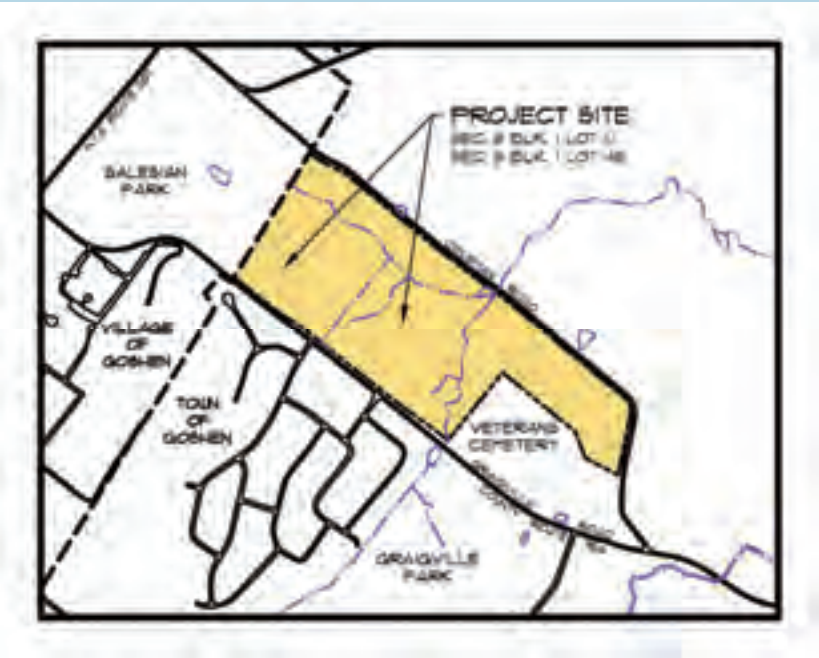
Maplewood Village At Goshen



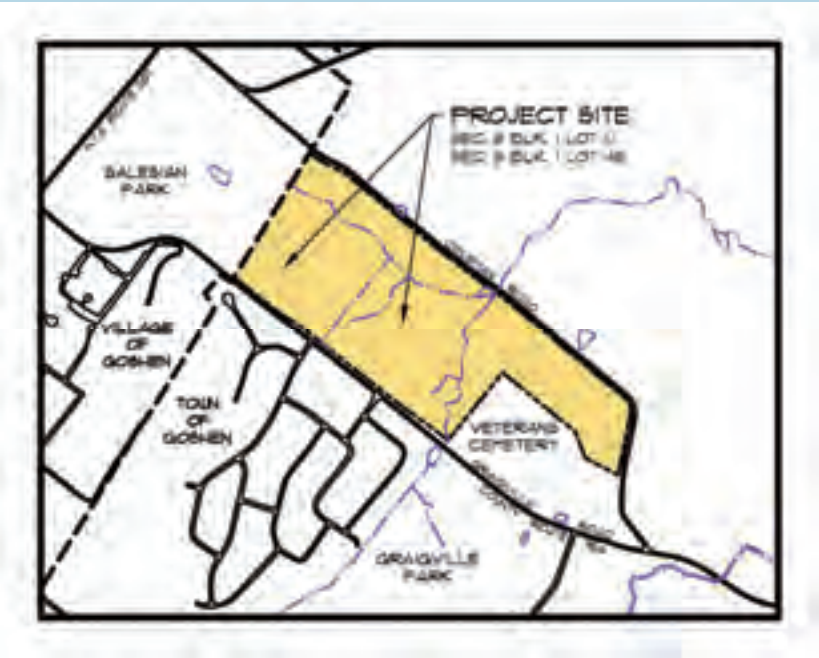
Draft Environmental Impact Statement

Town of Goshen
Orange County, New York

Volume III

May 2008

Maplewood Village At Goshen



Draft Environmental Impact Statement

Town of Goshen
Orange County, New York

Volume III

May 2008

DRAFT

ENVIRONMENTAL IMPACT STATEMENT

Maplewood Village at Goshen

COLEMAN ROAD AND CRAIGVILLE ROAD
TOWN OF GOSHEN
ORANGE COUNTY, NEW YORK

Tax Map Designation: Section 8, Block 1, Lot 1.1
Section 8, Block 1, Lot 48

Volume 3 of 3

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First Revised: January 2008
Final Revision: May 2008

Lead Agency Acceptance Date: May 1, 2008

Public Hearing Date: June 19, 2008 @ 7:30 p.m.

Deadline Date for Comments on the DEIS: July 3, 2008 @ 5:00 p.m.

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K.	Natural Resources Reports

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Appendix G

Goshen Area Traffic Study

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TRAFFIC IMPACT STUDY

****

GOSHEN AREA TRAFFIC STUDY FOR

HAMBLETONIAN PARK

HERITAGE ESTATES

MAPLEWOOD VILLAGE AT GOSHEN

TOWN OF GOSHEN, NEW YORK

JOB NO. 121

OCTOBER 20, 2005

REVISED OCTOBER 26, 2007

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SECTION 1

INTRODUCTION

This report has been updated to reflect the additional items requested to be addressed as outlined in the "Final Scope For The DEIS For The Hambletonian Park Subdivision." It should also be noted that the original traffic study was based on a development size of 42 single family dwelling units which has now been reduced to 38 lots.

Furthermore, the Town is in the process of having a Town-wide traffic study completed. While this study is not yet available as of this date, the traffic volume data and other information contained in this traffic study has been shared with the Town's consultant to assist in the preparation of the Town's study.

A. DESCRIPTION OF PROPOSED DEVELOPMENTS (Figure No.1)

Several developments are currently proposed in the Town of Goshen, which include Heritage Estates, Hambletonian Park and Maplewood Village at Goshen. The location of each of these developments is identified on Figure No. 1. The Maplewood Village development has multiple access connections to Coleman Road and to Craigville Road (County Route 66) and is expected to consist of up to 170 dwelling units. The Heritage Estates development will be accessed primarily from Old Chester Road and has the potential for 114 dwelling units. The Hambletonian Park development, which is

expected to now consist of some 38 dwelling units. is proposed on property which will be accessed via Upper Magic Circle Drive and Yankee Maid Lane. A future connection to Bridle Lane is also considered. For the purposes of this evaluation, a design year of 2015 has been considered as part of this evaluation.

B. SCOPE OF STUDY

This study has been prepared to evaluate the potential traffic impacts of the various proposed developments as they relate to the roadway system in the area. As part of this study, detailed turning movement traffic counts were conducted at several area intersections which were identified in a scoping document prepared by the Town of Goshen and as accepted on August 3, 2006. The traffic counts for each of these intersections were summarized for the weekday AM and PM peak hours and the Saturday peak hour and used to establish the Existing Traffic Volumes.

The Existing Traffic Volumes were projected to a future design year utilizing a background growth factor based on historical information. In addition, the traffic from other planned or recently approved developments in the area was also estimated and added to the projected traffic volumes to obtain the design year No-Build Traffic Volumes.

Estimates of traffic which is expected to be generated by each of the proposed developments were computed based on information published by the Institute of Transportation Engineers (ITE). The Site Generated Traffic Volumes for each of the

individual developments were assigned to the roadway network based on an arrival and departure distribution which was developed based upon a review of the existing traffic patterns in the area. These Site Generated Traffic Volumes were then combined with the design year No-Build Traffic Volumes to obtain the future Build Traffic Volumes.

A detailed capacity analysis was conducted at each of the intersections utilizing the procedures outlined in the 2000 Highway Capacity Manual. The Existing, No-Build and Build Traffic Volumes were all analyzed for each of the peak hours to identify Levels of Service and operating conditions. Based on the results of the analysis, recommendations for improvements were made were necessary.

SECTION II

EXISTING ROADWAY AND TRAFFIC CONDITIONS

A. DESCRIPTION OF EXISTING ROADWAY NETWORK

The various sites considered are generally located along Craigville Road, Old Chester Road and Coleman Road. It should be noted that as part of the analysis found in Appendix C, a 5% truck percentage was used for all intersections although some variations may occur within the study area. A description of these and other area roadways are as follows:

1. NYS Route 207

   NYS Route 207, which is a state collector roadway, originates at an intersection with NYS Route 17M and NYS Route 17A and continues in a northeasterly direction intersecting with West Main Street and several other roadways including Craigville Road/Scotchtown Avenue and Sarah Wells Trail and continues into the Town of Hamptonburgh through the Town of New Windsor and terminates in the Town of Newburgh. In the study area, there are signalized intersections with Scotchtown Avenue/Craigville Road as well as the intersection with West Main Street. The roadway generally consists of one lane in each direction and has separate turn lanes at intersections such as Scotchtown Avenue.

Pedestrian push buttons are present at the signal o the Scotchtown Avenue side of Route 207. On-street parking exists on both sides of the roadway between the intersections of Orange Avenue and West Main Street. The roadway has a posted speed limit of 30mph within the Village of Goshen and 40mph to the north and then changes to 55mph. According to NYSDOT data published in the 2005 Highway Sufficiency Ratings, the heavy vehicle percentage on NYS Route 207 within the Village at Goshen is 4%. For the purpose of the capacity analysis, a 5% heavy vehicle percentage was used.

2. Craigville Road (CR66)

Craigville Road (County Route 66) is a two lane (plus shoulders) collector road which runs in a generally southeast and northwest direction. It originates at an intersection with NYS Route 94 in the Town of Blooming Grove. It continues through the Town of Goshen intersecting with roadways such as Knoell Road, Coleman Road and more locally Oakwood Drive and Yankee Maid Lane. It has double yellow centerline and white shoulder striping. It has a posted speed limit of 55mph which is reduced to 45mph near Coleman Road and it changes to 30mph in the Village. The roadway terminates at an offset signalized intersection with Scotchtown Avenue at NYS Route 207.

3. Old Chester Road and South Church Street

Old Chester Road originates at a "T" intersection with Knoell Road and traverses in a westerly direction intersecting with Duck Farm Road. The roadway is a two lane road with generally good alignment. The speed limit along this roadway is posted at 40mph. The roadway continues into the Village of Goshen where it designation changes to South Church Street. The speed limit changes to 30mph in the Village. It has an "all way stop" controlled intersection with South Street and Parkway.

4. Coleman Road

Coleman Road is a two lane unstriped roadway which originates at a "stop" sign controlled "T" intersection with Craigville Road, traverses in a northwesterly direction and terminating at a channelized "stop" and "yield" controlled intersection with Sarah Wells Trail. This roadway has a posted speed limit of 35mph and has a posted weight limit of 5 tons.

5. Knoell Road

Knoell Road originates at a "T" intersection with Craigville Road and continues in a southerly direction intersecting with Old Chester Road. It consists of one lane in each direction and has no posted speed limit.

6. Duck Farm Road

Duck Farm Road is a two-lane roadway, which connects NYS Route 17M to Old Chester Road. It is a two-lane roadway which also crosses the Heritage Rail Trail.

7. NYS Route 17M (Chester Road)

NYS Route 17M is a major east/west state collector roadway which generally parallels NYS Route 17. In the study vicinity, it has intersections with Duck Farm Road, the ramps to and from NYS Route 17 and signalized intersections with South Street, the Route 17 - Exit 124 westbound on/off ramps and NYS Route 207. The posted speed limit on the roadway varies from 55mph away from the Village at Goshen and 40mph closer to the Village. The roadway generally consists of one lane in each direction, however, between NYS Route 207 and the NYS Route 17 - Exit 124 westbound ramps the roadway has two lanes. According to NYSDOT data published in the 2005 Highway Sufficiency Ratings, the roadway has a heavy vehicle percentage of 5%, which was used in the capacity analysis found in Appendix "C".

8. South Street

South Street is a generally two-lane roadway which runs in a north/south direction. It provides access to the Arden Hill Hospital and crosses over NYS Route 17. It intersects with NYS Route 17M at a

signalized intersection and continues north past the Heritage Rail Trail and into the Village of Goshen. It intersects with South Church Street and Parkway at an "all-way stop" controlled intersection.

9. Yankee Maid Lane

Yankee Maid Lane is a two lane curbed local roadway, which originates at a "stop" sign controlled "T" intersection with Craigville Road. It continues in a southerly direction intersecting with Upper Magic Circle Drive and other local roadways. The roadway generally consists of one lane in each direction and has a posted speed limit of 20mph.

B. 2005 EXISTING TRAFFIC VOLUMES (Figures No. 2, 3 and 4)

Detailed turning movement traffic counts were collected at several area intersections which were identified by the Town of Goshen in the scoping document accepted on August 3, 2006. The locations which were surveyed included the following:

1. Old Chester Road and Bridle Lane
2. Craigville Road and Yankee Maid Lane
3. Craigville Road and NYS Route 207
4. Craigville Road and Oakwood Drive
5. Old Chester Road and South Street
6. Sarah Wells Trail and Coleman Road

7. Craigville Road and Coleman Road
8. Craigville Road and Brookside Drive
9. Old Chester Road and Knoell Road
10. Sarah Wells Trail and NYS Route 207
11. NYS Route 17M and Duck Farm Road
12. NYS Route 17M and South Street
13. NYS Route 17 Westbound Ramp and NYS Route 17M

The traffic counts at these locations were collected for both weekday and Saturday conditions. The weekday conditions included 7:00 AM to 9:30 AM and 3:30 PM to 6:30 PM. The Saturday peak hours covered 10:00 AM to 2:00 PM. Based upon a review of the traffic counts together with other available data from the New York State Department of Transportation, the peak hours were determined to occur as follows:

Weekday Peak AM Highway Hour	--	7:30 AM to 8:30 AM
Weekday Peak PM Highway Hour	--	4:45 PM to 5:45 PM
Peak Saturday Hour	--	11:00 AM to 12:00 Noon

The resulting peak hour turning movement traffic counts for each of these intersections are identified on Figures No. 2, 3 and 4.

C. ACCIDENT DATA (Table A)

All available accident data was collected for the area roadways from the New York State Department of Transportation for the latest three year period. This information was then summarized by the location, date, time of day and type of accident as shown in Table A.

SECTION III

EVALUATION OF FUTURE TRAFFIC CONDITIONS

A. 2015 NO-BUILD TRAFFIC VOLUMES (Figures No. 5 through 13)

The 2005 Existing Traffic Volumes were projected to a future 2015 design year utilizing a background growth factor of 1.5% per year. This growth factor was used to account for area growth and miscellaneous developments in the area. Figures No. 5, 6 and 7 summarize the projected traffic volumes for the roadway network. In addition, traffic for other major approved or pending projects in the area including Harness Estates and the Goshen Executive Center were added to the roadway network and combined with the Projected Traffic Volumes to obtain the 2015 No-Build Traffic Volumes for each of the peak hours. The other development traffic volumes are shown on Figures 8, 9 and 10 while the 2015 No-Build Traffic Volumes are shown on Figures No. 11, 12 and 13.

B. SITE GENERATED TRAFFIC VOLUMES (Tables No. 1, 1A and 1B)

Estimates of the expected site generated traffic volumes for each of the proposed developments were computed based on information published by the Institute of Transportation Engineers (ITE) as contained in their report entitled, "Trip Generation", 7th Edition, 2003. The hourly trip generation rates and corresponding site generated traffic volumes for each of the developments are shown on Tables No. 1, 1A and 1B. Note that as indicated previously, the Hambletonian Park development has been reduced

from 42 to 38 lots which will result in a reduction of 3 to 4 peak hour vehicles from that shown in Table 1B.

C. ARRIVAL AND DEPARTURE DISTRIBUTIONS (Figures No. 14, 15, 16, 17, 18 and 19)

Based upon a review of the existing traffic patterns in the area as well as consideration of the proposed access locations, an arrival and departure distribution was developed for each of the proposed projects. Figures No. 14 and 15 show the arrival and departure distributions for the Maplewood Village project, Figures No. 16 and 17 show the distributions for the Heritage Estates project while Figures No. 18 and 19 show the distributions for the Hamblctonian Park project.

D. 2015 BUILD TRAFFIC VOLUMES (Figures No. 20, 21, 22, 23, 24 and 25)

The Site Generated Traffic Volumes shown on Tables No. 1, 1A and 1B for each of the proposed developments were assigned to the roadway network utilizing the individual arrival and departure distributions. The resulting Site Generated Traffic Volumes are shown on Figures No. 20, 21 and 22 for each of the peak hours. These traffic volumes were then combined with the 2015 No-Build Traffic Volumes to obtain the 2015 Build Traffic Volumes which are shown on Figures No. 23, 24 and 25.

E. DESCRIPTION OF ANALYSIS PROCEDURES

In order to determine existing and future traffic operating conditions at the study area intersections, it was necessary to perform capacity analyses. The following is a brief description of the analysis method utilized in this report:

- Signalized Intersection Capacity Analysis

  The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the 2000 Highway Capacity Manual, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

- Unsignalized Intersection Capacity Analysis

  The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the 2000 Highway Capacity Manual. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the

service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "D" of this report.

F. TRAFFIC IMPACT ANALYSIS RESULTS (Table No. 2)

A detailed capacity analyses was conducted at each of the area intersections utilizing the procedures described above. The analysis considered the Existing, No-Build and Build conditions and computed a Level of Service and identification of expected vehicle delays for each of these conditions. The results are summarized in Table No. 2. A description of each of the intersections follows:

1. Old Chester Road and Bridle Lane

Bridle Lane intersects with Old Chester Road at a "T" intersection under current conditions. The intersection currently consists of one lane approaches and operates at a Level of Service "C" or better during peak periods. Under future conditions, it is anticipated that Bridle Lane will be connected to Lower Magic Circle as a fully operational roadway. The analysis conducted at this intersection indicates a Level of Service "C" or better will be maintained. When the roadway is upgraded it is recommended that a "stop" sign be installed on the Bridle Lane approach to Old Chester Road.

2. Craigville Road and Yankee Maid Lane

Craigville Road at the intersection with Yankee Maid Lane consists of one lane in each direction and the Yankee Maid Lane approach is "stop" sign controlled. The capacity analyses conducted utilizing the Existing Traffic Volumes indicates a Level of Service "C" or better is experienced during peak periods. It is recommended that some pruning of vegetation looking west of this intersection be completed to improve sight lines for entering and exiting vehicles.

The capacity analysis was recomputed at this intersection utilizing the 2015 No-Build and the 2015 Build Traffic Volumes. A review of these analyses indicates that a Level of Service "C" or better will be maintained during peak periods.

3. Craigville Road and NYS Route 207

Craigville Road (C.R. 66) and Scotchtown Avenue (C.R. 83) intersect with NYS Route 207 at a signalized offset intersection. The capacity analyses conducted for this intersection indicate that during peak periods some delays are currently experienced. The analysis indicates that under future conditions the existing traffic signal would need to be upgraded and that Craigville Road be widened to a two-lane approach to accommodate future traffic volumes.

4. Craigville Road and Oakwood Drive

Oakwood Drive intersects with Craigville Road at a "T" intersection. All approaches consist of one lane. The capacity analyses conducted at this intersection utilizing the Existing Traffic Volumes indicates that a Level of Service "C" or

better is currently experienced during peak periods. The analysis was recomputed utilizing the future No-Build and Build traffic volumes. A review of these analyses indicates a Level of Service "C" or better will be maintained at this intersection.

5. Old Chester Road and South Street/Parkway

Old Chester Road (South Church Street within the Village) intersects with South Street/Parkway at an all-way "stop" controlled intersection. All approaches consist of one lane. The capacity analysis conducted utilizing the Existing Traffic Volumes indicates that a Level of Service "C" or better is currently experienced at this intersection during peak periods.

The intersection was reanalyzed utilizing the future No-Build and Build Traffic Volumes. A review of these analyses indicates a Level of Service "C" or better will be maintained during peak periods.

6. Sarah Wells Trail and Coleman Road

Coleman Road intersects with Sarah Wells Trail at a channelized intersection which is both "yield" and "stop" controlled. The capacity analysis conducted at this intersection indicates that the intersection currently experiences a Level of Service "C" or better during peak periods. However, it is recommended that consideration be given to provide improved striping and signing at the intersection to better control traffic movements. These recommendations are made regardless of any additional traffic in the area. The capacity analysis conducted at this

intersection utilizing the future No-Build and Build Traffic Volumes indicates a Level of Service "C" or better will be maintained at this intersection.

7. Craigville Road and Coleman Road

Coleman Road intersects with Craigville Road at a "stop" sign controlled "T" intersection. All approaches to the intersection consist of one lane and traffic is currently controlled by a "stop" sign. The capacity analysis conducted at the intersection utilizing the Existing Traffic Volumes indicates a Level of Service "C" or better during peak periods.

The intersection was reanalyzed under future conditions. The analysis indicates that a Level of Service "C" or better will be maintained. It is recommended that new pavement markings be installed including new centerline striping and a painted "stop" bar on the Coleman Road approach to the intersection.

8. Craigville Road and Brookside Drive

Brookside Drive intersects with Craigville Road at a "T" intersection. All approaches to the intersection consist of one lane. The capacity analysis conducted at the intersection indicates a Level of Service "C" or better during peak periods.

The intersection was reanalyzed utilizing the future No-Build and Build Traffic Volumes. A review of the analysis indicates a Level of Service "C" or better will be maintained.

9. Old Chester Road and Knoell Road

Old Chester Road intersects with Knoell Road at "T" type intersection. All approaches consist of one lane. It is recommended that additional pavement markings be added to the intersection to better control traffic flow. The capacity analysis conducted at the intersection indicates a Level of Service "C" or better during peak periods. The analysis was recomputed with the future No-Build and Build Traffic Volumes. A review of these analyses indicates similar Levels of Service will be maintained.

10. Sarah Wells Trail and NYS Route 207

Sarah Wells Trail intersects with NYS Route 207 at a "T" type intersection. The capacity analysis conducted at this intersection indicates that during peak periods long delays are experienced for traffic exiting Sarah Wells Trail. Based upon a review of the traffic volumes, it is recommended that subject to NYSDOT approval a traffic signal be installed to improve the operations at this intersection. The capacity analysis was recomputed at the intersection with signalization for the Existing No-Build and Build conditions. A review of the analysis indicates improved Levels of Service.

11. NYS Route 17M and Duck Farm Road

Duck Farm Road intersects with NYS Route 17M at a "T" intersection. In the immediate vicinity is the Heritage Trail, which crosses Duck Farm Road. The capacity analysis conducted at the intersection indicates a Level of Service "C" or

better during peak periods. It is recommended that additional pavement markings and signing be added to the intersection to better control traffic movements.

12. NYS Route 17M and South Street

NYS Route 17M intersects with South Street at a signalized four-way intersection. The approaches to the intersection consist of one lane. The capacity analysis conducted for this intersection utilizing the existing traffic volumes indicates that the intersection currently operates at a Level of Service "D" or better during peak periods.

The intersection was reanalyzed with the future No-Build and Build traffic volumes. A review of these analyses indicates that the intersection will experience long delays during peak periods under future conditions. The provision of an eastbound and southbound right turn lane will be required and the existing traffic signal would also have to be modified to accommodate the traffic volumes.

13. NYS Route 17 Westbound Ramp and NYS Route 17M

There are two sets of westbound on/off ramps intersecting with NYS Route 17M. The westerly most intersection is a signalized intersection, which includes turning lanes on both the Route 17M westbound and Route 17 off ramp approaches. The easterly location is a "stop" sign controlled intersection with one lane in each direction on Route 17M. The capacity analyses conducted at these intersections indicates that the westerly ramp operates at a Level of Service "C" or better during peak periods while the easterly unsignalized ramp currently experiences Levels of

Service "E" during peak periods. The intersections were reanalyzed under future conditions. The westerly ramp will maintain a Level of Service "C" or better while the easterly ramp will have to be monitored for potential signalization.

14 Other Access Considerations

a. Access Drives

In addition to the above intersections, the individual access connections to the various residential developments were also analyzed. Levels of Service for the primary intersections are summarized in Table No. 2. It is anticipated that each of these intersections will operate at acceptable Levels of Service "C" or better. It is recommended that the various intersections be controlled by "stop" signs and that appropriate pavement markings including "stop" bars and center lines be installed to control traffic.

b. Connections to Other Roadways

The Heritage Estates development is proposed to be accessed primarily from Old Chester Road and the analyses indicates that the development could be accommodated with this access and maintain acceptable Levels of Service. The plan also calls for a potential connection to Brookside Drive. This connection is not needed from a capacity standpoint however, would provide improved emergency access and better overall traffic circulation for the area.

The Hambletonian Park development is proposed to be accessed via Yankee Maid Lane however, provisions have been made for a potential connection to Bridle Lane to Old Chester Road. Based on the capacity analysis, the development traffic can be accommodated at acceptable Levels of Service without this connection. The connection to Bridle Lane would improve emergency access to the entire area including the proposed subdivision. If this is a full access, it would also allow traffic to be redistributed onto the roadway system providing improved overall circulation for the area.

Other potential access connections were also considered including a connection to Arthur Place or to Lower Magic Circle. These connections would allow a redistribution of site traffic to these roadways which would reduce the amount of site traffic which would access the site via Yankee Main Lane. This could equate to approximately 20 peak hour vehicles but as indicated above, would not be required to accommodate the site generated traffic at acceptable Levels of Service. A variety of constraints including wetlands and geometric design issues limits the ability to make these connections.

Associated with the Maplewood Village project, access connections are proposed to Coleman Road and to Craigville Road. The current plans do not call for an internal connection of these access roads. Based on the capacity analysis, acceptable Levels of Service are projected for

each of the access connections. While not necessary, from a capacity standpoint the provision of an internal connection would provide improved emergency vehicle access for the development and if made into a through connection, would also allow improved overall circulation for the site traffic.

G. SUMMARY AND CONCLUSIONS

Based on the above analysis, there are several intersections in the study area which will need to be upgraded to accommodate future traffic volumes. These upgrades include signalization, turning lanes and new pavement markings. The majority of these improvements will be required regardless of the proposed developments and will have to be coordinated with the Town, State and County.

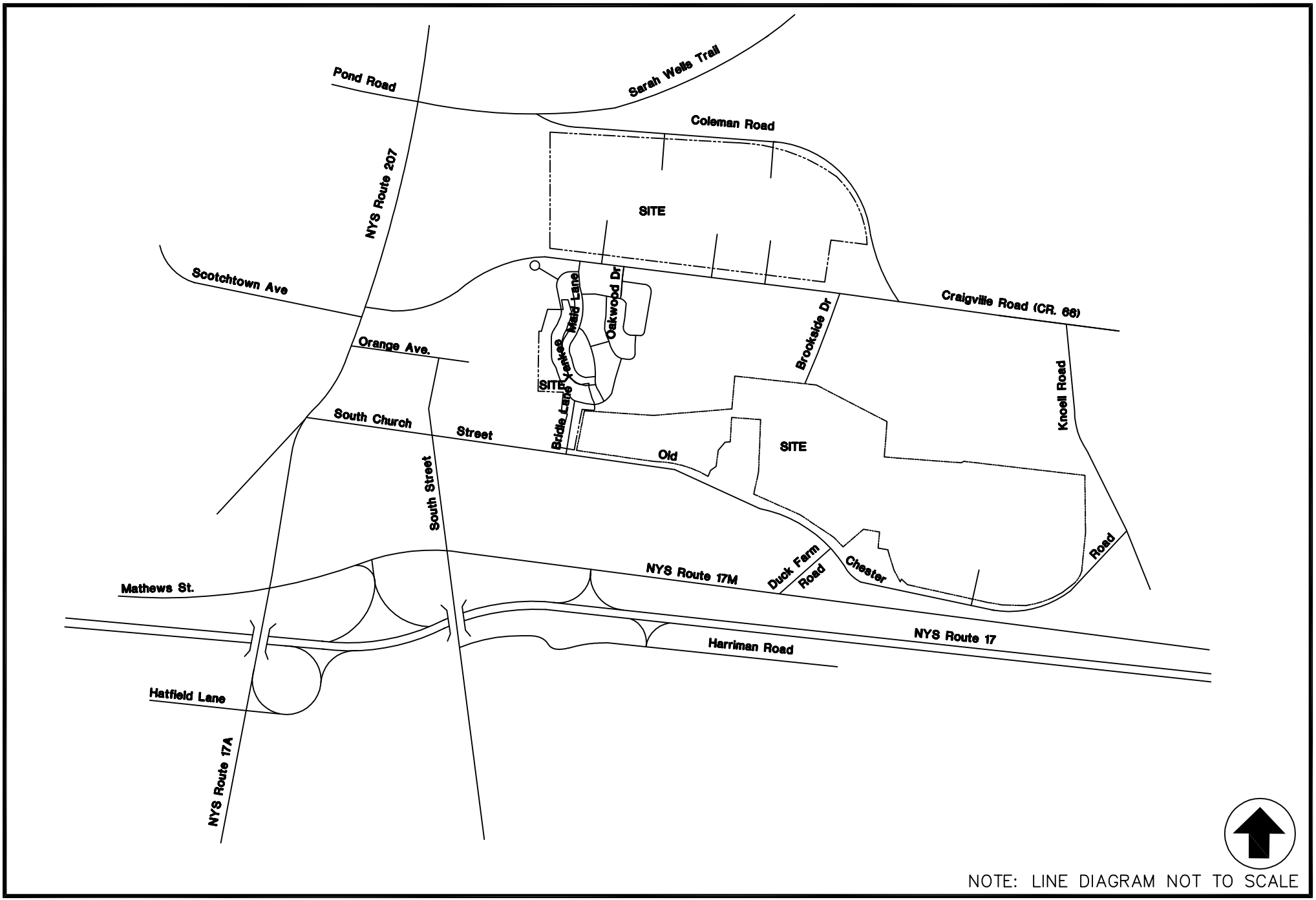
Respectfully Submitted,

JOHN COLLINS ENGINEERS, P.C.

Philip J. Grealy, Ph.D., P.E.

APPENDIX "A"

FIGURES

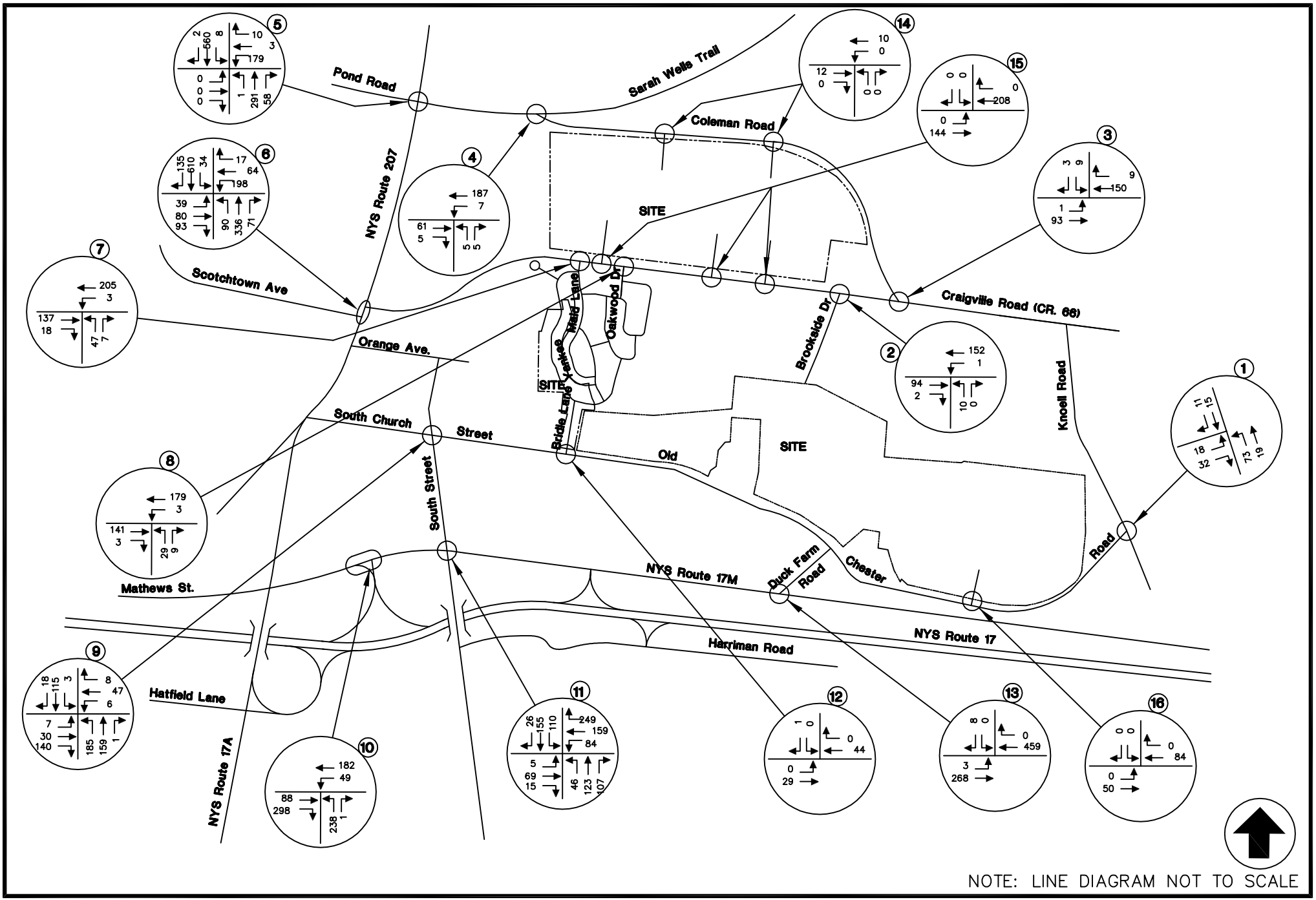


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

AREA ROADWAY NETWORK

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO.1

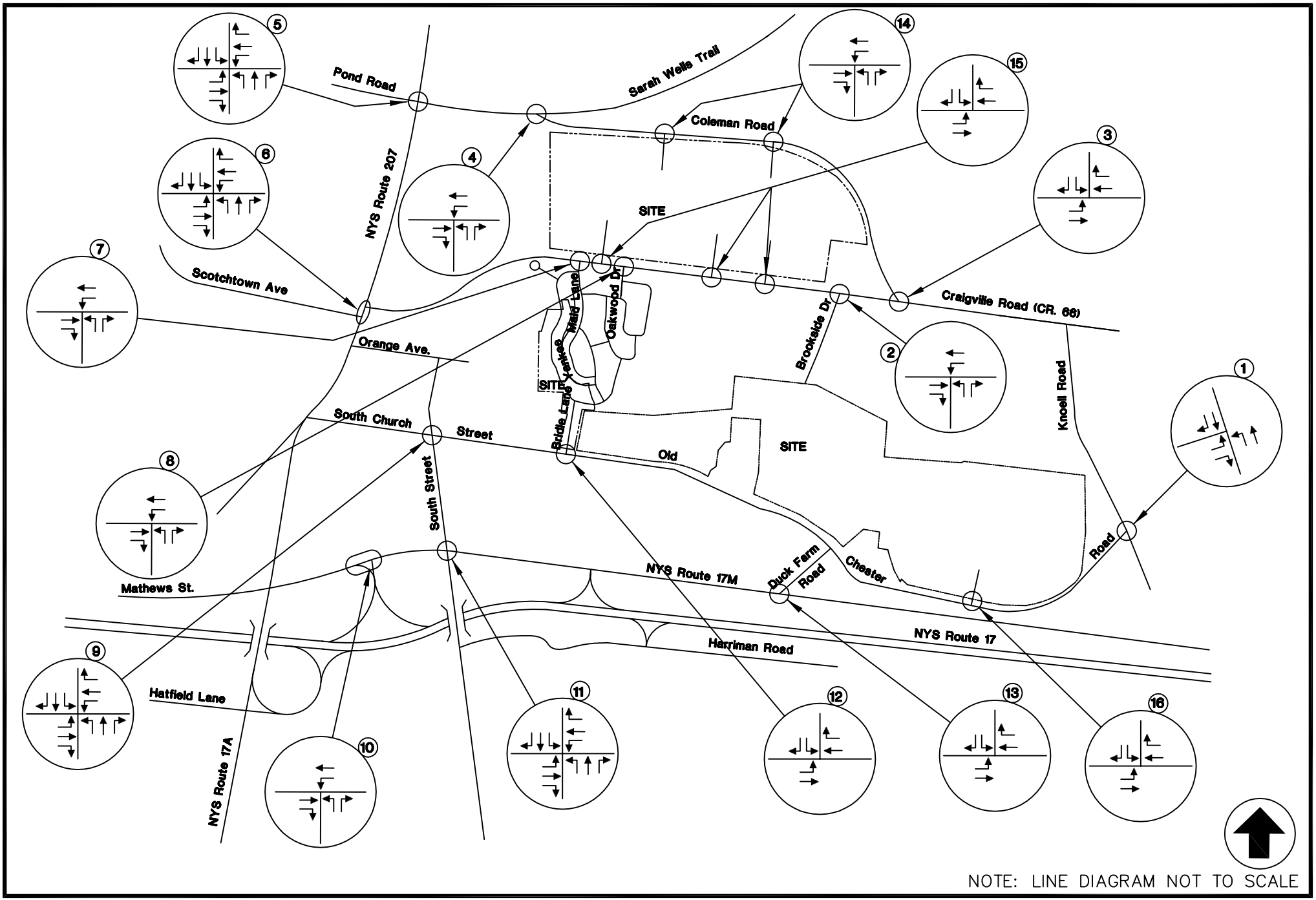


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2005 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 2



GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

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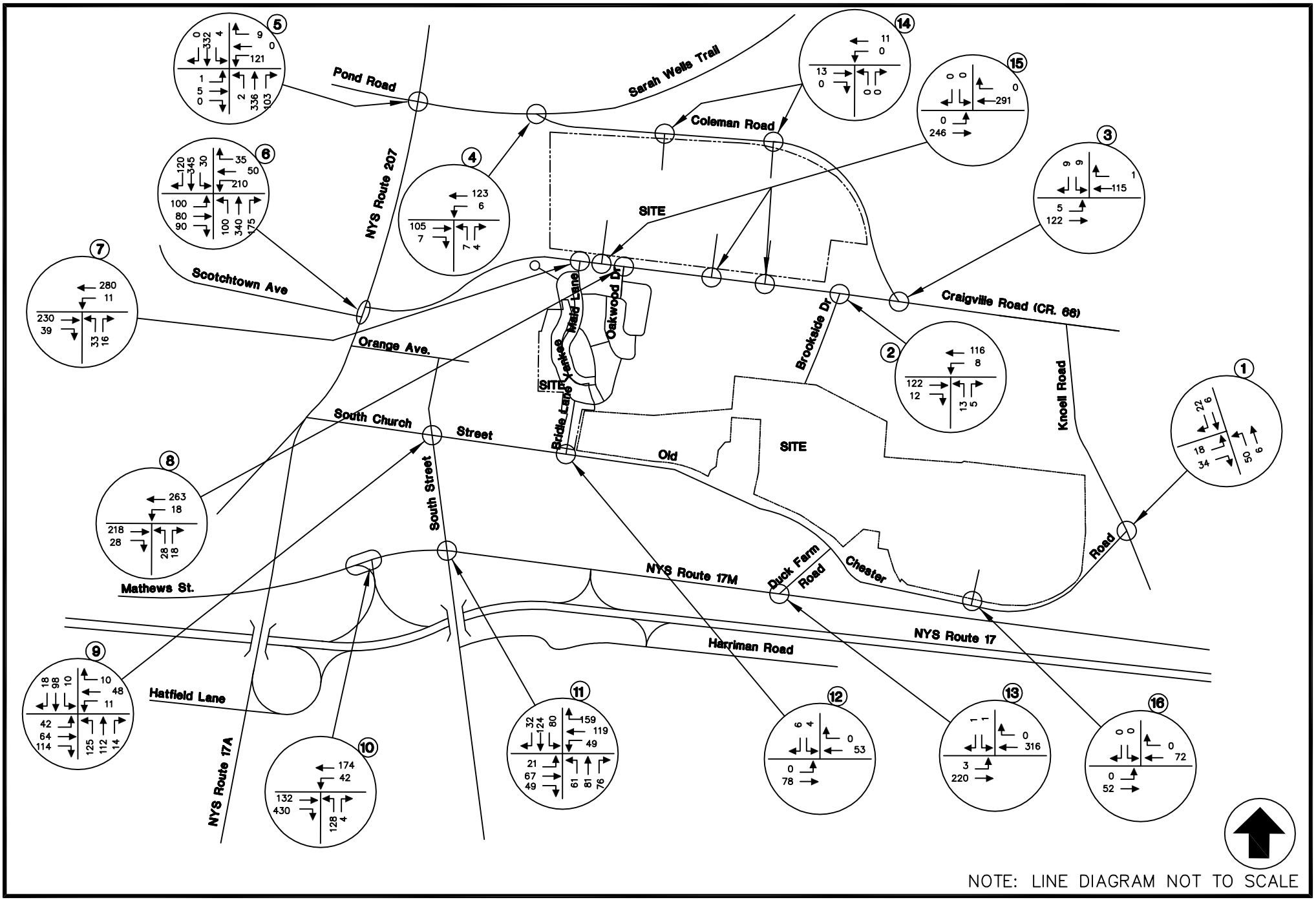
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO.

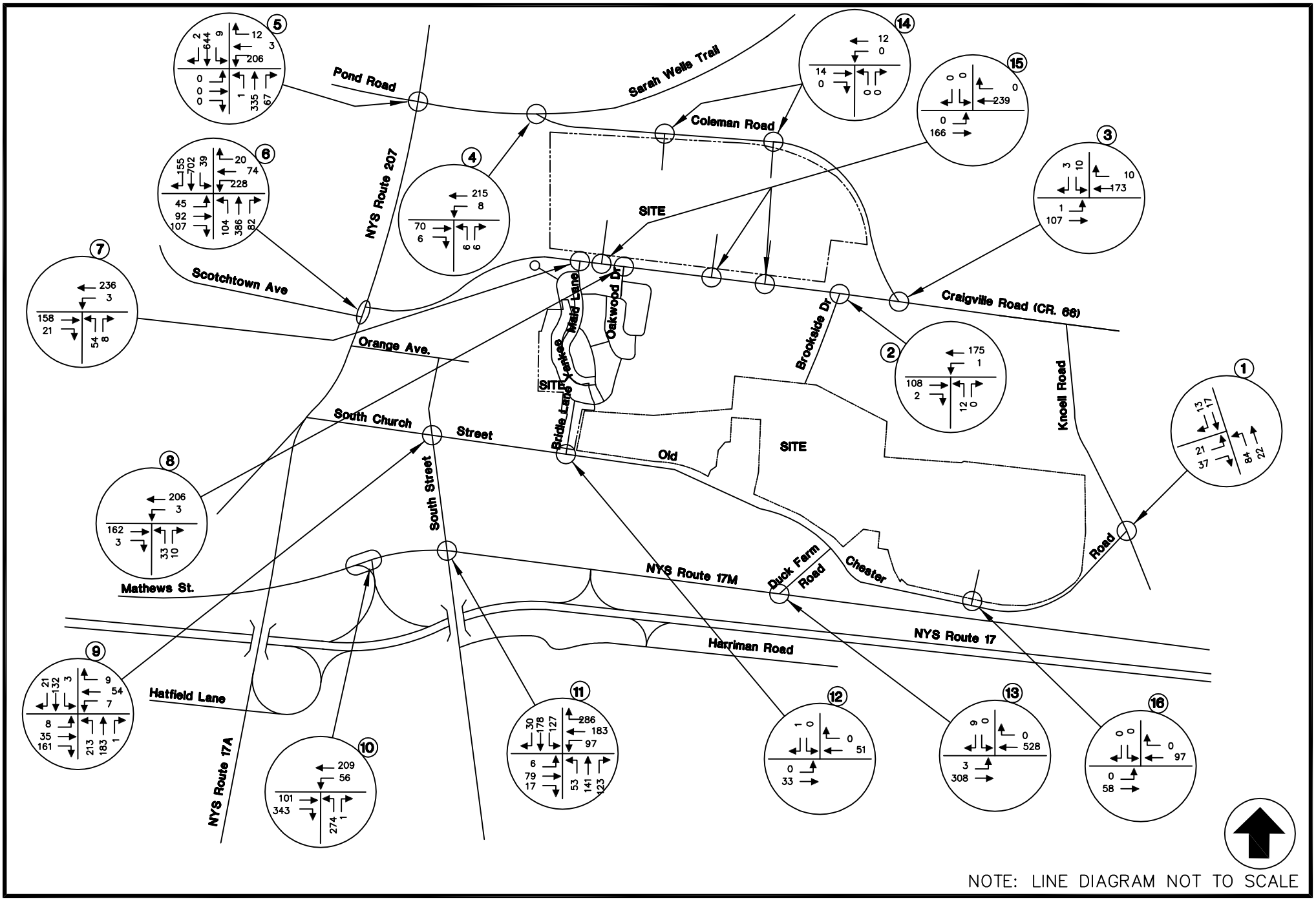


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2005 EXISTING TRAFFIC VOLUMES
WEEKEND PEAK SAT HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 4

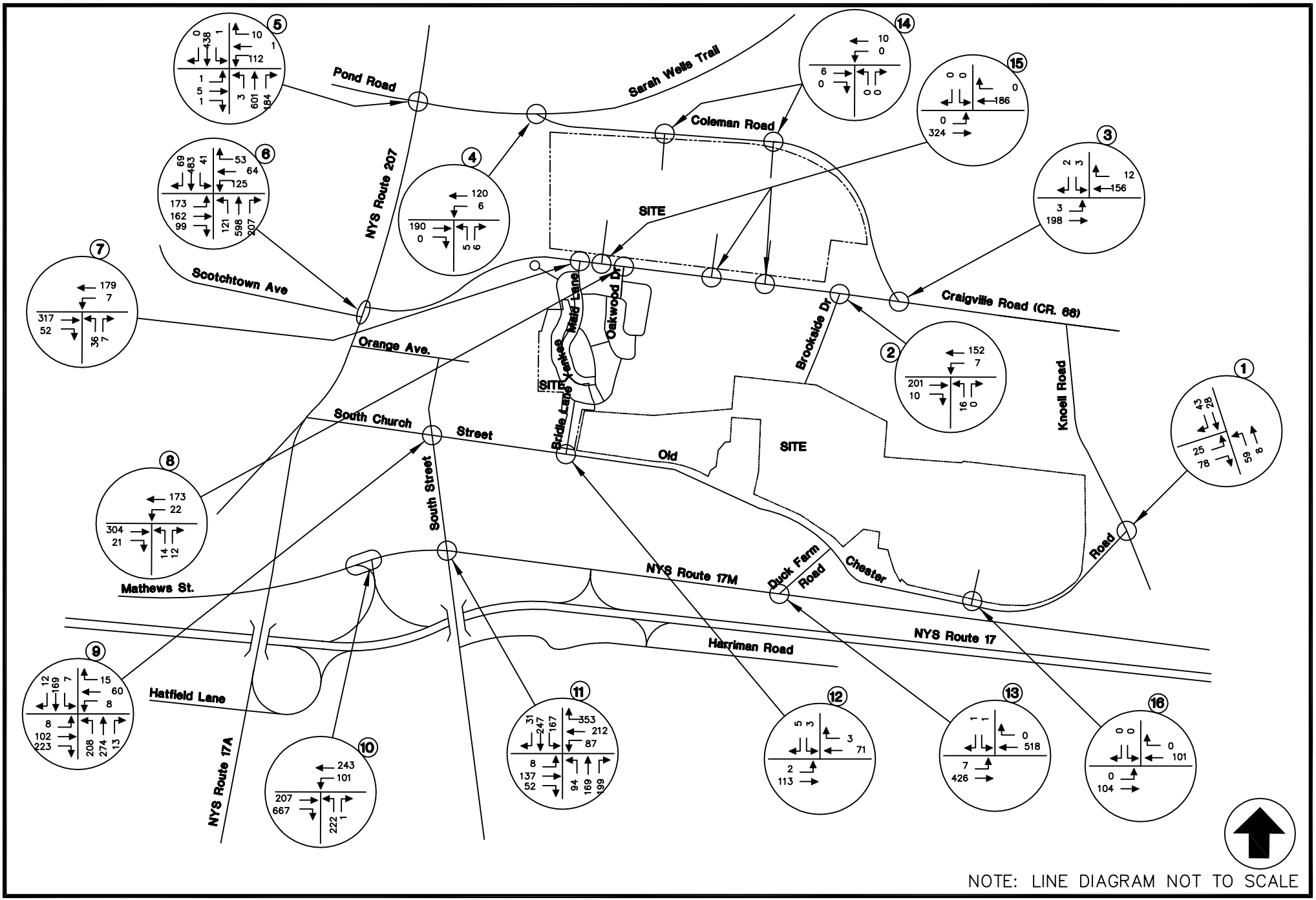


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 PROJECTED TRAFFIC VOLUMES
WEEKDAY PEAK AM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 5

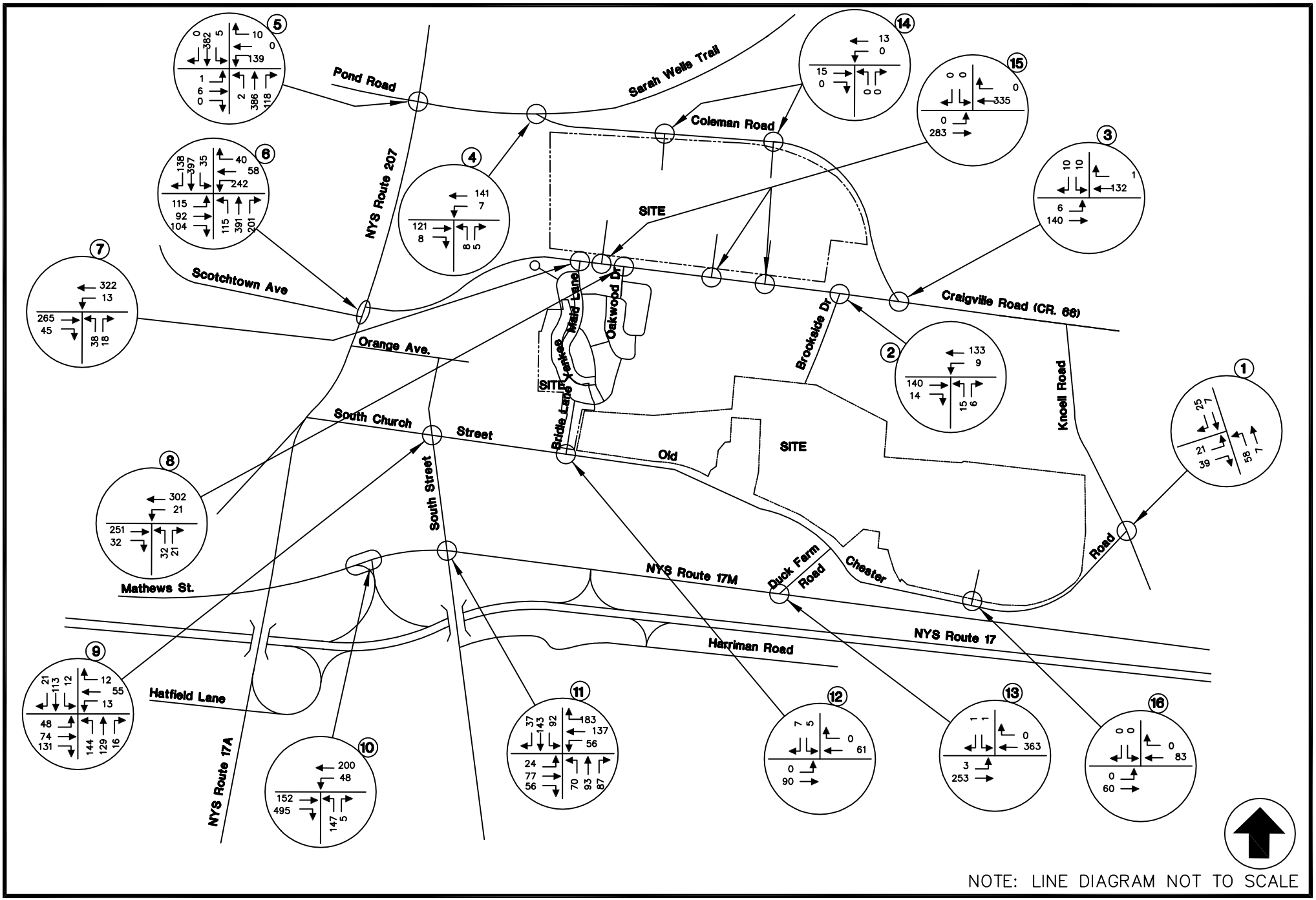


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 PROJECTED TRAFFIC VOLUMES
WEEKDAY PEAK PM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 6

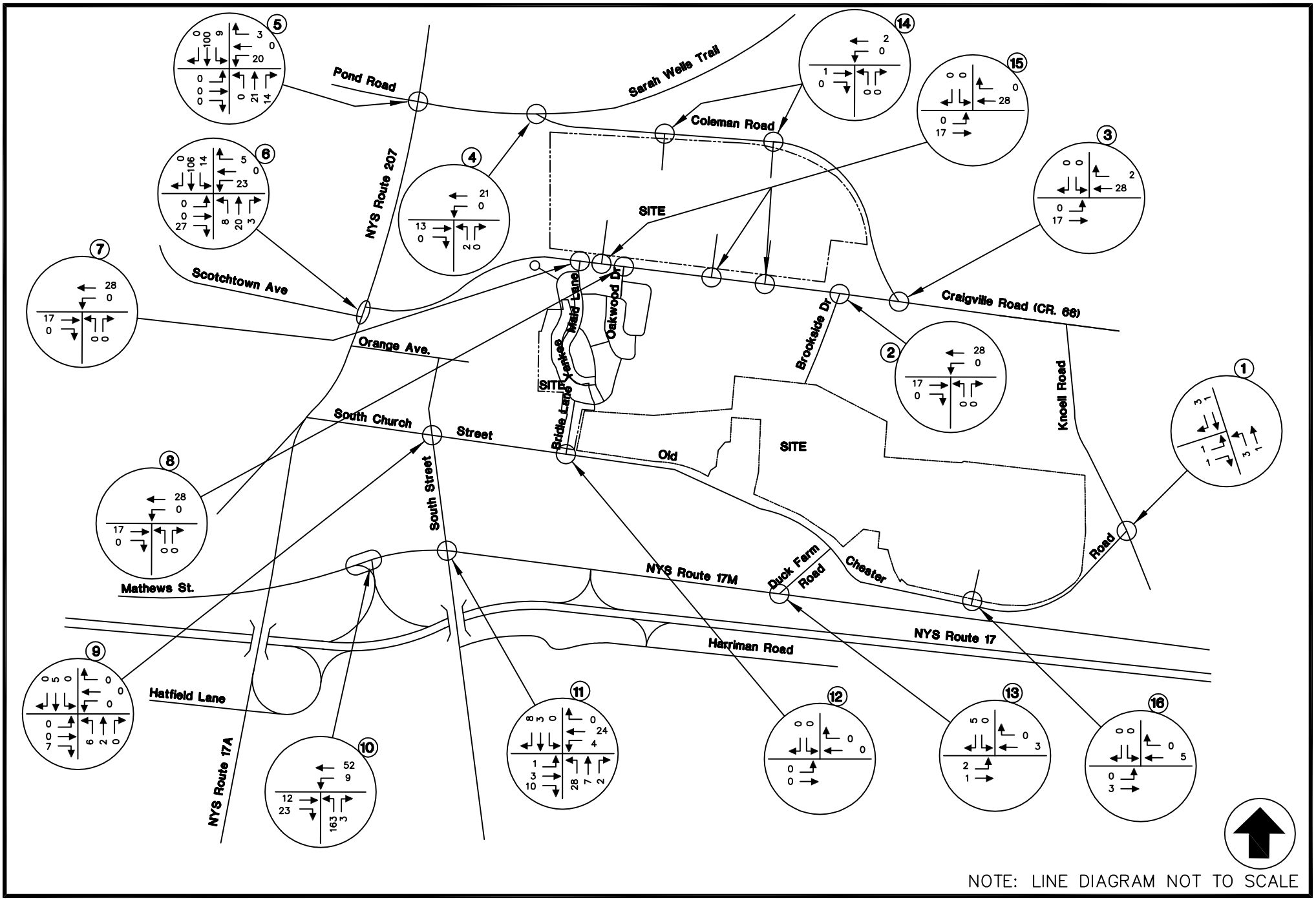


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 PROJECTED TRAFFIC VOLUMES
WEEKEND PEAK SAT HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 7

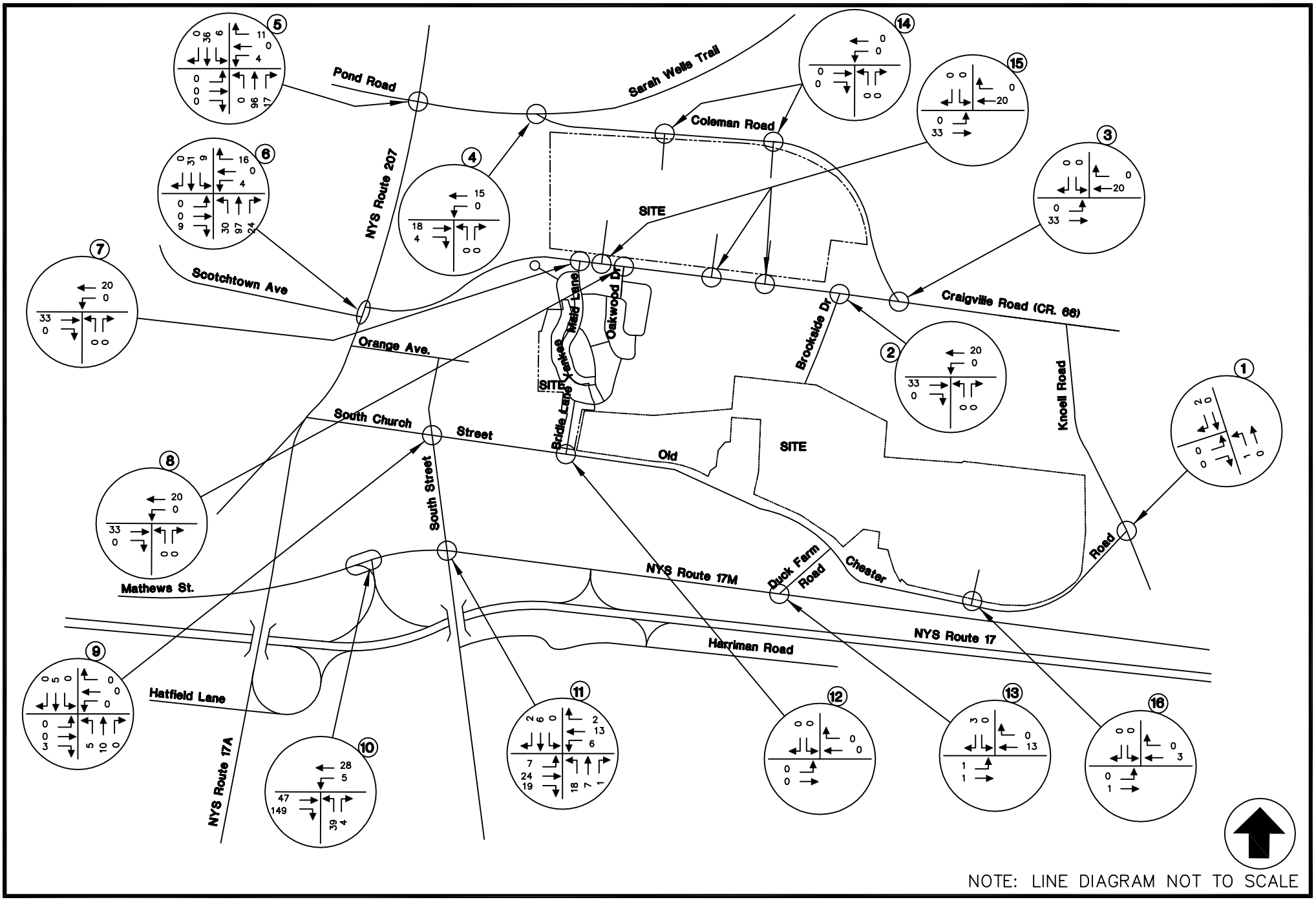


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK AM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 8

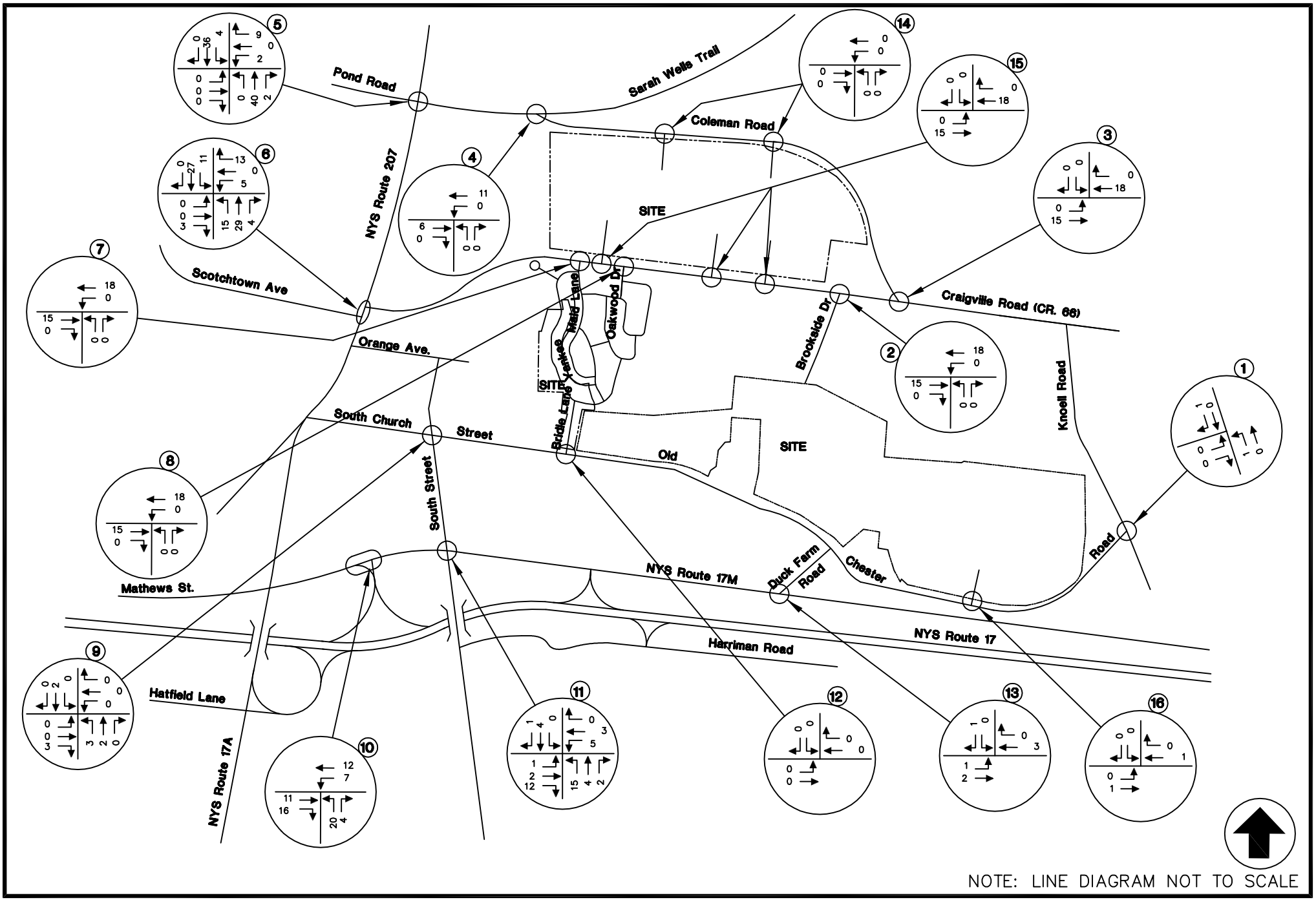


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKDAY PEAK PM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 9

