Appendix 6-C: Updated Traffic Impact Study

6.3A Traffic and Transportation **Amended**

This amended Traffic Study incorporates comments from NYSDOT, provided after their review of the original Traffic Study (DEIS Section 6.3), and a revised construction parking supply and distribution scheme incorporating the majority of construction parking at the former Rasco parcel. NYSDOT's review is contained in their letter of February 15, 2012, a copy of which is included at the end of this study. The revised construction parking scheme now provides 580 parking spaces for construction workers at the former Rasco parcel, adjacent to the CVE Project Development Area. This significantly shifts the construction worker traffic from the remote Laydown Site, located 2.5 miles north of the Property, to the Project Property itself.

As with the original study, this amended Traffic Study discusses traffic and transportation issues associated with the construction and operation of the CVE project. Certain portions of the original analysis are unchanged and are referenced in this amended Traffic Study. This amended study analyzes anticipated conditions that would result during the amended peak year of Project construction (2014) including transportation of construction workers, materials and equipment, with the revised construction parking supply and distribution scheme. Also assessed is the impact that may result from the addition of Project related traffic once the Project becomes operational in 2016 (Build). NYSDOT, in their February 15, 2012 review letter, requested that a traffic signal warrant analysis for Route 22 at Duncan Hill Road be completed, and this analysis in contained in this amended study. The intersection of Route 22 at Confederate Drive has been included in the operational analysis for the peak year of Project construction, again at the request of NYSDOT. Figure and table identification follows the original study for conformity, with amended figures and tables denoted by "A". These follow the study narrative.

The CVE facility will be accessed via an existing driveway on the west side of NYS Route 22, which will be widened as part of the Project improvements. The majority of construction workers will park at this location. A limited amount of construction worker parking and a materials storage area (remote Laydown Site) will be located approximately 2.5 miles north of the Project site, on the east side of NYS Route 22. The remote Laydown Site will be accessed by a new, temporary driveway which will be constructed as part of the Project.

The Project will result in a number of additional vehicle trips during construction and a small number of additional vehicle trips during operation. Impacts associated with these additional vehicle trips can be mitigated such that there is little effect on traffic operations in and

around the Route 22 corridor. During the peak construction period, it is estimated that the proposed Project will generate 705 trips in each of the morning (AM) and afternoon/evening (PM) peak hours. The Project is anticipated to go into operation in 2016 and will generate a maximum of 28 trips in each of the AM and PM peak hours during operation.

6.3.1A Applicable Laws, Regulations and Policies

See Section 6.3.1, page 6-43, of DEIS (original study).

6.3.2A Existing Conditions

6.3.2.1A Key Intersections for Construction and Operation

As shown on Figure 6.3-1 of the original study, the study area is located along NYS Route 22 in the Town of Dover, New York, and includes 6.4 miles of roadway. The following intersections on NYS Route 22 were analyzed to assess the Project's impact on traffic in the vicinity of the proposed facility:

- NYS Route 55
- Pleasant Ridge Road
- Cricket Hill Road
- Dover Furnace Road
- Dover High School driveway
- Duncan Hill Road
- Sherman Hill Road
- Old Route 22
- Cemetery Road
- CVE Project Development Area driveway
- CVE remote Laydown Site driveway

- Confederate Drive – added to Amended Study at request of NYSDOT

6.3.2.2A Roadway Characteristics and Use

See Section 6.3.2.2, page 6-44, of DEIS (original study).

6.3.2.3A Accident History

See Section 6.3.2.3, page 6-46 of DEIS (original study).

6.3.2.4A School Bus Routes and Schedules

See Section 6.3.2.4, page 6-49 of DEIS (original study).

6.3.2.5A Traffic Volumes and LOS

6.3.2.5.1A Traffic Volumes

See Section 6.3.2.5.1, page 6-49 of DEIS (original study).

6.3.2.5.2A Level of Service

Repeated from original study

Level of Service (LOS) is one of the measures used to assess operational conditions at intersections. The Highway Capacity Manual 2000 (TRB 2000) defines six LOS, designated by the letters A through F. LOS A represents the best operating conditions, and LOS F represents the worst.

Table 6.3-3: LOS Criteria for Signalized Intersections

LOS	***Average Control Delay per Vehicle[1] (seconds)***
A	*≤10*
B	*>10–20*
C	*>20–35*
D	*>35–55*
E	*>55–80*
F	*>80*

Table 6.3-4: LOS Criteria for Unsignalized Intersections

LOS	**Average Control Delay per Vehicle (seconds)**
A	0–10
B	>10–15
C	>15–25
D	>25–35
E	>35–50
F	>50

.

[1] Average control delay per vehicle is defined as the average delay experienced by a vehicle when it passes through a signal or stop-controlled traffic intersection.

LOS criteria for signalized and un-signalized intersections are listed in Tables 6.3-3 and 6.3-4, respectively. Following are the qualitative definitions of LOS for roadway links:

- LOS A describes completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and driver preferences.

- LOS B also indicates free flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.

- In LOS C, the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant traffic disruption.

- At LOS D, the ability to maneuver is severely restricted as a result of traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and service deteriorating.

- LOS E represents operations at or near capacity (an unstable level). Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F

- LOS F represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points and on sections immediately downstream appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages. Travel speeds within queues are generally less than 30 mph.

Peak-hour traffic analysis results indicated that all intersections in the study area currently operate at LOS C or better during the morning and afternoon peak hours. Tables 6.3-5 and 6.3-6 provide the existing intersection and intersection approach LOS information during the AM and PM peak hours for all intersections studied. LOS for each movement is provided in Appendix 6-D. *LOS analyses are found in the original study and Appendices.*

6.3.1A Future Traffic Conditions without the Project (No-Build)

See Section 6.3.1, page 6-52 of DEIS.

6.3.1.1A Traffic Growth and Other Planned Projects

See Section 6.3.1.1 page 6-52 of DEIS.

The peak construction year traffic and the operation year have been revised to 2014 and 2016 respectively. Accordingly the background traffic growth has been increased by the1.5% per annum previously used, to account for the changes in time frames. Figures 6.3-6A and 6.3-7A, show projected future volumes in the study area for 2014 (the anticipated peak construction period) and 2016 (the Project operations year) without the Project.

6.3.1.2A Future No-Build Intersection Service Levels

6.3.1.2.1A Peak Construction Year (2014)

There is minimal growth in traffic in the construction year, so all studied intersections still operate at LOS C or better. Tables 6.3-7A through 6.3-10A show intersection and intersection approach LOS information during the AM and PM peak hours for the 2014 construction year without the project, and compare existing year to this condition.

6.3.1.2.1A Operations Year 2016

Similar to the construction year, the studied intersections operated at LOS of C or better during the operations year, without the project. Tables 6.3-11A through 6.3-14A 10A show intersection and intersection approach LOS information during the AM and PM peak hours for the 2016 operational year without the project, and compare existing year and this condition.

6.3.2A Construction Traffic Impacts ***AMENDED***

6.3.2.1A Anticipated Construction Parking and Traffic Characteristics

Section 6.3.2.1 of the DEIS is repeated with minor editing.

Facility construction is proposed to start in the second quarter of 2013 and last approximately 36 months. During construction, there will be two types of traffic related to the Project: construction workers and equipment/material deliveries. The daily hours of construction and material/equipment truck traffic are planned to be between 7:00 AM to 4:00 PM and typically from Monday through Friday. The majority (580) of construction worker vehicles will be expected to arrive at the CVE Property and park at the former Rasco parcel. When the former Rasco parcel is at capacity (580), the remaining construction workers (95) will park at the remote Laydown Site, and will be shuttled to and from the Project Development Area truck traffic for materials/equipment will be dispersed through the construction hours, but no truck traffic is expected to occur outside construction hours except for critical concrete pours, limited special deliveries and heavy hauls of large equipment. Construction worker traffic will consist of vehicular trips to and from the Project Development Area, with limited trips to and from the Remote Laydown Site and a limited number of shuttle buses between the Remote Laydown Site and the Project Development Area. Equipment/material truck traffic will depend on the phase of the construction and can consist of:

- 25-cubic yard to 35-cubic yard tractor trailer trucks carrying demolition debris or fill/aggregate
- Flat-bed tractor trailers delivering equipment and basic building and process materials (i.e., steel, piping, cabling, etc.)
- Concrete ready-mix trucks for foundations

For the purposes of traffic, construction is divided into four phases:

- Phase 1 – Demolition and Grubbing/Clearing
- Phase 2 – Excavation, Underground Utilities, and Major Foundations
- Phase 3 – Erection of Buildings and Equipment and Installation of Piping/Cable/Instruments
- Phase 4 – Construction Completion, Final Commissioning, Testing, and Startup

For each phase, vehicle trips will be generated by the construction workforce, construction equipment, and delivery of facility equipment and materials to the Project Development Area and remote Laydown Site. The trips generated during each phase of the construction are shown in Appendix 6-D of the original study.

