



SAGE
ENVIRONMENTAL

Memorandum

To: Rhode Island Department of Environmental Management (RIDEM) Site Remediation
From: SAGE Environmental, Inc.
on behalf of The City of Newport and the Doris Duke Monument Foundation
Date: February 22, 2012
Re: **Queen Anne Square, Newport, Rhode Island**

INTRODUCTION

APPENDICES

- A. Division of Site Remediation Hazardous Material Release Notification Form
- B. Sanborn Maps 1884 – 1990
- C. Environmental Sample Location Plan
- D. Soil Sample Results Plan
- E. Laboratory Data Tables (Soil and Groundwater)

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Pawtucket, Rhode Island 02860
401-723-9900
FAX 401-723-9973
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APPENDIX A

**DIVISION OF SITE REMEDIATION
HAZARDOUS MATERIAL RELEASE NOTIFICATION FORM**

1. Notifier Information:

Name: City of Newport c/o Joseph Nicholson, Jr., City Solicitor

Address: City Hall, 43 Broadway, Newport, RI 02840

Phone: 401-845-5423

Status: Owner Operator Secured Creditor Voluntary

2. Property Information

Name of Site: 1 Queen Anne Square Park

Site Address: Intersection of Mill, Thames, Spring and Church Streets

Plat/Lot Numbers: Plat 24 Lot 346

Site Contact Person: Scott Wheeler, Tree and Grounds Supervisor

Site Contact Phone: 401-845-5802 (swheeler@cityofnewport.com)

Site Land Usage Type: Residential Industrial/Commercial

Location of Release: Surficial soils at park

_____ (attach site sketch as necessary)

3. Release Information

Date of Discovery: 2/22/12

Source: Urban fill

Release Media: Surficial and subsurface soils

Hazardous Materials and Concentrations: Lead (528-799 vs. I/C Std. of 500); TPH (13,200 vs. I/C Std. of 2500); Benzo[a]pyrene (860-8,900 vs. I/C Std. of 800); Benzo[a]anthracene (9,700-11,000 vs. I/C Std. of 7,800); Benzo[b]fluoroanthene (10,000-11,000 vs. I/C Std. of 7,800); Dibenz[a,h]anthracene (910-1,800 vs. I/C Std. of 800);

Extent of Contamination: Sporadic throughout site; planned improvement activities will likely incorporate a variety of capping strategies to prevent human interaction with impacted soils

4. Resource Information

Site Land Usage: Industrial/Commercial Residential
(public park)

Adjacent Land Usage: Industrial/Commercial Residential

Site Groundwater Class: GA/GAA GB

Adjacent Groundwater Class: GA/GAA GB
(if different than site groundwater classification within 500 feet)

Nearest Surface Water or Wetland:

Less than 500 feet Greater than 500 feet

Potential for adverse impact Yes No

5. Potentially Responsible Parties

Name: City of Newport

Address: City Hall, 43 Broadway, Newport, RI 02840

Status: Owner Operator Other: _____

Name: Doris Duke Monument Foundation

Address: c/o Newport Restoration Foundation, 51 Touro Street, Newport, RI 02840

Status: Owner Operator Other: Project redevelopment proponent to manage contaminated soils

6. Measures taken or proposed to be take in response to release: Soil capping and possible limited off-site disposal

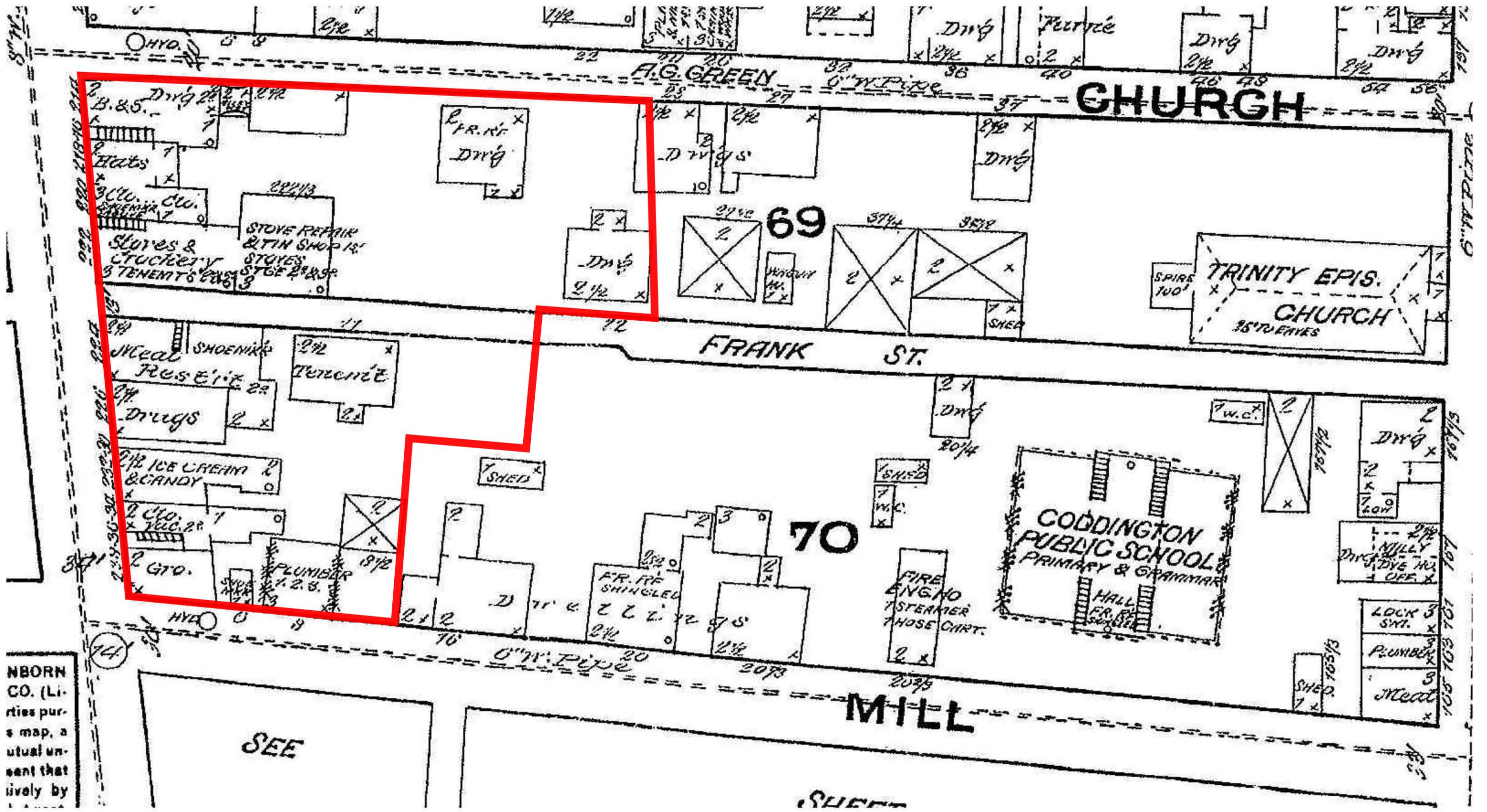
7. Other significant remarks about release (will a background determination be made?): No