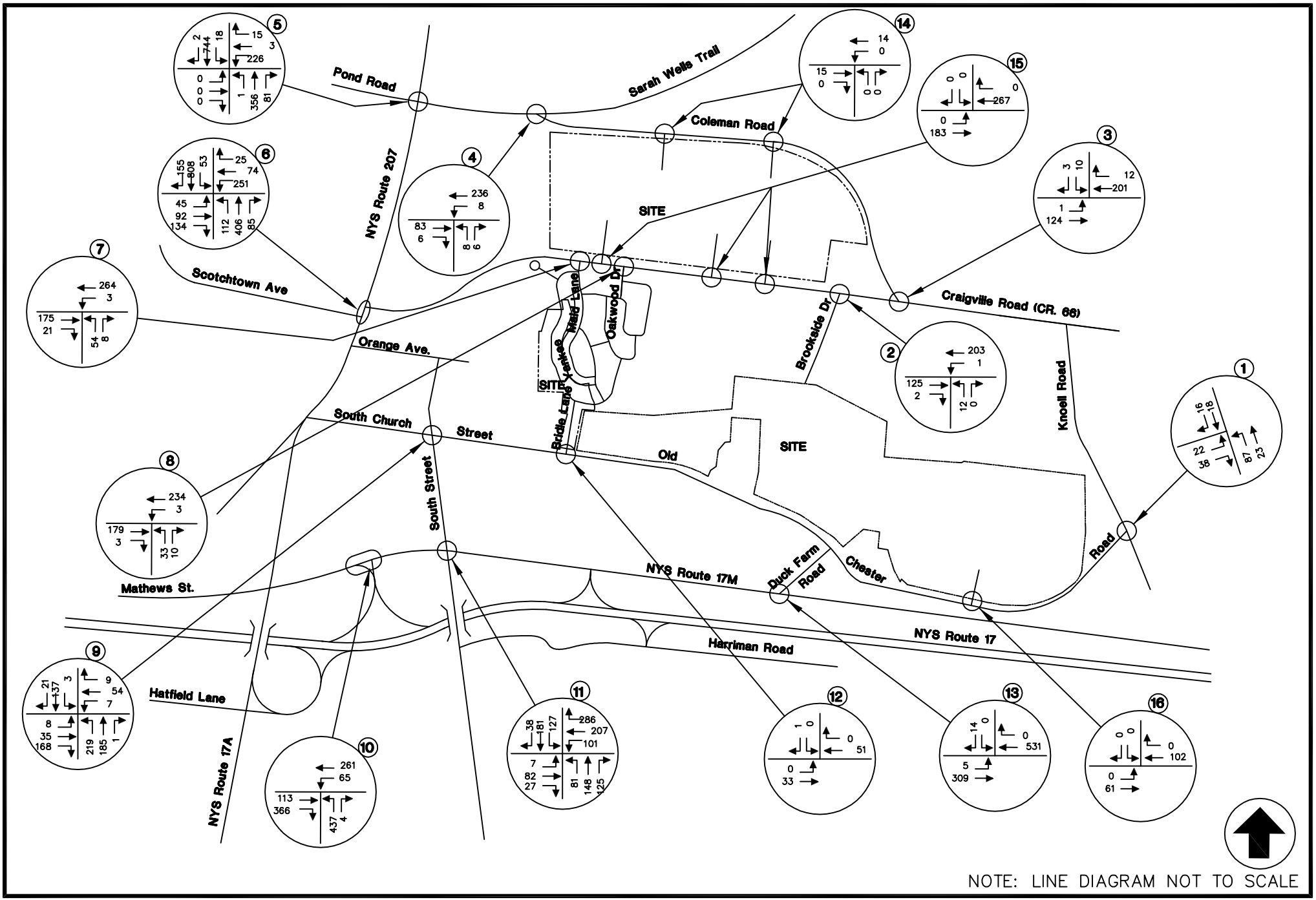


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

OTHER DEVELOPMENT TRAFFIC VOLUMES
WEEKEND PEAK SAT HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 10

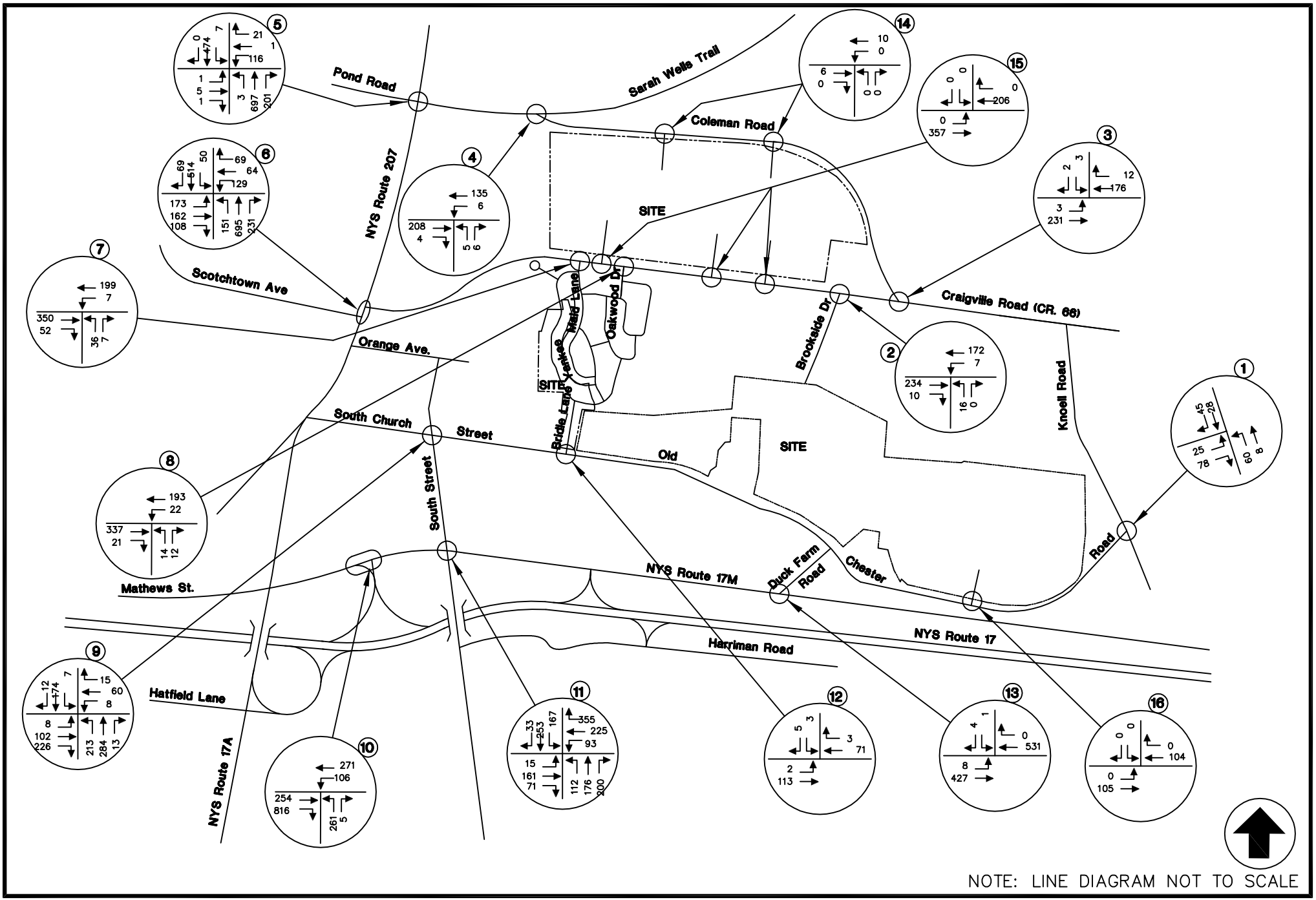


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 11

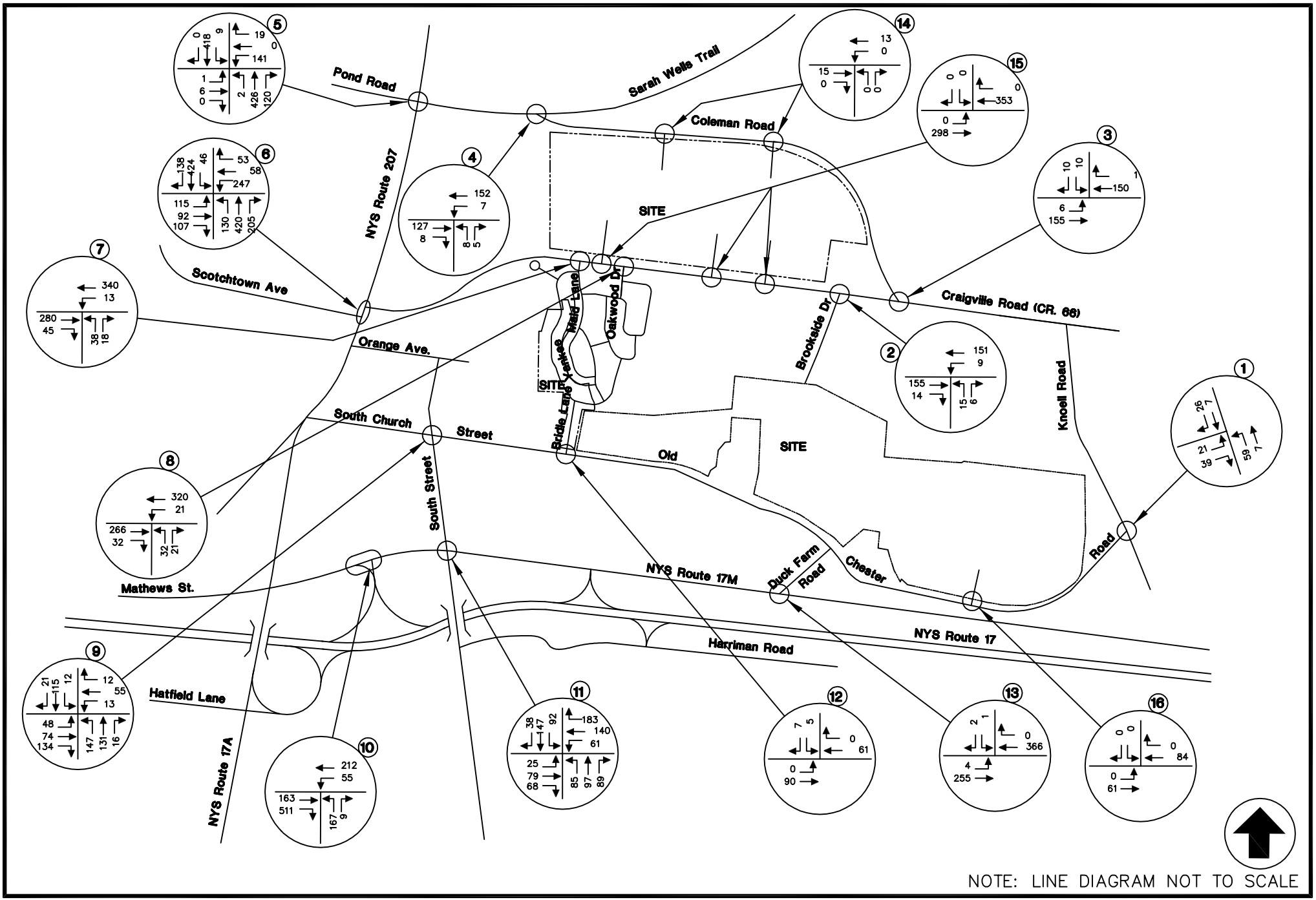


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 12

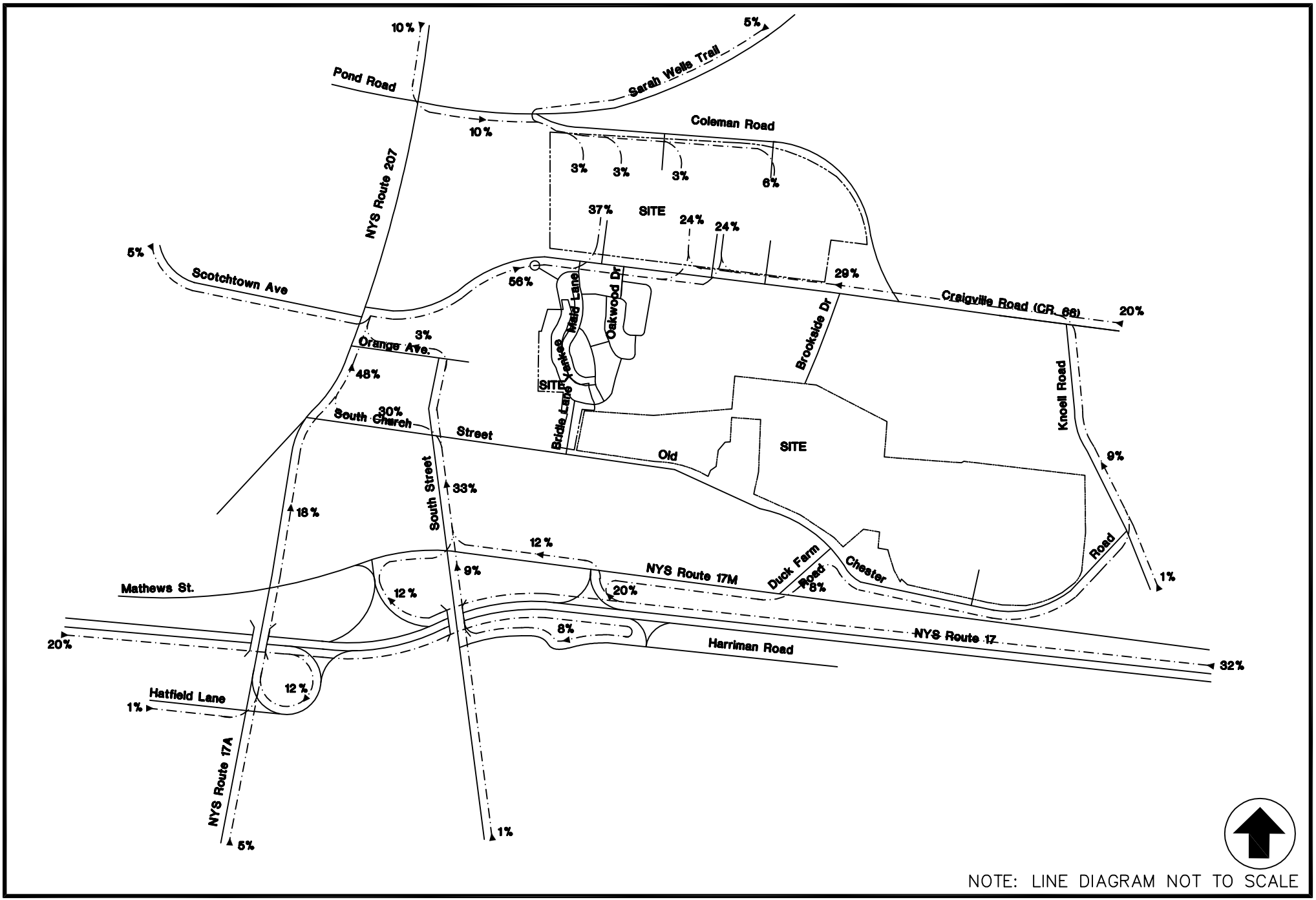


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 NO-BUILD TRAFFIC VOLUMES
WEEKEND PEAK SAT HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 13

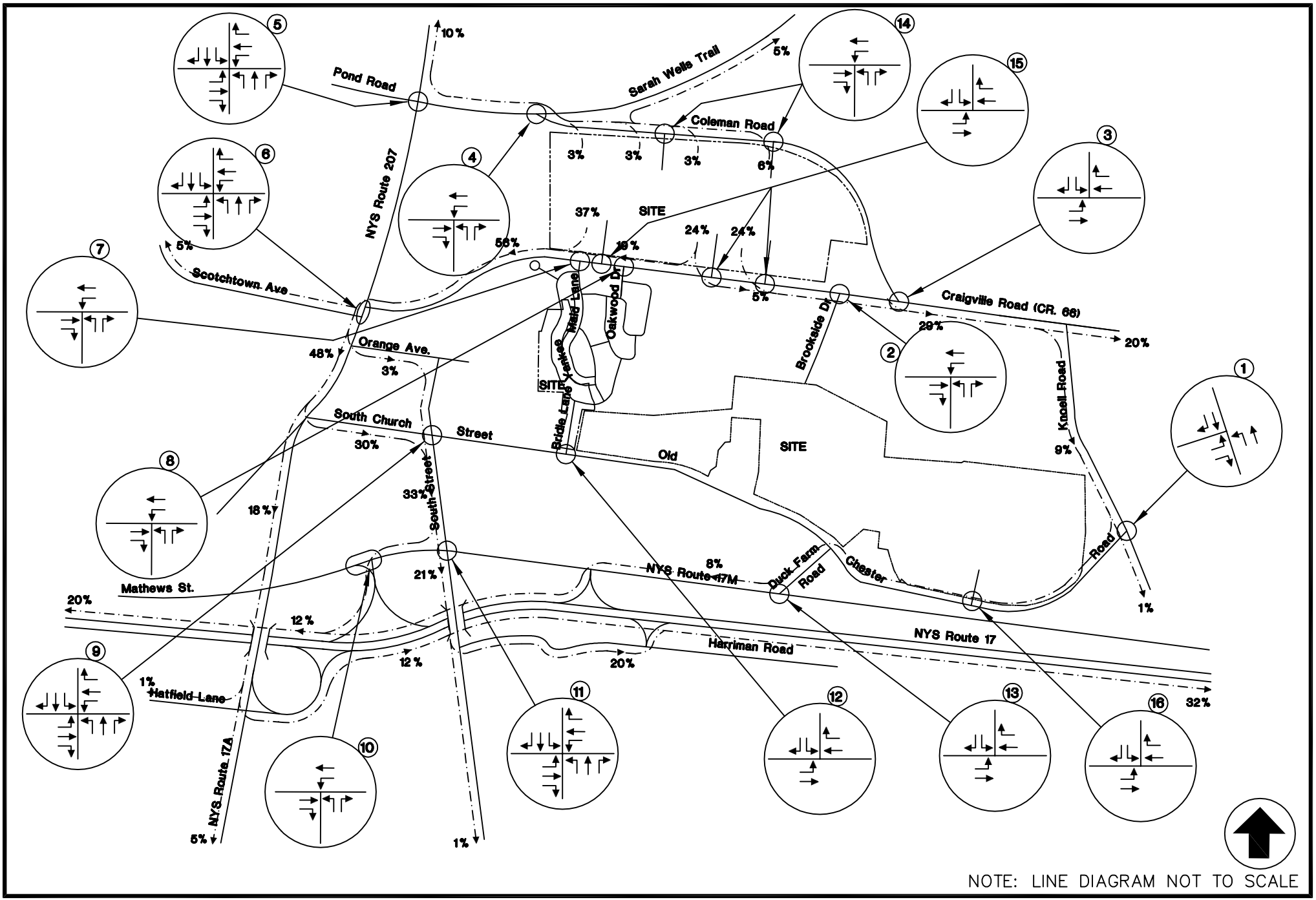


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

MAPLEWOOD VILLAGE ARRIVAL DISTRIBUTION

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 14

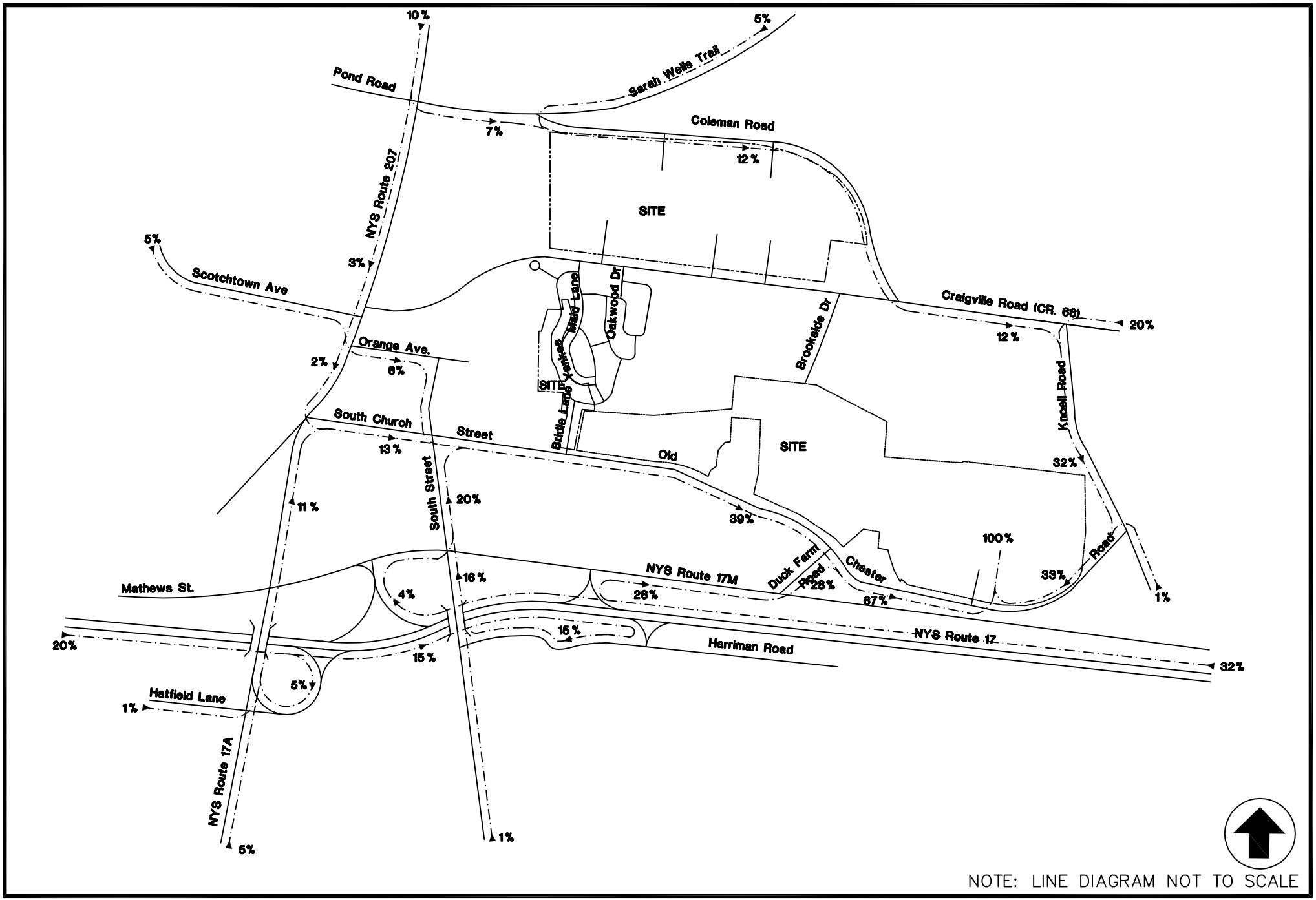


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

MAPLEWOOD VILLAGE DEPARTURE DISTRIBUTION

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 15



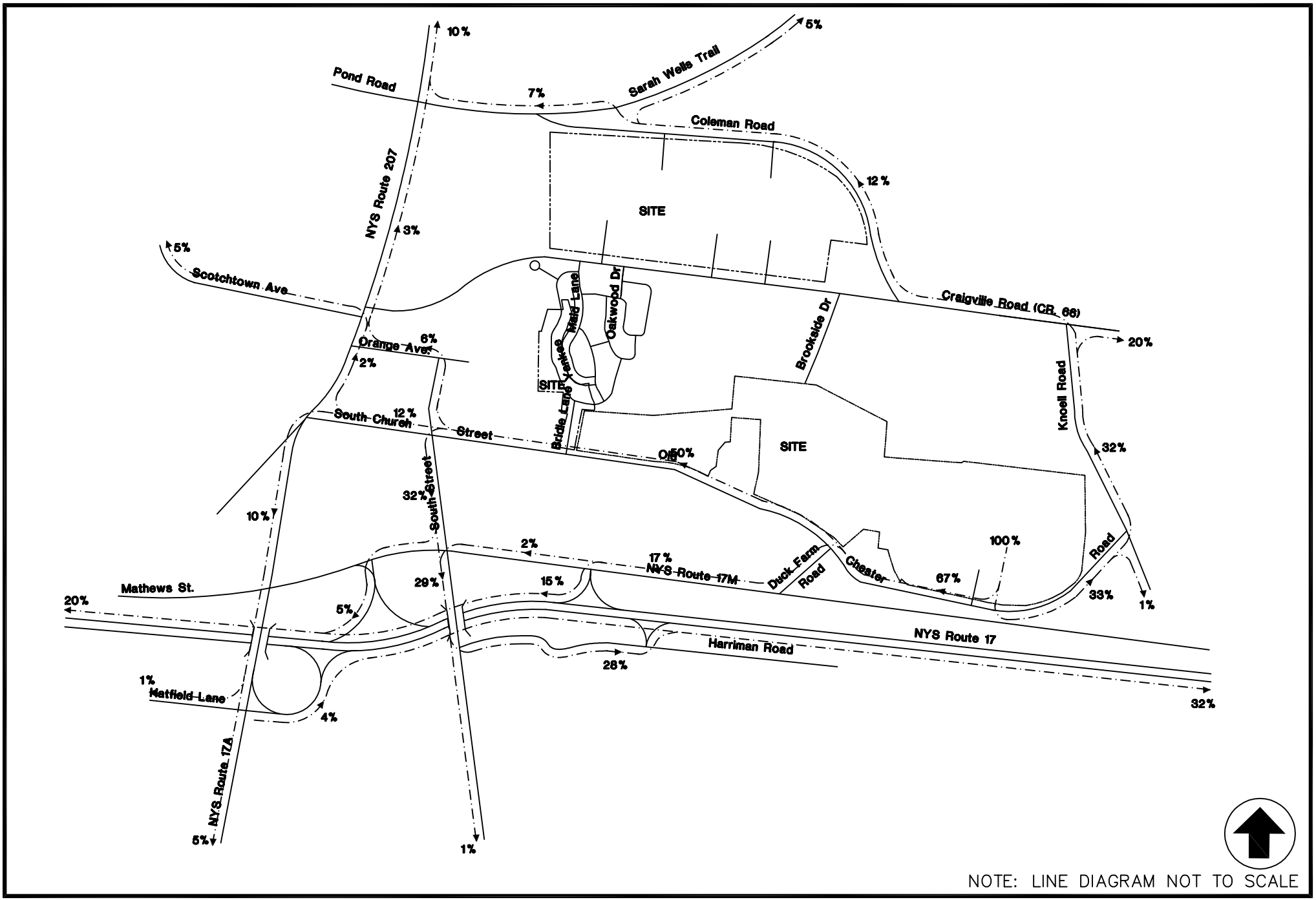
NOTE: LINE DIAGRAM NOT TO SCALE

GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

HERITAGE ESTATES ARRIVAL DISTRIBUTION

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 16



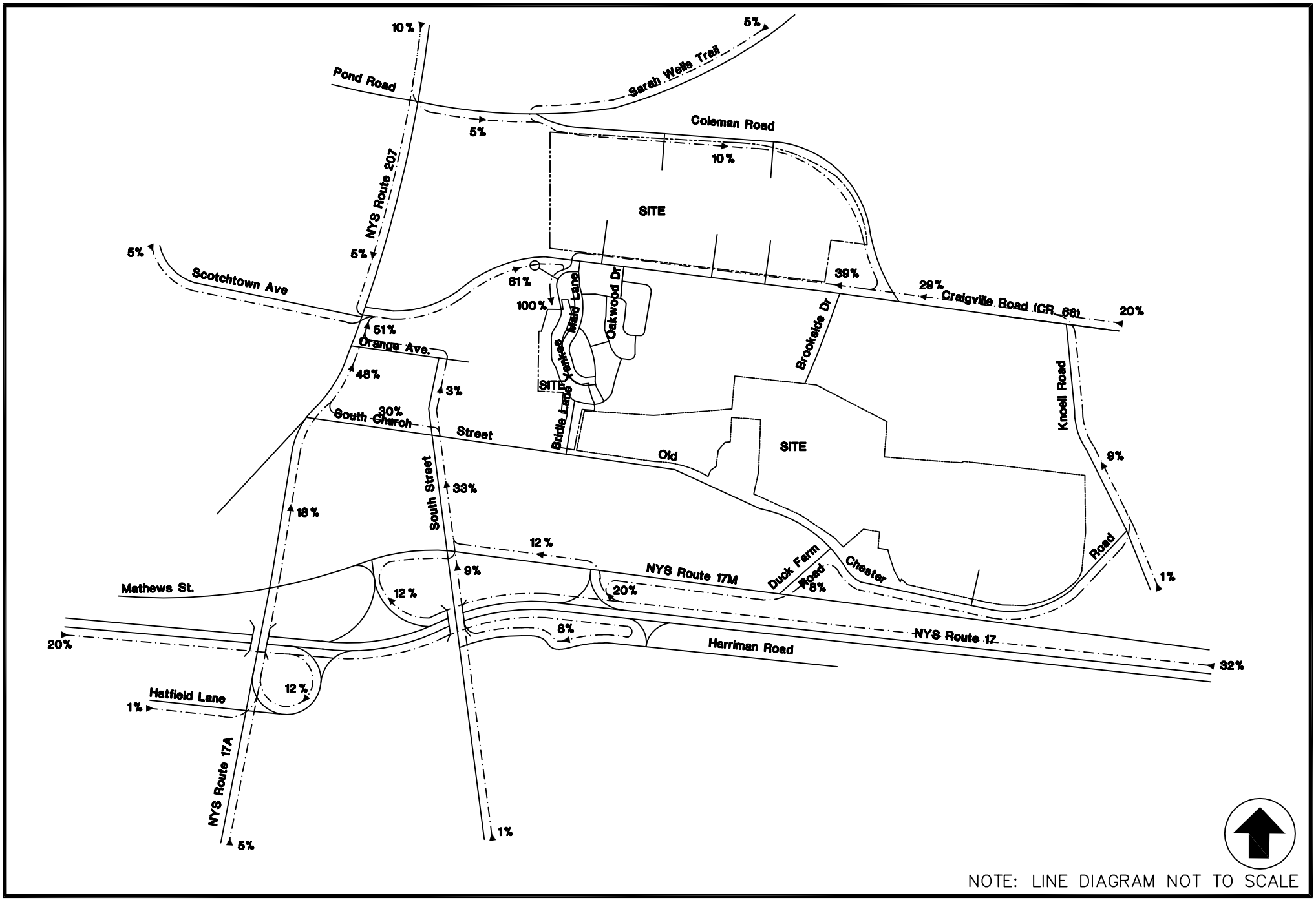
NOTE: LINE DIAGRAM NOT TO SCALE

GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

HERITAGE ESTATES DEPARTURE DISTRIBUTION

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 17



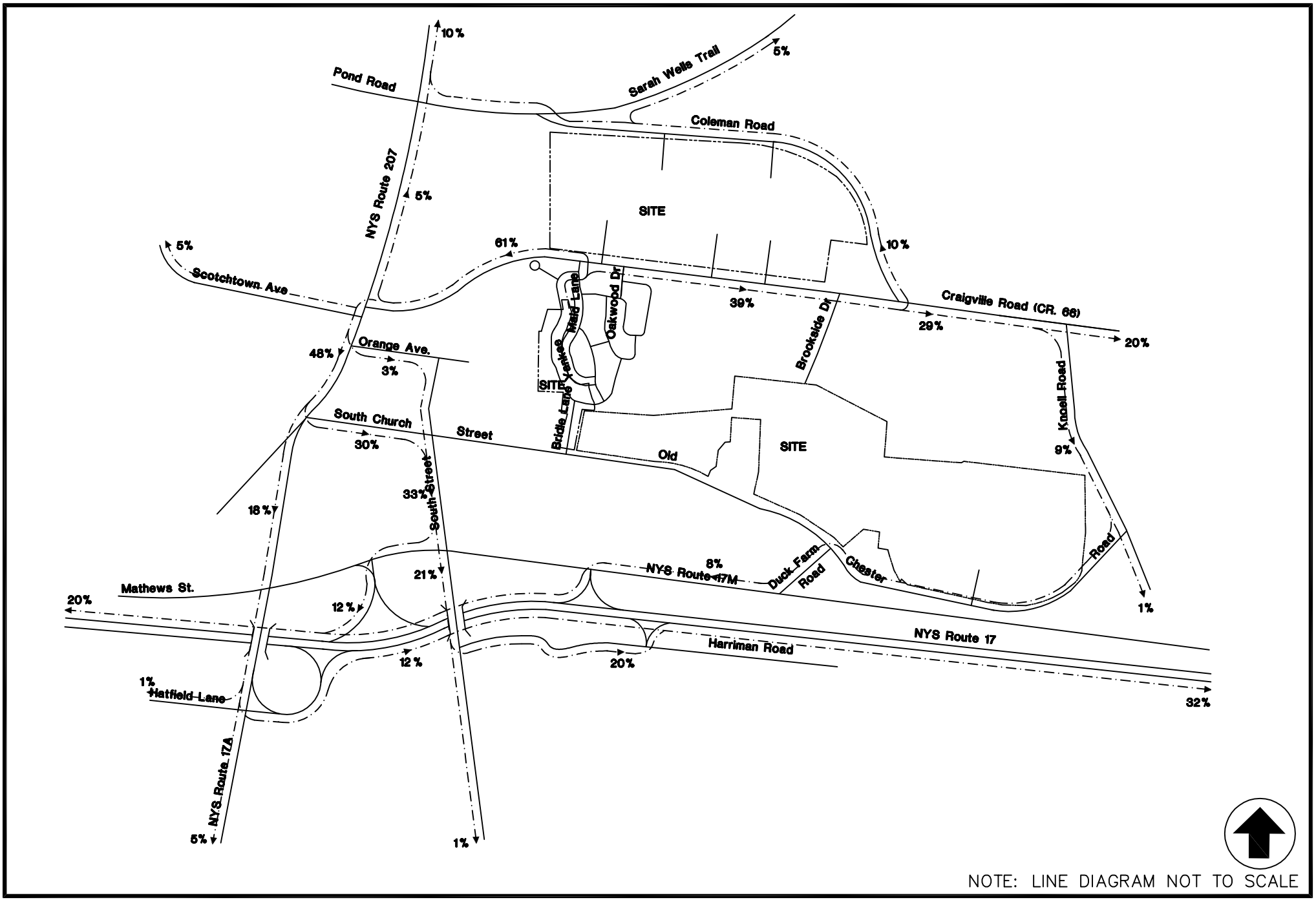
NOTE: LINE DIAGRAM NOT TO SCALE

GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

HAMBLETONIAN ESTATES ARRIVAL DISTRIBUTION

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 18



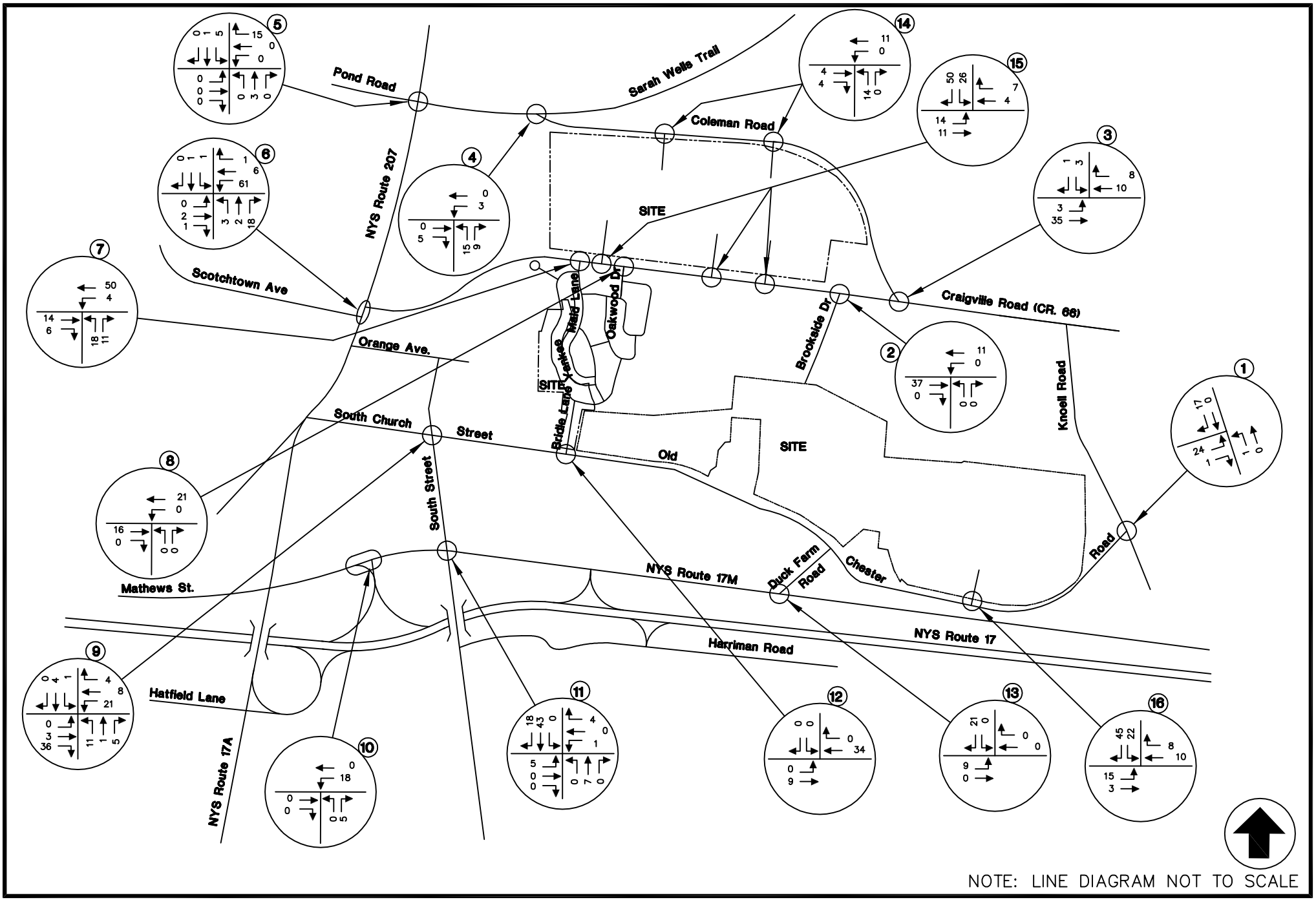
NOTE: LINE DIAGRAM NOT TO SCALE

GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

HAMBLETONIAN ESTATES DEPARTURE DISTRIBUTION

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 19

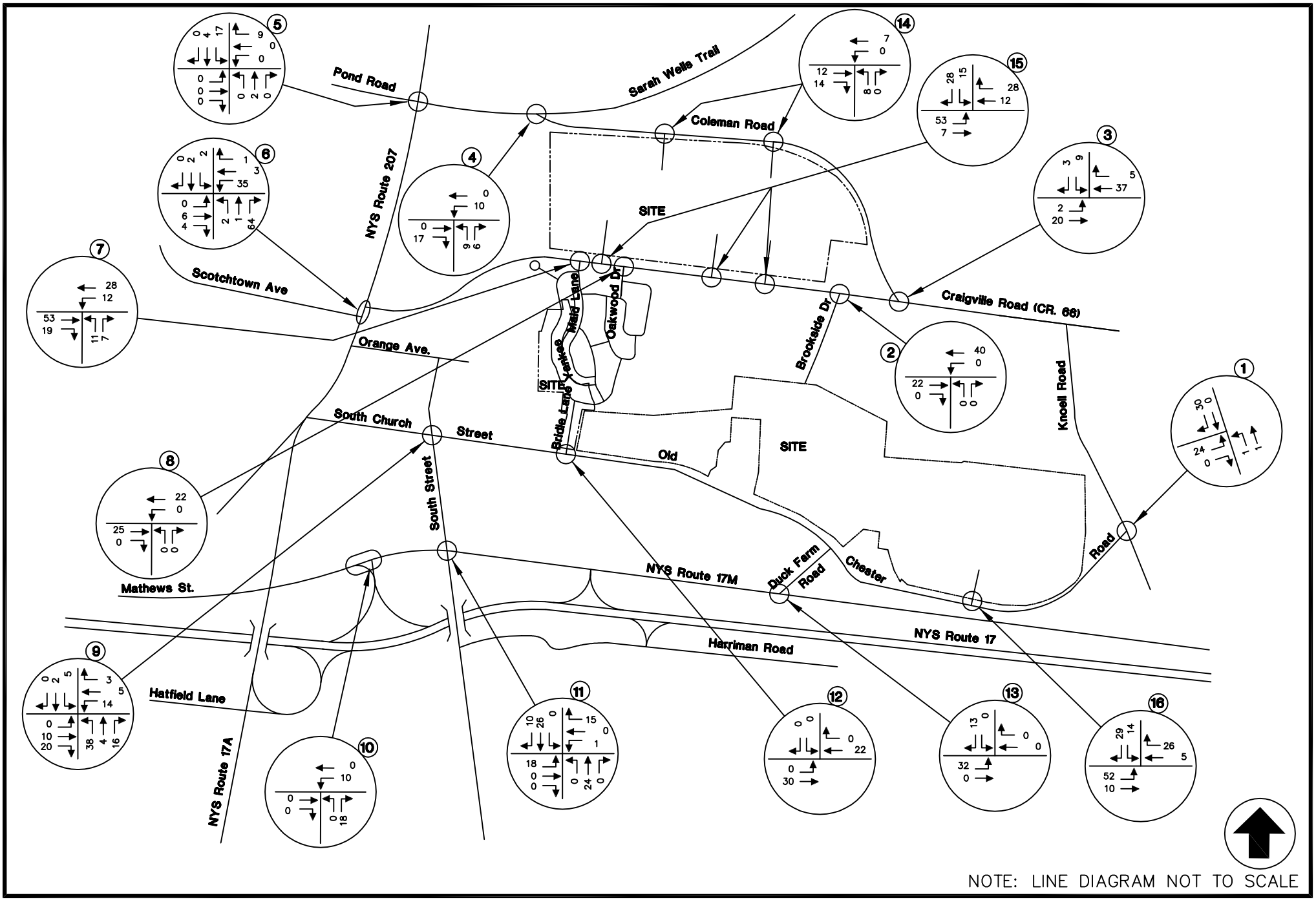


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK AM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 20

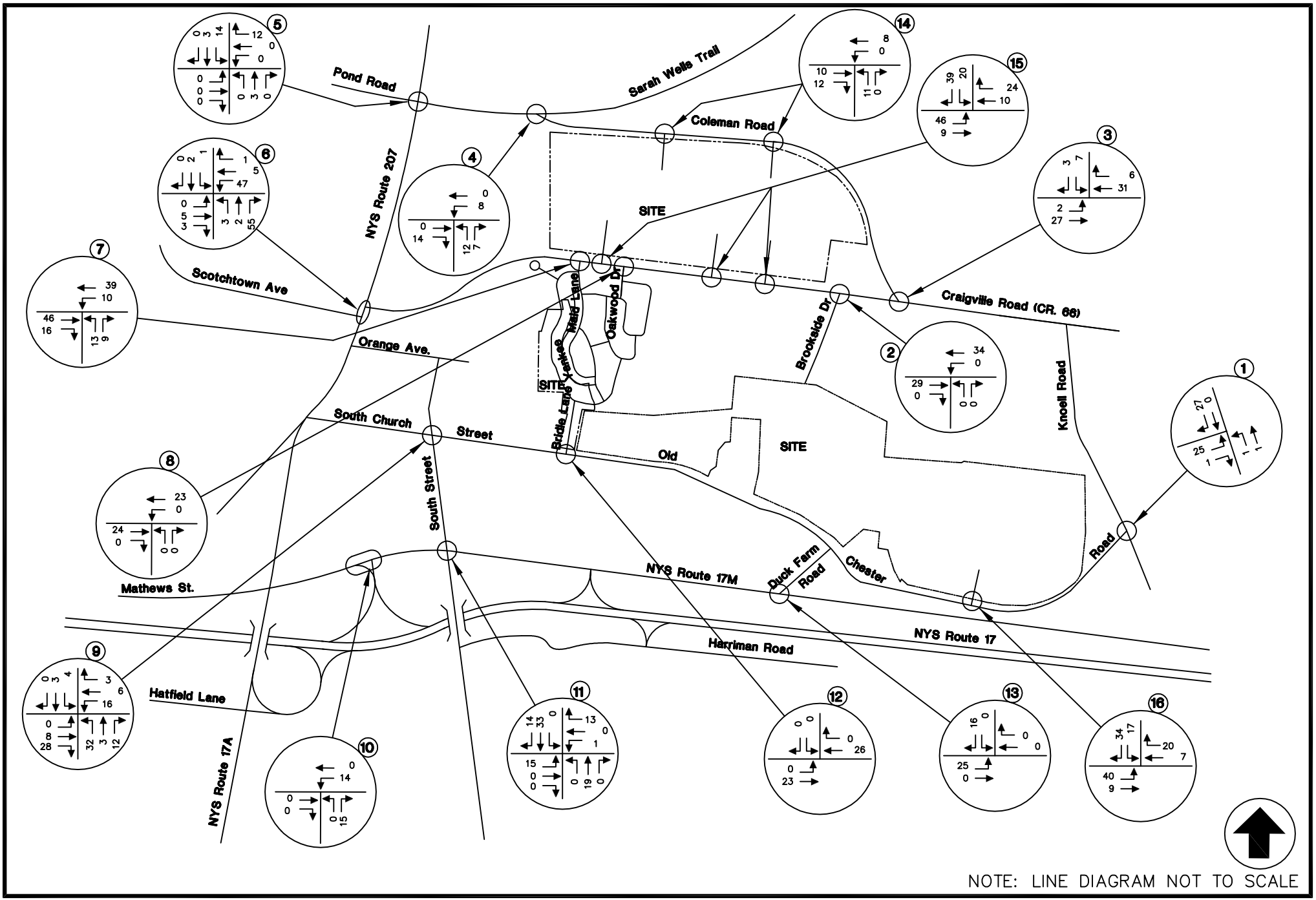


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK PM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 21

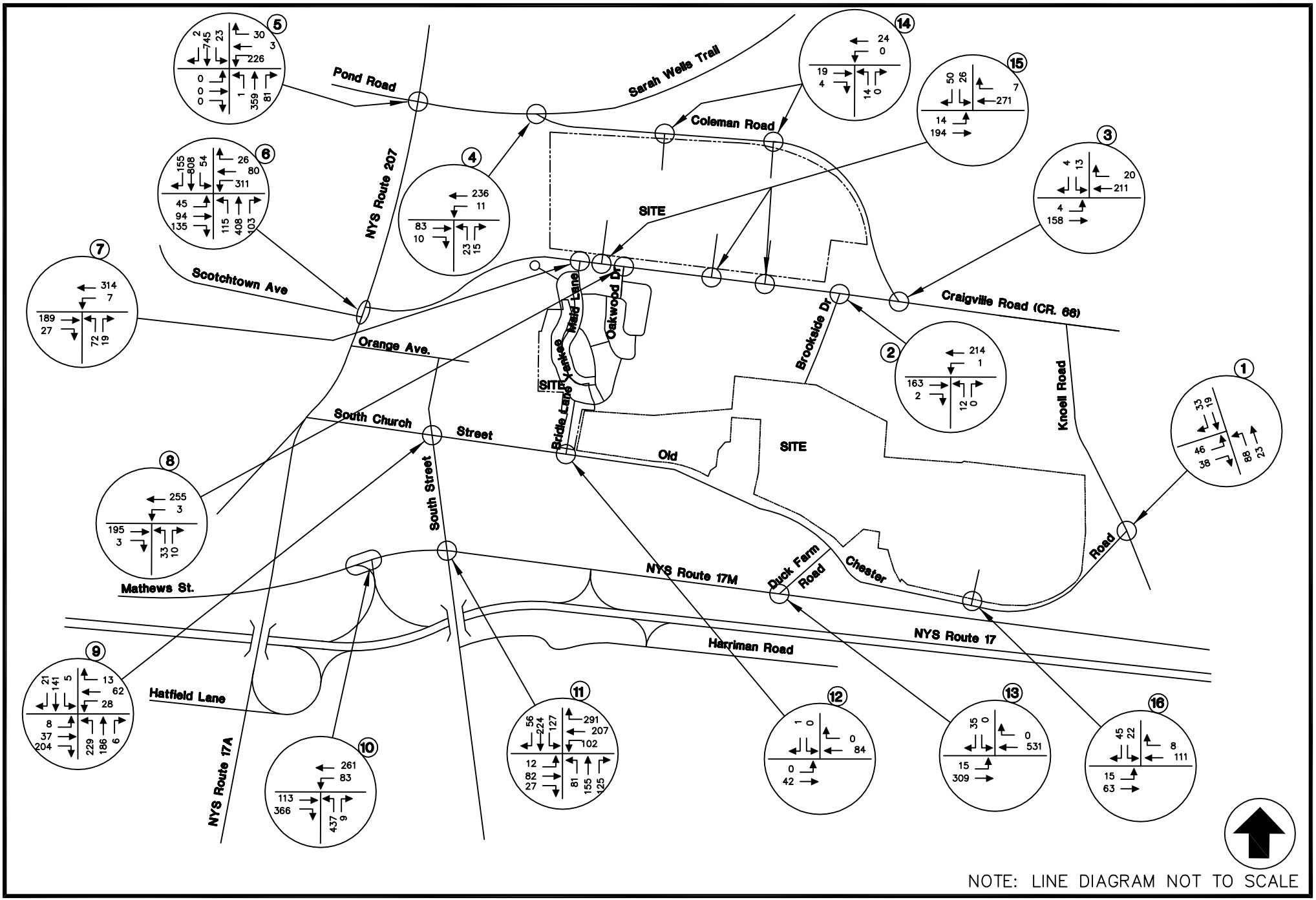


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

SITE GENERATED TRAFFIC VOLUMES
WEEKEND PEAK SAT HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 22

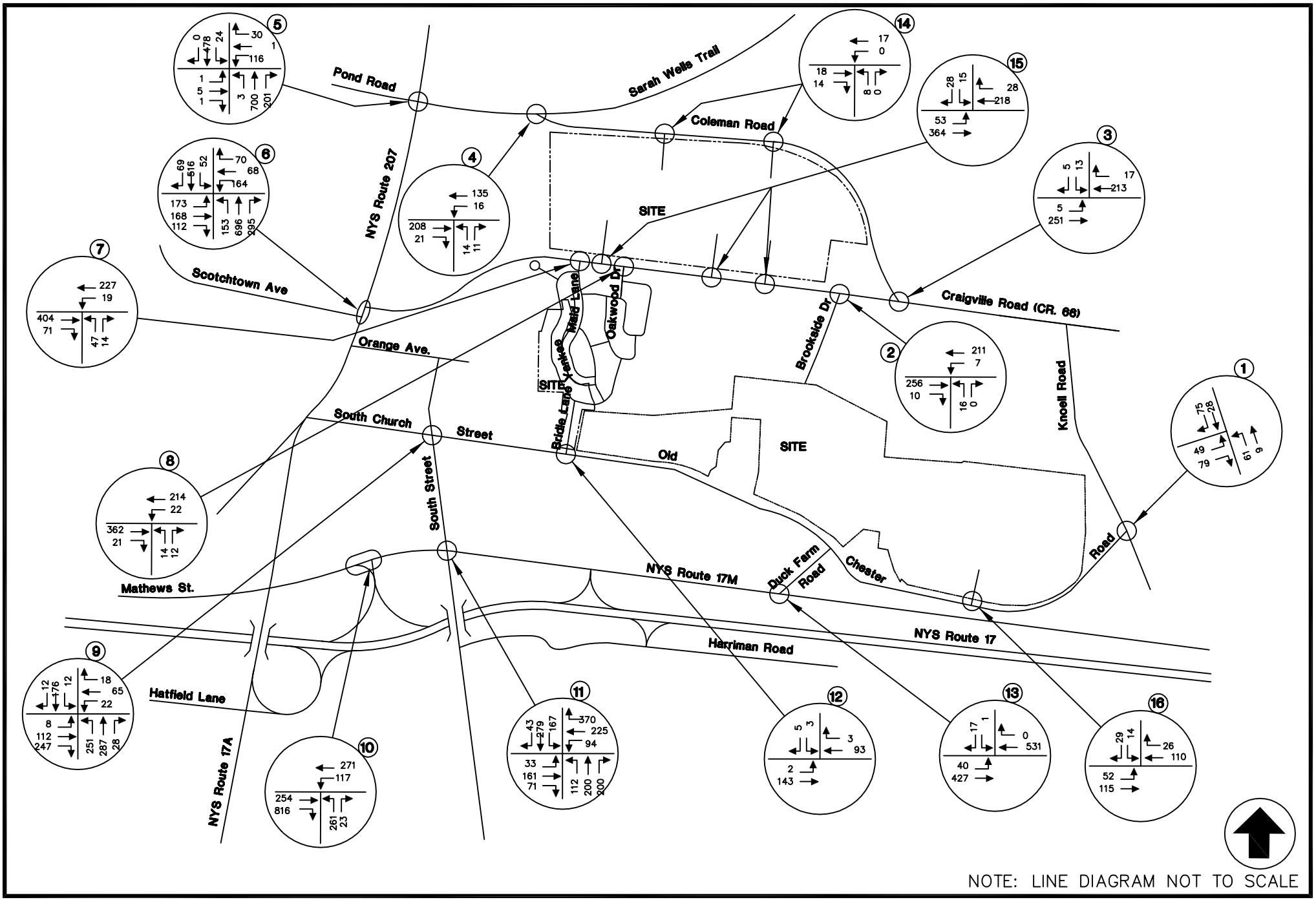


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 23

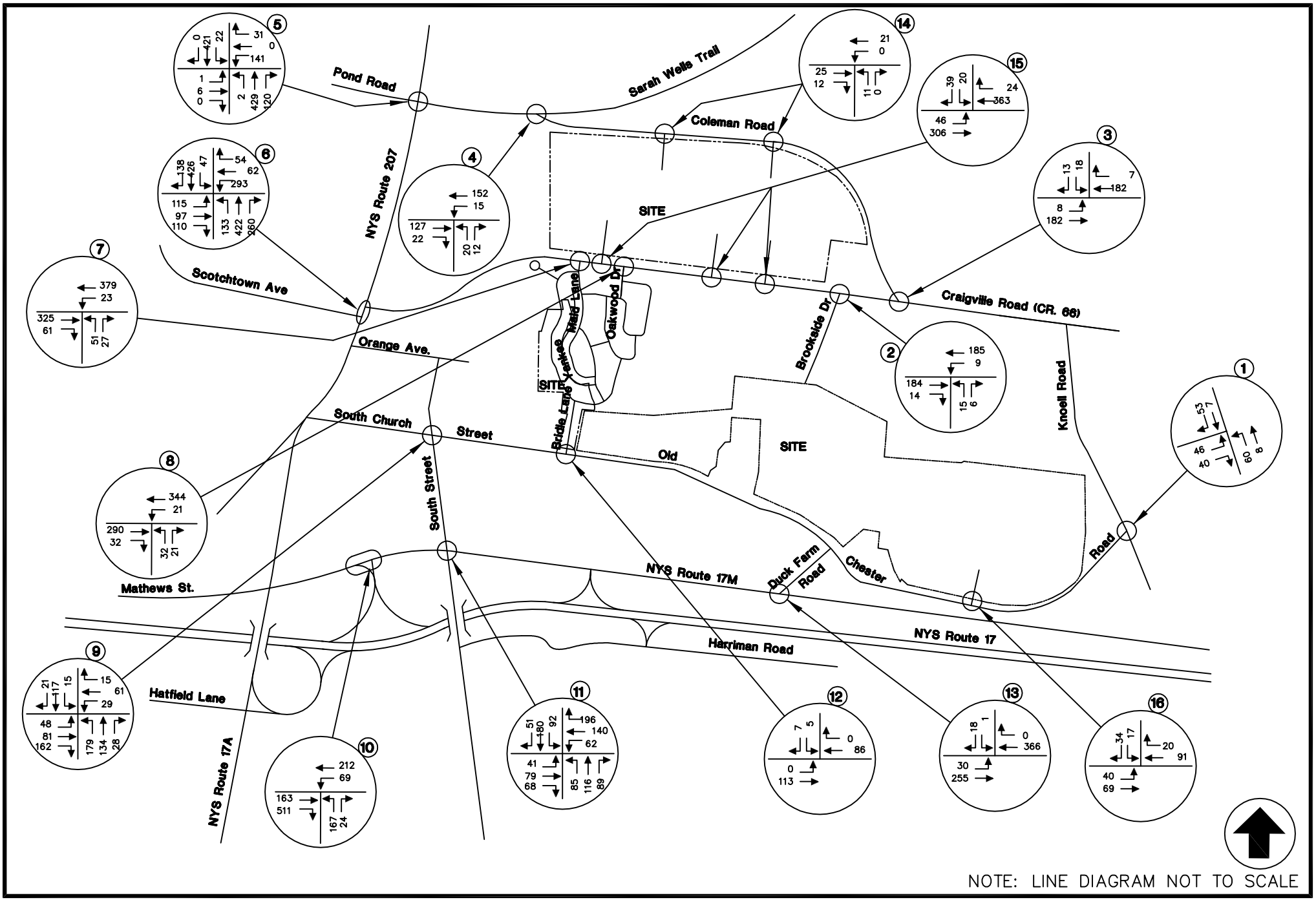


GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HIGHWAY HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 24



GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

2015 BUILD TRAFFIC VOLUMES
WEEKEND PEAK SAT HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 121 DATE: SEPTEMBER 2007 FIG. NO. 25

APPENDIX "B"

TABLES

TABLE 1

HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

MAPLEWOOD VILLAGE AT GOSHEN GOSHEN, NEW YORK	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
SINGLE FAMILY DWELLING (82 DWELLING UNITS)				
PEAK AM HIGHWAY HOUR	0.20	16	0.61	50
PEAK PM HIGHWAY HOUR	0.70	57	0.39	32
PEAK SATURDAY HIGHWAY HOUR	0.55	45	0.47	39
TOWNHOMES (91 DWELLING UNITS)				
PEAK AM HIGHWAY HOUR	0.09	8	0.44	40
PEAK PM HIGHWAY HOUR	0.41	37	0.20	18
PEAK SATURDAY HIGHWAY HOUR	0.41	37	0.35	32
TOTAL				
PEAK AM HIGHWAY HOUR	-	25	-	90
PEAK PM HIGHWAY HOUR	-	95	-	50
PEAK SATURDAY HIGHWAY HOUR	-	82	-	70

NOTES:

1) * THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON THE DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 7TH EDITION, 2003.

TABLE 1A

HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

HERITAGE ESTATES GOSHEN, NEW YORK	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
SINGLE FAMILY DWELLING (114 DWELLING UNITS)				
PEAK AM HIGHWAY HOUR	0.20	23	0.59	67
PEAK PM HIGHWAY HOUR	0.68	78	0.38	43
PEAK SATURDAY HIGHWAY HOUR	0.53	60	0.45	51

NOTES:

1) * THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON THE DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 7TH EDITION, 2003.

TABLE 18

HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

HAMBLETONIAN GOSHEN, NEW YORK	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
SINGLE FAMILY DWELLING (42 DWELLING UNITS)				
PEAK AM HIGHWAY HOUR	0.24	10	0.69	29
PEAK PM HIGHWAY HOUR	0.74	31	0.43	18
PEAK SATURDAY HIGHWAY HOUR	0.62	26	0.52	22

NOTES:

1) * THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON THE DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 7TH EDITION, 2003.

TABLE NO. 2

LEVEL OF SERVICE SUMMARY TABLE

			2005 EXISTING			2015 NO-BUILD			2015 BUILD		
			AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1	KNOWLL ROAD & OLD CHESTER ROAD	UNSIGNALIZED									
		EB	A[9.2]	A[9.2]	A[9.0]	A[9.4]	A[9.4]	A[9.1]	B[10.1]	A[10.0]	A[9.6]
		NB	A[7.4]	A[7.5]	A[7.4]	A[7.5]	A[7.5]	A[7.4]	A[7.5]	A[7.6]	A[7.5]
2	BRIDGESIDE DRIVE & CRAIGVILLE ROAD	UNSIGNALIZED									
		WB	A[7.5]	A[7.7]	A[7.6]	A[7.5]	A[7.8]	A[7.6]	A[7.6]	A[7.9]	A[7.7]
		NB	B[10.2]	B[10.8]	B[10.0]	B[10.9]	B[11.7]	B[10.5]	B[11.3]	B[12.4]	B[11.0]
3	COLEMAN ROAD & CRAIGVILLE ROAD	UNSIGNALIZED									
		EB	A[7.6]	A[7.6]	A[7.5]	A[7.7]	A[7.7]	A[7.6]	A[7.6]	A[7.8]	A[7.7]
		SB	A[10.0]	A[10.1]	A[9.6]	B[10.6]	B[10.7]	B[10.0]	B[11.0]	B[11.7]	B[10.6]
4	SARAH WELLS TRAIL & COLEMAN ROAD	UNSIGNALIZED									
		WB	A[7.5]	A[7.6]	A[7.5]	A[7.5]	A[7.6]	A[7.6]	A[7.5]	A[7.8]	A[7.6]
		NB	A[9.4]	A[9.7]	A[9.6]	A[10.0]	B[10.2]	A[9.9]	B[10.3]	B[10.7]	B[10.7]
5	SARAH WELLS TRAIL & ROUTE 207	UNSIGNALIZED									
		EB	C[16.6]	C[22.9]	C[16.4]	D[27.0]	C[30.0]	C[20.9]	D[27.6]	E[40.3]	C[22.1]
		WB	F[91.4]	E[49.8]	D[25.9]	F[523.0]	F[258.1]	F[56.4]	F[562.0]	F[332.0]	F[70.9]
		NB	A[8.8]	A[8.2]	A[8.0]	A[9.6]	A[8.5]	A[8.3]	A[9.6]	A[8.5]	A[8.3]
		SB	A[8.3]	A[9.3]	A[8.3]	A[8.5]	B[10.3]	A[8.7]	A[8.5]	B[10.5]	A[8.8]
	WITH SIGNALIZATION	SIGNALIZED									
		EB	-	-	-	B[13.4]	B[16.2]	B[16.2]	B[13.4]	B[16.2]	B[16.2]
		WB	-	-	-	B[19.4]	B[16.9]	B[19.5]	B[19.2]	B[19.0]	B[19.9]
		SB	-	-	-	B[10.7]	C[31.1]	A[8.2]	B[10.6]	C[31.7]	A[9.3]
		NB	-	-	-	C[26.2]	B[18.5]	B[18.9]	C[27.7]	C[21.6]	B[17.4]
		OVERALL				C[20.7]	C[26.0]	B[13.4]	C[21.1]	C[27.3]	B[14.0]
6	NYS ROUTE 207 & CRAIGVILLE ROAD/COTTAGEWAY RD	SIGNALIZED									
		EB	D[46.2]	E[63.3]	D[42.3]	D[57.3]	F[225.3]	D[53.1]	D[53.2]	F[232.7]	E[55.8]
		WB	E[78.2]	D[54.2]	C[31.5]	F[150.9]	F[91.6]	D[43.3]	F[245.6]	F[137.2]	E[65.7]
		SB	B[18.5]	D[40.9]	C[25.3]	C[22.6]	F[80.2]	E[56.2]	C[23.4]	F[111.0]	E[78.2]
		NB	C[32.8]	C[23.1]	C[21.9]	F[100.6]	C[21.8]	C[29.4]	F[100.6]	C[21.9]	D[29.7]
		OVERALL	D[37.3]	D[42.0]	C[28.1]	F[61.6]	F[92.7]	D[45.1]	F[90.9]	F[113.5]	E[58.7]
7	CRAIGVILLE RD & FAIRGROUNDS LANE	UNSIGNALIZED									
		WB	A[7.6]	A[8.1]	A[7.9]	A[7.7]	A[8.3]	A[8.1]	A[7.8]	A[8.6]	A[8.3]
		NB	B[11.3]	B[12.3]	B[12.6]	B[12.5]	B[14.0]	B[14.5]	B[13.8]	C[16.3]	C[17.1]
8	CRAIGVILLE RD & OAKWOOD DR	UNSIGNALIZED									
		WB	A[7.6]	A[8.0]	A[7.9]	A[7.7]	A[8.2]	A[8.0]	A[7.7]	A[8.3]	A[8.1]
		NB	B[10.7]	B[11.4]	B[12.3]	B[11.6]	B[12.5]	B[13.7]	B[11.9]	B[13.0]	B[14.3]

NOTES

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND AVERAGE VEHICLE DELAY IN SECONDS [ ] FOR EACH APPROACH AS WELL AS FOR THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS AND FOR THE KEY APPROACHES FOR THE UNSIGNALIZED LOCATIONS. SEE APPENDIX 7 FOR ADDITIONAL DETAILS.

2) NOTE THAT FOR THE NO-BUILD AND BUILD CONDITIONS AT THE SIGNALIZED INTERSECTIONS, SIGNAL TIMING IMPROVEMENTS ARE INCLUDED.

TABLE NO. 2 (CONTINUED)

LEVEL OF SERVICE SUMMARY TABLE

			2005 EXISTING			2015 NO-BUILD			2015 BUILD		
			AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
9	OLD CHESTER ROAD & SOUTH ST	UNSIGNALIZED									
		EB	A[9.6]	B[13.5]	B[10.1]	B[10.6]	C[18.5]	B[11.4]	B[12.3]	C[23.8]	B[13.2]
		WB	A[9.1]	B[10.3]	A[8.9]	A[9.8]	B[11.6]	A[9.5]	D[20.8]	B[13.1]	B[10.5]
		NB	B[13.0]	C[20.7]	B[11.0]	C[18.6]	E[43.1]	B[12.7]	C[20.1]	F[86.1]	C[15.8]
		SB	A[9.4]	B[11.2]	A[9.2]	B[10.3]	B[13.5]	B[10.0]	B[11.2]	C[13.2]	B[10.9]
		OVERALL	B[11.2]	C[16.8]	B[10.1]	B[13.4]	D[28.4]	B[11.5]	C[15.4]	E[49.8]	B[13.4]
10	NYS ROUTE 17M & NYS ROUTE 17 ON/OFF Ramp	SIGNALIZED									
		EB	A[7.5]	A[9.4]	B[11.5]	B[10.2]	C[29.6]	B[13.9]	B[10.2]	C[29.6]	B[13.9]
		WB	A[8.0]	A[5.2]	A[9.0]	A[8.2]	A[5.4]	A[8.1]	A[8.2]	A[5.4]	A[8.1]
		NB	D[38.3]	C[21.6]	B[14.8]	C[30.6]	C[28.4]	B[15.6]	C[31.9]	C[32.1]	B[15.7]
		OVERALL	B[11.0]	B[10.3]	B[11.1]	B[16.9]	C[24.1]	B[12.8]	B[17.5]	C[24.6]	B[12.8]
11	NYS ROUTE 17M & SOUTH STREET	SIGNALIZED									
		EB	A[9.7]	B[11.7]	B[11.5]	A[9.9]	B[12.5]	B[11.9]	B[10.0]	B[13.1]	B[12.2]
		WB	B[19.4]	D[40.4]	B[14.2]	D[37.0]	F[99.6]	B[16.5]	D[39.3]	F[111.8]	B[17.3]
		NB	B[15.1]	B[18.9]	B[17.7]	B[19.8]	D[41.5]	B[13.7]	C[21.7]	D[54.6]	B[14.3]
		SB	B[17.3]	C[28.4]	B[13.0]	C[20.9]	F[75.4]	B[13.7]	D[40.4]	F[103.2]	B[15.0]
		OVERALL	B[17.1]	C[28.5]	B[13.1]	C[28.0]	E[67.0]	B[14.4]	C[32.6]	F[91.2]	B[15.2]
	W/ IMPROVEMENTS	EB	-	-	-	B[15.3]	B[17.4]	B[18.3]	B[15.4]	C[20.6]	B[18.8]
		WB	-	-	-	C[21.2]	C[26.5]	B[18.8]	C[21.4]	C[26.5]	B[16.9]
		NB	-	-	-	B[10.1]	C[23.1]	A[9.2]	B[10.3]	C[30.0]	A[9.4]
		SB	-	-	-	A[9.6]	B[18.1]	A[8.6]	B[10.1]	B[18.3]	A[8.9]
		OVERALL	-	-	-	B[15.1]	C[21.8]	B[12.6]	B[15.1]	C[25.3]	B[12.9]
12	OLD CHESTER ROAD & GROVE LANE	UNSIGNALIZED									
		EB	A[7.3]	A[7.4]	A[7.4]	A[7.4]	A[7.4]	A[7.4]	A[7.4]	A[7.5]	A[7.4]
		SB	A[8.8]	A[9.0]	A[8.9]	A[8.8]	A[9.1]	A[9.0]	A[9.0]	A[9.3]	A[9.2]
13	NYS ROUTE 17M & DUCK POND RD	UNSIGNALIZED									
		EB	A[8.5]	A[8.5]	A[8.0]	A[8.7]	A[8.7]	A[8.2]	A[8.6]	A[8.9]	A[8.3]
		SB	B[12.0]	B[14.4]	B[11.6]	B[12.6]	B[13.9]	B[11.8]	B[12.9]	B[13.0]	B[11.1]
14	COLEMAN ROAD & MAPLEWOOD VILLAGE SITE ACCESS	UNSIGNALIZED									
		WB	-	-	-	-	-	-	A[7.3]	A[7.3]	A[7.3]
		NB	-	-	-	-	-	-	A[8.8]	A[8.7]	A[8.6]
15	CAMBRIDGE ROAD (CR 86) & MAPLEWOOD VILLAGE SITE ACCESS	UNSIGNALIZED									
		EB	-	-	-	-	-	-	A[7.8]	A[8.0]	A[8.4]
		SB	-	-	-	-	-	-	B[11.7]	B[12.3]	B[14.0]
16	OLD CHESTER ROAD & HERITAGE ESTATES ACCESS	UNSIGNALIZED									
		EB	-	-	-	-	-	-	A[7.5]	A[7.7]	A[8.4]
		SB	-	-	-	-	-	-	A[9.6]	A[8.8]	B[14.0]

NOTES:

1. THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND AVERAGE VEHICLE DELAY IN SECONDS, C[16.2] FOR EACH APPROACH AS WELL AS FOR THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS AND OF THE MAJOR APPROACHES FOR THE UNSIGNALIZED LOCATIONS. SEE APPENDIX "D" FOR ADDITIONAL DETAILS.

2. NOTE THAT FOR THE NO-BUILD AND BUILD CONDITIONS AT THE SIGNALIZED INTERSECTIONS, SIGNAL TIMING IMPROVEMENTS ARE ASSUMED.