The total construction phase is planned to start in April 2013 and will last approximately 36 months. The following are estimated durations for each phase:

- Phase 1 – Construction Months 1 – 4 (4-month duration)
- Phase 2 – Construction Months 5 – 12 (8-month duration)
- Phase 3 – Construction Months 13 – 28.5 (16.5-month duration)
- Phase 4 – Construction Months 29.5 – 36 (7.5-month duration)

The peak construction vehicle period is anticipated to occur during Phase 3 of construction for a period of approximately 5 months, between July 2014 and December 2014. During this period, there may be daily peaks of up to 750 workers, with approximately 580 vehicles traveling to and from the Property, and, approximately 95 vehicles traveling to and from the remote Laydown Site shortly before 7:00 AM and briefly after 4:00 PM. It is conservatively assumed that workers will commute to the project area in the AM peak period and leave the project area in the PM peak period and that 20 percent of the workers will carpool.[2] Therefore, the site-generated trips used in the traffic analysis include carpool trips. A limited

[2] The basis for this assumption is explained in Appendix 6-D of the DEIS.

number of workers will be transported between the remote Laydown Site and the Project Development Area by shuttle buses. Each shuttle bus will carry approximately 40 workers. Truck trips during construction are estimated to be approximately 18 percent of construction-related traffic. A limited number of heavy hauls for large equipment will occur during the peak construction activity year. The source of these trips is explained in Appendix 6-D of the DEIS. Table 6.3-15A shows the different types of site-generated trips used in the peak construction period analysis. Delivery trips include heavy haul and trucks.

Table 6.3-15A: Peak Construction Period Site-Generated Trips (vehicles per hour)

Trip type	AM	PM	Total
Worker (including carpool)	675	675	1,350
Shuttle bus	10	10	20
Delivery	20	20	40
Total	705	705	1410

Twenty-four-hour bi-directional traffic volume counts on NY Route 22 showed that 46 percent of traffic traveled in the northbound direction during the AM peak period. Based on this information, it is assumed that 45 percent of the construction workers commute from south, and 55 percent commute from the north. Some generated trips, except shuttle bus trips, were distributed to the studied approaches on NYS Route 22 based on the estimated AM and PM peak-hour background traffic volumes. Shuttle buses were assumed to have one origin and one destination and travel between the Project Development Area and the Remote Laydown Site only. This basis of trip assignment was continued in this amended study.

Based on the revised parking supply at the former Rasco parcel, 580 construction worker trips were assigned to that location. The remaining construction worker trips were then assigned to the remote Laydown Site location. Due to this reassignment, worker trips have also been slightly reconfigured from the side road approaches to Route 22. Figures 6.3-8A and 6.3-9A, respectively, illustrate the construction generated and total volumes in the study area for 2014.

6.3.2.1A Intersection Service Levels During Construction and Proposed Mitigation

Tables 6.3-16A, 17A, 18A, and 19A present intersection and intersection approach LOS results for the 2014 Construction condition compared to the 2014 condition without the Project.

All Intersections will operate at acceptable levels of service during the 2014 construction peak, with one exception. Due to the large volumes of traffic entering and exiting the Project Development Area entranceway, this intersection fails during both peak periods under the existing Route 22 and driveway configurations and control.

Additional analysis was undertaken for this location under scenarios with additional turn lanes with and without traffic signal control. Table 6.3-28A and 6.3-29A present the results of these analyses. Due to the large exiting volumes during the PM peak, all scenarios were analyzed with two exit lanes from the CVE site, a left turn and a right turn lane. Analyses were conducted for scenarios which included a Route 22 northbound left turn lane into the site, with and without a southbound right turn lane into the site, under both traffic signal control and un-signalized. A comparison of the various scenario results in the following recommendations to improve the Project Development Area entranceway to an acceptable LOS during the peak construction period.:

1. The Project Development Area exit should consist of two designated lanes, a left turn lane and a right turn lane.

2. A temporary traffic signal should be installed at the Project Development Area entranceway prior to the end of Phase 2 of Construction (estimated April 2014). Vehicle detection should be installed in/for all travel lanes, including the through lanes on Route 22. Traffic volumes at that time will dictate the appropriate signal timing and phasing. Signal phasing and timing should be routinely checked after installation and changes made as warranted by traffic volumes and intersection operation.

3. A left turn lane should be installed on Route 22 for northbound traffic making a left into the Project Development Area entranceway prior to the end of Phase 2 of Construction (estimated April 2014). A left turn arrow should be provided.

4. A right turn lane for southbound traffic into the Project Development Area entranceway should be installed prior to the end of Phase 2 of Construction (estimated April 2014). A right turn arrow should be provided.

With the above mitigation the intersection will operate at LOS C, all Route 22 movements will operate at LOS C or better, and the Project Development Area entranceway will operate at LOS B for right turns (southbound) during both peaks, and LOS D for left turns

(northbound) during both peaks. Different signal timing plans were utilized for the analysis of each peak period.

The revised Project Development Area parking supply and construction vehicle distribution significantly modifies the vehicle demand at the remote Laydown Site driveway and Duncan Hill Road intersections. Both locations will operate at acceptable LOS during the peak periods. The recommendations contained in the original study (i.e., temporary signals or manual traffic control at these intersections) are no longer required. However, it is recommended that prior to Phase 3, the intersection operation at these locations be re-evaluated and if warranted, additional traffic controls features instituted.

6.3.2.2A Traffic Signal Warrant Analysis

As noted the intersection of Route 22 and Duncan Hill Road, with the revised construction traffic distribution operates at acceptable levels of service. NYSDOT requested a traffic signal warrant analysis at this location based upon the original study recommendation for temporary signalization. The requested analysis is presented as Appendix J.

The warrant study was conducted in accordance with procedures documented in the National Manual on Uniform Traffic Control Devices, 2009 Edition (MUTCD) by the Federal Highway Administration. Anticipated traffic volumes at Duncan Hill Road were derived from traffic counts performed between March 26 and 30, 2012, projected background growth and specific development proximate to the site, and estimated site generated traffic volumes. The analysis consists of comparing the anticipated traffic conditions with the appropriate prescribed traffic signal warrants for an average weekday with and without site generated traffic[3]. To this end, the anticipated period of peak construction, has been adopted as the worst-case scenario for the purposes of the study.

The results of the warrant analysis indicate that one warrant (Warrant 3 – Peak Hour), which requires that a minimum mainline two-way volume of 960 vehicles (Route 22) and a side road volume of 90 vehicles (Duncan Hill Road) is met during the AM peak from 7:00-8:00 AM based on the reduced volumes criteria for an area of less than 10,000 population

[3] Warrants 4 through 8 were not evaluated due to a lack of available data or non-relevance as described in Appendix 1A.

or speed over 40mph.However, the meeting of a traffic signal warrant, by itself, does not make the installation of a traffic signal mandatory. Engineering judgment must be utilized as dictated by the Manual of Uniform Traffic Control Devices (MUTCD) and other nationally accepted engineering standards. The MUTCD indicates that Warrant 3 – Peak Hour Warrant " shall be applied only in unusual cases, such as office complexes, manufacturing plant, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time". These conditions are not met at the subject location.

It is recommended that a temporary traffic signal not be installed at this location.

