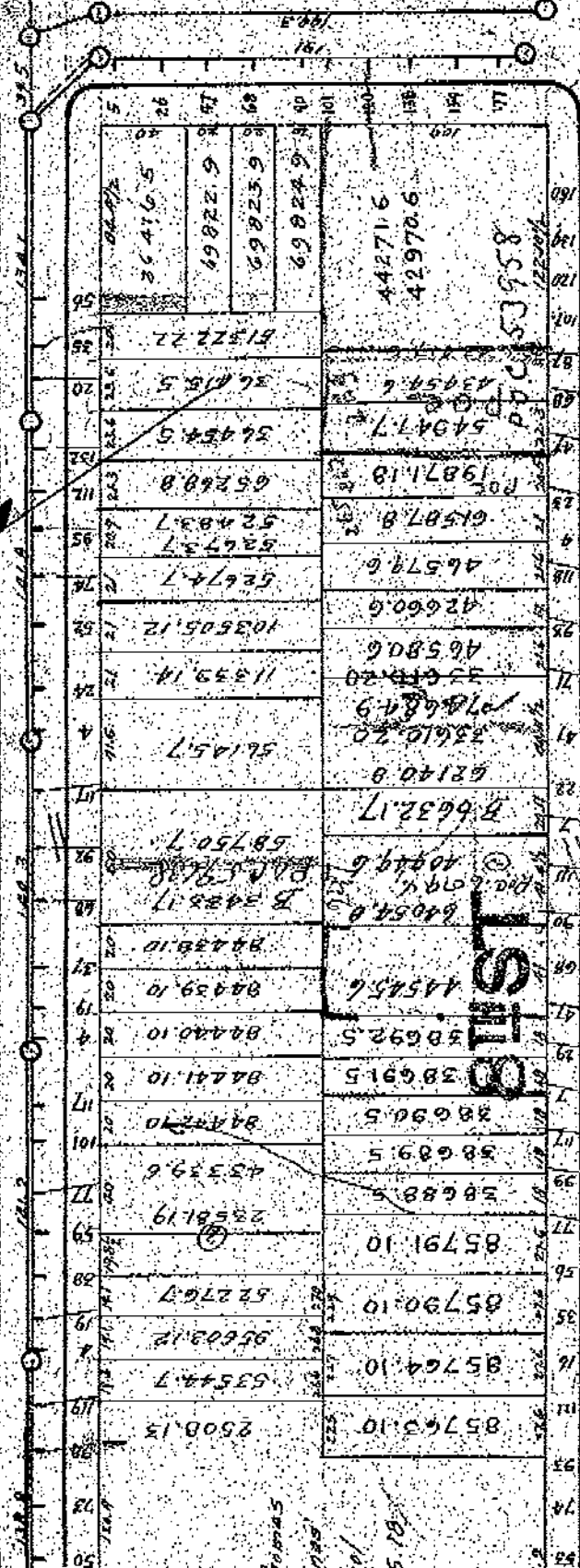
4203.6
 21959.4
 21960.4
 3780
 3780
 21642.4
 P.O.C. 40620
 21642.4

