

A. INTRODUCTION

The East River Waterfront Access Project includes open space and streetscape improvements at three locations in Lower Manhattan. The project is intended to improve access between interior parts of Lower Manhattan and Chinatown and the East River Waterfront Esplanade, which is currently under construction. As part of this project, the City of New York would reconstruct Catherine Slip to increase the size of its median and to expand an existing park. This chapter assesses the potential impacts of this reconstruction on vehicular circulation, pedestrian circulation, and parking and, in particular, evaluates traffic conditions along Catherine Street with proposed operational and geometric changes at its intersections with South, Water, and Cherry Streets (see Figures 2E-1 and 2E-2). The Market Street and South, Water, and Cherry Streets traffic study locations are also included to study the effects of traffic diversions with the proposed closure of northbound Catherine Slip between Water and Cherry Streets.

PROPOSED ACTION COMPONENTS

Currently, Catherine Street is a wide, two-way street oriented in the north-south direction between Cherry and South Streets, and is separated by a raised median. With the Proposed Action, Catherine Street would be reconstructed to narrow the curb-to-curb width, add bulb-outs at key approaches, and eliminate northbound traffic on one block of Catherine Street between Water and Cherry Streets.

The key characteristics of the project, which are shown in Figure 2E-2 are:

- At the intersection of Catherine Street and Water Street, the Proposed Action would eliminate northbound through traffic. This traffic would turn onto eastbound Water Street. The park would be expanded to southbound Catherine Street between Water and Cherry Streets.
- Catherine Street, Water Street, and Cherry Street would be narrowed in the immediate area by extending the curb the entire block or via bulb-outs at intersections. East of Catherine Street, Water and Cherry Streets would remain at their current widths.
- Striped crosswalks would be added to formalize existing unstriped and unsignalized crossings on the south crosswalk across southbound Catherine Street at Water Street, across Water Street between northbound and southbound Catherine Street, and on the south crosswalk of Water Street and northbound Catherine Street. As under existing conditions, there would not be a north crosswalk across southbound Catherine Street at Water Street or an east crosswalk across Water Street at northbound Catherine Street.
- The existing unstriped and unsignalized east crossing across Cherry Street at northbound Catherine Street would be eliminated because it would become an unsignalized midblock crossing upon the closure of northbound Catherine Street between Water and Cherry Streets. Therefore, pedestrians would divert approximately 50 feet to the west to the signalized crosswalk across Cherry Street at southbound Catherine Street.

METHODOLOGY OF TRAFFIC ANALYSIS

The analysis of traffic, pedestrian and parking conditions in this chapter follows a series of prescribed steps, including:

- Description of the existing roadway network and traffic volumes and analysis of existing traffic levels of service
- Determination of traffic volumes and projected traffic levels of service for future conditions without the Proposed Action
- Determination of traffic diversions due to the Proposed Action and analysis of projected future traffic levels of service with the Proposed Action
- Determination of significant adverse traffic impacts
- Comparison of pedestrian conditions without and with the Proposed Action
- Comparison of on-street parking conditions without and with the Proposed Action.

Existing conditions were analyzed using 2008 data; projected future conditions were analyzed for year 2010 when Catherine Street is expected to be closed.

PRINCIPAL CONCLUSIONS

The Proposed Action would result in localized traffic diversions to Market Street, but the analysis concludes that there would be no significant adverse impacts on traffic operations, parking, or pedestrian circulation.

B. EXISTING CONDITIONS

ROADWAY NETWORK AND TRAFFIC STUDY AREA

The traffic study area consists of six intersections along Catherine Street and Market Street near the South Street waterfront – four signalized and two unsignalized intersections. The four signalized intersections include Catherine Street and Cherry Street, Catherine Street and South Street, Market Street and Cherry Street, and Market Street and South Street. The unsignalized intersections include Catherine Street and Water Street and Market Street and Water Street. Two schools are located within the study area: a private school on the east side of Catherine Street on the block north of Cherry Street; and a public school located on the west side of Catherine Street between Cherry and Water Streets.

Between Cherry and South Streets, Catherine Street is a two-way north-south street separated by a raised median, and includes one wide moving lane in each direction with parking along both sides of the street. North of Cherry Street, Catherine Street is one way southbound with no median. South of South Street, Catherine Street terminates at South Street. Pedestrians can continue across South Street opposite Catherine Street to access the East River Esplanade.

Market Street is a two-way north-south street between Water and South Streets, and is one-way northbound between Cherry and Water Streets; it has one wide travel lane per direction with parking along both sides of the street. Between Catherine and Market Streets, westbound Cherry Street and eastbound Water Street are one-way streets with one wide travel lane each and parking along both sides of the street.

EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

The traffic counts were conducted in June 2008, and the following peak hours were identified for analysis: 8:00-9:00 AM; 2:45-3:45 PM when school lets out; and 4:15-5:15 PM. The 2:45-3:45 PM midday peak hour traffic volumes were higher than the typical 12-1 PM traffic volumes because of the proximity of two schools on Catherine Street, so that was the midday peak hour selected for analysis.

Analyses of traffic conditions in urban areas are based on critical conditions at intersections and are defined in terms of levels of service. According to the *Highway Capacity Manual 2000* (HCM) that was used for these analyses, levels of service (LOS) at signalized intersections are defined in terms of the average control delay per vehicle at an intersection, as follows:

- LOS A describes operations with very low delays, i.e., 10.0 seconds or less per vehicle. This occurs when signal progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with delays in the range of 10.1 to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.
- LOS C describes operations with delays in the range of 20.1 to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- LOS D describes operations with delays in the range of 35.1 to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Delays of 45.0 seconds or greater are considered marginally unacceptable; delays under 45.0 seconds are considered marginally acceptable.
- LOS E describes operations with delays in the range of 55.1 to 80.0 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.
- LOS F describes operations with delays in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also be contribute to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

Levels of service A, B, and C are considered acceptable; LOS D is generally considered marginally acceptable up to mid-LOS D (45 seconds of delay for signalized intersections), and is considered unacceptable above mid-LOS D. LOS E and F are considered unacceptable.

For unsignalized intersections, delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line: LOS A describes operations with very low delay, i.e., 10.0 seconds or less per vehicle; LOS B describes operations with delays in the range of 10.1 to 15.0 seconds; LOS C has delays in the range of 15.1 to 25.0 seconds; LOS D, 25.1 to 35.0 seconds per vehicle; and LOS E, 35.1 to 50.0 seconds per vehicle, which is considered to be the limit of acceptable delay. LOS F describes operation

with delays in excess of 50.0 seconds per vehicle, which is considered unacceptable to most drivers. This condition exists when there are insufficient gaps of suitable size to allow side street traffic to cross safely through a major vehicular traffic stream.

Figures 2E-3 through 2E-5 show the existing peak hour traffic volumes. Southbound Catherine Street is traveled by approximately 160-190 vehicles per hour (vph) approaching Cherry Street, approximately 255-335 vph between Cherry Street and Water Street, and approximately 165-185 vph between Water Street and South Street during the weekday peak hours. Northbound Catherine Street is traveled by approximately 55-75 vph between South and Water Streets, and approximately 25-40 vph between Water and Cherry Streets during the weekday peak hours. Market Street carries approximately 80-130 vph northbound and about 25-30 vph southbound between South and Water Streets, and approximately 155-225 vehicles per hour northbound between Water and Cherry Streets during the weekday peak hours.

Westbound Cherry Street carries approximately 130-155 vph approaching Market Street, and approximately 70-115 vph between Market and Catherine Streets during the weekday peak hours. Eastbound Water Street carries approximately 100-140 vph between Catherine and Market Streets during the weekday peak hours. Eastbound South Street carries approximately 375-555 vph approaching Catherine Street, and approximately 395-570 vph between Catherine and Market Streets during the weekday peak hours. Westbound South Street is traveled by about 630-845 vph approaching Market Street, and about 575-760 vph between Market and Catherine Streets.

Table 2E-1 summarizes the existing traffic levels of service. During the weekday peak hours, the study intersections operate at overall level of service (LOS) A and LOS B conditions (the “overall” level of service is a weighted average of all of the individual traffic movements), and individual movements operate at LOS C or better conditions. The unsignalized intersections operate at LOS B or better conditions.

C. THE FUTURE WITHOUT THE PROPOSED ACTION

Future conditions without the geometric modifications of the Proposed Action, i.e., the future No Build conditions, are established in order to provide the baseline against which the impacts of the Proposed Action can be compared and to account for changes in traffic conditions between existing conditions and the future analysis year. Future year conditions were analyzed for 2010. Future No Build traffic volumes were developed by applying a background traffic growth rate of one-half percent per year to the existing 2008 volumes, as stated in the *CEQR Technical Manual*, and by adding the 2009 No Build and Build trip increments from the East River Esplanade Study. The East River Esplanade Study included additional vehicular trips along South, Catherine, and Market Streets from no build projects and changes in parking and roadway configurations.

Figures 2E-6 through 2E-8 show future No Build traffic volumes. Under 2010 No Build conditions, traffic volumes along South Street are generally expected to increase by approximately 65-95 vph per direction in the AM and PM peak hours and by approximately 10 vph in the midday peak hour between Catherine and Market Streets compared to existing conditions. Traffic volumes along Catherine Street, Market Street, Cherry Street, and Water Street would increase by approximately 15 vph or less per direction in the study area during the weekday peak hours compared to existing conditions.