6.3.3A Operational Traffic Impacts with the Project

See Section 6.3.3, page 6-69 of DEIS

6.3.3.1A Anticipated Operational Traffic Characteristics

Compared to peak construction year traffic, the Project's operational period traffic will experience considerably fewer trips generated. Estimated incoming and outgoing trips for employees, visitors, delivery trucks, and waste disposal trucks total 28 trips per day, based on the trip generation methodology described in Appendix 6-D of the DEIS. Table 6.3-22 presents a breakdown of the trips. Site-generated trips were distributed based on the estimated background traffic volumes in the operation year of 2016. Figures 6.3-11A and 6.3-12A show the site-generated and total traffic volumes at the study corridor intersections in the operation year.

Table 6.3-22: Operation Year Project Site-Generated Peak-Hour Trips (Vehicles per Hour)

AM Peak Hour			PM Peak Hour			Trip Type
Total	**In**	**Out**	**Total**	**In**	**Out**	
21	17	4	21	4	17	Employees
2	1	1	0	0	0	Visitor/Vendor/Maintenance
1	1	0	1	0	1	Supply Trucks
2	1	1	2	1	1	Parcel Delivery
2	1	1	0	0	0	Aqueous NH_3 Delivery
0	0	0	2	1	1	Demin Trailer Delivery
0	0	0	2	1	1	Waste Disposal
28	21	7	28	7	21	TOTAL

6.3.3.2A Operational Intersection Service Levels

All intersections and intersection approaches will operate at an acceptable LOS C or better during the Project's operational year. Tables 6.3-23A through 6.3-26A summarize LOS information, for the studied intersections during the AM and PM peak hours.

6.3.3.2A Sight Distance

Field measurements at the Project Development Area driveway and the remote Laydown Site driveway were conducted. Trimming of vegetation within the right of way at both locations will create sight distance meeting or exceeding AASHTO standards. At the Project Development Area driveway sight distance of 850 feet looking left and 640 feet looking right will be obtainable. For the remote Laydown Site entranceway, sight distance of 697 feet looking left and more than 900 feet looking right will be obtainable. Table 6.3-28A compares the field conditions after removal of vegetation to the criteria set forth by AASHTO.

Table 6.3-28A Sight Distances

Sight Distance	CVE Site		Laydown Site	
	AASHTO at 55 mph	Actual	AASHTO at 55 mph	Actual
Stopping sight Distance	495	640 +	495	900+
Left turn from Route 22	610	850	610	690+
Left Turn from driveway-looking right	445	640	445	900+
Left Turn from driveway-looking left	445	850	445	690
Right turn from Driveway – looking left	530	850	530	690

6.3.1A Metro-North Rail Usage

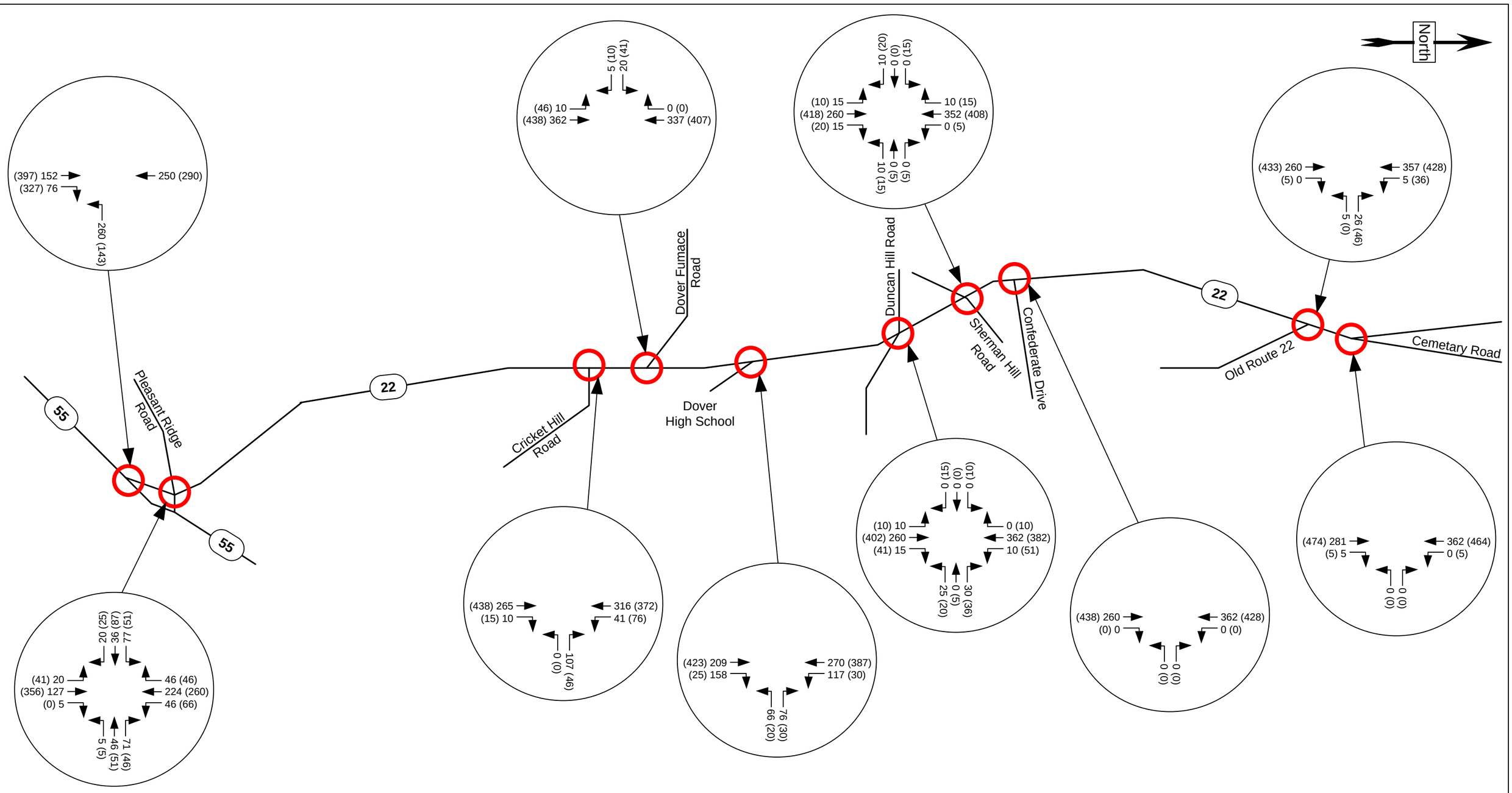
See Section 6.3.1, page 6-70, of DEIS (original study)

6.3.2A Conclusions

Traffic analyses show that Project construction activities would temporarily increase traffic congestion along NYS Route 22 in the Town of Dover, mainly from construction workers commuting to and from the Property and remote Laydown Site. Table 6.3-27A provides recommendations to improve traffic operations during the peak construction year of 2014. All intersections would operate at an acceptable LOS during the 2016 operation year.

Intersection Location	Critical Approaches	Peak Hours of Impact	Recommended Improvements
CVE remote Laydown Site Entranceway	Westbound approach	AM and PM	**Origina**l: Manual control of this intersection during both peak hours. Provide dual entrance and exit lanes on the westbound approach. Provide a 400-foot left-turn pocket on southbound approach. **Amended**: Provide dual exit lanes on the westbound approach. Trim vegetation to the south of the driveway to improve sight distance. The intersection operation should be evaluated during Phase 2 and additional traffic controls features instituted if warranted
Duncan Hill Road Westbound approach	Westbound approach	PM	**Origina**l: Consider installing a temporary signal at this intersection, if feasible, or providing manual control. Traffic should be coordinated with the CVE remote Laydown Site driveway and high school driveway intersections. **Amended**: Temporary signal not warranted or required as an acceptable LOS is maintained. The intersection operation should be evaluated during Phase 2 and additional traffic controls features instituted if warranted.
CVE Project Development Area Entranceway	Eastbound, Northbound and Southbound approaches .	AM and PM	**Original**: To avoid any delay in construction activity and to provide safety and sufficient time for maneuvering of heavy trucks, manual control this intersection. **Amended**: Trim vegetation to the south of the driveway to improve sight distance A temporary traffic signal should be installed prior to the end of Phase 2 of construction (est. April 2014). A left turn lane should be installed on Route 22 for northbound vehicles turning left into the site. A right turn lane for southbound traffic into the site should be installed. The site driveway should consist of two designated exit lanes.