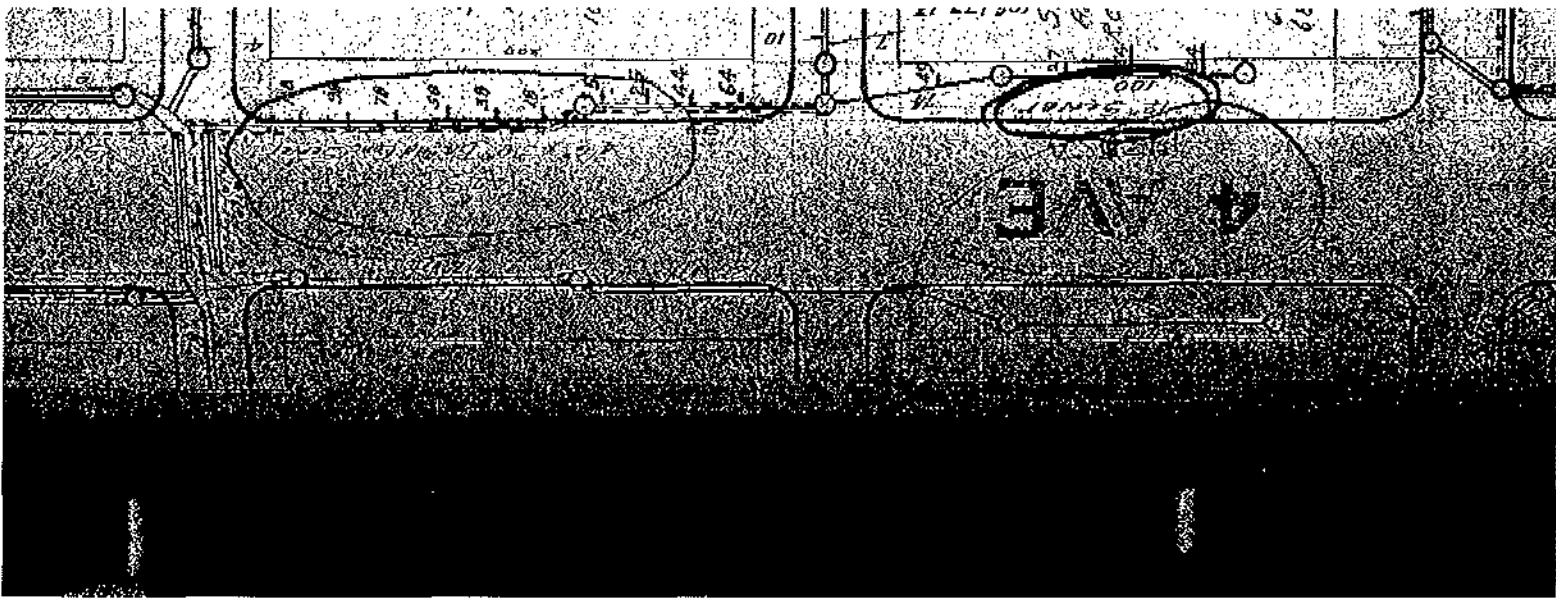
NEW 15' DRIVE
PLAN 103

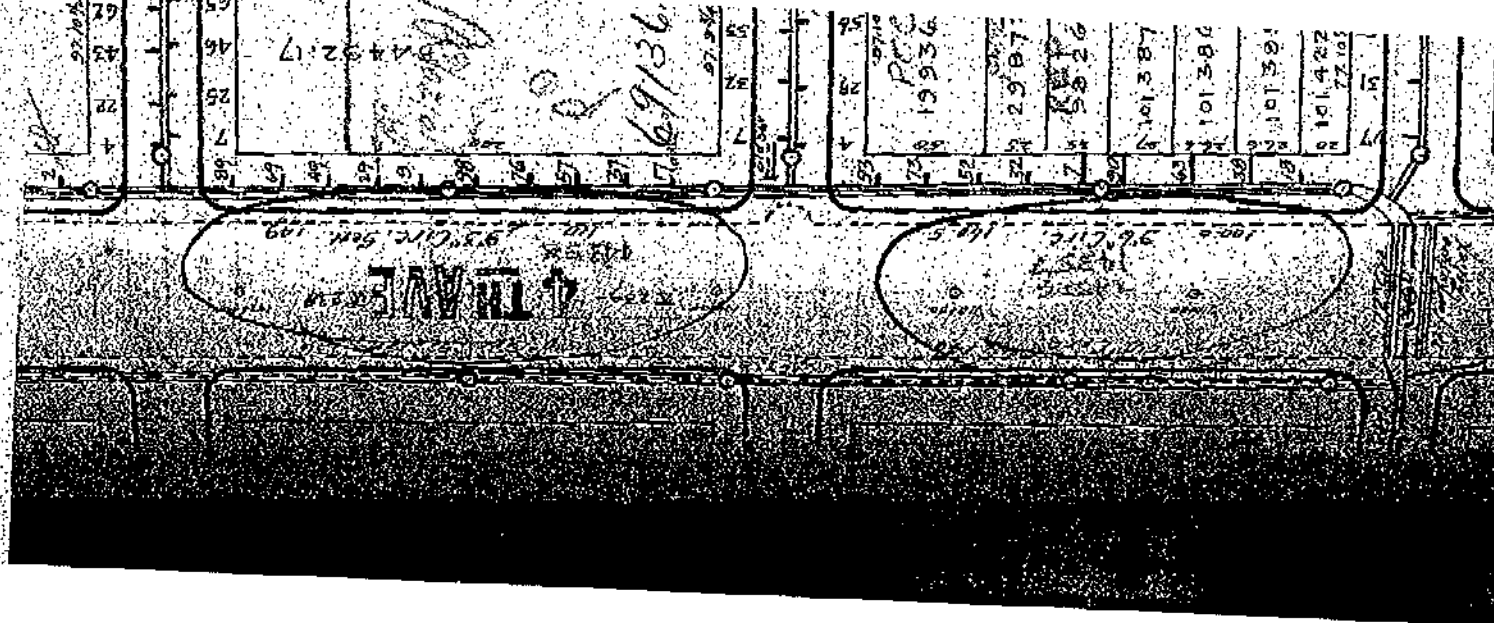
33

BK N-1 1734

IS III







BROOKLYN EDISON CO. INC.

3rd Ave
74417.25
8" G.
1 B/dg.

