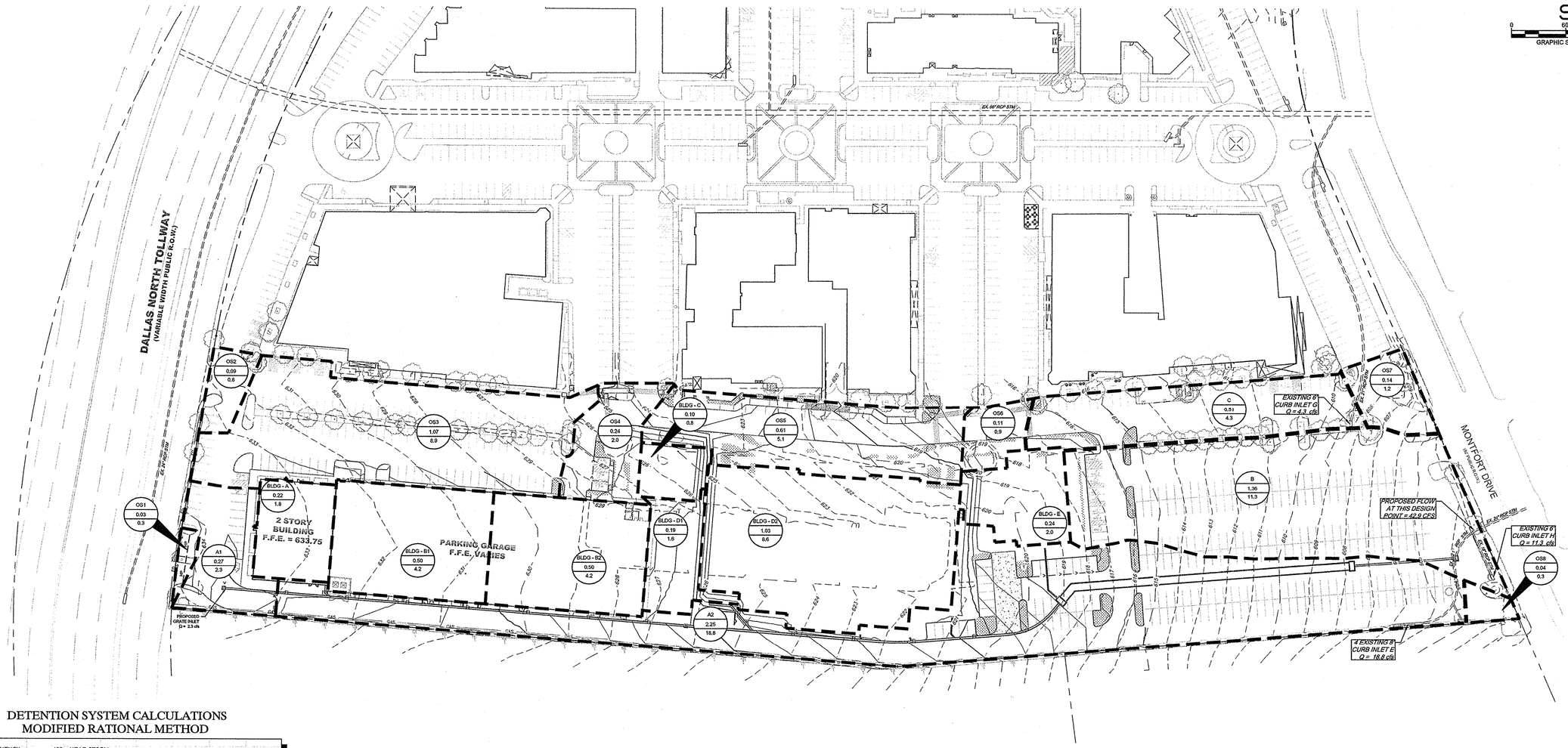

DETENTION SYSTEM CALCULATIONS
MODIFIED RATIONAL METHOD

DESIGN FREQUENCY = 100 YEAR STORM

ALLOWABLE RELEASE RATE (EXISTING CONDITIONS):