Traffic Volume Figures



AM(PM) PEAK HOUR TRAFFIC VOLUMES

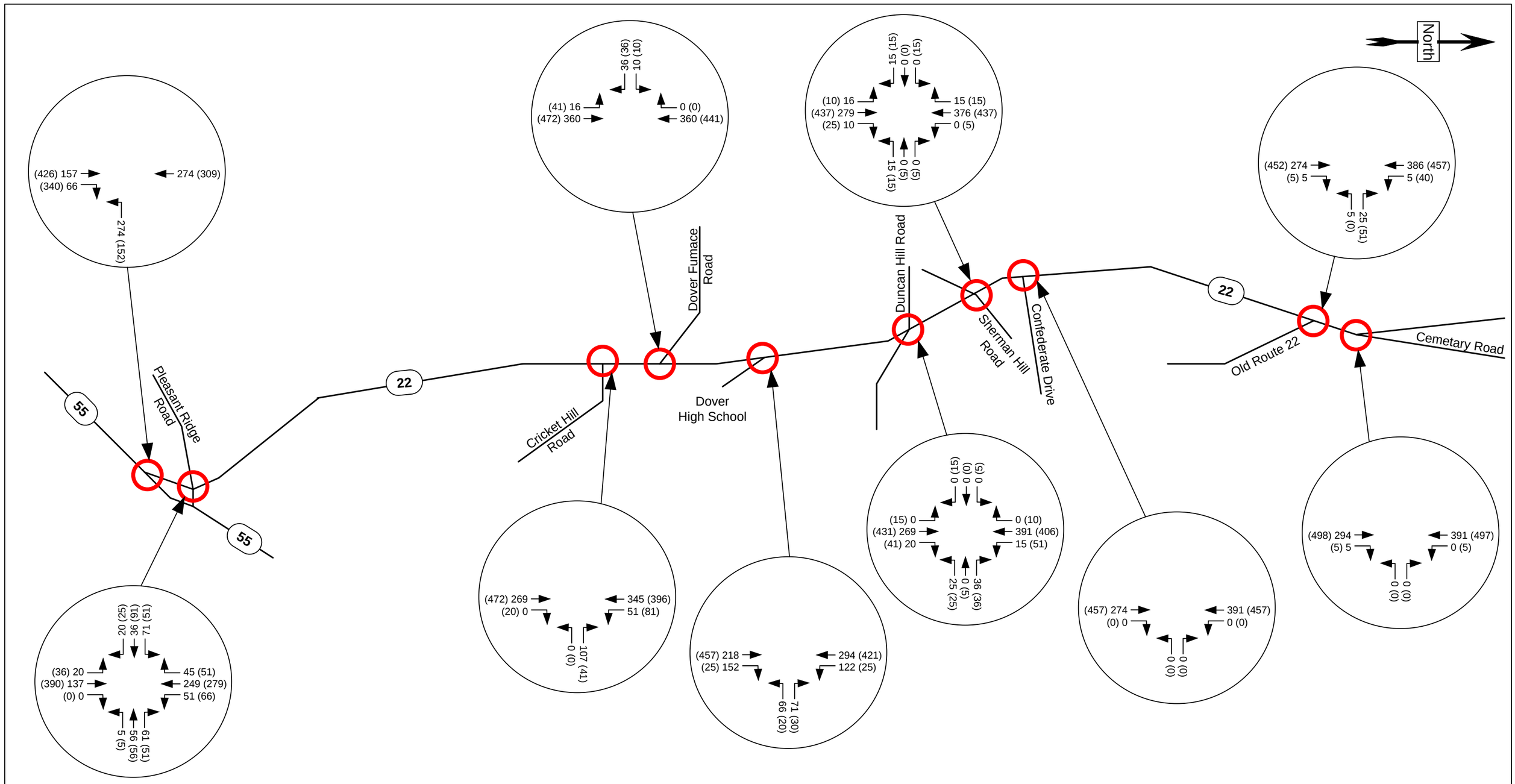
THE Chazen COMPANIES®

Cricket Valley Energy

NYS Route 22
Town of Dover, Dutchess County, New York

2014
Traffic Volumes
w/out the Project
(No-Build)

PIN #: AW08.11.70L | Date: May 2012 | Figure: 6.3 - 6A



AM(PM) PEAK HOUR TRAFFIC VOLUMES

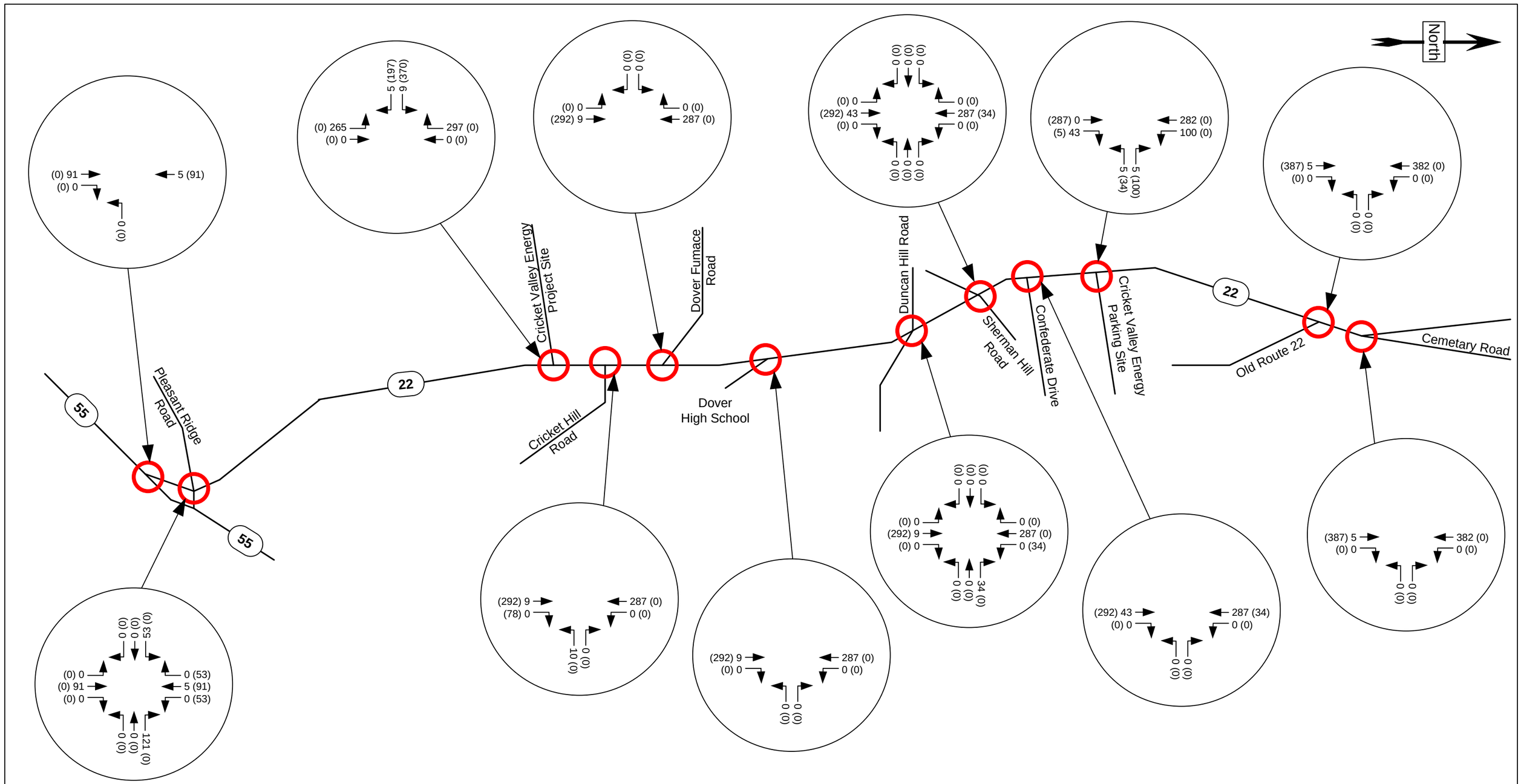
THE Chazen COMPANIES®

Cricket Valley Energy

NYS Route 22
Town of Dover, Dutchess County, New York

2016
Traffic Volumes
w/out the Project
(No-Build)

PIN #: AW08.11.70L | Date: May 2012 | Figure: 6.3 - 7A



AM(PM) PEAK HOUR TRAFFIC VOLUMES

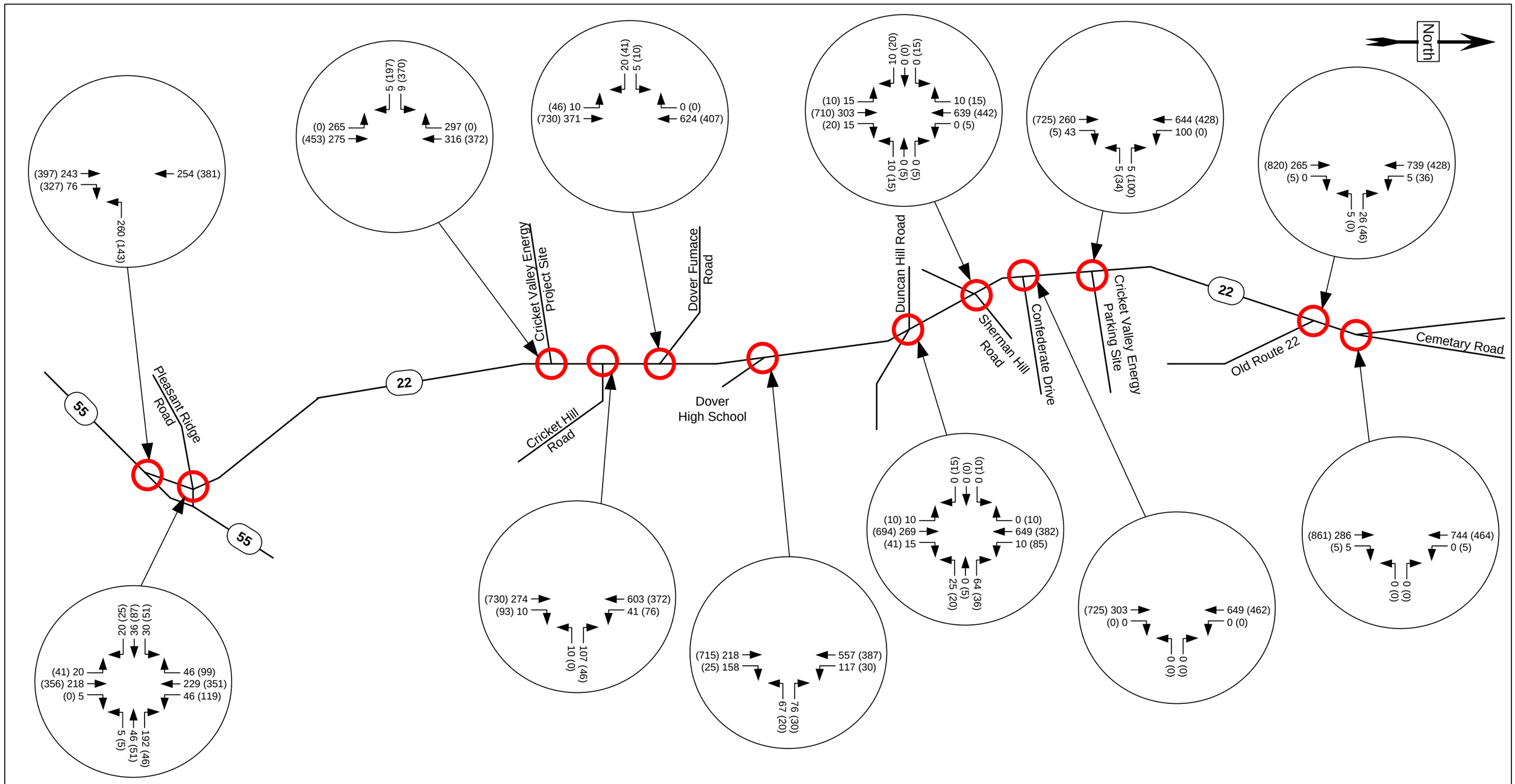
THE Chazen COMPANIES®

Cricket Valley Energy

NYS Route 22
Town of Dover, Dutchess County, New York

2014 Construction Site Generated Traffic Volumes

PIN #: AW08.11.70L | Date: May 2012 | Figure: 6.3 - 8A



AM(PM) PEAK HOUR TRAFFIC VOLUMES

THE Chazen COMPANIES®

Cricket Valley Energy