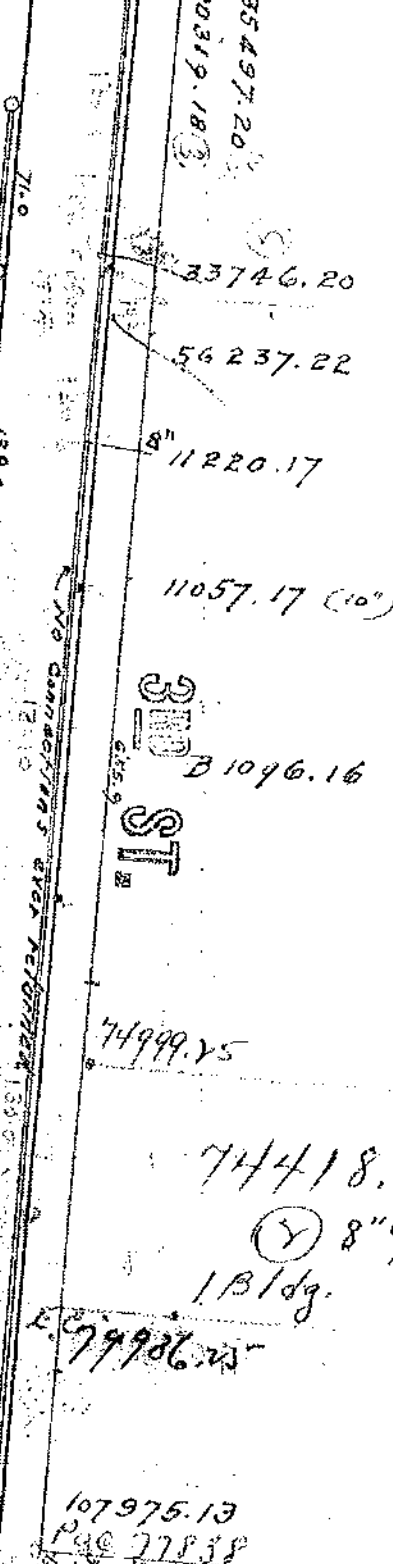
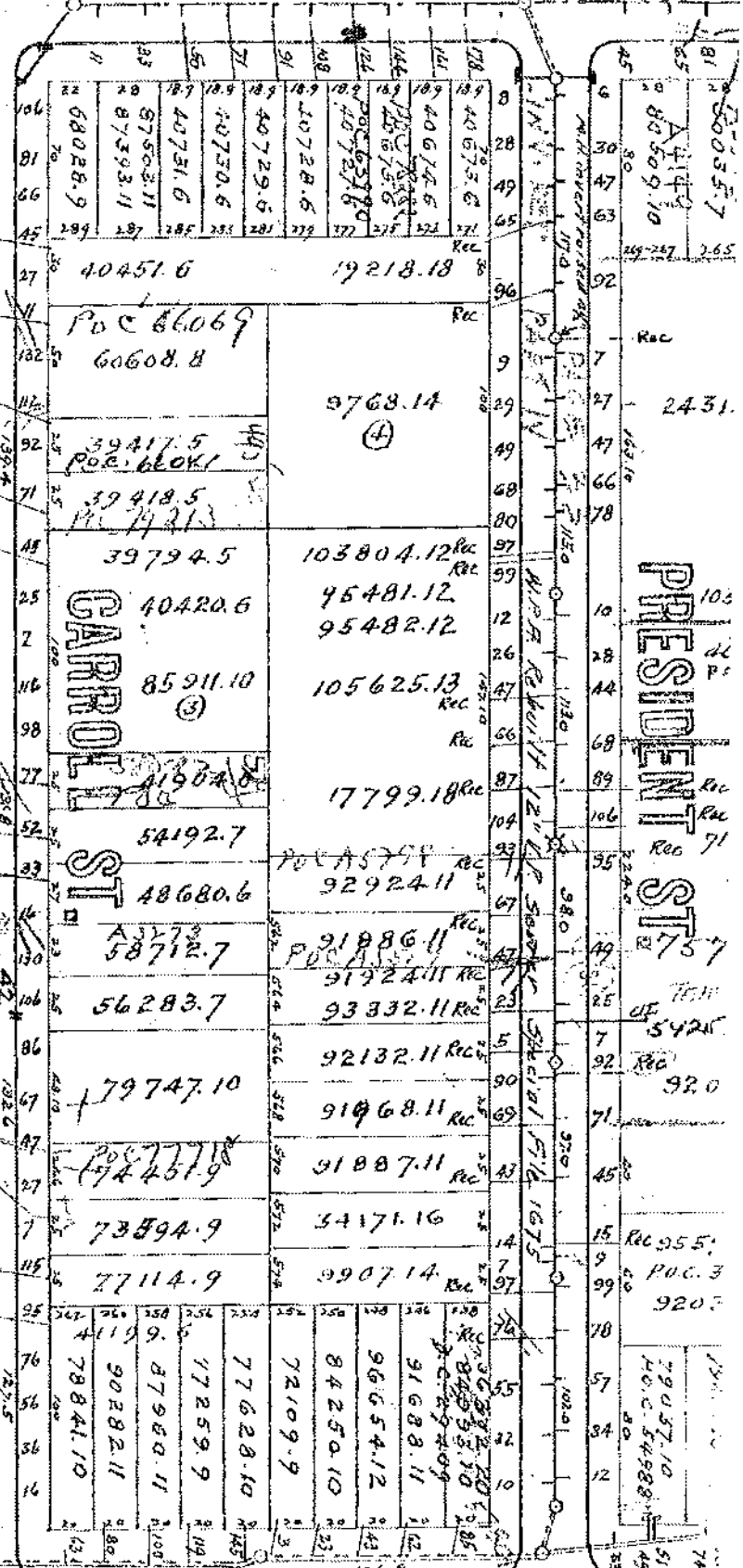
