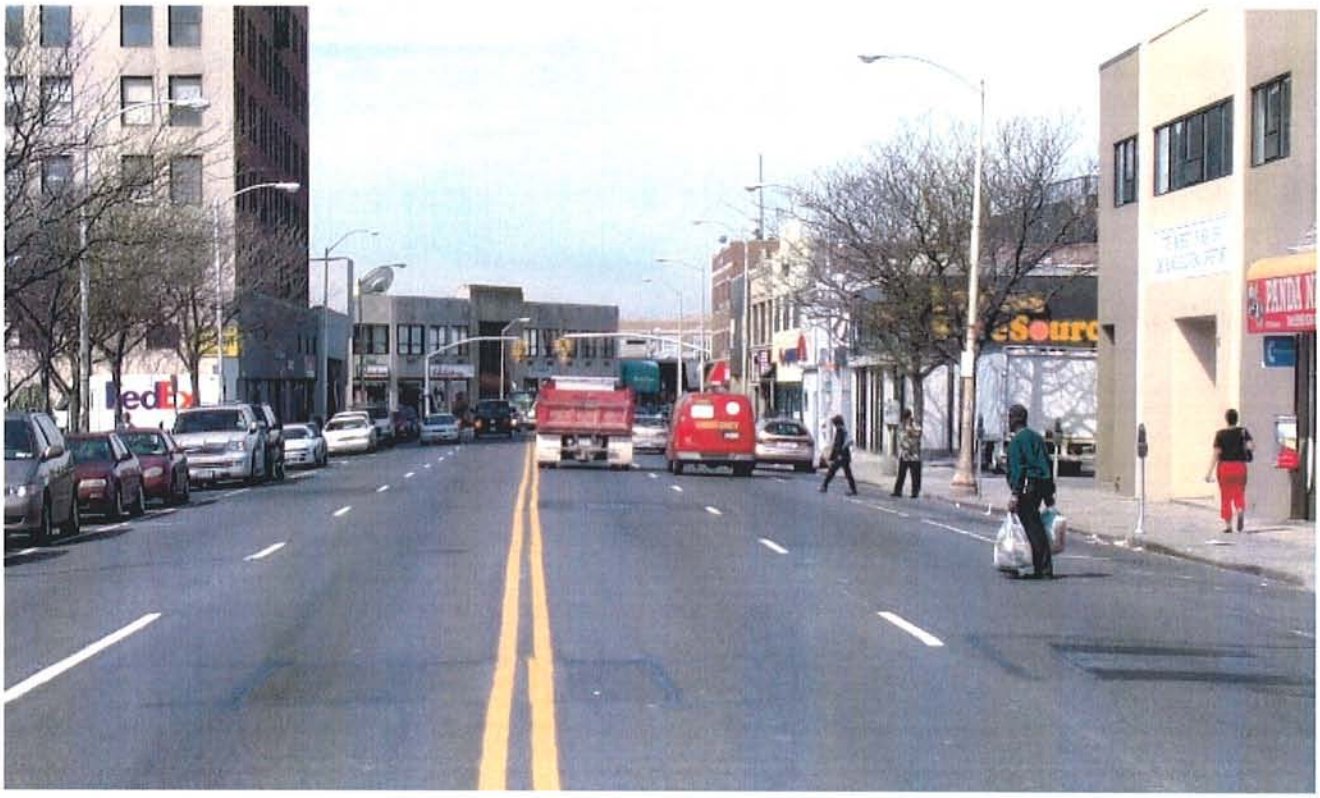
# DRAFT FINAL REPORT II

# Pedestrian Accident Study



Prepared for:

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**Planning Department**

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NYMTC
NEW YORK METROPOLITAN
TRANSPORTATION COUNCIL

NASSAU COUNTY · STATE OF NEW YORK ·

**January 7, 2008**

## Acknowledgement

This report was prepared for Nassau County, member of the New York Metropolitan Transportation Council (NYMTC) in cooperation with the Federal Highway Administration, the Federal Transit Administration, and the members of NYMTC. Funding for this project Pedestrian Accident Study, PIN#PTNA07T00.01, was paid for through matching grants from: the Federal Highway Administration and the Federal Transit Administration.


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# Pedestrian Accident Study

Nassau County Planning Department

Nassau County, New York

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## Project Team

The Consultant project team members included the following:

- Raymond DiBiase, PE, PTOE—Project Manager
- Thomas Cassidy—Senior Traffic Engineer
- Shawn Lanigan—Senior Traffic Engineering Technician

Resumes for these individuals are included in the Appendix.

## Introduction

The purpose of this project is to expand on the results of a prior study, which analyzed previously recorded pedestrian injuries and fatalities, so that the locations where clustering, or a greater than expected number of pedestrian injuries and/or fatalities occurred, can be further investigated. The prior study was produced in 2003 by the Nassau County Health Department, and is entitled "Pedestrian Injuries and Fatalities in Nassau County."

The majority of the locations studied for this report were located in the Village of Hempstead within Nassau County. As of the 2000 census, the Village had a total population of 56,554. The Village of Hempstead is an incorporated village in the Town of Hempstead. It is sometimes referred to as "Hempstead Village" to distinguish it from the Town of Hempstead. The Village is a mix of a bustling downtown area, with residential, commercial, and strip mall development and various government entities. The area also has a transportation hub, combining the local Long Island Rail Road station and the MTA Long Island Bus Transit Center.

In Nassau County there was an average of 928 injuries and 30 pedestrian deaths per year in the period from 1991 to 2000, according to the "Pedestrian Injuries and Fatalities in Nassau County" report. The latest figures from the New York State Department of Motor Vehicles show that these averages have risen, with the averages for the 3 years from 2003 through 2005 being 957 injuries and 33 pedestrian deaths, with 38 recorded in 2005.

## Goal

The primary goal of this report is to reduce the number of pedestrian accidents by implementing site-specific recommendations at each studied location. This report is site-specific at the 26 highest pedestrian accident locations noted, but many of the site-specific recommendations can be used as general recommendations or improvements at other intersections and locations.

## Study

In order to attest to the incidence and location of pedestrian accidents in Nassau County, several tasks were performed. A list of the roadway segments intended for analysis within this study was developed, based on the prior study. The following table is a list of these roadway segments:

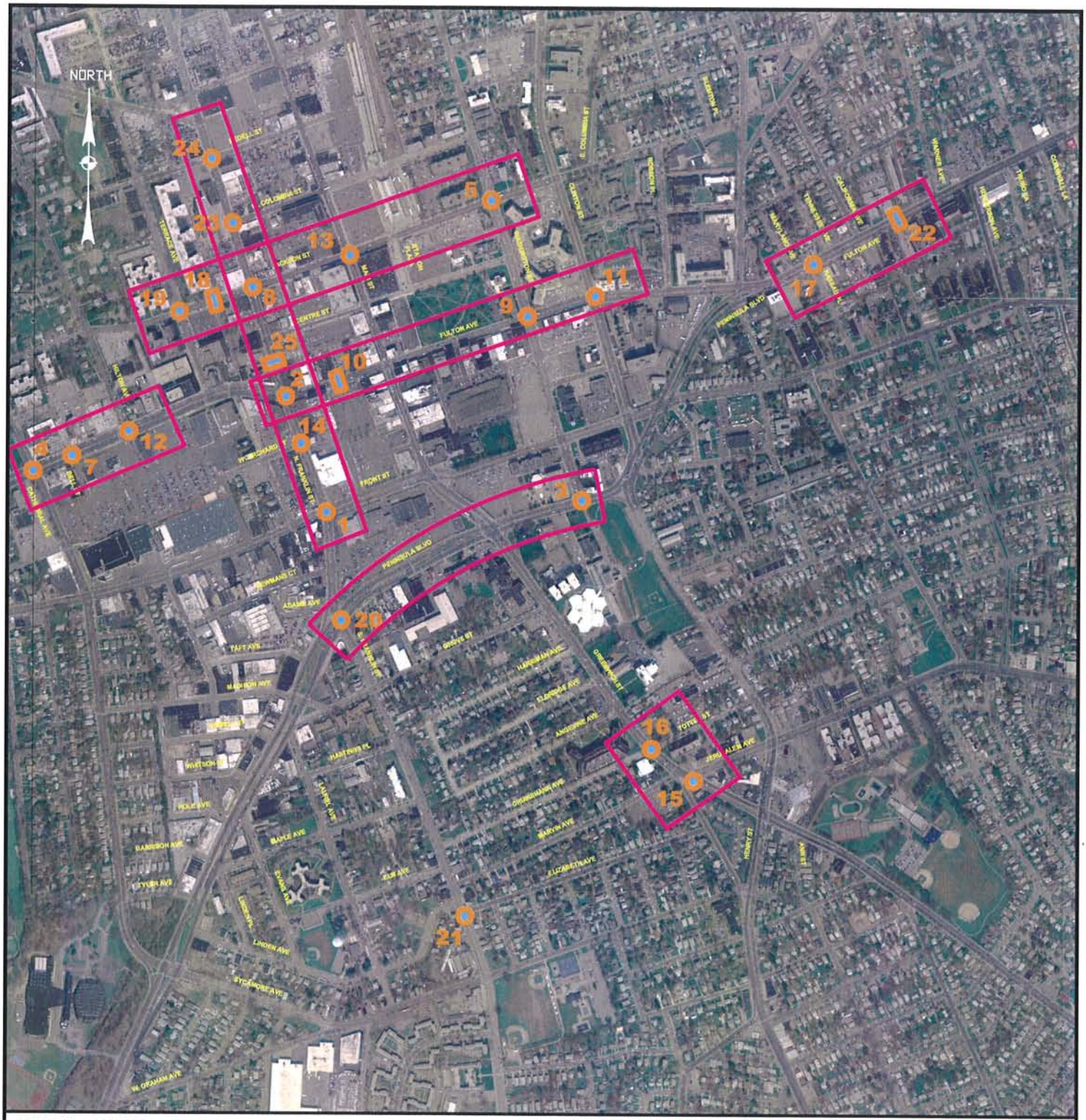
| ROADWAY | AREA | FROM | TO |
|---|---|---|---|
| BABYLON TURNPIKE | ROOSEVELT | BENNETT AVE. | NASSAU RD. |
| NASSAU ROAD | ROOSEVELT | BABYLON TPKE. | W. GREENWICH AVE. |
| UNIONDALE AVENUE | UNIONDALE | NORRIS AVE. | CEDAR ST. |
| PENINSULA BOULEVARD | HEMPSTEAD | GRAHAM AVE. | S. FRANKLIN ST. |
| S. FRANKLIN STREET | HEMPSTEAD | MARTIN LUTHER KING DR. | PENINSULA BLVD. |
| GREENWICH STREET | HEMPSTEAD | MILBURN AVE. | BEDELL ST. |
| N. FRANKLIN STREET | HEMPSTEAD | FRONT ST. | MEADOW ST. |
| JACKSON STREET | HEMPSTEAD | HILTON AVE. | BLEMTON PL. |
| FULTON AVENUE | HEMPSTEAD | PENINSULA BLVD. | CORNWALL LA. |

Accident data over a four-year period received from Nassau County Traffic Safety Board and the Village of Hempstead was reviewed in order to provide a list of the 25 highest pedestrian accident locations. Applying the criteria of a minimum of four accidents per year, 26 locations were identified. Once this list was compiled, the MV-104 forms were utilized to provide detailed information for each accident, as well as to establish trends in various categories including: traffic control type; roadway characteristics; pedestrian location and action; roadway, weather and light conditions; and apparent contributing factors.

Each of the 26 locations was then inventoried in the field, in order to determine existing conditions, such as: signal layout, timing and equipment condition; pavement marking condition; signing; parking regulations; adjacent land use and pedestrian generators. Observations were also performed in order to determine trends in pedestrian actions in roadway and crossing usage. Field visits were performed by experienced traffic engineering personnel, during the hours when the largest percentage of accidents had occurred at each location. A list of the field visits for each of the highest accident locations, including dates, time of day, and weather conditions, is included in the Appendix at the end of this report.

After all data was tabulated and field observations were performed, each individual location was scrutinized in order to determine potential recommendations. A list of potential recommendations was then compiled for both individual locations and the study area overall.

GIS based mapping was developed to identify each of the 26 highest accident locations, as well as the location of individual pedestrian accidents at each location. These maps are included within the Appendix at the end of this report.




FULTON AVENUE, GREENWICH STREET, JACKSON STREET, N. FRANKLIN STREET, S. FRANKLIN STREET AND PENINSULA BOULEVARD
HEMPSTEAD, NY

LEGEND

XX – INTERSECTION LOCATION AND NUMBER

XX – MID–BLOCK LOCATION AND NUMBER

– ROADWAY CORRIDOR

LKMA

NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

HIGHEST PEDESTRIAN
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: NOVEMBER 2007 | 1 of 2 |
| Approved By: | RGD | File No. 06012.000 | |


UNIONDALE AVENUE
UNIONDALE, NY

NASSAU ROAD, BABYLON TURNPIKE
ROOSEVELT, NY

LEGEND

XX – INTERSECTION LOCATION AND NUMBER

XX – MID-BLOCK LOCATION AND NUMBER

– ROADWAY CORRIDOR

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# NASSAU COUNTY PEDESTRIAN STUDY

## 26 HIGHEST ACCIDENT LOCATIONS
## 2001 - 2005

| Location # | Arterial | Secondary Street | Pedestrian Accidents | Fatalities |
|---|---|---|---|---|
| 1 | Franklin St. | Front St. | 14 | 1 |
| 2 | N. Franklin St. | Fulton Ave. | 10 | 1 |
| 3 | Peninsula Blvd. | Washington St. | 8 | 1 |
| 4 | Fulton Ave. | Cathedral Ave. | 7 | 1 |
| 5 | Jackson St. | Washington St. | 6 | 1 |
| 6 | Nassau Rd. | Woods Ave. | 6 | 1 |
| 7 | Fulton Ave. | Bell St. | 4 | 1 |
| 8 | N. Franklin St. | Jackson St. | 10 | - |
| 9 | Fulton Ave. | Washington St. | 10 | - |
| 10 | Fulton Ave. | between N. Franklin St. and Main St. | 8 | - |
| 11 | Fulton Ave. | Clinton St. | 8 | - |
| 12 | Fulton Ave. | Hilton Ave. | 7 | - |
| 13 | Jackson St. | Main St. | 6 | - |
| 14 | N. Franklin St. | W. Orchard St. | 6 | - |
| 15 | Greenwich St. | Jerusalem Ave. | 5 | - |
| 16 | Greenwich St. | Cruikshank Ave. | 5 | - |
| 17 | Fulton Ave. | Nassau Pl. | 5 | - |
| 18 | Jackson St. | between Terrace Ave. and N. Franklin St. | 5 | - |
| 19 | Jackson St. | Terrace Ave. | 4 | - |
| 20 | Peninsula Blvd. | S. Franklin St. | 4 | - |
| 21 | S. Franklin St. | Elizabeth Ave. | 4 | - |
| 22 | Fulton Ave. | between California Ave. and Warner Ave. | 4 | - |
| 23 | N. Franklin St. | W. Columbia St. | 4 | - |
| 24 | N. Franklin St. | Bedell St. | 4 | - |
| 25 | N. Franklin St. | between Centre St. and Fulton Ave. | 4 | - |
| 26 | Nassau Rd. | Lakewood Ave. | 4 | - |

**TOTAL PEDESTRIAN ACCIDENTS** 162

**TOTAL FATALITIES** 7

## Findings

Our findings are based on accident data reviewed and compiled to obtain the highest accident locations within the given roadway segments, and the subsequent field observations at each location.

While the bulk of information reviewed for this study was within the limits of the study area, accident information for several additional locations was included within the data received from Nassau County. This information was also analyzed and compared with data from locations within the study area. Due to a high incidence of pedestrian accidents at these locations, as well as the occurrence of several fatalities, these segments were added to the list of locations within the specified study area. Most of these locations fell within the central business district of Hempstead along Fulton Avenue and Franklin Street.

Although two intersections along Nassau Road in Roosevelt were included within this list, field observations found that the roadway segment had recently been improved under the Roosevelt Downtown Revitalization Project, which included traffic calming features to aid pedestrian travel. These features include the use of raised curb medians, brick crosswalks, curb bulbouts, and pedestrian signals and pushbuttons.

While the roadway segments along Babylon Turnpike and Uniondale Avenue were analyzed to determine the total number of pedestrian related accidents within the studied period, neither road had an occurrence of accidents meeting the criteria for inclusion on the list of the 26 highest accident locations.

We observed numerous incidents of dangerous disregard by pedestrians as to where and when to safely cross the street throughout the study area. Pedestrians routinely attempted mid-block crossings without looking both ways for oncoming traffic. Mid-block crossings occurred frequently along Fulton Avenue, Franklin Street and Jackson Street. The intersection of Jackson Street and Main Street in particular was a location of concern, due to the existence of the transportation hub at the northeast corner of the intersection.

The failure to yield the right of way to pedestrians when making turns at intersections was also a concern at several locations. The intersection of Fulton Avenue at Clinton Street is of notable interest, due to the limited sight distance of the westbound traffic caused by the curvature of Fulton Avenue to the east of the intersection.

The following is a summary of the key traffic accident data.

Key Data:

Contributing Factors

- 40% of the accidents were the result of pedestrian error
- 24.5% of the accidents were the result of drivers' failure to yield the right of way
- 6.5% of the accidents involved pedestrian alcohol usage
- 9% of the accident had unknown results
- 20% of the accidents resulted from miscellaneous factors

Pedestrian Age

- In terms of 10-year pedestrian age groups, the 30-39 year group had the highest percentage of involvement, followed closely by the 20-29 year group, then by the 40-49 and 10-19 groups.

Accident Occurrence

- 35% of the accidents occurred while crossing with no signal or crosswalk
- 31% of the accidents occurred while crossing with signal
- 21% of the accidents occurred while crossing against signal
- 63% of the accidents occurred at locations with a traffic signal
- 35% of the accidents occurred at locations with no traffic control
- 96% of the accidents occurred at roadways with a straight and level profile
- 80% of the accidents occurred with dry pavement conditions
- 58% of the accidents occurred under clear weather conditions
- 52% of the accidents occurred during daylight hours
- 41% of the accidents occurred at night on illuminated roads
- 35% of the accidents occurred during the winter months
- 20% of the accidents occurred on a Friday

Graphs and tables of our findings follow.

# L.K. McLEAN ASSOCIATES, P.C.

NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
NASSAU COUNTY, NEW YORK
ACCIDENTS FROM JANUARY 2001 THROUGH DECEMBER 2005 AT STUDY LOCATIONS
PROJECT NO.: 06012
TOTAL NUMBER OF ACCIDENTS: 162

| ACCIDENT DISTRIBUTION | | |
|---|---|---|
| YEAR | TOTAL | % |
| 2001 | 31 | 19% |
| 2002 | 34 | 21% |
| 2003 | 28 | 17% |
| 2004 | 39 | 24% |
| 2005 | 30 | 19% |

| DAY OF THE WEEK | | |
|---|---|---|
| DAY | TOTAL | % |
| Sunday | 10 | 6% |
| Monday | 26 | 16% |
| Tuesday | 22 | 14% |
| Wednesday | 26 | 16% |
| Thursday | 20 | 12% |
| Friday | 32 | 20% |
| Saturday | 26 | 16% |

| TIME OF YEAR | | |
|---|---|---|
| SEASON | TOTAL | % |
| Spring | 36 | 22.2% |
| Summer | 35 | 21.6% |
| Fall | 35 | 21.6% |
| Winter | 56 | 34.6% |

| ROADWAY CONDITIONS | | |
|---|---|---|
| TYPE | TOTAL | % |
| Dry | 130 | 80% |
| Wet | 28 | 17% |
| Snow/Ice | 2 | 1% |
| Slush | 1 | 1% |
| Unknown | 1 | 1% |

| WEATHER | | |
|---|---|---|
| TYPE | TOTAL | % |
| Clear | 94 | 58% |
| Cloudy | 44 | 27% |
| Rain | 20 | 12% |
| Snow | 2 | 1% |
| Fog/Smog/Smoke | 1 | 1% |
| Unknown | 1 | 1% |

| LIGHT CONDITIONS | | |
|---|---|---|
| TYPE | TOTAL | % |
| Daylight | 84 | 51.9% |
| Dark - Road Lighted | 66 | 40.7% |
| Dusk | 6 | 3.7% |
| Dark - Road Unlighted | 3 | 1.9% |
| Unknown | 3 | 1.9% |

| ACCIDENT SEVERITY | | |
|---|---|---|
| TYPE | TOTAL | % |
| Injury | 155 | 96% |
| Fatal | 7 | 4% |

| NUMBER OF VEHICLES | | |
|---|---|---|
| # | TOTAL | % |
| 1 Vehicle | 158 | 98% |
| 2 Vehicles | 4 | 2% |

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NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
NASSAU COUNTY, NEW YORK
ACCIDENTS FROM JANUARY 2001 THROUGH DECEMBER 2005 AT STUDY LOCATIONS
PROJECT NO.: 06012
TOTAL NUMBER OF ACCIDENTS: 162

| LOCATION | | |
|---|---|---|
| **TYPE** | **TOTAL** | **%** |
| On Roadway | 158 | 98% |
| Off Roadway | 4 | 2% |

| TRAFFIC CONTROL | | |
|---|---|---|
| **TYPE** | **TOTAL** | **%** |
| Traffic Signal | 102 | 63.0% |
| None | 56 | 34.6% |
| Stop Sign | 2 | 1.2% |
| Stopped School Bus-Flashing Lights | 1 | 0.6% |
| Unknown | 1 | 0.6% |

| PEDESTRIAN AGE | | |
|---|---|---|
| **AGE GROUP** | **TOTAL** | **%** |
| 0 - 9 yrs | 11 | 6% |
| 10 - 19 yrs | 25 | 15% |
| 20 - 29 yrs | 34 | 20% |
| 30 - 39 yrs | 39 | 23% |
| 40 - 49 yrs | 24 | 14% |
| 50 - 59 yrs | 14 | 8% |
| 60 - 69 yrs | 17 | 10% |
| 70 - 79 yrs | 3 | 2% |
| 80 - 89 yrs | 2 | 1% |
| 90 - 99 yrs | 1 | 1% |
| Unknown | 2 | 1% |

| PEDESTRIAN LOCATION | | |
|---|---|---|
| **TYPE** | **TOTAL** | **%** |
| At Intersection | 87 | 54% |
| Not At Intersection | 72 | 44% |
| Unknown | 3 | 2% |

| ROADWAY CHARACTERISTICS | | |
|---|---|---|
| **TYPE** | **TOTAL** | **%** |
| Straight and Level | 156 | 96% |
| Straight and Grade | 3 | 2% |
| Curve and Level | 2 | 1% |
| Unknown | 1 | 1% |

| PEDESTRIAN ACTION | | |
|---|---|---|
| **TYPE** | **TOTAL** | **%** |
| Crossing, No Signal or Crosswalk | 57 | 35% |
| Crossing With Signal | 50 | 31% |
| Crossing Against Signal | 34 | 21% |
| Other Actions In Roadway | 5 | 3% |
| Emerging From In Front of Parked Vehicle | 4 | 2% |
| Unknown | 3 | 2% |
| Walking Along Highway With Traffic | 2 | 1% |
| Working In Roadway | 2 | 1% |
| Not In Roadway | 2 | 1% |
| Crossing, No Signal, Marked Crosswalk | 1 | 1% |
| Playing In Roadway | 1 | 1% |
| Getting On/Off Vehicle Other Than School Bus | 1 | 1% |

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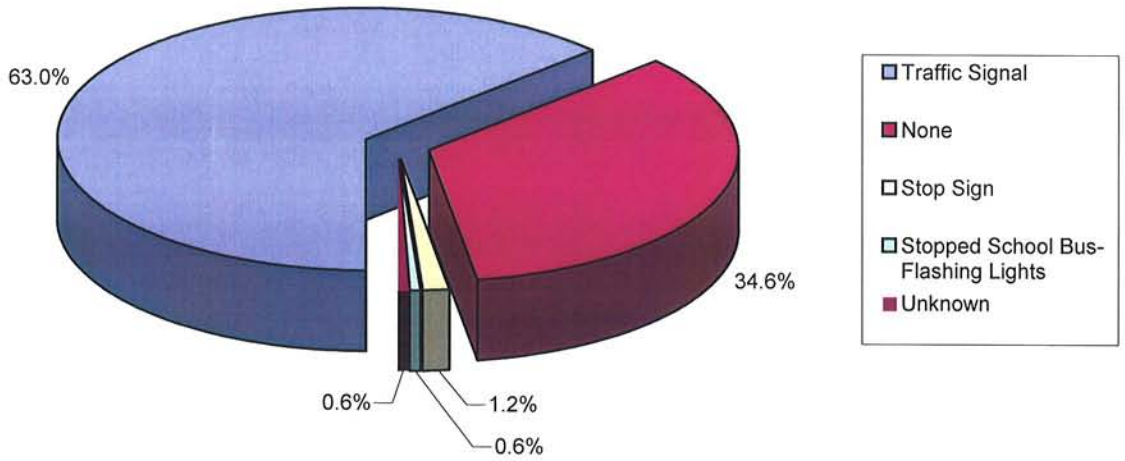
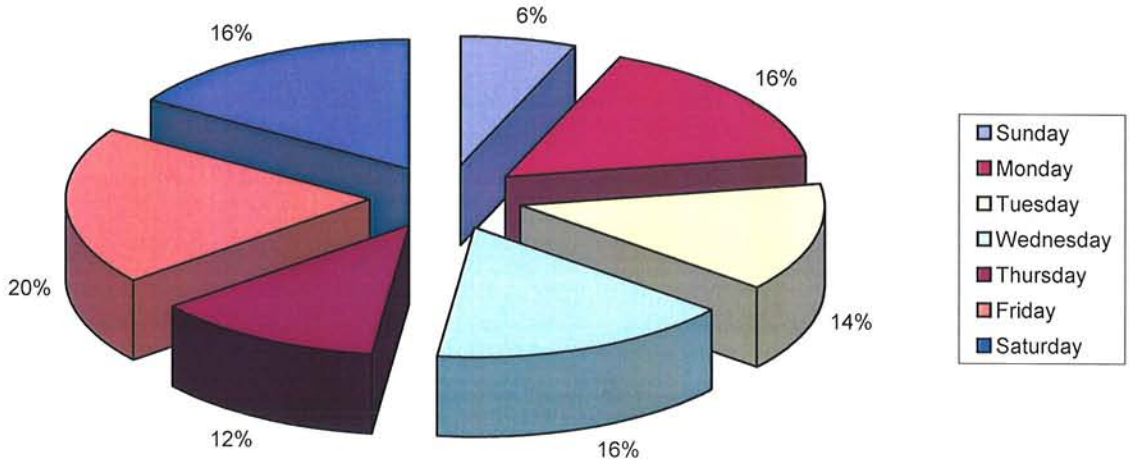
NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
NASSAU COUNTY, NEW YORK
ACCIDENTS FROM JANUARY 2001 THROUGH DECEMBER 2005 AT STUDY LOCATIONS
PROJECT NO.: 06012
TOTAL NUMBER OF ACCIDENTS: 162

| APPARENT FACTORS | | |
|---|---|---|
| **TYPE** | **TOTAL** | **%** |
| Pedestrian Error | 80 | 40.0% |
| Failure to Yield Right-of-Way | 49 | 24.5% |
| Unknown | 18 | 9.0% |
| Pedestrian Alcohol Involvement | 13 | 6.5% |
| Backing Unsafely | 5 | 2.5% |
| Traffic Control Disregarded (Driver or Pedestrian) | 5 | 2.5% |
| Driver Inattention | 5 | 2.5% |
| Glare | 5 | 2.5% |
| Unsafe Speed | 4 | 2.0% |
| Driver Inexperience | 4 | 2.0% |
| Pavement Slippery | 4 | 2.0% |
| Unsafe Lane Changing | 2 | 1.0% |
| View Obstructed / Limited | 2 | 1.0% |
| Passing / Lane Usage Improper | 1 | 0.5% |
| Turning Improper | 1 | 0.5% |
| Failure to Keep Right | 1 | 0.5% |
| Aggressive Driving / Road Rage | 1 | 0.5% |

