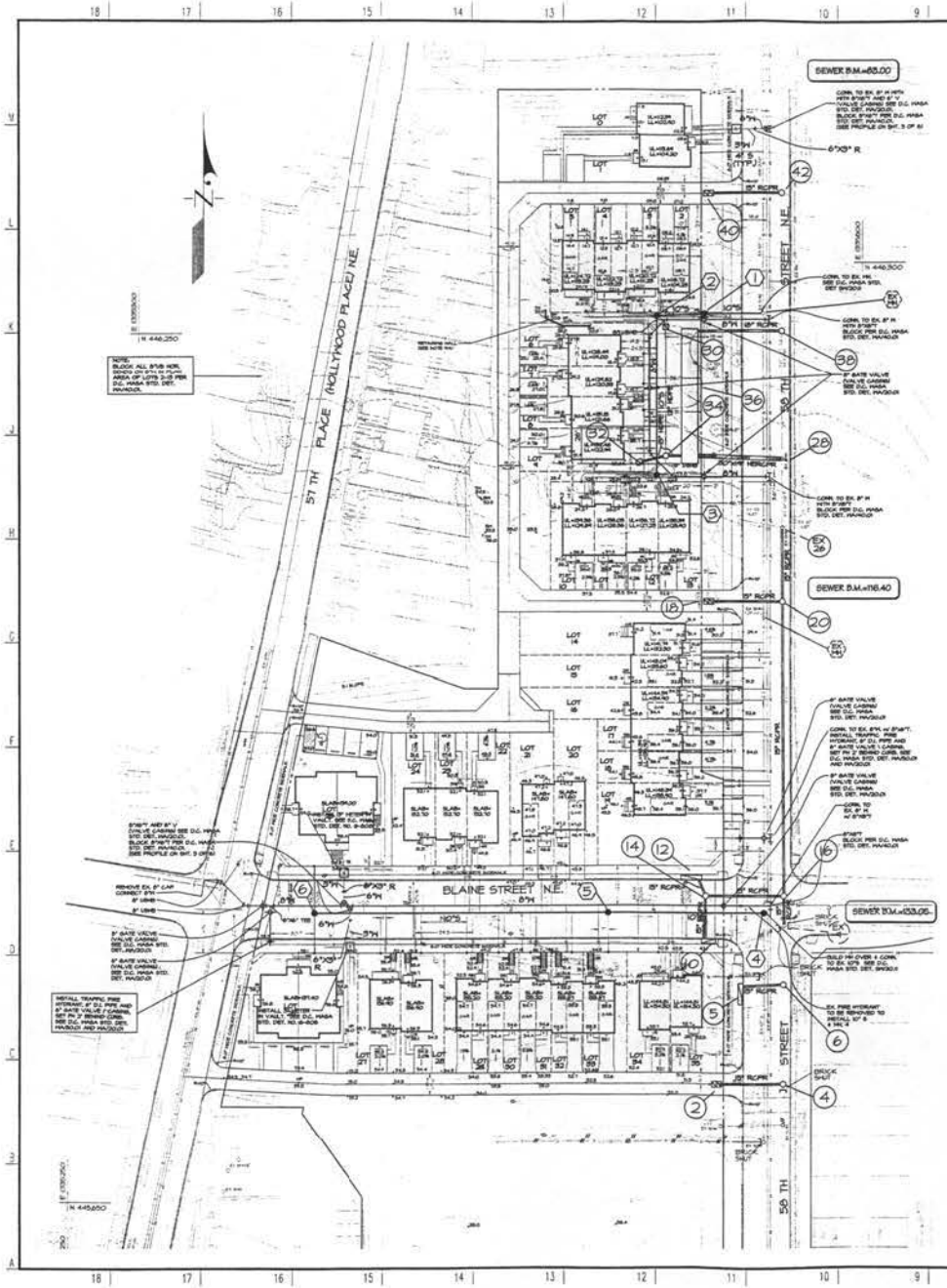
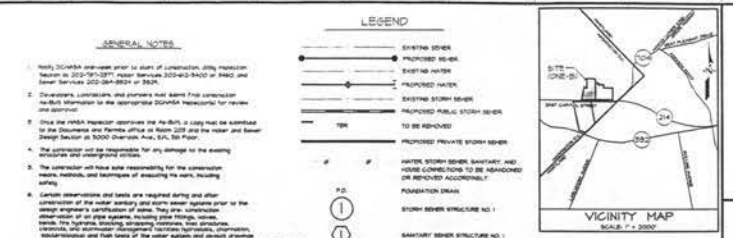
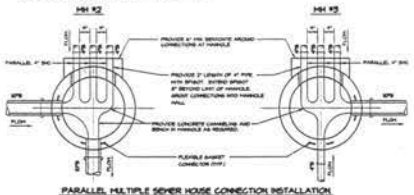




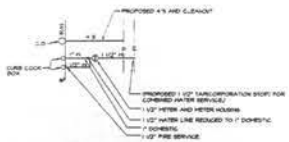
GENERAL NOTES

1. Notify DCHAFA one-week prior to start of construction. Utility inspection hours are 7:30-3:30. Inspection Services 202-442-9400 or 9460, and Sewer Services 202-364-8824 or 8826.
2. Developers, contractors, and plumbers must submit final construction as-built information to the appropriate DCHAFA representative for review and approval.
3. Once the HABA Inspector approves the As-Built, a copy must be submitted to the Documents and Permits office in Room 229 and the Water and Sewer Design Section at 5000 Overlook Ave., S.W., 5th Floor.
4. The contractor will be responsible for any damage to the existing structures and underground utilities.
5. The contractor will have sole responsibility for the construction means, methods, and techniques of executing his work, including safety.
6. Certain observations and tests are required during and after construction of the water sanitary and storm sewer systems prior to the design engineer's certification of same. They are: construction observation of all pipe systems, including pipe fittings, valves, bends, fire hydrants, blocking, abandoning manholes, misc. structures, cleanouts, and stormwater management facilities; hydrostatic, pneumatic, bacteriological and flush tests of the water system and as-built drawings of the water, sanitary and storm sewers systems, and the stormwater management facilities.
7. Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of mains by digging test pits by hand at all utility crossings well in advance of trenching.
8. The contractor shall notify MISS UTILITY 1-800-257-7777, 48 hrs before starting work shown on these drawings.
9. FIELD TESTING NOTE:
The contractor shall perform hydrostatic tests on all water mains, domestic and fire, in accordance with the above authority of the District of Columbia Water & Sewer Authority Standard Specifications and/or AWWA.
10. All proposed work to be constructed in accordance with the latest standards of the D.C. Water and Sewer Authority.
11. All proposed work to be performed under the inspection of D.C. Water and Sewer Authority.
12. Water main to be constructed with normal cover of four feet, below final grade unless otherwise approved.
13. Remove frame and cover of valves to be abandoned and fill w/ grade.
14. Provide ductile iron retainer glands for joint restraint on all Water Main pipe and fittings.
15. Contact the Department of Public Works-Public Space Maintenance Administration 48 hours prior to the start of construction (3037871-8522)
16. For field location of gas mains and services, notify Washington Gas Light Company at (703) 750-1000, 48 hours prior to construction.
17. Areas disturbed during the construction of the sprinkler connections are to replaced in kind and to existing conditions.
18. Adequate precautions for the safety of tenants on the site and provisions for necessary protection to prevent damage to other utilities not designated for removal, relocation or replacement in the course of construction shall be strictly maintained at all times.
19. Owner shall have utility lineups conducted prior to any conversion on site.
20. Water, sanitary, storm sewer, and house connections to be abandoned or removed accordingly. Pipes to be abandoned in place must be filled with lean grout or other acceptable material. Plug pipes and MHs per D.C. standard details.
21. See sewer and Water Profiles for stations of fittings, valves and Hydrants.
22. Sewer Bench Marks (Sewer B.M.) to be used for sewer Construction.
23. Backflow Preventers for the 1" and 3" Domestic and 6" Fire lines to be installed within the building.
24. Provide 1 1/2" tap for combined water service to all units, except the Brand Units Home which have a 3" tap. See HAC # 1940 Typical Detail this sheet and D.C. HABA Std. Det. HA/SD.01. Also see D.C. HABA detail S-SC8 on sheet C-104 for installation of meter vaults required for single home units on lot 1,20 and 28.
25. Provide 4" connection and cleanout for sewer service. See D.C. HABA Std. Det. SH/SD.02 and typical connection detail this sheet for exterior and cleanout.
26. For 4" connections from MH 2 & 3. See Hotline Connection detail this sheet.
27. All Public concrete Storm Sewer is to be Rubber Gasketed.



PARALLEL MULTIPLE SEWER HOUSE CONNECTION INSTALLATION INTO MH 2 AND 3 (FOR LOT 3-5 AND 10-15)

NOTE:
1. NO MORE THAN THREE (3) SHCS MAY BE CONNECTED PARALLEL TO EACH OTHER INTO A 48" DIA. MANHOLE.
2. SPACING DISTANCE BETWEEN SHC TO BE 6" CLEAR.