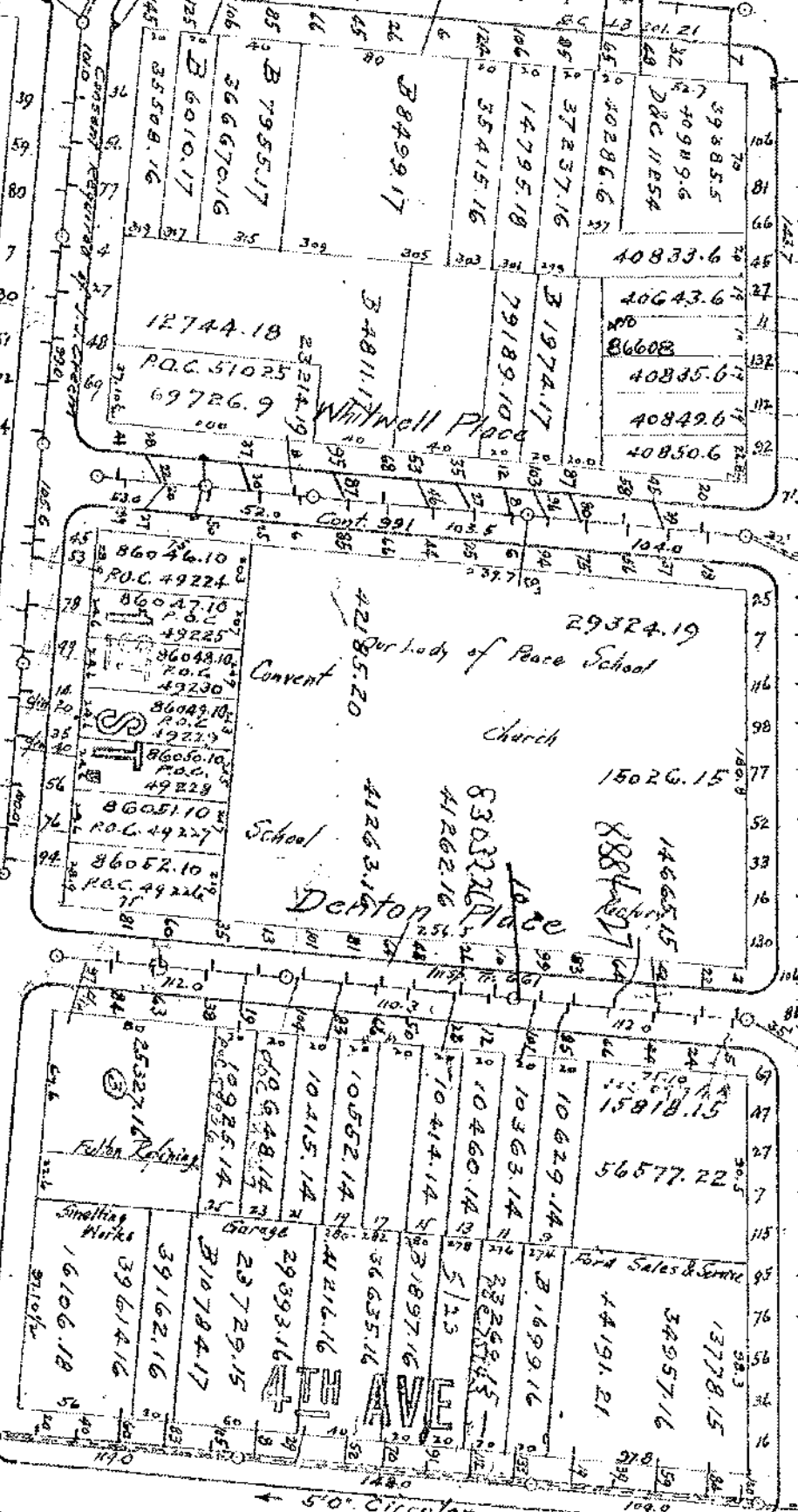
REAR
283