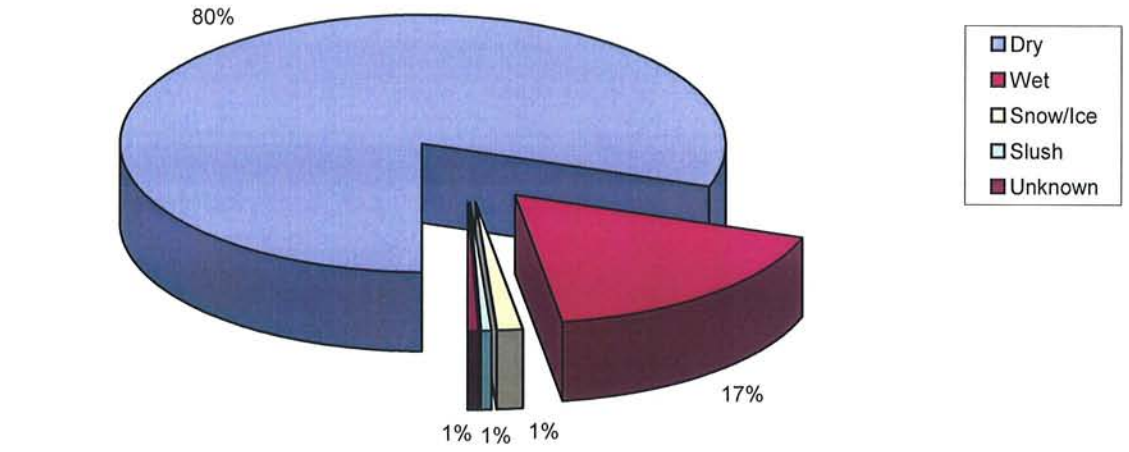
## TRAFFIC CONTROL



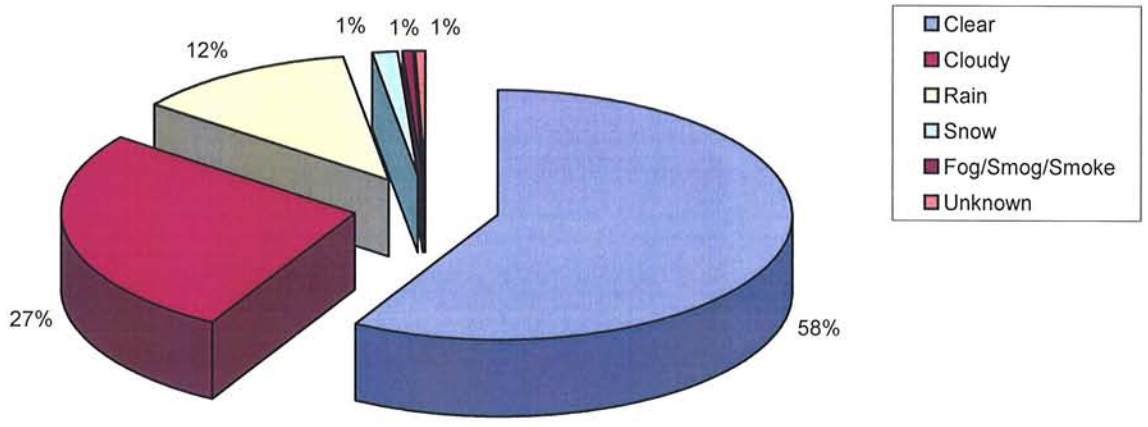

## DAY OF THE WEEK



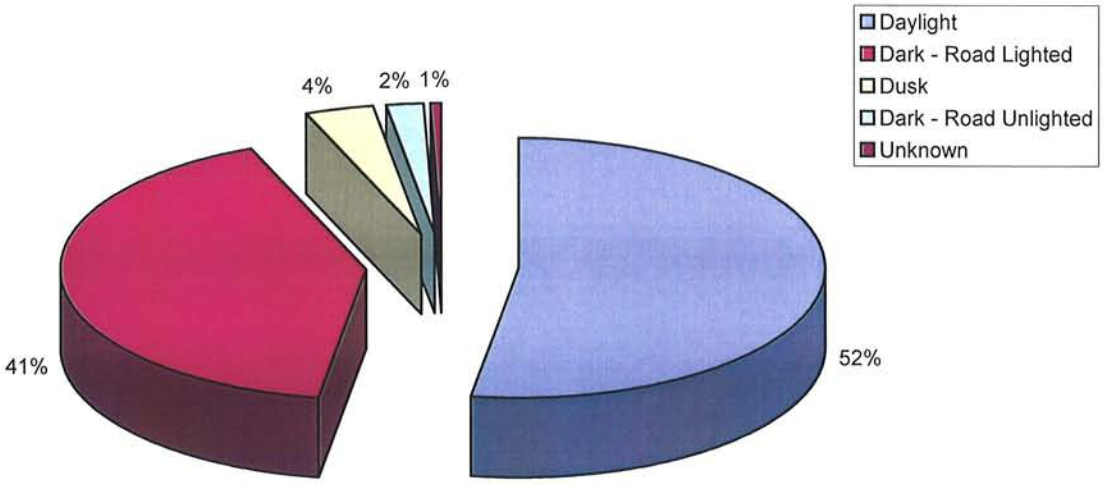
## ROADWAY CONDITIONS



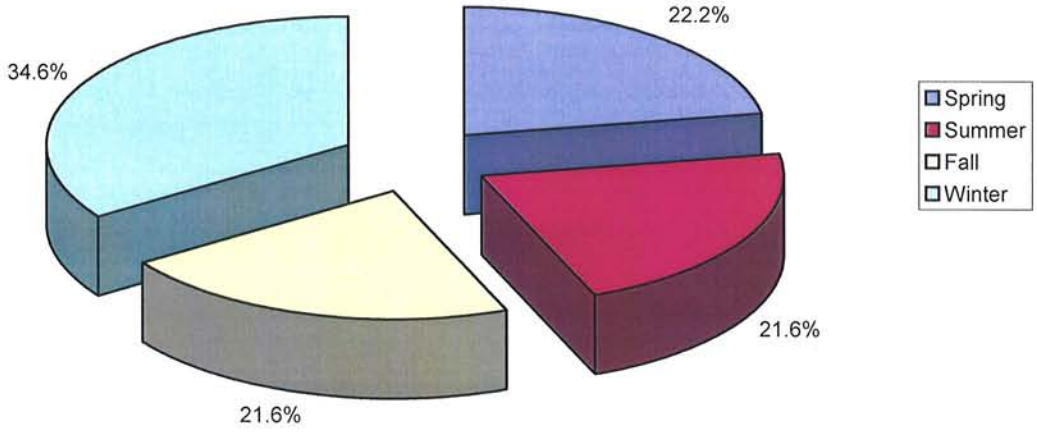

## WEATHER



## LIGHT CONDITIONS




## TIME OF YEAR



## General Findings

- The rate of pedestrian fault is 40%.
- Our field personnel observed numerous pedestrians making unsafe crossings at several locations within the study, both at intersections and mid-block locations.
- A significant percentage (21%) of accidents involved pedestrians crossing against a signal.
- A significant percentage (35%) of accidents occurred while a pedestrian was crossing with no signal or crosswalk.

These key findings suggest that instruction in pedestrian safety, as well as additional police enforcement, can be effective in reducing the number of pedestrian accidents at the highest accident locations.

## Site-Specific Findings

Based on a review of traffic accident data and follow-up field observations, recommendations for specific improvements at each of the 26 highest accident locations were developed. Typical recommendations include consideration of: pedestrian crossing and advanced warning signs; new pedestrian signals; reviewing the existing pedestrian crossing timing; and additional crosswalks.

## Corridor-Specific Findings

Recommendations were also based on a review of traffic accident data and follow-up field observations for specific improvements on the corridor level. Typical recommendations for each identified corridor include consideration of: advanced walk intervals; audible pedestrian signals; countdown pedestrian signals; and other traffic calming measures.

## Recommendations

### Overall Study Area

Based on both the number of pedestrian accidents, as well as observations of pedestrian actions at the study locations, it is clear that improved pedestrian safety instruction is required. With improved education of both the pedestrian and the driver, combined with proper enforcement of pedestrian and vehicular laws, the number of pedestrian accidents and fatalities can be reduced.

*It should be noted that our field observations, although made by traffic engineers, did not include data collection and analysis (e.g. pedestrian or vehicular volumes). Many of the recommendations (e.g. installation of pedestrian signals) can be considered as potential improvements, since further study will be needed to determine if they are appropriate. However, as discussed in the Study section of this report, pedestrian signal timing was checked to ensure that the signal was operating at its intended phasing, and that the proper amount of time was incorporated into the timing plan at each location.*

<u>Pedestrian Signal and Phasing Upgrades</u>

Advanced Walk Interval

- A program that provides advance time to permit pedestrians to cross at intersections without the interference of vehicular movements
- Alleviates difficulty of crossing intersections where turning volumes are high
- Should be considered at locations with high vehicular and pedestrian volumes on both the arterial roadway and cross streets, specifically along the corridors of Fulton Avenue, Peninsula Boulevard and Franklin Street

Countdown Pedestrian Signals

- Utilization of display for pedestrian signals which counts down the time remaining to the onset of the steady "Don't Walk" interval
- Further clarifies the meaning of the "Flashing Don't Walk" interval
- Installation at several, if not all, locations within study would be beneficial in order to foster safer crossing measures by allowing pedestrians to make better decisions of when to start, and how quickly to finish, crossing at intersections

Audible Signals

- Pedestrian signals that provide a range of audible sounds to define safe crossing opportunities for north-south and east-west crossings
- Programmable sounds include the use of chirps and cuckoos, or voice recorded messages identifying the name of the street that currently has an active "WALK" signal
- Enhances crossing safety for the sight impaired and elderly, in addition to alerting all pedestrians to changes in signal phasing
- Allows pedestrians to focus on vehicles within intersections while listening to the appropriate signals

- Potential locations for the use of audible pedestrian signals are the intersections of Fulton Avenue at Main Street and Washington Street, in the vicinity of the Helen Keller Braille Library; the intersections of Fulton Avenue at Hilton Avenue and N. Franklin Street in the vicinity of the New York State Commission for the Blind & Visually Handicapped; and Peninsula Boulevard at Washington Street in the vicinity of Alverta B. Gray Middle School and Hempstead Town Hall

In addition to being utilized as a stand-alone measure each of the above methods can be used in conjunction to provide even safer methods for pedestrian travel at intersections.

**Pedestrian Signing Details**

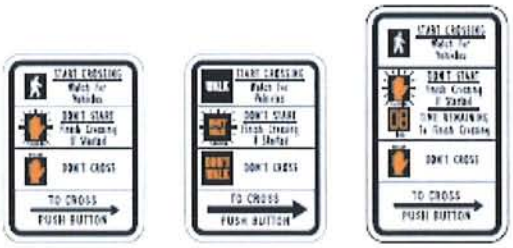
As per the National Manual on Uniform Traffic Control Devices (MUTCD), pedestrian crossing signs may be used to limit pedestrian crossing to specific locations. Where crosswalks are clearly defined, the Cross Only At Crosswalks (R9-2) sign may be used to discourage jaywalking or unauthorized crossing. The No Pedestrian Crossing (R9-3a) sign may be used to prohibit pedestrians from crossing a roadway at an undesirable location, or in front of a school or other public building where a crossing is not designated. The No Pedestrian Crossing (R9-3) word message sign may be used as an alternate to the R9-3a symbol sign. The Use Crosswalk (R9-3b) supplemental plaque, along with an arrow, may be installed below either sign to designate the direction of crossing.

Below each of the above signs are depicted as shown in the MUTCD:

R9-3b R9-2 R9-3 R9-3a

To supplement traffic signal control, educational signs can be used to improve pedestrian understanding of pedestrian indications. These signs are mounted immediately above, or incorporated in, pedestrian pushbutton units. Educational sign R10-3b utilizes a description of each symbol during the pedestrian phase. Where word-type pedestrian signal indications are present, sign R10-2c will be used denoting the meaning of the WALK/DON'T WALK indications. Educational sign R10-3e can be used in conjunction with countdown pedestrian signals to explain the meaning of both the symbols and time depicted on the pedestrian signal.

Below is a representation of educational signs as shown in the MUTCD:



R10-3b R10-3c R10-3e

**Pavement Markings**

As a general recommendation, pavement markings including stop lines, crosswalks and parking markings should be considered for replacement or improvement where worn or faded to clearly distinguish crossing areas and roadway measures for both pedestrians and drivers alike. Usually, this is a maintenance function.

**"No Turn on Red" Signing**

At some locations listed under the Site Specific Recommendations, "No Turn on Red" signing is mentioned as a consideration. This recommendation is to facilitate safe traffic/pedestrian flow at that specific location.

## Site Specific Recommendations

1. Franklin Street at Front Street
   - Consider installation of "No Turn On Red" signs on approaches
   - Consider installation of advanced walk interval and countdown pedestrian signals on the Franklin Street north-south movement

2. N. Franklin Street at Fulton Avenue
   - Due to the size and configuration of intersection, as well as the high volume of vehicular traffic, consider installation of advanced walk interval and/or countdown pedestrian signals
     - Audible pedestrian signals would be of particular benefit due to the intersection being in the vicinity of the New York State Commission for the Blind & Visually Handicapped
   - Consider installation of educational signing at all pushbutton locations

3. Peninsula Boulevard at Washington Street--Location of Alverta B. Gray Schultz Middle School and Hempstead Town Hall
   - Consider installation of crosswalk across Washington Street to delineate east-west movement
   - Adjust pedestrian timing to account for platoons prior to and after school session
     - Students travel in groups of approximately 2 to 12
   - Consider installation of School Crossing pavement markings on Peninsula Boulevard
   - Consider installation of advanced walk interval, audible pedestrian signals and countdown pedestrian signals
   - Due to curvature of Peninsula Boulevard east of intersection, install additional advanced warning signs noting existence of school crossing

4. Fulton Avenue at Cathedral Avenue
   - Due to the high volume of traffic on Fulton Avenue, consider installation of advanced walk interval, audible pedestrian signals and countdown pedestrian signals

5. Jackson Street at Washington Street--in the vicinity of Hempstead Public Library and local park
   - Consider installation of additional pedestrian signals on east-west movement of Jackson Street
   - Consider installation of No Turn On Red signs to restrict right turns from Jackson Street onto Washington Street
   - Increase pedestrian timing to allow for longer pedestrian cycle
     - Current timing set at 8 seconds of walk time, 12 seconds of clearance
     - Calculations performed show a need of minimum of 21 seconds of total crossing time, based on walking speed of 3.5 ft/second and 2.0 seconds of start time as denoted in the NYS Supplement of the National MUTCD

6. Nassau Road at Woods Avenue
   - Although intersection was recently improved under the Roosevelt Downtown Revitalization Project, there is a concern for pedestrians who do not utilize the crosswalk and existing pedestrian signals
     - Consider installation of Cross Only At Crosswalk signs
   - Intersection should be considered for future study to ascertain effect of traffic calming measures incorporated in the summer of 2005

7. Fulton Avenue at Bell Street
   - Location is of particular concern due to the intersection being a T-intersection on Fulton Avenue in a busy shopping district, with a right turn only restriction forcing vehicles from Bell Street eastbound onto Fulton Avenue
   - Consider installation of No Pedestrian Crossing or Cross Only At Crosswalks signs to alert pedestrians to cross only at the adjacent intersections of Fulton Avenue at Cathedral Avenue and Hilton Avenue

8. N. Franklin Street at Jackson Street
   - Consider usage of parking restrictions on Jackson Street at immediate intersection to allow for proper sight distance for both pedestrian and vehicular traffic
   - Consider No Turn On Red signs on approaches to remove conflicts with pedestrian movement

9. Fulton Avenue at Washington Street
   - Install pedestrian signals on all approaches
     - Current configuration includes pedestrian pushbuttons without signals
     - Observations indicate pedestrian flow from Alverta B. Gray Schultz Middle School continues north on Washington Street from Peninsula Boulevard intersection

   - Consider installation of audible pedestrian signals
     - Beneficial to pedestrian flow from Alverta B. Gray Schultz Middle School
     - Location is in vicinity of the Helen Keller Braille Library

10. Fulton Avenue between N. Franklin Street and Main Street
    - Consider installation of No Pedestrian Crossing or Cross Only At Crosswalks signs to alert pedestrians to cross only at the adjacent intersections of Fulton Avenue at N. Franklin Street and Main Street
    - Due to the existence of several large parking lots in the vicinity, consider the installation of a mid-block crosswalk, signal and appropriate signing

11. Fulton Avenue at Clinton Street
    - Consider relocation of pedestrian signals and pushbuttons closer to existing crosswalks and handicap ramps
    - Due to the high volume of traffic on Fulton Avenue, consider installation of advanced walk interval, audible pedestrian signals and countdown pedestrian signals

12. Fulton Avenue at Hilton Avenue
    - Consider installation of "No Turn On Red" signs for southbound traffic
        - Southbound right turn on red movement conflicts with pedestrian phase
        - If Hilton Avenue volume does not create too large a queue
    - Due to the high volume of traffic on Fulton Avenue, consider installation of advanced walk interval, audible pedestrian signals and countdown pedestrian signals
        - Audible pedestrian signals would be of particular benefit due to the intersection being in the vicinity of the New York State Commission for the Blind & Visually Handicapped

13. Jackson Street at Main Street--Intersection is the location of the transportation hub and County court house
    - Consider installation of Cross Only At Crosswalk signs to alert pedestrians to cross at the marked crosswalks at the intersection rather than mid-block
        - Observations noted that a high number of pedestrians cross outside the marked crosswalks

14. N. Franklin Street at W. Orchard Street--Unsignalized T-shaped intersection
    - Consider installation of No Pedestrian Crossing Signs to alert pedestrians to cross only at the marked crosswalks at the intersections of N. Franklin Street at Fulton Avenue and Front Street
    - Conduct Traffic Signal Warrant Study

15. Greenwich Street at Jerusalem Avenue--Intersection is in close proximity to Marvin Avenue
    - Review/Redesign Existing Signal Layout
        - The only east-west crosswalk on Greenwich Street is located north of Jerusalem Avenue at intersection with Marvin Avenue
        - Intersection can be reconfigured by changing marked right turn island to raised curb island
        - Crosswalk can then be placed at southern end of intersection across Greenwich Street, allowing pedestrians to cross safely in an effort to continue to Baldwin Road
        - Stop line can be moved further south to allow for placement of crosswalk while maintaining free flow right turn lane onto Jerusalem Avenue

16. Greenwich Street at Cruikshank Avenue—A bus stop is located at southwest corner of intersection
    - Consider installation of Cross Only At Crosswalk signs
        - Observations noted that several pedestrians cross outside of crosswalk in an effort to reach bus stop
    - Due to the curvature of Greenwich Street prior to intersection consider installation of improved advanced warning signs

17. Fulton Avenue at Nassau Place--T-shaped intersection along busy Fulton Avenue corridor
    - Consider installation of pedestrian signals for crosswalk across east-west movement
        - Current configuration includes crosswalk across Fulton Avenue without pedestrian signals
    - Due to the high volume of traffic on Fulton Avenue, consider installation of advanced walk interval, audible pedestrian signals and countdown pedestrian signals

18. Jackson Street between Terrace Avenue and N. Franklin Street
    - Consider installation of No Pedestrian Crossing Signs to alert pedestrians to cross only at the marked crosswalks at the intersections of Jackson Street at N. Franklin Street and Terrace Avenue

19. Jackson Street at Terrace Avenue-- Intersection is located in residential area with several large apartment complex one block west of N. Franklin Street corridor
    - Consider installation of pedestrian signals and pushbuttons on all four corners of intersection
    - Consider installation of new crosswalks on all four legs of intersection
        - Observations noted that crosswalks were severely faded, to the point that drivers may not be able to detect existence

20. Peninsula Boulevard at S. Franklin Street
    - Consider installation of handicap ramp on concrete median (eastern leg of intersection) to allow access for handicapped and elderly pedestrians
    - Consider installation of pedestrian signals and pushbutton on concrete median for stranded pedestrians
        - Only an auxiliary vehicular signal exists on concrete median
    - Increase pedestrian timing to allow for longer pedestrian cycle
        - Current timing set at 8 seconds of walk time, 14 seconds of clearance
        - Calculations performed show a need of minimum of 28 seconds of total crossing time, based on 3.5 ft/second and 2.0 seconds of start time as denoted in the NYS Supplement of the National MUTCD

21. S. Franklin Street at Elizabeth Avenue--Unsignalized intersection
    - Observations noted that pedestrians cross S. Franklin Street at varying locations in an effort to reach deli on west side of road
    - Consider installation of No Pedestrian Crossing signs to alert pedestrians to cross only at the marked crosswalks at the intersections of S. Franklin Street at Elm Avenue and Graham Avenue
    - Conduct Traffic Signal Warrant Study

22. Fulton Avenue between California Avenue and Warner Avenue
    - Consider installation of No Pedestrian Crossing or Cross Only At Crosswalks signs to alert pedestrians to cross only at the adjacent intersection of Fulton Avenue at Warner Avenue

23. N. Franklin Street at W. Columbia Street
    - Consider implementation of parking restrictions on western side of N. Franklin Street in the immediate vicinity of the crosswalks in an effort to increase sight distance and visibility for both pedestrians and motorists

24. N. Franklin Street at Bedell Street
    - Consider installation of pedestrian signals and pushbuttons on all four corners of intersection
    - Consider implementation of parking restrictions on all four corners of intersection in an effort to increase sight distance and visibility for both pedestrians and vehicular traffic

25. N. Franklin Street between Centre Street and Fulton Avenue
    - Consider installation of No Pedestrian Crossing signs in a effort to alert pedestrians to cross only at the marked crosswalks at the intersections of N. Franklin Street at Centre Street and Fulton Avenue

26. Nassau Road at Lakewood Avenue
    - Although intersection was recently improved under the Roosevelt Downtown Revitalization Project, there is a concern for pedestrians who do not utilize the crosswalk and existing pedestrian signals, particularly those who cross Nassau Road to reach bus stop on the southeast corner of the intersection
        - Consider installation of Cross Only At Crosswalk signs
    - Intersection should be considered for future study to ascertain effect of traffic calming measures incorporated in the summer of 2005

**Corridor Specific Recommendations**

While specific recommendations have been discussed for the 26 highest accident locations, some of these sites fall into common roadway corridors that have their own characteristics and considerations. The corridors and high accident locations within them are as follows:

- Fulton Avenue – This corridor has three separate segments as a result of differing roadway width, lane designation and surrounding land use. These three separate segments are:
    - Fulton Avenue (Cathedral Avenue to Hilton Avenue)
        - Cathedral Avenue
        - Bell Street
        - Hilton Avenue
    - Fulton Avenue (No. Franklin Street to Clinton Street)
        - N. Franklin Street
        - Between No. Franklin Street and Main Street
        - Washington Street
        - Clinton Street
    - Fulton Avenue (Nassau Place to Warner Avenue)
        - Nassau Place
        - Between California Avenue and Warner Avenue

- North Franklin Street (Bedell Street to Front Street)
    - Bedell Street
    - West Columbia Street
    - Jackson Street
    - Fulton Avenue
    - West Orchard Street
    - Front Street

- Peninsula Boulevard (So. Franklin Street to Washington Street)
    - South Franklin Street
    - Washington Street

- Greenwich Street (Peninsula Avenue to Jerusalem Avenue)
    - Cruikshank Avenue
    - Jerusalem Avenue

- Jackson Street (Terrace Avenue to Washington Street)
    - Terrace Avenue
    - Between Terrace Blvd. and North Franklin Street
    - North Franklin Street
    - Main Street
    - Washington Street

As most of these corridors have interconnected signal systems it is recommended that the advance walk interval in combination with the countdown pedestrian signals be added at each signalized intersection within the corridor.

The corridor of Nassau Boulevard in Roosevelt was improved in 2005 under the Roosevelt Downtown Revitalization Project with traffic calming features to aid pedestrian travel. Improvements included the use of raised curb medians, brick crosswalks, curb bulbouts and pedestrian signals and pushbuttons. The work performed under this project is a good example of what measures can be taken to improve pedestrian safety that serve as both a traffic calming measure and a beautification of the surrounding area, and should be considered for use along the corridors included within this study. Incorporating the use of advanced walk intervals and countdown pedestrian signals with these traffic calming measures would be a step further in improving the safety of pedestrian travel.

## Comparison with Similar Areas

It was intended to compare the results of this study with other recent studies of similar scope in similar communities in the New York State, specifically in the suburbs of New York City. It was suggested that Mount Vernon would be an area similar in population, size and demographics; however, a pedestrian safety study has not been conducted there. In fact, research failed to uncover any studies of similar scope in the New York City suburbs.

In the course of our investigation, however, the City of White Plains Department of Traffic alerted us to the existence of an American Automobile Association Pedestrian Safety Study, done as part of a Community Traffic Safety Program. White Plains is an urbanized area in Westchester County with significant pedestrian and vehicular volumes; therefore, physical conditions are similar to those encountered in this study. The population of White Plains is roughly equivalent to that of Hempstead Village.

The program included three before and after Pedestrian Safety Studies involving the installation of advance walk intervals, audible pedestrian signals and countdown pedestrian signals. A comparison was made between a five-year period before installation of the devices to a five-year period after installation.

### Advance Walk Interval

The program includes the use of Advance Walk time, usually in the order of 3 to 6 seconds, where no vehicle movements, turning or otherwise are permitted across crosswalks. This gives the pedestrian the opportunity to enter the intersection where turning volumes are high and simultaneous vehicle signal changes make it difficult for pedestrians to safely get started into the crosswalk. According to AAA this program has improved pedestrian safety considerably where used. In the White Plains study, accidents involving pedestrians decreased an average of 35% with the use of Advance Walk timing at the 22 locations in the study.

### Audible Pedestrian Signals

Audible signals provide sounds (chirps) or voice recorded messages to define safe crossing opportunities. They enhance safety for the sight impaired and elderly, and also alert all pedestrians to a change in signal phases. At the 26 intersections within the study where audible sound devices were installed pedestrian accidents were reduced by an average of 25%. It was noted by the AAA that the audible sounds work well with the advance walk timing.

### Countdown Pedestrian Signals

New countdown pedestrian units were installed at 21 locations in this phase of the study. This utilizes a display for pedestrians that counts down time remaining until the onset of the steady "DON'T WALK" interval. This provides for more efficient and safer use of available crosswalk time. Better decisions on both when to start crossing and how quickly to finish crossing are made by the pedestrians. Pedestrian accident reductions of 48% were achieved at the 21 intersections within this study phase.

### AAA Study Findings

The study found that the use of these measures, whether as a stand alone solution or in conjunction with each other, significantly improved pedestrian safety. As denoted by the percentages above, pedestrian accidents were reduced significantly at each location within the study. As illustrated by the AAA study, implementation of these measures on the various roadways in Nassau County reviewed for this study could be taken as a significant step toward improving pedestrian safety.

## Conclusions

While pedestrian injuries overall have been declining State-wide over the past few years, and pedestrian fatalities have remained about the same, pedestrian fatalities within Nassau County have been increasing. Approximately 18% of the County's pedestrian fatalities in 2005 occurred at locations studied in this report.

Detailed recommendations for both individual locations and roadway corridors are included within this study. At a minimum, advance walk interval and audible pedestrian signals should be installed where recommended as they have a proven track record of reducing pedestrian accidents and fatalities. Within the corridors discussed the recent improvement project on Nassau Road in Roosevelt should be taken as an example of what can be achieved with the proper traffic calming and pedestrian improvements.

A major recommendation for the study area is improved educational efforts. Community and neighborhood groups and the local schools should all be enlisted in a major pedestrian and driver educational campaign. In light of the fact that 36% of the pedestrian accidents involved unsignalized crossings and 21% involved crossing against

signals, the education effort should include the dangers associated with mid-block crossings and the need to observe signal indications. Prevention of just one pedestrian fatality would be a major benefit of such a program.

Most of the highest accident locations are located in Hempstead Village. While it is understood that the third graders in the Hempstead School District attend Safety Town, a continuing education in the proper use of the road and the dangers entailed when crossing the street, especially without traffic or pedestrian signals, would be of great benefit to the reduction of pedestrian accidents in the area and would encourage a new generation of safe, alert travelers. Since more than 40% of the accidents involved pedestrians between the ages of 20 and 40, "age-appropriate" repetition of the Safety Town curriculum for high school students should be considered. This instruction could benefit students whether they travel as pedestrians or new drivers as they encounter pedestrians on local roadways. Consideration should be given to expanding the educational effort to the neighboring communities of Uniondale and Roosevelt as it would be of great benefit to the safety of the local streets.