Signature: _____

Date 2/22/12

Title: City Solicitor

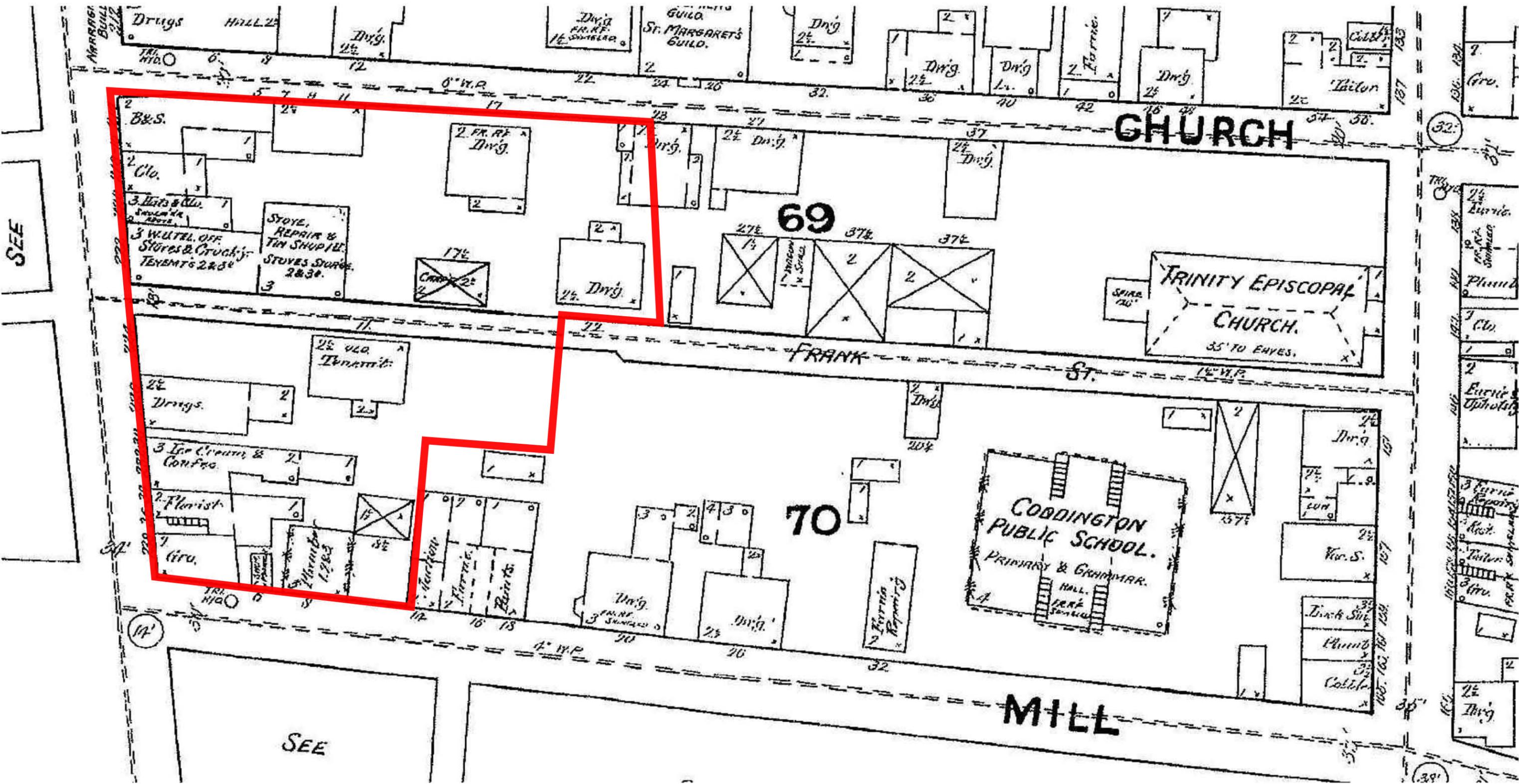
APPENDIX B



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SEE

SHEET



CHURCH

69

FRANK ST.

70

CODDINGTON PUBLIC SCHOOL.
PRIMARY & GRAMMAR.
HALL.
FRANK ST. SIDE

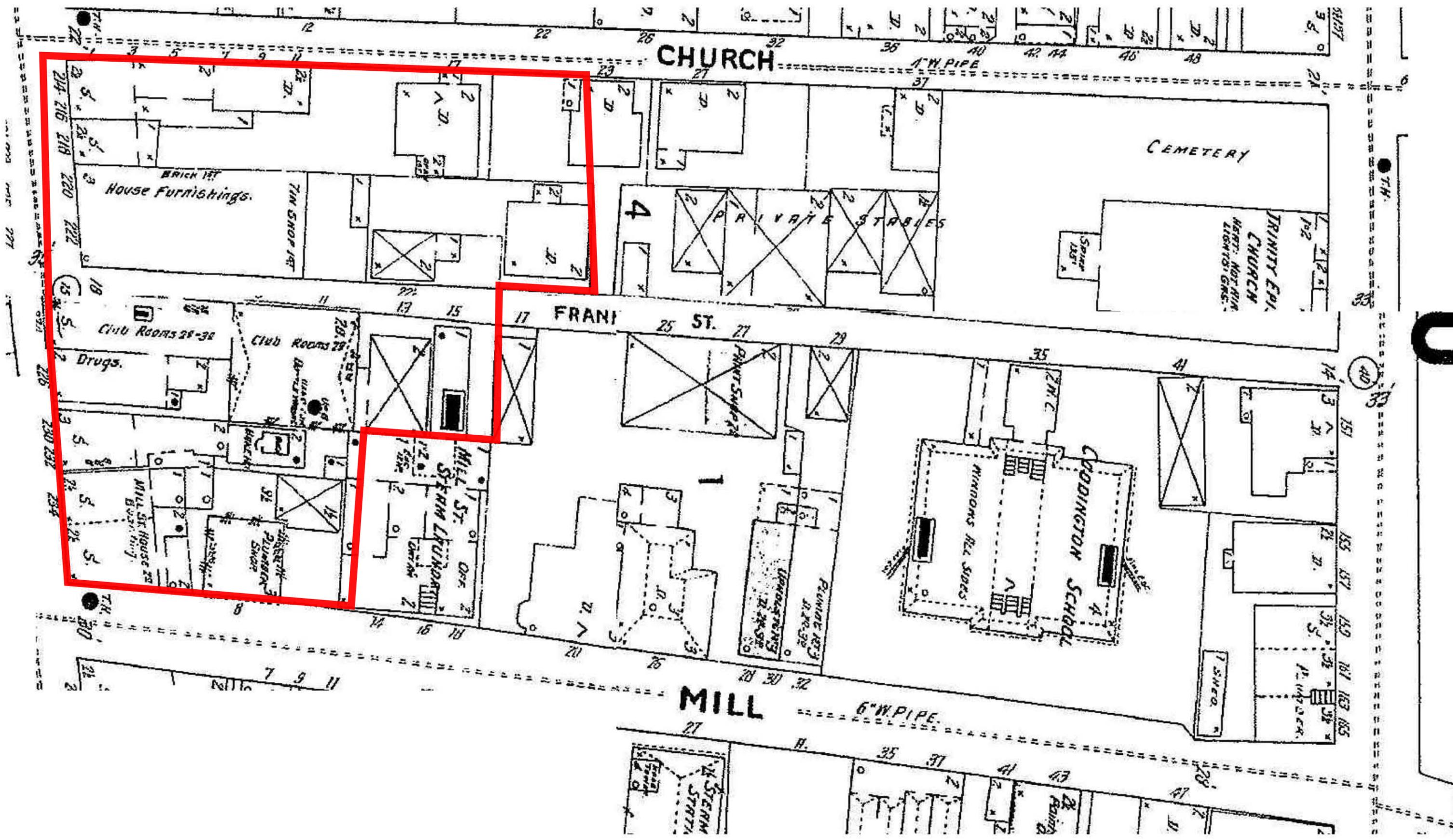
TRINITY EPISCOPAL CHURCH.
35' TO EYES.

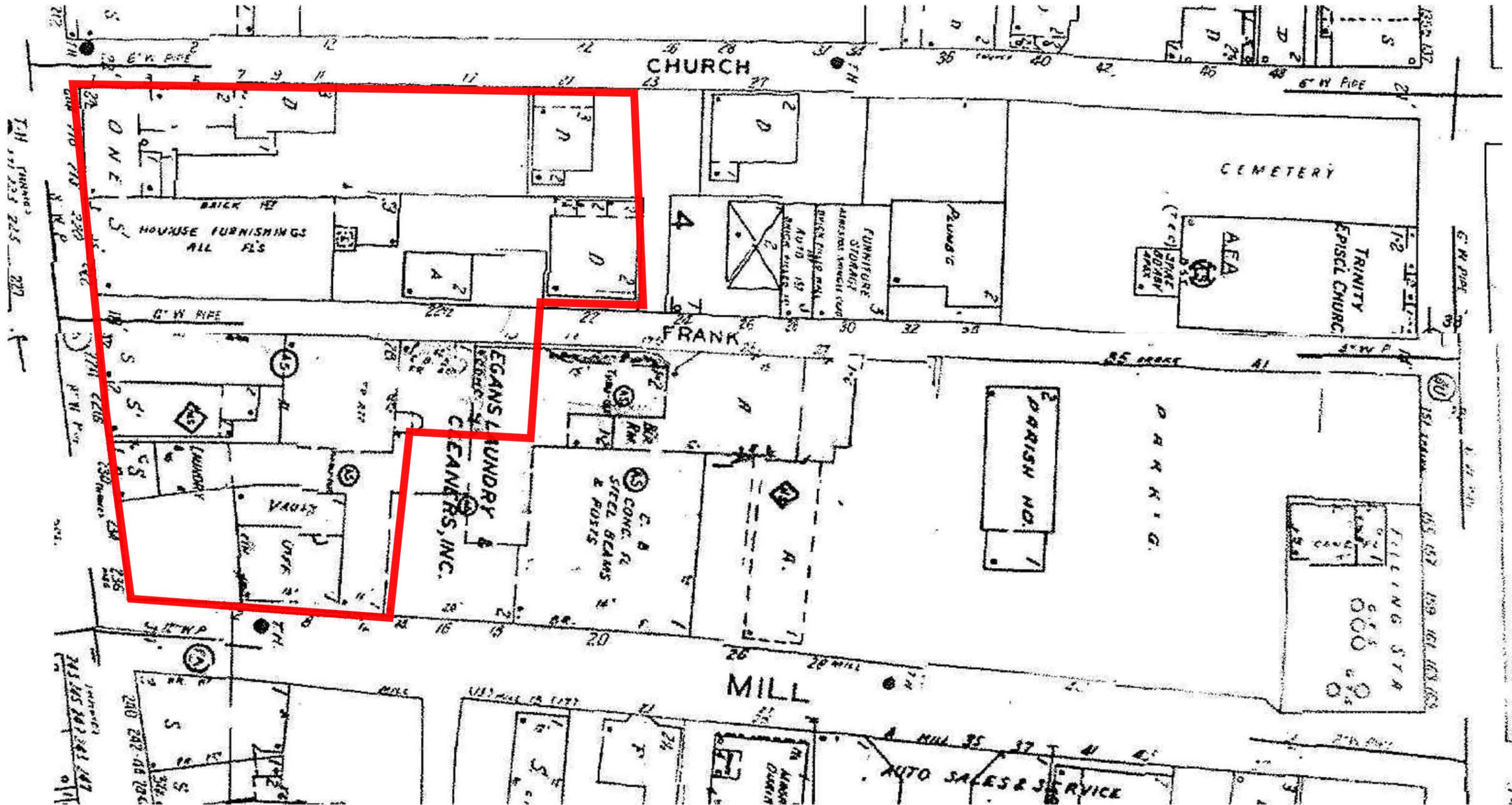
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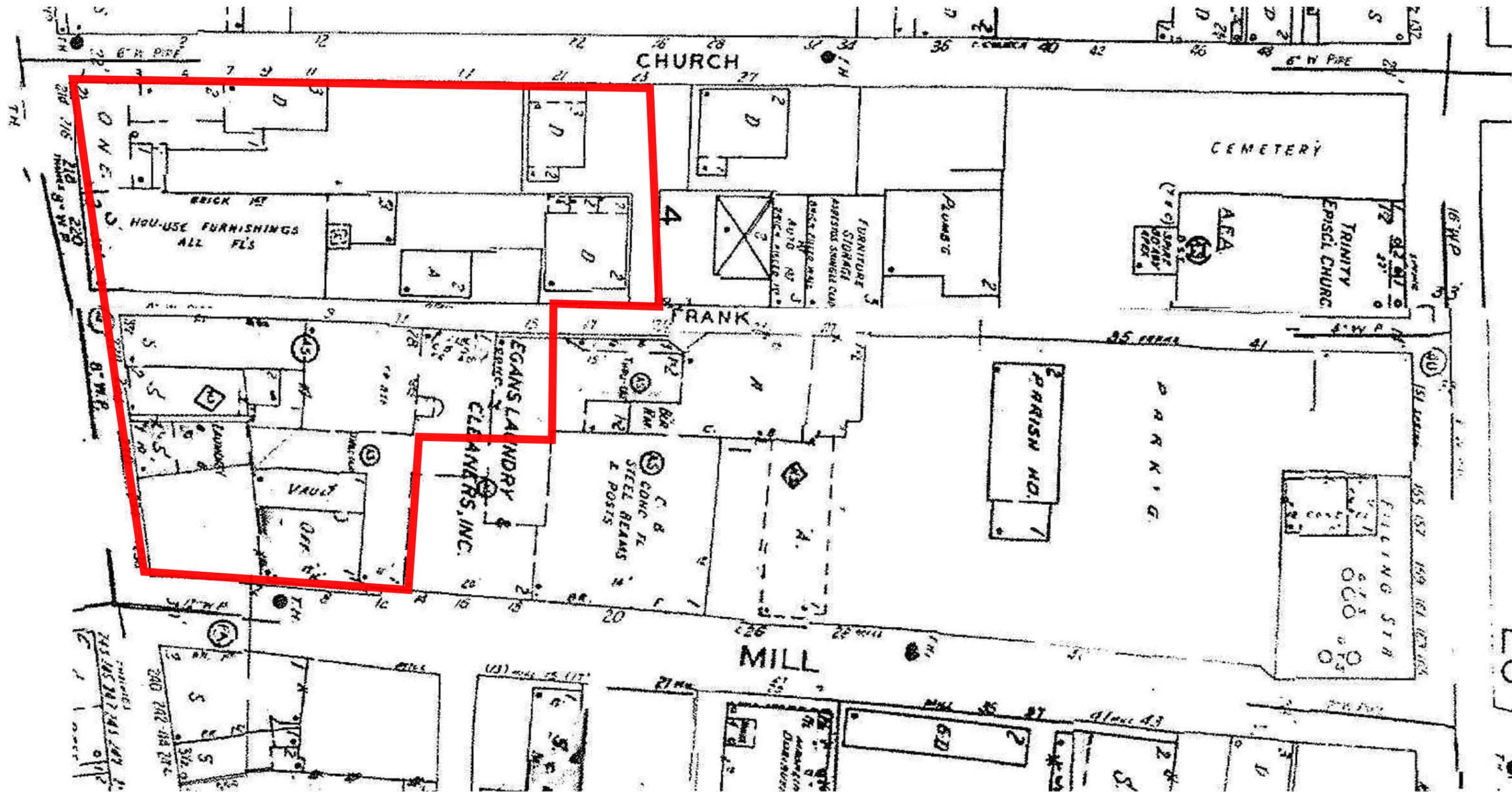
SEE