WATER HOUSE CONNECTION & SEWER HOUSE CONNECTION TYPICAL DETAIL

NOTE:
CONTRACTOR IS TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF THE EX. WATER & SEWER MAINS BY TEST PIT, WELL IN ADVANCE OF WATER & SEWER SERVICE HOUSE CONNECTION OR MAIN LINE INSTALLATION. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

OWNER
DISTRICT OF COLUMBIA HOUSING AUTHORITY
1133 NORTH CAPITAL STREET, N.E.
WASHINGTON D.C. 20002-7599
PHONE: (202) 535-1084

DEVELOPER/APPLICANT
A & R / THC, LLC
850 PENNSYLVANIA AVENUE, S.E.
SUITE 430
WASHINGTON D.C. 20003
PHONE: (202) 546-4033

CALL MISS UTILITY
1-800-257-7777
48 hrs, Before Excavation

STATEMENT BY PERSON RESPONSIBLE FOR MAINTENANCE

The undersigned agrees to maintain and operate the stormwater facilities in such a manner as to comply with the provisions of Section 536 through 599 of DCMR-21, Chapter 5. Responsibility for maintenance and operation may be transferred to another entity upon written notice to the Watershed Protection Division of the Department of Health from the undersigned and the entity assuming responsibility, certifying that the transfer of responsibility for maintenance and operation is compliance with Section 536 through 599 of DCMR-21, Chapter 5, has been accepted.

Signature of the person responsible for maintenance

Name and Title (please type)

Address

Date Telephone No.

STATEMENT BY PROFESSIONAL ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA

This is to certify that the engineering features of this stormwater discharge facility have been designed/recommended by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of stormwater pollutants. I further certify that the facility has been designed in accordance with the specification required under Section 536 through 580 of DCMR-21, Chapter 5. It is also stated that the undersigned has furnished the applicant with a set of instructions for the maintenance and operation of the stormwater discharge facility.

Signature of Engineer

Name and Title (please type)

Address

Date Telephone No.

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

Within 21 days after completion of construction of the stormwater discharge facility, please send this page to the Watershed Protection Division - Department of Health:

1. Stormwater discharge facility information.
Source name:
Source Location: Street:
City
DCRA Permit No.:
Date issued:

2. As-Built Certification

I hereby certify that stormwater discharge facility has been built substantially in accordance with the approved plans and specifications, and that any substantial deviations noted below) will not prevent the system from functioning in compliance with the requirements of Section 536 through 599 of DCMR-21, Chapter 5 when properly maintained and operated. These determinations have been based upon on-site observation of construction, scheduled and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

Signature of Engineer Name (Please Type) D.C. Reg. No.

Company Name

Company Address

Date Phone No.

Substantial deviations from the approved plans and specifications (attach additional sheets if required).

PHASE ONE-B UTILITY PLAN

250 58TH STREET N.E.
BEING A RESUBDIVISION OF
LOTS 41 THRU 78
SQUARE NO. 5246
WASHINGTON
DISTRICT OF COLUMBIA

GRAPHIC SCALE 1" = 30'
30' 0 30' 60' 90'

SHEET 1 OF 6 (FOR SHEETS 2 THRU 6 OF 6, SEE SDAI DWG. NOS. S-DOR-1, S-DOI-1, S-DI2-1, AND S-DR-1)

DATE	DESCRIPTION
1-24-04	PHASE ONE-B PERMIT SET
3-17-05	REVISED PERMIT SET
DATE	

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KPC/DRH
DRH
APPROVED
S-DOR-1

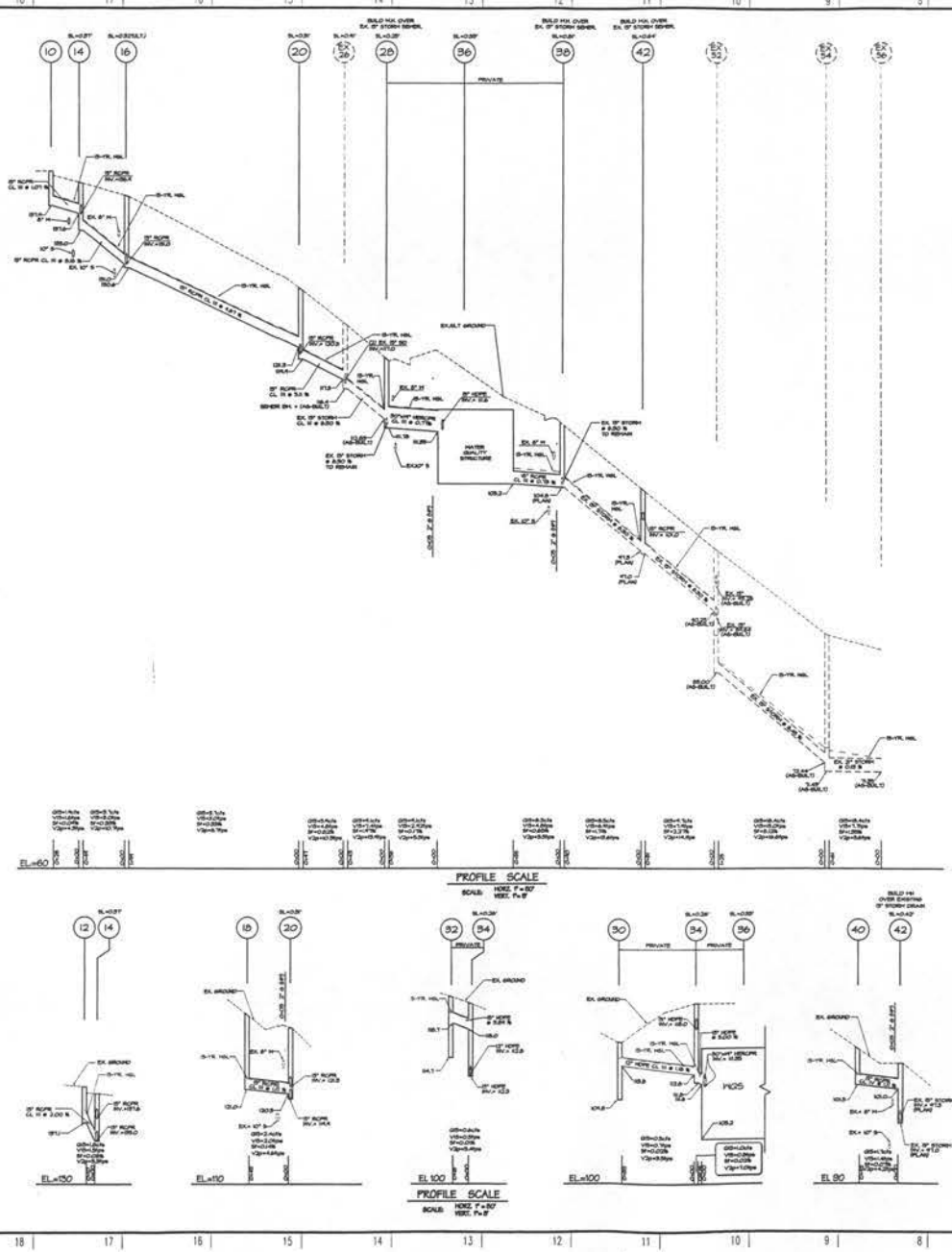
Grimm and Parker Architects

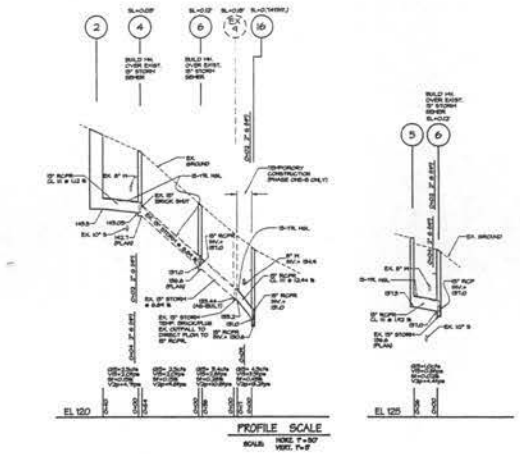
11785 Beltsville Drive Suite 1400 Calverton MD 20705 301.595.1000 301.595.0089 Fax
1350 Beverly Road Suite 105 McLean VA 22101 703.903.9100 703.903.1750 Fax

UTILITY PLAN
CAPITOL GATEWAY ESTATES PHASE ONE-B
SINGLE FAMILY HOUSING
WASHINGTON D.C.

C-104

ZONING COMMISSION
District of Columbia
CASE NO.03-03
EXHIBIT NO.27A2





PUBLIC PIPE SCHEDULE

FROM	TO	SIZE	TYPE	LENGTH
2	4	15"	RCPR CL III	40'
5	6	15"	RCPR CL III	28'
10	14	15"	RCPR CL III	29'
12	14	15"	RCPR CL III	10'
14	16	15"	RCPR CL III	44'
18	20	15"	RCPR CL III	44'
18	20	18"	RCPR CL III	45'
30	34, 36	15"	RCPR CL III	41'
40	42	15"	RCPR CL IV	45'
TOTAL:				404'

Remarks:

PUBLIC STRUCTURE SCHEDULE

NO.	TYPE	HDPE (DIAM.)	INV. ELEV.	TOP ELEV. (PIPE)	TOP ELEV. (GRATE)	STANDARD DETAIL
2	Grate Type Catch Basin	1'-0"	145.8	150.24/150.9		DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
4	Std. Precast MH.	4'-0"	143.1	150.1		DC MSHA STD. # 357.01-01
5	Std. Triple Catch Basin	2'-0"	137.9	146.50/145.00		DC DPW Dwg. # 326.04 + MSHA STD. # 357.01-01
6	Std. Precast MH.	4'-0"	139.4	144.00		DC MSHA STD. # 357.01-01
10	Std. Double Catch Basin	2'-0"	137.5	143.02		DC DPW Dwg. # 326.04 + MSHA STD. # 357.01-01
12	Std. Double Catch Basin	2'-0"	137.1	145.48 / 143.78		DC DPW Dwg. # 326.04 + MSHA STD. # 357.01-01
14	Std. Precast MH.	4'-0"	135.0	140.62		DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
18	Std. Precast MH.	4'-0"	130.3	135.10		DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
18	Grate Type Catch Basin	1'-0"	131.0	134.50 / 134.04		DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
30	Std. Precast MH.	4'-0"	124.4	128.30		DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
34	Std. Precast MH.	4'-0"	121.8			DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
38	Std. Precast MH.	4'-0"	116.78			DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
38	Grate Type Catch Basin	1'-0"	116.8 *	119.9		DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
40	Grate Type Catch Basin	1'-0"	120.5	125.42 / 125.92		DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
42	Std. Precast MH.	4'-0"	112.7	124.20		DC MSHA STD. # 357.01-01

Remarks:
* DOUBLE GRATE
+ PLAN/ELEVATION CONTRACTOR TO VERIFY.