APPENDIX "C"

CAPACITY ANALYSIS

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCR
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: KNEOLL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 171AMEX1
East/West Street: OLD CHESTER RD
North/South Street: KNOELL RD
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	73	19			15	11
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	81	21			16	12
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				18		32
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				20		35
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	81						55	
C(m) (vph)	1566						908	
v/c	0.05						0.06	
95% queue length	0.16						0.19	
Control Delay	7.4						9.2	
LOS	A						A	
Approach Delay							9.2	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1a

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: KNOLL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 1212MEXI
East/West Street: OLD CHESTER RD
North/South Street: KNOLL RD
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	51	7			24	37
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	56	7			26	41
Percent Heavy Vehicles	3	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				22		68
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				24		75
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	56						99	
C(m) (vph)	1516						846	
v/c	0.04						0.12	
95% queue length	0.11						0.39	
Control Delay	7.5						9.2	
LOS	A						A	
Approach Delay							9.2	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGB
Agency/Co.: JCK
Date Performed: 10/[illegible]/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: KNOELL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 12.SATEXI
East/West Street: OLD CHESTER RD
North/South Street: KNOELL RD
Intersection Orientation: NS Study period (hrs): [illegible]

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	50	6			6	22
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	55	6			6	24
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				18		34
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				20		37
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	55						57	
Cap. (vph)	1544						959	
v/c	0.04						0.06	
95% queue length	0.11						0.19	
Control Delay	7.4						9.[illegible]	
LOS	A						A	
Approach Delay							9.6	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121AMEX2
East/West Street: CRAIGVILLE RD
North/South Street: BROOKSIDE DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		94	2	1	152	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		104	2	1	168	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	10		0			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	11		0			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		11				
C(m) (vph)		1467		708				
v/c		0.00		0.02				
95% queue length		0.00		0.05				
Control Delay		7.5		10.2				
LOS		A		B				
Approach Delay				10.2				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 171PMEX2
East/West Street: CRAIGVILLE RD
North/South Street: BROOKSIDE DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		175	9	6	132	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		194	10	6	146	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	14		1			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	15		1			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		6		16				
C(m) (vph)		1350		642				
v/c		0.00		0.02				
95% queue length		0.01		0.08				
Control Delay		7.7		10.8				
LOS		A		B				
Approach Delay				10.8				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRATGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121SATEX2
East/West Street: CRATGVILLE RD
North/South Street: BROOKSIDE DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		122	12	8	116	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		135	13	8	128	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	13		5			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	14		5			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	SB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		8		19				
C(m) (vph)		1415		730				
v/c		0.01		0.03				
95% queue length		0.02		0.08				
Control Delay		7.6		10.0+				
LOS		A		B				
Approach Delay				10.0+				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAND RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121AMEX3
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	93			150	9
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	1	103			166	10
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RC Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				9		3
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				10		3
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	1						13	
C(m) (vph)	1382						707	
v/c	0.00						0.02	
95% queue length	0.00						0.05	
Control Delay	7.6						10.0-	
LOS	A						A	
Approach Delay							10.0-	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/9/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 171PMEX3
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs.): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	172			136	10
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	191			151	11
Percent Heavy Vehicles	3	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				3		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				3		2
Percent Heavy Vehicles				3		3
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						5	
Cap. (vph)	1499						[illegible]	
v/c	0.00						0.01	
95% queue length	0.01						0.02	
Control Delay	7.6						[illegible]	
LOS	A						B	
Approach Delay							10.1	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: CRB
Date performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 1215ATEXT
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	122			115	1
Peak-Hour Factor, PHF	0.90	0.95			0.90	0.90
Hourly Flow Rate, HFR	5	128			127	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				9		9
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				10		10
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	5						20	
C(m) (vph)	1446						199	
v/c	0.00						0.03	
95% queue length	0.01						0.08	
Control Delay	7.5						9.6	
LOS	A						A	
Approach Delay							9.6	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121AMEX4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 1.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		61	5	7	187	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		67	5	7	217	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		2	1
Configuration		TR			LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5		5			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	5		5			
Percent Heavy Vehicles	0		0			
Percent Grade ( )		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	Wb	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		10				
C(m) (vph)		1500		824				
v/c		0.00		0.01				
95% queue length		0.01		0.04				
Control Delay		14		9.4				
LOS		A		A				
Approach Delay				9.4				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121PMEX4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		165	1	5	105	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		183	1	5	116	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		2	1
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	4		5			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	4		5			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		5		9				
C(m) (vph)		1373		774				
v/c		0.00		0.01				
95% queue length		0.01		0.04				
Control Delay		7.6		9.7				
LOS		A		A				
Approach Delay				9.7				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGL
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 101SATEX4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		105	7	6	123	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		116	7	6	136	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		0	1
Configuration			TR			LT
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	7		4			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	7		4			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		6		11				
C(m) (vph)		1446		798				
v/c		0.00		0.01				
95% queue length		0.01		0.04				
Control Delay		7.5		9.6				
LOS		A		A				
Approach Delay				9.6				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SAHAN WELLS TRAIL & ROUTE 207
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121AMEXS
East/West Street: SAHAN WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs.): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	291	58	8	560	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	323	64	9	622	2
Percent Heavy Vehicles	5		--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	170	3	10	1	1	1
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	188	3	11	1	1	1
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			Yes / 0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	8		212			3	
C(m) (vph)	943	1155		225			269	
v/c	0.00	0.01		0.94			0.01	
95% queue length	0.00	0.02		8.14			0.03	
Control Delay	8.9	8.1		91.4			19.6	
LOS	A	A		F			C	
Approach Delay				91.4			19.6	
Approach LOS				F			C	

HCS2000: Unsignalized Intersections Release 4.1d

TWO WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/1/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SARAH WELLS TRAIL & ROUTE 207
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: IIIPMEXS
East/West Street: SARAH WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	523	160	1	381	6
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	3	581	177	1	423	6
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	1	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	97	1	9	1	4	1
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	107	1	10	1	4	1
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			Yes /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	3	1		118			6	
Cap (vph)	1100	841		197			257	
v/c	0.00	0.00		0.61			0.03	
95% queue length	0.01	0.00		3.48			0.09	
Control Delay	8.2	9.3		49.5			20.9	
LOS	A	A		E			C	
Approach Delay				49.8			22.9	
Approach LOS				E			C	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/1/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SARAH WELLS TRAIL & ROUTE 207
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2025 EXISTING TRAFFIC VOLUMES
Project ID: 121SATRK5
East/West Street: SARAH WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach	Northbound			Southbound		
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume		2	336	103	4	332	1
Peak-Hour Factor, PHF		0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR		2	365	111	4	360	1
Percent Heavy Vehicles		2	--	--	2	--	--
Median Type/Storage		Undivided			/		
RT Channelized?							
Lanes		0	1	0	0	1	0
Configuration		LTR			LTR		
Upstream Signal?			No			No	

Minor Street:	Approach	Westbound			Eastbound		
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume		121	1	0	1	0	1
Peak Hour Factor, PHF		0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR		131	1	0	1	0	1
Percent Heavy Vehicles		2	2	2	2	2	2
Percent Grade (%)			0			0	
Flared Approach:	Exists?/Storage			No /			Yes /^
Lanes		0	1	0	0	1	0
Configuration			LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	2	4		141			2	
C(m) (vph)	1196	1026		3[illegible]			372	
v/c	0.00	0.00		0.45			0.72	
95% queue length	0.01	0.01		2.26			0.07	
Control Delay	8.0	8.3		25.9			16.4	
LOS	A	A		D			C	
Approach Delay				25.9			16.4	
Approach LOS				D			C	

HCS2000: Signalized Intersections Release 4.1e

Analyst: BCL
Agency: JCE
Date: 11/7/2005
Period: AM PEAK HOUR
Project ID: 121AMEX6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAIGVILLE RD
Area Type: All other areas
Jurisd:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	139	57	93	198	64	17	90	336	71	34	415	135
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration: 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left		A			NB	Left	A	A		
	Thru		A				Thru		A		
	Right		A				Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A	A		
	Thru	A					Thru		A		
	Right	A					Right		A		
	Peds						Peds				
NB	Right					EB	Right	A			
SB	Right					WB	Right				
Green		18.0	10.0					5.0	50.0		
Yellow		3.0	3.0					2.0	3.0		
All Red		2.0	2.0					0.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	153	1833	0.75	0.10	55.2	E	46.2	D
R	317	1583	0.32	0.20	34.8	C		
Westbound								
LTR	321	1784	0.94	0.19	76.2	E	76.1	E
Northbound								
L	163	1770	0.60	0.57	25.7	C		
TR	997	1814	0.49	0.50	16.9	B	18.5	B
Southbound								
L	426	1770	0.09	0.57	10.9	B		
TR	906	1812	0.89	0.50	33.9	C	32.9	C

Intersection Delay 37.3 (sec/veh) Intersection LOS L

HCS2000: Signalized Intersections Release 4.1e

Analyst: RSD
Agency: JCE
Date: 8/4/2005
Period: PM PEAK HOUR
Project ID: 121PMEX6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAIGVILLE RD
Area Type: All other areas
Jurisd:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	150	141	86	109	56	46	105	520	180	36	420	60
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru		A		
Right		A				Right		A		
Peds						Peds				
WB Left	A				SB	Left	A	A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
NB Right					EB	Right	A			
SB Right					WB	Right				
Green	16.0	18.0					5.0	44.0		
Yellow	3.0	3.0					2.0	3.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	327	1816	0.94	0.18	73.9	E	63.3	E
R	443	1583	0.21	0.28	27.7	C		
Westbound								
LTR	282	1763	0.79	0.16	54.2	D	54.2	D
Northbound								
L	304	1770	0.37	0.51	16.3	B		
TR	788	1791	0.93	0.44	44.7	D	42.9	D
Southbound								
L	164	1770	0.23	0.51	20.8	C		
TR	804	1828	0.63	0.44	23.2	C	23.1	C

Intersection Delay 42.0 (sec/veh) Intersection LOS = D

HCS2000: Signalized Intersections Release 4.1e

Analyst: RCD
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATEX6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAIGVILLE RD
Area Type: All other areas
Jurisd:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	100	80	90	210	50	35	100	340	175	30	345	120
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
WB	Left		A			SB	Left	A			
	Thru		A				Thru	A			
	Right		A				Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		11.0	21.0					33.0			
Yellow		3.0	3.0					3.0			
All Red		2.0	2.0					2.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	254	1849	0.77	0.14	46.9	D	42.3	D
R	222	1615	0.44	0.14	33.1	C		
Westbound								
LTR	455	1733	0.70	0.26	31.5	C	31.5	C
Northbound								
L	223	541	0.49	0.41	19.0	B		
TR	348	1717	0.79	0.41	26.6	C	25.3	C
Southbound								
L	172	418	0.19	0.41	15.5	B		
TR	726	1761	0.70	0.41	22.3	C	21.9	C

Intersection Delay = 28.1 (sec/veh) Intersection LOS = C

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAIN LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121AMEX7
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAID LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		137	18	3	205	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		152	20	3	227	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	47		7			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	52		7			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		59				
C(m) (vph)		1387		676				
v/c		0.00		0.09				
95% queue length		0.01		0.31				
Control Delay		7.6		11.3				
LOS		A		B				
Approach Delay				11.3				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAID LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121PMEX7
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAID LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		276	45	6	350	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		306	50	6	173	
Percent Heavy Vehicles		--	-	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	31		6			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	34		6			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		6		40				
C(m) (vph)		1196		533				
v/c		0.01		0.08				
95% queue length		0.02		0.24				
Control Delay		8.1		12.3				
LOS		A		B				
Approach Delay				12.3				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JMR
Date Performed: 10/1/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAIN LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project No: 121SATEXT
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAIN LANE
Intersection Orientation: NW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		230	39	13	205	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		255	43	17	211	
Percent Heavy Vehicles		--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	33		16			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	36		17			
Percent Heavy Vehicles	3		3			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		17		53				
C(m) (vph)		1146		515				
v/c		0.01		0.10				
95% queue length		0.03		0.34				
Control Delay		8.2		12.9				
LOS		A		B				
Approach Delay				12.9				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGO
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121AMEX8
East/West Street: CRAIGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		141	3	3	179	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		156	3	3	198	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	29		9			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	32		10			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	SB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		42				
C(m) (vph)		1402		676				
v/c		0.00		0.06				
95% queue length		0.01		0.20				
Control Delay		7.6		10.7				
LOS		A		B				
Approach Delay				10.7				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 1719MRX8
East/West Street: CRAIGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		264	18	19	150	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		293	20	21	166	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	12		10			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	13		11			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		21		24				
C(m) (vph)		1230		590				
v/c		0.02		0.04				
95% queue length		0.05		0.13				
Control Delay		8.0		11.4				
LOS		A		B				
Approach Delay				11.4				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121SATEX8
East/West Street: CRAIGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		218	28	18	263	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		242	31	20	292	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	28		18			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	31		20			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		20		51				
C(m) (vph)		1273		545				
v/c		0.02		0.09				
95% queue length		0.05		0.31				
Control Delay		7.9		12.2				
LOS		A		B				
Approach Delay				12.3				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 171AM5X9
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	17	30	140	6	47	8	185	159	1	3	119	16

* Thru Left Lane

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	191		65		374		146	
* Heavy Veh	2		2		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-Lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	191		65		374		146	
Left-Turn	7		6		201		3	
Right-Turn	152		8		1		19	
Prop. Left-Turns	0.0		0.1		0.5		0.0	
Prop. Right-Turns	0.8		0.1		0.0		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2		0.2	

hRT-adj	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.4	-0.0	0.1	-0.0

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	191		65		374		146	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.17		0.06		0.33		0.13	
hd, final value	4.90		5.52		4.93		5.06	
x, final value	0.26		0.10		0.51		0.21	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	2.9		3.5		2.9		3.1	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	191		65		374		146	
Service Time	2.9		3.5		2.9		3.1	
Utilization, x	0.26		0.10		0.51		0.21	
Dep. headway, hd	4.90		5.52		4.93		5.06	
Capacity	441		315		624		396	
Delay	9.62		9.13		12.98		9.36	
LOS	A		A		B		A	
Approach:								
Delay	9.62		9.13		12.98		9.36	
LOS	A		A		B		A	

Intersection Delay 11.15 Intersection LOS B

HCS2000: Unsignalized Intersections Release 4.1d

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 171PMEXS
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	7	89	194	7	52	13	181	238	11	6	147	10

: Thrus Left Lane

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	313		77		465		175	
% Heavy Veh	2		2		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-Lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Flow Rates:								
Total in Lane	313		77		465		175	
Left-Turn	7		7		196		6	
Right-Turn	210		14		11		10	
Prop. Left-Turns	0.0		0.1		0.4		0.0	
Prop. Right-Turns	0.7		0.2		0.0		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
HLT-adj	0.2		0.2		0.2		0.2	

RRC-adj	-0.6	-0.6	-0.6	-0.6
RHV adj	1.7	1.7	1.7	1.7
hadj, computed	-0.4	-0.1	0.1	1.0

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	313		77		465		175	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.28		0.07		0.41		0.16	
hd, final value	5.52		6.34		5.49		5.88	
x, final value	0.48		0.14		0.71		0.29	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	3.5		4.3		3.5		3.9	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	313		77		465		175	
Service Time	3.5		4.3		3.5		3.9	
Utilization, x	0.48		0.14		0.71		0.29	
Dep. headway, hd	5.52		6.34		5.49		5.88	
Capacity	503		327		637		425	
Delay	13.52		10.34		20.72		11.23	
LOS	B		B		C		B	
Approach:								
Delay	13.52		10.34		20.72		11.23	
LOS	B		B		C		B	

Intersection Delay 16.14 Intersection LOS C

HCS2000: Unsignalized Intersections Release 4.1d

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121SATEX9
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	47	64	114	11	48	10	125	112	14	10	98	18

* Thrus Left Lane

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	237		73		271		135	
* Heavy Veh	2		2		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Flow Rates:								
Total in Lane	237		73		271		135	
Left-Turn	45		11		135		10	
Right-Turn	123		10		15		10	
Prop. Left-Turns	0.2		0.2		0.5		0.1	
Prop. Right-Turns	0.5		0.1		0.1		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2		0.2	

HRD-adj	-0.6	-0.6	-0.6	-0.6
HHV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.2	-0.2	0.1	-0.0

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	237		73		271		135	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.21		0.06		0.24		0.12	
hd, final value	4.83		5.30		5.00		5.06	
x, final value	0.32		0.11		0.39		0.19	
Move-up time, m	2.0		2.0		2.0		2.0	
Service time	2.8		3.3		3.0		3.1	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	237		73		271		135	
Service Time	2.9		3.3		3.0		3.1	
Utilization, x	0.32		0.11		0.38		0.19	
Dep. headway, hd	4.83		5.30		5.00		5.06	
Capacity	487		323		521		395	
Delay	10.07		8.93		10.99		9.24	
LOS	B		A		B		A	
Approach:								
Delay	10.07		8.93		10.99		9.24	
LOS	B		A		B		A	

Intersection Delay 10.14 Intersection LOS B

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AMRX10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Juris:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LG Config		T	R	L	T			LR				
Volume		88	298	149	187		238		1			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	A			
Thru	A					Thru				
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left				
Thru	A					Thru				
Right						Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	30.0						20.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	905	1810	0.11	0.50	8.0	A	9.5	A
R	769	1538	0.43	0.50	9.9	A		
Westbound								
L	628	1255	0.09	0.50	7.9	A		
T	1723	3445	0.12	0.50	8.0	A	8.0	A
Northbound								
LR	574	1723	0.46	0.33	16.3	B	16.3	B
Southbound								

Intersection Delay = 11.0 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 171PMEX10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Jurisd:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LGConfig		T	R	L	T			LR				
Volume		180	580	88	211		193		1			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left	A			
Thru	A				Thru				
Right	A				Right	A			
Peds					Peds				
WB Left	A				SB Left				
Thru	A				Thru				
Right					Right				
Peds					Peds				
NB Right					SB Right				
SB Right					WB Right				
Green	36.0					14.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1086	1810	0.18	0.60	5.5	A	9.4	A
R	923	1538	0.70	0.60	10.6	B		
Westbound								
L	686	1144	0.14	0.60	5.3	A		
T	2067	3445	0.11	0.60	5.2	A	5.2	A
Northbound								
LR	402	1723	0.53	0.23	21.6	C	21.6	C
Southbound								

Intersection Delay = 10.3 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGR
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 171SATEX10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Jurisd:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LGConfig		T	R	L	T			LR				
Volume		132	430	47	174		128		4			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	A			
Thru	A					Thru				
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left				
Thru	A					Thru				
Right						Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	30.0						20.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	g/C	Lane Group Delay	LOS	Approach Delay	LOS
Eastbound								
T	905	1810	0.16	0.50	8.2	A	11.4	B
R	769	1538	0.62	0.50	12.4	B		
Westbound								
L	600	1200	0.08	0.50	7.9	A		
T	1723	3445	0.11	0.50	8.0	A	8.0	A
Northbound								
LR	573	1719	0.75	0.33	14.8	B	14.8	B
Southbound								

Intersection Delay = 11.1 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGH
Agency: JCE
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 1:1AMEX11
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Juris:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	5	69	15	84	159	249	46	123	107	110	155	26
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru	A				Thru	A			
Right	A				Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru	A				Thru	A			
Right	A				Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	27.0					23.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	773	1717	0.13	0.45	9.7	A	9.7	A
Westbound								
LTR	705	1566	0.28	0.45	19.4	B	19.4	B
Northbound								
LTR	591	1543	0.52	0.38	15.1	B	15.1	B
Southbound								
LTR	519	1353	0.62	0.38	17.3	B	17.3	B

Intersection Delay = 17.1 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 121PMSX11
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	7	119	45	76	184	307	82	147	173	145	215	27
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	25.0						25.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	708	1699	0.26	0.42	11.7	B	11.7	B
Westbound								
LTR	650	1559	0.95	0.42	40.4	D	40.4	D
Northbound								
LTR	604	1449	0.72	0.42	18.9	B	18.9	B
Southbound								
LTR	498	1196	0.85	0.42	28.4	C	28.4	C

Intersection Delay = 28.5 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATEX11
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2005 EXISTING TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	21	67	49	49	119	159	61	81	76	80	124	32
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	25.0						25.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	663	1591	0.23	0.42	11.5	B	11.5	B
Westbound								
LTR	660	1584	0.55	0.42	14.2	B	14.2	B
Northbound								
LTR	611	1467	0.40	0.42	12.7	B	12.7	B
Southbound								
LTR	607	1456	0.43	0.42	13.0	B	13.0	B

Intersection Delay = 13.1 (sec/veh) Intersection LOS = B

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121AHEX12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	29			44	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	1	32			48	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		1
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		1
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	1						2	
C(m) (vph)	1539						959	
v/c	0.00						0.00	
95% queue length	0.00						0.00	
Control Delay	7.3						8.8	
LOS	A						A	
Approach Delay							8.8	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGL
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 171PMEX12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW

Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	98			62	3
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	2	108			68	3
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	1	8	9	10	11	12
	L	T	R	L	T	R
Volume				3		4
Peak Hour Factor, PHF				[illegible]		[illegible]
Hourly Flow Rate, HFR				3		4
Percent Heavy Vehicles				5		5
Percent Grade ( )		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	2						7	
Cmd (vph)	1510						[illegible]	
v/c	0.00						0.01	
95% queue length	0.00						0.02	
Control Delay	7.4						[illegible]	
LOS	A						A	
Approach Delay							9.0	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RCU
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 12:SATEX12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	78			53	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	1	86			58	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				4		6
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				4		6
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes					0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	1						10	
C(m) (vph)	1526						928	
v/c	0.00						0.01	
95% queue length	0.00						0.03	
Control Delay	7.4						8.9	
LOS	A						A	
Approach Delay							8.9	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 17:AMEX13
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.75

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	268			459	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	297			510	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		8
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		8
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						9	
C(m) (vph)	1039						521	
v/c	0.00						0.02	
95% queue length	0.01						0.05	
Control Delay	8.5						12.0	
LOS	A						B	
Approach Delay							12.0	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: 121PMEX13
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	6	370			450	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	6	411			500	1
Percent Heavy Vehicles	5	-	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		1
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		1
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	6						2	
C(m) (vph)	1048						387	
v/c	0.01						0.01	
95% queue length	0.02						0.02	
Control Delay	8.5						14.4	
LOS	A						B	
Approach Delay							14.4	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2005 EXISTING TRAFFIC VOLUMES
Project ID: i21SATEX13
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	220			316	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	244			351	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		1
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		1
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						2	
C(m) (vph)	1190						348	
v/c	0.00						0.00	
95% queue length	0.01						0.01	
Control Delay	8.0						11.6	
LOS	A						B	
Approach Delay							11.6	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: KNOELL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMNB1
East/West Street: OLD CHESTER RD
North/South Street: KNOELL RD
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	87	23			18	16
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	96	25			20	17
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				22		38
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				24		47
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	96						66	
C(m) (vph)	1554						878	
v/c	0.06						0.08	
95% queue length	0.20						0.24	
Control Delay	7.5						9.4	
LOS	A						A	
Approach Delay							9.4	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: KNECLL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNB:
East/West Street: OLD CHESTER RD
North/South Street: KNORLL RD
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	60	8			28	45
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	66	8			31	50
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				25		78
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				27		86
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	66						113	
C(m) (vph)	1498						925	
v/c	0.04						0.12	
95% queue length	0.14						0.41	
Control Delay	7.5						9.4	
LOS	A						A	
Approach Delay							9.4	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/1/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: KNECEL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121SA7N01
East/West Street: OLD CHESTER RD
North/South Street: KNOELL RD
Intersection Orientation: NS Study period (hrs.): 1.75

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	59	7			7	24
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	65	7			7	26
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				21		39
Peak Hour Factor, PHF				1.00		0.90
Hourly Flow Rate, HFR				23		43
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Existing/Storage				/		No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	65						66	
C(m) (vph)	1577						942	
v/c	0.04						0.07	
95% queue length	0.13						0.23	
Control Delay	7.4						9.1	
LOS	A						A	
Approach Delay							9.1	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMKB2
East/West Street: CRAIGVILLE RD
North/South Street: BROOKSIDE DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		125	2	1	203	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		138	2	1	225	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	12		0			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	13		0			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		13				
C(m) (vph)		1425		628				
v/c		0.00		0.02				
95% queue length		0.00		0.06				
Control Delay		7.5		10.9				
LOS		A		B				
Approach Delay				10.9				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNB2
East/West Street: CRAIGVILLE RD
North/South Street: BROOKSIDE DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		234	10	7	172	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		260	11	7	191	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	16		1			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	17		1			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		18				
C(m) (vph)		1275		552				
v/c		0.01		0.03				
95% queue length		0.02		0.10				
Control Delay		7.9		11.7				
LOS		A		B				
Approach Delay				11.7				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 1P1SATNB2
East/West Street: CRAIGVILLE RD
North/South Street: BROOKSIDE DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		155	14	9	151	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		172	15	10	167	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		0	1
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	15		6			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	16		6			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		10		22				
C(m) (vph)		1369		672				
v/c		0.01		0.03				
95% queue length		0.02		0.10				
Control Delay		7.6		10.7				
LOS		A		B				
Approach Delay				10.5				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAND RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMNB3
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	124			201	12
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	1	137			223	13
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				10		3
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				11		3
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Existing/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	1						14	
C(m) (vph)	1314						606	
v/c	0.00						0.02	
95% queue length	0.00						0.07	
Control Delay	7.7						10.6	
LOS	A						B	
Approach Delay							10.6	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAND RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNB3
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	231			176	12
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	256			195	13
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				3		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				3		2
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						5	
C(m) (vph)	1345						636	
v/c	0.00						0.01	
95% queue length	0.01						0.02	
Control Delay	7.7						10.7	
LOS	A						B	
Approach Delay							10.7	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAND RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 1215ATNRD
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	6	155			150	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	6	172			166	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				10		10
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				11		11
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	6						22	
C(m) (vph)	1393						737	
v/c	0.00						0.03	
95% queue length	0.01						0.09	
Control Delay	7.6						10.0+	
LOS	A						B	
Approach Delay							10.0+	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RCD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMNB4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		83	6	8	236	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		92	6	8	262	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	8		6			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	8		6			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		8		14				
C(m) (vph)		1476		740				
v/c		0.01		0.02				
95% queue length		0.02		0.06				
Control Delay		7.5		10.0-				
LOS		A		A				
Approach Delay				10.0-				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNB4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		208	4	6	135	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		231	4	6	150	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		0	1
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5		6			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	5		6			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		6		11				
C(m) (vph)		1315		706				
v/c		0.00		0.02				
95% queue length		0.01		0.05				
Control Delay		7.8		10.2				
LOS		A		B				
Approach Delay				10.2				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: WGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121SATNB4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		127	8	7	152	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		141	8	7	169	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	8		5			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	8		5			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		13				
C(m) (vph)		1414		744				
v/c		0.00		0.02				
95% queue length		0.01		0.05				
Control Delay		7.6		9.9				
LOS		A		A				
Approach Delay				9.9				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SARAH WELLS TRAIL & ROUTE 207
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 171AMNB5
East/West Street: SARAH WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	356	81	18	744	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	395	90	20	826	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	226	3	15	1	1	1
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	251	3	16	1	1	1
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			Yes /0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	20		270			3	
C(m) (vph)	790	1062		136			167	
v/c	0.00	0.02		1.99			0.02	
95% queue length	0.00	0.06		21.47			0.05	
Control Delay	9.6	8.5		523.0			27.0	
LOS	A	A		F			D	
Approach Delay				523.0			27.0	
Approach LOS				F			D	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SARAH WELLS TRAIL & ROUTE 207
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNH5
East/West Street: SARAH WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	697	201	7	474	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	3	774	223	7	526	0
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	116	1	21	1	5	1
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	128	1	23	1	5	1
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			Yes /0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	3	7		152			7	
C(m) (vph)	1026	682		116			123	
v/c	0.00	0.01		1.31			0.06	
95% queue length	0.01	0.03		10.13			0.18	
Control Delay	8.5	10.3		258.1			36.0	
LOS	A	B		F			E	
Approach Delay				258.1			36.0	
Approach LOS				F			E	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCB
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SARAH WELLS TRAIL & ROUTE 20
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 12.SATHR
East/West Street: SARAH WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	426	129	9	418	1
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	8	463	140	9	454	1
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	141	1	14	1	6	1
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	153	1	20	1	6	1
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			Yes / 1
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	2	9		174			8	
C(m) (vph)	1126	983		228			235	
v/c	0.00	0.01		0.76			0.03	
95% queue length	0.01	0.03		5.38			0.11	
Control Delay	8.3	8.7		56.4			21.0	
LOS	A	A		F			C	
Approach Delay				56.4			20.9	
Approach LOS				F			C	

HCS2000: Signalized Intersections Release 4.1e

Analyst: RCL
Agency: CTE
Date: 11/7/2005
Period: AM PEAK HOUR
Project ID: 1111AMNB5
E/W St: SARAH WELLS TRAIL

Inter.: NYS RT 297 & SARAH WELLS TRAIL
Area Type: All other areas
Scrisa:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 297

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LG Config		LTR			LTR			LTR			LTR	
Volume	1	1	1	326	3	19	1	356	91	18	744	2
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0		0				0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		20.0						30.0			
Yellow		3.0						3.0			
All Red		2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay LOS		Approach Delay LOS	
Eastbound								
LTR	553	1660	0.01	0.33	13.4	B	13.4	B
Westbound								
LTR	455	1366	0.50	0.33	18.4	B	18.4	B
Northbound								
LTR	937	1814	0.52	0.50	10.7	B	10.7	B
Southbound								
LTR	917	1814	0.91	0.50	26.2	C	26.2	C

Intersection Delay 20.2 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: SCR
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 1219MMBS
E/W St: SARAH WELLS TRAIL

Inter.: NYS RT 207 & SARAH WELLS TRAIL
Area Type: All other area
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	1	5	1	116	1	21	13	697	201	7	474	1
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	A		
Thru	A					Thru	A	A		
Right	A					Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	16.0						10.0	24.0		
Yellow	3.0						0.0	3.0		
All Red	2.0						0.0	2.0		

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	g/C	Lane Group Delay	LOS	Approach Delay	LOS
Eastbound								
LTR	475	1770	1.61	0.27	16.2	B	16.2	B
Westbound								
LTR	367	1378	0.41	0.27	16.9	B	16.9	B
Northbound								
LTR	1022	1896	0.96	0.53	31.1	C	31.1	C
Southbound								
LTR	734	1832	0.71	0.40	18.5	B	18.5	B

Intersection Delay = 26.0 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGJ
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATNBS
E/W St: SARAH WELLS TRAIL

Inter.: NYS RT 207 & SARAH WELLS TRAIL
Area Type: All other areas
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGContig		LTR			LTR			LTR			LTR	
Volume	1	6	1	141	1	19	2	426	120	9	418	1
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	A		
Thru	A					Thru	A	A		
Right	A					Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	16.0						10.0	24.0		
Yellow	3.0						0.0	3.0		
All Red	2.0						0.0	2.0		

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	477	1738	0.02	0.27	16.2	B	16.2	B
Westbound								
LTR	365	1368	0.48	0.27	19.5	B	19.5	B
Northbound								
LTR	1023	1807	0.58	0.57	9.2	A	9.2	A
Southbound								
LTR	734	1836	0.63	0.40	16.3	B	16.3	B

Intersection Delay = 13.4 (sec/veh) Intersection LOS B

HCS2000: Signalized Intersections Release 4.1e

Analyst: RWD
Agency: JCE
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AMNB6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAIGVILLE RD
Area Type: All other areas
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	45	97	134	251	74	25	112	406	85	53	808	155
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru		A		
Right		A				Right		A		
Peds						Peds				
WB Left	A				SB	Left	A	A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
NB Right					EB	Right	A			
SB Right					WB	Right				
Green	18.0	10.0					5.0	50.0		
Yellow	3.0	3.0					2.0	3.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	183	1833	0.81	0.10	67.9	E	52.3	D
R	317	1583	0.46	0.20	36.3	D		
Westbound								
LTR	321	1781	1.18	0.18	150.0	F	150.9	F
Northbound								
L	163	1770	0.75	0.57	39.6	D		
TR	908	1815	0.59	0.50	18.7	B	22.6	C
Southbound								
L	358	1770	0.16	0.57	12.1	B		
TR	909	1818	1.15	0.50	105.6	F	100.6	F

Intersection Delay = 81.6 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGP
Agency: JCE
Date: 8/4/2005
Period: PM PEAK HOUR
Project ID: 171PMNB6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAIGVILLE RD
Area Type: All other areas
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	173	162	108	129	64	69	151	695	231	50	514	69
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 1.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru		A		
Right		A				Right		A		
Peds						Peds				
WB Left	A				SB	Left	A	A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
NB Right					EB	Right	A			
SB Right					WB	Right				
Green	16.0	13.0					5.0	49.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	g/C	Lane Group Delay	LOS	Approach Delay	LOS
Eastbound								
LT	234	1816	1.50	0.13	287.6	F	225.3	F
R	364	1583	0.31	0.23	32.4	C		
Westbound								
LTR	280	1753	0.39	0.16	91.6	F	91.6	F
Northbound								
L	287	1770	0.55	0.56	17.3	B		
TR	879	1793	1.11	0.49	95.4	F	92.2	F
Southbound								
L	163	1770	0.33	0.56	22.5	C		
TR	897	1830	0.68	0.49	21.7	C	21.9	C

Intersection Delay = 92.7 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGD
Agency: JCS
Date: 12/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATNB6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAIGVILLE RD
Area Type: All other areas
Scenario:
Year : 2015 NO BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LMContig		LT	R		LTR		L	TR		L	TR	
Volume	115	92	107	247	58	53	130	420	205	46	424	134
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol.			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left		A			SB	Left	A			
Thru		A				Thru	A			
Right		A				Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	11.0	21.0					34.0			
Yellow	3.0	4.0					3.0			
All Red	2.0	2.0					2.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay LOS		Approach Delay LOS	
Eastbound								
LT	354	1849	1.89	0.14	60.8	E	53.1	D
R	227	1619	0.52	0.14	34.3	C		
Westbound								
LTR	453	1727	0.80	0.26	43.4	D	43.4	D
Northbound								
L	142	345	0.99	0.41	96.7	F		
TR	710	1721	0.96	0.41	46.6	D	55.7	E
Southbound								
L	90	219	0.56	0.41	25.3	C		
TR	720	1764	0.84	0.41	29.8	C	29.4	C

Intersection Delay = 45.1 (sec/veh) Intersection LOS = D

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RSD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAIN LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMNB7
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAID LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		175	21	3	264	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		194	23	3	293	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	54		8			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	60		8			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	NB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		68				
C(m) (vph)		1335		545				
v/c		0.00		0.12				
95% queue length		0.01		0.42				
Control Delay		7.7		12.5				
LOS		A		B				
Approach Delay				12.5				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1a

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAID LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNB0
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAID LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		350	52	7	199	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		388	57	7	221	
Percent Heavy Vehicles		--	--	5	--	-
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	36		7			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	40		7			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		47				
C(m) (vph)		1199		447				
v/c		0.01		0.11				
95% queue length		0.02		0.35				
Control Delay		8.3		14.7				
LOS		A		B				
Approach Delay				14.0				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAID LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121SATNB'
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAID LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		280	45	13	340	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		311	50	14	377	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	38		18			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	42		20			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		14		62				
C(m) (vph)		1181		441				
v/c		0.01		0.14				
95% queue length		0.04		0.49				
Control Delay		8.1		14.5				
LOS		A		B				
Approach Delay				14.5				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: CCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMN58
East/West Street: CRAIGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		179	3	3	234	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		198	3	3	260	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	33		10			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	36		11			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		47				
C(m) (vph)		1353		190				
v/c		0.00		0.25				
95% queue length		0.01		0.26				
Control Delay		7.7		31.8				
LOS		A		D				
Approach Delay				31.8				
Approach LOS				D				

HCS7002: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2009
Analysis Time Period: PM PEAK HOUR
Intersection: CRATGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 12.PMNB4
East/West Street: CRATGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		337	21	22	193	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		374	23	24	214	
Percent Heavy Vehicles		--	-	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	14		12			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	15		13			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		24		28				
C(m) (vph)		1145		505				
v/c		0.02		0.06				
95% queue length		0.06		0.19				
Control Delay		8.2		12.3				
LOS		A		B				
Approach Delay				12.5				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121SATNB8
East/West Street: CRAIGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		266	32	21	320	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		295	35	23	355	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	32		21			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	35		23			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		23		58				
C(m) (vph)		1213		474				
v/c		0.02		0.12				
95% queue length		0.06		0.41				
Control Delay		8.0		13.7				
LOS		A		B				
Approach Delay				13.7				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMNB9
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	8	35	168	7	54	9	219	105	1	3	137	21

* Thrus Left Lane

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	228		74		440		173	
* Heavy Veh	2		2		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Flow Rates:								
Total in Lane	228		74		440		173	
Left-Turn	8		7		238		3	
Right-Turn	182		9		1		22	
Prop. Left-Turns	0.0		0.1		0.5		0.0	
Prop. Right-Turns	0.8		0.1		0.0		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2		0.2	

hRT-adj	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.4	-0.0	0.1	-1.0

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	228		74		440		173	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.20		0.07		0.39		0.15	
hd, final value	5.24		5.96		5.17		5.39	
x, final value	0.33		0.12		0.63		0.26	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	3.2		4.0		3.2		3.4	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	228		74		440		173	
Service Time	3.2		4.0		3.2		3.4	
Utilization, x	0.33		0.12		0.63		0.26	
Dep. headway, hd	5.24		5.96		5.17		5.39	
Capacity	478		324		676		473	
Delay	10.83		9.79		16.63		10.26	
LOS	B		A		C		B	
Approach:								
Delay	10.83		9.79		16.63		10.26	
LOS	B		A		C		B	

Intersection Delay 13.43 Intersection LOS B

HCS2000: Unsignalized Intersections Release 4.1d

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNB9
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	8	102	226	8	60	15	213	284	13	7	174	12

: Thru Left Lane

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	363		89		553		209	
% Heavy Veh	2		2		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-Lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Flow Rates:								
Total in Lane	363		89		553		209	
Left-Turn	8		8		231		9	
Right-Turn	245		16		14		13	
Prop. Left-Turns	0.0		0.1		0.4		0.0	
Prop. Right-Turns	0.7		0.2		0.0		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hHT-adj	0.2		0.2		0.2		0.2	

hRT-adj	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.4	-0.1	0.1	0.0

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	363		89		553		209	
hd, initial value	3.70	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.32		0.08		0.49		0.19	
hd, final value	6.12		7.20		5.96		6.55	
x, final value	0.62		0.18		0.92		0.38	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	4.1		5.2		4.0		4.6	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	363		89		553		209	
Service Time	4.1		5.2		4.0		4.6	
Utilization, x	0.62		0.18		0.92		0.38	
Dep. headway, hd	6.12		7.20		5.96		6.55	
Capacity	561		339		598		459	
Delay	18.47		11.76		43.11		13.57	
LOS	C		B		E		B	
Approach:								
Delay	18.47		11.76		43.11		13.57	
LOS	C		B		E		B	

Intersection Delay 28.35 Intersection LOS D

HCS2000: Unsignalized Intersections Release 4.1d

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121SATN89
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	148	74	134	13	55	12	147	131	16	12	115	21

* Thrus left lane

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	277		86		318		159	
* Heavy Veh	2		2		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-Lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	277		86		318		159	
Left-Turn	52		14		159		13	
Right-Turn	145		13		17		22	
Prop. Left-Turns	0.2		0.2		0.5		0.1	
Prop. Right-Turns	0.5		0.2		0.1		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2		0.2	

hRT-adj	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.2	-0.0	0.1	-0.0

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	277		86		318		159	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.25		0.08		0.28		0.14	
hd, final value	5.11		5.65		5.26		5.37	
x, final value	0.39		0.14		0.46		0.24	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	3.1		3.7		3.3		3.4	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	277		86		318		159	
Service Time	3.1		3.7		3.3		3.4	
Utilization, x	0.39		0.14		0.46		0.24	
Dep. headway, hd	5.11		5.65		5.26		5.37	
Capacity	577		336		568		409	
Delay	11.38		9.53		12.73		10.04	
LOS	B		A		B		B	
Approach:								
Delay	11.38		9.53		12.73		10.04	
LOS	B		A		B		B	

Intersection Delay 11.45 Intersection LOS B

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGS
Agency: JCS
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AMNB10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LGConfig		T	R	L	T			LR				
Volume		113	366	165	261		1437		4			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left	A		
Thru	A				Thru			
Right	A				Right	A		
Peds					Peds			
WB Left	A				SB Left			
Thru	A				Thru			
Right					Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	30.0					20.0		
Yellow	3.0					3.0		
All Red	2.0					2.0		

Cycle Length: 60.0 secs

Intersection Performance Summary

App/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	v/c	Lane Group Delay	LOS	Approach Delay	LOS
Eastbound								
T	965	1810	0.14	0.53	8.1	A	10.2	B
R	769	1538	0.63	0.50	10.9	B		
Westbound								
L	612	1724	0.12	0.59	9.1	A		
T	1723	3445	0.17	0.50	9.2	A	9.2	A
Northbound								
LR	574	1727	0.81	0.33	30.6	C	30.6	C
Southbound								

Intersection Delay = 16.9 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

Analyst: RCG
Agency: JCE
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: J21PMNB10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Juris:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LGConfig		T	R	L	T			LR				
Volume		254	816	106	271		261		5			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left	A			
Thru	A				Thru				
Right	A				Right	A			
Peds					Peds				
WB Left	A				SB Left				
Thru	A				Thru				
Right					Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	36.0					14.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1086	1810	0.26	0.60	5.8	A	29.6	C
R	923	1538	0.98	0.60	37.0	D		
Westbound								
L	637	1061	0.19	0.60	5.5	A		
T	2067	3445	0.15	0.60	5.3	A	5.4	A
Northbound								
LR	431	1720	0.74	0.23	29.4	C	29.4	C
Southbound								

Intersection Delay = 24.1 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1a

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATNB10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Juris:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LaConfig		T	R	L	T			LR				
Volume		163	511	55	212		167		9			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left	A			
Thru	A				Thru				
Right	A				Right	A			
Peds					Peds				
WB Left	A				SB Left				
Thru	A				Thru				
Right					Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	30.0					20.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	g/C	Lane Group Delay	LOS	Approach Delay	LOS
Eastbound								
T	905	1810	0.20	0.50	8.4	A	13.9	B
R	769	1538	0.74	0.50	15.7	B		
Westbound								
L	582	1164	0.10	0.50	8.0	A		
T	1723	3445	0.14	0.50	8.1	A	8.1	A
Northbound								
LR	572	1716	0.34	0.33	15.4	B	15.4	B
Southbound								

Intersection Delay = 12.8 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1e

Analyst: BGD
Agency: JCE
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AMNB11
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	7	82	27	101	207	286	81	148	125	177	181	38
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	27.0						23.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	759	1686	0.17	0.45	9.9	A	9.9	A
Westbound								
LTR	700	1555	0.94	0.45	37.0	D	37.0	D
Northbound								
LTR	553	1442	0.71	0.38	19.9	B	19.9	B
Southbound								
LTR	473	1235	0.81	0.38	26.9	C	26.9	C

Intersection Delay = 28.0 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: CCE
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 121PMNB11
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Juried:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	15	161	71	93	225	355	112	176	200	167	253	33
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	25.0						25.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	692	1660	0.39	0.42	12.5	B	12.5	B
Westbound								
LTR	640	1535	1.14	0.42	99.8	F	99.8	F
Northbound								
LTR	562	1348	0.94	0.42	41.5	D	41.5	D
Southbound								
LTR	466	1119	1.06	0.42	75.4	E	75.4	E

Intersection Delay = 67.0 (sec/veh) Intersection LOS = E

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCS
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATNB11
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	25	79	68	61	140	183	185	97	89	92	147	38
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		25.0						25.0			
Yellow		3.0						3.0			
All Red		2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	651	1563	0.29	0.42	11.9	B	11.9	B
Westbound								
LTR	650	1559	0.66	0.42	16.5	B	16.5	B
Northbound								
LTR	597	1422	0.51	0.42	13.7	B	13.7	B
Southbound								
LTR	602	1446	0.51	0.42	13.7	B	13.7	B

Intersection Delay = 14.4 (sec/veh) Intersection LOS B

HCS2000: Signalized Intersections Release 4.1c

Analyst: BGD
Agency: CGR
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AMNB11 W/ WB & SB RT TR LANE IMPROVEMENT
E/W St.: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
During:
Year : 2015 NO-BUILD TRAFFIC VOLUMES
N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	0	0	1	1
LGConfig		LTR			LT	R		LTR			LT	R
Volume	7	82	27	101	207	286	81	148	125	127	181	38
Lane Width		12.0			12.0	12.0		12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	19.0						31.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	541	1708	0.23	0.32	15.3	B	15.3	B
Westbound								
LT	486	1535	0.69	0.32	22.9	C	21.2	C
R	487	1538	0.64	0.32	20.4	C		
Northbound								
LTR	756	1463	0.51	0.52	10.1	B	10.1	B
Southbound								
LT	691	1337	0.48	0.52	9.9	A	9.6	A
R	795	1538	0.05	0.52	7.2	A		

Intersection Delay = 15.1 (sec/veh) Intersection LOS B

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGD
Agency: JCS
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 121PMNB11 W/ WB & SB RT TR LANE IMPROVEMENT
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES
N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	0	0	1	1
LGConfig		LTR			LT	R		LTR			LT	R
Volume	15	161	71	93	225	355	112	176	200	167	253	33
Lane Width		12.0			12.0	12.0		12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru	A				Thru	A			
Right	A				Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru	A				Thru	A			
Right	A				Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	19.0					31.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	534	1687	0.50	0.32	17.4	B	17.4	B
Westbound								
LT	458	1445	0.76	0.32	25.5	C	26.5	C
R	487	1538	0.79	0.32	27.4	C		
Northbound								
LTR	625	1209	0.95	0.52	23.1	C	23.1	C
Southbound								
LT	607	1174	0.75	0.52	16.8	B	16.1	B
R	795	1538	0.05	0.52	7.2	A		

Intersection Delay = 21.9 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATNB11 W/ WB & SB RT TR LANE IMPROVEMENT
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 NO-BUILD TRAFFIC VOLUMES
N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	0	0	1	1
LGConfig		LTR			LT	R		LTR			LT	R
Volume	25	79	68	61	140	183	85	97	89	92	147	38
Lane Width		12.0			12.0	12.0		12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left	A			
Thru	A				Thru	A			
Right	A				Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru	A				Thru	A			
Right	A				Right	A			
Peds					Peds				
NB Right					SB Right				
SB Right					WB Right				
Green	19.0					31.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	g/C	Lane Group Delay	LOS	Approach Delay	LOS
Eastbound								
LTR	509	1606	0.37	0.32	16.3	B	16.3	B
Westbound								
LT	490	1548	0.44	0.32	17.0	B	16.8	B
R	487	1538	0.41	0.32	16.7	B		
Northbound								
LTR	738	1429	0.40	0.52	9.2	A	9.2	A
Southbound								
LT	734	1421	0.35	0.52	8.9	A	8.6	A
R	795	1538	0.05	0.52	7.2	A		

Intersection Delay = 12.8 (sec/veh) Intersection LOS = B

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMNB12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	33			51	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	1	36			56	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		1
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		1
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	1						2	
C(m) (vph)	1528						947	
v/c	0.00						0.00	
95% queue length	0.00						0.01	
Control Delay	7.4						8.8	
LOS	A						A	
Approach Delay							8.8	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNB12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	113			71	3
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	2	125			78	3
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				3		5
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				3		5
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	2						8	
C(m) (vph)	1498						HBG	
v/c	0.00						0.01	
95% queue length	0.00						0.03	
Control Delay	7.4						9.1	
LOS	A						A	
Approach Delay							9.1	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RCD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121SATNB12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	90			61	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	1	100			67	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				5		7
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				5		7
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	1						12	
C(m) (vph)	1514						906	
v/c	0.00						0.01	
95% queue length	0.00						0.04	
Control Delay	7.4						9.0	
LOS	A						A	
Approach Delay							9.0	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121AMNB13
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	309			531	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	5	343			590	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		14
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		15
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	5						16	
C(m) (vph)	970						480	
v/c	0.01						0.03	
95% queue length	0.02						0.10	
Control Delay	8.7						12.8	
LOS	A						B	
Approach Delay							12.8	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCR
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 121PMNB13
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	8	427			531	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	8	474			590	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		4
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		4
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	8						5	
C(m) (vph)	970						410	
v/c	0.01						0.01	
95% queue length	0.02						0.04	
Control Delay	8.7						13.9	
LOS	A						B	
Approach Delay							13.9	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RCD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 NO-BUILD TRAFFIC VOLUMES
Project ID: 12:SATNB13
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	4	255			366	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	4	283			406	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		2
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	4						3	
C(m) (vph)	1136						534	
v/c	0.00						0.01	
95% queue length	0.01						0.02	
Control Delay	8.2						11.8	
LOS	A						B	
Approach Delay							11.8	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2004
Analysis Time Period: AM PEAK HOUR
Intersection: KNOELL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AM3D1
East/West Street: OLD CHESTER RD
North/South Street: KNOELL RD
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	88	23			19	33
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	97	25			21	36
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				46		38
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				51		42
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	97						93	
C(m) (vph)	1528						865	
v/c	0.06						0.12	
95% queue length	0.20						0.39	
Control Delay	7.5						10.1	
LOS	A						B	
Approach Delay							10.1	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCR
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: KNEOLL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 1219MAD1
East/West Street: OLD CHESTER RD
North/South Street: KNOELL RD
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	61	9			28	75
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	67	10			31	83
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				49		79
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				54		87
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	67						141	
C(m) (vph)	1457						809	
v/c	0.05						0.16	
95% queue length	0.14						0.58	
Control Delay	7.6						10.0-	
LOS	A						A	
Approach Delay							10.0-	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: KNECLL RD & OLD CHESTER RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SATBD1
East/West Street: OLD CHESTER RD
North/South Street: KNOELL RD
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	60	8			7	53
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	66	8			7	58
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				46		40
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				51		44
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	66						95	
C(m) (vph)	1518						873	
v/c	0.04						0.11	
95% queue length	0.14						0.36	
Control Delay	7.5						9.6	
LOS	A						A	
Approach Delay							9.6	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AM802
East/West Street: CRAIGVILLE RD
North/South Street: BROOKSIDE DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		163	2	1	214	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		181	2	1	237	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	12		0			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	13		0			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		13				
C(m) (vph)		1374		583				
v/c		0.00		0.02				
95% queue length		0.00		0.07				
Control Delay		7.6		11.3				
LOS		A		B				
Approach Delay				11.3				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMBD2
East/West Street: CRAIGVILLE RD
North/South Street: BROOKSIDE DR
Intetsection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		256	10	7	211	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		284	11	7	234	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	16		1			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	17		1			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		18				
C(m) (vph)		1249		505				
v/c		0.01		0.04				
95% queue length		0.02		0.11				
Control Delay		7.9		12.4				
LOS		A		B				
Approach Delay				12.4				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & BROOKSIDE DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SATBD2
East/West Street: CRAIGVILLE RD
North/South Street: BROOKSIDE DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		184	14	9	185	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		204	15	10	205	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	15		6			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	16		6			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		10		22				
C(m) (vph)		1333		619				
v/c		0.01		0.04				
95% queue length		0.02		0.11				
Control Delay		7.7		11.0				
LOS		A		B				
Approach Delay				11.0				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: HGO
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAND RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 12:AMBD3
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	158			211	20
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	175			234	22
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				13		4
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				14		4
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						18	
C(m) (vph)	1292						615	
v/c	0.00						0.03	
95% queue length	0.01						0.09	
Control Delay	7.8						11.0	
LOS	A						B	
Approach Delay							11.0	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAND RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMBD3
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	251			213	17
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	5	278			236	18
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				13		5
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				14		5
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	5						19	
C(m) (vph)	1294						553	
v/c	0.00						0.03	
95% queue length	0.01						0.11	
Control Delay	7.8						11.7	
LOS	A						B	
Approach Delay							11.7	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & COLEMAND RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SATBD3
East/West Street: CRAIGVILLE RD
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	8	182			182	7
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	8	202			202	7
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				18		13
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				20		14
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	8						34	
C(m) (vph)	1344						660	
v/c	0.01						0.05	
95% queue length	0.02						0.16	
Control Delay	7.7						10.9	
LOS	A						B	
Approach Delay							10.6	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RCD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AM3D4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		83	10	12	236	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		92	11	12	262	
Percent Heavy Vehicles		--	--	5	--	-
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	23		15			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	25		16			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		12		41				
C(m) (vph)		1470		738				
v/c		0.01		0.06				
95% queue length		0.02		0.18				
Control Delay		7.5		10.3				
LOS		A		B				
Approach Delay				10.3				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMBD4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		208	21	16	135	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		231	23	17	150	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	14		11			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	15		12			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	SB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		17		27				
C(m) (vph)		1294		662				
v/c		0.01		0.04				
95% queue length		0.04		0.13				
Control Delay		7.8		10.7				
LOS		A		B				
Approach Delay				10.7				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: NGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SARAH WELLS TRAIL & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SACBD4
East/West Street: SARAH WELLS TRAIL
North/South Street: COLEMAN RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		208	21	16	135	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		231	23	17	150	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	14		11			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	15		12			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		17		27				
C(m) (vph)		1204		662				
v/c		0.01		0.04				
95% queue length		0.04		0.13				
Control Delay		7.8		10.7				
LOS		A		B				
Approach Delay				10.7				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SARAH WELLS TRAIL & ROUTE 207
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AMBD5
East/West Street: SARAH WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	359	81	23	745	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	398	90	25	827	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	226	3	30	1	1	1
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	251	3	33	1	1	1
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			Yes /0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	25		287			3	
C(m) (vph)	790	1060		138			161	
v/c	0.00	0.02		2.08			0.02	
95% queue length	0.00	0.07		23.25			0.06	
Control Delay	9.6	8.5		562.9			27.8	
LOS	A	A		F			D	
Approach Delay				562.9			27.8	
Approach LOS				F			D	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: HGL
Agency/Co.: JCS
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SARAH WELLS TRAIL & ROUTE 207
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 12.2NB05
East/West Street: SARAH WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	700	201	24	478	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	3	777	223	26	531	1
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	116	1	30	1	5	1
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	128	1	33	1	5	1
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade ( )		0			0	
Flared Approach: Exists?/Storage			No /			Yes / 0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	3	26		162			7	
C(m) (vph)	1071	681		109			110	
v/c	0.00	0.04		1.49			0.06	
95% queue length	0.01	0.12		11.78			0.20	
Control Delay	8.5	10.5		332.0			42.3	
LOS	A	B		F			E	
Approach Delay				337.0			42.3	
Approach LOS				F			E	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SARAH WELLS TRAIL & ROUTE 207
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SATBD5
East/West Street: SARAH WELLS TRAIL
North/South Street: ROUTE 207
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	429	120	22	421	1
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	2	466	130	23	457	1
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	141	1	31	1	6	1
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR	153	1	33	1	6	1
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			Yes /0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	2	23		187			8	
C(m) (vph)	1103	980		223			219	
v/c	0.00	0.02		0.84			0.04	
95% queue length	0.01	0.07		6.42			0.11	
Control Delay	8.3	8.8		70.9			22.1	
LOS	A	A		F			C	
Approach Delay				70.9			22.1	
Approach LOS				F			C	

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AM9D5
E/W St: SARAH WELLS TRAIL

Inter.: NYS RT 207 & SARAH WELLS TRAIL
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	1	1	1	226	3	30	1	359	83	23	945	2
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	20.0						30.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios q/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	532	1656	0.01	0.33	13.4	B	13.4	B
Westbound								
LTR	459	1377	0.61	0.33	19.2	B	19.2	B
Northbound								
LTR	908	1815	0.53	0.50	10.8	B	10.8	B
Southbound								
LTR	913	1825	0.92	0.50	27.7	C	27.7	C

Intersection Delay = 21.1 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 1219MBDS
E/W St: SARAH WELLS TRAIL

Inter.: NYS RT 207 & SARAH WELLS TRAIL
Area Type: All other areas
Juried:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	1	5	1	116	1	30	3	700	201	24	478	1
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	A		
Thru	A					Thru	A	A		
Right	A					Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	16.0						10.0	24.0		
Yellow	3.0						0.0	3.0		
All Red	2.0						0.0	2.0		

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	472	1770	0.01	0.27	16.2	B	16.2	B
Westbound								
LTR	370	1339	0.43	0.27	19.6	B	19.0	B
Northbound								
LTR	1022	1807	0.96	0.57	31.7	C	31.7	C
Southbound								
LTR	694	1735	0.79	0.40	21.8	C	21.8	C

Intersection Delay = 27.3 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: CCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 1215ATBD5
E/W St: SARAH WELLS TRAIL

Inter.: NYS RT 207 & SARAH WELLS TRAIL
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	1	6	1	141	1	31	2	429	120	122	421	1
Lane Width		17.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A		
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left		A		
	Thru	A					Thru		A		
	Right	A					Right		A		
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		16.0						10.0	24.0		
Yellow		3.0						0.0	3.0		
All Red		2.0						0.0	2.0		

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	477	1787	0.02	0.27	16.2	B	16.2	B
Westbound								
LTR	368	1381	0.51	0.27	19.9	B	19.9	B
Northbound								
LTR	1023	1808	0.58	0.57	9.3	A	9.3	A
Southbound								
LTR	714	1784	0.68	0.40	17.4	B	17.4	B

Intersection Delay = 14.0 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AMBD6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAIGVILLE RD
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LnConfig		LT	R		LTR		L	TR		L	TR	
Volume	45	94	135	311	80	26	115	408	103	54	808	155
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
HTCR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
NB Left		A			NB	Left	A	A		
Thru		A				Thru		A		
Right		A				Right		A		
Peds						Peds				
WB Left	A				SB	Left	A	A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
NB Right					EB	Right	A			
SB Right					WB	Right				
Green	18.0	10.0					5.0	50.0		
Yellow	3.0	3.0					2.0	3.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	g/C	Lane Group Delay	LOS	Approach Delay	LOS
Eastbound								
LT	183	1833	0.83	0.10	69.6	E	53.2	D
R	317	1583	0.46	0.20	36.3	D		
Westbound								
LTR	321	1781	1.41	0.18	243.6	F	243.6	F
Northbound								
L	163	1770	0.77	0.57	41.8	D		
TR	903	1806	0.61	0.50	19.3	B	23.4	C
Southbound								
L	342	1770	0.17	0.57	12.5	B		
TR	909	1818	1.15	0.50	105.6	F	100.6	F

Intersection Delay = 99.9 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: HCJ
Agency: JCE
Date: 8/4/2005
Period: PM PEAK HOUR
Project ID: 121PMHD6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAGIVILLE RD
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	174	168	112	164	68	70	153	696	295	52	516	69
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru		A		
Right		A				Right		A		
Peds						Peds				
WB Left	A				SB	Left	A	A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
NB Right					EB	Right	A			
SB Right					WB	Right				
Green	16.0	13.0					5.0	49.0		
Yellow	3.0	3.0					2.0	3.0		
All Red	2.0	2.0					0.0	2.0		

Cycle Length: 100.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	236	1817	1.52	0.13	298.5	F	232.7	F
R	364	1583	0.32	0.23	32.6	C		
Westbound								
LTR	281	1757	1.14	0.16	137.2	F	137.2	F
Northbound								
L	285	1770	0.56	0.56	17.7	B		
TR	872	1780	1.20	0.49	125.4	F	111.0	F
Southbound								
L	163	1770	0.34	0.56	22.6	C		
TR	897	1830	0.69	0.49	21.8	C	21.9	C

Intersection Delay = 113.5 (sec/veh) Intersection LOS = F

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATBD6
E/W St: CRAIGVILLE RD

Inter.: NYS ROUTE 207 & CRAGIVILLE RD
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 207

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	1	0	1	1	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	115	97	110	293	62	54	133	422	260	47	426	138
Lane Width		12.0	12.0		12.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
WB	Left		A			SB	Left	A			
	Thru		A				Thru	A			
	Right		A				Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		11.0	21.0					33.0			
Yellow		3.0	3.0					3.0			
All Red		2.0	2.0					2.0			

Cycle Length: 80.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	254	1850	0.91	0.14	66.7	E	55.8	E
R	222	1615	0.54	0.14	34.8	C		
Westbound								
LTR	454	1728	0.98	0.26	65.7	E	65.7	E
Northbound								
L	141	342	1.03	0.41	107.0	F		
TR	704	1706	1.05	0.41	72.5	E	78.2	E
Southbound								
L	90	219	0.57	0.41	26.2	C		
TR	728	1764	0.84	0.41	30.0	C	29.7	C

Intersection Delay = 58.7 (sec/veh) Intersection LOS = E

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAID LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AM9D7
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAID LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		189	27	7	314	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		210	30	7	348	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	72		19			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	80		21			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		101				
C(m) (vph)		1309		510				
v/c		0.01		0.20				
95% queue length		0.02		0.73				
Control Delay		7.8		13.8				
LOS		A		B				
Approach Delay				13.8				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RCD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAID LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2035 BUILD TRAFFIC VOLUMES
Project ID: 121PMBDV
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAID LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		404	71	19	227	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		449	78	21	252	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	47		14			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	52		15			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		21		67				
C(m) (vph)		1026		385				
v/c		0.02		0.17				
95% queue length		0.06		0.62				
Control Delay		8.6		16.3				
LOS		A		C				
Approach Delay				16.3				
Approach LOS				C				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & YANKEE MAIN LN
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: IZISATBB7
East/West Street: CRAIGVILLE RD
North/South Street: YANKEE MAID LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		325	61	23	379	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		361	67	25	421	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	51		27			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	56		30			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		25		86				
C(m) (vph)		1116		382				
v/c		0.02		0.23				
95% queue length		0.07		0.85				
Control Delay		8.3		17.1				
LOS		A		C				
Approach Delay				17.1				
Approach LOS				C				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGR
Agency/Co.: JCE
Date Performed: 8/4/2005
Analysis Time Period: AM PEAK HOUR
Intersection: CRAIGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 12JAMHD8
East/West Street: CRAIGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		195	3	3	255	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		216	3	3	283	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration		TR		LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	33		10			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	36		11			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		47				
C(m) (vph)		1333		567				
v/c		0.00		0.08				
95% queue length		0.01		0.27				
Control Delay		7.7		11.9				
LOS		A		B				
Approach Delay				11.9				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: CRAIGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMBDB
East/West Street: CRAIGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		362	21	22	214	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		402	23	24	237	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	14		12			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	15		13			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		24		28				
C(m) (vph)		1118		477				
v/c		0.02		0.06				
95% queue length		0.07		0.19				
Control Delay		8.3		13.0				
LOS		A		B				
Approach Delay				13.0				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCB
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: CRAIGVILLE RD & OAKWOOD DR
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SATBD8
East/West Street: CRAIGVILLE RD
North/South Street: OAKWOOD DR
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		290	32	21	344	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		322	35	23	382	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	32		21			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	35		23			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		23		58				
C(m) (vph)		1185		444				
v/c		0.02		0.13				
95% queue length		0.06		0.45				
Control Delay		8.1		14.3				
LOS		A		B				
Approach Delay				14.3				
Approach LOS				B				

HCS2000: Unsignalized Intersections Release 4.1d

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AMBD9
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	8	37	204	28	62	13	229	186	6	5	141	21

- Thru Left Lane

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	269		111		456		180	
- Heavy Veh	2		7		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	269		111		456		180	
Left-Turn	8		30		248		5	
Right-Turn	221		14		6		22	
Prop. Left Turns	0.0		0.3		0.5		0.0	
Prop. Right-Turns	0.8		0.1		0.0		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2		0.2	

HRT-adj	-0.6	-0.6	-0.6	-0.6
HHV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.5	0.0	0.1	-0.4

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	269		111		456		190	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.24		0.10		0.41		0.16	
hd, final value	5.50		6.29		5.50		5.80	
x, final value	0.41		0.19		0.70		0.29	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	3.5		4.3		3.5		3.8	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	269		111		456		190	
Service Time	3.5		4.3		3.5		3.8	
Utilization, x	0.41		0.19		0.70		0.29	
Dep. headway, hd	5.50		6.29		5.50		5.80	
Capacity	519		361		635		430	
Delay	12.28		10.80		20.09		11.15	
LOS	B		B		C		B	
Approach:								
Delay	12.28		10.80		20.09		11.15	
LOS	B		B		C		B	

Intersection Delay 15.43 Intersection LOS C

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMBD9
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	18	112	247	22	65	18	251	287	28	12	176	12

* Thrus Left Lane

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	397		112		613		217	
* Heavy Veh	2		2		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Flow Rates:								
Total in Lane	397		112		613		217	
Left-Turn	8		23		272		13	
Right-Turn	268		19		30		13	
Prop. Left-Turns	0.0		0.2		0.4		0.1	
Prop. Right-Turns	0.7		0.2		0.0		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2		0.2	

nRT-adj	-0.6	-0.6	0.6	-0.6
hRV-adj	1.7	1.7	1.7	1.7
hd(j), computed	-0.4	-0.0	0.1	5.0

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	397		112		613		217	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.35		0.10		0.54		0.19	
hd, final value	6.46		7.70		6.33		7.06	
x, final value	0.71		0.24		1.08		0.43	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	4.5		5.7		4.3		5.1	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	397		112		613		217	
Service Time	4.5		5.7		4.3		5.1	
Utilization, x	0.71		0.24		1.08		0.43	
Dep. headway, hd	6.46		7.70		6.33		7.06	
Capacity	548		362		613		467	
Delay	23.83		13.10		85.07		15.20	
LOS	C		B		F		C	
Approach:								
Delay	23.83		13.10		85.07		15.20	
LOS	C		B		F		C	

Intersection Delay 49.57 Intersection LOS E

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ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: MAB
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: SOUTH STREET & SOUTH CHURCH ST
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 1215AT3D9
East/West Street: SOUTH STREET
North/South Street: SOUTH CHURCH STREET

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	148	81	162	29	61	15	179	134	28	15	117	21

- Thru Left Lane

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	316		113		369		165	
- Heavy Veh	2		2		2		2	
No. Lanes	1		1		1		1	
Opposing-Lanes	1		1		1		1	
Conflicting-lanes	1		1		1		1	
Geometry group	1		1		1		1	

Duration, T 0.25 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound L1	Eastbound L2	Westbound L1	Westbound L2	Northbound L1	Northbound L2	Southbound L1	Southbound L2
Flow Rates:								
Total in Lane	316		113		369		165	
Left-Turn	52		31		194		16	
Right-Turn	176		16		30		22	
Prop. Left-Turns	0.2		0.3		0.5		0.1	
Prop. Right-Turns	0.6		0.1		0.1		0.1	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
Geometry Group	1		1		1		1	
Adjustments Exhibit 17-33:								
HLT-adj	0.2		0.2		0.2		0.2	

HGV-adj	-0.6	-0.6	-0.6	-0.6
HGV-adj	1.7	1.7	1.7	1.7
hadj, computed	-0.3	0.0	0.1	-0.3

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	316		113		369		165	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.28		0.10		0.33		0.15	
hd, final value	5.40		6.06		5.54		5.79	
x, final value	0.47		0.19		0.57		0.27	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	3.4		4.1		3.5		3.8	

Worksheet 5 Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	316		113		369		165	
Service Time	3.4		4.1		3.5		3.8	
Utilization, x	0.47		0.19		0.57		0.27	
Dep. Headway, hd	5.40		6.06		5.54		5.79	
Capacity	566		363		649		415	
Delay	13.16		10.47		15.56		10.86	
LOS	B		B		C		B	
Approach:								
Delay	13.16		10.47		15.56		10.86	
LOS	B		B		C		B	

Intersection Delay 13.97 Intersection LOS B

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCB
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AMBD10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Juried:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LGConfig		T	R	L	T			LR				
Volume		113	366	83	261		437		9			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	A			
Thru		A				Thru				
Right		A				Right	A			
Peds						Peds				
WB Left		A			SB	Left				
Thru		A				Thru				
Right						Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		30.0					20.0			
Yellow		3.0					3.0			
All Red		2.0					2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	905	1810	0.14	0.50	8.1	A	10.2	B
R	769	1538	0.53	0.50	10.9	B		
Westbound								
L	612	1224	0.15	0.50	8.2	A		
T	1723	3445	0.17	0.50	8.2	A	8.2	A
Northbound								
LR	573	1720	0.87	0.33	31.9	C	31.9	C
Southbound								

Intersection Delay = 17.3 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 121PMBD10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LGConfig		T	R	L	T			LR				
Volume		254	816	117	271		261		23			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 5.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left	A			
Thru		A			Thru				
Right		A			Right	A			
Peds					Peds				
WB Left		A			SB Left				
Thru		A			Thru				
Right					Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		36.0				14.0			
Yellow		3.0				3.0			
All Red		2.0				2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	1086	1810	0.26	0.60	5.8	A	29.6	C
R	923	1538	0.98	0.60	37.0	D		
Westbound								
L	637	1062	0.20	0.60	5.6	A		
T	2067	3445	0.15	0.60	5.3	A	5.4	A
Northbound								
LR	399	1711	0.79	0.23	32.1	C	32.1	C
Southbound								

Intersection Delay = 24.6 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: BGD
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATBD10
E/W St: NYS ROUTE 17M

Inter.: ROUTE 17M & ROUTE 17 RAMP
Area Type: All other areas
Juris:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: NYS ROUTE 17 ON/OFF RAMP

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	1	2	0	0	0	0	0	0	0
LGConfig		T	R	L	T			LR				
Volume		263	513	69	212		167		24			
Lane Width		12.0	12.0	12.0	12.0			12.0				
RTOR Vol			0						0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left	A			
Thru		A				Thru				
Right		A				Right	A			
Peds						Peds				
WB Left		A			SB	Left				
Thru		A				Thru				
Right						Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green		30.0					20.0			
Yellow		3.0					3.0			
All Red		2.0					2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
T	955	1810	0.20	0.50	8.4	A	11.9	B
R	769	1538	0.34	0.50	15.7	B		
Westbound								
L	582	1164	0.13	0.50	8.1	A		
T	1723	3445	0.14	0.50	8.1	A	8.1	A
Northbound								
LR	568	1704	0.38	0.33	15.7	B	15.7	B
Southbound								

Intersection Delay = 12.0 (sec/veh) Intersection LOS B

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 121AMB011
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	12	82	27	102	207	291	81	155	125	127	224	56
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		27.0						23.0			
Yellow		3.0						3.0			
All Red		2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	738	1639	0.18	0.45	10.0+	B	10.0+	B
Westbound								
LTR	698	1552	0.95	0.45	39.3	D	39.3	D
Northbound								
LTR	537	1401	0.75	0.38	21.7	C	21.7	C
Southbound								
LTR	491	1280	0.92	0.38	40.4	D	40.4	D

Intersection Delay = 32.9 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 1219MBD21
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	33	161	71	94	225	370	112	200	200	167	279	43
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	25.0						25.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	639	1533	0.45	0.42	13.1	B	13.1	B
Westbound								
LTR	638	1532	1.17	0.42	111.6	F	111.6	F
Northbound								
LTR	558	1340	1.00	0.42	54.6	D	54.6	D
Southbound								
LTR	467	1121	1.14	0.42	103.2	F	103.2	F

Intersection Delay = 81.2 (sec/veh) Intersection LOS F

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGD
Agency: JCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SATBD11
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES

N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	0	1	0	1	0	0	1	0	0	1	0
LGConfig		LTR			LTR			LTR			LTR	
Volume	141	79	68	62	140	196	85	116	89	92	180	51
Lane Width		12.0			12.0			12.0			12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
WB	Left	A				SB	Left	A			
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		25.0						25.0			
Yellow		3.0						3.0			
All Red		2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	616	1479	0.34	0.42	12.2	B	12.2	B
Westbound								
LTR	647	1552	0.68	0.42	17.3	B	17.3	B
Northbound								
LTR	596	1417	0.55	0.42	14.3	B	14.3	B
Southbound								
LTR	611	1467	0.59	0.42	15.0	B	15.0	B

Intersection Delay = 15.2 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1e

Analyst: RGB
Agency: JCR
Date: 10/7/2005
Period: AM PEAK HOUR
Project ID: 12!AMB011 W/ WB & SB RT TR LANE IMPROVEMENT
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES
N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	0	0	1	1
LGConfig		LTR			LT	R		LTR			LT	R
Volume	12	82	27	102	207	291	81	155	175	127	224	56
Lane Width		12.0			12.0	12.0		12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration: 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	19.0						31.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	531	1677	0.25	0.32	15.4	B	15.4	B
Westbound								
LT	485	1533	0.69	0.32	22.2	C	21.4	C
R	487	1538	0.65	0.32	20.9	C		
Northbound								
LTR	748	1447	0.52	0.52	10.3	B	10.3	B
Southbound								
LT	710	1374	0.54	0.52	10.5	B	10.1	B
R	795	1538	0.08	0.52	7.3	A		

Intersection Delay = 15.1 (sec/veh) Intersection LOS = B

HCS2000: Signalized Intersections Release 4.1e

Analyst: BGD
Agency: CCE
Date: 10/7/2005
Period: PM PEAK HOUR
Project ID: 121PMBD11 W/ WB & SB RT TR LANE IMPROVEMENT
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES
N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	0	0	1	1
LGConfig		LTR			LT	R		LTR			LT	R
Volume	33	161	71	94	225	370	112	200	200	167	279	43
Lane Width		12.0			12.0	12.0		12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	19.0						31.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	451	1423	0.64	0.32	20.6	C	20.6	C
Westbound								
LT	449	1418	0.77	0.32	26.7	C	28.5	C
R	497	1538	0.83	0.32	30.1	C		
Northbound								
LTR	615	1192	0.90	0.52	30.0	C	30.0	C
Southbound								
LT	607	1175	0.80	0.52	19.4	B	18.3	B
R	795	1538	0.06	0.52	7.3	A		

Intersection Delay = 25.3 (sec/veh) Intersection LOS = C

HCS2000: Signalized Intersections Release 4.1c

Analyst: RGD
Agency: CCE
Date: 10/7/2005
Period: SAT PEAK HOUR
Project ID: 121SAT8011 W/ WB & SB RT TR LANE IMPROVEMENT
E/W St: NYS ROUTE 17M

Inter.: NYS ROUTE 17M & SOUTH ST
Area Type: All other areas
Jurisd:
Year : 2015 BUILD TRAFFIC VOLUMES
N/S St: SOUTH ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	0	0	1	1
LGConfig		LTR			LT	R		LTR			LT	R
Volume	141	79	68	62	140	196	85	116	89	192	180	51
Lane Width		12.0			12.0	12.0		12.0			12.0	12.0
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	19.0						31.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 60.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	487	1537	0.42	0.32	16.8	B	16.8	B
Westbound								
LT	490	1546	0.45	0.32	17.0	B	16.9	B
R	487	1538	0.44	0.32	16.9	B		
Northbound								
LTR	739	1431	0.43	0.52	9.4	A	9.4	A
Southbound								
LT	747	1445	0.40	0.52	9.2	A	8.9	A
R	795	1538	0.07	0.52	7.3	A		

Intersection Delay = 12.9 (sec/veh) Intersection LOS B

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AMBD12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	42			84	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	1	46			93	1
Percent Heavy Vehicles	5		--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		1
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		1
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	1						2	
C(m) (vph)	1431						896	
v/c	0.00						0.00	
95% queue length	0.00						0.01	
Control Delay	7.4						9.0	
LOS	A						A	
Approach Delay							9.0	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMBD12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	149			93	3
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	2	158			103	3
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				3		5
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				3		5
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	2						8	
C(m) (vph)	1467						943	
v/c	0.00						0.01	
95% queue length	0.00						0.03	
Control Delay	7.5						9.3	
LOS	A						A	
Approach Delay							9.3	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: OLD CHESTER RD & BRIDLE LANE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SACRD12
East/West Street: OLD CHESTER RD
North/South Street: BRIDLE LANE
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	113			86	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	1	125			95	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				5		7
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				5		7
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	1						12	
C(m) (vph)	1479						860	
v/c	0.00						0.01	
95% queue length	0.00						0.04	
Control Delay	7.4						9.2	
LOS	A						A	
Approach Delay							9.2	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCR
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AMBD13
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	309			531	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	16	343			590	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		35
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		38
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		No /
Lanes					0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	16						39	
C(m) (vph)	970						490	
v/c	0.02						0.08	
95% queue length	0.05						0.26	
Control Delay	8.8						12.9	
LOS	A						B	
Approach Delay							12.9	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMB013
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	40	427			531	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	44	474			590	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		17
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		18
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	44						19	
C(m) (vph)	970						467	
v/c	0.05						0.04	
95% queue length	0.14						0.13	
Control Delay	8.9						13.5	
LOS	A						B	
Approach Delay							13.0	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: NYS ROUTE 17M & DUCK FARM RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 171SATBD13
East/West Street: NYS ROUTE 17M
North/South Street: DUCK FARM RD
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	30	255			366	1
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	33	283			406	1
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		18
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				1		20
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	33						21	
C(m) (vph)	1136						616	
v/c	0.03						0.03	
95% queue length	0.09						0.11	
Control Delay	8.3						11.1	
LOS	A						B	
Approach Delay							11.1	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: MAPLEWOOD ACCESS & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AMBD14
East/West Street: COLEMAN ROAD
North/South Street: MAPLEWOOD VILLAGE SITE ACCESS
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		19	4	1	24	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		21	4	1	26	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	14		1			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	15		1			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		16				
C(m) (vph)		1570		968				
v/c		0.00		0.02				
95% queue length		0.00		0.05				
Control Delay		7.3		8.9				
LOS		A		A				
Approach Delay				8.9				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: MAPLEWOOD ACCESS & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMBD14
East/West Street: COLEMAN ROAD
North/South Street: MAPLEWOOD VILLAGE SITE ACCESS
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		18	14	1	17	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		20	15	1	18	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		2	1
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	8		1			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	8		1			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		9				
C(m) (vph)		1557		975				
v/c		0.00		0.01				
95% queue length		0.00		0.03				
Control Delay		7.3		8.7				
LOS		A		A				
Approach Delay				8.7				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: MAPLEWOOD ACCESS & COLEMAN RD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SACBD14
East/West Street: COLEMAN ROAD
North/South Street: MAPLEWOOD VILLAGE SITE ACCESS
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		25	12	1	21	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		27	13	1	23	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	11		1			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	12		1			
Percent Heavy Vehicles	0		0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		13				
C(m) (vph)		1550		959				
v/c		0.00		0.01				
95% queue length		0.00		0.04				
Control Delay		7.3		8.8				
LOS		A		A				
Approach Delay				8.8				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: MAPLEWOOD ACCESS & CRAIGVILLE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 171AMBD15
East/West Street: MAPLEWOOD VILLAGE SITE ACCESS
North/South Street: CRAIGVILLE ROAD (CR 66)
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	14	194			271	7
Peak Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	15	215			301	7
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				26		50
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				28		55
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	15						83	
C(m) (vph)	1236						624	
v/c	0.01						0.13	
95% queue length	0.04						0.46	
Control Delay	7.9						11.7	
LOS	A						B	
Approach Delay							11.7	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: MAPLEWOOD ACCESS & CRAIGVILLE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121PMBD15
East/West Street: MAPLEWOOD VILLAGE SITE ACCESS
North/South Street: CRAIGVILLE ROAD (CR 66)
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	53	364			218	28
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	58	404			242	31
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				15		28
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				16		31
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	58						47	
C(m) (vph)	1273						543	
v/c	0.05						0.09	
95% queue length	0.14						0.28	
Control Delay	8.0						12.3	
LOS	A						B	
Approach Delay							12.3	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: SAT PEAK HOUR
Intersection: MAPLEWOOD ACCESS & CRAIGVILLE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121SATBD15
East/West Street: MAPLEWOOD VILLAGE SITE ACCESS
North/South Street: CRAIGVILLE ROAD (CR 66)
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	46	306			363	24
Peak Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	51	340			403	26
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				20		39
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				22		43
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	51						65	
C(m) (vph)	1115						465	
v/c	0.05						0.14	
95% queue length	0.14						0.48	
Control Delay	8.4						14.0	
LOS	A						B	
Approach Delay							14.0	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: OLD CHESTER & HERITAGE ESTATES
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 121AMBU16
East/West Street: OLD CHESTER ROAD
North/South Street: HERITAGE ESTATES ACCESS
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	15	63			111	8
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	16	70			123	8
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				22		45
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				24		50
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		No /
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	16						74	
C(m) (vph)	1436						852	
v/c	0.01						0.09	
95% queue length	0.03						0.28	
Control Delay	7.5						9.6	
LOS	A						A	
Approach Delay							9.6	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: PM PEAK HOUR
Intersection: OLD CHESTER & HERITAGE ESTATES
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 12:PMBD16
East/West Street: OLD CHESTER ROAD
North/South Street: HERITAGE ESTATES ACCESS
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	52	115			110	26
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	57	127			122	29
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				14		29
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				15		32
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	57						47	
C(m) (vph)	1413						775	
v/c	0.04						0.06	
95% queue length	0.13						0.19	
Control Delay	7.7						9.9	
LOS	A						A	
Approach Delay							9.9	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: RGD
Agency/Co.: JCE
Date Performed: 10/7/2005
Analysis Time Period: AM PEAK HOUR
Intersection: OLD CHESTER & HERITAGE ESTATES
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2015 BUILD TRAFFIC VOLUMES
Project ID: 12:SATBD16
East/West Street: OLD CHESTER ROAD
North/South Street: HERITAGE ESTATES ACCESS
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	46	306			363	24
Peak Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	51	340			403	26
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				20		39
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				22		43
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/		No	/
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	51						65	
C(m) (vph)	1115						465	
v/c	0.05						0.14	
95% queue length	0.14						0.48	
Control Delay	8.4						14.0	
LOS	A						B	
Approach Delay							14.0	
Approach LOS							B	

APPENDIX "D"

STANDARDS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. The criteria are given in Exhibit 16-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 16-2

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	CONTROL DELAY PER VEHICLE (S/VEH)
A	<10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

LEVEL OF SERVICE A describes operations with low control delay, up to 10 seconds per vehicle (s/veh). This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.