DRAINAGE AREA (A)	1.54	AC
TIME OF CONC. (T_c)	10	MIN
RAINFALL INTENSITY (I)	9.27	IN/HR
RUNOFF COEFFICIENT (C)	0.60	
ALLOW. SITE DISCHARGE	12.8	CFS

PROPOSED CONDITIONS:

ON-SITE DETAINED RUNOFF:			OFF-SITE PASS THROUGH FLOW:		
DRAINAGE AREA (A)	3.05	AC	DRAINAGE AREA (A)	0.00	AC
TIME OF CONC. (T_c)	10	MIN	TIME OF CONC. (T_c)	10	MIN
RAINFALL INTENSITY (I)	9.27	IN/HR	RAINFALL INTENSITY (I)	9.27	IN/HR
RUNOFF COEFFICIENT (C)	0.90		RUNOFF COEFFICIENT (C)	0.90	
DETAINED RUNOFF	25.4	CFS	OFF-SITE PASS THROUGH FLOW	0.00	CFS
ON-SITE UNDETAINED RUNOFF:					
DRAINAGE AREA (A)	0.00	AC			
TIME OF CONC. (T_c)	10	MIN			
RAINFALL INTENSITY (I)	9.27	IN/HR	ALLOWABLE DISCHARGE	12.8	CFS
RUNOFF COEFFICIENT (C)	0.90				
UNDETAINED RUNOFF	0.0	CFS	ACTUAL DISCHARGE	12.8	CFS

STORAGE CALCULATIONS:

DURATION		RAINFALL INTENSITY	INFLOW RATE	INFLOW VOLUME	OUTFLOW RATE	OUTFLOW VOLUME	REQUIRED STORAGE (INFLOW - OUTFLOW)	
(MIN)	(HRS)	(IN/HR)	(CFS)	(CF)	(CFS)	(CF)	(CF)	(AC-FT)
5	0.08	11.17	30.7	9,197	12.8	5,782	3,415	0.08
10	0.17	9.27	25.5	15,272	12.8	7,709	7,563	0.17
15	0.25	7.99	21.9	19,732	12.8	9,636	10,096	0.23
20	0.33	7.05	19.4	23,226	12.8	11,563	11,662	0.27
30	0.50	5.77	15.8	28,500	12.8	15,418	13,082	0.30
40	0.67	4.92	13.5	32,426	12.8	19,272	13,153	0.30
50	0.83	4.32	11.9	35,551	12.8	23,127	12,424	0.29
60	1.00	3.86	10.6	38,149	12.8	26,981	11,168	0.26
90	1.50	2.97	8.2	44,070	12.8	38,545	5,525	0.13
				MAXIMUM REQUIRED STORAGE =			13,153	0.30

DRAINAGE AREA CALCULATIONS

DRAINAGE AREA NO.	RUNOFF COEFF. "C"	RAINFALL INTENSITY "I" I_{100}	TC (MIN.)	AREA (AC.)	Q_{100} (CFS)	COLLECTION POINT
A1	0.90	9.27	10	0.27	2.3	GRATE INLET
A2	0.90	9.27	10	2.05	17.1	EXISTING CURB INLET "E"
BLDG-A	0.90	9.27	10	0.22	1.8	PROPOSED ROOF DRAIN SYSTEM
BLDG-B1	0.90	9.27	10	0.50	4.2	PROPOSED ROOF DRAIN SYSTEM
BLDG-B2	0.90	9.27	10	0.50	4.2	PROPOSED ROOF DRAIN SYSTEM
BLDG-C	0.90	9.27	10	0.10	0.8	PROPOSED ROOF DRAIN SYSTEM
BLDG-D1	0.90	9.27	10	0.19	1.6	PROPOSED ROOF DRAIN SYSTEM
BLDG-D2	0.90	9.27	10	2.25	18.8	PROPOSED ROOF DRAIN SYSTEM
BLDG-E	0.90	9.27	10	0.24	2.0	PROPOSED ROOF DRAIN SYSTEM
SUBTOTAL LINE "A"				6.32	52.7	
B	0.90	9.27	10	1.36	11.3	EXISTING CURB INLET "H"
SUBTOTAL LINE "B"				1.36	11.3	
C	0.90	9.27	10	0.51	4.3	EXISTING CURB INLET "G"
SUBTOTAL LINE "C"				0.51	4.3	
OS1	0.90	9.27	10	0.03	0.3	OFFSITE
OS2	0.90	9.27	10	0.09	0.8	OFFSITE
OS3	0.90	9.27	10	1.07	8.9	OFFSITE
OS4	0.90	9.27	10	0.24	2.0	OFFSITE
OS5	0.90	9.27	10	0.61	5.1	OFFSITE
OS6	0.90	9.27	10	0.11	0.9	OFFSITE
OS7	0.90	9.27	10	0.14	1.2	OFFSITE
OS8	0.90	9.27	10	0.04	0.3	OFFSITE