1891



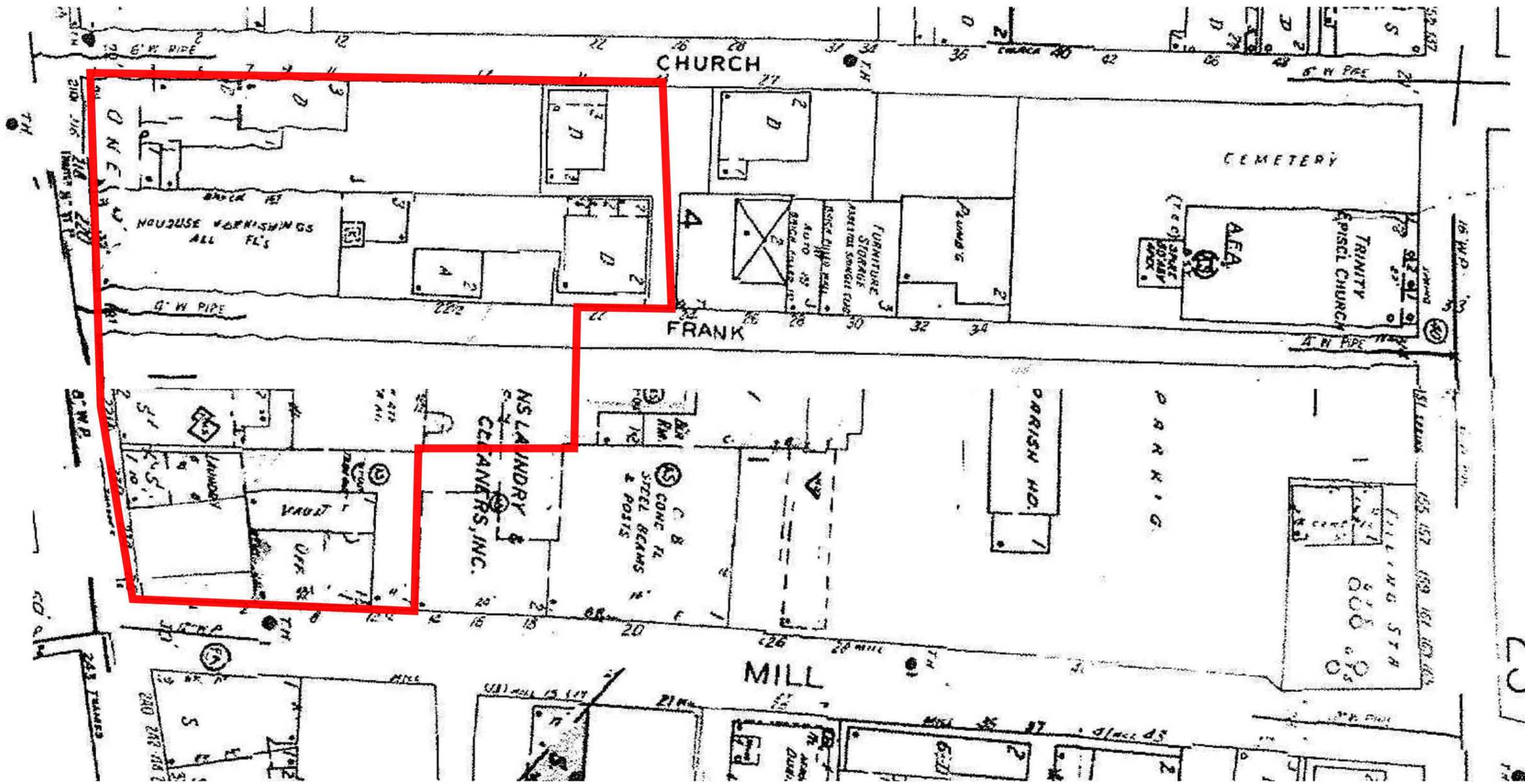


1963

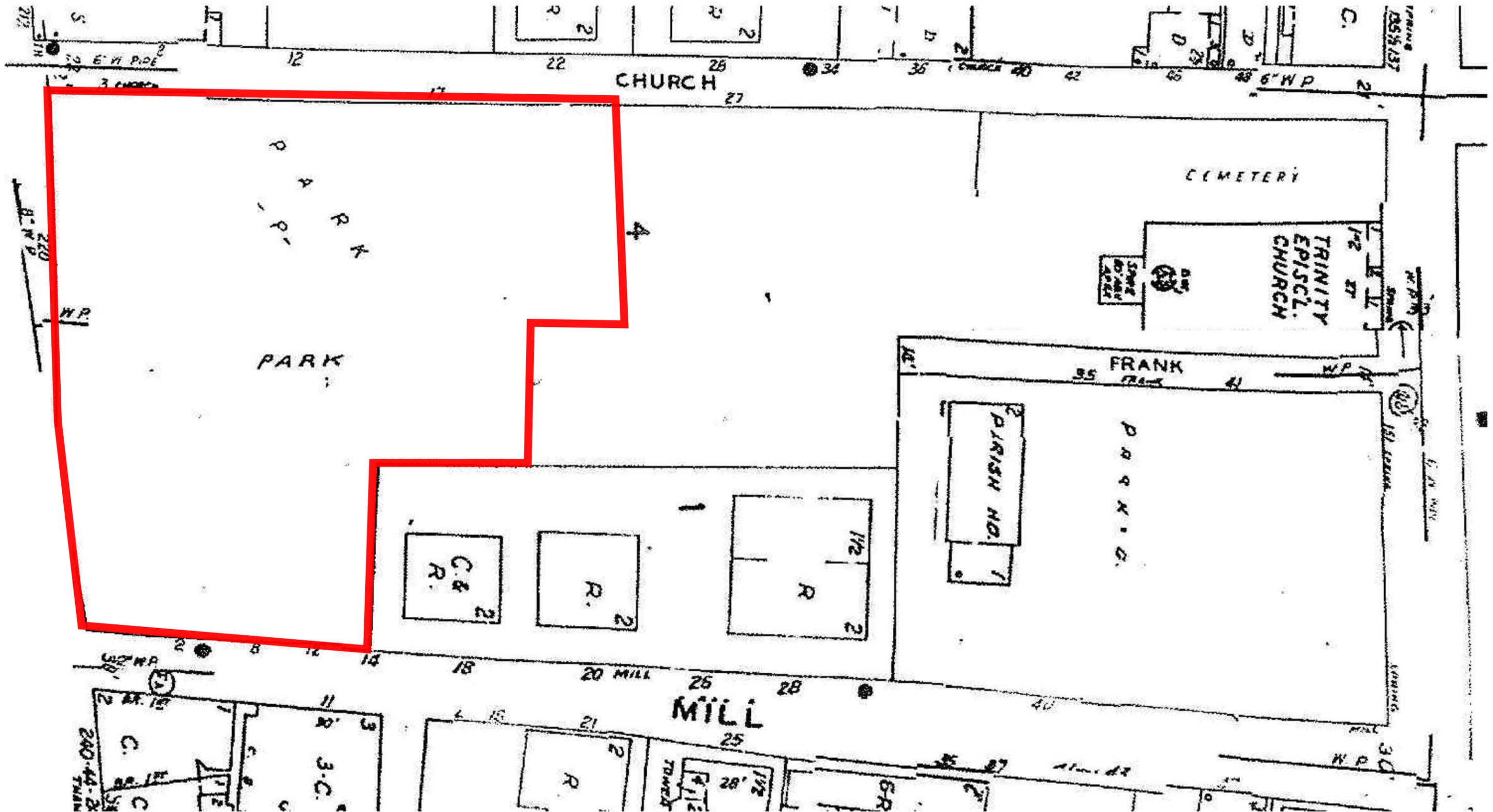


231

1968



1972



APPENDIX C

QUEEN ANNE SQUARE
NEWPORT, RI

CLIENTS:
NEWPORT RESTORATION FOUNDATION
51 Travis St.
Newport, RI 02840
Phone: 401-845-7200
Fax: 401-845-7478

EDWINA VON GAL + CO.
963 SPRINGS FREETRACE RD
EASTHAMPTON, NY 11937
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fax 631.907.9050
edwinavongal.com

PRINCIPAL DESIGNER:
Maya Lin Studio
112 Prince Street, 4th Floor
New York, NY 10012
Phone: 212-941-6663
Fax: 212-941-6664

CONSULTANTS:

GENERAL NOTES:

- INFORMATION SHOWN BASED ON SURVEY BY NORTH EAST ENGINEERS, LAST DATED FEBRUARY 12, 2012.
- EXISTING AND PROPOSED FEATURES ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. ALL ITEMS WILL NEED ON SITE VERIFICATION.
- SOIL AND TEST HOLE DATA HAVE NOT BEEN OBTAINED. ALL FERTILITY DATA WILL BE REPRESENTED ONCE COMPLETED AT A FUTURE DATE.

REVISIONS:

NO.	DESCRIPTION

SITE KEY

- PROPERTY LINE
- - - - - EXISTING CONTOUR
- - - - - PROPOSED CONTOUR
- PROPOSED SWALE
- - - - - EXISTING FENCE
- EXISTING TELE LINE
- EXISTING GAS LINE
- EXISTING ELECTRIC LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- EXISTING WATER LINE
- PROPOSED CHAIN LINK PROTECTION FENCE
- PROPOSED SILT FENCE W/ HAYBALES
- +91.4 EXISTING SPOT ELEVATION