LEVEL OF SERVICE B describes operations with control delay greater than 10 and up to 20 seconds per vehicle (s/veh). This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with Level of Service "A", causing higher levels of delay.

LEVEL OF SERVICE C describes operations with control delay greater than 20 and up to 35 seconds per vehicle (s/veh). These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LEVEL OF SERVICE D describes operations with control delay greater than 35 and up to 55 seconds per vehicle (s/veh). At Level of Service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LEVEL OF SERVICE E describes operations with control delay greater than 55 and up to 80 seconds per vehicle (s/veh). This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

LEVEL OF SERVICE F describes operations with control delay in excess of 80 seconds per vehicle (s/veh). This level is considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

The Level of Service (LOS) for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. Control delay is defined as the total elapsed time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. This total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to speed of vehicles in queue. Average control delay for any particular minor movement is a function of the capacity of the approach and the degree of saturation. The Level of Service Criteria are given in Exhibit 17-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 17-2

LEVEL OF SERVICE FOR CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	AVERAGE CONTROL DELAY (S/VEH)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

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Appendix H

Traffic Engineer's Memorandum

JOHN COLLINS ENGINEERS, P.C. TRAFFIC · TRANSPORTATION ENGINEERS

11 BRADHURST AVENUE • HAWTHORNE, N.Y. • 10532 • (914) 347-2500 • FAX (914) 347-7266

December 12, 2006

Mr. Steven T. Esposito, RLA
Esposito & Associates
134 West Main Street
Goshen, NY 10924

Re: Maplewood Village
Goshen, New York

Dear Steve:

The proposed modification for the Maplewood development now calls for a total of 229 dwelling units, which will result in some additional trip generation during peak hours. Table No. 1R attached is a summary based on the mix of units provided. The amount of additional traffic any particular intersection will be distributed based on the original distributions and the revised site generated traffic volumes for each of the peak hours are attached.

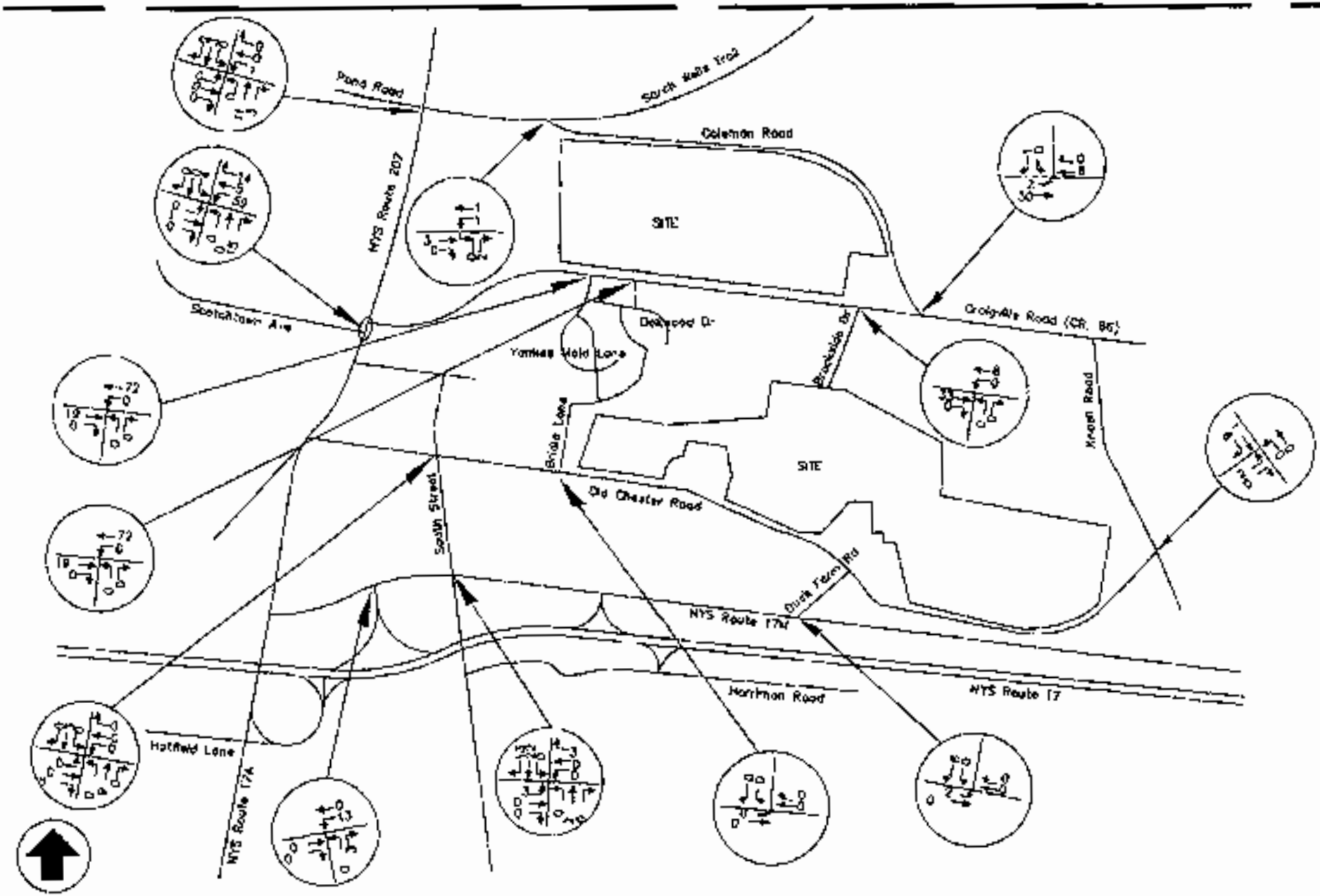
We have not received a copy of the Town's traffic study but at this time rather than updating our traffic study,the attached information should be utilized for determining the contribution of traffic and any corresponding contribution to improvements would be based on these numbers

If you have any questions regarding this, please do not hesitate to contact us

Sincerely,
JOHN COLLINS ENGINEERS, P.C.

Philip J. Grealy, Ph D., P.E.

121.letter.Esposito



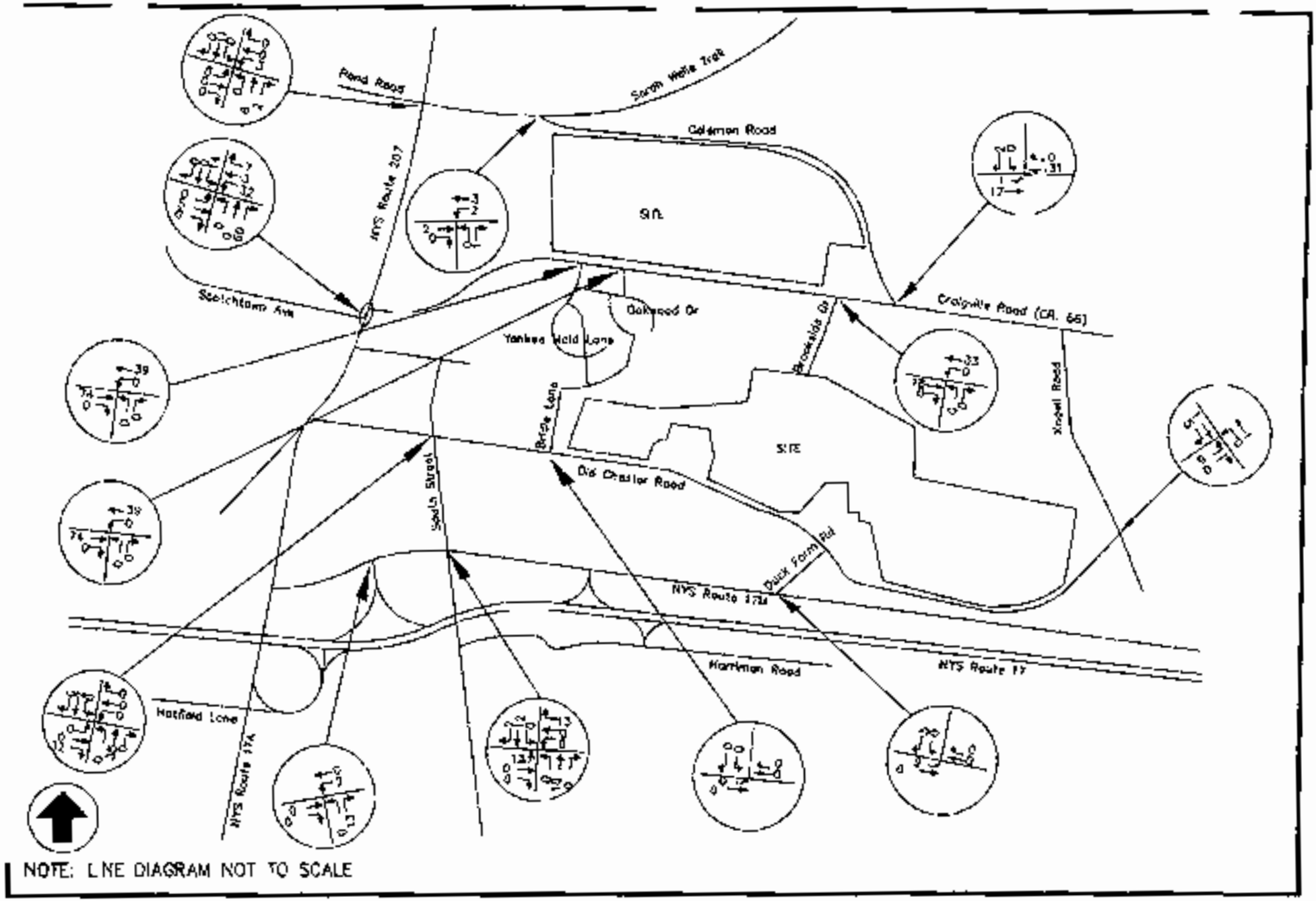
NOTE: LINE DIAGRAM NOT TO SCALE

GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

JOHN COLLINS ENGINEERS, P.C
HAWTHORNE, NEW YORK

SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK AM HIGHWAY HOUR
(MAPLEWOOD DEVELOPMENT)

PROJECT NO. 121 DATE: DECEMBER 2005 FIG. NO. 20A



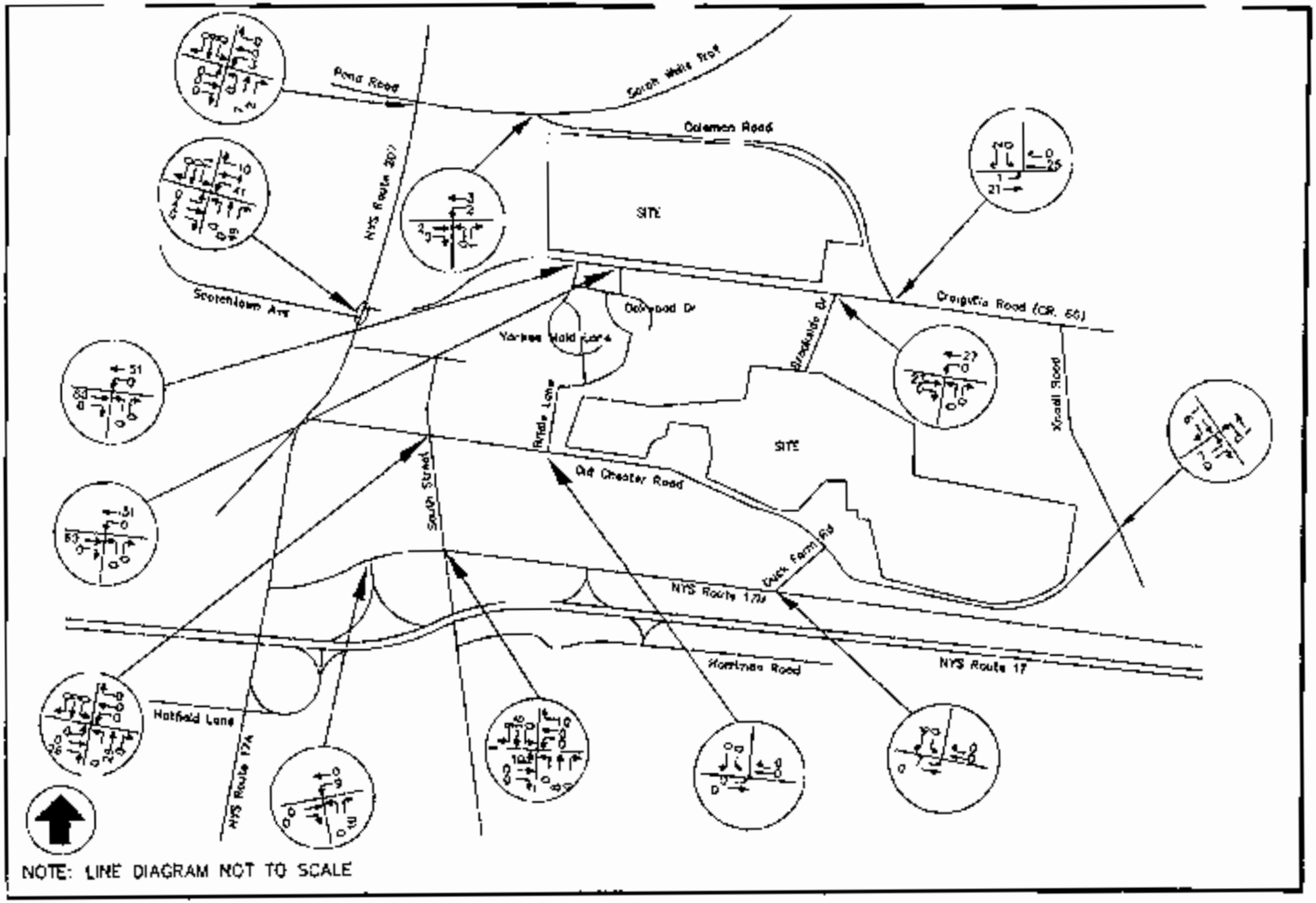
NOTE: LINE DIAGRAM NOT TO SCALE

GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

JOHN COLLINS ENGINEERS, P.C
HAWTHORNE , NEW YORK

SITE GENERATED TRAFFIC VOLUMES
WEEKDAY PEAK PM HIGHWAY HOUR
(MAPLEWOOD DEVELOPMENT)

PROJECT NO. 121 DATE: DECEMBER 2005 FIG. NO.21A



GOSHEN AREA TRAFFIC STUDY
GOSHEN, NEW YORK

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE, NEW YORK

SITE GENERATED TRAFFIC VOLUMES
WEEKEND PEAK SAT HIGHWAY HOUR
(MAPLEWOOD DEVELOPMENT)

PROJECT NO. 121 DATE: DECEMBER 2005 FIG. NO. 22A

TABLE 1R

HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED SITE GENERATED TRAFFIC VOLUMES

MAPLEWOOD VILLAGE AT GOSHEN GOSHEN, NEW YORK	ENTRY		EXIT	
	HTGR*	VOLUME	HTGR*	VOLUME
SINGLE FAMILY DWELLING (69 DWELLING UNITS)				
PEAK AM HIGHWAY HOUR	0.21	14	0.63	43
PEAK PM HIGHWAY HOUR	0.70	48	0.41	28
PEAK SATURDAY HIGHWAY HOUR	0.57	39	0.48	33
TOWNHOMES/MULTI-FAMILY (160 DWELLING UNITS)				
PEAK AM HIGHWAY HOUR	0.08	13	0.39	62
PEAK PM HIGHWAY HOUR	0.37	59	0.18	29
PEAK SATURDAY HIGHWAY HOUR	0.30	48	0.26	41
TOTAL				
PEAK AM HIGHWAY HOUR	-	27	-	105
PEAK PM HIGHWAY HOUR	-	107	-	57
PEAK SATURDAY HIGHWAY HOUR	-	87	-	74

NOTES:

1) * THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON THE DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 7TH EDITION, 2003.

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Appendix I

Supplemental Traffic Impact Analysis

JOHN COLLINS ENGINEERS, P.C. TRAFFIC · TRANSPORTATION ENGINEERS
11 BRADHURST AVENUE · HAWTHORNE, N.Y. · 10532 · (914) 347-2500 · FAX (914) 347-7266

MEMORANDUM

TO: Steven T. Esposito, RLA

FROM: Philip J. Grealy, Ph.D., P.E.

DATE: May 14, 2007

SUBJECT: Maplewood Village, Goshen

PROJECT: No. 121

COPY TO:

****

We received a copy of the Goshen Town-Wide Traffic Study prepared by Stantec. This study incorporates our base traffic data which we had provided to Stantec. While that study evaluates a somewhat longer time horizon, based upon a review of the summary and conclusions of that study, certain recommendations such as signalization, turn lanes, etc. were identified for area intersections. These are generally consistent with the findings of our study. For example, the intersection of Sara Wells Trail with Route 207 was identified as a candidate for signalization in our study and the Town study has a similar finding. Based on our review, the traffic study we prepared for the Maplewood Village development has been coordinated with the Town-Wide traffic analysis.

JOHN COLLINS ENGINEERS, P.C. TRAFFIC • TRANSPORTATION ENGINEERS
• 4 BRADHURST AVENUE • HAWTHORNE, N.Y. • 10532 • (914) 347-7500 • FAX (914) 347-7266

MEMORANDUM

TO: Steven J. Esposito, RLA

FROM: Philip J. Grealy, Ph.D., P.E.

DATE: April 4, 2008

SUBJECT: Maplewood

PROJECT: No. 121

COPY TO:

****

We have received a copy of the latest accident reports from the Town of Goshen. During 2007 for the area town roadways, a total of five (5) reportable accidents were identified as noted in the transmittal to your office dated March 20, 2008. Upon reviewing the accident descriptions and locations, three of the five accidents involved animal action, two which were deer involvement and one involving a stray dog. These three accidents were all along Craigville Road. The two remaining reported accidents were at the intersection of Route 17M and Duck Farm Road which were the result of vehicular tire failure and the other from debris falling from a dump truck.

Based on the number of recent accidents on these roadways, and a review of the previous accident data we obtained from the New York State Department of Transportation for the area roadways, there were no locations with 5 or more accidents in a one year period and therefore the accident rate was not computed. Based on our review, there are no specific patterns at the locations studied. We are awaiting receipt of the last 3 year period of data from NYSDOT and will forward upon receipt. However, based on the recent data from the Town and our review of the historical data, we do not anticipate any significant change in our findings.

Town of Goshen Police Department

P.O. Box 217
Goshen, New York 10924
Tel: (845) 294-9555 • Fax: (845) 615-1398

DENNIS D. MARSH
Chief of Police

March 20, 2008

Ms. Karen Tomapat
Esposito & Associates
262 Greenwich Avenue
Suite B
Goshen, New York 10924

Dear Ms. Tomapat,

Please find attached the information that you requested via FOIL on March 19, 2008 in regards to information on specific motor vehicle accidents that were investigated by the Town of Goshen Police Department that occurred in 2007

Please feel free to contact me if you have any questions or require additional information.

Sincerely,

Stephanie M. Cockburn
Secretary to the Chief of Police

Attachment (2 Pages)

RECORD #1

Date:	Thursday, January 11, 2007
Time:	6:02 pm
Location:	State Route 17M/Duck Farm Road
Traffic Control:	No Passing Zone
Accident Class:	Property Damage
Number of Vehicles:	One
Injuries:	None
Light Conditions:	Dark Road - Unlighted
Road Conditions:	Dry
Weather:	Clear

Manner of Collision/Contributing Factors: Vehicle -- Other, Front passenger tire fell off of vehicle

RECORD #2

Date:	Sunday, March 18, 2007
Time:	8:30 pm
Location:	Craigville Road/Yankee Maid Lane
Traffic Control:	No Passing Zone
Accident Class:	Property Damage
Number of Vehicles:	One
Injuries:	None
Light Conditions:	Dark Road - Unlighted
Road Conditions:	Dry
Weather	Cloudy

Manner of Collision/Contributing Factors Animal Action. Dog ran into vehicle.

RECORD #3

Date:	Friday, July 13, 2007
Time.	9:52 pm
Location:	Craigville Road/Brookside Drive
Traffic Control:	None
Accident Class:	Property Damage
Number of Vehicles:	One
Injuries:	None
Light Conditions:	Dark Road - Unlighted
Road Conditions:	Dry
Weather:	Clear

Manner of Collision/Contributing Factors: Animal Action. Deer ran into vehicle.

RECORD #4

Date:	Thursday, September 13, 2007
Time:	9:30 am
Location:	State Route 17M/Duck Farm Road
Traffic Control:	No Passing Zone
Accident Class:	Property Damage
Number of Vehicles:	Two
Injuries:	None
Light Conditions:	Daylight
Road Conditions:	Dry
Weather:	Clear

Manner of Collision/Contributing Factors: Rock from passing dump truck struck vehicle windshield.

RECORD #5

Date	Thursday, December 27, 2007
Time:	2:25 am
Location:	Craigville Road/Oakwood Drive
Traffic Control:	None
Accident Class:	Property Damage
Number of Vehicles.	One
Injuries:	None
Light Conditions:	Dark Road - Unlighted
Road Conditions:	Dry
Weather:	Cloudy

Manner of Collision/Contributing Factors: Animal Action Deer ran into vehicle.

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Appendix J

Phase 1
and
Phase 2

Cultural Resources
Survey

PHASE 1 CULTURAL RESOURCE SURVEY OF THE PROPOSED MAPLEWOOD VILLAGE AT GOSHEN TOWN OF GOSHEN, ORANGE COUNTY, NEW YORK

July 2007

Prepared By:

BTK ASSOCIATES, INC.

Historical and Archaeological Consulting

PO Box 527, Goshen, New York 10924

(914) 850-1848

Fax: 845 457-1723

BTK@hvc.rr.com

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Fax: 845 457-1723
BTK@hvc.rr.com

PHASE 1 CULTURAL RESOURCE SURVEY OF THE PROPOSED MAPLEWOOD VILLAGE AT GOSHEN TOWN OF GOSHEN, ORANGE COUNTY, NEW YORK

Prepared for: ADC Orange, Inc.
Date: June, 2007

Management Summary

SHPO Project Review Number. Not yet assigned

Involved State and Federal Agencies: New York State DEC
Phase of Survey: Phase 1

Location Information
- Location: Craigville and Coleman Roads
- Minor Civil Division: Town of Goshen
- County: Orange

Survey Area
- Length: 3000 feet (909m)
- Width: 1200 feet (364m)
- Number of Acres Surveyed: 95+/-

USGS 7.5 Minute Quadrangle Map: Goshen, N.Y.

Archaeological Survey Overview
- Number and Interval of Shovel Tests: 807/ 50 feet (15m)
- Number & Size of Units: 0
- Width of Plowed Strips: None
- Surface Survey Transect Interval: 25 feet (7.6m)

Result of Archaeological Survey
- Number & name of Precontact sites identified: 0
- Number & name of historic sites identified 2; Haight's Pond, Stable/Carriage House Site
- Number & name of sites recommended for Phase II/Avoidance: 2; Haight's Pond, Carriage House Site

Results of Architectural Survey
- Number of buildings/structures/cemeteries within the project area: 0
- Number of buildings/structures/cemeteries adjacent to the project area: 0
- Number of previously determined National Register listed or eligible Buildings/structures/cemeteries/districts: 0
- Number of identified eligible buildings/structures/cemeteries/districts: 0

PHASE 1 CULTURAL RESOURCE SURVEY OF THE PROPOSED MAPLEWOOD VILLAGE AT GOSHEN TOWN OF GOSHEN, ORANGE COUNTY, NEW YORK

Prepared for: ADC Orange, Inc.
Date: June, 2007
Location: Craigville Road and Coleman Road, Town of Goshen, Orange County, NY

Executive Summary

A Phase 1 Cultural Resource Survey has been completed for the proposed Maplewood Village At Goshen development. It included a Phase 1A cultural resources background study and a Phase 1B infield survey and testing program. The Maplewood Village At Goshen project location is on the USGS 7.5' Goshen Quadrangle. The subdivision is subject to wetlands approvals from New York State.

Historical research indicates that the property was in the possession of the Carpenter family by 1800. It passed through the family to Mary Ellen Haight, who inherited a 183 acre homestead, *Napknoll*. Mary Ellen and her husband, wealthy New York merchant David Haight created a park-like estate with an artificial lake, trails and outbuildings in the early 1830s. Around 1901, a larger parcel, including the project area, was owned by New York City Police official John McCullagh and his wife, who called it *Low Wood Park*. In 1905 the property was acquired by Grant Hugh Browne. He renamed the estate *Brownleigh Park*, and added a horse track, remodeled a horse show ring into a prizefighting arena and made other improvements. In 1925 the property was acquired by the Catholic Salesian Fathers, who converted it into a residential school. In 1938, the arena and a two-story, 120-foot long stable/carriage house were destroyed in a fire.

The Phase 1A cultural resources background study determined that the project area was not previously surveyed by archaeologists. Much of the project area was initially evaluated as sensitive for Precontact archaeological resources, particularly the elevated landforms near wetlands.

The Phase 1B survey divided the project area into eight grids. The survey included considerable shovel testing at 50-foot intervals. Phase 1B testing discovered a single chert flake in the top stratum of a shovel test in Grid 1. Supplemental tests at this location did not produce any additional artifacts or features. Also in Grid 1, a nail was found in a shovel test. Supplemental tests did not produce any finds. These two find spots are not considered potentially significant. No artifacts or features were encountered in Grid 2. A nail was found in one Grid 3 test. Supplemental tests did not produce any finds; this location is not considered potentially significant. A rectangular stone, subterranean feature was encountered on the edge of the wetlands in Grid 4. Now filled, it probably functioned as a food cooling feature, probably a milk house. It should be fenced-off, prior to the start of construction. It is recommended that this feature be preserved, in place, within the proposed development. If it can not be preserved, it should be investigated with a Phase 2 archaeological excavation. On the west end of the property, in Grid 5 are building ruins. The property line bisects a very long building, believed to be the stable/carriage house that burned in 1938. Also on the property are a concrete building pad, a modern well, and artifact deposits. Artifacts from tests in the area date from the Nineteenth and Twentieth Centuries. Several features related to the historic Haight's Pond were delineated. There is a massive concrete dam, and remnants of an earlier, stone dam. A series of sawed-off utility poles and a glass insulator show that electric power was present at the pond. A small, earthen check dam was found in Grid 7, at the ponds inlet. No other sites were found in Grids 6, 7, or 8.

Phase 2 cultural resources investigations are recommended for the Haight's Pond complex and for the carriage house historic site in the west end of Grid 5. Other than these two studies, no further archaeological research is recommended for Maplewood Village Goshen.

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PHASE 1 CULTURAL RESOURCE SURVEY OF THE PROPOSED MAPLEWOOD VILLAGE AT GOSHEN TOWN OF GOSHEN, ORANGE COUNTY, NEW YORK

INTRODUCTION

This report details Phase 1 Cultural Resource investigations for the proposed Maplewood Village at Goshen development in the Town of Goshen, Orange County, New York. It was prepared by BTK Associates, Inc. consultants (hereafter also called "BTK") for ADC Orange, Inc. of New York City and Lang & Tully Engineering and Surveying, P.C. of Goshen, New York. The New York State Historic Preservation Office (SHPO) is reviewing the impacts of the project on significant precontact and historic cultural resources.

This report was written by William Sandy, RPA, John Gramm and Patricia Condell. Graphics are by Gramm. Photographs are by Gramm and Sandy. Sandy, Gramm, Condell and field technicians Mike Thomas, Austin Dickinson, Jon Dritto, Leo DeLade, Tim Geyson, Mellissa Gramm and Thomas Crunk completed the field team. Charles Thomas coordinated the design of the investigations and edited the report.

The project area is a rectangle, about 3000 feet long and 1200 feet wide; it encompasses about 95 acres. Coleman Road is the northern boundary, it is labeled Smaddock Road on the Quadrangle map (compare Figures 1 and 2). Craigsville Road is the southern boundary. The Village of Goshen border forms the west side of the property. Craigsville Road also delineates much of the eastern boundary. A recently built Veterans Cemetery is located to the south and east (Figures 1 and 2; Lane and Tully 2004, 2006a, 2006b; Attachment 1).

When evaluations of significance are made they follow the National Register of Historic Places criteria of significance (36CFR60.6, *Federal Register 1976*). The National Register criteria are:
The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures and objects of state and local importance that posses integrity of location, design, setting, materials, workmanship, feeling and

a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
b. that are associated with the lives of persons significant in our past; or
c. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction, or
d. that has yielded, or may be likely to yield information important in prehistory or history.

Criterion d is typically applied when evaluating archaeological sites, although others may apply.

DOCUMENTARY RESEARCH

BTK consulted variety of documentary and cartographic sources were consulted to provide background information on the prehistory, history and physical environmental setting of the project area. A site file review identified known archaeological and historical sites and National and State Registers of Historic Places properties within one mile of the project area.

Sources of information include:
New York State Office of Parks, Recreation and Historic Preservation site files
New York State Museum site files and maps
National Register of Historic Places
State Register of Historic Places
Site files of the Inc. Orange County Chapter, New York State Archaeological Association
Historic site files of the Office of the Orange County Historian,
Michelle Figlionieni, Town and Village Historian
Bill Finian, long-time area resident

Goshen Town Hall
Goshen Library and Historical Society

Lanc & Tully aided the mapping of the ruins.

Environmental/Physical Setting

Maplewood Village at Goshen is located immediately east of the Village of Goshen, and is entirely within the Town of Goshen New York. Goshen is situated in the southern portion of Orange County.

A tributary of the Otter Kill bisects the project area. The project area is east of the drainage divide which separates the rest of the Hudson Drainage from the Wallkill River. The Wallkill flows north, and it drains the massive former glacial lake now known as the "Black Dirt". The Wallkill is another tributary of the Hudson River. The Otter Kill drainage also contains extensive wetlands, less than one mile north of the project area. It flows northeast and drains into Moodna Creek (Figures 1 and 3). Moodna Creek drains east into the Hudson River near Cornwall (Gruber 2006).

Eight types of soils, in six soil series are present in the project area: Alden silt loam (Ab), Bath Nassau shaly silt loams (BnC), Erie gravelly silt loam (ErA and ErB), Madalin gravelly silt loam (Ma), Mardin gravelly silt loam (MdB and MdC) and Rock outcrop-Nassau complex (RSD) (Table 1, Figure 4).

Table 1: Summary of Project Area Soils (from Olsson 1981)

ABB	NAME	% SLOPE	DRAINAGE	COMMENTS
Ab	Alden silt loam	0 to 3 %	Very poorly drained	Formed in glacial till topped locally by colluvium
BnC	Bath-Nassau shaly silt loams	8 to 15 %	Well drained	Formed in glacial till deposits
ErA, ErB	Erie gravelly silt loam	0 to 8%	Somewhat poorly drained	Formed in glacial till in uplands
Ma	Madalin silt loam	Level	Poorly to very poorly drained	In lowland depressions
MdB, MdC	Mardin gravelly silt loam	3 to 15 %	Moderately well drained	Formed in glacial till deposits
RSD	Rock Outcrop-Nassau complex, undulating	15 to 35%	Somewhat excessively drained	Nassau soil formed in glacial till, ledges and angular beds of tilted and folded shale and slate

Alden silt loam (Ab) is present along both sides of the drainage in the middle of the project area. This deep, nearly level, very poorly drained soil was formed in glacial till from shale, sandstone and limestone. Local silty colluvium occurs atop the till (Olsson 1981:12).

Bath Nassau shaly silt loams with slopes of 8 to 15% (BnC) are present in the southwest corner of the property. They are composed of Bath, Nassau and other soils. Bath soils typically have 0.75 feet (23cm) of dark brown shaly silt loam over 1.4 feet (41cm) of yellowish brown shaly silt loam (Olsson 1981:18-19).

Erie gravelly silt loam with slopes of 0 to 8 percent (ErA and ErB) are present on several different project area locations. They typically have about 0.8 feet (24cm) of dark brown gravelly silt loam over 0.7 feet (18cm)of mottled grayish brown channery silt loam (Olsson 1981:29; Figure 4).

Madalin gravelly silt loam (Ma) consists of poorly to very poorly drained glacial lake deposits found in a small lowland depressions in the east end of the property (Figure 4 and Table 1; Olsson 1981).

Mardin gravelly silt loam soils are present in several locations spread over the project area (MdB and MdC). They have a topsoil of dark brown gravelly silt loam up to 0.6 feet (18cm) thick. Below the topsoil is a layer of yellowish

brown gravelly silt loam subsoil, up to 0.6 feet (18cm) thick. Next there is mottled pale brown gravelly silt loam subsoil up to 0.4 feet (12cm) thick. Extending up to 5.0 feet (160 cm) below surface is an olive brown channery silt loam (Figure 4, Table 1; Olsson 1981:37-39, 95).

Rock outcrop-Nassau complex are found on two small locations on the property (RSD) (Figure 4; Olsson 1981; Figure 2). Slopes are in the 15 to 35 percent range. Rock outcrop-Nassau complex consists of exposed bedrock and shallow Nassau soils. The plow zone or "A" horizon has a dark grayish brow shaly silt loam 0.9 feet (27cm) thick, over subsoil that is yellowish brown very shaly silt loam 0.8 feet (24cm) thick with hard black tilted shale at a depth of 1.5 feet (45cm) (Olsson 1981: 58).

Past/Present Land Use: Project Area Features and Disturbances

The project area was part of a huge, park-like estate during the late Nineteenth Century and early Twentieth Century. During some of that period, portions of the land were used as cattle pasture. There were walking and riding paths, and a swimming pond that likely doubled as an ice skating rink. The project was in a relatively isolated location, far from the main residence on the property. Outbuildings in this vicinity included a stable/carriage house, a huge arena (on Village property), and ancillary structures

The project area today is relatively undisturbed. Much of the once open meadows are now successional forest with trees up to about 75 years old. A few older trees are also present. There are extensive, open, wet meadows. In the northwest part of the property are extensive ruins of outbuildings. There are areas near the ruins with deposits of modern debris and trash.

PREVIOUS INVESTIGATIONS

PreContact and Historic Sites

The Town of Goshen has been a focus of Precontact archaeological investigations and analysis since the 1960s. Following the directives of State Archaeologist Robert Funk, members of the Incorporated Orange County Chapter (IOCC) of the New York State Archaeological Association (NYSAA) explored Mount Lookout for cave sites. They discovered Dutchess Quarry Cave #1and recovered some of the earliest evidence of Early Man in Eastern North America. Research found other caves including one that comprises one of the most important paleontological sites in the State. Artifacts from every local archaeological culture from Paleo-Indian through the historic period have been recovered from these sites. Dutchess Quarry Caves has been the subject of more than 100 books, articles and reports, and reanalysis of the recovered finds continues to this day (e.g. Kopper, Funk and Dumont 1980; Funk and Steadman 1994). Dutchess Quarry Caves is located about two miles southwest of the project area.

Paleo-Indian artifacts and sites are extremely rare in Orange County. Less than 1/10th of 1 percent of the projectile points found in the County are fluted points, the hallmark of the Paleo-Indian period. It is remarkable that both of the reported Precontact sites within one mile of the project area are believed to have Paleo-Indian components. Site A07106.000003 (#1 on Table 2) is about one mile north of the project. It is on the south end of a ridge, at an elevation of about 380 feet above sea level, and close to wetlands and Otter Kill. Soils on this ridge include Mardin gravelly silt loam soils (MdB and MdC) and Erie gravelly silt loam (ErB) (Olsson 1981: Plate 50). These same soils are present at Maplewood Village at Goshen. Site A07106.000004 (#3 on Table 2) is well northeast of the project area; Paleo-Indian and Archaic artifacts were recovered there. This site is situated at an elevation near 400 feet above mean sea level on the north side of a ridge and proximate to the Otter Kill wetlands. Soils on the ridge also include Mardin gravelly silt loam soils (MdB and MdC) and Erie gravelly silt loam (ErB) (Olsson 1981: Plate 50).

Site A07106.000020 is an historic paleontology site (#4 on Table 2) in a swamp east of the Otter Kill. It was excavated around 1846; the mastodon was estimated to be about 10,000 years old. The circumstances and disposition of this specimen is not stated on the form, nor is the manner of its discovery.

Case Cemetery (A07106.000005) is located on the west side of Sarah Wells Trail, about three-quarters of a mile north of the project area (#2 on Table 2). Historic house site A07146.000206 is on Route 207 and well west of the project area (#5 on Table 2).

Table 2: Summary of Archaeological Sites in the Study Area

Reference #	NYSOPRHP Site #	Additional Site Name	Distance to APE m(ft)	Time Period	Site Type
1	07106.000003	ORGO-01F	1612 (5289)	Paleo-Indian	No Info
2	07106.000005	Case Private Cemetery ORGO-04C	1096 (3596)	Historic	Cemetery
3	07106.000004	ORGO-02F	1193 (3914)	Paleo-Archaic	No Info
4	07106.000020	ORGO-03P	1145 (3757)	c. 10,000 B.P.	Excavated mastodon
5	07146.000206	1850s House	1435 (4708)	1714, 1850s	Foundation

Inventoried Structures

Goshen's Church Park Historic District is located less than one-quarter mile to the southwest of the project area. Centered on the triangular Church Park it contains 70 buildings, including the individually listed 1841 Courthouse and the Historic Track National Historic Landmark. Collectively, the buildings and structures date from Colonial days to the present. County Court was first held in Goshen in 1727. After the Revolution, it was not only a governmental center, but a commercial center as well (Winawer 1979; Table 3).

Table 3: National Register Listed Sites Near Project Area

NR Number	Site Name	Distance to APE m(ft)	Time Period	Site Type	Date Listed
03NR05045	Church Park Historic District	394 (1292)	Pre-revolutionary to present	Historic District	2003

Historic Overview

At the time of European intrusion the Goshen area was inhabited by the Munsee division of the Lenape (later called Delaware). In 1755, they led an alliance of several groups that resisted the westward expansion of European settlement. Locally, the people were a known as the Warranawangkongs, a subgroup of the Esopus. At that time, they were thought to inhabit fortified villages, and raised beans, corn and squash

The subject parcel is situated within the Wawayanda Patent of 1703, a large patent that included Goshen, Minisink, Wawayanda, Warwick and Hamptonburgh. Initial subdivision of the Patent waited until 1721. By 1727 Goshen was designated as a center of county government. In 1737 a courthouse and jail were authorized, and in 1773 a school was started in the village (Winawer 1979). Figure 5 shows the location of the project in Goshen Township and adjacent to the Goshen Village Lots (DeWitt 1891).

A survey of early deeds by the County Planning Department revealed the following property owners in the area around 1791: Mr. and Mrs. Anthony Carpenter, DeWitt and Mary Ann Duryea, Nathan Wheeler and Caroline Johnson, John and Mary Heard, and John and Elizabeth Wallace. Anthony Carpenter is said to have the earliest deed to the property. The Carpenters later passed their land to son James Carpenter. When he died in 1817, he left it to his three children. In 1826, the lone survivor was Fannie Jansen. When she died in 1834, it was divided into five parcels; one for each of her five children. One child, Mary Ellen Haight, wife of David Henry Haight, inherited the 183 acre homestead known as Napkooll (Murphy n.d.).
David Henry Haight was a wealthy New York City merchant. He up in New York City and Goshen, and graduated from St. Paul's College in 1892. His father, David L. Haight was a City merchant who started out in furrier supplies and made a fortune in Manhattan real estate. David H. Haight's wife Mary Ellen Jansen was the daughter of a prominent Goshen physician.

"Mrs. Haight inherited the old homestead, which she named Napknoll, and Mr. Haight set about improving it, making of it a summer home. He laid out a park, with lovely drives and walks, constructed an artificial lake, and made of it the most beautiful place in the vicinity "(*Portrait and Biographical Record* 1895:1034).

Between Napknoll and their other properties, the David L. Haight family had four hundred and fifty acres. The property was laid out like a park, with scenic drives and a pond. In 1872, they built a magnificent family mausoleum (*Portrait and Biographical Record* 1895:1034).

In the 1890s, David H. Haight developed a greenhouse business; specialties included roses, palms and violets. On Napknoll Farm he ran a large, successful dairy operation (*Portrait and Biographical Record* 1895: 1055)

The 1843 *Map of the Town of Goshen* shows the roads around the project area in their current configuration. There is a large pond (Haight's Pond) along the stream in the south end of the property. The north half of the property is shown in division 2, while the south half is in division 14. There are no buildings within the project area. There is one home to the north (B C. Colman) and another one a short distance to the east, near the intersection (Elliot 1843; Figure 6).

The Town of Goshen underwent a substantial amount of growth between 1843 and 1850. The 1850 map shows three dwellings near the east end of the property. They are on the west side of Colman Road and north of where it joins Craigville Road. The southernmost structure belongs to "H. Luck "(sp.?) (Sidney 1850: Figure 7). This is likely the same house depicted on the 1843 map (Elliot 1843; Figure 6). The middle house is attributed to H Ball. The northernmost house belongs to C. Carre (sp.?). In the southwest end of the project area, there is an unlabeled structure just north of Craigsville Road. The Haight family lives well to the west of the project area.

Henry J. Haight was the son of David Henry Haight and Mary Ellen Jansen Haight. He was a graduate of the Institution fro the Deaf in Harlem. He married Mary Lucy Church of Ohio, and they had three children. The family spent winters in the City, the rest of the year in Goshen.

"Having a special interest in science, he devoted his time to the study of electricity and electrical appliances, and is a genius along these lines. He has made many useful inventions……He has secured a number of patents, which may be seen at his laboratory in New York City" (*Portrait and Biographical Record of Orange County, New York* 1895:1055).

During the period 1834 and 1864, David Henry Haight bought the property from his wife's siblings, and from the families of both John and Mary Heard and DeWitt and Mary Ann Duryea. Including Napknoll farm, the property included close to 450 acres. He made considerable improvements. An 1864 Farm Map shows the project belonging to two farmsteads, both of which extend further west into the Village. The northern section is owned by William Johnson. The southern section is owned by H. Haight (Hughes 1861; Figure 8).

The 1875 map shows no buildings in the project area. David Henry "D. H" Haight lives to the south, he owns 310 acres. J.C. Colemen lives on the north side of Coleman Road as does C.H. Colman. Well to the west is the Montgomery & Wallkill Valley Railroad, and the Erie Railroad is well to the south. They linked once rural Goshen with the surrounding world (Beers 1875, Figure 9). A "Bird's Eye" type drawing shows the view looking northeast at the Haight Family Estate around 1874 (Murphy n.d.; Figure 10).

The 1903 map shows a series of large farms on the east side of the village of Goshen. "Low Wood Park" is owned by John McCullagh and consists of an unusually precise measurement of 183.37 acres. A New York City Police official and his wife acquired the former Haight property just two years before. In 1903, there is a pond shown on the north side of the drainage. North of the project area, "Maple Dell" of Asher Johnson has 124 acres and a pond on the north side of Coleman Road. A H. & C. B. Coleman and "Fairmont Dairy" are to the east (Lathrop 1903; Figure 11; Murphy n.d.).

In 1905, the former Haight/McCullagh property was sold to Grant Hugh Browne, who renamed it Browneigh Park. Mr. Browne built a horse track, added bridal paths around the perimeter, a new water tower and hillside grottoes (Murphy n.d.). A 1908 map shows no structures in the project area, and the 3 previously mentioned structures next to it (USGS 1908; Figure 12). Browne remodeled a horse show ring into a prizefighting arena (anonymous n.d.).

This arena brought top boxing competitors, along with metropolitan area news coverage to Goshen (anonymous 1967).

In 1921, Grant Hugh Browne had financial setbacks and lost the property. In 1922 it was used as a rehabilitation hospital for veterans of World War I. In 1925 it was purchased by the Catholic Salesian Fathers and converted into a residential school for boys. The former Haight mansion was the school's headquarters; the arena became the gym (Murphy n.d.).

A 1930 *Road and Property Ownership Map of Orange County*." shows two streams and a pond but does not show any structures in the project area. The project area is indicated as belonging to "Missy Soc. Silesian", and they own 183 acres (Dolph and Stewart 1930; Figure 13). In 1938 a cemetery was started for the Salesian Society (Murphy n.d.). It is located well to the east of the project area (Murphy n.d.).

Up until the 1930's locals swam in the pond on the project area. There was electric light and a small building for changing clothes (Bill Finian, personal communication, April, 2007).

One night in 1938 or 1939, there were two large wooden buildings burned at Saint Michael's Institute, the Salesian School. The first fire "ruined a two-story, 120-foot stable." Eight hours later, a second blaze engulfed a "huge shingle-covered arena building, erected in 1910 by the late Grant Hugh Browne for a horse show ring and later remodeled for pugilistic enterprises. After the World War, the structure was used as a vocational training school for veterans. It was 200 feet square and had a second story gymnasium." The two buildings were 40 feet apart (anonymous n.d.). One source puts the date of the fire as 1938 (anonymous 1967). A photo dated "NOV 12 1939 is a view from the distance showing "The rear view of the carriage house after the fire of November, 1939 (Figure 14). Another photo shows "The carriage house afterer (sp.) the fire of November, 1939 (Figure 15; anonymous n.d. b.). This is clearly the same two story structure shown in the foreground of a newspaper photo with the article on the "Two Fires Cause $30,000 Loss at Goshen" (Figure 16; anonymous n.d. a). Another source contends that the carriage house was used by the Salesians as their first school house (anonymous 2000:2).

In 1985 the Salesian School closed. It became a youth center, until it was closed by the Salesians in 1991 (Murphy n.d.).

ASSESSMENT OF SENSITIVITY

This assessment of sensitivity for Maplewood Village at Goshen considered the known prehistory and history of the area and the previously identified prehistoric and historic sites in the project vicinity. This assessment also considers previous uses of and impacts to the proposed project area. Consideration is also given to the integrity of potential cultural resources and the effects of previous and proposed modifications on potentially sensitive portions of the project area.

Precontact Sensitivity

The project area includes a diverse environment, with variations in slope, aspect and soils. The Otter Kill tributary flowing though the property would have been an attractant to Precontact people. The many different types of soil in the area, with their varying drainage characteristics, would have been reflected by a variety of plant and animal resources available for use by native people.

The ridge comprising the east side of the property is part of a series of similar ridges lining the west side of Otter Kill. The two ridges immediately to the north each contain a reported prehistoric site; one is thought to date to the Paleo-Indian period, the other to Paleo-Indian and Archaic. The soils at these two sites are similar to those within the project area. Flatter, well drained areas close to the Otter Kill tributaries would have been well suited for camp sites. They were considered to have potential for containing a prehistoric site or sites.

Historic Sensitivity

Much of the Maplewood Village at Goshen project area was considered sensitive for historic era cultural resources. There was a large pond on the property since before 1843, when it was known as Haight's Pond. The pond likely may have once been used for harvesting ice. Up until the 1930's locals swam in the pond.

The 1850 map shows the house of C. Curey (sp) near the southeast corner of the parcel. Also shown on this early map was an unlabeled structure in the southwest, near Craigsville Road. In the Nineteenth and early Twentieth Centuries, the property was developed into a park with equestrian and other recreational facilities. A 1939 fire destroyed a large stable/carriage house complex on the west edge of the property.

Sensitivity Assessment

There is potential for a prehistoric site or sites to be present within the well drained areas of the proposed Maplewood Village at Goshen project area. The well-drained, level areas in close proximity to the wetlands are the locations assessed as most likely to hold a site or sites. The presence of two Paleo-Indian sites within one mile reinforces this assessment.

Much of the project area was considered sensitive for historic archaeological remains. These remains could be residential, agricultural, or in the case of the dam and pond, industrial/recreational.

Phase 1B archaeological testing program was recommended for the Maplewood Village at Goshen project area.

REPORT OF FIELD INVESTIGATIONS

Introduction

From December 11, 2006 until January 12, 2007, and from May 17 to 21, 2007 BTK Associates, Inc. carried out a Phase 1B cultural resource survey of the proposed Maplewood Village at Goshen Executive Center in the Town of Goshen, Orange County, New York. The Phase 1A assessment documented previous land uses, environmental conditions and current uses of the subject property. Based on this research and a visual inspection, sensitivity of the project area for prehistoric and historic cultural resources was assessed. Because of the proximity of known Precontact sites, the geology and geography of the project area, and historic research, impact areas were recommended for field testing with the exception of steep and/or poorly drained areas.

Research Design

Based on the assessments that the project area was sensitive for the presence of prehistoric and historic resources, the field investigations were designed to identify the presence or absence of artifacts and features. The hypothesis is that areas with similar physical characteristics (like landforms, well drained soils, and proximity to water) as known Precontact sites in the vicinity are also likely to produce prehistoric finds. The data necessary to test this hypothesis can be derived by shovel testing potentially sensitive portions. At the same time, the impact areas were also examined for the presence or absence of historic era artifacts and features.

Field Methods and Procedures

The fieldwork included a pedestrian reconnaissance, which covered both areas slated for construction and those beyond the proposed impacts. Such a pedestrian survey looks for surface evidence of historic or prehistoric cultural resources, as well as areas of steep slope. Much of the project area was evaluated as having the potential for containing prehistoric sites. Regular interval shovel testing examined the areas evaluated as having site potential.

The areas of potential effect at Maplewood Village At Goshen were divided into 8 areas, defined as Grids, to facilitate testing (Figure 17). The Phase 1B survey looked for anomalies and artifacts exposed on the surface. This included soils exposed in trails, tree falls, rodent burrows and eroded areas. For simplicity and accuracy in mapping, grids were established in feet. "Grid North" was usually oriented to be at a right angle to Colman Road or Craigsville Road.

Shovel Tests (ST) measured about 30 centimeters on a side. Depths were recorded in centimeters. Soil textures were determined using a flow chart diagram. Soil colors were determined with the aid of a Munsell Soil Color Chart. Shovel test soil descriptions are included in the Field Summary (Appendix 1). Recovered artifacts are listed in the Artifact Inventory (Appendix 2). All shovel test material was screened through ¼- inch mesh hardware cloth. All excavations were promptly refilled.

Some shovel tests which produced artifacts became the center of additional excavations, intended to determine the potential significance of the finds. Eight additional radial tests were dug around these positive shovel tests. These tests were placed in the cardinal directions, at 3 feet and 10 feet distant from the positive test.

The format for numbering artifacts from the Maplewood Village at Goshen project is SITE ABBREVIATION-xxxx.xx, where the Site abbreviation (MVG) is followed by the xxxx.xx, which represents the Context Number. The two digits to the right of the decimal are used only as needed to refer to strata within a context. The four digits to the left of the decimal point are the base code. The four digits numeric base code is divided into two parts; the first digit and the last three. The first digit of the base code indicates the type of field investigation used. The codes are as follows:

1. unprovenienced surface collection
2. provenienced surface collection
3. shovel test
4. not used

5. excavation units
6. feature excavation

The three digits which follow the technique code are unique for each location and are assigned sequentially. Decimal subdivisions may be used for techniques three, five and six to indicate specific strata. For example, 3001.02 refers to shovel test (3) number 1 (001), layer 2 (.02).

Results

The areas of potential effect were divided into 8 distinct areas (Grids 1 through 8), in order to facilitate Phase 1B shovel testing (Figure 17).

Grid 1

Grid 1, located in the northeast corner of the Maplewood Village at Goshen project area, is the largest grid in the survey. Colman Road is to the north and east, a residence and the Orange County Veterans Cemetery are to the south, and wetlands and slopes are to the west. Elevations range from 475 feet (144m) in the northeast to 400 feet (121m) on the west (Figures 17 and 18, Attachment 1, Photograph 1). There are 11 house lots, associated roadways, and stormwater management ponds proposed for this area (Attachment 2).

A total of 284 regular interval shovel tests, in a 50-foot grid, were initially completed in Grid 1 (ST1 to ST284). The only Precontact find among the regular interval shovel tests was a grey chert flake from the plowzone of ST198 (Context 3198.01).

ST198 (N950E600)

Depth	Soil type	Color	Artifacts	Interpretations
0-19cm	Clay Loam	Brown	1 gray chert flake	A
-44cm	Clay Loam	Yellowish Brown	NCM	B

Note: NCM=No Cultural Material

Supplemental tests were dug at 3 and 10 feet from ST198, in the four cardinal directions (ST611 – ST618). The only finds were two pieces of clear bottle glass in the top stratum of ST614.

A nail in ST140 was the only historic find in the regular interval shovel tests in Grid 1.

ST140 (N600E1200)

Depth	Soil type	Color	Artifacts	Interpretations
0-18cm	Loam	Dark Brown	1 nail*	A
-40cm	Clay Loam	Yellowish Brown	NCM	B

Note: NCM=No Cultural Material, * = discarded

Eight additional tests, centered on ST 140, failed to produce artifacts or features (ST619 – ST626).

The profiles above represent the most common profiles in Grid 1. Another common profile was composed entirely of loam, like ST 188:

ST188 (N500E1400)

Depth	Soil type	Color	Artifacts	Interpretations
0-30cm	Loam	Brown	NCM	A
-51cm	Loam	Yellowish Brown	NCM	B

All the Grid 1 profiles had two strata. The topsoil was usually brown or dark brown; a few were dark yellowish brown or very dark grayish brown. In some profiles the topsoil was silty loam, gravelly loam or clay loam. Thickness of the top stratum ranged from 13 to 46cm. The subsoil was usually yellowish brown; occasionally it was pale brown or light yellowish brown. Various textures were present in Grid 1. Usually the subsoil was Clay loam or

loam, on occasions it was gravelly loam, gravelly clay loam, sandy loam, loamy clay, silty clay loam, silty clay and gravelly clay loam. Water was encountered in 15 tests, mostly near the center of the grid. Rock was hit in 7 tests, mostly in the northeast, near Colman Road. Total depth of the tests in Grid 1 ranged from only 4cm (in a water-filled hole) to 51cm. Most were between 35 and 45cm deep.

Grid 2

Grid 2 is near the center of the north end of the Maplewood Village at Goshen property. This lobe of high ground measured about 250 feet (76m) on each side. Coleman Road was on the north, wetlands were on the east and west, and a stream was the southern boundary. Two single-family homes and associated drives are proposed for this area (Attachment 2). Elevations range from a low of about 385 feet near the wetlands on the east, up to 400 feet in the northwest. A total of 25 shovel tests were completed in Grid 2 (ST284-309)(Figures 17 and 19, Attachment 1).

All the shovel tests in Grid 2 had two strata, except ST304, which encountered bedrock at 30cm. The most common profile consisted of brown loam topsoil over yellowish brown clay loam subsoil, like ST286.

ST286 (N900E1000)

Depth	Soil type	Color	Artifacts	Interpretations
0-30cm	Loam	Brown	NCM	A
-50cm	Clay Loam	Yellowish Brown	NCM	B

In a few tests, the topsoil was clay loam. In a few others, the subsoil was loam. Depth of the topsoil ranged from 14 to 30cm. In a few tests the topsoil was dark brown or very dark grayish brown. Total depth of the Grid 2 shovel tests ranged from 34 to 56cm. None of the shovel tests in Grid 2 produced artifacts.

Grid 3

Grid 3 was a block of high ground on the south side of Coleman Road, in the northwest part of the Maplewood Village at Goshen property. The area examined measured about 400 feet (121m) along the road (east-west) and was up to 150 feet (45m) deep. Wetlands and Grid 2 are to the east, wetlands and Grid 4 are to the west, and wetlands are to the south. Two single-family homes are proposed for this grid. There were 19 shovel tests completed in Grid 3 (ST310-329) (Figures 17 and 20). Figure 20 shows the recently installed drive to a new well.

The only find in Grid 3 was a nail from the top stratum of ST314, near Colman Road.

ST314 (N975E650)

Depth	Soil type	Color	Artifacts	Interpretations
0-30cm	Clay Loam	Brown	1 nail	A
-36cm	Clay Loam	Yellowish Brown	NCM	B
36cm+	Rock			

An additional 8 shovel tests were excavated; they clustered around ST314 (ST627 – ST634). None produced artifacts or features.

The regular interval tests usually had topsoil that was clay loam, a few had loam and one was clay. Subsoil was usually clay loam, occasionally loamy clay or clay. Two tests, including ST314 encountered rock. Water was encountered in 3 others.

Grid 4

Grid 4 is in the northwest corner of the Maplewood Village at Goshen property. Coleman Road is to the north, wetlands and Grid 3 are to the east, streams and Grid 5 are to the south, and a drainage area and the Village line are to the west. One single family home and a driveway/emergency access drive will be built in this grid. There were 11 shovel tests completed in Grid 4 (ST330-340) (Figures 17 and 20, Photograph 2). The area examined was about 150 feet on each side. The eastern part of Grid 4 sloped down to the wetlands.

The most common profile in Grid 4 consisted of two strata of clay loam, like ST337.

ST337 (N925E450)

Depth	Soil type	Color	Artifacts	Interpretations
0-16cm	Clay Loam	Brown	NCM	A
-37cm	Clay Loam	Yellowish Brown	NCM	B

In a few cases, the top stratum was channery loam, loam, or sandy loam. Colors were brown, dark grayish brown or very dark grayish brown. Subsoil was usually clay loam, occasionally channery loam, loamy clay, clay or sand. Two tests hit water. A unique profile for Grid 4, with three strata, was recorded for ST330.

ST330 (N1000E300)

Depth	Soil type	Color	Artifacts	Interpretations
0-30cm	Sandy Loam	Brown	NCM	A
-50cm	Sand	V. Dark Grayish Brown	NCM	B
-70cm	Clay	Black	NCM	B

At the base of the slope was a rectangular stone feature. The opening of the feature was 3 feet by 3.5 feet (0.9m by 1.05m), while the outside was 6 feet (1.8m). There was standing water at 6 inches (0.15m) below the top of the feature. Organic matter and soil was present below the water. A probe encountered what was probably a stone bottom at 3.5 feet (1.1m) below the top of the feature, or about 3 feet (0.9m) below the top of the water (Photograph 3, Figure 20).

Grid 5

Grid 5 covers a large area in the south and west side of the project area. It is bounded on the north by Grid 4, on the east by wetlands, on the south by Craigville Road, and on the west by the Village line/property line. It extends up to 600 feet (182m) east-west, and is about 1,000 feet (303m) deep. Potential construction impacts could come from housing, roadways, ponds and paths (Attachment 2). There were 218 shovel tests completed in Grid 5 (ST341 - ST400 and ST635 – ST792) (Figures 17 and 21, Attachment 1).

There are the ruins of a very long building straddling the property line in the northwest corner of the property. A surveyor's map shows the ruins in relation to the property line, which doubles as the Town/Village line (Figure 22). The building ruins are about 166 feet (50.3m) long. There are two major segments. The north section is 31 feet (9.4m) wide; while visible ruins extend for 50 feet (15.1m) from the north end, the total length of the segment is estimated at 105 feet. The north end has a concrete and stone foundation, up to 3 feet (0.9m) high (Photograph 4). It is topped with vertical iron rods, some complete with nuts. There is an east-west running interior wall about 7.5 feet (2.3m) south of the north wall. The southern section is set back several feet to the west. It is 30 feet (9.1m) wide and 61 feet (18.5m) long. The foundation is built of concrete and stone and is about 1.5 feet (0.45m) high. Within the west end is a 10 foot wide concrete slab running about 60 feet (18.2m), the length of the southern section. Two smaller concrete slabs, are present in the east side, the larger measuring 12 feet (3.6m) by 27 feet (8.2m). The slabs likely demarcate the stabling area for horses or cows. They would be kept on either side, with a central drain running the length of the building. There is a concrete entrance ramp on the south side of the building. Within the northern part of the building ruins are metal shelves, metal pipes that could have been animal stanchions, terra cotta, red brick, and cut bone. The central part of the long building is fairly flat; few foundation remains were visible. Surface material there includes electrical boxes.

ST714 was excavated near the center of the building, where the strata were relatively thick. Finds in the top stratum included coal, wood, a screw, nail fragment, and fragments of terra cotta.

ST714 (N950W100)

Depth	Soil type	Color	Artifacts	Interpretations
0-14cm	Loam	V. Dark Grayish Brown	Coal*, wood*, screw, etc.	Fill
-35cm	Loam	V. Dark Gray	NCM	Fill
-56cm	Channery loam	Grayish Brown	NCM	A?

Note: NCM=No Cultural Material *=Discarded

Located in the southeast, the profile of ST 713 was thinner. Artifacts in the stony loam stratum included glass, a band of lead, and nails.

ST713 (N900W50)

Depth	Soil type	Color	Artifacts	Interpretations
0-30cm	Stony loam	Brown	glass, nails, etc.	Fill
30+cm	Bedrock			

The test to the north, ST712 produced glass and whiteware. ST716 finds included a nail and window glass. Near the stream to the east, ST717 produced window glass.

Artifacts were found in tests that were in and near the ruins, and in the areas to the south and east. A nail with plaster was found in ST689. A variety of artifacts including bone, shell, glass and brick were retrieved from ST699. More than 100 feet to the east of the building ruins, nails and glass came from ST708. All the artifacts came from the top stratum, except they came from the second stratum in ST699 and ST712.

The concrete slab located to the east of the large ruin has a well casing adjacent to it. The pad measures 12 feet (3.6m) by 24.5 feet (7.4m)(Figure 22).

There is a substantial amount of cultural debris in the area immediately east of the concrete pad foundation. It includes an auto wheel and tire from the 1920s, concrete slabs, cinder block, metal pipes, architectural metal including a door sill plate, trash can "PUSH" top, and machinery. Nearby are large, hollow, structural concrete block, metal drums, and many clear glass votive candle holders.

Artifacts were present in shovel tests near the large ruin, as well as areas to the east. There is an east-west road running through the north end of Grid 5. Some of the shovel tests with glass and other modern artifacts east of the buildings may be the result of casual disposal of trash along this trail. These include ST726 ("7 UP" bottle glass), ST754 (container glass and wire), ST757 (ceramic tile), ST760 (container glass) and ST765.

In almost all of the Grid 5 Shovel Tests, two strata were present. Exceptions include the 26 tests, all in the southern half, where water was encountered. Shale bedrock was achieved in 6 of the ST's. The top stratum was usually loam, clay loam or loamy clay. The loam and clay loam topsoils typically overlay a subsoil of clay loam. The loamy clay usually sat atop clay subsoil. Other, less common profiles included silty clay loam over clay, clay loam over loam, silty clay loam over clay loam, loam over channery clay, and silty clay over clay.

One of the most common profiles was that of ST89.