Table 2E-1
2008 Existing Conditions Level of Service Summary

INTERSECTION & APPROACH	AM (8:00 - 9:00 AM)				Midday (2:45 - 3:45 PM)				PM (4:15 - 5:15 PM)					
	Mvt.	V/C	Delay (Sec)	LOS	Mvt.	V/C	Delay (Sec)	LOS	Mvt.	V/C	Delay (Sec)	LOS		
SIGNALIZED INTERSECTIONS														
CATHERINE STREET & CHERRY STREET														
Catherine Street	SB	T	0.38	13.0	B	T	0.24	11.4	B	T	0.28	11.9	B	
Cherry Street	WB	L	0.31	23.2	C	L	0.25	22.2	C	L	0.44	25.5	C	
	Overall Intersection	-	0.35	16.3	B	-	0.24	15.7	B	-	0.34	18.5	B	
CATHERINE STREET & SOUTH STREET														
Catherine Street	SB	L	0.34	24.2	C	L	0.21	22.1	C	L	0.28	23.1	C	
		R	0.29	23.1	C	R	0.36	24.6	C	R	0.34	24.1	C	
South Street	EB	LT	0.79	21.2	C	LT	0.70	19.0	B	LT	0.89	24.6	C	
		WB	TR	0.53	14.1	B	TR	0.44	13.1	B	TR	0.53	14.1	B
	Overall Intersection	-	0.62	18.0	B	-	0.57	16.8	B	-	0.68	19.4	B	
MARKET STREET & CHERRY STREET														
Market Street	NB	L	0.08	14.7	B	L	0.04	14.3	B	L	0.06	14.5	B	
		T	0.38	18.2	B	T	0.27	16.8	B	T	0.31	17.2	B	
Cherry Street	WB	TR	0.33	17.7	B	TR	0.31	17.5	B	TR	0.29	17.1	B	
	Overall Intersection	-	0.36	17.7	B	-	0.29	17.0	B	-	0.30	17.0	B	
MARKET STREET & SOUTH STREET														
Market Street	SB	LR	0.09	20.3	C	LR	0.10	20.5	C	LR	0.18	21.5	C	
South Street	EB	LT	0.70	17.5	B	LT	0.53	14.7	B	LT	0.78	18.7	B	
		WB	TR	0.61	15.4	B	TR	0.49	13.7	B	TR	0.59	15.1	B
	Overall Intersection	-	0.46	16.3	B	-	0.36	14.3	B	-	0.54	16.8	B	
UNSIGNALIZED INTERSECTIONS														
CATHERINE STREET & WATER STREET														
Catherine Street	SB	LTR	0.10	7.8	A	LTR	0.07	7.6	A	LTR	0.08	7.6	A	
	Overall Intersection	-	-	7.8	A	-	-	7.6	A	-	-	7.6	A	
MARKET STREET & WATER STREET														
Water Street	EB	L	0.18	10.3	B	L	0.12	9.8	A	L	0.13	9.9	A	
		R	0.04	8.9	A	R	0.04	8.8	A	R	0.06	9.0	A	
	Overall Intersection	-	-	10.0	A	-	-	9.5	A	-	-	9.6	A	

Table 2E-2 summarizes future No Build traffic levels of service. During the weekday peak hours, the study intersections would operate at overall LOS C or better under No Build conditions. Individual traffic movements would operate at acceptable LOS C or better conditions under No Build conditions, with the exception of the eastbound shared left-turn/through movement on South Street at Catherine Street during the PM peak hour, which would operate at a marginally unacceptable LOS D under No Build conditions, compared to acceptable LOS C under existing conditions. The unsignalized intersections would operate at LOS B or better under No Build conditions.

D. PROBABLE IMPACTS THE PROPOSED ACTION

Probable impacts of the Proposed Action, i.e., the future Build conditions, are presented below and compared to No Build conditions. Build conditions include the elimination of vehicular traffic on northbound Catherine Street between Cherry and Water Streets, the narrowing of southbound Catherine Street at Cherry, Water and South Streets, narrowing westbound Cherry Street and eastbound Water Street at Catherine Street, and modifications to crosswalks, which are described in more detail in the pedestrian analysis section. As a result of the closure of northbound Catherine Street between Cherry and Water Streets, localized traffic diversions would occur.

Table 2E-2

2010 No Build Conditions Level of Service Summary

INTERSECTION & APPROACH	AM (8:00 - 9:00 AM)				Midday (2:45 - 3:45 PM)				PM (4:15 - 5:15 PM)				
	Mvt.	V/C	Delay (Sec)	LOS	Mvt.	V/C	Delay (Sec)	LOS	Mvt.	V/C	Delay (Sec)	LOS	
SIGNALIZED INTERSECTIONS													
CATHERINE STREET & CHERRY STREET													
Catherine Street	SB	T	0.39	13.1	B	T	0.25	11.5	B	T	0.30	12.1	B
Cherry Street	WB	L	0.32	23.4	C	L	0.25	22.2	C	L	0.45	25.7	C
	Overall Intersection	-	0.36	16.5	B	-	0.25	15.7	B	-	0.36	18.6	B
CATHERINE STREET & SOUTH STREET													
Catherine Street	SB	L	0.36	24.4	C	L	0.23	22.3	C	L	0.31	23.7	C
		R	0.29	23.2	C	R	0.37	24.8	C	R	0.35	24.4	C
South Street	EB	LT	0.89	27.5	C	LT	0.71	19.3	B	LT	1.05	54.8	D
	WB	TR	0.60	15.2	B	TR	0.45	13.1	B	TR	0.59	15.0	B
	Overall Intersection	-	0.69	20.7	C	-	0.58	17.0	B	-	0.78	31.5	C
MARKET STREET & CHERRY STREET													
Market Street	NB	L	0.10	14.8	B	L	0.04	14.3	B	L	0.07	14.6	B
		T	0.41	18.6	B	T	0.28	16.8	B	T	0.32	17.4	B
Cherry Street	WB	TR	0.34	17.7	B	TR	0.32	17.6	B	TR	0.30	17.2	B
	Overall Intersection	-	0.37	17.9	B	-	0.30	17.0	B	-	0.31	17.1	B
MARKET STREET & SOUTH STREET													
Market Street	SB	LR	0.10	20.4	C	LR	0.10	20.5	C	LR	0.18	21.5	C
South Street	EB	LT	0.83	22.2	C	LT	0.54	14.8	B	LT	0.93	26.4	C
	WB	TR	0.68	16.8	B	TR	0.50	13.8	B	TR	0.66	16.4	B
	Overall Intersection	-	0.55	19.0	B	-	0.37	14.4	B	-	0.64	20.8	C
UNSIGNALIZED INTERSECTIONS													
CATHERINE STREET & WATER STREET													
Catherine Street	SB	LTR	0.10	7.8	A	LTR	0.07	7.6	A	LTR	0.08	7.6	A
	Overall Intersection	-	-	7.8	A	-	-	7.6	A	-	-	7.6	A
MARKET STREET & WATER STREET													
Water Street	EB	L	0.23	12.1	B	L	0.13	10.4	B	L	0.16	11.5	B
		R	0.05	9.8	A	R	0.04	9.2	A	R	0.08	10.2	B
	Overall Intersection	-	-	11.6	B	-	-	10.1	B	-	-	11.0	B

PROJECTED TRAFFIC DIVERSIONS

Traffic diversions would occur due to the closure of northbound Catherine Street between Cherry Street and Water Street. Currently, vehicles primarily use northbound Catherine Street to access southbound Catherine Street to return to South Street or search for on-street parking. It is also used as a turnaround for trips to the private storage facility on the east side of Catherine Street between Water and South Streets.

Figures 2E-9 through 2E-11 show the future Build traffic diversions. Of the approximately 25 to 45 vph on northbound Catherine Street between Cherry and Water Streets, the majority would divert onto eastbound Water Street with the proposed closure of Catherine Street. Some would avoid northbound Catherine Street altogether, and use Market Street and South Street to access westbound Cherry Street to southbound Catherine Street. The net change in trips because of the diversions would be an increase of approximately 15 to 30 vph on eastbound Water Street, 15 to 35 vph on northbound Market Street and westbound Cherry Street, and a decrease of about 10 vph on southbound Catherine Street during the weekday peak hours. These are very modest volumes of diverted trips. Figures 2E-12 through 2E-14 show the resulting Build volumes with the diversions accounted for.

INTERSECTION DESIGN AND OPERATIONS IMPROVEMENTS

On southbound Catherine Street at Cherry Street, the width of the street would be reduced from 50 feet to about 30 feet. At Water Street, the width of Catherine Street would be reduced from 45 feet to about 30 feet on the north side of the intersection, and it would narrow to about 22 feet on the south side of the intersection using a bulb-out on the west curb. At South Street, the width of southbound Catherine Street would be reduced from about 44 feet to 22 feet using a bulb-out on the west curb. Between South Street and Water Street, the width of northbound Catherine Street would be reduced from 28 feet to about 22 feet by extending the curb the entire block. On westbound Cherry Street, the existing width narrows to about 30 feet for part of the block face between northbound and southbound Catherine Streets; under the Proposed Action, the width would be about 27 feet the entire distance of that block face. East of Catherine Street, the width of Cherry Street would remain at 33 feet. On eastbound Water Street, the existing width narrows to about 24 feet for part of the block face between northbound and southbound Catherine Streets. With the Proposed Action, the width would be 24 feet the entire block face. East of Catherine Street, the width of Water Street would remain at 33 feet.

BUILD TRAFFIC LEVELS OF SERVICE

The assessment of potential significant traffic impacts of the Proposed Action is based on significant impact criteria defined in the *CEQR Technical Manual*. No Build LOS A, B, or C conditions that deteriorate to unacceptable LOS D, E, or F in the future Build conditions are considered a significant traffic impact. For future No Build LOS A, B, or C conditions that deteriorate to LOS D, mitigation to mid-LOS D (45.0 seconds of delay for signalized intersections and 30.0 seconds of delay for unsignalized intersections) needs to be considered to fully mitigate the impact.

For a No Build LOS D, an increase of delay by 5 or more seconds in the Build condition is considered a significant impact if the Build delay meets or exceeds 45.0 seconds. For a No Build LOS E, the threshold is a 4-second increase in Build delay; for a No Build LOS F, a 3-second increase in delay in the Build condition is significant. However, if a No Build LOS F condition already has delays in excess of 120 seconds, an increase in delay of more than 1 second is considered significant, unless the Proposed Action would generate fewer than 5 vehicles through that intersection in the peak hour (signalized intersections) or fewer than 5 passenger-car-equivalents (PCEs) in the peak hour along the critical approach (unsignalized intersections). In addition, for unsignalized intersections, for the minor street to generate a significant impact, 90 PCEs must be identified in the Build condition in any peak hour.

Table 2E-3 summarizes future Build traffic levels of service. During the weekday peak hours, the study intersections would operate at overall LOS C or better under Build conditions. The individual traffic movements would also operate at acceptable LOS C or better conditions with the exception of the eastbound shared left-turn/through movement on South Street at Catherine Street during the PM peak hour, which would operate at a marginally unacceptable LOS D under both No Build and Build conditions. The unsignalized intersections would continue to operate at LOS B or better conditions under Build conditions. Based on the comparison of No Build versus Build traffic levels of service, the Proposed Action would not result in significant adverse traffic impacts.