PRIVATE PIPE SCHEDULE

FROM	TO	SIZE	TYPE	LENGTH
30	34	12"	HDPE	80'
32	34	15"	HDPE	19'
34	36	15"	HDPE	4'
36	38	30"x18"	HDRCPR CL III	96'
38	38	18"	RCPR CL III	50'
TOTAL:				228'

Remarks: HDPE= High Density Polyethylene Pipe With Smooth Liner Pipe (+ = 0.039 or Greater)

PRIVATE STRUCTURE SCHEDULE

NO.	TYPE	HDPE (DIAM.)	INV. ELEV.	TOP ELEV. (PIPE)	TOP ELEV. (GRATE)	STANDARD DETAIL
30	Std. Single Catch Basin	2'-0"	124.8 *	129.30		DC DPW Dwg. # 326.06 + MSHA STD. # 357.01-01
32	Std. Single Catch Basin	2'-0"	127.1 +	130.8		DC DPW Dwg. # 326.06 + MSHA STD. # 357.01-01
34	Std. Precast MH.	4'-0"	121.8	126.8		DC DPW Dwg. # 326.02 + MSHA STD. # 357.01-01
36	Sand Filter		109.0			SEE DETAILS ON C-9

Remarks:
* OUTGOING INVERT=121.6
+ OUTGOING INVERT=126.7

PUBLIC PIPE SUMMARY

SIZE	TYPE	LENGTH
15"	RCPR CL III	444'
15"	RCPR CL IV	45'
	TOTAL	489'

Remarks: ALL PIPE TO BE RUBBER GASKETED PER D.C. MSHA SPECIFICATIONS.

PRIVATE PIPE SUMMARY

SIZE	TYPE	LENGTH
12"	HDPE	80'
15"	HDPE	23'
18"	RCPR	50'
30"x18"	HDRCPR	96'
	TOTAL	228'

Remarks: HDPE=High Density Polyethylene Pipe with Smooth Liner Pipe (+ = 0.039 or Greater)

PHASE ONE-B
UTILITY PLAN

250 58TH STREET NE
BEING A RESUBDIVISION OF
LOTS 41 THRU 78
SQUARE NO. 5246
WASHINGTON
DISTRICT OF COLUMBIA

GRAPHIC SCALE 1"= 50'
50' 0 50' 100' 150'

SHEET 2 OF 8 (FOR SHEETS 1,3,4,5, AND 8 OF 8, SEE SDAI DWG. NO'S. 8-006-Z, 8-010-Z, 8-011-Z, 8-012-Z, AND 8-013-Z)

DATE	DESCRIPTION
1-24-04	
4-24-06	PHASE ONE-B PERMIT SET
9-11-09	REVISED PERMIT SET
DATE	DESCRIPTION
	REVISIONS

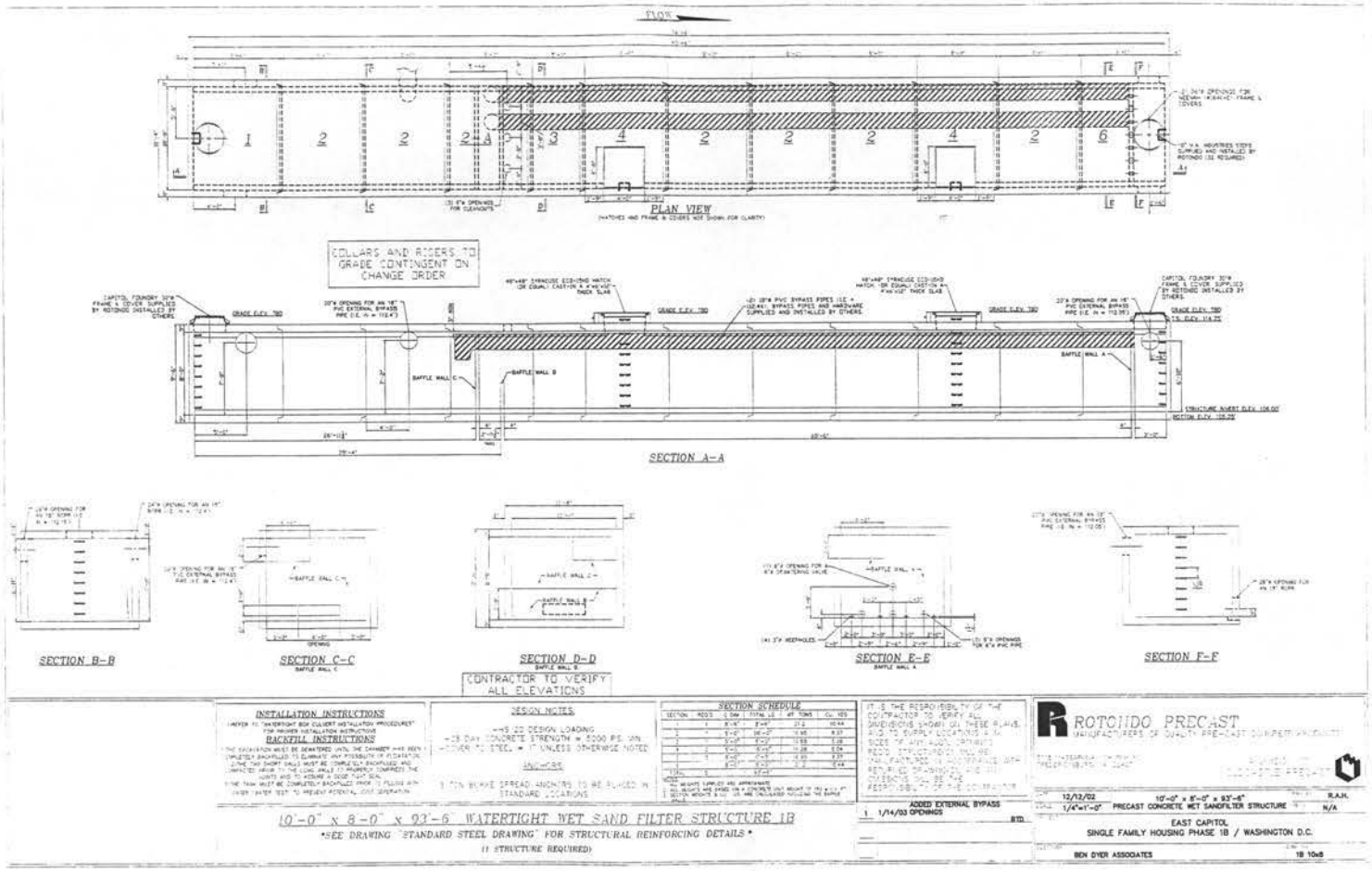
KPC
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KPC PLAT DSC-1
BY SCALE 1"=50'
DATE NOV. 2002
J-#4130
DSC NO. 8-004-Z

BEN DYER ASSOCIATES, INC.
Engineers / Surveyors / Planners
TELEPHONE (301) 595-9100
11785 Beltsville Drive Suite 1400 Calverton MD 20705 301.595.1000
1355 Beverly Road Suite 105 McLean VA 22101 703.903.9100 703.903.9705 Fax

Grimm and Parker Architects

UTILITY PLAN-PROFILES
CAPITOL GATEWAY ESTATES PHASE ONE-B
SINGLE FAMILY HOUSING
WASHINGTON D.C.

C-105



INSTALLATION INSTRUCTIONS

REFER TO "WATERTIGHT BOX CULVERT INSTALLATION PROCEDURES" FOR PROPER INSTALLATION INSTRUCTIONS

BACKFILL INSTRUCTIONS

THE EXCAVATION MUST BE DEWATERED UNTIL THE CHAMBER HAS BEEN COMPLETELY BACKFILLED TO ELIMINATE ANY POSSIBILITY OF FLOTATION. ZONE TWO SHORT WALLS MUST BE COMPLETELY ENCAPSULED AND COMPACTED PRIOR TO THE LONG WALLS TO PROPERLY COMPACT THE HAUNCHES AND TO ASSURE A GOOD "DRY" SEAL. THE TANK MUST BE COMPLETELY BACKFILLED PRIOR TO FILLING WITH WATER (WATER TEST TO PREVENT POTENTIAL COST SEPARATION)

DESIGN NOTES

- HS 20 DESIGN LOADING
- 28 DAY CONCRETE STRENGTH = 5000 P.S.I. MIN.
- REBAR = STEEL = 1" UNLESS OTHERWISE NOTED

HANDLING

- 3 TON BUMPER SPREAD HAUNCHES TO BE PLACED IN STANDARD LOCATIONS

SECTION SCHEDULE

SECTION	WIDTH	DIM / TOTAL LG	WT TONS	Cu. YDS
1	8'-0"	8'-0"	21.2	10.44
2	1'	8'-0" / 16'-0"	10.65	8.37
3	1'	8'-0" / 24'-0"	15.93	5.28
4	2'	8'-0" / 8'-0"	10.28	8.04
5	2'	8'-0" / 16'-0"	20.56	8.37
6	2'	8'-0" / 24'-0"	30.84	5.44

NOTES:
1. WEIGHTS SUPPLIED ARE APPROXIMATE
2. ALL SLABS ARE SHOWN FOR A CONCRETE UNIT WEIGHT OF 150 LBS / FT³
3. SECTION WEIGHTS & Cu. YDS ARE CALCULATED WITHOUT THE SUMP

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS SHOWN ON THESE PLANS, AND TO SUPPLY LOCATIONS & SIZES OF ANY AND ALL OPENINGS REQUIRED FOR PIPES, CONDUITS, ETC. THAT MAY BE REQUIRED BUT NOT SHOWN ON THESE PLANS. ROTOHDO PRECAST SHALL NOT BE RESPONSIBLE FOR ANY INCORRECTIONS THAT MAY BE DISCOVERED AFTER THE CONCRETE HAS BEEN POURED.

