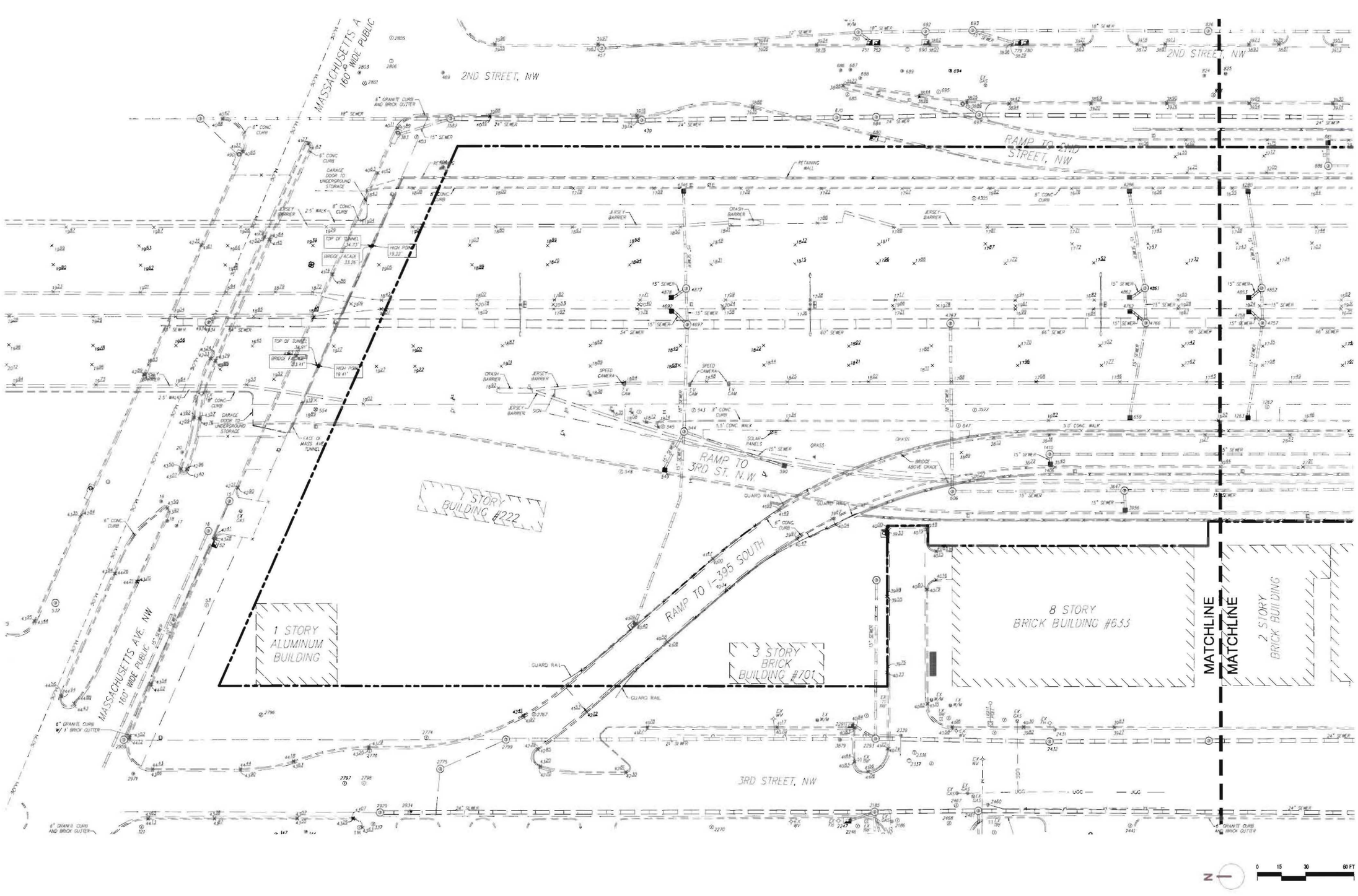