ST689 (N750E0)

Depth	Soil type	Color	Artifacts	Interpretations
0-30cm	Loam	Brown	nail	A
-50cm	Clay loam	Yellowish brown	NCM	B

Equally common was the profile of ST350

ST350 (N50E150)

Depth	Soil type	Color	Artifacts	Interpretations
0-20cm	Clay loam	Very DK. Grayish Brown	NCM	A
-40cm	Clay loam	Brown	NCM	B

Grid 6

Grid 6 covers a large area in the south-central part of the Maplewood Village at Goshen. Wetlands and Grid 2 are to the north, extensive wetlands are to the east, Craigville Road is to the south, and the property line/Village line is to the west. It is around 700 feet (212m) wide (east-west) by up to 1,000 (303m) feet deep. Potential impacts are stated in the form of housing, roads, parking and commercial development (Attachment 2). Figure 23 shows a gravel drive to a well in the west side of Grid 6. There were 193 Phase 1 shovel tests in Grid 6 (ST401-593) (Figures 17 and 23, Photograph 5). Most of these were at regular intervals of 50 feet. One line of tests were placed at an angle to the site grid, in order to most effectively test a ridge of high ground on the east side of Grid 6, and the flat area to the west of the ridge (ST535 – ST552). The tests on the ridge (ST535 – ST544) were generally shallow and all but one hit bedrock. The profile of ST539 had a typical profile for the ridge tests; it also held the only artifact from Grid 6 STs, a piece of flat glass.

ST539

Depth	Soil type	Color	Artifacts	Interpretations
0-10cm	Loam	Very dark grayish brown	1 glass	A
-24cm	Grav. Clay Loam	Yellowish Brown	NCM	B
24+	Bedrock			

On the west side of the ridge, the tests (ST545 to ST552) had slightly deeper profiles, like ST547.

ST547

Depth	Soil type	Color	Artifacts	Interpretations
0-19cm	Loam	Dark Brown	NCM	A
-40cm	Clay Loam	Yellowish Brown	NCM	B

A row of four sawed off utility poles were identified on the west side of the ridge ("P"s on Figure 23). The poles are 200 feet, 250 feet and 300 feet apart. A glass electrical insulator fragment was surface collected next to one of the poles ("2001" on Figure 23).

In the remainder of Grid 6, the most common profile consisted of two strata; loam overlies clay loam, like ST525 (Appendix 1).

ST525 (N540E850)

Depth	Soil type	Color	Artifacts	Interpretations
0-13cm	Clay Loam	Brown	NCM	A
-35cm	Clay Loam	Yellowish Brown	NCM	B

Other common profiles consisted of two strata of clay loam, like ST490.

ST490 (N340E600)

Depth	Soil type	Color	Artifacts	Interpretations
0-32cm	Loam	Brown	NCM	A
-52cm	Clay Loam	Yellowish Brown	NCM	B

In several tests, the top stratum was gravelly loam. Colors in this plowzone ranged from dark yellowish brown to brown, dark brown and very dark grayish brown. The second stratum, or subsoil, was almost always yellowish brown; a few holes had brown subsoil. Other textures present in the Grid 6 subsoil included gravelly loam, gravelly clay loam and clay. Nine of the tests reached bedrock; another 3 were impeded by water.

Grid 7

Grid 7 was located in the southeast part of the project area. Wetlands and Grid 1 were to the north, the Veterans Cemetery was to the east, Craigville Road lay to the south, and wetlands and Grid 6 were to the west. Grid 7 extends up to 800 feet (242m) from the road (north-south) and is up to 400 feet (121m) wide. The area is surrounded by wetlands and streams (Figures 17 and 24). Stated impacts to Grid 7 could come from a commercial building, parking, trails and a sewage treatment plant (Attachment 2). Seventeen shovel tests were completed within Grid 7 (ST594 – ST610)(Figure 24). Conditions varied considerably from south to north. Two lobes of high ground

and a gently sloping hillside were tested. No artifacts were found in any Grid 7 test. There is a large outcrop of shale near Craigville Road. The first eight shovel tests were dug here. The first five of those, including ST595, were near the outcrop and were shallow and full of shale bits, or channery.

ST595 N90E75

Depth	Soil type	Color	Artifacts	Interpretations
0-16cm	Channery Loam	Brown	NCM	A
-26cm	Clay Loam	Yellowish Brown	NCM	B

The other three tests on the south end of Grid 7 were near wetlands east of and below the outcrop. They had deeper profiles, without channery. None of these tests had cultural material. The next five shovel tests examined the west side of the next elevated lobe (ST602 – ST606). The tests on the ends had shallow, channery profiles, like that of ST595. Others had profiles of loam or clay loam. One test had an unusual profile.

ST603 N290E100

Depth	Soil type	Color	Artifacts	Interpretations
0-20cm	Clay Loam	Dark Grayish Brown	NCM	A
-40cm	Clay Loam	Pale Brown	NCM	B

The final place tested in Grid 7 was the hillside on the east side of the drainage. Four shovel tests were dug here (ST607 – ST610). All had shallow, wet profiles of clay loam.

ST609

Depth	Soil type	Color	Artifacts	Interpretations
0-30cm	Clay Loam	Light yellowish Brown	NCM	A
30+	Water			

There is a gravel dam at a right angle to the stream, just east ST606. More information about the dam is included in a section to follow (Figure 24).

Grid 8

Grid 8 is located along the south side of Coleman Road, on the west side of Grid 1. Haight's Pond Dam is to the southwest. An elevated drive leads through the center of the area, from Colman Road to a running wellhead near the dam. Grid 8 covers an area of about 250 feet (east-west) by 200 feet. Three rows of 5 shovel tests were used to test the area (ST793 – ST807)(Photograph 6). The west end of the proposed sewer treatment plant will be built in wetlands, which were not tested (Lane & Tully 2006b; Attachment 2, Figures 17 and 25).

Soils varied considerably within Grid 8. Those on the east were relatively loamy, like those described for Grid 1, and like ST793.

ST793 N1000E150

Depth	Soil type	Color	Artifacts	Interpretations
0-30cm	Loam	Brown	NCM	A
30-55	Clay loam	Yellowish brown	NCM	B

Tests near the drive to the wellhead were disturbed, like ST795.

ST795 N1000E50

Depth	Soil type	Color	Artifacts	Interpretations
0-22cm	Loamy clay	Brown	NCM	Fill?
22-44	Clay	Brown	NCM	Fill?

Tests on the west end were shallower. Two ended when water was encountered. No artifacts were found in any Grid 8 tests.

Haight's Pond

The Haight's Pond and dam is located between Grids 1, 6, 7, and 8 (Figures 17 and 26, Photograph 7). The main dam is located approximately 350 feet (106m) south of Colman Road. Total length of the concrete dam is about 90 feet (27m). The central spillway is also of concrete with a rectangular gate box ("Spillway" on Figure 26, Photographs 8 and 9). It has been extensively undercut by erosion. The box measures 4.5 feet (1.4m) by 5 feet (1.5m) on the outside and 2 feet (0.6m) by 3 feet (0.9m). The concrete section of the dam appears complete. Stream B has eroded around the west end of the concrete section of the dam (Photograph 10). Along the eroded area, an earlier, stone dam is exposed in the profile ("Stone Dam Ruins" on Figure 26).

There is a raised earthen berm that forms the eastern side of the dam. The intact section, including the concrete dam, is about 280 feet (85m) long. Before the dam was breached, it was about 320 feet long (97m). The top of the concrete dam has a top elevation of about 388 feet. The pond was probably about 8 feet (2.4m) deep before sediment accumulated (Figure 26). There is a lobe of flat, high ground projecting from the west shore. This was probably once the swimming beach and skating headquarters. It is connected by a driveway to Craigville Road. There were a series of utility poles that lead to the pond. An informant tells us that in the 1930s, this local swimming hole had electricity and a changing room (Bill Finian, personal communication, April, 2007).

On the south side of Haight's Pond is a small earthen check dam. It has a top elevation of about 390 feet. It presumably helped maintain the water level in the pond (Figure 26).

LABORATORY METHODS AND ANALYSIS

Cultural material from these investigations was transported to BTK facilities, where they were divided by materials and cleaned. Glass, ceramics, and the lithic flakes were washed. Nails, other metal artifacts and shell were dry brushed. All artifacts were then sorted and inventoried (Appendix 2). They were rebagged.

A single chert flake was the lone find from the Precontact period. A glass insulator fragment relates to an abandoned electric line. The other Historic era artifacts include corroded iron nails, a screw, terra cotta and other construction related materials. Some of this material, along with some of the container glass could date to the 19th Century. Other bottle glass is of much more recent vintage.

CONCLUSIONS AND RECOMMENDATIONS

Historical research indicates that the property was in the possession of the Carpenter family by 1800. It passed through the family to Mary Ellen Haight, who inherited a 183 acre homestead, *Napknoll*. Mary Ellen and her husband, wealthy New York merchant David Haight created a park-like estate with an artificial lake (Haight's Pond), trails and outbuildings. Around 1901, the large parcel, including the project area, was owned by New York City Police official John McCullagh and his wife, who called it *Low Wood Park*. In 1905 the property was acquired by Grant Hugh Browne. He renamed the estate *Brownleigh Park*, and added a horse track, remodeled a horse show ring into a prizefighting arena and made other improvements. In 1925 the property was acquired by the Catholic Salesian Fathers, who converted it into a residential school. In 1938, the arena and a two-story, 120-foot long stable/carriage house burned.

Background research reached a conclusion that much of the project area had sensitivity for both Precontact and Historic-era cultural resources. The project area was divided into 8 Grids for the Phase 1B archaeological survey. In Grid 1, a Precontact flake was found in a shovel test. Supplemental tests did not produce any artifacts or features. Also in Grid 1, a nail was found in a shovel test. Supplemental tests did not produce any more finds. These two find spots are not considered potentially significant. No artifacts or features were encountered in Grid 2. A nail was found in one Grid 3 test. Supplemental tests did not produce any finds; this location is not considered potentially significant.

In Grid 4, a subterranean historic stone feature was mapped at the base of the slope. This rectangular stone enclosure may be a milk house or well. This feature should be preserved within the landscaping of the proposed house. Prior to construction, it should be surrounded by protective fencing. If preservation in place of this feature is not possible, a Phase 2 investigation in Grid 4 is recommended.

In the west side of Grid 5, the ruins of a very long building are bisected by the property/Village line. This was likely a carriage house/stable constructed by sportsman Grant Hugh Browne. It also may have been the original building used as a school by the Salesians. The carriage house burned in 1939, the same night as a huge gymnasium, which was not in the project area. A Phase 2 historical and archaeological investigation of the features and deposits in Grid 5 is recommended. A survey of these ruins could be complicated by the fact that approximately half of the ruins of a large building are on Village of Goshen property and outside the project area. It is suggested that any further investigations of the ruins in Grid 5 should be carried out following consultations with the Village of Goshen and the Town/Village Historian. The proposed investigations would include historic research including attempts at compiling oral histories from local respondents. Fieldwork would commence with clearing and drawing the ruins. These investigations would be followed by selective archaeological excavations.

No sites were found and no further investigations are recommended for Grids 6, 7, and 8.

A line of sawed-off utility poles and a glass insulator were found on the east side of Grid 6. The old utility line ran from Craigsville Road to Haight's Pond. There was also a driveway from the road to the pond. The existing Haight's Pond Dam is built of concrete. Directly downstream are the remnants of an earlier stone dam. On the upstream side of the pond is a small earthen check dam. As no impacts are planned for this area no further work is recommended. Should impacts be planned additional investigations of the Haight's Pond location are recommended to assess their potential effects on the historic features associated with Haight's Pond. Careful clearing of trees from the earthen dam and spillway area will likely be needed to preserve, protect and interpret this historic feature. Archaeological input is recommended prior to any work in the vicinity of the dam to assess the effect of the proposed work on the resource should future impacts be proposed.

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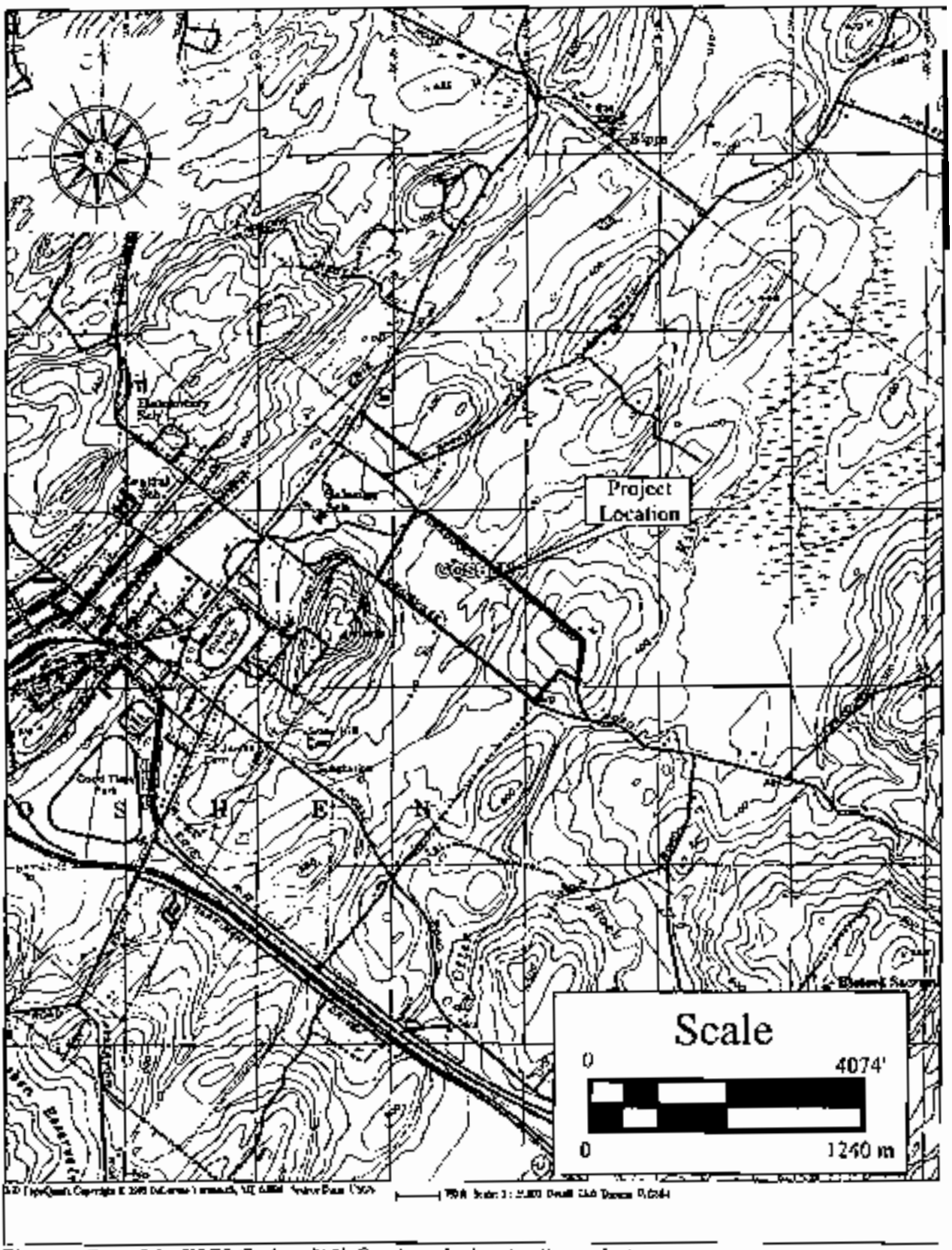


Figure 1: Part of the USGS Goshen, N.Y. Quadrangle showing the project area

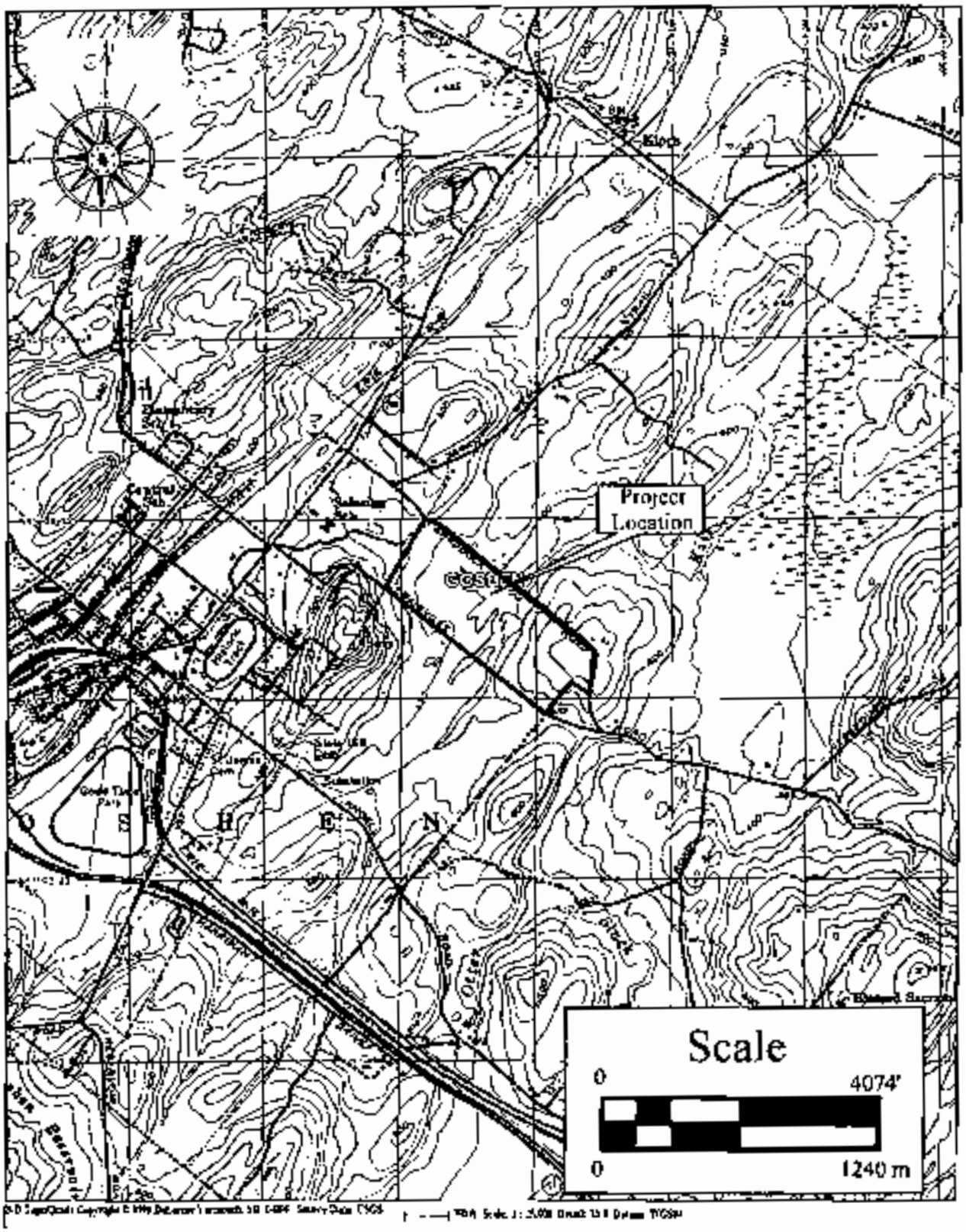


Figure 1: Part of the USGS Goshen, N.Y. Quadrangle showing the project area

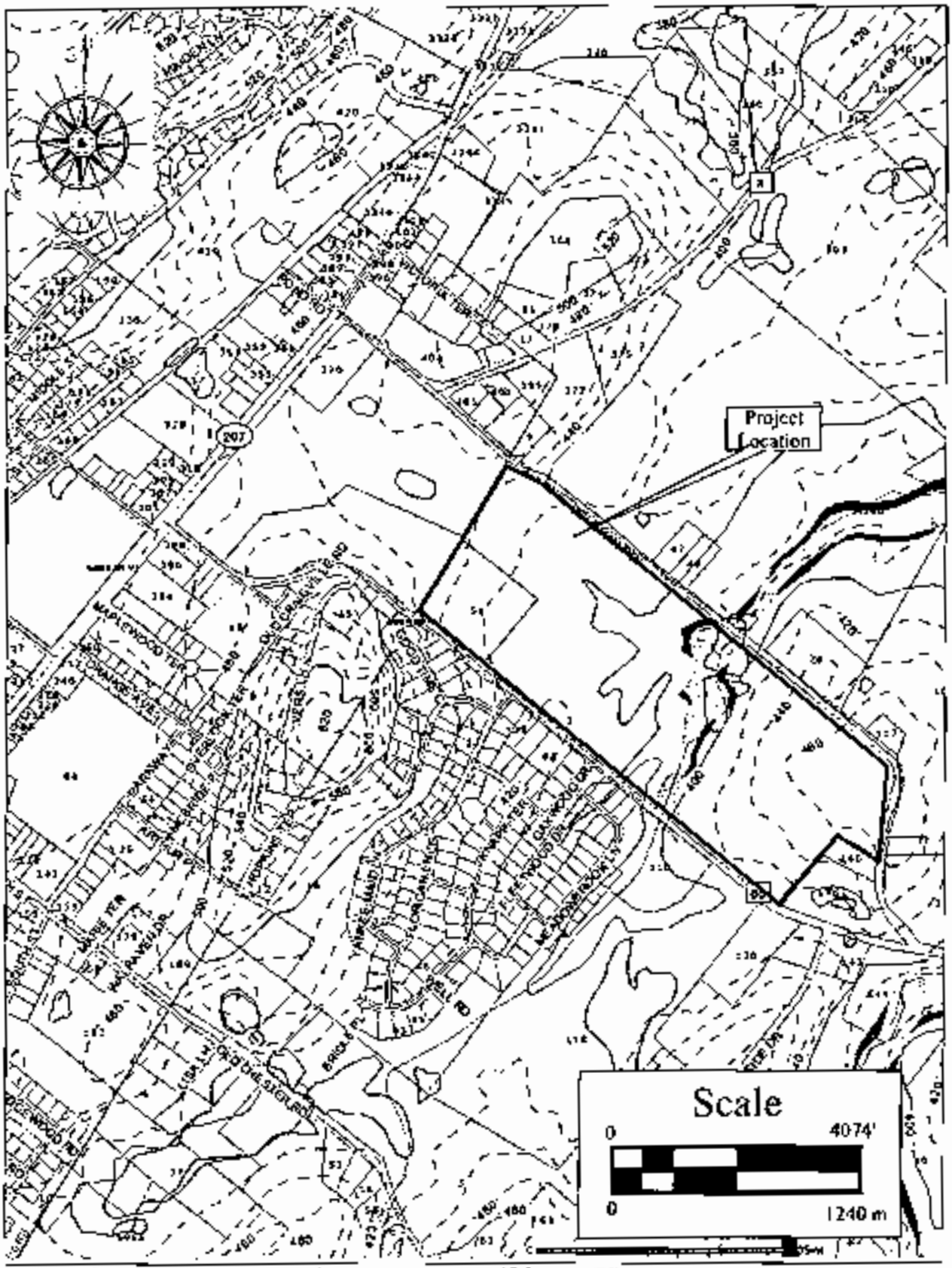


Figure 2: Orange County Water Authority property map (OCWA 2006)

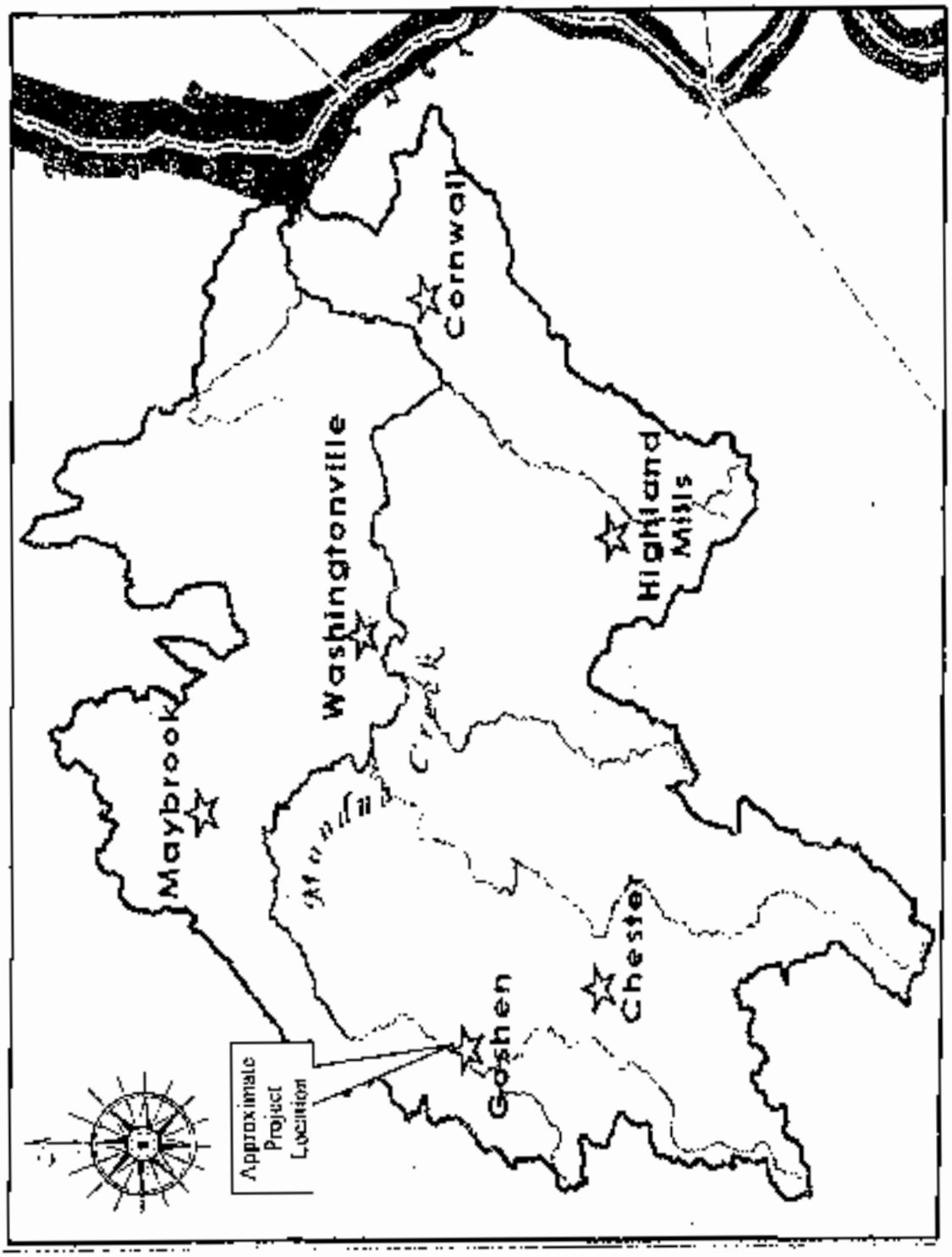


Figure 3: Map of the Moodna Creek drainage (Gruber 2006)

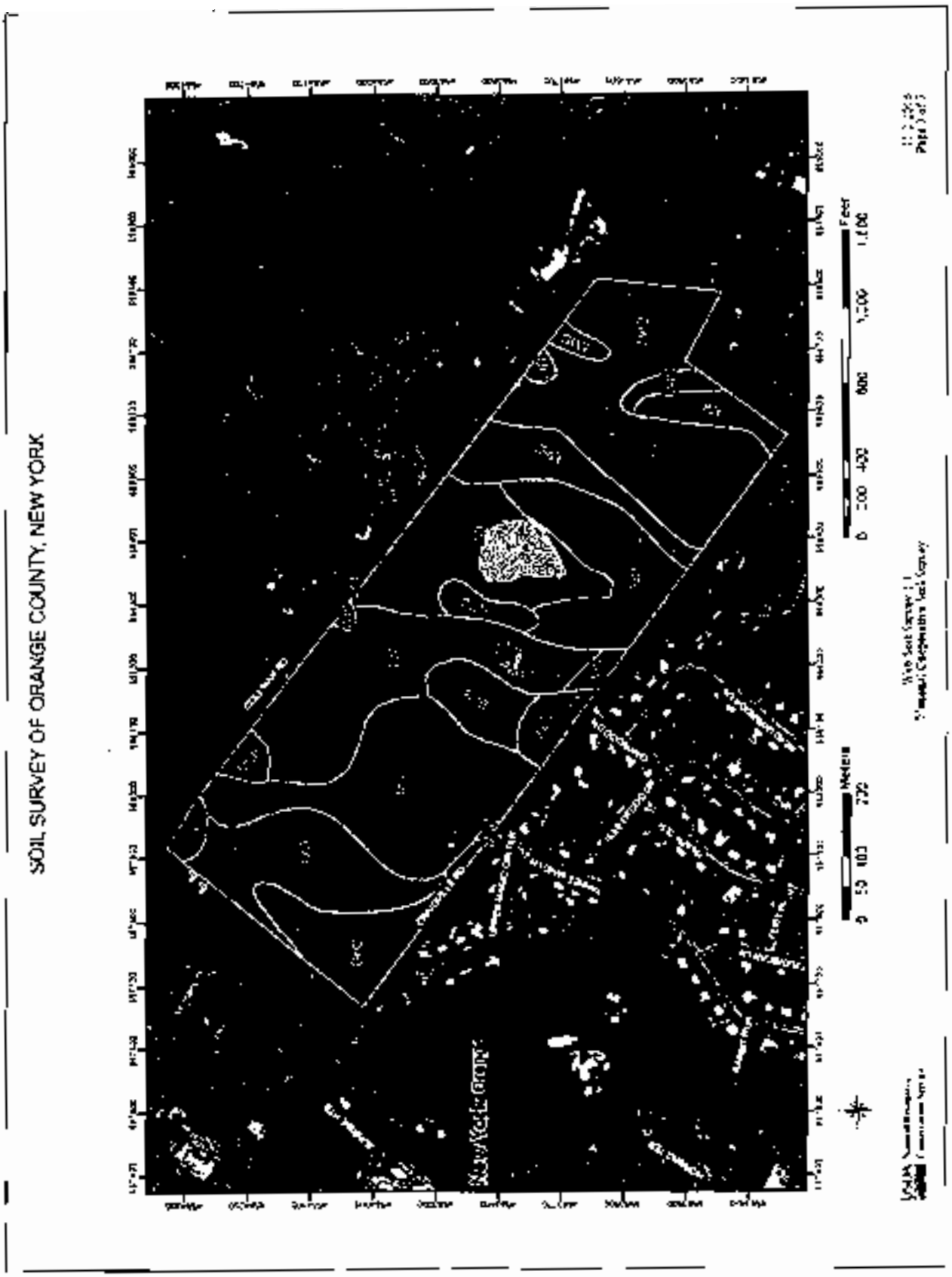


Figure 4: Soils Map (Soil Survey Staff 2006)

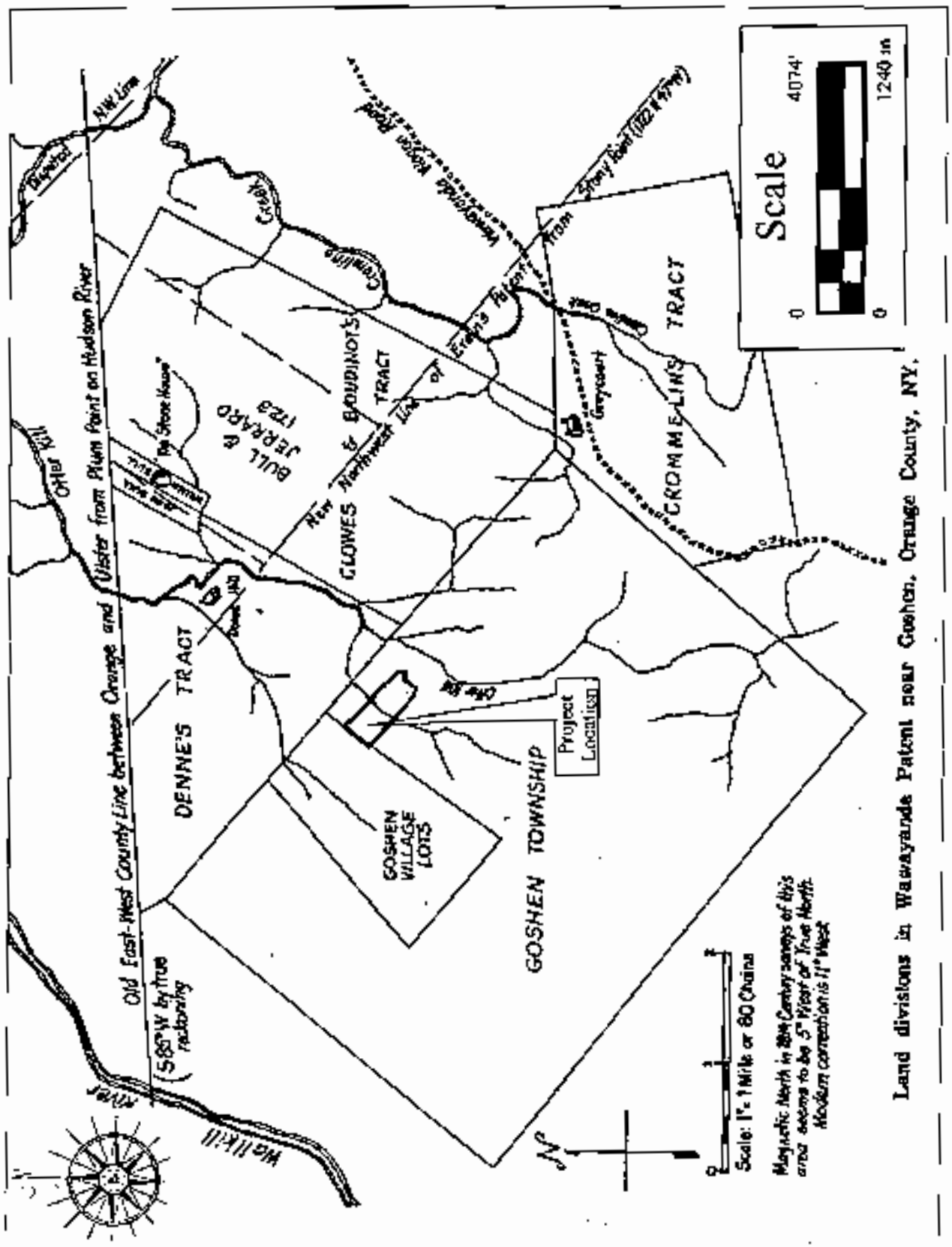


Figure 5: Land divisions of the Wawayanda Patent

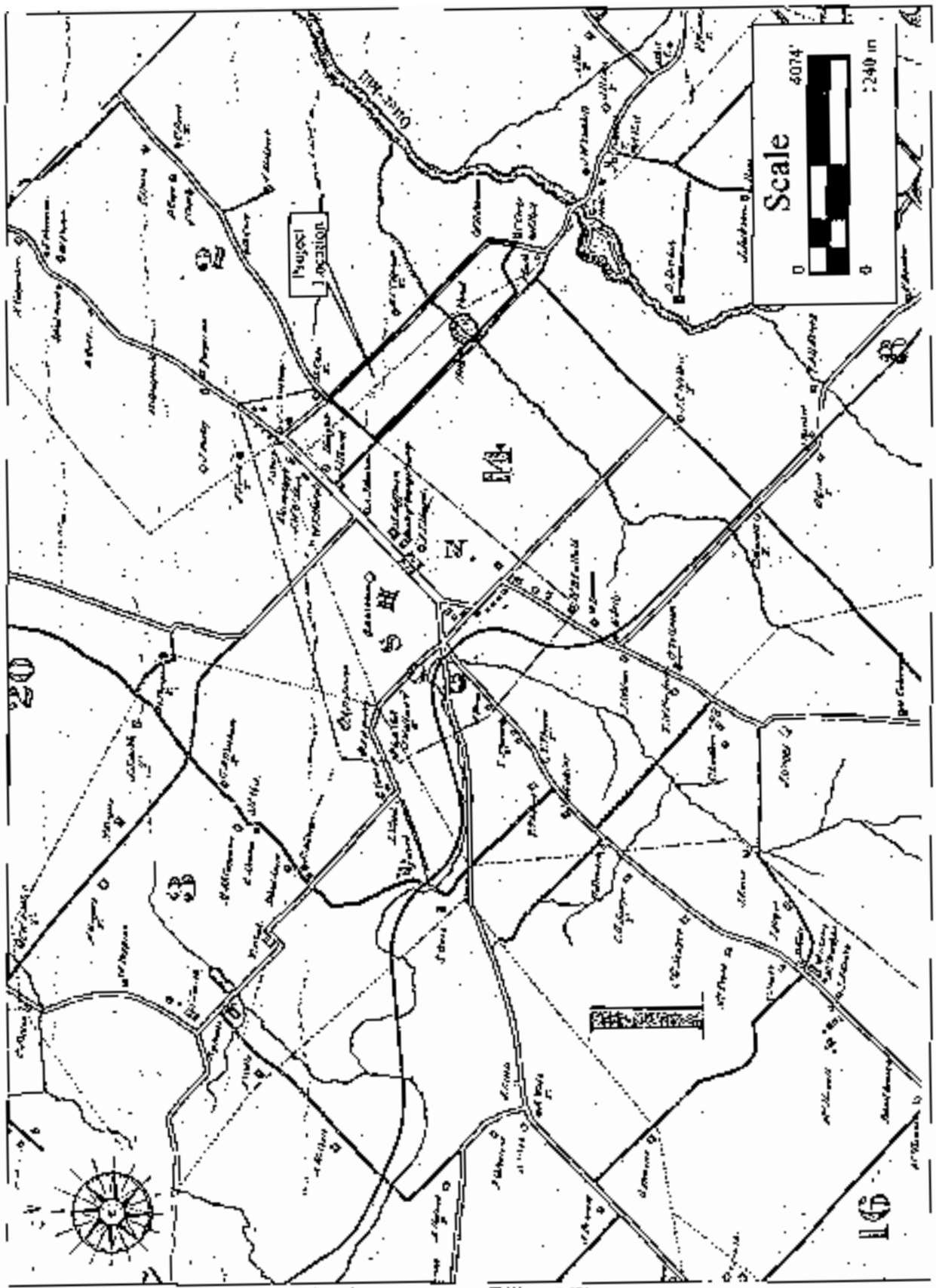


Figure 6: Part of an 1843 map showing the project area (Elliot 1843)

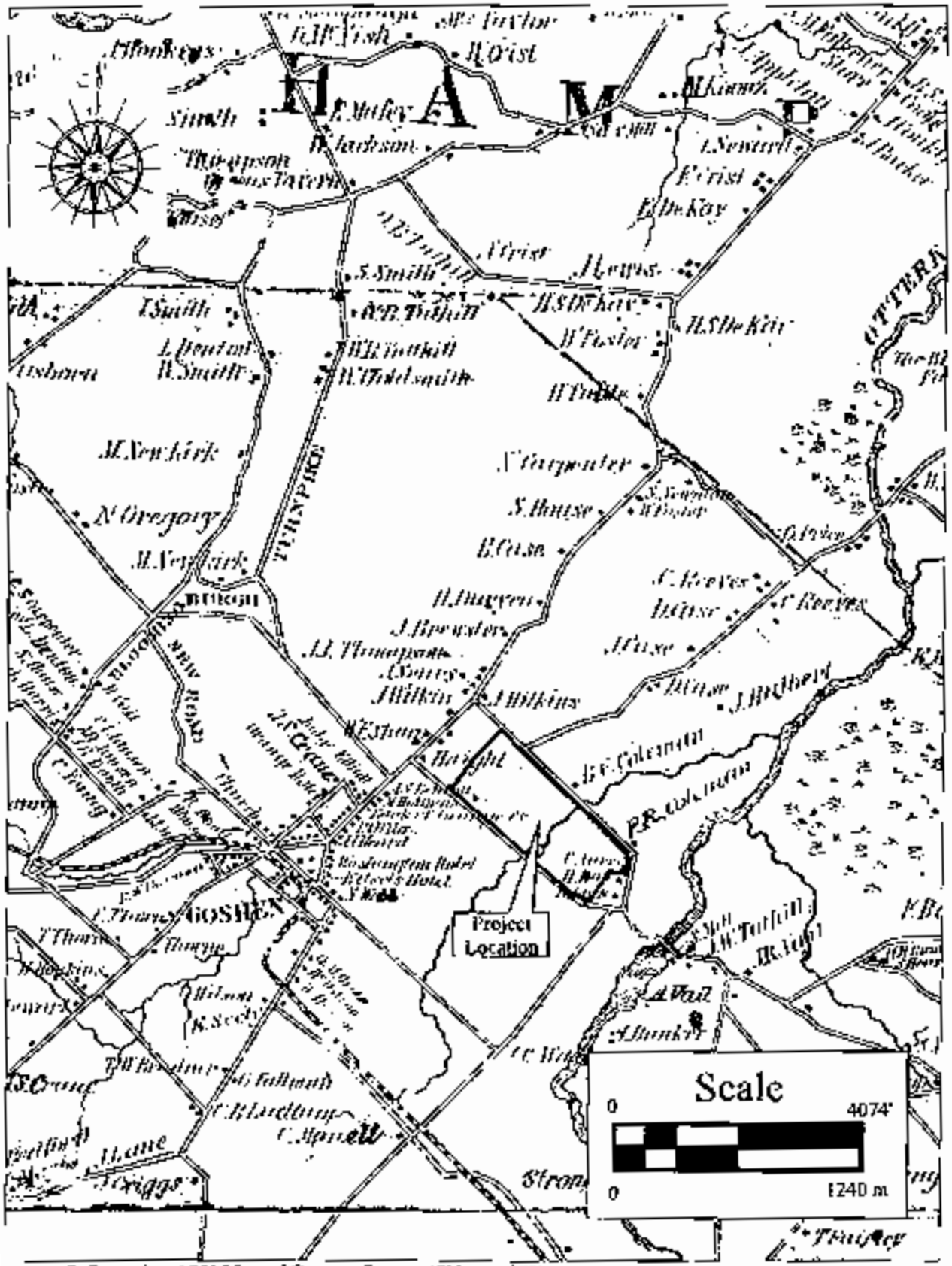


Figure 7: Part of an 1850 Map of Orange County (Sidney 1850)

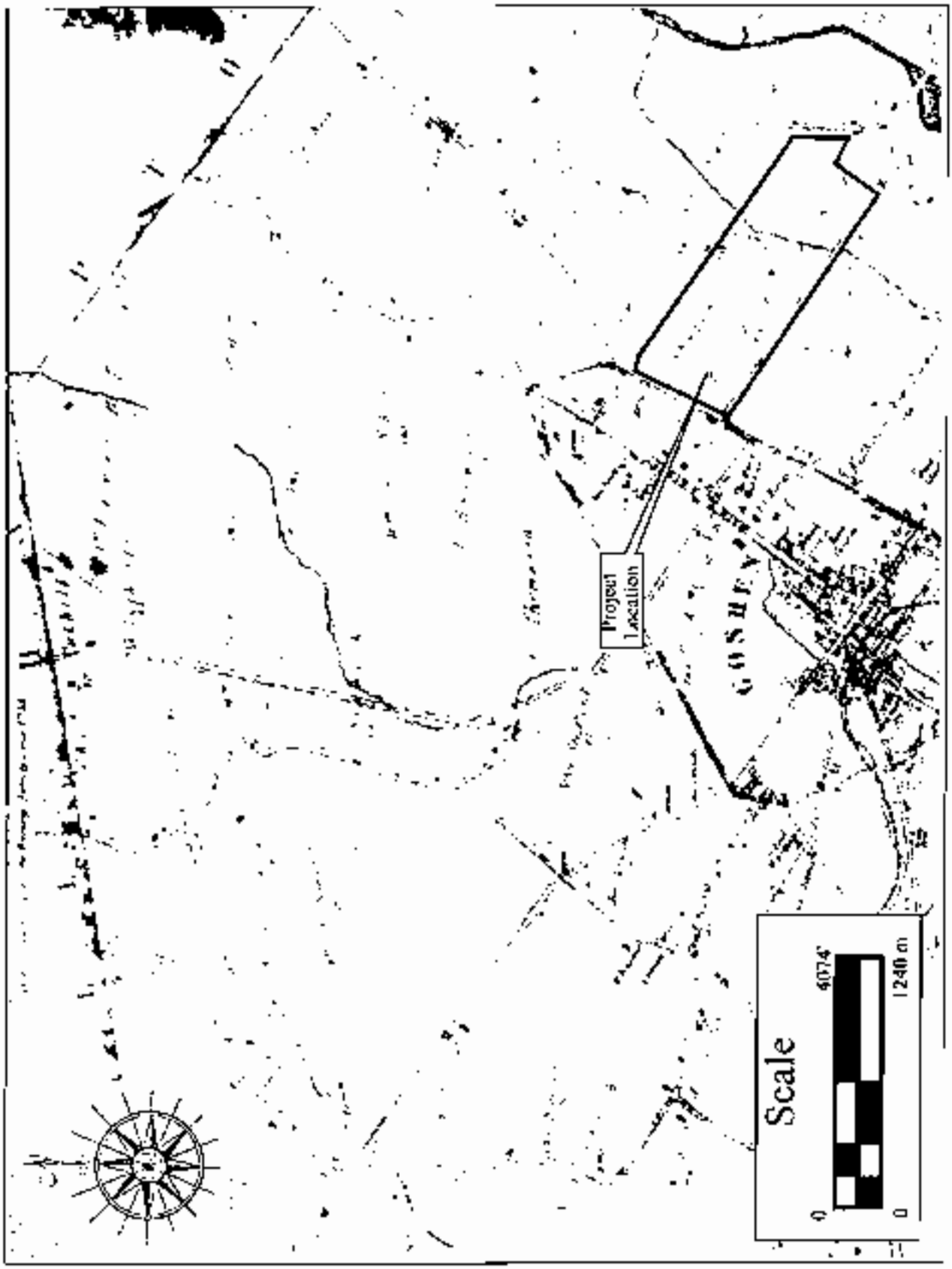


Figure 8: Part of an 1861 Farm Map of Orange County (Hughes 1861)

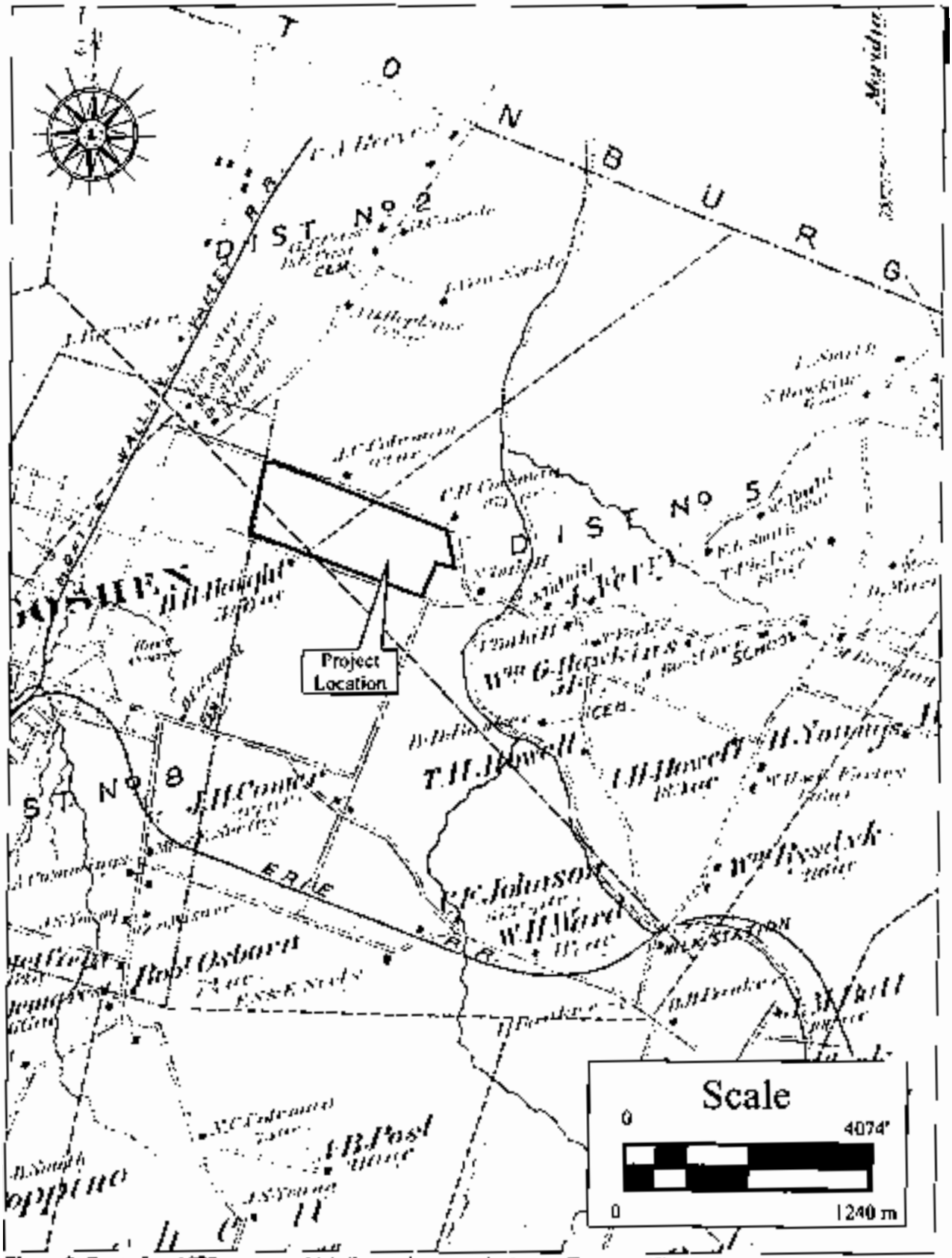


Figure 9: Part of an 1875 map on which the project area is shown (Beers 1875)

Figure 10: Haight Family Estate circa 1874 (from Murphy n.d.)

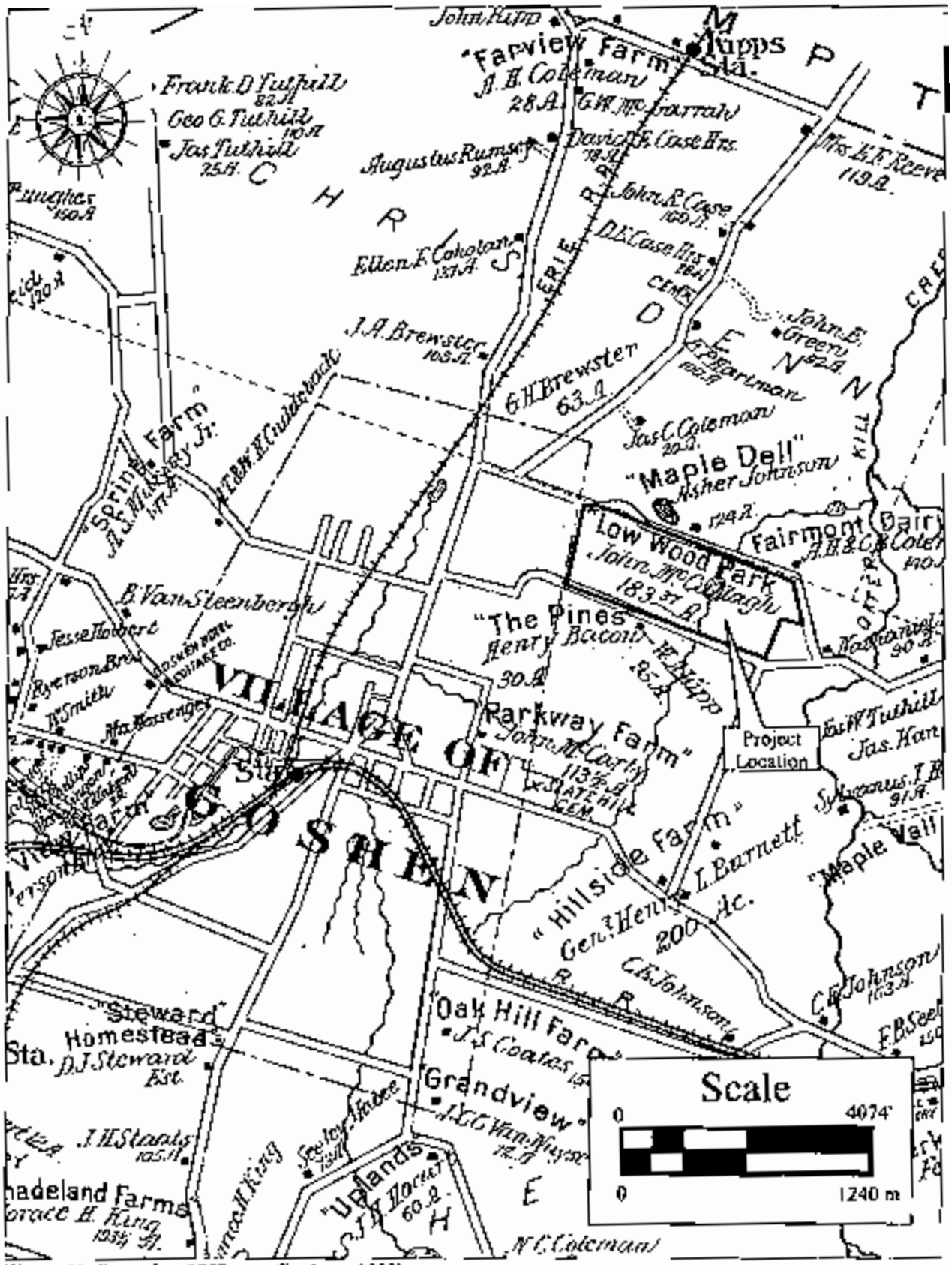


Figure 11: Part of an 1903 map (Lathrop 1903)

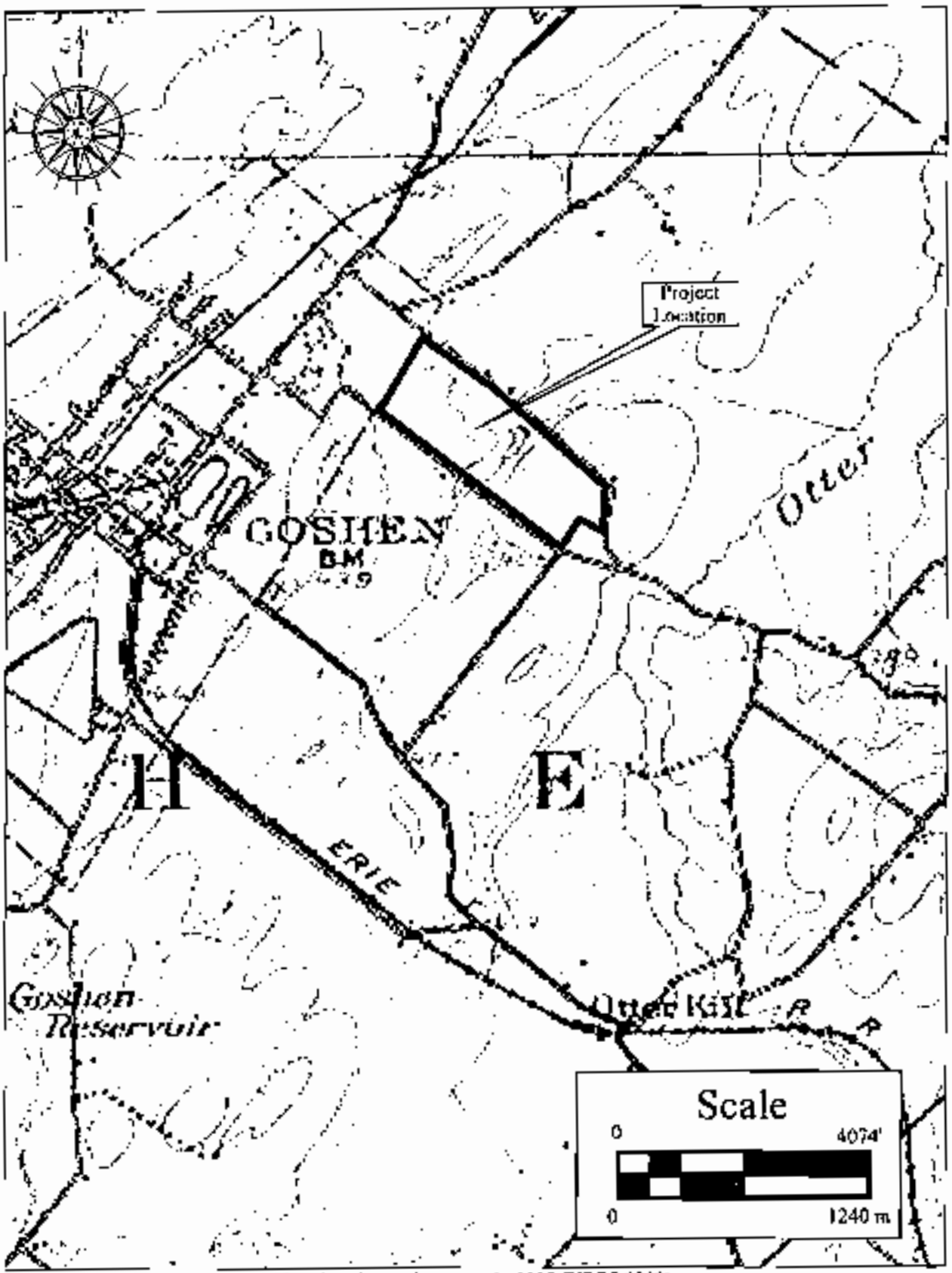


Figure 12: Part of a USGS map showing the project area in 1908 (USGS 1908)

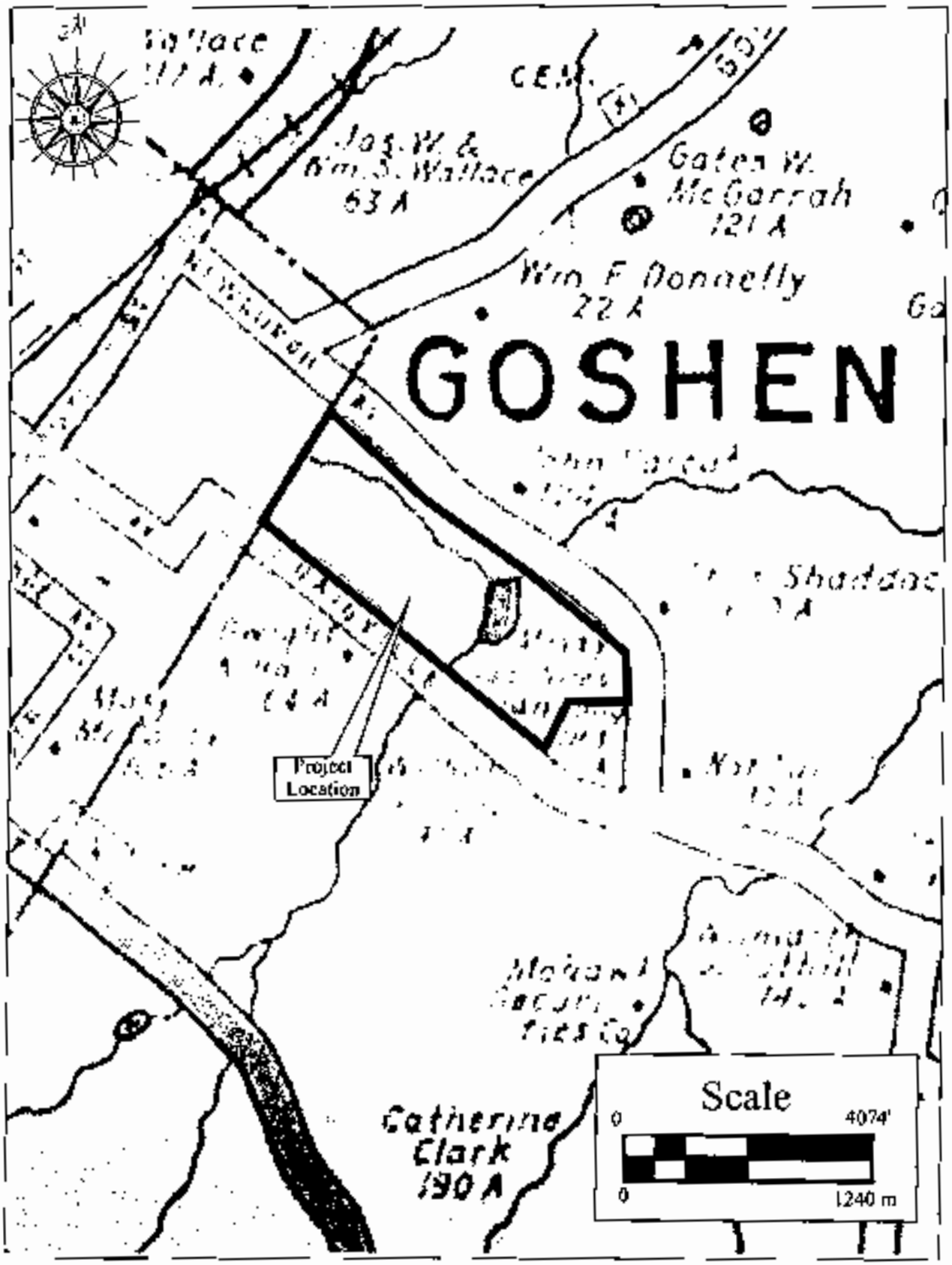


Figure 13: Part of a 1930 Orange County Farm map showing the project area (Dolph & Stewart 1930)

The rear view of the carriage house after the fire of November, 1939.

Figure 14: Photo entitled "The rear view of the carriage house after the fire of November, 1939" (anonymous n.d.-b).

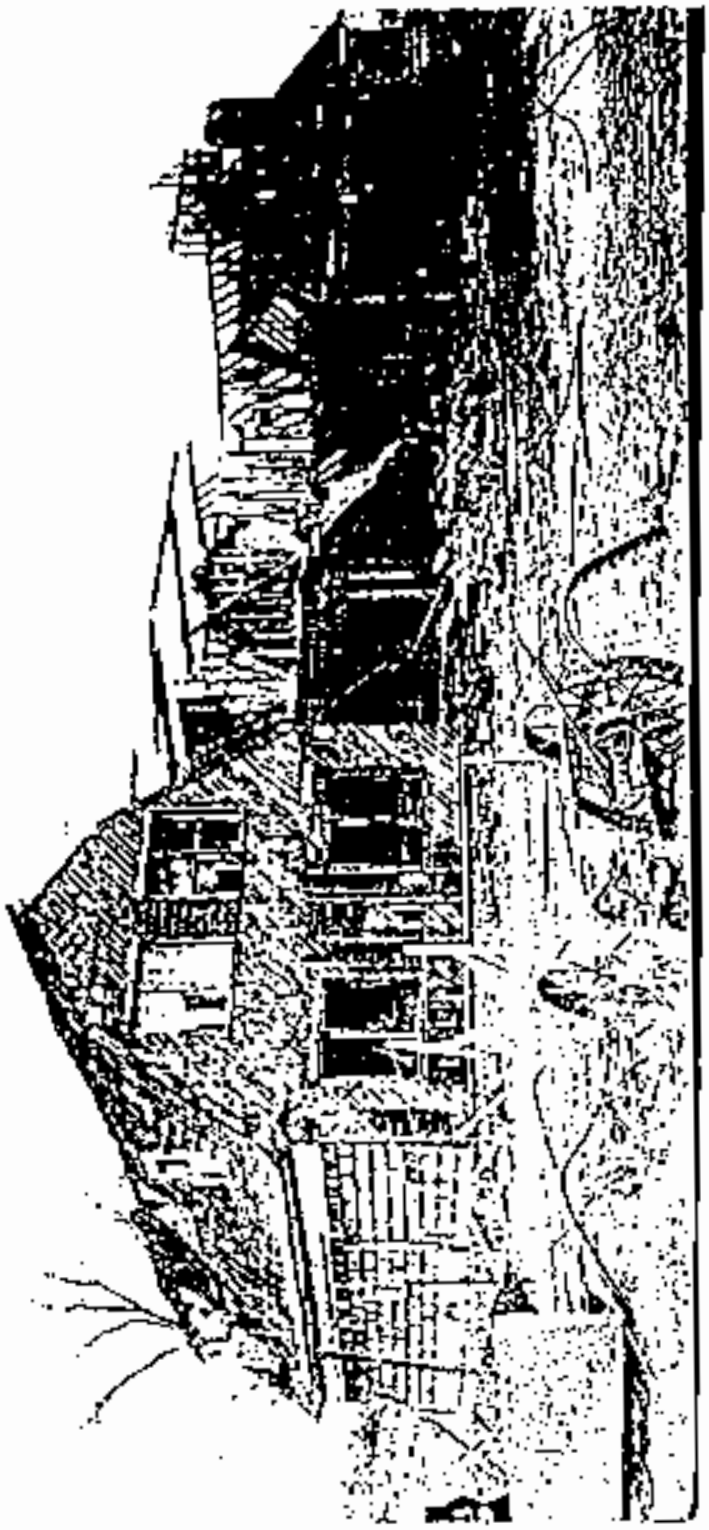
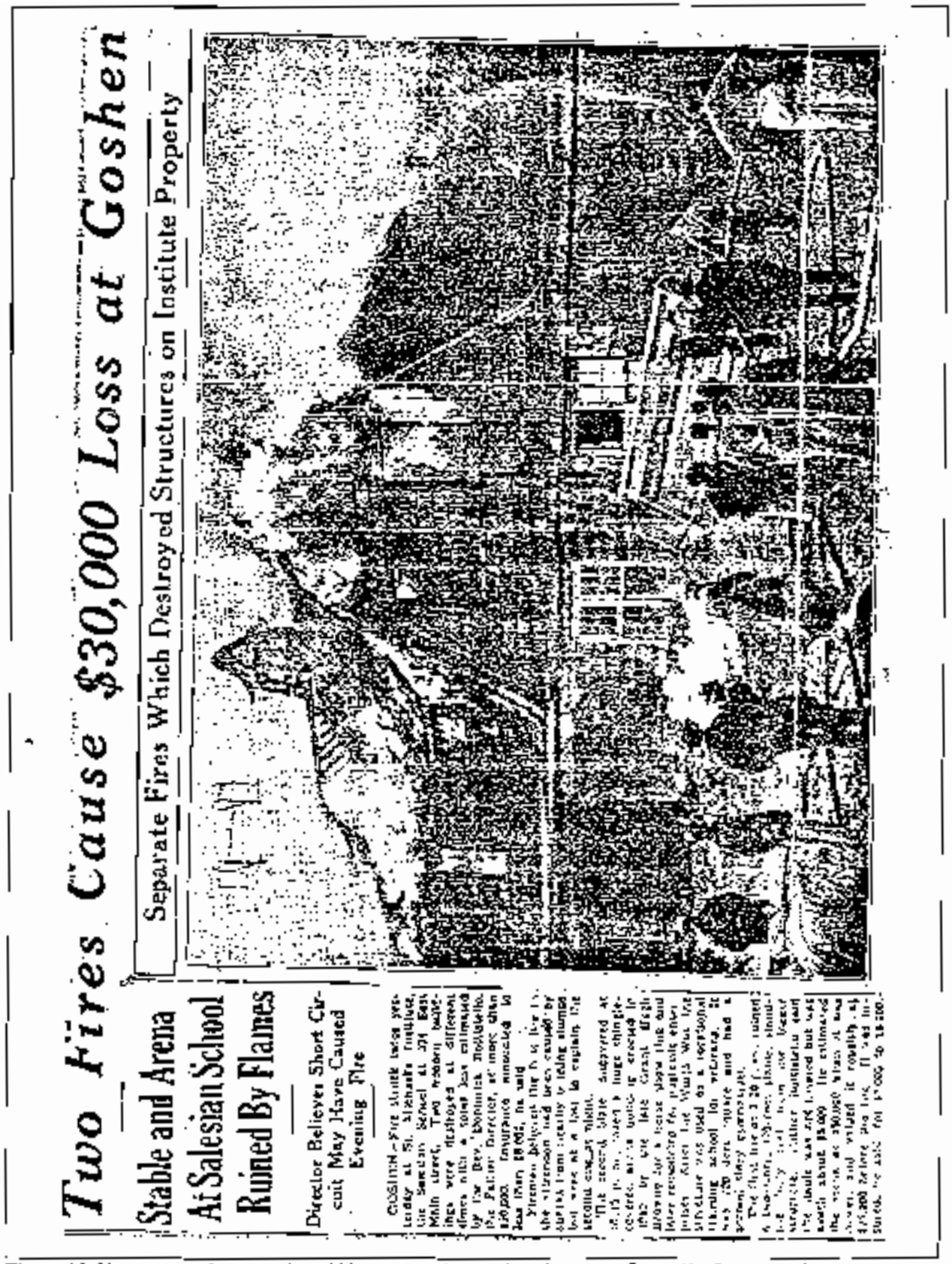


Figure 15: Photograph entilled "The corriage house afteter (sp.) the fire of November, 1939" (From anonymous n.d.b).



Two Fires Cause $30,000 Loss at Goshen

Separate Fires Which Destroyed Structures on Institute Property

Stable and Arena At Salesian School Ruined By Flames

Director Believes Short Circuit May Have Caused Evening Fire

Figure 16: Newspaper photograph c 1939 showing the carriage house on fire in the foreground (from anonymous n.d.a).

