KIER+WRIGHT

January 12, 2024

CITY OF SAN MATEO
Public Works Department
Attn: Wendy Lao
330 West 20th Avenue
San Mateo, CA 94403

RE: 222 E. 4th Ave. and 445 S. B Street, San Mateo
Shared Storm Drain Piping Capacity

Dear Wendy,

There is a proposed 18" storm drain pipe for the development project located at 222 E 4th Ave (PA2021-071). The proposed 18" storm drain will have a maximum capacity of approximately 7 CFS. The development at 222 E 4th Ave. is proposing to contribute 0.15 CFS of storm drain runoff, based on the rational method calculation.

Because the 18" storm drain pipe has a capacity that far exceeds the needs for the 222 E 4th development, the new storm drain pipe appears to have capacity for the project located at 445 S. B Street.

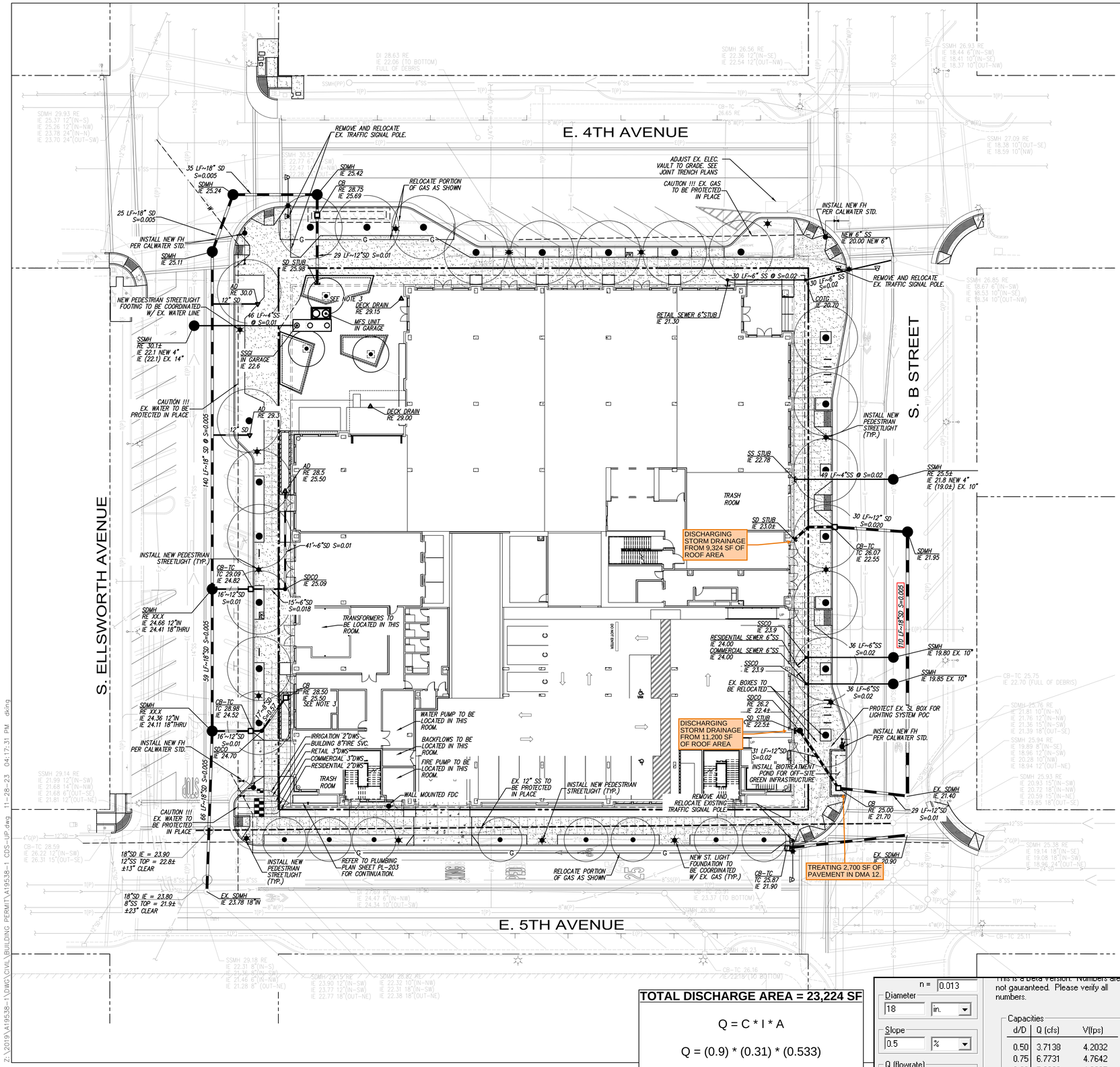
Please see the attached "Pipe Capacity Exhibit" to illustrate this issue and resolve.