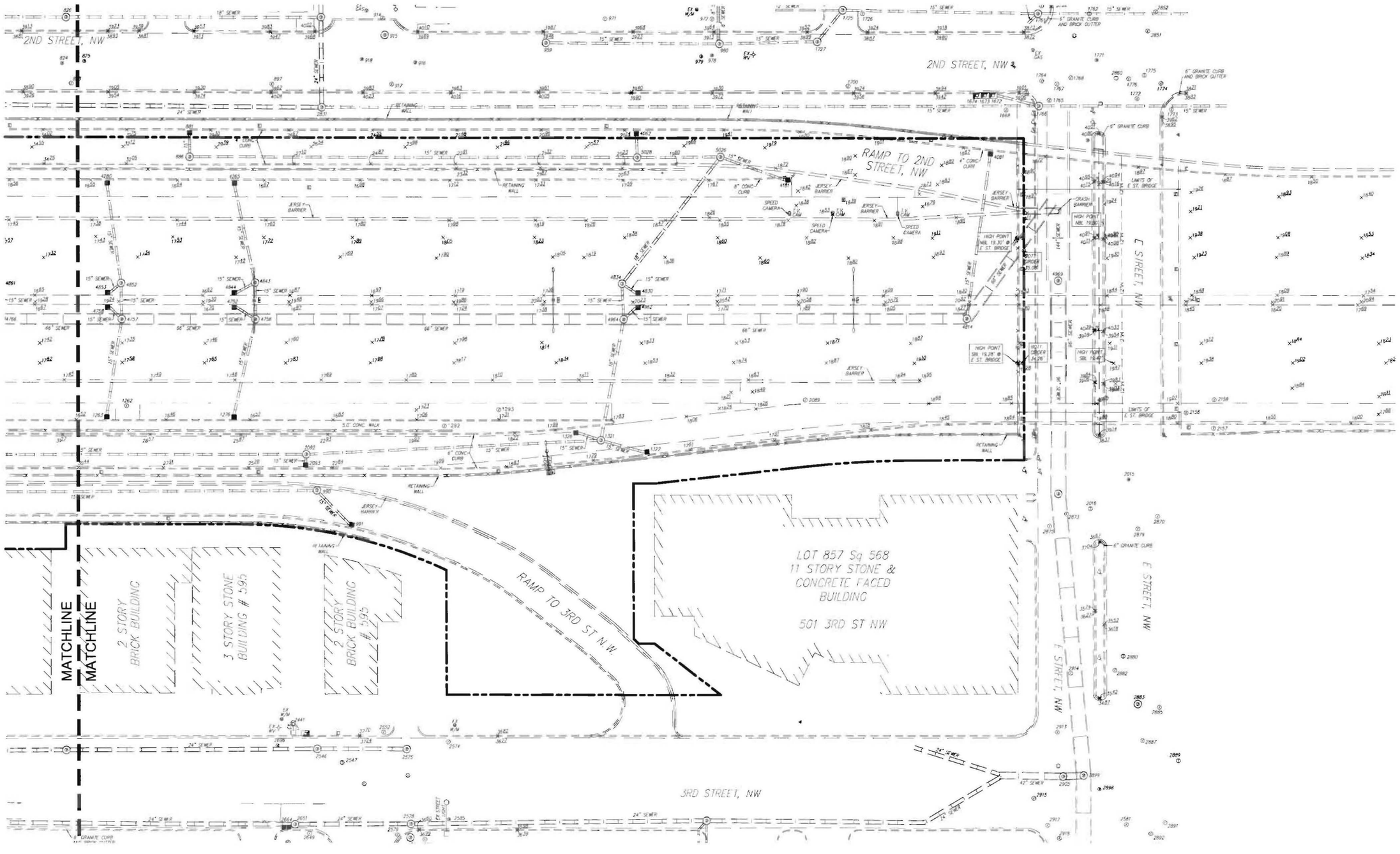