ROTOHDO PRECAST
MANUFACTURERS OF QUALITY PRE-CAST CONCRETE PRODUCTS

10'-0" x 8'-0" x 93'-6" WATERTIGHT WET SAND FILTER STRUCTURE 1B

*SEE DRAWING "STANDARD STEEL DRAWING" FOR STRUCTURAL REINFORCING DETAILS *

(1 STRUCTURE REQUIRED)

DATE	DESCRIPTION	BY
1/14/03	ADDED EXTERNAL BYPASS 20"ø OPENINGS	BTD

DATE	SCALE	DESCRIPTION	DRAWN
12/12/02	1/4"=1'-0"	10'-0" x 8'-0" x 93'-6" PRECAST CONCRETE WET SANDFILTER STRUCTURE	R.A.H. N/A

EAST CAPITOL
SINGLE FAMILY HOUSING PHASE 1B / WASHINGTON D.C.

BEN DYER ASSOCIATES — 1B 10x8

NOTES:

1) Sand Filter Maker Quality Structure to be pre-cast by a D.C. Department of Public Works approved pre-caster.

2) Contact D.C. Department of Health, Environmental Health Administration, Watershed Protection Division Stormwater Technical Services Branch for a list of approved suppliers (1-202-535-2240).

3) All Sand Filter Maker Quality Structures to be designed to meet H-20 loading.

4) Cast-in-Place sand Filters should be as per section 02720.01 to 02726.06 of the D.D.O.T. Water and Sewer Specification and detailed drawing in the office manual.

5) Shop drawings for both pre-cast and cast-in-place structures must be submitted to the design engineer and code officials of the Watershed Protection Division's Sediment and Stormwater Technical Services Branch for approval prior to fabrication.

PHASE ONE-B
UTILITY PLAN-DETAILS
BEING A RESUBDIVISION OF
LOTS 41 THRU 78
SQUARE NO. 5246
WASHINGTON
DISTRICT OF COLUMBIA

SHEET 5 OF 6 (FOR SHEETS 1,2,4,5 AND 6 OF 6, SEE BDA DWG. NO'S. B-008-E, B-004-E, B-01-E, B-02-E AND B-03-E)

DATE	DESCRIPTION	BY
4-24-03	PHASE ONE-B PERMIT SET	KPC
5-17-03	REVISED PERMIT SET	KSC
DATE	DESCRIPTION	BY
	REVISIONS	

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J-HR50
SCALE: AS SHOWN
DATE: DEC. 2002
B-010-E

BEN DYER ASSOCIATES, INC.
Engineers / Surveyors / Planners
TELEPHONE (301) 490-9000

Grimm and Parker Architects

11785 Beltsville Drive, Suite 1400, Calverton MD 20705, 301.595.1000, 301.595.0089 Fax
1355 Beverly Road, Suite 105, McLean VA 22101, 703.903.9100, 703.903.9705 Fax

UTILITY PLAN-DETAILS
CAPITOL GATEWAY ESTATES PHASE ONE-B
SINGLE FAMILY HOUSING
WASHINGTON D.C.

C-106

DISTRICT OF COLUMBIA SAND FILTER WATER QUALITY STRUCTURE

East Capitol - Phase 1/8

P-99130

Assumptions & Site Data

Storm Frequency =	15 yr
Storm Duration =	24 hr
Time of Concentration (Tc) =	6 min
Runoff Coefficient (C) =	1
Infiltration Rate for Sand =	1.18 ft/hr
Void Ratio for Sand, Gravel & Pipe (Vv)	0.6
Sand Permeability (K) =	3.6 ft/hr

Pre-existing Conditions

Rainfall Intensity (I2) =			5.28 in/hr
Land Use	Acres	C	A * C
Meadow	5.000	0.26	1.768
Qex = Q2 =	5.33 cfs		

Proposed Conditions

				1st Flush
Rainfall Intensity (I15) =			7.86 in/hr	
Land Use By Areas	Acres	C	A * C	Qf
Surface Parking	1.666	0.9	0.959	0.3
Other Impervious	0.151	0.9	0.136	0.4
Rooftop	0.659	1.0	0.660	0.3
Grass	3.174	0.35	1.111	
Totals		0.57		
		weighted		
Qpk = Q10 =	21.66 cfs			

WQ Structure Dimensions

L1 =	13.17 ft	
L2 =	78.00 ft	97.50 Overall
L3 =	4.00 ft	
W =	13.00 ft	

1 Determine Design Invert Elevations

Dt = (Inv. In - Inv. Out)

Inv In =	112.16 ft
Inv Out =	106.66 ft
Dt =	5.50 ft

2 Determine Area of Sand Filter

Af = 50 * (Is - 0.1) * 1.67

Is =	1.875 Imperv. Area, acres
Af = A2 =	347 sq ft
Use A2 = L2 * W =	1014 sq ft
	OK

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3a Determine Storage Volume for Quality Control

Vqc = (Qo * Ts) - (F * T * Af)

Ia =	81,719 Imperv. Area, sq ft
F =	1.18 Final Infiltration Rate for Filter, ft/hr
T =	1 Filling Time (1 hr per SCS practice)
Vqc =	2,483 cu ft

3b Determine Storage Volume for Quantity Control

Vqn = (1.25 * (Qex - Qex) * (Tc * 60) * 1.6)

Vqn = 4,623 cu ft

4 Determine Storage Volume Required

Use Largest Value of 3a and 3b

Vw = 4,623 cu ft, required

5 Calculate Bottom Storage Volume in Second Chamber

V2b = Af * d * Vv

d =	3.00 Depth of Filter Layer, ft
Vv =	0.6 Void Ratio of Filter Media
V2b =	1,410 Bottom Volume of Filter Chamber, cu ft

5 Calculate Bottom Storage Volume in First Chamber

V1b = A1 * d

A1 =	132 sq ft
V1b =	395 cu ft

7a Calculate Storage Volume Required in First & Second Chambers

V12 = V2t + Vw - (V2b + V1b)

V12 = 2816 cu ft

7b Calculate Storage Volume Provided in First & Second Chambers

V12 = V2t - (L1 - L2) * W * (D - d)

V12 =	2,880 cu ft

7c Calculate Total Storage Provided

Vwp = V2b + V1b + (V12 + V2t)

Vwp =	4,686 cu ft, provided
	OK

8 Size Overflow Pipe in First Chamber

Pipe Diameter	18 in
Number of Pipes	3 ea
Top of pipe	113.83
Area of Pipes	5.30 sq ft
Assumed % clogged	50 %
Assumed Open Area	2.65 sq ft
Co =	0.6 Weir Coefficient

Imax = (Qp/t / Co / Ao)^2 / 2g

Imax =	0.33 ft
HGL =	113.33

ECap-182.xls WQS 18 UI 2 11/21/02 8:13 AM

9 Size Submerged Weir in First Chamber

Lo =	7.00 ft
Ho =	1.00 ft
Co =	0.6 Weir Coefficient
Area =	7.00 sq ft
Assumed % clogged	50 %
Assumed Open Area	3.50 sq ft

Imax = D - 0.5 - (Ho / 2)

Imax =	5.15 ft

Q = Co * Ao * (2g * Imax)^0.5

Q =	38.24 cfs
	Orifice Large Enough

10 Determine Average Flow Through Filter

Imax = D - 0.5 * Perf Pipe Diameter

Perforated Pipe Diameter =	6 in
Hmax =	5.9 ft

I = Hmax / (2 * d)

I =	0.98
Qf = K * A2 * I	
Qf =	463.16 cu ft / hr

11 Determine the Detention Time

Tp = Vw / Qf

Vwp =	6996 cu ft
Qf =	463.16 cu ft / hr
Tp =	16.12 hr

12 Compute Peak Outflow Time

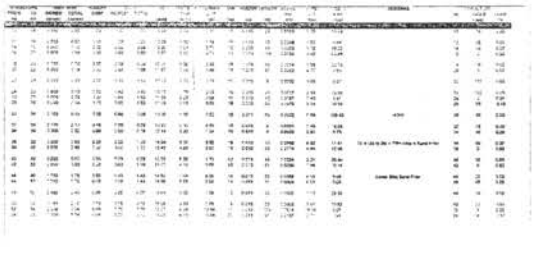
1 If (Tc * Qpk) < (2 * Vwp) then T = (2 * Tp - (2 * Tp^2 - 2 * Vw * Tc / Qpk) ^ 0.5)

2 If (Tc * Qpk) > (2 * Vwp) then T = (Tc / 2) + Vw / Qpk)

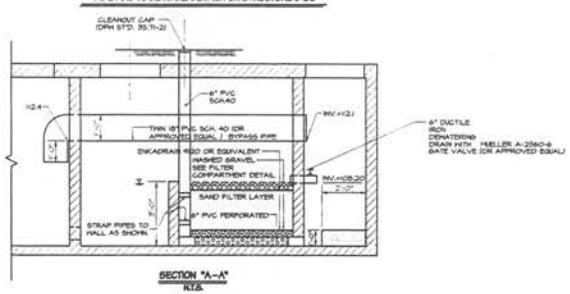
3 If (Tc * Qpk = (2 * Vwp) then T = (2 * Vw * Tc) / Qpk) * 0.5