3rd ST

B 1096.16

74418.25
8" G.
1 B/dg.

4th Ave



5'0" Circ. Conc. Sewer

5'0" Circular
R 236 8 1/2" dia

3'6" x 2'4" Brick
R 235

8'0" Circ. Sewer

7'3" Circ. Conc. Sewer

7'3" Circ. Conc. Sewer

6'3" Circ
EC 20766.18
EC 40874.20

4'0" Circ. Sewer

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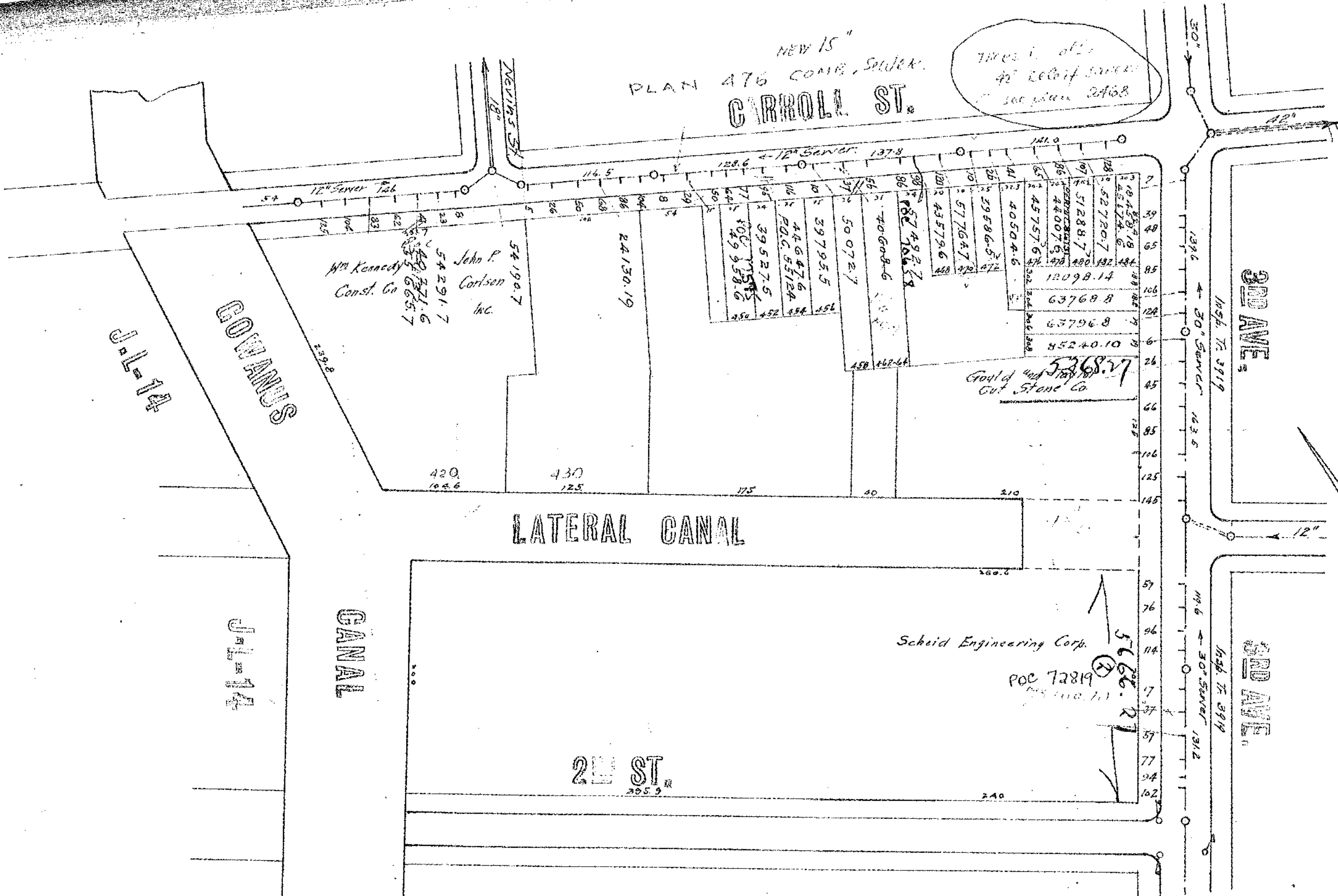
Page 32