Table 2E-3

2010 Build Conditions Level of Service Summary

INTERSECTION & APPROACH		AM (8:00 - 9:00 AM)				Midday (2:45 - 3:45 PM)				PM (4:15 - 5:15 PM)			
		Mvt.	V/C	Delay (Sec)	LOS	Mvt.	V/C	Delay (Sec)	LOS	Mvt.	V/C	Delay (Sec)	LOS
SIGNALIZED INTERSECTIONS													
CATHERINE STREET & CHERRY STREET													
Catherine Street	SB	T	0.38	12.9	B	T	0.24	11.4	B	T	0.29	11.9	B
Cherry Street	WB	L	0.30	23.2	C	L	0.23	22.0	C	L	0.43	25.3	C
Overall Intersection		-	0.35	16.1	B	-	0.24	15.3	B	-	0.34	18.2	B
CATHERINE STREET & SOUTH STREET													
Catherine Street	SB	L	0.28	22.8	C	L	0.17	21.3	C	L	0.24	22.3	C
		R	0.26	22.6	C	R	0.34	24.2	C	R	0.33	23.8	C
South Street	EB	LT	0.88	26.0	C	LT	0.70	18.8	B	LT	1.04	51.8	D
	WB	TR	0.60	15.2	B	TR	0.45	13.1	B	TR	0.58	15.0	B
Overall Intersection		-	0.65	19.9	B	-	0.56	16.6	B	-	0.76	30.3	C
MARKET STREET & CHERRY STREET													
Market Street	NB	L	0.19	15.9	B	L	0.08	14.7	B	L	0.12	15.0	B
		T	0.41	18.6	B	T	0.28	16.8	B	T	0.32	17.4	B
Cherry Street	WB	TR	0.34	17.7	B	TR	0.32	17.6	B	TR	0.30	17.2	B
Overall Intersection		-	0.37	17.8	B	-	0.30	16.9	B	-	0.31	17.0	B
MARKET STREET & SOUTH STREET													
Market Street	SB	LR	0.13	20.9	C	LR	0.13	20.9	C	LR	0.22	22.1	C
South Street	EB	LT	0.85	23.2	C	LT	0.55	15.0	B	LT	0.94	27.4	C
	WB	TR	0.69	16.8	B	TR	0.50	13.9	B	TR	0.67	16.5	B
Overall Intersection		-	0.57	19.4	B	-	0.39	14.6	B	-	0.66	21.3	C
UNSIGNALIZED INTERSECTIONS													
CATHERINE STREET & WATER STREET													
Catherine Street	SB	LTR	0.10	7.8	A	LTR	0.07	7.5	A	LTR	0.08	7.6	A
Overall Intersection		-	-	7.8	A	-	-	7.5	A	-	-	7.6	A
MARKET STREET & WATER STREET													
Water Street	EB	L	0.28	12.6	B	L	0.15	10.5	B	L	0.18	11.7	B
		R	0.07	9.9	A	R	0.05	9.3	A	R	0.10	10.3	B
Overall Intersection		-	-	12.0	B	-	-	10.1	B	-	-	11.2	B

BUILD PEDESTRIAN ANALYSES

Because the pedestrian areas are currently used primarily by residents and local workers in the neighborhood, it is expected that the expanded park space on Catherine Street would not generate additional pedestrian trips above the amount of background and No Build project growth estimated between the existing condition and the future 2010 No Build condition. Existing pedestrian crosswalk volumes were increased by one-half percent per year for the 2010 No Build and Build conditions, and walking and transit trips from the nearby Post Building development were assigned to the pedestrian network. With the reduction in crossing distance across Catherine Street at Cherry, Water, and South Streets because of the narrowed street, and the elimination of the pedestrian crossings on the east side of northbound Catherine Street at Cherry Street, the north side of southbound Catherine Street at Water Street, the south side of northbound Catherine Street at Cherry Street, and the north side of northbound Catherine Street at Water Street, Build conditions would generally be safer for pedestrians when compared to No Build conditions. Figures 1 through 9 in Appendix D show peak 15-minute pedestrian volumes for existing, No Build, and Build conditions during the AM, midday and PM peak hours.

Pedestrian level of service analyses were performed to compare No Build and Build conditions and determine potential significant adverse impacts. Table 1 in Appendix D summarizes existing, No Build and Build conditions pedestrian levels of service. According to the *CEQR Technical Manual*, for crosswalks in Midtown, Lower Manhattan, and Downtown Brooklyn, a

significant impact may be considered for a deterioration (decrease) of one square foot per pedestrian when No Build conditions are at LOS E or F.

Pedestrian level of service analyses were conducted on the crosswalks and crossings observed at the intersections of northbound and southbound Catherine Street and Cherry and Water Streets. The intersection of southbound Catherine Street at Cherry Street is signalized, and the other three pedestrian study locations are unsignalized.

The Proposed Action would reduce the crossing distances across southbound Catherine Street from about 45 to 50 feet to about 30 feet at Cherry Street, and from 45 feet to 22 feet at Water Street. At the intersection of northbound Catherine Street and Water Street, the south crosswalk crossing distance would decrease from 28 feet to 22 feet. The crossing distances across Cherry and Water Streets would be reduced from about 30 to 40 feet to about 24 to 27 feet at the intersections with Catherine Street. Also, several of the crosswalk widths would be increased under the Proposed Actions. With these improvements, Build conditions would operate at the same or better than No Build conditions, with the exception of the north crosswalk on southbound Catherine Street at Cherry Street. This crosswalk is currently 15 feet wide and would be reduced to 12 feet wide; this would decrease the level of service from LOS B to LOS C, which is still acceptable for pedestrian conditions. Therefore, no significant adverse impacts would result from the Proposed Action.

Pedestrian accident data were reviewed to determine if there were unsafe intersections in the study area, which is defined in the *CEQR Technical Manual* as an intersection with five or more pedestrian accidents in a one-year period. According to the latest three years with data available (2003 through 2005), none of the intersections in the study area experienced five or more pedestrian accidents in a one-year period.

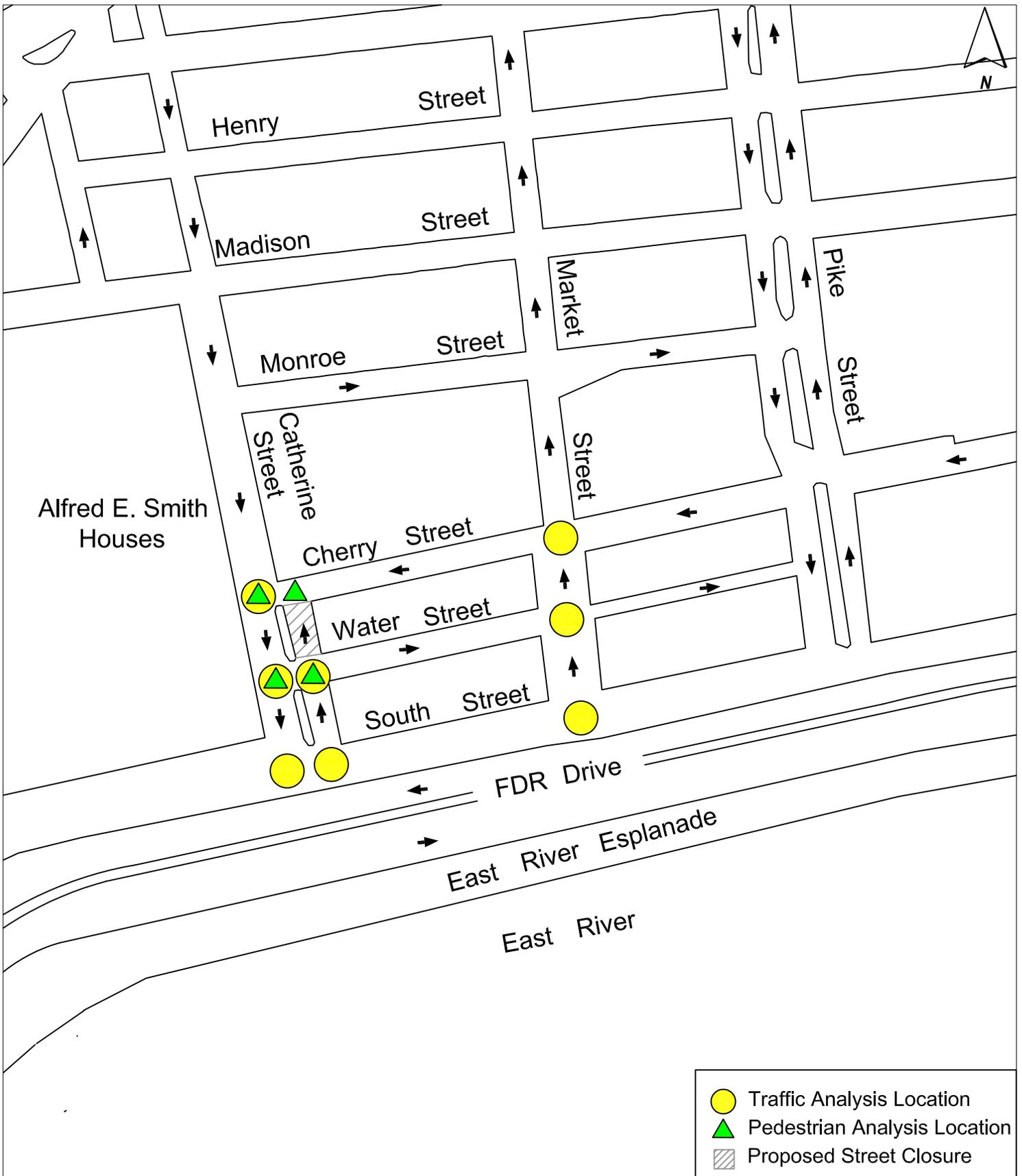
BUILD PARKING ANALYSES

On-street parking utilization and capacities were surveyed on Catherine Street between Henry and South Streets, on Market Street between Cherry and South Streets, and on Water and Cherry Streets between Catherine and Market Streets. Table 2 in Appendix D shows the existing block-by-block on-street parking occupancy, capacity, and parking regulations. Existing parking utilization was increased by one-half percent per year to 2010 No Build conditions. The overall legal utilization of parking in the study area would be 85 to 95 percent and the overall utilization including illegal parking in the study area would be 105 to 130 percent under No Build conditions. The on-street capacity under No Build conditions would be the same as existing conditions, 214 parking spaces in the AM period, and 197 parking spaces in the midday and PM periods.

Figures 2E-15 and 2E-16 illustrate the predominant existing and future Build conditions parking regulations during the AM, midday and PM peak hours for the study area. The Proposed Action would add parallel parking on the east side of Catherine Street between Madison and Henry Streets, and would eliminate parking on the west side of southbound Catherine Street between Madison and Cherry Streets, and on the east side between Cherry and Water Street. Parking would be eliminated on both sides of southbound Catherine Street between Water and South Streets under future Build conditions. The Proposed Action would not affect parking on northbound Catherine Street between South and Water Streets. Parking would be eliminated on both sides of northbound Catherine Street between Water and Cherry Streets due to its closure as part of the Proposed Action. The net decrease in parking from the Proposed Action would be 25 spaces in each of the weekday peak hours. Therefore, under Build conditions, the overall

East River Waterfront Access: Catherine, Rutgers, and Montgomery Slips

utilization including illegal parking in the study area would be about 125 to 150 percent, compared to 105 to 130 percent under No Build conditions. According to the *CEQR Technical Manual*, for proposed actions in Manhattan south of 61st Street, the inability of the proposed action or the surrounding area to accommodate projected future parking demands would generally be considered a parking shortfall, but is not deemed to be a significant impact because vehicles would potentially find parking further away. *



