CITY OF MANHATTAN BEACH
DEPARTMENT OF COMMUNITY DEVELOPMENT

TO: Parking and Public Improvements Commission

FROM: Marisa Lundstedt, Director of Community Development
Erik Zandvliet, Traffic Engineer

DATE: January 22, 2015

SUBJECT: Consider a Request for All-Way Stop Signs at John Street and 9th Street

RECOMMENDATION:

Staff recommends that the Parking and Public Improvements Commission approve a motion to recommend that the City Council adopt a resolution to install stop signs in all directions at the intersection of John Street and 9th Street.

BACKGROUND:

In September 2014, the City received a request from a citizen for the installation of stop signs in all directions at the intersection of John Street and 9th Street. The resident explained that there is a hill on John Street that makes it difficult to see approaching traffic. The intersection is currently stopped in the eastbound and westbound directions of 9th Street.

DISCUSSION:

The intersection of John Street and 9th Street is located in a residential area west of Sepulveda Boulevard (Exhibit 1). Both streets are 30 feet wide two-lane local streets with a 25mph prima facie speed limit. There are two-way stop signs on 9th Street at John Street. Both streets are improved with curbs, and some sidewalks. Curb parking is allowed on both sides of both streets, except for street sweeping restrictions. Curb parking demand is generally light during the day to moderate at night. There are vertical curves on the north and south legs of John Street. There are no cross-gutters at the intersection (Exhibit 2). Pedestrian visibility is good in all directions.

Field Observations

Field observations were made on typical days during peak and non-peak periods. Field observations confirm higher traffic volumes on John Street and other physical characteristics at the intersection as noted above. Proper right-of-way is assigned by stop signs on 9th Street. Sight distance is fair from the east and west legs of 9th Street when stopped at the stop signs, except that the crest of the on John Street significantly restricts the view of approaching vehicles. Vehicles parked on John Street close to the intersection also restrict sight distance. Recurrent speeding was not observed on any of the approaching street segments or through the intersection because of the narrow streets and parked cars. The Traffic Engineer observed that most motorists on John Street are generally cautious when entering the intersection.

The traffic collision history between January 1, 2008 and December 31, 2012 was analyzed for both intersections. According to City records, there have been no collisions reported near the intersection during this five (5) year period.

A vehicle volume count was conducted on November 19, 2014, on a typical school day. A summary of the peak hour and daily volumes are provided below:

VEHICLES DIRECTION	AM PEAK HOUR	PM PEAK HOUR	**DAILY**
Northbound (John Street)	35	34	419
Southbound (John Street)	28	35	389
Subtotal	63	69	808
Westbound (9th Street)	13	12	154
Eastbound (9th Street)	14	19	196
Subtotal	27	31	350
Intersection Total	90	100	1,158

Multi-way Stop Signs

The State of California has established guidelines for the installation of stop signs. These criteria have been widely accepted and are used by the City of Manhattan Beach. Multi-way or all-way stop controls are generally recommended when one or more of the State criteria are satisfied and indicate the existing traffic control devices are not sufficient to assign proper right-of-way or cannot be remedied through other means.

A stop sign warrant checklist was completed that indicates that multi-way stop signs are warranted at this intersection (Exhibit 3). This intersection has sufficient right-of-way controls with two-way stop signs, does not meet minimum traffic volumes and has no reported collision history. However, the sight distance of approaching vehicles is significantly restricted due to the crest in the roadway on John Street both north and south of 9th Street. Drivers waiting at the stop signs on 9th Street may have difficulty seeing vehicles approaching on John Street in the northbound and southbound directions.

Stop signs in all directions would improve overall safety by ensuring that drivers have sufficient awareness of approaching vehicles before entering the intersection. No other traffic measures were identified that would improve the sight distance for stopped vehicles on 9th Street. Parking prohibitions would not remedy the sight distance restrictions caused by the vertical curve on John Street.

Public Notice

Residents and property owners within 500 feet of the intersection were notified by mail of the proposed stop sign request and were invited to give input to the Commission.

CONCLUSION:

Based on State guidelines, multi-way stop signs are justified at the intersection of John Street and 9th Street at this time. It is recommended that the Commission approve a motion to recommend that the City Council adopt a resolution to install stop signs in all directions at the intersection of John Street and 9th Street.

Exhibits:
1. Aerial Photo and Location Map
2. Site Photos
3. Stop Sign Warrant Checklist