- +91.0 PROPOSED SPOT ELEVATION
- DRILL HOLE/ NAIL
- ☼ EXISTING GAS LIGHT
- ☐ EXISTING CATCH BASIN
- ☐ PROPOSED DRAIN INLET
- ☐ EXISTING SIGN
- EXISTING TREES
- EXISTING TREES TO BE REMOVED
- EXISTING TREES TO TRANSPLANT
- PROPOSED TREES (25) TO BE FIELD LOCATED BY EDWINA VON GAL
- - - - - EXISTING CURB TO BE REMOVED
- - - - - EXISTING WALKWAY TO BE REMOVED
- - - - - EXISTING WALKWAY TO BE RESET
- - - - - PROPOSED WALKWAY

SCALE: 1/8" = 1'-0"



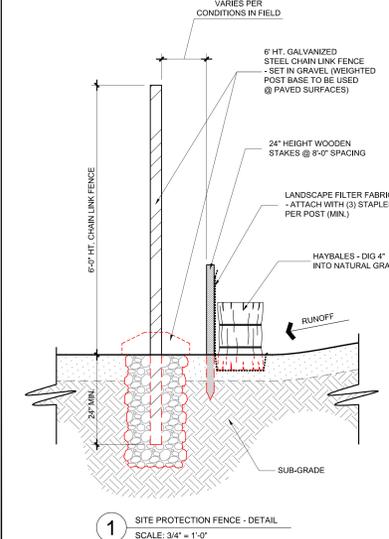
PROGRESS PRINT
PRELIMINARY
NOT FOR CONSTRUCTION
DATA SHOWN FOR
DESIGN DEVELOPMENT ONLY.

Drawing Title: **SITE PROTECTION PLAN**
Date: FEBRUARY 17, 2012
Drawing Number: L3
Scale: 1/8" = 1'-0"

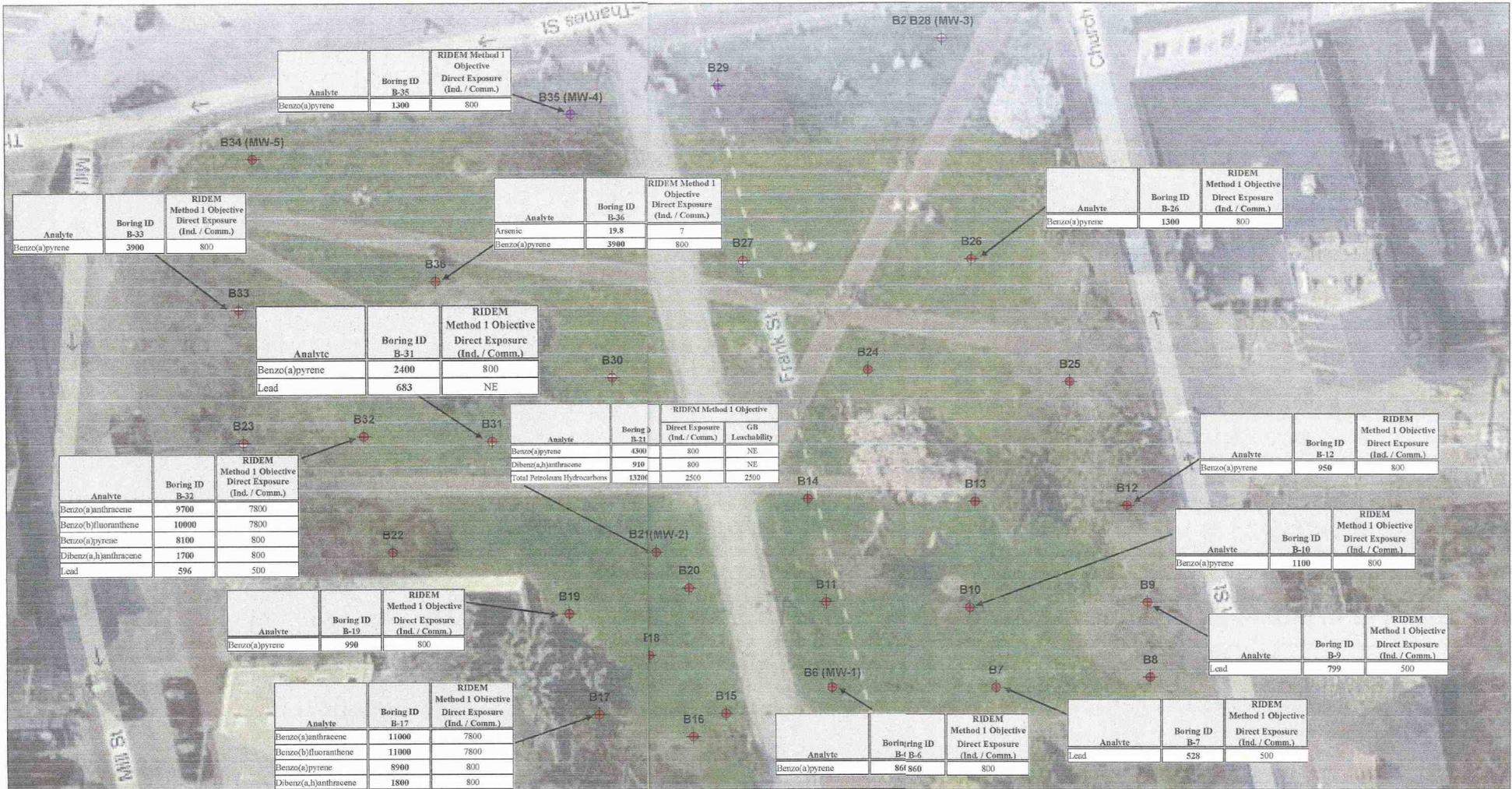


CUT & FILL CALCULATIONS

AREA A - 1876 FOUNDATION
CUT: - 44 CU/YDS @ 1876 FOUNDATION EXCAVATION
FILL: - 15 CU/YDS @ GRADING AROUND 1876 FOUNDATION
AREA B - 1776 MEETING ROOM
CUT: - 43 CU/YDS @ 1776 FOUNDATION EXCAVATION
FILL: - 38 CU/YDS @ GRADING AROUND 1776 FOUNDATION
AREA C - THE NEW ENTRY & THE HEARTH
CUT: - 20 CU/YDS @ THE NEW ENTRY
- 31 CU/YDS @ THE HEARTH FOUNDATION EXCAVATION
FILL: - 3 CU/YDS @ THE NEW ENTRY
- 15 CU/YDS @ THE HEARTH FOUNDATION EXCAVATION
TOTALS:
OVERALL CUT: - 176 CU/YDS
OVERALL FILL: - 33 CU/YDS
BALANCE:
- 143 CU/YDS TO BE REMOVED FROM SITE