Tc * Qpk =	8498.27
2 * Vwp =	8991.41
T =	377 sec
T =	6.28 min

ECap-182.xls WQS 18 UI 3 11/21/02 8:13 AM

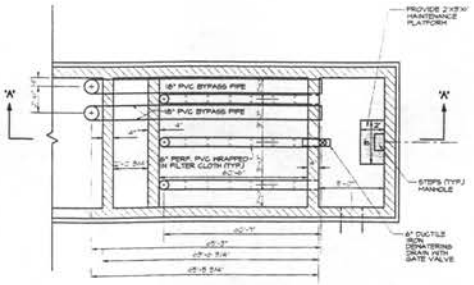


FIPE AND HARDWARE DETAIL FOR STRUCTURE # 56



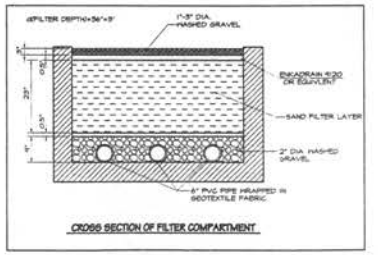
SECTION "A-A"

N.T.S.



PLAN VIEW (TOP SLAB REMOVED)

N.T.S.



CRD66 SECTION OF FILTER COMPARTMENT

NOTES:

1.) Sand Filter Water Quality Structure to be pre-cast by a D.C. Department of Public Works approved pre-caster.

2.) Contact D.C. Department of Health, Environmental Health Administration, Watershed Protection Division Stormwater Technical Services Branch for a list of approved suppliers (1-202-535-2240).

3.) All Sand Filter Water Quality Structures to be designed to Meet H-20 loading.

4.) Cast-in-Place sand filters should be as per section 02720.01 to 02726.06 of the D.D.O.T. Water and Sewer Specification and detailed drawing in the office manual.

5.) Shop drawings for both pre-cast and cast-in-place structures must be submitted to the design engineer and code officials of the Watershed Protection Division's Sediment and Stormwater Technical Services Branch for approval prior to fabrication.

250 58TH STREET N.E.

BEING A RESUBDIVISION OF

LOTS 41 THRU 78

SQUARE NO. 5246

WASHINGTON

DISTRICT OF COLUMBIA

SHEET 4 OF 5 (FOR SHEETS 1,2,3,5 AND 6 OF 6, SEE ECAI DWG. NO'S. 8.008-1, 8.009-1, 8.010-1, 8.012-1 AND 8.013-1)

DATE	DESCRIPTION
1-24-04	
4-24-05	PHASE ONE-B PERMIT SET
DATE	REVISIONS

KPC | APP'D | CHK | J-99130

BY | SCALE: AS SHOWN

DATE: FEB. 2005

8.011-2

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Engineers / Surveyors / Planners

TELEPHONE (301) 459-8000

11785 Beltsville Drive, Suite 1400, Calverton MD 20705, 301.595.1000

1350 Beverly Road, Suite 105, McLean Va 22101, 703.903.9100, 703.903.9299 Fax

Grimm and Parker Architects

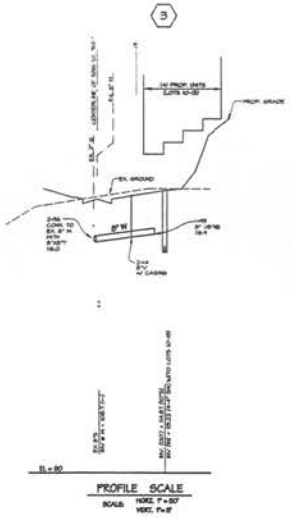
UTILITY PLAN-DETAILS

CAPITOL GATEWAY ESTATES PHASE ONE-B

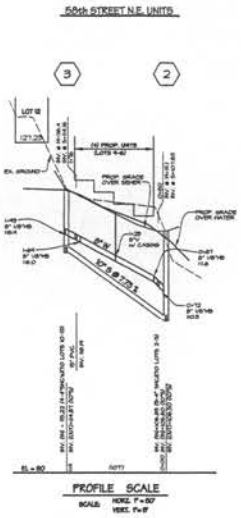
SINGLE FAMILY HOUSING

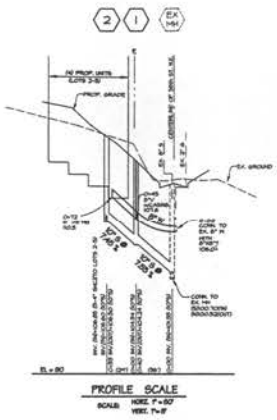
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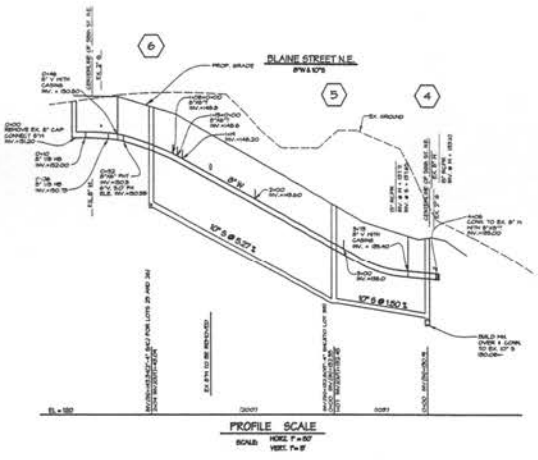
C-107



58th STREET N.E. UNITS







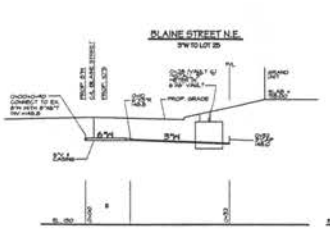
EAST CAPITOL SEWER INVERT ELEVATION AT PROPERTY LINE (56TH STREET N.E.)

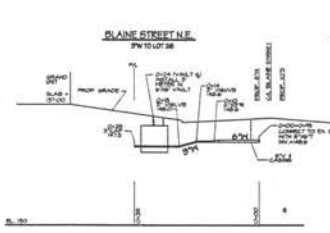
SQUARE NO.	LOT NO.	UNIT TYPE	CLEAN OUT INV. ELEVATION
5246	1	G	142.31
5246	2	S-I	136.44
5246	3	S-J	136.93
5246	4	S-I	137.35
5246	5	S-I	137.81
5246	6	C-I	138.28
5246	7	C-I	140.94
5246	8	C-I	141.88
5246	9	C-I	139.68
5246	10	C-I	138.50
5246	11	C-I	135.84
5246	12	C-I	135.48
5246	13	C-I	135.41
5246	14	C-I	131.18
5246	15	C-I	122.11
5246	16	C-I	125.40
5246	17	C-I	124.65
5246	18	J-I	128.14

EAST CAPITOL SEWER INVERT ELEVATION AT PROPERTY LINE (BLAINE STREET N.E.)

SQUARE NO.	LOT NO.	UNIT TYPE	CLEAN OUT INV. ELEVATION
5246	19	C-I	128.74
5246	20	J-III	134.77
5246	21	J-IV	135.67
5246	22	C-II	137.49
5246	23	C-II	138.85
5246	24	C-II	139.44
5246	25	G	143.84
5246	26	G	143.44
5246	27	J-III	141.67
5246	28	J-IV	140.14
5246	29	C-II	138.51
5246	30	C-II	137.35
5246	31	C-II	136.14
5246	32	C-II	134.71
5246	33	C-II	133.45
5246	34	J-I	132.87
5246	35	J-I	132.62

NOTE:
ALL 8" WATER PIPE & FITTINGS TO BE D.I. AND RESTRAINED WITH RETAINER GLANDS.







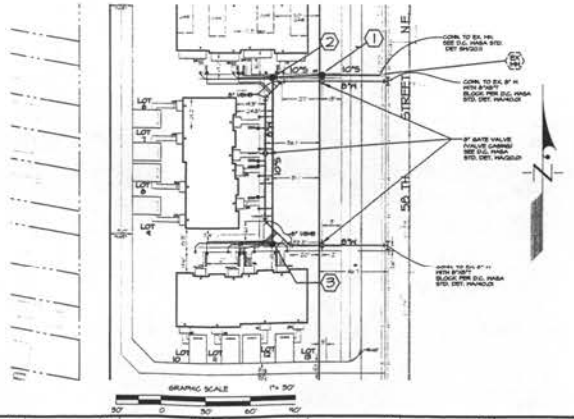
MATERIAL LIST (WATER)	
ITEM	NUMBER
8"x8" TEE	3
8" VALVE (w/ CASING)	3
8" 1/8 HOR. BEND	4
8" 1/32 HOR. BEND	1
8"x6"T	3
8" CAP	1
8" GATE VALVE (w/ CASING)	8
8"x8" CROSS	1
6" GATE VALVE (w/ CASING)	2
TRAFFIC FIRE HYDRANT	2
1 1/2" METER & METER BOX	32
CURB STOP & BOX	70
CORPORATION STOP	32
6"x3" REDUCER	2
3" METER AND 8 MI VAULT	2
1 1/2"x1" REDUCER	32

MATERIAL LIST (WATER)	
TYPE	LENGTH
8" H (D.C. CL. 350)	8'56"
6" H (D.C. CL. 50)	40'
1" H (COPPER)	500'
1 1/2"H (COPPER)	500'
3" H (COPPER)	100'

MATERIAL LIST (SEWER)	
TYPE	LENGTH
10" SEWER PVC/	4'15"
4" SEWER (PVC)	962'

MATERIAL LIST (SEWER)	
ITEM	NUMBER
MANHOLES	6
4" CLEANOUT (C.O.)	35
4" 1/8 HOR. BEND	14
10"x4" T	28
4"x4" WYE (FOR C.O.)	35

NOTE:
CONTRACTOR IS TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF THE EX. WATER & SEWER MAINS BY TEST PIT WELL IN ADVANCE OF WATER & SEWER SERVICE HOUSE CONNECTION OR WATER & SEWER MAIN INSTALLATION. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.