Page 32

NEW 15" PLAN 476 CORR. SOLDER CARROLL ST.

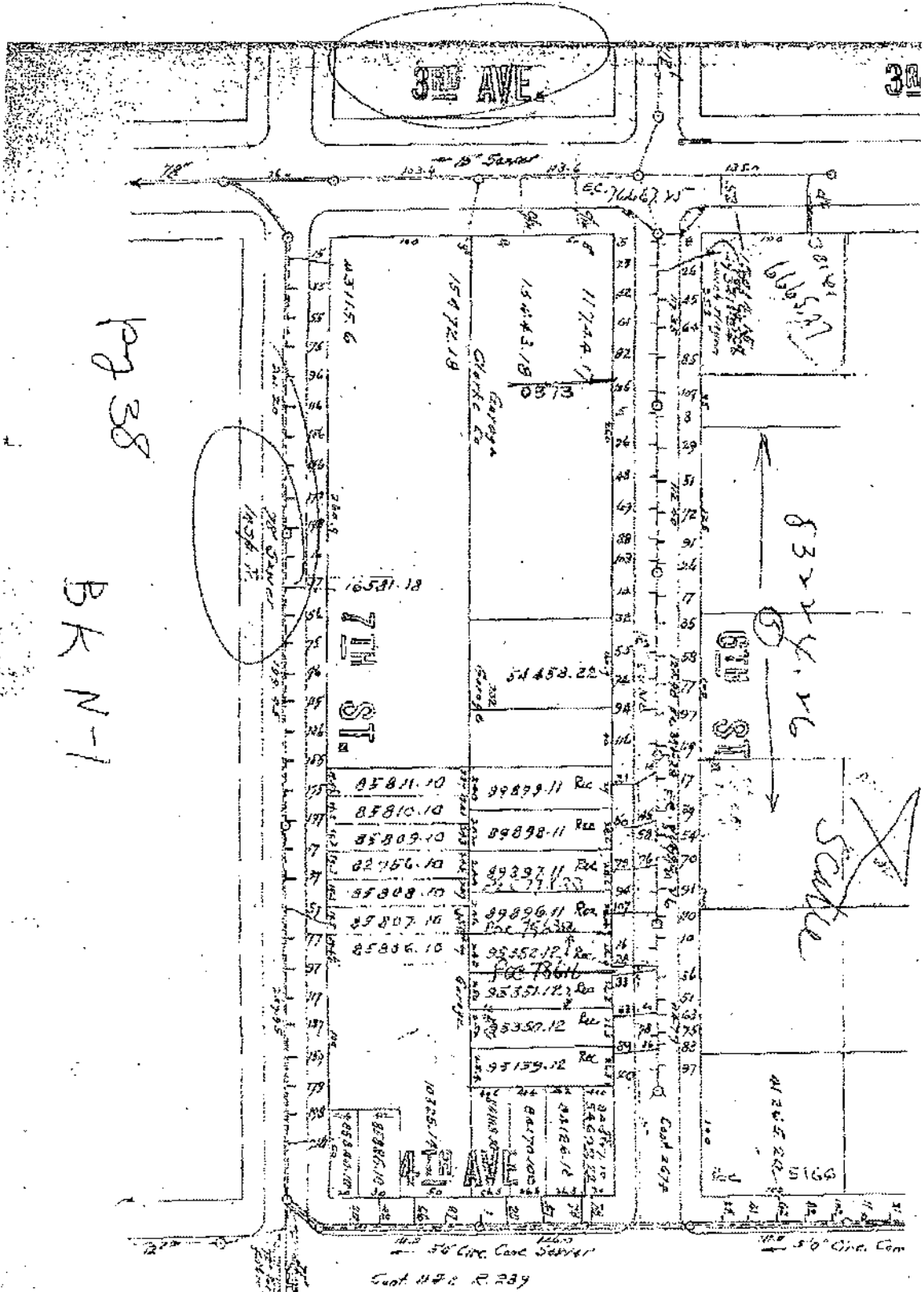
7 lines of 42" relief sewer section plan 2468