Figure 17:
Plan showing the location of the Grids in the Phase 1 archaeological survey (based on Lane & Tully 2004b)

Figure 18:
Plan of archaeological survey in Grid 1

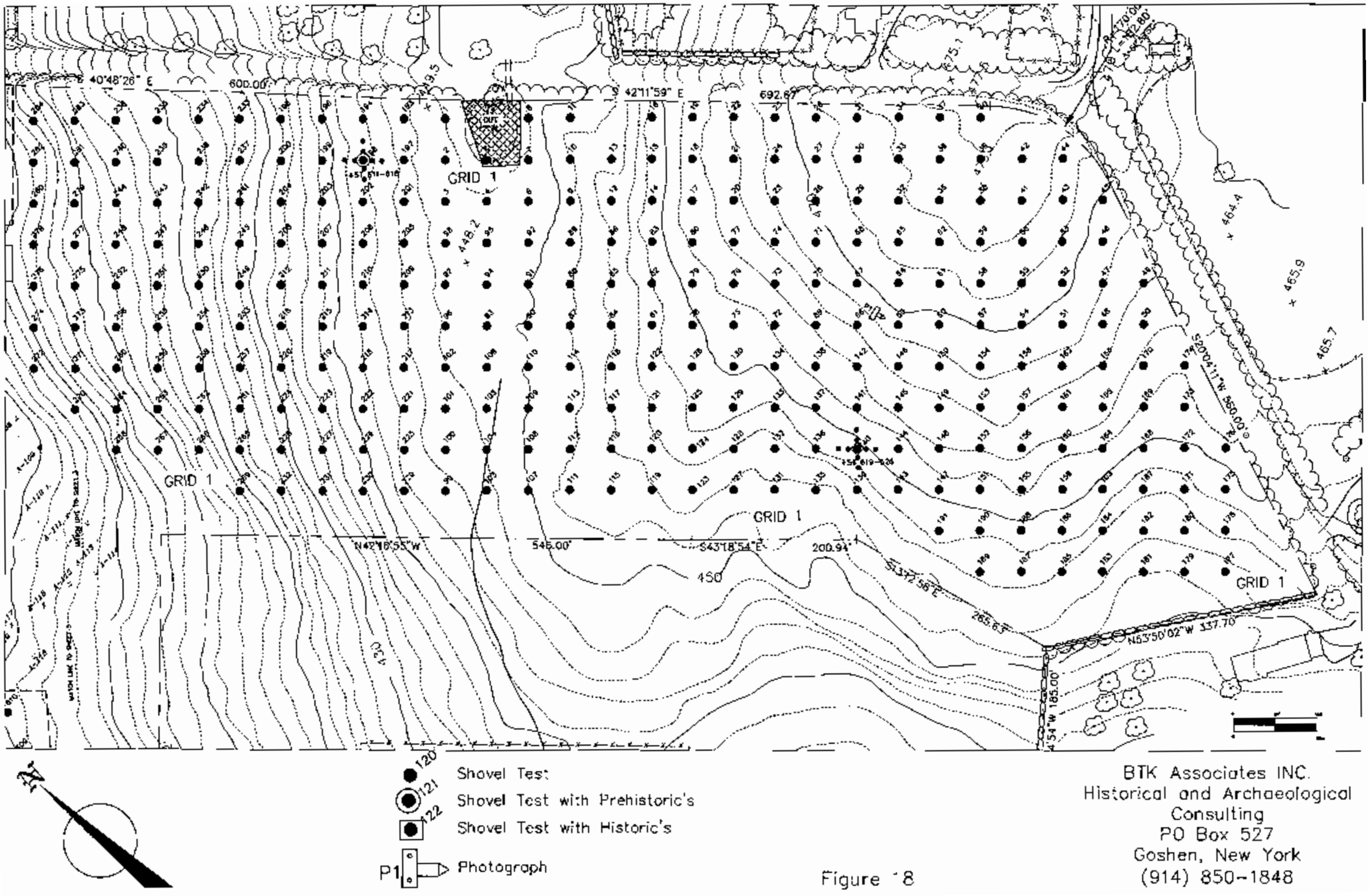


Figure 18

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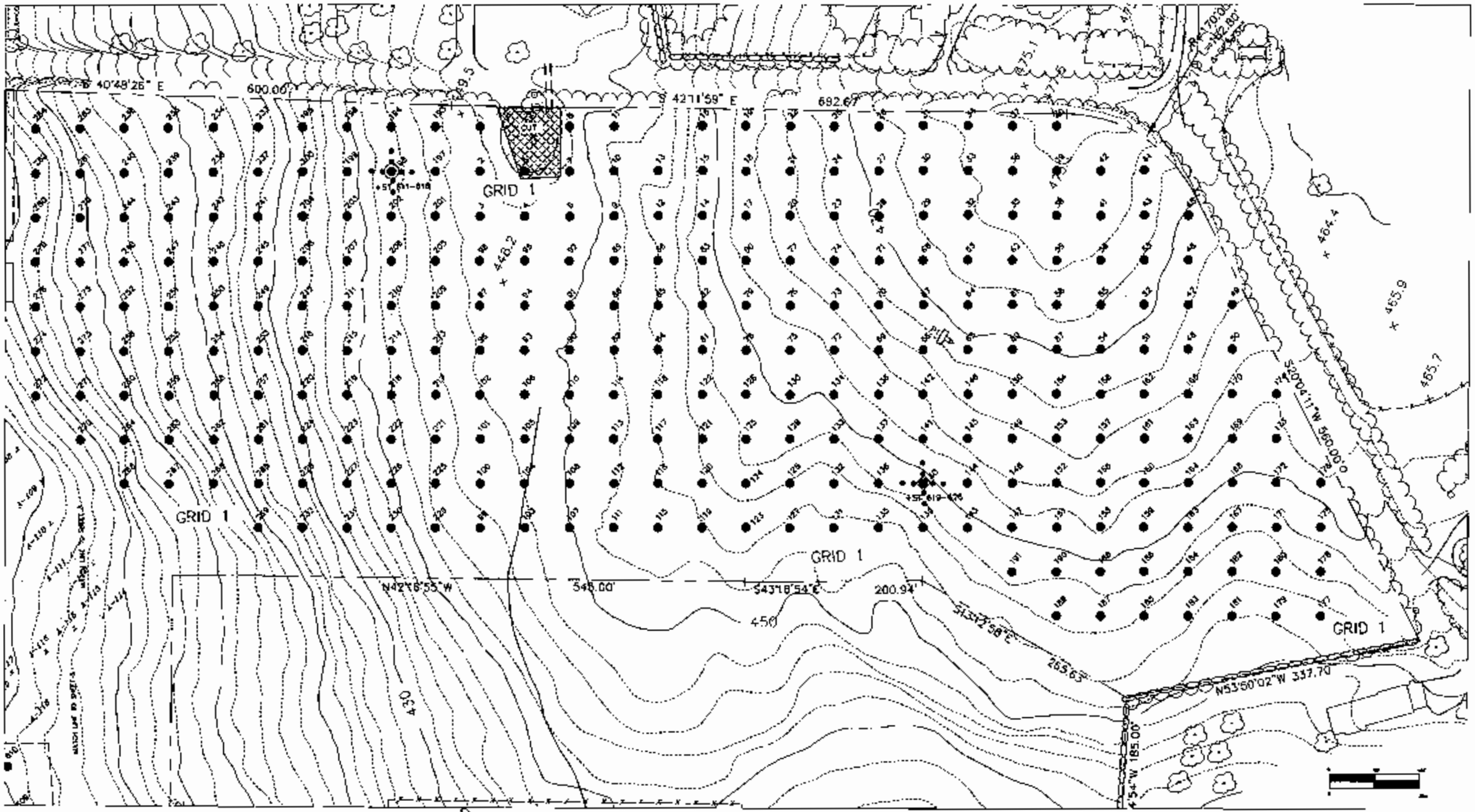
Historical and Archaeological Consulting
PO Box 527
Goshen, New York
(914) 850-1848



Shovel Test

Shovel Test with Prehistoric's

Shovel Test with Historic's

P1 Photograph

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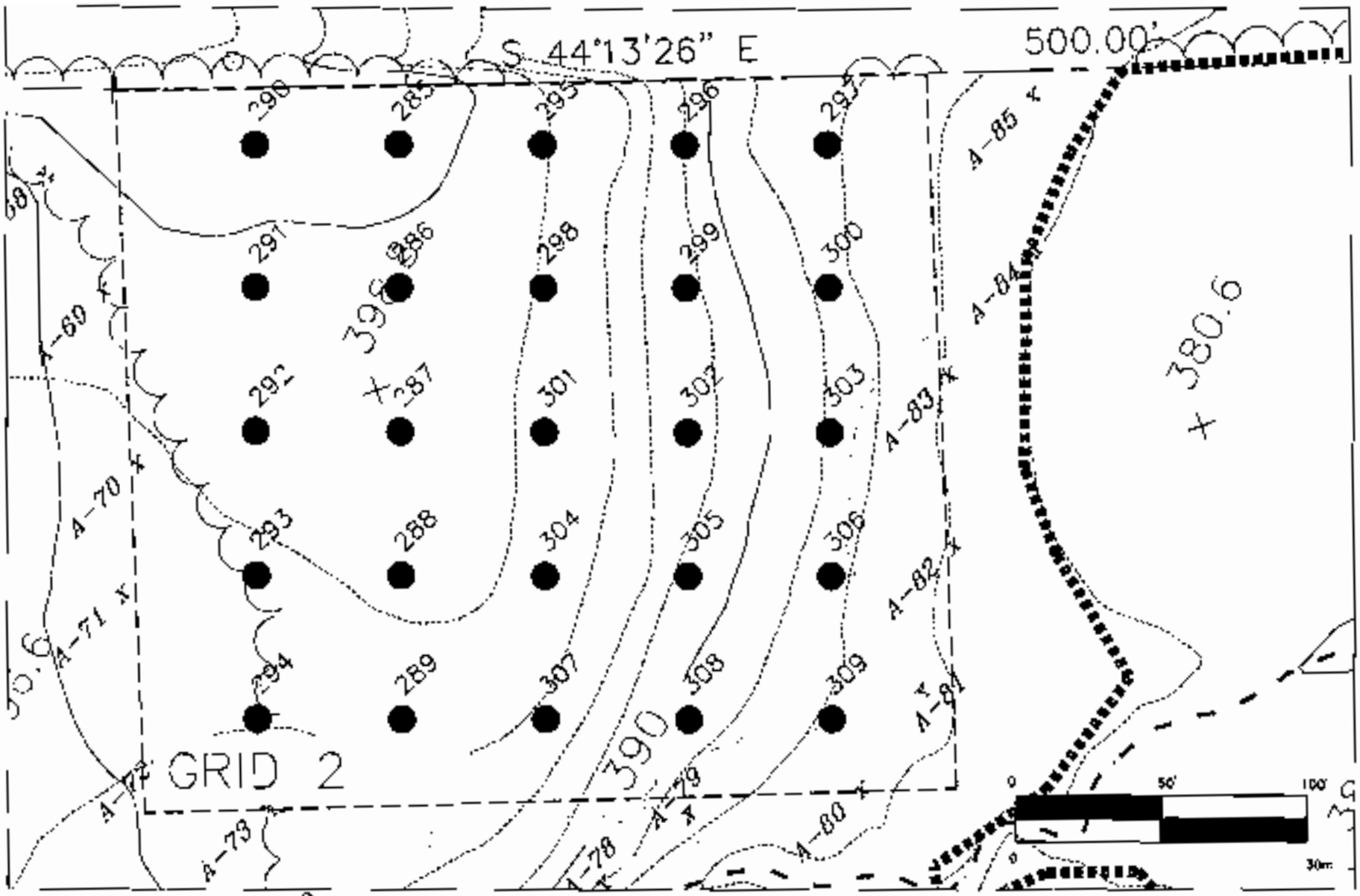
Figure 18

Figure 19:
Plan of archaeological survey in Grid 2



Shovel Test

Shovel Test with Prehistoric's

Shovel Test with Historic's

Photograph

Figure 19

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Figure 20:
Plan of archaeological survey in Grids 3 and 4

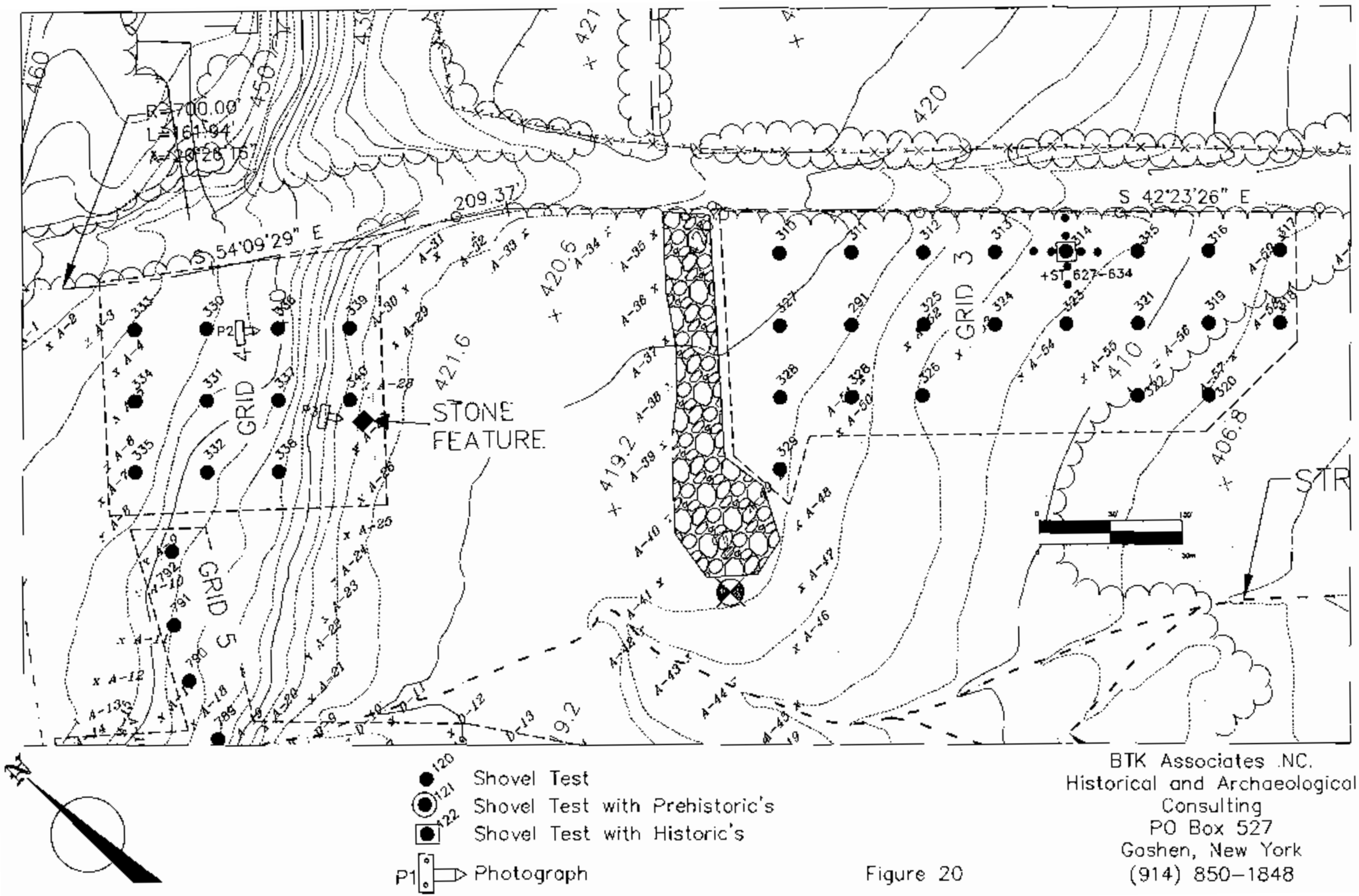

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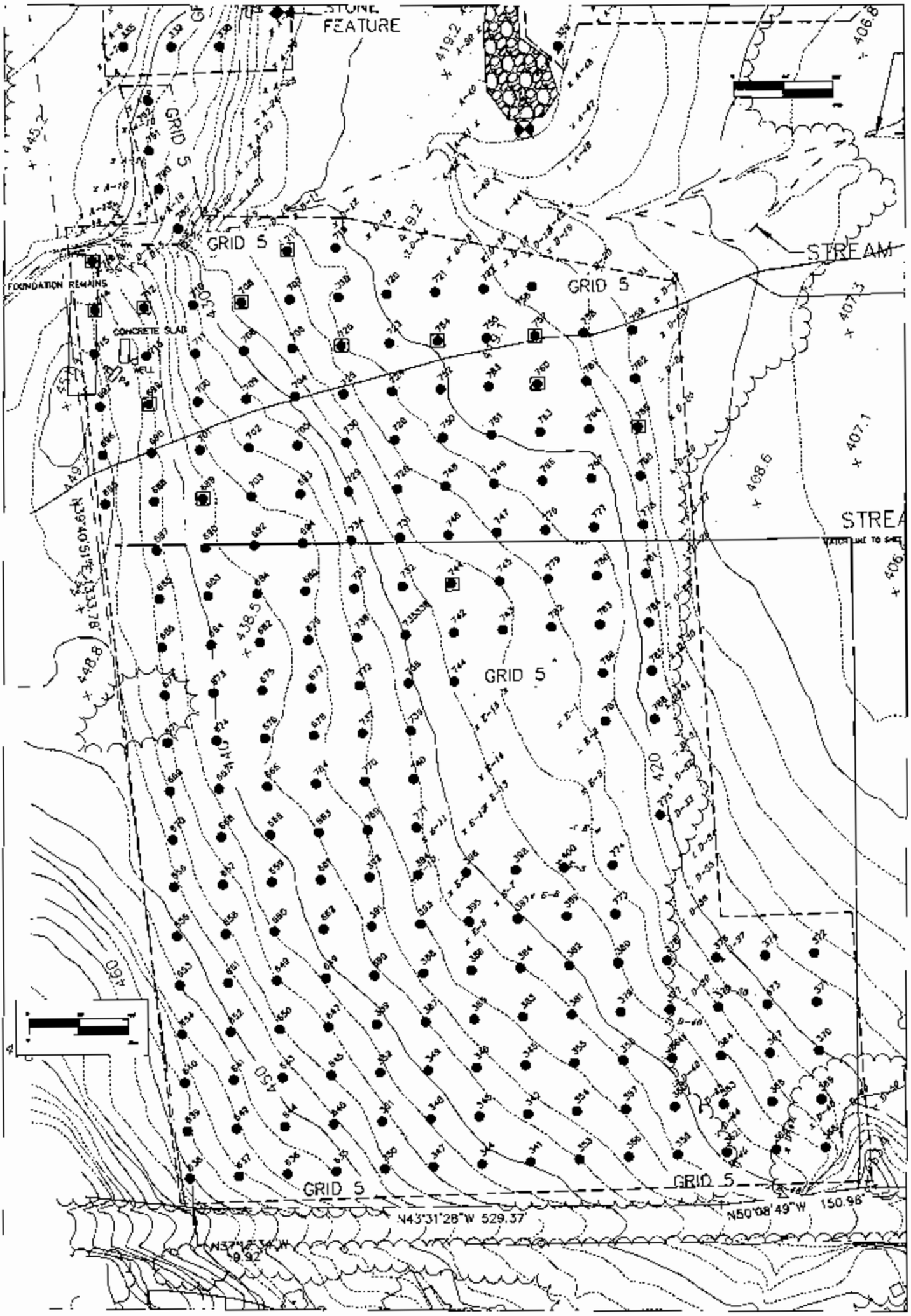
Figure 20

Figure 21:
Plan of archaeological survey in Grid 5



Shovel Test

Shovel Test with Prehistoric's

Shovel Test with Historic's

P1 Photograph

Figure 21

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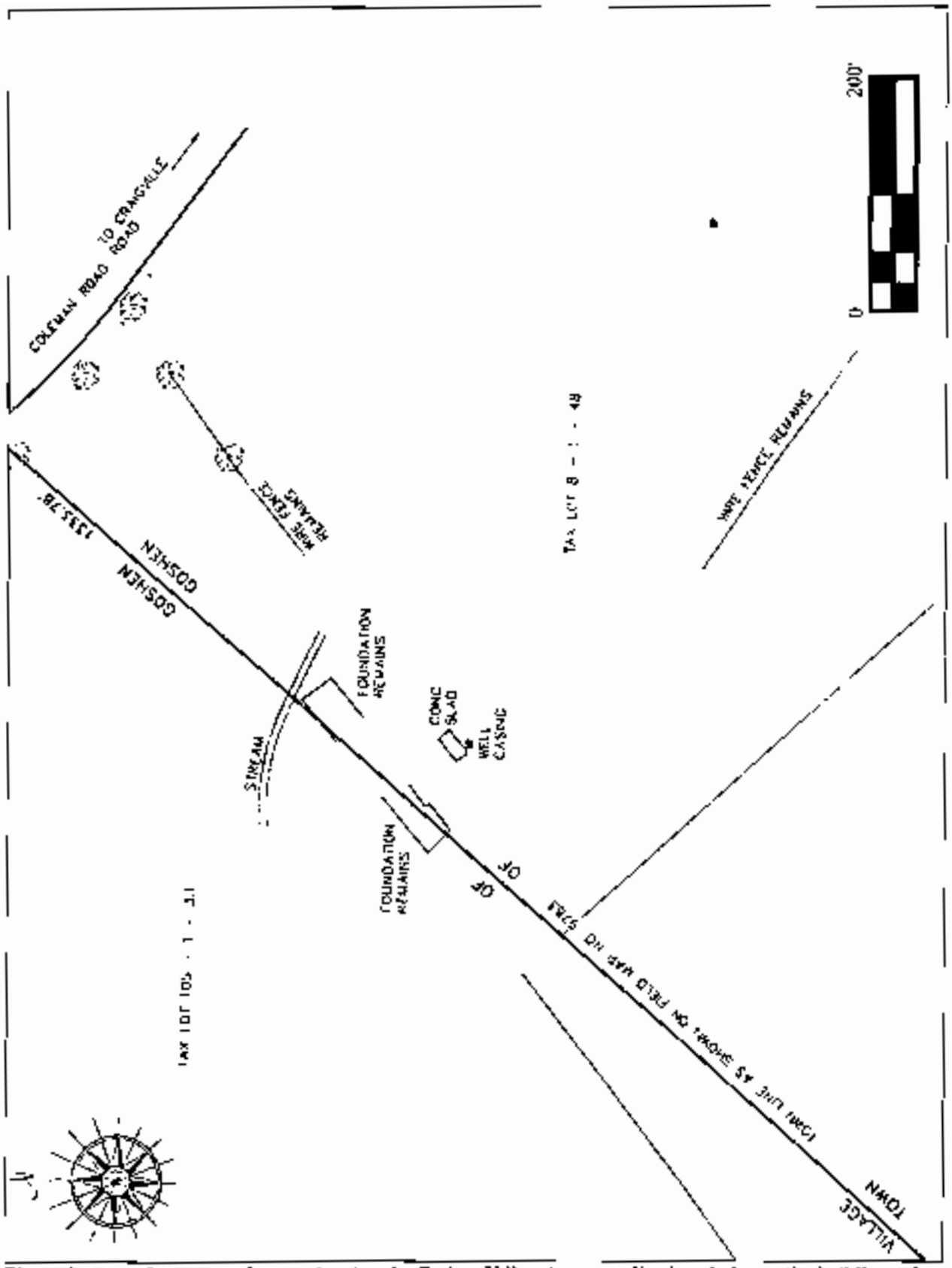
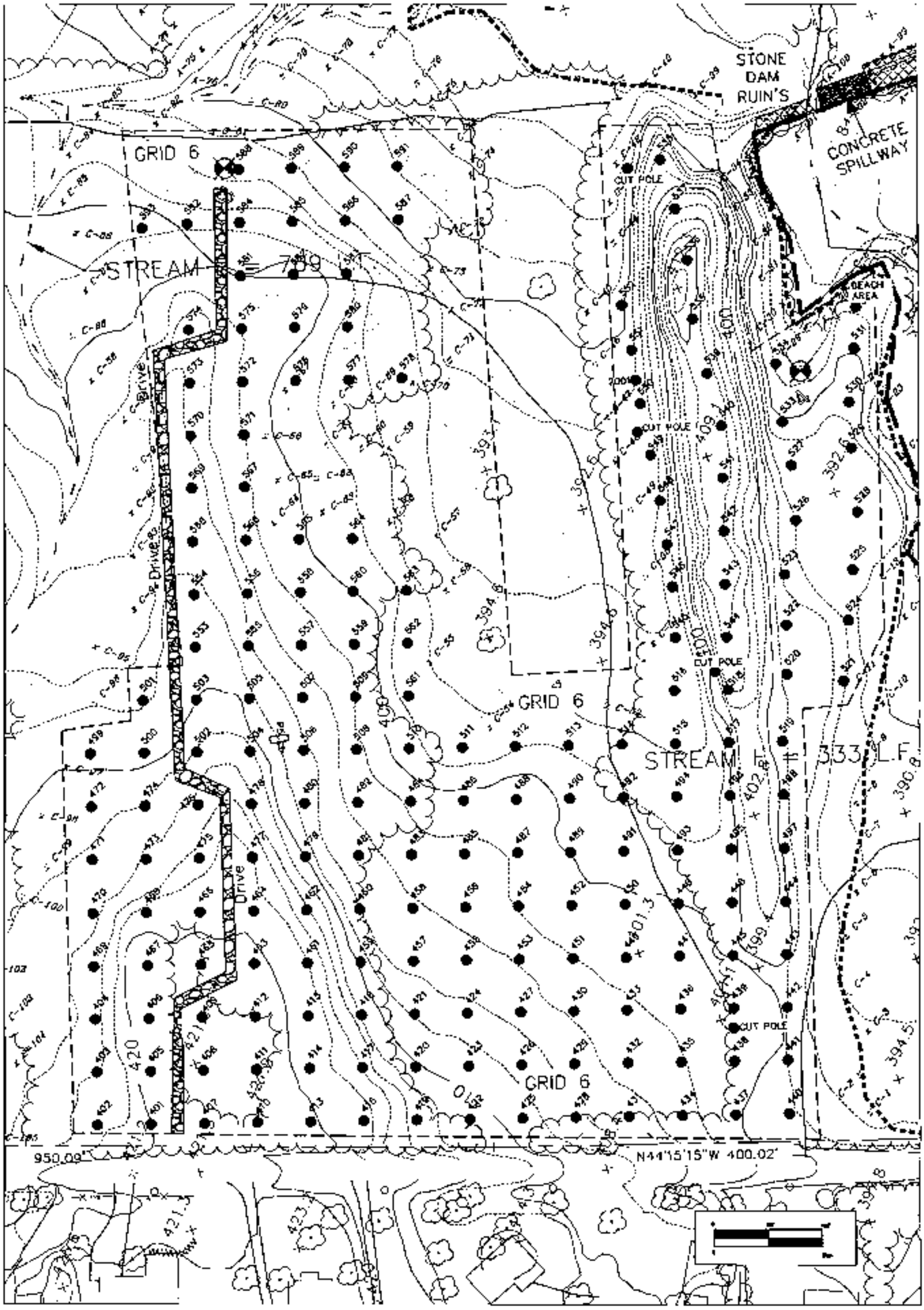


Figure 22: Part of a surveyor's map showing the Goshen Village/property line in relation to the building ruins in Grid 5

Figure 23:
Plan of archaeological survey in Grid 6



Shovel Test

Shovel Test with Prehistoric's

Shovel Test with Historic's

P1 Photograph

Figure 23

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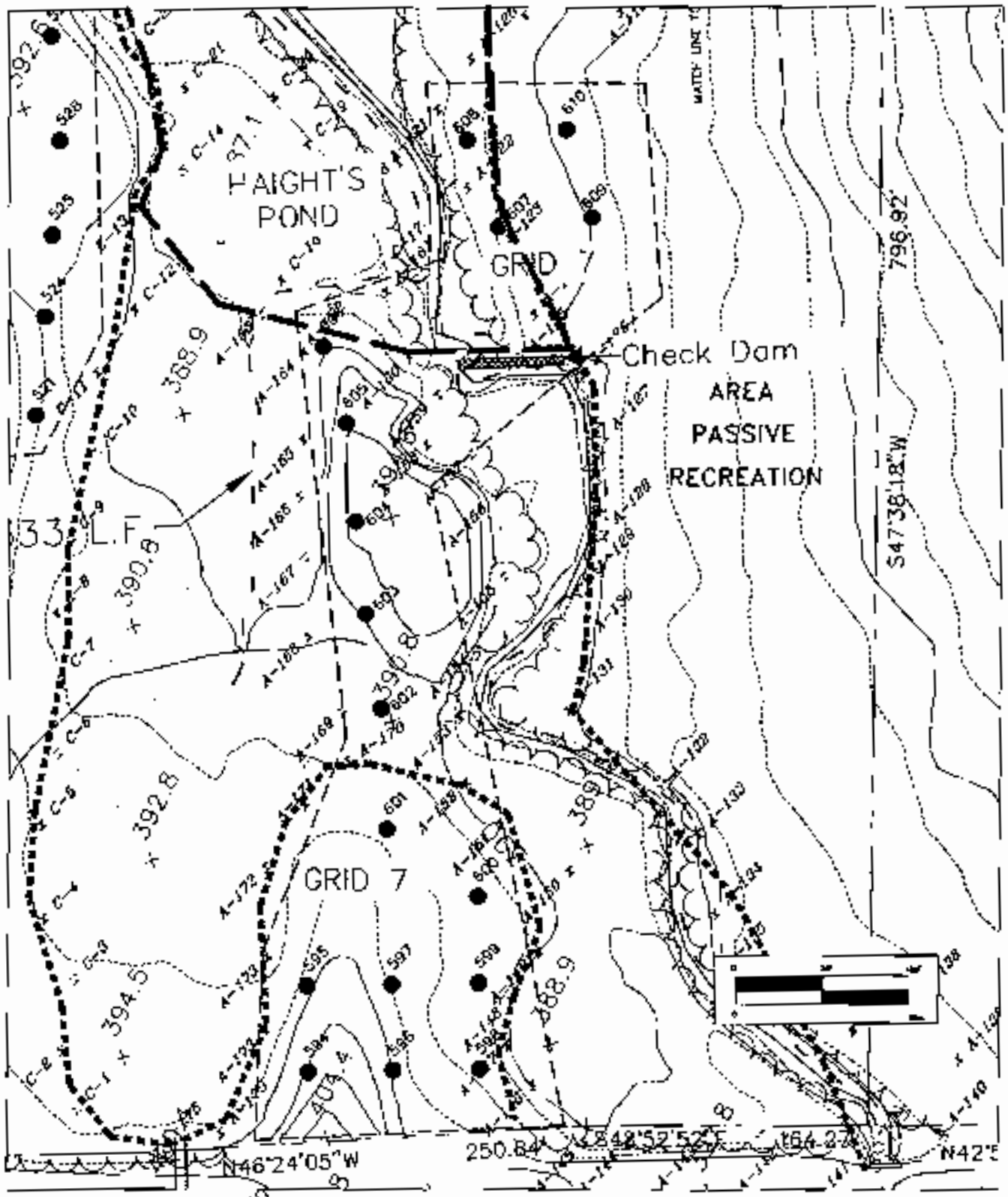
Figure 24:
Plan of archaeological survey in Grid 7



Shovel Test

Shovel Test with Prehistoric's

Shovel Test with Historic's

P1 Photograph

Figure 24

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Figure 25:
Plan of archaeological survey in Grid 8

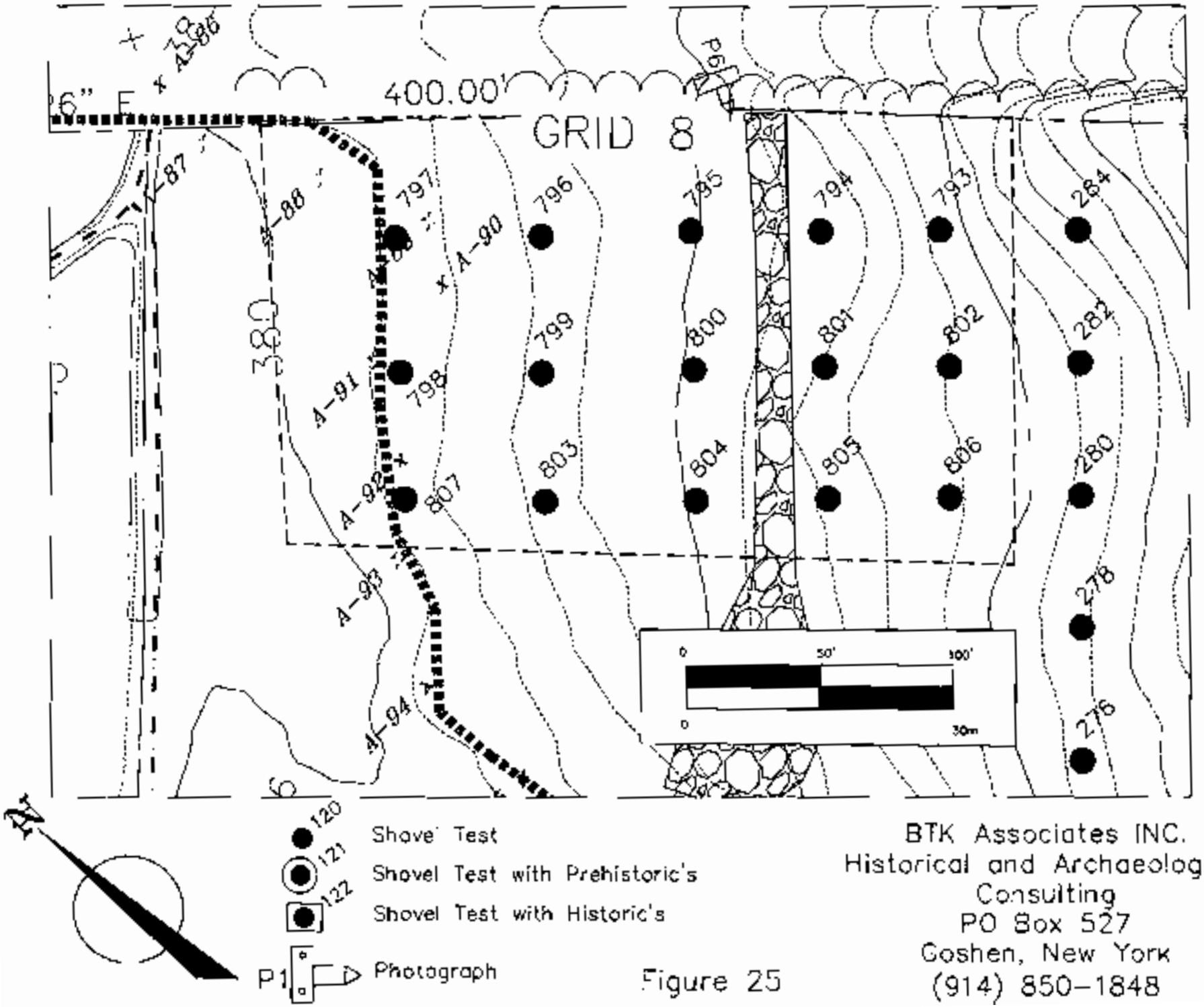

Figure 25

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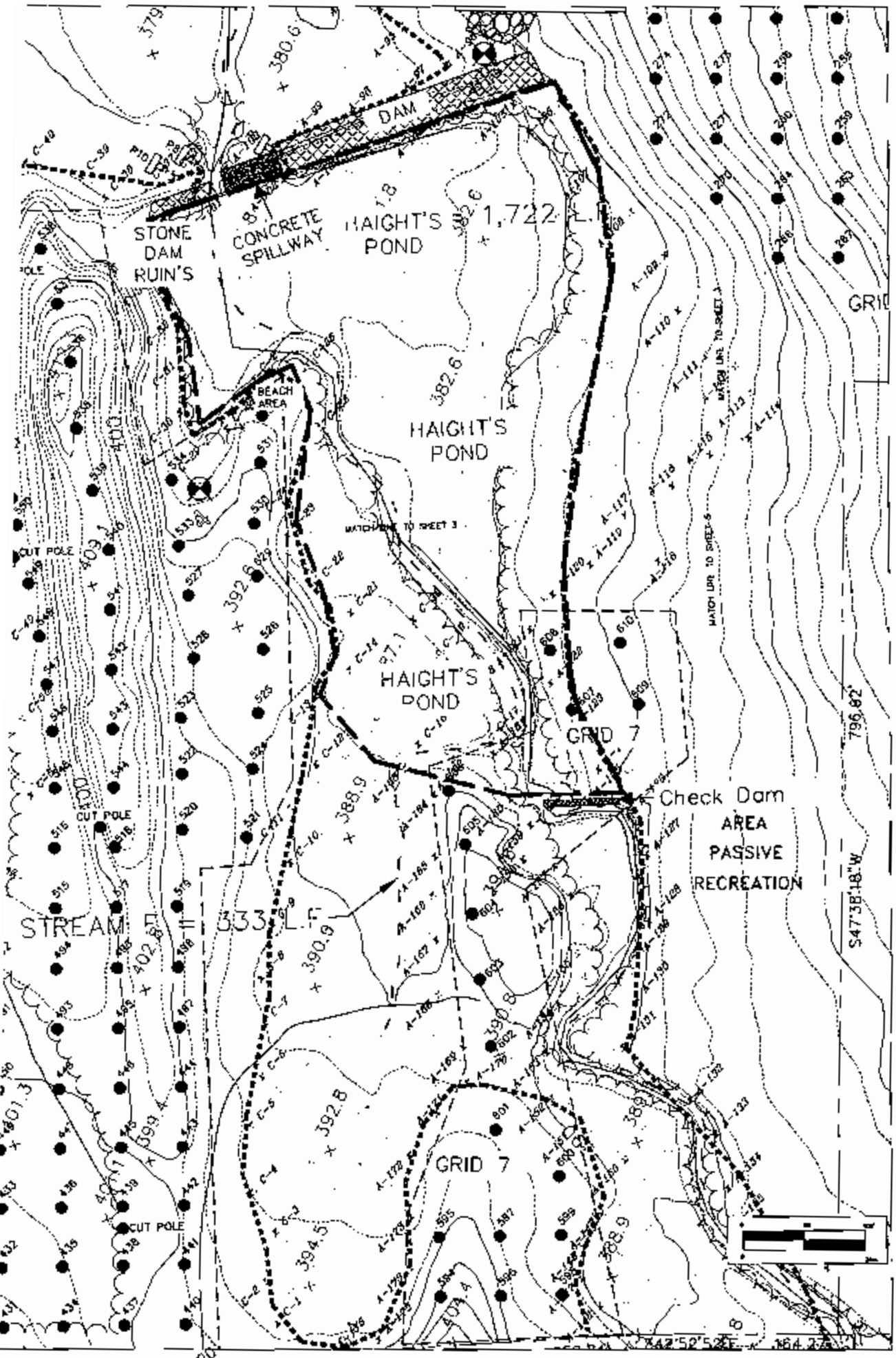
Figure 26:
Plan of Haight's Pond, dams, and associated features



Shovel Test

Shovel Test with Prehistoric's

Shovel Test with Historic's

P1 Photograph

Figure 26

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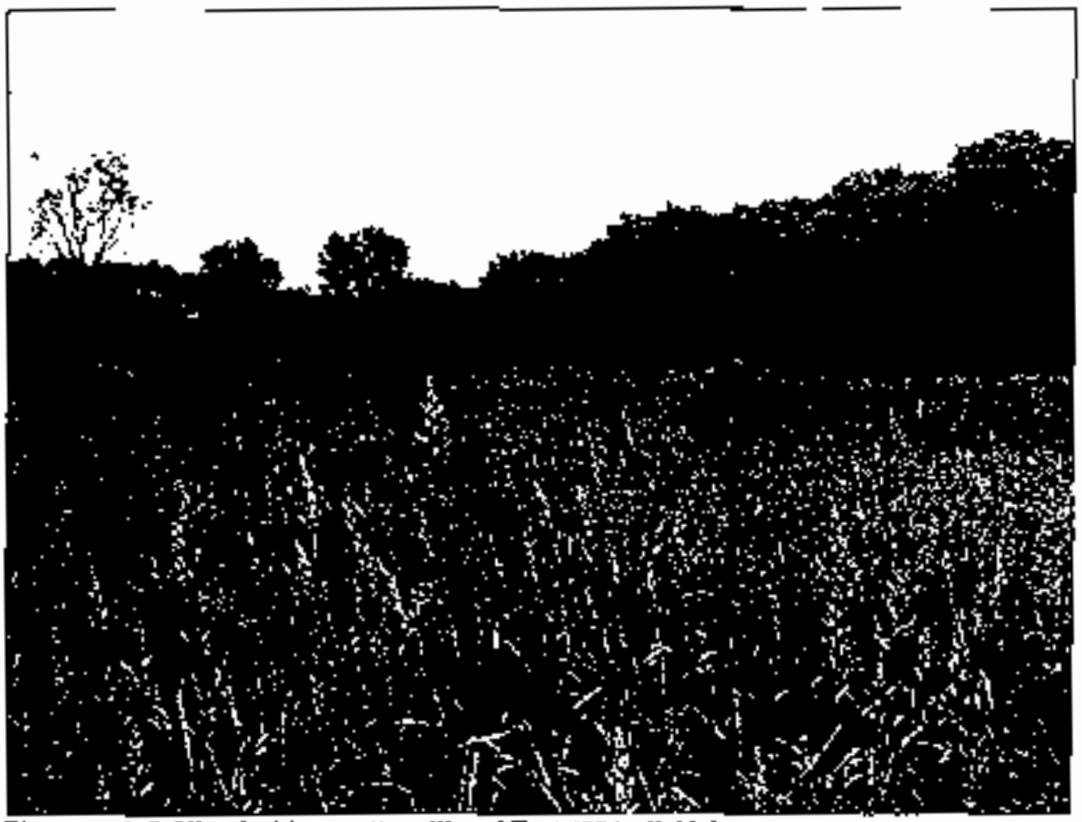
Photograph 1: View looking east at Shovel Test 63 in Grid 1.

Photograph 2: View looking east at Shovel Test 336 in Grid 4.

Photograph 3: Stone feature, possibly for cold storage of milk cans, in Grid 4.

Photograph 4: View looking north at the north end of the Carriage House ruins in Grid 5.



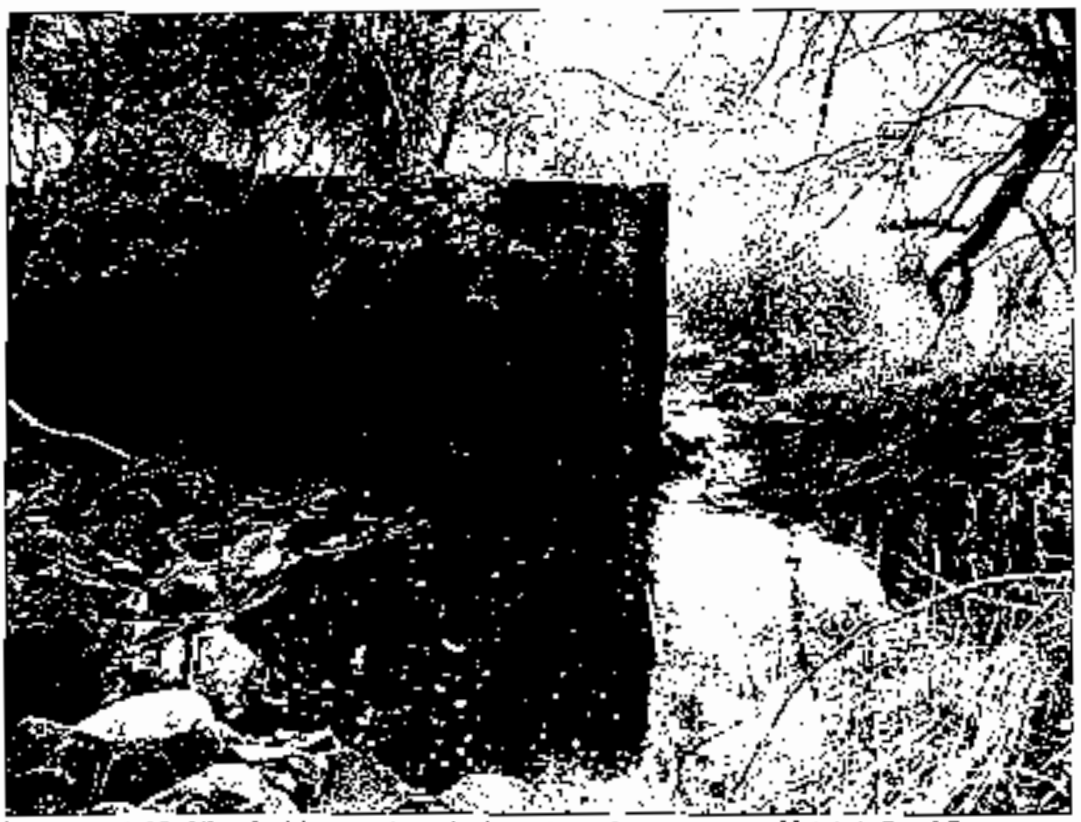
Photograph 5: View looking south at Shovel Test 480 in Grid 6

Photograph 6: View looking south from Colman Road at Grid 8

Photograph 7: View looking north at what remains of Haight's Pond.

Photograph 8: This view looking west shows a cross-section of the Haight's Pond Dam spillway.

Photograph 9: View looking west at the top of the spillway of Haight's Pond Dam.



Photograph 10: View looking south at the breech on the west end of Haight's Pond Dam.

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3001	01	N1000E700	1	0-13	Loam	10YR3/3 Dark brown	NCM
	02			13-33	Clay loam	10YR5/6 Yellowish brown	NCM
3002	01	N950E700	1	0-16	Silty loam	10YR3/3 Dark brown	NCM
	02			16-38	Clay loam	10YR5/6 Yellowish brown	NCM
3003	01	N900E700	1	0-13	Loam	10YR3/3 Dark brown	NCM
	02			13-33	Gravelly loam	10YR5/6 Yellowish brown	NCM
3004	01	N900E750	1	0-28	Silty loam	10YR3/2 Very dk. grayish brown	NCM
	02			28-43	Clay loam	10YR5/6 Yellowish brown	NCM
				43+	Water		
3005	01	N950E750	1	0-16	Silty loam	10YR3/2 Very dk. grayish brown	NCM
				16+	Water		
3006	01	N900E800	1	0-19	Loam	10YR3/2 Very dk. grayish brown	NCM
	02			19-32 (19)	Loamy sand (Water)	10YR6/3 Pale brown	NCM
	03			32+	Rock		
3007	01	N950E800	1	0-15	Silty loam	10YR3/3 Dark brown	NCM
	02			15-35	Clay loam	10YR6/4 Light yellowish brown	NCM
3008	01	N1000E800	1	0-20	Silty loam	10YR3/3 Dark brown	NCM
	02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3009	01	N900E850	1	0-37 (21)	Clay loam (Water)	10YR3/2 Very dk. grayish brown	NCM
	02			37+	Rock		
3010	01	N950E850	1	0-19	Loam	10YR3/3 Dark brown	NCM
	02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3011	01	N1000E850	1	0-17	Silty loam	10YR3/3 Dark brown	NCM
	02			17-37	Clay loam	10YR5/6 Yellowish brown	NCM
3012	01	N900E900	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-37	Sandy loam	10YR5/6 Yellowish brown	NCM
3013	01	N950E900	1	0-4	Silty loam	10YR3/2 Very dk. grayish brown	NCM
				4+	Water		
3014	01	N900E950	1	0-24	Loam	10YR3/3 Dark brown	NCM
	02			24-44	Clay loam	10YR5/6 Yellowish brown	NCM
3015	01	N950E950	1	0-19	Silty loam	10YR3/3 Dark brown	NCM
	02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3016	01	N1000E950	1	0-17	Silty loam	10YR3/2 Very dk. grayish brown	NCM
	02			17-37	Clay loam	10YR6/4 Light yellowish brown	NCM
3017	01	N900E1000	1	0-18	Gravelly loam	10YR3/3 Dark brown	NCM
	02			18-38	Gravelly loam	10YR5/6 Yellowish brown	NCM
	03			38+	Rock		
3018	01	N950E1000	1	0-17	Silty loam	10YR3/3 Dark brown	NCM
	02			17-37	Clay loam	10YR5/6 Yellowish brown	NCM
3019	01	N1000E1000	1	0-22	Silty loam	10YR3/3 Dark brown	NCM
	02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3020	01	N900E1050	1	0-18	Gravelly loam	10YR3/3 Dark brown	NCM
	02			18-38	Gravelly loam	10YR5/6 Yellowish brown	NCM
3021	01	N950E1050	1	0-22	Silty loam	10YR3/3 Dark brown	NCM
	02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3022	01	N1000E1050	1	0-17	Silty loam	10YR3/3 Dark brown	NCM
	02			17-40	Clay loam	10YR5/6 Yellowish brown	NCM
3023	01	N900E1100	1	0-16	Gravelly loam	10YR3/3 Dark brown	NCM
	02			16-38	Gravelly loam	10YR5/6 Yellowish brown	NCM
	03			38+	Rock		
3024	01	N950E1100	1	0-18	Loam	10YR3/3 Dark brown	NCM
	02			18-38	Clay loam	10YR5/6 Yellowish brown	NCM
3025	01	N1000E1100	1	0-24	Loam	10YR3/3 Dark brown	NCM
	02			24-45	Clay loam	10YR5/6 Yellowish brown	NCM
3026	01	N900E1150	1	0-45	Loam	10YR4/3 Brown	NCM
	02			45-47	Loam	10YR5/4 Yellowish brown	NCM
	03			47+	Shale bedrock		