NYS Route 22
Town of Dover, Dutchess County, New York

2014
Traffic Volumes
With the Project
(Build)

PIN #: AW08.11.70L | Date: May 2012 | Figure: 6.3 - 9A

North

Pleasant Ridge Road

Cricket Valley Energy Project Site

Dover Furnace Road

Cricket Hill Road

Dover High School

Duncan Hill Road

Sherman Hill Road

Confederate Drive

Cricket Valley Energy Parking Site

Old Route 22

Cemetary Road

22

55

(3) 4
(0) 0
3 (6)
(0) 0

4 (9)
3 (12)
(4) 9
(0) 0
12 (3)
0 (0)

1 (0)
0 (0)
(0) 1
(3) 11
0 (0)
11 (3)

0 (0) 0 (0) 0 (0)
(0) 1
(10) 1
(0) 0
0 0
10 (2)
0 (0)

(10) 1
(0) 0
10 (2)
0 (0)
0 (0) 0 (0)

(10) 1
(0) 0
10 (2)
0 (0)
0 0 (0) (0)

0 (0) 0 (0) 0 (0) 3 (0)
(0) 0
(4) 4
(0) 0
0 (1)
3 (6)
1 (2)
0 0 (0) (0) 0 0 (0) (0) 2 (0)

(12) 3
(0) 0
12 (3)
0 (0)
0 0 (0) (0)

(11) 3
(0) 0
11 (3)
0 (0)
0 0 (0) (0)

0 (0) 0 (0) 0 (0)
(0) 0
(10) 2
(1) 1
0 (0)
10 (2)
0 (0)
1 (1) 0 0 (0) (0)

(10) 1
(0) 0
10 (2)
0 (0)
0 0 (0) (0)

(10) 1
(0) 0
10 (2)
0 (0)
0 0 (0) (0)