TO 4th



Conventional Scale 30'

PS43 R.K. 10-4



pg 38

BK N-1

OFFICE OF THE PRESIDENT OF THE BOROUGH.
BUREAU OF SEWERS.
 BOROUGH OF BROOKLYN, CITY OF NEW YORK.
MAP N DIST. 29

RELIEF SEWER IN CARROLL STREET FROM 3RD AVE. TO GOWANUS CANAL

Approved *Amos S. Clark* President of the Borough of Brooklyn.
 Approved *Edward J. Gurnea* Commissioner of Public Works, Borough of Brooklyn.
 Approved *Samuel L. Parsons* Superintendent of Sewers, Borough of Brooklyn.
 Approved *Henry R. Luce* Chief Engineer of Sewers, Borough of Brooklyn.

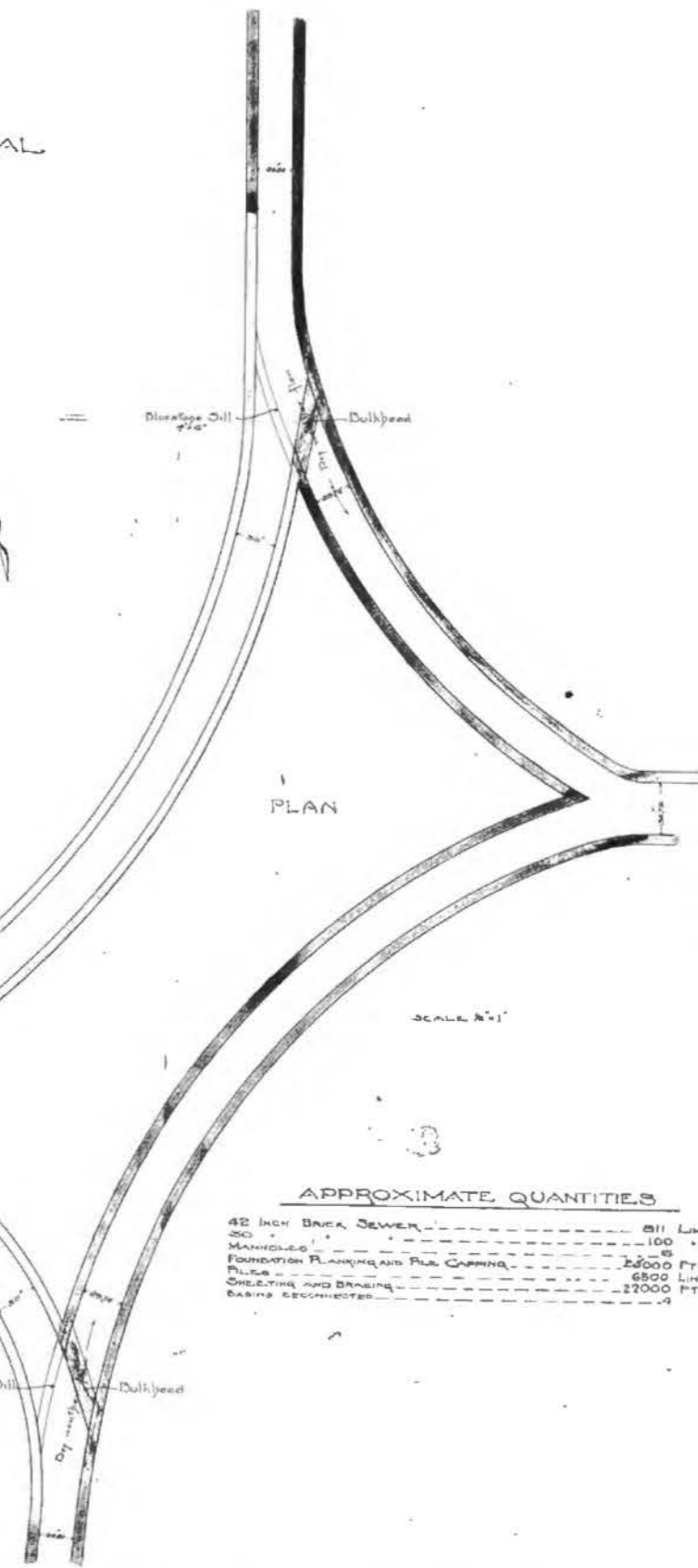
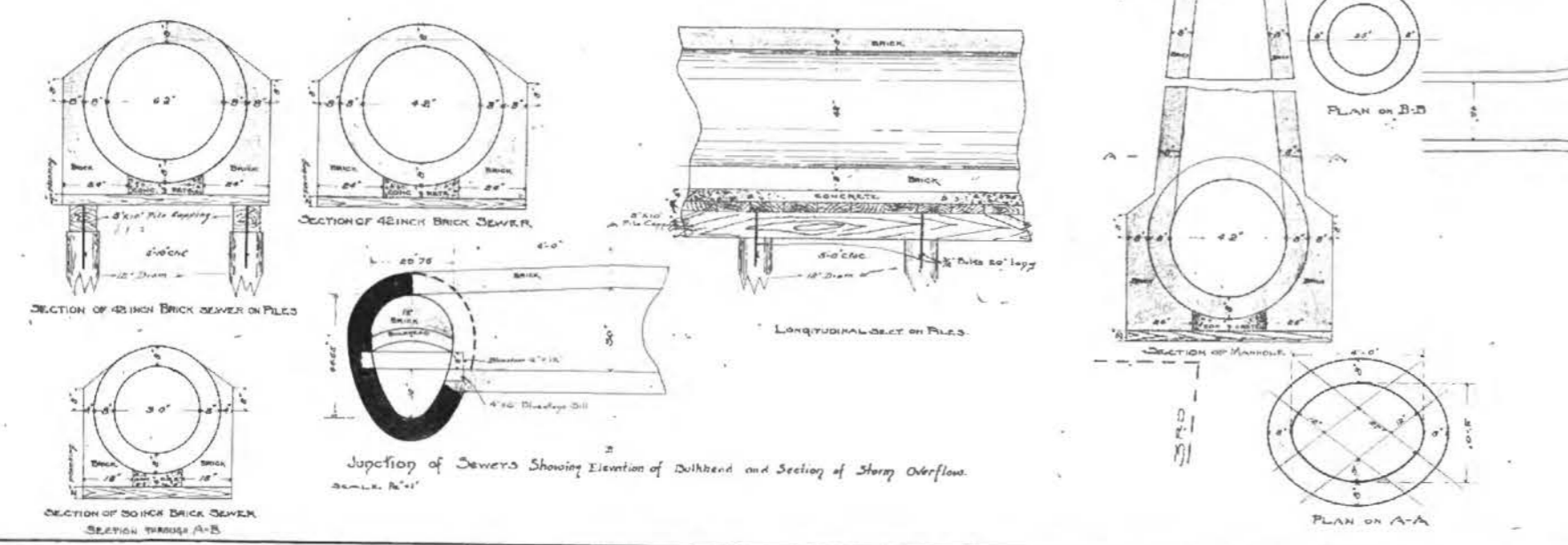
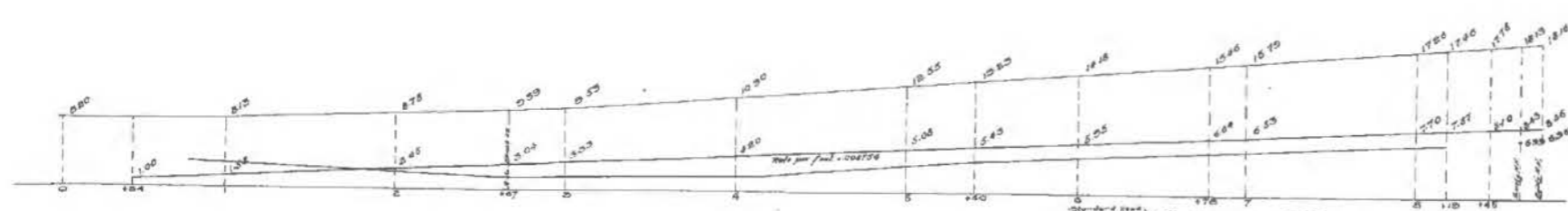
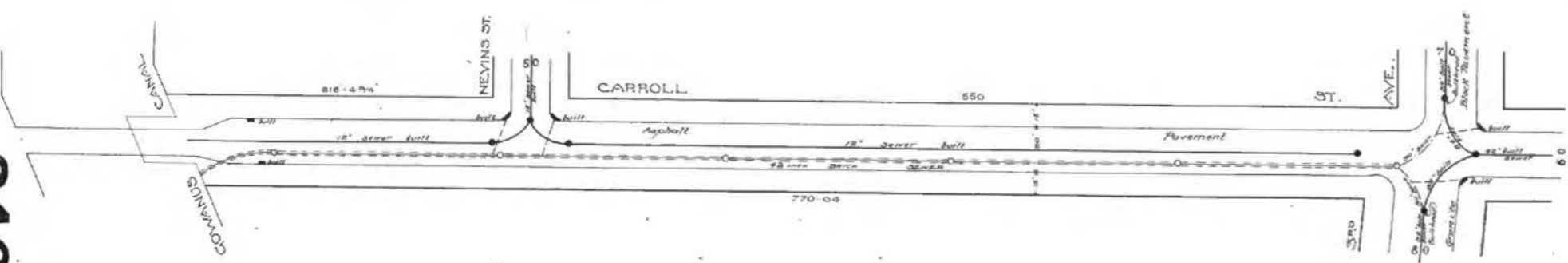
This Plan is Dated *August 20th* 190*6*

SCALE HOR. 1 INCH = 40 FEET
 VER. 1 " = 8 "

CARROLL ST.