**Figure 2E-1
Study Area Locations**

East River Waterfront Access EA
Lower Manhattan Development Corporation

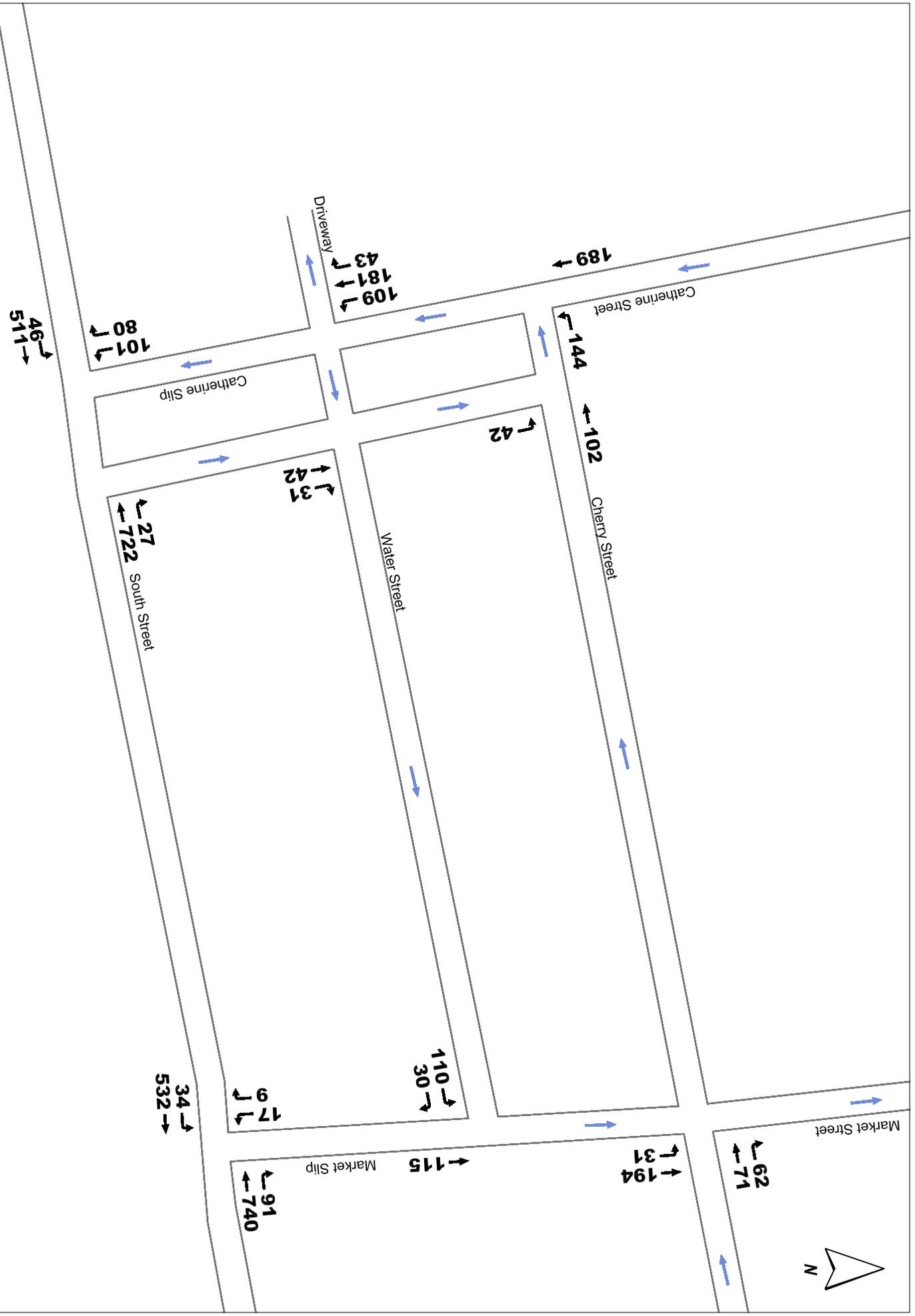


Figure 2E-3
2008 Existing AM Peak Hour Traffic Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

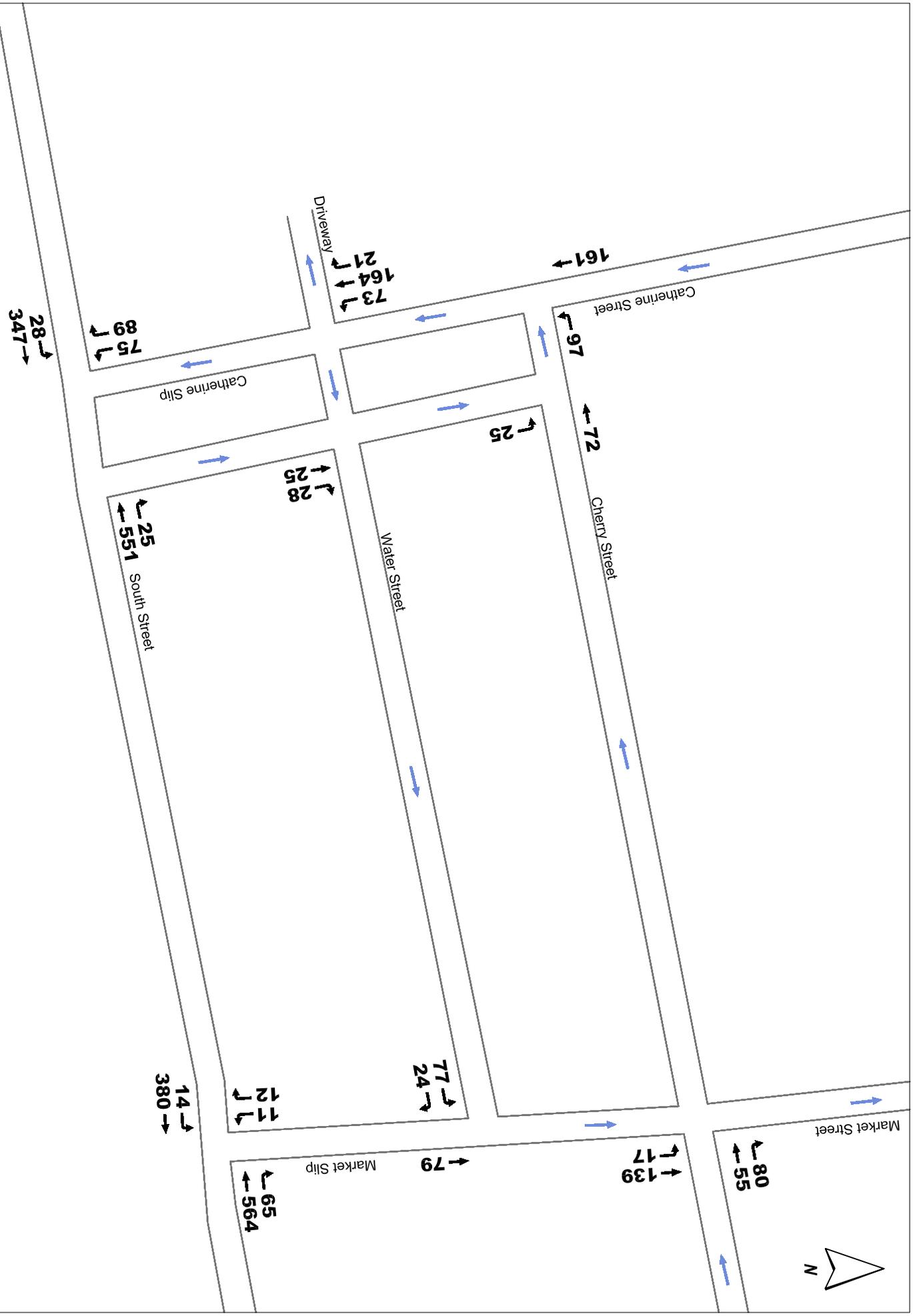


Figure 2E-4
2008 Existing Midday Peak Hour Traffic Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

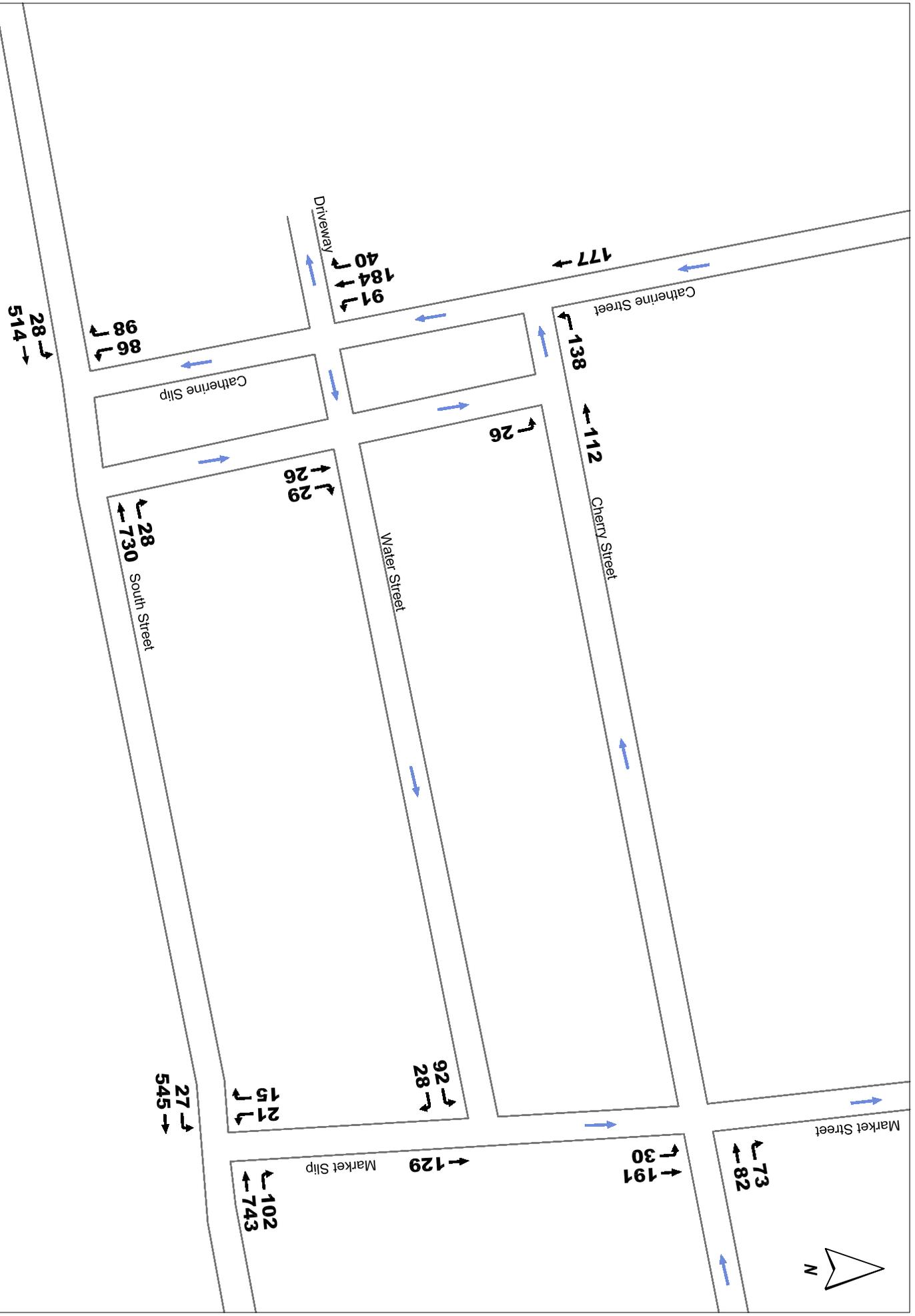


Figure 2E-5
2008 Existing PM Peak Hour Traffic Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