APPENDIX D



★ Site Location

Soil Sample Results

Queen Anne Square
Newport, Rhode Island

DATE: 2/6/12 JOB#: S2244
CREATED BY: JD FILENAME: SoilSample.mxd

APPENDIX E

**Queen Anne Square
Newport, Rhode Island
Soil Boring Sampling Results
January 16, 2012**

Sample / (Depth) / Date	Concentration					RIDEM Method 1 Objective		
	B-6 S1 1/16/2012	B-6 S4A 1/16/2012	B-7 S1 1/16/2012	B-8 S1 1/16/2012	B-9 S1 1/16/2012	Direct Exposure (Residential)	Direct Exposure (Ind.)	GB Leachability
Analyte								
TPH by 8100M (mg/Kg):								
Total Petroleum Hydrocarbons		110				500	2500	2500
Volatile Organic Compounds by 8260B (ug/Kg):								
Vinyl Chloride		<54 ^e				20	3000	NE
Bromomethane		<54				800	2900000	NE
Chloroethane		<54				NE	NE	NE
Acetone		<270				7800000	10000000	NE
1,1-Dichloroethene		<54				200	9500	700
Carbon Disulfide		<54				NE	NE	NE
Methylene Chloride		<54				45000	760000	NE
tert-Butyl methyl ether		<54				390000	10000000	100000
trans-1,2-Dichloroethene		<54				1100000	10000000	92000
1,1-Dichloroethane		<54				920000	10000000	NE
2-Butanone		<270				10000000	10000000	NE
2,2-Dichloropropane		<54				NE	NE	NE
cis-1,2-Dichloroethene		<54				630000	10000000	60000
Chloroform		<54				1200	940000	NE
Bromochloromethane		<54				NE	NE	NE
1,1,1-Trichloroethane		<54				540000	10000000	160000
1,1-Dichloropropene		<54				NE	NE	NE
Carbon Tetrachloride		<54				1500	44000	5000
Benzene		<54				2500	200000	4300
1,2-Dichloroethane		<54				900	63000	2300
Trichloroethene		<54				13000	520000	20000
1,2-Dichloropropane		<54				1900	84000	70000
Bromodichloromethane		<54				10000	92000	NE
Dibromomethane		<54				NE	NE	NE
4-Methyl-2-pentanone		<270				1200000	10000000	NE
Ethylene Dibromide		<54 ^e				10	70	NE
cis-1,3-Dichloropropene		<54				NE	NE	NE
Toluene		<54				190000	10000000	54000
Trans-1,3-Dichloropropene		<54				NE	NE	NE
1,1,2-Trichloroethane		<54				3600	100000	NE
2-Hexanone		<270				NE	NE	NE
Tetrachloroethene		<54				12000	110000	4200
Chlorodibromomethane		<54				7600	68000	NE
Chlorobenzene		<54				210000	10000000	100000
1,1,1,2-Tetrachloroethane		<54				2200	220000	NE
Ethylbenzene		<54				71000	10000000	62000
Total Xylenes		<110				110000	10000000	NE
Styrene		<54				13000	190000	64000
Bromoform		<54				81000	720000	NE
Isopropylbenzene		<54				27000	10000000	NE
1,1,2,2-Tetrachloroethane		<54				1300	29000	NE
Bromobenzene		<54				NE	NE	NE
1,2,3-Trichloropropane		<54				NE	NE	NE
2-Chlorotoluene		<54				NE	NE	NE
n-Propylbenzene		220				NE	NE	NE
1,3,5-Trimethylbenzene		<54				NE	NE	NE
4-Chlorotoluene		<54				NE	NE	NE
tert-Butylbenzene		<54				NE	NE	NE
1,2,4-Trimethylbenzene		<54				NE	NE	NE
sec-Butylbenzene		<54				NE	NE	NE
n-Isopropyltoluene		<54				NE	NE	NE
Chloromethane		<54				NE	NE	NE
tert butyl alcohol		<54				NE	NE	NE
1,3-Dichlorobenzene		<54				430000	10000000	NE
Tetrahydrofuran		<54				NE	NE	NE
1,4-Dichlorobenzene		<54				27000	240000	NE
Diethyl Ether		<54				NE	NE	NE
n-Butylbenzene		760				NE	NE	NE
1,2-Dichlorobenzene		<54				510000	10000000	NE
1,2-Dibromo-3-chloropropane		<54				500	4100	NE
1,2,4-Trichlorobenzene		<54				96000	10000000	NE
Hexachlorobutadiene		<54				8200	73000	NE
Naphthalene		<54				54000	10000000	NE
1,2,3-Trichlorobenzene		<54				NE	NE	NE
Tert-amyl Methyl Ether		<54				NE	NE	NE
Dichlorodifluoromethane		<54				NE	NE	NE
1,3-Dichloropropane		<54				NE	NE	NE
Trichlorofluoromethane		<54				NE	NE	NE
Ethyl Tert-butyl ether		<54				NE	NE	NE
Diisopropyl Ether		<54				NE	NE	NE
Total Trihalomethanes		<54				NE	NE	NE
Semivolatile Organic Compounds by 8270D (ug/Kg):								
Naphthalene	68		<56	<63	<60	54000	10000000	NE
2-Methylnaphthalene	<56		<56	<63	<60	123000	10000000	NE
Acenaphthylene	<56		<56	<63	<60	23000	10000000	NE
Acenaphthene	160		<56	<63	<60	43000	10000000	NE
Dibenzofuran	<56		<56	<63	<60	NE	NE	NE
Fluorene	120		<56	<63	<60	28000	10000000	NE
Phenanthrene	1200		500	73	630	40000	10000000	NE
Anthracene	290		66	<63	85	35000	10000000	NE
Fluoranthene	1700		640	180	910	20000	10000000	NE
Pyrene	1500		800	200	940	13000	10000000	NE
Benzo(a)anthracene	940 ^a		360	84	490	900	7800	NE
Chrysene	1000 ^a		490 ^a	100	610 ^a	400	780000	NE
Benzo(b)fluoranthene	1100 ^a		510	130	690	900	7800	NE
Benzo(k)fluoranthene	470		190	<63	220	900	78000	NE
Benzo(a)pyrene	860 ^{ab}		380	80	530 ^a	400	800	NE
Indeno(1,2,3-cd)pyrene	680		320	76	440	900	7800	NE
Dibenz(a,h)anthracene	150		78	<63	95	400	800	NE
Benzo(g,h,i)perylene	610		320	<63	390	800	10000000	NE
Total Metals by 6010C (mg/Kg):								
Antimony	1.16		2.26	1.58	1.63	10	820	NE
Arsenic	2.92		5.84	3.9	5.96	7	7	NE
Beryllium	0.38		0.53 ^a	<0.46 ^e	0.38	0.4	1.3	NE
Cadmium	0.76		1.03	0.67	1.09	39	1000	NE
Chromium	8.92		11.4	10.2	9.43	390	10000	NE
Copper	20.7		49	12.3	53.2	3100	10000	NE
Lead	230 ^a	44.8	528 ^{ab}	38.3	799 ^{ab}	150	500	NE
Nickel	12.2		14.3	11.6	10.9	1000	10000	NE
Selenium	5.67		7.03	5.74	8.42	390	10000	NE
Silver	<0.34		<0.44	<0.46	<0.38	200	10000	NE
Zinc	102		227	43.7	225	6000	10000	NE
Total Metals by 7471B (mg/Kg):								
Mercury	0.583		0.444	0.876	0.111	23	610	NE
Total Metals by 7010 (mg/kg):								
Thallium	<0.13		<0.18	<0.18	<0.15	5.5	140	NE

Where necessary, the RIDEM objectives, in ppm, have been converted to ppb to match the laboratory reporting method.