EHZ
T:\TRAFFIC ENGINEER\PPIC\PPIC-john at 9th Street 1-22-2015.doc

EXHIBIT 1

AERIAL PHOTO AND LOCATION MAP

John Street at 9th Street

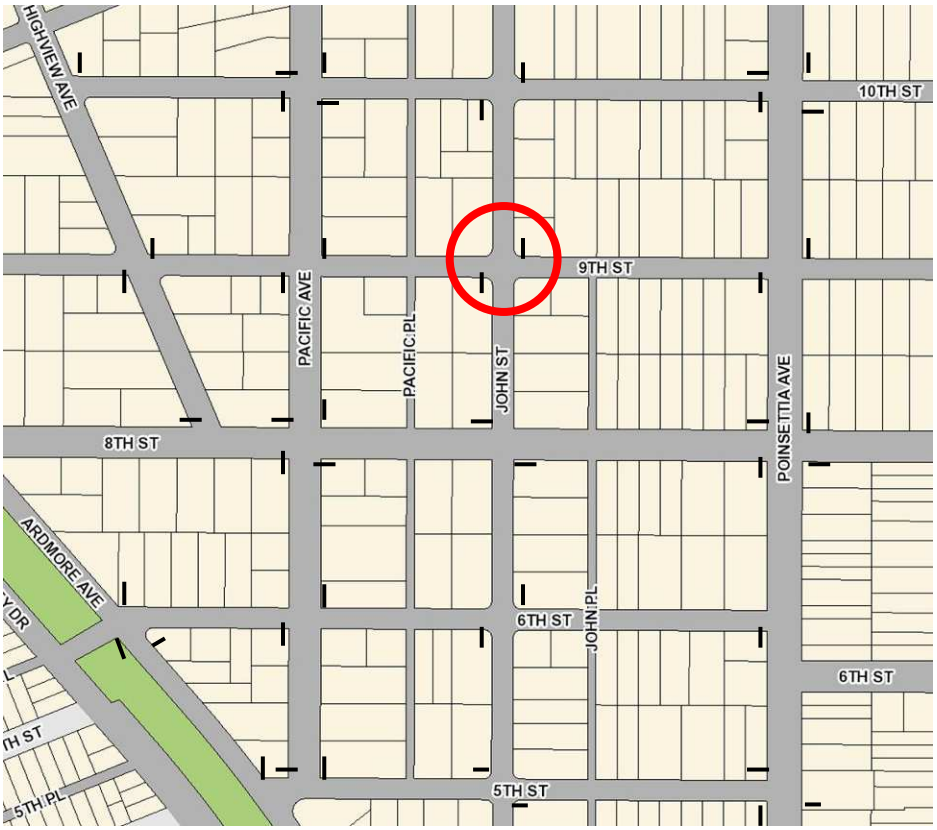

EXHIBIT 2
SITE PHOTOS

9th Street East of John Street Looking South

9th Street East of John Street Looking North

9th Street West of John Street Looking South

9th Street West of John Street Looking North

EXHIBIT 3

STOP SIGN WARRANT CHECKLIST

MAJOR STREET: John Street MINOR STREET: 9th Street

REQUESTED BY: Citizen DATE: 1/13/2015

REVIEWED BY: Erik Zandvliet

Warranted?

SINGLE STREET STOP SIGN WARRANTS

☒ On a less important road where the normal right-of-way rules would not be expected to provide reasonable compliance with the law.

☐ On a street entering a legally established through highway or street.

☐ At an unsignalized intersection in a signalized area.

☒ At other intersections where high speeds, restricted view, or crash record indicates a need for control by a stop sign.

MULTI-WAY STOP SIGN WARRANTS

☐ Where traffic signals are warranted, and stop signs are used as an interim measure to control traffic while the signal is installed.

☐ Where a crash problem exists, as indicated by five or more reported accidents within a 12 month period of a type correctable by a multi-way stop sign.

☐ Where the total vehicular volume entering from the major street approaches average at least 300 vehicles per hour for any 8 hours, and the combined vehicular, bicycle and pedestrian volume from the minor street approaches average at least 200 units per hour for the same 8 hours, with an average delay to the minor street traffic is at least 30 seconds per vehicle during the highest hour, and if the 85th percentile approach speed of the major street traffic exceeds 40 MPH, the minimum vehicular volume warrant is 70 percent of the above requirements.

☐ Where there four or more reported accidents within a 12 month period of a type correctable by a multi-way stop sign, and the average major and minor street volumes are at least 80% of the minimum values.

☒ Other locations where multi-way stop signs are justified based on an engineering study.

MULTI-WAY STOP SIGN WORKSHEET

MAJOR STREET: John Street 85TH SPEED - < 40 MPH

MINOR STREET: 9th Street DATE: 1/13/2015

TRAFFIC VOLUMES **WARRANTED YES NO**

If the 85th percentile speed of the major street exceeds 40 MPH, use 70% volume.

Street	Min Volume	70%	80%	Ave.	Hour / Volume							
					7am	8am	9am	3pm	4pm	5pm	6pm	7pm
Major	300	210	240	**55**	52	51	57	66	56	73	51	35
Minor	200	140	160	**25**	19	23	27	26	22	28	30	25

And, does the minor street have an average delay of at least 30 seconds in the peak hour?

Peak Average Delay	< 10 sec.

COLLISION RECORD **WARRANTED YES NO**

Are there five or more reported collisions within a 12 month period of a type correctable by a multi-way stop sign?

DATE	TIME	DIRECTION	TYPE	CAUSE
2012	-	None	-	-
2011	-	None	-	-
2010	-	None	-	-
2009	-	None	-	-
2008	-	None	-	-
2007	-	None	-	-

80% COMBINATION **WARRANTED YES NO**

Are there four or more reported accidents within a 12 month period of a type correctable by a multi-way stop sign, and

Average major and minor street volumes are at least 80% of the minimum values?

OTHER MULTI-WAY STOP CONDITIONS **WARRANTED YES NO**

A. Need to control left turn conflicts YES NO
B. Need to control vehicle/pedestrian conflicts at high ped locations YES NO
C. Visibility obstruction after stopping on minor street approach YES NO
D. Two similar neighborhood collector streets that would improve operation YES NO

G:\Traffic Engineering\Forms\stopwarrants-MUTCD.doc