2ND STREET, NW
2ND STREET, NW
RAMP TO 2ND STREET, NW
E STREET, NW
LOT 857 Sq 568
11 STORY STONE & CONCRETE FACED BUILDING
501 3RD ST NW
RAMP TO 3RD ST N.W.
3RD STREET, NW
MATCHLINE
MATCHLINE
2 STORY BRICK BUILDING
3 STORY STONE BUILDING # 595
2 STORY BRICK BUILDING # 595
HIGH POINT ELEV. 19.30' @ E ST. BRIDGE
HIGH POINT ELEV. 19.28' @ E ST. BRIDGE
HIGH POINT ELEV. 18.40'
LIMITS OF E ST. BRIDGE
LIMITS OF E ST. BRIDGE
SPEED CAMERA
SPEED CAMERA
SPEED CAMERA
JERSEY BARRIER
CRASH BARRIER
RETAINING WALL
6" GRANITE CURB AND BRICK GUTTER
6" GRANITE CURB
8" CONC. CURB
4" CONC. CURB
6" CONC. CURB
5.5' CONC. WALK
66" SEWER
24" SEWER
15" SEWER
18" SEWER
21" SEWER
47" SEWER
0 15 30 60 FT

TOTAL FOR ALL BULDINGS

DAYS PER YEAR OFFICE BUILDING IS OCCUPIED	260
NUMBER OF MALE OCCUPANTS	11395
NUMBER OF FEMALE OCCUPANTS	11395

DAYS PER YEAR RESIDENCE IS OCCUPIED	365
NUMBER OF MALE OCCUPANTS	150
NUMBER OF FEMALE OCCUPANTS	150

DUAL FLUSH TOILETS OPERATED @ 1.1 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.1	1.6
WATER USE (GALLONS / DAY)	26,059	37,904
WATER USE (GALLONS / YEAR)	6,879,290	10,006,240

BATHROOM SINK FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	0.5	2.5
WATER USE (GALLONS / DAY)	3,868	19,338
WATER USE (GALLONS / YEAR)	1,010,846	5,054,229

DUAL FLUSH TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
WATER USE (GALLONS / DAY)	37,424	37,424
WATER USE (GALLONS / YEAR)	9,831,040	9,831,040

SHOWERS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	1.6	2.5
WATER USE (GALLONS / DAY)	4,843	7,567
WATER USE (GALLONS / YEAR)	1,511,203	2,361,255

CONVENTIONAL TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
WATER USE (GALLONS / DAY)	0	0
WATER USE (GALLONS / YEAR)	0	0

PANTRY/KITCHEN FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	2.0	2.5
WATER USE (GALLONS / DAY)	7,908	10,635
WATER USE (GALLONS / YEAR)	2,245,007	3,080,009

URINALS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	0.50	1.0
WATER USE (GALLONS / DAY)	11,395	22,790
WATER USE (GALLONS / YEAR)	2,962,700	5,925,400

TOTAL WATER USE (GALLONS / YR)

DESIGN GALLONS	LEED BASELINE GALLONS
24,440,086	36,258,172

TOTAL WATER USE (GALLONS / DAY)

DESIGN GALLONS	LEED BASELINE GALLONS
91,496	135,658

TOTAL ANNUAL WATER SAVINGS VS LEED BASELINE
11,818,086 GALLONS 32.59% PERCENT REDUCTION VS LEED BASELINE

NOTE:

DOMESTIC WATER & SANITARY SEWER LOADS:

The domestic water and sanitary sewer demand calculations are based on utilizing water conserving fixtures to achieve a minimum water use reduction of 30% over the LEED baseline values. The building occupancy values used in the calculations are based on a business occupancy of one person per 100 SF of building floor area. The occupancy values for the residential building are based on an occupancy of 2 persons per apartment.

Based on preliminary meetings with WASA, the sanitary sewer discharge from the new building can be discharged to the existing sewer main infrastructure located in 2nd and 3rd Streets. The domestic water distribution system surrounding the site is not adequate to support the domestic and fire water demands of the proposed facilities and will need to be upgraded. A new 12 inch diameter domestic water loop will be provided around the site.

NORTH BLOCK BUILDINGS

DAYS PER YEAR BUILDING IS OCCUPIED	260
NUMBER OF MALE OCCUPANTS	5131
NUMBER OF FEMALE OCCUPANTS	5131

DUAL FLUSH TOILETS OPERATED @ 1.1 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.1	1.6
FLUSHES PER DAY (MEN)	0.0	0.0
FLUSHES PER DAY (WOMEN)	2.0	2.0
WATER USE (GALLONS / DAY)	11,288	16,419
WATER USE (GALLONS / YEAR)	2,934,932	4,268,992

DUAL FLUSH TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
FLUSHES PER DAY (MEN)	1.0	1.0
FLUSHES PER DAY (WOMEN)	1.0	1.0
WATER USE (GALLONS / DAY)	16,419	16,419
WATER USE (GALLONS / YEAR)	4,268,992	4,268,992