The recommended improvements to the existing intersections and roadway corridors included within this study, combined with improved education of both the pedestrian and driver and proper enforcement of pedestrian and vehicular laws can help improve pedestrian safety in the area and reduce the number of pedestrian accidents and fatalities.

# L.K. McLEAN ASSOCIATES, P.C.

NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
NASSAU COUNTY, NEW YORK
PROJECT NO.: 06012

MV-104A CODE KEY

| ROADWAY CONDITIONS | |
|---|---|
| **TYPE** | **MV-104A CODE** |
| Dry | 1 |
| Wet | 2 |
| Snow/Ice | 4 |
| Slush | 5 |

| LIGHT CONDITIONS | |
|---|---|
| **TYPE** | **MV-104A CODE** |
| Daylight | 1 |
| Dawn | 2 |
| Dusk | 3 |
| Dark - Road Lighted | 4 |
| Dark - Road Unlighted | 5 |

| WEATHER | |
|---|---|
| **TYPE** | **MV-104A CODE** |
| Clear | 1 |
| Cloudy | 2 |
| Rain | 3 |
| Snow | 4 |
| Fog/Smog/Smoke | 6 |

| ROADWAY CHARACTERISTICS | |
|---|---|
| **TYPE** | **MV-104A CODE** |
| Straight and Level | 1 |
| Straight and Grade | 2 |
| Curve and Level | 4 |

| PEDESTRIAN LOCATION | |
|---|---|
| **TYPE** | **MV-104A CODE** |
| At Intersection | 1 |
| Not At Intersection | 2 |

| TRAFFIC CONTROL | |
|---|---|
| **TYPE** | **MV-104A CODE** |
| None | 1 |
| Traffic Signal | 2 |
| Stop Sign | 3 |
| Stopped School Bus- Flashing Lights | 11 |

# L.K. McLEAN ASSOCIATES, P.C.

NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
NASSAU COUNTY, NEW YORK
PROJECT NO.: 06012

MV-104A CODE KEY

| PEDESTRIAN ACTION | |
|---|---|
| **TYPE** | **MV-104A CODE** |
| Crossing, With Signal | 1 |
| Crossing, Against Signal | 2 |
| Crossing, No Signal, Marked Crosswalk | 3 |
| Crossing, No Signal or Crosswalk | 4 |
| Walking Along Highway With Traffic | 5 |
| Emerging From In Front of/Behind Parked Vehicle | 7 |
| Working In Roadway | 11 |
| Playing In Roadway | 12 |
| Other Actions In Roadway | 13 |
| Not In Roadway | 14 |

| APPARENT FACTORS | |
|---|---|
| **TYPE** | **MV-104A CODE** |
| Alcohol Involvement | 2 |
| Backing Unsafely | 3 |
| Driver Inattention | 4 |
| Driver Inexperience | 5 |
| Failure to Yield Right-of-Way | 7 |
| Passing / Lane Usage Improper | 13 |
| Pedestrian Error / Confusion | 14 |
| Traffic Control Disregarded | 17 |
| Turning Improperly | 18 |
| Unsafe Speed | 19 |
| Unsafe Lane Changing | 20 |
| Failure to Keep Right | 27 |
| Aggressive Driving / Road Rage | 28 |
| Glare | 62 |
| Pavement Slippery | 66 |
| View Obstructed / Limited | 69 |

## TOTAL ACCIDENT DATA FOR NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
## 2001-2005

| Location # | Arterial | Secondary Street | Accident Number | Date | Day | Time (Military) | Traffic Control Type | Light Conditions | Roadway Characteristics | Roadway Conditions | Weather | Number of Vehicles | Injuries | Fatalities | Location On/Off Roadway | Contributing Factors | Pedestrian Location | Pedestrian Action | Pedestrian Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | FRANKLIN STREET | FRONT STREET | 1349-01 | 8/9/01 | THURSDAY | 12:17 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 2,14 | 2 | 4 | 24 |
| | | | 1386-02 | 8/7/02 | WEDNESDAY | 6:44 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14,62 | 1 | 2 | 28 |
| | | | 1519-02 | 8/30/02 | FRIDAY | 21:00 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 1 | 2 | 31 |
| | | | 1965-02 | 10/31/02 | THURSDAY | 15:15 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 12 | 12 |
| | | | 2302-02 | 12/17/02 | TUESDAY | 6:05 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 1 | 2 | 32 |
| | | | 2310-02 | 12/18/02 | WEDNESDAY | 0:03 | 2 | 4 | 1 | DRY | CLEAR | 1 | 0 | 1 | ON | 14,19 | 2 | 4 | 33 |
| | | | 106-03 | 1/21/03 | TUESDAY | 8:20 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 4,7 | 1 | 1 | 26 |
| | | | 114-03 | 1/22/03 | WEDNESDAY | 15:46 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14,69 | 2 | 4 | 37 |
| | | | 215-03 | 2/7/03 | FRIDAY | 17:45 | 2 | 4 | 1 | SLUSH | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 13 | 34 |
| | | | 310-04 | 2/26/04 | THURSDAY | 8:29 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 17 |
| | | | 882-04 | 5/28/04 | FRIDAY | 19:33 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 19 |
| | | | 1296-05 | 8/10/05 | WEDNESDAY | 13:12 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 21 |
| | | | 1736-05 | 10/23/05 | SUNDAY | 0:35 | 2 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 17,66 | 1 | 2 | 39 |
| | | | 2150-05 | 12/30/05 | FRIDAY | 18:00 | 1 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 2 | 54 |

See MV-104A Code Key on page 1 of Appendix for description of codes included in the table above.

## TOTAL ACCIDENT DATA FOR NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
## 2001-2005

| Location # | Arterial | Secondary Street | Accident Number | Date | Day | Time (Military) | Traffic Control Type | Light Conditions | Roadway Characteristics | Roadway Conditions | Weather | Number of Vehicles | Injuries | Fatalities | Location On/Off Roadway | Contributing Factors | Pedestrian Location | Pedestrian Action | Pedestrian Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | N. FRANKLIN STREET | FULTON AVENUE | 480-02 | 3/21/02 | THURSDAY | 1:12 | 1 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 1 | ON | 2,14 | 2 | 4 | 22 |
| | | | 1255-02 | 7/16/02 | TUESDAY | 23:40 | 1 | 4 | 1 | DRY | CLEAR | 1 | 2 | 0 | ON | 14 | 2 | 2 | 39 |
| | | | 2231-02 | 12/7/02 | SATURDAY | 14:36 | 2 | 1 | 1 | WET | CLOUDY | 1 | 1 | 0 | ON | 7 | 1 | 1 | - |
| | | | 175-03 | 2/2/03 | SUNDAY | 0:44 | 1 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 41 |
| | | | 907-04 | 6/2/04 | WEDNESDAY | 10:02 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 2 | 19 |
| | | | 1397-04 | 8/9/04 | MONDAY | 20:09 | 1 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 4 | 36 |
| | | | 2136-04 | 12/3/04 | FRIDAY | 18:04 | 1 | 3 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 7,14 | 2 | 11 | 30 |
| | | | 68-05 | 1/15/05 | SATURDAY | 22:27 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7,14 | 1 | 2 | 24 |
| | | | 1815-05 | 11/4/05 | FRIDAY | 13:26 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 5,7 | 1 | 1 | 21 |
| | | | 2044-05 | 12/12/05 | MONDAY | 18:04 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 17 | 1 | 1 | 45 |
| 3 | PENINSULA BOULEVARD | WASHINGTON STREET | 70-02 | 1/10/02 | THURSDAY | 7:07 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 45 |
| | | | 982-02 | 6/3/02 | MONDAY | 15:17 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | OFF | 7 | 2 | 14 | 14 |
| | | | 2057-02 | 11/12/02 | TUESDAY | 7:36 | 2 | 1 | 1 | WET | CLOUDY | 1 | 1 | 0 | ON | 7,17 | 1 | 1 | 13 |
| | | | 1832-03 | 10/18/03 | SATURDAY | 10:06 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 1 | 2 | 11 |
| | | | 2087-03 | 11/24/03 | MONDAY | 7:25 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 57 |
| | | | 678-04 | 4/27/04 | TUESDAY | 1:13 | 2 | 4 | 4 | WET | RAIN | 1 | 1 | 0 | ON | 14 | 1 | 13 | 85 |
| | | | 2292-04 | 12/22/04 | WEDNESDAY | 20:27 | 2 | 4 | 1 | WET | CLEAR | 1 | 1 | 1 | ON | 14 | 2 | 2 | 77 |
| | | | 15-05 | 1/3/05 | MONDAY | 15:00 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 3 | 1 | 1 | 40 |

See MV-104A Code Key on page 1 of Appendix for description of codes included in the table above.

## TOTAL ACCIDENT DATA FOR NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
## 2001-2005

| Location # | Arterial | Secondary Street | Accident Number | Date | Day | Time (Military) | Traffic Control Type | Light Conditions | Roadway Characteristics | Roadway Conditions | Weather | Number of Vehicles | Injuries | Fatalities | Location On/Off Roadway | Contributing Factors | Pedestrian Location | Pedestrian Action | Pedestrian Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | FULTON AVENUE | CATHEDRAL AVENUE | 111-01 | 1/16/01 | TUESDAY | 18:23 | 2 | 4 | 1 | DRY | CLOUDY | 2 | 0 | 1 | ON | 14 | 1 | 2 | 62 |
| | | | 905-01 | 5/25/01 | FRIDAY | 15:15 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 1 | 2 | 7 |
| | | | 979-02 | 6/2/02 | SUNDAY | 18:47 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 2 | 33 |
| | | | 1248-04 | 7/19/04 | MONDAY | 19:46 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 7 | 1 | 1 | 65 |
| | | | 1918-04 | 10/28/04 | THURSDAY | 17:27 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 18,62 | 1 | 1 | 47 |
| | | | 747-05 | 5/13/05 | FRIDAY | 10:16 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 20 |
| | | | 2153-05 | 12/31/05 | SATURDAY | 20:14 | 2 | 5 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 14 | 2 | 7 | 50 |
| 5 | JACKSON STREET | WASHINGTON STREET | 1544-02 | 9/2/02 | MONDAY | 21:11 | 2 | 4 | 1 | WET | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 2 | 25 |
| | | | 2177-02 | 11/29/02 | FRIDAY | 18:42 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 1 | ON | 14 | 1 | 2 | 24 |
| | | | 1738-02 | 10/3/03 | FRIDAY | 17:43 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 13 |
| | | | 581-04 | 4/12/04 | MONDAY | 19:50 | 2 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 69 | 1 | 1 | 61 |
| | | | 2000-04 | 11/12/04 | FRIDAY | 17:43 | 1 | 3 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 5,66 | 2 | 4 | 26 |
| | | | 1896-05 | 11/18/05 | FRIDAY | 15:31 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 2 | 18 |
| 6 | NASSAU ROAD | WOODS AVENUE | 93-01 | 1/6/01 | SATURDAY | 22:10 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 0 | 1 | ON | - | 1 | 2 | 50 |
| | | | 3657-01 | 11/4/01 | SUNDAY | 13:15 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | - | 1 | 1 | 65 |
| | | | 3743-01 | 11/10/01 | SATURDAY | 15:51 | 2 | 2 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | - | 1 | 1 | 65 |
| | | | 558-02 | 2/21/02 | THURSDAY | 20:00 | 1 | 4 | 1 | DRY | CLEAR | 1 | 2 | 0 | ON | - | 2 | 4 | 35,10 |
| | | | 872-02 | 3/17/02 | SUNDAY | 19:20 | 2 | 4 | 1 | DRY | CLEAR | 1 | 2 | 0 | ON | - | 1 | 2 | 35,18 |
| | | | 673-03 | 3/2/03 | SUNDAY | 1:25 | 2 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | - | 2 | 4 | 62 |
| 7 | FULTON AVENUE | BELL STREET | 999-02 | 6/5/02 | WEDNESDAY | 14:48 | 1 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 4 | 14 |
| | | | 1211-02 | 7/10/02 | WEDNESDAY | 21:57 | 1 | 4 | 1 | DRY | CLEAR | 1 | 1 | 1 | ON | 14,19 | 2 | 4 | - |
| | | | 2228-03 | 12/17/03 | WEDNESDAY | 17:34 | 1 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 14 | 1 | 4 | 53 |
| | | | 600-05 | 4/21/05 | THURSDAY | 11:29 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 30,1 |

See MV-104A Code Key on page 1 of Appendix for description of codes included in the table above.

## TOTAL ACCIDENT DATA FOR NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
## 2001-2005

| Location # | Arterial | Secondary Street | Accident Number | Date | Day | Time (Military) | Traffic Control Type | Light Conditions | Roadway Characteristics | Roadway Conditions | Weather | Number of Vehicles | Injuries | Fatalities | Location On/Off Roadway | Contributing Factors | Pedestrian Location | Pedestrian Action | Pedestrian Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | N. FRANKLIN STREET | JACKSON STREET | 69-01 | 1/10/01 | WEDNESDAY | 19:17 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 1 | 2 | 18 |
| | | | 1823-01 | 10/18/01 | THURSDAY | 18:43 | 2 | 5 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 26 |
| | | | 1841-02 | 10/14/02 | MONDAY | 17:14 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 36 |
| | | | 191-03 | 2/5/03 | WEDNESDAY | 15:13 | 2 | 1 | 1 | DRY | CLEAR | 1 | 2 | 0 | ON | 7 | 1 | 1 | 15 |
| | | | 398-03 | 3/11/03 | WEDNESDAY | 16:11 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 23 |
| | | | 579-04 | 4/12/04 | MONDAY | 15:28 | 2 | 1 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 14 | 1 | 3 | 25 |
| | | | 2037-04 | 11/18/04 | THURSDAY | 1:24 | 1 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 2,14 | 2 | 4 | 25 |
| | | | 2107-04 | 11/29/04 | MONDAY | 10:34 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 1 | 2 | 32 |
| | | | 2138-04 | 12/3/04 | FRIDAY | 20:15 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 2 | 59 |
| | | | 2182-04 | 12/8/04 | WEDNESDAY | 21:02 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 1 | 2 | 31 |
| 9 | FULTON AVENUE | WASHINGTON STREET | 2-01 | 1/1/01 | MONDAY | 3:47 | 1 | 4 | 1 | SNOW / ICE | CLOUDY | 1 | 1 | 0 | ON | 2,14 | - | 13 | 20 |
| | | | 2255-02 | 12/10/02 | TUESDAY | 15:06 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 15 |
| | | | 2258-02 | 12/10/02 | TUESDAY | 18:56 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 45 |
| | | | 9-03 | 1/2/03 | THURSDAY | 22:31 | 2 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | - | 1 | 1 | 30 |
| | | | 1316-03 | 7/30/03 | WEDNESDAY | 13:06 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 14 |
| | | | 49-04 | 1/12/04 | MONDAY | 17:48 | 2 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 7 | - | - | 48 |
| | | | 512-04 | 3/31/04 | WEDNESDAY | 19:26 | 2 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 7,66 | 1 | 1 | 47 |
| | | | 1417-04 | 8/12/04 | THURSDAY | 22:52 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 4,7 | 1 | 1 | 1 |
| | | | 1006-05 | 6/25/05 | SATURDAY | 16:48 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 32 |
| | | | 2014-05 | 12/6/05 | TUESDAY | 10:57 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 7 | 1 | 1 | 68 |

See MV-104A Code Key on page 1 of Appendix for description of codes included in the table above.

## TOTAL ACCIDENT DATA FOR NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
## 2001-2005

| Location # | Arterial | Secondary Street | Accident Number | Date | Day | Time (Military) | Traffic Control Type | Light Conditions | Roadway Characteristics | Roadway Conditions | Weather | Number of Vehicles | Injuries | Fatalities | Location On/Off Roadway | Contributing Factors | Pedestrian Location | Pedestrian Action | Pedestrian Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | FULTON AVENUE | BETWEEN N. FRANKLIN STREET AND MAIN STREET | 1607-01 | 9/15/01 | SATURDAY | 4:09 | 1 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 3 | 2 | 4 | 23 |
| | | | 1613-01 | 9/15/01 | SATURDAY | 16:42 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 6 |
| | | | 810-02 | 5/7/02 | TUESDAY | 9:57 | 1 | 1 | 1 | DRY | CLOUDY | 2 | 1 | 0 | ON | 14 | 2 | 4 | 31 |
| | | | 1729-02 | 9/28/02 | SATURDAY | 15:59 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 2,7 | 2 | 4 | 59 |
| | | | 1920-02 | 10/25/02 | FRIDAY | 18:39 | 1 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 4 | 30 |
| | | | 246-03 | 2/12/03 | WEDNESDAY | 12:32 | 1 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | - | 2 | 11 | 46 |
| | | | 1928-04 | 10/30/04 | SATURDAY | 3:30 | 1 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 2,14 | 2 | 4 | 39 |
| | | | 300-05 | 2/22/05 | TUESDAY | 10:58 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 37 |
| 11 | FULTON AVENUE | CLINTON STREET | 251-01 | 2/7/01 | WEDNESDAY | 13:29 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 27 |
| | | | 798-01 | 5/11/01 | FRIDAY | 14:53 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 4,14 | 2 | 4 | 35 |
| | | | 989-01 | 6/9/01 | SATURDAY | 17:07 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | OFF | 13,20 | 1 | 4 | 40 |
| | | | 73-04 | 1/16/04 | FRIDAY | 14:19 | 2 | 1 | 1 | SNOW / ICE | CLEAR | 1 | 1 | 0 | ON | 62,66 | 1 | 1 | 44 |
| | | | 732-04 | 5/5/04 | WEDNESDAY | 18:16 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 5,7 | 1 | 1 | 51 |
| | | | 2082-04 | 11/24/04 | WEDNESDAY | 10:40 | 2 | 1 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 4 | 1 | 1 | 43 |
| | | | 968-05 | 6/20/05 | MONDAY | 12:59 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 4 | 30 |
| | | | 1244-05 | 8/3/05 | WEDNESDAY | 14:16 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 4 | 18 |
| 12 | FULTON AVENUE | HILTON AVENUE | 502-01 | 3/22/01 | THURSDAY | 18:29 | 2 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 14 | 2 | 4 | 48 |
| | | | 578-02 | 4/5/02 | FRIDAY | 17:02 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 2 | 35 |
| | | | 2345-02 | 12/23/02 | MONDAY | 22:01 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 2 | 4 | 34 |
| | | | 1669-03 | 9/23/03 | TUESDAY | 21:42 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 61 |
| | | | 1736-03 | 10/3/03 | FRIDAY | 17:26 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 62 | 1 | 1 | 23 |
| | | | 666-04 | 4/24/04 | SATURDAY | 22:10 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 45 |
| | | | 649-05 | 4/28/05 | THURSDAY | 16:40 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 65 |

See MV-104A Code Key on page 1 of Appendix for description of codes included in the table above.

## TOTAL ACCIDENT DATA FOR NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
## 2001-2005

| Location # | Arterial | Secondary Street | Accident Number | Date | Day | Time (Military) | Traffic Control Type | Light Conditions | Roadway Characteristics | Roadway Conditions | Weather | Number of Vehicles | Injuries | Fatalities | Location On/Off Roadway | Contributing Factors | Pedestrian Location | Pedestrian Action | Pedestrian Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | JACKSON STREET | MAIN STREET | 670-01 | 4/17/01 | TUESDAY | 13:08 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 17 | 1 | 2 | 18 |
| | | | 1096-03 | 6/25/03 | WEDNESDAY | 11:23 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 3 | 2 | 4 | 63 |
| | | | 519-05 | 4/6/05 | WEDNESDAY | 10:40 | 2 | 1 | 1 | DRY | CLEAR | 1 | 2 | 0 | ON | 7 | 1 | 1 | 29,2 |
| | | | 1416-05 | 9/2/05 | FRIDAY | 16:21 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 21 |
| | | | 1520-05 | 9/21/05 | TUESDAY | 9:43 | - | - | - | - | - | 1 | 2 | - | ON | - | - | - | 22 |
| | | | 1943-05 | 11/26/05 | SATURDAY | 17:36 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | - | 1 | 1 | 44 |
| 14 | N. FRANKLIN STREET | W. ORCHARD STREET | 1186-01 | 7/9/01 | MONDAY | 17:40 | 3 | 1 | 1 | DRY | CLEAR | 1 | 3 | 0 | ON | 7 | 1 | 4 | 28,5,3 |
| | | | 1477-02 | 8/25/02 | SUNDAY | 13:30 | 1 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 4 | 19 |
| | | | 81-03 | 1/18/03 | SATURDAY | 11:17 | 3 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7,14 | 1 | 4 | 30 |
| | | | 2018-03 | 11/14/03 | FRIDAY | 11:38 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 44 |
| | | | 524-04 | 4/3/04 | SATURDAY | 15:24 | 1 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 4 | 2 | 5 | 73 |
| | | | 58-05 | 1/14/05 | FRIDAY | 8:51 | 1 | 1 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 14 | 2 | 4 | 33 |
| 15 | GREENWICH STREET | JERUSALEM AVENUE | 394-01 | 3/2/01 | FRIDAY | 8:25 | 1 | 1 | 1 | WET | SNOW | 1 | 1 | 0 | ON | 14,19 | 2 | 4 | 50 |
| | | | 969-01 | 6/5/01 | TUESDAY | 9:30 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 7,14 | 1 | 1 | 30 |
| | | | 2176-01 | 12/6/01 | THURSDAY | 23:01 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 23 |
| | | | 1557-04 | 9/4/04 | SATURDAY | 10:59 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7,14 | 1 | 1 | 21 |
| | | | 1358-05 | 8/22/05 | MONDAY | 15:53 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 81 |
| 16 | GREENWICH STREET | CRUIKSHANK AVENUE | 487-01 | 3/21/01 | WEDNESDAY | 14:59 | 1 | 1 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 7,14 | 1 | 4 | 70 |
| | | | 644-01 | 4/13/01 | FRIDAY | 0:03 | 1 | 4 | 1 | DRY | FOG | 1 | 1 | 0 | ON | 40 | 2 | 7 | 37 |
| | | | 1612-01 | 9/15/01 | SATURDAY | 13:55 | 1 | 1 | 4 | DRY | CLEAR | 1 | 2 | 0 | ON | 14 | 1 | 4 | 93,60 |
| | | | 2147-02 | 11/23/02 | SATURDAY | 14:45 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 67 |
| | | | 1855-04 | 10/17/04 | SUNDAY | 20:30 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | - | 1 | 1 | 63 |

See MV-104A Code Key on page 1 of Appendix for description of codes included in the table above.

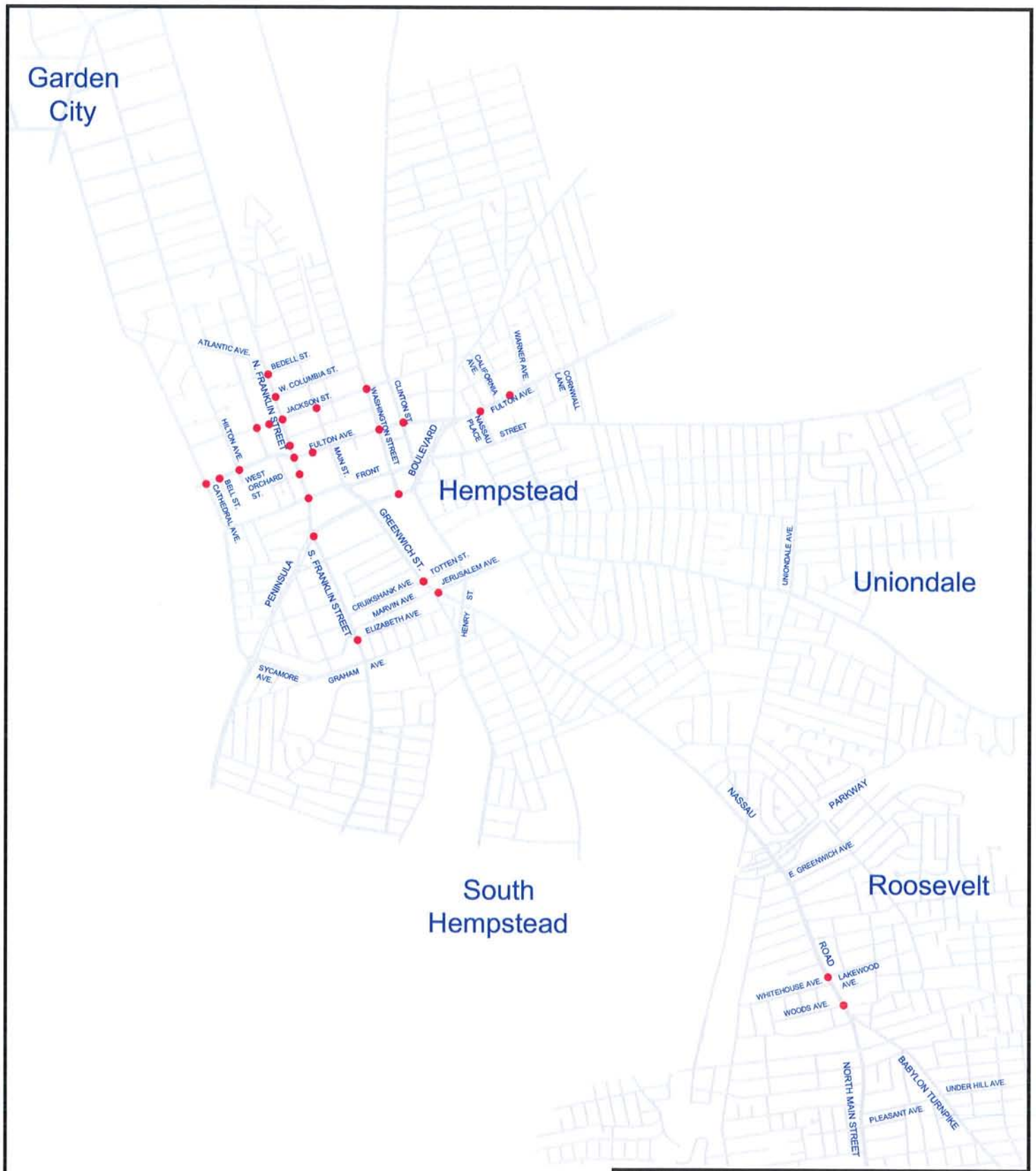
| TOTAL ACCIDENT DATA FOR NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY 2001-2005 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location # | Arterial | Secondary Street | Accident Number | Date | Day | Time (Military) | Traffic Control Type | Light Conditions | Roadway Characteristics | Roadway Conditions | Weather | Number of Vehicles | Injuries | Fatalities | Location On/Off Roadway | Contributing Factors | Pedestrian Location | Pedestrian Action | Pedestrian Age |
| 17 | FULTON AVENUE | NASSAU PLACE | 527-02 | 3/27/02 | WEDNESDAY | 20:16 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 2,14 | 1 | 2 | 56 |
| | | | 1605-02 | 9/10/02 | TUESDAY | 17:16 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 5,7 | 1 | 1 | 39 |
| | | | 2103-02 | 11/17/02 | SUNDAY | 20:22 | 2 | 4 | 1 | WET | RAIN | 1 | 2 | 0 | ON | 7 | 1 | 1 | 24,1 |
| | | | 371-04 | 3/6/04 | SATURDAY | 20:48 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 2 | 24 |
| | | | 914-05 | 6/11/05 | SATURDAY | 21:38 | 2 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 2 | 1 | 13 | 37 |
| 18 | JACKSON STREET | BETWEEN TERRACE AVENUE & N. FRANKLIN STREET | 157-01 | 1/19/01 | FRIDAY | 19:15 | 1 | 3 | 2 | WET | RAIN | 1 | 1 | 0 | ON | 19 | 2 | 4 | 66 |
| | | | 219-01 | 2/2/01 | FRIDAY | 18:01 | 1 | 4 | 2 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 4 | 10 |
| | | | 55-04 | 1/13/04 | TUESDAY | 17:05 | 1 | 1 | 1 | DRY | CLEAR | 2 | 2 | 0 | ON | - | 2 | 4 | 59,43 |
| | | | 1473-04 | 8/23/04 | MONDAY | 17:17 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 13 |
| | | | 2255-04 | 12/17/04 | FRIDAY | 19:30 | 1 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 3,14 | 2 | 4 | 46 |
| 19 | JACKSON STREET | TERRACE AVENUE | 747-02 | 4/29/02 | MONDAY | 1:55 | 2 | 4 | 1 | WET | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 1 | 23 |
| | | | 308-03 | 2/25/03 | TUESDAY | 13:19 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 1 | 1 | 55 |
| | | | 1667-04 | 9/22/04 | WEDNESDAY | 18:01 | 2 | 1 | 1 | DRY | CLEAR | 1 | 2 | 0 | ON | 14,62 | 1 | 2 | 66,9 |
| | | | 1625-05 | 10/4/05 | TUESDAY | 10:00 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 28 | 2 | - | 39 |
| 20 | PENINSULA BOULEVARD | S. FRANKLIN STREET | 1498-01 | 8/28/01 | TUESDAY | 21:17 | 1 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 2,14 | 2 | 4 | 55 |
| | | | 1736-01 | 10/4/01 | THURSDAY | 18:12 | 2 | 3 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 1 | 2 | 41 |
| | | | 2240-01 | 12/17/01 | MONDAY | 5:27 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 1 | 2 | 38 |
| | | | 1654-03 | 9/21/03 | SUNDAY | 0:13 | 2 | 4 | 2 | DRY | CLOUDY | 1 | 1 | 0 | ON | 17 | 1 | 1 | 21 |
| 21 | S. FRANKLIN STREET | ELIZABETH AVENUE | 101-03 | 1/20/03 | MONDAY | 19:14 | 1 | 5 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 2,14 | 1 | 4 | 45 |
| | | | 2202-03 | 12/12/03 | FRIDAY | 22:31 | 1 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 22 |
| | | | 2232-03 | 12/17/03 | WEDNESDAY | 19:07 | 1 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 14 | 2 | 4 | 13 |
| | | | 2117-05 | 12/24/05 | SATURDAY | 19:31 | 1 | 4 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | - | 2 | 5 | 48 |

See MV-104A Code Key on page 1 of Appendix for description of codes included in the table above.