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3027	01	N850E1150	1	0-46	Loam	10YR4/3 Brown	NCM
	02			46-50	Clay loam	10YR5/6 Yellowish brown	NCM
	03			50+	Rock		
3028	01	N1000E1150	1	0-22	Loam	10YR4/3 Brown	NCM
	02			22-41	Clay loam	10YR5/6 Yellowish brown	NCM
3029	01	N900E1200	1	0-18	Loam	10YR4/3 Brown	NCM
	02			18-47	Loam	10YR5/4 Yellowish brown	NCM
	03			47+	Shale bedrock		
3030	01	N850E1200	1	0-16	Loam	10YR4/3 Brown	NCM
	02			16-38	Loam	10YR5/4 Yellowish brown	NCM
3031	01	N1000E1200	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3032	01	N900E1250	1	0-5	Root mat & loam	10YR4/3 Brown	NCM
	02			5-44	Loam	10YR5/4 Yellowish brown	NCM
3033	01	N950E1250	1	0-20	Loam	10YR3/3 Dark brown	NCM
	02			20-41	Clay loam	10YR5/6 Yellowish brown	NCM
3034	01	N1000E1250	1	0-17	Loam	10YR4/3 Brown	NCM
	02			17-37	Clay loam	10YR5/4 Yellowish brown	NCM
3035	01	N900E1300	1	0-20	Loam	10YR4/3 Brown	NCM
	02			20-44	Loam	10YR5/4 Yellowish brown	NCM
3036	01	N950E1300	1	0-12	Loam	10YR3/3 Dark brown	NCM
	02			12-40	Clay loam	10YR5/6 Yellowish brown	NCM
3037	01	N1000E1300	1	0-7	Loam	10YR3/2 Very dk. grayish brown	NCM
	02			7-21	Loam	10YR3/3 Dark brown	NCM
	03			21-41	Clay loam	10YR5/6 Yellowish brown	NCM
3038	01	N900E1350	1	0-12	Loam	10YR4/3 Brown	NCM
	02			12-40	Loam	10YR5/4 Yellowish brown	NCM
3039	01	N950E1350	1	0-20	Loam	10YR3/3 Dark brown	NCM
	02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3040	01	N1000E1350	1	0-22	Loam	10YR3/3 Dark brown	NCM
	02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3041	01	N900E1400	1	0-16	Loam	10YR4/3 Brown	NCM
	02			16-40	Loam	10YR5/4 Yellowish brown	NCM
3042	01	N950E1400	1	0-19	Loam	10YR3/3 Dark brown	NCM
	02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3043	01	N900E1450	1	0-17	Loam	10YR4/3 Brown	NCM
	02			17-42	Loam	10YR5/4 Yellowish brown	NCM
3044	01	N950E1450	1	0-14	Loam	10YR3/3 Dark brown	NCM
	02			14-29	Clay loam	10YR5/6 Yellowish brown	NCM
3045	01	N900E1500	1	0-14	Loam	10YR3/3 Dark brown	NCM
	02			14-34	Clay loam	10YR5/6 Yellowish brown	NCM
3046	01	N850E1500	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-37	Clay loam	10YR5/6 Yellowish brown	NCM
3047	01	N800E1500	1	0-17	Loam	10YR3/3 Dark brown	NCM
	02			17-40	Clay loam	10YR5/6 Yellowish brown	NCM
3048	01	N750E1500	1	0-11	Loam	10YR3/3 Dark brown	NCM
	02			11-36	Clay loam	10YR5/6 Yellowish brown	NCM
3049	01	N800E1550	1	0-12	Loam	10YR3/3 Dark brown	NCM
	02			12-35	Clay loam	10YR5/6 Yellowish brown	NCM
3050	01	N750E1550	1	0-17	Loam	10YR3/3 Dark brown	NCM
	02			17-41	Clay loam	10YR5/6 Yellowish brown	NCM
3051	01	N750E1450	1	0-13	Loam	10YR3/3 Dark brown	NCM
	02			13-33	Clay loam	10YR5/6 Yellowish brown	NCM
3052	01	N800E1450	1	0-15	Loam	10YR3/3 Dark brown	NCM
	02			15-42	Clay loam	10YR5/6 Yellowish brown	NCM
3053	01	N850E1450	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-37	Clay loam	10YR5/6 Yellowish brown	NCM
3054	01	N750E1400	1	0-15	Loam	10YR3/3 Dark brown	NCM
	02			15-40	Clay loam	10YR5/6 Yellowish brown	NCM
3055	01	N800E1400	1	0-12	Loam	10YR3/3 Dark brown	NCM
	02			12-33	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3056	.01	N850E1400	1	0-15	Loam	10YR3/3 Dark brown	NCM
	.02			15-38	Clay loam	10YR5/6 Yellowish brown	NCM
3057	.01	N750E1350	1	0-15	Loam	10YR3/3 Dark brown	NCM
	.02			15-40	Clay loam	10YR5/6 Yellowish brown	NCM
3058	.01	N800E1350	1	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-40	Clay loam	10YR5/6 Yellowish brown	NCM
3059	.01	N850E1350	1	0-14	Loam	10YR3/3 Dark brown	NCM
	.02			14-39	Clay loam	10YR5/6 Yellowish brown	NCM
3060	.01	N750E1300	1	0-12	Loam	10YR3/3 Dark brown	NCM
	.02			12-39	Clay loam	10YR5/6 Yellowish brown	NCM
3061	.01	N800E1300	1	0-13	Loam	10YR3/3 Dark brown	NCM
	.02			13-38	Clay loam	10YR5/6 Yellowish brown	NCM
3062	.01	N850E1300	1	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-39	Clay loam	10YR5/6 Yellowish brown	NCM
3063	.01	N750E1250	1	0-14	Loam	10YR3/3 Dark brown	NCM
	.02			14-39	Clay loam	10YR5/6 Yellowish brown	NCM
3064	.01	N800E1250	1	0-16	Loam	10YR3/3 Dark brown	NCM
	.02			16-39	Clay loam	10YR5/6 Yellowish brown	NCM
3065	.01	N850E1250	1	0-13	Loam	10YR3/3 Dark brown	NCM
	.02			13-33	Clay loam	10YR5/6 Yellowish brown	NCM
3066	.01	N750E1200	1	0-10	Loam	10YR3/3 Dark brown	NCM
	.02			10-35	Clay loam	10YR5/6 Yellowish brown	NCM
3067	.01	N800E1200	1	0-18	Loam	10YR3/3 Dark brown	NCM
	.02			18-38	Clay loam	10YR5/6 Yellowish brown	NCM
3068	.01	N850E1200	1	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-38	Clay loam	10YR5/6 Yellowish brown	NCM
3069	.01	N750E1150	1	0-25	Loam	10YR5/3 Brown	NCM
	.02			25-47	Loamy clay	10YR6/4 Light yellowish brown	NCM
3070	.01	N800E1150	1	0-20	Loam	10YR5/3 Brown	NCM
	.02			20-42	Clay	10YR6/4 Light yellowish brown	NCM
3071	.01	N850E1150	1	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-50	Silty clay loam	10YR6/4 Light yellowish brown	NCM
3072	.01	N750E1100	1	0-16	Loam	10YR5/3 Brown	NCM
	.02			16-37	Clay	10YR6/4 Light yellowish brown	NCM
3073	.01	N800E1100	1	0-24	Loam	10YR5/3 Brown	NCM
	.02			24-44	Clay	10YR6/4 Light yellowish brown	NCM
3074	.01	N850E1100	1	0-16	Loam	10YR4/3 Brown	NCM
	.02			16-36	Clay	10YR6/4 Light yellowish brown	NCM
3075	.01	N750E1050	1	0-17	Loam	10YR4/3 Brown	NCM
	.02			17-38	Gravelly loam	10YR5/6 Yellowish brown	NCM
3076	.01	N800E1050	1	0-16	Loam	10YR4/3 Brown	NCM
	.02			16-36	Gravelly loam	10YR5/6 Yellowish brown	NCM
3077	.01	N850E1050	1	0-14	Loam	10YR4/3 Brown	NCM
	.02			14-34	Loam	10YR5/6 Yellowish brown	NCM
3078	.01	N750E1050	1	0-19	Loam	10YR4/3 Brown	NCM
	.02			19-41	Loam	10YR5/6 Yellowish brown	NCM
3079	.01	N800E1000	1	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-40	Loam	10YR5/6 Yellowish brown	NCM
3080	.01	N850E1000	1	0-15	Loam	10YR4/3 Brown	NCM
	.02			15-37	Loam	10YR5/6 Yellowish brown	NCM
3081	.01	N750E950	1	0-12	Loam	10YR4/3 Brown	NCM
	.02			12-34	Loam	10YR5/6 Yellowish brown	NCM
3082	.01	N800E950	1	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-30	Loam	10YR5/6 Yellowish brown	NCM
	.03			30+	Rock		
3083	.01	N850E950	1	0-13	Loam	10YR4/3 Brown	NCM
	.02			13-33	Loam	10YR5/6 Yellowish brown	NCM
3084	.01	N750E900	1	0-10	Loam	10YR4/3 Brown	NCM
	.02			10-32	Loam	10YR5/6 Yellowish brown	NCM
3085	.01	N800E900	1	0-16	Loam	10YR4/3 Brown	NCM
	.02			16-36	Loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3086	.01	N850E900	1	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-31	Loam	10YR5/6 Yellowish brown	NCM
				31+	Water		
3087	.01	N750E850	1	0-16	Loam	10YR4/3 Brown	NCM
	.02			16-38	Loamy clay	10YR5/6 Yellowish brown	NCM
3088	.01	N800E850	1	0-22	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			22-36	Clay loam	10YR6/3 Pale brown	NCM
				38+	Water		
3089	.01	N850E850	1	0-30	Loam	10YR3/2 Very dk. grayish brown	NCM
				30+	Water		
3090	.01	N750E800	1	0-15	Loam	10YR4/3 Brown	NCM
	.02			15-40	Loamy clay	10YR5/6 Yellowish brown	NCM
3091	.01	N800E800	1	0-22	Loam	10YR4/3 Brown	NCM
	.02			22-44	Clay loam	10YR5/4 Yellowish brown	NCM
3092	.01	N850E800	1	0-28	Loamy clay	10YR3/2 Very dk. grayish brown	NCM
				28+	Water		
3093	.01	N750E750	1	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-45	Loam	10YR5/6 Yellowish brown	NCM
				45+	Water		
3094	.01	N800E750	1	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-45	Loamy clay	10YR5/6 Yellowish brown	NCM
3095	.01	N850E750	1	0-21	Loam	10YR4/3 Brown	NCM
	.02			21-30	Loam	10YR5/6 Yellowish brown	NCM
				(21)	(Water)		
3096	.01	N750E700	1	0-15	Loam	10YR4/3 Brown	NCM
	.02			15-30	Loam	10YR5/6 Yellowish brown	NCM
				30+	Water		
3097	.01	N800E700	1	0-24	Loam	10YR4/3 Brown	NCM
	.02			24-45	Clay loam	10YR5/6 Yellowish brown	NCM
3098	.01	N850E700	1	0-15	Loam	10YR4/3 Brown	NCM
	.02			15-35	Clay loam	10YR5/6 Yellowish brown	NCM
3099	.01	N550E700	1	0-22	Clay loam	10YR4/3 Brown	NCM
	.02			22-44	Gravelly clay loam	10YR5/4 Yellowish brown	NCM
3100	.01	N600E700	1	0-20	Clay loam	10YR4/3 Brown	NCM
	.02			20-45	Clay loam	10YR5/4 Yellowish brown	NCM
3101	.01	N650E700	1	0-26	Clay loam	10YR4/3 Brown	NCM
	.02			26+	Water		
3102	.01	N700E700	1	0-25	Clay loam	10YR4/3 Brown	NCM
	.02			25-47	Gravelly clay loam	10YR5/4 Yellowish brown	NCM
3103	.01	N550E750	1	0-18	Clay loam	10YR4/3 Brown	NCM
	.02			18-38	Gravelly clay loam	10YR5/4 Yellowish brown	NCM
3104	.01	N600E750	1	0-22	Clay loam	10YR4/3 Brown	NCM
	.02			22-44	Clay loam	10YR5/4 Yellowish brown	NCM
3105	.01	N650E750	1	0-24	Clay loam	10YR4/3 Brown	NCM
	.02			24-34	Clay loam	10YR5/4 Yellowish brown	NCM
				34+	Water		
3106	.01	N700E750	1	0-23	Clay loam	10YR4/3 Brown	NCM
	.02			23-30	Clay loam	10YR5/4 Yellowish brown	NCM
				30+	Water		
3107	.01	N550E800	1	0-22	Clay loam	10YR4/3 Brown	NCM
	.02			22-44	Clay loam	10YR5/6 Yellowish brown	NCM
3108	.01	N600E800	1	0-15	Gravelly clay loam	10YR4/3 Brown	NCM
	.02			15-36	Clay loam	10YR5/4 Yellowish brown	NCM
3109	.01	N650E800	1	0-17	Clay loam	10YR4/3 Brown	NCM
	.02			17-35	Clay loam	10YR5/4 Yellowish brown	NCM
				35+	Water		
3110	.01	N700E800	1	0-20	Clay loam	10YR4/3 Brown	NCM
	.02			20-30	Clay loam	10YR5/4 Yellowish brown	NCM
				30+	Water		
3111	.01	N550E850	1	0-21	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			21-43	Clay loam	10YR6/4 Light yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3112	01	N600E850	1	0-22	Loam	10YR3/4 Dark yellowish brown	NCM
	02			22-44	Clay loam	10YR6/4 Light yellowish brown	NCM
3113	01	N650E850	1	0-20	Loam	10YR3/4 Dark yellowish brown	NCM
	02			20-40	Clay loam	10YR6/4 Light yellowish brown	NCM
3114	01	N700E850	1	0-16	Clay loam	10YR4/3 Brown	NCM
	02			16-30	Clay loam	10YR5/4 Yellowish brown	NCM
				30+	Water		
3115	01	N550E900	1	0-14	Loam	10YR3/3 Dark brown	NCM
	02			14-41	Clay loam	10YR5/6 Yellowish brown	NCM
3116	01	N600E900	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-36	Clay loam	10YR5/6 Yellowish brown	NCM
3117	01	N650E900	1	0-15	Loam	10YR3/2 Very dk. grayish brown	NCM
	02			15-38	Clay loam	10YR5/4 Yellowish brown	NCM
3118	01	N700E900	1	0-12	Loam	10YR3/2 Very dk. grayish brown	NCM
	02			12-33	Clay loam	10YR5/4 Yellowish brown	NCM
3119	01	N550E950	1	0-20	Loam	10YR3/4 Dark yellowish brown	NCM
	02			20-42	Clay loam	10YR6/4 Light yellowish brown	NCM
3120	01	N600E950	1	0-20	Loam	10YR3/4 Dark yellowish brown	NCM
	02			20-43	Clay loam	10YR6/4 Light yellowish brown	NCM
3121	01	N650E950	1	0-27	Loam	10YR3/4 Dark yellowish brown	NCM
	02			27-48	Clay loam	10YR6/4 Light yellowish brown	NCM
3122	01	N700E950	1	0-20	Loam	10YR3/4 Dark yellowish brown	NCM
	02			20-44	Clay loam	10YR6/4 Light yellowish brown	
3123	01	N550E1000	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-39	Clay loam	10YR5/6 Yellowish brown	NCM
3124	01	N600E1000	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-36	Clay loam	10YR5/6 Yellowish brown	NCM
3125	01	N260E1000	1	0-17	Loam	10YR3/3 Dark brown	NCM
	02			17-41	Clay loam	10YR5/4 Yellowish brown	NCM
				41+	Water		
3126	01	N700E1000	1	0-12	Loam	10YR3/3 Dark brown	NCM
	02			12-32	Clay loam	10YR6/4 Light yellowish brown	NCM
3127	01	N350E1050	1	0-20	Loam	10YR5/3 Brown	NCM
	02			20-40	Silty clay	10YR6/4 Light yellowish brown	NCM
3128	01	N600E1050	1	0-16	Loam	10YR5/3 Brown	NCM
	02			16-37	Clay	10YR6/4 Light yellowish brown	NCM
3129	01	N650E1050	1	0-19	Loam	10YR5/3 Brown	NCM
	02			19-39	Clay	10YR6/4 Light yellowish brown	NCM
3130	01	N700E1050	1	0-18	Loam	10YR5/3 Brown	NCM
	02			18-39	Clay	10YR6/4 Light yellowish brown	NCM
3131	01	N550E1100	1	0-15	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			15-33	Clay loam	10YR5/3 Brown	NCM
3132	01	N600E1100	1	0-18	Loam	10YR3/3 Dark brown	NCM
	02			18-40	Clay loam	10YR5/6 Yellowish brown	NCM
3133	01	N650E1100	1	0-18	Loam	10YR3/3 Dark brown	NCM
	02			18-40	Clay loam	10YR5/6 Yellowish brown	Charcoal*
3134	01	N700E1100	1	0-12	Loam	10YR3/3 Dark brown	NCM
	02			12-36	Clay loam	10YR5/6 Yellowish brown	NCM
3135	01	N550E1150	1	0-19	Loam	10YR5/3 Brown	NCM
	02			19-40	Silty clay	10YR6/4 Light yellowish brown	NCM
3136	01	N600E1150	1	0-19	Loam	10YR5/3 Brown	NCM
	02			19-39	Silty clay	10YR6/4 Light yellowish brown	NCM
3137	01	N650E1150	1	0-20	Loam	10YR5/3 Brown	NCM
	02			20-42	Silty clay	10YR6/4 Light yellowish brown	NCM
3138	01	N700E1150	1	0-18	Loam	10YR5/3 Brown	NCM
	02			18-39	Silty clay	10YR6/4 Light yellowish brown	NCM
3139	01	N550E1200	1	0-23	Loam	10YR3/3 Dark brown	NCM
	02			23-47	Clay loam	10YR5/6 Yellowish brown	NCM
3140	01	N600E1200	1	0-18	Loam	10YR3/3 Dark brown	1 nail*
	02			18-40	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3141	01	N650E1200	1	0-12	Loam	10YR3/3 Dark brown	NCM
	02			12-33	Clay loam	10YR5/6 Yellowish brown	NCM
3142	01	N700E1200	1	0-10	Loam	10YR3/3 Dark brown	NCM
	02			10-34	Clay loam	10YR5/6 Yellowish brown	NCM
3143	01	N550E1250	1	0-25	Loam	10YR4/3 Brown	NCM
	02			25-50	Loam	10YR5/6 Yellowish brown	NCM
3144	01	N600E1250	1	0-25	Loam	10YR4/3 Brown	NCM
	02			25-60	Loam	10YR5/6 Yellowish brown	NCM
3145	01	N650E1250	1	0-19	Loam	10YR3/3 Dark brown	NCM
	02			19-40	Clay loam	10YR6/4 Light yellowish brown	NCM
3146	01	N700E1250	1	0-17	Loam	10YR3/3 Dark brown	NCM
	02			17-37	Clay loam	10YR5/6 Yellowish brown	NCM
3147	01	N550E1300	1	0-23	Loam	10YR4/3 Brown	NCM
	02			23-47	Loam	10YR5/6 Yellowish brown	NCM
3148	01	N600E1300	1	0-24	Loam	10YR4/3 Brown	NCM
	02			24-45	Loam	10YR5/6 Yellowish brown	NCM
3149	01	N650E1300	1	0-19	Loam	10YR3/3 Dark brown	NCM
	02			30-51	Loam	10YR5/6 Yellowish brown	NCM
3150	01	N700E1300	1	0-22	Loam	10YR3/3 Dark brown	NCM
	02			22-43	Clay loam	10YR5/6 Yellowish brown	NCM
3151	01	N550E1350	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-50	Loam	10YR5/6 Yellowish brown	NCM
	03			50+	Rock		
3152	01	N600E1350	1	0-27	Loam	10YR4/3 Brown	NCM
	02			27-47	Loam	10YR5/6 Yellowish brown	NCM
3153	01	N650E1350	1	0-20	Loam	10YR3/3 Dark brown	NCM
	02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3154	01	N700E1350	1	0-9	Loam	10YR3/3 Dark brown	NCM
	02			9-38	Clay loam	10YR5/6 Yellowish brown	NCM
3155	01	N550E1400	1	0-24	Loam	10YR4/3 Brown	NCM
	02			24-44	Clay loam	10YR5/6 Yellowish brown	NCM
3156	01	N600E1400	1	0-22	Loam	10YR4/3 Brown	NCM
	02			22-44	Clay loam	10YR5/6 Yellowish brown	NCM
3157	01	N650E1400	1	0-25	Loam	10YR3/3 Dark brown	NCM
	02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3158	01	N700E1400	1	0-15	Loam	10YR3/3 Dark brown	NCM
	02			15-35	Clay loam	10YR5/6 Yellowish brown	NCM
3159	01	N550E1450	1	0-23	Loam	10YR4/3 Brown	NCM
	02			23-43	Clay loam	10YR5/6 Yellowish brown	NCM
3160	01	N600E1450	1	0-40	Loam	10YR4/3 Brown	NCM
	02			40-60	Clay loam	10YR5/4 Yellowish brown	NCM
3161	01	N650E1450	1	0-22	Loam	10YR3/3 Dark brown	NCM
	02			22-43	Clay loam	10YR5/6 Yellowish brown	NCM
3162	01	N700E1450	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-36	Clay loam	10YR5/6 Yellowish brown	NCM
3163	01	N550E1500	1	0-20	Loam	10YR4/3 Brown	NCM
	02			20-41	Loam	10YR5/6 Yellowish brown	NCM
3164	01	N600E1500	1	0-23	Loam	10YR4/3 Brown	NCM
	02			23-43	Loam	10YR5/6 Yellowish brown	NCM
3165	01	N650E1500	1	0-24	Loam	10YR3/3 Dark brown	NCM
	02			24-44	Clay loam	10YR5/6 Yellowish brown	NCM
3166	01	N700E1500	1	0-27	Loam	10YR3/3 Dark brown	NCM
	02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3167	01	N550E1550	1	0-24	Loam	10YR4/3 Brown	NCM
	02			24-48	Loam	10YR5/6 Yellowish brown	NCM
3168	01	N600E1550	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-50	Gravelly clay loam	10YR5/6 Yellowish brown	NCM
3169	01	N650E1550	1	0-20	Loam	10YR3/3 Dark brown	NCM
	02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3170	01	N700E1550	1	0-26	Loam	10YR4/3 Brown	NCM
	02			26-47	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3171	01	N550E1600	1	0-27	Loam	10YR4/3 Brown	NCM
	02			27-50	Clay loam	10YR5/6 Yellowish brown	NCM
3172	01	N600E1600	1	0-20	Loam	10YR4/3 Brown	NCM
	02			20-44	Clay loam	10YR5/6 Yellowish brown	NCM
3173	01	N650E1600	1	0-18	Loam	10YR3/3 Dark brown	NCM
	02			18-41	Clay loam	10YR5/6 Yellowish brown	NCM
3174	01	N700E1600	1	0-20	Loam	10YR3/3 Dark brown	NCM
	02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3175	01	N550E1650	1	0-25	Loam	10YR4/3 Brown	NCM
	02			25-45	Loam	10YR5/6 Yellowish brown	NCM
3176	01	N600E1650	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-50	Loam	10YR5/6 Yellowish brown	NCM
3177	01	N450E1650	1	0-18	Loam	10YR4/3 Brown	NCM
	02			18-38	Loam	10YR5/6 Yellowish brown	NCM
3178	01	N500E1650	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-45	Loam	10YR5/6 Yellowish brown	NCM
3179	01	N450E1600	1	0-21	Loam	10YR4/3 Brown	NCM
	02			21-42	Loam	10YR5/6 Yellowish brown	NCM
3180	01	N500E1600	1	0-23	Loam	10YR4/3 Brown	NCM
	02			23-44	Loam	10YR5/6 Yellowish brown	NCM
3181	01	N450E1550	1	0-30	Gravelly loam	10YR4/3 Brown	NCM
	02			30-50	Loam	10YR5/6 Yellowish brown	NCM
3182	01	N500E1550	1	0-28	Gravelly loam	10YR4/3 Brown	NCM
	02			28-48	Loam	10YR5/6 Yellowish brown	NCM
3183	01	N450E1500	1	0-26	Gravelly loam	10YR4/3 Brown	NCM
	02			26-47	Loam	10YR5/6 Yellowish brown	NCM
3184	01	N500E1500	1	0-25	Gravelly loam	10YR4/3 Brown	NCM
	02			25-47	Loam	10YR5/6 Yellowish brown	NCM
3185	01	N450E1450	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-52	Loam	10YR5/6 Yellowish brown	NCM
3186	01	N500E1450	1	0-26	Loam	10YR4/3 Brown	NCM
	02			26-47	Loam	10YR5/6 Yellowish brown	NCM
3187	01	N450E1400	1	0-27	Loam	10YR4/3 Brown	NCM
	02			27-49	Loam	10YR5/6 Yellowish brown	Charcoal*
3188	01	N500E1400	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-51	Loam	10YR5/6 Yellowish brown	NCM
3189	01	N450E1350	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-50	Loam	10YR5/6 Yellowish brown	NCM
3190	01	N500E1350	1	0-27	Loam	10YR4/3 Brown	NCM
	02			27-49	Loam	10YR5/6 Yellowish brown	NCM
3191	01	N500E1300	1	0-29	Loam	10YR4/3 Brown	NCM
	02			29-51	Loam	10YR5/6 Yellowish brown	NCM
3192	01	N1000E400	1	0-18	Loam	10YR3/3 Dark brown	NCM
	02			18-38	Clay loam	10YR5/6 Yellowish brown	NCM
3193	01	N1000E650	1	0-30	Loam	10YR4/3 Brown	NCM
	02			30-53	Loam	10YR5/6 Yellowish brown	NCM
3194	01	N1000E600	1	0-25	Loam	10YR4/3 Brown	NCM
	02			25-47	Loam	10YR5/6 Yellowish brown	NCM
3195	01	N1000E550	1	0-21	Loam	10YR4/3 Brown	NCM
	02			21-45	Loam	10YR5/6 Yellowish brown	NCM
3196	01	N1000E500	1	0-23	Loam	10YR4/3 Brown	NCM
	02			23-46	Loam	10YR5/4 Yellowish brown	NCM
3197	01	N950E650	1	0-20	Clay loam	10YR4/3 Brown	NCM
	02			20-45	Clay loam	10YR5/4 Yellowish brown	NCM
3198	01	N950E600	1	0-19	Clay loam	10YR4/3 Brown	1 chert flake
	02			19-44	Clay loam	10YR5/6 Yellowish brown	NCM
3199	01	N950E550	1	0-24	Clay loam	10YR4/3 Brown	NCM
	02			24-44	Clay loam	10YR5/6 Yellowish brown	NCM
3200	01	N950E500	1	0-24	Clay loam	10YR4/3 Brown	NCM
	02			24-46	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3201	01	N900E650	1	0-15	Loam	10YR3/3 Dark brown	NCM
	02			15-30	Clay loam	10YR5/6 Yellowish brown	NCM
3202	01	N900E600	1	0-19	Loam	10YR3/3 Dark brown	NCM
	02			19-40	Clay loam	10YR5/6 Yellowish brown	NCM
3203	01	N900E550	1	0-21	Loam	10YR3/3 Dark brown	NCM
	02			21-43	Clay loam	10YR5/6 Yellowish brown	NCM
3204	01	N900E500	1	0-32	Loam	10YR4/3 Brown	NCM
	02			32-52	Clay loam	10YR5/5 Yellowish brown	NCM
3205	01	N850E650	1	0-13	Loam	10YR4/3 Brown	NCM
	02			13-30	Loam	10YR5/6 Yellowish brown	NCM
				30+	Roots		
3206	01	N850E600	1	0-13	Loam	10YR4/3 Brown	NCM
	02			13-37	Loam	10YR5/6 Yellowish brown	NCM
3207	01	N850E550	1	0-15	Loam	10YR4/3 Brown	NCM
	02			15-41	Loam	10YR5/6 Yellowish brown	NCM
3208	01	N850E500	1	0-17	Loam	10YR4/3 Brown	NCM
	02			17-39	Loam	10YR5/6 Yellowish brown	NCM
3209	01	N800E650	1	0-14	Loam	10YR4/3 Brown	NCM
	02			14-38	Gravelly loam	10YR5/4 Yellowish brown	NCM
3210	01	N800E600	1	0-15	Loam	10YR4/3 Brown	2 flakes
	02			15-38	Loam	10YR5/4 Yellowish brown	NCM
3211	01	N800E550	1	0-14	Loam	10YR4/3 Brown	NCM
	02			14-34	Clay loam	10YR5/4 Yellowish brown	NCM
3212	01	N800E500	1	0-13	Loam	10YR4/3 Brown	NCM
	02			13-34	Loam	10YR5/4 Yellowish brown	NCM
3213	01	N750E650	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-36	Clay loam	10YR5/6 Yellowish brown	NCM
3214	01	N750E600	1	0-15	Loam	10YR3/3 Dark brown	NCM
	02			15-35	Clay loam	10YR5/6 Yellowish brown	NCM
3215	01	N750E550	1	0-18	Loam	10YR3/3 Dark brown	NCM
	02			18-42	Clay loam	10YR5/6 Yellowish brown	NCM
3216	01	N750E500	1	0-22	Loam	10YR3/3 Dark brown	NCM
	02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3217	01	N700E650	1	0-21	Loam	10YR3/3 Dark brown	NCM
	02			21-45	Clay loam	10YR5/6 Yellowish brown	NCM
3218	01	N700E600	1	0-19	Loam	10YR3/3 Dark brown	NCM
	02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3219	01	N700E550	1	0-21	Loam	10YR3/3 Dark brown	NCM
	02			21-41	Clay loam	10YR5/6 Yellowish brown	NCM
3220	01	N700E500	1	0-23	Loam	10YR3/3 Dark brown	NCM
	02			23-45	Clay loam	10YR5/6 Yellowish brown	NCM
3221	01	N650E650	1	0-12	Loam	10YR4/3 Brown	NCM
	02			12-29	Loam	10YR5/6 Yellowish brown	NCM
				29+	Rock		
3222	01	N650E600	1	0-14	Loam	10YR4/3 Brown	NCM
	02			14-36	Loam	10YR5/4 Yellowish brown	NCM
3223	01	N650E550	1	0-15	Loam	10YR4/3 Brown	NCM
	02			15-38	Clay loam	10YR5/4 Yellowish brown	NCM
3224	01	N650E500	1	0-14	Loam	10YR4/3 Brown	NCM
	02			14-39	Clay loam	10YR5/4 Yellowish brown	NCM
3225	01	N600E650	1	0-22	Loam	10YR3/3 Dark brown	NCM
	02			22-43	Clay loam	10YR5/6 Yellowish brown	NCM
3226	01	N600E600	1	0-14	Loam	10YR3/3 Dark brown	NCM
	02			14-37	Clay loam	10YR5/6 Yellowish brown	NCM
3227	01	N600E550	1	0-10	Loam	10YR4/3 Brown	NCM
	02			10-30	Loam	10YR5/6 Yellowish brown	NCM
3228	01	N600E500	1	0-13	Loam	10YR4/3 Brown	NCM
	02			13-31	Loam	10YR5/6 Yellowish brown	NCM
	03			31+	Rock		
3229	01	N550E650	1	0-19	Loam	10YR3/3 Dark brown	NCM
	02			19-40	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3230	01	N550E600	1	0-21	Loam	10YR3/3 Dark brown	NCM
	02			21-41	Clay loam	10YR5/6 Yellowish brown	NCM
3231	01	N550E550	1	0-18	Loam	10YR3/3 Dark brown	NCM
	02			18-39	Clay loam	10YR5/6 Yellowish brown	NCM
3232	01	N550E500	1	0-22	Loam	10YR3/3 Dark brown	NCM
	02			22-43	Clay loam	10YR4/6 Dark yellowish brown	NCM
3233	01	N1000E450	1	0-28	Loam	10YR4/3 Brown	NCM
	02			28-48	Loam	10YR5/4 Yellowish brown	NCM
3234	01	N1000E400	1	0-25	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			25-46	Clay loam	10YR5/6 Yellowish brown	NCM
3235	01	N1000E350	1	0-18	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			18-40	Clay loam	10YR5/6 Yellowish brown	NCM
				40+	Water		
3236	01	N1000E300	1	0-11	Clay loam	10YR4/3 Brown	NCM
	02			11-35	Clay loam	10YR5/6 Yellowish brown	NCM
3237	01	N950E450	1	0-24	Clay loam	10YR4/3 Brown	NCM
	02			24-45	Clay loam	10YR5/6 Yellowish brown	NCM
3238	01	N950E400	1	0-18	Clay loam	10YR4/3 Brown	NCM
	02			18-40	Clay loam	10YR5/4 Yellowish brown	NCM
3239	01	N950E350	1	0-21	Clay loam	10YR4/3 Brown	NCM
	02			21-43	Clay loam	10YR5/4 Yellowish brown	NCM
3240	01	N950E300	1	0-18	Clay loam	10YR4/3 Brown	NCM
	02			18-40	Clay	10YR5/6 Yellowish brown	NCM
3241	01	N900E450	1	0-23	Loam	10YR4/3 Brown	NCM
	02			23-44	Clay loam	10YR5/6 Yellowish brown	NCM
3242	01	N900E400	1	0-27	Loam	10YR4/3 Brown	NCM
	02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3243	01	N900E350	1	0-47	Loam	10YR4/3 Brown	NCM
	02			47-53	Clay loam	10YR5/6 Yellowish brown	NCM
3244	01	N900E300	1	0-20	Loam	10YR3/2 Very dk. grayish brown	NCM
	02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3245	01	N850E450	1	0-16	Loam	10YR4/3 Brown	NCM
	02			16-44	Loam	10YR5/6 Yellowish brown	NCM
3246	01	N850E400	1	0-16	Loam	10YR4/3 Brown	NCM
	02			16-45	Loam	10YR5/6 Yellowish brown	NCM
3247	01	N850E350	1	0-14	Loam	10YR4/3 Brown	NCM
	02			14-37	Clay loam	10YR5/6 Yellowish brown	NCM
3248	01	N850E300	1	0-14	Clay loam	10YR4/3 Brown	NCM
	02			14-35	Clay loam	10YR5/6 Yellowish brown	NCM
3249	01	N800E450	1	0-15	Loam	10YR4/3 Brown	NCM
	02			15-38	Loam	10YR5/4 Yellowish brown	NCM
3250	01	N800E400	1	0-14	Loam	10YR4/3 Brown	NCM
	02			14-36	Loam	10YR5/4 Yellowish brown	NCM
3251	01	N800E350	1	0-12	Loam	10YR4/3 Brown	NCM
	02			12-35	Loam	10YR5/6 Yellowish brown	NCM
3252	01	N800E300	1	0-17	Loam	10YR4/3 Brown	NCM
	02			17-39	Clay	10YR5/6 Yellowish brown	NCM
3253	01	N750E450	1	0-14	Loam	10YR3/3 Dark brown	NCM
	02			14-30	Clay loam	10YR5/6 Yellowish brown	NCM
	03			30+	Rock		
3254	01	N750E400	1	0-16	Loam	10YR3/3 Dark brown	NCM
	02			16-36	Clay loam	10YR5/6 Yellowish brown	NCM
3255	01	N750E350	1	0-13	Loam	10YR4/2 Dark grayish brown	NCM
	02			13-33	Clay loam	10YR5/6 Yellowish brown	NCM
3256	01	N750E300	1	0-19	Loam	10YR4/2 Dark grayish brown	NCM
	02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3257	01	N700E450	1	0-28	Loam	10YR3/3 Dark brown	NCM
	02			28-50	Clay loam	10YR5/6 Yellowish brown	NCM
3258	01	N700E400	1	0-18	Loam	10YR4/2 Dark grayish brown	NCM
	02			18-38	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3259	.01	N700E350	1	0-19	Loam	10YR3/3 Dark brown	NCM
	.02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3260	.01	N700E300	1	0-16	Loam	10YR3/3 Dark brown	NCM
	.02			16-39	Clay loam	10YR5/6 Yellowish brown	NCM
3261	.01	N650E450	1	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-37	Clay loam	10YR5/6 Yellowish brown	NCM
3262	.01	N650E400	1	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3263	.01	N650E350	1	0-18	Loam	10YR3/3 Dark brown	NCM
	.02			18-38	Loam	10YR5/6 Yellowish brown	NCM
3264	.01	N650E400	1	0-19	Loam	10YR3/3 Dark brown	NCM
	.02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3265	.01	N600E450	1	0-13	Loam	10YR4/3 Brown	NCM
	.02			13-35	Loam	10YR5/6 Yellowish brown	NCM
3266	.01	N600E400	1	0-14	Loam	10YR4/3 Brown	NCM
	.02			14-33	Loam	10YR5/4 Yellowish brown	NCM
	.03			33+	Rock		
3267	.01	N600E350	1	0-16	Clay loam	10YR4/3 Brown	NCM
	.02			16-40	Clay loam	10YR5/6 Yellowish brown	NCM
3268	.01	N600E300	1	0-12	Loam	10YR4/3 Brown	NCM
	.02			12-35	Loam	10YR5/4 Yellowish brown	NCM
3269	.01	N550E450	1	0-20	Loam	10YR3/3 Dark brown	NCM
	.02			20-43	Loam	10YR5/6 Yellowish brown	NCM
3270	.01	N550E250	1	0-13	Loam	10YR3/3 Dark brown	NCM
	.02			13-42	Clay loam	10YR5/6 Yellowish brown	NCM
3271	.01	N700E250	1	0-25	Loam	10YR3/3 Dark brown	NCM
	.02			25-46	Clay loam	10YR5/6 Yellowish brown	NCM
3272	.01	N700E200	1	0-16	Loam	10YR3/3 Dark brown	NCM
	.02			16-36	Clay loam	10YR5/4 Yellowish brown	NCM
3273	.01	N750E250	1	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-38	Clay loam	10YR5/4 Yellowish brown	NCM
3274	.01	N750E200	1	0-14	Loam	10YR3/3 Dark brown	NCM
	.02			14-35	Clay loam	10YR5/4 Yellowish brown	NCM
3275	.01	N800E250	1	0-23	Loam	10YR4/3 Brown	NCM
	.02			23-44	Clay	10YR5/6 Yellowish brown	NCM
3276	.01	N800E200	1	0-26	Loam	10YR4/3 Brown	NCM
	.02			26-47	Clay	10YR5/6 Yellowish brown	NCM
3277	.01	N850E250	1	0-16	Clay loam	10YR4/3 Brown	NCM
	.02			16-40	Clay loam	10YR5/4 Yellowish brown	NCM
				40+	Water		
3278	.01	N850E200	1	0-13	Loam	10YR4/3 Brown	NCM
	.02			13-37	Loam	10YR5/6 Yellowish brown	NCM
3279	.01	N900E250	1	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-40	Clay loam	10YR5/6 Yellowish brown	NCM
3280	.01	N900E200	1	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-39	Clay loam	10YR5/6 Yellowish brown	NCM
3281	.01	N950E250	1	0-22	Clay loam	10YR4/3 Brown	NCM
	.02			22-42	Clay	10YR5/6 Yellowish brown	NCM
3282	.01	N950E200	1	0-22	Loam	10YR4/3 Brown	NCM
	.02			22-43	Clay	10YR5/6 Yellowish brown	NCM
3283	.01	N1000E250	1	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-45	Loam	10YR5/4 Yellowish brown	NCM
3284	.01	N1000E200	1	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-42	Clay loam	10YR5/4 Yellowish brown	NCM
3285	.01	N950E1000	2	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-50	Clay loam	10YR5/6 Yellowish brown	NCM
3286	.01	N900E1000	2	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-50	Clay loam	10YR5/4 Yellowish brown	NCM
3287	.01	N850E1000	2	0-22	Loam	10YR4/3 Brown	NCM
	.02			22-45	Clay loam	10YR5/4 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3288	01	N800E1000	2	0-20	Loam	10YR4/3 Brown	NCM
	02			20-40	Clay loam	10YR5/4 Yellowish brown	NCM
3289	01	N750E1000	2	0-27	Loam	10YR4/3 Brown	NCM
	02			27-48	Clay loam	10YR5/4 Yellowish brown	NCM
3290	01	N950E950	2	0-25	Loam	10YR4/3 Brown	NCM
	02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3291	01	N900E950	2	0-30	Loam	10YR4/3 Brown	NCM
	02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3292	01	N850E950	2	0-14	Clay loam	10YR4/3 Brown	NCM
	02			14-34	Clay loam	10YR5/6 Yellowish brown	NCM
3293	01	N800E950	2	0-23	Clay loam	10YR4/3 Brown	NCM
	02			23-43	Clay loam	10YR5/6 Yellowish brown	NCM
3294	01	N750E950	2	0-18	Clay loam	10YR4/3 Brown	NCM
	02			18-38	Clay loam	10YR5/6 Yellowish brown	NCM
3295	01	N950E1050	2	0-24	Loam	10YR4/3 Brown	NCM
	02			24-44	Clay loam	10YR5/4 Yellowish brown	NCM
3296	01	N950E1100	2	0-22	Loam	10YR3/3 Dark brown	NCM
	02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3297	01	N950E1150	2	0-28	Loam	10YR3/2 Very dk. grayish brown	NCM
	02			28-48	Clay loam	10YR5/4 Yellowish brown	NCM
3298	01	N900E1050	2	0-19	Loam	10YR4/3 Brown	NCM
	02			19-39	Loam	10YR5/4 Yellowish brown	NCM
3299	01	N900E1100	2	0-17	Loam	10YR4/3 Brown	NCM
	02			17-38	Clay loam	10YR5/4 Yellowish brown	NCM
3300	01	N900E1150	2	0-30	Loam	10YR3/3 Dark brown	NCM
	02			30-52	Clay loam	10YR5/6 Yellowish brown	NCM
3301	01	N850E1050	2	0-18	Loam	10YR4/3 Brown	NCM
	02			18-39	Clay loam	10YR5/4 Yellowish brown	NCM
3302	01	N850E1100	2	0-15	Loam	10YR3/3 Dark brown	NCM
	02			15-35	Clay loam	10YR5/6 Yellowish brown	NCM
3303	01	N850E1150	2	0-24	Loam	10YR3/3 Dark brown	NCM
	02			24-44	Clay loam	10YR5/6 Yellowish brown	NCM
3304	01	N800E1050	2	0-30	Loam	10YR4/3 Brown	NCM
	02			30+	Rock		
3305	01	N800E1100	2	0-23	Loam	10YR3/3 Dark brown	NCM
	02			23-45	Clay loam	10YR5/6 Yellowish brown	NCM
3306	01	N800E1150	2	0-27	Loam	10YR3/2 Very dk. grayish brown	NCM
	02			27-50	Clay loam	10YR5/4 Yellowish brown	NCM
3307	01	N750E1050	2	0-20	Loam	10YR4/3 Brown	NCM
	02			20-45	Loam	10YR5/4 Yellowish brown	NCM
3308	01	N750E1100	2	0-22	Loam	10YR3/3 Dark brown	NCM
	02			22-45	Clay loam	10YR5/6 Yellowish brown	NCM
3309	01	N750E1150	2	0-36	Loam	10YR3/2 Very dk. grayish brown	NCM
	02			36-56	Clay loam	10YR5/4 Yellowish brown	NCM
3310	01	N975E450	3	0-20	Loam	10YR4/3 Brown	NCM
	02			20-40	Clay	10YR5/6 Yellowish brown	NCM
3311	01	N975E500	3	0-20	Clay loam	10YR4/3 Brown	NCM
	02			20-41	Clay loam	10YR5/6 Yellowish brown	NCM
3312	01	N975E550	3	0-20	Clay loam	10YR4/3 Brown	NCM
	02			20-40	Loamy clay	10YR5/6 Yellowish brown	NCM
3313	01	N975E600	3	0-17	Clay loam	10YR4/3 Brown	NCM
	02			17-37	Loamy clay	10YR5/4 Yellowish brown	NCM
3314	01	N975E650	3	0-30	Clay loam	10YR4/3 Brown	1 Nail
	02			30-36	Clay loam	10YR5/6 Yellowish brown	NCM
	03			36+	Rock		
3315	01	N975E700	3	0-17	Clay loam	10YR4/3 Brown	NCM
	02			17-38	Clay loam	10YR5/6 Yellowish brown	NCM
3316	01	N975E750	3	0-28	Clay loam	10YR4/3 Brown	NCM
	02			28-38	Clay loam	10YR5/6 Yellowish brown	NCM
	03			38+	Rock		

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3317	01	N975E800	3	0-21	Clay loam	10YR4/3 Brown	NCM
	02			21-31	Clay loam	10YR5/4 Yellowish brown	NCM
				31+	Water		
3318	01	N925E750	3	0-32	Clay loam	10YR4/3 Brown	NCM
				32+	Water		
3319	01	N925E700	3	0-29	Clay loam	10YR4/3 Brown	NCM
	02			29-49	Clay loam	10YR5/6 Yellowish brown	NCM
3320	01	N875E700	3	0-20	Loam	10YR4/2 Dark grayish brown	NCM
	02			20-42	Clay	10YR3/2 Very dk. grayish brown	NCM
3321	01	N925E650	3	0-31	Clay loam	10YR4/3 Brown	NCM
	02			31-52	Clay loam	10YR5/6 Yellowish brown	NCM
3322	01	N875E650	3	0-18	Loam	10YR4/2 Dark grayish brown	NCM
	02			18-38	Clay	10YR3/2 Very dk. grayish brown	NCM
3323	01	N925E600	3	0-28	Clay loam	10YR4/3 Brown	NCM
	02			28-50	Clay loam	10YR5/6 Yellowish brown	NCM
3324	01	N925E550	3	0-30	Clay loam	10YR4/3 Brown	NCM
	02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3325	01	N925E500	3	0-23	Clay loam	10YR4/3 Brown	NCM
	02			23-45	Clay loam	10YR5/6 Yellowish brown	NCM
3326	01	N875E500	3	0-20	Loam	10YR4/2 Dark grayish brown	NCM
	02			20-40	Clay	10YR5/4 Yellowish brown	NCM
3327	01	N925E450	3	0-23	Clay loam	10YR4/3 Brown	NCM
	02			23-43	Clay loam	10YR5/6 Yellowish brown	NCM
3328	01	N875E450	3	0-20	Loam	10YR4/2 Dark grayish brown	NCM
	02			20-40	Clay	10YR5/6 Yellowish brown	NCM
3329	01	N825E450	3	0-10	Loam	10YR4/3 Brown	NCM
				10+	Water		
3330	01	N1000E300	4	0-30	Sandy loam	10YR4/3 Brown	NCM
	02			30-50	Sand	10YR3/2 Very dk. grayish brown	NCM
	03			50-70	Clay	10YR2/1 Black	NCM
3331	01	N950E300	4	0-18	Channery loam	10YR4/2 Dark grayish brown	NCM
	02			18-40	Channery clay	10YR5/4 Yellowish brown	NCM
3332	01	N900E300	4	0-15	Channery loam	10YR4/2 Dark grayish brown	NCM
	02			15-35	Channery clay	10YR7/1 Light gray	NCM
3333	01	N1000E250	4	0-27	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			27-47	Loamy clay	10YR4/2 Dark grayish brown	NCM
3334	01	N950E250	4	0-30	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			30-44	Clay loam	10YR5/6 Yellowish brown	NCM
				44+	Water		
3335	01	N900E250	4	0-16	Loam	10YR4/2 Dark grayish brown	NCM
	02			16-40	Clay	10YR7/1 Light gray	NCM
3336	01	N1000E350	4	0-28	Clay loam	10YR4/3 Brown	NCM
	02			28-44	Clay loam	10YR5/6 Yellowish brown	NCM
				44+	Water		
3337	01	N950E350	4	0-16	Clay loam	10YR4/3 Brown	NCM
	02			16-37	Clay loam	10YR5/6 Yellowish brown	NCM
3338	01	N900E350	4	0-16	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			16-40	Loamy clay	10YR5/6 Yellowish brown	NCM
3339	01	N1000E400	4	0-19	Clay loam	10YR4/3 Brown	NCM
	02			19-40	Clay loam	10YR5/4 Yellowish brown	NCM
3340	01	N950E400	4	0-20	Clay loam	10YR4/3 Brown	NCM
	02			20-42	Clay loam	10YR5/4 Yellowish brown	NCM
3341	01	N50E300	5	0-37	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			37-48	Loamy clay	10YR 5/3 Brown	NCM
	03			48+	Rock		
3342	01	N100E300	5	0-26	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3343	01	N150E300	5	0-14	Clay loam	10YR3/2 Very dk. grayish brown	NCM
				14+	Water		
3344	01	N50E250	5	0-29	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3345	.01	N100E250	5	0-26	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3346	.01	N150E250	5	0-15	Loam	10YR3/2 Very dk. grayish brown	NCM
				15+	Water		
3347	.01	N50E200	5	0-17	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			17-37	Loamy clay	10YR 5/3 Brown	NCM
3348	.01	N100E200	5	0-24	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			24-44	Loam clay	10YR5/6 Yellowish brown	NCM
3349	.01	N150E200	5	0-34	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			34+	Rock		
3350	.01	N50E150	5	0-20	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			20-40	Clay loam	10YR 5/3 Brown	NCM
3351	.01	N100E150	5	0-33	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			33-53	Clay loam	10YR5/4 Yellowish brown	NCM
3352	.01	N150E150	5	0-32	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			32-35	Clay loam	10YR5/4 Yellowish brown	NCM
3353	.01	N50E350	5	0-19	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			19-41	Clay loam	10YR5/4 Yellowish brown	NCM
3354	.01	N100E350	5	0-35	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			35-52	Clay loam	10YR5/4 Yellowish brown	NCM
3355	.01	N150E350	5	0-24	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			24-45	Clay loam	10YR5/4 Yellowish brown	NCM
3356	.01	N50E400	5	0-23	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			23-46	Clay loam	10YR5/6 Yellowish brown	NCM
3357	.01	N100E400	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-44	Clay loam	10YR5/6 Yellowish brown	NCM
3358	.01	N150E400	5	0-24	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			24-44	Clay loam	10YR 5/3 Brown	NCM
3359	.01	N50E450	5	0-33	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			33-53	Clay loam	10YR5/4 Yellowish brown	NCM
3360	.01	N100E450	5	0-18	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			18-39	Clay loam	10YR 5/3 Brown	NCM
3361	.01	N150E450	5	0-28	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			28+	Rock		
3362	.01	N50E500	5	0-27	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			27-47	Clay loam	10YR5/4 Yellowish brown	NCM
3363	.01	N100E500	5	0-24	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			24-50	Clay loam	10YR5/4 Yellowish brown	NCM
3364	.01	N150E500	5	0-5	Clay loam	10YR3/2 Very dk. grayish brown	NCM
				5+	Water		
3365	.01	N50E550	5	0-30	Clay loam	10YR4/6 Dark yellowish brown	NCM
	.02			30-48	Clay loam	10YR5/4 Yellowish brown	NCM
3366	.01	N100E550	5	0-8	Clay loam	10YR3/2 Very dk. grayish brown	NCM
				8+	Water		
3367	.01	N150E550	5	0-28	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			28-48	Clay loam	10YR5/4 Yellowish brown	NCM
3368	.01	N50E600	5	0-27	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			27-47	Clay loam	10YR5/4 Yellowish brown	NCM
3369	.01	N100E600	5	0-22	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			22-52	Clay loam	10YR5/4 Yellowish brown	NCM
3370	.01	N150E600	5	0-11	Clay loam	10YR3/2 Very dk. grayish brown	NCM
				11+	Water		
3371	.01	N200E600	5	0-28	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			28-34	Clay loam	10YR5/4 Yellowish brown	NCM
				34+	Water		
3372	.01	N250E600	5	0-16	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			16-37	Clay loam	10YR5/4 Yellowish brown	NCM
3373	.01	N200E550	5	0-26	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			26-46	Clay loam	10YR5/4 Yellowish brown	NCM
3374	.01	N250E550	5	0-24	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			24-44	Clay loam	10YR5/4 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3375	.01	N200E500	5	0-21	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			21-44	Clay loam	10YR5/4 Yellowish brown	NCM
3376	.01	N250E500	5	0-23	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			23	Clay loam	10YR5/4 Yellowish brown	NCM
3377	.01	N200E450	5	0-27	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3378	.01	N250E450	5	0-27	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3379	.01	N200E400	5	0-29	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			29-50	Clay loam	10YR5/4 Yellowish brown	NCM
3380	.01	N250E400	5	0-29	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			29-40	Clay loam	10YR5/6 Yellowish brown	NCM
				40+	Water		
3381	.01	N200E350	5	0-30	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			30-50	Clay loam	10YR5/4 Yellowish brown	NCM
3382	.01	N250E350	5	0-14	Loam	10YR3/2 Very dk. grayish brown	NCM
				14+	Water		
3383	.01	N200E300	5	0-23	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			23-44	Clay loam	10YR5/4 Yellowish brown	NCM
3384	.01	N250E300	5	0-25	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			25-42	Clay loam	10YR5/6 Yellowish brown	NCM
3385	.01	N200E250	5	0-13	Loam	10YR3/2 Very dk. grayish brown	NCM
				13+	Water		
3386	.01	N250E250	5	0-6	Loam	10YR3/2 Very dk. grayish brown	NCM
				6+	Water		
3387	.01	N200E200	5	0-21	Loam	10YR3/2 Very dk. grayish brown	NCM
				21+	Water		
3388	.01	N250E200	5	0-12	Loam	10YR3/2 Very dk. grayish brown	NCM
				12+	Water		
3389	.01	N200E150	5	0-16	Loam	10YR3/2 Very dk. grayish brown	NCM
				16+	Water		
3390	.01	N250E150	5	0-4	Loam	10YR3/2 Very dk. grayish brown	NCM
				4+	Water		
3391	.01	N300E150	5	0-2	Loam	10YR3/2 Very dk. grayish brown	NCM
				2+	Water		
3392	.01	N350E150	5	0-26	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3393	.01	N300E200	5	0-10	Loam	10YR3/2 Very dk. grayish brown	NCM
				10+	Water		
3394	.01	N350E200	5	0-28	Loam	10YR3/2 Very dk. grayish brown	NCM
				28+	Water		
3395	.01	N300E250	5	0-12	Loam	10YR3/2 Very dk. grayish brown	NCM
				12+	Water		
3396	.01	N350E250	5	0-13	Loam	10YR3/2 Very dk. grayish brown	NCM
				13+	Water		
3397	.01	N300E300	5	0-24	Loam	10YR3/2 Very dk. grayish brown	NCM
				24+	Water		
3398	.01	N350E300	5	0-15	Loam	10YR3/2 Very dk. grayish brown	NCM
				15+	Water		
3399	.01	N300E350	5	0-19	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			19-35	Clay loam	10YR5/4 Yellowish brown	NCM
				35+	Water		
3400	.01	N350E350	5	0-14	Loam	10YR3/2 Very dk. grayish brown	NCM
				14+	Water		
3401	.01	N40E200	6	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-41	Clay loam	10YR5/6 Yellowish brown	NCM
3402	.01	N40E150	6	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3403	.01	N90E150	6	0-21	Loam	10YR4/3 Brown	NCM
	.02			21-42	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3404	.01	N140E150	6	0-22	Gravelly loam	10YR4/3 Brown	NCM
	.02			22-43	Clay loam	10YR5/6 Yellowish brown	NCM
3405	.01	N90E200	6	0-36	Loam	10YR4/3 Brown	NCM
	.02			36-58	Clay loam	10YR5/6 Yellowish brown	NCM
3406	.01	N140E200	6	0-46	Gravelly loam	10YR4/3 Brown	NCM
	.02			46-50	Clay loam	10YR5/6 Yellowish brown	NCM
	.03			50+	Rock		
3407	.01	N40E250	6	0-25	Clay loam	10YR4/3 Brown	NCM
	.02			25-46	Clay	10YR 5/3 Brown	NCM
3408	.01	N90E250	6	0-24	Clay loam	10YR4/3 Brown	NCM
	.02			24-46	Clay loam	10YR5/6 Yellowish brown	NCM
3409	.01	N140E250	6	0-30	Clay loam	10YR4/3 Brown	NCM
	.02			30-51	Clay loam	10YR 5/3 Brown	NCM
3410	.01	N40E300	6	0-36	Loam	10YR4/3 Brown	NCM
	.02			36+	Rock		
3411	.01	N90E300	6	0-33	Loam	10YR4/3 Brown	NCM
	.02			33-55	Clay loam	10YR 5/3 Brown	NCM
3412	.01	N140E300	6	0-23	Loam	10YR4/3 Brown	NCM
	.02			23-45	Clay loam	10YR 5/3 Brown	NCM
3413	.01	N40E350	6	0-33	Loam	10YR4/3 Brown	NCM
	.02			33-45	Clay loam	10YR5/4 Yellowish brown	NCM
3414	.01	N90E350	6	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-45	Clay loam	10YR5/4 Yellowish brown	NCM
3415	.01	N140E350	6	0-25	Clay loam	10YR4/3 Brown	NCM
	.02			25-45	Clay loam	10YR 5/3 Brown	NCM
3416	.01	N40E400	6	0-24	Loam	10YR4/3 Brown	NCM
	.02			24-45	Loam	10YR5/6 Yellowish brown	NCM
3417	.01	N90E400	6	0-24	Loam	10YR4/3 Brown	NCM
	.02			24-46	Loam	10YR5/6 Yellowish brown	NCM
3418	.01	N140E400	6	0-24	Loam	10YR4/3 Brown	NCM
	.02			24-44	Loam	10YR5/6 Yellowish brown	NCM
3419	.01	N40E450	6	0-28	Loam	10YR4/3 Brown	NCM
	.02			28-48	Loam	10YR5/6 Yellowish brown	NCM
3420	.01	N90E450	6	0-40	Loam	10YR4/3 Brown	NCM
	.02			40-60	Loam	10YR5/6 Yellowish brown	NCM
3421	.01	N140E450	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-50	Clay	10YR5/6 Yellowish brown	NCM
3422	.01	N40E500	6	0-26	Loam	10YR4/3 Brown	NCM
	.02			26-46	Clay	10YR5/6 Yellowish brown	NCM
3423	.01	N90E500	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-52	Clay	10YR5/6 Yellowish brown	NCM
3424	.01	N140E500	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-51	Clay	10YR5/6 Yellowish brown	NCM
3425	.01	N40E550	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-47	Clay	10YR5/6 Yellowish brown	NCM
3426	.01	N90E550	6	0-28	Loam	10YR4/3 Brown	NCM
	.02			28-48	Clay loam	10YR5/6 Yellowish brown	NCM
3427	.01	N140E550	6	0-30	Clay loam	10YR4/3 Brown	NCM
	.02			30-52	Clay loam	10YR5/6 Yellowish brown	NCM
3428	.01	N40E600	6	0-36	Clay loam	10YR4/3 Brown	NCM
	.02			36-58	Clay loam	10YR5/6 Yellowish brown	NCM
3429	.01	N90E600	6	0-27	Clay loam	10YR4/3 Brown	NCM
	.02			27-46	Clay loam	10YR5/6 Yellowish brown	NCM
3430	.01	N140E600	6	0-25	Clay loam	10YR4/3 Brown	NCM
	.02			25-46	Clay loam	10YR5/6 Yellowish brown	NCM
3431	.01	N40E650	6	0-30	Clay loam	10YR4/3 Brown	NCM
	.02			30-50	Clay	10YR5/6 Yellowish brown	Charcoal flecks*
3432	.01	N90E650	6	0-26	Clay loam	10YR4/3 Brown	NCM
	.02			26-47	Clay loam	10YR5/6 Yellowish brown	NCM
3433	.01	N140E650	6	0-26	Clay loam	10YR4/3 Brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3434	.01	N40E700	6	0-30	Clay loam	10YR4/3 Brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3435	.01	N90E700	6	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3436	.01	N140E700	6	0-26	Clay loam	10YR4/3 Brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3437	.01	N40E750	6	0-28	Loam	10YR3/3 Dark brown	NCM
	.02			28-48	Clay loam	10YR5/8 Yellowish brown	NCM
3438	.01	N90E750	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3439	.01	N140E750	6	0-29	Loam	10YR4/3 Brown	NCM
	.02			29-49	Clay loam	10YR5/6 Yellowish brown	NCM
3440	.01	N40E800	6	0-21	Gravelly loam	10YR3/3 Dark brown	NCM
	.02			21-40	Gravelly clay loam	10YR5/6 Yellowish brown	NCM
3441	.01	N90E800	6	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3442	.01	N140E800	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3443	.01	N190E800	6	0-15	Loam	10YR4/3 Brown	NCM
	.02			15-35	Clay loam	10YR5/6 Yellowish brown	NCM
3444	.01	N240E800	6	0-12	Loam	10YR4/3 Brown	NCM
	.02			12-38	Clay loam	10YR5/6 Yellowish brown	NCM
3445	.01	N190E750	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-45	Clay loam	10YR5/6 Yellowish brown	NCM
	.03			45+	Bedrock		
3446	.01	N240E750	6	0-23	Loam	10YR4/3 Brown	NCM
	.02			23-45	Clay loam	10YR5/6 Yellowish brown	NCM
3447	.01	N190E700	6	0-29	Loam	10YR3/3 Dark brown	NCM
	.02			29-40	Clay loam	10YR5/6 Yellowish brown	NCM
				40+	Water		
3448	.01	N240E700	6	0-30	Loam	10YR3/3 Dark brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3449	.01	N190E650	6	0-11	Loam	10YR3/2 Very dk. grayish brown	NCM
				11+	Water		
3450	.01	N240E650	6	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22-45	Clay loam	10YR5/6 Yellowish brown	NCM
3451	.01	N190E600	6	0-26	Loam	10YR4/3 Brown	NCM
	.02			26-47	Clay loam	10YR5/6 Yellowish brown	NCM
3452	.01	N240E600	6	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-46	Clay loam	10YR5/6 Yellowish brown	NCM
3453	.01	N190E550	6	0-25	Loam	10YR3/3 Dark brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3454	.01	N240E550	6	0-34	Loam	10YR3/3 Dark brown	NCM
	.02			34-50	Clay loam	10YR5/6 Yellowish brown	NCM
3455	.01	N190E500	6	0-28	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			28-48	Clay loam	10YR5/4 Yellowish brown	NCM
3456	.01	N240E500	6	0-30	Loam	10YR3/3 Dark brown	NCM
	.02			30-53	Clay loam	10YR5/6 Yellowish brown	NCM
3457	.01	N190E450	6	0-30	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			30-50	Clay loam	10YR5/4 Yellowish brown	NCM
3458	.01	N240E450	6	0-28	Clay loam	10YR3/2 Very dk. grayish brown	NCM
	.02			28-48	Clay loam	10YR5/4 Yellowish brown	NCM
3459	.01	N190E400	6	0-32	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			32-50	Clay loam	10YR5/6 Yellowish brown	NCM
3460	.01	N240E400	6	0-31	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			31-53	Clay loam	10YR5/6 Yellowish brown	NCM
3461	.01	N190E350	6	0-27	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3462	.01	N240E350	6	0-28	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			28-48	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3463	.01	N190E300	6	0-20	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3464	.01	N240E300	6	0-28	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			28-48	Clay loam	10YR5/6 Yellowish brown	NCM
3465	.01	N190E250	6	0-23	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			23-43	Clay loam	10YR5/6 Yellowish brown	NCM
3466	.01	N240E250	6	0-18	Loam	10YR3/3 Dark brown	NCM
	.02			18-40	Loam	10YR5/6 Yellowish brown	NCM
3467	.01	N190E200	6	0-34	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			34-46	Clay loam	10YR5/6 Yellowish brown	NCM
	.03			46+	Bedrock		
3468	.01	N240E200	6	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22+	Bedrock		
3469	.01	N190E150	6	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17+	Bedrock		
3470	.01	N240E150	6	0-21	Loam	10YR3/3 Dark brown	NCM
	.02			21-42	Clay loam	10YR5/6 Yellowish brown	NCM
3471	.01	N290E1500	6	0-26	Loam	10YR4/3 Brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3472	.01	N340E150	6	0-22	Loam	10YR4/3 Brown	NCM
	.02			22-44	Clay loam	10YR5/6 Yellowish brown	NCM
3473	.01	N290E200	6	0-21	Clay loam	10YR4/3 Brown	NCM
	.02			21-42	Clay loam	10YR5/6 Yellowish brown	NCM
3474	.01	N340E200	6	0-44	Loam	10YR4/3 Brown	NCM
				44	Root		
3475	.01	N290E250	6	0-19	Clay loam	10YR4/3 Brown	NCM
	.02			19-40	Clay loam	10YR5/6 Yellowish brown	NCM
3476	.01	N340E250	6	0-14	Loam	10YR4/3 Brown	NCM
	.02			14-31	Clay loam	10YR5/6 Yellowish brown	NCM
3477	.01	N290E300	6	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3478	.01	N340E300	6	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-40	Clay loam	10YR4/6 Dark yellowish brown	NCM
3479	.01	N290E350	6	0-42	Loam	10YR4/3 Brown	NCM
	.02			42+	Rock		
3480	.01	N340E350	6	0-32	Loam	10YR4/3 Brown	NCM
	.02			32-53	Clay loam	10YR5/6 Yellowish brown	NCM
3481	.01	N290E400	6	0-33	Clay loam	10YR4/3 Brown	NCM
	.02			33-53	Clay loam	10YR5/6 Yellowish brown	NCM
3482	.01	N340E400	6	0-32	Clay loam	10YR4/3 Brown	NCM
	.02			32-52	Clay loam	10YR5/6 Yellowish brown	NCM
3483	.01	N290E450	6	0-29	Loam	10YR4/3 Brown	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3484	.01	N340E450	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3485	.01	N290E500	6	0-21	Loam	10YR4/3 Brown	NCM
	.02			21-52	Loam	10YR5/4 Yellowish brown	NCM
3486	.01	N340E500	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-42	Gravelly loam	10YR5/6 Yellowish brown	NCM
	.03			42+	Rock		
3487	.01	N290E550	6	0-28	Loam	10YR4/3 Brown	NCM
	.02			28-48	Gravelly loam	10YR5/6 Yellowish brown	NCM
3488	.01	N340E550	6	0-23	Loam	10YR4/3 Brown	NCM
	.02			23-43	Gravelly loam	10YR5/6 Yellowish brown	NCM
3489	.01	N290E600	6	0-29	Clay loam	10YR4/3 Brown	NCM
	.02			29-49	Clay loam	10YR5/6 Yellowish brown	NCM
3490	.01	N340E600	6	0-32	Clay loam	10YR4/3 Brown	NCM
	.02			32-52	Clay loam	10YR5/6 Yellowish brown	NCM
3491	.01	N290E650	6	0-23	Clay loam	10YR4/3 Brown	NCM
	.02			23-50	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3492	.01	N340E650	6	0-22	Clay loam	10YR4/3 Brown	NCM
	.02			22-43	Clay loam	10YR5/6 Yellowish brown	NCM
3493	.01	N290E700	6	0-32	Loam	10YR4/3 Brown	NCM
	.02			32-57	Clay loam	10YR5/6 Yellowish brown	NCM
3494	.01	N340E700	6	0-29	Loam	10YR4/3 Brown	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3495	.01	N290E750	6	0-22	Loam	10YR4/3 Brown	NCM
	.02			22-43	Gravelly loam	10YR5/6 Yellowish brown	NCM
	.03			43+	Rock		
3496	.01	N340E750	6	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-42	Gravelly loam	10YR5/6 Yellowish brown	NCM
3497	.01	N290E800	6	0-30	Gravelly loam	10YR4/3 Brown	NCM
	.02			30+	Rock		
3498	.01	N340E800	6	0-13	Loam	10YR4/3 Brown	NCM
	.02			13-33	Clay loam	10YR5/6 Yellowish brown	NCM
3499	.01	N390E150	6	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-35	Clay loam	10YR5/6 Yellowish brown	NCM
				35+	Water		
3500	.01	N390E200	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3501	.01	N440E200	6	0-28	Loam	10YR4/3 Brown	NCM
	.02			28-48	Clay loam	10YR5/6 Yellowish brown	NCM
3502	.01	N390E250	6	0-29	Loam	10YR4/3 Brown	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3503	.01	N440E250	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3504	.01	N390E300	6	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-40	Clay loam	10YR5/6 Yellowish brown	NCM
3505	.01	N440E300	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3506	.01	N390E350	6	0-26	Loam	10YR4/3 Brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3507	.01	N440E350	6	0-23	Loam	10YR4/3 Brown	NCM
	.02			23-45	Clay loam	10YR5/6 Yellowish brown	NCM
3508	.01	N390E400	6	0-26	Loam	10YR4/3 Brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3509	.01	N440E400	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3510	.01	N390E450	6	0-33	Loam	10YR4/3 Brown	NCM
	.02			33-50	Clay loam	10YR5/6 Yellowish brown	NCM
3511	.01	N390E500	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3512	.01	N390E550	6	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3513	.01	N390E600	6	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3514	.01	N390E650	6	0-18	Loam	10YR4/3 Brown	NCM
	.02			18-39	Clay loam	10YR564 Yellowish brown	NCM
3515	.01	N390E700	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3516	.01	N440E700	6	0-21	Loam	10YR4/3 Brown	NCM
	.02			21-41	Clay loam	10YR5/6 Yellowish brown	NCM
3517	.01	N390E750	6	0-18	Loam	10YR4/3 Brown	NCM
	.02			18-43	Clay loam	10YR5/6 Yellowish brown	NCM
3518	.01	N440E750	6	0-13	Loam	10YR4/3 Brown	NCM
	.02			13-33	Clay loam	10YR5/6 Yellowish brown	NCM
3519	.01	N390E800	6	0-18	Loam	10YR4/3 Brown	NCM
	.02			18-38	Clay loam	10YR5/6 Yellowish brown	NCM
3520	.01	N440E800	6	0-13	Loam	10YR4/3 Brown	NCM
	.02			13-35	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3521	.01	N440E850	6	0-14	Loam		NCM
	.02			14-32	Clay loam	10YR3/3 Dark brown	NCM
3522	.01	N490E800	6	0-12	Loam	10YR4/3 Brown	NCM
	.02			12-35	Clay loam	10YR5/6 Yellowish brown	NCM
3523	.01	N540E800	6	0-22	Loam	10YR4/3 Brown	NCM
	.02			22-45	Clay loam	10YR5/6 Yellowish brown	NCM
3524	.01	N490E850	6	0-15	Loam	10YR4/3 Brown	NCM
	.02			15-35	Clay loam	10YR5/6 Yellowish brown	NCM
3525	.01	N540E850	6	0-13	Loam	10YR4/3 Brown	NCM
	.02			13-35	Clay loam	10YR5/6 Yellowish brown	NCM
3526	.01	N590E800	6	0-13	Loam	10YR4/3 Brown	NCM
	.02			13-38	Clay loam	10YR5/6 Yellowish brown	NCM
3527	.01	N640E800	6	0-14	Gravelly loam	10YR3/3 Dark brown	NCM
	.02			14-34	Gravelly clay loam	10YR5/6 Yellowish brown	NCM
3528	.01	N590E850	6	0-13	Loam	10YR3/3 Dark brown	NCM
	.02			13-35	Clay loam	10YR5/6 Yellowish brown	NCM
3529	.01	N640E850	6	0-28	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			28-35	Clay loam	10YR5/6 Yellowish brown	NCM
	.03			35+	Bedrock		
3530	.01	N690E850	6	0-24	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			24-44	Clay loam	10YR5/6 Yellowish brown	NCM
3531	.01	N740E850	6	0-16	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			16+	Bedrock		
3532	.01	N700E850	6	0-20	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3533	.01	N690E800	6	0-21	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			21-41	Clay loam	10YR5/6 Yellowish brown	NCM
3534	.01	N740E800	6	0-12	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			12-32	Clay loam	10YR5/6 Yellowish brown	NCM
3535	.01		6	0-10	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			10+	Bedrock		
3536	.01		6	0-25	Loam	10YR2/2 Very dark brown	NCM
	.02			25+	Bedrock		
3537	.01		6	0-18	Channery loam	10YR2/2 Very dark brown	NCM
	.02			18+	Bedrock		
3538	.01		6	0-8	Root mat	10YR2/2 Very dark brown	NCM
	.02			8-14	Channery loam	10YR4/2 Dark grayish brown	NCM
	.03			14+	Bedrock		
3539	.01		6	0-10	Loam	10YR3/2 Very dk. grayish brown	1 window glass
	.02			10-24	Gravelly clay loam	10YR5/6 Yellowish brown	NCM
	.03			24+	Bedrock		
3540	.01		6	0-10	Loam	10YR4/2 Dark grayish brown	NCM
	.02			10-24	Gravelly clay loam	10YR5/6 Yellowish brown	NCM
3541	.01		6	0-8	Loam	10YR4/2 Dark grayish brown	NCM
	.02			8-15	Clay loam	10YR5/6 Yellowish brown	NCM
	.03			15+	Bedrock		
3542	.01		6	0-10	Loam	10YR4/2 Dark grayish brown	NCM
	.02			10-30	Gravelly clay loam	10YR5/6 Yellowish brown	
3543	.01		6	0-4	Loam	10YR4/3 Brown	NCM
	.02			4-15	Gravelly clay loam	10YR5/6 Yellowish brown	NCM
	.03			15+	Bedrock		
3544	.01		6	0-9	Loam	10YR4/3 Brown	NCM
	.02			9-30	Gravelly clay loam	10YR5/6 Yellowish brown	NCM
	.03			30+	Bedrock		
3545	.01		6	0-10	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			10-30	Clay loam	10YR5/6 Yellowish brown	NCM
3546	.01		6	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-37	Clay loam	10YR5/6 Yellowish brown	NCM
3547	.01		6	0-19	Loam	10YR3/3 Dark brown	NCM
	.02			19-40	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3548	.01		6	0-18	Loam	10YR4/2 Dark grayish brown	NCM
	.02			18-36	Clay loam	10YR5/4 Yellowish brown	NCM
3549	.01		6	0-15	Loam	10YR4/2 Dark grayish brown	NCM
	.02			15-35	Clay Loam	10YR5/4 Yellowish brown	NCM
3550	.01		6	0-22	Gravelly loam	10YR3/2 Very dk. grayish brown	NCM
	.02			224	Bedrock		
3551	.01		6	0-16	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			16-36	Clay loam	10YR5/6 Yellowish brown	NCM
3552	.01		6	0-20	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3553	.01	N490E250	6	0-27	Gravelly loam	10YR4/3 Brown	NCM
	.02			27-49	Clay loam	10YR5/6 Yellowish brown	NCM
3554	.01	N540E250	6	0-30	Gravelly loam	10YR4/3 Brown	NCM
	.02			30-51	Clay loam	10YR5/4 Yellowish brown	NCM
3555	.01	N490E300	6	0-30	Gravelly loam	10YR4/3 Brown	NCM
	.02			30-52	Clay loam	10YR5/6 Yellowish brown	NCM
3556	.01	N540E300	6	0-26	Gravelly loam	10YR4/3 Brown	NCM
	.02			26-49	Clay loam	10YR5/6 Yellowish brown	NCM
3557	.01	N490E350	6	0-27	Gravelly loam	10YR4/3 Brown	NCM
	.02			27-50	Clay loam	10YR5/6 Yellowish brown	NCM
3558	.01	N540E350	6	0-29	Clay loam	10YR3/1 Very dark gray	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3559	.01	N490E400	6	0-30	Gravelly loam	10YR4/3 Brown	NCM
	.02			30-51	Clay loam	10YR5/6 Yellowish brown	NCM
3560	.01	N540E400	6	0-26	Gravelly loam	10YR4/3 Brown	NCM
	.02			26-48	Clay loam	10YR5/6 Yellowish brown	NCM
3561	.01	N440E450	6	0-29	Clay loam	10YR3/2 Very dk grayish brown	NCM
	.02			29-49	Clay loam	10YR5/2 Grayish brown	NCM
3562	.01	N490E450	6	0-31	Clay loam	10YR4/3 Brown	NCM
	.02			312525	Clay loam	10YR5/6 Yellowish brown	NCM
3563	.01	N540E450	6	0-35	Gravelly loam	10YR4/3 Brown	NCM
	.02			35-56	Clay loam	10YR5/6 Yellowish brown	NCM
3564	.01	N590E400	6	0-30	Clay loam	10YR3/2 Very dk grayish brown	NCM
	.02			30-51	Clay loam	10YR5/6 Yellowish brown	NCM
3565	.01	N590E350	6	0-31	Clay loam	10YR3/2 Very dk grayish brown	NCM
	.02			31-52	Clay	10YR5/6 Yellowish brown	NCM
3566	.01	N590E300	6	0-30	Clay loam	10YR4/3 Brown	NCM
	.02			30-51	Clay loam	10YR5/6 Yellowish brown	NCM
3567	.01	N640E300	6	0-29	Loam	10YR4/3 Brown	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3568	.01	N590E350	6	0-23	Loam	10YR4/3 Brown	NCM
	.02			23-49	Clay loam	10YR5/6 Yellowish brown	NCM
3569	.01	N640E250	6	0-29	Clay loam	10YR4/3 Brown	NCM
	.02			29-49	Clay loam	10YR5/6 Yellowish brown	NCM
3570	.01	N690E250	6	0-18	Clay loam	10YR4/3 Brown	NCM
	.02			18-39	Clay loam	10YR5/6 Yellowish brown	NCM
3571	.01	N690E300	6	0-28	Clay	10YR3/2 Very dk. grayish brown	NCM
	.02			28-50	Clay	10YR5/6 Yellowish brown	NCM
3572	.01	N740E300	6	0-31	Clay loam	10YR3/2 Very dk grayish	NCM
	.02			31-53	Clay	10YR5/6 Yellowish brown	NCM
3573	.01	N740E350	6	0-24	Clay loam	10YR4/3 Brown	NCM
	.02			24-46	Clay loam	10YR5/6 Yellowish brown	NCM
3574	.01	N790E250	6	0-25	Clay loam	10YR4/3 Brown	NCM
	.02			25-47	Clay loam	10YR5/6 Yellowish brown	NCM
3575	.01	N790E300	6	0-25	Clay loam	10YR4/3 Brown	NCM
	.02			26-46	Clay	10YR5/6 Yellowish brown	NCM
3576	.01	N740E350	6	0-30	Clay loam	10YR3/2 Very dk grayish brown	NCM
	.02			30-52	Clay	10YR5/6 Yellowish brown	NCM
3577	.01	N740E400	8	0-29	Clay loam	10YR3/2 Very dk grayish brown	NCM
	.02			29-49	Clay	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3578	.01	N740E450	6	0-3	Clay loam	10YR3/2 Very dk grayish brown	NCM
	.02			3+	Water		
3579	.01	N790E350	6	0-29	Clay loam	10YR3/2 Very dk grayish brown	NCM
	.02			29-49	Clay	10YR5/6 Yellowish brown	NCM
3580	.01	N790E400	6	0-24	Clay loam	10YR3/2 Very dk grayish brown	NCM
	.02			24-49	Clay	10YR5/6 Yellowish brown	NCM
3581	.01	N840E300	6	0-30	Clay loam	10YR4/3 Brown	NCM
	.02			30-51	Clay loam	10YR5/6 Yellowish brown	NCM
3582	.01	N840E350	6	0-32	Clay loam	10YR4/3 Brown	NCM
	.02			32-52	Clay	10YR5/6 Yellowish brown	NCM
3583	.01	N840E400	6	0-29	Clay loam	10YR4/3 Brown	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3584	.01	N890E300	6	0-26	Clay loam	10YR4/3 Brown	NCM
	.02			26-47	Clay loam	10YR5/6 Yellowish brown	NCM
3585	.01	N890E350	6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-51	Clay loam	10YR5/6 Yellowish brown	NCM
3586	.01	N890E400	6	0-29	Loam	10YR4/3 Brown	NCM
	.02			29-57	Loam	10YR5/6 Yellowish brown	NCM
3587	.01	N890E450	6	0-31	Loam	10YR4/3 Brown	NCM
	.02			31-53	Loam	10YR5/6 Yellowish brown	NCM
3588	.01	N940E300	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-49	Loam	10YR5/6 Yellowish brown	NCM
3589	.01	N940E350	6	0-19	Loam	10YR4/3 Brown	NCM
	.02			19-44	Loam	10YR5/6 Yellowish brown	NCM
3590	.01	N940E400	6	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-46	Loam	10YR5/6 Yellowish brown	NCM
3571	.01	N690E300	6	0-28	Clay	10YR3/2 Very dk. grayish brown	NCM
	.02			28-50	Clay	10YR5/6 Yellowish brown	NCM
3592	.01		6	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-51	Loam	10YR5/6 Yellowish brown	NCM
3593	.01		6	0-16	Loam	10YR4/3 Brown	NCM
	.02			16-39	Clay loam	10YR5/6 Yellowish brown	NCM
3594	.01	N40E75	7	0-20	Channery loam	10YR2/2 Very dark brown	NCM
	.02			20-25	Channery loam	10YR5/6 Yellowish brown	NCM
3595	.01	N90E75	7	0-16	Channery loam	10YR4/3 Brown	NCM
	.02			16-26	Channery loam	10YR5/6 Yellowish brown	NCM
3596	.01	N40E125	7	0-22	Channery loam	10YR4/3 Brown	NCM
	.02			22-44	Channery loam	10YR5/6 Yellowish brown	NCM
3597	.01	N90E125	7	0-20	Channery loam	10YR2/2 Very dark brown	NCM
	.02			20+	Rock		
3598	.01	N40E175	7	0-13	Channery loam	10YR4/3 Brown	NCM
	.02			13-33	Channery loam	10YR5/6 Yellowish brown	NCM
3599	.01	N90E175	7	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3600	.01	N140E175	7	0-10	Loam	10YR4/3 Brown	NCM
	.02			10-40	Clay loam	10YR5/6 Yellowish brown	NCM
3601	.01	N190E125	7	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3602	.01	N240E100	7	0-10	Channery loam	10YR4/3 Brown	NCM
	.02			10-30	Channery clay	10YR5/6 Yellowish brown	NCM
3603	.01	N290E100	7	0-20	Clay loam	10YR4/2 Dark grayish brown	NCM
	.02			20-40	Clay loam	10YR6/3 Pale brown	NCM
3604	.01	N340E100	7	0-16	Loam	10YR4/3 Brown	NCM
	.02			16-38	Clay loam	10YR5/6 Yellowish brown	NCM
3605	.01	N390E100	7	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-40	Loam	10YR5/6 Yellowish brown	NCM
3606	.01	N440E100	7	0-15	Channery loam	10YR4/3 Brown	NCM
	.02			15-34	Loam	10YR5/6 Yellowish brown	NCM
3607	.01		7	0-25	Clay loam	10YR4/3 Brown	NCM
	.02			25-37	Clay loam	10YR5/6 Yellowish brown	NCM
				37+	Water		

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3608	.01		7	0-12	Loam	10YR4/3 Brown	NCM
	.02			12-34	Clay loam	10YR6/3 Light yellowish brown	NCM
3609	.01		7	0-30	Clay loam	10YR6/2 Light brownish gray	NCM
	.02			30+	Water		
3610	.01		7	0-30	Clay loam	10YR6/2 Light brownish gray	NCM
	.02			30+	Water		
3611	.01	N953E600	1	0-22	Loam	10YR4/3 Brown	NCM
	.02			22-45	Loam	10YR5/6 Yellowish brown	NCM
3612	.01	N960E600	1	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-48	Loam	10YR5/6 Yellowish brown	NCM
3613	.01	N960E603	1	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-40	Loam	10YR5/6 Yellowish brown	NCM
3614	.01	N960E610	1	0-30	Loam	10YR4/3 Brown	2 glass
	.02			30-51	Loam	10YR5/6 Yellowish brown	NCM
3615	.01	N947E600	1	0-18	Loam	10YR4/3 Brown	NCM
	.02			18-43	Loam	10YR5/6 Yellowish brown	NCM
3616	.01	N940E600	1	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-47	Loam	10YR5/6 Yellowish brown	NCM
3617	.01	N950E597	1	0-21	Loam	10YR4/3 Brown	NCM
	.02			21-42	Loam	10YR5/6 Yellowish brown	NCM
3618	.01	N950E590	1	0-32	Loam	10YR4/3 Brown	NCM
	.02			32-52	Loam	10YR5/6 Yellowish brown	NCM
3619	.01	N603E1200	1	0-26	Silty loam	10YR4/3 Brown	NCM
	.02			26-50	Clay loam	10YR5/4 Yellowish brown	NCM
3620	.01	N610E1200	1	0-27	Silty loam	10YR4/3 Brown	NCM
	.02			27-47	Clay loam	10YR5/4 Yellowish brown	NCM
3621	.01	N600E1203	1	0-26	Silty loam	10YR4/3 Brown	NCM
	.02			26-47	Clay loam	10YR5/4 Yellowish brown	NCM
3622	.01	N600E1210	1	0-28	Silty loam	10YR4/3 Brown	NCM
	.02			28-48	Clay loam	10YR5/4 Yellowish brown	NCM
3623	.01	N597E1200	1	0-25	Silty loam	10YR4/3 Brown	NCM
	.02			25-50	Clay loam	10YR5/4 Yellowish brown	NCM
3624	.01	N590E1200	1	0-25	Silty loam	10YR4/3 Brown	NCM
	.02			25-46	Clay loam	10YR5/4 Yellowish brown	NCM
3625	.01	N600E1197	1	0-21	Silty loam	10YR4/3 Brown	NCM
	.02			21-45	Clay loam	10YR5/4 Yellowish brown	NCM
3626	.01	N600E1190	1	0-45	Silty loam	10YR4/3 Brown	NCM
	02			45-50	Clay loam	10YR5/4 Yellowish brown	NCM
				50+	Rock		
3627	.01	N985E650	3	0-24	Loam	10YR4/3 Brown	NCM
	.02			24-44	Clay loam	10YR5/4 Yellowish brown	NCM
3628	.01	N975E653	3	0-18	Loam	10YR4/3 Brown	NCM
	02			18-38	Clay loam	10YR5/4 Yellowish brown	NCM
3629	.01	N975E660	3	0-23	Loam	10YR4/3 Brown	NCM
	.02			23-44	Clay loam	10YR5/4 Yellowish brown	NCM
3630	.01	N972E650	3	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-40	Clay loam	10YR5/4 Yellowish brown	NCM
3631	.01	N965E650	3	0-22	Loam	10YR4/3 Brown	NCM
	.02			22-42	Clay loam	10YR5/4 Yellowish brown	NCM
3632	.01	N975E647	3	0-18	Loam	10YR4/3 Brown	NCM
	.02			18-38	Clay loam	10YR5/4 Yellowish brown	NCM
3633	.01	N975E640	3	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-30	Clay loam	10YR5/4 Yellowish brown	NCM
				30+	Water		
3634	01	N978E650	3	0-20	Loam	10YR4/3 Brown	NCM
	02			20-40	Clay loam	10YR5/4 Yellowish brown	NCM
3635	.01	N50E100	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-43	Clay loam	10YR5/6 Yellowish brown	NCM
3636	.01	N50E50	5	0-28	Loam	10YR3/3 Dark brown	NCM
	.02			28-48	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3637	.01	N50E0	5	0-25	Loam	10YR3/3 Dark brown	NCM
	.02			25-45	Clay loam	10YR5/4 Yellowish brown	NCM
3638	.01	N50W50	5	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22-46	Clay loam	10YR5/4 Yellowish brown	NCM
3639	.01	N100W50	5	0-25	Loam	10YR3/2 Very dk. grayish brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3640	.01	N150W50	5	0-31	Loam	10YR3/3 Dark brown	NCM
	.02			31-50	Clay loam	10YR5/6 Yellowish brown	NCM
3641	.01	N150E0	5	0-28	Loam	10YR3/3 Dark brown	NCM
	.02			28-50	Clay loam	10YR5/6 Yellowish brown	NCM
3642	.01	N100E0	5	0-14	Loam	10YR3/3 Dark brown	NCM
	.02			14+	Water		
3643	.01	N150E50	5	0-8	Loam	10YR3/3 Dark brown	NCM
	.02			8+	Water		
3644	.01	N100E50	5	0-21	Loam	10YR3/3 Dark brown	NCM
	.02			21-41	Clay loam	10YR5/6 Yellowish brown	NCM
3645	.01	N150E100	5	0-19	Loam	10YR3/3 Dark brown	NCM
	.02			19+	Water		
3646	.01	N100E100	5	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-44	Clay loam	10YR5/4 Yellowish brown	NCM
3547	.01	N200E100	5	0-13	Loam	10YR3/3 Dark brown	NCM
	.02			13+	Water		
3648	.01	N250E50	5	0-21	Loam	10YR3/3 Dark brown	NCM
	.02			21-50	Clay loam	10YR5/6 Yellowish brown	NCM
3649	.01	N250E50	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-45	Clay Loam	10YR5/6 Yellowish brown	NCM
3650	.01	N200E50	5	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3651	.01	N250E0	5	0-25	Loam	10YR3/3 Dark brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3652	.01	N200E0	5	0-28	Loam	10YR3/3 Dark brown	NCM
	.02			28-45	Clay loam	10YR5/6 Yellowish brown	NCM
3653	.01	N250W50	5	0-30	Loam	10YR3/3 Dark brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3654	.01	N200W50	5	0-18	Loam	10YR3/3 Dark brown	NCM
	.02			18-39	Clay loam	10YR5/6 Yellowish brown	NCM
3655	.01	N300W50	5	0-26	Loam	10YR3/3 Dark brown	NCM
	.02			26-42	Clay loam	10YR5/6 Yellowish brown	NCM
3656	.01	N350W50	5	0-14	Loam	10YR3/3 Dark brown	NCM
	.02			14+	Water		
3657	.01	N300E0	5	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-45	Clay loam	10YR5/6 Yellowish brown	NCM
3658	.01	N300E0	5	0-40	Loam	10YR3/3 Dark brown	NCM
	.02			40-60	Clay loam	10YR5/4 Yellowish brown	NCM
3659	.01	N350E50	5	0-28	Loam	10YR3/3 Dark brown	NCM
	.02			28-48	Clay Loam	10YR5/6 Yellowish brown	NCM
3660	.01	N300E50	5	0-28	Loam	10YR3/3 Dark brown	NCM
	.02			28-45	Clay loam	10YR5/6 Yellowish brown	NCM
3661	.01	N350E100	5	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3662	.01	N300E100	5	0-30	Loam	10YR3/3 Dark brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3663	.01	N400E100	5	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-44	Clay loam	10YR5/6 Yellowish brown	NCM
3664	.01	N450E100	5	0-21	Loam	10YR3/3 Dark brown	NCM
	.02			21-42	Clay loam	10YR5/6 Yellowish brown	NCM
3665	.01	N450E50	5	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-42	Clay loam	10YR5/6 Yellowish brown	NCM
3666	.01	N400E50	5	0-26	Loam	10YR3/3 Dark brown	NCM
	.02			26-46	Clay loam	10YR5/4 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3667	.01	N450E00	5	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-44	Clay loam	10YR5/6 Yellowish brown	
3668	.01	N400E0	5	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22-41	Clay loam	10YR5/6 Yellowish brown	NCM
3669	.01	N450W50	5	0-21	Loam	10YR3/3 Dark brown	Coal*
	.02			21-41	Clay Loam	10YR5/6 Yellowish brown	NCM
3670	.01	N400W50	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-53	Clay loam	10YR5/6 Yellowish brown	NCM
3671	.01	N500W50	5	0-19	Loam	10YR3/3 Dark brown	NCM
	.02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3672	.01	N550W50	5	0-19	Loam	10YR3/3 Dark brown	NCM
	.02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3673	.01	N550E0	5	0-23	Loam	10YR4/3 Brown	NCM
	.02			23-53	Clay loam	10YR5/6 Yellowish brown	NCM
3674	.01	N500E0	5	0-27	Loam	10YR3/3 Dark brown	NCM
	.02			27-39	Clay loam	10YR5/6 Yellowish brown	NCM
3675	.01	N550E50	5	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-37	Clay loam	10YR5/6 Yellowish brown	NCM
3676	.01	N500E50	5	0-19	Loam	10YR3/3 Dark brown	NCM
	.02			19-39	Clay loam	10YR5/6 Yellowish brown	NCM
3677	.01	N550E100	5	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3678	.01	N500E100	5	0-26	Loam	10YR3/3 Dark brown	NCM
	.02			10-22	Clay loam	10YR5/6 Yellowish brown	NCM
3679	.01	N600E100	5	0-26	Loam	10YR3/3 Dark brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3680	.01	N650E100	5	0-26	Loam	10YR3/3 Dark brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3681	.01	N650E50	5	0-29	Loam	10YR3/3 Dark brown	NCM
	.02			28-48	Clay loam	10YR5/6 Yellowish brown	NCM
3682	.01	N600E50	5	0-18	Loam	10YR3/3 Dark brown	NCM
	.02			18-38	Clay loam	10YR5/6 Yellowish brown	NCM
3683	.01	N650E0	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-43	Clay loam	10YR5/6 Yellowish brown	NCM
3684	.01	N600E0	5	0-20	Loam	10YR3/3 Dark brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3685	.01	N650W50	5	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-44	Clay loam	10YR5/6 Yellowish brown	NCM
3686	.01	N600W50	5	0-20	Loam	10YR3/3 Dark brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3687	.01	N700W50	5	0-18	Loam	10YR3/3 Dark brown	NCM
	.02			18-38	Clay loam	10YR5/6 Yellowish brown	NCM
3688	.01	N750W50	5	0-14	Channery loam	10YR4/3 Brown	NCM
	.02			14-30	Channery clay	10YR5/4 Yellowish brown	NCM
				30+	Bedrock		
3689	.01	N750E0	5	0-30	Loam	10YR4/3 Brown	1 Nail
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3690	.01	N700E0	5	0-21	Loam	10YR3/3 Dark brown	NCM
	.02			21-41	Clay loam	10YR5/6 Yellowish brown	NCM
3691	.01	N750E50	5	0-26	Loam	10YR3/3 Dark brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3692	.01	N700E50	5	0-27	Loam	10YR3/3 Dark brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3693	.01	N750E100	5	0-27	Loam	10YR3/3 Dark brown	NCM
	.02			27-50	Clay loam	10YR5/6 Yellowish brown	NCM
3694	.01	N700E100	5	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-45	Clay loam	10YR5/6 Yellowish brown	NCM
3695	.01	N750W100	5	0-16	Loam	10YR3/3 Dark brown	NCM
	.02			16-36	Clay loam w/	10YR5/6 Yellowish brown	NCM
3696	.01	N800W100	5	0-10	Loam w/ gravel	10YR3/4 Dark yellowish brown	NCM
	.02			10+	Bedrock		