UTILITY PLAN-PROFILES

BEING A RESUBDIVISION OF
LOTS 41 THRU 78

SQUARE NO. 5246

WASHINGTON
DISTRICT OF COLUMBIA

SHEET 5 OF 6 (FOR SHEETS U3.4 AND 6 OF 6 SEE BOA) DWG. NO'S. B.003-Z, B.004-Z, B.010-Z, B.011-Z AND B.015-Z

DATE	DESCRIPTION
4-24-08	PHASE ONE-B PERMIT SET
5-11-08	REVISED PERMIT SET
DATE	DESCRIPTION
	REVISIONS

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J-#830
BY: MKS AS SHOWN
NOV 2002
B.012-Z

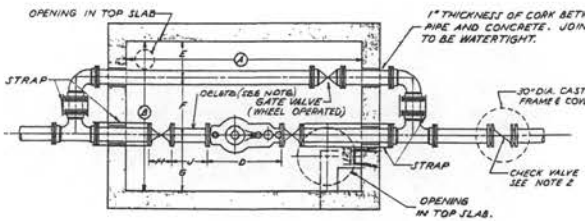
Grimm and Parker Architects
11785 Beltsville Drive Suite 1400 Calverton MD 20705 301.595.1000
1355 Beverly Road Suite 105 McLean VA 22101 703.903.9100 703.903.9709 Fax
301.595.0089 Fax

UTILITY PLAN-PROFILES
CAPITOL GATEWAY ESTATES PHASE ONE-B
SINGLE FAMILY HOUSING
WASHINGTON D.C.

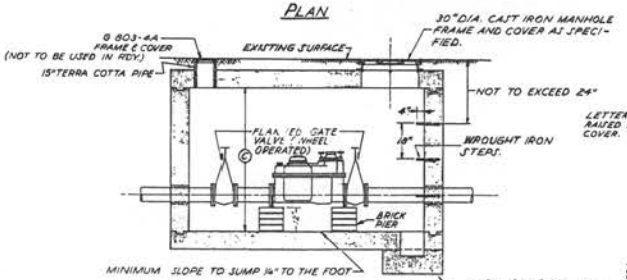
DATE	DESCRIPTION
12/16/05	PERMIT SET

C-108

808-G



PLAN

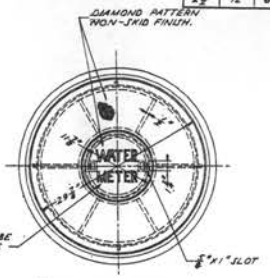


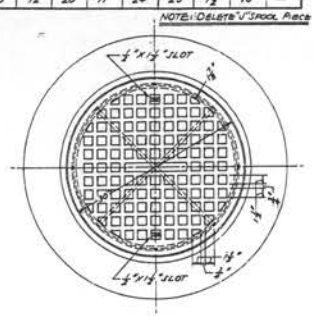
ELEVATION

NOTE-
1. REINFORCING STEEL AND CONCRETE WALL AND SLAB THICKNESS AS SPECIFIED BY OTHERS.
2. CHECK VALVE & CASING AS SPECIFIED IS REQUIRED IF METER IS INSTALLED ON INTERCONNECTED SERVICE PIPE OR SUBJECTED TO BACKFLOW.

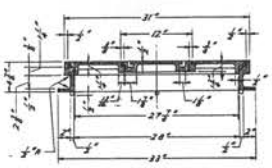
NOTE-
USE 24" FRAME AND COVER FOR 2½" DISC METER.

SIZE	A	B	C	D(MAX)	E	F	G	H	J	—
-COMPOUND METER-										
3"	72"	72"	72"	17"	10"	26"	24"	8"	10"	—
4"	72"	72"	72"	20"	10"	26"	24"	9"	10"	—
6"	120"	72"	72"	24"	12"	29"	24"	10½"	18"	—
-DISC METER-										
2½"	72"	60"	72"	20"	11"	24"	25"	7½"	18"	—

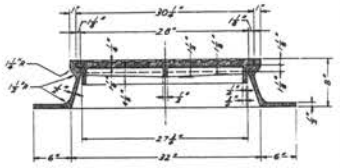




NOTE-
FRAME AND COVER NOT TO BE USED IN ROADWAY



G-803-4



J-C-11

NOTE-
-ALL MACHINE FINISH TO BE A.S.A. SPECIFICATION - "ROUGHNESS SYMBOL 250." TOLERANCE: -0"+⅛".

CAST IRON FRAME & COVER DETAILS
1½"=1'-0"

2-1-92	R.L.G.
5-1-85	R.L.G.
7-16-63	R.L.C.
1-11-63	R.L.C.
3-22-60	E.H.
6-27-58	E.H.
-REVISED-	

APPROVED-
SUPT. OF PLANNING OPERATIONS
APPROVED-
SUPT. WATER & OPERATIONS DIVISION

DISTRICT OF COLUMBIA
DEPARTMENT OF SANITARY ENGINEERING
DAVID V. AULD, DIRECTOR

METER INSTALLATION LAYOUT COMPOUND METER

SCALE AS NOTED	DRAWN E.H.
DISTRICT	CHECKED J.E.S.
SYSTEM	SUBMITTED
SURVEYED	
DATE MAY 2, 1958	RECOMMENDED
DRAWING NO.	

G-808

UTILITY PLAN-DETAIL
BEING A RESUBDIVISION OF
LOTS THRU
SQUARE NO. 5246
WASHINGTON
DISTRICT OF COLUMBIA

SHEET 6 OF 6 (FOR SHEETS 1 THRU 5 OF 6, SEE BOAI DWG. NOS. B-008-Z, B-009-Z, B-010-Z, B-011-Z AND B-012-Z)

DATE	DESCRIPTION
4-24-09	PHASE ONE-B PERMIT SET
3-11-09	REVISED PERMIT SET
DATE	DESCRIPTION
	REVISIONS

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KPC PROJECT NUMBER
BY KAP AS SHOWN
DATE NOV. 2002
J-1950
B-011-Z

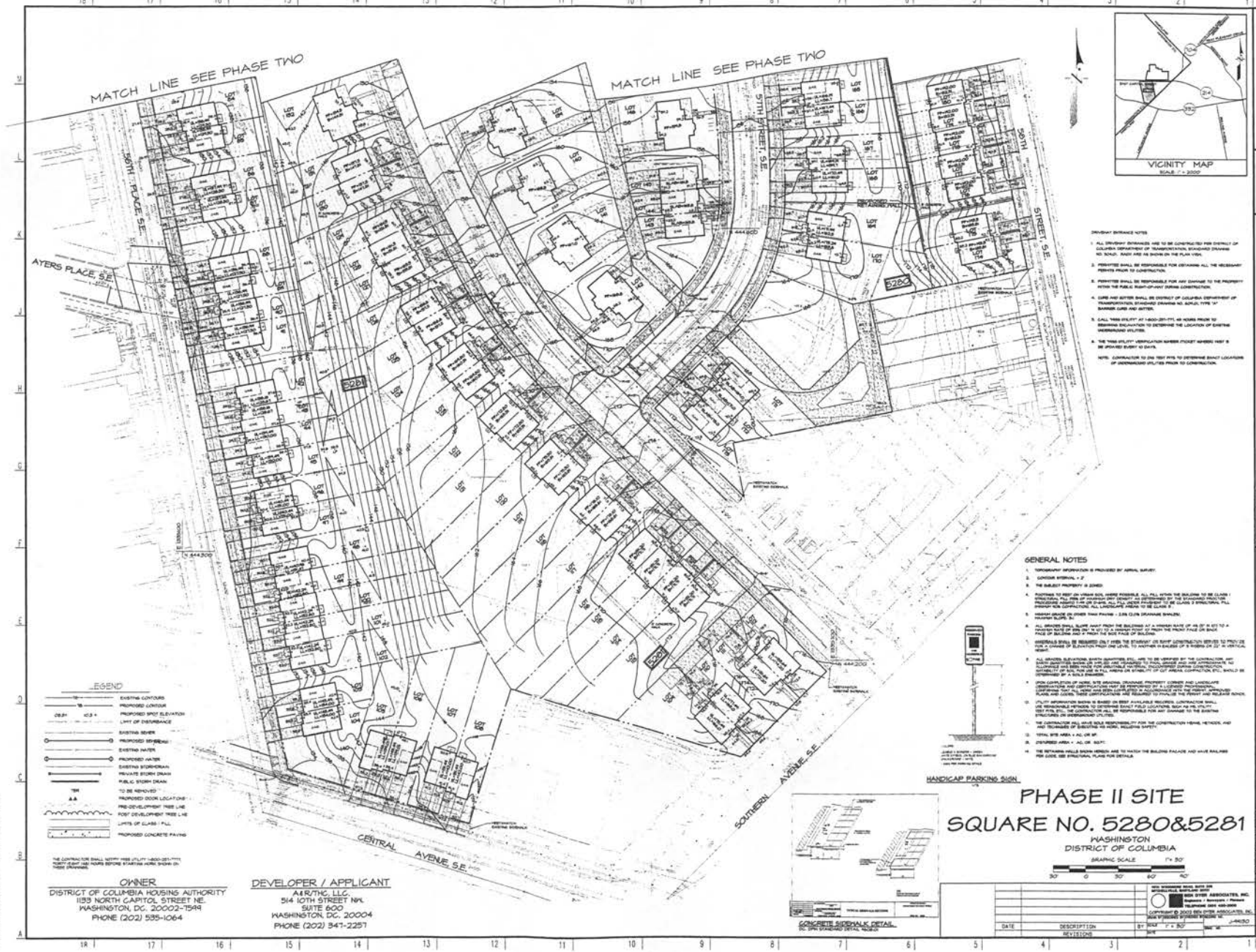
BEN DYER ASSOCIATES, INC.
Engineers / Surveyors / Planners
TELEPHONE (301) 490-9000

11785 Beltsville Drive, Suite 1400, Calverton, MD 20705, 301.595.1000
1355 Beverly Road, Suite 100, McLean, VA 22101, 703.903.9100, 703.903.9795 Fax

Grimm and Parker Architects

UTILITY PLAN-DETAIL
CAPITOL GATEWAY ESTATES PHASE ONE-B
SINGLE FAMILY HOUSING
WASHINGTON D.C.