## TOTAL ACCIDENT DATA FOR NASSAU COUNTY PEDESTRIAN ACCIDENT STUDY
## 2001-2005

| Location # | Arterial | Secondary Street | Accident Number | Date | Day | Time (Military) | Traffic Control Type | Light Conditions | Roadway Characteristics | Roadway Conditions | Weather | Number of Vehicles | Injuries | Fatalities | Location On/Off Roadway | Contributing Factors | Pedestrian Location | Pedestrian Action | Pedestrian Age |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | FULTON AVENUE | BETWEEN CALIFORNIA AVENUE & WARNER AVENUE | 62-01 | 1/9/01 | TUESDAY | 7:30 | 1 | 1 | 1 | WET | SNOW | 1 | 1 | 0 | ON | 14 | 2 | 4 | 33 |
| | | | 1131-04 | 7/3/04 | SATURDAY | 22:18 | 1 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 2 | 4 | 42 |
| | | | 959-05 | 6/19/05 | SATURDAY | 0:17 | 1 | 4 | 1 | DRY | CLEAR | 2 | 1 | 0 | ON | 14 | 2 | 4 | 29 |
| | | | 1141-05 | 9/2/05 | FRIDAY | 9:23 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 4 | 37 |
| 23 | N. FRANKLIN STREET | W. COLUMBIA STREET | 84-01 | 1/12/01 | FRIDAY | 21:18 | 2 | 4 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 2,14 | 1 | 2 | 32 |
| | | | 1512-02 | 8/30/02 | FRIDAY | 11:51 | 2 | 1 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 1 | 2 | 41 |
| | | | 1311-03 | 7/29/03 | TUESDAY | 11:24 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | OFF | 3 | 2 | 14 | 67 |
| | | | 2161-04 | 12/6/04 | MONDAY | 19:33 | 1 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 14 | 1 | 4 | 33 |
| 24 | N. FRANKLIN STREET | BEDELL STREET | 1142-02 | 6/29/02 | SATURDAY | 12:26 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 2 | 2 | 61 |
| | | | 2283-03 | 12/25/03 | THURSDAY | 12:05 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7 | 2 | 4 | 26 |
| | | | 1118-04 | 7/1/04 | THURSDAY | 20:47 | 2 | 3 | 1 | DRY | CLOUDY | 1 | 1 | 0 | ON | 14 | 1 | 13 | 17 |
| | | | 2306-04 | 12/23/04 | THURSDAY | 18:29 | 2 | 4 | 1 | WET | RAIN | 1 | 1 | 0 | ON | 7 | 1 | 2 | 35 |
| 25 | N. FRANKLIN STREET | BETWEEN CENTRE STREET & FULTON STREET | 934-03 | 6/5/03 | THURSDAY | 14:32 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 14 | 1 | 2 | 19 |
| | | | 1243-04 | 7/19/04 | MONDAY | 1:34 | 1 | 4 | 1 | WET | CLOUDY | 1 | 1 | 0 | ON | 2,14 | 2 | 4 | 26 |
| | | | 428-05 | 3/14/05 | MONDAY | 18:09 | 1 | 3 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | 7,20 | 2 | 4 | 16 |
| | | | 922-05 | 6/13/05 | MONDAY | 4:10 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | - | 2 | 4 | 21 |
| 26 | NASSAU ROAD | LAKEWOOD AVENUE | 615-01 | 2/19/01 | MONDAY | 17:05 | 1 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | - | 2 | 7 | 2 |
| | | | 1347-03 | 4/25/03 | FRIDAY | 14:10 | 2 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | - | 1 | 1 | 3 |
| | | | 1161-04 | 4/10/04 | SATURDAY | 17:50 | 11 | 1 | 1 | DRY | CLEAR | 1 | 1 | 0 | ON | - | 2 | 9 | 42 |
| | | | 4737-04 | 12/31/04 | FRIDAY | 18:20 | 1 | 2 | 1 | DRY | CLOUDY | 1 | 1 | 0 | OFF | - | 2 | 7 | 59 |

See MV-104A Code Key on page 1 of Appendix for description of codes included in the table above.




LEGEND

● –HIGHEST ACCIDENT LOCATION

LKMA

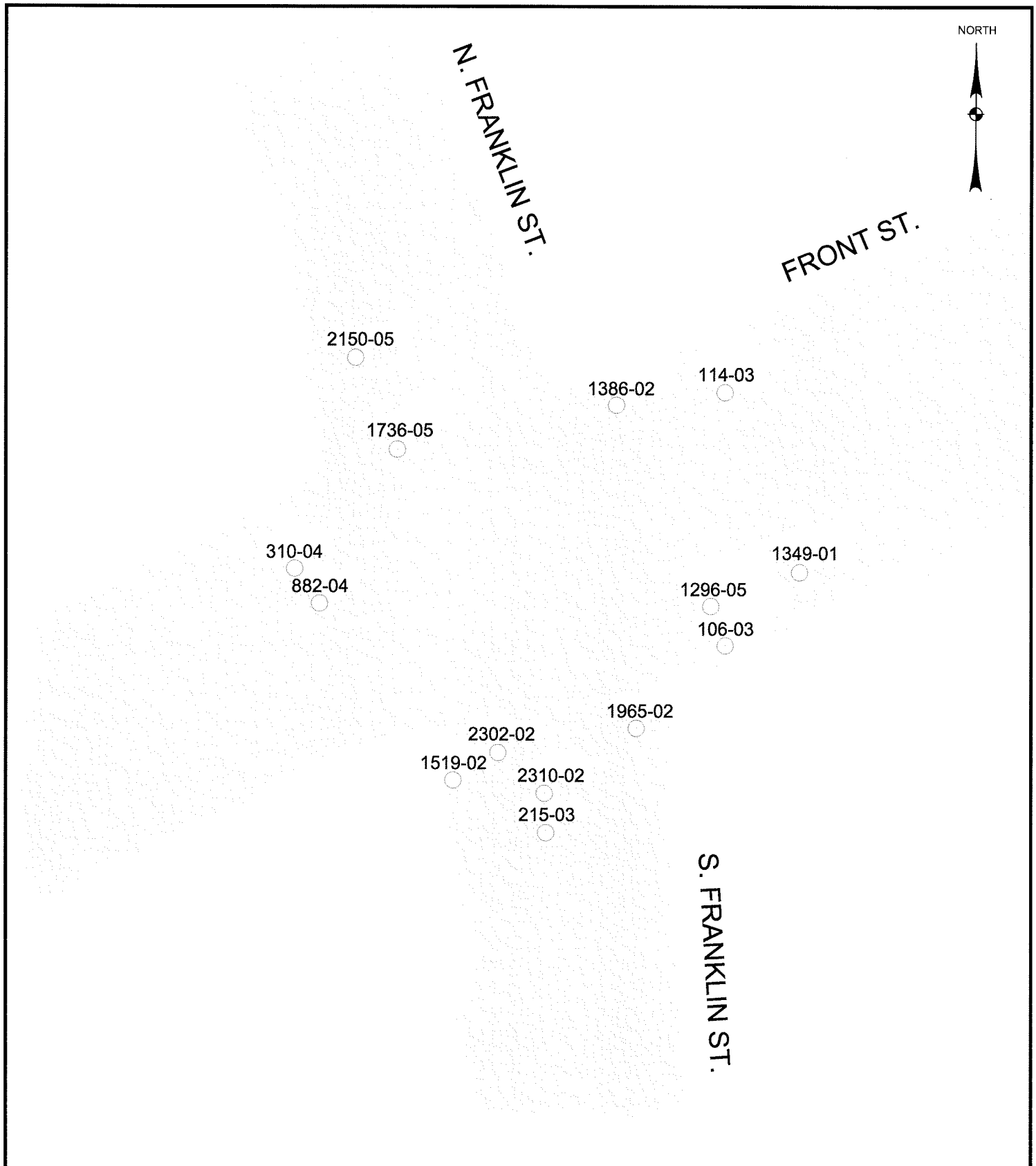
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

HIGHEST ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 457 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 1 of 1 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

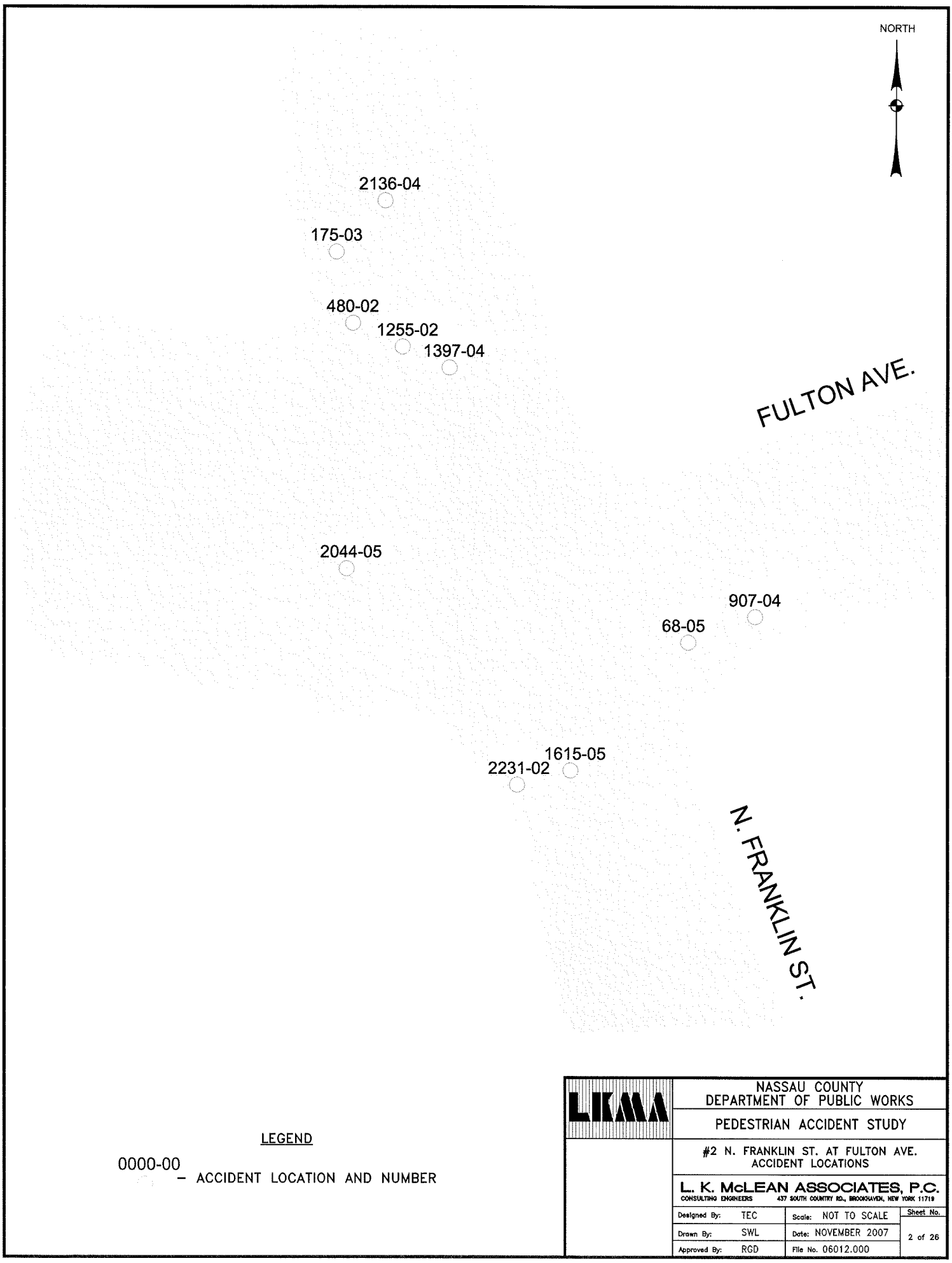
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#1 FRANKLIN ST. AT FRONT ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 1 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

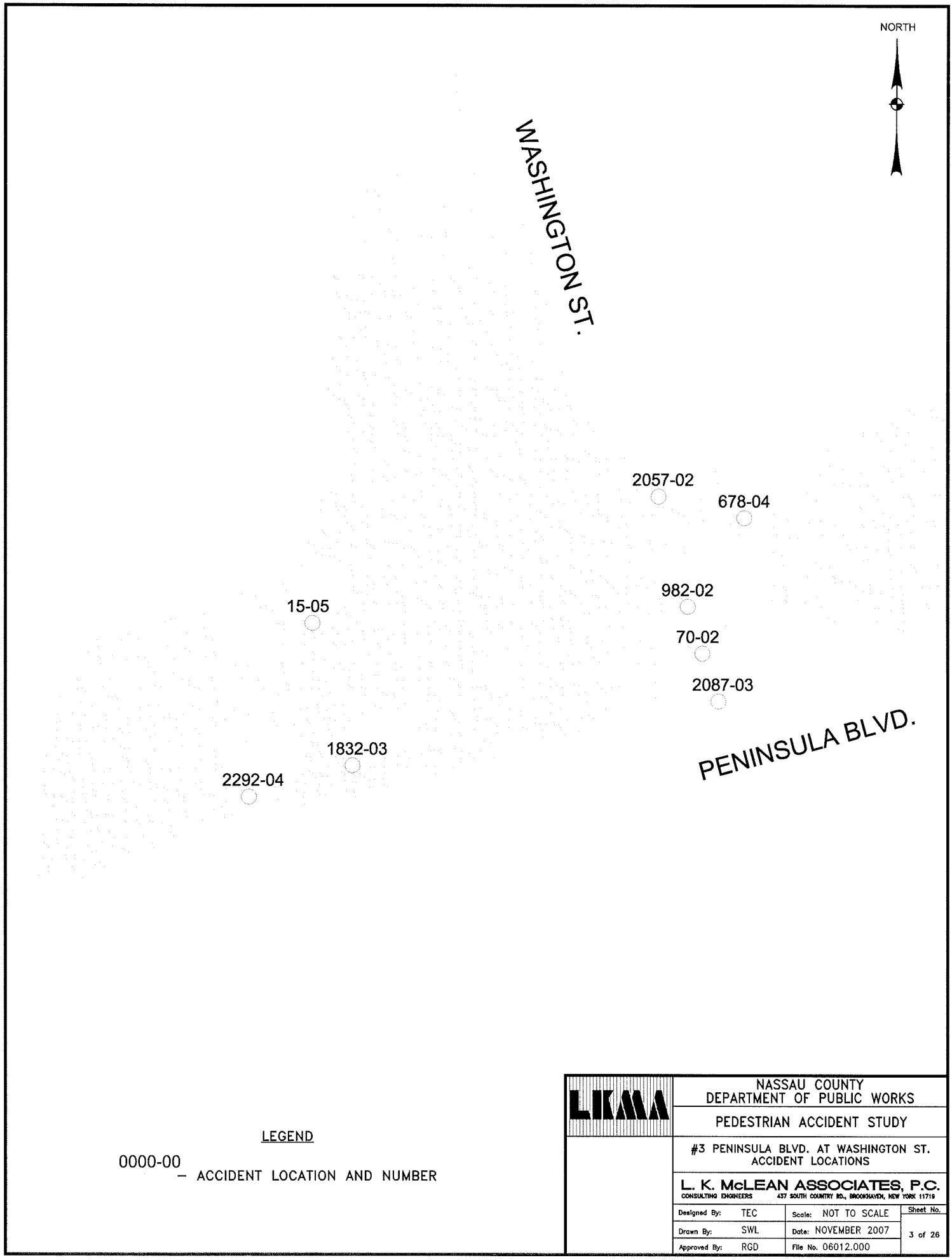
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#2 N. FRANKLIN ST. AT FULTON AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 2 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |

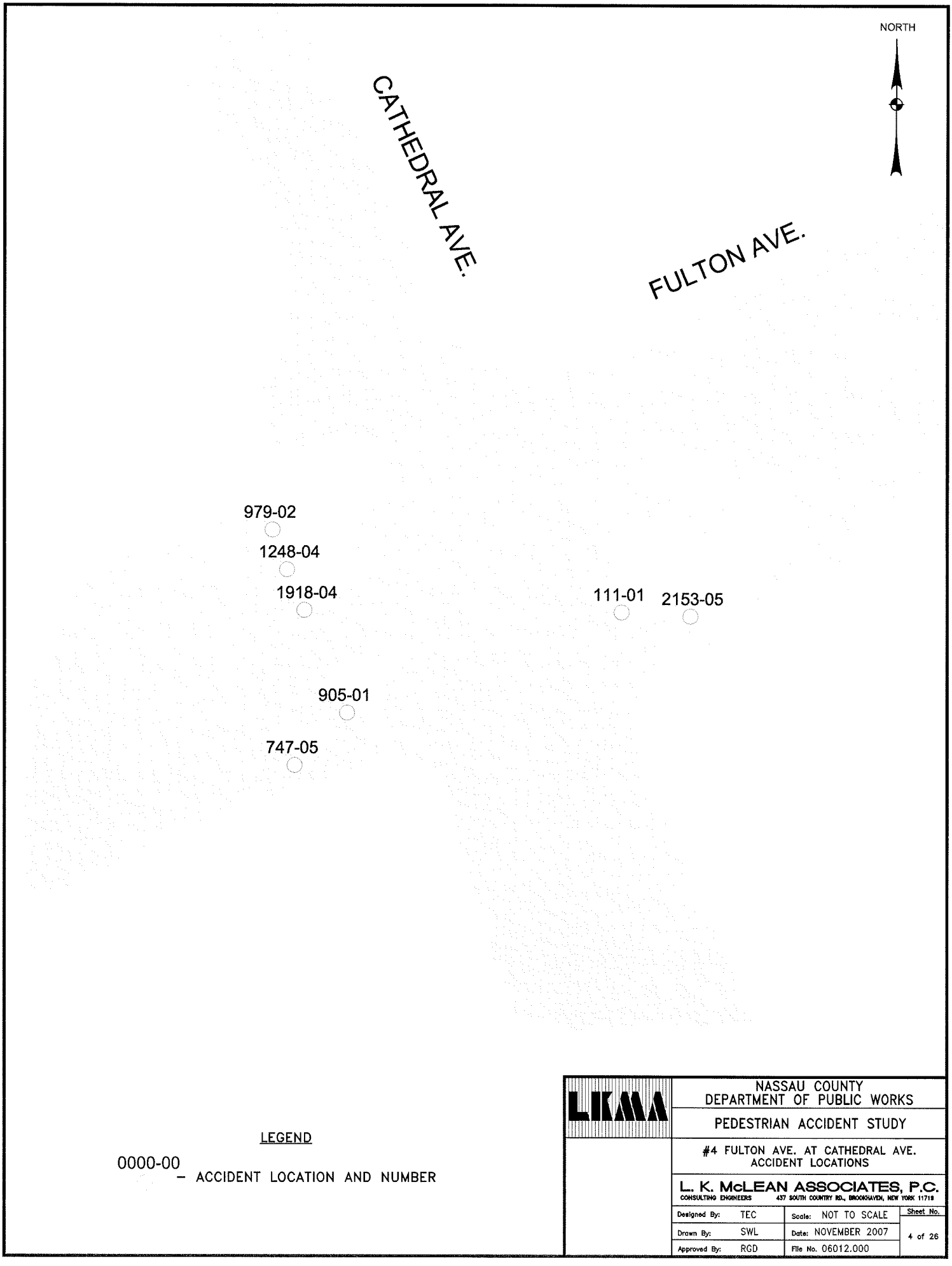



LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

| | |
|---|---|
| LKMA | NASSAU COUNTY<br>DEPARTMENT OF PUBLIC WORKS |
| | PEDESTRIAN ACCIDENT STUDY |
| | #3 PENINSULA BLVD. AT WASHINGTON ST.<br>ACCIDENT LOCATIONS |
| | L. K. McLEAN ASSOCIATES, P.C.<br>CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719 |

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 3 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

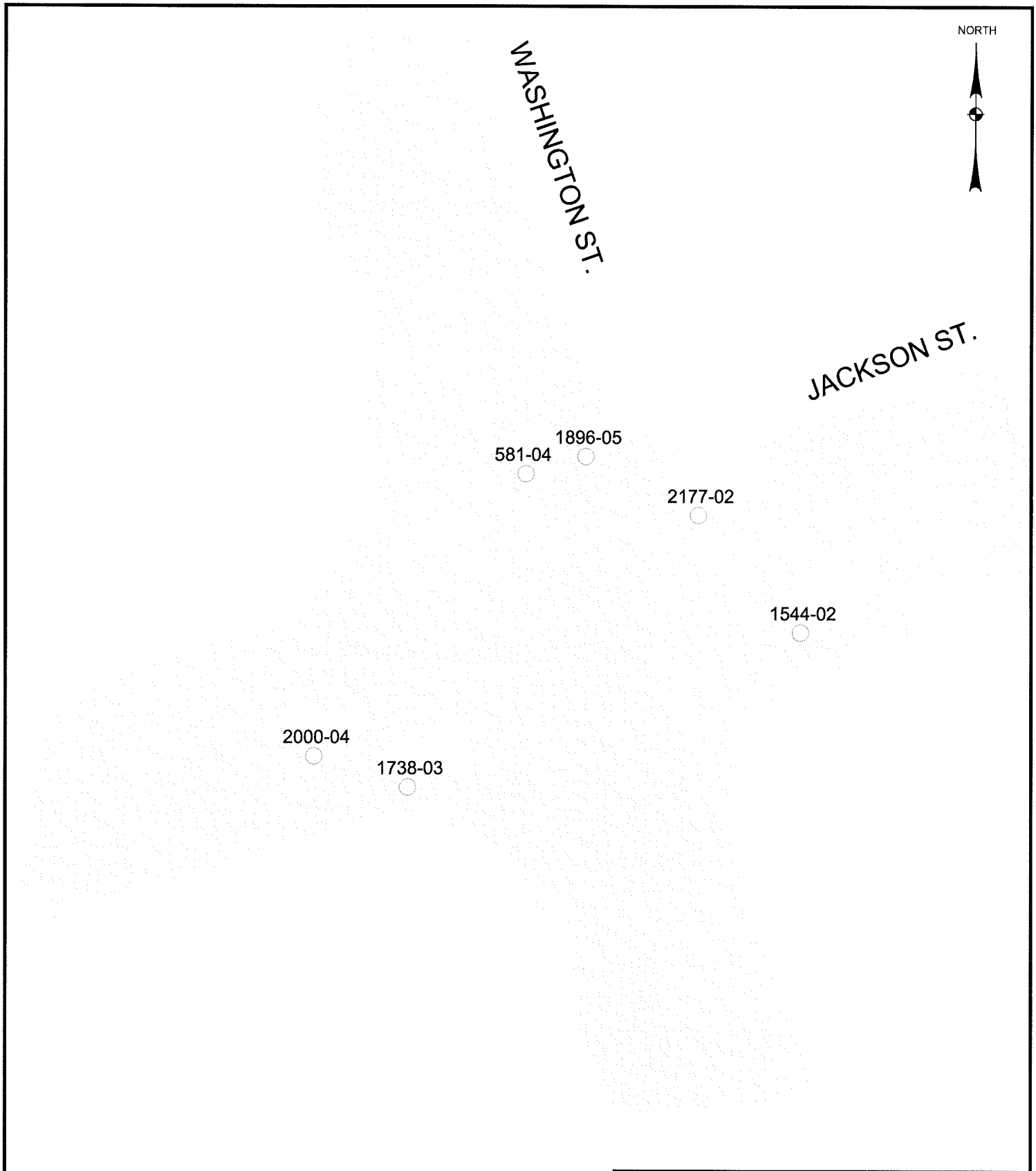
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#4 FULTON AVE. AT CATHEDRAL AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: NOVEMBER 2007 | 4 of 26 |
| Approved By: | RGD | File No. 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

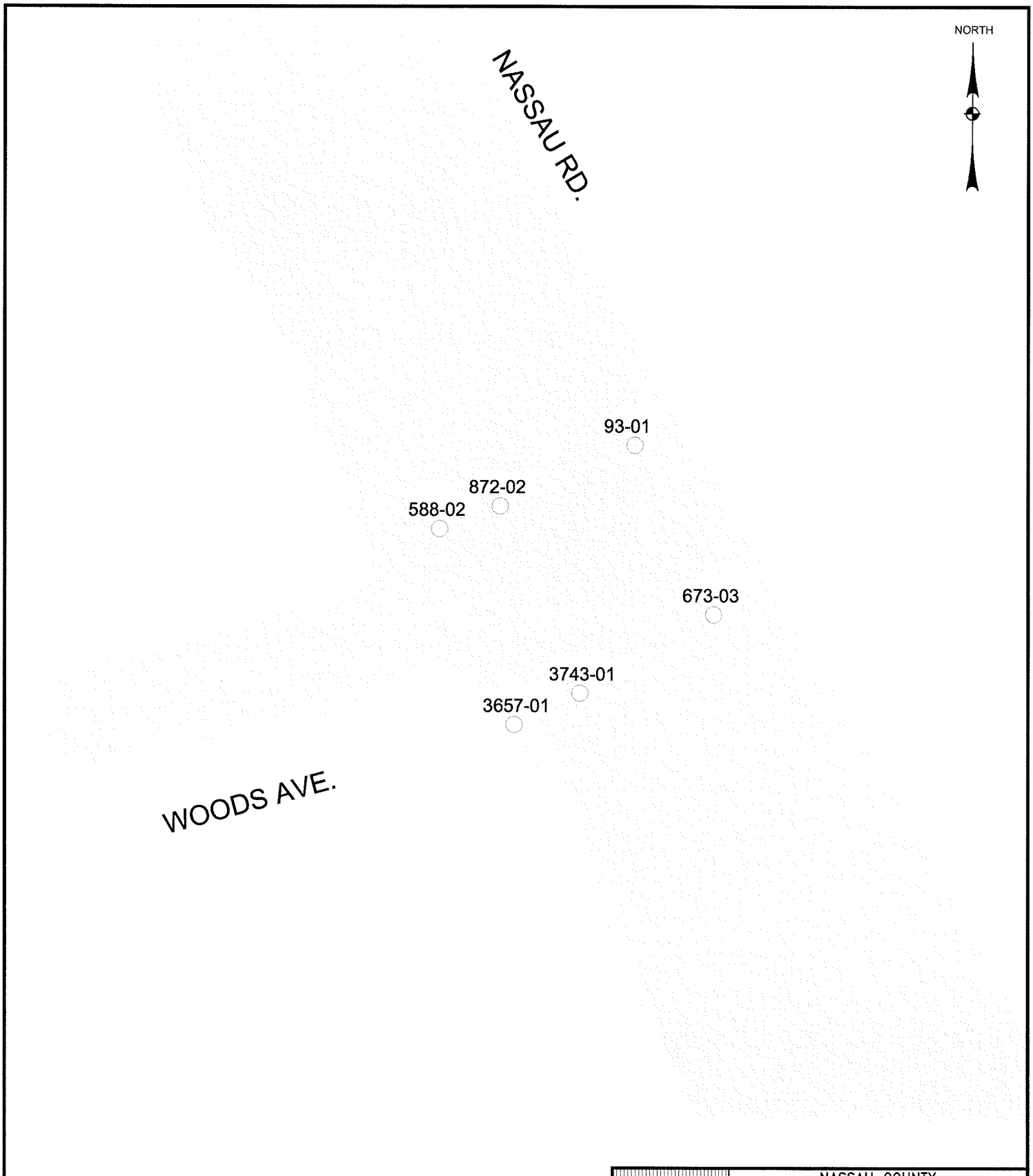
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#5 JACKSON ST. AT WASHINGTON ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. 5 of 26 |
| Drawn By: | SWL | Date: NOVEMBER 2007 | |
| Approved By: | RGD | File No. 06012.000 | |