CONVENTIONAL TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
FLUSHES PER DAY (MEN)	0.0	0.7
FLUSHES PER DAY (WOMEN)	0.0	0.3
WATER USE (GALLONS / DAY)	0	0
WATER USE (GALLONS / YEAR)	0	0

URINALS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	0.50	1.0
FLUSHES PER DAY (MEN)	2.0	2.0
WATER USE (GALLONS / DAY)	5,131	10,262
WATER USE (GALLONS / YEAR)	1,334,060	2,668,120

BATHROOM SINK FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	0.5	2.5
ACTUAL FLOW (GPM x 0.67)	0.34	1.7
MINUTES PER PERSON PER DAY	0.50	0.50
WATER USE (GALLONS / DAY)	1,719	8,594
WATER USE (GALLONS / YEAR)	446,910	2,234,551

SHOWERS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	1.6	2.5
ACTUAL FLOW (GPM x 0.67)	1.07	1.7
AVG. SHOWER DURATION (MIN)	10	10
% OF STAFF USING SHOWERS	1.0	1.0
WATER USE (GALLONS / DAY)	1,100	1,719
WATER USE (GALLONS / YEAR)	286,022	446,910

PANTRY/DINING AREA FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	2.0	2.5
ACTUAL FLOW (GPM x 0.67)	1.3	1.7
MINUTES PER PERSON PER DAY	0.2	0.2
WATER USE (GALLONS / DAY)	2,750	3,438
WATER USE (GALLONS / YEAR)	715,056	893,820

TOTAL WATER USE (GALLONS / YR)

DESIGN GALLONS	LEED BASELINE GALLONS
9,985,973	**14,781,385**

TOTAL WATER USE (GALLONS / DAY)

DESIGN GALLONS	LEED BASELINE GALLONS
38,408	**56,851**

TOTAL ANNUAL WATER SAVINGS VS LEED BASELINE

4,795,412 GALLONS **32.44% PERCENT REDUCTION VS LEED BASELINE**

CENTER BLOCK BUILDINGS: COMMERCIAL

DAYS PER YEAR BUILDING IS OCCUPIED	260
NUMBER OF MALE OCCUPANTS	2575
NUMBER OF FEMALE OCCUPANTS	2575

DUAL FLUSH TOILETS OPERATED @ 1.1 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.1	1.6
FLUSHES PER DAY (MEN)	0.0	0.0
FLUSHES PER DAY (WOMEN)	2.0	2.0
WATER USE (GALLONS / DAY)	5,665	8,240
WATER USE (GALLONS / YEAR)	1,472,900	2,142,400

DUAL FLUSH TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
FLUSHES PER DAY (MEN)	1.0	1.0
FLUSHES PER DAY (WOMEN)	1.0	1.0
WATER USE (GALLONS / DAY)	8,240	8,240
WATER USE (GALLONS / YEAR)	2,142,400	2,142,400

CONVENTIONAL TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
FLUSHES PER DAY (MEN)	0.0	0.7
FLUSHES PER DAY (WOMEN)	0.0	0.3
WATER USE (GALLONS / DAY)	0	0
WATER USE (GALLONS / YEAR)	0	0

URINALS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	0.50	1.0
FLUSHES PER DAY (MEN)	2.0	2.0
WATER USE (GALLONS / DAY)	2,575	5,150
WATER USE (GALLONS / YEAR)	669,500	1,339,000

BATHROOM SINK FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	0.5	2.5
ACTUAL FLOW (GPM x 0.67)	0.34	1.7
MINUTES PER PERSON PER DAY	0.50	0.50
WATER USE (GALLONS / DAY)	863	4,313
WATER USE (GALLONS / YEAR)	224,283	1,121,413

SHOWERS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	1.6	2.5
ACTUAL FLOW (GPM x 0.67)	1.07	1.7
AVG. SHOWER DURATION (MIN)	10	10
% OF STAFF USING SHOWERS	1.0	1.0
WATER USE (GALLONS / DAY)	552	863
WATER USE (GALLONS / YEAR)	143,541	224,283

PANTRY/DINING AREA FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	2.0	2.5
ACTUAL FLOW (GPM x 0.67)	1.3	1.7
MINUTES PER PERSON PER DAY	0.2	0.2
WATER USE (GALLONS / DAY)	1,380	1,725
WATER USE (GALLONS / YEAR)	358,852	448,565