NE: No allowable limit is established for the substance

<x: Indicates analyte concentration not detected at or above specified laboratory quantitation limit (x)

Sample Results:

a-d: Analyte concentration in this sample exceeds the RIDEM objectives for:

a: Direct Exposure in a residential area

b: Direct Exposure in a commercial or industrial area

e-f: Although the analyte was not detected, the laboratory quantitation limit for this sample exceeds the RIDEM objectives for:

Queen Anne Square
Newport, Rhode Island
Soil Boring Sampling Results
January 23, 2012

Sample / (Depth) / Date	Concentration												RIDEM Method 1 Objective				
	B-10 S1	B-11 S2	B-12 S1	B-14 S1	B-17 S1	B-17 S1B	B-19 S1	B-19 S1B	B-21 S1	B-21 S1B	B-21 S2B	B-21 S3B	Direct Exposure	Direct Exposure	GB Leachability		
TPH by 8100M (mg/Kg):	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	2500	2500		
Volatile Organic Compounds by 8260B (ug	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Vinyl Chloride													<220 ^e	<68 ^e	20	3000	NE
Bromomethane													<220	<68	800	2900000	NE
Chloroethane													<220	<68	NE	NE	NE
Acetone													<1100	<340	7800000	10000000	NE
1,1-Dichloroethene													<220 ^e	<68	200	9500	700
Carbon Disulfide													<220	<68	NE	NE	NE
Methylene Chloride													<220	<68	45000	760000	NE
tert-Butyl methyl ether													<220	<68	390000	10000000	100000
trans-1,2-Dichloroethene													<220	<68	1100000	10000000	92000
1,1-Dichloroethane													<220	<68	920000	10000000	NE
2-Butanone													<1100	<340	10000000	10000000	NE
2,2-Dichloropropane													<220	<68	NE	NE	NE
cis-1,2-Dichloroethene													<220	<68	630000	10000000	60000
Chloroform													<220	<68	1200	940000	NE
Bromochloromethane													<220	<68	NE	NE	NE
1,1,1-Trichloroethane													<220	<68	540000	10000000	160000
1,1-Dichloropropene													<220	<68	NE	NE	NE
Carbon Tetrachloride													<220	<68	1500	44000	5000
Benzene													<220	<68	2500	200000	4300
1,2-Dichloroethane													<220	<68	900	63000	2300
Trichloroethene													<220	<68	13000	520000	20000
1,2-Dichloropropane													<220	<68	1900	84000	70000
Bromodichloromethane													<220	<68	10000	92000	NE
Dibromomethane													<220	<68	NE	NE	NE
4-Methyl-2-pentanone													<1100	<340	1200000	10000000	NE
Ethylene Dibromide													<220 ^{ef}	<68 ^e	10	70	NE
cis-1,3-Dichloropropene													<220	<68	NE	NE	NE
Toluene													<220	<68	1900000	10000000	54000
Trans-1,3-Dichloropropene													<220	<68	NE	NE	NE
1,1,2-Trichloroethane													<220	<68	3600	100000	NE
2-Hexanone													<1100	<340	NE	NE	NE
Tetrachloroethene													1700	<68	12000	110000	4200
Chlorodibromomethane													<220	<68	7600	68000	NE
Chlorobenzene													<220	<68	210000	10000000	100000
1,1,1,2-Tetrachloroethane													<220	<68	2200	220000	NE
Ethylbenzene													<220	<68	71000	10000000	62000
Total Xylenes													5000	<140	110000	10000000	NE
Styrene													<220	<68	13000	190000	64000
Bromoform													<220	<68	81000	720000	NE
Isopropylbenzene													3200	<68	27000	10000000	NE
1,1,2,2-Tetrachloroethane													<220	<68	1300	29000	NE
Bromobenzene													<220	<68	NE	NE	NE
1,2,3-Trichloropropane													<220	<68	NE	NE	NE
2-Chlorotoluene													<220	<68	NE	NE	NE
n-Propylbenzene													10000	<68	NE	NE	NE
1,3,5-Trimethylbenzene													120000	<68	NE	NE	NE
4-Chlorotoluene													<220	<68	NE	NE	NE
tert-Butylbenzene													2600	<68	NE	NE	NE
1,2,4-Trimethylbenzene													170000	100	NE	NE	NE
sec-Butylbenzene													12000	<68	NE	NE	NE
p-Isopropyltoluene													62000	<68	NE	NE	NE
Chloromethane													<220	<68	NE	NE	NE
tert butyl alcohol													<220	<68	NE	NE	NE
1,3-Dichlorobenzene													<220	<68	430000	10000000	NE
Tetrahydrofuran													<220	<68	NE	NE	NE
1,4-Dichlorobenzene													<220	<68	27000	240000	NE
Diethyl Ether													<220	<68	NE	NE	NE
n-Butylbenzene													25000	<68	NE	NE	NE
1,2-Dichlorobenzene													<220	<68	510000	10000000	NE
1,2-Dibromo-3-chloropropane													<220	<68	500	4100	NE
1,2,4-Trichlorobenzene													<220	<68	96000	10000000	NE
Hexachlorobutadiene													<220	<68	8200	73000	NE
Naphthalene													41000	75	54000	10000000	NE
1,2,3-Trichlorobenzene													<220	<68	NE	NE	NE
Tert-amyl Methyl Ether													<220	<68	NE	NE	NE
Dichlorodifluoromethane													<220	<68	NE	NE	NE
1,3-Dichloropropane													<220	<68	NE	NE	NE
Trichlorofluoromethane													<220	<68	NE	NE	NE
Ethyl Tert-butyl ether													<220	<68	NE	NE	NE
Diisopropyl Ether													<220	<68	NE	NE	NE
Total Trihalomethanes													<220	<68	NE	NE	NE
Semivolatile Organic Compounds by 8270D (ug/Kg):					NA		NA		NA			NA	NA				
Naphthalene	63	<55	<57	<61		2600		<57		750			54000	10000000	NE		
2-Methylnaphthalene	<61	<55	<57	<61		920		<57		270			123000	10000000	NE		
Acenaphthylene	100	<55	130	<61		<280		<57		110			23000	10000000	NE		
Acenaphthene	170	<55	<57	<61		3400		79		940			43000	10000000	NE		
Dibenzofuran	140	<55	<57	<61		2200		<57		520			NE	NE	NE		
Fluorene	180	<55	<57	<61		3400		80		950			28000	10000000	NE		
Phenanthrene	2200	<55	560	<61		22000		1100		6100			40000	10000000	NE		
Anthracene	450	<55	110	<61		6700		310		2700			35000	10000000	NE		
Fluoranthene	2100	<55	990	<61		20000		1600		7500			20000	10000000	NE		
Pyrene	2200	<55	1200	<61		17000 ^a		1500		6800			13000	10000000	NE		
Benzo(a)anthracene	1100 ^a	<55	660	<61		11000 ^{ab}		890		4800 ^a			900	7800	NE		
Chrysene	1300 ^a	<55	730 ^a	<61		12000 ^a		1000 ^a		5000 ^a			400	78000	NE		
Benzo(b)fluoranthene	1500 ^a	<55	1100 ^a	<61		11000 ^{ab}		1300 ^a		5100 ^a			900	7800	NE		
Benzo(k)fluoranthene	400	<55	430	<61		3500 ^a		440		2000 ^a			900	78000	NE		
Benzo(a)pyrene	1100 ^{ab}	<55	950 ^{ab}	<61		8900 ^{ab}		990 ^{ab}		4300 ^{ab}			400	800	NE		
Indeno(1,2,3-cd)pyrene	760	<55	950 ^a	<61		5900 ^a		880		3400 ^a			900	7800	NE		
Dibenz(a,h)anthracene	210	<55	220	<61		1800 ^{ab}		240		910 ^{ab}			400	800	NE		
Ben																	

Queen Anne Square
Newport, Rhode Island
Soil Boring Sampling Results
January 24, 2012