AM(PM) PEAK HOUR TRAFFIC VOLUMES

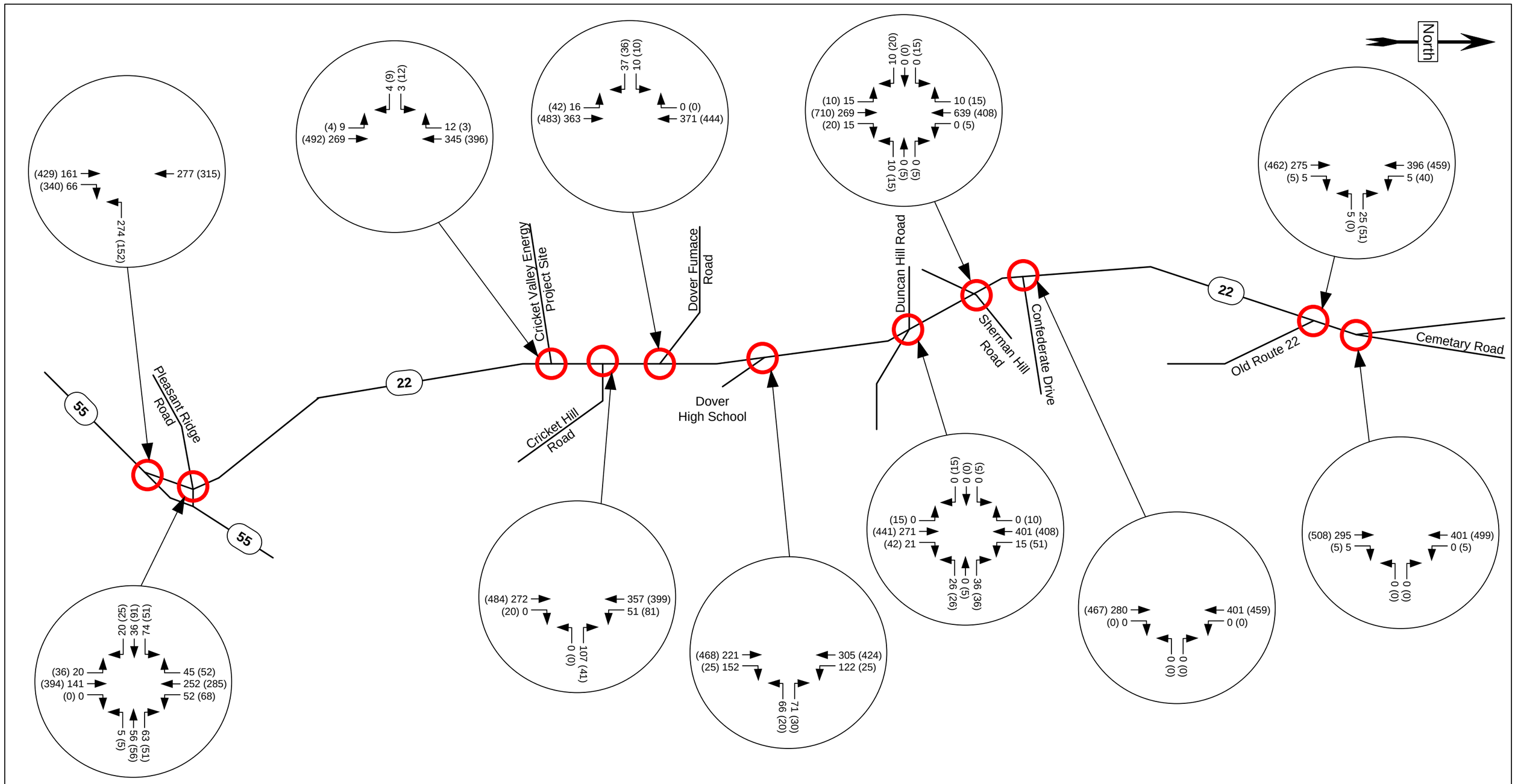
THE Chazen COMPANIES®

Cricket Valley Energy

NYS Route 22
Town of Dover, Dutchess County, New York

2016 Operational Site Generated Traffic Volumes

PIN #: AW08.11.70L | Date: May 2012 | Figure: 6.3 - 11A



AM(PM) PEAK HOUR TRAFFIC VOLUMES

THE Chazen COMPANIES®

Cricket Valley Energy

NYS Route 22
Town of Dover, Dutchess County, New York

2016
Traffic Volumes
With the Project
(Build)

PIN #: AW08.11.70L | Date: May 2012 | Figure: 6.3 - 12A

Level of Service Tables

Table 6.3-5: Existing Year (2010) LOS at Signalized Intersections Cricket Valley Energy Project – Dover, NY

	A.M.													P.M.										
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	A	8.3	0.16	B	10.4	0.38	B	18.9	0.28	B	16.6	0.15	B	B	11.1	0.51	B	11.7	0.54	C	24.1	0.49	B	18.4	0.22
NY Route 22 at Dover High School Driveway	A	A	5.4	0.36	A	8.0	0.55	-	-	-	C	26.5	0.48	A	A	3.5	0.34	A	3.4	0.33	-	-	-	B	17.1	0.20

Table 6.3-6: Existing Year (2010) LOS at Unsignalized Intersections

	A.M.							P.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	B	14.8	0.43	-	-	-	-	C	15.0	0.26
NY Route 22 at Cricket Hill Road	-	-	-	-	B	10.4	0.14	-	-	-	-	B	11.0	0.06
NY Route 22 at Dover Furnace Road	-	B	11.5	0.05	-	-	-	-	B	11.9	0.06	-	-	-
NY Route 22 at Duncan Hill Road	-	A	0.0	0.0	B	13.6	0.12	-	B	14.1	0.04	C	15.3	0.14
NY Route 22 at Sherman Hill Road	-	B	10.6	0.02	C	15.9	0.03	-	B	14.2	0.05	C	15.8	0.06
NY Route 22 at Old Route 22	-	-	-	-	B	10.6	0.05	-	-	-	-	B	11.0	0.08
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0.0	0.0

Table 6.3-7A: Construction Year (2014) LOS at Signalized Intersections Without the Project (No-Build) Compared to Existing Year LOS (A.M.)

	Existing Year (2010)													Construction Year (2014) Without the Project (No-Build)										
	A.M.													A.M.										
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	A	8.3	0.16	B	10.4	0.38	B	18.9	0.28	B	16.6	0.15	B	A	8.9	0.21	B	11.0	0.44	B	19.4	0.39	A	9.9	0.26
NY Route 22 at Dover High School Driveway	A	A	5.4	0.36	A	8.0	0.55	-	-	-	C	26.5	0.48	B	A	5.4	0.45	B	11.3	0.64	-	-	-	C	27.5	0.66

Table 6.3-8A: Construction Year (2014) LOS at Signalized Intersections Without the Project (No-Build) Compared to Existing Year LOS (P.M.)

	Existing Year (2010)													Construction Year (2014) Without the Project (No-Build)										
	P.M.													P.M.										
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	B	11.1	0.51	B	11.7	0.54	C	24.1	0.49	B	18.4	0.22	B	B	15.1	0.67	B	15.4	0.68	C	26.0	0.58	B	13.3	0.31
NY Route 22 at Dover High School Driveway	A	A	3.5	0.34	A	3.4	0.33	-	-	-	B	17.1	0.20	A	A	4.5	0.38	A	4.6	0.37	-	-	-	B	18.2	0.29

Table 6.3-9A:Construction Year (2014) LOS at Unsignalized Intersections Without the Project (No-Build) Compared to Existing Year LOS (A.M.)

	Existing Year (2010)							Construction Year (2014) Without the Project (No-Build)						
	A.M.							A.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	B	14.8	0.43	-	-	-	-	C	18.0	0.52
NY Route 22 at Cricket Hill Road	-	-	-	-	B	10.4	0.14	-	-	-	-	B	11.0	0.17
NY Route 22 at Dover Furnace Road	-	B	11.5	0.05	-	-	-	-	B	12.2	0.06	-	-	-
NY Route 22 at Duncan Hill Road	-	A	0.0	0.0	B	13.6	0.12	-	A	0.0	0.0	C	15.8	0.17
NY Route 22 at Sherman Hill Road	-	B	10.6	0.02	C	15.9	0.03	-	B	10.9	0.02	C	17.7	0.04
NY Route 22 at Old Route 22	-	-	-	-	B	10.6	0.05	-	-	-	-	B	10.9	0.06
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0.0	0.0

Table 6.3-10A: Construction Year (2014) LOS at Unsignalized Intersections Without the Project (No-Build) Compared to Existing Year LOS (P.M.)

	Existing Year (2010)							Construction Year (2014) Without the Project (No-Build)						
	P.M.							P.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	C	15.0	0.26	-	-	-	-	C	20.8	0.41
NY Route 22 at Cricket Hill Road	-	-	-	-	B	11.0	0.06	-	-	-	-	B	12.0	0.09
NY Route 22 at Dover Furnace Road	-	B	11.9	0.06	-	-	-	-	B	14.0	0.12	-	-	-
NY Route 22 at Duncan Hill Road	-	B	14.1	0.04	C	15.3	0.14	-	C	18.6	0.10	C	19.7	0.22
NY Route 22 at Sherman Hill Road	-	B	14.2	0.05	C	15.8	0.06	-	C	16.1	0.10	C	20.1	0.10
NY Route 22 at Old Route 22	-	-	-	-	B	11.0	0.08	-	-	-	-	B	11.7	0.09
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0.0	0.0

Table 6.3-11A: Operation Year (2016) LOS at Signalized Intersections Without the Project (No-Build) Compared to Existing Year LOS (A.M.)