C-109



OWNER
DISTRICT OF COLUMBIA HOUSING AUTHORITY
1133 NORTH CAPITOL STREET NE.
WASHINGTON, DC. 20002-7599
PHONE (202) 535-1064

DEVELOPER / APPLICANT
A&R/THC, LLC.
514 10TH STREET NW.
SUITE 600
WASHINGTON, DC. 20004
PHONE (202) 347-2257

PHASE II SITE
SQUARE NO. 5280&5281
WASHINGTON
DISTRICT OF COLUMBIA

GRAPHIC SCALE
1" = 30'
30' 0 30' 60' 90'

DATE	DESCRIPTION
REVISIONS	

BY: [illegible] SCALE: 1" = 30' DATE: [illegible] JOB NO. J-94030

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RBA DYER ASSOCIATES
Engineers • Surveyors • Planners
[illegible] Telephone: (202) 466-2000

Grimm and Parker Architects

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705
301.595.1000
301.220.0082 Fax

1355 Beverly Road
Suite 105
McLean, VA 22101
703.903.9100
703.903.9755 Fax

SITE DEVELOPMENT PLAN–PHASE TWO
CAPITOL GATEWAY ESTATES, SINGLE FAMILY HOUSING
WASHINGTON D.C.

C-208

CAPITOL GATEWAY ESTATES
SECOND-STAGE PUD APPLICATION (Z.C. No. 03-03/02-51)
SUMMARY

Project Background

1. Capitol Gateway Estates, formerly New East Capitol, ("Project") is a Hope VI project, which is funded in part by the U.S. Department of Housing and Urban Development ("HUD"). It represents a major policy initiative and commitment of resources by the D.C. Housing Authority. The project brings together private sector developers in partnership with government agencies and nonprofit organizations to make the plans a reality. The project is being developed with substantial community participation, including a full relocation plan and housing options for existing public housing residents. A full network of social and economic services will be provided continuing into the future with the intent of assisting existing and future residents reach educational, job, homeownership and personal achievement goals.

2. The Project is located in the East Capitol area of Northeast Washington. The project site is generally bounded by 61st Street, N.E. and Southern Avenue, S.E., to the east; Central Avenue, S.E. to the south; 56th Place, S.E. and 57th Place, N.E. to the west; and Clay Street, N.E. and the Watts Branch stream valley to the north. The PUD Site does not include all of the property within these general boundaries.

3. The Project is a two-stage, planned unit development ("PUD"). The first-stage PUD addressed the general planning, site planning, transportation and related issues, leaving primarily design review for the second-stage case. The first-stage approval was granted by Zoning Commission Order No. 02-05, dated September 9, 2002.

4. The applicants are the D.C. Housing Authority in partnership with the associated private development team of A & R/THC LLC and East Capitol Street Gateway LLC. These firms have substantial experience in public housing and Hope VI developments (i.e., Wheeler Creek Estates).

The First-Stage PUD

5. The PUD plan is designed to address and remediate a combination of site constraints and undesirable conditions that have developed over the years. The site was previously improved with deteriorated public housing developments some of which have been razed by the Applicant. A dilapidated, subsidized high-rise apartment building is also located on the site.

The public housing developments have major structural and systems problems, including roof leaks, plumbing and heating problems and outdated electrical systems. The area adjacent to Watts Branch Creek is severely affected by sewer backups and discharge of raw sewage onto streets. The site currently is a haven for crime, is densely populated, largely with impoverished people, and suffers from disinvestment, decay and a high vacancy rate.

The winding roads that served the previous housing and its site plan created opportunities for crime with hidden areas and easy escape routes. The hilly topography has caused major erosion and settlement problems in the existing buildings, as well as rapid water run-off that destabilizes the slopes. Soil conditions on the site are poor, leading to cracks in the foundation and walls of many of the previous structures.

The first-stage PUD order[1] approved a rezoning from unzoned to R-5-A and the following approximate breakdown of dwelling units:

Low-Rise Apartment Building	120 units
Townhouses – some ownership, some rental	102 units
Semi-Detached Houses	92 units
Single-Family Detached Houses	15 units
Grand Houses	36 units (9 buildings)
Total	365 Dwelling Units

6. A new 150-unit senior apartment building is also part of the Hope VI project. It was approved under a separate, consolidated PUD (concurrently with the first-stage application) and is under construction.

7. A commercial component located on north side of East Capitol Street between 58th and 60th Streets will also be included in the PUD at a later date.

Second-Stage Application

8. The subject second-stage application includes all of the single family, semi-detached and townhouses in the Project, as well as seven grand homes which contain four units each, and a new community center.

[1] The current unit count for the second-stage PUD is found on p. 3.

9. The second-stage application contains a refined site plan from the first-stage and with a somewhat modified count of dwelling units by type, as follows:

Row/Townhouse	116
Semi-Detached	66 (33 pairs)
Detached Dwellings	14
Grand Houses	28 (7 buildings)
Total Dwelling Units	**224**[2]

10. Residential development north of East Capitol Street is oriented to 58th Street and 11 new limited access streets to be created between 58th Street and 57th Place, N.E. Residential buildings in these locations will include detached and semi-detached houses, townhouses and "grand houses." These are in addition to the apartment building for seniors, separately approved.

11. South of East Capitol Street, the proposed development will include several components. The group of city blocks bounded by East Capitol and 58th Streets, Southern Avenue and 56th Place, S.E., will be developed with several housing types: detached and semi-detached single-family homes, townhouses and "grand houses." These dwellings will include for-sale and rental units, affordable and market-rate units. In this area a significant amount of grading and reconfiguring of streets is proposed in order to create more defensible spaces with better street visibility and reduced crime.

12. The proposed East Capitol Community Building at the southeast corner of East Capitol Street and 56th Place, S.E. This facility will accommodate a day care center, a large multipurpose room, a large computer lab, a classroom, and offices for the East Capitol View CDC and the East Capitol Center for Change. A number of the service programs for residents of New East Capitol will be accommodated in the building. The building is proposed to be one-story in height, with a distinctive design including low octagonal towers, low lot coverage with extensive landscaping, an automobile drop-off and 33 parking spaces. The gross floor area is proposed to be 15,468 square feet.

---

[2] The 120-unit Multi-Family building, as approved in the first-stage PUD is no longer part of the PUD. Because of HUD funding constraints, the existing high-rise apartment house on the site (Capitol View Plaza II) will be renovated instead. The renovation plans will be submitted for second-stage review at a later date.

Public Benefits of the PUD

13. The following public benefits and amenities will be created as a result of the PUD project:

a. A new, high-quality, mixed-income residential community will replace the existing multiple public housing complexes that have endemic and widespread social, physical and environmental problems. The revitalization plan features a housing mix tailored to homeowners and renters with a wide spectrum of incomes and physical abilities. The Project is a Hope VI project with major funding from HUD and represents a major policy initiative and commitment of resources by the D.C. Housing Authority in partnership with private developers and nonprofit organizations. The project was developed with substantial community participation, including a full relocation plan. A full network of social and economic services will be provided to help residents reach educational, job, homeownership and personal achievement goals.

b. The PUD is not inconsistent with the *Comprehensive Plan for the National Capital* (the "Plan") and will help carry out numerous policies in the Plan. The Site is one of the designated Housing Opportunity Areas in the Plan. The PUD helps carry out numerous goals and objectives regarding the development of housing and affordable housing in the District of Columbia. The PUD will advance at least six of the ten Major Themes of the Plan: "Stabilizing and improving the District's neighborhoods;" "Respecting and improving the physical character of the District;" 'Preserving and promoting cultural and natural amenities;" Preserving and ensuring community input;" "Providing for diversity and overall social responsibilities;" and "Promoting enhanced public safety." The scale of development and the requested R-5-A zoning are fully consistent with the land use designation of "Moderate Density Residential" on the Generalized Land Use Map of the Plan.

c. The proposed development creates a complete new community with attractive urban design, new landscaping, major environmental improvements and renewed street connections with the surrounding neighborhood. The open space at Watts Branch stream and park will be restored and upgraded. An improved street network will be created, and a balanced mixture of housing types and densities are proposed according to planning principles. The plans carefully address storm water runoff, slope stability, open spaces and related matters. Numerous entrenched soil erosion, sewage backup, site planning, structural faults in buildings, and similar problems that are exhibited in the existing buildings and site conditions will be removed and replaced by carefully planned new development.

d. The surrounding neighborhoods are likely to benefit from the development of the Project in numerous ways. These include: reduced crime; improved building and site aesthetics, enhanced property values and enjoyment of neighborhood life; improved social services; restoration of Watts Branch steam bed and park; reduced traffic due to reduced population density and improved street pattern; and no adverse effect on local school capacity because of reduced population and households. No significant adverse effects on surrounding neighborhoods or public facilities are likely to occur.

e. The preliminary site plans, landscape plans and architectural drawings exhibit a high quality of urban design.

f. The applicant is in the process of finalizing agreements with the Local Business Opportunity Commission and the Department of Employment Services on plans for first source hiring for District of Columbia and East Capitol neighborhood residents, and for participation by small, local and disadvantaged businesses in the development of the project. The private developers in this application are one hundred percent African-American-owned enterprises.