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3697	.01	N850W100	5	0-27	Channery loam	10YR3/3 Dark brown	NCM
				27+	Bedrock		
3698	.01	N800W50	5	0-15	Channery loam	10YR4/3 Brown	NCM
	.02			15-35	Channery loam	10YR5/4 Yellowish brown	NCM
3699	.01	N850W50	5	0-13	Gravel	10YR3/2 Very dark grayish	NCM
	.02			13-30	Loam	10YR4/3 Brown	Glass, metal, etc
	.03			30-66	Clay loam	10YR6/4 Light yellowish brown	NCM
3700	.01	N850E0	5	0-20	Loam	10YR4/3 Brown	NCM
	.02			20-43	Clay loam	10YR5/4 Yellowish brown	NCM
3701	.01	N800E0	5	0-13	Clay loam	10YR4/3 Brown	NCM
	.02			13-35	Loam	10YR5/4 Yellowish brown	NCM
3702	.01	N850E50	5	0-18	Loam	10YR4/3 Brown	NCM
	.02			18-38	Clay loam	10YR5/4 Yellowish brown	NCM
3703	.01	N800E50	5	0-20	Clay loam	10YR4/3 Brown	Concrete*
	.02			20-45	Loam	10YR5/4 Yellowish brown	NCM
3704	.01	N850E100	5	0-15	Gravelly loam	10YR4/3 Brown	NCM
	.02			15-35	Clay loam	10YR5/4 Yellowish brown	NCM
3705	.01	N800E100	5	0-20	Clay loam	10YR4/3 Brown	NCM
	.02			20-40	Clay	10YR5/4 Yellowish brown	NCM
3706	.01	N900E100	5	0-20	Loam	10YR3/2 Very dark gray	NCM
	.02			20-45	Clay loam	10YR6/2 Light brownish gray	
3707	.01	N950E100	5	0-20	Clay loam	10YR4/4 Dark yellowish brown	NCM
	.02			20-40	Clay	10YR5/4 Yellowish brown	NCM
3708	.01	N950E50	5	0-20	Channery loam	10YR3/2 Very dark grayish	Concrete*, nails,
	.02			20-40	Channery clay	10YR3/3 Dark brown	NCM
3709	.01	N900E50	5	0-20	Loam	10YR3/2 Very dark gray	NCM
	.02			20-40	Clay loam	10YR6/2 Light brownish gray	NCM
3710	.01	N950E0	5	0-20	Channery loam	10YR3/2 Dark brown	NCM
	.02			20-40	Channery clay	10YR4/4 Dark yellowish brown	NCM
3711	.01	N900E00	5	0-20	Loam	10YR3/2 Very dark gray	NCM
	.02			20-40	Clay loam	10YR6/2 Light brownish gray	NCM
3712	.01	N950W50	5	0-20	Loam	10YR4/2 Dark grayish brown	Mortar*, glass,
	.02			20-40	Channery clay	10YR5/4 Yellowish brown	NCM
3713	.01	N900W50	5	0-30	Stony loam	10YR5/3 Brown	Mortar*, glass, etc.
	.02			30+	Bedrock		
3714	.01	N950W100	5	0-14	Loam	10YR2/2 Very dark grayish	Coal*, wood, etc.
	.02			14-35	Loam	10YR3/2 Very dark gray	NCM
	.03			35-56	Channery loam	10YR5/2 Grayish brown	NCM
3715	.01	N900W100	5	0-60	Stone	10YR5/3 Brown	NCM
3716	.01	N1000W100	5	0-20	Loam	10YR2/2 Very dark grayish	Mortar*
	.02			20-41	Loam	10YR3/2 Very dark gray	Window glass
	.03			41-62	Clay loam	10YR5/2 Grayish brown	NCM
3717	.01	N1000E100	5	0-22	Loam	10YR4/4 Dark yellowish brown	Glass
	.02			22-44	Channery clay	10YR5/4 Yellowish brown	NCM
3718	.01	N950E150	5	0-20	Loam	10YR4/4 Dark yellowish brown	NCM
	.02			20-40	Clay loam	10YR5/4 Yellowish brown	NCM
3719	.01	N1000E150	5	0-30	Clay loam	10YR3/2 Very dark gray	NCM
	.02			30-50	Clay	10YR6/2 Light brownish gray	NCM
3720	.01	N950E200	5	0-25	Clay loam	10YR3/2 Very dark gray	NCM
	.02			25-45	Clay	10YR6/2 Light brownish gray	NCM
3721	.01	N950E250	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-46	Clay loam	10YR5/6 Yellowish brown	NCM
3722	.01	N950E300	5	0-15	Loam	10YR3/3 Dark brown	NCM
	.02			15-35	Clay loam	10YR5/6 Yellowish brown	NCM
3723	.01	N900E200	5	0-20	Clay loam	10YR3/2 Very dark gray	NCM
	.02			20-40	Clay	10YR6/2 Light brownish gray	NCM
3724	.01	N850E200	5	0-18	Loam	10YR4/3 Brown	NCM
	.02			18-40	Clay loam	10YR5/4 Yellowish brown	NCM
3725	.01	N850E150	5	0-15	Loam	10YR4/3 Brown	NCM
	.02			15-35	Clay loam	10YR4/3 Brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3726	.01	N900E150	5	0-40	Clay loam	10YR5/4 Yellowish brown	Glass
	.02			40-60	Clay	10YR6/2 Light brownish gray	NCM
3727	.01	N800E200	5	0-20	Clay	10YR4/3 Brown	NCM
	.02			20-40	Clay	10YR5/4 Yellowish brown	NCM
3728	.01	N750E200	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-45	Clay loam	10YR5/6 Yellowish brown	NCM
3729	.01	N750E150	5	0-20	Loam	10YR3/3 Dark brown	Coal*
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3730	.01	N800E150	5	0-18	Clay loam	10YR4/3 Brown	NCM
	.02			18-38	Channery clay	10YR5/4 Yellowish brown	NCM
3731	.01	N700E200	5	0-21	Loam	10YR3/3 Dark brown	NCM
	.02			21-41	Clay loam	10YR5/8 Yellowish brown	NCM
3732	.01	N650E200	5	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-47	Clay loam	10YR5/6 Yellowish brown	NCM
3733	.01	N650E150	5	0-30	Loam	10YR3/3 Dark brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3734	.01	N700E150	5	0-17	Loam	10YR3/3 Dark brown	NCM
	.02			17-37	Clay loam	10YR5/6 Yellowish brown	NCM
3735	.01	N600E200	5	0-21	Loam	10YR3/3 Dark brown	NCM
	.02			21-41	Clay loam	10YR5/8 Yellowish brown	NCM
3736	.01	N550E200	5	0-30	Loam	10YR3/3 Dark brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3737	.01	N500E150	5	0-28	Loam	10YR3/3 Dark brown	NCM
	.02			28-48	Clay loam	10YR5/6 Yellowish brown	NCM
3738	.01	N600E150	5	0-25	Loam	10YR3/3 Dark brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3739	.01	N500E200	5	0-26	Loam	10YR3/3 Dark brown	NCM
	.02			26-46	Clay loam	10YR5/6 Yellowish brown	NCM
3740	.01	N450E200	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-43	Clay loam	10YR5/6 Yellowish brown	NCM
3741	.01	N550E250	5	0-23	Loam	10YR3/3 Dark brown	NCM
	.02			23-33	Clay loam	10YR5/6 Yellowish brown	NCM
				28+	Bedrock		
3742	.01	N600E250	5	0-28	Loam	10YR3/3 Dark brown	NCM
	.02			28-48	Clay loam	10YR5/4 Yellowish brown	NCM
3743	.01	N600E300	5	0-30	Loam	10YR3/3 Dark brown	NCM
	.02			30-50	Clay loam	10YR5/4 Yellowish brown	NCM
3744	.01	N650E250	5	0-24	Clay	10YR3/3 Dark brown	Metal
	.02			24-45	Clay	10YR5/4 Yellowish brown	NCM
3745	.01	N650E300	5	0-25	Clay	10YR3/3 Dark brown	NCM
	.02			25-46	Clay	10YR5/4 Yellowish brown	NCM
3746	.01	N700E250	5	0-26	Clay	10YR4/3 Brown	NCM
	.02			26-47	Clay	10YR5/6 Yellowish brown	NCM
3747	.01	N700E300	5	0-20	Clay	10YR3/3 Dark brown	NCM
	.02			20-40	Clay	10YR5/6 Yellowish brown	NCM
3748	.01	N750E250	5	0-25	Loamy clay	10YR4/3 Brown	NCM
	.02			25-46	Clay	10YR5/6 Yellowish brown	NCM
3749	.01	N750E300	5	0-34	Loamy clay	10YR4/3 Brown	NCM
	.02			34-55	Clay	10YR5/6 Yellowish brown	NCM
3750	.01	N800E250	5	0-32	Silty clay	10YR4/3 Brown	NCM
	.02			32-42	Clay	10YR5/6 Yellowish brown	NCM
				42+	Water		
3751	.01	N800E300	5	0-27	Silty clay	10YR4/3 Brown	NCM
	.02			27-49	Clay	10YR5/6 Yellowish brown	NCM
3752	.01	N850E250	5	0-24	Silty clay	10YR4/3 Brown	NCM
	.02			24-44	Clay	10YR5/6 Yellowish brown	NCM
3753	.01	N850E300	5	0-29	Silty clay	10YR4/3 Brown	NCM
	.02			29-50	Clay	10YR5/6 Yellowish brown	NCM
3754	.01	N900E250	5	0-29	Silty clay	10YR4/3 Brown	Glass, wire*
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3755	.01	N900E300	5	0-30	Clay w/ gravel	10YR3/3 Dark brown	NCM
	.02			30-50	Clay	10YR5/4 Yellowish brown	NCM
3756	.01	N950E350	5	0-23	Loam	10YR3/2 Very dark grayish	NCM
	.02			23-45	Clay loam	10YR5/6 Yellowish brown	NCM
3757	.01	N900E350	5	0-25	Clay w/ gravel	10YR3/3 Dark brown	Tile
	.02			25-50	Clay	10YR3/2 Very dark grayish	NCM
3758	.01	N900E400	5	0-24	Clay	10YR3/3 Dark brown	NCM
	.02			24-49	Clay	10YR5/4 Yellowish brown	NCM
3759	.01	N900E450	5	0-15	Clay	10YR3/3 Dark brown	NCM
	.02			15-36	Clay	10YR5/4 Yellowish brown	NCM
3760	.01	N850E350	5	0-30	Silty clay	10YR4/3 Brown	NCM
	.02			30-50	Clay	10YR5/6 Yellowish brown	NCM
3761	.01	N850E400	5	0-27	Silty clay loam	10YR4/3 Brown	NCM
	.02			27-50	Clay loam	10YR5/6 Yellowish brown	NCM
3762	.01	N850E450	5	0-29	Silty clay loam	10YR4/3 Brown	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3763	.01	N800E350	5	0-32	Silty clay loam	10YR4/3 Brown	NCM
	.02			32-53	Clay loam	10YR5/6 Yellowish brown	NCM
3764	.01	N800E400	5	0-27	Silty clay loam	10YR4/3 Brown	NCM
	.02			27-49	Clay loam	10YR5/6 Yellowish brown	NCM
3765	.01	N800E450	5	0-24	Silty clay loam	10YR4/3 Brown	Glass, plastic*
	.02			24-45	Clay loam	10YR5/6 Yellowish brown	NCM
3766	.01	N750E350	5	0-30	Loamy clay	10YR4/3 Brown	NCM
	.02			30-52	Clay	10YR5/6 Yellowish brown	NCM
3767	.01	N750E400	5	0-29	Loamy clay	10YR4/3 Brown	NCM
	.02			29-51	Clay	10YR5/6 Yellowish brown	NCM
3768	.01	N750E450	5	0-24	Silty clay loam	10YR4/3 Brown	NCM
	.02			24-45	Clay loam	10YR5/6 Yellowish brown	NCM
3769	.01	N400E150	5	0-29	Loam	10YR3/3 Dark brown	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3770	.01	N450E150	5	0-24	Clay loam	10YR4/2 Dark grayish brown	NCM
	.02			24-44	Loam	10YR5/6 Yellowish brown	NCM
3771	.01	N400E200	5	0-20	Loam	10YR3/3 Dark brown	NCM
	.02			20-40	Clay loam	10YR5/6 Yellowish brown	NCM
3772	.01	N550E150	5	0-30	Loam	10YR3/3 Dark brown	NCM
	.02			30-50	Clay loam	10YR5/6 Yellowish brown	NCM
3773	.01	N300E400	5	0-40	Loam	10YR4/3 Brown	NCM
	.02			40-60	Clay loam	10YR5/6 Yellowish brown	NCM
3774	.01	N350E400	5	0-30	Clay	10YR3/2 Very dark grayish	NCM
	.02			30-50	Clay	10YR5/4 Yellowish brown	NCM
3775	.01	N400E400	5	0-25	Silty clay loam	10YR3/2 Very dark grayish	NCM
	.02			25-48	Clay	10YR5/4 Yellowish brown	NCM
3776	.01	N700E350	5	0-25	Loam	10YR3/3 Dark brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3777	.01	N700E400	5	0-22	Loam	10YR3/3 Dark brown	NCM
	.02			22-42	Clay loam	10YR5/6 Yellowish brown	NCM
3778	.01	N700E450	5	0-25	Loam	10YR3/3 Dark brown	NCM
	.02			25-45	Clay loam	10YR5/6 Yellowish brown	NCM
3779	.01	N650E350	5	0-30	Clay	10YR3/3 Dark brown	NCM
	.02			30-50	Clay	10YR5/4 Yellowish brown	NCM
3780	.01	N650E400	5	0-30	Clay	10YR3/3 Dark brown	NCM
	.02			30-51	Clay	10YR5/4 Yellowish brown	NCM
3781	.01	N650E450	5	0-25	Clay	10YR3/3 Dark brown	NCM
	.02			25-48	Clay	10YR5/4 Yellowish brown	NCM
3782	.01	N600E350	5	0-24	Loam	10YR4/3 Brown	NCM
	.02			24-45	Clay loam	10YR5/6 Yellowish brown	NCM
3783	.01	N600E400	5	0-27	Loam	10YR3/3 Dark brown	NCM
	.02			27-47	Clay loam	10YR5/4 Yellowish brown	NCM
3784	.01	N600E450	5	0-24	Loam	10YR3/3 Dark brown	NCM
	.02			24-44	Clay loam	10YR5/4 Yellowish brown	NCM

Context #	Level	Coordinates	Grid	Depth	Description	Color	Artifacts
3785	.01	N550E450	5	0-22	Clay	10YR3/2 Very dark grayish	NCM
	.02			22-49	Clay	10YR5/4 Yellowish brown	NCM
3786	.01	N550E400	5	0-20	Clay	10YR3/2 Very dark grayish	NCM
	.02			20-50	Clay	10YR5/4 Yellowish brown	NCM
3787	.01	N500E400	5	0-35	Loam	10YR3/2 Very dark grayish	NCM
	.02			35-55	Clay loam	10YR5/4 Yellowish brown	NCM
3788	.01	N500E450	5	0-32	Loam	10YR3/3 Dark brown	NCM
	.02			32-55	Clay loam	10YR5/4 Yellowish brown	NCM
3789	.01		5	0-28	Clay	10YR4/3 Brown	NCM
	.02			28-49	Clay	10YR5/6 Yellowish brown	NCM
3790	.01		5	0-29	Loam	10YR3/4 Dark yellowish brown	NCM
	.02			29-50	Clay loam	10YR5/6 Yellowish brown	NCM
3791	.01		5	0-26	Clay loam	10YR3/2 Very dark grayish	NCM
	.02			26-46	Clay loam	10YR5/4 Yellowish brown	NCM
3792	.01		5	0-28	Loam	10YR4/3 Brown	NCM
	.02			28-48	Clay loam	10YR4/3 Brown	NCM
3793	.01	N1000E150	8	0-30	Loam	10YR4/3 Brown	NCM
	.02			30-55	Clay loam	10YR5/4 Yellowish brown	NCM
3794	.01	N1000E100	8	0-20	Clay	10YR3/2 Very dark grayish	NCM
	.02			20-40	Sandy clay	10YR5/4 Yellowish brown	NCM
3795	.01	N1000E50	8	0-20	Loamy clay	10YR4/3 Brown	NCM
	.02			20-40	Clay	10YR5/3 Brown	NCM
3796	.01	N1000E0	8	0-22	Clay	10YR3/3 Dark brown	NCM
	.02			22-42	Clay	10YR5/4 Yellowish brown	NCM
3797	.01	N1000W50	8	0-12	Clay loam	10YR3/3 Dark brown	NCM
	.02			12-33	Clay	10YR5/4 Yellowish brown	NCM
3798	.01	N950W50	8	0-17	Clay loam	10YR3/2 Very dark grayish	NCM
	.02			17+	Water		
3799	.01	N950E0	8	0-14	Clay loam	10YR3/2 Very dark grayish	NCM
	.02			14+	Water		
3800	.01	N950E50	8	0-26	Clay loam	10YR3/3 Dark brown	NCM
	.02			26-46	Clay loam	10YR5/4 Yellowish brown	NCM
3801	.01	N950E150	8	0-23	Loam	10YR3/2 Very dark grayish	NCM
	.02			23-43	Clay loam	10YR5/4 Yellowish brown	NCM
3802	.01	N950E150	8	0-27	Loam	10YR5/6 Yellowish brown	NCM
	.02			27-47	Clay loam	2.5Y4/1 Dark gray	NCM
3803	.01	N900E0	8	0-30	Clay loam	10YR4/3 Brown	NCM
	.02			30-50	Clay	10YR5/2 Grayish brown	NCM
3804	.01	N900E50	8	0-28	Loamy clay	10YR4/3 Brown	NCM
	.02			28-50	Clay	2.5Y5/2 Grayish brown	NCM
3805	.01	N900E100	8	0-25	Loam	10YR4/3 Brown	NCM
	.02			25-35	Clay loam	10YR5/4 Yellowish brown	NCM
				35+	Bedrock		
3806	.01	N900E150	8	0-28	Channery loam	10YR4/3 Brown	NCM
	.02			28-49	Clay loam	10YR5/4 Yellowish brown	NCM
3807	.01	N900W50	8	0-27	Loam	10YR4/3 Brown	NCM
	.02			27-51	Clay loam	10YR5/4 Yellowish brown	NCM

NCM – No Cultural Material.

* – Discarded, **=Sampled

APPENDIX 2: ARTIFACT INVENTORY

Introduction

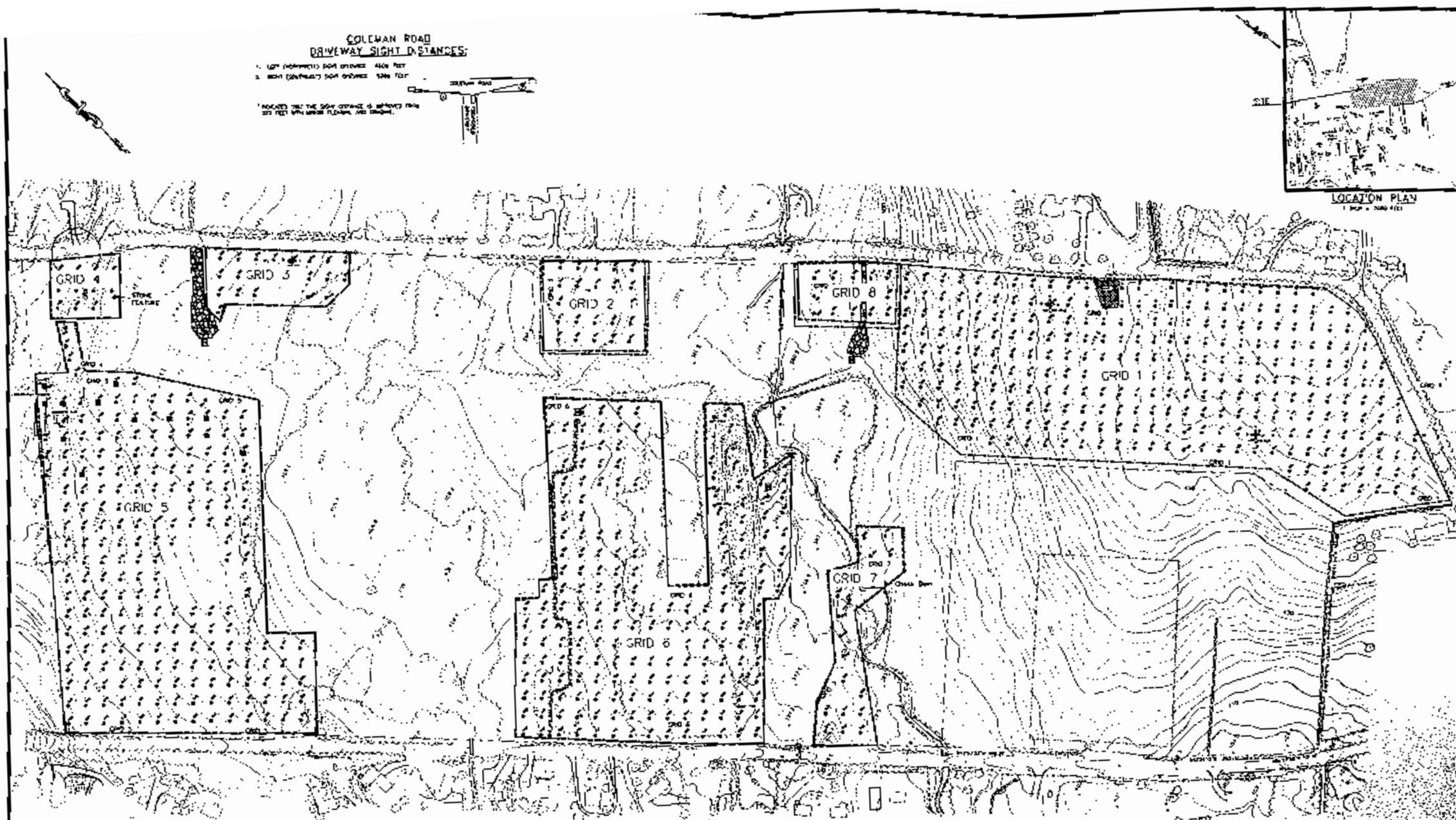
The format for numbering artifacts from the Maplewood Village at Goshen project is MVG-xxxx-xx, where MVG is the BTK project designation and the xxxx.xx represents the Context Number. The two digits to the right of the decimal are used only as needed to refer to strata within a context. The four digits to the left of the decimal point are the base code. The four digits numeric base code is divided into two parts; the first digit and the last three. The first digit of the base code indicates the type of field investigation used. The codes are as follows:

1. unprovenienced collection
2. provenienced collection
3. shovel test

The three digits which follow the technique code are unique for each location and are assigned sequentially. Decimal subdivisions may be used for techniques three through six to indicate specific strata. For example, 3017.01 refers to shovel test (3) number 17 (017), layer 1 (.01). An asterisk (*) indicates an item was discarded.

Inventory

Context #	Description
2001	1 insulator, fragment, clear glass, threaded
3140.01	1 nail
3198.01	1 flake, chert, gray
3314.01	1 nail*
3539.01	1 glass, flat, aqua
3614.01	1 glass, clear, container, base fragment 1 glass, clear, container
3689.01	1 nail, wire, 3-inch, w/hair plaster attached
3699.02	1 bone, large mammal, sawed 1 shell, clam fragment, 1 brick fragment* 1 siding fragment, asbestos* 1 aluminum, burned 1 wire* 2 container glass, clear
3708.01	3 nail fragments 2 bone fragments coal ash* 1 container glass, green 1 glass light blue
3712.02	1 glass, light blue 1 whiteware



DENSITY BREAKDOWN	PROPOSED DEVELOPMENT
TOTAL NUMBER OF UNITS	229
ESTATE LOTS (>1 AC.)	16
55' x 130' UNITS	41
45' x 110' REAR UNITS	12
24' x 40' TOWNHOUSE UNITS	44
MULTI-FAMILY UNITS	108
MIXED USE APARTMENTS	8

LEGEND

- PROPERTY LINE
- CONTOUR MAJOR CONTOUR
- CONTOUR MINOR CONTOUR
- CONTOUR DRAINAGE
- PROPOSED SIDEWALK/TRAIL
- EXISTING TOE TEAR FLOODPLAIN (APPROXIMATE)
- EXISTING WELL

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EXISTING WELL TO BE UTILIZED FOR PROPOSED PRIVATE WATER SUPPLY

● 428 Shovel Test

● 428 Shovel Test with prehistoric

● 428 Shovel Test with histories

P1 Photographs

RTK Associates INC.
Historical and Archaeological Consulting
PO Box 527
Goshen, New York 10924
(914) 856-1648

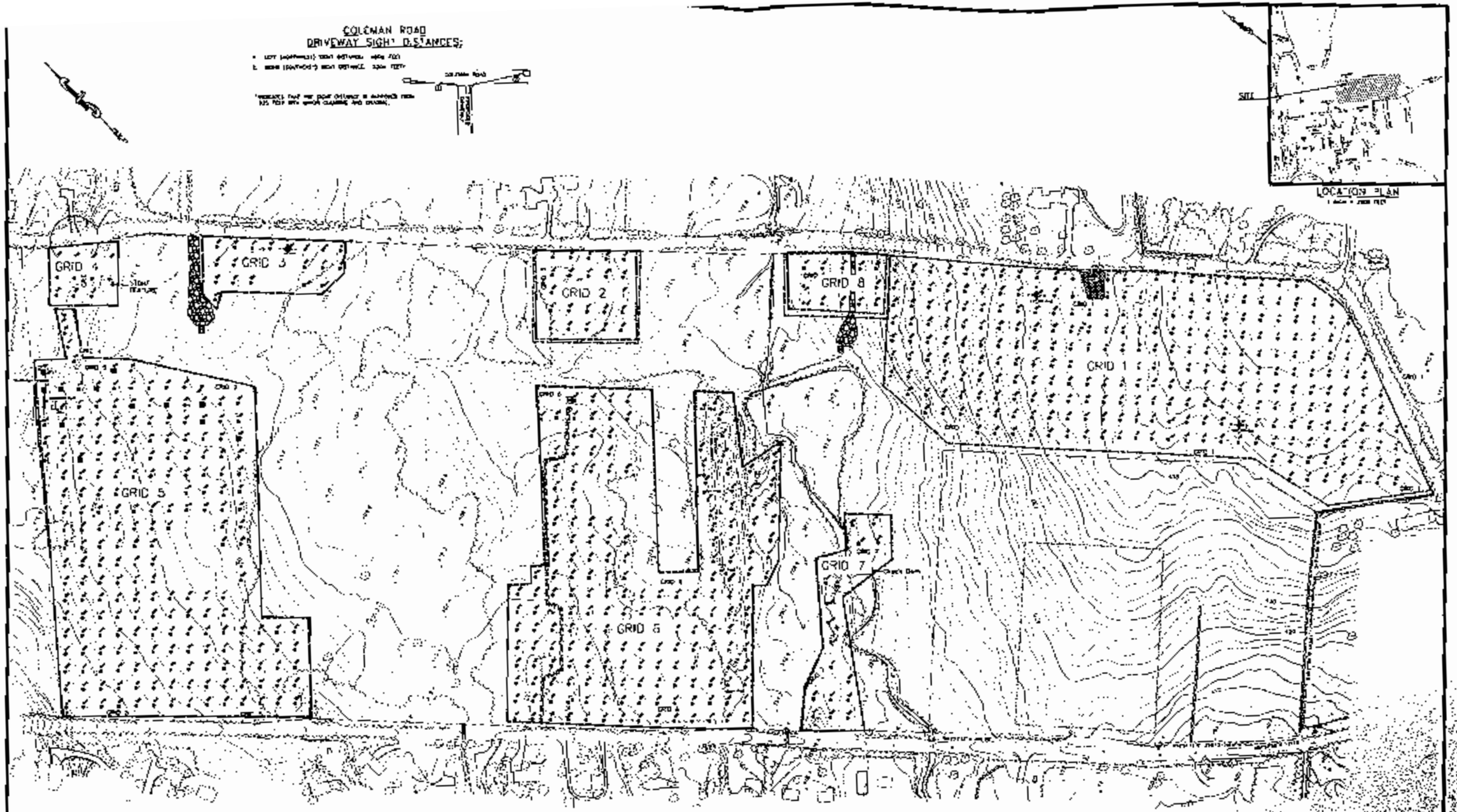
Attachment 1

LANC & TULLY
ENGINEERS AND SURVEYORS, P.C.

OVERALL DEVELOPMENT PLAN
PREPARED FOR

MAPLEWOOD VILLAGE
AT GOSHEN
TOWN OF GOSHEN
ORANGE COUNTY, NEW YORK

COLEMAN ROAD
DRIVEWAY SIGHT DISTANCES:



DENSITY BREAKDOWN	PROPOSED DEVELOPMENT
TOTAL NUMBER OF UNITS	228
ESTATE LOTS (>1 AC.)	16
55' x 100' UNITS	41
45' x 110' REAR UNITS	19
24 x 40' TOWNHOUSE UNITS	44
MULTI-FAMILY UNITS	108
MIXED USE APARTMENTS	8

LEGEND

Shovel Test

Shovel Test with prehistoric

Shovel Test with historics

Photographs

STK Associates INC.
Historical and Archaeological Consulting
PO Box 527
Goshen, New York 10924
(914) 850-1868

Attachment 1

LANC & TULLY

OVERALL DEVELOPMENT PLAN
PREPARED FOR

MAPLEWOOD VILLAGE
AT GOSHEN

TOWN OF GOSHEN
ORANGE COUNTY, NEW YORK

COLEMAN ROAD
DRIVEWAY SIGHT DISTANCES;

1. [illegible] SIGHT DISTANCE [illegible] FEET
2. [illegible] SIGHT DISTANCE [illegible] FEET

COLEMAN ROAD

*INDICATES THAT THE SIGHT DISTANCE IS IMPROVED FROM [illegible] FEET WITH MINOR CLEARING AND GRADING

LOCATION PLAN

VISITOR PARKING AND BIRDWATCHING VISTAS (SEE DETAIL)

THE SQUARE (SEE DETAIL)

PICNIC GROVE (SEE DETAIL)

VISITOR PARKING AND BIRDWATCHING VISTAS (SEE DETAIL)

PEDESTRIAN CONNECTION TO VILLAGE PARK

VISITOR PARKING AND BIRDWATCHING VISTAS (SEE DETAIL)

SEWAGE TREATMENT PLANT

THE MARKETPLACE (SEE DETAIL)

5' SIDEWALK WITH SIDEWALK

CROSSWALK TO OAKWOOD DRIVE

DENSITY BREAKDOWN	PROPOSED DEVELOPMENT
TOTAL NUMBER OF UNITS	219
ESTATE LOTS (>1 AC)	16
55' x 100' UNITS	[illegible]
65' x 110' REAR UNITS	2
24' x 40' TOWNHOUSE UNITS	44
MULTIFAMILY UNITS	136
MIXED USE APARTMENTS	8

LEGEND

PROPERTY LINE
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
EXISTING DRAINAGE
PROPOSED WETLANDS/POND
EXISTING MAJOR TREE
PROPOSED TREE (APPROXIMATE)
EXISTING WELL
EXISTING WELL TO BE UTILIZED FOR IRRIGATION/POTABLE WATER SYSTEM

LANC & TULLY
ENGINEERS AND SURVEYORS, P.C.

OVERALL DEVELOPMENT PLAN
PREPARED FOR

MAPLEWOOD VILLAGE
AT GOSHEN

TOWN OF GOSHEN
ORANGE COUNTY, NEW YORK

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Appendix K

Natural Resources Report

Natural Resources Survey

Maplewood Village at Goshen
Craigville Road
Town of Goshen, New York

August 26, 2006

Prepared by:

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Ecological Solutions, LLC
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Southbury, CT 06488
(203) 910-4716

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1.0 INTRODUCTION

Ecological Solutions, LLC conducted a flora and fauna inventory on the Maplewood Village at Goshen property on Craigville Road in the Town of Goshen, New York on July 10, 14, 19,23, and 28 and August 8, 15, and 24, 2006. The purpose of the inventory was to document existing vegetation and habitat cover types, plant species, and wildlife species on the property and determine if any threatened or endangered species or potential habitat for such species is on the property. In addition, potential impacts to these resources and mitigation for impacts is reviewed.

Ecological Solutions, LLC conducted the inventory during July and August 2006 and included field surveys for birds, mammals, herpetiles, and plants. Methods and findings for this study are outlined below in this report. The remainder of the report focuses on anticipated impacts to these resources, and proposed mitigation measures and alternatives that might be considered to avoid or minimize impacts.

2.0 METHODS

As part of the environmental review for the subject site, Esposito & Associates, requested prior records from state and federal agencies regarding the status of rare, threatened, or endangered species on the site. Field surveys were also conducted during July and August 2006. Field survey methods are outlined below.

2.1 AGENCY INQUIRY

Written inquiries were made to both the New York State Department of Environmental Conservation - Natural Heritage Program (NHP) and US Fish and Wildlife Service to obtain information or prior records about any known special concern, threatened, or endangered species or significant habitats on or near the site. The area of interest for this record must necessarily include not only the subject site, but the surrounding landscape, as wildlife and other natural elements may have territories or zones of influence that extend over a broad area. Reference is made to the responses to the letters of inquiry contained in Appendix A.

2.2 VEGETATION AND HABITAT FIELD INVENTORY

The vegetation inventory included identification of broad vegetation or habitat cover types that involved identifying vegetation on the site. Cover type surveys were conducted by first reviewing an aerial photograph of the site and adjacent properties and subsequently by investigating the habitats on the site to identify and classify each. Cover types were identified, classified, and mapped to show their distributions.

Within each cover type, visual searches for herbaceous and woody plant species or parts thereof, including leaves, bark, twigs, seeds, flowers, fruits, or other identifiable plant structures were conducted to identify and document plant material on the site. The Plot Transect method was employed for the vegetation inventory. This method was supplemented with the Opportunistic Encounter and Systematic Area Search Techniques as outlined in *Community Biodiversity Survey Manual*[1]. Plants were identified to species level when possible. A cumulative list of vegetation found on the site is provided in Appendix B.

[1] *National Parks Association of NSW, 1998*

2.3 WILDLIFE FIELD INVENTORY

Field surveys were conducted for wildlife species including mammals, birds, and herpetiles (reptiles and amphibians). Special surveys were also conducted to identify and locate state and federally listed species of special concern and threatened and endangered species and potential habitats for these species. Multiple methods were used in these surveys, as multiple methodologies increase the potential accuracy of surveys. Methods used are outlined below.

A. Mammals

The following survey methods that are outlined in detail in *Community Biodiversity Survey Manual* were utilized during the field survey:

1. Sign search, in which the observer records any recognizable signs (tracks, droppings, hair, bones, etc.) of mammal species.

2. Opportunistic mammal sightings, in which the observer identifies mammals encountered in the field at random.

Mammals were identified based on visual encounters, vocalizations, tracks, fur, bones, rubs, scrapes, droppings, or other recognizable signs in habitats throughout the property. Sampling routes were established throughout the property to cover all of the identified vegetation cover types. Established sampling routes throughout the site (transects) were walked, and wildlife was recorded as encountered. Mammals identified on the site are listed in the cumulative wildlife list in Appendix B.

B. Birds. Field methods used to survey for avian species were based on methods outlined in *Community Biodiversity Survey Manual*. This method included:

1. Strip transect, in which the observer records all species encountered (seen/heard) along a trail.

2. Opportunistic bird sighting, in which the observer records birds encountered randomly.

3. Sign search, in which the observer records signs (feathers, nests, droppings, tracks, etc.) of birds encountered in the field.

Birds were detected and identified by visual encounter with individuals, vocalizations, tracks, feathers, bones, droppings, castings, nests, drillings, or other recognizable signs. Avian species identified on the site are listed in the cumulative wildlife list in Appendix B.

C. **Herptiles (Reptiles and Amphibians).** Field methods used to survey for herptile species were based on methods outlined in *Community Biodiversity Survey Manual*. This method included:

1. Log rolling (overturning logs, large stones, and other debris to reveal herptiles underneath).

2. Aural surveys were conducted for vocal herptiles. Herptiles were detected and identified by visual encounter, vocalizations, egg masses, and remains.

2.4 WETLAND DELINEATION

The wetland delineation performed on the site was done to the specifications of the Routine Delineation Method outlined in the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1*[2] by Robert Torgersen, RLA. The US Army Corps of Engineers issued their Jurisdictional Determination (JD) of the wetland boundaries on December 8, 2004.

A. **Data Review.** The data review for this wetland delineation included the review of NWI maps and NYSDEC Freshwater Wetland Maps for previously identified wetlands on the site. It also included a review of the Orange County Soil Survey to determine if soils on the site were conducive to wetland formation.

B. **Field Investigation and Sampling.** Federal wetlands were delineated based upon the identification of the three mandatory criteria for wetland determination as outlined in the 1987 Federal Manual: dominant hydrophytic vegetation, hydric soils, and evidence of wetland hydrology. To identify the wetlands, the site was walked and the general characteristics of the property observed. The Routine Methodology procedure for wetland delineation was used. Sample transects were established at each wetland. Each transect consisted of at least two sample points, one in the wetland and one in the adjacent upland. Dominant vegetation around each sample point was identified and its percent cover quantified. Areas with an appropriate landscape position were checked in detail for the presence of wetland hydrologic indicators. Soil profiles were then observed and characterized at each point.

---

[1] *(U.S. Army Corps of Engineers Environmental Laboratory, 1987) (1987 Federal Manual)*

The detailed field investigation included:

1. Identification of vegetation species with a dominance of hydrophytic plants and areas containing transitional but primarily wetland-oriented species.
2. Determination of features of hydric (poorly and very poorly drained) natural soils, transitional but wetland-oriented soils, and disturbed and filled soils that display an aquic (water-saturated) regime.
3. Observation of site features displaying evidence of wetland hydrology based on the presence of inundated areas, apparent high seasonal water tables, and evidence of saturation within 12 inches of the surface (considered the root zone) during sufficient periods during the growing season to provide for anaerobic/hydric soil conditions.

Test plots were made at selected locations on the property to identify the various habitat types and to establish the wetland-upland interface. The wetland border was marked with blue flagging tape and was based on the test plot data and observations made at mini-test plot locations along the wetland border. Each distinct wetland area was designated with a letter and each wetland flag within a wetland area was numbered sequentially (e.g. A-1, A-2, etc.).

3.0 FINDINGS

3.1 VEGETATION AND COVER TYPE INVENTORY

The vegetation inventory positively identified 79 species on the site. These are outlined in Appendix B. No rare, threatened, or endangered plant species or plant communities were identified on the site. A review of the aerial photograph of the site and adjacent properties also indicates that no unique or potential endangered or threatened habitats, such as a fen, are located adjacent to the property.

There are 6 distinct cover types identified on the site, as classified by Ecological Solutions, LLC, and Reschke Table 3.1-1 and Figure 3.1.1.

TABLE 3.1-1
COVER TYPES IDENTIFIED ON
MAPLEWOOD VILLAGE AT GOSHEN PROPERTY

EQUIVALENT COVER TYPE NAMES		
NO.	ECOLOGICAL SOLUTIONS, LLC, 2006	RESCHKE, 1990
1	Forested Wetland	Red Maple Hardwood Swamp
2	Open Water	Pond
3	Non-Calcareous Wet Meadow	Shallow Emergent Marsh
4	Shrub Swamp	Shrub Swamp
5	Mature Mesophytic Lowland Forest	Rich Mesophytic Forest
6	Young Woods	Successional Northern Hardwoods

Cover types 1 through 4 are wetland habitat, while cover types 5 and 6 are upland habitats. Detailed descriptions of the cover types that will be impacted by development are outlined below.

1. Red Maple Hardwood Swamp - This ecological community is a type of hardwood swamp that occurs in poorly drained depressions usually on inorganic soils in New York State. Red maple (*Acer rubrum*) is dominant and the co-dominants consist of American elm (*Ulmus Americana*), swamp white oak, (*Quercus bicolor*) and pin oak (*Quercus palustris*). The shrub layer consists mainly of arrowwood (*Viburnum recognitum*) and silky dogwood (*Cornus amoemum*). The herbaceous layer contains skunk cabbage (*Symplocarpus foetidus*), tussock sedge (*Carex stricta*), sensitive fern (*Onoclea sensibilis*), and sphagnum moss (*Sphagnum spp*). This ecological community

occurs in the protected wetlands occupying the low areas between ridges. These wetland areas exist in valleys and are mostly associated with watercourses. This ecological community will remain undisturbed by the proposed development.

2. Rich Mesophytic Forest and Successional Hardwood Communities

A. (Appalachian Oak-Hickory Forest) - This hardwood forest community occurs on well-drained sites, usually on ridge tops, upper slopes or south and west-facing slopes. The soils are usually loams or sandy loams. This is a broadly defined forest community with several regional and edaphic variants. The variant here is a forest where the dominant trees are shagbark hickory (*Carya ovata*) and pignut hickory (*C. glabra*) with some red oak (*Quercus rubra*), white oak (*Q. alba*), black oak (*Quercus velutina*), black birch (*Betula lenta*), white ash (*Fraxinus americana*), sugar maple (*Acer saccharum*) and black cherry (*Prunus serotina*). The shrub layer and ground layer here includes flowering dogwood (*Cornus florida*), spice bush (*Lindera benzoin*), hop-hornbeam (*Ostrya virginiana*), hornbeam (*Carpinus carolinensis*), multiflora rose (*Rosa multiflora*), barberry (*Berberis thunbergii*), honeysuckle (*Lonicera sp.*), witch hazel (*Hamamelis virginia*), and spinulose wood-fern (*Dryopteris spinulosa*).

B. (Oak-Tulip Tree Forest) - This mesophytic hardwood forest occurs on moist, well-drained sites. The dominant trees include a mixture of tulip tree (*Liriodendron tulipifera*), red oak (*Quercus rubra*), black birch (*Betula lenta*), beech (*Fagus grandifolia*), red maple (*Acer rubrum*), and white oak (*Quercus alba*). The shrub layer here includes flowering dogwood (*Cornus florida*) spicebush (*Lindera benzoin*), witch-hazel (*Hamamelis virginiana*), black cherry (*Prunus serotina*), and blueberries (*Vaccinium spp*). The ground layer contains Virginia creeper (*Parthenocissus quinquefolia*).

C. (Beech–Maple Forest) - This is a hardwood forest with sugar maple (*Acer saccharum*) and beech (*Fagus grandifolia*) as co-dominants. This is a broadly defined forest community with several regional and edaphic variants. These forests occur on moist, well-drained, usually acid soils. The associates in this regional variant are white ash (*Fraxinus americana*), eastern hop hornbeam (*Ostrya virginiana*), hornbeam (*Carpinus caroliniana*), red maple (*Acer rubrum*), and black cherry (*Prunus serotina*). The shrub layer and ground layer here are contains, multiflora rose (*Rosa multiflora*), barberry (*Berberis thunbergii*), honeysuckle (*Lonicera spp.*), witch hazel (*Hamamelis virginiana*), and spinulose wood-fern (*Dryopteris spinulosa*). This ecological community occurs on the mesic and well-drained sites from the wetlands up the slopes to the eastern border of this property. No rare, threatened, or endangered plant species or significant habitats were identified on the site.

Figure 3.1.1
Existing Cover Type Map

SEE DEIS Figure III-9 "Existing Ecological Conditions"

TABLE 3.1-2
COVER TYPE IMPACTS
MAPLEWOOD VILLAGE AT GOSHEN PROPERTY

NO.	RESCHKE, 1990	ACRES IDENTIFIED ON PROPERTY	PROPOSED IMPACTS
1	Forested Wetland	20.27	19.96
2	Open Water	0.17	0.17
3	Non-Calcareous Wet Meadow	19.66	19.31
4	Shrub Swamp	4.80	1.04
5	Mature Mesophytic Lowland Forest	31.10	19.60
6	Young Woods[3]	-	-
7	Proposed Development	0	35.92
Total		96.00	96.00

Age classes of forested landscapes on the site ranged from young growth to mixed age, second growth to climax forest. Young growth tree sizes ranged from saplings up to 4 inches diameter at breast height (DBH). Mixed age second growth and climax forest areas were mostly made up of trees ranging in size from 4 to 12 inches DBH, with larger specimen trees in the 30 inches DBH range throughout. The cover types on the property provided for a mosaic, yielding "edge" habitats (ecotones) around the wetlands on the property. The high point of the property is dominated by second growth, mixed-age rich mesophytic forest.

3.2 WILDLIFE INVENTORY

The wildlife inventory yielded 73 species, including 52 avian species, 13 mammalian species, and 8 herpetiles. This list includes only species actually observed on the site and associated habitats were observed.

A. **Special Concern, Threatened, and Endangered Species.** No threatened, or endangered species were observed on the site.

[3] *Young Woods included in Mature Mesophytic Lowland Forest calculation.*

4.0 ANTICIPATED IMPACTS

The proposed development and its appurtenant features will necessarily require clearing of vegetation beyond the existing fields and trail system. Earth moving (excavation, filling, and grading), operation of heavy machinery, construction, and alteration to existing drainage patterns, addition of impervious surfaces, changes in traffic patterns, and increased human activity will occur on the subject property. These activities have a potential to adversely impact the existing environmental elements of the site. Anticipated impacts from these activities are outlined below.

4.1 IMPACTS TO VEGETATION AND COVER TYPES

A. Forested Wetland. Development activities have been planned to generally avoid impacts to Federal wetlands the most sensitive areas on the property. Low impacts to these resources are anticipated and a Federal wetland permit will be obtained for the proposed project, if necessary.

B. Habitat Loss. The proposed activities will require the removal of areas of natural vegetation in upland areas potentially altering portions of upland cover type areas but not their distribution on the site. This will result in the loss of portions of the following habitat/cover types:

- young woods
- shrubby old field
- meadow

These areas will be replaced with cultural cover types, such as mowed lawn with trees and paved driveway (including impervious surfaces such as houses, terraces, pools, garages, driveways, walks, etc.). While some of the new cover types will still provide usable wildlife habitat, and the addition of habitat types will increase habitat diversity, in general, the cultural habitat types are of lower value to wildlife than the natural cover types. Habitat values will be dependent on landscape planting schemes and maintenance regimes of the developed lots, and on availability of protective cover for wildlife. Overall, however, a decrease in natural wildlife habitat value will result, and the species richness of the local wildlife community may reflect those changes.

The old-field areas are large and will be the focus of development on the property. The upland forest makes up the vast portion of the site and post-development a large portion of this cover type will be replaced with cultural cover types, such as mowed lawn with trees and paved driveway (including impervious surfaces such as homes,

terraces, driveways, walks, etc.). While some of the new cover types will still provide usable wildlife habitat, and the addition of habitat types will increase habitat diversity, in general, the cultural habitat types are of lower value to wildlife than the natural cover types. Habitat values will be dependent on landscape planting schemes and maintenance regimes of the developed lots, and on availability of protective cover for wildlife.

C. **Forest Fragmentation.** The somewhat closed canopy in the forested area will be partially cleared to allow for development, potentially fragmenting the forest habitat at those locations. Although much of the forest on this portion of the property is already fragmented and allows access to edge species parasites and predators, the proposed clearing could further this process by carving the forested areas into woodlots. The majority of the forest will be preserved ultimately leaving protection for forest interior species from invasion of and competition with edge species.

D. **Habitat Fragmentation.** Habitat fragmentation differs from forest fragmentation. Forest fragmentation is the practice of opening up closed forest canopy, allowing edge-oriented species to penetrate into areas of the forest that they could not reach before. While this adversely impacts forest interior species, it potentially benefits edge species. Habitat fragmentation is the separation and isolation of habitats and wildlife populations by placing impenetrable barriers between habitats that prevent mixing formerly connected or adjacent wildlife populations. This creates "habitat islands" that prevent genetic mixing of populations, potentially leading to extinction of small sub-populations. Development barriers can be as minor as a 6-inch curb on a driveway that prevents movement of small mammals, amphibians, reptiles, or any small wildlife. The driveways and roads proposed on the site could become significant habitat barriers to smaller species of wildlife if they are fitted with standard 6-inch curbs. If fences are proposed on, in, or around the developed area, they can prevent wildlife movement across the site. Extensive clearing of overhead vegetation can also prevent movement of some wildlife, most notably amphibians, because they would be exposed to direct sunlight at midday in cleared areas, making it impossible for them to travel without the risk of becoming desiccated.

4.2 IMPACTS TO WILDLIFE

A. **All Species.** Direct impacts to wildlife from the proposed development will primarily be displacement. Some species found on the site are typically found in suburban settings and have already adapted to proximal human habitation. These species will remain on the developed portion of the site, though likely in fewer numbers, as availability of basic habitat features (food, water, cover, and space) may be decreased in the developed area.

Some wildlife species currently found on the site are intolerant of human disturbance or habitation, such as forest interior songbirds. Some individuals may attempt to move into adjacent habitats, where they will have to compete with resident individuals of the same species (conspecifics) to occupy the remaining habitat. Impacts from actions on the developed portion of the subject site can have a ripple effect and can extend to adjacent habitats beyond the development area and even beyond the property boundaries.

B. **Listed Species.** No state or federally listed threatened or endangered species are found on the site.

5.0 MITIGATION MEASURES

The proposed development of the Maplewood Village at Goshen property is anticipated to have the potential for adverse environmental impacts at varying levels but many of these impacts can be minimized through the implementation of mitigative measures. These are actions taken to prevent or lower the probability of adverse effects from the development. Mitigative measures for the potential impacts are outlined below.

5.1 MITIGATION FOR VEGETATION AND COVER TYPE IMPACTS

To minimize loss of habitat, the developer will minimize removal of natural vegetation as much as possible to preserve natural cover types on the site. Vegetation clearing will be minimized in all cover types, but since some cover types are harder to replace than others, it is recommended that clearing be minimized on cover types in the following order of preference (most to least):

- forested habitats
- shrub-dominated habitats
- meadow

Natural vegetation clearing has been minimized by establishing undisturbed naturally vegetated buffers or open space and through arrangement of lots to take advantage of previously disturbed (cultural) cover types and lower value cover types, such as young woods.

In addition, contiguous forested areas will be saved to provide mature trees in the landscape of the proposed development. This will not only have ecological benefits, but will also provide mature trees in the development being built, giving the appearance of long-term establishment and stability.

Other habitat aspects of the site should be preserved where they do not interfere with the functioning of the development. Such elements may include existing stonewalls, standing dead trees (snags), and hedgerows. Old stonewalls provide microhabitats for small mammals, herptiles, and invertebrates. Snags provide perching, nesting, and feeding sites for a wide variety of wildlife, and hedgerows often represent existing covered travel corridors that connect forested habitats. Therefore, these elements or parts thereof should be protected where possible. Impacts from habitat and forest fragmentation can be avoided by maintaining connecting cover corridors between

natural habitat areas. Connecting corridors do not have to be entirely unbroken, as long as breaks in the natural vegetation are not too large.

Further prevention of habitat fragmentation for small terrestrial wildlife species can be accomplished by selecting alternatives to straight 6-inch curbs in the subdivision. An alternative is to incorporate shallowly sloped curbs (Cape Cod curbs) into the subdivision design to allow small animals to cross unobstructed.

5.2 MITIGATION FOR WILDLIFE IMPACTS

Temporary wildlife displacement during construction is a short-term impact that will be minimized through the establishment of the conservation easement on the site that will provide more than half of the property for wildlife use. No other mitigation measure is required.

6.0 RECOMMENDATIONS

Consideration of anticipated environmental impacts and concepts for their mitigation led to the development of the following list of recommendations that have been included within the overall development planning scheme for the property. These recommendations included:

1. Establish a conservation easement area.

2. Protect naturally vegetated open space and wetlands.

3. Minimize impacts on lots to a specified building envelope.

4. Establish a conservation area that contains regulated wetlands to act as a wildlife corridor and buffer.

5. Conduct tree-clearing activities from October 1 through March 30 of any year.

7.0 AGENCY INQUIRY REVIEW

Correspondence has been sent to the NYSDEC Natural Heritage Program and US Fish and Wildlife Service and according to NYSDEC no threatened, endangered, or species of special concern or unique habitat are known to occur on the property or adjacent to the property. The USFWS outlined Indiana Bats and Bog Turtles as potentially within the project limits.

8.0 THREATENED/ENDANGERED SPECIES

8.1 INDIANA BAT

Indiana Bats - Indiana bat hibernacula and hibernacula characteristics have been well documented by numerous observational studies reported in the literature. To date there are three known hibernacula located in the immediate vicinity of Kingston, New York. The hibernacula are critical to the survival of this species because so few are known to exist. The US Fish and Wildlife Service (USFWS) and New York State Department of Environmental Conservation (NYSDEC) are continually documenting habitat utilization by this species once emergence occurs.

Outside the hibernation period, Indiana bats are very mobile and use both live trees greater than 5 inches dbh especially containing dead wood and snags or dead trees in a variety of habitats for roosts during the summer months. Although roosts have been documented in a wide array of hardwood and pine species, trees and snags that have exfoliating bark, such as Shagbark Hickory and Black Locust, appear to be most important to this species because females and their young rest under the bark. Trees, equal to or greater than 9 inches dbh with exfoliating bark, southern or western exposure, and solar exposure appear to be the most important habitat for maternal colonies during the summer months.

According to the literature roost-tree density necessary to support Indiana bats is not understood and negative or positive biological thresholds linked to roost abundance are unknown. Similarly, there are no quantitative studies that adequately describe species composition of forest stands or stand structure surrounding occupied roosts. There is evidence however that Indiana bats return to the same summer foraging and roosting areas and sometime individual tree each year.

Indiana Bats - The development portion of the property is generally upland hardwood forest. The property has gentle to steep slopes in the mixed upland forest areas. The forested wetland and upland on the property is generally densely vegetated with many trees over 9" dbh that contain loose exfoliating bark, crevices, cavities or holes that are potential Indiana Bat roosting trees. No hibernacula are suspected on the property.

8.2 BOG TURTLE

Bog Turtle - According to a variety of sources, Bog Turtles' preferred habitat includes shallow, spring-fed fens, sphagnum bogs, swamps, marshy wet meadows with soft, muddy, organic bottoms, slow moving, water, and open canopies bordered by shrub and red maple swamps. Plant species found in association with bog turtles include

shrubby cinquefoil (*Potentilla fruticosa*), sedges (*Carex* spp., especially *Carex stricta*), sphagnum moss (*Sphagnum spp.*), and skunk cabbage (*Symplocarpus foetidus*). The turtles frequently lay eggs atop tussock sedges in areas with open canopies and sparse shrub vegetation that would not shade the nests.

According to NYSDEC and the Natural Heritage Program (2003), optimal habitat (in New York) has the following attributes:

<25% canopy cover;

Headwater or springhead water sources;

Muddy substrate;

Shallow, uneroded rivulets;

Cinquefoil, sedges, rushes, sphagnum moss;

No obvious threats or evidence of negative impacts to wetland in the past.

Habitat suitability declines as canopy cover increases and threats and impacts to the wetland increase in severity or proximity. Degraded water quality, due to siltation and eutrophication, is a primary threat to the turtles, as well as successional processes that lead to closed canopies, human influenced habitat changes, and collecting. The secretive bog turtles are the smallest species in the Genus *Clemmys*, with the maximum length not exceeding 4.5 inches. The carapace is domed and from light brown to ebony, with scutes often having lighter-colored centers in a starburst pattern. The distinguishing feature is a large, conspicuous, bright orange, yellow, or red blotch on each side of the head. This blotch is present from birth in both sexes.

Bog Turtle - The Bog Turtle habitat suitability assessment followed the protocols outlined by the Fish and Wildlife Service (2001)[4].

In general wetlands on the property do not contain suitable groundwater hydrology or soil structure (muck) often associated with Bog Turtle habitat. Vegetation in the wetlands on the property except as noted above is dominated by red maple and generally contains a dense canopy layer with little solar penetration. No fen indicator species occur in any wetland on the property. With the lack of suitable hydrology, mucky soil, and vegetative structure it is concluded that no bog turtle habitat exists the property or immediately adjacent in the observable areas off the property.

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[4] *US Fish and Wildlife Service. 2001. Bog Turtle (Clemmys muhlenbergii) Northern Population, Recovery Plan. Hadley, Massachusetts*

9.0 CONCLUSION

The proposed development of the Maplewood Village at Goshen property, like all proposed development of undeveloped or agricultural land, will have impacts on the local environment. The potential for impacts are considered minimal and will be controlled through careful implementation of the development plan. Planning the development outside of the sensitive portion of the property (wetlands) has decreased the potential for impact. Impacts to sensitive environmental elements on the site will be low and will not have a significant effect on the local or regional environment.

APPENDIX A
CORRESPONDENCE
NYSDEC NATURAL HERITAGE PROGRAM
US FISH and WILDLIFE SERVICE

SEE DEIS APPENDIX B "Agency Correspondence"

APPENDIX B[5]
VEGETATION[6]/WILDLIFE LIST

TREES, SHRUBS AND VINES COMMON NAME	SCIENTIFIC NAME
Tatarian Honeysuckle	Lonicera tatarica
Red Maple	Acer rubrum
Pin Oak	Quercus palustris
Sugar Maple	Acer saccharum
Japanese Barberry	Berberis thunbergii
Black Birch	Betula lenta
Grey Birch	Betula populifolia
American Elm	Ulmus americana
Shagbark Hickory	Carya ovata
Flowering Dogwood	Cornus florida
Gray Dogwood	Cornus racemosa
Red-osier Dogwood	Cornus stolonifera
Green Ash	Fraxinus pennsylvanica
Spicebush	Lindera benzoin
Virginia Creeper	Parthenocissus spp.
White Oak	Quercus alba
Red Oak	Quercus rubra
Black Oak	Quercus velutina
Poison Ivy	Rhus radicans
Eastern Red Cedar	Juniperus virginiana
Witch Hazel	Hamamelis virginiana
Ironwood	Carpinus caroliniana
Grape	Vitis spp.
Basswood	Tilia cordata
Swamp White Oak	Quercus bicolor
Pignut Hickory	Carya glabra
American Beech	Fagus grandifolia

[5] *All species noted in the list were observed on the site via methods outlined above.*
[6] *None of the vegetation listed below are protected in New York State.*

TREES, SHRUBS AND VINES (Continued)

Black Locust	Robinia pseudoacacia
Multiflora Rose	Rosa multiflora
Black Raspberry	Rubus occidentalis
Black Cherry	Prunus serotina
Highbush Blueberry	Vaccinium corymbosum
Fox Grape	Vitis labrusca

FLOWERING PLANTS/GRASSES/FORBS

Bugleweed	Ajuga reptans
Reed Grass	Phragmites communis
Daisy Fleabane	Erigeron annulus
Butter and Eggs	Linaria vulgaris
Narrow leaved Cattail	Typha angustifolia
Chicory	Chicorium intybus
Wintergreen	
Violets	Viola spp.
Woolgrass	Scirpus cyperinus
Oxeye Daisy	Chrysanthemum leucanthemum
Japanese Knotweed	Polygonum cuspidatum
Jerusalem Artichoke	Helianthus tuberosus
Black Sedge	Carex nigra
Umbrella Sedge	Cyperus involucratus
Monkey Flower	Mimulus ringens
Wild Onion	Allium spp.
Panic Grass	Panicum spp.
Spotted Knapweed	Centaurea maculosa
Common Mullein	Verbascum thapsus
Foxtail Sedge	Carex alopecoidea
Green Bulrush	Scirpus atrovirens
Big Bluestem	Andropogon gerardii
Blue Vervain	Verbena hastata
Common Tansy	Tanecetum vulgare
Purple Loosestrife	Lythrum salicaria
Garlic Mustard	Allaria officinalis
Soft Rush	Juncus effusus
Wood Geranium	Geranium maculatum
Wild Strawberry	Fragaria virginiana
Common Ragweed	Ambrosia artemisiifolia

Common Milkweed	Asclepias syriaca
Timothy Grass	Phleum pretense
White Wood Aster	Aster divaricatus
False Nettle	Boehmeria cylindrical
Queen Anne's Lace	Daucus carota
Boneset	Eupatorium perfoliatum
White Bladder Campion	Silene latifolia
Evening Primrose	Oenothera biennis
Yellow Buttercup	Hibbertia hypericoides
Common Plantain	Plantago major
Goldenrods	Solidago spp.
Clover	Trifolium spp.
Jack-in-the-Pulpit	Arisaema triphyllum

FERNS

Sensitive Fern	Onoclea sensibilis
Cinnamon Fern	Osmunda cinnamomea
Christmas Fern	Polystichum crostichoides
Lady Fern	Athyrium filix-femina

BIRDS	HABITAT TYPE	SCIENTIFIC NAME	STATUS
Great Blue Heron	Wet Meadow	Ardea herodias	NP
Baltimore Oriole	Mature Forest	Icterus Baltimore	NP1[7]
Scarlet Tanager	Mature Forest	Piranga olivacea	NP1
Indigo Bunting	Mature Forest	Passerina cyanea	NP
Eastern Phoebe	Young Woods	Sayornis phoebe	NP
Wood Pewee	Mature Forest	Contopus virens	NP1
Black-capped Chickadee	Mature Forest	Poecile atricapillus	NP
Red-breasted Nuthatch	Young Woods	Sitta canadensis	NP
White-breasted Nuthatch	Young Woods	Sitta carolinensis	NP
Least Flycatcher	Wet Meadow	Empidonax minimus	NP
Brown Thrasher	Wet Meadow	Orpheus rufus	NP
Mocking Bird	Wet Meadow	Orpheus polyglottus	NP
Tufted Titmouse	Mature Forest	Parus bicolor	NP
Wood Thrush	Mature Forest	Hylocichla mustelina	NP1
Ruby-crowned Kinglet	Wet Meadow	Regulus calendula	NP1
Red-tailed Hawk	Wet Meadow	Buteo jamaicensis	NP
White Throated Sparrow	Mature Forest	Zonotrichia albicollis	NP
Broad-winged Hawk	Mature Forest	Buteo platypterus	NP
Eastern Bluebird	Wet Meadow	Sialia sialis	NP
Black-throated B. Warbler	Young Woods	Dendroica caerulescens	NP
Merlin	Wet Meadow	Falco columbarius	NP
Eastern Meadowlark	Wet Meadow	Sturnella magna	NP
Chimney Swift	Wet Meadow	Chaetura pelagica	NP
Blue Jay	Wet Meadow	Cyanocitta cristata	NP
Bobolink	Wet Meadow	Dolichonyx oryzivorus	NP
Woodcock	Shrub Wetland	Philohela minor	NP
Brown-headed Cowbird	Upland Meadow	Molothrus ater	NP
Barn Swallow	Wet Meadow	Hirundo rustica	NP
Carolina Wren	Shrub Wetland	Thryothorus ludovicianus	NP
Common Grackle	Shrubby Wetland	Quiscalus quiscula	NP
Common Crow	Shrubby Wetland	Corvus brachyrhyncous	NP
Turkey Vulture	Shrubby Wetland	Cathartes aura	NP
Ruby-throated Hummingbird	Wet Meadow	Archilochus colubris	NP
American Redstart	Young Woods	Setophaga ruticilla	NP
American Robin	Young Woods	Turdus migratorius	NP
Cardinal	Young Woods	Cardinalis cardinalis	NP
Red Eyed Vireo	Young Woods	Vireo olivaceous	NP
Pileated Woodpecker	Mature Forest	Dryocopus pileatus	NP
Rose Breasted Grosbeak	Shrub Wetland	Pheucticus ludovicianus	NP
Common Yellowthroat	Young Woods	Geothlypis trichas	NP
Yellow Warbler	Young Woods	Dendroica petechia	NP

[7] *NP1 - Forest Interior Species found on the property – Not Protected*

Blackburnian Warbler	Wet Meadow	Dendroica fusca	NP1
Killdeer	Wet Meadow	Chaetura pelagica	NP
Northern Flicker	Shrub Wetland	Colaptes auratus	NP
American Goldfinch	Wet Meadow	Carduelis tristis	NP
Veery	Mature Forest	Catharus fuscescens	NP1
Ovenbird	Mature Forest	Seiurus aurocapillus	NP1
Yellow Warbler	Shrub Wetland	Dendroica petechia	NP1
Chipping Sparrow	Shrub Wetland	Spizella passerine	NP
Mourning Dove	Wet Meadow	Zenaida macroura	NP
Downy Woodpecker	Mature Forest	Picoides pubscens	NP
Turkey	Mature Forest	Meleagris gallopavo	NP

MAMMALS

Opossum	Young Woods	Didelphis virginiana	NP
Little Brown Bat	Wet Meadow	Myotis lucifugus	NP
Star-nosed Mole	Young Woods	Condylura cristata	NP
Deer Mouse	Wet Meadow	Peromyscus maniculatus	NP
Gray Squirrel	Mature Forest	Sciurus carolinensis	NP
Eastern Chipmunk	Young Woods	Tamias striatus	NP
Woodchuck	Young Woods	Marmota monax	NP
Eastern Cottontail	Shrub Wetland	Sylvilagus floridanus	NP
Raccoon	Mature Forest	Procyon lotor	NP
Striped Skunk	Mature Forest	Mephitis mephitis	NP
Red Fox	Wet Meadow	Vulpes vulpes	NP
White-tailed Deer	Mature Forest	Odocoileus virginiana	NP
Coyote	Wet Meadow	Canis latrans	NP

AMPHIBIANS/REPTILES

Red-backed Salamander	Mature Forest	Plethodon cinereus	NP
American Toad	Mature Forest	Bufo americanus	NP
Spring Peeper	Young Woods	Pseudacris crucifer	NP
Bull Frog	Pond	Rana catesbeiana	NP
Green Frog	Pond	Rana clamitans	NP
Wood Frog	Wetland	Rana sylvatica	NP
Garter Snake	Shrub Wetland	Thamnophis sirtalis	NP
Northern Ringneck Snake	Young Woods	Diadophis punctatus	NP

APPENDIX C
PHOTOGRAPHS