TOTAL WATER USE (GALLONS / YR)

DESIGN GALLONS	LEED BASELINE GALLONS
5,011,475	7,418,060

TOTAL WATER USE (GALLONS / DAY)

DESIGN GALLONS	LEED BASELINE GALLONS
19,275	28,531

TOTAL ANNUAL WATER SAVINGS VS LEED BASELINE

2,406,585 GALLONS 32.44% PERCENT REDUCTION VS LEED BASELINE

CENTER BLOCK BUILDINGS: RESIDENTIAL

DAYS PER YEAR BUILDING IS OCCUPIED	365
NUMBER OF MALE OCCUPANTS	150
NUMBER OF FEMALE OCCUPANTS	150

DUAL FLUSH TOILETS OPERATED @ 1.1 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.1	1.6
FLUSHES PER DAY (MEN)	3.0	3.0
FLUSHES PER DAY (WOMEN)	3.0	3.0
WATER USE (GALLONS / DAY)	990	1,440
WATER USE (GALLONS / YEAR)	361,350	525,600

DUAL FLUSH TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
FLUSHES PER DAY (MEN)	2.0	2.0
FLUSHES PER DAY (WOMEN)	2.0	2.0
WATER USE (GALLONS / DAY)	960	960
WATER USE (GALLONS / YEAR)	350,400	350,400

BATHROOM SINK FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	0.5	2.5
ACTUAL FLOW (GPM x 0.67)	0.34	1.7
MINUTES PER PERSON PER DAY	0.50	0.50
WATER USE (GALLONS / DAY)	50	251
WATER USE (GALLONS / YEAR)	18,341	91,706

SHOWERS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	1.6	2.5
DURATION OF USE IN SECONDS	300	300
USES PER DAY	1	1
WATER USE (GALLONS / DAY)	2,400	3,750
WATER USE (GALLONS / YEAR)	876,000	1,368,750

KITCHEN SINKS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	1.5	2.5
DURATION OF USE IN SECONDS	60.0	60.0
USES PER DAY	4.0	4.0
WATER USE (GALLONS / DAY)	1,800	3,000
WATER USE (GALLONS / YEAR)	657,000	1,095,000

TOTAL WATER USE (GALLONS / YR)

DESIGN GALLONS	LEED BASELINE GALLONS
2,263,091	3,431,456

TOTAL WATER USE (GALLONS / DAY)

DESIGN GALLONS	LEED BASELINE GALLONS
6,200	9,401

TOTAL ANNUAL WATER SAVINGS VS LEED BASELINE

1,168,365 GALLONS **34.05% PERCENT REDUCTION VS LEED BASELINE**

SOUTH BLOCK BUILDINGS

DAYS PER YEAR BUILDING IS OCCUPIED	260
NUMBER OF MALE OCCUPANTS	3689
NUMBER OF FEMALE OCCUPANTS	3689

DUAL FLUSH TOILETS OPERATED @ 1.1 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.1	1.6
FLUSHES PER DAY (MEN)	0.0	0.0
FLUSHES PER DAY (WOMEN)	2.0	2.0
WATER USE (GALLONS / DAY)	8,116	11,805
WATER USE (GALLONS / YEAR)	2,110,108	3,069,248

DUAL FLUSH TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
FLUSHES PER DAY (MEN)	1.0	1.0
FLUSHES PER DAY (WOMEN)	1.0	1.0
WATER USE (GALLONS / DAY)	11,805	11,805
WATER USE (GALLONS / YEAR)	3,069,248	3,069,248

CONVENTIONAL TOILETS OPERATED @ 1.6 GPF

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	1.6	1.6
FLUSHES PER DAY (MEN)	0.0	0.7
FLUSHES PER DAY (WOMEN)	0.0	0.3
WATER USE (GALLONS / DAY)	0	0
WATER USE (GALLONS / YEAR)	0	0

URINALS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER FLUSH	0.50	1.0
FLUSHES PER DAY (MEN)	2.0	2.0
WATER USE (GALLONS / DAY)	3,689	7,378
WATER USE (GALLONS / YEAR)	959,140	1,918,280