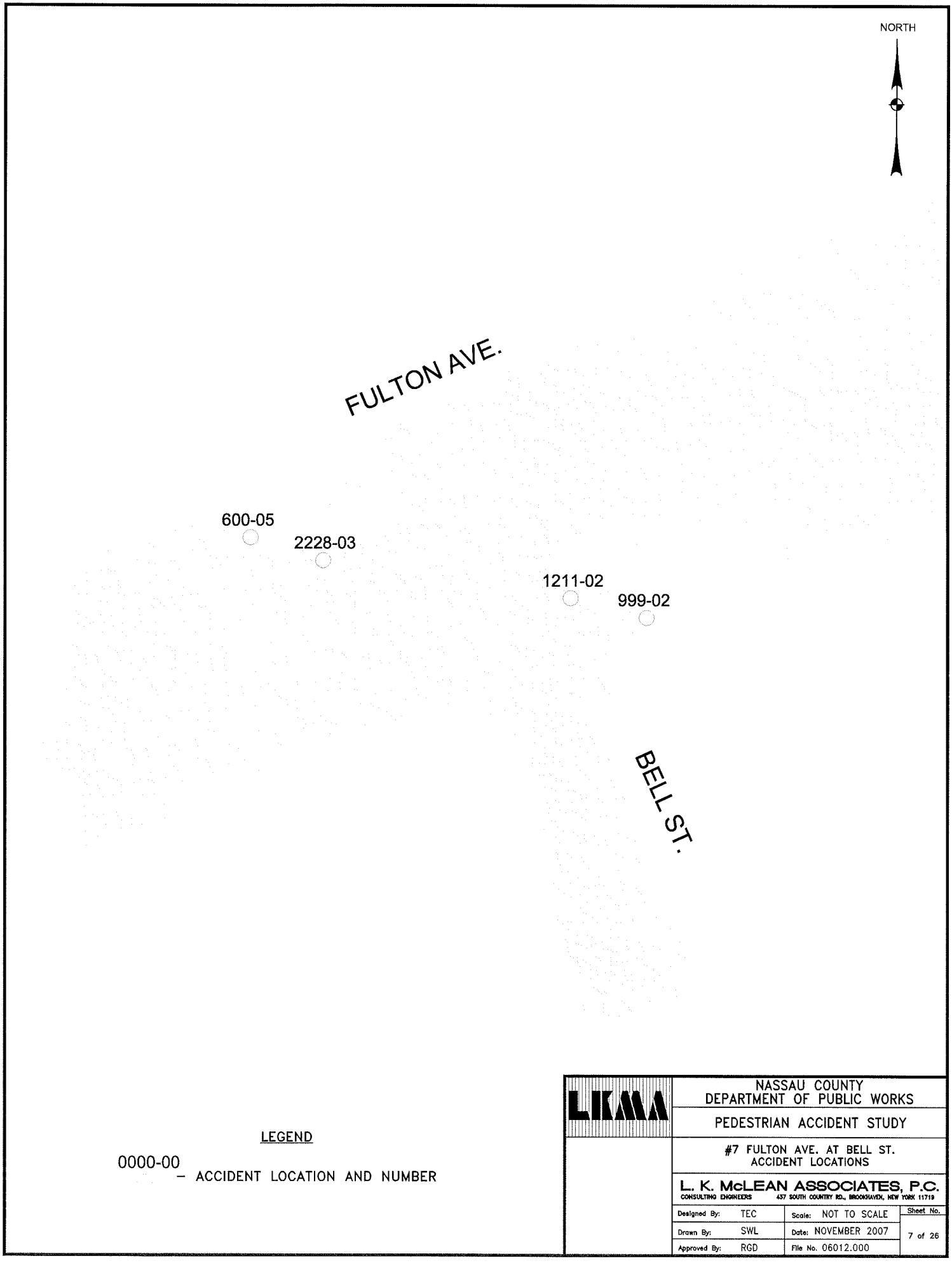



LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

| | |
|---|---|
| LKMA | NASSAU COUNTY<br>DEPARTMENT OF PUBLIC WORKS |
| | PEDESTRIAN ACCIDENT STUDY |
| | #6 NASSAU RD. AT WOODS AVE.<br>ACCIDENT LOCATIONS |
| | L. K. McLEAN ASSOCIATES, P.C.<br>CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719 |

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 6 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

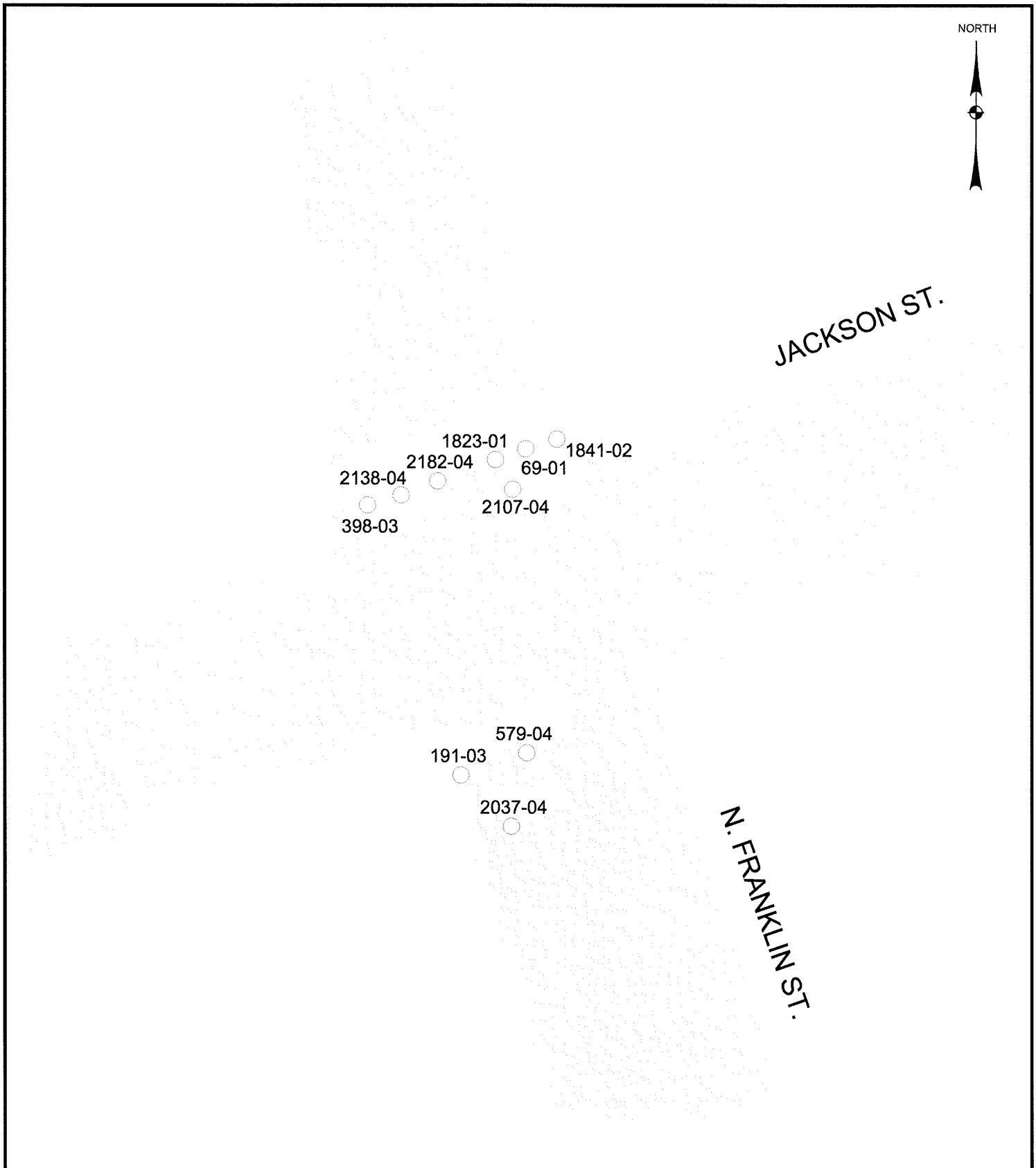
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#7 FULTON AVE. AT BELL ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 457 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: NOVEMBER 2007 | 7 of 26 |
| Approved By: | RGD | File No. 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

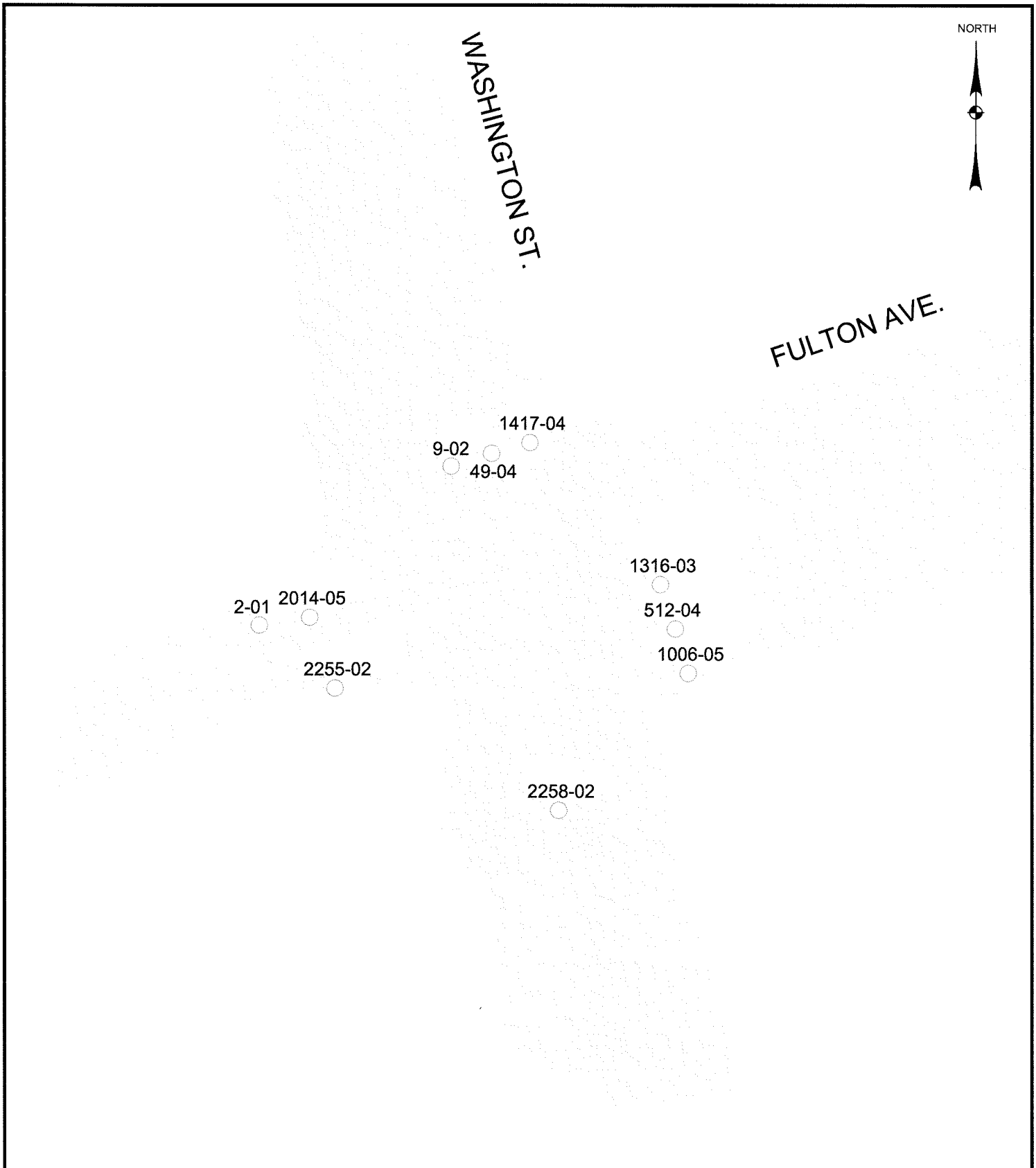
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#8 N. FRANKLIN ST. AT JACKSON ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 8 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

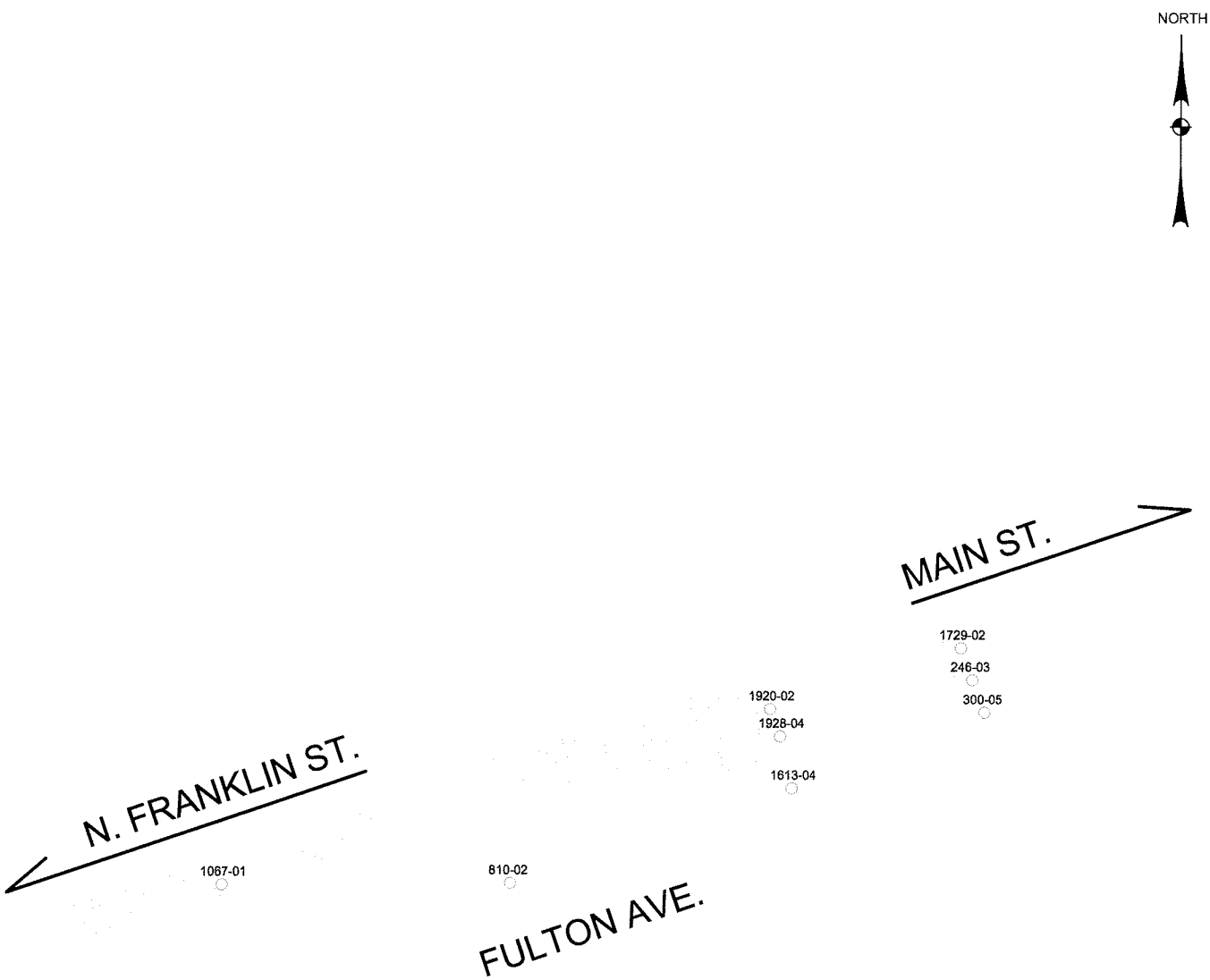
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#9 FULTON AVE. AT WASHINGTON ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: NOVEMBER 2007 | 9 of 26 |
| Approved By: | RGD | File No. 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

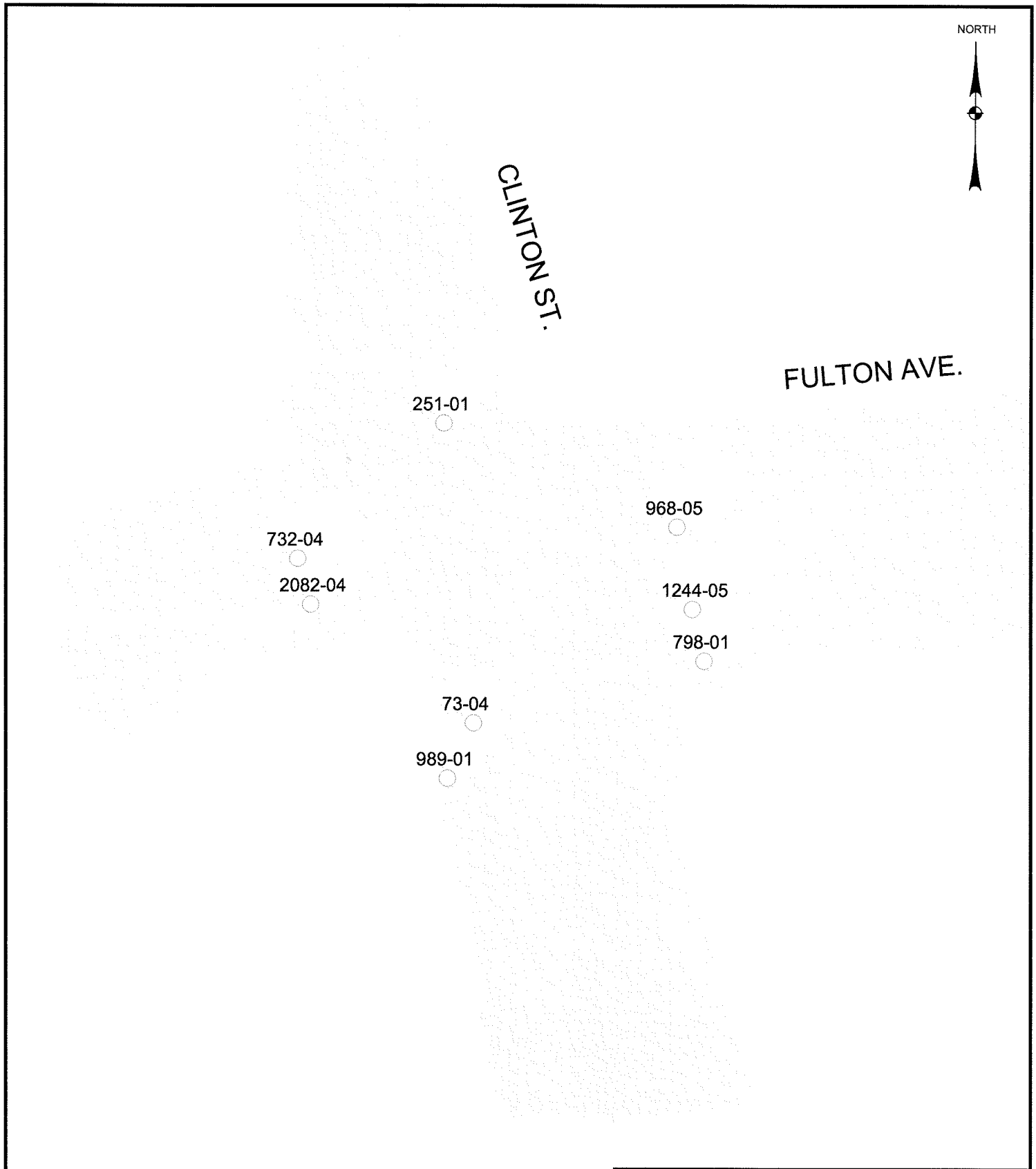
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#10 FULTON AVE. BETWEEN
N. FRANKLIN ST. AND MAIN ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | Sheet No. |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | 10 of 26 |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

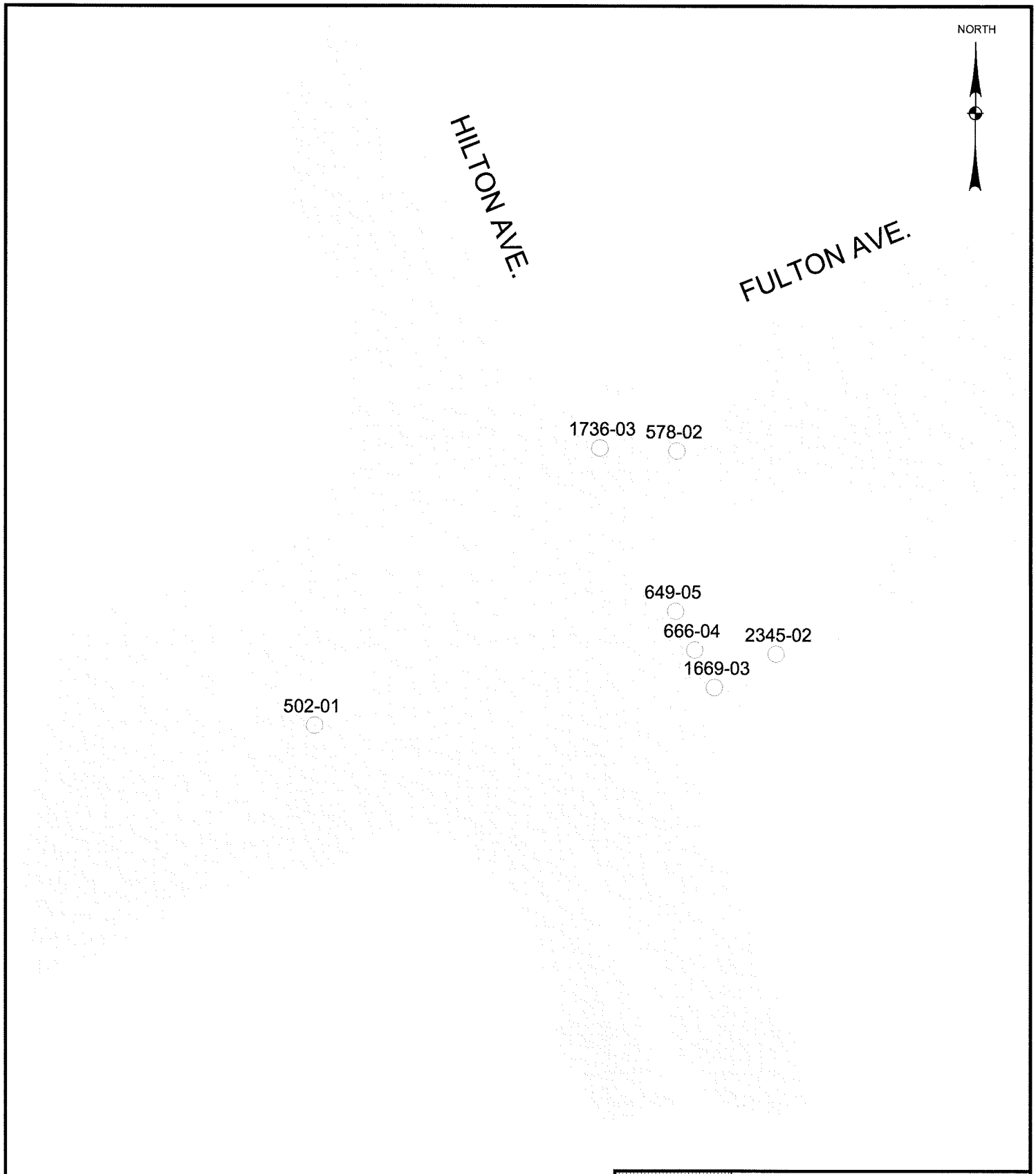
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#11 FULTON AVE. AT CLINTON ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 11 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

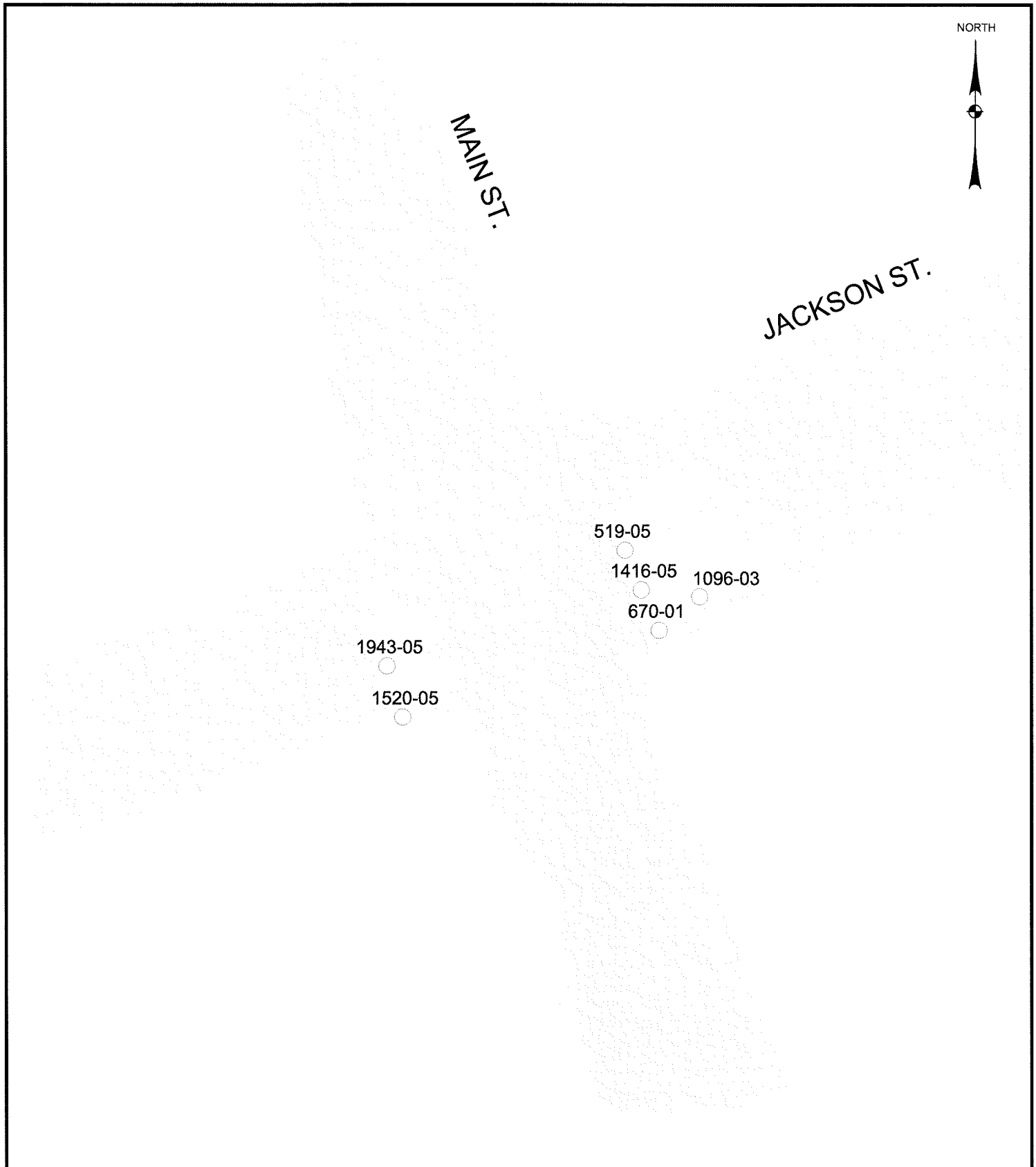
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#12 FULTON AVE. AT HILTON AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 457 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: NOVEMBER 2007 | 12 of 26 |
| Approved By: | RGD | File No. 06012.000 | |