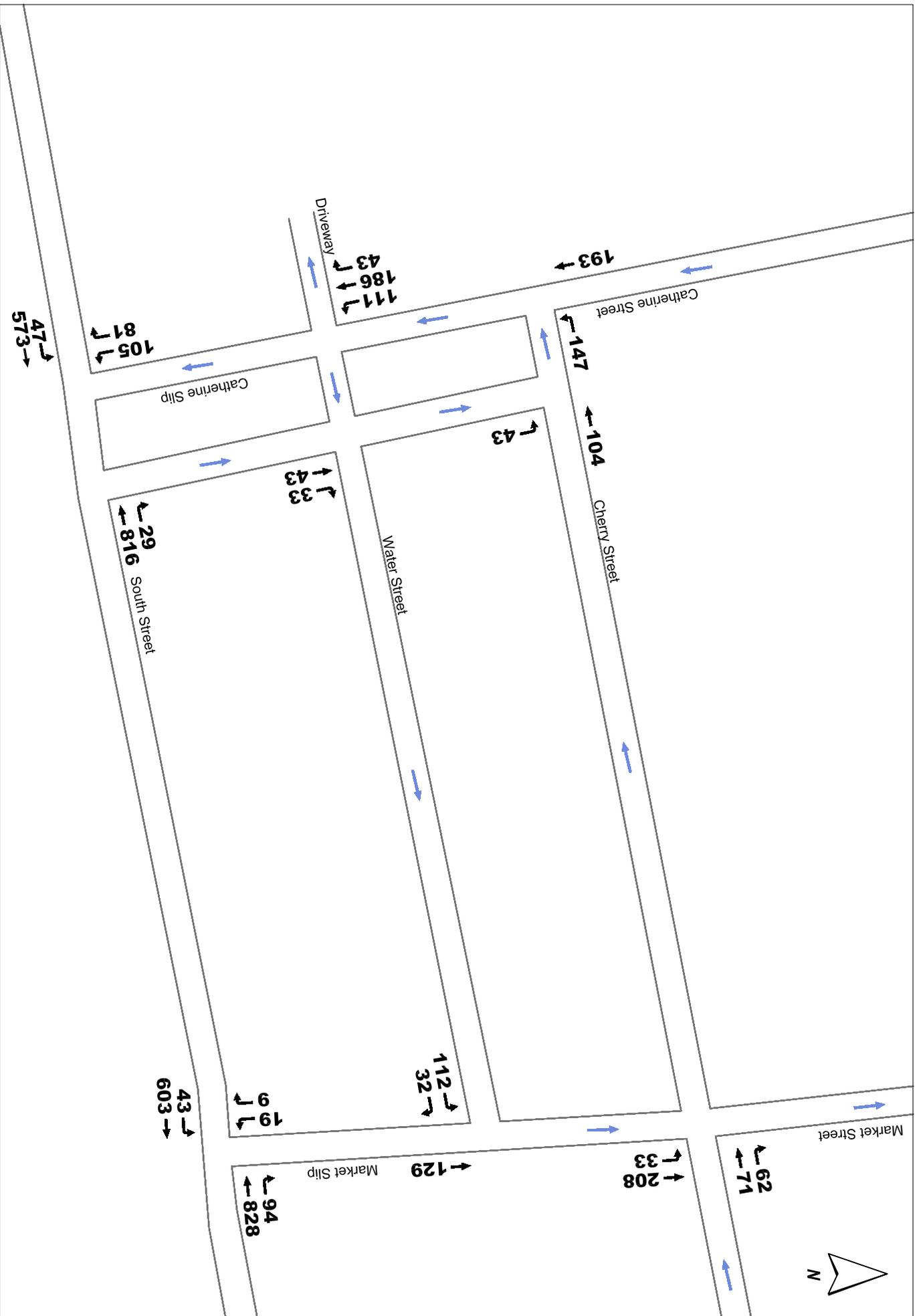


Figure 2E-6
2010 No Build AM Peak Hour Traffic Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

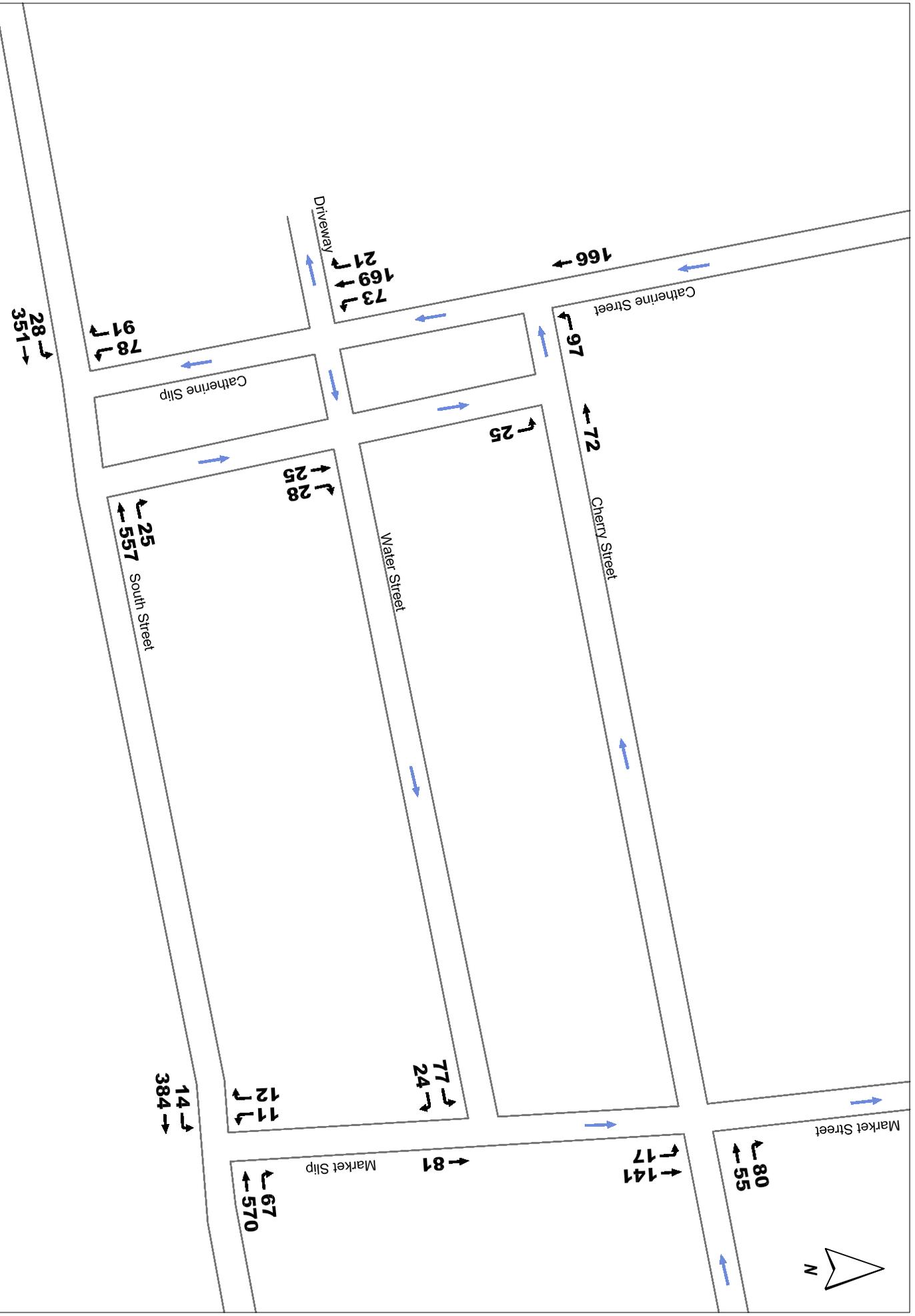


Figure 2E-7
2010 No Build Midday Peak Hour Traffic Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

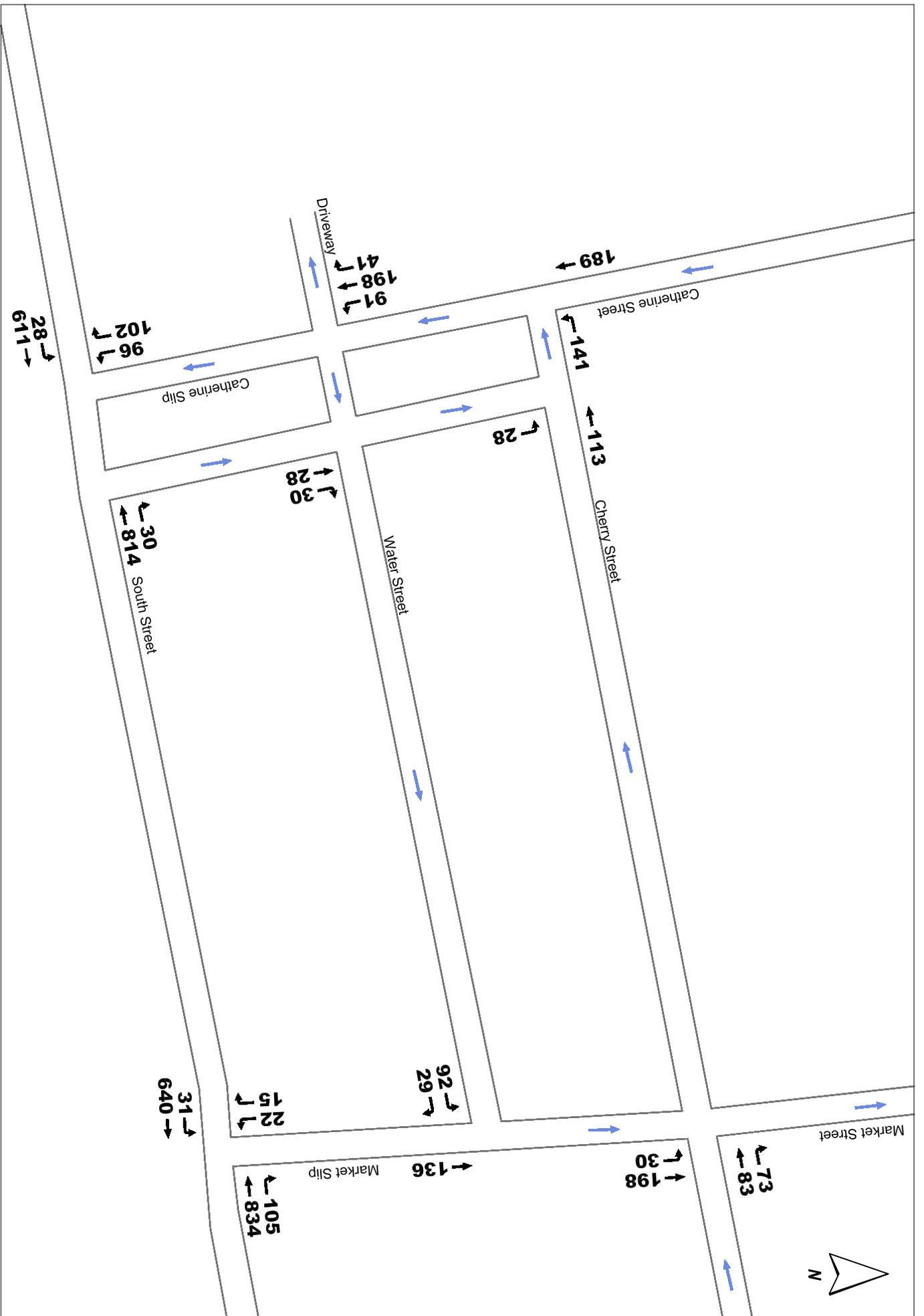


Figure 2E-8
2010 No Build PM Peak Hour Traffic Volumes
 East River Waterfront Access EA
 Lower Manhattan Development Corporation