	Existing Year (2010)													Operation Year (2016) Without the Project (No-Build)											
	A.M.													A.M.											
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	A	8.3	0.16	B	10.4	0..38	B	18.9	0.28	B	16.6	0.15	B	A	9.2	0.22	B	11.8	0.49	B	18.8	0.36	B	11.1	0.26
NY Route 22 at Dover High School Driveway	A	A	5.4	0.36	A	8.0	0.55	-	-	-	C	26.5	0.48	B	A	5.5	0.46	B	12.6	0.69	-	-	-	C	27.3	0.65

Table 6.3-12A: Operation Year (2016) LOS at Signalized Intersections Without the Project (No-Build) Compared to Existing Year LOS (P.M.)

	Existing Year (2010)													Operation Year (2016) Without the Project (No-Build)											
	P.M.													P.M.											
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	B	11.1	0.51	B	11.7	0.54	C	24.1	0.49	B	18.4	0.22	B	B	16.4	0.71	B	17.1	0.72	C	26.3	0.59	B	13.7	0.34
NY Route 22 at Dover High School Driveway	A	A	3.5	0.34	A	3.4	0.33	-	-	-	B	17.1	0.20	A	A	4.8	0.41	A	4.8	0.40	-	-	-	B	18.2	0.29

Table 6.3-13A: Operation Year (2016) LOS at Unsignalized Intersections Without the Project (No-Build) Compared to Existing Year LOS (A.M.)

	Existing Year (2010)							Operation Year (2016) Without the Project (No-Build)						
	A.M.							A.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	B	14.8	0.43	-	-	-	-	C	20.0	0.57
NY Route 22 at Cricket Hill Road	-	-	-	-	B	10.4	0.14	-	-	-	-	B	11.0	0.17
NY Route 22 at Dover Furnace Road	-	B	11.5	0.05	-	-	-	-	B	13.1	0.11	-	-	-
NY Route 22 at Duncan Hill Road	-	A	0.0	0.0	B	13.6	0.12	-	A	0.0	0.0	C	16.1	0.19
NY Route 22 at Sherman Hill Road	-	B	10.6	0.02	C	15.9	0.03	-	B	11.2	0.03	C	19.6	0.07
NY Route 22 at Old Route 22	-	-	-	-	B	10.6	0.05	-	-	-	-	B	11.2	0.06
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0.0	0.0

Table 6.3-14A: Operation Year (2016) LOS at Unsignalized Intersections Without the Project (No-Build) Compared to Existing Year LOS (P.M.)

	Existing Year (2010)							Operation Year (2016) Without the Project (No-Build)						
	P.M.							P.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	C	15.0	0.26	-	-	-	-	C	23.7	0.47
NY Route 22 at Cricket Hill Road	-	-	-	-	B	11.0	0.06	-	-	-	-	B	12.4	0.09
NY Route 22 at Dover Furnace Road	-	B	11.9	0.06	-	-	-	-	B	14.8	0.12	-	-	-
NY Route 22 at Duncan Hill Road	-	B	14.1	0.04	C	15.3	0.14	-	C	16.5	0.07	C	23.3	0.27
NY Route 22 at Sherman Hill Road	-	B	14.2	0.05	C	15.8	0.06	-	C	17.8	0.10	C	21.2	0.11
NY Route 22 at Old Route 22	-	-	-	-	B	11.0	0.08	-	-	-	-	B	12.0	0.10
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0.0	0.0

Table 6.3-16A: Construction Year (2014) LOS at Signalized Intersections With the Project (Build) Without Network Improvements Compared to Construction Year (2014) LOS at Signalized Intersections Without the Project (No-Build) (A.M.)

	Construction Year (2014) Without the Project (No-Build)													Construction Year (2014) With the Project (Build) Without Network Improvements											
	A.M.													A.M.											
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	A	8.9	0.21	B	11.0	0.44	B	19.4	0.39	A	9.9	0.26	B	B	14.6	0.35	A	10.0	0.48	C	25.2	0.52	A	6.6	0.37
NY Route 22 at Dover High School Driveway	B	A	5.4	0.45	B	11.3	0.64	-	-	-	C	27.5	0.66	C	A	3.3	0.42	C	23.4	0.90	-	-	-	E	58.2	0.85

Table 6.3-17A: Construction Year (2014) LOS at Signalized Intersections With the Project (Build) Without Network Improvements Compared to Construction Year (2014) LOS at Signalized Intersections Without the Project (No-Build) (P.M.)

	Construction Year (2014) Without the Project (No-Build)													Construction Year (2014) With the Project (Build) Without Network Improvements											
	P.M.													P.M.											
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	B	15.1	0.67	B	15.4	0.68	C	26.0	0.58	B	13.3	0.31	C	B	11.4	0.57	C	28.7	0.91	D	50.0	0.75	C	25.6	0.39
NY Route 22 at Dover High School Driveway	A	A	4.5	0.38	A	4.6	0.37	-	-	-	B	18.2	0.29	A	A	5.3	0.62	A	3.8	0.38	-	-	-	C	29.3	0.38

Table 6.3-18A: Construction Year (2014) LOS at Unsignalized Intersections With the Project (Build) Without Network Improvements Compared to Construction Year (2014) LOS at Unsignalized Intersections Without the Project (No-Build) (A.M.)

	Construction Year (2014) Without the Project (No-Build)							Construction Year (2014) With the Project (Build) Without Network Improvements						
	A.M.							A.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C	LOS	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	C	18.0	0.52	-	-	-	-	C	22.2	0.59
NY Route 22 at Cricket Hill Road	-	-	-	-	B	11	0.17	-	-	-	-	B	12.9	0.23
NY Route 22 at Dover Furnace Road	-	B	12.2	0.06	-	-	-	-	C	16.9	0.09	-	-	-
NY Route 22 at Duncan Hill Road	-	A	0.0	0.0	C	15.8	0.17	-	A	0	0	C	21.0	0.34
NY Route 22 at Sherman Hill Road	-	B	10.9	0.02	C	17.7	0.04	-	B	14.3	0.03	D	29.9	0.08
NY Route 22 at CVE Driveway	-	-	-	-	-	-	-	-	F	91.4	0.28	-	-	-
NY Route 22 at CVE Laydown Site	-	-	-	-	-	-	-	-	-	-	-	D	29.0	0.07
NY Route 22 at Old Route 22	-	-	-	-	B	10.9	0.06	-	-	-	-	B	12.4	0.07
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0	0

Table 6.3-19A: Construction Year (2014) LOS at Unsignalized Intersections With the Project (Build) Without Network Improvements Compared to Construction Year (2014) LOS at Unsignalized Intersections Without the Project (No-Build) (P.M.)

	Construction Year (2014) Without the Project (No-Build)							Construction Year (2014) With the Project (Build) Without Network Improvements						
	P.M.							P.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C	LOS	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	C	20.8	0.41	-	-	-	-	C	24.9	0.47
NY Route 22 at Cricket Hill Road	-	-	-	-	B	12.0	0.09	-	-	-	-	C	17.2	0.15
NY Route 22 at Dover Furnace Road	-	B	14.0	0.12	-	-	-	-	C	16.3	0.15	-	-	-
NY Route 22 at Duncan Hill Road	-	C	18.6	0.10	C	19.7	0.22	-	D	31.8	0.17	E	40.0	0.40
NY Route 22 at Sherman Hill Road	-	C	16.1	0.10	C	20.1	0.10	-	C	23.0	0.16	D	32.5	0.17
NY Route 22 at CVE Driveway	-	-	-	-	-	-	-	-	F	723.9	2.52	-	-	-
NY Route 22 at CVE Laydown Site	-	-	-	-	-	-	-	-	-	-	-	F	50.8	0.67
NY Route 22 at Old Route 22	-	-	-	-	B	11.7	0.09	-	-	-	-	C	17.6	0.15
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0.0	0.0

Table 6.3-23A: Operation Year (2016) LOS at Signalized Intersections With the Project (Build) Compared to Operation Year (2016) LOS at Signalized Intersections Without the Project (No-Build) (A.M.)