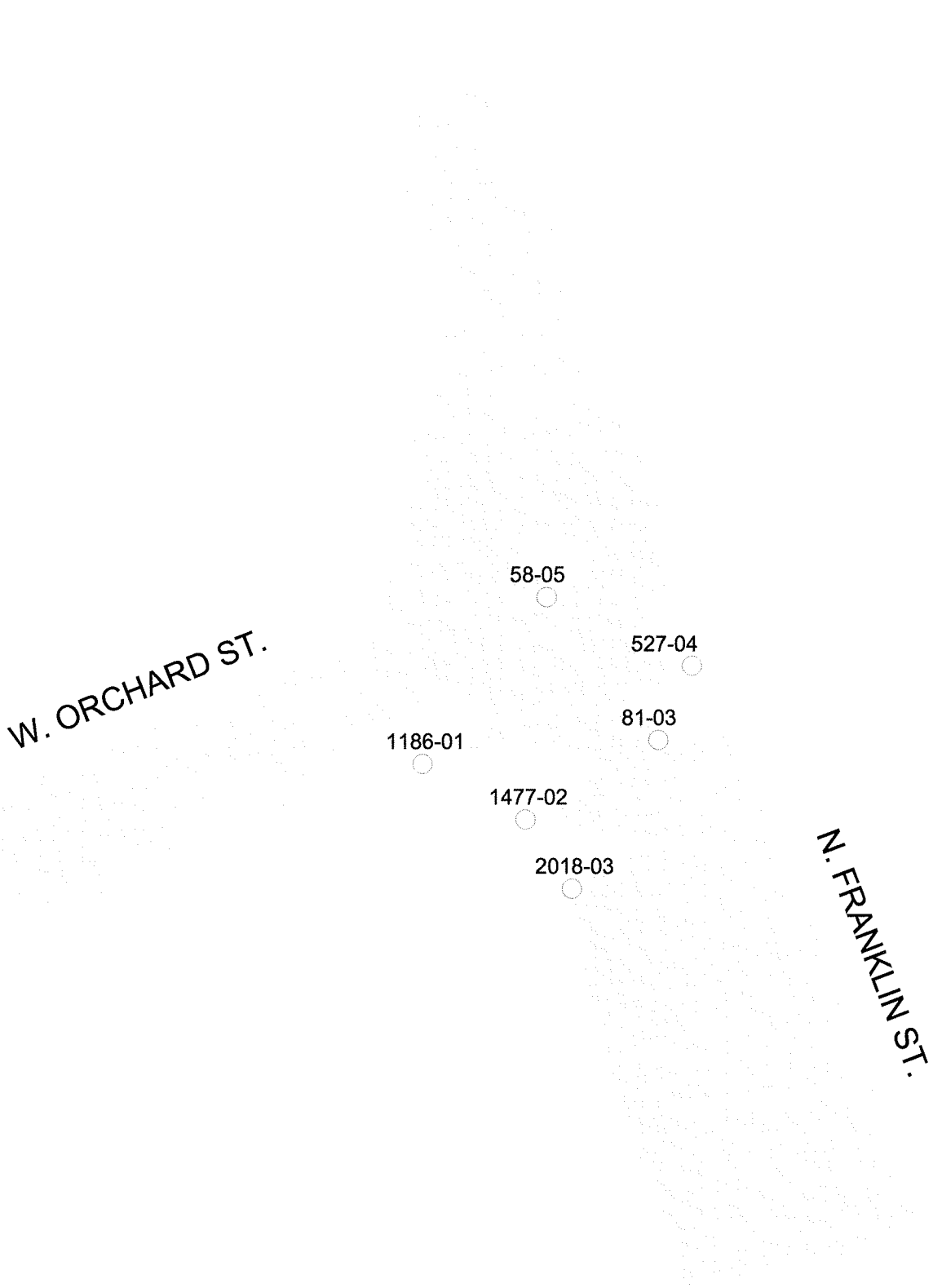



LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

| | |
|---|---|
| LKMA | NASSAU COUNTY<br>DEPARTMENT OF PUBLIC WORKS |
| | PEDESTRIAN ACCIDENT STUDY |
| | #13 JACKSON ST. AT MAIN ST.<br>ACCIDENT LOCATIONS |
| | L. K. McLEAN ASSOCIATES, P.C.<br>CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719 |

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 13 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

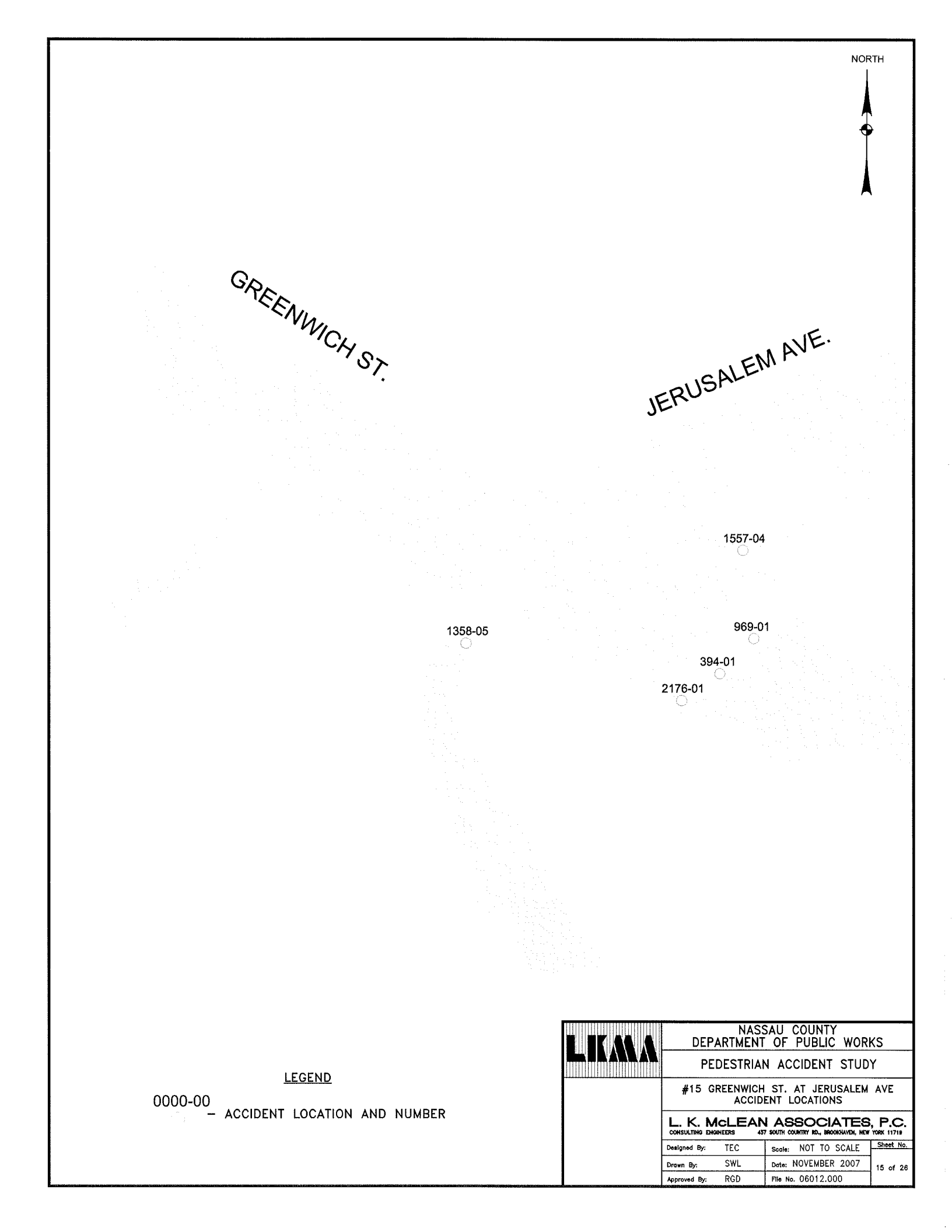
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#14 N. FRANKLIN ST. AT
W. ORCHARD ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 457 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | Sheet No. |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | 14 of 26 |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

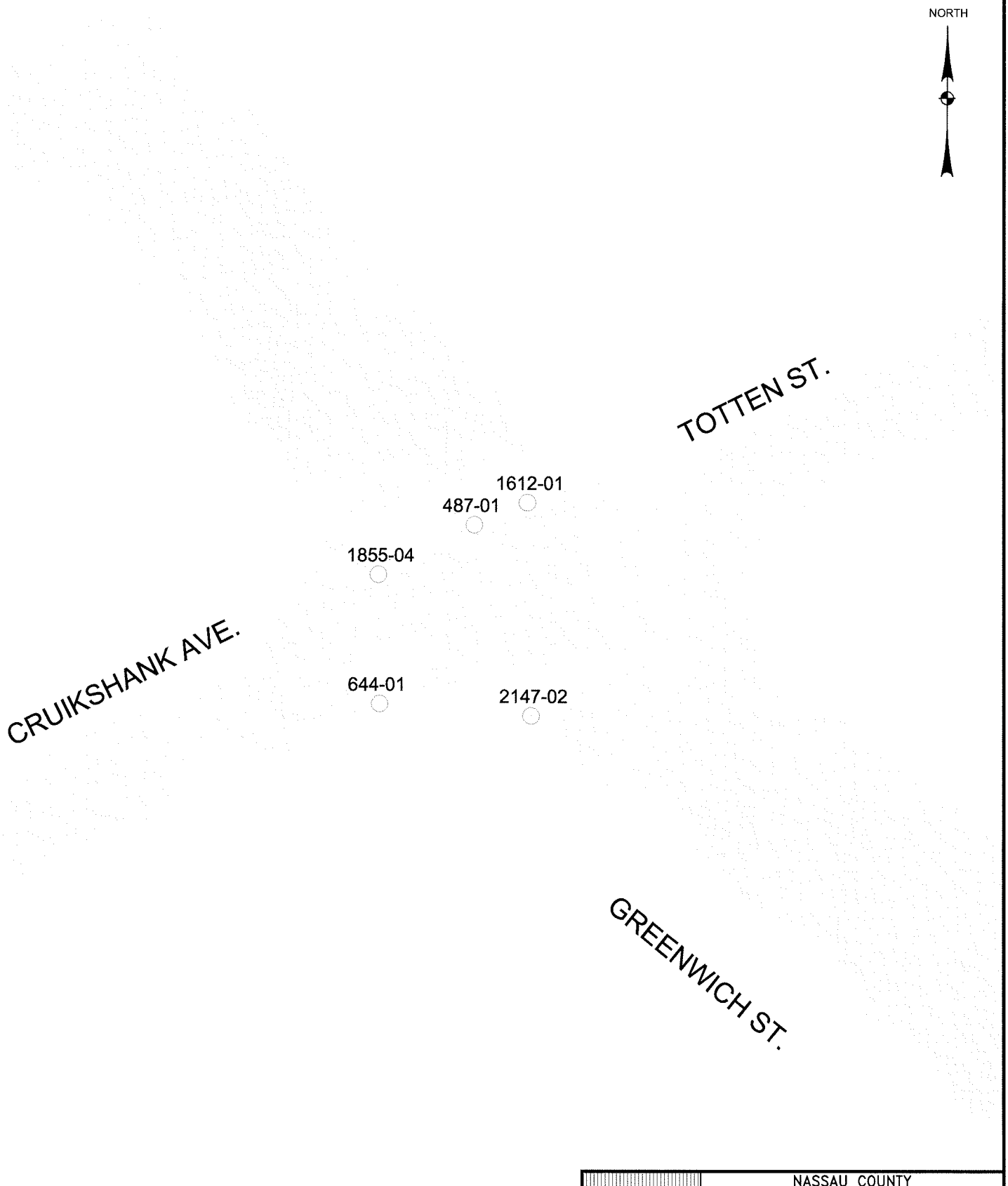
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#15 GREENWICH ST. AT JERUSALEM AVE
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. 15 of 26 |
| Drawn By: | SWL | Date: NOVEMBER 2007 | |
| Approved By: | RGD | File No. 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

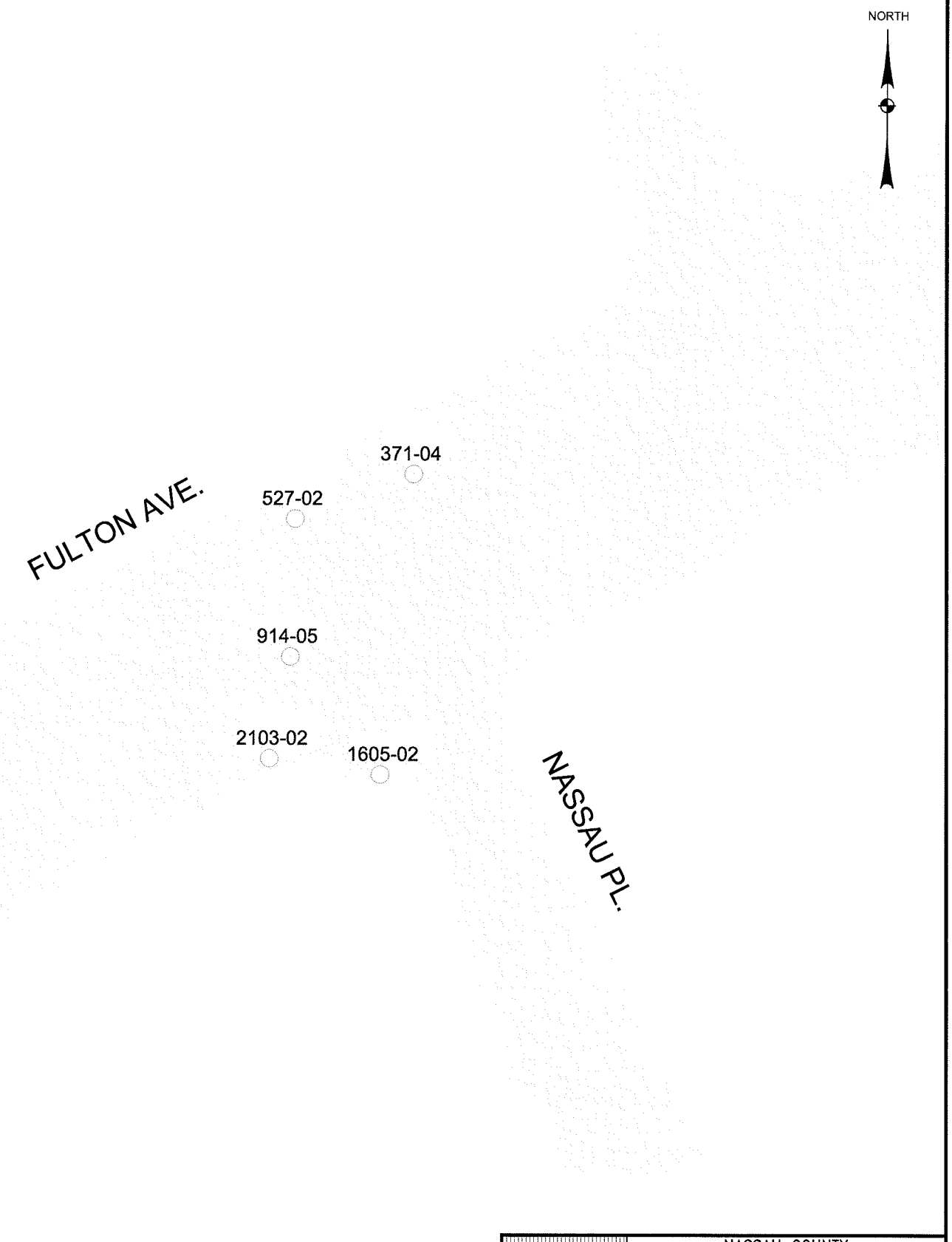
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#16 GREENWICH ST. AT CRUIKSHANK AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 16 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

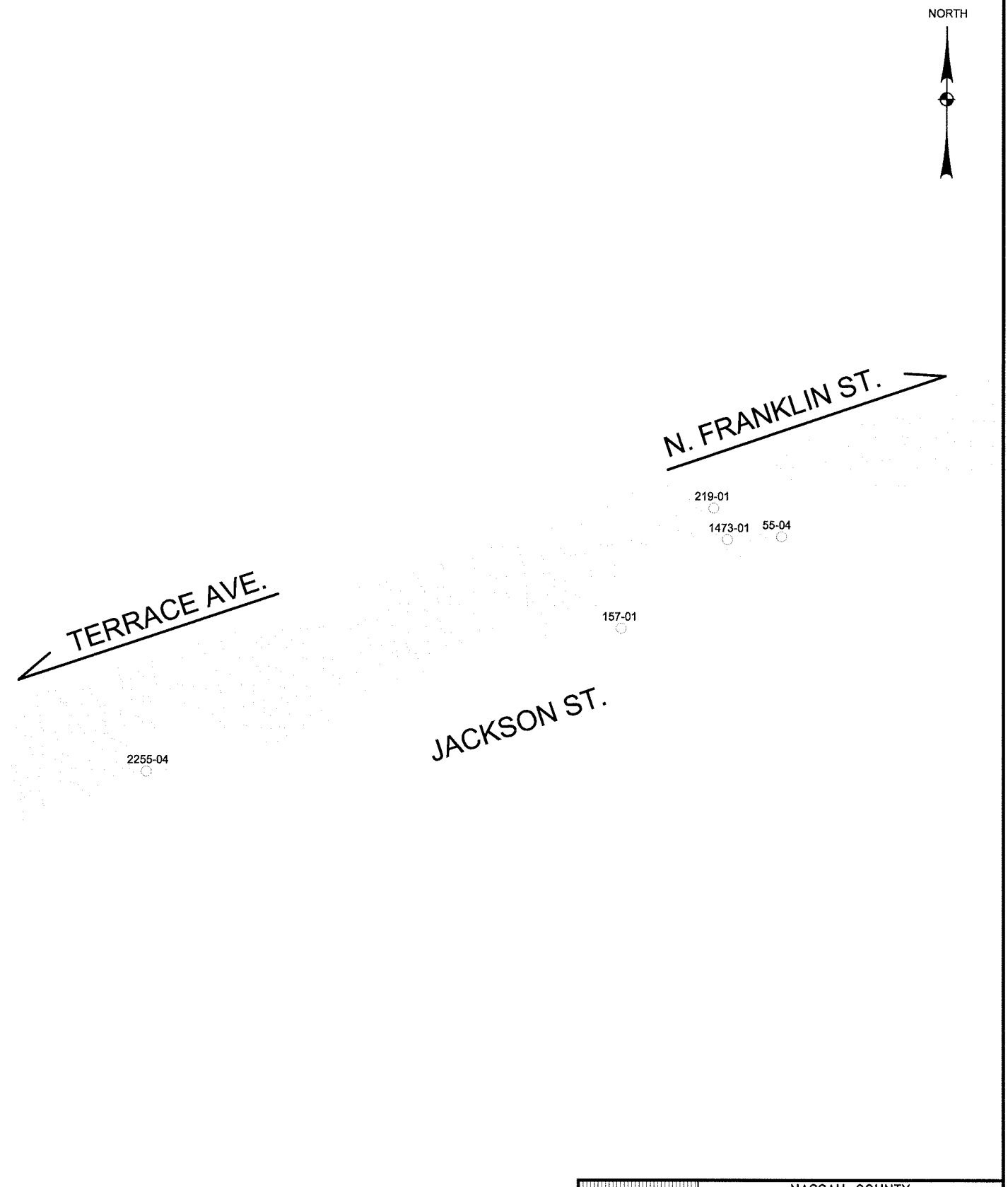
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#17 FULTON AVE. AT NASSAU PL.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 457 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 17 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

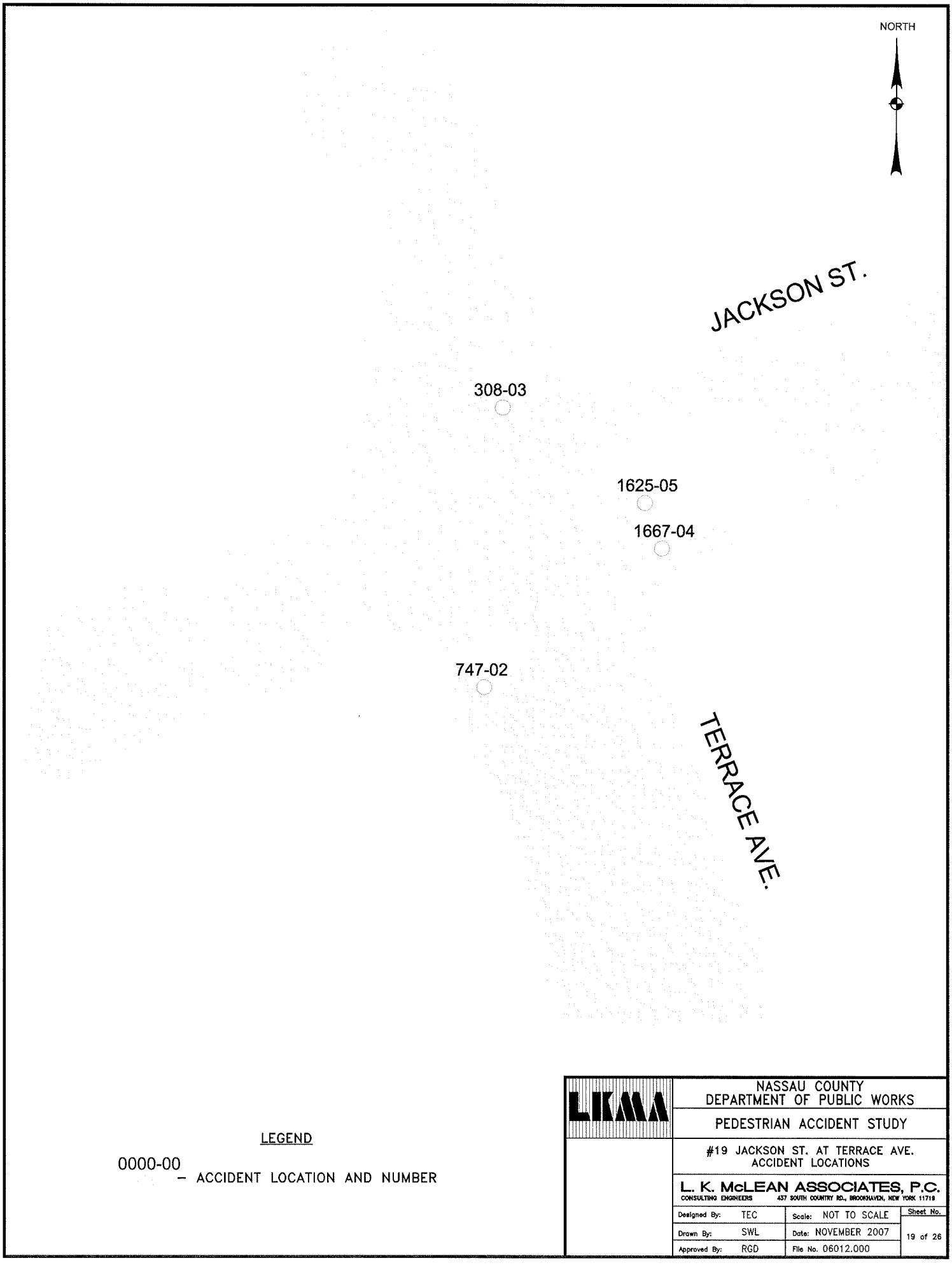
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#18 JACKSON ST. AT BETWEEN
TERRACE AVE. AND N. FRANKLIN ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 18 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

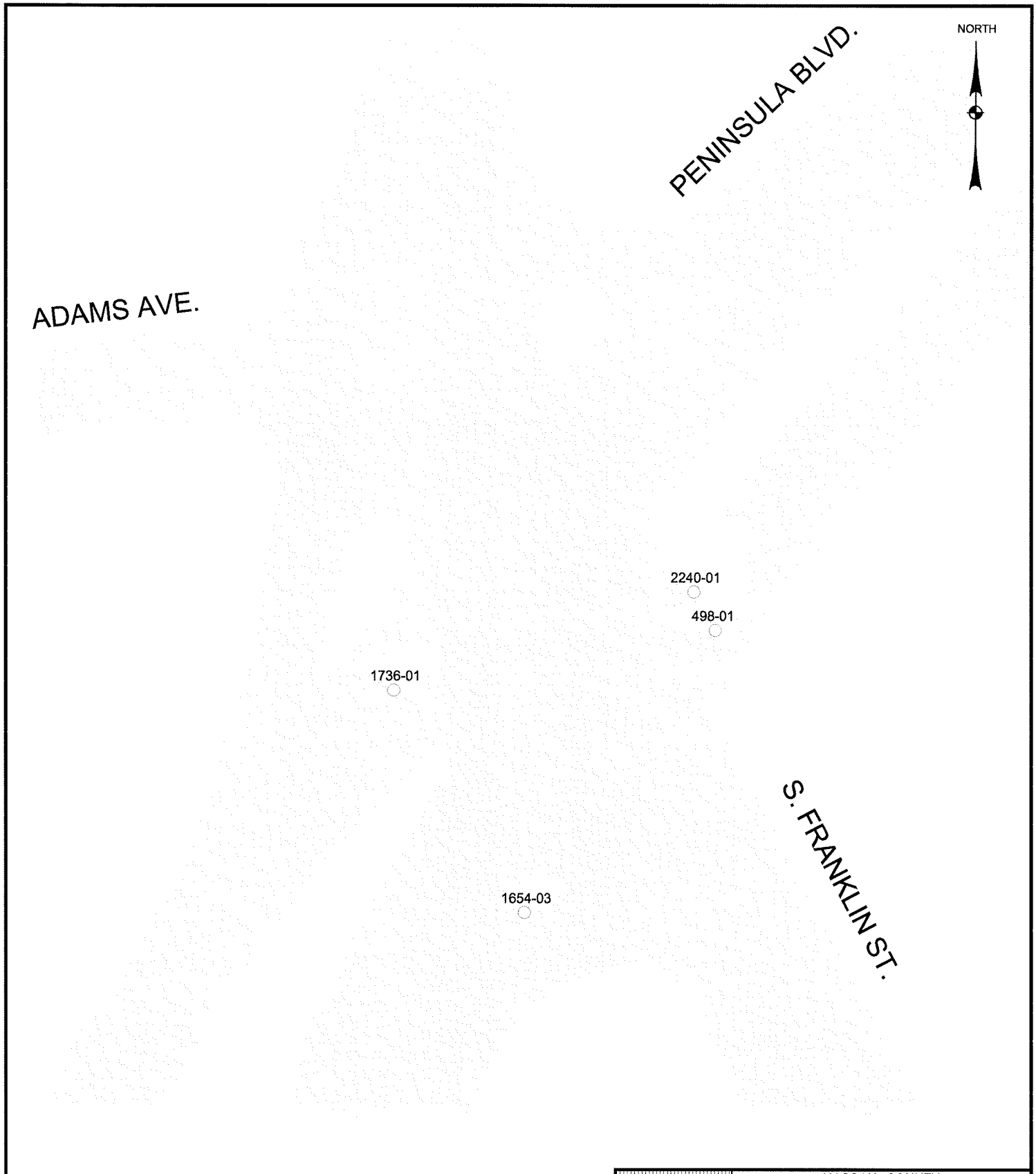
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#19 JACKSON ST. AT TERRACE AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: NOVEMBER 2007 | 19 of 26 |
| Approved By: | RGD | File No. 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