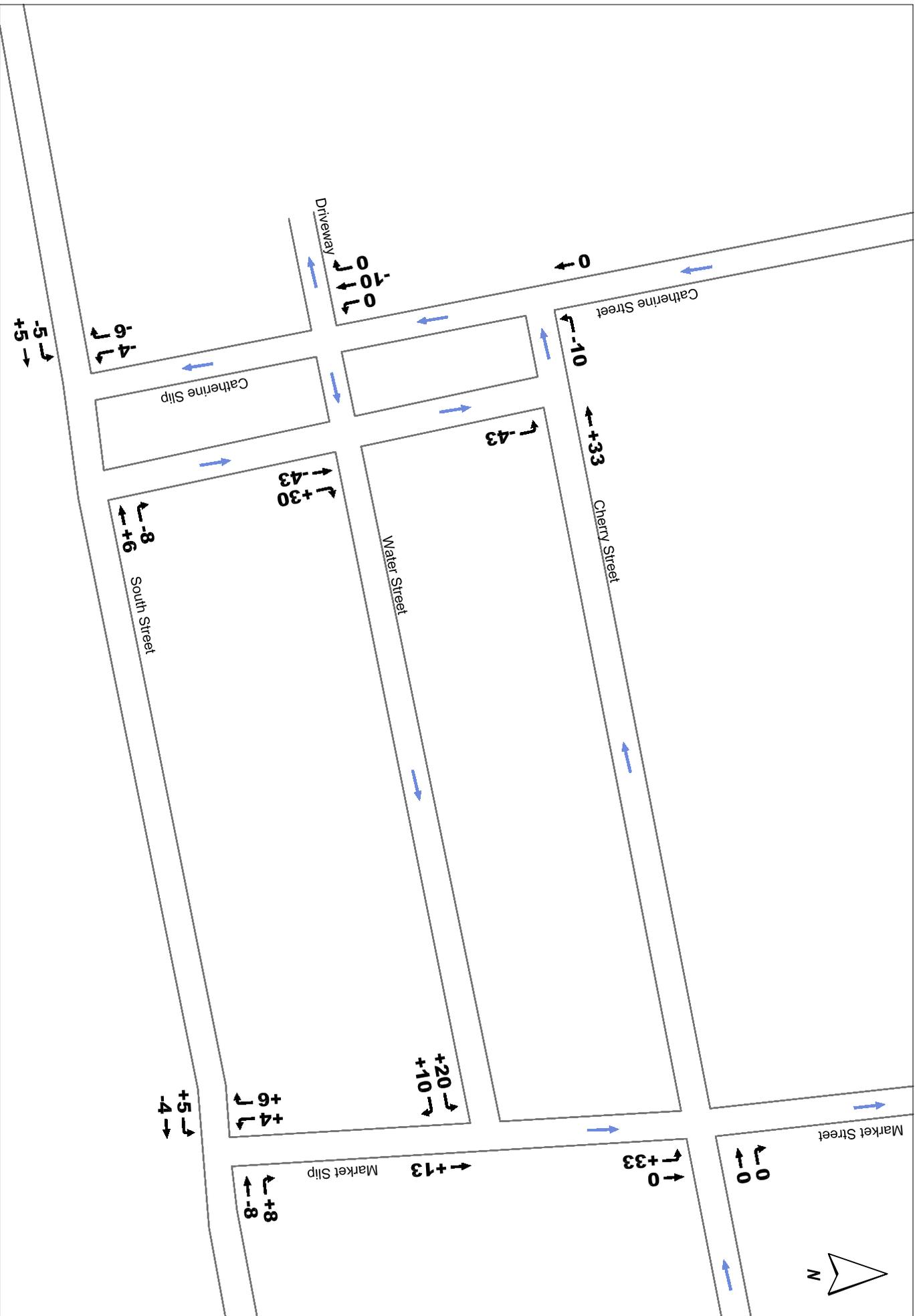


Figure 2E-9
2010 Build AM Peak Hour Diversion Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

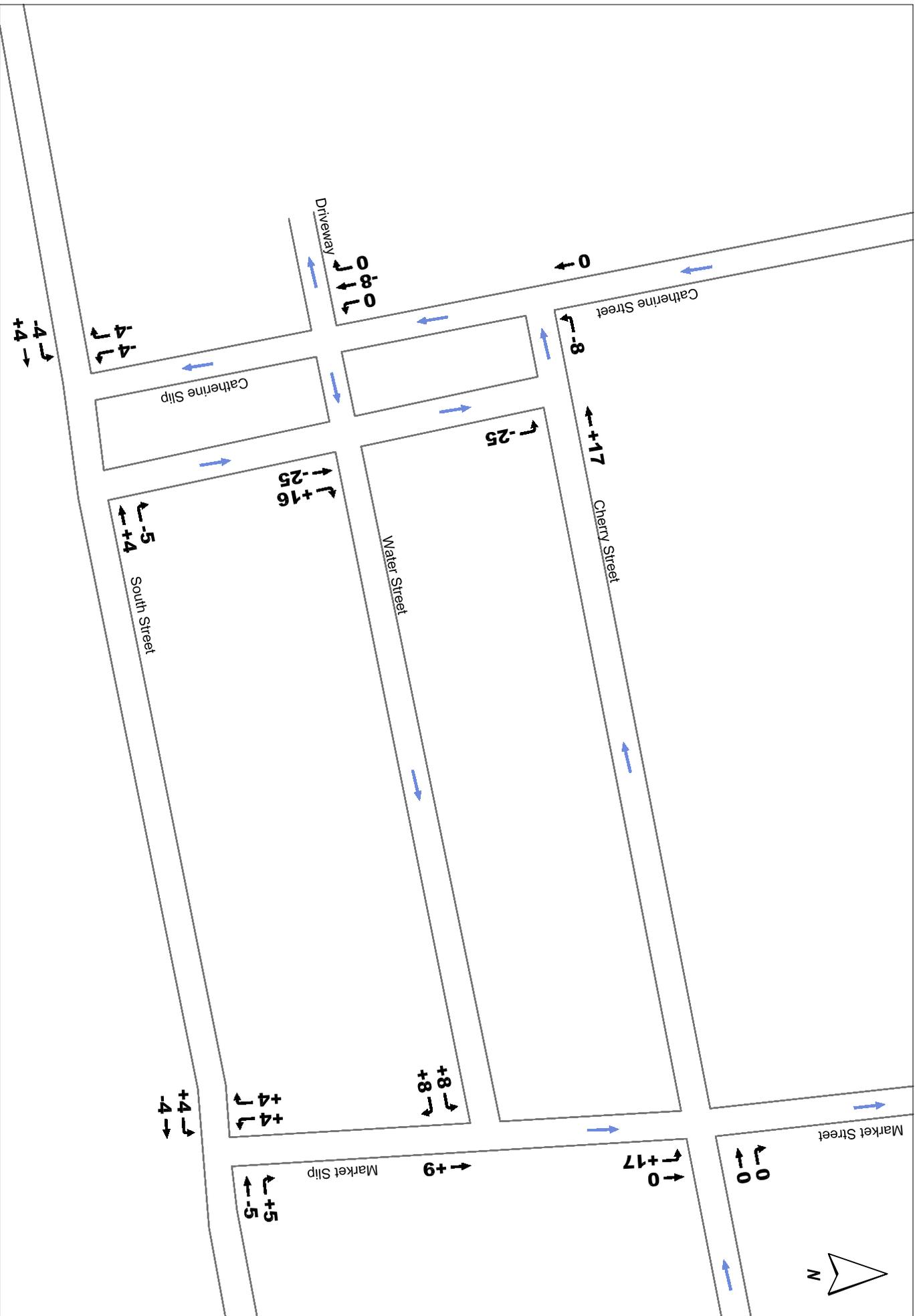


Figure 2E-10
2010 Build Midday Peak Hour Diversion Volumes
 East River Waterfront Access EA
 Lower Manhattan Development Corporation