BATHROOM SINK FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	0.5	2.5
ACTUAL FLOW (GPM x 0.67)	0.34	1.7
MINUTES PER PERSON PER DAY	0.50	0.50
WATER USE (GALLONS / DAY)	1,236	6,179
WATER USE (GALLONS / YEAR)	321,312	1,606,560

SHOWERS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	1.6	2.5
ACTUAL FLOW (GPM x 0.67)	1.07	1.7
AVG. SHOWER DURATION (MIN)	10	10
% OF STAFF USING SHOWERS	1.0	1.0
WATER USE (GALLONS / DAY)	791	1,236
WATER USE (GALLONS / YEAR)	205,640	321,312

PANTRY/DINING AREA FAUCETS

	DESIGN GALLONS	LEED BASELINE GALLONS
GALLONS PER MINUTE	2.0	2.5
ACTUAL FLOW (GPM x 0.67)	1.3	1.7
MINUTES PER PERSON PER DAY	0.2	0.2
WATER USE (GALLONS / DAY)	1,977	2,472
WATER USE (GALLONS / YEAR)	514,099	642,624

TOTAL WATER USE (GALLONS / YR)

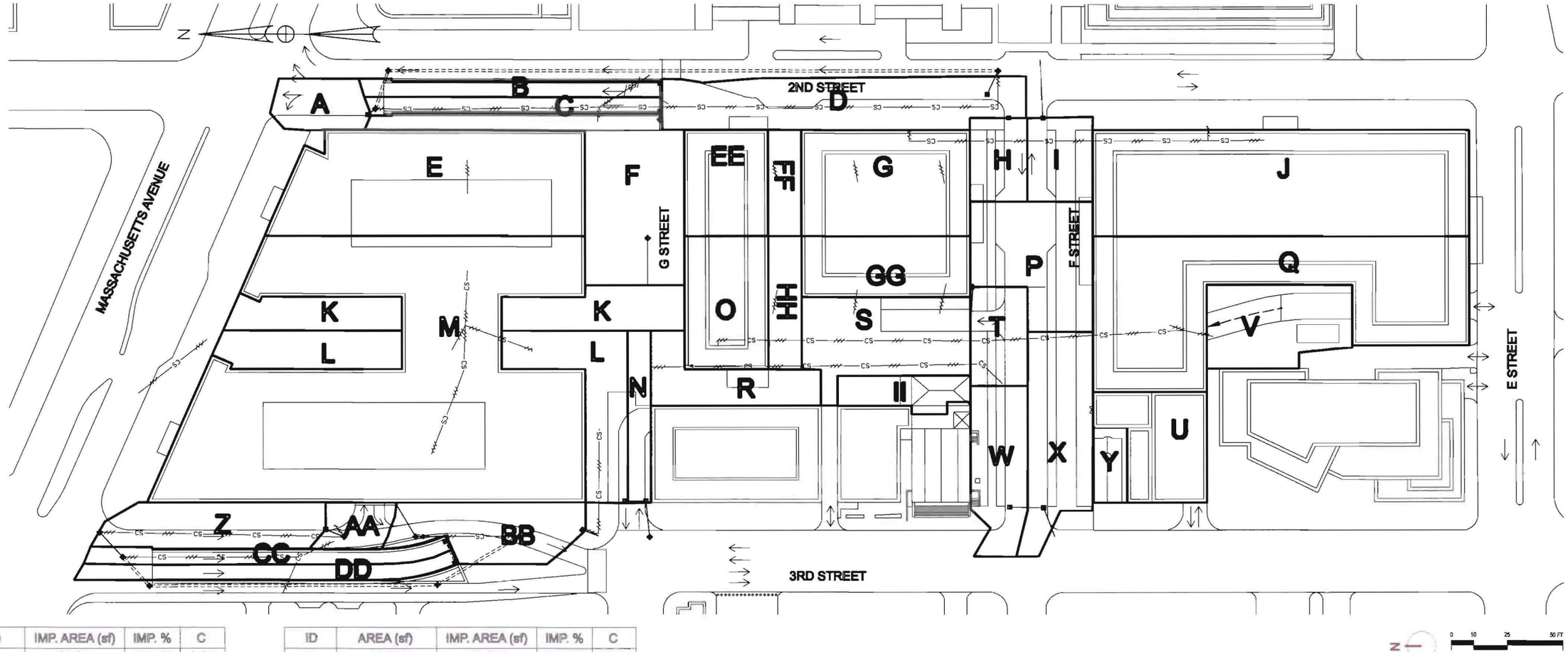
DESIGN GALLONS	LEED BASELINE GALLONS
7,179,547	**10,627,271**