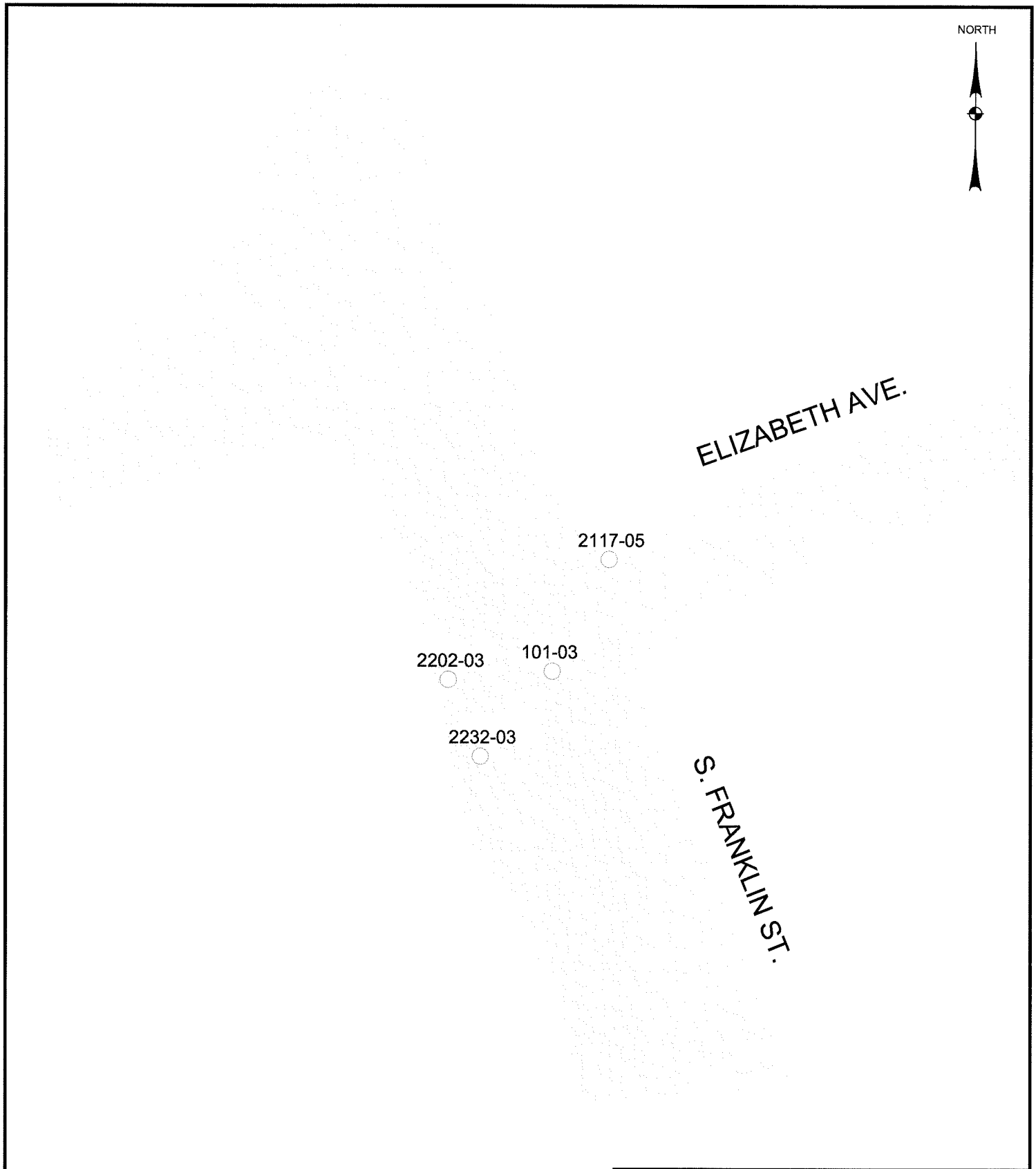
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#20 PENINSULA BLVD. AT S. FRANKLIN ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 457 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: NOVEMBER 2007 | 20 of 26 |
| Approved By: | RGD | File No. 06012.000 | |




LEGEND

0000-00
– ACCIDENT LOCATION AND NUMBER

LKMA

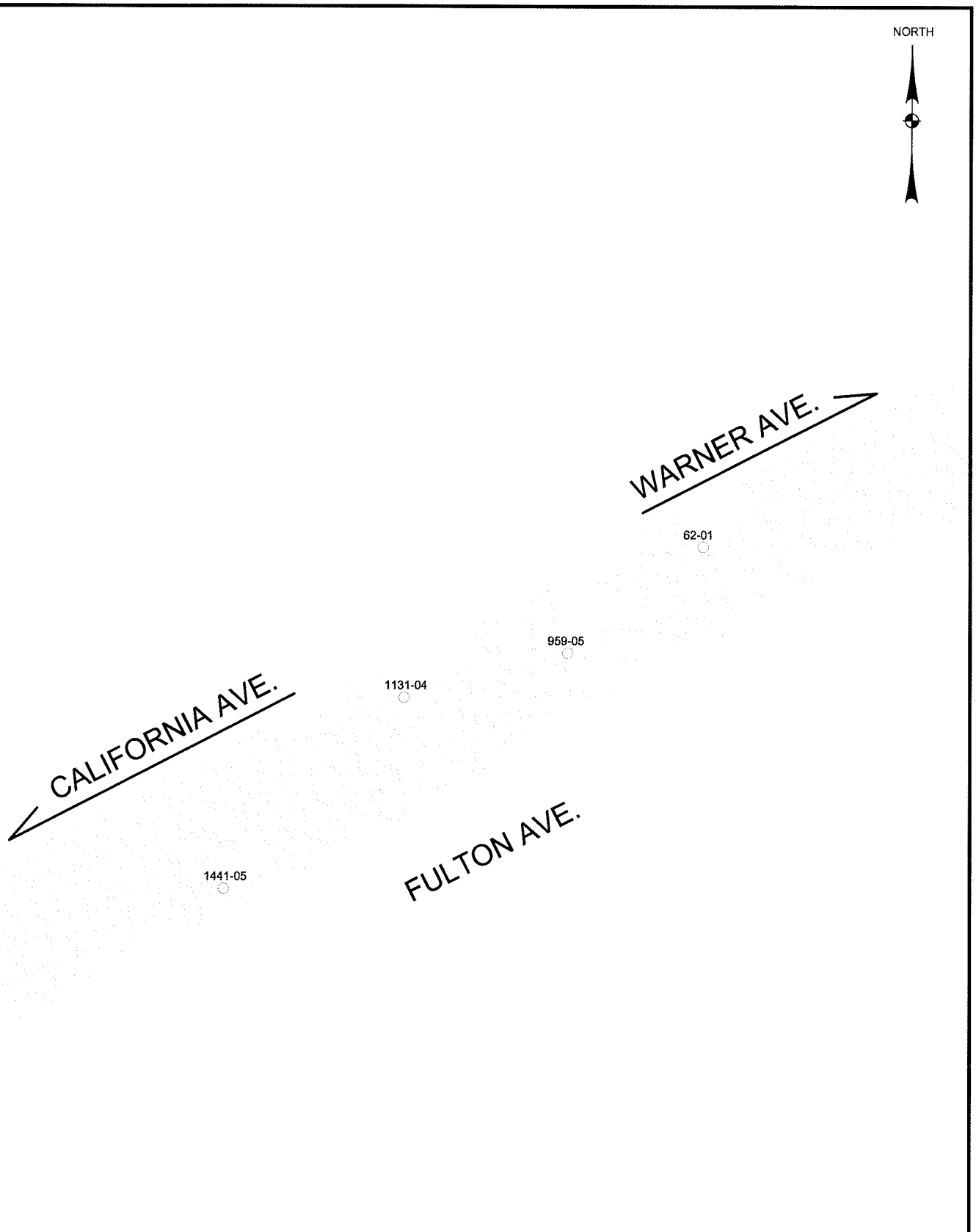
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#21 S. FRANKLIN ST. AT ELIZABETH AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 457 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 21 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

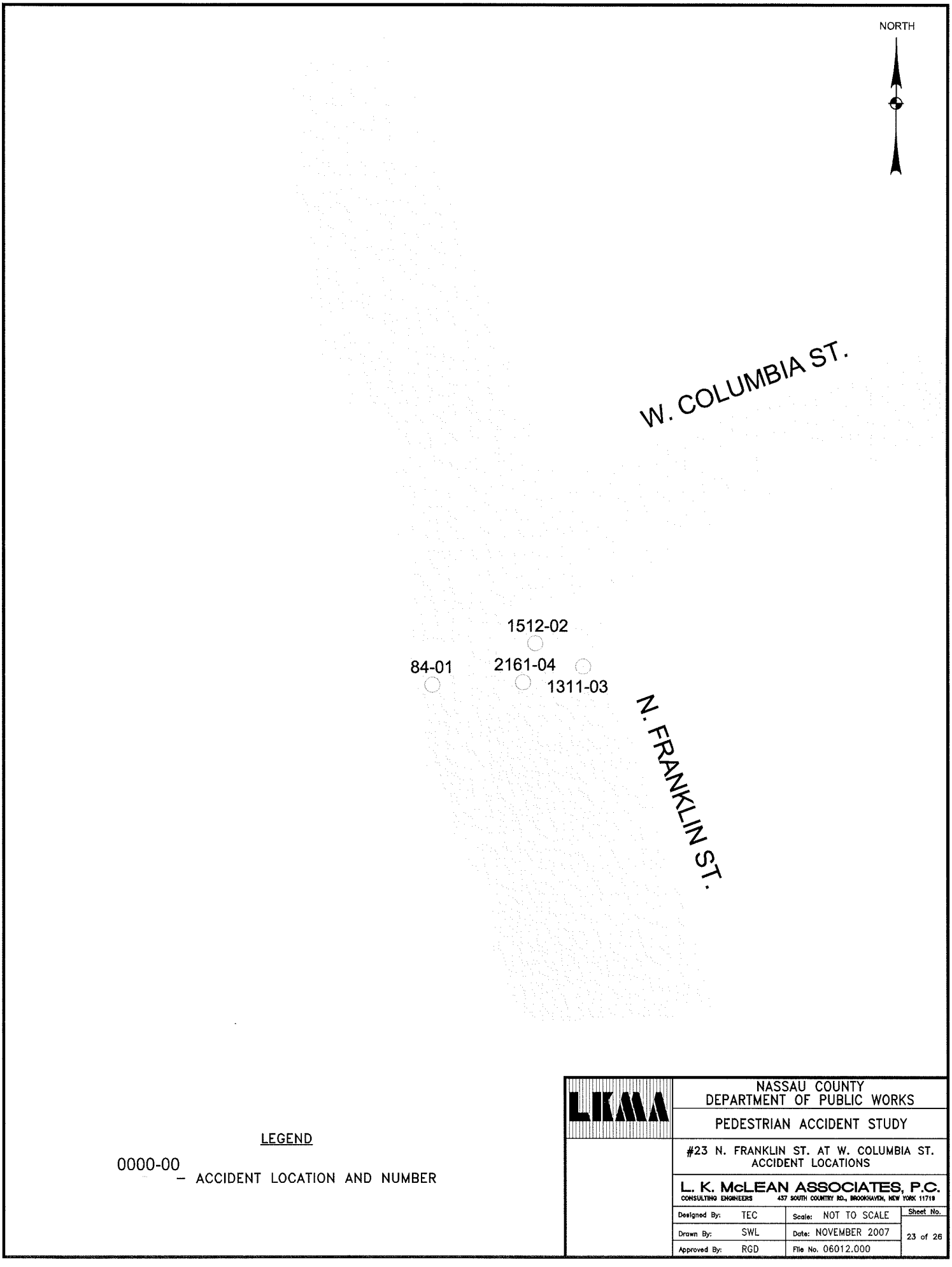
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#22 FULTON AVE. BETWEEN
CALIFORNIA AVE. AND WARNER AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | |
|---|---|---|---|
| Designed By: | TEC | Scale: NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: NOVEMBER 2007 | 22 of 26 |
| Approved By: | RGD | File No. 06012.000 | |

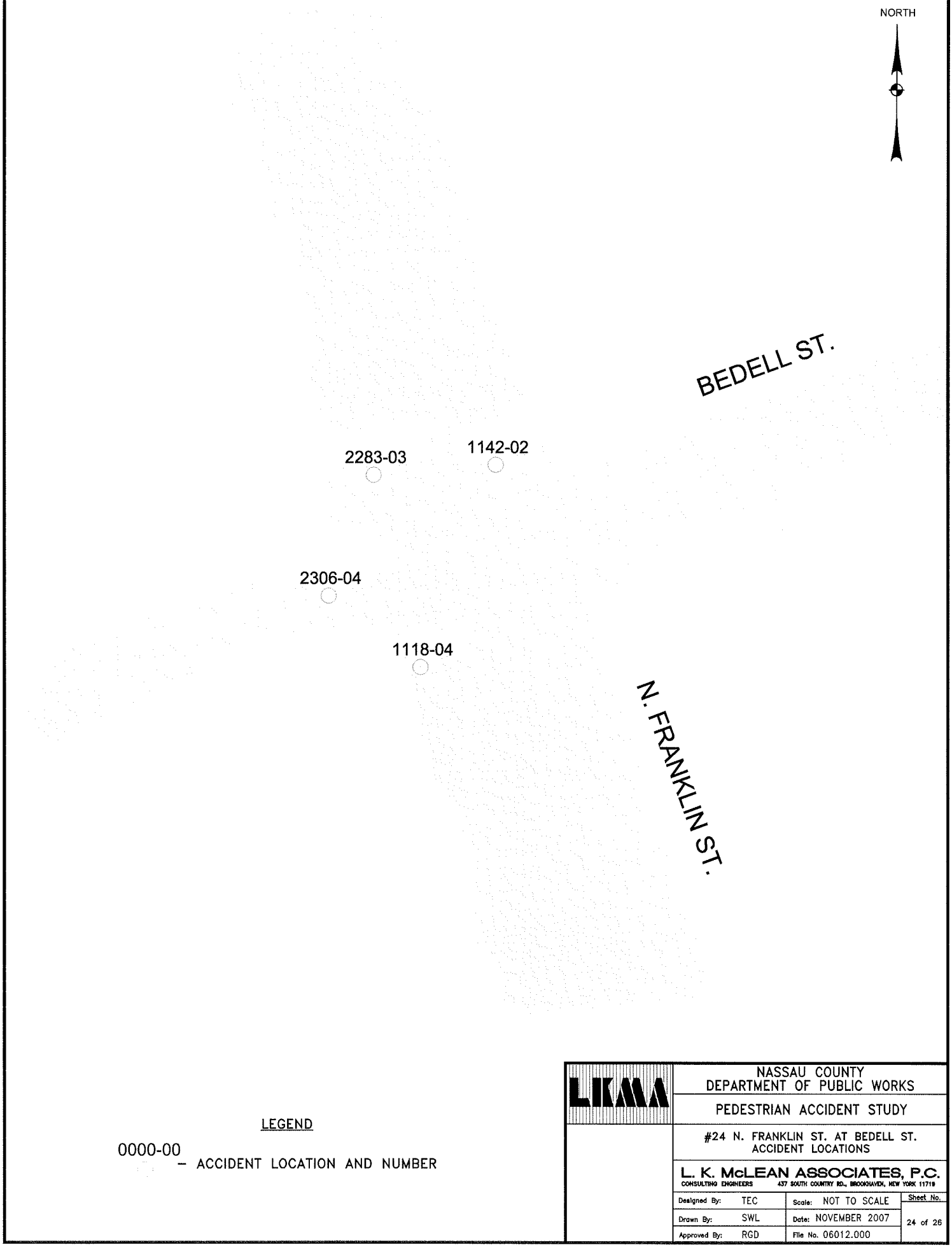



LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

| | |
|---|---|
| LKMA | NASSAU COUNTY<br>DEPARTMENT OF PUBLIC WORKS |
| | PEDESTRIAN ACCIDENT STUDY |
| | #23 N. FRANKLIN ST. AT W. COLUMBIA ST.<br>ACCIDENT LOCATIONS |
| | L. K. McLEAN ASSOCIATES, P.C.<br>CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719 |

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 23 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

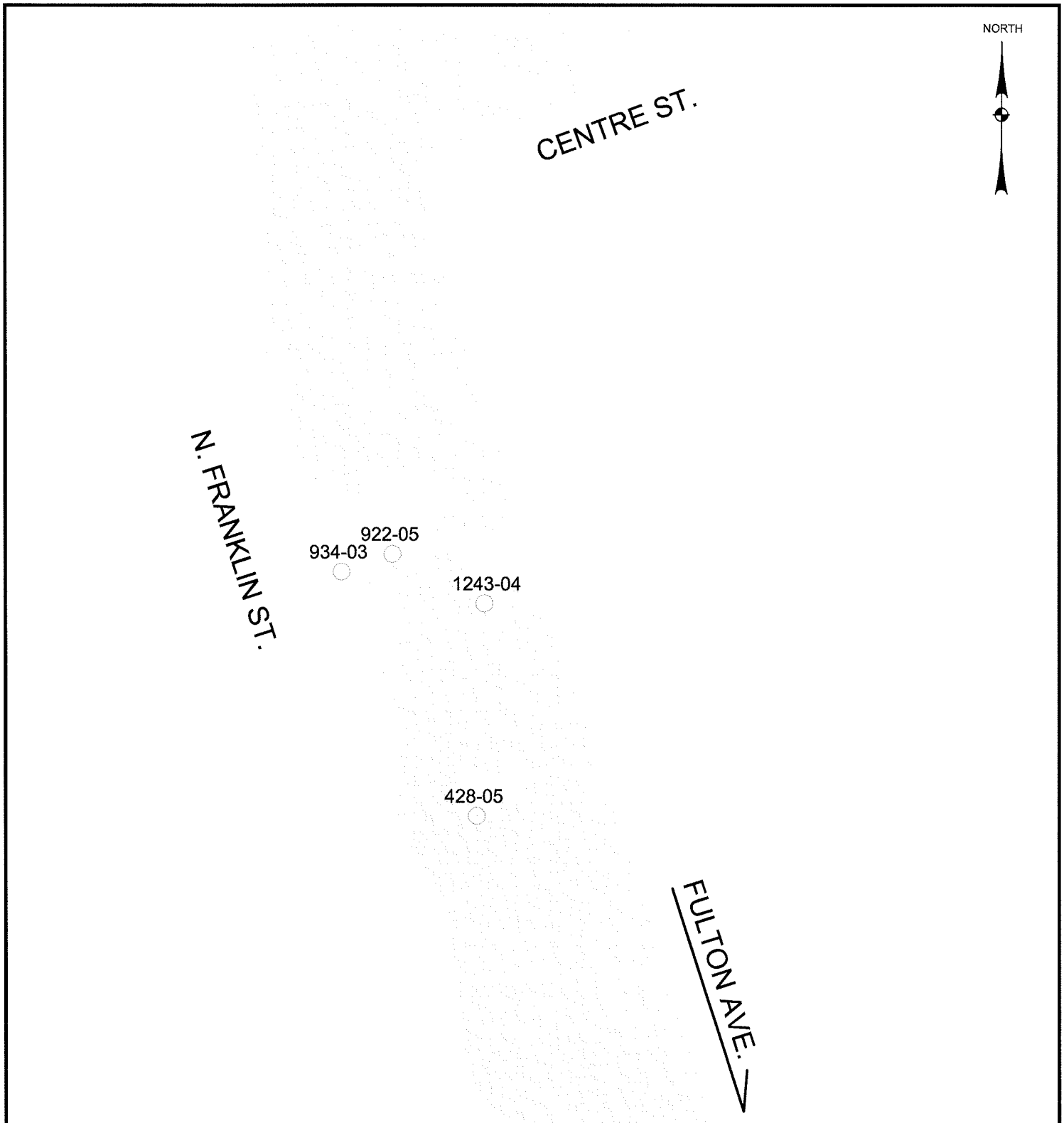
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#24 N. FRANKLIN ST. AT BEDELL ST.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | Sheet No. |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | 24 of 26 |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

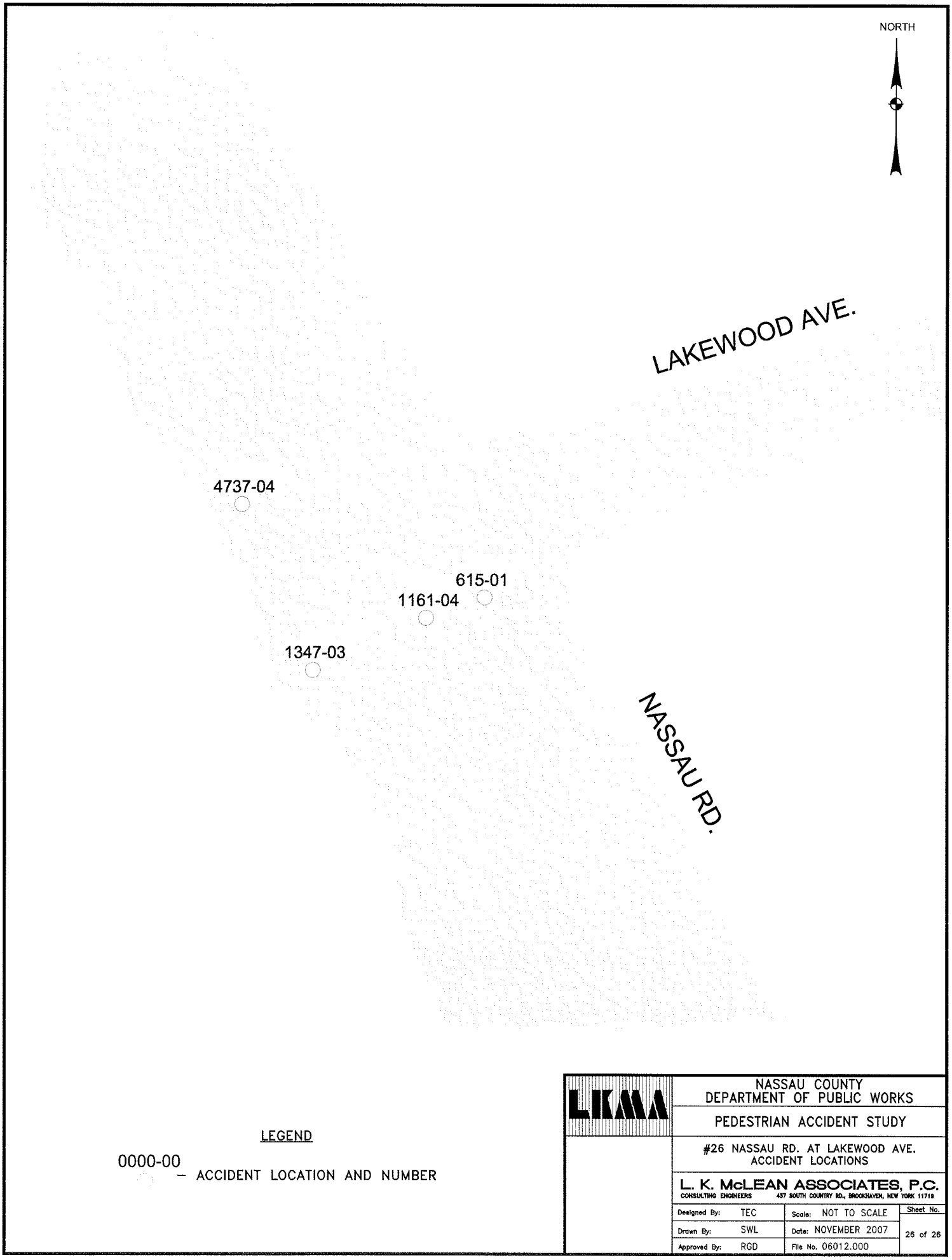
NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#25 N. FRANKLIN ST. BETWEEN
CENTRE ST. AND FULTON AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 25 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |




LEGEND

0000-00 – ACCIDENT LOCATION AND NUMBER

LKMA

NASSAU COUNTY
DEPARTMENT OF PUBLIC WORKS

PEDESTRIAN ACCIDENT STUDY

#26 NASSAU RD. AT LAKEWOOD AVE.
ACCIDENT LOCATIONS

L. K. McLEAN ASSOCIATES, P.C.
CONSULTING ENGINEERS 457 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719

| | | | | |
|---|---|---|---|---|
| Designed By: | TEC | Scale: | NOT TO SCALE | Sheet No. |
| Drawn By: | SWL | Date: | NOVEMBER 2007 | 26 of 26 |
| Approved By: | RGD | File No. | 06012.000 | |

| FIELD VISIT DATA FOR NASSAU COUNTY PEDESTRIAN STUDY<br>26 HIGHEST ACCIDENT LOCATIONS | | | | | | |
|---|---|---|---|---|---|---|
| **Loc #** | **Arterial** | **Secondary Street** | **Time of Day** | **Percentage of Total Accidents Per Intersection** | **Date(s) of Field Visit(s)** | **Weather Conditions** |
| 1 | FRANKLIN STREET | FRONT STREET | 6AM - 10AM | 29% | 11/1/07 | Clear |
| | | | 10AM - 4PM | 29% | 10/4/06, 10/30/07 | Clear |
| | | | 4PM - 7PM | 14% | | |
| | | | 7PM - 12 MID | 14% | | |
| | | | 12 MID - 6AM | 14% | | |
| 2 | N. FRANKLIN STREET | FULTON AVENUE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 30% | 5/2/07, 10/30/07 | Clear |
| | | | 4PM - 7PM | 20% | | |
| | | | 7PM - 12 MID | 30% | 10/30/07 | Clear |
| | | | 12 MID - 6AM | 20% | | |
| 3 | PENINSULA BOULEVARD | WASHINGTON STREET | 6AM - 10AM | 38% | 11/1/07 | Clear |
| | | | 10AM - 4PM | 38% | 5/2/07, 10/30/07 | Clear |
| | | | 4PM - 7PM | 0% | | |
| | | | 7PM - 12 MID | 13% | | |
| | | | 12 MID - 6AM | 13% | | |
| 4 | FULTON AVENUE | CATHEDRAL AVENUE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 29% | 9/26/07 | Clear |
| | | | 4PM - 7PM | 43% | 10/30/07 | Clear |
| | | | 7PM - 12 MID | 29% | | |
| | | | 12 MID - 6AM | 0% | | |
| 5 | JACKSON STREET | WASHINGTON STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 17% | 9/26/07 | Clear |
| | | | 4PM - 7PM | 50% | 10/30/07 | Clear |
| | | | 7PM - 12 MID | 33% | | |
| | | | 12 MID - 6AM | 0% | | |
| 6 | NASSAU ROAD | WOODS AVENUE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 33% | 9/27/06 | Clear |
| | | | 4PM - 7PM | 0% | | |
| | | | 7PM - 12 MID | 50% | 10/30/07 | Clear |
| | | | 12 MID - 6AM | 17% | | |
| 7 | FULTON AVENUE | BELL STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 50% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 25% | | |
| | | | 7PM - 12 MID | 25% | | |
| | | | 12 MID - 6AM | 0% | | |