Traffic Analysis

14. The previously submitted "Traffic Impact Study" by O.R. George & Associates found that projected traffic conditions after redevelopment will be very workable and that the existing study area road network can adequately accommodate the proposed development. "The study area intersections currently operate at quite acceptable levels of service. Peak period traffic volumes within the defined study area have increased marginally along the key roadways over the past several years for which data were available. In addition, the proposed development is located just west of the Capitol Heights Metrorail station. The development proposal calls for a number of access, internal circulation and traffic control changes. These have all been designed in accordance with current engineering standards, and per the District of Columbia planning requirements. . . The internal roadway network would also be compatible with the quality of life environment envisioned by the Applicant, as well as the City's current emphasis on intermodalism."

O. R. GEORGE & ASSOCIATES, INC.
Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite 310 • Lanham, MD 20706-2218
Tel: (301) 794-7700 • Fax: (301) 794-4400
E-mail: orgassoc@aol.com

MEMORANDUM

DATE: February 12, 2004

TO: Ms. Cheryl Parker Hamilton, Director
A & R Development Corporation

FROM: Cullen E. Elias

RE: Traffic Impact Statement for Capital Gateway Estates -
Second Stage Planned Unit Development (PUD) Application

1.0 INTRODUCTION AND BACKGROUND

Further to your request, we have undertaken a transportation impact assessment in connection with the referenced application. This assessment includes an evaluation of the projected trip generation for the Second-Stage PUD, relative to the approved First-Stage application. The latter was approved by the District of Columbia Zoning Commission on November 29, 2002 per Zoning Order No. 02-05. A copy of that Zoning Order is attached for ease of reference. However, the current assessment also discusses roadway improvements, which the Applicant has proposed to enhance site access and circulation within the PUD.

As background to the data and discussion presented herein, it is noted that the subject PUD site straddles East Capitol Street; and is bounded generally by 56th Place to the west, 61st Place to the east, Southern Avenue/Central Avenue to the south and Clay Street to the north. The site therefore lies within both the Northeast and Southeast quadrants of the City; and is in proximity to the Capitol Heights Metrorail Station on the Blue Line of the Washington Metropolitan Area Transit Authority (WMATA) rail system. The current plan proposes apartment ("grand houses"), townhouse, single-family-detached and semi-detached residential land uses, as well as a community center. These uses are substantially the same as the approved Stage One PUD cited earlier, albeit with marginally different densities.

The proposed development would be built-out in three (3) phases. The section of the PUD situated north of East Capitol Street would be developed by 2005 as Phase I. Phases II and III would comprise the remaining section of the site situated south of East Capitol Street; and would be built-out by 2006. As noted in the Applicant's Statement, this phasing is substantially the same as was proposed under Stage One.

The area encompassed by the current PUD application is part of a larger PUD site, which was proposed under an earlier application filed with the City on January 30, 2002. The larger/initial PUD included an apartment building for seniors, and a commercial/retail component. Per Zoning Order 02-04, the senior housing component was approved by the

Zoning Commission on November 29, 2002. O. R. George & Associates submitted a traffic impact study, dated April 12, 2002 in support of the larger/initial PUD application. That study concluded that the larger PUD could be built-out by year 2006, as planned; and would not have adverse traffic impacts on the defined study area road network. This was based primarily on the proximity of the site to the Capitol Heights Metrorail Station, and the projected low to moderate increase in site trips, over the current uses. Potential roadway improvements were also recommended in the study to enhance site access opportunities, and to create neighborhood amenities consistent with City's planning guidelines. The submitted traffic study was reviewed favorably by the staff of the Policy and Planning Administration of the District of Columbia Department of Transportation.

Based on the above, this memorandum assesses the subject application by focusing on a comparative evaluation of site trip generation of the approved First-Stage vs. Second-Stage PUD land use proposals. The remainder of this memorandum presents relevant data, analyses and the results of that assessment, and also discusses the proposed roadway improvements proposed by the Applicant.

2.0 TRIP GENERATION COMPARISON

As noted earlier, there is a marginal difference between the land uses and densities proposed for the First-Stage and Second-Stage Plans. This is illustrated below:

TABLE 1
FIRST-STAGE VS. SECOND-STAGE PUD PLANS
(Capital Gateway Estates)

Land Uses	Approved First-Stage PUD	Proposed Second-Stage PUD
• Single-Family-Detached	15	14
• Semi-Detached	92	68
• Townhouse	102	115
• Grand Houses	36	28
TOTAL	**245**	**225**

Peak hour trip estimates were developed for the two (2) plans based on the trip rates recommended by the Institute of Transportation Engineers (ITE), as stipulated by DDOT. These rates were adjusted appropriately to reflect projected transit usage. The projected trip estimates are presented in Table 2 (on Page 3). Table 2 also shows the projected trip generation for the existing uses that would be replaced by the proposed uses, and the net trip impacts.

TABLE 2

TRIP GENERATION COMPARISONS - EXISTING AND PROPOSED PUD USES

	AM Peak Hour			PM Peak Hour		
Trip Rates	**In**	**Out**	**Total**	**In**	**Out**	**Total**
• Townhouse, Semi-Detached, Grand Home (Res. Unit) *	0.10	0.29	0.39	0.28	0.22	0.50
• Single-Family Detached (Unit)*	0.11	0.34	0.45	0.39	0.22	0.61
• Community Center (1,000 GSF)**	2.36	2.09	4.45	2.17	2.45	4.62
Trip Generation						
A) Existing Uses						
- Trips/576 Townhouse Units	58	167	225	161	127	288
- Trips/4 Single-Family-Det. Units	1	1	2	2	1	3
- Trips/15,000 GSF Comm. Center	36	31	67	32	37	69
Total (Existing Uses)	**95**	**199**	**294**	**195**	**165**	**360**
B) Approved Stage-One PUD						
- Trips/230 Townhouse, Semi-Detached and Grand Home Units	23	67	90	64	51	115
- Trips/15 Single-Family-Det. Units	2	5	7	6	3	9
- Trips/15,000 GSF Comm. Center	36	31	67	32	37	69
Total (Stage I PUD)	**61**	**103**	**164**	**102**	**91**	**193**
C) Proposed Stage-Two PUD						
- Trips/211 Townhouse, Semi-Detached and Grand Home Units	21	61	82	59	46	105
- Trips/14 Single-Family-Det. Units	2	5	7	6	3	9
- Trips/15,000 GSF Comm. Center	36	31	67	32	37	69
Total (Stage II PUD)	**59**	**97**	**156**	**97**	**86**	**183**
Relative Change (Stage I vs. Stage II)	**-2**	**-6**	**-8**	**-5**	**-5**	**-10**

Note: * Rate reflects an assumed 40% reduction for transit use.
** Rate reflects an assumed 65% reduction for "passer-by" and walk trips.

Source: Institute of Transportation Engineers, DDOT, and O. R. George & Associates.

The data presented in Table 2 indicates the following:

a) The Second-Stage PUD proposal would generate fewer trips than the approved Stage 1 proposal [i.e., 8 fewer trips (equivalent to 4.9%) during the morning peak hour, and 10 fewer trips (equivalent to 5.2%) during the afternoon peak hour].

b) The Second-Stage PUD would generate approximately 48% less trips than the uses existing on the site.

Based on the foregoing, the Second-Stage PUD can be seen as having a "positive" impact on the study area roadway network.

3.0 RECOMMENDED ROADWAY IMPROVEMENTS

The Traffic Impact Analysis report submitted in support of the larger/initial PUD Application, recommended several off-site roadway improvements. The improvements would be required to enhance the operational efficiency and safety of site access and circulation, rather than remediate specific location deficiencies. The key improvements that would serve primarily the Second-Stage PUD include the following.

a) Signalization, pedestrian crossing amenities, and exclusive eastbound and westbound left-turn lanes at the East Capitol Street/57th Place, intersection; and

b) Traffic calming measures, including four-way stop signs, speed bumps, etc, along 57th Place, south of East Capitol Street, to minimize cut-through traffic.

All of the proposed dwelling units would be provided with on-site parking. No driveways would have direct access to East Capitol Street, the only arterial street within the study area. It is therefore projected that access to on-site parking for the proposed dwellings would not have adverse safety or operational impacts.

4.0 CONCLUSION

Based on the above, this assessment concludes that the Second-Stage PUD would not have any adverse impacts on the adjacent study area roadway network. This plan would generate significantly less peak hour trips than the First-Stage PUD and the existing land uses that would be replaced. The proposed development would also be provided with several roadway improvements, based on negotiations currently being held with the DDOT Traffic Services Administration. These improvements would enhance the efficiency and safety of vehicular and pedestrian movements within the study area. This conclusion is consistent with that presented in the traffic study submitted for the larger/initial PUD Application.

We trust that this meets your current requirements. Please let us know if we can assist further. Thank you.

CEE/pl

Attachment: As noted