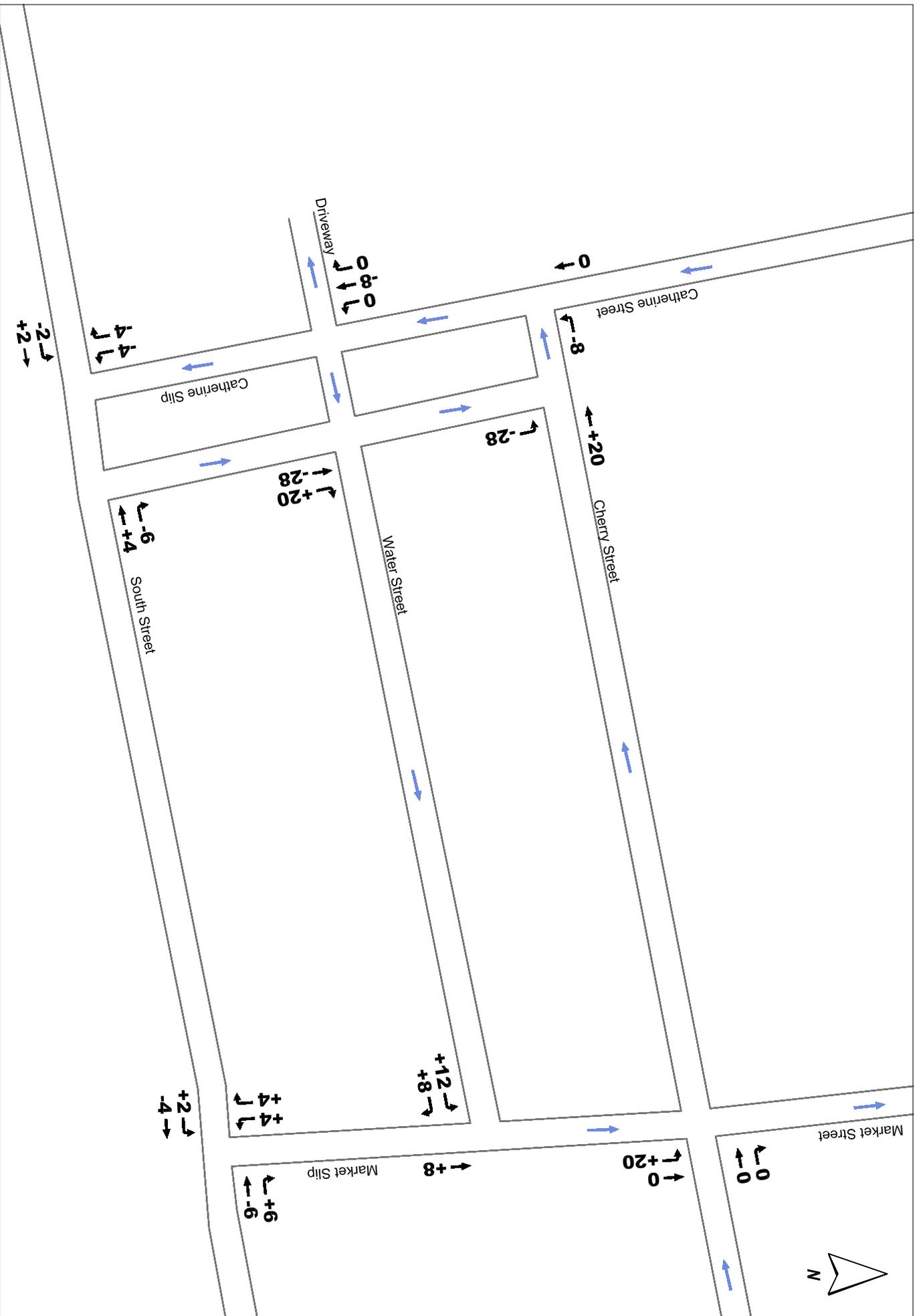


Figure 2E-11
2010 Build PM Peak Hour Diversion Volumes
 East River Waterfront Access EA
 Lower Manhattan Development Corporation

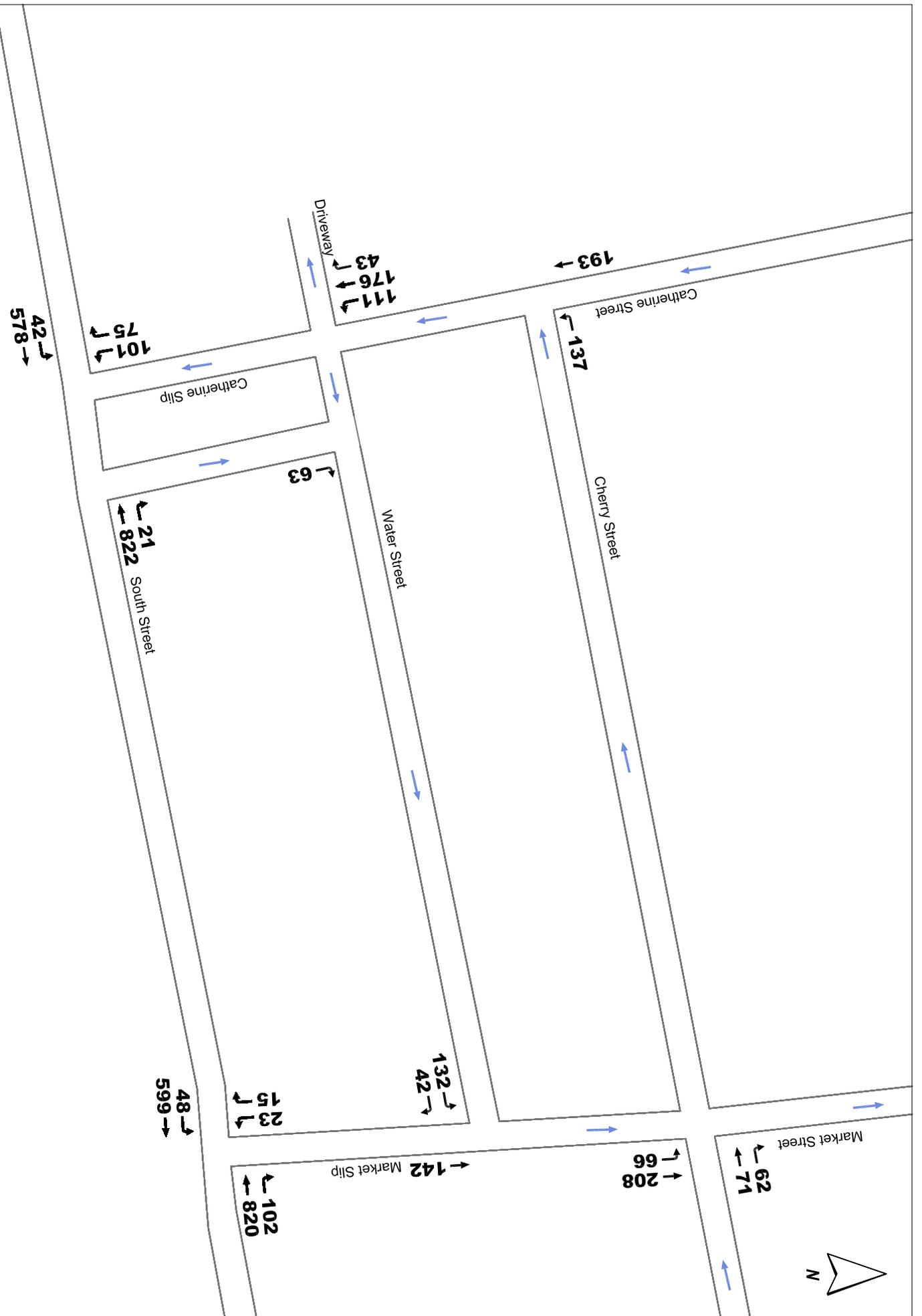


Figure 2E-12
2010 Build AM Peak Hour Traffic Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

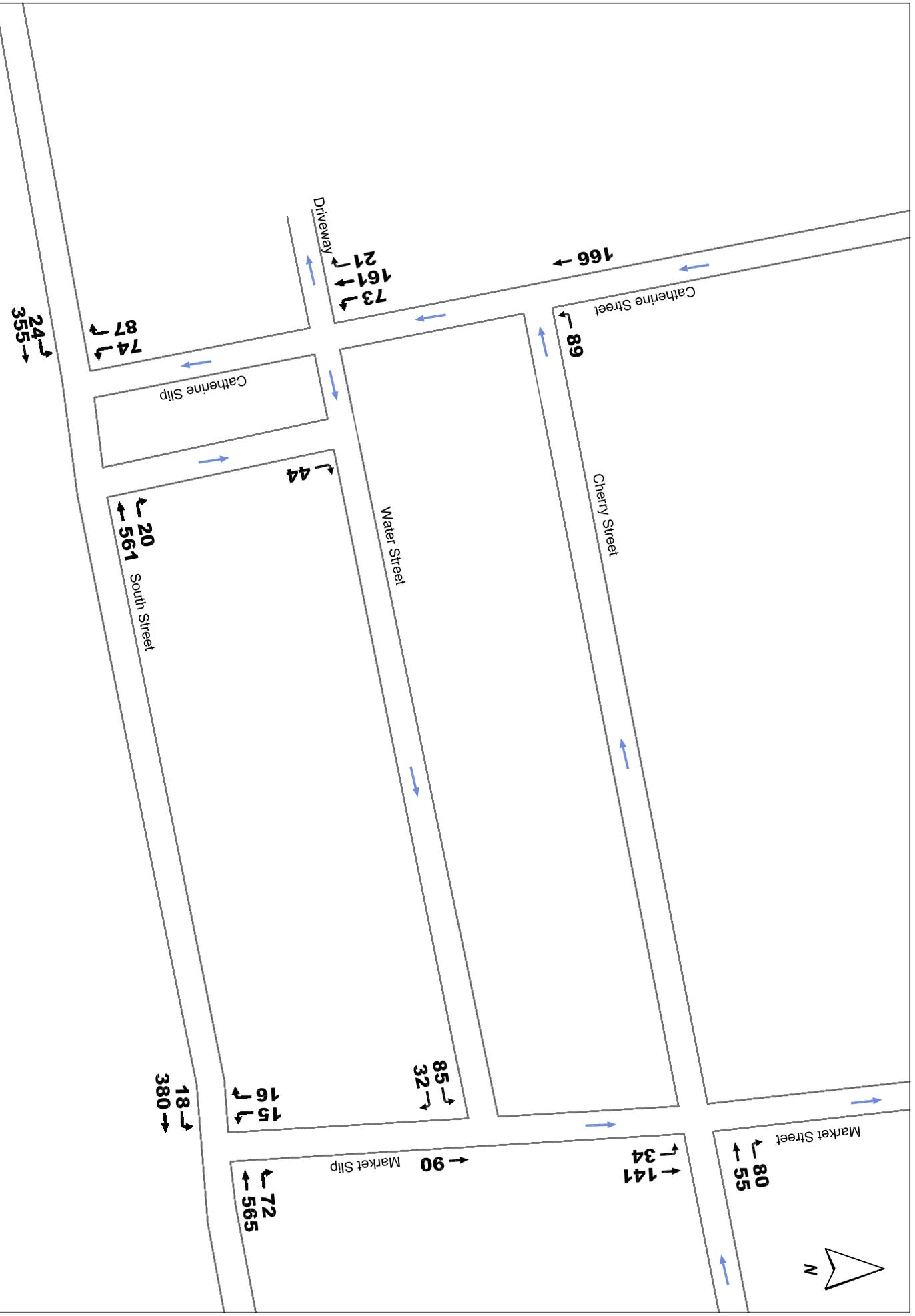


Figure 2E-13
2010 Build Midday Peak Hour Traffic Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