Sample / (Depth) / Date	RIDEM Method 1 Objective												Direct Exposure (Residential)	Direct Exposure (Ind.)	GB Leachability	
	B-24 S1	B-24 S1B	B-25 S1	B-25 S2A	B-26 S1	B-26 S1B	B-27 S1	B-27 S1-C	B-28 S1	B-28 S1B	B-31 S1	B-31 S1B				
Analyte	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012	1/24/2012
TPH by 8100M (mg/Kg):	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	2500	2500
Volatile Organic Compounds by 8260H	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Vinyl Chloride														20	3000	NE
Bromomethane														800	2900000	NE
Chloroethane														NE	NE	NE
Acetone														7800000	10000000	NE
1,1-Dichloroethene														200	9500	700
Carbon Disulfide														NE	NE	NE
Methylene Chloride														45000	760000	NE
tert-Butyl methyl ether														390000	10000000	100000
trans-1,2-Dichloroethene														1100000	10000000	92000
1,1-Dichloroethane														920000	10000000	NE
2-Butanone														10000000	10000000	NE
2,2-Dichloropropane														NE	NE	NE
cis-1,2-Dichloroethene														630000	10000000	60000
Chloroform														1200	940000	NE
Bromochloromethane														NE	NE	NE
1,1,1-Trichloroethane														540000	10000000	160000
1,1-Dichloropropene														NE	NE	NE
Carbon Tetrachloride														1500	44000	5000
Benzene														2500	200000	4300
1,2-Dichloroethane														900	63000	2300
Trichloroethene														13000	520000	20000
1,2-Dichloropropane														1900	84000	70000
Bromodichloromethane														10000	92000	NE
Dibromomethane														NE	NE	NE
4-Methyl-2-pentanone														1200000	10000000	NE
Ethylene Dibromide														10	70	NE
cis-1,3-Dichloropropene														NE	NE	NE
Toluene														190000	10000000	54000
Trans-1,3-Dichloropropene														NE	NE	NE
1,1,2-Trichloroethane														3600	100000	NE
2-Hexanone														NE	NE	NE
Tetrachloroethene														12000	110000	4200
Chlorodibromomethane														7600	68000	NE
Chlorobenzene														210000	10000000	100000
1,1,1,2-Tetrachloroethane														2200	220000	NE
Ethylbenzene														71000	10000000	62000
Total Xylenes														110000	10000000	NE
Styrene														13000	190000	64000
Bromoform														81000	720000	NE
Isopropylbenzene														27000	10000000	NE
1,1,2,2-Tetrachloroethane														1300	29000	NE
Bromobenzene														NE	NE	NE
1,2,3-Trichloropropane														NE	NE	NE
2-Chlorotoluene														NE	NE	NE
n-Propylbenzene														NE	NE	NE
1,3,5-Trimethylbenzene														NE	NE	NE
4-Chlorotoluene														NE	NE	NE
tert-Butylbenzene														NE	NE	NE
1,2,4-Trimethylbenzene														NE	NE	NE
sec-Butylbenzene														NE	NE	NE
n-Isopropyltoluene														NE	NE	NE
Chloromethane														NE	NE	NE
tert butyl alcohol														NE	NE	NE
1,3-Dichlorobenzene														430000	10000000	NE
Tetrahydrofuran														NE	NE	NE
1,4-Dichlorobenzene														27000	240000	NE
Diethyl Ether														NE	NE	NE
n-Butylbenzene														NE	NE	NE
1,2-Dichlorobenzene														510000	10000000	NE
1,2-Dibromo-3-chloropropane														500	4100	NE
1,2,4-Trichlorobenzene														96000	10000000	NE
Hexachlorobutadiene														8200	73000	NE
Naphthalene														54000	10000000	NE
1,2,3-Trichlorobenzene														NE	NE	NE
Tert-amyl Methyl Ether														NE	NE	NE
Dichlorodifluoromethane														NE	NE	NE
1,3-Dichloropropane														NE	NE	NE
Trichlorofluoromethane														NE	NE	NE
Ethyl Tert-butyl ether														NE	NE	NE
Diisopropyl Ether														NE	NE	NE
Total Trihalomethanes														NE	NE	NE
Semivolatile Organic Compounds by 8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Naphthalene		<290		<59		<82		<55		<56			120	54000	10000000	NE
2-Methylnaphthalene		<290		<59		<82		<55		<56			61	123000	10000000	NE
Acenaphthylene		<290		<59		340		<55		<56			64	23000	10000000	NE
Acenaphthene		<290		<59		<82		<55		<56			430	43000	10000000	NE
Dibenzofuran		<290		<59		<82		<55		<56			180	NE	NE	NE
Fluorene		<290		<59		190		<55		<56			340	28000	10000000	NE
Phenanthrene		800		87		2100		<55		160			3200	40000	10000000	NE
Anthracene		<290		<59		250		<55		<56			940	35000	10000000	NE
Fluoranthene		1200		160		2500		94		<56			4200	20000	10000000	NE
Pyrene		860		140		2700		88		290			4300	13000	10000000	NE
Benzo(a)anthracene		570		70		1200 ^a		70		160			2500 ^a	900	7800	NE
Chrysene		630 ^a		100		1500 ^a		60		190			2700 ^a	400	780000	NE
Benzo(b)fluoranthene		740		120		1700 ^a		80		200			2900 ^a	900	7800	NE
Benzo(k)fluoranthene		<290		<59		530		<55		73			1000 ^a	900	78000	NE
Benzo(a)pyrene		630 ^a		89		1300 ^{ab}		71		160			2400 ^{ab}	400	800	NE
Indeno(1,2,3-cd)pyrene		470		78		1000 ^a		<55		120			1900 ^a	900	7800	NE
Dibenz(a,h)anthracene		<290		<59		250		<55		<56			560 ^a	400	800	NE
Benzo(g,h,i)perylene		660		94		1200 ^a		<55		130			1800 ^a	800	10000000	NE
Total Metals by 6010C (mg/Kg):	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Antimony	1.49		1.13		0.85		<0.79		1.07		1.35			10	820	NE
Arsenic	4.12		5.55		4.38		1.33		5.54		4.9			7	7	NE
Beryllium	<0.36		<0.46 ^e		<0.32		<0.39		<0.45 ^e		<0.43 ^e			0.4	1.3	NE
Cadmium	1.45		0.6		0.41		<0.39		<0.45		0.97			39	1000	NE
Chromium	11.3		10.1		7.8		3.35		12.3		10.1			390	10000	NE
Copper	721		32.6		20.6		7.07		13.1		53.4			3100	10000	NE
Lead	427 ^a		249 ^a		185 ^a		26.7		58.3		683 ^{ab}			150	500	NE
Nickel	18.5		13.5		11.5		5.15		10.4		11.9			1000	10000	NE
Selenium	6.16		8.32		4.64		3.54		7.02		7.26			390	10000	NE
Silver	<0.36		<0.46		<0.32		<0.39		<0.45		<0.43			200	10000	NE
Zinc	363		242		99.6		22.1		45.3		482			6000	10000	NE
Total Metals by 7471B (mg/Kg):	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Mercury	0.287		0.452		0.196		<0.079		0.105		1.57			23	610	NE
Total Metals by 7010 (mg/kg):	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Thallium	<0.14		<0.18		<0.13		<0.16		<0.18		<0.17			5.5	140	NE

Where necessary, the RIDEM objectives, in ppm, have been converted to ppb to match the laboratory reporting method.

NE: No allowable limit is established for the substance

<x: Indicates analyte concentration not detected at or above specified laboratory quantitation limit (x)

Sample Results:

Queen Anne Square
Newport, Rhode Island
Soil Boring Sampling Results
January 24, 2012 (Continued)

Sample / (Depth) / Date	RIDE Method 1 Objective											Direct Exposure (Residential)	Direct Exposure (Ind.)	GB Leachability	
	B-32 S1	B-32 S1B	B-33 S1	B-33 S1B	B-34 S1	B-34 S1B	B-34 S2	B-35 S1	B-35 S1B	B-36 S1	B-36 S1C				
TPH by 8100M (mg/Kg):	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	2500	2500	
Volatile Organic Compounds by 8260B (ug)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Vinyl Chloride							<72 ^e					20	3000	NE	
Bromomethane							<72					800	2900000	NE	
Chloroethane							<72					NE	NE	NE	
Acetone							<360					7800000	10000000	NE	
1,1-Dichloroethene							<72					200	9500	700	
Carbon Disulfide							<72					NE	NE	NE	
Methylene Chloride							<72					45000	760000	NE	
tert-Butyl methyl ether							<72					390000	10000000	100000	
trans-1,2-Dichloroethene							<72					1100000	10000000	92000	
1,1-Dichloroethane							<72					920000	10000000	NE	
2-Butanone							<360					10000000	10000000	NE	
2,2-Dichloropropane							<72					NE	NE	NE	
cis-1,2-Dichloroethene							<72					630000	10000000	60000	
Chloroform							<72					1200	940000	NE	
Bromochloromethane							<72					NE	NE	NE	
1,1,1-Trichloroethane							<72					540000	10000000	160000	
1,1-Dichloropropene							<72					NE	NE	NE	
Carbon Tetrachloride							<72					1500	44000	5000	
Benzene							<72					2500	200000	4300	
1,2-Dichloroethane							<72					900	63000	2300	
Trichloroethene							<72					13000	520000	20000	
1,2-Dichloropropane							<72					1900	84000	70000	
Bromodichloromethane							<72					10000	92000	NE	
Dibromomethane							<72					NE	NE	NE	
4-Methyl-2-pentanone							<360					1200000	10000000	NE	
Ethylene Dibromide							<72 ^d					10	70	NE	
cis-1,3-Dichloropropene							<72					NE	NE	NE	
Toluene							<72					190000	10000000	54000	
Trans-1,3-Dichloropropene							<72					NE	NE	NE	
1,1,2-Trichloroethane							<72					3600	100000	NE	
2-Hexanone							<360					NE	NE	NE	
Tetrachloroethene							<72					12000	110000	4200	
Chlorodibromomethane							<72					7600	68000	NE	
Chlorobenzene							<72					210000	10000000	100000	
1,1,1,2-Tetrachloroethane							<72					2200	220000	NE	
Ethylbenzene							<72					71000	10000000	62000	
Total Xylenes							<140					110000	10000000	NE	
Styrene							<72					13000	190000	64000	
Bromoform							<72					81000	720000	NE	
Isopropylbenzene							<72					27000	10000000	NE	
1,1,2,2-Tetrachloroethane							<72					1300	29000	NE	
Bromobenzene							<72					NE	NE	NE	
1,2,3-Trichloropropane							<72					NE	NE	NE	
2-Chlorotoluene							<72					NE	NE	NE	
n-Propylbenzene							<72					NE	NE	NE	
1,3,5-Trimethylbenzene							<72					NE	NE	NE	
4-Chlorotoluene							<72					NE	NE	NE	
tert-Butylbenzene							<72					NE	NE	NE	
1,2,4-Trimethylbenzene							<72					NE	NE	NE	
sec-Butylbenzene							<72					NE	NE	NE	
p-Isopropyltoluene							<72					NE	NE	NE	
Chloromethane							<72					NE	NE	NE	
tert butyl alcohol							<72					NE	NE	NE	
1,3-Dichlorobenzene							<72					430000	10000000	NE	
Tetrahydrofuran							<72					NE	NE	NE	
1,4-Dichlorobenzene							<72					27000	240000	NE	
Diethyl Ether							<72					NE	NE	NE	
n-Butylbenzene							<72					NE	NE	NE	
1,2-Dichlorobenzene							<72					510000	10000000	NE	
1,2-Dibromo-3-chloropropane							<72					500	4100	NE	
1,2,4-Trichlorobenzene							<72					96000	10000000	NE	
Hexachlorobutadiene							<72					8200	73000	NE	
Naphthalene							<72					54000	10000000	NE	
1,2,3-Trichlorobenzene							<72					NE	NE	NE	
Tert-amyl Methyl Ether							<72					NE	NE	NE	
Dichlorodifluoromethane							<72					NE	NE	NE	
1,3-Dichloropropane							<72					NE	NE	NE	
Trichlorofluoromethane							<72					NE	NE	NE	
Ethyl Tert-butyl ether							<72					NE	NE	NE	
Diisopropyl Ether							<72					NE	NE	NE	
Total Trihalomethanes							<72					NE	NE	NE	
Semivolatile Organic Compounds by 8270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Naphthalene		990		370			<54			200		130	54000	10000000	NE
2-Methylnaphthalene		440		130			<54			120		67	123000	10000000	NE
Acenaphthylene		620		60			94			380		70	23000	10000000	NE
Acenaphthene		1400		970			<54			210		600	43000	10000000	NE
Dibenzofuran		930		380			<54			200		170	NE	NE	NE
Fluorene		1700		720			<54			250		500	28000	10000000	NE
Phenanthrene		13000		5700			83			2300		4100	40000	10000000	NE
Anthracene		14000		1800			<54			630		1700	35000	10000000	NE
Fluoranthene		18000		10000			180			2000		7900	20000	10000000	NE
Pyrene		15000 ^a		6800			190			2200		7400	13000	10000000	NE
Benzo(a)anthracene		9700 ^{ab}		4100 ^a			150			1100 ^a		4400 ^a	900	7800	NE
Chrysene		10000 ^a		4400 ^a			190			1300 ^a		4500 ^a	400	780000	NE
Benzo(b)fluoranthene		10000 ^{ab}		4900 ^a			320			1400 ^a		4600 ^a	900	7800	NE
Benzo(k)fluoranthene		3000 ^a		1900 ^a			150			430		1500 ^a	900	78000	NE
Benzo(a)pyrene		8100 ^{ab}		3900 ^{ab}			200			1300 ^{ab}		3900 ^{ab}	400	800	NE
Indeno(1,2,3-cd)pyrene		5600 ^a		3000 ^a			300			1000 ^a		3000 ^a	900	7800	NE
Dibenz(a,h)anthracene		1700 ^{ab}		760 ^a			110			270		770 ^a	400	800	NE
Benzo(g,h,i)perylene		5300 ^a		2700 ^a			360			1100 ^a		2600 ^a	800	10000000	NE
Total Metals by 6010C (mg/Kg):	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Antimony	<0.68		0.97		<0.67					<0.91		1.58	10	820	NE
Arsenic	1.05		5.26		2.09					3.06		19.8 ^{ab}	7	7	NE
Beryllium	<0.34		<0.42 ^e		<0.34					<0.45 ^e		0.38	0.4	1.3	NE
Cadmium	0.73		<0.42		<0.34					<0.45		<0.37	39	1000	NE
Chromium	3.67		8.93		4.89					5.8		11.6	390	10000	NE
Copper	44.9		15.1		7.51					6.61		44.1	3100	10000	NE
Lead	596 ^{ab}		201 ^a		38.2					30.2		328 ^a	150	500	NE
Nickel	11.9		8.96		3.67					5.04		11	1000	10000	NE
Selenium	2.67		4.8		2.48					1.47		6.14	390	10000	NE
Silver	0.5		<0.42		<0.34					<0.45		1.83	200	10000	NE
Zinc	611		56.3		32.5					43.2		128	6000	10000	NE