	Operation Year (2016) Without the Project (No-Build)													Operation Year (2016) With the Project (Build)											
	A.M.													A.M.											
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	A	9.2	0.22	B	11.8	0.49	B	18.8	0.36	B	11.1	0.26	B	A	9.2	0.23	B	11.9	0.49	B	19.2	0.37	B	11.0	0.26
NY Route 22 at Dover High School Driveway	B	A	5.5	0.46	B	12.6	0.69	-	-	-	C	27.3	0.65	B	A	4.3	0.46	B	13.3	0.70	-	-	-	C	27.3	0.65

Table 6.3-24A: Operation Year (2016) LOS at Signalized Intersections With the Project (Build) Compared to Operation Year (2016) LOS at Signalized Intersections Without the Project (No-Build) (P.M.)

	Operation Year (2016) Without the Project (No-Build)													Operation Year (2016) With the Project (Build)											
	P.M.													P.M.											
	Intersection	NB			SB			EB			WB			Intersection	NB			SB			EB			WB		
Intersection	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C	LOS	Delay (sec/ veh)	V/C
NY Route 22 at Pleasant Ridge Road	B	B	16.4	0.71	B	17.1	0.72	C	26.3	0.59	B	13.7	0.34	B	B	16.8	0.72	B	18.1	0.74	C	26.3	0.59	B	13.7	0.34
NY Route 22 at Dover High School Driveway	A	A	4.8	0.41	A	4.8	0.40	-	-	-	B	18.2	0.29	A	A	5.9	0.42	A	4.8	0.40	-	-	-	B	18.1	0.28

Table 6.3-25A: Operation Year (2016) LOS at Unsignalized Intersections With the Project (Build) Compared to Operation Year (2016) LOS at Unsignalized Intersections Without the Project (No-Build) (A.M.)

	Operation Year (2016) Without the Project (No-Build)							Operation Year (2016) With the Project (Build)						
	A.M.							A.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C	LOS	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	C	20.0	0.57	-	-	-	-	C	19.5	0.56
NY Route 22 at Cricket Hill Road	-	-	-	-	B	11.0	0.17	-	-	-	-	B	11.1	0.17
NY Route 22 at Dover Furnace Road	-	B	13.1	0.11	-	-	-	-	B	13.3	0.12	-	-	-
NY Route 22 at Duncan Hill Road	-	A	0.0	0.0	C	16.1	0.19	-	A	0.0	0.0	C	16.5	0.20
NY Route 22 at Sherman Hill Road	-	B	11.2	0.03	C	19.6	0.07	-	B	11.3	0.03	C	20.0	0.07
NY Route 22 at CVE Driveway	-	-	-	-	-	-	-	-	C	15.2	0.01	-	-	-
NY Route 22 at CVE Laydown Site	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NY Route 22 at Old Route 22	-	-	-	-	B	11.2	0.06	-	-	-	-	B	11.2	0.06
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0.0	0.0

Table 6.3-26A: Operation Year (2016) LOS at Unsignalized Intersections With the Project (Build) Compared to Operation Year (2016) LOS at Unsignalized Intersections Without the Project (No-Build) (P.M.)

	Operation Year (2016) Without the Project (No-Build)							Operation Year (2016) With the Project (Build)						
	P.M.							P.M.						
	Intersection	EB			WB			Intersection	EB			WB		
Intersection	LOS	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C	LOS	LOS	Delay (sec/veh)	V/C	LOS	Delay (sec/veh)	V/C
NY Route 22 at NY Route 55	-	-	-	-	C	23.7	0.47	-	-	-	-	C	24.2	0.47
NY Route 22 at Cricket Hill Road	-	-	-	-	B	12.4	0.09	-	-	-	-	B	12.5	0.09
NY Route 22 at Dover Furnace Road	-	B	14.8	0.12	-	-	-	-	B	14.9	0.12	-	-	-
NY Route 22 at Duncan Hill Road	-	C	16.5	0.07	C	23.3	0.27	-	C	16.7	0.07	C	24.2	0.29
NY Route 22 at Sherman Hill Road	-	C	17.8	0.10	C	21.2	0.11	-	C	18.0	0.10	C	21.6	0.11
NY Route 22 at CVE Driveway	-	-	-	-	-	-	-	-	C	21.0	0.08	-	-	-
NY Route 22 at CVE Laydown Site	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NY Route 22 at Old Route 22	-	-	-	-	B	12.0	0.10	-	-	-	-	B	12.1	0.10
NY Route 22 at Cemetery Road	-	-	-	-	A	0.0	0.0	-	-	-	-	A	0.0	0.0

Table 6.3 – 28A Route 22 at CVE Driveway Mitigations Signalized

Improvements: Signalization Turn lanes	Intersection LOS/Delay/VC		Approach LOS/Delay/VC		Movement	Movement LOS/Delay/VC	
	AM	PM	AM	PM		AM	PM
Signalized No Rte 22 Turn Lanes	B/13.9/0.85	D/36.3/0.99	EB C/30.8/0.13	EB D/45.4/0.99	EB Right	D/36.1/0.13	A/4.6/0.42
					EB Left	C/22.0/0.08	E/65.2/0.99
			NB B/19.3/0.85	NB C/31.7/0.72	NB Thru/left	B/19.3/0.85	C/31.7/0.72
			SB B/10.0/0.79	SB C/27.2/0.59	SB Thru/Right	B/10.0/0.79	C/27.2/0.59
Signalized Rte 22 NB Left Turn lane	E/57.5/1.12	D/36.3/0.99	EB C/28.8/0.13	EB D/45.4/0.99	EB Right	C/20.8/0.08	A/4.6/0.42
					EB Left	C/33.6/0.13	E/65.2/0.99
			NB B/10.0/0.19	NB C/31.7/0.72	NB Thru	A/1.0/0.19	C/31.7/0.72
					NB Left	C/22.7/0.69	No volume
			SB F/89.4/1.12	SB C/27.2/0.59	SB Thru/Right	F/89.4/1.12	C/27.2/0.59
Signalized Rte 22 NB Left and SB Right Turn Lanes	A/4.8/0.65	D/35.1/0.95	EB C/28.0/0.12	EB D/37.2/0.95	EB Right	C/20.6/0.07	A/4.1/0.42
					EB Left	C/32.4/0.12	D/53.3/0.95
			NB A/2.5/0.19	NB D/36.2/0.76	NB Thru	A/1.0/0.19	D/36.2/0.76
					NB Left	A/4.6/0.49	No volume
			SB A/5.8/0.29	SB C/30.3/0.63	SB Right	A/6.1/0.65	No volume
					SB Thru	A/5.5/0.29	C/30.3/0.63

Table 6.3 – 29A Route 22 at CVE Driveway Mitigations Un-Signalized

Improvements	Intersection LOS/Delay/VC		Approach LOS/Delay		Movement	Movement LOS/Delay/VC	
	AM	PM	AM	PM		AM	PM
Un-Signalized No Rte 22 Turn Lanes			EB F/61.3	EB F 414.6			
					EB Right	C/15.2/0.2	C/19.3/0.47
					EB Left	F/86.9/0.19	F/607.3/2.23
Un-Signalized Rte 22 NB Left Turn lane			EB F/61.3	EB F/ 414.6			
					EB Right	C/15.2/0.2	C/19.3/0.47
					EB Left	F/86.9/0.19	F/607.3/2.23
					NB Left	C/18.1/0.46	No volumes
Un Signalized Rte 22 NB Left and SB Right Turn Lanes			EB E/41.6	EB F/414.6	EB Right	B/12.2/0.01	C/19.3/0.47
					EB Left	F/57.9/0.13	F/607.3/2.23
			NB A/7.6		NB Left	C/18.1/0.46	No volumes
NOTES	1. Intersection OS not applicable to un-signalized intersections 2. No NB left turns into CVE during PM peak						

6.1.1 References

NYSDOT, 2003. New York State Department of Transportation Policy and Standards for Entrances to State Highways, New York, 2003.

NYSDOT, 2007. New York State Manual of Uniform Traffic Control Devices, New York State Department of Transportation, New York, 2007.

NYSDOT, 2009. 2009 Pavement Data Report for New York State Highways, New York State Department of Transportation Pavement Management Unit, New York, 2009.

NYSDOT, 2010. New York State Bridge Data, New York State Department of Transportation, New York, 2010

TRB, 2000. Highway Capacity Manual 2000, Transportation Research Board, Washington, D.C., 2000.