| FIELD VISIT DATA FOR NASSAU COUNTY PEDESTRIAN STUDY<br>26 HIGHEST ACCIDENT LOCATIONS | | | | | | |
|---|---|---|---|---|---|---|
| **Loc #** | **Arterial** | **Secondary Street** | **Time of Day** | **Percentage of Total Accidents Per Intersection** | **Date(s) of Field Visit(s)** | **Weather Conditions** |
| 8 | N. FRANKLIN STREET | JACKSON STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 30% | 9/26/06 | Clear |
| | | | 4PM - 7PM | 30% | 10/30/07 | Clear |
| | | | 7PM - 12 MID | 30% | | |
| | | | 12 MID - 6AM | 10% | | |
| 9 | FULTON AVENUE | WASHINGTON STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 30% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 30% | | |
| | | | 7PM - 12 MID | 0% | | |
| | | | 12 MID - 6AM | 10% | | |
| 10 | FULTON AVENUE | BETWEEN N. FRANKLIN STREET AND MAIN STREET | 6AM - 10AM | 13% | | |
| | | | 10AM - 4PM | 38% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 25% | | |
| | | | 7PM - 12 MID | 0% | | |
| | | | 12 MID - 6AM | 25% | | |
| 11 | FULTON AVENUE | CLINTON STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 75% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 25% | | |
| | | | 7PM - 12 MID | 0% | | |
| | | | 12 MID - 6AM | 0% | | |
| 12 | FULTON AVENUE | HILTON AVENUE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 0% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 57% | 10/30/07 | Clear |
| | | | 7PM - 12 MID | 43% | | |
| | | | 12 MID - 6AM | 0% | | |
| 13 | JACKSON STREET | MAIN STREET | 6AM - 10AM | 17% | | |
| | | | 10AM - 4PM | 50% | 10/4/06 | Clear |
| | | | 4PM - 7PM | 33% | | |
| | | | 7PM - 12 MID | 0% | | |
| | | | 12 MID - 6AM | 0% | | |
| 14 | N. FRANKLIN STREET | W. ORCHARD STREET | 6AM - 10AM | 17% | | |
| | | | 10AM - 4PM | 67% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 17% | | |
| | | | 7PM - 12 MID | 0% | | |
| | | | 12 MID - 6AM | 0% | | |

| FIELD VISIT DATA FOR NASSAU COUNTY PEDESTRIAN STUDY<br>26 HIGHEST ACCIDENT LOCATIONS | | | | | | |
|---|---|---|---|---|---|---|
| **Loc #** | **Arterial** | **Secondary Street** | **Time of Day** | **Percentage of Total Accidents Per Intersection** | **Date(s) of Field Visit(s)** | **Weather Conditions** |
| 15 | GREENWICH STREET | JERUSALEM AVENUE | 6AM - 10AM | 40% | 11/1/07 | Clear |
| | | | 10AM - 4PM | 40% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 0% | | |
| | | | 7PM - 12 MID | 20% | | |
| | | | 12 MID - 6AM | 0% | | |
| 16 | GREENWICH STREET | CRUIKSHANK AVENUE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 60% | 9/27/06, 10/30/07 | Clear |
| | | | 4PM - 7PM | 0% | | |
| | | | 7PM - 12 MID | 20% | | |
| | | | 12 MID - 6AM | 20% | | |
| 17 | FULTON AVENUE | NASSAU PLACE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 0% | 10/4/06 | Clear |
| | | | 4PM - 7PM | 20% | | |
| | | | 7PM - 12 MID | 80% | 10/30/07 | Clear |
| | | | 12 MID - 6AM | 0% | | |
| 18 | JACKSON STREET | BETWEEN TERRACE AVENUE & N. FRANKLIN STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 0% | 10/4/06 | Clear |
| | | | 4PM - 7PM | 60% | 10/30/07 | Clear |
| | | | 7PM - 12 MID | 40% | | |
| | | | 12 MID - 6AM | 0% | | |
| 19 | JACKSON STREET | TERRACE AVENUE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 13% | 10/4/06 | Clear |
| | | | 4PM - 7PM | 25% | | |
| | | | 7PM - 12 MID | 0% | | |
| | | | 12 MID - 6AM | 25% | | |
| 20 | PENINSULA BOULEVARD | S. FRANKLIN STREET | 6AM - 10AM | 0% | 11/1/07 | Clear |
| | | | 10AM - 4PM | 0% | 10/4/06 | Clear |
| | | | 4PM - 7PM | 25% | | |
| | | | 7PM - 12 MID | 25% | | |
| | | | 12 MID - 6AM | 50% | | |
| 21 | S. FRANKLIN STREET | ELIZABETH AVENUE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 0% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 0% | | |
| | | | 7PM - 12 MID | 100% | 10/30/07 | Clear |
| | | | 12 MID - 6AM | 0% | | |

| FIELD VISIT DATA FOR NASSAU COUNTY PEDESTRIAN STUDY<br>26 HIGHEST ACCIDENT LOCATIONS | | | | | | |
|---|---|---|---|---|---|---|
| **Loc #** | **Arterial** | **Secondary Street** | **Time of Day** | **Percentage of Total Accidents Per Intersection** | **Date(s) of Field Visit(s)** | **Weather Conditions** |
| 22 | FULTON AVENUE | BETWEEN CALIFORNIA AVENUE & WARNER AVENUE | 6AM - 10AM | 50% | 11/1/07 | Clear |
| | | | 10AM - 4PM | 0% | 5/2/07 | Clear |
| | | | 4PM - 7PM | 0% | | |
| | | | 7PM - 12 MID | 25% | | |
| | | | 12 MID - 6AM | 25% | | |
| 23 | N. FRANKLIN STREET | W. COLUMBIA STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 50% | 10/4/06 | Clear |
| | | | 4PM - 7PM | 0% | | |
| | | | 7PM - 12 MID | 50% | | |
| | | | 12 MID - 6AM | 0% | | |
| 24 | N. FRANKLIN STREET | BEDELL STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 50% | 9/27/06 | Clear |
| | | | 4PM - 7PM | 25% | | |
| | | | 7PM - 12 MID | 25% | | |
| | | | 12 MID - 6AM | 0% | | |
| 25 | N. FRANKLIN STREET | BETWEEN CENTRE STREET & FULTON STREET | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 25% | 10/4/06 | Clear |
| | | | 4PM - 7PM | 25% | | |
| | | | 7PM - 12 MID | 0% | | |
| | | | 12 MID - 6AM | 50% | | |
| 26 | NASSAU ROAD | LAKEWOOD AVENUE | 6AM - 10AM | 0% | | |
| | | | 10AM - 4PM | 25% | 9/27/06, 10/4/06 | Clear |
| | | | 4PM - 7PM | 75% | 10/30/07 | Clear |
| | | | 7PM - 12 MID | 0% | | |
| | | | 12 MID - 6AM | 0% | | |

| | | |
|---|---|---|
| **Totals for Entire Study Area** | **6AM - 10AM** | **9%** |
| | **10AM - 4PM** | **32%** |
| | **4PM - 7PM** | **24%** |
| | **7PM - 12 MID** | **25%** |
| | **12 MID - 6AM** | **10%** |

# RAYMOND DI BIASE, P.E., P.T.O.E.™
## Principal/Senior Transportation Engineer

***Education***
BCE, Civil Engineering , Manhattan College, 1974

***Registrations***
Professional Engineer, NY

Professional Engineer, NJ

Professional Traffic Operations Engineer

***Professional Societies***
Institute of Transportation Engineers (Treasurer, NY/NJ Metro Section, 2007)

American Planning Association

***Planning Board***
Member,
Village of Port Jefferson Planning Board,
2005-2010

Mr. DiBiase has a diverse background in the planning, design and construction of transportation facilities. He is very experienced in traffic engineering design and is equally adept in the staging of construction and the development of maintenance and protection of traffic plans to minimize the impact on existing highway operations. Mr. DiBiase has particular expertise in the presentation of transportation projects and studies at public forums, including charrettes, information meetings and hearings.

Significant projects directed by Mr. DiBiase include the following:

**Yaphank Surplus Properties, Suffolk County Department of Planning:** As part of a planning team and in conjunction with the Suffolk County Department of Planning, a review was conducted of approximately 250 acres of County owned property in order to help prepare a Request for Expressions of Interest aimed at soliciting ideas for creation of a landmark development on this land. The property involved included both developed and undeveloped parcels of the Suffolk County center in Yaphank. Through a Review Committee and public meetings a broad development framework was established in support of initiating workforce housing and cultural, recreation, sports and entertainment venues. Responsible for coordination of project review elements, traffic/transportation impacts, and public meeting workshops.

**Transportation Master Plan, Town of Brookhaven:** Project Manager for Phase I of the update of the Town's Comprehensive Transportation Plan, which included data collection and analysis, and preparation for public meetings. Was co-Author of the Town's most recent draft comprehensive Transportation Plan in 1992.

**John F. Kennedy Airport "Airtrain," Queens County (Port Authority of NY & NJ):** Responsible for development of highway improvement plans and Maintenance and Protection of Traffic (MPT) plans on the Van Wyck Expressway (VWE) for this $1 Billion "Design-Build" project. This work on the VWE enabled the construction of the elevated Airtrain tracks from the central terminal area at JFK to LIRR's Jamaica Station to proceed on schedule.

**Review of Traffic Impacts of Private Development:** Since 1989, have reviewed hundreds of proposed private development projects, including those for the Towns of Brookhaven, Southampton and East Hampton, and the Village of Mineola, to assess potential impacts on traffic flow and safety. This work is performed on an "on-call" basis for these municipalities. Work includes review of traffic impact studies and site plans, as well as testimony at public meetings, and coordination with NYSDOT and Suffolk County DPW.

**Traffic Calming and Roadway Rehabilitation Improvements, Village of Great Neck Plaza:** As part of a Traffic Calming Grant the Village obtained from NYSDOT, plans were developed to calm traffic and improve safety. The plans included the fourth roundabout in New York State, adjacent to the Great Neck Plaza LIRR station. The project also included design of permanent Speed Awareness Devices on the four main roads in the Village. Plans for installation of Advanced Pedestrian Safety Systems, illuminated warning signs alerting motorists to the presence of pedestrians entering a crosswalk, were also prepared.

**East Hampton Transportation Plan, Town of East Hampton:** Principal Author of the Town's 1997 comprehensive Transportation Plan, addressing all modes of transportation, including intermodal aspects. Worked with a Technical Advisory Committee, representatives from municipal agencies and the LIRR, as well as Citizen Advisory Committees to formulate auto, bus, rail, ferry and bicycle plans. This plan was the first update to the Town's transportation plan in over 30 years, and documented significant traffic increases in the summer tourist season during that time period.

LKMA

**General Traffic Engineering Services "On Call" Agreement, Port Authority of New York and New Jersey:** Project Officer for a wide variety of transportation engineering projects for Newark Liberty Airport, LaGuardia Airport, JFK Airport, the Outerbridge Crossing, the George Washington Bridge, and the Lincoln and Holland Tunnels. Work encompassed traffic safety studies, including development of innovative measures to reduce accidents, and the preparation of MPT plans for major roadway reconstruction projects.

**Noyack Road Study:** Provided Traffic Engineering and Planning services for this planning study. Although Noyack Road traverses an area which is primarily residential, it carries a significant amount of through traffic which bypasses congested Montauk Highway (NY 27) in the summer season. LKMA developed several recommendations to improve safety and "calm" traffic on Noyack Road using curb "bulb-outs;" pavement markings; rumble strips; and traffic signage, including speed awareness signs, new speed limit signs, and innovative warning signs. Participated in a two-day charrette, which was structured to facilitate input from local officials, civic groups and area residents.

**Improvements to Suffolk County Roadways, SCDPW:** Projects have been conducted for several County Roadways, including CR 16 (Portion and Horseblock Roads), CR 57 (Bay Shore Road), CR 67 (Motor Parkway), and CR 80 (Montauk Highway), as well as Traffic Signal Improvements at various intersections, including those adjacent to LIRR crossings. Work covered the entire range of design, from Expanded Project Proposals, including traffic capacity and safety analysis, to preliminary and final design plans. Currently Project Manager of the fast-track project to add a travel lane to County Road 39 in Southampton, from the terminus of Sunrise Highway to North Sea Road. Provided assistance to the County at public forums, including information centers and civic meetings.

**Motorcycle Safety Study, Town of Brookhaven**: Under a Governor's Traffic Safety Committee grant, conducted a study of motorcycle accidents in the Town of Brookhaven. This study reviewed accident records in Suffolk's largest Town over a three-year period, to determine causes and contributing factors. The goal was to reduce crashes and injuries, by identifying those accident trends that can be reversed by roadway improvements and/or operator education.

**Holbrook Road, Boyle Road, Canal Road and Mooney Pond/College Roads, Town of Brookhaven:** Project Manager for development of traffic safety improvements for these arterial roadways in the Town of Brookhaven.

**Suffolk County Highway Needs Assessment, SCDPW:** This project encompassed over 80 Suffolk County Highways totaling over 400 miles in length. The study examined existing and future traffic and roadway conditions; compiled traffic, bridge and roadway inventory information; identified highway deficiencies and associated improvements; established service and safety standards, and developed a prioritized listing of projects with estimated costs for inclusion in future County Capital Programs.

**Shoreham Ferry Terminal, Town of Brookhaven:** Prepared benefit/cost analyses of alternative roadway alignment and access schemes for the proposed Shoreham Ferry terminal for NYSDOT and the Town of Brookhaven.

**Route 25A Street Lighting, Mt. Sinai (PIN 0327.46), Town of Brookhaven & NYSDOT:** Project Manager for highway lighting of Route 25A in Mt. Sinai. The plans were prepared for the Town of Brookhaven for a NYSDOT letting in conjunction with the widening of Route 25A.

**Reconstruction of Brooklyn Queens Expressway/Gowanus Expressway (I-278) Merge, Brooklyn, NYSDOT:** Project Director for preliminary and final design. The project included a public hearing and meetings with the local community board. Design of this $50 million project was complicated by significant right-of-way and utility constraints, and included the development of innovative maintenance and protection of traffic plans.

# THOMAS CASSIDY
Senior Project Manager

***Education***
AS, Architectural Technology, 1968

***Professional Societies***
Institute of Transportation Engineers

Mr. Cassidy has over 35 years of experience in Traffic and Transportation Engineering. He has extensive experience in the planning and design of traffic signal systems and Intelligent Transportation Systems (ITS). In addition, he has completed numerous traffic and parking studies to improve safety and capacity. Mr. Cassidy has been responsible for the submittal of numerous plans, specification and estimate packages involving pavement markings and related traffic control devices.

**Nassau County Computer Expansion Project-** The project involved final design for the upgrade and/or replacement of about 50 traffic signals in Nassau County along Atlantic Avenue/Main Street in East Rockaway, Hempstead Avenue in Malverne and West Hempstead and Forest Avenue/Brewster street in Glen Cove. The design work included interconnecting the Atlantic Avenue/Main Street and Hempstead Avenue traffic signals into Nassau County's main traffic responsive computer system in Mineola. Pavement markings and signs were also key elements. (2004; Quality Assurance Engineer)

**NYSDOT INFORM On-Call Engineering Services Agreement:** *Senior Project Manager.* Supervised the analysis and design of approximately 50 major and 40 minor impacts to the INFORM Traffic Signal System due to NYSDOT highway construction projects. This work included the following elements:

- Manual and machine intersection and arterial volume counts
- Intersection inventory including signal equipment, signing and pavement markings
- Data collection and development of corridor traffic signal progressions
- Review of accident data and preparation of accident diagrams
- Traffic signal design
- Pavement markings and sign design

Supervised design and preparation of INFORM Plans, Specifications and Estimate (PS&E) for Long Island Expressway Service Road traffic signals Exits 49 to 52. These projects included traffic counts, accident analysis, speed analysis, MPT, and the redesign of 13 LIE Service Road signals.

In addition Mr. Cassidy has experience in the design and implementation of Intelligent Transportation Systems (ITS). He has been responsible for the design of the Fiber Optic System along Route 110, Route 27, Route 109, and Route 24 in Nassau and Suffolk Counties. This project included:

- Fiber Optic Communication System
- Variable Message Signs (VMS) Locations
- Closed Circuit Television (CCTV) Locations

Mr. Cassidy was responsible for the design and preparation of Plans, Specifications, and Estimate (PS&E) for the Long Island Expressway 4$^{th}$ Lane Projects, Exits 40-43, 43-49, 57-61, and 61-64. They included the following system elements:

- Single and Dual Ramp Metering Installations
- VMS (Variable Message Sign) Location and Installation
- CCTV Location and Installation
- Fiber Optic Communications System
- Service Road Signal Upgrade and/or Rebuilds

Supervising the CAD transfer of INFORM as-built information to State supplied base mapping using Intergraph Microstation.

**Port Authority of NY & NJ – General Traffic Engineering Service On-Call Agreement:** *Senior Project Manager.* Performed Quality Assurance and Quality Control (QA/AC) reviews for numerous projects that have included the following work elements, MOT, construction staging, traffic signal design, pavement markings and signing.

**Suffolk County – (CR12) Hoffman Avenue Corridor Study:** *Senior Project Manager.* Supervised the study of a 4-mile section of Hoffman Avenue in Lindenhurst. This study included collection and analysis of traffic counts, speed studies, accident analysis, and highway capacity analysis. Recommendations focused on safety improvements and included geometric improvements, new lane use proposal, traffic calming schemes, signing and pavement marking revisions.

**Garden City Area-Wide Traffic Study**: *Project Manager.* Supervised the area wide traffic study for the entire Village of Garden City. The report addressed traffic safety and parking issues at various locations. Work elements included collection and analysis of traffic counts, speed studies, accident analysis and highway capacity analysis, parking analysis, signing and pavement markings. Recommendations included traffic calming schemes, signing and pavement marking improvements, geometric improvements, and signal improvements.

**South Brooklyn TOPICS Project**: *Engineer.* Supervised the signal warrant studies for 750 intersections in South Brooklyn. This project also included route operation studies for 68 routes and improvement designs for 450 signals.

**Nassau County TOPICS Project:** *Engineer.* Supervised the design and preparation of PS&E for TOPICS Signal Improvements for Old Country Road – 44 signals, Merrick Road – 24 signals, Village of Rockville Centre – 27 signals, and Town of Oyster Bay – 16 signals. Theses projects included work elements such as:

- Traffic Counts and Field Studies
- Accident Analysis
- Replacement, Installation, Modernization, and Interconnection of Traffic Signals
- Center Median, Guide Rail, and Curb Radius Improvements
- Pavement Markings and Signing
- Installation of New Traffic Signals
- Relocation of Objects with Substandard Lateral Clearances.

**Islip Intersection Improvements, Town of Islip:** Three separate projects, encompassing design and construction monitoring of roadway improvements at ten intersections. Projects included traffic counts, capacity analysis, sight distance measurements, accident analysis and development of appropriate countermeasures including roadway widening, turn lanes, curbing, pavement restoration, installation of drainage facilities, traffic signal installation/modification, traffic signal interconnection, signs, pavement markings and highway lighting. ($50K; 2005; Sr. Traffic Engineer)

**Traffic Signal Railroad Preemption Study, Nassau and Suffolk counties (PIN 0931.69), NCDPW/NYSDOT:** This study, administered by NYSDOT, examined traffic operations at 45 intersections adjacent to LIRR crossings in Nassau and Suffolk Counties with the goal of safely clearing vehicles from track crossings. Determined proper timing for existing signal preemptions, and developed a modified methodology for calculation of this time interval. At other intersections, recommended and prepared design plans for queue detection, installation of advance traffic signals at the crossing, or intersection reconstruction. (2005, Sr. Traffic Engineer)

LKMA

# SHAWN W. LANIGAN
Senior Technician

***Education***
BS - Business Administration, Oswego State University, 2002

Mr. Lanigan has nearly ten years of involvement in traffic engineering and transportation related issues including data collection, traffic analysis, ITS design, traffic signal design, INFORM system evaluation, MPT development, signage, and field inspections along with computer applications (e.g., Microstation, AutoCADD, Highway Capacity Software and several Microsoft applications). His relevant project experience includes:

**General Traffic Engineering Services "On Call" Agreement, Port Authority of New York and New Jersey:** Agreement included a wide variety of transportation engineering projects for Newark Liberty Airport, LaGuardia Airport, JFK Airport, the Outerbridge Crossing, the George Washington Bridge, and the Lincoln and Holland Tunnels. Work encompassed traffic safety studies including development of innovative measures to reduce accidents; traffic impact studies; preparation of MPT/Construction Staging plans for major roadway reconstruction projects; and traffic signal design. ($1.5M (fee); 2005; Sr. Technician)

**Town of Islip Traffic Signal Designs, Islip DPW:** Project entails the design of traffic control signs for four different intersections (Brentwood Rd. at Connecticut Ave., Caleb's Path at Vanderbilt Ave., Church St. at Knickerbocker Ave./Valley Forge Dr., and Washington Ave. at Van Cedar St./Flick Pl.) within the Town. Participated in development of signal design, specifications and cost estimates along with field inspection of signal interconnect (2005, Sr. Technician).

**Town of Brookhaven Transportation Plan:** Project entails initiating short-and long-range highway and safety improvements that were developed and prioritized from a master planning study for the entire Town. Responsible for data collection of the public transportation system. (2005, Sr. Technician)

**Relocation of Public Works Facilities, City of New Rochelle:** A traffic study was conducted as part of a Draft Environmental Impact Study pertaining to the relocation of separate DPW facilities to a single larger complex. Responsible for field collection of traffic volume and vehicle type distribution data. (2005, Sr. Technician)

**NYSDOT Region 6 Priority Investigation Locations Study (PILS):** This project featured a traffic study of various roadway segments for evaluation of traffic impacts, accident assessments and design of mitigation measures. Utilizing a combination of field data sheets and video footage of the study areas, new AutoCAD basemaps were created for all of the eighteen selected areas, including roadway configuration, lane markings, signing and signal information. The drafting on this project also included the creation of a complete sign inventory, drawing all the standard signs utilized within the project and then customizing them to meet the specific use in the areas. (2005)

**Greater Jamaica Development Corporation Public Improvements Study, NYCDOT:** Involved the conceptual redesign of entry roadways into the downtown center of Jamaica, Queens. Utilizing AutoCAD, was responsible for creating several basemaps for use in the final report, including mapping used to depict traffic volumes, level of service data, trip assignments and significant impacts to the study area, as well as details of the proposed reconstruction of the entrance to Jamaica. Work on this project also included the creation of presentation drawings for use during several public meetings to gain public approval of the project. (2005)

**Yankee Stadium Environmental Impact Study, NYCDOT:** An EIS was performed to view the potential impacts of the proposed construction of a new Yankee Stadium and the redesign of the area. Proposed redesign to include relocation of stadium to north side of 161st Street, renovation of current Yankee Stadium, construction of several parking garages and land for recreational use. Performed travel runs to determine the average speed and time of travel within key peak hours in the area surrounding the proposed development site. This work also included the redesign of travel routes due to road closures to reduce traffic around highly used pedestrian areas, as well the

observations performed during these peak periods. Was also responsible for the creation of aerial base-mapping of the study area. These maps were used to depict the three scenarios studied, including existing conditions, and a comparison of the no-build and build years. This mapping was then imported into a geographic information system (GIS) based database to create volumes maps for the various analyzed scenarios. (2005)

**Bronx Terminal Market Environmental Impact Study, NYCDOT:** An EIS was performed prior to development of Bronx Terminal Market area (south of Yankee Stadium) to include bandbox shopping center and accompanying parking garages. Responsible for the creation of aerial base-mapping of the area, which was imported into a geographic information system (GIS) based database to depict volume and level of service data for the existing, no Build and Build years. Also aided in the creation of the mitigation measures for several of the project area's intersections. After the initial concepts were complete, the mitigation measures were then drawn in AutoCAD to show the comparison of existing conditions to the proposed changes. (2005)

**Newark Liberty International Airport Landside Vehicular Traffic Surveys, PANY&NJ:** Annual study performed to attain levels of travel within airport, on roads and within airport terminals. This project involved an AirTrain survey designed to gather information on the origin-and-destination of passengers. Supervised collection of pedestrian counts, manual turning movement counts and the collection of air passenger data including pertinent flight information such as the flight and gate numbers, aircraft type, number of passengers, arrival and departure schedules, and actual arrival and departure times. Also assisted in data tabulations and database maintenance. (2004)

**Downtown Flushing Traffic Simulation, NYC Economic Development Corporation:** This project aimed at improving traffic flow within the downtown area of Flushing. Was responsible for the drafting of several conceptual designs using AutoCAD. These designs included the redesign of the intersection of Main Street at Kissena Boulevard, specifically the lane designations to include a proposed bus lane, as well as a cross section of a typical area of Main Street depicting the exact lane designations, width, curb lines and direction. (2005)

**West Midtown Bus Parking and Storage Study, PANY&NJ:** Study performed to aid in the selection of new Port Authority bus layover lot. Performed bus surveys to determine the number and length of bus layovers both on-street and within designated parking lots. Assisted in raw data tabulations utilizing Microsoft Access, including the coding and breakdown of over 2,000 surveys. (2004)

**INFORM (Information for Motorists), NYSDOT:** Assisted in the design, implementation, and maintenance of the INFORM System for the New York State Department of Transportation. Work on the INFORM system included several major tasks within the realm of traffic analysis, ITS design, signal design and timing, and maintenance. Assisted in data collections including traffic counts, and accident analysis; physical inspections of the proposed work zones; ITS and signal design; signal programming and analysis; cost and materials estimates; and construction inspections to ensure the quality of contractor's finished work. Performed site plan reviews for NYSDOT to prevent impacts to the INFORM system by adjoining development.

**Long Island Expressway Capacity Improvement High Occupancy Vehicle Lane Construction, NYSDOT:** Project involved development of the LIE HOV lanes. Performed initial field inspections to select locations of new equipment, along with cataloging the location and quality levels of existing equipment; aided in the design of system upgrades; performed computer aided drafting (CAD) on plan sheets; prepared cost and materials estimates for the construction of the upgrades.

**Long Island Expressway Capacity Improvement Temporary Bypass, NYSDOT:** Designed a temporary bypass of the INFORM system for use during construction of the Long Island Expressway HOV lane. The bypass was designed in order to ensure constant and consistent connection to the mainline system outside of the construction zone, allowing continued access to the system at the control center.

**Parking & Traffic Management Plan for 2002 United States Open Championship, NYSDOT:**
A parking and traffic management plan to ensure safe, continuous travel throughout the duration of the 2002 USPGA Golf Tournament held at Bethpage State Park. Aided in the location selections process for over 120 guide signs on all major arteries surrounding the event. Designed the maintenance and protection of traffic scheme for use at the parking location at SUNY Farmingdale that allowed for the closure of one traffic lane for event shuttle bus use.

**Brooklyn-Queens Expressway East Leg at Grand Central Parkway Reconstruction, NYCDOT:** Performed data collection using automatic traffic recorders to obtain the average daily traffic volumes; speed-delay studies to obtain average travel times and view daily traffic patterns along major arteries; vehicle classification counts performed concurrently with the placement of automated traffic recorders; manual turning movement counts to develop traffic patterns within the corridor; and origin-and-destination surveys were used to determine weaving patterns and flow conditions. Also assisted in all data collection and analyses to determine current and future conditions within the corridor.

**Hoffman Avenue (CR12) Corridor Study, SCDPW:** Performed the initial physical inspections of the corridor, including the identification of all traffic conditions, regulations, lane widths, and pavement markings. He analyzed accident data to develop traffic trends for determining necessary changes to the existing corridor's pavement markings, signing and pedestrian walkways. (2001)

**Village of Garden City Traffic Calming Plan, Village of Garden City DPW:** Performed physical inspections to determine traffic levels. Collected and analyzed several years of accident data to develop trends and methods of accident reduction. He aided in the design of several traffic calming methods within the village.

**Nassau County Signal Design – Manhasset, NCDPW:** Responsible for one of eight traffic signals that were redesigned according to Nassau County specifications in the Manhasset area. Performed initial field inspections to determine existing roadway conditions, sight distance, and potential design options. Participated in the complete redesign of signals within the corridor, including reinstallation of signal mast arms, signals heads, pedestrian push buttons, and all the necessary communication and power cables, as well as the re-striping of all pavement markings. (2002)

**John F. Kennedy International Airport Traffic Study, PANY&NJ:** For this Port Authority project, performed roadway inspections that included pavement markings, lane widths, roadway signing, and parking areas for traffic changes due to construction of a new airport terminal. Aided in roadway redesign and selection of several closed circuit television (CCTV) camera locations, to be used in conjuncture with the new JFK control center, for the surveillance of all parking areas.

**LaGuardia International Airport Traffic Study, PANYNJ:** Aided in the redesign of several roadways within LaGuardia International Airport to facilitate traffic flow conditions within the terminals and parking facilities. Also performed field inspections, turning movement counts and speed-delay studies.

**Wicks Road (CR7) Corridor Study, SCDPW:** Aided in the collection of physical data, including inspections of the corridor, traffic counts, and video surveillance for this corridor study along Wicks Road (CR7) in Suffolk County, Long Island. (2002)

**Little East Neck Road Corridor Study, SCDPW:** Performed data collection including manual turning movement and vehicle classification counts along Little East Neck Road in Long Island. (2002)

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