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Queen Anne Square
Newport, Rhode Island
Groundwater Results
January 31, 2012

Sample / Date	Concentration				RIDEM Method 1 Objective GB Groundwater	RIDEM GB Groundwater UCL
	MW-1	MW-3	MW-4	MW-5		
Analyte	1/31/2012	1/31/2012	1/31/2012	1/31/2012		
VOCs by 8260B (ug/L):						
Vinyl Chloride	<1	<1	<1	<1	2	NE
Bromomethane	<1	<1	<1	<1	NE	NE
Chloroethane	<1	<1	<1	<1	NE	NE
Acetone	9.7	<5	<5	<5	NE	NE
1,1-Dichloroethene	<1	<1	<1	<1	7	23000
Carbon Disulfide	<1	<1	<1	<1	NE	NE
Methylene Chloride	<1	<1	<1	<1	NE	NE
tert-Butyl methyl ether	<1	<1	<1	<1	5000	NE
trans-1,2 Dichloroethene	<1	<1	<1	<1	2800	79000
1,1-Dichloroethane	<1	<1	<1	<1	NE	NE
2-Butanone	<5	<5	<5	<5	NE	NE
2,2-Dichloropropane	<1	<1	<1	<1	NE	NE
cis-1,2-Dichloroethene	<1	<1	<1	<1	2400	69000
Chloroform	<1	<1	<1	<1	NE	NE
Bromochloromethane	<1	<1	<1	<1	NE	NE
1,1,1-Trichloroethane	<1	<1	<1	<1	3100	68000
1,1-Dichloropropene	<1	<1	<1	<1	NE	NE
Carbon Tetrachloride	<1	<1	<1	<1	70	NE
Benzene	<1	<1	<1	<1	140	18000
1,2-Dichloroethane	<1	<1	<1	<1	110	670000
Trichloroethene	<1	<1	<1	<1	540	87000
1,2-Dichloropropane	<1	<1	<1	<1	3000	140000
Bromodichloromethane	<1	<1	<1	<1	NE	NE
Dibromomethane	<1	<1	<1	<1	NE	NE
4-Methyl-2-pentanone	<5	<5	<5	<5	NE	NE
Ethylene Dibromide	<1	<1	<1	<1	NE	NE
cis-1,3-Dichloropropene	<1	<1	<1	<1	NE	NE
Toluene	<1	<1	<1	<1	1700	21000
Trans-1,3-Dichloropropene	<1	<1	<1	<1	NE	NE
1,1,2-Trichloroethane	<1	<1	<1	<1	NE	NE
2-Hexanone	<5	<5	<5	<5	NE	NE
Tetrachloroethene	<1	<1	<1	<1	150	NE
Chlorodibromomethane	<1	<1	<1	<1	NE	NE
Chlorobenzene	<1	<1	<1	<1	3200	56000
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	NE	NE
Ethylbenzene	<1	<1	<1	<1	1600	16000
Total Xylenes	<2	<2	<2	<2	NE	NE
Styrene	<1	<1	<1	<1	2200	50000
Bromoform	<1	<1	<1	<1	NE	NE
Isopropylbenzene	<1	<1	<1	<1	NE	NE
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	NE	NE
Bromobenzene	<1	<1	<1	<1	NE	NE
1,2,3-Trichloropropane	<1	<1	<1	<1	NE	NE
2-Chlorotoluene	<1	<1	<1	<1	NE	NE
n-Propylbenzene	<1	<1	<1	<1	NE	NE
1,3,5-Trimethylbenzene	<1	<1	<1	<1	NE	NE
4-Chlorotoluene	<1	<1	<1	<1	NE	NE
tert-Butylbenzene	<1	<1	<1	<1	NE	NE
1,2,4-Trimethylbenzene	<1	<1	<1	<1	NE	NE
sec-Butylbenzene	<1	<1	<1	<1	NE	NE
p-Isopropyltoluene	<1	<1	<1	<1	NE	NE
Chloromethane	<1	<1	<1	<1	NE	NE
tert butyl alcohol	<1	<1	<1	<1	NE	NE
1,3-Dichlorobenzene	<1	<1	<1	<1	NE	NE
Tetrahydrofuran	<1	<1	<1	<1	NE	NE
1,4-Dichlorobenzene	<1	<1	<1	<1	NE	NE
Diethyl Ether	<1	<1	<1	<1	NE	NE
n-Butylbenzene	<1	<1	<1	<1	NE	NE
1,2-Dichlorobenzene	<1	<1	<1	<1	NE	NE
1,2-Dibromo-3-chloropropane	<1	<1	<1	<1	2	NE
1,2,4-Trichlorobenzene	<1	<1	<1	<1	NE	NE
Hexachlorobutadiene	<1	<1	<1	<1	NE	NE
Naphthalene	1.9	<1	<1	<1	NE	NE
1,2,3-Trichlorobenzene	<1	<1	<1	<1	NE	NE
Tert-amyl Methyl Ether	<1	<1	<1	<1	NE	NE
Dichlorodifluoromethane	<1	<1	<1	<1	NE	NE
1,3-Dichloropropane	<1	<1	<1	<1	NE	NE
Trichlorofluoromethane	<1	<1	<1	<1	NE	NE
Ethyl Tert-butyl ether	<1	<1	<1	<1	NE	NE
Diisopropyl Ether	<1	<1	<1	<1	NE	NE
1,4-Dioxane	<50	<50	<50	<50	NE	NE
Total Trihalomethanes	<1	<1	<1	<1	NE	NE
Total Metals by 6010C (mg/L):						
Antimony		0.01	0.01		NE	NE
Arsenic		0.01	0.01		NE	NE
Beryllium		0.005	<0.005		NE	NE
Cadmium		0.005	<0.005		NE	NE
Chromium		0.09	0.065		NE	NE
Copper		0.22	0.24		NE	NE
Lead		0.425	2.64		NE	NE
Nickel		0.147	0.095		NE	NE
Selenium		0.1	0.07		NE	NE
Silver		<0.005	<0.005		NE	NE
Zinc		0.46	1.39		NE	NE
Total Metals by 7471B (mg/L):						
Mercury		<0.0002	<0.0002		NE	NE
Total Metals by 7010 (mg/L):						
Thallium		<0.002	<0.002		NE	NE

Where necessary, the RIDEM objectives, in ppm, have been converted to ppb to match the laboratory reporting method.

NE: No allowable limit is established for the substance

<x: Indicates analyte concentration not detected at or above specified laboratory quantitation limit (x)