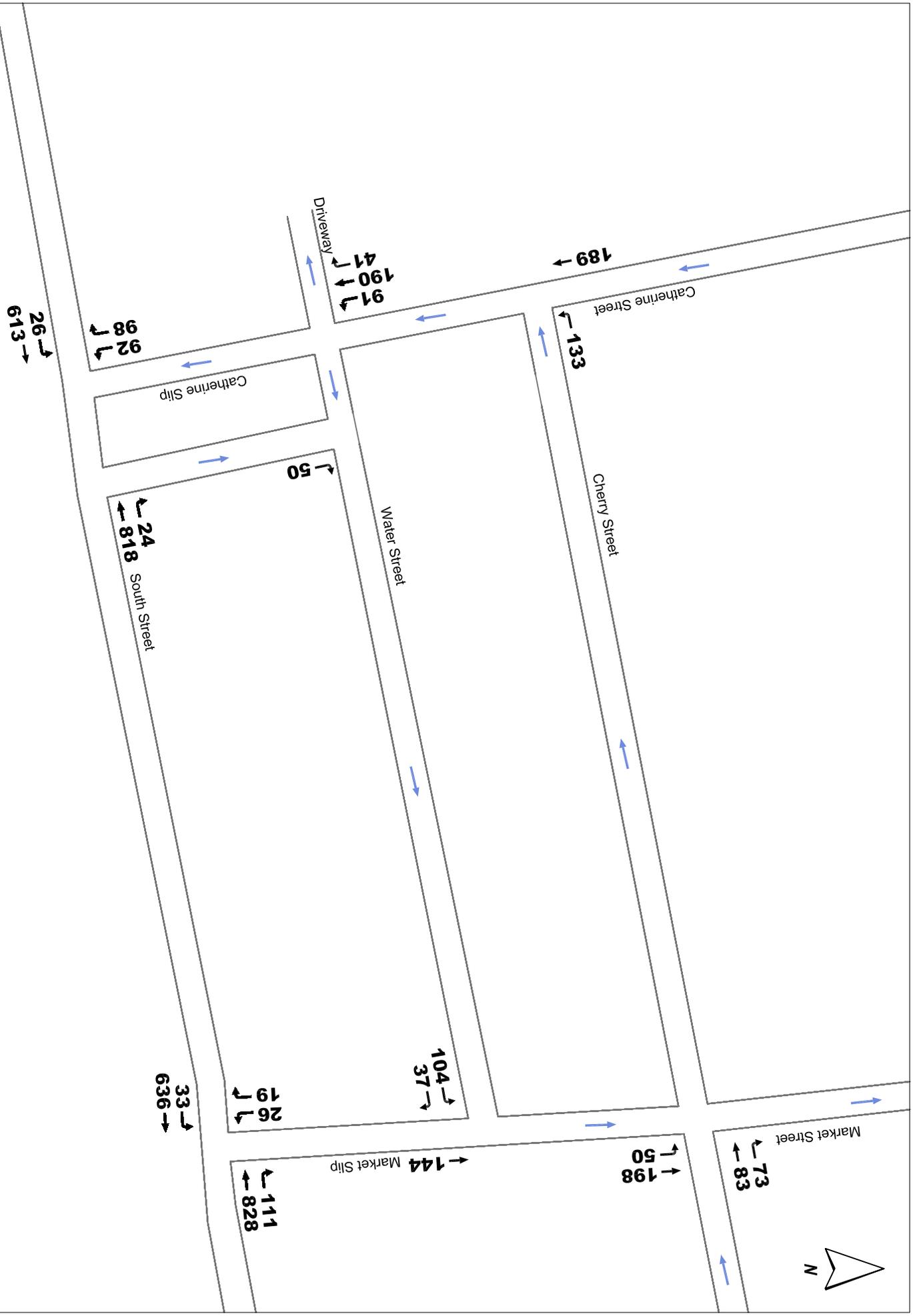


Figure 2E-14
2010 Build PM Peak Hour Traffic Volumes

East River Waterfront Access EA
 Lower Manhattan Development Corporation

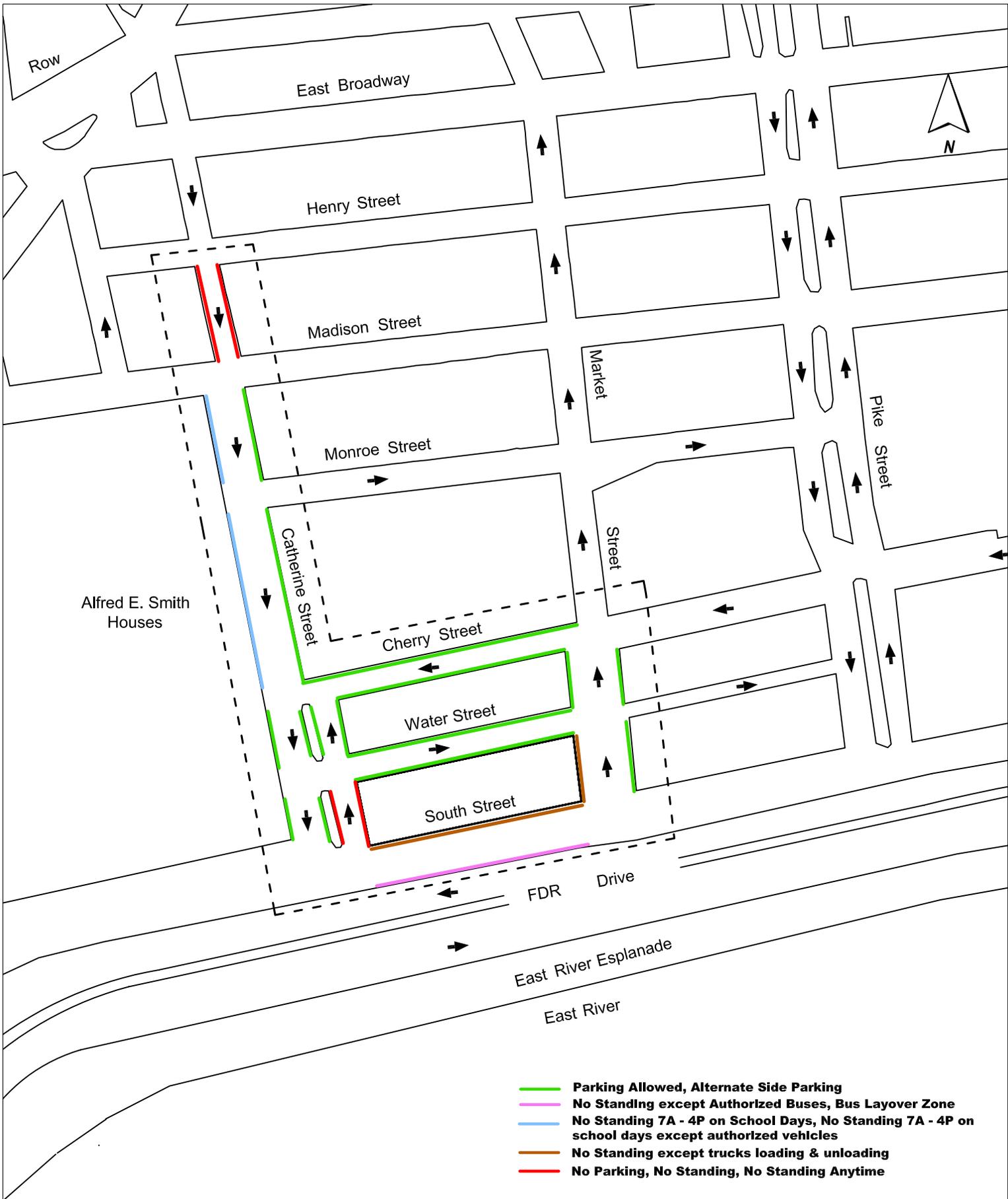


Figure 2E-15
 2008 Existing Conditions
 Predominant Parking Regulations (AM, Midday & PM Peak Hours)
 East River Waterfront Access EA
 Lower Manhattan Development Corporation

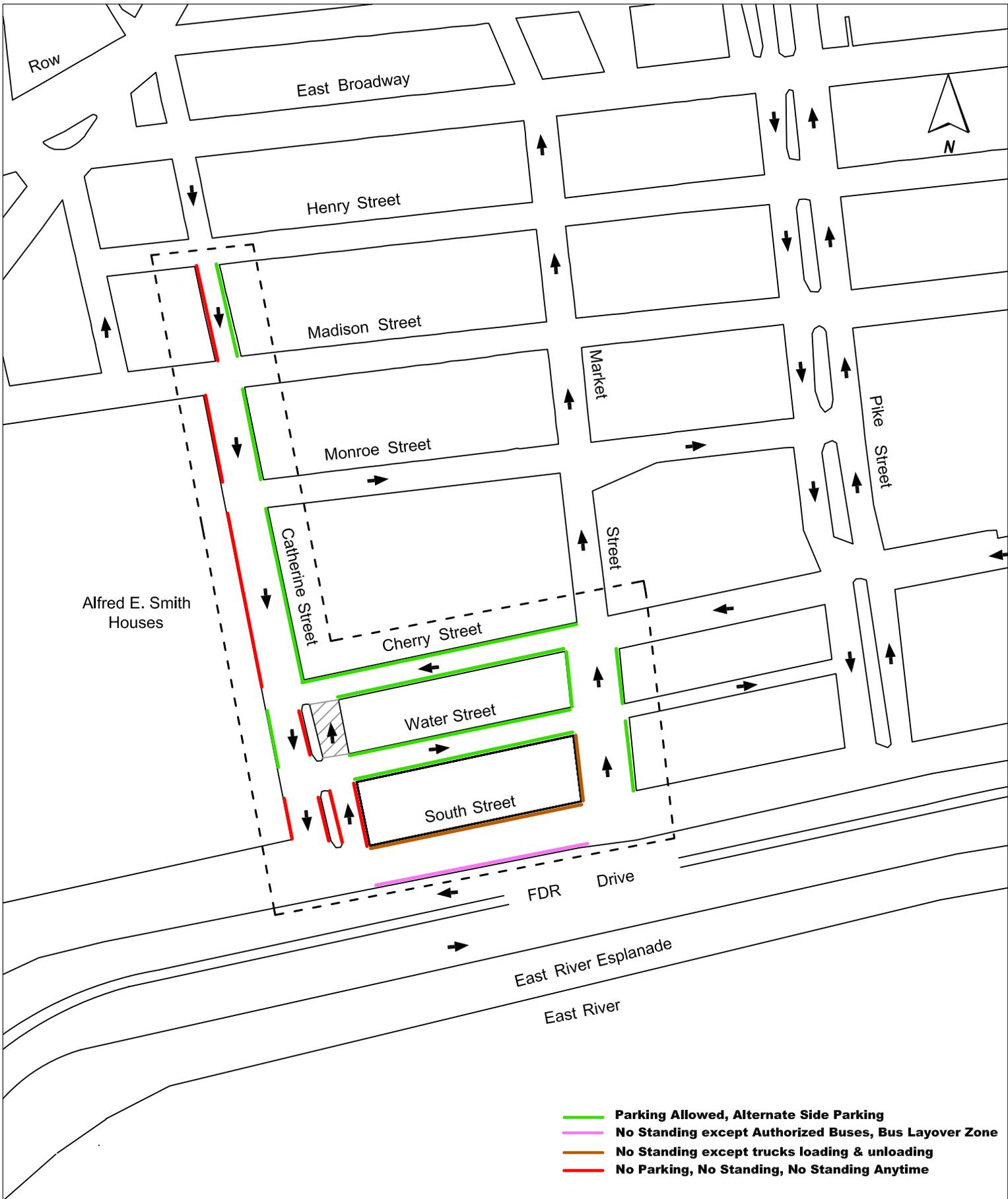


Figure 2E-16
2010 Build Conditions
Predominant Parking Regulations (AM, Midday & PM Peak Hours)
 East River Waterfront Access EA
 Lower Manhattan Development Corporation