2468

2468

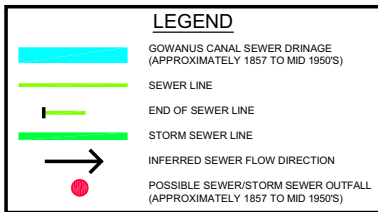
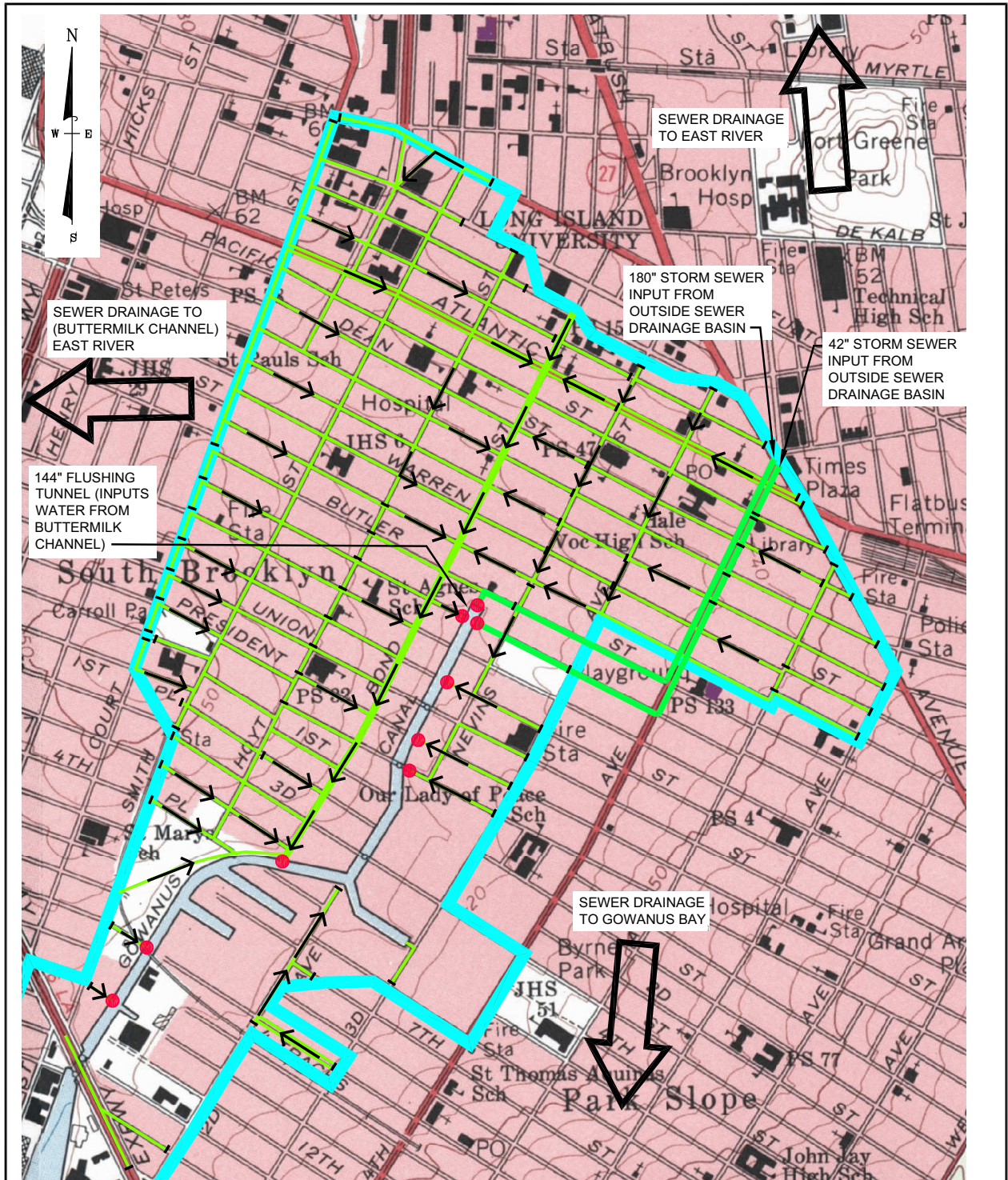


APPROXIMATE QUANTITIES

48 INCH BRICK SEWER	811 LIN. FT.
MANHOLES	100
FOUNDATION PLANKING AND PILE CAPPING	25000 SQ. FT.
PILES	6800 LIN. FT.
SHIELDING AND BRACING	27000 SQ. FT.
SAVING EXPENSES	4

2468

Figure Titled
"Historic Sewer Drainage to the Gowanus Canal"
Prepared by GEI Consultants, Inc.




SOURCES:
 U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979
 U.S.G.S. TOPOGRAPHIC MAP, JERSEY CITY, N.J., N.Y., PHOTOREVISED 1981
 HYDE, E.B. MAP COMPANY, DESK ATLAS, BOROUGH OF BROOKLYN 1929
 ULLITZ, HUYO, ATLAS OF BROOKLYN BOROUGH OF THE CITY OF NEW YORK, 1896-1899.

NOTE:
 GOWANUS CANAL SEWER DRAINAGE BASIN WAS CONSTRUCTED PRIMARILY THROUGH
 1898 HYDE MAP WITH SEWER DRAINAGE INFORMATION FROM 1929 HYDE MAP.
 CURRENTLY THE 144" FLUSHING TUNNEL INPUTS WATER FROM THE BUTTERMILK
 CHANNEL INTO THE CANALS.



DRAFT

PRIVILEGED AND CONFIDENTIAL
 ATTORNEY WORK-PRODUCT
 PREPARED AT THE REQUEST OF LEGAL COUNSEL

 **GEI Consultants, Inc.**

**FIGURE 3
 HISTORIC SEWER DRAINAGE
 TO GOWANUS CANAL**

GOWANUS CANAL
 KEYSpan ENERGY
 BROOKLYN, NEW YORK