Sincerely,
KIER + WRIGHT

MARK KNUDSEN, PE

PRINCIPAL
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0 10 20 40 60

Scale 1" = 20'

LEGEND

AD	AREA DRAIN
BSM	BIO SOIL MIX
CB	CATCH BASIN
COTG	CLEANOUT TO GRADE
DWS	DOMESTIC WATER SERVICE
FH	FIRE HYDRANT
FL	FLOW LINE
GFF	GARAGE FINISHED FLOOR
HP	HIGH POINT
IE	INVERT ELEVATION
MFS	MEDIA FILTRATION SYSTEM
RE	RIM ELEVATION
SDCO	STORM DRAIN CLEANOUT
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSGI	SANITARY SEWER GREASE INTERCEPTOR
TC	TOP OF CURB
TW	TOP OF WALL
	STORM DRAIN LINE
	AREA DRAIN
	STORM DRAIN CATCH BASIN
	STORM DRAIN JUNCTION BOX
	STORM DRAIN MANHOLE
	BACK FLOW PREVENTION DEVICE
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT & VALVE
G	GAS LINE
	GREASE INTERCEPTOR
	PEDESTRIAN STREETLIGHT
	POST INDICATOR VALVE
SSMH	SANITARY SEWER MANHOLE
	SINGLE CHECK VALVE
SDMH	STORM DRAIN MANHOLE
	WATER METER

EXISTING PROJECT SEWER FLOWS

COMMERCIAL: 0.00685CFS/ACRE X 1.377AC = 0.0094 CFS
0.0094 CFS = 6,075 GAL/DAY
TOTAL: 6,075 GAL/DAY (DRY CONDITIONS)
PEAK TOTAL: 6,075 X 2.5 = 15,188 GAL/DAY

* PER CITY OF SAN MATEO SSMP ELEMENT 5 – DESIGN & PERFORMANCE STANDARDS.

PROPOSED PROJECT SEWER FLOWS

COMMERCIAL: 0.00685CFS/ACRE X 3.389AC = 0.0232 CFS
0.0232 CFS = 14,995 GAL/DAY
TOTAL: 14,995 GAL/DAY (DRY CONDITIONS)
PEAK TOTAL: 14,995 X 2.5 = 37,488 GAL/DAY

* PER CITY OF SAN MATEO SSMP ELEMENT 5 – DESIGN & PERFORMANCE STANDARDS.

NET PROJECT SEWER FLOWS

NET TOTAL: 14,995 – 6,075 = 8,920 GAL/DAY
8,920 GAL/DAY (DRY CONDITIONS)
NET PEAK TOTAL: 37,488 – 15,188 = 22,300 GAL/DAY
22,300 GAL/DAY (PEAK CONDITIONS)

PROPOSED PROJECT WATER FLOWS

OFFICE: (14,995 GAL/DAY) / 0.95 = 15,784 GAL/DAY
TOTAL: 15,784 GAL/DAY (DRY CONDITIONS)
PEAK TOTAL: 15,784 X 2.5 = 39,460 GAL/DAY

* VALUES ARE BASED ON THE ASSUMPTION THAT 90% OF POTABLE WATER USAGE ENTERS THE PUBLIC SANITARY SEWER

NOTE:

1. GAS METERS SHALL BE LOCATED WITHIN THE BUILDING.
2. ALL HYDRANTS ALONG THE PROJECT FRONTAGE SHALL BE CLOW MODEL 960. EXISTING HYDRANTS TO BE PROTECTED SHALL BE UPGRADED.
3. TRASH CAPTURE DEVICE SHALL BE INSTALLED ON DOWNSTREAM PRIVATE CATCH BASIN PRIOR TO DISCHARGING TO PUBLIC SYSTEM.

ALL FRONTAGE IMPROVEMENTS LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY ARE SHOWN FOR REFERENCE ONLY. STAKING AND CONSTRUCTION SHALL UTILIZE THE ENCROACHMENT PERMIT PACKAGE APPROVED BY PUBLIC WORKS.

TOTAL DISCHARGE AREA = 23,224 SF

Q = C * I * A

Q = (0.9) * (0.31) * (0.533)

Q = 0.15 CFS

n = 0.013
Diameter: 18 in.
Slope: 0.5 %
Q (flowrate): 0.15 CFS

This is a Beta Version. Numbers are not gauranteed. Please verify all numbers.

Capacities

d/D	Q (cfs)	V(fps)
0.50	3.7138	4.2032
0.75	6.7731	4.7642
0.93	7.9862	4.5627
1.00	7.4277	4.2032

222 EAST 4TH

LANE PARTNERS

LANE PARTNERS

KSH ARCHITECTS
KORTH SUNSERI HAGEY

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ISSUES AND REVISIONS

No.	Date	Description
A	05/10/23	50% DD
B	07/17/23	100% DD
C	09/25/23	50% CD
D	12/01/23	PERMIT SET

KEY PLAN

C-501

PROJECT NUMBER
19012.00

SHEET TITLE
UTILITY PLAN

SCALE
1"=20'

SHEET NUMBER
C-501

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