TOTAL WATER USE (GALLONS / DAY)

DESIGN GALLONS	LEED BASELINE GALLONS
27,614	**40,874**

TOTAL ANNUAL WATER SAVINGS VS LEED BASELINE

3,447,725 GALLONS **32.44% PERCENT REDUCTION VS LEED BASELINE**



ID	AREA (sf)	IMP. AREA (sf)	IMP. %	C
A	3,735	3,735	100.0%	0.95
B	3,980	3,980	100.0%	0.95
C	3,890	3,890	100.0%	0.95
D	14,765	14,765	100.0%	0.95
E	25,100	25,100	100.0%	0.00*
F	16,450	4,015	24.4%	0.61
G	14,515	14,515	100.0%	0.00*
H	3,860	3,860	100.0%	0.95
I	4,440	4,440	100.0%	0.95
J	32,230	32,230	100.0%	0.00*
K	10,615	0	0.0%	0.50
L	14,210	0	0.0%	0.50
M	66,665	66,665	100.0%	0.00*
N	3,230	2,135	66.1%	0.80
O	8,990	8,990	100.0%	0.00*
P	10,810	10,810	100.0%	0.95
Q	30,455	30,455	100.0%	0.00*
R	6,070	785	12.6%	0.56

ID	AREA (sf)	IMP. AREA (sf)	IMP. %	C
S	11,075	11,075	100.0%	0.50
T	4,585	4,585	100.0%	0.95
U	8,185	8,185	100.0%	0.00*
V	9,000	9,00	10.0%	0.55
W	7,260	7,260	100.0%	0.95
X	10,470	10,470	100.0%	0.95
Y	2,050	2,050	100.0%	0.95
Z	8,055	8,055	100.0%	0.95
AA	2,615	2,615	100.0%	0.95
BB	8,200	8,200	100.0%	0.95
CC	4,635	4,635	100.0%	0.95
DD	4,845	4,845	100.0%	0.95
EE	7,145	7,145	100.0%	0.00*
FF	2,855	2,855	100.0%	0.50
GG	8,355	8,355	100.0%	0.50
HH	3,595	3,595	100.0%	0.00*
II	3,415	3,415	100.0%	0.95
TOTAL	380,350	303,225	79.7%	0.33

* IT IS ASSUMED THAT FOR SMALL STORMS THE PROPOSED "GREEN ROOF" STORMWATER MANAGEMENT FACILITIES WILL MITIGATE 100% OF OF STORMWATER RUNOFF COLLECTED AT THE PROPOSED BUILDINGS, AS REPRESENTED BY A "C" COEFFICIENT OF 0.00. FOR LARGER STORMS, THE "C" COEFFICIENT WOULD NEED TO BE INCREASED TO INDICATE THE RELEASE OF A PORTION OF THE BUILDING RUNOFF FROM STORMWATER MANAGEMENT FACILITY.

LEGEND:

EXISTING COMBINED SEWER TO BE REMOVED — CS

PROPOSED COMBINED SEWER

PROPOSED STORM DRAIN

NOTE:

1. THE EXISTING SITE IS 90% IMPERVIOUS.
2. ROADWAYS ACCOUNT FOR > 50% OF THE EXISTING SITE.
3. ALL PROPOSED BUILDINGS ON THIS SITE WILL HAVE 100% GREEN ROOFS.
4. THE PROPOSED BUILDINGS ACCOUNT FOR > 50% OF THE SITE AREA TO BE DEVELOPED.
5. THE PROPOSED DEVELOPMENT RESULTS IN INCREASES IN GREEN SPACE AND PEDESTRIAN AND LANDSCAPE AREAS.
6. THE PROPOSED DEVELOPMENT WILL RESULT IN AN OVERALL IMPROVEMENT TO THE QUALITY AND REDUCTION IN QUANTITY OF THE STORMWATER BEING DISCHARGED FROM THE SITE.
7. ALL PROPOSED STORM DRAINS ARE ASSUMED TO BE 18" EXCEPT THAT SEWERS BEING REMOVED AND RELOCATED WILL MATCH THE EXISTING SEWER SIZE.