UNDERGROUND STORAGE PROVIDED

UNDERGROUND STORAGE PROVIDED				
STORM LINE	LENGTH (FEET)	WIDTH (FEET)	HEIGHT (FEET)	VOLUME (CUBIC FEET)
STORM SEWER LINE A	330	8	5	13200
Total				13200

FLOODPLAIN NOTE

AS DETERMINED BY THE FLOOD INSURANCE RATE MAPS FOR DALLAS COUNTY, THE SUBJECT PROPERTY DOES NOT APPEAR TO LIE WITHIN A SPECIAL FLOOD HAZARD AREA (100 YEAR FLOOD), MAP DATE 08/23/01 COMMUNITY PANEL NO. 48113C0180 J, SUBJECT LOT IS LOCATED IN ZONE "X". IF THIS SITE IS NOT WITHIN AN IDENTIFIED FLOOD HAZARD AREA, THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS, GREATER FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR OR ENGINEER.

LEGEND

A	AREA DESIGNATION
2.44	AREA (AC.)
20.4	Q_{100}(cfs)
	DRAINAGE AREA BOUNDARY
	FLOW ARROWS
696	EXISTING CONTOURS
695	PROPOSED CONTOURS

RECORD DRAWINGS
(May 2014)
Information Provided By:
BOB MOORE CONSTRUCTION

BENCHMARKS

BM 5 "⊠" SET ON NORTHWEST CORNER OF CONCRETE PAD FOR SWB TELEPHONE BOX, 15'± EAST OF NORTHBOUND DALLAS NORTH TOLLWAY ACCESS ROAD AND 1,450'± SOUTH OF BELT LINE ROAD.

ELEV=635.30

BM 6 "⊠" SET ON SOUTHEAST CORNER OF CURB INLET; 15'± WEST OF MONTFORT DRIVE AND 750'± SOUTH OF SAKOWITZ DRIVE.

ELEV=603.67

BM 9 "⊠" SET ON SOUTHEAST CORNER OF CURB INLET ON EAST SIDE OF DALLAS NORTH TOLLWAY ACCESS ROAD AND 300'± SOUTH OF BELT LINE ROAD.

ELEV=627.34

N
W E
S
0 60' 120'
GRAPHIC SCALE 60'

No.	REVISIONS	DATE	BY

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WWW.KIMLEY-HORN.COM

STATE OF TEXAS
ROY BRASWELL
104908
LICENSED
PROFESSIONAL ENGINEER
7/14/13

KHA PROJECT 063319038
DATE 07/16/2013
SCALE AS SHOWN
DESIGNED BY TBB
DRAWN BY AAE
CHECKED BY TBB

VILLAGE ON THE PARKWAY PHASE II
ADDISON, TEXAS

DRAINAGE AREA MAP

SHEET NUMBER
C-09

PLOTTED BY WHITE, SARAH BETH 7/16/2013 10:24 AM
DWG NAME K:\FRI_CIVIL\063319038-VOTPWKP\PLAN SET PHASE II\C-09-DRAIN.DWG [C-09 DRAINAGE AREA MAP]
LAST SAVED 07/09/2013 3:07 PM
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